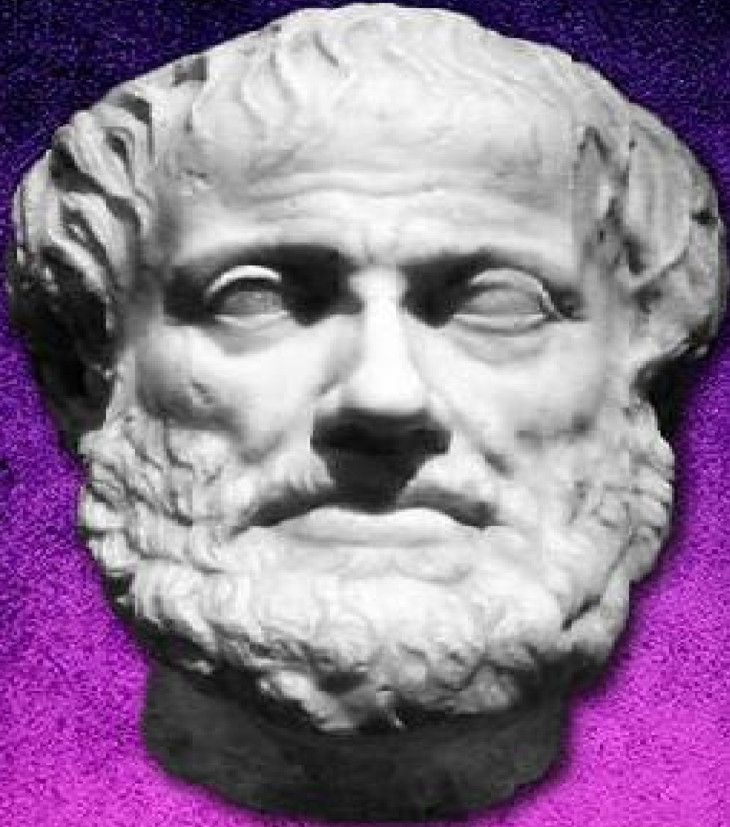

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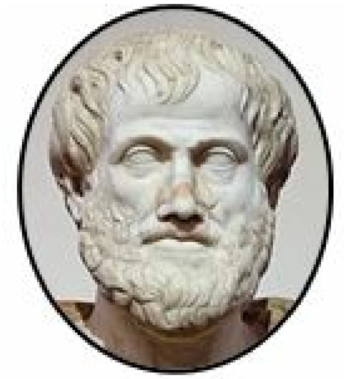

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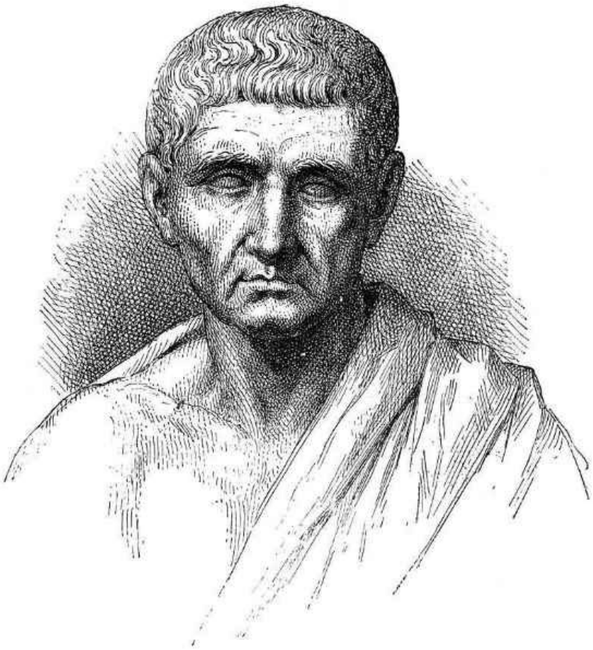

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Complete Works of Aristotle

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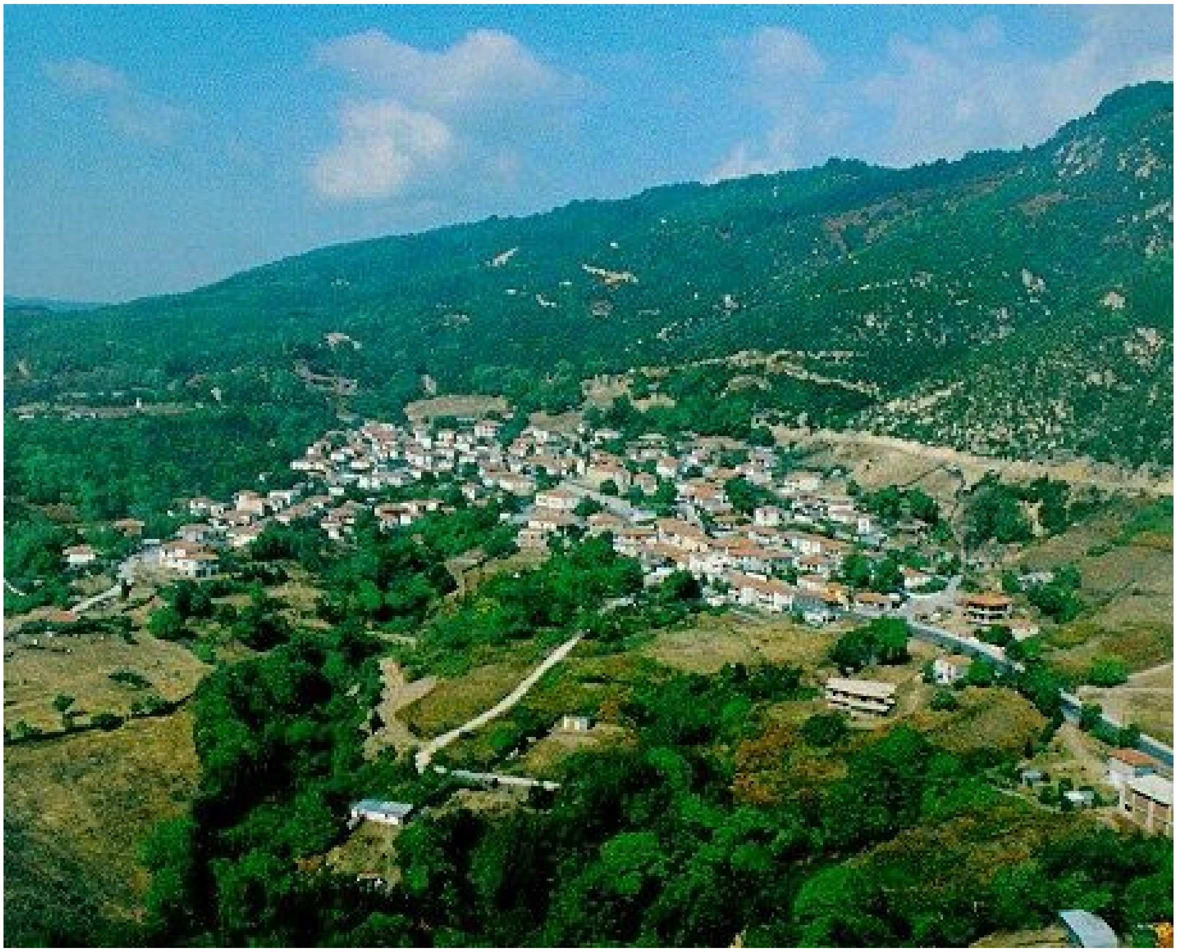
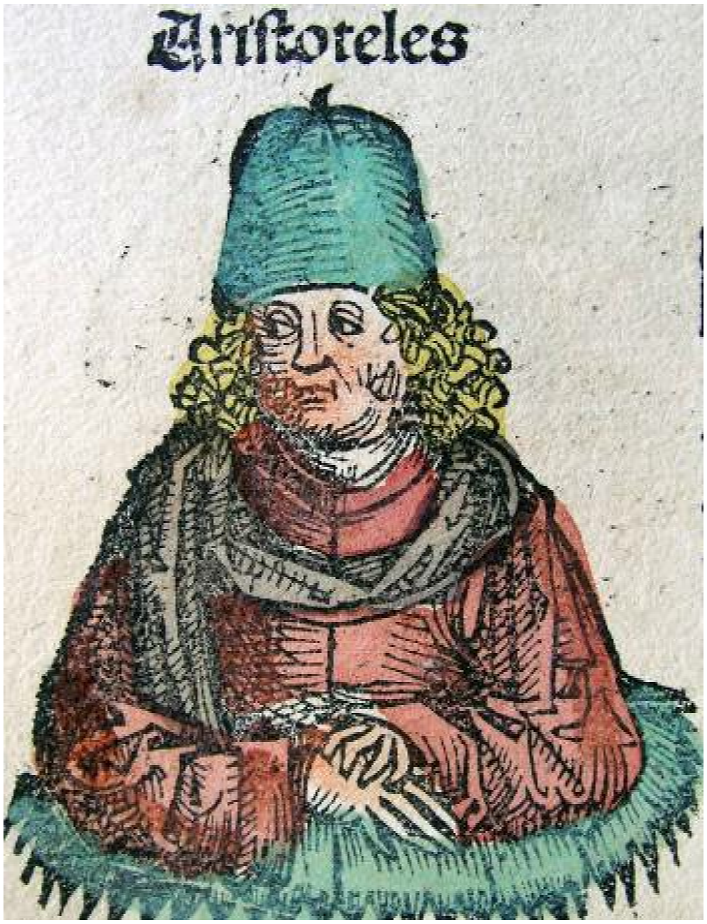
The Translations



Stageira on the Chalkidiki peninsula — Aristotle's birthplace

LOGIC



The depiction of Aristotle in the 1493 Nuremberg Chronicle. Aristotle is credited with the earliest study of formal logic and his conception was the dominant form of Western logic until 19th century advances in mathematical logic.

Categories (1a)

Translated by E. M. Edghill

The purpose of this treatise is to enumerate all the possible kinds of things that can be the subject or the predicate of a proposition, covering some of the most discussed arguments of Aristotelian notions. Divided into fifteen chapters, the *Κατηγορίαι* places every object of human apprehension under one of ten categories (known to medieval writers as the Latin term praedicamenta). Aristotle intended them to enumerate everything that can be expressed without composition or structure, thus anything that can be either the subject or the predicate of a proposition.

An understanding of Aristotle's notion of logic is recommended before reading this work:

The fundamental assumption behind the theory of logic is that propositions are composed of two terms – a "two-term theory" – and that the reasoning process is in turn built from propositions:

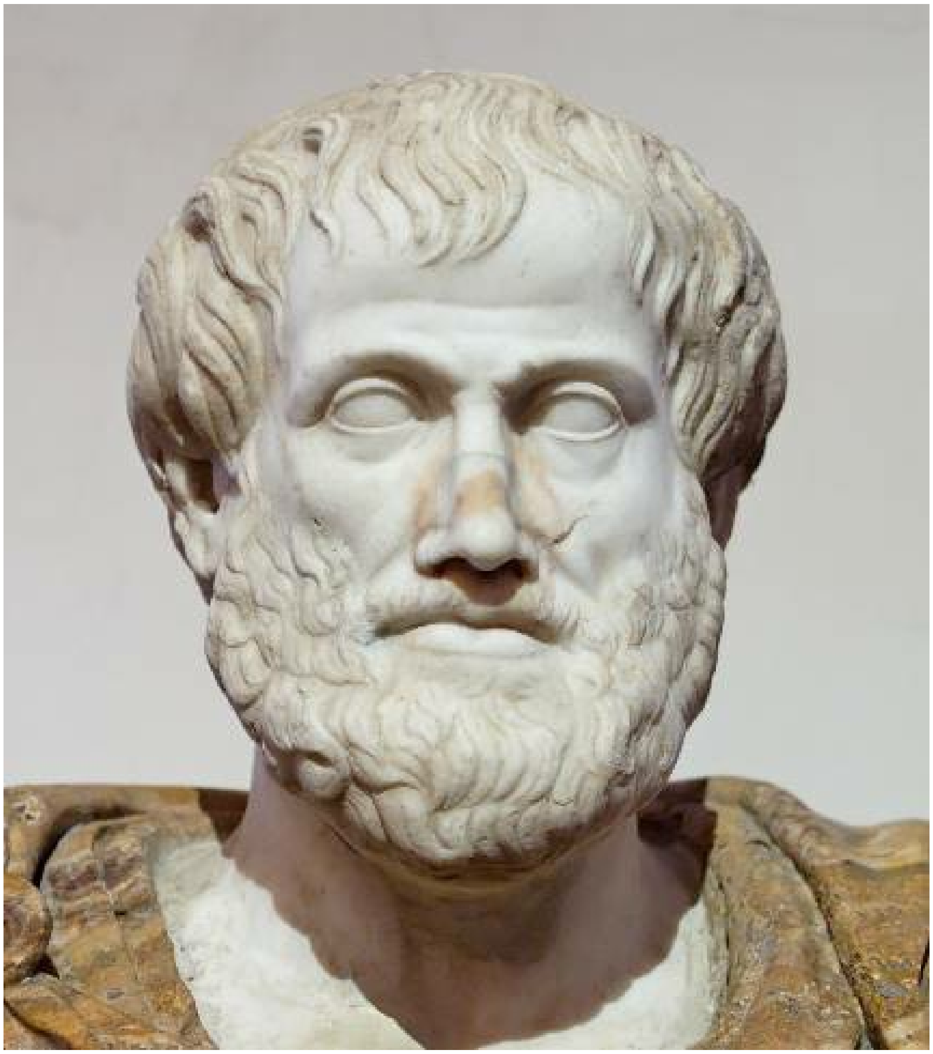
- The term is a part of speech representing something, but which is not true or false in its own right, such as "man" or "mortal".
- The proposition consists of two terms, in which one term (the "predicate") is "affirmed" or "denied" of the other (the "subject"), and which is capable of truth or falsity.
- The syllogism is an inference in which one proposition (the "conclusion") follows of necessity from two others (the "premises").

A proposition may be universal or particular, and it may be affirmative or negative. Traditionally, the four kinds of propositions are:

- A-type: Universal and affirmative (“Every philosopher is mortal”)
- I-type: Particular and affirmative (“Some philosopher is mortal”)
- E-type: Universal and negative (“Every philosopher is immortal”)
- O-type: Particular and negative (“Some philosopher is immortal”)

This was called the fourfold scheme of propositions.

The treatise *Categories* opens with an explication of what is meant by “synonymous,” or univocal words, what is meant by “homonymous,” or equivocal words, and what is meant by “paronymous,” or denominative (sometimes translated “derivative”) words.



A Roman marble bust of Aristotle, after a Greek bronze original by Lysippus c. 330 BC.

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Section 1

Part 1

Things are said to be named ‘equivocally’ when, though they have a common name, the definition corresponding with the name differs for each. Thus, a real man and a figure in a picture can both lay claim to the name ‘animal’; yet these are equivocally so named, for, though they have a common name, the definition corresponding with the name differs for each. For should any one define in what sense each is an animal, his definition in the one case will be appropriate to that case only.

On the other hand, things are said to be named ‘univocally’ which have both the name and the definition answering to the name in common. A man and an ox are both ‘animal’, and these are univocally so named, inasmuch as not only the name, but also the definition, is the same in both cases: for if a man should state in what sense each is an animal, the statement in the one case would be identical with that in the other.

Things are said to be named ‘derivatively’, which derive their name from some other name, but differ from it in termination. Thus the grammarian derives his name from the word ‘grammar’, and the courageous man from the word ‘courage’.

Part 2

Forms of speech are either simple or composite. Examples of the latter are such expressions as ‘the man runs’, ‘the man wins’; of the former ‘man’, ‘ox’, ‘runs’, ‘wins’.

Of things themselves some are predicable of a subject, and are never present in a subject. Thus ‘man’ is predicable of the individual man, and is never present in a subject.

By being ‘present in a subject’ I do not mean present as parts are present in a whole, but being incapable of existence apart from the said subject.

Some things, again, are present in a subject, but are never predicable of a subject. For instance, a certain point of grammatical knowledge is present in the mind, but is not predicable of any subject; or again, a certain whiteness may be present in the body (for colour requires a material basis), yet it is never predicable of anything.

Other things, again, are both predicable of a subject and present in a subject. Thus while knowledge is present in the human mind, it is predicable of grammar.

There is, lastly, a class of things which are neither present in a subject nor predicable of a subject, such as the individual man or the individual horse. But, to speak more generally, that which is individual and has the character of a unit is never predicable of a subject. Yet in some cases there is nothing to prevent such being present in a subject. Thus a certain point of grammatical knowledge is present in a subject.

Part 3

When one thing is predicated of another, all that which is predicable of the predicate will be predicable also of the subject. Thus, ‘man’ is predicated of the individual man; but ‘animal’ is predicated of ‘man’; it will, therefore, be predicable of the individual man also: for the individual man is both ‘man’ and ‘animal’.

If genera are different and co-ordinate, their differentiae are themselves different in kind. Take as an instance the genus ‘animal’ and the genus ‘knowledge’. ‘With feet’, ‘two-footed’, ‘winged’, ‘aquatic’, are differentiae of ‘animal’; the species of knowledge are not distinguished by the same differentiae. One species of knowledge does not differ from another in being ‘two-footed’.

But where one genus is subordinate to another, there is nothing to prevent their having the same differentiae: for the greater class is predicated of the lesser, so that all the differentiae of the predicate will be differentiae also of the subject.

Part 4

Expressions which are in no way composite signify substance, quantity, quality, relation, place, time, position, state, action, or affection. To sketch my meaning roughly, examples of substance are ‘man’ or ‘the horse’, of quantity, such terms as ‘two cubits long’ or ‘three cubits long’, of quality, such attributes as ‘white’, ‘grammatical’. ‘Double’, ‘half’, ‘greater’, fall under the category of relation; ‘in a the market place’, ‘in the Lyceum’, under that of place; ‘yesterday’, ‘last year’, under that of time. ‘Lying’, ‘sitting’, are terms indicating position, ‘shod’, ‘armed’, state; ‘to lance’, ‘to cauterize’, action; ‘to be lanced’, ‘to be cauterized’, affection.

No one of these terms, in and by itself, involves an affirmation; it is by the combination of such terms that positive or negative statements arise. For every assertion must, as is admitted, be either true or false, whereas expressions which are not in any way composite such as ‘man’, ‘white’, ‘runs’, ‘wins’, cannot be either true or false.

Part 5

Substance, in the truest and primary and most definite sense of the word, is that which is neither predicable of a subject nor present in a subject; for instance, the individual man or horse. But in a secondary sense those things are called substances within which, as species, the primary substances are included; also those which, as genera, include the species. For instance, the individual man is included in the species ‘man’, and the genus to which the species belongs is ‘animal’; these, therefore-that is to say, the species ‘man’ and the genus ‘animal,-are termed secondary substances.

It is plain from what has been said that both the name and the definition of the predicate must be predicable of the subject. For instance, ‘man’ is predicted of the individual man. Now in this case the name of the species man’ is applied to the individual, for we use the term ‘man’ in describing the individual; and the definition of ‘man’ will also be predicated of the individual man, for the individual man is both man and animal. Thus, both the name and the definition of the species are predicable of the individual.

With regard, on the other hand, to those things which are present in a subject, it is generally the case that neither their name nor their definition is predicable of that in which they are present. Though, however, the definition is never predicable, there is nothing in certain cases to prevent the name being used. For instance, ‘white’ being present in a body is predicated of that in which it is present, for a body is called white: the definition, however, of the colour white’ is never predicable of the body.

Everything except primary substances is either predicable of a primary substance or present in a primary substance. This becomes evident by reference to particular instances which occur. ‘Animal’ is predicated of the species ‘man’, therefore of the individual man, for if there were no individual man of whom it could be predicated, it could not be predicated of the species ‘man’ at all. Again, colour is present in body, therefore in individual bodies, for if there were no individual body in which it was present, it could not be present in body at all. Thus everything except primary substances is either predicated of primary substances, or is present in them, and if these last did not exist, it would be impossible for anything else to exist.

Of secondary substances, the species is more truly substance than the genus, being more nearly related to primary substance. For if any one should render an account of what a primary substance is, he would render a more instructive account, and one more proper to the subject, by stating the species than by stating the genus. Thus, he would give a more instructive account of an individual man by stating that he was man than by stating that he was animal, for the former description is peculiar to the individual in a greater degree, while the latter is too general. Again, the man who gives an account of the nature of an individual tree will give a more instructive account by mentioning the species ‘tree’ than by mentioning the genus ‘plant’.

Moreover, primary substances are most properly called substances in virtue of the fact that they are the entities which underlie everything else, and that everything else is either predicated of them or present in them. Now the same relation which subsists between primary substance and everything else subsists also between the species and the genus: for the species is to the genus as subject is to predicate, since the genus is predicated of the species, whereas the species cannot be predicated of the genus. Thus we have a second ground for asserting that the species is more truly substance than the genus.

Of species themselves, except in the case of such as are genera, no one is more truly substance than another. We should not give a more appropriate account of the individual man by stating the species to which he belonged, than we should of an individual horse by adopting the same method of definition. In the same way, of primary substances, no one is more truly substance than another; an individual man is not more truly substance than an individual ox.

It is, then, with good reason that of all that remains, when we exclude primary substances, we concede to species and genera alone the name ‘secondary substance’, for these alone of all the predicates convey a knowledge of primary substance. For it is by stating the species or the genus that we appropriately define any individual man; and we shall make our definition more exact by stating the former than by stating the latter. All other things that we state, such as that he is white, that he runs, and so on, are irrelevant to the definition. Thus it is just that these alone, apart from primary substances, should be called substances.

Further, primary substances are most properly so called, because they underlie and are the subjects of everything else. Now the same relation that subsists between primary substance and everything else subsists also between the species and the genus to which the primary substance belongs, on the one hand, and every attribute which is not included within these, on the other. For these are the subjects of all such. If we call an individual man 'skilled in grammar', the predicate is applicable also to the species and to the genus to which he belongs. This law holds good in all cases.

It is a common characteristic of all substance that it is never present in a subject. For primary substance is neither present in a subject nor predicated of a subject; while, with regard to secondary substances, it is clear from the following arguments (apart from others) that they are not present in a subject. For 'man' is predicated of the individual man, but is not present in any subject: for manhood is not present in the individual man. In the same way, 'animal' is also predicated of the individual man, but is not present in him. Again, when a thing is present in a subject, though the name may quite well be applied to that in which it is present, the definition cannot be applied. Yet of secondary substances, not only the name, but also the definition, applies to the subject: we should use both the definition of the species and that of the genus with reference to the individual man. Thus substance cannot be present in a subject.

Yet this is not peculiar to substance, for it is also the case that differentiae cannot be present in subjects. The characteristics 'terrestrial' and 'two-footed' are predicated of the species 'man', but not present in it. For they are not in man. Moreover, the definition of the differentia may be predicated of that of which the differentia itself is predicated. For instance, if the characteristic 'terrestrial' is predicated of the species 'man', the definition also of that characteristic may be used to form the predicate of the species 'man': for 'man' is terrestrial.

The fact that the parts of substances appear to be present in the whole, as in a subject, should not make us apprehensive lest we should have to admit that such parts are not substances: for in explaining the phrase 'being present in a subject', we stated' that we meant 'otherwise than as parts in a whole'.

It is the mark of substances and of differentiae that, in all propositions of which they form the predicate, they are predicated univocally. For all such propositions have for their subject either the individual or the species. It is true that, inasmuch as primary substance is not predicable of anything, it can never form the predicate of any proposition. But of secondary substances, the species is predicated of the individual, the genus both of the species and of the individual. Similarly the differentiae are predicated of the species and of the individuals. Moreover, the definition of the species and that of the genus are applicable to the primary substance, and that of the genus to the species. For all that is predicated of the predicate will be predicated also of the subject. Similarly, the definition of the differentiae will be applicable to the species and to the individuals. But it was stated above that the word 'univocal' was applied to those things which had both name and definition in common. It is, therefore, established that in every proposition, of which either substance or a differentia forms the predicate, these are predicated univocally.

All substance appears to signify that which is individual. In the case of primary substance this is indisputably true, for the thing is a unit. In the case of secondary substances, when we speak, for instance, of 'man' or 'animal', our form of speech gives the impression that we are here also indicating that which is individual, but the impression is not strictly true; for a secondary substance is not an individual, but a class with a certain qualification; for it is not one and single as a primary substance is; the words 'man', 'animal', are predicable of more than one subject.

Yet species and genus do not merely indicate quality, like the term 'white'; 'white' indicates quality and nothing further, but species and genus determine the quality with reference to a substance: they signify substance qualitatively differentiated. The determinate qualification covers a larger field in the case of the genus that in that of the species: he who uses the word 'animal' is herein using a word of wider extension than he who uses the word 'man'.

Another mark of substance is that it has no contrary. What could be the contrary of any primary substance, such as the individual man or animal? It has none. Nor can the species or the genus have a contrary. Yet this characteristic is not peculiar to substance, but is true of many other things, such as quantity. There is nothing that forms the contrary of 'two cubits long' or of 'three cubits long', or of 'ten', or of any such term. A man may contend that 'much' is the contrary of 'little', or 'great' of 'small', but of definite quantitative terms no contrary exists.

Substance, again, does not appear to admit of variation of degree. I do not mean by this that one substance cannot be more or less truly substance than another, for it has already been stated' that this is the case; but that no single substance admits of varying degrees within itself. For instance, one particular substance, 'man', cannot be more or less man either than himself at some other time or than some other man. One man cannot be more man than another, as that which is white may be more or less white than some other white object, or as that which is beautiful may be more or less beautiful than some other beautiful object. The same quality, moreover, is said to subsist in a thing in varying degrees at different times. A body, being white, is said to be whiter at one time than it was before, or, being warm, is said to be warmer or less warm than at some other time. But substance is not said to be more or less that which it is: a man is not more truly a man at one time than he was before, nor is anything, if it is substance, more or less what it is. Substance, then, does not admit of variation of degree.

The most distinctive mark of substance appears to be that, while remaining numerically one and the same, it is capable of admitting contrary qualities. From among things other than substance, we should find ourselves unable to bring forward any which possessed this mark. Thus, one and the same colour cannot be white and black. Nor can the same one action be good and bad: this law holds good with everything that is not substance. But one and the selfsame substance, while retaining its identity, is yet capable of admitting contrary qualities. The same individual person is at one time white, at another black, at one time warm, at another cold, at one time good, at another bad. This capacity is found nowhere else, though it might be maintained that a statement or opinion was an exception to the rule. The same statement, it is agreed, can be both true and false. For if the statement 'he is sitting' is true, yet, when the person in question has risen, the same statement will be false. The same applies to opinions. For if any one thinks truly that a person is sitting, yet, when that person has risen, this same opinion, if still held, will be false. Yet although this exception may be allowed, there is, nevertheless, a difference in the manner in which the thing takes place. It is by themselves changing that substances admit contrary qualities. It is thus that that which was hot becomes cold, for it has entered into a different state. Similarly that which was white becomes black, and that which was bad good, by a process of change; and in the same way in all other cases it is by changing that substances are capable of admitting contrary qualities. But statements and opinions themselves remain unaltered in all respects: it is by the alteration in the facts of the case that the contrary quality comes to be theirs. The statement ‘he is sitting’ remains unaltered, but it is at one time true, at another false, according to circumstances. What has been said of statements applies also to opinions. Thus, in respect of the manner in which the thing takes place, it is the peculiar mark of substance that it should be capable of admitting contrary qualities; for it is by itself changing that it does so.

If, then, a man should make this exception and contend that statements and opinions are capable of admitting contrary qualities, his contention is unsound. For statements and opinions are said to have this capacity, not because they themselves undergo modification, but because this modification occurs in the case of something else. The truth or falsity of a statement depends on facts, and not on any power on the part of the statement itself of admitting contrary qualities. In short, there is nothing which can alter the nature of statements and opinions. As, then, no change takes place in themselves, these cannot be said to be capable of admitting contrary qualities.

But it is by reason of the modification which takes place within the substance itself that a substance is said to be capable of admitting contrary qualities; for a substance admits within itself either disease or health, whiteness or blackness. It is in this sense that it is said to be capable of admitting contrary qualities.

To sum up, it is a distinctive mark of substance, that, while remaining numerically one and the same, it is capable of admitting contrary qualities, the modification taking place through a change in the substance itself.

Let these remarks suffice on the subject of substance.

Part 6

Quantity is either discrete or continuous. Moreover, some quantities are such that each part of the whole has a relative position to the other parts: others have within them no such relation of part to part.

Instances of discrete quantities are number and speech; of continuous, lines, surfaces, solids, and, besides these, time and place.

In the case of the parts of a number, there is no common boundary at which they join. For example: two fives make ten, but the two fives have no common boundary, but are separate; the parts three and seven also do not join at any boundary. Nor, to generalize, would it ever be possible in the case of number that there should be a common boundary among the parts; they are always separate. Number, therefore, is a discrete quantity.

The same is true of speech. That speech is a quantity is evident: for it is measured in long and short syllables. I mean here that speech which is vocal. Moreover, it is a discrete quantity for its parts have no common boundary. There is no common boundary at which the syllables join, but each is separate and distinct from the rest.

A line, on the other hand, is a continuous quantity, for it is possible to find a common boundary at which its parts join. In the case of the line, this common boundary is the point; in the case of the plane, it is the line: for the parts of the plane have also a common boundary. Similarly you can find a common boundary in the case of the parts of a solid, namely either a line or a plane.

Space and time also belong to this class of quantities. Time, past, present, and future, forms a continuous whole. Space, likewise, is a continuous quantity; for the parts of a solid occupy a certain space, and these have a common boundary; it follows that the parts of space also, which are occupied by the parts of the solid, have the same common boundary as the parts of the solid. Thus, not only time, but space also, is a continuous quantity, for its parts have a common boundary.

Quantities consist either of parts which bear a relative position each to each, or of parts which do not. The parts of a line bear a relative position to each other, for each lies somewhere, and it would be possible to distinguish each, and to state the position of each on the plane and to explain to what sort of part among the rest each was contiguous. Similarly the parts of a plane have position, for it could similarly be stated what was the position of each and what sort of parts were contiguous. The same is true with regard to the solid and to space. But it would be impossible to show that the arts of a number had a relative position each to each, or a particular position, or to state what parts were contiguous. Nor could this be done in the case of time, for none of the parts of time has an abiding existence, and that which does not abide can hardly have position. It would be better to say that such parts had a relative order, in virtue of one being prior to another. Similarly with number: in counting, 'one' is prior to 'two', and 'two' to 'three', and thus the parts of number may be said to possess a relative order, though it would be impossible to discover any distinct position for each. This holds good also in the case of speech. None of its parts has an abiding existence: when once a syllable is pronounced, it is not possible to retain it, so that, naturally, as the parts do not abide, they cannot have position. Thus, some quantities consist of parts which have position, and some of those which have not.

Strictly speaking, only the things which I have mentioned belong to the category of quantity: everything else that is called quantitative is a quantity in a secondary sense. It is because we have in mind some one of these quantities, properly so called, that we apply quantitative terms to other things. We speak of what is white as large, because the surface over which the white extends is large; we speak of an action or a process as lengthy, because the time covered is long; these things cannot in their own right claim the quantitative epithet. For instance, should any one explain how long an action was, his statement would be made in terms of the time taken, to the effect that it lasted a year, or something of that sort. In the same way, he would explain the size of a white object in terms of surface, for he would state the area which it covered. Thus the things already mentioned, and these alone, are in their intrinsic nature quantities; nothing else can claim the name in its own right, but, if at all, only in a secondary sense.

Quantities have no contraries. In the case of definite quantities this is obvious; thus, there is nothing that is the contrary of 'two cubits long' or of 'three cubits long', or of a surface, or of any such quantities. A man might, indeed, argue that 'much' was the contrary of 'little', and 'great' of 'small'.

But these are not quantitative, but relative; things are not great or small absolutely, they are so called rather as the result of an act of comparison. For instance, a mountain is called small, a grain large, in virtue of the fact that the latter is greater than others of its kind, the former less. Thus there is a reference here to an external standard, for if the terms ‘great’ and ‘small’ were used absolutely, a mountain would never be called small or a grain large. Again, we say that there are many people in a village, and few in Athens, although those in the city are many times as numerous as those in the village: or we say that a house has many in it, and a theatre few, though those in the theatre far outnumber those in the house. The terms ‘two cubits long, ‘three cubits long,’ and so on indicate quantity, the terms ‘great’ and ‘small’ indicate relation, for they have reference to an external standard. It is, therefore, plain that these are to be classed as relative.

Again, whether we define them as quantitative or not, they have no contraries: for how can there be a contrary of an attribute which is not to be apprehended in or by itself, but only by reference to something external? Again, if ‘great’ and ‘small’ are contraries, it will come about that the same subject can admit contrary qualities at one and the same time, and that things will themselves be contrary to themselves. For it happens at times that the same thing is both small and great. For the same thing may be small in comparison with one thing, and great in comparison with another, so that the same thing comes to be both small and great at one and the same time, and is of such a nature as to admit contrary qualities at one and the same moment. Yet it was agreed, when substance was being discussed, that nothing admits contrary qualities at one and the same moment. For though substance is capable of admitting contrary qualities, yet no one is at the same time both sick and healthy, nothing is at the same time both white and black. Nor is there anything which is qualified in contrary ways at one and the same time.

Moreover, if these were contraries, they would themselves be contrary to themselves. For if ‘great’ is the contrary of ‘small’, and the same thing is both great and small at the same time, then ‘small’ or ‘great’ is the contrary of itself. But this is impossible. The term ‘great’, therefore, is not the contrary of the term ‘small’, nor ‘much’ of ‘little’. And even though a man should call these terms not relative but quantitative, they would not have contraries.

It is in the case of space that quantity most plausibly appears to admit of a contrary. For men define the term ‘above’ as the contrary of ‘below’, when it is the region at the centre they mean by ‘below’; and this is so, because nothing is farther from the extremities of the universe than the region at the centre. Indeed, it seems that in defining contraries of every kind men have recourse to a spatial metaphor, for they say that those things are contraries which, within the same class, are separated by the greatest possible distance.

Quantity does not, it appears, admit of variation of degree. One thing cannot be two cubits long in a greater degree than another. Similarly with regard to number: what is ‘three’ is not more truly three than what is ‘five’ is five; nor is one set of three more truly three than another set. Again, one period of time is not said to be more truly time than another. Nor is there any other kind of quantity, of all that have been mentioned, with regard to which variation of degree can be predicated. The category of quantity, therefore, does not admit of variation of degree.

The most distinctive mark of quantity is that equality and inequality are predicated of it. Each of the aforesaid quantities is said to be equal or unequal. For instance, one solid is said to be equal or unequal to another; number, too, and time can have these terms applied to them, indeed can all those kinds of quantity that have been mentioned.

That which is not a quantity can by no means, it would seem, be termed equal or unequal to anything else. One particular disposition or one particular quality, such as whiteness, is by no means compared with another in terms of equality and inequality but rather in terms of similarity. Thus it is the distinctive mark of quantity that it can be called equal and unequal.

Section 2

Part 7

Those things are called relative, which, being either said to be of something else or related to something else, are explained by reference to that other thing. For instance, the word ‘superior’ is explained by reference to something else, for it is superiority over something else that is meant. Similarly, the expression ‘double’ has this external reference, for it is the double of something else that is meant. So it is with everything else of this kind. There are, moreover, other relatives, e.g. habit, disposition, perception, knowledge, and attitude. The significance of all these is explained by a reference to something else and in no other way. Thus, a habit is a habit of something, knowledge is knowledge of something, attitude is the attitude of something. So it is with all other relatives that have been mentioned. Those terms, then, are called relative, the nature of which is explained by reference to something else, the preposition ‘of’ or some other preposition being used to indicate the relation. Thus, one mountain is called great in comparison with son with another; for the mountain claims this attribute by comparison with something. Again, that which is called similar must be similar to something else, and all other such attributes have this external reference. It is to be noted that lying and standing and sitting are particular attitudes, but attitude is itself a relative term. To lie, to stand, to be seated, are not themselves attitudes, but take their name from the aforesaid attitudes.

It is possible for relatives to have contraries. Thus virtue has a contrary, vice, these both being relatives; knowledge, too, has a contrary, ignorance. But this is not the mark of all relatives; ‘double’ and ‘triple’ have no contrary, nor indeed has any such term.

It also appears that relatives can admit of variation of degree. For ‘like’ and ‘unlike’, ‘equal’ and ‘unequal’, have the modifications ‘more’ and ‘less’ applied to them, and each of these is relative in character: for the terms ‘like’ and ‘unequal’ bear ‘unequal’ bear a reference to something external. Yet, again, it is not every relative term that admits of variation of degree. No term such as ‘double’ admits of this modification. All relatives have correlatives: by the term ‘slave’ we mean the slave of a master, by the term ‘master’, the master of a slave; by ‘double’, the double of its hall; by ‘half’, the half of its double; by ‘greater’, greater than that which is less; by ‘less,’ less than that which is greater.

So it is with every other relative term; but the case we use to express the correlation differs in some instances. Thus, by knowledge we mean knowledge the knowable; by the knowable, that which is to be apprehended by knowledge; by perception, perception of the perceptible; by the perceptible, that which is apprehended by perception.

Sometimes, however, reciprocity of correlation does not appear to exist. This comes about when a blunder is made, and that to which the relative is related is not accurately stated. If a man states that a wing is necessarily relative to a bird, the connexion between these two will not be reciprocal, for it will not be possible to say that a bird is a bird by reason of its wings. The reason is that the original statement was inaccurate, for the wing is not said to be relative to the bird qua bird, since many creatures besides birds have wings, but qua winged creature. If, then, the statement is made accurate, the connexion will be reciprocal, for we can speak of a wing, having reference necessarily to a winged creature, and of a winged creature as being such because of its wings.

Occasionally, perhaps, it is necessary to coin words, if no word exists by which a correlation can adequately be explained. If we define a rudder as necessarily having reference to a boat, our definition will not be appropriate, for the rudder does not have this reference to a boat qua boat, as there are boats which have no rudders. Thus we cannot use the terms reciprocally, for the word ‘boat’ cannot be said to find its explanation in the word ‘rudder’. As there is no existing word, our definition would perhaps be more accurate if we coined some word like ‘ruddered’ as the correlative of ‘rudder’. If we express ourselves thus accurately, at any rate the terms are reciprocally connected, for the ‘ruddered’ thing is ‘ruddered’ in virtue of its rudder. So it is in all other cases. A head will be more accurately defined as the correlative of that which is ‘headed’, than as that of an animal, for the animal does not have a head qua animal, since many animals have no head.

Thus we may perhaps most easily comprehend that to which a thing is related, when a name does not exist, if, from that which has a name, we derive a new name, and apply it to that with which the first is reciprocally connected, as in the aforesaid instances, when we derived the word ‘winged’ from ‘wing’ and from ‘rudder’.

All relatives, then, if properly defined, have a correlative. I add this condition because, if that to which they are related is stated as haphazard and not accurately, the two are not found to be interdependent. Let me state what I mean more clearly. Even in the case of acknowledged correlatives, and where names exist for each, there will be no interdependence if one of the two is denoted, not by that name which expresses the correlative notion, but by one of irrelevant significance. The term ‘slave,’ if defined as related, not to a master, but to a man, or a biped, or anything of that sort, is not reciprocally connected with that in relation to which it is defined, for the statement is not exact. Further, if one thing is said to be correlative with another, and the terminology used is correct, then, though all irrelevant attributes should be removed, and only that one attribute left in virtue of which it was correctly stated to be correlative with that other, the stated correlation will still exist. If the correlative of ‘the slave’ is said to be ‘the master’, then, though all irrelevant attributes of the said ‘master’, such as ‘biped’, ‘receptive of knowledge’, ‘human’, should be removed, and the attribute ‘master’ alone left, the stated correlation existing between him and the slave will remain the same, for it is of a master that a slave is said to be the slave. On the other hand, if, of two correlatives, one is not correctly termed, then, when all other attributes are removed and that alone is left in virtue of which it was stated to be correlative, the stated correlation will be found to have disappeared.

For suppose the correlative of ‘the slave’ should be said to be ‘the man’, or the correlative of ‘the wing is the bird’; if the attribute ‘master’ be withdrawn from’ the man’, the correlation between ‘the man’ and ‘the slave’ will cease to exist, for if the man is not a master, the slave is not a slave. Similarly, if the attribute ‘winged’ be withdrawn from ‘the bird’, ‘the wing’ will no longer be relative; for if the so-called correlative is not winged, it follows that ‘the wing’ has no correlative.

Thus it is essential that the correlated terms should be exactly designated; if there is a name existing, the statement will be easy; if not, it is doubtless our duty to construct names. When the terminology is thus correct, it is evident that all correlatives are interdependent.

Correlatives are thought to come into existence simultaneously. This is for the most part true, as in the case of the double and the half. The existence of the half necessitates the existence of that of which it is a half. Similarly the existence of a master necessitates the existence of a slave, and that of a slave implies that of a master; these are merely instances of a general rule. Moreover, they cancel one another; for if there is no double it follows that there is no half, and vice versa; this rule also applies to all such correlatives. Yet it does not appear to be true in all cases that correlatives come into existence simultaneously. The object of knowledge would appear to exist before knowledge itself, for it is usually the case that we acquire knowledge of objects already existing; it would be difficult, if not impossible, to find a branch of knowledge the beginning of the existence of which was contemporaneous with that of its object.

Again, while the object of knowledge, if it ceases to exist, cancels at the same time the knowledge which was its correlative, the converse of this is not true. It is true that if the object of knowledge does not exist there can be no knowledge: for there will no longer be anything to know. Yet it is equally true that, if knowledge of a certain object does not exist, the object may nevertheless quite well exist. Thus, in the case of the squaring of the circle, if indeed that process is an object of knowledge, though it itself exists as an object of knowledge, yet the knowledge of it has not yet come into existence. Again, if all animals ceased to exist, there would be no knowledge, but there might yet be many objects of knowledge.

This is likewise the case with regard to perception: for the object of perception is, it appears, prior to the act of perception. If the perceptible is annihilated, perception also will cease to exist; but the annihilation of perception does not cancel the existence of the perceptible. For perception implies a body perceived and a body in which perception takes place. Now if that which is perceptible is annihilated, it follows that the body is annihilated, for the body is a perceptible thing; and if the body does not exist, it follows that perception also ceases to exist. Thus the annihilation of the perceptible involves that of perception.

But the annihilation of perception does not involve that of the perceptible. For if the animal is annihilated, it follows that perception also is annihilated, but perceptibles such as body, heat, sweetness, bitterness, and so on, will remain.

Again, perception is generated at the same time as the perceiving subject, for it comes into existence at the same time as the animal. But the perceptible surely exists before perception; for fire and water and such elements, out of which the animal is itself composed, exist before the animal is an animal at all, and before perception. Thus it would seem that the perceptible exists before perception.

It may be questioned whether it is true that no substance is relative, as seems to be the case, or whether exception is to be made in the case of certain secondary substances. With regard to primary substances, it is quite true that there is no such possibility, for neither wholes nor parts of primary substances are relative. The individual man or ox is not defined with reference to something external. Similarly with the parts: a particular hand or head is not defined as a particular hand or head of a particular person, but as the hand or head of a particular person. It is true also, for the most part at least, in the case of secondary substances; the species ‘man’ and the species ‘ox’ are not defined with reference to anything outside themselves. Wood, again, is only relative in so far as it is some one’s property, not in so far as it is wood. It is plain, then, that in the cases mentioned substance is not relative. But with regard to some secondary substances there is a difference of opinion; thus, such terms as ‘head’ and ‘hand’ are defined with reference to that of which the things indicated are a part, and so it comes about that these appear to have a relative character. Indeed, if our definition of that which is relative was complete, it is very difficult, if not impossible, to prove that no substance is relative. If, however, our definition was not complete, if those things only are properly called relative in the case of which relation to an external object is a necessary condition of existence, perhaps some explanation of the dilemma may be found.

The former definition does indeed apply to all relatives, but the fact that a thing is explained with reference to something else does not make it essentially relative.

From this it is plain that, if a man definitely apprehends a relative thing, he will also definitely apprehend that to which it is relative. Indeed this is self-evident: for if a man knows that some particular thing is relative, assuming that we call that a relative in the case of which relation to something is a necessary condition of existence, he knows that also to which it is related. For if he does not know at all that to which it is related, he will not know whether or not it is relative. This is clear, moreover, in particular instances. If a man knows definitely that such and such a thing is ‘double’, he will also forthwith know definitely that of which it is the double. For if there is nothing definite of which he knows it to be the double, he does not know at all that it is double. Again, if he knows that a thing is more beautiful, it follows necessarily that he will forthwith definitely know that also than which it is more beautiful. He will not merely know indefinitely that it is more beautiful than something which is less beautiful, for this would be supposition, not knowledge. For if he does not know definitely that than which it is more beautiful, he can no longer claim to know definitely that it is more beautiful than something else which is less beautiful: for it might be that nothing was less beautiful. It is, therefore, evident that if a man apprehends some relative thing definitely, he necessarily knows that also definitely to which it is related.

Now the head, the hand, and such things are substances, and it is possible to know their essential character definitely, but it does not necessarily follow that we should know that to which they are related. It is not possible to know forthwith whose head or hand is meant. Thus these are not relatives, and, this being the case, it would be true to say that no substance is relative in character. It is perhaps a difficult matter, in such cases, to make a positive statement without more exhaustive examination, but to have raised questions with regard to details is not without advantage.

Part 8

By ‘quality’ I mean that in virtue of which people are said to be such and such.

Quality is a term that is used in many senses. One sort of quality let us call ‘habit’ or ‘disposition’. Habit differs from disposition in being more lasting and more firmly established. The various kinds of knowledge and of virtue are habits, for knowledge, even when acquired only in a moderate degree, is, it is agreed, abiding in its character and difficult to displace, unless some great mental upheaval takes place, through disease or any such cause. The virtues, also, such as justice, self-restraint, and so on, are not easily dislodged or dismissed, so as to give place to vice.

By a disposition, on the other hand, we mean a condition that is easily changed and quickly gives place to its opposite. Thus, heat, cold, disease, health, and so on are dispositions. For a man is disposed in one way or another with reference to these, but quickly changes, becoming cold instead of warm, ill instead of well. So it is with all other dispositions also, unless through lapse of time a disposition has itself become inveterate and almost impossible to dislodge: in which case we should perhaps go so far as to call it a habit.

It is evident that men incline to call those conditions habits which are of a more or less permanent type and difficult to displace; for those who are not retentive of knowledge, but volatile, are not said to have such and such a ‘habit’ as regards knowledge, yet they are disposed, we may say, either better or worse, towards knowledge. Thus habit differs from disposition in this, that while the latter in ephemeral, the former is permanent and difficult to alter.

Habits are at the same time dispositions, but dispositions are not necessarily habits. For those who have some specific habit may be said also, in virtue of that habit, to be thus or thus disposed; but those who are disposed in some specific way have not in all cases the corresponding habit.

Another sort of quality is that in virtue of which, for example, we call men good boxers or runners, or healthy or sickly: in fact it includes all those terms which refer to inborn capacity or incapacity. Such things are not predicated of a person in virtue of his disposition, but in virtue of his inborn capacity or incapacity to do something with ease or to avoid defeat of any kind. Persons are called good boxers or good runners, not in virtue of such and such a disposition, but in virtue of an inborn capacity to accomplish something with ease. Men are called healthy in virtue of the inborn capacity of easy resistance to those unhealthy influences that may ordinarily arise; unhealthy, in virtue of the lack of this capacity. Similarly with regard to softness and hardness. Hardness is predicated of a thing because it has that capacity of resistance which enables it to withstand disintegration; softness, again, is predicated of a thing by reason of the lack of that capacity.

A third class within this category is that of affective qualities and affections. Sweetness, bitterness, sourness, are examples of this sort of quality, together with all that is akin to these; heat, moreover, and cold, whiteness, and blackness are affective qualities. It is evident that these are qualities, for those things that possess them are themselves said to be such and such by reason of their presence. Honey is called sweet because it contains sweetness; the body is called white because it contains whiteness; and so in all other cases.

The term ‘affective quality’ is not used as indicating that those things which admit these qualities are affected in any way. Honey is not called sweet because it is affected in a specific way, nor is this what is meant in any other instance. Similarly heat and cold are called affective qualities, not because those things which admit them are affected. What is meant is that these said qualities are capable of producing an ‘affection’ in the way of perception. For sweetness has the power of affecting the sense of taste; heat, that of touch; and so it is with the rest of these qualities.

Whiteness and blackness, however, and the other colours, are not said to be affective qualities in this sense, but -because they themselves are the results of an affection. It is plain that many changes of colour take place because of affections. When a man is ashamed, he blushes; when he is afraid, he becomes pale, and so on. So true is this, that when a man is by nature liable to such affections, arising from some concomitance of elements in his constitution, it is a probable inference that he has the corresponding complexion of skin. For the same disposition of bodily elements, which in the former instance was momentarily present in the case of an access of shame, might be a result of a man’s natural temperament, so as to produce the corresponding colouring also as a natural characteristic. All conditions, therefore, of this kind, if caused by certain permanent and lasting affections, are called affective qualities. For pallor and duskiness of complexion are called qualities, inasmuch as we are said to be such and such in virtue of them, not only if they originate in natural constitution, but also if they come about through long disease or sunburn, and are difficult to remove, or indeed remain throughout life. For in the same way we are said to be such and such because of these.

Those conditions, however, which arise from causes which may easily be rendered ineffective or speedily removed, are called, not qualities, but affections: for we are not said to be such virtue of them. The man who blushes through shame is not said to be a constitutional blusher, nor is the man who becomes pale through fear said to be constitutionally pale. He is said rather to have been affected.

Thus such conditions are called affections, not qualities. In like manner there are affective qualities and affections of the soul. That temper with which a man is born and which has its origin in certain deep-seated affections is called a quality. I mean such conditions as insanity, irascibility, and so on: for people are said to be mad or irascible in virtue of these. Similarly those abnormal psychic states which are not inborn, but arise from the concomitance of certain other elements, and are difficult to remove, or altogether permanent, are called qualities, for in virtue of them men are said to be such and such.

Those, however, which arise from causes easily rendered ineffective are called affections, not qualities. Suppose that a man is irritable when vexed: he is not even spoken of as a bad-tempered man, when in such circumstances he loses his temper somewhat, but rather is said to be affected. Such conditions are therefore termed, not qualities, but affections.

The fourth sort of quality is figure and the shape that belongs to a thing; and besides this, straightness and curvedness and any other qualities of this type; each of these defines a thing as being such and such. Because it is triangular or quadrangular a thing is said to have a specific character, or again because it is straight or curved; in fact a thing's shape in every case gives rise to a qualification of it.

Rarity and density, roughness and smoothness, seem to be terms indicating quality: yet these, it would appear, really belong to a class different from that of quality. For it is rather a certain relative position of the parts composing the thing thus qualified which, it appears, is indicated by each of these terms. A thing is dense, owing to the fact that its parts are closely combined with one another; rare, because there are interstices between the parts; smooth, because its parts lie, so to speak, evenly; rough, because some parts project beyond others.

There may be other sorts of quality, but those that are most properly so called have, we may safely say, been enumerated.

These, then, are qualities, and the things that take their name from them as derivatives, or are in some other way dependent on them, are said to be qualified in some specific way. In most, indeed in almost all cases, the name of that which is qualified is derived from that of the quality. Thus the terms 'whiteness', 'grammar', 'justice', give us the adjectives 'white', 'grammatical', 'just', and so on.

There are some cases, however, in which, as the quality under consideration has no name, it is impossible that those possessed of it should have a name that is derivative. For instance, the name given to the runner or boxer, who is so called in virtue of an inborn capacity, is not derived from that of any quality; for lob those capacities have no name assigned to them. In this, the inborn capacity is distinct from the science, with reference to which men are called, e.g. boxers or wrestlers. Such a science is classed as a disposition; it has a name, and is called 'boxing' or 'wrestling' as the case may be, and the name given to those disposed in this way is derived from that of the science. Sometimes, even though a name exists for the quality, that which takes its character from the quality has a name that is not a derivative. For instance, the upright man takes his character from the possession of the quality of integrity, but the name given him is not derived from the word 'integrity'. Yet this does not occur often.

We may therefore state that those things are said to be possessed of some specific quality which have a name derived from that of the aforesaid quality, or which are in some other way dependent on it.

One quality may be the contrary of another; thus justice is the contrary of injustice, whiteness of blackness, and so on. The things, also, which are said to be such and such in virtue of these qualities, may be contrary the one to the other; for that which is unjust is contrary to that which is just, that which is white to that which is black. This, however, is not always the case. Red, yellow, and such colours, though qualities, have no contraries.

If one of two contraries is a quality, the other will also be a quality. This will be evident from particular instances, if we apply the names used to denote the other categories; for instance, granted that justice is the contrary of injustice and justice is a quality, injustice will also be a quality: neither quantity, nor relation, nor place, nor indeed any other category but that of quality, will be applicable properly to injustice. So it is with all other contraries falling under the category of quality.

Qualities admit of variation of degree. Whiteness is predicated of one thing in a greater or less degree than of another. This is also the case with reference to justice. Moreover, one and the same thing may exhibit a quality in a greater degree than it did before: if a thing is white, it may become whiter.

Though this is generally the case, there are exceptions. For if we should say that justice admitted of variation of degree, difficulties might ensue, and this is true with regard to all those qualities which are dispositions. There are some, indeed, who dispute the possibility of variation here. They maintain that justice and health cannot very well admit of variation of degree themselves, but that people vary in the degree in which they possess these qualities, and that this is the case with grammatical learning and all those qualities which are classed as dispositions. However that may be, it is an incontrovertible fact that the things which in virtue of these qualities are said to be what they are vary in the degree in which they possess them; for one man is said to be better versed in grammar, or more healthy or just, than another, and so on.

The qualities expressed by the terms ‘triangular’ and ‘quadrangular’ do not appear to admit of variation of degree, nor indeed do any that have to do with figure. For those things to which the definition of the triangle or circle is applicable are all equally triangular or circular. Those, on the other hand, to which the same definition is not applicable, cannot be said to differ from one another in degree; the square is no more a circle than the rectangle, for to neither is the definition of the circle appropriate. In short, if the definition of the term proposed is not applicable to both objects, they cannot be compared. Thus it is not all qualities which admit of variation of degree.

Whereas none of the characteristics I have mentioned are peculiar to quality, the fact that likeness and unlikeness can be predicated with reference to quality only, gives to that category its distinctive feature. One thing is like another only with reference to that in virtue of which it is such and such; thus this forms the peculiar mark of quality.

We must not be disturbed because it may be argued that, though proposing to discuss the category of quality, we have included in it many relative terms. We did say that habits and dispositions were relative. In practically all such cases the genus is relative, the individual not. Thus knowledge, as a genus, is explained by reference to something else, for we mean a knowledge of something. But particular branches of knowledge are not thus explained. The knowledge of grammar is not relative to anything external, nor is the knowledge of music, but these, if relative at all, are relative only in virtue of their genera; thus grammar is said be the knowledge of something, not the grammar of something; similarly music is the knowledge of something, not the music of something.

Thus individual branches of knowledge are not relative. And it is because we possess these individual branches of knowledge that we are said to be such and such. It is these that we actually possess: we are called experts because we possess knowledge in some particular branch. Those particular branches, therefore, of knowledge, in virtue of which we are sometimes said to be such and such, are themselves qualities, and are not relative. Further, if anything should happen to fall within both the category of quality and that of relation, there would be nothing extraordinary in classing it under both these heads.

Section 3

Part 9

Action and affection both admit of contraries and also of variation of degree. Heating is the contrary of cooling, being heated of being cooled, being glad of being vexed. Thus they admit of contraries. They also admit of variation of degree: for it is possible to heat in a greater or less degree; also to be heated in a greater or less degree. Thus action and affection also admit of variation of degree. So much, then, is stated with regard to these categories.

We spoke, moreover, of the category of position when we were dealing with that of relation, and stated that such terms derived their names from those of the corresponding attitudes.

As for the rest, time, place, state, since they are easily intelligible, I say no more about them than was said at the beginning, that in the category of state are included such states as ‘shod’, ‘armed’, in that of place ‘in the Lyceum’ and so on, as was explained before.

Part 10

The proposed categories have, then, been adequately dealt with. We must next explain the various senses in which the term ‘opposite’ is used. Things are said to be opposed in four senses: (i) as correlatives to one another, (ii) as contraries to one another, (iii) as privatives to positives, (iv) as affirmatives to negatives.

Let me sketch my meaning in outline. An instance of the use of the word ‘opposite’ with reference to correlatives is afforded by the expressions ‘double’ and ‘half’; with reference to contraries by ‘bad’ and ‘good’. Opposites in the sense of ‘privatives’ and ‘positives’ are’ blindness’ and ‘sight’; in the sense of affirmatives and negatives, the propositions ‘he sits’, ‘he does not sit’.

(i) Pairs of opposites which fall under the category of relation are explained by a reference of the one to the other, the reference being indicated by the preposition ‘of’ or by some other preposition. Thus, double is a relative term, for that which is double is explained as the double of something. Knowledge, again, is the opposite of the thing known, in the same sense; and the thing known also is explained by its relation to its opposite, knowledge. For the thing known is explained as that which is known by something, that is, by knowledge. Such things, then, as are opposite the one to the other in the sense of being correlatives are explained by a reference of the one to the other.

(ii) Pairs of opposites which are contraries are not in any way interdependent, but are contrary the one to the other. The good is not spoken of as the good of the bad, but as the contrary of the bad, nor is white spoken of as the white of the black, but as the contrary of the black. These two types of opposition are therefore distinct. Those contraries which are such that the subjects in which they are naturally present, or of which they are predicated, must necessarily contain either the one or the other of them, have no intermediate, but those in the case of which no such necessity obtains, always have an intermediate. Thus disease and health are naturally present in the body of an animal, and it is necessary that either the one or the other should be present in the body of an animal. Odd and even, again, are predicated of number, and it is necessary that the one or the other should be present in numbers. Now there is no intermediate between the terms of either of these two pairs. On the other hand, in those contraries with regard to which no such necessity obtains, we find an intermediate. Blackness and whiteness are naturally present in the body, but it is not necessary that either the one or the other should be present in the body, inasmuch as it is not true to say that everybody must be white or black. Badness and goodness, again, are predicated of man, and of many other things, but it is not necessary that either the one quality or the other should be present in that of which they are predicated: it is not true to say that everything that may be good or bad must be either good or bad. These pairs of contraries have intermediates: the intermediates between white and black are grey, sallow, and all the other colours that come between; the intermediate between good and bad is that which is neither the one nor the other.

Some intermediate qualities have names, such as grey and sallow and all the other colours that come between white and black; in other cases, however, it is not easy to name the intermediate, but we must define it as that which is not either extreme, as in the case of that which is neither good nor bad, neither just nor unjust.

(iii) ‘privatives’ and ‘Positives’ have reference to the same subject. Thus, sight and blindness have reference to the eye. It is a universal rule that each of a pair of opposites of this type has reference to that to which the particular ‘positive’ is natural. We say that that is capable of some particular faculty or possession has suffered privation when the faculty or possession in question is in no way present in that in which, and at the time at which, it should naturally be present. We do not call that toothless which has not teeth, or that blind which has not sight, but rather that which has not teeth or sight at the time when by nature it should. For there are some creatures which from birth are without sight, or without teeth, but these are not called toothless or blind.

To be without some faculty or to possess it is not the same as the corresponding ‘privative’ or ‘positive’. ‘Sight’ is a ‘positive’, ‘blindness’ a ‘privative’, but ‘to possess sight’ is not equivalent to ‘sight’, ‘to be blind’ is not equivalent to ‘blindness’. Blindness is a ‘privative’, to be blind is to be in a state of privation, but is not a ‘privative’. Moreover, if ‘blindness’ were equivalent to ‘being blind’, both would be predicated of the same subject; but though a man is said to be blind, he is by no means said to be blindness.

To be in a state of ‘possession’ is, it appears, the opposite of being in a state of ‘privation’, just as ‘positives’ and ‘privatives’ themselves are opposite. There is the same type of antithesis in both cases; for just as blindness is opposed to sight, so is being blind opposed to having sight.

That which is affirmed or denied is not itself affirmation or denial. By ‘affirmation’ we mean an affirmative proposition, by ‘denial’ a negative. Now, those facts which form the matter of the affirmation or denial are not propositions; yet these two are said to be opposed in the same sense as the affirmation and denial, for in this case also the type of antithesis is the same. For as the affirmation is opposed to the denial, as in the two propositions ‘he sits’, ‘he does not sit’, so also the fact which constitutes the matter of the proposition in one case is opposed to that in the other, his sitting, that is to say, to his not sitting.

It is evident that ‘positives’ and ‘privatives’ are not opposed each to each in the same sense as relatives. The one is not explained by reference to the other; sight is not sight of blindness, nor is any other preposition used to indicate the relation. Similarly blindness is not said to be blindness of sight, but rather, privation of sight. Relatives, moreover, reciprocate; if blindness, therefore, were a relative, there would be a reciprocity of relation between it and that with which it was correlative. But this is not the case. Sight is not called the sight of blindness.

That those terms which fall under the heads of ‘positives’ and ‘privatives’ are not opposed each to each as contraries, either, is plain from the following facts: Of a pair of contraries such that they have no intermediate, one or the other must needs be present in the subject in which they naturally subsist, or of which they are predicated; for it is those, as we proved,’ in the case of which this necessity obtains, that have no intermediate. Moreover, we cited health and disease, odd and even, as instances. But those contraries which have an intermediate are not subject to any such necessity. It is not necessary that every substance, receptive of such qualities, should be either black or white, cold or hot, for something intermediate between these contraries may very well be present in the subject. We proved, moreover, that those contraries have an intermediate in the case of which the said necessity does not obtain. Yet when one of the two contraries is a constitutive property of the subject, as it is a constitutive property of fire to be hot, of snow to be white, it is necessary determinately that one of the two contraries, not one or the other, should be present in the subject; for fire cannot be cold, or snow black. Thus, it is not the case here that one of the two must needs be present in every subject receptive of these qualities, but only in that subject of which the one forms a constitutive property. Moreover, in such cases it is one member of the pair determinately, and not either the one or the other, which must be present.

In the case of ‘positives’ and ‘privatives’, on the other hand, neither of the aforesaid statements holds good. For it is not necessary that a subject receptive of the qualities should always have either the one or the other; that which has not yet advanced to the state when sight is natural is not said either to be blind or to see. Thus ‘positives’ and ‘privatives’ do not belong to that class of contraries which consists of those which have no intermediate. On the other hand, they do not belong either to that class which consists of contraries which have an intermediate. For under certain conditions it is necessary that either the one or the other should form part of the constitution of every appropriate subject. For when a thing has reached the stage when it is by nature capable of sight, it will be said either to see or to be blind, and that in an indeterminate sense, signifying that the capacity may be either present or absent; for it is not necessary either that it should see or that it should be blind, but that it should be either in the one state or in the other. Yet in the case of those contraries which have an intermediate we found that it was never necessary that either the one or the other should be present in every appropriate subject, but only that in certain subjects one of the pair should be present, and that in a determinate sense. It is, therefore, plain that ‘positives’ and ‘privatives’ are not opposed each to each in either of the senses in which contraries are opposed.

Again, in the case of contraries, it is possible that there should be changes from either into the other, while the subject retains its identity, unless indeed one of the contraries is a constitutive property of that subject, as heat is of fire. For it is possible that that that which is healthy should become diseased, that which is white, black, that which is cold, hot, that which is good, bad, that which is bad, good. The bad man, if he is being brought into a better way of life and thought, may make some advance, however slight, and if he should once improve, even ever so little, it is plain that he might change completely, or at any rate make very great progress; for a man becomes more and more easily moved to virtue, however small the improvement was at first. It is, therefore, natural to suppose that he will make yet greater progress than he has made in the past; and as this process goes on, it will change him completely and establish him in the contrary state, provided he is not hindered by lack of time. In the case of ‘positives’ and ‘privatives’, however, change in both directions is impossible. There may be a change from possession to privation, but not from privation to possession. The man who has become blind does not regain his sight; the man who has become bald does not regain his hair; the man who has lost his teeth does not grow a new set. (iv) Statements opposed as affirmation and negation belong manifestly to a class which is distinct, for in this case, and in this case only, it is necessary for the one opposite to be true and the other false.

Neither in the case of contraries, nor in the case of correlatives, nor in the case of ‘positives’ and ‘privatives’, is it necessary for one to be true and the other false. Health and disease are contraries: neither of them is true or false. ‘Double’ and ‘half’ are opposed to each other as correlatives: neither of them is true or false. The case is the same, of course, with regard to ‘positives’ and ‘privatives’ such as ‘sight’ and ‘blindness’. In short, where there is no sort of combination of words, truth and falsity have no place, and all the opposites we have mentioned so far consist of simple words.

At the same time, when the words which enter into opposed statements are contraries, these, more than any other set of opposites, would seem to claim this characteristic. ‘Socrates is ill’ is the contrary of ‘Socrates is well’, but not even of such composite expressions is it true to say that one of the pair must always be true and the other false. For if Socrates exists, one will be true and the other false, but if he does not exist, both will be false; for neither ‘Socrates is ill’ nor ‘Socrates is well’ is true, if Socrates does not exist at all.

In the case of ‘positives’ and ‘privatives’, if the subject does not exist at all, neither proposition is true, but even if the subject exists, it is not always the fact that one is true and the other false. For ‘Socrates has sight’ is the opposite of ‘Socrates is blind’ in the sense of the word ‘opposite’ which applies to possession and privation. Now if Socrates exists, it is not necessary that one should be true and the other false, for when he is not yet able to acquire the power of vision, both are false, as also if Socrates is altogether non-existent.

But in the case of affirmation and negation, whether the subject exists or not, one is always false and the other true. For manifestly, if Socrates exists, one of the two propositions ‘Socrates is ill’, ‘Socrates is not ill’, is true, and the other false. This is likewise the case if he does not exist; for if he does not exist, to say that he is ill is false, to say that he is not ill is true. Thus it is in the case of those opposites only, which are opposite in the sense in which the term is used with reference to affirmation and negation, that the rule holds good, that one of the pair must be true and the other false.

Part 11

That the contrary of a good is an evil is shown by induction: the contrary of health is disease, of courage, cowardice, and so on. But the contrary of an evil is sometimes a good, sometimes an evil. For defect, which is an evil, has excess for its contrary, this also being an evil, and the mean, which is a good, is equally the contrary of the one and of the other. It is only in a few cases, however, that we see instances of this: in most, the contrary of an evil is a good.

In the case of contraries, it is not always necessary that if one exists the other should also exist: for if all become healthy there will be health and no disease, and again, if everything turns white, there will be white, but no black. Again, since the fact that Socrates is ill is the contrary of the fact that Socrates is well, and two contrary conditions cannot both obtain in one and the same individual at the same time, both these contraries could not exist at once: for if that Socrates was well was a fact, then that Socrates was ill could not possibly be one.

It is plain that contrary attributes must needs be present in subjects which belong to the same species or genus. Disease and health require as their subject the body of an animal; white and black require a body, without further qualification; justice and injustice require as their subject the human soul.

Moreover, it is necessary that pairs of contraries should in all cases either belong to the same genus or belong to contrary genera or be themselves genera. White and black belong to the same genus, colour; justice and injustice, to contrary genera, virtue and vice; while good and evil do not belong to genera, but are themselves actual genera, with terms under them.

Part 12

There are four senses in which one thing can be said to be ‘prior’ to another. Primarily and most properly the term has reference to time: in this sense the word is used to indicate that one thing is older or more ancient than another, for the expressions ‘older’ and ‘more ancient’ imply greater length of time.

Secondly, one thing is said to be ‘prior’ to another when the sequence of their being cannot be reversed. In this sense ‘one’ is ‘prior’ to ‘two’. For if ‘two’ exists, it follows directly that ‘one’ must exist, but if ‘one’ exists, it does not follow necessarily that ‘two’ exists: thus the sequence subsisting cannot be reversed. It is agreed, then, that when the sequence of two things cannot be reversed, then that one on which the other depends is called ‘prior’ to that other.

In the third place, the term ‘prior’ is used with reference to any order, as in the case of science and of oratory. For in sciences which use demonstration there is that which is prior and that which is posterior in order; in geometry, the elements are prior to the propositions; in reading and writing, the letters of the alphabet are prior to the syllables. Similarly, in the case of speeches, the exordium is prior in order to the narrative.

Besides these senses of the word, there is a fourth. That which is better and more honourable is said to have a natural priority. In common parlance men speak of those whom they honour and love as ‘coming first’ with them. This sense of the word is perhaps the most far-fetched.

Such, then, are the different senses in which the term ‘prior’ is used.

Yet it would seem that besides those mentioned there is yet another. For in those things, the being of each of which implies that of the other, that which is in any way the cause may reasonably be said to be by nature ‘prior’ to the effect. It is plain that there are instances of this. The fact of the being of a man carries with it the truth of the proposition that he is, and the implication is reciprocal: for if a man is, the proposition wherein we allege that he is true, and conversely, if the proposition wherein we allege that he is true, then he is. The true proposition, however, is in no way the cause of the being of the man, but the fact of the man’s being does seem somehow to be the cause of the truth of the proposition, for the truth or falsity of the proposition depends on the fact of the man's being or not being.

Thus the word 'prior' may be used in five senses.

Part 13

The term ‘simultaneous’ is primarily and most appropriately applied to those things the genesis of the one of which is simultaneous with that of the other; for in such cases neither is prior or posterior to the other. Such things are said to be simultaneous in point of time. Those things, again, are ‘simultaneous’ in point of nature, the being of each of which involves that of the other, while at the same time neither is the cause of the other’s being. This is the case with regard to the double and the half, for these are reciprocally dependent, since, if there is a double, there is also a half, and if there is a half, there is also a double, while at the same time neither is the cause of the being of the other.

Again, those species which are distinguished one from another and opposed one to another within the same genus are said to be ‘simultaneous’ in nature. I mean those species which are distinguished each from each by one and the same method of division. Thus the ‘winged’ species is simultaneous with the ‘terrestrial’ and the ‘water’ species. These are distinguished within the same genus, and are opposed each to each, for the genus ‘animal’ has the ‘winged’, the ‘terrestrial’, and the ‘water’ species, and no one of these is prior or posterior to another; on the contrary, all such things appear to be ‘simultaneous’ in nature. Each of these also, the terrestrial, the winged, and the water species, can be divided again into subspecies. Those species, then, also will be ‘simultaneous’ point of nature, which, belonging to the same genus, are distinguished each from each by one and the same method of differentiation.

But genera are prior to species, for the sequence of their being cannot be reversed. If there is the species ‘water-animal’, there will be the genus ‘animal’, but granted the being of the genus ‘animal’, it does not follow necessarily that there will be the species ‘water-animal’.

Those things, therefore, are said to be ‘simultaneous’ in nature, the being of each of which involves that of the other, while at the same time neither is in any way the cause of the other’s being; those species, also, which are distinguished each from each and opposed within the same genus. Those things, moreover, are ‘simultaneous’ in the unqualified sense of the word which come into being at the same time.

Part 14

There are six sorts of movement: generation, destruction, increase, diminution, alteration, and change of place.

It is evident in all but one case that all these sorts of movement are distinct each from each. Generation is distinct from destruction, increase and change of place from diminution, and so on. But in the case of alteration it may be argued that the process necessarily implies one or other of the other five sorts of motion. This is not true, for we may say that all affections, or nearly all, produce in us an alteration which is distinct from all other sorts of motion, for that which is affected need not suffer either increase or diminution or any of the other sorts of motion. Thus alteration is a distinct sort of motion; for, if it were not, the thing altered would not only be altered, but would forthwith necessarily suffer increase or diminution or some one of the other sorts of motion in addition; which as a matter of fact is not the case. Similarly that which was undergoing the process of increase or was subject to some other sort of motion would, if alteration were not a distinct form of motion, necessarily be subject to alteration also. But there are some things which undergo increase but yet not alteration. The square, for instance, if a gnomon is applied to it, undergoes increase but not alteration, and so it is with all other figures of this sort. Alteration and increase, therefore, are distinct.

Speaking generally, rest is the contrary of motion. But the different forms of motion have their own contraries in other forms; thus destruction is the contrary of generation, diminution of increase, rest in a place, of change of place. As for this last, change in the reverse direction would seem to be most truly its contrary; thus motion upwards is the contrary of motion downwards and vice versa.

In the case of that sort of motion which yet remains, of those that have been enumerated, it is not easy to state what is its contrary. It appears to have no contrary, unless one should define the contrary here also either as ‘rest in its quality’ or as ‘change in the direction of the contrary quality’, just as we defined the contrary of change of place either as rest in a place or as change in the reverse direction. For a thing is altered when change of quality takes place; therefore either rest in its quality or change in the direction of the contrary may be called the contrary of this qualitative form of motion. In this way becoming white is the contrary of becoming black; there is alteration in the contrary direction, since a change of a qualitative nature takes place.

Part 15

The term ‘to have’ is used in various senses. In the first place it is used with reference to habit or disposition or any other quality, for we are said to ‘have’ a piece of knowledge or a virtue. Then, again, it has reference to quantity, as, for instance, in the case of a man’s height; for he is said to ‘have’ a height of three or four cubits. It is used, moreover, with regard to apparel, a man being said to ‘have’ a coat or tunic; or in respect of something which we have on a part of ourselves, as a ring on the hand: or in respect of something which is a part of us, as hand or foot. The term refers also to content, as in the case of a vessel and wheat, or of a jar and wine; a jar is said to ‘have’ wine, and a corn-measure wheat. The expression in such cases has reference to content. Or it refers to that which has been acquired; we are said to ‘have’ a house or a field. A man is also said to ‘have’ a wife, and a wife a husband, and this appears to be the most remote meaning of the term, for by the use of it we mean simply that the husband lives with the wife.

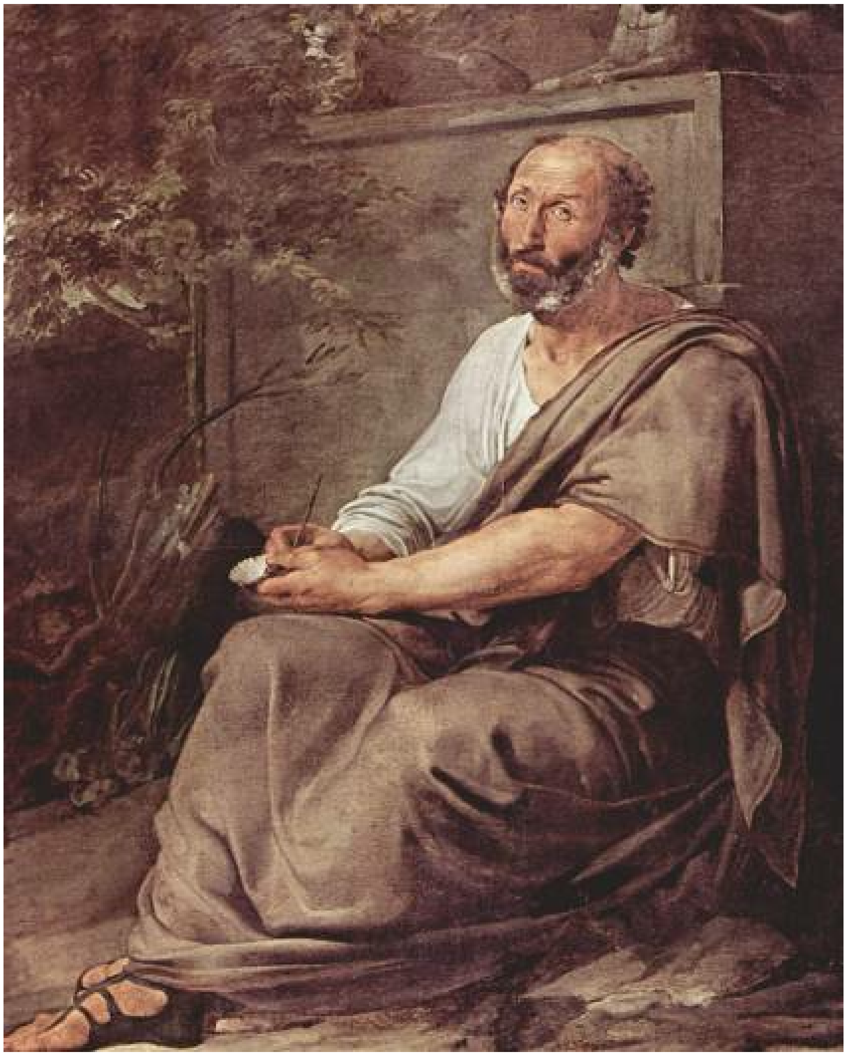
Other senses of the word might perhaps be found, but the most ordinary ones have all been enumerated.

On Interpretation (16a)

Translated by Octavius Freire Owen

Περὶ Ἑρμηνείας concerns the relationship between language and logic in a comprehensive and formal manner. The text begins by analysing simple categoric propositions, drawing a series of basic conclusions on the routine issues of classifying and defining basic linguistic forms, such as simple terms and propositions, nouns and verbs, negation, the quantity of simple propositions (primitive roots of the quantifiers in modern symbolic logic), investigations on the excluded middle (what to Aristotle is not applicable to future tense propositions — the Problem of future contingents), and on modal propositions.

The first five chapters deal with the terms that form propositions; whilst Chapters 6 and 7 deal with the relationship between affirmative, negative, universal and particular propositions. These relationships are the basis of the well-known Square of opposition. The distinction between universal and particular propositions is the basis of modern quantification theory. The last three chapters deal with modalities. Chapter 9 is famous for the discussion of the sea-battle. E.g. *if it is true that there will be a sea-battle tomorrow, then it is true today that there will be a sea-battle. Thus a sea-battle is apparently unavoidable, and thus necessary. Another interpretation would be: that we can not know that which has not yet come to pass. In other words: if there is a sea battle tomorrow then it is true today that tomorrow there will be a sea battle. So, only if we can know whether or not there will be a sea battle tomorrow then can we know if there will be a sea battle.*



Aristotle by Francesco Hayez, c. 1870

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Chapter 1

We must first determine what a noun, and what a verb, are; next, what are negation, affirmation, enunciation, and a sentence.

Those things therefore which are in the voice, are symbols of the passions of the soul, and when written, are symbols of the (passions) in the voice, and as there are not the same letters among all men, so neither have all the same voices, yet those passions of the soul, of which these are primarily the signs, are the same among all, the things also, of which these are the similitudes, are the same. About these latter, we have spoken in the treatise "Of the Soul," for they are parts belonging to another discussion, but as in the soul, there is sometimes a conception, without truth or falsehood, and at another time, it is such, as necessarily to have one of these, inherent in it, so also is it with the voice, for falsehood and truth are involved in composition and division. Nouns therefore and verbs of themselves resemble conception, without composition and division, as "man," or "white," when something is not added, for as yet it is neither true nor false, an instance of which is that the word τραγέλαφος [goat-stag] signifies something indeed, but not yet any thing true or false, unless to be, or not to be, is added, either simply, or according to time.

Chapter 2

A noun therefore is a sound significant by compact without time, of which no part is separately significant; thus in the noun κάλλιππος [fair-horse], the ἵππος signifies nothing by itself, as it does in the sentence καλὸς ἵππος; neither does it happen with simple nouns as it does with composite, for in the former there is by no means the part significant, but in the latter a part would be, yet signifies nothing separately, as in the word ἐπακτροκέλης [piratical ship], the κέλης signifies nothing by itself. But it is according to compact, because naturally there is no noun; but when it becomes a symbol, since illiterate sounds also signify something, as the sounds of beasts, of which there is no noun.

"Not man," however, is not a noun, neither is a name instituted by which we ought to call it, since it is neither a sentence, nor a negation; but let it be an indefinite noun because it exists in respect of every thing alike, both of that which is, and of that which is not. Φίλωνος indeed, or Φίλωνι, and such like words are not nouns, but cases of a noun, but the definition of it (that is, of the case) is the same as to other things (with the definition of a noun), but (it differs in) that, with (the verb) "is" or "was" or "will be," it does not signify what is true or false, but the noun always (signifies this), as "Philonus is," or "is not," for as yet, this neither signifies what is true, nor what is false.

Chapter 3

A verb, is that which, besides something else, signifies time; of which no part is separately significant, and it is always indicative of those things which are asserted of something else. But I say that it signifies time, besides something else, as for instance, “health” is a noun, but “is well” is a verb; for it signifies, besides being well, that such is the case now: it is always also significant of things asserted of something else, as of those which are predicated of a subject, or which are in a subject.

Nevertheless I do not call, “is not well,” and, “is not ill” — verbs; for indeed they signify time, besides something else, and are always (significant) of something, yet a name is not given to this difference, let either be therefore an indefinite verb, because it is similarly inherent both in whatever does, and does not exist. So also “was well” or “will be well” are not *verbs*, but they are cases of a verb, and differ from a verb, because the latter, besides something else, signifies present time; but the others, that which is about the present time.

Verbs therefore so called, by themselves, are nouns, and have a certain signification, for the speaker establishes conception, and the hearer acquiesces, but they do not yet signify whether a thing “is” or “is not,” for neither is “to be” or “not to be” a sign of a thing, nor if you should say merely, “being,” for that is nothing; they signify however, besides something else, a certain composition, which without the composing members it is impossible to understand.

Chapter 4

A sentence is voice significant by compact, of which any part separately possesses signification, as indeed a word, yet not as affirmation or negation; now I say for example “man” is significant, but does not imply that it “is” or “is not;” it will however be affirmation or negation, if any thing be added to it. One syllable of the word ἄνθρωπος, is not however (significant), neither the “ῦς” in “μῦς,” but it is now merely sound; still in compound words a part is significant, but not by itself, as we have observed.

Now every sentence is significant, not as an instrument, but, as we have said, by compact, still not every sentence is enunciative, but that in which truth or falsehood is inherent, which things do not exist in all sentences, as prayer is a sentence, but it is neither true nor false. Let therefore the other sentences be dismissed, their consideration belongs more properly to Rhetoric or Poetry; but the enunciative sentence to our present theory.

Chapter 5

One first enunciative sentence is affirmation; afterwards negation, and all the rest are one by conjunction. It is necessary however that every enunciative sentence should be from a verb, or from the case of a verb, for the definition of "man," unless "is," or "was," or "will be," or something of this kind, be added, is not yet an enunciative sentence. Why indeed is the sentence "a terrestrial biped animal" one thing, and not many things? for it will not be one, because it is consecutively pronounced: this however belongs to another discussion. One enunciative sentence, moreover, is either that which signifies one thing, or which is one by conjunction, and many (such sentences) are either those which signify many things and not one thing, or which are without conjunction. Let therefore a noun or a verb be only a word, since we cannot say that he enunciates who thus expresses any thing by his voice whether he is interrogated by any one or not, but that he speaks from deliberate intention. Now of these enunciations one is simple, for instance something of something, or from something, but another is composed of these, as a certain sentence which is already a composite; simple enunciation, then, is voice significant about something being inherent, or non-inherent, according as times are divided.

Chapter 6

Affirmation is the enunciation of something concerning something, but negation is the enunciation of something from something. Since, however, a man may enunciate what is inherent as though it were not, and what is not as though it were; that which is, as if it were, and that which is not, as if it were not, and in like manner about times external to the present; it is possible that whatever any one affirms may be denied, and that whatever any one denies may be affirmed, whence it is evident that to every affirmation there is an opposite negation, and to every negation an opposite affirmation. Let this be contradiction, affirmation and negation being opposites, but I call that opposition which is of the same respecting the same, not equivocally, and such other particulars of the kind as we have concluded against sophistical importunities.

Chapter 7

Of things, since some are universal, but others singular, (and by universal I mean whatever may naturally be predicated of many things, but by singular, that which may not: as "man" is universal, but "Callias" singular,) it is necessary to enunciate that something is, or is not, inherent, at one time, in an universal, at another in a singular thing. Now, if any one universally enunciates of an universal, that something is or is not inherent, these enunciations will be contrary: I mean universally enunciates of an universal, as that "every man is white," "no man is white." When on the other hand he enunciates of universals, not universally, these are not contraries, though the things signified may sometimes be contrary; but I mean by not universally enunciating of universals, as that "man is white," "man is not white:" for man being universal, is not employed as an universal in the enunciation, since the word "every" does not signify the universal, but (shows that the subject is) universally (taken). Now to predicate universally of what is universally predicated is not true, for no affirmation will be true in which the universal is predicated of an universal predicate, as for instance, "every man" is "every animal." Wherefore I say affirmation is opposed to negation contradictorily, the affirmation which signifies the universal to that which is not universal, as "every man is white," "not every man is white," "no man is white," "some man is white." But contrarily is between universal affirmative and universal negative, as "every man is white," "no man is white," "every man is just," "no man is just." Wherefore it is impossible that these should at one and the same time be true, but the opposites to these may sometimes possibly be co-verified about the same thing, as that "not every man is white," and "some man is white." Of such contradictions then of universals, as are universally made, one must necessarily be true or false, and also such as are of singulars, as "Socrates is white," "Socrates is not white;" but of such contradictions as are indeed of universals, yet are not universally made, one is not always true, but the other false. For at one and the same time we may truly say that "man is white," and that "man is not white," and "man is handsome," and "man is not handsome," for if he is deformed he is not handsome, and if any thing is *becoming* to be, it *is*, not. This however may at once appear absurd, because the assertion “man is not white,” seems at the same time to signify the same thing, as “no man is white,” but it neither necessarily signifies the same thing, nor at the same time.

Notwithstanding it is evident that of one affirmation there is one negation, for it is necessary that the negation should deny the same thing which the affirmation affirmed, and also from the same, (i. e.) either from some singular or some universal, universally or not universally; I say, for instance, that “Socrates is white,” “Socrates is not white.” If however there is something else from the same thing, or the same thing from something else, that (enunciation) will not be opposite, but different from it; to the one, “every man is white,” the other (is opposed) “not every man is white,” and to the one, “a certain man is white,” the other, “no man is white;” and to the one, “man is white,” the other, “man is not white.”

That there is then one affirmation contradictorily opposed to one negation, and what these are, has been shown, also that there are other contraries, and what they are, and that not every contradiction is true or false, and why and when it is true or false.

Chapter 8

The affirmation and negation are one, which indicate one thing of one, either of an universal, being taken universally, or in like manner if it is not, as “every man is white,” “not every man is white,” “man is white,” “man is not white,” “no man is white,” “some man is white,” if that which is white signifies one thing. But it one name be given to two things, from which one thing does not arise, there is not one affirmation nor one negation; as if any one gave the name “garment” to a “horse,” and to “a man;” that “the garment is white,” this will not be one affirmation, nor one negation, since it in no respect differs from saying “man” and “horse” are “white,” and this is equivalent to “man is white,” and “horse is white.” If therefore these signify many things, and are many, it is evident that the first enunciation either signifies many things or nothing, for “some man is not a horse,” wherefore neither in these is it necessary that one should be a true, but the other a false contradiction.

Chapter 9

In those things which are, and have been, the affirmation and negation must of necessity be true or false; in universals, as universals, always one true but the other false, and also in singulars, as we have shown; but in the case of universals not universally enunciated, there is no such necessity, and concerning these we have also spoken, but as to singulars and futures, this is not the case. For if every affirmation or negation be true or false, it is also necessary that every thing should exist or should not exist, for if one man says that a thing will be, but another denies the same, one of them must evidently of necessity speak truth, if every affirmation or negation be true or false, for both will not subsist in such things at one and the same time. Thus if it is true to say that "a thing is white," or that "it is not white," it must of necessity be "white" or not "white," and if it is white or not white, it was true to affirm or to deny it: also if it *is not*, it is falsely said to be, and if it is falsely said to be, it is not; so that it is necessary that either the affirmation or the negation should be true or false. Indeed there is nothing which either is, or is generated fortuitously, nor casually, nor will be, or not be, but all things are from necessity, and not casually, for either he who affirms speaks truth, or he who denies, for in like manner it might either have been or not have been, for that which subsists casually neither does nor will subsist more in this way than in that. Moreover if a thing is now "white," it was true to say before that it will be "white," so that it was always true to say of any thing generated that it either is, or that it will be; but if it was always true to say that it is, or will be, it is impossible that this is not, nor should be; and whatever must of necessity be, it is impossible that it should not have been generated, and what it is impossible should not have been generated must of necessity have been generated; wherefore all things that will be, it is necessary should be generated, and hence there will be nothing casual nor fortuitous, for if it were fortuitous it would not be of necessity. Nor is it possible to say, that neither of them is true, as that it will neither be, nor will not be, for in the first place the affirmation being false, the negation will not be true, and this being false, it results that the affirmation is not true. And besides, if it were true to say that a thing is at the same time "white" and "great," both must of necessity be, but if it shall be to-morrow, it must necessarily be to-morrow, and if it will neither be nor will not be to-morrow, it will not be a casual thing, for example, a naval engagement, for it would be requisite that the engagement should neither occur nor not occur.

These and similar absurdities then will happen, if of every affirmation and negation, whether in respect of universals enunciated universally, or of singulars, it is necessary that one of the opposites be true and the other false, but that nothing happens casually in those things which subsist, but that all are, and are generated of necessity; so that it will neither be necessary to deliberate nor to trouble ourselves, as if we shall do this thing, something definite will occur, but if we do not, it will not occur. For there is nothing to prevent a person for ten thousand years asserting that this will happen, and another person denying it, so that of necessity it will have been then true to assert either of them. And it makes no difference whether any persons have uttered a contradiction or not, for it is evident that the things are so, although the one should not have affirmed any thing, or the other have denied it, since it is not, because it has been affirmed or denied, that therefore a thing will or will not be, neither will it be more so for ten thousand years than for any time whatever. Hence if a thing so subsisted in every time that one of these is truly asserted of it, it was necessary that this should take place; and each thing generated, always so subsisted, as to have been generated from necessity, for when any one truly said that it will be, it was not possible not to have been generated, and of that which is generated, it was always true to say that it will be.

But if these things are impossible — (for we see that there is a beginning of future things, both from our deliberation and practice, and briefly in things which do not always energize, there is equally a power of being and of not being, in which both to be and not to be occurs, as well as to have been generated and not to have been generated; and, indeed, we have many things which evidently subsist in this manner, for example, it is possible for this garment to have been cut in pieces, and it may not be cut in pieces, but be worn out beforehand, so also it is possible that it may not be cut in pieces, for it would not have been worn out before, unless it had been possible that it might not be cut in pieces, and so also in respect of other productions, which are spoken of according to a power of this kind —) then it is evident that all things neither are, nor are generated of necessity, but that some things subsist casually, and that their affirmation is not more true than their negation, and that there are others in which one of these subsists more frequently, and for the most part, yet so, that either might possibly have occurred, but the other not.

Wherefore, being, must of necessity be when it is, and non-being, not be, when it is not; but it is not necessary that every being should be, nor that non-being should not be, since it is not the same thing for every being to be from necessity, when it is, and simply to be from necessity, and in like manner as to non-being. There is the same reasoning also in the case or contradiction; to be or not to be is necessary for every thing, also that it shall, or shall not be, yet it is not requisite to speak of each separately, but I say, for instance, that it is necessary for a naval action to occur or not occur to-morrow, yet it is not necessary that there should be a naval action to-morrow, nor that there should not be; it is necessary, however, that it should either be or not be. Wherefore, since assertions and things are similarly true, it is evident that things which so subsist, as that whatever have happened, the contraries also were possible, it is necessary that contradiction should subsist in the same manner, which happens to those things which are not always, or which not always, are not. For of these, one part of the contradiction must necessarily be true or false, not indeed this or that, but just as it may happen, and one must be the rather true, yet not already true nor false; so that it is evidently not necessary that of every affirmation and negation of opposites, one should be true, but the other false; for it does not happen in the same manner with things which are not, but which either may or may not be, as with things which are, but it happens as we have said.

Chapter 10

Since affirmation signifies something of something, and this is either a noun, or anonymous, (i. e. indefinite,) but what is in affirmation must be one and of one thing, all affirmation and negation will be either from a noun and a verb, or from an indefinite noun and verb. (But what a noun is, and what the anonymous, has been shown before, for I do not reckon "not man" a noun, but an indefinite noun, for an indefinite noun signifies in a certain respect one thing, just as "is not well" is not a verb, but an indefinite verb.) Still without a verb there is neither an affirmation nor negation, for "is," or "will be," or "was," or "is going to be," and so forth, are verbs, from what has been already laid down, since in addition to something else they signify time. Hence the first affirmation and negation (will be), "man is," "man is not," afterwards "non-man is," "non-man is not." Again, "every man is," "every man is not," "every non-man is," "every non-man is not," and the same reasoning holds in times beyond (the present). But when "is," is additionally predicated as the third thing, then the oppositions are enunciated doubly; I say for instance, "a man is just;" here the word "is," I say, is placed as a third thing, whether noun or verb, in the affirmation, so that on this account, these will be four, of which two will subsist with respect to affirmation and negation, according to the order of consequence, as privations, but two will not. But I say that the word "is," will be added to "just" or to "not just," so that also negation is added, wherefore there will be four. We shall understand, however, what is said from the under-written examples: "A man is just," the negation of this is, "a man is not just;" "he is not a just man," the negative of this is, "he is not not a just man," for here the word "is," and "is not," will be added to the "just" and the "not just," wherefore these things, as we have shown in the Analytics, are thus arranged. The same thing will happen if the affirmation be of a noun taken universally, as for instance, "every man is just;" of this the negation is, "not every man is just," "every man is not just," "not every man is not just," except that it does not similarly happen that those which are diametrically opposed are co-verified; sometimes, however, this does pen, these two therefore are opposed to each other. But the other two (are opposed) in respect to “non-man,” as to a certain added subject, as “non-man is just,” “non-man is not just,” “the non-just is not man,” “the not non-just is not man:” there are not, however, more oppositions than these, but these without those, will be by themselves, as using the noun, “non-man.” In those, however, wherein, “is,” is not adapted, — as in “he enjoys health,” and “he walks,” — here it produces the same when thus placed, as if “is” were added; as “every man enjoys health,” “every man does not enjoy health,” “every non-man enjoys health,” “every non-man does not enjoy health.” For it must not be said, “not every man,” but the negation, “not,” must be added to “man;” for “every” does not signify universal, but that (the thing is taken) universally. This is however evident, from “a man enjoys health,” “a man does not enjoy health,” “non-man is well,” “non-man is not well,” these differ from those, in not being universally (taken). Hence “every,” or “no one,” signifies nothing else, than that affirmation or negation is of a noun universally (assumed); wherefore it is necessary to add other things of the same kind.

But because the contrary negation to this, “every animal is just,” is that which signifies that “no animal is just,” it is evident that these will never be either true at the same time, nor in respect to the same subject, but the opposites to these will sometimes be so, as “not every animal is just,” and “some animal is just.” But these follow; the one, “no man is just,” follows “every man is not just,” but the opposite, “some man is just,” follows “not every man is not just,” for it is necessary that some man should be just. In the case also of singulars, it is evident that if a man being questioned denies truly, he asserts also truly, as, “Is Socrates wise? No!” Socrates therefore is not a wise man. But in the case of universals, what is similarly asserted is not true, but the negation is true, as, “Is every man wise? No!” Every man therefore is not wise; for this is false, but this, “not every man then is wise,” is true, and this is opposite, but that is contrary.

Opposites, however, as to indefinite nouns and verbs, as “non-man” and “non-just,” may seem to be negations without a noun and verb, but they are not so, for the negation must always of necessity be either true or false, but he who says “non-man” does not speak more truly or falsely, but rather less, than he who says “man,” except something be added. Still the assertion, “every non-man is just”, does not signify the same as any one of those (propositions), nor the opposite to this, namely, “not every non-man is just;”

but the assertion, “every one not just is not a man,” means the same with, “no one is just who is not a man.”

Nouns and verbs indeed, when transposed, have the same signification, as, “he is a white man,” “he is a man white,” for unless it be so, there will be many negations of the same thing, but it has been shown that there is one of one; of this, “he is a white man,” there is the negation “he is not a white man,” and of the other, “he is a man white,” (except this be the same with “he is a white man,”) the negation will either be “he is not, not a man white,” or “he is not a man white.” But the one is a negation of this, “he is not a man white,” and the other of this, “he is a white man” (so that there will be two negations of one affirmation); wherefore it is evident that when a noun and verb are transposed, the same affirmation and negation result.

Chapter 11

To affirm, and deny, one thing of many, or many of one, is not one affirmation nor one negation, except that is some one thing which is manifested from the many; I mean by one, not if one name be given to many things, nor if one thing result from them, as "man" is perhaps "animal," and "biped," and "mild," yet one thing results from these; but from "white" and "man," and "to walk," one thing does not result, so that neither if a person affirm one certain thing of these is it one affirmation, but there is one articulate sound indeed, yet many affirmations, nor if he affirmed these things of one, (would there be one affirmation,) but in like manner, many. If, then, dialectic interrogation be the seeking of an answer, either of a proposition, or of either part of a contradiction, (but a proposition is a part of one contradiction,) there would not be one answer to these, for neither is there one interrogation, not even if it be true: we have, however, spoken of these in the Topics, at the same time it is evident that, What is it? is not a dialectic interrogation, for a choice should be given from the interrogation to enunciate this or that part of the contradiction; but tne interrogator must besides define, whether this particular thing, or not this, be a man.

As, however, there are some things predicated as composites, so that there is one whole predicable, of those which are predicated separately, but others are not so, what is the difference? For in respect of "man," we may truly and separately predicate "animal" and "biped," and these as one thing; also "man" and "white," and these as one thing; but not if he is "a shoemaker" and "a good man," is he therefore also a good shoemaker. For if, because each of these is true, both, conjointly, should be of necessity true, many absurdities would follow, for "man" and "white" are truly predicated of a man, so that the whole together may be; again, if the thing "is white," the whole conjointly "is white," wherefore, it will be "a man white, white," even to infinity; again, "a musician white walking," and these frequently involved to infinity. Once more, if "Socrates" is "Socrates" and "man," "Socrates" is also "Socrates man," and if he is "man" and "biped," he is also "man biped;" wherefore it is evident, if a man says conjunctions are simply produced, the result will be that he will utter many absurdities.

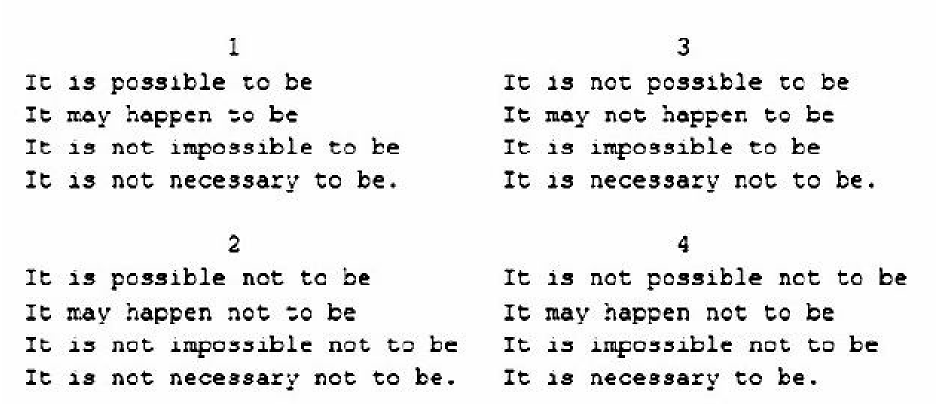
Let us now show how they are to be placed. Of things predicated, and of those of which it happens to be predicated, whatever are accidentally enunciated, either in respect of the same, or the one of the other, these will not be one; as "man is white," and "a musician;" but "whiteness" and "music" are not one thing, for both are accidents to the same thing. Neither if it be true to call what is white musical, yet at the same time will "musical" "white" be one thing, for what is "white" is "musical" per accidens, so that "white musical" will not be one thing, wherefore neither is a man said to be "a good shoemaker" singly, but also "a biped animal," because these are not predicated of him per accidens. Moreover, neither are such things which are inherent in another (to be added), hence, neither is "whiteness" (to be predicated) repeatedly, nor is "a man" "a man animal," nor (a man) "biped," since both animal and biped are inherent in man; still it is true to assert it singly of some one, as that "a certain man is a man," or that "a certain white man is a white man," but this is not the case always. But when some opposition is in the adjunct which a contradiction follows, it is not true, but false, as to call a dead man a man, but when such is not inherent, it is true. Or when something (contradictory) is inherent, it is always not true; but when it is not inherent, it is not always true, as "Homer" is something, "a poet," for instance, "*is*" he therefore, or "*is*" he not? for "is" is predicated of Homer accidentally, since "*is*" is predicated of Homer because he is a poet, but not per se (or essentially). Wherefore, in whatever categories, contrariety is not inherent, if definitions are asserted instead of nouns, and are essentially predicated, and not accidentally, of these a particular thing may be truly and singly asserted; but non-being, because it is a matter of opinion, cannot truly be called a certain being, for the opinion of it is, not that it is, but that it is not.

Chapter 12

These things then being determined, let us consider how the affirmations, and negations of the possible and impossible to be, subsist with reference to each other, also of the contingent and the non-contingent, and of the impossible and necessary, since this has some doubtful points. For if among the complex, those contradictions are mutually opposed, which are arranged according to the verb “to be,” and “not to be,” (as for instance the negation “to be a man,” is “not to be man,” not this, “to be not a man,” and the negation of “to be a white man” is “not to be a white man,” and not this “to be not a white man,” since if affirmation or negation be true of every thing, it will be true to say “that wood is not a white man,”) — if this be so, in those things to which the verb “to be” is not added, that which is asserted instead of the verb “to be,” will produce the same thing. For example, the negation of “a man walks,” will not be “non-man walks,” but, “a man does not walk,” for there is no difference in saying that “a man walks,” or that “a man is walking,” so that if this is every where the case, the negation of “it is possible to be,” will be “it is possible not to be,” and not “it is not possible to be.” But it appears that it is possible for the same thing both to be, and not to be, for every thing which may possibly be cut, or may possibly walk, may also possibly not be cut, and not walk, and the reason is that every thing which is thus possible, does not always energize, so that negation will also belong to it, for that which is capable of walking, may not walk, and the visible may not be seen. Still however it is impossible that opposite affirmations and negations should be true of the same thing, wherefore the negation of “it is possible to be,” is not “it is possible not to be.” Now it results from this that we either at the same time affirm and deny the same thing of the same, or that the affirmations and negations are not made according to the additions, “to be” or “not to be;” if therefore, that, be impossible, this, will be to be taken, wherefore the negation of “it is possible to be,” is “it is not possible to be,” (but not it is possible not to be). Now there is the same reasoning also about the being contingent, for the negation of this is, not to be contingent, and in like manner as to the rest, for example the necessary and impossible, since as in those it happens that, “to be,” and, “not to be,” are additions, but “whiteness” and “man” are subjects, so here “to be” and “not to be,” become as subjects, but “to be possible,” and “to be contingent,” are additions which determine the true and false in the (enunciations) “to be possible” and “to be not possible,” similarly as in those, “to be,” and “not to be.” But of “it is possible not to be,” the negation is not, “it is not possible to be,” but “it is not possible not to be” and of “it is possible to be,” the negation is not, “ it is possible not to be,” but, “it is not possible to be;” wherefore, “it is possible to be,” and, “it is possible not to be,” will appear to follow each other; for it is the same thing, “to be possible to be,” and “not to be,” since such things are not contradictories of each other, namely, “it is possible to be,” and, “it is possible not to be.” But “it is sible to be,” and “it is not possible to be,” are never true of the same thing at the same time, for they are opposed, neither at least are, “it is possible not to be,” and “it is not possible not to be,” ever true at the same time of the same thing. Likewise of, “it is necessary to be,” the negation is not, “it is necessary not to be,” but this, “it is not necessary to be,” and of, “it is necessary not to be,” (the negation) is this, “it is not necessary not to be.” Again, of, “it is impossible to be,” the negation is not “it is impossible not to be,” but “it is not impossible to be,” and of, “it is impossible not to be,” (the negation) is, “it is not impossible not to be.” In fact, universally, as we have said, “to be” and “not to be,” we must necessarily regard as subjects, but those things which produce affirmation and negation we must connect with “to be” and “not to be:” we ought also to consider these as opposite affirmations and negations; possible, impossible, contingent, non-contingent, impossible, not impossible, necessary, not necessary, true, not true.

Chapter 13

The consequences are rightly placed thus: “it happens to be,” follows, “it is possible to be,” and this reciprocates with that; also, “it is not impossible to be” and “it is not necessary to be.” But, “it is not necessary not to be,” and, “it is not impossible not to be;” follow, “it is possible not to be,” and, “it may happen not to be;” and, “it is necessary not to be,” and, “it is impossible to be,” follow, “it is not possible to be,” and, “it does not happen to be;” but, “it is necessary to be,” and also, “it is impossible not to be,” follow, “it is not possible not to be,” and, “it is not contingent not to be:” what we say however may be seen from the following description:



1	3
It is possible to be	It is not possible to be
It may happen to be	It may not happen to be
It is not impossible to be	It is impossible to be
It is not necessary to be.	It is necessary not to be.

2	4
It is possible not to be	It is not possible not to be
It may happen not to be	It may happen not to be
It is not impossible not to be	It is impossible not to be
It is not necessary not to be.	It is necessary to be.

Therefore the impossible, and the not impossible, follow contradictorily the contingent, and the possible, and the non-contingent, and the not possible, and vice versâ; for the negation of the impossible, namely, “it is not impossible to be,” follows, “it is possible to be,” but affirmation follows negation, for, “it is impossible to be” follows “ it is not possible to be,” since “it is impossible to be,” is affirmation, but, “it is not impossible to be,” is negation.

Let us next see how it is with necessary matter, now it is evident that it does not subsist thus, but contraries follow, and contradictories (are placed) separately, for, “it is not necessary to be,” is not the negation of “it is necessary not to be,” since both, may possibly be true of the same thing, as that which necessarily, is not, need not of necessity, be. But the reason why the necessary follows not, in like manner, other propositions, is that the impossible being enunciated contrarily to the necessary, signifies the same thing; for what it is impossible should exist, must not of necessity *be*, but *not be*, and what is impossible should *not be*, this must of necessity *be;* so that if these similarly follow the possible and the not possible, these (do so) in a contrary mode, since the necessary and the impossible do not signify the same thing, but, as we have said, vice versâ. Or is it impossible that the contradictories of the necessary should be thus disposed? for, what, "is necessary to be" is "possible to be," since if not, negation would follow, as it is necessary either to affirm or deny, so that, if it is not possible to be, it is impossible to be, wherefore it would be impossible for that to be, which necessarily is, which is absurd, but the enunciation, "it is not impossible to be" follows the other, "it is possible to be," which again is followed by, "it is not necessary to be," whence it happens that what necessarily exists does not necessarily exist, which is absurd. But again neither does, "it is necessary to be" follow "it is possible to be," nor does the proposition, "it is necessary not to be," for to that, both, may occur, but whichever of these is true, those will be no longer true, for at one and the same time, it is possible to be, and not to be, but if it is necessary either to be or not to be, both, will not be possible. It remains therefore, that "it is not necessary not to be," follows "it is possible to be;" for this is also true in respect of what is necessary to be, since this becomes the contradiction of that proposition which follows, viz. "it is not possible to be;" as "it is impossible to be," and "it is necessary not to be," follow that, of which the negation is, "it is not necessary not to be." Wherefore these contradictions follow according to the above-mentioned mode, and nothing absurd results, when they are thus disposed.

Still it may be doubted whether "it is possible to be," follows "it is necessary to be," for if it does not follow, the contradiction will be consequent, namely, "it is not possible to be," and if a man should deny this to be a contradiction, it will be necessary to call, "it is possible not to be," a contradiction, both which are false in respect of necessary matter. Nay, on the contrary, it appears to be possible that the same thing should "be cut" and "not be cut," should "be" and "not be," so that what necessarily "is," may happen "not to be," which is false. Nevertheless it is evident that not every thing which *can* "be," and *can* "walk," is capable also of the opposites, for in some cases this is not true. In the first place, in those things which are potent irrationally, as fire is calorific, and has irrational power; rational powers then are those of many things, and of the contraries; but not all irrational powers, for, as we have said, fire cannot heat, and not heat, nor such other things as always energize. Yet even some irrational powers can at the same time receive opposites; but this has been stated by us, because not every power is susceptible of contraries, not even such as are predicated, according to the same species. Moreover, some powers are equivocal, for the possible is not predicated, simply; but one thing is (called so), because it is true, as being in an energy, as it is possible for a man to walk, because he walks, and in short, a thing is possible to be, because that is already in energy which is said to be possible; on the other hand, another thing (is said to be possible), because it may be in energy; as it is possible to walk, because a man may walk. Now *this* power exists in movable natures only, but *that* in immovable; but with respect to both, it is true to say, that it is not impossible to walk or to be, and that a man is now walking and energizing, and has the power to walk, hence it is not true to predicate that which is thus possible, in respect of necessary matter, simply, but the other is true. Wherefore since the universal follows the particular, to be able to be, but not all ability, follows that which is of necessity, and indeed the necessary and the non-necessary may perhaps be the principle of the existence, or of the non-existence of all things, and we should consider other things as consequent upon these. Hence from what we have stated, it is clear that whatever exists of necessity, is in energy, so that if eternal natures are prior in existence, energy also is prior to power, and some things, as the first substances, are energies without power, but others with power, namely, those which are prior by nature, but posterior in time: lastly, there are some which are never energies, but are capacities only.

Chapter 14

But whether is affirmation contrary to negation, or affirmation to affirmation? and is the sentence which says, “every man is just,” contrary to the one, “no man is just,” or the sentence “every man is just,” to, “every man is unjust,” as “Callias is just,” “Callias is not just,” “Callias is unjust,” — which of these are contraries? For if things in the voice, follow those which exist in the intellect, but there the opinion of a contrary is contrary, as for instance, that “every man is just,” is contrary to, “every man is unjust,” it is necessary that affirmations also in the voice should subsist in the same manner, but if there, the opinion of a contrary be not contrary, neither will affirmation be contrary to affirmation, but the before-named negation. Hence it must be considered what false opinion is contrary to the true opinion, whether that of negation or that which opines it to be the contrary. I mean in this way, there is a certain true opinion of good that it is good, but another false opinion that it is not good, lastly, a third, that it is evil, which of these therefore is contrary to the true opinion? and if there is one, according to which is it contrary? If then a man should fancy contrary opinions to be defined by this, that they are of contraries, it would be erroneous, for of good that it is good, and of evil that it is evil, there is perhaps the same opinion, and it is true whether there be many (opinions) or one: but these are contraries, yet not from their being of contraries are they contraries, but rather from their subsisting in a contrary manner. If then there is an opinion of good that it is good, but another that it is not good, and there is also something else, which is neither inherent, nor can be, in good, we cannot admit any contrary of the rest, neither such opinions as imagine the non-inherent to be inherent, nor the inherent to be non-inherent, (for both are infinite, both as many as imagine the non-inherent to be inherent, and the inherent to be non-inherent); but in those things in which there is deception, (therein we admit contraries,) and these are from which there are generations; generations however are from opposites, wherefore deceptions also. If then good is good and not evil, and the one is essential, but the other accidental — (for it is accidental to it not to be evil) and of every thing the opinion is more true and false which is essential, if the true (be assumed) — the opinion that good is not good, is false in respect of that which is essentially inherent, but the opinion that it is evil is false of that which is from accident, so that the opinion of the negation of good would be more false than the opinion of the contrary. He is however especially deceived about every thing who holds a contrary opinion, for contraries belong to things which are the most diverse about the same thing. If then one of these is contrary, but the opinion of the negation is more contrary, it is evident that this itself will be (truly) contrary; but the opinion that the good is evil is complex, for it is necessary perhaps, that the same man should suppose (good) not good. Once more, if it is requisite for the like to occur in other things, it may seem to have been well said in this case also; for the (opposition) of negation is either every where or no where; but whatever things have no contraries, of these, the opposite to the true opinion is false, as he is mistaken who fancies "a man" "not a man," if then these (negations) are contrary the other (opinions) also, of negation, are. Besides, it is the same as to the opinion of good that it is good, and of what is not good, that it is not good; and also the opinion of good, that it is not good, and of what is not good that it is good; to the opinion then of the not good that it is not good, which is true, what will be the contrary? Certainly not that which says that it is evil, since it may at one and the same time be true; but truth is never contrary to truth, for whatever is not good is evil, so that it will happen that these opinions, shall be at one and the same time, true. Nor again will that (opinion) that it is not evil, be (the contrary), for that is also true, and these may exist at the same time, wherefore (the opinion) of what is not good, that it is good, remains as a contrary to the opinion of what is not good, that it is not good, and this will be false, so that the opinion of good that it is not good, will be the contrary to that of what is good, that it is good. That there will be no difference though we should propose universal affirmation is evident, for universal negation will be the contrary; as for instance, to the opinion which supposes every thing good to be good, that nothing of good things is good (will be the contrary opinion), for the opinion of good that it is good, if good be universal, is the same with that which opines that whatever is good is good, and this differs in no respect from the opinion that every thing which is good is good, and the like takes place as to that which is not good. So that if this be the case in opinion, and affirmations and negations in the voice are symbols of (conceptions) in the soul, it is clear that the universal negation which is about the same thing, is contrary to affirmation. For instance, to "every thing good is good," or that "every man is good," (the negation is contrary,) that "nothing or no man is good;" but this, that "not every thing, or not every man," (is good, is opposed) contradictorily. It is however evident, that true opinion can neither possibly be contrary to true opinion, nor true negation (to true negation), for those are contraries which subsist about opposites; but about the same things the same may be verified, but contraries cannot possibly be inherent in the same thing, at one and the same time.

Prior Analytics (24a)

Translated by A. J. Jenkinson

This work on deductive reasoning specifically focuses on the syllogism. Aristotle’s *Prior Analytics* is the first text in history where Logic is scientifically investigated. The term “syllogism”, as used by Aristotle, does not carry the same narrow connotation as now. Aristotle defines this term in a way that would apply to a wide range of valid arguments. Some scholars prefer to use the word “deduction” instead as the meaning given by Aristotle to the Greek word συλλογισμός “sullogismos”. At present, “syllogism” is used exclusively as the method used to reach a conclusion, resembling the “syllogisms” of traditional logic texts: two premises followed by a conclusion each of which is a categorial sentence containing all together three terms, two extremes which appear in the conclusion and one middle term which appears in both premises but not in the conclusion.

In this work, Aristotle investigates the science of deduction and the *Posterior Analytics* is the second demonstratively practical part. *Prior Analytics* gives an account of deductions in general narrowed down to three basic syllogisms while *Posterior Analytics* deals with demonstration.

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Book I

1

WE must first state the subject of our inquiry and the faculty to which it belongs: its subject is demonstration and the faculty that carries it out demonstrative science. We must next define a premiss, a term, and a syllogism, and the nature of a perfect and of an imperfect syllogism; and after that, the inclusion or noninclusion of one term in another as in a whole, and what we mean by predicating one term of all, or none, of another.

A premiss then is a sentence affirming or denying one thing of another. This is either universal or particular or indefinite. By universal I mean the statement that something belongs to all or none of something else; by particular that it belongs to some or not to some or not to all; by indefinite that it does or does not belong, without any mark to show whether it is universal or particular, e.g. ‘contraries are subjects of the same science’, or ‘pleasure is not good’. The demonstrative premiss differs from the dialectical, because the demonstrative premiss is the assertion of one of two contradictory statements (the demonstrator does not ask for his premiss, but lays it down), whereas the dialectical premiss depends on the adversary’s choice between two contradictories. But this will make no difference to the production of a syllogism in either case; for both the demonstrator and the dialectician argue syllogistically after stating that something does or does not belong to something else. Therefore a syllogistic premiss without qualification will be an affirmation or denial of something concerning something else in the way we have described; it will be demonstrative, if it is true and obtained through the first principles of its science; while a dialectical premiss is the giving of a choice between two contradictories, when a man is proceeding by question, but when he is syllogizing it is the assertion of that which is apparent and generally admitted, as has been said in the Topics. The nature then of a premiss and the difference between syllogistic, demonstrative, and dialectical premisses, may be taken as sufficiently defined by us in relation to our present need, but will be stated accurately in the sequel.

I call that a term into which the premiss is resolved, i.e. both the predicate and that of which it is predicated, ‘being’ being added and ‘not being’ removed, or vice versa.

A syllogism is discourse in which, certain things being stated, something other than what is stated follows of necessity from their being so. I mean by the last phrase that they produce the consequence, and by this, that no further term is required from without in order to make the consequence necessary.

I call that a perfect syllogism which needs nothing other than what has been stated to make plain what necessarily follows; a syllogism is imperfect, if it needs either one or more propositions, which are indeed the necessary consequences of the terms set down, but have not been expressly stated as premisses.

That one term should be included in another as in a whole is the same as for the other to be predicated of all of the first. And we say that one term is predicated of all of another, whenever no instance of the subject can be found of which the other term cannot be asserted: ‘to be predicated of none’ must be understood in the same way.

2

Every premiss states that something either is or must be or may be the attribute of something else; of premisses of these three kinds some are affirmative, others negative, in respect of each of the three modes of attribution; again some affirmative and negative premisses are universal, others particular, others indefinite. It is necessary then that in universal attribution the terms of the negative premiss should be convertible, e.g. if no pleasure is good, then no good will be pleasure; the terms of the affirmative must be convertible, not however, universally, but in part, e.g. if every pleasure,is good, some good must be pleasure; the particular affirmative must convert in part (for if some pleasure is good, then some good will be pleasure); but the particular negative need not convert, for if some animal is not man, it does not follow that some man is not animal.

First then take a universal negative with the terms A and B. If no B is A, neither can any A be B. For if some A (say C) were B, it would not be true that no B is A; for C is a B. But if every B is A then some A is B. For if no A were B, then no B could be A. But we assumed that every B is A. Similarly too, if the premiss is particular. For if some B is A, then some of the As must be B. For if none were, then no B would be A. But if some B is not A, there is no necessity that some of the As should not be B; e.g. let B stand for animal and A for man. Not every animal is a man; but every man is an animal.

3

The same manner of conversion will hold good also in respect of necessary premisses. The universal negative converts universally; each of the affirmatives converts into a particular. If it is necessary that no B is A, it is necessary also that no A is B. For if it is possible that some A is B, it would be possible also that some B is A. If all or some B is A of necessity, it is necessary also that some A is B: for if there were no necessity, neither would some of the Bs be A necessarily. But the particular negative does not convert, for the same reason which we have already stated.

In respect of possible premisses, since possibility is used in several senses (for we say that what is necessary and what is not necessary and what is potential is possible), affirmative statements will all convert in a manner similar to those described. For if it is possible that all or some B is A, it will be possible that some A is B. For if that were not possible, then no B could possibly be A. This has been already proved. But in negative statements the case is different. Whatever is said to be possible, either because B necessarily is A, or because B is not necessarily A, admits of conversion like other negative statements, e.g. if one should say, it is possible that man is not horse, or that no garment is white. For in the former case the one term necessarily does not belong to the other; in the latter there is no necessity that it should: and the premiss converts like other negative statements. For if it is possible for no man to be a horse, it is also admissible for no horse to be a man; and if it is admissible for no garment to be white, it is also admissible for nothing white to be a garment. For if any white thing must be a garment, then some garment will necessarily be white. This has been already proved. The particular negative also must be treated like those dealt with above. But if anything is said to be possible because it is the general rule and natural (and it is in this way we define the possible), the negative premisses can no longer be converted like the simple negatives; the universal negative premiss does not convert, and the particular does. This will be plain when we speak about the possible. At present we may take this much as clear in addition to what has been said: the statement that it is possible that no B is A or some B is not A is affirmative in form: for the expression ‘is possible’ ranks along with ‘is’, and ‘is’ makes an affirmation always and in every case, whatever the terms to which it is added, in predication, e.g. ‘it is not-good’ or ‘it is not-white’ or in a word ‘it is not-this’. But this also will be proved in the sequel. In conversion these premisses will behave like the other affirmative propositions.

4

After these distinctions we now state by what means, when, and how every syllogism is produced; subsequently we must speak of demonstration. Syllogism should be discussed before demonstration because syllogism is the general: the demonstration is a sort of syllogism, but not every syllogism is a demonstration.

Whenever three terms are so related to one another that the last is contained in the middle as in a whole, and the middle is either contained in, or excluded from, the first as in or from a whole, the extremes must be related by a perfect syllogism. I call that term middle which is itself contained in another and contains another in itself: in position also this comes in the middle. By extremes I mean both that term which is itself contained in another and that in which another is contained. If A is predicated of all B, and B of all C, A must be predicated of all C: we have already explained what we mean by ‘predicated of all’. Similarly also, if A is predicated of no B, and B of all C, it is necessary that no C will be A.

But if the first term belongs to all the middle, but the middle to none of the last term, there will be no syllogism in respect of the extremes; for nothing necessary follows from the terms being so related; for it is possible that the first should belong either to all or to none of the last, so that neither a particular nor a universal conclusion is necessary. But if there is no necessary consequence, there cannot be a syllogism by means of these premisses. As an example of a universal affirmative relation between the extremes we may take the terms animal, man, horse; of a universal negative relation, the terms animal, man, stone. Nor again can syllogism be formed when neither the first term belongs to any of the middle, nor the middle to any of the last. As an example of a positive relation between the extremes take the terms science, line, medicine: of a negative relation science, line, unit.

If then the terms are universally related, it is clear in this figure when a syllogism will be possible and when not, and that if a syllogism is possible the terms must be related as described, and if they are so related there will be a syllogism.

But if one term is related universally, the other in part only, to its subject, there must be a perfect syllogism whenever universality is posited with reference to the major term either affirmatively or negatively, and particularity with reference to the minor term affirmatively: but whenever the universality is posited in relation to the minor term, or the terms are related in any other way, a syllogism is impossible. I call that term the major in which the middle is contained and that term the minor which comes under the middle. Let all B be A and some C be B. Then if ‘predicated of all’ means what was said above, it is necessary that some C is A. And if no B is A but some C is B, it is necessary that some C is not A. The meaning of ‘predicated of none’ has also been defined. So there will be a perfect syllogism. This holds good also if the premiss BC should be indefinite, provided that it is affirmative: for we shall have the same syllogism whether the premiss is indefinite or particular.

But if the universality is posited with respect to the minor term either affirmatively or negatively, a syllogism will not be possible, whether the major premiss is positive or negative, indefinite or particular: e.g. if some B is or is not A, and all C is B. As an example of a positive relation between the extremes take the terms good, state, wisdom: of a negative relation, good, state, ignorance. Again if no C is B, but some B is or is not A or not every B is A, there cannot be a syllogism. Take the terms white, horse, swan: white, horse, raven. The same terms may be taken also if the premiss BA is indefinite.

Nor when the major premiss is universal, whether affirmative or negative, and the minor premiss is negative and particular, can there be a syllogism, whether the minor premiss be indefinite or particular: e.g. if all B is A and some C is not B, or if not all C is B. For the major term may be predicable both of all and of none of the minor, to some of which the middle term cannot be attributed. Suppose the terms are animal, man, white: next take some of the white things of which man is not predicated-swan and snow: animal is predicated of all of the one, but of none of the other. Consequently there cannot be a syllogism. Again let no B be A, but let some C not be B. Take the terms inanimate, man, white: then take some white things of which man is not predicated-swan and snow: the term inanimate is predicated of all of the one, of none of the other.

Further since it is indefinite to say some C is not B, and it is true that some C is not B, whether no C is B, or not all C is B, and since if terms are assumed such that no C is B, no syllogism follows (this has already been stated) it is clear that this arrangement of terms will not afford a syllogism: otherwise one would have been possible with a universal negative minor premiss. A similar proof may also be given if the universal premiss is negative.

Nor can there in any way be a syllogism if both the relations of subject and predicate are particular, either positively or negatively, or the one negative and the other affirmative, or one indefinite and the other definite, or both indefinite. Terms common to all the above are animal, white, horse: animal, white, stone.

It is clear then from what has been said that if there is a syllogism in this figure with a particular conclusion, the terms must be related as we have stated: if they are related otherwise, no syllogism is possible anyhow. It is evident also that all the syllogisms in this figure are perfect (for they are all completed by means of the premisses originally taken) and that all conclusions are proved by this figure, viz. universal and particular, affirmative and negative. Such a figure I call the first.

5

Whenever the same thing belongs to all of one subject, and to none of another, or to all of each subject or to none of either, I call such a figure the second; by middle term in it I mean that which is predicated of both subjects, by extremes the terms of which this is said, by major extreme that which lies near the middle, by minor that which is further away from the middle. The middle term stands outside the extremes, and is first in position. A syllogism cannot be perfect anyhow in this figure, but it may be valid whether the terms are related universally or not.

If then the terms are related universally a syllogism will be possible, whenever the middle belongs to all of one subject and to none of another (it does not matter which has the negative relation), but in no other way. Let M be predicated of no N, but of all O. Since, then, the negative relation is convertible, N will belong to no M: but M was assumed to belong to all O: consequently N will belong to no O. This has already been proved. Again if M belongs to all N, but to no O, then N will belong to no O. For if M belongs to no O, O belongs to no M: but M (as was said) belongs to all N: O then will belong to no N: for the first figure has again been formed. But since the negative relation is convertible, N will belong to no O. Thus it will be the same syllogism that proves both conclusions.

It is possible to prove these results also by reductio ad impossibile.

It is clear then that a syllogism is formed when the terms are so related, but not a perfect syllogism; for necessity is not perfectly established merely from the original premisses; others also are needed.

But if M is predicated of every N and O, there cannot be a syllogism. Terms to illustrate a positive relation between the extremes are substance, animal, man; a negative relation, substance, animal, number-substance being the middle term.

Nor is a syllogism possible when M is predicated neither of any N nor of any O. Terms to illustrate a positive relation are line, animal, man: a negative relation, line, animal, stone.

It is clear then that if a syllogism is formed when the terms are universally related, the terms must be related as we stated at the outset: for if they are otherwise related no necessary consequence follows.

If the middle term is related universally to one of the extremes, a particular negative syllogism must result whenever the middle term is related universally to the major whether positively or negatively, and particularly to the minor and in a manner opposite to that of the universal statement: by ‘an opposite manner’ I mean, if the universal statement is negative, the particular is affirmative: if the universal is affirmative, the particular is negative. For if M belongs to no N, but to some O, it is necessary that N does not belong to some O. For since the negative statement is convertible, N will belong to no M: but M was admitted to belong to some O: therefore N will not belong to some O: for the result is reached by means of the first figure. Again if M belongs to all N, but not to some O, it is necessary that N does not belong to some O: for if N belongs to all O, and M is predicated also of all N, M must belong to all O: but we assumed that M does not belong to some O. And if M belongs to all N but not to all O, we shall conclude that N does not belong to all O: the proof is the same as the above. But if M is predicated of all O, but not of all N, there will be no syllogism. Take the terms animal, substance, raven; animal, white, raven. Nor will there be a conclusion when M is predicated of no O, but of some N. Terms to illustrate a positive relation between the extremes are animal, substance, unit: a negative relation, animal, substance, science.

If then the universal statement is opposed to the particular, we have stated when a syllogism will be possible and when not: but if the premisses are similar in form, I mean both negative or both affirmative, a syllogism will not be possible anyhow. First let them be negative, and let the major premiss be universal, e.g. let M belong to no N, and not to some O. It is possible then for N to belong either to all O or to no O. Terms to illustrate the negative relation are black, snow, animal. But it is not possible to find terms of which the extremes are related positively and universally, if M belongs to some O, and does not belong to some O. For if N belonged to all O, but M to no N, then M would belong to no O: but we assumed that it belongs to some O. In this way then it is not admissible to take terms: our point must be proved from the indefinite nature of the particular statement. For since it is true that M does not belong to some O, even if it belongs to no O, and since if it belongs to no O a syllogism is (as we have seen) not possible, clearly it will not be possible now either.

Again let the premisses be affirmative, and let the major premiss as before be universal, e.g. let M belong to all N and to some O. It is possible then for N to belong to all O or to no O. Terms to illustrate the negative relation are white, swan, stone. But it is not possible to take terms to illustrate the universal affirmative relation, for the reason already stated: the point must be proved from the indefinite nature of the particular statement. But if the minor premiss is universal, and M belongs to no O, and not to some N, it is possible for N to belong either to all O or to no O. Terms for the positive relation are white, animal, raven: for the negative relation, white, stone, raven. If the premisses are affirmative, terms for the negative relation are white, animal, snow; for the positive relation, white, animal, swan. Evidently then, whenever the premisses are similar in form, and one is universal, the other particular, a syllogism can, not be formed anyhow. Nor is one possible if the middle term belongs to some of each of the extremes, or does not belong to some of either, or belongs to some of the one, not to some of the other, or belongs to neither universally, or is related to them indefinitely. Common terms for all the above are white, animal, man: white, animal, inanimate. It is clear then from what has been said that if the terms are related to one another in the way stated, a syllogism results of necessity; and if there is a syllogism, the terms must be so related. But it is evident also that all the syllogisms in this figure are imperfect: for all are made perfect by certain supplementary statements, which either are contained in the terms of necessity or are assumed as hypotheses, i.e. when we prove per impossibile. And it is evident that an affirmative conclusion is not attained by means of this figure, but all are negative, whether universal or particular.

6

But if one term belongs to all, and another to none, of a third, or if both belong to all, or to none, of it, I call such a figure the third; by middle term in it I mean that of which both the predicates are predicated, by extremes I mean the predicates, by the major extreme that which is further from the middle, by the minor that which is nearer to it. The middle term stands outside the extremes, and is last in position. A syllogism cannot be perfect in this figure either, but it may be valid whether the terms are related universally or not to the middle term.

If they are universal, whenever both P and R belong to S, it follows that P will necessarily belong to some R. For, since the affirmative statement is convertible, S will belong to some R: consequently since P belongs to all S, and S to some R, P must belong to some R: for a syllogism in the first figure is produced. It is possible to demonstrate this also per impossibile and by exposition. For if both P and R belong to all S, should one of the Ss, e.g. N, be taken, both P and R will belong to this, and thus P will belong to some R.

If R belongs to all S, and P to no S, there will be a syllogism to prove that P will necessarily not belong to some R. This may be demonstrated in the same way as before by converting the premiss RS. It might be proved also per impossibile, as in the former cases. But if R belongs to no S, P to all S, there will be no syllogism. Terms for the positive relation are animal, horse, man: for the negative relation animal, inanimate, man.

Nor can there be a syllogism when both terms are asserted of no S. Terms for the positive relation are animal, horse, inanimate; for the negative relation man, horse, inanimate-inanimate being the middle term.

It is clear then in this figure also when a syllogism will be possible and when not, if the terms are related universally. For whenever both the terms are affirmative, there will be a syllogism to prove that one extreme belongs to some of the other; but when they are negative, no syllogism will be possible. But when one is negative, the other affirmative, if the major is negative, the minor affirmative, there will be a syllogism to prove that the one extreme does not belong to some of the other: but if the relation is reversed, no syllogism will be possible. If one term is related universally to the middle, the other in part only, when both are affirmative there must be a syllogism, no matter which of the premisses is universal. For if R belongs to all S, P to some S, P must belong to some R. For since the affirmative statement is convertible S will belong to some P: consequently since R belongs to all S, and S to some P, R must also belong to some P: therefore P must belong to some R.

Again if R belongs to some S, and P to all S, P must belong to some R. This may be demonstrated in the same way as the preceding. And it is possible to demonstrate it also per impossibile and by exposition, as in the former cases. But if one term is affirmative, the other negative, and if the affirmative is universal, a syllogism will be possible whenever the minor term is affirmative. For if R belongs to all S, but P does not belong to some S, it is necessary that P does not belong to some R. For if P belongs to all R, and R belongs to all S, then P will belong to all S: but we assumed that it did not. Proof is possible also without reduction ad impossibile, if one of the Ss be taken to which P does not belong.

But whenever the major is affirmative, no syllogism will be possible, e.g. if P belongs to all S and R does not belong to some S. Terms for the universal affirmative relation are animate, man, animal. For the universal negative relation it is not possible to get terms, if R belongs to some S, and does not belong to some S. For if P belongs to all S, and R to some S, then P will belong to some R: but we assumed that it belongs to no R. We must put the matter as before.' Since the expression 'it does not belong to some' is indefinite, it may be used truly of that also which belongs to none. But if R belongs to no S, no syllogism is possible, as has been shown. Clearly then no syllogism will be possible here.

But if the negative term is universal, whenever the major is negative and the minor affirmative there will be a syllogism. For if P belongs to no S, and R belongs to some S, P will not belong to some R: for we shall have the first figure again, if the premiss RS is converted.

But when the minor is negative, there will be no syllogism. Terms for the positive relation are animal, man, wild: for the negative relation, animal, science, wild-the middle in both being the term wild.

Nor is a syllogism possible when both are stated in the negative, but one is universal, the other particular. When the minor is related universally to the middle, take the terms animal, science, wild; animal, man, wild. When the major is related universally to the middle, take as terms for a negative relation raven, snow, white. For a positive relation terms cannot be found, if R belongs to some S, and does not belong to some S. For if P belongs to all R, and R to some S, then P belongs to some S: but we assumed that it belongs to no S. Our point, then, must be proved from the indefinite nature of the particular statement.

Nor is a syllogism possible anyhow, if each of the extremes belongs to some of the middle or does not belong, or one belongs and the other does not to some of the middle, or one belongs to some of the middle, the other not to all, or if the premisses are indefinite. Common terms for all are animal, man, white: animal, inanimate, white.

It is clear then in this figure also when a syllogism will be possible, and when not; and that if the terms are as stated, a syllogism results of necessity, and if there is a syllogism, the terms must be so related. It is clear also that all the syllogisms in this figure are imperfect (for all are made perfect by certain supplementary assumptions), and that it will not be possible to reach a universal conclusion by means of this figure, whether negative or affirmative.

7

It is evident also that in all the figures, whenever a proper syllogism does not result, if both the terms are affirmative or negative nothing necessary follows at all, but if one is affirmative, the other negative, and if the negative is stated universally, a syllogism always results relating the minor to the major term, e.g. if A belongs to all or some B, and B belongs to no C: for if the premisses are converted it is necessary that C does not belong to some A. Similarly also in the other figures: a syllogism always results by means of conversion. It is evident also that the substitution of an indefinite for a particular affirmative will effect the same syllogism in all the figures.

It is clear too that all the imperfect syllogisms are made perfect by means of the first figure. For all are brought to a conclusion either ostensively or per impossibile. In both ways the first figure is formed: if they are made perfect ostensively, because (as we saw) all are brought to a conclusion by means of conversion, and conversion produces the first figure: if they are proved per impossibile, because on the assumption of the false statement the syllogism comes about by means of the first figure, e.g. in the last figure, if A and B belong to all C, it follows that A belongs to some B: for if A belonged to no B, and B belongs to all C, A would belong to no C: but (as we stated) it belongs to all C. Similarly also with the rest.

It is possible also to reduce all syllogisms to the universal syllogisms in the first figure. Those in the second figure are clearly made perfect by these, though not all in the same way; the universal syllogisms are made perfect by converting the negative premiss, each of the particular syllogisms by reductio ad impossibile. In the first figure particular syllogisms are indeed made perfect by themselves, but it is possible also to prove them by means of the second figure, reducing them ad impossibile, e.g. if A belongs to all B, and B to some C, it follows that A belongs to some C. For if it belonged to no C, and belongs to all B, then B will belong to no C: this we know by means of the second figure. Similarly also demonstration will be possible in the case of the negative. For if A belongs to no B, and B belongs to some C, A will not belong to some C: for if it belonged to all C, and belongs to no B, then B will belong to no C: and this (as we saw) is the middle figure. Consequently, since all syllogisms in the middle figure can be reduced to universal syllogisms in the first figure, and since particular syllogisms in the first figure can be reduced to syllogisms in the middle figure, it is clear that particular syllogisms can be reduced to universal syllogisms in the first figure. Syllogisms in the third figure, if the terms are universal, are directly made perfect by means of those syllogisms; but, when one of the premisses is particular, by means of the particular syllogisms in the first figure: and these (we have seen) may be reduced to the universal syllogisms in the first figure: consequently also the particular syllogisms in the third figure may be so reduced. It is clear then that all syllogisms may be reduced to the universal syllogisms in the first figure.

We have stated then how syllogisms which prove that something belongs or does not belong to something else are constituted, both how syllogisms of the same figure are constituted in themselves, and how syllogisms of different figures are related to one another.

8

Since there is a difference according as something belongs, necessarily belongs, or may belong to something else (for many things belong indeed, but not necessarily, others neither necessarily nor indeed at all, but it is possible for them to belong), it is clear that there will be different syllogisms to prove each of these relations, and syllogisms with differently related terms, one syllogism concluding from what is necessary, another from what is, a third from what is possible.

There is hardly any difference between syllogisms from necessary premisses and syllogisms from premisses which merely assert. When the terms are put in the same way, then, whether something belongs or necessarily belongs (or does not belong) to something else, a syllogism will or will not result alike in both cases, the only difference being the addition of the expression ‘necessarily’ to the terms. For the negative statement is convertible alike in both cases, and we should give the same account of the expressions ‘to be contained in something as in a whole’ and ‘to be predicated of all of something’. With the exceptions to be made below, the conclusion will be proved to be necessary by means of conversion, in the same manner as in the case of simple predication. But in the middle figure when the universal statement is affirmative, and the particular negative, and again in the third figure when the universal is affirmative and the particular negative, the demonstration will not take the same form, but it is necessary by the ‘exposition’ of a part of the subject of the particular negative proposition, to which the predicate does not belong, to make the syllogism in reference to this: with terms so chosen the conclusion will necessarily follow. But if the relation is necessary in respect of the part taken, it must hold of some of that term in which this part is included: for the part taken is just some of that. And each of the resulting syllogisms is in the appropriate figure.

9

It happens sometimes also that when one premiss is necessary the conclusion is necessary, not however when either premiss is necessary, but only when the major is, e.g. if A is taken as necessarily belonging or not belonging to B, but B is taken as simply belonging to C: for if the premisses are taken in this way, A will necessarily belong or not belong to C. For since necessarily belongs, or does not belong, to every B, and since C is one of the Bs, it is clear that for C also the positive or the negative relation to A will hold necessarily. But if the major premiss is not necessary, but the minor is necessary, the conclusion will not be necessary. For if it were, it would result both through the first figure and through the third that A belongs necessarily to some B. But this is false; for B may be such that it is possible that A should belong to none of it. Further, an example also makes it clear that the conclusion not be necessary, e.g. if A were movement, B animal, C man: man is an animal necessarily, but an animal does not move necessarily, nor does man. Similarly also if the major premiss is negative; for the proof is the same.

In particular syllogisms, if the universal premiss is necessary, then the conclusion will be necessary; but if the particular, the conclusion will not be necessary, whether the universal premiss is negative or affirmative. First let the universal be necessary, and let A belong to all B necessarily, but let B simply belong to some C: it is necessary then that A belongs to some C necessarily: for C falls under B, and A was assumed to belong necessarily to all B. Similarly also if the syllogism should be negative: for the proof will be the same. But if the particular premiss is necessary, the conclusion will not be necessary: for from the denial of such a conclusion nothing impossible results, just as it does not in the universal syllogisms. The same is true of negative syllogisms. Try the terms movement, animal, white.

10

In the second figure, if the negative premiss is necessary, then the conclusion will be necessary, but if the affirmative, not necessary. First let the negative be necessary; let A be possible of no B, and simply belong to C. Since then the negative statement is convertible, B is possible of no A. But A belongs to all C; consequently B is possible of no C. For C falls under A. The same result would be obtained if the minor premiss were negative: for if A is possible be of no C, C is possible of no A: but A belongs to all B, consequently C is possible of none of the Bs: for again we have obtained the first figure. Neither then is B possible of C: for conversion is possible without modifying the relation.

But if the affirmative premiss is necessary, the conclusion will not be necessary. Let A belong to all B necessarily, but to no C simply. If then the negative premiss is converted, the first figure results. But it has been proved in the case of the first figure that if the negative major premiss is not necessary the conclusion will not be necessary either. Therefore the same result will obtain here. Further, if the conclusion is necessary, it follows that C necessarily does not belong to some A. For if B necessarily belongs to no C, C will necessarily belong to no B. But B at any rate must belong to some A, if it is true (as was assumed) that A necessarily belongs to all B. Consequently it is necessary that C does not belong to some A. But nothing prevents such an A being taken that it is possible for C to belong to all of it. Further one might show by an exposition of terms that the conclusion is not necessary without qualification, though it is a necessary conclusion from the premisses. For example let A be animal, B man, C white, and let the premisses be assumed to correspond to what we had before: it is possible that animal should belong to nothing white. Man then will not belong to anything white, but not necessarily: for it is possible for man to be born white, not however so long as animal belongs to nothing white. Consequently under these conditions the conclusion will be necessary, but it is not necessary without qualification.

Similar results will obtain also in particular syllogisms. For whenever the negative premiss is both universal and necessary, then the conclusion will be necessary: but whenever the affirmative premiss is universal, the negative particular, the conclusion will not be necessary. First then let the negative premiss be both universal and necessary: let it be possible for no B that A should belong to it, and let A simply belong to some C. Since the negative statement is convertible, it will be possible for no A that B should belong to it: but A belongs to some C; consequently B necessarily does not belong to some of the Cs. Again let the affirmative premiss be both universal and necessary, and let the major premiss be affirmative. If then A necessarily belongs to all B, but does not belong to some C, it is clear that B will not belong to some C, but not necessarily. For the same terms can be used to demonstrate the point, which were used in the universal syllogisms. Nor again, if the negative statement is necessary but particular, will the conclusion be necessary. The point can be demonstrated by means of the same terms.

11

In the last figure when the terms are related universally to the middle, and both premisses are affirmative, if one of the two is necessary, then the conclusion will be necessary. But if one is negative, the other affirmative, whenever the negative is necessary the conclusion also will be necessary, but whenever the affirmative is necessary the conclusion will not be necessary. First let both the premisses be affirmative, and let A and B belong to all C, and let AC be necessary. Since then B belongs to all C, C also will belong to some B, because the universal is convertible into the particular: consequently if A belongs necessarily to all C, and C belongs to some B, it is necessary that A should belong to some B also. For B is under C. The first figure then is formed. A similar proof will be given also if BC is necessary. For C is convertible with some A: consequently if B belongs necessarily to all C, it will belong necessarily also to some A.

Again let AC be negative, BC affirmative, and let the negative premiss be necessary. Since then C is convertible with some B, but A necessarily belongs to no C, A will necessarily not belong to some B either: for B is under C. But if the affirmative is necessary, the conclusion will not be necessary. For suppose BC is affirmative and necessary, while AC is negative and not necessary. Since then the affirmative is convertible, C also will belong to some B necessarily: consequently if A belongs to none of the Cs, while C belongs to some of the Bs, A will not belong to some of the Bs-but not of necessity; for it has been proved, in the case of the first figure, that if the negative premiss is not necessary, neither will the conclusion be necessary. Further, the point may be made clear by considering the terms. Let the term A be ‘good’, let that which B signifies be ‘animal’, let the term C be ‘horse’. It is possible then that the term good should belong to no horse, and it is necessary that the term animal should belong to every horse: but it is not necessary that some animal should not be good, since it is possible for every animal to be good. Or if that is not possible, take as the term ‘awake’ or ‘asleep’: for every animal can accept these.

If, then, the premisses are universal, we have stated when the conclusion will be necessary. But if one premiss is universal, the other particular, and if both are affirmative, whenever the universal is necessary the conclusion also must be necessary. The demonstration is the same as before; for the particular affirmative also is convertible. If then it is necessary that B should belong to all C, and A falls under C, it is necessary that B should belong to some A. But if B must belong to some A, then A must belong to some B: for conversion is possible. Similarly also if AC should be necessary and universal: for B falls under C. But if the particular premiss is necessary, the conclusion will not be necessary. Let the premiss BC be both particular and necessary, and let A belong to all C, not however necessarily. If the proposition BC is converted the first figure is formed, and the universal premiss is not necessary, but the particular is necessary. But when the premisses were thus, the conclusion (as we proved was not necessary: consequently it is not here either. Further, the point is clear if we look at the terms. Let A be waking, B biped, and C animal. It is necessary that B should belong to some C, but it is possible for A to belong to C, and that A should belong to B is not necessary. For there is no necessity that some biped should be asleep or awake. Similarly and by means of the same terms proof can be made, should the proposition AC be both particular and necessary.

But if one premiss is affirmative, the other negative, whenever the universal is both negative and necessary the conclusion also will be necessary. For if it is not possible that A should belong to any C, but B belongs to some C, it is necessary that A should not belong to some B. But whenever the affirmative proposition is necessary, whether universal or particular, or the negative is particular, the conclusion will not be necessary. The proof of this by reduction will be the same as before; but if terms are wanted, when the universal affirmative is necessary, take the terms ‘waking’-’animal’-’man’, ‘man’ being middle, and when the affirmative is particular and necessary, take the terms ‘waking’-’animal’-’white’: for it is necessary that animal should belong to some white thing, but it is possible that waking should belong to none, and it is not necessary that waking should not belong to some animal. But when the negative proposition being particular is necessary, take the terms ‘biped’, ‘moving’, ‘animal’, ‘animal’ being middle.

12

It is clear then that a simple conclusion is not reached unless both premisses are simple assertions, but a necessary conclusion is possible although one only of the premisses is necessary. But in both cases, whether the syllogisms are affirmative or negative, it is necessary that one premiss should be similar to the conclusion. I mean by ‘similar’, if the conclusion is a simple assertion, the premiss must be simple; if the conclusion is necessary, the premiss must be necessary. Consequently this also is clear, that the conclusion will be neither necessary nor simple unless a necessary or simple premiss is assumed.

13

Perhaps enough has been said about the proof of necessity, how it comes about and how it differs from the proof of a simple statement. We proceed to discuss that which is possible, when and how and by what means it can be proved. I use the terms ‘to be possible’ and ‘the possible’ of that which is not necessary but, being assumed, results in nothing impossible. We say indeed ambiguously of the necessary that it is possible. But that my definition of the possible is correct is clear from the phrases by which we deny or on the contrary affirm possibility. For the expressions ‘it is not possible to belong’, ‘it is impossible to belong’, and ‘it is necessary not to belong’ are either identical or follow from one another; consequently their opposites also, ‘it is possible to belong’, ‘it is not impossible to belong’, and ‘it is not necessary not to belong’, will either be identical or follow from one another. For of everything the affirmation or the denial holds good. That which is possible then will be not necessary and that which is not necessary will be possible. It results that all premisses in the mode of possibility are convertible into one another. I mean not that the affirmative are convertible into the negative, but that those which are affirmative in form admit of conversion by opposition, e.g. ‘it is possible to belong’ may be converted into ‘it is possible not to belong’, and ‘it is possible for A to belong to all B’ into ‘it is possible for A to belong to no B’ or ‘not to all B’, and ‘it is possible for A to belong to some B’ into ‘it is possible for A not to belong to some B’. And similarly the other propositions in this mode can be converted. For since that which is possible is not necessary, and that which is not necessary may possibly not belong, it is clear that if it is possible that A should belong to B, it is possible also that it should not belong to B: and if it is possible that it should belong to all, it is also possible that it should not belong to all. The same holds good in the case of particular affirmations: for the proof is identical. And such premisses are affirmative and not negative; for ‘to be possible’ is in the same rank as ‘to be’, as was said above.

Having made these distinctions we next point out that the expression ‘to be possible’ is used in two ways. In one it means to happen generally and fall short of necessity, e.g. man’s turning grey or growing or decaying, or generally what naturally belongs to a thing (for this has not its necessity unbroken, since man’s existence is not continuous for ever, although if a man does exist, it comes about either necessarily or generally). In another sense the expression means the indefinite, which can be both thus and not thus, e.g. an animal’s walking or an earthquake’s taking place while it is walking, or generally what happens by chance: for none of these inclines by nature in the one way more than in the opposite.

That which is possible in each of its two senses is convertible into its opposite, not however in the same way: but what is natural is convertible because it does not necessarily belong (for in this sense it is possible that a man should not grow grey) and what is indefinite is convertible because it inclines this way no more than that. Science and demonstrative syllogism are not concerned with things which are indefinite, because the middle term is uncertain; but they are concerned with things that are natural, and as a rule arguments and inquiries are made about things which are possible in this sense. Syllogisms indeed can be made about the former, but it is unusual at any rate to inquire about them.

These matters will be treated more definitely in the sequel; our business at present is to state the moods and nature of the syllogism made from possible premisses. The expression ‘it is possible for this to belong to that’ may be understood in two senses: ‘that’ may mean either that to which ‘that’ belongs or that to which it may belong; for the expression ‘A is possible of the subject of B’ means that it is possible either of that of which B is stated or of that of which B may possibly be stated. It makes no difference whether we say, A is possible of the subject of B, or all B admits of A. It is clear then that the expression ‘A may possibly belong to all B’ might be used in two senses. First then we must state the nature and characteristics of the syllogism which arises if B is possible of the subject of C, and A is possible of the subject of B. For thus both premisses are assumed in the mode of possibility; but whenever A is possible of that of which B is true, one premiss is a simple assertion, the other a problematic. Consequently we must start from premisses which are similar in form, as in the other cases.

14

Whenever A may possibly belong to all B, and B to all C, there will be a perfect syllogism to prove that A may possibly belong to all C. This is clear from the definition: for it was in this way that we explained ‘to be possible for one term to belong to all of another’. Similarly if it is possible for A to belong no B, and for B to belong to all C, then it is possible for A to belong to no C. For the statement that it is possible for A not to belong to that of which B may be true means (as we saw) that none of those things which can possibly fall under the term B is left out of account. But whenever A may belong to all B, and B may belong to no C, then indeed no syllogism results from the premisses assumed, but if the premiss BC is converted after the manner of problematic propositions, the same syllogism results as before. For since it is possible that B should belong to no C, it is possible also that it should belong to all C. This has been stated above. Consequently if B is possible for all C, and A is possible for all B, the same syllogism again results. Similarly if in both the premisses the negative is joined with ‘it is possible’: e.g. if A may belong to none of the Bs, and B to none of the Cs. No syllogism results from the assumed premisses, but if they are converted we shall have the same syllogism as before. It is clear then that if the minor premiss is negative, or if both premisses are negative, either no syllogism results, or if one it is not perfect. For the necessity results from the conversion.

But if one of the premisses is universal, the other particular, when the major premiss is universal there will be a perfect syllogism. For if A is possible for all B, and B for some C, then A is possible for some C. This is clear from the definition of being possible. Again if A may belong to no B, and B may belong to some of the Cs, it is necessary that A may possibly not belong to some of the Cs. The proof is the same as above. But if the particular premiss is negative, and the universal is affirmative, the major still being universal and the minor particular, e.g. A is possible for all B, B may possibly not belong to some C, then a clear syllogism does not result from the assumed premisses, but if the particular premiss is converted and it is laid down that B possibly may belong to some C, we shall have the same conclusion as before, as in the cases given at the beginning.

But if the major premiss is the minor universal, whether both are affirmative, or negative, or different in quality, or if both are indefinite or particular, in no way will a syllogism be possible. For nothing prevents B from reaching beyond A, so that as predicates cover unequal areas. Let C be that by which B extends beyond A. To C it is not possible that A should belong-either to all or to none or to some or not to some, since premisses in the mode of possibility are convertible and it is possible for B to belong to more things than A can. Further, this is obvious if we take terms; for if the premisses are as assumed, the major term is both possible for none of the minor and must belong to all of it. Take as terms common to all the cases under consideration ‘animal’-’white’-’man’, where the major belongs necessarily to the minor; ‘animal’-’white’-’garment’, where it is not possible that the major should belong to the minor. It is clear then that if the terms are related in this manner, no syllogism results. For every syllogism proves that something belongs either simply or necessarily or possibly. It is clear that there is no proof of the first or of the second. For the affirmative is destroyed by the negative, and the negative by the affirmative. There remains the proof of possibility. But this is impossible. For it has been proved that if the terms are related in this manner it is both necessary that the major should belong to all the minor and not possible that it should belong to any. Consequently there cannot be a syllogism to prove the possibility; for the necessary (as we stated) is not possible.

It is clear that if the terms are universal in possible premisses a syllogism always results in the first figure, whether they are affirmative or negative, only a perfect syllogism results in the first case, an imperfect in the second.

But possibility must be understood according to the definition laid down, not as covering necessity. This is sometimes forgotten.

15

If one premiss is a simple proposition, the other a problematic, whenever the major premiss indicates possibility all the syllogisms will be perfect and establish possibility in the sense defined; but whenever the minor premiss indicates possibility all the syllogisms will be imperfect, and those which are negative will establish not possibility according to the definition, but that the major does not necessarily belong to any, or to all, of the minor. For if this is so, we say it is possible that it should belong to none or not to all. Let A be possible for all B, and let B belong to all C. Since C falls under B, and A is possible for all B, clearly it is possible for all C also. So a perfect syllogism results. Likewise if the premiss AB is negative, and the premiss BC is affirmative, the former stating possible, the latter simple attribution, a perfect syllogism results proving that A possibly belongs to no C.

It is clear that perfect syllogisms result if the minor premiss states simple belonging: but that syllogisms will result if the modality of the premisses is reversed, must be proved per impossibile. At the same time it will be evident that they are imperfect: for the proof proceeds not from the premisses assumed. First we must state that if B's being follows necessarily from A's being, B's possibility will follow necessarily from A's possibility. Suppose, the terms being so related, that A is possible, and B is impossible. If then that which is possible, when it is possible for it to be, might happen, and if that which is impossible, when it is impossible, could not happen, and if at the same time A is possible and B impossible, it would be possible for A to happen without B, and if to happen, then to be. For that which has happened, when it has happened, is. But we must take the impossible and the possible not only in the sphere of becoming, but also in the spheres of truth and predicability, and the various other spheres in which we speak of the possible: for it will be alike in all. Further we must understand the statement that B's being depends on A's being, not as meaning that if some single thing A is, B will be: for nothing follows of necessity from the being of some one thing, but from two at least, i.e. when the premisses are related in the manner stated to be that of the syllogism. For if C is predicated of D, and D of F, then

C is necessarily predicated of F. And if each is possible, the conclusion also is possible. If then, for example, one should indicate the premisses by A, and the conclusion by B, it would not only result that if A is necessary B is necessary, but also that if A is possible, B is possible.

Since this is proved it is evident that if a false and not impossible assumption is made, the consequence of the assumption will also be false and not impossible: e.g. if A is false, but not impossible, and if B is the consequence of A, B also will be false but not impossible. For since it has been proved that if B's being is the consequence of A's being, then B's possibility will follow from A's possibility (and A is assumed to be possible), consequently B will be possible: for if it were impossible, the same thing would at the same time be possible and impossible.

Since we have defined these points, let A belong to all B, and B be possible for all C: it is necessary then that should be a possible attribute for all C. Suppose that it is not possible, but assume that B belongs to all C: this is false but not impossible. If then A is not possible for C but B belongs to all C, then A is not possible for all B: for a syllogism is formed in the third degree. But it was assumed that A is a possible attribute for all B. It is necessary then that A is possible for all C. For though the assumption we made is false and not impossible, the conclusion is impossible. It is possible also in the first figure to bring about the impossibility, by assuming that B belongs to C. For if B belongs to all C, and A is possible for all B, then A would be possible for all C. But the assumption was made that A is not possible for all C.

We must understand 'that which belongs to all' with no limitation in respect of time, e.g. to the present or to a particular period, but simply without qualification. For it is by the help of such premisses that we make syllogisms, since if the premiss is understood with reference to the present moment, there cannot be a syllogism. For nothing perhaps prevents 'man' belonging at a particular time to everything that is moving, i.e. if nothing else were moving: but 'moving' is possible for every horse; yet 'man' is possible for no horse. Further let the major term be 'animal', the middle 'moving', the the minor 'man'. The premisses then will be as before, but the conclusion necessary, not possible. For man is necessarily animal. It is clear then that the universal must be understood simply, without limitation in respect of time.

Again let the premiss AB be universal and negative, and assume that A belongs to no B, but B possibly belongs to all C. These propositions being laid down, it is necessary that A possibly belongs to no C. Suppose that it cannot belong, and that B belongs to C, as above. It is necessary then that A belongs to some B: for we have a syllogism in the third figure: but this is impossible. Thus it will be possible for A to belong to no C; for if at is supposed false, the consequence is an impossible one. This syllogism then does not establish that which is possible according to the definition, but that which does not necessarily belong to any part of the subject (for this is the contradictory of the assumption which was made: for it was supposed that A necessarily belongs to some C, but the syllogism per impossibile establishes the contradictory which is opposed to this). Further, it is clear also from an example that the conclusion will not establish possibility. Let A be ‘raven’, B ‘intelligent’, and C ‘man’. A then belongs to no B: for no intelligent thing is a raven. But B is possible for all C: for every man may possibly be intelligent. But A necessarily belongs to no C: so the conclusion does not establish possibility. But neither is it always necessary. Let A be ‘moving’, B ‘science’, C ‘man’. A then will belong to no B; but B is possible for all C. And the conclusion will not be necessary. For it is not necessary that no man should move; rather it is not necessary that any man should move. Clearly then the conclusion establishes that one term does not necessarily belong to any instance of another term. But we must take our terms better.

If the minor premiss is negative and indicates possibility, from the actual premisses taken there can be no syllogism, but if the problematic premiss is converted, a syllogism will be possible, as before. Let A belong to all B, and let B possibly belong to no C. If the terms are arranged thus, nothing necessarily follows: but if the proposition BC is converted and it is assumed that B is possible for all C, a syllogism results as before: for the terms are in the same relative positions. Likewise if both the relations are negative, if the major premiss states that A does not belong to B, and the minor premiss indicates that B may possibly belong to no C. Through the premisses actually taken nothing necessary results in any way; but if the problematic premiss is converted, we shall have a syllogism. Suppose that A belongs to no B, and B may possibly belong to no C. Through these comes nothing necessary. But if B is assumed to be possible for all C (and this is true) and if the premiss AB remains as before, we shall again have the same syllogism. But if it be assumed that B does not belong to any C, instead of possibly not belonging, there cannot be a syllogism anyhow, whether the premiss AB is negative or affirmative. As common instances of a necessary and positive relation we may take the terms white-animal-snow: of a necessary and negative relation, white-animal-pitch. Clearly then if the terms are universal, and one of the premisses is assertoric, the other problematic, whenever the minor premiss is problematic a syllogism always results, only sometimes it results from the premisses that are taken, sometimes it requires the conversion of one premiss. We have stated when each of these happens and the reason why. But if one of the relations is universal, the other particular, then whenever the major premiss is universal and problematic, whether affirmative or negative, and the particular is affirmative and assertoric, there will be a perfect syllogism, just as when the terms are universal. The demonstration is the same as before. But whenever the major premiss is universal, but assertoric, not problematic, and the minor is particular and problematic, whether both premisses are negative or affirmative, or one is negative, the other affirmative, in all cases there will be an imperfect syllogism. Only some of them will be proved per impossibile, others by the conversion of the problematic premiss, as has been shown above. And a syllogism will be possible by means of conversion when the major premiss is universal and assertoric, whether positive or negative, and the minor particular, negative, and problematic, e.g. if A belongs to all B or to no B, and B may possibly not belong to some C. For if the premiss BC is converted in respect of possibility, a syllogism results. But whenever the particular premiss is assertoric and negative, there cannot be a syllogism. As instances of the positive relation we may take the terms white-animal-snow; of the negative, white-animal-pitch. For the demonstration must be made through the indefinite nature of the particular premiss. But if the minor premiss is universal, and the major particular, whether either premiss is negative or affirmative, problematic or assertoric, nohow is a syllogism possible. Nor is a syllogism possible when the premisses are particular or indefinite, whether problematic or assertoric, or the one problematic, the other assertoric. The demonstration is the same as above. As instances of the necessary and positive relation we may take the terms animal-white-man; of the necessary and negative relation, animal-white-garment. It is evident then that if the major premiss is universal, a syllogism always results, but if the minor is universal nothing at all can ever be proved.

16

Whenever one premiss is necessary, the other problematic, there will be a syllogism when the terms are related as before; and a perfect syllogism when the minor premiss is necessary. If the premisses are affirmative the conclusion will be problematic, not assertoric, whether the premisses are universal or not: but if one is affirmative, the other negative, when the affirmative is necessary the conclusion will be problematic, not negative assertoric; but when the negative is necessary the conclusion will be problematic negative, and assertoric negative, whether the premisses are universal or not. Possibility in the conclusion must be understood in the same manner as before. There cannot be an inference to the necessary negative proposition: for ‘not necessarily to belong’ is different from ‘necessarily not to belong’.

If the premisses are affirmative, clearly the conclusion which follows is not necessary. Suppose A necessarily belongs to all B, and let B be possible for all C. We shall have an imperfect syllogism to prove that A may belong to all C. That it is imperfect is clear from the proof: for it will be proved in the same manner as above. Again, let A be possible for all B, and let B necessarily belong to all C. We shall then have a syllogism to prove that A may belong to all C, not that A does belong to all C: and it is perfect, not imperfect: for it is completed directly through the original premisses.

But if the premisses are not similar in quality, suppose first that the negative premiss is necessary, and let necessarily A not be possible for any B, but let B be possible for all C. It is necessary then that A belongs to no C. For suppose A to belong to all C or to some C. Now we assumed that A is not possible for any B. Since then the negative proposition is convertible, B is not possible for any A. But A is supposed to belong to all C or to some C. Consequently B will not be possible for any C or for all C. But it was originally laid down that B is possible for all C. And it is clear that the possibility of belonging can be inferred, since the fact of not belonging is inferred. Again, let the affirmative premiss be necessary, and let A possibly not belong to any B, and let B necessarily belong to all C. The syllogism will be perfect, but it will establish a problematic negative, not an assertoric negative. For the major premiss was problematic, and further it is not possible to prove the assertoric conclusion per impossibile. For if it were supposed that A belongs to some C, and it is laid down that A possibly does not belong to any B, no impossible relation between B and C follows from these premisses. But if the minor premiss is negative, when it is problematic a syllogism is possible by conversion, as above; but when it is necessary no syllogism can be formed. Nor again when both premisses are negative, and the minor is necessary. The same terms as before serve both for the positive relation-white-animal-snow, and for the negative relation-white-animal-pitch.

The same relation will obtain in particular syllogisms. Whenever the negative proposition is necessary, the conclusion will be negative assertoric: e.g. if it is not possible that A should belong to any B, but B may belong to some of the Cs, it is necessary that A should not belong to some of the Cs. For if A belongs to all C, but cannot belong to any B, neither can B belong to any A. So if A belongs to all C, to none of the Cs can B belong. But it was laid down that B may belong to some C. But when the particular affirmative in the negative syllogism, e.g. BC the minor premiss, or the universal proposition in the affirmative syllogism, e.g. AB the major premiss, is necessary, there will not be an assertoric conclusion. The demonstration is the same as before. But if the minor premiss is universal, and problematic, whether affirmative or negative, and the major premiss is particular and necessary, there cannot be a syllogism. Premisses of this kind are possible both where the relation is positive and necessary, e.g. animal-white-man, and where it is necessary and negative, e.g. animal-white-garment. But when the universal is necessary, the particular problematic, if the universal is negative we may take the terms animal-white-raven to illustrate the positive relation, or animal-white-pitch to illustrate the negative; and if the universal is affirmative we may take the terms animal-white-swan to illustrate the positive relation, and animal-white-snow to illustrate the negative and necessary relation. Nor again is a syllogism possible when the premisses are indefinite, or both particular. Terms applicable in either case to illustrate the positive relation are animal-white-man: to illustrate the negative, animal-white-inanimate. For the relation of animal to some white, and of white to some inanimate, is both necessary and positive and necessary and negative. Similarly if the relation is problematic: so the terms may be used for all cases.

Clearly then from what has been said a syllogism results or not from similar relations of the terms whether we are dealing with simple existence or necessity, with this exception, that if the negative premiss is assertoric the conclusion is problematic, but if the negative premiss is necessary the conclusion is both problematic and negative assertoric. [It is clear also that all the syllogisms are imperfect and are perfected by means of the figures above mentioned.]

17

In the second figure whenever both premisses are problematic, no syllogism is possible, whether the premisses are affirmative or negative, universal or particular. But when one premiss is assertoric, the other problematic, if the affirmative is assertoric no syllogism is possible, but if the universal negative is assertoric a conclusion can always be drawn. Similarly when one premiss is necessary, the other problematic. Here also we must understand the term ‘possible’ in the conclusion, in the same sense as before.

First we must point out that the negative problematic proposition is not convertible, e.g. if A may belong to no B, it does not follow that B may belong to no A. For suppose it to follow and assume that B may belong to no A. Since then problematic affirmations are convertible with negations, whether they are contraries or contradictories, and since B may belong to no A, it is clear that B may belong to all A. But this is false: for if all this can be that, it does not follow that all that can be this: consequently the negative proposition is not convertible. Further, these propositions are not incompatible, ‘A may belong to no B’, ‘B necessarily does not belong to some of the As’; e.g. it is possible that no man should be white (for it is also possible that every man should be white), but it is not true to say that it is possible that no white thing should be a man: for many white things are necessarily not men, and the necessary (as we saw) other than the possible.

Moreover it is not possible to prove the convertibility of these propositions by a reductio ad absurdum, i.e. by claiming assent to the following argument: ‘since it is false that B may belong to no A, it is true that it cannot belong to no A, for the one statement is the contradictory of the other. But if this is so, it is true that B necessarily belongs to some of the As: consequently A necessarily belongs to some of the Bs. But this is impossible.’ The argument cannot be admitted, for it does not follow that some A is necessarily B, if it is not possible that no A should be B. For the latter expression is used in two senses, one if A some is necessarily B, another if some A is necessarily not

B. For it is not true to say that that which necessarily does not belong to some of the As may possibly not belong to any A, just as it is not true to say that what necessarily belongs to some A may possibly belong to all A. If any one then should claim that because it is not possible for C to belong to all D, it necessarily does not belong to some D, he would make a false assumption: for it does belong to all D, but because in some cases it belongs necessarily, therefore we say that it is not possible for it to belong to all. Hence both the propositions ‘A necessarily belongs to some B’ and ‘A necessarily does not belong to some B’ are opposed to the proposition ‘A belongs to all B’. Similarly also they are opposed to the proposition ‘A may belong to no B’. It is clear then that in relation to what is possible and not possible, in the sense originally defined, we must assume, not that A necessarily belongs to some B, but that A necessarily does not belong to some B. But if this is assumed, no absurdity results: consequently no syllogism. It is clear from what has been said that the negative proposition is not convertible.

This being proved, suppose it possible that A may belong to no B and to all C. By means of conversion no syllogism will result: for the major premiss, as has been said, is not convertible. Nor can a proof be obtained by a reductio ad absurdum: for if it is assumed that B can belong to all C, no false consequence results: for A may belong both to all C and to no C. In general, if there is a syllogism, it is clear that its conclusion will be problematic because neither of the premisses is assertoric; and this must be either affirmative or negative. But neither is possible. Suppose the conclusion is affirmative: it will be proved by an example that the predicate cannot belong to the subject. Suppose the conclusion is negative: it will be proved that it is not problematic but necessary. Let A be white, B man, C horse. It is possible then for A to belong to all of the one and to none of the other. But it is not possible for B to belong nor not to belong to C. That it is not possible for it to belong, is clear. For no horse is a man. Neither is it possible for it not to belong. For it is necessary that no horse should be a man, but the necessary we found to be different from the possible. No syllogism then results. A similar proof can be given if the major premiss is negative, the minor affirmative, or if both are affirmative or negative. The demonstration can be made by means of the same terms. And whenever one premiss is universal, the other particular, or both are particular or indefinite, or in whatever other way the premisses can be altered, the proof will always proceed through the same terms. Clearly then, if both the premisses are problematic, no syllogism results.

18

But if one premiss is assertoric, the other problematic, if the affirmative is assertoric and the negative problematic no syllogism will be possible, whether the premisses are universal or particular. The proof is the same as above, and by means of the same terms. But when the affirmative premiss is problematic, and the negative assertoric, we shall have a syllogism. Suppose A belongs to no B, but can belong to all C. If the negative proposition is converted, B will belong to no A. But ex hypothesi can belong to all C: so a syllogism is made, proving by means of the first figure that B may belong to no C. Similarly also if the minor premiss is negative. But if both premisses are negative, one being assertoric, the other problematic, nothing follows necessarily from these premisses as they stand, but if the problematic premiss is converted into its complementary affirmative a syllogism is formed to prove that B may belong to no C, as before: for we shall again have the first figure. But if both premisses are affirmative, no syllogism will be possible. This arrangement of terms is possible both when the relation is positive, e.g. health, animal, man, and when it is negative, e.g. health, horse, man.

The same will hold good if the syllogisms are particular. Whenever the affirmative proposition is assertoric, whether universal or particular, no syllogism is possible (this is proved similarly and by the same examples as above), but when the negative proposition is assertoric, a conclusion can be drawn by means of conversion, as before. Again if both the relations are negative, and the assertoric proposition is universal, although no conclusion follows from the actual premisses, a syllogism can be obtained by converting the problematic premiss into its complementary affirmative as before. But if the negative proposition is assertoric, but particular, no syllogism is possible, whether the other premiss is affirmative or negative. Nor can a conclusion be drawn when both premisses are indefinite, whether affirmative or negative, or particular. The proof is the same and by the same terms.

19

If one of the premisses is necessary, the other problematic, then if the negative is necessary a syllogistic conclusion can be drawn, not merely a negative problematic but also a negative assertoric conclusion; but if the affirmative premiss is necessary, no conclusion is possible. Suppose that A necessarily belongs to no B, but may belong to all C. If the negative premiss is converted B will belong to no A: but A ex hypothesi is capable of belonging to all C: so once more a conclusion is drawn by the first figure that B may belong to no C. But at the same time it is clear that B will not belong to any C. For assume that it does: then if A cannot belong to any B, and B belongs to some of the Cs, A cannot belong to some of the Cs: but ex hypothesi it may belong to all. A similar proof can be given if the minor premiss is negative. Again let the affirmative proposition be necessary, and the other problematic; i.e. suppose that A may belong to no B, but necessarily belongs to all C. When the terms are arranged in this way, no syllogism is possible. For (1) it sometimes turns out that B necessarily does not belong to C. Let A be white, B man, C swan. White then necessarily belongs to swan, but may belong to no man; and man necessarily belongs to no swan; Clearly then we cannot draw a problematic conclusion; for that which is necessary is admittedly distinct from that which is possible. (2) Nor again can we draw a necessary conclusion: for that presupposes that both premisses are necessary, or at any rate the negative premiss. (3) Further it is possible also, when the terms are so arranged, that B should belong to C: for nothing prevents C falling under B, A being possible for all B, and necessarily belonging to C; e.g. if C stands for ‘awake’, B for ‘animal’, A for ‘motion’. For motion necessarily belongs to what is awake, and is possible for every animal: and everything that is awake is animal. Clearly then the conclusion cannot be the negative assertion, if the relation must be positive when the terms are related as above. Nor can the opposite affirmations be established: consequently no syllogism is possible. A similar proof is possible if the major premiss is affirmative.

But if the premisses are similar in quality, when they are negative a syllogism can always be formed by converting the problematic premiss into its complementary affirmative as before. Suppose A necessarily does not belong to B, and possibly may not belong to C: if the premisses are converted B belongs to no A, and A may possibly belong to all C: thus we have the first figure. Similarly if the minor premiss is negative. But if the premisses are affirmative there cannot be a syllogism. Clearly the conclusion cannot be a negative assertoric or a negative necessary proposition because no negative premiss has been laid down either in the assertoric or in the necessary mode. Nor can the conclusion be a problematic negative proposition. For if the terms are so related, there are cases in which B necessarily will not belong to C; e.g. suppose that A is white, B swan, C man. Nor can the opposite affirmations be established, since we have shown a case in which B necessarily does not belong to C. A syllogism then is not possible at all.

Similar relations will obtain in particular syllogisms. For whenever the negative proposition is universal and necessary, a syllogism will always be possible to prove both a problematic and a negative assertoric proposition (the proof proceeds by conversion); but when the affirmative proposition is universal and necessary, no syllogistic conclusion can be drawn. This can be proved in the same way as for universal propositions, and by the same terms. Nor is a syllogistic conclusion possible when both premisses are affirmative: this also may be proved as above. But when both premisses are negative, and the premiss that definitely disconnects two terms is universal and necessary, though nothing follows necessarily from the premisses as they are stated, a conclusion can be drawn as above if the problematic premiss is converted into its complementary affirmative. But if both are indefinite or particular, no syllogism can be formed. The same proof will serve, and the same terms.

It is clear then from what has been said that if the universal and negative premiss is necessary, a syllogism is always possible, proving not merely a negative problematic, but also a negative assertoric proposition; but if the affirmative premiss is necessary no conclusion can be drawn. It is clear too that a syllogism is possible or not under the same conditions whether the mode of the premisses is assertoric or necessary. And it is clear that all the syllogisms are imperfect, and are completed by means of the figures mentioned.

20

In the last figure a syllogism is possible whether both or only one of the premisses is problematic. When the premisses are problematic the conclusion will be problematic; and also when one premiss is problematic, the other assertoric. But when the other premiss is necessary, if it is affirmative the conclusion will be neither necessary or assertoric; but if it is negative the syllogism will result in a negative assertoric proposition, as above. In these also we must understand the expression ‘possible’ in the conclusion in the same way as before.

First let the premisses be problematic and suppose that both A and B may possibly belong to every C. Since then the affirmative proposition is convertible into a particular, and B may possibly belong to every C, it follows that C may possibly belong to some B. So, if A is possible for every C, and C is possible for some of the Bs, then A is possible for some of the Bs. For we have got the first figure. And A if may possibly belong to no C, but B may possibly belong to all C, it follows that A may possibly not belong to some B: for we shall have the first figure again by conversion. But if both premisses should be negative no necessary consequence will follow from them as they are stated, but if the premisses are converted into their corresponding affirmatives there will be a syllogism as before. For if A and B may possibly not belong to C, if ‘may possibly belong’ is substituted we shall again have the first figure by means of conversion. But if one of the premisses is universal, the other particular, a syllogism will be possible, or not, under the arrangement of the terms as in the case of assertoric propositions. Suppose that A may possibly belong to all C, and B to some C. We shall have the first figure again if the particular premiss is converted. For if A is possible for all C, and C for some of the Bs, then A is possible for some of the Bs. Similarly if the proposition BC is universal. Likewise also if the proposition AC is negative, and the proposition BC affirmative: for we shall again have the first figure by conversion. But if both premisses should be negative-the one universal and the other particular-although no syllogistic conclusion will follow from the premisses as they are put, it will follow if they are converted, as above. But when both premisses are indefinite or particular, no syllogism can be formed: for A must belong sometimes to all B and sometimes to no B. To illustrate the affirmative relation take the terms animal-man-white; to illustrate the negative, take the terms horse-man-white — white being the middle term.

21

If one premiss is pure, the other problematic, the conclusion will be problematic, not pure; and a syllogism will be possible under the same arrangement of the terms as before. First let the premisses be affirmative: suppose that A belongs to all C, and B may possibly belong to all C. If the proposition BC is converted, we shall have the first figure, and the conclusion that A may possibly belong to some of the Bs. For when one of the premisses in the first figure is problematic, the conclusion also (as we saw) is problematic. Similarly if the proposition BC is pure, AC problematic; or if AC is negative, BC affirmative, no matter which of the two is pure; in both cases the conclusion will be problematic: for the first figure is obtained once more, and it has been proved that if one premiss is problematic in that figure the conclusion also will be problematic. But if the minor premiss BC is negative, or if both premisses are negative, no syllogistic conclusion can be drawn from the premisses as they stand, but if they are converted a syllogism is obtained as before.

If one of the premisses is universal, the other particular, then when both are affirmative, or when the universal is negative, the particular affirmative, we shall have the same sort of syllogisms: for all are completed by means of the first figure. So it is clear that we shall have not a pure but a problematic syllogistic conclusion. But if the affirmative premiss is universal, the negative particular, the proof will proceed by a reductio ad impossibile. Suppose that B belongs to all C, and A may possibly not belong to some C: it follows that may possibly not belong to some B. For if A necessarily belongs to all B, and B (as has been assumed) belongs to all C, A will necessarily belong to all C: for this has been proved before. But it was assumed at the outset that A may possibly not belong to some C.

Whenever both premisses are indefinite or particular, no syllogism will be possible. The demonstration is the same as was given in the case of universal premisses, and proceeds by means of the same terms.

22

If one of the premisses is necessary, the other problematic, when the premisses are affirmative a problematic affirmative conclusion can always be drawn; when one proposition is affirmative, the other negative, if the affirmative is necessary a problematic negative can be inferred; but if the negative proposition is necessary both a problematic and a pure negative conclusion are possible. But a necessary negative conclusion will not be possible, any more than in the other figures. Suppose first that the premisses are affirmative, i.e. that A necessarily belongs to all C, and B may possibly belong to all C. Since then A must belong to all C, and C may belong to some B, it follows that A may (not does) belong to some B: for so it resulted in the first figure. A similar proof may be given if the proposition BC is necessary, and AC is problematic. Again suppose one proposition is affirmative, the other negative, the affirmative being necessary: i.e. suppose A may possibly belong to no C, but B necessarily belongs to all C. We shall have the first figure once more: and-since the negative premiss is problematic-it is clear that the conclusion will be problematic: for when the premisses stand thus in the first figure, the conclusion (as we found) is problematic. But if the negative premiss is necessary, the conclusion will be not only that A may possibly not belong to some B but also that it does not belong to some B. For suppose that A necessarily does not belong to C, but B may belong to all C. If the affirmative proposition BC is converted, we shall have the first figure, and the negative premiss is necessary. But when the premisses stood thus, it resulted that A might possibly not belong to some C, and that it did not belong to some C; consequently here it follows that A does not belong to some B. But when the minor premiss is negative, if it is problematic we shall have a syllogism by altering the premiss into its complementary affirmative, as before; but if it is necessary no syllogism can be formed. For A sometimes necessarily belongs to all B, and sometimes cannot possibly belong to any B. To illustrate the former take the terms sleep-sleeping horse-man; to illustrate the latter take the terms sleep-waking horse-man.

Similar results will obtain if one of the terms is related universally to the middle, the other in part. If both premisses are affirmative, the conclusion will be problematic, not pure; and also when one premiss is negative, the other affirmative, the latter being necessary. But when the negative premiss is necessary, the conclusion also will be a pure negative proposition; for the same kind of proof can be given whether the terms are universal or not. For the syllogisms must be made perfect by means of the first figure, so that a result which follows in the first figure follows also in the third. But when the minor premiss is negative and universal, if it is problematic a syllogism can be formed by means of conversion; but if it is necessary a syllogism is not possible. The proof will follow the same course as where the premisses are universal; and the same terms may be used.

It is clear then in this figure also when and how a syllogism can be formed, and when the conclusion is problematic, and when it is pure. It is evident also that all syllogisms in this figure are imperfect, and that they are made perfect by means of the first figure.

23

It is clear from what has been said that the syllogisms in these figures are made perfect by means of universal syllogisms in the first figure and are reduced to them. That every syllogism without qualification can be so treated, will be clear presently, when it has been proved that every syllogism is formed through one or other of these figures.

It is necessary that every demonstration and every syllogism should prove either that something belongs or that it does not, and this either universally or in part, and further either ostensively or hypothetically. One sort of hypothetical proof is the reductio ad impossibile. Let us speak first of ostensive syllogisms: for after these have been pointed out the truth of our contention will be clear with regard to those which are proved per impossibile, and in general hypothetically.

If then one wants to prove syllogistically A of B, either as an attribute of it or as not an attribute of it, one must assert something of something else. If now A should be asserted of B, the proposition originally in question will have been assumed. But if A should be asserted of C, but C should not be asserted of anything, nor anything of it, nor anything else of A, no syllogism will be possible. For nothing necessarily follows from the assertion of some one thing concerning some other single thing. Thus we must take another premiss as well. If then A be asserted of something else, or something else of A, or something different of C, nothing prevents a syllogism being formed, but it will not be in relation to B through the premisses taken. Nor when C belongs to something else, and that to something else and so on, no connexion however being made with B, will a syllogism be possible concerning A in its relation to B. For in general we stated that no syllogism can establish the attribution of one thing to another, unless some middle term is taken, which is somehow related to each by way of predication. For the syllogism in general is made out of premisses, and a syllogism referring to this out of premisses with the same reference, and a syllogism relating this to that proceeds through premisses which relate this to that. But it is impossible to take a premiss in reference to B, if we neither affirm nor deny anything of it; or again to take a premiss relating A to B, if we take nothing common, but affirm or deny peculiar attributes of each. So we must take something midway between the two, which will connect the predications, if we are to have a syllogism relating this to that. If then we must take something common in relation to both, and this is possible in three ways (either by predicating A of C, and C of B, or C of both, or both of C), and these are the figures of which we have spoken, it is clear that every syllogism must be made in one or other of these figures. The argument is the same if several middle terms should be necessary to establish the relation to B; for the figure will be the same whether there is one middle term or many.

It is clear then that the ostensive syllogisms are effected by means of the aforesaid figures; these considerations will show that reductiones ad also are effected in the same way. For all who effect an argument per impossibile infer syllogistically what is false, and prove the original conclusion hypothetically when something impossible results from the assumption of its contradictory; e.g. that the diagonal of the square is incommensurate with the side, because odd numbers are equal to evens if it is supposed to be commensurate. One infers syllogistically that odd numbers come out equal to evens, and one proves hypothetically the incommensurability of the diagonal, since a falsehood results through contradicting this. For this we found to be reasoning per impossibile, viz. proving something impossible by means of an hypothesis conceded at the beginning. Consequently, since the falsehood is established in reductions ad impossibile by an ostensive syllogism, and the original conclusion is proved hypothetically, and we have already stated that ostensive syllogisms are effected by means of these figures, it is evident that syllogisms per impossibile also will be made through these figures. Likewise all the other hypothetical syllogisms: for in every case the syllogism leads up to the proposition that is substituted for the original thesis; but the original thesis is reached by means of a concession or some other hypothesis. But if this is true, every demonstration and every syllogism must be formed by means of the three figures mentioned above. But when this has been shown it is clear that every syllogism is perfected by means of the first figure and is reducible to the universal syllogisms in this figure.

Further in every syllogism one of the premisses must be affirmative, and universality must be present: unless one of the premisses is universal either a syllogism will not be possible, or it will not refer to the subject proposed, or the original position will be begged. Suppose we have to prove that pleasure in music is good. If one should claim as a premiss that pleasure is good without adding 'all', no syllogism will be possible; if one should claim that some pleasure is good, then if it is different from pleasure in music, it is not relevant to the subject proposed; if it is this very pleasure, one is assuming that which was proposed at the outset to be proved. This is more obvious in geometrical proofs, e.g. that the angles at the base of an isosceles triangle are equal. Suppose the lines A and B have been drawn to the centre. If then one should assume that the angle AC is equal to the angle BD, without claiming generally that angles of semicircles are equal; and again if one should assume that the angle C is equal to the angle D, without the additional assumption that every angle of a segment is equal to every other angle of the same segment; and further if one should assume that when equal angles are taken from the whole angles, which are themselves equal, the remainders E and F are equal, he will beg the thing to be proved, unless he also states that when equals are taken from equals the remainders are equal.

It is clear then that in every syllogism there must be a universal premiss, and that a universal statement is proved only when all the premisses are universal, while a particular statement is proved both from two universal premisses and from one only: consequently if the conclusion is universal, the premisses also must be universal, but if the premisses are universal it is possible that the conclusion may not be universal. And it is clear also that in every syllogism either both or one of the premisses must be like the conclusion. I mean not only in being affirmative or negative, but also in being necessary, pure, problematic. We must consider also the other forms of predication.

It is clear also when a syllogism in general can be made and when it cannot; and when a valid, when a perfect syllogism can be formed; and that if a syllogism is formed the terms must be arranged in one of the ways that have been mentioned.

It is clear too that every demonstration will proceed through three terms and no more, unless the same conclusion is established by different pairs of propositions; e.g. the conclusion E may be established through the propositions A and B, and through the propositions C and D, or through the propositions A and B, or A and C, or B and C. For nothing prevents there being several middles for the same terms. But in that case there is not one but several syllogisms. Or again when each of the propositions A and B is obtained by syllogistic inference, e.g. by means of D and E, and again B by means of F and G. Or one may be obtained by syllogistic, the other by inductive inference. But thus also the syllogisms are many; for the conclusions are many, e.g. A and B and C. But if this can be called one syllogism, not many, the same conclusion may be reached by more than three terms in this way, but it cannot be reached as C is established by means of A and B. Suppose that the proposition E is inferred from the premisses A, B, C, and D. It is necessary then that of these one should be related to another as whole to part: for it has already been proved that if a syllogism is formed some of its terms must be related in this way. Suppose then that A stands in this relation to B. Some conclusion then follows from them. It must either be E or one or other of C and D, or something other than these.

(1) If it is E the syllogism will have A and B for its sole premisses. But if C and D are so related that one is whole, the other part, some conclusion will follow from them also; and it must be either E, or one or other of the propositions A and B, or something other than these. And if it is (i) E, or (ii) A or B, either (i) the syllogisms will be more than one, or (ii) the same thing happens to be inferred by means of several terms only in the sense which we saw to be possible. But if (iii) the conclusion is other than E or A or B, the syllogisms will be many, and unconnected with one another. But if C is not so related to D as to make a syllogism, the propositions will have been assumed to no purpose, unless for the sake of induction or of obscuring the argument or something of the sort.

(2) But if from the propositions A and B there follows not E but some other conclusion, and if from C and D either A or B follows or something else, then there are several syllogisms, and they do not establish the conclusion proposed: for we assumed that the syllogism proved E. And if no

conclusion follows from C and D, it turns out that these propositions have been assumed to no purpose, and the syllogism does not prove the original proposition.

So it is clear that every demonstration and every syllogism will proceed through three terms only.

This being evident, it is clear that a syllogistic conclusion follows from two premisses and not from more than two. For the three terms make two premisses, unless a new premiss is assumed, as was said at the beginning, to perfect the syllogisms. It is clear therefore that in whatever syllogistic argument the premisses through which the main conclusion follows (for some of the preceding conclusions must be premisses) are not even in number, this argument either has not been drawn syllogistically or it has assumed more than was necessary to establish its thesis.

If then syllogisms are taken with respect to their main premisses, every syllogism will consist of an even number of premisses and an odd number of terms (for the terms exceed the premisses by one), and the conclusions will be half the number of the premisses. But whenever a conclusion is reached by means of prosyllogisms or by means of several continuous middle terms, e.g. the proposition AB by means of the middle terms C and D, the number of the terms will similarly exceed that of the premisses by one (for the extra term must either be added outside or inserted: but in either case it follows that the relations of predication are one fewer than the terms related), and the premisses will be equal in number to the relations of predication. The premisses however will not always be even, the terms odd; but they will alternate-when the premisses are even, the terms must be odd; when the terms are even, the premisses must be odd: for along with one term one premiss is added, if a term is added from any quarter. Consequently since the premisses were (as we saw) even, and the terms odd, we must make them alternately even and odd at each addition. But the conclusions will not follow the same arrangement either in respect to the terms or to the premisses. For if one term is added, conclusions will be added less by one than the pre-existing terms: for the conclusion is drawn not in relation to the single term last added, but in relation to all the rest, e.g. if to ABC the term D is added, two conclusions are thereby added, one in relation to A, the other in relation to B. Similarly with any further additions. And similarly too if the term is inserted in the middle: for in relation to one term only, a syllogism will not be constructed.

Consequently the conclusions will be much more numerous than the terms or the premisses.

26

Since we understand the subjects with which syllogisms are concerned, what sort of conclusion is established in each figure, and in how many moods this is done, it is evident to us both what sort of problem is difficult and what sort is easy to prove. For that which is concluded in many figures and through many moods is easier; that which is concluded in few figures and through few moods is more difficult to attempt. The universal affirmative is proved by means of the first figure only and by this in only one mood; the universal negative is proved both through the first figure and through the second, through the first in one mood, through the second in two. The particular affirmative is proved through the first and through the last figure, in one mood through the first, in three moods through the last. The particular negative is proved in all the figures, but once in the first, in two moods in the second, in three moods in the third. It is clear then that the universal affirmative is most difficult to establish, most easy to overthrow. In general, universals are easier game for the destroyer than particulars: for whether the predicate belongs to none or not to some, they are destroyed: and the particular negative is proved in all the figures, the universal negative in two. Similarly with universal negatives: the original statement is destroyed, whether the predicate belongs to all or to some: and this we found possible in two figures. But particular statements can be refuted in one way only-by proving that the predicate belongs either to all or to none. But particular statements are easier to establish: for proof is possible in more figures and through more moods. And in general we must not forget that it is possible to refute statements by means of one another, I mean, universal statements by means of particular, and particular statements by means of universal: but it is not possible to establish universal statements by means of particular, though it is possible to establish particular statements by means of universal. At the same time it is evident that it is easier to refute than to establish.

The manner in which every syllogism is produced, the number of the terms and premisses through which it proceeds, the relation of the premisses to one another, the character of the problem proved in each figure, and the number of the figures appropriate to each problem, all these matters are clear from what has been said.

27

We must now state how we may ourselves always have a supply of syllogisms in reference to the problem proposed and by what road we may reach the principles relative to the problem: for perhaps we ought not only to investigate the construction of syllogisms, but also to have the power of making them.

Of all the things which exist some are such that they cannot be predicated of anything else truly and universally, e.g. Cleon and Callias, i.e. the individual and sensible, but other things may be predicated of them (for each of these is both man and animal); and some things are themselves predicated of others, but nothing prior is predicated of them; and some are predicated of others, and yet others of them, e.g. man of Callias and animal of man. It is clear then that some things are naturally not stated of anything: for as a rule each sensible thing is such that it cannot be predicated of anything, save incidentally: for we sometimes say that that white object is Socrates, or that that which approaches is Callias. We shall explain in another place that there is an upward limit also to the process of predicating: for the present we must assume this. Of these ultimate predicates it is not possible to demonstrate another predicate, save as a matter of opinion, but these may be predicated of other things. Neither can individuals be predicated of other things, though other things can be predicated of them. Whatever lies between these limits can be spoken of in both ways: they may be stated of others, and others stated of them. And as a rule arguments and inquiries are concerned with these things. We must select the premisses suitable to each problem in this manner: first we must lay down the subject and the definitions and the properties of the thing; next we must lay down those attributes which follow the thing, and again those which the thing follows, and those which cannot belong to it. But those to which it cannot belong need not be selected, because the negative statement implied above is convertible. Of the attributes which follow we must distinguish those which fall within the definition, those which are predicated as properties, and those which are predicated as accidents, and of the latter those which apparently and those which really belong. The larger the supply a man has of these, the more quickly will he reach a conclusion; and in proportion as he apprehends those which are truer, the more cogently will he demonstrate. But he must select not those which follow some particular but those which follow the thing as a whole, e.g. not what follows a particular man but what follows every man: for the syllogism proceeds through universal premisses. If the statement is indefinite, it is uncertain whether the premiss is universal, but if the statement is definite, the matter is clear. Similarly one must select those attributes which the subject follows as wholes, for the reason given. But that which follows one must not suppose to follow as a whole, e.g. that every animal follows man or every science music, but only that it follows, without qualification, and indeed we state it in a proposition: for the other statement is useless and impossible, e.g. that every man is every animal or justice is all good. But that which something follows receives the mark 'every'. Whenever the subject, for which we must obtain the attributes that follow, is contained by something else, what follows or does not follow the highest term universally must not be selected in dealing with the subordinate term (for these attributes have been taken in dealing with the superior term; for what follows animal also follows man, and what does not belong to animal does not belong to man); but we must choose those attributes which are peculiar to each subject. For some things are peculiar to the species as distinct from the genus; for species being distinct there must be attributes peculiar to each. Nor must we take as things which the superior term follows, those things which the inferior term follows, e.g. take as subjects of the predicate 'animal' what are really subjects of the predicate 'man'. It is necessary indeed, if animal follows man, that it should follow all these also. But these belong more properly to the choice of what concerns man. One must apprehend also normal consequents and normal antecedents-, for propositions which obtain normally are established syllogistically from premisses which obtain normally, some if not all of them having this character of normality. For the conclusion of each syllogism resembles its principles. We must not however choose attributes which are consequent upon all the terms: for no syllogism can be made out of such premisses. The reason why this is so will be clear in the sequel.

If men wish to establish something about some whole, they must look to the subjects of that which is being established (the subjects of which it happens to be asserted), and the attributes which follow that of which it is to be predicated. For if any of these subjects is the same as any of these attributes, the attribute originally in question must belong to the subject originally in question. But if the purpose is to establish not a universal but a particular proposition, they must look for the terms of which the terms in question are predicable: for if any of these are identical, the attribute in question must belong to some of the subject in question. Whenever the one term has to belong to none of the other, one must look to the consequents of the subject, and to those attributes which cannot possibly be present in the predicate in question: or conversely to the attributes which cannot possibly be present in the subject, and to the consequents of the predicate. If any members of these groups are identical, one of the terms in question cannot possibly belong to any of the other. For sometimes a syllogism in the first figure results, sometimes a syllogism in the second. But if the object is to establish a particular negative proposition, we must find antecedents of the subject in question and attributes which cannot possibly belong to the predicate in question. If any members of these two groups are identical, it follows that one of the terms in question does not belong to some of the other. Perhaps each of these statements will become clearer in the following way. Suppose the consequents of A are designated by B, the antecedents of A by C, attributes which cannot possibly belong to A by D. Suppose again that the attributes of E are designated by F, the antecedents of E by G, and attributes which cannot belong to E by H. If then one of the Cs should be identical with one of the Fs, A must belong to all E: for F belongs to all E, and A to all C, consequently A belongs to all E. If C and G are identical, A must belong to some of the Es: for A follows C, and E follows all G. If F and D are identical, A will belong to none of the Es by a prosyllogism: for since the negative proposition is convertible, and F is identical with D, A will belong to none of the Fs, but F belongs to all E. Again, if B and H are identical, A will belong to none of the Es: for B will belong to all A, but to no E: for it was assumed to be identical with H, and H belonged to none of the Es. If D and G are identical, A will not belong to some of the Es: for it will not belong to G, because it does not belong to D: but G falls under E: consequently A will not belong to some of the Es. If B is identical with G, there will be a converted syllogism: for E will belong to all A since B belongs to A and E to B (for B was found to be identical with G): but that A should belong to all E is not necessary, but it must belong to some E because it is possible to convert the universal statement into a particular.

It is clear then that in every proposition which requires proof we must look to the aforesaid relations of the subject and predicate in question: for all syllogisms proceed through these. But if we are seeking consequents and antecedents we must look for those which are primary and most universal, e.g. in reference to E we must look to KF rather than to F alone, and in reference to A we must look to KC rather than to C alone. For if A belongs to KF, it belongs both to F and to E: but if it does not follow KF, it may yet follow F. Similarly we must consider the antecedents of A itself: for if a term follows the primary antecedents, it will follow those also which are subordinate, but if it does not follow the former, it may yet follow the latter.

It is clear too that the inquiry proceeds through the three terms and the two premisses, and that all the syllogisms proceed through the aforesaid figures. For it is proved that A belongs to all E, whenever an identical term is found among the Cs and Fs. This will be the middle term; A and E will be the extremes. So the first figure is formed. And A will belong to some E, whenever C and G are apprehended to be the same. This is the last figure: for G becomes the middle term. And A will belong to no E, when D and F are identical. Thus we have both the first figure and the middle figure; the first, because A belongs to no F, since the negative statement is convertible, and F belongs to all E: the middle figure because D belongs to no A, and to all E. And A will not belong to some E, whenever D and G are identical. This is the last figure: for A will belong to no G, and E will belong to all G. Clearly then all syllogisms proceed through the aforesaid figures, and we must not select consequents of all the terms, because no syllogism is produced from them. For (as we saw) it is not possible at all to establish a proposition from consequents, and it is not possible to refute by means of a consequent of both the terms in question: for the middle term must belong to the one, and not belong to the other.

It is clear too that other methods of inquiry by selection of middle terms are useless to produce a syllogism, e.g. if the consequents of the terms in question are identical, or if the antecedents of A are identical with those attributes which cannot possibly belong to E, or if those attributes are identical which cannot belong to either term: for no syllogism is produced by means of these. For if the consequents are identical, e.g. B and F, we have the middle figure with both premisses affirmative: if the antecedents of A are identical with attributes which cannot belong to E, e.g. C with H, we have the first figure with its minor premiss negative. If attributes which cannot belong to either term are identical, e.g. C and H, both premisses are negative, either in the first or in the middle figure. But no syllogism is possible in this way.

It is evident too that we must find out which terms in this inquiry are identical, not which are different or contrary, first because the object of our investigation is the middle term, and the middle term must be not diverse but identical. Secondly, wherever it happens that a syllogism results from taking contraries or terms which cannot belong to the same thing, all arguments can be reduced to the aforesaid moods, e.g. if B and F are contraries or cannot belong to the same thing. For if these are taken, a syllogism will be formed to prove that A belongs to none of the Es, not however from the premisses taken but in the aforesaid mood. For B will belong to all A and to no E. Consequently B must be identical with one of the Hs. Again, if B and G cannot belong to the same thing, it follows that A will not belong to some of the Es: for then too we shall have the middle figure: for B will belong to all A and to no G. Consequently B must be identical with some of the Hs. For the fact that B and G cannot belong to the same thing differs in no way from the fact that B is identical with some of the Hs: for that includes everything which cannot belong to E.

It is clear then that from the inquiries taken by themselves no syllogism results; but if B and F are contraries B must be identical with one of the Hs, and the syllogism results through these terms. It turns out then that those who inquire in this manner are looking gratuitously for some other way than the necessary way because they have failed to observe the identity of the Bs with the Hs.

29

Syllogisms which lead to impossible conclusions are similar to ostensive syllogisms; they also are formed by means of the consequents and antecedents of the terms in question. In both cases the same inquiry is involved. For what is proved ostensively may also be concluded syllogistically per impossibile by means of the same terms; and what is proved per impossibile may also be proved ostensively, e.g. that A belongs to none of the Es. For suppose A to belong to some E: then since B belongs to all A and A to some of the Es, B will belong to some of the Es: but it was assumed that it belongs to none. Again we may prove that A belongs to some E: for if A belonged to none of the Es, and E belongs to all G, A will belong to none of the Gs: but it was assumed to belong to all. Similarly with the other propositions requiring proof. The proof per impossibile will always and in all cases be from the consequents and antecedents of the terms in question. Whatever the problem the same inquiry is necessary whether one wishes to use an ostensive syllogism or a reduction to impossibility. For both the demonstrations start from the same terms, e.g. suppose it has been proved that A belongs to no E, because it turns out that otherwise B belongs to some of the Es and this is impossible-if now it is assumed that B belongs to no E and to all A, it is clear that A will belong to no E. Again if it has been proved by an ostensive syllogism that A belongs to no E, assume that A belongs to some E and it will be proved per impossibile to belong to no E. Similarly with the rest. In all cases it is necessary to find some common term other than the subjects of inquiry, to which the syllogism establishing the false conclusion may relate, so that if this premiss is converted, and the other remains as it is, the syllogism will be ostensive by means of the same terms. For the ostensive syllogism differs from the reductio ad impossibile in this: in the ostensive syllogism both remisses are laid down in accordance with the truth, in the reductio ad impossibile one of the premisses is assumed falsely.

These points will be made clearer by the sequel, when we discuss the reduction to impossibility: at present this much must be clear, that we must look to terms of the kinds mentioned whether we wish to use an ostensive syllogism or a reduction to impossibility. In the other hypothetical syllogisms, I mean those which proceed by substitution, or by positing a certain quality, the inquiry will be directed to the terms of the problem to be proved-not the terms of the original problem, but the new terms introduced; and the method of the inquiry will be the same as before. But we must consider and determine in how many ways hypothetical syllogisms are possible.

Each of the problems then can be proved in the manner described; but it is possible to establish some of them syllogistically in another way, e.g.

universal problems by the inquiry which leads up to a particular conclusion, with the addition of an hypothesis. For if the Cs and the Gs should be identical, but E should be assumed to belong to the Gs only, then A would belong to every E: and again if the Ds and the Gs should be identical, but E should be predicated of the Gs only, it follows that A will belong to none of the Es. Clearly then we must consider the matter in this way also. The method is the same whether the relation is necessary or possible. For the inquiry will be the same, and the syllogism will proceed through terms arranged in the same order whether a possible or a pure proposition is proved. We must find in the case of possible relations, as well as terms that belong, terms which can belong though they actually do not: for we have proved that the syllogism which establishes a possible relation proceeds through these terms as well. Similarly also with the other modes of predication.

It is clear then from what has been said not only that all syllogisms can be formed in this way, but also that they cannot be formed in any other. For every syllogism has been proved to be formed through one of the aforementioned figures, and these cannot be composed through other terms than the consequents and antecedents of the terms in question: for from these we obtain the premisses and find the middle term. Consequently a syllogism cannot be formed by means of other terms.

30

The method is the same in all cases, in philosophy, in any art or study. We must look for the attributes and the subjects of both our terms, and we must supply ourselves with as many of these as possible, and consider them by means of the three terms, refuting statements in one way, confirming them in another, in the pursuit of truth starting from premisses in which the arrangement of the terms is in accordance with truth, while if we look for dialectical syllogisms we must start from probable premisses. The principles of syllogisms have been stated in general terms, both how they are characterized and how we must hunt for them, so as not to look to everything that is said about the terms of the problem or to the same points whether we are confirming or refuting, or again whether we are confirming of all or of some, and whether we are refuting of all or some. we must look to fewer points and they must be definite. We have also stated how we must select with reference to everything that is, e.g. about good or knowledge. But in each science the principles which are peculiar are the most numerous. Consequently it is the business of experience to give the principles which belong to each subject. I mean for example that astronomical experience supplies the principles of astronomical science: for once the phenomena were adequately apprehended, the demonstrations of astronomy were discovered. Similarly with any other art or science. Consequently, if the attributes of the thing are apprehended, our business will then be to exhibit readily the demonstrations. For if none of the true attributes of things had been omitted in the historical survey, we should be able to discover the proof and demonstrate everything which admitted of proof, and to make that clear, whose nature does not admit of proof.

In general then we have explained fairly well how we must select premisses: we have discussed the matter accurately in the treatise concerning dialectic.

31

It is easy to see that division into classes is a small part of the method we have described: for division is, so to speak, a weak syllogism; for what it ought to prove, it begs, and it always establishes something more general than the attribute in question. First, this very point had escaped all those who used the method of division; and they attempted to persuade men that it was possible to make a demonstration of substance and essence. Consequently they did not understand what it is possible to prove syllogistically by division, nor did they understand that it was possible to prove syllogistically in the manner we have described. In demonstrations, when there is a need to prove a positive statement, the middle term through which the syllogism is formed must always be inferior to and not comprehend the first of the extremes. But division has a contrary intention: for it takes the universal as middle. Let animal be the term signified by A, mortal by B, and immortal by C, and let man, whose definition is to be got, be signified by D. The man who divides assumes that every animal is either mortal or immortal: i.e. whatever is A is all either B or C. Again, always dividing, he lays it down that man is an animal, so he assumes A of D as belonging to it. Now the true conclusion is that every D is either B or C, consequently man must be either mortal or immortal, but it is not necessary that man should be a mortal animal-this is begged: and this is what ought to have been proved syllogistically. And again, taking A as mortal animal, B as footed, C as footless, and D as man, he assumes in the same way that A inheres either in B or in C (for every mortal animal is either footed or footless), and he assumes A of D (for he assumed man, as we saw, to be a mortal animal); consequently it is necessary that man should be either a footed or a footless animal; but it is not necessary that man should be footed: this he assumes: and it is just this again which he ought to have demonstrated. Always dividing then in this way it turns out that these logicians assume as middle the universal term, and as extremes that which ought to have been the subject of demonstration and the differentiae. In conclusion, they do not make it clear, and show it to be necessary, that this is man or whatever the subject of inquiry may be: for they pursue the other method altogether, never even suspecting the presence of the rich supply of evidence which might be used. It is clear that it is neither possible to refute a statement by this method of division, nor to draw a conclusion about an accident or property of a thing, nor about its genus, nor in cases in which it is unknown whether it is thus or thus, e.g. whether the diagonal is incommensurate. For if he assumes that every length is either commensurate or incommensurate, and the diagonal is a length, he has proved that the diagonal is either incommensurate or commensurate. But if he should assume that it is incommensurate, he will have assumed what he ought to have proved. He cannot then prove it: for this is his method, but proof is not possible by this method. Let A stand for ‘incommensurate or commensurate’, B for ‘length’, C for ‘diagonal’. It is clear then that this method of investigation is not suitable for every inquiry, nor is it useful in those cases in which it is thought to be most suitable.

From what has been said it is clear from what elements demonstrations are formed and in what manner, and to what points we must look in each problem.

Our next business is to state how we can reduce syllogisms to the aforementioned figures: for this part of the inquiry still remains. If we should investigate the production of the syllogisms and had the power of discovering them, and further if we could resolve the syllogisms produced into the aforementioned figures, our original problem would be brought to a conclusion. It will happen at the same time that what has been already said will be confirmed and its truth made clearer by what we are about to say. For everything that is true must in every respect agree with itself First then we must attempt to select the two premisses of the syllogism (for it is easier to divide into large parts than into small, and the composite parts are larger than the elements out of which they are made); next we must inquire which are universal and which particular, and if both premisses have not been stated, we must ourselves assume the one which is missing. For sometimes men put forward the universal premiss, but do not posit the premiss which is contained in it, either in writing or in discussion: or men put forward the premisses of the principal syllogism, but omit those through which they are inferred, and invite the concession of others to no purpose. We must inquire then whether anything unnecessary has been assumed, or anything necessary has been omitted, and we must posit the one and take away the other, until we have reached the two premisses: for unless we have these, we cannot reduce arguments put forward in the way described. In some arguments it is easy to see what is wanting, but some escape us, and appear to be syllogisms, because something necessary results from what has been laid down, e.g. if the assumptions were made that substance is not annihilated by the annihilation of what is not substance, and that if the elements out of which a thing is made are annihilated, then that which is made out of them is destroyed: these propositions being laid down, it is necessary that any part of substance is substance; this has not however been drawn by syllogism from the propositions assumed, but premisses are wanting. Again if it is necessary that animal should exist, if man does, and that substance should exist, if animal does, it is necessary that substance should exist if man does: but as yet the conclusion has not been drawn syllogistically: for the premisses are not in the shape we required. We are deceived in such cases because something necessary results from what is assumed, since the syllogism also is necessary. But that which is necessary is wider than the syllogism: for every syllogism is necessary, but not everything which is necessary is a syllogism.

Consequently, though something results when certain propositions are assumed, we must not try to reduce it directly, but must first state the two premisses, then divide them into their terms. We must take that term as middle which is stated in both the remisses: for it is necessary that the middle should be found in both premisses in all the figures.

If then the middle term is a predicate and a subject of predication, or if it is a predicate, and something else is denied of it, we shall have the first figure: if it both is a predicate and is denied of something, the middle figure: if other things are predicated of it, or one is denied, the other predicated, the last figure. For it was thus that we found the middle term placed in each figure. It is placed similarly too if the premisses are not universal: for the middle term is determined in the same way. Clearly then, if the same term is not stated more than once in the course of an argument, a syllogism cannot be made: for a middle term has not been taken. Since we know what sort of thesis is established in each figure, and in which the universal, in what sort the particular is described, clearly we must not look for all the figures, but for that which is appropriate to the thesis in hand. If the thesis is established in more figures than one, we shall recognize the figure by the position of the middle term.

33

Men are frequently deceived about syllogisms because the inference is necessary, as has been said above; sometimes they are deceived by the similarity in the positing of the terms; and this ought not to escape our notice. E.g. if A is stated of B, and B of C: it would seem that a syllogism is possible since the terms stand thus: but nothing necessary results, nor does a syllogism. Let A represent the term ‘being eternal’, B ‘Aristomenes as an object of thought’, C ‘Aristomenes’. It is true then that A belongs to B. For Aristomenes as an object of thought is eternal. But B also belongs to C: for Aristomenes is Aristomenes as an object of thought. But A does not belong to C: for Aristomenes is perishable. For no syllogism was made although the terms stood thus: that required that the premiss AB should be stated universally. But this is false, that every Aristomenes who is an object of thought is eternal, since Aristomenes is perishable. Again let C stand for ‘Miccalus’, B for ‘musical Miccalus’, A for ‘perishing to-morrow’. It is true to predicate B of C: for Miccalus is musical Miccalus. Also A can be predicated of B: for musical Miccalus might perish to-morrow. But to state A of C is false at any rate. This argument then is identical with the former; for it is not true universally that musical Miccalus perishes to-morrow: but unless this is assumed, no syllogism (as we have shown) is possible.

This deception then arises through ignoring a small distinction. For if we accept the conclusion as though it made no difference whether we said ‘This belong to that’ or ‘This belongs to all of that’.

34

Men will frequently fall into fallacies through not setting out the terms of the premiss well, e.g. suppose A to be health, B disease, C man. It is true to say that A cannot belong to any B (for health belongs to no disease) and again that B belongs to every C (for every man is capable of disease). It would seem to follow that health cannot belong to any man. The reason for this is that the terms are not set out well in the statement, since if the things which are in the conditions are substituted, no syllogism can be made, e.g. if ‘healthy’ is substituted for ‘health’ and ‘diseased’ for ‘disease’. For it is not true to say that being healthy cannot belong to one who is diseased. But unless this is assumed no conclusion results, save in respect of possibility: but such a conclusion is not impossible: for it is possible that health should belong to no man. Again the fallacy may occur in a similar way in the middle figure: ‘it is not possible that health should belong to any disease, but it is possible that health should belong to every man, consequently it is not possible that disease should belong to any man’. In the third figure the fallacy results in reference to possibility. For health and diseae and knowledge and ignorance, and in general contraries, may possibly belong to the same thing, but cannot belong to one another. This is not in agreement with what was said before: for we stated that when several things could belong to the same thing, they could belong to one another.

It is evident then that in all these cases the fallacy arises from the setting out of the terms: for if the things that are in the conditions are substituted, no fallacy arises. It is clear then that in such premisses what possesses the condition ought always to be substituted for the condition and taken as the term.

35

We must not always seek to set out the terms a single word: for we shall often have complexes of words to which a single name is not given. Hence it is difficult to reduce syllogisms with such terms. Sometimes too fallacies will result from such a search, e.g. the belief that syllogism can establish that which has no mean. Let A stand for two right angles, B for triangle, C for isosceles triangle. A then belongs to C because of B: but A belongs to B without the mediation of another term: for the triangle in virtue of its own nature contains two right angles, consequently there will be no middle term for the proposition AB, although it is demonstrable. For it is clear that the middle must not always be assumed to be an individual thing, but sometimes a complex of words, as happens in the case mentioned.

36

That the first term belongs to the middle, and the middle to the extreme, must not be understood in the sense that they can always be predicated of one another or that the first term will be predicated of the middle in the same way as the middle is predicated of the last term. The same holds if the premisses are negative. But we must suppose the verb ‘to belong’ to have as many meanings as the senses in which the verb ‘to be’ is used, and in which the assertion that a thing ‘is’ may be said to be true. Take for example the statement that there is a single science of contraries. Let A stand for ‘there being a single science’, and B for things which are contrary to one another. Then A belongs to B, not in the sense that contraries are the fact of there being a single science of them, but in the sense that it is true to say of the contraries that there is a single science of them.

It happens sometimes that the first term is stated of the middle, but the middle is not stated of the third term, e.g. if wisdom is knowledge, and wisdom is of the good, the conclusion is that there is knowledge of the good. The good then is not knowledge, though wisdom is knowledge. Sometimes the middle term is stated of the third, but the first is not stated of the middle, e.g. if there is a science of everything that has a quality, or is a contrary, and the good both is a contrary and has a quality, the conclusion is that there is a science of the good, but the good is not science, nor is that which has a quality or is a contrary, though the good is both of these. Sometimes neither the first term is stated of the middle, nor the middle of the third, while the first is sometimes stated of the third, and sometimes not: e.g. if there is a genus of that of which there is a science, and if there is a science of the good, we conclude that there is a genus of the good. But nothing is predicated of anything. And if that of which there is a science is a genus, and if there is a science of the good, we conclude that the good is a genus. The first term then is predicated of the extreme, but in the premisses one thing is not stated of another.

The same holds good where the relation is negative. For ‘that does not belong to this’ does not always mean that ‘this is not that’, but sometimes that ‘this is not of that’ or ‘for that’, e.g. ‘there is not a motion of a motion or a becoming of a becoming, but there is a becoming of pleasure: so pleasure is not a becoming.’ Or again it may be said that there is a sign of laughter, but there is not a sign of a sign, consequently laughter is not a sign. This holds in the other cases too, in which the thesis is refuted because the genus is asserted in a particular way, in relation to the terms of the thesis. Again take the inference ‘opportunity is not the right time: for opportunity belongs to God, but the right time does not, since nothing is useful to God’. We must take as terms opportunity-right time-God: but the premiss must be understood according to the case of the noun. For we state this universally without qualification, that the terms ought always to be stated in the nominative, e.g. man, good, contraries, not in oblique cases, e.g. of man, of a good, of contraries, but the premisses ought to be understood with reference to the cases of each term-either the dative, e.g. ‘equal to this’, or the genitive, e.g. ‘double of this’, or the accusative, e.g. ‘that which strikes or sees this’, or the nominative, e.g. ‘man is an animal’, or in whatever other way the word falls in the premiss.

37

The expressions ‘this belongs to that’ and ‘this holds true of that’ must be understood in as many ways as there are different categories, and these categories must be taken either with or without qualification, and further as simple or compound: the same holds good of the corresponding negative expressions. We must consider these points and define them better.

A term which is repeated in the premisses ought to be joined to the first extreme, not to the middle. I mean for example that if a syllogism should be made proving that there is knowledge of justice, that it is good, the expression ‘that it is good’ (or ‘qua good’) should be joined to the first term. Let A stand for ‘knowledge that it is good’, B for good, C for justice. It is true to predicate A of B. For of the good there is knowledge that it is good. Also it is true to predicate B of C. For justice is identical with a good. In this way an analysis of the argument can be made. But if the expression ‘that it is good’ were added to B, the conclusion will not follow: for A will be true of B, but B will not be true of C. For to predicate of justice the term ‘good that it is good’ is false and not intelligible. Similarly if it should be proved that the healthy is an object of knowledge qua good, of goat-stag an object of knowledge qua not existing, or man perishable qua an object of sense: in every case in which an addition is made to the predicate, the addition must be joined to the extreme.

The position of the terms is not the same when something is established without qualification and when it is qualified by some attribute or condition, e.g. when the good is proved to be an object of knowledge and when it is proved to be an object of knowledge that it is good. If it has been proved to be an object of knowledge without qualification, we must put as middle term ‘that which is’, but if we add the qualification ‘that it is good’, the middle term must be ‘that which is something’. Let A stand for ‘knowledge that it is something’, B stand for ‘something’, and C stand for ‘good’. It is true to predicate A of B: for ex hypothesi there is a science of that which is something, that it is something. B too is true of C: for that which C represents is something. Consequently A is true of C: there will then be knowledge of the good, that it is good: for ex hypothesi the term ‘something’ indicates the thing’s special nature. But if ‘being’ were taken as middle and ‘being’ simply were joined to the extreme, not ‘being something’, we should not have had a syllogism proving that there is knowledge of the good, that it is good, but that it is; e.g. let A stand for knowledge that it is, B for being, C for good. Clearly then in syllogisms which are thus limited we must take the terms in the way stated.

39

We ought also to exchange terms which have the same value, word for word, and phrase for phrase, and word and phrase, and always take a word in preference to a phrase: for thus the setting out of the terms will be easier. For example if it makes no difference whether we say that the supposable is not the genus of the opinable or that the opinable is not identical with a particular kind of supposable (for what is meant is the same in both statements), it is better to take as the terms the supposable and the opinable in preference to the phrase suggested.

40

Since the expressions ‘pleasure is good’ and ‘pleasure is the good’ are not identical, we must not set out the terms in the same way; but if the syllogism is to prove that pleasure is the good, the term must be ‘the good’, but if the object is to prove that pleasure is good, the term will be ‘good’. Similarly in all other cases.

41

It is not the same, either in fact or in speech, that A belongs to all of that to which B belongs, and that A belongs to all of that to all of which B belongs: for nothing prevents B from belonging to C, though not to all C: e.g. let B stand for beautiful, and C for white. If beauty belongs to something white, it is true to say that beauty belongs to that which is white; but not perhaps to everything that is white. If then A belongs to B, but not to everything of which B is predicated, then whether B belongs to all C or merely belongs to C, it is not necessary that A should belong, I do not say to all C, but even to C at all. But if A belongs to everything of which B is truly stated, it will follow that A can be said of all of that of all of which B is said. If however A is said of that of all of which B may be said, nothing prevents B belonging to C, and yet A not belonging to all C or to any C at all. If then we take three terms it is clear that the expression ‘A is said of all of which B is said’ means this, ‘A is said of all the things of which B is said’. And if B is said of all of a third term, so also is A: but if B is not said of all of the third term, there is no necessity that A should be said of all of it.

We must not suppose that something absurd results through setting out the terms: for we do not use the existence of this particular thing, but imitate the geometrician who says that ‘this line a foot long’ or ‘this straight line’ or ‘this line without breadth’ exists although it does not, but does not use the diagrams in the sense that he reasons from them. For in general, if two things are not related as whole to part and part to whole, the prover does not prove from them, and so no syllogism a is formed. We (I mean the learner) use the process of setting out terms like perception by sense, not as though it were impossible to demonstrate without these illustrative terms, as it is to demonstrate without the premisses of the syllogism.

42

We should not forget that in the same syllogism not all conclusions are reached through one figure, but one through one figure, another through another. Clearly then we must analyse arguments in accordance with this. Since not every problem is proved in every figure, but certain problems in each figure, it is clear from the conclusion in what figure the premisses should be sought.

43

In reference to those arguments aiming at a definition which have been directed to prove some part of the definition, we must take as a term the point to which the argument has been directed, not the whole definition: for so we shall be less likely to be disturbed by the length of the term: e.g. if a man proves that water is a drinkable liquid, we must take as terms drinkable and water.

44

Further we must not try to reduce hypothetical syllogisms; for with the given premisses it is not possible to reduce them. For they have not been proved by syllogism, but assented to by agreement. For instance if a man should suppose that unless there is one faculty of contraries, there cannot be one science, and should then argue that not every faculty is of contraries, e.g. of what is healthy and what is sickly: for the same thing will then be at the same time healthy and sickly. He has shown that there is not one faculty of all contraries, but he has not proved that there is not a science. And yet one must agree. But the agreement does not come from a syllogism, but from an hypothesis. This argument cannot be reduced: but the proof that there is not a single faculty can. The latter argument perhaps was a syllogism: but the former was an hypothesis.

The same holds good of arguments which are brought to a conclusion per impossibile. These cannot be analysed either; but the reduction to what is impossible can be analysed since it is proved by syllogism, though the rest of the argument cannot, because the conclusion is reached from an hypothesis. But these differ from the previous arguments: for in the former a preliminary agreement must be reached if one is to accept the conclusion; e.g. an agreement that if there is proved to be one faculty of contraries, then contraries fall under the same science; whereas in the latter, even if no preliminary agreement has been made, men still accept the reasoning, because the falsity is patent, e.g. the falsity of what follows from the assumption that the diagonal is commensurate, viz. that then odd numbers are equal to evens.

Many other arguments are brought to a conclusion by the help of an hypothesis; these we ought to consider and mark out clearly. We shall describe in the sequel their differences, and the various ways in which hypothetical arguments are formed: but at present this much must be clear, that it is not possible to resolve such arguments into the figures. And we have explained the reason.

45

Whatever problems are proved in more than one figure, if they have been established in one figure by syllogism, can be reduced to another figure, e.g. a negative syllogism in the first figure can be reduced to the second, and a syllogism in the middle figure to the first, not all however but some only. The point will be clear in the sequel. If A belongs to no B, and B to all C, then A belongs to no C. Thus the first figure; but if the negative statement is converted, we shall have the middle figure. For B belongs to no A, and to all C. Similarly if the syllogism is not universal but particular, e.g. if A belongs to no B, and B to some C. Convert the negative statement and you will have the middle figure.

The universal syllogisms in the second figure can be reduced to the first, but only one of the two particular syllogisms. Let A belong to no B and to all C. Convert the negative statement, and you will have the first figure. For B will belong to no A and A to all C. But if the affirmative statement concerns B, and the negative C, C must be made first term. For C belongs to no A, and A to all B: therefore C belongs to no B. B then belongs to no C: for the negative statement is convertible.

But if the syllogism is particular, whenever the negative statement concerns the major extreme, reduction to the first figure will be possible, e.g. if A belongs to no B and to some C: convert the negative statement and you will have the first figure. For B will belong to no A and A to some C. But when the affirmative statement concerns the major extreme, no resolution will be possible, e.g. if A belongs to all B, but not to all C: for the statement AB does not admit of conversion, nor would there be a syllogism if it did.

Again syllogisms in the third figure cannot all be resolved into the first, though all syllogisms in the first figure can be resolved into the third. Let A belong to all B and B to some C. Since the particular affirmative is convertible, C will belong to some B: but A belonged to all B: so that the third figure is formed. Similarly if the syllogism is negative: for the particular affirmative is convertible: therefore A will belong to no B, and to some C.

Of the syllogisms in the last figure one only cannot be resolved into the first, viz. when the negative statement is not universal: all the rest can be resolved. Let A and B be affirmed of all C: then C can be converted partially with either A or B: C then belongs to some B. Consequently we shall get the first figure, if A belongs to all C, and C to some of the Bs. If A belongs to all C and B to some C, the argument is the same: for B is convertible in reference to C. But if B belongs to all C and A to some C, the first term must be B: for B belongs to all C, and C to some A, therefore B belongs to some A. But since the particular statement is convertible, A will belong to some B. If the syllogism is negative, when the terms are universal we must take them in a similar way. Let B belong to all C, and A to no C: then C will belong to some B, and A to no C; and so C will be middle term. Similarly if the negative statement is universal, the affirmative particular: for A will belong to no C, and C to some of the Bs. But if the negative statement is particular, no resolution will be possible, e.g. if B belongs to all C, and A not belong to some C: convert the statement BC and both premisses will be particular.

It is clear that in order to resolve the figures into one another the premiss which concerns the minor extreme must be converted in both the figures: for when this premiss is altered, the transition to the other figure is made.

One of the syllogisms in the middle figure can, the other cannot, be resolved into the third figure. Whenever the universal statement is negative, resolution is possible. For if A belongs to no B and to some C, both B and C alike are convertible in relation to A, so that B belongs to no A and C to some A. A therefore is middle term. But when A belongs to all B, and not to some C, resolution will not be possible: for neither of the premisses is universal after conversion.

Syllogisms in the third figure can be resolved into the middle figure, whenever the negative statement is universal, e.g. if A belongs to no C, and B to some or all C. For C then will belong to no A and to some B. But if the negative statement is particular, no resolution will be possible: for the particular negative does not admit of conversion.

It is clear then that the same syllogisms cannot be resolved in these figures which could not be resolved into the first figure, and that when syllogisms are reduced to the first figure these alone are confirmed by reduction to what is impossible.

It is clear from what we have said how we ought to reduce syllogisms, and that the figures may be resolved into one another.

46

In establishing or refuting, it makes some difference whether we suppose the expressions ‘not to be this’ and ‘to be not-this’ are identical or different in meaning, e.g. ‘not to be white’ and ‘to be not-white’. For they do not mean the same thing, nor is ‘to be not-white’ the negation of ‘to be white’, but ‘not to be white’. The reason for this is as follows. The relation of ‘he can walk’ to ‘he can not-walk’ is similar to the relation of ‘it is white’ to ‘it is not-white’; so is that of ‘he knows what is good’ to ‘he knows what is not-good’. For there is no difference between the expressions ‘he knows what is good’ and ‘he is knowing what is good’, or ‘he can walk’ and ‘he is able to walk’: therefore there is no difference between their contraries ‘he cannot walk’-’he is not able to walk’. If then ‘he is not able to walk’ means the same as ‘he is able not to walk’, capacity to walk and incapacity to walk will belong at the same time to the same person (for the same man can both walk and not-walk, and is possessed of knowledge of what is good and of what is not-good), but an affirmation and a denial which are opposed to one another do not belong at the same time to the same thing. As then ‘not to know what is good’ is not the same as ‘to know what is not good’, so ‘to be not-good’ is not the same as ‘not to be good’. For when two pairs correspond, if the one pair are different from one another, the other pair also must be different. Nor is ‘to be not-equal’ the same as ‘not to be equal’: for there is something underlying the one, viz. that which is not-equal, and this is the unequal, but there is nothing underlying the other. Wherefore not everything is either equal or unequal, but everything is equal or is not equal. Further the expressions ‘it is a not-white log’ and ‘it is not a white log’ do not imply one another’s truth. For if ‘it is a not-white log’, it must be a log: but that which is not a white log need not be a log at all. Therefore it is clear that ‘it is not-good’ is not the denial of ‘it is good’. If then every single statement may truly be said to be either an affirmation or a negation, if it is not a negation clearly it must in a sense be an affirmation. But every affirmation has a corresponding negation. The negation then of ‘it is not-good’ is ‘it is not not-good’. The relation of these statements to one another is as follows. Let A stand for ‘to be good’, B for ‘not to be good’, let C stand for ‘to be not-good’ and be placed under B, and let D stand for not to be not-good’ and be placed under A. Then either A or B will belong to everything, but they will never belong to the same thing; and either C or D will belong to everything, but they will never belong to the same thing. And B must belong to everything to which C belongs. For if it is true to say ‘it is a not-white’, it is true also to say ‘it is not white’: for it is impossible that a thing should simultaneously be white and be not-white, or be a not-white log and be a white log; consequently if the affirmation does not belong, the denial must belong. But C does not always belong to B: for what is not a log at all, cannot be a not-white log either. On the other hand D belongs to everything to which A belongs. For either C or D belongs to everything to which A belongs. But since a thing cannot be simultaneously not-white and white, D must belong to everything to which A belongs. For of that which is white it is true to say that it is not not-white. But A is not true of all D. For of that which is not a log at all it is not true to say A, viz. that it is a white log. Consequently D is true, but A is not true, i.e. that it is a white log. It is clear also that A and C cannot together belong to the same thing, and that B and D may possibly belong to the same thing.

Privative terms are similarly related positive ter terms respect of this arrangement. Let A stand for ‘equal’, B for ‘not equal’, C for ‘unequal’, D for ‘not unequal’.

In many things also, to some of which something belongs which does not belong to others, the negation may be true in a similar way, viz. that all are not white or that each is not white, while that each is not-white or all are not-white is false. Similarly also ‘every animal is not-white’ is not the negation of ‘every animal is white’ (for both are false): the proper negation is ‘every animal is not white’. Since it is clear that ‘it is not-white’ and ‘it is not white’ mean different things, and one is an affirmation, the other a denial, it is evident that the method of proving each cannot be the same, e.g. that whatever is an animal is not white or may not be white, and that it is true to call it not-white; for this means that it is not-white. But we may prove that it is true to call it white or not-white in the same way for both are proved constructively by means of the first figure. For the expression ‘it is true’ stands on a similar footing to ‘it is’. For the negation of ‘it is true to call it white’ is not ‘it is true to call it not-white’ but ‘it is not true to call it white’. If then it is to be true to say that whatever is a man is musical or is not-musical, we must assume that whatever is an animal either is musical or is not-musical; and the proof has been made. That whatever is a man is not musical is proved destructively in the three ways mentioned.

In general whenever A and B are such that they cannot belong at the same time to the same thing, and one of the two necessarily belongs to everything, and again C and D are related in the same way, and A follows C but the relation cannot be reversed, then D must follow B and the relation cannot be reversed. And A and D may belong to the same thing, but B and C cannot. First it is clear from the following consideration that D follows B. For since either C or D necessarily belongs to everything; and since C cannot belong to that to which B belongs, because it carries A along with it and A and B cannot belong to the same thing; it is clear that D must follow B. Again since C does not reciprocate with but A, but C or D belongs to everything, it is possible that A and D should belong to the same thing. But B and C cannot belong to the same thing, because A follows C; and so something impossible results. It is clear then that B does not reciprocate with D either, since it is possible that D and A should belong at the same time to the same thing.

It results sometimes even in such an arrangement of terms that one is deceived through not apprehending the opposites rightly, one of which must belong to everything, e.g. we may reason that ‘if A and B cannot belong at the same time to the same thing, but it is necessary that one of them should belong to whatever the other does not belong to: and again C and D are related in the same way, and follows everything which C follows: it will result that B belongs necessarily to everything to which D belongs’: but this is false. ‘Assume that F stands for the negation of A and B, and again that H stands for the negation of C and D. It is necessary then that either A or F should belong to everything: for either the affirmation or the denial must belong. And again either C or H must belong to everything: for they are related as affirmation and denial. And ex hypothesi A belongs to everything ever thing to which C belongs. Therefore H belongs to everything to which F belongs. Again since either F or B belongs to everything, and similarly either H or D, and since H follows F, B must follow D: for we know this. If then A follows C, B must follow D’. But this is false: for as we proved the sequence is reversed in terms so constituted. The fallacy arises because perhaps it is not necessary that A or F should belong to everything, or that F or B should belong to everything: for F is not the denial of A. For not good is the negation of good: and not-good is not identical with ‘neither good nor not-good’. Similarly also with C and D. For two negations have been assumed in respect to one term.

Book II

1

WE have already explained the number of the figures, the character and number of the premisses, when and how a syllogism is formed; further what we must look for when a refuting and establishing propositions, and how we should investigate a given problem in any branch of inquiry, also by what means we shall obtain principles appropriate to each subject. Since some syllogisms are universal, others particular, all the universal syllogisms give more than one result, and of particular syllogisms the affirmative yield more than one, the negative yield only the stated conclusion. For all propositions are convertible save only the particular negative: and the conclusion states one definite thing about another definite thing. Consequently all syllogisms save the particular negative yield more than one conclusion, e.g. if A has been proved to to all or to some B, then B must belong to some A: and if A has been proved to belong to no B, then B belongs to no A. This is a different conclusion from the former. But if A does not belong to some B, it is not necessary that B should not belong to some A: for it may possibly belong to all A.

This then is the reason common to all syllogisms whether universal or particular. But it is possible to give another reason concerning those which are universal. For all the things that are subordinate to the middle term or to the conclusion may be proved by the same syllogism, if the former are placed in the middle, the latter in the conclusion; e.g. if the conclusion AB is proved through C, whatever is subordinate to B or C must accept the predicate A: for if D is included in B as in a whole, and B is included in A, then D will be included in A. Again if E is included in C as in a whole, and C is included in A, then E will be included in A. Similarly if the syllogism is negative. In the second figure it will be possible to infer only that which is subordinate to the conclusion, e.g. if A belongs to no B and to all C; we conclude that B belongs to no C. If then D is subordinate to C, clearly B does not belong to it. But that B does not belong to what is subordinate to A is not clear by means of the syllogism. And yet B does not belong to E, if E is subordinate to A. But while it has been proved through the syllogism that B belongs to no C, it has been assumed without proof that B does not belong to A, consequently it does not result through the syllogism that B does not belong to E.

But in particular syllogisms there will be no necessity of inferring what is subordinate to the conclusion (for a syllogism does not result when this premiss is particular), but whatever is subordinate to the middle term may be inferred, not however through the syllogism, e.g. if A belongs to all B and B to some C. Nothing can be inferred about that which is subordinate to C; something can be inferred about that which is subordinate to B, but not through the preceding syllogism. Similarly in the other figures. That which is subordinate to the conclusion cannot be proved; the other subordinate can be proved, only not through the syllogism, just as in the universal syllogisms what is subordinate to the middle term is proved (as we saw) from a premiss which is not demonstrated: consequently either a conclusion is not possible in the case of universal syllogisms or else it is possible also in the case of particular syllogisms.

2

It is possible for the premisses of the syllogism to be true, or to be false, or to be the one true, the other false. The conclusion is either true or false necessarily. From true premisses it is not possible to draw a false conclusion, but a true conclusion may be drawn from false premisses, true however only in respect to the fact, not to the reason. The reason cannot be established from false premisses: why this is so will be explained in the sequel.

First then that it is not possible to draw a false conclusion from true premisses, is made clear by this consideration. If it is necessary that B should be when A is, it is necessary that A should not be when B is not. If then A is true, B must be true: otherwise it will turn out that the same thing both is and is not at the same time. But this is impossible. Let it not, because A is laid down as a single term, be supposed that it is possible, when a single fact is given, that something should necessarily result. For that is not possible. For what results necessarily is the conclusion, and the means by which this comes about are at the least three terms, and two relations of subject and predicate or premisses. If then it is true that A belongs to all that to which B belongs, and that B belongs to all that to which C belongs, it is necessary that A should belong to all that to which C belongs, and this cannot be false: for then the same thing will belong and not belong at the same time. So A is posited as one thing, being two premisses taken together. The same holds good of negative syllogisms: it is not possible to prove a false conclusion from true premisses.

But from what is false a true conclusion may be drawn, whether both the premisses are false or only one, provided that this is not either of the premisses indifferently, if it is taken as wholly false: but if the premiss is not taken as wholly false, it does not matter which of the two is false. (1) Let A belong to the whole of C, but to none of the Bs, neither let B belong to C. This is possible, e.g. animal belongs to no stone, nor stone to any man. If then A is taken to belong to all B and B to all C, A will belong to all C; consequently though both the premisses are false the conclusion is true: for every man is an animal. Similarly with the negative. For it is possible that neither A nor B should belong to any C, although A belongs to all B, e.g. if the same terms are taken and man is put as middle: for neither animal nor man belongs to any stone, but animal belongs to every man. Consequently if one term is taken to belong to none of that to which it does belong, and the other term is taken to belong to all of that to which it does not belong, though both the premisses are false the conclusion will be true. (2) A similar proof may be given if each premiss is partially false.

(3) But if one only of the premisses is false, when the first premiss is wholly false, e.g. AB, the conclusion will not be true, but if the premiss BC is wholly false, a true conclusion will be possible. I mean by ‘wholly false’ the contrary of the truth, e.g. if what belongs to none is assumed to belong to all, or if what belongs to all is assumed to belong to none. Let A belong to no B, and B to all C. If then the premiss BC which I take is true, and the premiss AB is wholly false, viz. that A belongs to all B, it is impossible that the conclusion should be true: for A belonged to none of the Cs, since A belonged to nothing to which B belonged, and B belonged to all C. Similarly there cannot be a true conclusion if A belongs to all B, and B to all C, but while the true premiss BC is assumed, the wholly false premiss AB is also assumed, viz. that A belongs to nothing to which B belongs: here the conclusion must be false. For A will belong to all C, since A belongs to everything to which B belongs, and B to all C. It is clear then that when the

first premiss is wholly false, whether affirmative or negative, and the other premiss is true, the conclusion cannot be true.

(4) But if the premiss is not wholly false, a true conclusion is possible. For if A belongs to all C and to some B, and if B belongs to all C, e.g. animal to every swan and to some white thing, and white to every swan, then if we take as premisses that A belongs to all B, and B to all C, A will belong to all C truly: for every swan is an animal. Similarly if the statement AB is negative. For it is possible that A should belong to some B and to no C, and that B should belong to all C, e.g. animal to some white thing, but to no snow, and white to all snow. If then one should assume that A belongs to no B, and B to all C, then will belong to no C.

(5) But if the premiss AB, which is assumed, is wholly true, and the premiss BC is wholly false, a true syllogism will be possible: for nothing prevents A belonging to all B and to all C, though B belongs to no C, e.g. these being species of the same genus which are not subordinate one to the other: for animal belongs both to horse and to man, but horse to no man. If then it is assumed that A belongs to all B and B to all C, the conclusion will be true, although the premiss BC is wholly false. Similarly if the premiss AB is negative. For it is possible that A should belong neither to any B nor to any C, and that B should not belong to any C, e.g. a genus to species of another genus: for animal belongs neither to music nor to the art of healing, nor does music belong to the art of healing. If then it is assumed that A belongs to no B, and B to all C, the conclusion will be true.

(6) And if the premiss BC is not wholly false but in part only, even so the conclusion may be true. For nothing prevents A belonging to the whole of B and of C, while B belongs to some C, e.g. a genus to its species and difference: for animal belongs to every man and to every footed thing, and man to some footed things though not to all. If then it is assumed that A belongs to all B, and B to all C, A will belong to all C: and this ex hypothesi is true. Similarly if the premiss AB is negative. For it is possible that A should neither belong to any B nor to any C, though B belongs to some C, e.g. a genus to the species of another genus and its difference: for animal neither belongs to any wisdom nor to any instance of ‘speculative’, but wisdom belongs to some instance of ‘speculative’. If then it should be assumed that A belongs to no B, and B to all C, will belong to no C: and this ex hypothesi is true.

In particular syllogisms it is possible when the first premiss is wholly false, and the other true, that the conclusion should be true; also when the first premiss is false in part, and the other true; and when the first is true, and the particular is false; and when both are false. (7) For nothing prevents A belonging to no B, but to some C, and B to some C, e.g. animal belongs to no snow, but to some white thing, and snow to some white thing. If then snow is taken as middle, and animal as first term, and it is assumed that A belongs to the whole of B, and B to some C, then the premiss BC is wholly false, the premiss BC true, and the conclusion true. Similarly if the premiss AB is negative: for it is possible that A should belong to the whole of B, but not to some C, although B belongs to some C, e.g. animal belongs to every man, but does not follow some white, but man belongs to some white; consequently if man be taken as middle term and it is assumed that A belongs to no B but B belongs to some C, the conclusion will be true although the premiss AB is wholly false. (If the premiss AB is false in part, the conclusion may be true. For nothing prevents A belonging both to B and to some C, and B belonging to some C, e.g. animal to something beautiful and to something great, and beautiful belonging to something great. If then A is assumed to belong to all B, and B to some C, the a premiss AB will be partially false, the premiss BC will be true, and the conclusion true. Similarly if the premiss AB is negative. For the same terms will serve, and in the same positions, to prove the point.

(9) Again if the premiss AB is true, and the premiss BC is false, the conclusion may be true. For nothing prevents A belonging to the whole of B and to some C, while B belongs to no C, e.g. animal to every swan and to some black things, though swan belongs to no black thing. Consequently if it should be assumed that A belongs to all B, and B to some C, the conclusion will be true, although the statement BC is false. Similarly if the premiss AB is negative. For it is possible that A should belong to no B, and not to some C, while B belongs to no C, e.g. a genus to the species of another genus and to the accident of its own species: for animal belongs to no number and not to some white things, and number belongs to nothing white. If then number is taken as middle, and it is assumed that A belongs to no B, and B to some C, then A will not belong to some C, which ex hypothesi is true. And the premiss AB is true, the premiss BC false.

(10) Also if the premiss AB is partially false, and the premiss BC is false too, the conclusion may be true. For nothing prevents A belonging to some B

and to some C, though B belongs to no C, e.g. if B is the contrary of C, and both are accidents of the same genus: for animal belongs to some white things and to some black things, but white belongs to no black thing. If then it is assumed that A belongs to all B, and B to some C, the conclusion will be true. Similarly if the premiss AB is negative: for the same terms arranged in the same way will serve for the proof.

(11) Also though both premisses are false the conclusion may be true. For it is possible that A may belong to no B and to some C, while B belongs to no C, e.g. a genus in relation to the species of another genus, and to the accident of its own species: for animal belongs to no number, but to some white things, and number to nothing white. If then it is assumed that A belongs to all B and B to some C, the conclusion will be true, though both premisses are false. Similarly also if the premiss AB is negative. For nothing prevents A belonging to the whole of B, and not to some C, while B belongs to no C, e.g. animal belongs to every swan, and not to some black things, and swan belongs to nothing black. Consequently if it is assumed that A belongs to no B, and B to some C, then A does not belong to some C. The conclusion then is true, but the premisses arc false.

3

In the middle figure it is possible in every way to reach a true conclusion through false premisses, whether the syllogisms are universal or particular, viz. when both premisses are wholly false; when each is partially false; when one is true, the other wholly false (it does not matter which of the two premisses is false); if both premisses are partially false; if one is quite true, the other partially false; if one is wholly false, the other partially true. For (1) if A belongs to no B and to all C, e.g. animal to no stone and to every horse, then if the premisses are stated contrariwise and it is assumed that A belongs to all B and to no C, though the premisses are wholly false they will yield a true conclusion. Similarly if A belongs to all B and to no C: for we shall have the same syllogism.

(2) Again if one premiss is wholly false, the other wholly true: for nothing prevents A belonging to all B and to all C, though B belongs to no C, e.g. a genus to its co-ordinate species. For animal belongs to every horse and man, and no man is a horse. If then it is assumed that animal belongs to all of the

one, and none of the other, the one premiss will be wholly false, the other wholly true, and the conclusion will be true whichever term the negative statement concerns.

(3) Also if one premiss is partially false, the other wholly true. For it is possible that A should belong to some B and to all C, though B belongs to no C, e.g. animal to some white things and to every raven, though white belongs to no raven. If then it is assumed that A belongs to no B, but to the whole of C, the premiss AB is partially false, the premiss AC wholly true, and the conclusion true. Similarly if the negative statement is transposed: the proof can be made by means of the same terms. Also if the affirmative premiss is partially false, the negative wholly true, a true conclusion is possible. For nothing prevents A belonging to some B, but not to C as a whole, while B belongs to no C, e.g. animal belongs to some white things, but to no pitch, and white belongs to no pitch. Consequently if it is assumed that A belongs to the whole of B, but to no C, the premiss AB is partially false, the premiss AC is wholly true, and the conclusion is true.

(4) And if both the premisses are partially false, the conclusion may be true. For it is possible that A should belong to some B and to some C, and B to no C, e.g. animal to some white things and to some black things, though white belongs to nothing black. If then it is assumed that A belongs to all B and to no C, both premisses are partially false, but the conclusion is true. Similarly, if the negative premiss is transposed, the proof can be made by means of the same terms.

It is clear also that our thesis holds in particular syllogisms. For (5) nothing prevents A belonging to all B and to some C, though B does not belong to some C, e.g. animal to every man and to some white things, though man will not belong to some white things. If then it is stated that A belongs to no B and to some C, the universal premiss is wholly false, the particular premiss is true, and the conclusion is true. Similarly if the premiss AB is affirmative: for it is possible that A should belong to no B, and not to some C, though B does not belong to some C, e.g. animal belongs to nothing lifeless, and does not belong to some white things, and lifeless will not belong to some white things. If then it is stated that A belongs to all B and not to some C, the premiss AB which is universal is wholly false, the premiss AC is true, and the conclusion is true. Also a true conclusion is possible when the universal premiss is true, and the particular is false. For nothing prevents A following neither B nor C at all, while B does not belong to some C, e.g. animal belongs to no number nor to anything lifeless, and number does not follow some lifeless things. If then it is stated that A belongs to no B and to some C, the conclusion will be true, and the universal premiss true, but the particular false. Similarly if the premiss which is stated universally is affirmative. For it is possible that should A belong both to B and to C as wholes, though B does not follow some C, e.g. a genus in relation to its species and difference: for animal follows every man and footed things as a whole, but man does not follow every footed thing. Consequently if it is assumed that A belongs to the whole of B, but does not belong to some C, the universal premiss is true, the particular false, and the conclusion true.

(6) It is clear too that though both premisses are false they may yield a true conclusion, since it is possible that A should belong both to B and to C as wholes, though B does not follow some C. For if it is assumed that A belongs to no B and to some C, the premisses are both false, but the conclusion is true. Similarly if the universal premiss is affirmative and the particular negative. For it is possible that A should follow no B and all C, though B does not belong to some C, e.g. animal follows no science but every man, though science does not follow every man. If then A is assumed to belong to the whole of B, and not to follow some C, the premisses are false but the conclusion is true.

4

In the last figure a true conclusion may come through what is false, alike when both premisses are wholly false, when each is partly false, when one premiss is wholly true, the other false, when one premiss is partly false, the other wholly true, and vice versa, and in every other way in which it is possible to alter the premisses. For (1) nothing prevents neither A nor B from belonging to any C, while A belongs to some B, e.g. neither man nor footed follows anything lifeless, though man belongs to some footed things. If then it is assumed that A and B belong to all C, the premisses will be wholly false, but the conclusion true. Similarly if one premiss is negative, the other affirmative. For it is possible that B should belong to no C, but A to all C, and that should not belong to some B, e.g. black belongs to no swan, animal to every swan, and animal not to everything black. Consequently if it is assumed that B belongs to all C, and A to no C, A will not belong to some B: and the conclusion is true, though the premisses are false.

(2) Also if each premiss is partly false, the conclusion may be true. For nothing prevents both A and B from belonging to some C while A belongs to some B, e.g. white and beautiful belong to some animals, and white to some beautiful things. If then it is stated that A and B belong to all C, the premisses are partially false, but the conclusion is true. Similarly if the premiss AC is stated as negative. For nothing prevents A from not belonging, and B from belonging, to some C, while A does not belong to all B, e.g. white does not belong to some animals, beautiful belongs to some animals, and white does not belong to everything beautiful. Consequently if it is assumed that A belongs to no C, and B to all C, both premisses are partly false, but the conclusion is true.

(3) Similarly if one of the premisses assumed is wholly false, the other wholly true. For it is possible that both A and B should follow all C, though A does not belong to some B, e.g. animal and white follow every swan, though animal does not belong to everything white. Taking these then as terms, if one assumes that B belongs to the whole of C, but A does not belong to C at all, the premiss BC will be wholly true, the premiss AC wholly false, and the conclusion true. Similarly if the statement BC is false, the statement AC true, the conclusion may be true. The same terms will serve for the proof. Also if both the premisses assumed are affirmative, the conclusion may be true. For nothing prevents B from following all C, and A from not belonging to C at all, though A belongs to some B, e.g. animal belongs to every swan, black to no swan, and black to some animals. Consequently if it is assumed that A and B belong to every C, the premiss BC is wholly true, the premiss AC is wholly false, and the conclusion is true. Similarly if the premiss AC which is assumed is true: the proof can be made through the same terms.

(4) Again if one premiss is wholly true, the other partly false, the conclusion may be true. For it is possible that B should belong to all C, and A to some C, while A belongs to some B, e.g. biped belongs to every man, beautiful not to every man, and beautiful to some bipeds. If then it is assumed that both A and B belong to the whole of C, the premiss BC is wholly true, the premiss AC partly false, the conclusion true. Similarly if of the premisses assumed AC is true and BC partly false, a true conclusion is possible: this can be proved, if the same terms as before are transposed. Also the conclusion

may be true if one premiss is negative, the other affirmative. For since it is possible that B should belong to the whole of C, and A to some C, and, when they are so, that A should not belong to all B, therefore it is assumed that B belongs to the whole of C, and A to no C, the negative premiss is partly false, the other premiss wholly true, and the conclusion is true. Again since it has been proved that if A belongs to no C and B to some C, it is possible that A should not belong to some C, it is clear that if the premiss AC is wholly true, and the premiss BC partly false, it is possible that the conclusion should be true. For if it is assumed that A belongs to no C, and B to all C, the premiss AC is wholly true, and the premiss BC is partly false.

(5) It is clear also in the case of particular syllogisms that a true conclusion may come through what is false, in every possible way. For the same terms must be taken as have been taken when the premisses are universal, positive terms in positive syllogisms, negative terms in negative. For it makes no difference to the setting out of the terms, whether one assumes that what belongs to none belongs to all or that what belongs to some belongs to all. The same applies to negative statements.

It is clear then that if the conclusion is false, the premisses of the argument must be false, either all or some of them; but when the conclusion is true, it is not necessary that the premisses should be true, either one or all, yet it is possible, though no part of the syllogism is true, that the conclusion may none the less be true; but it is not necessitated. The reason is that when two things are so related to one another, that if the one is, the other necessarily is, then if the latter is not, the former will not be either, but if the latter is, it is not necessary that the former should be. But it is impossible that the same thing should be necessitated by the being and by the not-being of the same thing. I mean, for example, that it is impossible that B should necessarily be great since A is white and that B should necessarily be great since A is not white. For whenever since this, A, is white it is necessary that that, B, should be great, and since B is great that C should not be white, then it is necessary if is white that C should not be white. And whenever it is necessary, since one of two things is, that the other should be, it is necessary, if the latter is not, that the former (viz. A) should not be. If then B is not great A cannot be white. But if, when A is not white, it is necessary that B should be great, it necessarily results that if B is not great, B itself is great. (But this is impossible.) For if B is not great, A will necessarily not be white. If then when this is not white B must be great, it results that if B is not great, it is great, just as if it were proved through three terms.

5

Circular and reciprocal proof means proof by means of the conclusion, i.e. by converting one of the premisses simply and inferring the premiss which was assumed in the original syllogism: e.g. suppose it has been necessary to prove that A belongs to all C, and it has been proved through B; suppose that A should now be proved to belong to B by assuming that A belongs to C, and C to B-so A belongs to B: but in the first syllogism the converse was assumed, viz. that B belongs to C. Or suppose it is necessary to prove that B belongs to C, and A is assumed to belong to C, which was the conclusion of the first syllogism, and B to belong to A but the converse was assumed in the earlier syllogism, viz. that A belongs to B. In no other way is reciprocal proof possible. If another term is taken as middle, the proof is not circular: for neither of the propositions assumed is the same as before: if one of the accepted terms is taken as middle, only one of the premisses of the first syllogism can be assumed in the second: for if both of them are taken the same conclusion as before will result: but it must be different. If the terms are not convertible, one of the premisses from which the syllogism results must be undemonstrated: for it is not possible to demonstrate through these terms that the third belongs to the middle or the middle to the first. If the terms are convertible, it is possible to demonstrate everything reciprocally, e.g. if A and B and C are convertible with one another. Suppose the proposition AC has been demonstrated through B as middle term, and again the proposition AB through the conclusion and the premiss BC converted, and similarly the proposition BC through the conclusion and the premiss AB converted. But it is necessary to prove both the premiss CB, and the premiss BA: for we have used these alone without demonstrating them. If then it is assumed that B belongs to all C, and C to all A, we shall have a syllogism relating B to A. Again if it is assumed that C belongs to all A, and A to all B, C must belong to all B. In both these syllogisms the premiss CA has been assumed without being demonstrated: the other premisses had ex hypothesi been proved. Consequently if we succeed in demonstrating this premiss, all the premisses will have been proved reciprocally. If then it is assumed that C belongs to all

B, and B to all A, both the premisses assumed have been proved, and C must belong to A. It is clear then that only if the terms are convertible is circular and reciprocal demonstration possible (if the terms are not convertible, the matter stands as we said above). But it turns out in these also that we use for the demonstration the very thing that is being proved: for C is proved of B, and B of by assuming that C is said of and C is proved of A through these premisses, so that we use the conclusion for the demonstration.

In negative syllogisms reciprocal proof is as follows. Let B belong to all C, and A to none of the Bs: we conclude that A belongs to none of the Cs. If again it is necessary to prove that A belongs to none of the Bs (which was previously assumed) A must belong to no C, and C to all B: thus the previous premiss is reversed. If it is necessary to prove that B belongs to C, the proposition AB must no longer be converted as before: for the premiss 'B belongs to no A' is identical with the premiss 'A belongs to no B'. But we must assume that B belongs to all of that to none of which longs. Let A belong to none of the Cs (which was the previous conclusion) and assume that B belongs to all of that to none of which A belongs. It is necessary then that B should belong to all C. Consequently each of the three propositions has been made a conclusion, and this is circular demonstration, to assume the conclusion and the converse of one of the premisses, and deduce the remaining premiss.

In particular syllogisms it is not possible to demonstrate the universal premiss through the other propositions, but the particular premiss can be demonstrated. Clearly it is impossible to demonstrate the universal premiss: for what is universal is proved through propositions which are universal, but the conclusion is not universal, and the proof must start from the conclusion and the other premiss. Further a syllogism cannot be made at all if the other premiss is converted: for the result is that both premisses are particular. But the particular premiss may be proved. Suppose that A has been proved of some C through B. If then it is assumed that B belongs to all A and the conclusion is retained, B will belong to some C: for we obtain the first figure and A is middle. But if the syllogism is negative, it is not possible to prove the universal premiss, for the reason given above. But it is possible to prove the particular premiss, if the proposition AB is converted as in the universal syllogism, i.e 'B belongs to some of that to some of which A does not belong': otherwise no syllogism results because the particular premiss is negative.

6

In the second figure it is not possible to prove an affirmative proposition in this way, but a negative proposition may be proved. An affirmative proposition is not proved because both premisses of the new syllogism are not affirmative (for the conclusion is negative) but an affirmative proposition is (as we saw) proved from premisses which are both affirmative. The negative is proved as follows. Let A belong to all B, and to no C: we conclude that B belongs to no C. If then it is assumed that B belongs to all A, it is necessary that A should belong to no C: for we get the second figure, with B as middle. But if the premiss AB was negative, and the other affirmative, we shall have the first figure. For C belongs to all A and B to no C, consequently B belongs to no A: neither then does A belong to B. Through the conclusion, therefore, and one premiss, we get no syllogism, but if another premiss is assumed in addition, a syllogism will be possible. But if the syllogism not universal, the universal premiss cannot be proved, for the same reason as we gave above, but the particular premiss can be proved whenever the universal statement is affirmative. Let A belong to all B, and not to all C: the conclusion is BC. If then it is assumed that B belongs to all A, but not to all C, A will not belong to some C, B being middle. But if the universal premiss is negative, the premiss AC will not be demonstrated by the conversion of AB: for it turns out that either both or one of the premisses is negative; consequently a syllogism will not be possible. But the proof will proceed as in the universal syllogisms, if it is assumed that A belongs to some of that to some of which B does not belong.

7

In the third figure, when both premisses are taken universally, it is not possible to prove them reciprocally: for that which is universal is proved through statements which are universal, but the conclusion in this figure is always particular, so that it is clear that it is not possible at all to prove through this figure the universal premiss. But if one premiss is universal, the other particular, proof of the latter will sometimes be possible, sometimes not. When both the premisses assumed are affirmative, and the universal concerns the minor extreme, proof will be possible, but when it concerns the other extreme, impossible. Let A belong to all C and B to some C: the conclusion is the statement AB. If then it is assumed that C belongs to all A, it has been proved that C belongs to some B, but that B belongs to some C has not been proved. And yet it is necessary, if C belongs to some B, that B should belong to some C. But it is not the same that this should belong to that, and that to this: but we must assume besides that if this belongs to some of that, that belongs to some of this. But if this is assumed the syllogism no longer results from the conclusion and the other premiss. But if B belongs to all C, and A to some C, it will be possible to prove the proposition AC, when it is assumed that C belongs to all B, and A to some B. For if C belongs to all B and A to some B, it is necessary that A should belong to some C, B being middle. And whenever one premiss is affirmative the other negative, and the affirmative is universal, the other premiss can be proved. Let B belong to all C, and A not to some C: the conclusion is that A does not belong to some B. If then it is assumed further that C belongs to all B, it is necessary that A should not belong to some C, B being middle. But when the negative premiss is universal, the other premiss is not except as before, viz. if it is assumed that that belongs to some of that, to some of which this does not belong, e.g. if A belongs to no C, and B to some C: the conclusion is that A does not belong to some B. If then it is assumed that C belongs to some of that to some of which does not belong, it is necessary that C should belong to some of the Bs. In no other way is it possible by converting the universal premiss to prove the other: for in no other way can a syllogism be formed.

It is clear then that in the first figure reciprocal proof is made both through the third and through the first figure-if the conclusion is affirmative through the first; if the conclusion is negative through the last. For it is assumed that that belongs to all of that to none of which this belongs. In the middle figure, when the syllogism is universal, proof is possible through the second figure and through the first, but when particular through the second and the last. In the third figure all proofs are made through itself. It is clear also that in the third figure and in the middle figure those syllogisms which are not made through those figures themselves either are not of the nature of circular proof or are imperfect.

8

To convert a syllogism means to alter the conclusion and make another syllogism to prove that either the extreme cannot belong to the middle or the middle to the last term. For it is necessary, if the conclusion has been changed into its opposite and one of the premisses stands, that the other premiss should be destroyed. For if it should stand, the conclusion also must stand. It makes a difference whether the conclusion is converted into its contradictory or into its contrary. For the same syllogism does not result whichever form the conversion takes. This will be made clear by the sequel. By contradictory opposition I mean the opposition of 'to all' to 'not to all', and of 'to some' to 'to none'; by contrary opposition I mean the opposition of 'to all' to 'to none', and of 'to some' to 'not to some'. Suppose that A been proved of C, through B as middle term. If then it should be assumed that A belongs to no C, but to all B, B will belong to no C. And if A belongs to no C, and B to all C, A will belong, not to no B at all, but not to all B. For (as we saw) the universal is not proved through the last figure. In a word it is not possible to refute universally by conversion the premiss which concerns the major extreme: for the refutation always proceeds through the third since it is necessary to take both premisses in reference to the minor extreme. Similarly if the syllogism is negative. Suppose it has been proved that A belongs to no C through B. Then if it is assumed that A belongs to all C, and to no B, B will belong to none of the Cs. And if A and B belong to all C, A will belong to some B: but in the original premiss it belonged to no B.

If the conclusion is converted into its contradictory, the syllogisms will be contradictory and not universal. For one premiss is particular, so that the conclusion also will be particular. Let the syllogism be affirmative, and let it be converted as stated. Then if A belongs not to all C, but to all B, B will belong not to all C. And if A belongs not to all C, but B belongs to all C, A will belong not to all B. Similarly if the syllogism is negative. For if A belongs to some C, and to no B, B will belong, not to no C at all, but-not to some C. And if A belongs to some C, and B to all C, as was originally assumed, A will belong to some B.

In particular syllogisms when the conclusion is converted into its contradictory, both premisses may be refuted, but when it is converted into its contrary, neither. For the result is no longer, as in the universal syllogisms, refutation in which the conclusion reached by O, conversion lacks universality, but no refutation at all. Suppose that A has been proved of some C. If then it is assumed that A belongs to no C, and B to some C, A will not belong to some B: and if A belongs to no C, but to all B, B will belong to no C. Thus both premisses are refuted. But neither can be refuted if the conclusion is converted into its contrary. For if A does not belong to some C, but to all B, then B will not belong to some C. But the original premiss is not yet refuted: for it is possible that B should belong to some C, and should not belong to some C. The universal premiss AB cannot be affected by a syllogism at all: for if A does not belong to some of the Cs, but B belongs to some of the Cs, neither of the premisses is universal. Similarly if the syllogism is negative: for if it should be assumed that A belongs to all C, both premisses are refuted: but if the assumption is that A belongs to some C, neither premiss is refuted. The proof is the same as before.

9

In the second figure it is not possible to refute the premiss which concerns the major extreme by establishing something contrary to it, whichever form the conversion of the conclusion may take. For the conclusion of the refutation will always be in the third figure, and in this figure (as we saw) there is no universal syllogism. The other premiss can be refuted in a manner similar to the conversion: I mean, if the conclusion of the first syllogism is converted into its contrary, the conclusion of the refutation will be the contrary of the minor premiss of the first, if into its contradictory, the contradictory. Let A belong to all B and to no C: conclusion BC. If then it is assumed that B belongs to all C, and the proposition AB stands, A will belong to all C, since the first figure is produced. If B belongs to all C, and A to no C, then A belongs not to all B: the figure is the last. But if the conclusion BC is converted into its contradictory, the premiss AB will be refuted as before, the premiss, AC by its contradictory. For if B belongs to some C, and A to no C, then A will not belong to some B. Again if B belongs to some C, and A to all B, A will belong to some C, so that the syllogism results in the contradictory of the minor premiss. A similar proof can be given if the premisses are transposed in respect of their quality.

If the syllogism is particular, when the conclusion is converted into its contrary neither premiss can be refuted, as also happened in the first figure,' if the conclusion is converted into its contradictory, both premisses can be refuted. Suppose that A belongs to no B, and to some C: the conclusion is BC. If then it is assumed that B belongs to some C, and the statement AB stands, the conclusion will be that A does not belong to some C. But the original statement has not been refuted: for it is possible that A should belong to some C and also not to some C. Again if B belongs to some C and A to some C, no syllogism will be possible: for neither of the premisses taken is universal. Consequently the proposition AB is not refuted. But if the conclusion is converted into its contradictory, both premisses can be refuted. For if B belongs to all C, and A to no B, A will belong to no C: but it was assumed to belong to some C. Again if B belongs to all C and A to some C, A will belong to some B. The same proof can be given if the universal statement is affirmative.

10

In the third figure when the conclusion is converted into its contrary, neither of the premisses can be refuted in any of the syllogisms, but when the conclusion is converted into its contradictory, both premisses may be refuted and in all the moods. Suppose it has been proved that A belongs to some B, C being taken as middle, and the premisses being universal. If then it is assumed that A does not belong to some B, but B belongs to all C, no syllogism is formed about A and C. Nor if A does not belong to some B, but belongs to all C, will a syllogism be possible about B and C. A similar proof can be given if the premisses are not universal. For either both premisses arrived at by the conversion must be particular, or the universal premiss must refer to the minor extreme. But we found that no syllogism is possible thus either in the first or in the middle figure. But if the conclusion is converted into its contradictory, both the premisses can be refuted. For if A belongs to no B, and B to all C, then A belongs to no C: again if A belongs to no B, and to all C, B belongs to no C. And similarly if one of the premisses is not universal. For if A belongs to no B, and B to some C, A will not belong to some C: if A belongs to no B, and to C, B will belong to no C.

Similarly if the original syllogism is negative. Suppose it has been proved that A does not belong to some B, BC being affirmative, AC being negative:

for it was thus that, as we saw, a syllogism could be made. Whenever then the contrary of the conclusion is assumed a syllogism will not be possible. For if A belongs to some B, and B to all C, no syllogism is possible (as we saw) about A and C. Nor, if A belongs to some B, and to no C, was a syllogism possible concerning B and C. Therefore the premisses are not refuted. But when the contradictory of the conclusion is assumed, they are refuted. For if A belongs to all B, and B to C, A belongs to all C: but A was supposed originally to belong to no C. Again if A belongs to all B, and to no C, then B belongs to no C: but it was supposed to belong to all C. A similar proof is possible if the premisses are not universal. For AC becomes universal and negative, the other premiss particular and affirmative. If then A belongs to all B, and B to some C, it results that A belongs to some C: but it was supposed to belong to no C. Again if A belongs to all B, and to no C, then B belongs to no C: but it was assumed to belong to some C. If A belongs to some B and B to some C, no syllogism results: nor yet if A belongs to some B, and to no C. Thus in one way the premisses are refuted, in the other way they are not.

From what has been said it is clear how a syllogism results in each figure when the conclusion is converted; when a result contrary to the premiss, and when a result contradictory to the premiss, is obtained. It is clear that in the first figure the syllogisms are formed through the middle and the last figures, and the premiss which concerns the minor extreme is alway refuted through the middle figure, the premiss which concerns the major through the last figure. In the second figure syllogisms proceed through the first and the last figures, and the premiss which concerns the minor extreme is always refuted through the first figure, the premiss which concerns the major extreme through the last. In the third figure the refutation proceeds through the first and the middle figures; the premiss which concerns the major is always refuted through the first figure, the premiss which concerns the minor through the middle figure.

11

It is clear then what conversion is, how it is effected in each figure, and what syllogism results. The syllogism per impossibile is proved when the contradictory of the conclusion stated and another premiss is assumed; it can be made in all the figures. For it resembles conversion, differing only in this: conversion takes place after a syllogism has been formed and both the premisses have been taken, but a reduction to the impossible takes place not because the contradictory has been agreed to already, but because it is clear that it is true. The terms are alike in both, and the premisses of both are taken in the same way. For example if A belongs to all B, C being middle, then if it is supposed that A does not belong to all B or belongs to no B, but to all C (which was admitted to be true), it follows that C belongs to no B or not to all B. But this is impossible: consequently the supposition is false: its contradictory then is true. Similarly in the other figures: for whatever moods admit of conversion admit also of the reduction per impossibile.

All the problems can be proved per impossibile in all the figures, excepting the universal affirmative, which is proved in the middle and third figures, but not in the first. Suppose that A belongs not to all B, or to no B, and take besides another premiss concerning either of the terms, viz. that C belongs to all A, or that B belongs to all D; thus we get the first figure. If then it is supposed that A does not belong to all B, no syllogism results whichever term the assumed premiss concerns; but if it is supposed that A belongs to no B, when the premiss BD is assumed as well we shall prove syllogistically what is false, but not the problem proposed. For if A belongs to no B, and B belongs to all D, A belongs to no D. Let this be impossible: it is false then A belongs to no B. But the universal affirmative is not necessarily true if the universal negative is false. But if the premiss CA is assumed as well, no syllogism results, nor does it do so when it is supposed that A does not belong to all B. Consequently it is clear that the universal affirmative cannot be proved in the first figure per impossibile.

But the particular affirmative and the universal and particular negatives can all be proved. Suppose that A belongs to no B, and let it have been assumed that B belongs to all or to some C. Then it is necessary that A should belong to no C or not to all C. But this is impossible (for let it be true and clear that A belongs to all C): consequently if this is false, it is necessary that A should belong to some B. But if the other premiss assumed relates to A, no syllogism will be possible. Nor can a conclusion be drawn when the contrary of the conclusion is supposed, e.g. that A does not belong to some B. Clearly then we must suppose the contradictory.

Again suppose that A belongs to some B, and let it have been assumed that

C belongs to all A. It is necessary then that C should belong to some B. But let this be impossible, so that the supposition is false: in that case it is true that A belongs to no B. We may proceed in the same way if the proposition CA has been taken as negative. But if the premiss assumed concerns B, no syllogism will be possible. If the contrary is supposed, we shall have a syllogism and an impossible conclusion, but the problem in hand is not proved. Suppose that A belongs to all B, and let it have been assumed that C belongs to all A. It is necessary then that C should belong to all B. But this is impossible, so that it is false that A belongs to all B. But we have not yet shown it to be necessary that A belongs to no B, if it does not belong to all B. Similarly if the other premiss taken concerns B; we shall have a syllogism and a conclusion which is impossible, but the hypothesis is not refuted. Therefore it is the contradictory that we must suppose.

To prove that A does not belong to all B, we must suppose that it belongs to all B: for if A belongs to all B, and C to all A, then C belongs to all B; so that if this is impossible, the hypothesis is false. Similarly if the other premiss assumed concerns B. The same results if the original proposition CA was negative: for thus also we get a syllogism. But if the negative proposition concerns B, nothing is proved. If the hypothesis is that A belongs not to all but to some B, it is not proved that A belongs not to all B, but that it belongs to no B. For if A belongs to some B, and C to all A, then C will belong to some B. If then this is impossible, it is false that A belongs to some B; consequently it is true that A belongs to no B. But if this is proved, the truth is refuted as well; for the original conclusion was that A belongs to some B, and does not belong to some B. Further the impossible does not result from the hypothesis: for then the hypothesis would be false, since it is impossible to draw a false conclusion from true premisses: but in fact it is true: for A belongs to some B. Consequently we must not suppose that A belongs to some B, but that it belongs to all B. Similarly if we should be proving that A does not belong to some B: for if ‘not to belong to some’ and ‘to belong not to all’ have the same meaning, the demonstration of both will be identical.

It is clear then that not the contrary but the contradictory ought to be supposed in all the syllogisms. For thus we shall have necessity of inference, and the claim we make is one that will be generally accepted. For if of everything one or other of two contradictory statements holds good, then if it is proved that the negation does not hold, the affirmation must be true. Again if it is not admitted that the affirmation is true, the claim that the negation is true will be generally accepted. But in neither way does it suit to maintain the contrary: for it is not necessary that if the universal negative is false, the universal affirmative should be true, nor is it generally accepted that if the one is false the other is true.

12

It is clear then that in the first figure all problems except the universal affirmative are proved per impossibile. But in the middle and the last figures this also is proved. Suppose that A does not belong to all B, and let it have been assumed that A belongs to all C. If then A belongs not to all B, but to all C, C will not belong to all B. But this is impossible (for suppose it to be clear that C belongs to all B): consequently the hypothesis is false. It is true then that A belongs to all B. But if the contrary is supposed, we shall have a syllogism and a result which is impossible: but the problem in hand is not proved. For if A belongs to no B, and to all C, C will belong to no B. This is impossible; so that it is false that A belongs to no B. But though this is false, it does not follow that it is true that A belongs to all B.

When A belongs to some B, suppose that A belongs to no B, and let A belong to all C. It is necessary then that C should belong to no B. Consequently, if this is impossible, A must belong to some B. But if it is supposed that A does not belong to some B, we shall have the same results as in the first figure.

Again suppose that A belongs to some B, and let A belong to no C. It is necessary then that C should not belong to some B. But originally it belonged to all B, consequently the hypothesis is false: A then will belong to no B.

When A does not belong to an B, suppose it does belong to all B, and to no C. It is necessary then that C should belong to no B. But this is impossible: so that it is true that A does not belong to all B. It is clear then that all the syllogisms can be formed in the middle figure.

13

Similarly they can all be formed in the last figure. Suppose that A does not belong to some B, but C belongs to all B: then A does not belong to some C.

If then this is impossible, it is false that A does not belong to some B; so that it is true that A belongs to all B. But if it is supposed that A belongs to no B, we shall have a syllogism and a conclusion which is impossible: but the problem in hand is not proved: for if the contrary is supposed, we shall have the same results as before.

But to prove that A belongs to some B, this hypothesis must be made. If A belongs to no B, and C to some B, A will belong not to all C. If then this is false, it is true that A belongs to some B.

When A belongs to no B, suppose A belongs to some B, and let it have been assumed that C belongs to all B. Then it is necessary that A should belong to some C. But ex hypothesi it belongs to no C, so that it is false that A belongs to some B. But if it is supposed that A belongs to all B, the problem is not proved.

But this hypothesis must be made if we are prove that A belongs not to all B. For if A belongs to all B and C to some B, then A belongs to some C. But this we assumed not to be so, so it is false that A belongs to all B. But in that case it is true that A belongs not to all B. If however it is assumed that A belongs to some B, we shall have the same result as before.

It is clear then that in all the syllogisms which proceed per impossibile the contradictory must be assumed. And it is plain that in the middle figure an affirmative conclusion, and in the last figure a universal conclusion, are proved in a way.

14

Demonstration per impossibile differs from ostensive proof in that it posits what it wishes to refute by reduction to a statement admitted to be false; whereas ostensive proof starts from admitted positions. Both, indeed, take two premisses that are admitted, but the latter takes the premisses from which the syllogism starts, the former takes one of these, along with the contradictory of the original conclusion. Also in the ostensive proof it is not necessary that the conclusion should be known, nor that one should suppose beforehand that it is true or not: in the other it is necessary to suppose beforehand that it is not true. It makes no difference whether the conclusion is affirmative or negative; the method is the same in both cases. Everything which is concluded ostensively can be proved per impossibile, and that which is proved per impossibile can be proved ostensively, through the same terms. Whenever the syllogism is formed in the first figure, the truth will be found in the middle or the last figure, if negative in the middle, if affirmative in the last. Whenever the syllogism is formed in the middle figure, the truth will be found in the first, whatever the problem may be. Whenever the syllogism is formed in the last figure, the truth will be found in the first and middle figures, if affirmative in first, if negative in the middle. Suppose that A has been proved to belong to no B, or not to all B, through the first figure. Then the hypothesis must have been that A belongs to some B, and the original premisses that C belongs to all A and to no B. For thus the syllogism was made and the impossible conclusion reached. But this is the middle figure, if C belongs to all A and to no B. And it is clear from these premisses that A belongs to no B. Similarly if has been proved not to belong to all B. For the hypothesis is that A belongs to all B; and the original premisses are that C belongs to all A but not to all B. Similarly too, if the premiss CA should be negative: for thus also we have the middle figure. Again suppose it has been proved that A belongs to some B. The hypothesis here is that is that A belongs to no B; and the original premisses that B belongs to all C, and A either to all or to some C: for in this way we shall get what is impossible. But if A and B belong to all C, we have the last figure. And it is clear from these premisses that A must belong to some B. Similarly if B or A should be assumed to belong to some C.

Again suppose it has been proved in the middle figure that A belongs to all B. Then the hypothesis must have been that A belongs not to all B, and the original premisses that A belongs to all C, and C to all B: for thus we shall get what is impossible. But if A belongs to all C, and C to all B, we have the first figure. Similarly if it has been proved that A belongs to some B: for the hypothesis then must have been that A belongs to no B, and the original premisses that A belongs to all C, and C to some B. If the syllogism is negative, the hypothesis must have been that A belongs to some B, and the original premisses that A belongs to no C, and C to all B, so that the first figure results. If the syllogism is not universal, but proof has been given that A does not belong to some B, we may infer in the same way. The hypothesis is that A belongs to all B, the original premisses that A belongs to no C, and C belongs to some B: for thus we get the first figure.

Again suppose it has been proved in the third figure that A belongs to all

B. Then the hypothesis must have been that A belongs not to all B, and the original premisses that C belongs to all B, and A belongs to all C; for thus we shall get what is impossible. And the original premisses form the first figure. Similarly if the demonstration establishes a particular proposition: the hypothesis then must have been that A belongs to no B, and the original premisses that C belongs to some B, and A to all C. If the syllogism is negative, the hypothesis must have been that A belongs to some B, and the original premisses that C belongs to no A and to all B, and this is the middle figure. Similarly if the demonstration is not universal. The hypothesis will then be that A belongs to all B, the premisses that C belongs to no A and to some B: and this is the middle figure.

It is clear then that it is possible through the same terms to prove each of the problems ostensively as well. Similarly it will be possible if the syllogisms are ostensive to reduce them ad impossibile in the terms which have been taken, whenever the contradictory of the conclusion of the ostensive syllogism is taken as a premiss. For the syllogisms become identical with those which are obtained by means of conversion, so that we obtain immediately the figures through which each problem will be solved. It is clear then that every thesis can be proved in both ways, i.e. per impossibile and ostensively, and it is not possible to separate one method from the other.

15

In what figure it is possible to draw a conclusion from premisses which are opposed, and in what figure this is not possible, will be made clear in this way. Verbally four kinds of opposition are possible, viz. universal affirmative to universal negative, universal affirmative to particular negative, particular affirmative to universal negative, and particular affirmative to particular negative: but really there are only three: for the particular affirmative is only verbally opposed to the particular negative. Of the genuine opposites I call those which are universal contraries, the universal affirmative and the universal negative, e.g. ‘every science is good’, ‘no science is good’; the others I call contradictories.

In the first figure no syllogism whether affirmative or negative can be made out of opposed premisses: no affirmative syllogism is possible because both premisses must be affirmative, but opposites are, the one affirmative, the other negative: no negative syllogism is possible because opposites affirm and deny the same predicate of the same subject, and the middle term in the first figure is not predicated of both extremes, but one thing is denied of it, and it is affirmed of something else: but such premisses are not opposed.

In the middle figure a syllogism can be made both of contradictories and of contraries. Let A stand for good, let B and C stand for science. If then one assumes that every science is good, and no science is good, A belongs to all B and to no C, so that B belongs to no C: no science then is a science. Similarly if after taking 'every science is good' one took 'the science of medicine is not good'; for A belongs to all B but to no C, so that a particular science will not be a science. Again, a particular science will not be a science if A belongs to all C but to no B, and B is science, C medicine, and A supposition: for after taking 'no science is supposition', one has assumed that a particular science is supposition. This syllogism differs from the preceding because the relations between the terms are reversed: before, the affirmative statement concerned B, now it concerns C. Similarly if one premiss is not universal: for the middle term is always that which is stated negatively of one extreme, and affirmatively of the other. Consequently it is possible that contradictories may lead to a conclusion, though not always or in every mood, but only if the terms subordinate to the middle are such that they are either identical or related as whole to part. Otherwise it is impossible: for the premisses cannot anyhow be either contraries or contradictories.

In the third figure an affirmative syllogism can never be made out of opposite premisses, for the reason given in reference to the first figure; but a negative syllogism is possible whether the terms are universal or not. Let B and C stand for science, A for medicine. If then one should assume that all medicine is science and that no medicine is science, he has assumed that B belongs to all A and C to no A, so that a particular science will not be a science. Similarly if the premiss BA is not assumed universally. For if some medicine is science and again no medicine is science, it results that some science is not science, The premisses are contrary if the terms are taken universally; if one is particular, they are contradictory.

We must recognize that it is possible to take opposites in the way we said, viz. 'all science is good' and 'no science is good' or 'some science is not good'. This does not usually escape notice. But it is possible to establish one part of a contradiction through other premisses, or to assume it in the way suggested in the Topics. Since there are three oppositions to affirmative statements, it follows that opposite statements may be assumed as premisses in six ways; we may have either universal affirmative and negative, or universal affirmative and particular negative, or particular affirmative and universal negative, and the relations between the terms may be reversed; e.g. A may belong to all B and to no C, or to all C and to no B, or to all of the one, not to all of the other; here too the relation between the terms may be reversed. Similarly in the third figure. So it is clear in how many ways and in what figures a syllogism can be made by means of premisses which are opposed.

It is clear too that from false premisses it is possible to draw a true conclusion, as has been said before, but it is not possible if the premisses are opposed. For the syllogism is always contrary to the fact, e.g. if a thing is good, it is proved that it is not good, if an animal, that it is not an animal because the syllogism springs out of a contradiction and the terms presupposed are either identical or related as whole and part. It is evident also that in fallacious reasonings nothing prevents a contradiction to the hypothesis from resulting, e.g. if something is odd, it is not odd. For the syllogism owed its contrariety to its contradictory premisses; if we assume such premisses we shall get a result that contradicts our hypothesis. But we must recognize that contraries cannot be inferred from a single syllogism in such a way that we conclude that what is not good is good, or anything of that sort unless a self-contradictory premiss is at once assumed, e.g. ‘every animal is white and not white’, and we proceed ‘man is an animal’. Either we must introduce the contradiction by an additional assumption, assuming, e.g., that every science is supposition, and then assuming ‘Medicine is a science, but none of it is supposition’ (which is the mode in which refutations are made), or we must argue from two syllogisms. In no other way than this, as was said before, is it possible that the premisses should be really contrary.

16

To beg and assume the original question is a species of failure to demonstrate the problem proposed; but this happens in many ways. A man may not reason syllogistically at all, or he may argue from premisses which are less known or equally unknown, or he may establish the antecedent by means of its consequents; for demonstration proceeds from what is more certain and is prior. Now begging the question is none of these: but since we get to know some things naturally through themselves, and other things by means of something else (the first principles through themselves, what is subordinate to them through something else), whenever a man tries to prove what is not self-evident by means of itself, then he begs the original question. This may be done by assuming what is in question at once; it is also possible to make a transition to other things which would naturally be proved through the thesis proposed, and demonstrate it through them, e.g. if A should be proved through B, and B through C, though it was natural that C should be proved through A: for it turns out that those who reason thus are proving A by means of itself. This is what those persons do who suppose that they are constructing parallel straight lines: for they fail to see that they are assuming facts which it is impossible to demonstrate unless the parallels exist. So it turns out that those who reason thus merely say a particular thing is, if it is: in this way everything will be self-evident. But that is impossible.

If then it is uncertain whether A belongs to C, and also whether A belongs to B, and if one should assume that A does belong to B, it is not yet clear whether he begs the original question, but it is evident that he is not demonstrating: for what is as uncertain as the question to be answered cannot be a principle of a demonstration. If however B is so related to C that they are identical, or if they are plainly convertible, or the one belongs to the other, the original question is begged. For one might equally well prove that A belongs to B through those terms if they are convertible. But if they are not convertible, it is the fact that they are not that prevents such a demonstration, not the method of demonstrating. But if one were to make the conversion, then he would be doing what we have described and effecting a reciprocal proof with three propositions.

Similarly if he should assume that B belongs to C, this being as uncertain as the question whether A belongs to C, the question is not yet begged, but no demonstration is made. If however A and B are identical either because they are convertible or because A follows B, then the question is begged for the same reason as before. For we have explained the meaning of begging the question, viz. proving that which is not self-evident by means of itself.

If then begging the question is proving what is not self-evident by means of itself, in other words failing to prove when the failure is due to the thesis to be proved and the premiss through which it is proved being equally uncertain, either because predicates which are identical belong to the same subject, or because the same predicate belongs to subjects which are identical, the question may be begged in the middle and third figures in both ways, though, if the syllogism is affirmative, only in the third and first figures. If the syllogism is negative, the question is begged when identical predicates are denied of the same subject; and both premisses do not beg the question indifferently (in a similar way the question may be begged in the middle figure), because the terms in negative syllogisms are not convertible. In scientific demonstrations the question is begged when the terms are really related in the manner described, in dialectical arguments when they are according to common opinion so related.

17

The objection that 'this is not the reason why the result is false', which we frequently make in argument, is made primarily in the case of a reductio ad impossibile, to rebut the proposition which was being proved by the reduction. For unless a man has contradicted this proposition he will not say, 'False cause', but urge that something false has been assumed in the earlier parts of the argument; nor will he use the formula in the case of an ostensive proof; for here what one denies is not assumed as a premiss. Further when anything is refuted ostensively by the terms ABC, it cannot be objected that the syllogism does not depend on the assumption laid down. For we use the expression 'false cause', when the syllogism is concluded in spite of the refutation of this position; but that is not possible in ostensive proofs: since if an assumption is refuted, a syllogism can no longer be drawn in reference to it. It is clear then that the expression 'false cause' can only be used in the case of a reductio ad impossibile, and when the original hypothesis is so related to the impossible conclusion, that the conclusion results indifferently whether the hypothesis is made or not. The most obvious case of the irrelevance of an assumption to a conclusion which is false is when a syllogism drawn from middle terms to an impossible conclusion is independent of the hypothesis, as we have explained in the Topics. For to put that which is not the cause as the cause, is just this: e.g. if a man, wishing to prove that the diagonal of the square is incommensurate with the side, should try to prove Zeno's theorem that motion is impossible, and so establish a reductio ad impossibile: for Zeno's false theorem has no connexion at all with the original assumption. Another case is where the impossible conclusion is connected with the hypothesis, but does not result from it. This may happen whether one traces the connexion upwards or downwards, e.g. if it is laid down that A belongs to B, B to C, and C to D, and it should be false that B belongs to D: for if we eliminated A and assumed all the same that B belongs to C and C to D, the false conclusion would not depend on the original hypothesis. Or again trace the connexion upwards; e.g. suppose that A belongs to B, E to A and F to E, it being false that F belongs to A. In this way too the impossible conclusion would result, though the original hypothesis were eliminated. But the impossible conclusion ought to be connected with the original terms: in this way it will depend on the hypothesis, e.g. when one traces the connexion downwards, the impossible conclusion must be connected with that term which is predicate in the hypothesis: for if it is impossible that A should belong to D, the false conclusion will no longer result after A has been eliminated. If one traces the connexion upwards, the impossible conclusion must be connected with that term which is subject in the hypothesis: for if it is impossible that F should belong to B, the impossible conclusion will disappear if B is eliminated. Similarly when the syllogisms are negative.

It is clear then that when the impossibility is not related to the original terms, the false conclusion does not result on account of the assumption. Or perhaps even so it may sometimes be independent. For if it were laid down that A belongs not to B but to K, and that K belongs to C and C to D, the impossible conclusion would still stand. Similarly if one takes the terms in an ascending series. Consequently since the impossibility results whether the first assumption is suppressed or not, it would appear to be independent of that assumption. Or perhaps we ought not to understand the statement that the false conclusion results independently of the assumption, in the sense that if something else were supposed the impossibility would result; but rather we mean that when the first assumption is eliminated, the same impossibility results through the remaining premisses; since it is not perhaps absurd that the same false result should follow from several hypotheses, e.g. that parallels meet, both on the assumption that the interior angle is greater than the exterior and on the assumption that a triangle contains more than two right angles.

18

A false argument depends on the first false statement in it. Every syllogism is made out of two or more premisses. If then the false conclusion is drawn from two premisses, one or both of them must be false: for (as we proved) a false syllogism cannot be drawn from two premisses. But if the premisses are more than two, e.g. if C is established through A and B, and these through D, E, F, and G, one of these higher propositions must be false, and on this the argument depends: for A and B are inferred by means of D, E, F, and G. Therefore the conclusion and the error results from one of them.

19

In order to avoid having a syllogism drawn against us we must take care, whenever an opponent asks us to admit the reason without the conclusions, not to grant him the same term twice over in his premisses, since we know that a syllogism cannot be drawn without a middle term, and that term which is stated more than once is the middle. How we ought to watch the middle in reference to each conclusion, is evident from our knowing what kind of thesis is proved in each figure. This will not escape us since we know how we are maintaining the argument.

That which we urge men to beware of in their admissions, they ought in attack to try to conceal. This will be possible first, if, instead of drawing the conclusions of preliminary syllogisms, they take the necessary premisses and leave the conclusions in the dark; secondly if instead of inviting assent to propositions which are closely connected they take as far as possible those that are not connected by middle terms. For example suppose that A is to be inferred to be true of F, B, C, D, and E being middle terms. One ought then to ask whether A belongs to B, and next whether D belongs to E, instead of asking whether B belongs to C; after that he may ask whether B belongs to C, and so on. If the syllogism is drawn through one middle term, he ought to begin with that: in this way he will most likely deceive his opponent.

20

Since we know when a syllogism can be formed and how its terms must be related, it is clear when refutation will be possible and when impossible. A refutation is possible whether everything is conceded, or the answers alternate (one, I mean, being affirmative, the other negative). For as has been shown a syllogism is possible whether the terms are related in affirmative propositions or one proposition is affirmative, the other negative: consequently, if what is laid down is contrary to the conclusion, a refutation must take place: for a refutation is a syllogism which establishes the contradictory. But if nothing is conceded, a refutation is impossible: for no syllogism is possible (as we saw) when all the terms are negative: therefore no refutation is possible. For if a refutation were possible, a syllogism must be possible; although if a syllogism is possible it does not follow that a refutation is possible. Similarly refutation is not possible if nothing is conceded universally: since the fields of refutation and syllogism are defined in the same way.

21

It sometimes happens that just as we are deceived in the arrangement of the terms, so error may arise in our thought about them, e.g. if it is possible that the same predicate should belong to more than one subject immediately, but although knowing the one, a man may forget the other and think the opposite true. Suppose that A belongs to B and to C in virtue of their nature, and that B and C belong to all D in the same way. If then a man thinks that A belongs to all B, and B to D, but A to no C, and C to all D, he will both know and not know the same thing in respect of the same thing. Again if a man were to make a mistake about the members of a single series; e.g. suppose A belongs to B, B to C, and C to D, but some one thinks that A belongs to all B, but to no C: he will both know that A belongs to D, and think that it does not. Does he then maintain after this simply that what he knows, he does not think? For he knows in a way that A belongs to C through B, since the part is included in the whole; so that what he knows in a way, this he maintains he does not think at all: but that is impossible.

In the former case, where the middle term does not belong to the same series, it is not possible to think both the premisses with reference to each of the two middle terms: e.g. that A belongs to all B, but to no C, and both B and C belong to all D. For it turns out that the first premiss of the one syllogism is either wholly or partially contrary to the first premiss of the other. For if he thinks that A belongs to everything to which B belongs, and he knows that B belongs to D, then he knows that A belongs to D. Consequently if again he thinks that A belongs to nothing to which C belongs, he thinks that A does not belong to some of that to which B belongs; but if he thinks that A belongs to everything to which B belongs, and again thinks that A does not belong to some of that to which B belongs, these beliefs are wholly or partially contrary. In this way then it is not possible to think; but nothing prevents a man thinking one premiss of each syllogism of both premisses of one of the two syllogisms: e.g. A belongs to all B, and B to D, and again A belongs to no C. An error of this kind is similar to the error into which we fall concerning particulars: e.g. if A belongs to all B, and B to all C, A will belong to all C. If then a man knows that A belongs to everything to which B belongs, he knows that A belongs to C. But nothing prevents his being ignorant that C exists; e.g. let A stand for two right angles, B for triangle, C for a particular diagram of a triangle. A man might think that C did not exist, though he knew that every triangle contains two right angles; consequently he will know and not know the same thing at the same time. For the expression ‘to know that every triangle has its angles equal to two right angles’ is ambiguous, meaning to have the knowledge either of the universal or of the particulars. Thus then he knows that C contains two right angles with a knowledge of the universal, but not with a knowledge of the particulars; consequently his knowledge will not be contrary to his ignorance. The argument in the Meno that learning is recollection may be criticized in a similar way. For it never happens that a man starts with a foreknowledge of the particular, but along with the process of being led to see the general principle he receives a knowledge of the particulars, by an act (as it were) of recognition. For we know some things directly; e.g. that the angles are equal to two right angles, if we know that the figure is a triangle. Similarly in all other cases.

By a knowledge of the universal then we see the particulars, but we do not know them by the kind of knowledge which is proper to them; consequently it is possible that we may make mistakes about them, but not that we should have the knowledge and error that are contrary to one another: rather we have the knowledge of the universal but make a mistake in apprehending the particular. Similarly in the cases stated above. The error in respect of the middle term is not contrary to the knowledge obtained through the syllogism, nor is the thought in respect of one middle term contrary to that in respect of the other. Nothing prevents a man who knows both that A belongs to the whole of B, and that B again belongs to C, thinking that A does not belong to C, e.g. knowing that every mule is sterile and that this is a mule, and thinking that this animal is with foal: for he does not know that A belongs to C, unless he considers the two propositions together. So it is evident that if he knows the one and does not know the other, he will fall into error. And this is the relation of knowledge of the universal to knowledge of the particular. For we know no sensible thing, once it has passed beyond the range of our senses, even if we happen to have perceived it, except by means of the universal and the possession of the knowledge which is proper to the particular, but without the actual exercise of that knowledge. For to know is used in three senses: it may mean either to have knowledge of the universal or to have knowledge proper to the matter in hand or to exercise such knowledge: consequently three kinds of error also are possible. Nothing then prevents a man both knowing and being mistaken about the same thing, provided that his knowledge and his error are not contrary. And this happens also to the man whose knowledge is limited to each of the premisses and who has not previously considered the particular question. For when he thinks that the mule is with foal he has not the knowledge in the sense of its actual exercise, nor on the other hand has his thought caused an error contrary to his knowledge: for the error contrary to the knowledge of the universal would be a syllogism.

But he who thinks the essence of good is the essence of bad will think the same thing to be the essence of good and the essence of bad. Let A stand for the essence of good and B for the essence of bad, and again C for the essence of good. Since then he thinks B and C identical, he will think that C is B, and similarly that B is A, consequently that C is A. For just as we saw that if B is true of all of which C is true, and A is true of all of which B is true, A is true of C, similarly with the word ‘think’. Similarly also with the word ‘is’; for we saw that if C is the same as B, and B as A, C is the same as A. Similarly therefore with ‘opine’. Perhaps then this is necessary if a man will grant the first point. But presumably that is false, that any one could suppose the essence of good to be the essence of bad, save incidentally. For it is possible to think this in many different ways. But we must consider this matter better.

Whenever the extremes are convertible it is necessary that the middle should be convertible with both. For if A belongs to C through B, then if A and C are convertible and C belongs everything to which A belongs, B is convertible with A, and B belongs to everything to which A belongs, through C as middle, and C is convertible with B through A as middle. Similarly if the conclusion is negative, e.g. if B belongs to C, but A does not belong to B, neither will A belong to C. If then B is convertible with A, C will be convertible with A. Suppose B does not belong to A; neither then will C: for ex hypothesi B belonged to all C. And if C is convertible with B, B is convertible also with A, for C is said of that of all of which B is said. And if C is convertible in relation to A and to B, B also is convertible in relation to A. For C belongs to that to which B belongs: but C does not belong to that to which A belongs. And this alone starts from the conclusion; the preceding moods do not do so as in the affirmative syllogism. Again if A and B are convertible, and similarly C and D, and if A or C must belong to anything whatever, then B and D will be such that one or other belongs to anything whatever. For since B belongs to that to which A belongs, and D belongs to that to which C belongs, and since A or C belongs to everything, but not together, it is clear that B or D belongs to everything, but not together. For example if that which is uncreated is incorruptible and that which is incorruptible is uncreated, it is necessary that what is created should be corruptible and what is corruptible should have been created. For two syllogisms have been put together. Again if A or B belongs to everything and if C or D belongs to everything, but they cannot belong together, then when A and C are convertible B and D are convertible. For if B does not belong to something to which D belongs, it is clear that A belongs to it. But if A then C: for they are convertible. Therefore C and D belong together. But this is impossible. When A belongs to the whole of B and to C and is affirmed of nothing else, and B also belongs to all C, it is necessary that A and B should be convertible: for since A is said of B and C only, and B is affirmed both of itself and of C, it is clear that B will be said of everything of which A is said, except A itself. Again when A and B belong to the whole of C, and C is convertible with B, it is necessary that A should belong to all B: for since A belongs to all C, and C to B by conversion, A will belong to all B.

When, of two opposites A and B, A is preferable to B, and similarly D is preferable to C, then if A and C together are preferable to B and D together, A must be preferable to D. For A is an object of desire to the same extent as B is an object of aversion, since they are opposites: and C is similarly related to D, since they also are opposites. If then A is an object of desire to the same extent as D, B is an object of aversion to the same extent as C (since each is to the same extent as each-the one an object of aversion, the other an object of desire). Therefore both A and C together, and B and D together, will be equally objects of desire or aversion. But since A and C are preferable to B and D, A cannot be equally desirable with D; for then B along with D would be equally desirable with A along with C. But if D is preferable to A, then B must be less an object of aversion than C: for the less is opposed to the less. But the greater good and lesser evil are preferable to the lesser good and greater evil: the whole BD then is preferable to the whole AC. But ex hypothesi this is not so. A then is preferable to D, and C consequently is less an object of aversion than B. If then every lover in virtue of his love would prefer A, viz. that the beloved should be such as to grant a favour, and yet should not grant it (for which C stands), to the beloved's granting the favour (represented by D) without being such as to grant it (represented by B), it is clear that A (being of such a nature) is preferable to granting the favour. To receive affection then is preferable in love to sexual intercourse. Love then is more dependent on friendship than on intercourse. And if it is most dependent on receiving affection, then this is its end. Intercourse then either is not an end at all or is an end relative to the further end, the receiving of affection. And indeed the same is true of the other desires and arts.

23

It is clear then how the terms are related in conversion, and in respect of being in a higher degree objects of aversion or of desire. We must now state that not only dialectical and demonstrative syllogisms are formed by means of the aforesaid figures, but also rhetorical syllogisms and in general any form of persuasion, however it may be presented. For every belief comes either through syllogism or from induction.

Now induction, or rather the syllogism which springs out of induction, consists in establishing syllogistically a relation between one extreme and the middle by means of the other extreme, e.g. if B is the middle term between A and C, it consists in proving through C that A belongs to B. For this is the manner in which we make inductions. For example let A stand for long-lived, B for bileless, and C for the particular long-lived animals, e.g. man, horse, mule. A then belongs to the whole of C: for whatever is bileless is long-lived. But B also ('not possessing bile') belongs to all C. If then C is convertible with B, and the middle term is not wider in extension, it is necessary that A should belong to B. For it has already been proved that if two things belong to the same thing, and the extreme is convertible with one of them, then the other predicate will belong to the predicate that is converted. But we must apprehend C as made up of all the particulars. For induction proceeds through an enumeration of all the cases.

Such is the syllogism which establishes the first and immediate premiss: for where there is a middle term the syllogism proceeds through the middle term; when there is no middle term, through induction. And in a way induction is opposed to syllogism: for the latter proves the major term to belong to the third term by means of the middle, the former proves the major to belong to the middle by means of the third. In the order of nature, syllogism through the middle term is prior and better known, but syllogism through induction is clearer to us.

24

We have an 'example' when the major term is proved to belong to the middle by means of a term which resembles the third. It ought to be known both that the middle belongs to the third term, and that the first belongs to that which resembles the third. For example let A be evil, B making war against neighbours, C Athenians against Thebans, D Thebans against Phocians. If then we wish to prove that to fight with the Thebans is an evil, we must assume that to fight against neighbours is an evil. Evidence of this is obtained from similar cases, e.g. that the war against the Phocians was an evil to the Thebans. Since then to fight against neighbours is an evil, and to fight against the Thebans is to fight against neighbours, it is clear that to fight against the Thebans is an evil. Now it is clear that B belongs to C and to D (for both are cases of making war upon one's neighbours) and that A belongs to D (for the war against the Phocians did not turn out well for the Thebans): but that A belongs to B will be proved through D. Similarly if the belief in the relation of the middle term to the extreme should be produced by several similar cases. Clearly then to argue by example is neither like reasoning from part to whole, nor like reasoning from whole to part, but rather reasoning from part to part, when both particulars are subordinate to the same term, and one of them is known. It differs from induction, because induction starting from all the particular cases proves (as we saw) that the major term belongs to the middle, and does not apply the syllogistic conclusion to the minor term, whereas argument by example does make this application and does not draw its proof from all the particular cases.

25

By reduction we mean an argument in which the first term clearly belongs to the middle, but the relation of the middle to the last term is uncertain though equally or more probable than the conclusion; or again an argument in which the terms intermediate between the last term and the middle are few. For in any of these cases it turns out that we approach more nearly to knowledge. For example let A stand for what can be taught, B for knowledge, C for justice. Now it is clear that knowledge can be taught: but it is uncertain whether virtue is knowledge. If now the statement BC is equally or more probable than AC, we have a reduction: for we are nearer to knowledge, since we have taken a new term, being so far without knowledge that A belongs to C. Or again suppose that the terms intermediate between B and C are few: for thus too we are nearer knowledge. For example let D stand for squaring, E for rectilinear figure, F for circle. If there were only one term intermediate between E and F (viz. that the circle is made equal to a rectilinear figure by the help of lunules), we should be near to knowledge. But when BC is not more probable than AC, and the intermediate terms are not few, I do not call this reduction: nor again when the statement BC is immediate: for such a statement is knowledge.

26

An objection is a premiss contrary to a premiss. It differs from a premiss, because it may be particular, but a premiss either cannot be particular at all or not in universal syllogisms. An objection is brought in two ways and through two figures; in two ways because every objection is either universal or particular, by two figures because objections are brought in opposition to the premiss, and opposites can be proved only in the first and third figures. If a man maintains a universal affirmative, we reply with a universal or a particular negative; the former is proved from the first figure, the latter from the third. For example let stand for there being a single science, B for contraries. If a man premises that contraries are subjects of a single science, the objection may be either that opposites are never subjects of a single science, and contraries are opposites, so that we get the first figure, or that the knowable and the unknowable are not subjects of a single science: this proof is in the third figure: for it is true of C (the knowable and the unknowable) that they are contraries, and it is false that they are the subjects of a single science.

Similarly if the premiss objected to is negative. For if a man maintains that contraries are not subjects of a single science, we reply either that all opposites or that certain contraries, e.g. what is healthy and what is sickly, are subjects of the same science: the former argument issues from the first, the latter from the third figure.

In general if a man urges a universal objection he must frame his contradiction with reference to the universal of the terms taken by his opponent, e.g. if a man maintains that contraries are not subjects of the same science, his opponent must reply that there is a single science of all opposites. Thus we must have the first figure: for the term which embraces the original subject becomes the middle term.

If the objection is particular, the objector must frame his contradiction with reference to a term relatively to which the subject of his opponent's premiss is universal, e.g. he will point out that the knowable and the unknowable are not subjects of the same science: 'contraries' is universal relatively to these. And we have the third figure: for the particular term assumed is middle, e.g. the knowable and the unknowable. Premisses from which it is possible to draw the contrary conclusion are what we start from when we try to make objections. Consequently we bring objections in these figures only: for in them only are opposite syllogisms possible, since the second figure cannot produce an affirmative conclusion.

Besides, an objection in the middle figure would require a fuller argument, e.g. if it should not be granted that A belongs to B, because C does not follow B. This can be made clear only by other premisses. But an objection ought not to turn off into other things, but have its new premiss quite clear immediately. For this reason also this is the only figure from which proof by signs cannot be obtained.

We must consider later the other kinds of objection, namely the objection from contraries, from similars, and from common opinion, and inquire whether a particular objection cannot be elicited from the first figure or a negative objection from the second.

27

A probability and a sign are not identical, but a probability is a generally approved proposition: what men know to happen or not to happen, to be or not to be, for the most part thus and thus, is a probability, e.g. 'the envious hate', 'the beloved show affection'. A sign means a demonstrative proposition necessary or generally approved: for anything such that when it is another thing is, or when it has come into being the other has come into being before or after, is a sign of the other's being or having come into being. Now an enthymeme is a syllogism starting from probabilities or signs, and a sign may be taken in three ways, corresponding to the position of the middle term in the figures. For it may be taken as in the first figure or the second or the third. For example the proof that a woman is with child because she has milk is in the first figure: for to have milk is the middle term. Let A represent to be with child, B to have milk, C woman. The proof that wise men are good, since Pittacus is good, comes through the last figure. Let A stand for good, B for wise men, C for Pittacus. It is true then to affirm both A and B of C: only men do not say the latter, because they know it, though they state the former. The proof that a woman is with child because she is pale is meant to come through the middle figure: for since paleness follows women with child and is a concomitant of this woman, people suppose it has been proved that she is with child. Let A stand for paleness, B for being with child, C for woman. Now if the one proposition is stated, we have only a sign, but if the other is stated as well, a syllogism, e.g. 'Pittacus is generous, since ambitious men are generous and Pittacus is ambitious.' Or again 'Wise men are good, since

Pittacus is not only good but wise.' In this way then syllogisms are formed, only that which proceeds through the first figure is irrefutable if it is true (for it is universal), that which proceeds through the last figure is refutable even if the conclusion is true, since the syllogism is not universal nor correlative to the matter in question: for though Pittacus is good, it is not therefore necessary that all other wise men should be good. But the syllogism which proceeds through the middle figure is always refutable in any case: for a syllogism can never be formed when the terms are related in this way: for though a woman with child is pale, and this woman also is pale, it is not necessary that she should be with child. Truth then may be found in signs whatever their kind, but they have the differences we have stated.

We must either divide signs in the way stated, and among them designate the middle term as the index (for people call that the index which makes us know, and the middle term above all has this character), or else we must call the arguments derived from the extremes signs, that derived from the middle term the index: for that which is proved through the first figure is most generally accepted and most true.

It is possible to infer character from features, if it is granted that the body and the soul are changed together by the natural affections: I say 'natural', for though perhaps by learning music a man has made some change in his soul, this is not one of those affections which are natural to us; rather I refer to passions and desires when I speak of natural emotions. If then this were granted and also that for each change there is a corresponding sign, and we could state the affection and sign proper to each kind of animal, we shall be able to infer character from features. For if there is an affection which belongs properly to an individual kind, e.g. courage to lions, it is necessary that there should be a sign of it: for ex hypothesi body and soul are affected together. Suppose this sign is the possession of large extremities: this may belong to other kinds also though not universally. For the sign is proper in the sense stated, because the affection is proper to the whole kind, though not proper to it alone, according to our usual manner of speaking. The same thing then will be found in another kind, and man may be brave, and some other kinds of animal as well. They will then have the sign: for ex hypothesi there is one sign corresponding to each affection. If then this is so, and we can collect signs of this sort in these animals which have only one affection proper to them-but each affection has its sign, since it is necessary that it should have a single sign-we shall then be able to infer character from features. But if the kind as a whole has two properties, e.g. if the lion is both brave and generous, how shall we know which of the signs which are its proper concomitants is the sign of a particular affection? Perhaps if both belong to some other kind though not to the whole of it, and if, in those kinds in which each is found though not in the whole of their members, some members possess one of the affections and not the other: e.g. if a man is brave but not generous, but possesses, of the two signs, large extremities, it is clear that this is the sign of courage in the lion also. To judge character from features, then, is possible in the first figure if the middle term is convertible with the first extreme, but is wider than the third term and not convertible with it: e.g. let A stand for courage, B for large extremities, and C for lion. B then belongs to everything to which C belongs, but also to others. But A belongs to everything to which B belongs, and to nothing besides, but is convertible with B: otherwise, there would not be a single sign correlative with each affection.

Posterior Analytics (71a)

Translated by G. R. G. Mure

Posterior Analytics deals with exploring the concepts of demonstration, definition, and scientific knowledge. The demonstration is distinguished as a syllogism productive of scientific knowledge, while the definition is marked as the statement of a thing's nature, a statement of the meaning of the name, or of an equivalent nominal formula. Syllogistic logic is considered in its formal aspect and in this treatise it is considered in respect of its matter. The "form" of a syllogism lies in the necessary connection between the premises and the conclusion. Even where there is no fault in the form, there may be in the matter, i.e. the propositions of which it is composed, which may be true or false, probable or improbable.

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Book I

1

ALL instruction given or received by way of argument proceeds from pre-existent knowledge. This becomes evident upon a survey of all the species of such instruction. The mathematical sciences and all other speculative disciplines are acquired in this way, and so are the two forms of dialectical reasoning, syllogistic and inductive; for each of these latter make use of old knowledge to impart new, the syllogism assuming an audience that accepts its premisses, induction exhibiting the universal as implicit in the clearly known particular. Again, the persuasion exerted by rhetorical arguments is in principle the same, since they use either example, a kind of induction, or enthymeme, a form of syllogism.

The pre-existent knowledge required is of two kinds. In some cases admission of the fact must be assumed, in others comprehension of the meaning of the term used, and sometimes both assumptions are essential. Thus, we assume that every predicate can be either truly affirmed or truly denied of any subject, and that 'triangle' means so and so; as regards 'unit' we have to make the double assumption of the meaning of the word and the existence of the thing. The reason is that these several objects are not equally obvious to us. Recognition of a truth may in some cases contain as factors both previous knowledge and also knowledge acquired simultaneously with that recognition-knowledge, this latter, of the particulars actually falling under the universal and therein already virtually known. For example, the student knew beforehand that the angles of every triangle are equal to two right angles; but it was only at the actual moment at which he was being led on to recognize this as true in the instance before him that he came to know 'this figure inscribed in the semicircle' to be a triangle. For some things (viz. the singulars finally reached which are not predicable of anything else as subject) are only learnt in this way, i.e. there is here no recognition through a middle of a minor term as subject to a major. Before he was led on to recognition or before he actually drew a conclusion, we should perhaps say that in a manner he knew, in a manner not.

If he did not in an unqualified sense of the term know the existence of this triangle, how could he know without qualification that its angles were equal to two right angles? No: clearly he knows not without qualification but only in the sense that he knows universally. If this distinction is not drawn, we are faced with the dilemma in the Meno: either a man will learn nothing or what he already knows; for we cannot accept the solution which some people offer. A man is asked, 'Do you, or do you not, know that every pair is even?' He says he does know it. The questioner then produces a particular pair, of the existence, and so a fortiori of the evenness, of which he was unaware. The solution which some people offer is to assert that they do not know that every pair is even, but only that everything which they know to be a pair is even: yet what they know to be even is that of which they have demonstrated evenness, i.e. what they made the subject of their premiss, viz. not merely every triangle or number which they know to be such, but any and every number or triangle without reservation. For no premiss is ever couched in the form 'every number which you know to be such', or 'every rectilinear figure which you know to be such': the predicate is always construed as applicable to any and every instance of the thing. On the other hand, I imagine there is nothing to prevent a man in one sense knowing what he is learning, in another not knowing it. The strange thing would be, not if in some sense he knew what he was learning, but if he were to know it in that precise sense and manner in which he was learning it.

2

We suppose ourselves to possess unqualified scientific knowledge of a thing, as opposed to knowing it in the accidental way in which the sophist knows, when we think that we know the cause on which the fact depends, as the cause of that fact and of no other, and, further, that the fact could not be other than it is. Now that scientific knowing is something of this sort is evident-witness both those who falsely claim it and those who actually possess it, since the former merely imagine themselves to be, while the latter are also actually, in the condition described. Consequently the proper object of unqualified scientific knowledge is something which cannot be other than it is.

There may be another manner of knowing as well-that will be discussed later. What I now assert is that at all events we do know by demonstration. By demonstration I mean a syllogism productive of scientific knowledge, a syllogism, that is, the grasp of which is eo ipso such knowledge. Assuming then that my thesis as to the nature of scientific knowing is correct, the premisses of demonstrated knowledge must be true, primary, immediate, better known than and prior to the conclusion, which is further related to them as effect to cause. Unless these conditions are satisfied, the basic truths will not be 'appropriate' to the conclusion. Syllogism there may indeed be without these conditions, but such syllogism, not being productive of scientific knowledge, will not be demonstration. The premisses must be true: for that which is non-existent cannot be known-we cannot know, e.g. that the diagonal of a square is commensurate with its side. The premisses must be primary and indemonstrable; otherwise they will require demonstration in order to be known, since to have knowledge, if it be not accidental knowledge, of things which are demonstrable, means precisely to have a demonstration of them. The premisses must be the causes of the conclusion, better known than it, and prior to it; its causes, since we possess scientific knowledge of a thing only when we know its cause; prior, in order to be causes; antecedently known, this antecedent knowledge being not our mere understanding of the meaning, but knowledge of the fact as well. Now 'prior' and 'better known' are ambiguous terms, for there is a difference between what is prior and better known in the order of being and what is prior and better known to man. I mean that objects nearer to sense are prior and better known to man; objects without qualification prior and better known are those further from sense. Now the most universal causes are furthest from sense and particular causes are nearest to sense, and they are thus exactly opposed to one another. In saying that the premisses of demonstrated knowledge must be primary, I mean that they must be the 'appropriate' basic truths, for I identify primary premiss and basic truth. A 'basic truth' in a demonstration is an immediate proposition. An immediate proposition is one which has no other proposition prior to it. A proposition is either part of an enunciation, i.e. it predicates a single attribute of a single subject. If a proposition is dialectical, it assumes either part indifferently; if it is demonstrative, it lays down one part to the definite exclusion of the other because that part is true. The term 'enunciation' denotes either part of a contradiction indifferently. A contradiction is an opposition which of its own nature excludes a middle. The part of a contradiction which conjoins a predicate with a subject is an affirmation; the part disjoining them is a negation. I call an immediate basic truth of syllogism a ‘thesis’ when, though it is not susceptible of proof by the teacher, yet ignorance of it does not constitute a total bar to progress on the part of the pupil: one which the pupil must know if he is to learn anything whatever is an axiom. I call it an axiom because there are such truths and we give them the name of axioms par excellence. If a thesis assumes one part or the other of an enunciation, i.e. asserts either the existence or the non-existence of a subject, it is a hypothesis; if it does not so assert, it is a definition. Definition is a ‘thesis’ or a ‘laying something down’, since the arithmetician lays it down that to be a unit is to be quantitatively indivisible; but it is not a hypothesis, for to define what a unit is is not the same as to affirm its existence.

Now since the required ground of our knowledge-i.e. of our conviction-of a fact is the possession of such a syllogism as we call demonstration, and the ground of the syllogism is the facts constituting its premisses, we must not only know the primary premisses-some if not all of them-beforehand, but know them better than the conclusion: for the cause of an attribute’s inherence in a subject always itself inheres in the subject more firmly than that attribute; e.g. the cause of our loving anything is dearer to us than the object of our love. So since the primary premisses are the cause of our knowledge-i.e. of our conviction-it follows that we know them better-that is, are more convinced of them-than their consequences, precisely because of our knowledge of the latter is the effect of our knowledge of the premisses. Now a man cannot believe in anything more than in the things he knows, unless he has either actual knowledge of it or something better than actual knowledge. But we are faced with this paradox if a student whose belief rests on demonstration has not prior knowledge; a man must believe in some, if not in all, of the basic truths more than in the conclusion. Moreover, if a man sets out to acquire the scientific knowledge that comes through demonstration, he must not only have a better knowledge of the basic truths and a firmer conviction of them than of the connexion which is being demonstrated: more than this, nothing must be more certain or better known to him than these basic truths in their character as contradicting the fundamental premisses which lead to the opposed and erroneous conclusion.

For indeed the conviction of pure science must be unshakable.

3

Some hold that, owing to the necessity of knowing the primary premisses, there is no scientific knowledge. Others think there is, but that all truths are demonstrable. Neither doctrine is either true or a necessary deduction from the premisses. The first school, assuming that there is no way of knowing other than by demonstration, maintain that an infinite regress is involved, on the ground that if behind the prior stands no primary, we could not know the posterior through the prior (wherein they are right, for one cannot traverse an infinite series): if on the other hand-they say-the series terminates and there are primary premisses, yet these are unknowable because incapable of demonstration, which according to them is the only form of knowledge. And since thus one cannot know the primary premisses, knowledge of the conclusions which follow from them is not pure scientific knowledge nor properly knowing at all, but rests on the mere supposition that the premisses are true. The other party agree with them as regards knowing, holding that it is only possible by demonstration, but they see no difficulty in holding that all truths are demonstrated, on the ground that demonstration may be circular and reciprocal.

Our own doctrine is that not all knowledge is demonstrative: on the contrary, knowledge of the immediate premisses is independent of demonstration. (The necessity of this is obvious; for since we must know the prior premisses from which the demonstration is drawn, and since the regress must end in immediate truths, those truths must be indemonstrable.) Such, then, is our doctrine, and in addition we maintain that besides scientific knowledge there is its originative source which enables us to recognize the definitions.

Now demonstration must be based on premisses prior to and better known than the conclusion; and the same things cannot simultaneously be both prior and posterior to one another: so circular demonstration is clearly not possible in the unqualified sense of ‘demonstration’, but only possible if ‘demonstration’ be extended to include that other method of argument which rests on a distinction between truths prior to us and truths without qualification prior, i.e. the method by which induction produces knowledge.

But if we accept this extension of its meaning, our definition of unqualified knowledge will prove faulty; for there seem to be two kinds of it. Perhaps, however, the second form of demonstration, that which proceeds from truths better known to us, is not demonstration in the unqualified sense of the term.

The advocates of circular demonstration are not only faced with the difficulty we have just stated: in addition their theory reduces to the mere statement that if a thing exists, then it does exist-an easy way of proving anything. That this is so can be clearly shown by taking three terms, for to constitute the circle it makes no difference whether many terms or few or even only two are taken. Thus by direct proof, if A is, B must be; if B is, C must be; therefore if A is, C must be. Since then-by the circular proof-if A is, B must be, and if B is, A must be, A may be substituted for C above. Then ‘if B is, A must be’=‘if B is, C must be’, which above gave the conclusion ‘if A is, C must be’: but C and A have been identified. Consequently the upholders of circular demonstration are in the position of saying that if A is, A must be-a simple way of proving anything. Moreover, even such circular demonstration is impossible except in the case of attributes that imply one another, viz. ‘peculiar’ properties.

Now, it has been shown that the positing of one thing-be it one term or one premiss-never involves a necessary consequent: two premisses constitute the first and smallest foundation for drawing a conclusion at all and therefore a fortiori for the demonstrative syllogism of science. If, then, A is implied in B and C, and B and C are reciprocally implied in one another and in A, it is possible, as has been shown in my writings on the syllogism, to prove all the assumptions on which the original conclusion rested, by circular demonstration in the first figure. But it has also been shown that in the other figures either no conclusion is possible, or at least none which proves both the original premisses. Propositions the terms of which are not convertible cannot be circularly demonstrated at all, and since convertible terms occur rarely in actual demonstrations, it is clearly frivolous and impossible to say that demonstration is reciprocal and that therefore everything can be demonstrated.

4

Since the object of pure scientific knowledge cannot be other than it is, the truth obtained by demonstrative knowledge will be necessary. And since demonstrative knowledge is only present when we have a demonstration, it follows that demonstration is an inference from necessary premisses. So we must consider what are the premisses of demonstration-i.e. what is their character: and as a preliminary, let us define what we mean by an attribute 'true in every instance of its subject', an 'essential' attribute, and a 'commensurate and universal' attribute. I call 'true in every instance' what is truly predicable of all instances-not of one to the exclusion of others-and at all times, not at this or that time only; e.g. if animal is truly predicable of every instance of man, then if it be true to say 'this is a man', 'this is an animal' is also true, and if the one be true now the other is true now. A corresponding account holds if point is in every instance predicable as contained in line. There is evidence for this in the fact that the objection we raise against a proposition put to us as true in every instance is either an instance in which, or an occasion on which, it is not true. Essential attributes are (1) such as belong to their subject as elements in its essential nature (e.g. line thus belongs to triangle, point to line; for the very being or 'substance' of triangle and line is composed of these elements, which are contained in the formulae defining triangle and line): (2) such that, while they belong to certain subjects, the subjects to which they belong are contained in the attribute's own defining formula. Thus straight and curved belong to line, odd and even, prime and compound, square and oblong, to number; and also the formula defining any one of these attributes contains its subject-e.g. line or number as the case may be.

Extending this classification to all other attributes, I distinguish those that answer the above description as belonging essentially to their respective subjects; whereas attributes related in neither of these two ways to their subjects I call accidents or 'coincidents'; e.g. musical or white is a 'coincident' of animal.

Further (a) that is essential which is not predicated of a subject other than itself: e.g. 'the walking [thing]' walks and is white in virtue of being something else besides; whereas substance, in the sense of whatever signifies a 'this somewhat', is not what it is in virtue of being something else besides. Things, then, not predicated of a subject I call essential; things predicated of a subject I call accidental or 'coincidental'.

In another sense again (b) a thing consequentially connected with anything is essential; one not so connected is ‘coincidental’. An example of the latter is ‘While he was walking it lightened’: the lightning was not due to his walking; it was, we should say, a coincidence. If, on the other hand, there is a consequential connexion, the predication is essential; e.g. if a beast dies when its throat is being cut, then its death is also essentially connected with the cutting, because the cutting was the cause of death, not death a ‘coincident’ of the cutting.

So far then as concerns the sphere of connexions scientifically known in the unqualified sense of that term, all attributes which (within that sphere) are essential either in the sense that their subjects are contained in them, or in the sense that they are contained in their subjects, are necessary as well as consequentially connected with their subjects. For it is impossible for them not to inhere in their subjects either simply or in the qualified sense that one or other of a pair of opposites must inhere in the subject; e.g. in line must be either straightness or curvature, in number either oddness or evenness. For within a single identical genus the contrary of a given attribute is either its privative or its contradictory; e.g. within number what is not odd is even, inasmuch as within this sphere even is a necessary consequent of not-odd. So, since any given predicate must be either affirmed or denied of any subject, essential attributes must inhere in their subjects of necessity.

Thus, then, we have established the distinction between the attribute which is ‘true in every instance’ and the ‘essential’ attribute.

I term ‘commensurately universal’ an attribute which belongs to every instance of its subject, and to every instance essentially and as such; from which it clearly follows that all commensurate universals inhere necessarily in their subjects. The essential attribute, and the attribute that belongs to its subject as such, are identical. E.g. point and straight belong to line essentially, for they belong to line as such; and triangle as such has two right angles, for it is essentially equal to two right angles.

An attribute belongs commensurately and universally to a subject when it can be shown to belong to any random instance of that subject and when the subject is the first thing to which it can be shown to belong. Thus, e.g. (1) the equality of its angles to two right angles is not a commensurately universal attribute of figure. For though it is possible to show that a figure has its angles equal to two right angles, this attribute cannot be demonstrated of any figure selected at haphazard, nor in demonstrating does one take a figure at random-a square is a figure but its angles are not equal to two right angles. On the other hand, any isosceles triangle has its angles equal to two right angles, yet isosceles triangle is not the primary subject of this attribute but triangle is prior. So whatever can be shown to have its angles equal to two right angles, or to possess any other attribute, in any random instance of itself and primarily-that is the first subject to which the predicate in question belongs commensurately and universally, and the demonstration, in the essential sense, of any predicate is the proof of it as belonging to this first subject commensurately and universally: while the proof of it as belonging to the other subjects to which it attaches is demonstration only in a secondary and unessential sense. Nor again (2) is equality to two right angles a commensurately universal attribute of isosceles; it is of wider application.

5

We must not fail to observe that we often fall into error because our conclusion is not in fact primary and commensurately universal in the sense in which we think we prove it so. We make this mistake (1) when the subject is an individual or individuals above which there is no universal to be found: (2) when the subjects belong to different species and there is a higher universal, but it has no name: (3) when the subject which the demonstrator takes as a whole is really only a part of a larger whole; for then the demonstration will be true of the individual instances within the part and will hold in every instance of it, yet the demonstration will not be true of this subject primarily and commensurately and universally. When a demonstration is true of a subject primarily and commensurately and universally, that is to be taken to mean that it is true of a given subject primarily and as such. Case (3) may be thus exemplified. If a proof were given that perpendiculars to the same line are parallel, it might be supposed that lines thus perpendicular were the proper subject of the demonstration because being parallel is true of every instance of them. But it is not so, for the parallelism depends not on these angles being equal to one another because each is a right angle, but simply on their being equal to one another. An example of (1) would be as follows: if isosceles were the only triangle, it would be thought to have its angles equal to two right angles qua isosceles. An instance of (2) would be the law that proportionals alternate. Alternation used to be demonstrated separately of numbers, lines, solids, and durations, though it could have been proved of them all by a single demonstration. Because there was no single name to denote that in which numbers, lengths, durations, and solids are identical, and because they differed specifically from one another, this property was proved of each of them separately. To-day, however, the proof is commensurately universal, for they do not possess this attribute qua lines or qua numbers, but qua manifesting this generic character which they are postulated as possessing universally. Hence, even if one prove of each kind of triangle that its angles are equal to two right angles, whether by means of the same or different proofs; still, as long as one treats separately equilateral, scalene, and isosceles, one does not yet know, except sophistically, that triangle has its angles equal to two right angles, nor does one yet know that triangle has this property commensurately and universally, even if there is no other species of triangle but these. For one does not know that triangle as such has this property, nor even that 'all' triangles have it-unless 'all' means 'each taken singly': if 'all' means 'as a whole class', then, though there be none in which one does not recognize this property, one does not know it of 'all triangles'.

When, then, does our knowledge fail of commensurate universality, and when it is unqualified knowledge? If triangle be identical in essence with equilateral, i.e. with each or all equilaterals, then clearly we have unqualified knowledge: if on the other hand it be not, and the attribute belongs to equilateral qua triangle; then our knowledge fails of commensurate universality. 'But', it will be asked, 'does this attribute belong to the subject of which it has been demonstrated qua triangle or qua isosceles? What is the point at which the subject. to which it belongs is primary? (i.e. to what subject can it be demonstrated as belonging commensurately and universally?)' Clearly this point is the first term in which it is found to inhere as the elimination of inferior differentiae proceeds. Thus the angles of a brazen isosceles triangle are equal to two right angles: but eliminate brazen and isosceles and the attribute remains. 'But'-you may say-'eliminate figure or limit, and the attribute vanishes.' True, but figure and limit are not the first differentiae whose elimination destroys the attribute. 'Then what is the first?' If it is triangle, it will be in virtue of triangle that the attribute belongs to all the other subjects of which it is predicable, and triangle is the subject to which it can be demonstrated as belonging commensurately and universally.

6

Demonstrative knowledge must rest on necessary basic truths; for the object of scientific knowledge cannot be other than it is. Now attributes attaching essentially to their subjects attach necessarily to them: for essential attributes are either elements in the essential nature of their subjects, or contain their subjects as elements in their own essential nature. (The pairs of opposites which the latter class includes are necessary because one member or the other necessarily inheres.) It follows from this that premisses of the demonstrative syllogism must be connexions essential in the sense explained: for all attributes must inhere essentially or else be accidental, and accidental attributes are not necessary to their subjects.

We must either state the case thus, or else premise that the conclusion of demonstration is necessary and that a demonstrated conclusion cannot be other than it is, and then infer that the conclusion must be developed from necessary premisses. For though you may reason from true premisses without demonstrating, yet if your premisses are necessary you will assuredly demonstrate-in such necessity you have at once a distinctive character of demonstration. That demonstration proceeds from necessary premisses is also indicated by the fact that the objection we raise against a professed demonstration is that a premiss of it is not a necessary truth-whether we think it altogether devoid of necessity, or at any rate so far as our opponent’s previous argument goes. This shows how naive it is to suppose one’s basic truths rightly chosen if one starts with a proposition which is (1) popularly accepted and (2) true, such as the sophists’ assumption that to know is the same as to possess knowledge. For (1) popular acceptance or rejection is no criterion of a basic truth, which can only be the primary law of the genus constituting the subject matter of the demonstration; and (2) not all truth is ‘appropriate’.

A further proof that the conclusion must be the development of necessary premisses is as follows. Where demonstration is possible, one who can give no account which includes the cause has no scientific knowledge. If, then, we suppose a syllogism in which, though A necessarily inheres in C, yet B, the middle term of the demonstration, is not necessarily connected with A and C, then the man who argues thus has no reasoned knowledge of the conclusion, since this conclusion does not owe its necessity to the middle term; for though the conclusion is necessary, the mediating link is a contingent fact. Or again, if a man is without knowledge now, though he still retains the steps of the argument, though there is no change in himself or in the fact and no lapse of memory on his part; then neither had he knowledge previously. But the mediating link, not being necessary, may have perished in the interval; and if so, though there be no change in him nor in the fact, and though he will still retain the steps of the argument, yet he has not knowledge, and therefore had not knowledge before. Even if the link has not actually perished but is liable to perish, this situation is possible and might occur. But such a condition cannot be knowledge.

When the conclusion is necessary, the middle through which it was proved may yet quite easily be non-necessary. You can in fact infer the necessary even from a non-necessary premiss, just as you can infer the true from the not true. On the other hand, when the middle is necessary the conclusion must be necessary; just as true premisses always give a true conclusion. Thus, if A is necessarily predicated of B and B of C, then A is necessarily predicated of C. But when the conclusion is nonnecessary the middle cannot be necessary either. Thus: let A be predicated non-necessarily of C but necessarily of B, and let B be a necessary predicate of C; then A too will be a necessary predicate of C, which by hypothesis it is not.

To sum up, then: demonstrative knowledge must be knowledge of a necessary nexus, and therefore must clearly be obtained through a necessary middle term; otherwise its possessor will know neither the cause nor the fact that his conclusion is a necessary connexion. Either he will mistake the non-necessary for the necessary and believe the necessity of the conclusion without knowing it, or else he will not even believe it-in which case he will be equally ignorant, whether he actually infers the mere fact through middle terms or the reasoned fact and from immediate premisses.

Of accidents that are not essential according to our definition of essential there is no demonstrative knowledge; for since an accident, in the sense in which I here speak of it, may also not inhere, it is impossible to prove its inherence as a necessary conclusion. A difficulty, however, might be raised as to why in dialectic, if the conclusion is not a necessary connexion, such and such determinate premisses should be proposed in order to deal with such and such determinate problems. Would not the result be the same if one asked any questions whatever and then merely stated one’s conclusion? The solution is that determinate questions have to be put, not because the replies to them affirm facts which necessitate facts affirmed by the conclusion, but because these answers are propositions which if the answerer affirm, he must affirm the conclusion and affirm it with truth if they are true.

Since it is just those attributes within every genus which are essential and possessed by their respective subjects as such that are necessary it is clear that both the conclusions and the premisses of demonstrations which produce scientific knowledge are essential. For accidents are not necessary: and, further, since accidents are not necessary one does not necessarily have reasoned knowledge of a conclusion drawn from them (this is so even if the accidental premisses are invariable but not essential, as in proofs through signs; for though the conclusion be actually essential, one will not know it as essential nor know its reason); but to have reasoned knowledge of a conclusion is to know it through its cause. We may conclude that the middle must be consequentially connected with the minor, and the major with the middle.

7

It follows that we cannot in demonstrating pass from one genus to another. We cannot, for instance, prove geometrical truths by arithmetic. For there are three elements in demonstration: (1) what is proved, the conclusion-an attribute inhering essentially in a genus; (2) the axioms, i.e. axioms which are premisses of demonstration; (3) the subject-genus whose attributes, i.e. essential properties, are revealed by the demonstration. The axioms which are premisses of demonstration may be identical in two or more sciences: but in the case of two different genera such as arithmetic and geometry you cannot apply arithmetical demonstration to the properties of magnitudes unless the magnitudes in question are numbers. How in certain cases transference is possible I will explain later.

Arithmetical demonstration and the other sciences likewise possess, each of them, their own genera; so that if the demonstration is to pass from one sphere to another, the genus must be either absolutely or to some extent the same. If this is not so, transference is clearly impossible, because the extreme and the middle terms must be drawn from the same genus: otherwise, as predicated, they will not be essential and will thus be accidents. That is why it cannot be proved by geometry that opposites fall under one science, nor even that the product of two cubes is a cube. Nor can the theorem of any one science be demonstrated by means of another science, unless these theorems are related as subordinate to superior (e.g. as optical theorems to geometry or harmonic theorems to arithmetic). Geometry again cannot prove of lines any property which they do not possess qua lines, i.e. in virtue of the fundamental truths of their peculiar genus: it cannot show, for example, that the straight line is the most beautiful of lines or the contrary of the circle; for these qualities do not belong to lines in virtue of their peculiar genus, but through some property which it shares with other genera.

8

It is also clear that if the premisses from which the syllogism proceeds are commensurately universal, the conclusion of such i.e. in the unqualified sense-must also be eternal. Therefore no attribute can be demonstrated nor known by strictly scientific knowledge to inhere in perishable things. The proof can only be accidental, because the attribute’s connexion with its perishable subject is not commensurately universal but temporary and special. If such a demonstration is made, one premiss must be perishable and not commensurately universal (perishable because only if it is perishable will the conclusion be perishable; not commensurately universal, because the predicate will be predicable of some instances of the subject and not of others); so that the conclusion can only be that a fact is true at the moment-not commensurately and universally. The same is true of definitions, since a definition is either a primary premiss or a conclusion of a demonstration, or else only differs from a demonstration in the order of its terms. Demonstration and science of merely frequent occurrences-e.g. of eclipse as happening to the moon-are, as such, clearly eternal: whereas so far as they are not eternal they are not fully commensurate. Other subjects too have properties attaching to them in the same way as eclipse attaches to the moon.

9

It is clear that if the conclusion is to show an attribute inhering as such, nothing can be demonstrated except from its ‘appropriate’ basic truths. Consequently a proof even from true, indemonstrable, and immediate premisses does not constitute knowledge. Such proofs are like Bryson’s method of squaring the circle; for they operate by taking as their middle a common character-a character, therefore, which the subject may share with another-and consequently they apply equally to subjects different in kind. They therefore afford knowledge of an attribute only as inhering accidentally, not as belonging to its subject as such: otherwise they would not have been applicable to another genus.

Our knowledge of any attribute’s connexion with a subject is accidental unless we know that connexion through the middle term in virtue of which it inheres, and as an inference from basic premisses essential and ‘appropriate’ to the subject-unless we know, e.g. the property of possessing angles equal to two right angles as belonging to that subject in which it inheres essentially, and as inferred from basic premisses essential and ‘appropriate’ to that subject: so that if that middle term also belongs essentially to the minor, the middle must belong to the same kind as the major and minor terms. The only exceptions to this rule are such cases as theorems in harmonics which are demonstrable by arithmetic. Such theorems are proved by the same middle terms as arithmetical properties, but with a qualification-the fact falls under a separate science (for the subject genus is separate), but the reasoned fact concerns the superior science, to which the attributes essentially belong. Thus, even these apparent exceptions show that no attribute is strictly demonstrable except from its ‘appropriate’ basic truths, which, however, in the case of these sciences have the requisite identity of character.

It is no less evident that the peculiar basic truths of each inhering attribute are indemonstrable; for basic truths from which they might be deduced would be basic truths of all that is, and the science to which they belonged would possess universal sovereignty. This is so because he knows better whose knowledge is deduced from higher causes, for his knowledge is from prior premisses when it derives from causes themselves uncaused: hence, if he knows better than others or best of all, his knowledge would be science in a higher or the highest degree. But, as things are, demonstration is not transferable to another genus, with such exceptions as we have mentioned of the application of geometrical demonstrations to theorems in mechanics or optics, or of arithmetical demonstrations to those of harmonics.

It is hard to be sure whether one knows or not; for it is hard to be sure whether one's knowledge is based on the basic truths appropriate to each attribute-the differentia of true knowledge. We think we have scientific knowledge if we have reasoned from true and primary premisses. But that is not so: the conclusion must be homogeneous with the basic facts of the science.

10

I call the basic truths of every genus those clements in it the existence of which cannot be proved. As regards both these primary truths and the attributes dependent on them the meaning of the name is assumed. The fact of their existence as regards the primary truths must be assumed; but it has to be proved of the remainder, the attributes. Thus we assume the meaning alike of unity, straight, and triangular; but while as regards unity and magnitude we assume also the fact of their existence, in the case of the remainder proof is required.

Of the basic truths used in the demonstrative sciences some are peculiar to each science, and some are common, but common only in the sense of analogous, being of use only in so far as they fall within the genus constituting the province of the science in question.

Peculiar truths are, e.g. the definitions of line and straight; common truths are such as 'take equals from equals and equals remain'. Only so much of these common truths is required as falls within the genus in question: for a truth of this kind will have the same force even if not used generally but applied by the geometer only to magnitudes, or by the arithmetician only to numbers. Also peculiar to a science are the subjects the existence as well as the meaning of which it assumes, and the essential attributes of which it investigates, e.g. in arithmetic units, in geometry points and lines. Both the existence and the meaning of the subjects are assumed by these sciences; but of their essential attributes only the meaning is assumed. For example arithmetic assumes the meaning of odd and even, square and cube, geometry that of incommensurable, or of deflection or verging of lines, whereas the existence of these attributes is demonstrated by means of the axioms and from previous conclusions as premisses. Astronomy too proceeds in the same way. For indeed every demonstrative science has three elements: (1) that which it posits, the subject genus whose essential attributes it examines; (2) the so-called axioms, which are primary premisses of its demonstration; (3) the attributes, the meaning of which it assumes. Yet some sciences may very well pass over some of these elements; e.g. we might not expressly posit the existence of the genus if its existence were obvious (for instance, the existence of hot and cold is more evident than that of number); or we might omit to assume expressly the meaning of the attributes if it were well understood. In the way the meaning of axioms, such as ‘Take equals from equals and equals remain’, is well known and so not expressly assumed. Nevertheless in the nature of the case the essential elements of demonstration are three: the subject, the attributes, and the basic premisses.

That which expresses necessary self-grounded fact, and which we must necessarily believe, is distinct both from the hypotheses of a science and from illegitimate postulate-I say ‘must believe’, because all syllogism, and therefore a fortiori demonstration, is addressed not to the spoken word, but to the discourse within the soul, and though we can always raise objections to the spoken word, to the inward discourse we cannot always object. That which is capable of proof but assumed by the teacher without proof is, if the pupil believes and accepts it, hypothesis, though only in a limited sense hypothesis-that is, relatively to the pupil; if the pupil has no opinion or a contrary opinion on the matter, the same assumption is an illegitimate postulate. Therein lies the distinction between hypothesis and illegitimate postulate: the latter is the contrary of the pupil’s opinion, demonstrable, but assumed and used without demonstration.

The definition-viz. those which are not expressed as statements that anything is or is not-are not hypotheses: but it is in the premisses of a science that its hypotheses are contained. Definitions require only to be understood, and this is not hypothesis-unless it be contended that the pupil’s hearing is also an hypothesis required by the teacher. Hypotheses, on the contrary, postulate facts on the being of which depends the being of the fact inferred. Nor are the geometer’s hypotheses false, as some have held, urging that one must not employ falsehood and that the geometer is uttering falsehood in stating that the line which he draws is a foot long or straight, when it is actually neither. The truth is that the geometer does not draw any conclusion from the being of the particular line of which he speaks, but from what his diagrams symbolize. A further distinction is that all hypotheses and illegitimate postulates are either universal or particular, whereas a definition is neither.

11

So demonstration does not necessarily imply the being of Forms nor a One beside a Many, but it does necessarily imply the possibility of truly predicating one of many; since without this possibility we cannot save the universal, and if the universal goes, the middle term goes witb. it, and so demonstration becomes impossible. We conclude, then, that there must be a single identical term unequivocally predicable of a number of individuals.

The law that it is impossible to affirm and deny simultaneously the same predicate of the same subject is not expressly posited by any demonstration except when the conclusion also has to be expressed in that form; in which case the proof lays down as its major premiss that the major is truly affirmed of the middle but falsely denied. It makes no difference, however, if we add to the middle, or again to the minor term, the corresponding negative. For grant a minor term of which it is true to predicate man-even if it be also true to predicate not-man of it — still grant simply that man is animal and not not-animal, and the conclusion follows: for it will still be true to say that Callias — even if it be also true to say that not-Callias — is animal and not not-animal. The reason is that the major term is predicable not only of the middle, but of something other than the middle as well, being of wider application; so that the conclusion is not affected even if the middle is extended to cover the original middle term and also what is not the original middle term.

The law that every predicate can be either truly affirmed or truly denied of every subject is posited by such demonstration as uses reductio ad impossibile, and then not always universally, but so far as it is requisite; within the limits, that is, of the genus-the genus, I mean (as I have already explained), to which the man of science applies his demonstrations. In virtue of the common elements of demonstration-I mean the common axioms which are used as premisses of demonstration, not the subjects nor the attributes demonstrated as belonging to them-all the sciences have communion with one another, and in communion with them all is dialectic and any science which might attempt a universal proof of axioms such as the law of excluded middle, the law that the subtraction of equals from equals leaves equal remainders, or other axioms of the same kind. Dialectic has no definite sphere of this kind, not being confined to a single genus. Otherwise its method would not be interrogative; for the interrogative method is barred to the demonstrator, who cannot use the opposite facts to prove the same nexus. This was shown in my work on the syllogism.

12

If a syllogistic question is equivalent to a proposition embodying one of the two sides of a contradiction, and if each science has its peculiar propositions from which its peculiar conclusion is developed, then there is such a thing as a distinctively scientific question, and it is the interrogative form of the premisses from which the 'appropriate' conclusion of each science is developed. Hence it is clear that not every question will be relevant to geometry, nor to medicine, nor to any other science: only those questions will be geometrical which form premisses for the proof of the theorems of geometry or of any other science, such as optics, which uses the same basic truths as geometry. Of the other sciences the like is true. Of these questions the geometer is bound to give his account, using the basic truths of geometry in conjunction with his previous conclusions; of the basic truths the geometer, as such, is not bound to give any account. The like is true of the other sciences. There is a limit, then, to the questions which we may put to each man of science; nor is each man of science bound to answer all inquiries on each several subject, but only such as fall within the defined field of his own science. If, then, in controversy with a geometer qua geometer the disputant confines himself to geometry and proves anything from geometrical premisses, he is clearly to be applauded; if he goes outside these he will be at fault, and obviously cannot even refute the geometer except accidentally. One should therefore not discuss geometry among those who are not geometers, for in such a company an unsound argument will pass unnoticed. This is correspondingly true in the other sciences.

Since there are 'geometrical' questions, does it follow that there are also distinctively 'ungeometrical' questions? Further, in each special science-geometry for instance-what kind of error is it that may vitiate questions, and yet not exclude them from that science? Again, is the erroneous conclusion one constructed from premisses opposite to the true premisses, or is it formal fallacy though drawn from geometrical premisses? Or, perhaps, the erroneous conclusion is due to the drawing of premisses from another science; e.g. in a geometrical controversy a musical question is distinctively ungeometrical, whereas the notion that parallels meet is in one sense geometrical, being ungeometrical in a different fashion: the reason being that ‘ungeometrical’, like ‘unrhythmical’, is equivocal, meaning in the one case not geometry at all, in the other bad geometry? It is this error, i.e. error based on premisses of this kind-’of’ the science but false-that is the contrary of science. In mathematics the formal fallacy is not so common, because it is the middle term in which the ambiguity lies, since the major is predicated of the whole of the middle and the middle of the whole of the minor (the predicate of course never has the prefix ‘all’); and in mathematics one can, so to speak, see these middle terms with an intellectual vision, while in dialectic the ambiguity may escape detection. E.g. ‘Is every circle a figure?’ A diagram shows that this is so, but the minor premiss ‘Are epics circles?’ is shown by the diagram to be false.

If a proof has an inductive minor premiss, one should not bring an ‘objection’ against it. For since every premiss must be applicable to a number of cases (otherwise it will not be true in every instance, which, since the syllogism proceeds from universals, it must be), then assuredly the same is true of an ‘objection’; since premisses and ‘objections’ are so far the same that anything which can be validly advanced as an ‘objection’ must be such that it could take the form of a premiss, either demonstrative or dialectical. On the other hand, arguments formally illogical do sometimes occur through taking as middles mere attributes of the major and minor terms. An instance of this is Caeneus’ proof that fire increases in geometrical proportion: ‘Fire’, he argues, ‘increases rapidly, and so does geometrical proportion’. There is no syllogism so, but there is a syllogism if the most rapidly increasing proportion is geometrical and the most rapidly increasing proportion is attributable to fire in its motion. Sometimes, no doubt, it is impossible to reason from premisses predicating mere attributes: but sometimes it is possible, though the possibility is overlooked. If false premisses could never give true conclusions ‘resolution’ would be easy, for premisses and conclusion would in that case inevitably reciprocate. I might then argue thus: let A be an existing fact; let the existence of A imply such and such facts actually known to me to exist, which we may call B. I can now, since they reciprocate, infer A from B.

Reciprocation of premisses and conclusion is more frequent in mathematics, because mathematics takes definitions, but never an accident, for its premisses-a second characteristic distinguishing mathematical reasoning from dialectical disputations.

A science expands not by the interposition of fresh middle terms, but by the apposition of fresh extreme terms. E.g. A is predicated of B, B of C, C of D, and so indefinitely. Or the expansion may be lateral: e.g. one major A, may be proved of two minors, C and E. Thus let A represent number-a number or number taken indeterminately; B determinate odd number; C any particular odd number. We can then predicate A of C. Next let D represent determinate even number, and E even number. Then A is predicable of E.

13

Knowledge of the fact differs from knowledge of the reasoned fact. To begin with, they differ within the same science and in two ways: (1) when the premisses of the syllogism are not immediate (for then the proximate cause is not contained in them-a necessary condition of knowledge of the reasoned fact): (2) when the premisses are immediate, but instead of the cause the better known of the two reciprocals is taken as the middle; for of two reciprocally predicable terms the one which is not the cause may quite easily be the better known and so become the middle term of the demonstration. Thus (2) (a) you might prove as follows that the planets are near because they do not twinkle: let C be the planets, B not twinkling, A proximity. Then B is predicable of C; for the planets do not twinkle. But A is also predicable of B, since that which does not twinkle is near — we must take this truth as having been reached by induction or sense-perception. Therefore A is a necessary predicate of C; so that we have demonstrated that the planets are near. This syllogism, then, proves not the reasoned fact but only the fact; since they are not near because they do not twinkle, but, because they are near, do not twinkle. The major and middle of the proof, however, may be reversed, and then the demonstration will be of the reasoned fact. Thus: let C be the planets, B proximity, A not twinkling. Then B is an attribute of C, and A-not twinkling-of B. Consequently A is predicable of C, and the syllogism proves the reasoned fact, since its middle term is the proximate cause. Another example is the inference that the moon is spherical from its manner of waxing. Thus: since that which so waxes is spherical, and since the moon so waxes, clearly the moon is spherical. Put in this form, the syllogism turns out to be proof of the fact, but if the middle and major be reversed it is proof of the reasoned fact; since the moon is not spherical because it waxes in a certain manner, but waxes in such a manner because it is spherical. (Let C be the moon, B spherical, and A waxing.) Again (b), in cases where the cause and the effect are not reciprocal and the effect is the better known, the fact is demonstrated but not the reasoned fact. This also occurs (1) when the middle falls outside the major and minor, for here too the strict cause is not given, and so the demonstration is of the fact, not of the reasoned fact. For example, the question ‘Why does not a wall breathe?’ might be answered, ‘Because it is not an animal’; but that answer would not give the strict cause, because if not being an animal causes the absence of respiration, then being an animal should be the cause of respiration, according to the rule that if the negation of causes the non-inherence of y, the affirmation of x causes the inherence of y; e.g. if the disproportion of the hot and cold elements is the cause of ill health, their proportion is the cause of health; and conversely, if the assertion of x causes the inherence of y, the negation of x must cause y’s non-inherence. But in the case given this consequence does not result; for not every animal breathes. A syllogism with this kind of cause takes place in the second figure. Thus: let A be animal, B respiration, C wall. Then A is predicable of all B (for all that breathes is animal), but of no C; and consequently B is predicable of no C; that is, the wall does not breathe. Such causes are like far-fetched explanations, which precisely consist in making the cause too remote, as in Anacharsis’ account of why the Scythians have no flute-players; namely because they have no vines.

Thus, then, do the syllogism of the fact and the syllogism of the reasoned fact differ within one science and according to the position of the middle terms. But there is another way too in which the fact and the reasoned fact differ, and that is when they are investigated respectively by different sciences. This occurs in the case of problems related to one another as subordinate and superior, as when optical problems are subordinated to geometry, mechanical problems to stereometry, harmonic problems to arithmetic, the data of observation to astronomy. (Some of these sciences bear almost the same name; e.g. mathematical and nautical astronomy, mathematical and acoustical harmonics.) Here it is the business of the empirical observers to know the fact, of the mathematicians to know the reasoned fact; for the latter are in possession of the demonstrations giving the causes, and are often ignorant of the fact: just as we have often a clear insight into a universal, but through lack of observation are ignorant of some of its particular instances. These connexions have a perceptible existence though they are manifestations of forms. For the mathematical sciences concern forms: they do not demonstrate properties of a substratum, since, even though the geometrical subjects are predicable as properties of a perceptible substratum, it is not as thus predicable that the mathematician demonstrates properties of them. As optics is related to geometry, so another science is related to optics, namely the theory of the rainbow. Here knowledge of the fact is within the province of the natural philosopher, knowledge of the reasoned fact within that of the optician, either qua optician or qua mathematical optician. Many sciences not standing in this mutual relation enter into it at points; e.g. medicine and geometry: it is the physician's business to know that circular wounds heal more slowly, the geometer's to know the reason why.

14

Of all the figures the most scientific is the first. Thus, it is the vehicle of the demonstrations of all the mathematical sciences, such as arithmetic, geometry, and optics, and practically all of all sciences that investigate causes: for the syllogism of the reasoned fact is either exclusively or generally speaking and in most cases in this figure-a second proof that this figure is the most scientific; for grasp of a reasoned conclusion is the primary condition of knowledge. Thirdly, the first is the only figure which enables us to pursue knowledge of the essence of a thing. In the second figure no affirmative conclusion is possible, and knowledge of a thing's essence must be affirmative; while in the third figure the conclusion can be affirmative, but cannot be universal, and essence must have a universal character: e.g. man is not two-footed animal in any qualified sense, but universally. Finally, the first figure has no need of the others, while it is by means of the first that the other two figures are developed, and have their intervals closepacked until immediate premisses are reached.

Clearly, therefore, the first figure is the primary condition of knowledge.

Just as an attribute A may (as we saw) be atomically connected with a subject B, so its disconnexion may be atomic. I call ‘atomic’ connexions or disconnexions which involve no intermediate term; since in that case the connexion or disconnexion will not be mediated by something other than the terms themselves. It follows that if either A or B, or both A and B, have a genus, their disconnexion cannot be primary. Thus: let C be the genus of A. Then, if C is not the genus of B-for A may well have a genus which is not the genus of B-there will be a syllogism proving A’s disconnexion from B thus:

all A is C,
no B is C,
therefore no B is A.

Or if it is B which has a genus D, we have

all B is D,
no D is A,
therefore no B is A, by syllogism;

and the proof will be similar if both A and B have a genus. That the genus of A need not be the genus of B and vice versa, is shown by the existence of mutually exclusive coordinate series of predication. If no term in the series ACD...is predicable of any term in the series BEF...,and if G-a term in the former series-is the genus of A, clearly G will not be the genus of B; since, if it were, the series would not be mutually exclusive. So also if B has a genus, it will not be the genus of A. If, on the other hand, neither A nor B has a genus and A does not inhere in B, this disconnexion must be atomic. If there be a middle term, one or other of them is bound to have a genus, for the syllogism will be either in the first or the second figure. If it is in the first, B will have a genus-for the premiss containing it must be affirmative: if in the second, either A or B indifferently, since syllogism is possible if either is contained in a negative premiss, but not if both premisses are negative.

Hence it is clear that one thing may be atomically disconnected from another, and we have stated when and how this is possible.

16

Ignorance-defined not as the negation of knowledge but as a positive state of mind-is error produced by inference.

(1) Let us first consider propositions asserting a predicate's immediate connexion with or disconnexion from a subject. Here, it is true, positive error may befall one in alternative ways; for it may arise where one directly believes a connexion or disconnexion as well as where one's belief is acquired by inference. The error, however, that consists in a direct belief is without complication; but the error resulting from inference-which here concerns us-takes many forms. Thus, let A be atomically disconnected from all B: then the conclusion inferred through a middle term C, that all B is A, will be a case of error produced by syllogism. Now, two cases are possible. Either (a) both premisses, or (b) one premiss only, may be false. (a) If neither A is an attribute of any C nor C of any B, whereas the contrary was posited in both cases, both premisses will be false. (C may quite well be so related to A and B that C is neither subordinate to A nor a universal attribute of B: for B, since A was said to be primarily disconnected from B, cannot have a genus, and A need not necessarily be a universal attribute of all things. Consequently both premisses may be false.) On the other hand, (b) one of the premisses may be true, though not either indifferently but only the major A-C since, B having no genus, the premiss C-B will always be false, while A-C may be true. This is the case if, for example, A is related atomically to both C and B; because when the same term is related atomically to more terms than one, neither of those terms will belong to the other. It is, of course, equally the case if A-C is not atomic.

Error of attribution, then, occurs through these causes and in this form only-for we found that no syllogism of universal attribution was possible in any figure but the first. On the other hand, an error of non-attribution may occur either in the first or in the second figure. Let us therefore first explain the various forms it takes in the first figure and the character of the premisses in each case.

(c) It may occur when both premisses are false; e.g. supposing A atomically connected with both C and B, if it be then assumed that no C is and all B is C, both premisses are false.

(d) It is also possible when one is false. This may be either premiss indifferently. A-C may be true, C-B false-A-C true because A is not an attribute of all things, C-B false because C, which never has the attribute A, cannot be an attribute of B; for if C-B were true, the premiss A-C would no longer be true, and besides if both premisses were true, the conclusion would be true. Or again, C-B may be true and A-C false; e.g. if both C and A contain B as genera, one of them must be subordinate to the other, so that if the premiss takes the form No C is A, it will be false. This makes it clear that whether either or both premisses are false, the conclusion will equally be false.

In the second figure the premisses cannot both be wholly false; for if all B is A, no middle term can be with truth universally affirmed of one extreme and universally denied of the other: but premisses in which the middle is affirmed of one extreme and denied of the other are the necessary condition if one is to get a valid inference at all. Therefore if, taken in this way, they are wholly false, their contraries conversely should be wholly true. But this is impossible. On the other hand, there is nothing to prevent both premisses being partially false; e.g. if actually some A is C and some B is C, then if it is premised that all A is C and no B is C, both premisses are false, yet partially, not wholly, false. The same is true if the major is made negative instead of the minor. Or one premiss may be wholly false, and it may be either of them. Thus, supposing that actually an attribute of all A must also be an attribute of all B, then if C is yet taken to be a universal attribute of all but universally non-attributable to B, C-A will be true but C-B false. Again, actually that which is an attribute of no B will not be an attribute of all A either; for if it be an attribute of all A, it will also be an attribute of all B, which is contrary to supposition; but if C be nevertheless assumed to be a universal attribute of A, but an attribute of no B, then the premiss C-B is true but the major is false. The case is similar if the major is made the negative premiss. For in fact what is an attribute of no A will not be an attribute of any B either; and if it be yet assumed that C is universally non-attributable to A, but a universal attribute of B, the premiss C-A is true but the minor wholly false. Again, in fact it is false to assume that that which is an attribute of all B is an attribute of no A, for if it be an attribute of all B, it must be an attribute of some A. If then C is nevertheless assumed to be an attribute of all B but of no A, C-B will be true but C-A false.

It is thus clear that in the case of atomic propositions erroneous inference will be possible not only when both premisses are false but also when only one is false.

17

In the case of attributes not atomically connected with or disconnected from their subjects, (a) (i) as long as the false conclusion is inferred through the 'appropriate' middle, only the major and not both premisses can be false. By 'appropriate middle' I mean the middle term through which the contradictory-i.e. the true-conclusion is inferrible. Thus, let A be attributable to B through a middle term C: then, since to produce a conclusion the premiss C-B must be taken affirmatively, it is clear that this premiss must always be true, for its quality is not changed. But the major A-C is false, for it is by a change in the quality of A-C that the conclusion becomes its contradictory-i.e. true. Similarly (ii) if the middle is taken from another series of predication; e.g. suppose D to be not only contained within A as a part within its whole but also predicable of all B. Then the premiss D-B must remain unchanged, but the quality of A-D must be changed; so that D-B is always true, A-D always false. Such error is practically identical with that which is inferred through the 'appropriate' middle. On the other hand, (b) if the conclusion is not inferred through the 'appropriate' middle-(i) when the middle is subordinate to A but is predicable of no B, both premisses must be false, because if there is to be a conclusion both must be posited as asserting the contrary of what is actually the fact, and so posited both become false: e.g. suppose that actually all D is A but no B is D; then if these premisses are changed in quality, a conclusion will follow and both of the new premisses will be false. When, however, (ii) the middle D is not subordinate to A, A-D will be true, D-B false-A-D true because A was not subordinate to D, D-B false because if it had been true, the conclusion too would have been true; but it is ex hypothesi false.

When the erroneous inference is in the second figure, both premisses cannot be entirely false; since if B is subordinate to A, there can be no middle predicable of all of one extreme and of none of the other, as was stated before. One premiss, however, may be false, and it may be either of them. Thus, if C is actually an attribute of both A and B, but is assumed to be an attribute of A only and not of B, C-A will be true, C-B false: or again if C be assumed to be attributable to B but to no A, C-B will be true, C-A false.

We have stated when and through what kinds of premisses error will result in cases where the erroneous conclusion is negative. If the conclusion is affirmative, (a) (i) it may be inferred through the 'appropriate' middle term. In this case both premisses cannot be false since, as we said before, C-B must remain unchanged if there is to be a conclusion, and consequently A-C, the quality of which is changed, will always be false. This is equally true if (ii) the middle is taken from another series of predication, as was stated to be the case also with regard to negative error; for D-B must remain unchanged, while the quality of A-D must be converted, and the type of error is the same as before.

(b) The middle may be inappropriate. Then (i) if D is subordinate to A, A-D will be true, but D-B false; since A may quite well be predicable of several terms no one of which can be subordinated to another. If, however, (ii) D is not subordinate to A, obviously A-D, since it is affirmed, will always be false, while D-B may be either true or false; for A may very well be an attribute of no D, whereas all B is D, e.g. no science is animal, all music is science. Equally well A may be an attribute of no D, and D of no B. It emerges, then, that if the middle term is not subordinate to the major, not only both premisses but either singly may be false.

Thus we have made it clear how many varieties of erroneous inference are liable to happen and through what kinds of premisses they occur, in the case both of immediate and of demonstrable truths.

18

It is also clear that the loss of any one of the senses entails the loss of a corresponding portion of knowledge, and that, since we learn either by induction or by demonstration, this knowledge cannot be acquired. Thus demonstration develops from universals, induction from particulars; but since it is possible to familiarize the pupil with even the so-called mathematical abstractions only through induction-i.e. only because each subject genus possesses, in virtue of a determinate mathematical character, certain properties which can be treated as separate even though they do not exist in isolation-it is consequently impossible to come to grasp universals except through induction. But induction is impossible for those who have not sense-perception. For it is sense-perception alone which is adequate for grasping the particulars: they cannot be objects of scientific knowledge, because neither can universals give us knowledge of them without induction, nor can we get it through induction without sense-perception.

19

Every syllogism is effected by means of three terms. One kind of syllogism serves to prove that A inheres in C by showing that A inheres in B and B in C; the other is negative and one of its premisses asserts one term of another, while the other denies one term of another. It is clear, then, that these are the fundamentals and so-called hypotheses of syllogism. Assume them as they have been stated, and proof is bound to follow-proof that A inheres in C through B, and again that A inheres in B through some other middle term, and similarly that B inheres in C. If our reasoning aims at gaining credence and so is merely dialectical, it is obvious that we have only to see that our inference is based on premisses as credible as possible: so that if a middle term between A and B is credible though not real, one can reason through it and complete a dialectical syllogism. If, however, one is aiming at truth, one must be guided by the real connexions of subjects and attributes. Thus: since there are attributes which are predicated of a subject essentially or naturally and not coincidentally-not, that is, in the sense in which we say ‘That white (thing) is a man’, which is not the same mode of predication as when we say ‘The man is white’: the man is white not because he is something else but because he is man, but the white is man because ‘being white’ coincides with ‘humanity’ within one substratum-therefore there are terms such as are naturally subjects of predicates. Suppose, then, C such a term not itself attributable to anything else as to a subject, but the proximate subject of the attribute B — i.e. so that B-C is immediate; suppose further E related immediately to F, and F to B. The first question is, must this series terminate, or can it proceed to infinity? The second question is as follows: Suppose nothing is essentially predicated of A, but A is predicated primarily of H and of no intermediate prior term, and suppose H similarly related to G and G to

B; then must this series also terminate, or can it too proceed to infinity? There is this much difference between the questions: the first is, is it possible to start from that which is not itself attributable to anything else but is the subject of attributes, and ascend to infinity? The second is the problem whether one can start from that which is a predicate but not itself a subject of predicates, and descend to infinity? A third question is, if the extreme terms are fixed, can there be an infinity of middles? I mean this: suppose for example that A inheres in C and B is intermediate between them, but between B and A there are other middles, and between these again fresh middles; can these proceed to infinity or can they not? This is the equivalent of inquiring, do demonstrations proceed to infinity, i.e. is everything demonstrable? Or do ultimate subject and primary attribute limit one another?

I hold that the same questions arise with regard to negative conclusions and premisses: viz. if A is attributable to no B, then either this predication will be primary, or there will be an intermediate term prior to B to which a is not attributable-G, let us say, which is attributable to all B-and there may still be another term H prior to G, which is attributable to all G. The same questions arise, I say, because in these cases too either the series of prior terms to which a is not attributable is infinite or it terminates.

One cannot ask the same questions in the case of reciprocating terms, since when subject and predicate are convertible there is neither primary nor ultimate subject, seeing that all the reciprocals qua subjects stand in the same relation to one another, whether we say that the subject has an infinity of attributes or that both subjects and attributes-and we raised the question in both cases-are infinite in number. These questions then cannot be asked-unless, indeed, the terms can reciprocate by two different modes, by accidental predication in one relation and natural predication in the other.

20

Now, it is clear that if the predications terminate in both the upward and the downward direction (by ‘upward’ I mean the ascent to the more universal, by ‘downward’ the descent to the more particular), the middle terms cannot be infinite in number. For suppose that A is predicated of F, and that the intermediates-call them BB’B”...-are infinite, then clearly you might descend from and find one term predicated of another ad infinitum, since you have an infinity of terms between you and F; and equally, if you ascend from F, there are infinite terms between you and A. It follows that if these processes are impossible there cannot be an infinity of intermediates between A and F. Nor is it of any effect to urge that some terms of the series AB...F are contiguous so as to exclude intermediates, while others cannot be taken into the argument at all: whichever terms of the series B...I take, the number of intermediates in the direction either of A or of F must be finite or infinite: where the infinite series starts, whether from the first term or from a later one, is of no moment, for the succeeding terms in any case are infinite in number.

21

Further, if in affirmative demonstration the series terminates in both directions, clearly it will terminate too in negative demonstration. Let us assume that we cannot proceed to infinity either by ascending from the ultimate term (by 'ultimate term' I mean a term such as was, not itself attributable to a subject but itself the subject of attributes), or by descending towards an ultimate from the primary term (by 'primary term' I mean a term predicable of a subject but not itself a subject). If this assumption is justified, the series will also terminate in the case of negation. For a negative conclusion can be proved in all three figures. In the first figure it is proved thus: no B is A, all C is B. In packing the interval B-C we must reach immediate propositions — as is always the case with the minor premiss — since B-C is affirmative. As regards the other premiss it is plain that if the major term is denied of a term D prior to B, D will have to be predicable of all B, and if the major is denied of yet another term prior to D, this term must be predicable of all D. Consequently, since the ascending series is finite, the descent will also terminate and there will be a subject of which A is primarily non-predicable. In the second figure the syllogism is, all A is B, no C is B,..no C is A. If proof of this is required, plainly it may be shown either in the first figure as above, in the second as here, or in the third. The first figure has been discussed, and we will proceed to display the second, proof by which will be as follows: all B is D, no C is D..., since it is required that B should be a subject of which a predicate is affirmed. Next, since D is to be proved not to belong to C, then D has a further predicate which is denied of C. Therefore, since the succession of predicates affirmed of an ever higher universal terminates, the succession of predicates denied terminates too.

The third figure shows it as follows: all B is A, some B is not C. Therefore some A is not C. This premiss, i.e. C-B, will be proved either in the same figure or in one of the two figures discussed above. In the first and second figures the series terminates. If we use the third figure, we shall take as premisses, all E is B, some E is not C, and this premiss again will be proved by a similar prosyllogism. But since it is assumed that the series of descending subjects also terminates, plainly the series of more universal non-predicables will terminate also. Even supposing that the proof is not confined to one method, but employs them all and is now in the first figure, now in the second or third-even so the regress will terminate, for the methods are finite in number, and if finite things are combined in a finite number of ways, the result must be finite.

Thus it is plain that the regress of middles terminates in the case of negative demonstration, if it does so also in the case of affirmative demonstration. That in fact the regress terminates in both these cases may be made clear by the following dialectical considerations.

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In the case of predicates constituting the essential nature of a thing, it clearly terminates, seeing that if definition is possible, or in other words, if essential form is knowable, and an infinite series cannot be traversed, predicates constituting a thing's essential nature must be finite in number. But as regards predicates generally we have the following prefatory remarks to make. (1) We can affirm without falsehood 'the white (thing) is walking', and that big (thing) is a log'; or again, 'the log is big', and 'the man walks'. But the affirmation differs in the two cases. When I affirm 'the white is a log', I mean that something which happens to be white is a log-not that white is the substratum in which log inheres, for it was not qua white or qua a species of white that the white (thing) came to be a log, and the white (thing) is consequently not a log except incidentally. On the other hand, when I affirm 'the log is white', I do not mean that something else, which happens also to be a log, is white (as I should if I said 'the musician is white,' which would mean 'the man who happens also to be a musician is white'); on the contrary, log is here the substratum-the substratum which actually came to be white, and did so qua wood or qua a species of wood and qua nothing else.

If we must lay down a rule, let us entitle the latter kind of statement predication, and the former not predication at all, or not strict but accidental predication. ‘White’ and ‘log’ will thus serve as types respectively of predicate and subject.

We shall assume, then, that the predicate is invariably predicated strictly and not accidentally of the subject, for on such predication demonstrations depend for their force. It follows from this that when a single attribute is predicated of a single subject, the predicate must affirm of the subject either some element constituting its essential nature, or that it is in some way qualified, quantified, essentially related, active, passive, placed, or dated.

(2) Predicates which signify substance signify that the subject is identical with the predicate or with a species of the predicate. Predicates not signifying substance which are predicated of a subject not identical with themselves or with a species of themselves are accidental or coincidental; e.g. white is a coincident of man, seeing that man is not identical with white or a species of white, but rather with animal, since man is identical with a species of animal. These predicates which do not signify substance must be predicates of some other subject, and nothing can be white which is not also other than white. The Forms we can dispense with, for they are mere sound without sense; and even if there are such things, they are not relevant to our discussion, since demonstrations are concerned with predicates such as we have defined.

(3) If A is a quality of B, B cannot be a quality of A-a quality of a quality. Therefore A and B cannot be predicated reciprocally of one another in strict predication: they can be affirmed without falsehood of one another, but not genuinely predicated of each other. For one alternative is that they should be substantially predicated of one another, i.e. B would become the genus or differentia of A-the predicate now become subject. But it has been shown that in these substantial predications neither the ascending predicates nor the descending subjects form an infinite series; e.g. neither the series, man is biped, biped is animal, &c., nor the series predicating animal of man, man of Callias, Callias of a further. subject as an element of its essential nature, is infinite. For all such substance is definable, and an infinite series cannot be traversed in thought: consequently neither the ascent nor the descent is infinite, since a substance whose predicates were infinite would not be definable. Hence they will not be predicated each as the genus of the other;

for this would equate a genus with one of its own species. Nor (the other alternative) can a quale be reciprocally predicated of a quale, nor any term belonging to an adjectival category of another such term, except by accidental predication; for all such predicates are coincidents and are predicated of substances. On the other hand-in proof of the impossibility of an infinite ascending series-every predication displays the subject as somehow qualified or quantified or as characterized under one of the other adjectival categories, or else is an element in its substantial nature: these latter are limited in number, and the number of the widest kinds under which predications fall is also limited, for every predication must exhibit its subject as somehow qualified, quantified, essentially related, acting or suffering, or in some place or at some time.

I assume first that predication implies a single subject and a single attribute, and secondly that predicates which are not substantial are not predicated of one another. We assume this because such predicates are all coincidents, and though some are essential coincidents, others of a different type, yet we maintain that all of them alike are predicated of some substratum and that a coincident is never a substratum-since we do not class as a coincident anything which does not owe its designation to its being something other than itself, but always hold that any coincident is predicated of some substratum other than itself, and that another group of coincidents may have a different substratum. Subject to these assumptions then, neither the ascending nor the descending series of predication in which a single attribute is predicated of a single subject is infinite. For the subjects of which coincidents are predicated are as many as the constitutive elements of each individual substance, and these we have seen are not infinite in number, while in the ascending series are contained those constitutive elements with their coincidents-both of which are finite. We conclude that there is a given subject (D) of which some attribute (C) is primarily predicable; that there must be an attribute (B) primarily predicable of the first attribute, and that the series must end with a term (A) not predicable of any term prior to the last subject of which it was predicated (B), and of which no term prior to it is predicable.

The argument we have given is one of the so-called proofs; an alternative proof follows. Predicates so related to their subjects that there are other predicates prior to them predicable of those subjects are demonstrable; but of demonstrable propositions one cannot have something better than knowledge, nor can one know them without demonstration. Secondly, if a consequent is only known through an antecedent (viz. premisses prior to it) and we neither know this antecedent nor have something better than knowledge of it, then we shall not have scientific knowledge of the consequent. Therefore, if it is possible through demonstration to know anything without qualification and not merely as dependent on the acceptance of certain premisses-i.e. hypothetically-the series of intermediate predications must terminate. If it does not terminate, and beyond any predicate taken as higher than another there remains another still higher, then every predicate is demonstrable. Consequently, since these demonstrable predicates are infinite in number and therefore cannot be traversed, we shall not know them by demonstration. If, therefore, we have not something better than knowledge of them, we cannot through demonstration have unqualified but only hypothetical science of anything.

As dialectical proofs of our contention these may carry conviction, but an analytic process will show more briefly that neither the ascent nor the descent of predication can be infinite in the demonstrative sciences which are the object of our investigation. Demonstration proves the inherence of essential attributes in things. Now attributes may be essential for two reasons: either because they are elements in the essential nature of their subjects, or because their subjects are elements in their essential nature. An example of the latter is odd as an attribute of number-though it is number's attribute, yet number itself is an element in the definition of odd; of the former, multiplicity or the indivisible, which are elements in the definition of number. In neither kind of attribution can the terms be infinite. They are not infinite where each is related to the term below it as odd is to number, for this would mean the inherence in odd of another attribute of odd in whose nature odd was an essential element: but then number will be an ultimate subject of the whole infinite chain of attributes, and be an element in the definition of each of them. Hence, since an infinity of attributes such as contain their subject in their definition cannot inhere in a single thing, the ascending series is equally finite. Note, moreover, that all such attributes must so inhere in the ultimate subject-e.g. its attributes in number and number in them-as to be commensurate with the subject and not of wider extent. Attributes which are essential elements in the nature of their subjects are equally finite: otherwise definition would be impossible. Hence, if all the attributes predicated are essential and these cannot be infinite, the ascending series will terminate, and consequently the descending series too.

If this is so, it follows that the intermediates between any two terms are also always limited in number. An immediately obvious consequence of this is that demonstrations necessarily involve basic truths, and that the contention of some-referred to at the outset-that all truths are demonstrable is mistaken. For if there are basic truths, (a) not all truths are demonstrable, and (b) an infinite regress is impossible; since if either (a) or (b) were not a fact, it would mean that no interval was immediate and indivisible, but that all intervals were divisible. This is true because a conclusion is demonstrated by the interposition, not the apposition, of a fresh term. If such interposition could continue to infinity there might be an infinite number of terms between any two terms; but this is impossible if both the ascending and descending series of predication terminate; and of this fact, which before was shown dialectically, analytic proof has now been given.

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It is an evident corollary of these conclusions that if the same attribute A inheres in two terms C and D predicable either not at all, or not of all instances, of one another, it does not always belong to them in virtue of a common middle term. Isosceles and scalene possess the attribute of having their angles equal to two right angles in virtue of a common middle; for they possess it in so far as they are both a certain kind of figure, and not in so far as they differ from one another. But this is not always the case: for, were it so, if we take B as the common middle in virtue of which A inheres in C and D, clearly B would inhere in C and D through a second common middle, and this in turn would inhere in C and D through a third, so that between two terms an infinity of intermediates would fall-an impossibility. Thus it need not always be in virtue of a common middle term that a single attribute inheres in several subjects, since there must be immediate intervals. Yet if the attribute to be proved common to two subjects is to be one of their essential attributes, the middle terms involved must be within one subject genus and be derived from the same group of immediate premisses; for we have seen that processes of proof cannot pass from one genus to another.

It is also clear that when A inheres in B, this can be demonstrated if there is a middle term. Further, the ‘elements’ of such a conclusion are the premisses containing the middle in question, and they are identical in number with the middle terms, seeing that the immediate propositions-or at least such immediate propositions as are universal-are the ‘elements’. If, on the other hand, there is no middle term, demonstration ceases to be possible: we are on the way to the basic truths. Similarly if A does not inhere in B, this can be demonstrated if there is a middle term or a term prior to B in which A does not inhere: otherwise there is no demonstration and a basic truth is reached. There are, moreover, as many ‘elements’ of the demonstrated conclusion as there are middle terms, since it is propositions containing these middle terms that are the basic premisses on which the demonstration rests; and as there are some indemonstrable basic truths asserting that ‘this is that’ or that ‘this inheres in that’, so there are others denying that ‘this is that’ or that ‘this inheres in that’-in fact some basic truths will affirm and some will deny being.

When we are to prove a conclusion, we must take a primary essential predicate-suppose it C-of the subject B, and then suppose A similarly predicable of C. If we proceed in this manner, no proposition or attribute which falls beyond A is admitted in the proof: the interval is constantly condensed until subject and predicate become indivisible, i.e. one. We have our unit when the premiss becomes immediate, since the immediate premiss alone is a single premiss in the unqualified sense of ‘single’. And as in other spheres the basic element is simple but not identical in all-in a system of weight it is the mina, in music the quarter-tone, and so on — so in syllogism the unit is an immediate premiss, and in the knowledge that demonstration gives it is an intuition. In syllogisms, then, which prove the inherence of an attribute, nothing falls outside the major term. In the case of negative syllogisms on the other hand, (1) in the first figure nothing falls outside the major term whose inherence is in question; e.g. to prove through a middle C that A does not inhere in B the premisses required are, all B is C, no C is A. Then if it has to be proved that no C is A, a middle must be found between and C; and this procedure will never vary.

(2) If we have to show that E is not D by means of the premisses, all D is C; no E, or not all E, is C; then the middle will never fall beyond E, and E is the subject of which D is to be denied in the conclusion.

(3) In the third figure the middle will never fall beyond the limits of the subject and the attribute denied of it.

24

Since demonstrations may be either commensurately universal or particular, and either affirmative or negative; the question arises, which form is the better? And the same question may be put in regard to so-called ‘direct’ demonstration and reductio ad impossibile. Let us first examine the commensurately universal and the particular forms, and when we have cleared up this problem proceed to discuss ‘direct’ demonstration and reductio ad impossibile.

The following considerations might lead some minds to prefer particular demonstration.

(1) The superior demonstration is the demonstration which gives us greater knowledge (for this is the ideal of demonstration), and we have greater knowledge of a particular individual when we know it in itself than when we know it through something else; e.g. we know Coriscus the musician better when we know that Coriscus is musical than when we know only that man is musical, and a like argument holds in all other cases. But commensurately universal demonstration, instead of proving that the subject itself actually is x, proves only that something else is x — e.g. in attempting to prove that isosceles is x, it proves not that isosceles but only that triangle is x — whereas particular demonstration proves that the subject itself is x. The demonstration, then, that a subject, as such, possesses an attribute is superior. If this is so, and if the particular rather than the commensurately universal forms demonstrates, particular demonstration is superior.

(2) The universal has not a separate being over against groups of singulars. Demonstration nevertheless creates the opinion that its function is conditioned by something like this-some separate entity belonging to the real world; that, for instance, of triangle or of figure or number, over against particular triangles, figures, and numbers. But demonstration which touches the real and will not mislead is superior to that which moves among unrealities and is delusory. Now commensurately universal demonstration is of the latter kind: if we engage in it we find ourselves reasoning after a fashion well illustrated by the argument that the proportionate is what

answers to the definition of some entity which is neither line, number, solid, nor plane, but a proportionate apart from all these. Since, then, such a proof is characteristically commensurate and universal, and less touches reality than does particular demonstration, and creates a false opinion, it will follow that commensurate and universal is inferior to particular demonstration.

We may retort thus. (1) The first argument applies no more to commensurate and universal than to particular demonstration. If equality to two right angles is attributable to its subject not qua isosceles but qua triangle, he who knows that isosceles possesses that attribute knows the subject as qua itself possessing the attribute, to a less degree than he who knows that triangle has that attribute. To sum up the whole matter: if a subject is proved to possess qua triangle an attribute which it does not in fact possess qua triangle, that is not demonstration: but if it does possess it qua triangle the rule applies that the greater knowledge is his who knows the subject as possessing its attribute qua that in virtue of which it actually does possess it. Since, then, triangle is the wider term, and there is one identical definition of triangle-i.e. the term is not equivocal-and since equality to two right angles belongs to all triangles, it is isosceles qua triangle and not triangle qua isosceles which has its angles so related. It follows that he who knows a connexion universally has greater knowledge of it as it in fact is than he who knows the particular; and the inference is that commensurate and universal is superior to particular demonstration.

(2) If there is a single identical definition i.e. if the commensurate universal is unequivocal-then the universal will possess being not less but more than some of the particulars, inasmuch as it is universals which comprise the imperishable, particulars that tend to perish.

(3) Because the universal has a single meaning, we are not therefore compelled to suppose that in these examples it has being as a substance apart from its particulars-any more than we need make a similar supposition in the other cases of unequivocal universal predication, viz. where the predicate signifies not substance but quality, essential relatedness, or action. If such a supposition is entertained, the blame rests not with the demonstration but with the hearer.

(4) Demonstration is syllogism that proves the cause, i.e. the reasoned fact, and it is rather the commensurate universal than the particular which is causative (as may be shown thus: that which possesses an attribute through

its own essential nature is itself the cause of the inherence, and the commensurate universal is primary; hence the commensurate universal is the cause). Consequently commensurately universal demonstration is superior as more especially proving the cause, that is the reasoned fact.

(5) Our search for the reason ceases, and we think that we know, when the coming to be or existence of the fact before us is not due to the coming to be or existence of some other fact, for the last step of a search thus conducted is eo ipso the end and limit of the problem. Thus: 'Why did he come?' 'To get the money-wherewith to pay a debt-that he might thereby do what was right.' When in this regress we can no longer find an efficient or final cause, we regard the last step of it as the end of the coming-or being or coming to be-and we regard ourselves as then only having full knowledge of the reason why he came.

If, then, all causes and reasons are alike in this respect, and if this is the means to full knowledge in the case of final causes such as we have exemplified, it follows that in the case of the other causes also full knowledge is attained when an attribute no longer inheres because of something else. Thus, when we learn that exterior angles are equal to four right angles because they are the exterior angles of an isosceles, there still remains the question 'Why has isosceles this attribute?' and its answer 'Because it is a triangle, and a triangle has it because a triangle is a rectilinear figure.' If rectilinear figure possesses the property for no further reason, at this point we have full knowledge-but at this point our knowledge has become commensurately universal, and so we conclude that commensurately universal demonstration is superior.

(6) The more demonstration becomes particular the more it sinks into an indeterminate manifold, while universal demonstration tends to the simple and determinate. But objects so far as they are an indeterminate manifold are unintelligible, so far as they are determinate, intelligible: they are therefore intelligible rather in so far as they are universal than in so far as they are particular. From this it follows that universals are more demonstrable: but since relative and correlative increase concomitantly, of the more demonstrable there will be fuller demonstration. Hence the commensurate and universal form, being more truly demonstration, is the superior.

(7) Demonstration which teaches two things is preferable to demonstration which teaches only one. He who possesses commensurately universal

demonstration knows the particular as well, but he who possesses particular demonstration does not know the universal. So that this is an additional reason for preferring commensurately universal demonstration. And there is yet this further argument:

(8) Proof becomes more and more proof of the commensurate universal as its middle term approaches nearer to the basic truth, and nothing is so near as the immediate premiss which is itself the basic truth. If, then, proof from the basic truth is more accurate than proof not so derived, demonstration which depends more closely on it is more accurate than demonstration which is less closely dependent. But commensurately universal demonstration is characterized by this closer dependence, and is therefore superior. Thus, if A had to be proved to inhere in D, and the middles were B and C, B being the higher term would render the demonstration which it mediated the more universal.

Some of these arguments, however, are dialectical. The clearest indication of the precedence of commensurately universal demonstration is as follows: if of two propositions, a prior and a posterior, we have a grasp of the prior, we have a kind of knowledge-a potential grasp-of the posterior as well. For example, if one knows that the angles of all triangles are equal to two right angles, one knows in a sense-potentially-that the isosceles' angles also are equal to two right angles, even if one does not know that the isosceles is a triangle; but to grasp this posterior proposition is by no means to know the commensurate universal either potentially or actually. Moreover, commensurately universal demonstration is through and through intelligible; particular demonstration issues in sense-perception.

25

The preceding arguments constitute our defence of the superiority of commensurately universal to particular demonstration. That affirmative demonstration excels negative may be shown as follows.

(1) We may assume the superiority ceteris paribus of the demonstration which derives from fewer postulates or hypotheses-in short from fewer premisses; for, given that all these are equally well known, where they are fewer knowledge will be more speedily acquired, and that is a desideratum. The argument implied in our contention that demonstration from fewer

assumptions is superior may be set out in universal form as follows. Assuming that in both cases alike the middle terms are known, and that middles which are prior are better known than such as are posterior, we may suppose two demonstrations of the inherence of A in E, the one proving it through the middles B, C and D, the other through F and G. Then A-D is known to the same degree as A-E (in the second proof), but A-D is better known than and prior to A-E (in the first proof); since A-E is proved through A-D, and the ground is more certain than the conclusion.

Hence demonstration by fewer premisses is ceteris paribus superior. Now both affirmative and negative demonstration operate through three terms and two premisses, but whereas the former assumes only that something is, the latter assumes both that something is and that something else is not, and thus operating through more kinds of premiss is inferior.

(2) It has been proved that no conclusion follows if both premisses are negative, but that one must be negative, the other affirmative. So we are compelled to lay down the following additional rule: as the demonstration expands, the affirmative premisses must increase in number, but there cannot be more than one negative premiss in each complete proof. Thus, suppose no B is A, and all C is B. Then if both the premisses are to be again expanded, a middle must be interposed. Let us interpose D between A and B, and E between B and C. Then clearly E is affirmatively related to B and C, while D is affirmatively related to B but negatively to A; for all B is D, but there must be no D which is A. Thus there proves to be a single negative premiss, A-D. In the further prosyllogisms too it is the same, because in the terms of an affirmative syllogism the middle is always related affirmatively to both extremes; in a negative syllogism it must be negatively related only to one of them, and so this negation comes to be a single negative premiss, the other premisses being affirmative. If, then, that through which a truth is proved is a better known and more certain truth, and if the negative proposition is proved through the affirmative and not vice versa, affirmative demonstration, being prior and better known and more certain, will be superior.

(3) The basic truth of demonstrative syllogism is the universal immediate premiss, and the universal premiss asserts in affirmative demonstration and in negative denies: and the affirmative proposition is prior to and better known than the negative (since affirmation explains denial and is prior to denial, just as being is prior to not-being). It follows that the basic premiss of affirmative

demonstration is superior to that of negative demonstration, and the demonstration which uses superior basic premisses is superior.

(4) Affirmative demonstration is more of the nature of a basic form of proof, because it is a sine qua non of negative demonstration.

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Since affirmative demonstration is superior to negative, it is clearly superior also to reductio ad impossibile. We must first make certain what is the difference between negative demonstration and reductio ad impossibile. Let us suppose that no B is A, and that all C is B: the conclusion necessarily follows that no C is A. If these premisses are assumed, therefore, the negative demonstration that no C is A is direct. Reductio ad impossibile, on the other hand, proceeds as follows. Supposing we are to prove that does not inhere in B, we have to assume that it does inhere, and further that B inheres in C, with the resulting inference that A inheres in C. This we have to suppose a known and admitted impossibility; and we then infer that A cannot inhere in B. Thus if the inherence of B in C is not questioned, A's inherence in B is impossible.

The order of the terms is the same in both proofs: they differ according to which of the negative propositions is the better known, the one denying A of B or the one denying A of C. When the falsity of the conclusion is the better known, we use reductio ad impossible; when the major premiss of the syllogism is the more obvious, we use direct demonstration. All the same the proposition denying A of B is, in the order of being, prior to that denying A of C; for premisses are prior to the conclusion which follows from them, and 'no C is A' is the conclusion, 'no B is A' one of its premisses. For the destructive result of reductio ad impossibile is not a proper conclusion, nor are its antecedents proper premisses. On the contrary: the constituents of syllogism are premisses related to one another as whole to part or part to whole, whereas the premisses A-C and A-B are not thus related to one another. Now the superior demonstration is that which proceeds from better known and prior premisses, and while both these forms depend for credence on the not-being of something, yet the source of the one is prior to that of the other. Therefore negative demonstration will have an unqualified superiority to reductio ad impossibile, and affirmative demonstration, being superior to negative, will consequently be superior also to reductio ad impossibile.

27

The science which is knowledge at once of the fact and of the reasoned fact, not of the fact by itself without the reasoned fact, is the more exact and the prior science.

A science such as arithmetic, which is not a science of properties qua inhering in a substratum, is more exact than and prior to a science like harmonics, which is a science of pr,operties inhering in a substratum; and similarly a science like arithmetic, which is constituted of fewer basic elements, is more exact than and prior to geometry, which requires additional elements. What I mean by ‘additional elements’ is this: a unit is substance without position, while a point is substance with position; the latter contains an additional element.

28

A single science is one whose domain is a single genus, viz. all the subjects constituted out of the primary entities of the genus-i.e. the parts of this total subject-and their essential properties.

One science differs from another when their basic truths have neither a common source nor are derived those of the one science from those the other. This is verified when we reach the indemonstrable premisses of a science, for they must be within one genus with its conclusions: and this again is verified if the conclusions proved by means of them fall within one genus-i.e. are homogeneous.

29

One can have several demonstrations of the same connexion not only by taking from the same series of predication middles which are other than the immediately cohering term e.g. by taking C, D, and F severally to prove A-B — but also by taking a middle from another series. Thus let A be change, D alteration of a property, B feeling pleasure, and G relaxation. We can then without falsehood predicate D of B and A of D, for he who is pleased suffers alteration of a property, and that which alters a property changes. Again, we can predicate A of G without falsehood, and G of B; for to feel pleasure is to relax, and to relax is to change. So the conclusion can be drawn through middles which are different, i.e. not in the same series-yet not so that neither of these middles is predicable of the other, for they must both be attributable to some one subject.

A further point worth investigating is how many ways of proving the same conclusion can be obtained by varying the figure,

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There is no knowledge by demonstration of chance conjunctions; for chance conjunctions exist neither by necessity nor as general connexions but comprise what comes to be as something distinct from these. Now demonstration is concerned only with one or other of these two; for all reasoning proceeds from necessary or general premisses, the conclusion being necessary if the premisses are necessary and general if the premisses are general. Consequently, if chance conjunctions are neither general nor necessary, they are not demonstrable.

31

Scientific knowledge is not possible through the act of perception. Even if perception as a faculty is of ‘the such’ and not merely of a ‘this somewhat’, yet one must at any rate actually perceive a ‘this somewhat’, and at a definite present place and time: but that which is commensurately universal and true in all cases one cannot perceive, since it is not ‘this’ and it is not ‘now’; if it were, it would not be commensurately universal-the term we apply to what is always and everywhere. Seeing, therefore, that demonstrations are commensurately universal and universals imperceptible, we clearly cannot obtain scientific knowledge by the act of perception: nay, it is obvious that even if it were possible to perceive that a triangle has its angles equal to two right angles, we should still be looking for a demonstration-we should not (as some say) possess knowledge of it; for perception must be of a particular, whereas scientific knowledge involves the recognition of the commensurate universal. So if we were on the moon, and saw the earth shutting out the sun’s light, we should not know the cause of the eclipse: we should perceive the present fact of the eclipse, but not the reasoned fact at all, since the act of perception is not of the commensurate universal. I do not, of course, deny that by watching the frequent recurrence of this event we might, after tracking the commensurate universal, possess a demonstration, for the commensurate universal is elicited from the several groups of singulars.

The commensurate universal is precious because it makes clear the cause; so that in the case of facts like these which have a cause other than themselves universal knowledge is more precious than sense-perceptions and than intuition. (As regards primary truths there is of course a different account to be given.) Hence it is clear that knowledge of things demonstrable cannot be acquired by perception, unless the term perception is applied to the possession of scientific knowledge through demonstration. Nevertheless certain points do arise with regard to connexions to be proved which are referred for their explanation to a failure in sense-perception: there are cases when an act of vision would terminate our inquiry, not because in seeing we should be knowing, but because we should have elicited the universal from seeing; if, for example, we saw the pores in the glass and the light passing through, the reason of the kindling would be clear to us because we should at the same time see it in each instance and intuit that it must be so in all instances.

32

All syllogisms cannot have the same basic truths. This may be shown first of all by the following dialectical considerations. (1) Some syllogisms are true and some false: for though a true inference is possible from false premisses, yet this occurs once only-I mean if A for instance, is truly predicable of C, but B, the middle, is false, both A-B and B-C being false; nevertheless, if middles are taken to prove these premisses, they will be false because every conclusion which is a falsehood has false premisses, while true conclusions have true premisses, and false and true differ in kind. Then again, (2) falsehoods are not all derived from a single identical set of principles: there are falsehoods which are the contraries of one another and cannot coexist, e.g. ‘justice is injustice’, and ‘justice is cowardice’; ‘man is horse’, and ‘man is ox’; ‘the equal is greater’, and ‘the equal is less.’ From established principles we may argue the case as follows, confining-ourselves therefore to true conclusions. Not even all these are inferred from the same basic truths;

many of them in fact have basic truths which differ generically and are not transferable; units, for instance, which are without position, cannot take the place of points, which have position. The transferred terms could only fit in as middle terms or as major or minor terms, or else have some of the other terms between them, others outside them.

Nor can any of the common axioms-such, I mean, as the law of excluded middle-serve as premisses for the proof of all conclusions. For the kinds of being are different, and some attributes attach to quanta and some to qualia only; and proof is achieved by means of the common axioms taken in conjunction with these several kinds and their attributes.

Again, it is not true that the basic truths are much fewer than the conclusions, for the basic truths are the premisses, and the premisses are formed by the apposition of a fresh extreme term or the interposition of a fresh middle. Moreover, the number of conclusions is indefinite, though the number of middle terms is finite; and lastly some of the basic truths are necessary, others variable.

Looking at it in this way we see that, since the number of conclusions is indefinite, the basic truths cannot be identical or limited in number. If, on the other hand, identity is used in another sense, and it is said, e.g. ‘these and no other are the fundamental truths of geometry, these the fundamentals of calculation, these again of medicine’; would the statement mean anything except that the sciences have basic truths? To call them identical because they are self-identical is absurd, since everything can be identified with everything in that sense of identity. Nor again can the contention that all conclusions have the same basic truths mean that from the mass of all possible premisses any conclusion may be drawn. That would be exceedingly naive, for it is not the case in the clearly evident mathematical sciences, nor is it possible in analysis, since it is the immediate premisses which are the basic truths, and a fresh conclusion is only formed by the addition of a new immediate premiss: but if it be admitted that it is these primary immediate premisses which are basic truths, each subject-genus will provide one basic truth. If, however, it is not argued that from the mass of all possible premisses any conclusion may be proved, nor yet admitted that basic truths differ so as to be generically different for each science, it remains to consider the possibility that, while the basic truths of all knowledge are within one genus, special premisses are required to prove special conclusions. But that this cannot be the case has been shown by our proof that the basic truths of things generically different themselves differ generically. For fundamental truths are of two kinds, those which are premisses of demonstration and the subject-genus; and though the former are common, the latter-number, for instance, and magnitude-are peculiar.

33

Scientific knowledge and its object differ from opinion and the object of opinion in that scientific knowledge is commensurately universal and proceeds by necessary connexions, and that which is necessary cannot be otherwise. So though there are things which are true and real and yet can be otherwise, scientific knowledge clearly does not concern them: if it did, things which can be otherwise would be incapable of being otherwise. Nor are they any concern of rational intuition-by rational intuition I mean an originative source of scientific knowledge-nor of indemonstrable knowledge, which is the grasping of the immediate premiss. Since then rational intuition, science, and opinion, and what is revealed by these terms, are the only things that can be 'true', it follows that it is opinion that is concerned with that which may be true or false, and can be otherwise: opinion in fact is the grasp of a premiss which is immediate but not necessary. This view also fits the observed facts, for opinion is unstable, and so is the kind of being we have described as its object. Besides, when a man thinks a truth incapable of being otherwise he always thinks that he knows it, never that he opines it. He thinks that he opines when he thinks that a connexion, though actually so, may quite easily be otherwise; for he believes that such is the proper object of opinion, while the necessary is the object of knowledge.

In what sense, then, can the same thing be the object of both opinion and knowledge? And if any one chooses to maintain that all that he knows he can also opine, why should not opinion be knowledge? For he that knows and he that opines will follow the same train of thought through the same middle terms until the immediate premisses are reached; because it is possible to opine not only the fact but also the reasoned fact, and the reason is the middle term; so that, since the former knows, he that opines also has knowledge.

The truth perhaps is that if a man grasp truths that cannot be other than they are, in the way in which he grasps the definitions through which demonstrations take place, he will have not opinion but knowledge: if on the other hand he apprehends these attributes as inhering in their subjects, but not in virtue of the subjects' substance and essential nature possesses opinion and not genuine knowledge; and his opinion, if obtained through immediate premisses, will be both of the fact and of the reasoned fact; if not so obtained, of the fact alone. The object of opinion and knowledge is not quite identical; it is only in a sense identical, just as the object of true and false opinion is in a sense identical. The sense in which some maintain that true and false opinion can have the same object leads them to embrace many strange doctrines, particularly the doctrine that what a man opines falsely he does not opine at all. There are really many senses of 'identical', and in one sense the object of true and false opinion can be the same, in another it cannot. Thus, to have a true opinion that the diagonal is commensurate with the side would be absurd: but because the diagonal with which they are both concerned is the same, the two opinions have objects so far the same: on the other hand, as regards their essential definable nature these objects differ. The identity of the objects of knowledge and opinion is similar. Knowledge is the apprehension of, e.g. the attribute 'animal' as incapable of being otherwise, opinion the apprehension of 'animal' as capable of being otherwise-e.g. the apprehension that animal is an element in the essential nature of man is knowledge; the apprehension of animal as predicable of man but not as an element in man's essential nature is opinion: man is the subject in both judgements, but the mode of inherence differs.

This also shows that one cannot opine and know the same thing simultaneously; for then one would apprehend the same thing as both capable and incapable of being otherwise-an impossibility. Knowledge and opinion of the same thing can co-exist in two different people in the sense we have explained, but not simultaneously in the same person. That would involve a man's simultaneously apprehending, e.g. (1) that man is essentially animal-i.e. cannot be other than animal-and (2) that man is not essentially animal, that is, we may assume, may be other than animal.

Further consideration of modes of thinking and their distribution under the heads of discursive thought, intuition, science, art, practical wisdom, and metaphysical thinking, belongs rather partly to natural science, partly to moral philosophy.

Quick wit is a faculty of hitting upon the middle term instantaneously. It would be exemplified by a man who saw that the moon has her bright side always turned towards the sun, and quickly grasped the cause of this, namely that she borrows her light from him; or observed somebody in conversation with a man of wealth and divined that he was borrowing money, or that the friendship of these people sprang from a common enmity. In all these instances he has seen the major and minor terms and then grasped the causes, the middle terms.

Let A represent ‘bright side turned sunward’, B ‘lighted from the sun’, C the moon. Then B, ‘lighted from the sun’ is predicable of C, the moon, and A, ‘having her bright side towards the source of her light’, is predicable of B. So A is predicable of C through B.

Book II

1

THE kinds of question we ask are as many as the kinds of things which we know. They are in fact four:-(1) whether the connexion of an attribute with a thing is a fact, (2) what is the reason of the connexion, (3) whether a thing exists, (4) What is the nature of the thing. Thus, when our question concerns a complex of thing and attribute and we ask whether the thing is thus or otherwise qualified-whether, e.g. the sun suffers eclipse or not-then we are asking as to the fact of a connexion. That our inquiry ceases with the discovery that the sun does suffer eclipse is an indication of this; and if we know from the start that the sun suffers eclipse, we do not inquire whether it does so or not. On the other hand, when we know the fact we ask the reason; as, for example, when we know that the sun is being eclipsed and that an earthquake is in progress, it is the reason of eclipse or earthquake into which we inquire.

Where a complex is concerned, then, those are the two questions we ask; but for some objects of inquiry we have a different kind of question to ask, such as whether there is or is not a centaur or a God. (By 'is or is not' I mean 'is or is not, without further qualification'; as opposed to 'is or is not [e.g.] white'.) On the other hand, when we have ascertained the thing's existence, we inquire as to its nature, asking, for instance, 'what, then, is God?' or 'what is man?'.

2

These, then, are the four kinds of question we ask, and it is in the answers to these questions that our knowledge consists.

Now when we ask whether a connexion is a fact, or whether a thing without qualification is, we are really asking whether the connexion or the thing has a 'middle'; and when we have ascertained either that the connexion is a fact or that the thing is-i.e. ascertained either the partial or the unqualified being of the thing-and are proceeding to ask the reason of the connexion or the nature of the thing, then we are asking what the ‘middle’ is.

(By distinguishing the fact of the connexion and the existence of the thing as respectively the partial and the unqualified being of the thing, I mean that if we ask ‘does the moon suffer eclipse?’, or ‘does the moon wax?’, the question concerns a part of the thing’s being; for what we are asking in such questions is whether a thing is this or that, i.e. has or has not this or that attribute: whereas, if we ask whether the moon or night exists, the question concerns the unqualified being of a thing.)

We conclude that in all our inquiries we are asking either whether there is a ‘middle’ or what the ‘middle’ is: for the ‘middle’ here is precisely the cause, and it is the cause that we seek in all our inquiries. Thus, ‘Does the moon suffer eclipse?’ means ‘Is there or is there not a cause producing eclipse of the moon?’, and when we have learnt that there is, our next question is, ‘What, then, is this cause? for the cause through which a thing is-not is this or that, i.e. has this or that attribute, but without qualification is-and the cause through which it is-not is without qualification, but is this or that as having some essential attribute or some accident-are both alike the middle’. By that which is without qualification I mean the subject, e.g. moon or earth or sun or triangle; by that which a subject is (in the partial sense) I mean a property, e.g. eclipse, equality or inequality, interposition or non-interposition. For in all these examples it is clear that the nature of the thing and the reason of the fact are identical: the question ‘What is eclipse?’ and its answer ‘The privation of the moon’s light by the interposition of the earth’ are identical with the question ‘What is the reason of eclipse?’ or ‘Why does the moon suffer eclipse?’ and the reply ‘Because of the failure of light through the earth’s shutting it out’. Again, for ‘What is a concord? A commensurate numerical ratio of a high and a low note’, we may substitute ‘What ratio makes a high and a low note concordant? Their relation according to a commensurate numerical ratio.’ ‘Are the high and the low note concordant?’ is equivalent to ‘Is their ratio commensurate?’; and when we find that it is commensurate, we ask ‘What, then, is their ratio?’.

Cases in which the ‘middle’ is sensible show that the object of our inquiry is always the ‘middle’: we inquire, because we have not perceived it, whether there is or is not a ‘middle’ causing, e.g. an eclipse. On the other hand, if we were on the moon we should not be inquiring either as to the fact or the reason, but both fact and reason would be obvious simultaneously. For the act of perception would have enabled us to know the universal too; since, the present fact of an eclipse being evident, perception would then at the same time give us the present fact of the earth's screening the sun's light, and from this would arise the universal.

Thus, as we maintain, to know a thing's nature is to know the reason why it is; and this is equally true of things in so far as they are said without qualification to he as opposed to being possessed of some attribute, and in so far as they are said to be possessed of some attribute such as equal to right angles, or greater or less.

3

It is clear, then, that all questions are a search for a 'middle'. Let us now state how essential nature is revealed and in what way it can be reduced to demonstration; what definition is, and what things are definable. And let us first discuss certain difficulties which these questions raise, beginning what we have to say with a point most intimately connected with our immediately preceding remarks, namely the doubt that might be felt as to whether or not it is possible to know the same thing in the same relation, both by definition and by demonstration. It might, I mean, be urged that definition is held to concern essential nature and is in every case universal and affirmative; whereas, on the other hand, some conclusions are negative and some are not universal; e.g. all in the second figure are negative, none in the third are universal. And again, not even all affirmative conclusions in the first figure are definable, e.g. 'every triangle has its angles equal to two right angles'. An argument proving this difference between demonstration and definition is that to have scientific knowledge of the demonstrable is identical with possessing a demonstration of it: hence if demonstration of such conclusions as these is possible, there clearly cannot also be definition of them. If there could, one might know such a conclusion also in virtue of its definition without possessing the demonstration of it; for there is nothing to stop our having the one without the other.

Induction too will sufficiently convince us of this difference; for never yet by defining anything-essential attribute or accident-did we get knowledge of it. Again, if to define is to acquire knowledge of a substance, at any rate such attributes are not substances.

It is evident, then, that not everything demonstrable can be defined. What then? Can everything definable be demonstrated, or not? There is one of our previous arguments which covers this too. Of a single thing qua single there is a single scientific knowledge. Hence, since to know the demonstrable scientifically is to possess the demonstration of it, an impossible consequence will follow:-possession of its definition without its demonstration will give knowledge of the demonstrable.

Moreover, the basic premisses of demonstrations are definitions, and it has already been shown that these will be found indemonstrable; either the basic premisses will be demonstrable and will depend on prior premisses, and the regress will be endless; or the primary truths will be indemonstrable definitions.

But if the definable and the demonstrable are not wholly the same, may they yet be partially the same? Or is that impossible, because there can be no demonstration of the definable? There can be none, because definition is of the essential nature or being of something, and all demonstrations evidently posit and assume the essential nature-mathematical demonstrations, for example, the nature of unity and the odd, and all the other sciences likewise. Moreover, every demonstration proves a predicate of a subject as attaching or as not attaching to it, but in definition one thing is not predicated of another; we do not, e.g. predicate animal of biped nor biped of animal, nor yet figure of plane-plane not being figure nor figure plane. Again, to prove essential nature is not the same as to prove the fact of a connexion. Now definition reveals essential nature, demonstration reveals that a given attribute attaches or does not attach to a given subject; but different things require different demonstrations-unless the one demonstration is related to the other as part to whole. I add this because if all triangles have been proved to possess angles equal to two right angles, then this attribute has been proved to attach to isosceles; for isosceles is a part of which all triangles constitute the whole. But in the case before us the fact and the essential nature are not so related to one another, since the one is not a part of the other.

So it emerges that not all the definable is demonstrable nor all the demonstrable definable; and we may draw the general conclusion that there is no identical object of which it is possible to possess both a definition and a demonstration. It follows obviously that definition and demonstration are neither identical nor contained either within the other: if they were, their objects would be related either as identical or as whole and part.

4

So much, then, for the first stage of our problem. The next step is to raise the question whether syllogism-i.e. demonstration-of the definable nature is possible or, as our recent argument assumed, impossible.

We might argue it impossible on the following grounds:-(a) syllogism proves an attribute of a subject through the middle term; on the other hand (b) its definable nature is both ‘peculiar’ to a subject and predicated of it as belonging to its essence. But in that case (1) the subject, its definition, and the middle term connecting them must be reciprocally predicable of one another; for if A is to C, obviously A is ‘peculiar’ to B and B to C-in fact all three terms are ‘peculiar’ to one another: and further (2) if A inheres in the essence of all B and B is predicated universally of all C as belonging to C’s essence, A also must be predicated of C as belonging to its essence.

If one does not take this relation as thus duplicated-if, that is, A is predicated as being of the essence of B, but B is not of the essence of the subjects of which it is predicated-A will not necessarily be predicated of C as belonging to its essence. So both premisses will predicate essence, and consequently B also will be predicated of C as its essence. Since, therefore, both premisses do predicate essence-i.e. definable form-C’s definable form will appear in the middle term before the conclusion is drawn.

We may generalize by supposing that it is possible to prove the essential nature of man. Let C be man, A man’s essential nature — two-footed animal, or aught else it may be. Then, if we are to syllogize, A must be predicated of all B. But this premiss will be mediated by a fresh definition, which consequently will also be the essential nature of man. Therefore the argument assumes what it has to prove, since B too is the essential nature of man. It is, however, the case in which there are only the two premisses-i.e. in which the premisses are primary and immediate-which we ought to investigate, because it best illustrates the point under discussion.

Thus they who prove the essential nature of soul or man or anything else through reciprocating terms beg the question. It would be begging the question, for example, to contend that the soul is that which causes its own life, and that what causes its own life is a self-moving number; for one would have to postulate that the soul is a self-moving number in the sense of being identical with it. For if A is predicable as a mere consequent of B and B of C, A will not on that account be the definable form of C: A will merely be what it was true to say of C. Even if A is predicated of all B inasmuch as B is identical with a species of A, still it will not follow: being an animal is predicated of being a man-since it is true that in all instances to be human is to be animal, just as it is also true that every man is an animal-but not as identical with being man.

We conclude, then, that unless one takes both the premisses as predicating essence, one cannot infer that A is the definable form and essence of C: but if one does so take them, in assuming B one will have assumed, before drawing the conclusion, what the definable form of C is; so that there has been no inference, for one has begged the question.

5

Nor, as was said in my formal logic, is the method of division a process of inference at all, since at no point does the characterization of the subject follow necessarily from the premising of certain other facts: division demonstrates as little as does induction. For in a genuine demonstration the conclusion must not be put as a question nor depend on a concession, but must follow necessarily from its premisses, even if the respondent deny it. The definer asks 'Is man animal or inanimate?' and then assumes-he has not inferred-that man is animal. Next, when presented with an exhaustive division of animal into terrestrial and aquatic, he assumes that man is terrestrial. Moreover, that man is the complete formula, terrestrial-animal, does not follow necessarily from the premisses: this too is an assumption, and equally an assumption whether the division comprises many differentiae or few. (Indeed as this method of division is used by those who proceed by it, even truths that can be inferred actually fail to appear as such.) For why should not the whole of this formula be true of man, and yet not exhibit his essential nature or definable form? Again, what guarantee is there against an unessential addition, or against the omission of the final or of an intermediate determinant of the substantial being?

The champion of division might here urge that though these lapses do occur, yet we can solve that difficulty if all the attributes we assume are constituents of the definable form, and if, postulating the genus, we produce by division the requisite uninterrupted sequence of terms, and omit nothing; and that indeed we cannot fail to fulfil these conditions if what is to be divided falls whole into the division at each stage, and none of it is omitted; and that this-the dividendum-must without further question be (ultimately) incapable of fresh specific division. Nevertheless, we reply, division does not involve inference; if it gives knowledge, it gives it in another way. Nor is there any absurdity in this: induction, perhaps, is not demonstration any more than is division, et it does make evident some truth. Yet to state a definition reached by division is not to state a conclusion: as, when conclusions are drawn without their appropriate middles, the alleged necessity by which the inference follows from the premisses is open to a question as to the reason for it, so definitions reached by division invite the same question.

Thus to the question ‘What is the essential nature of man?’ the divider replies ‘Animal, mortal, footed, biped, wingless’; and when at each step he is asked ‘Why?’, he will say, and, as he thinks, proves by division, that all animal is mortal or immortal: but such a formula taken in its entirety is not definition; so that even if division does demonstrate its formula, definition at any rate does not turn out to be a conclusion of inference.

6

Can we nevertheless actually demonstrate what a thing essentially and substantially is, but hypothetically, i.e. by premising (1) that its definable form is constituted by the ‘peculiar’ attributes of its essential nature; (2) that such and such are the only attributes of its essential nature, and that the complete synthesis of them is peculiar to the thing; and thus-since in this synthesis consists the being of the thing-obtaining our conclusion? Or is the truth that, since proof must be through the middle term, the definable form is once more assumed in this minor premiss too?

Further, just as in syllogizing we do not premise what syllogistic inference is (since the premisses from which we conclude must be related as whole and part), so the definable form must not fall within the syllogism but remain outside the premisses posited. It is only against a doubt as to its having been a syllogistic inference at all that we have to defend our argument as conforming to the definition of syllogism. It is only when some one doubts whether the conclusion proved is the definable form that we have to defend it as conforming to the definition of definable form which we assumed. Hence syllogistic inference must be possible even without the express statement of what syllogism is or what definable form is.

The following type of hypothetical proof also begs the question. If evil is definable as the divisible, and the definition of a thing's contrary-if it has one the contrary of the thing's definition; then, if good is the contrary of evil and the indivisible of the divisible, we conclude that to be good is essentially to be indivisible. The question is begged because definable form is assumed as a premiss, and as a premiss which is to prove definable form. 'But not the same definable form', you may object. That I admit, for in demonstrations also we premise that 'this' is predicable of 'that'; but in this premiss the term we assert of the minor is neither the major itself nor a term identical in definition, or convertible, with the major.

Again, both proof by division and the syllogism just described are open to the question why man should be animal-biped-terrestrial and not merely animal and terrestrial, since what they premise does not ensure that the predicates shall constitute a genuine unity and not merely belong to a single subject as do musical and grammatical when predicated of the same man.

7

How then by definition shall we prove substance or essential nature? We cannot show it as a fresh fact necessarily following from the assumption of premisses admitted to be facts-the method of demonstration: we may not proceed as by induction to establish a universal on the evidence of groups of particulars which offer no exception, because induction proves not what the essential nature of a thing is but that it has or has not some attribute. Therefore, since presumably one cannot prove essential nature by an appeal to sense perception or by pointing with the finger, what other method remains?

To put it another way: how shall we by definition prove essential nature? He who knows what human-or any other-nature is, must know also that man exists; for no one knows the nature of what does not exist-one can know the meaning of the phrase or name 'goat-stag' but not what the essential nature of a goat-stag is. But further, if definition can prove what is the essential nature of a thing, can it also prove that it exists? And how will it prove them both by the same process, since definition exhibits one single thing and demonstration another single thing, and what human nature is and the fact that man exists are not the same thing? Then too we hold that it is by demonstration that the being of everything must be proved-unless indeed to be were its essence; and, since being is not a genus, it is not the essence of anything. Hence the being of anything as fact is matter for demonstration; and this is the actual procedure of the sciences, for the geometer assumes the meaning of the word triangle, but that it is possessed of some attribute he proves. What is it, then, that we shall prove in defining essential nature? Triangle? In that case a man will know by definition what a thing's nature is without knowing whether it exists. But that is impossible.

Moreover it is clear, if we consider the methods of defining actually in use, that definition does not prove that the thing defined exists: since even if there does actually exist something which is equidistant from a centre, yet why should the thing named in the definition exist? Why, in other words, should this be the formula defining circle? One might equally well call it the definition of mountain copper. For definitions do not carry a further guarantee that the thing defined can exist or that it is what they claim to define: one can always ask why.

Since, therefore, to define is to prove either a thing's essential nature or the meaning of its name, we may conclude that definition, if it in no sense proves essential nature, is a set of words signifying precisely what a name signifies. But that were a strange consequence; for (1) both what is not substance and what does not exist at all would be definable, since even non-existents can be signified by a name: (2) all sets of words or sentences would be definitions, since any kind of sentence could be given a name; so that we should all be talking in definitions, and even the Iliad would be a definition: (3) no demonstration can prove that any particular name means any particular thing: neither, therefore, do definitions, in addition to revealing the meaning of a name, also reveal that the name has this meaning. It appears then from these considerations that neither definition and syllogism nor their objects are identical, and further that definition neither demonstrates nor proves anything, and that knowledge of essential nature is not to be obtained either by definition or by demonstration.

8

We must now start afresh and consider which of these conclusions are sound and which are not, and what is the nature of definition, and whether essential nature is in any sense demonstrable and definable or in none.

Now to know its essential nature is, as we said, the same as to know the cause of a thing's existence, and the proof of this depends on the fact that a thing must have a cause. Moreover, this cause is either identical with the essential nature of the thing or distinct from it; and if its cause is distinct from it, the essential nature of the thing is either demonstrable or indemonstrable. Consequently, if the cause is distinct from the thing's essential nature and demonstration is possible, the cause must be the middle term, and, the conclusion proved being universal and affirmative, the proof is in the first figure. So the method just examined of proving it through another essential nature would be one way of proving essential nature, because a conclusion containing essential nature must be inferred through a middle which is an essential nature just as a 'peculiar' property must be inferred through a middle which is a 'peculiar' property; so that of the two definable natures of a single thing this method will prove one and not the other.

Now it was said before that this method could not amount to demonstration of essential nature-it is actually a dialectical proof of it-so let us begin again and explain by what method it can be demonstrated. When we are aware of a fact we seek its reason, and though sometimes the fact and the reason dawn on us simultaneously, yet we cannot apprehend the reason a moment sooner than the fact; and clearly in just the same way we cannot apprehend a thing's definable form without apprehending that it exists, since while we are ignorant whether it exists we cannot know its essential nature. Moreover we are aware whether a thing exists or not sometimes through apprehending an element in its character, and sometimes accidentally, as, for example, when we are aware of thunder as a noise in the clouds, of eclipse as a privation of light, or of man as some species of animal, or of the soul as a self-moving thing. As often as we have accidental knowledge that the thing exists, we must be in a wholly negative state as regards awareness of its essential nature; for we have not got genuine knowledge even of its existence, and to search for a thing's essential nature when we are unaware that it exists is to search for nothing. On the other hand, whenever we apprehend an element in the thing's character there is less difficulty. Thus it follows that the degree of our knowledge of a thing's essential nature is determined by the sense in which we are aware that it exists. Let us then take the following as our first instance of being aware of an element in the essential nature. Let A be eclipse, C the moon, B the earth's acting as a screen. Now to ask whether the moon is eclipsed or not is to ask whether or not B has occurred. But that is precisely the same as asking whether A has a defining condition; and if this condition actually exists, we assert that A also actually exists. Or again we may ask which side of a contradiction the defining condition necessitates: does it make the angles of a triangle equal or not equal to two right angles? When we have found the answer, if the premisses are immediate, we know fact and reason together; if they are not immediate, we know the fact without the reason, as in the following example: let C be the moon, A eclipse, B the fact that the moon fails to produce shadows though she is full and though no visible body intervenes between us and her. Then if B, failure to produce shadows in spite of the absence of an intervening body, is attributable A to C, and eclipse, is attributable to B, it is clear that the moon is eclipsed, but the reason why is not yet clear, and we know that eclipse exists, but we do not know what its essential nature is. But when it is clear that A is attributable to C and we proceed to ask the reason of this fact, we are inquiring what is the nature of B: is it the earth's acting as a screen, or the moon's rotation or her extinction? But B is the definition of the other term, viz. in these examples, of the major term A; for eclipse is constituted by the earth acting as a screen. Thus, (1) 'What is thunder?' 'The quenching of fire in cloud', and (2) 'Why does it thunder?' 'Because fire is quenched in the cloud', are equivalent. Let C be cloud, A thunder, B the quenching of fire. Then B is attributable to C, cloud, since fire is quenched in it; and A, noise, is attributable to B; and B is assuredly the definition of the major term A. If there be a further mediating cause of B, it will be one of the remaining partial definitions of A.

We have stated then how essential nature is discovered and becomes known, and we see that, while there is no syllogism-i.e. no demonstrative syllogism-of essential nature, yet it is through syllogism, viz. demonstrative syllogism, that essential nature is exhibited. So we conclude that neither can the essential nature of anything which has a cause distinct from itself be known without demonstration, nor can it be demonstrated; and this is what we contended in our preliminary discussions.

9

Now while some things have a cause distinct from themselves, others have not. Hence it is evident that there are essential natures which are immediate, that is are basic premisses; and of these not only that they are but also what they are must be assumed or revealed in some other way. This too is the actual procedure of the arithmetician, who assumes both the nature and the existence of unit. On the other hand, it is possible (in the manner explained) to exhibit through demonstration the essential nature of things which have a 'middle', i.e. a cause of their substantial being other than that being itself; but we do not thereby demonstrate it.

10

Since definition is said to be the statement of a thing's nature, obviously one kind of definition will be a statement of the meaning of the name, or of an equivalent nominal formula. A definition in this sense tells you, e.g. the meaning of the phrase 'triangular character'. When we are aware that triangle exists, we inquire the reason why it exists. But it is difficult thus to learn the definition of things the existence of which we do not genuinely know-the cause of this difficulty being, as we said before, that we only know accidentally whether or not the thing exists. Moreover, a statement may be a unity in either of two ways, by conjunction, like the Iliad, or because it exhibits a single predicate as inhering not accidentally in a single subject.

That then is one way of defining definition. Another kind of definition is a formula exhibiting the cause of a thing's existence. Thus the former signifies without proving, but the latter will clearly be a quasi-demonstration of essential nature, differing from demonstration in the arrangement of its terms. For there is a difference between stating why it thunders, and stating what is the essential nature of thunder; since the first statement will be 'Because fire is quenched in the clouds', while the statement of what the nature of thunder is will be 'The noise of fire being quenched in the clouds'. Thus the same statement takes a different form: in one form it is continuous demonstration, in the other definition. Again, thunder can be defined as noise in the clouds, which is the conclusion of the demonstration embodying essential nature. On the other hand the definition of immediates is an indemonstrable positing of essential nature.

We conclude then that definition is (a) an indemonstrable statement of essential nature, or (b) a syllogism of essential nature differing from demonstration in grammatical form, or (c) the conclusion of a demonstration giving essential nature.

Our discussion has therefore made plain (1) in what sense and of what things the essential nature is demonstrable, and in what sense and of what things it is not; (2) what are the various meanings of the term definition, and in what sense and of what things it proves the essential nature, and in what sense and of what things it does not; (3) what is the relation of definition to demonstration, and how far the same thing is both definable and demonstrable and how far it is not.

11

We think we have scientific knowledge when we know the cause, and there are four causes: (1) the definable form, (2) an antecedent which necessitates a consequent, (3) the efficient cause, (4) the final cause. Hence each of these can be the middle term of a proof, for (a) though the inference from antecedent to necessary consequent does not hold if only one premiss is assumed-two is the minimum-still when there are two it holds on condition that they have a single common middle term. So it is from the assumption of this single middle term that the conclusion follows necessarily. The following example will also show this. Why is the angle in a semicircle a right angle?- or from what assumption does it follow that it is a right angle? Thus, let A be right angle, B the half of two right angles, C the angle in a semicircle. Then B is the cause in virtue of which A, right angle, is attributable to C, the angle in a semicircle, since B=A and the other, viz. C,=B, for C is half of two right angles. Therefore it is the assumption of B, the half of two right angles, from which it follows that A is attributable to C, i.e. that the angle in a semicircle is a right angle. Moreover, B is identical with (b) the defining form of A, since it is what A’s definition signifies. Moreover, the formal cause has already been shown to be the middle. (c) ‘Why did the Athenians become involved in the Persian war?’ means ‘What cause originated the waging of war against the Athenians?' and the answer is, 'Because they raided Sardis with the Eretrians', since this originated the war. Let A be war, B unprovoked raiding, C the Athenians. Then B, unprovoked raiding, is true of C, the Athenians, and A is true of B, since men make war on the unjust aggressor. So A, having war waged upon them, is true of B, the initial aggressors, and B is true of C, the Athenians, who were the aggressors. Hence here too the cause-in this case the efficient cause-is the middle term. (d) This is no less true where the cause is the final cause. E.g. why does one take a walk after supper? For the sake of one's health. Why does a house exist? For the preservation of one's goods. The end in view is in the one case health, in the other preservation. To ask the reason why one must walk after supper is precisely to ask to what end one must do it. Let C be walking after supper, B the non-regurgitation of food, A health. Then let walking after supper possess the property of preventing food from rising to the orifice of the stomach, and let this condition be healthy; since it seems that B, the non-regurgitation of food, is attributable to C, taking a walk, and that A, health, is attributable to B. What, then, is the cause through which A, the final cause, inheres in C? It is B, the non-regurgitation of food; but B is a kind of definition of A, for A will be explained by it. Why is B the cause of A's belonging to C? Because to be in a condition such as B is to be in health. The definitions must be transposed, and then the detail will become clearer. Incidentally, here the order of coming to be is the reverse of what it is in proof through the efficient cause: in the efficient order the middle term must come to be first, whereas in the teleological order the minor, C, must first take place, and the end in view comes last in time.

The same thing may exist for an end and be necessitated as well. For example, light shines through a lantern (1) because that which consists of relatively small particles necessarily passes through pores larger than those particles-assuming that light does issue by penetrationand (2) for an end, namely to save us from stumbling. If then, a thing can exist through two causes, can it come to be through two causes-as for instance if thunder be a hiss and a roar necessarily produced by the quenching of fire, and also designed, as the Pythagoreans say, for a threat to terrify those that lie in Tartarus? Indeed, there are very many such cases, mostly among the processes and products of the natural world; for nature, in different senses of the term 'nature', produces now for an end, now by necessity.

Necessity too is of two kinds. It may work in accordance with a thing's natural tendency, or by constraint and in opposition to it; as, for instance, by necessity a stone is borne both upwards and downwards, but not by the same necessity.

Of the products of man's intelligence some are never due to chance or necessity but always to an end, as for example a house or a statue; others, such as health or safety, may result from chance as well.

It is mostly in cases where the issue is indeterminate (though only where the production does not originate in chance, and the end is consequently good), that a result is due to an end, and this is true alike in nature or in art. By chance, on the other hand, nothing comes to be for an end.

12

The effect may be still coming to be, or its occurrence may be past or future, yet the cause will be the same as when it is actually existent-for it is the middle which is the cause-except that if the effect actually exists the cause is actually existent, if it is coming to be so is the cause, if its occurrence is past the cause is past, if future the cause is future. For example, the moon was eclipsed because the earth intervened, is becoming eclipsed because the earth is in process of intervening, will be eclipsed because the earth will intervene, is eclipsed because the earth intervenes.

To take a second example: assuming that the definition of ice is solidified water, let C be water, A solidified, B the middle, which is the cause, namely total failure of heat. Then B is attributed to C, and A, solidification, to B: ice when B is occurring, has formed when B has occurred, and will form when B shall occur.

This sort of cause, then, and its effect come to be simultaneously when they are in process of becoming, and exist simultaneously when they actually exist; and the same holds good when they are past and when they are future. But what of cases where they are not simultaneous? Can causes and effects different from one another form, as they seem to us to form, a continuous succession, a past effect resulting from a past cause different from itself, a future effect from a future cause different from it, and an effect which is coming-to-be from a cause different from and prior to it? Now on this theory it is from the posterior event that we reason (and this though these later events actually have their source of origin in previous events — a fact which shows that also when the effect is coming-to-be we still reason from the posterior event), and from the event we cannot reason (we cannot argue that because an event A has occurred, therefore an event B has occurred subsequently to A but still in the past-and the same holds good if the occurrence is future)-cannot reason because, be the time interval definite or indefinite, it will never be possible to infer that because it is true to say that A occurred, therefore it is true to say that B, the subsequent event, occurred; for in the interval between the events, though A has already occurred, the latter statement will be false. And the same argument applies also to future events; i.e. one cannot infer from an event which occurred in the past that a future event will occur. The reason of this is that the middle must be homogeneous, past when the extremes are past, future when they are future, coming to be when they are coming-to-be, actually existent when they are actually existent; and there cannot be a middle term homogeneous with extremes respectively past and future. And it is a further difficulty in this theory that the time interval can be neither indefinite nor definite, since during it the inference will be false. We have also to inquire what it is that holds events together so that the coming-to-be now occurring in actual things follows upon a past event. It is evident, we may suggest, that a past event and a present process cannot be 'contiguous', for not even two past events can be 'contiguous'. For past events are limits and atomic; so just as points are not 'contiguous' neither are past events, since both are indivisible. For the same reason a past event and a present process cannot be 'contiguous', for the process is divisible, the event indivisible. Thus the relation of present process to past event is analogous to that of line to point, since a process contains an infinity of past events. These questions, however, must receive a more explicit treatment in our general theory of change.

The following must suffice as an account of the manner in which the middle would be identical with the cause on the supposition that coming-to-be is a series of consecutive events: for in the terms of such a series too the middle and major terms must form an immediate premiss; e.g. we argue that, since C has occurred, therefore A occurred: and C's occurrence was posterior, A's prior; but C is the source of the inference because it is nearer to the present moment, and the starting-point of time is the present. We next argue that, since D has occurred, therefore C occurred. Then we conclude that, since D has occurred, therefore A must have occurred; and the cause is C, for since D has occurred C must have occurred, and since C has occurred A must previously have occurred.

If we get our middle term in this way, will the series terminate in an immediate premiss, or since, as we said, no two events are ‘contiguous’, will a fresh middle term always intervene because there is an infinity of middles? No: though no two events are ‘contiguous’, yet we must start from a premiss consisting of a middle and the present event as major. The like is true of future events too, since if it is true to say that D will exist, it must be a prior truth to say that A will exist, and the cause of this conclusion is C; for if D will exist, C will exist prior to D, and if C will exist, A will exist prior to it. And here too the same infinite divisibility might be urged, since future events are not ‘contiguous’. But here too an immediate basic premiss must be assumed. And in the world of fact this is so: if a house has been built, then blocks must have been quarried and shaped. The reason is that a house having been built necessitates a foundation having been laid, and if a foundation has been laid blocks must have been shaped beforehand. Again, if a house will be built, blocks will similarly be shaped beforehand; and proof is through the middle in the same way, for the foundation will exist before the house.

Now we observe in Nature a certain kind of circular process of coming-to-be; and this is possible only if the middle and extreme terms are reciprocal, since conversion is conditioned by reciprocity in the terms of the proof. This-the convertibility of conclusions and premisses-has been proved in our early chapters, and the circular process is an instance of this. In actual fact it is exemplified thus: when the earth had been moistened an exhalation was bound to rise, and when an exhalation had risen cloud was bound to form, and from the formation of cloud rain necessarily resulted and by the fall of rain the earth was necessarily moistened: but this was the starting-point, so that a circle is completed; for posit any one of the terms and another follows from it, and from that another, and from that again the first.

Some occurrences are universal (for they are, or come-to-be what they are, always and in ever case); others again are not always what they are but only as a general rule: for instance, not every man can grow a beard, but it is the general rule. In the case of such connexions the middle term too must be a general rule. For if A is predicated universally of B and B of C, A too must be predicated always and in every instance of C, since to hold in every instance and always is of the nature of the universal. But we have assumed a connexion which is a general rule; consequently the middle term B must also be a general rule. So connexions which embody a general rule-i.e. which exist or come to be as a general rule-will also derive from immediate basic premisses.

13

We have already explained how essential nature is set out in the terms of a demonstration, and the sense in which it is or is not demonstrable or definable; so let us now discuss the method to be adopted in tracing the elements predicated as constituting the definable form.

Now of the attributes which inhere always in each several thing there are some which are wider in extent than it but not wider than its genus (by attributes of wider extent mean all such as are universal attributes of each several subject, but in their application are not confined to that subject). while an attribute may inhere in every triad, yet also in a subject not a triad-as being inheres in triad but also in subjects not numbers at all-odd on the other hand is an attribute inhering in every triad and of wider application (inhering as it does also in pentad), but which does not extend beyond the genus of triad; for pentad is a number, but nothing outside number is odd. It is such attributes which we have to select, up to the exact point at which they are severally of wider extent than the subject but collectively coextensive with it; for this synthesis must be the substance of the thing. For example every triad possesses the attributes number, odd, and prime in both senses, i.e. not only as possessing no divisors, but also as not being a sum of numbers. This, then, is precisely what triad is, viz. a number, odd, and prime in the former and also the latter sense of the term: for these attributes taken severally apply, the first two to all odd numbers, the last to the dyad also as well as to the triad, but, taken collectively, to no other subject. Now since we have shown above' that attributes predicated as belonging to the essential nature are necessary and that universals are necessary, and since the attributes which we select as inhering in triad, or in any other subject whose attributes we select in this way, are predicated as belonging to its essential nature, triad will thus possess these attributes necessarily. Further, that the synthesis of them constitutes the substance of triad is shown by the following argument. If it is not identical with the being of triad, it must be related to triad as a genus named or nameless. It will then be of wider extent than triad-assuming that wider potential extent is the character of a genus. If on the other hand this synthesis is applicable to no subject other than the individual triads, it will be identical with the being of triad, because we make the further assumption that the substance of each subject is the predication of elements in its essential nature down to the last differentia characterizing the individuals. It follows that any other synthesis thus exhibited will likewise be identical with the being of the subject.

The author of a hand-book on a subject that is a generic whole should divide the genus into its first infimae species-number e.g. into triad and dyad-and then endeavour to seize their definitions by the method we have described-the definition, for example, of straight line or circle or right angle. After that, having established what the category is to which the subaltern genus belongs-quantity or quality, for instance-he should examine the properties ‘peculiar’ to the species, working through the proximate common differentiae. He should proceed thus because the attributes of the genera compounded of the infimae species will be clearly given by the definitions of the species; since the basic element of them all is the definition, i.e. the simple infirma species, and the attributes inhere essentially in the simple infimae species, in the genera only in virtue of these.

Divisions according to differentiae are a useful accessory to this method. What force they have as proofs we did, indeed, explain above, but that merely towards collecting the essential nature they may be of use we will proceed to show. They might, indeed, seem to be of no use at all, but rather to assume everything at the start and to be no better than an initial assumption made without division. But, in fact, the order in which the attributes are predicated does make a difference — it matters whether we say animal-tame-biped, or biped-animal-tame. For if every definable thing consists of two elements and ‘animal-tame’ forms a unity, and again out of this and the further differentia man (or whatever else is the unity under construction) is constituted, then the elements we assume have necessarily been reached by division. Again, division is the only possible method of avoiding the omission of any element of the essential nature. Thus, if the primary genus is assumed and we then take one of the lower divisions, the dividendum will not fall whole into this division: e.g. it is not all animal which is either whole-winged or split-winged but all winged animal, for it is winged animal to which this differentiation belongs. The primary differentiation of animal is that within which all animal falls. The like is true of every other genus, whether outside animal or a subaltern genus of animal; e.g. the primary differentiation of bird is that within which falls every bird, of fish that within which falls every fish. So, if we proceed in this way, we can be sure that nothing has been omitted: by any other method one is bound to omit something without knowing it.

To define and divide one need not know the whole of existence. Yet some hold it impossible to know the differentiae distinguishing each thing from every single other thing without knowing every single other thing; and one cannot, they say, know each thing without knowing its differentiae, since everything is identical with that from which it does not differ, and other than that from which it differs. Now first of all this is a fallacy: not every differentia precludes identity, since many differentiae inhere in things specifically identical, though not in the substance of these nor essentially. Secondly, when one has taken one's differing pair of opposites and assumed that the two sides exhaust the genus, and that the subject one seeks to define is present in one or other of them, and one has further verified its presence in one of them; then it does not matter whether or not one knows all the other subjects of which the differentiae are also predicated. For it is obvious that when by this process one reaches subjects incapable of further differentiation one will possess the formula defining the substance. Moreover, to postulate that the division exhausts the genus is not illegitimate if the opposites exclude a middle; since if it is the differentia of that genus, anything contained in the genus must lie on one of the two sides.

In establishing a definition by division one should keep three objects in view: (1) the admission only of elements in the definable form, (2) the arrangement of these in the right order, (3) the omission of no such elements. The first is feasible because one can establish genus and differentia through the topic of the genus, just as one can conclude the inherence of an accident through the topic of the accident. The right order will be achieved if the right term is assumed as primary, and this will be ensured if the term selected is predicable of all the others but not all they of it; since there must be one such term. Having assumed this we at once proceed in the same way with the lower terms; for our second term will be the first of the remainder, our third the first of those which follow the second in a ‘contiguous’ series, since when the higher term is excluded, that term of the remainder which is ‘contiguous’ to it will be primary, and so on. Our procedure makes it clear that no elements in the definable form have been omitted: we have taken the differentia that comes first in the order of division, pointing out that animal, e.g. is divisible exhaustively into A and B, and that the subject accepts one of the two as its predicate. Next we have taken the differentia of the whole thus reached, and shown that the whole we finally reach is not further divisible-i.e. that as soon as we have taken the last differentia to form the concrete totality, this totality admits of no division into species. For it is clear that there is no superfluous addition, since all these terms we have selected are elements in the definable form; and nothing lacking, since any omission would have to be a genus or a differentia. Now the primary term is a genus, and this term taken in conjunction with its differentiae is a genus: moreover the differentiae are all included, because there is now no further differentia; if there were, the final concrete would admit of division into species, which, we said, is not the case.

To resume our account of the right method of investigation: We must start by observing a set of similar-i.e. specifically identical-individuals, and consider what element they have in common. We must then apply the same process to another set of individuals which belong to one species and are generically but not specifically identical with the former set. When we have established what the common element is in all members of this second species, and likewise in members of further species, we should again consider whether the results established possess any identity, and persevere until we reach a single formula, since this will be the definition of the thing. But if we reach not one formula but two or more, evidently the definiendum cannot be one thing but must be more than one. I may illustrate my meaning as follows. If we were inquiring what the essential nature of pride is, we should examine instances of proud men we know of to see what, as such, they have in common; e.g. if Alcibiades was proud, or Achilles and Ajax were proud, we should find on inquiring what they all had in common, that it was intolerance of insult; it was this which drove Alcibiades to war, Achilles wrath, and Ajax to suicide. We should next examine other cases, Lysander, for example, or Socrates, and then if these have in common indifference alike to good and ill fortune, I take these two results and inquire what common element have equanimity amid the vicissitudes of life and impatience of dishonour. If they have none, there will be two genera of pride. Besides, every definition is always universal and commensurate: the physician does not prescribe what is healthy for a single eye, but for all eyes or for a determinate species of eye. It is also easier by this method to define the single species than the universal, and that is why our procedure should be from the several species to the universal genera-this for the further reason too that equivocation is less readily detected in genera than in infimae species. Indeed, perspicuity is essential in definitions, just as inferential movement is the minimum required in demonstrations; and we shall attain perspicuity if we can collect separately the definition of each species through the group of singulars which we have established e.g. the definition of similarity not unqualified but restricted to colours and to figures; the definition of acuteness, but only of sound-and so proceed to the common universal with a careful avoidance of equivocation. We may add that if dialectical disputation must not employ metaphors, clearly metaphors and metaphorical expressions are precluded in definition: otherwise dialectic would involve metaphors.

14

In order to formulate the connexions we wish to prove we have to select our analyses and divisions. The method of selection consists in laying down the common genus of all our subjects of investigation-if e.g. they are animals, we lay down what the properties are which inhere in every animal. These established, we next lay down the properties essentially connected with the first of the remaining classes-e.g. if this first subgenus is bird, the essential properties of every bird-and so on, always characterizing the proximate subgenus. This will clearly at once enable us to say in virtue of what character the subgenera-man, e.g. or horse-possess their properties. Let A be animal, B the properties of every animal, C D E various species of animal. Then it is clear in virtue of what character B inheres in D-namely A-and that it inheres in C and E for the same reason: and throughout the remaining subgenera always the same rule applies.

We are now taking our examples from the traditional class-names, but we must not confine ourselves to considering these. We must collect any other common character which we observe, and then consider with what species it is connected and what.properties belong to it. For example, as the common properties of horned animals we collect the possession of a third stomach and only one row of teeth. Then since it is clear in virtue of what character they possess these attributes-namely their horned character-the next question is, to what species does the possession of horns attach?

Yet a further method of selection is by analogy: for we cannot find a single identical name to give to a squid’s pounce, a fish’s spine, and an animal’s bone, although these too possess common properties as if there were a single osseous nature.

15

Some connexions that require proof are identical in that they possess an identical ‘middle’ e.g. a whole group might be proved through ‘reciprocal replacement’-and of these one class are identical in genus, namely all those whose difference consists in their concerning different subjects or in their mode of manifestation. This latter class may be exemplified by the questions as to the causes respectively of echo, of reflection, and of the rainbow: the connexions to be proved which these questions embody are identical generically, because all three are forms of repercussion; but specifically they are different.

Other connexions that require proof only differ in that the ‘middle’ of the one is subordinate to the ‘middle’ of the other. For example: Why does the Nile rise towards the end of the month? Because towards its close the month is more stormy. Why is the month more stormy towards its close? Because the moon is waning. Here the one cause is subordinate to the other.

16

The question might be raised with regard to cause and effect whether when the effect is present the cause also is present; whether, for instance, if a plant sheds its leaves or the moon is eclipsed, there is present also the cause of the eclipse or of the fall of the leaves-the possession of broad leaves, let us say, in the latter case, in the former the earth’s interposition. For, one might argue, if this cause is not present, these phenomena will have some other cause: if it is present, its effect will be at once implied by it-the eclipse by the earth’s interposition, the fall of the leaves by the possession of broad leaves; but if so, they will be logically coincident and each capable of proof through the other. Let me illustrate: Let A be deciduous character, B the possession of broad leaves, C vine. Now if A inheres in B (for every broad-leaved plant is deciduous), and B in C (every vine possessing broad leaves); then A inheres in C (every vine is deciduous), and the middle term B is the cause. But we can also demonstrate that the vine has broad leaves because it is deciduous. Thus, let D be broad-leaved, E deciduous, F vine. Then E inheres in F (since every vine is deciduous), and D in E (for every deciduous plant has broad leaves): therefore every vine has broad leaves, and the cause is its deciduous character. If, however, they cannot each be the cause of the other (for cause is prior to effect, and the earth’s interposition is the cause of the moon’s eclipse and not the eclipse of the interposition)-if, then, demonstration through the cause is of the reasoned fact and demonstration not through the cause is of the bare fact, one who knows it through the eclipse knows the fact of the earth’s interposition but not the reasoned fact. Moreover, that the eclipse is not the cause of the interposition, but the interposition of the eclipse, is obvious because the interposition is an element in the definition of eclipse, which shows that the eclipse is known through the interposition and not vice versa.

On the other hand, can a single effect have more than one cause? One might argue as follows: if the same attribute is predicable of more than one thing as its primary subject, let B be a primary subject in which A inheres, and C another primary subject of A, and D and E primary subjects of B and C respectively. A will then inhere in D and E, and B will be the cause of A’s inherence in D, C of A’s inherence in E. The presence of the cause thus necessitates that of the effect, but the presence of the effect necessitates the presence not of all that may cause it but only of a cause which yet need not be the whole cause. We may, however, suggest that if the connexion to be proved is always universal and commensurate, not only will the cause be a whole but also the effect will be universal and commensurate. For instance, deciduous character will belong exclusively to a subject which is a whole, and, if this whole has species, universally and commensurately to those species-i.e. either to all species of plant or to a single species. So in these universal and commensurate connexions the ‘middle’ and its effect must reciprocate, i.e. be convertible. Supposing, for example, that the reason why trees are deciduous is the coagulation of sap, then if a tree is deciduous, coagulation must be present, and if coagulation is present-not in any subject but in a tree-then that tree must be deciduous.

17

Can the cause of an identical effect be not identical in every instance of the effect but different? Or is that impossible? Perhaps it is impossible if the effect is demonstrated as essential and not as inhering in virtue of a symptom or an accident-because the middle is then the definition of the major term-though possible if the demonstration is not essential. Now it is possible to consider the effect and its subject as an accidental conjunction, though such conjunctions would not be regarded as connexions demanding scientific proof. But if they are accepted as such, the middle will correspond to the extremes, and be equivocal if they are equivocal, generically one if they are generically one. Take the question why proportionals alternate. The cause when they are lines, and when they are numbers, is both different and identical; different in so far as lines are lines and not numbers, identical as involving a given determinate increment. In all proportionals this is so. Again, the cause of likeness between colour and colour is other than that between figure and figure; for likeness here is equivocal, meaning perhaps in the latter case equality of the ratios of the sides and equality of the angles, in the case of colours identity of the act of perceiving them, or something else of the sort. Again, connexions requiring proof which are identical by analogy middles also analogous.

The truth is that cause, effect, and subject are reciprocally predicable in the following way. If the species are taken severally, the effect is wider than the subject (e.g. the possession of external angles equal to four right angles is an attribute wider than triangle or are), but it is coextensive with the species taken collectively (in this instance with all figures whose external angles are equal to four right angles). And the middle likewise reciprocates, for the middle is a definition of the major; which is incidentally the reason why all the sciences are built up through definition.

We may illustrate as follows. Deciduous is a universal attribute of vine, and is at the same time of wider extent than vine; and of fig, and is of wider extent than fig: but it is not wider than but coextensive with the totality of the species. Then if you take the middle which is proximate, it is a definition of deciduous. I say that, because you will first reach a middle next the subject, and a premiss asserting it of the whole subject, and after that a middle-the coagulation of sap or something of the sort-proving the connexion of the first middle with the major: but it is the coagulation of sap at the junction of leaf-stalk and stem which defines deciduous.

If an explanation in formal terms of the inter-relation of cause and effect is demanded, we shall offer the following. Let A be an attribute of all B, and B of every species of D, but so that both A and B are wider than their respective subjects. Then B will be a universal attribute of each species of D (since I call such an attribute universal even if it is not commensurate, and I call an attribute primary universal if it is commensurate, not with each species severally but with their totality), and it extends beyond each of them taken separately.

Thus, B is the cause of A's inherence in the species of D: consequently A must be of wider extent than B; otherwise why should B be the cause of A's inherence in D any more than A the cause of B's inherence in D? Now if A is an attribute of all the species of E, all the species of E will be united by possessing some common cause other than B: otherwise how shall we be able to say that A is predicable of all of which E is predicable, while E is not predicable of all of which A can be predicated? I mean how can there fail to be some special cause of A's inherence in E, as there was of A's inherence in all the species of D? Then are the species of E, too, united by possessing some common cause? This cause we must look for. Let us call it C.

We conclude, then, that the same effect may have more than one cause, but not in subjects specifically identical. For instance, the cause of longevity in quadrupeds is lack of bile, in birds a dry constitution-or certainly something different.

18

If immediate premisses are not reached at once, and there is not merely one middle but several middles, i.e. several causes; is the cause of the property's inherence in the several species the middle which is proximate to the primary universal, or the middle which is proximate to the species? Clearly the cause is that nearest to each species severally in which it is manifested, for that is the cause of the subject's falling under the universal. To illustrate formally: C is the cause of B's inherence in D; hence C is the cause of A's inherence in D, B of A's inherence in C, while the cause of A's inherence in B is B itself.

19

As regards syllogism and demonstration, the definition of, and the conditions required to produce each of them, are now clear, and with that also the definition of, and the conditions required to produce, demonstrative knowledge, since it is the same as demonstration. As to the basic premisses, how they become known and what is the developed state of knowledge of them is made clear by raising some preliminary problems.

We have already said that scientific knowledge through demonstration is impossible unless a man knows the primary immediate premisses. But there are questions which might be raised in respect of the apprehension of these immediate premisses: one might not only ask whether it is of the same kind as the apprehension of the conclusions, but also whether there is or is not scientific knowledge of both; or scientific knowledge of the latter, and of the former a different kind of knowledge; and, further, whether the developed states of knowledge are not innate but come to be in us, or are innate but at first unnoticed. Now it is strange if we possess them from birth; for it means that we possess apprehensions more accurate than demonstration and fail to notice them. If on the other hand we acquire them and do not previously possess them, how could we apprehend and learn without a basis of pre-existent knowledge? For that is impossible, as we used to find in the case of demonstration. So it emerges that neither can we possess them from birth, nor can they come to be in us if we are without knowledge of them to the extent of having no such developed state at all. Therefore we must possess a capacity of some sort, but not such as to rank higher in accuracy than these developed states. And this at least is an obvious characteristic of all animals, for they possess a congenital discriminative capacity which is called sense-perception. But though sense-perception is innate in all animals, in some the sense-impression comes to persist, in others it does not. So animals in which this persistence does not come to be have either no knowledge at all outside the act of perceiving, or no knowledge of objects of which no impression persists; animals in which it does come into being have perception and can continue to retain the sense-impression in the soul: and when such persistence is frequently repeated a further distinction at once arises between those which out of the persistence of such sense-impressions develop a power of systematizing them and those which do not. So out of sense-perception comes to be what we call memory, and out of frequently repeated memories of the same thing develops experience; for a number of memories constitute a single experience. From experience again-i.e. from the universal now stabilized in its entirety within the soul, the one beside the many which is a single identity within them all-originate the skill of the craftsman and the knowledge of the man of science, skill in the sphere of coming to be and science in the sphere of being.

We conclude that these states of knowledge are neither innate in a determinate form, nor developed from other higher states of knowledge, but from sense-perception. It is like a rout in battle stopped by first one man making a stand and then another, until the original formation has been restored. The soul is so constituted as to be capable of this process.

Let us now restate the account given already, though with insufficient clearness. When one of a number of logically indiscriminable particulars has made a stand, the earliest universal is present in the soul: for though the act of sense-perception is of the particular, its content is universal-is man, for example, not the man Callias. A fresh stand is made among these rudimentary universals, and the process does not cease until the indivisible concepts, the true universals, are established: e.g. such and such a species of animal is a step towards the genus animal, which by the same process is a step towards a further generalization.

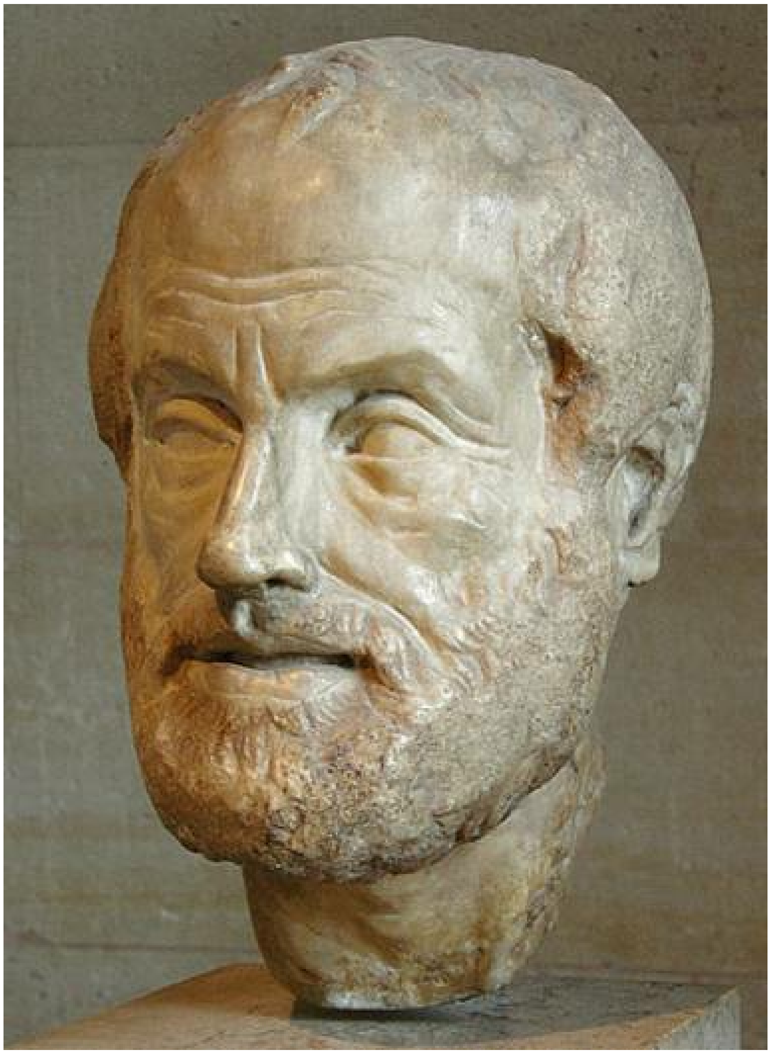
Thus it is clear that we must get to know the primary premisses by induction; for the method by which even sense-perception implants the universal is inductive. Now of the thinking states by which we grasp truth, some are unfailingly true, others admit of error-opinion, for instance, and calculation, whereas scientific knowing and intuition are always true: further, no other kind of thought except intuition is more accurate than scientific knowledge, whereas primary premisses are more knowable than demonstrations, and all scientific knowledge is discursive. From these considerations it follows that there will be no scientific knowledge of the primary premisses, and since except intuition nothing can be truer than scientific knowledge, it will be intuition that apprehends the primary premisses-a result which also follows from the fact that demonstration cannot be the originative source of demonstration, nor, consequently, scientific knowledge of scientific knowledge.If, therefore, it is the only other kind of true thinking except scientific knowing, intuition will be the originative source of scientific knowledge. And the originative source of science grasps the original basic premiss, while science as a whole is similarly related as originative source to the whole body of fact.

Topics (100a)

Translated by W. A. Pickard-Cambridge

This is Aristotle’s treatise on the art of dialectic, concerning the invention and discovery of arguments in which the propositions rest upon commonly held opinions or endoxa. The title τόποι relates to “places” from which such arguments can be discovered or invented. Aristotle does not explicitly define a topos, though it is at least primarily a strategy for argument not infrequently justified or explained by a principle. Though the *Topics* does not deal directly with the “forms of syllogism”, clearly Aristotle contemplates the use of topics as places from which dialectical syllogisms may be derived.

Book I of the Topics is introductory, laying down a number of preliminary principles upon which dialectical argumentation proceeds. Book II is devoted to an explication of topics relating to arguments where an “accident” is predicated of a subject. Book III concerns commonplaces from which things can be discussed with respect to whether they are “better” or “worse”. Book IV deals with “genus” — how it is discovered and what are the sources of argument for and against attribution of a genus. Book V discusses the base of “property” — that which is attributable only to a particular subject and is not an essential attribute. Property is subdivided into essential[9] and permanent, versus relative and temporary. Book VI describes “definition” and the numerous means that may be used to attack and defend a definition. Book VII is a short recapitulation of “definition” and “sameness”, and compares the various difficulties involved in forming arguments, both pro and con, about the other bases of dialectical disputation. The final eighth book is a lengthy survey containing suggestions, hints, and some tricks about the technique of organizing and delivering one or the other side of verbal disputation.



A Roman bust of Aristotle, housed in the Louvre

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Book I

1

OUR treatise proposes to find a line of inquiry whereby we shall be able to reason from opinions that are generally accepted about every problem propounded to us, and also shall ourselves, when standing up to an argument, avoid saying anything that will obstruct us. First, then, we must say what reasoning is, and what its varieties are, in order to grasp dialectical reasoning: for this is the object of our search in the treatise before us.

Now reasoning is an argument in which, certain things being laid down, something other than these necessarily comes about through them. (a) It is a 'demonstration', when the premisses from which the reasoning starts are true and primary, or are such that our knowledge of them has originally come through premisses which are primary and true: (b) reasoning, on the other hand, is 'dialectical', if it reasons from opinions that are generally accepted. Things are 'true' and 'primary' which are believed on the strength not of anything else but of themselves: for in regard to the first principles of science it is improper to ask any further for the why and wherefore of them; each of the first principles should command belief in and by itself. On the other hand, those opinions are 'generally accepted' which are accepted by every one or by the majority or by the philosophers-i.e. by all, or by the majority, or by the most notable and illustrious of them. Again (c), reasoning is 'contentious' if it starts from opinions that seem to be generally accepted, but are not really such, or again if it merely seems to reason from opinions that are or seem to be generally accepted. For not every opinion that seems to be generally accepted actually is generally accepted. For in none of the opinions which we call generally accepted is the illusion entirely on the surface, as happens in the case of the principles of contentious arguments; for the nature of the fallacy in these is obvious immediately, and as a rule even to persons with little power of comprehension. So then, of the contentious reasonings mentioned, the former really deserves to be called 'reasoning' as well, but the other should be called 'contentious reasoning', but not 'reasoning', since it appears to reason, but does not really do so. Further (d), besides all the reasonings we have mentioned there are the mis-reasonings that start from the premisses peculiar to the special sciences, as happens (for example) in the case of geometry and her sister sciences. For this form of reasoning appears to differ from the reasonings mentioned above; the man who draws a false figure reasons from things that are neither true and primary, nor yet generally accepted. For he does not fall within the definition; he does not assume opinions that are received either by every one or by the majority or by philosophers-that is to say, by all, or by most, or by the most illustrious of them-but he conducts his reasoning upon assumptions which, though appropriate to the science in question, are not true; for he effects his mis-reasoning either by describing the semicircles wrongly or by drawing certain lines in a way in which they could not be drawn.

The foregoing must stand for an outline survey of the species of reasoning. In general, in regard both to all that we have already discussed and to those which we shall discuss later, we may remark that that amount of distinction between them may serve, because it is not our purpose to give the exact definition of any of them; we merely want to describe them in outline; we consider it quite enough from the point of view of the line of inquiry before us to be able to recognize each of them in some sort of way.

2

Next in order after the foregoing, we must say for how many and for what purposes the treatise is useful. They are three-intellectual training, casual encounters, and the philosophical sciences. That it is useful as a training is obvious on the face of it. The possession of a plan of inquiry will enable us more easily to argue about the subject proposed. For purposes of casual encounters, it is useful because when we have counted up the opinions held by most people, we shall meet them on the ground not of other people’s convictions but of their own, while we shift the ground of any argument that they appear to us to state unsoundly. For the study of the philosophical sciences it is useful, because the ability to raise searching difficulties on both sides of a subject will make us detect more easily the truth and error about the several points that arise. It has a further use in relation to the ultimate bases of the principles used in the several sciences. For it is impossible to discuss them at all from the principles proper to the particular science in hand, seeing that the principles are the prius of everything else: it is through the opinions generally held on the particular points that these have to be discussed, and this task belongs properly, or most appropriately, to dialectic: for dialectic is a process of criticism wherein lies the path to the principles of all inquiries.

3

We shall be in perfect possession of the way to proceed when we are in a position like that which we occupy in regard to rhetoric and medicine and faculties of that kind: this means the doing of that which we choose with the materials that are available. For it is not every method that the rhetorician will employ to persuade, or the doctor to heal; still, if he omits none of the available means, we shall say that his grasp of the science is adequate.

4

First, then, we must see of what parts our inquiry consists. Now if we were to grasp (a) with reference to how many, and what kind of, things arguments take place, and with what materials they start, and (h) how we are to become well supplied with these, we should have sufficiently won our goal. Now the materials with which arguments start are equal in number, and are identical, with the subjects on which reasonings take place. For arguments start with ‘propositions’, while the subjects on which reasonings take place are ‘problems’. Now every proposition and every problem indicates either a genus or a peculiarity or an accident-for the differentia too, applying as it does to a class (or genus), should be ranked together with the genus. Since, however, of what is peculiar to anything part signifies its essence, while part does not, let us divide the ‘peculiar’ into both the aforesaid parts, and call that part which indicates the essence a ‘definition’, while of the remainder let us adopt the terminology which is generally current about these things, and speak of it as a ‘property’. What we have said, then, makes it clear that according to our present division, the elements turn out to be four, all told, namely either property or definition or genus or accident. Do not let any one suppose us to mean that each of these enunciated by itself constitutes a proposition or problem, but only that it is from these that both problems and propositions are formed. The difference between a problem and a proposition is a difference in the turn of the phrase. For if it be put in this way, '"An animal that walks on two feet" is the definition of man, is it not?' or '"Animal" is the genus of man, is it not?' the result is a proposition: but if thus, 'Is "an animal that walks on two feet" a definition of man or no?' [or 'Is "animal" his genus or no?'] the result is a problem. Similarly too in other cases. Naturally, then, problems and propositions are equal in number: for out of every proposition you will make a problem if you change the turn of the phrase.

5

We must now say what are 'definition', 'property', 'genus', and 'accident'. A 'definition' is a phrase signifying a thing's essence. It is rendered in the form either of a phrase in lieu of a term, or of a phrase in lieu of another phrase; for it is sometimes possible to define the meaning of a phrase as well. People whose rendering consists of a term only, try it as they may, clearly do not render the definition of the thing in question, because a definition is always a phrase of a certain kind. One may, however, use the word 'definitory' also of such a remark as 'The "becoming" is "beautiful"', and likewise also of the question, 'Are sensation and knowledge the same or different?', for argument about definitions is mostly concerned with questions of sameness and difference. In a word we may call 'definitory' everything that falls under the same branch of inquiry as definitions; and that all the above-mentioned examples are of this character is clear on the face of them. For if we are able to argue that two things are the same or are different, we shall be well supplied by the same turn of argument with lines of attack upon their definitions as well: for when we have shown that they are not the same we shall have demolished the definition. Observe, please, that the converse of this last statement does not hold: for to show that they are the same is not enough to establish a definition. To show, however, that they are not the same is enough of itself to overthrow it.

A 'property' is a predicate which does not indicate the essence of a thing, but yet belongs to that thing alone, and is predicated convertibly of it. Thus it is a property of man to-be-capable of learning grammar: for if A be a man, then he is capable of learning grammar, and if he be capable of learning grammar, he is a man. For no one calls anything a ‘property’ which may possibly belong to something else, e.g. ‘sleep’ in the case of man, even though at a certain time it may happen to belong to him alone. That is to say, if any such thing were actually to be called a property, it will be called not a ‘property’ absolutely, but a ‘temporary’ or a ‘relative’ property: for ‘being on the right hand side’ is a temporary property, while ‘two-footed’ is in point of fact ascribed as a property in certain relations; e.g. it is a property of man relatively to a horse and a dog. That nothing which may belong to anything else than A is a convertible predicate of A is clear: for it does not necessarily follow that if something is asleep it is a man.

A ‘genus’ is what is predicated in the category of essence of a number of things exhibiting differences in kind. We should treat as predicates in the category of essence all such things as it would be appropriate to mention in reply to the question, ‘What is the object before you?’; as, for example, in the case of man, if asked that question, it is appropriate to say ‘He is an animal’. The question, ‘Is one thing in the same genus as another or in a different one?’ is also a ‘generic’ question; for a question of that kind as well falls under the same branch of inquiry as the genus: for having argued that ‘animal’ is the genus of man, and likewise also of ox, we shall have argued that they are in the same genus; whereas if we show that it is the genus of the one but not of the other, we shall have argued that these things are not in the same genus.

An ‘accident’ is (i) something which, though it is none of the foregoing-i.e. neither a definition nor a property nor a genus yet belongs to the thing: (something which may possibly either belong or not belong to any one and the self-same thing, as (e.g.) the ‘sitting posture’ may belong or not belong to some self-same thing. Likewise also ‘whiteness’, for there is nothing to prevent the same thing being at one time white, and at another not white. Of the definitions of accident the second is the better: for if he adopts the first, any one is bound, if he is to understand it, to know already what ‘definition’ and ‘genus’ and ‘property’ are, whereas the second is sufficient of itself to tell us the essential meaning of the term in question. To Accident are to be attached also all comparisons of things together, when expressed in language that is drawn in any kind of way from what happens (accidit) to be true of them; such as, for example, the question, ‘Is the honourable or the expedient preferable?’ and ‘Is the life of virtue or the life of self-indulgence the pleasanter?’, and any other problem which may happen to be phrased in terms like these. For in all such cases the question is ‘to which of the two does the predicate in question happen (accidit) to belong more closely?’ It is clear on the face of it that there is nothing to prevent an accident from becoming a temporary or relative property. Thus the sitting posture is an accident, but will be a temporary property, whenever a man is the only person sitting, while if he be not the only one sitting, it is still a property relatively to those who are not sitting. So then, there is nothing to prevent an accident from becoming both a relative and a temporary property; but a property absolutely it will never be.

6

We must not fail to observe that all remarks made in criticism of a ‘property’ and ‘genus’ and ‘accident’ will be applicable to ‘definitions’ as well. For when we have shown that the attribute in question fails to belong only to the term defined, as we do also in the case of a property, or that the genus rendered in the definition is not the true genus, or that any of the things mentioned in the phrase used does not belong, as would be remarked also in the case of an accident, we shall have demolished the definition; so that, to use the phrase previously employed,’ all the points we have enumerated might in a certain sense be called ‘definitory’. But we must not on this account expect to find a single line of inquiry which will apply universally to them all: for this is not an easy thing to find, and, even were one found, it would be very obscure indeed, and of little service for the treatise before us. Rather, a special plan of inquiry must be laid down for each of the classes we have distinguished, and then, starting from the rules that are appropriate in each case, it will probably be easier to make our way right through the task before us. So then, as was said before,’ we must outline a division of our subject, and other questions we must relegate each to the particular branch to which it most naturally belongs, speaking of them as ‘definitory’ and ‘generic’ questions. The questions I mean have practically been already assigned to their several branches.

7

First of all we must define the number of senses borne by the term ‘Sameness’. Sameness would be generally regarded as falling, roughly speaking, into three divisions. We generally apply the term numerically or specifically or generically-numerically in cases where there is more than one name but only one thing, e.g. ‘doublet’ and ‘cloak’; specifically, where there is more than one thing, but they present no differences in respect of their species, as one man and another, or one horse and another: for things like this that fall under the same species are said to be ‘specifically the same’. Similarly, too, those things are called generically the same which fall under the same genus, such as a horse and a man. It might appear that the sense in which water from the same spring is called ‘the same water’ is somehow different and unlike the senses mentioned above: but really such a case as this ought to be ranked in the same class with the things that in one way or another are called ‘the same’ in view of unity of species. For all such things seem to be of one family and to resemble one another. For the reaon why all water is said to be specifically the same as all other water is because of a certain likeness it bears to it, and the only difference in the case of water drawn from the same spring is this, that the likeness is more emphatic: that is why we do not distinguish it from the things that in one way or another are called ‘the same’ in view of unity of species. It is generally supposed that the term ‘the same’ is most used in a sense agreed on by every one when applied to what is numerically one. But even so, it is apt to be rendered in more than one sense; its most literal and primary use is found whenever the sameness is rendered in reference to an alternative name or definition, as when a cloak is said to be the same as a doublet, or an animal that walks on two feet is said to be the same as a man: a second sense is when it is rendered in reference to a property, as when what can acquire knowledge is called the same as a man, and what naturally travels upward the same as fire: while a third use is found when it is rendered in reference to some term drawn from Accident, as when the creature who is sitting, or who is musical, is called the same as Socrates. For all these uses mean to signify numerical unity. That what I have just said is true may be best seen where one form of appellation is substituted for another. For often when we give the order to call one of the people who are sitting down, indicating him by name, we change our description, whenever the person to whom we give the order happens not to understand us; he will, we think, understand better from some accidental feature; so we bid him call to us ‘the man who is sitting’ or ‘who is conversing over there’-clearly supposing ourselves to be indicating the same object by its name and by its accident.

8

Of ‘sameness’ then, as has been said,’ three senses are to be distinguished. Now one way to confirm that the elements mentioned above are those out of which and through which and to which arguments proceed, is by induction: for if any one were to survey propositions and problems one by one, it would be seen that each was formed either from the definition of something or from its property or from its genus or from its accident. Another way to confirm it is through reasoning. For every predicate of a subject must of necessity be either convertible with its subject or not: and if it is convertible, it would be its definition or property, for if it signifies the essence, it is the definition; if not, it is a property: for this was what a property is, viz. what is predicated convertibly, but does not signify the essence. If, on the other hand, it is not predicated convertibly of the thing, it either is or is not one of the terms contained in the definition of the subject: and if it be one of those terms, then it will be the genus or the differentia, inasmuch as the definition consists of genus and differentiae; whereas, if it be not one of those terms, clearly it would be an accident, for accident was said’ to be what belongs as an attribute to a subject without being either its definition or its genus or a property.

9

Next, then, we must distinguish between the classes of predicates in which the four orders in question are found. These are ten in number: Essence, Quantity, Quality, Relation, Place, Time, Position, State, Activity, Passivity. For the accident and genus and property and definition of anything will always be in one of these categories: for all the propositions found through these signify either something’s essence or its quality or quantity or some one of the other types of predicate. It is clear, too, on the face of it that the man who signifies something’s essence signifies sometimes a substance, sometimes a quality, sometimes some one of the other types of predicate. For when man is set before him and he says that what is set there is ‘a man’ or ‘an animal’, he states its essence and signifies a substance; but when a white colour is set before him and he says that what is set there is ‘white’ or is ‘a colour’, he states its essence and signifies a quality. Likewise, also, if a magnitude of a cubit be set before him and he says that what is set there is a magnitude of a cubit, he will be describing its essence and signifying a quantity. Likewise, also, in the other cases: for each of these kinds of predicate, if either it be asserted of itself, or its genus be asserted of it, signifies an essence: if, on the other hand, one kind of predicate is asserted of another kind, it does not signify an essence, but a quantity or a quality or one of the other kinds of predicate. Such, then, and so many, are the subjects on which arguments take place, and the materials with which they start. How we are to acquire them, and by what means we are to become well supplied with them, falls next to be told.

10

First, then, a definition must be given of a ‘dialectical proposition’ and a ‘dialectical problem’. For it is not every proposition nor yet every problem that is to be set down as dialectical: for no one in his senses would make a proposition of what no one holds, nor yet make a problem of what is obvious to everybody or to most people: for the latter admits of no doubt, while to the former no one would assent. Now a dialectical proposition consists in asking something that is held by all men or by most men or by the philosophers, i.e. either by all, or by most, or by the most notable of these, provided it be not contrary to the general opinion; for a man would probably assent to the view of the philosophers, if it be not contrary to the opinions of most men. Dialectical propositions also include views which are like those generally accepted; also propositions which contradict the contraries of opinions that are taken to be generally accepted, and also all opinions that are in accordance with the recognized arts. Thus, supposing it to be a general opinion that the knowledge of contraries is the same, it might probably pass for a general opinion also that the perception of contraries is the same: also, supposing it to be a general opinion that there is but one single science of grammar, it might pass for a general opinion that there is but one science of flute-playing as well, whereas, if it be a general opinion that there is more than one science of grammar, it might pass for a general opinion that there is more than one science of flute-playing as well: for all these seem to be alike and akin. Likewise, also, propositions contradicting the contraries of general opinions will pass as general opinions: for if it be a general opinion that one ought to do good to one's friends, it will also be a general opinion that one ought not to do them harm. Here, that one ought to do harm to one's friends is contrary to the general view, and that one ought not to do them harm is the contradictory of that contrary. Likewise also, if one ought to do good to one's friends, one ought not to do good to one's enemies: this too is the contradictory of the view contrary to the general view; the contrary being that one ought to do good to one's enemies. Likewise, also, in other cases. Also, on comparison, it will look like a general opinion that the contrary predicate belongs to the contrary subject: e.g. if one ought to do good to one's friends, one ought also to do evil to one's enemies. it might appear also as if doing good to one's friends were a contrary to doing evil to one's enemies: but whether this is or is not so in reality as well will be stated in the course of the discussion upon contraries. Clearly also, all opinions that are in accordance with the arts are dialectical propositions; for people are likely to assent to the views held by those who have made a study of these things, e.g. on a question of medicine they will agree with the doctor, and on a question of geometry with the geometrician; and likewise also in other cases.

11

A dialectical problem is a subject of inquiry that contributes either to choice and avoidance, or to truth and knowledge, and that either by itself, or as a help to the solution of some other such problem. It must, moreover, be something on which either people hold no opinion either way, or the masses hold a contrary opinion to the philosophers, or the philosophers to the masses, or each of them among themselves. For some problems it is useful to know with a view to choice or avoidance, e.g. whether pleasure is to be chosen or not, while some it is useful to know merely with a view to knowledge, e.g. whether the universe is eternal or not: others, again, are not useful in and by themselves for either of these purposes, but yet help us in regard to some such problems; for there are many things which we do not wish to know in and by themselves, but for the sake of other things, in order that through them we may come to know something else. Problems also include questions in regard to which reasonings conflict (the difficulty then being whether so-and so is so or not, there being convincing arguments for both views); others also in regard to which we have no argument because they are so vast, and we find it difficult to give our reasons, e.g. the question whether the universe is eternal or no: for into questions of that kind too it is possible to inquire.

Problems, then, and propositions are to be defined as aforesaid. A 'thesis' is a supposition of some eminent philosopher that conflicts with the general opinion; e.g. the view that contradiction is impossible, as Antisthenes said; or the view of Heraclitus that all things are in motion; or that Being is one, as Melissus says: for to take notice when any ordinary person expresses views contrary to men's usual opinions would be silly. Or it may be a view about which we have a reasoned theory contrary to men's usual opinions, e.g. the view maintained by the sophists that what is need not in every case either have come to be or be eternal: for a musician who is a grammarian 'is' so without ever having 'come to be' so, or being so eternally. For even if a man does not accept this view, he might do so on the ground that it is reasonable.

Now a 'thesis' also is a problem, though a problem is not always a thesis, inasmuch as some problems are such that we have no opinion about them either way. That a thesis, however, also forms a problem, is clear: for it follows of necessity from what has been said that either the mass of men disagree with the philosophers about the thesis, or that the one or the other class disagree among themselves, seeing that the thesis is a supposition in conflict with general opinion. Practically all dialectical problems indeed are now called 'theses'. But it should make no difference whichever description is used; for our object in thus distinguishing them has not been to create a terminology, but to recognize what differences happen to be found between them.

Not every problem, nor every thesis, should be examined, but only one which might puzzle one of those who need argument, not punishment or perception. For people who are puzzled to know whether one ought to honour the gods and love one's parents or not need punishment, while those who are puzzled to know whether snow is white or not need perception. The subjects should not border too closely upon the sphere of demonstration, nor yet be too far removed from it: for the former cases admit of no doubt, while the latter involve difficulties too great for the art of the trainer.

12

Having drawn these definitions, we must distinguish how many species there are of dialectical arguments. There is on the one hand Induction, on the other Reasoning. Now what reasoning is has been said before: induction is a passage from individuals to universals, e.g. the argument that supposing the skilled pilot is the most effective, and likewise the skilled charioteer, then in general the skilled man is the best at his particular task. Induction is the more convincing and clear: it is more readily learnt by the use of the senses, and is applicable generally to the mass of men, though reasoning is more forcible and effective against contradictious people.

13

The classes, then, of things about which, and of things out of which, arguments are constructed, are to be distinguished in the way we have said before. The means whereby we are to become well supplied with reasonings are four: (1) the securing of propositions; (2) the power to distinguish in how many senses particular expression is used; (3) the discovery of the differences of things; (4) the investigation of likeness. The last three, as well, are in a certain sense propositions: for it is possible to make a proposition corresponding to each of them, e.g. (1) ‘The desirable may mean either the honourable or the pleasant or the expedient’; and (2) Sensation differs from knowledge in that the latter may be recovered again after it has been lost, while the former cannot’; and (3) The relation of the healthy to health is like that of the vigorous to vigour’. The first proposition depends upon the use of one term in several senses, the second upon the differences of things, the third upon their likenesses.

14

Propositions should be selected in a number of ways corresponding to the number of distinctions drawn in regard to the proposition: thus one may first take in hand the opinions held by all or by most men or by the philosophers, i.e. by all, or most, or the most notable of them; or opinions contrary to those that seem to be generally held; and, again, all opinions that are in accordance with the arts. We must make propositions also of the contradictories of opinions contrary to those that seem to be generally held, as was laid down before. It is useful also to make them by selecting not only those opinions that actually are accepted, but also those that are like these, e.g. ‘The perception of contraries is the same’-the knowledge of them being so-and ‘we see by admission of something into ourselves, not by an emission’; for so it is, too, in the case of the other senses; for in hearing we admit something into ourselves; we do not emit; and we taste in the same way. Likewise also in the other cases. Moreover, all statements that seem to be true in all or in most cases, should be taken as a principle or accepted position; for they are posited by those who do not also see what exception there may be. We should select also from the written handbooks of argument, and should draw up sketch-lists of them upon each several kind of subject, putting them down under separate headings, e.g. ‘On Good’, or ‘On Life’-and that ‘On Good’ should deal with every form of good, beginning with the category of essence. In the margin, too, one should indicate also the opinions of individual thinkers, e.g. ‘Empedocles said that the elements of bodies were four’: for any one might assent to the saying of some generally accepted authority.

Of propositions and problems there are-to comprehend the matter in outline-three divisions: for some are ethical propositions, some are on natural philosophy, while some are logical. Propositions such as the following are ethical, e.g. ‘Ought one rather to obey one’s parents or the laws, if they disagree?’; such as this are logical, e.g. ‘Is the knowledge of opposites the same or not?’; while such as this are on natural philosophy, e.g. ‘Is the universe eternal or not?’ Likewise also with problems. The nature of each of the aforesaid kinds of proposition is not easily rendered in a definition, but we have to try to recognize each of them by means of the familiarity attained through induction, examining them in the light of the illustrations given above.

For purposes of philosophy we must treat of these things according to their truth, but for dialectic only with an eye to general opinion. All propositions should be taken in their most universal form; then, the one should be made into many. E.g. ‘The knowledge of opposites is the same’; next, ‘The knowledge of contraries is the same’, and that ‘of relative terms’. In the same way these two should again be divided, as long as division is possible, e.g.

the knowledge of ‘good and evil’, of ‘white and black’, or ‘cold and hot’. Likewise also in other cases.

15

On the formation, then, of propositions, the above remarks are enough. As regards the number of senses a term bears, we must not only treat of those terms which bear different senses, but we must also try to render their definitions; e.g. we must not merely say that justice and courage are called ‘good’ in one sense, and that what conduces to vigour and what conduces to health are called so in another, but also that the former are so called because of a certain intrinsic quality they themselves have, the latter because they are productive of a certain result and not because of any intrinsic quality in themselves. Similarly also in other cases.

Whether a term bears a number of specific meanings or one only, may be considered by the following means. First, look and see if its contrary bears a number of meanings, whether the discrepancy between them be one of kind or one of names. For in some cases a difference is at once displayed even in the names; e.g. the contrary of ‘sharp’ in the case of a note is ‘flat’, while in the case of a solid edge it is ‘dull’. Clearly, then, the contrary of ‘sharp’ bears several meanings, and if so, also does ‘sharp’; for corresponding to each of the former terms the meaning of its contrary will be different. For ‘sharp’ will not be the same when contrary to ‘dull’ and to ‘flat’, though ‘sharp’ is the contrary of each. Again Barhu (‘flat’, ‘heavy’) in the case of a note has ‘sharp’ as its contrary, but in the case of a solid mass ‘light’, so that Barhu is used with a number of meanings, inasmuch as its contrary also is so used. Likewise, also, ‘fine’ as applied to a picture has ‘ugly’ as its contrary, but, as applied to a house, ‘ramshackle’; so that ‘fine’ is an ambiguous term.

In some cases there is no discrepancy of any sort in the names used, but a difference of kind between the meanings is at once obvious: e.g. in the case of ‘clear’ and ‘obscure’: for sound is called ‘clear’ and ‘obscure’, just as ‘colour’ is too. As regards the names, then, there is no discrepancy, but the difference in kind between the meanings is at once obvious: for colour is not called ‘clear’ in a like sense to sound. This is plain also through sensation: for of things that are the same in kind we have the same sensation, whereas we do not judge clearness by the same sensation in the case of sound and of colour, but in the latter case we judge by sight, in the former by hearing. Likewise also with ‘sharp’ and ‘dull’ in regard to flavours and solid edges: here in the latter case we judge by touch, but in the former by taste. For here again there is no discrepancy in the names used, in the case either of the original terms or of their contraries: for the contrary also of sharp in either sense is ‘dull’.

Moreover, see if one sense of a term has a contrary, while another has absolutely none; e.g. the pleasure of drinking has a contrary in the pain of thirst, whereas the pleasure of seeing that the diagonal is incommensurate with the side has none, so that ‘pleasure’ is used in more than one sense. To ‘love’ also, used of the frame of mind, has to ‘hate’ as its contrary, while as used of the physical activity (kissing) it has none: clearly, therefore, to ‘love’ is an ambiguous term. Further, see in regard to their intermediates, if some meanings and their contraries have an intermediate, others have none, or if both have one but not the same one, e.g. ‘clear’ and ‘obscure’ in the case of colours have ‘grey’ as an intermediate, whereas in the case of sound they have none, or, if they have, it is ‘harsh’, as some people say that a harsh sound is intermediate. ‘Clear’, then, is an ambiguous term, and likewise also ‘obscure’. See, moreover, if some of them have more than one intermediate, while others have but one, as is the case with ‘clear’ and ‘obscure’, for in the case of colours there are numbers of intermediates, whereas in regard to sound there is but one, viz. ‘harsh’.

Again, in the case of the contradictory opposite, look and see if it bears more than one meaning. For if this bears more than one meaning, then the opposite of it also will be used in more than one meaning; e.g. ‘to fail to see’ a phrase with more than one meaning, viz. (1) to fail to possess the power of sight, (2) to fail to put that power to active use. But if this has more than one meaning, it follows necessarily that ‘to see’ also has more than one meaning: for there will be an opposite to each sense of ‘to fail to see’; e.g. the opposite of ‘not to possess the power of sight’ is to possess it, while of ‘not to put the power of sight to active use’, the opposite is to put it to active use.

Moreover, examine the case of terms that denote the privation or presence of a certain state: for if the one term bears more than one meaning, then so will the remaining term: e.g. if ‘to have sense’ be used with more than one meaning, as applied to the soul and to the body, then ‘to be wanting in sense’ too will be used with more than one meaning, as applied to the soul and to the body. That the opposition between the terms now in question depends upon the privation or presence of a certain state is clear, since animals naturally possess each kind of ‘sense’, both as applied to the soul and as applied to the body.

Moreover, examine the inflected forms. For if ‘justly’ has more than one meaning, then ‘just’, also, will be used with more than one meaning; for there will be a meaning of ‘just’ to each of the meanings of ‘justly’; e.g. if the word ‘justly’ be used of judging according to one’s own opinion, and also of judging as one ought, then ‘just’ also will be used in like manner. In the same way also, if ‘healthy’ has more than one meaning, then ‘healthily’ also will be used with more than one meaning: e.g. if ‘healthy’ describes both what produces health and what preserves health and what betokens health, then ‘healthily’ also will be used to mean ‘in such a way as to produce’ or ‘preserve’ or ‘betoken’ health. Likewise also in other cases, whenever the original term bears more than one meaning, the inflexion also that is formed from it will be used with more than one meaning, and vice versa.

Look also at the classes of the predicates signified by the term, and see if they are the same in all cases. For if they are not the same, then clearly the term is ambiguous: e.g. ‘good’ in the case of food means ‘productive of pleasure’, and in the case of medicine ‘productive of health’, whereas as applied to the soul it means to be of a certain quality, e.g. temperate or courageous or just: and likewise also, as applied to ‘man’. Sometimes it signifies what happens at a certain time, as (e.g.) the good that happens at the right time: for what happens at the right time is called good. Often it signifies what is of certain quantity, e.g. as applied to the proper amount: for the proper amount too is called good. So then the term ‘good’ is ambiguous. In the same way also ‘clear’, as applied to a body, signifies a colour, but in regard to a note it denotes what is ‘easy to hear’. ‘Sharp’, too, is in a closely similar case: for the same term does not bear the same meaning in all its applications: for a sharp note is a swift note, as the mathematical theorists of harmony tell us, whereas a sharp (acute) angle is one that is less than a right angle, while a sharp dagger is one containing a sharp angle (point).

Look also at the genera of the objects denoted by the same term, and see if they are different without being subaltern, as (e.g.) ‘donkey’, which denotes both the animal and the engine. For the definition of them that corresponds to the name is different: for the one will be declared to be an animal of a certain kind, and the other to be an engine of a certain kind. If, however, the genera be subaltern, there is no necessity for the definitions to be different. Thus (e.g.) ‘animal’ is the genus of ‘raven’, and so is ‘bird’. Whenever therefore we say that the raven is a bird, we also say that it is a certain kind of animal, so that both the genera are predicated of it. Likewise also whenever we call the raven a ‘flying biped animal’, we declare it to be a bird: in this way, then, as well, both the genera are predicated of raven, and also their definition. But in the case of genera that are not subaltern this does not happen, for whenever we call a thing an ‘engine’, we do not call it an animal, nor vice versa.

Look also and see not only if the genera of the term before you are different without being subaltern, but also in the case of its contrary: for if its contrary bears several senses, clearly the term before you does so as well.

It is useful also to look at the definition that arises from the use of the term in combination, e.g. of a ‘clear (lit. white) body’ of a ‘clear note’. For then if what is peculiar in each case be abstracted, the same expression ought to remain over. This does not happen in the case of ambiguous terms, e.g. in the cases just mentioned. For the former will be body possessing such and such a colour’, while the latter will be ‘a note easy to hear’. Abstract, then, ‘a body ‘and’ a note’, and the remainder in each case is not the same. It should, however, have been had the meaning of ‘clear’ in each case been synonymous.

Often in the actual definitions as well ambiguity creeps in unawares, and for this reason the definitions also should be examined. If (e.g.) any one describes what betokens and what produces health as ‘related commensurably to health’, we must not desist but go on to examine in what sense he has used the term ‘commensurably’ in each case, e.g. if in the latter case it means that ‘it is of the right amount to produce health’, whereas in the for it means that ‘it is such as to betoken what kind of state prevails’.

Moreover, see if the terms cannot be compared as ‘more or less’ or as ‘in like manner’, as is the case (e.g.) with a ‘clear’ (lit. white) sound and a ‘clear’ garment, and a ‘sharp’ flavour and a ‘sharp’ note. For neither are these things said to be clear or sharp ‘in a like degree’, nor yet is the one said to be clearer or sharper than the other. ‘Clear’, then, and ‘sharp’ are ambiguous. For synonyms are always comparable; for they will always be used either in like manner, or else in a greater degree in one case.

Now since of genera that are different without being subaltern the differentiae also are different in kind, e.g. those of ‘animal’ and ‘knowledge’ (for the differentiae of these are different), look and see if the meanings comprised under the same term are differentiae of genera that are different without being subaltern, as e.g. ‘sharp’ is of a ‘note’ and a ‘solid’. For being ‘sharp’ differentiates note from note, and likewise also one solid from another. ‘Sharp’, then, is an ambiguous term: for it forms differentiae of genera that are different without being subaltern.

Again, see if the actual meanings included under the same term themselves have different differentiae, e.g. ‘colour’ in bodies and ‘colour’ in tunes: for the differentiae of ‘colour’ in bodies are ‘sight-piercing’ and ‘sight compressing’, whereas ‘colour’ in melodies has not the same differentiae. Colour, then, is an ambiguous term; for things that are the same have the same differentiae.

Moreover, since the species is never the differentia of anything, look and see if one of the meanings included under the same term be a species and another a differentia, as (e.g.) clear’ (lit. white) as applied to a body is a species of colour, whereas in the case of a note it is a differentia; for one note is differentiated from another by being ‘clear’.

16

The presence, then, of a number of meanings in a term may be investigated by these and like means. The differences which things present to each other should be examined within the same genera, e.g. ‘Wherein does justice differ from courage, and wisdom from temperance?’-for all these belong to the same genus; and also from one genus to another, provided they be not very much too far apart, e.g. ‘Wherein does sensation differ from knowledge?: for in the case of genera that are very far apart, the differences are entirely obvious.

17

Likeness should be studied, first, in the case of things belonging to different genera, the formulae being ‘A:B = C:D’ (e.g. as knowledge stands to the object of knowledge, so is sensation related to the object of sensation), and ‘As A is in B, so is C in D’ (e.g. as sight is in the eye, so is reason in the soul, and as is a calm in the sea, so is windlessness in the air). Practice is more especially needed in regard to terms that are far apart; for in the case of the rest, we shall be more easily able to see in one glance the points of likeness. We should also look at things which belong to the same genus, to see if any identical attribute belongs to them all, e.g. to a man and a horse and a dog; for in so far as they have any identical attribute, in so far they are alike.

18

It is useful to have examined the number of meanings of a term both for clearness' sake (for a man is more likely to know what it is he asserts, if it bas been made clear to him how many meanings it may have), and also with a view to ensuring that our reasonings shall be in accordance with the actual facts and not addressed merely to the term used. For as long as it is not clear in how many senses a term is used, it is possible that the answerer and the questioner are not directing their minds upon the same thing: whereas when once it has been made clear how many meanings there are, and also upon which of them the former directs his mind when he makes his assertion, the questioner would then look ridiculous if he failed to address his argument to this. It helps us also both to avoid being misled and to mislead by false reasoning: for if we know the number of meanings of a term, we shall certainly never be misled by false reasoning, but shall know if the questioner fails to address his argument to the same point; and when we ourselves put the questions we shall be able to mislead him, if our answerer happens not to know the number of meanings of our terms. This, however, is not possible in all cases, but only when of the many senses some are true and others are false. This manner of argument, however, does not belong properly to dialectic; dialecticians should therefore by all means beware of this kind of verbal discussion, unless any one is absolutely unable to discuss the subject before him in any other way.

The discovery of the differences of things helps us both in reasonings about sameness and difference, and also in recognizing what any particular thing is. That it helps us in reasoning about sameness and difference is clear: for when we have discovered a difference of any kind whatever between the objects before us, we shall already have shown that they are not the same: while it helps us in recognizing what a thing is, because we usually distinguish the expression that is proper to the essence of each particular thing by means of the differentiae that are proper to it.

The examination of likeness is useful with a view both to inductive arguments and to hypothetical reasonings, and also with a view to the rendering of definitions. It is useful for inductive arguments, because it is by means of an induction of individuals in cases that are alike that we claim to bring the universal in evidence: for it is not easy to do this if we do not know the points of likeness. It is useful for hypothetical reasonings because it is a general opinion that among similars what is true of one is true also of the rest. If, then, with regard to any of them we are well supplied with matter for a discussion, we shall secure a preliminary admission that however it is in these cases, so it is also in the case before us: then when we have shown the former we shall have shown, on the strength of the hypothesis, the matter before us as well: for we have first made the hypothesis that however it is in these cases, so it is also in the case before us, and have then proved the point as regards these cases. It is useful for the rendering of definitions because, if we are able to see in one glance what is the same in each individual case of it, we shall be at no loss into what genus we ought to put the object before us when we define it: for of the common predicates that which is most definitely in the category of essence is likely to be the genus. Likewise, also, in the case of objects widely divergent, the examination of likeness is useful for purposes of definition, e.g. the sameness of a calm at sea, and windlessness in the air (each being a form of rest), and of a point on a line and the unit in number-each being a starting point. If, then, we render as the genus what is common to all the cases, we shall get the credit of defining not inappropriately. Definition-mongers too nearly always render them in this way: they declare the unit to be the startingpoint of number, and the point the startingpoint of a line. It is clear, then, that they place them in that which is common to both as their genus.

The means, then, whereby reasonings are effected, are these: the commonplace rules, for the observance of which the aforesaid means are useful, are as follows.

Book II

1

Of problems some are universal, others particular. Universal problems are such as ‘Every pleasure is good’ and ‘No pleasure is good’; particular problems are such as ‘Some pleasure is good’ and ‘Some pleasure is not good’. The methods of establishing and overthrowing a view universally are common to both kinds of problems; for when we have shown that a predicate belongs in every case, we shall also have shown that it belongs in some cases. Likewise, also, if we show that it does not belong in any case, we shall also have shown that it does not belong in every case. First, then, we must speak of the methods of overthrowing a view universally, because such are common to both universal and particular problems, and because people more usually introduce theses asserting a predicate than denying it, while those who argue with them overthrow it. The conversion of an appropriate name which is drawn from the element ‘accident’ is an extremely precarious thing; for in the case of accidents and in no other it is possible for something to be true conditionally and not universally. Names drawn from the elements ‘definition’ and ‘property’ and ‘genus’ are bound to be convertible; e.g. if ‘to be an animal that walks on two feet is an attribute of S’, then it will be true by conversion to say that ‘S is an animal that walks on two feet’. Likewise, also, if drawn from the genus; for if ‘to be an animal is an attribute of S’, then ‘S is an animal’. The same is true also in the case of a property; for if ‘to be capable of learning grammar is an attribute of S’, then ‘S will be capable of learning grammar’. For none of these attributes can possibly belong or not belong in part; they must either belong or not belong absolutely. In the case of accidents, on the other hand, there is nothing to prevent an attribute (e.g. whiteness or justice) belonging in part, so that it is not enough to show that whiteness or justice is an attribute of a man in order to show that he is white or just; for it is open to dispute it and say that he is white or just in part only. Conversion, then, is not a necessary process in the case of accidents.

We must also define the errors that occur in problems. They are of two kinds, caused either by false statement or by transgression of the established diction. For those who make false statements, and say that an attribute belongs to thing which does not belong to it, commit error; and those who call objects by the names of other objects (e.g. calling a planetree a ‘man’) transgress the established terminology.

2

Now one commonplace rule is to look and see if a man has ascribed as an accident what belongs in some other way. This mistake is most commonly made in regard to the genera of things, e.g. if one were to say that white happens (accidit) to be a colour-for being a colour does not happen by accident to white, but colour is its genus. The assertor may of course define it so in so many words, saying (e.g.) that ‘Justice happens (accidit) to be a virtue’; but often even without such definition it is obvious that he has rendered the genus as an accident; e.g. suppose that one were to say that whiteness is coloured or that walking is in motion. For a predicate drawn from the genus is never ascribed to the species in an inflected form, but always the genera are predicated of their species literally; for the species take on both the name and the definition of their genera. A man therefore who says that white is ‘coloured’ has not rendered ‘coloured’ as its genus, seeing that he has used an inflected form, nor yet as its property or as its definition: for the definition and property of a thing belong to it and to nothing else, whereas many things besides white are coloured, e.g. a log, a stone, a man, and a horse. Clearly then he renders it as an accident.

Another rule is to examine all cases where a predicate has been either asserted or denied universally to belong to something. Look at them species by species, and not in their infinite multitude: for then the inquiry will proceed more directly and in fewer steps. You should look and begin with the most primary groups, and then proceed in order down to those that are not further divisible: e.g. if a man has said that the knowledge of opposites is the same, you should look and see whether it be so of relative opposites and of contraries and of terms signifying the privation or presence of certain states, and of contradictory terms. Then, if no clear result be reached so far in these cases, you should again divide these until you come to those that are not further divisible, and see (e.g.) whether it be so of just deeds and unjust, or of the double and the half, or of blindness and sight, or of being and not-being: for if in any case it be shown that the knowledge of them is not the same we shall have demolished the problem. Likewise, also, if the predicate belongs in no case. This rule is convertible for both destructive and constructive purposes: for if, when we have suggested a division, the predicate appears to hold in all or in a large number of cases, we may then claim that the other should actually assert it universally, or else bring a negative instance to show in what case it is not so: for if he does neither of these things, a refusal to assert it will make him look absurd.

Another rule is to make definitions both of an accident and of its subject, either of both separately or else of one of them, and then look and see if anything untrue has been assumed as true in the definitions. Thus (e.g.) to see if it is possible to wrong a god, ask what is 'to wrong'? For if it be 'to injure deliberately', clearly it is not possible for a god to be wronged: for it is impossible that God should be injured. Again, to see if the good man is jealous, ask who is the 'jealous' man and what is 'jealousy'. For if 'jealousy' is pain at the apparent success of some well-behaved person, clearly the good man is not jealous: for then he would be bad. Again, to see if the indignant man is jealous, ask who each of them is: for then it will be obvious whether the statement is true or false; e.g. if he is 'jealous' who grieves at the successes of the good, and he is 'indignant' who grieves at the successes of the evil, then clearly the indignant man would not be jealous. A man should substitute definitions also for the terms contained in his definitions, and not stop until he comes to a familiar term: for often if the definition be rendered whole, the point at issue is not cleared up, whereas if for one of the terms used in the definition a definition be stated, it becomes obvious.

Moreover, a man should make the problem into a proposition for himself, and then bring a negative instance against it: for the negative instance will be a ground of attack upon the assertion. This rule is very nearly the same as the rule to look into cases where a predicate has been attributed or denied universally: but it differs in the turn of the argument.

Moreover, you should define what kind of things should be called as most men call them, and what should not. For this is useful both for establishing and for overthrowing a view: e.g. you should say that we ought to use our terms to mean the same things as most people mean by them, but when we ask what kind of things are or are not of such and such a kind, we should not here go with the multitude: e.g. it is right to call ‘healthy’ whatever tends to produce health, as do most men: but in saying whether the object before us tends to produce health or not, we should adopt the language no longer of the multitude but of the doctor.

3

Moreover, if a term be used in several senses, and it has been laid down that it is or that it is not an attribute of S, you should show your case of one of its several senses, if you cannot show it of both. This rule is to be observed in cases where the difference of meaning is undetected; for supposing this to be obvious, then the other man will object that the point which he himself questioned has not been discussed, but only the other point. This commonplace rule is convertible for purposes both of establishing and of overthrowing a view. For if we want to establish a statement, we shall show that in one sense the attribute belongs, if we cannot show it of both senses: whereas if we are overthrowing a statement, we shall show that in one sense the attribute does not belong, if we cannot show it of both senses. Of course, in overthrowing a statement there is no need to start the discussion by securing any admission, either when the statement asserts or when it denies the attribute universally: for if we show that in any case whatever the attribute does not belong, we shall have demolished the universal assertion of it, and likewise also if we show that it belongs in a single case, we shall demolish the universal denial of it. Whereas in establishing a statement we ought to secure a preliminary admission that if it belongs in any case whatever, it belongs universally, supposing this claim to be a plausible one. For it is not enough to discuss a single instance in order to show that an attribute belongs universally; e.g. to argue that if the soul of man be immortal, then every soul is immortal, so that a previous admission must be secured that if any soul whatever be immortal, then every soul is immortal. This is not to be done in every case, but only whenever we are not easily able to quote any single argument applying to all cases in common, as (e.g.) the geometrician can argue that the triangle has its angles equal to two right angles.

If, again, the variety of meanings of a term be obvious, distinguish how many meanings it has before proceeding either to demolish or to establish it:

e.g. supposing ‘the right’ to mean ‘the expedient’ or ‘the honourable’, you should try either to establish or to demolish both descriptions of the subject in question; e.g. by showing that it is honourable and expedient, or that it is neither honourable nor expedient. Supposing, however, that it is impossible to show both, you should show the one, adding an indication that it is true in the one sense and not in the other. The same rule applies also when the number of senses into which it is divided is more than two.

Again, consider those expressions whose meanings are many, but differ not by way of ambiguity of a term, but in some other way: e.g. ‘The science of many things is one’: here ‘many things’ may mean the end and the means to that end, as (e.g.) medicine is the science both of producing health and of dieting; or they may be both of them ends, as the science of contraries is said to be the same (for of contraries the one is no more an end than the other); or again they may be an essential and an accidental attribute, as (e.g.) the essential fact that the triangle has its angles equal to two right angles, and the accidental fact that the equilateral figure has them so: for it is because of the accident of the equilateral triangle happening to be a triangle that we know that it has its angles equal to two right angles. If, then, it is not possible in any sense of the term that the science of many things should be the same, it clearly is altogether impossible that it should be so; or, if it is possible in some sense, then clearly it is possible. Distinguish as many meanings as are required: e.g. if we want to establish a view, we should bring forward all such meanings as admit that view and should divide them only into those meanings which also are required for the establishment of our case: whereas if we want to overthrow a view, we should bring forward all that do not admit that view, and leave the rest aside. We must deal also in these cases as well with any uncertainty about the number of meanings involved. Further, that one thing is, or is not, ‘of’ another should be established by means of the same commonplace rules; e.g. that a particular science is of a particular thing, treated either as an end or as a means to its end, or as accidentally connected with it; or again that it is not ‘of’ it in any of the aforesaid ways. The same rule holds true also of desire and all other terms that have more than one object. For the ‘desire of X’ may mean the desire of it as an end (e.g. the desire of health) or as a means to an end (e.g. the desire of being doctored), or as a thing desired accidentally, as, in the case of wine, the sweet-toothed person desires it not because it is wine but because it is sweet. For essentially he desires the sweet, and only accidentally the wine: for if it be dry, he no longer desires it. His desire for it is therefore accidental. This rule is useful in dealing with relative terms: for cases of this kind are generally cases of relative terms.

4

Moreover, it is well to alter a term into one more familiar, e.g. to substitute ‘clear’ for ‘exact’ in describing a conception, and ‘being fussy’ for ‘being busy’: for when the expression is made more familiar, the thesis becomes easier to attack. This commonplace rule also is available for both purposes alike, both for establishing and for overthrowing a view.

In order to show that contrary attributes belong to the same thing, look at its genus; e.g. if we want to show that rightness and wrongness are possible in regard to perception, and to perceive is to judge, while it is possible to judge rightly or wrongly, then in regard to perception as well rightness and wrongness must be possible. In the present instance the proof proceeds from the genus and relates to the species: for ‘to judge’ is the genus of ‘to — perceive’; for the man who perceives judges in a certain way. But per contra it may proceed from the species to the genus: for all the attributes that belong to the species belong to the genus as well; e.g. if there is a bad and a good knowledge there is also a bad and a good disposition: for ‘disposition’ is the genus of knowledge. Now the former commonplace argument is fallacious for purposes of establishing a view, while the second is true. For there is no necessity that all the attributes that belong to the genus should belong also to the species; for ‘animal’ is flying and quadruped, but not so ‘man’. All the attributes, on the other hand, that belong to the species must of necessity belong also to the genus; for if ‘man’ is good, then animal also is good. On the other hand, for purposes of overthrowing a view, the former argument is true while the latter is fallacious; for all the attributes which do not belong to the genus do not belong to the species either; whereas all those that are wanting to the species are not of necessity wanting to the genus.

Since those things of which the genus is predicated must also of necessity have one of its species predicated of them, and since those things that are possessed of the genus in question, or are described by terms derived from that genus, must also of necessity be possessed of one of its species or be described by terms derived from one of its species (e.g. if to anything the term ‘scientific knowledge’ be applied, then also there will be applied to it the term ‘grammatical’ or ‘musical’ knowledge, or knowledge of one of the other sciences; and if any one possesses scientific knowledge or is described by a term derived from ‘science’, then he will also possess grammatical or musical knowledge or knowledge of one of the other sciences, or will be described by a term derived from one of them, e.g. as a ‘grammarian’ or a ‘musician’)-therefore if any expression be asserted that is in any way derived from the genus (e.g. that the soul is in motion), look and see whether it be possible for the soul to be moved with any of the species of motion; whether (e.g.) it can grow or be destroyed or come to be, and so forth with all the other species of motion. For if it be not moved in any of these ways, clearly it does not move at all. This commonplace rule is common for both purposes, both for overthrowing and for establishing a view: for if the soul moves with one of the species of motion, clearly it does move; while if it does not move with any of the species of motion, clearly it does not move.

If you are not well equipped with an argument against the assertion, look among the definitions, real or apparent, of the thing before you, and if one is not enough, draw upon several. For it will be easier to attack people when committed to a definition: for an attack is always more easily made on definitions.

Moreover, look and see in regard to the thing in question, what it is whose reality conditions the reality of the thing in question, or what it is whose reality necessarily follows if the thing in question be real: if you wish to establish a view inquire what there is on whose reality the reality of the thing in question will follow (for if the former be shown to be real, then the thing in question will also have been shown to be real); while if you want to overthrow a view, ask what it is that is real if the thing in question be real, for if we show that what follows from the thing in question is unreal, we shall have demolished the thing in question.

Moreover, look at the time involved, to see if there be any discrepancy anywhere: e.g. suppose a man to have stated that what is being nourished of necessity grows: for animals are always of necessity being nourished, but they do not always grow. Likewise, also, if he has said that knowing is remembering: for the one is concerned with past time, whereas the other has to do also with the present and the future. For we are said to know things present and future (e.g. that there will be an eclipse), whereas it is impossible to remember anything save what is in the past.

5

Moreover, there is the sophistic turn of argument, whereby we draw our opponent into the kind of statement against which we shall be well supplied with lines of argument. This process is sometimes a real necessity, sometimes an apparent necessity, sometimes neither an apparent nor a real necessity. It is really necessary whenever the answerer has denied any view that would be useful in attacking the thesis, and the questioner thereupon addresses his arguments to the support of this view, and when moreover the view in question happens to be one of a kind on which he has a good stock of lines of argument. Likewise, also, it is really necessary whenever he (the questioner) first, by an induction made by means of the view laid down, arrives at a certain statement and then tries to demolish that statement: for when once this has been demolished, the view originally laid down is demolished as well. It is an apparent necessity, when the point to which the discussion comes to be directed appears to be useful, and relevant to the thesis, without being really so; whether it be that the man who is standing up to the argument has refused to concede something, or whether he (the questioner) has first reached it by a plausible induction based upon the thesis and then tries to demolish it. The remaining case is when the point to which the discussion comes to be directed is neither really nor apparently necessary, and it is the answerer's luck to be confuted on a mere side issue You should beware of the last of the aforesaid methods; for it appears to be wholly disconnected from, and foreign to, the art of dialectic. For this reason, moreover, the answerer should not lose his temper, but assent to those statements that are of no use in attacking the thesis, adding an indication whenever he assents although he does not agree with the view. For, as a rule, it increases the confusion of questioners if, after all propositions of this kind have been granted them, they can then draw no conclusion.

Moreover, any one who has made any statement whatever has in a certain sense made several statements, inasmuch as each statement has a number of necessary consequences: e.g. the man who said 'X is a man' has also said that it is an animal and that it is animate and a biped and capable of acquiring reason and knowledge, so that by the demolition of any single one of these consequences, of whatever kind, the original statement is demolished as well. But you should beware here too of making a change to a more difficult subject: for sometimes the consequence, and sometimes the original thesis, is the easier to demolish.

6

In regard to subjects which must have one and one only of two predicates, as (e.g.) a man must have either a disease or health, supposing we are well supplied as regards the one for arguing its presence or absence, we shall be well equipped as regards the remaining one as well. This rule is convertible for both purposes: for when we have shown that the one attribute belongs, we shall have shown that the remaining one does not belong; while if we show that the one does not belong, we shall have shown that the remaining one does belong. Clearly then the rule is useful for both purposes.

Moreover, you may devise a line of attack by reinterpreting a term in its literal meaning, with the implication that it is most fitting so to take it rather than in its established meaning: e.g. the expression ‘strong at heart’ will suggest not the courageous man, according to the use now established, but the man the state of whose heart is strong; just as also the expression ‘of a good hope’ may be taken to mean the man who hopes for good things. Likewise also ‘well-starred’ may be taken to mean the man whose star is good, as Xenocrates says ‘well-starred is he who has a noble soul’.’ For a man’s star is his soul.

Some things occur of necessity, others usually, others however it may chance; if therefore a necessary event has been asserted to occur usually, or if a usual event (or, failing such an event itself, its contrary) has been stated to occur of necessity, it always gives an opportunity for attack. For if a necessary event has been asserted to occur usually, clearly the speaker has denied an attribute to be universal which is universal, and so has made a mistake: and so he has if he has declared the usual attribute to be necessary: for then he declares it to belong universally when it does not so belong. Likewise also if he has declared the contrary of what is usual to be necessary. For the contrary of a usual attribute is always a comparatively rare attribute: e.g. if men are usually bad, they are comparatively seldom good, so that his mistake is even worse if he has declared them to be good of necessity. The same is true also if he has declared a mere matter of chance to happen of necessity or usually; for a chance event happens neither of necessity nor usually. If the thing happens usually, then even supposing his statement does not distinguish whether he meant that it happens usually or that it happens necessarily, it is open to you to discuss it on the assumption that he meant that it happens necessarily: e.g. if he has stated without any distinction that disinherited persons are bad, you may assume in discussing it that he means that they are so necessarily.

Moreover, look and see also if he has stated a thing to be an accident of itself, taking it to be a different thing because it has a different name, as Prodicus used to divide pleasures into joy and delight and good cheer: for all these are names of the same thing, to wit, Pleasure. If then any one says that joyfulness is an accidental attribute of cheerfulness, he would be declaring it to be an accidental attribute of itself.

7

Inasmuch as contraries can be conjoined with each other in six ways, and four of these conjunctions constitute a contrariety, we must grasp the subject of contraries, in order that it may help us both in demolishing and in establishing a view. Well then, that the modes of conjunction are six is clear: for either (1) each of the contrary verbs will be conjoined to each of the contrary objects; and this gives two modes: e.g. to do good to friends and to do evil to enemies, or per contra to do evil to friends and to do good to enemies. Or else (2) both verbs may be attached to one object; and this too gives two modes, e.g. to do good to friends and to do evil to friends, or to do good to enemies and to do evil to enemies. Or (3) a single verb may be attached to both objects: and this also gives two modes; e.g. to do good to friends and to do good to enemies, or to do evil to friends and evil to enemies.

The first two then of the aforesaid conjunctions do not constitute any contrariety; for the doing of good to friends is not contrary to the doing of evil to enemies: for both courses are desirable and belong to the same disposition. Nor is the doing of evil to friends contrary to the doing of good to enemies: for both of these are objectionable and belong to the same disposition: and one objectionable thing is not generally thought to be the contrary of another, unless the one be an expression denoting an excess, and the other an expression denoting a defect: for an excess is generally thought to belong to the class of objectionable things, and likewise also a defect. But the other four all constitute a contrariety. For to do good to friends is contrary to the doing of evil to friends: for it proceeds from the contrary disposition, and the one is desirable, and the other objectionable. The case is the same also in regard to the other conjunctions: for in each combination the one course is desirable, and the other objectionable, and the one belongs to a reasonable disposition and the other to a bad. Clearly, then, from what has been said, the same course has more than one contrary. For the doing of good to friends has as its contrary both the doing of good to enemies and the doing of evil to friends. Likewise, if we examine them in the same way, we shall find that the contraries of each of the others also are two in number. Select therefore whichever of the two contraries is useful in attacking the thesis.

Moreover, if the accident of a thing have a contrary, see whether it belongs to the subject to which the accident in question has been declared to belong: for if the latter belongs the former could not belong; for it is impossible that contrary predicates should belong at the same time to the same thing.

Or again, look and see if anything has been said about something, of such a kind that if it be true, contrary predicates must necessarily belong to the thing: e.g. if he has said that the ‘Ideas’ exist in us. For then the result will be that they are both in motion and at rest, and moreover that they are objects both of sensation and of thought. For according to the views of those who posit the existence of Ideas, those Ideas are at rest and are objects of thought; while if they exist in us, it is impossible that they should be unmoved: for when we move, it follows necessarily that all that is in us moves with us as well. Clearly also they are objects of sensation, if they exist in us: for it is through the sensation of sight that we recognize the Form present in each individual.

Again, if there be posited an accident which has a contrary, look and see if that which admits of the accident will admit of its contrary as well: for the same thing admits of contraries. Thus (e.g.) if he has asserted that hatred follows anger, hatred would in that case be in the ‘spirited faculty’: for that is where anger is. You should therefore look and see if its contrary, to wit, friendship, be also in the ‘spirited faculty’: for if not-if friendship is in the faculty of desire-then hatred could not follow anger. Likewise also if he has asserted that the faculty of desire is ignorant. For if it were capable of ignorance, it would be capable of knowledge as well: and this is not generally held-I mean that the faculty of desire is capable of knowledge. For purposes, then, of overthrowing a view, as has been said, this rule should be observed: but for purposes of establishing one, though the rule will not help you to assert that the accident actually belongs, it will help you to assert that it may possibly belong. For having shown that the thing in question will not admit of the contrary of the accident asserted, we shall have shown that the accident neither belongs nor can possibly belong; while on the other hand, if we show that the contrary belongs, or that the thing is capable of the contrary, we shall not indeed as yet have shown that the accident asserted does belong as well; our proof will merely have gone to this point, that it is possible for it to belong.

8

Seeing that the modes of opposition are four in number, you should look for arguments among the contradictories of your terms, converting the order of their sequence, both when demolishing and when establishing a view, and you should secure them by means of induction-such arguments (e.g.) as that man be an animal, what is not an animal is not a man': and likewise also in other instances of contradictories. For in those cases the sequence is converse: for ‘animal’ follows upon ‘man but ‘not-animal’ does not follow upon ‘not-man’, but conversely ‘not-man’ upon ‘not-animal’. In all cases, therefore, a postulate of this sort should be made, (e.g.) that ‘If the honourable is pleasant, what is not pleasant is not honourable, while if the latter be untrue, so is the former’. Likewise, also, ‘If what is not pleasant be not honourable, then what is honourable is pleasant’. Clearly, then, the conversion of the sequence formed by contradiction of the terms of the thesis is a method convertible for both purposes.

Then look also at the case of the contraries of S and P in the thesis, and see if the contrary of the one follows upon the contrary of the other, either directly or conversely, both when you are demolishing and when you are establishing a view: secure arguments of this kind as well by means of induction, so far as may be required. Now the sequence is direct in a case such as that of courage and cowardice: for upon the one of them virtue follows, and vice upon the other; and upon the one it follows that it is desirable, while upon the other it follows that it is objectionable. The sequence, therefore, in the latter case also is direct; for the desirable is the contrary of the objectionable. Likewise also in other cases. The sequence is, on the other hand, converse in such a case as this: Health follows upon vigour, but disease does not follow upon debility; rather debility follows upon disease. In this case, then, clearly the sequence is converse. Converse sequence is, however, rare in the case of contraries; usually the sequence is direct. If, therefore, the contrary of the one term does not follow upon the contrary of the other either directly or conversely, clearly neither does the one term follow upon the other in the statement made: whereas if the one followed the other in the case of the contraries, it must of necessity do so as well in the original statement.

You should look also into cases of the privation or presence of a state in like manner to the case of contraries. Only, in the case of such privations the converse sequence does not occur: the sequence is always bound to be direct: e.g. as sensation follows sight, while absence of sensation follows blindness. For the opposition of sensation to absence of sensation is an opposition of the presence to the privation of a state: for the one of them is a state, and the other the privation of it.

The case of relative terms should also be studied in like manner to that of a state and its privation: for the sequence of these as well is direct; e.g. if 3/1 is a multiple, then 1/3 is a fraction: for 3/1 is relative to 1/3, and so is a multiple to a fraction. Again, if knowledge be a conceiving, then also the object of knowledge is an object of conception; and if sight be a sensation, then also the object of sight is an object of sensation. An objection may be made that there is no necessity for the sequence to take place, in the case of relative terms, in the way described: for the object of sensation is an object of knowledge, whereas sensation is not knowledge. The objection is, however, not generally received as really true; for many people deny that there is knowledge of objects of sensation. Moreover, the principle stated is just as useful for the contrary purpose, e.g. to show that the object of sensation is not an object of knowledge, on the ground that neither is sensation knowledge.

Again look at the case of the co-ordinates and inflected forms of the terms in the thesis, both in demolishing and in establishing it. By co-ordinates' are meant terms such as the following: 'Just deeds' and the 'just man' are coordinates of 'justice', and 'courageous deeds' and the 'courageous man' are co-ordinates of courage. Likewise also things that tend to produce and to preserve anything are called co-ordinates of that which they tend to produce and to preserve, as e.g. 'healthy habits' are co-ordinates of 'health' and a 'vigorous constitutional' of a 'vigorous constitution' and so forth also in other cases. 'Co-ordinate', then, usually describes cases such as these, whereas 'inflected forms' are such as the following: 'justly', 'courageously', 'healthily', and such as are formed in this way. It is usually held that words when used in their inflected forms as well are co-ordinates, as (e.g.) 'justly' in relation to justice, and 'courageously' to courage; and then 'co-ordinate' describes all the members of the same kindred series, e.g. 'justice', 'just', of a man or an act, 'justly'. Clearly, then, when any one member, whatever its kind, of the same kindred series is shown to be good or praiseworthy, then all the rest as well come to be shown to be so: e.g. if 'justice' be something praiseworthy, then so will 'just', of a man or thing, and 'justly' connote something praiseworthy. Then 'justly' will be rendered also 'praiseworthily', derived will by the same inflexion from 'the praiseworthy' whereby 'justly' is derived from 'justice'.

Look not only in the case of the subject mentioned, but also in the case of its contrary, for the contrary predicate: e.g. argue that good is not necessarily pleasant; for neither is evil painful: or that, if the latter be the case, so is the former. Also, if justice be knowledge, then injustice is ignorance: and if 'justly' means 'knowingly' and 'skilfully', then 'unjustly' means 'ignorantly' and 'unskilfully': whereas if the latter be not true, neither is the former, as in the instance given just now: for 'unjustly' is more likely to seem equivalent to 'skilfully' than to 'unskilfully'. This commonplace rule has been stated before in dealing with the sequence of contraries; for all we are claiming now is that the contrary of P shall follow the contrary of S.

Moreover, look at the modes of generation and destruction of a thing, and at the things which tend to produce or to destroy it, both in demolishing and in establishing a view. For those things whose modes of generation rank among good things, are themselves also good; and if they themselves be good, so also are their modes of generation. If, on the other hand, their modes of generation be evil, then they themselves also are evil. In regard to modes of destruction the converse is true: for if the modes of destruction rank as good things, then they themselves rank as evil things; whereas if the modes of destruction count as evil, they themselves count as good. The same argument applies also to things tending to produce and destroy: for things whose productive causes are good, themselves also rank as good; whereas if causes destructive of them are good, they themselves rank as evil.

10

Again, look at things which are like the subject in question, and see if they are in like case; e.g. if one branch of knowledge has more than one object, so also will one opinion; and if to possess sight be to see, then also to possess hearing will be to hear. Likewise also in the case of other things, both those which are and those which are generally held to be like. The rule in question is useful for both purposes; for if it be as stated in the case of some one like thing, it is so with the other like things as well, whereas if it be not so in the case of some one of them, neither is it so in the case of the others. Look and see also whether the cases are alike as regards a single thing and a number of things: for sometimes there is a discrepancy. Thus, if to 'know' a thing be to 'think of' it, then also to 'know many things' is to 'be thinking of many things'; whereas this is not true; for it is possible to know many things but not to be thinking of them. If, then, the latter proposition be not true, neither was the former that dealt with a single thing, viz. that to 'know' a thing is to 'think of' it.

Moreover, argue from greater and less degrees. In regard to greater degrees there are four commonplace rules. One is: See whether a greater degree of the predicate follows a greater degree of the subject: e.g. if pleasure be good, see whether also a greater pleasure be a greater good: and if to do a wrong be evil, see whether also to do a greater wrong is a greater evil. Now this rule is of use for both purposes: for if an increase of the accident follows an increase of the subject, as we have said, clearly the accident belongs; while if it does not follow, the accident does not belong. You should establish this by induction. Another rule is: If one predicate be attributed to two subjects; then supposing it does not belong to the subject to which it is the more likely to belong, neither does it belong where it is less likely to belong; while if it does belong where it is less likely to belong, then it belongs as well where it is more likely. Again: If two predicates be attributed to one subject, then if the one which is more generally thought to belong does not belong, neither does the one that is less generally thought to belong; or, if the one that is less generally thought to belong does belong, so also does the other. Moreover: If two predicates be attributed to two subjects, then if the one which is more usually thought to belong to the one subject does not belong, neither does the remaining predicate belong to the remaining subject; or, if the one which is less usually thought to belong to the one subject does belong, so too does the remaining predicate to the remaining subject.

Moreover, you can argue from the fact that an attribute belongs, or is generally supposed to belong, in a like degree, in three ways, viz. those described in the last three rules given in regard to a greater degree.' For supposing that one predicate belongs, or is supposed to belong, to two subjects in a like degree, then if it does not belong to the one, neither does it belong to the other; while if it belongs to the one, it belongs to the remaining one as well. Or, supposing two predicates to belong in a like degree to the same subject, then, if the one does not belong, neither does the remaining one; while if the one does belong, the remaining one belongs as well. The case is the same also if two predicates belong in a like degree to two subjects; for if the one predicate does not belong to the one subject, neither does the remaining predicate belong to the remaining subject, while if the one predicate does belong to the one subject, the remaining predicate belongs to the remaining subject as well.

11

You can argue, then, from greater or less or like degrees of truth in the aforesaid number of ways. Moreover, you should argue from the addition of one thing to another. If the addition of one thing to another makes that other good or white, whereas formerly it was not white or good, then the thing added will be white or good-it will possess the character it imparts to the whole as well. Moreover, if an addition of something to a given object intensifies the character which it had as given, then the thing added will itself as well be of that character. Likewise, also, in the case of other attributes. The rule is not applicable in all cases, but only in those in which the excess described as an ‘increased intensity’ is found to take place. The above rule is, however, not convertible for overthrowing a view. For if the thing added does not make the other good, it is not thereby made clear whether in itself it may not be good: for the addition of good to evil does not necessarily make the whole good, any more than the addition of white to black makes the whole white.

Again, any predicate of which we can speak of greater or less degrees belongs also absolutely: for greater or less degrees of good or of white will not be attributed to what is not good or white: for a bad thing will never be said to have a greater or less degree of goodness than another, but always of badness. This rule is not convertible, either, for the purpose of overthrowing a predication: for several predicates of which we cannot speak of a greater degree belong absolutely: for the term ‘man’ is not attributed in greater and less degrees, but a man is a man for all that.

You should examine in the same way predicates attributed in a given respect, and at a given time and place: for if the predicate be possible in some respect, it is possible also absolutely. Likewise, also, is what is predicated at a given time or place: for what is absolutely impossible is not possible either in any respect or at any place or time. An objection may be raised that in a given respect people may be good by nature, e.g. they may be generous or temperately inclined, while absolutely they are not good by nature, because no one is prudent by nature. Likewise, also, it is possible for a destructible thing to escape destruction at a given time, whereas it is not possible for it to escape absolutely. In the same way also it is a good thing at certain places to follow see and such a diet, e.g. in infected areas, though it is not a good thing absolutely. Moreover, in certain places it is possible to live singly and alone, but absolutely it is not possible to exist singly and alone. In the same way also it is in certain places honourable to sacrifice one’s father, e.g. among the Triballi, whereas, absolutely, it is not honourable. Or possibly this may indicate a relativity not to places but to persons: for it is all the same wherever they may be: for everywhere it will be held honourable among the Triballi themselves, just because they are Triballi. Again, at certain times it is a good thing to take medicines, e.g. when one is ill, but it is not so absolutely. Or possibly this again may indicate a relativity not to a certain time, but to a certain state of health: for it is all the same whenever it occurs, if only one be in that state. A thing is ‘absolutely’ so which without any addition you are prepared to say is honourable or the contrary. Thus (e.g.) you will deny that to sacrifice one’s father is honourable: it is honourable only to certain persons: it is not therefore honourable absolutely. On the other hand, to honour the gods you will declare to be honourable without adding anything, because that is honourable absolutely. So that whatever without any addition is generally accounted to be honourable or dishonourable or anything else of that kind, will be said to be so ‘absolutely’.

Book III

1

THE question which is the more desirable, or the better, of two or more things, should be examined upon the following lines: only first of all it must be clearly laid down that the inquiry we are making concerns not things that are widely divergent and that exhibit great differences from one another (for nobody raises any doubt whether happiness or wealth is more desirable), but things that are nearly related and about which we commonly discuss for which of the two we ought rather to vote, because we do not see any advantage on either side as compared with the other. Clearly, in such cases if we can show a single advantage, or more than one, our judgement will record our assent that whichever side happens to have the advantage is the more desirable.

First, then, that which is more lasting or secure is more desirable than that which is less so: and so is that which is more likely to be chosen by the prudent or by the good man or by the right law, or by men who are good in any particular line, when they make their choice as such, or by the experts in regard to any particular class of things; i.e. either whatever most of them or what all of them would choose; e.g. in medicine or in carpentry those things are more desirable which most, or all, doctors would choose; or, in general, whatever most men or all men or all things would choose, e.g. the good: for everything aims at the good. You should direct the argument you intend to employ to whatever purpose you require. Of what is 'better' or 'more desirable' the absolute standard is the verdict of the better science, though relatively to a given individual the standard may be his own particular science.

In the second place, that which is known as 'an x' is more desirable than that which does not come within the genus 'x'-e.g. justice than a just man; for the former falls within the genus 'good', whereas the other does not, and the former is called 'a good', whereas the latter is not: for nothing which does not happen to belong to the genus in question is called by the generic name; e.g. a ‘white man’ is not ‘a colour’. Likewise also in other cases.

Also, that which is desired for itself is more desirable than that which is desired for something else; e.g. health is more desirable than gymnastics: for the former is desired for itself, the latter for something else. Also, that which is desirable in itself is more desirable than what is desirable per accidens; e.g. justice in our friends than justice in our enemies: for the former is desirable in itself, the latter per accidens: for we desire that our enemies should be just per accidens, in order that they may do us no harm. This last principle is the same as the one that precedes it, with, however, a different turn of expression. For we desire justice in our friends for itself, even though it will make no difference to us, and even though they be in India; whereas in our enemies we desire it for something else, in order that they may do us no harm.

Also, that which is in itself the cause of good is more desirable than what is so per accidens, e.g. virtue than luck (for the former in itself, and the latter per accidens, the cause of good things), and so in other cases of the same kind. Likewise also in the case of the contrary; for what is in itself the cause of evil is more objectionable than what is so per accidens, e.g. vice and chance: for the one is bad in itself, whereas chance is so per accidens.

Also, what is good absolutely is more desirable than what is good for a particular person, e.g. recovery of health than a surgical operation; for the former is good absolutely, the latter only for a particular person, viz. the man who needs an operation. So too what is good by nature is more desirable than the good that is not so by nature, e.g. justice than the just man; for the one is good by nature, whereas in the other case the goodness is acquired. Also the attribute is more desirable which belongs to the better and more honourable subject, e.g. to a god rather than to a man, and to the soul rather than to the body. So too the property of the better thing is better than the property of the worse; e.g. the property of God than the property of man: for whereas in respect of what is common in both of them they do not differ at all from each other, in respect of their properties the one surpasses the other. Also that is better which is inherent in things better or prior or more honourable: thus (e.g.) health is better than strength and beauty: for the former is inherent in the moist and the dry, and the hot and the cold, in fact in all the primary constituents of an animal, whereas the others are inherent in what is secondary, strength being a feature of the sinews and bones, while beauty is generally supposed to consist in a certain symmetry of the limbs. Also the end is generally supposed to be more desirable than the means, and of two means, that which lies nearer the end. In general, too, a means directed towards the end of life is more desirable than a means to anything else, e.g. that which contributes to happiness than that which contributes to prudence. Also the competent is more desirable than the incompetent. Moreover, of two productive agents that one is more desirable whose end is better; while between a productive agent and an end we can decide by a proportional sum whenever the excess of the one end over the other is greater than that of the latter over its own productive means: e.g. supposing the excess of happiness over health to be greater than that of health over what produces health, then what produces happiness is better than health. For what produces happiness exceeds what produces health just as much as happiness exceeds health. But health exceeds what produces health by a smaller amount; ergo, the excess of what produces happiness over what produces health is greater than that of health over what produces health. Clearly, therefore, what produces happiness is more desirable than health: for it exceeds the same standard by a greater amount. Moreover, what is in itself nobler and more precious and praiseworthy is more desirable than what is less so, e.g. friendship than wealth, and justice than strength. For the former belong in themselves to the class of things precious and praiseworthy, while the latter do so not in themselves but for something else: for no one prizes wealth for itself but always for something else, whereas we prize friendship for itself, even though nothing else is likely to come to us from it.

2

Moreover, whenever two things are very much like one another, and we cannot see any superiority in the one over the other of them, we should look at them from the standpoint of their consequences. For the one which is followed by the greater good is the more desirable: or, if the consequences be evil, that is more desirable which is followed by the less evil. For though both may be desirable, yet there may possibly be some unpleasant consequence involved to turn the scale. Our survey from the point of view of consequences lies in two directions, for there are prior consequences and later consequences: e.g. if a man learns, it follows that he was ignorant before and knows afterwards. As a rule, the later consequence is the better to consider.

You should take, therefore, whichever of the consequences suits your purpose.

Moreover, a greater number of good things is more desirable than a smaller, either absolutely or when the one is included in the other, viz. the smaller number in the greater. An objection may be raised suppose in some particular case the one is valued for the sake of the other; for then the two together are not more desirable than the one; e.g. recovery of health and health, than health alone, inasmuch as we desire recovery of health for the sake of health. Also it is quite possible for what is not good, together with what is, to be more desirable than a greater number of good things, e.g. the combination of happiness and something else which is not good may be more desirable than the combination of justice and courage. Also, the same things are more valuable if accompanied than if unaccompanied by pleasure, and likewise when free from pain than when attended with pain.

Also, everything is more desirable at the season when it is of greater consequence; e.g. freedom from pain in old age more than in youth: for it is of greater consequence in old age. On the same principle also, prudence is more desirable in old age; for no man chooses the young to guide him, because he does not expect them to be prudent. With courage, the converse is the case, for it is in youth that the active exercise of courage is more imperatively required. Likewise also with temperance; for the young are more troubled by their passions than are their elders.

Also, that is more desirable which is more useful at every season or at most seasons, e.g. justice and temperance rather than courage: for they are always useful, while courage is only useful at times. Also, that one of two things which if all possess, we do not need the other thing, is more desirable than that which all may possess and still we want the other one as well. Take the case of justice and courage; if everybody were just, there would be no use for courage, whereas all might be courageous, and still justice would be of use.

Moreover, judge by the destructions and losses and generations and acquisitions and contraries of things: for things whose destruction is more objectionable are themselves more desirable. Likewise also with the losses and contraries of things; for a thing whose loss or whose contrary is more objectionable is itself more desirable. With the generations or acquisitions of things the opposite is the case: for things whose acquisition or generation is more desirable are themselves also desirable. Another commonplace rule is that what is nearer to the good is better and more desirable, i.e. what more nearly resembles the good: thus justice is better than a just man. Also, that which is more like than another thing to something better than itself, as e.g. some say that Ajax was a better man than Odysseus because he was more like Achilles. An objection may be raised to this that it is not true: for it is quite possible that Ajax did not resemble Achilles more nearly than Odysseus in the points which made Achilles the best of them, and that Odysseus was a good man, though unlike Achilles. Look also to see whether the resemblance be that of a caricature, like the resemblance of a monkey to a man, whereas a horse bears none: for the monkey is not the more handsome creature, despite its nearer resemblance to a man. Again, in the case of two things, if one is more like the better thing while another is more like the worse, then that is likely to be better which is more like the better. This too, however, admits of an objection: for quite possibly the one only slightly resembles the better, while the other strongly resembles the worse, e.g. supposing the resemblance of Ajax to Achilles to be slight, while that of Odysseus to Nestor is strong. Also it may be that the one which is like the better type shows a degrading likeness, whereas the one which is like the worse type improves upon it: witness the likeness of a horse to a donkey, and that of a monkey to a man.

Another rule is that the more conspicuous good is more desirable than the less conspicuous, and the more difficult than the easier: for we appreciate better the possession of things that cannot be easily acquired. Also the more personal possession is more desirable than the more widely shared. Also, that which is more free from connexion with evil: for what is not attended by any unpleasantness is more desirable than what is so attended.

Moreover, if A be without qualification better than B, then also the best of the members of A is better than the best of the members of B; e.g. if Man be better than Horse, then also the best man is better than the best horse. Also, if the best in A be better than the best in B, then also A is better than B without qualification; e.g. if the best man be better than the best horse, then also Man is better than Horse without qualification.

Moreover, things which our friends can share are more desirable than those they cannot. Also, things which we like rather to do to our friend are more desirable than those we like to do to the man in the street, e.g. just dealing and the doing of good rather than the semblance of them: for we would rather really do good to our friends than seem to do so, whereas towards the man in the street the converse is the case.

Also, superfluities are better than necessities, and are sometimes more desirable as well: for the good life is better than mere life, and good life is a superfluity, whereas mere life itself is a necessity. Sometimes, though, what is better is not also more desirable: for there is no necessity that because it is better it should also be more desirable: at least to be a philosopher is better than to make money, but it is not more desirable for a man who lacks the necessities of life. The expression ‘superfluity’ applies whenever a man possesses the necessities of life and sets to work to secure as well other noble acquisitions. Roughly speaking, perhaps, necessities are more desirable, while superfluities are better.

Also, what cannot be got from another is more desirable than what can be got from another as well, as (e.g.) is the case of justice compared with courage. Also, A is more desirable if A is desirable without B, but not B without A: power (e.g.) is not desirable without prudence, but prudence is desirable without power. Also, if of two things we repudiate the one in order to be thought to possess the other, then that one is more desirable which we wish to be thought to possess; thus (e.g.) we repudiate the love of hard work in order that people may think us geniuses.

Moreover, that is more desirable in whose absence it is less blameworthy for people to be vexed; and that is more desirable in whose absence it is more blameworthy for a man not to be vexed.

3

Moreover, of things that belong to the same species one which possesses the peculiar virtue of the species is more desirable than one which does not. If both possess it, then the one which possesses it in a greater degree is more desirable.

Moreover, if one thing makes good whatever it touches, while another does not, the former is more desirable, just as also what makes things warm is warmer than what does not. If both do so, then that one is more desirable which does so in a greater degree, or if it render good the better and more important object-if (e.g.), the one makes good the soul, and the other the body.

Moreover, judge things by their inflexions and uses and actions and works, and judge these by them: for they go with each other: e.g. if ‘justly’ means something more desirable than ‘courageously’, then also justice means something more desirable than courage; and if justice be more desirable than courage, then also ‘justly’ means something more desirable than ‘courageously’. Similarly also in the other cases.

Moreover, if one thing exceeds while the other falls short of the same standard of good, the one which exceeds is the more desirable; or if the one exceeds an even higher standard. Nay more, if there be two things both preferable to something, the one which is more highly preferable to it is more desirable than the less highly preferable. Moreover, when the excess of a thing is more desirable than the excess of something else, that thing is itself also more desirable than the other, as (e.g.) friendship than money: for an excess of friendship is more desirable than an excess of money. So also that of which a man would rather that it were his by his own doing is more desirable than what he would rather get by another’s doing, e.g. friends than money. Moreover, judge by means of an addition, and see if the addition of A to the same thing as B makes the whole more desirable than does the addition of B. You must, however, beware of adducing a case in which the common term uses, or in some other way helps the case of, one of the things added to it, but not the other, as (e.g.) if you took a saw and a sickle in combination with the art of carpentry: for in the combination the saw is a more desirable thing, but it is not a more desirable thing without qualification. Again, a thing is more desirable if, when added to a lesser good, it makes the whole greater good. Likewise, also, you should judge by means of subtraction: for the thing upon whose subtraction the remainder is a lesser good may be taken to be a greater good, whichever it be whose subtraction makes the remainder a lesser good.

Also, if one thing be desirable for itself, and the other for the look of it, the former is more desirable, as (e.g.) health than beauty. A thing is defined as being desired for the look of it if, supposing no one knew of it, you would not care to have it. Also, it is more desirable both for itself and for the look of it, while the other thing is desirable on the one ground alone. Also, whichever is the more precious for itself, is also better and more desirable. A thing may be taken to be more precious in itself which we choose rather for itself, without anything else being likely to come of it.

Moreover, you should distinguish in how many senses ‘desirable’ is used, and with a view to what ends, e.g. expediency or honour or pleasure. For what is useful for all or most of them may be taken to be more desirable than what is not useful in like manner. If the same characters belong to both things you should look and see which possesses them more markedly, i.e. which of the two is the more pleasant or more honourable or more expedient. Again, that is more desirable which serves the better purpose, e.g. that which serves to promote virtue more than that which serves to promote pleasure. Likewise also in the case of objectionable things; for that is more objectionable which stands more in the way of what is desirable, e.g. disease more than ugliness: for disease is a greater hindrance both to pleasure and to being good.

Moreover, argue by showing that the thing in question is in like measure objectionable and desirable: for a thing of such a character that a man might well desire and object to it alike is less desirable than the other which is desirable only.

4

Comparisons of things together should therefore be conducted in the manner prescribed. The same commonplace rules are useful also for showing that anything is simply desirable or objectionable: for we have only to subtract the excess of one thing over another. For if what is more precious be more desirable, then also what is precious is desirable; and if what is more useful be more desirable, then also what is useful is desirable. Likewise, also, in the case of other things which admit of comparisons of that kind. For in some cases in the very course of comparing the things together we at once assert also that each of them, or the one of them, is desirable, e.g. whenever we call the one good ‘by nature’ and the other ‘not by nature’: for dearly what is good by nature is desirable.

5

The commonplace rules relating to comparative degrees and amounts ought to be taken in the most general possible form: for when so taken they are likely to be useful in a larger number of instances. It is possible to render some of the actual rules given above more universal by a slight alteration of the expression, e.g. that what by nature exhibits such and such a quality exhibits that quality in a greater degree than what exhibits it not by nature. Also, if one thing does, and another does not, impart such and such a quality to that which possesses it, or to which it belongs, then whichever does impart it is of that quality in greater degree than the one which does not impart it; and if both impart it, then that one exhibits it in a greater degree which imparts it in a greater degree.

Moreover, if in any character one thing exceeds and another falls short of the same standard; also, if the one exceeds something which exceeds a given standard, while the other does not reach that standard, then clearly the first-named thing exhibits that character in a greater degree. Moreover, you should judge by means of addition, and see if A when added to the same thing as B imparts to the whole such and such a character in a more marked degree than B, or if, when added to a thing which exhibits that character in a less degree, it imparts that character to the whole in a greater degree. Likewise, also, you may judge by means of subtraction: for a thing upon whose subtraction the remainder exhibits such and such a character in a less degree, itself exhibits that character in a greater degree. Also, things exhibit such and such a character in a greater degree if more free from admixture with their contraries; e.g. that is whiter which is more free from admixture with black. Moreover, apart from the rules given above, that has such and such a character in greater degree which admits in a greater degree of the definition proper to the given character; e.g. if the definition of ‘white’ be ‘a colour which pierces the vision’, then that is whiter which is in a greater degree a colour that pierces the vision.

6

If the question be put in a particular and not in a universal form, in the first place the universal constructive or destructive commonplace rules that have been given may all be brought into use. For in demolishing or establishing a thing universally we also show it in particular: for if it be true of all, it is true also of some, and if untrue of all, it is untrue of some. Especially handy and of general application are the commonplace rules that are drawn from the opposites and co-ordinates and inflexions of a thing: for public opinion grants alike the claim that if all pleasure be good, then also all pain is evil, and the claim that if some pleasure be good, then also some pain is evil. Moreover, if some form of sensation be not a capacity, then also some form of failure of sensation is not a failure of capacity. Also, if the object of conception is in some cases an object of knowledge, then also some form of conceiving is knowledge. Again, if what is unjust be in some cases good, then also what is just is in some cases evil; and if what happens justly is in some cases evil, then also what happens unjustly is in some cases good. Also, if what is pleasant is in some cases objectionable, then pleasure is in some cases an objectionable thing. On the same principle, also, if what is pleasant is in some cases beneficial, then pleasure is in some cases a beneficial thing. The case is the same also as regards the things that destroy, and the processes of generation and destruction. For if anything that destroys pleasure or knowledge be in some cases good, then we may take it that pleasure or knowledge is in some cases an evil thing. Likewise, also, if the destruction of knowledge be in some cases a good thing or its production an evil thing, then knowledge will be in some cases an evil thing; e.g. if for a man to forget his disgraceful conduct be a good thing, and to remember it be an evil thing, then the knowledge of his disgraceful conduct may be taken to be an evil thing. The same holds also in other cases: in all such cases the premiss and the conclusion are equally likely to be accepted.

Moreover you should judge by means of greater or smaller or like degrees: for if some member of another genus exhibit such and such a character in a more marked degree than your object, while no member of that genus exhibits that character at all, then you may take it that neither does the object in question exhibit it; e.g. if some form of knowledge be good in a greater degree than pleasure, while no form of knowledge is good, then you may take it that pleasure is not good either. Also, you should judge by a smaller or like degree in the same way: for so you will find it possible both to demolish and to establish a view, except that whereas both are possible by means of like degrees, by means of a smaller degree it is possible only to establish, not to overthrow. For if a certain form of capacity be good in a like degree to knowledge, and a certain form of capacity be good, then so also is knowledge; while if no form of capacity be good, then neither is knowledge. If, too, a certain form of capacity be good in a less degree than knowledge, and a certain form of capacity be good, then so also is knowledge; but if no form of capacity be good, there is no necessity that no form of knowledge either should be good. Clearly, then, it is only possible to establish a view by means of a less degree.

Not only by means of another genus can you overthrow a view, but also by means of the same, if you take the most marked instance of the character in question; e.g. if it be maintained that some form of knowledge is good, then, suppose it to be shown that prudence is not good, neither will any other kind be good, seeing that not even the kind upon which there is most general agreement is so. Moreover, you should go to work by means of an hypothesis; you should claim that the attribute, if it belongs or does not belong in one case, does so in a like degree in all, e.g. that if the soul of man be immortal, so are other souls as well, while if this one be not so, neither are the others. If, then, it be maintained that in some instance the attribute belongs, you must show that in some instance it does not belong: for then it will follow, by reason of the hypothesis, that it does not belong to any instance at all. If, on the other hand, it be maintained that it does not belong in some instance, you must show that it does belong in some instance, for in this way it will follow that it belongs to all instances. It is clear that the maker of the hypothesis universalizes the question, whereas it was stated in a particular form: for he claims that the maker of a particular admission should make a universal admission, inasmuch as he claims that if the attribute belongs in one instance, it belongs also in all instances alike.

If the problem be indefinite, it is possible to overthrow a statement in only one way; e.g. if a man has asserted that pleasure is good or is not good, without any further definition. For if he meant that a particular pleasure is good, you must show universally that no pleasure is good, if the proposition in question is to be demolished. And likewise, also, if he meant that some particular pleasure is not good you must show universally that all pleasure is good: it is impossible to demolish it in any other way. For if we show that some particular pleasure is not good or is good, the proposition in question is not yet demolished. It is clear, then, that it is possible to demolish an indefinite statement in one way only, whereas it can be established in two ways: for whether we show universally that all pleasure is good, or whether we show that a particular pleasure is good, the proposition in question will have been proved. Likewise, also, supposing we are required to argue that some particular pleasure is not good, if we show that no pleasure is good or that a particular pleasure is not good, we shall have produced an argument in both ways, both universally and in particular, to show that some particular pleasure is not good. If, on the other hand, the statement made be definite, it will be possible to demolish it in two ways; e.g. if it be maintained that it is an attribute of some particular pleasure to be good, while of some it is not: for whether it be shown that all pleasure, or that no pleasure, is good, the proposition in question will have been demolished. If, however, he has stated that only one single pleasure is good, it is possible to demolish it in three ways: for by showing that all pleasure, or that no pleasure, or that more than one pleasure, is good, we shall have demolished the statement in question. If the statement be made still more definite, e.g. that prudence alone of the virtues is knowledge, there are four ways of demolishing it: for if it be shown that all virtue is knowledge, or that no virtue is so, or that some other virtue (e.g. justice) is so, or that prudence itself is not knowledge, the proposition in question will have been demolished.

It is useful also to take a look at individual instances, in cases where some attribute has been said to belong or not to belong, as in the case of universal questions. Moreover, you should take a glance among genera, dividing them by their species until you come to those that are not further divisible, as has been said before:' for whether the attribute is found to belong in all cases or in none, you should, after adducing several instances, claim that he should either admit your point universally, or else bring an objection showing in what case it does not hold. Moreover, in cases where it is possible to make the accident definite either specifically or numerically, you should look and see whether perhaps none of them belongs, showing e.g. that time is not moved, nor yet a movement, by enumerating how many species there are of movement: for if none of these belong to time, clearly it does not move, nor yet is a movement. Likewise, also, you can show that the soul is not a number, by dividing all numbers into either odd or even: for then, if the soul be neither odd nor even, clearly it is not a number.

In regard then to Accident, you should set to work by means like these, and in this manner.

Book IV

1

NEXT we must go on to examine questions relating to Genus and Property. These are elements in the questions that relate to definitions, but dialecticians seldom address their inquiries to these by themselves. If, then, a genus be suggested for something that is, first take a look at all objects which belong to the same genus as the thing mentioned, and see whether the genus suggested is not predicated of one of them, as happens in the case of an accident: e.g. if ‘good’ be laid down to be the genus of ‘pleasure’, see whether some particular pleasure be not good: for, if so, clearly good’ is not the genus of pleasure: for the genus is predicated of all the members of the same species. Secondly, see whether it be predicated not in the category of essence, but as an accident, as ‘white’ is predicated of ‘snow’, or ‘self-moved’ of the soul. For ‘snow’ is not a kind of ‘white’, and therefore ‘white’ is not the genus of snow, nor is the soul a kind of ‘moving object’: its motion is an accident of it, as it often is of an animal to walk or to be walking. Moreover, ‘moving’ does not seem to indicate the essence, but rather a state of doing or of having something done to it. Likewise, also, ‘white’: for it indicates not the essence of snow, but a certain quality of it. So that neither of them is predicated in the category of ‘essence’.

Especially you should take a look at the definition of Accident, and see whether it fits the genus mentioned, as (e.g.) is also the case in the instances just given. For it is possible for a thing to be and not to be self-moved, and likewise, also, for it to be and not to be white. So that neither of these attributes is the genus but an accident, since we were saying that an accident is an attribute which can belong to a thing and also not belong.

Moreover, see whether the genus and the species be not found in the same division, but the one be a substance while the other is a quality, or the one be a relative while the other is a quality, as (e.g.) ‘slow’ and ‘swan’ are each a substance, while ‘white’ is not a substance but a quality, so that ‘white’ is not the genus either of ‘snow’ or of ‘swan’. Again, knowledge’ is a relative, while ‘good’ and ‘noble’ are each a quality, so that good, or noble, is not the genus of knowledge. For the genera of relatives ought themselves also to be relatives, as is the case with ‘double’: for multiple’, which is the genus of ‘double’, is itself also a relative. To speak generally, the genus ought to fall under the same division as the species: for if the species be a substance, so too should be the genus, and if the species be a quality, so too the genus should be a quality; e.g. if white be a quality, so too should colour be. Likewise, also, in other cases.

Again, see whether it be necessary or possible for the genus to partake of the object which has been placed in the genus. ‘To partake’ is defined as ‘to admit the definition of that which is partaken. Clearly, therefore, the species partake of the genera, but not the genera of the species: for the species admits the definition of the genus, whereas the genus does not admit that of the species. You must look, therefore, and see whether the genus rendered partakes or can possibly partake of the species, e.g. if any one were to render anything as genus of ‘being’ or of ‘unity’: for then the result will be that the genus partakes of the species: for of everything that is, ‘being’ and ‘unity’ are predicated, and therefore their definition as well.

Moreover, see if there be anything of which the species rendered is true, while the genus is not so, e.g. supposing ‘being’ or ‘object of knowledge’ were stated to be the genus of ‘object of opinion’. For ‘object of opinion’ will be a predicate of what does not exist; for many things which do not exist are objects of opinion; whereas that ‘being’ or ‘object of knowledge’ is not predicated of what does not exist is clear. So that neither ‘being’ nor ‘object of knowledge’ is the genus of ‘object of opinion’: for of the objects of which the species is predicated, the genus ought to be predicated as well.

Again, see whether the object placed in the genus be quite unable to partake of any of its species: for it is impossible that it should partake of the genus if it do not partake of any of its species, except it be one of the species reached by the first division: these do partake of the genus alone. If, therefore, ‘Motion’ be stated as the genus of pleasure, you should look and see if pleasure be neither locomotion nor alteration, nor any of the rest of the given modes of motion: for clearly you may then take it that it does not partake of any of the species, and therefore not of the genus either, since what partakes of the genus must necessarily partake of one of the species as well: so that pleasure could not be a species of Motion, nor yet be one of the individual phenomena comprised under the term ‘motion’. For individuals as well partake in the genus and the species, as (e.g.) an individual man partakes of both ‘man’ and ‘animal’.

Moreover, see if the term placed in the genus has a wider denotation than the genus, as (e.g.) ‘object of opinion’ has, as compared with ‘being’: for both what is and what is not are objects of opinion, so that ‘object of opinion’ could not be a species of being: for the genus is always of wider denotation than the species. Again, see if the species and its genus have an equal denotation; suppose, for instance, that of the attributes which go with everything, one were to be stated as a species and the other as its genus, as for example Being and Unity: for everything has being and unity, so that neither is the genus of the other, since their denotation is equal. Likewise, also, if the ‘first’ of a series and the ‘beginning’ were to be placed one under the other: for the beginning is first and the first is the beginning, so that either both expressions are identical or at any rate neither is the genus of the other. The elementary principle in regard to all such cases is that the genus has a wider denotation than the species and its differentia: for the differentia as well has a narrower denotation than the genus.

See also whether the genus mentioned fails, or might be generally thought to fail, to apply to some object which is not specifically different from the thing in question; or, if your argument be constructive, whether it does so apply. For all things that are not specifically different have the same genus. If, therefore, it be shown to apply to one, then clearly it applies to all, and if it fails to apply to one, clearly it fails to apply to any; e.g. if any one who assumes ‘indivisible lines’ were to say that the ‘indivisible’ is their genus. For the aforesaid term is not the genus of divisible lines, and these do not differ as regards their species from indivisible: for straight lines are never different from each other as regards their species.

2

Look and see, also, if there be any other genus of the given species which neither embraces the genus rendered nor yet falls under it, e.g. suppose any one were to lay down that ‘knowledge’ is the genus of justice. For virtue is its genus as well, and neither of these genera embraces the remaining one, so that knowledge could not be the genus of justice: for it is generally accepted that whenever one species falls under two genera, the one is embraced by the other. Yet a principle of this kind gives rise to a difficulty in some cases. For some people hold that prudence is both virtue and knowledge, and that neither of its genera is embraced by the other: although certainly not everybody admits that prudence is knowledge. If, however, any one were to admit the truth of this assertion, yet it would still be generally agreed to be necessary that the genera of the same object must at any rate be subordinate either the one to the other or both to the same, as actually is the case with virtue and knowledge. For both fall under the same genus; for each of them is a state and a disposition. You should look, therefore, and see whether neither of these things is true of the genus rendered; for if the genera be subordinate neither the one to the other nor both to the same, then what is rendered could not be the true genus.

Look, also, at the genus of the genus rendered, and so continually at the next higher genus, and see whether all are predicated of the species, and predicated in the category of essence: for all the higher genera should be predicated of the species in the category of essence. If, then, there be anywhere a discrepancy, clearly what is rendered is not the true genus. [Again, see whether either the genus itself, or one of its higher genera, partakes of the species: for the higher genus does not partake of any of the lower.] If, then, you are overthrowing a view, follow the rule as given: if establishing one, then-suppose that what has been named as genus be admitted to belong to the species, only it be disputed whether it belongs as genus-it is enough to show that one of its higher genera is predicated of the species in the category of essence. For if one of them be predicated in the category of essence, all of them, both higher and lower than this one, if predicated at all of the species, will be predicated of it in the category of essence: so that what has been rendered as genus is also predicated in the category of essence. The premiss that when one genus is predicated in the category of essence, all the rest, if predicated at all, will be predicated in the category of essence, should be secured by induction. Supposing, however, that it be disputed whether what has been rendered as genus belongs at all, it is not enough to show that one of the higher genera is predicated of the species in the category of essence: e.g. if any one has rendered ‘locomotion’ as the genus of walking, it is not enough to show that walking is ‘motion’ in order to show that it is ‘locomotion’, seeing that there are other forms of motion as well; but one must show in addition that walking does not partake of any of the species of motion produced by the same division except locomotion. For of necessity what partakes of the genus partakes also of one of the species produced by the first division of the genus. If, therefore, walking does not partake either of increase or decrease or of the other kinds of motion, clearly it would partake of locomotion, so that locomotion would be the genus of walking.

Again, look among the things of which the given species is predicated as genus, and see if what is rendered as its genus be also predicated in the category of essence of the very things of which the species is so predicated, and likewise if all the genera higher than this genus are so predicated as well. For if there be anywhere a discrepancy, clearly what has been rendered is not the true genus: for had it been the genus, then both the genera higher than it, and it itself, would all have been predicated in the category of essence of those objects of which the species too is predicated in the category of essence. If, then, you are overthrowing a view, it is useful to see whether the genus fails to be predicated in the category of essence of those things of which the species too is predicated. If establishing a view, it is useful to see whether it is predicated in the category of essence: for if so, the result will be that the genus and the species will be predicated of the same object in the category of essence, so that the same object falls under two genera: the genera must therefore of necessity be subordinate one to the other, and therefore if it be shown that the one we wish to establish as genus is not subordinate to the species, clearly the species would be subordinate to it, so that you may take it as shown that it is the genus.

Look, also, at the definitions of the genera, and see whether they apply both to the given species and to the objects which partake of the species. For of necessity the definitions of its genera must be predicated of the species and of the objects which partake of the species: if, then, there be anywhere a discrepancy, clearly what has been rendered is not the genus.

Again, see if he has rendered the differentia as the genus, e.g. ‘immortal’ as the genus of ‘God’. For ‘immortal’ is a differentia of ‘living being’, seeing that of living beings some are mortal and others immortal. Clearly, then, a bad mistake has been made; for the differentia of a thing is never its genus. And that this is true is clear: for a thing’s differentia never signifies its essence, but rather some quality, as do ‘walking’ and ‘biped’.

Also, see whether he has placed the differentia inside the genus, e.g. by taking ‘odd’ as a number’. For ‘odd’ is a differentia of number, not a species. Nor is the differentia generally thought to partake of the genus: for what partakes of the genus is always either a species or an individual, whereas the differentia is neither a species nor an individual. Clearly, therefore, the differentia does not partake of the genus, so that ‘odd’ too is no species but a differentia, seeing that it does not partake of the genus.

Moreover, see whether he has placed the genus inside the species, e.g. by taking ‘contact’ to be a ‘juncture’, or ‘mixture’ a ‘fusion’, or, as in Plato’s definition,’ ‘locomotion’ to be the same as ‘carriage’. For there is no necessity that contact should be juncture: rather, conversely, juncture must be contact: for what is in contact is not always joined, though what is joined is always in contact. Likewise, also, in the remaining instances: for mixture is not always a ‘fusion’ (for to mix dry things does not fuse them), nor is locomotion always ‘carriage’. For walking is not generally thought to be carriage: for ‘carriage’ is mostly used of things that change one place for another involuntarily, as happens in the case of inanimate things. Clearly, also, the species, in the instances given, has a wider denotation than the genus, whereas it ought to be vice versa.

Again, see whether he has placed the differentia inside the species, by taking (e.g.) ‘immortal’ to be ‘a god’. For the result will be that the species has an equal or wider denotation: and this cannot be, for always the differentia has an equal or a wider denotation than the species. Moreover, see whether he has placed the genus inside the differentia, by making ‘colour’ (e.g.) to be a thing that ‘pierces’, or ‘number’ a thing that is ‘odd’. Also, see if he has mentioned the genus as differentia: for it is possible for a man to bring forward a statement of this kind as well, e.g. that ‘mixture’ is the differentia of ‘fusion’, or that change of place’ is the differentia of ‘carriage’. All such cases should be examined by means of the same principles: for they depend upon common rules: for the genus should have a wider denotation that its differentia, and also should not partake of its differentia; whereas, if it be rendered in this manner, neither of the aforesaid requirements can be satisfied: for the genus will both have a narrower denotation than its differentia, and will partake of it.

Again, if no differentia belonging to the genus be predicated of the given species, neither will the genus be predicated of it; e.g. of ‘soul’ neither ‘odd’ nor ‘even’ is predicated: neither therefore is ‘number’. Moreover, see whether the species is naturally prior and abolishes the genus along with itself: for the contrary is the general view. Moreover, if it be possible for the genus stated, or for its differentia, to be absent from the alleged species, e.g. for ‘movement’ to be absent from the ‘soul’, or ‘truth and falsehood’ from ‘opinion’, then neither of the terms stated could be its genus or its differentia: for the general view is that the genus and the differentia accompany the species, as long as it exists.

3

Look and see, also, if what is placed in the genus partakes or could possibly partake of any contrary of the genus: for in that case the same thing will at the same time partake of contrary things, seeing that the genus is never absent from it, while it partakes, or can possibly partake, of the contrary genus as well. Moreover, see whether the species shares in any character which it is utterly impossible for any member of the genus to have. Thus (e.g.) if the soul has a share in life, while it is impossible for any number to live, then the soul could not be a species of number.

You should look and see, also, if the species be a homonym of the genus, and employ as your elementary principles those already stated for dealing with homonymity: for the genus and the species are synonymous.

Seeing that of every genus there is more than one species, look and see if it be impossible that there should be another species than the given one belonging to the genus stated: for if there should be none, then clearly what has been stated could not be a genus at all.

Look and see, also, if he has rendered as genus a metaphorical expression, describing (e.g. ‘temperance’ as a ‘harmony’: a ‘harmony’: for a genus is always predicated of its species in its literal sense, whereas ‘harmony’ is predicated of temperance not in a literal sense but metaphorically: for a harmony always consists in notes.

Moreover, if there be any contrary of the species, examine it. The examination may take different forms; first of all see if the contrary as well be found in the same genus as the species, supposing the genus to have no contrary; for contraries ought to be found in the same genus, if there be no contrary to the genus. Supposing, on the other hand, that there is a contrary to the genus, see if the contrary of the species be found in the contrary genus: for of necessity the contrary species must be in the contrary genus, if there be any contrary to the genus. Each of these points is made plain by means of induction. Again, see whether the contrary of the species be not found in any genus at all, but be itself a genus, e.g. ‘good’: for if this be not found in any genus, neither will its contrary be found in any genus, but will itself be a genus, as happens in the case of ‘good’ and ‘evil’: for neither of these is found in a genus, but each of them is a genus. Moreover, see if both genus and species be contrary to something, and one pair of contraries have an intermediary, but not the other. For if the genera have an intermediary, so should their species as well, and if the species have, so should their genera as well, as is the case with (1) virtue and vice and (2) justice and injustice: for each pair has an intermediary. An objection to this is that there is no intermediary between health and disease, although there is one between evil and good. Or see whether, though there be indeed an intermediary between both pairs, i.e. both between the species and between the genera, yet it be not similarly related, but in one case be a mere negation of the extremes, whereas in the other case it is a subject. For the general view is that the relation should be similar in both cases, as it is in the cases of virtue and vice and of justice and injustice: for the intermediaries between both are mere negations. Moreover, whenever the genus has no contrary, look and see not merely whether the contrary of the species be found in the same genus, but the intermediate as well: for the genus containing the extremes contains the intermediates as well, as (e.g.) in the case of white and black: for ‘colour’ is the genus both of these and of all the intermediate colours as well. An objection may be raised that ‘defect’ and ‘excess’ are found in the same genus (for both are in the genus ‘evil’), whereas moderate amount’, the intermediate between them, is found not in ‘evil’ but in ‘good’. Look and see also whether, while the genus has a contrary, the species has none; for if the genus be contrary to anything, so too is the species, as virtue to vice and justice to injustice.

Likewise. also, if one were to look at other instances, one would come to see clearly a fact like this. An objection may be raised in the case of health and disease: for health in general is the contrary of disease, whereas a particular disease, being a species of disease, e.g. fever and ophthalmia and any other particular disease, has no contrary.

If, therefore, you are demolishing a view, there are all these ways in which you should make your examination: for if the aforesaid characters do not belong to it, clearly what has been rendered is not the genus. If, on the other hand, you are establishing a view, there are three ways: in the first place, see whether the contrary of the species be found in the genus stated, suppose the genus have no contrary: for if the contrary be found in it, clearly the species in question is found in it as well. Moreover, see if the intermediate species is found in the genus stated: for whatever genus contains the intermediate contains the extremes as well. Again, if the genus have a contrary, look and see whether also the contrary species is found in the contrary genus: for if so, clearly also the species in question is found in the genus in question.

Again, consider in the case of the inflexions and the co-ordinates of species and genus, and see whether they follow likewise, both in demolishing and in establishing a view. For whatever attribute belongs or does not belong to one belongs or does not belong at the same time to all; e.g. if justice be a particular form of knowledge, then also 'justly' is 'knowingly' and the just man is a man of knowledge: whereas if any of these things be not so, then neither is any of the rest of them.

4

Again, consider the case of things that bear a like relation to one another. Thus (e.g.) the relation of the pleasant to pleasure is like that of the useful to the good: for in each case the one produces the other. If therefore pleasure be a kind of 'good', then also the pleasant will be a kind of 'useful': for clearly it may be taken to be productive of good, seeing that pleasure is good. In the same way also consider the case of processes of generation and destruction; if (e.g.) to build be to be active, then to have built is to have been active, and if to learn be to recollect, then also to have learnt is to have recollected, and if to be decomposed be to be destroyed, then to have been decomposed is to have been destroyed, and decomposition is a kind of destruction. Consider also in the same way the case of things that generate or destroy, and of the capacities and uses of things; and in general, both in demolishing and in establishing an argument, you should examine things in the light of any resemblance of whatever description, as we were saying in the case of generation and destruction. For if what tends to destroy tends to decompose, then also to be destroyed is to be decomposed: and if what tends to generate tends to produce, then to be generated is to be produced, and generation is production. Likewise, also, in the case of the capacities and uses of things: for if a capacity be a disposition, then also to be capable of something is to be disposed to it, and if the use of anything be an activity, then to use it is to be active, and to have used it is to have been active.

If the opposite of the species be a privation, there are two ways of demolishing an argument, first of all by looking to see if the opposite be found in the genus rendered: for either the privation is to be found absolutely nowhere in the same genus, or at least not in the same ultimate genus: e.g. if the ultimate genus containing sight be sensation, then blindness will not be a sensation. Secondly, if there be a sensation. Secondly, if there be a privation opposed to both genus and species, but the opposite of the species be not found in the opposite of the genus, then neither could the species rendered be in the genus rendered. If, then, you are demolishing a view, you should follow the rule as stated; but if establishing one there is but one way: for if the opposite species be found in the opposite genus, then also the species in question would be found in the genus in question: e.g. if 'blindness' be a form of 'insensibility', then 'sight' is a form of 'sensation'.

Again, look at the negations of the genus and species and convert the order of terms, according to the method described in the case of Accident: e.g. if the pleasant be a kind of good, what is not good is not pleasant. For were this no something not good as well would then be pleasant. That, however, cannot be, for it is impossible, if 'good' be the genus of pleasant, that anything not good should be pleasant: for of things of which the genus is not predicated, none of the species is predicated either. Also, in establishing a view, you should adopt the same method of examination: for if what is not good be not pleasant, then what is pleasant is good, so that 'good' is the genus of 'pleasant'.

If the species be a relative term, see whether the genus be a relative term as well: for if the species be a relative term, so too is the genus, as is the case with 'double' and 'multiple': for each is a relative term. If, on the other hand, the genus be a relative term, there is no necessity that the species should be so as well: for 'knowledge'is a relative term, but not so 'grammar'. Or possibly not even the first statement would be generally considered true: for virtue is a kind of 'noble' and a kind of 'good' thing, and yet, while 'virtue' is a relative term, ‘good’ and ‘noble’ are not relatives but qualities. Again, see whether the species fails to be used in the same relation when called by its own name, and when called by the name of its genus: e.g. if the term ‘double’ be used to mean the double of a ‘half’, then also the term ‘multiple’ ought to be used to mean multiple of a ‘half’. Otherwise ‘multiple’ could not be the genus of ‘double’.

Moreover, see whether the term fail to be used in the same relation both when called by the name of its genus, and also when called by those of all the genera of its genus. For if the double be a multiple of a half, then ‘in excess of ‘will also be used in relation to a ‘half’: and, in general, the double will be called by the names of all the higher genera in relation to a ‘half’. An objection may be raised that there is no necessity for a term to be used in the same relation when called by its own name and when called by that of its genus: for ‘knowledge’ is called knowledge ‘of an object’, whereas it is called a ‘state’ and ‘disposition’ not of an ‘object’ but of the ‘soul’.

Again, see whether the genus and the species be used in the same way in respect of the inflexions they take, e.g. datives and genitives and all the rest. For as the species is used, so should the genus be as well, as in the case of ‘double’ and its higher genera: for we say both ‘double of’ and ‘multiple of’ a thing. Likewise, also, in the case of ‘knowledge’: for both knowledge’ itself and its genera, e.g. ‘disposition’ and ‘state’, are said to be ‘of’ something. An objection may be raised that in some cases it is not so: for we say ‘superior to’ and ‘contrary to’ so and so, whereas ‘other’, which is the genus of these terms, demands not ‘to’ but ‘than’: for the expression is ‘other than’ so and so.

Again, see whether terms used in like case relationships fail to yield a like construction when converted, as do ‘double’ and ‘multiple’. For each of these terms takes a genitive both in itself and in its converted form: for we say both a half of’ and ‘a fraction of’ something. The case is the same also as regards both ‘knowledge’ and ‘conception’: for these take a genitive, and by conversion an ‘object of knowledge’ and an ‘object of conception’ are both alike used with a dative. If, then, in any cases the constructions after conversion be not alike, clearly the one term is not the genus of the other.

Again, see whether the species and the genus fail to be used in relation to an equal number of things: for the general view is that the uses of both are alike and equal in number, as is the case with ‘present’ and ‘grant’. For a present’ is of something or to some one, and also a ‘grant’ is of something and to some one: and ‘grant’ is the genus of ‘present’, for a ‘present’ is a ‘grant that need not be returned’. In some cases, however, the number of relations in which the terms are used happens not to be equal, for while ‘double’ is double of something, we speak of ‘in excess’ or ‘greater’ in something, as well as of or than something: for what is in excess or greater is always in excess in something, as well as in excess of something. Hence the terms in question are not the genera of ‘double’, inasmuch as they are not used in relation to an equal number of things with the species. Or possibly it is not universally true that species and genus are used in relation to an equal number of things.

See, also, if the opposite of the species have the opposite of the genus as its genus, e.g. whether, if ‘multiple’ be the genus of ‘double’, ‘fraction’ be also the genus of ‘half’. For the opposite of the genus should always be the genus of the opposite species. If, then, any one were to assert that knowledge is a kind of sensation, then also the object of knowledge will have to be a kind of object of sensation, whereas it is not: for an object of knowledge is not always an object of sensation: for objects of knowledge include some of the objects of intuition as well. Hence ‘object of sensation’ is not the genus of ‘object of knowledge’: and if this be so, neither is ‘sensation’ the genus of ‘knowledge’.

Seeing that of relative terms some are of necessity found in, or used of, the things in relation to which they happen at any time to be used (e.g. ‘disposition’ and ‘state’ and ‘balance’; for in nothing else can the aforesaid terms possibly be found except in the things in relation to which they are used), while others need not be found in the things in relation to which they are used at any time, though they still may be (e.g. if the term ‘object of knowledge’ be applied to the soul: for it is quite possible that the knowledge of itself should be possessed by the soul itself, but it is not necessary, for it is possible for this same knowledge to be found in some one else), while for others, again, it is absolutely impossible that they should be found in the things in relation to which they happen at any time to be used (as e.g. that the contrary should be found in the contrary or knowledge in the object of knowledge, unless the object of knowledge happen to be a soul or a man)-you should look, therefore, and see whether he places a term of one kind inside a genus that is not of that kind, e.g. suppose he has said that ‘memory’ is the ‘abiding of knowledge’. For ‘abiding’ is always found in that which abides, and is used of that, so that the abiding of knowledge also will be found in knowledge. Memory, then, is found in knowledge, seeing that it is the abiding of knowledge. But this is impossible, for memory is always found in the soul. The aforesaid commonplace rule is common to the subject of Accident as well: for it is all the same to say that ‘abiding’ is the genus of memory, or to allege that it is an accident of it. For if in any way whatever memory be the abiding of knowledge, the same argument in regard to it will apply.

5

Again, see if he has placed what is a ‘state’ inside the genus ‘activity’, or an activity inside the genus ‘state’, e.g. by defining ‘sensation’ as ‘movement communicated through the body’: for sensation is a ‘state’, whereas movement is an ‘activity’. Likewise, also, if he has said that memory is a ‘state that is retentive of a conception’, for memory is never a state, but rather an activity.

They also make a bad mistake who rank a ‘state’ within the ‘capacity’ that attends it, e.g. by defining ‘good temper’ as the ‘control of anger’, and ‘courage’ and ‘justice’ as ‘control of fears’ and of ‘gains’: for the terms ‘courageous’ and ‘good-tempered’ are applied to a man who is immune from passion, whereas ‘self-controlled’ describes the man who is exposed to passion and not led by it. Quite possibly, indeed, each of the former is attended by a capacity such that, if he were exposed to passion, he would control it and not be led by it: but, for all that, this is not what is meant by being ‘courageous’ in the one case, and ‘good tempered’ in the other; what is meant is an absolute immunity from any passions of that kind at all.

Sometimes, also, people state any kind of attendant feature as the genus, e.g. ‘pain’ as the genus of ‘anger’ and ‘conception’ as that of conviction’. For both of the things in question follow in a certain sense upon the given species, but neither of them is genus to it. For when the angry man feels pain, the pain bas appeared in him earlier than the anger: for his anger is not the cause of his pain, but his pain of his anger, so that anger emphatically is not pain. By the same reasoning, neither is conviction conception: for it is possible to have the same conception even without being convinced of it, whereas this is impossible if conviction be a species of conception: for it is impossible for a thing still to remain the same if it be entirely transferred out of its species, just as neither could the same animal at one time be, and at another not be, a man. If, on the other hand, any one says that a man who has a conception must of necessity be also convinced of it, then ‘conception’ and ‘conviction’ will be used with an equal denotation, so that not even so could the former be the genus of the latter: for the denotation of the genus should be wider.

See, also, whether both naturally come to be anywhere in the same thing: for what contains the species contains the genus as well: e.g. what contains ‘white’ contains ‘colour’ as well, and what contains ‘knowledge of grammar’ contains ‘knowledge’ as well. If, therefore, any one says that ‘shame’ is ‘fear’, or that ‘anger’ is ‘pain’, the result will be that genus and species are not found in the same thing: for shame is found in the ‘reasoning’ faculty, whereas fear is in the ‘spirited’ faculty, and ‘pain’ is found in the faculty of ‘desires’. (for in this pleasure also is found), whereas ‘anger’ is found in the ‘spirited’ faculty. Hence the terms rendered are not the genera, seeing that they do not naturally come to be in the same faculty as the species. Likewise, also, if ‘friendship’ be found in the faculty of desires, you may take it that it is not a form of ‘wishing’: for wishing is always found in the ‘reasoning’ faculty. This commonplace rule is useful also in dealing with Accident: for the accident and that of which it is an accident are both found in the same thing, so that if they do not appear in the same thing, clearly it is not an accident.

Again, see if the species partakes of the genus attributed only in some particular respect: for it is the general view that the genus is not thus imparted only in some particular respect: for a man is not an animal in a particular respect, nor is grammar knowledge in a particular respect only. Likewise also in other instances. Look, therefore, and see if in the case of any of its species the genus be imparted only in a certain respect; e.g. if ‘animal’ has been described as an ‘object of perception’ or of ‘sight’. For an animal is an object of perception or of sight in a particular respect only; for it is in respect of its body that it is perceived and seen, not in respect of its soul, so that-’object of sight’ and ‘object of perception’ could not be the genus of ‘animal’.

Sometimes also people place the whole inside the part without detection, defining (e.g.) ‘animal’ as an ‘animate body’; whereas the part is not predicated in any sense of the whole, so that ‘body’ could not be the genus of animal, seeing that it is a part.

See also if he has put anything that is blameworthy or objectionable into the class ‘capacity’ or ‘capable’, e.g. by defining a ‘sophist’ or a ‘slanderer’, or a ‘thief’ as ‘one who is capable of secretly thieving other people’s property’. For none of the aforesaid characters is so called because he is ‘capable’ in one of these respects: for even God and the good man are capable of doing bad things, but that is not their character: for it is always in respect of their choice that bad men are so called. Moreover, a capacity is always a desirable thing: for even the capacities for doing bad things are desirable, and therefore it is we say that even God and the good man possess them; for they are capable (we say) of doing evil. So then ‘capacity’ can never be the genus of anything blameworthy. Else, the result will be that what is blameworthy is sometimes desirable: for there will be a certain form of capacity that is blameworthy.

Also, see if he has put anything that is precious or desirable for its own sake into the class ‘capacity’ or ‘capable’ or ‘productive’ of anything. For capacity, and what is capable or productive of anything, is always desirable for the sake of something else.

Or see if he has put anything that exists in two genera or more into one of them only. For some things it is impossible to place in a single genus, e.g. the ‘cheat’ and the ‘slanderer’: for neither he who has the will without the capacity, nor he who has the capacity without the will, is a slanderer or cheat, but he who has both of them. Hence he must be put not into one genus, but into both the aforesaid genera.

Moreover, people sometimes in converse order render genus as differentia, and differentia as genus, defining (e.g.) astonishment as ‘excess of wonderment’ and conviction as ‘vehemence of conception’. For neither ‘excess’ nor ‘vehemence’ is the genus, but the differentia: for astonishment is usually taken to be an ‘excessive wonderment’, and conviction to be a ‘vehement conception’, so that ‘wonderment’ and ‘conception’ are the genus, while ‘excess’ and ‘vehemence’ are the differentia. Moreover, if any one renders ‘excess’ and ‘vehemence’ as genera, then inanimate things will be convinced and astonished. For ‘vehemence’ and ‘excess’ of a thing are found in a thing which is thus vehement and in excess. If, therefore, astonishment be excess of wonderment the astonishment will be found in the wonderment, so that ‘wonderment’ will be astonished! Likewise, also, conviction will be found in the conception, if it be ‘vehemence of conception’, so that the conception will be convinced. Moreover, a man who renders an answer in this style will in consequence find himself calling vehemence vehement and excess excessive: for there is such a thing as a vehement conviction: if then conviction be ‘vehemence’, there would be a ‘vehement vehemence’. Likewise, also, there is such a thing as excessive astonishment: if then astonishment be an excess, there would be an ‘excessive excess’. Whereas neither of these things is generally believed, any more than that knowledge is a knower or motion a moving thing.

Sometimes, too, people make the bad mistake of putting an affection into that which is affected, as its genus, e.g. those who say that immortality is everlasting life: for immortality seems to be a certain affection or accidental feature of life. That this saying is true would appear clear if any one were to admit that a man can pass from being mortal and become immortal: for no one will assert that he takes another life, but that a certain accidental feature or affection enters into this one as it is. So then ‘life’ is not the genus of immortality.

Again, see if to an affection he has ascribed as genus the object of which it is an affection, by defining (e.g.) wind as ‘air in motion’. Rather, wind is ‘a movement of air’: for the same air persists both when it is in motion and when it is still. Hence wind is not ‘air’ at all: for then there would also have been wind when the air was not in motion, seeing that the same air which formed the wind persists. Likewise, also, in other cases of the kind. Even, then, if we ought in this instance to admit the point that wind is ‘air in motion’, yet we should accept a definition of the kind, not about all those things of which the genus is not true, but only in cases where the genus rendered is a true predicate. For in some cases, e.g. ‘mud’ or ‘snow’, it is not generally held to be true. For people tell you that snow is ‘frozen water’ and mud is earth mixed with moisture’, whereas snow is not water, nor mud earth, so that neither of the terms rendered could be the genus: for the genus should be true of all its species. Likewise neither is wine ‘fermented water’, as Empedocles speaks of ‘water fermented in wood’;’ for it simply is not water at all.

Moreover, see whether the term rendered fail to be the genus of anything at all; for then clearly it also fails to be the genus of the species mentioned. Examine the point by seeing whether the objects that partake of the genus fail to be specifically different from one another, e.g. white objects: for these do not differ specifically from one another, whereas of a genus the species are always different, so that ‘white’ could not be the genus of anything.

Again, see whether he has named as genus or differentia some feature that goes with everything: for the number of attributes that follow everything is comparatively large: thus (e.g.) ‘Being’ and ‘Unity’ are among the number of attributes that follow everything. If, therefore, he has rendered ‘Being’ as a genus, clearly it would be the genus of everything, seeing that it is predicated of everything; for the genus is never predicated of anything except of its species. Hence Unity, inter alia, will be a species of Being. The result, therefore, is that of all things of which the genus is predicated, the species is predicated as well, seeing that Being and Unity are predicates of absolutely everything, whereas the predication of the species ought to be of narrower range. If, on the other hand, he has named as differentia some attribute that follows everything, clearly the denotation of the differentia will be equal to, or wider than, that of the genus. For if the genus, too, be some attribute that follows everything, the denotation of the differentia will be equal to its denotation, while if the genus do not follow everything, it will be still wider.

Moreover, see if the description ‘inherent in S’ be used of the genus rendered in relation to its species, as it is used of ‘white’ in the case of snow, thus showing clearly that it could not be the genus: for ‘true of S’ is the only description used of the genus in relation to its species. Look and see also if the genus fails to be synonymous with its species. For the genus is always predicated of its species synonymously.

Moreover, beware, whenever both species and genus have a contrary, and he places the better of the contraries inside the worse genus: for the result will be that the remaining species will be found in the remaining genus, seeing that contraries are found in contrary genera, so that the better species will be found in the worse genus and the worse in the better: whereas the usual view is that of the better species the genus too is better. Also see if he has placed the species inside the worse and not inside the better genus, when it is at the same time related in like manner to both, as (e.g.) if he has defined the ‘soul’ as a ‘form of motion’ or ‘a form of moving thing’. For the same soul is usually thought to be a principle alike of rest and of motion, so that, if rest is the better of the two, this is the genus into which the soul should have been put.

Moreover, judge by means of greater and less degrees: if overthrowing a view, see whether the genus admits of a greater degree, whereas neither the species itself does so, nor any term that is called after it: e.g. if virtue admits of a greater degree, so too does justice and the just man: for one man is called ‘more just than another’. If, therefore, the genus rendered admits of a greater degree, whereas neither the species does so itself nor yet any term called after it, then what has been rendered could not be the genus.

Again, if what is more generally, or as generally, thought to be the genus be not so, clearly neither is the genus rendered. The commonplace rule in question is useful especially in cases where the species appears to have several predicates in the category of essence, and where no distinction has been drawn between them, and we cannot say which of them is genus; e.g. both ‘pain’ and the ‘conception of a slight’ are usually thought to be predicates of ‘anger in the category of essence: for the angry man is both in pain and also conceives that he is slighted. The same mode of inquiry may be applied also to the case of the species, by comparing it with some other species: for if the one which is more generally, or as generally, thought to be found in the genus rendered be not found therein, then clearly neither could the species rendered be found therein.

In demolishing a view, therefore, you should follow the rule as stated. In establishing one, on the other hand, the commonplace rule that you should see if both the genus rendered and the species admit of a greater degree will not serve: for even though both admit it, it is still possible for one not to be the genus of the other. For both ‘beautiful’ and ‘white’ admit of a greater degree, and neither is the genus of the other. On the other hand, the comparison of the genera and of the species one with another is of use: e.g. supposing A and B to have a like claim to be genus, then if one be a genus, so also is the other. Likewise, also, if what has less claim be a genus, so also is what has more claim: e.g. if ‘capacity’ have more claim than ‘virtue’ to be the genus of self-control, and virtue be the genus, so also is capacity. The same observations will apply also in the case of the species. For instance, supposing A and B to have a like claim to be a species of the genus in question, then if the one be a species, so also is the other: and if that which is less generally thought to be so be a species, so also is that which is more generally thought to be so.

Moreover, to establish a view, you should look and see if the genus is predicated in the category of essence of those things of which it has been rendered as the genus, supposing the species rendered to be not one single species but several different ones: for then clearly it will be the genus. If, on the other, the species rendered be single, look and see whether the genus be predicated in the category of essence of other species as well: for then, again, the result will be that it is predicated of several different species.

Since some people think that the differentia, too, is a predicate of the various species in the category of essence, you should distinguish the genus from the differentia by employing the aforesaid elementary principles-(a) that the genus has a wider denotation than the differentia; (b) that in rendering the essence of a thing it is more fitting to state the genus than the differentia: for any one who says that 'man' is an 'animal' shows what man is better than he who describes him as 'walking'; also (c) that the differentia always signifies a quality of the genus, whereas the genus does not do this of the differentia: for he who says 'walking' describes an animal of a certain quality, whereas he who says 'animal' describes an animal of a certain quality, whereas he who says 'animal' does not describe a walking thing of a certain quality.

The differentia, then, should be distinguished from the genus in this manner. Now seeing it is generally held that if what is musical, in being musical, possesses knowledge in some respect, then also 'music' is a particular kind of 'knowledge'; and also that if what walks is moved in walking, then 'walking' is a particular kind of 'movement'; you should therefore examine in the aforesaid manner any genus in which you want to establish the existence of something; e.g. if you wish to prove that 'knowledge' is a form of 'conviction', see whether the knower in knowing is convinced: for then clearly knowledge would be a particular kind of conviction. You should proceed in the same way also in regard to the other cases of this kind.

Moreover, seeing that it is difficult to distinguish whatever always follows along with a thing, and is not convertible with it, from its genus, if A follows B universally, whereas B does not follow A universally-as e.g. 'rest' always follows a 'calm' and 'divisibility' follows 'number', but not conversely (for the divisible is not always a number, nor rest a calm)-you may yourself assume in your treatment of them that the one which always follows is the genus, whenever the other is not convertible with it: if, on the other hand, some one else puts forward the proposition, do not accept it universally. An objection to it is that ‘not-being’ always follows what is ‘coming to be’ (for what is coming to be is not) and is not convertible with it (for what is not is not always coming to be), and that still ‘not-being’ is not the genus of ‘coming to be’: for ‘not-being’ has not any species at all. Questions, then, in regard to Genus should be investigated in the ways described.

Book V

1

THE question whether the attribute stated is or is not a property, should be examined by the following methods:

Any ‘property’ rendered is always either essential and permanent or relative and temporary: e.g. it is an ‘essential property’ of man to be ‘by nature a civilized animal’: a ‘relative property’ is one like that of the soul in relation to the body, viz. that the one is fitted to command, and the other to obey: a ‘permanent property’ is one like the property which belongs to God, of being an ‘immortal living being’: a ‘temporary property’ is one like the property which belongs to any particular man of walking in the gymnasium.

[The rendering of a property ‘relatively’ gives rise either to two problems or to four. For if he at the same time render this property of one thing and deny it of another, only two problems arise, as in the case of a statement that it is a property of a man, in relation to a horse, to be a biped. For one might try both to show that a man is not a biped, and also that a horse is a biped: in both ways the property would be upset. If on the other hand he render one apiece of two attributes to each of two things, and deny it in each case of the other, there will then be four problems; as in the case of a statement that it is a property of a man in relation to a horse for the former to be a biped and the latter a quadruped. For then it is possible to try to show both that a man is not naturally a biped, and that he is a quadruped, and also that the horse both is a biped, and is not a quadruped. If you show any of these at all, the intended attribute is demolished.]

An ‘essential’ property is one which is rendered of a thing in comparison with everything else and distinguishes the said thing from everything else, as does ‘a mortal living being capable of receiving knowledge’ in the case of man. A ‘relative’ property is one which separates its subject off not from everything else but only from a particular definite thing, as does the property which virtue possesses, in comparison with knowledge, viz. that the former is naturally produced in more than one faculty, whereas the latter is produced in that of reason alone, and in those who have a reasoning faculty. A ‘permanent’ property is one which is true at every time, and never fails, like being’ compounded of soul and body’, in the case of a living creature. A ‘temporary’ property is one which is true at some particular time, and does not of necessity always follow; as, of some particular man, that he walks in the market-place.

To render a property ‘relatively’ to something else means to state the difference between them as it is found either universally and always, or generally and in most cases: thus a difference that is found universally and always, is one such as man possesses in comparison with a horse, viz. being a biped: for a man is always and in every case a biped, whereas a horse is never a biped at any time. On the other hand, a difference that is found generally and in most cases, is one such as the faculty of reason possesses in comparison with that of desire and spirit, in that the former commands, while the latter obeys: for the reasoning faculty does not always command, but sometimes also is under command, nor is that of desire and spirit always under command, but also on occasion assumes the command, whenever the soul of a man is vicious.

Of ‘properties’ the most ‘arguable’ are the essential and permanent and the relative. For a relative property gives rise, as we said before, to several questions: for of necessity the questions arising are either two or four, or that arguments in regard to these are several. An essential and a permanent property you can discuss in relation to many things, or can observe in relation to many periods of time: if essential’, discuss it in comparison with many things: for the property ought to belong to its subject in comparison with every single thing that is, so that if the subject be not distinguished by it in comparison with everything else, the property could not have been rendered correctly. So a permanent property you should observe in relation to many periods of time; for if it does not or did not, or is not going to, belong, it will not be a property. On the other hand, about a temporary property we do not inquire further than in regard to the time called ‘the present’; and so arguments in regard to it are not many; whereas an arguable’ question is one in regard to which it is possible for arguments both numerous and good to arise.

The so-called ‘relative’ property, then, should be examined by means of the commonplace arguments relating to Accident, to see whether it belongs to the one thing and not to the other: on the other hand, permanent and essential properties should be considered by the following methods.

2

First, see whether the property has or has not been rendered correctly. Of a rendering being incorrect or correct, one test is to see whether the terms in which the property is stated are not or are more intelligible-for destructive purposes, whether they are not so, and for constructive purposes, whether they are so. Of the terms not being more intelligible, one test is to see whether the property which he renders is altogether more unintelligible than the subject whose property he has stated: for, if so, the property will not have been stated correctly. For the object of getting a property constituted is to be intelligible: the terms therefore in which it is rendered should be more intelligible: for in that case it will be possible to conceive it more adequately, e.g. any one who has stated that it is a property of ‘fire’ to ‘bear a very close resemblance to the soul’, uses the term ‘soul’, which is less intelligible than ‘fire’-for we know better what fire is than what soul is-, and therefore a ‘very close resemblance to the soul’ could not be correctly stated to be a property of fire. Another test is to see whether the attribution of A (property) to B (subject) fails to be more intelligible. For not only should the property be more intelligible than its subject, but also it should be something whose attribution to the particular subject is a more intelligible attribution. For he who does not know whether it is an attribute of the particular subject at all, will not know either whether it belongs to it alone, so that whichever of these results happens, its character as a property becomes obscure. Thus (e.g.) a man who has stated that it is a property of fire to be ‘the primary element wherein the soul is naturally found’, has introduced a subject which is less intelligible than ‘fire’, viz. whether the soul is found in it, and whether it is found there primarily; and therefore to be ‘the primary element in which the soul is naturally found’ could not be correctly stated to be a property of ‘fire’. On the other hand, for constructive purposes, see whether the terms in which the property is stated are more intelligible, and if they are more intelligible in each of the aforesaid ways. For then the property will have been correctly stated in this respect: for of constructive arguments, showing the correctness of a rendering, some will show the correctness merely in this respect, while others will show it without qualification. Thus (e.g.) a man who has said that the ‘possession of sensation’ is a property of ‘animal’ has both used more intelligible terms and has rendered the property more intelligible in each of the aforesaid senses; so that to ‘possess sensation’ would in this respect have been correctly rendered as a property of ‘animal’.

Next, for destructive purposes, see whether any of the terms rendered in the property is used in more than one sense, or whether the whole expression too signifies more than one thing. For then the property will not have been correctly stated. Thus (e.g.) seeing that to ‘being natural sentient’ signifies more than one thing, viz. (1) to possess sensation, (2) to use one’s sensation, being naturally sentient’ could not be a correct statement of a property of ‘animal’. The reason why the term you use, or the whole expression signifying the property, should not bear more than one meaning is this, that an expression bearing more than one meaning makes the object described obscure, because the man who is about to attempt an argument is in doubt which of the various senses the expression bears: and this will not do, for the object of rendering the property is that he may understand. Moreover, in addition to this, it is inevitable that those who render a property after this fashion should be somehow refuted whenever any one addresses his syllogism to that one of the term’s several meanings which does not agree. For constructive purposes, on the other hand, see whether both all the terms and also the expression as a whole avoid bearing more than one sense: for then the property will have been correctly stated in this respect. Thus (e.g.) seeing that ‘body’ does not bear several meanings, nor quickest to move upwards in space’, nor yet the whole expression made by putting them together, it would be correct in this respect to say that it is a property of fire to be the ‘body quickest to move upwards in space’.

Next, for destructive purposes, see if the term of which he renders the property is used in more than one sense, and no distinction has been drawn as to which of them it is whose property he is stating: for then the property will not have been correctly rendered. The reasons why this is so are quite clear from what has been said above: for the same results are bound to follow. Thus (e.g.) seeing that ‘the knowledge of this’ signifies many things for it means (1) the possession of knowledge by it, (2) the use of its knowledge by it, (3) the existence of knowledge about it, (4) the use of knowledge about it-no property of the ‘knowledge of this’ could be rendered correctly unless he draw a distinction as to which of these it is whose property he is rendering. For constructive purposes, a man should see if the term of which he is rendering the property avoids bearing many senses and is one and simple: for then the property will have been correctly stated in this respect. Thus (e.g.) seeing that ‘man’ is used in a single sense, ‘naturally civilized animal’ would be correctly stated as a property of man.

Next, for destructive purposes, see whether the same term has been repeated in the property. For people often do this undetected in rendering ‘properties’ also, just as they do in their ‘definitions’ as well: but a property to which this has happened will not have been correctly stated: for the repetition of it confuses the hearer; thus inevitably the meaning becomes obscure, and further, such people are thought to babble. Repetition of the same term is likely to happen in two ways; one is, when a man repeatedly uses the same word, as would happen if any one were to render, as a property of fire, ‘the body which is the most rarefied of bodies’ (for he has repeated the word ‘body’); the second is, if a man replaces words by their definitions, as would happen if any one were to render, as a property of earth, ‘the substance which is by its nature most easily of all bodies borne downwards in space’, and were then to substitute ‘substances of such and such a kind’ for the word ‘bodies’: for ‘body’ and ‘a substance of such and such a kind’ mean one and the same thing. For he will have repeated the word ‘substance’, and accordingly neither of the properties would be correctly stated. For constructive purposes, on the other hand, see whether he avoids ever repeating the same term; for then the property will in this respect have been correctly rendered. Thus (e.g.) seeing that he who has stated ‘animal capable of acquiring knowledge’ as a property of man has avoided repeating the same term several times, the property would in this respect have been correctly rendered of man.

Next, for destructive purposes, see whether he has rendered in the property any such term as is a universal attribute. For one which does not distinguish its subject from other things is useless, and it is the business of the language Of ‘properties’, as also of the language of definitions, to distinguish. In the case contemplated, therefore, the property will not have been correctly rendered. Thus (e.g.) a man who has stated that it is a property of knowledge to be a ‘conception incontrovertible by argument, because of its unity’, has used in the property a term of that kind, viz. ‘unity’, which is a universal attribute; and therefore the property of knowledge could not have been correctly stated. For constructive purposes, on the other hand, see whether he has avoided all terms that are common to everything and used a term that distinguishes the subject from something: for then the property will in this respect have been correctly stated. Thus (e.g.) inasmuch as he who has said that it is a property of a ‘living creature’ to ‘have a soul’ has used no term that is common to everything, it would in this respect have been correctly stated to be a property of a ‘living creature’ to ‘have a soul’.

Next, for destructive purposes see whether he renders more than one property of the same thing, without a definite proviso that he is stating more than one: for then the property will not have been correctly stated. For just as in the case of definitions too there should be no further addition beside the expression which shows the essence, so too in the case of properties nothing further should be rendered beside the expression that constitutes the property mentioned: for such an addition is made to no purpose. Thus (e.g.) a man who has said that it is a property of fire to be ‘the most rarefied and lightest body’ has rendered more than one property (for each term is a true predicate of fire alone); and so it could not be a correctly stated property of fire to be ‘the most rarefied and lightest body’. On the other hand, for constructive purposes, see whether he has avoided rendering more than one property of the same thing, and has rendered one only: for then the property will in this respect have been correctly stated. Thus (e.g.) a man who has said that it is a property of a liquid to be a ‘body adaptable to every shape’ has rendered as its property a single character and not several, and so the property of ‘liquid’ would in this respect have been correctly stated.

3

Next, for destructive purposes, see whether he has employed either the actual subject whose property he is rendering, or any of its species: for then the property will not have been correctly stated. For the object of rendering the property is that people may understand: now the subject itself is just as unintelligible as it was to start with, while any one of its species is posterior to it, and so is no more intelligible. Accordingly it is impossible to understand anything further by the use of these terms. Thus (e.g.) any one who has said that it is property of ‘animal’ to be ‘the substance to which “man” belongs as a species' has employed one of its species, and therefore the property could not have been correctly stated. For constructive purposes, on the other hand, see whether he avoids introducing either the subject itself or any of its species: for then the property will in this respect have been correctly stated. Thus (e.g.) a man who has stated that it is a property of a living creature to be 'compounded of soul and body' has avoided introducing among the rest either the subject itself or any of its species, and therefore in this respect the property of a 'living creature' would have been correctly rendered.

You should inquire in the same way also in the case of other terms that do or do not make the subject more intelligible: thus, for destructive purposes, see whether he has employed anything either opposite to the subject or, in general, anything simultaneous by nature with it or posterior to it: for then the property will not have been correctly stated. For an opposite is simultaneous by nature with its opposite, and what is simultaneous by nature or is posterior to it does not make its subject more intelligible. Thus (e.g.) any one who has said that it is a property of good to be 'the most direct opposite of evil', has employed the opposite of good, and so the property of good could not have been correctly rendered. For constructive purposes, on the other hand, see whether he has avoided employing anything either opposite to, or, in general, simultaneous by nature with the subject, or posterior to it: for then the property will in this respect have been correctly rendered. Thus (e.g.) a man who has stated that it is a property of knowledge to be 'the most convincing conception' has avoided employing anything either opposite to, or simultaneous by nature with, or posterior to, the subject; and so the property of knowledge would in this respect have been correctly stated.

Next, for destructive purposes, see whether he has rendered as property something that does not always follow the subject but sometimes ceases to be its property: for then the property will not have been correctly described. For there is no necessity either that the name of the subject must also be true of anything to which we find such an attribute belonging; nor yet that the name of the subject will be untrue of anything to which such an attribute is found not to belong. Moreover, in addition to this, even after he has rendered the property it will not be clear whether it belongs, seeing that it is the kind of attribute that may fall: and so the property will not be clear. Thus (e.g.) a man who has stated that it is a property of animal 'sometimes to move and sometimes to stand still' rendered the kind of property which sometimes is not a property, and so the property could not have been correctly stated. For constructive purposes, on the other hand, see whether he has rendered something that of necessity must always be a property: for then the property will have been in this respect correctly stated. Thus (e.g.) a man who has stated that it is a property of virtue to be ‘what makes its possessor good’ has rendered as property something that always follows, and so the property of virtue would in this respect have been correctly rendered.

Next, for destructive purposes, see whether in rendering the property of the present time he has omitted to make a definite proviso that it is the property of the present time which he is rendering: for else the property will not have been correctly stated. For in the first place, any unusual procedure always needs a definite proviso: and it is the usual procedure for everybody to render as property some attribute that always follows. In the second place, a man who omits to provide definitely whether it was the property of the present time which he intended to state, is obscure: and one should not give any occasion for adverse criticism. Thus (e.g.) a man who has stated it as the property of a particular man ‘to be sitting with a particular man’, states the property of the present time, and so he cannot have rendered the property correctly, seeing that he has described it without any definite proviso. For constructive purposes, on the other hand, see whether, in rendering the property of the present time, he has, in stating it, made a definite proviso that it is the property of the present time that he is stating: for then the property will in this respect have been correctly stated. Thus (e.g.) a man who has said that it is the property of a particular man ‘to be walking now’, has made this distinction in his statement, and so the property would have been correctly stated.

Next, for destructive purposes, see whether he has rendered a property of the kind whose appropriateness is not obvious except by sensation: for then the property will not have been correctly stated. For every sensible attribute, once it is taken beyond the sphere of sensation, becomes uncertain. For it is not clear whether it still belongs, because it is evidenced only by sensation. This principle will be true in the case of any attributes that do not always and necessarily follow. Thus (e.g.) any one who has stated that it is a property of the sun to be ‘the brightest star that moves over the earth’, has used in describing the property an expression of that kind, viz. ‘to move over the earth’, which is evidenced by sensation; and so the sun’s property could not have been correctly rendered: for it will be uncertain, whenever the sun sets, whether it continues to move over the earth, because sensation then fails us. For constructive purposes, on the other hand, see whether he has rendered the property of a kind that is not obvious to sensation, or, if it be sensible, must clearly belong of necessity: for then the property will in this respect have been correctly stated. Thus (e.g.) a man who has stated that it is a property of a surface to be ‘the primary thing that is coloured’, has introduced amongst the rest a sensible quality, ‘to be coloured’, but still a quality such as manifestly always belongs, and so the property of ‘surface’ would in this respect have been correctly rendered.

Next, for destructive purposes, see whether he has rendered the definition as a property: for then the property will not have been correctly stated: for the property of a thing ought not to show its essence. Thus (e.g.) a man who has said that it is the property of man to be ‘a walking, biped animal’ has rendered a property of man so as to signify his essence, and so the property of man could not have been correctly rendered. For constructive purposes, on the other hand, see whether the property which he has rendered forms a predicate convertible with its subject, without, however, signifying its essence: for then the property will in this respect have been correctly rendered. Thus (e.g.) he who has stated that it is a property of man to be a ‘naturally civilized animal’ has rendered the property so as to be convertible with its subject, without, however, showing its essence, and so the property of man’ would in this respect have been correctly rendered.

Next, for destructive purposes, see whether he has rendered the property without having placed the subject within its essence. For of properties, as also of definitions, the first term to be rendered should be the genus, and then the rest of it should be appended immediately afterwards, and should distinguish its subject from other things. Hence a property which is not stated in this way could not have been correctly rendered. Thus (e.g.) a man who has said that it is a property of a living creature to ‘have a soul’ has not placed ‘living creature’ within its essence, and so the property of a living creature could not have been correctly stated. For constructive purposes, on the other hand, see whether a man first places within its essence the subject whose property he is rendering, and then appends the rest: for then the property will in this respect have been correctly rendered. Thus (e.g.) he who has stated that is a property of man to be an ‘animal capable of receiving knowledge’, has rendered the property after placing the subject within its essence, and so the property of 'man' would in this respect have been correctly rendered.

4

The inquiry, then, whether the property has been correctly rendered or no, should be made by these means. The question, on the other hand, whether what is stated is or is not a property at all, you should examine from the following points of view. For the commonplace arguments which establish absolutely that the property is accurately stated will be the same as those that constitute it a property at all: accordingly they will be described in the course of them.

Firstly, then, for destructive purposes, take a look at each subject of which he has rendered the property, and see (e.g.) if it fails to belong to any of them at all, or to be true of them in that particular respect, or to be a property of each of them in respect of that character of which he has rendered the property: for then what is stated to be a property will not be a property. Thus, for example, inasmuch as it is not true of the geometrician that he 'cannot be deceived by an argument' (for a geometrician is deceived when his figure is misdrawn), it could not be a property of the man of science that he is not deceived by an argument. For constructive purposes, on the other hand, see whether the property rendered be true of every instance, and true in that particular respect: for then what is stated not to be a property will be a property. Thus, for example, in as much as the description 'an animal capable of receiving knowledge' is true of every man, and true of him qua man, it would be a property of man to be 'an animal capable of receiving knowledge'. commonplace rule means-for destructive purposes, see if the description fails to be true of that of which the name is true; and if the name fails to be true of that of which the description is true: for constructive purposes, on the other hand, see if the description too is predicated of that of which the name is predicated, and if the name too is predicated of that of which the description is predicated.]

Next, for destructive purposes, see if the description fails to apply to that to which the name applies, and if the name fails to apply to that to which the description applies: for then what is stated to be a property will not be a property. Thus (e.g.) inasmuch as the description 'a living being that partakes of knowledge’ is true of God, while ‘man’ is not predicated of God, to be a living being that partakes of knowledge’ could not be a property of man. For constructive purposes, on the other hand, see if the name as well be predicated of that of which the description is predicated, and if the description as well be predicated of that of which the name is predicated. For then what is stated not to be a property will be a property. Thus (e.g.) the predicate ‘living creature’ is true of that of which ‘having a soul’ is true, and ‘having a soul’ is true of that of which the predicate ‘living creature’ is true; and so ‘having a soul would be a property of ‘living creature’.

Next, for destructive purposes, see if he has rendered a subject as a property of that which is described as ‘in the subject’: for then what has been stated to be a property will not be a property. Thus (e.g.) inasmuch as he who has rendered ‘fire’ as the property of ‘the body with the most rarefied particles’, has rendered the subject as the property of its predicate, ‘fire’ could not be a property of ‘the body with the most rarefied particles’. The reason why the subject will not be a property of that which is found in the subject is this, that then the same thing will be the property of a number of things that are specifically different. For the same thing has quite a number of specifically different predicates that belong to it alone, and the subject will be a property of all of these, if any one states the property in this way. For constructive purposes, on the other hand, see if he has rendered what is found in the subject as a property of the subject: for then what has been stated not to be a property will be a property, if it be predicated only of the things of which it has been stated to be the property. Thus (e.g.) he who has said that it is a property of ‘earth’ to be ‘specifically the heaviest body’ has rendered of the subject as its property something that is said of the thing in question alone, and is said of it in the manner in which a property is predicated, and so the property of earth would have been rightly stated.

Next, for destructive purposes, see if he has rendered the property as partaken of: for then what is stated to be a property will not be a property. For an attribute of which the subject partakes is a constituent part of its essence: and an attribute of that kind would be a differentia applying to some one species. E.g. inasmuch as he who has said that ‘walking on two feet’ is property of man has rendered the property as partaken of, ‘walking on two feet’ could not be a property of ‘man’. For constructive purposes, on the other hand, see if he has avoided rendering the property as partaken of, or as showing the essence, though the subject is predicated convertibly with it: for then what is stated not to be a property will be a property. Thus (e.g.) he who has stated that to be ‘naturally sentient’ is a property of ‘animal’ has rendered the property neither as partaken of nor as showing the essence, though the subject is predicated convertibly with it; and so to be ‘naturally sentient’ would be a property of ‘animal’.

Next, for destructive purposes, see if the property cannot possibly belong simultaneously, but must belong either as posterior or as prior to the attribute described in the name: for then what is stated to be a property will not be a property either never, or not always. Thus (e.g.) inasmuch as it is possible for the attribute ‘walking through the market-place’ to belong to an object as prior and as posterior to the attribute ‘man’, ‘walking through the market-place’ could not be a property of ‘man’ either never, or not always. For constructive purposes, on the other hand, see if it always and of necessity belongs simultaneously, without being either a definition or a differentia: for then what is stated not to be a property will be a property. Thus (e.g.) the attribute ‘an animal capable of receiving knowledge’ always and of necessity belongs simultaneously with the attribute ‘man’, and is neither differentia nor definition of its subject, and so ‘an animal capable of receiving knowledge’ would be a property of ‘man’.

Next, for destructive purposes, see if the same thing fails to be a property of things that are the same as the subject, so far as they are the same: for then what is stated to be a property will not be a property. Thus, for example, inasmuch as it is no property of a ‘proper object of pursuit’ to ‘appear good to certain persons’, it could not be a property of the ‘desirable’ either to ‘appear good to certain persons’: for ‘proper object of pursuit’ and ‘desirable’ mean the same. For constructive purposes, on the other hand, see if the same thing be a property of something that is the same as the subject, in so far as it is the same. For then is stated not to be a property will be a property. Thus (e.g.) inasmuch as it is called a property of a man, in so far as he is a man, ‘to have a tripartite soul’, it would also be a property of a mortal, in so far as he is a mortal, to have a tripartite soul. This commonplace rule is useful also in dealing with Accident: for the same attributes ought either to belong or not belong to the same things, in so far as they are the same.

Next, for destructive purposes, see if the property of things that are the same in kind as the subject fails to be always the same in kind as the alleged property: for then neither will what is stated to be the property of the subject in question. Thus (e.g.) inasmuch as a man and a horse are the same in kind, and it is not always a property of a horse to stand by its own initiative, it could not be a property of a man to move by his own initiative; for to stand and to move by his own initiative are the same in kind, because they belong to each of them in so far as each is an 'animal'. For constructive purposes, on the other hand, see if of things that are the same in kind as the subject the property that is the same as the alleged property is always true: for then what is stated not to be a property will be a property. Thus (e.g.) since it is a property of man to be a 'walking biped,' it would also be a property of a bird to be a 'flying biped': for each of these is the same in kind, in so far as the one pair have the sameness of species that fall under the same genus, being under the genus 'animal', while the other pair have that of differentiae of the genus, viz. of 'animal'. This commonplace rule is deceptive whenever one of the properties mentioned belongs to some one species only while the other belongs to many, as does 'walking quadruped'.

Inasmuch as 'same' and 'different' are terms used in several senses, it is a job to render to a sophistical questioner a property that belongs to one thing and that only. For an attribute that belongs to something qualified by an accident will also belong to the accident taken along with the subject which it qualifies; e.g. an attribute that belongs to 'man' will belong also to 'white man', if there be a white man, and one that belongs to 'white man' will belong also to 'man'. One might, then, bring captious criticism against the majority of properties, by representing the subject as being one thing in itself, and another thing when combined with its accident, saying, for example, that 'man' is one thing, and white man' another, and moreover by representing as different a certain state and what is called after that state. For an attribute that belongs to the state will belong also to what is called after that state, and one that belongs to what is called after a state will belong also to the state: e.g. inasmuch as the condition of the scientist is called after his science, it could not be a property of 'science' that it is 'incontrovertible by argument'; for then the scientist also will be incontrovertible by argument. For constructive purposes, however, you should say that the subject of an accident is not absolutely different from the accident taken along with its subject; though it is called 'another' thing because the mode of being of the two is different: for it is not the same thing for a man to be a man and for a white man to be a white man. Moreover, you should take a look along at the inflections, and say that the description of the man of science is wrong: one should say not ‘it’ but ‘he is incontrovertible by argument’; while the description of Science is wrong too: one should say not ‘it’ but ‘she is incontrovertible by argument’. For against an objector who sticks at nothing the defence should stick at nothing.

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Next, for destructive purposes, see if, while intending to render an attribute that naturally belongs, he states it in his language in such a way as to indicate one that invariably belongs: for then it would be generally agreed that what has been stated to be a property is upset. Thus (e.g.) the man who has said that ‘biped’ is a property of man intends to render the attribute that naturally belongs, but his expression actually indicates one that invariably belongs: accordingly, ‘biped’ could not be a property of man: for not every man is possessed of two feet. For constructive purposes, on the other hand, see if he intends to render the property that naturally belongs, and indicates it in that way in his language: for then the property will not be upset in this respect. Thus (e.g.) he who renders as a property of ‘man’ the phrase ‘an animal capable of receiving knowledge’ both intends, and by his language indicates, the property that belongs by nature, and so ‘an animal capable of receiving knowledge’ would not be upset or shown in that respect not to be a property of man.

Moreover, as regards all the things that are called as they are primarily after something else, or primarily in themselves, it is a job to render the property of such things. For if you render a property as belonging to the subject that is so called after something else, then it will be true of its primary subject as well; whereas if you state it of its primary subject, then it will be predicated also of the thing that is so called after this other. Thus (e.g.) if any one renders, coloured’ as the property of ‘surface’, ‘coloured’ will be true of body as well; whereas if he render it of ‘body’, it will be predicated also of ‘surface’. Hence the name as well will not be true of that of which the description is true.

In the case of some properties it mostly happens that some error is incurred because of a failure to define how as well as to what things the property is stated to belong. For every one tries to render as the property of a thing something that belongs to it either naturally, as ‘biped’ belongs to ‘man’, or actually, as ‘having four fingers’ belongs to a particular man, or specifically, as ‘consisting of most rarefied particles’ belongs to ‘fire’, or absolutely, as ‘life’ to ‘living being’, or one that belongs to a thing only as called after something else, as ‘wisdom’ to the ‘soul’, or on the other hand primarily, as ‘wisdom’ to the ‘rational faculty’, or because the thing is in a certain state, as ‘incontrovertible by argument’ belongs to a ‘scientist’ (for simply and solely by reason of his being in a certain state will he be ‘incontrovertible by argument’), or because it is the state possessed by something, as ‘incontrovertible by argument’ belongs to ‘science’, or because it is partaken of, as ‘sensation’ belongs to ‘animal’ (for other things as well have sensation, e.g. man, but they have it because they already partake of ‘animal’), or because it partakes of something else, as ‘life’ belongs to a particular kind of ‘living being’. Accordingly he makes a mistake if he has failed to add the word ‘naturally’, because what belongs naturally may fail to belong to the thing to which it naturally belongs, as (e.g.) it belongs to a man to have two feet: so too he errs if he does not make a definite proviso that he is rendering what actually belongs, because one day that attribute will not be what it now is, e.g. the man’s possession of four fingers. So he errs if he has not shown that he states a thing to be such and such primarily, or that he calls it so after something else, because then its name too will not be true of that of which the description is true, as is the case with ‘coloured’, whether rendered as a property of ‘surface’ or of ‘body’. So he errs if he has not said beforehand that he has rendered a property to a thing either because that thing possesses a state, or because it is a state possessed by something; because then it will not be a property. For, supposing he renders the property to something as being a state possessed, it will belong to what possesses that state; while supposing he renders it to what possesses the state, it will belong to the state possessed, as did ‘incontrovertible by argument’ when stated as a property of ‘science’ or of the ‘scientist’. So he errs if he has not indicated beforehand that the property belongs because the thing partakes of, or is partaken of by, something; because then the property will belong to certain other things as well. For if he renders it because its subject is partaken of, it will belong to the things which partake of it; whereas if he renders it because its subject partakes of something else, it will belong to the things partaken of, as (e.g.) if he were to state 'life' to be a property of a 'particular kind of living being', or just of 'living being. So he errs if he has not expressly distinguished the property that belongs specifically, because then it will belong only to one of the things that fall under the term of which he states the property: for the superlative belongs only to one of them, e.g. 'lightest' as applied to 'fire'. Sometimes, too, a man may even add the word 'specifically', and still make a mistake. For the things in question should all be of one species, whenever the word 'specifically' is added: and in some cases this does not occur, as it does not, in fact, in the case of fire. For fire is not all of one species; for live coals and flame and light are each of them 'fire', but are of different species. The reason why, whenever 'specifically' is added, there should not be any species other than the one mentioned, is this, that if there be, then the property in question will belong to some of them in a greater and to others in a less degree, as happens with 'consisting of most rarefied particles' in the case of fire: for 'light' consists of more rarefied particles than live coals and flame. And this should not happen unless the name too be predicated in a greater degree of that of which the description is truer; otherwise the rule that where the description is truer the name too should be truer is not fulfilled. Moreover, in addition to this, the same attribute will be the property both of the term which has it absolutely and of that element therein which has it in the highest degree, as is the condition of the property 'consisting of most rarefied particles' in the case of 'fire': for this same attribute will be the property of 'light' as well: for it is 'light' that 'consists of the most rarefied particles'. If, then, any one else renders a property in this way one should attack it; for oneself, one should not give occasion for this objection, but should define in what manner one states the property at the actual time of making the statement.

Next, for destructive purposes, see if he has stated a thing as a property of itself: for then what has been stated to be a property will not be a property. For a thing itself always shows its own essence, and what shows the essence is not a property but a definition. Thus (e.g.) he who has said that 'becoming' is a property of 'beautiful' has rendered the term as a property of itself (for 'beautiful' and 'becoming' are the same); and so 'becoming' could not be a property of 'beautiful'. For constructive purposes, on the other hand, see if he has avoided rendering a thing as a property of itself, but has yet stated a convertible predicate: for then what is stated not to be a property will be a property. Thus he who has stated ‘animate substance’ as a property of ‘living-creature’ has not stated ‘living-creature’ as a property of itself, but has rendered a convertible predicate, so that ‘animate substance’ would be a property of ‘living-creature’.

Next, in the case of things consisting of like parts, you should look and see, for destructive purposes, if the property of the whole be not true of the part, or if that of the part be not predicated of the whole: for then what has been stated to be the property will not be a property. In some cases it happens that this is so: for sometimes in rendering a property in the case of things that consist of like parts a man may have his eye on the whole, while sometimes he may address himself to what is predicated of the part: and then in neither case will it have been rightly rendered. Take an instance referring to the whole: the man who has said that it is a property of the ‘sea’ to be ‘the largest volume of salt water’, has stated the property of something that consists of like parts, but has rendered an attribute of such a kind as is not true of the part (for a particular sea is not ‘the largest volume of salt water’); and so the largest volume of salt water’ could not be a property of the ‘sea’. Now take one referring to the part: the man who has stated that it is a property of ‘air’ to be ‘breathable’ has stated the property of something that consists of like parts, but he has stated an attribute such as, though true of some air, is still not predicable of the whole (for the whole of the air is not breathable); and so ‘breathable’ could not be a property of ‘air’. For constructive purposes, on the other hand, see whether, while it is true of each of the things with similar parts, it is on the other hand a property of them taken as a collective whole: for then what has been stated not to be a property will be a property. Thus (e.g.) while it is true of earth everywhere that it naturally falls downwards, it is a property of the various particular pieces of earth taken as ‘the Earth’, so that it would be a property of ‘earth’ ‘naturally to fall downwards’.

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Next, look from the point of view of the respective opposites, and first (a) from that of the contraries, and see, for destructive purposes, if the contrary of the term rendered fails to be a property of the contrary subject. For then neither will the contrary of the first be a property of the contrary of the second. Thus (e.g.) inasmuch as injustice is contrary to justice, and the lowest evil to the highest good, but ‘to be the highest good’ is not a property of ‘justice’, therefore ‘to be the lowest evil’ could not be a property of ‘injustice’. For constructive purposes, on the other hand, see if the contrary is the property of the contrary: for then also the contrary of the first will be the property of the contrary of the second. Thus (e.g.) inasmuch as evil is contrary to good, and objectionable to desirable, and ‘desirable’ is a property of ‘good’, ‘objectionable’ would be a property of ‘evil’.

Secondly (h) look from the point of view of relative opposites and see, for destructive purposes, if the correlative of the term rendered fails to be a property of the correlative of the subject: for then neither will the correlative of the first be a property of the correlative of the second. Thus (e.g.) inasmuch as ‘double’ is relative to ‘half’, and ‘in excess’ to ‘exceeded’, while ‘in excess’ is not a property of ‘double’, exceeded’ could not be a property of ‘half’. For constructive purposes, on the other hand, see if the correlative of the alleged property is a property of the subject’s correlative: for then also the correlative of the first will be a property of the correlative of the second: e.g. inasmuch as ‘double’ is relative to ‘half’, and the proportion 1:2 is relative to the proportion 2:1, while it is a property of ‘double’ to be ‘in the proportion of 2 to 1’, it would be a property of ‘half’ to be ‘in the proportion of 1 to 2’.

Thirdly (c) for destructive purposes, see if an attribute described in terms of a state (X) fails to be a property of the given state (Y): for then neither will the attribute described in terms of the privation (of X) be a property of the privation (of Y). Also if, on the other hand, an attribute described in terms of the privation (of X) be not a property of the given privation (of Y), neither will the attribute described in terms of the state (X) be a property of the state (Y). Thus, for example, inasmuch as it is not predicated as a property of ‘deafness’ to be a ‘lack of sensation’, neither could it be a property of ‘hearing’ to be a ‘sensation’. For constructive purposes, on the other hand, see if an attribute described in terms of a state (X) is a property of the given state (Y): for then also the attribute that is described in terms of the privation (of X) will be a property of the privation (of Y). Also, if an attribute described in terms of a privation (of X) be a property of the privation (of Y), then also the attribute that is described in terms of the state (X) will be a property of the state (Y). Thus (e.g.) inasmuch as ‘to see’ is a property of ‘sight’, inasmuch as we have sight, ‘failure to see’ would be a property of ‘blindness’, inasmuch as we have not got the sight we should naturally have.

Next, look from the point of view of positive and negative terms; and first (a) from the point of view of the predicates taken by themselves. This common-place rule is useful only for a destructive purpose. Thus (e.g.) see if the positive term or the attribute described in terms of it is a property of the subject: for then the negative term or the attribute described in terms of it will not be a property of the subject. Also if, on the other hand, the negative term or the attribute described in terms of it is a property of the subject, then the positive term or the attribute described in terms of it will not be a property of the subject: e.g. inasmuch as 'animate' is a property of 'living creature', 'inanimate' could not be a property of 'living creature'.

Secondly (b) look from the point of view of the predicates, positive or negative, and their respective subjects; and see, for destructive purposes, if the positive term falls to be a property of the positive subject: for then neither will the negative term be a property of the negative subject. Also, if the negative term fails to be a property of the negative subject, neither will the positive term be a property of the positive subject. Thus (e.g.) inasmuch as 'animal' is not a property of 'man', neither could 'not-animal' be a property of 'not-man'. Also if 'not-animal' seems not to be a property of 'not-man', neither will 'animal' be a property of 'man'. For constructive purposes, on the other hand, see if the positive term is a property of the positive subject: for then the negative term will be a property of the negative subject as well. Also if the negative term be a property of the negative subject, the positive will be a property of the positive as well. Thus (e.g.) inasmuch as it is a property of 'not-living being' 'not to live', it would be a property of 'living being' 'to live': also if it seems to be a property of 'living being' 'to live', it will also seem to be a property of 'not-living being' 'not to live'.

Thirdly (c) look from the point of view of the subjects taken by themselves, and see, for destructive purposes, if the property rendered is a property of the positive subject: for then the same term will not be a property of the negative subject as well. Also, if the term rendered be a property of the negative subject, it will not be a property of the positive. Thus (e.g.) inasmuch as 'animate' is a property of 'living creature', 'animate' could not be a property of 'not-living creature'. For constructive purposes, on the other hand, if the term rendered fails to be a property of the affirmative subject it would be a property of the negative. This commonplace rule is, however, deceptive: for a positive term is not a property of a negative, or a negative of a positive. For a positive term does not belong at all to a negative, while a negative term, though it belongs to a positive, does not belong as a property.

Next, look from the point of view of the coordinate members of a division, and see, for destructive purposes, if none of the co-ordinate members (parallel with the property rendered) be a property of any of the remaining set of co-ordinate members (parallel with the subject): for then neither will the term stated be a property of that of which it is stated to be a property. Thus (e.g.) inasmuch as ‘sensible living being’ is not a property of any of the other living beings, ‘intelligible living being’ could not be a property of God. For constructive purposes, on the other hand, see if some one or other of the remaining co-ordinate members (parallel with the property rendered) be a property of each of these co-ordinate members (parallel with the subject): for then the remaining one too will be a property of that of which it has been stated not to be a property. Thus (e.g.) inasmuch as it is a property of ‘wisdom’ to be essentially ‘the natural virtue of the rational faculty’, then, taking each of the other virtues as well in this way, it would be a property of ‘temperance’ to be essentially ‘the natural virtue of the faculty of desire’.

Next, look from the point of view of the inflexions, and see, for destructive purposes, if the inflexion of the property rendered fails to be a property of the inflexion of the subject: for then neither will the other inflexion be a property of the other inflexion. Thus (e.g.) inasmuch as ‘beautifully’ is not a property of ‘justly’, neither could ‘beautiful’ be a property of ‘just’. For constructive purposes, on the other hand, see if the inflexion of the property rendered is a property of the inflexion of the subject: for then also the other inflexion will be a property of the other inflexion. Thus (e.g.) inasmuch as ‘walking biped’ is a property of man, it would also be any one’s property ‘as a man’ to be described ‘as a walking biped’. Not only in the case of the actual term mentioned should one look at the inflexions, but also in the case of its opposites, just as has been laid down in the case of the former commonplace rules as well.’ Thus, for destructive purposes, see if the inflexion of the opposite of the property rendered fails to be the property of the inflexion of the opposite of the subject: for then neither will the inflexion of the other opposite be a property of the inflexion of the other opposite. Thus (e.g.) inasmuch as ‘well’ is not a property of ‘justly’, neither could ‘badly’ be a property of ‘unjustly’. For constructive purposes, on the other hand, see if the inflexion of the opposite of the property originally suggested is a property of the inflexion of the opposite of the original subject: for then also the inflexion of the other opposite will be a property of the inflexion of the other opposite. Thus (e.g.) inasmuch as ‘best’ is a property of ‘the good’, ‘worst’ also will be a property of ‘the evil’.

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Next, look from the point of view of things that are in a like relation, and see, for destructive purposes, if what is in a relation like that of the property rendered fails to be a property of what is in a relation like that of the subject: for then neither will what is in a relation like that of the first be a property of what is in a relation like that of the second. Thus (e.g.) inasmuch as the relation of the builder towards the production of a house is like that of the doctor towards the production of health, and it is not a property of a doctor to produce health, it could not be a property of a builder to produce a house. For constructive purposes, on the other hand, see if what is in a relation like that of the property rendered is a property of what is in a relation like that of the subject: for then also what is in a relation like that of the first will be a property of what is in a relation like that of the second. Thus (e.g.) inasmuch as the relation of a doctor towards the possession of ability to produce health is like that of a trainer towards the possession of ability to produce vigour, and it is a property of a trainer to possess the ability to produce vigour, it would be a property of a doctor to possess the ability to produce health.

Next look from the point of view of things that are identically related, and see, for destructive purposes, if the predicate that is identically related towards two subjects fails to be a property of the subject which is identically related to it as the subject in question; for then neither will the predicate that is identically related to both subjects be a property of the subject which is identically related to it as the first. If, on the other hand, the predicate which is identically related to two subjects is the property of the subject which is identically related to it as the subject in question, then it will not be a property of that of which it has been stated to be a property. (e.g.) inasmuch as prudence is identically related to both the noble and the base, since it is knowledge of each of them, and it is not a property of prudence to be knowledge of the noble, it could not be a property of prudence to be knowledge of the base. If, on the other hand, it is a property of prudence to be the knowledge of the noble, it could not be a property of it to be the knowledge of the base.] For it is impossible for the same thing to be a property of more than one subject. For constructive purposes, on the other hand, this commonplace rule is of no use: for what is 'identically related' is a single predicate in process of comparison with more than one subject.

Next, for destructive purposes, see if the predicate qualified by the verb 'to be' fails to be a property of the subject qualified by the verb 'to be': for then neither will the destruction of the one be a property of the other qualified by the verb 'to be destroyed', nor will the 'becoming'the one be a property of the other qualified by the verb 'to become'. Thus (e.g.) inasmuch as it is not a property of 'man' to be an animal, neither could it be a property of becoming a man to become an animal; nor could the destruction of an animal be a property of the destruction of a man. In the same way one should derive arguments also from 'becoming' to 'being' and 'being destroyed', and from 'being destroyed' to 'being' and to 'becoming' exactly as they have just been given from 'being' to 'becoming' and 'being destroyed'. For constructive purposes, on the other hand, see if the subject set down as qualified by the verb 'to be' has the predicate set down as so qualified, as its property: for then also the subject qualified by the very 'to become' will have the predicate qualified by 'to become' as its property, and the subject qualified by the verb to be destroyed' will have as its property the predicate rendered with this qualification. Thus, for example, inasmuch as it is a property of man to be a mortal, it would be a property of becoming a man to become a mortal, and the destruction of a mortal would be a property of the destruction of a man. In the same way one should derive arguments also from 'becoming' and 'being destroyed' both to 'being' and to the conclusions that follow from them, exactly as was directed also for the purpose of destruction.

Next take a look at the 'idea' of the subject stated, and see, for destructive purposes, if the suggested property fails to belong to the 'idea' in question, or fails to belong to it in virtue of that character which causes it to bear the description of which the property was rendered: for then what has been stated to be a property will not be a property. Thus (e.g.) inasmuch as 'being motionless' does not belong to 'man-himself' qua 'man', but qua 'idea', it could not be a property of 'man' to be motionless. For constructive purposes, on the other hand, see if the property in question belongs to the idea, and belongs to it in that respect in virtue of which there is predicated of it that character of which the predicate in question has been stated not to be a property: for then what has been stated not to be a property will be a property. Thus (e.g.) inasmuch as it belongs to ‘living-creature-itself’ to be compounded of soul and body, and further this belongs to it qua ‘living-creature’, it would be a property of ‘living-creature’ to be compounded of soul and body.

8

Next look from the point of view of greater and less degrees, and first (a) for destructive purposes, see if what is more-P fails to be a property of what is more-S: for then neither will what is less-P be a property of what is less-S, nor least-P of least-S, nor most-P of most-S, nor P simply of S simply. Thus (e.g.) inasmuch as being more highly coloured is not a property of what is more a body, neither could being less highly coloured be a property of what is less a body, nor being coloured be a property of body at all. For constructive purposes, on the other hand, see if what is more-P is a property of what is more-S: for then also what is less-P will be a property of what is less S, and least-P of least-S, and most-P of most-S, and P simply of S simply. Thus (e.g.) inasmuch as a higher degree of sensation is a property of a higher degree of life, a lower degree of sensation also would be a property of a lower degree of life, and the highest of the highest and the lowest of the lowest degree, and sensation simply of life simply.

Also you should look at the argument from a simple predication to the same qualified types of predication, and see, for destructive purposes, if P simply fails to be a property of S simply; for then neither will more-P be a property of more-S, nor less-P of less-S, nor most-P of most-S, nor least-P of least-S. Thus (e.g.) inasmuch as ‘virtuous’ is not a property of ‘man’, neither could ‘more virtuous’ be a property of what is ‘more human’. For constructive purposes, on the other hand, see if P simply is a property of S simply: for then more P also will be a property of more-S, and less-P of less-S, and least-P of least-S, and most-P of most-S. Thus (e.g.) a tendency to move upwards by nature is a property of fire, and so also a greater tendency to move upwards by nature would be a property of what is more fiery. In the same way too one should look at all these matters from the point of view of the others as well.

Secondly (b) for destructive purposes, see if the more likely property fails to be a property of the more likely subject: for then neither will the less likely property be a property of the less likely subject. Thus (e.g.) inasmuch as ‘perceiving’ is more likely to be a property of ‘animal’ than ‘knowing’ of ‘man’, and ‘perceiving’ is not a property of ‘animal’, ‘knowing’ could not be a property of ‘man’. For constructive purposes, on the other hand, see if the less likely property is a property of the less likely subject; for then too the more likely property will be a property of the more likely subject. Thus (e.g.) inasmuch as ‘to be naturally civilized’ is less likely to be a property of man than ‘to live’ of an animal, and it is a property of man to be naturally civilized, it would be a property of animal to live.

Thirdly (c) for destructive purposes, see if the predicate fails to be a property of that of which it is more likely to be a property: for then neither will it be a property of that of which it is less likely to be a property: while if it is a property of the former, it will not be a property of the latter. Thus (e.g.) inasmuch as ‘to be coloured’ is more likely to be a property of a ‘surface’ than of a ‘body’, and it is not a property of a surface, ‘to be coloured’ could not be a property of ‘body’; while if it is a property of a ‘surface’, it could not be a property of a ‘body’. For constructive purposes, on the other hand, this commonplace rule is not of any use: for it is impossible for the same thing to be a property of more than one thing.

Fourthly (d) for destructive purposes, see if what is more likely to be a property of a given subject fails to be its property: for then neither will what is less likely to be a property of it be its property. Thus (e.g.) inasmuch as ‘sensible’ is more likely than ‘divisible’ to be a property of ‘animal’, and ‘sensible’ is not a property of animal, ‘divisible’ could not be a property of animal. For constructive purposes, on the other hand, see if what is less likely to be a property of it is a property; for then what is more likely to be a property of it will be a property as well. Thus, for example, inasmuch as ‘sensation’ is less likely to be a property of ‘animal’ than life’, and ‘sensation’ is a property of animal, ‘life’ would be a property of animal.

Next, look from the point of view of the attributes that belong in a like manner, and first (a) for destructive purposes, see if what is as much a property fails to be a property of that of which it is as much a property: for then neither will that which is as much a property as it be a property of that of which it is as much a property. Thus (e.g.) inasmuch as ‘desiring’ is as much a property of the faculty of desire as reasoning' is a property of the faculty of reason, and desiring is not a property of the faculty of desire, reasoning could not be a property of the faculty of reason. For constructive purposes, on the other hand, see if what is as much a property is a property of that of which it is as much a property: for then also what is as much a property as it will be a property of that of which it is as much a property. Thus (e.g.) inasmuch as it is as much a property of 'the faculty of reason' to be 'the primary seat of wisdom' as it is of 'the faculty of desire' to be 'the primary seat of temperance', and it is a property of the faculty of reason to be the primary seat of wisdom, it would be a property of the faculty of desire to be the primary seat of temperance.

Secondly (b) for destructive purposes, see if what is as much a property of anything fails to be a property of it: for then neither will what is as much a property be a property of it. Thus (e.g.) inasmuch as 'seeing' is as much a property of man as 'hearing', and 'seeing' is not a property of man, 'hearing' could not be a property of man. For constructive purposes, on the other hand, see if what is as much a property of it is its property: for then what is as much a property of it as the former will be its property as well. Thus (e.g.) it is as much a property of the soul to be the primary possessor of a part that desires as of a part that reasons, and it is a property of the soul to be the primary possessor of a part that desires, and so it be a property of the soul to be the primary possessor of a part that reasons.

Thirdly (c) for destructive purposes, see if it fails to be a property of that of which it is as much a property: for then neither will it be a property of that of which it is as much a property as of the former, while if it be a property of the former, it will not be a property of the other. Thus (e.g.) inasmuch as 'to burn' is as much a property of 'flame' as of 'live coals', and 'to burn' is not a property of flame, 'to burn' could not be a property of live coals: while if it is a property of flame, it could not be a property of live coals. For constructive purposes, on the other hand, this commonplace rule is of no use.

The rule based on things that are in a like relation' differs from the rule based on attributes that belong in a like manner,' because the former point is secured by analogy, not from reflection on the belonging of any attribute, while the latter is judged by a comparison based on the fact that an attribute belongs.

Next, for destructive purposes, see if in rendering the property potentially, he has also through that potentiality rendered the property relatively to something that does not exist, when the potentiality in question cannot belong to what does not exist: for then what is stated to be a property will not be a property. Thus (e.g.) he who has said that ‘breathable’ is a property of ‘air’ has, on the one hand, rendered the property potentially (for that is ‘breathable’ which is such as can be breathed), and on the other hand has also rendered the property relatively to what does not exist:-for while air may exist, even though there exist no animal so constituted as to breathe the air, it is not possible to breathe it if no animal exist: so that it will not, either, be a property of air to be such as can be breathed at a time when there exists no animal such as to breathe it and so it follows that ‘breathable’ could not be a property of air.

For constructive purposes, see if in rendering the property potentially he renders the property either relatively to something that exists, or to something that does not exist, when the potentiality in question can belong to what does not exist: for then what has been stated not to be a property will be a property. Thus e.g.) he who renders it as a property of ‘being’ to be ‘capable of being acted upon or of acting’, in rendering the property potentially, has rendered the property relatively to something that exists: for when ‘being’ exists, it will also be capable of being acted upon or of acting in a certain way: so that to be ‘capable of being acted upon or of acting’ would be a property of ‘being’.

Next, for destructive purposes, see if he has stated the property in the superlative: for then what has been stated to be a property will not be a property. For people who render the property in that way find that of the object of which the description is true, the name is not true as well: for though the object perish the description will continue in being none the less; for it belongs most nearly to something that is in being. An example would be supposing any one were to render ‘the lightest body’ as a property of ‘fire’: for, though fire perish, there eh re will still be some form of body that is the lightest, so that ‘the lightest body’ could not be a property of fire. For constructive purposes, on the other hand, see if he has avoided rendering the property in the superlative: for then the property will in this respect have been property of man has not rendered the property correctly stated. Thus (e.g.) inasmuch as he in the superlative, the property would in who states ‘a naturally civilized animal’ as a this respect have been correctly stated.

Book VI

1

THE discussion of Definitions falls into five parts. For you have to show either (1) that it is not true at all to apply the expression as well to that to which the term is applied (for the definition of Man ought to be true of every man); or (2) that though the object has a genus, he has failed to put the object defined into the genus, or to put it into the appropriate genus (for the framer of a definition should first place the object in its genus, and then append its differences: for of all the elements of the definition the genus is usually supposed to be the principal mark of the essence of what is defined): or (3) that the expression is not peculiar to the object (for, as we said above as well, a definition ought to be peculiar): or else (4) see if, though he has observed all the aforesaid cautions, he has yet failed to define the object, that is, to express its essence. (5) It remains, apart from the foregoing, to see if he has defined it, but defined it incorrectly.

Whether, then, the expression be not also true of that of which the term is true you should proceed to examine according to the commonplace rules that relate to Accident. For there too the question is always ‘Is so and so true or untrue?’: for whenever we argue that an accident belongs, we declare it to be true, while whenever we argue that it does not belong, we declare it to be untrue. If, again, he has failed to place the object in the appropriate genus, or if the expression be not peculiar to the object, we must go on to examine the case according to the commonplace rules that relate to genus and property.

It remains, then, to prescribe how to investigate whether the object has been either not defined at all, or else defined incorrectly. First, then, we must proceed to examine if it has been defined incorrectly: for with anything it is easier to do it than to do it correctly. Clearly, then, more mistakes are made in the latter task on account of its greater difficulty. Accordingly the attack becomes easier in the latter case than in the former.

Incorrectness falls into two branches: (1) first, the use of obscure language (for the language of a definition ought to be the very clearest possible, seeing that the whole purpose of rendering it is to make something known); (secondly, if the expression used be longer than is necessary: for all additional matter in a definition is superfluous. Again, each of the aforesaid branches is divided into a number of others.

2

One commonplace rule, then, in regard to obscurity is, See if the meaning intended by the definition involves an ambiguity with any other, e.g. ‘Becoming is a passage into being’, or ‘Health is the balance of hot and cold elements’. Here ‘passage’ and ‘balance’ are ambiguous terms: it is accordingly not clear which of the several possible senses of the term he intends to convey. Likewise also, if the term defined be used in different senses and he has spoken without distinguishing between them: for then it is not clear to which of them the definition rendered applies, and one can then bring a captious objection on the ground that the definition does not apply to all the things whose definition he has rendered: and this kind of thing is particularly easy in the case where the definer does not see the ambiguity of his terms. Or, again, the questioner may himself distinguish the various senses of the term rendered in the definition, and then institute his argument against each: for if the expression used be not adequate to the subject in any of its senses, it is clear that he cannot have defined it in any sense aright.

Another rule is, See if he has used a metaphorical expression, as, for instance, if he has defined knowledge as ‘unsupplantable’, or the earth as a ‘nurse’, or temperance as a ‘harmony’. For a metaphorical expression is always obscure. It is possible, also, to argue sophistically against the user of a metaphorical expression as though he had used it in its literal sense: for the definition stated will not apply to the term defined, e.g. in the case of temperance: for harmony is always found between notes. Moreover, if harmony be the genus of temperance, then the same object will occur in two genera of which neither contains the other: for harmony does not contain virtue, nor virtue harmony. Again, see if he uses terms that are unfamiliar, as when Plato describes the eye as ‘brow-shaded’, or a certain spider as poison-fanged’, or the marrow as ‘boneformed’. For an unusual phrase is always obscure.

Sometimes a phrase is used neither ambiguously, nor yet metaphorically, nor yet literally, as when the law is said to be the ‘measure’ or ‘image’ of the things that are by nature just. Such phrases are worse than metaphor; for the latter does make its meaning to some extent clear because of the likeness involved; for those who use metaphors do so always in view of some likeness: whereas this kind of phrase makes nothing clear; for there is no likeness to justify the description ‘measure’ or ‘image’, as applied to the law, nor is the law ordinarily so called in a literal sense. So then, if a man says that the law is literally a ‘measure’ or an ‘image’, he speaks falsely: for an image is something produced by imitation, and this is not found in the case of the law. If, on the other hand, he does not mean the term literally, it is clear that he has used an unclear expression, and one that is worse than any sort of metaphorical expression.

Moreover, see if from the expression used the definition of the contrary be not clear; for definitions that have been correctly rendered also indicate their contraries as well. Or, again, see if, when it is merely stated by itself, it is not evident what it defines: just as in the works of the old painters, unless there were an inscription, the figures used to be unrecognizable.

3

If, then, the definition be not clear, you should proceed to examine on lines such as these. If, on the other hand, he has phrased the definition redundantly, first of all look and see whether he has used any attribute that belongs universally, either to real objects in general, or to all that fall under the same genus as the object defined: for the mention of this is sure to be redundant. For the genus ought to divide the object from things in general, and the differentia from any of the things contained in the same genus. Now any term that belongs to everything separates off the given object from absolutely nothing, while any that belongs to all the things that fall under the same genus does not separate it off from the things contained in the same genus. Any addition, then, of that kind will be pointless.

Or see if, though the additional matter may be peculiar to the given term, yet even when it is struck out the rest of the expression too is peculiar and makes clear the essence of the term. Thus, in the definition of man, the addition ‘capable of receiving knowledge’ is superfluous; for strike it out, and still the expression is peculiar and makes clear his essence. Speaking generally, everything is superfluous upon whose removal the remainder still makes the term that is being defined clear. Such, for instance, would also be the definition of the soul, assuming it to be stated as a ‘self-moving number’; for the soul is just ‘the self-moving’, as Plato defined it. Or perhaps the expression used, though appropriate, yet does not declare the essence, if the word ‘number’ be eliminated. Which of the two is the real state of the case it is difficult to determine clearly: the right way to treat the matter in all cases is to be guided by convenience. Thus (e.g.) it is said that the definition of phlegm is the ‘undigested moisture that comes first off food’. Here the addition of the word ‘undigested’ is superfluous, seeing that ‘the first’ is one and not many, so that even when undigested’ is left out the definition will still be peculiar to the subject: for it is impossible that both phlegm and also something else should both be the first to arise from the food. Or perhaps the phlegm is not absolutely the first thing to come off the food, but only the first of the undigested matters, so that the addition ‘undigested’ is required; for stated the other way the definition would not be true unless the phlegm comes first of all.

Moreover, see if anything contained in the definition fails to apply to everything that falls under the same species: for this sort of definition is worse than those which include an attribute belonging to all things universally. For in that case, if the remainder of the expression be peculiar, the whole too will be peculiar: for absolutely always, if to something peculiar anything whatever that is true be added, the whole too becomes peculiar. Whereas if any part of the expression do not apply to everything that falls under the same species, it is impossible that the expression as a whole should be peculiar: for it will not be predicated convertibly with the object; e.g. ‘a walking biped animal six feet high’: for an expression of that kind is not predicated convertibly with the term, because the attribute ‘six feet high’ does not belong to everything that falls under the same species.

Again, see if he has said the same thing more than once, saying (e.g.) ‘desire’ is a ‘conation for the pleasant’. For ‘desire’ is always ‘for the pleasant’, so that what is the same as desire will also be ‘for the pleasant’. Accordingly our definition of desire becomes ‘conation-for-the-pleasant’: for the word ‘desire’ is the exact equivalent of the words ‘conation for-the-pleasant’, so that both alike will be ‘for the pleasant’. Or perhaps there is no absurdity in this; for consider this instance:-Man is a biped’: therefore, what is the same as man is a biped: but ‘a walking biped animal’ is the same as man, and therefore walking biped animal is a biped’. But this involves no real absurdity. For ‘biped’ is not a predicate of ‘walking animal’: if it were, then we should certainly have ‘biped’ predicated twice of the same thing; but as a matter of fact the subject said to be a biped is’a walking biped animal’, so that the word ‘biped’ is only used as a predicate once. Likewise also in the case of ‘desire’ as well: for it is not ‘conation’ that is said to be ‘for the pleasant’, but rather the whole idea, so that there too the predication is only made once. Absurdity results, not when the same word is uttered twice, but when the same thing is more than once predicated of a subject; e.g. if he says, like Xenocrates, that wisdom defines and contemplates reality:’ for definition is a certain type of contemplation, so that by adding the words ‘and contemplates’ over again he says the same thing twice over. Likewise, too, those fail who say that ‘cooling’ is ‘the privation of natural heat’. For all privation is a privation of some natural attribute, so that the addition of the word ‘natural’ is superfluous: it would have been enough to say ‘privation of heat’, for the word ‘privation’ shows of itself that the heat meant is natural heat.

Again, see if a universal have been mentioned and then a particular case of it be added as well, e.g. ‘Equity is a remission of what is expedient and just’; for what is just is a branch of what is expedient and is therefore included in the latter term: its mention is therefore redundant, an addition of the particular after the universal has been already stated. So also, if he defines ‘medicine’ as ‘knowledge of what makes for health in animals and men’, or ‘the law’ as ‘the image of what is by nature noble and just’; for what is just is a branch of what is noble, so that he says the same thing more than once.

4

Whether, then, a man defines a thing correctly or incorrectly you should proceed to examine on these and similar lines. But whether he has mentioned and defined its essence or no, should be examined as follows: First of all, see if he has failed to make the definition through terms that are prior and more intelligible. For the reason why the definition is rendered is to make known the term stated, and we make things known by taking not any random terms, but such as are prior and more intelligible, as is done in demonstrations (for so it is with all teaching and learning); accordingly, it is clear that a man who does not define through terms of this kind has not defined at all. Otherwise, there will be more than one definition of the same thing: for clearly he who defines through terms that are prior and more intelligible has also framed a definition, and a better one, so that both would then be definitions of the same object. This sort of view, however, does not generally find acceptance: for of each real object the essence is single: if, then, there are to be a number of definitions of the same thing, the essence of the object will be the same as it is represented to be in each of the definitions, and these representations are not the same, inasmuch as the definitions are different. Clearly, then, any one who has not defined a thing through terms that are prior and more intelligible has not defined it at all.

The statement that a definition has not been made through more intelligible terms may be understood in two senses, either supposing that its terms are absolutely less intelligible, or supposing that they are less intelligible to us: for either sense is possible. Thus absolutely the prior is more intelligible than the posterior, a point, for instance, than a line, a line than a plane, and a plane than a solid; just as also a unit is more intelligible than a number; for it is the prius and starting-point of all number. Likewise, also, a letter is more intelligible than a syllable. Whereas to us it sometimes happens that the converse is the case: for the solid falls under perception most of all-more than a plane-and a plane more than a line, and a line more than a point; for most people learn things like the former earlier than the latter; for any ordinary intelligence can grasp them, whereas the others require an exact and exceptional understanding.

Absolutely, then, it is better to try to make what is posterior known through what is prior, inasmuch as such a way of procedure is more scientific. Of course, in dealing with persons who cannot recognize things through terms of that kind, it may perhaps be necessary to frame the expression through terms that are intelligible to them. Among definitions of this kind are those of a point, a line, and a plane, all of which explain the prior by the posterior; for they say that a point is the limit of a line, a line of a plane, a plane of a solid. One must, however, not fail to observe that those who define in this way cannot show the essential nature of the term they define, unless it so happens that the same thing is more intelligible both to us and also absolutely, since a correct definition must define a thing through its genus and its differentiae, and these belong to the order of things which are absolutely more intelligible than, and prior to, the species. For annul the genus and differentia, and the species too is annulled, so that these are prior to the species. They are also more intelligible; for if the species be known, the genus and differentia must of necessity be known as well (for any one who knows what a man is knows also what ‘animal’ and ‘walking’ are), whereas if the genus or the differentia be known it does not follow of necessity that the species is known as well: thus the species is less intelligible. Moreover, those who say that such definitions, viz. those which proceed from what is intelligible to this, that, or the other man, are really and truly definitions, will have to say that there are several definitions of one and the same thing. For, as it happens, different things are more intelligible to different people, not the same things to all; and so a different definition would have to be rendered to each several person, if the definition is to be constructed from what is more intelligible to particular individuals. Moreover, to the same people different things are more intelligible at different times; first of all the objects of sense; then, as they become more sharpwitted, the converse; so that those who hold that a definition ought to be rendered through what is more intelligible to particular individuals would not have to render the same definition at all times even to the same person. It is clear, then, that the right way to define is not through terms of that kind, but through what is absolutely more intelligible: for only in this way could the definition come always to be one and the same. Perhaps, also, what is absolutely intelligible is what is intelligible, not to all, but to those who are in a sound state of understanding, just as what is absolutely healthy is what is healthy to those in a sound state of body. All such points as this ought to be made very precise, and made use of in the course of discussion as occasion requires. The demolition of a definition will most surely win a general approval if the definer happens to have framed his expression neither from what is absolutely more intelligible nor yet from what is so to us.

One form, then, of the failure to work through more intelligible terms is the exhibition of the prior through the posterior, as we remarked before.’ Another form occurs if we find that the definition has been rendered of what is at rest and definite through what is indefinite and in motion: for what is still and definite is prior to what is indefinite and in motion.

Of the failure to use terms that are prior there are three forms:

(1) The first is when an opposite has been defined through its opposite, e.g.i. good through evil: for opposites are always simultaneous by nature. Some people think, also, that both are objects of the same science, so that the one is not even more intelligible than the other. One must, however, observe that it is perhaps not possible to define some things in any other way, e.g. the double without the half, and all the terms that are essentially relative: for in all such cases the essential being is the same as a certain relation to something, so that it is impossible to understand the one term without the other, and accordingly in the definition of the one the other too must be embraced. One ought to learn up all such points as these, and use them as occasion may seem to require.

(2) Another is-if he has used the term defined itself. This passes unobserved when the actual name of the object is not used, e.g. supposing any one had defined the sun as a star that appears by day'. For in bringing in 'day' he brings in the sun. To detect errors of this sort, exchange the word for its definition, e.g. the definition of 'day' as the 'passage of the sun over the earth'. Clearly, whoever has said 'the passage of the sun over the earth' has said 'the sun', so that in bringing in the 'day' he has brought in the sun.

(3) Again, see if he has defined one coordinate member of a division by another, e.g. 'an odd number' as 'that which is greater by one than an even number'. For the co-ordinate members of a division that are derived from the same genus are simultaneous by nature and 'odd' and 'even' are such terms: for both are differentiae of number.

Likewise also, see if he has defined a superior through a subordinate term, e.g. 'An "even number" is "a number divisible into halves"', or '"the good" is a "state of virtue" '. For 'half' is derived from 'two', and 'two' is an even number: virtue also is a kind of good, so that the latter terms are subordinate to the former. Moreover, in using the subordinate term one is bound to use the other as well: for whoever employs the term 'virtue' employs the term 'good', seeing that virtue is a certain kind of good: likewise, also, whoever employs the term 'half' employs the term 'even', for to be 'divided in half' means to be divided into two, and two is even.

5

Generally speaking, then, one commonplace rule relates to the failure to frame the expression by means of terms that are prior and more intelligible: and of this the subdivisions are those specified above. A second is, see whether, though the object is in a genus, it has not been placed in a genus. This sort of error is always found where the essence of the object does not stand first in the expression, e.g. the definition of ‘body’ as ‘that which has three dimensions’, or the definition of ‘man’, supposing any one to give it, as ‘that which knows how to count’: for it is not stated what it is that has three dimensions, or what it is that knows how to count: whereas the genus is meant to indicate just this, and is submitted first of the terms in the definition.

Moreover, see if, while the term to be defined is used in relation to many things, he has failed to render it in relation to all of them; as (e.g.) if he define ‘grammar’ as the ‘knowledge how to write from dictation’: for he ought also to say that it is a knowledge how to read as well. For in rendering it as ‘knowledge of writing’ has no more defined it than by rendering it as ‘knowledge of reading’: neither in fact has succeeded, but only he who mentions both these things, since it is impossible that there should be more than one definition of the same thing. It is only, however, in some cases that what has been said corresponds to the actual state of things: in some it does not, e.g. all those terms which are not used essentially in relation to both things: as medicine is said to deal with the production of disease and health; for it is said essentially to do the latter, but the former only by accident: for it is absolutely alien to medicine to produce disease. Here, then, the man who renders medicine as relative to both of these things has not defined it any better than he who mentions the one only. In fact he has done it perhaps worse, for any one else besides the doctor is capable of producing disease.

Moreover, in a case where the term to be defined is used in relation to several things, see if he has rendered it as relative to the worse rather than to the better; for every form of knowledge and potentiality is generally thought to be relative to the best.

Again, if the thing in question be not placed in its own proper genus, one must examine it according to the elementary rules in regard to genera, as has been said before.’

Moreover, see if he uses language which transgresses the genera of the things he defines, defining, e.g. justice as a ‘state that produces equality’ or ‘distributes what is equal’: for by defining it so he passes outside the sphere of virtue, and so by leaving out the genus of justice he fails to express its essence: for the essence of a thing must in each case bring in its genus. It is the same thing if the object be not put into its nearest genus; for the man who puts it into the nearest one has stated all the higher genera, seeing that all the higher genera are predicated of the lower. Either, then, it ought to be put into its nearest genus, or else to the higher genus all the differentiae ought to be appended whereby the nearest genus is defined. For then he would not have left out anything: but would merely have mentioned the subordinate genus by an expression instead of by name. On the other hand, he who mentions merely the higher genus by itself, does not state the subordinate genus as well: in saying ‘plant’ a man does not specify ‘a tree’.

6

Again, in regard to the differentiae, we must examine in like manner whether the differentiae, too, that he has stated be those of the genus. For if a man has not defined the object by the differentiae peculiar to it, or has mentioned something such as is utterly incapable of being a differentia of anything, e.g. ‘animal’ or ‘substance’, clearly he has not defined it at all: for the aforesaid terms do not differentiate anything at all. Further, we must see whether the differentia stated possesses anything that is co-ordinate with it in a division; for, if not, clearly the one stated could not be a differentia of the genus. For a genus is always divided by differentiae that are co-ordinate members of a division, as, for instance, by the terms ‘walking’, ‘flying’, ‘aquatic’, and ‘biped’. Or see if, though the contrasted differentia exists, it yet is not true of the genus, for then, clearly, neither of them could be a differentia of the genus; for differentiae that are co-ordinates in a division with the differentia of a thing are all true of the genus to which the thing belongs. Likewise, also, see if, though it be true, yet the addition of it to the genus fails to make a species. For then, clearly, this could not be a specific differentia of the genus: for a specific differentia, if added to the genus, always makes a species. If, however, this be no true differentia, no more is the one adduced, seeing that it is a co-ordinate member of a division with this.

Moreover, see if he divides the genus by a negation, as those do who define line as ‘length without breadth’: for this means simply that it has not any breadth. The genus will then be found to partake of its own species: for, since of everything either an affirmation or its negation is true, length must always either lack breadth or possess it, so that ‘length’ as well, i.e. the genus of ‘line’, will be either with or without breadth. But ‘length without breadth’ is the definition of a species, as also is ‘length with breadth’: for ‘without breadth’ and ‘with breadth’ are differentiae, and the genus and differentia constitute the definition of the species. Hence the genus would admit of the definition of its species. Likewise, also, it will admit of the definition of the differentia, seeing that one or the other of the aforesaid differentiae is of necessity predicated of the genus. The usefulness of this principle is found in meeting those who assert the existence of ‘Ideas’: for if absolute length exist, how will it be predicable of the genus that it has breadth or that it lacks it? For one assertion or the other will have to be true of ‘length’ universally, if it is to be true of the genus at all: and this is contrary to the fact: for there exist both lengths which have, and lengths which have not, breadth. Hence the only people against whom the rule can be employed are those who assert that a genus is always numerically one; and this is what is done by those who assert the real existence of the ‘Ideas’; for they allege that absolute length and absolute animal are the genus.

It may be that in some cases the definer is obliged to employ a negation as well, e.g. in defining privations. For ‘blind’ means a thing which cannot see when its nature is to see. There is no difference between dividing the genus by a negation, and dividing it by such an affirmation as is bound to have a negation as its co-ordinate in a division, e.g. supposing he had defined something as ‘length possessed of breadth’; for co-ordinate in the division with that which is possessed of breadth is that which possesses no breadth and that only, so that again the genus is divided by a negation.

Again, see if he rendered the species as a differentia, as do those who define ‘contumely’ as ‘insolence accompanied by jeering’; for jeering is a kind of insolence, i.e. it is a species and not a differentia.

Moreover, see if he has stated the genus as the differentia, e.g. ‘Virtue is a good or noble state: for ‘good’ is the genus of ‘virtue’. Or possibly ‘good’ here is not the genus but the differentia, on the principle that the same thing cannot be in two genera of which neither contains the other: for ‘good’ does not include ‘state’, nor vice versa: for not every state is good nor every good a ‘state’. Both, then, could not be genera, and consequently, if ‘state’ is the genus of virtue, clearly ‘good’ cannot be its genus: it must rather be the differentia’. Moreover, ‘a state’ indicates the essence of virtue, whereas ‘good’ indicates not the essence but a quality: and to indicate a quality is generally held to be the function of the differentia. See, further, whether the differentia rendered indicates an individual rather than a quality: for the general view is that the differentia always expresses a quality.

Look and see, further, whether the differentia belongs only by accident to the object defined. For the differentia is never an accidental attribute, any more than the genus is: for the differentia of a thing cannot both belong and not belong to it.

Moreover, if either the differentia or the species, or any of the things which are under the species, is predicable of the genus, then he could not have defined the term. For none of the aforesaid can possibly be predicated of the genus, seeing that the genus is the term with the widest range of all. Again, see if the genus be predicated of the differentia; for the general view is that the genus is predicated, not of the differentia, but of the objects of which the differentia is predicated. Animal (e.g.) is predicated of ‘man’ or ‘ox’ or other walking animals, not of the actual differentia itself which we predicate of the species. For if ‘animal’ is to be predicated of each of its differentiae, then ‘animal’ would be predicated of the species several times over; for the differentiae are predicates of the species. Moreover, the differentiae will be all either species or individuals, if they are animals; for every animal is either a species or an individual.

Likewise you must inquire also if the species or any of the objects that come under it is predicated of the differentia: for this is impossible, seeing that the differentia is a term with a wider range than the various species. Moreover, if any of the species be predicated of it, the result will be that the differentia is a species: if, for instance, ‘man’ be predicated, the differentia is clearly the human race. Again, see if the differentia fails to be prior to the species: for the differentia ought to be posterior to the genus, but prior to the species.

Look and see also if the differentia mentioned belongs to a different genus, neither contained in nor containing the genus in question. For the general view is that the same differentia cannot be used of two non-subaltern genera. Else the result will be that the same species as well will be in two non-subaltern genera: for each of the differentiae imports its own genus, e.g. ‘walking’ and ‘biped’ import with them the genus ‘animal’. If, then, each of the genera as well is true of that of which the differentia is true, it clearly follows that the species must be in two non-subaltern genera. Or perhaps it is not impossible for the same differentia to be used of two non-subaltern genera, and we ought to add the words ‘except they both be subordinate members of the same genus’. Thus ‘walking animal’ and ‘flying animal’ are non-subaltern genera, and ‘biped’ is the differentia of both. The words ‘except they both be subordinate members of the same genus’ ought therefore to be added; for both these are subordinate to ‘animal’. From this possibility, that the same differentia may be used of two non-subaltern genera, it is clear also that there is no necessity for the differentia to carry with it the whole of the genus to which it belongs, but only the one or the other of its limbs together with the genera that are higher than this, as ‘biped’ carries with it either ‘flying’ or ‘walking animal’.

See, too, if he has rendered ‘existence in’ something as the differentia of a thing’s essence: for the general view is that locality cannot differentiate between one essence and another. Hence, too, people condemn those who divide animals by means of the terms ‘walking’ and ‘aquatic’, on the ground that ‘walking’ and ‘aquatic’ indicate mere locality. Or possibly in this case the censure is undeserved; for ‘aquatic’ does not mean ‘in’ anything; nor does it denote a locality, but a certain quality: for even if the thing be on the dry land, still it is aquatic: and likewise a land-animal, even though it be in the water, will still be a and not an aquatic-animal. But all the same, if ever the differentia does denote existence in something, clearly he will have made a bad mistake.

Again, see if he has rendered an affection as the differentia: for every affection, if intensified, subverts the essence of the thing, while the differentia is not of that kind: for the differentia is generally considered rather to preserve that which it differentiates; and it is absolutely impossible for a thing to exist without its own special differentia: for if there be no ‘walking’, there will be no ‘man’. In fact, we may lay down absolutely that a thing cannot have as its differentia anything in respect of which it is subject to alteration: for all things of that kind, if intensified, destroy its essence. If, then, a man has rendered any differentia of this kind, he has made a mistake: for we undergo absolutely no alteration in respect of our differentiae.

Again, see if he has failed to render the differentia of a relative term relatively to something else; for the differentiae of relative terms are themselves relative, as in the case also of knowledge. This is classed as speculative, practical and productive; and each of these denotes a relation: for it speculates upon something, and produces something and does something.

Look and see also if the definer renders each relative term relatively to its natural purpose: for while in some cases the particular relative term can be used in relation to its natural purpose only and to nothing else, some can be used in relation to something else as well. Thus sight can only be used for seeing, but a strigil can also be used to dip up water. Still, if any one were to define a strigil as an instrument for dipping water, he has made a mistake: for that is not its natural function. The definition of a thing's natural function is 'that for which it would be used by the prudent man, acting as such, and by the science that deals specially with that thing'.

Or see if, whenever a term happens to be used in a number of relations, he has failed to introduce it in its primary relation: e.g. by defining 'wisdom' as the virtue of 'man' or of the 'soul,' rather than of the 'reasoning faculty': for 'wisdom' is the virtue primarily of the reasoning faculty: for it is in virtue of this that both the man and his soul are said to be wise.

Moreover, if the thing of which the term defined has been stated to be an affection or disposition, or whatever it may be, be unable to admit it, the definer has made a mistake. For every disposition and every affection is formed naturally in that of which it is an affection or disposition, as knowledge, too, is formed in the soul, being a disposition of soul. Sometimes, however, people make bad mistakes in matters of this sort, e.g. all those who say that 'sleep' is a 'failure of sensation', or that 'perplexity' is a state of 'equality between contrary reasonings', or that 'pain' is a 'violent disruption of parts that are naturally conjoined'. For sleep is not an attribute of sensation, whereas it ought to be, if it is a failure of sensation. Likewise, perplexity is not an attribute of opposite reasonings, nor pain of parts naturally conjoined: for then inanimate things will be in pain, since pain will be present in them. Similar in character, too, is the definition of 'health', say, as a 'balance of hot and cold elements': for then health will be necessarily exhibited by the hot and cold elements: for balance of anything is an attribute inherent in those things of which it is the balance, so that health would be an attribute of them. Moreover, people who define in this way put effect for cause, or cause for effect. For the disruption of parts naturally conjoined is not pain, but only a cause of pain: nor again is a failure of sensation sleep, but the one is the cause of the other: for either we go to sleep because sensation fails, or sensation fails because we go to sleep. Likewise also an equality between contrary reasonings would be generally considered to be a cause of perplexity: for it is when we reflect on both sides of a question and find everything alike to be in keeping with either course that we are perplexed which of the two we are to do.

Moreover, with regard to all periods of time look and see whether there be any discrepancy between the differentia and the thing defined: e.g. supposing the ‘immortal’ to be defined as a ‘living thing immune at present from destruction’. For a living thing that is immune ‘at present’ from destruction will be immortal ‘at present’. Possibly, indeed, in this case this result does not follow, owing to the ambiguity of the words ‘immune at present from destruction’: for it may mean either that the thing has not been destroyed at present, or that it cannot be destroyed at present, or that at present it is such that it never can be destroyed. Whenever, then, we say that a living thing is at present immune from destruction, we mean that it is at present a living thing of such a kind as never to be destroyed: and this is equivalent to saying that it is immortal, so that it is not meant that it is immortal only at present. Still, if ever it does happen that what has been rendered according to the definition belongs in the present only or past, whereas what is meant by the word does not so belong, then the two could not be the same. So, then, this commonplace rule ought to be followed, as we have said.

7

You should look and see also whether the term being defined is applied in consideration of something other than the definition rendered. Suppose (e.g.) a definition of ‘justice’ as the ‘ability to distribute what is equal’. This would not be right, for ‘just’ describes rather the man who chooses, than the man who is able to distribute what is equal: so that justice could not be an ability to distribute what is equal: for then also the most just man would be the man with the most ability to distribute what is equal.

Moreover, see if the thing admits of degrees, whereas what is rendered according to the definition does not, or, vice versa, what is rendered according to the definition admits of degrees while the thing does not. For either both must admit them or else neither, if indeed what is rendered according to the definition is the same as the thing. Moreover, see if, while both of them admit of degrees, they yet do not both become greater together: e.g. suppose sexual love to be the desire for intercourse: for he who is more intensely in love has not a more intense desire for intercourse, so that both do not become intensified at once: they certainly should, however, had they been the same thing.

Moreover, suppose two things to be before you, see if the term to be defined applies more particularly to the one to which the content of the definition is less applicable. Take, for instance, the definition of ‘fire’ as the ‘body that consists of the most rarefied particles’. For ‘fire’ denotes flame rather than light, but flame is less the body that consists of the most rarefied particles than is light: whereas both ought to be more applicable to the same thing, if they had been the same. Again, see if the one expression applies alike to both the objects before you, while the other does not apply to both alike, but more particularly to one of them.

Moreover, see if he renders the definition relative to two things taken separately: thus, the beautiful’ is ‘what is pleasant to the eyes or to the ears”: or ‘the real’ is ‘what is capable of being acted upon or of acting’. For then the same thing will be both beautiful and not beautiful, and likewise will be both real and not real. For ‘pleasant to the ears’ will be the same as ‘beautiful’, so that ‘not pleasant to the ears’ will be the same as ‘not beautiful’: for of identical things the opposites, too, are identical, and the opposite of ‘beautiful’ is ‘not beautiful’, while of ‘pleasant to the ears’ the opposite is not pleasant to the cars’: clearly, then, ‘not pleasant to the ears’ is the same thing as ‘not beautiful’. If, therefore, something be pleasant to the eyes but not to the ears, it will be both beautiful and not beautiful. In like manner we shall show also that the same thing is both real and unreal.

Moreover, of both genera and differentiae and all the other terms rendered in definitions you should frame definitions in lieu of the terms, and then see if there be any discrepancy between them.

8

If the term defined be relative, either in itself or in respect of its genus, see whether the definition fails to mention that to which the term, either in itself or in respect of its genus, is relative, e.g. if he has defined ‘knowledge’ as an ‘incontrovertible conception’ or ‘wishing’ as ‘painless conation’. For of everything relative the essence is relative to something else, seeing that the being of every relative term is identical with being in a certain relation to something. He ought, therefore, to have said that knowledge is ‘conception of a knowable’ and that wishing is ‘conation for a good’. Likewise, also, if he has defined ‘grammar’ as ‘knowledge of letters’: whereas in the definition there ought to be rendered either the thing to which the term itself is relative, or that, whatever it is, to which its genus is relative. Or see if a relative term has been described not in relation to its end, the end in anything being whatever is best in it or gives its purpose to the rest. Certainly it is what is best or final that should be stated, e.g. that desire is not for the pleasant but for pleasure: for this is our purpose in choosing what is pleasant as well.

Look and see also if that in relation to which he has rendered the term be a process or an activity: for nothing of that kind is an end, for the completion of the activity or process is the end rather than the process or activity itself. Or perhaps this rule is not true in all cases, for almost everybody prefers the present experience of pleasure to its cessation, so that they would count the activity as the end rather than its completion.

Again see in some cases if he has failed to distinguish the quantity or quality or place or other differentiae of an object; e.g. the quality and quantity of the honour the striving for which makes a man ambitious: for all men strive for honour, so that it is not enough to define the ambitious man as him who strives for honour, but the aforesaid differentiae must be added. Likewise, also, in defining the covetous man the quantity of money he aims at, or in the case of the incontinent man the quality of the pleasures, should be stated. For it is not the man who gives way to any sort of pleasure whatever who is called incontinent, but only he who gives way to a certain kind of pleasure. Or again, people sometimes define night as a ‘shadow on the earth’, or an earthquake as a movement of the earth’, or a cloud as ‘condensation of the air’, or a wind as a ‘movement of the air’; whereas they ought to specify as well quantity, quality, place, and cause. Likewise, also, in other cases of the kind: for by omitting any differentiae whatever he fails to state the essence of the term. One should always attack deficiency. For a movement of the earth does not constitute an earthquake, nor a movement of the air a wind, irrespective of its manner and the amount involved.

Moreover, in the case of conations, and in any other cases where it applies, see if the word ‘apparent’ is left out, e.g. ‘wishing is a conation after the good’, or ‘desire is a conation after the pleasant’-instead of saying ‘the apparently good’, or ‘pleasant’. For often those who exhibit the conation do not perceive what is good or pleasant, so that their aim need not be really good or pleasant, but only apparently so. They ought, therefore, to have rendered the definition also accordingly. On the other hand, any one who maintains the existence of Ideas ought to be brought face to face with his Ideas, even though he does render the word in question: for there can be no Idea of anything merely apparent: the general view is that an Idea is always spoken of in relation to an Idea: thus absolute desire is for the absolutely pleasant, and absolute wishing is for the absolutely good; they therefore cannot be for an apparent good or an apparently pleasant: for the existence of an absolutely-apparently-good or pleasant would be an absurdity.

9

Moreover, if the definition be of the state of anything, look at what is in the state, while if it be of what is in the state, look at the state: and likewise also in other cases of the kind. Thus if the pleasant be identical with the beneficial, then, too, the man who is pleased is benefited. Speaking generally, in definitions of this sort it happens that what the definer defines is in a sense more than one thing: for in defining knowledge, a man in a sense defines ignorance as well, and likewise also what has knowledge and what lacks it, and what it is to know and to be ignorant. For if the first be made clear, the others become in a certain sense clear as well. We have, then, to be on our guard in all such cases against discrepancy, using the elementary principles drawn from consideration of contraries and of coordinates.

Moreover, in the case of relative terms, see if the species is rendered as relative to a species of that to which the genus is rendered as relative, e.g. supposing belief to be relative to some object of belief, see whether a particular belief is made relative to some particular object of belief: and, if a multiple be relative to a fraction, see whether a particular multiple be made relative to a particular fraction. For if it be not so rendered, clearly a mistake has been made.

See, also, if the opposite of the term has the opposite definition, whether (e.g.) the definition of ‘half’ is the opposite of that of ‘double’: for if ‘double’ is ‘that which exceeds another by an equal amount to that other’, ‘half’ is ‘that which is exceeded by an amount equal to itself’. In the same way, too, with contraries. For to the contrary term will apply the definition that is contrary in some one of the ways in which contraries are conjoined. Thus (e.g.) if ‘useful’=‘productive of good’, ‘injurious’=productive of evil’ or ‘destructive of good’, for one or the other of thee is bound to be contrary to the term originally used. Suppose, then, neither of these things to be the contrary of the term originally used, then clearly neither of the definitions rendered later could be the definition of the contrary of the term originally defined: and therefore the definition originally rendered of the original term has not been rightly rendered either. Seeing, moreover, that of contraries, the one is sometimes a word forced to denote the privation of the other, as (e.g.) inequality is generally held to be the privation of equality (for ‘unequal’ merely describes things that are not equal’), it is therefore clear that that contrary whose form denotes the privation must of necessity be defined through the other; whereas the other cannot then be defined through the one whose form denotes the privation; for else we should find that each is being interpreted by the other. We must in the case of contrary terms keep an eye on this mistake, e.g. supposing any one were to define equality as the contrary of inequality: for then he is defining it through the term which denotes privation of it. Moreover, a man who so defines is bound to use in his definition the very term he is defining; and this becomes clear, if for the word we substitute its definition. For to say ‘inequality’ is the same as to say ‘privation of equality’. Therefore equality so defined will be ‘the contrary of the privation of equality’, so that he would have used the very word to be defined. Suppose, however, that neither of the contraries be so formed as to denote privation, but yet the definition of it be rendered in a manner like the above, e.g. suppose ‘good’ to be defined as ‘the contrary of evil’, then, since it is clear that ‘evil’ too will be ‘the contrary of good’ (for the definition of things that are contrary in this must be rendered in a like manner), the result again is that he uses the very term being defined: for ‘good’ is inherent in the definition of ‘evil’. If, then, ‘good’ be the contrary of evil, and evil be nothing other than the ‘contrary of good’, then ‘good’ will be the ‘contrary of the contrary of good’. Clearly, then, he has used the very word to be defined.

Moreover, see if in rendering a term formed to denote privation, he has failed to render the term of which it is the privation, e.g. the state, or contrary, or whatever it may be whose privation it is: also if he has omitted to add either any term at all in which the privation is naturally formed, or else that in which it is naturally formed primarily, e.g. whether in defining ‘ignorance’ a privation he has failed to say that it is the privation of ‘knowledge’; or has failed to add in what it is naturally formed, or, though he has added this, has failed to render the thing in which it is primarily formed, placing it (e.g.) in ‘man’ or in ‘the soul’, and not in the ‘reasoning faculty’: for if in any of these respects he fails, he has made a mistake. Likewise, also, if he has failed to say that ‘blindness’ is the ‘privation of sight in an eye’: for a proper rendering of its essence must state both of what it is the privation and what it is that is deprived.

Examine further whether he has defined by the expression ‘a privation’ a term that is not used to denote a privation: thus a mistake of this sort also would be generally thought to be incurred in the case of ‘error’ by any one who is not using it as a merely negative term. For what is generally thought to be in error is not that which has no knowledge, but rather that which has been deceived, and for this reason we do not talk of inanimate things or of children as ‘erring’. ‘Error’, then, is not used to denote a mere privation of knowledge.

10

Moreover, see whether the like inflexions in the definition apply to the like inflexions of the term; e.g. if ‘beneficial’ means ‘productive of health’, does ‘beneficially’ mean productively of health’ and a ‘benefactor’ a ‘producer of health’?

Look too and see whether the definition given will apply to the Idea as well. For in some cases it will not do so; e.g. in the Platonic definition where he adds the word ‘mortal’ in his definitions of living creatures: for the Idea (e.g. the absolute Man) is not mortal, so that the definition will not fit the Idea. So always wherever the words ‘capable of acting on’ or ‘capable of being acted upon’ are added, the definition and the Idea are absolutely bound to be discrepant: for those who assert the existence of Ideas hold that they are incapable of being acted upon, or of motion. In dealing with these people even arguments of this kind are useful.

Further, see if he has rendered a single common definition of terms that are used ambiguously. For terms whose definition corresponding their common name is one and the same, are synonymous; if, then, the definition applies in a like manner to the whole range of the ambiguous term, it is not true of any one of the objects described by the term. This is, moreover, what happens to Dionysius' definition of 'life' when stated as 'a movement of a creature sustained by nutriment, congenitally present with it': for this is found in plants as much as in animals, whereas 'life' is generally understood to mean not one kind of thing only, but to be one thing in animals and another in plants. It is possible to hold the view that life is a synonymous term and is always used to describe one thing only, and therefore to render the definition in this way on purpose: or it may quite well happen that a man may see the ambiguous character of the word, and wish to render the definition of the one sense only, and yet fail to see that he has rendered a definition common to both senses instead of one peculiar to the sense he intends. In either case, whichever course he pursues, he is equally at fault. Since ambiguous terms sometimes pass unobserved, it is best in questioning to treat such terms as though they were synonymous (for the definition of the one sense will not apply to the other, so that the answerer will be generally thought not to have defined it correctly, for to a synonymous term the definition should apply in its full range), whereas in answering you should yourself distinguish between the senses. Further, as some answerers call 'ambiguous' what is really synonymous, whenever the definition rendered fails to apply universally, and, vice versa, call synonymous what is really ambiguous supposing their definition applies to both senses of the term, one should secure a preliminary admission on such points, or else prove beforehand that so-and-so is ambiguous or synonymous, as the case may be: for people are more ready to agree when they do not foresee what the consequence will be. If, however, no admission has been made, and the man asserts that what is really synonymous is ambiguous because the definition he has rendered will not apply to the second sense as well, see if the definition of this second meaning applies also to the other meanings: for if so, this meaning must clearly be synonymous with those others. Otherwise, there will be more than one definition of those other meanings, for there are applicable to them two distinct definitions in explanation of the term, viz. the one previously rendered and also the later one. Again, if any one were to define a term used in several senses, and, finding that his definition does not apply to them all, were to contend not that the term is ambiguous, but that even the term does not properly apply to all those senses, just because his definition will not do so either, then one may retort to such a man that though in some things one must not use the language of the people, yet in a question of terminology one is bound to employ the received and traditional usage and not to upset matters of that sort.

11

Suppose now that a definition has been rendered of some complex term, take away the definition of one of the elements in the complex, and see if also the rest of the definition defines the rest of it: if not, it is clear that neither does the whole definition define the whole complex. Suppose, e.g. that some one has defined a ‘finite straight line’ as ‘the limit of a finite plane, such that its centre is in a line with its extremes’; if now the definition of a finite line’ be the ‘limit of a finite plane’, the rest (viz. ‘such that its centre is in a line with its extremes’) ought to be a definition of straight’. But an infinite straight line has neither centre nor extremes and yet is straight so that this remainder does not define the remainder of the term.

Moreover, if the term defined be a compound notion, see if the definition rendered be equimembral with the term defined. A definition is said to be equimembral with the term defined when the number of the elements compounded in the latter is the same as the number of nouns and verbs in the definition. For the exchange in such cases is bound to be merely one of term for term, in the case of some if not of all, seeing that there are no more terms used now than formerly; whereas in a definition terms ought to be rendered by phrases, if possible in every case, or if not, in the majority. For at that rate, simple objects too could be defined by merely calling them by a different name, e.g. ‘cloak’ instead of ‘doublet’.

The mistake is even worse, if actually a less well known term be substituted, e.g. ‘pellucid mortal’ for ‘white man’: for it is no definition, and moreover is less intelligible when put in that form.

Look and see also whether, in the exchange of words, the sense fails still to be the same. Take, for instance, the explanation of ‘speculative knowledge’ as ‘speculative conception’: for conception is not the same as knowledge-as it certainly ought to be if the whole is to be the same too: for though the word ‘speculative’ is common to both expressions, yet the remainder is different.

Moreover, see if in replacing one of the terms by something else he has exchanged the genus and not the differentia, as in the example just given: for ‘speculative’ is a less familiar term than knowledge; for the one is the genus and the other the differentia, and the genus is always the most familiar term of all; so that it is not this, but the differentia, that ought to have been changed, seeing that it is the less familiar. It might be held that this criticism is ridiculous: because there is no reason why the most familiar term should not describe the differentia, and not the genus; in which case, clearly, the term to be altered would also be that denoting the genus and not the differentia. If, however, a man is substituting for a term not merely another term but a phrase, clearly it is of the differentia rather than of the genus that a definition should be rendered, seeing that the object of rendering the definition is to make the subject familiar; for the differentia is less familiar than the genus.

If he has rendered the definition of the differentia, see whether the definition rendered is common to it and something else as well: e.g. whenever he says that an odd number is a ‘number with a middle’, further definition is required of how it has a middle: for the word ‘number’ is common to both expressions, and it is the word ‘odd’ for which the phrase has been substituted. Now both a line and a body have a middle, yet they are not ‘odd’; so that this could not be a definition of ‘odd’. If, on the other hand, the phrase ‘with a middle’ be used in several senses, the sense here intended requires to be defined. So that this will either discredit the definition or prove that it is no definition at all.

12

Again, see if the term of which he renders the definition is a reality, whereas what is contained in the definition is not, e.g. Suppose ‘white’ to be defined as ‘colour mingled with fire’: for what is bodiless cannot be mingled with body, so that ‘colour’ ‘mingled with fire’ could not exist, whereas ‘white’ does exist.

Moreover, those who in the case of relative terms do not distinguish to what the object is related, but have described it only so as to include it among too large a number of things, are wrong either wholly or in part; e.g. suppose some one to have defined ‘medicine’ as a science of Reality’. For if medicine be not a science of anything that is real, the definition is clearly altogether false; while if it be a science of some real thing, but not of another, it is partly false; for it ought to hold of all reality, if it is said to be of Reality essentially and not accidentally: as is the case with other relative terms: for every object of knowledge is a term relative to knowledge: likewise, also, with other relative terms, inasmuch as all such are convertible. Moreover, if the right way to render account of a thing be to render it as it is not in itself but accidentally, then each and every relative term would be used in relation not to one thing but to a number of things. For there is no reason why the same thing should not be both real and white and good, so that it would be a correct rendering to render the object in relation to any one whatsoever of these, if to render what it is accidentally be a correct way to render it. It is, moreover, impossible that a definition of this sort should be peculiar to the term rendered: for not only but the majority of the other sciences too, have for their object some real thing, so that each will be a science of reality. Clearly, then, such a definition does not define any science at all; for a definition ought to be peculiar to its own term, not general.

Sometimes, again, people define not the thing but only the thing in a good or perfect condition. Such is the definition of a rhetorician as ‘one who can always see what will persuade in the given circumstances, and omit nothing’; or of a thief, as ‘one who pilfers in secret’: for clearly, if they each do this, then the one will be a good rhetorician, and the other a good thief: whereas it is not the actual pilfering in secret, but the wish to do it, that constitutes the thief.

Again, see if he has rendered what is desirable for its own sake as desirable for what it produces or does, or as in any way desirable because of something else, e.g. by saying that justice is ‘what preserves the laws’ or that wisdom is ‘what produces happiness’; for what produces or preserves something else is one of the things desirable for something else. It might be said that it is possible for what is desirable in itself to be desirable for something else as well: but still to define what is desirable in itself in such a way is none the less wrong: for the essence contains par excellence what is best in anything, and it is better for a thing to be desirable in itself than to be desirable for something else, so that this is rather what the definition too ought to have indicated.

See also whether in defining anything a man has defined it as an ‘A and B’, or as a ‘product of A and B’ or as an ‘A+B’. If he defines it as and B’, the definition will be true of both and yet of neither of them; suppose, e.g. justice to be defined as ‘temperance and courage.’ For if of two persons each has one of the two only, both and yet neither will be just: for both together have justice, and yet each singly fails to have it. Even if the situation here described does not so far appear very absurd because of the occurrence of this kind of thing in other cases also (for it is quite possible for two men to have a mina between them, though neither of them has it by himself), yet least that they should have contrary attributes surely seems quite absurd; and yet this will follow if the one be temperate and yet a coward, and the other, though brave, be a profligate; for then both will exhibit both justice and injustice: for if justice be temperance and bravery, then injustice will be cowardice and profligacy. In general, too, all the ways of showing that the whole is not the same as the sum of its parts are useful in meeting the type just described; for a man who defines in this way seems to assert that the parts are the same as the whole. The arguments are particularly appropriate in cases where the process of putting the parts together is obvious, as in a house and other things of that sort: for there, clearly, you may have the parts and yet not have the whole, so that parts and whole cannot be the same.

If, however, he has said that the term being defined is not ‘A and B’ but the ‘product of A and B’, look and see in the first place if A and B cannot in the nature of things have a single product: for some things are so related to one another that nothing can come of them, e.g. a line and a number. Moreover, see if the term that has been defined is in the nature of things found primarily in some single subject, whereas the things which he has said produce it are not found primarily in any single subject, but each in a separate one. If so, clearly that term could not be the product of these things: for the whole is bound to be in the same things wherein its parts are, so that the whole will then be found primarily not in one subject only, but in a number of them. If, on the other hand, both parts and whole are found primarily in some single subject, see if that medium is not the same, but one thing in the case of the whole and another in that of the parts. Again, see whether the parts perish together with the whole: for it ought to happen, vice versa, that the whole perishes when the parts perish; when the whole perishes, there is no necessity that the parts should perish too. Or again, see if the whole be good or evil, and the parts neither, or, vice versa, if the parts be good or evil and the whole neither. For it is impossible either for a neutral thing to produce something good or bad, or for things good or bad to produce a neutral thing. Or again, see if the one thing is more distinctly good than the other is evil, and yet the product be no more good than evil, e.g. suppose shamelessness be defined as ‘the product of courage and false opinion’: here the goodness of courage exceeds the evil of false opinion; accordingly the product of these ought to have corresponded to this excess, and to be either good without qualification, or at least more good than evil. Or it may be that this does not necessarily follow, unless each be in itself good or bad; for many things that are productive are not good in themselves, but only in combination; or, per contra, they are good taken singly, and bad or neutral in combination. What has just been said is most clearly illustrated in the case of things that make for health or sickness; for some drugs are such that each taken alone is good, but if they are both administered in a mixture, bad.

Again, see whether the whole, as produced from a better and worse, fails to be worse than the better and better than the worse element. This again, however, need not necessarily be the case, unless the elements compounded be in themselves good; if they are not, the whole may very well not be good, as in the cases just instanced.

Moreover, see if the whole be synonymous with one of the elements: for it ought not to be, any more than in the case of syllables: for the syllable is not synonymous with any of the letters of which it is made up.

Moreover, see if he has failed to state the manner of their composition: for the mere mention of its elements is not enough to make the thing intelligible. For the essence of any compound thing is not merely that it is a product of so-and-so, but that it is a product of them compounded in such and such a way, just as in the case of a house: for here the materials do not make a house irrespective of the way they are put together.

If a man has defined an object as ‘A+B’, the first thing to be said is that ‘A+B’ means the same either as ‘A and B’, or as the ‘product of A and B.’ for ‘honey+water’ means either the honey and the water, or the ‘drink made of honey and water’. If, then, he admits that ‘A+B’ is + B’ is the same as either of these two things, the same criticisms will apply as have already been given for meeting each of them. Moreover, distinguish between the different senses in which one thing may be said to be ‘+’ another, and see if there is none of them in which A could be said to exist ‘+ B.’ Thus e.g. supposing the expression to mean that they exist either in some identical thing capable of containing them (as e.g. justice and courage are found in the soul), or else in the same place or in the same time, and if this be in no way true of the A and B in question, clearly the definition rendered could not hold of anything, as there is no possible way in which A can exist B’. If, however, among the various senses above distinguished, it be true that A and B are each found in the same time as the other, look and see if possibly the two are not used in the same relation. Thus e.g. suppose courage to have been defined as ‘daring with right reasoning’: here it is possible that the person exhibits daring in robbery, and right reasoning in regard to the means of health: but he may have ‘the former quality+the latter’ at the same time, and not as yet be courageous! Moreover, even though both be used in the same relation as well, e.g. in relation to medical treatment (for a man may exhibit both daring and right reasoning in respect of medical treatment), still, none the less, not even this combination of ‘the one+the other ‘makes him ‘courageous’. For the two must not relate to any casual object that is the same, any more than each to a different object; rather, they must relate to the function of courage, e.g. meeting the perils of war, or whatever is more properly speaking its function than this.

Some definitions rendered in this form fail to come under the aforesaid division at all, e.g. a definition of anger as ‘pain with a consciousness of being slighted’. For what this means to say is that it is because of a consciousness of this sort that the pain occurs; but to occur ‘because of’ a thing is not the same as to occur ‘+ a thing’ in any of its aforesaid senses.

14

Again, if he have described the whole compounded as the ‘composition’ of these things (e.g. ‘a living creature’ as a ‘composition of soul and body’), first of all see whether he has omitted to state the kind of composition, as (e.g.) in a definition of ‘flesh’ or ‘bone’ as the ‘composition of fire, earth, and air’. For it is not enough to say it is a composition, but you should also go on to define the kind of composition: for these things do not form flesh irrespective of the manner of their composition, but when compounded in one way they form flesh, when in another, bone. It appears, moreover, that neither of the aforesaid substances is the same as a ‘composition’ at all: for a composition always has a decomposition as its contrary, whereas neither of the aforesaid has any contrary. Moreover, if it is equally probable that every compound is a composition or else that none is, and every kind of living creature, though a compound, is never a composition, then no other compound could be a composition either.

Again, if in the nature of a thing two contraries are equally liable to occur, and the thing has been defined through the one, clearly it has not been defined; else there will be more than one definition of the same thing; for how is it any more a definition to define it through this one than through the other, seeing that both alike are naturally liable to occur in it? Such is the definition of the soul, if defined as a substance capable of receiving knowledge: for it has a like capacity for receiving ignorance.

Also, even when one cannot attack the definition as a whole for lack of acquaintance with the whole, one should attack some part of it, if one knows that part and sees it to be incorrectly rendered: for if the part be demolished, so too is the whole definition. Where, again, a definition is obscure, one should first of all correct and reshape it in order to make some part of it clear and get a handle for attack, and then proceed to examine it. For the answerer is bound either to accept the sense as taken by the questioner, or else himself to explain clearly whatever it is that his definition means. Moreover, just as in the assemblies the ordinary practice is to move an emendation of the existing law and, if the emendation is better, they repeal the existing law, so one ought to do in the case of definitions as well: one ought oneself to propose a second definition: for if it is seen to be better, and more indicative of the object defined, clearly the definition already laid down will have been demolished, on the principle that there cannot be more than one definition of the same thing.

In combating definitions it is always one of the chief elementary principles to take by oneself a happy shot at a definition of the object before one, or to adopt some correctly expressed definition. For one is bound, with the model (as it were) before one’s eyes, to discern both any shortcoming in any features that the definition ought to have, and also any superfluous addition, so that one is better supplied with lines of attack.

As to definitions, then, let so much suffice.

Book VII

1

WHETHER two things are ‘the same’ or ‘different’, in the most literal of the meanings ascribed to ‘sameness’ (and we said’ that ‘the same’ applies in the most literal sense to what is numerically one), may be examined in the light of their inflexions and coordinates and opposites. For if justice be the same as courage, then too the just man is the same as the brave man, and ‘justly’ is the same as ‘bravely’. Likewise, too, in the case of their opposites: for if two things be the same, their opposites also will be the same, in any of the recognized forms of opposition. For it is the same thing to take the opposite of the one or that of the other, seeing that they are the same. Again it may be examined in the light of those things which tend to produce or to destroy the things in question of their formation and destruction, and in general of any thing that is related in like manner to each. For where things are absolutely the same, their formations and destructions also are the same, and so are the things that tend to produce or to destroy them. Look and see also, in a case where one of two things is said to be something or other in a superlative degree, if the other of these alleged identical things can also be described by a superlative in the same respect. Thus Xenocrates argues that the happy life and the good life are the same, seeing that of all forms of life the good life is the most desirable and so also is the happy life: for ‘the most desirable’ and the greatest’ apply but to one thing.’ Likewise also in other cases of the kind. Each, however, of the two things termed ‘greatest’ or most desirable’ must be numerically one: otherwise no proof will have been given that they are the same; for it does not follow because Peloponnesians and Spartans are the bravest of the Greeks, that Peloponnesians are the same as Spartans, seeing that ‘Peloponnesian’ is not any one person nor yet ‘Spartan’; it only follows that the one must be included under the other as ‘Spartans’ are under ‘Peloponnesians’: for otherwise, if the one class be not included under the other, each will be better than the other. For then the Peloponnesians are bound to be better than the Spartans, seeing that the one class is not included under the other; for they are better than anybody else. Likewise also the Spartans must perforce be better than the Peloponnesians; for they too are better than anybody else; each then is better than the other! Clearly therefore what is styled ‘best’ and ‘greatest’ must be a single thing, if it is to be proved to be ‘the same’ as another. This also is why Xenocrates fails to prove his case: for the happy life is not numerically single, nor yet the good life, so that it does not follow that, because they are both the most desirable, they are therefore the same, but only that the one falls under the other.

Again, look and see if, supposing the one to be the same as something, the other also is the same as it: for if they be not both the same as the same thing, clearly neither are they the same as one another.

Moreover, examine them in the light of their accidents or of the things of which they are accidents: for any accident belonging to the one must belong also to the other, and if the one belong to anything as an accident, so must the other also. If in any of these respects there is a discrepancy, clearly they are not the same.

See further whether, instead of both being found in one class of predicates, the one signifies a quality and the other a quantity or relation. Again, see if the genus of each be not the same, the one being ‘good’ and the other evil’, or the one being ‘virtue’ and the other ‘knowledge’: or see if, though the genus is the same, the differentiae predicted of either be not the same, the one (e.g.) being distinguished as a ‘speculative’ science, the other as a ‘practical’ science. Likewise also in other cases.

Moreover, from the point of view of ‘degrees’, see if the one admits an increase of degree but not the other, or if though both admit it, they do not admit it at the same time; just as it is not the case that a man desires intercourse more intensely, the more intensely he is in love, so that love and the desire for intercourse are not the same.

Moreover, examine them by means of an addition, and see whether the addition of each to the same thing fails to make the same whole; or if the subtraction of the same thing from each leaves a different remainder. Suppose (e.g.) that he has declared ‘double a half’ to be the same as ‘a multiple of a half’: then, subtracting the words ‘a half’ from each, the remainders ought to have signified the same thing: but they do not; for ‘double’ and ‘a multiple of’ do not signify the same thing.

Inquire also not only if some impossible consequence results directly from the statement made, that A and B are the same, but also whether it is possible for a supposition to bring it about; as happens to those who assert that ‘empty’ is the same as ‘full of air’: for clearly if the air be exhausted, the vessel will not be less but more empty, though it will no longer be full of air. So that by a supposition, which may be true or may be false (it makes no difference which), the one character is annulled and not the other, showing that they are not the same.

Speaking generally, one ought to be on the look-out for any discrepancy anywhere in any sort of predicate of each term, and in the things of which they are predicated. For all that is predicated of the one should be predicated also of the other, and of whatever the one is a predicate, the other should be a predicate of it as well.

Moreover, as ‘sameness’ is a term used in many senses, see whether things that are the same in one way are the same also in a different way. For there is either no necessity or even no possibility that things that are the same specifically or generically should be numerically the same, and it is with the question whether they are or are not the same in that sense that we are concerned.

Moreover, see whether the one can exist without the other; for, if so, they could not be the same.

2

Such is the number of the commonplace rules that relate to ‘sameness’. It is clear from what has been said that all the destructive commonplaces relating to sameness are useful also in questions of definition, as was said before:’ for if what is signified by the term and by the expression be not the same, clearly the expression rendered could not be a definition. None of the constructive commonplaces, on the other hand, helps in the matter of definition; for it is not enough to show the sameness of content between the expression and the term, in order to establish that the former is a definition, but a definition must have also all the other characters already announced.

3

This then is the way, and these the arguments, whereby the attempt to demolish a definition should always be made. If, on the other hand, we desire to establish one, the first thing to observe is that few if any who engage in discussion arrive at a definition by reasoning: they always assume something of the kind as their starting points-both in geometry and in arithmetic and the other studies of that kind. In the second place, to say accurately what a definition is, and how it should be given, belongs to another inquiry. At present it concerns us only so far as is required for our present purpose, and accordingly we need only make the bare statement that to reason to a thing's definition and essence is quite possible. For if a definition is an expression signifying the essence of the thing and the predicates contained therein ought also to be the only ones which are predicated of the thing in the category of essence; and genera and differentiae are so predicated in that category: it is obvious that if one were to get an admission that so and so are the only attributes predicated in that category, the expression containing so and so would of necessity be a definition; for it is impossible that anything else should be a definition, seeing that there is not anything else predicated of the thing in the category of essence.

That a definition may thus be reached by a process of reasoning is obvious. The means whereby it should be established have been more precisely defined elsewhere, but for the purposes of the inquiry now before us the same commonplace rules serve. For we have to examine into the contraries and other opposites of the thing, surveying the expressions used both as wholes and in detail: for if the opposite definition defines that opposite term, the definition given must of necessity be that of the term before us. Seeing, however, that contraries may be conjoined in more than one way, we have to select from those contraries the one whose contrary definition seems most obvious. The expressions, then, have to be examined each as a whole in the way we have said, and also in detail as follows. First of all, see that the genus rendered is correctly rendered; for if the contrary thing be found in the contrary genus to that stated in the definition, and the thing before you is not in that same genus, then it would clearly be in the contrary genus: for contraries must of necessity be either in the same genus or in contrary genera. The differentiae, too, that are predicated of contraries we expect to be contrary, e.g. those of white and black, for the one tends to pierce the vision, while the other tends to compress it. So that if contrary differentiae to those in the definition are predicated of the contrary term, then those rendered in the definition would be predicated of the term before us. Seeing, then, that both the genus and the differentiae have been rightly rendered, clearly the expression given must be the right definition. It might be replied that there is no necessity why contrary differentiae should be predicated of contraries, unless the contraries be found within the same genus: of things whose genera are themselves contraries it may very well be that the same differentia is used of both, e.g. of justice and injustice; for the one is a virtue and the other a vice of the soul: ‘of the soul’, therefore, is the differentia in both cases, seeing that the body as well has its virtue and vice. But this much at least is true, that the differentiae of contraries are either contrary or else the same. If, then, the contrary differentia to that given be predicated of the contrary term and not of the one in hand, clearly the differentia stated must be predicated of the latter. Speaking generally, seeing that the definition consists of genus and differentiae, if the definition of the contrary term be apparent, the definition of the term before you will be apparent also: for since its contrary is found either in the same genus or in the contrary genus, and likewise also the differentiae predicated of opposites are either contrary to, or the same as, each other, clearly of the term before you there will be predicated either the same genus as of its contrary, while, of its differentiae, either all are contrary to those of its contrary, or at least some of them are so while the rest remain the same; or, vice versa, the differentiae will be the same and the genera contrary; or both genera and differentiae will be contrary. And that is all; for that both should be the same is not possible; else contraries will have the same definition.

Moreover, look at it from the point of view of its inflexions and coordinates. For genera and definitions are bound to correspond in either case. Thus if forgetfulness be the loss of knowledge, to forget is to lose knowledge, and to have forgotten is to have lost knowledge. If, then, any one whatever of these is agreed to, the others must of necessity be agreed to as well. Likewise, also, if destruction is the decomposition of the thing’s essence, then to be destroyed is to have its essence decomposed, and ‘destructively’ means ‘in such a way as to decompose its essence’; if again ‘destructive’ means ‘apt to decompose something’s essence’, then also ‘destruction’ means ‘the decomposition of its essence’. Likewise also with the rest: an admission of any one of them whatever, and all the rest are admitted too.

Moreover, look at it from the point of view of things that stand in relations that are like each other. For if ‘healthy’ means ‘productive of health’, ‘vigorous’ too will mean ‘productive of vigour’, and ‘useful’ will mean ‘productive of good.’ For each of these things is related in like manner to its own peculiar end, so that if one of them is defined as ‘productive of’ that end, this will also be the definition of each of the rest as well.

Moreover, look at it from the point of and like degrees, in all the ways in which it is possible to establish a result by comparing two and two together. Thus if A defines a better than B defines and B is a definition of so too is A of a. Further, if A’s claim to define a is like B’s to define B, and B defines B, then A too defines a. This examination from the point of view of greater degrees is of no use when a single definition is compared with two things, or two definitions with one thing; for there cannot possibly be one definition of two things or two of the same thing.

4

The most handy of all the commonplace arguments are those just mentioned and those from co-ordinates and inflexions, and these therefore are those which it is most important to master and to have ready to hand: for they are the most useful on the greatest number of occasions. Of the rest, too, the most important are those of most general application: for these are the most effective, e.g. that you should examine the individual cases, and then look to see in the case of their various species whether the definition applies. For the species is synonymous with its individuals. This sort of inquiry is of service against those who assume the existence of Ideas, as has been said before.’ Moreover see if a man has used a term metaphorically, or predicated it of itself as though it were something different. So too if any other of the commonplace rules is of general application and effective, it should be employed.

5

That it is more difficult to establish than to overthrow a definition, is obvious from considerations presently to be urged. For to see for oneself, and to secure from those whom one is questioning, an admission of premisses of this sort is no simple matter, e.g. that of the elements of the definition rendered the one is genus and the other differentia, and that only the genus and differentiae are predicated in the category of essence. Yet without these premisses it is impossible to reason to a definition; for if any other things as well are predicated of the thing in the category of essence, there is no telling whether the formula stated or some other one is its definition, for a definition is an expression indicating the essence of a thing. The point is clear also from the following: It is easier to draw one conclusion than many. Now in demolishing a definition it is sufficient to argue against one point only (for if we have overthrown any single point whatsoever, we shall have demolished the definition); whereas in establishing a definition, one is bound to bring people to the view that everything contained in the definition is attributable. Moreover, in establishing a case, the reasoning brought forward must be universal: for the definition put forward must be predicated of everything of which the term is predicated, and must moreover be convertible, if the definition rendered is to be peculiar to the subject. In overthrowing a view, on the other hand, there is no longer any necessity to show one's point universally: for it is enough to show that the formula is untrue of any one of the things embraced under the term.

Further, even supposing it should be necessary to overthrow something by a universal proposition, not even so is there any need to prove the converse of the proposition in the process of overthrowing the definition. For merely to show that the definition fails to be predicated of every one of the things of which the term is predicated, is enough to overthrow it universally: and there is no need to prove the converse of this in order to show that the term is predicated of things of which the expression is not predicated. Moreover, even if it applies to everything embraced under the term, but not to it alone, the definition is thereby demolished.

The case stands likewise in regard to the property and genus of a term also. For in both cases it is easier to overthrow than to establish. As regards the property this is clear from what has been said: for as a rule the property is rendered in a complex phrase, so that to overthrow it, it is only necessary to demolish one of the terms used, whereas to establish it is necessary to reason to them all. Then, too, nearly all the other rules that apply to the definition will apply also to the property of a thing. For in establishing a property one has to show that it is true of everything included under the term in question, whereas to overthrow one it is enough to show in a single case only that it fails to belong: further, even if it belongs to everything falling under the term, but not to that only, it is overthrown in this case as well, as was explained in the case of the definition. In regard to the genus, it is clear that you are bound to establish it in one way only, viz. by showing that it belongs in every case, while of overthrowing it there are two ways: for if it has been shown that it belongs either never or not in a certain case, the original statement has been demolished. Moreover, in establishing a genus it is not enough to show that it belongs, but also that it belongs as genus has to be shown; whereas in overthrowing it, it is enough to show its failure to belong either in some particular case or in every case. It appears, in fact, as though, just as in other things to destroy is easier than to create, so in these matters too to overthrow is easier than to establish.

In the case of an accidental attribute the universal proposition is easier to overthrow than to establish; for to establish it, one has to show that it belongs in every case, whereas to overthrow it, it is enough to show that it does not belong in one single case. The particular proposition is, on the contrary, easier to establish than to overthrow: for to establish it, it is enough to show that it belongs in a particular instance, whereas to overthrow it, it has to be shown that it never belongs at all.

It is clear also that the easiest thing of all is to overthrow a definition. For on account of the number of statements involved we are presented in the definition with the greatest number of points for attack, and the more plentiful the material, the quicker an argument comes: for there is more likelihood of a mistake occurring in a large than in a small number of things. Moreover, the other rules too may be used as means for attacking a definition: for if either the formula be not peculiar, or the genus rendered be the wrong one, or something included in the formula fail to belong, the definition is thereby demolished. On the other hand, against the others we cannot bring all of the arguments drawn from definitions, nor yet of the rest: for only those relating to accidental attributes apply generally to all the aforesaid kinds of attribute. For while each of the aforesaid kinds of attribute must belong to the thing in question, yet the genus may very well not belong as a property without as yet being thereby demolished. Likewise also the property need not belong as a genus, nor the accident as a genus or property, so long as they do belong. So that it is impossible to use one set as a basis of attack upon the other except in the case of definition. Clearly, then, it is the easiest of all things to demolish a definition, while to establish one is the hardest. For there one both has to establish all those other points by reasoning (i.e. that the attributes stated belong, and that the genus rendered is the true genus, and that the formula is peculiar to the term), and moreover, besides this, that the formula indicates the essence of the thing; and this has to be done correctly.

Of the rest, the property is most nearly of this kind: for it is easier to demolish, because as a rule it contains several terms; while it is the hardest to establish, both because of the number of things that people must be brought to accept, and, besides this, because it belongs to its subject alone and is predicated convertibly with its subject.

The easiest thing of all to establish is an accidental predicate: for in other cases one has to show not only that the predicate belongs, but also that it belongs in such and such a particular way: whereas in the case of the accident it is enough to show merely that it belongs. On the other hand, an accidental predicate is the hardest thing to overthrow, because it affords the least material: for in stating accident a man does not add how the predicate belongs; and accordingly, while in other cases it is possible to demolish what is said in two ways, by showing either that the predicate does not belong, or that it does not belong in the particular way stated, in the case of an accidental predicate the only way to demolish it is to show that it does not belong at all.

The commonplace arguments through which we shall be well supplied with lines of argument with regard to our several problems have now been enumerated at about sufficient length.

Book VIII

1

NEXT there fall to be discussed the problems of arrangement and method in putting questions. Any one who intends to frame questions must, first of all, select the ground from which he should make his attack; secondly, he must frame them and arrange them one by one to himself; thirdly and lastly, he must proceed actually to put them to the other party. Now so far as the selection of his ground is concerned the problem is one alike for the philosopher and the dialectician; but how to go on to arrange his points and frame his questions concerns the dialectician only: for in every problem of that kind a reference to another party is involved. Not so with the philosopher, and the man who is investigating by himself: the premisses of his reasoning, although true and familiar, may be refused by the answerer because they lie too near the original statement and so he foresees what will follow if he grants them: but for this the philosopher does not care. Nay, he may possibly be even anxious to secure axioms as familiar and as near to the question in hand as possible: for these are the bases on which scientific reasonings are built up.

The sources from which one's commonplace arguments should be drawn have already been described:' we have now to discuss the arrangement and formation of questions and first to distinguish the premisses, other than the necessary premisses, which have to be adopted. By necessary premisses are meant those through which the actual reasoning is constructed. Those which are secured other than these are of four kinds; they serve either inductively to secure the universal premiss being granted, or to lend weight to the argument, or to conceal the conclusion, or to render the argument more clear. Beside these there is no other premiss which need be secured: these are the ones whereby you should try to multiply and formulate your questions. Those which are used to conceal the conclusion serve a controversial purpose only; but inasmuch as an undertaking of this sort is always conducted against another person, we are obliged to employ them as well.

The necessary premisses through which the reasoning is effected, ought not to be propounded directly in so many words. Rather one should soar as far aloof from them as possible. Thus if one desires to secure an admission that the knowledge of contraries is one, one should ask him to admit it not of contraries, but of opposites: for, if he grants this, one will then argue that the knowledge of contraries is also the same, seeing that contraries are opposites; if he does not, one should secure the admission by induction, by formulating a proposition to that effect in the case of some particular pair of contraries. For one must secure the necessary premisses either by reasoning or by induction, or else partly by one and partly by the other, although any propositions which are too obvious to be denied may be formulated in so many words. This is because the coming conclusion is less easily discerned at the greater distance and in the process of induction, while at the same time, even if one cannot reach the required premisses in this way, it is still open to one to formulate them in so many words. The premisses, other than these, that were mentioned above, must be secured with a view to the latter. The way to employ them respectively is as follows: Induction should proceed from individual cases to the universal and from the known to the unknown; and the objects of perception are better known, to most people if not invariably. Concealment of one's plan is obtained by securing through prosyllogisms the premisses through which the proof of the original proposition is going to be constructed-and as many of them as possible. This is likely to be effected by making syllogisms to prove not only the necessary premisses but also some of those which are required to establish them. Moreover, do not state the conclusions of these premisses but draw them later one after another; for this is likely to keep the answerer at the greatest possible distance from the original proposition. Speaking generally, a man who desires to get information by a concealed method should so put his questions that when he has put his whole argument and has stated the conclusion, people still ask 'Well, but why is that?' This result will be secured best of all by the method above described: for if one states only the final conclusion, it is unclear how it comes about; for the answerer does not foresee on what grounds it is based, because the previous syllogisms have not been made articulate to him: while the final syllogism, showing the conclusion, is likely to be kept least articulate if we lay down not the secured propositions on which it is based, but only the grounds on which we reason to them.

It is a useful rule, too, not to secure the admissions claimed as the bases of the syllogisms in their proper order, but alternately those that conduce to one conclusion and those that conduce to another; for, if those which go together are set side by side, the conclusion that will result from them is more obvious in advance.

One should also, wherever possible, secure the universal premiss by a definition relating not to the precise terms themselves but to their co-ordinates; for people deceive themselves, whenever the definition is taken in regard to a co-ordinate, into thinking that they are not making the admission universally. An instance would be, supposing one had to secure the admission that the angry man desires vengeance on account of an apparent slight, and were to secure this, that ‘anger’ is a desire for vengeance on account of an apparent slight: for, clearly, if this were secured, we should have universally what we intend. If, on the other hand, people formulate propositions relating to the actual terms themselves, they often find that the answerer refuses to grant them because on the actual term itself he is readier with his objection, e.g. that the ‘angry man’ does not desire vengeance, because we become angry with our parents, but we do not desire vengeance on them. Very likely the objection is not valid; for upon some people it is vengeance enough to cause them pain and make them sorry; but still it gives a certain plausibility and air of reasonableness to the denial of the proposition. In the case, however, of the definition of ‘anger’ it is not so easy to find an objection.

Moreover, formulate your proposition as though you did so not for its own sake, but in order to get at something else: for people are shy of granting what an opponent’s case really requires. Speaking generally, a questioner should leave it as far as possible doubtful whether he wishes to secure an admission of his proposition or of its opposite: for if it be uncertain what their opponent’s argument requires, people are more ready to say what they themselves think.

Moreover, try to secure admissions by means of likeness: for such admissions are plausible, and the universal involved is less patent; e.g. make the other person admit that as knowledge and ignorance of contraries is the same, so too perception of contraries is the same; or vice versa, that since the perception is the same, so is the knowledge also. This argument resembles induction, but is not the same thing; for in induction it is the universal whose admission is secured from the particulars, whereas in arguments from likeness, what is secured is not the universal under which all the like cases fall.

It is a good rule also, occasionally to bring an objection against oneself: for answerers are put off their guard against those who appear to be arguing impartially. It is useful too, to add that 'So and so is generally held or commonly said'; for people are shy of upsetting the received opinion unless they have some positive objection to urge: and at the same time they are cautious about upsetting such things because they themselves too find them useful. Moreover, do not be insistent, even though you really require the point: for insistence always arouses the more opposition. Further, formulate your premiss as though it were a mere illustration: for people admit the more readily a proposition made to serve some other purpose, and not required on its own account. Moreover, do not formulate the very proposition you need to secure, but rather something from which that necessarily follows: for people are more willing to admit the latter, because it is not so clear from this what the result will be, and if the one has been secured, the other has been secured also. Again, one should put last the point which one most wishes to have conceded; for people are specially inclined to deny the first questions put to them, because most people in asking questions put first the points which they are most eager to secure. On the other hand, in dealing with some people propositions of this sort should be put forward first: for ill-tempered men admit most readily what comes first, unless the conclusion that will result actually stares them in the face, while at the close of an argument they show their ill-temper. Likewise also with those who consider themselves smart at answering: for when they have admitted most of what you want they finally talk clap-trap to the effect that the conclusion does not follow from their admissions: yet they say 'Yes' readily, confident in their own character, and imagining that they cannot suffer any reverse. Moreover, it is well to expand the argument and insert things that it does not require at all, as do those who draw false geometrical figures: for in the multitude of details the whereabouts of the fallacy is obscured. For this reason also a questioner sometimes evades observation as he adds in a corner what, if he formulated it by itself, would not be granted.

For concealment, then, the rules which should be followed are the above. Ornament is attained by induction and distinction of things closely akin.

What sort of process induction is is obvious: as for distinction, an instance of the kind of thing meant is the distinction of one form of knowledge as better than another by being either more accurate, or concerned with better objects; or the distinction of sciences into speculative, practical, and productive. For everything of this kind lends additional ornament to the argument, though there is no necessity to say them, so far as the conclusion goes.

For clearness, examples and comparisons should be adduced, and let the illustrations be relevant and drawn from things that we know, as in Homer and not as in Choerilus; for then the proposition is likely to become clearer.

2

In dialectics, syllogism should be employed in reasoning against dialecticians rather than against the crowd: induction, on the other hand, is most useful against the crowd. This point has been treated previously as well.' In induction, it is possible in some cases to ask the question in its universal form, but in others this is not easy, because there is no established general term that covers all the resemblances: in this case, when people need to secure the universal, they use the phrase 'in all cases of this sort'. But it is one of the very hardest things to distinguish which of the things adduced are 'of this sort', and which are not: and in this connexion people often throw dust in each others' eyes in their discussion, the one party asserting the likeness of things that are not alike, and the other disputing the likeness of things that are. One ought, therefore, to try oneself to coin a word to cover all things of the given sort, so as to leave no opportunity either to the answerer to dispute, and say that the thing advanced does not answer to a like description, or to the questioner to suggest falsely that it does answer to a like description, for many things appear to answer to like descriptions that do not really do so.

If one has made an induction on the strength of several cases and yet the answerer refuses to grant the universal proposition, then it is fair to demand his objection. But until one has oneself stated in what cases it is so, it is not fair to demand that he shall say in what cases it is not so: for one should make the induction first, and then demand the objection. One ought, moreover, to claim that the objections should not be brought in reference to the actual subject of the proposition, unless that subject happen to be the one and only thing of the kind, as for instance two is the one prime number among the even numbers: for, unless he can say that this subject is unique of its kind, the objector ought to make his objection in regard to some other. People sometimes object to a universal proposition, and bring their objection not in regard to the thing itself, but in regard to some homonym of it: thus they argue that a man can very well have a colour or a foot or a hand other than his own, for a painter may have a colour that is not his own, and a cook may have a foot that is not his own. To meet them, therefore, you should draw the distinction before putting your question in such cases: for so long as the ambiguity remains undetected, so long will the objection to the proposition be deemed valid. If, however, he checks the series of questions by an objection in regard not to some homonym, but to the actual thing asserted, the questioner should withdraw the point objected to, and form the remainder into a universal proposition, until he secures what he requires; e.g. in the case of forgetfulness and having forgotten: for people refuse to admit that the man who has lost his knowledge of a thing has forgotten it, because if the thing alters, he has lost knowledge of it, but he has not forgotten it. Accordingly the thing to do is to withdraw the part objected to, and assert the remainder, e.g. that if a person have lost knowledge of a thing while it still remains, he then has forgotten it. One should similarly treat those who object to the statement that 'the greater the good, the greater the evil that is its opposite': for they allege that health, which is a less good thing than vigour, has a greater evil as its opposite: for disease is a greater evil than debility. In this case too, therefore, we have to withdraw the point objected to; for when it has been withdrawn, the man is more likely to admit the proposition, e.g. that 'the greater good has the greater evil as its opposite, unless the one good involves the other as well', as vigour involves health. This should be done not only when he formulates an objection, but also if, without so doing, he refuses to admit the point because he foresees something of the kind: for if the point objected to be withdrawn, he will be forced to admit the proposition because he cannot foresee in the rest of it any case where it does not hold true: if he refuse to admit it, then when asked for an objection he certainly will be unable to render one. Propositions that are partly false and partly true are of this type: for in the case of these it is possible by withdrawing a part to leave the rest true. If, however, you formulate the proposition on the strength of many cases and he has no objection to bring, you may claim that he shall admit it: for a premiss is valid in dialectics which thus holds in several instances and to which no objection is forthcoming.

Whenever it is possible to reason to the same conclusion either through or without a reduction per impossibile, if one is demonstrating and not arguing dialectically it makes no difference which method of reasoning be adopted, but in argument with another reasoning per impossibile should be avoided. For where one has reasoned without the reduction per impossibile, no dispute can arise; if, on the other hand, one does reason to an impossible conclusion, unless its falsehood is too plainly manifest, people deny that it is impossible, so that the questioners do not get what they want.

One should put forward all propositions that hold true of several cases, and to which either no objection whatever appears or at least not any on the surface: for when people cannot see any case in which it is not so, they admit it for true.

The conclusion should not be put in the form of a question; if it be, and the man shakes his head, it looks as if the reasoning had failed. For often, even if it be not put as a question but advanced as a consequence, people deny it, and then those who do not see that it follows upon the previous admissions do not realize that those who deny it have been refuted: when, then, the one man merely asks it as a question without even saying that it so follows, and the other denies it, it looks altogether as if the reasoning had failed.

Not every universal question can form a dialectical proposition as ordinarily understood, e.g. ‘What is man?’ or ‘How many meanings has “the good”?’ For a dialectical premiss must be of a form to which it is possible to reply ‘Yes’ or ‘No’, whereas to the aforesaid it is not possible. For this reason questions of this kind are not dialectical unless the questioner himself draws distinctions or divisions before expressing them, e.g. ‘Good means this, or this, does it not?’ For questions of this sort are easily answered by a Yes or a No. Hence one should endeavour to formulate propositions of this kind in this form. It is at the same time also perhaps fair to ask the other man how many meanings of ‘the good’ there are, whenever you have yourself distinguished and formulated them, and he will not admit them at all.

Any one who keeps on asking one thing for a long time is a bad inquirer. For if he does so though the person questioned keeps on answering the questions, clearly he asks a large number of questions, or else asks the same question a large number of times: in the one case he merely babbles, in the other he fails to reason: for reasoning always consists of a small number of premisses. If, on the other hand, he does it because the person questioned does not answer the questions, he is at fault in not taking him to task or breaking off the discussion.

3

There are certain hypotheses upon which it is at once difficult to bring, and easy to stand up to, an argument. Such (e.g.) are those things which stand first and those which stand last in the order of nature. For the former require definition, while the latter have to be arrived at through many steps if one wishes to secure a continuous proof from first principles, or else all discussion about them wears the air of mere sophistry: for to prove anything is impossible unless one begins with the appropriate principles, and connects inference with inference till the last are reached. Now to define first principles is just what answerers do not care to do, nor do they pay any attention if the questioner makes a definition: and yet until it is clear what it is that is proposed, it is not easy to discuss it. This sort of thing happens particularly in the case of the first principles: for while the other propositions are shown through these, these cannot be shown through anything else: we are obliged to understand every item of that sort by a definition. The inferences, too, that lie too close to the first principle are hard to treat in argument: for it is not possible to bring many arguments in regard to them, because of the small number of those steps, between the conclusion and the principle, whereby the succeeding propositions have to be shown. The hardest, however, of all definitions to treat in argument are those that employ terms about which, in the first place, it is uncertain whether they are used in one sense or several, and, further, whether they are used literally or metaphorically by the definer. For because of their obscurity, it is impossible to argue upon such terms; and because of the impossibility of saying whether this obscurity is due to their being used metaphorically, it is impossible to refute them.

In general, it is safe to suppose that, whenever any problem proves intractable, it either needs definition or else bears either several senses, or a metaphorical sense, or it is not far removed from the first principles; or else the reason is that we have yet to discover in the first place just this-in which of the aforesaid directions the source of our difficulty lies: when we have made this clear, then obviously our business must be either to define or to distinguish, or to supply the intermediate premisses: for it is through these that the final conclusions are shown.

It often happens that a difficulty is found in discussing or arguing a given position because the definition has not been correctly rendered: e.g. ‘Has one thing one contrary or many?’: here when the term ‘contraries’ has been properly defined, it is easy to bring people to see whether it is possible for the same thing to have several contraries or not: in the same way also with other terms requiring definition. It appears also in mathematics that the difficulty in using a figure is sometimes due to a defect in definition; e.g. in proving that the line which cuts the plane parallel to one side divides similarly both the line which it cuts and the area; whereas if the definition be given, the fact asserted becomes immediately clear: for the areas have the same fraction subtracted from them as have the sides: and this is the definition of ‘the same ratio’. The most primary of the elementary principles are without exception very easy to show, if the definitions involved, e.g. the nature of a line or of a circle, be laid down; only the arguments that can be brought in regard to each of them are not many, because there are not many intermediate steps. If, on the other hand, the definition of the starting-points be not laid down, to show them is difficult and may even prove quite impossible. The case of the significance of verbal expressions is like that of these mathematical conceptions.

One may be sure then, whenever a position is hard to discuss, that one or other of the aforesaid things has happened to it. Whenever, on the other hand, it is a harder task to argue to the point claimed, i.e. the premiss, than to the resulting position, a doubt may arise whether such claims should be admitted or not: for if a man is going to refuse to admit it and claim that you shall argue to it as well, he will be giving the signal for a harder undertaking than was originally proposed: if, on the other hand, he grants it, he will be giving the original thesis credence on the strength of what is less credible than itself. If, then, it is essential not to enhance the difficulty of the problem, he had better grant it; if, on the other hand, it be essential to reason through premisses that are better assured, he had better refuse. In other words, in serious inquiry he ought not to grant it, unless he be more sure about it than about the conclusion; whereas in a dialectical exercise he may do so if he is merely satisfied of its truth. Clearly, then, the circumstances under which such admissions should be claimed are different for a mere questioner and for a serious teacher.

4

As to the formulation, then, and arrangement of one’s questions, about enough has been said.

With regard to the giving of answers, we must first define what is the business of a good answerer, as of a good questioner. The business of the questioner is so to develop the argument as to make the answerer utter the most extrvagant paradoxes that necessarily follow because of his position: while that of the answerer is to make it appear that it is not he who is responsible for the absurdity or paradox, but only his position: for one may, perhaps, distinguish between the mistake of taking up a wrong position to start with, and that of not maintaining it properly, when once taken up.

5

Inasmuch as no rules are laid down for those who argue for the sake of training and of examination:-and the aim of those engaged in teaching or learning is quite different from that of those engaged in a competition; as is the latter from that of those who discuss things together in the spirit of inquiry: for a learner should always state what he thinks: for no one is even trying to teach him what is false; whereas in a competition the business of the questioner is to appear by all means to produce an effect upon the other, while that of the answerer is to appear unaffected by him; on the other hand, in an assembly of disputants discussing in the spirit not of a competition but of an examination and inquiry, there are as yet no articulate rules about what the answerer should aim at, and what kind of things he should and should not grant for the correct or incorrect defence of his position:-inasmuch, then, as we have no tradition bequeathed to us by others, let us try to say something upon the matter for ourselves.

The thesis laid down by the answerer before facing the questioner’s argument is bound of necessity to be one that is either generally accepted or generally rejected or else is neither: and moreover is so accepted or rejected either absolutely or else with a restriction, e.g. by some given person, by the speaker or by some one else. The manner, however, of its acceptance or rejection, whatever it be, makes no difference: for the right way to answer, i.e. to admit or to refuse to admit what has been asked, will be the same in either case. If, then, the statement laid down by the answerer be generally rejected, the conclusion aimed at by the questioner is bound to be one generally accepted, whereas if the former be generally accepted, the latter is generally rejected: for the conclusion which the questioner tries to draw is always the opposite of the statement laid down. If, on the other hand, what is laid down is generally neither rejected nor accepted, the conclusion will be of the same type as well. Now since a man who reasons correctly demonstrates his proposed conclusion from premisses that are more generally accepted, and more familiar, it is clear that (1) where the view laid down by him is one that generally is absolutely rejected, the answerer ought not to grant either what is thus absolutely not accepted at all, or what is accepted indeed, but accepted less generally than the questioner's conclusion. For if the statement laid down by the answerer be generally rejected, the conclusion aimed at by the questioner will be one that is generally accepted, so that the premisses secured by the questioner should all be views generally accepted, and more generally accepted than his proposed conclusion, if the less familiar is to be inferred through the more familiar. Consequently, if any of the questions put to him be not of this character, the answerer should not grant them. (2) If, on the other hand, the statement laid down by the answerer be generally accepted without qualification, clearly the conclusion sought by the questioner will be one generally rejected without qualification. Accordingly, the answerer should admit all views that are generally accepted and, of those that are not generally accepted, all that are less generally rejected than the conclusion sought by the questioner. For then he will probably be thought to have argued sufficiently well. (3) Likewise, too, if the statement laid down by the answerer be neither rejected generally nor generally accepted; for then, too, anything that appears to be true should be granted, and, of the views not generally accepted, any that are more generally accepted than the questioner's conclusion; for in that case the result will be that the arguments will be more generally accepted. If, then, the view laid down by the answerer be one that is generally accepted or rejected without qualification, then the views that are accepted absolutely must be taken as the standard of comparison: whereas if the view laid down be one that is not generally accepted or rejected, but only by the answerer, then the standard whereby the latter must judge what is generally accepted or not, and must grant or refuse to grant the point asked, is himself. If, again, the answerer be defending some one else's opinion, then clearly it will be the latter's judgement to which he must have regard in granting or denying the various points. This is why those, too, who introduce other's opinions, e.g. that 'good and evil are the same thing, as Heraclitus says,' refuse to admit the impossibility of contraries belonging at the same time to the same thing; not because they do not themselves believe this, but because on Heraclitus' principles one has to say so. The same thing is done also by those who take on the defence of one another's positions; their aim being to speak as would the man who stated the position.

6

It is clear, then, what the aims of the answerer should be, whether the position he lays down be a view generally accepted without qualification or accepted by some definite person. Now every question asked is bound to involve some view that is either generally held or generally rejected or neither, and is also bound to be either relevant to the argument or irrelevant: if then it be a view generally accepted and irrelevant, the answerer should grant it and remark that it is the accepted view: if it be a view not generally accepted and irrelevant, he should grant it but add a comment that it is not generally accepted, in order to avoid the appearance of being a simpleton. If it be relevant and also be generally accepted, he should admit that it is the view generally accepted but say that it lies too close to the original proposition, and that if it be granted the problem proposed collapses. If what is claimed by the questioner be relevant but too generally rejected, the answerer, while admitting that if it be granted the conclusion sought follows, should yet protest that the proposition is too absurd to be admitted. Suppose, again, it be a view that is neither rejected generally nor generally accepted, then, if it be irrelevant to the argument, it may be granted without restriction; if, however, it be relevant, the answerer should add the comment that, if it be granted, the original problem collapses. For then the answerer will not be held to be personally accountable for what happens to him, if he grants the several points with his eyes open, and also the questioner will be able to draw his inference, seeing that all the premisses that are more generally accepted than the conclusion are granted him. Those who try to draw an inference from premisses more generally rejected than the conclusion clearly do not reason correctly: hence, when men ask these things, they ought not to be granted.

7

The questioner should be met in a like manner also in the case of terms used obscurely, i.e. in several senses. For the answerer, if he does not understand, is always permitted to say 'I do not understand': he is not compelled to reply 'Yes' or 'No' to a question which may mean different things. Clearly, then, in the first place, if what is said be not clear, he ought not to hesitate to say that he does not understand it; for often people encounter some difficulty from assenting to questions that are not clearly put. If he understands the question and yet it covers many senses, then supposing what it says to be universally true or false, he should give it an unqualified assent or denial: if, on the other hand, it be partly true and partly false, he should add a comment that it bears different senses, and also that in one it is true, in the other false: for if he leave this distinction till later, it becomes uncertain whether originally as well he perceived the ambiguity or not. If he does not foresee the ambiguity, but assents to the question having in view the one sense of the words, then, if the questioner takes it in the other sense, he should say, 'That was not what I had in view when I admitted it; I meant the other sense': for if a term or expression covers more than one thing, it is easy to disagree. If, however, the question is both clear and simple, he should answer either 'Yes' or 'No'.

8

A premiss in reasoning always either is one of the constituent elements in the reasoning, or else goes to establish one of these: (and you can always tell when it is secured in order to establish something else by the fact of a number of similar questions being put: for as a rule people secure their universal by means either of induction or of likeness):-accordingly the particular propositions should all be admitted, if they are true and generally held. On the other hand, against the universal one should try to bring some negative instance; for to bring the argument to a standstill without a negative instance, either real or apparent, shows ill-temper. If, then, a man refuses to grant the universal when supported by many instances, although he has no negative instance to show, he obviously shows ill-temper. If, moreover, he cannot even attempt a counter-proof that it is not true, far more likely is he to be thought ill-tempered-although even counter-proof is not enough: for we often hear arguments that are contrary to common opinions, whose solution is yet difficult, e.g. the argument of Zeno that it is impossible to move or to traverse the stadium;-but still, this is no reason for omitting to assert the opposites of these views. If, then, a man refuses to admit the proposition without having either a negative instance or some counter-argument to bring against it, clearly he is ill-tempered: for ill-temper in argument consists in answering in ways other than the above, so as to wreck the reasoning.

9

Before maintaining either a thesis or a definition the answerer should try his hand at attacking it by himself; for clearly his business is to oppose those positions from which questioners demolish what he has laid down.

He should beware of maintaining a hypothesis that is generally rejected: and this it may be in two ways: for it may be one which results in absurd statements, e.g. suppose any one were to say that everything is in motion or that nothing is; and also there are all those which only a bad character would choose, and which are implicitly opposed to men’s wishes, e.g. that pleasure is the good, and that to do injustice is better than to suffer it. For people then hate him, supposing him to maintain them not for the sake of argument but because he really thinks them.

10

Of all arguments that reason to a false conclusion the right solution is to demolish the point on which the fallacy that occurs depends: for the demolition of any random point is no solution, even though the point demolished be false. For the argument may contain many falsehoods, e.g. suppose some one to secure the premisses, ‘He who sits, writes’ and ‘Socrates is sitting’: for from these it follows that ‘Socrates is writing’. Now we may demolish the proposition ‘Socrates is sitting’, and still be no nearer a solution of the argument; it may be true that the point claimed is false; but it is not on that that fallacy of the argument depends: for supposing that any one should happen to be sitting and not writing, it would be impossible in such a case to apply the same solution. Accordingly, it is not this that needs to be demolished, but rather that ‘He who sits, writes’: for he who sits does not always write. He, then, who has demolished the point on which the fallacy depends, has given the solution of the argument completely. Any one who knows that it is on such and such a point that the argument depends, knows the solution of it, just as in the case of a figure falsely drawn. For it is not enough to object, even if the point demolished be a falsehood, but the reason of the fallacy should also be proved: for then it would be clear whether the man makes his objection with his eyes open or not.

There are four possible ways of preventing a man from working his argument to a conclusion. It can be done either by demolishing the point on which the falsehood that comes about depends, or by stating an objection directed against the questioner: for often when a solution has not as a matter of fact been brought, yet the questioner is rendered thereby unable to pursue the argument any farther. Thirdly, one may object to the questions asked: for it may happen that what the questioner wants does not follow from the questions he has asked because he has asked them badly, whereas if something additional be granted the conclusion comes about. If, then, the questioner be unable to pursue his argument farther, the objection would properly be directed against the questioner; if he can do so, then it would be against his questions. The fourth and worst kind of objection is that which is directed to the time allowed for discussion: for some people bring objections of a kind which would take longer to answer than the length of the discussion in hand.

There are then, as we said, four ways of making objections: but of them the first alone is a solution: the others are just hindrances and stumbling-blocks to prevent the conclusions.

11

Adverse criticism of an argument on its own merits, and of it when presented in the form of questions, are two different things. For often the failure to carry through the argument correctly in discussion is due to the person questioned, because he will not grant the steps of which a correct argument might have been made against his position: for it is not in the power of the one side only to effect properly a result that depends on both alike. Accordingly it sometimes becomes necessary to attack the speaker and not his position, when the answerer lies in wait for the points that are contrary to the questioner and becomes abusive as well: when people lose their tempers in this way, their argument becomes a contest, not a discussion. Moreover, since arguments of this kind are held not for the sake of instruction but for purposes of practice and examination, clearly one has to reason not only to true conclusions, but also to false ones, and not always through true premisses, but sometimes through false as well. For often, when a true proposition is put forward, the dialectician is compelled to demolish it: and then false propositions have to be formulated. Sometimes also when a false proposition is put forward, it has to be demolished by means of false propositions: for it is possible for a given man to believe what is not the fact more firmly than the truth. Accordingly, if the argument be made to depend on something that he holds, it will be easier to persuade or help him. He, however, who would rightly convert any one to a different opinion should do so in a dialectical and not in a contentious manner, just as a geometrician should reason geometrically, whether his conclusion be false or true: what kind of syllogisms are dialectical has already been said. The principle that a man who hinders the common business is a bad partner, clearly applies to an argument as well; for in arguments as well there is a common aim in view, except with mere contestants, for these cannot both reach the same goal; for more than one cannot possibly win. It makes no difference whether he effects this as answerer or as questioner: for both he who asks contentious questions is a bad dialectician, and also he who in answering fails to grant the obvious answer or to understand the point of the questioner's inquiry. What has been said, then, makes it clear that adverse criticism is not to be passed in a like strain upon the argument on its own merits, and upon the questioner: for it may very well be that the argument is bad, but that the questioner has argued with the answerer in the best possible way: for when men lose their tempers, it may perhaps be impossible to make one's inferences straight-forwardly as one would wish: we have to do as we can.

Inasmuch as it is indeterminate when people are claiming the admission of contrary things, and when they are claiming what originally they set out to prove-for often when they are talking by themselves they say contrary things, and admit afterwards what they have previously denied; for which reason they often assent, when questioned, to contrary things and to what originally had to be proved-the argument is sure to become vitiated. The responsibility, however, for this rests with the answerer, because while refusing to grant other points, he does grant points of that kind. It is, then, clear that adverse criticism is not to be passed in a like manner upon questioners and upon their arguments.

In itself an argument is liable to five kinds of adverse criticism:

(1) The first is when neither the proposed conclusion nor indeed any conclusion at all is drawn from the questions asked, and when most, if not all, of the premisses on which the conclusion rests are false or generally rejected, when, moreover, neither any withdrawals nor additions nor both together can bring the conclusions about.

(2) The second is, supposing the reasoning, though constructed from the premisses, and in the manner, described above, were to be irrelevant to the original position.

(3) The third is, supposing certain additions would bring an inference about but yet these additions were to be weaker than those that were put as questions and less generally held than the conclusion.

(4) Again, supposing certain withdrawals could effect the same: for sometimes people secure more premisses than are necessary, so that it is not through them that the inference comes about.

(5) Moreover, suppose the premisses be less generally held and less credible than the conclusion, or if, though true, they require more trouble to prove than the proposed view.

One must not claim that the reasoning to a proposed view shall in every case equally be a view generally accepted and convincing: for it is a direct result of the nature of things that some subjects of inquiry shall be easier and some harder, so that if a man brings people to accept his point from opinions that are as generally received as the case admits, he has argued his case correctly. Clearly, then, not even the argument itself is open to the same adverse criticism when taken in relation to the proposed conclusion and when taken by itself. For there is nothing to prevent the argument being open to reproach in itself, and yet commendable in relation to the proposed conclusion, or again, vice versa, being commendable in itself, and yet open to reproach in relation to the proposed conclusion, whenever there are many propositions both generally held and also true whereby it could easily be proved. It is possible also that an argument, even though brought to a conclusion, may sometimes be worse than one which is not so concluded, whenever the premisses of the former are silly, while its conclusion is not so; whereas the latter, though requiring certain additions, requires only such as are generally held and true, and moreover does not rest as an argument on these additions. With those which bring about a true conclusion by means of false premisses, it is not fair to find fault: for a false conclusion must of necessity always be reached from a false premiss, but a true conclusion may sometimes be drawn even from false premisses; as is clear from the Analytics.

Whenever by the argument stated something is demonstrated, but that something is other than what is wanted and has no bearing whatever on the conclusion, then no inference as to the latter can be drawn from it: and if there appears to be, it will be a sophism, not a proof. A philosopheme is a demonstrative inference: an epichireme is a dialectical inference: a sophism is a contentious inference: an aporeme is an inference that reasons dialectically to a contradiction.

If something were to be shown from premisses, both of which are views generally accepted, but not accepted with like conviction, it may very well be that the conclusion shown is something held more strongly than either. If, on the other hand, general opinion be for the one and neither for nor against the other, or if it be for the one and against the other, then, if the pro and con be alike in the case of the premisses, they will be alike for the conclusion also: if, on the other hand, the one preponderates, the conclusion too will follow suit.

It is also a fault in reasoning when a man shows something through a long chain of steps, when he might employ fewer steps and those already included in his argument: suppose him to be showing (e.g.) that one opinion is more properly so called than another, and suppose him to make his postulates as follows: ‘x-in-itself is more fully x than anything else’: ‘there genuinely exists an object of opinion in itself’: therefore ‘the object-of-opinion-in-itself is more fully an object of opinion than the particular objects of opinion’. Now ‘a relative term is more fully itself when its correlate is more fully itself’: and ‘there exists a genuine opinion-in-itself, which will be “opinion” in a more accurate sense than the particular opinions’: and it has been postulated both that ‘a genuine opinion-in-itself exists’, and that ‘x-in-itself is more fully x than anything else’: therefore ‘this will be opinion in a more accurate sense’. Wherein lies the viciousness of the reasoning? Simply in that it conceals the ground on which the argument depends.

12

An argument is clear in one, and that the most ordinary, sense, if it be so brought to a conclusion as to make no further questions necessary: in another sense, and this is the type most usually advanced, when the propositions secured are such as compel the conclusion, and the argument is concluded through premisses that are themselves conclusions: moreover, it is so also if some step is omitted that generally is firmly accepted.

An argument is called fallacious in four senses: (1) when it appears to be brought to a conclusion, and is not really so-what is called ‘contentious’ reasoning: (2) when it comes to a conclusion but not to the conclusion proposed-which happens principally in the case of reductiones ad impossibile: (3) when it comes to the proposed conclusion but not according to the mode of inquiry appropriate to the case, as happens when a non-medical argument is taken to be a medical one, or one which is not geometrical for a geometrical argument, or one which is not dialectical for dialectical, whether the result reached be true or false: (4) if the conclusion be reached through false premisses: of this type the conclusion is sometimes false, sometimes true: for while a false conclusion is always the result of false premisses, a true conclusion may be drawn even from premisses that are not true, as was said above as well.

Fallacy in argument is due to a mistake of the arguer rather than of the argument: yet it is not always the fault of the arguer either, but only when he is not aware of it: for we often accept on its merits in preference to many true ones an argument which demolishes some true proposition if it does so from premisses as far as possible generally accepted. For an argument of that kind does demonstrate other things that are true: for one of the premisses laid down ought never to be there at all, and this will then be demonstrated. If, however, a true conclusion were to be reached through premisses that are false and utterly childish, the argument is worse than many arguments that lead to a false conclusion, though an argument which leads to a false conclusion may also be of this type. Clearly then the first thing to ask in regard to the argument in itself is, ‘Has it a conclusion?’; the second, ‘Is the conclusion true or false?’; the third, ‘Of what kind of premisses does it consist?’: for if the latter, though false, be generally accepted, the argument is dialectical, whereas if, though true, they be generally rejected, it is bad: if they be both false and also entirely contrary to general opinion, clearly it is bad, either altogether or else in relation to the particular matter in hand.

13

Of the ways in which a questioner may beg the original question and also beg contraries the true account has been given in the Analytics:’ but an account on the level of general opinion must be given now.

People appear to beg their original question in five ways: the first and most obvious being if any one begs the actual point requiring to be shown: this is easily detected when put in so many words; but it is more apt to escape detection in the case of different terms, or a term and an expression, that mean the same thing. A second way occurs whenever any one begs universally something which he has to demonstrate in a particular case: suppose (e.g.) he were trying to prove that the knowledge of contraries is one and were to claim that the knowledge of opposites in general is one: for then he is generally thought to be begging, along with a number of other things, that which he ought to have shown by itself. A third way is if any one were to beg in particular cases what he undertakes to show universally: e.g. if he undertook to show that the knowledge of contraries is always one, and begged it of certain pairs of contraries: for he also is generally considered to be begging independently and by itself what, together with a number of other things, he ought to have shown. Again, a man begs the question if he begs his conclusion piecemeal: supposing e.g. that he had to show that medicine is a science of what leads to health and to disease, and were to claim first the one, then the other; or, fifthly, if he were to beg the one or the other of a pair of statements that necessarily involve one other; e.g. if he had to show that the diagonal is incommensurable with the side, and were to beg that the side is incommensurable with the diagonal.

The ways in which people assume contraries are equal in number to those in which they beg their original question. For it would happen, firstly, if any one were to beg an opposite affirmation and negation; secondly, if he were to beg the contrary terms of an antithesis, e.g. that the same thing is good and evil; thirdly, suppose any one were to claim something universally and then proceed to beg its contradictory in some particular case, e.g. if having secured that the knowledge of contraries is one, he were to claim that the knowledge of what makes for health or for disease is different; or, fourthly, suppose him, after postulating the latter view, to try to secure universally the contradictory statement. Again, fifthly, suppose a man begs the contrary of the conclusion which necessarily comes about through the premisses laid down; and this would happen suppose, even without begging the opposites in so many words, he were to beg two premisses such that this contradictory statement that is opposite to the first conclusion will follow from them. The securing of contraries differs from begging the original question in this way: in the latter case the mistake lies in regard to the conclusion; for it is by a glance at the conclusion that we tell that the original question has been begged: whereas contrary views lie in the premisses, viz. in a certain relation which they bear to one another.

14

The best way to secure training and practice in arguments of this kind is in the first place to get into the habit of converting the arguments. For in this way we shall be better equipped for dealing with the proposition stated, and after a few attempts we shall know several arguments by heart. For by ‘conversion’ of an argument is meant the taking the reverse of the conclusion together with the remaining propositions asked and so demolishing one of those that were conceded: for it follows necessarily that if the conclusion be untrue, some one of the premisses is demolished, seeing that, given all the premisses, the conclusion was bound to follow. Always, in dealing with any proposition, be on the look-out for a line of argument both pro and con: and on discovering it at once set about looking for the solution of it: for in this way you will soon find that you have trained yourself at the same time in both asking questions and answering them. If we cannot find any one else to argue with, we should argue with ourselves. Select, moreover, arguments relating to the same thesis and range them side by side: for this produces a plentiful supply of arguments for carrying a point by sheer force, and in refutation also it is of great service, whenever one is well stocked with arguments pro and con: for then you find yourself on your guard against contrary statements to the one you wish to secure. Moreover, as contributing to knowledge and to philosophic wisdom the power of discerning and holding in one view the results of either of two hypotheses is no mean instrument; for it then only remains to make a right choice of one of them. For a task of this kind a certain natural ability is required: in fact real natural ability just is the power right to choose the true and shun the false. Men of natural ability can do this; for by a right liking or disliking for whatever is proposed to them they rightly select what is best.

It is best to know by heart arguments upon those questions which are of most frequent occurrence, and particularly in regard to those propositions which are ultimate: for in discussing these answerers frequently give up in despair. Moreover, get a good stock of definitions: and have those of familiar and primary ideas at your fingers' ends: for it is through these that reasonings are effected. You should try, moreover, to master the heads under which other arguments mostly tend to fall. For just as in geometry it is useful to be practised in the elements, and in arithmetic to have the multiplication table up to ten at one's fingers' ends-and indeed it makes a great difference in one's knowledge of the multiples of other numbers too-likewise also in arguments it is a great advantage to be well up in regard to first principles, and to have a thorough knowledge of premisses at the tip of one's tongue. For just as in a person with a trained memory, a memory of things themselves is immediately caused by the mere mention of their loci, so these habits too will make a man readier in reasoning, because he has his premisses classified before his mind's eye, each under its number. It is better to commit to memory a premiss of general application than an argument: for it is difficult to be even moderately ready with a first principle, or hypothesis.

Moreover, you should get into the habit of turning one argument into several, and conceal your procedure as darkly as you can: this kind of effect is best produced by keeping as far as possible away from topics akin to the subject of the argument. This can be done with arguments that are entirely universal, e.g. the statement that 'there cannot be one knowledge of more than one thing': for that is the case with both relative terms and contraries and co-ordinates.

Records of discussions should be made in a universal form, even though one has argued only some particular case: for this will enable one to turn a single rule into several. A like rule applies in Rhetoric as well to enthymemes. For yourself, however, you should as far as possible avoid universalizing your reasonings. You should, moreover, always examine arguments to see whether they rest on principles of general application: for all particular arguments really reason universally, as well, i.e. a particular demonstration always contains a universal demonstration, because it is impossible to reason at all without using universals.

You should display your training in inductive reasoning against a young man, in deductive against an expert. You should try, moreover, to secure from those skilled in deduction their premisses, from inductive reasoners their parallel cases; for this is the thing in which they are respectively trained. In general, too, from your exercises in argumentation you should try to carry away either a syllogism on some subject or a refutation or a proposition or an objection, or whether some one put his question properly or improperly (whether it was yourself or some one else) and the point which made it the one or the other. For this is what gives one ability, and the whole object of training is to acquire ability, especially in regard to propositions and objections. For it is the skilled propounder and objector who is, speaking generally, a dialectician. To formulate a proposition is to form a number of things into one-for the conclusion to which the argument leads must be taken generally, as a single thing-whereas to formulate an objection is to make one thing into many; for the objector either distinguishes or demolishes, partly granting, partly denying the statements proposed.

Do not argue with every one, nor practise upon the man in the street: for there are some people with whom any argument is bound to degenerate. For against any one who is ready to try all means in order to seem not to be beaten, it is indeed fair to try all means of bringing about one’s conclusion: but it is not good form. Wherefore the best rule is, not lightly to engage with casual acquaintances, or bad argument is sure to result. For you see how in practising together people cannot refrain from contentious argument.

It is best also to have ready-made arguments relating to those questions in which a very small stock will furnish us with arguments serviceable on a very large number of occasions. These are those that are universal, and those in regard to which it is rather difficult to produce points for ourselves from matters of everyday experience.

Sophistical Refutations (164a)

Translated by W. A. Pickard-Cambridge

This text identifies thirteen fallacies, which are as follows:

Verbal fallacies

Accent or emphasis
Amphibology
Equivocation
Composition
Division
Figure of speech

Material fallacies

Accident
Affirming the consequent
Converse accident
Irrelevant conclusion
Begging the question
False cause
Fallacy of many questions

1

LET us now discuss sophistic refutations, i.e. what appear to be refutations but are really fallacies instead. We will begin in the natural order with the first.

That some reasonings are genuine, while others seem to be so but are not, is evident. This happens with arguments, as also elsewhere, through a certain likeness between the genuine and the sham. For physically some people are in a vigorous condition, while others merely seem to be so by blowing and rigging themselves out as the tribesmen do their victims for sacrifice; and some people are beautiful thanks to their beauty, while others seem to be so, by dint of embellishing themselves. So it is, too, with inanimate things; for of these, too, some are really silver and others gold, while others are not and merely seem to be such to our sense; e.g. things made of litharge and tin seem to be of silver, while those made of yellow metal look golden. In the same way both reasoning and refutation are sometimes genuine, sometimes not, though inexperience may make them appear so: for inexperienced people obtain only, as it were, a distant view of these things. For reasoning rests on certain statements such that they involve necessarily the assertion of something other than what has been stated, through what has been stated: refutation is reasoning involving the contradictory of the given conclusion. Now some of them do not really achieve this, though they seem to do so for a number of reasons; and of these the most prolific and usual domain is the argument that turns upon names only. It is impossible in a discussion to bring in the actual things discussed: we use their names as symbols instead of them; and therefore we suppose that what follows in the names, follows in the things as well, just as people who calculate suppose in regard to their counters. But the two cases (names and things) are not alike. For names are finite and so is the sum-total of formulae, while things are infinite in number. Inevitably, then, the same formulae, and a single name, have a number of meanings. Accordingly just as, in counting, those who are not clever in manipulating their counters are taken in by the experts, in the same way in arguments too those who are not well acquainted with the force of names misreason both in their own discussions and when they listen to others. For this reason, then, and for others to be mentioned later, there exists both reasoning and refutation that is apparent but not real. Now for some people it is better worth while to seem to be wise, than to be wise without seeming to be (for the art of the sophist is the semblance of wisdom without the reality, and the sophist is one who makes money from an apparent but unreal wisdom); for them, then, it is clearly essential also to seem to accomplish the task of a wise man rather than to accomplish it without seeming to do so. To reduce it to a single point of contrast it is the business of one who knows a thing, himself to avoid fallacies in the subjects which he knows and to be able to show up the man who makes them; and of these accomplishments the one depends on the faculty to render an answer, and the other upon the securing of one. Those, then, who would be sophists are bound to study the class of arguments aforesaid: for it is worth their while: for a faculty of this kind will make a man seem to be wise, and this is the purpose they happen to have in view.

Clearly, then, there exists a class of arguments of this kind, and it is at this kind of ability that those aim whom we call sophists. Let us now go on to discuss how many kinds there are of sophistical arguments, and how many in number are the elements of which this faculty is composed, and how many branches there happen to be of this inquiry, and the other factors that contribute to this art.

2

Of arguments in dialogue form there are four classes:

Didactic, Dialectical, Examination-arguments, and Contentious arguments. Didactic arguments are those that reason from the principles appropriate to each subject and not from the opinions held by the answerer (for the learner should take things on trust): dialectical arguments are those that reason from premisses generally accepted, to the contradictory of a given thesis: examination-arguments are those that reason from premisses which are accepted by the answerer and which any one who pretends to possess knowledge of the subject is bound to know-in what manner, has been defined in another treatise: contentious arguments are those that reason or appear to reason to a conclusion from premisses that appear to be generally accepted but are not so. The subject, then, of demonstrative arguments has been discussed in the Analytics, while that of dialectic arguments and examination-arguments has been discussed elsewhere: let us now proceed to speak of the arguments used in competitions and contests.

3

First we must grasp the number of aims entertained by those who argue as competitors and rivals to the death. These are five in number, refutation, fallacy, paradox, solecism, and fifthly to reduce the opponent in the discussion to babbling-i.e. to constrain him to repeat himself a number of times: or it is to produce the appearance of each of these things without the reality. For they choose if possible plainly to refute the other party, or as the second best to show that he is committing some fallacy, or as a third best to lead him into paradox, or fourthly to reduce him to solecism, i.e. to make the answerer, in consequence of the argument, to use an ungrammatical expression; or, as a last resort, to make him repeat himself.

4

There are two styles of refutation: for some depend on the language used, while some are independent of language. Those ways of producing the false appearance of an argument which depend on language are six in number: they are ambiguity, amphiboly, combination, division of words, accent, form of expression. Of this we may assure ourselves both by induction, and by syllogistic proof based on this-and it may be on other assumptions as well-that this is the number of ways in which we might fall to mean the same thing by the same names or expressions. Arguments such as the following depend upon ambiguity. ‘Those learn who know: for it is those who know their letters who learn the letters dictated to them’. For to ‘learn’ is ambiguous; it signifies both ‘to understand’ by the use of knowledge, and also ‘to acquire knowledge’. Again, ‘Evils are good: for what needs to be is good, and evils must needs be’. For ‘what needs to be’ has a double meaning: it means what is inevitable, as often is the case with evils, too (for evil of some kind is inevitable), while on the other hand we say of good things as well that they ‘need to be’. Moreover, ‘The same man is both seated and standing and he is both sick and in health: for it is he who stood up who is standing, and he who is recovering who is in health: but it is the seated man who stood up, and the sick man who was recovering'. For 'The sick man does so and so', or 'has so and so done to him' is not single in meaning: sometimes it means 'the man who is sick or is seated now', sometimes 'the man who was sick formerly'. Of course, the man who was recovering was the sick man, who really was sick at the time: but the man who is in health is not sick at the same time: he is 'the sick man' in the sense not that he is sick now, but that he was sick formerly. Examples such as the following depend upon amphiboly: 'I wish that you the enemy may capture'. Also the thesis, 'There must be knowledge of what one knows': for it is possible by this phrase to mean that knowledge belongs to both the knower and the known. Also, 'There must be sight of what one sees: one sees the pillar: ergo the pillar has sight'. Also, 'What you profess to-be, that you profess to-be: you profess a stone to-be: ergo you profess-to-be a stone'. Also, 'Speaking of the silent is possible': for 'speaking of the silent' also has a double meaning: it may mean that the speaker is silent or that the things of which he speaks are so. There are three varieties of these ambiguities and amphibolies: (1) When either the expression or the name has strictly more than one meaning, e.g. aetos and the 'dog'; (2) when by custom we use them so; (3) when words that have a simple sense taken alone have more than one meaning in combination; e.g. 'knowing letters'. For each word, both 'knowing' and 'letters', possibly has a single meaning: but both together have more than one-either that the letters themselves have knowledge or that someone else has it of them.

Amphiboly and ambiguity, then, depend on these modes of speech. Upon the combination of words there depend instances such as the following: 'A man can walk while sitting, and can write while not writing'. For the meaning is not the same if one divides the words and if one combines them in saying that 'it is possible to walk-while-sitting' and write while not writing]. The same applies to the latter phrase, too, if one combines the words 'to write-while-not-writing': for then it means that he has the power to write and not to write at once; whereas if one does not combine them, it means that when he is not writing he has the power to write. Also, 'He now if he has learnt his letters'. Moreover, there is the saying that 'One single thing if you can carry a crowd you can carry too'.

Upon division depend the propositions that 5 is 2 and 3, and odd, and that the greater is equal: for it is that amount and more besides. For the same phrase would not be thought always to have the same meaning when divided and when combined, e.g. ‘I made thee a slave once a free man’, and ‘God-like Achilles left fifty a hundred men’.

An argument depending upon accent it is not easy to construct in unwritten discussion; in written discussions and in poetry it is easier. Thus (e.g.) some people emend Homer against those who criticize as unnatural his expression to men ou kataputhetai ombro. For they solve the difficulty by a change of accent, pronouncing the ou with an acuter accent. Also, in the passage about Agamemnon’s dream, they say that Zeus did not himself say ‘We grant him the fulfilment of his prayer’, but that he bade the dream grant it. Instances such as these, then, turn upon the accentuation.

Others come about owing to the form of expression used, when what is really different is expressed in the same form, e.g. a masculine thing by a feminine termination, or a feminine thing by a masculine, or a neuter by either a masculine or a feminine; or, again, when a quality is expressed by a termination proper to quantity or vice versa, or what is active by a passive word, or a state by an active word, and so forth with the other divisions previously’ laid down. For it is possible to use an expression to denote what does not belong to the class of actions at all as though it did so belong. Thus (e.g.) ‘flourishing’ is a word which in the form of its expression is like ‘cutting’ or ‘building’: yet the one denotes a certain quality-i.e. a certain condition-while the other denotes a certain action. In the same manner also in the other instances.

Refutations, then, that depend upon language are drawn from these common-place rules. Of fallacies, on the other hand, that are independent of language there are seven kinds:

(1) that which depends upon Accident:

(2) the use of an expression absolutely or not absolutely but with some qualification of respect or place, or time, or relation:

(3) that which depends upon ignorance of what ‘refutation’ is:

(4) that which depends upon the consequent:

(5) that which depends upon assuming the original conclusion:

(6) stating as cause what is not the cause:

(7) the making of more than one question into one.

Fallacies, then, that depend on Accident occur whenever any attribute is claimed to belong in like manner to a thing and to its accident. For since the same thing has many accidents there is no necessity that all the same attributes should belong to all of a thing's predicates and to their subject as well. Thus (e.g.), 'If Coriscus be different from "man", he is different from himself: for he is a man': or 'If he be different from Socrates, and Socrates be a man, then', they say, 'he has admitted that Coriscus is different from a man, because it so happens (accidit) that the person from whom he said that he (Coriscus) is different is a man'.

Those that depend on whether an expression is used absolutely or in a certain respect and not strictly, occur whenever an expression used in a particular sense is taken as though it were used absolutely, e.g. in the argument 'If what is not is the object of an opinion, then what is not is': for it is not the same thing 'to be x' and 'to be' absolutely. Or again, 'What is, is not, if it is not a particular kind of being, e.g. if it is not a man.' For it is not the same thing 'not to be x' and 'not to be' at all: it looks as if it were, because of the closeness of the expression, i.e. because 'to be x' is but little different from 'to be', and 'not to be x' from 'not to be'. Likewise also with any argument that turns upon the point whether an expression is used in a certain respect or used absolutely. Thus e.g. 'Suppose an Indian to be black all over, but white in respect of his teeth; then he is both white and not white.' Or if both characters belong in a particular respect, then, they say, 'contrary attributes belong at the same time'. This kind of thing is in some cases easily seen by any one, e.g. suppose a man were to secure the statement that the Ethiopian is black, and were then to ask whether he is white in respect of his teeth; and then, if he be white in that respect, were to suppose at the conclusion of his questions that therefore he had proved dialectically that he was both white and not white. But in some cases it often passes undetected, viz. in all cases where, whenever a statement is made of something in a certain respect, it would be generally thought that the absolute statement follows as well; and also in all cases where it is not easy to see which of the attributes ought to be rendered strictly. A situation of this kind arises, where both the opposite attributes belong alike: for then there is general support for the view that one must agree absolutely to the assertion of both, or of neither: e.g. if a thing is half white and half black, is it white or black?

Other fallacies occur because the terms ‘proof’ or ‘refutation’ have not been defined, and because something is left out in their definition. For to refute is to contradict one and the same attribute-not merely the name, but the reality-and a name that is not merely synonymous but the same name-and to confute it from the propositions granted, necessarily, without including in the reckoning the original point to be proved, in the same respect and relation and manner and time in which it was asserted. A ‘false assertion’ about anything has to be defined in the same way. Some people, however, omit some one of the said conditions and give a merely apparent refutation, showing (e.g.) that the same thing is both double and not double: for two is double of one, but not double of three. Or, it may be, they show that it is both double and not double of the same thing, but not that it is so in the same respect: for it is double in length but not double in breadth. Or, it may be, they show it to be both double and not double of the same thing and in the same respect and manner, but not that it is so at the same time: and therefore their refutation is merely apparent. One might, with some violence, bring this fallacy into the group of fallacies dependent on language as well.

Those that depend on the assumption of the original point to be proved, occur in the same way, and in as many ways, as it is possible to beg the original point; they appear to refute because men lack the power to keep their eyes at once upon what is the same and what is different.

The refutation which depends upon the consequent arises because people suppose that the relation of consequence is convertible. For whenever, suppose A is, B necessarily is, they then suppose also that if B is, A necessarily is. This is also the source of the deceptions that attend opinions based on sense-perception. For people often suppose bile to be honey because honey is attended by a yellow colour: also, since after rain the ground is wet in consequence, we suppose that if the ground is wet, it has been raining; whereas that does not necessarily follow. In rhetoric proofs from signs are based on consequences. For when rhetoricians wish to show that a man is an adulterer, they take hold of some consequence of an adulterous life, viz. that the man is smartly dressed, or that he is observed to wander about at night. There are, however, many people of whom these things are true, while the charge in question is untrue. It happens like this also in real reasoning; e.g. Melissus’ argument, that the universe is eternal, assumes that the universe has not come to be (for from what is not nothing could possibly come to be) and that what has come to be has done so from a first beginning. If, therefore, the universe has not come to be, it has no first beginning, and is therefore eternal. But this does not necessarily follow: for even if what has come to be always has a first beginning, it does not also follow that what has a first beginning has come to be; any more than it follows that if a man in a fever be hot, a man who is hot must be in a fever.

The refutation which depends upon treating as cause what is not a cause, occurs whenever what is not a cause is inserted in the argument, as though the refutation depended upon it. This kind of thing happens in arguments that reason ad impossible: for in these we are bound to demolish one of the premisses. If, then, the false cause be reckoned in among the questions that are necessary to establish the resulting impossibility, it will often be thought that the refutation depends upon it, e.g. in the proof that the 'soul' and 'life' are not the same: for if coming-to-be be contrary to perishing, then a particular form of perishing will have a particular form of coming-to-be as its contrary: now death is a particular form of perishing and is contrary to life: life, therefore, is a coming to-be, and to live is to come-to-be. But this is impossible: accordingly, the 'soul' and 'life' are not the same. Now this is not proved: for the impossibility results all the same, even if one does not say that life is the same as the soul, but merely says that life is contrary to death, which is a form of perishing, and that perishing has 'coming-to-be' as its contrary. Arguments of that kind, then, though not inconclusive absolutely, are inconclusive in relation to the proposed conclusion. Also even the questioners themselves often fail quite as much to see a point of that kind.

Such, then, are the arguments that depend upon the consequent and upon false cause. Those that depend upon the making of two questions into one occur whenever the plurality is undetected and a single answer is returned as if to a single question. Now, in some cases, it is easy to see that there is more than one, and that an answer is not to be given, e.g. 'Does the earth consist of sea, or the sky?' But in some cases it is less easy, and then people treat the question as one, and either confess their defeat by failing to answer the question, or are exposed to an apparent refutation. Thus 'Is A and is B a man?' 'Yes.' 'Then if any one hits A and B, he will strike a man' (singular),'not men' (plural). Or again, where part is good and part bad, 'is the whole good or bad?' For whichever he says, it is possible that he might be thought to expose himself to an apparent refutation or to make an apparently false statement: for to say that something is good which is not good, or not good which is good, is to make a false statement. Sometimes, however, additional premisses may actually give rise to a genuine refutation; e.g. suppose a man were to grant that the descriptions ‘white’ and ‘naked’ and ‘blind’ apply to one thing and to a number of things in a like sense. For if ‘blind’ describes a thing that cannot see though nature designed it to see, it will also describe things that cannot see though nature designed them to do so. Whenever, then, one thing can see while another cannot, they will either both be able to see or else both be blind; which is impossible.

6

The right way, then, is either to divide apparent proofs and refutations as above, or else to refer them all to ignorance of what ‘refutation’ is, and make that our starting-point: for it is possible to analyse all the aforesaid modes of fallacy into breaches of the definition of a refutation. In the first place, we may see if they are inconclusive: for the conclusion ought to result from the premisses laid down, so as to compel us necessarily to state it and not merely to seem to compel us. Next we should also take the definition bit by bit, and try the fallacy thereby. For of the fallacies that consist in language, some depend upon a double meaning, e.g. ambiguity of words and of phrases, and the fallacy of like verbal forms (for we habitually speak of everything as though it were a particular substance)-while fallacies of combination and division and accent arise because the phrase in question or the term as altered is not the same as was intended. Even this, however, should be the same, just as the thing signified should be as well, if a refutation or proof is to be effected; e.g. if the point concerns a doublet, then you should draw the conclusion of a ‘doublet’, not of a ‘cloak’. For the former conclusion also would be true, but it has not been proved; we need a further question to show that ‘doublet’ means the same thing, in order to satisfy any one who asks why you think your point proved.

Fallacies that depend on Accident are clear cases of ignoratio elenchi when once ‘proof’ has been defined. For the same definition ought to hold good of ‘refutation’ too, except that a mention of ‘the contradictory’ is here added: for a refutation is a proof of the contradictory. If, then, there is no proof as regards an accident of anything, there is no refutation. For supposing, when A and B are, C must necessarily be, and C is white, there is no necessity for it to be white on account of the syllogism. So, if the triangle has its angles equal to two right-angles, and it happens to be a figure, or the simplest element or starting point, it is not because it is a figure or a starting point or simplest element that it has this character. For the demonstration proves the point about it not qua figure or qua simplest element, but qua triangle. Likewise also in other cases. If, then, refutation is a proof, an argument which argued per accidens could not be a refutation. It is, however, just in this that the experts and men of science generally suffer refutation at the hand of the unscientific: for the latter meet the scientists with reasonings constituted per accidens; and the scientists for lack of the power to draw distinctions either say ‘Yes’ to their questions, or else people suppose them to have said ‘Yes’, although they have not.

Those that depend upon whether something is said in a certain respect only or said absolutely, are clear cases of ignoratio elenchi because the affirmation and the denial are not concerned with the same point. For of ‘white in a certain respect’ the negation is ‘not white in a certain respect’, while of ‘white absolutely’ it is ‘not white, absolutely’. If, then, a man treats the admission that a thing is ‘white in a certain respect’ as though it were said to be white absolutely, he does not effect a refutation, but merely appears to do so owing to ignorance of what refutation is.

The clearest cases of all, however, are those that were previously described’ as depending upon the definition of a ‘refutation’: and this is also why they were called by that name. For the appearance of a refutation is produced because of the omission in the definition, and if we divide fallacies in the above manner, we ought to set ‘Defective definition’ as a common mark upon them all.

Those that depend upon the assumption of the original point and upon stating as the cause what is not the cause, are clearly shown to be cases of ignoratio elenchi through the definition thereof. For the conclusion ought to come about ‘because these things are so’, and this does not happen where the premisses are not causes of it: and again it should come about without taking into account the original point, and this is not the case with those arguments which depend upon begging the original point.

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Those that depend upon the consequent are a branch of Accident: for the consequent is an accident, only it differs from the accident in this, that you may secure an admission of the accident in the case of one thing only (e.g. the identity of a yellow thing and honey and of a white thing and swan), whereas the consequent always involves more than one thing: for we claim that things that are the same as one and the same thing are also the same as one another, and this is the ground of a refutation dependent on the consequent. It is, however, not always true, e.g. suppose that and B are the same as C per accidens; for both ‘snow’ and the ‘swan’ are the same as something white’. Or again, as in Melissus’ argument, a man assumes that to ‘have been generated’ and to ‘have a beginning’ are the same thing, or to ‘become equal’ and to ‘assume the same magnitude’. For because what has been generated has a beginning, he claims also that what has a beginning has been generated, and argues as though both what has been generated and what is finite were the same because each has a beginning. Likewise also in the case of things that are made equal he assumes that if things that assume one and the same magnitude become equal, then also things that become equal assume one magnitude: i.e. he assumes the consequent. Inasmuch, then, as a refutation depending on accident consists in ignorance of what a refutation is, clearly so also does a refutation depending on the consequent. We shall have further to examine this in another way as well.

Those fallacies that depend upon the making of several questions into one consist in our failure to dissect the definition of ‘proposition’. For a proposition is a single statement about a single thing. For the same definition applies to ‘one single thing only’ and to the ‘thing’, simply, e.g. to ‘man’ and to ‘one single man only’ and likewise also in other cases. If, then, a ‘single proposition’ be one which claims a single thing of a single thing, a ‘proposition’, simply, will also be the putting of a question of that kind. Now since a proof starts from propositions and refutation is a proof, refutation, too, will start from propositions. If, then, a proposition is a single statement about a single thing, it is obvious that this fallacy too consists in ignorance of what a refutation is: for in it what is not a proposition appears to be one. If, then, the answerer has returned an answer as though to a single question, there will be a refutation; while if he has returned one not really but apparently, there will be an apparent refutation of his thesis. All the types of fallacy, then, fall under ignorance of what a refutation is, some of them because the contradiction, which is the distinctive mark of a refutation, is merely apparent, and the rest failing to conform to the definition of a proof.

7

The deception comes about in the case of arguments that depend on ambiguity of words and of phrases because we are unable to divide the ambiguous term (for some terms it is not easy to divide, e.g. ‘unity’, ‘being’, and ‘sameness’), while in those that depend on combination and division, it is because we suppose that it makes no difference whether the phrase be combined or divided, as is indeed the case with most phrases. Likewise also with those that depend on accent: for the lowering or raising of the voice upon a phrase is thought not to alter its meaning-with any phrase, or not with many. With those that depend on the of expression it is because of the likeness of expression. For it is hard to distinguish what kind of things are signified by the same and what by different kinds of expression: for a man who can do this is practically next door to the understanding of the truth. A special reason why a man is liable to be hurried into assent to the fallacy is that we suppose every predicate of everything to be an individual thing, and we understand it as being one with the thing: and we therefore treat it as a substance: for it is to that which is one with a thing or substance, as also to substance itself, that ‘individually’ and ‘being’ are deemed to belong in the fullest sense. For this reason, too, this type of fallacy is to be ranked among those that depend on language; in the first place, because the deception is effected the more readily when we are inquiring into a problem in company with others than when we do so by ourselves (for an inquiry with another person is carried on by means of speech, whereas an inquiry by oneself is carried on quite as much by means of the object itself); secondly a man is liable to be deceived, even when inquiring by himself, when he takes speech as the basis of his inquiry: moreover the deception arises out of the likeness (of two different things), and the likeness arises out of the language. With those fallacies that depend upon Accident, deception comes about because we cannot distinguish the sameness and otherness of terms, i.e. their unity and multiplicity, or what kinds of predicate have all the same accidents as their subject. Likewise also with those that depend on the Consequent: for the consequent is a branch of Accident. Moreover, in many cases appearances point to this-and the claim is made that if is inseparable from B, so also is B from With those that depend upon an imperfection in the definition of a refutation, and with those that depend upon the difference between a qualified and an absolute statement, the deception consists in the smallness of the difference involved; for we treat the limitation to the particular thing or respect or manner or time as adding nothing to the meaning, and so grant the statement universally. Likewise also in the case of those that assume the original point, and those of false cause, and all that treat a number of questions as one: for in all of them the deception lies in the smallness of the difference: for our failure to be quite exact in our definition of ‘premiss’ and of ‘proof’ is due to the aforesaid reason.

8

Since we know on how many points apparent syllogisms depend, we know also on how many sophistical syllogisms and refutations may depend. By a sophistical refutation and syllogism I mean not only a syllogism or refutation which appears to be valid but is not, but also one which, though it is valid, only appears to be appropriate to the thing in question. These are those which fail to refute and prove people to be ignorant according to the nature of the thing in question, which was the function of the art of examination. Now the art of examining is a branch of dialectic: and this may prove a false conclusion because of the ignorance of the answerer. Sophistic refutations on the other hand, even though they prove the contradictory of his thesis, do not make clear whether he is ignorant: for sophists entangle the scientist as well with these arguments.

That we know them by the same line of inquiry is clear: for the same considerations which make it appear to an audience that the points required for the proof were asked in the questions and that the conclusion was proved, would make the answerer think so as well, so that false proof will occur through all or some of these means: for what a man has not been asked but thinks he has granted, he would also grant if he were asked. Of course, in some cases the moment we add the missing question, we also show up its falsity, e.g. in fallacies that depend on language and on solecism. If then, fallacious proofs of the contradictory of a thesis depend on their appearing to refute, it is clear that the considerations on which both proofs of false conclusions and an apparent refutation depend must be the same in number. Now an apparent refutation depends upon the elements involved in a genuine one: for the failure of one or other of these must make the refutation merely apparent, e.g. that which depends on the failure of the conclusion to follow from the argument (the argument ad impossible) and that which treats two questions as one and so depends upon a flaw in the premiss, and that which depends on the substitution of an accident for an essential attribute, and-a branch of the last-that which depends upon the consequent: more over, the conclusion may follow not in fact but only verbally: then, instead of proving the contradictory universally and in the same respect and relation and manner, the fallacy may be dependent on some limit of extent or on one or other of these qualifications: moreover, there is the assumption of the original point to be proved, in violation of the clause ‘without reckoning in the original point’. Thus we should have the number of considerations on which the fallacious proofs depend: for they could not depend on more, but all will depend on the points aforesaid.

A sophistical refutation is a refutation not absolutely but relatively to some one: and so is a proof, in the same way. For unless that which depends upon ambiguity assumes that the ambiguous term has a single meaning, and that which depends on like verbal forms assumes that substance is the only category, and the rest in the same way, there will be neither refutations nor proofs, either absolutely or relatively to the answerer: whereas if they do assume these things, they will stand, relatively to the answerer; but absolutely they will not stand: for they have not secured a statement that does have a single meaning, but only one that appears to have, and that only from this particular man.

9

The number of considerations on which depend the refutations of those who are refuted, we ought not to try to grasp without a knowledge of everything that is. This, however, is not the province of any special study: for possibly the sciences are infinite in number, so that obviously demonstrations may be infinite too. Now refutations may be true as well as false: for whenever it is possible to demonstrate something, it is also possible to refute the man who maintains the contradictory of the truth; e.g. if a man has stated that the diagonal is commensurate with the side of the square, one might refute him by demonstrating that it is incommensurate. Accordingly, to exhaust all possible refutations we shall have to have scientific knowledge of everything: for some refutations depend upon the principles that rule in geometry and the conclusions that follow from these, others upon those that rule in medicine, and others upon those of the other sciences. For the matter of that, the false refutations likewise belong to the number of the infinite: for according to every art there is false proof, e.g. according to geometry there is false geometrical proof, and according to medicine there is false medical proof. By 'according to the art', I mean 'according to the principles of it'. Clearly, then, it is not of all refutations, but only of those that depend upon dialectic that we need to grasp the common-place rules: for these stand in a common relation to every art and faculty. And as regards the refutation that is according to one or other of the particular sciences it is the task of that particular scientist to examine whether it is merely apparent without being real, and, if it be real, what is the reason for it: whereas it is the business of dialecticians so to examine the refutation that proceeds from the common first principles that fall under no particular special study. For if we grasp the startingpoints of the accepted proofs on any subject whatever we grasp those of the refutations current on that subject. For a refutation is the proof of the contradictory of a given thesis, so that either one or two proofs of the contradictory constitute a refutation. We grasp, then, the number of considerations on which all such depend: if, however, we grasp this, we also grasp their solutions as well; for the objections to these are the solutions of them. We also grasp the number of considerations on which those refutations depend, that are merely apparent-apparent, I mean, not to everybody, but to people of a certain stamp; for it is an indefinite task if one is to inquire how many are the considerations that make them apparent to the man in the street. Accordingly it is clear that the dialectician's business is to be able to grasp on how many considerations depends the formation, through the common first principles, of a refutation that is either real or apparent, i.e. either dialectical or apparently dialectical, or suitable for an examination.

10

It is no true distinction between arguments which some people draw when they say that some arguments are directed against the expression, and others against the thought expressed: for it is absurd to suppose that some arguments are directed against the expression and others against the thought, and that they are not the same. For what is failure to direct an argument against the thought except what occurs whenever a man does not in using the expression think it to be used in his question in the same sense in which the person questioned granted it? And this is the same thing as to direct the argument against the expression. On the other hand, it is directed against the thought whenever a man uses the expression in the same sense which the answerer had in mind when he granted it. If now any (i.e. both the questioner and the person questioned), in dealing with an expression with more than one meaning, were to suppose it to have one meaning-as e.g. it may be that ‘Being’ and ‘One’ have many meanings, and yet both the answerer answers and the questioner puts his question supposing it to be one, and the argument is to the effect that ‘All things are one’-will this discussion be directed any more against the expression than against the thought of the person questioned? If, on the other hand, one of them supposes the expression to have many meanings, it is clear that such a discussion will not be directed against the thought. Such being the meanings of the phrases in question, they clearly cannot describe two separate classes of argument. For, in the first place, it is possible for any such argument as bears more than one meaning to be directed against the expression and against the thought, and next it is possible for any argument whatsoever; for the fact of being directed against the thought consists not in the nature of the argument, but in the special attitude of the answerer towards the points he concedes. Next, all of them may be directed to the expression. For ‘to be directed against the expression’ means in this doctrine ‘not to be directed against the thought’. For if not all are directed against either expression or thought, there will be certain other arguments directed neither against the expression nor against the thought, whereas they say that all must be one or the other, and divide them all as directed either against the expression or against the thought, while others (they say) there are none. But in point of fact those that depend on mere expression are only a branch of those syllogisms that depend on a multiplicity of meanings. For the absurd statement has actually been made that the description ‘dependent on mere expression’ describes all the arguments that depend on language: whereas some of these are fallacies not because the answerer adopts a particular attitude towards them, but because the argument itself involves the asking of a question such as bears more than one meaning.

It is, too, altogether absurd to discuss Refutation without first discussing Proof: for a refutation is a proof, so that one ought to discuss proof as well before describing false refutation: for a refutation of that kind is a merely apparent proof of the contradictory of a thesis. Accordingly, the reason of the falsity will be either in the proof or in the contradiction (for mention of the ‘contradiction’ must be added), while sometimes it is in both, if the refutation be merely apparent. In the argument that speaking of the silent is possible it lies in the contradiction, not in the proof; in the argument that one can give what one does not possess, it lies in both; in the proof that Homer’s poem is a figure through its being a cycle it lies in the proof. An argument that does not fail in either respect is a true proof.

But, to return to the point whence our argument digressed, are mathematical reasonings directed against the thought, or not? And if any one thinks ‘triangle’ to be a word with many meanings, and granted it in some different sense from the figure which was proved to contain two right angles, has the questioner here directed his argument against the thought of the former or not?

Moreover, if the expression bears many senses, while the answerer does not understand or suppose it to have them, surely the questioner here has directed his argument against his thought! Or how else ought he to put his question except by suggesting a distinction-suppose one’s question to be speaking of the silent possible or not?’-as follows, ‘Is the answer “No” in one sense, but “Yes” in another?’ If, then, any one were to answer that it was not possible in any sense and the other were to argue that it was, has not his argument been directed against the thought of the answerer? Yet his argument is supposed to be one of those that depend on the expression. There is not, then, any definite kind of arguments that is directed against the thought. Some arguments are, indeed, directed against the expression: but these are not all even apparent refutations, let alone all refutations. For there are also apparent refutations which do not depend upon language, e.g. those that depend upon accident, and others.

If, however, any one claims that one should actually draw the distinction, and say, ‘By “speaking of the silent” I mean, in one sense this and in the other sense that’, surely to claim this is in the first place absurd (for sometimes the questioner does not see the ambiguity of his question, and he cannot possibly draw a distinction which he does not think to be there): in the second place, what else but this will didactic argument be? For it will make manifest the state of the case to one who has never considered, and does not know or suppose that there is any other meaning but one. For what is there to prevent the same thing also happening to us in cases where there is no double meaning? ‘Are the units in four equal to the twos? Observe that the twos are contained in four in one sense in this way, in another sense in that’. Also, ‘Is the knowledge of contraries one or not? Observe that some contraries are known, while others are unknown’. Thus the man who makes this claim seems to be unaware of the difference between didactic and dialectical argument, and of the fact that while he who argues didactically should not ask questions but make things clear himself, the other should merely ask questions.

11

Moreover, to claim a ‘Yes’ or ‘No’ answer is the business not of a man who is showing something, but of one who is holding an examination. For the art of examining is a branch of dialectic and has in view not the man who has knowledge, but the ignorant pretender. He, then, is a dialectician who regards the common principles with their application to the particular matter in hand, while he who only appears to do this is a sophist. Now for contentious and sophistical reasoning: (1) one such is a merely apparent reasoning, on subjects on which dialectical reasoning is the proper method of examination, even though its conclusion be true: for it misleads us in regard to the cause: also (2) there are those misreasonings which do not conform to the line of inquiry proper to the particular subject, but are generally thought to conform to the art in question. For false diagrams of geometrical figures are not contentious (for the resulting fallacies conform to the subject of the art)-any more than is any false diagram that may be offered in proof of a truth-e.g.

Hippocrates’ figure or the squaring of the circle by means of the lunules. But Bryson’s method of squaring the circle, even if the circle is thereby squared, is still sophistical because it does not conform to the subject in hand. So, then, any merely apparent reasoning about these things is a contentious argument, and any reasoning that merely appears to conform to the subject in hand, even though it be genuine reasoning, is a contentious argument: for it is merely apparent in its conformity to the subject-matter, so that it is deceptive and plays foul. For just as a foul in a race is a definite type of fault, and is a kind of foul fighting, so the art of contentious reasoning is foul fighting in disputation: for in the former case those who are resolved to win at all costs snatch at everything, and so in the latter case do contentious reasoners. Those, then, who do this in order to win the mere victory are generally considered to be contentious and quarrelsome persons, while those who do it to win a reputation with a view to making money are sophistical. For the art of sophistry is, as we said,’ a kind of art of money-making from a merely apparent wisdom, and this is why they aim at a merely apparent demonstration: and quarrelsome persons and sophists both employ the same arguments, but not with the same motives: and the same argument will be sophistical and contentious, but not in the same respect; rather, it will be contentious in so far as its aim is an apparent victory, while in so far as its aim is an apparent wisdom, it will be sophistical: for the art of sophistry is a certain appearance of wisdom without the reality. The contentious argument stands in somewhat the same relation to the dialectical as the drawer of false diagrams to the geometrician; for it beguiles by misreasoning from the same principles as dialectic uses, just as the drawer of a false diagram beguiles the geometrician. But whereas the latter is not a contentious reasoner, because he bases his false diagram on the principles and conclusions that fall under the art of geometry, the argument which is subordinate to the principles of dialectic will yet clearly be contentious as regards other subjects. Thus, e.g. though the squaring of the circle by means of the lunules is not contentious, Bryson’s solution is contentious: and the former argument cannot be adapted to any subject except geometry, because it proceeds from principles that are peculiar to geometry, whereas the latter can be adapted as an argument against all the number of people who do not know what is or is not possible in each particular context: for it will apply to them all. Or there is the method whereby Antiphon squared the circle. Or again, an argument which denied that it was better to take a walk after dinner, because of Zeno’s argument, would not be a proper argument for a doctor, because Zeno’s argument is of general application. If, then, the relation of the contentious argument to the dialectical were exactly like that of the drawer of false diagrams to the geometrician, a contentious argument upon the aforesaid subjects could not have existed. But, as it is, the dialectical argument is not concerned with any definite kind of being, nor does it show anything, nor is it even an argument such as we find in the general philosophy of being. For all beings are not contained in any one kind, nor, if they were, could they possibly fall under the same principles. Accordingly, no art that is a method of showing the nature of anything proceeds by asking questions: for it does not permit a man to grant whichever he likes of the two alternatives in the question: for they will not both of them yield a proof. Dialectic, on the other hand, does proceed by questioning, whereas if it were concerned to show things, it would have refrained from putting questions, even if not about everything, at least about the first principles and the special principles that apply to the particular subject in hand. For suppose the answerer not to grant these, it would then no longer have had any grounds from which to argue any longer against the objection. Dialectic is at the same time a mode of examination as well. For neither is the art of examination an accomplishment of the same kind as geometry, but one which a man may possess, even though he has not knowledge. For it is possible even for one without knowledge to hold an examination of one who is without knowledge, if also the latter grants him points taken not from thing that he knows or from the special principles of the subject under discussion but from all that range of consequences attaching to the subject which a man may indeed know without knowing the theory of the subject, but which if he do not know, he is bound to be ignorant of the theory. So then clearly the art of examining does not consist in knowledge of any definite subject. For this reason, too, it deals with everything: for every ‘theory’ of anything employs also certain common principles. Hence everybody, including even amateurs, makes use in a way of dialectic and the practice of examining: for all undertake to some extent a rough trial of those who profess to know things. What serves them here is the general principles: for they know these of themselves just as well as the scientist, even if in what they say they seem to the latter to go wildly astray from them. All, then, are engaged in refutation; for they take a hand as amateurs in the same task with which dialectic is concerned professionally; and he is a dialectician who examines by the help of a theory of reasoning. Now there are many identical principles which are true of everything, though they are not such as to constitute a particular nature, i.e. a particular kind of being, but are like negative terms, while other principles are not of this kind but are special to particular subjects; accordingly it is possible from these general principles to hold an examination on everything, and that there should be a definite art of so doing, and, moreover, an art which is not of the same kind as those which demonstrate. This is why the contentious reasoner does not stand in the same condition in all respects as the drawer of a false diagram: for the contentious reasoner will not be given to misreasoning from any definite class of principles, but will deal with every class.

These, then, are the types of sophistical refutations: and that it belongs to the dialectician to study these, and to be able to effect them, is not difficult to see: for the investigation of premisses comprises the whole of this study.

12

So much, then, for apparent refutations. As for showing that the answerer is committing some fallacy, and drawing his argument into paradox-for this was the second item of the sophist's programme-in the first place, then, this is best brought about by a certain manner of questioning and through the question. For to put the question without framing it with reference to any definite subject is a good bait for these purposes: for people are more inclined to make mistakes when they talk at large, and they talk at large when they have no definite subject before them. Also the putting of several questions, even though the position against which one is arguing be quite definite, and the claim that he shall say only what he thinks, create abundant opportunity for drawing him into paradox or fallacy, and also, whether to any of these questions he replies 'Yes' or replies 'No', of leading him on to statements against which one is well off for a line of attack. Nowadays, however, men are less able to play foul by these means than they were formerly: for people rejoin with the question, 'What has that to do with the original subject?' It is, too, an elementary rule for eliciting some fallacy or paradox that one should never put a controversial question straight away, but say that one puts it from the wish for information: for the process of inquiry thus invited gives room for an attack.

A rule specially appropriate for showing up a fallacy is the sophistic rule, that one should draw the answerer on to the kind of statements against which one is well supplied with arguments: this can be done both properly and improperly, as was said before.' Again, to draw a paradoxical statement, look and see to what school of philosophers the person arguing with you belongs, and then question him as to some point wherein their doctrine is paradoxical to most people: for with every school there is some point of that kind. It is an elementary rule in these matters to have a collection of the special 'theses' of the various schools among your propositions. The solution recommended as appropriate here, too, is to point out that the paradox does not come about because of the argument: whereas this is what his opponent always really wants.

Moreover, argue from men's wishes and their professed opinions. For people do not wish the same things as they say they wish: they say what will look best, whereas they wish what appears to be to their interest: e.g. they say that a man ought to die nobly rather than to live in pleasure, and to live in honest poverty rather than in dishonourable riches; but they wish the opposite. Accordingly, a man who speaks according to his wishes must be led into stating the professed opinions of people, while he who speaks according to these must be led into admitting those that people keep hidden away: for in either case they are bound to introduce a paradox; for they will speak contrary either to men's professed or to their hidden opinions.

The widest range of common-place argument for leading men into paradoxical statement is that which depends on the standards of Nature and of the Law: it is so that both Callicles is drawn as arguing in the Gorgias, and that all the men of old supposed the result to come about: for nature (they said) and law are opposites, and justice is a fine thing by a legal standard, but not by that of nature. Accordingly, they said, the man whose statement agrees with the standard of nature you should meet by the standard of the law, but the man who agrees with the law by leading him to the facts of nature: for in both ways paradoxical statements may be committed. In their view the standard of nature was the truth, while that of the law was the opinion held by the majority. So that it is clear that they, too, used to try either to refute the answerer or to make him make paradoxical statements, just as the men of to-day do as well.

Some questions are such that in both forms the answer is paradoxical; e.g. ‘Ought one to obey the wise or one’s father?’ and ‘Ought one to do what is expedient or what is just?’ and ‘Is it preferable to suffer injustice or to do an injury?’ You should lead people, then, into views opposite to the majority and to the philosophers; if any one speaks as do the expert reasoners, lead him into opposition to the majority, while if he speaks as do the majority, then into opposition to the reasoners. For some say that of necessity the happy man is just, whereas it is paradoxical to the many that a king should be happy. To lead a man into paradoxes of this sort is the same as to lead him into the opposition of the standards of nature and law: for the law represents the opinion of the majority, whereas philosophers speak according to the standard of nature and the truth.

13

Paradoxes, then, you should seek to elicit by means of these common-place rules. Now as for making any one babble, we have already said what we mean by ‘to babble’. This is the object in view in all arguments of the following kind: If it is all the same to state a term and to state its definition, the ‘double’ and ‘double of half’ are the same: if then ‘double’ be the ‘double of half’, it will be the ‘double of half of half’. And if, instead of ‘double’, ‘double of half’ be again put, then the same expression will be repeated three times, ‘double of half of half of half’. Also ‘desire is of the pleasant, isn’t it?’ desire is conation for the pleasant: accordingly, ‘desire’ is ‘conation for the pleasant for the pleasant’.

All arguments of this kind occur in dealing (1) with any relative terms which not only have relative genera, but are also themselves relative, and are rendered in relation to one and the same thing, as e.g. conation is conation for something, and desire is desire of something, and double is double of something, i.e. double of half: also in dealing (2) with any terms which, though they be not relative terms at all, yet have their substance, viz. the things of which they are the states or affections or what not, indicated as well in their definition, they being predicated of these things. Thus e.g. ‘odd’ is a ‘number containing a middle’: but there is an ‘odd number’: therefore there is a ‘number-containing-a-middle number’. Also, if snubness be a concavity of the nose, and there be a snub nose, there is therefore a ‘concave-nose nose’.

People sometimes appear to produce this result, without really producing it, because they do not add the question whether the expression ‘double’, just by itself, has any meaning or no, and if so, whether it has the same meaning, or a different one; but they draw their conclusion straight away. Still it seems, inasmuch as the word is the same, to have the same meaning as well.

14

We have said before what kind of thing ‘solecism’ is.’ It is possible both to commit it, and to seem to do so without doing so, and to do so without seeming to do so. Suppose, as Protagoras used to say that menis (‘wrath’) and pelex (‘helmet’) are masculine: according to him a man who calls wrath a ‘destructress’ (oulomenen) commits a solecism, though he does not seem to do so to other people, where he who calls it a ‘destructor’ (oulomenon) commits no solecism though he seems to do so. It is clear, then, that any one could produce this effect by art as well: and for this reason many arguments seem to lead to solecism which do not really do so, as happens in the case of refutations.

Almost all apparent solecisms depend upon the word ‘this’ (tode), and upon occasions when the inflection denotes neither a masculine nor a feminine object but a neuter. For ‘he’ (outos) signifies a masculine, and ‘she’ (aute) feminine; but ‘this’ (touto), though meant to signify a neuter, often also signifies one or other of the former: e.g. ‘What is this?’ ‘It is Calliope’; ‘it is a log’; ‘it is Coriscus’. Now in the masculine and feminine the inflections are all different, whereas in the neuter some are and some are not. Often, then, when ‘this’ (touto) has been granted, people reason as if ‘him’ (touton) had been said: and likewise also they substitute one inflection for another. The fallacy comes about because ‘this’ (touto) is a common form of several inflections: for ‘this’ signifies sometimes ‘he’ (outos) and sometimes ‘him’ (touton). It should signify them alternately; when combined with ‘is’ (esti) it should be ‘he’, while with ‘being’ it should be ‘him’: e.g. ‘Coriscus (Kopiskos) is’, but ‘being Coriscus’ (Kopiskon). It happens in the same way in the case of feminine nouns as well, and in the case of the so-called ‘chattels’ that have feminine or masculine designations. For only those names which end in o and n, have the designation proper to a chattel, e.g. xulon (‘log’), schoinion (‘rope’); those which do not end so have that of a masculine or feminine object, though some of them we apply to chattels: e.g. askos (‘wineskin’) is a masculine noun, and kline (‘bed’) a feminine. For this reason in cases of this kind as well there will be a difference of the same sort between a construction with ‘is’ (esti) or with ‘being’ (to einai). Also, Solecism resembles in a certain way those refutations which are said to depend on the like expression of unlike things. For, just as there we come upon a material solecism, so here we come upon a verbal: for ‘man’ is both a ‘matter’ for expression and also a ‘word’: and so is white’.

It is clear, then, that for solecisms we must try to construct our argument out of the aforesaid inflections.

These, then, are the types of contentious arguments, and the subdivisions of those types, and the methods for conducting them aforesaid. But it makes no little difference if the materials for putting the question be arranged in a certain manner with a view to concealment, as in the case of dialectics. Following then upon what we have said, this must be discussed first.

15

With a view then to refutation, one resource is length-for it is difficult to keep several things in view at once; and to secure length the elementary rules that have been stated before’ should be employed. One resource, on the other hand, is speed; for when people are left behind they look ahead less. Moreover, there is anger and contentiousness, for when agitated everybody is less able to take care of himself. Elementary rules for producing anger are to make a show of the wish to play foul, and to be altogether shameless. Moreover, there is the putting of one’s questions alternately, whether one has more than one argument leading to the same conclusion, or whether one has arguments to show both that something is so, and that it is not so: for the result is that he has to be on his guard at the same time either against more than one line, or against contrary lines, of argument. In general, all the methods described before of producing concealment are useful also for purposes of contentious argument: for the object of concealment is to avoid detection, and the object of this is to deceive.

To counter those who refuse to grant whatever they suppose to help one’s argument, one should put the question negatively, as though desirous of the opposite answer, or at any rate as though one put the question without prejudice; for when it is obscure what answer one wants to secure, people are less refractory. Also when, in dealing with particulars, a man grants the individual case, when the induction is done you should often not put the universal as a question, but take it for granted and use it: for sometimes people themselves suppose that they have granted it, and also appear to the audience to have done so, for they remember the induction and assume that the questions could not have been put for nothing. In cases where there is no term to indicate the universal, still you should avail yourself of the resemblance of the particulars to suit your purpose; for resemblance often escapes detection. Also, with a view to obtaining your premiss, you ought to put it in your question side by side with its contrary. E.g. if it were necessary to secure the admission that ‘A man should obey his father in everything’, ask ‘Should a man obey his parents in everything, or disobey them in everything?’; and to secure that ‘A number multiplied by a large number is a large number’, ask ‘Should one agree that it is a large number or a small one?’ For then, if compelled to choose, one will be more inclined to think it a large one: for the placing of their contraries close beside them makes things look big to men, both relatively and absolutely, and worse and better.

A strong appearance of having been refuted is often produced by the most highly sophistical of all the unfair tricks of questioners, when without proving anything, instead of putting their final proposition as a question, they state it as a conclusion, as though they had proved that ‘Therefore so-and-so is not true’

It is also a sophistical trick, when a paradox has been laid down, first to propose at the start some view that is generally accepted, and then claim that the answerer shall answer what he thinks about it, and to put one’s question on matters of that kind in the form ‘Do you think that...?’ For then, if the question be taken as one of the premisses of one’s argument, either a refutation or a paradox is bound to result; if he grants the view, a refutation; if he refuses to grant it or even to admit it as the received opinion, a paradox; if he refuses to grant it, but admits that it is the received opinion, something very like a refutation, results.

Moreover, just as in rhetorical discourses, so also in those aimed at refutation, you should examine the discrepancies of the answerer’s position either with his own statements, or with those of persons whom he admits to say and do aright, moreover with those of people who are generally supposed to bear that kind of character, or who are like them, or with those of the majority or of all men. Also just as answerers, too, often, when they are in process of being confuted, draw a distinction, if their confutation is just about to take place, so questioners also should resort to this from time to time to counter objectors, pointing out, supposing that against one sense of the words the objection holds, but not against the other, that they have taken it in the latter sense, as e.g. Cleophon does in the Mandrobulus. They should also break off their argument and cut down their other lines of attack, while in answering, if a man perceives this being done beforehand, he should put in his objection and have his say first. One should also lead attacks sometimes against positions other than the one stated, on the understood condition that one cannot find lines of attack against the view laid down, as Lycophron did when ordered to deliver a eulogy upon the lyre. To counter those who demand ‘Against what are you directing your effort?’, since one is generally thought bound to state the charge made, while, on the other hand, some ways of stating it make the defence too easy, you should state as your aim only the general result that always happens in refutations, namely the contradiction of his thesis — viz. that your effort is to deny what he has affirmed, or to affirm what he denied: don’t say that you are trying to show that the knowledge of contraries is, or is not, the same. One must not ask one’s conclusion in the form of a premiss, while some conclusions should not even be put as questions at all; one should take and use it as granted.

16

We have now therefore dealt with the sources of questions, and the methods of questioning in contentious disputations: next we have to speak of answering, and of how solutions should be made, and of what requires them, and of what use is served by arguments of this kind.

The use of them, then, is, for philosophy, twofold. For in the first place, since for the most part they depend upon the expression, they put us in a better condition for seeing in how many senses any term is used, and what kind of resemblances and what kind of differences occur between things and between their names. In the second place they are useful for one’s own personal researches; for the man who is easily committed to a fallacy by some one else, and does not perceive it, is likely to incur this fate of himself also on many occasions. Thirdly and lastly, they further contribute to one's reputation, viz. the reputation of being well trained in everything, and not inexperienced in anything: for that a party to arguments should find fault with them, if he cannot definitely point out their weakness, creates a suspicion, making it seem as though it were not the truth of the matter but merely inexperience that put him out of temper.

Answerers may clearly see how to meet arguments of this kind, if our previous account was right of the sources whence fallacies came, and also our distinctions adequate of the forms of dishonesty in putting questions. But it is not the same thing take an argument in one's hand and then to see and solve its faults, as it is to be able to meet it quickly while being subjected to questions: for what we know, we often do not know in a different context. Moreover, just as in other things speed is enhanced by training, so it is with arguments too, so that supposing we are unpractised, even though a point be clear to us, we are often too late for the right moment. Sometimes too it happens as with diagrams; for there we can sometimes analyse the figure, but not construct it again: so too in refutations, though we know the thing on which the connexion of the argument depends, we still are at a loss to split the argument apart.

17

First then, just as we say that we ought sometimes to choose to prove something in the general estimation rather than in truth, so also we have sometimes to solve arguments rather in the general estimation than according to the truth. For it is a general rule in fighting contentious persons, to treat them not as refuting, but as merely appearing to refute: for we say that they don't really prove their case, so that our object in correcting them must be to dispel the appearance of it. For if refutation be an unambiguous contradiction arrived at from certain views, there could be no need to draw distinctions against amphiboly and ambiguity: they do not effect a proof. The only motive for drawing further distinctions is that the conclusion reached looks like a refutation. What, then, we have to beware of, is not being refuted, but seeming to be, because of course the asking of amphibolies and of questions that turn upon ambiguity, and all the other tricks of that kind, conceal even a genuine refutation, and make it uncertain who is refuted and who is not. For since one has the right at the end, when the conclusion is drawn, to say that the only denial made of One’s statement is ambiguous, no matter how precisely he may have addressed his argument to the very same point as oneself, it is not clear whether one has been refuted: for it is not clear whether at the moment one is speaking the truth. If, on the other hand, one had drawn a distinction, and questioned him on the ambiguous term or the amphiboly, the refutation would not have been a matter of uncertainty. Also what is incidentally the object of contentious arguers, though less so nowadays than formerly, would have been fulfilled, namely that the person questioned should answer either ‘Yes’ or ‘No’: whereas nowadays the improper forms in which questioners put their questions compel the party questioned to add something to his answer in correction of the faultiness of the proposition as put: for certainly, if the questioner distinguishes his meaning adequately, the answerer is bound to reply either ‘Yes’ or ‘No’.

If any one is going to suppose that an argument which turns upon ambiguity is a refutation, it will be impossible for an answerer to escape being refuted in a sense: for in the case of visible objects one is bound of necessity to deny the term one has asserted, and to assert what one has denied. For the remedy which some people have for this is quite unavailing. They say, not that Coriscus is both musical and unmusical, but that this Coriscus is musical and this Coriscus unmusical. But this will not do, for to say ‘this Coriscus is unmusical’, or ‘musical’, and to say ‘this Coriscus’ is so, is to use the same expression: and this he is both affirming and denying at once. ‘But perhaps they do not mean the same.’ Well, nor did the simple name in the former case: so where is the difference? If, however, he is to ascribe to the one person the simple title ‘Coriscus’, while to the other he is to add the prefix ‘one’ or ‘this’, he commits an absurdity: for the latter is no more applicable to the one than to the other: for to whichever he adds it, it makes no difference.

All the same, since if a man does not distinguish the senses of an amphiboly, it is not clear whether he has been confuted or has not been confuted, and since in arguments the right to distinguish them is granted, it is evident that to grant the question simply without drawing any distinction is a mistake, so that, even if not the man himself, at any rate his argument looks as though it had been refuted. It often happens, however, that, though they see the amphiboly, people hesitate to draw such distinctions, because of the dense crowd of persons who propose questions of the kind, in order that they may not be thought to be obstructionists at every turn: then, though they would never have supposed that that was the point on which the argument turned, they often find themselves faced by a paradox. Accordingly, since the right of drawing the distinction is granted, one should not hesitate, as has been said before.

If people never made two questions into one question, the fallacy that turns upon ambiguity and amphiboly would not have existed either, but either genuine refutation or none. For what is the difference between asking ‘Are Callias and Themistocles musical?’ and what one might have asked if they, being different, had had one name? For if the term applied means more than one thing, he has asked more than one question. If then it be not right to demand simply to be given a single answer to two questions, it is evident that it is not proper to give a simple answer to any ambiguous question, not even if the predicate be true of all the subjects, as some claim that one should. For this is exactly as though he had asked ‘Are Coriscus and Callias at home or not at home?’, supposing them to be both in or both out: for in both cases there is a number of propositions: for though the simple answer be true, that does not make the question one. For it is possible for it to be true to answer even countless different questions when put to one, all together with either a ‘Yes’ or a ‘No’: but still one should not answer them with a single answer: for that is the death of discussion. Rather, the case is like as though different things has actually had the same name applied to them. If then, one should not give a single answer to two questions, it is evident that we should not say simply ‘Yes’ or ‘No’ in the case of ambiguous terms either: for the remark is simply a remark, not an answer at all, although among disputants such remarks are loosely deemed to be answers, because they do not see what the consequence is.

As we said, then, inasmuch as certain refutations are generally taken for such, though not such really, in the same way also certain solutions will be generally taken for solutions, though not really such. Now these, we say, must sometimes be advanced rather than the true solutions in contentious reasonings and in the encounter with ambiguity. The proper answer in saying what one thinks is to say ‘Granted’; for in that way the likelihood of being refuted on a side issue is minimized. If, on the other hand, one is compelled to say something paradoxical, one should then be most careful to add that ‘it seems' so: for in that way one avoids the impression of being either refuted or paradoxical. Since it is clear what is meant by 'begging the original question', and people think that they must at all costs overthrow the premisses that lie near the conclusion, and plead in excuse for refusing to grant him some of them that he is begging the original question, so whenever any one claims from us a point such as is bound to follow as a consequence from our thesis, but is false or paradoxical, we must plead the same: for the necessary consequences are generally held to be a part of the thesis itself. Moreover, whenever the universal has been secured not under a definite name, but by a comparison of instances, one should say that the questioner assumes it not in the sense in which it was granted nor in which he proposed it in the premiss: for this too is a point upon which a refutation often depends.

If one is debarred from these defences one must pass to the argument that the conclusion has not been properly shown, approaching it in the light of the aforesaid distinction between the different kinds of fallacy.

In the case, then, of names that are used literally one is bound to answer either simply or by drawing a distinction: the tacit understandings implied in our statements, e.g. in answer to questions that are not put clearly but elliptically-it is upon this that the consequent refutation depends. For example, 'Is what belongs to Athenians the property of Athenians?' Yes. 'And so it is likewise in other cases. But observe; man belongs to the animal kingdom, doesn't he?' Yes. 'Then man is the property of the animal kingdom.' But this is a fallacy: for we say that man 'belongs to' the animal kingdom because he is an animal, just as we say that Lysander 'belongs to' the Spartans, because he is a Spartan. It is evident, then, that where the premiss put forward is not clear, one must not grant it simply.

Whenever of two things it is generally thought that if the one is true the other is true of necessity, whereas, if the other is true, the first is not true of necessity, one should, if asked which of them is true, grant the smaller one: for the larger the number of premisses, the harder it is to draw a conclusion from them. If, again, the sophist tries to secure that has a contrary while B has not, suppose what he says is true, you should say that each has a contrary, only for the one there is no established name.

Since, again, in regard to some of the views they express, most people would say that any one who did not admit them was telling a falsehood, while they would not say this in regard to some, e.g. to any matters whereon opinion is divided (for most people have no distinct view whether the soul of animals is destructible or immortal), accordingly (1) it is uncertain in which of two senses the premiss proposed is usually meant-whether as maxims are (for people call by the name of ‘maxims’ both true opinions and general assertions) or like the doctrine ‘the diagonal of a square is incommensurate with its side’: and moreover (2) whenever opinions are divided as to the truth, we then have subjects of which it is very easy to change the terminology undetected. For because of the uncertainty in which of the two senses the premiss contains the truth, one will not be thought to be playing any trick, while because of the division of opinion, one will not be thought to be telling a falsehood. Change the terminology therefore, for the change will make the position irrefutable.

Moreover, whenever one foresees any question coming, one should put in one’s objection and have one’s say beforehand: for by doing so one is likely to embarrass the questioner most effectually.

18

Inasmuch as a proper solution is an exposure of false reasoning, showing on what kind of question the falsity depends, and whereas ‘false reasoning’ has a double meaning-for it is used either if a false conclusion has been proved, or if there is only an apparent proof and no real one-there must be both the kind of solution just described,’ and also the correction of a merely apparent proof, so as to show upon which of the questions the appearance depends. Thus it comes about that one solves arguments that are properly reasoned by demolishing them, whereas one solves merely apparent arguments by drawing distinctions. Again, inasmuch as of arguments that are properly reasoned some have a true and others a false conclusion, those that are false in respect of their conclusion it is possible to solve in two ways; for it is possible both by demolishing one of the premisses asked, and by showing that the conclusion is not the real state of the case: those, on the other hand, that are false in respect of the premisses can be solved only by a demolition of one of them; for the conclusion is true. So that those who wish to solve an argument should in the first place look and see if it is properly reasoned, or is unreasoned; and next, whether the conclusion be true or false, in order that we may effect the solution either by drawing some distinction or by demolishing something, and demolishing it either in this way or in that, as was laid down before. There is a very great deal of difference between solving an argument when being subjected to questions and when not: for to foresee traps is difficult, whereas to see them at one's leisure is easier.

19

Of the refutations, then, that depend upon ambiguity and amphiboly some contain some question with more than one meaning, while others contain a conclusion bearing a number of senses: e.g. in the proof that 'speaking of the silent' is possible, the conclusion has a double meaning, while in the proof that 'he who knows does not understand what he knows' one of the questions contains an amphiboly. Also the double-edged saying is true in one context but not in another: it means something that is and something that is not.

Whenever, then, the many senses lie in the conclusion no refutation takes place unless the sophist secures as well the contradiction of the conclusion he means to prove; e.g. in the proof that 'seeing of the blind' is possible: for without the contradiction there was no refutation. Whenever, on the other hand, the many senses lie in the questions, there is no necessity to begin by denying the double-edged premiss: for this was not the goal of the argument but only its support. At the start, then, one should reply with regard to an ambiguity, whether of a term or of a phrase, in this manner, that 'in one sense it is so, and in another not so', as e.g. that 'speaking of the silent' is in one sense possible but in another not possible: also that in one sense 'one should do what must needs be done', but not in another: for 'what must needs be' bears a number of senses. If, however, the ambiguity escapes one, one should correct it at the end by making an addition to the question: 'Is speaking of the silent possible?' 'No, but to speak of while he is silent is possible.' Also, in cases which contain the ambiguity in their premisses, one should reply in like manner: 'Do people-then not understand what they know? "Yes, but not those who know it in the manner described': for it is not the same thing to say that 'those who know cannot understand what they know', and to say that 'those who know something in this particular manner cannot do so'. In general, too, even though he draws his conclusion in a quite unambiguous manner, one should contend that what he has negated is not the fact which one has asserted but only its name; and that therefore there is no refutation.

20

It is evident also how one should solve those refutations that depend upon the division and combination of words: for if the expression means something different when divided and when combined, as soon as one’s opponent draws his conclusion one should take the expression in the contrary way. All such expressions as the following depend upon the combination or division of the words: ‘Was X being beaten with that with which you saw him being beaten?’ and ‘Did you see him being beaten with that with which he was being beaten?’ This fallacy has also in it an element of amphiboly in the questions, but it really depends upon combination. For the meaning that depends upon the division of the words is not really a double meaning (for the expression when divided is not the same), unless also the word that is pronounced, according to its breathing, as eros and eros is a case of double meaning. (In writing, indeed, a word is the same whenever it is written of the same letters and in the same manner — and even there people nowadays put marks at the side to show the pronunciation — but the spoken words are not the same.) Accordingly an expression that depends upon division is not an ambiguous one. It is evident also that not all refutations depend upon ambiguity as some people say they do.

The answerer, then, must divide the expression: for ‘I-saw-a-man-being-beaten with my eyes’ is not the same as to say ‘I saw a man being-beaten-with-my-eyes’. Also there is the argument of Euthydemus proving ‘Then you know now in Sicily that there are triremes in Piraeus’: and again, ‘Can a good man who is a cobbler be bad?’ ‘No.’ ‘But a good man may be a bad cobbler: therefore a good cobbler will be bad.’ Again, ‘Things the knowledge of which is good, are good things to learn, aren’t they?’ ‘Yes.’ ‘The knowledge, however, of evil is good: therefore evil is a good thing to know.’ ‘Yes. But, you see, evil is both evil and a thing-to-learn, so that evil is an evil-thing-to-learn, although the knowledge of evils is good.’ Again, ‘Is it true to say in the present moment that you are born?’ ‘Yes.’ ‘Then you are born in the present moment.’ ‘No; the expression as divided has a different meaning: for it is true to say-in-the-present-moment that “you are born”, but not “You are born-in-the-present-moment”.’ Again, ‘Could you do what you can, and as you can?’ ‘Yes.’ ‘But when not harping, you have the power to harp: and therefore you could harp when not harping.’ ‘No: he has not the power to harp-while-not-harping; merely, when he is not doing it, he has the power to do it.' Some people solve this last refutation in another way as well. For, they say, if he has granted that he can do anything in the way he can, still it does not follow that he can harp when not harping: for it has not been granted that he will do anything in every way in which he can; and it is not the same thing' to do a thing in the way he can' and 'to do it in every way in which he can'. But evidently they do not solve it properly: for of arguments that depend upon the same point the solution is the same, whereas this will not fit all cases of the kind nor yet all ways of putting the questions: it is valid against the questioner, but not against his argument.

21

Accentuation gives rise to no fallacious arguments, either as written or as spoken, except perhaps some few that might be made up; e.g. the following argument. 'Is ou katalueis a house?' 'Yes.' 'Is then ou katalueis the negation of katalueis?' 'Yes.' 'But you said that ou katalueis is a house: therefore the house is a negation.' How one should solve this, is clear: for the word does not mean the same when spoken with an acuter and when spoken with a graver accent.

22

It is clear also how one must meet those fallacies that depend on the identical expressions of things that are not identical, seeing that we are in possession of the kinds of predications. For the one man, say, has granted, when asked, that a term denoting a substance does not belong as an attribute, while the other has shown that some attribute belongs which is in the Category of Relation or of Quantity, but is usually thought to denote a substance because of its expression; e.g. in the following argument: 'Is it possible to be doing and to have done the same thing at the same time?' 'No.' 'But, you see, it is surely possible to be seeing and to have seen the same thing at the same time, and in the same aspect.' Again, 'Is any mode of passivity a mode of activity?' 'No.' 'Then "he is cut", "he is burnt", "he is struck by some sensible object" are alike in expression and all denote some form of passivity, while again "to say", "to run", "to see" are like one like one another in expression: but, you see, “to see” is surely a form of being struck by a sensible object; therefore it is at the same time a form of passivity and of activity.’ Suppose, however, that in that case any one, after granting that it is not possible to do and to have done the same thing in the same time, were to say that it is possible to see and to have seen it, still he has not yet been refuted, suppose him to say that ‘to see’ is not a form of ‘doing’ (activity) but of ‘passivity’: for this question is required as well, though he is supposed by the listener to have already granted it, when he granted that ‘to cut’ is a form of present, and ‘to have cut’ a form of past, activity, and so on with the other things that have a like expression. For the listener adds the rest by himself, thinking the meaning to be alike: whereas really the meaning is not alike, though it appears to be so because of the expression. The same thing happens here as happens in cases of ambiguity: for in dealing with ambiguous expressions the tyro in argument supposes the sophist to have negated the fact which he (the tyro) affirmed, and not merely the name: whereas there still wants the question whether in using the ambiguous term he had a single meaning in view: for if he grants that that was so, the refutation will be effected.

Like the above are also the following arguments. It is asked if a man has lost what he once had and afterwards has not: for a man will no longer have ten dice even though he has only lost one die. No: rather it is that he has lost what he had before and has not now; but there is no necessity for him to have lost as much or as many things as he has not now. So then, he asks the questions as to what he has, and draws the conclusion as to the whole number that he has: for ten is a number. If then he had asked to begin with, whether a man no longer having the number of things he once had has lost the whole number, no one would have granted it, but would have said ‘Either the whole number or one of them’. Also there is the argument that ‘a man may give what he has not got’: for he has not got only one die. No: rather it is that he has given not what he had not got, but in a manner in which he had not got it, viz. just the one. For the word ‘only’ does not signify a particular substance or quality or number, but a manner relation, e.g. that it is not coupled with any other. It is therefore just as if he had asked ‘Could a man give what he has not got?’ and, on being given the answer ‘No’, were to ask if a man could give a thing quickly when he had not got it quickly, and, on this being granted, were to conclude that ‘a man could give what he had not got’. It is quite evident that he has not proved his point: for to ‘give quickly’ is not to give a thing, but to give in a certain manner; and a man could certainly give a thing in a manner in which he has not got it, e.g. he might have got it with pleasure and give it with pain.

Like these are also all arguments of the following kind: 'Could a man strike a blow with a hand which he has not got, or see with an eye which he has not got?' For he has not got only one eye. Some people solve this case, where a man has more than one eye, or more than one of anything else, by saying also that he has only one. Others also solve it as they solve the refutation of the view that 'what a man has, he has received': for A gave only one vote; and certainly B, they say, has only one vote from A. Others, again, proceed by demolishing straight away the proposition asked, and admitting that it is quite possible to have what one has not received; e.g. to have received sweet wine, but then, owing to its going bad in the course of receipt, to have it sour. But, as was said also above,' all these persons direct their solutions against the man, not against his argument. For if this were a genuine solution, then, suppose any one to grant the opposite, he could find no solution, just as happens in other cases; e.g. suppose the true solution to be 'So-and-so is partly true and partly not', then, if the answerer grants the expression without any qualification, the sophist's conclusion follows. If, on the other hand, the conclusion does not follow, then that could not be the true solution: and what we say in regard to the foregoing examples is that, even if all the sophist's premisses be granted, still no proof is effected.

Moreover, the following too belong to this group of arguments. 'If something be in writing did some one write it?' 'Yes.' 'But it is now in writing that you are seated-a false statement, though it was true at the time when it was written: therefore the statement that was written is at the same time false and true.' But this is fallacious, for the falsity or truth of a statement or opinion indicates not a substance but a quality: for the same account applies to the case of an opinion as well. Again, 'Is what a learner learns what he learns?' 'Yes.' 'But suppose some one learns "slow" quick'. Then his (the sophist's) words denote not what the learner learns but how he learns it. Also, 'Does a man tread upon what he walks through? 'Yes.' 'But X walks through a whole day.' No, rather the words denote not what he walks through, but when he walks; just as when any one uses the words 'to drink the cup' he denotes not what he drinks, but the vessel out of which he drinks. Also, 'Is it either by learning or by discovery that a man knows what he knows?’ ‘Yes.’ ‘But suppose that of a pair of things he has discovered one and learned the other, the pair is not known to him by either method.’ No: ‘what’ he knows, means’ every single thing’ he knows, individually; but this does not mean ‘all the things’ he knows, collectively. Again, there is the proof that there is a ‘third man’ distinct from Man and from individual men. But that is a fallacy, for ‘Man’, and indeed every general predicate, denotes not an individual substance, but a particular quality, or the being related to something in a particular manner, or something of that sort. Likewise also in the case of ‘Coriscus’ and ‘Coriscus the musician’ there is the problem, Are they the same or different?’ For the one denotes an individual substance and the other a quality, so that it cannot be isolated; though it is not the isolation which creates the ‘third man’, but the admission that it is an individual substance. For ‘Man’ cannot be an individual substance, as Callias is. Nor is the case improved one whit even if one were to call the clement he has isolated not an individual substance but a quality: for there will still be the one beside the many, just as ‘Man’ was. It is evident then that one must not grant that what is a common predicate applying to a class universally is an individual substance, but must say that denotes either a quality, or a relation, or a quantity, or something of that kind.

23

It is a general rule in dealing with arguments that depend on language that the solution always follows the opposite of the point on which the argument turns: e.g. if the argument depends upon combination, then the solution consists in division; if upon division, then in combination. Again, if it depends on an acute accent, the solution is a grave accent; if on a grave accent, it is an acute. If it depends on ambiguity, one can solve it by using the opposite term; e.g. if you find yourself calling something inanimate, despite your previous denial that it was so, show in what sense it is alive: if, on the other hand, one has declared it to be inanimate and the sophist has proved it to be animate, say how it is inanimate. Likewise also in a case of amphiboly. If the argument depends on likeness of expression, the opposite will be the solution. ‘Could a man give what he has not got? ‘No, not what he has not got; but he could give it in a way in which he has not got it, e.g. one die by itself.’ Does a man know either by learning or by discovery each thing that he knows, singly? but not the things that he knows, collectively.’ Also a man treads, perhaps, on any thing he walks through, but not on the time he walks through. Likewise also in the case of the other examples.

24

In dealing with arguments that depend on Accident, one and the same solution meets all cases. For since it is indeterminate when an attribute should be ascribed to a thing, in cases where it belongs to the accident of the thing, and since in some cases it is generally agreed and people admit that it belongs, while in others they deny that it need belong, we should therefore, as soon as the conclusion has been drawn, say in answer to them all alike, that there is no need for such an attribute to belong. One must, however, be prepared to adduce an example of the kind of attribute meant. All arguments such as the following depend upon Accident. ‘Do you know what I am going to ask you? you know the man who is approaching’, or ‘the man in the mask’? ‘Is the statue your work of art?’ or ‘Is the dog your father?’ ‘Is the product of a small number with a small number a small number?’ For it is evident in all these cases that there is no necessity for the attribute which is true of the thing’s accident to be true of the thing as well. For only to things that are indistinguishable and one in essence is it generally agreed that all the same attributes belong; whereas in the case of a good thing, to be good is not the same as to be going to be the subject of a question; nor in the case of a man approaching, or wearing a mask, is ‘to be approaching’ the same thing as ‘to be Coriscus’, so that suppose I know Coriscus, but do not know the man who is approaching, it still isn’t the case that I both know and do not know the same man; nor, again, if this is mine and is also a work of art, is it therefore my work of art, but my property or thing or something else. (The solution is after the same manner in the other cases as well.)

Some solve these refutations by demolishing the original proposition asked: for they say that it is possible to know and not to know the same thing, only not in the same respect: accordingly, when they don’t know the man who is coming towards them, but do know Corsicus, they assert that they do know and don’t know the same object, but not in the same respect. Yet, as we have already remarked, the correction of arguments that depend upon the same point ought to be the same, whereas this one will not stand if one adopts the same principle in regard not to knowing something, but to being, or to being is a in a certain state, e.g. suppose that X is father, and is also yours: for if in some cases this is true and it is possible to know and not to know the same thing, yet with that case the solution stated has nothing to do. Certainly there is nothing to prevent the same argument from having a number of flaws; but it is not the exposition of any and every fault that constitutes a solution: for it is possible for a man to show that a false conclusion has been proved, but not to show on what it depends, e.g. in the case of Zeno's argument to prove that motion is impossible. So that even if any one were to try to establish that this doctrine is an impossible one, he still is mistaken, and even if he proved his case ten thousand times over, still this is no solution of Zeno's argument: for the solution was all along an exposition of false reasoning, showing on what its falsity depends. If then he has not proved his case, or is trying to establish even a true proposition, or a false one, in a false manner, to point this out is a true solution. Possibly, indeed, the present suggestion may very well apply in some cases: but in these cases, at any rate, not even this would be generally agreed: for he knows both that Coriscus is Coriscus and that the approaching figure is approaching. To know and not to know the same thing is generally thought to be possible, when e.g. one knows that X is white, but does not realize that he is musical: for in that way he does know and not know the same thing, though not in the same respect. But as to the approaching figure and Coriscus he knows both that it is approaching and that he is Coriscus.

A like mistake to that of those whom we have mentioned is that of those who solve the proof that every number is a small number: for if, when the conclusion is not proved, they pass this over and say that a conclusion has been proved and is true, on the ground that every number is both great and small, they make a mistake.

Some people also use the principle of ambiguity to solve the aforesaid reasonings, e.g. the proof that 'X is your father', or 'son', or 'slave'. Yet it is evident that if the appearance a proof depends upon a plurality of meanings, the term, or the expression in question, ought to bear a number of literal senses, whereas no one speaks of A as being 'B's child' in the literal sense, if B is the child's master, but the combination depends upon Accident. 'Is A yours?' 'Yes.' 'And is A a child?' 'Yes.' 'Then the child A is yours,' because he happens to be both yours and a child; but he is not 'your child'.

There is also the proof that ‘something “of evils” is good’; for wisdom is a ‘knowledge “of evils”’. But the expression that this is ‘of so and-so’ (=‘so-and-so’s’) has not a number of meanings: it means that it is ‘so-and-so’s property’. We may suppose of course, on the other hand, that it has a number of meanings-for we also say that man is ‘of the animals’, though not their property; and also that any term related to ‘evils’ in a way expressed by a genitive case is on that account a so-and-so ‘of evils’, though it is not one of the evils-but in that case the apparently different meanings seem to depend on whether the term is used relatively or absolutely. ‘Yet it is conceivably possible to find a real ambiguity in the phrase “Something of evils is good”.’ Perhaps, but not with regard to the phrase in question. It would occur more nearly, suppose that ‘A servant is good of the wicked’; though perhaps it is not quite found even there: for a thing may be ‘good’ and be ‘X’s’ without being at the same time ‘X’s good’. Nor is the saying that ‘Man is of the animals’ a phrase with a number of meanings: for a phrase does not become possessed of a number of meanings merely suppose we express it elliptically: for we express ‘Give me the Iliad’ by quoting half a line of it, e.g. ‘Give me “Sing, goddess, of the wrath...”’

25

Those arguments which depend upon an expression that is valid of a particular thing, or in a particular respect, or place, or manner, or relation, and not valid absolutely, should be solved by considering the conclusion in relation to its contradictory, to see if any of these things can possibly have happened to it. For it is impossible for contraries and opposites and an affirmative and a negative to belong to the same thing absolutely; there is, however, nothing to prevent each from belonging in a particular respect or relation or manner, or to prevent one of them from belonging in a particular respect and the other absolutely. So that if this one belongs absolutely and that one in a particular respect, there is as yet no refutation. This is a feature one has to find in the conclusion by examining it in comparison with its contradictory.

All arguments of the following kind have this feature: ‘Is it possible for what is-not to be? “No.” But, you see, it is something, despite its not being.’ Likewise also, Being will not be; for it will not he some particular form of being. Is it possible for the same man at the same time to be a keeper and a breaker of his oath?' 'Can the same man at the same time both obey and disobey the same man?' Or isn't it the case that being something in particular and Being are not the same? On the other hand, Not-being, even if it be something, need not also have absolute 'being' as well. Nor if a man keeps his oath in this particular instance or in this particular respect, is he bound also to be a keeper of oaths absolutely, but he who swears that he will break his oath, and then breaks it, keeps this particular oath only; he is not a keeper of his oath: nor is the disobedient man 'obedient', though he obeys one particular command. The argument is similar, also, as regards the problem whether the same man can at the same time say what is both false and true: but it appears to be a troublesome question because it is not easy to see in which of the two connexions the word 'absolutely' is to be rendered-with 'true' or with 'false'. There is, however, nothing to prevent it from being false absolutely, though true in some particular respect or relation, i.e. being true in some things, though not 'true' absolutely. Likewise also in cases of some particular relation and place and time. For all arguments of the following kind depend upon this.' Is health, or wealth, a good thing?' 'Yes.' 'But to the fool who does not use it aright it is not a good thing: therefore it is both good and not good.' 'Is health, or political power, a good thing?' 'Yes. "But sometimes it is not particularly good: therefore the same thing is both good and not good to the same man.' Or rather there is nothing to prevent a thing, though good absolutely, being not good to a particular man, or being good to a particular man, and yet not good or here. 'Is that which the prudent man would not wish, an evil?' 'Yes.' 'But to get rid of, he would not wish the good: therefore the good is an evil.' But that is a mistake; for it is not the same thing to say 'The good is an evil' and 'to get rid of the good is an evil'. Likewise also the argument of the thief is mistaken. For it is not the case that if the thief is an evil thing, acquiring things is also evil: what he wishes, therefore, is not what is evil but what is good; for to acquire something good is good. Also, disease is an evil thing, but not to get rid of disease. 'Is the just preferable to the unjust, and what takes place justly to what takes place unjustly? 'Yes.' 'But to to be put to death unjustly is preferable.' 'Is it just that each should have his own?' 'Yes.' 'But whatever decisions a man comes to on the strength of his personal opinion, even if it be a false opinion, are valid in law: therefore the same result is both just and unjust.' Also, should one decide in favour of him who says what is unjust?' 'The former.' 'But you see, it is just for the injured party to say fully the things he has suffered; and these are fallacies. For because to suffer a thing unjustly is preferable, unjust ways are not therefore preferable, though in this particular case the unjust may very well be better than the just. Also, to have one's own is just, while to have what is another's is not just: all the same, the decision in question may very well be a just decision, whatever it be that the opinion of the man who gave the decision supports: for because it is just in this particular case or in this particular manner, it is not also just absolutely. Likewise also, though things are unjust, there is nothing to prevent the speaking of them being just: for because to speak of things is just, there is no necessity that the things should be just, any more than because to speak of things be of use, the things need be of use. Likewise also in the case of what is just. So that it is not the case that because the things spoken of are unjust, the victory goes to him who speaks unjust things: for he speaks of things that are just to speak of, though absolutely, i.e. to suffer, they are unjust.

26

Refutations that depend on the definition of a refutation must, according to the plan sketched above, be met by comparing together the conclusion with its contradictory, and seeing that it shall involve the same attribute in the same respect and relation and manner and time. If this additional question be put at the start, you should not admit that it is impossible for the same thing to be both double and not double, but grant that it is possible, only not in such a way as was agreed to constitute a refutation of your case. All the following arguments depend upon a point of that kind. 'Does a man who knows A to be A, know the thing called A?' and in the same way, 'is one who is ignorant that A is A ignorant of the thing called A?' 'Yes.' 'But one who knows that Coriscus is Coriscus might be ignorant of the fact that he is musical, so that he both knows and is ignorant of the same thing.' Is a thing four cubits long greater than a thing three cubits long?' 'Yes.' 'But a thing might grow from three to four cubits in length; 'now what is 'greater' is greater than a 'less': accordingly the thing in question will be both greater and less than itself in the same respect.

27

As to refutations that depend on begging and assuming the original point to be proved, suppose the nature of the question to be obvious, one should not grant it, even though it be a view generally held, but should tell him the truth. Suppose, however, that it escapes one, then, thanks to the badness of arguments of that kind, one should make one's error recoil upon the questioner, and say that he has brought no argument: for a refutation must be proved independently of the original point. Secondly, one should say that the point was granted under the impression that he intended not to use it as a premiss, but to reason against it, in the opposite way from that adopted in refutations on side issues.

28

Also, those refutations that bring one to their conclusion through the consequent you should show up in the course of the argument itself. The mode in which consequences follow is twofold. For the argument either is that as the universal follows on its particular-as (e.g.) 'animal' follows from 'man'-so does the particular on its universal: for the claim is made that if A is always found with B, then B also is always found with A. Or else it proceeds by way of the opposites of the terms involved: for if A follows B, it is claimed that A's opposite will follow B's opposite. On this latter claim the argument of Melissus also depends: for he claims that because that which has come to be has a beginning, that which has not come to be has none, so that if the heaven has not come to be, it is also eternal. But that is not so; for the sequence is vice versa.

29

In the case of any refutations whose reasoning depends on some addition, look and see if upon its subtraction the absurdity follows none the less: and then if so, the answerer should point this out, and say that he granted the addition not because he really thought it, but for the sake of the argument, whereas the questioner has not used it for the purpose of his argument at all.

30

To meet those refutations which make several questions into one, one should draw a distinction between them straight away at the start. For a question must be single to which there is a single answer, so that one must not affirm or deny several things of one thing, nor one thing of many, but one of one. But just as in the case of ambiguous terms, an attribute belongs to a term sometimes in both its senses, and sometimes in neither, so that a simple answer does one, as it happens, no harm despite the fact that the question is not simple, so it is in these cases of double questions too. Whenever, then, the several attributes belong to the one subject, or the one to the many, the man who gives a simple answer encounters no obstacle even though he has committed this mistake: but whenever an attribute belongs to one subject but not to the other, or there is a question of a number of attributes belonging to a number of subjects and in one sense both belong to both, while in another sense, again, they do not, then there is trouble, so that one must beware of this. Thus (e.g.) in the following arguments: Supposing to be good and B evil, you will, if you give a single answer about both, be compelled to say that it is true to call these good, and that it is true to call them evil and likewise to call them neither good nor evil (for each of them has not each character), so that the same thing will be both good and evil and neither good nor evil. Also, since everything is the same as itself and different from anything else, inasmuch as the man who answers double questions simply can be made to say that several things are ‘the same’ not as other things but ‘as themselves’, and also that they are different from themselves, it follows that the same things must be both the same as and different from themselves. Moreover, if what is good becomes evil while what is evil is good, then they must both become two. So of two unequal things each being equal to itself, it will follow that they are both equal and unequal to themselves.

Now these refutations fall into the province of other solutions as well: for ‘both’ and ‘all’ have more than one meaning, so that the resulting affirmation and denial of the same thing does not occur, except verbally: and this is not what we meant by a refutation. But it is clear that if there be not put a single question on a number of points, but the answerer has affirmed or denied one attribute only of one subject only, the absurdity will not come to pass.

With regard to those who draw one into repeating the same thing a number of times, it is clear that one must not grant that predications of relative terms have any meaning in abstraction by themselves, e.g. that ‘double’ is a significant term apart from the whole phrase ‘double of half’ merely on the ground that it figures in it. For ten figures in ‘ten minus one’ and in ‘not do’, and generally the affirmation in the negation; but for all that, suppose any one were to say, ‘This is not white’, he does not say that it is white. The bare word ‘double’, one may perhaps say, has not even any meaning at all, any more than has ‘the’ in ‘the half’: and even if it has a meaning, yet it has not the same meaning as in the combination. Nor is ‘knowledge’ the same thing in a specific branch of it (suppose it, e.g. to be ‘medical knowledge’) as it is in general: for in general it was the ‘knowledge of the knowable’. In the case of terms that are predicated of the terms through which they are defined, you should say the same thing, that the term defined is not the same in abstraction as it is in the whole phrase. For ‘concave’ has a general meaning which is the same in the case of a snub nose, and of a bandy leg, but when added to either substantive nothing prevents it from differentiating its meaning; in fact it bears one sense as applied to the nose, and another as applied to the leg: for in the former connexion it means ‘snub’ and in the latter ‘bandyshaped’; i.e. it makes no difference whether you say ‘a snub nose’ or ‘a concave nose’. Moreover, the expression must not be granted in the nominative case: for it is a falsehood. For snubness is not a concave nose but something (e.g. an affection) belonging to a nose: hence, there is no absurdity in supposing that the snub nose is a nose possessing the concavity that belongs to a nose.

32

With regard to solecisms, we have previously said what it is that appears to bring them about; the method of their solution will be clear in the course of the arguments themselves. Solecism is the result aimed at in all arguments of the following kind: ‘Is a thing truly that which you truly call it?’ ‘Yes’. ‘But, speaking of a stone, you call him real: therefore of a stone it follows that “him is real”.’ No: rather, talking of a stone means not saying which’ but ‘whom’, and not ‘that’ but ‘him’. If, then, any one were to ask, ‘Is a stone him whom you truly call him?’ he would be generally thought not to be speaking good Greek, any more than if he were to ask, ‘Is he what you call her?’ Speak in this way of a ‘stick’ or any neuter word, and the difference does not break out. For this reason, also, no solecism is incurred, suppose any one asks, ‘Is a thing what you say it to be?’ ‘Yes’. ‘But, speaking of a stick, you call it real: therefore, of a stick it follows that it is real.’ ‘Stone’, however, and ‘he’ have masculine designations. Now suppose some one were to ask, ‘Can “he” be a she” (a female)?’, and then again, ‘Well, but is not he Coriscus?’ and then were to say, ‘Then he is a “she”,’ he has not proved the solecism, even if the name ‘Coriscus’ does signify a ‘she’, if, on the other hand, the answerer does not grant this: this point must be put as an additional question: while if neither is it the fact nor does he grant it, then the sophist has not proved his case either in fact or as against the person he has been questioning. In like manner, then, in the above instance as well it must be definitely put that ‘he’ means the stone. If, however, this neither is so nor is granted, the conclusion must not be stated: though it follows apparently, because the case (the accusative), that is really unlike, appears to be like the nominative. ‘Is it true to say that this object is what you call it by name?’ ‘Yes’. ‘But you call it by the name of a shield: this object therefore is “of a shield”.’ No: not necessarily, because the meaning of ‘this object’ is not ‘of a shield’ but ‘a shield’: ‘of a shield’ would be the meaning of ‘this object’s’. Nor again if ‘He is what you call him by name’, while ‘the name you call him by is Cleon’s’, is he therefore ‘Cleon’s’: for he is not ‘Cleon’s’, for what was said was that ‘He, not his, is what I call him by name’. For the question, if put in the latter way, would not even be Greek. ‘Do you know this?’ ‘Yes.’ ‘But this is he: therefore you know he’. No: rather ‘this’ has not the same meaning in ‘Do you know this?’ as in ‘This is a stone’; in the first it stands for an accusative, in the second for a nominative case. ‘When you have understanding of anything, do you understand it?’ ‘Yes.’ ‘But you have understanding of a stone: therefore you understand of a stone.’ No: the one phrase is in the genitive, ‘of a stone’, while the other is in the accusative, ‘a stone’: and what was granted was that ‘you understand that, not of that, of which you have understanding’, so that you understand not ‘of a stone’, but ‘the stone’.

Thus that arguments of this kind do not prove solecism but merely appear to do so, and both why they so appear and how you should meet them, is clear from what has been said.

We must also observe that of all the arguments aforesaid it is easier with some to see why and where the reasoning leads the hearer astray, while with others it is more difficult, though often they are the same arguments as the former. For we must call an argument the same if it depends upon the same point; but the same argument is apt to be thought by some to depend on diction, by others on accident, and by others on something else, because each of them, when worked with different terms, is not so clear as it was. Accordingly, just as in fallacies that depend on ambiguity, which are generally thought to be the silliest form of fallacy, some are clear even to the man in the street (for humorous phrases nearly all depend on diction; e.g. 'The man got the cart down from the stand'; and 'Where are you bound?' 'To the yard arm'; and 'Which cow will calve afore?' 'Neither, but both behind;' and 'Is the North wind clear?' 'No, indeed; for it has murdered the beggar and the merchant." Is he a Good enough-King?' 'No, indeed; a Rob-son': and so with the great majority of the rest as well), while others appear to elude the most expert (and it is a symptom of this that they often fight about their terms, e.g. whether the meaning of 'Being' and 'One' is the same in all their applications or different; for some think that 'Being' and 'One' mean the same; while others solve the argument of Zeno and Parmenides by asserting that 'One' and 'Being' are used in a number of senses), likewise also as regards fallacies of Accident and each of the other types, some of the arguments will be easier to see while others are more difficult; also to grasp to which class a fallacy belongs, and whether it is a refutation or not a refutation, is not equally easy in all cases.

An incisive argument is one which produces the greatest perplexity: for this is the one with the sharpest fang. Now perplexity is twofold, one which occurs in reasoned arguments, respecting which of the propositions asked one is to demolish, and the other in contentious arguments, respecting the manner in which one is to assent to what is propounded. Therefore it is in syllogistic arguments that the more incisive ones produce the keenest heart-searching. Now a syllogistic argument is most incisive if from premisses that are as generally accepted as possible it demolishes a conclusion that is accepted as generally as possible. For the one argument, if the contradictory is changed about, makes all the resulting syllogisms alike in character: for always from premisses that are generally accepted it will prove a conclusion, negative or positive as the case may be, that is just as generally accepted; and therefore one is bound to feel perplexed. An argument, then, of this kind is the most incisive, viz. the one that puts its conclusion on all fours with the propositions asked; and second comes the one that argues from premisses, all of which are equally convincing: for this will produce an equal perplexity as to what kind of premiss, of those asked, one should demolish. Herein is a difficulty: for one must demolish something, but what one must demolish is uncertain. Of contentious arguments, on the other hand, the most incisive is the one which, in the first place, is characterized by an initial uncertainty whether it has been properly reasoned or not; and also whether the solution depends on a false premiss or on the drawing of a distinction; while, of the rest, the second place is held by that whose solution clearly depends upon a distinction or a demolition, and yet it does not reveal clearly which it is of the premisses asked, whose demolition, or the drawing of a distinction within it, will bring the solution about, but even leaves it vague whether it is on the conclusion or on one of the premisses that the deception depends.

Now sometimes an argument which has not been properly reasoned is silly, supposing the assumptions required to be extremely contrary to the general view or false; but sometimes it ought not to be held in contempt. For whenever some question is left out, of the kind that concerns both the subject and the nerve of the argument, the reasoning that has both failed to secure this as well, and also failed to reason properly, is silly; but when what is omitted is some extraneous question, then it is by no means to be lightly despised, but the argument is quite respectable, though the questioner has not put his questions well.

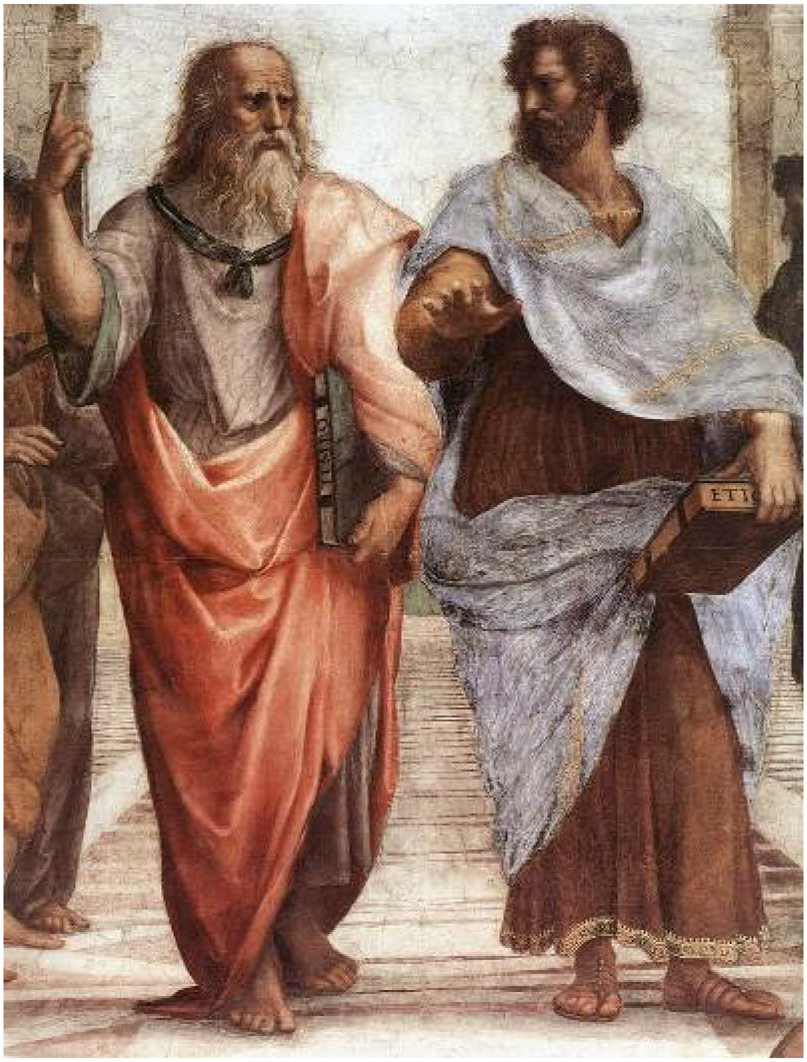
Just as it is possible to bring a solution sometimes against the argument, at others against the questioner and his mode of questioning, and at others against neither of these, likewise also it is possible to marshal one’s questions and reasoning both against the thesis, and against the answerer and against the time, whenever the solution requires a longer time to examine than the period available.

As to the number, then, and kind of sources whence fallacies arise in discussion, and how we are to show that our opponent is committing a fallacy and make him utter paradoxes; moreover, by the use of what materials solescism is brought about, and how to question and what is the way to arrange the questions; moreover, as to the question what use is served by all arguments of this kind, and concerning the answerer's part, both as a whole in general, and in particular how to solve arguments and solecisms-on all these things let the foregoing discussion suffice. It remains to recall our original proposal and to bring our discussion to a close with a few words upon it.

Our programme was, then, to discover some faculty of reasoning about any theme put before us from the most generally accepted premisses that there are. For that is the essential task of the art of discussion (dialectic) and of examination (peirastic). Inasmuch, however, as it is annexed to it, on account of the near presence of the art of sophistry (sophistic), not only to be able to conduct an examination dialectically but also with a show of knowledge, we therefore proposed for our treatise not only the aforesaid aim of being able to exact an account of any view, but also the aim of ensuring that in standing up to an argument we shall defend our thesis in the same manner by means of views as generally held as possible. The reason of this we have explained; for this, too, was why Socrates used to ask questions and not to answer them; for he used to confess that he did not know. We have made clear, in the course of what precedes, the number both of the points with reference to which, and of the materials from which, this will be accomplished, and also from what sources we can become well supplied with these: we have shown, moreover, how to question or arrange the questioning as a whole, and the problems concerning the answers and solutions to be used against the reasonings of the questioner. We have also cleared up the problems concerning all other matters that belong to the same inquiry into arguments. In addition to this we have been through the subject of Fallacies, as we have already stated above.

That our programme, then, has been adequately completed is clear. But we must not omit to notice what has happened in regard to this inquiry. For in the case of all discoveries the results of previous labours that have been handed down from others have been advanced bit by bit by those who have taken them on, whereas the original discoveries generally make advance that is small at first though much more useful than the development which later springs out of them. For it may be that in everything, as the saying is, ‘the first start is the main part’: and for this reason also it is the most difficult; for in proportion as it is most potent in its influence, so it is smallest in its compass and therefore most difficult to see: whereas when this is once discovered, it is easier to add and develop the remainder in connexion with it. This is in fact what has happened in regard to rhetorical speeches and to practically all the other arts: for those who discovered the beginnings of them advanced them in all only a little way, whereas the celebrities of to-day are the heirs (so to speak) of a long succession of men who have advanced them bit by bit, and so have developed them to their present form, Tisias coming next after the first founders, then Thrasymachus after Tisias, and Theodorus next to him, while several people have made their several contributions to it: and therefore it is not to be wondered at that the art has attained considerable dimensions. Of this inquiry, on the other hand, it was not the case that part of the work had been thoroughly done before, while part had not. Nothing existed at all. For the training given by the paid professors of contentious arguments was like the treatment of the matter by Gorgias. For they used to hand out speeches to be learned by heart, some rhetorical, others in the form of question and answer, each side supposing that their arguments on either side generally fall among them. And therefore the teaching they gave their pupils was ready but rough. For they used to suppose that they trained people by imparting to them not the art but its products, as though any one professing that he would impart a form of knowledge to obviate any pain in the feet, were then not to teach a man the art of shoe-making or the sources whence he can acquire anything of the kind, but were to present him with several kinds of shoes of all sorts: for he has helped him to meet his need, but has not imparted an art to him. Moreover, on the subject of Rhetoric there exists much that has been said long ago, whereas on the subject of reasoning we had nothing else of an earlier date to speak of at all, but were kept at work for a long time in experimental researches. If, then, it seems to you after inspection that, such being the situation as it existed at the start, our investigation is in a satisfactory condition compared with the other inquiries that have been developed by tradition, there must remain for all of you, or for our students, the task of extending us your pardon for the shortcomings of the inquiry, and for the discoveries thereof your warm thanks.

PHYSICS



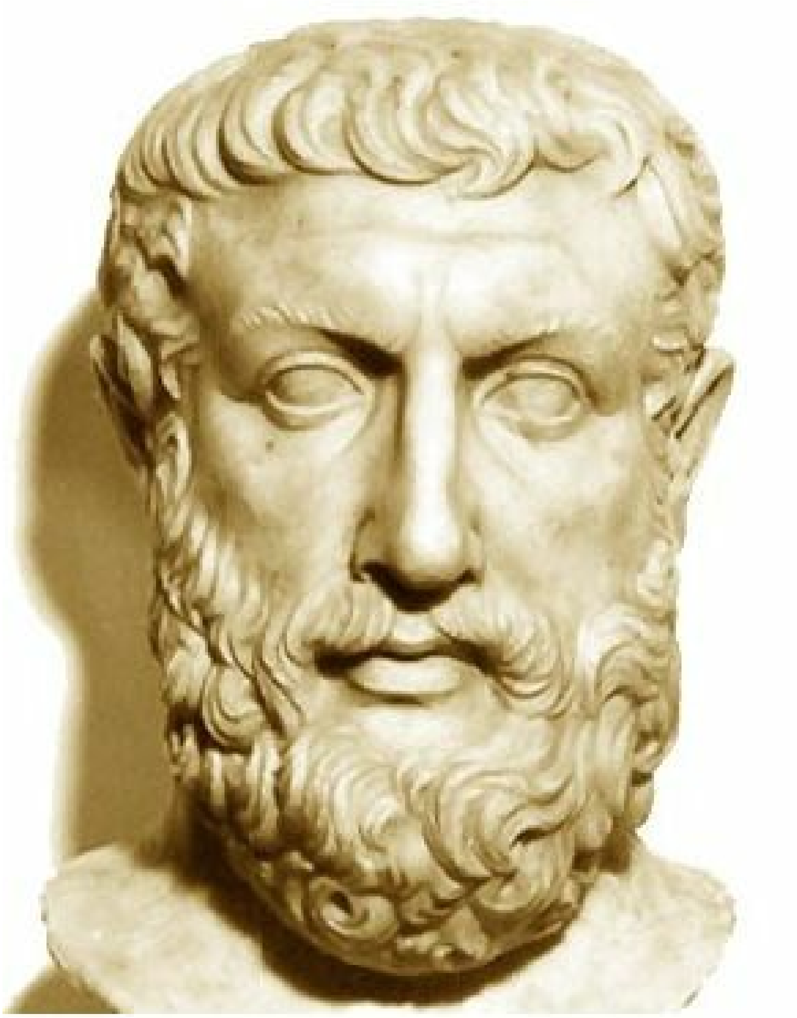
A detail of Raphael's famous School of Athens fresco in the Vatican. Aristotle (right) gestures to the earth, representing his belief in knowledge through empirical observation and experience, holding a copy the Nicomachean Ethics, whilst Plato (left) gestures to the heavens, representing his belief in Forms.

Physics (184a)

Translated by R. P. Hardie and R. K. Gaye

The Φυσικὴ ἀκρόασις is one of the foundational books of Western science and philosophy. It is a collection of treatises or lessons that deal with the most general philosophical principles of natural or moving things, both living and non-living, rather than physical theories or investigations of the particular contents of the universe. The chief purpose of the work is to discover the principles and causes of change, or movement, especially that of natural wholes. In the conventional Andronichean ordering of Aristotle’s works, it stands at the head of, as well as being foundational to, the long series of physical, cosmological and biological treatises.

The *Physics* is composed of eight books, which are divided into chapters. The first book considers the scientist’s approach to nature and the world of changing things and the doctrines of the presocratic natural philosophers, Parmenides in particular. Topics include: remarks on method, a discussion of how some ancestors viewed nature, and the basic elements of change. Change elements include: a lack (privation), which is overcome by its opposite (form), with both of them belonging to a subject (or substrate: matter in substantial change; substance in accidental change) which persists through the change.



Parmenides of Elea (fl. early 5th century BC) was an ancient Greek philosopher and the founder of the Eleatic school of philosophy. The single known work of Parmenides is a poem, On Nature, which has survived only in fragmentary form. In this poem, Parmenides describes two views of reality. In "the way of truth" (a part of the poem), he explains how reality (coined as "what-is") is one, change is impossible, and existence is timeless, uniform, necessary, and unchanging.

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Book I

1

WHEN the objects of an inquiry, in any department, have principles, conditions, or elements, it is through acquaintance with these that knowledge, that is to say scientific knowledge, is attained. For we do not think that we know a thing until we are acquainted with its primary conditions or first principles, and have carried our analysis as far as its simplest elements. Plainly therefore in the science of Nature, as in other branches of study, our first task will be to try to determine what relates to its principles.

The natural way of doing this is to start from the things which are more knowable and obvious to us and proceed towards those which are clearer and more knowable by nature; for the same things are not ‘knowable relatively to us’ and ‘knowable’ without qualification. So in the present inquiry we must follow this method and advance from what is more obscure by nature, but clearer to us, towards what is more clear and more knowable by nature.

Now what is to us plain and obvious at first is rather confused masses, the elements and principles of which become known to us later by analysis. Thus we must advance from generalities to particulars; for it is a whole that is best known to sense-perception, and a generality is a kind of whole, comprehending many things within it, like parts. Much the same thing happens in the relation of the name to the formula. A name, e.g. ‘round’, means vaguely a sort of whole: its definition analyses this into its particular senses. Similarly a child begins by calling all men ‘father’, and all women ‘mother’, but later on distinguishes each of them.

2

The principles in question must be either (a) one or (b) more than one. If (a) one, it must be either (i) motionless, as Parmenides and Melissus assert, or (ii) in motion, as the physicists hold, some declaring air to be the first principle, others water. If (b) more than one, then either (i) a finite or (ii) an infinite plurality. If (i) finite (but more than one), then either two or three or four or some other number. If (ii) infinite, then either as Democritus believed one in kind, but differing in shape or form; or different in kind and even contrary.

A similar inquiry is made by those who inquire into the number of existents: for they inquire whether the ultimate constituents of existing things are one or many, and if many, whether a finite or an infinite plurality. So they too are inquiring whether the principle or element is one or many.

Now to investigate whether Being is one and motionless is not a contribution to the science of Nature. For just as the geometer has nothing more to say to one who denies the principles of his science — this being a question for a different science or for or common to all — so a man investigating principles cannot argue with one who denies their existence. For if Being is just one, and one in the way mentioned, there is a principle no longer, since a principle must be the principle of some thing or things.

To inquire therefore whether Being is one in this sense would be like arguing against any other position maintained for the sake of argument (such as the Heraclitean thesis, or such a thesis as that Being is one man) or like refuting a merely contentious argument — a description which applies to the arguments both of Melissus and of Parmenides: their premisses are false and their conclusions do not follow. Or rather the argument of Melissus is gross and palpable and offers no difficulty at all: accept one ridiculous proposition and the rest follows — a simple enough proceeding.

We physicists, on the other hand, must take for granted that the things that exist by nature are, either all or some of them, in motion which is indeed made plain by induction. Moreover, no man of science is bound to solve every kind of difficulty that may be raised, but only as many as are drawn falsely from the principles of the science: it is not our business to refute those that do not arise in this way: just as it is the duty of the geometer to refute the squaring of the circle by means of segments, but it is not his duty to refute Antiphon’s proof. At the same time the holders of the theory of which we are speaking do incidentally raise physical questions, though Nature is not their subject: so it will perhaps be as well to spend a few words on them, especially as the inquiry is not without scientific interest.

The most pertinent question with which to begin will be this: In what sense is it asserted that all things are one? For ‘is’ is used in many senses. Do they mean that all things ‘are’ substance or quantities or qualities? And, further, are all things one substance — one man, one horse, or one soul — or quality and that one and the same — white or hot or something of the kind? These are all very different doctrines and all impossible to maintain.

For if both substance and quantity and quality are, then, whether these exist independently of each other or not, Being will be many.

If on the other hand it is asserted that all things are quality or quantity, then, whether substance exists or not, an absurdity results, if the impossible can properly be called absurd. For none of the others can exist independently: substance alone is independent: for everything is predicated of substance as subject. Now Melissus says that Being is infinite. It is then a quantity. For the infinite is in the category of quantity, whereas substance or quality or affection cannot be infinite except through a concomitant attribute, that is, if at the same time they are also quantities. For to define the infinite you must use quantity in your formula, but not substance or quality. If then Being is both substance and quantity, it is two, not one: if only substance, it is not infinite and has no magnitude; for to have that it will have to be a quantity.

Again, ‘one’ itself, no less than ‘being’, is used in many senses, so we must consider in what sense the word is used when it is said that the All is one.

Now we say that (a) the continuous is one or that (b) the indivisible is one, or (c) things are said to be ‘one’, when their essence is one and the same, as ‘liquor’ and ‘drink’.

If (a) their One is one in the sense of continuous, it is many, for the continuous is divisible ad infinitum.

There is, indeed, a difficulty about part and whole, perhaps not relevant to the present argument, yet deserving consideration on its own account — namely, whether the part and the whole are one or more than one, and how they can be one or many, and, if they are more than one, in what sense they are more than one. (Similarly with the parts of wholes which are not continuous.) Further, if each of the two parts is indivisibly one with the whole, the difficulty arises that they will be indivisibly one with each other also.

But to proceed: If (b) their One is one as indivisible, nothing will have quantity or quality, and so the one will not be infinite, as Melissus says — nor, indeed, limited, as Parmenides says, for though the limit is indivisible, the limited is not.

But if (c) all things are one in the sense of having the same definition, like ‘raiment’ and ‘dress’, then it turns out that they are maintaining the Heraclitean doctrine, for it will be the same thing ‘to be good’ and ‘to be bad’, and ‘to be good’ and ‘to be not good’, and so the same thing will be ‘good’ and ‘not good’, and man and horse; in fact, their view will be, not that all things are one, but that they are nothing; and that ‘to be of such-and-such a quality’ is the same as ‘to be of such-and-such a size’.

Even the more recent of the ancient thinkers were in a pother lest the same thing should turn out in their hands both one and many. So some, like Lycophron, were led to omit ‘is’, others to change the mode of expression and say ‘the man has been whitened’ instead of ‘is white’, and ‘walks’ instead of ‘is walking’, for fear that if they added the word ‘is’ they should be making the one to be many — as if ‘one’ and ‘being’ were always used in one and the same sense. What ‘is’ may be many either in definition (for example ‘to be white’ is one thing, ‘to be musical’ another, yet the same thing be both, so the one is many) or by division, as the whole and its parts. On this point, indeed, they were already getting into difficulties and admitted that the one was many — as if there was any difficulty about the same thing being both one and many, provided that these are not opposites; for ‘one’ may mean either ‘potentially one’ or ‘actually one’.

3

If, then, we approach the thesis in this way it seems impossible for all things to be one. Further, the arguments they use to prove their position are not difficult to expose. For both of them reason contentiously — I mean both Melissus and Parmenides. [Their premisses are false and their conclusions do not follow. Or rather the argument of Melissus is gross and palpable and offers no difficulty at all: admit one ridiculous proposition and the rest follows — a simple enough proceeding.] The fallacy of Melissus is obvious. For he supposes that the assumption ‘what has come into being always has a beginning’ justifies the assumption ‘what has not come into being has no beginning’. Then this also is absurd, that in every case there should be a beginning of the thing — not of the time and not only in the case of coming to be in the full sense but also in the case of coming to have a quality — as if change never took place suddenly. Again, does it follow that Being, if one, is motionless? Why should it not move, the whole of it within itself, as parts of it do which are unities, e.g. this water? Again, why is qualitative change impossible? But, further, Being cannot be one in form, though it may be in what it is made of. (Even some of the physicists hold it to be one in the latter way, though not in the former.) Man obviously differs from horse in form, and contraries from each other.

The same kind of argument holds good against Parmenides also, besides any that may apply specially to his view: the answer to him being that ‘this is not true’ and ‘that does not follow’. His assumption that one is used in a single sense only is false, because it is used in several. His conclusion does not follow, because if we take only white things, and if ‘white’ has a single meaning, none the less what is white will be many and not one. For what is white will not be one either in the sense that it is continuous or in the sense that it must be defined in only one way. ‘Whiteness’ will be different from ‘what has whiteness’. Nor does this mean that there is anything that can exist separately, over and above what is white. For ‘whiteness’ and ‘that which is white’ differ in definition, not in the sense that they are things which can exist apart from each other. But Parmenides had not come in sight of this distinction.

It is necessary for him, then, to assume not only that ‘being’ has the same meaning, of whatever it is predicated, but further that it means (1) what just is and (2) what is just one.

It must be so, for (1) an attribute is predicated of some subject, so that the subject to which ‘being’ is attributed will not be, as it is something different from ‘being’. Something, therefore, which is not will be. Hence ‘substance’ will not be a predicate of anything else. For the subject cannot be a being, unless ‘being’ means several things, in such a way that each is something. But ex hypothesi ‘being’ means only one thing.

If, then, ‘substance’ is not attributed to anything, but other things are attributed to it, how does ‘substance’ mean what is rather than what is not? For suppose that ‘substance’ is also ‘white’. Since the definition of the latter is different (for being cannot even be attributed to white, as nothing is which is not ‘substance’), it follows that ‘white’ is not-being — and that not in the sense of a particular not-being, but in the sense that it is not at all. Hence ‘substance’ is not; for it is true to say that it is white, which we found to mean not-being. If to avoid this we say that even ‘white’ means substance, it follows that ‘being’ has more than one meaning.

In particular, then, Being will not have magnitude, if it is substance. For each of the two parts must he in a different sense.

(2) Substance is plainly divisible into other substances, if we consider the mere nature of a definition. For instance, if ‘man’ is a substance, ‘animal’ and ‘biped’ must also be substances. For if not substances, they must be attributes — and if attributes, attributes either of (a) man or of (b) some other subject. But neither is possible.

(a) An attribute is either that which may or may not belong to the subject or that in whose definition the subject of which it is an attribute is involved. Thus ‘sitting’ is an example of a separable attribute, while ‘snubness’ contains the definition of ‘nose’, to which we attribute snubness. Further, the definition of the whole is not contained in the definitions of the contents or elements of the definitory formula; that of ‘man’ for instance in ‘biped’, or that of ‘white man’ in ‘white’. If then this is so, and if ‘biped’ is supposed to be an attribute of ‘man’, it must be either separable, so that ‘man’ might possibly not be ‘biped’, or the definition of ‘man’ must come into the definition of ‘biped’ — which is impossible, as the converse is the case.

(b) If, on the other hand, we suppose that ‘biped’ and ‘animal’ are attributes not of man but of something else, and are not each of them a substance, then ‘man’ too will be an attribute of something else. But we must assume that substance is not the attribute of anything, that the subject of which both ‘biped’ and ‘animal’ and each separately are predicated is the subject also of the complex ‘biped animal’.

Are we then to say that the All is composed of indivisible substances? Some thinkers did, in point of fact, give way to both arguments. To the argument that all things are one if being means one thing, they conceded that not-being is; to that from bisection, they yielded by positing atomic magnitudes. But obviously it is not true that if being means one thing, and cannot at the same time mean the contradictory of this, there will be nothing which is not, for even if what is not cannot be without qualification, there is no reason why it should not be a particular not-being. To say that all things will be one, if there is nothing besides Being itself, is absurd. For who understands ‘being itself’ to be anything but a particular substance? But if this is so, there is nothing to prevent there being many beings, as has been said.

It is, then, clearly impossible for Being to be one in this sense.

4

The physicists on the other hand have two modes of explanation.

The first set make the underlying body one either one of the three or something else which is denser than fire and rarer than air then generate everything else from this, and obtain multiplicity by condensation and rarefaction. Now these are contraries, which may be generalized into 'excess and defect'. (Compare Plato's 'Great and Small' — except that he make these his matter, the one his form, while the others treat the one which underlies as matter and the contraries as differentiae, i.e. forms).

The second set assert that the contrarieties are contained in the one and emerge from it by segregation, for example Anaximander and also all those who assert that 'what is' is one and many, like Empedocles and Anaxagoras; for they too produce other things from their mixture by segregation. These differ, however, from each other in that the former imagines a cycle of such changes, the latter a single series. Anaxagoras again made both his 'homceomerous' substances and his contraries infinite in multitude, whereas Empedocles posits only the so-called elements.

The theory of Anaxagoras that the principles are infinite in multitude was probably due to his acceptance of the common opinion of the physicists that nothing comes into being from not-being. For this is the reason why they use the phrase 'all things were together' and the coming into being of such and such a kind of thing is reduced to change of quality, while some spoke of combination and separation. Moreover, the fact that the contraries proceed from each other led them to the conclusion. The one, they reasoned, must have already existed in the other; for since everything that comes into being must arise either from what is or from what is not, and it is impossible for it to arise from what is not (on this point all the physicists agree), they thought that the truth of the alternative necessarily followed, namely that things come into being out of existent things, i.e. out of things already present, but imperceptible to our senses because of the smallness of their bulk. So they assert that everything has been mixed in every. thing, because they saw everything arising out of everything. But things, as they say, appear different from one another and receive different names according to the nature of the particles which are numerically predominant among the innumerable constituents of the mixture. For nothing, they say, is purely and entirely white or black or sweet, bone or flesh, but the nature of a thing is held to be that of which it contains the most.

Now (1) the infinite qua infinite is unknowable, so that what is infinite in multitude or size is unknowable in quantity, and what is infinite in variety of kind is unknowable in quality. But the principles in question are infinite both in multitude and in kind. Therefore it is impossible to know things which are composed of them; for it is when we know the nature and quantity of its components that we suppose we know a complex.

Further (2) if the parts of a whole may be of any size in the direction either of greatness or of smallness (by ‘parts’ I mean components into which a whole can be divided and which are actually present in it), it is necessary that the whole thing itself may be of any size. Clearly, therefore, since it is impossible for an animal or plant to be indefinitely big or small, neither can its parts be such, or the whole will be the same. But flesh, bone, and the like are the parts of animals, and the fruits are the parts of plants. Hence it is obvious that neither flesh, bone, nor any such thing can be of indefinite size in the direction either of the greater or of the less.

Again (3) according to the theory all such things are already present in one another and do not come into being but are constituents which are separated out, and a thing receives its designation from its chief constituent. Further, anything may come out of anything — water by segregation from flesh and flesh from water. Hence, since every finite body is exhausted by the repeated abstraction of a finite body, it seems obviously to follow that everything cannot subsist in everything else. For let flesh be extracted from water and again more flesh be produced from the remainder by repeating the process of separation: then, even though the quantity separated out will continually decrease, still it will not fall below a certain magnitude. If, therefore, the process comes to an end, everything will not be in everything else (for there will be no flesh in the remaining water); if on the other hand it does not, and further extraction is always possible, there will be an infinite multitude of finite equal particles in a finite quantity — which is impossible. Another proof may be added: Since every body must diminish in size when something is taken from it, and flesh is quantitatively definite in respect both of greatness and smallness, it is clear that from the minimum quantity of flesh no body can be separated out; for the flesh left would be less than the minimum of flesh.

Lastly (4) in each of his infinite bodies there would be already present infinite flesh and blood and brain — having a distinct existence, however, from one another, and no less real than the infinite bodies, and each infinite: which is contrary to reason.

The statement that complete separation never will take place is correct enough, though Anaxagoras is not fully aware of what it means. For affections are indeed inseparable. If then colours and states had entered into the mixture, and if separation took place, there would be a 'white' or a 'healthy' which was nothing but white or healthy, i.e. was not the predicate of a subject. So his 'Mind' is an absurd person aiming at the impossible, if he is supposed to wish to separate them, and it is impossible to do so, both in respect of quantity and of quality — of quantity, because there is no minimum magnitude, and of quality, because affections are inseparable.

Nor is Anaxagoras right about the coming to be of homogeneous bodies. It is true there is a sense in which clay is divided into pieces of clay, but there is another in which it is not. Water and air are, and are generated 'from' each other, but not in the way in which bricks come 'from' a house and again a house 'from' bricks; and it is better to assume a smaller and finite number of principles, as Empedocles does.

5

All thinkers then agree in making the contraries principles, both those who describe the All as one and unmoved (for even Parmenides treats hot and cold as principles under the names of fire and earth) and those too who use the rare and the dense. The same is true of Democritus also, with his plenum and void, both of which exist, be says, the one as being, the other as not-being. Again he speaks of differences in position, shape, and order, and these are genera of which the species are contraries, namely, of position, above and below, before and behind; of shape, angular and angle-less, straight and round.

It is plain then that they all in one way or another identify the contraries with the principles. And with good reason. For first principles must not be derived from one another nor from anything else, while everything has to be derived from them. But these conditions are fulfilled by the primary contraries, which are not derived from anything else because they are primary, nor from each other because they are contraries.

But we must see how this can be arrived at as a reasoned result, as well as in the way just indicated.

Our first presupposition must be that in nature nothing acts on, or is acted on by, any other thing at random, nor may anything come from anything else, unless we mean that it does so in virtue of a concomitant attribute. For how could ‘white’ come from ‘musical’, unless ‘musical’ happened to be an attribute of the not-white or of the black? No, ‘white’ comes from ‘not-white’ — and not from any ‘not-white’, but from black or some intermediate colour. Similarly, ‘musical’ comes to be from ‘not-musical’, but not from any thing other than musical, but from ‘unmusical’ or any intermediate state there may be.

Nor again do things pass into the first chance thing; ‘white’ does not pass into ‘musical’ (except, it may be, in virtue of a concomitant attribute), but into ‘not-white’ — and not into any chance thing which is not white, but into black or an intermediate colour; ‘musical’ passes into ‘not-musical’ — and not into any chance thing other than musical, but into ‘unmusical’ or any intermediate state there may be.

The same holds of other things also: even things which are not simple but complex follow the same principle, but the opposite state has not received a name, so we fail to notice the fact. What is in tune must come from what is not in tune, and vice versa; the tuned passes into untunedness — and not into any untunedness, but into the corresponding opposite. It does not matter whether we take attunement, order, or composition for our illustration; the principle is obviously the same in all, and in fact applies equally to the production of a house, a statue, or any other complex. A house comes from certain things in a certain state of separation instead of conjunction, a statue (or any other thing that has been shaped) from shapelessness — each of these objects being partly order and partly composition.

If then this is true, everything that comes to be or passes away from, or passes into, its contrary or an intermediate state. But the intermediates are derived from the contraries — colours, for instance, from black and white. Everything, therefore, that comes to be by a natural process is either a contrary or a product of contraries.

Up to this point we have practically had most of the other writers on the subject with us, as I have said already: for all of them identify their elements, and what they call their principles, with the contraries, giving no reason indeed for the theory, but contrained as it were by the truth itself. They differ, however, from one another in that some assume contraries which are more primary, others contraries which are less so: some those more knowable in the order of explanation, others those more familiar to sense. For some make hot and cold, or again moist and dry, the conditions of becoming; while others make odd and even, or again Love and Strife; and these differ from each other in the way mentioned.

Hence their principles are in one sense the same, in another different; different certainly, as indeed most people think, but the same inasmuch as they are analogous; for all are taken from the same table of columns, some of the pairs being wider, others narrower in extent. In this way then their theories are both the same and different, some better, some worse; some, as I have said, take as their contraries what is more knowable in the order of explanation, others what is more familiar to sense. (The universal is more knowable in the order of explanation, the particular in the order of sense: for explanation has to do with the universal, sense with the particular.) 'The great and the small', for example, belong to the former class, 'the dense and the rare' to the latter.

It is clear then that our principles must be contraries.

6

The next question is whether the principles are two or three or more in number.

One they cannot be, for there cannot be one contrary. Nor can they be innumerable, because, if so, Being will not be knowable: and in any one genus there is only one contrariety, and substance is one genus: also a finite number is sufficient, and a finite number, such as the principles of Empedocles, is better than an infinite multitude; for Empedocles professes to obtain from his principles all that Anaxagoras obtains from his innumerable principles. Lastly, some contraries are more primary than others, and some arise from others — for example sweet and bitter, white and black —

whereas the principles must always remain principles.

This will suffice to show that the principles are neither one nor innumerable.

Granted, then, that they are a limited number, it is plausible to suppose them more than two. For it is difficult to see how either density should be of such a nature as to act in any way on rarity or rarity on density. The same is true of any other pair of contraries; for Love does not gather Strife together and make things out of it, nor does Strife make anything out of Love, but both act on a third thing different from both. Some indeed assume more than one such thing from which they construct the world of nature.

Other objections to the view that it is not necessary to assume a third principle as a substratum may be added. (1) We do not find that the contraries constitute the substance of any thing. But what is a first principle ought not to be the predicate of any subject. If it were, there would be a principle of the supposed principle: for the subject is a principle, and prior presumably to what is predicated of it. Again (2) we hold that a substance is not contrary to another substance. How then can substance be derived from what are not substances? Or how can non-substances be prior to substance?

If then we accept both the former argument and this one, we must, to preserve both, assume a third somewhat as the substratum of the contraries, such as is spoken of by those who describe the All as one nature — water or fire or what is intermediate between them. What is intermediate seems preferable; for fire, earth, air, and water are already involved with pairs of contraries. There is, therefore, much to be said for those who make the underlying substance different from these four; of the rest, the next best choice is air, as presenting sensible differences in a less degree than the others; and after air, water. All, however, agree in this, that they differentiate their One by means of the contraries, such as density and rarity and more and less, which may of course be generalized, as has already been said into excess and defect. Indeed this doctrine too (that the One and excess and defect are the principles of things) would appear to be of old standing, though in different forms; for the early thinkers made the two the active and the one the passive principle, whereas some of the more recent maintain the reverse.

To suppose then that the elements are three in number would seem, from these and similar considerations, a plausible view, as I said before. On the other hand, the view that they are more than three in number would seem to be untenable.

For the one substratum is sufficient to be acted on; but if we have four contraries, there will be two contrarieties, and we shall have to suppose an intermediate nature for each pair separately. If, on the other hand, the contrarieties, being two, can generate from each other, the second contrariety will be superfluous. Moreover, it is impossible that there should be more than one primary contrariety. For substance is a single genus of being, so that the principles can differ only as prior and posterior, not in genus; in a single genus there is always a single contrariety, all the other contrarieties in it being held to be reducible to one.

It is clear then that the number of elements is neither one nor more than two or three; but whether two or three is, as I said, a question of considerable difficulty.

7

We will now give our own account, approaching the question first with reference to becoming in its widest sense: for we shall be following the natural order of inquiry if we speak first of common characteristics, and then investigate the characteristics of special cases.

We say that one thing comes to be from another thing, and one sort of thing from another sort of thing, both in the case of simple and of complex things. I mean the following. We can say (1) ‘man becomes musical’, (2) what is ‘not-musical becomes musical’, or (3), the ‘not-musical man becomes a musical man’. Now what becomes in (1) and (2)—’man’ and ‘not musical’ — I call simple, and what each becomes—’musical’ — simple also. But when (3) we say the ‘not-musical man becomes a musical man’, both what becomes and what it becomes are complex.

As regards one of these simple ‘things that become’ we say not only ‘this becomes so-and-so’, but also ‘from being this, comes to be so-and-so’, as ‘from being not-musical comes to be musical’; as regards the other we do not say this in all cases, as we do not say (1) ‘from being a man he came to be musical’ but only ‘the man became musical’.

When a ‘simple’ thing is said to become something, in one case (1) it survives through the process, in the other (2) it does not. For man remains a man and is such even when he becomes musical, whereas what is not musical or is unmusical does not continue to exist, either simply or combined with the subject.

These distinctions drawn, one can gather from surveying the various cases of becoming in the way we are describing that, as we say, there must always be an underlying something, namely that which becomes, and that this, though always one numerically, in form at least is not one. (By that I mean that it can be described in different ways.) For ‘to be man’ is not the same as ‘to be unmusical’. One part survives, the other does not: what is not an opposite survives (for ‘man’ survives), but ‘not-musical’ or ‘unmusical’ does not survive, nor does the compound of the two, namely ‘unmusical man’.

We speak of ‘becoming that from this’ instead of ‘this becoming that’ more in the case of what does not survive the change—’becoming musical from unmusical’, not ‘from man’ — but there are exceptions, as we sometimes use the latter form of expression even of what survives; we speak of ‘a statue coming to be from bronze’, not of the ‘bronze becoming a statue’. The change, however, from an opposite which does not survive is described indifferently in both ways, ‘becoming that from this’ or ‘this becoming that’. We say both that ‘the unmusical becomes musical’, and that ‘from unmusical he becomes musical’. And so both forms are used of the complex, ‘becoming a musical man from an unmusical man’, and unmusical man becoming a musical man’.

But there are different senses of ‘coming to be’. In some cases we do not use the expression ‘come to be’, but ‘come to be so-and-so’. Only substances are said to ‘come to be’ in the unqualified sense.

Now in all cases other than substance it is plain that there must be some subject, namely, that which becomes. For we know that when a thing comes to be of such a quantity or quality or in such a relation, time, or place, a subject is always presupposed, since substance alone is not predicated of another subject, but everything else of substance.

But that substances too, and anything else that can be said ‘to be’ without qualification, come to be from some substratum, will appear on examination. For we find in every case something that underlies from which proceeds that which comes to be; for instance, animals and plants from seed.

Generally things which come to be, come to be in different ways: (1) by change of shape, as a statue; (2) by addition, as things which grow; (3) by taking away, as the Hermes from the stone; (4) by putting together, as a house; (5) by alteration, as things which ‘turn’ in respect of their material substance.

It is plain that these are all cases of coming to be from a substratum.

Thus, clearly, from what has been said, whatever comes to be is always complex. There is, on the one hand, (a) something which comes into existence, and again (b) something which becomes that — the latter (b) in two senses, either the subject or the opposite. By the ‘opposite’ I mean the ‘unmusical’, by the ‘subject’ ‘man’, and similarly I call the absence of shape or form or order the ‘opposite’, and the bronze or stone or gold the ‘subject’.

Plainly then, if there are conditions and principles which constitute natural objects and from which they primarily are or have come to be — have come to be, I mean, what each is said to be in its essential nature, not what each is in respect of a concomitant attribute — plainly, I say, everything comes to be from both subject and form. For ‘musical man’ is composed (in a way) of ‘man’ and ‘musical’: you can analyse it into the definitions of its elements. It is clear then that what comes to be will come to be from these elements.

Now the subject is one numerically, though it is two in form. (For it is the man, the gold — the ‘matter’ generally — that is counted, for it is more of the nature of a ‘this’, and what comes to be does not come from it in virtue of a concomitant attribute; the privation, on the other hand, and the contrary are incidental in the process.) And the positive form is one — the order, the acquired art of music, or any similar predicate.

There is a sense, therefore, in which we must declare the principles to be two, and a sense in which they are three; a sense in which the contraries are the principles — say for example the musical and the unmusical, the hot and the cold, the tuned and the untuned — and a sense in which they are not, since it is impossible for the contraries to be acted on by each other. But this difficulty also is solved by the fact that the substratum is different from the contraries, for it is itself not a contrary. The principles therefore are, in a way, not more in number than the contraries, but as it were two, nor yet precisely two, since there is a difference of essential nature, but three. For ‘to be man’ is different from ‘to be unmusical’, and ‘to be unformed’ from ‘to be bronze’.

We have now stated the number of the principles of natural objects which are subject to generation, and how the number is reached: and it is clear that there must be a substratum for the contraries, and that the contraries must be two. (Yet in another way of putting it this is not necessary, as one of the contraries will serve to effect the change by its successive absence and presence.)

The underlying nature is an object of scientific knowledge, by an analogy. For as the bronze is to the statue, the wood to the bed, or the matter and the formless before receiving form to any thing which has form, so is the underlying nature to substance, i.e. the ‘this’ or existent.

This then is one principle (though not one or existent in the same sense as the ‘this’), and the definition was one as we agreed; then further there is its contrary, the privation. In what sense these are two, and in what sense more, has been stated above. Briefly, we explained first that only the contraries were principles, and later that a substratum was indispensable, and that the principles were three; our last statement has elucidated the difference between the contraries, the mutual relation of the principles, and the nature of the substratum. Whether the form or the substratum is the essential nature of a physical object is not yet clear. But that the principles are three, and in what sense, and the way in which each is a principle, is clear.

So much then for the question of the number and the nature of the principles.

8

We will now proceed to show that the difficulty of the early thinkers, as well as our own, is solved in this way alone.

The first of those who studied science were misled in their search for truth and the nature of things by their inexperience, which as it were thrust them into another path. So they say that none of the things that are either comes to be or passes out of existence, because what comes to be must do so either from what is or from what is not, both of which are impossible. For what is cannot come to be (because it is already), and from what is not nothing could have come to be (because something must be present as a substratum). So too they exaggerated the consequence of this, and went so far as to deny even the existence of a plurality of things, maintaining that only Being itself is. Such then was their opinion, and such the reason for its adoption.

Our explanation on the other hand is that the phrases ‘something comes to be from what is or from what is not’, ‘what is not or what is does something or has something done to it or becomes some particular thing’, are to be taken (in the first way of putting our explanation) in the same sense as ‘a doctor does something or has something done to him’, ‘is or becomes something from being a doctor.’ These expressions may be taken in two senses, and so too, clearly, may ‘from being’, and ‘being acts or is acted on’. A doctor builds a house, not qua doctor, but qua housebuilder, and turns gray, not qua doctor, but qua dark-haired. On the other hand he doctors or fails to doctor qua doctor. But we are using words most appropriately when we say that a doctor does something or undergoes something, or becomes something from being a doctor, if he does, undergoes, or becomes qua doctor. Clearly then also ‘to come to be so-and-so from not-being’ means ‘qua not-being’.

It was through failure to make this distinction that those thinkers gave the matter up, and through this error that they went so much farther astray as to suppose that nothing else comes to be or exists apart from Being itself, thus doing away with all becoming.

We ourselves are in agreement with them in holding that nothing can be said without qualification to come from what is not. But nevertheless we maintain that a thing may ‘come to be from what is not’ — that is, in a qualified sense. For a thing comes to be from the privation, which in its own nature is not-being, — this not surviving as a constituent of the result. Yet this causes surprise, and it is thought impossible that something should come to be in the way described from what is not.

In the same way we maintain that nothing comes to be from being, and that being does not come to be except in a qualified sense. In that way, however, it does, just as animal might come to be from animal, and an animal of a certain kind from an animal of a certain kind. Thus, suppose a dog to come to be from a horse. The dog would then, it is true, come to be from animal (as well as from an animal of a certain kind) but not as animal, for that is already there. But if anything is to become an animal, not in a qualified sense, it will not be from animal: and if being, not from being — nor from not-being either, for it has been explained that by ‘from not being’ we mean from not-being qua not-being.

Note further that we do not subvert the principle that everything either is or is not.

This then is one way of solving the difficulty. Another consists in pointing out that the same things can be explained in terms of potentiality and actuality. But this has been done with greater precision elsewhere. So, as we said, the difficulties which constrain people to deny the existence of some of the things we mentioned are now solved. For it was this reason which also caused some of the earlier thinkers to turn so far aside from the road which leads to coming to be and passing away and change generally. If they had come in sight of this nature, all their ignorance would have been dispelled.

9

Others, indeed, have apprehended the nature in question, but not adequately.

In the first place they allow that a thing may come to be without qualification from not being, accepting on this point the statement of Parmenides. Secondly, they think that if the substratum is one numerically, it must have also only a single potentiality — which is a very different thing.

Now we distinguish matter and privation, and hold that one of these, namely the matter, is not-being only in virtue of an attribute which it has, while the privation in its own nature is not-being; and that the matter is nearly, in a sense is, substance, while the privation in no sense is. They, on the other hand, identify their Great and Small alike with not being, and that whether they are taken together as one or separately. Their triad is therefore of quite a different kind from ours. For they got so far as to see that there must be some underlying nature, but they make it one — for even if one philosopher makes a dyad of it, which he calls Great and Small, the effect is the same, for he overlooked the other nature. For the one which persists is a joint cause, with the form, of what comes to be — a mother, as it were. But the negative part of the contrariety may often seem, if you concentrate your attention on it as an evil agent, not to exist at all.

For admitting with them that there is something divine, good, and desirable, we hold that there are two other principles, the one contrary to it, the other such as of its own nature to desire and yearn for it. But the consequence of their view is that the contrary desires its wtextinction. Yet the form cannot desire itself, for it is not defective; nor can the contrary desire it, for contraries are mutually destructive. The truth is that what desires the form is matter, as the female desires the male and the ugly the beautiful — only the ugly or the female not per se but per accidens.

The matter comes to be and ceases to be in one sense, while in another it does not. As that which contains the privation, it ceases to be in its own nature, for what ceases to be — the privation — is contained within it. But as potentiality it does not cease to be in its own nature, but is necessarily outside the sphere of becoming and ceasing to be. For if it came to be, something must have existed as a primary substratum from which it should come and which should persist in it; but this is its own special nature, so that it will be before coming to be. (For my definition of matter is just this — the primary substratum of each thing, from which it comes to be without qualification, and which persists in the result.) And if it ceases to be it will pass into that at the last, so it will have ceased to be before ceasing to be.

The accurate determination of the first principle in respect of form, whether it is one or many and what it is or what they are, is the province of the primary type of science; so these questions may stand over till then. But of the natural, i.e. perishable, forms we shall speak in the expositions which follow.

The above, then, may be taken as sufficient to establish that there are principles and what they are and how many there are. Now let us make a fresh start and proceed.

Book II

1

Of things that exist, some exist by nature, some from other causes.

‘By nature’ the animals and their parts exist, and the plants and the simple bodies (earth, fire, air, water) — for we say that these and the like exist ‘by nature’.

All the things mentioned present a feature in which they differ from things which are not constituted by nature. Each of them has within itself a principle of motion and of stationariness (in respect of place, or of growth and decrease, or by way of alteration). On the other hand, a bed and a coat and anything else of that sort, qua receiving these designations i.e. in so far as they are products of art — have no innate impulse to change. But in so far as they happen to be composed of stone or of earth or of a mixture of the two, they do have such an impulse, and just to that extent which seems to indicate that nature is a source or cause of being moved and of being at rest in that to which it belongs primarily, in virtue of itself and not in virtue of a concomitant attribute.

I say ‘not in virtue of a concomitant attribute’, because (for instance) a man who is a doctor might cure himself. Nevertheless it is not in so far as he is a patient that he possesses the art of medicine: it merely has happened that the same man is doctor and patient — and that is why these attributes are not always found together. So it is with all other artificial products. None of them has in itself the source of its own production. But while in some cases (for instance houses and the other products of manual labour) that principle is in something else external to the thing, in others those which may cause a change in themselves in virtue of a concomitant attribute — it lies in the things themselves (but not in virtue of what they are).

‘Nature’ then is what has been stated. Things ‘have a nature’which have a principle of this kind. Each of them is a substance; for it is a subject, and nature always implies a subject in which it inheres.

The term ‘according to nature’ is applied to all these things and also to the attributes which belong to them in virtue of what they are, for instance the property of fire to be carried upwards — which is not a ‘nature’ nor ‘has a nature’ but is ‘by nature’ or ‘according to nature’.

What nature is, then, and the meaning of the terms ‘by nature’ and ‘according to nature’, has been stated. That nature exists, it would be absurd to try to prove; for it is obvious that there are many things of this kind, and to prove what is obvious by what is not is the mark of a man who is unable to distinguish what is self-evident from what is not. (This state of mind is clearly possible. A man blind from birth might reason about colours. Presumably therefore such persons must be talking about words without any thought to correspond.)

Some identify the nature or substance of a natural object with that immediate constituent of it which taken by itself is without arrangement, e.g. the wood is the ‘nature’ of the bed, and the bronze the ‘nature’ of the statue.

As an indication of this Antiphon points out that if you planted a bed and the rotting wood acquired the power of sending up a shoot, it would not be a bed that would come up, but wood — which shows that the arrangement in accordance with the rules of the art is merely an incidental attribute, whereas the real nature is the other, which, further, persists continuously through the process of making.

But if the material of each of these objects has itself the same relation to something else, say bronze (or gold) to water, bones (or wood) to earth and so on, that (they say) would be their nature and essence. Consequently some assert earth, others fire or air or water or some or all of these, to be the nature of the things that are. For whatever any one of them supposed to have this character — whether one thing or more than one thing — this or these he declared to be the whole of substance, all else being its affections, states, or dispositions. Every such thing they held to be eternal (for it could not pass into anything else), but other things to come into being and cease to be times without number.

This then is one account of ‘nature’, namely that it is the immediate material substratum of things which have in themselves a principle of motion or change.

Another account is that ‘nature’ is the shape or form which is specified in the definition of the thing.

For the word ‘nature’ is applied to what is according to nature and the natural in the same way as ‘art’ is applied to what is artistic or a work of art. We should not say in the latter case that there is anything artistic about a thing, if it is a bed only potentially, not yet having the form of a bed; nor should we call it a work of art. The same is true of natural compounds. What is potentially flesh or bone has not yet its own ‘nature’, and does not exist until it receives the form specified in the definition, which we name in defining what flesh or bone is. Thus in the second sense of ‘nature’ it would be the shape or form (not separable except in statement) of things which have in themselves a source of motion. (The combination of the two, e.g. man, is not ‘nature’ but ‘by nature’ or ‘natural’.)

The form indeed is ‘nature’ rather than the matter; for a thing is more properly said to be what it is when it has attained to fulfilment than when it exists potentially. Again man is born from man, but not bed from bed. That is why people say that the figure is not the nature of a bed, but the wood is — if the bed sprouted not a bed but wood would come up. But even if the figure is art, then on the same principle the shape of man is his nature. For man is born from man.

We also speak of a thing’s nature as being exhibited in the process of growth by which its nature is attained. The ‘nature’ in this sense is not like ‘doctoring’, which leads not to the art of doctoring but to health. Doctoring must start from the art, not lead to it. But it is not in this way that nature (in the one sense) is related to nature (in the other). What grows qua growing grows from something into something. Into what then does it grow? Not into that from which it arose but into that to which it tends. The shape then is nature.

‘Shape’ and ‘nature’, it should be added, are in two senses. For the privation too is in a way form. But whether in unqualified coming to be there is privation, i.e. a contrary to what comes to be, we must consider later.

2

We have distinguished, then, the different ways in which the term ‘nature’ is used.

The next point to consider is how the mathematician differs from the physicist. Obviously physical bodies contain surfaces and volumes, lines and points, and these are the subject-matter of mathematics.

Further, is astronomy different from physics or a department of it? It seems absurd that the physicist should be supposed to know the nature of sun or moon, but not to know any of their essential attributes, particularly as the writers on physics obviously do discuss their shape also and whether the earth and the world are spherical or not.

Now the mathematician, though he too treats of these things, nevertheless does not treat of them as the limits of a physical body; nor does he consider the attributes indicated as the attributes of such bodies. That is why he separates them; for in thought they are separable from motion, and it makes no difference, nor does any falsity result, if they are separated. The holders of the theory of Forms do the same, though they are not aware of it; for they separate the objects of physics, which are less separable than those of mathematics. This becomes plain if one tries to state in each of the two cases the definitions of the things and of their attributes. ‘Odd’ and ‘even’, ‘straight’ and ‘curved’, and likewise ‘number’, ‘line’, and ‘figure’, do not involve motion; not so ‘flesh’ and ‘bone’ and ‘man’ — these are defined like ‘snub nose’, not like ‘curved’.

Similar evidence is supplied by the more physical of the branches of mathematics, such as optics, harmonics, and astronomy. These are in a way the converse of geometry. While geometry investigates physical lines but not qua physical, optics investigates mathematical lines, but qua physical, not qua mathematical.

Since ‘nature’ has two senses, the form and the matter, we must investigate its objects as we would the essence of snubness. That is, such things are neither independent of matter nor can be defined in terms of matter only. Here too indeed one might raise a difficulty. Since there are two natures, with which is the physicist concerned? Or should he investigate the combination of the two? But if the combination of the two, then also each severally. Does it belong then to the same or to different sciences to know each severally?

If we look at the ancients, physics would to be concerned with the matter. (It was only very slightly that Empedocles and Democritus touched on the forms and the essence.)

But if on the other hand art imitates nature, and it is the part of the same discipline to know the form and the matter up to a point (e.g. the doctor has a knowledge of health and also of bile and phlegm, in which health is realized, and the builder both of the form of the house and of the matter, namely that it is bricks and beams, and so forth): if this is so, it would be the part of physics also to know nature in both its senses.

Again, ‘that for the sake of which’, or the end, belongs to the same department of knowledge as the means. But the nature is the end or ‘that for the sake of which’. For if a thing undergoes a continuous change and there is a stage which is last, this stage is the end or ‘that for the sake of which’. (That is why the poet was carried away into making an absurd statement when he said ‘he has the end for the sake of which he was born’. For not every stage that is last claims to be an end, but only that which is best.)

For the arts make their material (some simply ‘make’ it, others make it serviceable), and we use everything as if it was there for our sake. (We also are in a sense an end. ‘That for the sake of which’ has two senses: the distinction is made in our work On Philosophy.) The arts, therefore, which govern the matter and have knowledge are two, namely the art which uses the product and the art which directs the production of it. That is why the using art also is in a sense directive; but it differs in that it knows the form, whereas the art which is directive as being concerned with production knows the matter. For the helmsman knows and prescribes what sort of form a helm should have, the other from what wood it should be made and by means of what operations. In the products of art, however, we make the material with a view to the function, whereas in the products of nature the matter is there all along.

Again, matter is a relative term: to each form there corresponds a special matter. How far then must the physicist know the form or essence? Up to a point, perhaps, as the doctor must know sinew or the smith bronze (i.e. until he understands the purpose of each): and the physicist is concerned only with things whose forms are separable indeed, but do not exist apart from matter. Man is begotten by man and by the sun as well. The mode of existence and essence of the separable it is the business of the primary type of philosophy to define.

3

Now that we have established these distinctions, we must proceed to consider causes, their character and number. Knowledge is the object of our inquiry, and men do not think they know a thing till they have grasped the ‘why’ of (which is to grasp its primary cause). So clearly we too must do this as regards both coming to be and passing away and every kind of physical change, in order that, knowing their principles, we may try to refer to these principles each of our problems.

In one sense, then, (1) that out of which a thing comes to be and which persists, is called 'cause', e.g. the bronze of the statue, the silver of the bowl, and the genera of which the bronze and the silver are species.

In another sense (2) the form or the archetype, i.e. the statement of the essence, and its genera, are called 'causes' (e.g. of the octave the relation of 2:1, and generally number), and the parts in the definition.

Again (3) the primary source of the change or coming to rest; e.g. the man who gave advice is a cause, the father is cause of the child, and generally what makes of what is made and what causes change of what is changed.

Again (4) in the sense of end or 'that for the sake of which' a thing is done, e.g. health is the cause of walking about. ('Why is he walking about?' we say. 'To be healthy', and, having said that, we think we have assigned the cause.) The same is true also of all the intermediate steps which are brought about through the action of something else as means towards the end, e.g. reduction of flesh, purging, drugs, or surgical instruments are means towards health. All these things are 'for the sake of' the end, though they differ from one another in that some are activities, others instruments.

This then perhaps exhausts the number of ways in which the term 'cause' is used.

As the word has several senses, it follows that there are several causes of the same thing not merely in virtue of a concomitant attribute), e.g. both the art of the sculptor and the bronze are causes of the statue. These are causes of the statue qua statue, not in virtue of anything else that it may be — only not in the same way, the one being the material cause, the other the cause whence the motion comes. Some things cause each other reciprocally, e.g. hard work causes fitness and vice versa, but again not in the same way, but the one as end, the other as the origin of change. Further the same thing is the cause of contrary results. For that which by its presence brings about one result is sometimes blamed for bringing about the contrary by its absence. Thus we ascribe the wreck of a ship to the absence of the pilot whose presence was the cause of its safety.

All the causes now mentioned fall into four familiar divisions. The letters are the causes of syllables, the material of artificial products, fire, &c., of bodies, the parts of the whole, and the premisses of the conclusion, in the sense of ‘that from which’. Of these pairs the one set are causes in the sense of substratum, e.g. the parts, the other set in the sense of essence — the whole and the combination and the form. But the seed and the doctor and the adviser, and generally the maker, are all sources whence the change or stationariness originates, while the others are causes in the sense of the end or the good of the rest; for ‘that for the sake of which’ means what is best and the end of the things that lead up to it. (Whether we say the ‘good itself or the ‘apparent good’ makes no difference.)

Such then is the number and nature of the kinds of cause.

Now the modes of causation are many, though when brought under heads they too can be reduced in number. For ‘cause’ is used in many senses and even within the same kind one may be prior to another (e.g. the doctor and the expert are causes of health, the relation 2:1 and number of the octave), and always what is inclusive to what is particular. Another mode of causation is the incidental and its genera, e.g. in one way ‘Polyclitus’, in another ‘sculptor’ is the cause of a statue, because ‘being Polyclitus’ and ‘sculptor’ are incidentally conjoined. Also the classes in which the incidental attribute is included; thus ‘a man’ could be said to be the cause of a statue or, generally, ‘a living creature’. An incidental attribute too may be more or less remote, e.g. suppose that ‘a pale man’ or ‘a musical man’ were said to be the cause of the statue.

All causes, both proper and incidental, may be spoken of either as potential or as actual; e.g. the cause of a house being built is either ‘house-builder’ or ‘house-builder building’.

Similar distinctions can be made in the things of which the causes are causes, e.g. of ‘this statue’ or of ‘statue’ or of ‘image’ generally, of ‘this bronze’ or of ‘bronze’ or of ‘material’ generally. So too with the incidental attributes. Again we may use a complex expression for either and say, e.g. neither ‘Polyclitus’ nor ‘sculptor’ but ‘Polyclitus, sculptor’.

All these various uses, however, come to six in number, under each of which again the usage is twofold. Cause means either what is particular or a genus, or an incidental attribute or a genus of that, and these either as a complex or each by itself; and all six either as actual or as potential. The difference is this much, that causes which are actually at work and particular exist and cease to exist simultaneously with their effect, e.g. this healing person with this being-healed person and that house-building man with that being-built house; but this is not always true of potential causes — the house and the housebuilder do not pass away simultaneously.

In investigating the cause of each thing it is always necessary to seek what is most precise (as also in other things): thus man builds because he is a builder, and a builder builds in virtue of his art of building. This last cause then is prior: and so generally.

Further, generic effects should be assigned to generic causes, particular effects to particular causes, e.g. statue to sculptor, this statue to this sculptor; and powers are relative to possible effects, actually operating causes to things which are actually being effected.

This must suffice for our account of the number of causes and the modes of causation.

4

But chance also and spontaneity are reckoned among causes: many things are said both to be and to come to be as a result of chance and spontaneity. We must inquire therefore in what manner chance and spontaneity are present among the causes enumerated, and whether they are the same or different, and generally what chance and spontaneity are.

Some people even question whether they are real or not. They say that nothing happens by chance, but that everything which we ascribe to chance or spontaneity has some definite cause, e.g. coming ‘by chance’ into the market and finding there a man whom one wanted but did not expect to meet is due to one’s wish to go and buy in the market. Similarly in other cases of chance it is always possible, they maintain, to find something which is the cause; but not chance, for if chance were real, it would seem strange indeed, and the question might be raised, why on earth none of the wise men of old in speaking of the causes of generation and decay took account of chance; whence it would seem that they too did not believe that anything is by chance. But there is a further circumstance that is surprising. Many things both come to be and are by chance and spontaneity, and although know that each of them can be ascribed to some cause (as the old argument said which denied chance), nevertheless they speak of some of these things as happening by chance and others not. For this reason also they ought to have at least referred to the matter in some way or other.

Certainly the early physicists found no place for chance among the causes which they recognized — love, strife, mind, fire, or the like. This is strange, whether they supposed that there is no such thing as chance or whether they thought there is but omitted to mention it — and that too when they sometimes used it, as Empedocles does when he says that the air is not always separated into the highest region, but 'as it may chance'. At any rate he says in his cosmogony that 'it happened to run that way at that time, but it often ran otherwise.' He tells us also that most of the parts of animals came to be by chance.

There are some too who ascribe this heavenly sphere and all the worlds to spontaneity. They say that the vortex arose spontaneously, i.e. the motion that separated and arranged in its present order all that exists. This statement might well cause surprise. For they are asserting that chance is not responsible for the existence or generation of animals and plants, nature or mind or something of the kind being the cause of them (for it is not any chance thing that comes from a given seed but an olive from one kind and a man from another); and yet at the same time they assert that the heavenly sphere and the divinest of visible things arose spontaneously, having no such cause as is assigned to animals and plants. Yet if this is so, it is a fact which deserves to be dwelt upon, and something might well have been said about it. For besides the other absurdities of the statement, it is the more absurd that people should make it when they see nothing coming to be spontaneously in the heavens, but much happening by chance among the things which as they say are not due to chance; whereas we should have expected exactly the opposite.

Others there are who, indeed, believe that chance is a cause, but that it is inscrutable to human intelligence, as being a divine thing and full of mystery.

Thus we must inquire what chance and spontaneity are, whether they are the same or different, and how they fit into our division of causes.

5

First then we observe that some things always come to pass in the same way, and others for the most part. It is clearly of neither of these that chance is said to be the cause, nor can the ‘effect of chance’ be identified with any of the things that come to pass by necessity and always, or for the most part. But as there is a third class of events besides these two — events which all say are ‘by chance’ — it is plain that there is such a thing as chance and spontaneity; for we know that things of this kind are due to chance and that things due to chance are of this kind.

But, secondly, some events are for the sake of something, others not. Again, some of the former class are in accordance with deliberate intention, others not, but both are in the class of things which are for the sake of something. Hence it is clear that even among the things which are outside the necessary and the normal, there are some in connexion withwhich the phrase ‘for the sake of something’ is applicable. (Events that are for the sake of something include whatever may be done as a result of thought or of nature.) Things of this kind, then, when they come to pass incidental are said to be ‘by chance’. For just as a thing is something either in virtue of itself or incidentally, so may it be a cause. For instance, the housebuilding faculty is in virtue of itself the cause of a house, whereas the pale or the musical is the incidental cause. That which is per se cause of the effect is determinate, but the incidental cause is indeterminable, for the possible attributes of an individual are innumerable. To resume then; when a thing of this kind comes to pass among events which are for the sake of something, it is said to be spontaneous or by chance. (The distinction between the two must be made later — for the present it is sufficient if it is plain that both are in the sphere of things done for the sake of something.)

Example: A man is engaged in collecting subscriptions for a feast. He would have gone to such and such a place for the purpose of getting the money, if he had known. He actually went there for another purpose and it was only incidentally that he got his money by going there; and this was not due to the fact that he went there as a rule or necessarily, nor is the end effected (getting the money) a cause present in himself — it belongs to the class of things that are intentional and the result of intelligent deliberation. It is when these conditions are satisfied that the man is said to have gone ‘by chance’. If he had gone of deliberate purpose and for the sake of this — if he always or normally went there when he was collecting payments — he would not be said to have gone ‘by chance’.

It is clear then that chance is an incidental cause in the sphere of those actions for the sake of something which involve purpose. Intelligent reflection, then, and chance are in the same sphere, for purpose implies intelligent reflection.

It is necessary, no doubt, that the causes of what comes to pass by chance be indefinite; and that is why chance is supposed to belong to the class of the indefinite and to be inscrutable to man, and why it might be thought that, in a way, nothing occurs by chance. For all these statements are correct, because they are well grounded. Things do, in a way, occur by chance, for they occur incidentally and chance is an incidental cause. But strictly it is not the cause — without qualification — of anything; for instance, a housebuilder is the cause of a house; incidentally, a fluteplayer may be so.

And the causes of the man's coming and getting the money (when he did not come for the sake of that) are innumerable. He may have wished to see somebody or been following somebody or avoiding somebody, or may have gone to see a spectacle. Thus to say that chance is a thing contrary to rule is correct. For 'rule' applies to what is always true or true for the most part, whereas chance belongs to a third type of event. Hence, to conclude, since causes of this kind are indefinite, chance too is indefinite. (Yet in some cases one might raise the question whether any incidental fact might be the cause of the chance occurrence, e.g. of health the fresh air or the sun's heat may be the cause, but having had one's hair cut cannot; for some incidental causes are more relevant to the effect than others.)

Chance or fortune is called 'good' when the result is good, 'evil' when it is evil. The terms 'good fortune' and 'ill fortune' are used when either result is of considerable magnitude. Thus one who comes within an ace of some great evil or great good is said to be fortunate or unfortunate. The mind affirms the essence of the attribute, ignoring the hair's breadth of difference. Further, it is with reason that good fortune is regarded as unstable; for chance is unstable, as none of the things which result from it can be invariable or normal.

Both are then, as I have said, incidental causes — both chance and spontaneity — in the sphere of things which are capable of coming to pass not necessarily, nor normally, and with reference to such of these as might come to pass for the sake of something.

6

They differ in that ‘spontaneity’ is the wider term. Every result of chance is from what is spontaneous, but not everything that is from what is spontaneous is from chance.

Chance and what results from chance are appropriate to agents that are capable of good fortune and of moral action generally. Therefore necessarily chance is in the sphere of moral actions. This is indicated by the fact that good fortune is thought to be the same, or nearly the same, as happiness, and happiness to be a kind of moral action, since it is well-doing. Hence what is not capable of moral action cannot do anything by chance. Thus an inanimate thing or a lower animal or a child cannot do anything by chance, because it is incapable of deliberate intention; nor can ‘good fortune’ or ‘ill fortune’ be ascribed to them, except metaphorically, as Protarchus, for example, said that the stones of which altars are made are fortunate because they are held in honour, while their fellows are trodden under foot. Even these things, however, can in a way be affected by chance, when one who is dealing with them does something to them by chance, but not otherwise.

The spontaneous on the other hand is found both in the lower animals and in many inanimate objects. We say, for example, that the horse came ‘spontaneously’, because, though his coming saved him, he did not come for the sake of safety. Again, the tripod fell ‘of itself’, because, though when it fell it stood on its feet so as to serve for a seat, it did not fall for the sake of that.

Hence it is clear that events which (1) belong to the general class of things that may come to pass for the sake of something, (2) do not come to pass for the sake of what actually results, and (3) have an external cause, may be described by the phrase ‘from spontaneity’. These ‘spontaneous’ events are said to be ‘from chance’ if they have the further characteristics of being the objects of deliberate intention and due to agents capable of that mode of action. This is indicated by the phrase ‘in vain’, which is used when A which is for the sake of B, does not result in B. For instance, taking a walk is for the sake of evacuation of the bowels; if this does not follow after walking, we say that we have walked ‘in vain’ and that the walking was ‘vain’. This implies that what is naturally the means to an end is ‘in vain’, when it does not effect the end towards which it was the natural means — for it would be absurd for a man to say that he had bathed in vain because the sun was not eclipsed, since the one was not done with a view to the other. Thus the spontaneous is even according to its derivation the case in which the thing itself happens in vain. The stone that struck the man did not fall for the purpose of striking him; therefore it fell spontaneously, because it might have fallen by the action of an agent and for the purpose of striking. The difference between spontaneity and what results by chance is greatest in things that come to be by nature; for when anything comes to be contrary to nature, we do not say that it came to be by chance, but by spontaneity. Yet strictly this too is different from the spontaneous proper; for the cause of the latter is external, that of the former internal.

We have now explained what chance is and what spontaneity is, and in what they differ from each other. Both belong to the mode of causation 'source of change', for either some natural or some intelligent agent is always the cause; but in this sort of causation the number of possible causes is infinite.

Spontaneity and chance are causes of effects which though they might result from intelligence or nature, have in fact been caused by something incidentally. Now since nothing which is incidental is prior to what is per se, it is clear that no incidental cause can be prior to a cause per se. Spontaneity and chance, therefore, are posterior to intelligence and nature. Hence, however true it may be that the heavens are due to spontaneity, it will still be true that intelligence and nature will be prior causes of this All and of many things in it besides.

7

It is clear then that there are causes, and that the number of them is what we have stated. The number is the same as that of the things comprehended under the question 'why'. The 'why' is referred ultimately either (1), in things which do not involve motion, e.g. in mathematics, to the 'what' (to the definition of 'straight line' or 'commensurable', &c.), or (2) to what initiated a motion, e.g. 'why did they go to war? — because there had been a raid'; or (3) we are inquiring 'for the sake of what?'-'that they may rule'; or (4), in the case of things that come into being, we are looking for the matter. The causes, therefore, are these and so many in number.

Now, the causes being four, it is the business of the physicist to know about them all, and if he refers his problems back to all of them, he will assign the ‘why’ in the way proper to his science — the matter, the form, the mover, ‘that for the sake of which’. The last three often coincide; for the ‘what’ and ‘that for the sake of which’ are one, while the primary source of motion is the same in species as these (for man generates man), and so too, in general, are all things which cause movement by being themselves moved; and such as are not of this kind are no longer inside the province of physics, for they cause motion not by possessing motion or a source of motion in themselves, but being themselves incapable of motion. Hence there are three branches of study, one of things which are incapable of motion, the second of things in motion, but indestructible, the third of destructible things.

The question ‘why’, then, is answered by reference to the matter, to the form, and to the primary moving cause. For in respect of coming to be it is mostly in this last way that causes are investigated—’what comes to be after what? what was the primary agent or patient?’ and so at each step of the series.

Now the principles which cause motion in a physical way are two, of which one is not physical, as it has no principle of motion in itself. Of this kind is whatever causes movement, not being itself moved, such as (1) that which is completely unchangeable, the primary reality, and (2) the essence of that which is coming to be, i.e. the form; for this is the end or ‘that for the sake of which’. Hence since nature is for the sake of something, we must know this cause also. We must explain the ‘why’ in all the senses of the term, namely, (1) that from this that will necessarily result (‘from this’ either without qualification or in most cases); (2) that ‘this must be so if that is to be so’ (as the conclusion presupposes the premisses); (3) that this was the essence of the thing; and (4) because it is better thus (not without qualification, but with reference to the essential nature in each case).

8

We must explain then (1) that Nature belongs to the class of causes which act for the sake of something; (2) about the necessary and its place in physical problems, for all writers ascribe things to this cause, arguing that since the hot and the cold, &c., are of such and such a kind, therefore certain things necessarily are and come to be — and if they mention any other cause (one his ‘friendship and strife’, another his ‘mind’), it is only to touch on it, and then good-bye to it.

A difficulty presents itself: why should not nature work, not for the sake of something, nor because it is better so, but just as the sky rains, not in order to make the corn grow, but of necessity? What is drawn up must cool, and what has been cooled must become water and descend, the result of this being that the corn grows. Similarly if a man's crop is spoiled on the threshing-floor, the rain did not fall for the sake of this — in order that the crop might be spoiled — but that result just followed. Why then should it not be the same with the parts in nature, e.g. that our teeth should come up of necessity — the front teeth sharp, fitted for tearing, the molars broad and useful for grinding down the food — since they did not arise for this end, but it was merely a coincident result; and so with all other parts in which we suppose that there is purpose? Wherever then all the parts came about just what they would have been if they had come be for an end, such things survived, being organized spontaneously in a fitting way; whereas those which grew otherwise perished and continue to perish, as Empedocles says his 'man-faced ox-progeny' did.

Such are the arguments (and others of the kind) which may cause difficulty on this point. Yet it is impossible that this should be the true view. For teeth and all other natural things either invariably or normally come about in a given way; but of not one of the results of chance or spontaneity is this true. We do not ascribe to chance or mere coincidence the frequency of rain in winter, but frequent rain in summer we do; nor heat in the dog-days, but only if we have it in winter. If then, it is agreed that things are either the result of coincidence or for an end, and these cannot be the result of coincidence or spontaneity, it follows that they must be for an end; and that such things are all due to nature even the champions of the theory which is before us would agree. Therefore action for an end is present in things which come to be and are by nature.

Further, where a series has a completion, all the preceding steps are for the sake of that. Now surely as in intelligent action, so in nature; and as in nature, so it is in each action, if nothing interferes. Now intelligent action is for the sake of an end; therefore the nature of things also is so. Thus if a house, e.g. had been a thing made by nature, it would have been made in the same way as it is now by art; and if things made by nature were made also by art, they would come to be in the same way as by nature. Each step then in the series is for the sake of the next; and generally art partly completes what nature cannot bring to a finish, and partly imitates her. If, therefore, artificial products are for the sake of an end, so clearly also are natural products. The relation of the later to the earlier terms of the series is the same in both. This is most obvious in the animals other than man: they make things neither by art nor after inquiry or deliberation. Wherefore people discuss whether it is by intelligence or by some other faculty that these creatures work,spiders, ants, and the like. By gradual advance in this direction we come to see clearly that in plants too that is produced which is conducive to the end — leaves, e.g. grow to provide shade for the fruit. If then it is both by nature and for an end that the swallow makes its nest and the spider its web, and plants grow leaves for the sake of the fruit and send their roots down (not up) for the sake of nourishment, it is plain that this kind of cause is operative in things which come to be and are by nature. And since ‘nature’ means two things, the matter and the form, of which the latter is the end, and since all the rest is for the sake of the end, the form must be the cause in the sense of ‘that for the sake of which’.

Now mistakes come to pass even in the operations of art: the grammarian makes a mistake in writing and the doctor pours out the wrong dose. Hence clearly mistakes are possible in the operations of nature also. If then in art there are cases in which what is rightly produced serves a purpose, and if where mistakes occur there was a purpose in what was attempted, only it was not attained, so must it be also in natural products, and monstrosities will be failures in the purposive effort. Thus in the original combinations the ‘ox-progeny’ if they failed to reach a determinate end must have arisen through the corruption of some principle corresponding to what is now the seed.

Further, seed must have come into being first, and not straightway the animals: the words ‘whole-natured first...’ must have meant seed.

Again, in plants too we find the relation of means to end, though the degree of organization is less. Were there then in plants also ‘olive-headed vine-progeny’, like the ‘man-headed ox-progeny’, or not? An absurd suggestion; yet there must have been, if there were such things among animals.

Moreover, among the seeds anything must have come to be at random. But the person who asserts this entirely does away with ‘nature’ and what exists ‘by nature’. For those things are natural which, by a continuous movement originated from an internal principle, arrive at some completion: the same completion is not reached from every principle; nor any chance completion, but always the tendency in each is towards the same end, if there is no impediment.

The end and the means towards it may come about by chance. We say, for instance, that a stranger has come by chance, paid the ransom, and gone away, when he does so as if he had come for that purpose, though it was not for that that he came. This is incidental, for chance is an incidental cause, as I remarked before. But when an event takes place always or for the most part, it is not incidental or by chance. In natural products the sequence is invariable, if there is no impediment.

It is absurd to suppose that purpose is not present because we do not observe the agent deliberating. Art does not deliberate. If the ship-building art were in the wood, it would produce the same results by nature. If, therefore, purpose is present in art, it is present also in nature. The best illustration is a doctor doctoring himself: nature is like that.

It is plain then that nature is a cause, a cause that operates for a purpose.

9

As regards what is ‘of necessity’, we must ask whether the necessity is ‘hypothetical’, or ‘simple’ as well. The current view places what is of necessity in the process of production, just as if one were to suppose that the wall of a house necessarily comes to be because what is heavy is naturally carried downwards and what is light to the top, wherefore the stones and foundations take the lowest place, with earth above because it is lighter, and wood at the top of all as being the lightest. Whereas, though the wall does not come to be without these, it is not due to these, except as its material cause: it comes to be for the sake of sheltering and guarding certain things. Similarly in all other things which involve production for an end; the product cannot come to be without things which have a necessary nature, but it is not due to these (except as its material); it comes to be for an end. For instance, why is a saw such as it is? To effect so-and-so and for the sake of so-and-so. This end, however, cannot be realized unless the saw is made of iron. It is, therefore, necessary for it to be of iron, it we are to have a saw and perform the operation of sawing. What is necessary then, is necessary on a hypothesis; it is not a result necessarily determined by antecedents. Necessity is in the matter, while ‘that for the sake of which’ is in the definition.

Necessity in mathematics is in a way similar to necessity in things which come to be through the operation of nature. Since a straight line is what it is, it is necessary that the angles of a triangle should equal two right angles. But not conversely; though if the angles are not equal to two right angles, then the straight line is not what it is either. But in things which come to be for an end, the reverse is true. If the end is to exist or does exist, that also which precedes it will exist or does exist; otherwise just as there, if — the conclusion is not true, the premiss will not be true, so here the end or ‘that for the sake of which’ will not exist. For this too is itself a starting-point, but of the reasoning, not of the action; while in mathematics the starting-point is the starting-point of the reasoning only, as there is no action. If then there is to be a house, such-and-such things must be made or be there already or exist, or generally the matter relative to the end, bricks and stones if it is a house. But the end is not due to these except as the matter, nor will it come to exist because of them. Yet if they do not exist at all, neither will the house, or the saw — the former in the absence of stones, the latter in the absence of iron — just as in the other case the premisses will not be true, if the angles of the triangle are not equal to two right angles.

The necessary in nature, then, is plainly what we call by the name of matter, and the changes in it. Both causes must be stated by the physicist, but especially the end; for that is the cause of the matter, not vice versa; and the end is ‘that for the sake of which’, and the beginning starts from the definition or essence; as in artificial products, since a house is of such-and-such a kind, certain things must necessarily come to be or be there already, or since health is this, these things must necessarily come to be or be there already. Similarly if man is this, then these; if these, then those. Perhaps the necessary is present also in the definition. For if one defines the operation of sawing as being a certain kind of dividing, then this cannot come about unless the saw has teeth of a certain kind; and these cannot be unless it is of iron. For in the definition too there are some parts that are, as it were, its matter.

Book III

1

NATURE has been defined as a ‘principle of motion and change’, and it is the subject of our inquiry. We must therefore see that we understand the meaning of ‘motion’; for if it were unknown, the meaning of ‘nature’ too would be unknown.

When we have determined the nature of motion, our next task will be to attack in the same way the terms which are involved in it. Now motion is supposed to belong to the class of things which are continuous; and the infinite presents itself first in the continuous — that is how it comes about that ‘infinite’ is often used in definitions of the continuous (‘what is infinitely divisible is continuous’). Besides these, place, void, and time are thought to be necessary conditions of motion.

Clearly, then, for these reasons and also because the attributes mentioned are common to, and coextensive with, all the objects of our science, we must first take each of them in hand and discuss it. For the investigation of special attributes comes after that of the common attributes.

To begin then, as we said, with motion.

We may start by distinguishing (1) what exists in a state of fulfilment only, (2) what exists as potential, (3) what exists as potential and also in fulfilment — one being a ‘this’, another ‘so much’, a third ‘such’, and similarly in each of the other modes of the predication of being.

Further, the word ‘relative’ is used with reference to (1) excess and defect, (2) agent and patient and generally what can move and what can be moved. For ‘what can cause movement’ is relative to ‘what can be moved’, and vice versa.

Again, there is no such thing as motion over and above the things. It is always with respect to substance or to quantity or to quality or to place that what changes changes. But it is impossible, as we assert, to find anything common to these which is neither ‘this’ nor quantum nor quale nor any of the other predicates. Hence neither will motion and change have reference to something over and above the things mentioned, for there is nothing over and above them.

Now each of these belongs to all its subjects in either of two ways: namely (1) substance — the one is positive form, the other privation; (2) in quality, white and black; (3) in quantity, complete and incomplete; (4) in respect of locomotion, upwards and downwards or light and heavy. Hence there are as many types of motion or change as there are meanings of the word ‘is’.

We have now before us the distinctions in the various classes of being between what is full real and what is potential.

Def. The fulfilment of what exists potentially, in so far as it exists potentially, is motion — namely, of what is alterable qua alterable, alteration: of what can be increased and its opposite what can be decreased (there is no common name), increase and decrease: of what can come to be and can pass away, coming to he and passing away: of what can be carried along, locomotion.

Examples will elucidate this definition of motion. When the buildable, in so far as it is just that, is fully real, it is being built, and this is building. Similarly, learning, doctoring, rolling, leaping, ripening, ageing.

The same thing, if it is of a certain kind, can be both potential and fully real, not indeed at the same time or not in the same respect, but e.g. potentially hot and actually cold. Hence at once such things will act and be acted on by one another in many ways: each of them will be capable at the same time of causing alteration and of being altered. Hence, too, what effects motion as a physical agent can be moved: when a thing of this kind causes motion, it is itself also moved. This, indeed, has led some people to suppose that every mover is moved. But this question depends on another set of arguments, and the truth will be made clear later. is possible for a thing to cause motion, though it is itself incapable of being moved.

It is the fulfilment of what is potential when it is already fully real and operates not as itself but as movable, that is motion. What I mean by ‘as’ is this: Bronze is potentially a statue. But it is not the fulfilment of bronze as bronze which is motion. For ‘to be bronze’ and ‘to be a certain potentiality’ are not the same.

If they were identical without qualification, i.e. in definition, the fulfilment of bronze as bronze would have been motion. But they are not the same, as has been said. (This is obvious in contraries. ‘To be capable of health’ and ‘to be capable of illness' are not the same, for if they were there would be no difference between being ill and being well. Yet the subject both of health and of sickness — whether it is humour or blood — is one and the same.)

We can distinguish, then, between the two — just as, to give another example, 'colour' and visible' are different — and clearly it is the fulfilment of what is potential as potential that is motion. So this, precisely, is motion.

Further it is evident that motion is an attribute of a thing just when it is fully real in this way, and neither before nor after. For each thing of this kind is capable of being at one time actual, at another not. Take for instance the buildable as buildable. The actuality of the buildable as buildable is the process of building. For the actuality of the buildable must be either this or the house. But when there is a house, the buildable is no longer buildable. On the other hand, it is the buildable which is being built. The process then of being built must be the kind of actuality required But building is a kind of motion, and the same account will apply to the other kinds also.

2

The soundness of this definition is evident both when we consider the accounts of motion that the others have given, and also from the difficulty of defining it otherwise.

One could not easily put motion and change in another genus — this is plain if we consider where some people put it; they identify motion with or 'inequality' or 'not being'; but such things are not necessarily moved, whether they are 'different' or 'unequal' or 'non-existent'; Nor is change either to or from these rather than to or from their opposites.

The reason why they put motion into these genera is that it is thought to be something indefinite, and the principles in the second column are indefinite because they are privative: none of them is either 'this' or 'such' or comes under any of the other modes of predication. The reason in turn why motion is thought to be indefinite is that it cannot be classed simply as a potentiality or as an actuality — a thing that is merely capable of having a certain size is not undergoing change, nor yet a thing that is actually of a certain size, and motion is thought to be a sort of actuality, but incomplete, the reason for this view being that the potential whose actuality it is is incomplete. This is why it is hard to grasp what motion is. It is necessary to class it with privation or with potentiality or with sheer actuality, yet none of these seems possible. There remains then the suggested mode of definition, namely that it is a sort of actuality, or actuality of the kind described, hard to grasp, but not incapable of existing.

The mover too is moved, as has been said — every mover, that is, which is capable of motion, and whose immobility is rest — when a thing is subject to motion its immobility is rest. For to act on the movable as such is just to move it. But this it does by contact, so that at the same time it is also acted on. Hence we can define motion as the fulfilment of the movable qua movable, the cause of the attribute being contact with what can move so that the mover is also acted on. The mover or agent will always be the vehicle of a form, either a ‘this’ or ‘such’, which, when it acts, will be the source and cause of the change, e.g. the full-formed man begets man from what is potentially man.

3

The solution of the difficulty that is raised about the motion — whether it is in the movable — is plain. It is the fulfilment of this potentiality, and by the action of that which has the power of causing motion; and the actuality of that which has the power of causing motion is not other than the actuality of the movable, for it must be the fulfilment of both. A thing is capable of causing motion because it can do this, it is a mover because it actually does it. But it is on the movable that it is capable of acting. Hence there is a single actuality of both alike, just as one to two and two to one are the same interval, and the steep ascent and the steep descent are one — for these are one and the same, although they can be described in different ways. So it is with the mover and the moved.

This view has a dialectical difficulty. Perhaps it is necessary that the actuality of the agent and that of the patient should not be the same. The one is ‘agency’ and the other ‘patiency’; and the outcome and completion of the one is an ‘action’, that of the other a ‘passion’. Since then they are both motions, we may ask: in what are they, if they are different? Either (a) both are in what is acted on and moved, or (b) the agency is in the agent and the patiency in the patient. (If we ought to call the latter also ‘agency’, the word would be used in two senses.)

Now, in alternative (b), the motion will be in the mover, for the same statement will hold of ‘mover’ and ‘moved’. Hence either every mover will be moved, or, though having motion, it will not be moved.

If on the other hand (a) both are in what is moved and acted on — both the agency and the patiency (e.g. both teaching and learning, though they are two, in the learner), then, first, the actuality of each will not be present in each, and, a second absurdity, a thing will have two motions at the same time. How will there be two alterations of quality in one subject towards one definite quality? The thing is impossible: the actualization will be one.

But (some one will say) it is contrary to reason to suppose that there should be one identical actualization of two things which are different in kind. Yet there will be, if teaching and learning are the same, and agency and patiency. To teach will be the same as to learn, and to act the same as to be acted on — the teacher will necessarily be learning everything that he teaches, and the agent will be acted on. One may reply:

(1) It is not absurd that the actualization of one thing should be in another. Teaching is the activity of a person who can teach, yet the operation is performed on some patient — it is not cut adrift from a subject, but is of A on B.

(2) There is nothing to prevent two things having one and the same actualization, provided the actualizations are not described in the same way, but are related as what can act to what is acting.

(3) Nor is it necessary that the teacher should learn, even if to act and to be acted on are one and the same, provided they are not the same in definition (as ‘raiment’ and ‘dress’), but are the same merely in the sense in which the road from Thebes to Athens and the road from Athens to Thebes are the same, as has been explained above. For it is not things which are in a way the same that have all their attributes the same, but only such as have the same definition. But indeed it by no means follows from the fact that teaching is the same as learning, that to learn is the same as to teach, any more than it follows from the fact that there is one distance between two things which are at a distance from each other, that the two vectors AB and BA, are one and the same. To generalize, teaching is not the same as learning, or agency as patiency, in the full sense, though they belong to the same subject, the motion; for the ‘actualization of X in Y’ and the ‘actualization of Y through the action of X’ differ in definition.

What then Motion is, has been stated both generally and particularly. It is not difficult to see how each of its types will be defined — alteration is the fulfillment of the alterable qua alterable (or, more scientifically, the fulfilment of what can act and what can be acted on, as such) — generally and again in each particular case, building, healing, &c. A similar definition will apply to each of the other kinds of motion.

4

The science of nature is concerned with spatial magnitudes and motion and time, and each of these at least is necessarily infinite or finite, even if some things dealt with by the science are not, e.g. a quality or a point — it is not necessary perhaps that such things should be put under either head. Hence it is incumbent on the person who specializes in physics to discuss the infinite and to inquire whether there is such a thing or not, and, if there is, what it is.

The appropriateness to the science of this problem is clearly indicated. All who have touched on this kind of science in a way worth considering have formulated views about the infinite, and indeed, to a man, make it a principle of things.

(1) Some, as the Pythagoreans and Plato, make the infinite a principle in the sense of a self-subsistent substance, and not as a mere attribute of some other thing. Only the Pythagoreans place the infinite among the objects of sense (they do not regard number as separable from these), and assert that what is outside the heaven is infinite. Plato, on the other hand, holds that there is no body outside (the Forms are not outside because they are nowhere),yet that the infinite is present not only in the objects of sense but in the Forms also.

Further, the Pythagoreans identify the infinite with the even. For this, they say, when it is cut off and shut in by the odd, provides things with the element of infinity. An indication of this is what happens with numbers. If the gnomons are placed round the one, and without the one, in the one construction the figure that results is always different, in the other it is always the same. But Plato has two infinites, the Great and the Small.

The physicists, on the other hand, all of them, always regard the infinite as an attribute of a substance which is different from it and belongs to the class of the so-called elements — water or air or what is intermediate between them. Those who make them limited in number never make them infinite in amount. But those who make the elements infinite in number, as Anaxagoras and Democritus do, say that the infinite is continuous by contact — compounded of the homogeneous parts according to the one, of the seed-mass of the atomic shapes according to the other.

Further, Anaxagoras held that any part is a mixture in the same way as the All, on the ground of the observed fact that anything comes out of anything. For it is probably for this reason that he maintains that once upon a time all things were together. (This flesh and this bone were together, and so of any thing: therefore all things: and at the same time too.) For there is a beginning of separation, not only for each thing, but for all. Each thing that comes to be comes from a similar body, and there is a coming to be of all things, though not, it is true, at the same time. Hence there must also be an origin of coming to be. One such source there is which he calls Mind, and Mind begins its work of thinking from some starting-point. So necessarily all things must have been together at a certain time, and must have begun to be moved at a certain time.

Democritus, for his part, asserts the contrary, namely that no element arises from another element. Nevertheless for him the common body is a source of all things, differing from part to part in size and in shape.

It is clear then from these considerations that the inquiry concerns the physicist. Nor is it without reason that they all make it a principle or source. We cannot say that the infinite has no effect, and the only effectiveness which we can ascribe to it is that of a principle. Everything is either a source or derived from a source. But there cannot be a source of the infinite or limitless, for that would be a limit of it. Further, as it is a beginning, it is both uncreatable and indestructible. For there must be a point at which what has come to be reaches completion, and also a termination of all passing away. That is why, as we say, there is no principle of this, but it is this which is held to be the principle of other things, and to encompass all and to steer all, as those assert who do not recognize, alongside the infinite, other causes, such as Mind or Friendship. Further they identify it with the Divine, for it is ‘deathless and imperishable’ as Anaximander says, with the majority of the physicists.

Belief in the existence of the infinite comes mainly from five considerations:

(1) From the nature of time — for it is infinite.

(2) From the division of magnitudes — for the mathematicians also use the notion of the infinite.

(3) If coming to be and passing away do not give out, it is only because that from which things come to be is infinite.

(4) Because the limited always finds its limit in something, so that there must be no limit, if everything is always limited by something different from itself.

(5) Most of all, a reason which is peculiarly appropriate and presents the difficulty that is felt by everybody — not only number but also mathematical magnitudes and what is outside the heaven are supposed to be infinite because they never give out in our thought.

The last fact (that what is outside is infinite) leads people to suppose that body also is infinite, and that there is an infinite number of worlds. Why should there be body in one part of the void rather than in another? Grant only that mass is anywhere and it follows that it must be everywhere. Also, if void and place are infinite, there must be infinite body too, for in the case of eternal things what may be must be. But the problem of the infinite is difficult: many contradictions result whether we suppose it to exist or not to exist. If it exists, we have still to ask how it exists; as a substance or as the essential attribute of some entity? Or in neither way, yet none the less is there something which is infinite or some things which are infinitely many?

The problem, however, which specially belongs to the physicist is to investigate whether there is a sensible magnitude which is infinite.

We must begin by distinguishing the various senses in which the term ‘infinite’ is used.

(1) What is incapable of being gone through, because it is not in its nature to be gone through (the sense in which the voice is ‘invisible’).

(2) What admits of being gone through, the process however having no termination, or what scarcely admits of being gone through.

(3) What naturally admits of being gone through, but is not actually gone through or does not actually reach an end.

Further, everything that is infinite may be so in respect of addition or division or both.

Now it is impossible that the infinite should be a thing which is itself infinite, separable from sensible objects. If the infinite is neither a magnitude nor an aggregate, but is itself a substance and not an attribute, it will be indivisible; for the divisible must be either a magnitude or an aggregate. But if indivisible, then not infinite, except in the sense (1) in which the voice is 'invisible'. But this is not the sense in which it is used by those who say that the infinite exists, nor that in which we are investigating it, namely as (2) 'that which cannot be gone through'. But if the infinite exists as an attribute, it would not be, qua infinite an element in substances, any more than the invisible would be an element of speech, though the voice is invisible.

Further, how can the infinite be itself any thing, unless both number and magnitude, of which it is an essential attribute, exist in that way? If they are not substances, a fortiori the infinite is not.

It is plain, too, that the infinite cannot be an actual thing and a substance and principle. For any part of it that is taken will be infinite, if it has parts: for 'to be infinite' and 'the infinite' are the same, if it is a substance and not predicated of a subject. Hence it will be either indivisible or divisible into infinites. But the same thing cannot be many infinites. (Yet just as part of air is air, so a part of the infinite would be infinite, if it is supposed to be a substance and principle.) Therefore the infinite must be without parts and indivisible. But this cannot be true of what is infinite in full completion: for it must be a definite quantity.

Suppose then that infinity belongs to substance as an attribute. But, if so, it cannot, as we have said, be described as a principle, but rather that of which it is an attribute — the air or the even number.

Thus the view of those who speak after the manner of the Pythagoreans is absurd. With the same breath they treat the infinite as substance, and divide it into parts.

This discussion, however, involves the more general question whether the infinite can be present in mathematical objects and things which are intelligible and do not have extension, as well as among sensible objects. Our inquiry (as physicists) is limited to its special subject-matter, the objects of sense, and we have to ask whether there is or is not among them a body which is infinite in the direction of increase.

We may begin with a dialectical argument and show as follows that there is no such thing. If ‘bounded by a surface’ is the definition of body there cannot be an infinite body either intelligible or sensible. Nor can number taken in abstraction be infinite, for number or that which has number is numerable. If then the numerable can be numbered, it would also be possible to go through the infinite.

If, on the other hand, we investigate the question more in accordance with principles appropriate to physics, we are led as follows to the same result.

The infinite body must be either (1) compound, or (2) simple; yet neither alternative is possible.

(1) Compound the infinite body will not be, if the elements are finite in number. For they must be more than one, and the contraries must always balance, and no one of them can be infinite. If one of the bodies falls in any degree short of the other in potency — suppose fire is finite in amount while air is infinite and a given quantity of fire exceeds in power the same amount of air in any ratio provided it is numerically definite — the infinite body will obviously prevail over and annihilate the finite body. On the other hand, it is impossible that each should be infinite. ‘Body’ is what has extension in all directions and the infinite is what is boundlessly extended, so that the infinite body would be extended in all directions ad infinitum.

Nor (2) can the infinite body be one and simple, whether it is, as some hold, a thing over and above the elements (from which they generate the elements) or is not thus qualified.

(a) We must consider the former alternative; for there are some people who make this the infinite, and not air or water, in order that the other elements may not be annihilated by the element which is infinite. They have contrariety with each other — air is cold, water moist, fire hot; if one were infinite, the others by now would have ceased to be. As it is, they say, the infinite is different from them and is their source.

It is impossible, however, that there should be such a body; not because it is infinite on that point a general proof can be given which applies equally to all, air, water, or anything else — but simply because there is, as a matter of fact, no such sensible body, alongside the so-called elements. Everything can be resolved into the elements of which it is composed. Hence the body in question would have been present in our world here, alongside air and fire and earth and water: but nothing of the kind is observed.

(b) Nor can fire or any other of the elements be infinite. For generally, and apart from the question of how any of them could be infinite, the All, even if it were limited, cannot either be or become one of them, as Heraclitus says that at some time all things become fire. (The same argument applies also to the one which the physicists suppose to exist alongside the elements: for everything changes from contrary to contrary, e.g. from hot to cold).

The preceding consideration of the various cases serves to show us whether it is or is not possible that there should be an infinite sensible body. The following arguments give a general demonstration that it is not possible.

It is the nature of every kind of sensible body to be somewhere, and there is a place appropriate to each, the same for the part and for the whole, e.g. for the whole earth and for a single clod, and for fire and for a spark.

Suppose (a) that the infinite sensible body is homogeneous. Then each part will be either immovable or always being carried along. Yet neither is possible. For why downwards rather than upwards or in any other direction? I mean, e.g, if you take a clod, where will it be moved or where will it be at rest? For ex hypothesi the place of the body akin to it is infinite. Will it occupy the whole place, then? And how? What then will be the nature of its rest and of its movement, or where will they be? It will either be at home everywhere — then it will not be moved; or it will be moved everywhere — then it will not come to rest.

But if (b) the All has dissimilar parts, the proper places of the parts will be dissimilar also, and the body of the All will have no unity except that of contact. Then, further, the parts will be either finite or infinite in variety of kind. (i) Finite they cannot be, for if the All is to be infinite, some of them would have to be infinite, while the others were not, e.g. fire or water will be infinite. But, as we have seen before, such an element would destroy what is contrary to it. (This indeed is the reason why none of the physicists made fire or earth the one infinite body, but either water or air or what is intermediate between them, because the abode of each of the two was plainly determinate, while the others have an ambiguous place between up and down.)

But (ii) if the parts are infinite in number and simple, their proper places too will be infinite in number, and the same will be true of the elements themselves. If that is impossible, and the places are finite, the whole too must be finite; for the place and the body cannot but fit each other. Neither is the whole place larger than what can be filled by the body (and then the body would no longer be infinite), nor is the body larger than the place; for either there would be an empty space or a body whose nature it is to be nowhere.

Anaxagoras gives an absurd account of why the infinite is at rest. He says that the infinite itself is the cause of its being fixed. This because it is in itself, since nothing else contains it — on the assumption that wherever anything is, it is there by its own nature. But this is not true: a thing could be somewhere by compulsion, and not where it is its nature to be.

Even if it is true as true can be that the whole is not moved (for what is fixed by itself and is in itself must be immovable), yet we must explain why it is not its nature to be moved. It is not enough just to make this statement and then decamp. Anything else might be in a state of rest, but there is no reason why it should not be its nature to be moved. The earth is not carried along, and would not be carried along if it were infinite, provided it is held together by the centre. But it would not be because there was no other region in which it could be carried along that it would remain at the centre, but because this is its nature. Yet in this case also we may say that it fixes itself. If then in the case of the earth, supposed to be infinite, it is at rest, not because it is infinite, but because it has weight and what is heavy rests at the centre and the earth is at the centre, similarly the infinite also would rest in itself, not because it is infinite and fixes itself, but owing to some other cause.

Another difficulty emerges at the same time. Any part of the infinite body ought to remain at rest. Just as the infinite remains at rest in itself because it fixes itself, so too any part of it you may take will remain in itself. The appropriate places of the whole and of the part are alike, e.g. of the whole earth and of a clod the appropriate place is the lower region; of fire as a whole and of a spark, the upper region. If, therefore, to be in itself is the place of the infinite, that also will be appropriate to the part. Therefore it will remain in itself.

In general, the view that there is an infinite body is plainly incompatible with the doctrine that there is necessarily a proper place for each kind of body, if every sensible body has either weight or lightness, and if a body has a natural locomotion towards the centre if it is heavy, and upwards if it is light. This would need to be true of the infinite also. But neither character can belong to it: it cannot be either as a whole, nor can it be half the one and half the other. For how should you divide it? or how can the infinite have the one part up and the other down, or an extremity and a centre?

Further, every sensible body is in place, and the kinds or differences of place are up-down, before-behind, right-left; and these distinctions hold not only in relation to us and by arbitrary agreement, but also in the whole itself. But in the infinite body they cannot exist. In general, if it is impossible that there should be an infinite place, and if every body is in place, there cannot be an infinite body.

Surely what is in a special place is in place, and what is in place is in a special place. Just, then, as the infinite cannot be quantity — that would imply that it has a particular quantity, e,g, two or three cubits; quantity just means these — so a thing's being in place means that it is somewhere, and that is either up or down or in some other of the six differences of position: but each of these is a limit.

It is plain from these arguments that there is no body which is actually infinite.

6

But on the other hand to suppose that the infinite does not exist in any way leads obviously to many impossible consequences: there will be a beginning and an end of time, a magnitude will not be divisible into magnitudes, number will not be infinite. If, then, in view of the above considerations, neither alternative seems possible, an arbiter must be called in; and clearly there is a sense in which the infinite exists and another in which it does not.

We must keep in mind that the word 'is' means either what potentially is or what fully is. Further, a thing is infinite either by addition or by division.

Now, as we have seen, magnitude is not actually infinite. But by division it is infinite. (There is no difficulty in refuting the theory of indivisible lines.) The alternative then remains that the infinite has a potential existence.

But the phrase 'potential existence' is ambiguous. When we speak of the potential existence of a statue we mean that there will be an actual statue. It is not so with the infinite. There will not be an actual infinite. The word 'is' has many senses, and we say that the infinite 'is' in the sense in which we say 'it is day' or 'it is the games', because one thing after another is always coming into existence. For of these things too the distinction between potential and actual existence holds. We say that there are Olympic games, both in the sense that they may occur and that they are actually occurring.

The infinite exhibits itself in different ways — in time, in the generations of man, and in the division of magnitudes. For generally the infinite has this mode of existence: one thing is always being taken after another, and each thing that is taken is always finite, but always different. Again, ‘being’ has more than one sense, so that we must not regard the infinite as a ‘this’, such as a man or a horse, but must suppose it to exist in the sense in which we speak of the day or the games as existing things whose being has not come to them like that of a substance, but consists in a process of coming to be or passing away; definite if you like at each stage, yet always different.

But when this takes place in spatial magnitudes, what is taken perists, while in the succession of time and of men it takes place by the passing away of these in such a way that the source of supply never gives out.

In a way the infinite by addition is the same thing as the infinite by division. In a finite magnitude, the infinite by addition comes about in a way inverse to that of the other. For in proportion as we see division going on, in the same proportion we see addition being made to what is already marked off. For if we take a determinate part of a finite magnitude and add another part determined by the same ratio (not taking in the same amount of the original whole), and so on, we shall not traverse the given magnitude. But if we increase the ratio of the part, so as always to take in the same amount, we shall traverse the magnitude, for every finite magnitude is exhausted by means of any determinate quantity however small.

The infinite, then, exists in no other way, but in this way it does exist, potentially and by reduction. It exists fully in the sense in which we say ‘it is day’ or ‘it is the games’; and potentially as matter exists, not independently as what is finite does.

By addition then, also, there is potentially an infinite, namely, what we have described as being in a sense the same as the infinite in respect of division. For it will always be possible to take something ah extra. Yet the sum of the parts taken will not exceed every determinate magnitude, just as in the direction of division every determinate magnitude is surpassed in smallness and there will be a smaller part.

But in respect of addition there cannot be an infinite which even potentially exceeds every assignable magnitude, unless it has the attribute of being actually infinite, as the physicists hold to be true of the body which is outside the world, whose essential nature is air or something of the kind. But if there cannot be in this way a sensible body which is infinite in the full sense, evidently there can no more be a body which is potentially infinite in respect of addition, except as the inverse of the infinite by division, as we have said. It is for this reason that Plato also made the infinites two in number, because it is supposed to be possible to exceed all limits and to proceed ad infinitum in the direction both of increase and of reduction. Yet though he makes the infinites two, he does not use them. For in the numbers the infinite in the direction of reduction is not present, as the monad is the smallest; nor is the infinite in the direction of increase, for the parts number only up to the decad.

The infinite turns out to be the contrary of what it is said to be. It is not what has nothing outside it that is infinite, but what always has something outside it. This is indicated by the fact that rings also that have no bezel are described as ‘endless’, because it is always possible to take a part which is outside a given part. The description depends on a certain similarity, but it is not true in the full sense of the word. This condition alone is not sufficient: it is necessary also that the next part which is taken should never be the same. In the circle, the latter condition is not satisfied: it is only the adjacent part from which the new part is different.

Our definition then is as follows:

A quantity is infinite if it is such that we can always take a part outside what has been already taken. On the other hand, what has nothing outside it is complete and whole. For thus we define the whole — that from which nothing is wanting, as a whole man or a whole box. What is true of each particular is true of the whole as such — the whole is that of which nothing is outside. On the other hand that from which something is absent and outside, however small that may be, is not ‘all’. ‘Whole’ and ‘complete’ are either quite identical or closely akin. Nothing is complete (teleion) which has no end (telos); and the end is a limit.

Hence Parmenides must be thought to have spoken better than Melissus. The latter says that the whole is infinite, but the former describes it as limited, ‘equally balanced from the middle’. For to connect the infinite with the all and the whole is not like joining two pieces of string; for it is from this they get the dignity they ascribe to the infinite — its containing all things and holding the all in itself — from its having a certain similarity to the whole. It is in fact the matter of the completeness which belongs to size, and what is potentially a whole, though not in the full sense. It is divisible both in the direction of reduction and of the inverse addition. It is a whole and limited; not, however, in virtue of its own nature, but in virtue of what is other than it. It does not contain, but, in so far as it is infinite, is contained. Consequently, also, it is unknowable, qua infinite; for the matter has no form. (Hence it is plain that the infinite stands in the relation of part rather than of whole. For the matter is part of the whole, as the bronze is of the bronze statue.) If it contains in the case of sensible things, in the case of intelligible things the great and the small ought to contain them. But it is absurd and impossible to suppose that the unknowable and indeterminate should contain and determine.

7

It is reasonable that there should not be held to be an infinite in respect of addition such as to surpass every magnitude, but that there should be thought to be such an infinite in the direction of division. For the matter and the infinite are contained inside what contains them, while it is the form which contains. It is natural too to suppose that in number there is a limit in the direction of the minimum, and that in the other direction every assigned number is surpassed. In magnitude, on the contrary, every assigned magnitude is surpassed in the direction of smallness, while in the other direction there is no infinite magnitude. The reason is that what is one is indivisible whatever it may be, e.g. a man is one man, not many. Number on the other hand is a plurality of ‘ones’ and a certain quantity of them. Hence number must stop at the indivisible: for ‘two’ and ‘three’ are merely derivative terms, and so with each of the other numbers. But in the direction of largeness it is always possible to think of a larger number: for the number of times a magnitude can be bisected is infinite. Hence this infinite is potential, never actual: the number of parts that can be taken always surpasses any assigned number. But this number is not separable from the process of bisection, and its infinity is not a permanent actuality but consists in a process of coming to be, like time and the number of time.

With magnitudes the contrary holds. What is continuous is divided ad infinitum, but there is no infinite in the direction of increase. For the size which it can potentially be, it can also actually be. Hence since no sensible magnitude is infinite, it is impossible to exceed every assigned magnitude;

for if it were possible there would be something bigger than the heavens.

The infinite is not the same in magnitude and movement and time, in the sense of a single nature, but its secondary sense depends on its primary sense, i.e. movement is called infinite in virtue of the magnitude covered by the movement (or alteration or growth), and time because of the movement. (I use these terms for the moment. Later I shall explain what each of them means, and also why every magnitude is divisible into magnitudes.)

Our account does not rob the mathematicians of their science, by disproving the actual existence of the infinite in the direction of increase, in the sense of the untraversable. In point of fact they do not need the infinite and do not use it. They postulate only that the finite straight line may be produced as far as they wish. It is possible to have divided in the same ratio as the largest quantity another magnitude of any size you like. Hence, for the purposes of proof, it will make no difference to them to have such an infinite instead, while its existence will be in the sphere of real magnitudes.

In the fourfold scheme of causes, it is plain that the infinite is a cause in the sense of matter, and that its essence is privation, the subject as such being what is continuous and sensible. All the other thinkers, too, evidently treat the infinite as matter — that is why it is inconsistent in them to make it what contains, and not what is contained.

8

It remains to dispose of the arguments which are supposed to support the view that the infinite exists not only potentially but as a separate thing. Some have no cogency; others can be met by fresh objections that are valid.

(1) In order that coming to be should not fail, it is not necessary that there should be a sensible body which is actually infinite. The passing away of one thing may be the coming to be of another, the All being limited.

(2) There is a difference between touching and being limited. The former is relative to something and is the touching of something (for everything that touches touches something), and further is an attribute of some one of the things which are limited. On the other hand, what is limited is not limited in relation to anything. Again, contact is not necessarily possible between any two things taken at random.

(3) To rely on mere thinking is absurd, for then the excess or defect is not

in the thing but in the thought. One might think that one of us is bigger than he is and magnify him ad infinitum. But it does not follow that he is bigger than the size we are, just because some one thinks he is, but only because he is the size he is. The thought is an accident.

(a) Time indeed and movement are infinite, and also thinking, in the sense that each part that is taken passes in succession out of existence.

(b) Magnitude is not infinite either in the way of reduction or of magnification in thought.

This concludes my account of the way in which the infinite exists, and of the way in which it does not exist, and of what it is.

Book IV

1

THE physicist must have a knowledge of Place, too, as well as of the infinite — namely, whether there is such a thing or not, and the manner of its existence and what it is — both because all suppose that things which exist are somewhere (the non-existent is nowhere — where is the goat-stag or the sphinx?), and because 'motion' in its most general and primary sense is change of place, which we call 'locomotion'.

The question, what is place? presents many difficulties. An examination of all the relevant facts seems to lead to divergent conclusions. Moreover, we have inherited nothing from previous thinkers, whether in the way of a statement of difficulties or of a solution.

The existence of place is held to be obvious from the fact of mutual replacement. Where water now is, there in turn, when the water has gone out as from a vessel, air is present. When therefore another body occupies this same place, the place is thought to be different from all the bodies which come to be in it and replace one another. What now contains air formerly contained water, so that clearly the place or space into which and out of which they passed was something different from both.

Further, the typical locomotions of the elementary natural bodies — namely, fire, earth, and the like — show not only that place is something, but also that it exerts a certain influence. Each is carried to its own place, if it is not hindered, the one up, the other down. Now these are regions or kinds of place — up and down and the rest of the six directions. Nor do such distinctions (up and down and right and left, &c.) hold only in relation to us. To us they are not always the same but change with the direction in which we are turned: that is why the same thing may be both right and left, up and down, before and behind. But in nature each is distinct, taken apart by itself. It is not every chance direction which is 'up', but where fire and what is light are carried; similarly, too, 'down' is not any chance direction but where what has weight and what is made of earth are carried — the implication being that these places do not differ merely in relative position, but also as possessing distinct potencies. This is made plain also by the objects studied by mathematics. Though they have no real place, they nevertheless, in respect of their position relatively to us, have a right and left as attributes ascribed to them only in consequence of their relative position, not having by nature these various characteristics. Again, the theory that the void exists involves the existence of place: for one would define void as place bereft of body.

These considerations then would lead us to suppose that place is something distinct from bodies, and that every sensible body is in place. Hesiod too might be held to have given a correct account of it when he made chaos first. At least he says:

‘First of all things came chaos to being, then broad-breasted earth,’ implying that things need to have space first, because he thought, with most people, that everything is somewhere and in place. If this is its nature, the potency of place must be a marvellous thing, and take precedence of all other things. For that without which nothing else can exist, while it can exist without the others, must needs be first; for place does not pass out of existence when the things in it are annihilated.

True, but even if we suppose its existence settled, the question of its nature presents difficulty — whether it is some sort of ‘bulk’ of body or some entity other than that, for we must first determine its genus.

(1) Now it has three dimensions, length, breadth, depth, the dimensions by which all body also is bounded. But the place cannot be body; for if it were there would be two bodies in the same place.

(2) Further, if body has a place and space, clearly so too have surface and the other limits of body; for the same statement will apply to them: where the bounding planes of the water were, there in turn will be those of the air. But when we come to a point we cannot make a distinction between it and its place. Hence if the place of a point is not different from the point, no more will that of any of the others be different, and place will not be something different from each of them.

(3) What in the world then are we to suppose place to be? If it has the sort of nature described, it cannot be an element or composed of elements, whether these be corporeal or incorporeal: for while it has size, it has not body. But the elements of sensible bodies are bodies, while nothing that has size results from a combination of intelligible elements.

(4) Also we may ask: of what in things is space the cause? None of the four modes of causation can be ascribed to it. It is neither in the sense of the matter of existents (for nothing is composed of it), nor as the form and definition of things, nor as end, nor does it move existents.

(5) Further, too, if it is itself an existent, where will it be? Zeno’s difficulty demands an explanation: for if everything that exists has a place, place too will have a place, and so on ad infinitum.

(6) Again, just as every body is in place, so, too, every place has a body in it. What then shall we say about growing things? It follows from these premisses that their place must grow with them, if their place is neither less nor greater than they are.

By asking these questions, then, we must raise the whole problem about place — not only as to what it is, but even whether there is such a thing.

2

We may distinguish generally between predicating B of A because it (A) is itself, and because it is something else; and particularly between place which is common and in which all bodies are, and the special place occupied primarily by each. I mean, for instance, that you are now in the heavens because you are in the air and it is in the heavens; and you are in the air because you are on the earth; and similarly on the earth because you are in this place which contains no more than you.

Now if place is what primarily contains each body, it would be a limit, so that the place would be the form or shape of each body by which the magnitude or the matter of the magnitude is defined: for this is the limit of each body.

If, then, we look at the question in this way the place of a thing is its form. But, if we regard the place as the extension of the magnitude, it is the matter. For this is different from the magnitude: it is what is contained and defined by the form, as by a bounding plane. Matter or the indeterminate is of this nature; when the boundary and attributes of a sphere are taken away, nothing but the matter is left.

This is why Plato in the Timaeus says that matter and space are the same; for the ‘participant’ and space are identical. (It is true, indeed, that the account he gives there of the ‘participant’ is different from what he says in his so-called ‘unwritten teaching’. Nevertheless, he did identify place and space.) I mention Plato because, while all hold place to be something, he alone tried to say what it is.

In view of these facts we should naturally expect to find difficulty in determining what place is, if indeed it is one of these two things, matter or form. They demand a very close scrutiny, especially as it is not easy to recognize them apart.

But it is at any rate not difficult to see that place cannot be either of them. The form and the matter are not separate from the thing, whereas the place can be separated. As we pointed out, where air was, water in turn comes to be, the one replacing the other; and similarly with other bodies. Hence the place of a thing is neither a part nor a state of it, but is separable from it. For place is supposed to be something like a vessel — the vessel being a transportable place. But the vessel is no part of the thing.

In so far then as it is separable from the thing, it is not the form: qua containing, it is different from the matter.

Also it is held that what is anywhere is both itself something and that there is a different thing outside it. (Plato of course, if we may digress, ought to tell us why the form and the numbers are not in place, if ‘what participates’ is place — whether what participates is the Great and the Small or the matter, as he called it in writing in the Timaeus.)

Further, how could a body be carried to its own place, if place was the matter or the form? It is impossible that what has no reference to motion or the distinction of up and down can be place. So place must be looked for among things which have these characteristics.

If the place is in the thing (it must be if it is either shape or matter) place will have a place: for both the form and the indeterminate undergo change and motion along with the thing, and are not always in the same place, but are where the thing is. Hence the place will have a place.

Further, when water is produced from air, the place has been destroyed, for the resulting body is not in the same place. What sort of destruction then is that?

This concludes my statement of the reasons why space must be something, and again of the difficulties that may be raised about its essential nature.

The next step we must take is to see in how many senses one thing is said to be ‘in’ another.

(1) As the finger is ‘in’ the hand and generally the part ‘in’ the whole.

(2) As the whole is ‘in’ the parts: for there is no whole over and above the parts.

(3) As man is ‘in’ animal and generally species ‘in’ genus.

(4) As the genus is ‘in’ the species and generally the part of the specific form ‘in’ the definition of the specific form.

(5) As health is ‘in’ the hot and the cold and generally the form ‘in’ the matter.

(6) As the affairs of Greece centre ‘in’ the king, and generally events centre ‘in’ their primary motive agent.

(7) As the existence of a thing centres ‘in its good and generally ‘in’ its end, i.e. in ‘that for the sake of which’ it exists.

(8) In the strictest sense of all, as a thing is ‘in’ a vessel, and generally ‘in’ place.

One might raise the question whether a thing can be in itself, or whether nothing can be in itself — everything being either nowhere or in something else.

The question is ambiguous; we may mean the thing qua itself or qua something else.

When there are parts of a whole — the one that in which a thing is, the other the thing which is in it — the whole will be described as being in itself. For a thing is described in terms of its parts, as well as in terms of the thing as a whole, e.g. a man is said to be white because the visible surface of him is white, or to be scientific because his thinking faculty has been trained. The jar then will not be in itself and the wine will not be in itself. But the jar of wine will: for the contents and the container are both parts of the same whole.

In this sense then, but not primarily, a thing can be in itself, namely, as ‘white’ is in body (for the visible surface is in body), and science is in the mind.

It is from these, which are ‘parts’ (in the sense at least of being ‘in’ the man), that the man is called white, &c. But the jar and the wine in separation are not parts of a whole, though together they are. So when there are parts, a thing will be in itself, as ‘white’ is in man because it is in body, and in body because it resides in the visible surface. We cannot go further and say that it is in surface in virtue of something other than itself. (Yet it is not in itself: though these are in a way the same thing,) they differ in essence, each having a special nature and capacity, 'surface' and 'white'.

Thus if we look at the matter inductively we do not find anything to be 'in' itself in any of the senses that have been distinguished; and it can be seen by argument that it is impossible. For each of two things will have to be both, e.g. the jar will have to be both vessel and wine, and the wine both wine and jar, if it is possible for a thing to be in itself; so that, however true it might be that they were in each other, the jar will receive the wine in virtue not of its being wine but of the wine's being wine, and the wine will be in the jar in virtue not of its being a jar but of the jar's being a jar. Now that they are different in respect of their essence is evident; for 'that in which something is' and 'that which is in it' would be differently defined.

Nor is it possible for a thing to be in itself even incidentally: for two things would at the same time in the same thing. The jar would be in itself — if a thing whose nature it is to receive can be in itself; and that which it receives, namely (if wine) wine, will be in it.

Obviously then a thing cannot be in itself primarily.

Zeno's problem — that if Place is something it must be in something — is not difficult to solve. There is nothing to prevent the first place from being 'in' something else — not indeed in that as 'in' place, but as health is 'in' the hot as a positive determination of it or as the hot is 'in' body as an affection. So we escape the infinite regress.

Another thing is plain: since the vessel is no part of what is in it (what contains in the strict sense is different from what is contained), place could not be either the matter or the form of the thing contained, but must different — for the latter, both the matter and the shape, are parts of what is contained.

This then may serve as a critical statement of the difficulties involved.

4

What then after all is place? The answer to this question may be elucidated as follows.

Let us take for granted about it the various characteristics which are supposed correctly to belong to it essentially. We assume then —

(1) Place is what contains that of which it is the place.

(2) Place is no part of the thing.

(3) The immediate place of a thing is neither less nor greater than the thing.

(4) Place can be left behind by the thing and is separable. In addition:

(5) All place admits of the distinction of up and down, and each of the bodies is naturally carried to its appropriate place and rests there, and this makes the place either up or down.

Having laid these foundations, we must complete the theory. We ought to try to make our investigation such as will render an account of place, and will not only solve the difficulties connected with it, but will also show that the attributes supposed to belong to it do really belong to it, and further will make clear the cause of the trouble and of the difficulties about it. Such is the most satisfactory kind of exposition.

First then we must understand that place would not have been thought of, if there had not been a special kind of motion, namely that with respect to place. It is chiefly for this reason that we suppose the heaven also to be in place, because it is in constant movement. Of this kind of change there are two species — locomotion on the one hand and, on the other, increase and diminution. For these too involve variation of place: what was then in this place has now in turn changed to what is larger or smaller.

Again, when we say a thing is ‘moved’, the predicate either (1) belongs to it actually, in virtue of its own nature, or (2) in virtue of something conjoined with it. In the latter case it may be either (a) something which by its own nature is capable of being moved, e.g. the parts of the body or the nail in the ship, or (b) something which is not in itself capable of being moved, but is always moved through its conjunction with something else, as ‘whiteness’ or ‘science’. These have changed their place only because the subjects to which they belong do so.

We say that a thing is in the world, in the sense of in place, because it is in the air, and the air is in the world; and when we say it is in the air, we do not mean it is in every part of the air, but that it is in the air because of the outer surface of the air which surrounds it; for if all the air were its place, the place of a thing would not be equal to the thing — which it is supposed to be, and which the primary place in which a thing is actually is.

When what surrounds, then, is not separate from the thing, but is in continuity with it, the thing is said to be in what surrounds it, not in the sense of in place, but as a part in a whole. But when the thing is separate and in contact, it is immediately ‘in’ the inner surface of the surrounding body, and this surface is neither a part of what is in it nor yet greater than its extension, but equal to it; for the extremities of things which touch are coincident.

Further, if one body is in continuity with another, it is not moved in that but with that. On the other hand it is moved in that if it is separate. It makes no difference whether what contains is moved or not.

Again, when it is not separate it is described as a part in a whole, as the pupil in the eye or the hand in the body: when it is separate, as the water in the cask or the wine in the jar. For the hand is moved with the body and the water in the cask.

It will now be plain from these considerations what place is. There are just four things of which place must be one — the shape, or the matter, or some sort of extension between the bounding surfaces of the containing body, or this boundary itself if it contains no extension over and above the bulk of the body which comes to be in it.

Three of these it obviously cannot be:

(1) The shape is supposed to be place because it surrounds, for the extremities of what contains and of what is contained are coincident. Both the shape and the place, it is true, are boundaries. But not of the same thing: the form is the boundary of the thing, the place is the boundary of the body which contains it.

(2) The extension between the extremities is thought to be something, because what is contained and separate may often be changed while the container remains the same (as water may be poured from a vessel) — the assumption being that the extension is something over and above the body displaced. But there is no such extension. One of the bodies which change places and are naturally capable of being in contact with the container falls in whichever it may chance to be.

If there were an extension which were such as to exist independently and be permanent, there would be an infinity of places in the same thing. For when the water and the air change places, all the portions of the two together will play the same part in the whole which was previously played by all the water in the vessel; at the same time the place too will be undergoing change; so that there will be another place which is the place of the place, and many places will be coincident. There is not a different place of the part, in which it is moved, when the whole vessel changes its place: it is always the same: for it is in the (proximate) place where they are that the air and the water (or the parts of the water) succeed each other, not in that place in which they come to be, which is part of the place which is the place of the whole world.

(3) The matter, too, might seem to be place, at least if we consider it in what is at rest and is thus separate but in continuity. For just as in change of quality there is something which was formerly black and is now white, or formerly soft and now hard — this is just why we say that the matter exists — so place, because it presents a similar phenomenon, is thought to exist — only in the one case we say so because what was air is now water, in the other because where air formerly was there a is now water. But the matter, as we said before, is neither separable from the thing nor contains it, whereas place has both characteristics.

Well, then, if place is none of the three — neither the form nor the matter nor an extension which is always there, different from, and over and above, the extension of the thing which is displaced — place necessarily is the one of the four which is left, namely, the boundary of the containing body at which it is in contact with the contained body. (By the contained body is meant what can be moved by way of locomotion.)

Place is thought to be something important and hard to grasp, both because the matter and the shape present themselves along with it, and because the displacement of the body that is moved takes place in a stationary container, for it seems possible that there should be an interval which is other than the bodies which are moved. The air, too, which is thought to be incorporeal, contributes something to the belief: it is not only the boundaries of the vessel which seem to be place, but also what is between them, regarded as empty. Just, in fact, as the vessel is transportable place, so place is a non-portable vessel. So when what is within a thing which is moved, is moved and changes its place, as a boat on a river, what contains plays the part of a vessel rather than that of place. Place on the other hand is rather what is motionless: so it is rather the whole river that is place, because as a whole it is motionless.

Hence we conclude that the innermost motionless boundary of what contains is place.

This explains why the middle of the heaven and the surface which faces us of the rotating system are held to be ‘up’ and ‘down’ in the strict and fullest sense for all men: for the one is always at rest, while the inner side of the rotating body remains always coincident with itself. Hence since the light is what is naturally carried up, and the heavy what is carried down, the boundary which contains in the direction of the middle of the universe, and the middle itself, are down, and that which contains in the direction of the outermost part of the universe, and the outermost part itself, are up.

For this reason, too, place is thought to be a kind of surface, and as it were a vessel, i.e. a container of the thing.

Further, place is coincident with the thing, for boundaries are coincident with the bounded.

5

If then a body has another body outside it and containing it, it is in place, and if not, not. That is why, even if there were to be water which had not a container, the parts of it, on the one hand, will be moved (for one part is contained in another), while, on the other hand, the whole will be moved in one sense, but not in another. For as a whole it does not simultaneously change its place, though it will be moved in a circle: for this place is the place of its parts. (Some things are moved, not up and down, but in a circle; others up and down, such things namely as admit of condensation and rarefaction.)

As was explained, some things are potentially in place, others actually. So, when you have a homogeneous substance which is continuous, the parts are potentially in place: when the parts are separated, but in contact, like a heap, they are actually in place.

Again, (1) some things are per se in place, namely every body which is movable either by way of locomotion or by way of increase is per se somewhere, but the heaven, as has been said, is not anywhere as a whole, nor in any place, if at least, as we must suppose, no body contains it. On the line on which it is moved, its parts have place: for each is contiguous the next.

But (2) other things are in place indirectly, through something conjoined with them, as the soul and the heaven. The latter is, in a way, in place, for all its parts are: for on the orb one part contains another. That is why the upper part is moved in a circle, while the All is not anywhere. For what is somewhere is itself something, and there must be alongside it some other thing wherein it is and which contains it. But alongside the All or the Whole there is nothing outside the All, and for this reason all things are in the heaven; for the heaven, we may say, is the All. Yet their place is not the same as the heaven. It is part of it, the innermost part of it, which is in contact with the movable body; and for this reason the earth is in water, and this in the air, and the air in the aether, and the aether in heaven, but we cannot go on and say that the heaven is in anything else.

It is clear, too, from these considerations that all the problems which were raised about place will be solved when it is explained in this way:

(1) There is no necessity that the place should grow with the body in it,

(2) Nor that a point should have a place,

(3) Nor that two bodies should be in the same place,

(4) Nor that place should be a corporeal interval: for what is between the boundaries of the place is any body which may chance to be there, not an interval in body.

Further, (5) place is also somewhere, not in the sense of being in a place, but as the limit is in the limited; for not everything that is is in place, but only movable body.

Also (6) it is reasonable that each kind of body should be carried to its own place. For a body which is next in the series and in contact (not by compulsion) is akin, and bodies which are united do not affect each other, while those which are in contact interact on each other.

Nor (7) is it without reason that each should remain naturally in its proper place. For this part has the same relation to its place, as a separable part to its whole, as when one moves a part of water or air: so, too, air is related to water, for the one is like matter, the other form — water is the matter of air, air as it were the actuality of water, for water is potentially air, while air is potentially water, though in another way.

These distinctions will be drawn more carefully later. On the present occasion it was necessary to refer to them: what has now been stated obscurely will then be made more clear. If the matter and the fulfilment are the same thing (for water is both, the one potentially, the other completely), water will be related to air in a way as part to whole. That is why these have contact: it is organic union when both become actually one.

This concludes my account of place — both of its existence and of its nature.

6

The investigation of similar questions about the void, also, must be held to belong to the physicist — namely whether it exists or not, and how it exists or what it is — just as about place. The views taken of it involve arguments both for and against, in much the same sort of way. For those who hold that the void exists regard it as a sort of place or vessel which is supposed to be 'full' when it holds the bulk which it is capable of containing, 'void' when it is deprived of that — as if 'void' and 'full' and 'place' denoted the same thing, though the essence of the three is different.

We must begin the inquiry by putting down the account given by those who say that it exists, then the account of those who say that it does not exist, and third the current view on these questions.

Those who try to show that the void does not exist do not disprove what people really mean by it, but only their erroneous way of speaking; this is true of Anaxagoras and of those who refute the existence of the void in this way. They merely give an ingenious demonstration that air is something — by straining wine-skins and showing the resistance of the air, and by cutting it off in clepsydras. But people really mean that there is an empty interval in which there is no sensible body. They hold that everything which is in body is body and say that what has nothing in it at all is void (so what is full of air is void). It is not then the existence of air that needs to be proved, but the non-existence of an interval, different from the bodies, either separable or actual — an interval which divides the whole body so as to break its continuity, as Democritus and Leucippus hold, and many other physicists — or even perhaps as something which is outside the whole body, which remains continuous.

These people, then, have not reached even the threshold of the problem, but rather those who say that the void exists.

(1) They argue, for one thing, that change in place (i.e. locomotion and increase) would not be. For it is maintained that motion would seem not to exist, if there were no void, since what is full cannot contain anything more. If it could, and there were two bodies in the same place, it would also be true that any number of bodies could be together; for it is impossible to draw a line of division beyond which the statement would become untrue. If this were possible, it would follow also that the smallest body would contain the

greatest; for ‘many a little makes a mickle’: thus if many equal bodies can be together, so also can many unequal bodies.

Melissus, indeed, infers from these considerations that the All is immovable; for if it were moved there must, he says, be void, but void is not among the things that exist.

This argument, then, is one way in which they show that there is a void.

(2) They reason from the fact that some things are observed to contract and be compressed, as people say that a cask will hold the wine which formerly filled it, along with the skins into which the wine has been decanted, which implies that the compressed body contracts into the voids present in it.

Again (3) increase, too, is thought to take always by means of void, for nutriment is body, and it is impossible for two bodies to be together. A proof of this they find also in what happens to ashes, which absorb as much water as the empty vessel.

The Pythagoreans, too, (4) held that void exists and that it enters the heaven itself, which as it were inhales it, from the infinite air. Further it is the void which distinguishes the natures of things, as if it were like what separates and distinguishes the terms of a series. This holds primarily in the numbers, for the void distinguishes their nature.

These, then, and so many, are the main grounds on which people have argued for and against the existence of the void.

7

As a step towards settling which view is true, we must determine the meaning of the name.

The void is thought to be place with nothing in it. The reason for this is that people take what exists to be body, and hold that while every body is in place, void is place in which there is no body, so that where there is no body, there must be void.

Every body, again, they suppose to be tangible; and of this nature is whatever has weight or lightness.

Hence, by a syllogism, what has nothing heavy or light in it, is void.

This result, then, as I have said, is reached by syllogism. It would be absurd to suppose that the point is void; for the void must be place which has in it an interval in tangible body.

But at all events we observe then that in one way the void is described as what is not full of body perceptible to touch; and what has heaviness and lightness is perceptible to touch. So we would raise the question: what would they say of an interval that has colour or sound — is it void or not? Clearly they would reply that if it could receive what is tangible it was void, and if not, not.

In another way void is that in which there is no ‘this’ or corporeal substance. So some say that the void is the matter of the body (they identify the place, too, with this), and in this they speak incorrectly; for the matter is not separable from the things, but they are inquiring about the void as about something separable.

Since we have determined the nature of place, and void must, if it exists, be place deprived of body, and we have stated both in what sense place exists and in what sense it does not, it is plain that on this showing void does not exist, either unseparated or separated; the void is meant to be, not body but rather an interval in body. This is why the void is thought to be something, viz. because place is, and for the same reasons. For the fact of motion in respect of place comes to the aid both of those who maintain that place is something over and above the bodies that come to occupy it, and of those who maintain that the void is something. They state that the void is the condition of movement in the sense of that in which movement takes place; and this would be the kind of thing that some say place is.

But there is no necessity for there being a void if there is movement. It is not in the least needed as a condition of movement in general, for a reason which, incidentally, escaped Melissus; viz. that the full can suffer qualitative change.

But not even movement in respect of place involves a void; for bodies may simultaneously make room for one another, though there is no interval separate and apart from the bodies that are in movement. And this is plain even in the rotation of continuous things, as in that of liquids.

And things can also be compressed not into a void but because they squeeze out what is contained in them (as, for instance, when water is compressed the air within it is squeezed out); and things can increase in size not only by the entrance of something but also by qualitative change; e.g. if water were to be transformed into air.

In general, both the argument about increase of size and that about water poured on to the ashes get in their own way. For either not any and every part of the body is increased, or bodies may be increased otherwise than by the addition of body, or there may be two bodies in the same place (in which case they are claiming to solve a quite general difficulty, but are not proving the existence of void), or the whole body must be void, if it is increased in every part and is increased by means of void. The same argument applies to the ashes.

It is evident, then, that it is easy to refute the arguments by which they prove the existence of the void.

8

Let us explain again that there is no void existing separately, as some maintain. If each of the simple bodies has a natural locomotion, e.g. fire upward and earth downward and towards the middle of the universe, it is clear that it cannot be the void that is the condition of locomotion. What, then, will the void be the condition of? It is thought to be the condition of movement in respect of place, and it is not the condition of this.

Again, if void is a sort of place deprived of body, when there is a void where will a body placed in it move to? It certainly cannot move into the whole of the void. The same argument applies as against those who think that place is something separate, into which things are carried; viz. how will what is placed in it move, or rest? Much the same argument will apply to the void as to the ‘up’ and ‘down’ in place, as is natural enough since those who maintain the existence of the void make it a place.

And in what way will things be present either in place — or in the void? For the expected result does not take place when a body is placed as a whole in a place conceived of as separate and permanent; for a part of it, unless it be placed apart, will not be in a place but in the whole. Further, if separate place does not exist, neither will void.

If people say that the void must exist, as being necessary if there is to be movement, what rather turns out to be the case, if one the matter, is the opposite, that not a single thing can be moved if there is a void; for as with those who for a like reason say the earth is at rest, so, too, in the void things must be at rest; for there is no place to which things can move more or less than to another; since the void in so far as it is void admits no difference.

The second reason is this: all movement is either compulsory or according to nature, and if there is compulsory movement there must also be natural (for compulsory movement is contrary to nature, and movement contrary to nature is posterior to that according to nature, so that if each of the natural bodies has not a natural movement, none of the other movements can exist); but how can there be natural movement if there is no difference throughout the void or the infinite? For in so far as it is infinite, there will be no up or down or middle, and in so far as it is a void, up differs no whit from down; for as there is no difference in what is nothing, there is none in the void (for the void seems to be a non-existent and a privation of being), but natural locomotion seems to be differentiated, so that the things that exist by nature must be differentiated. Either, then, nothing has a natural locomotion, or else there is no void.

Further, in point of fact things that are thrown move though that which gave them their impulse is not touching them, either by reason of mutual replacement, as some maintain, or because the air that has been pushed pushes them with a movement quicker than the natural locomotion of the projectile wherewith it moves to its proper place. But in a void none of these things can take place, nor can anything be moved save as that which is carried is moved.

Further, no one could say why a thing once set in motion should stop anywhere; for why should it stop here rather than here? So that a thing will either be at rest or must be moved ad infinitum, unless something more powerful get in its way.

Further, things are now thought to move into the void because it yields; but in a void this quality is present equally everywhere, so that things should move in all directions.

Further, the truth of what we assert is plain from the following considerations. We see the same weight or body moving faster than another for two reasons, either because there is a difference in what it moves through, as between water, air, and earth, or because, other things being equal, the moving body differs from the other owing to excess of weight or of lightness.

Now the medium causes a difference because it impedes the moving thing, most of all if it is moving in the opposite direction, but in a secondary degree even if it is at rest; and especially a medium that is not easily divided, i.e. a medium that is somewhat dense. A, then, will move through B in time G, and through D, which is thinner, in time E (if the length of B is egual to D), in proportion to the density of the hindering body. For let B be water and D air; then by so much as air is thinner and more incorporeal than water, A will move through D faster than through B. Let the speed have the same ratio to the speed, then, that air has to water. Then if air is twice as thin, the body will traverse B in twice the time that it does D, and the time G will be twice the time E. And always, by so much as the medium is more incorporeal and less resistant and more easily divided, the faster will be the movement.

Now there is no ratio in which the void is exceeded by body, as there is no ratio of 0 to a number. For if 4 exceeds 3 by 1, and 2 by more than 1, and 1 by still more than it exceeds 2, still there is no ratio by which it exceeds 0; for that which exceeds must be divisible into the excess + that which is exceeded, so that will be what it exceeds 0 by + 0. For this reason, too, a line does not exceed a point unless it is composed of points! Similarly the void can bear no ratio to the full, and therefore neither can movement through the one to movement through the other, but if a thing moves through the thickest medium such and such a distance in such and such a time, it moves through the void with a speed beyond any ratio. For let Z be void, equal in magnitude to B and to D. Then if A is to traverse and move through it in a certain time, H, a time less than E, however, the void will bear this ratio to the full. But in a time equal to H, A will traverse the part O of A. And it will surely also traverse in that time any substance Z which exceeds air in thickness in the ratio which the time E bears to the time H. For if the body Z be as much thinner than D as E exceeds H, A, if it moves through Z, will traverse it in a time inverse to the speed of the movement, i.e. in a time equal to H. If, then, there is no body in Z, A will traverse Z still more quickly. But we supposed that its traverse of Z when Z was void occupied the time H. So that it will traverse Z in an equal time whether Z be full or void. But this is impossible. It is plain, then, that if there is a time in which it will move through any part of the void, this impossible result will follow: it will be found to traverse a certain distance, whether this be full or void, in an equal time; for there will be some body which is in the same ratio to the other body as the time is to the time.

To sum the matter up, the cause of this result is obvious, viz. that between any two movements there is a ratio (for they occupy time, and there is a ratio between any two times, so long as both are finite), but there is no ratio of void to full.

These are the consequences that result from a difference in the media; the following depend upon an excess of one moving body over another. We see that bodies which have a greater impulse either of weight or of lightness, if they are alike in other respects, move faster over an equal space, and in the ratio which their magnitudes bear to each other. Therefore they will also move through the void with this ratio of speed. But that is impossible; for why should one move faster? (In moving through plena it must be so; for the greater divides them faster by its force. For a moving thing cleaves the medium either by its shape, or by the impulse which the body that is carried along or is projected possesses.) Therefore all will possess equal velocity. But this is impossible.

It is evident from what has been said, then, that, if there is a void, a result follows which is the very opposite of the reason for which those who believe in a void set it up. They think that if movement in respect of place is to exist, the void cannot exist, separated all by itself; but this is the same as to say that place is a separate cavity; and this has already been stated to be impossible.

But even if we consider it on its own merits the so-called vacuum will be found to be really vacuous. For as, if one puts a cube in water, an amount of water equal to the cube will be displaced; so too in air; but the effect is imperceptible to sense. And indeed always in the case of any body that can be displaced, must, if it is not compressed, be displaced in the direction in which it is its nature to be displaced — always either down, if its locomotion is downwards as in the case of earth, or up, if it is fire, or in both directions — whatever be the nature of the inserted body. Now in the void this is impossible; for it is not body; the void must have penetrated the cube to a distance equal to that which this portion of void formerly occupied in the void, just as if the water or air had not been displaced by the wooden cube, but had penetrated right through it.

But the cube also has a magnitude equal to that occupied by the void; a magnitude which, if it is also hot or cold, or heavy or light, is none the less different in essence from all its attributes, even if it is not separable from them; I mean the volume of the wooden cube. So that even if it were separated from everything else and were neither heavy nor light, it will occupy an equal amount of void, and fill the same place, as the part of place or of the void equal to itself. How then will the body of the cube differ from the void or place that is equal to it? And if there can be two such things, why cannot there be any number coinciding?

This, then, is one absurd and impossible implication of the theory. It is also evident that the cube will have this same volume even if it is displaced, which is an attribute possessed by all other bodies also. Therefore if this differs in no respect from its place, why need we assume a place for bodies over and above the volume of each, if their volume be conceived of as free from attributes? It contributes nothing to the situation if there is an equal interval attached to it as well. [Further it ought to be clear by the study of moving things what sort of thing void is. But in fact it is found nowhere in the world. For air is something, though it does not seem to be so — nor, for that matter, would water, if fishes were made of iron; for the discrimination of the tangible is by touch.]

It is clear, then, from these considerations that there is no separate void.

9

There are some who think that the existence of rarity and density shows that there is a void. If rarity and density do not exist, they say, neither can things contract and be compressed. But if this were not to take place, either there would be no movement at all, or the universe would bulge, as Xuthus said, or air and water must always change into equal amounts (e.g. if air has been made out of a cupful of water, at the same time out of an equal amount of air a cupful of water must have been made), or void must necessarily exist; for compression and expansion cannot take place otherwise.

Now, if they mean by the rare that which has many voids existing separately, it is plain that if void cannot exist separate any more than a place can exist with an extension all to itself, neither can the rare exist in this sense. But if they mean that there is void, not separately existent, but still present in the rare, this is less impossible, yet, first, the void turns out not to be a condition of all movement, but only of movement upwards (for the rare is light, which is the reason why they say fire is rare); second, the void turns out to be a condition of movement not as that in which it takes place, but in that the void carries things up as skins by being carried up themselves carry up what is continuous with them. Yet how can void have a local movement or a place? For thus that into which void moves is till then void of a void.

Again, how will they explain, in the case of what is heavy, its movement downwards? And it is plain that if the rarer and more void a thing is the quicker it will move upwards, if it were completely void it would move with a maximum speed! But perhaps even this is impossible, that it should move at all; the same reason which showed that in the void all things are incapable of moving shows that the void cannot move, viz. the fact that the speeds are incomparable.

Since we deny that a void exists, but for the rest the problem has been truly stated, that either there will be no movement, if there is not to be condensation and rarefaction, or the universe will bulge, or a transformation of water into air will always be balanced by an equal transformation of air into water (for it is clear that the air produced from water is bulkier than the water): it is necessary therefore, if compression does not exist, either that the next portion will be pushed outwards and make the outermost part bulge, or that somewhere else there must be an equal amount of water produced out of air, so that the entire bulk of the whole may be equal, or that nothing moves. For when anything is displaced this will always happen, unless it comes round in a circle; but locomotion is not always circular, but sometimes in a straight line.

These then are the reasons for which they might say that there is a void; our statement is based on the assumption that there is a single matter for contraries, hot and cold and the other natural contrarieties, and that what exists actually is produced from a potential existent, and that matter is not separable from the contraries but its being is different, and that a single matter may serve for colour and heat and cold.

The same matter also serves for both a large and a small body. This is evident; for when air is produced from water, the same matter has become something different, not by acquiring an addition to it, but has become actually what it was potentially, and, again, water is produced from air in the same way, the change being sometimes from smallness to greatness, and sometimes from greatness to smallness. Similarly, therefore, if air which is large in extent comes to have a smaller volume, or becomes greater from being smaller, it is the matter which is potentially both that comes to be each of the two.

For as the same matter becomes hot from being cold, and cold from being hot, because it was potentially both, so too from hot it can become more hot, though nothing in the matter has become hot that was not hot when the thing was less hot; just as, if the arc or curve of a greater circle becomes that of a smaller, whether it remains the same or becomes a different curve, convexity has not come to exist in anything that was not convex but straight (for differences of degree do not depend on an intermission of the quality); nor can we get any portion of a flame, in which both heat and whiteness are not present. So too, then, is the earlier heat related to the later. So that the greatness and smallness, also, of the sensible volume are extended, not by the matter's acquiring anything new, but because the matter is potentially matter for both states; so that the same thing is dense and rare, and the two qualities have one matter.

The dense is heavy, and the rare is light. [Again, as the arc of a circle when contracted into a smaller space does not acquire a new part which is convex, but what was there has been contracted; and as any part of fire that one takes will be hot; so, too, it is all a question of contraction and expansion of the same matter.] There are two types in each case, both in the dense and in the rare; for both the heavy and the hard are thought to be dense, and contrariwise both the light and the soft are rare; and weight and hardness fail to coincide in the case of lead and iron.

From what has been said it is evident, then, that void does not exist either separate (either absolutely separate or as a separate element in the rare) or potentially, unless one is willing to call the condition of movement void, whatever it may be. At that rate the matter of the heavy and the light, qua matter of them, would be the void; for the dense and the rare are productive of locomotion in virtue of this contrariety, and in virtue of their hardness and softness productive of passivity and impassivity, i.e. not of locomotion but rather of qualitative change.

So much, then, for the discussion of the void, and of the sense in which it exists and the sense in which it does not exist.

10

Next for discussion after the subjects mentioned is Time. The best plan will be to begin by working out the difficulties connected with it, making use of the current arguments. First, does it belong to the class of things that exist or to that of things that do not exist? Then secondly, what is its nature? To start, then: the following considerations would make one suspect that it either does not exist at all or barely, and in an obscure way. One part of it has been and is not, while the other is going to be and is not yet. Yet time — both infinite time and any time you like to take — is made up of these. One would naturally suppose that what is made up of things which do not exist could have no share in reality.

Further, if a divisible thing is to exist, it is necessary that, when it exists, all or some of its parts must exist. But of time some parts have been, while others have to be, and no part of it is though it is divisible. For what is 'now' is not a part: a part is a measure of the whole, which must be made up of parts. Time, on the other hand, is not held to be made up of 'nows'.

Again, the 'now' which seems to bound the past and the future — does it always remain one and the same or is it always other and other? It is hard to say.

(1) If it is always different and different, and if none of the parts in time which are other and other are simultaneous (unless the one contains and the other is contained, as the shorter time is by the longer), and if the 'now' which is not, but formerly was, must have ceased-to-be at some time, the 'nows' too cannot be simultaneous with one another, but the prior 'now' must always have ceased-to-be. But the prior 'now' cannot have ceased-to-be in itself (since it then existed); yet it cannot have ceased-to-be in another 'now'. For we may lay it down that one 'now' cannot be next to another, any more than point to point. If then it did not cease-to-be in the next 'now' but in another, it would exist simultaneously with the innumerable 'nows' between the two — which is impossible.

Yes, but (2) neither is it possible for the 'now' to remain always the same. No determinate divisible thing has a single termination, whether it is continuously extended in one or in more than one dimension: but the 'now' is a termination, and it is possible to cut off a determinate time. Further, if coincidence in time (i.e. being neither prior nor posterior) means to be 'in one and the same "now"', then, if both what is before and what is after are in this same 'now', things which happened ten thousand years ago would be simultaneous with what has happened to-day, and nothing would be before or after anything else.

This may serve as a statement of the difficulties about the attributes of time.

As to what time is or what is its nature, the traditional accounts give us as little light as the preliminary problems which we have worked through.

Some assert that it is (1) the movement of the whole, others that it is (2) the sphere itself.

(1) Yet part, too, of the revolution is a time, but it certainly is not a revolution: for what is taken is part of a revolution, not a revolution. Besides, if there were more heavens than one, the movement of any of them equally would be time, so that there would be many times at the same time.

(2) Those who said that time is the sphere of the whole thought so, no doubt, on the ground that all things are in time and all things are in the sphere of the whole. The view is too naive for it to be worth while to consider the impossibilities implied in it.

But as time is most usually supposed to be (3) motion and a kind of change, we must consider this view.

Now (a) the change or movement of each thing is only in the thing which changes or where the thing itself which moves or changes may chance to be. But time is present equally everywhere and with all things.

Again, (b) change is always faster or slower, whereas time is not: for ‘fast’ and ‘slow’ are defined by time—’fast’ is what moves much in a short time, ‘slow’ what moves little in a long time; but time is not defined by time, by being either a certain amount or a certain kind of it.

Clearly then it is not movement. (We need not distinguish at present between ‘movement’ and ‘change’.)

11

But neither does time exist without change; for when the state of our own minds does not change at all, or we have not noticed its changing, we do not realize that time has elapsed, any more than those who are fabled to sleep among the heroes in Sardinia do when they are awakened; for they connect the earlier ‘now’ with the later and make them one, cutting out the interval because of their failure to notice it. So, just as, if the ‘now’ were not different but one and the same, there would not have been time, so too when its difference escapes our notice the interval does not seem to be time. If, then, the non-realization of the existence of time happens to us when we do not distinguish any change, but the soul seems to stay in one indivisible state, and when we perceive and distinguish we say time has elapsed, evidently time is not independent of movement and change. It is evident, then, that time is neither movement nor independent of movement.

We must take this as our starting-point and try to discover — since we wish to know what time is — what exactly it has to do with movement.

Now we perceive movement and time together: for even when it is dark and we are not being affected through the body, if any movement takes place in the mind we at once suppose that some time also has elapsed; and not only that but also, when some time is thought to have passed, some movement also along with it seems to have taken place. Hence time is either movement or something that belongs to movement. Since then it is not movement, it must be the other.

But what is moved is moved from something to something, and all magnitude is continuous. Therefore the movement goes with the magnitude. Because the magnitude is continuous, the movement too must be continuous, and if the movement, then the time; for the time that has passed is always thought to be in proportion to the movement.

The distinction of ‘before’ and ‘after’ holds primarily, then, in place; and there in virtue of relative position. Since then ‘before’ and ‘after’ hold in magnitude, they must hold also in movement, these corresponding to those. But also in time the distinction of ‘before’ and ‘after’ must hold, for time and movement always correspond with each other. The ‘before’ and ‘after’ in motion is identical in substratum with motion yet differs from it in definition, and is not identical with motion.

But we apprehend time only when we have marked motion, marking it by ‘before’ and ‘after’; and it is only when we have perceived ‘before’ and ‘after’ in motion that we say that time has elapsed. Now we mark them by judging that A and B are different, and that some third thing is intermediate to them. When we think of the extremes as different from the middle and the mind pronounces that the ‘nows’ are two, one before and one after, it is then that we say that there is time, and this that we say is time. For what is bounded by the ‘now’ is thought to be time — we may assume this.

When, therefore, we perceive the ‘now’ one, and neither as before and after in a motion nor as an identity but in relation to a ‘before’ and an ‘after’, no time is thought to have elapsed, because there has been no motion either. On the other hand, when we do perceive a ‘before’ and an ‘after’, then we say that there is time. For time is just this — number of motion in respect of 'before' and 'after'.

Hence time is not movement, but only movement in so far as it admits of enumeration. A proof of this: we discriminate the more or the less by number, but more or less movement by time. Time then is a kind of number. (Number, we must note, is used in two senses — both of what is counted or the countable and also of that with which we count. Time obviously is what is counted, not that with which we count: there are different kinds of thing.) Just as motion is a perpetual succession, so also is time. But every simultaneous time is self-identical; for the 'now' as a subject is an identity, but it accepts different attributes. The 'now' measures time, in so far as time involves the 'before and after'.

The 'now' in one sense is the same, in another it is not the same. In so far as it is in succession, it is different (which is just what its being was supposed to mean), but its substratum is an identity: for motion, as was said, goes with magnitude, and time, as we maintain, with motion. Similarly, then, there corresponds to the point the body which is carried along, and by which we are aware of the motion and of the 'before and after' involved in it. This is an identical substratum (whether a point or a stone or something else of the kind), but it has different attributes as the sophists assume that Coriscus' being in the Lyceum is a different thing from Coriscus' being in the market-place. And the body which is carried along is different, in so far as it is at one time here and at another there. But the 'now' corresponds to the body that is carried along, as time corresponds to the motion. For it is by means of the body that is carried along that we become aware of the 'before and after' the motion, and if we regard these as countable we get the 'now'. Hence in these also the 'now' as substratum remains the same (for it is what is before and after in movement), but what is predicated of it is different; for it is in so far as the 'before and after' is numerable that we get the 'now'. This is what is most knowable: for, similarly, motion is known because of that which is moved, locomotion because of that which is carried. what is carried is a real thing, the movement is not. Thus what is called 'now' in one sense is always the same; in another it is not the same: for this is true also of what is carried.

Clearly, too, if there were no time, there would be no 'now', and vice versa. just as the moving body and its locomotion involve each other mutually, so too do the number of the moving body and the number of its locomotion. For the number of the locomotion is time, while the ‘now’ corresponds to the moving body, and is like the unit of number.

Time, then, also is both made continuous by the ‘now’ and divided at it. For here too there is a correspondence with the locomotion and the moving body. For the motion or locomotion is made one by the thing which is moved, because it is one — not because it is one in its own nature (for there might be pauses in the movement of such a thing) — but because it is one in definition: for this determines the movement as ‘before’ and ‘after’. Here, too there is a correspondence with the point; for the point also both connects and terminates the length — it is the beginning of one and the end of another. But when you take it in this way, using the one point as two, a pause is necessary, if the same point is to be the beginning and the end. The ‘now’ on the other hand, since the body carried is moving, is always different.

Hence time is not number in the sense in which there is ‘number’ of the same point because it is beginning and end, but rather as the extremities of a line form a number, and not as the parts of the line do so, both for the reason given (for we can use the middle point as two, so that on that analogy time might stand still), and further because obviously the ‘now’ is no part of time nor the section any part of the movement, any more than the points are parts of the line — for it is two lines that are parts of one line.

In so far then as the ‘now’ is a boundary, it is not time, but an attribute of it; in so far as it numbers, it is number; for boundaries belong only to that which they bound, but number (e.g. ten) is the number of these horses, and belongs also elsewhere.

It is clear, then, that time is ‘number of movement in respect of the before and after’, and is continuous since it is an attribute of what is continuous.

12

The smallest number, in the strict sense of the word ‘number’, is two. But of number as concrete, sometimes there is a minimum, sometimes not: e.g. of a ‘line’, the smallest in respect of multiplicity is two (or, if you like, one), but in respect of size there is no minimum; for every line is divided ad infinitum. Hence it is so with time. In respect of number the minimum is one (or two); in point of extent there is no minimum.

It is clear, too, that time is not described as fast or slow, but as many or few and as long or short. For as continuous it is long or short and as a number many or few, but it is not fast or slow — any more than any number with which we number is fast or slow.

Further, there is the same time everywhere at once, but not the same time before and after, for while the present change is one, the change which has happened and that which will happen are different. Time is not number with which we count, but the number of things which are counted, and this according as it occurs before or after is always different, for the 'nows' are different. And the number of a hundred horses and a hundred men is the same, but the things numbered are different — the horses from the men. Further, as a movement can be one and the same again and again, so too can time, e.g. a year or a spring or an autumn.

Not only do we measure the movement by the time, but also the time by the movement, because they define each other. The time marks the movement, since it is its number, and the movement the time. We describe the time as much or little, measuring it by the movement, just as we know the number by what is numbered, e.g. the number of the horses by one horse as the unit. For we know how many horses there are by the use of the number; and again by using the one horse as unit we know the number of the horses itself. So it is with the time and the movement; for we measure the movement by the time and vice versa. It is natural that this should happen; for the movement goes with the distance and the time with the movement, because they are quanta and continuous and divisible. The movement has these attributes because the distance is of this nature, and the time has them because of the movement. And we measure both the distance by the movement and the movement by the distance; for we say that the road is long, if the journey is long, and that this is long, if the road is long — the time, too, if the movement, and the movement, if the time.

Time is a measure of motion and of being moved, and it measures the motion by determining a motion which will measure exactly the whole motion, as the cubit does the length by determining an amount which will measure out the whole. Further 'to be in time' means for movement, that both it and its essence are measured by time (for simultaneously it measures both the movement and its essence, and this is what being in time means for it, that its essence should be measured).

Clearly then 'to be in time' has the same meaning for other things also, namely, that their being should be measured by time. ‘To be in time’ is one of two things: (1) to exist when time exists, (2) as we say of some things that they are ‘in number’. The latter means either what is a part or mode of number — in general, something which belongs to number — or that things have a number.

Now, since time is number, the ‘now’ and the ‘before’ and the like are in time, just as ‘unit’ and ‘odd’ and ‘even’ are in number, i.e. in the sense that the one set belongs to number, the other to time. But things are in time as they are in number. If this is so, they are contained by time as things in place are contained by place.

Plainly, too, to be in time does not mean to co-exist with time, any more than to be in motion or in place means to co-exist with motion or place. For if ‘to be in something’ is to mean this, then all things will be in anything, and the heaven will be in a grain; for when the grain is, then also is the heaven. But this is a merely incidental conjunction, whereas the other is necessarily involved: that which is in time necessarily involves that there is time when it is, and that which is in motion that there is motion when it is.

Since what is ‘in time’ is so in the same sense as what is in number is so, a time greater than everything in time can be found. So it is necessary that all the things in time should be contained by time, just like other things also which are ‘in anything’, e.g. the things ‘in place’ by place.

A thing, then, will be affected by time, just as we are accustomed to say that time wastes things away, and that all things grow old through time, and that there is oblivion owing to the lapse of time, but we do not say the same of getting to know or of becoming young or fair. For time is by its nature the cause rather of decay, since it is the number of change, and change removes what is.

Hence, plainly, things which are always are not, as such, in time, for they are not contained time, nor is their being measured by time. A proof of this is that none of them is affected by time, which indicates that they are not in time.

Since time is the measure of motion, it will be the measure of rest too — indirectly. For all rest is in time. For it does not follow that what is in time is moved, though what is in motion is necessarily moved. For time is not motion, but ‘number of motion’: and what is at rest, also, can be in the number of motion. Not everything that is not in motion can be said to be ‘at rest' — but only that which can be moved, though it actually is not moved, as was said above.

'To be in number' means that there is a number of the thing, and that its being is measured by the number in which it is. Hence if a thing is 'in time' it will be measured by time. But time will measure what is moved and what is at rest, the one qua moved, the other qua at rest; for it will measure their motion and rest respectively.

Hence what is moved will not be measurable by the time simply in so far as it has quantity, but in so far as its motion has quantity. Thus none of the things which are neither moved nor at rest are in time: for 'to be in time' is 'to be measured by time', while time is the measure of motion and rest.

Plainly, then, neither will everything that does not exist be in time, i.e. those non-existent things that cannot exist, as the diagonal cannot be commensurate with the side.

Generally, if time is directly the measure of motion and indirectly of other things, it is clear that a thing whose existence is measured by it will have its existence in rest or motion. Those things therefore which are subject to perishing and becoming — generally, those which at one time exist, at another do not — are necessarily in time: for there is a greater time which will extend both beyond their existence and beyond the time which measures their existence. Of things which do not exist but are contained by time some were, e.g. Homer once was, some will be, e.g. a future event; this depends on the direction in which time contains them; if on both, they have both modes of existence. As to such things as it does not contain in any way, they neither were nor are nor will be. These are those nonexistents whose opposites always are, as the incommensurability of the diagonal always is — and this will not be in time. Nor will the commensurability, therefore; hence this eternally is not, because it is contrary to what eternally is. A thing whose contrary is not eternal can be and not be, and it is of such things that there is coming to be and passing away.

13

The 'now' is the link of time, as has been said (for it connects past and future time), and it is a limit of time (for it is the beginning of the one and the end of the other). But this is not obvious as it is with the point, which is fixed. It divides potentially, and in so far as it is dividing the ‘now’ is always different, but in so far as it connects it is always the same, as it is with mathematical lines. For the intellect it is not always one and the same point, since it is other and other when one divides the line; but in so far as it is one, it is the same in every respect.

So the ‘now’ also is in one way a potential dividing of time, in another the termination of both parts, and their unity. And the dividing and the uniting are the same thing and in the same reference, but in essence they are not the same.

So one kind of ‘now’ is described in this way: another is when the time is near this kind of ‘now’. ‘He will come now’ because he will come to-day; ‘he has come now’ because he came to-day. But the things in the Iliad have not happened ‘now’, nor is the flood ‘now’ — not that the time from now to them is not continuous, but because they are not near.

‘At some time’ means a time determined in relation to the first of the two types of ‘now’, e.g. ‘at some time’ Troy was taken, and ‘at some time’ there will be a flood; for it must be determined with reference to the ‘now’. There will thus be a determinate time from this ‘now’ to that, and there was such in reference to the past event. But if there be no time which is not ‘sometime’, every time will be determined.

Will time then fail? Surely not, if motion always exists. Is time then always different or does the same time recur? Clearly time is, in the same way as motion is. For if one and the same motion sometimes recurs, it will be one and the same time, and if not, not.

Since the ‘now’ is an end and a beginning of time, not of the same time however, but the end of that which is past and the beginning of that which is to come, it follows that, as the circle has its convexity and its concavity, in a sense, in the same thing, so time is always at a beginning and at an end. And for this reason it seems to be always different; for the ‘now’ is not the beginning and the end of the same thing; if it were, it would be at the same time and in the same respect two opposites. And time will not fail; for it is always at a beginning.

‘Presently’ or ‘just’ refers to the part of future time which is near the indivisible present ‘now’ (‘When do you walk? ‘Presently’, because the time in which he is going to do so is near), and to the part of past time which is not far from the ‘now’ (‘When do you walk?’ ‘I have just been walking’). But to say that Troy has just been taken — we do not say that, because it is too far from the ‘now’. ‘Lately’, too, refers to the part of past time which is near the present ‘now’. ‘When did you go?’ ‘Lately’, if the time is near the existing now. ‘Long ago’ refers to the distant past.

‘Suddenly’ refers to what has departed from its former condition in a time imperceptible because of its smallness; but it is the nature of all change to alter things from their former condition. In time all things come into being and pass away; for which reason some called it the wisest of all things, but the Pythagorean Paron called it the most stupid, because in it we also forget; and his was the truer view. It is clear then that it must be in itself, as we said before, the condition of destruction rather than of coming into being (for change, in itself, makes things depart from their former condition), and only incidentally of coming into being, and of being. A sufficient evidence of this is that nothing comes into being without itself moving somehow and acting, but a thing can be destroyed even if it does not move at all. And this is what, as a rule, we chiefly mean by a thing’s being destroyed by time. Still, time does not work even this change; even this sort of change takes place incidentally in time.

We have stated, then, that time exists and what it is, and in how many senses we speak of the ‘now’, and what ‘at some time’, ‘lately’, ‘presently’ or ‘just’, ‘long ago’, and ‘suddenly’ mean.

14

These distinctions having been drawn, it is evident that every change and everything that moves is in time; for the distinction of faster and slower exists in reference to all change, since it is found in every instance. In the phrase ‘moving faster’ I refer to that which changes before another into the condition in question, when it moves over the same interval and with a regular movement; e.g. in the case of locomotion, if both things move along the circumference of a circle, or both along a straight line; and similarly in all other cases. But what is before is in time; for we say ‘before’ and ‘after’ with reference to the distance from the ‘now’, and the ‘now’ is the boundary of the past and the future; so that since ‘nows’ are in time, the before and the after will be in time too; for in that in which the ‘now’ is, the distance from the ‘now’ will also be. But ‘before’ is used contrariwise with reference to past and to future time; for in the past we call 'before' what is farther from the 'now', and 'after' what is nearer, but in the future we call the nearer 'before' and the farther 'after'. So that since the 'before' is in time, and every movement involves a 'before', evidently every change and every movement is in time.

It is also worth considering how time can be related to the soul; and why time is thought to be in everything, both in earth and in sea and in heaven. Is because it is an attribute, or state, or movement (since it is the number of movement) and all these things are movable (for they are all in place), and time and movement are together, both in respect of potentiality and in respect of actuality?

Whether if soul did not exist time would exist or not, is a question that may fairly be asked; for if there cannot be some one to count there cannot be anything that can be counted, so that evidently there cannot be number; for number is either what has been, or what can be, counted. But if nothing but soul, or in soul reason, is qualified to count, there would not be time unless there were soul, but only that of which time is an attribute, i.e. if movement can exist without soul, and the before and after are attributes of movement, and time is these qua numerable.

One might also raise the question what sort of movement time is the number of. Must we not say 'of any kind'? For things both come into being in time and pass away, and grow, and are altered in time, and are moved locally; thus it is of each movement qua movement that time is the number. And so it is simply the number of continuous movement, not of any particular kind of it.

But other things as well may have been moved now, and there would be a number of each of the two movements. Is there another time, then, and will there be two equal times at once? Surely not. For a time that is both equal and simultaneous is one and the same time, and even those that are not simultaneous are one in kind; for if there were dogs, and horses, and seven of each, it would be the same number. So, too, movements that have simultaneous limits have the same time, yet the one may in fact be fast and the other not, and one may be locomotion and the other alteration; still the time of the two changes is the same if their number also is equal and simultaneous; and for this reason, while the movements are different and separate, the time is everywhere the same, because the number of equal and simultaneous movements is everywhere one and the same.

Now there is such a thing as locomotion, and in locomotion there is included circular movement, and everything is measured by some one thing homogeneous with it, units by a unit, horses by a horse, and similarly times by some definite time, and, as we said, time is measured by motion as well as motion by time (this being so because by a motion definite in time the quantity both of the motion and of the time is measured): if, then, what is first is the measure of everything homogeneous with it, regular circular motion is above all else the measure, because the number of this is the best known. Now neither alteration nor increase nor coming into being can be regular, but locomotion can be. This also is why time is thought to be the movement of the sphere, viz. because the other movements are measured by this, and time by this movement.

This also explains the common saying that human affairs form a circle, and that there is a circle in all other things that have a natural movement and coming into being and passing away. This is because all other things are discriminated by time, and end and begin as though conforming to a cycle; for even time itself is thought to be a circle. And this opinion again is held because time is the measure of this kind of locomotion and is itself measured by such. So that to say that the things that come into being form a circle is to say that there is a circle of time; and this is to say that it is measured by the circular movement; for apart from the measure nothing else to be measured is observed; the whole is just a plurality of measures.

It is said rightly, too, that the number of the sheep and of the dogs is the same number if the two numbers are equal, but not the same decad or the same ten; just as the equilateral and the scalene are not the same triangle, yet they are the same figure, because they are both triangles. For things are called the same so-and-so if they do not differ by a differentia of that thing, but not if they do; e.g. triangle differs from triangle by a differentia of triangle, therefore they are different triangles; but they do not differ by a differentia of figure, but are in one and the same division of it. For a figure of the one kind is a circle and a figure of another kind of triangle, and a triangle of one kind is equilateral and a triangle of another kind scalene. They are the same figure, then, that, triangle, but not the same triangle. Therefore the number of two groups also — is the same number (for their number does not differ by a differentia of number), but it is not the same decad; for the things of which it is asserted differ; one group are dogs, and the other horses.

We have now discussed time — both time itself and the matters appropriate to the consideration of it.

Book V

1

EVERYTHING which changes does so in one of three senses. It may change (1) accidentally, as for instance when we say that something musical walks, that which walks being something in which aptitude for music is an accident. Again (2) a thing is said without qualification to change because something belonging to it changes, i.e. in statements which refer to part of the thing in question: thus the body is restored to health because the eye or the chest, that is to say a part of the whole body, is restored to health. And above all there is (3) the case of a thing which is in motion neither accidentally nor in respect of something else belonging to it, but in virtue of being itself directly in motion. Here we have a thing which is essentially movable: and that which is so is a different thing according to the particular variety of motion: for instance it may be a thing capable of alteration: and within the sphere of alteration it is again a different thing according as it is capable of being restored to health or capable of being heated. And there are the same distinctions in the case of the mover: (1) one thing causes motion accidentally, (2) another partially (because something belonging to it causes motion), (3) another of itself directly, as, for instance, the physician heals, the hand strikes. We have, then, the following factors: (a) on the one hand that which directly causes motion, and (b) on the other hand that which is in motion: further, we have (c) that in which motion takes place, namely time, and (distinct from these three) (d) that from which and (e) that to which it proceeds: for every motion proceeds from something and to something, that which is directly in motion being distinct from that to which it is in motion and that from which it is in motion: for instance, we may take the three things ‘wood’, ‘hot’, and ‘cold’, of which the first is that which is in motion, the second is that to which the motion proceeds, and the third is that from which it proceeds. This being so, it is clear that the motion is in the wood, not in its form: for the motion is neither caused nor experienced by the form or the place or the quantity. So we are left with a mover, a moved, and a goal of motion. I do not include the starting-point of motion: for it is the goal rather than the starting-point of motion that gives its name to a particular process of change. Thus ‘perishing’ is change to not-being, though it is also true that that that which perishes changes from being: and ‘becoming’ is change to being, though it is also change from not-being.

Now a definition of motion has been given above, from which it will be seen that every goal of motion, whether it be a form, an affection, or a place, is immovable, as, for instance, knowledge and heat. Here, however, a difficulty may be raised. Affections, it may be said, are motions, and whiteness is an affection: thus there may be change to a motion. To this we may reply that it is not whiteness but whitening that is a motion. Here also the same distinctions are to be observed: a goal of motion may be so accidentally, or partially and with reference to something other than itself, or directly and with no reference to anything else: for instance, a thing which is becoming white changes accidentally to an object of thought, the colour being only accidentally the object of thought; it changes to colour, because white is a part of colour, or to Europe, because Athens is a part of Europe; but it changes essentially to white colour. It is now clear in what sense a thing is in motion essentially, accidentally, or in respect of something other than itself, and in what sense the phrase ‘itself directly’ is used in the case both of the mover and of the moved: and it is also clear that the motion is not in the form but in that which is in motion, that is to say ‘the movable in activity’. Now accidental change we may leave out of account: for it is to be found in everything, at any time, and in any respect. Change which is not accidental on the other hand is not to be found in everything, but only in contraries, in things intermediate contraries, and in contradictories, as may be proved by induction. An intermediate may be a starting-point of change, since for the purposes of the change it serves as contrary to either of two contraries: for the intermediate is in a sense the extremes. Hence we speak of the intermediate as in a sense a contrary relatively to the extremes and of either extreme as a contrary relatively to the intermediate: for instance, the central note is low relatively — to the highest and high relatively to the lowest, and grey is light relatively to black and dark relatively to white.

And since every change is from something to something — as the word itself (metabole) indicates, implying something ‘after’ (meta) something else, that is to say something earlier and something later — that which changes must change in one of four ways: from subject to subject, from subject to nonsubject, from non-subject to subject, or from non-subject to non-subject, where by ‘subject’ I mean what is affirmatively expressed. So it follows necessarily from what has been said above that there are only three kinds of change, that from subject to subject, that from subject to non-subject, and that from non-subject to subject: for the fourth conceivable kind, that from non-subject to nonsubject, is not change, as in that case there is no opposition either of contraries or of contradictories.

Now change from non-subject to subject, the relation being that of contradiction, is ‘coming to be’-’unqualified coming to be’ when the change takes place in an unqualified way, ‘particular coming to be’ when the change is change in a particular character: for instance, a change from not-white to white is a coming to be of the particular thing, white, while change from unqualified not-being to being is coming to be in an unqualified way, in respect of which we say that a thing ‘comes to be’ without qualification, not that it ‘comes to be’ some particular thing. Change from subject to non-subject is ‘perishing’-’unqualified perishing’ when the change is from being to not-being, ‘particular perishing’ when the change is to the opposite negation, the distinction being the same as that made in the case of coming to be.

Now the expression ‘not-being’ is used in several senses: and there can be motion neither of that which ‘is not’ in respect of the affirmation or negation of a predicate, nor of that which ‘is not’ in the sense that it only potentially ‘is’, that is to say the opposite of that which actually ‘is’ in an unqualified sense: for although that which is ‘not-white’ or ‘not-good’ may nevertheless he in motion accidentally (for example that which is ‘not-white’ might be a man), yet that which is without qualification ‘not-so-and-so’ cannot in any sense be in motion: therefore it is impossible for that which is not to be in motion. This being so, it follows that ‘becoming’ cannot be a motion: for it is that which ‘is not’ that ‘becomes’. For however true it may be that it accidentally ‘becomes’, it is nevertheless correct to say that it is that which ‘is not’ that in an unqualified sense ‘becomes’. And similarly it is impossible for that which ‘is not’ to be at rest.

There are these difficulties, then, in the way of the assumption that that which ‘is not’ can be in motion: and it may be further objected that, whereas everything which is in motion is in space, that which ‘is not’ is not in space:

for then it would be somewhere.

So, too, ‘perishing’ is not a motion: for a motion has for its contrary either another motion or rest, whereas ‘perishing’ is the contrary of ‘becoming’.

Since, then, every motion is a kind of change, and there are only the three kinds of change mentioned above, and since of these three those which take the form of ‘becoming’ and ‘perishing’, that is to say those which imply a relation of contradiction, are not motions: it necessarily follows that only change from subject to subject is motion. And every such subject is either a contrary or an intermediate (for a privation may be allowed to rank as a contrary) and can be affirmatively expressed, as naked, toothless, or black. If, then, the categories are severally distinguished as Being, Quality, Place, Time, Relation, Quantity, and Activity or Passivity, it necessarily follows that there are three kinds of motion — qualitative, quantitative, and local.

2

In respect of Substance there is no motion, because Substance has no contrary among things that are. Nor is there motion in respect of Relation: for it may happen that when one correlative changes, the other, although this does not itself change, is no longer applicable, so that in these cases the motion is accidental. Nor is there motion in respect of Agent and Patient — in fact there can never be motion of mover and moved, because there cannot be motion of motion or becoming of becoming or in general change of change.

For in the first place there are two senses in which motion of motion is conceivable. (1) The motion of which there is motion might be conceived as subject; e.g. a man is in motion because he changes from fair to dark. Can it be that in this sense motion grows hot or cold, or changes place, or increases or decreases? Impossible: for change is not a subject. Or (2) can there be motion of motion in the sense that some other subject changes from a change to another mode of being, as e.g. a man changes from falling ill to getting well? Even this is possible only in an accidental sense. For, whatever the subject may be, movement is change from one form to another. (And the same holds good of becoming and perishing, except that in these processes we have a change to a particular kind of opposite, while the other, motion, is a change to a different kind.) So, if there is to be motion of motion, that which is changing from health to sickness must simultaneously be changing from this very change to another. It is clear, then, that by the time that it has become sick, it must also have changed to whatever may be the other change concerned (for that it should be at rest, though logically possible, is excluded by the theory). Moreover this other can never be any casual change, but must be a change from something definite to some other definite thing. So in this case it must be the opposite change, viz. convalescence. It is only accidentally that there can be change of change, e.g. there is a change from remembering to forgetting only because the subject of this change changes at one time to knowledge, at another to ignorance.

In the second place, if there is to be change of change and becoming of becoming, we shall have an infinite regress. Thus if one of a series of changes is to be a change of change, the preceding change must also be so: e.g. if simple becoming was ever in process of becoming, then that which was becoming simple becoming was also in process of becoming, so that we should not yet have arrived at what was in process of simple becoming but only at what was already in process of becoming in process of becoming. And this again was sometime in process of becoming, so that even then we should not have arrived at what was in process of simple becoming. And since in an infinite series there is no first term, here there will be no first stage and therefore no following stage either. On this hypothesis, then, nothing can become or be moved or change.

Thirdly, if a thing is capable of any particular motion, it is also capable of the corresponding contrary motion or the corresponding coming to rest, and a thing that is capable of becoming is also capable of perishing: consequently, if there be becoming of becoming, that which is in process of becoming is in process of perishing at the very moment when it has reached the stage of becoming: since it cannot be in process of perishing when it is just beginning to become or after it has ceased to become: for that which is in process of perishing must be in existence.

Fourthly, there must be a substrate underlying all processes of becoming and changing. What can this be in the present case? It is either the body or the soul that undergoes alteration: what is it that correspondingly becomes motion or becoming? And again what is the goal of their motion? It must be the motion or becoming of something from something to something else. But in what sense can this be so? For the becoming of learning cannot be learning: so neither can the becoming of becoming be becoming, nor can the becoming of any process be that process.

Finally, since there are three kinds of motion, the substratum and the goal of motion must be one or other of these, e.g. locomotion will have to be altered or to be locally moved.

To sum up, then, since everything that is moved is moved in one of three ways, either accidentally, or partially, or essentially, change can change only accidentally, as e.g. when a man who is being restored to health runs or learns: and accidental change we have long ago decided to leave out of account.

Since, then, motion can belong neither to Being nor to Relation nor to Agent and Patient, it remains that there can be motion only in respect of Quality, Quantity, and Place: for with each of these we have a pair of contraries. Motion in respect of Quality let us call alteration, a general designation that is used to include both contraries: and by Quality I do not here mean a property of substance (in that sense that which constitutes a specific distinction is a quality) but a passive quality in virtue of which a thing is said to be acted on or to be incapable of being acted on. Motion in respect of Quantity has no name that includes both contraries, but it is called increase or decrease according as one or the other is designated: that is to say motion in the direction of complete magnitude is increase, motion in the contrary direction is decrease. Motion in respect of Place has no name either general or particular: but we may designate it by the general name of locomotion, though strictly the term ‘locomotion’ is applicable to things that change their place only when they have not the power to come to a stand, and to things that do not move themselves locally.

Change within the same kind from a lesser to a greater or from a greater to a lesser degree is alteration: for it is motion either from a contrary or to a contrary, whether in an unqualified or in a qualified sense: for change to a lesser degree of a quality will be called change to the contrary of that quality, and change to a greater degree of a quality will be regarded as change from the contrary of that quality to the quality itself. It makes no difference whether the change be qualified or unqualified, except that in the former case the contraries will have to be contrary to one another only in a qualified sense: and a thing’s possessing a quality in a greater or in a lesser degree means the presence or absence in it of more or less of the opposite quality. It is now clear, then, that there are only these three kinds of motion.

The term ‘immovable’ we apply in the first place to that which is absolutely incapable of being moved (just as we correspondingly apply the term invisible to sound); in the second place to that which is moved with difficulty after a long time or whose movement is slow at the start — in fact, what we describe as hard to move; and in the third place to that which is naturally designed for and capable of motion, but is not in motion when, where, and as it naturally would be so. This last is the only kind of immovable thing of which I use the term ‘being at rest’: for rest is contrary to motion, so that rest will be negation of motion in that which is capable of admitting motion.

The foregoing remarks are sufficient to explain the essential nature of motion and rest, the number of kinds of change, and the different varieties of motion.

3

Let us now proceed to define the terms ‘together’ and ‘apart’, ‘in contact’, ‘between’, ‘in succession’, ‘contiguous’, and ‘continuous’, and to show in what circumstances each of these terms is naturally applicable.

Things are said to be together in place when they are in one place (in the strictest sense of the word ‘place’) and to be apart when they are in different places.

Things are said to be in contact when their extremities are together.

That which a changing thing, if it changes continuously in a natural manner, naturally reaches before it reaches that to which it changes last, is between. Thus ‘between’ implies the presence of at least three things: for in a process of change it is the contrary that is ‘last’: and a thing is moved continuously if it leaves no gap or only the smallest possible gap in the material — not in the time (for a gap in the time does not prevent things having a ‘between’, while, on the other hand, there is nothing to prevent the highest note sounding immediately after the lowest) but in the material in which the motion takes place. This is manifestly true not only in local changes but in every other kind as well. (Now every change implies a pair of opposites, and opposites may be either contraries or contradictories; since then contradiction admits of no mean term, it is obvious that ‘between’ must imply a pair of contraries) That is locally contrary which is most distant in a straight line: for the shortest line is definitely limited, and that which is definitely limited constitutes a measure.

A thing is ‘in succession’ when it is after the beginning in position or in form or in some other respect in which it is definitely so regarded, and when further there is nothing of the same kind as itself between it and that to which it is in succession, e.g. a line or lines if it is a line, a unit or units if it is a unit, a house if it is a house (there is nothing to prevent something of a different kind being between). For that which is in succession is in succession to a particular thing, and is something posterior: for one is not ‘in succession’ to two, nor is the first day of the month to be second: in each case the latter is ‘in succession’ to the former.

A thing that is in succession and touches is ‘contiguous’. The ‘continuous’ is a subdivision of the contiguous: things are called continuous when the touching limits of each become one and the same and are, as the word implies, contained in each other: continuity is impossible if these extremities are two. This definition makes it plain that continuity belongs to things that naturally in virtue of their mutual contact form a unity. And in whatever way that which holds them together is one, so too will the whole be one, e.g. by a rivet or glue or contact or organic union.

It is obvious that of these terms ‘in succession’ is first in order of analysis: for that which touches is necessarily in succession, but not everything that is in succession touches: and so succession is a property of things prior in definition, e.g. numbers, while contact is not. And if there is continuity there is necessarily contact, but if there is contact, that alone does not imply continuity: for the extremities of things may be ‘together’ without necessarily being one: but they cannot be one without being necessarily together. So natural junction is last in coming to be: for the extremities must necessarily come into contact if they are to be naturally joined: but things that are in contact are not all naturally joined, while there is no contact clearly there is no natural junction either. Hence, if as some say ‘point’ and ‘unit’ have an independent existence of their own, it is impossible for the two to be identical: for points can touch while units can only be in succession. Moreover, there can always be something between points (for all lines are intermediate between points), whereas it is not necessary that there should possibly be anything between units: for there can be nothing between the numbers one and two.

We have now defined what is meant by ‘together’ and ‘apart’, ‘contact’, ‘between’ and ‘in succession’, ‘contiguous’ and ‘continuous’: and we have shown in what circumstances each of these terms is applicable.

4

There are many senses in which motion is said to be ‘one’: for we use the term ‘one’ in many senses.

Motion is one generically according to the different categories to which it may be assigned: thus any locomotion is one generically with any other locomotion, whereas alteration is different generically from locomotion.

Motion is one specifically when besides being one generically it also takes place in a species incapable of subdivision: e.g. colour has specific differences: therefore blackening and whitening differ specifically; but at all events every whitening will be specifically the same with every other whitening and every blackening with every other blackening. But white is not further subdivided by specific differences: hence any whitening is specifically one with any other whitening. Where it happens that the genus is at the same time a species, it is clear that the motion will then in a sense be one specifically though not in an unqualified sense: learning is an example of this, knowledge being on the one hand a species of apprehension and on the other hand a genus including the various knowledges. A difficulty, however, may be raised as to whether a motion is specifically one when the same thing changes from the same to the same, e.g. when one point changes again and again from a particular place to a particular place: if this motion is specifically one, circular motion will be the same as rectilinear motion, and rolling the same as walking. But is not this difficulty removed by the principle already laid down that if that in which the motion takes place is specifically different (as in the present instance the circular path is specifically different from the straight) the motion itself is also different? We have explained, then, what is meant by saying that motion is one generically or one specifically.

Motion is one in an unqualified sense when it is one essentially or numerically: and the following distinctions will make clear what this kind of motion is. There are three classes of things in connexion with which we speak of motion, the ‘that which’, the ‘that in which’, and the ‘that during which’. I mean that there must he something that is in motion, e.g. a man or gold, and it must be in motion in something, e.g. a place or an affection, and during something, for all motion takes place during a time. Of these three it is the thing in which the motion takes place that makes it one generically or specifically, it is the thing moved that makes the motion one in subject, and it is the time that makes it consecutive: but it is the three together that make it one without qualification: to effect this, that in which the motion takes place (the species) must be one and incapable of subdivision, that during which it takes place (the time) must be one and unintermittent, and that which is in motion must be one — not in an accidental sense (i.e. it must be one as the white that blackens is one or Coriscus who walks is one, not in the accidental sense in which Coriscus and white may be one), nor merely in virtue of community of nature (for there might be a case of two men being restored to health at the same time in the same way, e.g. from inflammation of the eye, yet this motion is not really one, but only specifically one).

Suppose, however, that Socrates undergoes an alteration specifically the same but at one time and again at another: in this case if it is possible for that which ceased to be again to come into being and remain numerically the same, then this motion too will be one: otherwise it will be the same but not one. And akin to this difficulty there is another; viz. is health one? and generally are the states and affections in bodies severally one in essence although (as is clear) the things that contain them are obviously in motion and in flux? Thus if a person’s health at daybreak and at the present moment is one and the same, why should not this health be numerically one with that which he recovers after an interval? The same argument applies in each case. There is, however, we may answer, this difference: that if the states are two then it follows simply from this fact that the activities must also in point of number be two (for only that which is numerically one can give rise to an activity that is numerically one), but if the state is one, this is not in itself enough to make us regard the activity also as one: for when a man ceases walking, the walking no longer is, but it will again be if he begins to walk again. But, be this as it may, if in the above instance the health is one and the same, then it must be possible for that which is one and the same to come to be and to cease to be many times. However, these difficulties lie outside our present inquiry.

Since every motion is continuous, a motion that is one in an unqualified sense must (since every motion is divisible) be continuous, and a continuous motion must be one. There will not be continuity between any motion and any other indiscriminately any more than there is between any two things chosen at random in any other sphere: there can be continuity only when the extremities of the two things are one. Now some things have no extremities at all: and the extremities of others differ specifically although we give them the same name of ‘end’: how should e.g. the ‘end’ of a line and the ‘end’ of walking touch or come to be one? Motions that are not the same either specifically or generically may, it is true, be consecutive (e.g. a man may run and then at once fall ill of a fever), and again, in the torch-race we have consecutive but not continuous locomotion: for according to our definition there can be continuity only when the ends of the two things are one. Hence motions may be consecutive or successive in virtue of the time being continuous, but there can be continuity only in virtue of the motions themselves being continuous, that is when the end of each is one with the end of the other. Motion, therefore, that is in an unqualified sense continuous and one must be specifically the same, of one thing, and in one time. Unity is required in respect of time in order that there may be no interval of immobility, for where there is intermission of motion there must be rest, and a motion that includes intervals of rest will be not one but many, so that a motion that is interrupted by stationariness is not one or continuous, and it is so interrupted if there is an interval of time. And though of a motion that is not specifically one (even if the time is unintermittent) the time is one, the motion is specifically different, and so cannot really be one, for motion that is one must be specifically one, though motion that is specifically one is not necessarily one in an unqualified sense. We have now explained what we mean when we call a motion one without qualification.

Further, a motion is also said to be one generically, specifically, or essentially when it is complete, just as in other cases completeness and wholeness are characteristics of what is one: and sometimes a motion even if incomplete is said to be one, provided only that it is continuous.

And besides the cases already mentioned there is another in which a motion is said to be one, viz. when it is regular: for in a sense a motion that is irregular is not regarded as one, that title belonging rather to that which is regular, as a straight line is regular, the irregular being as such divisible. But the difference would seem to be one of degree. In every kind of motion we may have regularity or irregularity: thus there may be regular alteration, and locomotion in a regular path, e.g. in a circle or on a straight line, and it is the same with regard to increase and decrease. The difference that makes a motion irregular is sometimes to be found in its path: thus a motion cannot be regular if its path is an irregular magnitude, e.g. a broken line, a spiral, or any other magnitude that is not such that any part of it taken at random fits on to any other that may be chosen. Sometimes it is found neither in the place nor in the time nor in the goal but in the manner of the motion: for in some cases the motion is differentiated by quickness and slowness: thus if its velocity is uniform a motion is regular, if not it is irregular. So quickness and slowness are not species of motion nor do they constitute specific differences of motion, because this distinction occurs in connexion with all the distinct species of motion. The same is true of heaviness and lightness when they refer to the same thing: e.g. they do not specifically distinguish earth from itself or fire from itself. Irregular motion, therefore, while in virtue of being continuous it is one, is so in a lesser degree, as is the case with locomotion in a broken line: and a lesser degree of something always means an admixture of its contrary. And since every motion that is one can be both regular and irregular, motions that are consecutive but not specifically the same cannot be one and continuous: for how should a motion composed of alteration and locomotion be regular? If a motion is to be regular its parts ought to fit one another.

5

We have further to determine what motions are contrary to each other, and to determine similarly how it is with rest. And we have first to decide whether contrary motions are motions respectively from and to the same thing, e.g. a motion from health and a motion to health (where the opposition, it would seem, is of the same kind as that between coming to be and ceasing to be); or motions respectively from contraries, e.g. a motion from health and a motion from disease; or motions respectively to contraries, e.g. a motion to health and a motion to disease; or motions respectively from a contrary and to the opposite contrary, e.g. a motion from health and a motion to disease; or motions respectively from a contrary to the opposite contrary and from the latter to the former, e.g. a motion from health to disease and a motion from disease to health: for motions must be contrary to one another in one or more of these ways, as there is no other way in which they can be opposed.

Now motions respectively from a contrary and to the opposite contrary, e.g. a motion from health and a motion to disease, are not contrary motions: for they are one and the same. (Yet their essence is not the same, just as changing from health is different from changing to disease.) Nor are motion respectively from a contrary and from the opposite contrary contrary motions, for a motion from a contrary is at the same time a motion to a contrary or to an intermediate (of this, however, we shall speak later), but changing to a contrary rather than changing from a contrary would seem to be the cause of the contrariety of motions, the latter being the loss, the former the gain, of contrariness. Moreover, each several motion takes its name rather from the goal than from the starting-point of change, e.g. motion to health we call convalescence, motion to disease sickening. Thus we are left with motions respectively to contraries, and motions respectively to contraries from the opposite contraries. Now it would seem that motions to contraries are at the same time motions from contraries (though their essence may not be the same; ‘to health’ is distinct, I mean, from ‘from disease’, and ‘from health’ from ‘to disease’).

Since then change differs from motion (motion being change from a particular subject to a particular subject), it follows that contrary motions are motions respectively from a contrary to the opposite contrary and from the latter to the former, e.g. a motion from health to disease and a motion from disease to health. Moreover, the consideration of particular examples will also show what kinds of processes are generally recognized as contrary: thus falling ill is regarded as contrary to recovering one’s health, these processes having contrary goals, and being taught as contrary to being led into error by another, it being possible to acquire error, like knowledge, either by one’s own agency or by that of another. Similarly we have upward locomotion and downward locomotion, which are contrary lengthwise, locomotion to the right and locomotion to the left, which are contrary breadthwise, and forward locomotion and backward locomotion, which too are contraries. On the other hand, a process simply to a contrary, e.g. that denoted by the expression ‘becoming white’, where no starting-point is specified, is a change but not a motion. And in all cases of a thing that has no contrary we have as contraries change from and change to the same thing. Thus coming to be is contrary to ceasing to be, and losing to gaining. But these are changes and not motions. And wherever a pair of contraries admit of an intermediate, motions to that intermediate must be held to be in a sense motions to one or other of the contraries: for the intermediate serves as a contrary for the purposes of the motion, in whichever direction the change may be, e.g. grey in a motion from grey to white takes the place of black as starting-point, in a motion from white to grey it takes the place of black as goal, and in a motion from black to grey it takes the place of white as goal: for the middle is opposed in a sense to either of the extremes, as has been said above. Thus we see that two motions are contrary to each other only when one is a motion from a contrary to the opposite contrary and the other is a motion from the latter to the former.

6

But since a motion appears to have contrary to it not only another motion but also a state of rest, we must determine how this is so. A motion has for its contrary in the strict sense of the term another motion, but it also has for an opposite a state of rest (for rest is the privation of motion and the privation of anything may be called its contrary), and motion of one kind has for its opposite rest of that kind, e.g. local motion has local rest. This statement, however, needs further qualification: there remains the question, is the opposite of remaining at a particular place motion from or motion to that place? It is surely clear that since there are two subjects between which motion takes place, motion from one of these (A) to its contrary (B) has for its opposite remaining in A while the reverse motion has for its opposite remaining in B. At the same time these two are also contrary to each other: for it would be absurd to suppose that there are contrary motions and not opposite states of rest. States of rest in contraries are opposed. To take an example, a state of rest in health is (1) contrary to a state of rest in disease, and (2) the motion to which it is contrary is that from health to disease. For (2) it would be absurd that its contrary motion should be that from disease to health, since motion to that in which a thing is at rest is rather a coming to rest, the coming to rest being found to come into being simultaneously with the motion; and one of these two motions it must be. And (1) rest in whiteness is of course not contrary to rest in health.

Of all things that have no contraries there are opposite changes (viz.

change from the thing and change to the thing, e.g. change from being and change to being), but no motion. So, too, of such things there is no remaining though there is absence of change. Should there be a particular subject, absence of change in its being will be contrary to absence of change in its not-being. And here a difficulty may be raised: if not-being is not a particular something, what is it, it may be asked, that is contrary to absence of change in a thing's being? and is this absence of change a state of rest? If it is, then either it is not true that every state of rest is contrary to a motion or else coming to be and ceasing to be are motion. It is clear then that, since we exclude these from among motions, we must not say that this absence of change is a state of rest: we must say that it is similar to a state of rest and call it absence of change. And it will have for its contrary either nothing or absence of change in the thing's not-being, or the ceasing to be of the thing: for such ceasing to be is change from it and the thing's coming to be is change to it.

Again, a further difficulty may be raised. How is it, it may be asked, that whereas in local change both remaining and moving may be natural or unnatural, in the other changes this is not so? e.g. alteration is not now natural and now unnatural, for convalescence is no more natural or unnatural than falling ill, whitening no more natural or unnatural than blackening; so, too, with increase and decrease: these are not contrary to each other in the sense that either of them is natural while the other is unnatural, nor is one increase contrary to another in this sense; and the same account may be given of becoming and perishing: it is not true that becoming is natural and perishing unnatural (for growing old is natural), nor do we observe one becoming to be natural and another unnatural. We answer that if what happens under violence is unnatural, then violent perishing is unnatural and as such contrary to natural perishing. Are there then also some becomings that are violent and not the result of natural necessity, and are therefore contrary to natural becomings, and violent increases and decreases, e.g. the rapid growth to maturity of profligates and the rapid ripening of seeds even when not packed close in the earth? And how is it with alterations? Surely just the same: we may say that some alterations are violent while others are natural, e.g. patients alter naturally or unnaturally according as they throw off fevers on the critical days or not. But, it may be objected, then we shall have perishings contrary to one another, not to becoming. Certainly: and why should not this in a sense be so? Thus it is so if one perishing is pleasant and another painful: and so one perishing will be contrary to another not in an unqualified sense, but in so far as one has this quality and the other that.

Now motions and states of rest universally exhibit contrariety in the manner described above, e.g. upward motion and rest above are respectively contrary to downward motion and rest below, these being instances of local contrariety; and upward locomotion belongs naturally to fire and downward to earth, i.e. the locomotions of the two are contrary to each other. And again, fire moves up naturally and down unnaturally: and its natural motion is certainly contrary to its unnatural motion. Similarly with remaining: remaining above is contrary to motion from above downwards, and to earth this remaining comes unnaturally, this motion naturally. So the unnatural remaining of a thing is contrary to its natural motion, just as we find a similar contrariety in the motion of the same thing: one of its motions, the upward or the downward, will be natural, the other unnatural.

Here, however, the question arises, has every state of rest that is not permanent a becoming, and is this becoming a coming to a standstill? If so, there must be a becoming of that which is at rest unnaturally, e.g. of earth at rest above: and therefore this earth during the time that it was being carried violently upward was coming to a standstill. But whereas the velocity of that which comes to a standstill seems always to increase, the velocity of that which is carried violently seems always to decrease: so it will he in a state of rest without having become so. Moreover ‘coming to a standstill’ is generally recognized to be identical or at least concomitant with the locomotion of a thing to its proper place.

There is also another difficulty involved in the view that remaining in a particular place is contrary to motion from that place. For when a thing is moving from or discarding something, it still appears to have that which is being discarded, so that if a state of rest is itself contrary to the motion from the state of rest to its contrary, the contraries rest and motion will be simultaneously predicable of the same thing. May we not say, however, that in so far as the thing is still stationary it is in a state of rest in a qualified sense? For, in fact, whenever a thing is in motion, part of it is at the starting-point while part is at the goal to which it is changing: and consequently a motion finds its true contrary rather in another motion than in a state of rest.

With regard to motion and rest, then, we have now explained in what sense each of them is one and under what conditions they exhibit contrariety.

[With regard to coming to a standstill the question may be raised whether there is an opposite state of rest to unnatural as well as to natural motions. It would be absurd if this were not the case: for a thing may remain still merely under violence: thus we shall have a thing being in a non-permanent state of rest without having become so. But it is clear that it must be the case: for just as there is unnatural motion, so, too, a thing may be in an unnatural state of rest. Further, some things have a natural and an unnatural motion, e.g. fire has a natural upward motion and an unnatural downward motion: is it, then, this unnatural downward motion or is it the natural downward motion of earth that is contrary to the natural upward motion? Surely it is clear that both are contrary to it though not in the same sense: the natural motion of earth is contrary inasmuch as the motion of fire is also natural, whereas the upward motion of fire as being natural is contrary to the downward motion of fire as being unnatural. The same is true of the corresponding cases of remaining. But there would seem to be a sense in which a state of rest and a motion are opposites.]

Book VI

1

Now if the terms ‘continuous’, ‘in contact’, and ‘in succession’ are understood as defined above things being ‘continuous’ if their extremities are one, ‘in contact’ if their extremities are together, and ‘in succession’ if there is nothing of their own kind intermediate between them — nothing that is continuous can be composed ‘of indivisibles’: e.g. a line cannot be composed of points, the line being continuous and the point indivisible. For the extremities of two points can neither be one (since of an indivisible there can be no extremity as distinct from some other part) nor together (since that which has no parts can have no extremity, the extremity and the thing of which it is the extremity being distinct).

Moreover, if that which is continuous is composed of points, these points must be either continuous or in contact with one another: and the same reasoning applies in the case of all indivisibles. Now for the reason given above they cannot be continuous: and one thing can be in contact with another only if whole is in contact with whole or part with part or part with whole. But since indivisibles have no parts, they must be in contact with one another as whole with whole. And if they are in contact with one another as whole with whole, they will not be continuous: for that which is continuous has distinct parts: and these parts into which it is divisible are different in this way, i.e. spatially separate.

Nor, again, can a point be in succession to a point or a moment to a moment in such a way that length can be composed of points or time of moments: for things are in succession if there is nothing of their own kind intermediate between them, whereas that which is intermediate between points is always a line and that which is intermediate between moments is always a period of time.

Again, if length and time could thus be composed of indivisibles, they could be divided into indivisibles, since each is divisible into the parts of which it is composed. But, as we saw, no continuous thing is divisible into things without parts. Nor can there be anything of any other kind intermediate between the parts or between the moments: for if there could be any such thing it is clear that it must be either indivisible or divisible, and if it is divisible, it must be divisible either into indivisibles or into divisibles that are infinitely divisible, in which case it is continuous.

Moreover, it is plain that everything continuous is divisible into divisibles that are infinitely divisible: for if it were divisible into indivisibles, we should have an indivisible in contact with an indivisible, since the extremities of things that are continuous with one another are one and are in contact.

The same reasoning applies equally to magnitude, to time, and to motion: either all of these are composed of indivisibles and are divisible into indivisibles, or none. This may be made clear as follows. If a magnitude is composed of indivisibles, the motion over that magnitude must be composed of corresponding indivisible motions: e.g. if the magnitude ABG is composed of the indivisibles A, B, G, each corresponding part of the motion DEZ of O over ABG is indivisible. Therefore, since where there is motion there must be something that is in motion, and where there is something in motion there must be motion, therefore the being-moved will also be composed of indivisibles. So O traversed A when its motion was D, B when its motion was E, and G similarly when its motion was Z. Now a thing that is in motion from one place to another cannot at the moment when it was in motion both be in motion and at the same time have completed its motion at the place to which it was in motion: e.g. if a man is walking to Thebes, he cannot be walking to Thebes and at the same time have completed his walk to Thebes: and, as we saw, O traverses a the partless section A in virtue of the presence of the motion D. Consequently, if O actually passed through A after being in process of passing through, the motion must be divisible: for at the time when O was passing through, it neither was at rest nor had completed its passage but was in an intermediate state: while if it is passing through and has completed its passage at the same moment, then that which is walking will at the moment when it is walking have completed its walk and will be in the place to which it is walking; that is to say, it will have completed its motion at the place to which it is in motion. And if a thing is in motion over the whole KBG and its motion is the three D, E, and Z, and if it is not in motion at all over the partless section A but has completed its motion over it, then the motion will consist not of motions but of starts, and will take place by a thing’s having completed a motion without being in motion: for on this assumption it has completed its passage through A without passing through it. So it will be possible for a thing to have completed a walk without ever walking: for on this assumption it has completed a walk over a particular distance without walking over that distance. Since, then, everything must be either at rest or in motion, and O is therefore at rest in each of the sections A, B, and G, it follows that a thing can be continuously at rest and at the same time in motion: for, as we saw, O is in motion over the whole ABG and at rest in any part (and consequently in the whole) of it. Moreover, if the indivisibles composing DEZ are motions, it would be possible for a thing in spite of the presence in it of motion to be not in motion but at rest, while if they are not motions, it would be possible for motion to be composed of something other than motions.

And if length and motion are thus indivisible, it is neither more nor less necessary that time also be similarly indivisible, that is to say be composed of indivisible moments: for if the whole distance is divisible and an equal velocity will cause a thing to pass through less of it in less time, the time must also be divisible, and conversely, if the time in which a thing is carried over the section A is divisible, this section A must also be divisible.

2

And since every magnitude is divisible into magnitudes — for we have shown that it is impossible for anything continuous to be composed of indivisible parts, and every magnitude is continuous — it necessarily follows that the quicker of two things traverses a greater magnitude in an equal time, an equal magnitude in less time, and a greater magnitude in less time, in conformity with the definition sometimes given of ‘the quicker’. Suppose that A is quicker than B. Now since of two things that which changes sooner is quicker, in the time ZH, in which A has changed from G to D, B will not yet have arrived at D but will be short of it: so that in an equal time the quicker will pass over a greater magnitude. More than this, it will pass over a greater magnitude in less time: for in the time in which A has arrived at D, B being the slower has arrived, let us say, at E. Then since A has occupied the whole time ZH in arriving at D, will have arrived at O in less time than this, say ZK. Now the magnitude GO that A has passed over is greater than the magnitude

GE, and the time ZK is less than the whole time ZH: so that the quicker will pass over a greater magnitude in less time. And from this it is also clear that the quicker will pass over an equal magnitude in less time than the slower. For since it passes over the greater magnitude in less time than the slower, and (regarded by itself) passes over LM the greater in more time than LX the lesser, the time PRh in which it passes over LM will be more than the time PS, which it passes over LX: so that, the time PRh being less than the time PCh in which the slower passes over LX, the time PS will also be less than the time PX: for it is less than the time PRh, and that which is less than something else that is less than a thing is also itself less than that thing. Hence it follows that the quicker will traverse an equal magnitude in less time than the slower. Again, since the motion of anything must always occupy either an equal time or less or more time in comparison with that of another thing, and since, whereas a thing is slower if its motion occupies more time and of equal velocity if its motion occupies an equal time, the quicker is neither of equal velocity nor slower, it follows that the motion of the quicker can occupy neither an equal time nor more time. It can only be, then, that it occupies less time, and thus we get the necessary consequence that the quicker will pass over an equal magnitude (as well as a greater) in less time than the slower.

And since every motion is in time and a motion may occupy any time, and the motion of everything that is in motion may be either quicker or slower, both quicker motion and slower motion may occupy any time: and this being so, it necessarily follows that time also is continuous. By continuous I mean that which is divisible into divisibles that are infinitely divisible: and if we take this as the definition of continuous, it follows necessarily that time is continuous. For since it has been shown that the quicker will pass over an equal magnitude in less time than the slower, suppose that A is quicker and B slower, and that the slower has traversed the magnitude GD in the time ZH. Now it is clear that the quicker will traverse the same magnitude in less time than this: let us say in the time ZO. Again, since the quicker has passed over the whole D in the time ZO, the slower will in the same time pass over GK, say, which is less than GD. And since B, the slower, has passed over GK in the time ZO, the quicker will pass over it in less time: so that the time ZO will again be divided. And if this is divided the magnitude GK will also be divided just as GD was: and again, if the magnitude is divided, the time will also be divided. And we can carry on this process for ever, taking the slower after the quicker and the quicker after the slower alternately, and using what has been demonstrated at each stage as a new point of departure: for the quicker will divide the time and the slower will divide the length. If, then, this alternation always holds good, and at every turn involves a division, it is evident that all time must be continuous. And at the same time it is clear that all magnitude is also continuous; for the divisions of which time and magnitude respectively are susceptible are the same and equal.

Moreover, the current popular arguments make it plain that, if time is continuous, magnitude is continuous also, inasmuch as a thing asses over half a given magnitude in half the time taken to cover the whole: in fact without qualification it passes over a less magnitude in less time; for the divisions of time and of magnitude will be the same. And if either is infinite, so is the other, and the one is so in the same way as the other; i.e. if time is infinite in respect of its extremities, length is also infinite in respect of its extremities: if time is infinite in respect of divisibility, length is also infinite in respect of divisibility: and if time is infinite in both respects, magnitude is also infinite in both respects.

Hence Zeno’s argument makes a false assumption in asserting that it is impossible for a thing to pass over or severally to come in contact with infinite things in a finite time. For there are two senses in which length and time and generally anything continuous are called ‘infinite’: they are called so either in respect of divisibility or in respect of their extremities. So while a thing in a finite time cannot come in contact with things quantitatively infinite, it can come in contact with things infinite in respect of divisibility: for in this sense the time itself is also infinite: and so we find that the time occupied by the passage over the infinite is not a finite but an infinite time, and the contact with the infinites is made by means of moments not finite but infinite in number.

The passage over the infinite, then, cannot occupy a finite time, and the passage over the finite cannot occupy an infinite time: if the time is infinite the magnitude must be infinite also, and if the magnitude is infinite, so also is the time. This may be shown as follows. Let AB be a finite magnitude, and let us suppose that it is traversed in infinite time G, and let a finite period GD of the time be taken. Now in this period the thing in motion will pass over a certain segment of the magnitude: let BE be the segment that it has thus passed over. (This will be either an exact measure of AB or less or greater than an exact measure: it makes no difference which it is.) Then, since a magnitude equal to BE will always be passed over in an equal time, and BE measures the whole magnitude, the whole time occupied in passing over AB will be finite: for it will be divisible into periods equal in number to the segments into which the magnitude is divisible. Moreover, if it is the case that infinite time is not occupied in passing over every magnitude, but it is possible to ass over some magnitude, say BE, in a finite time, and if this BE measures the whole of which it is a part, and if an equal magnitude is passed over in an equal time, then it follows that the time like the magnitude is finite. That infinite time will not be occupied in passing over BE is evident if the time be taken as limited in one direction: for as the part will be passed over in less time than the whole, the time occupied in traversing this part must be finite, the limit in one direction being given. The same reasoning will also show the falsity of the assumption that infinite length can be traversed in a finite time. It is evident, then, from what has been said that neither a line nor a surface nor in fact anything continuous can be indivisible.

This conclusion follows not only from the present argument but from the consideration that the opposite assumption implies the divisibility of the indivisible. For since the distinction of quicker and slower may apply to motions occupying any period of time and in an equal time the quicker passes over a greater length, it may happen that it will pass over a length twice, or one and a half times, as great as that passed over by the slower: for their respective velocities may stand to one another in this proportion. Suppose, then, that the quicker has in the same time been carried over a length one and a half times as great as that traversed by the slower, and that the respective magnitudes are divided, that of the quicker, the magnitude ABGD, into three indivisibles, and that of the slower into the two indivisibles EZ, ZH. Then the time may also be divided into three indivisibles, for an equal magnitude will be passed over in an equal time. Suppose then that it is thus divided into KL, LM, MN. Again, since in the same time the slower has been carried over EZ, ZH, the time may also be similarly divided into two. Thus the indivisible will be divisible, and that which has no parts will be passed over not in an indivisible but in a greater time. It is evident, therefore, that nothing continuous is without parts.

3

The present also is necessarily indivisible — the present, that is, not in the sense in which the word is applied to one thing in virtue of another, but in its proper and primary sense; in which sense it is inherent in all time. For the present is something that is an extremity of the past (no part of the future being on this side of it) and also of the future (no part of the past being on the other side of it): it is, as we have said, a limit of both. And if it is once shown that it is essentially of this character and one and the same, it will at once be evident also that it is indivisible.

Now the present that is the extremity of both times must be one and the same: for if each extremity were different, the one could not be in succession to the other, because nothing continuous can be composed of things having no parts: and if the one is apart from the other, there will be time intermediate between them, because everything continuous is such that there is something intermediate between its limits and described by the same name as itself. But if the intermediate thing is time, it will be divisible: for all time has been shown to be divisible. Thus on this assumption the present is divisible. But if the present is divisible, there will be part of the past in the future and part of the future in the past: for past time will be marked off from future time at the actual point of division. Also the present will be a present not in the proper sense but in virtue of something else: for the division which yields it will not be a division proper. Furthermore, there will be a part of the present that is past and a part that is future, and it will not always be the same part that is past or future: in fact one and the same present will not be simultaneous: for the time may be divided at many points. If, therefore, the present cannot possibly have these characteristics, it follows that it must be the same present that belongs to each of the two times. But if this is so it is evident that the present is also indivisible: for if it is divisible it will be involved in the same implications as before. It is clear, then, from what has been said that time contains something indivisible, and this is what we call a present.

We will now show that nothing can be in motion in a present. For if this is possible, there can be both quicker and slower motion in the present. Suppose then that in the present N the quicker has traversed the distance AB. That being so, the slower will in the same present traverse a distance less than AB, say AG. But since the slower will have occupied the whole present in traversing AG, the quicker will occupy less than this in traversing it. Thus we shall have a division of the present, whereas we found it to be indivisible. It is impossible, therefore, for anything to be in motion in a present.

Nor can anything be at rest in a present: for, as we were saying, only can be at rest which is naturally designed to be in motion but is not in motion when, where, or as it would naturally be so: since, therefore, nothing is naturally designed to be in motion in a present, it is clear that nothing can be at rest in a present either.

Moreover, inasmuch as it is the same present that belongs to both the times, and it is possible for a thing to be in motion throughout one time and to be at rest throughout the other, and that which is in motion or at rest for the whole of a time will be in motion or at rest as the case may be in any part of it in which it is naturally designed to be in motion or at rest: this being so, the assumption that there can be motion or rest in a present will carry with it the implication that the same thing can at the same time be at rest and in motion: for both the times have the same extremity, viz. the present.

Again, when we say that a thing is at rest, we imply that its condition in whole and in part is at the time of speaking uniform with what it was previously: but the present contains no ‘previously’: consequently, there can be no rest in it.

It follows then that the motion of that which is in motion and the rest of that which is at rest must occupy time.

4

Further, everything that changes must be divisible. For since every change is from something to something, and when a thing is at the goal of its change it is no longer changing, and when both it itself and all its parts are at the starting-point of its change it is not changing (for that which is in whole and in part in an unvarying condition is not in a state of change); it follows, therefore, that part of that which is changing must be at the starting-point and part at the goal: for as a whole it cannot be in both or in neither. (Here by ‘goal of change’ I mean that which comes first in the process of change: e.g. in a process of change from white the goal in question will be grey, not black: for it is not necessary that that that which is changing should be at either of the extremes.) It is evident, therefore, that everything that changes must be divisible.

Now motion is divisible in two senses. In the first place it is divisible in virtue of the time that it occupies. In the second place it is divisible according to the motions of the several parts of that which is in motion: e.g. if the whole AG is in motion, there will be a motion of AB and a motion of BG. That being so, let DE be the motion of the part AB and EZ the motion of the part BG. Then the whole DZ must be the motion of AG: for DZ must constitute the motion of AG inasmuch as DE and EZ severally constitute the motions of each of its parts. But the motion of a thing can never be constituted by the motion of something else: consequently the whole motion is the motion of the whole magnitude.

Again, since every motion is a motion of something, and the whole motion DZ is not the motion of either of the parts (for each of the parts DE, EZ is the motion of one of the parts AB, BG) or of anything else (for, the whole motion being the motion of a whole, the parts of the motion are the motions of the parts of that whole: and the parts of DZ are the motions of AB, BG and of nothing else: for, as we saw, a motion that is one cannot be the motion of more things than one): since this is so, the whole motion will be the motion of the magnitude ABG.

Again, if there is a motion of the whole other than DZ, say the the of each of the arts may be subtracted from it: and these motions will be equal to DE, EZ respectively: for the motion of that which is one must be one. So if the whole motion OI may be divided into the motions of the parts, OI will be equal to DZ: if on the other hand there is any remainder, say KI, this will be a motion of nothing: for it can be the motion neither of the whole nor of the parts (as the motion of that which is one must be one) nor of anything else: for a motion that is continuous must be the motion of things that are continuous. And the same result follows if the division of OI reveals a surplus on the side of the motions of the parts. Consequently, if this is impossible, the whole motion must be the same as and equal to DZ.

This then is what is meant by the division of motion according to the motions of the parts: and it must be applicable to everything that is divisible into parts.

Motion is also susceptible of another kind of division, that according to time. For since all motion is in time and all time is divisible, and in less time the motion is less, it follows that every motion must be divisible according to time. And since everything that is in motion is in motion in a certain sphere and for a certain time and has a motion belonging to it, it follows that the time, the motion, the being-in-motion, the thing that is in motion, and the sphere of the motion must all be susceptible of the same divisions (though spheres of motion are not all divisible in a like manner: thus quantity is essentially, quality accidentally divisible). For suppose that A is the time occupied by the motion B. Then if all the time has been occupied by the whole motion, it will take less of the motion to occupy half the time, less again to occupy a further subdivision of the time, and so on to infinity. Again, the time will be divisible similarly to the motion: for if the whole motion occupies all the time half the motion will occupy half the time, and less of the motion again will occupy less of the time.

In the same way the being-in-motion will also be divisible. For let G be the whole being-in-motion. Then the being-in-motion that corresponds to half the motion will be less than the whole being-in-motion, that which corresponds to a quarter of the motion will be less again, and so on to infinity. Moreover by setting out successively the being-in-motion corresponding to each of the two motions DG (say) and GE, we may argue that the whole being-in-motion will correspond to the whole motion (for if it were some other being-in-motion that corresponded to the whole motion, there would be more than one being-in-motion corresponding to the same motion), the argument being the same as that whereby we showed that the motion of a thing is divisible into the motions of the parts of the thing: for if we take separately the being-in-motion corresponding to each of the two motions, we shall see that the whole being-in-motion is continuous.

The same reasoning will show the divisibility of the length, and in fact of everything that forms a sphere of change (though some of these are only accidentally divisible because that which changes is so): for the division of one term will involve the division of all. So, too, in the matter of their being finite or infinite, they will all alike be either the one or the other. And we now see that in most cases the fact that all the terms are divisible or infinite is a direct consequence of the fact that the thing that changes is divisible or infinite: for the attributes ‘divisible’ and ‘infinite’ belong in the first instance to the thing that changes. That divisibility does so we have already shown: that infinity does so will be made clear in what follows?

5

Since everything that changes changes from something to something, that which has changed must at the moment when it has first changed be in that to which it has changed. For that which changes retires from or leaves that from which it changes: and leaving, if not identical with changing, is at any rate a consequence of it. And if leaving is a consequence of changing, having left is a consequence of having changed: for there is a like relation between the two in each case.

One kind of change, then, being change in a relation of contradiction, where a thing has changed from not-being to being it has left not-being. Therefore it will be in being: for everything must either be or not be. It is evident, then, that in contradictory change that which has changed must be in that to which it has changed. And if this is true in this kind of change, it will be true in all other kinds as well: for in this matter what holds good in the case of one will hold good likewise in the case of the rest.

Moreover, if we take each kind of change separately, the truth of our conclusion will be equally evident, on the ground that that that which has changed must be somewhere or in something. For, since it has left that from which it has changed and must be somewhere, it must be either in that to which it has changed or in something else. If, then, that which has changed to B is in something other than B, say G, it must again be changing from G to B: for it cannot be assumed that there is no interval between G and B, since change is continuous. Thus we have the result that the thing that has changed, at the moment when it has changed, is changing to that to which it has changed, which is impossible: that which has changed, therefore, must be in that to which it has changed. So it is evident likewise that that that which has come to be, at the moment when it has come to be, will be, and that which has ceased to be will not-be: for what we have said applies universally to every kind of change, and its truth is most obvious in the case of contradictory change. It is clear, then, that that which has changed, at the moment when it has first changed, is in that to which it has changed.

We will now show that the 'primary when' in which that which has changed effected the completion of its change must be indivisible, where by 'primary' I mean possessing the characteristics in question of itself and not in virtue of the possession of them by something else belonging to it. For let AG be divisible, and let it be divided at B. If then the completion of change has been effected in AB or again in BG, AG cannot be the primary thing in which the completion of change has been effected. If, on the other hand, it has been changing in both AB and BG (for it must either have changed or be changing in each of them), it must have been changing in the whole AG: but our assumption was that AG contains only the completion of the change. It is equally impossible to suppose that one part of AG contains the process and the other the completion of the change: for then we shall have something prior to what is primary. So that in which the completion of change has been effected must be indivisible. It is also evident, therefore, that that that in which that which has ceased to be has ceased to be and that in which that which has come to be has come to be are indivisible.

But there are two senses of the expression 'the primary when in which something has changed'. On the one hand it may mean the primary when containing the completion of the process of change — the moment when it is correct to say 'it has changed': on the other hand it may mean the primary when containing the beginning of the process of change. Now the primary when that has reference to the end of the change is something really existent: for a change may really be completed, and there is such a thing as an end of change, which we have in fact shown to be indivisible because it is a limit. But that which has reference to the beginning is not existent at all: for there is no such thing as a beginning of a process of change, and the time occupied by the change does not contain any primary when in which the change began. For suppose that AD is such a primary when. Then it cannot be indivisible: for, if it were, the moment immediately preceding the change and the moment in which the change begins would be consecutive (and moments cannot be consecutive). Again, if the changing thing is at rest in the whole preceding time GA (for we may suppose that it is at rest), it is at rest in A also: so if AD is without parts, it will simultaneously be at rest and have changed: for it is at rest in A and has changed in D. Since then AD is not without parts, it must be divisible, and the changing thing must have changed in every part of it (for if it has changed in neither of the two parts into which AD is divided, it has not changed in the whole either: if, on the other hand, it is in process of change in both parts, it is likewise in process of change in the whole: and if, again, it has changed in one of the two parts, the whole is not the primary when in which it has changed: it must therefore have changed in every part). It is evident, then, that with reference to the beginning of change there is no primary when in which change has been effected: for the divisions are infinite.

So, too, of that which has changed there is no primary part that has changed. For suppose that of AE the primary part that has changed is AZ (everything that changes having been shown to be divisible): and let OI be the time in which DZ has changed. If, then, in the whole time DZ has changed, in half the time there will be a part that has changed, less than and therefore prior to DZ: and again there will be another part prior to this, and yet another, and so on to infinity. Thus of that which changes there cannot be any primary part that has changed. It is evident, then, from what has been said, that neither of that which changes nor of the time in which it changes is there any primary part.

With regard, however, to the actual subject of change — that is to say that in respect of which a thing changes — there is a difference to be observed. For in a process of change we may distinguish three terms — that which changes, that in which it changes, and the actual subject of change, e.g. the man, the time, and the fair complexion. Of these the man and the time are divisible: but with the fair complexion it is otherwise (though they are all divisible accidentally, for that in which the fair complexion or any other quality is an accident is divisible). For of actual subjects of change it will be seen that those which are classed as essentially, not accidentally, divisible have no primary part. Take the case of magnitudes: let AB be a magnitude, and suppose that it has moved from B to a primary ‘where’ G. Then if BG is taken to be indivisible, two things without parts will have to be contiguous (which is impossible): if on the other hand it is taken to be divisible, there will be something prior to G to which the magnitude has changed, and something else again prior to that, and so on to infinity, because the process of division may be continued without end. Thus there can be no primary ‘where’ to which a thing has changed. And if we take the case of quantitative change, we shall get a like result, for here too the change is in something continuous. It is evident, then, that only in qualitative motion can there be anything essentially indivisible.

Now everything that changes changes time, and that in two senses: for the time in which a thing is said to change may be the primary time, or on the other hand it may have an extended reference, as e.g. when we say that a thing changes in a particular year because it changes in a particular day. That being so, that which changes must be changing in any part of the primary time in which it changes. This is clear from our definition of 'primary', in which the word is said to express just this: it may also, however, be made evident by the following argument. Let ChRh be the primary time in which that which is in motion is in motion: and (as all time is divisible) let it be divided at K. Now in the time ChK it either is in motion or is not in motion, and the same is likewise true of the time KRh. Then if it is in motion in neither of the two parts, it will be at rest in the whole: for it is impossible that it should be in motion in a time in no part of which it is in motion. If on the other hand it is in motion in only one of the two parts of the time, ChRh cannot be the primary time in which it is in motion: for its motion will have reference to a time other than ChRh. It must, then, have been in motion in any part of ChRh.

And now that this has been proved, it is evident that everything that is in motion must have been in motion before. For if that which is in motion has traversed the distance KL in the primary time ChRh, in half the time a thing that is in motion with equal velocity and began its motion at the same time will have traversed half the distance. But if this second thing whose velocity is equal has traversed a certain distance in a certain time, the original thing that is in motion must have traversed the same distance in the same time. Hence that which is in motion must have been in motion before.

Again, if by taking the extreme moment of the time — for it is the moment that defines the time, and time is that which is intermediate between moments — we are enabled to say that motion has taken place in the whole time ChRh or in fact in any period of it, motion may likewise be said to have taken place in every other such period. But half the time finds an extreme in the point of division. Therefore motion will have taken place in half the time and in fact in any part of it: for as soon as any division is made there is always a time defined by moments. If, then, all time is divisible, and that which is intermediate between moments is time, everything that is changing must have completed an infinite number of changes.

Again, since a thing that changes continuously and has not perished or ceased from its change must either be changing or have changed in any part of the time of its change, and since it cannot be changing in a moment, it follows that it must have changed at every moment in the time: consequently, since the moments are infinite in number, everything that is changing must have completed an infinite number of changes.

And not only must that which is changing have changed, but that which has changed must also previously have been changing, since everything that has changed from something to something has changed in a period of time. For suppose that a thing has changed from A to B in a moment. Now the moment in which it has changed cannot be the same as that in which it is at A (since in that case it would be in A and B at once): for we have shown above that that that which has changed, when it has changed, is not in that from which it has changed. If, on the other hand, it is a different moment, there will be a period of time intermediate between the two: for, as we saw, moments are not consecutive. Since, then, it has changed in a period of time, and all time is divisible, in half the time it will have completed another change, in a quarter another, and so on to infinity: consequently when it has changed, it must have previously been changing.

Moreover, the truth of what has been said is more evident in the case of magnitude, because the magnitude over which what is changing changes is continuous. For suppose that a thing has changed from G to D. Then if GD is indivisible, two things without parts will be consecutive. But since this is impossible, that which is intermediate between them must be a magnitude and divisible into an infinite number of segments: consequently, before the change is completed, the thing changes to those segments. Everything that has changed, therefore, must previously have been changing: for the same proof also holds good of change with respect to what is not continuous, changes, that is to say, between contraries and between contradictories. In such cases we have only to take the time in which a thing has changed and again apply the same reasoning. So that which has changed must have been changing and that which is changing must have changed, and a process of change is preceded by a completion of change and a completion by a process: and we can never take any stage and say that it is absolutely the first. The reason of this is that no two things without parts can be contiguous, and therefore in change the process of division is infinite, just as lines may be infinitely divided so that one part is continually increasing and the other continually decreasing.

So it is evident also that that that which has become must previously have been in process of becoming, and that which is in process of becoming must previously have become, everything (that is) that is divisible and continuous: though it is not always the actual thing that is in process of becoming of which this is true: sometimes it is something else, that is to say, some part of the thing in question, e.g. the foundation-stone of a house. So, too, in the case of that which is perishing and that which has perished: for that which becomes and that which perishes must contain an element of infiniteness as an immediate consequence of the fact that they are continuous things: and so a thing cannot be in process of becoming without having become or have become without having been in process of becoming. So, too, in the case of perishing and having perished: perishing must be preceded by having perished, and having perished must be preceded by perishing. It is evident, then, that that which has become must previously have been in process of becoming, and that which is in process of becoming must previously have become: for all magnitudes and all periods of time are infinitely divisible.

Consequently no absolutely first stage of change can be represented by any particular part of space or time which the changing thing may occupy.

7

Now since the motion of everything that is in motion occupies a period of time, and a greater magnitude is traversed in a longer time, it is impossible that a thing should undergo a finite motion in an infinite time, if this is understood to mean not that the same motion or a part of it is continually repeated, but that the whole infinite time is occupied by the whole finite motion. In all cases where a thing is in motion with uniform velocity it is clear that the finite magnitude is traversed in a finite time. For if we take a part of the motion which shall be a measure of the whole, the whole motion is completed in as many equal periods of the time as there are parts of the motion. Consequently, since these parts are finite, both in size individually and in number collectively, the whole time must also be finite: for it will be a multiple of the portion, equal to the time occupied in completing the aforesaid part multiplied by the number of the parts.

But it makes no difference even if the velocity is not uniform. For let us suppose that the line AB represents a finite stretch over which a thing has been moved in the given time, and let GD be the infinite time. Now if one part of the stretch must have been traversed before another part (this is clear, that in the earlier and in the later part of the time a different part of the stretch has been traversed: for as the time lengthens a different part of the motion will always be completed in it, whether the thing in motion changes with uniform velocity or not: and whether the rate of motion increases or diminishes or remains stationary this is none the less so), let us then take AE a part of the whole stretch of motion AB which shall be a measure of AB. Now this part of the motion occupies a certain period of the infinite time: it cannot itself occupy an infinite time, for we are assuming that that is occupied by the whole AB. And if again I take another part equal to AE, that also must occupy a finite time in consequence of the same assumption. And if I go on taking parts in this way, on the one hand there is no part which will be a measure of the infinite time (for the infinite cannot be composed of finite parts whether equal or unequal, because there must be some unity which will be a measure of things finite in multitude or in magnitude, which, whether they are equal or unequal, are none the less limited in magnitude); while on the other hand the finite stretch of motion AB is a certain multiple of AE: consequently the motion AB must be accomplished in a finite time. Moreover it is the same with coming to rest as with motion. And so it is impossible for one and the same thing to be infinitely in process of becoming or of perishing. The reasoning he will prove that in a finite time there cannot be an infinite extent of motion or of coming to rest, whether the motion is regular or irregular. For if we take a part which shall be a measure of the whole time, in this part a certain fraction, not the whole, of the magnitude will be traversed, because we assume that the traversing of the whole occupies all the time. Again, in another equal part of the time another part of the magnitude will be traversed: and similarly in each part of the time that we take, whether equal or unequal to the part originally taken. It makes no difference whether the parts are equal or not, if only each is finite: for it is clear that while the time is exhausted by the subtraction of its parts, the infinite magnitude will not be thus exhausted, since the process of subtraction is finite both in respect of the quantity subtracted and of the number of times a subtraction is made. Consequently the infinite magnitude will not be traversed in finite time: and it makes no difference whether the magnitude is infinite in only one direction or in both: for the same reasoning will hold good.

This having been proved, it is evident that neither can a finite magnitude traverse an infinite magnitude in a finite time, the reason being the same as that given above: in part of the time it will traverse a finite magnitude and in each several part likewise, so that in the whole time it will traverse a finite magnitude.

And since a finite magnitude will not traverse an infinite in a finite time, it is clear that neither will an infinite traverse a finite in a finite time. For if the infinite could traverse the finite, the finite could traverse the infinite; for it makes no difference which of the two is the thing in motion; either case involves the traversing of the infinite by the finite. For when the infinite magnitude A is in motion a part of it, say GD, will occupy the finite and then another, and then another, and so on to infinity. Thus the two results will coincide: the infinite will have completed a motion over the finite and the finite will have traversed the infinite: for it would seem to be impossible for the motion of the infinite over the finite to occur in any way other than by the finite traversing the infinite either by locomotion over it or by measuring it. Therefore, since this is impossible, the infinite cannot traverse the finite.

Nor again will the infinite traverse the infinite in a finite time. Otherwise it would also traverse the finite, for the infinite includes the finite. We can further prove this in the same way by taking the time as our starting-point.

Since, then, it is established that in a finite time neither will the finite traverse the infinite, nor the infinite the finite, nor the infinite the infinite, it is evident also that in a finite time there cannot be infinite motion: for what difference does it make whether we take the motion or the magnitude to be infinite? If either of the two is infinite, the other must be so likewise: for all locomotion is in space.

8

Since everything to which motion or rest is natural is in motion or at rest in the natural time, place, and manner, that which is coming to a stand, when it is coming to a stand, must be in motion: for if it is not in motion it must be at rest: but that which is at rest cannot be coming to rest. From this it evidently follows that coming to a stand must occupy a period of time: for the motion of that which is in motion occupies a period of time, and that which is coming to a stand has been shown to be in motion: consequently coming to a stand must occupy a period of time.

Again, since the terms ‘quicker’ and ‘slower’ are used only of that which occupies a period of time, and the process of coming to a stand may be quicker or slower, the same conclusion follows.

And that which is coming to a stand must be coming to a stand in any part of the primary time in which it is coming to a stand. For if it is coming to a stand in neither of two parts into which the time may be divided, it cannot be coming to a stand in the whole time, with the result that that that which is coming to a stand will not be coming to a stand. If on the other hand it is coming to a stand in only one of the two parts of the time, the whole cannot be the primary time in which it is coming to a stand: for it is coming to a stand in the whole time not primarily but in virtue of something distinct from itself, the argument being the same as that which we used above about things in motion.

And just as there is no primary time in which that which is in motion is in motion, so too there is no primary time in which that which is coming to a stand is coming to a stand, there being no primary stage either of being in motion or of coming to a stand. For let AB be the primary time in which a thing is coming to a stand. Now AB cannot be without parts: for there cannot be motion in that which is without parts, because the moving thing would necessarily have been already moved for part of the time of its movement: and that which is coming to a stand has been shown to be in motion. But since AB is therefore divisible, the thing is coming to a stand in every one of the parts of AB: for we have shown above that it is coming to a stand in every one of the parts in which it is primarily coming to a stand. Since then, that in which primarily a thing is coming to a stand must be a period of time and not something indivisible, and since all time is infinitely divisible, there cannot be anything in which primarily it is coming to a stand.

Nor again can there be a primary time at which the being at rest of that which is at rest occurred: for it cannot have occurred in that which has no parts, because there cannot be motion in that which is indivisible, and that in which rest takes place is the same as that in which motion takes place: for we defined a state of rest to be the state of a thing to which motion is natural but which is not in motion when (that is to say in that in which) motion would be natural to it. Again, our use of the phrase ‘being at rest’ also implies that the previous state of a thing is still unaltered, not one point only but two at least being thus needed to determine its presence: consequently that in which a thing is at rest cannot be without parts. Since, then it is divisible, it must be a period of time, and the thing must be at rest in every one of its parts, as may be shown by the same method as that used above in similar demonstrations.

So there can be no primary part of the time: and the reason is that rest and motion are always in a period of time, and a period of time has no primary part any more than a magnitude or in fact anything continuous: for everything continuous is divisible into an infinite number of parts.

And since everything that is in motion is in motion in a period of time and changes from something to something, when its motion is comprised within a particular period of time essentially — that is to say when it fills the whole and not merely a part of the time in question — it is impossible that in that time that which is in motion should be over against some particular thing primarily. For if a thing — itself and each of its parts — occupies the same space for a definite period of time, it is at rest: for it is in just these circumstances that we use the term ‘being at rest’ — when at one moment after another it can be said with truth that a thing, itself and its parts, occupies the same space. So if this is being at rest it is impossible for that which is changing to be as a whole, at the time when it is primarily changing, over against any particular thing (for the whole period of time is divisible), so that in one part of it after another it will be true to say that the thing, itself and its parts, occupies the same space. If this is not so and the aforesaid proposition is true only at a single moment, then the thing will be over against a particular thing not for any period of time but only at a moment that limits the time. It is true that at any moment it is always over against something stationary: but it is not at rest: for at a moment it is not possible for anything to be either in motion or at rest. So while it is true to say that that which is in motion is at a moment not in motion and is opposite some particular thing, it cannot in a period of time be over against that which is at rest: for that would involve the conclusion that that which is in locomotion is at rest.

9

Zeno’s reasoning, however, is fallacious, when he says that if everything when it occupies an equal space is at rest, and if that which is in locomotion is always occupying such a space at any moment, the flying arrow is therefore motionless. This is false, for time is not composed of indivisible moments any more than any other magnitude is composed of indivisibles.

Zeno’s arguments about motion, which cause so much disquietude to those who try to solve the problems that they present, are four in number. The first asserts the non-existence of motion on the ground that that which is in locomotion must arrive at the half-way stage before it arrives at the goal. This we have discussed above.

The second is the so-called ‘Achilles’, and it amounts to this, that in a race the quickest runner can never overtake the slowest, since the pursuer must first reach the point whence the pursued started, so that the slower must always hold a lead. This argument is the same in principle as that which depends on bisection, though it differs from it in that the spaces with which we successively have to deal are not divided into halves. The result of the argument is that the slower is not overtaken: but it proceeds along the same lines as the bisection argument (for in both a division of the space in a certain way leads to the result that the goal is not reached, though the ‘Achilles’ goes further in that it affirms that even the quickest runner in legendary tradition must fail in his pursuit of the slowest), so that the solution must be the same. And the axiom that that which holds a lead is never overtaken is false: it is not overtaken, it is true, while it holds a lead: but it is overtaken nevertheless if it is granted that it traverses the finite distance prescribed. These then are two of his arguments.

The third is that already given above, to the effect that the flying arrow is at rest, which result follows from the assumption that time is composed of moments: if this assumption is not granted, the conclusion will not follow.

The fourth argument is that concerning the two rows of bodies, each row being composed of an equal number of bodies of equal size, passing each other on a race-course as they proceed with equal velocity in opposite directions, the one row originally occupying the space between the goal and the middle point of the course and the other that between the middle point and the starting-post. This, he thinks, involves the conclusion that half a given time is equal to double that time. The fallacy of the reasoning lies in the assumption that a body occupies an equal time in passing with equal velocity a body that is in motion and a body of equal size that is at rest; which is false. For instance (so runs the argument), let A, A...be the stationary bodies of equal size, B, B...the bodies, equal in number and in size to A, A...,originally occupying the half of the course from the starting-post to the middle of the A's, and G, G...those originally occupying the other half from the goal to the middle of the A's, equal in number, size, and velocity to B, B....Then three consequences follow:

First, as the B's and the G's pass one another, the first B reaches the last G at the same moment as the first G reaches the last B. Secondly at this moment the first G has passed all the A's, whereas the first B has passed only half the A's, and has consequently occupied only half the time occupied by the first G, since each of the two occupies an equal time in passing each A. Thirdly, at the same moment all the B's have passed all the G's: for the first G and the first B will simultaneously reach the opposite ends of the course, since (so says Zeno) the time occupied by the first G in passing each of the B's is equal to that occupied by it in passing each of the A's, because an equal time is occupied by both the first B and the first G in passing all the A's. This is the argument, but it presupposed the aforesaid fallacious assumption.

Nor in reference to contradictory change shall we find anything unanswerable in the argument that if a thing is changing from not-white, say, to white, and is in neither condition, then it will be neither white nor not-white: for the fact that it is not wholly in either condition will not preclude us from calling it white or not-white. We call a thing white or not-white not necessarily because it is be one or the other, but cause most of its parts or the most essential parts of it are so: not being in a certain condition is different from not being wholly in that condition. So, too, in the case of being and not-being and all other conditions which stand in a contradictory relation: while the changing thing must of necessity be in one of the two opposites, it is never wholly in either.

Again, in the case of circles and spheres and everything whose motion is confined within the space that it occupies, it is not true to say the motion can be nothing but rest, on the ground that such things in motion, themselves and their parts, will occupy the same position for a period of time, and that therefore they will be at once at rest and in motion. For in the first place the parts do not occupy the same position for any period of time: and in the second place the whole also is always changing to a different position: for if we take the orbit as described from a point A on a circumference, it will not be the same as the orbit as described from B or G or any other point on the same circumference except in an accidental sense, the sense that is to say in which a musical man is the same as a man. Thus one orbit is always changing into another, and the thing will never be at rest. And it is the same with the sphere and everything else whose motion is confined within the space that it occupies.

10

Our next point is that that which is without parts cannot be in motion except accidentally: i.e. it can be in motion only in so far as the body or the magnitude is in motion and the partless is in motion by inclusion therein, just as that which is in a boat may be in motion in consequence of the locomotion of the boat, or a part may be in motion in virtue of the motion of the whole. (It must be remembered, however, that by ‘that which is without parts’ I mean that which is quantitatively indivisible (and that the case of the motion of a part is not exactly parallel): for parts have motions belonging essentially and severally to themselves distinct from the motion of the whole. The distinction may be seen most clearly in the case of a revolving sphere, in which the velocities of the parts near the centre and of those on the surface are different from one another and from that of the whole; this implies that there is not one motion but many). As we have said, then, that which is without parts can be in motion in the sense in which a man sitting in a boat is in motion when the boat is travelling, but it cannot be in motion of itself. For suppose that it is changing from AB to BG — either from one magnitude to another, or from one form to another, or from some state to its contradictory — and let D be the primary time in which it undergoes the change. Then in the time in which it is changing it must be either in AB or in BG or partly in one and partly in the other: for this, as we saw, is true of everything that is changing. Now it cannot be partly in each of the two: for then it would be divisible into parts. Nor again can it be in BG: for then it will have completed the change, whereas the assumption is that the change is in process. It remains, then, that in the time in which it is changing, it is in AB. That being so, it will be at rest: for, as we saw, to be in the same condition for a period of time is to be at rest. So it is not possible for that which has no parts to be in motion or to change in any way: for only one condition could have made it possible for it to have motion, viz. that time should be composed of moments, in which case at any moment it would have completed a motion or a change, so that it would never be in motion, but would always have been in motion. But this we have already shown above to be impossible: time is not composed of moments, just as a line is not composed of points, and motion is not composed of starts: for this theory simply makes motion consist of indivisibles in exactly the same way as time is made to consist of moments or a length of points.

Again, it may be shown in the following way that there can be no motion of a point or of any other indivisible. That which is in motion can never traverse a space greater than itself without first traversing a space equal to or less than itself. That being so, it is evident that the point also must first traverse a space equal to or less than itself. But since it is indivisible, there can be no space less than itself for it to traverse first: so it will have to traverse a distance equal to itself. Thus the line will be composed of points, for the point, as it continually traverses a distance equal to itself, will be a measure of the whole line. But since this is impossible, it is likewise impossible for the indivisible to be in motion.

Again, since motion is always in a period of time and never in a moment, and all time is divisible, for everything that is in motion there must be a time less than that in which it traverses a distance as great as itself. For that in which it is in motion will be a time, because all motion is in a period of time; and all time has been shown above to be divisible. Therefore, if a point is in motion, there must be a time less than that in which it has itself traversed any distance. But this is impossible, for in less time it must traverse less distance, and thus the indivisible will be divisible into something less than itself, just as the time is so divisible: the fact being that the only condition under which that which is without parts and indivisible could be in motion would have been the possibility of the infinitely small being in motion in a moment: for in the two questions — that of motion in a moment and that of motion of something indivisible — the same principle is involved.

Our next point is that no process of change is infinite: for every change, whether between contradictories or between contraries, is a change from something to something. Thus in contradictory changes the positive or the negative, as the case may be, is the limit, e.g. being is the limit of coming to be and not-being is the limit of ceasing to be: and in contrary changes the particular contraries are the limits, since these are the extreme points of any such process of change, and consequently of every process of alteration: for alteration is always dependent upon some contraries. Similarly contraries are the extreme points of processes of increase and decrease: the limit of increase is to be found in the complete magnitude proper to the peculiar nature of the thing that is increasing, while the limit of decrease is the complete loss of such magnitude. Locomotion, it is true, we cannot show to be finite in this way, since it is not always between contraries. But since that which cannot be cut (in the sense that it is inconceivable that it should be cut, the term 'cannot' being used in several senses) — since it is inconceivable that that which in this sense cannot be cut should be in process of being cut, and generally that that which cannot come to be should be in process of coming to be, it follows that it is inconceivable that that which cannot complete a change should be in process of changing to that to which it cannot complete a change. If, then, it is to be assumed that that which is in locomotion is in process of changing, it must be capable of completing the change. Consequently its motion is not infinite, and it will not be in locomotion over an infinite distance, for it cannot traverse such a distance.

It is evident, then, that a process of change cannot be infinite in the sense that it is not defined by limits. But it remains to be considered whether it is possible in the sense that one and the same process of change may be infinite in respect of the time which it occupies. If it is not one process, it would seem that there is nothing to prevent its being infinite in this sense; e.g. if a process of locomotion be succeeded by a process of alteration and that by a process of increase and that again by a process of coming to be: in this way there may be motion for ever so far as the time is concerned, but it will not be one motion, because all these motions do not compose one. If it is to be one process, no motion can be infinite in respect of the time that it occupies, with the single exception of rotatory locomotion.

Book VII

1

EVERYTHING that is in motion must be moved by something. For if it has not the source of its motion in itself it is evident that it is moved by something other than itself, for there must be something else that moves it. If on the other hand it has the source of its motion in itself, let AB be taken to represent that which is in motion essentially of itself and not in virtue of the fact that something belonging to it is in motion. Now in the first place to assume that AB, because it is in motion as a whole and is not moved by anything external to itself, is therefore moved by itself — this is just as if, supposing that KL is moving LM and is also itself in motion, we were to deny that KM is moved by anything on the ground that it is not evident which is the part that is moving it and which the part that is moved. In the second place that which is in motion without being moved by anything does not necessarily cease from its motion because something else is at rest, but a thing must be moved by something if the fact of something else having ceased from its motion causes it to be at rest. Thus, if this is accepted, everything that is in motion must be moved by something. For AB, which has been taken to represent that which is in motion, must be divisible since everything that is in motion is divisible. Let it be divided, then, at G. Now if GB is not in motion, then AB will not be in motion: for if it is, it is clear that AG would be in motion while BG is at rest, and thus AB cannot be in motion essentially and primarily. But ex hypothesi AB is in motion essentially and primarily. Therefore if GB is not in motion AB will be at rest. But we have agreed that that which is at rest if something else is not in motion must be moved by something. Consequently, everything that is in motion must be moved by something: for that which is in motion will always be divisible, and if a part of it is not in motion the whole must be at rest.

Since everything that is in motion must be moved by something, let us take the case in which a thing is in locomotion and is moved by something that is itself in motion, and that again is moved by something else that is in motion, and that by something else, and so on continually: then the series cannot go on to infinity, but there must be some first movent. For let us suppose that this is not so and take the series to be infinite. Let A then be moved by B, B by G, G by D, and so on, each member of the series being moved by that which comes next to it. Then since ex hypothesi the movent while causing motion is also itself in motion, and the motion of the moved and the motion of the movent must proceed simultaneously (for the movent is causing motion and the moved is being moved simultaneously) it is evident that the respective motions of A, B, G, and each of the other moved movents are simultaneous. Let us take the motion of each separately and let E be the motion of A, Z of B, and H and O respectively the motions of G and D: for though they are all moved severally one by another, yet we may still take the motion of each as numerically one, since every motion is from something to something and is not infinite in respect of its extreme points. By a motion that is numerically one I mean a motion that proceeds from something numerically one and the same to something numerically one and the same in a period of time numerically one and the same: for a motion may be the same generically, specifically, or numerically: it is generically the same if it belongs to the same category, e.g. substance or quality: it is specifically the same if it proceeds from something specifically the same to something specifically the same, e.g. from white to black or from good to bad, which is not of a kind specifically distinct: it is numerically the same if it proceeds from something numerically one to something numerically one in the same period of time, e.g. from a particular white to a particular black, or from a particular place to a particular place, in a particular period of time: for if the period of time were not one and the same, the motion would no longer be numerically one though it would still be specifically one.

We have dealt with this question above. Now let us further take the time in which A has completed its motion, and let it be represented by K. Then since the motion of A is finite the time will also be finite. But since the movents and the things moved are infinite, the motion EZHO, i.e. the motion that is composed of all the individual motions, must be infinite. For the motions of A, B, and the others may be equal, or the motions of the others may be greater: but assuming what is conceivable, we find that whether they are equal or some are greater, in both cases the whole motion is infinite. And since the motion of A and that of each of the others are simultaneous, the whole motion must occupy the same time as the motion of A: but the time occupied by the motion of A is finite: consequently the motion will be infinite in a finite time, which is impossible.

It might be thought that what we set out to prove has thus been shown, but our argument so far does not prove it, because it does not yet prove that anything impossible results from the contrary supposition: for in a finite time there may be an infinite motion, though not of one thing, but of many: and in the case that we are considering this is so: for each thing accomplishes its own motion, and there is no impossibility in many things being in motion simultaneously. But if (as we see to be universally the case) that which primarily is moved locally and corporeally must be either in contact with or continuous with that which moves it, the things moved and the movents must be continuous or in contact with one another, so that together they all form a single unity: whether this unity is finite or infinite makes no difference to our present argument; for in any case since the things in motion are infinite in number the whole motion will be infinite, if, as is theoretically possible, each motion is either equal to or greater than that which follows it in the series: for we shall take as actual that which is theoretically possible. If, then, A, B, G, D form an infinite magnitude that passes through the motion EZHO in the finite time K, this involves the conclusion that an infinite motion is passed through in a finite time: and whether the magnitude in question is finite or infinite this is in either case impossible. Therefore the series must come to an end, and there must be a first movent and a first moved: for the fact that this impossibility results only from the assumption of a particular case is immaterial, since the case assumed is theoretically possible, and the assumption of a theoretically possible case ought not to give rise to any impossible result.

2

That which is the first movement of a thing — in the sense that it supplies not ‘that for the sake of which’ but the source of the motion — is always together with that which is moved by it by ‘together’ I mean that there is nothing intermediate between them). This is universally true wherever one thing is moved by another. And since there are three kinds of motion, local, qualitative, and quantitative, there must also be three kinds of movent, that which causes locomotion, that which causes alteration, and that which causes increase or decrease.

Let us begin with locomotion, for this is the primary motion. Everything that is in locomotion is moved either by itself or by something else. In the case of things that are moved by themselves it is evident that the moved and the movent are together: for they contain within themselves their first movent, so that there is nothing in between. The motion of things that are moved by something else must proceed in one of four ways: for there are four kinds of locomotion caused by something other than that which is in motion, viz. pulling, pushing, carrying, and twirling. All forms of locomotion are reducible to these. Thus pushing on is a form of pushing in which that which is causing motion away from itself follows up that which it pushes and continues to push it: pushing off occurs when the movent does not follow up the thing that it has moved: throwing when the movent causes a motion away from itself more violent than the natural locomotion of the thing moved, which continues its course so long as it is controlled by the motion imparted to it. Again, pushing apart and pushing together are forms respectively of pushing off and pulling: pushing apart is pushing off, which may be a motion either away from the pusher or away from something else, while pushing together is pulling, which may be a motion towards something else as well as the puller. We may similarly classify all the varieties of these last two, e.g. packing and combing: the former is a form of pushing together, the latter a form of pushing apart. The same is true of the other processes of combination and separation (they will all be found to be forms of pushing apart or of pushing together), except such as are involved in the processes of becoming and perishing. (At same time it is evident that there is no other kind of motion but combination and separation: for they may all be apportioned to one or other of those already mentioned.) Again, inhaling is a form of pulling, exhaling a form of pushing: and the same is true of spitting and of all other motions that proceed through the body, whether secretive or assimilative, the assimilative being forms of pulling, the secretive of pushing off. All other kinds of locomotion must be similarly reduced, for they all fall under one or other of our four heads. And again, of these four, carrying and twirling are to pulling and pushing. For carrying always follows one of the other three methods, for that which is carried is in motion accidentally, because it is in or upon something that is in motion, and that which carries it is in doing so being either pulled or pushed or twirled; thus carrying belongs to all the other three kinds of motion in common. And twirling is a compound of pulling and pushing, for that which is twirling a thing must be pulling one part of the thing and pushing another part, since it impels one part away from itself and another part towards itself. If, therefore, it can be shown that that which is pushing and that which is pushing and pulling are adjacent respectively to that which is being pushed and that which is being pulled, it will be evident that in all locomotion there is nothing intermediate between moved and movent. But the former fact is clear even from the definitions of pushing and pulling, for pushing is motion to something else from oneself or from something else, and pulling is motion from something else to oneself or to something else, when the motion of that which is pulling is quicker than the motion that would separate from one another the two things that are continuous: for it is this that causes one thing to be pulled on along with the other. (It might indeed be thought that there is a form of pulling that arises in another way: that wood, e.g. pulls fire in a manner different from that described above. But it makes no difference whether that which pulls is in motion or is stationary when it is pulling: in the latter case it pulls to the place where it is, while in the former it pulls to the place where it was.) Now it is impossible to move anything either from oneself to something else or something else to oneself without being in contact with it: it is evident, therefore, that in all locomotion there is nothing intermediate between moved and movent.

Nor again is there anything intermediate between that which undergoes and that which causes alteration: this can be proved by induction: for in every case we find that the respective extremities of that which causes and that which undergoes alteration are adjacent. For our assumption is that things that are undergoing alteration are altered in virtue of their being affected in respect of their so-called affective qualities, since that which is of a certain quality is altered in so far as it is sensible, and the characteristics in which bodies differ from one another are sensible characteristics: for every body differs from another in possessing a greater or lesser number of sensible characteristics or in possessing the same sensible characteristics in a greater or lesser degree. But the alteration of that which undergoes alteration is also caused by the above-mentioned characteristics, which are affections of some particular underlying quality. Thus we say that a thing is altered by becoming hot or sweet or thick or dry or white: and we make these assertions alike of what is inanimate and of what is animate, and further, where animate things are in question, we make them both of the parts that have no power of sense-perception and of the senses themselves. For in a way even the senses undergo alteration, since the active sense is a motion through the body in the course of which the sense is affected in a certain way. We see, then, that the animate is capable of every kind of alteration of which the inanimate is capable: but the inanimate is not capable of every kind of alteration of which the animate is capable, since it is not capable of alteration in respect of the senses: moreover the inanimate is unconscious of being affected by alteration, whereas the animate is conscious of it, though there is nothing to prevent the animate also being unconscious of it when the process of the alteration does not concern the senses. Since, then, the alteration of that which undergoes alteration is caused by sensible things, in every case of such alteration it is evident that the respective extremities of that which causes and that which undergoes alteration are adjacent. Thus the air is continuous with that which causes the alteration, and the body that undergoes alteration is continuous with the air. Again, the colour is continuous with the light and the light with the sight. And the same is true of hearing and smelling: for the primary movent in respect to the moved is the air. Similarly, in the case of tasting, the flavour is adjacent to the sense of taste. And it is just the same in the case of things that are inanimate and incapable of sense-perception. Thus there can be nothing intermediate between that which undergoes and that which causes alteration.

Nor, again, can there be anything intermediate between that which suffers and that which causes increase: for the part of the latter that starts the increase does so by becoming attached in such a way to the former that the whole becomes one. Again, the decrease of that which suffers decrease is caused by a part of the thing becoming detached. So that which causes increase and that which causes decrease must be continuous with that which suffers increase and that which suffers decrease respectively: and if two things are continuous with one another there can be nothing intermediate between them.

It is evident, therefore, that between the extremities of the moved and the movent that are respectively first and last in reference to the moved there is nothing intermediate.

3

Everything, we say, that undergoes alteration is altered by sensible causes, and there is alteration only in things that are said to be essentially affected by sensible things. The truth of this is to be seen from the following considerations. Of all other things it would be most natural to suppose that there is alteration in figures and shapes, and in acquired states and in the processes of acquiring and losing these: but as a matter of fact in neither of these two classes of things is there alteration.

In the first place, when a particular formation of a thing is completed, we do not call it by the name of its material: e.g. we do not call the statue ‘bronze’ or the pyramid ‘wax’ or the bed ‘wood’, but we use a derived expression and call them ‘of bronze’, ‘waxen’, and ‘wooden’ respectively. But when a thing has been affected and altered in any way we still call it by the original name: thus we speak of the bronze or the wax being dry or fluid or hard or hot.

And not only so: we also speak of the particular fluid or hot substance as being bronze, giving the material the same name as that which we use to describe the affection.

Since, therefore, having regard to the figure or shape of a thing we no longer call that which has become of a certain figure by the name of the material that exhibits the figure, whereas having regard to a thing’s affections or alterations we still call it by the name of its material, it is evident that becomings of the former kind cannot be alterations.

Moreover it would seem absurd even to speak in this way, to speak, that is to say, of a man or house or anything else that has come into existence as having been altered. Though it may be true that every such becoming is necessarily the result of something’s being altered, the result, e.g. of the material’s being condensed or rarefied or heated or cooled, nevertheless it is not the things that are coming into existence that are altered, and their becoming is not an alteration.

Again, acquired states, whether of the body or of the soul, are not alterations. For some are excellences and others are defects, and neither excellence nor defect is an alteration: excellence is a perfection (for when anything acquires its proper excellence we call it perfect, since it is then if ever that we have a thing in its natural state: e.g. we have a perfect circle when we have one as good as possible), while defect is a perishing of or departure from this condition. So as when speaking of a house we do not call its arrival at perfection an alteration (for it would be absurd to suppose that the coping or the tiling is an alteration or that in receiving its coping or its tiling a house is altered and not perfected), the same also holds good in the case of excellences and defects and of the persons or things that possess or acquire them: for excellences are perfections of a thing's nature and defects are departures from it: consequently they are not alterations.

Further, we say that all excellences depend upon particular relations. Thus bodily excellences such as health and a good state of body we regard as consisting in a blending of hot and cold elements within the body in due proportion, in relation either to one another or to the surrounding atmosphere: and in like manner we regard beauty, strength, and all the other bodily excellences and defects. Each of them exists in virtue of a particular relation and puts that which possesses it in a good or bad condition with regard to its proper affections, where by 'proper' affections I mean those influences that from the natural constitution of a thing tend to promote or destroy its existence. Since then, relatives are neither themselves alterations nor the subjects of alteration or of becoming or in fact of any change whatever, it is evident that neither states nor the processes of losing and acquiring states are alterations, though it may be true that their becoming or perishing is necessarily, like the becoming or perishing of a specific character or form, the result of the alteration of certain other things, e.g. hot and cold or dry and wet elements or the elements, whatever they may be, on which the states primarily depend. For each several bodily defect or excellence involves a relation with those things from which the possessor of the defect or excellence is naturally subject to alteration: thus excellence disposes its possessor to be unaffected by these influences or to be affected by those of them that ought to be admitted, while defect disposes its possessor to be affected by them or to be unaffected by those of them that ought to be admitted.

And the case is similar in regard to the states of the soul, all of which (like those of body) exist in virtue of particular relations, the excellences being perfections of nature and the defects departures from it: moreover, excellence puts its possessor in good condition, while defect puts its possessor in a bad condition, to meet his proper affections. Consequently these cannot any more than the bodily states be alterations, nor can the processes of losing and acquiring them be so, though their becoming is necessarily the result of an alteration of the sensitive part of the soul, and this is altered by sensible objects: for all moral excellence is concerned with bodily pleasures and pains, which again depend either upon acting or upon remembering or upon anticipating. Now those that depend upon action are determined by sense-perception, i.e. they are stimulated by something sensible: and those that depend upon memory or anticipation are likewise to be traced to sense-perception, for in these cases pleasure is felt either in remembering what one has experienced or in anticipating what one is going to experience. Thus all pleasure of this kind must be produced by sensible things: and since the presence in any one of moral defect or excellence involves the presence in him of pleasure or pain (with which moral excellence and defect are always concerned), and these pleasures and pains are alterations of the sensitive part, it is evident that the loss and acquisition of these states no less than the loss and acquisition of the states of the body must be the result of the alteration of something else. Consequently, though their becoming is accompanied by an alteration, they are not themselves alterations.

Again, the states of the intellectual part of the soul are not alterations, nor is there any becoming of them. In the first place it is much more true of the possession of knowledge that it depends upon a particular relation. And further, it is evident that there is no becoming of these states. For that which is potentially possessed of knowledge becomes actually possessed of it not by being set in motion at all itself but by reason of the presence of something else: i.e. it is when it meets with the particular object that it knows in a manner the particular through its knowledge of the universal. (Again, there is no becoming of the actual use and activity of these states, unless it is thought that there is a becoming of vision and touching and that the activity in question is similar to these.) And the original acquisition of knowledge is not a becoming or an alteration: for the terms ‘knowing’ and ‘understanding’ imply that the intellect has reached a state of rest and come to a standstill, and there is no becoming that leads to a state of rest, since, as we have said above, change at all can have a becoming. Moreover, just as to say, when any one has passed from a state of intoxication or sleep or disease to the contrary state, that he has become possessed of knowledge again is incorrect in spite of the fact that he was previously incapable of using his knowledge, so, too, when any one originally acquires the state, it is incorrect to say that he becomes possessed of knowledge: for the possession of understanding and knowledge is produced by the soul's settling down out of the restlessness natural to it. Hence, too, in learning and in forming judgements on matters relating to their sense-perceptions children are inferior to adults owing to the great amount of restlessness and motion in their souls. Nature itself causes the soul to settle down and come to a state of rest for the performance of some of its functions, while for the performance of others other things do so: but in either case the result is brought about through the alteration of something in the body, as we see in the case of the use and activity of the intellect arising from a man's becoming sober or being awakened. It is evident, then, from the preceding argument that alteration and being altered occur in sensible things and in the sensitive part of the soul, and, except accidentally, in nothing else.

4

A difficulty may be raised as to whether every motion is commensurable with every other or not. Now if they are all commensurable and if two things to have the same velocity must accomplish an equal motion in an equal time, then we may have a circumference equal to a straight line, or, of course, the one may be greater or less than the other. Further, if one thing alters and another accomplishes a locomotion in an equal time, we may have an alteration and a locomotion equal to one another: thus an affection will be equal to a length, which is impossible. But is it not only when an equal motion is accomplished by two things in an equal time that the velocities of the two are equal? Now an affection cannot be equal to a length. Therefore there cannot be an alteration equal to or less than a locomotion: and consequently it is not the case that every motion is commensurable with every other.

But how will our conclusion work out in the case of the circle and the straight line? It would be absurd to suppose that the motion of one in a circle and of another in a straight line cannot be similar, but that the one must inevitably move more quickly or more slowly than the other, just as if the course of one were downhill and of the other uphill. Moreover it does not as a matter of fact make any difference to the argument to say that the one motion must inevitably be quicker or slower than the other: for then the circumference can be greater or less than the straight line; and if so it is possible for the two to be equal. For if in the time A the quicker (B) passes over the distance B’ and the slower (G) passes over the distance G’, B’ will be greater than G’: for this is what we took ‘quicker’ to mean: and so quicker motion also implies that one thing traverses an equal distance in less time than another: consequently there will be a part of A in which B will pass over a part of the circle equal to G’, while G will occupy the whole of A in passing over G’. None the less, if the two motions are commensurable, we are confronted with the consequence stated above, viz. that there may be a straight line equal to a circle. But these are not commensurable: and so the corresponding motions are not commensurable either.

But may we say that things are always commensurable if the same terms are applied to them without equivocation? e.g. a pen, a wine, and the highest note in a scale are not commensurable: we cannot say whether any one of them is sharper than any other: and why is this? they are incommensurable because it is only equivocally that the same term ‘sharp’ is applied to them: whereas the highest note in a scale is commensurable with the leading note, because the term ‘sharp’ has the same meaning as applied to both. Can it be, then, that the term ‘quick’ has not the same meaning as applied to straight motion and to circular motion respectively? If so, far less will it have the same meaning as applied to alteration and to locomotion.

Or shall we in the first place deny that things are always commensurable if the same terms are applied to them without equivocation? For the term ‘much’ has the same meaning whether applied to water or to air, yet water and air are not commensurable in respect of it: or, if this illustration is not considered satisfactory, ‘double’ at any rate would seem to have the same meaning as applied to each (denoting in each case the proportion of two to one), yet water and air are not commensurable in respect of it. But here again may we not take up the same position and say that the term ‘much’ is equivocal? In fact there are some terms of which even the definitions are equivocal; e.g. if ‘much’ were defined as ‘so much and more’,’so much’ would mean something different in different cases: ‘equal’ is similarly equivocal; and ‘one’ again is perhaps inevitably an equivocal term; and if ‘one’ is equivocal, so is ‘two’. Otherwise why is it that some things are commensurable while others are not, if the nature of the attribute in the two cases is really one and the same?

Can it be that the incommensurability of two things in respect of any attribute is due to a difference in that which is primarily capable of carrying the attribute? Thus horse and dog are so commensurable that we may say which is the whiter, since that which primarily contains the whiteness is the same in both, viz. the surface: and similarly they are commensurable in respect of size. But water and speech are not commensurable in respect of clearness, since that which primarily contains the attribute is different in the two cases. It would seem, however that we must reject this solution, since clearly we could thus make all equivocal attributes univocal and say merely that that contains each of them is different in different cases: thus 'equality', 'sweetness', and 'whiteness' will severally always be the same, though that which contains them is different in different cases. Moreover, it is not any casual thing that is capable of carrying any attribute: each single attribute can be carried primarily only by one single thing.

Must we then say that, if two things are to be commensurable in respect of any attribute, not only must the attribute in question be applicable to both without equivocation, but there must also be no specific differences either in the attribute itself or in that which contains the attribute — that these, I mean, must not be divisible in the way in which colour is divided into kinds? Thus in this respect one thing will not be commensurable with another, i.e. we cannot say that one is more coloured than the other where only colour in general and not any particular colour is meant; but they are commensurable in respect of whiteness.

Similarly in the case of motion: two things are of the same velocity if they occupy an equal time in accomplishing a certain equal amount of motion. Suppose, then, that in a certain time an alteration is undergone by one half of a body's length and a locomotion is accomplished the other half: can be say that in this case the alteration is equal to the locomotion and of the same velocity? That would be absurd, and the reason is that there are different species of motion. And if in consequence of this we must say that two things are of equal velocity if they accomplish locomotion over an equal distance in an equal time, we have to admit the equality of a straight line and a circumference. What, then, is the reason of this? Is it that locomotion is a genus or that line is a genus? (We may leave the time out of account, since that is one and the same.) If the lines are specifically different, the locomotions also differ specifically from one another: for locomotion is specifically differentiated according to the specific differentiation of that over which it takes place. (It is also similarly differentiated, it would seem, accordingly as the instrument of the locomotion is different: thus if feet are the instrument, it is walking, if wings it is flying; but perhaps we should rather say that this is not so, and that in this case the differences in the locomotion are merely differences of posture in that which is in motion.) We may say, therefore, that things are of equal velocity in an equal time they traverse the same magnitude: and when I call it ‘the same’ I mean that it contains no specific difference and therefore no difference in the motion that takes place over it. So we have now to consider how motion is differentiated: and this discussion serves to show that the genus is not a unity but contains a plurality latent in it and distinct from it, and that in the case of equivocal terms sometimes the different senses in which they are used are far removed from one another, while sometimes there is a certain likeness between them, and sometimes again they are nearly related either generically or analogically, with the result that they seem not to be equivocal though they really are.

When, then, is there a difference of species? Is an attribute specifically different if the subject is different while the attribute is the same, or must the attribute itself be different as well? And how are we to define the limits of a species? What will enable us to decide that particular instances of whiteness or sweetness are the same or different? Is it enough that it appears different in one subject from what appears in another? Or must there be no sameness at all? And further, where alteration is in question, how is one alteration to be of equal velocity with another? One person may be cured quickly and another slowly, and cures may also be simultaneous: so that, recovery of health being an alteration, we have here alterations of equal velocity, since each alteration occupies an equal time. But what alteration? We cannot here speak of an ‘equal’ alteration: what corresponds in the category of quality to equality in the category of quantity is ‘likeness’. However, let us say that there is equal velocity where the same change is accomplished in an equal time. Are we, then, to find the commensurability in the subject of the affection or in the affection itself? In the case that we have just been considering it is the fact that health is one and the same that enables us to arrive at the conclusion that the one alteration is neither more nor less than the other, but that both are alike. If on the other hand the affection is different in the two cases, e.g. when the alterations take the form of becoming white and becoming healthy respectively, here there is no sameness or equality or likeness inasmuch as the difference in the affections at once makes the alterations specifically different, and there is no unity of alteration any more than there would be unity of locomotion under like conditions. So we must find out how many species there are of alteration and of locomotion respectively. Now if the things that are in motion — that is to say, the things to which the motions belong essentially and not accidentally — differ specifically, then their respective motions will also differ specifically: if on the other hand they differ generically or numerically, the motions also will differ generically or numerically as the case may be. But there still remains the question whether, supposing that two alterations are of equal velocity, we ought to look for this equality in the sameness (or likeness) of the affections, or in the things altered, to see e.g. whether a certain quantity of each has become white. Or ought we not rather to look for it in both? That is to say, the alterations are the same or different according as the affections are the same or different, while they are equal or unequal according as the things altered are equal or unequal.

And now we must consider the same question in the case of becoming and perishing: how is one becoming of equal velocity with another? They are of equal velocity if in an equal time there are produced two things that are the same and specifically inseparable, e.g. two men (not merely generically inseparable as e.g. two animals). Similarly one is quicker than the other if in an equal time the product is different in the two cases. I state it thus because we have no pair of terms that will convey this ‘difference’ in the way in which unlikeness is conveyed. If we adopt the theory that it is number that constitutes being, we may indeed speak of a ‘greater number’ and a ‘lesser number’ within the same species, but there is no common term that will include both relations, nor are there terms to express each of them separately in the same way as we indicate a higher degree or preponderance of an affection by ‘more’, of a quantity by ‘greater.’

5

Now since wherever there is a movent, its motion always acts upon something, is always in something, and always extends to something (by ‘is always in something’ I mean that it occupies a time: and by ‘extends to something’ I mean that it involves the traversing of a certain amount of distance: for at any moment when a thing is causing motion, it also has caused motion, so that there must always be a certain amount of distance that has been traversed and a certain amount of time that has been occupied). then, A the movement have moved B a distance G in a time D, then in the same time the same force A will move 1/2B twice the distance G, and in 1/2D it will move 1/2B the whole distance for G: thus the rules of proportion will be observed. Again if a given force move a given weight a certain distance in a certain time and half the distance in half the time, half the motive power will move half the weight the same distance in the same time. Let E represent half the motive power A and Z half the weight B: then the ratio between the motive power and the weight in the one case is similar and proportionate to the ratio in the other, so that each force will cause the same distance to be traversed in the same time. But if E move Z a distance G in a time D, it does not necessarily follow that E can move twice Z half the distance G in the same time. If, then, A move B a distance G in a time D, it does not follow that E, being half of A, will in the time D or in any fraction of it cause B to traverse a part of G the ratio between which and the whole of G is proportionate to that between A and E (whatever fraction of AE may be): in fact it might well be that it will cause no motion at all; for it does not follow that, if a given motive power causes a certain amount of motion, half that power will cause motion either of any particular amount or in any length of time: otherwise one man might move a ship, since both the motive power of the ship-haulers and the distance that they all cause the ship to traverse are divisible into as many parts as there are men. Hence Zeno’s reasoning is false when he argues that there is no part of the millet that does not make a sound: for there is no reason why any such part should not in any length of time fail to move the air that the whole bushel moves in falling. In fact it does not of itself move even such a quantity of the air as it would move if this part were by itself: for no part even exists otherwise than potentially.

If on the other hand we have two forces each of which separately moves one of two weights a given distance in a given time, then the forces in combination will move the combined weights an equal distance in an equal time: for in this case the rules of proportion apply.

Then does this hold good of alteration and of increase also? Surely it does, for in any given case we have a definite thing that cause increase and a definite thing that suffers increase, and the one causes and the other suffers a certain amount of increase in a certain amount of time. Similarly we have a definite thing that causes alteration and a definite thing that undergoes alteration, and a certain amount, or rather degree, of alteration is completed in a certain amount of time: thus in twice as much time twice as much alteration will be completed and conversely twice as much alteration will occupy twice as much time: and the alteration of half of its object will occupy half as much time and in half as much time half of the object will be altered: or again, in the same amount of time it will be altered twice as much.

On the other hand if that which causes alteration or increase causes a certain amount of increase or alteration respectively in a certain amount of time, it does not necessarily follow that half the force will occupy twice the time in altering or increasing the object, or that in twice the time the alteration or increase will be completed by it: it may happen that there will be no alteration or increase at all, the case being the same as with the weight.

Book VIII

1

IT remains to consider the following question. Was there ever a becoming of motion before which it had no being, and is it perishing again so as to leave nothing in motion? Or are we to say that it never had any becoming and is not perishing, but always was and always will be? Is it in fact an immortal never-failing property of things that are, a sort of life as it were to all naturally constituted things?

Now the existence of motion is asserted by all who have anything to say about nature, because they all concern themselves with the construction of the world and study the question of becoming and perishing, which processes could not come about without the existence of motion. But those who say that there is an infinite number of worlds, some of which are in process of becoming while others are in process of perishing, assert that there is always motion (for these processes of becoming and perishing of the worlds necessarily involve motion), whereas those who hold that there is only one world, whether everlasting or not, make corresponding assumptions in regard to motion. If then it is possible that at any time nothing should be in motion, this must come about in one of two ways: either in the manner described by Anaxagoras, who says that all things were together and at rest for an infinite period of time, and that then Mind introduced motion and separated them; or in the manner described by Empedocles, according to whom the universe is alternately in motion and at rest — in motion, when Love is making the one out of many, or Strife is making many out of one, and at rest in the intermediate periods of time — his account being as follows:

‘Since One hath learned to spring from Manifold,
And One disjoined makes manifold arise,
Thus they Become, nor stable is their life:
But since their motion must alternate be,
Thus have they ever Rest upon their round’:

for we must suppose that he means by this that they alternate from the one motion to the other. We must consider, then, how this matter stands, for the discovery of the truth about it is of importance, not only for the study of nature, but also for the investigation of the First Principle.

Let us take our start from what we have already laid down in our course on Physics. Motion, we say, is the fulfilment of the movable in so far as it is movable. Each kind of motion, therefore, necessarily involves the presence of the things that are capable of that motion. In fact, even apart from the definition of motion, every one would admit that in each kind of motion it is that which is capable of that motion that is in motion: thus it is that which is capable of alteration that is altered, and that which is capable of local change that is in locomotion: and so there must be something capable of being burned before there can be a process of being burned, and something capable of burning before there can be a process of burning. Moreover, these things also must either have a beginning before which they had no being, or they must be eternal. Now if there was a becoming of every movable thing, it follows that before the motion in question another change or motion must have taken place in which that which was capable of being moved or of causing motion had its becoming. To suppose, on the other hand, that these things were in being throughout all previous time without there being any motion appears unreasonable on a moment’s thought, and still more unreasonable, we shall find, on further consideration. For if we are to say that, while there are on the one hand things that are movable, and on the other hand things that are motive, there is a time when there is a first movent and a first moved, and another time when there is no such thing but only something that is at rest, then this thing that is at rest must previously have been in process of change: for there must have been some cause of its rest, rest being the privation of motion. Therefore, before this first change there will be a previous change. For some things cause motion in only one way, while others can produce either of two contrary motions: thus fire causes heating but not cooling, whereas it would seem that knowledge may be directed to two contrary ends while remaining one and the same. Even in the former class, however, there seems to be something similar, for a cold thing in a sense causes heating by turning away and retiring, just as one possessed of knowledge voluntarily makes an error when he uses his knowledge in the reverse way. But at any rate all things that are capable respectively of affecting and being affected, or of causing motion and being moved, are capable of it not under all conditions, but only when they are in a particular condition and approach one another: so it is on the approach of one thing to another that the one causes motion and the other is moved, and when they are present under such conditions as rendered the one motive and the other movable. So if the motion was not always in process, it is clear that they must have been in a condition not such as to render them capable respectively of being moved and of causing motion, and one or other of them must have been in process of change: for in what is relative this is a necessary consequence: e.g. if one thing is double another when before it was not so, one or other of them, if not both, must have been in process of change. It follows then, that there will be a process of change previous to the first.

(Further, how can there be any 'before' and 'after' without the existence of time? Or how can there be any time without the existence of motion? If, then, time is the number of motion or itself a kind of motion, it follows that, if there is always time, motion must also be eternal. But so far as time is concerned we see that all with one exception are in agreement in saying that it is uncreated: in fact, it is just this that enables Democritus to show that all things cannot have had a becoming: for time, he says, is uncreated. Plato alone asserts the creation of time, saying that it had a becoming together with the universe, the universe according to him having had a becoming. Now since time cannot exist and is unthinkable apart from the moment, and the moment a kind of middle-point, uniting as it does in itself both a beginning and an end, a beginning of future time and an end of past time, it follows that there must always be time: for the extremity of the last period of time that we take must be found in some moment, since time contains no point of contact for us except the moment. Therefore, since the moment is both a beginning and an end, there must always be time on both sides of it. But if this is true of time, it is evident that it must also be true of motion, time being a kind of affection of motion.)

The same reasoning will also serve to show the imperishability of motion: just as a becoming of motion would involve, as we saw, the existence of a process of change previous to the first, in the same way a perishing of motion would involve the existence of a process of change subsequent to the last: for when a thing ceases to be moved, it does not therefore at the same time cease to be movable — e.g. the cessation of the process of being burned does not involve the cessation of the capacity of being burned, since a thing may be capable of being burned without being in process of being burned — nor, when a thing ceases to be movent, does it therefore at the same time cease to a be motive. Again, the destructive agent will have to be destroyed, after what it destroys has been destroyed, and then that which has the capacity of destroying it will have to be destroyed afterwards, (so that there will be a process of change subsequent to the last,) for being destroyed also is a kind of change. If, then, view which we are criticizing involves these impossible consequences, it is clear that motion is eternal and cannot have existed at one time and not at another: in fact such a view can hardly be described as anythling else than fantastic.

And much the same may be said of the view that such is the ordinance of nature and that this must be regarded as a principle, as would seem to be the view of Empedocles when he says that the constitution of the world is of necessity such that Love and Strife alternately predominate and cause motion, while in the intermediate period of time there is a state of rest. Probably also those who like like Anaxagoras, assert a single principle (of motion) would hold this view. But that which is produced or directed by nature can never be anything disorderly: for nature is everywhere the cause of order. Moreover, there is no ratio in the relation of the infinite to the infinite, whereas order always means ratio. But if we say that there is first a state of rest for an infinite time, and then motion is started at some moment, and that the fact that it is this rather than a previous moment is of no importance, and involves no order, then we can no longer say that it is nature's work: for if anything is of a certain character naturally, it either is so invariably and is not sometimes of this and sometimes of another character (e.g. fire, which travels upwards naturally, does not sometimes do so and sometimes not) or there is a ratio in the variation. It would be better, therefore, to say with Empedocles and any one else who may have maintained such a theory as his that the universe is alternately at rest and in motion: for in a system of this kind we have at once a certain order. But even here the holder of the theory ought not only to assert the fact: he ought to explain the cause of it: i.e. he should not make any mere assumption or lay down any gratuitous axiom, but should employ either inductive or demonstrative reasoning. The Love and Strife postulated by Empedocles are not in themselves causes of the fact in question, nor is it of the essence of either that it should be so, the essential function of the former being to unite, of the latter to separate. If he is to go on to explain this alternate predominance, he should adduce cases where such a state of things exists, as he points to the fact that among mankind we have something that unites men, namely Love, while on the other hand enemies avoid one another: thus from the observed fact that this occurs in certain cases comes the assumption that it occurs also in the universe. Then, again, some argument is needed to explain why the predominance of each of the two forces lasts for an equal period of time. But it is a wrong assumption to suppose universally that we have an adequate first principle in virtue of the fact that something always is so or always happens so. Thus Democritus reduces the causes that explain nature to the fact that things happened in the past in the same way as they happen now: but he does not think fit to seek for a first principle to explain this 'always': so, while his theory is right in so far as it is applied to certain individual cases, he is wrong in making it of universal application. Thus, a triangle always has its angles equal to two right angles, but there is nevertheless an ulterior cause of the eternity of this truth, whereas first principles are eternal and have no ulterior cause. Let this conclude what we have to say in support of our contention that there never was a time when there was not motion, and never will be a time when there will not be motion.

2

The arguments that may be advanced against this position are not difficult to dispose of. The chief considerations that might be thought to indicate that motion may exist though at one time it had not existed at all are the following:

First, it may be said that no process of change is eternal: for the nature of all change is such that it proceeds from something to something, so that every process of change must be bounded by the contraries that mark its course, and no motion can go on to infinity.

Secondly, we see that a thing that neither is in motion nor contains any motion within itself can be set in motion; e.g. inanimate things that are (whether the whole or some part is in question) not in motion but at rest, are at some moment set in motion: whereas, if motion cannot have a becoming before which it had no being, these things ought to be either always or never in motion.

Thirdly, the fact is evident above all in the case of animate beings: for it sometimes happens that there is no motion in us and we are quite still, and that nevertheless we are then at some moment set in motion, that is to say it sometimes happens that we produce a beginning of motion in ourselves spontaneously without anything having set us in motion from without. We see nothing like this in the case of inanimate things, which are always set in motion by something else from without: the animal, on the other hand, we say, moves itself: therefore, if an animal is ever in a state of absolute rest, we have a motionless thing in which motion can be produced from the thing itself, and not from without. Now if this can occur in an animal, why should not the same be true also of the universe as a whole? If it can occur in a small world it could also occur in a great one: and if it can occur in the world, it could also occur in the infinite; that is, if the infinite could as a whole possibly be in motion or at rest.

Of these objections, then, the first-mentioned motion to opposites is not always the same and numerically one a correct statement; in fact, this may be said to be a necessary conclusion, provided that it is possible for the motion of that which is one and the same to be not always one and the same. (I mean that e.g. we may question whether the note given by a single string is one and the same, or is different each time the string is struck, although the string is in the same condition and is moved in the same way.) But still, however this may be, there is nothing to prevent there being a motion that is the same in virtue of being continuous and eternal: we shall have something to say later that will make this point clearer.

As regards the second objection, no absurdity is involved in the fact that something not in motion may be set in motion, that which caused the motion from without being at one time present, and at another absent. Nevertheless, how this can be so remains matter for inquiry; how it comes about, I mean, that the same motive force at one time causes a thing to be in motion, and at another does not do so: for the difficulty raised by our objector really amounts to this — why is it that some things are not always at rest, and the rest always in motion?

The third objection may be thought to present more difficulty than the others, namely, that which alleges that motion arises in things in which it did not exist before, and adduces in proof the case of animate things: thus an animal is first at rest and afterwards walks, not having been set in motion apparently by anything from without. This, however, is false: for we observe that there is always some part of the animal's organism in motion, and the cause of the motion of this part is not the animal itself, but, it may be, its environment. Moreover, we say that the animal itself originates not all of its motions but its locomotion. So it may well be the case — or rather we may perhaps say that it must necessarily be the case — that many motions are produced in the body by its environment, and some of these set in motion the intellect or the appetite, and this again then sets the whole animal in motion: this is what happens when animals are asleep: though there is then no perceptive motion in them, there is some motion that causes them to wake up again. But we will leave this point also to be elucidated at a later stage in our discussion.

3

Our enquiry will resolve itself at the outset into a consideration of the above-mentioned problem — what can be the reason why some things in the world at one time are in motion and at another are at rest again? Now one of three things must be true: either all things are always at rest, or all things are always in motion, or some things are in motion and others at rest: and in this last case again either the things that are in motion are always in motion and the things that are at rest are always at rest, or they are all constituted so as to be capable alike of motion and of rest; or there is yet a third possibility remaining — it may be that some things in the world are always motionless, others always in motion, while others again admit of both conditions. This last is the account of the matter that we must give: for herein lies the solution of all the difficulties raised and the conclusion of the investigation upon which we are engaged.

To maintain that all things are at rest, and to disregard sense-perception in an attempt to show the theory to be reasonable, would be an instance of intellectual weakness: it would call in question a whole system, not a particular detail: moreover, it would be an attack not only on the physicist but on almost all sciences and all received opinions, since motion plays a part in all of them. Further, just as in arguments about mathematics objections that involve first principles do not affect the mathematician — and the other sciences are in similar case — so, too, objections involving the point that we have just raised do not affect the physicist: for it is a fundamental assumption with him that motion is ultimately referable to nature herself.

The assertion that all things are in motion we may fairly regard as equally false, though it is less subversive of physical science: for though in our course on physics it was laid down that rest no less than motion is ultimately referable to nature herself, nevertheless motion is the characteristic fact of nature: moreover, the view is actually held by some that not merely some things but all things in the world are in motion and always in motion, though we cannot apprehend the fact by sense-perception. Although the supporters of this theory do not state clearly what kind of motion they mean, or whether they mean all kinds, it is no hard matter to reply to them: thus we may point out that there cannot be a continuous process either of increase or of decrease: that which comes between the two has to be included. The theory resembles that about the stone being worn away by the drop of water or split by plants growing out of it: if so much has been extruded or removed by the drop, it does not follow that half the amount has previously been extruded or removed in half the time: the case of the hauled ship is exactly comparable: here we have so many drops setting so much in motion, but a part of them will not set as much in motion in any period of time. The amount removed is, it is true, divisible into a number of parts, but no one of these was set in motion separately: they were all set in motion together. It is evident, then, that from the fact that the decrease is divisible into an infinite number of parts it does not follow that some part must always be passing away: it all passes away at a particular moment. Similarly, too, in the case of any alteration whatever if that which suffers alteration is infinitely divisible it does not follow from this that the same is true of the alteration itself, which often occurs all at once, as in freezing. Again, when any one has fallen ill, there must follow a period of time in which his restoration to health is in the future: the process of change cannot take place in an instant: yet the change cannot be a change to anything else but health. The assertion. therefore, that alteration is continuous is an extravagant calling into question of the obvious: for alteration is a change from one contrary to another. Moreover, we notice that a stone becomes neither harder nor softer. Again, in the matter of locomotion, it would be a strange thing if a stone could be falling or resting on the ground without our being able to perceive the fact. Further, it is a law of nature that earth and all other bodies should remain in their proper places and be moved from them only by violence: from the fact then that some of them are in their proper places it follows that in respect of place also all things cannot be in motion. These and other similar arguments, then, should convince us that it is impossible either that all things are always in motion or that all things are always at rest.

Nor again can it be that some things are always at rest, others always in motion, and nothing sometimes at rest and sometimes in motion. This theory must be pronounced impossible on the same grounds as those previously mentioned: viz. that we see the above-mentioned changes occurring in the case of the same things. We may further point out that the defender of this position is fighting against the obvious, for on this theory there can be no such thing as increase: nor can there be any such thing as compulsory motion, if it is impossible that a thing can be at rest before being set in motion unnaturally. This theory, then, does away with becoming and perishing. Moreover, motion, it would seem, is generally thought to be a sort of becoming and perishing, for that to which a thing changes comes to be, or occupancy of it comes to be, and that from which a thing changes ceases to be, or there ceases to be occupancy of it. It is clear, therefore, that there are cases of occasional motion and occasional rest.

We have now to take the assertion that all things are sometimes at rest and sometimes in motion and to confront it with the arguments previously advanced. We must take our start as before from the possibilities that we distinguished just above. Either all things are at rest, or all things are in motion, or some things are at rest and others in motion. And if some things are at rest and others in motion, then it must be that either all things are sometimes at rest and sometimes in motion, or some things are always at rest and the remainder always in motion, or some of the things are always at rest and others always in motion while others again are sometimes at rest and sometimes in motion. Now we have said before that it is impossible that all things should be at rest: nevertheless we may now repeat that assertion. We may point out that, even if it is really the case, as certain persons assert, that the existent is infinite and motionless, it certainly does not appear to be so if we follow sense-perception: many things that exist appear to be in motion. Now if there is such a thing as false opinion or opinion at all, there is also motion; and similarly if there is such a thing as imagination, or if it is the case that anything seems to be different at different times: for imagination and opinion are thought to be motions of a kind. But to investigate this question at all — to seek a reasoned justification of a belief with regard to which we are too well off to require reasoned justification — implies bad judgement of what is better and what is worse, what commends itself to belief and what does not, what is ultimate and what is not. It is likewise impossible that all things should be in motion or that some things should be always in motion and the remainder always at rest. We have sufficient ground for rejecting all these theories in the single fact that we see some things that are sometimes in motion and sometimes at rest. It is evident, therefore, that it is no less impossible that some things should be always in motion and the remainder always at rest than that all things should be at rest or that all things should be in motion continuously. It remains, then, to consider whether all things are so constituted as to be capable both of being in motion and of being at rest, or whether, while some things are so constituted, some are always at rest and some are always in motion: for it is this last view that we have to show to be true.

4

Now of things that cause motion or suffer motion, to some the motion is accidental, to others essential: thus it is accidental to what merely belongs to or contains as a part a thing that causes motion or suffers motion, essential to a thing that causes motion or suffers motion not merely by belonging to such a thing or containing it as a part.

Of things to which the motion is essential some derive their motion from themselves, others from something else: and in some cases their motion is natural, in others violent and unnatural. Thus in things that derive their motion from themselves, e.g. all animals, the motion is natural (for when an animal is in motion its motion is derived from itself): and whenever the source of the motion of a thing is in the thing itself we say that the motion of that thing is natural. Therefore the animal as a whole moves itself naturally: but the body of the animal may be in motion unnaturally as well as naturally: it depends upon the kind of motion that it may chance to be suffering and the kind of element of which it is composed. And the motion of things that derive their motion from something else is in some cases natural, in other unnatural: e.g. upward motion of earthy things and downward motion of fire are unnatural. Moreover the parts of animals are often in motion in an unnatural way, their positions and the character of the motion being abnormal. The fact that a thing that is in motion derives its motion from something is most evident in things that are in motion unnaturally, because in such cases it is clear that the motion is derived from something other than the thing itself. Next to things that are in motion unnaturally those whose motion while natural is derived from themselves — e.g. animals — make this fact clear: for here the uncertainty is not as to whether the motion is derived from something but as to how we ought to distinguish in the thing between the movent and the moved. It would seem that in animals, just as in ships and things not naturally organized, that which causes motion is separate from that which suffers motion, and that it is only in this sense that the animal as a whole causes its own motion.

The greatest difficulty, however, is presented by the remaining case of those that we last distinguished. Where things derive their motion from something else we distinguished the cases in which the motion is unnatural: we are left with those that are to be contrasted with the others by reason of the fact that the motion is natural. It is in these cases that difficulty would be experienced in deciding whence the motion is derived, e.g. in the case of light and heavy things. When these things are in motion to positions the reverse of those they would properly occupy, their motion is violent: when they are in motion to their proper positions — the light thing up and the heavy thing down — their motion is natural; but in this latter case it is no longer evident, as it is when the motion is unnatural, whence their motion is derived. It is impossible to say that their motion is derived from themselves: this is a characteristic of life and peculiar to living things. Further, if it were, it would have been in their power to stop themselves (I mean that if e.g. a thing can cause itself to walk it can also cause itself not to walk), and so, since on this supposition fire itself possesses the power of upward locomotion, it is clear that it should also possess the power of downward locomotion. Moreover if things move themselves, it would be unreasonable to suppose that in only one kind of motion is their motion derived from themselves. Again, how can anything of continuous and naturally connected substance move itself? In so far as a thing is one and continuous not merely in virtue of contact, it is impassive: it is only in so far as a thing is divided that one part of it is by nature active and another passive. Therefore none of the things that we are now considering move themselves (for they are of naturally connected substance), nor does anything else that is continuous: in each case the movent must be separate from the moved, as we see to be the case with inanimate things when an animate thing moves them. It is the fact that these things also always derive their motion from something: what it is would become evident if we were to distinguish the different kinds of cause.

The above-mentioned distinctions can also be made in the case of things that cause motion: some of them are capable of causing motion unnaturally (e.g. the lever is not naturally capable of moving the weight), others naturally (e.g. what is actually hot is naturally capable of moving what is potentially hot): and similarly in the case of all other things of this kind.

In the same way, too, what is potentially of a certain quality or of a certain quantity in a certain place is naturally movable when it contains the corresponding principle in itself and not accidentally (for the same thing may be both of a certain quality and of a certain quantity, but the one is an accidental, not an essential property of the other). So when fire or earth is moved by something the motion is violent when it is unnatural, and natural when it brings to actuality the proper activities that they potentially possess. But the fact that the term ‘potentially’ is used in more than one sense is the reason why it is not evident whence such motions as the upward motion of fire and the downward motion of earth are derived. One who is learning a science potentially knows it in a different sense from one who while already possessing the knowledge is not actually exercising it. Wherever we have something capable of acting and something capable of being correspondingly acted on, in the event of any such pair being in contact what is potential becomes at times actual: e.g. the learner becomes from one potential something another potential something: for one who possesses knowledge of a science but is not actually exercising it knows the science potentially in a sense, though not in the same sense as he knew it potentially before he learnt it. And when he is in this condition, if something does not prevent him, he actively exercises his knowledge: otherwise he would be in the contradictory state of not knowing. In regard to natural bodies also the case is similar. Thus what is cold is potentially hot: then a change takes place and it is fire, and it burns, unless something prevents and hinders it. So, too, with heavy and light: light is generated from heavy, e.g. air from water (for water is the first thing that is potentially light), and air is actually light, and will at once realize its proper activity as such unless something prevents it. The activity of lightness consists in the light thing being in a certain situation, namely high up: when it is in the contrary situation, it is being prevented from rising. The case is similar also in regard to quantity and quality. But, be it noted, this is the question we are trying to answer — how can we account for the motion of light things and heavy things to their proper situations? The reason for it is that they have a natural tendency respectively towards a certain position: and this constitutes the essence of lightness and heaviness, the former being determined by an upward, the latter by a downward, tendency. As we have said, a thing may be potentially light or heavy in more senses than one. Thus not only when a thing is water is it in a sense potentially light, but when it has become air it may be still potentially light: for it may be that through some hindrance it does not occupy an upper position, whereas, if what hinders it is removed, it realizes its activity and continues to rise higher. The process whereby what is of a certain quality changes to a condition of active existence is similar: thus the exercise of knowledge follows at once upon the possession of it unless something prevents it. So, too, what is of a certain quantity extends itself over a certain space unless something prevents it. The thing in a sense is and in a sense is not moved by one who moves what is obstructing and preventing its motion (e.g. one who pulls away a pillar from under a roof or one who removes a stone from a wineskin in the water is the accidental cause of motion): and in the same way the real cause of the motion of a ball rebounding from a wall is not the wall but the thrower. So it is clear that in all these cases the thing does not move itself, but it contains within itself the source of motion — not of moving something or of causing motion, but of suffering it.

If then the motion of all things that are in motion is either natural or unnatural and violent, and all things whose motion is violent and unnatural are moved by something, and something other than themselves, and again all things whose motion is natural are moved by something — both those that are moved by themselves and those that are not moved by themselves (e.g. light things and heavy things, which are moved either by that which brought the thing into existence as such and made it light and heavy, or by that which released what was hindering and preventing it); then all things that are in motion must be moved by something.

5

Now this may come about in either of two ways. Either the movent is not itself responsible for the motion, which is to be referred to something else which moves the movent, or the movent is itself responsible for the motion. Further, in the latter case, either the movent immediately precedes the last thing in the series, or there may be one or more intermediate links: e.g. the stick moves the stone and is moved by the hand, which again is moved by the man: in the man, however, we have reached a movent that is not so in virtue of being moved by something else. Now we say that the thing is moved both by the last and by the first movent in the series, but more strictly by the first, since the first movent moves the last, whereas the last does not move the first, and the first will move the thing without the last, but the last will not move it without the first: e.g. the stick will not move anything unless it is itself moved by the man. If then everything that is in motion must be moved by something, and the movent must either itself be moved by something else or not, and in the former case there must be some first movent that is not itself moved by anything else, while in the case of the immediate movent being of this kind there is no need of an intermediate movent that is also moved (for it is impossible that there should be an infinite series of movents, each of which is itself moved by something else, since in an infinite series there is no first term) — if then everything that is in motion is moved by something, and the first movent is moved but not by anything else, it much be moved by itself.

This same argument may also be stated in another way as follows. Every movent moves something and moves it with something, either with itself or with something else: e.g. a man moves a thing either himself or with a stick, and a thing is knocked down either by the wind itself or by a stone propelled by the wind. But it is impossible for that with which a thing is moved to move it without being moved by that which imparts motion by its own agency: on the other hand, if a thing imparts motion by its own agency, it is not necessary that there should be anything else with which it imparts motion, whereas if there is a different thing with which it imparts motion, there must be something that imparts motion not with something else but with itself, or else there will be an infinite series. If, then, anything is a movent while being itself moved, the series must stop somewhere and not be infinite. Thus, if the stick moves something in virtue of being moved by the hand, the hand moves the stick: and if something else moves with the hand, the hand also is moved by something different from itself. So when motion by means of an instrument is at each stage caused by something different from the instrument, this must always be preceded by something else which imparts motion with itself. Therefore, if this last movent is in motion and there is nothing else that moves it, it must move itself. So this reasoning also shows that when a thing is moved, if it is not moved immediately by something that moves itself, the series brings us at some time or other to a movent of this kind.

And if we consider the matter in yet a third wa Ly we shall get this same result as follows. If everything that is in motion is moved by something that is in motion, ether this being in motion is an accidental attribute of the movents in question, so that each of them moves something while being itself in motion, but not always because it is itself in motion, or it is not accidental but an essential attribute. Let us consider the former alternative. If then it is an accidental attribute, it is not necessary that that is in motion should be in motion: and if this is so it is clear that there may be a time when nothing that exists is in motion, since the accidental is not necessary but contingent. Now if we assume the existence of a possibility, any conclusion that we thereby reach will not be an impossibility though it may be contrary to fact. But the nonexistence of motion is an impossibility: for we have shown above that there must always be motion.

Moreover, the conclusion to which we have been led is a reasonable one. For there must be three things — the moved, the movent, and the instrument of motion. Now the moved must be in motion, but it need not move anything else: the instrument of motion must both move something else and be itself in motion (for it changes together with the moved, with which it is in contact and continuous, as is clear in the case of things that move other things locally, in which case the two things must up to a certain point be in contact): and the movent — that is to say, that which causes motion in such a manner that it is not merely the instrument of motion — must be unmoved. Now we have visual experience of the last term in this series, namely that which has the capacity of being in motion, but does not contain a motive principle, and also of that which is in motion but is moved by itself and not by anything else: it is reasonable, therefore, not to say necessary, to suppose the existence of the third term also, that which causes motion but is itself unmoved. So, too, Anaxagoras is right when he says that Mind is impassive and unmixed, since he makes it the principle of motion: for it could cause motion in this sense only by being itself unmoved, and have supreme control only by being unmixed.

We will now take the second alternative. If the movement is not accidentally but necessarily in motion — so that, if it were not in motion, it would not move anything — then the movent, in so far as it is in motion, must be in motion in one of two ways: it is moved either as that is which is moved with the same kind of motion, or with a different kind — either that which is heating, I mean, is itself in process of becoming hot, that which is making healthy in process of becoming healthy, and that which is causing locomotion in process of locomotion, or else that which is making healthy is, let us say, in process of locomotion, and that which is causing locomotion in process of, say, increase. But it is evident that this is impossible. For if we adopt the first assumption we have to make it apply within each of the very lowest species into which motion can be divided: e.g. we must say that if some one is teaching some lesson in geometry, he is also in process of being taught that same lesson in geometry, and that if he is throwing he is in process of being thrown in just the same manner. Or if we reject this assumption we must say that one kind of motion is derived from another; e.g. that that which is causing locomotion is in process of increase, that which is causing this increase is in process of being altered by something else, and that which is causing this alteration is in process of suffering some different kind of motion. But the series must stop somewhere, since the kinds of motion are limited; and if we say that the process is reversible, and that that which is causing alteration is in process of locomotion, we do no more than if we had said at the outset that that which is causing locomotion is in process of locomotion, and that one who is teaching is in process of being taught: for it is clear that everything that is moved is moved by the movent that is further back in the series as well as by that which immediately moves it: in fact the earlier movent is that which more strictly moves it. But this is of course impossible: for it involves the consequence that one who is teaching is in process of learning what he is teaching, whereas teaching necessarily implies possessing knowledge, and learning not possessing it. Still more unreasonable is the consequence involved that, since everything that is moved is moved by something that is itself moved by something else, everything that has a capacity for causing motion has as such a corresponding capacity for being moved: i.e. it will have a capacity for being moved in the sense in which one might say that everything that has a capacity for making healthy, and exercises that capacity, has as such a capacity for being made healthy, and that which has a capacity for building has as such a capacity for being built. It will have the capacity for being thus moved either immediately or through one or more links (as it will if, while everything that has a capacity for causing motion has as such a capacity for being moved by something else, the motion that it has the capacity for suffering is not that with which it affects what is next to it, but a motion of a different kind; e.g. that which has a capacity for making healthy might as such have a capacity for learn. the series, however, could be traced back, as we said before, until at some time or other we arrived at the same kind of motion). Now the first alternative is impossible, and the second is fantastic: it is absurd that that which has a capacity for causing alteration should as such necessarily have a capacity, let us say, for increase. It is not necessary, therefore, that that which is moved should always be moved by something else that is itself moved by something else: so there will be an end to the series. Consequently the first thing that is in motion will derive its motion either from something that is at rest or from itself. But if there were any need to consider which of the two, that which moves itself or that which is moved by something else, is the cause and principle of motion, every one would decide the former: for that which is itself independently a cause is always prior as a cause to that which is so only in virtue of being itself dependent upon something else that makes it so.

We must therefore make a fresh start and consider the question; if a thing moves itself, in what sense and in what manner does it do so? Now everything that is in motion must be infinitely divisible, for it has been shown already in our general course on Physics, that everything that is essentially in motion is continuous. Now it is impossible that that which moves itself should in its entirety move itself: for then, while being specifically one and indivisible, it would as a Whole both undergo and cause the same locomotion or alteration: thus it would at the same time be both teaching and being taught (the same thing), or both restoring to and being restored to the same health. Moreover, we have established the fact that it is the movable that is moved; and this is potentially, not actually, in motion, but the potential is in process to actuality, and motion is an incomplete actuality of the movable. The movent on the other hand is already in activity: e.g. it is that which is hot that produces heat: in fact, that which produces the form is always something that possesses it. Consequently (if a thing can move itself as a whole), the same thing in respect of the same thing may be at the same time both hot and not hot. So, too, in every other case where the movent must be described by the same name in the same sense as the moved. Therefore when a thing moves itself it is one part of it that is the movent and another part that is moved. But it is not self-moving in the sense that each of the two parts is moved by the other part: the following considerations make this evident. In the first place, if each of the two parts is to move the other, there will be no first movent. If a thing is moved by a series of movents, that which is earlier in the series is more the cause of its being moved than that which comes next, and will be more truly the movent: for we found that there are two kinds of movent, that which is itself moved by something else and that which derives its motion from itself: and that which is further from the thing that is moved is nearer to the principle of motion than that which is intermediate. In the second place, there is no necessity for the movent part to be moved by anything but itself: so it can only be accidentally that the other part moves it in return. I take then the possible case of its not moving it: then there will be a part that is moved and a part that is an unmoved movent. In the third place, there is no necessity for the movent to be moved in return: on the contrary the necessity that there should always be motion makes it necessary that there should be some movent that is either unmoved or moved by itself. In the fourth place we should then have a thing undergoing the same motion that it is causing — that which is producing heat, therefore, being heated. But as a matter of fact that which primarily moves itself cannot contain either a single part that moves itself or a number of parts each of which moves itself. For, if the whole is moved by itself, it must be moved either by some part of itself or as a whole by itself as a whole. If, then, it is moved in virtue of some part of it being moved by that part itself, it is this part that will be the primary self-movent, since, if this part is separated from the whole, the part will still move itself, but the whole will do so no longer. If on the other hand the whole is moved by itself as a whole, it must be accidentally that the parts move themselves: and therefore, their self-motion not being necessary, we may take the case of their not being moved by themselves. Therefore in the whole of the thing we may distinguish that which imparts motion without itself being moved and that which is moved: for only in this way is it possible for a thing to be self-moved. Further, if the whole moves itself we may distinguish in it that which imparts the motion and that which is moved: so while we say that AB is moved by itself, we may also say that it is moved by A. And since that which imparts motion may be either a thing that is moved by something else or a thing that is unmoved, and that which is moved may be either a thing that imparts motion to something else or a thing that does not, that which moves itself must be composed of something that is unmoved but imparts motion and also of something that is moved but does not necessarily impart motion but may or may not do so. Thus let A be something that imparts motion but is unmoved, B something that is moved by A and moves G, G something that is moved by B but moves nothing (granted that we eventually arrive at G we may take it that there is only one intermediate term, though there may be more). Then the whole ABG moves itself. But if I take away G, AB will move itself, A imparting motion and B being moved, whereas G will not move itself or in fact be moved at all. Nor again will BG move itself apart from A: for B imparts motion only through being moved by something else, not through being moved by any part of itself. So only AB moves itself. That which moves itself, therefore, must comprise something that imparts motion but is unmoved and something that is moved but does not necessarily move anything else: and each of these two things, or at any rate one of them, must be in contact with the other. If, then, that which imparts motion is a continuous substance — that which is moved must of course be so — it is clear that it is not through some part of the whole being of such a nature as to be capable of moving itself that the whole moves itself: it moves itself as a whole, both being moved and imparting motion through containing a part that imparts motion and a part that is moved. It does not impart motion as a whole nor is it moved as a whole: it is A alone that imparts motion and B alone that is moved. It is not true, further, that G is moved by A, which is impossible.

Here a difficulty arises: if something is taken away from A (supposing that that which imparts motion but is unmoved is a continuous substance), or from B the part that is moved, will the remainder of A continue to impart motion or the remainder of B continue to be moved? If so, it will not be AB primarily that is moved by itself, since, when something is taken away from AB, the remainder of AB will still continue to move itself. Perhaps we may state the case thus: there is nothing to prevent each of the two parts, or at any rate one of them, that which is moved, being divisible though actually undivided, so that if it is divided it will not continue in the possession of the same capacity: and so there is nothing to prevent self-motion residing primarily in things that are potentially divisible.

From what has been said, then, it is evident that that which primarily imparts motion is unmoved: for, whether the series is closed at once by that which is in motion but moved by something else deriving its motion directly from the first unmoved, or whether the motion is derived from what is in motion but moves itself and stops its own motion, on both suppositions we have the result that in all cases of things being in motion that which primarily imparts motion is unmoved.

6

Since there must always be motion without intermission, there must necessarily be something, one thing or it may be a plurality, that first imparts motion, and this first movent must be unmoved. Now the question whether each of the things that are unmoved but impart motion is eternal is irrelevant to our present argument: but the following considerations will make it clear that there must necessarily be some such thing, which, while it has the capacity of moving something else, is itself unmoved and exempt from all change, which can affect it neither in an unqualified nor in an accidental sense. Let us suppose, if any one likes, that in the case of certain things it is possible for them at different times to be and not to be, without any process of becoming and perishing (in fact it would seem to be necessary, if a thing that has not parts at one time is and at another time is not, that any such thing should without undergoing any process of change at one time be and at another time not be). And let us further suppose it possible that some principles that are unmoved but capable of imparting motion at one time are and at another time are not. Even so, this cannot be true of all such principles, since there must clearly be something that causes things that move themselves at one time to be and at another not to be. For, since nothing that has not parts can be in motion, that which moves itself must as a whole have magnitude, though nothing that we have said makes this necessarily true of every movent. So the fact that some things become and others perish, and that this is so continuously, cannot be caused by any one of those things that, though they are unmoved, do not always exist: nor again can it be caused by any of those which move certain particular things, while others move other things. The eternity and continuity of the process cannot be caused either by any one of them singly or by the sum of them, because this causal relation must be eternal and necessary, whereas the sum of these movents is infinite and they do not all exist together. It is clear, then, that though there may be countless instances of the perishing of some principles that are unmoved but impart motion, and though many things that move themselves perish and are succeeded by others that come into being, and though one thing that is unmoved moves one thing while another moves another, nevertheless there is something that comprehends them all, and that as something apart from each one of them, and this it is that is the cause of the fact that some things are and others are not and of the continuous process of change: and this causes the motion of the other movents, while they are the causes of the motion of other things. Motion, then, being eternal, the first movent, if there is but one, will be eternal also: if there are more than one, there will be a plurality of such eternal movents. We ought, however, to suppose that there is one rather than many, and a finite rather than an infinite number. When the consequences of either assumption are the same, we should always assume that things are finite rather than infinite in number, since in things constituted by nature that which is finite and that which is better ought, if possible, to be present rather than the reverse: and here it is sufficient to assume only one movent, the first of unmoved things, which being eternal will be the principle of motion to everything else.

The following argument also makes it evident that the first movent must be something that is one and eternal. We have shown that there must always be motion. That being so, motion must also be continuous, because what is always is continuous, whereas what is merely in succession is not continuous. But further, if motion is continuous, it is one: and it is one only if the movent and the moved that constitute it are each of them one, since in the event of a thing's being moved now by one thing and now by another the whole motion will not be continuous but successive.

Moreover a conviction that there is a first unmoved something may be reached not only from the foregoing arguments, but also by considering again the principles operative in movents. Now it is evident that among existing things there are some that are sometimes in motion and sometimes at rest. This fact has served above to make it clear that it is not true either that all things are in motion or that all things are at rest or that some things are always at rest and the remainder always in motion: on this matter proof is supplied by things that fluctuate between the two and have the capacity of being sometimes in motion and sometimes at rest. The existence of things of this kind is clear to all: but we wish to explain also the nature of each of the other two kinds and show that there are some things that are always unmoved and some things that are always in motion. In the course of our argument directed to this end we established the fact that everything that is in motion is moved by something, and that the movent is either unmoved or in motion, and that, if it is in motion, it is moved either by itself or by something else and so on throughout the series: and so we proceeded to the position that the first principle that directly causes things that are in motion to be moved is that which moves itself, and the first principle of the whole series is the unmoved. Further it is evident from actual observation that there are things that have the characteristic of moving themselves, e.g. the animal kingdom and the whole class of living things. This being so, then, the view was suggested that perhaps it may be possible for motion to come to be in a thing without having been in existence at all before, because we see this actually occurring in animals: they are unmoved at one time and then again they are in motion, as it seems. We must grasp the fact, therefore, that animals move themselves only with one kind of motion, and that this is not strictly originated by them. The cause of it is not derived from the animal itself: it is connected with other natural motions in animals, which they do not experience through their own instrumentality, e.g. increase, decrease, and respiration: these are experienced by every animal while it is at rest and not in motion in respect of the motion set up by its own agency: here the motion is caused by the atmosphere and by many things that enter into the animal: thus in some cases the cause is nourishment: when it is being digested animals sleep, and when it is being distributed through the system they awake and move themselves, the first principle of this motion being thus originally derived from outside. Therefore animals are not always in continuous motion by their own agency: it is something else that moves them, itself being in motion and changing as it comes into relation with each several thing that moves itself. (Moreover in all these self-moving things the first movent and cause of their self-motion is itself moved by itself, though in an accidental sense: that is to say, the body changes its place, so that that which is in the body changes its place also and is a self-movent through its exercise of leverage.) Hence we may confidently conclude that if a thing belongs to the class of unmoved movents that are also themselves moved accidentally, it is impossible that it should cause continuous motion. So the necessity that there should be motion continuously requires that there should be a first movent that is unmoved even accidentally, if, as we have said, there is to be in the world of things an unceasing and undying motion, and the world is to remain permanently self-contained and within the same limits: for if the first principle is permanent, the universe must also be permanent, since it is continuous with the first principle. (We must distinguish, however, between accidental motion of a thing by itself and such motion by something else, the former being confined to perishable things, whereas the latter belongs also to certain first principles of heavenly bodies, of all those, that is to say, that experience more than one locomotion.)

And further, if there is always something of this nature, a movent that is itself unmoved and eternal, then that which is first moved by it must be eternal. Indeed this is clear also from the consideration that there would otherwise be no becoming and perishing and no change of any kind in other things, which require something that is in motion to move them: for the motion imparted by the unmoved will always be imparted in the same way and be one and the same, since the unmoved does not itself change in relation to that which is moved by it. But that which is moved by something that, though it is in motion, is moved directly by the unmoved stands in varying relations to the things that it moves, so that the motion that it causes will not be always the same: by reason of the fact that it occupies contrary positions or assumes contrary forms at different times it will produce contrary motions in each several thing that it moves and will cause it to be at one time at rest and at another time in motion.

The foregoing argument, then, has served to clear up the point about which we raised a difficulty at the outset — why is it that instead of all things being either in motion or at rest, or some things being always in motion and the remainder always at rest, there are things that are sometimes in motion and sometimes not? The cause of this is now plain: it is because, while some things are moved by an eternal unmoved movent and are therefore always in motion, other things are moved by a movent that is in motion and changing, so that they too must change. But the unmoved movent, as has been said, since it remains permanently simple and unvarying and in the same state, will cause motion that is one and simple.

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This matter will be made clearer, however, if we start afresh from another point. We must consider whether it is or is not possible that there should be a continuous motion, and, if it is possible, which this motion is, and which is the primary motion: for it is plain that if there must always be motion, and a particular motion is primary and continuous, then it is this motion that is imparted by the first movent, and so it is necessarily one and the same and continuous and primary.

Now of the three kinds of motion that there are — motion in respect of magnitude, motion in respect of affection, and motion in respect of place — it is this last, which we call locomotion, that must be primary. This may be shown as follows. It is impossible that there should be increase without the previous occurrence of alteration: for that which is increased, although in a sense it is increased by what is like itself, is in a sense increased by what is unlike itself: thus it is said that contrary is nourishment to contrary: but growth is effected only by things becoming like to like. There must be alteration, then, in that there is this change from contrary to contrary. But the fact that a thing is altered requires that there should be something that alters it, something e.g. that makes the potentially hot into the actually hot: so it is plain that the movent does not maintain a uniform relation to it but is at one time nearer to and at another farther from that which is altered: and we cannot have this without locomotion. If, therefore, there must always be motion, there must also always be locomotion as the primary motion, and, if there is a primary as distinguished from a secondary form of locomotion, it must be the primary form. Again, all affections have their origin in condensation and rarefaction: thus heavy and light, soft and hard, hot and cold, are considered to be forms of density and rarity. But condensation and rarefaction are nothing more than combination and separation, processes in accordance with which substances are said to become and perish: and in being combined and separated things must change in respect of place. And further, when a thing is increased or decreased its magnitude changes in respect of place.

Again, there is another point of view from which it will be clearly seen that locomotion is primary. As in the case of other things so too in the case of motion the word ‘primary’ may be used in several senses. A thing is said to be prior to other things when, if it does not exist, the others will not exist, whereas it can exist without the others: and there is also priority in time and priority in perfection of existence. Let us begin, then, with the first sense. Now there must be motion continuously, and there may be continuously either continuous motion or successive motion, the former, however, in a higher degree than the latter: moreover it is better that it should be continuous rather than successive motion, and we always assume the presence in nature of the better, if it be possible: since, then, continuous motion is possible (this will be proved later: for the present let us take it for granted), and no other motion can be continuous except locomotion, locomotion must be primary. For there is no necessity for the subject of locomotion to be the subject either of increase or of alteration, nor need it become or perish: on the other hand there cannot be any one of these processes without the existence of the continuous motion imparted by the first movent.

Secondly, locomotion must be primary in time: for this is the only motion possible for things. It is true indeed that, in the case of any individual thing that has a becoming, locomotion must be the last of its motions: for after its becoming it first experiences alteration and increase, and locomotion is a motion that belongs to such things only when they are perfected. But there must previously be something else that is in process of locomotion to be the cause even of the becoming of things that become, without itself being in process of becoming, as e.g. the begotten is preceded by what begot it: otherwise becoming might be thought to be the primary motion on the ground that the thing must first become. But though this is so in the case of any individual thing that becomes, nevertheless before anything becomes, something else must be in motion, not itself becoming but being, and before this there must again be something else. And since becoming cannot be primary — for, if it were, everything that is in motion would be perishable — it is plain that no one of the motions next in order can be prior to locomotion. By the motions next in order I mean increase and then alteration, decrease, and perishing. All these are posterior to becoming: consequently, if not even becoming is prior to locomotion, then no one of the other processes of change is so either.

Thirdly, that which is in process of becoming appears universally as something imperfect and proceeding to a first principle: and so what is posterior in the order of becoming is prior in the order of nature. Now all things that go through the process of becoming acquire locomotion last. It is this that accounts for the fact that some living things, e.g. plants and many kinds of animals, owing to lack of the requisite organ, are entirely without motion, whereas others acquire it in the course of their being perfected. Therefore, if the degree in which things possess locomotion corresponds to the degree in which they have realized their natural development, then this motion must be prior to all others in respect of perfection of existence: and not only for this reason but also because a thing that is in motion loses its essential character less in the process of locomotion than in any other kind of motion: it is the only motion that does not involve a change of being in the sense in which there is a change in quality when a thing is altered and a change in quantity when a thing is increased or decreased. Above all it is plain that this motion, motion in respect of place, is what is in the strictest sense produced by that which moves itself; but it is the self-movent that we declare to be the first principle of things that are moved and impart motion and the primary source to which things that are in motion are to be referred.

It is clear, then, from the foregoing arguments that locomotion is the primary motion. We have now to show which kind of locomotion is primary. The same process of reasoning will also make clear at the same time the truth of the assumption we have made both now and at a previous stage that it is possible that there should be a motion that is continuous and eternal. Now it is clear from the following considerations that no other than locomotion can be continuous. Every other motion and change is from an opposite to an opposite: thus for the processes of becoming and perishing the limits are the existent and the non-existent, for alteration the various pairs of contrary affections, and for increase and decrease either greatness and smallness or perfection and imperfection of magnitude: and changes to the respective contraries are contrary changes. Now a thing that is undergoing any particular kind of motion, but though previously existent has not always undergone it, must previously have been at rest so far as that motion is concerned. It is clear, then, that for the changing thing the contraries will be states of rest. And we have a similar result in the case of changes that are not motions: for becoming and perishing, whether regarded simply as such without qualification or as affecting something in particular, are opposites: therefore provided it is impossible for a thing to undergo opposite changes at the same time, the change will not be continuous, but a period of time will intervene between the opposite processes. The question whether these contradictory changes are contraries or not makes no difference, provided only it is impossible for them both to be present to the same thing at the same time: the point is of no importance to the argument. Nor does it matter if the thing need not rest in the contradictory state, or if there is no state of rest as a contrary to the process of change: it may be true that the non-existent is not at rest, and that perishing is a process to the non-existent. All that matters is the intervention of a time: it is this that prevents the change from being continuous: so, too, in our previous instances the important thing was not the relation of contrariety but the impossibility of the two processes being present to a thing at the same time. And there is no need to be disturbed by the fact that on this showing there may be more than one contrary to the same thing, that a particular motion will be contrary both to rest and to motion in the contrary direction. We have only to grasp the fact that a particular motion is in a sense the opposite both of a state of rest and of the contrary motion, in the same way as that which is of equal or standard measure is the opposite both of that which surpasses it and of that which it surpasses, and that it is impossible for the opposite motions or changes to be present to a thing at the same time. Furthermore, in the case of becoming and perishing it would seem to be an utterly absurd thing if as soon as anything has become it must necessarily perish and cannot continue to exist for any time: and, if this is true of becoming and perishing, we have fair grounds for inferring the same to be true of the other kinds of change, since it would be in the natural order of things that they should be uniform in this respect.

8

Let us now proceed to maintain that it is possible that there should be an infinite motion that is single and continuous, and that this motion is rotatory motion. The motion of everything that is in process of locomotion is either rotatory or rectilinear or a compound of the two: consequently, if one of the former two is not continuous, that which is composed of them both cannot be continuous either. Now it is plain that if the locomotion of a thing is rectilinear and finite it is not continuous locomotion: for the thing must turn back, and that which turns back in a straight line undergoes two contrary locomotions, since, so far as motion in respect of place is concerned, upward motion is the contrary of downward motion, forward motion of backward motion, and motion to the left of motion to the right, these being the pairs of contraries in the sphere of place. But we have already defined single and continuous motion to be motion of a single thing in a single period of time and operating within a sphere admitting of no further specific differentiation (for we have three things to consider, first that which is in motion, e.g. a man or a god, secondly the 'when' of the motion, that is to say, the time, and thirdly the sphere within which it operates, which may be either place or affection or essential form or magnitude): and contraries are specifically not one and the same but distinct: and within the sphere of place we have the above-mentioned distinctions. Moreover we have an indication that motion from A to B is the contrary of motion from B to A in the fact that, if they occur at the same time, they arrest and stop each other. And the same is true in the case of a circle: the motion from A towards B is the contrary of the motion from A towards G: for even if they are continuous and there is no turning back they arrest each other, because contraries annihilate or obstruct one another. On the other hand lateral motion is not the contrary of upward motion. But what shows most clearly that rectilinear motion cannot be continuous is the fact that turning back necessarily implies coming to a stand, not only when it is a straight line that is traversed, but also in the case of locomotion in a circle (which is not the same thing as rotatory locomotion: for, when a thing merely traverses a circle, it may either proceed on its course without a break or turn back again when it has reached the same point from which it started). We may assure ourselves of the necessity of this coming to a stand not only on the strength of observation, but also on theoretical grounds. We may start as follows: we have three points, starting-point, middle-point, and finishing-point, of which the middle-point in virtue of the relations in which it stands severally to the other two is both a starting-point and a finishing-point, and though numerically one is theoretically two. We have further the distinction between the potential and the actual. So in the straight line in question any one of the points lying between the two extremes is potentially a middle-point: but it is not actually so unless that which is in motion divides the line by coming to a stand at that point and beginning its motion again: thus the middle-point becomes both a starting-point and a goal, the starting-point of the latter part and the finishing-point of the first part of the motion. This is the case e.g. when A in the course of its locomotion comes to a stand at B and starts again towards G: but when its motion is continuous A cannot either have come to be or have ceased to be at the point B: it can only have been there at the moment of passing, its passage not being contained within any period of time except the whole of which the particular moment is a dividing-point. To maintain that it has come to be and ceased to be there will involve the consequence that A in the course of its locomotion will always be coming to a stand: for it is impossible that A should simultaneously have come to be at B and ceased to be there, so that the two things must have happened at different points of time, and therefore there will be the intervening period of time: consequently A will be in a state of rest at B, and similarly at all other points, since the same reasoning holds good in every case. When to A, that which is in process of locomotion, B, the middle-point, serves both as a finishing-point and as a starting-point for its motion, A must come to a stand at B, because it makes it two just as one might do in thought. However, the point A is the real starting-point at which the moving body has ceased to be, and it is at G that it has really come to be when its course is finished and it comes to a stand. So this is how we must meet the difficulty that then arises, which is as follows. Suppose the line E is equal to the line Z, that A proceeds in continuous locomotion from the extreme point of E to G, and that, at the moment when A is at the point B, D is proceeding in uniform locomotion and with the same velocity as A from the extremity of Z to H: then, says the argument, D will have reached H before A has reached G for that which makes an earlier start and departure must make an earlier arrival: the reason, then, for the late arrival of A is that it has not simultaneously come to be and ceased to be at B: otherwise it will not arrive later: for this to happen it will be necessary that it should come to a stand there. Therefore we must not hold that there was a moment when A came to be at B and that at the same moment D was in motion from the extremity of Z: for the fact of A’s having come to be at B will involve the fact of its also ceasing to be there, and the two events will not be simultaneous, whereas the truth is that A is at B at a sectional point of time and does not occupy time there. In this case, therefore, where the motion of a thing is continuous, it is impossible to use this form of expression. On the other hand in the case of a thing that turns back in its course we must do so. For suppose H in the course of its locomotion proceeds to D and then turns back and proceeds downwards again: then the extreme point D has served as finishing-point and as starting-point for it, one point thus serving as two: therefore H must have come to a stand there: it cannot have come to be at D and departed from D simultaneously, for in that case it would simultaneously be there and not be there at the same moment. And here we cannot apply the argument used to solve the difficulty stated above: we cannot argue that H is at D at a sectional point of time and has not come to be or ceased to be there. For here the goal that is reached is necessarily one that is actually, not potentially, existent. Now the point in the middle is potential: but this one is actual, and regarded from below it is a finishing-point, while regarded from above it is a starting-point, so that it stands in these same two respective relations to the two motions. Therefore that which turns back in traversing a rectilinear course must in so doing come to a stand. Consequently there cannot be a continuous rectilinear motion that is eternal.

The same method should also be adopted in replying to those who ask, in the terms of Zeno's argument, whether we admit that before any distance can be traversed half the distance must be traversed, that these half-distances are infinite in number, and that it is impossible to traverse distances infinite in number — or some on the lines of this same argument put the questions in another form, and would have us grant that in the time during which a motion is in progress it should be possible to reckon a half-motion before the whole for every half-distance that we get, so that we have the result that when the whole distance is traversed we have reckoned an infinite number, which is admittedly impossible. Now when we first discussed the question of motion we put forward a solution of this difficulty turning on the fact that the period of time occupied in traversing the distance contains within itself an infinite number of units: there is no absurdity, we said, in supposing the traversing of infinite distances in infinite time, and the element of infinity is present in the time no less than in the distance. But, although this solution is adequate as a reply to the questioner (the question asked being whether it is possible in a finite time to traverse or reckon an infinite number of units), nevertheless as an account of the fact and explanation of its true nature it is inadequate. For suppose the distance to be left out of account and the question asked to be no longer whether it is possible in a finite time to traverse an infinite number of distances, and suppose that the inquiry is made to refer to the time taken by itself (for the time contains an infinite number of divisions): then this solution will no longer be adequate, and we must apply the truth that we enunciated in our recent discussion, stating it in the following way. In the act of dividing the continuous distance into two halves one point is treated as two, since we make it a starting-point and a finishing-point: and this same result is also produced by the act of reckoning halves as well as by the act of dividing into halves. But if divisions are made in this way, neither the distance nor the motion will be continuous: for motion if it is to be continuous must relate to what is continuous: and though what is continuous contains an infinite number of halves, they are not actual but potential halves. If the halves are made actual, we shall get not a continuous but an intermittent motion. In the case of reckoning the halves, it is clear that this result follows: for then one point must be reckoned as two: it will be the finishing-point of the one half and the starting-point of the other, if we reckon not the one continuous whole but the two halves. Therefore to the question whether it is possible to pass through an infinite number of units either of time or of distance we must reply that in a sense it is and in a sense it is not. If the units are actual, it is not possible: if they are potential, it is possible. For in the course of a continuous motion the traveller has traversed an infinite number of units in an accidental sense but not in an unqualified sense: for though it is an accidental characteristic of the distance to be an infinite number of half-distances, this is not its real and essential character. It is also plain that unless we hold that the point of time that divides earlier from later always belongs only to the later so far as the thing is concerned, we shall be involved in the consequence that the same thing is at the same moment existent and not existent, and that a thing is not existent at the moment when it has become. It is true that the point is common to both times, the earlier as well as the later, and that, while numerically one and the same, it is theoretically not so, being the finishing-point of the one and the starting-point of the other: but so far as the thing is concerned it belongs to the later stage of what happens to it. Let us suppose a time ABG and a thing D, D being white in the time A and not-white in the time B. Then D is at the moment G white and not-white: for if we were right in saying that it is white during the whole time A, it is true to call it white at any moment of A, and not-white in B, and G is in both A and B. We must not allow, therefore, that it is white in the whole of A, but must say that it is so in all of it except the last moment G. G belongs already to the later period, and if in the whole of A not-white was in process of becoming and white of perishing, at G the process is complete. And so G is the first moment at which it is true to call the thing white or not white respectively. Otherwise a thing may be non-existent at the moment when it has become and existent at the moment when it has perished: or else it must be possible for a thing at the same time to be white and not white and in fact to be existent and non-existent. Further, if anything that exists after having been previously non-existent must become existent and does not exist when it is becoming, time cannot be divisible into time — atoms. For suppose that D was becoming white in the time A and that at another time B, a time — atom consecutive with the last atom of A, D has already become white and so is white at that moment: then, inasmuch as in the time A it was becoming white and so was not white and at the moment B it is white, there must have been a becoming between A and B and therefore also a time in which the becoming took place. On the other hand, those who deny atoms of time (as we do) are not affected by this argument: according to them D has become and so is white at the last point of the actual time in which it was becoming white: and this point has no other point consecutive with or in succession to it, whereas time — atoms are conceived as successive. Moreover it is clear that if D was becoming white in the whole time A, the time occupied by it in having become white in addition to having been in process of becoming white is no more than all that it occupied in the mere process of becoming white.

These and such-like, then, are the arguments for our conclusion that derive cogency from the fact that they have a special bearing on the point at issue. If we look at the question from the point of view of general theory, the same result would also appear to be indicated by the following arguments. Everything whose motion is continuous must, on arriving at any point in the course of its locomotion, have been previously also in process of locomotion to that point, if it is not forced out of its path by anything: e.g. on arriving at B a thing must also have been in process of locomotion to B, and that not merely when it was near to B, but from the moment of its starting on its course, since there can be, no reason for its being so at any particular stage rather than at an earlier one. So, too, in the case of the other kinds of motion. Now we are to suppose that a thing proceeds in locomotion from A to G and that at the moment of its arrival at G the continuity of its motion is unbroken and will remain so until it has arrived back at A. Then when it is undergoing locomotion from A to G it is at the same time undergoing also its locomotion to A from G: consequently it is simultaneously undergoing two contrary motions, since the two motions that follow the same straight line are contrary to each other. With this consequence there also follows another: we have a thing that is in process of change from a position in which it has not yet been: so, inasmuch as this is impossible, the thing must come to a stand at G. Therefore the motion is not a single motion, since motion that is interrupted by stationariness is not single.

Further, the following argument will serve better to make this point clear universally in respect of every kind of motion. If the motion undergone by that which is in motion is always one of those already enumerated, and the state of rest that it undergoes is one of those that are the opposites of the motions (for we found that there could be no other besides these), and moreover that which is undergoing but does not always undergo a particular motion (by this I mean one of the various specifically distinct motions, not some particular part of the whole motion) must have been previously undergoing the state of rest that is the opposite of the motion, the state of rest being privation of motion; then, inasmuch as the two motions that follow the same straight line are contrary motions, and it is impossible for a thing to undergo simultaneously two contrary motions, that which is undergoing locomotion from A to G cannot also simultaneously be undergoing locomotion from G to A: and since the latter locomotion is not simultaneous with the former but is still to be undergone, before it is undergone there must occur a state of rest at G: for this, as we found, is the state of rest that is the opposite of the motion from G. The foregoing argument, then, makes it plain that the motion in question is not continuous.

Our next argument has a more special bearing than the foregoing on the point at issue. We will suppose that there has occurred in something simultaneously a perishing of not-white and a becoming of white. Then if the alteration to white and from white is a continuous process and the white does not remain any time, there must have occurred simultaneously a perishing of not-white, a becoming of white, and a becoming of not-white: for the time of the three will be the same.

Again, from the continuity of the time in which the motion takes place we cannot infer continuity in the motion, but only successiveness: in fact, how could contraries, e.g. whiteness and blackness, meet in the same extreme point?

On the other hand, in motion on a circular line we shall find singleness and continuity: for here we are met by no impossible consequence: that which is in motion from A will in virtue of the same direction of energy be simultaneously in motion to A (since it is in motion to the point at which it will finally arrive), and yet will not be undergoing two contrary or opposite motions: for a motion to a point and a motion from that point are not always contraries or opposites: they are contraries only if they are on the same straight line (for then they are contrary to one another in respect of place, as e.g. the two motions along the diameter of the circle, since the ends of this are at the greatest possible distance from one another), and they are opposites only if they are along the same line. Therefore in the case we are now considering there is nothing to prevent the motion being continuous and free from all intermission: for rotatory motion is motion of a thing from its place to its place, whereas rectilinear motion is motion from its place to another place.

Moreover the progress of rotatory motion is never localized within certain fixed limits, whereas that of rectilinear motion repeatedly is so. Now a motion that is always shifting its ground from moment to moment can be continuous: but a motion that is repeatedly localized within certain fixed limits cannot be so, since then the same thing would have to undergo simultaneously two opposite motions. So, too, there cannot be continuous motion in a semicircle or in any other arc of a circle, since here also the same ground must be traversed repeatedly and two contrary processes of change must occur. The reason is that in these motions the starting-point and the termination do not coincide, whereas in motion over a circle they do coincide, and so this is the only perfect motion.

This differentiation also provides another means of showing that the other kinds of motion cannot be continuous either: for in all of them we find that there is the same ground to be traversed repeatedly; thus in alteration there are the intermediate stages of the process, and in quantitative change there are the intervening degrees of magnitude: and in becoming and perishing the same thing is true. It makes no difference whether we take the intermediate stages of the process to be few or many, or whether we add or subtract one:

for in either case we find that there is still the same ground to be traversed repeatedly. Moreover it is plain from what has been said that those physicists who assert that all sensible things are always in motion are wrong: for their motion must be one or other of the motions just mentioned: in fact they mostly conceive it as alteration (things are always in flux and decay, they say), and they go so far as to speak even of becoming and perishing as a process of alteration. On the other hand, our argument has enabled us to assert the fact, applying universally to all motions, that no motion admits of continuity except rotatory motion: consequently neither alteration nor increase admits of continuity. We need now say no more in support of the position that there is no process of change that admits of infinity or continuity except rotatory locomotion.

9

It can now be shown plainly that rotation is the primary locomotion. Every locomotion, as we said before, is either rotatory or rectilinear or a compound of the two: and the two former must be prior to the last, since they are the elements of which the latter consists. Moreover rotatory locomotion is prior to rectilinear locomotion, because it is more simple and complete, which may be shown as follows. The straight line traversed in rectilinear motion cannot be infinite: for there is no such thing as an infinite straight line; and even if there were, it would not be traversed by anything in motion: for the impossible does not happen and it is impossible to traverse an infinite distance. On the other hand rectilinear motion on a finite straight line is if it turns back a composite motion, in fact two motions, while if it does not turn back it is incomplete and perishable: and in the order of nature, of definition, and of time alike the complete is prior to the incomplete and the imperishable to the perishable. Again, a motion that admits of being eternal is prior to one that does not. Now rotatory motion can be eternal: but no other motion, whether locomotion or motion of any other kind, can be so, since in all of them rest must occur and with the occurrence of rest the motion has perished. Moreover the result at which we have arrived, that rotatory motion is single and continuous, and rectilinear motion is not, is a reasonable one. In rectilinear motion we have a definite starting-point, finishing-point, middle-point, which all have their place in it in such a way that there is a point from which that which is in motion can be said to start and a point at which it can be said to finish its course (for when anything is at the limits of its course, whether at the starting-point or at the finishing-point, it must be in a state of rest). On the other hand in circular motion there are no such definite points: for why should any one point on the line be a limit rather than any other? Any one point as much as any other is alike starting-point, middle-point, and finishing-point, so that we can say of certain things both that they are always and that they never are at a starting-point and at a finishing-point (so that a revolving sphere, while it is in motion, is also in a sense at rest, for it continues to occupy the same place). The reason of this is that in this case all these characteristics belong to the centre: that is to say, the centre is alike starting-point, middle-point, and finishing-point of the space traversed; consequently since this point is not a point on the circular line, there is no point at which that which is in process of locomotion can be in a state of rest as having traversed its course, because in its locomotion it is proceeding always about a central point and not to an extreme point: therefore it remains still, and the whole is in a sense always at rest as well as continuously in motion. Our next point gives a convertible result: on the one hand, because rotation is the measure of motions it must be the primary motion (for all things are measured by what is primary): on the other hand, because rotation is the primary motion it is the measure of all other motions. Again, rotatory motion is also the only motion that admits of being regular. In rectilinear locomotion the motion of things in leaving the starting-point is not uniform with their motion in approaching the finishing-point, since the velocity of a thing always increases proportionately as it removes itself farther from its position of rest: on the other hand rotatory motion is the only motion whose course is naturally such that it has no starting-point or finishing-point in itself but is determined from elsewhere.

As to locomotion being the primary motion, this is a truth that is attested by all who have ever made mention of motion in their theories: they all assign their first principles of motion to things that impart motion of this kind. Thus ‘separation’ and ‘combination’ are motions in respect of place, and the motion imparted by ‘Love’ and ‘Strife’ takes these forms, the latter ‘separating’ and the former ‘combining’. Anaxagoras, too, says that ‘Mind’, his first movent, ‘separates’. Similarly those who assert no cause of this kind but say that ‘void’ accounts for motion — they also hold that the motion of natural substance is motion in respect of place: for their motion that is accounted for by ‘void’ is locomotion, and its sphere of operation may be said to be place. Moreover they are of opinion that the primary substances are not subject to any of the other motions, though the things that are compounds of these substances are so subject: the processes of increase and decrease and alteration, they say, are effects of the ‘combination’ and ‘separation’ of atoms. It is the same, too, with those who make out that the becoming or perishing of a thing is accounted for by ‘density’ or ‘rarity’: for it is by ‘combination’ and ‘separation’ that the place of these things in their systems is determined. Moreover to these we may add those who make Soul the cause of motion: for they say that things that undergo motion have as their first principle ‘that which moves itself’: and when animals and all living things move themselves, the motion is motion in respect of place. Finally it is to be noted that we say that a thing ‘is in motion’ in the strict sense of the term only when its motion is motion in respect of place: if a thing is in process of increase or decrease or is undergoing some alteration while remaining at rest in the same place, we say that it is in motion in some particular respect: we do not say that it ‘is in motion’ without qualification.

Our present position, then, is this: We have argued that there always was motion and always will be motion throughout all time, and we have explained what is the first principle of this eternal motion: we have explained further which is the primary motion and which is the only motion that can be eternal: and we have pronounced the first movent to be unmoved.

10

We have now to assert that the first movent must be without parts and without magnitude, beginning with the establishment of the premisses on which this conclusion depends.

One of these premisses is that nothing finite can cause motion during an infinite time. We have three things, the movent, the moved, and thirdly that in which the motion takes place, namely the time: and these are either all infinite or all finite or partly — that is to say two of them or one of them — finite and partly infinite. Let A be the movement, B the moved, and G the infinite time. Now let us suppose that D moves E, a part of B. Then the time occupied by this motion cannot be equal to G: for the greater the amount moved, the longer the time occupied. It follows that the time Z is not infinite. Now we see that by continuing to add to D, I shall use up A and by continuing to add to E, I shall use up B: but I shall not use up the time by continually subtracting a corresponding amount from it, because it is infinite. Consequently the duration of the part of G which is occupied by all A in moving the whole of B, will be finite. Therefore a finite thing cannot impart to anything an infinite motion. It is clear, then, that it is impossible for the finite to cause motion during an infinite time.

It has now to be shown that in no case is it possible for an infinite force to reside in a finite magnitude. This can be shown as follows: we take it for granted that the greater force is always that which in less time than another does an equal amount of work when engaged in any activity — in heating, for example, or sweetening or throwing; in fact, in causing any kind of motion. Then that on which the forces act must be affected to some extent by our supposed finite magnitude possessing an infinite force as well as by anything else, in fact to a greater extent than by anything else, since the infinite force is greater than any other. But then there cannot be any time in which its action could take place. Suppose that A is the time occupied by the infinite power in the performance of an act of heating or pushing, and that AB is the time occupied by a finite power in the performance of the same act: then by adding to the latter another finite power and continually increasing the magnitude of the power so added I shall at some time or other reach a point at which the finite power has completed the motive act in the time A: for by continual addition to a finite magnitude I must arrive at a magnitude that exceeds any assigned limit, and in the same way by continual subtraction I must arrive at one that falls short of any assigned limit. So we get the result that the finite force will occupy the same amount of time in performing the motive act as the infinite force. But this is impossible. Therefore nothing finite can possess an infinite force. So it is also impossible for a finite force to reside in an infinite magnitude. It is true that a greater force can reside in a lesser magnitude: but the superiority of any such greater force can be still greater if the magnitude in which it resides is greater. Now let AB be an infinite magnitude. Then BG possesses a certain force that occupies a certain time, let us say the time Z in moving D. Now if I take a magnitude twice as great at BG, the time occupied by this magnitude in moving D will be half of EZ (assuming this to be the proportion): so we may call this time ZH. That being so, by continually taking a greater magnitude in this way I shall never arrive at the full AB, whereas I shall always be getting a lesser fraction of the time given. Therefore the force must be infinite, since it exceeds any finite force. Moreover the time occupied by the action of any finite force must also be finite: for if a given force moves something in a certain time, a greater force will do so in a lesser time, but still a definite time, in inverse proportion. But a force must always be infinite — just as a number or a magnitude is — if it exceeds all definite limits. This point may also be proved in another way — by taking a finite magnitude in which there resides a force the same in kind as that which resides in the infinite magnitude, so that this force will be a measure of the finite force residing in the infinite magnitude.

It is plain, then, from the foregoing arguments that it is impossible for an infinite force to reside in a finite magnitude or for a finite force to reside in an infinite magnitude. But before proceeding to our conclusion it will be well to discuss a difficulty that arises in connexion with locomotion. If everything that is in motion with the exception of things that move themselves is moved by something else, how is it that some things, e.g. things thrown, continue to be in motion when their movent is no longer in contact with them? If we say that the movent in such cases moves something else at the same time, that the thrower e.g. also moves the air, and that this in being moved is also a movent, then it would be no more possible for this second thing than for the original thing to be in motion when the original movent is not in contact with it or moving it: all the things moved would have to be in motion simultaneously and also to have ceased simultaneously to be in motion when the original movent ceases to move them, even if, like the magnet, it makes that which it has moved capable of being a movent. Therefore, while we must accept this explanation to the extent of saying that the original movent gives the power of being a movent either to air or to water or to something else of the kind, naturally adapted for imparting and undergoing motion, we must say further that this thing does not cease simultaneously to impart motion and to undergo motion: it ceases to be in motion at the moment when its movent ceases to move it, but it still remains a movent, and so it causes something else consecutive with it to be in motion, and of this again the same may be said. The motion begins to cease when the motive force produced in one member of the consecutive series is at each stage less than that possessed by the preceding member, and it finally ceases when one member no longer causes the next member to be a movent but only causes it to be in motion. The motion of these last two — of the one as movent and of the other as moved — must cease simultaneously, and with this the whole motion ceases. Now the things in which this motion is produced are things that admit of being sometimes in motion and sometimes at rest, and the motion is not continuous but only appears so: for it is motion of things that are either successive or in contact, there being not one movent but a number of movents consecutive with one another: and so motion of this kind takes place in air and water. Some say that it is 'mutual replacement': but we must recognize that the difficulty raised cannot be solved otherwise than in the way we have described. So far as they are affected by 'mutual replacement', all the members of the series are moved and impart motion simultaneously, so that their motions also cease simultaneously: but our present problem concerns the appearance of continuous motion in a single thing, and therefore, since it cannot be moved throughout its motion by the same movent, the question is, what moves it?

Resuming our main argument, we proceed from the positions that there must be continuous motion in the world of things, that this is a single motion, that a single motion must be a motion of a magnitude (for that which is without magnitude cannot be in motion), and that the magnitude must be a single magnitude moved by a single movent (for otherwise there will not be continuous motion but a consecutive series of separate motions), and that if the movement is a single thing, it is either itself in motion or itself unmoved: if, then, it is in motion, it will have to be subject to the same conditions as that which it moves, that is to say it will itself be in process of change and in being so will also have to be moved by something: so we have a series that must come to an end, and a point will be reached at which motion is imparted by something that is unmoved. Thus we have a movent that has no need to change along with that which it moves but will be able to cause motion always (for the causing of motion under these conditions involves no effort): and this motion alone is regular, or at least it is so in a higher degree than any other, since the movent is never subject to any change. So, too, in order that the motion may continue to be of the same character, the moved must not be subject to change in respect of its relation to the movent. Moreover the movent must occupy either the centre or the circumference, since these are the first principles from which a sphere is derived. But the things nearest the movent are those whose motion is quickest, and in this case it is the motion of the circumference that is the quickest: therefore the movent occupies the circumference.

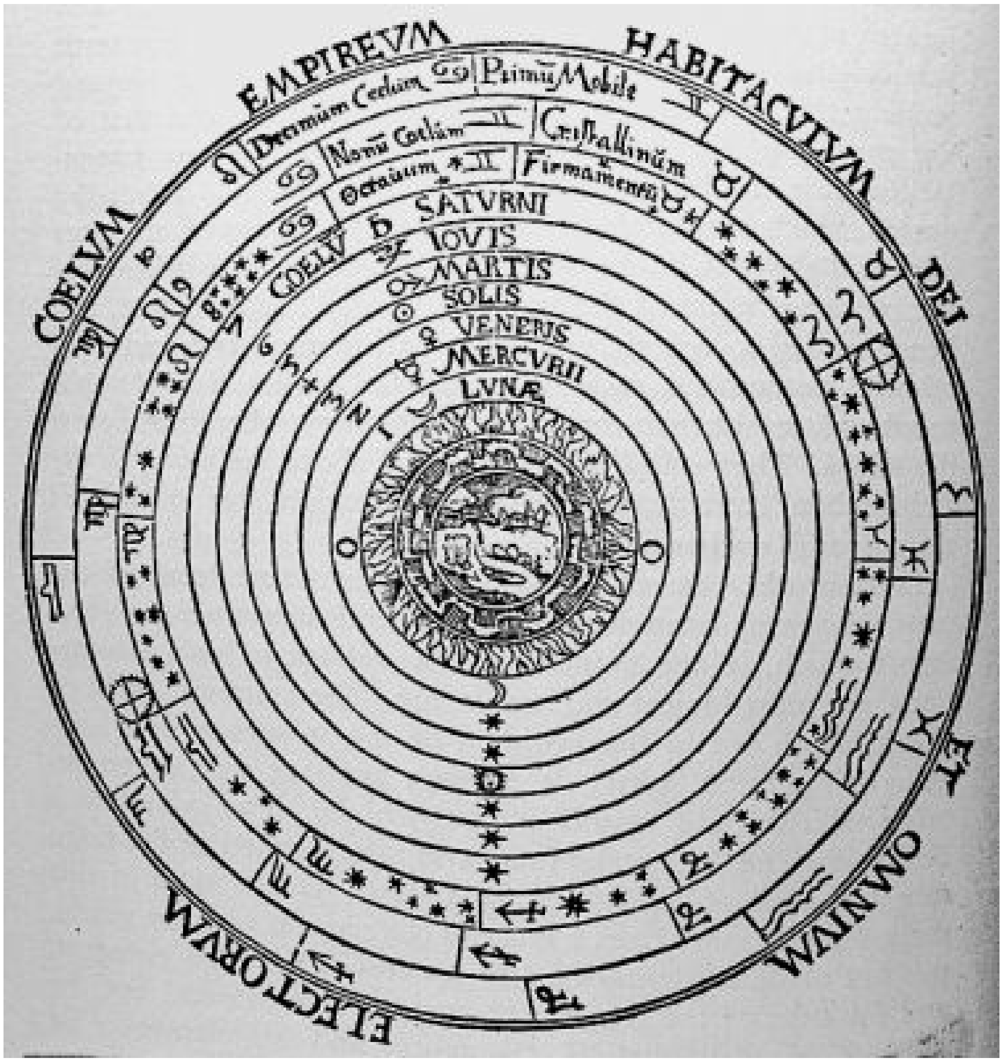
There is a further difficulty in supposing it to be possible for anything that is in motion to cause motion continuously and not merely in the way in which it is caused by something repeatedly pushing (in which case the continuity amounts to no more than successiveness). Such a movent must either itself continue to push or pull or perform both these actions, or else the action must be taken up by something else and be passed on from one movent to another (the process that we described before as occurring in the case of things thrown, since the air or the water, being divisible, is a movent only in virtue of the fact that different parts of the air are moved one after another): and in either case the motion cannot be a single motion, but only a consecutive series of motions. The only continuous motion, then, is that which is caused by the unmoved movent: and this motion is continuous because the movent remains always invariable, so that its relation to that which it moves remains also invariable and continuous.

Now that these points are settled, it is clear that the first unmoved movent cannot have any magnitude. For if it has magnitude, this must be either a finite or an infinite magnitude. Now we have already’proved in our course on Physics that there cannot be an infinite magnitude: and we have now proved that it is impossible for a finite magnitude to have an infinite force, and also that it is impossible for a thing to be moved by a finite magnitude during an infinite time. But the first movent causes a motion that is eternal and does cause it during an infinite time. It is clear, therefore, that the first movent is indivisible and is without parts and without magnitude.

On the Heavens (268a)

Translated by J. L. Stocks

Περὶ οὐρανοῦ is Aristotle's chief cosmological treatise, containing the basis of his astronomical theory and his ideas on the concrete workings of the terrestrial world. According to the philosopher, the heavenly bodies are the most perfect realities, (substances), whose motions are ruled by principles other than those of bodies in the sublunary sphere. The latter are composed of one or all of the four classical elements (earth, water, air, fire) and are perishable; but the matter the heavens are made of is imperishable aether, so they are not subject to generation and corruption. Therefore, their motions are eternal and perfect, and the perfect motion is the circular one, which, unlike the earthly up-and down-ward movements, can last eternally selfsame.



COELVM EMPIREVM HABITACVLVM DEI ET OMNIVM ELECTORVM
Decimum Celum
Primu Mobile
Nonu Celum
Cristallinum
Octauum
Firmamentu
SATVRNI
IOVIS
COELV
MARTIS
SOLIS
VENERIS
MERCVRII
LVNÆ

Diagram of the Aristotelian Ptolemaic system

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Book I

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THE science which has to do with nature clearly concerns itself for the most part with bodies and magnitudes and their properties and movements, but also with the principles of this sort of substance, as many as they may be. For of things constituted by nature some are bodies and magnitudes, some possess body and magnitude, and some are principles of things which possess these. Now a continuum is that which is divisible into parts always capable of subdivision, and a body is that which is every way divisible. A magnitude if divisible one way is a line, if two ways a surface, and if three a body. Beyond these there is no other magnitude, because the three dimensions are all that there are, and that which is divisible in three directions is divisible in all. For, as the Pythagoreans say, the world and all that is in it is determined by the number three, since beginning and middle and end give the number of an ‘all’, and the number they give is the triad. And so, having taken these three from nature as (so to speak) laws of it, we make further use of the number three in the worship of the Gods. Further, we use the terms in practice in this way. Of two things, or men, we say ‘both’, but not ‘all’: three is the first number to which the term ‘all’ has been appropriated. And in this, as we have said, we do but follow the lead which nature gives. Therefore, since ‘every’ and ‘all’ and ‘complete’ do not differ from one another in respect of form, but only, if at all, in their matter and in that to which they are applied, body alone among magnitudes can be complete. For it alone is determined by the three dimensions, that is, is an ‘all’. But if it is divisible in three dimensions it is every way divisible, while the other magnitudes are divisible in one dimension or in two alone: for the divisibility and continuity of magnitudes depend upon the number of the dimensions, one sort being continuous in one direction, another in two, another in all. All magnitudes, then, which are divisible are also continuous. Whether we can also say that whatever is continuous is divisible does not yet, on our present grounds, appear. One thing, however, is clear. We cannot pass beyond body to a further kind, as we passed from length to surface, and from surface to body. For if we could, it would cease to be true that body is complete magnitude. We could pass beyond it only in virtue of a defect in it; and that which is complete cannot be defective, since it has being in every respect. Now bodies which are classed as parts of the whole are each complete according to our formula, since each possesses every dimension. But each is determined relatively to that part which is next to it by contact, for which reason each of them is in a sense many bodies. But the whole of which they are parts must necessarily be complete, and thus, in accordance with the meaning of the word, have being, not in some respect only, but in every respect.

2

The question as to the nature of the whole, whether it is infinite in size or limited in its total mass, is a matter for subsequent inquiry. We will now speak of those parts of the whole which are specifically distinct. Let us take this as our starting-point. All natural bodies and magnitudes we hold to be, as such, capable of locomotion; for nature, we say, is their principle of movement. But all movement that is in place, all locomotion, as we term it, is either straight or circular or a combination of these two, which are the only simple movements. And the reason of this is that these two, the straight and the circular line, are the only simple magnitudes. Now revolution about the centre is circular motion, while the upward and downward movements are in a straight line, ‘upward’ meaning motion away from the centre, and ‘downward’ motion towards it. All simple motion, then, must be motion either away from or towards or about the centre. This seems to be in exact accord with what we said above: as body found its completion in three dimensions, so its movement completes itself in three forms.

Bodies are either simple or compounded of such; and by simple bodies I mean those which possess a principle of movement in their own nature, such as fire and earth with their kinds, and whatever is akin to them. Necessarily, then, movements also will be either simple or in some sort compound-simple in the case of the simple bodies, compound in that of the composite-and in the latter case the motion will be that of the simple body which prevails in the composition. Supposing, then, that there is such a thing as simple movement, and that circular movement is an instance of it, and that both movement of a simple body is simple and simple movement is of a simple body (for if it is movement of a compound it will be in virtue of a prevailing simple element), then there must necessarily be some simple body which revolves naturally and in virtue of its own nature with a circular movement. By constraint, of course, it may be brought to move with the motion of something else different from itself, but it cannot so move naturally, since there is one sort of movement natural to each of the simple bodies. Again, if the unnatural movement is the contrary of the natural and a thing can have no more than one contrary, it will follow that circular movement, being a simple motion, must be unnatural, if it is not natural, to the body moved. If then (1) the body, whose movement is circular, is fire or some other element, its natural motion must be the contrary of the circular motion. But a single thing has a single contrary; and upward and downward motion are the contraries of one another. If, on the other hand, (2) the body moving with this circular motion which is unnatural to it is something different from the elements, there will be some other motion which is natural to it. But this cannot be. For if the natural motion is upward, it will be fire or air, and if downward, water or earth. Further, this circular motion is necessarily primary. For the perfect is naturally prior to the imperfect, and the circle is a perfect thing. This cannot be said of any straight line:-not of an infinite line; for, if it were perfect, it would have a limit and an end: nor of any finite line; for in every case there is something beyond it, since any finite line can be extended. And so, since the prior movement belongs to the body which naturally prior, and circular movement is prior to straight, and movement in a straight line belongs to simple bodies-fire moving straight upward and earthy bodies straight downward towards the centre-since this is so, it follows that circular movement also must be the movement of some simple body. For the movement of composite bodies is, as we said, determined by that simple body which preponderates in the composition. These premises clearly give the conclusion that there is in nature some bodily substance other than the formations we know, prior to them all and more divine than they. But it may also be proved as follows. We may take it that all movement is either natural or unnatural, and that the movement which is unnatural to one body is natural to another-as, for instance, is the case with the upward and downward movements, which are natural and unnatural to fire and earth respectively. It necessarily follows that circular movement, being unnatural to these bodies, is the natural movement of some other. Further, if, on the one hand, circular movement is natural to something, it must surely be some simple and primary body which is ordained to move with a natural circular motion, as fire is ordained to fly up and earth down. If, on the other hand, the movement of the rotating bodies about the centre is unnatural, it would be remarkable and indeed quite inconceivable that this movement alone should be continuous and eternal, being nevertheless contrary to nature. At any rate the evidence of all other cases goes to show that it is the unnatural which quickest passes away. And so, if, as some say, the body so moved is fire, this movement is just as unnatural to it as downward movement; for any one can see that fire moves in a straight line away from the centre. On all these grounds, therefore, we may infer with confidence that there is something beyond the bodies that are about us on this earth, different and separate from them; and that the superior glory of its nature is proportionate to its distance from this world of ours.

3

In consequence of what has been said, in part by way of assumption and in part by way of proof, it is clear that not every body either possesses lightness or heaviness. As a preliminary we must explain in what sense we are using the words ‘heavy’ and ‘light’, sufficiently, at least, for our present purpose: we can examine the terms more closely later, when we come to consider their essential nature. Let us then apply the term ‘heavy’ to that which naturally moves towards the centre, and ‘light’ to that which moves naturally away from the centre. The heaviest thing will be that which sinks to the bottom of all things that move downward, and the lightest that which rises to the surface of everything that moves upward. Now, necessarily, everything which moves either up or down possesses lightness or heaviness or both-but not both relatively to the same thing: for things are heavy and light relatively to one another; air, for instance, is light relatively to water, and water light relatively to earth. The body, then, which moves in a circle cannot possibly possess either heaviness or lightness. For neither naturally nor unnaturally can it move either towards or away from the centre. Movement in a straight line certainly does not belong to it naturally, since one sort of movement is, as we saw, appropriate to each simple body, and so we should be compelled to identify it with one of the bodies which move in this way. Suppose, then, that the movement is unnatural. In that case, if it is the downward movement which is unnatural, the upward movement will be natural; and if it is the upward which is unnatural, the downward will be natural. For we decided that of contrary movements, if the one is unnatural to anything, the other will be natural to it. But since the natural movement of the whole and of its part of earth, for instance, as a whole and of a small clod-have one and the same direction, it results, in the first place, that this body can possess no lightness or heaviness at all (for that would mean that it could move by its own nature either from or towards the centre, which, as we know, is impossible); and, secondly, that it cannot possibly move in the way of locomotion by being forced violently aside in an upward or downward direction. For neither naturally nor unnaturally can it move with any other motion but its own, either itself or any part of it, since the reasoning which applies to the whole applies also to the part.

It is equally reasonable to assume that this body will be ungenerated and indestructible and exempt from increase and alteration, since everything that comes to be comes into being from its contrary and in some substrate, and passes away likewise in a substrate by the action of the contrary into the contrary, as we explained in our opening discussions. Now the motions of contraries are contrary. If then this body can have no contrary, because there can be no contrary motion to the circular, nature seems justly to have exempted from contraries the body which was to be ungenerated and indestructible. For it is in contraries that generation and decay subsist. Again, that which is subject to increase increases upon contact with a kindred body, which is resolved into its matter. But there is nothing out of which this body can have been generated. And if it is exempt from increase and diminution, the same reasoning leads us to suppose that it is also unalterable. For alteration is movement in respect of quality; and qualitative states and dispositions, such as health and disease, do not come into being without changes of properties. But all natural bodies which change their properties we see to be subject without exception to increase and diminution. This is the case, for instance, with the bodies of animals and their parts and with vegetable bodies, and similarly also with those of the elements. And so, if the body which moves with a circular motion cannot admit of increase or diminution, it is reasonable to suppose that it is also unalterable.

The reasons why the primary body is eternal and not subject to increase or diminution, but unaging and unalterable and unmodified, will be clear from what has been said to any one who believes in our assumptions. Our theory seems to confirm experience and to be confirmed by it. For all men have some conception of the nature of the gods, and all who believe in the existence of gods at all, whether barbarian or Greek, agree in allotting the highest place to the deity, surely because they suppose that immortal is linked with immortal and regard any other supposition as inconceivable. If then there is, as there certainly is, anything divine, what we have just said about the primary bodily substance was well said. The mere evidence of the senses is enough to convince us of this, at least with human certainty. For in the whole range of time past, so far as our inherited records reach, no change appears to have taken place either in the whole scheme of the outermost heaven or in any of its proper parts. The common name, too, which has been handed down from our distant ancestors even to our own day, seems to show that they conceived of it in the fashion which we have been expressing. The same ideas, one must believe, recur in men’s minds not once or twice but again and again. And so, implying that the primary body is something else beyond earth, fire, air, and water, they gave the highest place a name of its own, aither, derived from the fact that it ‘runs always’ for an eternity of time. Anaxagoras, however, scandalously misuses this name, taking aither as equivalent to fire.

It is also clear from what has been said why the number of what we call simple bodies cannot be greater than it is. The motion of a simple body must itself be simple, and we assert that there are only these two simple motions, the circular and the straight, the latter being subdivided into motion away from and motion towards the centre.

4

That there is no other form of motion opposed as contrary to the circular may be proved in various ways. In the first place, there is an obvious tendency to oppose the straight line to the circular. For concave and convex are a not only regarded as opposed to one another, but they are also coupled together and treated as a unity in opposition to the straight. And so, if there is a contrary to circular motion, motion in a straight line must be recognized as having the best claim to that name. But the two forms of rectilinear motion are opposed to one another by reason of their places; for up and down is a difference and a contrary opposition in place. Secondly, it may be thought that the same reasoning which holds good of the rectilinear path applies also the circular, movement from A to B being opposed as contrary to movement from B to A. But what is meant is still rectilinear motion. For that is limited to a single path, while the circular paths which pass through the same two points are infinite in number. Even if we are confined to the single semicircle and the opposition is between movement from C to D and from D to C along that semicircle, the case is no better. For the motion is the same as that along the diameter, since we invariably regard the distance between two points as the length of the straight line which joins them. It is no more satisfactory to construct a circle and treat motion ‘along one semicircle as contrary to motion along the other. For example, taking a complete circle, motion from E to F on the semicircle G may be opposed to motion from F to E on the semicircle H. But even supposing these are contraries, it in no way follows that the reverse motions on the complete circumference contraries. Nor again can motion along the circle from A to B be regarded as the contrary of motion from A to C: for the motion goes from the same point towards the same point, and contrary motion was distinguished as motion from a contrary to its contrary. And even if the motion round a circle is the contrary of the reverse motion, one of the two would be ineffective: for both move to the same point, because that which moves in a circle, at whatever point it begins, must necessarily pass through all the contrary places alike. (By contrarieties of place I mean up and down, back and front, and right and left; and the contrary oppositions of movements are determined by those of places.) One of the motions, then, would be ineffective, for if the two motions were of equal strength, there would be no movement either way, and if one of the two were preponderant, the other would be inoperative. So that if both bodies were there, one of them, inasmuch as it would not be moving with its own movement, would be useless, in the sense in which a shoe is useless when it is not worn. But God and nature create nothing that has not its use.

5

This being clear, we must go on to consider the questions which remain.

First, is there an infinite body, as the majority of the ancient philosophers thought, or is this an impossibility? The decision of this question, either way, is not unimportant, but rather all-important, to our search for the truth. It is this problem which has practically always been the source of the differences of those who have written about nature as a whole. So it has been and so it must be; since the least initial deviation from the truth is multiplied later a thousandfold. Admit, for instance, the existence of a minimum magnitude, and you will find that the minimum which you have introduced, small as it is, causes the greatest truths of mathematics to totter. The reason is that a principle is great rather in power than in extent; hence that which was small at the start turns out a giant at the end. Now the conception of the infinite possesses this power of principles, and indeed in the sphere of quantity possesses it in a higher degree than any other conception; so that it is in no way absurd or unreasonable that the assumption that an infinite body exists should be of peculiar moment to our inquiry. The infinite, then, we must now discuss, opening the whole matter from the beginning.

Every body is necessarily to be classed either as simple or as composite; the infinite body, therefore, will be either simple or composite.

But it is clear, further, that if the simple bodies are finite, the composite must also be finite, since that which is composed of bodies finite both in number and in magnitude is itself finite in respect of number and magnitude: its quantity is in fact the same as that of the bodies which compose it. What remains for us to consider, then, is whether any of the simple bodies can be infinite in magnitude, or whether this is impossible. Let us try the primary body first, and then go on to consider the others.

The body which moves in a circle must necessarily be finite in every respect, for the following reasons. (1) If the body so moving is infinite, the radii drawn from the centre will be infinite. But the space between infinite radii is infinite: and by the space between the radii I mean the area outside which no magnitude which is in contact with the two lines can be conceived as falling. This, I say, will be infinite: first, because in the case of finite radii it is always finite; and secondly, because in it one can always go on to a width greater than any given width; thus the reasoning which forces us to believe in infinite number, because there is no maximum, applies also to the space between the radii. Now the infinite cannot be traversed, and if the body is infinite the interval between the radii is necessarily infinite: circular motion therefore is an impossibility. Yet our eyes tell us that the heavens revolve in a circle, and by argument also we have determined that there is something to which circular movement belongs.

(2) Again, if from a finite time a finite time be subtracted, what remains must be finite and have a beginning. And if the time of a journey has a beginning, there must be a beginning also of the movement, and consequently also of the distance traversed. This applies universally. Take a line, ACE, infinite in one direction, E, and another line, BB, infinite in both directions. Let ACE describe a circle, revolving upon C as centre. In its movement it will cut BB continuously for a certain time. This will be a finite time, since the total time is finite in which the heavens complete their circular orbit, and consequently the time subtracted from it, during which the one line in its motion cuts the other, is also finite. Therefore there will be a point at which ACE began for the first time to cut BB. This, however, is impossible. The infinite, then, cannot revolve in a circle; nor could the world, if it were infinite.

(3) That the infinite cannot move may also be shown as follows. Let A be a finite line moving past the finite line, B. Of necessity A will pass clear of B and B of A at the same moment; for each overlaps the other to precisely the same extent. Now if the two were both moving, and moving in contrary directions, they would pass clear of one another more rapidly; if one were still and the other moving past it, less rapidly; provided that the speed of the latter were the same in both cases. This, however, is clear: that it is impossible to traverse an infinite line in a finite time. Infinite time, then, would be required. (This we demonstrated above in the discussion of movement.) And it makes no difference whether a finite is passing by an infinite or an infinite by a finite. For when A is passing B, then B overlaps A and it makes no difference whether B is moved or unmoved, except that, if both move, they pass clear of one another more quickly. It is, however, quite possible that a moving line should in certain cases pass one which is stationary quicker than it passes one moving in an opposite direction. One has only to imagine the movement to be slow where both move and much faster where one is stationary. To suppose one line stationary, then, makes no difficulty for our argument, since it is quite possible for A to pass B at a slower rate when both are moving than when only one is. If, therefore, the time which the finite moving line takes to pass the other is infinite, then

necessarily the time occupied by the motion of the infinite past the finite is also infinite. For the infinite to move at all is thus absolutely impossible; since the very smallest movement conceivable must take an infinity of time. Moreover the heavens certainly revolve, and they complete their circular orbit in a finite time; so that they pass round the whole extent of any line within their orbit, such as the finite line AB. The revolving body, therefore, cannot be infinite.

(4) Again, as a line which has a limit cannot be infinite, or, if it is infinite, is so only in length, so a surface cannot be infinite in that respect in which it has a limit; or, indeed, if it is completely determinate, in any respect whatever. Whether it be a square or a circle or a sphere, it cannot be infinite, any more than a foot-rule can. There is then no such thing as an infinite sphere or square or circle, and where there is no circle there can be no circular movement, and similarly where there is no infinite at all there can be no infinite movement; and from this it follows that, an infinite circle being itself an impossibility, there can be no circular motion of an infinite body.

(5) Again, take a centre C, an infinite line, AB, another infinite line at right angles to it, E, and a moving radius, CD. CD will never cease contact with E, but the position will always be something like CE, CD cutting E at F. The infinite line, therefore, refuses to complete the circle.

(6) Again, if the heaven is infinite and moves in a circle, we shall have to admit that in a finite time it has traversed the infinite. For suppose the fixed heaven infinite, and that which moves within it equal to it. It results that when the infinite body has completed its revolution, it has traversed an infinite equal to itself in a finite time. But that we know to be impossible.

(7) It can also be shown, conversely, that if the time of revolution is finite, the area traversed must also be finite; but the area traversed was equal to itself; therefore, it is itself finite.

We have now shown that the body which moves in a circle is not endless or infinite, but has its limit.

6

Further, neither that which moves towards nor that which moves away from the centre can be infinite. For the upward and downward motions are contraries and are therefore motions towards contrary places. But if one of a pair of contraries is determinate, the other must be determinate also. Now the centre is determined; for, from whatever point the body which sinks to the bottom starts its downward motion, it cannot go farther than the centre. The centre, therefore, being determinate, the upper place must also be determinate. But if these two places are determined and finite, the corresponding bodies must also be finite. Further, if up and down are determinate, the intermediate place is also necessarily determinate. For, if it is indeterminate, the movement within it will be infinite; and that we have already shown to be an impossibility. The middle region then is determinate, and consequently any body which either is in it, or might be in it, is determinate. But the bodies which move up and down may be in it, since the one moves naturally away from the centre and the other towards it.

From this alone it is clear that an infinite body is an impossibility; but there is a further point. If there is no such thing as infinite weight, then it follows that none of these bodies can be infinite. For the supposed infinite body would have to be infinite in weight. (The same argument applies to lightness: for as the one supposition involves infinite weight, so the infinity of the body which rises to the surface involves infinite lightness.) This is proved as follows. Assume the weight to be finite, and take an infinite body, AB, of the weight C. Subtract from the infinite body a finite mass, BD, the weight of which shall be E. E then is less than C, since it is the weight of a lesser mass. Suppose then that the smaller goes into the greater a certain number of times, and take BF bearing the same proportion to BD which the greater weight bears to the smaller. For you may subtract as much as you please from an infinite. If now the masses are proportionate to the weights, and the lesser weight is that of the lesser mass, the greater must be that of the greater. The weights, therefore, of the finite and of the infinite body are equal. Again, if the weight of a greater body is greater than that of a less, the weight of GB will be greater than that of FB; and thus the weight of the finite body is greater than that of the infinite. And, further, the weight of unequal masses will be the same, since the infinite and the finite cannot be equal. It does not matter whether the weights are commensurable or not. If (a) they are incommensurable the same reasoning holds. For instance, suppose E multiplied by three is rather more than C: the weight of three masses of the full size of BD will be greater than C. We thus arrive at the same impossibility as before. Again (b) we may assume weights which are commensurate; for it makes no difference whether we begin with the weight or with the mass. For example, assume the weight E to be commensurate with C, and take from the infinite mass a part BD of weight E. Then let a mass BF be taken having the same proportion to BD which the two weights have to one another. (For the mass being infinite you may subtract from it as much as you please.) These assumed bodies will be commensurate in mass and in weight alike. Nor again does it make any difference to our demonstration whether the total mass has its weight equally or unequally distributed. For it must always be Possible to take from the infinite mass a body of equal weight to BD by diminishing or increasing the size of the section to the necessary extent.

From what we have said, then, it is clear that the weight of the infinite body cannot be finite. It must then be infinite. We have therefore only to show this to be impossible in order to prove an infinite body impossible. But the impossibility of infinite weight can be shown in the following way. A given weight moves a given distance in a given time; a weight which is as great and more moves the same distance in a less time, the times being in inverse proportion to the weights. For instance, if one weight is twice another, it will take half as long over a given movement. Further, a finite weight traverses any finite distance in a finite time. It necessarily follows from this that infinite weight, if there is such a thing, being, on the one hand, as great and more than as great as the finite, will move accordingly, but being, on the other hand, compelled to move in a time inversely proportionate to its greatness, cannot move at all. The time should be less in proportion as the weight is greater. But there is no proportion between the infinite and the finite: proportion can only hold between a less and a greater finite time. And though you may say that the time of the movement can be continually diminished, yet there is no minimum. Nor, if there were, would it help us. For some finite body could have been found greater than the given finite in the same proportion which is supposed to hold between the infinite and the given finite; so that an infinite and a finite weight must have traversed an equal distance in equal time. But that is impossible. Again, whatever the time, so long as it is finite, in which the infinite performs the motion, a finite weight must necessarily move a certain finite distance in that same time. Infinite weight is therefore impossible, and the same reasoning applies also to infinite lightness. Bodies then of infinite weight and of infinite lightness are equally impossible.

That there is no infinite body may be shown, as we have shown it, by a detailed consideration of the various cases. But it may also be shown universally, not only by such reasoning as we advanced in our discussion of principles (though in that passage we have already determined universally the sense in which the existence of an infinite is to be asserted or denied), but also suitably to our present purpose in the following way. That will lead us to a further question. Even if the total mass is not infinite, it may yet be great enough to admit a plurality of universes. The question might possibly be raised whether there is any obstacle to our believing that there are other universes composed on the pattern of our own, more than one, though stopping short of infinity. First, however, let us treat of the infinite universally.

7

Every body must necessarily be either finite or infinite, and if infinite, either of similar or of dissimilar parts. If its parts are dissimilar, they must represent either a finite or an infinite number of kinds. That the kinds cannot be infinite is evident, if our original presuppositions remain unchallenged. For the primary movements being finite in number, the kinds of simple body are necessarily also finite, since the movement of a simple body is simple, and the simple movements are finite, and every natural body must always have its proper motion. Now if the infinite body is to be composed of a finite number of kinds, then each of its parts must necessarily be infinite in quantity, that is to say, the water, fire, &c., which compose it. But this is impossible, because, as we have already shown, infinite weight and lightness do not exist. Moreover it would be necessary also that their places should be infinite in extent, so that the movements too of all these bodies would be infinite. But this is not possible, if we are to hold to the truth of our original presuppositions and to the view that neither that which moves downward, nor, by the same reasoning, that which moves upward, can prolong its movement to infinity. For it is true in regard to quality, quantity, and place alike that any process of change is impossible which can have no end. I mean that if it is impossible for a thing to have come to be white, or a cubit long, or in Egypt, it is also impossible for it to be in process of coming to be any of these. It is thus impossible for a thing to be moving to a place at which in its motion it can never by any possibility arrive. Again, suppose the body to exist in dispersion, it may be maintained none the less that the total of all these scattered particles, say, of fire, is infinite. But body we saw to be that which has extension every way. How can there be several dissimilar elements, each infinite? Each would have to be infinitely extended every way.

It is no more conceivable, again, that the infinite should exist as a whole of similar parts. For, in the first place, there is no other (straight) movement beyond those mentioned: we must therefore give it one of them. And if so, we shall have to admit either infinite weight or infinite lightness. Nor, secondly, could the body whose movement is circular be infinite, since it is impossible for the infinite to move in a circle. This, indeed, would be as good as saying that the heavens are infinite, which we have shown to be impossible.

Moreover, in general, it is impossible that the infinite should move at all. If it did, it would move either naturally or by constraint: and if by constraint, it possesses also a natural motion, that is to say, there is another place, infinite like itself, to which it will move. But that is impossible.

That in general it is impossible for the infinite to be acted upon by the finite or to act upon it may be shown as follows.

(1. The infinite cannot be acted upon by the finite.) Let A be an infinite, B a finite, C the time of a given movement produced by one in the other. Suppose, then, that A was heated, or impelled, or modified in any way, or caused to undergo any sort of movement whatever, by in the time C. Let D be less than B; and, assuming that a lesser agent moves a lesser patient in an equal time, call the quantity thus modified by D, E. Then, as D is to B, so is E to some finite quantum. We assume that the alteration of equal by equal takes equal time, and the alteration of less by less or of greater by greater takes the same time, if the quantity of the patient is such as to keep the proportion which obtains between the agents, greater and less. If so, no movement can be caused in the infinite by any finite agent in any time whatever. For a less agent will produce that movement in a less patient in an equal time, and the proportionate equivalent of that patient will be a finite quantity, since no proportion holds between finite and infinite.

(2. The infinite cannot act upon the finite.) Nor, again, can the infinite

produce a movement in the finite in any time whatever. Let A be an infinite, B a finite, C the time of action. In the time C, D will produce that motion in a patient less than B, say F. Then take E, bearing the same proportion to D as the whole BF bears to F. E will produce the motion in BF in the time C. Thus the finite and infinite effect the same alteration in equal times. But this is impossible; for the assumption is that the greater effects it in a shorter time. It will be the same with any time that can be taken, so that there will no time in which the infinite can effect this movement. And, as to infinite time, in that nothing can move another or be moved by it. For such time has no limit, while the action and reaction have.

(3. There is no interaction between infinites.) Nor can infinite be acted upon in any way by infinite. Let A and B be infinites, CD being the time of the action A of upon B. Now the whole B was modified in a certain time, and the part of this infinite, E, cannot be so modified in the same time, since we assume that a less quantity makes the movement in a less time. Let E then, when acted upon by A, complete the movement in the time D. Then, as D is to CD, so is E to some finite part of B. This part will necessarily be moved by A in the time CD. For we suppose that the same agent produces a given effect on a greater and a smaller mass in longer and shorter times, the times and masses varying proportionately. There is thus no finite time in which infinites can move one another. Is their time then infinite? No, for infinite time has no end, but the movement communicated has.

If therefore every perceptible body possesses the power of acting or of being acted upon, or both of these, it is impossible that an infinite body should be perceptible. All bodies, however, that occupy place are perceptible. There is therefore no infinite body beyond the heaven. Nor again is there anything of limited extent beyond it. And so beyond the heaven there is no body at all. For if you suppose it an object of intelligence, it will be in a place-since place is what ‘within’ and ‘beyond’ denote-and therefore an object of perception. But nothing that is not in a place is perceptible.

The question may also be examined in the light of more general considerations as follows. The infinite, considered as a whole of similar parts, cannot, on the one hand, move in a circle. For there is no centre of the infinite, and that which moves in a circle moves about the centre. Nor again can the infinite move in a straight line. For there would have to be another place infinite like itself to be the goal of its natural movement and another, equally great, for the goal of its unnatural movement. Moreover, whether its rectilinear movement is natural or constrained, in either case the force which causes its motion will have to be infinite. For infinite force is force of an infinite body, and of an infinite body the force is infinite. So the motive body also will be infinite. (The proof of this is given in our discussion of movement, where it is shown that no finite thing possesses infinite power, and no infinite thing finite power.) If then that which moves naturally can also move unnaturally, there will be two infinites, one which causes, and another which exhibits the latter motion. Again, what is it that moves the infinite? If it moves itself, it must be animate. But how can it possibly be conceived as an infinite animal? And if there is something else that moves it, there will be two infinites, that which moves and that which is moved, differing in their form and power.

If the whole is not continuous, but exists, as Democritus and Leucippus think, in the form of parts separated by void, there must necessarily be one movement of all the multitude. They are distinguished, we are told, from one another by their figures; but their nature is one, like many pieces of gold separated from one another. But each piece must, as we assert, have the same motion. For a single clod moves to the same place as the whole mass of earth, and a spark to the same place as the whole mass of fire. So that if it be weight that all possess, no body is, strictly speaking, light: and if lightness be universal, none is heavy. Moreover, whatever possesses weight or lightness will have its place either at one of the extremes or in the middle region. But this is impossible while the world is conceived as infinite. And, generally, that which has no centre or extreme limit, no up or down, gives the bodies no place for their motion; and without that movement is impossible. A thing must move either naturally or unnaturally, and the two movements are determined by the proper and alien places. Again, a place in which a thing rests or to which it moves unnaturally, must be the natural place for some other body, as experience shows. Necessarily, therefore, not everything possesses weight or lightness, but some things do and some do not. From these arguments then it is clear that the body of the universe is not infinite.

8

We must now proceed to explain why there cannot be more than one heaven-the further question mentioned above. For it may be thought that we have not proved universal of bodies that none whatever can exist outside our universe, and that our argument applied only to those of indeterminate extent.

Now all things rest and move naturally and by constraint. A thing moves naturally to a place in which it rests without constraint, and rests naturally in a place to which it moves without constraint. On the other hand, a thing moves by constraint to a place in which it rests by constraint, and rests by constraint in a place to which it moves by constraint. Further, if a given movement is due to constraint, its contrary is natural. If, then, it is by constraint that earth moves from a certain place to the centre here, its movement from here to there will be natural, and if earth from there rests here without constraint, its movement hither will be natural. And the natural movement in each case is one. Further, these worlds, being similar in nature to ours, must all be composed of the same bodies as it. Moreover each of the bodies, fire, I mean, and earth and their intermediates, must have the same power as in our world. For if these names are used equivocally, if the identity of name does not rest upon an identity of form in these elements and ours, then the whole to which they belong can only be called a world by equivocation. Clearly, then, one of the bodies will move naturally away from the centre and another towards the centre, since fire must be identical with fire, earth with earth, and so on, as the fragments of each are identical in this world. That this must be the case is evident from the principles laid down in our discussion of the movements, for these are limited in number, and the distinction of the elements depends upon the distinction of the movements. Therefore, since the movements are the same, the elements must also be the same everywhere. The particles of earth, then, in another world move naturally also to our centre and its fire to our circumference. This, however, is impossible, since, if it were true, earth must, in its own world, move upwards, and fire to the centre; in the same way the earth of our world must move naturally away from the centre when it moves towards the centre of another universe. This follows from the supposed juxtaposition of the worlds. For either we must refuse to admit the identical nature of the simple bodies in the various universes, or, admitting this, we must make the centre and the extremity one as suggested. This being so, it follows that there cannot be more worlds than one.

To postulate a difference of nature in the simple bodies according as they are more or less distant from their proper places is unreasonable. For what difference can it make whether we say that a thing is this distance away or that? One would have to suppose a difference proportionate to the distance and increasing with it, but the form is in fact the same. Moreover, the bodies must have some movement, since the fact that they move is quite evident. Are we to say then that all their movements, even those which are mutually contrary, are due to constraint? No, for a body which has no natural movement at all cannot be moved by constraint. If then the bodies have a natural movement, the movement of the particular instances of each form must necessarily have for goal a place numerically one, i.e. a particular centre or a particular extremity. If it be suggested that the goal in each case is one in form but numerically more than one, on the analogy of particulars which are many though each undifferentiated in form, we reply that the variety of goal cannot be limited to this portion or that but must extend to all alike. For all are equally undifferentiated in form, but any one is different numerically from any other. What I mean is this: if the portions in this world behave similarly both to one another and to those in another world, then the portion which is taken hence will not behave differently either from the portions in another world or from those in the same world, but similarly to them, since in form no portion differs from another. The result is that we must either abandon our present assumption or assert that the centre and the extremity are each numerically one. But this being so, the heaven, by the same evidence and the same necessary inferences, must be one only and no more.

A consideration of the other kinds of movement also makes it plain that there is some point to which earth and fire move naturally. For in general that which is moved changes from something into something, the starting-point and the goal being different in form, and always it is a finite change. For instance, to recover health is to change from disease to health, to increase is to change from smallness to greatness. Locomotion must be similar: for it also has its goal and starting-point — and therefore the starting-point and the goal of the natural movement must differ in form-just as the movement of coming to health does not take any direction which chance or the wishes of the mover may select. Thus, too, fire and earth move not to infinity but to opposite points; and since the opposition in place is between above and below, these will be the limits of their movement. (Even in circular movement there is a sort of opposition between the ends of the diameter, though the movement as a whole has no contrary: so that here too the movement has in a sense an opposed and finite goal.) There must therefore be some end to locomotion: it cannot continue to infinity.

This conclusion that local movement is not continued to infinity is corroborated by the fact that earth moves more quickly the nearer it is to the centre, and fire the nearer it is to the upper place. But if movement were infinite speed would be infinite also; and if speed then weight and lightness. For as superior speed in downward movement implies superior weight, so infinite increase of weight necessitates infinite increase of speed.

Further, it is not the action of another body that makes one of these bodies move up and the other down; nor is it constraint, like the ‘extrusion’ of some writers. For in that case the larger the mass of fire or earth the slower would be the upward or downward movement; but the fact is the reverse: the greater the mass of fire or earth the quicker always is its movement towards its own place. Again, the speed of the movement would not increase towards the end if it were due to constraint or extrusion; for a constrained movement always diminishes in speed as the source of constraint becomes more distant, and a body moves without constraint to the place whence it was moved by constraint.

A consideration of these points, then, gives adequate assurance of the truth of our contentions. The same could also be shown with the aid of the discussions which fall under First Philosophy, as well as from the nature of the circular movement, which must be eternal both here and in the other worlds. It is plain, too, from the following considerations that the universe must be one.

The bodily elements are three, and therefore the places of the elements will be three also; the place, first, of the body which sinks to the bottom, namely the region about the centre; the place, secondly, of the revolving body, namely the outermost place, and thirdly, the intermediate place, belonging to the intermediate body. Here in this third place will be the body which rises to the surface; since, if not here, it will be elsewhere, and it cannot be elsewhere: for we have two bodies, one weightless, one endowed with weight, and below is place of the body endowed with weight, since the region about the centre has been given to the heavy body. And its position cannot be unnatural to it, for it would have to be natural to something else, and there is nothing else. It must then occupy the intermediate place. What distinctions there are within the intermediate itself we will explain later on.

We have now said enough to make plain the character and number of the bodily elements, the place of each, and further, in general, how many in number the various places are.

9

We must show not only that the heaven is one, but also that more than one heaven is and, further, that, as exempt from decay and generation, the heaven is eternal. We may begin by raising a difficulty. From one point of view it might seem impossible that the heaven should be one and unique, since in all formations and products whether of nature or of art we can distinguish the shape in itself and the shape in combination with matter. For instance the form of the sphere is one thing and the gold or bronze sphere another; the shape of the circle again is one thing, the bronze or wooden circle another. For when we state the essential nature of the sphere or circle we do not include in the formula gold or bronze, because they do not belong to the essence, but if we are speaking of the copper or gold sphere we do include them. We still make the distinction even if we cannot conceive or apprehend any other example beside the particular thing. This may, of course, sometimes be the case: it might be, for instance, that only one circle could be found; yet none the less the difference will remain between the being of circle and of this particular circle, the one being form, the other form in matter, i.e. a particular thing. Now since the universe is perceptible it must be regarded as a particular; for everything that is perceptible subsists, as we know, in matter. But if it is a particular, there will be a distinction between the being of ‘this universe’ and of ‘universe’ unqualified. There is a difference, then, between ‘this universe’ and simple ‘universe’; the second is form and shape, the first form in combination with matter; and any shape or form has, or may have, more than one particular instance.

On the supposition of Forms such as some assert, this must be the case, and equally on the view that no such entity has a separate existence. For in every case in which the essence is in matter it is a fact of observation that the particulars of like form are several or infinite in number. Hence there either are, or may be, more heavens than one. On these grounds, then, it might be inferred either that there are or that there might be several heavens. We must, however, return and ask how much of this argument is correct and how much not.

Now it is quite right to say that the formula of the shape apart from the matter must be different from that of the shape in the matter, and we may allow this to be true. We are not, however, therefore compelled to assert a plurality of worlds. Such a plurality is in fact impossible if this world contains the entirety of matter, as in fact it does. But perhaps our contention can be made clearer in this way. Suppose ‘aquilinity’ to be curvature in the nose or flesh, and flesh to be the matter of aquilinity. Suppose further, that all flesh came together into a single whole of flesh endowed with this aquiline quality. Then neither would there be, nor could there arise, any other thing that was aquiline. Similarly, suppose flesh and bones to be the matter of man, and suppose a man to be created of all flesh and all bones in indissoluble union. The possibility of another man would be removed. Whatever case you took it would be the same. The general rule is this: a thing whose essence resides in a substratum of matter can never come into being in the absence of all matter. Now the universe is certainly a particular and a material thing: if however, it is composed not of a part but of the whole of matter, then though the being of ‘universe’ and of ‘this universe’ are still distinct, yet there is no other universe, and no possibility of others being made, because all the matter is already included in this. It remains, then, only to prove that it is composed of all natural perceptible body.

First, however, we must explain what we mean by ‘heaven’ and in how many senses we use the word, in order to make clearer the object of our inquiry. (a) In one sense, then, we call ‘heaven’ the substance of the extreme circumference of the whole, or that natural body whose place is at the extreme circumference. We recognize habitually a special right to the name ‘heaven’ in the extremity or upper region, which we take to be the seat of all that is divine. (b) In another sense, we use this name for the body continuous with the extreme circumference which contains the moon, the sun, and some of the stars; these we say are ‘in the heaven’. (c) In yet another sense we give the name to all body included within extreme circumference, since we habitually call the whole or totality ‘the heaven’. The word, then, is used in three senses.

Now the whole included within the extreme circumference must be composed of all physical and sensible body, because there neither is, nor can come into being, any body outside the heaven. For if there is a natural body outside the extreme circumference it must be either a simple or a composite body, and its position must be either natural or unnatural. But it cannot be any of the simple bodies. For, first, it has been shown that that which moves in a circle cannot change its place. And, secondly, it cannot be that which moves from the centre or that which lies lowest. Naturally they could not be there, since their proper places are elsewhere; and if these are there unnaturally, the exterior place will be natural to some other body, since a place which is unnatural to one body must be natural to another: but we saw that there is no other body besides these. Then it is not possible that any simple body should be outside the heaven. But, if no simple body, neither can any mixed body be there: for the presence of the simple body is involved in the presence of the mixture. Further neither can any body come into that place: for it will do so either naturally or unnaturally, and will be either simple or composite; so that the same argument will apply, since it makes no difference whether the question is ‘does A exist?’ or ‘could A come to exist?’ From our arguments then it is evident not only that there is not, but also that there could never come to be, any bodily mass whatever outside the circumference. The world as a whole, therefore, includes all its appropriate matter, which is, as we saw, natural perceptible body. So that neither are there now, nor have there ever been, nor can there ever be formed more heavens than one, but this heaven of ours is one and unique and complete.

It is therefore evident that there is also no place or void or time outside the heaven. For in every place body can be present; and void is said to be that in which the presence of body, though not actual, is possible; and time is the number of movement. But in the absence of natural body there is no movement, and outside the heaven, as we have shown, body neither exists nor can come to exist. It is clear then that there is neither place, nor void, nor time, outside the heaven. Hence whatever is there, is of such a nature as not to occupy any place, nor does time age it; nor is there any change in any of the things which lie beyond the outermost motion; they continue through their entire duration unalterable and unmodified, living the best and most selfsufficient of lives. As a matter of fact, this word ‘duration’ possessed a divine significance for the ancients, for the fulfilment which includes the period of life of any creature, outside of which no natural development can fall, has been called its duration. On the same principle the fulfilment of the whole heaven, the fulfilment which includes all time and infinity, is ‘duration’-a name based upon the fact that it is always-duration immortal and divine. From it derive the being and life which other things, some more or less articulately but others feebly, enjoy. So, too, in its discussions concerning the divine, popular philosophy often propounds the view that whatever is divine, whatever is primary and supreme, is necessarily unchangeable. This fact confirms what we have said. For there is nothing else stronger than it to move it-since that would mean more divine-and it has no defect and lacks none of its proper excellences. Its unceasing movement, then, is also reasonable, since everything ceases to move when it comes to its proper place, but the body whose path is the circle has one and the same place for starting-point and goal.

10

Having established these distinctions, we may now proceed to the question whether the heaven is ungenerated or generated, indestructible or destructible. Let us start with a review of the theories of other thinkers; for the proofs of a theory are difficulties for the contrary theory. Besides, those who have first heard the pleas of our adversaries will be more likely to credit the assertions which we are going to make. We shall be less open to the charge of procuring judgement by default. To give a satisfactory decision as to the truth it is necessary to be rather an arbitrator than a party to the dispute.

That the world was generated all are agreed, but, generation over, some say that it is eternal, others say that it is destructible like any other natural formation. Others again, with Empedliocles of Acragas and Heraclitus of Ephesus, believe that there is alternation in the destructive process, which takes now this direction, now that, and continues without end.

Now to assert that it was generated and yet is eternal is to assert the impossible; for we cannot reasonably attribute to anything any characteristics but those which observation detects in many or all instances. But in this case the facts point the other way: generated things are seen always to be destroyed. Further, a thing whose present state had no beginning and which could not have been other than it was at any previous moment throughout its entire duration, cannot possibly be changed. For there will have to be some cause of change, and if this had been present earlier it would have made possible another condition of that to which any other condition was impossible. Suppose that the world was formed out of elements which were formerly otherwise conditioned than as they are now. Then (1) if their condition was always so and could not have been otherwise, the world could never have come into being. And (2) if the world did come into being, then, clearly, their condition must have been capable of change and not eternal: after combination therefore they will be dispersed, just as in the past after dispersion they came into combination, and this process either has been, or could have been, indefinitely repeated. But if this is so, the world cannot be indestructible, and it does not matter whether the change of condition has actually occurred or remains a possibility.

Some of those who hold that the world, though indestructible, was yet generated, try to support their case by a parallel which is illusory. They say that in their statements about its generation they are doing what geometricians do when they construct their figures, not implying that the universe really had a beginning, but for didactic reasons facilitating understanding by exhibiting the object, like the figure, as in course of formation. The two cases, as we said, are not parallel; for, in the construction of the figure, when the various steps are completed the required figure forthwith results; but in these other demonstrations what results is not that which was required. Indeed it cannot be so; for antecedent and consequent, as assumed, are in contradiction. The ordered, it is said, arose out of the unordered; and the same thing cannot be at the same time both ordered and unordered; there must be a process and a lapse of time separating the two states. In the figure, on the other hand, there is no temporal separation. It is clear then that the universe cannot be at once eternal and generated.

To say that the universe alternately combines and dissolves is no more paradoxical than to make it eternal but varying in shape. It is as if one were to think that there was now destruction and now existence when from a child a man is generated, and from a man a child. For it is clear that when the elements come together the result is not a chance system and combination, but the very same as before-especially on the view of those who hold this theory, since they say that the contrary is the cause of each state. So that if the totality of body, which is a continuum, is now in this order or disposition and now in that, and if the combination of the whole is a world or heaven, then it will not be the world that comes into being and is destroyed, but only its dispositions.

If the world is believed to be one, it is impossible to suppose that it should be, as a whole, first generated and then destroyed, never to reappear; since before it came into being there was always present the combination prior to it, and that, we hold, could never change if it was never generated. If, on the other hand, the worlds are infinite in number the view is more plausible. But whether this is, or is not, impossible will be clear from what follows. For there are some who think it possible both for the ungenerated to be destroyed and for the generated to persist undestroyed. (This is held in the Timaeus, where Plato says that the heaven, though it was generated, will none the less exist to eternity.) So far as the heaven is concerned we have answered this view with arguments appropriate to the nature of the heaven: on the general question we shall attain clearness when we examine the matter universally.

11

We must first distinguish the senses in which we use the words ‘ungenerated’ and ‘generated’, ‘destructible’ and ‘indestructible’. These have many meanings, and though it may make no difference to the argument, yet some confusion of mind must result from treating as uniform in its use a word which has several distinct applications. The character which is the ground of the predication will always remain obscure.

The word ‘ungenerated’ then is used (a) in one sense whenever something now is which formerly was not, no process of becoming or change being involved. Such is the case, according to some, with contact and motion, since there is no process of coming to be in contact or in motion. (b) It is used in another sense, when something which is capable of coming to be, with or without process, does not exist; such a thing is ungenerated in the sense that its generation is not a fact but a possibility. (c) It is also applied where there is general impossibility of any generation such that the thing now is which then was not. And ‘impossibility’ has two uses: first, where it is untrue to say that the thing can ever come into being, and secondly, where it cannot do so easily, quickly, or well. In the same way the word ‘generated’ is used, (a) first, where what formerly was not afterwards is, whether a process of becoming was or was not involved, so long as that which then was not, now is; (b) secondly, of anything capable of existing, ‘capable’ being defined with reference either to truth or to facility; (c) thirdly, of anything to which the passage from not being to being belongs, whether already actual, if its existence is due to a past process of becoming, or not yet actual but only possible. The uses of the words 'destructible' and 'indestructible' are similar. 'Destructible' is applied (a) to that which formerly was and afterwards either is not or might not be, whether a period of being destroyed and changed intervenes or not; and (b) sometimes we apply the word to that which a process of destruction may cause not to be; and also (c) in a third sense, to that which is easily destructible, to the 'easily destroyed', so to speak. Of the indestructible the same account holds good. It is either (a) that which now is and now is not, without any process of destruction, like contact, which without being destroyed afterwards is not, though formerly it was; or (b) that which is but might not be, or which will at some time not be, though it now is. For you exist now and so does the contact; yet both are destructible, because a time will come when it will not be true of you that you exist, nor of these things that they are in contact. Thirdly (c) in its most proper use, it is that which is, but is incapable of any destruction such that the thing which now is later ceases to be or might cease to be; or again, that which has not yet been destroyed, but in the future may cease to be. For indestructible is also used of that which is destroyed with difficulty.

This being so, we must ask what we mean by 'possible' and 'impossible'. For in its most proper use the predicate 'indestructible' is given because it is impossible that the thing should be destroyed, i.e. exist at one time and not at another. And 'ungenerated' also involves impossibility when used for that which cannot be generated, in such fashion that, while formerly it was not, later it is. An instance is a commensurable diagonal. Now when we speak of a power to move or to lift weights, we refer always to the maximum. We speak, for instance, of a power to lift a hundred talents or walk a hundred stades-though a power to effect the maximum is also a power to effect any part of the maximum-since we feel obliged in defining the power to give the limit or maximum. A thing, then, which is within it. If, for example, a man can lift a hundred talents, he can also lift two, and if he can walk a hundred stades, he can also walk two. But the power is of the maximum, and a thing said, with reference to its maximum, to be incapable of so much is also incapable of any greater amount. It is, for instance, clear that a person who cannot walk a thousand stades will also be unable to walk a thousand and one. This point need not trouble us, for we may take it as settled that what is, in the strict sense, possible is determined by a limiting maximum. Now perhaps the objection might be raised that there is no necessity in this, since he who sees a stade need not see the smaller measures contained in it, while, on the contrary, he who can see a dot or hear a small sound will perceive what is greater. This, however, does not touch our argument. The maximum may be determined either in the power or in its object. The application of this is plain. Superior sight is sight of the smaller body, but superior speed is that of the greater body.

12

Having established these distinctions we car now proceed to the sequel. If there are thing! capable both of being and of not being, there must be some definite maximum time of their being and not being; a time, I mean, during which continued existence is possible to them and a time during which continued nonexistence is possible. And this is true in every category, whether the thing is, for example, ‘man’, or ‘white’, or ‘three cubits long’, or whatever it may be. For if the time is not definite in quantity, but longer than any that can be suggested and shorter than none, then it will be possible for one and the same thing to exist for infinite time and not to exist for another infinity. This, however, is impossible.

Let us take our start from this point. The impossible and the false have not the same significance. One use of ‘impossible’ and ‘possible’, and ‘false’ and ‘true’, is hypothetical. It is impossible, for instance, on a certain hypothesis that the triangle should have its angles equal to two right angles, and on another the diagonal is commensurable. But there are also things possible and impossible, false and true, absolutely. Now it is one thing to be absolutely false, and another thing to be absolutely impossible. To say that you are standing when you are not standing is to assert a falsehood, but not an impossibility. Similarly to say that a man who is playing the harp, but not singing, is singing, is to say what is false but not impossible. To say, however, that you are at once standing and sitting, or that the diagonal is commensurable, is to say what is not only false but also impossible. Thus it is not the same thing to make a false and to make an impossible hypothesis, and from the impossible hypothesis impossible results follow. A man has, it is true, the capacity at once of sitting and of standing, because when he possesses the one he also possesses the other; but it does not follow that he can at once sit and stand, only that at another time he can do the other also. But if a thing has for infinite time more than one capacity, another time is impossible and the times must coincide. Thus if a thing which exists for infinite time is destructible, it will have the capacity of not being. Now if it exists for infinite time let this capacity be actualized; and it will be in actuality at once existent and non-existent. Thus a false conclusion would follow because a false assumption was made, but if what was assumed had not been impossible its consequence would not have been impossible.

Anything then which always exists is absolutely imperishable. It is also ungenerated, since if it was generated it will have the power for some time of not being. For as that which formerly was, but now is not, or is capable at some future time of not being, is destructible, so that which is capable of formerly not having been is generated. But in the case of that which always is, there is no time for such a capacity of not being, whether the supposed time is finite or infinite; for its capacity of being must include the finite time since it covers infinite time.

It is therefore impossible that one and the same thing should be capable of always existing and of always not-existing. And 'not always existing', the contradictory, is also excluded. Thus it is impossible for a thing always to exist and yet to be destructible. Nor, similarly, can it be generated. For of two attributes if B cannot be present without A, the impossibility A of proves the impossibility of B. What always is, then, since it is incapable of ever not being, cannot possibly be generated. But since the contradictory of 'that which is always capable of being' 'that which is not always capable of being'; while 'that which is always capable of not being' is the contrary, whose contradictory in turn is 'that which is not always capable of not being', it is necessary that the contradictories of both terms should be predicable of one and the same thing, and thus that, intermediate between what always is and what always is not, there should be that to which being and not-being are both possible; for the contradictory of each will at times be true of it unless it always exists. Hence that which not always is not will sometimes be and sometimes not be; and it is clear that this is true also of that which cannot always be but sometimes is and therefore sometimes is not. One thing, then, will have the power of being, and will thus be intermediate between the other two.

Expresed universally our argument is as follows. Let there be two attributes, A and B, not capable of being present in any one thing together, while either A or C and either B or D are capable of being present in everything. Then C and D must be predicated of everything of which neither A nor B is predicated. Let E lie between A and B; for that which is neither of two contraries is a mean between them. In E both C and D must be present, for either A or C is present everywhere and therefore in E. Since then A is impossible, C must be present, and the same argument holds of D.

Neither that which always is, therefore, nor that which always is not is either generated or destructible. And clearly whatever is generated or destructible is not eternal. If it were, it would be at once capable of always being and capable of not always being, but it has already been shown that this is impossible. Surely then whatever is ungenerated and in being must be eternal, and whatever is indestructible and in being must equally be so. (I use the words ‘ungenerated’ and ‘indestructible’ in their proper sense, ‘ungenerated’ for that which now is and could not at any previous time have been truly said not to be; ‘indestructible’ for that which now is and cannot at any future time be truly said not to be.) If, again, the two terms are coincident, if the ungenerated is indestructible, and the indestructible ungenearted, then each of them is coincident with ‘eternal’; anything ungenerated is eternal and anything indestructible is eternal. This is clear too from the definition of the terms, Whatever is destructible must be generated; for it is either ungenerated, or generated, but, if ungenerated, it is by hypothesis indestructible. Whatever, further, is generated must be destructible. For it is either destructible or indestructible, but, if indestructible, it is by hypothesis ungenerated.

If, however, ‘indestructible’ and ‘ungenerated’ are not coincident, there is no necessity that either the ungenerated or the indestructible should be eternal. But they must be coincident, for the following reasons. The terms ‘generated’ and ‘destructible’ are coincident; this is obvious from our former remarks, since between what always is and what always is not there is an intermediate which is neither, and that intermediate is the generated and destructible. For whatever is either of these is capable both of being and of not being for a definite time: in either case, I mean, there is a certain period of time during which the thing is and another during which it is not. Anything therefore which is generated or destructible must be intermediate. Now let A be that which always is and B that which always is not, C the generated, and D the destructible. Then C must be intermediate between A and B. For in their case there is no time in the direction of either limit, in which either A is not or B is. But for the generated there must be such a time either actually or potentially, though not for A and B in either way. C then will be, and also not be, for a limited length of time, and this is true also of D, the destructible. Therefore each is both generated and destructible. Therefore ‘generated’ and ‘destructible’ are coincident. Now let E stand for the ungenerated, F for the generated, G for the indestructible, and H for the destructible. As for F and H, it has been shown that they are coincident. But when terms stand to one another as these do, F and H coincident, E and F never predicated of the same thing but one or other of everything, and G and H likewise, then E and G must needs be coincident. For suppose that E is not coincident with G, then F will be, since either E or F is predictable of everything. But of that of which F is predicated H will be predicable also. H will then be coincident with G, but this we saw to be impossible. And the same argument shows that G is coincident with E.

Now the relation of the ungenerated (E) to the generated (F) is the same as that of the indestructible (G) to the destructible (H). To say then that there is no reason why anything should not be generated and yet indestructible or ungenerated and yet destroyed, to imagine that in the one case generation and in the other case destruction occurs once for all, is to destroy part of the data. For (1) everything is capable of acting or being acted upon, of being or not being, either for an infinite, or for a definitely limited space of time; and the infinite time is only a possible alternative because it is after a fashion defined, as a length of time which cannot be exceeded. But infinity in one direction is neither infinite or finite. (2) Further, why, after always existing, was the thing destroyed, why, after an infinity of not being, was it generated, at one moment rather than another? If every moment is alike and the moments are infinite in number, it is clear that a generated or destructible thing existed for an infinite time. It has therefore for an infinite time the capacity of not being (since the capacity of being and the capacity of not being will be present together), if destructible, in the time before destruction, if generated, in the time after generation. If then we assume the two capacities to be actualized, opposites will be present together. (3) Further, this second capacity will be present like the first at every moment, so that the thing will have for an infinite time the capacity both of being and of not being; but this has been shown to be impossible. (4) Again, if the capacity is present prior to the activity, it will be present for all time, even while the thing was as yet ungenerated and non-existent, throughout the infinite time in which it was capable of being generated. At that time, then, when it was not, at that same time it had the capacity of being, both of being then and of being thereafter, and therefore for an infinity of time.

It is clear also on other grounds that it is impossible that the destructible should not at some time be destroyed. For otherwise it will always be at once destructible and in actuality indestructible, so that it will be at the same time capable of always existing and of not always existing. Thus the destructible is at some time actually destroyed. The generable, similarly, has been generated, for it is capable of having been generated and thus also of not always existing.

We may also see in the following way how impossible it is either for a thing which is generated to be thenceforward indestructible, or for a thing which is ungenerated and has always hitherto existed to be destroyed. Nothing that is by chance can be indestructible or ungenerated, since the products of chance and fortune are opposed to what is, or comes to be, always or usually, while anything which exists for a time infinite either absolutely or in one direction, is in existence either always or usually. That which is by chance, then, is by nature such as to exist at one time and not at another. But in things of that character the contradictory states proceed from one and the same capacity, the matter of the thing being the cause equally of its existence and of its non-existence. Hence contradictories would be present together in actuality.

Further, it cannot truly be said of a thing now that it exists last year, nor could it be said last year that it exists now. It is therefore impossible for what once did not exist later to be eternal. For in its later state it will possess the capacity of not existing, only not of not existing at a time when it exists-since then it exists in actuality-but of not existing last year or in the past. Now suppose it to be in actuality what it is capable of being. It will then be true to say now that it does not exist last year. But this is impossible. No capacity relates to being in the past, but always to being in the present or future. It is the same with the notion of an eternity of existence followed later by non-existence. In the later state the capacity will be present for that which is not there in actuality. Actualize, then, the capacity. It will be true to say now that this exists last year or in the past generally.

Considerations also not general like these but proper to the subject show it to be impossible that what was formerly eternal should later be destroyed or that what formerly was not should later be eternal. Whatever is destructible or generated is always alterable. Now alteration is due to contraries, and the things which compose the natural body are the very same that destroy it.

Book II

1

THAT the heaven as a whole neither came into being nor admits of destruction, as some assert, but is one and eternal, with no end or beginning of its total duration, containing and embracing in itself the infinity of time, we may convince ourselves not only by the arguments already set forth but also by a consideration of the views of those who differ from us in providing for its generation. If our view is a possible one, and the manner of generation which they assert is impossible, this fact will have great weight in convincing us of the immortality and eternity of the world. Hence it is well to persuade oneself of the truth of the ancient and truly traditional theories, that there is some immortal and divine thing which possesses movement, but movement such as has no limit and is rather itself the limit of all other movement. A limit is a thing which contains; and this motion, being perfect, contains those imperfect motions which have a limit and a goal, having itself no beginning or end, but unceasing through the infinity of time, and of other movements, to some the cause of their beginning, to others offering the goal. The ancients gave to the Gods the heaven or upper place, as being alone immortal; and our present argument testifies that it is indestructible and ungenerated. Further, it is unaffected by any mortal discomfort, and, in addition, effortless; for it needs no constraining necessity to keep it to its path, and prevent it from moving with some other movement more natural to itself. Such a constrained movement would necessarily involve effort the more so, the more eternal it were-and would be inconsistent with perfection. Hence we must not believe the old tale which says that the world needs some Atlas to keep it safe-a tale composed, it would seem, by men who, like later thinkers, conceived of all the upper bodies as earthy and endowed with weight, and therefore supported it in their fabulous way upon animate necessity. We must no more believe that than follow Empedocles when he says that the world, by being whirled round, received a movement quick enough to overpower its own downward tendency, and thus has been kept from destruction all this time. Nor, again, is it conceivable that it should persist eternally by the necessitation of a soul. For a soul could not live in such conditions painlessly or happily, since the movement involves constraint, being imposed on the first body, whose natural motion is different, and imposed continuously. It must therefore be uneasy and devoid of all rational satisfaction; for it could not even, like the soul of mortal animals, take recreation in the bodily relaxation of sleep. An Ixion's lot must needs possess it, without end or respite. If then, as we said, the view already stated of the first motion is a possible one, it is not only more appropriate so to conceive of its eternity, but also on this hypothesis alone are we able to advance a theory consistent with popular divinations of the divine nature. But of this enough for the present.

2

Since there are some who say that there is a right and a left in the heaven, with those who are known as Pythagoreans-to whom indeed the view really belongs-we must consider whether, if we are to apply these principles to the body of the universe, we should follow their statement of the matter or find a better way. At the start we may say that, if right and left are applicable, there are prior principles which must first be applied. These principles have been analysed in the discussion of the movements of animals, for the reason that they are proper to animal nature. For in some animals we find all such distinctions of parts as this of right and left clearly present, and in others some; but in plants we find only above and below. Now if we are to apply to the heaven such a distinction of parts, we must exect, as we have said, to find in it also the distinction which in animals is found first of them all. The distinctions are three, namely, above and below, front and its opposite, right and left-all these three oppositions we expect to find in the perfect body-and each may be called a principle. Above is the principle of length, right of breadth, front of depth. Or again we may connect them with the various movements, taking principle to mean that part, in a thing capable of movement, from which movement first begins. Growth starts from above, locomotion from the right, sensemovement from in front (for front is simply the part to which the senses are directed). Hence we must not look for above and below, right and left, front and back, in every kind of body, but only in those which, being animate, have a principle of movement within themselves.

For in no inanimate thing do we observe a part from which movement originates. Some do not move at all, some move, but not indifferently in any direction; fire, for example, only upward, and earth only to the centre. It is true that we speak of above and below, right and left, in these bodies relatively to ourselves. The reference may be to our own right hands, as with the diviner, or to some similarity to our own members, such as the parts of a statue possess; or we may take the contrary spatial order, calling right that which is to our left, and left that which is to our right. We observe, however, in the things themselves none of these distinctions; indeed if they are turned round we proceed to speak of the opposite parts as right and left, a boy land below, front and back. Hence it is remarkable that the Pythagoreans should have spoken of these two principles, right and left, only, to the exclusion of the other four, which have as good a title as they. There is no less difference between above and below or front and back in animals generally than between right and left. The difference is sometimes only one of function, sometimes also one of shape; and while the distinction of above and below is characteristic of all animate things, whether plants or animals, that of right and left is not found in plants. Further, inasmuch as length is prior to breadth, if above is the principle of length, right of breadth, and if the principle of that which is prior is itself prior, then above will be prior to right, or let us say, since 'prior' is ambiguous, prior in order of generation. If, in addition, above is the region from which movement originates, right the region in which it starts, front the region to which it is directed, then on this ground too above has a certain original character as compared with the other forms of position. On these two grounds, then, they may fairly be criticized, first, for omitting the more fundamental principles, and secondly, for thinking that the two they mentioned were attributable equally to everything.

Since we have already determined that functions of this kind belong to things which possess, a principle of movement, and that the heaven is animate and possesses a principle of movement, clearly the heaven must also exhibit above and below, right and left. We need not be troubled by the question, arising from the spherical shape of the world, how there can be a distinction of right and left within it, all parts being alike and all for ever in motion. We must think of the world as of something in which right differs from left in shape as well as in other respects, which subsequently is included in a sphere. The difference of function will persist, but will appear not to by reason of the regularity of shape. In the same fashion must we conceive of the beginning of its movement. For even if it never began to move, yet it must possess a principle from which it would have begun to move if it had begun, and from which it would begin again if it came to a stand. Now by its length I mean the interval between its poles, one pole being above and the other below; for two hemispheres are specially distinguished from all others by the immobility of the poles. Further, by ‘transverse’ in the universe we commonly mean, not above and below, but a direction crossing the line of the poles, which, by implication, is length: for transverse motion is motion crossing motion up and down. Of the poles, that which we see above us is the lower region, and that which we do not see is the upper. For right in anything is, as we say, the region in which locomotion originates, and the rotation of the heaven originates in the region from which the stars rise. So this will be the right, and the region where they set the left. If then they begin from the right and move round to the right, the upper must be the unseen pole. For if it is the pole we see, the movement will be leftward, which we deny to be the fact. Clearly then the invisible pole is above. And those who live in the other hemisphere are above and to the right, while we are below and to the left. This is just the opposite of the view of the Pythagoreans, who make us above and on the right side and those in the other hemisphere below and on the left side; the fact being the exact opposite. Relatively, however, to the secondary revolution, I mean that of the planets, we are above and on the right and they are below and on the left. For the principle of their movement has the reverse position, since the movement itself is the contrary of the other: hence it follows that we are at its beginning and they at its end. Here we may end our discussion of the distinctions of parts created by the three dimensions and of the consequent differences of position.

3

Since circular motion is not the contrary of the reverse circular motion, we must consider why there is more than one motion, though we have to pursue our inquiries at a distance-a distance created not so much by our spatial position as by the fact that our senses enable us to perceive very few of the attributes of the heavenly bodies. But let not that deter us. The reason must be sought in the following facts. Everything which has a function exists for its function. The activity of God is immortality, i.e. eternal life. Therefore the movement of that which is divine must be eternal. But such is the heaven, viz. a divine body, and for that reason to it is given the circular body whose nature it is to move always in a circle. Why, then, is not the whole body of the heaven of the same character as that part? Because there must be something at rest at the centre of the revolving body; and of that body no part can be at rest, either elsewhere or at the centre. It could do so only if the body's natural movement were towards the centre. But the circular movement is natural, since otherwise it could not be eternal: for nothing unnatural is eternal. The unnatural is subsequent to the natural, being a derangement of the natural which occurs in the course of its generation. Earth then has to exist; for it is earth which is at rest at the centre. (At present we may take this for granted: it shall be explained later.) But if earth must exist, so must fire. For, if one of a pair of contraries naturally exists, the other, if it is really contrary, exists also naturally. In some form it must be present, since the matter of contraries is the same. Also, the positive is prior to its privation (warm, for instance, to cold), and rest and heaviness stand for the privation of lightness and movement. But further, if fire and earth exist, the intermediate bodies must exist also: each element stands in a contrary relation to every other. (This, again, we will here take for granted and try later to explain.) these four elements generation clearly is involved, since none of them can be eternal: for contraries interact with one another and destroy one another. Further, it is inconceivable that a movable body should be eternal, if its movement cannot be regarded as naturally eternal: and these bodies we know to possess movement. Thus we see that generation is necessarily involved. But if so, there must be at least one other circular motion: for a single movement of the whole heaven would necessitate an identical relation of the elements of bodies to one another. This matter also shall be cleared up in what follows: but for the present so much is clear, that the reason why there is more than one circular body is the necessity of generation, which follows on the presence of fire, which, with that of the other bodies, follows on that of earth; and earth is required because eternal movement in one body necessitates eternal rest in another.

The shape of the heaven is of necessity spherical; for that is the shape most appropriate to its substance and also by nature primary.

First, let us consider generally which shape is primary among planes and solids alike. Every plane figure must be either rectilinear or curvilinear. Now the rectilinear is bounded by more than one line, the curvilinear by one only. But since in any kind the one is naturally prior to the many and the simple to the complex, the circle will be the first of plane figures. Again, if by complete, as previously defined, we mean a thing outside which no part of itself can be found, and if addition is always possible to the straight line but never to the circular, clearly the line which embraces the circle is complete. If then the complete is prior to the incomplete, it follows on this ground also that the circle is primary among figures. And the sphere holds the same position among solids. For it alone is embraced by a single surface, while rectilinear solids have several. The sphere is among solids what the circle is among plane figures. Further, those who divide bodies into planes and generate them out of planes seem to bear witness to the truth of this. Alone among solids they leave the sphere undivided, as not possessing more than one surface: for the division into surfaces is not just dividing a whole by cutting it into its parts, but division of another fashion into parts different in form. It is clear, then, that the sphere is first of solid figures.

If, again, one orders figures according to their numbers, it is most natural to arrange them in this way. The circle corresponds to the number one, the triangle, being the sum of two right angles, to the number two. But if one is assigned to the triangle, the circle will not be a figure at all.

Now the first figure belongs to the first body, and the first body is that at the farthest circumference. It follows that the body which revolves with a circular movement must be spherical. The same then will be true of the body continuous with it: for that which is continuous with the spherical is spherical. The same again holds of the bodies between these and the centre. Bodies which are bounded by the spherical and in contact with it must be, as wholes, spherical; and the bodies below the sphere of the planets are contiguous with the sphere above them. The sphere then will be spherical throughout; for every body within it is contiguous and continuous with spheres.

Again, since the whole revolves, palpably and by assumption, in a circle, and since it has been shown that outside the farthest circumference there is neither void nor place, from these grounds also it will follow necessarily that the heaven is spherical. For if it is to be rectilinear in shape, it will follow that there is place and body and void without it. For a rectilinear figure as it revolves never continues in the same room, but where formerly was body, is now none, and where now is none, body will be in a moment because of the projection at the corners. Similarly, if the world had some other figure with unequal radii, if, for instance, it were lentiform, or oviform, in every case we should have to admit space and void outside the moving body, because the whole body would not always occupy the same room.

Again, if the motion of the heaven is the measure of all movements whatever in virtue of being alone continuous and regular and eternal, and if, in each kind, the measure is the minimum, and the minimum movement is the swiftest, then, clearly, the movement of the heaven must be the swiftest of all movements. Now of lines which return upon themselves the line which bounds the circle is the shortest; and that movement is the swiftest which follows the shortest line. Therefore, if the heaven moves in a circle and moves more swiftly than anything else, it must necessarily be spherical.

Corroborative evidence may be drawn from the bodies whose position is about the centre. If earth is enclosed by water, water by air, air by fire, and these similarly by the upper bodies-which while not continuous are yet contiguous with them-and if the surface of water is spherical, and that which is continuous with or embraces the spherical must itself be spherical, then on these grounds also it is clear that the heavens are spherical. But the surface of water is seen to be spherical if we take as our starting-point the fact that water naturally tends to collect in a hollow place-’hollow’ meaning ‘nearer the centre’. Draw from the centre the lines AB, AC, and let their extremities be joined by the straight line BC. The line AD, drawn to the base of the triangle, will be shorter than either of the radii. Therefore the place in which it terminates will be a hollow place. The water then will collect there until equality is established, that is until the line AE is equal to the two radii. Thus water forces its way to the ends of the radii, and there only will it rest: but the line which connects the extremities of the radii is circular: therefore the surface of the water BEC is spherical.

It is plain from the foregoing that the universe is spherical. It is plain, further, that it is turned (so to speak) with a finish which no manufactured thing nor anything else within the range of our observation can even approach. For the matter of which these are composed does not admit of anything like the same regularity and finish as the substance of the enveloping body; since with each step away from earth the matter manifestly becomes finer in the same proportion as water is finer than earth.

5

Now there are two ways of moving along a circle, from A to B or from A to C, and we have already explained that these movements are not contrary to one another. But nothing which concerns the eternal can be a matter of chance or spontaneity, and the heaven and its circular motion are eternal. We must therefore ask why this motion takes one direction and not the other. Either this is itself an ultimate fact or there is an ultimate fact behind it. It may seem evidence of excessive folly or excessive zeal to try to provide an explanation of some things, or of everything, admitting no exception. The criticism, however, is not always just: one should first consider what reason there is for speaking, and also what kind of certainty is looked for, whether human merely or of a more cogent kind. When any one shall succeed in finding proofs of greater precision, gratitude will be due to him for the discovery, but at present we must be content with a probable solution. If nature always follows the best course possible, and, just as upward movement is the superior form of rectilinear movement, since the upper region is more divine than the lower, so forward movement is superior to backward, then front and back exhibits, like right and left, as we said before and as the difficulty just stated itself suggests, the distinction of prior and posterior, which provides a reason and so solves our difficulty. Supposing that nature is ordered in the best way possible, this may stand as the reason of the fact mentioned. For it is best to move with a movement simple and unceasing, and, further, in the superior of two possible directions.

6

We have next to show that the movement of the heaven is regular and not irregular. This applies only to the first heaven and the first movement; for the lower spheres exhibit a composition of several movements into one. If the movement is uneven, clearly there will be acceleration, maximum speed, and retardation, since these appear in all irregular motions. The maximum may occur either at the starting-point or at the goal or between the two; and we expect natural motion to reach its maximum at the goal, unnatural motion at the starting-point, and missiles midway between the two. But circular movement, having no beginning or limit or middle in the direct sense of the words, has neither whence nor whither nor middle: for in time it is eternal, and in length it returns upon itself without a break. If then its movement has no maximum, it can have no irregularity, since irregularity is produced by retardation and acceleration. Further, since everything that is moved is moved by something, the cause of the irregularity of movement must lie either in the mover or in the moved or both. For if the mover moved not always with the same force, or if the moved were altered and did not remain the same, or if both were to change, the result might well be an irregular movement in the moved. But none of these possibilities can be conceived as actual in the case of the heavens. As to that which is moved, we have shown that it is primary and simple and ungenerated and indestructible and generally unchanging; and the mover has an even better right to these attributes. It is the primary that moves the primary, the simple the simple, the indestructible and ungenerated that which is indestructible and ungenerated. Since then that which is moved, being a body, is nevertheless unchanging, how should the mover, which is incorporeal, be changed?

It follows then, further, that the motion cannot be irregular. For if irregularity occurs, there must be change either in the movement as a whole, from fast to slow and slow to fast, or in its parts. That there is no irregularity in the parts is obvious, since, if there were, some divergence of the stars would have taken place before now in the infinity of time, as one moved slower and another faster: but no alteration of their intervals is ever observed. Nor again is a change in the movement as a whole admissible. Retardation is always due to incapacity, and incapacity is unnatural. The incapacities of animals, age, decay, and the like, are all unnatural, due, it seems, to the fact that the whole animal complex is made up of materials which differ in respect of their proper places, and no single part occupies its own place. If therefore that which is primary contains nothing unnatural, being simple and unmixed and in its proper place and having no contrary, then it has no place for incapacity, nor, consequently, for retardation or (since acceleration involves retardation) for acceleration. Again, it is inconceivable that the mover should first show incapacity for an infinite time, and capacity afterwards for another infinity. For clearly nothing which, like incapacity, unnatural ever continues for an infinity of time; nor does the unnatural endure as long as the natural, or any form of incapacity as long as the capacity. But if the movement is retarded it must necessarily be retarded for an infinite time. Equally impossible is perpetual acceleration or perpetual retardation. For such movement would be infinite and indefinite, but every movement, in our view, proceeds from one point to another and is definite in character. Again, suppose one assumes a minimum time in less than which the heaven could not complete its movement. For, as a given walk or a given exercise on the harp cannot take any and every time, but every performance has its definite minimum time which is unsurpassable, so, one might suppose, the movement of the heaven could not be completed in any and every time. But in that case perpetual acceleration is impossible (and, equally, perpetual retardation: for the argument holds of both and each), if we may take acceleration to proceed by identical or increasing additions of speed and for an infinite time. The remaining alternative is to say that the movement exhibits an alternation of slower and faster: but this is a mere fiction and quite inconceivable. Further, irregularity of this kind would be particularly unlikely to pass unobserved, since contrast makes observation easy.

That there is one heaven, then, only, and that it is ungenerated and eternal, and further that its movement is regular, has now been sufficiently explained.

7

We have next to speak of the stars, as they are called, of their composition, shape, and movements. It would be most natural and consequent upon what has been said that each of the stars should be composed of that substance in which their path lies, since, as we said, there is an element whose natural movement is circular. In so saying we are only following the same line of thought as those who say that the stars are fiery because they believe the upper body to be fire, the presumption being that a thing is composed of the same stuff as that in which it is situated. The warmth and light which proceed from them are caused by the friction set up in the air by their motion. Movement tends to create fire in wood, stone, and iron; and with even more reason should it have that effect on air, a substance which is closer to fire than these. An example is that of missiles, which as they move are themselves fired so strongly that leaden balls are melted; and if they are fired the surrounding air must be similarly affected. Now while the missiles are heated by reason of their motion in air, which is turned into fire by the agitation produced by their movement, the upper bodies are carried on a moving sphere, so that, though they are not themselves fired, yet the air underneath the sphere of the revolving body is necessarily heated by its motion, and particularly in that part where the sun is attached to it. Hence warmth increases as the sun gets nearer or higher or overhead. Of the fact, then, that the stars are neither fiery nor move in fire, enough has been said.

8

Since changes evidently occur not only in the position of the stars but also in that of the whole heaven, there are three possibilities. Either (1) both are at rest, or (2) both are in motion, or (3) the one is at rest and the other in motion.

(1) That both should be at rest is impossible; for, if the earth is at rest, the hypothesis does not account for the observations; and we take it as granted that the earth is at rest. It remains either that both are moved, or that the one is moved and the other at rest.

(2) On the view, first, that both are in motion, we have the absurdity that the stars and the circles move with the same speed, i.e. that the arc of every star is that of the circle in it moves. For star and circle are seen to come back to the same place at the same moment; from which it follows that the star has traversed the circle and the circle has completed its own movement, i.e. traversed its own circumference, at one and the same moment. But it is difficult to conceive that the pace of each star should be exactly proportioned to the size of its circle. That the pace of each circle should be proportionate to its size is not absurd but inevitable: but that the same should be true of the movement of the stars contained in the circles is quite incredible. For if, on the one hand, we suppose that the star which moves on the greater circle is necessarily swifter, clearly we also admit that if stars shifted their position so as to exchange circles, the slower would become swifter and the swifter slower. But this would show that their movement was not their own, but due to the circles. If, on the other hand, the arrangement was a chance combination, the coincidence in every case of a greater circle with a swifter

movement of the star contained in it is too much to believe. In one or two cases it might not inconceivably fall out so, but to imagine it in every case alike is a mere fiction. Besides, chance has no place in that which is natural, and what happens everywhere and in every case is no matter of chance.

(3) The same absurdity is equally plain if it is supposed that the circles stand still and that it is the stars themselves which move. For it will follow that the outer stars are the swifter, and that the pace of the stars corresponds to the size of their circles.

Since, then, we cannot reasonably suppose either that both are in motion or that the star alone moves, the remaining alternative is that the circles should move, while the stars are at rest and move with the circles to which they are attached. Only on this supposition are we involved in no absurd consequence. For, in the first place, the quicker movement of the larger circle is natural when all the circles are attached to the same centre. Whenever bodies are moving with their proper motion, the larger moves quicker. It is the same here with the revolving bodies: for those that are intercepted by two radii will be larger in the larger circle, and hence it is not surprising that the revolution of the larger circle should take the same time as that of the smaller. And secondly, the fact that the heavens do not break in pieces follows not only from this but also from the proof already given of the continuity of the whole.

Again, since the stars are spherical, as our opponents assert and we may consistently admit, inasmuch as we construct them out of the spherical body, and since the spherical body has two movements proper to itself, namely rolling and spinning, it follows that if the stars have a movement of their own, it will be one of these. But neither is observed. (1) Suppose them to spin. They would then stay where they were, and not change their place, as, by observation and general consent, they do. Further, one would expect them all to exhibit the same movement: but the only star which appears to possess this movement is the sun, at sunrise or sunset, and this appearance is due not to the sun itself but to the distance from which we observe it. The visual ray being excessively prolonged becomes weak and wavering. The same reason probably accounts for the apparent twinkling of the fixed stars and the absence of twinkling in the planets. The planets are near, so that the visual ray reaches them in its full vigour, but when it comes to the fixed stars it is quivering because of the distance and its excessive extension; and its tremor produces an appearance of movement in the star: for it makes no difference whether movement is set up in the ray or in the object of vision.

(2) On the other hand, it is also clear that the stars do not roll. For rolling involves rotation: but the ‘face’, as it is called, of the moon is always seen. Therefore, since any movement of their own which the stars possessed would presumably be one proper to themselves, and no such movement is observed in them, clearly they have no movement of their own.

There is, further, the absurdity that nature has bestowed upon them no organ appropriate to such movement. For nature leaves nothing to chance, and would not, while caring for animals, overlook things so precious. Indeed, nature seems deliberately to have stripped them of everything which makes selforiginated progression possible, and to have removed them as far as possible from things which have organs of movement. This is just why it seems proper that the whole heaven and every star should be spherical. For while of all shapes the sphere is the most convenient for movement in one place, making possible, as it does, the swiftest and most selfcontained motion, for forward movement it is the most unsuitable, least of all resembling shapes which are self-moved, in that it has no dependent or projecting part, as a rectilinear figure has, and is in fact as far as possible removed in shape from ambulatory bodies. Since, therefore, the heavens have to move in one place, and the stars are not required to move themselves forward, it is natural that both should be spherical-a shape which best suits the movement of the one and the immobility of the other.

9

From all this it is clear that the theory that the movement of the stars produces a harmony, i.e. that the sounds they make are concordant, in spite of the grace and originality with which it has been stated, is nevertheless untrue. Some thinkers suppose that the motion of bodies of that size must produce a noise, since on our earth the motion of bodies far inferior in size and in speed of movement has that effect. Also, when the sun and the moon, they say, and all the stars, so great in number and in size, are moving with so rapid a motion, how should they not produce a sound immensely great? Starting from this argument and from the observation that their speeds, as measured by their distances, are in the same ratios as musical concordances, they assert that the sound given forth by the circular movement of the stars is a harmony.

Since, however, it appears unaccountable that we should not hear this music, they explain this by saying that the sound is in our ears from the very moment of birth and is thus indistinguishable from its contrary silence, since sound and silence are discriminated by mutual contrast. What happens to men, then, is just what happens to coppersmiths, who are so accustomed to the noise of the smithy that it makes no difference to them. But, as we said before, melodious and poetical as the theory is, it cannot be a true account of the facts. There is not only the absurdity of our hearing nothing, the ground of which they try to remove, but also the fact that no effect other than sensitive is produced upon us. Excessive noises, we know, shatter the solid bodies even of inanimate things: the noise of thunder, for instance, splits rocks and the strongest of bodies. But if the moving bodies are so great, and the sound which penetrates to us is proportionate to their size, that sound must needs reach us in an intensity many times that of thunder, and the force of its action must be immense. Indeed the reason why we do not hear, and show in our bodies none of the effects of violent force, is easily given: it is that there is no noise. But not only is the explanation evident; it is also a corroboration of the truth of the views we have advanced. For the very difficulty which made the Pythagoreans say that the motion of the stars produces a concord corroborates our view. Bodies which are themselves in motion, produce noise and friction: but those which are attached or fixed to a moving body, as the parts to a ship, can no more create noise, than a ship on a river moving with the stream. Yet by the same argument one might say it was absurd that on a large vessel the motion of mast and poop should not make a great noise, and the like might be said of the movement of the vessel itself. But sound is caused when a moving body is enclosed in an unmoved body, and cannot be caused by one enclosed in, and continuous with, a moving body which creates no friction. We may say, then, in this matter that if the heavenly bodies moved in a generally diffused mass of air or fire, as every one supposes, their motion would necessarily cause a noise of tremendous strength and such a noise would necessarily reach and shatter us. Since, therefore, this effect is evidently not produced, it follows that none of them can move with the motion either of animate nature or of constraint. It is as though nature had foreseen the result, that if their movement were other than it is, nothing on this earth could maintain its character.

That the stars are spherical and are not selfmoved, has now been explained.

10

With their order-I mean the position of each, as involving the priority of some and the posteriority of others, and their respective distances from the extremity-with this astronomy may be left to deal, since the astronomical discussion is adequate. This discussion shows that the movements of the several stars depend, as regards the varieties of speed which they exhibit, on the distance of each from the extremity. It is established that the outermost revolution of the heavens is a simple movement and the swiftest of all, and that the movement of all other bodies is composite and relatively slow, for the reason that each is moving on its own circle with the reverse motion to that of the heavens. This at once leads us to expect that the body which is nearest to that first simple revolution should take the longest time to complete its circle, and that which is farthest from it the shortest, the others taking a longer time the nearer they are and a shorter time the farther away they are. For it is the nearest body which is most strongly influenced, and the most remote, by reason of its distance, which is least affected, the influence on the intermediate bodies varying, as the mathematicians show, with their distance.

11

With regard to the shape of each star, the most reasonable view is that they are spherical. It has been shown that it is not in their nature to move themselves, and, since nature is no wanton or random creator, clearly she will have given things which possess no movement a shape particularly unadapted to movement. Such a shape is the sphere, since it possesses no instrument of movement. Clearly then their mass will have the form of a sphere. Again, what holds of one holds of all, and the evidence of our eyes shows us that the moon is spherical. For how else should the moon as it waxes and wanes show for the most part a crescent-shaped or gibbous figure, and only at one moment a half-moon? And astronomical arguments give further confirmation; for no other hypothesis accounts for the crescent shape of the sun’s eclipses. One, then, of the heavenly bodies being spherical, clearly the rest will be spherical also.

There are two difficulties, which may very reasonably here be raised, of which we must now attempt to state the probable solution: for we regard the zeal of one whose thirst after philosophy leads him to accept even slight indications where it is very difficult to see one's way, as a proof rather of modesty than of overconfidence.

Of many such problems one of the strangest is the problem why we find the greatest number of movements in the intermediate bodies, and not, rather, in each successive body a variety of movement proportionate to its distance from the primary motion. For we should expect, since the primary body shows one motion only, that the body which is nearest to it should move with the fewest movements, say two, and the one next after that with three, or some similar arrangement. But the opposite is the case. The movements of the sun and moon are fewer than those of some of the planets. Yet these planets are farther from the centre and thus nearer to the primary body than they, as observation has itself revealed. For we have seen the moon, half-full, pass beneath the planet Mars, which vanished on its shadow side and came forth by the bright and shining part. Similar accounts of other stars are given by the Egyptians and Babylonians, whose observations have been kept for very many years past, and from whom much of our evidence about particular stars is derived. A second difficulty which may with equal justice be raised is this. Why is it that the primary motion includes such a multitude of stars that their whole array seems to defy counting, while of the other stars each one is separated off, and in no case do we find two or more attached to the same motion?

On these questions, I say, it is well that we should seek to increase our understanding, though we have but little to go upon, and are placed at so great a distance from the facts in question. Nevertheless there are certain principles on which if we base our consideration we shall not find this difficulty by any means insoluble. We may object that we have been thinking of the stars as mere bodies, and as units with a serial order indeed but entirely inanimate; but should rather conceive them as enjoying life and action. On this view the facts cease to appear surprising. For it is natural that the best-conditioned of all things should have its good without action, that which is nearest to it should achieve it by little and simple action, and that which is farther removed by a complexity of actions, just as with men's bodies one is in good condition without exercise at all, another after a short walk, while another requires running and wrestling and hard training, and there are yet others who however hard they worked themselves could never secure this good, but only some substitute for it. To succeed often or in many things is difficult. For instance, to throw ten thousand Coan throws with the dice would be impossible, but to throw one or two is comparatively easy. In action, again, when A has to be done to get B, B to get C, and C to get D, one step or two present little difficulty, but as the series extends the difficulty grows. We must, then, think of the action of the lower stars as similar to that of animals and plants. For on our earth it is man that has the greatest variety of actions-for there are many goods that man can secure; hence his actions are various and directed to ends beyond them-while the perfectly conditioned has no need of action, since it is itself the end, and action always requires two terms, end and means. The lower animals have less variety of action than man; and plants perhaps have little action and of one kind only. For either they have but one attainable good (as indeed man has), or, if several, each contributes directly to their ultimate good. One thing then has and enjoys the ultimate good, other things attain to it, one immediately by few steps, another by many, while yet another does not even attempt to secure it but is satisfied to reach a point not far removed from that consummation. Thus, taking health as the end, there will be one thing that always possesses health, others that attain it, one by reducing flesh, another by running and thus reducing flesh, another by taking steps to enable himself to run, thus further increasing the number of movements, while another cannot attain health itself, but only running or reduction of flesh, so that one or other of these is for such a being the end. For while it is clearly best for any being to attain the real end, yet, if that cannot be, the nearer it is to the best the better will be its state. It is for this reason that the earth moves not at all and the bodies near to it with few movements. For they do not attain the final end, but only come as near to it as their share in the divine principle permits. But the first heaven finds it immediately with a single movement, and the bodies intermediate between the first and last heavens attain it indeed, but at the cost of a multiplicity of movement.

As to the difficulty that into the one primary motion is crowded a vast multitude of stars, while of the other stars each has been separately given special movements of its own, there is in the first place this reason for regarding the arrangement as a natural one. In thinking of the life and moving principle of the several heavens one must regard the first as far superior to the others. Such a superiority would be reasonable. For this single first motion has to move many of the divine bodies, while the numerous other motions move only one each, since each single planet moves with a variety of motions. Thus, then, nature makes matters equal and establishes a certain order, giving to the single motion many bodies and to the single body many motions. And there is a second reason why the other motions have each only one body, in that each of them except the last, i.e. that which contains the one star, is really moving many bodies. For this last sphere moves with many others, to which it is fixed, each sphere being actually a body; so that its movement will be a joint product. Each sphere, in fact, has its particular natural motion, to which the general movement is, as it were, added. But the force of any limited body is only adequate to moving a limited body.

The characteristics of the stars which move with a circular motion, in respect of substance and shape, movement and order, have now been sufficiently explained.

13

It remains to speak of the earth, of its position, of the question whether it is at rest or in motion, and of its shape.

I. As to its position there is some difference of opinion. Most people-all, in fact, who regard the whole heaven as finite-say it lies at the centre. But the Italian philosophers known as Pythagoreans take the contrary view. At the centre, they say, is fire, and the earth is one of the stars, creating night and day by its circular motion about the centre. They further construct another earth in opposition to ours to which they give the name counterearth. In all this they are not seeking for theories and causes to account for observed facts, but rather forcing their observations and trying to accommodate them to certain theories and opinions of their own. But there are many others who would agree that it is wrong to give the earth the central position, looking for confirmation rather to theory than to the facts of observation. Their view is that the most precious place befits the most precious thing: but fire, they say, is more precious than earth, and the limit than the intermediate, and the circumference and the centre are limits. Reasoning on this basis they take the view that it is not earth that lies at the centre of the sphere, but rather fire. The Pythagoreans have a further reason. They hold that the most important part of the world, which is the centre, should be most strictly guarded, and name it, or rather the fire which occupies that place, the 'Guardhouse of Zeus', as if the word 'centre' were quite unequivocal, and the centre of the mathematical figure were always the same with that of the thing or the natural centre. But it is better to conceive of the case of the whole heaven as analogous to that of animals, in which the centre of the animal and that of the body are different. For this reason they have no need to be so disturbed about the world, or to call in a guard for its centre: rather let them look for the centre in the other sense and tell us what it is like and where nature has set it. That centre will be something primary and precious; but to the mere position we should give the last place rather than the first. For the middle is what is defined, and what defines it is the limit, and that which contains or limits is more precious than that which is limited, see ing that the latter is the matter and the former the essence of the system.

II. As to the position of the earth, then, this is the view which some advance, and the views advanced concerning its rest or motion are similar. For here too there is no general agreement. All who deny that the earth lies at the centre think that it revolves about the centre, and not the earth only but, as we said before, the counter-earth as well. Some of them even consider it possible that there are several bodies so moving, which are invisible to us owing to the interposition of the earth. This, they say, accounts for the fact that eclipses of the moon are more frequent than eclipses of the sun: for in addition to the earth each of these moving bodies can obstruct it. Indeed, as in any case the surface of the earth is not actually a centre but distant from it a full hemisphere, there is no more difficulty, they think, in accounting for the observed facts on their view that we do not dwell at the centre, than on the common view that the earth is in the middle. Even as it is, there is nothing in the observations to suggest that we are removed from the centre by half the diameter of the earth. Others, again, say that the earth, which lies at the centre, is 'rolled', and thus in motion, about the axis of the whole heaven, So it stands written in the Timaeus.

III. There are similar disputes about the shape of the earth. Some think it is spherical, others that it is flat and drum-shaped. For evidence they bring the fact that, as the sun rises and sets, the part concealed by the earth shows a straight and not a curved edge, whereas if the earth were spherical the line of section would have to be circular. In this they leave out of account the great distance of the sun from the earth and the great size of the circumference, which, seen from a distance on these apparently small circles appears straight. Such an appearance ought not to make them doubt the circular shape of the earth. But they have another argument. They say that because it is at rest, the earth must necessarily have this shape. For there are many different ways in which the movement or rest of the earth has been conceived.

The difficulty must have occurred to every one. It would indeed be a complacent mind that felt no surprise that, while a little bit of earth, let loose in mid-air moves and will not stay still, and more there is of it the faster it moves, the whole earth, free in midair, should show no movement at all. Yet here is this great weight of earth, and it is at rest. And again, from beneath one of these moving fragments of earth, before it falls, take away the earth, and it will continue its downward movement with nothing to stop it. The difficulty then, has naturally passed into a common place of philosophy; and one may well wonder that the solutions offered are not seen to involve greater absurdities than the problem itself.

By these considerations some have been led to assert that the earth below us is infinite, saying, with Xenophanes of Colophon, that it has ‘pushed its roots to infinity’,-in order to save the trouble of seeking for the cause. Hence the sharp rebuke of Empedocles, in the words ‘if the deeps of the earth are endless and endless the ample ether-such is the vain tale told by many a tongue, poured from the mouths of those who have seen but little of the whole. Others say the earth rests upon water. This, indeed, is the oldest theory that has been preserved, and is attributed to Thales of Miletus. It was supposed to stay still because it floated like wood and other similar substances, which are so constituted as to rest upon but not upon air. As if the same account had not to be given of the water which carries the earth as of the earth itself! It is not the nature of water, any more than of earth, to stay in mid-air: it must have something to rest upon. Again, as air is lighter than water, so is water than earth: how then can they think that the naturally lighter substance lies below the heavier? Again, if the earth as a whole is capable of floating upon water, that must obviously be the case with any part of it. But observation shows that this is not the case. Any piece of earth goes to the bottom, the quicker the larger it is. These thinkers seem to push their inquiries some way into the problem, but not so far as they might. It is what we are all inclined to do, to direct our inquiry not by the matter itself, but by the views of our opponents: and even when interrogating oneself one pushes the inquiry only to the point at which one can no longer offer any opposition. Hence a good inquirer will be one who is ready in bringing forward the objections proper to the genus, and that he will be when he has gained an understanding of all the differences.

Anaximenes and Anaxagoras and Democritus give the flatness of the earth as the cause of its staying still. Thus, they say, it does not cut, but covers like a lid, the air beneath it. This seems to be the way of flat-shaped bodies: for even the wind can scarcely move them because of their power of resistance. The same immobility, they say, is produced by the flatness of the surface which the earth presents to the air which underlies it; while the air, not having room enough to change its place because it is underneath the earth, stays there in a mass, like the water in the case of the water-clock. And they adduce an amount of evidence to prove that air, when cut off and at rest, can bear a considerable weight.

Now, first, if the shape of the earth is not flat, its flatness cannot be the cause of its immobility. But in their own account it is rather the size of the earth than its flatness that causes it to remain at rest. For the reason why the air is so closely confined that it cannot find a passage, and therefore stays where it is, is its great amount: and this amount great because the body which isolates it, the earth, is very large. This result, then, will follow, even if the earth is spherical, so long as it retains its size. So far as their arguments go, the earth will still be at rest.

In general, our quarrel with those who speak of movement in this way cannot be confined to the parts; it concerns the whole universe. One must decide at the outset whether bodies have a natural movement or not, whether there is no natural but only constrained movement. Seeing, however, that we have already decided this matter to the best of our ability, we are entitled to treat our results as representing fact. Bodies, we say, which have no natural movement, have no constrained movement; and where there is no natural and no constrained movement there will be no movement at all. This is a conclusion, the necessity of which we have already decided, and we have seen further that rest also will be inconceivable, since rest, like movement, is either natural or constrained. But if there is any natural movement, constraint will not be the sole principle of motion or of rest. If, then, it is by constraint that the earth now keeps its place, the so-called ‘whirling’ movement by which its parts came together at the centre was also constrained. (The form of causation supposed they all borrow from observations of liquids and of air, in which the larger and heavier bodies always move to the centre of the whirl. This is thought by all those who try to generate the heavens to explain why the earth came together at the centre. They then seek a reason for its staying there; and some say, in the manner explained, that the reason is its size and flatness, others, with Empedocles, that the motion of the heavens, moving about it at a higher speed, prevents movement of the earth, as the water in a cup, when the cup is given a circular motion, though it is often underneath the bronze, is for this same reason prevented from moving with the downward movement which is natural to it.) But suppose both the ‘whirl’ and its flatness (the air beneath being withdrawn) cease to prevent the earth’s motion, where will the earth move to then? Its movement to the centre was constrained, and its rest at the centre is due to constraint; but there must be some motion which is natural to it. Will this be upward motion or downward or what? It must have some motion; and if upward and downward motion are alike to it, and the air above the earth does not prevent upward movement, then no more could air below it prevent downward movement. For the same cause must necessarily have the same effect on the same thing.

Further, against Empedocles there is another point which might be made. When the elements were separated off by Hate, what caused the earth to keep its place? Surely the ‘whirl’ cannot have been then also the cause. It is absurd too not to perceive that, while the whirling movement may have been responsible for the original coming together of the art of earth at the centre, the question remains, why now do all heavy bodies move to the earth. For the whirl surely does not come near us. Why, again, does fire move upward? Not, surely, because of the whirl. But if fire is naturally such as to move in a certain direction, clearly the same may be supposed to hold of earth. Again, it cannot be the whirl which determines the heavy and the light. Rather that movement caused the pre-existent heavy and light things to go to the middle and stay on the surface respectively. Thus, before ever the whirl began, heavy and light existed; and what can have been the ground of their distinction, or the manner and direction of their natural movements? In the infinite chaos there can have been neither above nor below, and it is by these that heavy and light are determined.

It is to these causes that most writers pay attention: but there are some, Anaximander, for instance, among the ancients, who say that the earth keeps its place because of its indifference. Motion upward and downward and sideways were all, they thought, equally inappropriate to that which is set at the centre and indifferently related to every extreme point; and to move in contrary directions at the same time was impossible: so it must needs remain still. This view is ingenious but not true. The argument would prove that everything, whatever it be, which is put at the centre, must stay there. Fire, then, will rest at the centre: for the proof turns on no peculiar property of earth. But this does not follow. The observed facts about earth are not only that it remains at the centre, but also that it moves to the centre. The place to which any fragment of earth moves must necessarily be the place to which the whole moves; and in the place to which a thing naturally moves, it will naturally rest. The reason then is not in the fact that the earth is indifferently related to every extreme point: for this would apply to any body, whereas movement to the centre is peculiar to earth. Again it is absurd to look for a reason why the earth remains at the centre and not for a reason why fire remains at the extremity. If the extremity is the natural place of fire, clearly earth must also have a natural place. But suppose that the centre is not its place, and that the reason of its remaining there is this necessity of indifference-on the analogy of the hair which, it is said, however great the tension, will not break under it, if it be evenly distributed, or of the men who, though exceedingly hungry and thirsty, and both equally, yet being equidistant from food and drink, is therefore bound to stay where he is-even so, it still remains to explain why fire stays at the extremities. It is strange, too, to ask about things staying still but not about their motion,-why, I mean, one thing, if nothing stops it, moves up, and another thing to the centre. Again, their statements are not true. It happens, indeed, to be the case that a thing to which movement this way and that is equally inappropriate is obliged to remain at the centre. But so far as their argument goes, instead of remaining there, it will move, only not as a mass but in fragments. For the argument applies equally to fire. Fire, if set at the centre, should stay there, like earth, since it will be indifferently related to every point on the extremity. Nevertheless it will move, as in fact it always does move when nothing stops it, away from the centre to the extremity. It will not, however, move in a mass to a single point on the circumference-the only possible result on the lines of the indifference theory-but rather each corresponding portion of fire to the corresponding part of the extremity, each fourth part, for instance, to a fourth part of the circumference. For since no body is a point, it will have parts. The expansion, when the body increased the place occupied, would be on the same principle as the contraction, in which the place was diminished. Thus, for all the indifference theory shows to the contrary, earth also would have moved in this manner away from the centre, unless the centre had been its natural place.

We have now outlined the views held as to the shape, position, and rest or movement of the earth.

14

Let us first decide the question whether the earth moves or is at rest. For, as we said, there are some who make it one of the stars, and others who, setting it at the centre, suppose it to be ‘rolled’ and in motion about the pole as axis. That both views are untenable will be clear if we take as our starting-point the fact that the earth’s motion, whether the earth be at the centre or away from it, must needs be a constrained motion. It cannot be the movement of the earth itself. If it were, any portion of it would have this movement; but in fact every part moves in a straight line to the centre. Being, then, constrained and unnatural, the movement could not be eternal. But the order of the universe is eternal. Again, everything that moves with the circular movement, except the first sphere, is observed to be passed, and to move with more than one motion. The earth, then, also, whether it move about the centre or as stationary at it, must necessarily move with two motions. But if this were so, there would have to be passings and turnings of the fixed stars. Yet no such thing is observed. The same stars always rise and set in the same parts of the earth.

Further, the natural movement of the earth, part and whole alike, is the centre of the whole-whence the fact that it is now actually situated at the centre-but it might be questioned since both centres are the same, which centre it is that portions of earth and other heavy things move to. Is this their goal because it is the centre of the earth or because it is the centre of the whole? The goal, surely, must be the centre of the whole. For fire and other light things move to the extremity of the area which contains the centre. It happens, however, that the centre of the earth and of the whole is the same. Thus they do move to the centre of the earth, but accidentally, in virtue of the fact that the earth's centre lies at the centre of the whole. That the centre of the earth is the goal of their movement is indicated by the fact that heavy bodies moving towards the earth do not parallel but so as to make equal angles, and thus to a single centre, that of the earth. It is clear, then, that the earth must be at the centre and immovable, not only for the reasons already given, but also because heavy bodies forcibly thrown quite straight upward return to the point from which they started, even if they are thrown to an infinite distance. From these considerations then it is clear that the earth does not move and does not lie elsewhere than at the centre.

From what we have said the explanation of the earth's immobility is also apparent. If it is the nature of earth, as observation shows, to move from any point to the centre, as of fire contrariwise to move from the centre to the extremity, it is impossible that any portion of earth should move away from the centre except by constraint. For a single thing has a single movement, and a simple thing a simple: contrary movements cannot belong to the same thing, and movement away from the centre is the contrary of movement to it. If then no portion of earth can move away from the centre, obviously still less can the earth as a whole so move. For it is the nature of the whole to move to the point to which the part naturally moves. Since, then, it would require a force greater than itself to move it, it must needs stay at the centre. This view is further supported by the contributions of mathematicians to astronomy, since the observations made as the shapes change by which the order of the stars is determined, are fully accounted for on the hypothesis that the earth lies at the centre. Of the position of the earth and of the manner of its rest or movement, our discussion may here end.

Its shape must necessarily be spherical. For every portion of earth has weight until it reaches the centre, and the jostling of parts greater and smaller would bring about not a waved surface, but rather compression and convergence of part and part until the centre is reached. The process should be conceived by supposing the earth to come into being in the way that some of the natural philosophers describe. Only they attribute the downward movement to constraint, and it is better to keep to the truth and say that the reason of this motion is that a thing which possesses weight is naturally endowed with a centripetal movement. When the mixture, then, was merely potential, the things that were separated off moved similarly from every side towards the centre. Whether the parts which came together at the centre were distributed at the extremities evenly, or in some other way, makes no difference. If, on the one hand, there were a similar movement from each quarter of the extremity to the single centre, it is obvious that the resulting mass would be similar on every side. For if an equal amount is added on every side the extremity of the mass will be everywhere equidistant from its centre, i.e. the figure will be spherical. But neither will it in any way affect the argument if there is not a similar accession of concurrent fragments from every side. For the greater quantity, finding a lesser in front of it, must necessarily drive it on, both having an impulse whose goal is the centre, and the greater weight driving the lesser forward till this goal is reached. In this we have also the solution of a possible difficulty. The earth, it might be argued, is at the centre and spherical in shape: if, then, a weight many times that of the earth were added to one hemisphere, the centre of the earth and of the whole will no longer be coincident. So that either the earth will not stay still at the centre, or if it does, it will be at rest without having its centre at the place to which it is still its nature to move. Such is the difficulty. A short consideration will give us an easy answer, if we first give precision to our postulate that any body endowed with weight, of whatever size, moves towards the centre. Clearly it will not stop when its edge touches the centre. The greater quantity must prevail until the body's centre occupies the centre. For that is the goal of its impulse. Now it makes no difference whether we apply this to a clod or common fragment of earth or to the earth as a whole. The fact indicated does not depend upon degrees of size but applies universally to everything that has the centripetal impulse. Therefore earth in motion, whether in a mass or in fragments, necessarily continues to move until it occupies the centre equally every way, the less being forced to equalize itself by the greater owing to the forward drive of the impulse.

If the earth was generated, then, it must have been formed in this way, and so clearly its generation was spherical; and if it is ungenerated and has remained so always, its character must be that which the initial generation, if it had occurred, would have given it. But the spherical shape, necessitated by this argument, follows also from the fact that the motions of heavy bodies always make equal angles, and are not parallel. This would be the natural form of movement towards what is naturally spherical. Either then the earth is spherical or it is at least naturally spherical. And it is right to call anything that which nature intends it to be, and which belongs to it, rather than that which it is by constraint and contrary to nature. The evidence of the senses further corroborates this. How else would eclipses of the moon show segments shaped as we see them? As it is, the shapes which the moon itself each month shows are of every kind straight, gibbous, and concave-but in eclipses the outline is always curved: and, since it is the interposition of the earth that makes the eclipse, the form of this line will be caused by the form of the earth's surface, which is therefore spherical. Again, our observations of the stars make it evident, not only that the earth is circular, but also that it is a circle of no great size. For quite a small change of position to south or north causes a manifest alteration of the horizon. There is much change, I mean, in the stars which are overhead, and the stars seen are different, as one moves northward or southward. Indeed there are some stars seen in Egypt and in the neighbourhood of Cyprus which are not seen in the northerly regions; and stars, which in the north are never beyond the range of observation, in those regions rise and set. All of which goes to show not only that the earth is circular in shape, but also that it is a sphere of no great size: for otherwise the effect of so slight a change of place would not be quickly apparent. Hence one should not be too sure of the incredibility of the view of those who conceive that there is continuity between the parts about the pillars of Hercules and the parts about India, and that in this way the ocean is one. As further evidence in favour of this they quote the case of elephants, a species occurring in each of these extreme regions, suggesting that the common characteristic of these extremes is explained by their continuity. Also, those mathematicians who try to calculate the size of the earth's circumference arrive at the figure 400,000 stades. This indicates not only that the earth's mass is spherical in shape, but also that as compared with the stars it is not of great size.

Book III

1

WE have already discussed the first heaven and its parts, the moving stars within it, the matter of which these are composed and their bodily constitution, and we have also shown that they are ungenerated and indestructible. Now things that we call natural are either substances or functions and attributes of substances. As substances I class the simple bodies-fire, earth, and the other terms of the series-and all things composed of them; for example, the heaven as a whole and its parts, animals, again, and plants and their parts. By attributes and functions I mean the movements of these and of all other things in which they have power in themselves to cause movement, and also their alterations and reciprocal transformations. It is obvious, then, that the greater part of the inquiry into nature concerns bodies: for a natural substance is either a body or a thing which cannot come into existence without body and magnitude. This appears plainly from an analysis of the character of natural things, and equally from an inspection of the instances of inquiry into nature. Since, then, we have spoken of the primary element, of its bodily constitution, and of its freedom from destruction and generation, it remains to speak of the other two. In speaking of them we shall be obliged also to inquire into generation and destruction. For if there is generation anywhere, it must be in these elements and things composed of them.

This is indeed the first question we have to ask: is generation a fact or not? Earlier speculation was at variance both with itself and with the views here put forward as to the true answer to this question. Some removed generation and destruction from the world altogether. Nothing that is, they said, is generated or destroyed, and our conviction to the contrary is an illusion. So maintained the school of Melissus and Parmenides. But however excellent their theories may otherwise be, anyhow they cannot be held to speak as students of nature. There may be things not subject to generation or any kind of movement, but if so they belong to another and a higher inquiry than the study of nature. They, however, had no idea of any form of being other than the substance of things perceived; and when they saw, what no one previously had seen, that there could be no knowledge or wisdom without some such unchanging entities, they naturally transferred what was true of them to things perceived. Others, perhaps intentionally, maintain precisely the contrary opinion to this. It has been asserted that everything in the world was subject to generation and nothing was ungenerated, but that after being generated some things remained indestructible while the rest were again destroyed. This had been asserted in the first instance by Hesiod and his followers, but afterwards outside his circle by the earliest natural philosophers. But what these thinkers maintained was that all else has been generated and, as they said, ‘is flowing away, nothing having any solidity, except one single thing which persists as the basis of all these transformations. So we may interpret the statements of Heraclitus of Ephesus and many others. And some subject all bodies whatever to generation, by means of the composition and separation of planes.

Discussion of the other views may be postponed. But this last theory which composes every body of planes is, as the most superficial observation shows, in many respects in plain contradiction with mathematics. It is, however, wrong to remove the foundations of a science unless you can replace them with others more convincing. And, secondly, the same theory which composes solids of planes clearly composes planes of lines and lines of points, so that a part of a line need not be a line. This matter has been already considered in our discussion of movement, where we have shown that an indivisible length is impossible. But with respect to natural bodies there are impossibilities involved in the view which asserts indivisible lines, which we may briefly consider at this point. For the impossible consequences which result from this view in the mathematical sphere will reproduce themselves when it is applied to physical bodies, but there will be difficulties in physics which are not present in mathematics; for mathematics deals with an abstract and physics with a more concrete object. There are many attributes necessarily present in physical bodies which are necessarily excluded by indivisibility; all attributes, in fact, which are divisible. There can be nothing divisible in an indivisible thing, but the attributes of bodies are all divisible in one of two ways. They are divisible into kinds, as colour is divided into white and black, and they are divisible per accidens when that which has them is divisible. In this latter sense attributes which are simple are nevertheless divisible. Attributes of this kind will serve, therefore, to illustrate the impossibility of the view. It is impossible, if two parts of a thing have no weight, that the two together should have weight. But either all perceptible bodies or some, such as earth and water, have weight, as these thinkers would themselves admit. Now if the point has no weight, clearly the lines have not either, and, if they have not, neither have the planes. Therefore no body has weight. It is, further, manifest that their point cannot have weight. For while a heavy thing may always be heavier than something and a light thing lighter than something, a thing which is heavier or lighter than something need not be itself heavy or light, just as a large thing is larger than others, but what is larger is not always large. A thing which, judged absolutely, is small may none the less be larger than other things. Whatever, then, is heavy and also heavier than something else, must exceed this by something which is heavy. A heavy thing therefore is always divisible. But it is common ground that a point is indivisible. Again, suppose that what is heavy or weight is a dense body, and what is light rare. Dense differs from rare in containing more matter in the same cubic area. A point, then, if it may be heavy or light, may be dense or rare. But the dense is divisible while a point is indivisible. And if what is heavy must be either hard or soft, an impossible consequence is easy to draw. For a thing is soft if its surface can be pressed in, hard if it cannot; and if it can be pressed in it is divisible.

Moreover, no weight can consist of parts not possessing weight. For how, except by the merest fiction, can they specify the number and character of the parts which will produce weight? And, further, when one weight is greater than another, the difference is a third weight; from which it will follow that every indivisible part possesses weight. For suppose that a body of four points possesses weight. A body composed of more than four points will superior in weight to it, a thing which has weight. But the difference between weight and weight must be a weight, as the difference between white and whiter is white. Here the difference which makes the superior weight heavier is the single point which remains when the common number, four, is subtracted. A single point, therefore, has weight.

Further, to assume, on the one hand, that the planes can only be put in linear contact would be ridiculous. For just as there are two ways of putting lines together, namely, end to and side by side, so there must be two ways of putting planes together. Lines can be put together so that contact is linear by laying one along the other, though not by putting them end to end. But if, similarly, in putting the lanes together, superficial contact is allowed as an alternative to linear, that method will give them bodies which are not any element nor composed of elements. Again, if it is the number of planes in a body that makes one heavier than another, as the Timaeus explains, clearly the line and the point will have weight. For the three cases are, as we said before, analogous. But if the reason of differences of weight is not this, but rather the heaviness of earth and the lightness of fire, then some of the planes will be light and others heavy (which involves a similar distinction in the lines and the points); the earthplane, I mean, will be heavier than the fire-plane. In general, the result is either that there is no magnitude at all, or that all magnitude could be done away with. For a point is to a line as a line is to a plane and as a plane is to a body. Now the various forms in passing into one another will each be resolved into its ultimate constituents. It might happen therefore that nothing existed except points, and that there was no body at all. A further consideration is that if time is similarly constituted, there would be, or might be, a time at which it was done away with. For the indivisible now is like a point in a line. The same consequences follow from composing the heaven of numbers, as some of the Pythagoreans do who make all nature out of numbers. For natural bodies are manifestly endowed with weight and lightness, but an assemblage of units can neither be composed to form a body nor possess weight.

2

The necessity that each of the simple bodies should have a natural movement may be shown as follows. They manifestly move, and if they have no proper movement they must move by constraint: and the constrained is the same as the unnatural. Now an unnatural movement presupposes a natural movement which it contravenes, and which, however many the unnatural movements, is always one. For naturally a thing moves in one way, while its unnatural movements are manifold. The same may be shown, from the fact of rest. Rest, also, must either be constrained or natural, constrained in a place to which movement was constrained, natural in a place movement to which was natural. Now manifestly there is a body which is at rest at the centre. If then this rest is natural to it, clearly motion to this place is natural to it. If, on the other hand, its rest is constrained, what is hindering its motion? Something, which is at rest: but if so, we shall simply repeat the same argument; and either we shall come to an ultimate something to which rest where it is or we shall have an infinite process, which is impossible. The hindrance to its movement, then, we will suppose, is a moving thing-as Empedocles says that it is the vortex which keeps the earth still-: but in that case we ask, where would it have moved to but for the vortex? It could not move infinitely; for to traverse an infinite is impossible, and impossibilities do not happen. So the moving thing must stop somewhere, and there rest not by constraint but naturally. But a natural rest proves a natural movement to the place of rest. Hence Leucippus and Democritus, who say that the primary bodies are in perpetual movement in the void or infinite, may be asked to explain the manner of their motion and the kind of movement which is natural to them. For if the various elements are constrained by one another to move as they do, each must still have a natural movement which the constrained contravenes, and the prime mover must cause motion not by constraint but naturally. If there is no ultimate natural cause of movement and each preceding term in the series is always moved by constraint, we shall have an infinite process. The same difficulty is involved even if it is supposed, as we read in the Timaeus, that before the ordered world was made the elements moved without order. Their movement must have been due either to constraint or to their nature. And if their movement was natural, a moment’s consideration shows that there was already an ordered world. For the prime mover must cause motion in virtue of its own natural movement, and the other bodies, moving without constraint, as they came to rest in their proper places, would fall into the order in which they now stand, the heavy bodies moving towards the centre and the light bodies away from it. But that is the order of their distribution in our world. There is a further question, too, which might be asked. Is it possible or impossible that bodies in unordered movement should combine in some cases into combinations like those of which bodies of nature’s composing are composed, such, I mean, as bones and flesh? Yet this is what Empedocles asserts to have occurred under Love. ‘Many a head’, says he, ‘came to birth without a neck.’ The answer to the view that there are infinite bodies moving in an infinite is that, if the cause of movement is single, they must move with a single motion, and therefore not without order; and if, on the other hand, the causes are of infinite variety, their motions too must be infinitely varied. For a finite number of causes would produce a kind of order, since absence of order is not proved by diversity of direction in motions: indeed, in the world we know, not all bodies, but only bodies of the same kind, have a common goal of movement. Again, disorderly movement means in reality unnatural movement, since the order proper to perceptible things is their nature. And there is also absurdity and impossibility in the notion that the disorderly movement is infinitely continued. For the nature of things is the nature which most of them possess for most of the time. Thus their view brings them into the contrary position that disorder is natural, and order or system unnatural. But no natural fact can originate in chance. This is a point which Anaxagoras seems to have thoroughly grasped; for he starts his cosmogony from unmoved things. The others, it is true, make things collect together somehow before they try to produce motion and separation. But there is no sense in starting generation from an original state in which bodies are separated and in movement. Hence Empedocles begins after the process ruled by Love: for he could not have constructed the heaven by building it up out of bodies in separation, making them to combine by the power of Love, since our world has its constituent elements in separation, and therefore presupposes a previous state of unity and combination.

These arguments make it plain that every body has its natural movement, which is not constrained or contrary to its nature. We go on to show that there are certain bodies whose necessary impetus is that of weight and lightness. Of necessity, we assert, they must move, and a moved thing which has no natural impetus cannot move either towards or away from the centre. Suppose a body A without weight, and a body B endowed with weight. Suppose the weightless body to move the distance CD, while B in the same time moves the distance CE, which will be greater since the heavy thing must move further. Let the heavy body then be divided in the proportion CE: CD (for there is no reason why a part of B should not stand in this relation to the whole). Now if the whole moves the whole distance CE, the part must in the same time move the distance CD. A weightless body, therefore, and one which has weight will move the same distance, which is impossible. And the same argument would fit the case of lightness. Again, a body which is in motion but has neither weight nor lightness, must be moved by constraint, and must continue its constrained movement infinitely. For there will be a force which moves it, and the smaller and lighter a body is the further will a given force move it. Now let A, the weightless body, be moved the distance CE, and B, which has weight, be moved in the same time the distance CD. Dividing the heavy body in the proportion CE:CD, we subtract from the heavy body a part which will in the same time move the distance CE, since the whole moved CD: for the relative speeds of the two bodies will be in inverse ratio to their respective sizes. Thus the weightless body will move the same distance as the heavy in the same time. But this is impossible. Hence, since the motion of the weightless body will cover a greater distance than any that is suggested, it will continue infinitely. It is therefore obvious that every body must have a definite weight or lightness. But since 'nature' means a source of movement within the thing itself, while a force is a source of movement in something other than it or in itself qua other, and since movement is always due either to nature or to constraint, movement which is natural, as downward movement is to a stone, will be merely accelerated by an external force, while an unnatural movement will be due to the force alone. In either case the air is as it were instrumental to the force. For air is both light and heavy, and thus qua light produces upward motion, being propelled and set in motion by the force, and qua heavy produces a downward motion. In either case the force transmits the movement to the body by first, as it were, impregnating the air. That is why a body moved by constraint continues to move when that which gave the impulse ceases to accompany it. Otherwise, i.e. if the air were not endowed with this function, constrained movement would be impossible. And the natural movement of a body may be helped on in the same way. This discussion suffices to show (1) that all bodies are either light or heavy, and (2) how unnatural movement takes place.

From what has been said earlier it is plain that there cannot be generation either of everything or in an absolute sense of anything. It is impossible that everything should be generated, unless an extra-corporeal void is possible. For, assuming generation, the place which is to be occupied by that which is coming to be, must have been previously occupied by void in which no body was. Now it is quite possible for one body to be generated out of another, air for instance out of fire, but in the absence of any pre-existing mass generation is impossible. That which is potentially a certain kind of body may, it is true, become such in actuality, But if the potential body was not already in actuality some other kind of body, the existence of an extra-corporeal void must be admitted.

3

It remains to say what bodies are subject to generation, and why. Since in every case knowledge depends on what is primary, and the elements are the primary constituents of bodies, we must ask which of such bodies are elements, and why; and after that what is their number and character. The answer will be plain if we first explain what kind of substance an element is. An element, we take it, is a body into which other bodies may be analysed, present in them potentially or in actuality (which of these, is still disputable), and not itself divisible into bodies different in form. That, or something like it, is what all men in every case mean by element. Now if what we have described is an element, clearly there must be such bodies. For flesh and wood and all other similar bodies contain potentially fire and earth, since one sees these elements exuded from them; and, on the other hand, neither in potentiality nor in actuality does fire contain flesh or wood, or it would exude them. Similarly, even if there were only one elementary body, it would not contain them. For though it will be either flesh or bone or something else, that does not at once show that it contained these in potentiality: the further question remains, in what manner it becomes them. Now Anaxagoras opposes Empedocles' view of the elements. Empedocles says that fire and earth and the related bodies are elementary bodies of which all things are composed; but this Anaxagoras denies. His elements are the homoeomerous things, viz. flesh, bone, and the like. Earth and fire are mixtures, composed of them and all the other seeds, each consisting of a collection of all the homoeomerous bodies, separately invisible; and that explains why from these two bodies all others are generated. (To him fire and aither are the same thing.) But since every natural body has it proper movement, and movements are either simple or mixed, mixed in mixed bodies and simple in simple, there must obviously be simple bodies; for there are simple movements. It is plain, then, that there are elements, and why.

4

The next question to consider is whether the elements are finite or infinite in number, and, if finite, what their number is. Let us first show reason or denying that their number is infinite, as some suppose. We begin with the view of Anaxagoras that all the homoeomerous bodies are elements. Any one who adopts this view misapprehends the meaning of element. Observation shows that even mixed bodies are often divisible into homoeomerous parts; examples are flesh, bone, wood, and stone. Since then the composite cannot be an element, not every homoeomerous body can be an element; only, as we said before, that which is not divisible into bodies different in form. But even taking ‘element’ as they do, they need not assert an infinity of elements, since the hypothesis of a finite number will give identical results. Indeed even two or three such bodies serve the purpose as well, as Empedocles’ attempt shows. Again, even on their view it turns out that all things are not composed of homocomerous bodies. They do not pretend that a face is composed of faces, or that any other natural conformation is composed of parts like itself. Obviously then it would be better to assume a finite number of principles. They should, in fact, be as few as possible, consistently with proving what has to be proved. This is the common demand of mathematicians, who always assume as principles things finite either in kind or in number. Again, if body is distinguished from body by the appropriate qualitative difference, and there is a limit to the number of differences (for the difference lies in qualities apprehended by sense, which are in fact finite in number, though this requires proof), then manifestly there is necessarily a limit to the number of elements.

There is, further, another view-that of Leucippus and Democritus of Abdera-the implications of which are also unacceptable. The primary masses, according to them, are infinite in number and indivisible in mass: one cannot turn into many nor many into one; and all things are generated by their combination and involution. Now this view in a sense makes things out to be numbers or composed of numbers. The exposition is not clear, but this is its real meaning. And further, they say that since the atomic bodies differ in shape, and there is an infinity of shapes, there is an infinity of simple bodies. But they have never explained in detail the shapes of the various elements, except so far to allot the sphere to fire. Air, water, and the rest they distinguished by the relative size of the atom, assuming that the atomic substance was a sort of master-seed for each and every element. Now, in the first place, they make the mistake already noticed. The principles which they assume are not limited in number, though such limitation would necessitate no other alteration in their theory. Further, if the differences of bodies are not infinite, plainly the elements will not be an infinity. Besides, a view which asserts atomic bodies must needs come into conflict with the mathematical sciences, in addition to invalidating many common opinions and apparent data of sense perception. But of these things we have already spoken in our discussion of time and movement. They are also bound to contradict themselves. For if the elements are atomic, air, earth, and water cannot be differentiated by the relative sizes of their atoms, since then they could not be generated out of one another. The extrusion of the largest atoms is a process that will in time exhaust the supply; and it is by such a process that they account for the generation of water, air, and earth from one another. Again, even on their own presuppositions it does not seem as if the clements would be infinite in number. The atoms differ in figure, and all figures are composed of pyramids, rectilinear the case of rectilinear figures, while the sphere has eight pyramidal parts. The figures must have their principles, and, whether these are one or two or more, the simple bodies must be the same in number as they. Again, if every element has its proper movement, and a simple body has a simple movement, and the number of simple movements is not infinite, because the simple motions are only two and the number of places is not infinite, on these grounds also we should have to deny that the number of elements is infinite.

5

Since the number of the elements must be limited, it remains to inquire whether there is more than one element. Some assume one only, which is according to some water, to others air, to others fire, to others again something finer than water and denser than air, an infinite body-so they say-bracing all the heavens.

Now those who decide for a single element, which is either water or air or a body finer than water and denser than air, and proceed to generate other things out of it by use of the attributes density and rarity, all alike fail to observe the fact that they are depriving the element of its priority. Generation out of the elements is, as they say, synthesis, and generation into the elements is analysis, so that the body with the finer parts must have priority in the order of nature. But they say that fire is of all bodies the finest. Hence fire will be first in the natural order. And whether the finest body is fire or not makes no difference; anyhow it must be one of the other bodies that is primary and not that which is intermediate. Again, density and rarity, as instruments of generation, are equivalent to fineness and coarseness, since the fine is rare, and coarse in their use means dense. But fineness and coarseness, again, are equivalent to greatness and smallness, since a thing with small parts is fine and a thing with large parts coarse. For that which spreads itself out widely is fine, and a thing composed of small parts is so spread out. In the end, then, they distinguish the various other substances from the element by the greatness and smallness of their parts. This method of distinction makes all judgement relative. There will be no absolute distinction between fire, water, and air, but one and the same body will be relatively to this fire, relatively to something else air. The same difficulty is involved equally in the view elements and distinguishes them by their greatness and smallness. The principle of distinction between bodies being quantity, the various sizes will be in a definite ratio, and whatever bodies are in this ratio to one another must be air, fire, earth, and water respectively. For the ratios of smaller bodies may be repeated among greater bodies.

Those who start from fire as the single element, while avoiding this difficulty, involve themselves in many others. Some of them give fire a particular shape, like those who make it a pyramid, and this on one of two grounds. The reason given may be-more crudely-that the pyramid is the most piercing of figures as fire is of bodies, or-more ingeniously-the position may be supported by the following argument. As all bodies are composed of that which has the finest parts, so all solid figures are composed of pryamids: but the finest body is fire, while among figures the pyramid is primary and has the smallest parts; and the primary body must have the primary figure: therefore fire will be a pyramid. Others, again, express no opinion on the subject of its figure, but simply regard it as the of the finest parts, which in combination will form other bodies, as the fusing of gold-dust produces solid gold. Both of these views involve the same difficulties. For (1) if, on the one hand, they make the primary body an atom, the view will be open to the objections already advanced against the atomic theory. And further the theory is inconsistent with a regard for the facts of nature. For if all bodies are quantitatively commensurable, and the relative size of the various homoeomerous masses and of their several elements are in the same ratio, so that the total mass of water, for instance, is related to the total mass of air as the elements of each are to one another, and so on, and if there is more air than water and, generally, more of the finer body than of the coarser, obviously the element of water will be smaller than that of air. But the lesser quantity is contained in the greater. Therefore the air element is divisible. And the same could be shown of fire and of all bodies whose parts are relatively fine. (2) If, on the other hand, the primary body is divisible, then (a) those who give fire a special shape will have to say that a part of fire is not fire, because a pyramid is not composed of pyramids, and also that not every body is either an element or composed of elements, since a part of fire will be neither fire nor any other element. And (b) those whose ground of distinction is size will have to recognize an element prior to the element, a regress which continues infinitely, since every body is divisible and that which has the smallest parts is the element. Further, they too will have to say that the same body is relatively to this fire and relatively to that air, to others again water and earth.

The common error of all views which assume a single element is that they allow only one natural movement, which is the same for every body. For it is a matter of observation that a natural body possesses a principle of movement. If then all bodies are one, all will have one movement. With this motion the greater their quantity the more they will move, just as fire, in proportion as its quantity is greater, moves faster with the upward motion which belongs to it. But the fact is that increase of quantity makes many things move the faster downward. For these reasons, then, as well as from the distinction already established of a plurality of natural movements, it is impossible that there should be only one element. But if the elements are not an infinity and not reducible to one, they must be several and finite in number.

6

First we must inquire whether the elements are eternal or subject to generation and destruction; for when this question has been answered their number and character will be manifest. In the first place, they cannot be eternal. It is a matter of observation that fire, water, and every simple body undergo a process of analysis, which must either continue infinitely or stop somewhere. (1) Suppose it infinite. Then the time occupied by the process will be infinite, and also that occupied by the reverse process of synthesis. For the processes of analysis and synthesis succeed one another in the various parts. It will follow that there are two infinite times which are mutually exclusive, the time occupied by the synthesis, which is infinite, being preceded by the period of analysis. There are thus two mutually exclusive infinites, which is impossible. (2) Suppose, on the other hand, that the analysis stops somewhere. Then the body at which it stops will be either atomic or, as Empedocles seems to have intended, a divisible body which will yet never be divided. The foregoing arguments show that it cannot be an atom; but neither can it be a divisible body which analysis will never reach. For a smaller body is more easily destroyed than a larger; and a destructive process which succeeds in destroying, that is, in resolving into smaller bodies, a body of some size, cannot reasonably be expected to fail with the smaller body. Now in fire we observe a destruction of two kinds: it is destroyed by its contrary when it is quenched, and by itself when it dies out. But the effect is produced by a greater quantity upon a lesser, and the more quickly the smaller it is. The elements of bodies must therefore be subject to destruction and generation.

Since they are generated, they must be generated either from something incorporeal or from a body, and if from a body, either from one another or from something else. The theory which generates them from something incorporeal requires an extra-corporeal void. For everything that comes to be comes to be in something, and that in which the generation takes place must either be incorporeal or possess body; and if it has body, there will be two bodies in the same place at the same time, viz. that which is coming to be and that which was previously there, while if it is incorporeal, there must be an extra-corporeal void. But we have already shown that this is impossible. But, on the other hand, it is equally impossible that the elements should be generated from some kind of body. That would involve a body distinct from the elements and prior to them. But if this body possesses weight or lightness, it will be one of the elements; and if it has no tendency to movement, it will be an immovable or mathematical entity, and therefore not in a place at all. A place in which a thing is at rest is a place in which it might move, either by constraint, i.e. unnaturally, or in the absence of constraint, i.e. naturally. If, then, it is in a place and somewhere, it will be one of the elements; and if it is not in a place, nothing can come from it, since that which comes into being and that out of which it comes must needs be together. The elements therefore cannot be generated from something incorporeal nor from a body which is not an element, and the only remaining alternative is that they are generated from one another.

7

We must, therefore, turn to the question, what is the manner of their generation from one another? Is it as Empedocles and Democritus say, or as those who resolve bodies into planes say, or is there yet another possibility? (1) What the followers of Empedocles do, though without observing it themselves, is to reduce the generation of elements out of one another to an illusion. They make it a process of excretion from a body of what was in it all the time-as though generation required a vessel rather than a material-so that it involves no change of anything. And even if this were accepted, there are other implications equally unsatisfactory. We do not expect a mass of matter to be made heavier by compression. But they will be bound to maintain this, if they say that water is a body present in air and excreted from air, since air becomes heavier when it turns into water. Again, when the mixed body is divided, they can show no reason why one of the constituents must by itself take up more room than the body did: but when water turns into air, the room occupied is increased. The fact is that the finer body takes up more room, as is obvious in any case of transformation. As the liquid is converted into vapour or air the vessel which contains it is often burst because it does not contain room enough. Now, if there is no void at all, and if, as those who take this view say, there is no expansion of bodies, the impossibility of this is manifest: and if there is void and expansion, there is no accounting for the fact that the body which results from division cfpies of necessity a greater space. It is inevitable, too, that generation of one out of another should come to a stop, since a finite quantum cannot contain an infinity of finite quanta. When earth produces water something is taken away from the earth, for the process is one of excretion. The same thing happens again when the residue produces water. But this can only go on for ever, if the finite body contains an infinity, which is impossible. Therefore the generation of elements out of one another will not always continue.

(2) We have now explained that the mutual transformations of the elements cannot take place by means of excretion. The remaining alternative is that they should be generated by changing into one another. And this in one of two ways, either by change of shape, as the same wax takes the shape both of a sphere and of a cube, or, as some assert, by resolution into planes. (a) Generation by change of shape would necessarily involve the assertion of atomic bodies. For if the particles were divisible there would be a part of fire which was not fire and a part of earth which was not earth, for the reason that not every part of a pyramid is a pyramid nor of a cube a cube. But if (b) the process is resolution into planes, the first difficulty is that the elements cannot all be generated out of one another. This they are obliged to assert, and do assert. It is absurd, because it is unreasonable that one element alone should have no part in the transformations, and also contrary to the observed data of sense, according to which all alike change into one another. In fact their explanation of the observations is not consistent with the observations. And the reason is that their ultimate principles are wrongly assumed: they had certain predetermined views, and were resolved to bring everything into line with them. It seems that perceptible things require perceptible principles, eternal things eternal principles, corruptible things corruptible principles; and, in general, every subject matter principles homogeneous with itself. But they, owing to their love for their principles, fall into the attitude of men who undertake the defence of a position in argument. In the confidence that the principles are true they are ready to accept any consequence of their application. As though some principles did not require to be judged from their results, and particularly from their final issue! And that issue, which in the case of productive knowledge is the product, in the knowledge of nature is the unimpeachable evidence of the senses as to each fact.

The result of their view is that earth has the best right to the name element, and is alone indestructible; for that which is indissoluble is indestructible and elementary, and earth alone cannot be dissolved into any body but itself. Again, in the case of those elements which do suffer dissolution, the ‘suspension’ of the triangles is unsatisfactory. But this takes place whenever one is dissolved into another, because of the numerical inequality of the triangles which compose them. Further, those who hold these views must needs suppose that generation does not start from a body. For what is generated out of planes cannot be said to have been generated from a body. And they must also assert that not all bodies are divisible, coming thus into conflict with our most accurate sciences, namely the mathematical, which assume that even the intelligible is divisible, while they, in their anxiety to save their hypothesis, cannot even admit this of every perceptible thing. For any one who gives each element a shape of its own, and makes this the ground of distinction between the substances, has to attribute to them indivisibility; since division of a pyramid or a sphere must leave somewhere at least a residue which is not sphere or a pyramid. Either, then, a part of fire is not fire, so that there is a body prior to the element-for every body is either an element or composed of elements-or not every body is divisible.

8

In general, the attempt to give a shape to each of the simple bodies is unsound, for the reason, first, that they will not succeed in filling the whole. It is agreed that there are only three plane figures which can fill a space, the triangle, the square, and the hexagon, and only two solids, the pyramid and the cube. But the theory needs more than these because the elements which it recognizes are more in number. Secondly, it is manifest that the simple bodies are often given a shape by the place in which they are included, particularly water and air. In such a case the shape of the element cannot persist; for, if it did, the contained mass would not be in continuous contact with the containing body; while, if its shape is changed, it will cease to be water, since the distinctive quality is shape. Clearly, then, their shapes are not fixed. Indeed, nature itself seems to offer corroboration of this theoretical conclusion. Just as in other cases the substratum must be formless and unshapen-for thus the ‘all-receptive’, as we read in the Timaeus, will be best for modelling-so the elements should be conceived as a material for composite things; and that is why they can put off their qualitative distinctions and pass into one another. Further, how can they account for the generation of flesh and bone or any other continuous body? The elements alone cannot produce them because their collocation cannot produce a continuum. Nor can the composition of planes; for this produces the elements themselves, not bodies made up of them. Any one then who insists upon an exact statement of this kind of theory, instead of assenting after a passing glance at it, will see that it removes generation from the world.

Further, the very properties, powers, and motions, to which they paid particular attention in allotting shapes, show the shapes not to be in accord with the bodies. Because fire is mobile and productive of heat and combustion, some made it a sphere, others a pyramid. These shapes, they thought, were the most mobile because they offer the fewest points of contact and are the least stable of any; they were also the most apt to produce warmth and combustion, because the one is angular throughout while the other has the most acute angles, and the angles, they say, produce warmth and combustion. Now, in the first place, with regard to movement both are in error. These may be the figures best adapted to movement; they are not, however, well adapted to the movement of fire, which is an upward and rectilinear movement, but rather to that form of circular movement which we call rolling. Earth, again, they call a cube because it is stable and at rest. But it rests only in its own place, not anywhere; from any other it moves if nothing hinders, and fire and the other bodies do the same. The obvious inference, therefore, is that fire and each several element is in a foreign place a sphere or a pyramid, but in its own a cube. Again, if the possession of angles makes a body produce heat and combustion, every element produces heat, though one may do so more than another. For they all possess angles, the octahedron and dodecahedron as well as the pyramid; and Democritus makes even the sphere a kind of angle, which cuts things because of its mobility. The difference, then, will be one of degree: and this is plainly false. They must also accept the inference that the mathematical produce heat and combustion, since they too possess angles and contain atomic spheres and pyramids, especially if there are, as they allege, atomic figures. Anyhow if these functions belong to some of these things and not to others, they should explain the difference, instead of speaking in quite general terms as they do. Again, combustion of a body produces fire, and fire is a sphere or a pyramid. The body, then, is turned into spheres or pyramids. Let us grant that these figures may reasonably be supposed to cut and break up bodies as fire does; still it remains quite inexplicable that a pyramid must needs produce pyramids or a sphere spheres. One might as well postulate that a knife or a saw divides things into knives or saws. It is also ridiculous to think only of division when allotting fire its shape. Fire is generally thought of as combining and connecting rather than as separating. For though it separates bodies different in kind, it combines those which are the same; and the combining is essential to it, the functions of connecting and uniting being a mark of fire, while the separating is incidental. For the expulsion of the foreign body is an incident in the compacting of the homogeneous. In choosing the shape, then, they should have thought either of both functions or preferably of the combining function. In addition, since hot and cold are contrary powers, it is impossible to allot any shape to the cold. For the shape given must be the contrary of that given to the hot, but there is no contrariety between figures. That is why they have all left the cold out, though properly either all or none should have their distinguishing figures. Some of them, however, do attempt to explain this power, and they contradict themselves. A body of large particles, they say, is cold because instead of penetrating through the passages it crushes. Clearly, then, that which is hot is that which penetrates these passages, or in other words that which has fine particles. It results that hot and cold are distinguished not by the figure but by the size of the particles. Again, if the pyramids are unequal in size, the large ones will not be fire, and that figure will produce not combustion but its contrary.

From what has been said it is clear that the difference of the elements does not depend upon their shape. Now their most important differences are those of property, function, and power; for every natural body has, we maintain, its own functions, properties, and powers. Our first business, then, will be to speak of these, and that inquiry will enable us to explain the differences of each from each.

Book IV

1

WE have now to consider the terms ‘heavy’ and ‘light’. We must ask what the bodies so called are, how they are constituted, and what is the reason of their possessing these powers. The consideration of these questions is a proper part of the theory of movement, since we call things heavy and light because they have the power of being moved naturally in a certain way. The activities corresponding to these powers have not been given any name, unless it is thought that ‘impetus’ is such a name. But because the inquiry into nature is concerned with movement, and these things have in themselves some spark (as it were) of movement, all inquirers avail themselves of these powers, though in all but a few cases without exact discrimination. We must then first look at whatever others have said, and formulate the questions which require settlement in the interests of this inquiry, before we go on to state our own view of the matter.

Language recognizes (a) an absolute, (b) a relative heavy and light. Of two heavy things, such as wood and bronze, we say that the one is relatively light, the other relatively heavy. Our predecessors have not dealt at all with the absolute use, of the terms, but only with the relative. I mean, they do not explain what the heavy is or what the light is, but only the relative heaviness and lightness of things possessing weight. This can be made clearer as follows. There are things whose constant nature it is to move away from the centre, while others move constantly towards the centre; and of these movements that which is away from the centre I call upward movement and that which is towards it I call downward movement. (The view, urged by some, that there is no up and no down in the heaven, is absurd. There can be, they say, no up and no down, since the universe is similar every way, and from any point on the earth’s surface a man by advancing far enough will come to stand foot to foot with himself. But the extremity of the whole, which we call ‘above’, is in position above and in nature primary. And since the universe has an extremity and a centre, it must clearly have an up and down. Common usage is thus correct, though inadequate. And the reason of its inadequacy is that men think that the universe is not similar every way. They recognize only the hemisphere which is over us. But if they went on to think of the world as formed on this pattern all round, with a centre identically related to each point on the extremity, they would have to admit that the extremity was above and the centre below.) By absolutely light, then, we mean that which moves upward or to the extremity, and by absolutely heavy that which moves downward or to the centre. By lighter or relatively light we mean that one, of two bodies endowed with weight and equal in bulk, which is exceeded by the other in the speed of its natural downward movement.

2

Those of our predecessors who have entered upon this inquiry have for the most part spoken of light and heavy things only in the sense in which one of two things both endowed with weight is said to be the lighter. And this treatment they consider a sufficient analysis also of the notions of absolute heaviness, to which their account does not apply. This, however, will become clearer as we advance. One use of the terms ‘lighter’ and ‘heavier’ is that which is set forth in writing in the Timaeus, that the body which is composed of the greater number of identical parts is relatively heavy, while that which is composed of a smaller number is relatively light. As a larger quantity of lead or of bronze is heavier than a smaller-and this holds good of all homogeneous masses, the superior weight always depending upon a numerical superiority of equal parts-in precisely the same way, they assert, lead is heavier than wood. For all bodies, in spite of the general opinion to the contrary, are composed of identical parts and of a single material. But this analysis says nothing of the absolutely heavy and light. The facts are that fire is always light and moves upward, while earth and all earthy things move downwards or towards the centre. It cannot then be the fewness of the triangles (of which, in their view, all these bodies are composed) which disposes fire to move upward. If it were, the greater the quantity of fire the slower it would move, owing to the increase of weight due to the increased number of triangles. But the palpable fact, on the contrary, is that the greater the quantity, the lighter the mass is and the quicker its upward movement:

and, similarly, in the reverse movement from above downward, the small mass will move quicker and the large slower. Further, since to be lighter is to have fewer of these homogeneous parts and to be heavier is to have more, and air, water, and fire are composed of the same triangles, the only difference being in the number of such parts, which must therefore explain any distinction of relatively light and heavy between these bodies, it follows that there must be a certain quantum of air which is heavier than water. But the facts are directly opposed to this. The larger the quantity of air the more readily it moves upward, and any portion of air without exception will rise up out of the water.

So much for one view of the distinction between light and heavy. To others the analysis seems insufficient; and their views on the subject, though they belong to an older generation than ours, have an air of novelty. It is apparent that there are bodies which, when smaller in bulk than others, yet exceed them in weight. It is therefore obviously insufficient to say that bodies of equal weight are composed of an equal number of primary parts: for that would give equality of bulk. Those who maintain that the primary or atomic parts, of which bodies endowed with weight are composed, are planes, cannot so speak without absurdity; but those who regard them as solids are in a better position to assert that of such bodies the larger is the heavier. But since in composite bodies the weight obviously does not correspond in this way to the bulk, the lesser bulk being often superior in weight (as, for instance, if one be wool and the other bronze), there are some who think and say that the cause is to be found elsewhere. The void, they say, which is imprisoned in bodies, lightens them and sometimes makes the larger body the lighter. The reason is that there is more void. And this would also account for the fact that a body composed of a number of solid parts equal to, or even smaller than, that of another is sometimes larger in bulk than it. In short, generally and in every case a body is relatively light when it contains a relatively large amount of void. This is the way they put it themselves, but their account requires an addition. Relative lightness must depend not only on an excess of void, but also an a defect of solid: for if the ratio of solid to void exceeds a certain proportion, the relative lightness will disappear. Thus fire, they say, is the lightest of things just for this reason that it has the most void. But it would follow that a large mass of gold, as containing more void than a small mass of fire, is lighter than it, unless it also contains many times as much solid.

The addition is therefore necessary.

Of those who deny the existence of a void some, like Anaxagoras and Empedocles, have not tried to analyse the notions of light and heavy at all; and those who, while still denying the existence of a void, have attempted this, have failed to explain why there are bodies which are absolutely heavy and light, or in other words why some move upward and others downward. The fact, again, that the body of greater bulk is sometimes lighter than smaller bodies is one which they have passed over in silence, and what they have said gives no obvious suggestion for reconciling their views with the observed facts.

But those who attribute the lightness of fire to its containing so much void are necessarily involved in practically the same difficulties. For though fire be supposed to contain less solid than any other body, as well as more void, yet there will be a certain quantum of fire in which the amount of solid or plenum is in excess of the solids contained in some small quantity of earth. They may reply that there is an excess of void also. But the question is, how will they discriminate the absolutely heavy? Presumably, either by its excess of solid or by its defect of void. On the former view there could be an amount of earth so small as to contain less solid than a large mass of fire. And similarly, if the distinction rests on the amount of void, there will be a body, lighter than the absolutely light, which nevertheless moves downward as constantly as the other moves upward. But that cannot be so, since the absolutely light is always lighter than bodies which have weight and move downward, while, on the other hand, that which is lighter need not be light, because in common speech we distinguish a lighter and a heavier (viz. water and earth) among bodies endowed with weight. Again, the suggestion of a certain ratio between the void and the solid in a body is no more equal to solving the problem before us. The manner of speaking will issue in a similar impossibility. For any two portions of fire, small or great, will exhibit the same ratio of solid to void, but the upward movement of the greater is quicker than that of the less, just as the downward movement of a mass of gold or lead, or of any other body endowed with weight, is quicker in proportion to its size. This, however, should not be the case if the ratio is the ground of distinction between heavy things and light. There is also an absurdity in attributing the upward movement of bodies to a void which does not itself move. If, however, it is the nature of a void to move upward and of a plenum to move downward, and therefore each causes a like movement in other things, there was no need to raise the question why composite bodies are some light and some heavy; they had only to explain why these two things are themselves light and heavy respectively, and to give, further, the reason why the plenum and the void are not eternally separated. It is also unreasonable to imagine a place for the void, as if the void were not itself a kind of place. But if the void is to move, it must have a place out of which and into which the change carries it. Also what is the cause of its movement? Not, surely, its voidness: for it is not the void only which is moved, but also the solid.

Similar difficulties are involved in all other methods of distinction, whether they account for the relative lightness and heaviness of bodies by distinctions of size, or proceed on any other principle, so long as they attribute to each the same matter, or even if they recognize more than one matter, so long as that means only a pair of contraries. If there is a single matter, as with those who compose things of triangles, nothing can be absolutely heavy or light: and if there is one matter and its contrary-the void, for instance, and the plenum-no reason can be given for the relative lightness and heaviness of the bodies intermediate between the absolutely light and heavy when compared either with one another or with these themselves. The view which bases the distinction upon differences of size is more like a mere fiction than those previously mentioned, but, in that it is able to make distinctions between the four elements, it is in a stronger position for meeting the foregoing difficulties. Since, however, it imagines that these bodies which differ in size are all made of one substance, it implies, equally with the view that there is but one matter, that there is nothing absolutely light and nothing which moves upward (except as being passed by other things or forced up by them); and since a multitude of small atoms are heavier than a few large ones, it will follow that much air or fire is heavier than a little water or earth, which is impossible.

3

These, then, are the views which have been advanced by others and the terms in which they state them. We may begin our own statement by settling a question which to some has been the main difficulty-the question why some bodies move always and naturally upward and others downward, while others again move both upward and downward. After that we will inquire into light and heavy and of the various phenomena connected with them. The local movement of each body into its own place must be regarded as similar to what happens in connexion with other forms of generation and change. There are, in fact, three kinds of movement, affecting respectively the size, the form, and the place of a thing, and in each it is observable that change proceeds from a contrary to a contrary or to something intermediate: it is never the change of any chance subject in any chance direction, nor, similarly, is the relation of the mover to its object fortuitous: the thing altered is different from the thing increased, and precisely the same difference holds between that which produces alteration and that which produces increase. In the same manner it must be thought that produces local motion and that which is so moved are not fortuitously related. Now, that which produces upward and downward movement is that which produces weight and lightness, and that which is moved is that which is potentially heavy or light, and the movement of each body to its own place is motion towards its own form. (It is best to interpret in this sense the common statement of the older writers that 'like moves to like'. For the words are not in every sense true to fact. If one were to remove the earth to where the moon now is, the various fragments of earth would each move not towards it but to the place in which it now is. In general, when a number of similar and undifferentiated bodies are moved with the same motion this result is necessarily produced, viz. that the place which is the natural goal of the movement of each single part is also that of the whole. But since the place of a thing is the boundary of that which contains it, and the continent of all things that move upward or downward is the extremity and the centre, and this boundary comes to be, in a sense, the form of that which is contained, it is to its like that a body moves when it moves to its own place. For the successive members of the scries are like one another: water, I mean, is like air and air like fire, and between intermediates the relation may be converted, though not between them and the extremes; thus air is like water, but water is like earth: for the relation of each outer body to that which is next within it is that of form to matter.) Thus to ask why fire moves upward and earth downward is the same as to ask why the healable, when moved and changed qua healable, attains health and not whiteness; and similar questions might be asked concerning any other subject of aletion. Of course the subject of increase, when changed qua increasable, attains not health but a superior size. The same applies in the other cases. One thing changes in quality, another in quantity: and so in place, a light thing goes upward, a heavy thing downward. The only difference is that in the last case, viz. that of the heavy and the light, the bodies are thought to have a spring of change within themselves, while the subjects of healing and increase are thought to be moved purely from without. Sometimes, however, even they change of themselves, ie. in response to a slight external movement reach health or increase, as the case may be. And since the same thing which is healable is also receptive of disease, it depends on whether it is moved qua healable or qua liable to disease whether the motion is towards health or towards disease. But the reason why the heavy and the light appear more than these things to contain within themselves the source of their movements is that their matter is nearest to being. This is indicated by the fact that locomotion belongs to bodies only when isolated from other bodies, and is generated last of the several kinds of movement; in order of being then it will be first. Now whenever air comes into being out of water, light out of heavy, it goes to the upper place. It is forthwith light: becoming is at an end, and in that place it has being. Obviously, then, it is a potentiality, which, in its passage to actuality, comes into that place and quantity and quality which belong to its actuality. And the same fact explains why what is already actually fire or earth moves, when nothing obstructs it, towards its own place. For motion is equally immediate in the case of nutriment, when nothing hinders, and in the case of the thing healed, when nothing stays the healing. But the movement is also due to the original creative force and to that which removes the hindrance or off which the moving thing rebounded, as was explained in our opening discussions, where we tried to show how none of these things moves itself. The reason of the various motions of the various bodies, and the meaning of the motion of a body to its own place, have now been explained.

4

We have now to speak of the distinctive properties of these bodies and of the various phenomena connected with them. In accordance with general conviction we may distinguish the absolutely heavy, as that which sinks to the bottom of all things, from the absolutely light, which is that which rises to the surface of all things. I use the term ‘absolutely’, in view of the generic character of ‘light’ and ‘heavy’, in order to confine the application to bodies which do not combine lightness and heaviness. It is apparent, I mean, that fire, in whatever quantity, so long as there is no external obstacle moves upward, and earth downward; and, if the quantity is increased, the movement is the same, though swifter. But the heaviness and lightness of bodies which combine these qualities is different from this, since while they rise to the surface of some bodies they sink to the bottom of others. Such are air and water. Neither of them is absolutely either light or heavy. Both are lighter than earth-for any portion of either rises to the surface of it-but heavier than fire, since a portion of either, whatever its quantity, sinks to the bottom of fire; compared together, however, the one has absolute weight, the other absolute lightness, since air in any quantity rises to the surface of water, while water in any quantity sinks to the bottom of air. Now other bodies are severally light and heavy, and evidently in them the attributes are due to the difference of their uncompounded parts: that is to say, according as the one or the other happens to preponderate the bodies will be heavy and light respectively. Therefore we need only speak of these parts, since they are primary and all else consequential: and in so doing we shall be following the advice which we gave to those whose attribute heaviness to the presence of plenum and lightness to that of void. It is due to the properties of the elementary bodies that a body which is regarded as light in one place is regarded as heavy in another, and vice versa. In air, for instance, a talent’s weight of wood is heavier than a mina of lead, but in water the wood is the lighter. The reason is that all the elements except fire have weight and all but earth lightness. Earth, then, and bodies in which earth preponderates, must needs have weight everywhere, while water is heavy anywhere but in earth, and air is heavy when not in water or earth. In its own place each of these bodies has weight except fire, even air. Of this we have evidence in the fact that a bladder when inflated weighs more than when empty. A body, then, in which air preponderates over earth and water, may well be lighter than something in water and yet heavier than it in air, since such a body does not rise in air but rises to the surface in water.

The following account will make it plain that there is an absolutely light and an absolutely heavy body. And by absolutely light I mean one which of its own nature always moves upward, by absolutely heavy one which of its own nature always moves downward, if no obstacle is in the way. There are, I say, these two kinds of body, and it is not the case, as some maintain, that all bodies have weight. Different views are in fact agreed that there is a heavy body, which moves uniformly towards the centre. But is also similarly a light body. For we see with our eyes, as we said before, that earthy things sink to the bottom of all things and move towards the centre. But the centre is a fixed point. If therefore there is some body which rises to the surface of all things-and we observe fire to move upward even in air itself, while the air remains at rest-clearly this body is moving towards the extremity. It cannot then have any weight. If it had, there would be another body in which it sank: and if that had weight, there would be yet another which moved to the extremity and thus rose to the surface of all moving things. In fact, however, we have no evidence of such a body. Fire, then, has no weight. Neither has earth any lightness, since it sinks to the bottom of all things, and that which sinks moves to the centre. That there is a centre towards which the motion of heavy things, and away from which that of light things is directed, is manifest in many ways. First, because no movement can continue to infinity. For what cannot be can no more come-to-be than be, and movement is a coming to-be in one place from another. Secondly, like the upward movement of fire, the downward movement of earth and all heavy things makes equal angles on every side with the earth's surface: it must therefore be directed towards the centre. Whether it is really the centre of the earth and not rather that of the whole to which it moves, may be left to another inquiry, since these are coincident. But since that which sinks to the bottom of all things moves to the centre, necessarily that which rises to the surface moves to the extremity of the region in which the movement of these bodies takes place. For the centre is opposed as contrary to the extremity, as that which sinks is opposed to that which rises to the surface. This also gives a reasonable ground for the duality of heavy and light in the spatial duality centre and extremity. Now there is also the intermediate region to which each name is given in opposition to the other extreme. For that which is intermediate between the two is in a sense both extremity and centre. For this reason there is another heavy and light; namely, water and air. But in our view the continent pertains to form and the contained to matter: and this distinction is present in every genus. Alike in the sphere of quality and in that of quantity there is that which corresponds rather to form and that which corresponds to matter. In the same way, among spatial distinctions, the above belongs to the determinate, the below to matter. The same holds, consequently, also of the matter itself of that which is heavy and light: as potentially possessing the one character, it is matter for the heavy, and as potentially possessing the other, for the light. It is the same matter, but its being is different, as that which is receptive of disease is the same as that which is receptive of health, though in being different from it, and therefore diseasedness is different from healthiness.

5

A thing then which has the one kind of matter is light and always moves upward, while a thing which has the opposite matter is heavy and always moves downward. Bodies composed of kinds of matter different from these but having relatively to each other the character which these have absolutely, possess both the upward and the downward motion. Hence air and water each have both lightness and weight, and water sinks to the bottom of all things except earth, while air rises to the surface of all things except fire. But since there is one body only which rises to the surface of all things and one only which sinks to the bottom of all things, there must needs be two other bodies which sink in some bodies and rise to the surface of others. The kinds of matter, then, must be as numerous as these bodies, i.e. four, but though they are four there must be a common matter of all-particularly if they pass into one another-which in each is in being different. There is no reason why there should not be one or more intermediates between the contraries, as in the case of colour; for ‘intermediate’ and ‘mean’ are capable of more than one application.

Now in its own place every body endowed with both weight and lightness has weightwhereas earth has weight everywhere-but they only have lightness among bodies to whose surface they rise. Hence when a support is withdrawn such a body moves downward until it reaches the body next below it, air to the place of water and water to that of earth. But if the fire above air is removed, it will not move upward to the place of fire, except by constraint; and in that way water also may be drawn up, when the upward movement of air which has had a common surface with it is swift enough to overpower the downward impulse of the water. Nor does water move upward to the place of air, except in the manner just described. Earth is not so affected at all, because a common surface is not possible to it. Hence water is drawn up into the vessel to which fire is applied, but not earth. As earth fails to move upward, so fire fails to move downward when air is withdrawn from beneath it: for fire has no weight even in its own place, as earth has no lightness. The other two move downward when the body beneath is withdrawn because, while the absolutely heavy is that which sinks to the bottom of all things, the relatively heavy sinks to its own place or to the surface of the body in which it rises, since it is similar in matter to it.

It is plain that one must suppose as many distinct species of matter as there are bodies. For if, first, there is a single matter of all things, as, for instance, the void or the plenum or extension or the triangles, either all things will move upward or all things will move downward, and the second motion will be abolished. And so, either there will be no absolutely light body, if superiority of weight is due to superior size or number of the constituent bodies or to the fullness of the body: but the contrary is a matter of observation, and it has been shown that the downward and upward movements are equally constant and universal: or, if the matter in question is the void or something similar, which moves uniformly upward, there will be nothing to move uniformly downward. Further, it will follow that the intermediate bodies move downward in some cases quicker than earth: for air in sufficiently large quantity will contain a larger number of triangles or solids or particles. It is, however, manifest that no portion of air whatever moves downward. And the same reasoning applies to lightness, if that is supposed to depend on superiority of quantity of matter. But if, secondly, the kinds of matter are two, it will be difficult to make the intermediate bodies behave as air and water behave. Suppose, for example, that the two asserted are void and plenum. Fire, then, as moving upward, will be void, earth, as moving downward, plenum; and in air, it will be said, fire preponderates, in water, earth. There will then be a quantity of water containing more fire than a little air, and a large amount of air will contain more earth than a little water: consequently we shall have to say that air in a certain quantity moves downward more quickly than a little water. But such a thing has never been observed anywhere. Necessarily, then, as fire goes up because it has something, e.g. void, which other things do not have, and earth goes downward because it has plenum, so air goes to its own place above water because it has something else, and water goes downward because of some special kind of body. But if the two bodies are one matter, or two matters both present in each, there will be a certain quantity of each at which water will excel a little air in the upward movement and air excel water in the downward movement, as we have already often said.

6

The shape of bodies will not account for their moving upward or downward in general, though it will account for their moving faster or slower. The reasons for this are not difficult to see. For the problem thus raised is why a flat piece of iron or lead floats upon water, while smaller and less heavy things, so long as they are round or long-a needle, for instance-sink down; and sometimes a thing floats because it is small, as with gold dust and the various earthy and dusty materials which throng the air. With regard to these questions, it is wrong to accept the explanation offered by Democritus. He says that the warm bodies moving up out of the water hold up heavy bodies which are broad, while the narrow ones fall through, because the bodies which offer this resistance are not numerous. But this would be even more likely to happen in air-an objection which he himself raises. His reply to the objection is feeble. In the air, he says, the ‘drive’ (meaning by drive the movement of the upward moving bodies) is not uniform in direction. But since some continua are easily divided and others less easily, and things which produce division differ similarly in the case with which they produce it, the explanation must be found in this fact. It is the easily bounded, in proportion as it is easily bounded, which is easily divided; and air is more so than water, water than earth. Further, the smaller the quantity in each kind, the more easily it is divided and disrupted. Thus the reason why broad things keep their place is because they cover so wide a surface and the greater quantity is less easily disrupted. Bodies of the opposite shape sink down because they occupy so little of the surface, which is therefore easily parted. And these considerations apply with far greater force to air, since it is so much more easily divided than water. But since there are two factors, the force responsible for the downward motion of the heavy body and the disruption-resisting force of the continuous surface, there must be some ratio between the two. For in proportion as the force applied by the heavy thing towards disruption and division exceeds that which resides in the continuum, the quicker will it force its way down; only if the force of the heavy thing is the weaker, will it ride upon the surface.

We have now finished our examination of the heavy and the light and of the phenomena connected with them.

On Generation and Corruption (314a)

Translated by H. H. Joachim

Περὶ γενέσεως καὶ φθορᾶς is a scientific and philosophic treatise that builds on an idea from Aristotle's earlier work *The Physics*, considering whether things come into being through causes, i.e. some prime material, or whether everything is generated purely through 'alteration'. Two of Aristotle's most remembered contributions are found in this work; firstly, the Four Causes and also the Four Elements (earth, wind, fire and water).

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Book I

1

OUR next task is to study coming-to-be and passing-away. We are to distinguish the causes, and to state the definitions, of these processes considered in general-as changes predicable uniformly of all the things that come-to-be and pass-away by nature. Further, we are to study growth and ‘alteration’. We must inquire what each of them is; and whether ‘alteration’ is to be identified with coming-to-be, or whether to these different names there correspond two separate processes with distinct natures.

On this question, indeed, the early philosophers are divided. Some of them assert that the so-called ‘unqualified coming-to-be’ is ‘alteration’, while others maintain that ‘alteration’ and coming-to-be are distinct. For those who say that the universe is one something (i.e. those who generate all things out of one thing) are bound to assert that coming-to-be is ‘alteration’, and that whatever ‘comes-to-be’ in the proper sense of the term is ‘being altered’: but those who make the matter of things more than one must distinguish coming-to-be from ‘alteration’. To this latter class belong Empedocles, Anaxagoras, and Leucippus. And yet Anaxagoras himself failed to understand his own utterance. He says, at all events, that coming-to-be and passing-away are the same as ‘being altered’:’ yet, in common with other thinkers, he affirms that the elements are many. Thus Empedocles holds that the corporeal elements are four, while all the elements-including those which initiate movement-are six in number; whereas Anaxagoras agrees with Leucippus and Democritus that the elements are infinite.

(Anaxagoras posits as elements the ‘homoeomeries’, viz. bone, flesh, marrow, and everything else which is such that part and whole are the same in name and nature; while Democritus and Leucippus say that there are indivisible bodies, infinite both in number and in the varieties of their shapes, of which everything else is composed-the compounds differing one from another according to the shapes, ‘positions’, and ‘groupings’ of their constituents.)

For the views of the school of Anaxagoras seem diametrically opposed to those of the followers of Empedocles. Empedocles says that Fire, Water, Air, and Earth are four elements, and are thus ‘simple’ rather than flesh, bone, and bodies which, like these, are ‘homoeomeries’. But the followers of Anaxagoras regard the ‘homoeomeries’ as ‘simple’ and elements, whilst they affirm that Earth, Fire, Water, and Air are composite; for each of these is (according to them) a ‘common seminary’ of all the ‘homoeomeries’.

Those, then, who construct all things out of a single element, must maintain that coming-tobe and passing-away are ‘alteration’. For they must affirm that the underlying something always remains identical and one; and change of such a substratum is what we call ‘altering’ Those, on the other hand, who make the ultimate kinds of things more than one, must maintain that ‘alteration’ is distinct from coming-to-be: for coming-to-be and passingaway result from the consilience and the dissolution of the many kinds. That is why Empedocles too uses language to this effect, when he says ‘There is no coming-to-be of anything, but only a mingling and a divorce of what has been mingled’. Thus it is clear (i) that to describe coming-to-be and passing-away in these terms is in accordance with their fundamental assumption, and (ii) that they do in fact so describe them: nevertheless, they too must recognize ‘alteration’ as a fact distinct from coming to-be, though it is impossible for them to do so consistently with what they say.

That we are right in this criticism is easy to perceive. For ‘alteration’ is a fact of observation. While the substance of the thing remains unchanged, we see it ‘altering’ just as we see in it the changes of magnitude called ‘growth’ and ‘diminution’. Nevertheless, the statements of those who posit more ‘original reals’ than one make ‘alteration’ impossible. For ‘alteration, as we assert, takes place in respect to certain qualities: and these qualities (I mean, e.g. hot-cold, white-black, dry-moist, soft-hard, and so forth) are, all of them, differences characterizing the ‘elements’. The actual words of Empedocles may be quoted in illustration

The sun everywhere bright to see, and hot,
The rain everywhere dark and cold;

and he distinctively characterizes his remaining elements in a similar manner. Since, therefore, it is not possible for Fire to become Water, or

Water to become Earth, neither will it be possible for anything white to become black, or anything soft to become hard; and the same argument applies to all the other qualities. Yet this is what ‘alteration’ essentially is.

It follows, as an obvious corollary, that a single matter must always be assumed as underlying the contrary ‘poles’ of any change whether change of place, or growth and diminution, or ‘alteration’; further, that the being of this matter and the being of ‘alteration’ stand and fall together. For if the change is ‘alteration’, then the substratum is a single element; i.e. all things which admit of change into one another have a single matter. And, conversely, if the substratum of the changing things is one, there is ‘alteration’.

Empedocles, indeed, seems to contradict his own statements as well as the observed facts. For he denies that any one of his elements comes-to-be out of any other, insisting on the contrary that they are the things out of which everything else comes-to-be; and yet (having brought the entirety of existing things, except Strife, together into one) he maintains, simultaneously with this denial, that each thing once more comes-to-be out of the One. Hence it was clearly out of a One that this came-to-be Water, and that Fire, various portions of it being separated off by certain characteristic differences or qualities-as indeed he calls the sun ‘white and hot’, and the earth ‘heavy and hard’. If, therefore, these characteristic differences be taken away (for they can be taken away, since they came-to-be), it will clearly be inevitable for Earth to come to-be out of Water and Water out of Earth, and for each of the other elements to undergo a similar transformation-not only then, but also now-if, and because, they change their qualities. And, to judge by what he says, the qualities are such that they can be ‘attached’ to things and can again be ‘separated’ from them, especially since Strife and Love are still fighting with one another for the mastery. It was owing to this same conflict that the elements were generated from a One at the former period. I say ‘generated’, for presumably Fire, Earth, and Water had no distinctive existence at all while merged in one.

There is another obscurity in the theory Empedocles. Are we to regard the One as his ‘original real’? Or is it the Many-i.e. Fire and Earth, and the bodies co-ordinate with these? For the One is an ‘element’ in so far as it underlies the process as matter-as that out of which Earth and Fire come-to-be through a change of qualities due to ‘the motion’. On the other hand, in so far as the One results from composition (by a consilience of the Many), whereas they result from disintegration the Many are more ‘elementary’ than the One, and prior to it in their nature.

2

We have therefore to discuss the whole subject of ‘unqualified’ coming-to-be and passingaway; we have to inquire whether these changes do or do not occur and, if they occur, to explain the precise conditions of their occurrence. We must also discuss the remaining forms of change, viz. growth and ‘alteration’. For though, no doubt, Plato investigated the conditions under which things come-to-be and pass-away, he confined his inquiry to these changes; and he discussed not all coming-to-be, but only that of the elements. He asked no questions as to how flesh or bones, or any of the other similar compound things, come-to-be; nor again did he examine the conditions under which ‘alteration’ or growth are attributable to things.

A similar criticism applies to all our predecessors with the single exception of Democritus. Not one of them penetrated below the surface or made a thorough examination of a single one of the problems. Democritus, however, does seem not only to have thought carefully about all the problems, but also to be distinguished from the outset by his method. For, as we are saying, none of the other philosophers made any definite statement about growth, except such as any amateur might have made. They said that things grow ‘by the accession of like to like’, but they did not proceed to explain the manner of this accession. Nor did they give any account of ‘combination’: and they neglected almost every single one of the remaining problems, offering no explanation, e.g. of ‘action’ or ‘passion’ how in physical actions one thing acts and the other undergoes action. Democritus and Leucippus, however, postulate the ‘figures’, and make ‘alteration’ and coming-to-be result from them. They explain coming-to-be and passing-away by their ‘dissociation’ and ‘association’, but ‘alteration’ by their ‘grouping’ and ‘Position’. And since they thought that the ‘truth lay in the appearance, and the appearances are conflicting and infinitely many, they made the ‘figures’ infinite in number. Hence-owing to the changes of the compound-the same thing seems different and conflicting to different people: it is ‘transposed’ by a small additional ingredient, and appears utterly other by the ‘transposition’ of a single constituent. For Tragedy and Comedy are both composed of the same letters.

Since almost all our predecessors think (i) that coming-to-be is distinct from ‘alteration’, and (ii) that, whereas things ‘alter’ by change of their qualities, it is by ‘association’ and ‘dissociation’ that they come-to-be and pass-away, we must concentrate our attention on these theses. For they lead to many perplexing and well-grounded dilemmas. If, on the one hand, coming-to-be is ‘association’, many impossible consequences result: and yet there are other arguments, not easy to unravel, which force the conclusion upon us that coming-to-be cannot possibly be anything else. If, on the other hand, coming-to-be is not ‘association’, either there is no such thing as coming-to-be at all or it is ‘alteration’: or else we must endeavour to unravel this dilemma too-and a stubborn one we shall find it. The fundamental question, in dealing with all these difficulties, is this: ‘Do things come-to-be and “alter” and grow, and undergo the contrary changes, because the primary “reals” are indivisible magnitudes? Or is no magnitude indivisible?’ For the answer we give to this question makes the greatest difference. And again, if the primary ‘reals’ are indivisible magnitudes, are these bodies, as Democritus and Leucippus maintain? Or are they planes, as is asserted in the Timaeus?

To resolve bodies into planes and no further-this, as we have also remarked elsewhere, in itself a paradox. Hence there is more to be said for the view that there are indivisible bodies. Yet even these involve much of paradox. Still, as we have said, it is possible to construct ‘alteration’ and coming-to-be with them, if one ‘transposes’ the same by ‘turning’ and ‘intercontact’, and by ‘the varieties of the figures’, as Democritus does. (His denial of the reality of colour is a corollary from this position: for, according to him, things get coloured by ‘turning’ of the ‘figures’.) But the possibility of such a construction no longer exists for those who divide bodies into planes. For nothing except solids results from putting planes together: they do not even attempt to generate any quality from them.

Lack of experience diminishes our power of taking a comprehensive view of the admitted facts. Hence those who dwell in intimate association with nature and its phenomena grow more and more able to formulate, as the foundations of their theories, principles such as to admit of a wide and coherent development: while those whom devotion to abstract discussions has rendered unobservant of the facts are too ready to dogmatize on the basis of a few observations. The rival treatments of the subject now before us will serve to illustrate how great is the difference between a ‘scientific’ and a ‘dialectical’ method of inquiry. For, whereas the Platonists argue that there must be atomic magnitudes ‘because otherwise “The Triangle” will be more than one’, Democritus would appear to have been convinced by arguments appropriate to the subject, i.e. drawn from the science of nature. Our meaning will become clear as we proceed. For to suppose that a body (i.e. a magnitude) is divisible through and through, and that this division is possible, involves a difficulty. What will there be in the body which escapes the division?

If it is divisible through and through, and if this division is possible, then it might be, at one and the same moment, divided through and through, even though the dividings had not been effected simultaneously: and the actual occurrence of this result would involve no impossibility. Hence the same principle will apply whenever a body is by nature divisible through and through, whether by bisection, or generally by any method whatever: nothing impossible will have resulted if it has actually been divided-not even if it has been divided into innumerable parts, themselves divided innumerable times. Nothing impossible will have resulted, though perhaps nobody in fact could so divide it.

Since, therefore, the be dy is divisible through and through, let it have been divided. What, then, will remain? A magnitude? No: that is impossible, since then there will be something not divided, whereas ex hypothesis the body was divisible through and through. But if it be admitted that neither a body nor a magnitude will remain, and yet division is to take place, the constituents of the body will either be points (i.e. without magnitude) or absolutely nothing. If its constituents are nothings, then it might both come-to-be out of nothings and exist as a composite of nothings: and thus presumably the whole body will be nothing but an appearance. But if it consists of points, a similar absurdity will result: it will not possess any magnitude. For when the points were in contact and coincided to form a single magnitude, they did not make the whole any bigger (since, when the body was divided into two or more parts, the whole was not a bit smaller or bigger than it was before the division): hence, even if all the points be put together, they will not make any magnitude.

But suppose that, as the body is being divided, a minute section-a piece of sawdust, as it were-is extracted, and that in this sense-a body ‘comes away’ from the magnitude, evading the division. Even then the same argument applies. For in what sense is that section divisible? But if what ‘came away’ was not a body but a separable form or quality, and if the magnitude is ‘points or contacts thus qualified’: it is paradoxical that a magnitude should consist of elements, which are not magnitudes. Moreover, where will the points be? And are they motionless or moving? And every contact is always a contact of two somethings, i.e. there is always something besides the contact or the division or the point.

These, then, are the difficulties resulting from the supposition that any and every body, whatever its size, is divisible through and through. There is, besides, this further consideration. If, having divided a piece of wood or anything else, I put it together, it is again equal to what it was, and is one. Clearly this is so, whatever the point at which I cut the wood. The wood, therefore, has been divided potentially through and through. What, then, is there in the wood besides the division? For even if we suppose there is some quality, yet how is the wood dissolved into such constituents and how does it come-to-be out of them? Or how are such constituents separated so as to exist apart from one another? Since, therefore, it is impossible for magnitudes to consist of contacts or points, there must be indivisible bodies and magnitudes. Yet, if we do postulate the latter, we are confronted with equally impossible consequences, which we have examined in other works.’ But we must try to disentangle these perplexities, and must therefore formulate the whole problem over again.

On the one hand, then, it is in no way paradoxical that every perceptible body should be indivisible as well as divisible at any and every point. For the second predicate will at. tach to it potentially, but the first actually. On the other hand, it would seem to be impossible for a body to be, even potentially, divisible at all points simultaneously. For if it were possible, then it might actually occur, with the result, not that the body would simultaneously be actually both (indivisible and divided), but that it would be simultaneously divided at any and every point. Consequently, nothing will remain and the body will have passed-away into what is incorporeal: and so it might come-to-be again either out of points or absolutely out of nothing. And how is that possible?

But now it is obvious that a body is in fact divided into separable magnitudes which are smaller at each division-into magnitudes which fall apart from one another and are actually separated. Hence (it is urged) the process of dividing a body part by part is not a ‘breaking up’ which could continue ad infinitum; nor can a body be simultaneously divided at every point, for that is not possible; but there is a limit, beyond which the ‘breaking up’ cannot proceed. The necessary consequence-especially if coming-to-be and passing-away are to take place by ‘association’ and ‘dissociation’ respectively-is that a body must contain atomic magnitudes which are invisible. Such is the argument which is believed to establish the necessity of atomic magnitudes: we must now show that it conceals a faulty inference, and exactly where it conceals it.

For, since point is not ‘immediately-next’ to point, magnitudes are ‘divisible through and through’ in one sense, and yet not in another. When, however, it is admitted that a magnitude is ‘divisible through and through’, it is thought there is a point not only anywhere, but also everywhere, in it: hence it is supposed to follow, from the admission, that the magnitude must be divided away into nothing. For it is supposed-there is a point everywhere within it, so that it consists either of contacts or of points. But it is only in one sense that the magnitude is ‘divisible through and through’, viz. in so far as there is one point anywhere within it and all its points are everywhere within it if you take them singly one by one. But there are not more points than one anywhere within it, for the points are not ‘consecutive’: hence it is not simultaneously ‘divisible through and through’. For if it were, then, if it be divisible at its centre, it will be divisible also at a point ‘immediately-next’ to its centre. But it is not so divisible: for position is not ‘immediately-next’ to position, nor point to point-in other words, division is not ‘immediately-next’ to division, nor composition to composition.

Hence there are both ‘association’ and ‘dissociation’, though neither (a) into, and out of, atomic magnitudes (for that involves many impossibilities), nor (b) so that division takes place through and through-for this would have resulted only if point had been ‘immediately-next’ to point: but ‘dissociation’ takes place into small (i.e. relatively small) parts, and ‘association’ takes place out of relatively small parts.

It is wrong, however, to suppose, as some assert, that coming-to-be and passing-away in the unqualified and complete sense are distinctively defined by ‘association’ and ‘dissociation’, while the change that takes place in what is continuous is ‘alteration’. On the contrary, this is where the whole error lies. For unqualified coming-to-be and passing-away are not effected by ‘association’ and ‘dissociation’. They take place when a thing changes, from this to that, as a whole. But the philosophers we are criticizing suppose that all such change is ‘alteration’: whereas in fact there is a difference. For in that which underlies the change there is a factor corresponding to the definition and there is a material factor. When, then, the change is in these constitutive factors, there will be coming-to-be or passing-away: but when it is in the thing’s qualities, i.e. a change of the thing per accidents, there will be ‘alteration’.

‘Dissociation’ and ‘association’ affect the thing’s susceptibility to passing-away. For if water has first been ‘dissociated’ into smallish drops, air comes-to-be out of it more quickly: while, if drops of water have first been ‘associated’, air comes-to-be more slowly. Our doctrine will become clearer in the sequel.’ Meantime, so much may be taken as established-viz. that coming-to-be cannot be ‘association’, at least not the kind of ‘association’ some philosophers assert it to be.

3

Now that we have established the preceding distinctions, we must first consider whether there is anything which comes-to-be and passes-away in the unqualified sense: or whether nothing comes-to-be in this strict sense, but everything always comes-to-be something and out of something-I mean, e.g. comes-to-be-healthy out of being-ill and ill out of being-healthy, comes-to-be-small out of being big and big out of being-small, and so on in every other instance. For if there is to be coming-to-be without qualification, ‘something’ must-without qualification-’come-to-be out of not-being’, so that it would be true to say that ‘not-being is an attribute of some things’. For qualified coming-to-be is a process out of qualified not-being (e.g. out of not-white or not-beautiful), but unqualified coming-to-be is a process out of unqualified not-being.

Now ‘unqulified’ means either (i) the primary predication within each Category, or (ii) the universal, i.e. the all-comprehensive, predication. Hence, if’unqualified not-being ‘means the negation of ‘being’ in the sense of the primary term of the Category in question, we shall have, in ‘unqualified coming-to-be', a coming-to-be of a substance out of not-substance. But that which is not a substance or a 'this' clearly cannot possess predicates drawn from any of the other Categories either-e.g. we cannot attribute to it any quality, quantity, or position. Otherwise, properties would admit of existence in separation from substances. If, on the other hand, 'unqualified not-being' means 'what is not in any sense at all', it will be a universal negation of all forms of being, so that what comes-to-be will have to come-to-be out of nothing.

Although we have dealt with these problems at greater length in another work,where we have set forth the difficulties and established the distinguishing definitions, the following concise restatement of our results must here be offered: In one sense things come-to-be out of that which has no 'being' without qualification: yet in another sense they come-to-be always out of what is'. For coming-to-be necessarily implies the pre-existence of something which potentially 'is', but actually 'is not'; and this something is spoken of both as 'being' and as 'not-being'.

These distinctions may be taken as established: but even then it is extraordinarily difficult to see how there can be 'unqualified coming-to-be' (whether we suppose it to occur out of what potentially 'is', or in some other way), and we must recall this problem for further examination. For the question might be raised whether substance (i.e. the 'this') comes-to-be at all. Is it not rather the 'such', the 'so great', or the 'somewhere', which comes-to-be? And the same question might be raised about 'passing-away' also. For if a substantial thing comes-to-be, it is clear that there will 'be' (not actually, but potentially) a substance, out of which its coming-to-be will proceed and into which the thing that is passing-away will necessarily change. Then will any predicate belonging to the remaining Categories attach actually to this presupposed substance? In other words, will that which is only potentially a 'this' (which only potentially is), while without the qualification 'potentially' it is not a 'this' (i.e. is not), possess, e.g. any determinate size or quality or position? For (i) if it possesses none of these determinations actually, but all of them only potentially, the result is first that a being, which is not a determinate being, is capable of separate existence; and in addition that coming-to-be proceeds out of nothing pre-existing-a thesis which, more than any other, preoccupied and alarmed the earliest philosophers. On the other hand (ii) if, although it is not a 'this somewhat' or a substance, it is to possess some of the remaining determinations quoted above, then (as we said)' properties will be separable from substances.

We must therefore concentrate all our powers on the discussion of these difficulties and on the solution of a further question-viz. What is the cause of the perpetuity of coming-to-be? Why is there always unqualified, as well as partial, coming-to-be? Cause' in this connexion has two senses. It means (i) the source from which, as we say, the process 'originates', and (ii) the matter. It is the material cause that we have here to state. For, as to the other cause, we have already explained (in our treatise on Motion that it involves (a) something immovable through all time and (b) something always being moved. And the accurate treatment of the first of these-of the immovable 'originative source'-belongs to the province of the other, or 'prior', philosophy: while as regards 'that which sets everything else in motion by being itself continuously moved', we shall have to explain later' which amongst the so-called 'specific' causes exhibits this character. But at present we are to state the material cause-the cause classed under the head of matter-to which it is due that passing-away and coming-to-be never fail to occur in Nature. For perhaps, if we succeed in clearing up this question, it will simultaneously become clear what account we ought to give of that which perplexed us just now, i.e. of unqualified passingaway and coming-to-be.

Our new question too-viz. 'what is the cause of the unbroken continuity of coming-to-be?'-is sufficiently perplexing, if in fact what passes-away vanishes into 'what is not' and 'what is not' is nothing (since 'what is not' is neither a thing, nor possessed of a quality or quantity, nor in any place). If, then, some one of the things 'which are' constantly disappearing, why has not the whole of 'what is' been used up long ago and vanished away assuming of course that the material of all the several comings-to-be was finite? For, presumably, the unfailing continuity of coming-to-be cannot be attributed to the infinity of the material. That is impossible, for nothing is actually infinite. A thing is infinite only potentially, i.e. the dividing of it can continue indefinitely: so that we should have to suppose there is only one kind of coming-to-be in the world-viz. one which never fails, because it is such that what comes-to-be is on each successive occasion smaller than before. But in fact this is not what we see occurring.

Why, then, is this form of change necessarily ceaseless? Is it because the passing-away of this is a coming-to-be of something else, and the coming-to-be of this a passing-away of something else?

The cause implied in this solution must no doubt be considered adequate to account for coming-to-be and passing-away in their general character as they occur in all existing things alike. Yet, if the same process is a coming to-be of this but a passing-away of that, and a passing-away of this but a coming-to-be of that, why are some things said to come-to-be and pass-away without qualification, but others only with a qualification?

The distinction must be investigated once more, for it demands some explanation. (It is applied in a twofold manner.) For (i) we say 'it is now passing-away' without qualification, and not merely 'this is passing-away': and we call this change 'coming-to-be', and that 'passing-away', without qualification. And (ii) so-and-so 'comes-to-be-something', but does not 'come-to-be' without qualification; for we say that the student 'comes-to-be-learned', not 'comes-to-be' without qualification.

(i) Now we often divide terms into those which signify a 'this somewhat' and those which do not. And (the first form of) the distinction, which we are investigating, results from a similar division of terms: for it makes a difference into what the changing thing changes. Perhaps, e.g. the passage into Fire is 'coming-to-be' unqualified, but 'passingaway-of-something' (e.g. Earth): whilst the coming-to-be of Earth is qualified (not unqualified) 'coming-to-be', though unqualified 'passing-away' (e.g. of Fire). This would be the case on the theory set forth in Parmenides: for he says that the things into which change takes place are two, and he asserts that these two, viz. what is and what is not, are Fire and Earth. Whether we postulate these, or other things of a similar kind, makes no difference. For we are trying to discover not what undergoes these changes, but what is their characteristic manner. The passage, then, into what 'is' not except with a qualification is unqualified passing-away, while the passage into what 'is' without qualification is unqualified coming-to-be. Hence whatever the contrasted 'poles' of the changes may be whether Fire and Earth, or some other couple-the one of them will be 'a being' and the other 'a not-being'.

We have thus stated one characteristic manner in which unqualified will be distinguished from qualified coming-to-be and passing-away: but they are also distinguished according to the special nature of the material of the changing thing. For a material, whose constitutive differences signify more a 'this somewhat', is itself more 'substantial' or 'real': while a material, whose constitutive differences signify privation, is ‘not real’. (Suppose, e.g. that ‘the hot’ is a positive predication, i.e. a ‘form’, whereas ‘cold’ is a privation, and that Earth and Fire differ from one another by these constitutive differences.)

The opinion, however, which most people are inclined to prefer, is that the distinction depends upon the difference between ‘the perceptible’ and ‘the imperceptible’. Thus, when there is a change into perceptible material, people say there is ‘coming-to-be’; but when there is a change into invisible material, they call it ‘passing-away’. For they distinguish ‘what is’ and ‘what is not’ by their perceiving and not-perceiving, just as what is knowable ‘is’ and what is unknowable ‘is not’-perception on their view having the force of knowledge. Hence, just as they deem themselves to live and to ‘be’ in virtue of their perceiving or their capacity to perceive, so too they deem the things to ‘be’ qua perceived or perceptible-and in this they are in a sense on the track of the truth, though what they actually say is not true.

Thus unqualified coming-to-be and passingaway turn out to be different according to common opinion from what they are in truth. For Wind and Air are in truth more real more a ‘this somewhat’ or a ‘form’-than Earth. But they are less real to perception which explains why things are commonly said to ‘pass-away’ without qualification when they change into Wind and Air, and to ‘come-to-be’ when they change into what is tangible, i.e. into Earth.

We have now explained why there is ‘unqualified coming-to-be’ (though it is a passingaway-of-something) and ‘unqualified passingaway (though it is a coming-to-be-of-something). For this distinction of appellation depends upon a difference in the material out of which, and into which, the changes are effected. It depends either upon whether the material is or is not ‘substantial’, or upon whether it is more or less ‘substantial’, or upon whether it is more or less perceptible.

(ii) But why are some things said to ‘come to-be’ without qualification, and others only to ‘come-to-be-so-and-so’, in cases different from the one we have been considering where two things come-to-be reciprocally out of one another? For at present we have explained no more than this:-why, when two things change reciprocally into one another, we do not attribute coming-to-be and passing-away uniformly to them both, although every coming-to-be is a passing-away of something else and every passing-away some other thing’s coming-to-be. But the question subsequently formulated involves a different problem-viz. why, although the learning thing is said to ‘come-to-be-learned’ but not to ‘come-tobe’ without qualification, yet the growing thing is said to ‘come-to-be’.

The distinction here turns upon the difference of the Categories. For some things signify a this somewhat, others a such, and others a so-much. Those things, then, which do not signify substance, are not said to ‘come-to-be’ without qualification, but only to ‘come-to-be-so-and-so’. Nevertheless, in all changing things alike, we speak of ‘coming-to-be’ when the thing comes-to-be something in one of the two Columns-e.g. in Substance, if it comes-to-be Fire but not if it comes-to-be Earth; and in Quality, if it comes-to-be learned but not when it comes-to-be ignorant.

We have explained why some things come to-be without qualification, but not others both in general, and also when the changing things are substances and nothing else; and we have stated that the substratum is the material cause of the continuous occurrence of coming to-be, because it is such as to change from contrary to contrary and because, in substances, the coming-to-be of one thing is always a passing-away of another, and the passing-away of one thing is always another’s coming-to-be. But there is no need even to discuss the other question we raised-viz. why coming-to-be continues though things are constantly being destroyed. For just as people speak of ‘a passing-away’ without qualification when a thing has passed into what is imperceptible and what in that sense ‘is not’, so also they speak of ‘a coming-to-be out of a not-being’ when a thing emerges from an imperceptible. Whether, therefore, the substratum is or is not something, what comes-tobe emerges out of a ‘not-being’: so that a thing comes-to-be out of a not-being’ just as much as it ‘passes-away into what is not’. Hence it is reasonable enough that coming-to-be should never fail. For coming-to-be is a passing-away of ‘what is not’ and passing-away is a coming to-be of ‘what is not’.

But what about that which ‘is’ not except with a qualification? Is it one of the two contrary poles of the chang-e.g. Earth (i.e. the heavy) a ‘not-being’, but Fire (i.e. the light) a ‘being’? Or, on the contrary, does what is ‘include Earth as well as Fire, whereas what is not’ is matter-the matter of Earth and Fire alike? And again, is the matter of each different? Or is it the same, since otherwise they would not come-to-be reciprocally out of one another, i.e. contraries out of contraries? For these things-Fire, Earth, Water, Air-are characterized by ‘the contraries’.

Perhaps the solution is that their matter is in one sense the same, but in another sense different. For that which underlies them, whatever its nature may be qua underlying them, is the same: but its actual being is not the same. So much, then, on these topics.

4

Next we must state what the difference is between coming-to-be and ‘alteration’-for we maintain that these changes are distinct from one another.

Since, then, we must distinguish (a) the substratum, and (b) the property whose nature it is to be predicated of the substratum; and since change of each of these occurs; there is ‘alteration’ when the substratum is perceptible and persists, but changes in its own properties, the properties in question being opposed to one another either as contraries or as intermediates. The body, e.g. although persisting as the same body, is now healthy and now ill; and the bronze is now spherical and at another time angular, and yet remains the same bronze. But when nothing perceptible persists in its identity as a substratum, and the thing changes as a whole (when e.g. the seed as a whole is converted into blood, or water into air, or air as a whole into water), such an occurrence is no longer ‘alteration’. It is a coming-to-be of one substance and a passing-away of the other-especially if the change proceeds from an imperceptible something to something perceptible (either to touch or to all the senses), as when water comes-to-be out of, or passes-away into, air: for air is pretty well imperceptible. If, however, in such cases, any property (being one of a pair of contraries) persists, in the thing that has come-to-be, the same as it was in the thing which has passedaway-if, e.g. when water comes-to-be out of air, both are transparent or cold-the second thing, into which the first changes, must not be a property of this persistent identical something. Otherwise the change will be ‘alteration.’ Suppose, e.g. that the musical man passed-away and an unmusical man came-tobe, and that the man persists as something identical. Now, if ‘musicalness and unmusicalness’ had not been a property essentially inhering in man, these changes would have been a coming-to-be of unmusicalness and a passing-away of musicalness: but in fact ‘musicalness and unmusicalness’ are a property of the persistent identity, viz. man. (Hence, as regards man, these changes are ‘modifications’; though, as regards musical man and unmusical man, they are a passing-away and a coming-to-be.) Consequently such changes are ‘alteration.’ When the change from contrary to contrary is in quantity, it is ‘growth and diminution’; when it is in place, it is ‘motion’; when it is in property, i.e. in quality, it is ‘alteration’: but, when nothing persists, of which the resultant is a property (or an ‘accident’ in any sense of the term), it is ‘coming-to-be’, and the converse change is ‘passing-away’.

‘Matter’, in the most proper sense of the term, is to be identified with the substratum which is receptive of coming-to-be and passingaway: but the substratum of the remaining kinds of change is also, in a certain sense, ‘matter’, because all these substrata are receptive of ‘contrarieties’ of some kind. So much, then, as an answer to the questions (i) whether coming-to-be ‘is’ or ‘is not’-i.e. what are the precise conditions of its occurrence and (ii) what ‘alteration’ is: but we have still to treat of growth.

5

We must explain (i) wherein growth differs from coming-to-be and from ‘alteration’, and ii) what is the process of growing and the sprocess of diminishing in each and all of the things that grow and diminish.

Hence our first question is this: Do these changes differ from one another solely because of a difference in their respective ‘spheres’? In other words, do they differ because, while a change from this to that (viz. from potential to actual substance) is coming-to-be, a change in the sphere of magnitude is growth and one in the sphere of quality is ‘alteration’-both growth and ‘alteration’ being changes from what is-potentially to what is-actually magnitude and quality respectively? Or is there also a difference in the manner of the change, since it is evident that, whereas neither what is ‘altering’ nor what is coming-to-be necessarily changes its place, what is growing or diminishing changes its spatial position of necessity, though in a different manner from that in which the moving thing does so? For that which is being moved changes its place as a whole: but the growing thing changes its place like a metal that is being beaten, retaining its position as a whole while its parts change their places. They change their places, but not in the same way as the parts of a revolving globe. For the parts of the globe change their places while the whole continues to occupy an equal place: but the parts of the rowing thing expand over an ever-increasing place and the parts of the diminishing thing contract within an ever-diminishing area.

It is clear, then, that these changes-the changes of that which is coming-to-be, of that which is ‘altering’, and of that which is growing-differ in manner as well as in sphere. But how are we to conceive the ‘sphere’ of the change which is growth and diminution? The sphere’ of growing and diminishing is believed to be magnitude. Are we to suppose that body and magnitude come-to-be out of something which, though potentially magnitude and body, is actually incorporeal and devoid of magnitude? And since this description may be understood in two different ways, in which of these two ways are we to apply it to the process of growth? Is the matter, out of which growth takes place, (i) ‘separate’ and existing alone by itself, or (ii) ‘separate’ but contained in another body?

Perhaps it is impossible for growth to take place in either of these ways. For since the matter is ‘separate’, either (a) it will occupy no place (as if it were a point), or (b) it will be a ‘void’, i.e. a non-perceptible body. But the first of these alternatives is impossible. For since what comes-to-be out of this incorporeal and sizeless something will always be ‘somewhere’, it too must be ‘somewhere’-either intrinsically or indirectly. And the second alternative necessarily implies that the matter is contained in some other body. But if it is to be ‘in’ another body and yet remains ‘separate’ in such a way that it is in no sense a part of that body (neither a part of its substantial being nor an ‘accident’ of it), many impossibilities will result. It is as if we were to suppose that when, e.g. air comes-to-be out of water the process were due not to a change of the but to the matter of the air being ‘contained in’ the water as in a vessel. This is impossible. For (i) there is nothing to prevent an indeterminate number of matters being thus ‘contained in’ the water, so that they might come-to-be actually an indeterminate quantity of air; and (ii) we do not in fact see air coming-to-be out of water in this fashion, viz. withdrawing out of it and leaving it unchanged.

It is therefore better to suppose that in all instances of coming-to-be the matter is inseparable, being numerically identical and one with the ‘containing’ body, though isolable from it by definition. But the same reasons also forbid us to regard the matter, out of which the body comes-to-be, as points or lines. The matter is that of which points and lines are limits, and it is something that can never exist without quality and without form.

Now it is no doubt true, as we have also established elsewhere,’ that one thing ‘comes-tobe’ (in the unqualified sense) out of another thing: and further it is true that the efficient cause of its coming-to-be is either (i) an actual thing (which is the same as the effect either generically-or the efficient cause of the coming-to-be of a hard thing is not a hard thing or specifically, as e.g. fire is the efficient cause of the coming-to-be of fire or one man of the birth of another), or (ii) an actuality. Nevertheless, since there is also a matter out of which corporeal substance itself comes-to-be (corporeal substance, however, already characterized as such-and-such a determinate body, for there is no such thing as body in general), this same matter is also the matter of magnitude and quality-being separable from these matters by definition, but not separable in place unless Qualities are, in their turn, separable.

It is evident, from the preceding development and discussion of difficulties, that growth is not a change out of something which, though potentially a magnitude, actually possesses no magnitude. For, if it were, the 'void' would exist in separation; but we have explained in a former work' that this is impossible. Moreover, a change of that kind is not peculiarly distinctive of growth, but characterizes coming-to-be as such or in general. For growth is an increase, and diminution is a lessening, of the magnitude which is there already-that, indeed, is why the growing thing must possess some magnitude. Hence growth must not be regarded as a process from a matter without magnitude to an actuality of magnitude: for this would be a body's coming-to-be rather than its growth.

We must therefore come to closer quarters with the subject of our inquiry. We must grapple' with it (as it were) from its beginning, and determine the precise character of the growing and diminishing whose causes we are investigating.

It is evident (i) that any and every part of the growing thing has increased, and that similarly in diminution every part has become smaller: also (ii) that a thing grows by the accession, and diminishes by the departure, of something. Hence it must grow by the accession either (a) of something incorporeal or (b) of a body. Now, if (a) it grows by the accession of something incorporeal, there will exist separate a void: but (as we have stated before)' is impossible for a matter of magnitude to exist 'separate'. If, on the other hand (b) it grows by the accession of a body, there will be two bodies-that which grows and that which increases it-in the same place: and this too is impossible.

But neither is it open to us to say that growth or diminution occurs in the way in which e.g. air is generated from water. For, although the volume has then become greater, the change will not be growth, but a coming to-be of the one-viz. of that into which the change is taking place-and a passing-away of the contrasted body. It is not a growth of either. Nothing grows in the process; unless indeed there be something common to both things (to that which is coming-to-be and to that which passed-away), e.g. ‘body’, and this grows. The water has not grown, nor has the air: but the former has passed-away and the latter has come-to-be, and-if anything has grown-there has been a growth of ‘body.’ Yet this too is impossible. For our account of growth must preserve the characteristics of that which is growing and diminishing. And these characteristics are three: (i) any and every part of the growing magnitude is made bigger (e.g. if flesh grows, every particle of the flesh gets bigger), (ii) by the accession of something, and (iii) in such a way that the growing thing is preserved and persists. For whereas a thing does not persist in the processes of unqualified coming-to-be or passing-away, that which grows or ‘alters’ persists in its identity through the ‘altering’ and through the growing or diminishing, though the quality (in ‘alteration’) and the size (in growth) do not remain the same. Now if the generation of air from water is to be regarded as growth, a thing might grow without the accession (and without the persistence) of anything, and diminish without the departure of anything-and that which grows need not persist. But this characteristic must be preserved: for the growth we are discussing has been assumed to be thus characterized.

One might raise a further difficulty. What is ‘that which grows’? Is it that to which something is added? If, e.g. a man grows in his shin, is it the shin which is greater-but not that ‘whereby’ he grows, viz. not the food? Then why have not both ‘grown’? For when A is added to B, both A and B are greater, as when you mix wine with water; for each ingredient is alike increased in volume. Perhaps the explanation is that the substance of the one remains unchanged, but the substance of the other (viz. of the food) does not. For indeed, even in the mixture of wine and water, it is the prevailing ingredient which is said to have increased in volume. We say, e.g. that the wine has increased, because the whole mixture acts as wine but not as water. A similar principle applies also to ‘alteration’. Flesh is said to have been ‘altered’ if, while its character and substance remain, some one of its essential properties, which was not there before, now qualifies it: on the other hand, that ‘whereby’ it has been ‘altered’ may have undergone no change, though sometimes it too has been affected. The altering agent, however, and the originative source of the process are in the growing thing and in that which is being 'altered': for the efficient cause is in these. No doubt the food, which has come in, may sometimes expand as well as the body that has consumed it (that is so, e.g. if, after having come in, a food is converted into wind), but when it has undergone this change it has passedaway: and the efficient cause is not in the food.

We have now developed the difficulties sufficiently and must therefore try to find a solution of the problem. Our solution must preserve intact the three characteristics of growth-that the growing thing persists, that it grows by the accession (and diminishes by the departure) of something, and further that every perceptible particle of it has become either larger or smaller. We must recognize also (a) that the growing body is not 'void' and that yet there are not two magnitudes in the same place, and (b) that it does not grow by the accession of something incorporeal.

Two preliminary distinctions will prepare us to grasp the cause of growth. We must note (i) that the organic parts grow by the growth of the tissues (for every organ is composed of these as its constituents); and (ii) that flesh, bone, and every such part-like every other thing which has its form immersed in matter-has a twofold nature: for the form as well as the matter is called 'flesh' or 'bone'.

Now, that any and every part of the tissue qua form should grow-and grow by the accession of something-is possible, but not that any and every part of the tissue qua matter should do so. For we must think of the tissue after the image of flowing water that is measured by one and the same measure: particle after particle comes-to-be, and each successive particle is different. And it is in this sense that the matter of the flesh grows, some flowing out and some flowing in fresh; not in the sense that fresh matter accedes to every particle of it. There is, however, an accession to every part of its figure or 'form'.

That growth has taken place proportionally, is more manifest in the organic parts-e.g. in the hand. For there the fact that the matter is distinct from the form is more manifest than in flesh, i.e. than in the tissues. That is why there is a greater tendency to suppose that a corpse still possesses flesh and bone than that it still has a hand or an arm.

Hence in one sense it is true that any and every part of the flesh has grown;

but in another sense it is false. For there has been an accession to every part of the flesh in respect to its form, but not in respect to its matter. The whole, however, has become larger. And this increase is due (a) on the one hand to the accession of something, which is called ‘food’ and is said to be ‘contrary’ to flesh, but (b) on the other hand to the transformation of this food into the same form as that of flesh as if, e.g. ‘moist’ were to accede to ‘dry’ and, having acceded, were to be transformed and to become ‘dry’. For in one sense ‘Like grows by Like’, but in another sense ‘Unlike grows by Unlike’.

One might discuss what must be the character of that ‘whereby’ a thing grows. Clearly it must be potentially that which is growing-potentially flesh, e.g. if it is flesh that is growing. Actually, therefore, it must be ‘other’ than the growing thing. This ‘actual other’, then, has passed-away and come-to-be flesh. But it has not been transformed into flesh alone by itself (for that would have been a coming-to-be, not a growth): on the contrary, it is the growing thing which has come-to-be flesh (and grown) by the food. In what way, then, has the food been modified by the growing thing? Perhaps we should say that it has been ‘mixed’ with it, as if one were to pour water into wine and the wine were able to convert the new ingredient into wine. And as fire lays hold of the inflammable, so the active principle of growth, dwelling in the growing thing that which is actually flesh), lays hold of an acceding food which is potentially flesh and converts it into actual flesh. The acceding food, therefore, must be together with the growing thing: for if it were apart from it, the change would be a coming-to-be. For it is possible to produce fire by piling logs on to the already burning fire. That is ‘growth’. But when the logs themselves are set on fire, that is ‘coming-to-be’.

‘Quantum-in-general’ does not come-to-be any more than ‘animal’ which is neither man nor any other of the specific forms of animal: what ‘animal-in-general’ is in coming-to-be, that ‘quantum-in-general’ is in growth. But what does come-to-be in growth is flesh or bone-or a hand or arm (i.e. the tissues of these organic parts). Such things come-to-be, then, by the accession not of quantified-flesh but of a quantified-something. In so far as this acceding food is potentially the double result e.g. is potentially so-much-flesh-it produces growth: for it is bound to become actually both so-much and flesh. But in so far as it is potentially flesh only, it nourishes: for it is thus that ‘nutrition’ and ‘growth’ differ by their definition. That is why a body’s’ nutrition’ continues so long as it is kept alive (even when it is diminishing), though not its ‘growth’; and why nutrition, though ‘the same’ as growth, is yet different from it in its actual being. For in so far as that which accedes is potentially ‘so much-flesh’ it tends to increase flesh: whereas, in so far as it is potentially ‘flesh’ only, it is nourishment.

The form of which we have spoken is a kind of power immersed in matter-a duct, as it were. If, then, a matter accedes-a matter, which is potentially a duct and also potentially possesses determinate quantity the ducts to which it accedes will become bigger. But if it is no longer able to act-if it has been weakened by the continued influx of matter, just as water, continually mixed in greater and greater quantity with wine, in the end makes the wine watery and converts it into water-then it will cause a diminution of the quantum; though still the form persists.

6

(In discussing the causes of coming-tobe) we must first investigate the matter, i.e. the so-called ‘elements’. We must ask whether they really are clements or not, i.e. whether each of them is eternal or whether there is a sense in which they come-to-be: and, if they do come-to-be, whether all of them come-to-be in the same manner reciprocally out of one another, or whether one amongst them is something primary. Hence we must begin by explaining certain preliminary matters, about which the statements now current are vague.

For all (the pluralist philosophers) — those who generate the ‘elements’ as well as those who generate the bodies that are compounded of the elements — make use of ‘dissociation’ and ‘association’, and of ‘action’ and ‘passion’. Now ‘association’ is ‘combination’; but the precise meaning of the process we call ‘combining’ has not been explained. Again, (all the monists make use of ‘alteration’: but) without an agent and a patient there cannot be ‘altering’ any more than there can be ‘dissociating’ and ‘associating’. For not only those who postulate a plurality of elements employ their reciprocal action and passion to generate the compounds: those who derive things from a single element are equally compelled to introduce ‘acting’. And in this respect Diogenes is right when he argues that ‘unless all things were derived from one, reciprocal action and passion could not have occurred’. The hot thing, e.g. would not be cooled and the cold thing in turn be warmed: for heat and cold do not change reciprocally into one another, but what changes (it is clear) is the substratum. Hence, whenever there is action and passion between two things, that which underlies them must be a single something. No doubt, it is not true to say that all things are of this character: but it is true of all things between which there is reciprocal action and passion.

But if we must investigate ‘action-passion’ and ‘combination’, we must also investigate ‘contact’. For action and passion (in the proper sense of the terms) can only occur between things which are such as to touch one another; nor can things enter into combination at all unless they have come into a certain kind of contact. Hence we must give a definite account of these three things — of ‘contact’, ‘combination’, and ‘acting’.

Let us start as follows. All things which admit of ‘combination’ must be capable of reciprocal contact: and the same is true of any two things, of which one ‘acts’ and the other ‘suffers action’ in the proper sense of the terms. For this reason we must treat of ‘contact’ first. every term which possesses a variety of meaning includes those various meanings either owing to a mere coincidence of language, or owing to a real order of derivation in the different things to which it is applied: but, though this may be taken to hold of ‘contact’ as of all such terms, it is nevertheless true that contact’ in the proper sense applies only to things which have ‘position’. And ‘position’ belongs only to those things which also have a Place’: for in so far as we attribute ‘contact’ to the mathematical things, we must also attribute ‘place’ to them, whether they exist in separation or in some other fashion. Assuming, therefore, that ‘to touch’ is-as we have defined it in a previous work’-’to have the extremes together’, only those things will touch one another which, being separate magnitudes and possessing position, have their extremes ‘together’. And since position belongs only to those things which also have a ‘place’, while the primary differentiation of ‘place’ is the above’ and ‘the below’ (and the similar pairs of opposites), all things which touch one another will have ‘weight’ or ‘lightness’ either both these qualities or one or the other of them. But bodies which are heavy or light are such as to ‘act’ and ‘suffer action’. Hence it is clear that those things are by nature such as to touch one another, which (being separate magnitudes) have their extremes ‘together’ and are able to move, and be moved by, one another.

The manner in which the ‘mover’ moves the moved’ not always the same: on the contrary, whereas one kind of ‘mover’ can only impart motion by being itself moved, another kind can do so though remaining itself unmoved. Clearly therefore we must recognize a corresponding variety in speaking of the 'acting' thing too: for the 'mover' is said to 'act' (in a sense) and the 'acting' thing to 'impart motion'. Nevertheless there is a difference and we must draw a distinction. For not every 'mover' can 'act', if (a) the term 'agent' is to be used in contrast to 'patient' and (b) 'patient' is to be applied only to those things whose motion is a 'qualitative affection'-i.e. a quality, like white' or 'hot', in respect to which they are moved' only in the sense that they are 'altered': on the contrary, to 'impart motion' is a wider term than to 'act'. Still, so much, at any rate, is clear: the things which are 'such as to impart motion', if that description be interpreted in one sense, will touch the things which are 'such as to be moved by them'-while they will not touch them, if the description be interpreted in a different sense. But the disjunctive definition of 'touching' must include and distinguish (a) 'contact in general' as the relation between two things which, having position, are such that one is able to impart motion and the other to be moved, and (b) 'reciprocal contact' as the relation between two things, one able to impart motion and the other able to be moved in such a way that 'action and passion' are predicable of them.

As a rule, no doubt, if A touches B, B touches A. For indeed practically all the 'movers' within our ordinary experience impart motion by being moved: in their case, what touches inevitably must, and also evidently does, touch something which reciprocally touches it. Yet, if A moves B, it is possible-as we sometimes express it-for A 'merely to touch' B, and that which touches need not touch a something which touches it. Nevertheless it is commonly supposed that 'touching' must be reciprocal. The reason of this belief is that 'movers' which belong to the same kind as the 'moved' impart motion by being moved. Hence if anything imparts motion without itself being moved, it may touch the 'moved' and yet itself be touched by nothing-for we say sometimes that the man who grieves us 'touches' us, but not that we 'touch' him.

The account just given may serve to distinguish and define the 'contact' which occurs in the things of Nature.

Next in order we must discuss ‘action’ and ‘passion’. The traditional theories on the subject are conflicting. For (i) most thinkers are unanimous in maintaining (a) that ‘like’ is always unaffected by ‘like’, because (as they argue) neither of two ‘likes’ is more apt than the other either to act or to suffer action, since all the properties which belong to the one belong identically and in the same degree to the other; and (b) that ‘unlikes’, i.e. ‘differents’, are by nature such as to act and suffer action reciprocally. For even when the smaller fire is destroyed by the greater, it suffers this effect (they say) owing to its ‘contrariety’ since the great is contrary to the small. But (ii) Democritus dissented from all the other thinkers and maintained a theory peculiar to himself. He asserts that agent and patient are identical, i.e. ‘like’. It is not possible (he says) that ‘others’, i.e. ‘differents’, should suffer action from one another: on the contrary, even if two things, being ‘others’, do act in some way on one another, this happens to them not qua ‘others’ but qua possessing an identical property.

Such, then, are the traditional theories, and it looks as if the statements of their advocates were in manifest conflict. But the reason of this conflict is that each group is in fact stating a part, whereas they ought to have taken a comprehensive view of the subject as a whole. For (i) if A and B are ‘like’-absolutely and in all respects without difference from one another — it is reasonable to infer that neither is in any way affected by the other. Why, indeed, should either of them tend to act any more than the other? Moreover, if ‘like’ can be affected by ‘like’, a thing can also be affected by itself: and yet if that were so-if ‘like’ tended in fact to act qua ‘like’-there would be nothing indestructible or immovable, for everything would move itself. And (ii) the same consequence follows if A and B are absolutely ‘other’, i.e. in no respect identical. Whiteness could not be affected in any way by line nor line by whiseness-except perhaps ‘coincidentally’, viz. if the line happened to be white or black: for unless two things either are, or are composed of, ‘contraries’, neither drives the other out of its natural condition. But (iii) since only those things which either involve a ‘contrariety’ or are ‘contraries’-and not any things selected at random-are such as to suffer action and to act, agent and patient must be ‘like’ (i.e. identical) in kind and yet ‘unlike’ (i.e. contrary) in species. (For it is a law of nature that body is affected by body, flavour by flavour, colour by colour, and so in general what belongs to any kind by a member of the same kind-the reason being that ‘contraries’ are in every case within a single identical kind, and it is ‘contraries’ which reciprocally act and suffer action.) Hence agent and patient must be in one sense identical, but in another sense other than (i.e. ‘unlike’) one another. And since (a) patient and agent are generically identical (i.e. ‘like’) but specifically ‘unlike’, while (b) it is ‘contraries’ that exhibit this character: it is clear that ‘contraries’ and their ‘intermediates’ are such as to suffer action and to act reciprocally-for indeed it is these that constitute the entire sphere of passing-away and coming-to-be.

We can now understand why fire heats and the cold thing cools, and in general why the active thing assimilates to itself the patient. For agent and patient are contrary to one another, and coming-to-be is a process into the contrary: hence the patient must change into the agent, since it is only thus that coming-to be will be a process into the contrary. And, again, it is intelligible that the advocates of both views, although their theories are not the same, are yet in contact with the nature of the facts. For sometimes we speak of the substratum as suffering action (e.g. of ‘the man’ as being healed, being warmed and chilled, and similarly in all the other cases), but at other times we say ‘what is cold is ‘being warmed’, ‘what is sick is being healed’: and in both these ways of speaking we express the truth, since in one sense it is the ‘matter’, while in another sense it is the ‘contrary’, which suffers action. (We make the same distinction in speaking of the agent: for sometimes we say that ‘the man’, but at other times that ‘what is hot’, produces heat.) Now the one group of thinkers supposed that agent and patient must possess something identical, because they fastened their attention on the substratum: while the other group maintained the opposite because their attention was concentrated on the ‘contraries’. We must conceive the same account to hold of action and passion as that which is true of ‘being moved’ and ‘imparting motion’. For the ‘mover’, like the ‘agent’, has two meanings. Both (a) that which contains the originative source of the motion is thought to ‘impart motion’ (for the originative source is first amongst the causes), and also (b) that which is last, i.e. immediately next to the moved thing and to the coming-to-be. A similar distinction holds also of the agent: for we speak not only (a) of the doctor, but also (b) of the wine, as healing. Now, in motion, there is nothing to prevent the firs; mover being unmoved (indeed, as regards some ‘first’ movers’ this is actually necessary) although the last mover always imparts motion by being itself moved: and, in action, there is nothing to prevent the first agent being unaffected, while the last agent only acts by suffering action itself. For agent and patient have not the same matter, agent acts without being affected: thus the art of healing produces health without itself being acted upon in any way by that which is being healed. But (b) the food, in acting, is itself in some way acted upon: for, in acting, it is simultaneously heated or cooled or otherwise affected. Now the art of healing corresponds to an 'originative source', while the food corresponds to 'the last' (i.e. 'continuous') mover.

Those active powers, then, whose forms are not embodied in matter, are unaffected: but those whose forms are in matter are such as to be affected in acting. For we maintain that one and the same 'matter' is equally, so to say, the basis of either of the two opposed things-being as it were a 'kind'; and that that which can he hot must be made hot, provided the heating agent is there, i.e. comes near. Hence (as we have said) some of the active powers are unaffected while others are such as to be affected; and what holds of motion is true also of the active powers. For as in motion 'the first mover' is unmoved, so among the active powers 'the first agent' is unaffected.

The active power is a 'cause' in the sense of that from which the process originates: but the end, for the sake of which it takes place, is not 'active'. (That is why health is not 'active', except metaphorically.) For when the agent is there, the patient he-comes something: but when 'states' are there, the patient no longer becomes but already is-and 'forms' (i.e. lends') are a kind of 'state'. As to the 'matter', it (qua matter) is passive. Now fire contains 'the hot' embodied in matter: but a 'hot' separate from matter (if such a thing existed) could not suffer any action. Perhaps, indeed, it is impossible that 'the hot' should exist in separation from matter: but if there are any entities thus separable, what we are saying would be true of them.

We have thus explained what action and passion are, what things exhibit them, why they do so, and in what manner. We must go on to discuss how it is possible for action and passion to take place.

8

Some philosophers think that the 'last' agent-the 'agent' in the strictest sense-enters in through certain pores, and so the patient suffers action. It is in this way, they assert, that we see and hear and exercise all our other senses.

Moreover, according to them, things are seen through air and water and other transparent bodies, because such bodies possess pores, invisible indeed owing to their minuteness, but close-set and arranged in rows: and the more transparent the body, the more frequent and serial they suppose its pores to be. Such was the theory which some philosophers (induding Empedocles) advanced in regard to the structure of certain bodies. They do not restrict it to the bodies which act and suffer action: but 'combination' too, they say, takes place 'only between bodies whose pores are in reciprocal symmetry'. The most systematic and consistent theory, however, and one that applied to all bodies, was advanced by Leucippus and Democritus: and, in maintaining it, they took as their starting-point what naturally comes first.

For some of the older philosophers thought that 'what is' must of necessity be 'one' and immovable. The void, they argue, 'is not': but unless there is a void with a separate being of its own, 'what is' cannot be moved-nor again can it be 'many', since there is nothing to keep things apart. And in this respect, they insist, the view that the universe is not 'continuous' but 'discretes-in-contact' is no better than the view that there are 'many' (and not 'one') and a void. For (suppose that the universe is discretes-in-contact. Then), if it is divisible through and through, there is no 'one', and therefore no 'many' either, but the Whole is void; while to maintain that it is divisible at some points, but not at others, looks like an arbitrary fiction. For up to what limit is it divisible? And for what reason is part of the Whole indivisible, i.e. a plenum, and part divided? Further, they maintain, it is equally necessary to deny the existence of motion.

Reasoning in this way, therefore, they were led to transcend sense-perception, and to disregard it on the ground that 'one ought to follow the argument': and so they assert that the universe is 'one' and immovable. Some of them add that it is 'infinite', since the limit (if it had one) would be a limit against the void.

There were, then, certain thinkers who, for the reasons we have stated, enunciated views of this kind as their theory of 'The Truth'.... Moreover, although these opinions appear to follow logically in a dialectical discussion, yet to believe them seems next door to madness when one considers the facts. For indeed no lunatic seems to be so far out of his senses as to suppose that fire and ice are 'one': it is only between what is right and what seems right from habit, that some people are mad enough to see no difference.

Leucippus, however, thought he had a theory which harmonized with sense-perception and would not abolish either coming-to-be and passing-away or motion and the multiplicity of things. He made these concessions to the facts of perception: on the other hand, he conceded to the Monists that there could be no motion without a void. The result is a theory which he states as follows: 'The void is a "not being", and no part of "what is" is a "not-being"; for what "is" in the strict sense of the term is an absolute plenum. This plenum, however, is not "one": on the contrary, it is a many" infinite in number and invisible owing to the minuteness of their bulk. The "many" move in the void (for there is a void): and by coming together they produce "coming to-be", while by separating they produce "passing-away". Moreover, they act and suffer action wherever they chance to be in contact (for there they are not "one"), and they generate by being put together and becoming intertwined. From the genuinely-one, on the other hand, there never could have come-to-be a multiplicity, nor from the genuinely-many a "one": that is impossible. But' (just as Empedocles and some of the other philosophers say that things suffer action through their pores, so) 'all "alteration" and all "passion" take place in the way that has been explained: breaking-up (i.e. passing-away) is effected by means of the void, and so too is growth-solids creeping in to fill the void places.' Empedocles too is practically bound to adopt the same theory as Leucippus. For he must say that there are certain solids which, however, are indivisible-unless there are continuous pores all through the body. But this last alternative is impossible: for then there will be nothing solid in the body (nothing beside the pores) but all of it will be void. It is necessary, therefore, for his 'contiguous discretes' to be indivisible, while the intervals between them-which he calls 'pores'-must be void. But this is precisely Leucippus' theory of action and passion.

Such, approximately, are the current explanations of the manner in which some things 'act' while others 'suffer action'. And as regards the Atomists, it is not only clear what their explanation is: it is also obvious that it follows with tolerable consistency from the assumptions they employ. But there is less obvious consistency in the explanation offered by the other thinkers. It is not clear, for instance, how, on the theory of Empedocles, there is to be 'passing-away' as well as 'alteration'. For the primary bodies of the Atomists-the primary constituents of which bodies are composed, and the ultimate elements into which they are dissolved-are indivisible, differing from one another only in figure. In the philosophy of Empedocles, on the other hand, it is evident that all the other bodies down to the ‘elements’ have their coming-to-be and their passingaway: but it is not clear how the ‘elements’ themselves, severally in their aggregated masses, come-to-be and pass-away. Nor is it possible for Empedocles to explain how they do so, since he does not assert that Fire too (and similarly every one of his other ‘elements’) possesses ‘elementary constituents’ of itself.

Such an assertion would commit him to doctrines like those which Plato has set forth in the Timaeus. For although both Plato and Leucippus postulate elementary constituents that are indivisible and distinctively characterized by figures, there is this great difference between the two theories: the ‘indivisibles’ of Leucippus (i) are solids, while those of Plato are planes, and (ii) are characterized by an infinite variety of figures, while the characterizing figures employed by Plato are limited in number. Thus the ‘comings-to-be’ and the ‘dissociations’ result from the ‘indivisibles’ (a) according to Leucippus through the void and through contact (for it is at the point of contact that each of the composite bodies is divisible), but (b) according to Plato in virtue of contact alone, since he denies there is a void.

Now we have discussed ‘indivisible planes’ in the preceding treatise.’ But with regard to the assumption of ‘indivisible solids’, although we must not now enter upon a detailed study of its consequences, the following criticisms fall within the compass of a short digression: i. The Atomists are committed to the view that every ‘indivisible’ is incapable alike of receiving a sensible property (for nothing can ‘suffer action’ except through the void) and of producing one-no ‘indivisible’ can be, e.g. either hard or cold. Yet it is surely a paradox that an exception is made of ‘the hot’-’the hot’ being assigned as peculiar to the spherical figure: for, that being so, its ‘contrary’ also (‘the cold’) is bound to belong to another of the figures. If, however, these properties (heat and cold) do belong to the ‘indivisibles’, it is a further paradox that they should not possess heaviness and lightness, and hardness and softness. And yet Democritus says ‘the more any indivisible exceeds, the heavier it is’-to which we must clearly add ‘and the hotter it is’. But if that is their character, it is impossible they should not be affected by one another: the ‘slightly-hot indivisible’, e.g. will inevitably suffer action from one which far exceeds it in heat. Again, if any ‘indivisible’ is ‘hard’, there must also be one which is ‘soft’: but ‘the soft’ derives its very name from the fact that it suffers a certain action-for ‘soft’ is that which yields to pressure.

II. But further, not only is it paradoxical (i) that no property except figure should belong to the ‘indivisibles’: it is also paradoxical (ii) that, if other properties do belong to them, one only of these additional properties should attach to each-e.g. that this ‘indivisible’ should be cold and that ‘indivisible’ hot. For, on that supposition, their substance would not even be uniform. And it is equally impossible (iii) that more than one of these additional properties should belong to the single ‘indivisible’. For, being indivisible, it will possess these properties in the same point-so that, if it ‘suffers action’ by being chilled, it will also, qua chilled, ‘act’ or ‘suffer action’ in some other way. And the same line of argument applies to all the other properties too: for the difficulty we have just raised confronts, as a necessary consequence, all who advocate ‘indivisibles’ (whether solids or planes), since their ‘indivisibles’ cannot become either ‘rarer’ or ‘derser’ inasmuch as there is no void in them.

III. It is a further paradox that there should be small ‘indivisibles’, but not large ones. For it is natural enough, from the ordinary point of view, that the larger bodies should be more liable to fracture than the small ones, since they (viz. the large bodies) are easily broken up because they collide with many other bodies. But why should indivisibility as such be the property of small, rather than of large, bodies?

IV. Again, is the substance of all those solids uniform, or do they fall into sets which differ from one another-as if, e.g. some of them, in their aggregated bulk, were ‘fiery’, others earthy’? For (i) if all of them are uniform in substance, what is it that separated one from another? Or why, when they come into contact, do they not coalesce into one, as drops of water run together when drop touches drop (for the two cases are precisely parallel)? On the other hand (ii) if they fall into differing sets, how are these characterized? It is clear, too, that these, rather than the ‘figures’, ought to be postulated as ‘original reals’, i.e. causes from which the phenomena result. Moreover, if they differed in substance, they would both act and suffer action on coming into reciprocal contact.

V. Again, what is it which sets them moving? For if their ‘mover’ is other than themselves, they are such as to ‘suffer action’. If, on the other hand, each of them sets itself in motion, either (a) it will be divisible (‘imparting motion’ qua this, ‘being moved’ qua that), or (b) contrary properties will attach to it in the same respect-i.e. ‘matter’ will be identical in-potentiality as well as numerically-identical.

As to the thinkers who explain modification of property through the movement facilitated by the pores, if this is supposed to occur notwithstanding the fact that the pores are filled, their postulate of pores is superfluous. For if the whole body suffers action under these conditions, it would suffer action in the same way even if it had no pores but were just its own continuous self. Moreover, how can their account of ‘vision through a medium’ be correct? It is impossible for (the visual ray) to penetrate the transparent bodies at their ‘contacts’; and impossible for it to pass through their pores if every pore be full. For how will that differ from having no pores at all? The body will be uniformly ‘full’ throughout. But, further, even if these passages, though they must contain bodies, are ‘void’, the same consequence will follow once more. And if they are ‘too minute to admit any body’, it is absurd to suppose there is a ‘minute’ void and yet to deny the existence of a ‘big’ one (no matter how small the ‘big’ may be), or to imagine ‘the void’ means anything else than a body’s place-whence it clearly follows that to every body there will correspond a void of equal cubic capacity.

As a general criticism we must urge that to postulate pores is superfluous. For if the agent produces no effect by touching the patient, neither will it produce any by passing through its pores. On the other hand, if it acts by contact, then-even without pores-some things will ‘suffer action’ and others will ‘act’, provided they are by nature adapted for reciprocal action and passion. Our arguments have shown that it is either false or futile to advocate pores in the sense in which some thinkers conceive them. But since bodies are divisible through and through, the postulate of pores is ridiculous: for, qua divisible, a body can fall into separate parts.

9

Let explain the way in which things in fact possess the power of generating, and of acting and suffering action: and let us start from the principle we have often enunciated. For, assuming the distinction between (a) that which is potentially and (b) that which is actually such-and-such, it is the nature of the first, precisely in so far as it is what it is, to suffer action through and through, not merely to be susceptible in some parts while insusceptible in others. But its susceptibility varies in degree, according as it is more or less; such-and such, and one would be more justified in speaking of ‘pores’ in this connexion: for instance, in the metals there are veins of ‘the susceptible’ stretching continuously through the substance.

So long, indeed, as any body is naturally coherent and one, it is insusceptible. So, too, bodies are insusceptible so long as they are not in contact either with one another or with other bodies which are by nature such as to act and suffer action. (To illustrate my meaning: Fire heats not only when in contact, but also from a distance. For the fire heats the air, and the air-being by nature such as both to act and suffer action-heats the body.) But the supposition that a body is ‘susceptible in some parts, but insusceptible in others’ (is only possible for those who hold an erroneous view concerning the divisibility of magnitudes. For us) the following account results from the distinctions we established at the beginning. For (i) if magnitudes are not divisible through and through-if, on the contrary, there are indivisible solids or planes-then indeed no body would be susceptible through and through:but neither would any be continuous. Since, however, (ii) this is false, i.e. since every body is divisible, there is no difference between ‘having been divided into parts which remain in contact’ and ‘being divisible’. For if a body ‘can be separated at the contacts’ (as some thinkers express it), then, even though it has not yet been divided, it will be in a state of dividedness-since, as it can be divided, nothing inconceivable results. And (iii) the suposition is open to this general objection-it is a paradox that ‘passion’ should occur in this manner only, viz. by the bodies being split. For this theory abolishes ‘alteration’: but we see the same body liquid at one time and solid at another, without losing its continuity. It has suffered this change not by ‘division’ and composition’, nor yet by ‘turning’ and ‘intercontact’ as Democritus asserts; for it has passed from the liquid to the solid state without any change of ‘grouping’ or ‘position’ in the constituents of its substance. Nor are there contained within it those ‘hard’ (i.e. congealed) particles ‘indivisible in their bulk’: on the contrary, it is liquid-and again, solid and congealed-uniformly all through. This theory, it must be added, makes growth and diminution impossible also. For if there is to be opposition (instead of the growing thing having changed as a whole, either by the admixture of something or by its own transformation), increase of size will not have resulted in any and every part.

So much, then, to establish that things generate and are generated, act and suffer action, reciprocally; and to distinguish the way in which these processes can occur from the (impossible) way in which some thinkers say they occur.

10

But we have still to explain ‘combination’, for that was the third of the subjects we originally proposed to discuss. Our explanation will proceed on the same method as before. We must inquire: What is ‘combination’, and what is that which can ‘combine’? Of what things, and under what conditions, is ‘combination’ a property? And, further, does ‘combination’ exist in fact, or is it false to assert its existence?

For, according to some thinkers, it is impossible for one thing to be combined with another. They argue that (i) if both the ‘combined’ constituents persist unaltered, they are no more ‘combined’ now than they were before, but are in the same condition: while (ii) if one has been destroyed, the constituents have not been ‘combined’-on the contrary, one constituent is and the other is not, whereas ‘combination’ demands uniformity of condition in them both: and on the same principle (iii) even if both the combining constituents have been destroyed as the result of their coalescence, they cannot ‘have been combined’ since they have no being at all.

What we have in this argument is, it would seem, a demand for the precise distinction of ‘combination’ from coming-to-be and passingaway (for it is obvious that ‘combination’, if it exists, must differ from these processes) and for the precise distinction of the ‘combinable’ from that which is such as to come-to-be and pass-away. As soon, therefore, as these distinctions are clear, the difficulties raised by the argument would be solved.

Now (i) we do not speak of the wood as ‘combined’ with the fire, nor of its burning as a ‘combining’ either of its particles with one another or of itself with the fire: what we say is that ‘the fire is coming-to-be, but the wood is ‘passing-away’. Similarly, we speak neither (ii) of the food as ‘combining’ with the body, nor (iii) of the shape as ‘combining’ with the wax and thus fashioning the lump. Nor can body ‘combine’ with white, nor (to generalize) ‘properties’ and ‘states’ with ‘things’: for we see them persisting unaltered. But again (iv) white and knowledge cannot be ‘combined’ either, nor any other of the ‘adjectivals’. (Indeed, this is a blemish in the theory of those who assert that ‘once upon a time all things were together and combined’. For not everything can ‘combine’ with everything. On the contrary, both of the constituents that are combined in the compound must originally have existed in separation: but no property can have separate existence.)

Since, however, some things are-potentially while others are-actually, the constituents combined in a compound can ‘be’ in a sense and yet ‘not-be’. The compound may he-actually other than the constituents from which it has resulted; nevertheless each of them may still he-potentially what it was before they were combined, and both of them may survive undestroyed. (For this was the difficulty that emerged in the previous argument: and it is evident that the combining constituents not only coalesce, having formerly existed in separation, but also can again be separated out from the compound.) The constituents, therefore, neither (a) persist actually, as ‘body’ and ‘white’ persist: nor (b) are they destroyed (either one of them or both), for their ‘power of action’ is preserved. Hence these difficulties may be dismissed: but the problem immediately connected with them-whether combination is something relative to perception’ must be set out and discussed.

When the combining constituents have been divided into parts so small, and have been juxtaposed in such a manner, that perception fails to discriminate them one from another, have they then ‘been combined Or ought we to say ‘No, not until any and every part of one constituent is juxtaposed to a part of the other’? The term, no doubt, is applied in the former sense: we speak, e.g. of wheat having been ‘combined’ with barley when each grain of the one is juxtaposed to a grain of the other. But every body is divisible and therefore, since body ‘combined’ with body is uniform in texture throughout, any and every part of each constituent ought to be juxtaposed to a part of the other.

No body, however, can be divided into its ‘least’ parts: and ‘composition’ is not identical with ‘combination’, but other than it. From these premises it clearly follows (i) that so long as the constituents are preserved in small particles, we must not speak of them as ‘combined’. (For this will be a ‘composition’ instead of a ‘blending’ or ‘combination’: nor will every portion of the resultant exhibit the same ratio between its constituents as the whole. But we maintain that, if ‘combination’ has taken place, the compound must be uniform in texture throughout-any part of such a compound being the same as the whole, just as any part of water is water: whereas, if ‘combination’ is ‘composition of the small particles’, nothing of the kind will happen. On the contrary, the constituents will only be ‘combined’ relatively to perception: and the same thing will be ‘combined’ to one percipient, if his sight is not sharp, (but not to another,) while to the eye of Lynceus nothing will be ‘combined’.) It clearly follows (ii) that we must not speak of the constituents as ‘combined in virtue of a division such that any and every part of each is juxtaposed to a part of the other: for it is impossible for them to be thus divided. Either, then, there is no ‘combination’, or we have still to explain the manner in which it can take place.

Now, as we maintain, some things are such as to act and others such as to suffer action from them. Moreover, some things-viz. those Which have the same matter-’reciprocate’, i.e. are such as to act upon one another and to suffer action from one another; while other things, viz. agents which have not the same matter as their patients, act without themselves suffering action. Such agents cannot ‘combine’-that is why neither the art of healing nor health produces health by ‘combining’ with the bodies of the patients. Amongst those things, however, which are reciprocally active and passive, some are easily-divisible. Now (i) if a great quantity (or a large bulk) of one of these easily-divisible ‘reciprocating’ materials be brought together with a little (or with a small piece) of another, the effect produced is not ‘combination’, but increase of the dominant: for the other material is transformed into the dominant. (That is why a drop of wine does not ‘combine’ with ten thousand gallons of water: for its form is dissolved, and it is changed so as to merge in the total volume of water.) On the other hand (ii) when there is a certain equilibrium between their ‘powers of action’, then each of them changes out of its own nature towards the dominant: yet neither becomes the other, but both become an intermediate with properties common to both.

Thus it is clear that only those agents are ‘combinable’ which involve a contrariety-for these are such as to suffer action reciprocally. And, further, they combine more freely if small pieces of each of them are juxtaposed. For in that condition they change one another more easily and more quickly; whereas this effect takes a long time when agent and patient are present in bulk.

Hence, amongst the divisible susceptible materials, those whose shape is readily adaptable have a tendency to combine: for they are easily divided into small particles, since that is precisely what ‘being readily adaptable in shape’ implies. For instance, liquids are the most ‘combinable’ of all bodies-because, of all divisible materials, the liquid is most readily adaptable in shape, unless it be viscous. Viscous liquids, it is true, produce no effect except to increase the volume and bulk. But when one of the constituents is alone susceptible-or superlatively susceptible, the other being susceptible in a very slight degree-the compound resulting from their combination is either no greater in volume or only a little greater. This is what happens when tin is combined with bronze. For some things display a hesitating and ambiguous attitude towards one another-showing a slight tendency to combine and also an inclination to behave as ‘receptive matter’ and ‘form’ respectively. The behaviour of these metals is a case in point. For the tin almost vanishes, behaving as if it were an immaterial property of the bronze: having been combined, it disappears, leaving no trace except the colour it has imparted to the bronze. The same phenomenon occurs in other instances too.

It is clear, then, from the foregoing account, that ‘combination’ occurs, what it is, to what it is due, and what kind of thing is ‘combinable’. The phenomenon depends upon the fact that some things are such as to be (a) reciprocally susceptible and (b) readily adaptable in shape, i.e. easily divisible. For such things can be ‘combined’ without its being necessary either that they should have been destroyed or that they should survive absolutely unaltered: and their ‘combination’ need not be a ‘composition’, nor merely ‘relative to perception’. On the contrary: anything is ‘combinable’ which, being readily adaptable in shape, is such as to suffer action and to act; and it is ‘combinable with’ another thing similarly characterized (for the ‘combinable’ is relative to the ‘combinable’); and ‘combination’ is unification of the ‘combinables’, resulting from their ‘alteration’.

Book II

1

WE have explained under what conditions ‘combination’, ‘contact’, and ‘action-passion’ are attributable to the things which undergo natural change. Further, we have discussed ‘unqualified’ coming-to-be and passing-away, and explained under what conditions they are predicable, of what subject, and owing to what cause. Similarly, we have also discussed ‘alteration’, and explained what ‘altering’ is and how it differs from coming-to-be and passing-away. But we have still to investigate the so-called ‘elements’ of bodies.

For the complex substances whose formation and maintenance are due to natural processes all presuppose the perceptible bodies as the condition of their coming-to-be and passing-away: but philosophers disagree in regard to the matter which underlies these perceptible bodies. Some maintain it is single, supposing it to be, e.g. Air or Fire, or an ‘intermediate’ between these two (but still a body with a separate existence). Others, on the contrary, postulate two or more materials-ascribing to their ‘association’ and ‘dissociation’, or to their ‘alteration’, the coming-to-be and passing-away of things. (Some, for instance, postulate Fire and Earth: some add Air, making three: and some, like Empedocles, reckon Water as well, thus postulating four.)

Now we may agree that the primary materials, whose change (whether it be ‘association and dissociation’ or a process of another kind) results in coming-to-be and passingaway, are rightly described as ‘originative sources, i.e. elements’. But (i) those thinkers are in error who postulate, beside the bodies we have mentioned, a single matter-and that corporeal and separable matter. For this ‘body’ of theirs cannot possibly exist without a ‘perceptible contrariety’: this ‘Boundless’, which some thinkers identify with the ‘original real’, must be either light or heavy, either cold or hot. And (ii) what Plato has written in the Timaeus is not based on any precisely-articulated conception. For he has not stated clearly whether his ‘Omnirecipient” exists in separation from the ‘elements’; nor does he make any use of it. He says, indeed, that it is a substratum prior to the so-called ‘elements’-underlying them, as gold underlies the things that are fashioned of gold. (And yet this comparison, if thus expressed, is itself open to criticism. Things which come-to-be and pass-away cannot be called by the name of the material out of which they have come-tobe: it is only the results of ‘alteration’ which retain the name of the substratum whose ‘alterations’ they are. However, he actually says’ that the truest account is to affirm that each of them is “gold”’.) Nevertheless he carries his analysis of the ‘elements’-solids though they are-back to ‘planes’, and it is impossible for ‘the Nurse’ (i.e. the primary matter) to be identical with ‘the planes’.

Our own doctrine is that although there is a matter of the perceptible bodies (a matter out of which the so-called ‘clements’ come-to-be), it has no separate existence, but is always bound up with a contrariety. A more precise account of these presuppositions has been given in another work’: we must, however, give a detailed explanation of the primary bodies as well, since they too are similarly derived from the matter. We must reckon as an ‘originative source’ and as ‘primary’ the matter which underlies, though it is inseparable from, the contrary qualities: for the hot’ is not matter for ‘the cold’ nor ‘the cold’ for ‘the hot’, but the substratum is matter for them both. We therefore have to recognize three ‘originative sources’: firstly that which potentially perceptible body, secondly the contrarieties (I mean, e.g. heat and cold), and thirdly Fire, Water, and the like. Only ‘thirdly’, however: for these bodies change into one another (they are not immutable as Empedocles and other thinkers assert, since ‘alteration’ would then have been impossible), whereas the contrarieties do not change.

Nevertheless, even so the question remains: What sorts of contrarieties, and how many of them, are to be accounted ‘originative sources’ of body? For all the other thinkers assume and use them without explaining why they are these or why they are just so many.

2

Since, then, we are looking for ‘originative sources’ of perceptible body; and since ‘perceptible’ is equivalent to ‘tangible’, and ‘tangible’ is that of which the perception is touch; it is clear that not all the contrarieties constitute ‘forms’ and ‘originative sources’ of body, but only those which correspond to touch. For it is in accordance with a contrariety-a contrariety, moreover, of tangible qualities-that the primary bodies are differentiated. That is why neither whiteness (and blackness), nor sweetness (and bitterness), nor (similarly) any quality belonging to the other perceptible contrarieties either, constitutes an ‘element’. And yet vision is prior to touch, so that its object also is prior to the object of touch. The object of vision, however, is a quality of tangible body not qua tangible, but qua something else-qua something which may well be naturally prior to the object of touch.

Accordingly, we must segregate the tangible differences and contrarieties, and distinguish which amongst them are primary. Contrarieties correlative to touch are the following: hot-cold, dry-moist, heavy-light, hard-soft, viscous-brittle, rough-smooth, coarse-fine. Of these (i) heavy and light are neither active nor susceptible. Things are not called ‘heavy’ and ‘light’ because they act upon, or suffer action from, other things. But the ‘elements’ must be reciprocally active and susceptible, since they ‘combine’ and are transformed into one another. On the other hand (ii) hot and cold, and dry and moist, are terms, of which the first pair implies power to act and the second pair susceptibility. ‘Hot’ is that which ‘associates’ things of the same kind (for ‘dissociating’, which people attribute to Fire as its function, is ‘associating’ things of the same class, since its effect is to eliminate what is foreign), while ‘cold’ is that which brings together, i.e. ‘associates’, homogeneous and heterogeneous things alike. And moise is that which, being readily adaptable in shape, is not determinable by any limit of its own: while ‘dry’ is that which is readily determinable by its own limit, but not readily adaptable in shape.

From moist and dry are derived (iii) the fine and coarse, viscous and brittle, hard and soft, and the remaining tangible differences. For (a) since the moist has no determinate shape, but is readily adaptable and follows the outline of that which is in contact with it, it is characteristic of it to be ‘such as to fill up’. Now ‘the fine’ is ‘such as to fill up’. For the fine’ consists of subtle particles; but that which consists of small particles is ‘such as to fill up’, inasmuch as it is in contact whole with whole-and ‘the fine’ exhibits this character in a superlative degree. Hence it is evident that the fine derives from the moist, while the coarse derives from the dry. Again (b) the viscous’ derives from the moist: for ‘the viscous’ (e.g. oil) is a ‘moist’ modified in a certain way. ‘The brittle’, on the other hand, derives from the dry: for ‘brittle’ is that which is completely dry-so completely, that its solidification has actually been due to failure of moisture. Further (c) ‘the soft’ derives from the moist. For ‘soft’ is that which yields to pressure by retiring into itself, though it does not yield by total displacement as the moist does-which explains why the moist is not ‘soft’, although ‘the soft’ derives from the moist. ‘The hard’, on the other hand, derives from the dry: for ‘hard’ is that which is solidified, and the solidified is dry.

The terms ‘dry’ and ‘moist’ have more senses than one. For ‘the damp’, as well as the moist, is opposed to the dry: and again ‘the solidified’, as well as the dry, is opposed to the moist. But all these qualities derive from the dry and moist we mentioned first.’ For (i) the dry is opposed to the damp: i.e. ‘damp’ is that which has foreign moisture on its surface (‘sodden’ being that which is penetrated to its core), while ‘dry’ is that which has lost foreign moisture. Hence it is evident that the damp will derive from the moist, and ‘the dry’ which is opposed to it will derive from the primary dry. Again (ii) the ‘moist’ and the solidified derive in the same way from the primary pair. For ‘moist’ is that which contains moisture of its-own deep within it (‘sodden’ being that which is deeply penetrated by foreign mosture), whereas ‘solidigied’ is that which has lost this inner moisture. Hence these too derive from the primary pair, the ‘solidified’ from the dry and the ‘solidified’ from the dry the ‘liquefiable’ from the moist.

It is clear, then, that all the other differences reduce to the first four, but that these admit of no further reduction. For the hot is not essentially moist or dry, nor the moist essentially hot or cold: nor are the cold and the dry derivative forms, either of one another or of the hot and the moist. Hence these must be four.

3

The elementary qualities are four, and any four terms can be combined in six couples. Contraries, however, refuse to be coupled: for it is impossible for the same thing to be hot and cold, or moist and dry. Hence it is evident that the ‘couplings’ of the elementary qualities will be four: hot with dry and moist with hot, and again cold with dry and cold with moist. And these four couples have attached themselves to the apparently ‘simple’ bodies (Fire, Air, Water, and Earth) in a manner consonant with theory. For Fire is hot and dry, whereas Air is hot and moist (Air being a sort of aqueous vapour); and Water is cold and moist, while Earth is cold and dry. Thus the differences are reasonably distributed among the primary bodies, and the number of the latter is consonant with theory. For all who make the simple bodies ‘elements’ postulate either one, or two, or three, or four. Now (i) those who assert there is one only, and then generate everything else by condensation and rarefaction, are in effect making their ‘originative sources’ two, viz. the rare and the dense, or rather the hot and the cold: for it is these which are the moulding forces, while the ‘one’ underlies them as a ‘matter’. But (ii) those who postulate two from the start-as Parmenides postulated Fire and Earth-make the intermediates (e.g. Air and Water) blends of these. The same course is followed (iii) by those who advocate three. (We may compare what Plato does in Me Divisions’: for he makes ‘the middle’ a blend.) Indeed, there is practically no difference between those who postulate two and those who postulate three, except that the former split the middle ‘element’ into two, while the latter treat it as only one. But (iv) some advocate four from the start, e.g. Empedocles: yet he too draws them together so as to reduce them to the two, for he opposes all the others to Fire.

In fact, however, fire and air, and each of the bodies we have mentioned, are not simple, but blended. The ‘simple’ bodies are indeed similar in nature to them, but not identical with them. Thus the ‘simple’ body corresponding to fire is ‘such-as-fire, not fire: that which corresponds to air is ‘such-as-air’: and so on with the rest of them. But fire is an excess of heat, just as ice is an excess of cold. For freezing and boiling are excesses of heat and cold respectively. Assuming, therefore, that ice is a freezing of moist and cold, fire analogously will be a boiling of dry and hot: a fact, by the way, which explains why nothing comes-to-be either out of ice or out of fire.

The ‘simple’ bodies, since they are four, fall into two pairs which belong to the two regions, each to each: for Fire and Air are forms of the body moving towards the ‘limit’, while Earth and Water are forms of the body which moves towards the ‘centre’. Fire and Earth, moreover, are extremes and purest: Water and Air, on the contrary are intermediates and more like blends. And, further, the members of either pair are contrary to those of the other, Water being contrary to Fire and Earth to Air; for the qualities constituting Water and Earth are contrary to those that constitute Fire and Air. Nevertheless, since they are four, each of them is characterized par excellence a single quality: Earth by dry rather than by cold, Water by cold rather than by moist, Air by moist rather than by hot, and Fire by hot rather than by dry.

4

It has been established before' that the coming-to-be of the 'simple' bodies is reciprocal. At the same time, it is manifest, even on the evidence of perception, that they do come-to-be: for otherwise there would not have been 'alteration, since 'alteration' is change in respect to the qualities of the objects of touch. Consequently, we must explain (i) what is the manner of their reciprocal transformation, and (ii) whether every one of them can come to-be out of every one-or whether some can do so, but not others.

Now it is evident that all of them are by nature such as to change into one another: for coming-to-be is a change into contraries and out of contraries, and the 'elements' all involve a contrariety in their mutual relations because their distinctive qualities are contrary. For in some of them both qualities are contrary-e.g. in Fire and Water, the first of these being dry and hot, and the second moist and cold: while in others one of the qualities (though only one) is contrary-e.g. in Air and Water, the first being moist and hot, and the second moist and cold. It is evident, therefore, if we consider them in general, that every one is by nature such as to come-to-be out of every one: and when we come to consider them severally, it is not difficult to see the manner in which their transformation is effected. For, though all will result from all, both the speed and the facility of their conversion will differ in degree.

Thus (i) the process of conversion will be quick between those which have interchangeable 'complementary factors', but slow between those which have none. The reason is that it is easier for a single thing to change than for many. Air, e.g. will result from Fire if a single quality changes: for Fire, as we saw, is hot and dry while Air is hot and moist, so that there will be Air if the dry be overcome by the moist. Again, Water will result from Air if the hot be overcome by the cold: for Air, as we saw, is hot and moist while Water is cold and moist, so that, if the hot changes, there will be Water. So too, in the same manner, Earth will result from Water and Fire from Earth, since the two 'elements' in both these couples have interchangeable 'complementary factors'. For Water is moist and cold while Earth is cold and dry-so that, if the moist be overcome, there will be Earth: and again, since Fire is dry and hot while Earth is cold and dry, Fire will result from Earth if the cold pass-away.

It is evident, therefore, that the coming-to-be of the ‘simple’ bodies will be cyclical; and that this cyclical method of transformation is the easiest, because the consecutive ‘clements’ contain interchangeable ‘complementary factors’. On the other hand (ii) the transformation of Fire into Water and of Air into Earth, and again of Water and Earth into Fire and Air respectively, though possible, is more difficult because it involves the change of more qualities. For if Fire is to result from Water, both the cold and the moist must pass-away: and again, both the cold and the dry must pass-away if Air is to result from Earth. So’ too, if Water and Earth are to result from Fire and Air respectively-both qualities must change.

This second method of coming-to-be, then, takes a longer time. But (iii) if one quality in each of two ‘elements’ pass-away, the transformation, though easier, is not reciprocal. Still, from Fire plus Water there will result Earth and Air, and from Air plus Earth Fire and Water. For there will be Air, when the cold of the Water and the dry of the Fire have passed-away (since the hot of the latter and the moist of the former are left): whereas, when the hot of the Fire and the moist of the Water have passed-away, there will be Earth, owing to the survival of the dry of the Fire and the cold of the Water. So, too, in the same Way, Fire and Water will result from Air plus Earth. For there will be Water, when the hot of the Air and the dry of the Earth have passed-away (since the moist of the former and the cold of the latter are left): whereas, when the moist of the Air and the cold of the Earth have passed-away, there will be Fire, owing to the survival of the hot of the Air and the dry of the Earth-qualities essentially constitutive of Fire. Moreover, this mode of Fire’s coming-to-be is confirmed by perception. For flame is par excellence Fire: but flame is burning smoke, and smoke consists of Air and Earth.

No transformation, however, into any of the ‘simple’ bodies can result from the passingaway of one elementary quality in each of two ‘elements’ when they are taken in their consecutive order, because either identical or contrary qualities are left in the pair: but no ‘simple’ body can be formed either out of identical, or out of contrary, qualities. Thus no ‘simple’ body would result, if the dry of Fire and the moist of Air were to pass-away: for the hot is left in both. On the other hand, if the hot pass-away out both, the contraries-dry and moist-are left. A similar result will occur in all the others too: for all the consecutive ‘elements’ contain one identical, and one contrary, quality. Hence, too, it clearly follows that, when one of the consecutive ‘elements’ is transformed into one, the coming-to-be is effected by the passing-away of a single quality: whereas, when two of them are transformed into a third, more than one quality must have passedaway.

We have stated that all the ‘elements’ come-to-be out of any one of them; and we have explained the manner in which their mutual conversion takes place. Let us nevertheless supplement our theory by the following speculations concerning them.

5

If Water, Air, and the like are a ‘matter’ of which the natural bodies consist, as some thinkers in fact believe, these ‘clements’ must be either one, or two, or more. Now they cannot all of them be one-they cannot, e.g. all be Air or Water or Fire or Earth-because ‘Change is into contraries’. For if they all were Air, then (assuming Air to persist) there will be ‘alteration’ instead of coming-to-be. Besides, nobody supposes a single ‘element’ to persist, as the basis of all, in such a way that it is Water as well as Air (or any other ‘element’) at the same time. So there will be a certain contrariety, i.e. a differentiating quality: and the other member of this contrariety, e.g. heat, will belong to some other ‘element’, e.g. to Fire. But Fire will certainly not be ‘hot Air’. For a change of that kind (a) is ‘alteration’, and (b) is not what is observed. Moreover (c) if Air is again to result out of the Fire, it will do so by the conversion of the hot into its contrary: this contrary, therefore, will belong to Air, and Air will be a cold something: hence it is impossible for Fire to be ‘hot Air’, since in that case the same thing will be simultaneously hot and cold. Both Fire and Air, therefore, will be something else which is the same; i.e. there will be some ‘matter’, other than either, common to both.

The same argument applies to all the ‘elements’, proving that there is no single one of them out of which they all originate. But neither is there, beside these four, some other body from which they originate-a something intermediate, e.g. between Air and Water (coarser than Air, but finer than Water), or between Air and Fire (coarser than Fire, but finer than Air). For the supposed ‘intermediate’ will be Air and Fire when a pair of contrasted qualities is added to it: but, since one of every two contrary qualities is a ‘privation’, the ‘intermediate’ never can exist-as some thinkers assert the ‘Boundless’ or the ‘Environing’ exists-in isolation. It is, therefore, equally and indifferently any one of the ‘elements’, or else it is nothing.

Since, then, there is nothing-at least, nothing perceptible-prior to these, they must be all. That being so, either they must always persist and not be transformable into one another: or they must undergo transformation-either all of them, or some only (as Plato wrote in the Timacus).’ Now it has been proved before that they must undergo reciprocal transformation. It has also been proved that the speed with which they come-to-be, one out of another, is not uniform-since the process of reciprocal transformation is relatively quick between the ‘elements’ with a ‘complementary factor’, but relatively slow between those which possess no such factor. Assuming, then, that the contrariety, in respect to which they are transformed, is one, the elements’ will inevitably be two: for it is ‘matter’ that is the ‘mean’ between the two contraries, and matter is imperceptible and inseparable from them. Since, however, the ‘elements’ are seen to be more than two, the contrarieties must at the least be two. But the contrarieties being two, the ‘elements’ must be four (as they evidently are) and cannot be three: for the couplings’ are four, since, though six are possible, the two in which the qualities are contrary to one another cannot occur.

These subjects have been discussed before:’ but the following arguments will make it clear that, since the ‘elements’ are transformed into one another, it is impossible for any one of them-whether it be at the end or in the middle-to be an ‘originative source’ of the rest. There can be no such ‘originative element’ at the ends: for all of them would then be Fire or Earth, and this theory amounts to the assertion that all things are made of Fire or Earth. Nor can a ‘middle-element’ be such an originative source’-as some thinkers suppose that Air is transformed both into Fire and into Water, and Water both into Air and into Earth, while the ‘end-elements’ are not further transformed into one another. For the process must come to a stop, and cannot continue ad infinitum in a straight line in either direction, since otherwise an infinite number of contrarieties would attach to the single ‘element’. Let E stand for Earth, W for Water, A for Air, and F for Fire. Then (i) since A is transformed into F and W, there will be a contrariety belonging to A F. Let these contraries be whiteness and blackness. Again (ii) since A is transformed into

W, there will be another contrariety: for W is not the same as F. Let this second contrariety be dryness and moistness, D being dryness and M moistness. Now if, when A is transformed into W, the ‘white’ persists, Water will be moist and white: but if it does not persist, Water will be black since change is into contraries. Water, therefore, must be either white or black. Let it then be the first. On similar grounds, therefore, D (dryness) will also belong to F. Consequently F (Fire) as well as Air will be able to be transformed into Water: for it has qualities contrary to those of Water, since Fire was first taken to be black and then to be dry, while Water was moist and then showed itself white. Thus it is evident that all the ‘elements’ will be able to be transformed out of one another; and that, in the instances we have taken, E (Earth) also will contain the remaining two ‘complementary factors’, viz. the black and the moist (for these have not yet been coupled).

We have dealt with this last topic before the thesis we set out to prove. That thesis-viz. that the process cannot continue ad infinitum-will be clear from the following considerations. If Fire (which is represented by F) is not to revert, but is to be transformed in turn into some other ‘element’ (e.g. into Q), a new contrariety, other than those mentioned, will belong to Fire and Q: for it has been assumed that Q is not the same as any of the four, E W A and F. Let K, then, belong to F and Y to Q. Then K will belong to all four, E W A and F: for they are transformed into one another. This last point, however, we may admit, has not yet been proved: but at any rate it is clear that if Q is to be transformed in turn into yet another ‘element’, yet another contrariety will belong not only to Q but also to F (Fire). And, similarly, every addition of a new ‘element’ will carry with it the attachment of a new contrariety to the preceding elements’. Consequently, if the ‘elements’ are infinitely many, there will also belong to the single ‘element’ an infinite number of contrarieties. But if that be so, it will be impossible to define any ‘element’: impossible also for any to come-to-be. For if one is to result from another, it will have to pass through such a vast number of contrarieties-and indeed even more than any determinate number. Consequently (i) into some ‘elements’ transformation will never be effected-viz. if the intermediates are infinite in number, as they must be if the ‘elements’ are infinitely many: further (ii) there will not even be a transformation of Air into Fire, if the contrarieties are infinitely many: moreover (iii) all the ‘elements’ become one. For all the contrarieties of the ‘elements’ above F must belong to those below F, and vice versa: hence they will all be one.

6

As for those who agree with Empedocles that the ‘elements’ of body are more than one, so that they are not transformed into one another-one may well wonder in what sense it is open to them to maintain that the ‘elements’ are comparable. Yet Empedocles says ‘For these are all not only equal...’

If it is meant that they are comparable in their amount, all the ‘comparables’ must possess an identical something whereby they are measured. If, e.g. one pint of Water yields ten of Air, both are measured by the same unit; and therefore both were from the first an identical something. On the other hand, suppose (ii) they are not ‘comparable in their amount’ in the sense that so-much of the one yields so much of the other, but comparable in ‘power of action (a pint of Water, e.g. having a power of cooling equal to that of ten pints of Air); even so, they are ‘comparable in their amount’, though not qua ‘amount’ but qua Iso-much power’. There is also (iii) a third possibility. Instead of comparing their powers by the measure of their amount, they might be compared as terms in a ‘correspondence’: e.g. ‘as x is hot, so correspondingly y is white’. But ‘correspondence’, though it means equality in the quantum, means similarity in a quale. Thus it is manifestly absurd that the ‘simple’ bodies, though they are not transformable, are comparable not merely as ‘corresponding’, but by a measure of their powers; i.e. that so-much Fire is comparable with many times-that-amount of Air, as being ‘equally’ or ‘similarly’ hot. For the same thing, if it be greater in amount, will, since it belongs to the same kind, have its ratio correspondingly increased.

A further objection to the theory of Empedocles is that it makes even growth impossible, unless it be increase by addition. For his Fire increases by Fire: ‘And Earth increases its own frame and Ether increases Ether.” These, however, are cases of addition: but it is not by addition that growing things are believed to increase. And it is far more difficult for him to account for the coming-to-be which occurs in nature. For the things which come-to-be by natural process all exhibit, in their coming-to-be, a uniformity either absolute or highly regular: while any exceptions any results which are in accordance neither with the invariable nor with the general rule are products of chance and luck. Then what is the cause determining that man comes-to-be from man, that wheat (instead of an olive) comes-to-be from wheat, either invariably or generally? Are we to say ‘Bone comes-to-be if the “elements” be put together in such-and such a manner’? For, according to his own estatements, nothing comes-to-be from their ‘fortuitous consilience’, but only from their ‘consilience’ in a certain proportion. What, then, is the cause of this proportional consilience? Presumably not Fire or Earth. But neither is it Love and Strife: for the former is a cause of ‘association’ only, and the latter only of ‘dissociation’. No: the cause in question is the essential nature of each thing-not merely to quote his words) ‘a mingling and a divorce of what has been mingled’. And chance, not proportion, ‘is the name given to these occurrences’: for things can be ‘mingled’ fortuitously.

The cause, therefore, of the coming-to-be of the things which owe their existence to nature is that they are in such-and-such a determinate condition: and it is this which constitutes, the ‘nature’ of each thing-a ‘nature’ about which he says nothing. What he says, therefore, is no explanation of ‘nature’. Moreover, it is this which is both ‘the excellence’ of each thing and its ‘good’: whereas he assigns the whole credit to the ‘mingling’. (And yet the ‘elements’ at all events are ‘dissociated’ not by Strife, but by Love: since the ‘elements’ are by nature prior to the Deity, and they too are Deities.)

Again, his account of motion is vague. For it is not an adequate explanation to say that ‘Love and Strife set things moving, unless the very nature of Love is a movement of this kind and the very nature of Strife a movement of that kind. He ought, then, either to have defined or to have postulated these characteristic movements, or to have demonstrated them-whether strictly or laxly or in some other fashion. Moreover, since (a) the ‘simple’ bodies appear to move ‘naturally’ as well as by compulsion, i.e. in a manner contrary to nature (fire, e.g. appears to move upwards without compulsion, though it appears to move by compulsion downwards); and since (b) what is ‘natural’ is contrary to that which is due to compulsion, and movement by compulsion actually occurs; it follows that ‘natural movement’ can also occur in fact. Is this, then, the movement that Love sets going? No: for, on the contrary, the ‘natural movement’ moves Earth downwards and resembles ‘dissociation’, and Strife rather than Love is its cause-so that in general, too, Love rather than Strife would seem to be contrary to nature. And unless Love or Strife is actually setting them in motion, the ‘simple’ bodies themselves have absolutely no movement or rest. But this is paradoxical: and what is more, they do in fact obviously move. For though Strife 'dissociated', it was not by Strife that the 'Ether' was borne upwards. On the contrary, sometimes he attributes its movement to something like chance ('For thus, as it ran, it happened to meet them then, though often otherwise"), while at other times he says it is the nature of Fire to be borne upwards, but 'the Ether' (to quote his words) 'sank down upon the Earth with long roots'. With such statements, too, he combines the assertion that the Order of the World is the same now, in the reign of Strife, as it was formerly in the reign of Love. What, then, is the 'first mover' of the 'elements'? What causes their motion? Presumably not Love and Strife: on the contrary, these are causes of a particular motion, if at least we assume that 'first mover' to be an originative source'.

An additional paradox is that the soul should consist of the 'elements', or that it should be one of them. How are the soul's 'alterations' to take Place? How, e.g. is the change from being musical to being unmusical, or how is memory or forgetting, to occur? For clearly, if the soul be Fire, only such modifications will happen to it as characterize Fire qua Fire: while if it be compounded out of the elements', only the corporeal modifications will occur in it. But the changes we have mentioned are none of them corporeal.

7

The discussion of these difficulties, however, is a task appropriate to a different investigation:' let us return to the 'elements' of which bodies are composed. The theories that 'there is something common to all the "elements"', and that they are reciprocally transformed', are so related that those who accept either are bound to accept the other as well. Those, on the other hand, who do not make their coming-to-be reciprocal-who refuse to suppose that any one of the 'elements' comes-to-be out of any other taken singly, except in the sense in which bricks come-to-be out of a wall-are faced with a paradox. How, on their theory, are flesh and bones or any of the other compounds to result from the 'elements' taken together?

Indeed, the point we have raised constitutes a problem even for those who generate the 'elements' out of one another. In what manner does anything other than, and beside, the 'elements' come-to-be out of them? Let me illustrate my meaning. Water can come-to-be out of Fire and Fire out of Water; for their substralum is something common to them both. But flesh too, presumably, and marrow come-to-be out of them. How, then, do such things come to-be? For (a) how is the manner of their coming-to-be to be conceived by those who maintain a theory like that of Empedocles? They must conceive it as composition-just as a wall comes-to-be out of bricks and stones: and the ‘Mixture’, of which they speak, will be composed of the ‘elements’, these being preserved in it unaltered but with their small particles juxtaposed each to each. That will be the manner, presumably, in which flesh and every other compound results from the ‘elements’. Consequently, it follows that Fire and Water do not come-to-be ‘out of any and every part of flesh’. For instance, although a sphere might come-to-be out of this part of a lump of wax and a pyramid out of some other part, it was nevertheless possible for either figure to have come-to-be out of either part indifferently: that is the manner of coming-to-be when ‘both Fire and Water come-to-be out of any and every part of flesh’. Those, however, who maintain the theory in question, are not at liberty to conceive that ‘both come-to-be out of flesh’ in that manner, but only as a stone and a brick ‘both come-to-be out of a wall’-viz. each out of a different place or part. Similarly (b) even for those who postulate a single matter of their ‘elements’ there is a certain difficulty in explaining how anything is to result from two of them taken together-e.g. from ‘cold’ and hot’, or from Fire and Earth. For if flesh consists of both and is neither of them, nor again is a ‘composition’ of them in which they are preserved unaltered, what alternative is left except to identify the resultant of the two ‘elements’ with their matter? For the passingaway of either ‘element’ produces either the other or the matter.

Perhaps we may suggest the following solution. (i) There are differences of degree in hot and cold. Although, therefore, when either is fully real without qualification, the other will exist potentially; yet, when neither exists in the full completeness of its being, but both by combining destroy one another’s excesses so that there exist instead a hot which (for a ‘hot’) is cold and a cold which (for a ‘cold’) is hot; then what results from these two contraries will be neither their matter, nor either of them existing in its full reality without qualification. There will result instead an ‘intermediate’: and this ‘intermediate’, according as it is potentially more hot than cold or vice versa, will possess a power-of-heating that is double or triple its power-of-cooling, or otherwise related thereto in some similar ratio. Thus all the other bodies will result from the contraries, or rather from the ‘elements’, in so far as these have been ‘combined’: while the elements’ will result from the contraries, in so far as these ‘exist potentially’ in a special sense-not as matter ‘exists potentially’, but in the sense explained above. And when a thing comes-to-be in this manner, the process is cobination’; whereas what comes-to-be in the other manner is matter. Moreover (ii) contraries also ‘suffer action’, in accordance with the disjunctively-articulated definition established in the early part of this work.’ For the actually-hot is potentially-cold and the actually cold potentially-hot; so that hot and cold, unless they are equally balanced, are transformed into one another (and all the other contraries behave in a similar way). It is thus, then, that in the first place the ‘elements’ are transformed; and that (in the second place) out of the ‘elements’ there come-to-be flesh and bones and the like-the hot becoming cold and the cold becoming hot when they have been brought to the ‘mean’. For at the ‘mean’ is neither hot nor cold. The ‘mean’, however, is of considerable extent and not indivisible. Similarly, it is qua reduced to a ‘mean’ condition that the dry and the moist, as well as the contraries we have used as examples, produce flesh and bone and the remaining compounds.

8

All the compound bodies-all of which exist in the region belonging to the central body-are composed of all the ‘simple’ bodies. For they all contain Earth because every ‘simple’ body is to be found specially and most abundantly in its own place. And they all contain Water because (a) the compound must possess a definite outline and Water, alone of the ‘simple’ bodies, is readily adaptable in shape: moreover (b) Earth has no power of cohesion without the moist. On the contrary, the moist is what holds it together; for it would fall to pieces if the moist were eliminated from it completely.

They contain Earth and Water, then, for the reasons we have given: and they contain Air and Fire, because these are contrary to Earth and Water (Earth being contrary to Air and Water to Fire, in so far as one Substance can be ‘contrary’ to another). Now all compounds presuppose in their coming-to-be constituents which are contrary to one another: and in all compounds there is contained one set of the contrasted extremes. Hence the other set must be contained in them also, so that every compound will include all the ‘simple’ bodies.

Additional evidence seems to be furnished by the food each compound takes. For all of them are fed by substances which are the same as their constituents, and all of them are fed by more substances than one. Indeed, even the plants, though it might be thought they are fed by one substance only, viz. by Water, are fed by more than one: for Earth has been mixed with the Water. That is why farmers too endeavour to mix before watering. Although food is akin to the matter, that which is fed is the ‘figure’-i.e. the ‘form’ taken along with the matter. This fact enables us to understand why, whereas all the ‘simple’ bodies come-to-be out of one another, Fire is the only one of them which (as our predecessors also assert) ‘is fed’. For Fire alone-or more than all the rest-is akin to the ‘form’ because it tends by nature to be borne towards the limit. Now each of them naturally tends to be borne towards its own place; but the ‘figure’-i.e. the ‘form’-Of them all is at the limits.

Thus we have explained that all the compound bodies are composed of all the ‘simple’ bodies.

9

Since some things are such as to come-to-be and pass-away, and since coming-to-be in fact occurs in the region about the centre, we must explain the number and the nature of the ‘originative sources’ of all coming-to-be alike: for a grasp of the true theory of any universal facilitates the understanding of its specific forms.

The ‘originative sources’, then, of the things which come-to-be are equal in number to, and identical in kind with, those in the sphere of the eternal and primary things. For there is one in the sense of ‘matter’, and a second in the sense of ‘form’: and, in addition, the third ‘originative source’ must be present as well. For the two first are not sufficient to bring things into being, any more than they are adequate to account for the primary things.

Now cause, in the sense of material origin, for the things which are such as to come-to-be is ‘that which can be-and-not-be’: and this is identical with’that which can come-to-be-and-pass-away’, since the latter, while it is at one time, at another time is not. (For whereas some things are of necessity, viz. the eternal things, others of necessity are not. And of these two sets of things, since they cannot diverge from the necessity of their nature, it is impossible for the first not to he and impossible for the second to he. Other things, however, can both be and not he.) Hence coming-to-be and passing-away must occur within the field of ‘that which can be-and not-be’. This, therefore, is cause in the sense of material origin for the things which are such as to come-to-be; while cause, in the sense of their ‘end’, is their ‘figure’ or ‘form’-and that is the formula expressing the essential nature of each of them.

But the third ‘originative source’ must be present as well-the cause vaguely dreamed of by all our predecessors, definitely stated by none of them. On the contrary (a) some amongst them thought the nature of ‘the Forms’ was adequate to account for coming-to-be. Thus Socrates in the Phaedo first blames everybody else for having given no explanation; and then lays it down; that ‘some things are Forms, others Participants in the Forms’, and that ‘while a thing is said to “be” in virtue of the Form, it is said to “come-to-be” qua sharing in,” to “pass-away” qua “losing,” the ‘Form’. Hence he thinks that ‘assuming the truth of these theses, the Forms must be causes both of coming-to-be and of passing-away’. On the other hand (b) there were others who thought ‘the matter’ was adequate by itself to account for coming-to-be, since ‘the movement originates from the matter’.

Neither of these theories, however, is sound. For (a) if the Forms are causes, why is their generating activity intermittent instead of perpetual and continuous-since there always are Participants as well as Forms? Besides, in some instances we see that the cause is other than the Form. For it is the doctor who implants health and the man of science who implants science, although ‘Health itself’ and ‘Science itself’ are as well as the Participants: and the same principle applies to everything else that is produced in accordance with an art. On the other hand (b) to say that ‘matter generates owing to its movement’ would be, no doubt, more scientific than to make such statements as are made by the thinkers we have been criticizing. For what ‘alters’ and transfigures plays a greater part in bringing, things into being; and we are everywhere accustomed, in the products of nature and of art alike, to look upon that which can initiate movement as the producing cause. Nevertheless this second theory is not right either.

For, to begin with, it is characteristic of matter to suffer action, i.e. to be moved: but to move, i.e. to act, belongs to a different ‘power’. This is obvious both in the things that come-to-be by art and in those that come to-be by nature. Water does not of itself produce out of itself an animal: and it is the art, not the wood, that makes a bed. Nor is this their only error. They make a second mistake in omitting the more controlling cause: for they eliminate the essential nature, i.e. the ‘form’. And what is more, since they remove the formal cause, they invest the forces they assign to the ‘simple’ bodies-the forces which enable these bodies to bring things into being-with too instrumental a character. For ‘since’ (as they say) ‘it is the nature of the hot to dissociate, of the cold to bring together, and of each remaining contrary either to act or to suffer action’, it is out of such materials and by their agency (so they maintain) that everything else comes-to-be and passes-away. Yet (a) it is evident that even Fire is itself moved, i.e. suffers action. Moreover (b) their procedure is virtually the same as if one were to treat the saw (and the various instruments of carpentry) as ‘the cause’ of the things that come-to-be: for the wood must be divided if a man saws, must become smooth if he planes, and so on with the remaining tools. Hence, however true it may be that Fire is active, i.e. sets things moving, there is a further point they fail to observe-viz. that Fire is inferior to the tools or instruments in the manner in which it sets things moving.

10

As to our own theory-we have given a general account of the causes in an earlier work,’ we have now explained and distinguished the ‘matter’ and the ‘form’. Further, since the change which is motion has been proved’ to be eternal, the continuity of the occurrence of coming-to-be follows necessarily from what we have established: for the eternal motion, by causing ‘the generator’ to approach and retire, will produce coming-to-be uninterruptedly. At the same time it is clear that we were right when, in an earlier work,’ we called motion (not coming-to-be) ‘the primary form of change’. For it is far more reasonable that what is should cause the coming-to-be of what is not, than that what is not should cause the being of what is. Now that which is being moved is, but that which is coming-to-be is not: hence, also, motion is prior to coming-to-be.

We have assumed, and have proved, that coming-to-be and passing-away happen to things continuously; and we assert that motion causes coming-to-be. That being so, it is evident that, if the motion be single, both processes cannot occur since they are contrary to one another: for it is a law of nature that the same cause, provided it remain in the same condition, always produces the same effect, so that, from a single motion, either coming-to-be or passing-away will always result. The movements must, on the contrary, be more than one, and they must be contrasted with one another either by the sense of their motion or by its irregularity: for contrary effects demand contraries as their causes.

This explains why it is not the primary motion that causes coming-to-be and passingaway, but the motion along the inclined circle: for this motion not only possesses the necessary continuity, but includes a duality of movements as well. For if coming-to-be and passing-away are always to be continuous, there must be some body always being moved (in order that these changes may not fail) and moved with a duality of movements (in order that both changes, not one only, may result). Now the continuity of this movement is caused by the motion of the whole: but the approaching and retreating of the moving body are caused by the inclination. For the consequence of the inclination is that the body becomes alternately remote and near; and since its distance is thus unequal, its movement will be irregular. Therefore, if it generates by approaching and by its proximity, it-this very same body-destroys by retreating and becoming remote: and if it generates by many successive approaches, it also destroys by many successive retirements. For contrary effects demand contraries as their causes; and the natural processes of passing-away and coming-to-be occupy equal periods of time. Hence, too, the times-i.e. the lives-of the several kinds of living things have a number by which they are distinguished: for there is an Order controlling all things, and every time (i.e. every life) is measured by a period. Not all of them, however, are measured by the same period, but some by a smaller and others by a greater one: for to some of them the period, which is their measure, is a year, while to some it is longer and to others shorter.

And there are facts of observation in manifest agreement with our theories. Thus we see that coming-to-be occurs as the sun approaches and decay as it retreats; and we see that the two processes occupy equal times. For the durations of the natural processes of passing-away and coming-to-be are equal. Nevertheless it Often happens that things pass-away in too short a time. This is due to the ‘intermingling’ by which the things that come-to-be and pass-away are implicated with one another. For their matter is ‘irregular’, i.e. is not everywhere the same: hence the processes by which they come-to-be must be ‘irregular’ too, i.e. some too quick and others too slow. Consequently the phenomenon in question occurs, because the ‘irregular’ coming-to-be of these things is the passing-away of other things.

Coming-to-be and passing-away will, as we have said, always be continuous, and will never fail owing to the cause we stated. And this continuity has a sufficient reason on our theory. For in all things, as we affirm, Nature always strives after ‘the better’. Now ‘being’ (we have explained elsewhere the exact variety of meanings we recognize in this term) is better than ‘not-being’: but not all things can possess ‘being’, since they are too far removed from the ‘originative source. ‘God therefore adopted the remaining alternative, and fulfilled the perfection of the universe by making coming-to-be uninterrupted: for the greatest possible coherence would thus be secured to existence, because that ‘coming-to-be should itself come-to-be perpetually’ is the closest approximation to eternal being.

The cause of this perpetuity of coming-to-be, as we have often said, is circular motion: for that is the only motion which is continuous. That, too, is why all the other things-the things, I mean, which are reciprocally transformed in virtue of their ‘passions’ and their ‘powers of action’ e.g. the ‘simple’ bodiesimitate circular motion. For when Water is transformed into Air, Air into Fire, and the Fire back into Water, we say the coming-to-be ‘has completed the circle’, because it reverts again to the beginning. Hence it is by imitating circular motion that rectilinear motion too is continuous.

These considerations serve at the same time to explain what is to some people a baffling problem-viz. why the ‘simple’ bodies, since each them is travelling towards its own place, have not become dissevered from one another in the infinite lapse of time. The reason is their reciprocal transformation. For, had each of them persisted in its own place instead of being transformed by its neighbour, they would have got dissevered long ago. They are transformed, however, owing to the motion with its dual character: and because they are transformed, none of them is able to persist in any place allotted to it by the Order.

It is clear from what has been said (i) that coming-to-be and passing-away actually occur, (ii) what causes them, and (iii) what subject undergoes them. But (a) if there is to be movement (as we have explained elsewhere, in an earlier work') there must be something which initiates it; if there is to be movement always, there must always be something which initiates it; if the movement is to be continuous, what initiates it must be single, unmoved, ungenerated, and incapable of 'alteration'; and if the circular movements are more than one, their initiating causes must all of them, in spite of their plurality, be in some way subordinated to a single 'originative source'. Further (b) since time is continuous, movement must be continuous, inasmuch as there can be no time without movement. Time, therefore, is a 'number' of some continuous movement-a 'number', therefore, of the circular movement, as was established in the discussions at the beginning. But (c) is movement continuous because of the continuity of that which is moved, or because that in which the movement occurs (I mean, e.g. the place or the quality) is continuous? The answer must clearly be 'because that which is moved is continuous'. (For how can the quality be continuous except in virtue of the continuity of the thing to which it belongs? But if the continuity of 'that in which' contributes to make the movement continuous, this is true only of 'the place in which'; for that has 'magnitude' in a sense.) But (d) amongst continuous bodies which are moved, only that which is moved in a circle is 'continuous' in such a way that it preserves its continuity with itself throughout the movement. The conclusion therefore is that this is what produces continuous movement, viz. the body which is being moved in a circle; and its movement makes time continuous.

11

Wherever there is continuity in any process (coming-to-be or 'alteration' or any kind of change whatever) we observe consecutiveness', i.e. this coming-to-be after that without any interval. Hence we must investigate whether, amongst the consecutive members, there is any whose future being is necessary; or whether, on the contrary, every one of them may fail to come-to-be. For that some of them may fail to occur, is clear. (a) We need only appeal to the distinction between the statements 'x will be' and 'x is about to which depends upon this fact. For if it be true to say of x that it 'will be', it must at some time be true to say of it that 'it is': whereas, though it be true to say of x now that ‘it is about to occur’, it is quite possible for it not to come-to-be-thus a man might not walk, though he is now ‘about to’ walk. And (b) since (to appeal to a general principle) amongst the things which ‘are’ some are capable also of ‘not-being’, it is clear that the same ambiguous character will attach to them no less when they are coming-to-be: in other words, their coming-to-be will not be necessary.

Then are all the things that come-to-be of this contingent character? Or, on the contrary, is it absolutely necessary for some of them to come-to-be? Is there, in fact, a distinction in the field of ‘coming-to-be’ corresponding to the distinction, within the field of ‘being’, between things that cannot possibly ‘not-be’ and things that can ‘not-be’? For instance, is it necessary that solstices shall come-to-be, i.e. impossible that they should fail to be able to occur?

Assuming that the antecedent must have come-to-be if the consequent is to be (e.g. that foundations must have come-to-be if there is to be a house: clay, if there are to be foundations), is the converse also true? If foundations have come-to-be, must a house come-to-be? The answer seems to be that the necessary nexus no longer holds, unless it is ‘necessary’ for the consequent (as well as for the antecedent) to come-to-be-’necessary’ absolutely. If that be the case, however, ‘a house must come to-be if foundations have come-to-be’, as well as vice versa. For the antecedent was assumed to be so related to the consequent that, if the latter is to be, the antecedent must have come-tobe before it. If, therefore, it is necessary that the consequent should come-to-be, the antecedent also must have come-to-be: and if the antecedent has come-to-be, then the consequent also must come-to-be-not, however, because of the antecedent, but because the future being of the consequent was assumed as necessary. Hence, in any sequence, when the being of the consequent is necessary, the nexus is reciprocal-in other words, when the antecedent has come-to-be the consequent must always come-to-be too.

Now (i) if the sequence of occurrences is to proceed ad infinitum ‘downwards’, the coming to-be of any determinate ‘this’ amongst the later members of the sequence will not be absolutely, but only conditionally, necessary. For it will always be necessary that some other member shall have come-to-be before ‘this’ as the presupposed condition of the necessity that ‘this’ should come-to-be: consequently, since what is ‘infinite’ has no ‘originative source’, neither will there be in the infinite sequence any ‘primary’ member which will make it ‘necessary’ for the remaining members to come-to-be.

Nor again (ii) will it be possible to say with truth, even in regard to the members of a limited sequence, that it is ‘absolutely necessary’ for any one of them to come-to-be. We cannot truly say, e.g. that ‘it is absolutely necessary for a house to come-to-be when foundations have been laid’: for (unless it is always necessary for a house to be coming-to-be) we should be faced with the consequence that, when foundations have been laid, a thing, which need not always be, must always be. No: if its coming-to-be is to be ‘necessary’, it must be ‘always’ in its coming-to-be. For what is ‘of necessity’ coincides with what is ‘always’, since that which ‘must be’ cannot possibly ‘not-be’. Hence a thing is eternal if its ‘being’ is necessary: and if it is eternal, its ‘being’ is necessary. And if, therefore, the ‘coming-to-be’ of a thing is necessary, its ‘coming-to-be’ is eternal; and if eternal, necessary.

It follows that the coming-to-be of anything, if it is absolutely necessary, must be cyclical-i.e. must return upon itself. For coming to-be must either be limited or not limited: and if not limited, it must be either rectilinear or cyclical. But the first of these last two alternatives is impossible if coming-to-be is to be eternal, because there could not be any ‘originative source’ whatever in an infinite rectilinear sequence, whether its members be taken ‘downwards’ (as future events) or ‘upwards’ (as past events). Yet coming-to-be must have an ‘originative source’ (if it is to be necessary and therefore eternal), nor can it be eternal if it is limited. Consequently it must be cyclical. Hence the nexus must be reciprocal. By this I mean that the necessary occurrence of ‘this’ involves the necessary occurrence of its antecedent: and conversely that, given the antecedent, it is also necessary for the consequent to come-to-be. And this reciprocal nexus will hold continuously throughout the sequence: for it makes no difference whether the reciprocal nexus, of which we are speaking, is mediated by two, or by many, members.

It is in circular movement, therefore, and in cyclical coming-to-be that the ‘absolutely necessary’ is to be found. In other words, if the coming-to-be of any things is cyclical, it is ‘necessary’ that each of them is coming-to-be and has come-to-be: and if the coming-to-be of any things is ‘necessary’, their coming-to-be is cyclical.

The result we have reached is logically concordant with the eternity of circular motion, i.e. the eternity of the revolution of the heavens (a fact which approved itself on other and independent evidence),' since precisely those movements which belong to, and depend upon, this eternal revolution 'come-to-be' of necessity, and of necessity 'will be'. For since the revolving body is always setting something else in motion, the movement of the things it moves must also be circular. Thus, from the being of the 'upper revolution' it follows that the sun revolves in this determinate manner; and since the sun revolves thus, the seasons in consequence come-to-be in a cycle, i.e. return upon themselves; and since they come-to-be cyclically, so in their turn do the things whose coming-to-be the seasons initiate.

Then why do some things manifestly come to-be in this cyclical fashion (as, e.g. showers and air, so that it must rain if there is to be a cloud and, conversely, there must be a cloud if it is to rain), while men and animals do not 'return upon themselves' so that the same individual comes-to-be a second time (for though your coming-to-be presupposes your father's, his coming-to-be does not presuppose yours)? Why, on the contrary, does this coming-to-be seem to constitute a rectilinear sequence?

In discussing this new problem, we must begin by inquiring whether all things 'return upon themselves' in a uniform manner; or whether, on the contrary, though in some sequences what recurs is numerically the same, in other sequences it is the same only in species. In consequence of this distinction, it is evident that those things, whose 'substance'-that which is undergoing the process-is imperishable, will be numerically, as well as specifically, the same in their recurrence: for the character of the process is determined by the character of that which undergoes it. Those things, on the other hand, whose 'substance' is perish, able (not imperishable) must 'return upon themselves' in the sense that what recurs, though specifically the same, is not the same numerically. That why, when Water comes-to-be from Air and Air from Water, the Air is the same 'specifically', not 'numerically': and if these too recur numerically the same, at any rate this does not happen with things whose 'substance' comes-to-be-whose 'substance' is such that it is essentially capable of not-being.

Meteorology (338a)

Translated by E. W. Webster

Aristotle’s Μετεωρολογικῶν offers a collection of theories on the earth sciences, including early accounts of water evaporation, weather phenomena and earthquakes. The text survives from an Arabic compendium of the text, made in 800AD by the Antiochene scholar Yahya ibn al-Bitriq and widely circulated among Muslim scholars, before being translated into Latin by Gerard of Cremona in the 12th century.

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Book I

1

WE have already discussed the first causes of nature, and all natural motion, also the stars ordered in the motion of the heavens, and the physical element-enumerating and specifying them and showing how they change into one another-and becoming and perishing in general. There remains for consideration a part of this inquiry which all our predecessors called meteorology. It is concerned with events that are natural, though their order is less perfect than that of the first of the elements of bodies. They take place in the region nearest to the motion of the stars. Such are the milky way, and comets, and the movements of meteors. It studies also all the affections we may call common to air and water, and the kinds and parts of the earth and the affections of its parts. These throw light on the causes of winds and earthquakes and all the consequences the motions of these kinds and parts involve. Of these things some puzzle us, while others admit of explanation in some degree. Further, the inquiry is concerned with the falling of thunderbolts and with whirlwinds and fire-winds, and further, the recurrent affections produced in these same bodies by concretion. When the inquiry into these matters is concluded let us consider what account we can give, in accordance with the method we have followed, of animals and plants, both generally and in detail. When that has been done we may say that the whole of our original undertaking will have been carried out.

After this introduction let us begin by discussing our immediate subject.

2

We have already laid down that there is one physical element which makes up the system of the bodies that move in a circle, and besides this four bodies owing their existence to the four principles, the motion of these latter bodies being of two kinds: either from the centre or to the centre. These four bodies are fire, air, water, earth. Fire occupies the highest place among them all, earth the lowest, and two elements correspond to these in their relation to one another, air being nearest to fire, water to earth. The whole world surrounding the earth, then, the affections of which are our subject, is made up of these bodies. This world necessarily has a certain continuity with the upper motions: consequently all its power and order is derived from them. (For the originating principle of all motion is the first cause. Besides, that clement is eternal and its motion has no limit in space, but is always complete; whereas all these other bodies have separate regions which limit one another.) So we must treat fire and earth and the elements like them as the material causes of the events in this world (meaning by material what is subject and is affected), but must assign causality in the sense of the originating principle of motion to the influence of the eternally moving bodies.

3

Let us first recall our original principles and the distinctions already drawn and then explain the ‘milky way’ and comets and the other phenomena akin to these.

Fire, air, water, earth, we assert, originate from one another, and each of them exists potentially in each, as all things do that can be resolved into a common and ultimate substrate.

The first difficulty is raised by what is called the air. What are we to take its nature to be in the world surrounding the earth? And what is its position relatively to the other physical elements. (For there is no question as to the relation of the bulk of the earth to the size of the bodies which exist around it, since astronomical demonstrations have by this time proved to us that it is actually far smaller than some individual stars. As for the water, it is not observed to exist collectively and separately, nor can it do so apart from that volume of it which has its seat about the earth: the sea, that is, and rivers, which we can see, and any subterranean water that may be hidden from our observation.) The question is really about that which lies between the earth and the nearest stars. Are we to consider it to be one kind of body or more than one? And if more than one, how many are there and what are the bounds of their regions?

We have already described and characterized the first element, and explained that the whole world of the upper motions is full of that body.

This is an opinion we are not alone in holding: it appears to be an old assumption and one which men have held in the past, for the word ether has long been used to denote that element. Anaxagoras, it is true, seems to me to think that the word means the same as fire. For he thought that the upper regions were full of fire, and that men referred to those regions when they spoke of ether. In the latter point he was right, for men seem to have assumed that a body that was eternally in motion was also divine in nature; and, as such a body was different from any of the terrestrial elements, they determined to call it ‘ether’.

For the um opinions appear in cycles among men not once nor twice, but infinitely often.

Now there are some who maintain that not only the bodies in motion but that which contains them is pure fire, and the interval between the earth and the stars air: but if they had considered what is now satisfactorily established by mathematics, they might have given up this puerile opinion. For it is altogether childish to suppose that the moving bodies are all of them of a small size, because they so to us, looking at them from the earth.

This a matter which we have already discussed in our treatment of the upper region, but we may return to the point now.

If the intervals were full of fire and the bodies consisted of fire every one of the other elements would long ago have vanished.

However, they cannot simply be said to be full of air either; for even if there were two elements to fill the space between the earth and the heavens, the air would far exceed the quantitu required to maintain its proper proportion to the other elements. For the bulk of the earth (which includes the whole volume of water) is infinitesimal in comparison with the whole world that surrounds it. Now we find that the excess in volume is not proportionately great where water dissolves into air or air into fire. Whereas the proportion between any given small quantity of water and the air that is generated from it ought to hold good between the total amount of air and the total amount of water. Nor does it make any difference if any one denies that the elements originate from one another, but asserts that they are equal in power. For on this view it is certain amounts of each that are equal in power, just as would be the case if they actually originated from one another.

So it is clear that neither air nor fire alone fills the intermediate space.

It remains to explain, after a preliminary discussion of difficulties, the relation of the two elements air and fire to the position of the first element, and the reason why the stars in the upper region impart heat to the earth and its neighbourhood. Let us first treat of the air, as we proposed, and then go on to these questions.

Since water is generated from air, and air from water, why are clouds not formed in the upper air? They ought to form there the more, the further from the earth and the colder that region is. For it is neither appreciably near to the heat of the stars, nor to the rays relected from the earth. It is these that dissolve any formation by their heat and so prevent clouds from forming near the earth. For clouds gather at the point where the reflected rays disperse in the infinity of space and are lost. To explain this we must suppose either that it is not all air which water is generated, or, if it is produced from all air alike, that what immediately surrounds the earth is not mere air, but a sort of vapour, and that its vaporous nature is the reason why it condenses back to water again. But if the whole of that vast region is vapour, the amount of air and of water will be disproportionately great. For the spaces left by the heavenly bodies must be filled by some element. This cannot be fire, for then all the rest would have been dried up. Consequently, what fills it must be air and the water that surrounds the whole earth-vapour being water dissolved.

After this exposition of the difficulties involved, let us go on to lay down the truth, with a view at once to what follows and to what has already been said. The upper region as far as the moon we affirm to consist of a body distinct both from fire and from air, but varying degree of purity and in kind, especially towards its limit on the side of the air, and of the world surrounding the earth. Now the circular motion of the first element and of the bodies it contains dissolves, and inflames by its motion, whatever part of the lower world is nearest to it, and so generates heat. From another point of view we may look at the motion as follows. The body that lies below the circular motion of the heavens is, in a sort, matter, and is potentially hot, cold, dry, moist, and possessed of whatever other qualities are derived from these. But it actually acquires or retains one of these in virtue of motion or rest, the cause and principle of which has already been explained. So at the centre and round it we get earth and water, the heaviest and coldest elements, by themselves; round them and contiguous with them, air and what we commonly call fire. It is not really fire, for fire is an excess of heat and a sort of ebullition; but in reality, of what we call air, the part surrounding the earth is moist and warm, because it contains both vapour and a dry exhalation from the earth. But the next part, above that, is warm and dry. For vapour is naturally moist and cold, but the exhalation warm and dry; and vapour is potentially like water, the exhalation potentially like fire. So we must take the reason why clouds are not formed in the upper region to be this: that it is filled not with mere air but rather with a sort of fire.

However, it may well be that the formation of clouds in that upper region is also prevented by the circular motion. For the air round the earth is necessarily all of it in motion, except that which is cut off inside the circumference which makes the earth a complete sphere. In the case of winds it is actually observable that they originate in marshy districts of the earth; and they do not seem to blow above the level of the highest mountains. It is the revolution of the heaven which carries the air with it and causes its circular motion, fire being continuous with the upper element and air with fire. Thus its motion is a second reason why that air is not condensed into water.

But whenever a particle of air grows heavy, the warmth in it is squeezed out into the upper region and it sinks, and other particles in turn are carried up together with the fiery exhalation. Thus the one region is always full of air and the other of fire, and each of them is perpetually in a state of change.

So much to explain why clouds are not formed and why the air is not condensed into water, and what account must be given of the space between the stars and the earth, and what is the body that fills it.

As for the heat derived from the sun, the right place for a special and scientific account of it is in the treatise about sense, since heat is an affection of sense, but we may now explain how it can be produced by the heavenly bodies which are not themselves hot.

We see that motion is able to dissolve and inflame the air; indeed, moving bodies are often actually found to melt. Now the sun's motion alone is sufficient to account for the origin of terrestrial warmth and heat. For a motion that is to have this effect must be rapid and near, and that of the stars is rapid but distant, while that of the moon is near but slow, whereas the sun's motion combines both conditions in a sufficient degree. That most heat should be generated where the sun is present is easy to understand if we consider the analogy of terrestrial phenomena, for here, too, it is the air that is nearest to a thing in rapid motion which is heated most. This is just what we should expect, as it is the nearest air that is most dissolved by the motion of a solid body.

This then is one reason why heat reaches our world. Another is that the fire surrounding the air is often scattered by the motion of the heavens and driven downwards in spite of itself.

Shooting-stars further suffix to prove that the celestial sphere is not hot or fiery: for they do not occur in that upper region but below: yet the more and the faster a thing moves, the more apt it is to take fire. Besides, the sun, which most of all the stars is considered to be hot, is really white and not fiery in colour.

4

Having determined these principles let us explain the cause of the appearance in the sky of burning flames and of shooting-stars, and of ‘torches’, and ‘goats’, as some people call them. All these phenomena are one and the same thing, and are due to the same cause, the difference between them being one of degree.

The explanation of these and many other phenomena is this. When the sun warms the earth the evaporation which takes place is necessarily of two kinds, not of one only as some think. One kind is rather of the nature of vapour, the other of the nature of a windy exhalation. That which rises from the moisture contained in the earth and on its surface is vapour, while that rising from the earth itself, which is dry, is like smoke. Of these the windy exhalation, being warm, rises above the moister vapour, which is heavy and sinks below the other. Hence the world surrounding the earth is ordered as follows. First below the circular motion comes the warm and dry element, which we call fire, for there is no word fully adequate to every state of the fumid evaporation: but we must use this terminology since this element is the most inflammable of all bodies. Below this comes air. We must think of what we just called fire as being spread round the terrestrial sphere on the outside like a kind of fuel, so that a little motion often makes it burst into flame just as smoke does: for flame is the ebullition of a dry exhalation. So whenever the circular motion stirs this stuff up in any way, it catches fire at the point at which it is most inflammable. The result differs according to the disposition and quantity of the combustible material. If this is broad and long, we often see a flame burning as in a field of stubble: if it burns lengthwise only, we see what are called ‘torches’ and ‘goats’ and shooting-stars. Now when the inflammable material is longer than it is broad sometimes it seems to throw off sparks as it burns. (This happens because matter catches fire at the sides in small portions but continuously with the main body.) Then it is called a ‘goat’. When this does not happen it is a ‘torch’. But if the whole length of the exhalation is scattered in small parts and in many directions and in breadth and depth alike, we get what are called shooting-stars.

The cause of these shooting-stars is sometimes the motion which ignites the exhalation. At other times the air is condensed by cold and squeezes out and ejects the hot element; making their motion look more like that of a thing thrown than like a running fire. For the question might be raised whether the ‘shooting’ of a ‘star’ is the same thing as when you put an exhalation below a lamp and it lights the lower lamp from the flame above. For here too the flame passes wonderfully quickly and looks like a thing thrown, and not as if one thing after another caught fire. Or is a ‘star’ when it ‘shoots’ a single body that is thrown? Apparently both cases occur: sometimes it is like the flame from the lamp and sometimes bodies are projected by being squeezed out (like fruit stones from one’s fingers) and so are seen to fall into the sea and on the dry land, both by night and by day when the sky is clear. They are thrown downwards because the condensation which propels them inclines downwards. Thunderbolts fall downwards for the same reason: their origin is never combustion but ejection under pressure, since naturally all heat tends upwards.

When the phenomenon is formed in the upper region it is due to the combustion of the exhalation. When it takes place at a lower level it is due to the ejection of the exhalation by the condensing and cooling of the moister evaporation: for this latter as it condenses and inclines downward contracts, and thrusts out the hot element and causes it to be thrown downwards. The motion is upwards or downwards or sideways according to the way in which the evaporation lies, and its disposition in respect of breadth and depth. In most cases the direction is sideways because two motions are involved, a compulsory motion downwards and a natural motion upwards, and under these circumstances an object always moves obliquely. Hence the motion of ‘shooting-stars’ is generally oblique.

So the material cause of all these phenomena is the exhalation, the efficient cause sometimes the upper motion, sometimes the contraction and condensation of the air. Further, all these things happen below the moon. This is shown by their apparent speed, which is equal to that of things thrown by us; for it is because they are close to us, that these latter seem far to exceed in speed the stars, the sun, and the moon.

5

Sometimes on a fine night we see a variety of appearances that form in the sky: ‘chasms’ for instance and ‘trenches’ and blood-red colours. These, too, have the same cause. For we have seen that the upper air condenses into an inflammable condition and that the combustion sometimes takes on the appearance of a burning flame, sometimes that of moving torches and stars. So it is not surprising that this same air when condensing should assume a variety of colours. For a weak light shining through a dense air, and the air when it acts as a mirror, will cause all kinds of colours to appear, but especially crimson and purple. For these colours generally appear when fire-colour and white are combined by superposition. Thus on a hot day, or through a smoky, medium, the stars when they rise and set look crimson. The light will also create colours by reflection when the mirror is such as to reflect colour only and not shape.

These appearances do not persist long, because the condensation of the air is transient.

‘Chasms’ get their appearance of depth from light breaking out of a dark blue or black mass of air. When the process of condensation goes further in such a case we often find ‘torches’ ejected. When the ‘chasm’ contracts it presents the appearance of a ‘trench’.

In general, white in contrast with black creates a variety of colours; like flame, for instance, through a medium of smoke. But by day the sun obscures them, and, with the exception of crimson, the colours are not seen at night because they are dark.

These then must be taken to be the causes of ‘shooting-stars’ and the phenomena of combustion and also of the other transient appearances of this kind.

6

Let us go on to explain the nature of comets and the ‘milky way’, after a preliminary discussion of the views of others.

Anaxagoras and Democritus declare that comets are a conjunction of the planets approaching one another and so appearing to touch one another.

Some of the Italians called Pythagoreans say that the comet is one of the planets, but that it appears at great intervals of time and only rises a little above the horizon. This is the case with Mercury too; because it only rises a little above the horizon it often fails to be seen and consequently appears at great intervals of time.

A view like theirs was also expressed by Hippocrates of Chios and his pupil Aeschylus. Only they say that the tail does not belong to the comet iself, but is occasionally assumed by it on its course in certain situations, when our sight is reflected to the sun from the moisture attracted by the comet. It appears at greater intervals than the other stars because it is slowest to get clear of the sun and has been left behind by the sun to the extent of the whole of its circle before it reappears at the same point. It gets clear of the sun both towards the north and towards the south. In the space between the tropics it does not draw water to itself because that region is dried up by the sun on its course. When it moves towards the south it has no lack of the necessary moisture, but because the segment of its circle which is above the horizon is small, and that below it many times as large, it is impossible for the sun to be reflected to our sight, either when it approaches the southern tropic, or at the summer solstice. Hence in these regions it does not develop a tail at all. But when it is visible in the north it assumes a tail because the arc above the horizon is large and that below it small. For under these circumstances there is nothing to prevent our vision from being reflected to the sun.

These views involve impossibilities, some of which are common to all of them, while others are peculiar to some only.

This is the case, first, with those who say that the comet is one of the planets. For all the planets appear in the circle of the zodiac, whereas many comets have been seen outside that circle. Again more comets than one have often appeared simultaneously. Besides, if their tail is due to reflection, as Aeschylus and Hippocrates say, this planet ought sometimes to be visible without a tail since, as they it does not possess a tail in every place in which it appears. But, as a matter of fact, no planet has been observed besides the five. And all of them are often visible above the horizon together at the same time. Further, comets are often found to appear, as well when all the planets are visible as when some are not, but are obscured by the neighbourhood of the sun. Moreover the statement that a comet only appears in the north, with the sun at the summer solstice, is not true either. The great comet which appeared at the time of the earthquake in Achaea and the tidal wave rose due west; and many have been known to appear in the south. Again in the archonship of Euclees, son of Molon, at Athens there appeared a comet in the north in the month Gamelion, the sun being about the winter solstice. Yet they themselves admit that reflection over so great a space is an impossibility.

An objection that tells equally against those who hold this theory and those who say that comets are a coalescence of the planets is, first, the fact that some of the fixed stars too get a tail. For this we must not only accept the authority of the Egyptians who assert it, but we have ourselves observed the fact. For a star in the thigh of the Dog had a tail, though a faint one. If you fixed your sight on it its light was dim, but if you just glanced at it, it appeared brighter. Besides, all the comets that have been seen in our day have vanished without setting, gradually fading away above the horizon; and they have not left behind them either one or more stars. For instance the great comet we mentioned before appeared to the west in winter in frosty weather when the sky was clear, in the archonship of Asteius. On the first day it set before the sun and was then not seen. On the next day it was seen, being ever so little behind the sun and immediately setting. But its light extended over a third part of the sky like a leap, so that people called it a ‘path’. This comet receded as far as Orion’s belt and there dissolved. Democritus however, insists upon the truth of his view and affirms that certain stars have been seen when comets dissolve. But on his theory this ought not to occur occasionally but always. Besides, the Egyptians affirm that conjunctions of the planets with one another, and with the fixed stars, take place, and we have ourselves observed Jupiter coinciding with one of the stars in the Twins and hiding it, and yet no comet was formed. Further, we can also give a rational proof of our point. It is true that some stars seem to be bigger than others, yet each one by itself looks indivisible. Consequently, just as, if they really had been indivisible, their conjunction could not have created any greater magnitude, so now that they are not in fact indivisible but look as if they were, their conjunction will not make them look any bigger.

Enough has been said, without further argument, to show that the causes brought forward to explain comets are false.

7

We consider a satisfactory explanation of phenomena inaccessible to observation to have been given when our account of them is free from impossibilities. The observations before us suggest the following account of the phenomena we are now considering. We know that the dry and warm exhalation is the outermost part of the terrestrial world which falls below the circular motion. It, and a great part of the air that is continuous with it below, is carried round the earth by the motion of the circular revolution. In the course of this motion it often ignites wherever it may happen to be of the right consistency, and this we maintain to be the cause of the ‘shooting’ of scattered ‘stars’. We may say, then, that a comet is formed when the upper motion introduces into a gathering of this kind a fiery principle not of such excessive strength as to burn up much of the material quickly, nor so weak as soon to be extinguished, but stronger and capable of burning up much material, and when exhalation of the right consistency rises from below and meets it. The kind of comet varies according to the shape which the exhalation happens to take. If it is diffused equally on every side the star is said to be fringed, if it stretches out in one direction it is called bearded. We have seen that when a fiery principle of this kind moves we seem to have a shooting-star: similarly when it stands still we seem to have a star standing still. We may compare these phenomena to a heap or mass of chaff into which a torch is thrust, or a spark thrown. That is what a shooting-star is like. The fuel is so inflammable that the fire runs through it quickly in a line. Now if this fire were to persist instead of running through the fuel and perishing away, its course through the fuel would stop at the point where the latter was densest, and then the whole might begin to move. Such is a comet-like a shooting-star that contains its beginning and end in itself.

When the matter begins to gather in the lower region independently the comet appears by itself. But when the exhalation is constituted by one of the fixed stars or the planets, owing to their motion, one of them becomes a comet. The fringe is not close to the stars themselves. Just as haloes appear to follow the sun and the moon as they move, and encircle them, when the air is dense enough for them to form along under the sun's course, so too the fringe. It stands in the relation of a halo to the stars, except that the colour of the halo is due to reflection, whereas in the case of comets the colour is something that appears actually on them.

Now when this matter gathers in relation to a star the comet necessarily appears to follow the same course as the star. But when the comet is formed independently it falls behind the motion of the universe, like the rest of the terrestrial world. It is this fact, that a comet often forms independently, indeed oftener than round one of the regular stars, that makes it impossible to maintain that a comet is a sort of reflection, not indeed, as Hippocrates and his school say, to the sun, but to the very star it is alleged to accompany-in fact, a kind of halo in the pure fuel of fire.

As for the halo we shall explain its cause later.

The fact that comets when frequent foreshadow wind and drought must be taken as an indication of their fiery constitution. For their origin is plainly due to the plentiful supply of that secretion. Hence the air is necessarily drier and the moist evaporation is so dissolved and dissipated by the quantity of the hot exhalation as not readily to condense into water.-But this phenomenon too shall be explained more clearly later when the time comes to speak of the winds.-So when there are many comets and they are dense, it is as we say, and the years are clearly dry and windy. When they are fewer and fainter this effect does not appear in the same degree, though as a rule the is found to be excessive either in duration or strength. For instance when the stone at Aegospotami fell out of the air-it had been carried up by a wind and fell down in the daytime-then too a comet happened to have appeared in the west. And at the time of the great comet the winter was dry and north winds prevailed, and the wave was due to an opposition of winds. For in the gulf a north wind blew and outside it a violent south wind. Again in the archonship of Nicomachus a comet appeared for a few days about the equinoctial circle (this one had not risen in the west), and simultaneously with it there happened the storm at Corinth.

That there are few comets and that they appear rarely and outside the tropic circles more than within them is due to the motion of the sun and the stars. For this motion does not only cause the hot principle to be secreted but also dissolves it when it is gathering. But the chief reason is that most of this stuff collects in the region of the milky way.

8

Let us now explain the origin, cause, and nature of the milky way. And here too let us begin by discussing the statements of others on the subject.

(1) Of the so-called Pythagoreans some say that this is the path of one of the stars that fell from heaven at the time of Phaethon's downfall. Others say that the sun used once to move in this circle and that this region was scorched or met with some other affection of this kind, because of the sun and its motion.

But it is absurd not to see that if this were the reason the circle of the Zodiac ought to be affected in the same way, and indeed more so than that of the milky way, since not the sun only but all the planets move in it. We can see the whole of this circle (half of it being visible at any time of the night), but it shows no signs of any such affection except where a part of it touches the circle of the milky way.

(2) Anaxagoras, Democritus, and their schools say that the milky way is the light of certain stars. For, they say, when the sun passes below the earth some of the stars are hidden from it. Now the light of those on which the sun shines is invisible, being obscured by the of the sun. But the milky way is the peculiar light of those stars which are shaded by the earth from the sun's rays.

This, too, is obviously impossible. The milky way is always unchanged and among the same constellations (for it is clearly a greatest circle), whereas, since the sun does not remain in the same place, what is hidden from it differs at different times. Consequently with the change of the sun's position the milky way ought to change its position too: but we find that this does not happen. Besides, if astronomical demonstrations are correct and the size of the sun is greater than that of the earth and the distance of the stars from the earth many times greater than that of the sun (just as the sun is further from the earth than the moon), then the cone made by the rays of the sun would terminate at no great distance from the earth, and the shadow of the earth (what we call night) would not reach the stars. On the contrary, the sun shines on all the stars and the earth screens none of them.

(3) There is a third theory about the milky way. Some say that it is a reflection of our sight to the sun, just as they say that the comet is.

But this too is impossible. For if the eye and the mirror and the whole of the object were severally at rest, then the same part of the image would appear at the same point in the mirror. But if the mirror and the object move, keeping the same distance from the eye which is at rest, but at different rates of speed and so not always at the same interval from one another, then it is impossible for the same image always to appear in the same part of the mirror. Now the constellations included in the circle of the milky way move; and so does the sun, the object to which our sight is reflected; but we stand still. And the distance of those two from us is constant and uniform, but their distance from one another varies. For the Dolphin sometimes rises at midnight, sometimes in the morning. But in each case the same parts of the milky way are found near it. But if it were a reflection and not a genuine affection of these this ought not to be the case.

Again, we can see the milky way reflected at night in water and similar mirrors. But under these circumstances it is impossible for our sight to be reflected to the sun.

These considerations show that the milky way is not the path of one of the planets, nor the light of imperceptible stars, nor a reflection. And those are the chief theories handed down by others hitherto.

Let us recall our fundamental principle and then explain our views. We have already laid down that the outermost part of what is called the air is potentially fire and that therefore when the air is dissolved by motion, there is separated off a kind of matter-and of this matter we assert that comets consist. We must suppose that what happens is the same as in the case of the comets when the matter does not form independently but is formed by one of the fixed stars or the planets. Then these stars appear to be fringed, because matter of this kind follows their course. In the same way, a certain kind of matter follows the sun, and we explain the halo as a reflection from it when the air is of the right constitution. Now we must assume that what happens in the case of the stars severally happens in the case of the whole of the heavens and all the upper motion. For it is natural to suppose that, if the motion of a single star excites a flame, that of all the stars should have a similar result, and especially in that region in which the stars are biggest and most numerous and nearest to one another. Now the circle of the zodiac dissolves this kind of matter because of the motion of the sun and the planets, and for this reason most comets are found outside the tropic circles. Again, no fringe appears round the sun or moon: for they dissolve such matter too quickly to admit of its formation. But this circle in which the milky way appears to our sight is the greatest circle, and its position is such that it extends far outside the tropic circles. Besides the region is full of the biggest and brightest constellations and also of what called ‘scattered’ stars (you have only to look to see this clearly). So for these reasons all this matter is continually and ceaselessly collecting there. A proof of the theory is this: In the circle itself the light is stronger in that half where the milky way is divided, and in it the constellations are more numerous and closer to one another than in the other half; which shows that the cause of the light is the motion of the constellations and nothing else. For if it is found in the circle in which there are most constellations and at that point in the circle at which they are densest and contain the biggest and the most stars, it is natural to suppose that they are the true cause of the affection in question. The circle and the constellations in it may be seen in the diagram. The so-called ‘scattered’ stars it is not possible to set down in the same way on the sphere because none of them have an evident permanent position; but if you look up to the sky the point is clear. For in this circle alone are the intervals full of these stars: in the other circles there are obvious gaps. Hence if we accept the cause assigned for the appearance of comets as plausible we must assume that the same kind of thing holds good of the milky way. For the fringe which in the former case is an affection of a single star here forms in the same way in relation to a whole circle. So if we are to define the milky way we may call it ‘a fringe attaching to the greatest circle, and due to the matter secreted’. This, as we said before, explains why there are few comets and why they appear rarely; it is because at each revolution of the heavens this matter has always been and is always being separated off and gathered into this region.

We have now explained the phenomena that occur in that part of the terrestrial world which is continuous with the motions of the heavens, namely, shooting-stars and the burning flame, comets and the milky way, these being the chief affections that appear in that region.

9

Let us go on to treat of the region which follows next in order after this and which immediately surrounds the earth. It is the region common to water and air, and the processes attending the formation of water above take place in it. We must consider the principles and causes of all these phenomena too as before. The efficient and chief and first cause is the circle in which the sun moves. For the sun as it approaches or recedes, obviously causes dissipation and condensation and so gives rise to generation and destruction. Now the earth remains but the moisture surrounding it is made to evaporate by the sun's rays and the other heat from above, and rises. But when the heat which was raising it leaves it, in part dispersing to the higher region, in part quenched through rising so far into the upper air, then the vapour cools because its heat is gone and because the place is cold, and condenses again and turns from air into water. And after the water has formed it falls down again to the earth.

The exhalation of water is vapour: air condensing into water is cloud. Mist is what is left over when a cloud condenses into water, and is therefore rather a sign of fine weather than of rain; for mist might be called a barren cloud. So we get a circular process that follows the course of the sun. For according as the sun moves to this side or that, the moisture in this process rises or falls. We must think of it as a river flowing up and down in a circle and made up partly of air, partly of water. When the sun is near, the stream of vapour flows upwards; when it recedes, the stream of water flows down: and the order of sequence, at all events, in this process always remains the same. So if 'Oceanus' had some secret meaning in early writers, perhaps they may have meant this river that flows in a circle about the earth.

So the moisture is always raised by the heat and descends to the earth again when it gets cold. These processes and, in some cases, their varieties are distinguished by special names. When the water falls in small drops it is called a drizzle; when the drops are larger it is rain.

10

Some of the vapour that is formed by day does not rise high because the ratio of the fire that is raising it to the water that is being raised is small. When this cools and descends at night it is called dew and hoar-frost. When the vapour is frozen before it has condensed to water again it is hoar-frost; and this appears in winter and is commoner in cold places. It is dew when the vapour has condensed into water and the heat is not so great as to dry up the moisture that has been raised nor the cold sufficient (owing to the warmth of the climate or season) for the vapour itself to freeze. For dew is more commonly found when the season or the place is warm, whereas the opposite, as has been said, is the case with hoar-frost. For obviously vapour is warmer than water, having still the fire that raised it: consequently more cold is needed to freeze it.

Both dew and hoar-frost are found when the sky is clear and there is no wind. For the vapour could not be raised unless the sky were clear, and if a wind were blowing it could not condense.

The fact that hoar-frost is not found on mountains contributes to prove that these phenomena occur because the vapour does not rise high. One reason for this is that it rises from hollow and watery places, so that the heat that is raising it, bearing as it were too heavy a burden cannot lift it to a great height but soon lets it fall again. A second reason is that the motion of the air is more pronounced at a height, and this dissolves a gathering of this kind.

Everywhere, except in Pontus, dew is found with south winds and not with north winds. There the opposite is the case and it is found with north winds and not with south. The reason is the same as that which explains why dew is found in warm weather and not in cold. For the south wind brings warm, and the north, wintry weather. For the north wind is cold and so quenches the heat of the evaporation. But in Pontus the south wind does not bring warmth enough to cause evaporation, whereas the coldness of the north wind concentrates the heat by a sort of recoil, so that there is more evaporation and not less. This is a thing which we can often observe in other places too. Wells, for instance, give off more vapour in a north than in a south wind. Only the north winds quench the heat before any considerable quantity of vapour has gathered, while in a south wind the evaporation is allowed to accumulate.

Water, once formed, does not freeze on the surface of the earth, in the way that it does in the region of the clouds.

11

From the latter there fall three bodies condensed by cold, namely rain, snow, hail. Two of these correspond to the phenomena on the lower level and are due to the same causes, differing from them only in degree and quantity.

Snow and hoar-frost are one and the same thing, and so are rain and dew: only there is a great deal of the former and little of the latter. For rain is due to the cooling of a great amount of vapour, for the region from which and the time during which the vapour is collected are considerable. But of dew there is little: for the vapour collects for it in a single day and from a small area, as its quick formation and scanty quantity show.

The relation of hoar-frost and snow is the same: when cloud freezes there is snow, when vapour freezes there is hoar-frost. Hence snow is a sign of a cold season or country. For a great deal of heat is still present and unless the cold were overpowering it the cloud would not freeze. For there still survives in it a great deal of the heat which caused the moisture to rise as vapour from the earth.

Hail on the other hand is found in the upper region, but the corresponding phenomenon in the vaporous region near the earth is lacking. For, as we said, to snow in the upper region corresponds hoar-frost in the lower, and to rain in the upper region, dew in the lower. But there is nothing here to correspond to hail in the upper region. Why this is so will be clear when we have explained the nature of hail.

12

But we must go on to collect the facts bearing on the origin of it, both those which raise no difficulties and those which seem paradoxical.

Hail is ice, and water freezes in winter; yet hailstorms occur chiefly in spring and autumn and less often in the late summer, but rarely in winter and then only when the cold is less intense. And in general hailstorms occur in warmer, and snow in colder places. Again, there is a difficulty about water freezing in the upper region. It cannot have frozen before becoming water: and water cannot remain suspended in the air for any space of time. Nor can we say that the case is like that of particles of moisture which are carried up owing to their small size and rest on the iar (the water swimming on the air just as small particles of earth and gold often swim on water). In that case large drops are formed by the union of many small, and so fall down. This cannot take place in the case of hail, since solid bodies cannot coalesce like liquid ones. Clearly then drops of that size were suspended in the air or else they could not have been so large when frozen.

Some think that the cause and origin of hail is this. The cloud is thrust up into the upper atmosphere, which is colder because the reflection of the sun's rays from the earth ceases there, and upon its arrival there the water freezes. They think that this explains why hailstorms are commoner in summer and in warm countries; the heat is greater and it thrusts the clouds further up from the earth. But the fact is that hail does not occur at all at a great height: yet it ought to do so, on their theory, just as we see that snow falls most on high mountains. Again clouds have often been observed moving with a great noise close to the earth, terrifying those who heard and saw them as portents of some catastrophe. Sometimes, too, when such clouds have been seen, without any noise, there follows a violent hailstorm, and the stones are of incredible size, and angular in shape. This shows that they have not been falling for long and that they were frozen near to the earth, and not as that theory would have it. Moreover, where the hailstones are large, the cause of their freezing must be present in the highest degree: for hail is ice as every one can see. Now those hailstones are large which are angular in shape. And this shows that they froze close to the earth, for those that fall far are worn away by the length of their fall and become round and smaller in size.

It clearly follows that the congelation does not take place because the cloud is thrust up into the cold upper region.

Now we see that warm and cold react upon one another by recoil. Hence in warm weather the lower parts of the earth are cold and in a frost they are warm. The same thing, we must suppose, happens in the air, so that in the warmer seasons the cold is concentrated by the surrounding heat and causes the cloud to go over into water suddenly. (For this reason rain-drops are much larger on warm days than in winter, and showers more violent. A shower is said to be more violent in proportion as the water comes down in a body, and this happens when the condensation takes place quickly,-though this is just the opposite of what Anaxagoras says. He says that this happens when the cloud has risen into the cold air; whereas we say that it happens when the cloud has descended into the warm air, and that the more the further the cloud has descended). But when the cold has been concentrated within still more by the outer heat, it freezes the water it has formed and there is hail. We get hail when the process of freezing is quicker than the descent of the water. For if the water falls in a certain time and the cold is sufficient to freeze it in less, there is no difficulty about its having frozen in the air, provided that the freezing takes place in a shorter time than its fall. The nearer to the earth, and the more suddenly, this process takes place, the more violent is the rain that results and the larger the raindrops and the hailstones because of the shortness of their fall. For the same reason large raindrops do not fall thickly. Hail is rarer in summer than in spring and autumn, though commoner than in winter, because the air is drier in summer, whereas in spring it is still moist, and in autumn it is beginning to grow moist. It is for the same reason that hailstorms sometimes occur in the late summer as we have said.

The fact that the water has previously been warmed contributes to its freezing quickly: for so it cools sooner. Hence many people, when they want to cool hot water quickly, begin by putting it in the sun. So the inhabitants of Pontus when they encamp on the ice to fish (they cut a hole in the ice and then fish) pour warm water round their reeds that it may freeze the quicker, for they use the ice like lead to fix the reeds. Now it is in hot countries and seasons that the water which forms soon grows warm.

It is for the same reason that rain falls in summer and not in winter in Arabia and Ethiopia too, and that in torrents and repeatedly on the same day. For the concentration or recoil due to the extreme heat of the country cools the clouds quickly.

So much for an account of the nature and causes of rain, dew, snow, hoar-frost, and hail.

13

Let us explain the nature of winds, and all windy vapours, also of rivers and of the sea. But here, too, we must first discuss the difficulties involved: for, as in other matters, so in this no theory has been handed down to us that the most ordinary man could not have thought of.

Some say that what is called air, when it is in motion and flows, is wind, and that this same air when it condenses again becomes cloud and water, implying that the nature of wind and water is the same. So they define wind as a motion of the air. Hence some, wishing to say a clever thing, assert that all the winds are one wind, because the air that moves is in fact all of it one and the same; they maintain that the winds appear to differ owing to the region from which the air may happen to flow on each occasion, but really do not differ at all. This is just like thinking that all rivers are one and the same river, and the ordinary unscientific view is better than a scientific theory like this. If all rivers flow from one source, and the same is true in the case of the winds, there might be some truth in this theory; but if it is no more true in the one case than in the other, this ingenious idea is plainly false. What requires investigation is this: the nature of wind and how it originates, its efficient cause and whence they derive their source; whether one ought to think of the wind as issuing from a sort of vessel and flowing until the vessel is empty, as if let out of a wineskin, or, as painters represent the winds, as drawing their source from themselves.

We find analogous views about the origin of rivers. It is thought that the water is raised by the sun and descends in rain and gathers below the earth and so flows from a great reservoir, all the rivers from one, or each from a different one. No water at all is generated, but the volume of the rivers consists of the water that is gathered into such reservoirs in winter. Hence rivers are always fuller in winter than in summer, and some are perennial, others not. Rivers are perennial where the reservoir is large and so enough water has collected in it to last out and not be used up before the winter rain returns. Where the reservoirs are smaller there is less water in the rivers, and they are dried up and their vessel empty before the fresh rain comes on.

But if any one will picture to himself a reservoir adequate to the water that is continuously flowing day by day, and consider the amount of the water, it is obvious that a receptacle that is to contain all the water that flows in the year would be larger than the earth, or, at any rate, not much smaller.

Though it is evident that many reservoirs of this kind do exist in many parts of the earth, yet it is unreasonable for any one to refuse to admit that air becomes water in the earth for the same reason as it does above it. If the cold causes the vaporous air to condense into water above the earth we must suppose the cold in the earth to produce this same effect, and recognize that there not only exists in it and flows out of it actually formed water, but that water is continually forming in it too.

Again, even in the case of the water that is not being formed from day to day but exists as such, we must not suppose as some do that rivers have their source in definite subterranean lakes. On the contrary, just as above the earth small drops form and these join others, till finally the water descends in a body as rain, so too we must suppose that in the earth the water at first trickles together little by little, and that the sources of the rivers drip, as it were, out of the earth and then unite. This is proved by facts. When men construct an aqueduct they collect the water in pipes and trenches, as if the earth in the higher ground were sweating the water out. Hence, too, the head-waters of rivers are found to flow from mountains, and from the greatest mountains there flow the most numerous and greatest rivers. Again, most springs are in the neighbourhood of mountains and of high ground, whereas if we except rivers, water rarely appears in the plains. For mountains and high ground, suspended over the country like a saturated sponge, make the water ooze out and trickle together in minute quantities but in many places. They receive a great deal of water falling as rain (for it makes no difference whether a spongy receptacle is concave and turned up or convex and turned down: in either case it will contain the same volume of matter) and, they also cool the vapour that rises and condense it back into water.

Hence, as we said, we find that the greatest rivers flow from the greatest mountains. This can be seen by looking at itineraries: what is recorded in them consists either of things which the writer has seen himself or of such as he has compiled after inquiry from those who have seen them.

In Asia we find that the most numerous and greatest rivers flow from the mountain called Parnassus, admittedly the greatest of all mountains towards the south-east. When you have crossed it you see the outer ocean, the further limit of which is unknown to the dwellers in our world. Besides other rivers there flow from it the Bactrus, the Choaspes, the Araxes: from the last a branch separates off and flows into lake Maeotis as the Tanais. From it, too, flows the Indus, the volume of whose stream is greatest of all rivers. From the Caucasus flows the Phasis, and very many other great rivers besides. Now the Caucasus is the greatest of the mountains that lie to the northeast, both as regards its extent and its height. A proof of its height is the fact that it can be seen from the so-called ‘deeps’ and from the entrance to the lake. Again, the sun shines on its peaks for a third part of the night before sunrise and again after sunset. Its extent is proved by the fact that thought contains many inhabitable regions which are occupied by many nations and in which there are said to be great lakes, yet they say that all these regions are visible up to the last peak. From Pyrene (this is a mountain towards the west in Celtice) there flow the Istrus and the Tartessus. The latter flows outside the pillars, while the Istrus flows through all Europe into the Euxine. Most of the remaining rivers flow northwards from the Hercynian mountains, which are the greatest in height and extent about that region. In the extreme north, beyond furthest Scythia, are the mountains called Rhipae. The stories about their size are altogether too fabulous: however, they say that the most and (after the Istrus) the greatest rivers flow from them. So, too, in Libya there flow from the Aethiopian mountains the Aegon and the Nyses; and from the so-called Silver Mountain the two greatest of named rivers, the river called Chremetes that flows into the outer ocean, and the main source of the Nile. Of the rivers in the Greek world, the Achelous flows from Pindus, the Inachus from the same mountain; the Strymon, the Nestus, and the Hebrus all three from Scombrus; many rivers, too, flow from Rhodope.

All other rivers would be found to flow in the same way, but we have mentioned these as examples. Even where rivers flow from marshes, the marshes in almost every case are found to lie below mountains or gradually rising ground.

It is clear then that we must not suppose rivers to originate from definite reservoirs: for the whole earth, we might almost say, would not be sufficient (any more than the region of the clouds would be) if we were to suppose that they were fed by actually existing water only and it were not the case that as some water passed out of existence some more came into existence, but rivers always drew their stream from an existing store. Secondly, the fact that rivers rise at the foot of mountains proves that a place transmits the water it contains by gradual percolation of many drops, little by little, and that this is how the sources of rivers originate. However, there is nothing impossible about the existence of such places containing a quantity of water like lakes: only they cannot be big enough to produce the supposed effect. To think that they are is just as absurd as if one were to suppose that rivers drew all their water from the sources we see (for most rivers do flow from springs). So it is no more reasonable to suppose those lakes to contain the whole volume of water than these springs.

That there exist such chasms and cavities in the earth we are taught by the rivers that are swallowed up. They are found in many parts of the earth: in the Peloponnesus, for instance, there are many such rivers in Arcadia. The reason is that Arcadia is mountainous and there are no channels from its valleys to the sea. So these places get full of water, and this, having no outlet, under the pressure of the water that is added above, finds a way out for itself underground. In Greece this kind of thing happens on quite a small scale, but the lake at the foot of the Caucasus, which the inhabitants of these parts call a sea, is considerable. Many great rivers fall into it and it has no visible outlet but issues below the earth off the land of the Coraxi about the so-called ‘deeps of Pontus’. This is a place of unfathomable depth in the sea: at any rate no one has yet been able to find bottom there by sounding. At this spot, about three hundred stadia from land, there comes up sweet water over a large area, not all of it together but in three places. And in Liguria a river equal in size to the Rhodanus is swallowed up and appears again elsewhere: the Rhodanus being a navigable river.

14

The same parts of the earth are not always moist or dry, but they change according as rivers come into existence and dry up. And so the relation of land to sea changes too and a place does not always remain land or sea throughout all time, but where there was dry land there comes to be sea, and where there is now sea, there one day comes to be dry land. But we must suppose these changes to follow some order and cycle. The principle and cause of these changes is that the interior of the earth grows and decays, like the bodies of plants and animals. Only in the case of these latter the process does not go on by parts, but each of them necessarily grows or decays as a whole, whereas it does go on by parts in the case of the earth. Here the causes are cold and heat, which increase and diminish on account of the sun and its course. It is owing to them that the parts of the earth come to have a different character, that some parts remain moist for a certain time, and then dry up and grow old, while other parts in their turn are filled with life and moisture. Now when places become drier the springs necessarily give out, and when this happens the rivers first decrease in size and then finally become dry; and when rivers change and disappear in one part and come into existence correspondingly in another, the sea must needs be affected.

If the sea was once pushed out by rivers and encroached upon the land anywhere, it necessarily leaves that place dry when it recedes; again, if the dry land has encroached on the sea at all by a process of silting set up by the rivers when at their full, the time must come when this place will be flooded again.

But the whole vital process of the earth takes place so gradually and in periods of time which are so immense compared with the length of our life, that these changes are not observed, and before their course can be recorded from beginning to end whole nations perish and are destroyed. Of such destructions the most utter and sudden are due to wars; but pestilence or famine cause them too. Famines, again, are either sudden and severe or else gradual. In the latter case the disappearance of a nation is not noticed because some leave the country while others remain; and this goes on until the land is unable to maintain any inhabitants at all. So a long period of time is likely to elapse from the first departure to the last, and no one remembers and the lapse of time destroys all record even before the last inhabitants have disappeared. In the same way a nation must be supposed to lose account of the time when it first settled in a land that was changing from a marshy and watery state and becoming dry. Here, too, the change is gradual and lasts a long time and men do not remember who came first, or when, or what the land was like when they came. This has been the case with Egypt. Here it is obvious that the land is continually getting drier and that the whole country is a deposit of the river Nile. But because the neighbouring peoples settled in the land gradually as the marshes dried, the lapse of time has hidden the beginning of the process. However, all the mouths of the Nile, with the single exception of that at Canopus, are obviously artificial and not natural. And Egypt was nothing more than what is called Thebes, as Homer, too, shows, modern though he is in relation to such changes. For Thebes is the place that he mentions; which implies that Memphis did not yet exist, or at any rate was not as important as it is now. That this should be so is natural, since the lower land came to be inhabited later than that which lay higher. For the parts that lie nearer to the place where the river is depositing the silt are necessarily marshy for a longer time since the water always lies most in the newly formed land. But in time this land changes its character, and in its turn enjoys a period of prosperity. For these places dry up and come to be in good condition while the places that were formerly well-tempered some day grow excessively dry and deteriorate. This happened to the land of Argos and Mycenae in Greece. In the time of the Trojan wars the Argive land was marshy and could only support a small population, whereas the land of Mycenae was in good condition (and for this reason Mycenae was the superior). But now the opposite is the case, for the reason we have mentioned: the land of Mycenae has become completely dry and barren, while the Argive land that was formerly barren owing to the water has now become fruitful. Now the same process that has taken place in this small district must be supposed to be going on over whole countries and on a large scale.

Men whose outlook is narrow suppose the cause of such events to be change in the universe, in the sense of a coming to be of the world as a whole. Hence they say that the sea being dried up and is growing less, because this is observed to have happened in more places now than formerly. But this is only partially true. It is true that many places are now dry, that formerly were covered with water. But the opposite is true too: for if they look they will find that there are many places where the sea has invaded the land. But we must not suppose that the cause of this is that the world is in process of becoming. For it is absurd to make the universe to be in process because of small and trifling changes, when the bulk and size of the earth are surely as nothing in comparison with the whole world. Rather we must take the cause of all these changes to be that, just as winter occurs in the seasons of the year, so in determined periods there comes a great winter of a great year and with it excess of rain. But this excess does not always occur in the same place. The deluge in the time of Deucalion, for instance, took place chiefly in the Greek world and in it especially about ancient Hellas, the country about Dodona and the Achelous, a river which has often changed its course. Here the Selli dwelt and those who were formerly called Graeci and now Hellenes. When, therefore, such an excess of rain occurs we must suppose that it suffices for a long time. We have seen that some say that the size of the subterranean cavities is what makes some rivers perennial and others not, whereas we maintain that the size of the mountains is the cause, and their density and coldness; for great, dense, and cold mountains catch and keep and create most water: whereas if the mountains that overhang the sources of rivers are small or porous and stony and clayey, these rivers run dry earlier. We must recognize the same kind of thing in this case too. Where such abundance of rain falls in the great winter it tends to make the moisture of those places almost everlasting. But as time goes on places of the latter type dry up more, while those of the former, moist type, do so less: until at last the beginning of the same cycle returns.

Since there is necessarily some change in the whole world, but not in the way of coming into existence or perishing (for the universe is permanent), it must be, as we say, that the same places are not for ever moist through the presence of sea and rivers, nor for ever dry. And the facts prove this. The whole land of the Egyptians, whom we take to be the most ancient of men, has evidently gradually come into existence and been produced by the river. This is clear from an observation of the country, and the facts about the Red Sea suffice to prove it too. One of their kings tried to make a canal to it (for it would have been of no little advantage to them for the whole region to have become navigable; Sesostris is said to have been the first of the ancient kings to try), but he found that the sea was higher than the land. So he first, and Darius afterwards, stopped making the canal, lest the sea should mix with the river water and spoil it. So it is clear that all this part was once unbroken sea. For the same reason Libya-the country of Ammon-is, strangely enough, lower and hollower than the land to the seaward of it. For it is clear that a barrier of silt was formed and after it lakes and dry land, but in course of time the water that was left behind in the lakes dried up and is now all gone. Again the silting up of the lake Maeotis by the rivers has advanced so much that the limit to the size of the ships which can now sail into it to trade is much lower than it was sixty years ago. Hence it is easy to infer that it, too, like most lakes, was originally produced by the rivers and that it must end by drying up entirely.

Again, this process of silting up causes a continuous current through the Bosporus; and in this case we can directly observe the nature of the process. Whenever the current from the Asiatic shore threw up a sandbank, there first formed a small lake behind it. Later it dried up and a second sandbank formed in front of the first and a second lake. This process went on uniformly and without interruption. Now when this has been repeated often enough, in the course of time the strait must become like a river, and in the end the river itself must dry up.

So it is clear, since there will be no end to time and the world is eternal, that neither the Tanais nor the Nile has always been flowing, but that the region whence they flow was once dry: for their effect may be fulfilled, but time cannot. And this will be equally true of all other rivers. But if rivers come into existence and perish and the same parts of the earth were not always moist, the sea must needs change correspondingly. And if the sea is always advancing in one place and receding in another it is clear that the same parts of the whole earth are not always either sea or land, but that all this changes in course of time.

So we have explained that the same parts of the earth are not always land or sea and why that is so: and also why some rivers are perennial and others not.

Book II

1

LET us explain the nature of the sea and the reason why such a large mass of water is salt and the way in which it originally came to be.

The old writers who invented theogonies say that the sea has springs, for they want earth and sea to have foundations and roots of their own. Presumably they thought that this view was grander and more impressive as implying that our earth was an important part of the universe. For they believed that the whole world had been built up round our earth and for its sake, and that the earth was the most important and primary part of it. Others, wiser in human knowledge, give an account of its origin. At first, they say, the earth was surrounded by moisture. Then the sun began to dry it up, part of it evaporated and is the cause of winds and the turnings back of the sun and the moon, while the remainder forms the sea. So the sea is being dried up and is growing less, and will end by being some day entirely dried up. Others say that the sea is a kind of sweat exuded by the earth when the sun heats it, and that this explains its saltness: for all sweat is salt. Others say that the saltness is due to the earth. Just as water strained through ashes becomes salt, so the sea owes its saltness to the admixture of earth with similar properties.

We must now consider the facts which prove that the sea cannot possibly have springs. The waters we find on the earth either flow or are stationary. All flowing water has springs. (By a spring, as we have explained above, we must not understand a source from which waters are ladled as it were from a vessel, but a first point at which the water which is continually forming and percolating gathers.) Stationary water is either that which has collected and has been left standing, marshy pools, for instance, and lakes, which differ merely in size, or else it comes from springs. In this case it is always artificial, I mean as in the case of wells, otherwise the spring would have to be above the outlet. Hence the water from fountains and rivers flows of itself, whereas wells need to be worked artificially. All the waters that exist belong to one or other of these classes.

On the basis of this division we can sec that the sea cannot have springs. For it falls under neither of the two classes; it does not flow and it is not artificial; whereas all water from springs must belong to one or other of them. Natural standing water from springs is never found on such a large scale.

Again, there are several seas that have no communication with one another at all. The Red Sea, for instance, communicates but slightly with the ocean outside the straits, and the Hyrcanian and Caspian seas are distinct from this ocean and people dwell all round them. Hence, if these seas had had any springs anywhere they must have been discovered.

It is true that in straits, where the land on either side contracts an open sea into a small space, the sea appears to flow. But this is because it is swinging to and fro. In the open sea this motion is not observed, but where the land narrows and contracts the sea the motion that was imperceptible in the open necessarily strikes the attention.

The whole of the Mediterranean does actually flow. The direction of this flow is determined by the depth of the basins and by the number of rivers. Maeotis flows into Pontus and Pontus into the Aegean. After that the flow of the remaining seas is not so easy to observe. The current of Maeotis and Pontus is due to the number of rivers (more rivers flow into the Euxine and Maeotis than into the whole Mediterranean with its much larger basin), and to their own shallowness. For we find the sea getting deeper and deeper. Pontus is deeper than Maeotis, the Aegean than Pontus, the Sicilian sea than the Aegean; the Sardinian and Tyrrhenic being the deepest of all. (Outside the pillars of Heracles the sea is shallow owing to the mud, but calm, for it lies in a hollow.) We see, then, that just as single rivers flow from mountains, so it is with the earth as a whole: the greatest volume of water flows from the higher regions in the north. Their alluvium makes the northern seas shallow, while the outer seas are deeper. Some further evidence of the height of the northern regions of the earth is afforded by the view of many of the ancient meteorologists. They believed that the sun did not pass below the earth, but round its northern part, and that it was the height of this which obscured the sun and caused night.

So much to prove that there cannot be sources of the sea and to explain its observed flow.

We must now discuss the origin of the sea, if it has an origin, and the cause of its salt and bitter taste.

What made earlier writers consider the sea to be the original and main body of water is this. It seems reasonable to suppose that to be the case on the analogy of the other elements. Each of them has a main bulk which by reason of its mass is the origin of that element, and any parts which change and mix with the other elements come from it. Thus the main body of fire is in the upper region; that of air occupies the place next inside the region of fire; while the mass of the earth is that round which the rest of the elements are seen to lie. So we must clearly look for something analogous in the case of water. But here we can find no such single mass, as in the case of the other elements, except the sea. River water is not a unity, nor is it stable, but is seen to be in a continuous process of becoming from day to day. It was this difficulty which made people regard the sea as the origin and source of moisture and of all water. And so we find it maintained that rivers not only flow into the sea but originate from it, the salt water becoming sweet by filtration.

But this view involves another difficulty. If this body of water is the origin and source of all water, why is it salt and not sweet? The reason for this, besides answering this question, will ensure our having a right first conception of the nature of the sea.

The earth is surrounded by water, just as that is by the sphere of air, and that again by the sphere called that of fire (which is the outermost both on the common view and on ours). Now the sun, moving as it does, sets up processes of change and becoming and decay, and by its agency the finest and sweetest water is every day carried up and is dissolved into vapour and rises to the upper region, where it is condensed again by the cold and so returns to the earth. This, as we have said before, is the regular course of nature.

Hence all my predecessors who supposed that the sun was nourished by moisture are absurdly mistaken. Some go on to say that the solstices are due to this, the reason being that the same places cannot always supply the sun with nourishment and that without it he must perish. For the fire we are familiar with lives as long as it is fed, and the only food for fire is moisture. As if the moisture that is raised could reach the sun! or this ascent were really like that performed by flame as it comes into being, and to which they supposed the case of the sun to be analogous! Really there is no similarity. A flame is a process of becoming, involving a constant interchange of moist and dry. It cannot be said to be nourished since it scarcely persists as one and the same for a moment. This cannot be true of the sun; for if it were nourished like that, as they say it is, we should obviously not only have a new sun every day, as Heraclitus says, but a new sun every moment. Again, when the sun causes the moisture to rise, this is like fire heating water. So, as the fire is not fed by the water above it, it is absurd to suppose that the sun feeds on that moisture, even if its heat made all the water in the world evaporate. Again, it is absurd, considering the number and size of the stars, that these thinkers should consider the sun only and overlook the question how the rest of the heavenly bodies subsist. Again, they are met by the same difficulty as those who say that at first the earth itself was moist and the world round the earth was warmed by the sun, and so air was generated and the whole firmament grew, and the air caused winds and solstices. The objection is that we always plainly see the water that has been carried up coming down again. Even if the same amount does not come back in a year or in a given country, yet in a certain period all that has been carried up is returned. This implies that the celestial bodies do not feed on it, and that we cannot distinguish between some air which preserves its character once it is generated and some other which is generated but becomes water again and so perishes; on the contrary, all the moisture alike is dissolved and all of it condensed back into water.

The drinkable, sweet water, then, is light and is all of it drawn up: the salt water is heavy and remains behind, but not in its natural place. For this is a question which has been sufficiently discussed (I mean about the natural place that water, like the other elements, must in reason have), and the answer is this. The place which we see the sea filling is not its natural place but that of water. It seems to belong to the sea because the weight of the salt water makes it remain there, while the sweet, drinkable water which is light is carried up. The same thing happens in animal bodies. Here, too, the food when it enters the body is sweet, yet the residuum and dregs of liquid food are found to be bitter and salt. This is because the sweet and drinkable part of it has been drawn away by the natural animal heat and has passed into the flesh and the other parts of the body according to their several natures. Now just as here it would be wrong for any one to refuse to call the belly the place of liquid food because that disappears from it soon, and to call it the place of the residuum because this is seen to remain, so in the case of our present subject. This place, we say, is the place of water. Hence all rivers and all the water that is generated flow into it: for water flows into the deepest place, and the deepest part of the earth is filled by the sea. Only all the light and sweet part of it is quickly carried off by the sun, while herest remains for the reason we have explained. It is quite natural that some people should have been puzzled by the old question why such a mass of water leaves no trace anywhere (for the sea does not increase though innumerable and vast rivers are flowing into it every day.) But if one considers the matter the solution is easy. The same amount of water does not take as long to dry up when it is spread out as when it is gathered in a body, and indeed the difference is so great that in the one case it might persist the whole day long while in the other it might all disappear in a moment-as for instance if one were to spread out a cup of water over a large table. This is the case with the rivers: all the time they are flowing their water forms a compact mass, but when it arrives at a vast wide place it quickly and imperceptibly evaporates.

But the theory of the Phaedo about rivers and the sea is impossible. There it is said that the earth is pierced by intercommunicating channels and that the original head and source of all waters is what is called Tartarus-a mass of water about the centre, from which all waters, flowing and standing, are derived. This primary and original water is always surging to and fro, and so it causes the rivers to flow on this side of the earth’s centre and on that; for it has no fixed seat but is always oscillating about the centre. Its motion up and down is what fills rivers. Many of these form lakes in various places (our sea is an instance of one of these), but all of them come round again in a circle to the original source of their flow, many at the same point, but some at a point opposite to that from which they issued; for instance, if they started from the other side of the earth’s centre, they might return from this side of it. They descend only as far as the centre, for after that all motion is upwards. Water gets its tastes and colours from the kind of earth the rivers happened to flow through.

But on this theory rivers do not always flow in the same sense. For since they flow to the centre from which they issue forth they will not be flowing down any more than up, but in whatever direction the surging of Tartarus inclines to. But at this rate we shall get the proverbial rivers flowing upwards, which is impossible. Again, where is the water that is generated and what goes up again as vapour to come from? For this must all of it simply be ignored, since the quantity of water is always the same and all the water that flows out from the original source flows back to it again. This itself is not true, since all rivers are seen to end in the sea except where one flows into another. Not one of them ends in the earth, but even when one is swallowed up it comes to the surface again. And those rivers are large which flow for a long distance through a lowying country, for by their situation and length they cut off the course of many others and swallow them up. This is why the Istrus and the Nile are the greatest of the rivers which flow into our sea. Indeed, so many rivers fall into them that there is disagreement as to the sources of them both. All of which is plainly impossible on the theory, and the more so as it derives the sea from Tartarus.

Enough has been said to prove that this is the natural place of water and not of the sea, and to explain why sweet water is only found in rivers, while salt water is stationary, and to show that the sea is the end rather than the source of water, analogous to the residual matter of all food, and especially liquid food, in animal bodies.

3

We must now explain why the sea is salt, and ask whether it eternally exists as identically the same body, or whether it did not exist at all once and some day will exist no longer, but will dry up as some people think.

Every one admits this, that if the whole world originated the sea did too; for they make them come into being at the same time. It follows that if the universe is eternal the same must be true of the sea. Any one who thinks like Democritus that the sea is diminishing and will disappear in the end reminds us of Aesop’s tales. His story was that Charybdis had twice sucked in the sea: the first time she made the mountains visible; the second time the islands; and when she sucks it in for the last time she will dry it up entirely. Such a tale is appropriate enough to Aesop in a rage with the ferryman, but not to serious inquirers. Whatever made the sea remain at first, whether it was its weight, as some even of those who hold these views say (for it is easy to see the cause here), or some other reason-clearly the same thing must make it persist for ever. They must either deny that the water raised by the sun will return at all, or, if it does, they must admit that the sea persists for ever or as long as this process goes on, and again, that for the same period of time that sweet water must have been carried up beforehand. So the sea will never dry up: for before that can happen the water that has gone up beforehand will return to it: for if you say that this happens once you must admit its recurrence. If you stop the sun's course there is no drying agency. If you let it go on it will draw up the sweet water as we have said whenever it approaches, and let it descend again when it recedes. This notion about the sea is derived from the fact that many places are found to be drier now than they once were. Why this is so we have explained. The phenomenon is due to temporary excess of rain and not to any process of becoming in which the universe or its parts are involved. Some day the opposite will take place and after that the earth will grow dry once again. We must recognize that this process always goes on thus in a cycle, for that is more satisfactory than to suppose a change in the whole world in order to explain these facts. But we have dwelt longer on this point than it deserves.

To return to the saltness of the sea: those who create the sea once for all, or indeed generate it at all, cannot account for its saltness. It makes no difference whether the sea is the residue of all the moisture that is about the earth and has been drawn up by the sun, or whether all the flavour existing in the whole mass of sweet water is due to the admixture of a certain kind of earth. Since the total volume of the sea is the same once the water that evaporated has returned, it follows that it must either have been salt at first too, or, if not at first, then not now either. If it was salt from the very beginning, then we want to know why that was so; and why, if salt water was drawn up then, that is not the case now.

Again, if it is maintained that an admixture of earth makes the sea salt (for they say that earth has many flavours and is washed down by the rivers and so makes the sea salt by its admixture), it is strange that rivers should not be salt too. How can the admixture of this earth have such a striking effect in a great quantity of water and not in each river singly? For the sea, differing in nothing from rivers but in being salt, is evidently simply the totality of river water, and the rivers are the vehicle in which that earth is carried to their common destination.

It is equally absurd to suppose that anything has been explained by calling the sea 'the sweat of the earth', like Empedicles. Metaphors are poetical and so that expression of his may satisfy the requirements of a poem, but as a scientific theory it is unsatisfactory. Even in the case of the body it is a question how the sweet liquid drunk becomes salt sweat whether it is merely by the departure of some element in it which is sweetest, or by the admixture of something, as when water is strained through ashes. Actually the saltness seems to be due to the same cause as in the case of the residual liquid that gathers in the bladder. That, too, becomes bitter and salt though the liquid we drink and that contained in our food is sweet. If then the bitterness is due in these cases (as with the water strained through lye) to the presence of a certain sort of stuff that is carried along by the urine (as indeed we actually find a salt deposit settling in chamber-pots) and is secreted from the flesh in sweat (as if the departing moisture were washing the stuff out of the body), then no doubt the admixture of something earthy with the water is what makes the sea salt.

Now in the body stuff of this kind, viz. the sediment of food, is due to failure to digest: but how there came to be any such thing in the earth requires explanation. Besides, how can the drying and warming of the earth cause the secretion such a great quantity of water; especially as that must be a mere fragment of what is left in the earth? Again, waiving the question of quantity, why does not the earth sweat now when it happens to be in process of drying? If it did so then, it ought to do so now. But it does not: on the contrary, when it is dry it graws moist, but when it is moist it does not secrete anything at all. How then was it possible for the earth at the beginning when it was moist to sweat as it grew dry? Indeed, the theory that maintains that most of the moisture departed and was drawn up by the sun and that what was left over is the sea is more reasonable; but for the earth to sweat when it is moist is impossible.

Since all the attempts to account for the saltness of the sea seem unsuccessful let us explain it by the help of the principle we have used already.

Since we recognize two kinds of evaporation, one moist, the other dry, it is clear that the latter must be recognized as the source of phenomena like those we are concerned with.

But there is a question which we must discuss first. Does the sea always remain numerically one and consisting of the same parts, or is it, too, one in form and volume while its parts are in continual change, like air and sweet water and fire? All of these are in a constant state of change, but the form and the quantity of each of them are fixed, just as they are in the case of a flowing river or a burning flame. The answer is clear, and there is no doubt that the same account holds good of all these things alike. They differ in that some of them change more rapidly or more slowly than others; and they all are involved in a process of perishing and becoming which yet affects them all in a regular course.

This being so we must go on to try to explain why the sea is salt. There are many facts which make it clear that this taste is due to the admixture of something. First, in animal bodies what is least digested, the residue of liquid food, is salt and bitter, as we said before. All animal excreta are undigested, but especially that which gathers in the bladder (its extreme lightness proves this; for everything that is digested is condensed), and also sweat; in these then is excreted (along with other matter) an identical substance to which this flavour is due. The case of things burnt is analogous. What heat fails to assimilate becomes the excrementary residue in animal bodies, and, in things burnt, ashes. That is why some people say that it was burnt earth that made the sea salt. To say that it was burnt earth is absurd; but to say that it was something like burnt earth is true. We must suppose that just as in the cases we have described, so in the world as a whole, everything that grows and is naturally generated always leaves an undigested residue, like that of things burnt, consisting of this sort of earth. All the earthy stuff in the dry exhalation is of this nature, and it is the dry exhalation which accounts for its great quantity. Now since, as we have said, the moist and the dry evaporations are mixed, some quantity of this stuff must always be included in the clouds and the water that are formed by condensation, and must redescend to the earth in rain. This process must always go on with such regularity as the sublunary world admits of. and it is the answer to the question how the sea comes to be salt.

It also explains why rain that comes from the south, and the first rains of autumn, are brackish. The south is the warmest of winds and it blows from dry and hot regions. Hence it carries little moist vapour and that is why it is hot. (It makes no difference even if this is not its true character and it is originally a cold wind, for it becomes warm on its way by incorporating with itself a great quantity of dry evaporation from the places it passes over.) The north wind, on the other hand, comb ing from moist regions, is full of vapour and therefore cold. It is dry in our part of the world because it drives the clouds away before it, but in the south it is rainy; just as the south is a dry wind in Libya. So the south wind charges the rain that falls with a great quantity of this stuff. Autumn rain is brackish because the heaviest water must fall first; so that that which contains the greatest quantity of this kind of earth descends quickest.

This, too, is why the sea is warm. Everything that has been exposed to fire contains heat potentially, as we see in the case of lye and ashes and the dry and liquid excreta of animals. Indeed those animals which are hottest in the belly have the hottest excreta.

The action of this cause is continually making the sea more salt, but some part of its saltness is always being drawn up with the sweet water. This is less than the sweet water in the same ratio in which the salt and brackish element in rain is less than the sweet, and so the saltness of the sea remains constant on the whole. Salt water when it turns into vapour becomes sweet, and the vapour does not form salt water when it condenses again. This I know by experiment. The same thing is true in every case of the kind: wine and all fluids that evaporate and condense back into a liquid state become water. They all are water modified by a certain admixture, the nature of which determines their flavour. But this subject must be considered on another more suitable occasion.

For the present let us say this. The sea is there and some of it is continually being drawn up and becoming sweet; this returns from above with the rain. But it is now different from what it was when it was drawn up, and its weight makes it sink below the sweet water. This process prevents the sea, as it does rivers, from drying up except from local causes (this must happen to sea and rivers alike). On the other hand the parts neither of the earth nor of the sea remain constant but only their whole bulk. For the same thing is true of the earth as of the sea: some of it is carried up and some comes down with the rain, and both that which remains on the surface and that which comes down again change their situations.

There is more evidence to prove that saltness is due to the admixture of some substance, besides that which we have adduced. Make a vessel of wax and put it in the sea, fastening its mouth in such a way as to prevent any water getting in. Then the water that percolates through the wax sides of the vessel is sweet, the earthy stuff, the admixture of which makes the water salt, being separated off as it were by a filter. It is this stuff which make salt water heavy (it weighs more than fresh water) and thick. The difference in consistency is such that ships with the same cargo very nearly sink in a river when they are quite fit to navigate in the sea. This circumstance has before now caused loss to shippers freighting their ships in a river. That the thicker consistency is due to an admixture of something is proved by the fact that if you make strong brine by the admixture of salt, eggs, even when they are full, float in it. It almost becomes like mud; such a quantity of earthy matter is there in the sea. The same thing is done in salting fish.

Again if, as is fabled, there is a lake in Palestine, such that if you bind a man or beast and throw it in it floats and does not sink, this would bear out what we have said. They say that this lake is so bitter and salt that no fish live in it and that if you soak clothes in it and shake them it cleans them. The following facts all of them support our theory that it is some earthy stuff in the water which makes it salt. In Chaonia there is a spring of brackish water that flows into a neighbouring river which is sweet but contains no fish. The local story is that when Heracles came from Erytheia driving the oxen and gave the inhabitants the choice, they chose salt in preference to fish. They get the salt from the spring. They boil off some of the water and let the rest stand; when it has cooled and the heat and moisture have evaporated together it gives them salt, not in lumps but loose and light like snow. It is weaker than ordinary salt and added freely gives a sweet taste, and it is not as white as salt generally is. Another instance of this is found in Umbria. There is a place there where reeds and rushes grow. They burn some of these, put the ashes into water and boil it off. When a little water is left and has cooled it gives a quantity of salt.

Most salt rivers and springs must once have been hot. Then the original fire in them was extinguished but the earth through which they percolate preserves the character of lye or ashes. Springs and rivers with all kinds of flavours are found in many places. These flavours must in every case be due to the fire that is or was in them, for if you expose earth to different degrees of heat it assumes various kinds and shades of flavour. It becomes full of alum and lye and other things of the kind, and the fresh water percolates through these and changes its character. Sometimes it becomes acid as in Sicania, a part of Sicily. There they get a salt and acid water which they use as vinegar to season some of their dishes. In the neighbourhood of Lyncus, too, there is a spring of acid water, and in Scythia a bitter spring. The water from this makes the whole of the river into which it flows bitter. These differences are explained by a knowledge of the particular mixtures that determine different savours. But these have been explained in another treatise.

We have now given an account of waters and the sea, why they persist, how they change, what their nature is, and have explained most of their natural operations and affections.

4

Let us proceed to the theory of winds. Its basis is a distinction we have already made. We recognize two kinds of evaporation, one moist, the other dry. The former is called vapour: for the other there is no general name but we must call it a sort of smoke, applying to the whole of it a word that is proper to one of its forms. The moist cannot exist without the dry nor the dry without the moist: whenever we speak of either we mean that it predominates. Now when the sun in its circular course approaches, it draws up by its heat the moist evaporation: when it recedes the cold makes the vapour that had been raised condense back into water which falls and is distributed through the earth. (This explains why there is more rain in winter and more by night than by day: though the fact is not recognized because rain by night is more apt to escape observation than by day.) But there is a great quantity of fire and heat in the earth, and the sun not only draws up the moisture that lies on the surface of it, but warms and dries the earth itself. Consequently, since there are two kinds of evaporation, as we have said, one like vapour, the other like smoke, both of them are necessarily generated. That in which moisture predominates is the source of rain, as we explained before, while the dry evaporation is the source and substance of all winds. That things must necessarily take this course is clear from the resulting phenomena themselves, for the evaporation that is to produce them must necessarily differ; and the sun and the warmth in the earth not only can but must produce these evaporations.

Since the two evaporations are specifically distinct, wind and rain obviously differ and their substance is not the same, as those say who maintain that one and the same air when in motion is wind, but when it condenses again is water. Air, as we have explained in an earlier book, is made up of these as constituents. Vapour is moist and cold (for its fluidity is due to its moistness, and because it derives from water it is naturally cold, like water that has not been warmed): whereas the smoky evaporation is hot and dry. Hence each contributes a part, and air is moist and hot. It is absurd that this air that surrounds us should become wind when in motion, whatever be the source of its motion on the contrary the case of winds is like that of rivers. We do not call water that flows anyhow a river, even if there is a great quantity of it, but only if the flow comes from a spring. So too with the winds; a great quantity of air might be moved by the fall of some large object without flowing from any source or spring.

The facts bear out our theory. It is because the evaporation takes place uninterruptedly but differs in degree and quantity that clouds and winds appear in their natural proportion according to the season; and it is because there is now a great excess of the vaporous, now of the dry and smoky exhalation, that some years are rainy and wet, others windy and dry. Sometimes there is much drought or rain, and it prevails over a great and continuous stretch of country. At other times it is local; the surrounding country often getting seasonable or even excessive rains while there is drought in a certain part; or, contrariwise, all the surrounding country gets little or even no rain while a certain part gets rain in abundance. The reason for all this is that while the same affection is generally apt to prevail over a considerable district because adjacent places (unless there is something special to differentiate them) stand in the same relation to the sun, yet on occasion the dry evaporation will prevail in one part and the moist in another, or conversely. Again the reason for this latter is that each evaporation goes over to that of the neighbouring district: for instance, the dry evaporation circulates in its own place while the moist migrates to the next district or is even driven by winds to some distant place: or else the moist evaporation remains and the dry moves away. Just as in the case of the body when the stomach is dry the lower belly is often in the contrary state, and when it is dry the stomach is moist and cold, so it often happens that the evaporations reciprocally take one another's place and interchange.

Further, after rain wind generally rises in those places where the rain fell, and when rain has come on the wind ceases. These are necessary effects of the principles we have explained. After rain the earth is being dried by its own heat and that from above and gives off the evaporation which we saw to be the material cause of. wind. Again, suppose this secretion is present and wind prevails; the heat is continually being thrown off, rising to the upper region, and so the wind ceases; then the fall in temperature makes vapour form and condense into water. Water also forms and cools the dry evaporation when the clouds are driven together and the cold concentrated in them. These are the causes that make wind cease on the advent of rain, and rain fall on the cessation of wind.

The cause of the predominance of winds from the north and from the south is the same. (Most winds, as a matter of fact, are north winds or south winds.) These are the only regions which the sun does not visit: it approaches them and recedes from them, but its course is always over the-west and the east. Hence clouds collect on either side, and when the sun approaches it provokes the moist evaporation, and when it recedes to the opposite side there are storms and rain. So summer and winter are due to the sun's motion to and from the solstices, and water ascends and falls again for the same reason. Now since most rain falls in those regions towards which and from which the sun turns and these are the north and the south, and since most evaporation must take place where there is the greatest rainfall, just as green wood gives most smoke, and since this evaporation is wind, it is natural that the most and most important winds should come from these quarters. (The winds from the north are called Boreae, those from the south Noti.)

The course of winds is oblique: for though the evaporation rises straight up from the earth, they blow round it because all the surrounding air follows the motion of the heavens. Hence the question might be asked whether winds originate from above or from below. The motion comes from above: before we feel the wind blowing the air betrays its presence if there are clouds or a mist, for their motion shows that the wind has begun to blow before it has actually reached us; and this implies that the source of winds is above. But since wind is defined as 'a quantity of dry evaporation from the earth moving round the earth', it is clear that while the origin of the motion is from above, the matter and the generation of wind come from below. The oblique movement of the rising evaporation is caused from above: for the motion of the heavens determines the processes that are at a distance from the earth, and the motion from below is vertical and every cause is more active where it is nearest to the effect; but in its generation and origin wind plainly derives from the earth.

The facts bear out the view that winds are formed by the gradual union of many evaporations just as rivers derive their sources from the water that oozes from the earth. Every wind is weakest in the spot from which it blows; as they proceed and leave their source at a distance they gather strength. Thus the winter in the north is windless and calm: that is, in the north itself; but, the breeze that blows from there so gently as to escape observation becomes a great wind as it passes on.

We have explained the nature and origin of wind, the occurrence of drought and rains, the reason why rain stops wind and wind rises after rain, the prevalence of north and south winds and also why wind moves in the way it does.

5

The sun both checks the formation of winds and stimulates it. When the evaporation is small in amount and faint the sun wastes it and dissipates by its greater heat the lesser heat contained in the evaporation. It also dries up the earth, the source of the evaporation, before the latter has appeared in bulk: just as, when you throw a little fuel into a great fire, it is often burnt up before giving off any smoke. In these ways the sun checks winds and prevents them from rising at all: it checks them by wasting the evaporation, and prevents their rising by drying up the earth quickly. Hence calm is very apt to prevail about the rising of Orion and lasts until the coming of the Etesiae and their ‘forerunners’.

Calm is due to two causes. Either cold quenches the evaporation, for instance a sharp frost: or excessive heat wastes it. In the intermediate periods, too, the causes are generally either that the evaporation has not had time to develop or that it has passed away and there is none as yet to replace it.

Both the setting and the rising of Orion are considered to be treacherous and stormy, because they place at a change of season (namely of summer or winter; and because the size of the constellation makes its rise last over many days) and a state of change is always indefinite and therefore liable to disturbance.

The Etesiae blow after the summer solstice and the rising of the dog-star: not at the time when the sun is closest nor when it is distant; and they blow by day and cease at night. The reason is that when the sun is near it dries up the earth before evaporation has taken place, but when it has receded a little its heat and the evaporation are present in the right proportion; so the ice melts and the earth, dried by its own heat and that of the sun, smokes and vapours. They abate at night because the cold pf the nights checks the melting of the ice. What is frozen gives off no evaporation, nor does that which contains no dryness at all: it is only where something dry contains moisture that it gives off evaporation under the influence of heat.

The question is sometimes asked: why do the north winds which we call the Etesiae blow continuously after the summer solstice, when there are no corresponding south winds after the winter solstice? The facts are reasonable enough: for the so-called ‘white south winds’ do blow at the corresponding season, though they are not equally continuous and so escape observation and give rise to this inquiry. The reason for this is that the north wind I from the arctic regions which are full of water and snow. The sun thaws them and so the Etesiae blow: after rather than at the summer solstice. (For the greatest heat is developed not when the sun is nearest to the north, but when its heat has been felt for a considerable period and it has not yet receded far. The ‘bird winds’ blow in the same way after the winter solstice. They, too, are weak Etesiae, but they blow less and later than the Etesiae. They begin to blow only on the seventieth day because the sun is distant and therefore weaker. They do not blow so continuously because only things on the surface of the earth and offering little resistance evaporate then, the thoroughly frozen parts requiring greater heat to melt them. So they blow intermittently till the true Etesiae come on again at the summer solstice: for from that time onwards the wind tends to blow continuously.) But the south wind blows from the tropic of Cancer and not from the antarctic region.

There are two inhabitable sections of the earth: one near our upper, or nothern pole, the other near the other or southern pole; and their shape is like that of a tambourine. If you draw lines from the centre of the earth they cut out a drum-shaped figure. The lines form two cones; the base of the one is the tropic, of the other the ever visible circle, their vertex is at the centre of the earth. Two other cones towards the south pole give corresponding segments of the earth. These sections alone are habitable. Beyond the tropics no one can live: for there the shade would not fall to the north, whereas the earth is known to be uninhabitable before the sun is in the zenith or the shade is thrown to the south: and the regions below the Bear are uninhabitable because of the cold.

(The Crown, too, moves over this region: for it is in the zenith when it is on our meridian.)

So we see that the way in which they now describe the geography of the earth is ridiculous. They depict the inhabited earth as round, but both ascertained facts and general considerations show this to be impossible. If we reflect we see that the inhabited region is limited in breadth, while the climate admits of its extending all round the earth. For we meet with no excessive heat or cold in the direction of its length but only in that of its breadth; so that there is nothing to prevent our travelling round the earth unless the extent of the sea presents an obstacle anywhere. The records of journeys by sea and land bear this out. They make the length far greater than the breadth. If we compute these voyages and journeys the distance from the Pillars of Heracles to India exceeds that from Aethiopia to Maeotis and the northernmost Scythians by a ratio of more than 5 to 3, as far as such matters admit of accurate statement. Yet we know the whole breadth of the region we dwell in up to the uninhabited parts: in one direction no one lives because of the cold, in the other because of the heat.

But it is the sea which divides as it seems the parts beyond India from those beyond the Pillars of Heracles and prevents the earth from being inhabited all round.

Now since there must be a region bearing the same relation to the southern pole as the place we live in bears to our pole, it will clearly correspond in the ordering of its winds as well as in other things. So just as we have a north wind here, they must have a corresponding wind from the antarctic. This wind cannot reach us since our own north wind is like a land breeze and does not even reach the limits of the region we live in. The prevalence of north winds here is due to our lying near the north. Yet even here they give out and fail to penetrate far: in the southern sea beyond Libya east and west winds are always blowing alternately, like north and south winds with us. So it is clear that the south wind is not the wind that blows from the south pole. It is neither that nor the wind from the winter tropic. For symmetry would require another wind blowing from the summer tropic, which there is not, since we know that only one wind blows from that quarter. So the south wind clearly blows from the torrid region. Now the sun is so near to that region that it has no water, or snow which might melt and cause Etesiae. But because that place is far more extensive and open the south wind is greater and stronger and warmer than the north and penetrates farther to the north than the north wind does to the south.

The origin of these winds and their relation to one another has now been explained.

6

Let us now explain the position of the winds, their oppositions, which can blow simultaneously with which, and which cannot, their names and number, and any other of their affections that have not been treated in the 'particular questions'. What we say about their position must be followed with the help of the figure. For clearness' sake we have drawn the circle of the horizon, which is round, but it represents the zone in which we live; for that can be divided in the same way. Let us also begin by laying down that those things are locally contrary which are locally most distant from one another, just as things specifically most remote from one another are specific contraries. Now things that face one another from opposite ends of a diameter are locally most distant from one another. (See diagram.)

Let A be the point where the sun sets at the equinox and B, the point opposite, the place where it rises at the equinox. Let there be another diameter cutting this at right angles, and let the point H on it be the north and its diametrical opposite O the south. Let Z be the rising of the sun at the summer solstice and E its setting at the summer solstice; D its rising at the winter solstice, and G its setting at the winter solstice. Draw a diameter from Z to G from D to E. Then since those things are locally contrary which are most distant from one another in space, and points diametrically opposite are most distant from one another, those winds must necessarily be contrary to one another that blow from opposite ends of a diameter.

The names of the winds according to their position are these. Zephyrus is the wind that blows from A, this being the point where the sun sets at the equinox. Its contrary is Apeliotes blowing from B the point where the sun rises at the equinox. The wind blowing from H, the north, is the true north wind, called Aparctias: while Notus blowing from O is its contrary; for this point is the south and O is contrary to H, being diametrically opposite to it.

Caecias blows from Z, where the sun rises at the summer solstice. Its contrary is not the wind blowing from E but Lips blowing from G. For Lips blows from the point where the sun sets at the winter solstice and is diametrically opposite to Caecias: so it is its contrary. Eurus blows from D, coming from the point where the sun rises at the winter solstice. It borders on Notus, and so we often find that people speak of ‘Euro-Noti’. Its contrary is not Lips blowing from G but the wind that blows from E which some call Argestes, some Olympias, and some Sciron. This blows from the point where the sun sets at the summer solstice, and is the only wind that is diametrically opposite to Eurus. These are the winds that are diametrically opposite to one another and their contraries.

There are other winds which have no contraries. The wind they call Thrascias, which lies between Argestes and Aparctias, blows from I; and the wind called Meses, which lies between Caecias and Aparctias, from K. (The line IK nearly coincides with the ever visible circle, but not quite.) These winds have no contraries. Meses has not, or else there would be a wind blowing from the point M which is diametrically opposite. Thrascias corresponding to the point I has not, for then there would be a wind blowing from N, the point which is diametrically opposite. (But perhaps a local wind which the inhabitants of those parts call Phoenicias blows from that point.)

These are the most important and definite winds and these their places.

There are more winds from the north than from the south. The reason for this is that the region in which we live lies nearer to the north. Also, much more water and snow is pushed aside into this quarter because the other lies under the sun and its course. When this thaws and soaks into the earth and is exposed to the heat of the sun and the earth it necessarily causes evaporation to rise in greater quantities and over a greater space.

Of the winds we have described Aparctias is the north wind in the strict sense. Thrascias and Meses are north winds too. (Caecias is half north and half east.) South are that which blows from due south and Lips. East, the wind from the rising of the sun at the equinox and Eurus. Phoenicias is half south and half east. West, the wind from the true west and that called Argestes. More generally these winds are classified as northerly or southerly. The west winds are counted as northerly, for they blow from the place of sunset and are therefore colder; the east winds as southerly, for they are warmer because they blow from the place of sunrise. So the distinction of cold and hot or warm is the basis for the division of the winds into northerly and southerly. East winds are warmer than west winds because the sun shines on the east longer, whereas it leaves the west sooner and reaches it later.

Since this is the distribution of the winds it is clear that contrary winds cannot blow simultaneously. They are diametrically opposite to one another and one of the two must be overpowered and cease. Winds that are not diametrically opposite to one another may blow simultaneously: for instance the winds from Z and from D. Hence it sometimes happens that both of them, though different winds and blowing from different quarters, are favourable to sailors making for the same point.

Contrary winds commonly blow at opposite seasons. Thus Caecias and in general the winds north of the summer solstice blow about the time of the spring equinox, but about the autumn equinox Lips; and Zephyrus about the summer solstice, but about the winter solstice Eurus.

Aparctias, Thrascias, and Argestes are the winds that fall on others most and stop them. Their source is so close to us that they are greater and stronger than other winds. They bring fair weather most of all winds for the same reason, for, blowing as they do, from close at hand, they overpower the other winds and stop them; they also blow away the clouds that are forming and leave a clear sky-unless they happen to be very cold. Then they do not bring fair weather, but being colder than they are strong they condense the clouds before driving them away.

Caecias does not bring fair weather because it returns upon itself. Hence the saying: ‘Bringing it on himself as Caecias does clouds.’

When they cease, winds are succeeded by their neighbours in the direction of the movement of the sun. For an effect is most apt to be produced in the neighbourhood of its cause, and the cause of winds moves with the sun.

Contrary winds have either the same or contrary effects. Thus Lips and Caecias, sometimes called Hellespontias, are both rainy gestes and Eurus are dry: the latter being dry at first and rainy afterwards. Meses and Aparctias are coldest and bring most snow. Aparctias, Thrascias, and Argestes bring hail. Notus, Zephyrus, and Eurus are hot. Caecias covers the sky with heavy clouds, Lips with lighter ones. Caecias does this because it returns upon itself and combines the qualities of Boreas and Eurus. By being cold it condenses and gathers the vaporous air, and because it is easterly it carries with it and drives before it a great quantity of such matter. Aparctias, Thrascias, and

Argestes bring fair weather for the reason we have explained before. These winds and Meses are most commonly accompanied by lightning. They are cold because they blow from the north, and lightning is due to cold, being ejected when the clouds contract. Some of these same bring hail with them for the same reason; namely, that they cause a sudden condensation.

Hurricanes are commonest in autumn, and next in spring: Aparctias, Thrascias, and Argestes give rise to them most. This is because hurricanes are generally formed when some winds are blowing and others fall on them; and these are the winds which are most apt to fall on others that are blowing; the reason for which, too, we have explained before.

The Etesiae veer round: they begin from the north, and become for dwellers in the west Thrasciae, Argestae, and Zephyrus (for Zephyrus belongs to the north). For dwellers in the east they veer round as far as Apeliotes.

So much for the winds, their origin and nature and the properties common to them all or peculiar to each.

7

We must go on to discuss earthquakes next, for their cause is akin to our last subject.

The theories that have been put forward up to the present date are three, and their authors three men, Anaxagoras of Clazomenae, and before him Anaximenes of Miletus, and later Democritus of Abdera.

Anaxagoras says that the ether, which naturally moves upwards, is caught in hollows below the earth and so shakes it, for though the earth is really all of it equally porous, its surface is clogged up by rain. This implies that part of the whole sphere is ‘above’ and part ‘below’: ‘above’ being the part on which we live, ‘below’ the other.

This theory is perhaps too primitive to require refutation. It is absurd to think of up and down otherwise than as meaning that heavy bodies move to the earth from every quarter, and light ones, such as fire, away from it; especially as we see that, as far as our knowledge of the earth goes, the horizon always changes with a change in our position, which proves that the earth is convex and spherical. It is absurd, too, to maintain that the earth rests on the air because of its size, and then to say that impact upwards from below shakes it right through. Besides he gives no account of the circumstances attendant on earthquakes: for not every country or every season is subject to them.

Democritus says that the earth is full of water and that when a quantity of rain-water is added to this an earthquake is the result. The hollows in the earth being unable to admit the excess of water it forces its way in and so causes an earthquake. Or again, the earth as it dries draws the water from the fuller to the emptier parts, and the inrush of the water as it changes its place causes the earthquake.

Anaximenes says that the earth breaks up when it grows wet or dry, and earthquakes are due to the fall of these masses as they break away. Hence earthquakes take place in times of drought and again of heavy rain, since, as we have explained, the earth grows dry in time of drought and breaks up, whereas the rain makes it sodden and destroys its cohesion.

But if this were the case the earth ought to be found to be sinking in many places. Again, why do earthquakes frequently occur in places which are not excessively subject to drought or rain, as they ought to be on the theory? Besides, on this view, earthquakes ought always to be getting fewer, and should come to an end entirely some day: the notion of contraction by packing together implies this. So this is impossible the theory must be impossible too.

8

We have already shown that wet and dry must both give rise to an evaporation: earthquakes are a necessary consequence of this fact. The earth is essentially dry, but rain fills it with moisture. Then the sun and its own fire warm it and give rise to a quantity of wind both outside and inside it. This wind sometimes flows outwards in a single body, sometimes inwards, and sometimes it is divided. All these are necessary laws. Next we must find out what body has the greatest motive force. This will certainly be the body that naturally moves farthest and is most violent. Now that which has the most rapid motion is necessarily the most violent; for its swiftness gives its impact the greatest force. Again, the rarest body, that which can most readily pass through every other body, is that which naturally moves farthest. Wind satisfies these conditions in the highest degree (fire only becomes flame and moves rapidly when wind accompanies it): so that not water nor earth is the cause of earthquakes but wind-that is, the inrush of the external evaporation into the earth.

Hence, since the evaporation generally follows in a continuous body in the direction in which it first started, and either all of it flows inwards or all outwards, most earthquakes and the greatest are accompanied by calm. It is true that some take place when a wind is blowing, but this presents no difficulty. We sometimes find several winds blowing simultaneously. If one of these enters the earth we get an earthquake attended by wind. Only these earthquakes are less severe because their source and cause is divided.

Again, most earthquakes and the severest occur at night or, if by day, about noon, that being generally the calmest part of the day. For when the sun exerts its full power (as it does about noon) it shuts the evaporation into the earth. Night, too, is calmer than day. The absence of the sun makes the evaporation return into the earth like a sort of ebb tide, corresponding to the outward flow; especially towards dawn, for the winds, as a rule, begin to blow then, and if their source changes about like the Euripus and flows inwards the quantity of wind in the earth is greater and a more violent earthquake results.

The severest earthquakes take place where the sea is full of currents or the earth spongy and cavernous: so they occur near the Hellespont and in Achaea and Sicily, and those parts of Euboea which correspond to our description-where the sea is supposed to flow in channels below the earth. The hot springs, too, near Aedepsus are due to a cause of this kind. It is the confined character of these places that makes them so liable to earthquakes. A great and therefore violent wind is developed, which would naturally blow away from the earth: but the onrush of the sea in a great mass thrusts it back into the earth. The countries that are spongy below the surface are exposed to earthquakes because they have room for so much wind.

For the same reason earthquakes usually take place in spring and autumn and in times of wet and of drought-because these are the windiest seasons. Summer with its heat and winter with its frost cause calm: winter is too cold, summer too dry for winds to form. In time of drought the air is full of wind; drought is just the predominance of the dry over the moist evaporation. Again, excessive rain causes more of the evaporation to form in the earth. Then this secretion is shut up in a narrow compass and forced into a smaller space by the water that fills the cavities. Thus a great wind is compressed into a smaller space and so gets the upper hand, and then breaks out and beats against the earth and shakes it violently.

We must suppose the action of the wind in the earth to be analogous to the tremors and throbbings caused in us by the force of the wind contained in our bodies. Thus some earthquakes are a sort of tremor, others a sort of throbbing. Again, we must think of an earthquake as something like the tremor that often runs through the body after passing water as the wind returns inwards from without in one volume.

The force wind can have may be gathered not only from what happens in the air (where one might suppose that it owed its power to produce such effects to its volume), but also from what is observed in animal bodies. Tetanus and spasms are motions of wind, and their force is such that the united efforts of many men do not succeed in overcoming the movements of the patients. We must suppose, then (to compare great things with small), that what happens in the earth is just like that. Our theory has been verified by actual observation in many places. It has been known to happen that an earthquake has continued until the wind that caused it burst through the earth into the air and appeared visibly like a hurricane. This happened lately near Heracleia in Pontus and some time past at the island Hiera, one of the group called the Aeolian islands. Here a portion of the earth swelled up and a lump like a mound rose with a noise: finally it burst, and a great wind came out of it and threw up live cinders and ashes which buried the neighbouring town of Lipara and reached some of the towns in Italy. The spot where this eruption occurred is still to be seen.

Indeed, this must be recognized as the cause of the fire that is generated in the earth: the air is first broken up in small particles and then the wind is beaten about and so catches fire.

A phenomenon in these islands affords further evidence of the fact that winds move below the surface of the earth. When a south wind is going to blow there is a premonitory indication: a sound is heard in the places from which the eruptions issue. This is because the sea is being pushed on from a distance and its advance thrusts back into the earth the wind that was issuing from it. The reason why there is a noise and no earthquake is that the underground spaces are so extensive in proportion to the quantity of the air that is being driven on that the wind slips away into the void beyond.

Again, our theory is supported by the facts that the sun appears hazy and is darkened in the absence of clouds, and that there is sometimes calm and sharp frost before earthquakes at sunrise. The sun is necessarily obscured and darkened when the evaporation which dissolves and rarefies the air begins to withdraw into the earth. The calm, too, and the cold towards sunrise and dawn follow from the theory. The calm we have already explained. There must as a rule be calm because the wind flows back into the earth: again, it must be most marked before the more violent earthquakes, for when the wind is not part outside earth, part inside, but moves in a single body, its strength must be greater. The cold comes because the evaporation which is naturally and essentially hot enters the earth. (Wind is not recognized to be hot, because it sets the air in motion, and that is full of a quantity of cold vapour. It is the same with the breath we blow from our mouth: close by it is warm, as it is when we breathe out through the mouth, but there is so little of it that it is scarcely noticed, whereas at a distance it is cold for the same reason as wind.) Well, when this evaporation disappears into the earth the vaporous exhalation concentrates and causes cold in any place in which this disappearance occurs.

A sign which sometimes precedes earthquakes can be explained in the same way. Either by day or a little after sunset, in fine weather, a little, light, long-drawn cloud is seen, like a long very straight line. This is because the wind is leaving the air and dying down. Something analogous to this happens on the sea-shore. When the sea breaks in great waves the marks left on the sand are very thick and crooked, but when the sea is calm they are slight and straight (because the secretion is small). As the sea is to the shore so the wind is to the cloudy air; so, when the wind drops, this very straight and thin cloud is left, a sort of wave-mark in the air.

An earthquake sometimes coincides with an eclipse of the moon for the same reason. When the earth is on the point of being interposed, but the light and heat of the sun has not quite vanished from the air but is dying away, the wind which causes the earthquake before the eclipse, turns off into the earth, and calm ensues. For there often are winds before eclipses: at nightfall if the eclipse is at midnight, and at midnight if the eclipse is at dawn. They are caused by the lessening of the warmth from the moon when its sphere approaches the point at which the eclipse is going to take place. So the influence which restrained and quieted the air weakens and the air moves again and a wind rises, and does so later, the later the eclipse.

A severe earthquake does not stop at once or after a single shock, but first the shocks go on, often for about forty days; after that, for one or even two years it gives premonitory indications in the same place. The severity of the earthquake is determined by the quantity of wind and the shape of the passages through which it flows. Where it is beaten back and cannot easily find its way out the shocks are most violent, and there it must remain in a cramped space like water that cannot escape. Any throbbing in the body does not cease suddenly or quickly, but by degrees according as the affection passes off. So here the agency which created the evaporation and gave it an impulse to motion clearly does not at once exhaust the whole of the material from which it forms the wind which we call an earthquake. So until the rest of this is exhausted the shocks must continue, though more gently, and they must go on until there is too little of the evaporation left to have any perceptible effect on the earth at all.

Subterranean noises, too, are due to the wind; sometimes they portend earthquakes but sometimes they have been heard without any earthquake following. Just as the air gives off various sounds when it is struck, so it does when it strikes other things; for striking involves being struck and so the two cases are the same. The sound precedes the shock because sound is thinner and passes through things more readily than wind. But when the wind is too weak by reason of thinness to cause an earthquake the absence of a shock is due to its filtering through readily, though by striking hard and hollow masses of different shapes it makes various noises, so that the earth sometimes seems to ‘bellow’ as the portentmongers say.

Water has been known to burst out during an earthquake. But that does not make water the cause of the earthquake. The wind is the efficient cause whether it drives the water along the surface or up from below: just as winds are the causes of waves and not waves of winds. Else we might as well say that earth was the cause; for it is upset in an earthquake, just like water (for effusion is a form of upsetting). No, earth and water are material causes (being patients, not agents): the true cause is the wind.

The combination of a tidal wave with an earthquake is due to the presence of contrary winds. It occurs when the wind which is shaking the earth does not entirely succeed in driving off the sea which another wind is bringing on, but pushes it back and heaps it up in a great mass in one place. Given this situation it follows that when this wind gives way the whole body of the sea, driven on by the other wind, will burst out and overwhelm the land. This is what happened in Achaea. There a south wind was blowing, but outside a north wind; then there was a calm and the wind entered the earth, and then the tidal wave came on and simultaneously there was an earthquake. This was the more violent as the sea allowed no exit to the wind that had entered the earth, but shut it in. So in their struggle with one another the wind caused the earthquake, and the wave by its settling down the inundation.

Earthquakes are local and often affect a small district only; whereas winds are not local. Such phenomena are local when the evaporations at a given place are joined by those from the next and unite; this, as we explained, is what happens when there is drought or excessive rain locally. Now earthquakes do come about in this way but winds do not. For earthquakes, rains, and droughts have their source and origin inside the earth, so that the sun is not equally able to direct all the evaporations in one direction. But on the evaporations in the air the sun has more influence so that, when once they have been given an impulse by its motion, which is determined by its various positions, they flow in one direction.

When the wind is present in sufficient quantity there is an earthquake. The shocks are horizontal like a tremor; except occasionally, in a few places, where they act vertically, upwards from below, like a throbbing. It is the vertical direction which makes this kind of earthquake so rare. The motive force does not easily accumulate in great quantity in the position required, since the surface of the earth secretes far more of the evaporation than its depths. Wherever an earthquake of this kind does occur a quantity of stones comes to the surface of the earth (as when you throw up things in a winnowing fan), as we see from Sipylus and the Phlegraean plain and the district in Liguria, which were devastated by this kind of earthquake.

Islands in the middle of the sea are less exposed to earthquakes than those near land. First, the volume of the sea cools the evaporations and overpowers them by its weight and so crushes them. Then, currents and not shocks are produced in the sea by the action of the winds. Again, it is so extensive that evaporations do not collect in it but issue from it, and these draw the evaporations from the earth after them. Islands near the continent really form part of it: the intervening sea is not enough to make any difference; but those in the open sea can only be shaken if the whole of the sea that surrounds them is shaken too.

We have now explained earthquakes, their nature and cause, and the most important of the circumstances attendant on their appearance.

9

Let us go on to explain lightning and thunder, and further whirlwind, fire-wind, and thunderbolts: for the cause of them all is the same.

As we have said, there are two kinds of exhalation, moist and dry, and the atmosphere contains them both potentially. It, as we have said before, condenses into cloud, and the density of the clouds is highest at their upper limit. (For they must be denser and colder on the side where the heat escapes to the upper region and leaves them. This explains why hurricanes and thunderbolts and all analogous phenomena move downwards in spite of the fact that everything hot has a natural tendency upwards. Just as the pips that we squeeze between our fingers are heavy but often jump upwards: so these things are necessarily squeezed out away from the densest part of the cloud.) Now the heat that escapes disperses to the up region. But if any of the dry exhalation is caught in the process as the air cools, it is squeezed out as the clouds contract, and collides in its rapid course with the neighbouring clouds, and the sound of this collision is what we call thunder. This collision is analogous, to compare small with great, to the sound we hear in a flame which men call the laughter or the threat of Hephaestus or of Hestia. This occurs when the wood dries and cracks and the exhalation rushes on the flame in a body. So in the clouds, the exhalation is projected and its impact on dense clouds causes thunder: the variety of the sound is due to the irregularity of the clouds and the hollows that intervene where their density is interrupted. This then, is thunder, and this its cause.

It usually happens that the exhalation that is ejected is inflamed and burns with a thin and faint fire: this is what we call lightning, where we see as it were the exhalation coloured in the act of its ejection. It comes into existence after the collision and the thunder, though we see it earlier because sight is quicker than hearing. The rowing of triremes illustrates this: the oars are going back again before the sound of their striking the water reaches us.

However, there are some who maintain that there is actually fire in the clouds. Empedocles says that it consists of some of the sun’s rays which are intercepted: Anaxagoras that it is part of the upper ether (which he calls fire) which has descended from above. Lightning, then, is the gleam of this fire, and thunder the hissing noise of its extinction in the cloud.

But this involves the view that lightning actually is prior to thunder and does not merely appear to be so. Again, this intercepting of the fire is impossible on either theory, but especially it is said to be drawn down from the upper ether. Some reason ought to be given why that which naturally ascends should descend, and why it should not always do so, but only when it is cloudy. When the sky is clear there is no lightning: to say that there is, is altogether wanton.

The view that the heat of the sun's rays intercepted in the clouds is the cause of these phenomena is equally unattractive: this, too, is a most careless explanation. Thunder, lightning, and the rest must have a separate and determinate cause assigned to them on which they ensue. But this theory does nothing of the sort. It is like supposing that water, snow, and hail existed all along and were produced when the time came and not generated at all, as if the atmosphere brought each to hand out of its stock from time to time. They are concretions in the same way as thunder and lightning are discretions, so that if it is true of either that they are not generated but pre-exist, the same must be true of the other. Again, how can any distinction be made about the intercepting between this case and that of interception in denser substances such as water? Water, too, is heated by the sun and by fire: yet when it contracts again and grows cold and freezes no such ejection as they describe occurs, though it ought on their the. to take place on a proportionate scale. Boiling is due to the exhalation generated by fire: but it is impossible for it to exist in the water beforehand; and besides they call the noise 'hissing', not 'boiling'. But hissing is really boiling on a small scale: for when that which is brought into contact with moisture and is in process of being extinguished gets the better of it, then it boils and makes the noise in question. Some-Cleidemus is one of them-say that lightning is nothing objective but merely an appearance. They compare it to what happens when you strike the sea with a rod by night and the water is seen to shine. They say that the moisture in the cloud is beaten about in the same way, and that lightning is the appearance of brightness that ensues.

This theory is due to ignorance of the theory of reflection, which is the real cause of that phenomenon. The water appears to shine when struck because our sight is reflected from it to some bright object: hence the phenomenon occurs mainly by night: the appearance is not seen by day because the daylight is too in, tense and obscures it.

These are the theories of others about thunder and lightning: some maintaining that lightning is a reflection, the others that lightning is fire shining through the cloud and thunder its extinction, the fire not being generated in each case but existing beforehand. We say that the same stuff is wind on the earth, and earthquake under it, and in the clouds thunder. The essential constituent of all these phenomena is the same: namely, the dry exhalation. If it flows in one direction it is wind, in another it causes earthquakes; in the clouds, when they are in a process of change and contract and condense into water, it is ejected and causes thunder and lightning and the other phenomena of the same nature.

So much for thunder and lightning.

Book III

1

LET us explain the remaining operations of this secretion in the same way as we have treated the rest. When this exhalation is secreted in small and scattered quantities and frequently, and is transitory, and its constitution rare, it gives rise to thunder and lightning. But if it is secreted in a body and is denser, that is, less rare, we get a hurricane. The fact that it issues in body explains its violence: it is due to the rapidity of the secretion. Now when this secretion issues in a great and continuous current the result corresponds to what we get when the opposite development takes place and rain and a quantity of water are produced. As far as the matter from which they are developed goes both sets of phenomena are the same. As soon as a stimulus to the development of either potentiality appears, that of which there is the greater quantity present in the cloud is at once secreted from it, and there results either rain, or, if the other exhalation prevails, a hurricane.

Sometimes the exhalation in the cloud, when it is being secreted, collides with another under circumstances like those found when a wind is forced from an open into a narrow space in a gateway or a road. It often happens in such cases that the first part of the moving body is deflected because of the resistance due either to the narrowness or to a contrary current, and so the wind forms a circle and eddy. It is prevented from advancing in a straight line: at the same time it is pushed on from behind; so it is compelled to move sideways in the direction of least resistance. The same thing happens to the next part, and the next, and so on, till the series becomes one, that is, till a circle is formed: for if a figure is described by a single motion that figure must itself be one. This is how eddies are generated on the earth, and the case is the same in the clouds as far as the beginning of them goes. Only here (as in the case of the hurricane which shakes off the cloud without cessation and becomes a continuous wind) the cloud follows the exhalation unbroken, and the exhalation, failing to break away from the cloud because of its density, first moves in a circle for the reason given and then descends, because clouds are always densest on the side where the heat escapes. This phenomenon is called a whirlwind when it is colourless; and it is a sort of undigested hurricane. There is never a whirlwind when the weather is northerly, nor a hurricane when there is snow. The reason is that all these phenomena are ‘wind’, and wind is a dry and warm evaporation. Now frost and cold prevail over this principle and quench it at its birth: that they do prevail is clear or there could be no snow or northerly rain, since these occur when the cold does prevail.

So the whirlwind originates in the failure of an incipient hurricane to escape from its cloud: it is due to the resistance which generates the eddy, and it consists in the spiral which descends to the earth and drags with it the cloud which it cannot shake off. It moves things by its wind in the direction in which it is blowing in a straight line, and whirls round by its circular motion and forcibly snatches up whatever it meets.

When the cloud burns as it is drawn downwards, that is, when the exhalation becomes rarer, it is called a fire-wind, for its fire colours the neighbouring air and inflames it.

When there is a great quantity of exhalation and it is rare and is squeezed out in the cloud itself we get a thunderbolt. If the exhalation is exceedingly rare this rareness prevents the thunderbolt from scorching and the poets call it ‘bright’: if the rareness is less it does scorch and they call it ‘smoky’. The former moves rapidly because of its rareness, and because of its rapidity passes through an object before setting fire to it or dwelling on it so as to blacken it: the slower one does blacken the object, but passes through it before it can actually burn it. Further, resisting substances are affected, unresisting ones are not. For instance, it has happened that the bronze of a shield has been melted while the woodwork remained intact because its texture was so loose that the exhalation filtered through without affecting it. So it has passed through clothes, too, without burning them, and has merely reduced them to shreds.

Such evidence is enough by itself to show that the exhalation is at work in all these cases, but we sometimes get direct evidence as well, as in the case of the conflagration of the temple at Ephesus which we lately witnessed. There independent sheets of flame left the main fire and were carried bodily in many directions. Now that smoke is exhalation and that smoke burns is certain, and has been stated in another place before; but when the flame moves bodily, then we have ocular proof that smoke is exhalation. On this occasion what is seen in small fires appeared on a much larger scale because of the quantity of matter that was burning. The beams which were the source of the exhalation split, and a quantity of it rushed in a body from the place from which it issued forth and went up in a blaze: so that the flame was actually seen moving through the air away and falling on the houses. For we must recognize that exhalation accompanies and precedes thunderbolts though it is colourless and so invisible. Hence, where the thunderbolt is going to strike, the object moves before it is struck, showing that the exhalation leads the way and falls on the object first. Thunder, too, splits things not by its noise but because the exhalation that strikes the object and that which makes the noise are ejected simultaneously. This exhalation splits the thing it strikes but does not scorch it at all.

We have now explained thunder and lightning and hurricane, and further firewinds, whirlwinds, and thunderbolts, and shown that they are all of them forms of the same thing and wherein they all differ.

2

Let us now explain the nature and cause of halo, rainbow, mock suns, and rods, since the same account applies to them all.

We must first describe the phenomena and the circumstances in which each of them occurs. The halo often appears as a complete circle: it is seen round the sun and the moon and bright stars, by night as well as by day, and at midday or in the afternoon, more rarely about sunrise or sunset.

The rainbow never forms a full circle, nor any segment greater than a semicircle. At sunset and sunrise the circle is smallest and the segment largest: as the sun rises higher the circle is larger and the segment smaller. After the autumn equinox in the shorter days it is seen at every hour of the day, in the summer not about midday. There are never more than two rainbows at one time. Each of them is three-coloured; the colours are the same in both and their number is the same, but in the outer rainbow they are fainter and their position is reversed. In the inner rainbow the first and largest band is red; in the outer rainbow the band that is nearest to this one and smallest is of the same colour: the other bands correspond on the same principle. These are almost the only colours which painters cannot manufacture: for there are colours which they create by mixing, but no mixing will give red, green, or purple. These are the colours of the rainbow, though between the red and the green an orange colour is often seen.

Mock suns and rods are always seen by the side of the sun, not above or below it nor in the opposite quarter of the sky. They are not seen at night but always in the neighbourhood of the sun, either as it is rising or setting but more commonly towards sunset. They have scarcely ever appeared when the sun was on the meridian, though this once happened in Bosporus where two mock suns rose with the sun and followed it all through the day till sunset.

These are the facts about each of these phenomena: the cause of them all is the same, for they are all reflections. But they are different varieties, and are distinguished by the surface from which and the way in which the reflection to the sun or some other bright object takes place.

The rainbow is seen by day, and it was formerly thought that it never appeared by night as a moon rainbow. This opinion was due to the rarity of the occurrence: it was not observed, for though it does happen it does so rarely. The reason is that the colours are not so easy to see in the dark and that many other conditions must coincide, and all that in a single day in the month. For if there is to be one it must be at full moon, and then as the moon is either rising or setting. So we have only met with two instances of a moon rainbow in more than fifty years.

We must accept from the theory of optics the fact that sight is reflected from air and any object with a smooth surface just as it is from water; also that in some mirrors the forms of things are reflected, in others only their colours. Of the latter kind are those mirrors which are so small as to be indivisible for sense. It is impossible that the figure of a thing should be reflected in them, for if it is the mirror will be sensibly divisible since divisibility is involved in the notion of figure. But since something must be reflected in them and figure cannot be, it remains that colour alone should be reflected. The colour of a bright object sometimes appears bright in the reflection, but it sometimes, either owing to the admixture of the colour of the mirror or to weakness of sight, gives rise to the appearance of another colour.

However, we must accept the account we have given of these things in the theory of sensation, and take some things for granted while we explain others.

3

Let us begin by explaining the shape of the halo; why it is a circle and why it appears round the sun or the moon or one of the other stars: the explanation being in all these cases the same.

Sight is reflected in this way when air and vapour are condensed into a cloud and the condensed matter is uniform and consists of small parts. Hence in itself it is a sign of rain, but if it fades away, of fine weather, if it is broken up, of wind. For if it does not fade away and is not broken up but is allowed to attain its normal state, it is naturally a sign of rain since it shows that a process of condensation is proceeding which must, when it is carried to an end, result in rain. For the same reason these haloes are the darkest. It is a sign of wind when it is broken up because its breaking up is due to a wind which exists there but has not reached us. This view finds support in the fact that the wind blows from the quarter in which the main division appears in the halo. Its fading away is a sign of fine weather because if the air is not yet in a state to get the better of the heat it contains and proceed to condense into water, this shows that the moist vapour has not yet separated from the dry and firelike exhalation: and this is the cause of fine weather.

So much for the atmospheric conditions under which the reflection takes place. The reflection is from the mist that forms round the sun or the moon, and that is why the halo is not seen opposite the sun like the rainbow.

Since the reflection takes place in the same way from every point the result is necessarily a circle or a segment of a circle: for if the lines start from the same point and end at the same point and are equal, the points where they form an angle will always lie on a circle.

Let AGB and AZB and ADB be lines each of which goes from the point A to the point B and forms an angle. Let the lines AG, AZ, AD be equal and those at B, GB, ZB, DB equal too. (See diagram.)

Draw the line AEB. Then the triangles are equal; for their base AEB is equal. Draw perpendiculars to AEB from the angles; GE from G, ZE from Z, DE from D. Then these perpendiculars are equal, being in equal triangles. And they are all in one plane, being all at right angles to AEB and meeting at a single point E. So if you draw the line it will be a circle and E its centre. Now B is the sun, A the eye, and the circumference passing through the points GZD the cloud from which the line of sight is reflected to the sun.

The mirrors must be thought of as contiguous: each of them is too small to be visible, but their contiguity makes the whole made up of them all to seem one. The bright band is the sun, which is seen as a circle, appearing successively in each of the mirrors as a point indivisible to sense. The band of cloud next to it is black, its colour being intensified by contrast with the brightness of the halo. The halo is formed rather near the earth because that is calmer: for where there is wind it is clear that no halo can maintain its position.

Haloes are commoner round the moon because the greater heat of the sun dissolves the condensations of the air more rapidly.

Haloes are formed round stars for the same reasons, but they are not prognostic in the same way because the condensation they imply is so insignificant as to be barren.

4

We have already stated that the rainbow is a reflection: we have now to explain what sort of reflection it is, to describe its various concomitants, and to assign their causes.

Sight is reflected from all smooth surfaces, such as are air and water among others. Air must be condensed if it is to act as a mirror, though it often gives a reflection even uncondensed when the sight is weak. Such was the case of a man whose sight was faint and indistinct. He always saw an image in front of him and facing him as he walked. This was because his sight was reflected back to him. Its morbid condition made it so weak and delicate that the air close by acted as a mirror, just as distant and condensed air normally does, and his sight could not push it back. So promontories in the sea ‘loom’ when there is a south-east wind, and everything seems bigger, and in a mist, too, things seem bigger: so, too, the sun and the stars seem bigger when rising and setting than on the meridian. But things are best reflected from water, and even in process of formation it is a better mirror than air, for each of the particles, the union of which constitutes a raindrop, is necessarily a better mirror than mist. Now it is obvious and has already been stated that a mirror of this kind renders the colour of an object only, but not its shape. Hence it follows that when it is on the point of raining and the air in the clouds is in process of forming into raindrops but the rain is not yet actually there, if the sun is opposite, or any other object bright enough to make the cloud a mirror and cause the sight to be reflected to the object then the reflection must render the colour of the object without its shape. Since each of the mirrors is so small as to be invisible and what we see is the continuous magnitude made up of them all, the reflection necessarily gives us a continuous magnitude made up of one colour; each of the mirrors contributing the same colour to the whole. We may deduce that since these conditions are realizable there will be an appearance due to reflection whenever the sun and the cloud are related in the way described and we are between them. But these are just the conditions under which the rainbow appears. So it is clear that the rainbow is a reflection of sight to the sun.

So the rainbow always appears opposite the sun whereas the halo is round it. They are both reflections, but the rainbow is distinguished by the variety of its colours. The reflection in the one case is from water which is dark and from a distance; in the other from air which is nearer and lighter in colour. White light through a dark medium or on a dark surface (it makes no difference) looks red. We know how red the flame of green wood is: this is because so much smoke is mixed with the bright white firelight: so, too, the sun appears red through smoke and mist. That is why in the rainbow reflection the outer circumference is red (the reflection being from small particles of water), but not in the case of the halo. The other colours shall be explained later. Again, a condensation of this kind cannot persist in the neighbourhood of the sun: it must either turn to rain or be dissolved, but opposite to the sun there is an interval during which the water is formed. If there were not this distinction haloes would be coloured like the rainbow. Actually no complete or circular halo presents this colour, only small and fragmentary appearances called ‘rods’. But if a haze due to water or any other dark substance formed there we should have had, as we maintain, a complete rainbow like that which we do find lamps. A rainbow appears round these in winter, generally with southerly winds. Persons whose eyes are moist see it most clearly because their sight is weak and easily reflected. It is due to the moistness of the air and the soot which the flame gives off and which mixes with the air and makes it a mirror, and to the blackness which that mirror derives from the smoky nature of the soot. The light of the lamp appears as a circle which is not white but purple. It shows the colours of the rainbow; but because the sight that is reflected is too weak and the mirror too dark, red is absent. The rainbow that is seen when oars are raised out of the sea involves the same relative positions as that in the sky, but its colour is more like that round the lamps, being purple rather than red. The reflection is from very small particles continuous with one another, and in this case the particles are fully formed water. We get a rainbow, too, if a man sprinkles fine drops in a room turned to the sun so that the sun is shining in part of the room and throwing a shadow in the rest. Then if one man sprinkles in the room, another, standing outside, sees a rainbow where the sun's rays cease and make the shadow. Its nature and colour is like that from the oars and its cause is the same, for the sprinkling hand corresponds to the oar.

That the colours of the rainbow are those we described and how the other colours come to appear in it will be clear from the following considerations. We must recognize, as we have said, and lay down: first, that white colour on a black surface or seen through a black medium gives red; second, that sight when strained to a distance becomes weaker and less; third, that black is in a sort the negation of sight: an object is black because sight fails; so everything at a distance looks blacker, because sight does not reach it. The theory of these matters belongs to the account of the senses, which are the proper subjects of such an inquiry; we need only state about them what is necessary for us. At all events, that is the reason why distant objects and objects seen in a mirror look darker and smaller and smoother, why the reflection of clouds in water is darker than the clouds themselves. This latter is clearly the case: the reflection diminishes the sight that reaches them. It makes no difference whether the change is in the object seen or. in the sight, the result being in either case the same. The following fact further is worth noticing. When there is a cloud near the sun and we look at it does not look coloured at all but white, but when we look at the same cloud in water it shows a trace of rainbow colouring. Clearly, then, when sight is reflected it is weakened and, as it makes dark look darker, so it makes white look less white, changing it and bringing it nearer to black. When the sight is relatively strong the change is to red; the next stage is green, and a further degree of weakness gives violet. No further change is visible, but three completes the series of colours (as we find three does in most other things), and the change into the rest is imperceptible to sense. Hence also the rainbow appears with three colours; this is true of each of the two, but in a contrary way. The outer band of the primary rainbow is red: for the largest band reflects most sight to the sun, and the outer band is largest. The middle band and the third go on the same principle. So if the principles we laid down about the appearance of colours are true the rainbow necessarily has three colours, and these three and no others. The appearance of yellow is due to contrast, for the red is whitened by its juxtaposition with green. We can see this from the fact that the rainbow is purest when the cloud is blackest; and then the red shows most yellow. (Yellow in the rainbow comes between red and green.) So the whole of the red shows white by contrast with the blackness of the cloud around: for it is white compared to the cloud and the green. Again, when the rainbow is fading away and the red is dissolving, the white cloud is brought into contact with the green and becomes yellow. But the moon rainbow affords the best instance of this colour contrast. It looks quite white: this is because it appears on the dark cloud and at night. So, just as fire is intensified by added fire, black beside black makes that which is in some degree white look quite white. Bright dyes too show the effect of contrast. In woven and embroidered stuffs the appearance of colours is profoundly affected by their juxtaposition with one another (purple, for instance, appears different on white and on black wool), and also by differences of illumination. Thus embroiderers say that they often make mistakes in their colours when they work by lamplight, and use the wrong ones.

We have now shown why the rainbow has three colours and that these are its only colours. The same cause explains the double rainbow and the faintness of the colours in the outer one and their inverted order. When sight is strained to a great distance the appearance of the distant object is affected in a certain way: and the same thing holds good here. So the reflection from the outer rainbow is weaker because it takes place from a greater distance and less of it reaches the sun, and so the colours seen are fainter. Their order is reversed because more reflection reaches the sun from the smaller, inner band. For that reflection is nearer to our sight which is reflected from the band which is nearest to the primary rainbow. Now the smallest band in the outer rainbow is that which is nearest, and so it will be red; and the second and the third will follow the same principle. Let B be the outer rainbow, A the inner one; let R stand for the red colour, G for green, V for violet; yellow appears at the point Y. Three rainbows or more are not found because even the second is fainter, so that the third reflection can have no strength whatever and cannot reach the sun at all. (See diagram.)

The rainbow can never be a circle nor a segment of a circle greater than a semicircle. The consideration of the diagram will prove this and the other properties of the rainbow. (See diagram.)

Let A be a hemisphere resting on the circle of the horizon, let its centre be K and let H be another point appearing on the horizon. Then, if the lines that fall in a cone from K have HK as their axis, and, K and M being joined, the lines KM are reflected from the hemisphere to H over the greater angle, the lines from K will fall on the circumference of a circle. If the reflection takes place when the luminous body is rising or setting the segment of the circle above the earth which is cut off by the horizon will be a semi-circle; if the luminous body is above the horizon it will always be less than a semicircle, and it will be smallest when the luminous body culminates. First let the luminous body be appearing on the horizon at the point H, and let KM be reflected to H, and let the plane in which A is, determined by the triangle HKM, be produced. Then the section of the sphere will be a great circle. Let it be A (for it makes no difference which of the planes passing through the line HK and determined by the triangle KMH is produced). Now the lines drawn from H and K to a point on the semicircle A are in a certain ratio to one another, and no lines drawn from the same points to another point on that semicircle can have the same ratio. For since both the points H and K and the line KH are given, the line MH will be given too; consequently the ratio of the line MH to the line MK will be given too. So M will touch a given circumference. Let this be NM. Then the intersection of the circumferences is given, and the same ratio cannot hold between lines in the same plane drawn from the same points to any other circumference but MN.

Draw a line DB outside of the figure and divide it so that D:B=MH:MK. But MH is greater than MK since the reflection of the cone is over the greater angle (for it subtends the greater angle of the triangle KMH). Therefore D is greater than B. Then add to B a line Z such that B+Z:D=D:B. Then make another line having the same ratio to B as KH has to Z, and join MI.

Then I is the pole of the circle on which the lines from K fall. For the ratio of D to IM is the same as that of Z to KH and of B to KI. If not, let D be in the same ratio to a line indifferently lesser or greater than IM, and let this line be IP. Then HK and KI and IP will have the same ratios to one another as Z, B, and D. But the ratios between Z, B, and D were such that Z+B:D=D: B. Therefore IH:IP=IP:IK. Now, if the points K, H be joined with the point P by the lines HP, KP, these lines will be to one another as IH is to IP, for the sides of the triangles HIP, KPI about the angle I are homologous. Therefore, HP too will be to KP as HI is to IP. But this is also the ratio of MH to MK, for the ratio both of HI to IP and of MH to MK is the same as that of D to B. Therefore, from the points H, K there will have been drawn lines with the same ratio to one another, not only to the circumference MN but to another point as well, which is impossible. Since then D cannot bear that ratio to any line either lesser or greater than IM (the proof being in either case the same), it follows that it must stand in that ratio to MI itself. Therefore as MI is to IK so IH will be to MI and finally MH to MK.

If, then, a circle be described with I as pole at the distance MI it will touch all the angles which the lines from H and K make by their reflection. If not, it can be shown, as before, that lines drawn to different points in the semicircle will have the same ratio to one another, which was impossible. If, then, the semicircle A be revolved about the diameter HKI, the lines reflected from the points H, K at the point M will have the same ratio, and will make the angle KMH equal, in every plane. Further, the angle which HM and MI make with HI will always be the same. So there are a number of triangles on HI and KI equal to the triangles HMI and KMI. Their perpendiculars will fall on HI at the same point and will be equal. Let O be the point on which they fall. Then O is the centre of the circle, half of which, MN, is cut off by the horizon. (See diagram.)

Next let the horizon be ABG but let H have risen above the horizon. Let the axis now be HI. The proof will be the same for the rest as before, but the pole I of the circle will be below the horizon AG since the point H has risen above the horizon. But the pole, and the centre of the circle, and the centre of that circle (namely HI) which now determines the position of the sun are on the same line. But since KH lies above the diameter AG, the centre will be at O on the line KI below the plane of the circle AG determined the position of the sun before. So the segment YX which is above the horizon will be less than a semicircle. For YXM was a semicircle and it has now been cut off by the horizon AG. So part of it, YM, will be invisible when the sun has risen above the horizon, and the segment visible will be smallest when the sun is on the meridian; for the higher H is the lower the pole and the centre of the circle will be.

In the shorter days after the autumn equinox there may be a rainbow at any time of the day, but in the longer days from the spring to the autumn equinox there cannot be a rainbow about midday. The reason for this is that when the sun is north of the equator the visible arcs of its course are all greater than a semicircle, and go on increasing, while the invisible arc is small, but when the sun is south of the equator the visible arc is small and the invisible arc great, and the farther the sun moves south of the equator the greater is the invisible arc. Consequently, in the days near the summer solstice, the size of the visible arc is such that before the point H reaches the middle of that arc, that is its point of culmination, the point is well below the horizon; the reason for this being the great size of the visible arc, and the consequent distance of the point of culmination from the earth. But in the days near the winter solstice the visible arcs are small, and the contrary is necessarily the case: for the sun is on the meridian before the point H has risen far.

6

Mock suns, and rods too, are due to the causes we have described. A mock sun is caused by the reflection of sight to the sun. Rods are seen when sight reaches the sun under circumstances like those which we described, when there are clouds near the sun and sight is reflected from some liquid surface to the cloud. Here the clouds themselves are colourless when you look at them directly, but in the water they are full of rods. The only difference is that in this latter case the colour of the cloud seems to reside in the water, but in the case of rods on the cloud itself. Rods appear when the composition of the cloud is uneven, dense in part and in part rare, and more and less watery in different parts. Then the sight is reflected to the sun: the mirrors are too small for the shape of the sun to appear, but, the bright white light of the sun, to which the sight is reflected, being seen on the uneven mirror, its colour appears partly red, partly green or yellow. It makes no difference whether sight passes through or is reflected from a medium of that kind; the colour is the same in both cases; if it is red in the first case it must be the same in the other.

Rods then are occasioned by the unevenness of the mirror-as regards colour, not form. The mock sun, on the contrary, appears when the air is very uniform, and of the same density throughout. This is why it is white: the uniform character of the mirror gives the reflection in it a single colour, while the fact that the sight is reflected in a body and is thrown on the sun all together by the mist, which is dense and watery though not yet quite water, causes the sun's true colour to appear just as it does when the reflection is from the dense, smooth surface of copper. So the sun's colour being white, the mock sun is white too. This, too, is the reason why the mock sun is a surer sign of rain than the rods; it indicates, more than they do, that the air is ripe for the production of water. Further a mock sun to the south is a surer sign of rain than one to the north, for the air in the south is readier to turn into water than that in the north.

Mock suns and rods are found, as we stated, about sunset and sunrise, not above the sun nor below it, but beside it. They are not found very close to the sun, nor very far from it, for the sun dissolves the cloud if it is near, but if it is far off the reflection cannot take place, since sight weakens when it is reflected from a small mirror to a very distant object. (This is why a halo is never found opposite to the sun.) If the cloud is above the sun and close to it the sun will dissolve it; if it is above the sun but at a distance the sight is too weak for the reflection to take place, and so it will not reach the sun. But at the side of the sun, it is possible for the mirror to be at such an interval that the sun does not dissolve the cloud, and yet sight reaches it undiminished because it moves close to the earth and is not dissipated in the immensity of space. It cannot subsist below the sun because close to the earth the sun's rays would dissolve it, but if it were high up and the sun in the middle of the heavens, sight would be dissipated. Indeed, even by the side of the sun, it is not found when the sun is in the middle of the sky, for then the line of vision is not close to the earth, and so but little sight reaches the mirror and the reflection from it is altogether feeble.

Some account has now been given of the effects of the secretion above the surface of the earth; we must go on to describe its operations below, when it is shut up in the parts of the earth.

Just as its twofold nature gives rise to various effects in the upper region, so here it causes two varieties of bodies. We maintain that there are two exhalations, one vaporous the other smoky, and there correspond two kinds of bodies that originate in the earth, 'fossiles' and metals. The heat of the dry exhalation is the cause of all ‘fossiles’. Such are the kinds of stones that cannot be melted, and realgar, and ochre, and ruddle, and sulphur, and the other things of that kind, most ‘fossiles’ being either coloured lye or, like cinnabar, a stone compounded of it. The vaporous exhalation is the cause of all metals, those bodies which are either fusible or malleable such as iron, copper, gold. All these originate from the imprisonment of the vaporous exhalation in the earth, and especially in stones. Their dryness compresses it, and it congeals just as dew or hoar-frost does when it has been separated off, though in the present case the metals are generated before that segregation occurs. Hence, they are water in a sense, and in a sense not. Their matter was that which might have become water, but it can no longer do so: nor are they, like savours, due to a qualitative change in actual water. Copper and gold are not formed like that, but in every case the evaporation congealed before water was formed. Hence, they all (except gold) are affected by fire, and they possess an admixture of earth; for they still contain the dry exhalation.

This is the general theory of all these bodies, but we must take up each kind of them and discuss it separately.

Book IV

1

WE have explained that the qualities that constitute the elements are four, and that their combinations determine the number of the elements to be four.

Two of the qualities, the hot and the cold, are active; two, the dry and the moist, passive. We can satisfy ourselves of this by looking at instances. In every case heat and cold determine, conjoin, and change things of the same kind and things of different kinds, moistening, drying, hardening, and softening them. Things dry and moist, on the other hand, both in isolation and when present together in the same body are the subjects of that determination and of the other affections enumerated. The account we give of the qualities when we define their character shows this too. Hot and cold we describe as active, for 'congregating' is essentially a species of 'being active': moist and dry are passive, for it is in virtue of its being acted upon in a certain way that a thing is said to be 'easy to determine' or 'difficult to determine'. So it is clear that some of the qualities are active and some passive.

Next we must describe the operations of the active qualities and the forms taken by the passive. First of all, true becoming, that is, natural change, is always the work of these powers and so is the corresponding natural destruction; and this becoming and this destruction are found in plants and animals and their parts. True natural becoming is a change introduced by these powers into the matter underlying a given thing when they are in a certain ratio to that matter, which is the passive qualities we have mentioned. When the hot and the cold are masters of the matter they generate a thing: if they are not, and the failure is partial, the object is imperfectly boiled or otherwise unconcocted. But the strictest general opposite of true becoming is putrefaction. All natural destruction is on the way to it, as are, for instance, growing old or growing dry. Putrescence is the end of all these things, that is of all natural objects, except such as are destroyed by violence: you can burn, for instance, flesh, bone, or anything else, but the natural course of their destruction ends in putrefaction. Hence things that putrefy begin by being moist and end by being dry. For the moist and the dry were their matter, and the operation of the active qualities caused the dry to be determined by the moist.

Destruction supervenes when the determined gets the better of the determining by the help of the environment (though in a special sense the word putrefaction is applied to partial destruction, when a thing's nature is perverted). Hence everything, except fire, is liable to putrefy; for earth, water, and air putrefy, being all of them matter relatively to fire. The definition of putrefaction is: the destruction of the peculiar and natural heat in any moist subject by external heat, that is, by the heat of the environment. So since lack of heat is the ground of this affection and everything in as far as it lacks heat is cold, both heat and cold will be the causes of putrefaction, which will be due indifferently to cold in the putrefying subject or to heat in the environment.

This explains why everything that putrefies grows drier and ends by becoming earth or dung. The subject's own heat departs and causes the natural moisture to evaporate with it, and then there is nothing left to draw in moisture, for it is a thing's peculiar heat that attracts moisture and draws it in. Again, putrefaction takes place less in cold that in hot seasons, for in winter the surrounding air and water contain but little heat and it has no power, but in summer there is more. Again, what is frozen does not putrefy, for its cold is greater that the heat of the air and so is not mastered, whereas what affects a thing does master it. Nor does that which is boiling or hot putrefy, for the heat in the air being less than that in the object does not prevail over it or set up any change. So too anything that is flowing or in motion is less apt to putrefy than a thing at rest, for the motion set up by the heat in the air is weaker than that pre-existing in the object, and so it causes no change. For the same reason a great quantity of a thing putrefies less readily than a little, for the greater quantity contains too much proper fire and cold for the corresponding qualities in the environment to get the better of. Hence, the sea putrefies quickly when broken up into parts, but not as a whole; and all other waters likewise. Animals too are generated in putrefying bodies, because the heat that has been secreted, being natural, organizes the particles secreted with it.

So much for the nature of becoming and of destruction.

2

We must now describe the next kinds of processes which the qualities already mentioned set up in actually existing natural objects as matter.

Of these concoction is due to heat; its species are ripening, boiling, broiling. Inconcoction is due to cold and its species are rawness, imperfect boiling, imperfect broiling. (We must recognize that the things are not properly denoted by these words: the various classes of similar objects have no names universally applicable to them; consequently we must think of the species enumerated as being not what those words denote but something like it.) Let us say what each of them is. Concoction is a process in which the natural and proper heat of an object perfects the corresponding passive qualities, which are the proper matter of any given object. For when concoction has taken place we say that a thing has been perfected and has come to be itself. It is the proper heat of a thing that sets up this perfecting, though external influences may contribute in some degrees to its fulfilment. Baths, for instance, and other things of the kind contribute to the digestion of food, but the primary cause is the proper heat of the body. In some cases of concoction the end of the process is the nature of the thing-nature, that is, in the sense of the formal cause and essence. In other cases it leads to some presupposed state which is attained when the moisture has acquired certain properties or a certain magnitude in the process of being broiled or boiled or of putrefying, or however else it is being heated. This state is the end, for when it has been reached the thing has some use and we say that concoction has taken place. Must is an instance of this, and the matter in boils when it becomes purulent, and tears when they become rheum, and so with the rest.

Concoction ensues whenever the matter, the moisture, is mastered. For the matter is what is determined by the heat connatural to the object, and as long as the ratio between them exists in it a thing maintains its nature. Hence things like the liquid and solid excreta and ejecta in general are signs of health, and concoction is said to have taken place in them, for they show that the proper heat has got the better of the indeterminate matter.

Things that undergo a process of concoction necessarily become thicker and hotter, for the action of heat is to make things more compact, thicker, and drier.

This then is the nature of concoction: but inconcoction is an imperfect state due to lack of proper heat, that is, to cold. That of which the imperfect state is, is the corresponding passive qualities which are the natural matter of anything.

So much for the definition of concoction and inconcoction.

3

Ripening is a sort of concoction; for we call it ripening when there is a concoction of the nutriment in fruit. And since concoction is a sort of perfecting, the process of ripening is perfect when the seeds in fruit are able to reproduce the fruit in which they are found; for in all other cases as well this is what we mean by ‘perfect’. This is what ‘ripening’ means when the word is applied to fruit. However, many other things that have undergone concoction are said to be ‘ripe’, the general character of the process being the same, though the word is applied by an extension of meaning. The reason for this extension is, as we explained before, that the various modes in which natural heat and cold perfect the matter they determine have not special names appropriated to them. In the case of boils and phlegm, and the like, the process of ripening is the concoction of the moisture in them by their natural heat, for only that which gets the better of matter can determine it. So everything that ripens is condensed from a spirituous into a watery state, and from a watery into an earthy state, and in general from being rare becomes dense. In this process the nature of the thing that is ripening incorporates some of the matter in itself, and some it rejects. So much for the definition of ripening.

Rawness is its opposite and is therefore an imperfect concoction of the nutriment in the fruit, namely, of the undetermined moisture. Consequently a raw thing is either spirituous or watery or contains both spirit and water. Ripening being a kind of perfecting, rawness will be an imperfect state, and this state is due to a lack of natural heat and its disproportion to the moisture that is undergoing the process of ripening. (Nothing moist ripens without the admixture of some dry matter: water alone of liquids does not thicken.) This disproportion may be due either to defect of heat or to excess of the matter to be determined: hence the juice of raw things is thin, cold rather than hot, and unfit for food or drink. Rawness, like ripening, is used to denote a variety of states. Thus the liquid and solid excreta and catarrhs are called raw for the same reason, for in every case the word is applied to things because their heat has not got the mastery in them and compacted them. If we go further, brick is called raw and so is milk and many other things too when they are such as to admit of being changed and compacted by heat but have remained unaffected. Hence, while we speak of ‘boiled’ water, we cannot speak of raw water, since it does not thicken. We have now defined ripening and rawness and assigned their causes.

Boiling is, in general, a concoction by moist heat of the indeterminate matter contained in the moisture of the thing boiled, and the word is strictly applicable only to things boiled in the way of cooking. The indeterminate matter, as we said, will be either spirituous or watery. The cause of the concoction is the fire contained in the moisture; for what is cooked in a frying-pan is broiled: it is the heat outside that affects it and, as for the moisture in which it is contained, it dries this up and draws it into itself. But a thing that is being boiled behaves in the opposite way: the moisture contained in it is drawn out of it by the heat in the liquid outside. Hence boiled meats are drier than broiled; for, in boiling, things do not draw the moisture into themselves, since the external heat gets the better of the internal: if the internal heat had got the better it would have drawn the moisture to itself. Not every body admits of the process of boiling: if there is no moisture in it, it does not (for instance, stones), nor does it if there is moisture in it but the density of the body is too great for it-to-be mastered, as in the case of wood. But only those bodies can be boiled that contain moisture which can be acted on by the heat contained in the liquid outside. It is true that gold and wood and many other things are said to be ‘boiled’: but this is a stretch of the meaning of the word, though the kind of thing intended is the same, the reason for the usage being that the various cases have no names appropriated to them. Liquids too, like milk and must, are said to undergo a process of ‘boiling’ when the external fire that surrounds and heats them changes the savour in the liquid into a given form, the process being thus in a way like what we have called boiling.

The end of the things that undergo boiling, or indeed any form of concoction, is not always the same: some are meant to be eaten, some drunk, and some are intended for other uses; for instance dyes, too, are said to be ‘boiled’.

All those things then admit of ‘boiling’ which can grow denser, smaller, or heavier; also those which do that with a part of themselves and with a part do the opposite, dividing in such a way that one portion thickens while the other grows thinner, like milk when it divides into whey and curd. Oil by itself is affected in none of these ways, and therefore cannot be said to admit of ‘boiling’. Such then is the pfcies of concoction known as ‘boiling’, and the process is the same in an artificial and in a natural instrument, for the cause will be the same in every case.

Imperfect boiling is the form of inconcoction opposed to boiling. Now the opposite of boiling properly so called is an inconcoction of the undetermined matter in a body due to lack of heat in the surrounding liquid. (Lack of heat implies, as we have pointed out, the presence of cold.) The motion which causes imperfect boiling is different from that which causes boiling, for the heat which operates the concoction is driven out. The lack of heat is due either to the amount of cold in the liquid or to the quantity of moisture in the object undergoing the process of boiling. Where either of these conditions is realized the heat in the surrounding liquid is too great to have no effect at all, but too small to carry out the process of concocting uniformly and thoroughly. Hence things are harder when they are imperfectly boiled than when they are boiled, and the moisture in them more distinct from the solid parts. So much for the definition and causes of boiling and imperfect boiling.

Broiling is concoction by dry foreign heat. Hence if a man were to boil a thing but the change and concoction in it were due, not to the heat of the liquid but to that of the fire, the thing will have been broiled and not boiled when the process has been carried to completion: if the process has gone too far we use the word ‘scorched’ to describe it. If the process leaves the thing drier at the end the agent has been dry heat. Hence the outside is drier than the inside, the opposite being true of things boiled. Where the process is artificial, broiling is more difficult than boiling, for it is difficult to heat the inside and the outside uniformly, since the parts nearer to the fire are the first to get dry and consequently get more intensely dry. In this way the outer pores contract and the moisture in the thing cannot be secreted but is shut in by the closing of the pores. Now broiling and boiling are artificial processes, but the same general kind of thing, as we said, is found in nature too. The affections produced are similar though they lack a name; for art imitates nature. For instance, the concoction of food in the body is like boiling, for it takes place in a hot and moist medium and the agent is the heat of the body.

So, too, certain forms of indigestion are like imperfect boiling. And it is not true that animals are generated in the concoction of food, as some say. Really they are generated in the excretion which putrefies in the lower belly, and they ascend afterwards. For concoction goes on in the upper belly but the excretion putrefies in the lower: the reason for this has been explained elsewhere.

We have seen that the opposite of boiling is imperfect boiling: now there is something correspondingly opposed to the species of concoction called broiling, but it is more difficult to find a name for it. It would be the kind of thing that would happen if there were imperfect broiling instead of broiling proper through lack of heat due to deficiency in the external fire or to the quantity of water in the thing undergoing the process. For then we should get too much heat for no effect to be produced, but too little for concoction to take place.

We have now explained concoction and inconcoction, ripening and rawness, boiling and broiling, and their opposites.

4

We must now describe the forms taken by the passive qualities the moist and the dry. The elements of bodies, that is, the passive ones, are the moist and the dry; the bodies themselves are compounded of them and whichever predominates determines the nature of the body; thus some bodies partake more of the dry, others of the moist. All the forms to be described will exist either actually, or potentially and in their opposite: for instance, there is actual melting and on the other hand that which admits of being melted.

Since the moist is easily determined and the dry determined with difficulty, their relation to one another is like that of a dish and its condiments. The moist is what makes the dry determinable, and each serves as a sort of glue to the other-as Empedocles said in his poem on Nature, ‘glueing meal together by means of water.’ Thus the determined body involves them both. Of the elements earth is especially representative of the dry, water of the moist, and therefore all determinate bodies in our world involve earth and water. Every body shows the quality of that element which predominates in it. It is because earth and water are the material elements of all bodies that animals live in them alone and not in air or fire.

Of the qualities of bodies hardness and softness are those which must primarily belong to a determined thing, for anything made up of the dry and the moist is necessarily either hard or soft. Hard is that the surface of which does not yield into itself; soft that which does yield but not by interchange of place: water, for instance, is not soft, for its surface does not yield to pressure or sink in but there is an interchange of place. Those things are absolutely hard and soft which satisfy the definition absolutely, and those things relatively so which do so compared with another thing. Now relatively to one another hard and soft are indefinable, because it is a matter of degree, but since all the objects of sense are determined by reference to the faculty of sense it is clearly the relation to touch which determines that which is hard and soft absolutely, and touch is that which we use as a standard or mean. So we call that which exceeds it hard and that which falls short of it soft.

5

A body determined by its own boundary must be either hard or soft; for it either yields or does not.

It must also be concrete: or it could not be so determined. So since everything that is determined and solid is either hard or soft and these qualities are due to concretion, all composite and determined bodies must involve concretion. Concretion therefore must be discussed.

Now there are two causes besides matter, the agent and the quality brought about, the agent being the efficient cause, the quality the formal cause. Hence concretion and disaggregation, drying and moistening, must have these two causes.

But since concretion is a form of drying let us speak of the latter first.

As we have explained, the agent operates by means of two qualities and the patient is acted on in virtue of two qualities: action takes place by means of heat or cold, and the quality is produced either by the presence or by the absence of heat or cold; but that which is acted upon is moist or dry or a compound of both. Water is the element characterized by the moist, earth that characterized by the dry, for these among the elements that admit the qualities moist and dry are passive. Therefore cold, too, being found in water and earth (both of which we recognize to be cold), must be reckoned rather as a passive quality. It is active only as contributing to destruction or incidentally in the manner described before; for cold is sometimes actually said to burn and to warm, but not in the same way as heat does, but by collecting and concentrating heat.

The subjects of drying are water and the various watery fluids and those bodies which contain water either foreign or connatural. By foreign I mean like the water in wool, by connatural, like that in milk. The watery fluids are wine, urine, whey, and in general those fluids which have no sediment or only a little, except where this absence of sediment is due to viscosity. For in some cases, in oil and pitch for instance, it is the viscosity which prevents any sediment from appearing.

It is always a process of heating or cooling that dries things, but the agent in both cases is heat, either internal or external. For even when things are dried by cooling, like a garment, where the moisture exists separately it is the internal heat that dries them. It carries off the moisture in the shape of vapour (if there is not too much of it), being itself driven out by the surrounding cold. So everything is dried, as we have said, by a process either of heating or cooling, but the agent is always heat, either internal or external, carrying off the moisture in vapour. By external heat I mean as where things are boiled: by internal where the heat breathes out and takes away and uses up its moisture. So much for drying.

6

Liquefaction is, first, condensation into water; second, the melting of a solidified body. The first, condensation, is due to the cooling of vapour: what melting is will appear from the account of solidification.

Whatever solidifies is either water or a mixture of earth and water, and the agent is either dry heat or cold. Hence those of the bodies solidified by heat or cold which are soluble at all are dissolved by their opposites. Bodies solidified by the dry-hot are dissolved by water, which is the moist-cold, while bodies solidified by cold are dissolved by fire, which is hot. Some things seem to be solidified by water, e.g. boiled honey, but really it is not the water but the cold in the water which effects the solidification. Aqueous bodies are not solidified by fire: for it is fire that dissolves them, and the same cause in the same relation cannot have opposite effects upon the same thing. Again, water solidifies owing to the departure of heat; so it will clearly be dissolved by the entry into it of heat: cold, therefore, must be the agent in solidifying it.

Hence aqueous bodies do not thicken when they solidify; for thickening occurs when the moisture goes off and the dry matter comes together, but water is the only liquid that does not thicken. Those bodies that are made up of both earth and water are solidified both by fire and by cold and in either case are thickened. The operation of the two is in a way the same and in a way different. Heat acts by drawing off the moisture, and as the moisture goes off in vapour the dry matter thickens and collects. Cold acts by driving out the heat, which is accompanied by the moisture as this goes off in vapour with it. Bodies that are soft but not liquid do not thicken but solidify when the moisture leaves them, e.g. potter's clay in process of baking: but those mixed bodies that are liquid thicken besides solidifying, like milk. Those bodies which have first been thickened or hardened by cold often begin by becoming moist: thus potter's clay at first in the process of baking steams and grows softer, and is liable to distortion in the ovens for that reason.

Now of the bodies solidified by cold which are made up both of earth and water but in which the earth preponderates, those which solidify by the departure of heat melt by heat when it enters into them again; this is the case with frozen mud. But those which solidify by refrigeration, where all the moisture has gone off in vapour with the heat, like iron and horn, cannot be dissolved except by excessive heat, but they can be softened-though manufactured iron does melt, to the point of becoming fluid and then solidifying again. This is how steel is made. The dross sinks to the bottom and is purged away: when this has been done often and the metal is pure we have steel. The process is not repeated often because the purification of the metal involves great waste and loss of weight. But the iron that has less dross is the better iron. The stone pyrimachus, too, melts and forms into drops and becomes fluid; after having been in a fluid state it solidifies and becomes hard again. Millstones, too, melt and become fluid: when the fluid mass begins to solidify it is black but its consistency comes to be like that of lime. and earth, too

Of the bodies which are solidified by dry heat some are insoluble, others are dissolved by liquid. Pottery and some kinds of stone that are formed out of earth burnt up by fire, such as millstones, cannot be dissolved. Natron and salt are soluble by liquid, but not all liquid but only such as is cold. Hence water and any of its varieties melt them, but oil does not. For the opposite of the dry-hot is the cold-moist and what the one solidified the other will dissolve, and so opposites will have opposite effects.

7

If a body contains more water than earth fire only thickens it: if it contains more earth fire solidifies it. Hence natron and salt and stone and potter's clay must contain more earth.

The nature of oil presents the greatest problem. If water preponderated in it, cold ought to solidify it; if earth preponderated, then fire ought to do so. Actually neither solidifies, but both thicken it. The reason is that it is full of air (hence it floats on the top of water, since air tends to rise). Cold thickens it by turning the air in it into water, for any mixture of oil and water is thicker than either. Fire and the lapse of time thicken and whiten it. The whitening follows on the evaporation of any water that may have been in it; the is due to the change of the air into water as the heat in the oil is dissipated. The effect in both cases is the same and the cause is the same, but the manner of its operation is different. Both heat and cold thicken it, but neither dries it (neither the sun nor cold dries oil), not only because it is glutinous but because it contains air. Its glutinous nature prevents it from giving off vapour and so fire does not dry it or boil it off.

Those bodies which are made up of earth and water may be classified according to the preponderance of either. There is a kind of wine, for instance, which both solidifies and thickens by boiling-I mean, must. All bodies of this kind lose their water as they That it is their water may be seen from the fact that the vapour from them condenses into water when collected. So wherever some sediment is left this is of the nature of earth. Some of these bodies, as we have said, are also thickened and dried by cold. For cold not only solidifies but also dries water, and thickens things by turning air into water. (Solidifying, as we have said, is a form of drying.) Now those things that are not thickened by cold, but solidified, belong rather to water, e.g.. wine, urine, vinegar, lye, whey. But those things that are thickened (not by evaporation due to fire) are made up either of earth or of water and air: honey of earth, while oil contains air. Milk and blood, too, are made up of both water and earth, though earth generally predominates in them. So, too, are the liquids out of which natron and salt are formed; and stones are also formed from some mixtures of this kind. Hence, if the whey has not been separated, it burns away if you boil it over a fire. But the earthy element in milk can also be coagulated by the help of fig-juice, if you boil it in a certain way as doctors do when they treat it with fig-juice, and this is how the whey and the cheese are commonly separated. Whey, once separated, does not thicken, as the milk did, but boils away like water. Sometimes, however, there is little or no cheese in milk, and such milk is not nutritive and is more like water. The case of blood is similar: cold dries and so solidifies it. Those kinds of blood that do not solidify, like that of the stag, belong rather to water and are very cold. Hence they contain no fibres: for the fibres are of earth and solid, and blood from which they have been removed does not solidify. This is because it cannot dry; for what remains is water, just as what remains of milk when cheese has been removed is water. The fact that diseased blood will not solidify is evidence of the same thing, for such blood is of the nature of serum and that is phlegm and water, the nature of the animal having failed to get the better of it and digest it.

Some of these bodies are soluble, e.g. natron, some insoluble, e.g. pottery: of the latter, some, like horn, can be softened by heat, others, like pottery and stone, cannot. The reason is that opposite causes have opposite effects: consequently, if solidification is due to two causes, the cold and the dry, solution must be due to the hot and the moist, that is, to fire and to water (these being opposites): water dissolving what was solidified by fire alone, fire what was solidified by cold alone. Consequently, if any things happen to be solidified by the action of both, these are least apt to be soluble. Such a case we find where things have been heated and are then solidified by cold. When the heat in leaving them has caused most of the moisture to evaporate, the cold so compacts these bodies together again as to leave no entrance even for moisture. Therefore heat does not dissolve them (for it only dissolves those bodies that are solidified by cold alone), nor does water (for it does not dissolve what cold solidifies, but only what is solidified by dry heat). But iron is melted by heat and solidified by cold. Wood consists of earth and air and is therefore combustible but cannot be melted or softened by heat. (For the same reason it floats in water-all except ebony. This does not, for other kinds of wood contain a preponderance of air, but in black ebony the air has escaped and so earth preponderates in it.) Pottery consists of earth alone because it solidified gradually in the process of drying. Water cannot get into it, for the pores were only large enough to admit of vapour escaping: and seeing that fire solidified it, that cannot dissolve it either.

So solidification and melting, their causes, and the kinds of subjects in which they occur have been described.

8

All this makes it clear that bodies are formed by heat and cold and that these agents operate by thickening and solidifying. It is because these qualities fashion bodies that we find heat in all of them, and in some cold in so far as heat is absent. These qualities, then, are present as active, and the moist and the dry as passive, and consequently all four are found in mixed bodies. So water and earth are the constituents of homogeneous bodies both in plants and in animals and of metals such as gold, silver, and the rest-water and earth and their respective exhalations shut up in the compound bodies, as we have explained elsewhere.

All these mixed bodies are distinguished from one another, firstly by the qualities special to the various senses, that is, by their capacities of action. (For a thing is white, fragrant, sonant, sweet, hot, cold in virtue of a power of acting on sense). Secondly by other more characteristic affections which express their aptitude to be affected: I mean, for instance, the aptitude to melt or solidify or bend and so forth, all these qualities, like moist and dry, being passive. These are the qualities that differentiate bone, flesh, sinew, wood, bark, stone and all other homogeneous natural bodies. Let us begin by enumerating these qualities expressing the aptitude or inaptitude of a thing to be affected in a certain way. They are as follows: to be apt or inapt to solidify, melt, be softened by heat, be softened by water, bend, break, be comminuted, impressed, moulded, squeezed; to be tractile or non-tractile, malleable or non-malleable, to be fissile or non-fissile, apt or inapt to be cut; to be viscous or friable, compressible or incompressible, combustible or incombustible; to be apt or inapt to give off fumes. These affections differentiate most bodies from one another. Let us go on to explain the nature of each of them. We have already given a general account of that which is apt or inapt to solidify or to melt, but let us return to them again now. Of all the bodies that admit of solidification and hardening, some are brought into this state by heat, others by cold. Heat does this by drying up their moisture, cold by driving out their heat. Consequently some bodies are affected in this way by defect of moisture, some by defect of heat: watery bodies by defect of heat, earthy bodies of moisture. Now those bodies that are so affected by defect of moisture are dissolved by water, unless like pottery they have so contracted that their pores are too small for the particles of water to enter. All those bodies in which this is not the case are dissolved by water, e.g. natron, salt, dry mud. Those bodies that solidified through defect of heat are melted by heat, e.g. ice, lead, copper. So much for the bodies that admit of solidification and of melting, and those that do not admit of melting.

The bodies which do not admit of solidification are those which contain no aqueous moisture and are not watery, but in which heat and earth preponderate, like honey and must (for these are in a sort of state of effervescence), and those which do possess some water but have a preponderance of air, like oil and quicksilver, and all viscous substances such as pitch and birdlime.

9

Those bodies admit of softening which are not (like ice) made up of water, but in which earth predominates. All their moisture must not have left them (as in the case of natron and salt), nor must the relation of dry to moist in them be incongruous (as in the case of pottery). They must be tractile (without admitting water) or malleable (without consisting of water), and the agent in softening them is fire. Such are iron and horn.

Both of bodies that can melt and of bodies that cannot, some do and some do not admit of softening in water. Copper, for instance, which can be melted, cannot be softened in water, whereas wool and earth can be softened in water, for they can be soaked. (It is true that though copper can be melted the agent in its case is not water, but some of the bodies that can be melted by water too such as natron and salt cannot be softened in water: for nothing is said to be so affected unless the water soaks into it and makes it softer.) Some things, on the other hand, such as wool and grain, can be softened by water though they cannot be melted. Any body that is to be softened by water must be of earth and must have its pores larger than the particles of water, and the pores themselves must be able to resist the action of water, whereas bodies that can be ‘melted’ by water must have pores throughout.

(Why is it that earth is both ‘melted’ and softened by moisture, while natron is ‘melted’ but not softened? Because natron is pervaded throughout by pores so that the parts are immediately divided by the water, but earth has also pores which do not connect and is therefore differently affected according as the water enters by one or the other set of pores.)

Some bodies can be bent or straightened, like the reed or the withy, some cannot, like pottery and stone. Those bodies are apt to be bent and straightened which can change from being curved to being straight and from being straight to being curved, and bending and straightening consist in the change or motion to the straight or to a curve, for a thing is said to be in process of being bent whether it is being made to assume a convex or a concave shape. So bending is defined as motion to the convex or the concave without a change of length. For if we added ‘or to the straight’, we should have a thing bent and straight at once, and it is impossible for that which is straight to be bent. And if all bending is a bending back or a bending down, the former being a change to the convex, the latter to the concave, a motion that leads to the straight cannot be called bending, but bending and straightening are two different things. These, then, are the things that can, and those that cannot be bent, and be straightened.

Some things can be both broken and comminuted, others admit only one or the other. Wood, for instance, can be broken but not comminuted, ice and stone can be comminuted but not broken, while pottery may either be comminuted or broken. The distinction is this: breaking is a division and separation into large parts, comminution into parts of any size, but there must be more of them than two. Now those solids that have many pores not communicating with one another are comminuible (for the limit to their subdivision is set by the pores), but those whose pores stretch continuously for a long way are breakable, while those which have pores of both kinds are both comminuible and breakable.

Some things, e.g. copper and wax, are impressible, others, e.g. pottery and water, are not. The process of being impressed is the sinking of a part of the surface of a thing in response to pressure or a blow, in general to contact. Such bodies are either soft, like wax, where part of the surface is depressed while the rest remains, or hard, like copper. Non-impressible bodies are either hard, like pottery (its surface does not give way and sink in), or liquid, like water (for though water does give way it is not in a part of it, for there is a reciprocal change of place of all its parts). Those impressibles that retain the shape impressed on them and are easily moulded by the hand are called ‘plastic’; those that are not easily moulded, such as stone or wood, or are easily moulded but do not retain the shape impressed, like wool or a sponge, are not plastic. The last group are said to be ‘squeezable’. Things are ‘squeezable’ when they can contract into themselves under pressure, their surface sinking in without being broken and without the parts interchanging position as happens in the case of water. (We speak of pressure when there is movement and the motor remains in contact with the thing moved, of impact when the movement is due to the local movement of the motor.) Those bodies are subject to squeezing which have empty pores-empty, that is, of the stuff of which the body itself consists-and that can sink upon the void spaces within them, or rather upon their pores. For sometimes the pores upon which a body sinks in are not empty (a wet sponge, for instance, has its pores full). But the pores, if full, must be full of something softer than the body itself which is to contract. Examples of things squeezable are the sponge, wax, flesh. Those things are not squeezable which cannot be made to contract upon their own pores by pressure, either because they have no pores or because their pores are full of something too hard. Thus iron, stone, water and all liquids are incapable of being squeezed.

Things are tractile when their surface can be made to elongate, for being drawn out is a movement of the surface, remaining unbroken, in the direction of the mover. Some things are tractile, e.g. hair, thongs, sinew, dough, birdlime, and some are not, e.g. water, stone. Some things are both tractile and squeezable, e.g. wool; in other cases the two qualities do not coincide; phlegm, for instance, is tractile but not squeezable, and a sponge squeezable but not tractile.

Some things are malleable, like copper. Some are not, like stone and wood. Things are malleable when their surface can be made to move (but only in part) both downwards and sideways with one and the same blow: when this is not possible a body is not malleable. All malleable bodies are impressible, but not all impressible bodies are malleable, e.g. wood, though on the whole the two go together. Of squeezable things some are malleable and some not: wax and mud are malleable, wool is not. Some things are fissile, e.g. wood, some are not, e.g. potter’s clay. A thing is fissile when it is apt to divide in advance of the instrument dividing it, for a body is said to split when it divides to a further point than that to which the dividing instrument divides it and the act of division advances: which is not the case with cutting. Those bodies which cannot behave like this are non-fissile. Nothing soft is fissile (by soft I mean absolutely soft and not relatively: for iron itself may be relatively soft); nor are all hard things fissile, but only such as are neither liquid nor impressible nor comminuible. Such are the bodies that have the pores along which they cohere lengthwise and not crosswise.

Those hard or soft solids are apt to be cut which do not necessarily either split in advance of the instrument or break into minute fragments when they are being divided. Those that necessarily do so and liquids cannot be cut. Some things can be both split and cut, like wood, though generally it is lengthwise that a thing can be split and crosswise that it can be cut. For, a body being divided into many parts fin so far as its unity is made up of many lengths it is apt to be split, in so far as it is made up of many breadths it is apt to be cut.

A thing is viscous when, being moist or soft, it is tractile. Bodies owe this property to the interlocking of their parts when they are composed like chains, for then they can be drawn out to a great length and contracted again. Bodies that are not like this are friable. Bodies are compressible when they are squeezable and retain the shape they have been squeezed into; incompressible when they are either inapt to be squeezed at all or do not retain the shape they have been squeezed into.

Some bodies are combustible and some are not. Wood, wool, bone are combustible; stone, ice are not. Bodies are combustible when their pores are such as to admit fire and their longitudinal pores contain moisture weaker than fire. If they have no moisture, or if, as in ice or very green wood, the moisture is stronger than fire, they are not combustible.

Those bodies give off fumes which contain moisture, but in such a form that it does not go off separately in vapour when they are exposed to fire. For vapour is a moist secretion tending to the nature of air produced from a liquid by the agency of burning heat. Bodies that give off fumes give off secretions of the nature of air by the lapse of time: as they perish away they dry up or become earth. But the kind of secretion we are concerned with now differs from others in that it is not moist nor does it become wind (which is a continuous flow of air in a given direction). Fumes are common secretion of dry and moist together caused by the agency of burning heat. Hence they do not moisten things but rather colour them.

The fumes of a woody body are called smoke. (I mean to include bones and hair and everything of this kind in the same class. For there is no name common to all the objects that I mean, but, for all that, these things are all in the same class by analogy. Compare what Empedocles says: They are one and the same, hair and leaves and the thick wings of birds and scales that grow on stout limbs.) The fumes of fat are a sooty smoke and those of oily substances a greasy steam. Oil does not boil away or thicken by evaporation because it does not give off vapour but fumes. Water on the other hand does not give off fumes, but vapour. Sweet wine does give off fumes, for it contains fat and behaves like oil. It does not solidify under the influence of cold and it is apt to burn. Really it is not wine at all in spite of its name: for it does not taste like wine and consequently does not inebriate as ordinary wine does. It contains but little fumigable stuff and consequently is inflammable.

All bodies are combustible that dissolve into ashes, and all bodies do this that solidify under the influence either of heat or of both heat and cold; for we find that all these bodies are mastered by fire. Of stones the precious stone called carbuncle is least amenable to fire.

Of combustible bodies some are inflammable and some are not, and some of the former are reduced to coals. Those are called ‘inflammable’ which produce flame and those which do not are called ‘non-inflammable’. Those fumigable bodies that are not liquid are inflammable, but pitch, oil, wax are inflammable in conjunction with other bodies rather than by themselves. Most inflammable are those bodies that give off smoke. Of bodies of this kind those that contain more earth than smoke are apt to be reduced to coals. Some bodies that can be melted are not inflammable, e.g. copper; and some bodies that cannot be melted are inflammable, e.g. wood; and some bodies can be melted and are also inflammable, e.g. frankincense. The reason is that wood has its moisture all together and this is continuous throughout and so it burns up: whereas copper has it in each part but not continuous, and insufficient in quantity to give rise to flame. In frankincense it is disposed in both of these ways. Fumigable bodies are inflammable when earth predominates in them and they are consequently such as to be unable to melt. These are inflammable because they are dry like fire. When this dry comes to be hot there is fire. This is why flame is burning smoke or dry exhalation.

The fumes of wood are smoke, those of wax and frankincense and such-like, and pitch and whatever contains pitch or such-like are sooty smoke, while the fumes of oil and oily substances are a greasy steam; so are those of all substances which are not at all combustible by themselves because there is too little of the dry in them (the dry being the means by which the transition to fire is effected), but burn very readily in conjunction with something else. (For the fat is just the conjunction of the oily with the dry.) So those bodies that give off fumes, like oil and pitch, belong rather to the moist, but those that burn to the dry.

10

Homogeneous bodies differ to touch-by these affections and differences, as we have said. They also differ in respect of their smell, taste, and colour.

By homogeneous bodies I mean, for instance, ‘metals’, gold, copper, silver, tin, iron, stone, and everything else of this kind and the bodies that are extracted from them; also the substances found in animals and plants, for instance, flesh, bones, sinew, skin, viscera, hair, fibres, veins (these are the elements of which the non-homogeneous bodies like the face, a hand, a foot, and everything of that kind are made up), and in plants, wood, bark, leaves, roots, and the rest like them.

The homogeneous bodies, it is true, are constituted by a different cause, but the matter of which they are composed is the dry and the moist, that is, water and earth (for these bodies exhibit those qualities most clearly). The agents are the hot and the cold, for they constitute and make concrete the homogeneous bodies out of earth and water as matter. Let us consider, then, which of the homogeneous bodies are made of earth and which of water, and which of both.

Of organized bodies some are liquid, some soft, some hard. The soft and the hard are constituted by a process of solidification, as we have already explained.

Those liquids that go off in vapour are made of water, those that do not are either of the nature of earth, or a mixture either of earth and water, like milk, or of earth and air, like wood, or of water and air, like oil. Those liquids which are thickened by heat are a mixture. (Wine is a liquid which raises a difficulty: for it is both liable to evaporation and it also thickens; for instance new wine does. The reason is that the word ‘wine’ is ambiguous and different ‘wines’ behave in different ways. New wine is more earthy than old, and for this reason it is more apt to be thickened by heat and less apt to be congealed by cold. For it contains much heat and a great proportion of earth, as in Arcadia, where it is so dried up in its skins by the smoke that you scrape it to drink. If all wine has some sediment in it then it will belong to earth or to water according to the quantity of the sediment it possesses.) The liquids that are thickened by cold are of the nature of earth; those that are thickened either by heat or by cold consist of more than one element, like oil and honey, and ‘sweet wine’.

Of solid bodies those that have been solidified by cold are of water, e.g. ice, snow, hail, hoar-frost. Those solidified by heat are of earth, e.g. pottery, cheese, natron, salt. Some bodies are solidified by both heat and cold. Of this kind are those solidified by refrigeration, that is by the privation both of heat and of the moisture which departs with the heat. For salt and the bodies that are purely of earth solidify by the privation of moisture only, ice by that of heat only, these bodies by that of both. So both the active qualities and both kinds of matter were involved in the process. Of these bodies those from which all the moisture has gone are all of them of earth, like pottery or amber. (For amber, also, and the bodies called ‘tears’ are formed by refrigeration, like myrrh, frankincense, gum. Amber, too, appears to belong to this class of things: the animals enclosed in it show that it is formed by solidification. The heat is driven out of it by the cold of the river and causes the moisture to evaporate with it, as in the case of honey when it has been heated and is immersed in water.) Some of these bodies cannot be melted or softened; for instance, amber and certain stones, e.g. the stalactites in caves. (For these stalactites, too, are formed in the same way: the agent is not fire, but cold which drives out the heat, which, as it leaves the body, draws out the moisture with it: in the other class of bodies the agent is external fire.) In those from which the moisture has not wholly gone earth still preponderates, but they admit of softening by heat, e.g. iron and horn.

Now since we must include among ‘meltables’ those bodies which are melted by fire, these contain some water: indeed some of them, like wax, are common to earth and water alike. But those that are melted by water are of earth. Those that are not melted either by fire or water are of earth, or of earth and water.

Since, then, all bodies are either liquid or solid, and since the things that display the affections we have enumerated belong to these two classes and there is nothing intermediate, it follows that we have given a complete account of the criteria for distinguishing whether a body consists of earth or of water or of more elements than one, and whether fire was the agent in its formation, or cold, or both.

Gold, then, and silver and copper and tin and lead and glass and many nameless stone are of water: for they are all melted by heat. Of water, too, are some wines and urine and vinegar and lye and whey and serum: for they are all congealed by cold. In iron, horn, nails, bones, sinews, wood, hair, leaves, bark, earth preponderates. So, too, in amber, myrrh, frankincense, and all the substances called ‘tears’, and stalactites, and fruits, such as leguminous plants and corn. For things of this kind are, to a greater or less degree, of earth. For of all these bodies some admit of softening by heat, the rest give off fumes and are formed by refrigeration. So again in natron, salt, and those kinds of stones that are not formed by refrigeration and cannot be melted. Blood, on the other hand, and semen, are made up of earth and water and air. If the blood contains fibres, earth preponderates in it: consequently its solidifies by refrigeration and is melted by liquids; if not, it is of water and therefore does not solidify. Semen solidifies by refrigeration, its moisture leaving it together with its heat.

11

We must investigate in the light of the results we have arrived at what solid or liquid bodies are hot and what cold.

Bodies consisting of water are commonly cold, unless (like lye, urine, wine) they contain foreign heat. Bodies consisting of earth, on the other hand, are commonly hot because heat was active in forming them: for instance lime and ashes.

We must recognize that cold is in a sense the matter of bodies. For the dry and the moist are matter (being passive) and earth and water are the elements that primarily embody them, and they are characterized by cold. Consequently cold must predominate in every body that consists of one or other of the elements simply, unless such a body contains foreign heat as water does when it boils or when it has been strained through ashes. This latter, too, has acquired heat from the ashes, for everything that has been burnt contains more or less heat. This explains the generation of animals in putrefying bodies: the putrefying body contains the heat which destroyed its proper heat.

Bodies made up of earth and water are hot, for most of them derive their existence from concoction and heat, though some, like the waste products of the body, are products of putrefaction. Thus blood, semen, marrow, figjuice, and all things of the kinds are hot as long as they are in their natural state, but when they perish and fall away from that state they are so no longer. For what is left of them is their matter and that is earth and water. Hence both views are held about them, some people maintaining them to be cold and others to be warm; for they are observed to be hot when they are in their natural state, but to solidify when they have fallen away from it. That, then, is the case of mixed bodies. However, the distinction we laid down holds good: if its matter is predominantly water a body is cold (water being the complete opposite of fire), but if earth or air it tends to be warm.

It sometimes happens that the coldest bodies can be raised to the highest temperature by foreign heat; for the most solid and the hardest bodies are coldest when deprived of heat and most burning after exposure to fire: thus water is more burning than smoke and stone than water.

12

Having explained all this we must describe the nature of flesh, bone, and the other homogeneous bodies severally.

Our account of the formation of the homogeneous bodies has given us the elements out of which they are compounded and the classes into which they fall, and has made it clear to which class each of those bodies belongs. The homogeneous bodies are made up of the elements, and all the works of nature in turn of the homogeneous bodies as matter. All the homogeneous bodies consist of the elements described, as matter, but their essential nature is determined by their definition. This fact is always clearer in the case of the later products of those, in fact, that are instruments, as it were, and have an end: it is clearer, for instance, that a dead man is a man only in name. And so the hand of a dead man, too, will in the same way be a hand in name only, just as stone flutes might still be called flutes: for these members, too, are instruments of a kind. But in the case of flesh and bone the fact is not so clear to see, and in that of fire and water even less. For the end is least obvious there where matter predominates most. If you take the extremes, matter is pure matter and the essence is pure definition; but the bodies intermediate between the two are matter or definition in proportion as they are near to either. For each of those elements has an end and is not water or fire in any and every condition of itself, just as flesh is not flesh nor viscera viscera, and the same is true in a higher degree with face and hand. What a thing is always determined by its function: a thing really is itself when it can perform its function; an eye, for instance, when it can see. When a thing cannot do so it is that thing only in name, like a dead eye or one made of stone, just as a wooden saw is no more a saw than one in a picture. The same, then, is true of flesh, except that its function is less clear than that of the tongue. So, too, with fire; but its function is perhaps even harder to specify by physical inquiry than that of flesh. The parts of plants, and inanimate bodies like copper and silver, are in the same case. They all are what they are in virtue of a certain power of action or passion-just like flesh and sinew. But we cannot state their form accurately, and so it is not easy to tell when they are really there and when they are not unless the body is thoroughly corrupted and its shape only remains. So ancient corpses suddenly become ashes in the grave and very old fruit preserves its shape only but not its taste: so, too, with the solids that form from milk.

Now heat and cold and the motions they set up as the bodies are solidified by the hot and the cold are sufficient to form all such parts as are the homogeneous bodies, flesh, bone, hair, sinew, and the rest. For they are all of them differentiated by the various qualities enumerated above, tension, tractility, comminuibility, hardness, softness, and the rest of them: all of which are derived from the hot and the cold and the mixture of their motions. But no one would go as far as to consider them sufficient in the case of the non-homogeneous parts (like the head, the hand, or the foot) which these homogeneous parts go to make up. Cold and heat and their motion would be admitted to account for the formation of copper or silver, but not for that of a saw, a bowl, or a box. So here, save that in the examples given the cause is art, but in the nonhomogeneous bodies nature or some other cause.

Since, then, we know to what element each of the homogeneous bodies belongs, we must now find the definition of each of them, the answer, that is, to the question, ‘what is’ flesh, semen, and the rest? For we know the cause of a thing and its definition when we know the material or the formal or, better, both the material and the formal conditions of its generation and destruction, and the efficient cause of it.

After the homogeneous bodies have been explained we must consider the non-homogeneous too, and lastly the bodies made up of these, such as man, plants, and the rest.

On the Universe (391a)

Translated by E. S. Forster

This is a spurious work by an author claiming to be Aristotle and should not be confused with *On the Heavens*.

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PREFACE

This interesting little treatise has no claim to be regarded as a genuine work of Aristotle. In his careful examination of it *(Neue Jahrbücher,* xv (1905), pp. 529-68) Wilhelm Capelle has traced most of its doctrines to Poseidonius, and comes to the conclusion that it is a popular philosophic treatise founded on two works of Poseidonius, the Meteorologike stoichreiosis and the Peri kosmou.

The treatise is addressed to Alexander, who must either be Alexander the Great (in which case the author doubtless wished to have his work attributed to Aristotle, and therefore addressed it to Aristotle's most distinguished pupil), or else some other Alexander must be intended. From the fact that he is spoken of in 391b6 as agemonon aristos, it has been supposed that Tiberius Claudius Alexander, nephew of Philo Judaeus and Procurator of Judaea, and in A. D. 67 Prefect of Egypt, is intended. In this case the treatise must be dated early in the second half of the first century A. D. Capelle, however (1. c p. 567), dates it in the first half of the second century A. D.

The description of the natural phenomena of the universe is the most Aristotelian portion of the work, and many close parallels are to be found in the *Meteorologica.* It has been thought better not to multiply references to the *Meteorologica* in this part of the treatise, but a certain number of references have been added in other places.

The text used for this translation is that of Bekker in the Berlin edition. A complete account of the literature upon the *De Mundo* will be found in Capelle's article (1. c p. 532). I have to thank Mr. W. D. Ross, who read the translation in manuscript and in proof, and my colleague, Professor W.C. Summers, who read the greater part of it in manuscript, both of whom made a number of valuable suggestions.

E. S. F.

THE UNIVERSITY, SHEFFIELD, *Dec.* 2, 1913.

DE MUNDO

Many a time, Alexander has Philosophy seemed to me a thing truly divine and supernatural, especially when in solitude she soars to the contemplation of things universal and strives to recognize the truth that is in them, and while all others abstain from the pursuit of this truth owing to its sublimity and vastness, she has not shrunk from the task nor thought herself unworthy of the fairest pursuits, but has deemed the knowledge of such things at once most natural to herself and most fitting. For seeing that it was not possible (as once the foolish Aloadae attempted) by means of the body to reach the heavenly region and leaving the earth behind to spy out that heavenly country, the soul by means of philosophy, taking the intellect as her guide, finding an easy path has traversed the intervening space and fared forth on its pilgrimage, and by intelligence comprehended things very far removed in space from one another, easily, methinks, recognizing those things which have kinship with one another, and by the divine eye of the soul apprehending things divine and interpreting them to mankind. This she felt, being desirous, as far as in her lay, freely to give to all men a share of her treasures. And so men who have laboriously described to us either the nature of a single region or the plan of a single city or the dimensions of a river or the scenery of a mountain, as some ere now have done, — telling of Ossa or Nysa or the Corycian cave or giving us some other limited description, — such men one should pity for their small-mindedness in admiring ordinary things and making much of some quite insignificant spectacle. They are thus affected because they have never contemplated what is nobler — the Universe and the greatest things of the Universe; for if they had really given attention to these things, they would never marvel at anything else, but all else would appear insignificant and, compared to the surpassing excellence of those other things, of no account. Let us therefore treat of all these matters and, as far as possible, inquire into their divine nature, and discuss the nature and position; and movement of each of them. And I think that it is but fitting that even you, who are the noblest of rulers, should pursue the inquiry into the greatest of all subjects and in philosophy entertain no trivial thoughts, and make the noblest among men welcome to these only of her gifts.

The Universe then is a system made up of heaven and earth and the elements which are contained in them. But the word is also used in another sense of the ordering and arrangement of all things, preserved by and through God. Of this Universe the centre, which is immovable and fixed, is occupied by the life-bearing earth, the home and the mother of diverse creatures. The upper portion of the Universe has fixed bounds on every side, the highest part of it being called Heaven, the abode of the gods. Heaven is full of divine bodies, which we usually call stars, and moves with a continual motion in one orbit, and revolves in stately measure with all the heavenly bodies unceasingly for ever. The whole heaven and universe being spherical and moving, as I have said, continually, there must of necessity be two points which do not move, exactly opposite to one another (as in the revolving wheel of a turner's lathe), points which remain fixed and hold the sphere together and round which the whole universe moves. The universe therefore revolves in a circle and the points are called poles. If we imagine a straight line drawn so as to join them (the axis, as it is sometimes called), it will form the diameter of the Universe, occupying the centre i of the earth, with the two poles as its extremities. Of these fixed poles the one is always visible, being at the summit of the axis in the northern region of the sky, and is called the Arctic Pole; the other is always hidden beneath the earth to the south and is called the Antarctic Pole.

The substance of the heaven and stars we call Ether,; not because it blazes, owing to its fiery nature (as some explain the word, mistaking its nature, which is very far removed from fire), but because it is in continual motion, revolving in a circle, being an element other than the four indestructible and divine. Of the stars which are contained in it, those called 'fixed' revolve only with the whole heaven, always occupying the same positions. A belt is formed through their midst by the so-called Circle of the Zodiac, which passes crosswise through the tropics, being divided up into the twelve regions of the Signs of the Zodiac. Others, which are called 'planets', do not naturally move with the same velocity as those stars of which I have already spoken, nor with the same velocity as one another, but each in a different course, so that one will be nearer the earth, another higher in the heavens. Now the number of the fixed stars cannot be ascertained by man, although they move in one surface, which is that of the whole heaven. But the planets fall into seven divisions in seven successive circles, so situated that the higher is always greater than the lower, and the seven circles are successively encompassed by one another and are all surrounded by the sphere containing the fixed stars. The position nearest to this sphere is occupied by the so-called circle of the ‘Shining star’, or Cronos; next is that of the ‘Beaming star’, which also bears the name of Zeus; then follows the circle of the ‘Fiery star called by the names both of Heracles and of Ares; next comes the ‘Glistening star which some call sacred to Hermes, others sacred to Apollo; after that is the circle of the ‘Light-bearing star which some call the star of Aphrodite, others the star of Hera; then comes the circle of the Sun, and lastly that of the Moon, which borders on the Earth. The ether encompasses the heavenly bodies and the area over which they are ordained to move.

After the Ethereal and Divine Element, which we have shown to be governed by fixed laws and to be, moreover, free from disturbance, change, and external influence, there follows immediately an element which is subject throughout to external influence and disturbance and is, in a word, corruptible and perishable. In the outer portion of this occurs the substance which is made up of small particles and is fiery, being kindled by the ethereal element owing to its superior size and the rapidity of its movement. In this so-called Fiery and Disordered Element flashes shoot and fires dart, and so-called ‘beams’ and ‘pits’ and comets have their fixed position and often become extinguished.

Next beneath this spreads the air, which is in its nature murky and cold as ice, but becomes illuminated and set on fire by motion, and thus grows brighter and warm. And since the air too admits of influence and undergoes every kind of change, clouds form in it, rain-storms beat down, and snow, hoar-frost, hail with blasts of winds and of hurricanes, and thunder too and lightning and falling bolts, and the crashing together of countless opaque bodies.

Next to the aerial element the earth and sea have their fixed position, teeming with plant and animal life, and fountains and rivers, either winding over the earth or discharging their waters into the sea. The earth is diversified by countless kinds of verdure and lofty mountains and densely wooded copses and cities, which that intelligent animal man has founded, and islands set in the sea and continents. Now the usual account divides the inhabited world into islands and continents, ignoring the fact that the whole of it forms a single island round which the sea that is called Atlantic flows. But it is probable that there are many other continents separated from ours by a sea that we must cross to reach them, some larger and others smaller than it, but all, save our own, invisible to us. For as our islands are in relation to our seas, so is the inhabited world in relation to the Atlantic, and so are many other continents in relation to the whole sea; for they are as it were immense islands surrounded by immense seas. The general element of moisture, covering the earth's surface and allowing the so-called inhabited countries to rise in patches as it were of dry land, may be said to come immediately after the aerial element. Next to it the whole earth has been formed, firmly fixed in the lowest position at the midmost centre of the Universe, closely compacted, immovable and unshakable. This forms the whole of what we call the lower portion of the Universe.

Thus then five elements, situated in spheres in five, regions, the less being in each case surrounded by the greater — namely, earth surrounded by water, water by air, air by fire, and fire by ether — make up the whole Universe. All the upper portion represents the dwelling of the gods, the lower the abode of mortal creatures. Of the latter, part is moist, to which we are accustomed to give the names of rivers, springs, and seas; while part is dry, which we call land and continents and islands.

Of the islands, some are large, like the whole of what we call the inhabited world (and there are many other such surrounded by mighty seas); other islands are smaller, which are visible to us and in our own sea. Of these some are of considerable size, Sicily, Sardinia, Corsica, Crete, Euboea, Cyprus, and Lesbos; others are less extensive, such as the Sporades and Cyclades and others bearing various names.

Again, the sea which lies outside the inhabited world is called the Atlantic or Ocean, flowing round us. Opening in a narrow passage towards the West, at the so-called Pillars of Heracles, the Ocean forms a current into the inner sea, as into a harbour; then gradually expanding it spreads out, embracing great bays adjoining one another, opening into other seas by narrow straits and then widening out again. First, then, on the right as one sails in through the Pillars of Heracles it is said to form two bays, the so-called Syrtes, the Greater and the Lesser as they are called; on the other side it does not make such bays, but forms three seas, the Sardinian, the Gallic, and the Adriatic. Next to these comes the Sicilian sea, lying crosswise, and after it the Cretan.

Continuing it come the Egyptian, Pamphylian, and Syrian seas in one direction, and the Aegean and Myrtoan seas in the other. Over against the seas already mentioned extends the Pontus, which is made up of several parts; the innermost portion is called Maeotis, while the outer portion in the direction of the Hellespont is connected by a strait with the so-called Propontis. Towards the East the Ocean again flows in and opens up the Indian and Persian Gulfs, and displays the Erythraean sea continuous with these, embracing all three. With its other branch it passes through a long narrow strait and then expands again bounding the Hyrcanian and Caspian country. Beyond this it occupies the large tract beyond the Lake of Maeotis; then beyond the Scythians and the land of the Celts it gradually confines the width of the habitable world, as it approaches the Gallic Gulf and the Pillars of Heracles already mentioned, outside which the Ocean flows round the earth. In this sea are situated two very large islands, the so-called British Isles, Albion and Ierne, which are greater than any which we have yet mentioned and lie beyond the land of the Celts. (The island of Taprobane opposite India, situated at an angle to the inhabited world, is quite as large as the British Isles, as also is the island called Phebol which lies over against the Arabian Gulf.) There is a large number of small islands round the British Isles and Iberia, forming a belt round the inhabited world, which as we have already said is itself an island. The width of the inhabited world at the greatest extent of its mainland is rather less than forty thousand stades, so the best geographers say, and its length about seventy thousand stades. It is divided into Europe, Asia, and Libya.

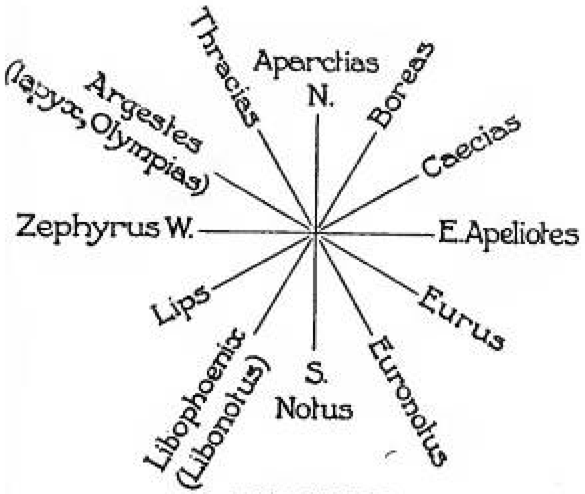
Europe is the tract bounded in a circle by the Pillars of Heracles, the inner recesses of the Pontus, and the Hyrcanian sea, where a very narrow isthmus stretches to the Pontus. Some have held that the river Tanais carries on the boundary from this isthmus. Asia extends from the said isthmus and the Pontus and the Hyrcanian sea to the other isthmus which lies between the Arabian Gulf and the inner sea, being surrounded by the inner sea and the Ocean which flows round the world. Some, however, define the bounds of Asia as from the Tanais to the mouths of the Nile. Libya extends from the Arabian isthmus to the Pillars of Heracles; though some describe it as stretching from the Nile to the Pillars; Egypt, which is surrounded by the mouths of the Nile, is given by some to Asia, by others to Libya; some exclude the islands from both continents, others attach them to their nearest neighbour.

Such is our account of the nature of land and sea and their position — the inhabited world as we call it.

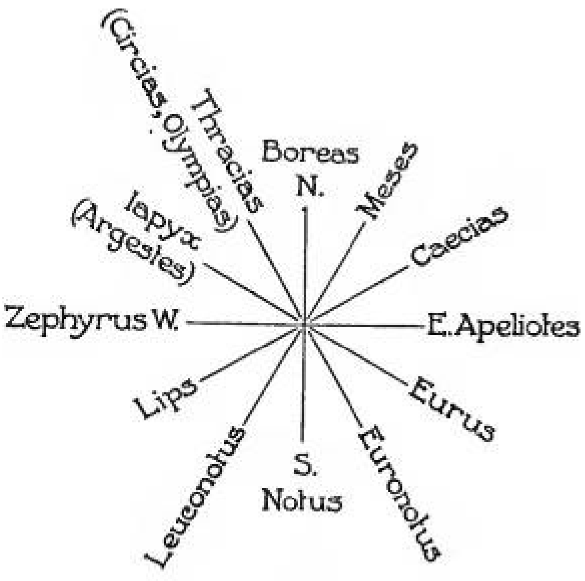
Let us now deal with the most remarkable conditions which are produced in and around the earth, summarizing them in the barest outline. There are two kinds of exhalation which rise continually from the earth into the air above us, namely, those composed of small particles and entirely invisible, except when they occur in the east, and those which rise from rivers and streams and are visible. Of these the former kind being given off from the earth is dry and resembles smoke, while the latter being exhaled from the element of moisture is damp and vaporous. From the latter are produced mist and dew and the various forms of frost, clouds and rain and snow and hail; while from the dry exhalation come the winds and the different kinds of breezes, and thunder and lightning, and hurricanes and thunderbolts, and all other cognate phenomena. Mist is a vaporous exhalation which does not produce water, denser than air but less dense than cloud; it arises either from the first beginnings of a cloud or else from the remnant of a cloud. The contrary of this is what is called a clear sky, being simply air free from cloud and mist. Dew is moisture minute in composition falling from a clear sky; ice is water congealed in a condensed form from a clear sky; hoar-frost is congealed dew, and ‘dew-frost’ is dew which is half congealed. Cloud is a vaporous mass, concentrated and producing water. Rain is produced from the compression of a closely condensed cloud, varying according to the pressure exerted on the cloud; when the pressure is slight it scatters gentle drops; when it is great it produces a more violent fall, and we call this a shower, being heavier than ordinary rain, and forming continuous masses of water falling over earth. Snow is produced by the breaking up of condensed clouds, the cleavage taking place before the change into water; it is the process of cleavage which causes its resemblance to foam and its intense whiteness, while the cause of its coldness is the congelation of the moisture in it before it is dispersed or rarefied. When snow is violent and falls heavily we call it a blizzard. Hail is produced when snow becomes densified and acquires impetus for a swifter fall from its close mass; the weight becomes greater and the fall more violent in proportion to the size of the broken fragments of cloud. Such then are the phenomena which occur as the result of moist exhalation.

From dry exhalation, impelled into motion by cold, is produced wind; for wind is merely a quantity of air set in motion in a mass. Wind is also called breath, a word used in another sense of the vital and generative substance which is found in plants and living creatures, and permeates all things; but with this we need not deal here. The breath which breathes in the air we call wind, while to the expirations from moisture we give the name of breezes. The winds which blow from moist land we call land-winds those which spring up from gulfs we call ‘gulf-winds’; somewhat similar to these are those which blow from rivers and lakes. Winds which are produced by the bursting of a cloud causing an expansion of its density in their own direction, are called ‘cloud-winds’. Those which are accompanied by a mass of water breaking forth are called ‘rain-winds’.

The winds which blow continuously from the rising sun are called Euri; those from the north, Boreae; those from the setting sun, Zephyri; those from the south, Noti. Of the east winds, that which blows from the region of the summer sunrise is called Caecias; that which blows from the region of the equinoctial sunrise is known as Apeliotes; while the name of Eurus is given to the wind which blows from the quarter of the winter sunrise. Of the west winds, on the other hand, that which blows from the summer setting is Argestes, though some call it Olympias, others Iapyx; that which blows from the equinoctial setting is Zephyrus, and that which blows from the winter setting is Lips. Of the north winds (Boreae) that which is next to Caecias is called Boreas in the specific sense of the word. Aparctias is next to it, and blows in a southerly direction from the pole. Thracias is the wind which blows next to Argestes; by some it is called Circias. Of the south winds, that which comes from the invisible pole and immediately faces Aparctias is called Notus; that between Notus and Eurus is called Euronotus. The wind on the other side between Lips and Notus is called by some Libonotus, by others Libophoenix.


Aparctias
N.
Thracias
Boreas
Argestes
(Iapyx, Olympias)
Caecias
Zephyrus W.
E. Apeliotes
Lips
Eurus
Libophoenix
(Libonotus)
S.
Notus
Euronotus

DE MUNDO


(Circias, Olympias)
Thracias
Boreas
N.
Meses
Iapyx
(Argestes)
Caecias
Zephyrus W.
E. Apeliotes
Lips
Eurus
Leuconotus
S.
Notus
Euronotus

DE VENT. SIT.

Some winds are direct, those, that is, which blow along a straight line; others follow a bending course, as for instance the wind called Caecias. Some winds hold sway in the winter, the south winds for example; others in the summer, such as the Etesian winds (Trade winds), which are a mixture of northerly and westerly winds. The so-called Ornithian c winds, which occur in the spring, are a northerly type of wind.

Of violent blasts of wind, a squall is one which suddenly strikes down from above; a gust is a violent blast which springs up in a moment; a whirlwind, or tornado, is a wind which revolves in an upward direction from below. An eruption of wind from the earth is a blast caused by the emission of air from a deep hole or cleft; when it comes forth in a whirling mass it is called an ‘earth-storm’. A wind which is whirled along in a dense watery cloud and being driven forth through it violently breaks up the continuous masses of the cloud, causes a roar and crash, which we call thunder, similar to the noise made by wind driven violently through water. When the wind in breaking forth from a cloud catches fire and flashes it is called lightning. The lightning reaches our perception sooner than the thunder, though it actually occurs after it, since it is the nature of that which is heard to travel less quickly than that which is seen; for the latter is visible at a distance, while the former is only heard when it reaches the ear, especially since the one, the fiery element, travels faster than anything else, while the other, being of the nature of air, is less swift and only reaches the ear by actually striking upon it. If the flashing body is set on fire and rushes violently to the earth it is called a thunderbolt; if it be only half of fire, but violent also and massive, it is called a meteor; if it is entirely free from fire, it is called a smoking bolt. They are all called ‘swooping bolts because they swoop down upon the earth. Lightning is sometimes smoky, and is then called ‘smouldering lightning’; sometimes it darts quickly along, and is then said to be ‘vivid’; at other times it travels in crooked lines, and is called ‘forked lightning’; when it swoops down upon some object it is called ‘swooping lightning’.

To sum up, some of the phenomena which occur in the air are merely appearances, while others have actual substance and reality. Rainbows and streaks in the sky and the like are only appearances, while flashes and shooting-stars and comets and the like have real substance. A rainbow is the reflection of a segment of the sun or of the moon, seen, like an image in a mirror, in a cloud which is moist, hollow, and continuous in appearance, and taking a circular form. A streak is a rainbow appearing in the form of a straight line. A halo is an appearance of brightness shining ‘ round a star; it differs from a rainbow, because the latter appears opposite the sun and moon, while the halo is formed all round a star. A light in the sky is caused by the kindling of a dense fire in the air; some lights shoot along, others are fixed. The shooting is the generation of fire by friction, when the fire moves quickly through the air and by its quickness produces an impression of length; the fixture is a prolonged extension without movement, an elongated star as it were. A light which broadens out towards one end is called a comet. Some heavenly lights often last a considerable time, others are extinguished immediately. There are numerous other peculiar kinds of appearances seen in the sky, the so-called ‘torches ‘beams’, ‘barrels’, and ‘pits’, which derive their names from their similarity to these objects. Some of them appear in the west, others in the east, others in both these quarters, but rarely in the north or south. None of them are subject to fixed laws; for none of them have been discovered to be always visible in a fixed position. Such are the phenomena of the air.

As the earth contains many sources of water, so also it contains many sources of wind and fire. Of these some are subterranean and invisible, but many have vents and spiracles, as Lipara, Etna, and the volcanoes of the Aeolian islands. Some of them frequently flow like rivers and cast up red-hot lumps. Some, which are under the earth near springs of water, warm them and cause some streams to flow tepid, others very hot, others tempered to a pleasant heat. Similarly, many vent-holes for wind open in every part of the earth; some of them cause those who draw near to them to become frenzied, others cause them to waste away, others inspire them to utter oracles, as at Delphi and Lebadia, others utterly destroy them, as the one in Phrygia. Often, too, a moderate wind engendered in the earth, being driven aside into distant holes and crannies of the earth and displaced from its proper locality, causes shocks in many parts. Often, too, a strong current from without becomes involved in the hollows of the earth, and, its exit being cut off, it shakes the earth violently, seeking an exit, and sets up the condition which we commonly call an earthquake. Earthquakes of which the shock is oblique, at a sharp angle, are known as ‘horizontal earthquakes’; those which lift the earth up and down at right angles are known as ‘heaving earthquakes’; those which cause the earth to settle down into hollows are called ‘gaping earthquakes’; those which open up chasms and break up the earth’s surface are called ‘rending earthquakes Some of them also emit winds, others stones or mud, while others cause springs to appear which did not exist before. Some earthquakes cause a disturbance by means of a single shock and are known as ‘thrusting earthquakes Others which swing to and fro and by inclinations and waves in each direction remedy the effect of their shock, are called ‘vibrating earthquakes setting up a condition which resembles trembling. There are also ‘bellowing earthquakes’, which shake the earth with a roar. Underground bellowing, however, is often heard unaccompanied by shocks, when the wind, though insufficient to cause a shock, is compressed together in the earth and beats with the force of its impetus. Blasts which penetrate into the earth are materialized also from moisture concealed underground.

We find analogous phenomena occurring in the sea. Chasms form in it and its waters often retire or the waves rush in; this is sometimes followed by a recoil and sometimes there is merely a forward surge of water, as is said to have occurred at Helice and Bura. Often, too, there are exhalations of fire from the sea, and springs gush out and river-mouths are formed and trees suddenly grow up, and currents and eddies appear, like those caused in the air by blasts of wind, sometimes in the middle of the sea, sometimes in straits and channels. Many tides and tidal waves are said always to accompany the periods of the moon at fixed intervals. In short, owing to the mingling of the elements together, similar conditions are produced in the air and in the earth and in the sea, causing decay and generation in detail, but preserving the whole free from destruction and generation.

Yet some have wondered how it is that the Universe, if it be composed of contrary principles — namely, dry and moist, hot and cold — has not long ago perished and been destroyed. It is just as though one should wonder how a city continues to exist, being, as it ‘is, composed of opposing classes — rich and poor, young and old, weak and strong, good and bad. They fail to notice that this has always been the most striking characteristic of civic concord, that it evolves unity out of plurality, and similarity out of dissimilarity, while it admits every kind and variety. It may perhaps be that nature has a liking for contraries and evolves harmony out of them and not out of similarities (just as she joins the male and female together and not members of the same sex), and has devised the original harmony by means of contraries and not similarities. The arts, too, apparently imitate nature in this respect. The art of painting, by mingling in the picture the elements of white and black, yellow and red, achieves representations which correspond to the original object. Music, too, mingling together notes, high and low, short and prolonged, attains to a single harmony amid different voices; while writing, mingling vowels and consonants, composes of them all its art. The saying found in Heracleitus ‘the obscure’ was to the same effect: ‘Junctions are: wholes and not wholes, that which agrees and that which differs, that which produces harmony and that which produces discord; from all you get one and from one you get all.’

Thus then a single harmony orders the composition of the whole — heaven and earth and the whole Universe — by the mingling of the most contrary principles. The dry mingling with the moist, the hot with the cold, the light with the heavy, the straight with the curved, all the earth, the sea, the ether, the sun, the moon, and the whole heaven are ordered by a single power extending through all, which has created the whole universe out of separate and different elements — air, earth, fire, and water — embracing them all on one spherical surface and forcing the most contrary natures to live in agreement with one another in the universe, and thus contriving the permanence of the whole. The cause of this permanence is the agreement of the elements, and the reason of this agreement is their equal proportion and the fact that no one of them is more powerful than any other, for the heavy is equally balanced with the light and the hot with the cold. Thus nature teaches us in the greater principles of the world that equality somehow tends to preserve harmony, whilst harmony preserves the universe which is the parent of all things and itself the fairest thing of all. For what created thing is more excellent? Any that one can name is but a part of the ordered Universe. All that is beauteous bears its name, and all that which is arranged well, for it is said to be well f ordered being thus called after the ‘ordered’ Universe. And what subordinate phenomenon could be likened to the ordered system of the heavens and the march of the stars and the sun and the moon, which move on in unvarying measure through age after age? Where else could be found such regularity as is observed by the goodly seasons, which produce all things and bring in due order summer and winter, day and night, to the accomplishment of the month and the year? Moreover, in greatness the universe is pre-eminent, in motion swiftest, in radiance most bright, and in might it knows not old age or corruption. It has divided the various creatures that live in the sea, on the earth, and in the air, and regulated their lives by its movements. Of it all living things breathe and have their life. Even all the unexpected changes which occur in it are really accomplished in an ordered sequence — diverse winds conflicting together, thunderbolts falling from heaven, and violent storms bursting forth. The expulsion of moisture and the exhalation of fire by these means restores the whole to harmony and stability. The earth, too, clothed with diverse vegetation, gushing forth with streams and trodden by the feet of living creatures, in due season bringing forth, nurturing, and receiving back all things, producing countless varieties and changes, none the less always preserves its nature untouched by age, though shaken by earthquakes, washed by floods, and in parts burnt up by fires. All these things seem to work its welfare and to ensure its eternal permanence. For when it is shaken by earthquakes, the winds which have been diverted into it escape forth, finding vents through the clefts, as we have already said; when it is washed by rain, it is cleansed of all that is unhealthy: and when the breezes blow about it, it is purified above and beneath. Again, the fires soften that which is frost-bound, while the frosts abate the fires. Of individual things upon the earth some are coming into being, others are at their prime, others are decaying; and birth checks decay and decay lightens birth. Thus an unbroken permanence, which all things conspire to secure, counteracting one another — at one time dominating, at another being dominated — preserves the whole unimpaired through all eternity.

There still remains for us to treat briefly, as we have discussed the other subjects, of the cause which holds all things together. For in dealing with the universe, not perhaps in exact detail, yet at any rate so as to give a general idea of the subject, it would be wrong to omit that which is the most important thing in the universe. The old explanation which we have all inherited from our fathers, is that all things are from God and were framed for us by God, and that no created thing is of itself sufficient for itself, deprived of the permanence which it derives from him. Therefore some of the ancients went so far as to say that all those things are full of God which are presented to us through the eyes and the hearing and all the other senses, thus propounding a theory which, though it accords with the divine power, does not accord with the divine nature. For God is in very truth the preserver and creator of all that is in any way being brought to perfection in this universe; yet he endures not all the weariness of a being that administers and labours, but exerts a power which never wearies; whereby he prevails even over things which seem far distant from him. He hath himself obtained the first and highest place and is therefore called Supreme, and has, in the words of the poet:

Taken his seat in heaven's topmost height; *(from Homer's Iliad)*

and the heavenly body which is nighest to him most enjoys his power, and afterwards the next nearest, and so on successively until the regions wherein we dwell are reached. Wherefore the earth and the things upon the earth, being farthest removed from the benefit which proceeds from God, seem feeble and incoherent and full of much confusion; nevertheless, inasmuch as it is the nature of the divine to penetrate to all things, the things also of our earth receive their share of it, and the things above us according to their nearness to or distance from God receive more or less of divine benefit. It is therefore better, even as it is more seemly and befitting God, to suppose that the power which is stablished in the heavens is the cause of permanence even in those things which are furthest removed from it — in a word, inwall things, — rather than to hold that it passes forth and travels to and fro to places which become and befit it not, and personally administers the affairs of this earth. For indeed, to superintend any and every operation does not become even the rulers among mankind — the chief, for example, of an army or a city, or the head of a household, if it were necessary to bind up a sack of bedding or perform any other somewhat menial task, such as in the days of the Great King would not be performed by any ordinary slave. Nay, we are told that the outward show observed by Cambyses and Xerxes and Darius was magnificently ordered with the utmost state and splendour. The king himself, so the story goes, established himself at Susa or Ecbatana, invisible to all, dwelling in a wondrous palace within a fence gleaming with gold and amber and ivory. And it had many gateways one after another, and porches many furlongs apart from one another, secured by bronze doors and mighty walls. Outside these the chief and most distinguished men had their appointed place, some being the king's personal servants, his bodyguard and attendants, others the guardians of each of the enclosing walls, the so-called janitors and 'listeners', that the king himself, who was called their master and deity, might thus see and hear all things. Besides these, others were appointed as stewards of his revenues and leaders in war and hunting, and receivers of gifts, and others charged with all the other necessary (functions. All the Empire of Asia, bounded on the west by the Hellespont and on the east by the Indus, was apportioned according to races among generals and satraps and subject-princes of the Great King; and there were couriers and watchmen and messengers and superintendents of signal-fires. So effective was the organization, in particular the system of signal-fires, which formed a chain of beacons from the furthest bounds of the empire to Susa and Ecbatana, that the king received the same day the news of all that was happening in Asia. Now we must suppose that the majesty of the Great King falls as far short of that of the God who possesses the universe, as that of the feeblest and weakest creature is inferior to that of the king of Persia. Wherefore, if it was beneath the dignity of Xerxes to appear himself to administer all things and to carry out his own wishes and superintend the government of his kingdom, such functions would be still less becoming for a god. Nay, it is more worthy of his dignity and more befitting that he should be enthroned in the highest region, and that his power, extending through the whole universe, should move the sun and moon and make the whole heaven revolve and be the cause of permanence to all that is on this earth. For he needs no contrivance or the service of others, as our earthly rulers, owing to their feebleness, need many hands to do their work; but it is most characteristic of the divine to be able to accomplish diverse kinds of work with ease and by simple movement, even as, past masters of a craft by one turn of a machine accomplish many different operations. And just as puppet-showmen by pulling a single string make the neck and hand and shoulder and eye and sometimes all the parts of the figure move with a certain harmony; so! too the divine nature, by simple movement of that which is nearest to it, imparts its power to that which next succeeds, and thence further and further until it extends over all things. For one thing, moved by another, itself in due order moves something else, each acting according to its own constitution, and not all following the same course but different and various and sometimes even contrary courses; although the first impulse, as it may be called, was directed to a single form of motion. It is just as though one should cast from one vessel at the same time a sphere, a cube, a cone, and a cylinder; each of them will move according to its particular shape. Or if one should hold in the folds of a garment a water-animal, a land-animal, and a bird, and let them go; clearly the animal that swims will leap into its own element and swim away, the land-animal will creep away to its own haunts and pastures, the bird of the air will raise itself aloft from the earth and fly away, though one original cause gave each its aptitude for movement. So is it with the universe; by a single revolution of the whole within the bounds of day and night, the different orbits of all the heavenly bodies are produced, though all are enclosed in a single sphere, some moving more quickly, others more slowly, according to the distances between them and the individual composition of each. For the moon accomplishes her circuit in a month, waxing and waning and disappearing; the sun and the heavenly bodies whose course is of equal length, namely those called the ‘Lightbearer’ and Hermes; perform their revolution in a year; the ‘Fiery star’ in double that period; the star of Zeus in six years; and lastly the so-called star of Cronos in a period two and a half times as long as the heavenly body next below it. The single harmony produced by all the heavenly bodies singing and dancing together springs from one source and ends by achieving one purpose, and has rightly bestowed the name not of ‘disordered’ but of ‘ordered universe’ upon the whole. And just as in a chorus, when the leader gives the signal to begin, the whole chorus of men, or it may be of women, joins in the song, mingling a single studied harmony among different voices, some high and some low; so too is it with the God that rules the whole world. For at the signal given from on high by him who may well be called their chorus-leader, the stars and the whole heaven always move, and the sun that illumines all things travels forth on his double course, whereby he both divides day and night by his rising and setting, and also brings the four seasons of the year, as he moves forwards towards the north and backwards towards the south. And in their own due season the rain, the winds, and the dews, and all the other phenomena which occur in the region which surrounds the Earth, are produced by the first, primaeval cause. These are followed by the flowing of rivers, the swelling of the sea, the growth of trees, the ripening of fruits, the birth of animals, the nurturing and the prime and decay of all things, to which, as I have said, their individual composition contributes. When, therefore, the ruler and parent of all, invisible save to the mind of the eye, gives the word to all nature that moves betwixt heaven and earth, the whole revolves unceasingly in its own circuits and within its own bounds, sometimes unseen and sometimes appearing, revealing and again hiding diverse manners of things, from one and the same cause. Very like is it to that which happens in times of war, when the trumpet, sounds to the army; then each soldier hears its note, and one takes up his shield, another dons his breast-plate; another puts on his greaves or his helmet or his sword-belt; one puts the bit in his horse's mouth, another mounts his chariot, another passes along the watchword; the captain betakes himself straightway to his company, the commander to his division, the horseman to his squadron, the light-armed warrior hastens to his appointed place; all is hurry and movement in obedience to one word of command, to carry out the orders of the leader who is supreme over all. Even so must we suppose concerning the universe, impelling force, unseen and hidden from our eyes, all things are stirred and perform their individual functions. That this force is unseen stands in the way neither of its action nor of our belief in it. For the spirit of intelligence whereby we live and dwell in houses and communities, though invisible, is yet seen in its operations; for by it the whole ordering of life has been discovered and organized and is held together — the ploughing and planting of the earth, the discovery of the arts, the use of law, the ordering of constitutions, the administration of home affairs and war outside our borders and peace. Thus, too, must we think of God, who in might is most powerful, in beauty most fair, in time immortal, in virtue supreme; for, though he is invisible to all mortal nature, yet is he seen in his very works. For all that happens in the air, on the earth, and in the water, may truly be said to be the work of God, who possesses the universe; from whom, in the words of Empedocles, the natural philosopher, Whatsoever hath been and is now and shall be hereafter, All alike hath its birth — men, women, trees of the forest, Beasts of the field and fowls of the air and fish in the water.

To use a somewhat humble illustration, we might with truth compare the ordering of the universe to the so-called ‘key-stones’ in arches, which, placed at the junction of the two sides, ensure the balance and arrangement of the whole structure of the arch and give it stability. Moreover, they say that the sculptor Pheidias, when he was setting up the Athena on the Acropolis, represented his own features in the centre of her shield, and so attached it to-the statue by a hidden contrivance, that any one who tried to cut it out, thereby necessarily shattered and overthrew the whole statue. The position of God in the universe is analogous to this, for he preserves the harmony and permanence of all things; save only that he has his seat not in the midst, where the earth and this our troubled world is situated, but himself pure he has gone up into a pure region, to which we rightly give the name of heaven, for it is the furthest boundary of the upper world, and the name of Olympus, because it is all-bright and free from all gloom and disordered motion, such as is caused on our earth by storms and the violence of the wind. Even thus speaks the poet Homer —

Unto Olympus’ height, where men say that the gods have their dwelling, Alway safe and secure; no wind ever shaketh its stillness, Nor is it wet with the rain; no snow draweth nigh; but unclouded, Ever the air is outspread, and a white sheen floateth about it.

This, too, is borne out by the general habit of mankind, which assigns the regions above to God; for we all stretch up our hands to heaven when we offer prayers. Wherefore these words of the poet are not spoken amiss, Heaven belongeth to Zeus, wide spread mid the clouds and the ether.

Therefore also the objects of sense which are held in the highest esteem occupy the same region, to wit the stars and the sun and moon. For this cause the heavenly bodies alone are so arranged that they ever preserve the same order, and never alter or move from their course, while the things of earth, being mutable, admit of many changes and conditions. For ere now mighty earthquakes have rent the earth in diverse places, and violent rains have burst forth and flooded it, and the inroads and withdrawals of waves have often turned the dry land into sea and sea into dry land, and the might of winds and hurricanes has sometimes overthrown whole cities, and fires and flames have consumed the earth, either coming forth from heaven in former times, even as men say that in the days of Phaethon they burnt up the eastern regions of the earth, or else gushing forth and breathing from the earth in the west, as when the craters of Etna burst and flowed like a torrent over the earth. (There also the favour of heaven bestowed especial honour upon the generation of the pious, when they were overtaken by the fiery stream, because they were carrying their aged parents upon their shoulders and seeking to save them. For when the river of fire drew near to them, it was parted asunder and turned part of its flame this way and part that way, and preserved the young men and their parents unscathed.)

To sum up the matter, as is the steersman in the ship, the charioteer in the chariot, the leader in the chorus, law in the city, the general in the army, even so is God in the Universe; save that to them their rule is full of weariness and disturbance and care, while to him it is without toil or labour and free from all bodily weakness. For, enthroned amid the immutable, he moves and revolves all things, where and how he will, in different forms and natures; just as the law of a city, fixed and immutable in the minds of those who are under it, orders all the life of the state. For in obedience to it, it is plain, the magistrates go forth to their duties, the judges to their several courts of justice, the councillors and members of the assembly to their appointed places of meeting, and one man proceeds to his meals in the prytaneum, another to make his defence before the jury, and another to die in prison. So too the customary public feasts and yearly festivals take place, and sacrifices to the gods and worship of heroes and libations in honour of the dead. The various activities of the citizens in obedience to one ordinance or lawful authority are well expressed in the words of the poet,

And all the town is full of incense smoke,
And full of cries for aid and loud laments.

So must we suppose to be the case with that greater city, the universe. For God is to us a law, impartial, admitting not of correction or change, and better, methinks, and surer than those which are engraved upon tablets. Under his motionless and harmonious rule the whole ordering of heaven and earth is administered, extending over all created things through the seeds of life in each both to plants and to animals, according to genera and species. For vines and date-palms and peach-trees and ‘sweet fig-trees and olives’, as the poet says, and trees which, though they bear no fruits, have other uses, plane-trees and pines and box-trees,

Alder and poplar-tree and cypress breathing sweet odours,
and trees which produce autumn crops pleasant but also difficult to store,
Pear-trees and pomegranate-trees and apple-trees glorious-fruited,

and animals, both wild and tame, feeding in the air or on the earth or in the water, all are born and come to their prime and decay in obedience to the ordinances of God; for, in the words of Heraclitus, 'every creeping thing grazes at the blow of God's goad'.

God being one yet has many names, being called after all the various conditions which he himself inaugurates. We call him Zen and Zeus, using the two names in the same sense, as though we should say 'him through whom we live'. He is called the son of Kronos and of Time, for he endures from eternal age to age. He is God of Lightning and Thunder, God of the Clear Sky and of Ether, God of the Thunderbolt and of Rain, so called after the rain and the thunderbolts and other physical phenomena. Moreover, after the fruits he is called the Fruitful God, after cities the City-God: he is God of Birth, God of the House-court, God of Kindred and God of our Fathers from his participation in such things. He is God of Comradeship and Friendship and Hospitality, God of Armies and of Trophies, God of Purification and of Vengeance and of Supplication and of Propitiation, as the poets name him, and in very truth the Saviour and God of Freedom, and to complete the tale of his titles, God of Heaven and of the World Below, deriving his names from all natural phenomena and conditions, inasmuch as he is himself the cause of all things. Wherefore it is well said in the Orphic Hymns:

Zeus of the flashing bolt was the first to be born and the latest,
Zeus is the head and the middle; of Zeus were all things created;
Zeus is the stay of the earth and the stay of the star-spangled heaven;
Zeus is male and female of sex, the bride everlasting;
Zeus is the breath of all and the rush of unwearying fire;
Zeus is the root of the sea, and the sun and the moon in the heavens;
Zeus of the flashing bolt is the king and the ruler of all men,
Hiding them all away, and again to the glad light of heaven

Bringing them back at his will, performing terrible marvels.

I think also that God and nought else is meant when we speak of Necessity, which is as it were invincible being; and Fate, because his action is continuous and he cannot be stayed in his course; and Destiny, because all things have their bounds, and nothing which exists is infinite; and Lot, from the fact that all things are allotted; and Nemesis, from the apportionment which is made to every individual; and Adrasteia, which is a cause ordained by nature which cannot be escaped; and Dispensation, so called because it exists for ever. What is said of the Fates and their spindle tends to the same conclusion; for they are three, appointed over different periods of time, and the thread on the spindle is part of it already spent, part reserved for the future, and part in the course of being spun. One of the Fates is appointed to deal with the past, namely, Atropos, for nothing that is gone by can be changed; Lachesis is concerned with the future, for cessation in the course of nature awaits all things; Clotho presides over the present, accomplishing and spinning for each his own particular destiny. This fable is well and duly composed. All these things are nought else but God, even as worthy Plato tells us.

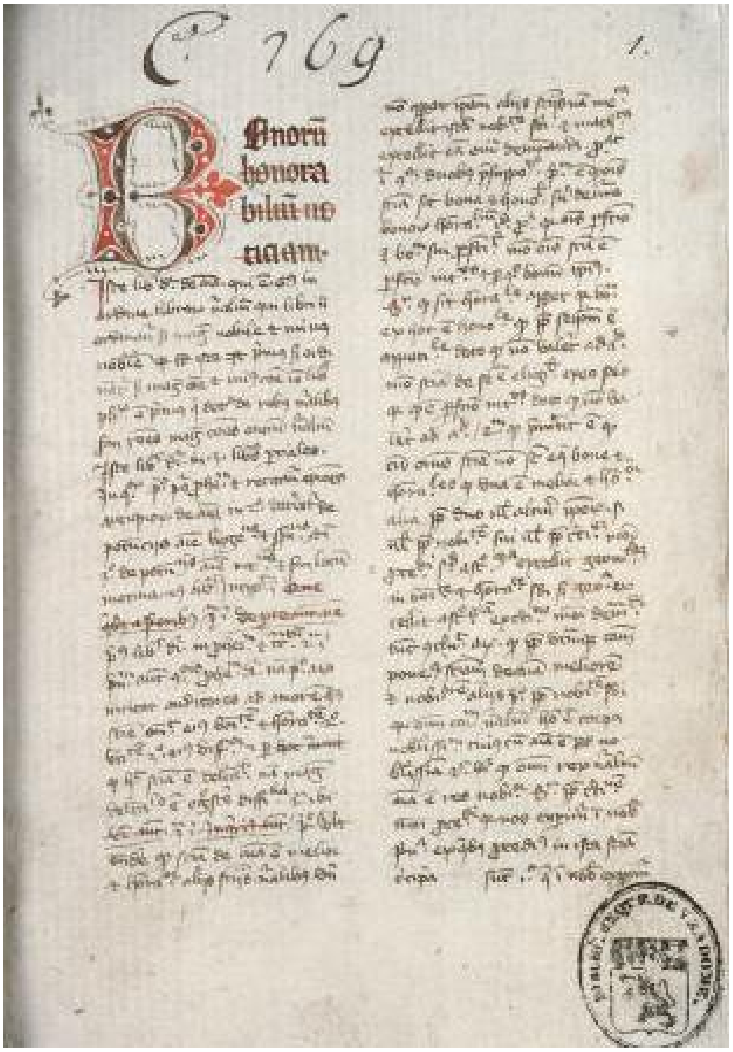
God, then, as the old story has it, holding the beginning and the end and the middle of all things that exist, proceeding by a straight path in the course of nature brings them to accomplishment; and with him ever follows Justice, the avenger of all that falls short of the Divine Law — justice, in whom may he that is to be be happy, be from the very first a blessed and happy partaker!

On the Soul (402a)

Translated by J. A. Smith

This major treatise concerns the study of the nature of living things. Aristotle's discussion focuses on the kinds of souls possessed by various living beings, distinguished by their different operations. Plants are judged as having the capacity for nourishment and reproduction, the minimum that must be possessed by any kind of living organism. Lower animals have, in addition, the powers of sense-perception and self-motion (action). Humans are considered as having all of these as well as intellect.

The notion of soul used by Aristotle is only distantly related to the modern understanding of the wrod. The philosopher holds that the soul is the form, or essence of any living thing; that it is not a distinct substance from the body that it is in; that it is the possession of soul (of a specific kind) that makes an organism an organism at all, and thus that the notion of a body without a soul, or of a soul in the wrong kind of body, is simply unintelligible. He goes on to argue that some parts of the soul, such as the intellect, can exist without the body, but most cannot. It is difficult to reconcile these points with the popular picture of a soul as a sort of spiritual substance "inhabiting" a body.



A 1362 manuscript of the text

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Book I

1

HOLDING as we do that, while knowledge of any kind is a thing to be honoured and prized, one kind of it may, either by reason of its greater exactness or of a higher dignity and greater wonderfulness in its objects, be more honourable and precious than another, on both accounts we should naturally be led to place in the front rank the study of the soul. The knowledge of the soul admittedly contributes greatly to the advance of truth in general, and, above all, to our understanding of Nature, for the soul is in some sense the principle of animal life. Our aim is to grasp and understand, first its essential nature, and secondly its properties; of these some are taught to be affections proper to the soul itself, while others are considered to attach to the animal owing to the presence within it of soul.

To attain any assured knowledge about the soul is one of the most difficult things in the world. As the form of question which here presents itself, viz. the question ‘What is it?’, recurs in other fields, it might be supposed that there was some single method of inquiry applicable to all objects whose essential nature (as we are endeavouring to ascertain there is for derived properties the single method of demonstration); in that case what we should have to seek for would be this unique method. But if there is no such single and general method for solving the question of essence, our task becomes still more difficult; in the case of each different subject we shall have to determine the appropriate process of investigation. If to this there be a clear answer, e.g. that the process is demonstration or division, or some known method, difficulties and hesitations still beset us-with what facts shall we begin the inquiry? For the facts which form the starting-points in different subjects must be different, as e.g. in the case of numbers and surfaces.

First, no doubt, it is necessary to determine in which of the summa genera soul lies, what it is; is it ‘a this-somewhat, ‘a substance, or is it a quale or a quantum, or some other of the remaining kinds of predicates which we have distinguished? Further, does soul belong to the class of potential existents, or is it not rather an actuality? Our answer to this question is of the greatest importance.

We must consider also whether soul is divisible or is without parts, and whether it is everywhere homogeneous or not; and if not homogeneous, whether its various forms are different specifically or generically: up to the present time those who have discussed and investigated soul seem to have confined themselves to the human soul. We must be careful not to ignore the question whether soul can be defined in a single unambiguous formula, as is the case with animal, or whether we must not give a separate formula for each of it, as we do for horse, dog, man, god (in the latter case the ‘universal’ animal-and so too every other ‘common predicate’-being treated either as nothing at all or as a later product). Further, if what exists is not a plurality of souls, but a plurality of parts of one soul, which ought we to investigate first, the whole soul or its parts? (It is also a difficult problem to decide which of these parts are in nature distinct from one another.) Again, which ought we to investigate first, these parts or their functions, mind or thinking, the faculty or the act of sensation, and so on? If the investigation of the functions precedes that of the parts, the further question suggests itself: ought we not before either to consider the correlative objects, e.g. of sense or thought? It seems not only useful for the discovery of the causes of the derived properties of substances to be acquainted with the essential nature of those substances (as in mathematics it is useful for the understanding of the property of the equality of the interior angles of a triangle to two right angles to know the essential nature of the straight and the curved or of the line and the plane) but also conversely, for the knowledge of the essential nature of a substance is largely promoted by an acquaintance with its properties: for, when we are able to give an account conformable to experience of all or most of the properties of a substance, we shall be in the most favourable position to say something worth saying about the essential nature of that subject; in all demonstration a definition of the essence is required as a starting-point, so that definitions which do not enable us to discover the derived properties, or which fail to facilitate even a conjecture about them, must obviously, one and all, be dialectical and futile.

A further problem presented by the affections of soul is this: are they all affections of the complex of body and soul, or is there any one among them peculiar to the soul by itself? To determine this is indispensable but difficult.

If we consider the majority of them, there seems to be no case in which the soul can act or be acted upon without involving the body; e.g. anger, courage, appetite, and sensation generally. Thinking seems the most probable exception; but if this too proves to be a form of imagination or to be impossible without imagination, it too requires a body as a condition of its existence. If there is any way of acting or being acted upon proper to soul, soul will be capable of separate existence; if there is none, its separate existence is impossible. In the latter case, it will be like what is straight, which has many properties arising from the straightness in it, e.g. that of touching a bronze sphere at a point, though straightness divorced from the other constituents of the straight thing cannot touch it in this way; it cannot be so divorced at all, since it is always found in a body. It therefore seems that all the affections of soul involve a body-passion, gentleness, fear, pity, courage, joy, loving, and hating; in all these there is a concurrent affection of the body. In support of this we may point to the fact that, while sometimes on the occasion of violent and striking occurrences there is no excitement or fear felt, on others faint and feeble stimulations produce these emotions, viz. when the body is already in a state of tension resembling its condition when we are angry. Here is a still clearer case: in the absence of any external cause of terror we find ourselves experiencing the feelings of a man in terror. From all this it is obvious that the affections of soul are enmattered formulable essences.

Consequently their definitions ought to correspond, e.g. anger should be defined as a certain mode of movement of such and such a body (or part or faculty of a body) by this or that cause and for this or that end. That is precisely why the study of the soul must fall within the science of Nature, at least so far as in its affections it manifests this double character. Hence a physicist would define an affection of soul differently from a dialectician; the latter would define e.g. anger as the appetite for returning pain for pain, or something like that, while the former would define it as a boiling of the blood or warm substance surround the heart. The latter assigns the material conditions, the former the form or formulable essence; for what he states is the formulable essence of the fact, though for its actual existence there must be embodiment of it in a material such as is described by the other. Thus the essence of a house is assigned in such a formula as ‘a shelter against destruction by wind, rain, and heat’; the physicist would describe it as ‘stones, bricks, and timbers’; but there is a third possible description which would say that it was that form in that material with that purpose or end. Which, then, among these is entitled to be regarded as the genuine physicist? The one who confines himself to the material, or the one who restricts himself to the formulable essence alone? Is it not rather the one who combines both in a single formula? If this is so, how are we to characterize the other two? Must we not say that there is no type of thinker who concerns himself with those qualities or attributes of the material which are in fact inseparable from the material, and without attempting even in thought to separate them? The physicist is he who concerns himself with all the properties active and passive of bodies or materials thus or thus defined; attributes not considered as being of this character he leaves to others, in certain cases it may be to a specialist, e.g. a carpenter or a physician, in others (a) where they are inseparable in fact, but are separable from any particular kind of body by an effort of abstraction, to the mathematician, (b) where they are separate both in fact and in thought from body altogether, to the First Philosopher or metaphysician. But we must return from this digression, and repeat that the affections of soul are inseparable from the material substratum of animal life, to which we have seen that such affections, e.g. passion and fear, attach, and have not the same mode of being as a line or a plane.

2

For our study of soul it is necessary, while formulating the problems of which in our further advance we are to find the solutions, to call into council the views of those of our predecessors who have declared any opinion on this subject, in order that we may profit by whatever is sound in their suggestions and avoid their errors.

The starting-point of our inquiry is an exposition of those characteristics which have chiefly been held to belong to soul in its very nature. Two characteristic marks have above all others been recognized as distinguishing that which has soul in it from that which has not-movement and sensation. It may be said that these two are what our predecessors have fixed upon as characteristic of soul.

Some say that what originates movement is both pre-eminently and primarily soul; believing that what is not itself moved cannot originate movement in another, they arrived at the view that soul belongs to the class of things in movement. This is what led Democritus to say that soul is a sort of fire or hot substance; his ‘forms’ or atoms are infinite in number; those which are spherical he calls fire and soul, and compares them to the motes in the air which we see in shafts of light coming through windows; the mixture of seeds of all sorts he calls the elements of the whole of Nature (Leucippus gives a similar account); the spherical atoms are identified with soul because atoms of that shape are most adapted to permeate everywhere, and to set all the others moving by being themselves in movement. This implies the view that soul is identical with what produces movement in animals. That is why, further, they regard respiration as the characteristic mark of life; as the environment compresses the bodies of animals, and tends to extrude those atoms which impart movement to them, because they themselves are never at rest, there must be a reinforcement of these by similar atoms coming in from without in the act of respiration; for they prevent the extrusion of those which are already within by counteracting the compressing and consolidating force of the environment; and animals continue to live only so long as they are able to maintain this resistance.

The doctrine of the Pythagoreans seems to rest upon the same ideas; some of them declared the motes in air, others what moved them, to be soul. These motes were referred to because they are seen always in movement, even in a complete calm.

The same tendency is shown by those who define soul as that which moves itself; all seem to hold the view that movement is what is closest to the nature of soul, and that while all else is moved by soul, it alone moves itself. This belief arises from their never seeing anything originating movement which is not first itself moved.

Similarly also Anaxagoras (and whoever agrees with him in saying that mind set the whole in movement) declares the moving cause of things to be soul. His position must, however, be distinguished from that of Democritus. Democritus roundly identifies soul and mind, for he identifies what appears with what is true-that is why he commends Homer for the phrase ‘Hector lay with thought distraught’; he does not employ mind as a special faculty dealing with truth, but identifies soul and mind. What Anaxagoras says about them is more obscure; in many places he tells us that the cause of beauty and order is mind, elsewhere that it is soul; it is found, he says, in all animals, great and small, high and low, but mind (in the sense of intelligence) appears not to belong alike to all animals, and indeed not even to all human beings.

All those, then, who had special regard to the fact that what has soul in it is moved, adopted the view that soul is to be identified with what is eminently originative of movement. All, on the other hand, who looked to the fact that what has soul in it knows or perceives what is, identify soul with the principle or principles of Nature, according as they admit several such principles or one only. Thus Empedocles declares that it is formed out of all his elements, each of them also being soul; his words are:

For ‘tis by Earth we see Earth, by Water Water,
By Ether Ether divine, by Fire destructive Fire,
By Love Love, and Hate by cruel Hate.

In the same way Plato in the Timaeus fashions soul out of his elements; for like, he holds, is known by like, and things are formed out of the principles or elements, so that soul must be so too. Similarly also in his lectures ‘On Philosophy’ it was set forth that the Animal-itself is compounded of the Idea itself of the One together with the primary length, breadth, and depth, everything else, the objects of its perception, being similarly constituted. Again he puts his view in yet other terms: Mind is the monad, science or knowledge the dyad (because it goes undeviatingly from one point to another), opinion the number of the plane, sensation the number of the solid; the numbers are by him expressly identified with the Forms themselves or principles, and are formed out of the elements; now things are apprehended either by mind or science or opinion or sensation, and these same numbers are the Forms of things.

Some thinkers, accepting both premisses, viz. that the soul is both originative of movement and cognitive, have compounded it of both and declared the soul to be a self-moving number.

As to the nature and number of the first principles opinions differ. The difference is greatest between those who regard them as corporeal and those who regard them as incorporeal, and from both dissent those who make a blend and draw their principles from both sources. The number of principles is also in dispute; some admit one only, others assert several. There is a consequent diversity in their several accounts of soul; they assume, naturally enough, that what is in its own nature originative of movement must be among what is primordial. That has led some to regard it as fire, for fire is the subtlest of the elements and nearest to incorporeality; further, in the most primary sense, fire both is moved and originates movement in all the others.

Democritus has expressed himself more ingeniously than the rest on the grounds for ascribing each of these two characters to soul; soul and mind are, he says, one and the same thing, and this thing must be one of the primary and indivisible bodies, and its power of originating movement must be due to its fineness of grain and the shape of its atoms; he says that of all the shapes the spherical is the most mobile, and that this is the shape of the particles of fire and mind.

Anaxagoras, as we said above, seems to distinguish between soul and mind, but in practice he treats them as a single substance, except that it is mind that he specially posits as the principle of all things; at any rate what he says is that mind alone of all that is simple, unmixed, and pure. He assigns both characteristics, knowing and origination of movement, to the same principle, when he says that it was mind that set the whole in movement.

Thales, too, to judge from what is recorded about him, seems to have held soul to be a motive force, since he said that the magnet has a soul in it because it moves the iron.

Diogenes (and others) held the soul to be air because he believed air to be finest in grain and a first principle; therein lay the grounds of the soul's powers of knowing and originating movement. As the primordial principle from which all other things are derived, it is cognitive; as finest in grain, it has the power to originate movement.

Heraclitus too says that the first principle-the 'warm exhalation' of which, according to him, everything else is composed-is soul; further, that this exhalation is most incorporeal and in ceaseless flux; that what is in movement requires that what knows it should be in movement; and that all that is has its being essentially in movement (herein agreeing with the majority).

Alcmaeon also seems to have held a similar view about soul; he says that it is immortal because it resembles 'the immortals,' and that this immortality belongs to it in virtue of its ceaseless movement; for all the 'things divine,' moon, sun, the planets, and the whole heavens, are in perpetual movement.

of More superficial writers, some, e.g. Hippo, have pronounced it to be water; they seem to have argued from the fact that the seed of all animals is fluid, for Hippo tries to refute those who say that the soul is blood, on the ground that the seed, which is the primordial soul, is not blood.

Another group (Critias, for example) did hold it to be blood; they take perception to be the most characteristic attribute of soul, and hold that perceptiveness is due to the nature of blood.

Each of the elements has thus found its partisan, except earth-earth has found no supporter unless we count as such those who have declared soul to be, or to be compounded of, all the elements. All, then, it may be said, characterize the soul by three marks, Movement, Sensation, Incorporeality, and each of these is traced back to the first principles. That is why (with one exception) all those who define the soul by its power of knowing make it either an element or constructed out of the elements. The language they all use is similar; like, they say, is known by like; as the soul knows everything, they construct it out of all the principles. Hence all those who admit but one cause or element, make the soul also one (e.g. fire or air), while those who admit a multiplicity of principles make the soul also multiple. The exception is Anaxagoras; he alone says that mind is impassible and has nothing in common with anything else. But, if this is so, how or in virtue of what cause can it know? That Anaxagoras has not explained, nor can any answer be inferred from his words. All who acknowledge pairs of opposites among their principles, construct the soul also out of these contraries, while those who admit as principles only one contrary of each pair, e.g. either hot or cold, likewise make the soul some one of these. That is why, also, they allow themselves to be guided by the names; those who identify soul with the hot argue that sen (to live) is derived from sein (to boil), while those who identify it with the cold say that soul (psuche) is so called from the process of respiration and (katapsuxis). Such are the traditional opinions concerning soul, together with the grounds on which they are maintained.

3

We must begin our examination with movement; for doubtless, not only is it false that the essence of soul is correctly described by those who say that it is what moves (or is capable of moving) itself, but it is an impossibility that movement should be even an attribute of it.

We have already pointed out that there is no necessity that what originates movement should itself be moved. There are two senses in which anything may be moved-either (a) indirectly, owing to something other than itself, or (b) directly, owing to itself. Things are ‘indirectly moved’ which are moved as being contained in something which is moved, e.g. sailors in a ship, for they are moved in a different sense from that in which the ship is moved; the ship is ‘directly moved’, they are ‘indirectly moved’, because they are in a moving vessel. This is clear if we consider their limbs; the movement proper to the legs (and so to man) is walking, and in this case the sailors tare not walking. Recognizing the double sense of ‘being moved’, what we have to consider now is whether the soul is ‘directly moved’ and participates in such direct movement.

There are four species of movement-locomotion, alteration, diminution, growth; consequently if the soul is moved, it must be moved with one or several or all of these species of movement. Now if its movement is not incidental, there must be a movement natural to it, and, if so, as all the species enumerated involve place, place must be natural to it. But if the essence of soul be to move itself, its being moved cannot be incidental to-as it is to what is white or three cubits long; they too can be moved, but only incidentally-what is moved is that of which ‘white’ and ‘three cubits long’ are the attributes, the body in which they inhere; hence they have no place: but if the soul naturally partakes in movement, it follows that it must have a place.

Further, if there be a movement natural to the soul, there must be a counter-movement unnatural to it, and conversely. The same applies to rest as well as to movement; for the terminus ad quem of a thing’s natural movement is the place of its natural rest, and similarly the terminus ad quem of its enforced movement is the place of its enforced rest. But what meaning can be attached to enforced movements or rests of the soul, it is difficult even to imagine.

Further, if the natural movement of the soul be upward, the soul must be fire; if downward, it must be earth; for upward and downward movements are the definitory characteristics of these bodies. The same reasoning applies to the intermediate movements, termini, and bodies. Further, since the soul is observed to originate movement in the body, it is reasonable to suppose that it transmits to the body the movements by which it itself is moved, and so, reversing the order, we may infer from the movements of the body back to similar movements of the soul. Now the body is moved from place to place with movements of locomotion. Hence it would follow that the soul too must in accordance with the body change either its place as a whole or the relative places of its parts. This carries with it the possibility that the soul might even quit its body and re-enter it, and with this would be involved the possibility of a resurrection of animals from the dead. But, it may be contended, the soul can be moved indirectly by something else; for an animal can be pushed out of its course. Yes, but that to whose essence belongs the power of being moved by itself, cannot be moved by something else except incidentally, just as what is good by or in itself cannot owe its goodness to something external to it or to some end to which it is a means.

If the soul is moved, the most probable view is that what moves it is sensible things.

We must note also that, if the soul moves itself, it must be the mover itself that is moved, so that it follows that if movement is in every case a displacement of that which is in movement, in that respect in which it is said to be moved, the movement of the soul must be a departure from its essential nature, at least if its self-movement is essential to it, not incidental.

Some go so far as to hold that the movements which the soul imparts to the body in which it is are the same in kind as those with which it itself is moved. An example of this is Democritus, who uses language like that of the comic dramatist Philippus, who accounts for the movements that Daedalus imparted to his wooden Aphrodite by saying that he poured quicksilver into it; similarly Democritus says that the spherical atoms which according to him constitute soul, owing to their own ceaseless movements draw the whole body after them and so produce its movements. We must urge the question whether it is these very same atoms which produce rest also-how they could do so, it is difficult and even impossible to say. And, in general, we may object that it is not in this way that the soul appears to originate movement in animals-it is through intention or process of thinking.

It is in the same fashion that the Timaeus also tries to give a physical account of how the soul moves its body; the soul, it is there said, is in movement, and so owing to their mutual implication moves the body also. After compounding the soul-substance out of the elements and dividing it in accordance with the harmonic numbers, in order that it may possess a connate sensibility for ‘harmony’ and that the whole may move in movements well attuned, the Demiurge bent the straight line into a circle; this single circle he divided into two circles united at two common points; one of these he subdivided into seven circles. All this implies that the movements of the soul are identified with the local movements of the heavens.

Now, in the first place, it is a mistake to say that the soul is a spatial magnitude. It is evident that Plato means the soul of the whole to be like the sort of soul which is called mind not like the sensitive or the desiderative soul, for the movements of neither of these are circular. Now mind is one and continuous in the sense in which the process of thinking is so, and thinking is identical with the thoughts which are its parts; these have a serial unity like that of number, not a unity like that of a spatial magnitude. Hence mind cannot have that kind of unity either; mind is either without parts or is continuous in some other way than that which characterizes a spatial magnitude. How, indeed, if it were a spatial magnitude, could mind possibly think? Will it think with any one indifferently of its parts? In this case, the 'part' must be understood either in the sense of a spatial magnitude or in the sense of a point (if a point can be called a part of a spatial magnitude). If we accept the latter alternative, the points being infinite in number, obviously the mind can never exhaustively traverse them; if the former, the mind must think the same thing over and over again, indeed an infinite number of times (whereas it is manifestly possible to think a thing once only). If contact of any part whatsoever of itself with the object is all that is required, why need mind move in a circle, or indeed possess magnitude at all? On the other hand, if contact with the whole circle is necessary, what meaning can be given to the contact of the parts? Further, how could what has no parts think what has parts, or what has parts think what has none? We must identify the circle referred to with mind; for it is mind whose movement is thinking, and it is the circle whose movement is revolution, so that if thinking is a movement of revolution, the circle which has this characteristic movement must be mind.

If the circular movement is eternal, there must be something which mind is always thinking-what can this be? For all practical processes of thinking have limits-they all go on for the sake of something outside the process, and all theoretical processes come to a close in the same way as the phrases in speech which express processes and results of thinking. Every such linguistic phrase is either definitory or demonstrative. Demonstration has both a starting-point and may be said to end in a conclusion or inferred result; even if the process never reaches final completion, at any rate it never returns upon itself again to its starting-point, it goes on assuming a fresh middle term or a fresh extreme, and moves straight forward, but circular movement returns to its starting-point. Definitions, too, are closed groups of terms.

Further, if the same revolution is repeated, mind must repeatedly think the same object.

Further, thinking has more resemblance to a coming to rest or arrest than to a movement; the same may be said of inferring.

It might also be urged that what is difficult and enforced is incompatible with blessedness; if the movement of the soul is not of its essence, movement of the soul must be contrary to its nature. It must also be painful for the soul to be inextricably bound up with the body; nay more, if, as is frequently said and widely accepted, it is better for mind not to be embodied, the union must be for it undesirable.

Further, the cause of the revolution of the heavens is left obscure. It is not the essence of soul which is the cause of this circular movement-that movement is only incidental to soul-nor is, a fortiori, the body its cause. Again, it is not even asserted that it is better that soul should be so moved; and yet the reason for which God caused the soul to move in a circle can only have been that movement was better for it than rest, and movement of this kind better than any other. But since this sort of consideration is more appropriate to another field of speculation, let us dismiss it for the present.

The view we have just been examining, in company with most theories about the soul, involves the following absurdity: they all join the soul to a body, or place it in a body, without adding any specification of the reason of their union, or of the bodily conditions required for it. Yet such explanation can scarcely be omitted; for some community of nature is presupposed by the fact that the one acts and the other is acted upon, the one moves and the other is moved; interaction always implies a special nature in the two interagents. All, however, that these thinkers do is to describe the specific characteristics of the soul; they do not try to determine anything about the body which is to contain it, as if it were possible, as in the Pythagorean myths, that any soul could be clothed upon with any body-an absurd view, for each body seems to have a form and shape of its own. It is as absurd as to say that the art of carpentry could embody itself in flutes; each art must use its tools, each soul its body.

There is yet another theory about soul, which has commended itself to many as no less probable than any of those we have hitherto mentioned, and has rendered public account of itself in the court of popular discussion. Its supporters say that the soul is a kind of harmony, for (a) harmony is a blend or composition of contraries, and (b) the body is compounded out of contraries. Harmony, however, is a certain proportion or composition of the constituents blended, and soul can be neither the one nor the other of these. Further, the power of originating movement cannot belong to a harmony, while almost all concur in regarding this as a principal attribute of soul. It is more appropriate to call health (or generally one of the good states of the body) a harmony than to predicate it of the soul. The absurdity becomes most apparent when we try to attribute the active and passive affections of the soul to a harmony; the necessary readjustment of their conceptions is difficult. Further, in using the word ‘harmony’ we have one or other of two cases in our mind; the most proper sense is in relation to spatial magnitudes which have motion and position, where harmony means the disposition and cohesion of their parts in such a manner as to prevent the introduction into the whole of anything homogeneous with it, and the secondary sense, derived from the former, is that in which it means the ratio between the constituents so blended; in neither of these senses is it plausible to predicate it of soul. That soul is a harmony in the sense of the mode of composition of the parts of the body is a view easily refutable; for there are many composite parts and those variously compounded; of what bodily part is mind or the sensitive or the appetitive faculty the mode of composition? And what is the mode of composition which constitutes each of them? It is equally absurd to identify the soul with the ratio of the mixture; for the mixture which makes flesh has a different ratio between the elements from that which makes bone. The consequence of this view will therefore be that distributed throughout the whole body there will be many souls, since every one of the bodily parts is a different mixture of the elements, and the ratio of mixture is in each case a harmony, i.e. a soul.

From Empedocles at any rate we might demand an answer to the following question for he says that each of the parts of the body is what it is in virtue of a ratio between the elements: is the soul identical with this ratio, or is it not rather something over and above this which is formed in the parts? Is love the cause of any and every mixture, or only of those that are in the right ratio? Is love this ratio itself, or is love something over and above this? Such are the problems raised by this account. But, on the other hand, if the soul is different from the mixture, why does it disappear at one and the same moment with that relation between the elements which constitutes flesh or the other parts of the animal body? Further, if the soul is not identical with the ratio of mixture, and it is consequently not the case that each of the parts has a soul, what is that which perishes when the soul quits the body?

That the soul cannot either be a harmony, or be moved in a circle, is clear from what we have said. Yet that it can be moved incidentally is, as we said above, possible, and even that in a sense it can move itself, i.e. in the sense that the vehicle in which it is can be moved, and moved by it; in no other sense can the soul be moved in space.

More legitimate doubts might remain as to its movement in view of the following facts. We speak of the soul as being pained or pleased, being bold or fearful, being angry, perceiving, thinking. All these are regarded as modes of movement, and hence it might be inferred that the soul is moved. This, however, does not necessarily follow. We may admit to the full that being pained or pleased, or thinking, are movements (each of them a ‘being moved’), and that the movement is originated by the soul. For example we may regard anger or fear as such and such movements of the heart, and thinking as such and such another movement of that organ, or of some other; these modifications may arise either from changes of place in certain parts or from qualitative alterations (the special nature of the parts and the special modes of their changes being for our present purpose irrelevant). Yet to say that it is the soul which is angry is as inexact as it would be to say that it is the soul that weaves webs or builds houses. It is doubtless better to avoid saying that the soul pities or learns or thinks and rather to say that it is the man who does this with his soul. What we mean is not that the movement is in the soul, but that sometimes it terminates in the soul and sometimes starts from it, sensation e.g. coming from without inwards, and reminiscence starting from the soul and terminating with the movements, actual or residual, in the sense organs.

The case of mind is different; it seems to be an independent substance implanted within the soul and to be incapable of being destroyed. If it could be destroyed at all, it would be under the blunting influence of old age. What really happens in respect of mind in old age is, however, exactly parallel to what happens in the case of the sense organs; if the old man could recover the proper kind of eye, he would see just as well as the young man. The incapacity of old age is due to an affection not of the soul but of its vehicle, as occurs in drunkenness or disease. Thus it is that in old age the activity of mind or intellectual apprehension declines only through the decay of some other inward part; mind itself is impassible. Thinking, loving, and hating are affections not of mind, but of that which has mind, so far as it has it. That is why, when this vehicle decays, memory and love cease; they were activities not of mind, but of the composite which has perished; mind is, no doubt, something more divine and impassible. That the soul cannot be moved is therefore clear from what we have said, and if it cannot be moved at all, manifestly it cannot be moved by itself.

Of all the opinions we have enumerated, by far the most unreasonable is that which declares the soul to be a self-moving number; it involves in the first place all the impossibilities which follow from regarding the soul as moved, and in the second special absurdities which follow from calling it a number. How we to imagine a unit being moved? By what agency? What sort of movement can be attributed to what is without parts or internal differences? If the unit is both originative of movement and itself capable of being moved, it must contain difference.

Further, since they say a moving line generates a surface and a moving point a line, the movements of the psychic units must be lines (for a point is a unit having position, and the number of the soul is, of course, somewhere and has position).

Again, if from a number a number or a unit is subtracted, the remainder is another number; but plants and many animals when divided continue to live, and each segment is thought to retain the same kind of soul.

It must be all the same whether we speak of units or corpuscles; for if the spherical atoms of Democritus became points, nothing being retained but their being a quantum, there must remain in each a moving and a moved part, just as there is in what is continuous; what happens has nothing to do with the size of the atoms, it depends solely upon their being a quantum. That is why there must be something to originate movement in the units. If in the animal what originates movement is the soul, so also must it be in the case of the number, so that not the mover and the moved together, but the mover only, will be the soul. But how is it possible for one of the units to fulfil this function of originating movement? There must be some difference between such a unit and all the other units, and what difference can there be between one placed unit and another except a difference of position? If then, on the other hand, these psychic units within the body are different from the points of the body, there will be two sets of units both occupying the same place; for each unit will occupy a point. And yet, if there can be two, why cannot there be an infinite number? For if things can occupy an indivisible lace, they must themselves be indivisible. If, on the other hand, the points of the body are identical with the units whose number is the soul, or if the number of the points in the body is the soul, why have not all bodies souls? For all bodies contain points or an infinity of points.

Further, how is it possible for these points to be isolated or separated from their bodies, seeing that lines cannot be resolved into points?

5

The result is, as we have said, that this view, while on the one side identical with that of those who maintain that soul is a subtle kind of body, is on the other entangled in the absurdity peculiar to Democritus' way of describing the manner in which movement is originated by soul. For if the soul is present throughout the whole percipient body, there must, if the soul be a kind of body, be two bodies in the same place; and for those who call it a number, there must be many points at one point, or every body must have a soul, unless the soul be a different sort of number-other, that is, than the sum of the points existing in a body. Another consequence that follows is that the animal must be moved by its number precisely in the way that Democritus explained its being moved by his spherical psychic atoms. What difference does it make whether we speak of small spheres or of large units, or, quite simply, of units in movement? One way or another, the movements of the animal must be due to their movements. Hence those who combine movement and number in the same subject lay themselves open to these and many other similar absurdities. It is impossible not only that these characters should give the definition of soul-it is impossible that they should even be attributes of it. The point is clear if the attempt be made to start from this as the account of soul and explain from it the affections and actions of the soul, e.g. reasoning, sensation, pleasure, pain, &c. For, to repeat what we have said earlier, movement and number do not facilitate even conjecture about the derivative properties of soul.

Such are the three ways in which soul has traditionally been defined; one group of thinkers declared it to be that which is most originative of movement because it moves itself, another group to be the subtlest and most nearly incorporeal of all kinds of body. We have now sufficiently set forth the difficulties and inconsistencies to which these theories are exposed. It remains now to examine the doctrine that soul is composed of the elements.

The reason assigned for this doctrine is that thus the soul may perceive or come to know everything that is, but the theory necessarily involves itself in many impossibilities. Its upholders assume that like is known only by like, and imagine that by declaring the soul to be composed of the elements they succeed in identifying the soul with all the things it is capable of apprehending. But the elements are not the only things it knows; there are many others, or, more exactly, an infinite number of others, formed out of the elements. Let us admit that the soul knows or perceives the elements out of which each of these composites is made up; but by what means will it know or perceive the composite whole, e.g. what God, man, flesh, bone (or any other compound) is? For each is, not merely the elements of which it is composed, but those elements combined in a determinate mode or ratio, as Empedocles himself says of bone,

The kindly Earth in its broad-bosomed moulds
Won of clear Water two parts out of eight,
And four of Fire; and so white bones were formed.

Nothing, therefore, will be gained by the presence of the elements in the soul, unless there be also present there the various formulae of proportion and the various compositions in accordance with them. Each element will indeed know its fellow outside, but there will be no knowledge of bone or man, unless they too are present in the constitution of the soul. The impossibility of this needs no pointing out; for who would suggest that stone or man could enter into the constitution of the soul? The same applies to ‘the good’ and ‘the not-good’, and so on.

Further, the word ‘is’ has many meanings: it may be used of a ‘this’ or substance, or of a quantum, or of a quale, or of any other of the kinds of predicates we have distinguished. Does the soul consist of all of these or not?

It does not appear that all have common elements. Is the soul formed out of those elements alone which enter into substances? so how will it be able to know each of the other kinds of thing? Will it be said that each kind of thing has elements or principles of its own, and that the soul is formed out of the whole of these? In that case, the soul must be a quantum and a quale and a substance. But all that can be made out of the elements of a quantum is a quantum, not a substance. These (and others like them) are the consequences of the view that the soul is composed of all the elements.

It is absurd, also, to say both (a) that like is not capable of being affected by like, and (b) that like is perceived or known by like, for perceiving, and also both thinking and knowing, are, on their own assumption, ways of being affected or moved.

There are many puzzles and difficulties raised by saying, as Empedocles does, that each set of things is known by means of its corporeal elements and by reference to something in soul which is like them, and additional testimony is furnished by this new consideration; for all the parts of the animal body which consist wholly of earth such as bones, sinews, and hair seem to be wholly insensitive and consequently not perceptive even of objects earthy like themselves, as they ought to have been.

Further, each of the principles will have far more ignorance than knowledge, for though each of them will know one thing, there will be many of which it will be ignorant. Empedocles at any rate must conclude that his God is the least intelligent of all beings, for of him alone is it true that there is one thing, Strife, which he does not know, while there is nothing which mortal beings do not know, for ere is nothing which does not enter into their composition.

In general, we may ask, Why has not everything a soul, since everything either is an element, or is formed out of one or several or all of the elements? Each must certainly know one or several or all.

The problem might also be raised, What is that which unifies the elements into a soul? The elements correspond, it would appear, to the matter; what unites them, whatever it is, is the supremely important factor. But it is impossible that there should be something superior to, and dominant over, the soul (and a fortiori over the mind); it is reasonable to hold that mind is by nature most primordial and dominant, while their statement that it is the elements which are first of all that is.

All, both those who assert that the soul, because of its knowledge or perception of what is compounded out of the elements, and is those who assert that it is of all things the most originative of movement, fail to take into consideration all kinds of soul. In fact (1) not all beings that perceive can originate movement; there appear to be certain animals which stationary, and yet local movement is the only one, so it seems, which the soul originates in animals. And (2) the same object-on holds against all those who construct mind and the perceptive faculty out of the elements; for it appears that plants live, and yet are not endowed with locomotion or perception, while a large number of animals are without discourse of reason. Even if these points were waived and mind admitted to be a part of the soul (and so too the perceptive faculty), still, even so, there would be kinds and parts of soul of which they had failed to give any account.

The same objection lies against the view expressed in the 'Orphic' poems: there it is said that the soul comes in from the whole when breathing takes place, being borne in upon the winds. Now this cannot take place in the case of plants, nor indeed in the case of certain classes of animal, for not all classes of animal breathe. This fact has escaped the notice of the holders of this view.

If we must construct the soul out of the elements, there is no necessity to suppose that all the elements enter into its construction; one element in each pair of contraries will suffice to enable it to know both that element itself and its contrary. By means of the straight line we know both itself and the curved-the carpenter's rule enables us to test both-but what is curved does not enable us to distinguish either itself or the straight. Certain thinkers say that soul is intermingled in the whole universe, and it is perhaps for that reason that Thales came to the opinion that all things are full of gods. This presents some difficulties: Why does the soul when it resides in air or fire not form an animal, while it does so when it resides in mixtures of the elements, and that although it is held to be of higher quality when contained in the former? (One might add the question, why the soul in air is maintained to be higher and more immortal than that in animals.) Both possible ways of replying to the former question lead to absurdity or paradox; for it is beyond paradox to say that fire or air is an animal, and it is absurd to refuse the name of animal to what has soul in it. The opinion that the elements have soul in them seems to have arisen from the doctrine that a whole must be homogeneous with its parts. If it is true that animals become animate by drawing into themselves a portion of what surrounds them, the partisans of this view are bound to say that the soul of the Whole too is homogeneous with all its parts. If the air sucked in is homogeneous, but soul heterogeneous, clearly while some part of soul will exist in the inbreathed air, some other part will not. The soul must either be homogeneous, or such that there are some parts of the Whole in which it is not to be found.

From what has been said it is now clear that knowing as an attribute of soul cannot be explained by soul's being composed of the elements, and that it is neither sound nor true to speak of soul as moved. But since (a) knowing, perceiving, opining, and further (b) desiring, wishing, and generally all other modes of appetition, belong to soul, and (c) the local movements of animals, and (d) growth, maturity, and decay are produced by the soul, we must ask whether each of these is an attribute of the soul as a whole, i.e. whether it is with the whole soul we think, perceive, move ourselves, act or are acted upon, or whether each of them requires a different part of the soul? So too with regard to life. Does it depend on one of the parts of soul? Or is it dependent on more than one? Or on all? Or has it some quite other cause?

Some hold that the soul is divisible, and that one part thinks, another desires. If, then, its nature admits of its being divided, what can it be that holds the parts together? Surely not the body; on the contrary it seems rather to be the soul that holds the body together; at any rate when the soul departs the body disintegrates and decays. If, then, there is something else which makes the soul one, this unifying agency would have the best right to the name of soul, and we shall have to repeat for it the question: Is it one or multipartite? If it is one, why not at once admit that 'the soul' is one? If it has parts, once more the question must be put: What holds its parts together, and so ad infinitum?

The question might also be raised about the parts of the soul: What is the separate role of each in relation to the body? For, if the whole soul holds together the whole body, we should expect each part of the soul to hold together a part of the body. But this seems an impossibility; it is difficult even to imagine what sort of bodily part mind will hold together, or how it will do this.

It is a fact of observation that plants and certain insects go on living when divided into segments; this means that each of the segments has a soul in it identical in species, though not numerically identical in the different segments, for both of the segments for a time possess the power of sensation and local movement. That this does not last is not surprising, for they no longer possess the organs necessary for self-maintenance. But, all the same, in each of the bodily parts there are present all the parts of soul, and the souls so present are homogeneous with one another and with the whole; this means that the several parts of the soul are indisseverable from one another, although the whole soul is divisible. It seems also that the principle found in plants is also a kind of soul; for this is the only principle which is common to both animals and plants; and this exists in isolation from the principle of sensation, though there nothing which has the latter without the former.

Book II

1

LET the foregoing suffice as our account of the views concerning the soul which have been handed on by our predecessors; let us now dismiss them and make as it were a completely fresh start, endeavouring to give a precise answer to the question, What is soul? i.e. to formulate the most general possible definition of it.

We are in the habit of recognizing, as one determinate kind of what is, substance, and that in several senses, (a) in the sense of matter or that which in itself is not ‘a this’, and (b) in the sense of form or essence, which is that precisely in virtue of which a thing is called ‘a this’, and thirdly (c) in the sense of that which is compounded of both (a) and (b). Now matter is potentiality, form actuality; of the latter there are two grades related to one another as e.g. knowledge to the exercise of knowledge.

Among substances are by general consent reckoned bodies and especially natural bodies; for they are the principles of all other bodies. Of natural bodies some have life in them, others not; by life we mean self-nutrition and growth (with its correlative decay). It follows that every natural body which has life in it is a substance in the sense of a composite.

But since it is also a body of such and such a kind, viz. having life, the body cannot be soul; the body is the subject or matter, not what is attributed to it. Hence the soul must be a substance in the sense of the form of a natural body having life potentially within it. But substance is actuality, and thus soul is the actuality of a body as above characterized. Now the word actuality has two senses corresponding respectively to the possession of knowledge and the actual exercise of knowledge. It is obvious that the soul is actuality in the first sense, viz. that of knowledge as possessed, for both sleeping and waking presuppose the existence of soul, and of these waking corresponds to actual knowing, sleeping to knowledge possessed but not employed, and, in the history of the individual, knowledge comes before its employment or exercise.

That is why the soul is the first grade of actuality of a natural body having life potentially in it. The body so described is a body which is organized. The parts of plants in spite of their extreme simplicity are ‘organs’; e.g. the leaf serves to shelter the pericarp, the pericarp to shelter the fruit, while the roots of plants are analogous to the mouth of animals, both serving for the absorption of food. If, then, we have to give a general formula applicable to all kinds of soul, we must describe it as the first grade of actuality of a natural organized body. That is why we can wholly dismiss as unnecessary the question whether the soul and the body are one: it is as meaningless as to ask whether the wax and the shape given to it by the stamp are one, or generally the matter of a thing and that of which it is the matter. Unity has many senses (as many as ‘is’ has), but the most proper and fundamental sense of both is the relation of an actuality to that of which it is the actuality. We have now given an answer to the question, What is soul?-an answer which applies to it in its full extent. It is substance in the sense which corresponds to the definitive formula of a thing’s essence. That means that it is ‘the essential whatness’ of a body of the character just assigned. Suppose that what is literally an ‘organ’, like an axe, were a natural body, its ‘essential whatness’, would have been its essence, and so its soul; if this disappeared from it, it would have ceased to be an axe, except in name. As it is, it is just an axe; it wants the character which is required to make its whatness or formulable essence a soul; for that, it would have had to be a natural body of a particular kind, viz. one having in itself the power of setting itself in movement and arresting itself. Next, apply this doctrine in the case of the ‘parts’ of the living body. Suppose that the eye were an animal-sight would have been its soul, for sight is the substance or essence of the eye which corresponds to the formula, the eye being merely the matter of seeing; when seeing is removed the eye is no longer an eye, except in name-it is no more a real eye than the eye of a statue or of a painted figure. We must now extend our consideration from the ‘parts’ to the whole living body; for what the departmental sense is to the bodily part which is its organ, that the whole faculty of sense is to the whole sensitive body as such.

We must not understand by that which is ‘potentially capable of living’ what has lost the soul it had, but only what still retains it; but seeds and fruits are bodies which possess the qualification. Consequently, while waking is actuality in a sense corresponding to the cutting and the seeing, the soul is actuality in the sense corresponding to the power of sight and the power in the tool; the body corresponds to what exists in potentiality; as the pupil plus the power of sight constitutes the eye, so the soul plus the body constitutes the animal.

From this it indubitably follows that the soul is inseparable from its body, or at any rate that certain parts of it are (if it has parts) for the actuality of some of them is nothing but the actualities of their bodily parts. Yet some may be separable because they are not the actualities of any body at all. Further, we have no light on the problem whether the soul may not be the actuality of its body in the sense in which the sailor is the actuality of the ship.

This must suffice as our sketch or outline determination of the nature of soul.

2

Since what is clear or logically more evident emerges from what in itself is confused but more observable by us, we must reconsider our results from this point of view. For it is not enough for a definitive formula to express as most now do the mere fact; it must include and exhibit the ground also. At present definitions are given in a form analogous to the conclusion of a syllogism; e.g. What is squaring? The construction of an equilateral rectangle equal to a given oblong rectangle. Such a definition is in form equivalent to a conclusion. One that tells us that squaring is the discovery of a line which is a mean proportional between the two unequal sides of the given rectangle discloses the ground of what is defined.

We resume our inquiry from a fresh starting-point by calling attention to the fact that what has soul in it differs from what has not, in that the former displays life. Now this word has more than one sense, and provided any one alone of these is found in a thing we say that thing is living. Living, that is, may mean thinking or perception or local movement and rest, or movement in the sense of nutrition, decay and growth. Hence we think of plants also as living, for they are observed to possess in themselves an originative power through which they increase or decrease in all spatial directions; they grow up and down, and everything that grows increases its bulk alike in both directions or indeed in all, and continues to live so long as it can absorb nutriment.

This power of self-nutrition can be isolated from the other powers mentioned, but not they from it-in mortal beings at least. The fact is obvious in plants; for it is the only psychic power they possess.

This is the originative power the possession of which leads us to speak of things as living at all, but it is the possession of sensation that leads us for the first time to speak of living things as animals; for even those beings which possess no power of local movement but do possess the power of sensation we call animals and not merely living things.

The primary form of sense is touch, which belongs to all animals. just as the power of self-nutrition can be isolated from touch and sensation generally, so touch can be isolated from all other forms of sense. (By the power of self-nutrition we mean that departmental power of the soul which is common to plants and animals: all animals whatsoever are observed to have the sense of touch.) What the explanation of these two facts is, we must discuss later. At present we must confine ourselves to saying that soul is the source of these phenomena and is characterized by them, viz. by the powers of self-nutrition, sensation, thinking, and motivity.

Is each of these a soul or a part of a soul? And if a part, a part in what sense? A part merely distinguishable by definition or a part distinct in local situation as well? In the case of certain of these powers, the answers to these questions are easy, in the case of others we are puzzled what to say. just as in the case of plants which when divided are observed to continue to live though removed to a distance from one another (thus showing that in their case the soul of each individual plant before division was actually one, potentially many), so we notice a similar result in other varieties of soul, i.e. in insects which have been cut in two; each of the segments possesses both sensation and local movement; and if sensation, necessarily also imagination and appetition; for, where there is sensation, there is also pleasure and pain, and, where these, necessarily also desire.

We have no evidence as yet about mind or the power to think; it seems to be a widely different kind of soul, differing as what is eternal from what is perishable; it alone is capable of existence in isolation from all other psychic powers. All the other parts of soul, it is evident from what we have said, are, in spite of certain statements to the contrary, incapable of separate existence though, of course, distinguishable by definition. If opining is distinct from perceiving, to be capable of opining and to be capable of perceiving must be distinct, and so with all the other forms of living above enumerated. Further, some animals possess all these parts of soul, some certain of them only, others one only (this is what enables us to classify animals); the cause must be considered later.' A similar arrangement is found also within the field of the senses; some classes of animals have all the senses, some only certain of them, others only one, the most indispensable, touch.

Since the expression 'that whereby we live and perceive' has two meanings, just like the expression 'that whereby we know'-that may mean either (a) knowledge or (b) the soul, for we can speak of knowing by or with either, and similarly that whereby we are in health may be either (a) health or (b) the body or some part of the body; and since of the two terms thus contrasted knowledge or health is the name of a form, essence, or ratio, or if we so express it an actuality of a recipient matter-knowledge of what is capable of knowing, health of what is capable of being made healthy (for the operation of that which is capable of originating change terminates and has its seat in what is changed or altered); further, since it is the soul by or with which primarily we live, perceive, and think:-it follows that the soul must be a ratio or formulable essence, not a matter or subject. For, as we said, word substance has three meanings form, matter, and the complex of both and of these three what is called matter is potentiality, what is called form actuality. Since then the complex here is the living thing, the body cannot be the actuality of the soul; it is the soul which is the actuality of a certain kind of body. Hence the rightness of the view that the soul cannot be without a body, while it csnnot he a body; it is not a body but something relative to a body. That is why it is in a body, and a body of a definite kind. It was a mistake, therefore, to do as former thinkers did, merely to fit it into a body without adding a definite specification of the kind or character of that body. Reflection confirms the observed fact; the actuality of any given thing can only be realized in what is already potentially that thing, i.e. in a matter of its own appropriate to it. From all this it follows that soul is an actuality or formulable essence of something that possesses a potentiality of being besouled.

Of the psychic powers above enumerated some kinds of living things, as we have said, possess all, some less than all, others one only. Those we have mentioned are the nutritive, the appetitive, the sensory, the locomotive, and the power of thinking. Plants have none but the first, the nutritive, while another order of living things has this plus the sensory. If any order of living things has the sensory, it must also have the appetitive; for appetite is the genus of which desire, passion, and wish are the species; now all animals have one sense at least, viz. touch, and whatever has a sense has the capacity for pleasure and pain and therefore has pleasant and painful objects present to it, and wherever these are present, there is desire, for desire is just appetition of what is pleasant. Further, all animals have the sense for food (for touch is the sense for food); the food of all living things consists of what is dry, moist, hot, cold, and these are the qualities apprehended by touch; all other sensible qualities are apprehended by touch only indirectly. Sounds, colours, and odours contribute nothing to nutriment; flavours fall within the field of tangible qualities. Hunger and thirst are forms of desire, hunger a desire for what is dry and hot, thirst a desire for what is cold and moist; flavour is a sort of seasoning added to both. We must later clear up these points, but at present it may be enough to say that all animals that possess the sense of touch have also appetition. The case of imagination is obscure; we must examine it later. Certain kinds of animals possess in addition the power of locomotion, and still another order of animate beings, i.e. man and possibly another order like man or superior to him, the power of thinking, i.e. mind. It is now evident that a single definition can be given of soul only in the same sense as one can be given of figure. For, as in that case there is no figure distinguishable and apart from triangle, &c., so here there is no soul apart from the forms of soul just enumerated. It is true that a highly general definition can be given for figure which will fit all figures without expressing the peculiar nature of any figure. So here in the case of soul and its specific forms. Hence it is absurd in this and similar cases to demand an absolutely general definition which will fail to express the peculiar nature of anything that is, or again, omitting this, to look for separate definitions corresponding to each infima species. The cases of figure and soul are exactly parallel; for the particulars subsumed under the common name in both cases-figures and living beings-constitute a series, each successive term of which potentially contains its predecessor, e.g. the square the triangle, the sensory power the self-nutritive. Hence we must ask in the case of each order of living things, What is its soul, i.e. What is the soul of plant, animal, man? Why the terms are related in this serial way must form the subject of later examination. But the facts are that the power of perception is never found apart from the power of self-nutrition, while-in plants-the latter is found isolated from the former. Again, no sense is found apart from that of touch, while touch is found by itself; many animals have neither sight, hearing, nor smell. Again, among living things that possess sense some have the power of locomotion, some not. Lastly, certain living beings-a small minority-possess calculation and thought, for (among mortal beings) those which possess calculation have all the other powers above mentioned, while the converse does not hold-indeed some live by imagination alone, while others have not even imagination. The mind that knows with immediate intuition presents a different problem.

It is evident that the way to give the most adequate definition of soul is to seek in the case of each of its forms for the most appropriate definition.

4

It is necessary for the student of these forms of soul first to find a definition of each, expressive of what it is, and then to investigate its derivative properties, &c. But if we are to express what each is, viz. what the thinking power is, or the perceptive, or the nutritive, we must go farther back and first give an account of thinking or perceiving, for in the order of investigation the question of what an agent does precedes the question, what enables it to do what it does. If this is correct, we must on the same ground go yet another step farther back and have some clear view of the objects of each; thus we must start with these objects, e.g. with food, with what is perceptible, or with what is intelligible.

It follows that first of all we must treat of nutrition and reproduction, for the nutritive soul is found along with all the others and is the most primitive and widely distributed power of soul, being indeed that one in virtue of which all are said to have life. The acts in which it manifests itself are reproduction and the use of food-reproduction, I say, because for any living thing that has reached its normal development and which is unmutilated, and whose mode of generation is not spontaneous, the most natural act is the production of another like itself, an animal producing an animal, a plant a plant, in order that, as far as its nature allows, it may partake in the eternal and divine. That is the goal towards which all things strive, that for the sake of which they do whatsoever their nature renders possible. The phrase ‘for the sake of which’ is ambiguous; it may mean either (a) the end to achieve which, or (b) the being in whose interest, the act is done. Since then no living thing is able to partake in what is eternal and divine by uninterrupted continuance (for nothing perishable can for ever remain one and the same), it tries to achieve that end in the only way possible to it, and success is possible in varying degrees; so it remains not indeed as the self-same individual but continues its existence in something like itself-not numerically but specifically one.

The soul is the cause or source of the living body. The terms cause and source have many senses. But the soul is the cause of its body alike in all three senses which we explicitly recognize. It is (a) the source or origin of movement, it is (b) the end, it is (c) the essence of the whole living body.

That it is the last, is clear; for in everything the essence is identical with the ground of its being, and here, in the case of living things, their being is to live, and of their being and their living the soul in them is the cause or source. Further, the actuality of whatever is potential is identical with its formulable essence.

It is manifest that the soul is also the final cause of its body. For Nature, like mind, always does whatever it does for the sake of something, which something is its end. To that something corresponds in the case of animals the soul and in this it follows the order of nature; all natural bodies are organs of the soul. This is true of those that enter into the constitution of plants as well as of those which enter into that of animals. This shows that that the sake of which they are is soul. We must here recall the two senses of ‘that for the sake of which’, viz. (a) the end to achieve which, and (b) the being in whose interest, anything is or is done.

We must maintain, further, that the soul is also the cause of the living body as the original source of local movement. The power of locomotion is not found, however, in all living things. But change of quality and change of quantity are also due to the soul. Sensation is held to be a qualitative alteration, and nothing except what has soul in it is capable of sensation. The same holds of the quantitative changes which constitute growth and decay; nothing grows or decays naturally except what feeds itself, and nothing feeds itself except what has a share of soul in it.

Empedocles is wrong in adding that growth in plants is to be explained, the downward rooting by the natural tendency of earth to travel downwards, and the upward branching by the similar natural tendency of fire to travel upwards. For he misinterprets up and down; up and down are not for all things what they are for the whole Cosmos: if we are to distinguish and identify organs according to their functions, the roots of plants are analogous to the head in animals. Further, we must ask what is the force that holds together the earth and the fire which tend to travel in contrary directions; if there is no counteracting force, they will be torn asunder; if there is, this must be the soul and the cause of nutrition and growth. By some the element of fire is held to be the cause of nutrition and growth, for it alone of the primary bodies or elements is observed to feed and increase itself. Hence the suggestion that in both plants and animals it is it which is the operative force. A concurrent cause in a sense it certainly is, but not the principal cause, that is rather the soul; for while the growth of fire goes on without limit so long as there is a supply of fuel, in the case of all complex wholes formed in the course of nature there is a limit or ratio which determines their size and increase, and limit and ratio are marks of soul but not of fire, and belong to the side of formulable essence rather than that of matter.

Nutrition and reproduction are due to one and the same psychic power. It is necessary first to give precision to our account of food, for it is by this function of absorbing food that this psychic power is distinguished from all the others. The current view is that what serves as food to a living thing is what is contrary to it-not that in every pair of contraries each is food to the other: to be food a contrary must not only be transformable into the other and vice versa, it must also in so doing increase the bulk of the other. Many a contrary is transformed into its other and vice versa, where neither is even a quantum and so cannot increase in bulk, e.g. an invalid into a healthy subject. It is clear that not even those contraries which satisfy both the conditions mentioned above are food to one another in precisely the same sense; water may be said to feed fire, but not fire water. Where the members of the pair are elementary bodies only one of the contraries, it would appear, can be said to feed the other. But there is a difficulty here. One set of thinkers assert that like fed, as well as increased in amount, by like. Another set, as we have said, maintain the very reverse, viz. that what feeds and what is fed are contrary to one another; like, they argue, is incapable of being affected by like; but food is changed in the process of digestion, and change is always to what is opposite or to what is intermediate. Further, food is acted upon by what is nourished by it, not the other way round, as timber is worked by a carpenter and not conversely; there is a change in the carpenter but it is merely a change from not-working to working. In answering this problem it makes all the difference whether we mean by ‘the food’ the ‘finished’ or the ‘raw’ product. If we use the word food of both, viz. of the completely undigested and the completely digested matter, we can justify both the rival accounts of it; taking food in the sense of undigested matter, it is the contrary of what is fed by it, taking it as digested it is like what is fed by it. Consequently it is clear that in a certain sense we may say that both parties are right, both wrong.

Since nothing except what is alive can be fed, what is fed is the besouled body and just because it has soul in it. Hence food is essentially related to what has soul in it. Food has a power which is other than the power to increase the bulk of what is fed by it; so far forth as what has soul in it is a quantum, food may increase its quantity, but it is only so far as what has soul in it is a ‘this-somewhat’ or substance that food acts as food; in that case it maintains the being of what is fed, and that continues to be what it is so long as the process of nutrition continues. Further, it is the agent in generation, i.e. not the generation of the individual fed but the reproduction of another like it; the substance of the individual fed is already in existence; the existence of no substance is a self-generation but only a self-maintenance.

Hence the psychic power which we are now studying may be described as that which tends to maintain whatever has this power in it of continuing such as it was, and food helps it to do its work. That is why, if deprived of food, it must cease to be.

The process of nutrition involves three factors, (a) what is fed, (b) that wherewith it is fed, (c) what does the feeding; of these (c) is the first soul, (a) the body which has that soul in it, (b) the food. But since it is right to call things after the ends they realize, and the end of this soul is to generate another being like that in which it is, the first soul ought to be named the reproductive soul. The expression (b) ‘wherewith it is fed’ is ambiguous just as is the expression ‘wherewith the ship is steered’; that may mean either (i) the hand or (ii) the rudder, i.e. either (i) what is moved and sets in movement, or (ii) what is merely moved. We can apply this analogy here if we recall that all food must be capable of being digested, and that what produces digestion is warmth; that is why everything that has soul in it possesses warmth.

We have now given an outline account of the nature of food; further details must be given in the appropriate place.

5

Having made these distinctions let us now speak of sensation in the widest sense. Sensation depends, as we have said, on a process of movement or affection from without, for it is held to be some sort of change of quality. Now some thinkers assert that like is affected only by like; in what sense this is possible and in what sense impossible, we have explained in our general discussion of acting and being acted upon.

Here arises a problem: why do we not perceive the senses themselves as well as the external objects of sense, or why without the stimulation of external objects do they not produce sensation, seeing that they contain in themselves fire, earth, and all the other elements, which are the direct or indirect objects is so of sense? It is clear that what is sensitive is only potentially, not actually. The power of sense is parallel to what is combustible, for that never ignites itself spontaneously, but requires an agent which has the power of starting ignition; otherwise it could have set itself on fire, and would not have needed actual fire to set it ablaze.

In reply we must recall that we use the word ‘perceive’ in two ways, for we say (a) that what has the power to hear or see, ‘sees’ or ‘hears’, even though it is at the moment asleep, and also (b) that what is actually seeing or hearing, ‘sees’ or ‘hears’. Hence ‘sense’ too must have two meanings, sense potential, and sense actual. Similarly ‘to be a sentient’ means either (a) to have a certain power or (b) to manifest a certain activity. To begin with, for a time, let us speak as if there were no difference between (i) being moved or affected, and (ii) being active, for movement is a kind of activity-an imperfect kind, as has elsewhere been explained. Everything that is acted upon or moved is acted upon by an agent which is actually at work. Hence it is that in one sense, as has already been stated, what acts and what is acted upon are like, in another unlike, i.e. prior to and during the change the two factors are unlike, after it like.

But we must now distinguish not only between what is potential and what is actual but also different senses in which things can be said to be potential or actual; up to now we have been speaking as if each of these phrases had only one sense. We can speak of something as ‘a knower’ either (a) as when we say that man is a knower, meaning that man falls within the class of beings that know or have knowledge, or (b) as when we are speaking of a man who possesses a knowledge of grammar; each of these is so called as having in him a certain potentiality, but there is a difference between their respective potentialities, the one (a) being a potential knower, because his kind or matter is such and such, the other (b), because he can in the absence of any external counteracting cause realize his knowledge in actual knowing at will. This implies a third meaning of ‘a knower’ (c), one who is already realizing his knowledge-he is a knower in actuality and in the most proper sense is knowing, e.g. this A. Both the former are potential knowers, who realize their respective potentialities, the one (a) by change of quality, i.e. repeated transitions from one state to its opposite under instruction, the other (b) by the transition from the inactive possession of sense or grammar to their active exercise. The two kinds of transition are distinct.

Also the expression ‘to be acted upon’ has more than one meaning; it may mean either (a) the extinction of one of two contraries by the other, or (b) the maintenance of what is potential by the agency of what is actual and already like what is acted upon, with such likeness as is compatible with one’s being actual and the other potential. For what possesses knowledge becomes an actual knower by a transition which is either not an alteration of it at all (being in reality a development into its true self or actuality) or at least an alteration in a quite different sense from the usual meaning.

Hence it is wrong to speak of a wise man as being ‘altered’ when he uses his wisdom, just as it would be absurd to speak of a builder as being altered when he is using his skill in building a house.

What in the case of knowing or understanding leads from potentiality to actuality ought not to be called teaching but something else. That which starting with the power to know learns or acquires knowledge through the agency of one who actually knows and has the power of teaching either (a) ought not to be said ‘to be acted upon’ at all or (b) we must recognize two senses of alteration, viz. (i) the substitution of one quality for another, the first being the contrary of the second, or (ii) the development of an existent quality from potentiality in the direction of fixity or nature.

In the case of what is to possess sense, the first transition is due to the action of the male parent and takes place before birth so that at birth the living thing is, in respect of sensation, at the stage which corresponds to the possession of knowledge. Actual sensation corresponds to the stage of the exercise of knowledge. But between the two cases compared there is a difference; the objects that excite the sensory powers to activity, the seen, the heard, &c., are outside. The ground of this difference is that what actual sensation apprehends is individuals, while what knowledge apprehends is universals, and these are in a sense within the soul. That is why a man can exercise his knowledge when he wishes, but his sensation does not depend upon himself a sensible object must be there. A similar statement must be made about our knowledge of what is sensible-on the same ground, viz. that the sensible objects are individual and external.

A later more appropriate occasion may be found thoroughly to clear up all this. At present it must be enough to recognize the distinctions already drawn; a thing may be said to be potential in either of two senses, (a) in the sense in which we might say of a boy that he may become a general or (b) in the sense in which we might say the same of an adult, and there are two corresponding senses of the term ‘a potential sentient’. There are no separate names for the two stages of potentiality; we have pointed out that they are different and how they are different. We cannot help using the incorrect terms ‘being acted upon or altered’ of the two transitions involved. As we have said, has the power of sensation is potentially like what the perceived object is actually; that is, while at the beginning of the process of its being acted upon the two interacting factors are dissimilar, at the end the one acted upon is assimilated to the other and is identical in quality with it.

6

In dealing with each of the senses we shall have first to speak of the objects which are perceptible by each. The term ‘object of sense’ covers three kinds of objects, two kinds of which are, in our language, directly perceptible, while the remaining one is only incidentally perceptible. Of the first two kinds one (a) consists of what is perceptible by a single sense, the other (b) of what is perceptible by any and all of the senses. I call by the name of special object of this or that sense that which cannot be perceived by any other sense than that one and in respect of which no error is possible; in this sense colour is the special object of sight, sound of hearing, flavour of taste. Touch, indeed, discriminates more than one set of different qualities. Each sense has one kind of object which it discerns, and never errs in reporting that what is before it is colour or sound (though it may err as to what it is that is coloured or where that is, or what it is that is sounding or where that is.) Such objects are what we propose to call the special objects of this or that sense.

'Common sensibles' are movement, rest, number, figure, magnitude; these are not peculiar to any one sense, but are common to all. There are at any rate certain kinds of movement which are perceptible both by touch and by sight.

We speak of an incidental object of sense where e.g. the white object which we see is the son of Diares; here because 'being the son of Diares' is incidental to the directly visible white patch we speak of the son of Diares as being (incidentally) perceived or seen by us. Because this is only incidentally an object of sense, it in no way as such affects the senses. Of the two former kinds, both of which are in their own nature perceptible by sense, the first kind-that of special objects of the several senses-constitute the objects of sense in the strictest sense of the term and it is to them that in the nature of things the structure of each several sense is adapted.

7

The object of sight is the visible, and what is visible is (a) colour and (b) a certain kind of object which can be described in words but which has no single name; what we mean by (b) will be abundantly clear as we proceed. Whatever is visible is colour and colour is what lies upon what is in its own nature visible; 'in its own nature' here means not that visibility is involved in the definition of what thus underlies colour, but that that substratum contains in itself the cause of visibility. Every colour has in it the power to set in movement what is actually transparent; that power constitutes its very nature. That is why it is not visible except with the help of light; it is only in light that the colour of a thing is seen. Hence our first task is to explain what light is.

Now there clearly is something which is transparent, and by 'transparent' I mean what is visible, and yet not visible in itself, but rather owing its visibility to the colour of something else; of this character are air, water, and many solid bodies. Neither air nor water is transparent because it is air or water; they are transparent because each of them has contained in it a certain substance which is the same in both and is also found in the eternal body which constitutes the uppermost shell of the physical Cosmos. Of this substance light is the activity-the activity of what is transparent so far forth as it has in it the determinate power of becoming transparent; where this power is present, there is also the potentiality of the contrary, viz. darkness. Light is as it were the proper colour of what is transparent, and exists whenever the potentially transparent is excited to actuality by the influence of fire or something resembling 'the uppermost body'; for fire too contains something which is one and the same with the substance in question.

We have now explained what the transparent is and what light is; light is neither fire nor any kind whatsoever of body nor an efflux from any kind of body (if it were, it would again itself be a kind of body)-it is the presence of fire or something resembling fire in what is transparent. It is certainly not a body, for two bodies cannot be present in the same place. The opposite of light is darkness; darkness is the absence from what is transparent of the corresponding positive state above characterized; clearly therefore, light is just the presence of that.

Empedocles (and with him all others who used the same forms of expression) was wrong in speaking of light as 'travelling' or being at a given moment between the earth and its envelope, its movement being unobservable by us; that view is contrary both to the clear evidence of argument and to the observed facts; if the distance traversed were short, the movement might have been unobservable, but where the distance is from extreme East to extreme West, the draught upon our powers of belief is too great.

What is capable of taking on colour is what in itself is colourless, as what can take on sound is what is soundless; what is colourless includes (a) what is transparent and (b) what is invisible or scarcely visible, i.e. what is 'dark'. The latter (b) is the same as what is transparent, when it is potentially, not of course when it is actually transparent; it is the same substance which is now darkness, now light.

Not everything that is visible depends upon light for its visibility. This is only true of the 'proper' colour of things. Some objects of sight which in light are invisible, in darkness stimulate the sense; that is, things that appear fiery or shining. This class of objects has no simple common name, but instances of it are fungi, flesh, heads, scales, and eyes of fish. In none of these is what is seen their own proper' colour. Why we see these at all is another question. At present what is obvious is that what is seen in light is always colour. That is why without the help of light colour remains invisible. Its being colour at all means precisely its having in it the power to set in movement what is already actually transparent, and, as we have seen, the actuality of what is transparent is just light.

The following experiment makes the necessity of a medium clear. If what has colour is placed in immediate contact with the eye, it cannot be seen. Colour sets in movement not the sense organ but what is transparent, e.g. the air, and that, extending continuously from the object to the organ, sets the latter in movement. Democritus misrepresents the facts when he expresses the opinion that if the interspace were empty one could distinctly see an ant on the vault of the sky; that is an impossibility. Seeing is due to an affection or change of what has the perceptive faculty, and it cannot be affected by the seen colour itself; it remains that it must be affected by what comes between. Hence it is indispensable that there be something in between-if there were nothing, so far from seeing with greater distinctness, we should see nothing at all.

We have now explained the cause why colour cannot be seen otherwise than in light. Fire on the other hand is seen both in darkness and in light; this double possibility follows necessarily from our theory, for it is just fire that makes what is potentially transparent actually transparent.

The same account holds also of sound and smell; if the object of either of these senses is in immediate contact with the organ no sensation is produced. In both cases the object sets in movement only what lies between, and this in turn sets the organ in movement: if what sounds or smells is brought into immediate contact with the organ, no sensation will be produced. The same, in spite of all appearances, applies also to touch and taste; why there is this apparent difference will be clear later. What comes between in the case of sounds is air; the corresponding medium in the case of smell has no name. But, corresponding to what is transparent in the case of colour, there is a quality found both in air and water, which serves as a medium for what has smell-I say 'in water' because animals that live in water as well as those that live on land seem to possess the sense of smell, and 'in air' because man and all other land animals that breathe, perceive smells only when they breathe air in. The explanation of this too will be given later.

8

Now let us, to begin with, make certain distinctions about sound and hearing.

Sound may mean either of two things (a) actual, and (b) potential, sound. There are certain things which, as we say, ‘have no sound’, e.g. sponges or wool, others which have, e.g. bronze and in general all things which are smooth and solid-the latter are said to have a sound because they can make a sound, i.e. can generate actual sound between themselves and the organ of hearing.

Actual sound requires for its occurrence (i, ii) two such bodies and (iii) a space between them; for it is generated by an impact. Hence it is impossible for one body only to generate a sound-there must be a body impinging and a body impinged upon; what sounds does so by striking against something else, and this is impossible without a movement from place to place.

As we have said, not all bodies can by impact on one another produce sound; impact on wool makes no sound, while the impact on bronze or any body which is smooth and hollow does. Bronze gives out a sound when struck because it is smooth; bodies which are hollow owing to reflection repeat the original impact over and over again, the body originally set in movement being unable to escape from the concavity.

Further, we must remark that sound is heard both in air and in water, though less distinctly in the latter. Yet neither air nor water is the principal cause of sound. What is required for the production of sound is an impact of two solids against one another and against the air. The latter condition is satisfied when the air impinged upon does not retreat before the blow, i.e. is not dissipated by it.

That is why it must be struck with a sudden sharp blow, if it is to sound-the movement of the whip must outrun the dispersion of the air, just as one might get in a stroke at a heap or whirl of sand as it was traveling rapidly past.

An echo occurs, when, a mass of air having been unified, bounded, and prevented from dissipation by the containing walls of a vessel, the air originally struck by the impinging body and set in movement by it rebounds from this mass of air like a ball from a wall. It is probable that in all generation of sound echo takes place, though it is frequently only indistinctly heard. What happens here must be analogous to what happens in the case of light; light is always reflected-otherwise it would not be diffused and outside what was directly illuminated by the sun there would be blank darkness; but this reflected light is not always strong enough, as it is when it is reflected from water, bronze, and other smooth bodies, to cast a shadow, which is the distinguishing mark by which we recognize light.

It is rightly said that an empty space plays the chief part in the production of hearing, for what people mean by ‘the vacuum’ is the air, which is what causes hearing, when that air is set in movement as one continuous mass; but owing to its friability it emits no sound, being dissipated by impinging upon any surface which is not smooth. When the surface on which it impinges is quite smooth, what is produced by the original impact is a united mass, a result due to the smoothness of the surface with which the air is in contact at the other end.

What has the power of producing sound is what has the power of setting in movement a single mass of air which is continuous from the impinging body up to the organ of hearing. The organ of hearing is physically united with air, and because it is in air, the air inside is moved concurrently with the air outside. Hence animals do not hear with all parts of their bodies, nor do all parts admit of the entrance of air; for even the part which can be moved and can sound has not air everywhere in it. Air in itself is, owing to its friability, quite soundless; only when its dissipation is prevented is its movement sound. The air in the ear is built into a chamber just to prevent this dissipating movement, in order that the animal may accurately apprehend all varieties of the movements of the air outside. That is why we hear also in water, viz. because the water cannot get into the air chamber or even, owing to the spirals, into the outer ear. If this does happen, hearing ceases, as it also does if the tympanic membrane is damaged, just as sight ceases if the membrane covering the pupil is damaged. It is also a test of deafness whether the ear does or does not reverberate like a horn; the air inside the ear has always a movement of its own, but the sound we hear is always the sounding of something else, not of the organ itself. That is why we say that we hear with what is empty and echoes, viz. because what we hear with is a chamber which contains a bounded mass of air.

Which is it that ‘sounds’, the striking body or the struck? Is not the answer ‘it is both, but each in a different way’? Sound is a movement of what can rebound from a smooth surface when struck against it. As we have explained’ not everything sounds when it strikes or is struck, e.g. if one needle is struck against another, neither emits any sound. In order, therefore, that sound may be generated, what is struck must be smooth, to enable the air to rebound and be shaken off from it in one piece.

The distinctions between different sounding bodies show themselves only in actual sound; as without the help of light colours remain invisible, so without the help of actual sound the distinctions between acute and grave sounds remain inaudible. Acute and grave are here metaphors, transferred from their proper sphere, viz. that of touch, where they mean respectively (a) what moves the sense much in a short time, (b) what moves the sense little in a long time. Not that what is sharp really moves fast, and what is grave, slowly, but that the difference in the qualities of the one and the other movement is due to their respective speeds. There seems to be a sort of parallelism between what is acute or grave to hearing and what is sharp or blunt to touch; what is sharp as it were stabs, while what is blunt pushes, the one producing its effect in a short, the other in a long time, so that the one is quick, the other slow.

Let the foregoing suffice as an analysis of sound. Voice is a kind of sound characteristic of what has soul in it; nothing that is without soul utters voice, it being only by a metaphor that we speak of the voice of the flute or the lyre or generally of what (being without soul) possesses the power of producing a succession of notes which differ in length and pitch and timbre. The metaphor is based on the fact that all these differences are found also in voice. Many animals are voiceless, e.g. all non-sanuineous animals and among sanguineous animals fish. This is just what we should expect, since voice is a certain movement of air. The fish, like those in the Achelous, which are said to have voice, really make the sounds with their gills or some similar organ. Voice is the sound made by an animal, and that with a special organ. As we saw, everything that makes a sound does so by the impact of something (a) against something else, (b) across a space, (c) filled with air; hence it is only to be expected that no animals utter voice except those which take in air. Once air is inbreathed, Nature uses it for two different purposes, as the tongue is used both for tasting and for articulating; in that case of the two functions tasting is necessary for the animal’s existence (hence it is found more widely distributed), while articulate speech is a luxury subserving its possessor's well-being; similarly in the former case Nature employs the breath both as an indispensable means to the regulation of the inner temperature of the living body and also as the matter of articulate voice, in the interests of its possessor's well-being. Why its former use is indispensable must be discussed elsewhere.

The organ of respiration is the windpipe, and the organ to which this is related as means to end is the lungs. The latter is the part of the body by which the temperature of land animals is raised above that of all others. But what primarily requires the air drawn in by respiration is not only this but the region surrounding the heart. That is why when animals breathe the air must penetrate inwards.

Voice then is the impact of the inbreathed air against the 'windpipe', and the agent that produces the impact is the soul resident in these parts of the body. Not every sound, as we said, made by an animal is voice (even with the tongue we may merely make a sound which is not voice, or without the tongue as in coughing); what produces the impact must have soul in it and must be accompanied by an act of imagination, for voice is a sound with a meaning, and is not merely the result of any impact of the breath as in coughing; in voice the breath in the windpipe is used as an instrument to knock with against the walls of the windpipe. This is confirmed by our inability to speak when we are breathing either out or in-we can only do so by holding our breath; we make the movements with the breath so checked. It is clear also why fish are voiceless; they have no windpipe. And they have no windpipe because they do not breathe or take in air. Why they do not is a question belonging to another inquiry.

9

Smell and its object are much less easy to determine than what we have hitherto discussed; the distinguishing characteristic of the object of smell is less obvious than those of sound or colour. The ground of this is that our power of smell is less discriminating and in general inferior to that of many species of animals; men have a poor sense of smell and our apprehension of its proper objects is inseparably bound up with and so confused by pleasure and pain, which shows that in us the organ is inaccurate. It is probable that there is a parallel failure in the perception of colour by animals that have hard eyes: probably they discriminate differences of colour only by the presence or absence of what excites fear, and that it is thus that human beings distinguish smells. It seems that there is an analogy between smell and taste, and that the species of tastes run parallel to those of smells-the only difference being that our sense of taste is more discriminating than our sense of smell, because the former is a modification of touch, which reaches in man the maximum of discriminative accuracy. While in respect of all the other senses we fall below many species of animals, in respect of touch we far excel all other species in exactness of discrimination. That is why man is the most intelligent of all animals. This is confirmed by the fact that it is to differences in the organ of touch and to nothing else that the differences between man and man in respect of natural endowment are due; men whose flesh is hard are ill-endowed by nature, men whose flesh is soft, wellendowed.

As flavours may be divided into (a) sweet, (b) bitter, so with smells. In some things the flavour and the smell have the same quality, i.e. both are sweet or both bitter, in others they diverge. Similarly a smell, like a flavour, may be pungent, astringent, acid, or succulent. But, as we said, because smells are much less easy to discriminate than flavours, the names of these varieties are applied to smells only metaphorically; for example ‘sweet’ is extended from the taste to the smell of saffron or honey, ‘pungent’ to that of thyme, and so on.

In the same sense in which hearing has for its object both the audible and the inaudible, sight both the visible and the invisible, smell has for its object both the odorous and the inodorous. ‘Inodorous’ may be either (a) what has no smell at all, or (b) what has a small or feeble smell. The same ambiguity lurks in the word ‘tasteless’.

Smelling, like the operation of the senses previously examined, takes place through a medium, i.e. through air or water-I add water, because water-animals too (both sanguineous and non-sanguineous) seem to smell just as much as land-animals; at any rate some of them make directly for their food from a distance if it has any scent. That is why the following facts constitute a problem for us. All animals smell in the same way, but man smells only when he inhales; if he exhales or holds his breath, he ceases to smell, no difference being made whether the odorous object is distant or near, or even placed inside the nose and actually on the wall of the nostril; it is a disability common to all the senses not to perceive what is in immediate contact with the organ of sense, but our failure to apprehend what is odorous without the help of inhalation is peculiar (the fact is obvious on making the experiment). Now since bloodless animals do not breathe, they must, it might be argued, have some novel sense not reckoned among the usual five. Our reply must be that this is impossible, since it is scent that is perceived; a sense that apprehends what is odorous and what has a good or bad odour cannot be anything but smell. Further, they are observed to be deleteriously effected by the same strong odours as man is, e.g. bitumen, sulphur, and the like. These animals must be able to smell without being able to breathe. The probable explanation is that in man the organ of smell has a certain superiority over that in all other animals just as his eyes have over those of hard-eyed animals. Man’s eyes have in the eyelids a kind of shelter or envelope, which must be shifted or drawn back in order that we may see, while hardeyed animals have nothing of the kind, but at once see whatever presents itself in the transparent medium. Similarly in certain species of animals the organ of smell is like the eye of hard-eyed animals, uncurtained, while in others which take in air it probably has a curtain over it, which is drawn back in inhalation, owing to the dilating of the veins or pores. That explains also why such animals cannot smell under water; to smell they must first inhale, and that they cannot do under water.

Smells come from what is dry as flavours from what is moist. Consequently the organ of smell is potentially dry.

10

What can be tasted is always something that can be touched, and just for that reason it cannot be perceived through an interposed foreign body, for touch means the absence of any intervening body. Further, the flavoured and tasteable body is suspended in a liquid matter, and this is tangible. Hence, if we lived in water, we should perceive a sweet object introduced into the water, but the water would not be the medium through which we perceived; our perception would be due to the solution of the sweet substance in what we imbibed, just as if it were mixed with some drink. There is no parallel here to the perception of colour, which is due neither to any blending of anything with anything, nor to any efflux of anything from anything. In the case of taste, there is nothing corresponding to the medium in the case of the senses previously discussed; but as the object of sight is colour, so the object of taste is flavour. But nothing excites a perception of flavour without the help of liquid; what acts upon the sense of taste must be either actually or potentially liquid like what is saline; it must be both (a) itself easily dissolved, and (b) capable of dissolving along with itself the tongue. Taste apprehends both (a) what has taste and (b) what has no taste, if we mean by (b) what has only a slight or feeble flavour or what tends to destroy the sense of taste. In this it is exactly parallel to sight, which apprehends both what is visible and what is invisible (for darkness is invisible and yet is discriminated by sight; so is, in a different way, what is over brilliant), and to hearing, which apprehends both sound and silence, of which the one is audible and the other inaudible, and also over-loud sound. This corresponds in the case of hearing to over-bright light in the case of sight. As a faint sound is ‘inaudible’, so in a sense is a loud or violent sound. The word ‘invisible’ and similar privative terms cover not only (a) what is simply without some power, but also (b) what is adapted by nature to have it but has not it or has it only in a very low degree, as when we say that a species of swallow is ‘footless’ or that a variety of fruit is ‘stoneless’. So too taste has as its object both what can be tasted and the tasteless-the latter in the sense of what has little flavour or a bad flavour or one destructive of taste. The difference between what is tasteless and what is not seems to rest ultimately on that between what is drinkable and what is undrinkable both are tasteable, but the latter is bad and tends to destroy taste, while the former is the normal stimulus of taste. What is drinkable is the common object of both touch and taste.

Since what can be tasted is liquid, the organ for its perception cannot be either (a) actually liquid or (b) incapable of becoming liquid. Tasting means a being affected by what can be tasted as such; hence the organ of taste must be liquefied, and so to start with must be non-liquid but capable of liquefaction without loss of its distinctive nature. This is confirmed by the fact that the tongue cannot taste either when it is too dry or when it is too moist; in the latter case what occurs is due to a contact with the pre-existent moisture in the tongue itself, when after a foretaste of some strong flavour we try to taste another flavour; it is in this way that sick persons find everything they taste bitter, viz. because, when they taste, their tongues are overflowing with bitter moisture.

The species of flavour are, as in the case of colour, (a) simple, i.e. the two contraries, the sweet and the bitter, (b) secondary, viz. (i) on the side of the sweet, the succulent, (ii) on the side of the bitter, the saline, (iii) between these come the pungent, the harsh, the astringent, and the acid; these pretty well exhaust the varieties of flavour. It follows that what has the power of tasting is what is potentially of that kind, and that what is tasteable is what has the power of making it actually what it itself already is.

11

Whatever can be said of what is tangible, can be said of touch, and vice versa; if touch is not a single sense but a group of senses, there must be several kinds of what is tangible. It is a problem whether touch is a single sense or a group of senses. It is also a problem, what is the organ of touch; is it or is it not the flesh (including what in certain animals is homologous with flesh)? On the second view, flesh is ‘the medium’ of touch, the real organ being situated farther inward. The problem arises because the field of each sense is according to the accepted view determined as the range between a single pair of contraries, white and black for sight, acute and grave for hearing, bitter and sweet for taste; but in the field of what is tangible we find several such pairs, hot cold, dry moist, hard soft, &c. This problem finds a partial solution, when it is recalled that in the case of the other senses more than one pair of contraries are to be met with, e.g. in sound not only acute and grave but loud and soft, smooth and rough, &c.; there are similar contrasts in the field of colour. Nevertheless we are unable clearly to detect in the case of touch what the single subject is which underlies the contrasted qualities and corresponds to sound in the case of hearing.

To the question whether the organ of touch lies inward or not (i.e. whether we need look any farther than the flesh), no indication in favour of the second answer can be drawn from the fact that if the object comes into contact with the flesh it is at once perceived. For even under present conditions if the experiment is made of making a web and stretching it tight over the flesh, as soon as this web is touched the sensation is reported in the same manner as before, yet it is clear that the or is gan is not in this membrane. If the membrane could be grown on to the flesh, the report would travel still quicker. The flesh plays in touch very much the same part as would be played in the other senses by an air-envelope growing round our body; had we such an envelope attached to us we should have supposed that it was by a single organ that we perceived sounds, colours, and smells, and we should have taken sight, hearing, and smell to be a single sense. But as it is, because that through which the different movements are transmitted is not naturally attached to our bodies, the difference of the various sense-organs is too plain to miss. But in the case of touch the obscurity remains.

There must be such a naturally attached ‘medium’ as flesh, for no living body could be constructed of air or water; it must be something solid. Consequently it must be composed of earth along with these, which is just what flesh and its analogue in animals which have no true flesh tend to be. Hence of necessity the medium through which are transmitted the manifoldly contrasted tactual qualities must be a body naturally attached to the organism. That they are manifold is clear when we consider touching with the tongue; we apprehend at the tongue all tangible qualities as well as flavour. Suppose all the rest of our flesh was, like the tongue, sensitive to flavour, we should have identified the sense of taste and the sense of touch; what saves us from this identification is the fact that touch and taste are not always found together in the same part of the body. The following problem might be raised. Let us assume that every body has depth, i.e. has three dimensions, and that if two bodies have a third body between them they cannot be in contact with one another; let us remember that what is liquid is a body and must be or contain water, and that if two bodies touch one another under water, their touching surfaces cannot be dry, but must have water between, viz. the water which wets their bounding surfaces; from all this it follows that in water two bodies cannot be in contact with one another. The same holds of two bodies in air-air being to bodies in air precisely what water is to bodies in water-but the facts are not so evident to our observation, because we live in air, just as animals that live in water would not notice that the things which touch one another in water have wet surfaces. The problem, then, is: does the perception of all objects of sense take place in the same way, or does it not, e.g. taste and touch requiring contact (as they are commonly thought to do), while all other senses perceive over a distance? The distinction is unsound; we perceive what is hard or soft, as well as the objects of hearing, sight, and smell, through a ‘medium’, only that the latter are perceived over a greater distance than the former; that is why the facts escape our notice. For we do perceive everything through a medium; but in these cases the fact escapes us. Yet, to repeat what we said before, if the medium for touch were a membrane separating us from the object without our observing its existence, we should be relatively to it in the same condition as we are now to air or water in which we are immersed; in their case we fancy we can touch objects, nothing coming in between us and them. But there remains this difference between what can be touched and what can be seen or can sound; in the latter two cases we perceive because the medium produces a certain effect upon us, whereas in the perception of objects of touch we are affected not by but along with the medium; it is as if a man were struck through his shield, where the shock is not first given to the shield and passed on to the man, but the concussion of both is simultaneous.

In general, flesh and the tongue are related to the real organs of touch and taste, as air and water are to those of sight, hearing, and smell. Hence in neither the one case nor the other can there be any perception of an object if it is placed immediately upon the organ, e.g. if a white object is placed on the surface of the eye. This again shows that what has the power of perceiving the tangible is seated inside. Only so would there be a complete analogy with all the other senses. In their case if you place the object on the organ it is not perceived, here if you place it on the flesh it is perceived; therefore flesh is not the organ but the medium of touch.

What can be touched are distinctive qualities of body as body; by such differences I mean those which characterize the elements, viz, hot cold, dry moist, of which we have spoken earlier in our treatise on the elements. The organ for the perception of these is that of touch-that part of the body in which primarily the sense of touch resides. This is that part which is potentially such as its object is actually: for all sense-perception is a process of being so affected; so that that which makes something such as it itself actually is makes the other such because the other is already potentially such. That is why when an object of touch is equally hot and cold or hard and soft we cannot perceive; what we perceive must have a degree of the sensible quality lying beyond the neutral point. This implies that the sense itself is a ‘mean’ between any two opposite qualities which determine the field of that sense. It is to this that it owes its power of discerning the objects in that field. What is ‘in the middle’ is fitted to discern; relatively to either extreme it can put itself in the place of the other. As what is to perceive both white and black must, to begin with, be actually neither but potentially either (and so with all the other sense-organs), so the organ of touch must be neither hot nor cold.

Further, as in a sense sight had for its object both what was visible and what was invisible (and there was a parallel truth about all the other senses discussed), so touch has for its object both what is tangible and what is intangible. Here by ‘intangible’ is meant (a) what like air possesses some quality of tangible things in a very slight degree and (b) what possesses it in an excessive degree, as destructive things do.

We have now given an outline account of each of the several senses.

12

The following results applying to any and every sense may now be formulated.

(A) By a ‘sense’ is meant what has the power of receiving into itself the sensible forms of things without the matter. This must be conceived of as taking place in the way in which a piece of wax takes on the impress of a signet-ring without the iron or gold; we say that what produces the impression is a signet of bronze or gold, but its particular metallic constitution makes no difference: in a similar way the sense is affected by what is coloured or flavoured or sounding, but it is indifferent what in each case the substance is; what alone matters is what quality it has, i.e. in what ratio its constituents are combined.

(B) By ‘an organ of sense’ is meant that in which ultimately such a power is seated.

The sense and its organ are the same in fact, but their essence is not the same. What perceives is, of course, a spatial magnitude, but we must not admit that either the having the power to perceive or the sense itself is a magnitude; what they are is a certain ratio or power in a magnitude. This enables us to explain why objects of sense which possess one of two opposite sensible qualities in a degree largely in excess of the other opposite destroy the organs of sense; if the movement set up by an object is too strong for the organ, the equipoise of contrary qualities in the organ, which just is its sensory power, is disturbed; it is precisely as concord and tone are destroyed by too violently twanging the strings of a lyre. This explains also why plants cannot perceive. in spite of their having a portion of soul in them and obviously being affected by tangible objects themselves; for undoubtedly their temperature can be lowered or raised. The explanation is that they have no mean of contrary qualities, and so no principle in them capable of taking on the forms of sensible objects without their matter; in the case of plants the affection is an affection by form-and-matter together. The problem might be raised: Can what cannot smell be said to be affected by smells or what cannot see by colours, and so on? It might be said that a smell is just what can be smelt, and if it produces any effect it can only be so as to make something smell it, and it might be argued that what cannot smell cannot be affected by smells and further that what can smell can be affected by it only in so far as it has in it the power to smell (similarly with the proper objects of all the other senses). Indeed that this is so is made quite evident as follows. Light or darkness, sounds and smells leave bodies quite unaffected; what does affect bodies is not these but the bodies which are their vehicles, e.g. what splits the trunk of a tree is not the sound of the thunder but the air which accompanies thunder. Yes, but, it may be objected, bodies are affected by what is tangible and by flavours. If not, by what are things that are without soul affected, i.e. altered in quality? Must we not, then, admit that the objects of the other senses also may affect them? Is not the true account this, that all bodies are capable of being affected by smells and sounds, but that some on being acted upon, having no boundaries of their own, disintegrate, as in the instance of air, which does become odorous, showing that some effect is produced on it by what is odorous? But smelling is more than such an affection by what is odorous-what more? Is not the answer that, while the air owing to the momentary duration of the action upon it of what is odorous does itself become perceptible to the sense of smell, smelling is an observing of the result produced?

Book III

1

THAT there is no sixth sense in addition to the five enumerated-sight, hearing, smell, taste, touch-may be established by the following considerations:

If we have actually sensation of everything of which touch can give us sensation (for all the qualities of the tangible qua tangible are perceived by us through touch); and if absence of a sense necessarily involves absence of a sense-organ; and if (1) all objects that we perceive by immediate contact with them are perceptible by touch, which sense we actually possess, and (2) all objects that we perceive through media, i.e. without immediate contact, are perceptible by or through the simple elements, e.g. air and water (and this is so arranged that (a) if more than one kind of sensible object is perceivable through a single medium, the possessor of a sense-organ homogeneous with that medium has the power of perceiving both kinds of objects; for example, if the sense-organ is made of air, and air is a medium both for sound and for colour; and that (b) if more than one medium can transmit the same kind of sensible objects, as e.g. water as well as air can transmit colour, both being transparent, then the possessor of either alone will be able to perceive the kind of objects transmissible through both); and if of the simple elements two only, air and water, go to form sense-organs (for the pupil is made of water, the organ of hearing is made of air, and the organ of smell of one or other of these two, while fire is found either in none or in all-warmth being an essential condition of all sensibility-and earth either in none or, if anywhere, specially mingled with the components of the organ of touch; wherefore it would remain that there can be no sense-organ formed of anything except water and air); and if these sense-organs are actually found in certain animals;-then all the possible senses are possessed by those animals that are not imperfect or mutilated (for even the mole is observed to have eyes beneath its skin); so that, if there is no fifth element and no property other than those which belong to the four elements of our world, no sense can be wanting to such animals.

Further, there cannot be a special sense-organ for the common sensibles either, i.e. the objects which we perceive incidentally through this or that special sense, e.g. movement, rest, figure, magnitude, number, unity; for all these we perceive by movement, e.g. magnitude by movement, and therefore also figure (for figure is a species of magnitude), what is at rest by the absence of movement: number is perceived by the negation of continuity, and by the special sensibles; for each sense perceives one class of sensible objects. So that it is clearly impossible that there should be a special sense for any one of the common sensibles, e.g. movement; for, if that were so, our perception of it would be exactly parallel to our present perception of what is sweet by vision. That is so because we have a sense for each of the two qualities, in virtue of which when they happen to meet in one sensible object we are aware of both contemporaneously. If it were not like this our perception of the common qualities would always be incidental, i.e. as is the perception of Cleon's son, where we perceive him not as Cleon's son but as white, and the white thing which we really perceive happens to be Cleon's son.

But in the case of the common sensibles there is already in us a general sensibility which enables us to perceive them directly; there is therefore no special sense required for their perception: if there were, our perception of them would have been exactly like what has been above described.

The senses perceive each other's special objects incidentally; not because the percipient sense is this or that special sense, but because all form a unity: this incidental perception takes place whenever sense is directed at one and the same moment to two disparate qualities in one and the same object, e.g. to the bitterness and the yellowness of bile, the assertion of the identity of both cannot be the act of either of the senses; hence the illusion of sense, e.g. the belief that if a thing is yellow it is bile.

It might be asked why we have more senses than one. Is it to prevent a failure to apprehend the common sensibles, e.g. movement, magnitude, and number, which go along with the special sensibles? Had we no sense but sight, and that sense no object but white, they would have tended to escape our notice and everything would have merged for us into an indistinguishable identity because of the concomitance of colour and magnitude. As it is, the fact that the common sensibles are given in the objects of more than one sense reveals their distinction from each and all of the special sensibles.

2

Since it is through sense that we are aware that we are seeing or hearing, it must be either by sight that we are aware of seeing, or by some sense other than sight. But the sense that gives us this new sensation must perceive both sight and its object, viz. colour: so that either (1) there will be two senses both percipient of the same sensible object, or (2) the sense must be percipient of itself. Further, even if the sense which perceives sight were different from sight, we must either fall into an infinite regress, or we must somewhere assume a sense which is aware of itself. If so, we ought to do this in the first case.

This presents a difficulty: if to perceive by sight is just to see, and what is seen is colour (or the coloured), then if we are to see that which sees, that which sees originally must be coloured. It is clear therefore that ‘to perceive by sight’ has more than one meaning; for even when we are not seeing, it is by sight that we discriminate darkness from light, though not in the same way as we distinguish one colour from another. Further, in a sense even that which sees is coloured; for in each case the sense-organ is capable of receiving the sensible object without its matter. That is why even when the sensible objects are gone the sensings and imaginings continue to exist in the sense-organs.

The activity of the sensible object and that of the percipient sense is one and the same activity, and yet the distinction between their being remains. Take as illustration actual sound and actual hearing: a man may have hearing and yet not be hearing, and that which has a sound is not always sounding. But when that which can hear is actively hearing and which can sound is sounding, then the actual hearing and the actual sound are merged in one (these one might call respectively hearkening and sounding).

If it is true that the movement, both the acting and the being acted upon, is to be found in that which is acted upon, both the sound and the hearing so far as it is actual must be found in that which has the faculty of hearing; for it is in the passive factor that the actuality of the active or motive factor is realized; that is why that which causes movement may be at rest. Now the actuality of that which can sound is just sound or sounding, and the actuality of that which can hear is hearing or hearkening; ‘sound’ and ‘hearing’ are both ambiguous. The same account applies to the other senses and their objects. For as the-acting-and-being-acted-upon is to be found in the passive, not in the active factor, so also the actuality of the sensible object and that of the sensitive subject are both realized in the latter. But while in some cases each aspect of the total actuality has a distinct name, e.g. sounding and hearkening, in some one or other is nameless, e.g. the actuality of sight is called seeing, but the actuality of colour has no name: the actuality of the faculty of taste is called tasting, but the actuality of flavour has no name. Since the actualities of the sensible object and of the sensitive faculty are one actuality in spite of the difference between their modes of being, actual hearing and actual sounding appear and disappear from existence at one and the same moment, and so actual savour and actual tasting, &c., while as potentialities one of them may exist without the other. The earlier students of nature were mistaken in their view that without sight there was no white or black, without taste no savour. This statement of theirs is partly true, partly false: ‘sense’ and ‘the sensible object’ are ambiguous terms, i.e. may denote either potentialities or actualities: the statement is true of the latter, false of the former. This ambiguity they wholly failed to notice.

If voice always implies a concord, and if the voice and the hearing of it are in one sense one and the same, and if concord always implies a ratio, hearing as well as what is heard must be a ratio. That is why the excess of either the sharp or the flat destroys the hearing. (So also in the case of savours excess destroys the sense of taste, and in the case of colours excessive brightness or darkness destroys the sight, and in the case of smell excess of strength whether in the direction of sweetness or bitterness is destructive.) This shows that the sense is a ratio.

That is also why the objects of sense are (1) pleasant when the sensible extremes such as acid or sweet or salt being pure and unmixed are brought into the proper ratio; then they are pleasant: and in general what is blended is more pleasant than the sharp or the flat alone; or, to touch, that which is capable of being either warmed or chilled: the sense and the ratio are identical: while (2) in excess the sensible extremes are painful or destructive.

Each sense then is relative to its particular group of sensible qualities: it is found in a sense-organ as such and discriminates the differences which exist within that group; e.g. sight discriminates white and black, taste sweet and bitter, and so in all cases. Since we also discriminate white from sweet, and indeed each sensible quality from every other, with what do we perceive that they are different? It must be by sense; for what is before us is sensible objects. (Hence it is also obvious that the flesh cannot be the ultimate sense-organ: if it were, the discriminating power could not do its work without immediate contact with the object.)

Therefore (1) discrimination between white and sweet cannot be effected by two agencies which remain separate; both the qualities discriminated must be present to something that is one and single. On any other supposition even if I perceived sweet and you perceived white, the difference between them would be apparent. What says that two things are different must be one; for sweet is different from white. Therefore what asserts this difference must be self-identical, and as what asserts, so also what thinks or perceives. That it is not possible by means of two agencies which remain separate to discriminate two objects which are separate, is therefore obvious; and that (it is not possible to do this in separate movements of time may be seen' if we look at it as follows. For as what asserts the difference between the good and the bad is one and the same, so also the time at which it asserts the one to be different and the other to be different is not accidental to the assertion (as it is for instance when I now assert a difference but do not assert that there is now a difference); it asserts thus-both now and that the objects are different now; the objects therefore must be present at one and the same moment. Both the discriminating power and the time of its exercise must be one and undivided.

But, it may be objected, it is impossible that what is self-identical should be moved at me and the same time with contrary movements in so far as it is undivided, and in an undivided moment of time. For if what is sweet be the quality perceived, it moves the sense or thought in this determinate way, while what is bitter moves it in a contrary way, and what is white in a different way. Is it the case then that what discriminates, though both numerically one and indivisible, is at the same time divided in its being? In one sense, it is what is divided that perceives two separate objects at once, but in another sense it does so qua undivided; for it is divisible in its being but spatially and numerically undivided. is not this impossible? For while it is true that what is self-identical and undivided may be both contraries at once potentially, it cannot be self-identical in its being-it must lose its unity by being put into activity. It is not possible to be at once white and black, and therefore it must also be impossible for a thing to be affected at one and the same moment by the forms of both, assuming it to be the case that sensation and thinking are properly so described.

The answer is that just as what is called a ‘point’ is, as being at once one and two, properly said to be divisible, so here, that which discriminates is qua undivided one, and active in a single moment of time, while so far forth as it is divisible it twice over uses the same dot at one and the same time. So far forth then as it takes the limit as two’ it discriminates two separate objects with what in a sense is divided: while so far as it takes it as one, it does so with what is one and occupies in its activity a single moment of time.

About the principle in virtue of which we say that animals are percipient, let this discussion suffice.

3

There are two distinctive peculiarities by reference to which we characterize the soul (1) local movement and (2) thinking, discriminating, and perceiving. Thinking both speculative and practical is regarded as akin to a form of perceiving; for in the one as well as the other the soul discriminates and is cognizant of something which is. Indeed the ancients go so far as to identify thinking and perceiving; e.g. Empedocles says ‘For ‘tis in respect of what is present that man’s wit is increased’, and again ‘Whence it befalls them from time to time to think diverse thoughts’, and Homer’s phrase ‘For suchlike is man’s mind’ means the same. They all look upon thinking as a bodily process like perceiving, and hold that like is known as well as perceived by like, as I explained at the beginning of our discussion. Yet they ought at the same time to have accounted for error also; for it is more intimately connected with animal existence and the soul continues longer in the state of error than in that of truth. They cannot escape the dilemma: either (1) whatever seems is true (and there are some who accept this) or (2) error is contact with the unlike; for that is the opposite of the knowing of like by like.

But it is a received principle that error as well as knowledge in respect to contraries is one and the same.

That perceiving and practical thinking are not identical is therefore obvious; for the former is universal in the animal world, the latter is found in only a small division of it. Further, speculative thinking is also distinct from perceiving-I mean that in which we find rightness and wrongness-rightness in prudence, knowledge, true opinion, wrongness in their opposites; for perception of the special objects of sense is always free from error, and is found in all animals, while it is possible to think falsely as well as truly, and thought is found only where there is discourse of reason as well as sensibility. For imagination is different from either perceiving or discursive thinking, though it is not found without sensation, or judgement without it. That this activity is not the same kind of thinking as judgement is obvious. For imagining lies within our own power whenever we wish (e.g. we can call up a picture, as in the practice of mnemonics by the use of mental images), but in forming opinions we are not free: we cannot escape the alternative of falsehood or truth. Further, when we think something to be fearful or threatening, emotion is immediately produced, and so too with what is encouraging; but when we merely imagine we remain as unaffected as persons who are looking at a painting of some dreadful or encouraging scene. Again within the field of judgement itself we find varieties, knowledge, opinion, prudence, and their opposites; of the differences between these I must speak elsewhere.

Thinking is different from perceiving and is held to be in part imagination, in part judgement: we must therefore first mark off the sphere of imagination and then speak of judgement. If then imagination is that in virtue of which an image arises for us, excluding metaphorical uses of the term, is it a single faculty or disposition relative to images, in virtue of which we discriminate and are either in error or not? The faculties in virtue of which we do this are sense, opinion, science, intelligence.

That imagination is not sense is clear from the following considerations: Sense is either a faculty or an activity, e.g. sight or seeing: imagination takes place in the absence of both, as e.g. in dreams. (Again, sense is always present, imagination not. If actual imagination and actual sensation were the same, imagination would be found in all the brutes: this is held not to be the case; e.g. it is not found in ants or bees or grubs. (Again, sensations are always true, imaginations are for the most part false. (Once more, even in ordinary speech, we do not, when sense functions precisely with regard to its object, say that we imagine it to be a man, but rather when there is some failure of accuracy in its exercise. And as we were saying before, visions appear to us even when our eyes are shut. Neither is imagination any of the things that are never in error: e.g. knowledge or intelligence; for imagination may be false.

It remains therefore to see if it is opinion, for opinion may be either true or false.

But opinion involves belief (for without belief in what we opine we cannot have an opinion), and in the brutes though we often find imagination we never find belief. Further, every opinion is accompanied by belief, belief by conviction, and conviction by discourse of reason: while there are some of the brutes in which we find imagination, without discourse of reason. It is clear then that imagination cannot, again, be (1) opinion plus sensation, or (2) opinion mediated by sensation, or (3) a blend of opinion and sensation; this is impossible both for these reasons and because the content of the supposed opinion cannot be different from that of the sensation (I mean that imagination must be the blending of the perception of white with the opinion that it is white: it could scarcely be a blend of the opinion that it is good with the perception that it is white): to imagine is therefore (on this view) identical with the thinking of exactly the same as what one in the strictest sense perceives. But what we imagine is sometimes false though our contemporaneous judgement about it is true; e.g. we imagine the sun to be a foot in diameter though we are convinced that it is larger than the inhabited part of the earth, and the following dilemma presents itself. Either (a while the fact has not changed and the (observer has neither forgotten nor lost belief in the true opinion which he had, that opinion has disappeared, or (b) if he retains it then his opinion is at once true and false. A true opinion, however, becomes false only when the fact alters without being noticed.

Imagination is therefore neither any one of the states enumerated, nor compounded out of them.

But since when one thing has been set in motion another thing may be moved by it, and imagination is held to be a movement and to be impossible without sensation, i.e. to occur in beings that are percipient and to have for its content what can be perceived, and since movement may be produced by actual sensation and that movement is necessarily similar in character to the sensation itself, this movement must be (1) necessarily (a) incapable of existing apart from sensation, (b) incapable of existing except when we perceive, (such that in virtue of its possession that in which it is found may present various phenomena both active and passive, and (such that it may be either true or false.

The reason of the last characteristic is as follows. Perception (1) of the special objects of sense is never in error or admits the least possible amount of falsehood. (2) That of the concomitance of the objects concomitant with the sensible qualities comes next: in this case certainly we may be deceived; for while the perception that there is white before us cannot be false, the perception that what is white is this or that may be false. (3) Third comes the perception of the universal attributes which accompany the concomitant objects to which the special sensibles attach (I mean e.g. of movement and magnitude); it is in respect of these that the greatest amount of sense-illusion is possible.

The motion which is due to the activity of sense in these three modes of its exercise will differ from the activity of sense; (1) the first kind of derived motion is free from error while the sensation is present; (2) and (3) the others may be erroneous whether it is present or absent, especially when the object of perception is far off. If then imagination presents no other features than those enumerated and is what we have described, then imagination must be a movement resulting from an actual exercise of a power of sense.

As sight is the most highly developed sense, the name Phantasia (imagination) has been formed from Phaos (light) because it is not possible to see without light.

And because imaginations remain in the organs of sense and resemble sensations, animals in their actions are largely guided by them, some (i.e. the brutes) because of the non-existence in them of mind, others (i.e. men) because of the temporary eclipse in them of mind by feeling or disease or sleep.

About imagination, what it is and why it exists, let so much suffice.

4

Turning now to the part of the soul with which the soul knows and thinks (whether this is separable from the others in definition only, or spatially as well) we have to inquire (1) what differentiates this part, and (2) how thinking can take place.

If thinking is like perceiving, it must be either a process in which the soul is acted upon by what is capable of being thought, or a process different from but analogous to that. The thinking part of the soul must therefore be, while impassible, capable of receiving the form of an object; that is, must be potentially identical in character with its object without being the object. Mind must be related to what is thinkable, as sense is to what is sensible.

Therefore, since everything is a possible object of thought, mind in order, as Anaxagoras says, to dominate, that is, to know, must be pure from all admixture; for the co-presence of what is alien to its nature is a hindrance and a block: it follows that it too, like the sensitive part, can have no nature of its own, other than that of having a certain capacity. Thus that in the soul which is called mind (by mind I mean that whereby the soul thinks and judges) is, before it thinks, not actually any real thing. For this reason it cannot reasonably be regarded as blended with the body: if so, it would acquire some quality, e.g. warmth or cold, or even have an organ like the sensitive faculty: as it is, it has none. It was a good idea to call the soul 'the place of forms', though (1) this description holds only of the intellective soul, and (2) even this is the forms only potentially, not actually.

Observation of the sense-organs and their employment reveals a distinction between the impassibility of the sensitive and that of the intellective faculty. After strong stimulation of a sense we are less able to exercise it than before, as e.g. in the case of a loud sound we cannot hear easily immediately after, or in the case of a bright colour or a powerful odour we cannot see or smell, but in the case of mind thought about an object that is highly intelligible renders it more and not less able afterwards to think objects that are less intelligible: the reason is that while the faculty of sensation is dependent upon the body, mind is separable from it.

Once the mind has become each set of its possible objects, as a man of science has, when this phrase is used of one who is actually a man of science (this happens when he is now able to exercise the power on his own initiative), its condition is still one of potentiality, but in a different sense from the potentiality which preceded the acquisition of knowledge by learning or discovery: the mind too is then able to think itself.

Since we can distinguish between a spatial magnitude and what it is to be such, and between water and what it is to be water, and so in many other cases (though not in all; for in certain cases the thing and its form are identical), flesh and what it is to be flesh are discriminated either by different faculties, or by the same faculty in two different states: for flesh necessarily involves matter and is like what is snub-nosed, a this in a this. Now it is by means of the sensitive faculty that we discriminate the hot and the cold, i.e. the factors which combined in a certain ratio constitute flesh: the essential character of flesh is apprehended by something different either wholly separate from the sensitive faculty or related to it as a bent line to the same line when it has been straightened out.

Again in the case of abstract objects what is straight is analogous to what is snub-nosed; for it necessarily implies a continuum as its matter: its constitutive essence is different, if we may distinguish between straightness and what is straight: let us take it to be two-ness. It must be apprehended, therefore, by a different power or by the same power in a different state. To sum up, in so far as the realities it knows are capable of being separated from their matter, so it is also with the powers of mind.

The problem might be suggested: if thinking is a passive affection, then if mind is simple and impassible and has nothing in common with anything else, as Anaxagoras says, how can it come to think at all? For interaction between two factors is held to require a precedent community of nature between the factors. Again it might be asked, is mind a possible object of thought to itself? For if mind is thinkable per se and what is thinkable is in kind one and the same, then either (a) mind will belong to everything, or (b) mind will contain some element common to it with all other realities which makes them all thinkable.

(1) Have not we already disposed of the difficulty about interaction involving a common element, when we said that mind is in a sense potentially whatever is thinkable, though actually it is nothing until it has thought? What it thinks must be in it just as characters may be said to be on a writingtablet on which as yet nothing actually stands written: this is exactly what happens with mind.

(Mind is itself thinkable in exactly the same way as its objects are. For (a) in the case of objects which involve no matter, what thinks and what is thought are identical; for speculative knowledge and its object are identical. (Why mind is not always thinking we must consider later.) (b) In the case of those which contain matter each of the objects of thought is only potentially present. It follows that while they will not have mind in them (for mind is a potentiality of them only in so far as they are capable of being disengaged from matter) mind may yet be thinkable.

5

Since in every class of things, as in nature as a whole, we find two factors involved, (1) a matter which is potentially all the particulars included in the class, (2) a cause which is productive in the sense that it makes them all (the latter standing to the former, as e.g. an art to its material), these distinct elements must likewise be found within the soul.

And in fact mind as we have described it is what it is what it is by virtue of becoming all things, while there is another which is what it is by virtue of making all things: this is a sort of positive state like light; for in a sense light makes potential colours into actual colours.

Mind in this sense of it is separable, impassible, unmixed, since it is in its essential nature activity (for always the active is superior to the passive factor, the originating force to the matter which it forms).

Actual knowledge is identical with its object: in the individual, potential knowledge is in time prior to actual knowledge, but in the universe as a whole it is not prior even in time. Mind is not at one time knowing and at another not. When mind is set free from its present conditions it appears as just what it is and nothing more: this alone is immortal and eternal (we do not, however, remember its former activity because, while mind in this sense is impassible, mind as passive is destructible), and without it nothing thinks.

6

The thinking then of the simple objects of thought is found in those cases where falsehood is impossible: where the alternative of true or false applies, there we always find a putting together of objects of thought in a quasi-unity. As Empedocles said that ‘where heads of many a creature sprouted without necks’ they afterwards by Love’s power were combined, so here too objects of thought which were given separate are combined, e.g. ‘incommensurate’ and ‘diagonal’: if the combination be of objects past or future the combination of thought includes in its content the date. For falsehood always involves a synthesis; for even if you assert that what is white is not white you have included not white in a synthesis. It is possible also to call all these cases division as well as combination. However that may be, there is not only the true or false assertion that Cleon is white but also the true or false assertion that he was or will he white. In each and every case that which unifies is mind.

Since the word ‘simple’ has two senses, i.e. may mean either (a) ‘not capable of being divided’ or (b) ‘not actually divided’, there is nothing to prevent mind from knowing what is undivided, e.g. when it apprehends a length (which is actually undivided) and that in an undivided time; for the time is divided or undivided in the same manner as the line. It is not possible, then, to tell what part of the line it was apprehending in each half of the time: the object has no actual parts until it has been divided: if in thought you think each half separately, then by the same act you divide the time also, the half-lines becoming as it were new wholes of length. But if you think it as a whole consisting of these two possible parts, then also you think it in a time which corresponds to both parts together. (But what is not quantitatively but qualitatively simple is thought in a simple time and by a simple act of the soul.)

But that which mind thinks and the time in which it thinks are in this case divisible only incidentally and not as such. For in them too there is something indivisible (though, it may be, not isolable) which gives unity to the time and the whole of length; and this is found equally in every continuum whether temporal or spatial.

Points and similar instances of things that divide, themselves being indivisible, are realized in consciousness in the same manner as privations.

A similar account may be given of all other cases, e.g. how evil or black is cognized; they are cognized, in a sense, by means of their contraries. That which cognizes must have an element of potentiality in its being, and one of the contraries must be in it. But if there is anything that has no contrary, then it knows itself and is actually and possesses independent existence.

Assertion is the saying of something concerning something, e.g. affirmation, and is in every case either true or false: this is not always the case with mind: the thinking of the definition in the sense of the constitutive essence is never in error nor is it the assertion of something concerning something, but, just as while the seeing of the special object of sight can never be in error, the belief that the white object seen is a man may be mistaken, so too in the case of objects which are without matter.

7

Actual knowledge is identical with its object: potential knowledge in the individual is in time prior to actual knowledge but in the universe it has no priority even in time; for all things that come into being arise from what actually is. In the case of sense clearly the sensitive faculty already was potentially what the object makes it to be actually; the faculty is not affected or altered. This must therefore be a different kind from movement; for movement is, as we saw, an activity of what is imperfect, activity in the unqualified sense, i.e. that of what has been perfected, is different from movement.

To perceive then is like bare asserting or knowing; but when the object is pleasant or painful, the soul makes a quasi-affirmation or negation, and pursues or avoids the object. To feel pleasure or pain is to act with the sensitive mean towards what is good or bad as such. Both avoidance and appetite when actual are identical with this: the faculty of appetite and avoidance are not different, either from one another or from the faculty of sense-perception; but their being is different.

To the thinking soul images serve as if they were contents of perception (and when it asserts or denies them to be good or bad it avoids or pursues them). That is why the soul never thinks without an image. The process is like that in which the air modifies the pupil in this or that way and the pupil transmits the modification to some third thing (and similarly in hearing), while the ultimate point of arrival is one, a single mean, with different manners of being.

With what part of itself the soul discriminates sweet from hot I have explained before and must now describe again as follows: That with which it does so is a sort of unity, but in the way just mentioned, i.e. as a connecting term. And the two faculties it connects, being one by analogy and numerically, are each to each as the qualities discerned are to one another (for what difference does it make whether we raise the problem of discrimination between disparates or between contraries, e.g. white and black?). Let then C be to D as is to B: it follows alternando that C: A:: D: B. If then C and D belong to one subject, the case will be the same with them as with and B; and B form a single identity with different modes of being; so too will the former pair. The same reasoning holds if be sweet and B white.

The faculty of thinking then thinks the forms in the images, and as in the former case what is to be pursued or avoided is marked out for it, so where there is no sensation and it is engaged upon the images it is moved to pursuit or avoidance. E.g.. perceiving by sense that the beacon is fire, it recognizes in virtue of the general faculty of sense that it signifies an enemy, because it sees it moving; but sometimes by means of the images or thoughts which are within the soul, just as if it were seeing, it calculates and deliberates what is to come by reference to what is present; and when it makes a pronouncement, as in the case of sensation it pronounces the object to be pleasant or painful, in this case it avoids or persues and so generally in cases of action.

That too which involves no action, i.e. that which is true or false, is in the same province with what is good or bad: yet they differ in this, that the one set imply and the other do not a reference to a particular person.

The so-called abstract objects the mind thinks just as, if one had thought of the snubnosed not as snub-nosed but as hollow, one would have thought of an actuality without the flesh in which it is embodied: it is thus that the mind when it is thinking the objects of Mathematics thinks as separate elements which do not exist separate. In every case the mind which is actively thinking is the objects which it thinks. Whether it is possible for it while not existing separate from spatial conditions to think anything that is separate, or not, we must consider later.

8

Let us now summarize our results about soul, and repeat that the soul is in a way all existing things; for existing things are either sensible or thinkable, and knowledge is in a way what is knowable, and sensation is in a way what is sensible: in what way we must inquire.

Knowledge and sensation are divided to correspond with the realities, potential knowledge and sensation answering to potentialities, actual knowledge and sensation to actualities. Within the soul the faculties of knowledge and sensation are potentially these objects, the one what is knowable, the other what is sensible. They must be either the things themselves or their forms. The former alternative is of course impossible: it is not the stone which is present in the soul but its form.

It follows that the soul is analogous to the hand; for as the hand is a tool of tools, so the mind is the form of forms and sense the form of sensible things.

Since according to common agreement there is nothing outside and separate in existence from sensible spatial magnitudes, the objects of thought are in the sensible forms, viz. both the abstract objects and all the states and affections of sensible things. Hence (1) no one can learn or understand anything in the absence of sense, and (when the mind is actively aware of anything it is necessarily aware of it along with an image; for images are like sensuous contents except in that they contain no matter.

Imagination is different from assertion and denial; for what is true or false involves a synthesis of concepts. In what will the primary concepts differ from images? Must we not say that neither these nor even our other concepts are images, though they necessarily involve them?

9

The soul of animals is characterized by two faculties, (a) the faculty of discrimination which is the work of thought and sense, and (b) the faculty of originating local movement. Sense and mind we have now sufficiently examined. Let us next consider what it is in the soul which originates movement. Is it a single part of the soul separate either spatially or in definition? Or is it the soul as a whole? If it is a part, is that part different from those usually distinguished or already mentioned by us, or is it one of them? The problem at once presents itself, in what sense we are to speak of parts of the soul, or how many we should distinguish. For in a sense there is an infinity of parts: it is not enough to distinguish, with some thinkers, the calculative, the passionate, and the desiderative, or with others the rational and the irrational; for if we take the dividing lines followed by these thinkers we shall find parts far more distinctly separated from one another than these, namely those we have just mentioned: (1) the nutritive, which belongs both to plants and to all animals, and (2) the sensitive, which cannot easily be classed as either irrational or rational; further (3) the imaginative, which is, in its being, different from all, while it is very hard to say with which of the others it is the same or not the same, supposing we determine to posit separate parts in the soul; and lastly (4) the appetitive, which would seem to be distinct both in definition and in power from all hitherto enumerated.

It is absurd to break up the last-mentioned faculty: as these thinkers do, for wish is found in the calculative part and desire and passion in the irrational; and if the soul is tripartite appetite will be found in all three parts. Turning our attention to the present object of discussion, let us ask what that is which originates local movement of the animal.

The movement of growth and decay, being found in all living things, must be attributed to the faculty of reproduction and nutrition, which is common to all: inspiration and expiration, sleep and waking, we must consider later: these too present much difficulty: at present we must consider local movement, asking what it is that originates forward movement in the animal.

That it is not the nutritive faculty is obvious; for this kind of movement is always for an end and is accompanied either by imagination or by appetite; for no animal moves except by compulsion unless it has an impulse towards or away from an object. Further, if it were the nutritive faculty, even plants would have been capable of originating such movement and would have possessed the organs necessary to carry it out. Similarly it cannot be the sensitive faculty either; for there are many animals which have sensibility but remain fast and immovable throughout their lives.

If then Nature never makes anything without a purpose and never leaves out what is necessary (except in the case of mutilated or imperfect growths; and that here we have neither mutilation nor imperfection may be argued from the facts that such animals (a) can reproduce their species and (b) rise to completeness of nature and decay to an end), it follows that, had they been capable of originating forward movement, they would have possessed the organs necessary for that purpose. Further, neither can the calculative faculty or what is called ‘mind’ be the cause of such movement; for mind as speculative never thinks what is practicable, it never says anything about an object to be avoided or pursued, while this movement is always in something which is avoiding or pursuing an object. No, not even when it is aware of such an object does it at once enjoin pursuit or avoidance of it; e.g. the mind often thinks of something terrifying or pleasant without enjoining the emotion of fear. It is the heart that is moved (or in the case of a pleasant object some other part). Further, even when the mind does command and thought bids us pursue or avoid something, sometimes no movement is produced; we act in accordance with desire, as in the case of moral weakness. And, generally, we observe that the possessor of medical knowledge is not necessarily healing, which shows that something else is required to produce action in accordance with knowledge; the knowledge alone is not the cause. Lastly, appetite too is incompetent to account fully for movement; for those who successfully resist temptation have appetite and desire and yet follow mind and refuse to enact that for which they have appetite.

10

These two at all events appear to be sources of movement: appetite and mind (if one may venture to regard imagination as a kind of thinking; for many men follow their imaginations contrary to knowledge, and in all animals other than man there is no thinking or calculation but only imagination).

Both of these then are capable of originating local movement, mind and appetite: (1) mind, that is, which calculates means to an end, i.e. mind practical (it differs from mind speculative in the character of its end); while (2) appetite is in every form of it relative to an end: for that which is the object of appetite is the stimulant of mind practical; and that which is last in the process of thinking is the beginning of the action. It follows that there is a justification for regarding these two as the sources of movement, i.e. appetite and practical thought; for the object of appetite starts a movement and as a result of that thought gives rise to movement, the object of appetite being it a source of stimulation. So too when imagination originates movement, it necessarily involves appetite.

That which moves therefore is a single faculty and the faculty of appetite; for if there had been two sources of movement-mind and appetite-they would have produced movement in virtue of some common character. As it is, mind is never found producing movement without appetite (for wish is a form of appetite; and when movement is produced according to calculation it is also according to wish), but appetite can originate movement contrary to calculation, for desire is a form of appetite. Now mind is always right, but appetite and imagination may be either right or wrong. That is why, though in any case it is the object of appetite which originates movement, this object may be either the real or the apparent good. To produce movement the object must be more than this: it must be good that can be brought into being by action; and only what can be otherwise than as it is can thus be brought into being. That then such a power in the soul as has been described, i.e. that called appetite, originates movement is clear. Those who distinguish parts in the soul, if they distinguish and divide in accordance with differences of power, find themselves with a very large number of parts, a nutritive, a sensitive, an intellective, a deliberative, and now an appetitive part; for these are more different from one another than the faculties of desire and passion.

Since appetites run counter to one another, which happens when a principle of reason and a desire are contrary and is possible only in beings with a sense of time (for while mind bids us hold back because of what is future, desire is influenced by what is just at hand: a pleasant object which is just at hand presents itself as both pleasant and good, without condition in either case, because of want of foresight into what is farther away in time), it follows that while that which originates movement must be specifically one, viz. the faculty of appetite as such (or rather farthest back of all the object of that faculty; for it is it that itself remaining unmoved originates the movement by being apprehended in thought or imagination), the things that originate movement are numerically many.

All movement involves three factors, (1) that which originates the movement, (2) that by means of which it originates it, and (3) that which is moved. The expression ‘that which originates the movement’ is ambiguous: it may mean either (a) something which itself is unmoved or (b) that which at once moves and is moved. Here that which moves without itself being moved is the realizable good, that which at once moves and is moved is the faculty of appetite (for that which is influenced by appetite so far as it is actually so influenced is set in movement, and appetite in the sense of actual appetite is a kind of movement), while that which is in motion is the animal. The instrument which appetite employs to produce movement is no longer psychical but bodily: hence the examination of it falls within the province of the functions common to body and soul. To state the matter summarily at present, that which is the instrument in the production of movement is to be found where a beginning and an end coincide as e.g. in a ball and socket joint; for there the convex and the concave sides are respectively an end and a beginning (that is why while the one remains at rest, the other is moved): they are separate in definition but not separable spatially. For everything is moved by pushing and pulling. Hence just as in the case of a wheel, so here there must be a point which remains at rest, and from that point the movement must originate.

To sum up, then, and repeat what I have said, inasmuch as an animal is capable of appetite it is capable of self-movement; it is not capable of appetite without possessing imagination; and all imagination is either (1) calculative or (2) sensitive. In the latter an animals, and not only man, partake.

11

We must consider also in the case of imperfect animals, sc. those which have no sense but touch, what it is that in them originates movement. Can they have imagination or not? or desire? Clearly they have feelings of pleasure and pain, and if they have these they must have desire. But how can they have imagination? Must not we say that, as their movements are indefinite, they have imagination and desire, but indefinitely?

Sensitive imagination, as we have said, is found in all animals, deliberative imagination only in those that are calculative: for whether this or that shall be enacted is already a task requiring calculation; and there must be a single standard to measure by, for that is pursued which is greater. It follows that what acts in this way must be able to make a unity out of several images.

This is the reason why imagination is held not to involve opinion, in that it does not involve opinion based on inference, though opinion involves imagination. Hence appetite contains no deliberative element. Sometimes it overpowers wish and sets it in movement: at times wish acts thus upon appetite, like one sphere imparting its movement to another, or appetite acts thus upon appetite, i.e. in the condition of moral weakness (though by nature the higher faculty is always more authoritative and gives rise to movement). Thus three modes of movement are possible.

The faculty of knowing is never moved but remains at rest. Since the one premiss or judgement is universal and the other deals with the particular (for the first tells us that such and such a kind of man should do such and such a kind of act, and the second that this is an act of the kind meant, and I a person of the type intended), it is the latter opinion that really originates movement, not the universal; or rather it is both, but the one does so while it remains in a state more like rest, while the other partakes in movement.

12

The nutritive soul then must be possessed by everything that is alive, and every such thing is endowed with soul from its birth to its death. For what has been born must grow, reach maturity, and decay-all of which are impossible without nutrition. Therefore the nutritive faculty must be found in everything that grows and decays.

But sensation need not be found in all things that live. For it is impossible for touch to belong either (1) to those whose body is uncompounded or (2) to those which are incapable of taking in the forms without their matter.

But animals must be endowed with sensation, since Nature does nothing in vain. For all things that exist by Nature are means to an end, or will be concomitants of means to an end. Every body capable of forward movement would, if unendowed with sensation, perish and fail to reach its end, which is the aim of Nature; for how could it obtain nutriment? Stationary living things, it is true, have as their nutriment that from which they have arisen; but it is not possible that a body which is not stationary but produced by generation should have a soul and a discerning mind without also having sensation. (Nor yet even if it were not produced by generation. Why should it not have sensation? Because it were better so either for the body or for the soul? But clearly it would not be better for either: the absence of sensation will not enable the one to think better or the other to exist better.) Therefore no body which is not stationary has soul without sensation.

But if a body has sensation, it must be either simple or compound. And simple it cannot be; for then it could not have touch, which is indispensable. This is clear from what follows. An animal is a body with soul in it: every body is tangible, i.e. perceptible by touch; hence necessarily, if an animal is to survive, its body must have tactual sensation. All the other senses, e.g. smell, sight, hearing, apprehend through media; but where there is immediate contact the animal, if it has no sensation, will be unable to avoid some things and take others, and so will find it impossible to survive. That is why taste also is a sort of touch; it is relative to nutriment, which is just tangible body; whereas sound, colour, and odour are innutritious, and further neither grow nor decay. Hence it is that taste also must be a sort of touch, because it is the sense for what is tangible and nutritious.

Both these senses, then, are indispensable to the animal, and it is clear that without touch it is impossible for an animal to be. All the other senses subserve well-being and for that very reason belong not to any and every kind of animal, but only to some, e.g. those capable of forward movement must have them; for, if they are to survive, they must perceive not only by immediate contact but also at a distance from the object. This will be possible if they can perceive through a medium, the medium being affected and moved by the perceptible object, and the animal by the medium. just as that which produces local movement causes a change extending to a certain point, and that which gave an impulse causes another to produce a new impulse so that the movement traverses a medium the first mover impelling without being impelled, the last moved being impelled without impelling, while the medium (or media, for there are many) is both-so is it also in the case of alteration, except that the agent produces produces it without the patient's changing its place. Thus if an object is dipped into wax, the movement goes on until submersion has taken place, and in stone it goes no distance at all, while in water the disturbance goes far beyond the object dipped: in air the disturbance is propagated farthest of all, the air acting and being acted upon, so long as it maintains an unbroken unity. That is why in the case of reflection it is better, instead of saying that the sight issues from the eye and is reflected, to say that the air, so long as it remains one, is affected by the shape and colour. On a smooth surface the air possesses unity; hence it is that it in turn sets the sight in motion, just as if the impression on the wax were transmitted as far as the wax extends.

13

It is clear that the body of an animal cannot be simple, i.e. consist of one element such as fire or air. For without touch it is impossible to have any other sense; for every body that has soul in it must, as we have said, be capable of touch. All the other elements with the exception of earth can constitute organs of sense, but all of them bring about perception only through something else, viz. through the media. Touch takes place by direct contact with its objects, whence also its name. All the other organs of sense, no doubt, perceive by contact, only the contact is mediate: touch alone perceives by immediate contact. Consequently no animal body can consist of these other elements.

Nor can it consist solely of earth. For touch is as it were a mean between all tangible qualities, and its organ is capable of receiving not only all the specific qualities which characterize earth, but also the hot and the cold and all other tangible qualities whatsoever. That is why we have no sensation by means of bones, hair, &c., because they consist of earth. So too plants, because they consist of earth, have no sensation. Without touch there can be no other sense, and the organ of touch cannot consist of earth or of any other single element.

It is evident, therefore, that the loss of this one sense alone must bring about the death of an animal. For as on the one hand nothing which is not an animal can have this sense, so on the other it is the only one which is indispensably necessary to what is an animal. This explains, further, the following difference between the other senses and touch. In the case of all the others excess of intensity in the qualities which they apprehend, i.e. excess of intensity in colour, sound, and smell, destroys not the but only the organs of the sense (except incidentally, as when the sound is accompanied by an impact or shock, or where through the objects of sight or of smell certain other things are set in motion, which destroy by contact); flavour also destroys only in so far as it is at the same time tangible. But excess of intensity in tangible qualities, e.g. heat, cold, or hardness, destroys the animal itself. As in the case of every sensible quality excess destroys the organ, so here what is tangible destroys touch, which is the essential mark of life; for it has been shown that without touch it is impossible for an animal to be. That is why excess in intensity of tangible qualities destroys not merely the organ, but the animal itself, because this is the only sense which it must have.

All the other senses are necessary to animals, as we have said, not for their being, but for their well-being. Such, e.g. is sight, which, since it lives in air or water, or generally in what is pellucid, it must have in order to see, and taste because of what is pleasant or painful to it, in order that it may perceive these qualities in its nutriment and so may desire to be set in motion, and hearing that it may have communication made to it, and a tongue that it may communicate with its fellows.

The Parva Naturalia

Translated by J. I. Beare and G. R. T. Ross

The *Parva Naturalia* ('short treatises on nature') are a collection of seven essays, discussing various natural phenomena involving the body and the soul. The individual works are as follows:

- Sense and Sensibilia (or *De Sensu et Sensibilibus*)
- On Memory (or *De Memoria et Reminiscentia*)
- On Sleep (or *De Somno et Vigilia*)
- On Dreams (or *De Insomniis*)
- On Divination in Sleep (or *De Divinatione per Somnum*)
- On Length and Shortness of Life (or *De Longitudine et Brevitate Vitae*)
- On Youth, Old Age, Life and Death, and Respiration (or *De Juventute et Senectute*, *De Vita et Morte*, *De Respiratione*)

Sense and Sensibilia (436a)

Translated by J. I. Beare

1

HAVING now definitely considered the soul, by itself, and its several faculties, we must next make a survey of animals and all living things, in order to ascertain what functions are peculiar, and what functions are common, to them. What has been already determined respecting the soul [sc. by itself] must be assumed throughout. The remaining parts [sc. the attributes of soul and body conjointly] of our subject must be now dealt with, and we may begin with those that come first.

The most important attributes of animals, whether common to all or peculiar to some, are, manifestly, attributes of soul and body in conjunction, e.g. sensation, memory, passion, appetite and desire in general, and, in addition pleasure and pain. For these may, in fact, be said to belong to all animals. But there are, besides these, certain other attributes, of which some are common to all living things, while others are peculiar to certain species of animals. The most important of these may be summed up in four pairs, viz. waking and sleeping, youth and old age, inhalation and exhalation, life and death. We must endeavour to arrive at a scientific conception of these, determining their respective natures, and the causes of their occurrence.

But it behoves the Physical Philosopher to obtain also a clear view of the first principles of health and disease, inasmuch as neither health nor disease can exist in lifeless things. Indeed we may say of most physical inquirers, and of those physicians who study their art philosophically, that while the former complete their works with a disquisition on medicine, the latter usually base their medical theories on principles derived from Physics.

That all the attributes above enumerated belong to soul and body in conjunction, is obvious; for they all either imply sensation as a concomitant, or have it as their medium. Some are either affections or states of sensation, others, means of defending and safe-guarding it, while others, again, involve its destruction or negation. Now it is clear, alike by reasoning and observation, that sensation is generated in the soul through the medium of the body.

We have already, in our treatise On the Soul, explained the nature of sensation and the act of perceiving by sense, and the reason why this affection belongs to animals. Sensation must, indeed, be attributed to all animals as such, for by its presence or absence we distinguish essentially between what is and what is not an animal.

But coming now to the special senses severally, we may say that touch and taste necessarily appertain to all animals, touch, for the reason given in On the Soul, and taste, because of nutrition. It is by taste that one distinguishes in food the pleasant from the unpleasant, so as to flee from the latter and pursue the former: and savour in general is an affection of nutrient matter.

The senses which operate through external media, viz. smelling, hearing, seeing, are found in all animals which possess the faculty of locomotion. To all that possess them they are a means of preservation; their final cause being that such creatures may, guided by antecedent perception, both pursue their food, and shun things that are bad or destructive. But in animals which have also intelligence they serve for the attainment of a higher perfection. They bring in tidings of many distinctive qualities of things, from which the knowledge of truth, speculative and practical, is generated in the soul.

Of the two last mentioned, seeing, regarded as a supply for the primary wants of life, and in its direct effects, is the superior sense; but for developing intelligence, and in its indirect consequences, hearing takes the precedence. The faculty of seeing, thanks to the fact that all bodies are coloured, brings tidings of multitudes of distinctive qualities of all sorts; whence it is through this sense especially that we perceive the common sensibles, viz. figure, magnitude, motion, number: while hearing announces only the distinctive qualities of sound, and, to some few animals, those also of voice. indirectly, however, it is hearing that contributes most to the growth of intelligence. For rational discourse is a cause of instruction in virtue of its being audible, which it is, not directly, but indirectly; since it is composed of words, and each word is a thought-symbol. Accordingly, of persons destitute from birth of either sense, the blind are more intelligent than the deaf and dumb.

2

Of the distinctive potency of each of the faculties of sense enough has been said already.

But as to the nature of the sensory organs, or parts of the body in which each of the senses is naturally implanted, inquirers now usually take as their guide the fundamental elements of bodies. Not, however, finding it easy to coordinate five senses with four elements, they are at a loss respecting the fifth sense. But they hold the organ of sight to consist of fire, being prompted to this view by a certain sensory affection of whose true cause they are ignorant. This is that, when the eye is pressed or moved, fire appears to flash from it. This naturally takes place in darkness, or when the eyelids are closed, for then, too, darkness is produced.

This theory, however, solves one question only to raise another; for, unless on the hypothesis that a person who is in his full senses can see an object of vision without being aware of it, the eye must on this theory see itself. But then why does the above affection not occur also when the eye is at rest? The true explanation of this affection, which will contain the answer to our question, and account for the current notion that the eye consists of fire, must be determined in the following way: Things which are smooth have the natural property of shining in darkness, without, however, producing light. Now, the part of the eye called 'the black', i.e. its central part, is manifestly smooth. The phenomenon of the flash occurs only when the eye is moved, because only then could it possibly occur that the same one object should become as it were two. The rapidity of the movement has the effect of making that which sees and that which is seen seem different from one another. Hence the phenomenon does not occur unless the motion is rapid and takes place in darkness. For it is in the dark that that which is smooth, e.g. the heads of certain fishes, and the sepia of the cuttle-fish, naturally shines, and, when the movement of the eye is slow, it is impossible that that which sees and that which is seen should appear to be simultaneously two and one. But, in fact, the eye sees itself in the above phenomenon merely as it does so in ordinary optical reflexion.

If the visual organ proper really were fire, which is the doctrine of Empedocles, a doctrine taught also in the Timaeus, and if vision were the result of light issuing from the eye as from a lantern, why should the eye not have had the power of seeing even in the dark? It is totally idle to say, as the Timaeus does, that the visual ray coming forth in the darkness is quenched. What is the meaning of this ‘quenching’ of light? That which, like a fire of coals or an ordinary flame, is hot and dry is, indeed, quenched by the moist or cold; but heat and dryness are evidently not attributes of light. Or if they are attributes of it, but belong to it in a degree so slight as to be imperceptible to us, we should have expected that in the daytime the light of the sun should be quenched when rain falls, and that darkness should prevail in frosty weather. Flame, for example, and ignited bodies are subject to such extinction, but experience shows that nothing of this sort happens to the sunlight.

Empedocles at times seems to hold that vision is to be explained as above stated by light issuing forth from the eye, e.g. in the following passage: —

As when one who purposes going abroad prepares a lantern,
A gleam of fire blazing through the stormy night,
Adjusting thereto, to screen it from all sorts of winds,
transparent sides,
Which scatter the breath of the winds as they blow,
While, out through them leaping, the fire,
i.e. all the more subtile part of this,
Shines along his threshold old incessant beams:
So [Divine love] embedded the round “lens”, [viz.]
the primaeval fire fenced within the membranes,
In [its own] delicate tissues;
And these fended off the deep surrounding flood,
While leaping forth the fire, i.e. all its more subtile part-.

Sometimes he accounts for vision thus, but at other times he explains it by emanations from the visible objects.

Democritus, on the other hand, is right in his opinion that the eye is of water; not, however, when he goes on to explain seeing as mere mirroring. The mirroring that takes place in an eye is due to the fact that the eye is smooth, and it really has its seat not in the eye which is seen, but in that which sees. For the case is merely one of reflexion. But it would seem that even in his time there was no scientific knowledge of the general subject of the formation of images and the phenomena of reflexion. It is strange too, that it never occurred to him to ask why, if his theory be true, the eye alone sees, while none of the other things in which images are reflected do so.

True, then, the visual organ proper is composed of water, yet vision appertains to it not because it is so composed, but because it is translucent — a property common alike to water and to air. But water is more easily confined and more easily condensed than air; wherefore it is that the pupil, i.e. the eye proper, consists of water. That it does so is proved by facts of actual experience. The substance which flows from eyes when decomposing is seen to be water, and this in undeveloped embryos is remarkably cold and glistening. In sanguineous animals the white of the eye is fat and oily, in order that the moisture of the eye may be proof against freezing. Wherefore the eye is of all parts of the body the least sensitive to cold: no one ever feels cold in the part sheltered by the eyelids. The eyes of bloodless animals are covered with a hard scale which gives them similar protection.

It is, to state the matter generally, an irrational notion that the eye should see in virtue of something issuing from it; that the visual ray should extend itself all the way to the stars, or else go out merely to a certain point, and there coalesce, as some say, with rays which proceed from the object. It would be better to suppose this coalescence to take place in the fundament of the eye itself. But even this would be mere trifling. For what is meant by the ‘coalescence’ of light with light? Or how is it possible? Coalescence does not occur between any two things taken at random. And how could the light within the eye coalesce with that outside it? For the environing membrane comes between them.

That without light vision is impossible has been stated elsewhere; but, whether the medium between the eye and its objects is air or light, vision is caused by a process through this medium.

Accordingly, that the inner part of the eye consists of water is easily intelligible, water being translucent.

Now, as vision outwardly is impossible without [extra-organic] light, so also it is impossible inwardly [without light within the organ]. There must, therefore, be some translucent medium within the eye, and, as this is not air, it must be water. The soul or its perceptive part is not situated at the external surface of the eye, but obviously somewhere within: whence the necessity of the interior of the eye being translucent, i.e. capable of admitting light. And that it is so is plain from actual occurrences. It is matter of experience that soldiers wounded in battle by a sword slash on the temple, so inflicted as to sever the passages of [i.e. inward from] the eye, feel a sudden onset of darkness, as if a lamp had gone out; because what is called the pupil, i.e. the translucent, which is a sort of inner lamp, is then cut off [from its connexion with the soul].

Hence, if the facts be at all as here stated, it is clear that — if one should explain the nature of the sensory organs in this way, i.e. by correlating each of them with one of the four elements — we must conceive that the part of the eye immediately concerned in vision consists of water, that the part immediately concerned in the perception of sound consists of air, and that the sense of smell consists of fire. (I say the sense of smell, not the organ.) For the organ of smell is only potentially that which the sense of smell, as realized, is actually; since the object of sense is what causes the actualization of each sense, so that it (the sense) must (at the instant of actualization) be (actually) that which before (the moment of actualization) it was potentially. Now, odour is a smoke-like evaporation, and smoke-like evaporation arises from fire. This also helps us to understand why the olfactory organ has its proper seat in the environment of the brain, for cold matter is potentially hot. In the same way must the genesis of the eye be explained. Its structure is an offshoot from the brain, because the latter is the moistest and coldest of all the bodily parts.

The organ of touch proper consists of earth, and the faculty of taste is a particular form of touch. This explains why the sensory organ of both touch and taste is closely related to the heart. For the heart as being the hottest of all the bodily parts, is the counterpoise of the brain.

This then is the way in which the characteristics of the bodily organs of sense must be determined.

3

Of the sensibles corresponding to each sensory organ, viz. colour, sound, odour, savour, touch, we have treated in On the Soul in general terms, having there determined what their function is, and what is implied in their becoming actualized in relation to their respective organs. We must next consider what account we are to give of any one of them; what, for example, we should say colour is, or sound, or odour, or savour; and so also respecting [the object of] touch. We begin with colour.

Now, each of them may be spoken of from two points of view, i.e. either as actual or as potential. We have in On the Soul explained in what sense the colour, or sound, regarded as actualized [for sensation] is the same as, and in what sense it is different from, the correlative sensation, the actual seeing or hearing. The point of our present discussion is, therefore, to determine what each sensible object must be in itself, in order to be perceived as it is in actual consciousness.

We have already in On the Soul stated of Light that it is the colour of the Translucent, [being so related to it] incidentally; for whenever a fiery element is in a translucent medium presence there is Light; while the privation of it is Darkness. But the 'Translucent', as we call it, is not something peculiar to air, or water, or any other of the bodies usually called translucent, but is a common 'nature' and power, capable of no separate existence of its own, but residing in these, and subsisting likewise in all other bodies in a greater or less degree. As the bodies in which it subsists must have some extreme bounding surface, so too must this. Here, then, we may say that Light is a 'nature' inhering in the Translucent when the latter is without determinate boundary. But it is manifest that, when the Translucent is in determinate bodies, its bounding extreme must be something real; and that colour is just this 'something' we are plainly taught by facts-colour being actually either at the external limit, or being itself that limit, in bodies. Hence it was that the Pythagoreans named the superficies of a body its 'hue', for 'hue', indeed, lies at the limit of the body; but the limit of the body; is not a real thing; rather we must suppose that the same natural substance which, externally, is the vehicle of colour exists [as such a possible vehicle] also in the interior of the body.

Air and water, too [i.e. as well as determinately bounded bodies] are seen to possess colour; for their brightness is of the nature of colour. But the colour which air or sea presents, since the body in which it resides is not determinately bounded, is not the same when one approaches and views it close by as it is when one regards it from a distance; whereas in determinate bodies the colour presented is definitely fixed, unless, indeed, when the atmospheric environment causes it to change. Hence it is clear that that in them which is susceptible of colour is in both cases the same. It is therefore the Translucent, according to the degree to which it subsists in bodies (and it does so in all more or less), that causes them to partake of colour. But since the colour is at the extremity of the body, it must be at the extremity of the Translucent in the body. Whence it follows that we may define colour as the limit of the Translucent in determinately bounded body. For whether we consider the special class of bodies called translucent, as water and such others, or determinate bodies, which appear to possess a fixed colour of their own, it is at the exterior bounding surface that all alike exhibit their colour.

Now, that which when present in air produces light may be present also in the Translucent which pervades determinate bodies; or again, it may not be present, but there may be a privation of it. Accordingly, as in the case of air the one condition is light, the other darkness, in the same way the colours White and Black are generated in determinate bodies.

We must now treat of the other colours, reviewing the several hypotheses invented to explain their genesis.

(1) It is conceivable that the White and the Black should be juxtaposed in quantities so minute that [a particle of] either separately would be invisible, though the joint product [of two particles, a black and a white] would be visible; and that they should thus have the other colours for resultants. Their product could, at all events, appear neither white nor black; and, as it must have some colour, and can have neither of these, this colour must be of a mixed character — in fact, a species of colour different from either. Such, then, is a possible way of conceiving the existence of a plurality of colours besides the White and Black; and we may suppose that [of this ‘plurality’] many are the result of a [numerical] ratio; for the blacks and whites may be juxtaposed in the ratio of 3 to 2 or of 3 to 4, or in ratios expressible by other numbers; while some may be juxtaposed according to no numerically expressible ratio, but according to some relation of excess or defect in which the blacks and whites involved would be incommensurable quantities; and, accordingly, we may regard all these colours [viz. all those based on numerical ratios] as analogous to the sounds that enter into music, and suppose that those involving simple numerical ratios, like the concords in music, may be those generally regarded as most agreeable; as, for example, purple, crimson, and some few such colours, their fewness being due to the same causes which render the concords few. The other compound colours may be those which are not based on numbers. Or it may be that, while all

colours whatever [except black and white] are based on numbers, some are regular in this respect, others irregular; and that the latter [though now supposed to be all based on numbers], whenever they are not pure, owe this character to a corresponding impurity in [the arrangement of] their numerical ratios. This then is one conceivable hypothesis to explain the genesis of intermediate colours.

(2) Another is that the Black and White appear the one through the medium of the other, giving an effect like that sometimes produced by painters overlaying a less vivid upon a more vivid colour, as when they desire to represent an object appearing under water or enveloped in a haze, and like that produced by the sun, which in itself appears white, but takes a crimson hue when beheld through a fog or a cloud of smoke. On this hypothesis, too, a variety of colours may be conceived to arise in the same way as that already described; for between those at the surface and those underneath a definite ratio might sometimes exist; in other cases they might stand in no determinate ratio. To [introduce a theory of colour which would set all these hypotheses aside, and] say with the ancients that colours are emanations, and that the visibility of objects is due to such a cause, is absurd. For they must, in any case, explain sense-perception through Touch; so that it were better to say at once that visual perception is due to a process set up by the perceived object in the medium between this object and the sensory organ; due, that is, to contact [with the medium affected,] not to emanations.

If we accept the hypothesis of juxtaposition, we must assume not only invisible magnitude, but also imperceptible time, in order that the succession in the arrival of the stimulatory movements may be unperceived, and that the compound colour seen may appear to be one, owing to its successive parts seeming to present themselves at once. On the hypothesis of superposition, however, no such assumption is needful: the stimulatory process produced in the medium by the upper colour, when this is itself unaffected, will be different in kind from that produced by it when affected by the underlying colour. Hence it presents itself as a different colour, i.e. as one which is neither white nor black. So that, if it is impossible to suppose any magnitude to be invisible, and we must assume that there is some distance from which every magnitude is visible, this superposition theory, too [i.e. as well as No. 3 infra], might pass as a real theory of colour-mixture. Indeed, in the previous case also there is no reason why, to persons at a distance from the juxtaposed blacks and whites, some one colour should not appear to present itself as a blend of both. [But it would not be so on a nearer view], for it will be shown, in a discussion to be undertaken later on, that there is no magnitude absolutely invisible.

(3) There is a mixture of bodies, however, not merely such as some suppose, i.e. by juxtaposition of their minimal parts, which, owing to [the weakness of our] sense, are imperceptible by us, but a mixture by which they [i.e. the 'matter' of which they consist] are wholly blent together by interpenetration, as we have described it in the treatise on Mixture, where we dealt with this subject generally in its most comprehensive aspect. For, on the supposition we are criticizing, the only totals capable of being mixed are those which are divisible into minimal parts, [e.g. genera into individuals] as men, horses, or the [various kinds of] seeds. For of mankind as a whole the individual man is such a least part; of horses [as an aggregate] the individual horse. Hence by the juxtaposition of these we obtain a mixed total, consisting [like a troop of cavalry] of both together; but we do not say that by such a process any individual man has been mixed with any individual horse. Not in this way, but by complete interpenetration [of their matter], must we conceive those things to be mixed which are not divisible into minima; and it is in the case of these that natural mixture exhibits itself in its most perfect form. We have explained already in our discourse 'On Mixture' how such mixture is possible. This being the true nature of mixture, it is plain that when bodies are mixed their colours also are necessarily mixed at the same time; and [it is no less plain] that this is the real cause determining the existence of a plurality of colours — not superposition or juxtaposition. For when bodies are thus mixed, their resultant colour presents itself as one and the same at all distances alike; not varying as it is seen nearer or farther away.

Colours will thus, too [as well as on the former hypotheses], be many in number on account of the fact that the ingredients may be combined with one another in a multitude of ratios; some will be based on determinate numerical ratios, while others again will have as their basis a relation of quantitative excess or defect not expressible in integers. And all else that was said in reference to the colours, considered as juxtaposed or superposed, may be said of them likewise when regarded as mixed in the way just described.

Why colours, as well as savours and sounds, consist of species determinate [in themselves] and not infinite [in number] is a question which we shall discuss hereafter.

4

We have now explained what colour is, and the reason why there are many colours; while before, in our work On the Soul, we explained the nature of sound and voice. We have next to speak of Odour and Savour, both of which are almost the same physical affection, although they each have their being in different things. Savours, as a class, display their nature more clearly to us than Odours, the cause of which is that the olfactory sense of man is inferior in acuteness to that of the lower animals, and is, when compared with our other senses, the least perfect of Man's sense of Touch, on the contrary, excels that of all other animals in fineness, and Taste is a modification of Touch.

Now the natural substance water per se tends to be tasteless. But [since without water tasting is impossible] either (a) we must suppose that water contains in itself [uniformly diffused through it] the various kinds of savour, already formed, though in amounts so small as to be imperceptible, which is the doctrine of Empedocles; or (b) the water must be a sort of matter, qualified, as it were, to produce germs of savours of all kinds, so that all kinds of savour are generated from the water, though different kinds from its different parts, or else (c) the water is in itself quite undifferentiated in respect of savour [whether developed or undeveloped], but some agent, such for example as one might conceive Heat or the Sun to be, is the efficient cause of savour.

(a) Of these three hypotheses, the falsity of that held by Empedocles is only too evident. For we see that when pericarpal fruits are plucked [from the tree] and exposed in the sun, or subjected to the action of fire, their sapid juices are changed by the heat, which shows that their qualities are not due to their drawing anything from the water in the ground, but to a change which they undergo within the pericarp itself; and we see, moreover, that these juices, when extracted and allowed to lie, instead of sweet become by lapse of time harsh or bitter, or acquire savours of any and every sort; and that, again, by the process of boiling or fermentation they are made to assume almost all kinds of new savours.

(b) It is likewise impossible that water should be a material qualified to generate all kinds of Savour germs [so that different savours should arise out of different parts of the water]; for we see different kinds of taste generated from the same water, having it as their nutriment.

(c) It remains, therefore, to suppose that the water is changed by passively receiving some affection from an external agent. Now, it is manifest that water does not contract the quality of sapidity from the agency of Heat alone. For water is of all liquids the thinnest, thinner even than oil itself, though oil, owing to its viscosity, is more ductile than water, the latter being uncohesive in its particles; whence water is more difficult than oil to hold in the hand without spilling. But since perfectly pure water does not, when subjected to the action of Heat, show any tendency to acquire consistency, we must infer that some other agency than heat is the cause of sapidity. For all savours [i.e. sapid liquors] exhibit a comparative consistency. Heat is, however, a coagent in the matter.

Now the sapid juices found in pericarpal fruits evidently exist also in the earth. Hence many of the old natural philosophers assert that water has qualities like those of the earth through which it flows, a fact especially manifest in the case of saline springs, for salt is a form of earth. Hence also when liquids are filtered through ashes, a bitter substance, the taste they yield is bitter. There are many wells, too, of which some are bitter, others acid, while others exhibit other tastes of all kinds.

As was to be anticipated, therefore, it is in the vegetable kingdom that tastes occur in richest variety. For, like all things else, the Moist, by nature’s law, is affected only by its contrary; and this contrary is the Dry. Thus we see why the Moist is affected by Fire, which as a natural substance, is dry. Heat is, however, the essential property of Fire, as Dryness is of Earth, according to what has been said in our treatise on the elements. Fire and Earth, therefore, taken absolutely as such, have no natural power to affect, or be affected by, one another; nor have any other pair of substances. Any two things can affect, or be affected by, one another only so far as contrariety to the other resides in either of them.

As, therefore, persons washing Colours or Savours in a liquid cause the water in which they wash to acquire such a quality [as that of the colour or savour], so nature, too, by washing the Dry and Earthy in the Moist, and by filtering the latter, that is, moving it on by the agency of heat through the dry and earthy, imparts to it a certain quality. This affection, wrought by the aforesaid Dry in the Moist, capable of transforming the sense of Taste from potentiality to actuality, is Savour. Savour brings into actual exercise the perceptive faculty which pre-existed only in potency. The activity of sense-perception in general is analogous, not to the process of acquiring knowledge, but to that of exercising knowledge already acquired.

That Savours, either as a quality or as the privation of a quality, belong not to every form of the Dry but to the Nutrient, we shall see by considering that neither the Dry without the Moist, nor the Moist without the Dry, is nutrient. For no single element, but only composite substance, constitutes nutriment for animals. Now, among the perceptible elements of the food which animals assimilate, the tangible are the efficient causes of growth and decay; it is qua hot or cold that the food assimilated causes these; for the heat or cold is the direct cause of growth or decay. It is qua gustable, however, that the assimilated food supplies nutrition. For all organisms are nourished by the Sweet [i.e. the ‘gustable’ proper], either by itself or in combination with other savours. Of this we must speak with more precise detail in our work on Generation: for the present we need touch upon it only so far as our subject here requires. Heat causes growth, and fits the food-stuff for alimentation; it attracts [into the organic system] that which is light [viz. the sweet], while the salt and bitter it rejects because of their heaviness. In fact, whatever effects external heat produces in external bodies, the same are produced by their internal heat in animal and vegetable organisms. Hence it is [i.e. by the agency of heat as described] that nourishment is effected by the sweet. The other savours are introduced into and blended in food [naturally] on a principle analogous to that on which the saline or the acid is used artificially, i.e. for seasoning. These latter are used because they counteract the tendency of the sweet to be too nutrient, and to float on the stomach.

As the intermediate colours arise from the mixture of white and black, so the intermediate savours arise from the Sweet and Bitter; and these savours, too, severally involve either a definite ratio, or else an indefinite relation of degree, between their components, either having certain integral numbers at the basis of their mixture, and, consequently, of their stimulative effect, or else being mixed in proportions not arithmetically expressible. The tastes which give pleasure in their combination are those which have their components joined in a definite ratio.

The sweet taste alone is Rich, [therefore the latter may be regarded as a variety of the former], while [so far as both imply privation of the Sweet] the Saline is fairly identical with the Bitter. Between the extremes of sweet and bitter come the Harsh, the Pungent, the Astringent, and the Acid. Savours and Colours, it will be observed, contain respectively about the same number of species. For there are seven species of each, if, as is reasonable, we regard Dun [or Grey] as a variety of Black (for the alternative is that Yellow should be classed with White, as Rich with Sweet); while [the irreducible colours, viz.] Crimson, Violet, leek-Green, and deep Blue, come between White and Black, and from these all others are derived by mixture.

Again, as Black is a privation of White in the Translucent, so Saline or Bitter is a privation of Sweet in the Nutrient Moist. This explains why the ash of all burnt things is bitter; for the potable [sc. the sweet] moisture has been exuded from them.

Democritus and most of the natural philosophers who treat of sense-perception proceed quite irrationally, for they represent all objects of sense as objects of Touch. Yet, if this is really so, it clearly follows that each of the other senses is a mode of Touch; but one can see at a glance that this is impossible.

Again, they treat the percepts common to all senses as proper to one. For [the qualities by which they explain taste viz.] Magnitude and Figure, Roughness and Smoothness, and, moreover, the Sharpness and Bluntness found in solid bodies, are percepts common to all the senses, or if not to all, at least to Sight and Touch. This explains why it is that the senses are liable to err regarding them, while no such error arises respecting their proper sensibles; e.g. the sense of Seeing is not deceived as to Colour, nor is that of Hearing as to Sound.

On the other hand, they reduce the proper to common sensibles, as Democritus does with White and Black; for he asserts that the latter is [a mode of the] rough, and the former [a mode of the] smooth, while he reduces Savours to the atomic figures. Yet surely no one sense, or, if any, the sense of Sight rather than any other, can discern the common sensibles. But if we suppose that the sense of Taste is better able to do so, then — since to discern the smallest objects in each kind is what marks the acutest sense-Taste should have been the sense which best perceived the common sensibles generally, and showed the most perfect power of discerning figures in general.

Again, all the sensibles involve contrariety; e.g. in Colour White is contrary to Black, and in Savours Bitter is contrary to Sweet; but no one figure is reckoned as contrary to any other figure. Else, to which of the possible polygonal figures [to which Democritus reduces Bitter] is the spherical figure [to which he reduces Sweet] contrary?

Again, since figures are infinite in number, savours also should be infinite; [the possible rejoinder—'that they are so, only that some are not perceived' — cannot be sustained] for why should one savour be perceived, and another not?

This completes our discussion of the object of Taste, i.e. Savour; for the other affections of Savours are examined in their proper place in connection with the natural history of Plants.

5

Our conception of the nature of Odours must be analogous to that of Savours; inasmuch as the Sapid Dry effects in air and water alike, but in a different province of sense, precisely what the Dry effects in the Moist of water only. We customarily predicate Translucency of both air and water in common; but it is not qua translucent that either is a vehicle of odour, but qua possessed of a power of washing or rinsing [and so imbibing] the Sapid Dryness.

For the object of Smell exists not in air only: it also exists in water. This is proved by the case of fishes and testacea, which are seen to possess the faculty of smell, although water contains no air (for whenever air is generated within water it rises to the surface), and these creatures do not respire. Hence, if one were to assume that air and water are both moist, it would follow that Odour is the natural substance consisting of the Sapid Dry diffused in the Moist, and whatever is of this kind would be an object of Smell.

That the property of odorousness is based upon the Sapid may be seen by comparing the things which possess with those which do not possess odour. The elements, viz. Fire, Air, Earth, Water, are inodorous, because both the dry and the moist among them are without sapidity, unless some added ingredient produces it. This explains why sea-water possesses odour, for [unlike 'elemental' water] it contains savour and dryness. Salt, too, is more odorous than natron, as the oil which exudes from the former proves, for natron is allied to ['elemental'] earth more nearly than salt. Again, a stone is inodorous, just because it is tasteless, while, on the contrary, wood is odorous, because it is sapid. The kinds of wood, too, which contain more [‘elemental’] water are less odorous than others. Moreover, to take the case of metals, gold is inodorous because it is without taste, but bronze and iron are odorous; and when the [sapid] moisture has been burnt out of them, their slag is, in all cases, less odorous the metals [than the metals themselves]. Silver and tin are more odorous than the one class of metals, less so than the other, inasmuch as they are water [to a greater degree than the former, to a less degree than the latter].

Some writers look upon Fumid exhalation, which is a compound of Earth and Air, as the essence of Odour. [Indeed all are inclined to rush to this theory of Odour.] Heraclitus implied his adherence to it when he declared that if all existing things were turned into Smoke, the nose would be the organ to discern them with. All writers incline to refer odour to this cause [sc. exhalation of some sort], but some regard it as aqueous, others as fumid, exhalation; while others, again, hold it to be either. Aqueous exhalation is merely a form of moisture, but fumid exhalation is, as already remarked, composed of Air and Earth. The former when condensed turns into water; the latter, in a particular species of earth. Now, it is unlikely that odour is either of these. For vaporous exhalation consists of mere water [which, being tasteless, is inodorous]; and fumid exhalation cannot occur in water at all, though, as has been before stated, aquatic creatures also have the sense of smell.

Again, the exhalation theory of odour is analogous to the theory of emanations. If, therefore, the latter is untenable, so, too, is the former.

It is clearly conceivable that the Moist, whether in air (for air, too, is essentially moist) or in water, should imbibe the influence of, and have effects wrought in it by, the Sapid Dryness. Moreover, if the Dry produces in moist media, i.e. water and air, an effect as of something washed out in them, it is manifest that odours must be something analogous to savours. Nay, indeed, this analogy is, in some instances, a fact [registered in language]; for odours as well as savours are spoken of as pungent, sweet, harsh, astringent rich [=‘savoury’]; and one might regard fetid smells as analogous to bitter tastes; which explains why the former are offensive to inhalation as the latter are to deglutition. It is clear, therefore, that Odour is in both water and air what Savour is in water alone. This explains why coldness and freezing render Savours dull, and abolish odours altogether; for cooling and freezing tend to annul the kinetic heat which helps to fabricate sapidity.

There are two species of the Odorous. For the statement of certain writers that the odorous is not divisible into species is false; it is so divisible. We must here define the sense in which these species are to be admitted or denied.

One class of odours, then, is that which runs parallel, as has been observed, to savours: to odours of this class their pleasantness or unpleasantness belongs incidentally. For owing to the fact that Savours are qualities of nutrient matter, the odours connected with these [e.g. those of a certain food] are agreeable as long as animals have an appetite for the food, but they are not agreeable to them when sated and no longer in want of it; nor are they agreeable, either, to those animals that do not like the food itself which yields the odours. Hence, as we observed, these odours are pleasant or unpleasant incidentally, and the same reasoning explains why it is that they are perceptible to all animals in common.

The other class of odours consists of those agreeable in their essential nature, e.g. those of flowers. For these do not in any degree stimulate animals to food, nor do they contribute in any way to appetite; their effect upon it, if any, is rather the opposite. For the verse of Strattis ridiculing Euripides

Use not perfumery to flavour soup,

contains a truth.

Those who nowadays introduce such flavours into beverages deforce our sense of pleasure by habituating us to them, until, from two distinct kinds of sensations combined, pleasure arises as it might from one simple kind.

Of this species of odour man alone is sensible; the other, viz. that correlated with Tastes, is, as has been said before, perceptible also to the lower animals. And odours of the latter sort, since their pleasureableness depends upon taste, are divided into as many species as there are different tastes; but we cannot go on to say this of the former kind of odour, since its nature is agreeable or disagreeable per se. The reason why the perception of such odours is peculiar to man is found in the characteristic state of man's brain. For his brain is naturally cold, and the blood which it contains in its vessels is thin and pure but easily cooled (whence it happens that the exhalation arising from food, being cooled by the coldness of this region, produces unhealthy rheums); therefore it is that odours of such a species have been generated for human beings, as a safeguard to health. This is their sole function, and that they perform it is evident. For food, whether dry or moist, though sweet to taste, is often unwholesome; whereas the odour arising from what is fragrant, that odour which is pleasant in its own right, is, so to say, always beneficial to persons in any state of bodily health whatever.

For this reason, too, the perception of odour [in general] effected through respiration, not in all animals, but in man and certain other sanguineous animals, e.g. quadrupeds, and all that participate freely in the natural substance air; because when odours, on account of the lightness of the heat in them, mount to the brain, the health of this region is thereby promoted. For odour, as a power, is naturally heat-giving. Thus Nature has employed respiration for two purposes: primarily for the relief thereby brought to the thorax, secondarily for the inhalation of odour. For while an animal is inhaling — odour moves in through its nostrils, as it were 'from a side-entrance.'

But the perception of the second class of odours above described [does not belong to all animal, but] is confined to human beings, because man's brain is, in proportion to his whole bulk, larger and moister than the brain of any other animal. This is the reason of the further fact that man alone, so to speak, among animals perceives and takes pleasure in the odours of flowers and such things. For the heat and stimulation set up by these odours are commensurate with the excess of moisture and coldness in his cerebral region. On all the other animals which have lungs, Nature has bestowed their due perception of one of the two kinds of odour [i.e. that connected with nutrition] through the act of respiration, guarding against the needless creation of two organs of sense; for in the fact that they respire the other animals have already sufficient provision for their perception of the one species of odour only, as human beings have for their perception of both.

But that creatures which do not respire have the olfactory sense is evident. For fishes, and all insects as a class, have, thanks to the species of odour correlated with nutrition, a keen olfactory sense of their proper food from a distance, even when they are very far away from it; such is the case with bees, and also with the class of small ants, which some denominate knipes. Among marine animals, too, the murex and many other similar animals have an acute perception of their food by its odour.

It is not equally certain what the organ is whereby they so perceive. This question, of the organ whereby they perceive odour, may well cause a difficulty, if we assume that smelling takes place in animals only while respiring (for that this is the fact is manifest in all the animals which do respire), whereas none of those just mentioned respires, and yet they have the sense of smell — unless, indeed, they have some other sense not included in the ordinary five. This supposition is, however, impossible. For any sense which perceives odour is a sense of smell, and this they do perceive, though probably not in the same way as creatures which respire, but when the latter are respiring the current of breath removes something that is laid like a lid upon the organ proper (which explains why they do not perceive odours when not respiring); while in creatures which do not respire this is always off: just as some animals have eyelids on their eyes, and when these are not raised they cannot see, whereas hard-eyed animals have no lids, and consequently do not need, besides eyes, an agency to raise the lids, but see straightway [without intermission] from the actual moment at which it is first possible for them to do so [i.e. from the moment when an object first comes within their field of vision].

Consistently with what has been said above, not one of the lower animals shows repugnance to the odour of things which are essentially ill-smelling, unless one of the latter is positively pernicious. They are destroyed, however, by these things, just as human beings are; i.e. as human beings get headaches from, and are often asphyxiated by, the fumes of charcoal, so the lower animals perish from the strong fumes of brimstone and bituminous substances; and it is owing to experience of such effects that they shun these. For the disagreeable odour in itself they care nothing whatever (though the odours of many plants are essentially disagreeable), unless, indeed, it has some effect upon the taste of their food.

The senses making up an odd number, and an odd number having always a middle unit, the sense of smell occupies in itself as it were a middle position between the tactual senses, i.e. Touch and Taste, and those which perceive through a medium, i.e. Sight and Hearing. Hence the object of smell, too, is an affection of nutrient substances (which fall within the class of Tangibles), and is also an affection of the audible and the visible; whence it is that creatures have the sense of smell both in air and water. Accordingly, the object of smell is something common to both of these provinces, i.e. it appertains both to the tangible on the one hand, and on the other to the audible and translucent. Hence the propriety of the figure by which it has been described by us as an immersion or washing of dryness in the Moist and Fluid. Such then must be our account of the sense in which one is or is not entitled to speak of the odorous as having species.

The theory held by certain of the Pythagoreans, that some animals are nourished by odours alone, is unsound. For, in the first place, we see that food must be composite, since the bodies nourished by it are not simple. This explains why waste matter is secreted from food, either within the organisms, or, as in plants, outside them. But since even water by itself alone, that is, when unmixed, will not suffice for food — for anything which is to form a consistency must be corporeal-, it is still much less conceivable that air should be so corporealized [and thus fitted to be food]. But, besides this, we see that all animals have a receptacle for food, from which, when it has entered, the body absorbs it. Now, the organ which perceives odour is in the head, and odour enters with the inhalation of the breath; so that it goes to the respiratory region. It is plain, therefore, that odour, qua odour, does not contribute to nutrition; that, however, it is serviceable to health is equally plain, as well by immediate perception as from the arguments above employed; so that odour is in relation to general health what savour is in the province of nutrition and in relation to the bodies nourished.

This then must conclude our discussion of the several organs of sense-perception.

6

One might ask: if every body is infinitely divisible, are its sensible qualities — Colour, Savour, Odour, Sound, Weight, Cold or Heat, [Heaviness or] Lightness, Hardness or Softness-also infinitely divisible? Or, is this impossible?

[One might well ask this question], because each of them is productive of sense-perception, since, in fact, all derive their name [of ‘sensible qualities’] from the very circumstance of their being able to stimulate this. Hence, [if this is so] both our perception of them should likewise be divisible to infinity, and every part of a body [however small] should be a perceptible magnitude. For it is impossible, e.g. to see a thing which is white but not of a certain magnitude.

Since if it were not so, [if its sensible qualities were not divisible, pari passu with body], we might conceive a body existing but having no colour, or weight, or any such quality; accordingly not perceptible at all. For these qualities are the objects of sense-perception. On this supposition, every perceptible object should be regarded as composed not of perceptible [but of imperceptible] parts. Yet it must [be really composed of perceptible parts], since assuredly it does not consist of mathematical [and therefore purely abstract and non-sensible] quantities. Again, by what faculty should we discern and cognize these [hypothetical real things without sensible qualities]? Is it by Reason? But they are not objects of Reason; nor does reason apprehend objects in space, except when it acts in conjunction with sense-perception. At the same time, if this be the case [that there are magnitudes, physically real, but without sensible quality], it seems to tell in favour of the atomistic hypothesis; for thus, indeed, [by accepting this hypothesis], the question [with which this chapter begins] might be solved [negatively]. But it is impossible [to accept this hypothesis]. Our views on the subject of atoms are to be found in our treatise on Movement.

The solution of these questions will bring with it also the answer to the question why the species of Colour, Taste, Sound, and other sensible qualities are limited. For in all classes of things lying between extremes the intermediates must be limited. But contraries are extremes, and every object of sense-perception involves contrariety: e.g. in Colour, White x Black; in Savour, Sweet x Bitter, and in all the other sensibles also the contraries are extremes. Now, that which is continuous is divisible into an infinite number of unequal parts, but into a finite number of equal parts, while that which is not per se continuous is divisible into species which are finite in number. Since then, the several sensible qualities of things are to be reckoned as species, while continuity always subsists in these, we must take account of the difference between the Potential and the Actual. It is owing to this difference that we do not [actually] see its ten-thousandth part in a grain of millet, although sight has embraced the whole grain within its scope; and it is owing to this, too, that the sound contained in a quarter-tone escapes notice, and yet one hears the whole strain, inasmuch as it is a continuum; but the interval between the extreme sounds [that bound the quarter-tone] escapes the ear [being only potentially audible, not actually]. So, in the case of other objects of sense, extremely small constituents are unnoticed; because they are only potentially not actually [perceptible e.g.] visible, unless when they have been parted from the wholes. So the footlength too exists potentially in the two-foot length, but actually only when it has been separated from the whole. But objective increments so small as those above might well, if separated from their totals, [instead of achieving 'actual' exisistence] be dissolved in their environments, like a drop of sapid moisture poured out into the sea. But even if this were not so [sc. with the objective magnitude], still, since the [subjective] of sense-perception is not perceptible in itself, nor capable of separate existence (since it exists only potentially in the more distinctly perceivable whole of sense-perception), so neither will it be possible to perceive [actually] its correlatively small object [sc. its quantum of pathema or sensible quality] when separated from the object-total. But yet this [small object] is to be considered as perceptible: for it is both potentially so already [i.e. even when alone], and destined to be actually so when it has become part of an aggregate. Thus, therefore, we have shown that some magnitudes and their sensible qualities escape notice, and the reason why they do so, as well as the manner in which they are still perceptible or not perceptible in such cases. Accordingly then when these [minutely subdivided] sensibles have once again become aggregated in a whole in such a manner, relatively to one another, as to be perceptible actually, and not merely because they are in the whole, but even apart from it, it follows necessarily [from what has been already stated] that their sensible qualities, whether colours or tastes or sounds, are limited in number.

One might ask: — do the objects of sense-perception, or the movements proceeding from them ([since movements there are,] in whichever of the two ways [viz. by emanations or by stimulatory kinesis] sense-perception takes place), when these are actualized for perception, always arrive first at a spatial middle point [between the sense-organ and its object], as Odour evidently does, and also Sound? For he who is nearer [to the odorous object] perceives the Odour sooner [than who is farther away], and the Sound of a stroke reaches us some time after it has been struck. Is it thus also with an object seen, and with Light? Empedocles, for example, says that the Light from the Sun arrives first in the intervening space before it comes to the eye, or reaches the Earth. This might plausibly seem to be the case. For whatever is moved [in space], is moved from one place to another; hence there must be a corresponding interval of time also in which it is moved from the one place to the other. But any given time is divisible into parts; so that we should assume a time when the sun’s ray was not as yet seen, but was still travelling in the middle space.

Now, even if it be true that the acts of ‘hearing’ and ‘having heard’, and, generally, those of ‘perceiving’ and ‘having perceived’, form co-instantaneous wholes, in other words, that acts of sense-perception do not involve a process of becoming, but have their being none the less without involving such a process; yet, just as, [in the case of sound], though the stroke which causes the Sound has been already struck, the Sound is not yet at the ear (and that this last is a fact is further proved by the transformation which the letters [viz. the consonants as heard] undergo [in the case of words spoken from a distance], implying that the local movement [involved in Sound] takes place in the space between [us and the speaker]; for the reason why [persons addressed from a distance] do not succeed in catching the sense of what is said is evidently that the air [sound wave] in moving towards them has its form changed) [granting this, then, the question arises]: is the same also true in the case of Colour and Light? For certainly it is not true that the beholder sees, and the object is seen, in virtue of some merely abstract relationship between them, such as that between equals. For if it were so, there would be no need [as there is] that either [the beholder or the thing beheld] should occupy some particular place; since to the equalization of things their being near to, or far from, one another makes no difference.

Now this [travelling through successive positions in the medium] may with good reason take place as regards Sound and Odour, for these, like [their media] Air and Water, are continuous, but the movement of both is divided into parts. This too is the ground of the fact that the object which the person first in order of proximity hears or smells is the same as that which each subsequent person perceives, while yet it is not the same.

Some, indeed, raise a question also on these very points; they declare it impossible that one person should hear, or see, or smell, the same object as another, urging the impossibility of several persons in different places hearing or smelling [the same object], for the one same thing would [thus] be divided from itself. The answer is that, in perceiving the object which first set up the motion — e.g. a bell, or frankincense, or fire — all perceive an object numerically one and the same; while, of course, in the special object perceived they perceive an object numerically different for each, though specifically the same for all; and this, accordingly, explains how it is that many persons together see, or smell, or hear [the same object]. These things [the odour or sound proper] are not bodies, but an affection or process of some kind (otherwise this [viz. simultaneous perception of the one object by many] would not have been, as it is, a fact of experience) though, on the other hand, they each imply a body [as their cause].

But [though sound and odour may travel,] with regard to Light the case is different. For Light has its raison d'etre in the being [not becoming] of something, but it is not a movement. And in general, even in qualitative change the case is different from what it is in local movement [both being different species of kinesis]. Local movements, of course, arrive first at a point midway before reaching their goal (and Sound, it is currently believed, is a movement of something locally moved), but we cannot go on to assert this [arrival at a point midway] like manner of things which undergo qualitative change. For this kind of change may conceivably take place in a thing all at once, without one half of it being changed before the other; e.g. it is conceivable that water should be frozen simultaneously in every part. But still, for all that, if the body which is heated or frozen is extensive, each part of it successively is affected by the part contiguous, while the part first changed in quality is so changed by the cause itself which originates the change, and thus the change throughout the whole need not take place coinstantaneously and all at once. Tasting would have been as smelling now is, if we lived in a liquid medium, and perceived [the sapid object] at a distance, before touching it.

Naturally, then, the parts of media between a sensory organ and its object are not all affected at once — except in the case of Light [illumination] for the reason above stated, and also in the case of seeing, for the same reason; for Light is an efficient cause of seeing.

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Another question respecting sense-perception is as follows: assuming, as is natural, that of two [simultaneous] sensory stimuli the stronger always tends to extrude the weaker [from consciousness], is it conceivable or not that one should be able to discern two objects coinstantaneously in the same individual time? The above assumption explains why persons do not perceive what is brought before their eyes, if they are at the time deep in thought, or in a fright, or listening to some loud noise. This assumption, then, must be made, and also the following: that it is easier to discern each object of sense when in its simple form than when an ingredient in a mixture; easier, for example, to discern wine when neat than when blended, and so also honey, and [in other provinces] a colour, or to discern the nete by itself alone, than [when sounded with the hypate] in the octave; the reason being that component elements tend to efface [the distinctive characteristics of] one another. Such is the effect [on one another] of all ingredients of which, when compounded, some one thing is formed.

If, then, the greater stimulus tends to expel the less, it necessarily follows that, when they concur, this greater should itself too be less distinctly perceptible than if it were alone, since the less by blending with it has removed some of its individuality, according to our assumption that simple objects are in all cases more distinctly perceptible.

Now, if the two stimuli are equal but heterogeneous, no perception of either will ensue; they will alike efface one another's characteristics. But in such a case the perception of either stimulus in its simple form is impossible. Hence either there will then be no sense-perception at all, or there will be a perception compounded of both and differing from either. The latter is what actually seems to result from ingredients blended together, whatever may be the compound in which they are so mixed.

Since, then, from some concurrent [sensory stimuli] a resultant object is produced, while from others no such resultant is produced, and of the latter sort are those things which belong to different sense provinces (for only those things are capable of mixture whose extremes are contraries, and no one compound can be formed from, e.g. White and Sharp, except indirectly, i.e. not as a concord is formed of Sharp and Grave); there follows logically the impossibility of discerning such concurrent stimuli coinstantaneously. For we must suppose that the stimuli, when equal, tend alike to efface one another, since no one [form of stimulus] results from them; while, if they are unequal, the stronger alone is distinctly perceptible.

Again, the soul would be more likely to perceive coinstantaneously, with one and the same sensory act, two things in the same sensory province, such as the Grave and the Sharp in sound; for the sensory stimulation in this one province is more likely to be unitemporal than that involving two different provinces, as Sight and Hearing. But it is impossible to perceive two objects coinstantaneously in the same sensory act unless they have been mixed, [when, however, they are no longer two], for their amalgamation involves their becoming one, and the sensory act related to one object is itself one, and such act, when one, is, of course, coinstantaneous with itself. Hence, when things are mixed we of necessity perceive them coinstantaneously: for we perceive them by a perception actually one. For an object numerically one means that which is perceived by a perception actually one, whereas an object specifically one means that which is perceived by a sensory act potentially one [i.e. by an energeia of the same sensuous faculty]. If then the actualized perception is one, it will declare its data to be one object; they must, therefore, have been mixed. Accordingly, when they have not been mixed, the actualized perceptions which perceive them will be two; but [if so, their perception must be successive not coinstantaneous, for] in one and the same faculty the perception actualized at any single moment is necessarily one, only one stimulation or exertion of a single faculty being possible at a single instant, and in the case supposed here the faculty is one. It follows, therefore, that we cannot conceive the possibility of perceiving two distinct objects coinstantaneously with one and the same sense.

But if it be thus impossible to perceive coinstantaneously two objects in the same province of sense if they are really two, manifestly it is still less conceivable that we should perceive coinstantaneously objects in two different sensory provinces, as White and Sweet. For it appears that when the Soul predicates numerical unity it does so in virtue of nothing else than such coinstantaneous perception [of one object, in one instant, by one energeia]: while it predicates specific unity in virtue of [the unity of] the discriminating faculty of sense together with [the unity of] the mode in which this operates. What I mean, for example, is this; the same sense no doubt discerns White and Black, [which are hence generically one] though specifically different from one another, and so, too, a faculty of sense self-identical, but different from the former, discerns Sweet and Bitter; but while both these faculties differ from one another [and each from itself] in their modes of discerning either of their respective contraries, yet in perceiving the co-ordinates in each province they proceed in manners analogous to one another; for instance, as Taste perceives Sweet, so Sight perceives White; and as the latter perceives Black, so the former perceives Bitter.

Again, if the stimuli of sense derived from Contraries are themselves

Contrary, and if Contraries cannot be conceived as subsisting together in the same individual subject, and if Contraries, e.g. Sweet and Bitter, come under one and the same sense-faculty, we must conclude that it is impossible to discern them coinstantaneously. It is likewise clearly impossible so to discern such homogeneous sensibles as are not [indeed] Contrary, [but are yet of different species]. For these are, [in the sphere of colour, for instance], classed some with White, others with Black, and so it is, likewise, in the other provinces of sense; for example, of savours, some are classed with Sweet, and others with Bitter. Nor can one discern the components in compounds coinstantaneously (for these are ratios of Contraries, as e.g. the Octave or the Fifth); unless, indeed, on condition of perceiving them as one. For thus, and not otherwise, the ratios of the extreme sounds are compounded into one ratio: since we should have together the ratio, on the one hand, of Many to Few or of Odd to Even, on the other, that of Few to Many or of Even to Odd [and these, to be perceived together, must be unified].

If, then, the sensibles denominated co-ordinates though in different provinces of sense (e.g. I call Sweet and White co-ordinates though in different provinces) stand yet more aloof, and differ more, from one another than do any sensibles in the same province; while Sweet differs from White even more than Black does from White, it is still less conceivable that one should discern them [viz. sensibles in different sensory provinces whether co-ordinates or not] coinstantaneously than sensibles which are in the same province. Therefore, if coinstantaneous perception of the latter be impossible, that of the former is a fortiori impossible.

Some of the writers who treat of concords assert that the sounds combined in these do not reach us simultaneously, but only appear to do so, their real successiveness being unnoticed whenever the time it involves is [so small as to be] imperceptible. Is this true or not? One might perhaps, following this up, go so far as to say that even the current opinion that one sees and hears coinstantaneously is due merely to the fact that the intervals of time [between the really successive perceptions of sight and hearing] escape observation. But this can scarcely be true, nor is it conceivable that any portion of time should be [absolutely] imperceptible, or that any should be absolutely unnoticeable; the truth being that it is possible to perceive every instant of time. [This is so]; because, if it is inconceivable that a person should, while perceiving himself or aught else in a continuous time, be at any instant unaware of his own existence; while, obviously, the assumption, that there is in the time-continuum a time so small as to be absolutely imperceptible, carries the implication that a person would, during such time, be unaware of his own existence, as well as of his seeing and perceiving; [this assumption must be false].

Again, if there is any magnitude, whether time or thing, absolutely imperceptible owing to its smallness, it follows that there would not be either a thing which one perceives, or a time in which one perceives it, unless in the sense that in some part of the given time he sees some part of the given thing. For [let there be a line ab, divided into two parts at g, and let this line represent a whole object and a corresponding whole time. Now,] if one sees the whole line, and perceives it during a time which forms one and the same continuum, only in the sense that he does so in some portion of this time, let us suppose the part gb, representing a time in which by supposition he was perceiving nothing, cut off from the whole. Well, then, he perceives in a certain part [viz. in the remainder] of the time, or perceives a part [viz. the remainder] of the line, after the fashion in which one sees the whole earth by seeing some given part of it, or walks in a year by walking in some given part of the year. But [by hypothesis] in the part bg he perceives nothing: therefore, in fact, he is said to perceive the whole object and during the whole time simply because he perceives [some part of the object] in some part of the time ab. But the same argument holds also in the case of ag [the remainder, regarded in its turn as a whole]; for it will be found [on this theory of vacant times and imperceptible magnitudes] that one always perceives only in some part of a given whole time, and perceives only some part of a whole magnitude, and that it is impossible to perceive any [really] whole [object in a really whole time; a conclusion which is absurd, as it would logically annihilate the perception of both Objects and Time].

Therefore we must conclude that all magnitudes are perceptible, but their actual dimensions do not present themselves immediately in their presentation as objects. One sees the sun, or a four-cubit rod at a distance, as a magnitude, but their exact dimensions are not given in their visual presentation: nay, at times an object of sight appears indivisible, but [vision like other special senses, is fallible respecting ‘common sensibles’, e.g. magnitude, and] nothing that one sees is really indivisible. The reason of this has been previously explained. It is clear then, from the above arguments, that no portion of time is imperceptible.

But we must here return to the question proposed above for discussion, whether it is possible or impossible to perceive several objects coinstantaneously; by ‘coinstantaneously’ I mean perceiving the several objects in a time one and indivisible relatively to one another, i.e. indivisible in a sense consistent with its being all a continuum.

First, then, is it conceivable that one should perceive the different things coinstantaneously, but each with a different part of the Soul? Or [must we object] that, in the first place, to begin with the objects of one and the same sense, e.g. Sight, if we assume it [the Soul qua exercising Sight] to perceive one colour with one part, and another colour with a different part, it will have a plurality of parts the same in species, [as they must be,] since the objects which it thus perceives fall within the same genus?

Should any one [to illustrate how the Soul might have in it two different parts specifically identical, each directed to a set of aistheta the same in genus with that to which the other is directed] urge that, as there are two eyes, so there may be in the Soul something analogous, [the reply is] that of the eyes, doubtless, some one organ is formed, and hence their actualization in perception is one; but if this is so in the Soul, then, in so far as what is formed of both [i.e. of any two specifically identical parts as assumed] is one, the true perceiving subject also will be one, [and the contradictory of the above hypothesis (of different parts of Soul remaining engaged in simultaneous perception with one sense) is what emerges from the analogy]; while if the two parts of Soul remain separate, the analogy of the eyes will fail, [for of these some one is really formed].

Furthermore, [on the supposition of the need of different parts of Soul, co-operating in each sense, to discern different objects coinstantaneously], the senses will be each at the same time one and many, as if we should say that they were each a set of diverse sciences; for neither will an ‘activity’ exist without its proper faculty, nor without activity will there be sensation.

But if the Soul does not, in the way suggested [i.e. with different parts of itself acting simultaneously], perceive in one and the same individual time sensibles of the same sense, a fortiori it is not thus that it perceives sensibles of different senses. For it is, as already stated, more conceivable that it should perceive a plurality of the former together in this way than a plurality of heterogeneous objects.

If then, as is the fact, the Soul with one part perceives Sweet, with another, White, either that which results from these is some one part, or else there is no such one resultant. But there must be such an one, inasmuch as the general faculty of sense-perception is one. What one object, then, does that one faculty [when perceiving an object, e.g. as both White and Sweet] perceive? [None]; for assuredly no one object arises by composition of these [heterogeneous objects, such as White and Sweet]. We must conclude, therefore, that there is, as has been stated before, some one faculty in the soul with which the latter perceives all its percepts, though it perceives each different genus of sensibles through a different organ.

May we not, then, conceive this faculty which perceives White and Sweet to be one qua indivisible [sc. qua combining its different simultaneous objects] in its actualization, but different, when it has become divisible [sc. qua distinguishing its different simultaneous objects] in its actualization?

Or is what occurs in the case of the perceiving Soul conceivably analogous to what holds true in that of the things themselves? For the same numerically one thing is white and sweet, and has many other qualities, [while its numerical oneness is not thereby prejudiced] if the fact is not that the qualities are really separable in the object from one another, but that the being of each quality is different [from that of every other]. In the same way therefore we must assume also, in the case of the Soul, that the faculty of perception in general is in itself numerically one and the same, but different [differentiated] in its being; different, that is to say, in genus as regards some of its objects, in species as regards others. Hence too, we may conclude that one can perceive [numerically different objects] coinstantaneously with a faculty which is numerically one and the same, but not the same in its relationship [sc. according as the objects to which it is directed are not the same].

That every sensible object is a magnitude, and that nothing which it is possible to perceive is indivisible, may be thus shown. The distance whence an object could not be seen is indeterminate, but that whence it is visible is determinate. We may say the same of the objects of Smelling and Hearing, and of all sensibles not discerned by actual contact. Now, there is, in the interval of distance, some extreme place, the last from which the object is invisible, and the first from which it is visible. This place, beyond which if the object be one cannot perceive it, while if the object be on the hither side one must perceive it, is, I presume, itself necessarily indivisible. Therefore, if any sensible object be indivisible, such object, if set in the said extreme place whence imperceptibility ends and perceptibility begins, will have to be both visible and invisible their objects, whether regarded in general or at the same time; but this is impossible.

This concludes our survey of the characteristics of the organs of Sense-perception and their objects, whether regarded in general or in relation to each organ. Of the remaining subjects, we must first consider that of memory and remembering.

On Memory (449b)

Translated by J. I. Beare

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WE have, in the next place, to treat of Memory and Remembering, considering its nature, its cause, and the part of the soul to which this experience, as well as that of Recollecting, belongs. For the persons who possess a retentive memory are not identical with those who excel in power of recollection; indeed, as a rule, slow people have a good memory, whereas those who are quick-witted and clever are better at recollecting.

We must first form a true conception of these objects of memory, a point on which mistakes are often made. Now to remember the future is not possible, but this is an object of opinion or expectation (and indeed there might be actually a science of expectation, like that of divination, in which some believe); nor is there memory of the present, but only sense-perception. For by the latter we know not the future, nor the past, but the present only. But memory relates to the past. No one would say that he remembers the present, when it is present, e.g. a given white object at the moment when he sees it; nor would one say that he remembers an object of scientific contemplation at the moment when he is actually contemplating it, and has it full before his mind;-of the former he would say only that he perceives it, of the latter only that he knows it. But when one has scientific knowledge, or perception, apart from the actualizations of the faculty concerned, he thus ‘remembers’ (that the angles of a triangle are together equal to two right angles); as to the former, that he learned it, or thought it out for himself, as to the latter, that he heard, or saw, it, or had some such sensible experience of it. For whenever one exercises the faculty of remembering, he must say within himself, ‘I formerly heard (or otherwise perceived) this,’ or ‘I formerly had this thought’.

Memory is, therefore, neither Perception nor Conception, but a state or affection of one of these, conditioned by lapse of time. As already observed, there is no such thing as memory of the present while present, for the present is object only of perception, and the future, of expectation, but the object of memory is the past. All memory, therefore, implies a time elapsed; consequently only those animals which perceive time remember, and the organ whereby they perceive time is also that whereby they remember.

The subject of ‘presentation’ has been already considered in our work On the Soul. Without a presentation intellectual activity is impossible. For there is in such activity an incidental affection identical with one also incidental in geometrical demonstrations. For in the latter case, though we do not for the purpose of the proof make any use of the fact that the quantity in the triangle (for example, which we have drawn) is determinate, we nevertheless draw it determinate in quantity. So likewise when one exerts the intellect (e.g. on the subject of first principles), although the object may not be quantitative, one envisages it as quantitative, though he thinks it in abstraction from quantity; while, on the other hand, if the object of the intellect is essentially of the class of things that are quantitative, but indeterminate, one envisages it as if it had determinate quantity, though subsequently, in thinking it, he abstracts from its determinateness. Why we cannot exercise the intellect on any object absolutely apart from the continuous, or apply it even to non-temporal things unless in connexion with time, is another question. Now, one must cognize magnitude and motion by means of the same faculty by which one cognizes time (i.e. by that which is also the faculty of memory), and the presentation (involved in such cognition) is an affection of the sensus communis; whence this follows, viz. that the cognition of these objects (magnitude, motion time) is effected by the (said sensus communis, i.e. the) primary faculty of perception. Accordingly, memory (not merely of sensible, but) even of intellectual objects involves a presentation: hence we may conclude that it belongs to the faculty of intelligence only incidentally, while directly and essentially it belongs to the primary faculty of sense-perception.

Hence not only human beings and the beings which possess opinion or intelligence, but also certain other animals, possess memory. If memory were a function of (pure) intellect, it would not have been as it is an attribute of many of the lower animals, but probably, in that case, no mortal beings would have had memory; since, even as the case stands, it is not an attribute of them all, just because all have not the faculty of perceiving time. Whenever one actually remembers having seen or heard, or learned, something, he includes in this act (as we have already observed) the consciousness of ‘formerly’; and the distinction of ‘former’ and ‘latter’ is a distinction in time.

Accordingly if asked, of which among the parts of the soul memory is a function, we reply: manifestly of that part to which ‘presentation’ appertains; and all objects capable of being presented (viz. aistheta) are immediately and properly objects of memory, while those (viz. noeta) which necessarily involve (but only involve) presentation are objects of memory incidentally.

One might ask how it is possible that though the affection (the presentation) alone is present, and the (related) fact absent, the latter-that which is not present-is remembered. (The question arises), because it is clear that we must conceive that which is generated through sense-perception in the sentient soul, and in the part of the body which is its seat-viz. that affection the state whereof we call memory-to be some such thing as a picture. The process of movement (sensory stimulation) involved the act of perception stamps in, as it were, a sort of impression of the percept, just as persons do who make an impression with a seal. This explains why, in those who are strongly moved owing to passion, or time of life, no mnemonic impression is formed; just as no impression would be formed if the movement of the seal were to impinge on running water; while there are others in whom, owing to the receiving surface being frayed, as happens to (the stucco on) old (chamber) walls, or owing to the hardness of the receiving surface, the requisite impression is not implanted at all. Hence both very young and very old persons are defective in memory; they are in a state of flux, the former because of their growth, the latter, owing to their decay. In like manner, also, both those who are too quick and those who are too slow have bad memories. The former are too soft, the latter too hard (in the texture of their receiving organs), so that in the case of the former the presented image (though imprinted) does not remain in the soul, while on the latter it is not imprinted at all.

But then, if this truly describes what happens in the genesis of memory, (the question stated above arises:) when one remembers, is it this impressed affection that he remembers, or is it the objective thing from which this was derived? If the former, it would follow that we remember nothing which is absent; if the latter, how is it possible that, though perceiving directly only the impression, we remember that absent thing which we do not perceive? Granted that there is in us something like an impression or picture, why should the perception of the mere impression be memory of something else, instead of being related to this impression alone? For when one actually remembers, this impression is what he contemplates, and this is what he perceives. How then does he remember what is not present? One might as well suppose it possible also to see or hear that which is not present. In reply, we suggest that this very thing is quite conceivable, nay, actually occurs in experience. A picture painted on a panel is at once a picture and a likeness: that is, while one and the same, it is both of these, although the 'being' of both is not the same, and one may contemplate it either as a picture, or as a likeness. Just in the same way we have to conceive that the mnemonic presentation within us is something which by itself is merely an object of contemplation, while, in-relation to something else, it is also a presentation of that other thing. In so far as it is regarded in itself, it is only an object of contemplation, or a presentation; but when considered as relative to something else, e.g. as its likeness, it is also a mnemonic token. Hence, whenever the residual sensory process implied by it is actualized in consciousness, if the soul perceives this in so far as it is something absolute, it appears to occur as a mere thought or presentation; but if the soul perceives it qua related to something else, then,-just as when one contemplates the painting in the picture as being a likeness, and without having (at the moment) seen the actual Koriskos, contemplates it as a likeness of Koriskos, and in that case the experience involved in this contemplation of it (as relative) is different from what one has when he contemplates it simply as a painted figure-(so in the case of memory we have the analogous difference for), of the objects in the soul, the one (the unrelated object) presents itself simply as a thought, but the other (the related object) just because, as in the painting, it is a likeness, presents itself as a mnemonic token.

We can now understand why it is that sometimes, when we have such processes, based on some former act of perception, occurring in the soul, we do not know whether this really implies our having had perceptions corresponding to them, and we doubt whether the case is or is not one of memory. But occasionally it happens that (while thus doubting) we get a sudden idea and recollect that we heard or saw something formerly. This (occurrence of the ‘sudden idea’) happens whenever, from contemplating a mental object as absolute, one changes his point of view, and regards it as relative to something else.

The opposite (sc. to the case of those who at first do not recognize their phantasms as mnemonic) also occurs, as happened in the cases of Antipheron of Oreus and others suffering from mental derangement; for they were accustomed to speak of their mere phantasms as facts of their past experience, and as if remembering them. This takes place whenever one contemplates what is not a likeness as if it were a likeness.

Mnemonic exercises aim at preserving one’s memory of something by repeatedly reminding him of it; which implies nothing else (on the learner’s part) than the frequent contemplation of something (viz. the ‘mnemonic’, whatever it may be) as a likeness, and not as out of relation.

As regards the question, therefore, what memory or remembering is, it has now been shown that it is the state of a presentation, related as a likeness to that of which it is a presentation; and as to the question of which of the faculties within us memory is a function, (it has been shown) that it is a function of the primary faculty of sense-perception, i.e. of that faculty whereby we perceive time.

2

Next comes the subject of Recollection, in dealing with which we must assume as fundamental the truths elicited above in our introductory discussions. For recollection is not the ‘recovery’ or ‘acquisition’ of memory; since at the instant when one at first learns (a fact of science) or experiences (a particular fact of sense), he does not thereby ‘recover’ a memory, inasmuch as none has preceded, nor does he acquire one ab initio. It is only at the instant when the aforesaid state or affection (of the aisthesis or upolepsis) is implanted in the soul that memory exists, and therefore memory is not itself implanted concurrently with the continuous implantation of the (original) sensory experience.

Further: at the very individual and concluding instant when first (the sensory experience or scientific knowledge) has been completely implanted, there is then already established in the person affected the (sensory) affection, or the scientific knowledge (if one ought to apply the term ‘scientific knowledge' to the (mnemonic) state or affection; and indeed one may well remember, in the 'incidental' sense, some of the things (i.e. ta katholou) which are properly objects of scientific knowledge); but to remember, strictly and properly speaking, is an activity which will not be immanent until the original experience has undergone lapse of time. For one remembers now what one saw or otherwise experienced formerly; the moment of the original experience and the moment of the memory of it are never identical.

Again, (even when time has elapsed, and one can be said really to have acquired memory, this is not necessarily recollection, for firstly) it is obviously possible, without any present act of recollection, to remember as a continued consequence of the original perception or other experience; whereas when (after an interval of obliviscence) one recovers some scientific knowledge which he had before, or some perception, or some other experience, the state of which we above declared to be memory, it is then, and then only, that this recovery may amount to a recollection of any of the things aforesaid. But, (though as observed above, remembering does not necessarily imply recollecting), recollecting always implies remembering, and actualized memory follows (upon the successful act of recollecting).

But secondly, even the assertion that recollection is the reinstatement in consciousness of something which was there before but had disappeared requires qualification. This assertion may be true, but it may also be false; for the same person may twice learn (from some teacher), or twice discover (i.e. excogitate), the same fact. Accordingly, the act of recollecting ought (in its definition) to be distinguished from these acts; i.e. recollecting must imply in those who recollect the presence of some spring over and above that from which they originally learn.

Acts of recollection, as they occur in experience, are due to the fact that one movement has by nature another that succeeds it in regular order.

If this order be necessary, whenever a subject experiences the former of two movements thus connected, it will (invariably) experience the latter; if, however, the order be not necessary, but customary, only in the majority of cases will the subject experience the latter of the two movements. But it is a fact that there are some movements, by a single experience of which persons take the impress of custom more deeply than they do by experiencing others many times; hence upon seeing some things but once we remember them better than others which we may have been frequently.

Whenever therefore, we are recollecting, we are experiencing certain of the antecedent movements until finally we experience the one after which customarily comes that which we seek. This explains why we hunt up the series (of kineseis) having started in thought either from a present intuition or some other, and from something either similar, or contrary, to what we seek, or else from that which is contiguous with it. Such is the empirical ground of the process of recollection; for the mnemonic movements involved in these starting-points are in some cases identical, in others, again, simultaneous, with those of the idea we seek, while in others they comprise a portion of them, so that the remnant which one experienced after that portion (and which still requires to be excited in memory) is comparatively small.

Thus, then, it is that persons seek to recollect, and thus, too, it is that they recollect even without the effort of seeking to do so, viz. when the movement implied in recollection has supervened on some other which is its condition. For, as a rule, it is when antecedent movements of the classes here described have first been excited, that the particular movement implied in recollection follows. We need not examine a series of which the beginning and end lie far apart, in order to see how (by recollection) we remember; one in which they lie near one another will serve equally well. For it is clear that the method is in each case the same, that is, one hunts up the objective series, without any previous search or previous recollection. For (there is, besides the natural order, viz. the order of the pralmata, or events of the primary experience, also a customary order, and) by the effect of custom the mnemonic movements tend to succeed one another in a certain order. Accordingly, therefore, when one wishes to recollect, this is what he will do: he will try to obtain a beginning of movement whose sequel shall be the movement which he desires to reawaken. This explains why attempts at recollection succeed soonest and best when they start from a beginning (of some objective series). For, in order of succession, the mnemonic movements are to one another as the objective facts (from which they are derived). Accordingly, things arranged in a fixed order, like the successive demonstrations in geometry, are easy to remember (or recollect) while badly arranged subjects are remembered with difficulty.

Recollecting differs also in this respect from relearning, that one who recollects will be able, somehow, to move, solely by his own effort, to the term next after the starting-point. When one cannot do this of himself, but only by external assistance, he no longer remembers (i.e. he has totally forgotten, and therefore of course cannot recollect). It often happens that, though a person cannot recollect at the moment, yet by seeking he can do so, and discovers what he seeks. This he succeeds in doing by setting up many movements, until finally he excites one of a kind which will have for its sequel the fact he wishes to recollect. For remembering (which is the condicio sine qua non of recollecting) is the existence, potentially, in the mind of a movement capable of stimulating it to the desired movement, and this, as has been said, in such a way that the person should be moved (prompted to recollection) from within himself, i.e. in consequence of movements wholly contained within himself.

But one must get hold of a starting-point. This explains why it is that persons are supposed to recollect sometimes by starting from mnemonic loci. The cause is that they pass swiftly in thought from one point to another, e.g. from milk to white, from white to mist, and thence to moist, from which one remembers Autumn (the ‘season of mists’), if this be the season he is trying to recollect.

It seems true in general that the middle point also among all things is a good mnemonic starting-point from which to reach any of them. For if one does not recollect before, he will do so when he has come to this, or, if not, nothing can help him; as, e.g. if one were to have in mind the numerical series denoted by the symbols A, B, G, D, E, Z, I, H, O. For, if he does not remember what he wants at E, then at E he remembers O; because from E movement in either direction is possible, to D or to Z. But, if it is not for one of these that he is searching, he will remember (what he is searching for) when he has come to G if he is searching for H or I. But if (it is) not (for H or I that he is searching, but for one of the terms that remain), he will remember by going to A, and so in all cases (in which one starts from a middle point). The cause of one’s sometimes recollecting and sometimes not, though starting from the same point, is, that from the same starting-point a movement can be made in several directions, as, for instance, from G to I or to D. If, then, the mind has not (when starting from E) moved in an old path (i.e. one in which it moved first having the objective experience, and that, therefore, in which un-’ethized’ phusis would have it again move), it tends to move to the more customary; for (the mind having, by chance or otherwise, missed moving in the ‘old’ way) Custom now assumes the role of Nature.

Hence the rapidity with which we recollect what we frequently think about. For as regular sequence of events is in accordance with nature, so, too, regular sequence is observed in the actualization of kinesis (in consciousness), and here frequency tends to produce (the regularity of) nature. And since in the realm of nature occurrences take place which are even contrary to nature, or fortuitous, the same happens a fortiori in the sphere swayed by custom, since in this sphere natural law is not similarly established. Hence it is that (from the same starting-point) the mind receives an impulse to move sometimes in the required direction, and at other times otherwise, (doing the latter) particularly when something else somehow deflects the mind from the right direction and attracts it to itself. This last consideration explains too how it happens that, when we want to remember a name, we remember one somewhat like it, indeed, but blunder in reference to (i.e. in pronouncing) the one we intended.

Thus, then, recollection takes place.

But the point of capital importance is that (for the purpose of recollection) one should cognize, determinately or indeterminately, the time-relation (of that which he wishes to recollect). There is,-let it be taken as a fact,-something by which one distinguishes a greater and a smaller time; and it is reasonable to think that one does this in a way analogous to that in which one discerns (spacial) magnitudes. For it is not by the mind's reaching out towards them, as some say a visual ray from the eye does (in seeing), that one thinks of large things at a distance in space (for even if they are not there, one may similarly think them); but one does so by a proportionate mental movement. For there are in the mind the like figures and movements (i.e. 'like' to those of objects and events). Therefore, when one thinks the greater objects, in what will his thinking those differ from his thinking the smaller? (In nothing,) because all the internal though smaller are as it were proportional to the external. Now, as we may assume within a person something proportional to the forms (of distant magnitudes), so, too, we may doubtless assume also something else proportional to their distances. As, therefore, if one has (psychically) the movement in AB, BE, he constructs in thought (i.e. knows objectively) GD, since AG and GD bear equal ratios respectively (to AB and BE), (so he who recollects also proceeds). Why then does he construct GD rather than ZH? Is it not because as AG is to AB, so is O to I? These movements therefore (sc. in AB, BE, and in O:I) he has simultaneously. But if he wishes to construct to thought ZH, he has in mind BE in like manner as before (when constructing GD), but now, instead of (the movements of the ratio) O:I, he has in mind (those of the ratio K:L; for K:L::ZA:BA. (See diagram.)

When, therefore, the 'movement' corresponding to the object and that corresponding to its time concur, then one actually remembers. If one supposes (himself to move in these different but concurrent ways) without really doing so, he supposes himself to remember.

For one may be mistaken, and think that he remembers when he really does not. But it is not possible, conversely, that when one actually remembers he should not suppose himself to remember, but should remember unconsciously. For remembering, as we have conceived it, essentially implies consciousness of itself. If, however, the movement corresponding to the objective fact takes place without that corresponding to the time, or, if the latter takes place without the former, one does not remember.

The movement answering to the time is of two kinds. Sometimes in remembering a fact one has no determinate time-notion of it, no such notion as that e.g. he did something or other on the day before yesterday; while in other cases he has a determinate notion-of the time. Still, even though one does not remember with actual determination of the time, he genuinely remembers, none the less. Persons are wont to say that they remember (something), but yet do not know when (it occurred, as happens) whenever they do not know determinately the exact length of time implied in the 'when'.

It has been already stated that those who have a good memory are not identical with those who are quick at recollecting. But the act of recollecting differs from that of remembering, not only chronologically, but also in this, that many also of the other animals (as well as man) have memory, but, of all that we are acquainted with, none, we venture to say, except man, shares in the faculty of recollection. The cause of this is that recollection is, as it were a mode of inference. For he who endeavours to recollect infers that he formerly saw, or heard, or had some such experience, and the process (by which he succeeds in recollecting) is, as it were, a sort of investigation. But to investigate in this way belongs naturally to those animals alone which are also endowed with the faculty of deliberation; (which proves what was said above), for deliberation is a form of inference.

That the affection is corporeal, i.e. that recollection is a searching for an ‘image’ in a corporeal substrate, is proved by the fact that in some persons, when, despite the most strenuous application of thought, they have been unable to recollect, it (viz. the anamnesis = the effort at recollection) excites a feeling of discomfort, which, even though they abandon the effort at recollection, persists in them none the less; and especially in persons of melancholic temperament. For these are most powerfully moved by presentations. The reason why the effort of recollection is not under the control of their will is that, as those who throw a stone cannot stop it at their will when thrown, so he who tries to recollect and ‘hunts’ (after an idea) sets up a process in a material part, (that) in which resides the affection. Those who have moisture around that part which is the centre of sense-perception suffer most discomfort of this kind. For when once the moisture has been set in motion it is not easily brought to rest, until the idea which was sought for has again presented itself, and thus the movement has found a straight course. For a similar reason bursts of anger or fits of terror, when once they have excited such motions, are not at once allayed, even though the angry or terrified persons (by efforts of will) set up counter motions, but the passions continue to move them on, in the same direction as at first, in opposition to such counter motions. The affection resembles also that in the case of words, tunes, or sayings, whenever one of them has become inveterate on the lips. People give them up and resolve to avoid them; yet again they find themselves humming the forbidden air, or using the prohibited word. Those whose upper parts are abnormally large, as. is the case with dwarfs, have abnormally weak memory, as compared with their opposites, because of the great weight which they have resting upon the organ of perception, and because their mnemonic movements are, from the very first, not able to keep true to a course, but are dispersed, and because, in the effort at recollection, these movements do not easily find a direct onward path. Infants and very old persons have bad memories, owing to the amount of movement going on within them; for the latter are in process of rapid decay, the former in process of vigorous growth; and we may add that children, until considerably advanced in years, are dwarf-like in their bodily structure. Such then is our theory as regards memory and remembering their nature, and the particular organ of the soul by which animals remember; also as regards recollection, its formal definition, and the manner and causes-of its performance.

On Sleep (453b)

Translated by J. I. Beare

1

WITH regard to sleep and waking, we must consider what they are: whether they are peculiar to soul or to body, or common to both; and if common, to what part of soul or body they appertain: further, from what cause it arises that they are attributes of animals, and whether all animals share in them both, or some partake of the one only, others of the other only, or some partake of neither and some of both.

Further, in addition to these questions, we must also inquire what the dream is, and from what cause sleepers sometimes dream, and sometimes do not; or whether the truth is that sleepers always dream but do not always remember (their dream); and if this occurs, what its explanation is.

Again, [we must inquire] whether it is possible or not to foresee the future (in dreams), and if it be possible, in what manner; further, whether, supposing it possible, it extends only to things to be accomplished by the agency of Man, or to those also of which the cause lies in supra-human agency, and which result from the workings of Nature, or of Spontaneity.

First, then, this much is clear, that waking and sleep appertain to the same part of an animal, inasmuch as they are opposites, and sleep is evidently a privation of waking. For contraries, in natural as well as in all other matters, are seen always to present themselves in the same subject, and to be affections of the same: examples are-health and sickness, beauty and ugliness, strength and weakness, sight and blindness, hearing and deafness. This is also clear from the following considerations. The criterion by which we know the waking person to be awake is identical with that by which we know the sleeper to be asleep; for we assume that one who is exercising sense-perception is awake, and that every one who is awake perceives either some external movement or else some movement in his own consciousness. If waking, then, consists in nothing else than the exercise of sense-perception, the inference is clear, that the organ, in virtue of which animals perceive, is that by which they wake, when they are awake, or sleep, when they are awake, or sleep, when they are asleep.

But since the exercise of sense-perception does not belong to soul or body exclusively, then (since the subject of actuality is in every case identical with that of potentiality, and what is called sense-perception, as actuality, is a movement of the soul through the body) it is clear that its affection is not an affection of soul exclusively, and that a soulless body has not the potentiality of perception. [Thus sleep and waking are not attributes of pure intelligence, on the one hand, or of inanimate bodies, on the other.]

Now, whereas we have already elsewhere distinguished what are called the parts of the soul, and whereas the nutrient is, in all living bodies, capable of existing without the other parts, while none of the others can exist without the nutrient; it is clear that sleep and waking are not affections of such living things as partake only of growth and decay, e.g. not of plants, because these have not the faculty of sense-perception, whether or not this be capable of separate existence; in its potentiality, indeed, and in its relationships, it is separable.

Likewise it is clear that [of those which either sleep or wake] there is no animal which is always awake or always asleep, but that both these affections belong [alternately] to the same animals. For if there be an animal not endued with sense-perception, it is impossible that this should either sleep or wake; since both these are affections of the activity of the primary faculty of sense-perception. But it is equally impossible also that either of these two affections should perpetually attach itself to the same animal, e.g. that some species of animal should be always asleep or always awake, without intermission; for all organs which have a natural function must lose power when they work beyond the natural time-limit of their working period; for instance, the eyes [must lose power] from [too long continued] seeing, and must give it up; and so it is with the hand and every other member which has a function. Now, if sense-perception is the function of a special organ, this also, if it continues perceiving beyond the appointed time-limit of its continuous working period, will lose its power, and will do its work no longer. Accordingly, if the waking period is determined by this fact, that in it sense-perception is free; if in the case of some contraries one of the two must be present, while in the case of others this is not necessary; if waking is the contrary of sleeping, and one of these two must be present to every animal: it must follow that the state of sleeping is necessary. Finally, if such affection is Sleep, and this is a state of powerlessness arising from excess of waking, and excess of waking is in its origin sometimes morbid, sometimes not, so that the powerlessness or dissolution of activity will be so or not; it is inevitable that every creature which wakes must also be capable of sleeping, since it is impossible that it should continue actualizing its powers perpetually.

So, also, it is impossible for any animal to continue always sleeping. For sleep is an affection of the organ of sense-perception — a sort of tie or inhibition of function imposed on it, so that every creature that sleeps must needs have the organ of sense-perception. Now, that alone which is capable of sense-perception in actuality has the faculty of sense-perception; but to realize this faculty, in the proper and unqualified sense, is impossible while one is asleep. All sleep, therefore, must be susceptible of awakening. Accordingly, almost all other animals are clearly observed to partake in sleep, whether they are aquatic, aerial, or terrestrial, since fishes of all kinds, and molluscs, as well as all others which have eyes, have been seen sleeping. ‘Hard-eyed’ creatures and insects manifestly assume the posture of sleep; but the sleep of all such creatures is of brief duration, so that often it might well baffle one’s observation to decide whether they sleep or not. Of testaceous animals, on the contrary, no direct sensible evidence is as yet forthcoming to determine whether they sleep, but if the above reasoning be convincing to any one, he who follows it will admit this [viz. that they do so.]

That, therefore, all animals sleep may be gathered from these considerations. For an animal is defined as such by its possessing sense-perception; and we assert that sleep is, in a certain way, an inhibition of function, or, as it were, a tie, imposed on sense-perception, while its loosening or remission constitutes the being awake. But no plant can partake in either of these affections, for without sense-perception there is neither sleeping nor waking. But creatures which have sense-perception have likewise the feeling of pain and pleasure, while those which have these have appetite as well; but plants have none of these affections. A mark of this is that the nutrient part does its own work better when (the animal) is asleep than when it is awake. Nutrition and growth are then especially promoted, a fact which implies that creatures do not need sense-perception to assist these processes.

2

We must now proceed to inquire into the cause why one sleeps and wakes, and into the particular nature of the sense-perception, or sense-perceptions, if there be several, on which these affections depend. Since, then, some animals possess all the modes of sense-perception, and some not all, not, for example, sight, while all possess touch and taste, except such animals as are imperfectly developed, a class of which we have already treated in our work on the soul; and since an animal when asleep is unable to exercise, in the simple sense any particular sensory faculty whatever, it follows that in the state called sleep the same affection must extend to all the special senses; because, if it attaches itself to one of them but not to another, then an animal while asleep may perceive with the latter; but this is impossible.

Now, since every sense has something peculiar, and also something common; peculiar, as, e.g. seeing is to the sense of sight, hearing to the auditory sense, and so on with the other senses severally; while all are accompanied by a common power, in virtue whereof a person perceives that he sees or hears (for, assuredly, it is not by the special sense of sight that one sees that he sees; and it is not by mere taste, or sight, or both together that one discerns, and has the faculty of discerning, that sweet things are different from white things, but by a faculty connected in common with all the organs of sense; for there is one sensory function, and the controlling sensory faculty is one, though differing as a faculty of perception in relation to each genus of sensibles, e.g. sound or colour); and since this [common sensory activity] subsists in association chiefly with the faculty of touch (for this can exist apart from all the other organs of sense, but none of them can exist apart from it-a subject of which we have treated in our speculations concerning the Soul); it is therefore evident that waking and sleeping are an affection of this [common and controlling organ of sense-perception]. This explains why they belong to all animals, for touch [with which this common organ is chiefly connected], alone, [is common] to all [animals].

For if sleeping were caused by the special senses having each and all undergone some affection, it would be strange that these senses, for which it is neither necessary nor in a manner possible to realize their powers simultaneously, should necessarily all go idle and become motionless simultaneously. For the contrary experience, viz. that they should not go to rest altogether, would have been more reasonably anticipated. But, according to the explanation just given, all is quite clear regarding those also. For, when the sense organ which controls all the others, and to which all the others are tributary, has been in some way affected, that these others should be all affected at the same time is inevitable, whereas, if one of the tributaries becomes powerless, that the controlling organ should also become powerless need in no wise follow.

It is indeed evident from many considerations that sleep does not consist in the mere fact that the special senses do not function or that one does not employ them; and that it does not consist merely in an inability to exercise the sense-perceptions; for such is what happens in cases of swooning. A swoon means just such impotence of perception, and certain other cases of unconsciousness also are of this nature. Moreover, persons who have the bloodvessels in the neck compressed become insensible. But sleep supervenes when such incapacity of exercise has neither arisen in some casual organ of sense, nor from some chance cause, but when, as has been just stated, it has its seat in the primary organ with which one perceives objects in general. For when this has become powerless all the other sensory organs also must lack power to perceive; but when one of them has become powerless, it is not necessary for this also to lose its power.

We must next state the cause to which it is due, and its quality as an affection. Now, since there are several types of cause (for we assign equally the ‘final’, the ‘efficient’, the ‘material’, and the ‘formal’ as causes), in the first place, then, as we assert that Nature operates for the sake of an end, and that this end is a good; and that to every creature which is endowed by nature with the power to move, but cannot with pleasure to itself move always and continuously, rest is necessary and beneficial; and since, taught by experience, men apply to sleep this metaphorical term, calling it a ‘rest’ [from the strain of movement implied in sense-perception]: we conclude that its end is the conservation of animals. But the waking state is for an animal its highest end, since the exercise of sense-perception or of thought is the highest end for all beings to which either of these appertains; inasmuch as these are best, and the highest end is what is best: whence it follows that sleep belongs of necessity to each animal. I use the term ‘necessity’ in its conditional sense, meaning that if an animal is to exist and have its own proper nature, it must have certain endowments; and, if these are to belong to it, certain others likewise must belong to it [as their condition.]

The next question to be discussed is that of the kind of movement or action, taking place within their bodies, from which the affection of waking or sleeping arises in animals. Now, we must assume that the causes of this affection in all other animals are identical with, or analogous to, those which operate in sanguineous animals; and that the causes operating in sanguineous animals generally are identical with those operating in man. Hence we must consider the entire subject in the light of these instances [afforded by sanguineous animals, especially man]. Now, it has been definitely settled already in another work that sense-perception in animals originates ill the same part of the organism in which movement originates. This locus of origination is one of three determinate loci, viz. that which lies midway between the head and the abdomen. This is sanguineous animals is the region of the heart; for all sanguineous animals have a heart; and from this it is that both motion and the controlling sense-perception originate. Now, as regards movement, it is obvious that that of breathing and of the cooling process generally takes its rise there; and it is with a view to the conservation of the [due amount of] heat in this part that nature has formed as she has both the animals which respire, and those which cool themselves by moisture. Of this [cooling process] per se we shall treat hereafter. In bloodless animals, and insects, and such as do not respire, the ‘connatural spirit’ is seen alternately puffed up and subsiding in the part which is in them analogous [to the region of the heart in sanguineous animals]. This is clearly observable in the holoptera [insects with undivided wings] as wasps and bees; also in flies and such creatures. And since to move anything, or do anything, is impossible without strength, and holding the breath produces strength-in creatures which inhale, the holding of that breath which comes from without, but, in creatures which do not respire, of that which is connatural (which explains why winged insects of the class holoptera, when they move, are perceived to make a humming noise, due to the friction of the connatural spirit colliding with the diaphragm); and since movement is, in every animal, attended with some sense-perception, either internal or external, in the primary organ of sense, [we conclude] accordingly that if sleeping and waking are affections of this organ, the place in which, or the organ in which, sleep and waking originate, is self-evident [being that in which movement and sense-perception originate, viz. the heart].

Some persons move in their sleep, and perform many acts like waking acts, but not without a phantasm or an exercise of sense-perception; for a dream is in a certain way a sense-impression. But of them we have to speak later on. Why it is that persons when aroused remember their dreams, but do not remember these acts which are like waking acts, has been already explained in the work 'Of Problems'.

3

The point for consideration next in order to the preceding is:-What are the processes in which the affection of waking and sleeping originates, and whence do they arise? Now, since it is when it has sense-perception that an animal must first take food and receive growth, and in all cases food in its ultimate form is, in sanguineous animals, the natural substance blood, or, in bloodless animals, that which is analogous to this; and since the veins are the place of the blood, while the origin of these is the heart-an assertion which is proved by anatomy-it is manifest that, when the external nutriment enters the parts fitted for its reception, the evaporation arising from it enters into the veins, and there, undergoing a change, is converted into blood, and makes its way to their source [the heart]. We have treated of all this when discussing the subject of nutrition, but must here recapitulate what was there said, in order that we may obtain a scientific view of the beginnings of the process, and come to know what exactly happens to the primary organ of sense-perception to account for the occurrence of waking and sleep. For sleep, as has been shown, is not any given impotence of the perceptive faculty; for unconsciousness, a certain form of asphyxia, and swooning, all produce such impotence. Moreover it is an established fact that some persons in a profound trance have still had the imaginative faculty in play. This last point, indeed, gives rise to a difficulty; for if it is conceivable that one who had swooned should in this state fall asleep, the phantasm also which then presented itself to his mind might be regarded as a dream. Persons, too, who have fallen into a deep trance, and have come to be regarded as dead, say many things while in this condition. The same view, however, is to be taken of all these cases, [i.e. that they are not cases of sleeping or dreaming].

As we observed above, sleep is not co-extensive with any and every impotence of the perceptive faculty, but this affection is one which arises from the evaporation attendant upon the process of nutrition. The matter evaporated must be driven onwards to a certain point, then turn back, and change its current to and fro, like a tide-race in a narrow strait. Now, in every animal the hot naturally tends to move [and carry other things] upwards, but when it has reached the parts above [becoming cool], it turns back again, and moves downwards in a mass. This explains why fits of drowsiness are especially apt to come on after meals; for the matter, both the liquid and the corporeal, which is borne upwards in a mass, is then of considerable quantity. When, therefore, this comes to a stand it weighs a person down and causes him to nod, but when it has actually sunk downwards, and by its return has repulsed the hot, sleep comes on, and the animal so affected is presently asleep. A confirmation of this appears from considering the things which induce sleep; they all, whether potable or edible, for instance poppy, mandragora, wine, darnel, produce a heaviness in the head; and persons borne down [by sleepiness] and nodding [drowsily] all seem affected in this way, i.e. they are unable to lift up the head or the eye-lids. And it is after meals especially that sleep comes on like this, for the evaporation from the foods eaten is then copious. It also follows certain forms of fatigue; for fatigue operates as a solvent, and the dissolved matter acts, if not cold, like food prior to digestion. Moreover, some kinds of illness have this same effect; those arising from moist and hot secretions, as happens with fever-patients and in cases of lethargy. Extreme youth also has this effect; infants, for example, sleep a great deal, because of the food being all borne upwards-a mark whereof appears in the disproportionately large size of the upper parts compared with the lower during infancy, which is due to the fact that growth predominates in the direction of the former. Hence also they are subject to epileptic seizures; for sleep is like epilepsy, and, in a sense, actually is a seizure of this sort. Accordingly, the beginning of this malady takes place with many during sleep, and their subsequent habitual seizures occur in sleep, not in waking hours. For when the spirit [evaporation] moves upwards in a volume, on its return downwards it distends the veins, and forcibly compresses the passage through which respiration is effected. This explains why wines are not good for infants or for wet nurses (for it makes no difference, doubtless, whether the infants themselves, or their nurses, drink them), but such persons should drink them [if at all] diluted with water and in small quantity. For wine is spirituous, and of all wines the dark more so than any other. The upper parts, in infants, are so filled with nutriment that within five months [after birth] they do not even turn the neck [sc. to raise the head]; for in them, as in persons deeply intoxicated, there is ever a large quantity of moisture ascending. It is reasonable, too, to think that this affection is the cause of the embryo's remaining at rest in the womb at first. Also, as a general rule, persons whose veins are inconspicuous, as well as those who are dwarf-like, or have abnormally large heads, are addicted to sleep. For in the former the veins are narrow, so that it is not easy for the moisture to flow down through them; while in the case of dwarfs and those whose heads are abnormally large, the impetus of the evaporation upwards is excessive. Those [on the contrary] whose veins are large are, thanks to the easy flow through the veins, not addicted to sleep, unless, indeed, they labour under some other affection which counteracts [this easy flow]. Nor are the 'atrabilious' addicted to sleep, for in them the inward region is cooled so that the quantity of evaporation in their case is not great. For this reason they have large appetites, though spare and lean; for their bodily condition is as if they derived no benefit from what they eat. The dark bile, too, being itself naturally cold, cools also the nutrient tract, and the other parts wheresoever such secretion is potentially present [i.e. tends to be formed].

Hence it is plain from what has been said that sleep is a sort of concentration, or natural recoil, of the hot matter inwards [towards its centre], due to the cause above mentioned. Hence restless movement is a marked feature in the case of a person when drowsy. But where it [the heat in the upper and outer parts] begins to fail, he grows cool, and owing to this cooling process his eye-lids droop. Accordingly [in sleep] the upper and outward parts are cool, but the inward and lower, i.e. the parts at the feet and in the interior of the body, are hot.

Yet one might found a difficulty on the facts that sleep is most oppressive in its onset after meals, and that wine, and other such things, though they possess heating properties, are productive of sleep, for it is not probable that sleep should be a process of cooling while the things that cause sleeping are themselves hot. Is the explanation of this, then, to be found in the fact that, as the stomach when empty is hot, while replenishment cools it by the movement it occasions, so the passages and tracts in the head are cooled as the ‘evaporation’ ascends thither? Or, as those who have hot water poured on them feel a sudden shiver of cold, just so in the case before us, may it be that, when the hot substance ascends, the cold rallying to meet it cools [the aforesaid parts] deprives their native heat of all its power, and compels it to retire? Moreover, when much food is taken, which [i.e. the nutrient evaporation from which] the hot substance carries upwards, this latter, like a fire when fresh logs are laid upon it, is itself cooled, until the food has been digested.

For, as has been observed elsewhere, sleep comes on when the corporeal element [in the ‘evaporation’] conveyed upwards by the hot, along the veins, to the head. But when that which has been thus carried up can no longer ascend, but is too great in quantity [to do so], it forces the hot back again and flows downwards. Hence it is that men sink down [as they do in sleep] when the heat which tends to keep them erect (man alone, among animals, being naturally erect) is withdrawn; and this, when it befalls them, causes unconsciousness, and afterwards phantasy.

Or are the solutions thus proposed barely conceivable accounts of the refrigeration which takes place, while, as a matter of fact, the region of the brain is, as stated elsewhere, the main determinant of the matter? For the brain, or in creatures without a brain that which corresponds to it, is of all parts of the body the coolest. Therefore, as moisture turned into vapour by the sun’s heat is, when it has ascended to the upper regions, cooled by the coldness of the latter, and becoming condensed, is carried downwards, and turned into water once more; just so the excrementitious evaporation, when carried up by the heat to the region of the brain, is condensed into a ‘phlegm’ (which explains why catarrhs are seen to proceed from the head); while that evaporation which is nutrient and not unwholesome, becoming condensed, descends and cools the hot. The tenuity or narrowness of the veins about the brain itself contributes to its being kept cool, and to its not readily admitting the evaporation. This, then, is a sufficient explanation of the cooling which takes place, despite the fact that the evaporation is exceedingly hot.

A person awakes from sleep when digestion is completed: when the heat, which had been previously forced together in large quantity within a small compass from out the surrounding part, has once more prevailed, and when a separation has been effected between the more corporeal and the purer blood.

The finest and purest blood is that contained in the head, while the thickest and most turbid is that in the lower parts. The source of all the blood is, as has been stated both here and elsewhere, the heart. Now of the chambers in the heart the central communicates with each of the two others. Each of the latter again acts as receiver from each, respectively, of the two vessels, called the ‘great’ and the ‘aorta’. It is in the central chamber that the [abovementioned] separation takes place. To go into these matters in detail would, however, be more properly the business of a different treatise from the present. Owing to the fact that the blood formed after the assimilation of food is especially in need of separation, sleep [then especially] occurs [and lasts] until the purest part of this blood has been separated off into the upper parts of the body, and the most turbid into the lower parts. When this has taken place animals awake from sleep, being released from the heaviness consequent on taking food. We have now stated the cause of sleeping, viz. that it consists in the recoil by the corporeal element, upborne by the connatural heat, in a mass upon the primary sense-organ; we have also stated what sleep is, having shown that it is a seizure of the primary sense-organ, rendering it unable to actualize its powers; arising of necessity (for it is impossible for an animal to exist if the conditions which render it an animal be not fulfilled), i.e. for the sake of its conservation; since remission of movement tends to the conservation of animals.

On Dreams (458a)

Translated by J. I. Beare

1

WE must, in the next place, investigate the subject of the dream, and first inquire to which of the faculties of the soul it presents itself, i.e. whether the affection is one which pertains to the faculty of intelligence or to that of sense-perception; for these are the only faculties within us by which we acquire knowledge.

If, then, the exercise of the faculty of sight is actual seeing, that of the auditory faculty, hearing, and, in general that of the faculty of sense-perception, perceiving; and if there are some perceptions common to the senses, such as figure, magnitude, motion, &c., while there are others, as colour, sound, taste, peculiar [each to its own sense]; and further, if all creatures, when the eyes are closed in sleep, are unable to see, and the analogous statement is true of the other senses, so that manifestly we perceive nothing when asleep; we may conclude that it is not by sense-perception we perceive a dream.

But neither is it by opinion that we do so. For [in dreams] we not only assert, e.g. that some object approaching is a man or a horse [which would be an exercise of opinion], but that the object is white or beautiful, points on which opinion without sense-perception asserts nothing either truly or falsely. It is, however, a fact that the soul makes such assertions in sleep. We seem to see equally well that the approaching figure is a man, and that it is white. [In dreams], too, we think something else, over and above the dream presentation, just as we do in waking moments when we perceive something; for we often also reason about that which we perceive. So, too, in sleep we sometimes have thoughts other than the mere phantasms immediately before our minds. This would be manifest to any one who should attend and try, immediately on arising from sleep, to remember [his dreaming experience]. There are cases of persons who have seen such dreams, those, for example, who believe themselves to be mentally arranging a given list of subjects according to the mnemonic rule. They frequently find themselves engaged in something else besides the dream, viz. in setting a phantasm which they envisage into its mnemonic position. Hence it is plain that not every 'phantasm' in sleep is a mere dream-image, and that the further thinking which we perform then is due to an exercise of the faculty of opinion.

So much at least is plain on all these points, viz. that the faculty by which, in waking hours, we are subject to illusion when affected by disease, is identical with that which produces illusory effects in sleep. So, even when persons are in excellent health, and know the facts of the case perfectly well, the sun, nevertheless, appears to them to be only a foot wide. Now, whether the presentative faculty of the soul be identical with, or different from, the faculty of sense-perception, in either case the illusion does not occur without our actually seeing or [otherwise] perceiving something. Even to see wrongly or to hear wrongly can happen only to one who sees or hears something real, though not exactly what he supposes. But we have assumed that in sleep one neither sees, nor hears, nor exercises any sense whatever. Perhaps we may regard it as true that the dreamer sees nothing, yet as false that his faculty of sense-perception is unaffected, the fact being that the sense of seeing and the other senses may possibly be then in a certain way affected, while each of these affections, as duly as when he is awake, gives its impulse in a certain manner to his [primary] faculty of sense, though not in precisely the same manner as when he is awake. Sometimes, too, opinion says [to dreamers] just as to those who are awake, that the object seen is an illusion; at other times it is inhibited, and becomes a mere follower of the phantasm.

It is plain therefore that this affection, which we name 'dreaming', is no mere exercise of opinion or intelligence, but yet is not an affection of the faculty of perception in the simple sense. If it were the latter it would be possible [when asleep] to hear and see in the simple sense.

How then, and in what manner, it takes place, is what we have to examine. Let us assume, what is indeed clear enough, that the affection [of dreaming] pertains to sense-perception as surely as sleep itself does. For sleep does not pertain to one organ in animals and dreaming to another; both pertain to the same organ.

But since we have, in our work On the Soul, treated of presentation, and the faculty of presentation is identical with that of sense-perception, though the essential notion of a faculty of presentation is different from that of a faculty of sense-perception; and since presentation is the movement set up by a sensory faculty when actually discharging its function, while a dream appears to be a presentation (for a presentation which occurs in sleep-whether simply or in some particular way-is what we call a dream): it manifestly follows that dreaming is an activity of the faculty of sense-perception, but belongs to this faculty qua presentative.

2

We can best obtain a scientific view of the nature of the dream and the manner in which it originates by regarding it in the light of the circumstances attending sleep. The objects of sense-perception corresponding to each sensory organ produce sense-perception in us, and the affection due to their operation is present in the organs of sense not only when the perceptions are actualized, but even when they have departed.

What happens in these cases may be compared with what happens in the case of projectiles moving in space. For in the case of these the movement continues even when that which set up the movement is no longer in contact [with the things that are moved]. For that which set them in motion moves a certain portion of air, and this, in turn, being moved excites motion in another portion; and so, accordingly, it is in this way that [the bodies], whether in air or in liquids, continue moving, until they come to a standstill.

This we must likewise assume to happen in the case of qualitative change; for that part which [for example] has been heated by something hot, heats [in turn] the part next to it, and this propagates the affection continuously onwards until the process has come round to its oint of origination. This must also happen in the organ wherein the exercise of sense-perception takes place, since sense-perception, as realized in actual perceiving, is a mode of qualitative change. This explains why the affection continues in the sensory organs, both in their deeper and in their more superficial parts, not merely while they are actually engaged in perceiving, but even after they have ceased to do so. That they do this, indeed, is obvious in cases where we continue for some time engaged in a particular form of perception, for then, when we shift the scene of our perceptive activity, the previous affection remains; for instance, when we have turned our gaze from sunlight into darkness. For the result of this is that one sees nothing, owing to the excited by the light still subsisting in our eyes. Also, when we have looked steadily for a long while at one colour, e.g. at white or green, that to which we next transfer our gaze appears to be of the same colour. Again if, after having looked at the sun or some other brilliant object, we close the eyes, then, if we watch carefully, it appears in a right line with the direction of vision (whatever this may be), at first in its own colour; then it changes to crimson, next to purple, until it becomes black and disappears. And also when persons turn away from looking at objects in motion, e.g. rivers, and especially those which flow very rapidly, they find that the visual stimulations still present themselves, for the things really at rest are then seen moving: persons become very deaf after hearing loud noises, and after smelling very strong odours their power of smelling is impaired; and similarly in other cases. These phenomena manifestly take place in the way above described.

That the sensory organs are acutely sensitive to even a slight qualitative difference [in their objects] is shown by what happens in the case of mirrors; a subject to which, even taking it independently, one might devote close consideration and inquiry. At the same time it becomes plain from them that as the eye [in seeing] is affected [by the object seen], so also it produces a certain effect upon it. If a woman chances during her menstrual period to look into a highly polished mirror, the surface of it will grow cloudy with a blood-coloured haze. It is very hard to remove this stain from a new mirror, but easier to remove from an older mirror. As we have said before, the cause of this lies in the fact that in the act of sight there occurs not only a passion in the sense organ acted on by the polished surface, but the organ, as an agent, also produces an action, as is proper to a brilliant object. For sight is the property of an organ possessing brilliance and colour. The eyes, therefore, have their proper action as have other parts of the body. Because it is natural to the eye to be filled with blood-vessels, a woman's eyes, during the period of menstrual flux and inflammation, will undergo a change, although her husband will not note this since his seed is of the same nature as that of his wife. The surrounding atmosphere, through which operates the action of sight, and which surrounds the mirror also, will undergo a change of the same sort that occurred shortly before in the woman's eyes, and hence the surface of the mirror is likewise affected. And as in the case of a garment, the cleaner it is the more quickly it is soiled, so the same holds true in the case of the mirror. For anything that is clean will show quite clearly a stain that it chances to receive, and the cleanest object shows up even the slightest stain. A bronze mirror, because of its shininess, is especially sensitive to any sort of contact (the movement of the surrounding air acts upon it like a rubbing or pressing or wiping); on that account, therefore, what is clean will show up clearly the slightest touch on its surface. It is hard to cleanse smudges off new mirrors because the stain penetrates deeply and is suffused to all parts; it penetrates deeply because the mirror is not a dense medium, and is suffused widely because of the smoothness of the object. On the other hand, in the case of old mirrors, stains do not remain because they do not penetrate deeply, but only smudge the surface.

From this therefore it is plain that stimulatory motion is set up even by slight differences, and that sense-perception is quick to respond to it; and further that the organ which perceives colour is not only affected by its object, but also reacts upon it. Further evidence to the same point is afforded by what takes place in wines, and in the manufacture of unguents. For both oil, when prepared, and wine become rapidly infected by the odours of the things near them; they not only acquire the odours of the things thrown into or mixed with them, but also those of the things which are placed, or which grow, near the vessels containing them.

In order to answer our original question, let us now, therefore, assume one proposition, which is clear from what precedes, viz. that even when the external object of perception has departed, the impressions it has made persist, and are themselves objects of perception: and [let us assume], besides, that we are easily deceived respecting the operations of sense-perception when we are excited by emotions, and different persons according to their different emotions; for example, the coward when excited by fear, the amorous person by amorous desire; so that, with but little resemblance to go upon, the former thinks he sees his foes approaching, the latter, that he sees the object of his desire; and the more deeply one is under the influence of the emotion, the less similarity is required to give rise to these illusory impressions. Thus too, both in fits of anger, and also in all states of appetite, all men become easily deceived, and more so the more their emotions are excited. This is the reason too why persons in the delirium of fever sometimes think they see animals on their chamber walls, an illusion arising from the faint resemblance to animals of the markings thereon when put together in patterns; and this sometimes corresponds with the emotional states of the sufferers, in such a way that, if the latter be not very ill, they know well enough that it is an illusion; but if the illness is more severe they actually move according to the appearances. The cause of these occurrences is that the faculty in virtue of which the controlling sense judges is not identical with that in virtue of which presentations come before the mind. A proof of this is, that the sun presents itself as only a foot in diameter, though often something else gainsays the presentation. Again, when the fingers are crossed, the one object [placed between them] is felt [by the touch] as two; but yet we deny that it is two; for sight is more authoritative than touch. Yet, if touch stood alone, we should actually have pronounced the one object to be two. The ground of such false judgements is that any appearances whatever present themselves, not only when its object stimulates a sense, but also when the sense by itself alone is stimulated, provided only it be stimulated in the same manner as it is by the object. For example, to persons sailing past the land seems to move, when it is really the eye that is being moved by something else [the moving ship.]

3

From this it is manifest that the stimulatory movements based upon sensory impressions, whether the latter are derived from external objects or from causes within the body, present themselves not only when persons are awake, but also then, when this affection which is called sleep has come upon them, with even greater impressiveness. For by day, while the senses and the intellect are working together, they (i.e. such movements) are extruded from consciousness or obscured, just as a smaller is beside a larger fire, or as small beside great pains or pleasures, though, as soon as the latter have ceased, even those which are trifling emerge into notice. But by night [i.e. in sleep] owing to the inaction of the particular senses, and their powerlessness to realize themselves, which arises from the reflux of the hot from the exterior parts to the interior, they [i.e. the above ‘movements’] are borne in to the head quarters of sense-perception, and there display themselves as the disturbance (of waking life) subsides. We must suppose that, like the little eddies which are being ever formed in rivers, so the sensory movements are each a continuous process, often remaining like what they were when first started, but often, too, broken into other forms by collisions with obstacles. This [last mentioned point], moreover, gives the reason why no dreams occur in sleep immediately after meals, or to sleepers who are extremely young, e.g. to infants. The internal movement in such cases is excessive, owing to the heat generated from the food. Hence, just as in a liquid, if one vehemently disturbs it, sometimes no reflected image appears, while at other times one appears, indeed, but utterly distorted, so as to seem quite unlike its original; while, when once the motion has ceased, the reflected images are clear and plain; in the same manner during sleep the phantasms, or residuary movements, which are based upon the sensory impressions, become sometimes quite obliterated by the above described motion when too violent; while at other times the sights are indeed seen, but confused and weird, and the dreams [which then appear] are unhealthy, like those of persons who are atrabilious, or feverish, or intoxicated with wine. For all such affections, being spirituous, cause much commotion and disturbance. In sanguineous animals, in proportion as the blood becomes calm, and as its purer are separated from its less pure elements, the fact that the movement, based on impressions derived from each of the organs of sense, is preserved in its integrity, renders the dreams healthy, causes a [clear] image to present itself, and makes the dreamer think, owing to the effects borne in from the organ of sight, that he actually sees, and owing to those which come from the organ of hearing, that he really hears; and so on with those also which proceed from the other sensory organs. For it is owing to the fact that the movement which reaches the primary organ of sense comes from them, that one even when awake believes himself to see, or hear, or otherwise perceive; just as it is from a belief that the organ of sight is being stimulated, though in reality not so stimulated, that we sometimes erroneously declare ourselves to see, or that, from the fact that touch announces two movements, we think that the one object is two. For, as a rule, the governing sense affirms the report of each particular sense, unless another particular sense, more authoritative, makes a contradictory report. In every case an appearance presents itself, but what appears does not in every case seem real, unless when the deciding faculty is inhibited, or does not move with its proper motion. Moreover, as we said that different men are subject to illusions, each according to the different emotion present in him, so it is that the sleeper, owing to sleep, and to the movements then going on in his sensory organs, as well as to the other facts of the sensory process, [is liable to illusion], so that the dream presentation, though but little like it, appears as some actual given thing. For when one is asleep, in proportion as most of the blood sinks inwards to its fountain [the heart], the internal [sensory] movements, some potential, others actual accompany it inwards. They are so related [in general] that, if anything move the blood, some one sensory movement will emerge from it, while if this perishes another will take its place; while to one another also they are related in the same way as the artificial frogs in water which severally rise [in fixed succesion] to the surface in the order in which the salt [which keeps them down] becomes dissolved. The residuary movements are like these: they are within the soul potentially, but actualize themselves only when the impediment to their doing so has been relaxed; and according as they are thus set free, they begin to move in the blood which remains in the sensory organs, and which is now but scanty, while they possess verisimilitude after the manner of cloud-shapes, which in their rapid metamorphoses one compares now to human beings and a moment afterwards to centaurs. Each of them is however, as has been said, the remnant of a sensory impression taken when sense was actualizing itself; and when this, the true impression, has departed, its remnant is still immanent, and it is correct to say of it, that though not actually Koriskos, it is like Koriskos. For when the person was actually perceiving, his controlling and judging sensory faculty did not call it Koriskos, but, prompted by this [impression], called the genuine person yonder Koriskos. Accordingly, this sensory impulse, which, when actually perceiving, it [the controlling faculty] describes (unless completely inhibited by the blood), it now [in dreams] when quasi-perceiving, receives from the movements persisting in the sense-organs, and mistakes it-an impulse that is merely like the true [objective] impression-for the true impression itself, while the effect of sleep is so great that it causes this mistake to pass unnoticed. Accordingly, just as if a finger be inserted beneath the eyeball without being observed, one object will not only present two visual images, but will create an opinion of its being two objects; while if it [the finger] be observed, the presentation will be the same, but the same opinion will not be formed of it; exactly so it is in states of sleep: if the sleeper perceives that he is asleep, and is conscious of the sleeping state during which the perception comes before his mind, it presents itself still, but something within him speaks to this effect: ‘the image of Koriskos presents itself, but the real Koriskos is not present’; for often, when one is asleep, there is something in consciousness which declares that what then presents itself is but a dream. If, however, he is not aware of being asleep, there is nothing which will contradict the testimony of the bare presentation.

That what we here urge is true, i.e. that there are such presentative movements in the sensory organs, any one may convince himself, if he attends to and tries to remember the affections we experience when sinking into slumber or when being awakened. He will sometimes, in the moment of awakening, surprise the images which present themselves to him in sleep, and find that they are really but movements lurking in the organs of sense. And indeed some very young persons, if it is dark, though looking with wide open eyes, see multitudes of phantom figures moving before them, so that they often cover up their heads in terror.

From all this, then, the conclusion to be drawn is, that the dream is a sort of presentation, and, more particularly, one which occurs in sleep; since the phantoms just mentioned are not dreams, nor is any other a dream which presents itself when the sense-perceptions are in a state of freedom. Nor is every presentation which occurs in sleep necessarily a dream. For in the first place, some persons [when asleep] actually, in a certain way, perceive sounds, light, savour, and contact; feebly, however, and, as it were, remotely. For there have been cases in which persons while asleep, but with the eyes partly open, saw faintly in their sleep (as they supposed) the light of a lamp, and afterwards, on being awakened, straightway recognized it as the actual light of a real lamp; while, in other cases, persons who faintly heard the crowing of cocks or the barking of dogs identified these clearly with the real sounds as soon as they awoke. Some persons, too, return answers to questions put to them in sleep. For it is quite possible that, of waking or sleeping, while the one is present in the ordinary sense, the other also should be present in a certain way. But none of these occurrences should be called a dream. Nor should the true thoughts, as distinct from the mere presentations, which occur in sleep [be called dreams]. The dream proper is a presentation based on the movement of sense impressions, when such presentation occurs during sleep, taking sleep in the strict sense of the term.

There are cases of persons who in their whole lives have never had a dream, while others dream when considerably advanced in years, having never dreamed before. The cause of their not having dreams appears somewhat like that which operates in the case of infants, and [that which operates] immediately after meals. It is intelligible enough that no dream-presentation should occur to persons whose natural constitution is such that in them copious evaporation is borne upwards, which, when borne back downwards, causes a large quantity of motion. But it is not surprising that, as age advances, a dream should at length appear to them. Indeed, it is inevitable that, as a change is wrought in them in proportion to age or emotional experience, this reversal [from non-dreaming to dreaming] should occur also.

On Divination in Sleep (462b)

Translated by J. I. Beare

1

As to the divination which takes place in sleep, and is said to be based on dreams, we cannot lightly either dismiss it with contempt or give it implicit confidence. The fact that all persons, or many, suppose dreams to possess a special significance, tends to inspire us with belief in it [such divination], as founded on the testimony of experience; and indeed that divination in dreams should, as regards some subjects, be genuine, is not incredible, for it has a show of reason; from which one might form a like opinion also respecting all other dreams. Yet the fact of our seeing no probable cause to account for such divination tends to inspire us with distrust. For, in addition to its further unreasonableness, it is absurd to combine the idea that the sender of such dreams should be God with the fact that those to whom he sends them are not the best and wisest, but merely commonplace persons. If, however, we abstract from the causality of God, none of the other causes assigned appears probable. For that certain persons should have foresight in dreams concerning things destined to take place at the Pillars of Hercules, or on the banks of the Borysthenes, seems to be something to discover the explanation of which surpasses the wit of man. Well then, the dreams in question must be regarded either as causes, or as tokens, of the events, or else as coincidences; either as all, or some, of these, or as one only. I use the word 'cause' in the sense in which the moon is [the cause] of an eclipse of the sun, or in which fatigue is [a cause] of fever; 'token' [in the sense in which] the entrance of a star [into the shadow] is a token of the eclipse, or [in which] roughness of the tongue [is a token] of fever; while by 'coincidence' I mean, for example, the occurrence of an eclipse of the sun while some one is taking a walk; for the walking is neither a token nor a cause of the eclipse, nor the eclipse [a cause or token] of the walking. For this reason no coincidence takes place according to a universal or general rule. Are we then to say that some dreams are causes, others tokens, e.g. of events taking place in the bodily organism? At all events, even scientific physicians tell us that one should pay diligent attention to dreams, and to hold this view is reasonable also for those who are not practitioners, but speculative philosophers. For the movements which occur in the daytime [within the body] are, unless very great and violent, lost sight of in contrast with the waking movements, which are more impressive. In sleep the opposite takes place, for then even trifling movements seem considerable. This is plain in what often happens during sleep; for example, dreamers fancy that they are affected by thunder and lightning, when in fact there are only faint ringings in their ears; or that they are enjoying honey or other sweet savours, when only a tiny drop of phlegm is flowing down [the oesophagus]; or that they are walking through fire, and feeling intense heat, when there is only a slight warmth affecting certain parts of the body. When they are awakened, these things appear to them in this their true character. But since the beginnings of all events are small, so, it is clear, are those also of the diseases or other affections about to occur in our bodies. In conclusion, it is manifest that these beginnings must be more evident in sleeping than in waking moments.

Nay, indeed, it is not improbable that some of the presentations which come before the mind in sleep may even be causes of the actions cognate to each of them. For as when we are about to act [in waking hours], or are engaged in any course of action, or have already performed certain actions, we often find ourselves concerned with these actions, or performing them, in a vivid dream; the cause whereof is that the dream-movement has had a way paved for it from the original movements set up in the daytime; exactly so, but conversely, it must happen that the movements set up first in sleep should also prove to be starting-points of actions to be performed in the daytime, since the recurrence by day of the thought of these actions also has had its way paved for it in the images before the mind at night. Thus then it is quite conceivable that some dreams may be tokens and causes [of future events].

Most [so-called prophetic] dreams are, however, to be classed as mere coincidences, especially all such as are extravagant, and those in the fulfilment of which the dreamers have no initiative, such as in the case of a sea-fight, or of things taking place far away. As regards these it is natural that the fact should stand as it does whenever a person, on mentioning something, finds the very thing mentioned come to pass. Why, indeed, should this not happen also in sleep? The probability is, rather, that many such things should happen. As, then, one's mentioning a particular person is neither token nor cause of this person's presenting himself, so, in the parallel instance, the dream is, to him who has seen it, neither token nor cause of its [so-called] fulfilment, but a mere coincidence. Hence the fact that many dreams have no 'fulfilment', for coincidence do not occur according to any universal or general law.

2

On the whole, forasmuch as certain of the lower animals also dream, it may be concluded that dreams are not sent by God, nor are they designed for this purpose [to reveal the future]. They have a divine aspect, however, for Nature [their cause] is divinely planned, though not itself divine. A special proof [of their not being sent by God] is this: the power of foreseeing the future and of having vivid dreams is found in persons of inferior type, which implies that God does not send their dreams; but merely that all those whose physical temperament is, as it were, garrulous and excitable, see sights of all descriptions; for, inasmuch as they experience many movements of every kind, they just chance to have visions resembling objective facts, their luck in these matters being merely like that of persons who play at even and odd. For the principle which is expressed in the gambler's maxim: 'If you make many throws your luck must change,' holds in their case also.

That many dreams have no fulfilment is not strange, for it is so too with many bodily toms and weather-signs, e.g. those of train or wind. For if another movement occurs more influential than that from which, while [the event to which it pointed was] still future, the given token was derived, the event [to which such token pointed] does not take place. So, of the things which ought to be accomplished by human agency, many, though well-planned are by the operation of other principles more powerful [than man's agency] brought to nought. For, speaking generally, that which was about to happen is not in every case what now is happening, nor is that which shall hereafter he identical with that which is now going to be. Still, however, we must hold that the beginnings from which, as we said, no consummation follows, are real beginnings, and these constitute natural tokens of certain events, even though the events do not come to pass.

As for [prophetic] dreams which involve not such beginnings [sc. of future events] as we have here described, but such as are extravagant in times, or places, or magnitudes; or those involving beginnings which are not extravagant in any of these respects, while yet the persons who see the dream hold not in their own hands the beginnings [of the event to which it points]: unless the foresight which such dreams give is the result of pure coincidence, the following would be a better explanation of it than that proposed by Democritus, who alleges 'images' and 'emanations' as its cause. As, when something has caused motion in water or air, this [the portion of water or air], and, though the cause has ceased to operate, such motion propagates itself to a certain point, though there the prime movement is not present; just so it may well be that a movement and a consequent sense-perception should reach sleeping souls from the objects from which Democritus represents 'images' and 'emanations' coming; that such movements, in whatever way they arrive, should be more perceptible at night [than by day], because when proceeding thus in the daytime they are more liable to dissolution (since at night the air is less disturbed, there being then less wind); and that they shall be perceived within the body owing to sleep, since persons are more sensitive even to slight sensory movements when asleep than when awake. It is these movements then that cause 'presentations', as a result of which sleepers foresee the future even relatively to such events as those referred to above. These considerations also explain why this experience befalls commonplace persons and not the most intelligent. For it would have regularly occurred both in the daytime and to the wise had it been God who sent it; but, as we have explained the matter, it is quite natural that commonplace persons should be those who have foresight [in dreams]. For the mind of such persons is not given to thinking, but, as it were, derelict, or totally vacant, and, when once set moving, is borne passively on in the direction taken by that which moves it. With regard to the fact that some persons who are liable to derangement have this foresight, its explanation is that their normal mental movements do not impede [the alien movements], but are beaten off by the latter. Therefore it is that they have an especially keen perception of the alien movements.

That certain persons in particular should have vivid dreams, e.g. that familiar friends should thus have foresight in a special degree respecting one another, is due to the fact that such friends are most solicitous on one another's behalf. For as acquaintances in particular recognize and perceive one another a long way off, so also they do as regards the sensory movements respecting one another; for sensory movements which refer to persons familiarly known are themselves more familiar. Atrabilious persons, owing to their impetuosity, are, when they, as it were, shoot from a distance, expert at hitting; while, owing to their mutability, the series of movements deploys quickly before their minds. For even as the insane recite, or con over in thought, the poems of Philaegides, e.g. the Aphrodite, whose parts succeed in order of similitude, just so do they [the 'atrabilious'] go on and on stringing sensory movements together. Moreover, owing to their aforesaid impetuosity, one movement within them is not liable to be knocked out of its course by some other movement.

The most skilful interpreter of dreams is he who has the faculty of observing resemblances. Any one may interpret dreams which are vivid and plain. But, speaking of 'resemblances', I mean that dream presentations are analogous to the forms reflected in water, as indeed we have already stated. In the latter case, if the motion in the water be great, the reflexion has no resemblance to its original, nor do the forms resemble the real objects. Skilful, indeed, would he be in interpreting such reflexions who could rapidly discern, and at a glance comprehend, the scattered and distorted fragments of such forms, so as to perceive that one of them represents a man, or a horse, Or anything whatever. Accordingly, in the other case also, in a similar way, some such thing as this [blurred image] is all that a dream amounts to; for the internal movement effaces the clearness of the dream.

The questions, therefore, which we proposed as to the nature of sleep and the dream, and the cause to which each of them is due, and also as to divination as a result of dreams, in every form of it, have now been discussed.

On Length and Shortness of Life (464b)

Translated by G. R. T. Ross

1

THE reasons for some animals being long-lived and others short-lived, and, in a word, causes of the length and brevity of life call for investigation.

The necessary beginning to our inquiry is a statement of the difficulties about these points. For it is not clear whether in animals and plants universally it is a single or diverse cause that makes some to be long-lived, others short-lived. Plants too have in some cases a long life, while in others it lasts but for a year.

Further, in a natural structure are longevity and a sound constitution coincident, or is shortness of life independent of unhealthiness? Perhaps in the case of certain maladies a diseased state of the body and shortness of life are interchangeable, while in the case of others ill-health is perfectly compatible with long life.

Of sleep and waking we have already treated; about life and death we shall speak later on, and likewise about health and disease, in so far as it belongs to the science of nature to do so. But at present we have to investigate the causes of some creatures being long-lived, and others short-lived. We find this distinction affecting not only entire genera opposed as wholes to one another, but applying also to contrasted sets of individuals within the same species. As an instance of the difference applying to the genus I give man and horse (for mankind has a longer life than the horse), while within the species there is the difference between man and man; for of men also some are long-lived, others short-lived, differing from each other in respect of the different regions in which they dwell. Races inhabiting warm countries have longer life, those living in a cold climate live a shorter time. Likewise there are similar differences among individuals occupying the same locality.

2

In order to find premisses for our argument, we must answer the question, What is that which, in natural objects, makes them easily destroyed, or the reverse? Since fire and water, and whatsoever is akin thereto, do not possess identical powers they are reciprocal causes of generation and decay. Hence it is natural to infer that everything else arising from them and composed of them should share in the same nature, in all cases where things are not, like a house, a composite unity formed by the synthesis of many things.

In other matters a different account must be given; for in many things their mode of dissolution is something peculiar to themselves, e.g. in knowledge and health and disease. These pass away even though the medium in which they are found is not destroyed but continues to exist; for example, take the termination of ignorance, which is recollection or learning, while knowledge passes away into forgetfulness, or error. But accidentally the disintegration of a natural object is accompanied by the destruction of the non-physical reality; for, when the animal dies, the health or knowledge resident in it passes away too. Hence from these considerations we may draw a conclusion about the soul too; for, if the inherence of soul in body is not a matter of nature but like that of knowledge in the soul, there would be another mode of dissolution pertaining to it besides that which occurs when the body is destroyed. But since evidently it does not admit of this dual dissolution, the soul must stand in a different case in respect of its union with the body.

3

Perhaps one might reasonably raise the question whether there is any place where what is corruptible becomes incorruptible, as fire does in the upper regions where it meets with no opposite. Opposites destroy each other, and hence accidentally, by their destruction, whatsoever is attributed to them is destroyed. But no opposite in a real substance is accidentally destroyed, because real substance is not predicated of any subject. Hence a thing which has no opposite, or which is situated where it has no opposite, cannot be destroyed. For what will that be which can destroy it, if destruction comes only through contraries, but no contrary to it exists either absolutely or in the particular place where it is? But perhaps this is in one sense true, in another sense not true, for it is impossible that anything containing matter should not have in any sense an opposite. Heat and straightness can be present in every part of a thing, but it is impossible that the thing should be nothing but hot or white or straight; for, if that were so, attributes would have an independent existence. Hence if, in all cases, whenever the active and the passive exist together, the one acts and the other is acted on, it is impossible that no change should occur. Further, this is so if a waste product is an opposite, and waste must always be produced; for opposition is always the source of change, and refuse is what remains of the previous opposite. But, after expelling everything of a nature actually opposed, would an object in this case also be imperishable? No, it would be destroyed by the environment.

If then that is so, what we have said sufficiently accounts for the change; but, if not, we must assume that something of actually opposite character is in the changing object, and refuse is produced.

Hence accidentally a lesser flame is consumed by a greater one, for the nutriment, to wit the smoke, which the former takes a long period to expend, is used up by the big flame quickly.

Hence [too] all things are at all times in a state of transition and are coming into being and passing away. The environment acts on them either favourably or antagonistically, and, owing to this, things that change their situation become more or less enduring than their nature warrants, but never are they eternal when they contain contrary qualities; for their matter is an immediate source of contrariety, so that if it involves locality they show change of situation, if quantity, increase and diminution, while if it involves qualitative affection we find alteration of character.

4

We find that a superior immunity from decay attaches neither to the largest animals (the horse has shorter life than man) nor to those that are small (for most insects live but for a year). Nor are plants as a whole less liable to perish than animals (many plants are annuals), nor have sanguineous animals the pre-eminence (for the bee is longer-lived than certain sanguineous animals). Neither is it the bloodless animals that live longest (for molluscs live only a year, though bloodless), nor terrestrial organisms (there are both plants and terrestrial animals of which a single year is the period), nor the occupants of the sea (for there we find the crustaceans and the molluscs, which are short-lived).

Speaking generally, the longest-lived things occur among the plants, e.g. the date-palm. Next in order we find them among the sanguineous animals rather than among the bloodless, and among those with feet rather than among the denizens of the water. Hence, taking these two characters together, the longest-lived animals fall among sanguineous animals which have feet, e.g. man and elephant. As a matter of fact also it is a general rule that the larger live longer than the smaller, for the other long-lived animals too happen to be of a large size, as are also those I have mentioned.

5

The following considerations may enable us to understand the reasons for all these facts. We must remember that an animal is by nature humid and warm, and to live is to be of such a constitution, while old age is dry and cold, and so is a corpse. This is plain to observation. But the material constituting the bodies of all things consists of the following-the hot and the cold, the dry and the moist. Hence when they age they must become dry, and therefore the fluid in them requires to be not easily dried up. Thus we explain why fat things are not liable to decay. The reason is that they contain air; now air relatively to the other elements is fire, and fire never becomes corrupted.

Again the humid element in animals must not be small in quantity, for a small quantity is easily dried up. This is why both plants and animals that are large are, as a general rule, longer-lived than the rest, as was said before; it is to be expected that the larger should contain more moisture. But it is not merely this that makes them longer lived; for the cause is twofold, to wit, the quality as well as the quantity of the fluid. Hence the moisture must be not only great in amount but also warm, in order to be neither easily congealed nor easily dried up.

It is for this reason also that man lives longer than some animals which are larger; for animals live longer though there is a deficiency in the amount of their moisture, if the ratio of its qualitative superiority exceeds that of its quantitative deficiency.

In some creatures the warm element is their fatty substance, which prevents at once desiccation and congelation; but in others it assumes a different flavour. Further, that which is designed to be not easily destroyed should not yield waste products. Anything of such a nature causes death either by disease or naturally, for the potency of the waste product works adversely and destroys now the entire constitution, now a particular member.

This is why salacious animals and those abounding in seed age quickly; the seed is a residue, and further, by being lost, it produces dryness. Hence the mule lives longer than either the horse or the ass from which it sprang, and females live longer than males if the males are salacious. Accordingly cock-sparrows have a shorter life than the females. Again males subject to great toil are short-lived and age more quickly owing to the labour; toil produces dryness and old age is dry. But by natural constitution and as a general rule males live longer than females, and the reason is that the male is an animal with more warmth than the female.

The same kind of animals are longer-lived in warm than in cold climates for the same reason, on account of which they are of larger size. The size of animals of cold constitution illustrates this particularly well, and hence snakes and lizards and scaly reptiles are of great size in warm localities, as also are testacea in the Red Sea: the warm humidity there is the cause equally of their augmented size and of their life. But in cold countries the humidity in animals is more of a watery nature, and hence is readily congealed. Consequently it happens that animals with little or no blood are in northerly regions either entirely absent (both the land animals with feet and the water creatures whose home is the sea) or, when they do occur, they are smaller and have shorter life; for the frost prevents growth.

Both plants and animals perish if not fed, for in that case they consume themselves; just as a large flame consumes and burns up a small one by using up its nutriment, so the natural warmth which is the primary cause of digestion consumes the material in which it is located.

Water animals have a shorter life than terrestrial creatures, not strictly because they are humid, but because they are watery, and watery moisture is easily destroyed, since it is cold and readily congealed. For the same reason bloodless animals perish readily unless protected by great size, for there is neither fatness nor sweetness about them. In animals fat is sweet, and hence bees are longer-lived than other animals of larger size.

It is amongst the plants that we find the longest life-more than among the animals, for, in the first place, they are less watery and hence less easily frozen. Further they have an oiliness and a viscosity which makes them retain their moisture in a form not easily dried up, even though they are dry and earthy.

But we must discover the reason why trees are of an enduring constitution, for it is peculiar to them and is not found in any animals except the insects.

Plants continually renew themselves and hence last for a long time. New shoots continually come and the others grow old, and with the roots the same thing happens. But both processes do not occur together. Rather it happens that at one time the trunk and the branches alone die and new ones grow up beside them, and it is only when this has taken place that the fresh roots spring from the surviving part. Thus it continues, one part dying and the other growing, and hence also it lives a long time.

There is a similarity, as has been already said, between plants and insects, for they live, though divided, and two or more may be derived from a single one. Insects, however, though managing to live, are not able to do so long, for they do not possess organs; nor can the principle resident in each of the separated parts create organs. In the case of a plant, however, it can do so; every part of a plant contains potentially both root and stem. Hence it is from this source that issues that continued growth when one part is renewed and the other grows old; it is practically a case of longevity. The taking of slips furnishes a similar instance, for we might say that, in a way, when we take a slip the same thing happens; the shoot cut off is part of the plant. Thus in taking slips this perpetuation of life occurs though their connexion with the plant is severed, but in the former case it is the continuity that is operative. The reason is that the life principle potentially belonging to them is present in every part.

Identical phenomena are found both in plants and in animals. For in animals the males are, in general, the longer-lived. They have their upper parts larger than the lower (the male is more of the dwarf type of build than the female), and it is in the upper part that warmth resides, in the lower cold. In plants also those with great heads are longer-lived, and such are those that are not annual but of the tree-type, for the roots are the head and upper part of a plant, and among the annuals growth occurs in the direction of their lower parts and the fruit.

These matters however will be specially investigated in the work On Plants. But this is our account of the reasons for the duration of life and for short life in animals. It remains for us to discuss youth and age, and life and death. To come to a definite understanding about these matters would complete our course of study on animals.

On Youth, Old Age, Life and Death, and Respiration (467b)

Translated by G. R. T. Ross

1

WE must now treat of youth and old age and life and death. We must probably also at the same time state the causes of respiration as well, since in some cases living and the reverse depend on this.

We have elsewhere given a precise account of the soul, and while it is clear that its essential reality cannot be corporeal, yet manifestly it must exist in some bodily part which must be one of those possessing control over the members. Let us for the present set aside the other divisions or faculties of the soul (whichever of the two be the correct name). But as to being what is called an animal and a living thing, we find that in all beings endowed with both characteristics (viz. being an animal and being alive) there must be a single identical part in virtue of which they live and are called animals; for an animal qua animal cannot avoid being alive. But a thing need not, though alive, be animal, for plants live without having sensation, and it is by sensation that we distinguish animal from what is not animal.

This organ, then, must be numerically one and the same and yet possess multiple and disparate aspects, for being animal and living are not identical. Since then the organs of special sensation have one common organ in which the senses when functioning must meet, and this must be situated midway between what is called before and behind (we call ‘before’ the direction from which sensation comes, ‘behind’ the opposite), further, since in all living things the body is divided into upper and lower (they all have upper and lower parts, so that this is true of plants as well), clearly the nutritive principle must be situated midway between these regions. That part where food enters we call upper, considering it by itself and not relatively to the surrounding universe, while downward is that part by which the primary excrement is discharged.

Plants are the reverse of animals in this respect. To man in particular among the animals, on account of his erect stature, belongs the characteristic of having his upper parts pointing upwards in the sense in which that applies to the universe, while in the others these are in an intermediate position. But in plants, owing to their being stationary and drawing their sustenance from the ground, the upper part must always be down; for there is a correspondence between the roots in a plant and what is called the mouth in animals, by means of which they take in their food, whether the source of supply be the earth or each other's bodies.

2

All perfectly formed animals are to be divided into three parts, one that by which food is taken in, one that by which excrement is discharged, and the third the region intermediate between them. In the largest animals this latter is called the chest and in the others something corresponding; in some also it is more distinctly marked off than in others. All those also that are capable of progression have additional members subservient to this purpose, by means of which they bear the whole trunk, to wit legs and feet and whatever parts are possessed of the same powers. Now it is evident both by observation and by inference that the source of the nutritive soul is in the midst of the three parts. For many animals, when either part-the head or the receptacle of the food-is cut off, retain life in that member to which the middle remains attached. This can be seen to occur in many insects, e.g. wasps and bees, and many animals also besides insects can, though divided, continue to live by means of the part connected with nutrition.

While this member is indeed in actuality single, yet potentially it is multiple, for these animals have a constitution similar to that of Plants; plants when cut into sections continue to live, and a number of trees can be derived from one single source. A separate account will be given of the reason why some plants cannot live when divided, while others can be propagated by the taking of slips. In this respect, however, plants and insects are alike.

It is true that the nutritive soul, in beings possessing it, while actually single must be potentially plural. And it is too with the principle of sensation, for evidently the divided segments of these animals have sensation. They are unable, however, to preserve their constitution, as plants can, not possessing the organs on which the continuance of life depends, for some lack the means for seizing, others for receiving their food; or again they may be destitute of other organs as well.

Divisible animals are like a number of animals grown together, but animals of superior construction behave differently because their constitution is a unity of the highest possible kind. Hence some of the organs on division display slight sensitiveness because they retain some psychical susceptibility; the animals continue to move after the vitals have been abstracted: tortoises, for example, do so even after the heart has been removed.

3

The same phenomenon is evident both in plants and in animals, and in plants we note it both in their propagation by seed and in grafts and cuttings. Genesis from seeds always starts from the middle. All seeds are bivalvular, and the place of junction is situated at the point of attachment (to the plant), an intermediate part belonging to both halves. It is from this part that both root and stem of growing things emerge; the starting-point is in a central position between them. In the case of grafts and cuttings this is particularly true of the buds; for the bud is in a way the starting-point of the branch, but at the same time it is in a central position. Hence it is either this that is cut off, or into this that the new shoot is inserted, when we wish either a new branch or a new root to spring from it; which proves that the point of origin in growth is intermediate between stem and root.

Likewise in sanguineous animals the heart is the first organ developed; this is evident from what has been observed in those cases where observation of their growth is possible. Hence in bloodless animals also what corresponds to the heart must develop first. We have already asserted in our treatise on The Parts of Animals that it is from the heart that the veins issue, and that in sanguineous animals the blood is the final nutriment from which the members are formed. Hence it is clear that there is one function in nutrition which the mouth has the faculty of performing, and a different one appertaining to the stomach. But it is the heart that has supreme control, exercising an additional and completing function. Hence in sanguineous animals the source both of the sensitive and of the nutritive soul must be in the heart, for the functions relative to nutrition exercised by the other parts are ancillary to the activity of the heart. It is the part of the dominating organ to achieve the final result, as of the physician's efforts to be directed towards health, and not to be occupied with subordinate offices.

Certainly, however, all saguineous animals have the supreme organ of the sensefaculties in the heart, for it is here that we must look for the common sensorium belonging to all the sense-organs. These in two cases, taste and touch, can be clearly seen to extend to the heart, and hence the others also must lead to it, for in it the other organs may possibly initiate changes, whereas with the upper region of the body taste and touch have no connexion. Apart from these considerations, if the life is always located in this part, evidently the principle of sensation must be situated there too, for it is qua animal that an animal is said to be a living thing, and it is called animal because endowed with sensation. Elsewhere in other works we have stated the reasons why some of the sense-organs are, as is evident, connected with the heart, while others are situated in the head. (It is this fact that causes some people to think that it is in virtue of the brain that the function of perception belongs to animals.)

4

Thus if, on the one hand, we look to the observed facts, what we have said makes it clear that the source of the sensitive soul, together with that connected with growth and nutrition, is situated in this organ and in the central one of the three divisions of the body. But it follows by deduction also; for we see that in every case, when several results are open to her, Nature always brings to pass the best. Now if both principles are located in the midst of the substance, the two parts of the body, viz. that which elaborates and that which receives the nutriment in its final form will best perform their appropriate function; for the soul will then be close to each, and the central situation which it will, as such, occupy is the position of a dominating power.

Further, that which employs an instrument and the instrument it employs must be distinct (and must be spatially diverse too, if possible, as in capacity), just as the flute and that which plays it-the hand-are diverse. Thus if animal is defined by the possession of sensitive soul, this soul must in the sanguineous animals be in the heart, and, in the bloodless ones, in the corresponding part of their body. But in animals all the members and the whole body possess some connate warmth of constitution, and hence when alive they are observed to be warm, but when dead and deprived of life they are the opposite. Indeed, the source of this warmth must be in the heart in sanguineous animals, and in the case of bloodless animals in the corresponding organ, for, though all parts of the body by means of their natural heat elaborate and concoct the nutriment, the governing organ takes the chief share in this process. Hence, though the other members become cold, life remains; but when the warmth here is quenched, death always ensues, because the source of heat in all the other members depends on this, and the soul is, as it were, set aglow with fire in this part, which in sanguineous animals is the heart and in the bloodless order the analogous member. Hence, of necessity, life must be coincident with the maintenance of heat, and what we call death is its destruction.

5

However, it is to be noticed that there are two ways in which fire ceases to exist; it may go out either by exhaustion or by extinction. That which is self-caused we call exhaustion, that due to its opposites extinction. [The former is that due to old age, the latter to violence.] But either of these ways in which fire ceases to be may be brought about by the same cause, for, when there is a deficiency of nutriment and the warmth can obtain no maintenance, the fire fails; and the reason is that the opposite, checking digestion, prevents the fire from being fed. But in other cases the result is exhaustion,-when the heat accumulates excessively owing to lack of respiration and of refrigeration. For in this case what happens is that the heat, accumulating in great quantity, quickly uses up its nutriment and consumes it all before more is sent up by evaporation. Hence not only is a smaller fire readily put out by a large one, but of itself the candle flame is consumed when inserted in a large blaze just as is the case with any other combustible. The reason is that the nutriment in the flame is seized by the larger one before fresh fuel can be added, for fire is ever coming into being and rushing just like a river, but so speedily as to elude observation.

Clearly therefore, if the bodily heat must be conserved (as is necessary if life is to continue), there must be some way of cooling the heat resident in the source of warmth. Take as an illustration what occurs when coals are confined in a brazier. If they are kept covered up continuously by the so-called ‘choker’, they are quickly extinguished, but, if the lid is in rapid alternation lifted up and put on again they remain glowing for a long time. Banking up a fire also keeps it in, for the ashes, being porous, do not prevent the passage of air, and again they enable it to resist extinction by the surrounding air by means of the supply of heat which it possesses. However, we have stated in The Problems the reasons why these operations, namely banking up and covering up a fire, have the opposite effects (in the one case the fire goes out, in the other it continues alive for a considerable time).

6

Everything living has soul, and it, as we have said, cannot exist without the presence of heat in the constitution. In plants the natural heat is sufficiently well kept alive by the aid which their nutriment and the surrounding air supply. For the food has a cooling effect [as it enters, just as it has in man] when first it is taken in, whereas abstinence from food produces heat and thirst. The air, if it be motionless, becomes hot, but by the entry of food a motion is set up which lasts until digestion is completed and so cools it. If the surrounding air is excessively cold owing to the time of year, there being severe frost, plants shrivel, or if, in the extreme heats of summer the moisture drawn from the ground cannot produce its cooling effect, the heat comes to an end by exhaustion. Trees suffering at such seasons are said to be blighted or star-stricken. Hence the practice of laying beneath the roots stones of certain species or water in pots, for the purpose of cooling the roots of the plants.

Some animals pass their life in the water, others in the air, and therefore these media furnish the source and means of refrigeration, water in the one case, air in the other. We must proceed-and it will require further application on our part-to give an account of the way and manner in which this refrigeration occurs.

7

A few of the previous physical philosophers have spoken of respiration. The reason, however, why it exists in animals they have either not declared or, when they have, their statements are not correct and show a comparative lack of acquaintance with the facts. Moreover they assert that all animals respire-which is untrue. Hence these points must first claim our attention, in order that we may not be thought to make unsubstantiated charges against authors no longer alive.

First then, it is evident that all animals with lungs breathe, but in some cases breathing animals have a bloodless and spongy lung, and then there is less need for respiration. These animals can remain under water for a time, which relatively to their bodily strength, is considerable. All oviparous animals, e.g. the frog-tribe, have a spongy lung. Also hemydes and tortoises can remain for a long time immersed in water; for their lung, containing little blood, has not much heat. Hence, when once it is inflated, it itself, by means of its motion, produces a cooling effect and enables the animal to remain immersed for a long time. Suffocation, however, always ensues if the animal is forced to hold its breath for too long a time, for none of this class take in water in the way fishes do. On the other hand, animals which have the lung charged with blood have greater need of respiration on account of the amount of their heat, while none at all of the others which do not possess lungs breathe.

8

Democritus of Abdera and certain others who have treated of respiration, while saying nothing definite about the lungless animals, nevertheless seem to speak as if all breathed. But Anaxagoras and Diogenes both maintain that all breathe, and state the manner in which fishes and oysters respire. Anaxagoras says that when fishes discharge water through their gills, air is formed in the mouth, for there can be no vacuum, and that it is by drawing in this that they respire. Diogenes' statement is that, when they discharge water through their gills, they suck the air out of the water surrounding the mouth by means of the vacuum formed in the mouth, for he believes there is air in the water.

But these theories are untenable. Firstly, they state only what is the common element in both operations and so leave out the half of the matter.

For what goes by the name of respiration consists, on the one hand, of inhalation, and, on the other, of the exhalation of breath; but, about the latter they say nothing, nor do they describe how such animals emit their breath. Indeed, explanation is for them impossible for, when the creatures respire, they must discharge their breath by the same passage as that by which they draw it in, and this must happen in alternation. Hence, as a result, they must take the water into their mouth at the same time as they breathe out. But the air and the water must meet and obstruct each other. Further, when they discharge the water they must emit their breath by the mouth or the gills, and the result will be that they will breathe in and breathe out at the same time, for it is at that moment that respiration is said to occur. But it is impossible that they should do both at the same time. Hence, if respiring creatures must both exhale and inhale the air, and if none of these animals can breathe out, evidently none can respire at all.

9

Further, the assertion that they draw in air out of the mouth or out of the water by means of the mouth is an impossibility, for, not having a lung, they have no windpipe; rather the stomach is closely juxtaposed to the mouth, so that they must do the sucking with the stomach. But in that case the other animals would do so also, which is not the truth; and the water-animals also would be seen to do it when out of the water, whereas quite evidently they do not. Further, in all animals that respire and draw breath there is to be observed a certain motion in the part of the body which draws in the air, but in the fishes this does not occur. Fishes do not appear to move any of the parts in the region of the stomach, except the gills alone, and these move both when they are in the water and when they are thrown on to dry land and gasp. Moreover, always when respiring animals are killed by being suffocated in water, bubbles are formed of the air which is forcibly discharged, as happens, e.g. when one forces a tortoise or a frog or any other animal of a similar class to stay beneath water. But with fishes this result never occurs, in whatsoever way we try to obtain it, since they do not contain air drawn from an external source. Again, the manner of respiration said to exist in them might occur in the case of men also when they are under water. For if fishes draw in air out of the surrounding water by means of their mouth why should not men too and other animals do so also; they should also, in the same way as fishes, draw in air out of the mouth. If in the former case it were possible, so also should it be in the latter. But, since in the one it is not so, neither does it occur in the other. Furthermore, why do fishes, if they respire, die in the air and gasp (as can be seen) as in suffocation? It is not want of food that produces this effect upon them, and the reason given by Diogenes is foolish, for he says that in air they take in too much air and hence die, but in the water they take in a moderate amount. But that should be a possible occurrence with land animals also; as facts are, however, no land animal seems to be suffocated by excessive respiration. Again, if all animals breathe, insects must do so also. many of them seem to live though divided not merely into two, but into several parts, e.g. the class called Scolopendra. But how can they, when thus divided, breathe, and what is the organ they employ? The main reason why these writers have not given a good account of these facts is that they have no acquaintance with the internal organs, and that they did not accept the doctrine that there is a final cause for whatever Nature does. If they had asked for what purpose respiration exists in animals, and had considered this with reference to the organs, e.g. the gills and the lungs, they would have discovered the reason more speedily.

10

Democritus, however, does teach that in the breathing animals there is a certain result produced by respiration; he asserts that it prevents the soul from being extruded from the body. Nevertheless, he by no means asserts that it is for this purpose that Nature so contrives it, for he, like the other physical philosophers, altogether fails to attain to any such explanation. His statement is that the soul and the hot element are identical, being the primary forms among the spherical particles. Hence, when these are being crushed together by the surrounding atmosphere thrusting them out, respiration, according to his account, comes in to succour them. For in the air there are many of those particles which he calls mind and soul. Hence, when we breathe and the air enters, these enter along with it, and by their action cancel the pressure, thus preventing the expulsion of the soul which resides in the animal.

This explains why life and death are bound up with the taking in and letting out of the breath; for death occurs when the compression by the surrounding air gains the upper hand, and, the animal being unable to respire, the air from outside can no longer enter and counteract the compression. Death is the departure of those forms owing to the expulsive pressure exerted by the surrounding air. Death, however, occurs not by haphazard but, when natural, owing to old age, and, when unnatural, to violence.

But the reason for this and why all must die Democritus has by no means made clear. And yet, since evidently death occurs at one time of life and not at another, he should have said whether the cause is external or internal. Neither does he assign the cause of the beginning of respiration, nor say whether it is internal or external. Indeed, it is not the case that the external mind superintends the reinforcement; rather the origin of breathing and of the respiratory motion must be within: it is not due to pressure from around. It is absurd also that what surrounds should compress and at the same time by entering dilate. This then is practically his theory, and how he puts it.

But if we must consider that our previous account is true, and that respiration does not occur in every animal, we must deem that this explains death not universally, but only in respiring animals. Yet neither is it a good account of these even, as may clearly be seen from the facts and phenomena of which we all have experience. For in hot weather we grow warmer, and, having more need of respiration, we always breathe faster. But, when the air around is cold and contracts and solidifies the body, retardation of the breathing results. Yet this was just the time when the external air should enter and annul the expulsive movement, whereas it is the opposite that occurs. For when the breath is not let out and the heat accumulates too much then we need to respire, and to respire we must draw in the breath. When hot, people breathe rapidly, because they must do so in order to cool themselves, just when the theory of Democritus would make them add fire to fire.

11

The theory found in the Timaeus, of the passing round of the breath by pushing, by no means determines how, in the case of the animals other than land-animals, their heat is preserved, and whether it is due to the same or a different cause. For if respiration occurs only in land-animals we should be told what is the reason of that. Likewise, if it is found in others also, but in a different form, this form of respiration, if they all can breathe, must also be described.

Further, the method of explaining involves a fiction. It is said that when the hot air issues from the mouth it pushes the surrounding air, which being carried on enters the very place whence the internal warmth issued, through the interstices of the porous flesh; and this reciprocal replacement is due to the fact that a vacuum cannot exist. But when it has become hot the air passes out again by the same route, and pushes back inwards through the mouth the air that had been discharged in a warm condition. It is said that it is this action which goes on continuously when the breath is taken in and let out.

But according to this way of thinking it will follow that we breathe out before we breathe in. But the opposite is the case, as evidence shows, for though these two functions go on in alternation, yet the last act when life comes to a close is the letting out of the breath, and hence its admission must have been the beginning of the process.

Once more, those who give this kind of explanation by no means state the final cause of the presence in animals of this function (to wit the admission and emission of the breath), but treat it as though it were a contingent accompaniment of life. Yet it evidently has control over life and death, for it results synchronously that when respiring animals are unable to breathe they perish. Again, it is absurd that the passage of the hot air out through the mouth and back again should be quite perceptible, while we were not able to detect the thoracic influx and the return outwards once more of the heated breath. It is also nonsense that respiration should consist in the entrance of heat, for the evidence is to the contrary effect; what is breathed out is hot, and what is breathed in is cold. When it is hot we pant in breathing, for, because what enters does not adequately perform its cooling function, we have as a consequence to draw the breath frequently.

12

It is certain, however, that we must not entertain the notion that it is for purposes of nutrition that respiration is designed, and believe that the internal fire is fed by the breath; respiration, as it were, adding fuel to the fire, while the feeding of the flame results in the outward passage of the breath. To combat this doctrine I shall repeat what I said in opposition to the previous theories. This, or something analogous to it, should occur in the other animals also (on this theory), for all possess vital heat. Further, how are we to describe this fictitious process of the generation of heat from the breath? Observation shows rather that it is a product of the food. A consequence also of this theory is that the nutriment would enter and the refuse be discharged by the same channel, but this does not appear to occur in the other instances.

13

Empedocles also gives an account of respiration without, however, making clear what its purpose is, or whether or not it is universal in animals. Also when dealing with respiration by means of the nostrils he imagines he is dealing with what is the primary kind of respiration. Even the breath which passes through the nostrils passes through the windpipe out of the chest as well, and without the latter the nostrils cannot act. Again, when animals are bereft of respiration through the nostrils, no detrimental result ensues, but, when prevented from breathing through the windpipe, they die. Nature employs respiration through the nostrils as a secondary function in certain animals in order to enable them to smell. But the reason why it exists in some only is that though almost all animals are endowed with the sense of smell, the sense-organ is not the same in all.

A more precise account has been given about this elsewhere. Empedocles, however, explains the passage inwards and outwards of the breath, by the theory that there are certain blood-vessels, which, while containing blood, are not filled by it, but have passages leading to the outer air, the calibre of which is fine in contrast to the size of the solid particles, but large relatively to those in the air. Hence, since it is the nature of the blood to move upwards and downwards, when it moves down the air rushes in and inspiration occurs; when the blood rises, the air is forced out and the outward motion of the breath results. He compares this process to what occurs in a clepsydra.

Thus all things outwards breathe and in; — their flesh has tubes
Bloodless, that stretch towards the body’s outmost edge,
Which, at their mouths, full many frequent channels pierce,
Cleaving the extreme nostrils through; thus, while the gore
Lies hid, for air is cut a thoroughfare most plain.
And thence, whenever shrinks away the tender blood,

Enters the blustering wind with swelling billow wild.
But when the blood leaps up, backward it breathes. As when
With water-clock of polished bronze a maiden sporting,
Sets on her comely hand the narrow of the tube
And dips it in the frail-formed water's silvery sheen;
Not then the flood the vessel enters, but the air,
Until she frees the crowded stream. But then indeed
Upon the escape runs in the water meet.
So also when within the vessel's deeps the water
Remains, the opening by the hand of flesh being closed,
The outer air that entrance craves restrains the flood
At the gates of the sounding narrow,
upon the surface pressing,
Until the maid withdraws her hand. But then in contrariwise
Once more the air comes in and water meet flows out.
Thus to the to the subtle blood, surging throughout the limbs,
Whene'er it shrinks away into the far recesses
Admits a stream of air rushing with swelling wave,
But, when it backward leaps, in like bulk air flows out.

This then is what he says of respiration. But, as we said, all animals that evidently respire do so by means of the windpipe, when they breathe either through the mouth or through the nostrils. Hence, if it is of this kind of respiration that he is talking, we must ask how it tallies with the explanation given. But the facts seem to be quite opposed. The chest is raised in the manner of a forge-bellows when the breath is drawn in-it is quite reasonable that it should be heat which raises up and that the blood should occupy the hot region-but it collapses and sinks down, like the bellows once more, when the breath is let out. The difference is that in a bellows it is not by the same channel that the air is taken in and let out, but in breathing it is.

But, if Empedocles is accounting only for respiration through the nostrils, he is much in error, for that does not involve the nostrils alone, but passes by the channel beside the uvula where the extremity of the roof of the mouth is, some of the air going this way through the apertures of the nostrils and some through the mouth, both when it enters and when it passes out. Such then is the nature and magnitude of the difficulties besetting the theories of other writers concerning respiration.

14

We have already stated that life and the presence of soul involve a certain heat. Not even the digesting process to which is due the nutrition of animals occurs apart from soul and warmth, for it is to fire that in all cases elaboration is due. It is for this reason, precisely, that the primary nutritive soul also must be located in that part of the body and in that division of this region which is the immediate vehicle of this principle. The region in question is intermediate between that where food enters and that where excrement is discharged. In bloodless animals it has no name, but in the sanguineous class this organ is called the heart. The blood constitutes the nutriment from which the organs of the animal are directly formed. Likewise the bloodvessels must have the same originating source, since the one exists for the other's behoof-as a vessel or receptacle for it. In sanguineous animals the heart is the starting-point of the veins; they do not traverse it, but are found to stretch out from it, as dissections enable us to see.

Now the other psychical faculties cannot exist apart from the power of nutrition (the reason has already been stated in the treatise On the Soul), and this depends on the natural fire, by the union with which Nature has set it aglow. But fire, as we have already stated, is destroyed in two ways, either by extinction or by exhaustion. It suffers extinction from its opposites. Hence it can be extinguished by the surrounding cold both when in mass and (though more speedily) when scattered. Now this way of perishing is due to violence equally in living and in lifeless objects, for the division of an animal by instruments and consequent congelation by excess of cold cause death. But exhaustion is due to excess of heat; if there is too much heat close at hand and the thing burning does not have a fresh supply of fuel added to it, it goes out by exhaustion, not by the action of cold. Hence, if it is going to continue it must be cooled, for cold is a preventive against this form of extinction.

15

Some animals occupy the water, others live on land, and, that being so, in the case of those which are very small and bloodless the refrigeration due to the surrounding water or air is sufficient to prevent destruction from this cause. Having little heat, they require little cold to combat it. Hence too such animals are almost all short-lived, for, being small, they have less scope for deflection towards either extreme. But some insects are longer-lived though bloodless, like all the others), and these have a deep indentation beneath the waist, in order to secure cooling through the membrane, which there is thinner. They are warmer animals and hence require more refrigeration, and such are bees (some of which live as long as seven years) and all that make a humming noise, like wasps, cockchafers, and crickets. They make a sound as if of panting by means of air, for, in the middle section itself, the air which exists internally and is involved in their construction, causing a rising and falling movement, produces friction against the membrane. The way in which they move this region is like the motion due to the lungs in animals that breathe the outer air, or to the gills in fishes. What occurs is comparable to the suffocation of a respiring animal by holding its mouth, for then the lung causes a heaving motion of this kind. In the case of these animals this internal motion is not sufficient for refrigeration, but in insects it is. It is by friction against the membrane that they produce the humming sound, as we said, in the way that children do by blowing through the holes of a reed covered by a fine membrane. It is thus that the singing crickets too produce their song; they possess greater warmth and are indented at the waist, but the songless variety have no fissure there.

Animals also which are sanguineous and possess a lung, though that contains little blood and is spongy, can in some cases, owing to the latter fact, live a long time without breathing; for the lung, containing little blood or fluid, can rise a long way: its own motion can for a long time produce sufficient refrigeration. But at last it ceases to suffice, and the animal dies of suffocation if it does not respire-as we have already said. For of exhaustion that kind which is destruction due to lack of refrigeration is called suffocation, and whatsoever is thus destroyed is said to be suffocated.

We have already stated that among animals insects do not respire, and the fact is open to observation in the case of even small creatures like flies and bees, for they can swim about in a fluid for a long time if it is not too hot or too cold. Yet animals with little strength tend to breathe more frequently. These, however, die of what is called suffocation when the stomach becomes filled and the heat in the central segment is destroyed. This explains also why they revive after being among ashes for a time.

Again among water-animals those that are bloodless remain alive longer in air than those that have blood and admit the sea-water, as, for example, fishes. Since it is a small quantity of heat they possess, the air is for a long time adequate for the purposes of refrigeration in such animals as the crustacea and the polyps. It does not however suffice, owing to their want of heat, to keep them finally in life, for most fishes also live though among earth, yet in a motionless state, and are to be found by digging. For all animals that have no lung at all or have a bloodless one require less refrigeration.

16

Concerning the bloodless animals we have declared that in some cases it is the surrounding air, in others fluid, that aids the maintenance of life. But in the case of animals possessing blood and heart, all which have a lung admit the air and produce the cooling effect by breathing in and out. All animals have a lung that are viviparous and are so internally, not externally merely (the Selachia are viviparous, but not internally), and of the oviparous class those that have wings, e.g. birds, and those with scales, e.g. tortoises, lizards, and snakes. The former class have a lung charged with blood, but in the most part of the latter it is spongy. Hence they employ respiration more sparingly as already said. The function is found also in all that frequent and pass their life in the water, e.g. the class of water-snakes and frogs and crocodiles and hemydes, both sea — and land-tortoises, and seals.

All these and similar animals both bring forth on land and sleep on shore or, when they do so in the water, keep the head above the surface in order to respire. But all with gills produce refrigeration by taking in water; the Selachia and all other footless animals have gills. Fish are footless, and the limbs they have get their name (pterugion) from their similarity to wings (pterux). But of those with feet one only, so far as observed, has gills. It is called the tadpole.

No animal yet has been seen to possess both lungs and gills, and the reason for this is that the lung is designed for the purpose of refrigeration by means of the air (it seems to have derived its name (pneumon) from its function as a receptacle of the breath (pneuma)), while gills are relevant to refrigeration by water. Now for one purpose one organ is adapted and one single means of refrigeration is sufficient in every case. Hence, since we see that Nature does nothing in vain, and if there were two organs one would be purposeless, this is the reason why some animals have gills, others lungs, but none possess both.

17

Every animal in order to exist requires nutriment, in order to prevent itself from dying, refrigeration; and so Nature employs the same organ for both purposes. For, as in some cases the tongue serves both for discerning tastes and for speech, so in animals with lungs the mouth is employed both in working up the food and in the passage of the breath outwards and inwards. In lungless and non-respiring animals it is employed in working up the food, while in those of them that require refrigeration it is the gills that are created for this purpose.

We shall state further on how it is that these organs have the faculty of producing refrigeration. But to prevent their food from impeding these operations there is a similar contrivance in the respiring animals and in those that admit water. At the moment of respiration they do not take in food, for otherwise suffocation results owing to the food, whether liquid or dry, slipping in through the windpipe and lying on the lung. The windpipe is situated before the oesophagus, through which food passes into what is called the stomach, but in quadrupeds which are sanguineous there is, as it were, a lid over the windpipe-the epiglottis. In birds and oviparous quadrupeds this covering is absent, but its office is discharged by a contraction of the windpipe. The latter class contract the windpipe when swallowing their food; the former close down the epiglottis. When the food has passed, the epiglottis is in the one case raised, and in the other the windpipe is expanded, and the air enters to effect refrigeration. In animals with gills the water is first discharged through them and then the food passes in through the mouth; they have no windpipe and hence can take no harm from liquid lodging in this organ, only from its entering the stomach. For these reasons the expulsion of water and the seizing of their food is rapid, and their teeth are sharp and in almost all cases arranged in a saw-like fashion, for they are debarred from chewing their food.

18

Among water-animals the cetaceans may give rise to some perplexity, though they too can be rationally explained.

Examples of such animals are dolphins and whales, and all others that have a blowhole. They have no feet, yet possess a lung though admitting the sea-water. The reason for possessing a lung is that which we have now stated [refrigeration]; the admission of water is not for the purpose of refrigeration. That is effected by respiration, for they have a lung. Hence they sleep with their head out of the water, and dolphins, at any rate, snore. Further, if they are entangled in nets they soon die of suffocation owing to lack of respiration, and hence they can be seen to come to the surface owing to the necessity of breathing. But, since they have to feed in the water, they must admit it, and it is in order to discharge this that they all have a blow-hole; after admitting the water they expel it through the blow-hole as the fishes do through the gills. The position of the blow-hole is an indication of this, for it leads to none of the organs which are charged with blood; but it lies before the brain and thence discharges water.

It is for the very same reason that molluscs and crustaceans admit water-I mean such animals as Carabi and Carcini. For none of these is refrigeration a necessity, for in every case they have little heat and are bloodless, and hence are sufficiently cooled by the surrounding water. But in feeding they admit water, and hence must expel it in order to prevent its being swallowed simultaneously with the food. Thus crustaceans, like the Carcini and Carabi, discharge water through the folds beside their shaggy parts, while cuttlefish and the polyps employ for this purpose the hollow above the head. There is, however, a more precise account of these in the History of Animals.

Thus it has been explained that the cause of the admission of the water is refrigeration, and the fact that animals constituted for a life in water must feed in it.

19

An account must next be given of refrigeration and the manner in which it occurs in respiring animals and those possessed of gills. We have already said that all animals with lungs respire. The reason why some creatures have this organ, and why those having it need respiration, is that the higher animals have a greater proportion of heat, for at the same time they must have been assigned a higher soul and they have a higher nature than plants. Hence too those with most blood and most warmth in the lung are of greater size, and animal in which the blood in the lung is purest and most plentiful is the most erect, namely man; and the reason why he alone has his upper part directed to the upper part of the universe is that he possesses such a lung. Hence this organ as much as any other must be assigned to the essence of the animal both in man and in other cases.

This then is the purpose of refrigeration. As for the constraining and efficient cause, we must believe that it created animals like this, just as it created many others also not of this constitution. For some have a greater proportion of earth in their composition, like plants, and others, e.g. aquatic animals, contain a larger amount of water; while winged and terrestrial animals have an excess of air and fire respectively. It is always in the region proper to the element preponderating in the scheme of their constitution that things exist.

20

Empedocles is then in error when he says that those animals which have the most warmth and fire live in the water to counterbalance the excess of heat in their constitution, in order that, since they are deficient in cold and fluid, they may be kept in life by the contrary character of the region they occupy; for water has less heat than air. But it is wholly absurd that the water-animals should in every case originate on dry land, and afterwards change their place of abode to the water; for they are almost all footless. He, however, when describing their original structure says that, though originating on dry land, they have abandoned it and migrated to the water. But again it is evident that they are not warmer than land-animals, for in some cases they have no blood at all, in others little.

The question, however, as to what sorts of animals should be called warm and what cold, has in each special case received consideration. Though in one respect there is reason in the explanation which Empedocles aims at establishing, yet his account is not correct. Excess in a bodily state is cured by a situation or season of opposite character, but the constitution is best maintained by an environment akin to it. There is a difference between the material of which any animal is constituted and the states and dispositions of that material. For example, if nature were to constitute a thing of wax or of ice, she would not preserve it by putting it in a hot place, for the opposing quality would quickly destroy it, seeing that heat dissolves that which cold congeals. Again, a thing composed of salt or nitre would not be taken and placed in water, for fluid dissolves that of which the consistency is due to the hot and the dry.

Hence if the fluid and the dry supply the material for all bodies, it is reasonable that things the composition of which is due to the fluid and the cold should have liquid for their medium [and, if they are cold, they will exist in the cold], while that which is due to the dry will be found in the dry. Thus trees grow not in water but on dry land. But the same theory would relegate them to the water, on account of their excess of dryness, just as it does the things that are excessively fiery. They would migrate thither not on account of its cold but owing to its fluidity.

Thus the natural character of the material of objects is of the same nature as the region in which they exist; the liquid is found in liquid, the dry on land, the warm in air. With regard, however, to states of body, a cold situation has, on the other hand, a beneficial effect on excess of heat, and a warm environment on excess of cold, for the region reduces to a mean the excess in the bodily condition. The regions appropriate to each material and the revolutions of the seasons which all experience supply the means which must be sought in order to correct such excesses; but, while states of the body can be opposed in character to the environment, the material of which it is composed can never be so. This, then, is a sufficient explanation of why it is not owing to the heat in their constitution that some animals are aquatic, others terrestrial, as Empedocles maintains, and of why some possess lungs and others do not.

21

The explanation of the admission of air and respiration in those animals in which a lung is found, and especially in those in which it is full of blood, is to be found in the fact that it is of a spongy nature and full of tubes, and that it is the most fully charged with blood of all the visceral organs. All animals with a full-blooded lung require rapid refrigeration because there is little scope for deviation from the normal amount of their vital fire; the air also must penetrate all through it on account of the large quantity of blood and heat it contains. But both these operations can be easily performed by air, for, being of a subtle nature, it penetrates everywhere and that rapidly, and so performs its cooling function; but water has the opposite characteristics.

The reason why animals with a full-blooded lung respire most is hence manifest; the more heat there is, the greater is the need for refrigeration, and at the same time breath can easily pass to the source of heat in the heart.

22

In order to understand the way in which the heart is connected with the lung by means of passages, we must consult both dissections and the account in the History of Animals. The universal cause of the need which the animal has for refrigeration, is the union of the soul with fire that takes place in the heart. Respiration is the means of effecting refrigeration, of which those animals make use that possess a lung as well as a heart. But when they, as for example the fishes, which on account of their aquatic nature have no lung, possess the latter organ without the former, the cooling is effected through the gills by means of water. For ocular evidence as to how the heart is situated relatively to the gills we must employ dissections, and for precise details we must refer to Natural History. As a summarizing statement, however, and for present purposes, the following is the account of the matter.

It might appear that the heart has not the same position in terrestrial animals and fishes, but the position really is identical, for the apex of the heart is in the direction in which they incline their heads. But it is towards the mouth in fishes that the apex of the heart points, seeing that they do not incline their heads in the same direction as land-animals do. Now from the extremity of the heart a tube of a sinewy, arterial character runs to the centre where the gills all join. This then is the largest of those ducts, but on either side of the heart others also issue and run to the extremity of each gill, and by means of the ceaseless flow of water through the gills, effect the cooling which passes to the heart.

In similar fashion as the fish move their gills, respiring animals with rapid action raise and let fall the chest according as the breath is admitted or expelled. If air is limited in amount and unchanged they are suffocated, for either medium, owing to contact with the blood, rapidly becomes hot. The heat of the blood counteracts the refrigeration and, when respiring animals can no longer move the lung aquatic animals their gills, whether owing to disease or old age, their death ensues.

23

To be born and to die are common to all animals, but there are specifically diverse ways in which these phenomena occur; of destruction there are different types, though yet something is common to them all. There is violent death and again natural death, and the former occurs when the cause of death is external, the latter when it is internal, and involved from the beginning in the constitution of the organ, and not an affection derived from a foreign source. In the case of plants the name given to this is withering, in animals senility. Death and decay pertain to all things that are not imperfectly developed; to the imperfect also they may be ascribed in nearly the same but not an identical sense. Under the imperfect I class eggs and seeds of plants as they are before the root appears.

It is always to some lack of heat that death is due, and in perfect creatures the cause is its failure in the organ containing the source of the creature’s essential nature. This member is situate, as has been said, at the junction of the upper and lower parts; in plants it is intermediate between the root and the stem, in sanguineous animals it is the heart, and in those that are bloodless the corresponding part of their body. But some of these animals have potentially many sources of life, though in actuality they possess only one. This is why some insects live when divided, and why, even among sanguineous animals, all whose vitality is not intense live for a long time after the heart has been removed. Tortoises, for example, do so and make movements with their feet, so long as the shell is left, a fact to be explained by the natural inferiority of their constitution, as it is in insects also.

The source of life is lost to its possessors when the heat with which it is bound up is no longer tempered by cooling, for, as I have often remarked, it is consumed by itself. Hence when, owing to lapse of time, the lung in the one class and the gills in the other get dried up, these organs become hard and earthy and incapable of movement, and cannot be expanded or contracted. Finally things come to a climax, and the fire goes out from exhaustion.

Hence a small disturbance will speedily cause death in old age. Little heat remains, for the most of it has been breathed away in the long period of life preceding, and hence any increase of strain on the organ quickly causes extinction. It is just as though the heart contained a tiny feeble flame which the slightest movement puts out. Hence in old age death is painless, for no violent disturbance is required to cause death, and there is an entire absence of feeling when the soul's connexion is severed. All diseases which harden the lung by forming tumours or waste residues, or by excess of morbid heat, as happens in fevers, accelerate the breathing owing to the inability of the lung to move far either upwards or downwards. Finally, when motion is no longer possible, the breath is given out and death ensues.

24

Generation is the initial participation, mediated by warm substance, in the nutritive soul, and life is the maintenance of this participation. Youth is the period of the growth of the primary organ of refrigeration, old age of its decay, while the intervening time is the prime of life.

A violent death or dissolution consists in the extinction or exhaustion of the vital heat (for either of these may cause dissolution), while natural death is the exhaustion of the heat owing to lapse of time, and occurring at the end of life. In plants this is to wither, in animals to die. Death, in old age, is the exhaustion due to inability on the part of the organ, owing to old age, to produce refrigeration. This then is our account of generation and life and death, and the reason for their occurrence in animals.

25

It is hence also clear why respiring animals are suffocated in water and fishes in air. For it is by water in the latter class, by air in the former that refrigeration is effected, and either of these means of performing the function is removed by a change of environment.

There is also to be explained in either case the cause of the cause of the motion of the gills and of the lungs, the rise and fall of which effects the admission and expulsion of the breath or of water. The following, moreover, is the manner of the constitution of the organ.

26

In connexion with the heart there are three phenomena, which, though apparently of the same nature, are really not so, namely palpitation, pulsation, and respiration.

Palpitation is the rushing together of the hot substance in the heart owing to the chilling influence of residual or waste products. It occurs, for example, in the ailment known as ‘spasms’ and in other diseases. It occurs also in fear, for when one is afraid the upper parts become cold, and the hot substance, fleeing away, by its concentration in the heart produces palpitation. It is crushed into so small a space that sometimes life is extinguished, and the animals die of the fright and morbid disturbance.

The beating of the heart, which, as can be seen, goes on continuously, is similar to the throbbing of an abscess. That, however, is accompanied by pain, because the change produced in the blood is unnatural, and it goes on until the matter formed by concoction is discharged. There is a similarity between this phenomenon and that of boiling; for boiling is due to the volatilization of fluid by heat and the expansion consequent on increase of bulk. But in an abscess, if there is no evaporation through the walls, the process terminates in suppuration due to the thickening of the liquid, while in boiling it ends in the escape of the fluid out of the containing vessel.

In the heart the beating is produced by the heat expanding the fluid, of which the food furnishes a constant supply. It occurs when the fluid rises to the outer wall of the heart, and it goes on continuously; for there is a constant flow of the fluid that goes to constitute the blood, it being in the heart that the blood receives its primary elaboration. That this is so we can perceive in the initial stages of generation, for the heart can be seen to contain blood before the veins become distinct. This explains why pulsation in youth exceeds that in older people, for in the young the formation of vapour is more abundant.

All the veins pulse, and do so simultaneously with each other, owing to their connexion with the heart. The heart always beats, and hence they also beat continuously and simultaneously with each other and with it.

Palpitation, then, is the recoil of the heart against the compression due to cold; and pulsation is the volatilization of the heated fluid.

27

Respiration takes place when the hot substance which is the seat of the nutritive principle increases. For it, like the rest of the body, requires nutrition, and more so than the members, for it is through it that they are nourished. But when it increases it necessarily causes the organ to rise. This organ we must to be constructed like the bellows in a smithy, for both heart and lungs conform pretty well to this shape. Such a structure must be double, for the nutritive principle must be situated in the centre of the natural force.

Thus on increase of bulk expansion results, which necessarily causes the surrounding parts to rise. Now this can be seen to occur when people respire; they raise their chest because the motive principle of the organ described resident within the chest causes an identical expansion of this organ. When it dilates the outer air must rush in as into a bellows, and, being cold, by its chilling influence reduces by extinction the excess of the fire. But, as the increase of bulk causes the organ to dilate, so diminution causes contraction, and when it collapses the air which entered must pass out again. When it enters the air is cold, but on issuing it is warm owing to its contact with the heat resident in this organ, and this is specially the case in those animals that possess a full-blooded lung. The numerous canal-like ducts in the lung, into which it passes, have each a blood-vessel lying alongside, so that the whole lung is thought to be full of blood. The inward passage of the air is called respiration, the outward expiration, and this double movement goes on continuously just so long as the animal lives and keeps this organ in continuous motion; it is for this reason that life is bound up with the passage of the breath outwards and inwards.

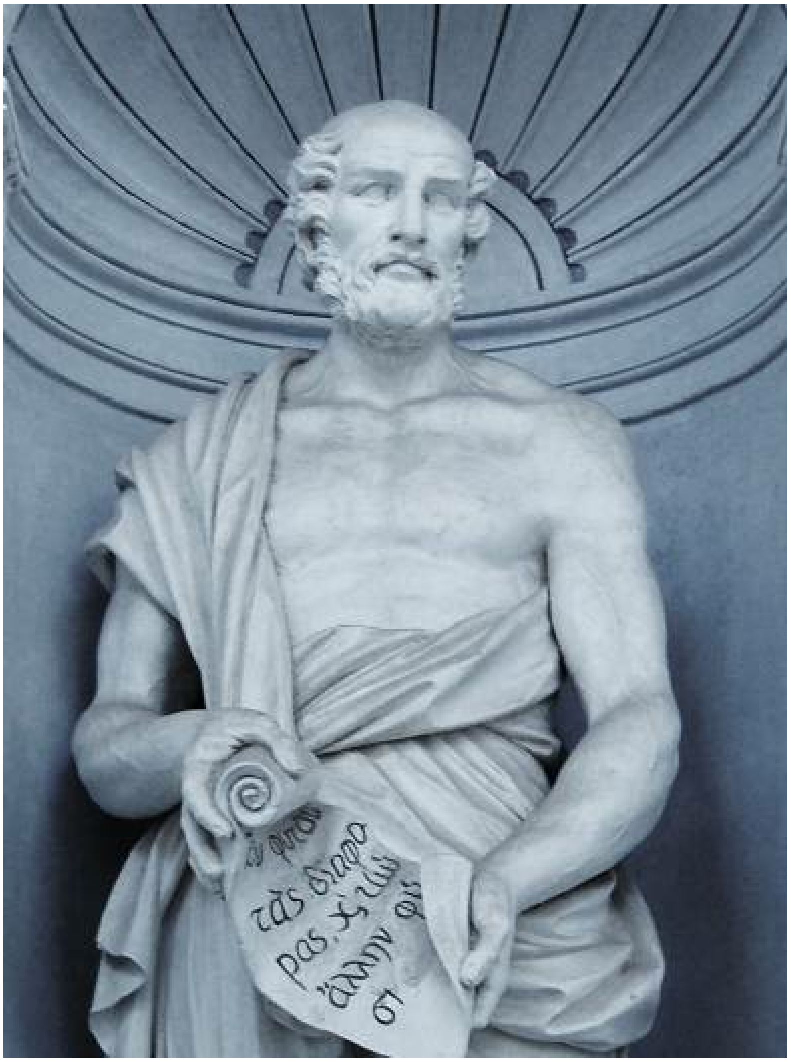
It is in the same way that the motion of the gills in fishes takes place. When the hot substance in the blood throughout the members rises, the gills rise too, and let the water pass through, but when it is chilled and retreats through its channels to the heart, they contract and eject the water. Continually as the heat in the heart rises, continually on being chilled it returns thither again. Hence, as in respiring animals life and death are bound up with respiration, so in the other animals class they depend on the admission of water.

Our discussion of life and death and kindred topics is now practically complete. But health and disease also claim the attention of the scientist, and not merely of the physician, in so far as an account of their causes is concerned. The extent to which these two differ and investigate diverse provinces must not escape us, since facts show that their inquiries are, to a certain extent, at least conterminous. For physicians of culture and refinement make some mention of natural science, and claim to derive their principles from it, while the most accomplished investigators into nature generally push their studies so far as to conclude with an account of medical principles.

On Breath (481a)

Translated by J. F. Dobson

Περὶ πνεύματος is usually regarded as a spurious work, which concerns the exploration of the mode of growth,and the mode of maintenance of the natural or vital spirit. The treatise has been acknowledged to be an early work of the Peripatetic school, possibly connected with Theophrastus, Strato of Lampsacus or Erasistratus, shedding valuable light on theories of Hellenistic medicine.



Theophrastus (c. 371 – c. 287 BC), was a Greek native of Lesbos and the successor to Aristotle in the Peripatetic school. He came to Athens at a young age and initially studied in Plato's school. After Plato's death, he attached himself to Aristotle, who bequeathed to Theophrastus his writings and designated him as his successor at the Lyceum. Theophrastus is believed by some scholars to be the author of 'On Breath'.

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PREFACE

This treatise has been rejected as spurious by practically all editors, one of the chief reasons being the confusion of the senses assigned to ‘apteria’. It is sometimes ascribed to Theophrastus. Its author had certainly studied the Aristotelian Corpus, and analogies may be traced to the *de Respiratione* and some of the zoological treatises.

The earliest attempt to elucidate its numerous difficulties was made by Daniel Furlan, who in 1605 appended a text with comments and a Latin translation to the edition of Theophrastus of which he and Adrian Turnebus were joint editors. He apologizes for his temerity in approaching this work, ‘*quod Julius Caesar Scaliger, vir extra communem ingeniorum aleam positus, frustra convertere et commentariis explanare conatus sit.’* Jaeger, the latest editor, calls the author ‘a second Heraclitus The text, as given in Bekker’s edition, is often untranslatable, and the Latin version in the same Corpus, by an anonymous author, is a free paraphrase, based in some cases on a different text. Its seeming fluency often conceals difficulties without explaining them. The emended text in the Didot edition is more intelligible, and the translation gives some help; but many passages remain in a hopeless state. It is to be regretted that the *de Spiritu* was omitted by Barthélémy Saint-Hilaire from his translation of all Aristotle.

Since this version was in proof, a new edition of the text has appeared by W. W. Jaeger (Teubner, 1913). The editor has taken from Furlan and others many useful conjectures, and added some of his own. Though in some cases his corrections appear unnecessary, the new text is so great an improvement on Bekker that it has seemed desirable to adapt this translation to the text of Jaeger’s edition.

No amount of emendation will remove the incoherence of the work, which must be regarded rather as a collection of Problems than as a finished treatise.

My best thanks are due to Mr. W. D. Ross, of Oriel College, for numerous suggestions and criticisms which have helped me greatly. I have also to thank Mr. R. W. Livingstone, of Corpus Christi College, Oxford, for his kindness in allowing me to collate the MS. which is the property of his College.

J. F. D.

SYNOPTIC CONTENTS

CHAPTER 1.

The breath, being of bodily nature, must be maintained by some method of nutrition. Nutriment may be supplied by the blood, which ultimately nourishes all parts of the body. In this case there must be a residue consequent on the process of digestion; how can it be excreted? Difficulties are involved whether we assume that the residue is finer or coarser than the nutriment.

CHAPTER 2.

Aristogenes supposes that the breath digests the air breathed into the lungs; this is to assume that the breath is different from the outside air, and it may indeed be coarser. The digestion of the air is very rapid and must be caused by the bodily heat. Respiration extends only to the lungs; how then is air carried to the lower parts? Perhaps in the form of a kind of excrement. There is a difficulty in the case of non-respiratory creatures — but perhaps they are falsely so-called. Probably respiration of some sort is necessary to all. Aquatic animals must take in air with their food, since no air is contained in water.

CHAPTER 3.

Empedocles and Democritus considered the process of respiration but disregarded the purpose; others assume even the process as obvious. Its real purpose is refrigeration. The breath is uniformly distributed through the body, and causes nutrition of the lower parts and, apparently, of the bones, though in some parts we can trace no air-ducts. These parts may be compared to plants, which live and grow although they too have no air-ducts.

CHAPTER 4.

The three functions of the breath, respiration, pulsation, and assimilation of nutriment, are perceptible in different degrees by sense or reason. The motive principle of respiration is within, probably in the Soul. Nutrition is originated by respiration. Pulsation, though a function of breath, is not connected with respiration, for variations in respiration have no effect on the pulse. No rational purpose can be assigned to pulsation, whereas the purposes of the other two functions are obvious. It is an open question which of the three is actually earliest.

CHAPTER 5.

The breath is carried to the belly by a duct passing along the loins. We cannot determine how far this breath is akin to Soul. The relations of the internal to the external air in non-respiring creatures. The warming and cooling of the internal air. The breath is not the finest of all substances. It cannot pass through sinew. Some characteristics of sinew and skin. Veins and ‘arteries’ connect with the intestines and the belly, and sinews and veins form connexions between the bones.

CHAPTER 6.

The transformation of blood into flesh. Sinews are nourished from the bones, or, perhaps more probably, bones from sinews. Mode of nutrition of flesh. Blood is not universally dispersed through the body in all animals. Nail is formed from sinew, and perhaps skin from flesh, by a hardening process. Difficulties connected with hard- and soft-shelled creatures suggest exceptions to the rule that the blood is the universal nutriment.

CHAPTER 7.

Bones have various functions — motion, support, covering, &c. All are well adapted for their purposes. Movable bones are connected by sinews, and those which have not to move are kept in place by sinews.

CHAPTER 8.

Physiological inquiry must be supplemented by the investigation of final causes. The purposes of bones, sinews, feet, and other parts are various, but all serve their proper ends: e g flying creatures are shaped in a way appropriate to flight.

CHAPTER 9.

The heat-principle active in our bodies produces different effects in different creatures, just as the effect of fire on different inanimate objects varies. Nature uses fire as an instrument and also as a material. Nature is an intelligent agent and varies the quality of the substance upon which the heat is to work, while the variations of the heat are only quantitative. We must reject the hypothesis of Empedocles, which would lead to the belief that there is no difference of quality between, e g., the bones of various animals.

DE SPIRITU

What is the mode of growth of the natural breath and its mode of maintenance? For we see that it increases in volume and strength in accordance with both changes of age and the varying condition of the body. May we suppose that it increases as the other parts do, through the addition of some substance to it? Now it is nutriment that -is thus added to living creatures; so that we must consider the nature and origin of the nutriment in this case.

Nutrition may result in either of two ways — by means of respiration, or, as in the case of the other parts of the body, by the digestive process consequent on the introduction of the nutriment; and of the two the process by means of the nutriment is perhaps the more likely; for body is nourished by body, and the breath is of the nature of body.

What then is the method? Clearly we must suppose that the breath is nourished by drawing and digesting nutriment from the vein-system, for the blood is the ultimate and universal nutriment. So the breath receives nutriment into the hot element as into its vessel and receptacle.

The air draws the nutriment and imparts the activity, and applying to itself the digestive power is the cause of its own growth and nutrition.

Perhaps there is nothing absurd in this, but rather in the proposition that the breath is originally derived from the nutriment; for that which is akin to the soul, as the breath is, is purer — unless we were to say that the soul itself is a later product than the body, arising when the seeds are sorted out and move towards the development of their nature.

Again, if there is some residue left from all nutriment, by what passage is it ejected in this case? It is not reasonable to suppose that it is by the process of exhalation, for this succeeds immediately to the inhalation. Clearly there remains only the explanation that it is through the ducts of the wind-pipe.

The residue which is secreted from it must be either finer or coarser; in either case there is a grave difficulty; if the breath is assumed to be the purest of all substances, how can the residue be finer than the breath? while if it is coarser we shall have to assume that there are certain ducts of larger size. The assumption that we take in and expel the breath by the same ducts is again strange and unreasonable.

Such then are the questions raised by the theory that the breath is maintained and increased by nutriment.

Aristogenes supposes that the growth of the breath is due to respiration, the air being digested in the lungs; for the breath, he holds, is also a form of nutriment, and is distributed into the various vessels, and the refuse is ejected again.

This theory involves more difficulties, for what can cause this digestion? Apparently the breath digests itself, as it digests other things; but this is strange intrinsically, unless the breath is different from the external air. If it is different, perhaps the bodily warmth in it may cause digestion.

However, it may be reasonably maintained that the breath is coarser than the outside air, since it is combined with the moisture from the vessels and from the solid parts in general; so that digestion will be a process towards corporeality; but the theory that it is finer is not convincing.

Moreover, the rapidity of its digestion is contrary to reason; for the exhalation follows immediately on the inhalation. What then is the agent which so quickly changes and modifies it?

We must naturally suppose that it is the warmth of the body, and the evidence of sense supports this, for the air when exhaled is warm.

Again, if the substance which is digested is in the lungs and the wind-pipe, the active warmth must also reside there: but the common view is that it is not so, but that the nutriment is evaporated by the motion of the breath.

It is still more astonishing if the breath in process of digestion attracts the warmth to itself or receives it because some other agent sets it in motion; moreover, on this theory it is not in itself the primary moving cause.

Then again, respiration extends as far as the lungs only, as the followers of Aristogenes themselves state; but the natural breath is distributed throughout the whole body.

If it is from the lungs that the breath is distributed to all parts of the body, including those lower than the lungs, how can the process of its digestion be so rapid? This is more remarkable and involves a greater difficulty; for the lungs cannot distribute the air to the lower parts during the actual process of its digestion. And yet to some extent it would seem that this must be the case, if the digestion takes place in the lungs, and the lower parts also are affected by the respiration.

But the conclusion in this case is still more remarkable and important — namely that the digestion is effected, as it were, entirely by transit and contact.

This also is unreasonable, and still more untenable, since it assumes that the same account can be given of the nutriment and the excretions; while if we assume that digestion is effected by any of the other internal parts, the objections already stated will apply: unless we were to assume that excrement is not formed from all nutriment, nor in all animals, any more than in plants, for we cannot find it in every one of the bodily parts, or even if we do, at least not in all animals.

But according to this view the vessels grow just like the other parts, and as they become broadened and distended, the volume of air which flows in and out is increased: and if there must inevitably be some air contained in them, the actual question which we are now asking, ‘What is the air which naturally exists in them; and how does this increase under healthy conditions?’ will be obvious from the preceding statement.

How is the natural breath nourished and developed in the case of creatures which have not respiration? For in their case the nutriment can no longer come from without. If in the former case it was from forces within, and from the common nutriment of the body, it is reasonable to say that the same is true in their case also, for similar effects come in like manner from the same causes — unless really in the case of these creatures too it is from without, like their perception of smell; but then they must have some process similar to respiration.

Under this head we might raise the question whether such creatures can truly be called non-respiratory — pointing to this argument and also to the way in which they take in nutriment; for we should say that they must draw in some breath at the same time; and we should further urge that they must respire for the sake of refrigeration, which they must require just as other creatures do.

But if in their case the refrigeration takes place through the diaphragm, it is clear that the entry of the air must also be by the same passage; so that there is some process similar to respiration.

But it cannot be determined how or by what agency the air is drawn in; or if there is a drawing in, how the entry takes place — unless, indeed, it is spontaneous. This is a subject for separate investigation.

But how is the natural breath nourished and increased in’ the case of creatures that live in the water? Apart from their inability to respire, we say further that air cannot exist in water: so it only remains to say that in their case it is by means of the food: and so either all creatures are not uniform in their methods, or else in the case of the others also it is by means of the food. Such are the three possible theories, of which one must be right. So much, then, as regards the nutrition and growth of the breath.

With regard to respiration, some philosophers — such as Empedocles and Democritus — do not deal with its purpose, but only describe the process; others do not even deal with the process at all, but assume it as obvious. But we ought further to make it quite clear whether its purpose is refrigeration. For if the bodily heat is inherent in the upper parts, it follows that the lower parts would have no need of refrigeration: but the heat is not in the upper parts only, for as a matter of fact the innate breath pervades the whole body, and its origin is from the lungs.

The inspired breath also is thought to be distributed uniformly over all parts, so that it remains to be proved that this is not the case.

Again, it is strange if the lower parts do not require some motive force and, as it were, some nutriment. And it is strange that it should no longer be for the sake of refrigeration, if it does pervade the whole.

Further, the process of the breath’s distribution in general is imperceptible, and so is its speed; and again, the matter of its counter-flow, if, as assumed, it is from all parts, is remarkable, unless it flows back from the most remote parts in some different way, while in its proper and primary sense the action takes place from the regions about the heart.

In many instances such a want of symmetry in functions and faculties may be observed.

However, it is at any rate strange if breath is distributed even into the bones — for they say that this is the case, and that it passes there from the air-ducts. Therefore, as I have shown, we must consider the respiration — its purpose, and the parts which it affects, and how it affects them. Again, it appears that nutriment is not carried by the air- ducts to all parts, for instance to the vessels themselves and certain other parts; but nevertheless plants, which have not air-ducts, live and receive nourishment. This question belongs rather to a treatise on methods of nutrition.

Whereas there are three motions belonging to the breath in the windpipe — respiration, pulsation, and a third which introduces and assimilates the nutriment — we must define how and where and for what purpose each takes place.

Of these, the motion of the pulse is perceptible by the senses wherever we touch the body. That of the respiration is perceptible up to a certain point, but is recognized in the majority of parts by a reasoning process. That of nutrition is in practically all parts determinable by reasoning, but by sense in so far as it can be observed from its results.

Now clearly the respiration has its motive principle from the inward parts, whether we ought to call this principle a power of the soul, the soul, or some other combination of bodies which through their agency causes this attraction; and the nutritive faculty would seem to be caused by the respiration, for the respiration corresponds to it, and is in reality similar to it. And to discover whether the whole body is not equable with regard to the time taken by such motion, or whether there is no difference as to its simultaneity, we must consider all the parts.

The pulse is something peculiar and distinct from the other motions and in some respects may be seen to be contingent, assuming that when there is an excess of warmth in a fluid, that fluid which is evaporated must set up a pulsation owing to the air being intercepted in the interior, and pulsation must arise in the originating part and in the earliest stage, since it is inborn in the earliest parts. For it arises firstly and in the greatest degree in the heart, and thence extends to the other parts. Perhaps this must be an inseparable consequence of the essential nature underlying the living creature, which is manifested when the creature is in a condition of activity.

That the pulse has no connexion with the respiration is shown by the following indication — whether one breathes quickly or regularly, violently or gently, the pulse remains the same and unchanged, but it becomes irregular and spasmodic owing to certain bodily affections and in consequence of fear, hope, and anguish affecting the soul.

Next we ought to consider whether the pulse occurs also in the arteries and with the same rhythm and regularity. This does not appear to be so in the case of parts widely separated, and, as has been noted, it seems to serve no purpose whatsoever.

For, on the other hand, the respiration and reception of food, whether they are regarded as quite independent or as correlated, clearly exist for a purpose, and admit of rational explanation.

And of the three, we may reasonably say that the pulsatory and respiratory motions are prior to the other, for nutrition assumes their pre-existence. Or is this not so? for respiration begins when the young is separated from the mother; the reception of nutriment, and nutrition, both while the embryo is forming and after it is formed; but the pulsation at the earliest stage, as soon as the heart begins to form, as is evident in the case of eggs. So the pulse comes first, and resembles an activity and not an interception of the breath, unless that also can conduce towards its activity.

They say that the breath which is respired is carried into the belly, not through the gullet — that is impossible —

but there is a duct along the loins through which the breath is carried by the respiration from the trachea into the belly and out again: and this can be perceived by the sense.

The question of this perception raises a difficulty: for if the windpipe alone has perception, does it perceive by means of the wind which passes through it, or by its bulk or by its bodily constitution? Or if the air comes first below soul, may it perceive by means of this air which is superior and prior in origin?

What then is the soul? They make it out to be a potentiality which is the cause of such a motion as this. Or is it clear that you will not be right in impugning those who say it is the rational and spirited faculty? for they too refer to these as potentialities.

But if the soul resides in this air, the air is at any rate a neutral substance. Surely, if it becomes animate or becomes soul, it suffers some change and alteration, and so naturally moves towards what is akin to it, and like grows by the addition of like. Or is it otherwise? for it may be contended that the air is not the whole of soul but is something which contributes to this potentiality or in this sense makes it, and that which has made it is its principle and foundation.

In the case of non-respiring creatures, where the internal air is not mixed with the external — or is this not the case, is it rather mixed in some other way than by respiration? — what is the difference between the air in the air-duct and the outside air? It is reasonable — perhaps inevitable — to suppose that the former surpasses the latter in fineness.

Again, is it warm by its inherent nature or by the influence of something else? For it seems that the inner air is just like the outer, but it is helped by the cooling. But which is really the case? for when outside it is soft, but when enclosed the air becomes breath, being as it were condensed and in some manner distributed through the vessels. Or must it be mixed in some way, when it moves about in the fluids, and among the solid particles of the body? It is not, therefore, the finest of substances, if it is mixed. We may, however, reasonably expect that the substance which is first capable of receiving soul should be the finest, unless, indeed, soul is something such as has been described, i.e. something not pure nor unmixed: and that the air-duct should be capable of receiving the breath, while the sinew is not.

There is this difference too, that the sinew is tensible, but the air-duct is easily broken, just like a vein.

The skin contains veins, sinews, and air-ducts — veins because when pricked it exudes blood, sinews because it is elastic, air-ducts because air is breathed through it — for only an air-duct can admit air.

The veins must have pores in which resides the bodily heat which heats the blood as if in a caldron; for it is not hot by nature, but is diffused like molten metals. [For this reason too the air-duct becomes hardened, and has moisture both in itself and in the coats which surround its hollow passage.], It is also proved both by dissection and by the fact that the veins and air-ducts, which apparently conduct the nutriment, connect with the intestines and the belly. From the veins the nutriment is distributed to the flesh — not sideways from the veins but out at their mouths, as it were through pipes. For fine veins run sideways from the great vein and the windpipe along each rib, and a vein and an air-duct always run side by side.

The sinews and veins form the connexion between the bones, joining them with the centre of the body, and also form the meeting-place between the head and the body, through which fishes receive nutriment and breathe; if they did not respire, they would die immediately on being taken out of the water.

But it is plain even from observations of sense that the veins and air-ducts connect with each other; but this would not occur if the moisture did not require breath and the breath moisture, — because there is warmth both in sinew, in air-duct, and in vein, and that which is in the sinew is hottest and most similar to that of the veins. Now the heat seems unsuited to the space-where the breath is located, especially with a view to refrigeration: but if the animal produces and as it were re-kindles the heat by heat from without, then there may well be heat there. Besides this, permanence is in a sense natural to all things which have warmth, provided that nothing resists or cools it; for that all things require refrigeration is practically proved by the fact that the blood retains its heat in the veins and as it were shelters it there; so when the blood has flowed out it loses its heat, and the creature dies, through the liver having no air-duct.

Does the seed pass through the air-duct? Is its passage due also to pressure, and does this take place only in process of emission? Through this we have evidence of the transformation of the blood into flesh — through the fact that the sinews are nourished from the bones; for they join the bones together. Or is this not true? For sinew is found in the heart, and sinews are attached to the bones: but those in the heart do not connect with anything else, but they end in the flesh. Or does this amount to nothing, and would those which connect the bones be nourished from the bones? But we might say, that rather the bones themselves get their nutriment from the sinew. For this too is strange — since the bone is dry by nature and has no ducts for fluid; while the nutriment is fluid. But we must consider first, if the nutriment of the sinews is from the bones, what is the nutriment of the bone. Do the ducts carry it both from the veins and from the air- duct into the bone itself? In many parts these ducts are visible, particularly those leading to the spine, and those leading from the bones are continuous, e g in the case of the ribs; but how do we suppose that these ducts lead from the belly, and how does the drawing of the nutriment take place?

Surely most bones are without cartilage like the spine, in no way adapted to motion. Or are they designed to form connexions? And similarly, if bone is nourished from ° sinew, we must know the means by which sinew is nourished. We say that it is from the fluid surrounding the sinew, which is of a glutinous nature: but we must determine whence and how this arises. To say that the flesh is nourished from vein and air-duct, on the ground that blood comes from any point where you prick it, is false in the case of the other animals, e g birds, snakes, and fishes, and oviparous creatures in general. The universal dispersion of the blood is a peculiarity of creatures with a large blood-supply: for e g even when a small bird’s breast is cut, not blood but serum flows.

Empedocles says that nail is formed from sinew by a hardening process. Is the same true of skin in relation to flesh?

But how can hard and soft-shelled creatures get their nutriment from outside? On the contrary it seems that they get it from inside rather than out. Again, how and by what course does the passage of foods from the belly take place, and again their return into the form of flesh, unaccountable as it is? For this process seems extraordinary and absolutely impossible.

Do different things, then, have different nutriment, not all things being nourished by the blood except indirectly?

We must then consider the nature of bone, whether it exists with a view to motion or to support, or covering and surrounding, and further, whether some bones are as it were originators of motion, like the axis of the universe.

By motion I mean, e g. that of the foot, the hand, the leg, or the elbow, both the bending motion and motion from place to place — for the latter cannot take place either without the bending, and usually the supporting functions belong to these same bones. And by covering and surrounding I mean as e g the bones in the head surround the brain; and those who make the marrow the originator of motion treat the bones as primarily meant to protect it. The ribs are for the purpose of locking together; the originator of motion, itself immovable, is the spine, from which spring the ribs for the purpose of locking the body together: for there must be something of this kind, since everything that is in motion depends on something that is in a state of rest.

At the same time a final cause must exist — under which head some class the originator of motion; i.e. the spinal marrow and the brain.

Besides these there are others which are at a joining and whose purpose is locking together, e g. the collar-bone, which perhaps is named the ‘key-bone’ from its functions. Every one is well adapted for its purpose, for there could be no flexion either of whole or parts, if the parts were not such as they are: e g. the spine, foot, and elbow: for the bending of the elbow must be inwards to serve our purpose. Similarly the bending of the foot and the other parts must be such as it is. All exist for a purpose, and so do the smaller bones contained in these larger ones — e g. the radius in the fore-arm to enable us to twist the fore-arm and the hand; for we should not be able to turn the palm down or up nor lift nor bend the feet if there were not the two radii which are used in these motions. Similarly we must investigate the other details, e g. whether the motion of the neck is due to only one bone or more. Also we must examine all that are for the purpose of gripping or knitting together, e g. the patella over the knee; and why other parts have no such bone.

Now all parts which are capable of motion are connected with sinews — and perhaps those concerned with action in a positive way are especially so — thus we find sinews in the elbow, the legs, the hands, and the feet; the other sinews are for the purpose of fastening together all those bones which require fastening; for perhaps some, e g. the spine, have little or no function except that of bending, for the substance which connects the vertebrae is a serum or mucous fluid; others are bound together by sinews — thus we find sinews in the joints of the limbs.

The best description of everything may be obtained by an investigation like the present; but we must adequately investigate the final causes. We must not suppose that the bones are for the sake of movement; that is rather the purpose of the sinews or what corresponds to them, viz the immediate receptacle of the breath which causes motion, since even the belly moves and the heart has sinews — but only some, not all parts have bones: every part must have sinews appropriate for performing such motion or for (performing it well.) For the cuttle-fish walks little and walks badly. We must take as a starting- point the fact that all animals have different organs for different purposes with a view to the peculiar motion of each, e g. terrestrial animals have feet — those that are upright having two; others which move altogether upon the earth, the material of whose bodies is more earthy and colder, have several. Some creatures again may be entirely without feet, for it is possible for them under these conditions to be moved only by external force. Similarly, flying creatures have wings, and their shape is appropriate to their nature. The parts differ in proportion as they are to fly faster or slower. They have feet for the purpose of seeking food and to enable them to stand; bats are an exception; as they cannot use their feet, they get their food in the air, and do not need to rest for the purpose; for they certainly do not need to do so for any other reason.

The hard-shelled aquatic animals have feet on account of their weight; thus they are enabled to move from place to place: all that concerns their other needs is as ordered by the individual requirements of each, even if the principle is not clear — e g. why many-footed creatures are the slowest, and yet quadrupeds are swifter than bipeds. Is it because the whole of their body is on the ground or because they are naturally cold and hard to move, or for some other reason?

We cannot agree with those who say that it is not the heat-principle which is active in bodies, or that fire has only one kind of motion and one power — the power to cleave. For in the case of inanimate things the action of fire is not universally the same on all — some it condenses, others it rarefies; some it dissolves, others it hardens; and so we must suppose that in the case of animate creatures the same results are found, and we must investigate the fire of nature by comparing her processes to those of an art; for different results are achieved by fire in the work of the goldsmith, the coppersmith, the carpenter, and the cook — though, perhaps, it is truer to say that the arts themselves achieve these different results, for that by using fire as an instrument they soften, liquefy, and desiccate substances, and some they temper.

Individual natures work in the same way, and so they differ one from another; so that it is ridiculous to judge by externals; for whether we regard the heat as separating or refining, or whatever the effect of warming or burning is, the results will be different according to the different natures of the agencies which employ it. But while the crafts use the fire merely as an instrument, nature uses it as a material as well.

Certainly no difficulty is involved in this; but rather it is remarkable that nature, who employs the instrument, is herself an intelligent agent, who will assign to objects their proper symmetry together with the visible effects of her action: for this is no longer a function either of fire or of breath, so it is remarkable that we should find such a faculty combined with these two bodies. Again, with regard to soul we find the same cause of wonder, for it must be assumed in the functions of these two, and therefore there is some sense in referring to the same agent — either generally or to some particular creative part — the fact that its motion always operates in the same way; for nature, from which they are generated, is always constant. But now what variation can there be in individual heat, whether we regard it as an instrument or material, or both? The variations in fire are simply quantitative; but this is practically a question of whether it is mixed with other substances or unmixed, for the purer substance has the proper qualities of its kind in a higher degree.

The same statement applies in the case of all other simple things; for whereas there is a difference between the bone and flesh of a horse and those of an ox, this must be the case either because they are produced from different materials, or because the materials are used differently. Now if they are different, what are the distinctive characteristics of each of the simple things and what is...? for it is these that we are seeking. — , But if they are the same in nature, they may be different in their proportions: for one or the other must be the case — as holds good with other things — for the consistencies of wine and honey are different on account of the difference of substance; difference in wine itself, if there is any, is a matter of proportion.

And so Empedocles stated the nature of bone too simply; for, on the supposition that all bones follow the same proportion in the mixture of elements, the bones of a lion, a horse, and a man ought to be indistinguishable; whereas they actually differ in hardness and softness, density, and other qualities. Similarly with the flesh and other parts of the body.

Further, the various parts in the same creature differ in density and rarity, and in other qualities, so that the blending of their constituents cannot be identical; for, granted that coarseness and fineness, greatness and smallness are quantitative differences, hardness, density, and their opposites certainly depend on the qualitative nature of the mixing. But those who give this account of it must know how the creative element can vary, by excess or deficiency, by being in isolation or in combination or heated in something else, like food that is boiled or baked, — which last is perhaps the true explanation; for in the process of mixing it produces the effect designed by nature.

So I suppose we must give the same account of flesh; for the variations are the same; and practically the same observations apply to the veins and air-ducts and the rest; so that, in conclusion, either the proportion observed in their mixture is not constant, or the definitions must not be stated in terms of hardness, density, and their opposites.

History of Animals (486a)

Translated by D'Arcy Wentworth Thompson

This treatise is a zoological study of animals, commencing with a detailed grouping of animals and the different parts of the human anatomy. The second book concerns the different parts of red-blooded animals, whilst the third investigates internal organs, including generative system, veins, sinews and bones. The remaining books analyse reproduction in different species, concluding with investigating the character and habits of animals and the relations of animals to each other.

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Book I

1

OF the parts of animals some are simple: to wit, all such as divide into parts uniform with themselves, as flesh into flesh; others are composite, such as divide into parts not uniform with themselves, as, for instance, the hand does not divide into hands nor the face into faces.

And of such as these, some are called not parts merely, but limbs or members. Such are those parts that, while entire in themselves, have within themselves other diverse parts: as for instance, the head, foot, hand, the arm as a whole, the chest; for these are all in themselves entire parts, and there are other diverse parts belonging to them.

All those parts that do not subdivide into parts uniform with themselves are composed of parts that do so subdivide, for instance, hand is composed of flesh, sinews, and bones. Of animals, some resemble one another in all their parts, while others have parts wherein they differ. Sometimes the parts are identical in form or species, as, for instance, one man's nose or eye resembles another man's nose or eye, flesh flesh, and bone bone; and in like manner with a horse, and with all other animals which we reckon to be of one and the same species: for as the whole is to the whole, so each to each are the parts severally. In other cases the parts are identical, save only for a difference in the way of excess or defect, as is the case in such animals as are of one and the same genus. By 'genus' I mean, for instance, Bird or Fish, for each of these is subject to difference in respect of its genus, and there are many species of fishes and of birds.

Within the limits of genera, most of the parts as a rule exhibit differences through contrast of the property or accident, such as colour and shape, to which they are subject: in that some are more and some in a less degree the subject of the same property or accident; and also in the way of multitude or fewness, magnitude or parvitude, in short in the way of excess or defect. Thus in some the texture of the flesh is soft, in others firm; some have a long bill, others a short one; some have abundance of feathers, others have only a small quantity. It happens further that some have parts that others have not: for instance, some have spurs and others not, some have crests and others not; but as a general rule, most parts and those that go to make up the bulk of the body are either identical with one another, or differ from one another in the way of contrast and of excess and defect. For ‘the more’ and ‘the less’ may be represented as ‘excess’ or ‘defect’.

Once again, we may have to do with animals whose parts are neither identical in form nor yet identical save for differences in the way of excess or defect: but they are the same only in the way of analogy, as, for instance, bone is only analogous to fish-bone, nail to hoof, hand to claw, and scale to feather; for what the feather is in a bird, the scale is in a fish.

The parts, then, which animals severally possess are diverse from, or identical with, one another in the fashion above described. And they are so furthermore in the way of local disposition: for many animals have identical organs that differ in position; for instance, some have teats in the breast, others close to the thighs.

Of the substances that are composed of parts uniform (or homogeneous) with themselves, some are soft and moist, others are dry and solid. The soft and moist are such either absolutely or so long as they are in their natural conditions, as, for instance, blood, serum, lard, suet, marrow, sperm, gall, milk in such as have it flesh and the like; and also, in a different way, the superfluities, as phlegm and the excretions of the belly and the bladder. The dry and solid are such as sinew, skin, vein, hair, bone, gristle, nail, horn (a term which as applied to the part involves an ambiguity, since the whole also by virtue of its form is designated horn), and such parts as present an analogy to these.

Animals differ from one another in their modes of subsistence, in their actions, in their habits, and in their parts. Concerning these differences we shall first speak in broad and general terms, and subsequently we shall treat of the same with close reference to each particular genus.

Differences are manifested in modes of subsistence, in habits, in actions performed. For instance, some animals live in water and others on land. And of those that live in water some do so in one way, and some in another: that is to say, some live and feed in the water, take in and emit water, and cannot live if deprived of water, as is the case with the great majority of fishes; others get their food and spend their days in the water, but do not take in water but air, nor do they bring forth in the water. Many of these creatures are furnished with feet, as the otter, the beaver, and the crocodile; some are furnished with wings, as the diver and the grebe; some are destitute of feet, as the water-snake. Some creatures get their living in the water and cannot exist outside it: but for all that do not take in either air or water, as, for instance, the sea-nettle and the oyster. And of creatures that live in the water some live in the sea, some in rivers, some in lakes, and some in marshes, as the frog and the newt.

Of animals that live on dry land some take in air and emit it, which phenomena are termed ‘inhalation’ and ‘exhalation’; as, for instance, man and all such land animals as are furnished with lungs. Others, again, do not inhale air, yet live and find their sustenance on dry land; as, for instance, the wasp, the bee, and all other insects. And by ‘insects’ I mean such creatures as have nicks or notches on their bodies, either on their bellies or on both backs and bellies.

And of land animals many, as has been said, derive their subsistence from the water; but of creatures that live in and inhale water not a single one derives its subsistence from dry land.

Some animals at first live in water, and by and by change their shape and live out of water, as is the case with river worms, for out of these the gadfly develops.

Furthermore, some animals are stationary, and some are erratic. Stationary animals are found in water, but no such creature is found on dry land. In the water are many creatures that live in close adhesion to an external object, as is the case with several kinds of oyster. And, by the way, the sponge appears to be endowed with a certain sensibility: as a proof of which it is alleged that the difficulty in detaching it from its moorings is increased if the movement to detach it be not covertly applied.

Other creatures adhere at one time to an object and detach themselves from it at other times, as is the case with a species of the so-called sea-nettle; for some of these creatures seek their food in the night-time loose and unattached.

Many creatures are unattached but motionless, as is the case with oysters and the so-called holothuria. Some can swim, as, for instance, fishes, molluscs, and crustaceans, such as the crawfish. But some of these last move by walking, as the crab, for it is the nature of the creature, though it lives in water, to move by walking.

Of land animals some are furnished with wings, such as birds and bees, and these are so furnished in different ways one from another; others are furnished with feet. Of the animals that are furnished with feet some walk, some creep, and some wriggle. But no creature is able only to move by flying, as the fish is able only to swim, for the animals with leathern wings can walk; the bat has feet and the seal has imperfect feet.

Some birds have feet of little power, and are therefore called Apodes. This little bird is powerful on the wing; and, as a rule, birds that resemble it are weak-footed and strong winged, such as the swallow and the drepanis or (?) Alpine swift; for all these birds resemble one another in their habits and in their plumage, and may easily be mistaken one for another. (The apus is to be seen at all seasons, but the drepanis only after rainy weather in summer; for this is the time when it is seen and captured, though, as a general rule, it is a rare bird.)

Again, some animals move by walking on the ground as well as by swimming in water.

Furthermore, the following differences are manifest in their modes of living and in their actions. Some are gregarious, some are solitary, whether they be furnished with feet or wings or be fitted for a life in the water; and some partake of both characters, the solitary and the gregarious. And of the gregarious, some are disposed to combine for social purposes, others to live each for its own self.

Gregarious creatures are, among birds, such as the pigeon, the crane, and the swan; and, by the way, no bird furnished with crooked talons is gregarious. Of creatures that live in water many kinds of fishes are gregarious, such as the so-called migrants, the tunny, the pelamys, and the bonito.

Man, by the way, presents a mixture of the two characters, the gregarious and the solitary.

Social creatures are such as have some one common object in view; and this property is not common to all creatures that are gregarious. Such social creatures are man, the bee, the wasp, the ant, and the crane.

Again, of these social creatures some submit to a ruler, others are subject to no governance: as, for instance, the crane and the several sorts of bee submit to a ruler, whereas ants and numerous other creatures are every one his own master.

And again, both of gregarious and of solitary animals, some are attached to a fixed home and others are erratic or nomad.

Also, some are carnivorous, some graminivorous, some omnivorous: whilst some feed on a peculiar diet, as for instance the bees and the spiders, for the bee lives on honey and certain other sweets, and the spider lives by catching flies; and some creatures live on fish. Again, some creatures catch their food, others treasure it up; whereas others do not so.

Some creatures provide themselves with a dwelling, others go without one: of the former kind are the mole, the mouse, the ant, the bee; of the latter kind are many insects and quadrupeds. Further, in respect to locality of dwelling place, some creatures dwell under ground, as the lizard and the snake; others live on the surface of the ground, as the horse and the dog. make to themselves holes, others do not

Some are nocturnal, as the owl and the bat; others live in the daylight.

Moreover, some creatures are tame and some are wild: some are at all times tame, as man and the mule; others are at all times savage, as the leopard and the wolf; and some creatures can be rapidly tamed, as the elephant.

Again, we may regard animals in another light. For, whenever a race of animals is found domesticated, the same is always to be found in a wild condition; as we find to be the case with horses, kine, swine, (men), sheep, goats, and dogs.

Further, some animals emit sound while others are mute, and some are endowed with voice: of these latter some have articulate speech, while others are inarticulate; some are given to continual chirping and twittering some are prone to silence; some are musical, and some unmusical; but all animals without exception exercise their power of singing or chattering chiefly in connexion with the intercourse of the sexes.

Again, some creatures live in the fields, as the cushat; some on the mountains, as the hoopoe; some frequent the abodes of men, as the pigeon.

Some, again, are peculiarly salacious, as the partridge, the barn-door cock and their congeners; others are inclined to chastity, as the whole tribe of crows, for birds of this kind indulge but rarely in sexual intercourse.

Of marine animals, again, some live in the open seas, some near the shore, some on rocks.

Furthermore, some are combative under offence; others are provident for defence. Of the former kind are such as act as aggressors upon others or retaliate when subjected to ill usage, and of the latter kind are such as merely have some means of guarding themselves against attack.

Animals also differ from one another in regard to character in the following respects. Some are good-tempered, sluggish, and little prone to ferocity, as the ox; others are quick tempered, ferocious and unteachable, as the wild boar; some are intelligent and timid, as the stag and the hare; others are mean and treacherous, as the snake; others are noble and courageous and high-bred, as the lion; others are thorough-bred and wild and treacherous, as the wolf: for, by the way, an animal is highbred if it come from a noble stock, and an animal is thorough-bred if it does not deflect from its racial characteristics.

Further, some are crafty and mischievous, as the fox; some are spirited and affectionate and fawning, as the dog; others are easy-tempered and easily domesticated, as the elephant; others are cautious and watchful, as the goose; others are jealous and self-conceited, as the peacock. But of all animals man alone is capable of deliberation.

Many animals have memory, and are capable of instruction; but no other creature except man can recall the past at will.

With regard to the several genera of animals, particulars as to their habits of life and modes of existence will be discussed more fully by and by.

2

Common to all animals are the organs whereby they take food and the organs where into they take it; and these are either identical with one another, or are diverse in the ways above specified: to wit, either identical in form, or varying in respect of excess or defect, or resembling one another analogically, or differing in position.

Furthermore, the great majority of animals have other organs besides these in common, whereby they discharge the residuum of their food: I say, the great majority, for this statement does not apply to all. And, by the way, the organ whereby food is taken in is called the mouth, and the organ whereinto it is taken, the belly; the remainder of the alimentary system has a great variety of names.

Now the residuum of food is twofold in kind, wet and dry, and such creatures as have organs receptive of wet residuum are invariably found with organs receptive of dry residuum; but such as have organs receptive of dry residuum need not possess organs receptive of wet residuum. In other words, an animal has a bowel or intestine if it have a bladder; but an animal may have a bowel and be without a bladder. And, by the way, I may here remark that the organ receptive of wet residuum is termed ‘bladder’, and the organ receptive of dry residuum ‘intestine or ‘bowel’.

3

Of animals otherwise, a great many have, besides the organs above-mentioned, an organ for excretion of the sperm: and of animals capable of generation one secretes into another, and the other into itself. The latter is termed ‘female’, and the former ‘male’; but some animals have neither male nor female. Consequently, the organs connected with this function differ in form, for some animals have a womb and others an organ analogous thereto. The above-mentioned organs, then, are the most indispensable parts of animals; and with some of them all animals without exception, and with others animals for the most part, must needs be provided.

One sense, and one alone, is common to all animals-the sense of touch. Consequently, there is no special name for the organ in which it has its seat; for in some groups of animals the organ is identical, in others it is only analogous.

4

Every animal is supplied with moisture, and, if the animal be deprived of the same by natural causes or artificial means, death ensues: further, every animal has another part in which the moisture is contained. These parts are blood and vein, and in other animals there is something to correspond; but in these latter the parts are imperfect, being merely fibre and serum or lymph.

Touch has its seat in a part uniform and homogeneous, as in the flesh or something of the kind, and generally, with animals supplied with blood, in the parts charged with blood. In other animals it has its seat in parts analogous to the parts charged with blood; but in all cases it is seated in parts that in their texture are homogeneous.

The active faculties, on the contrary, are seated in the parts that are heterogeneous: as, for instance, the business of preparing the food is seated in the mouth, and the office of locomotion in the feet, the wings, or in organs to correspond.

Again, some animals are supplied with blood, as man, the horse, and all such animals as are, when full-grown, either destitute of feet, or two-footed, or four-footed; other animals are bloodless, such as the bee and the wasp, and, of marine animals, the cuttle-fish, the crawfish, and all such animals as have more than four feet.

5

Again, some animals are viviparous, others oviparous, others vermiparous or ‘grub-bearing’. Some are viviparous, such as man, the horse, the seal, and all other animals that are hair-coated, and, of marine animals, the cetaceans, as the dolphin, and the so-called Selachia. (Of these latter animals, some have a tubular air-passage and no gills, as the dolphin and the whale: the dolphin with the air-passage going through its back, the whale with the air-passage in its forehead; others have uncovered gills, as the Selachia, the sharks and rays.)

What we term an egg is a certain completed result of conception out of which the animal that is to be develops, and in such a way that in respect to its primitive germ it comes from part only of the egg, while the rest serves for food as the germ develops. A ‘grub’ on the other hand is a thing out of which in its entirety the animal in its entirety develops, by differentiation and growth of the embryo.

Of viviparous animals, some hatch eggs in their own interior, as creatures of the shark kind; others engender in their interior a live foetus, as man and the horse. When the result of conception is perfected, with some animals a living creature is brought forth, with others an egg is brought to light, with others a grub. Of the eggs, some have egg-shells and are of two different colours within, such as birds’ eggs; others are soft-skinned and of uniform colour, as the eggs of animals of the shark kind. Of the grubs, some are from the first capable of movement, others are motionless. However, with regard to these phenomena we shall speak precisely hereafter when we come to treat of Generation.

Furthermore, some animals have feet and some are destitute thereof. Of such as have feet some animals have two, as is the case with men and birds, and with men and birds only; some have four, as the lizard and the dog; some have more, as the centipede and the bee; but allsoever that have feet have an even number of them.

Of swimming creatures that are destitute of feet, some have winglets or fins, as fishes: and of these some have four fins, two above on the back, two below on the belly, as the gilthead and the basse; some have two only,-to wit, such as are exceedingly long and smooth, as the eel and the conger; some have none at all, as the muraena, but use the sea just as snakes use dry ground-and by the way, snakes swim in water in just the same way. Of the shark-kind some have no fins, such as those that are flat and long-tailed, as the ray and the sting-ray, but these fishes swim actually by the undulatory motion of their flat bodies; the fishing frog, however, has fins, and so likewise have all such fishes as have not their flat surfaces thinned off to a sharp edge.

Of those swimming creatures that appear to have feet, as is the case with the molluscs, these creatures swim by the aid of their feet and their fins as well, and they swim most rapidly backwards in the direction of the trunk, as is the case with the cuttle-fish or sepia and the calamary; and, by the way, neither of these latter can walk as the poulpe or octopus can.

The hard-skinned or crustaceous animals, like the crawfish, swim by the instrumentality of their tail-parts; and they swim most rapidly tail foremost, by the aid of the fins developed upon that member. The newt swims by means of its feet and tail; and its tail resembles that of the sheatfish, to compare little with great.

Of animals that can fly some are furnished with feathered wings, as the eagle and the hawk; some are furnished with membranous wings, as the bee and the cockchafer; others are furnished with leathern wings, as the flying fox and the bat. All flying creatures possessed of blood have feathered wings or leathern wings; the bloodless creatures have membranous wings, as insects. The creatures that have feathered wings or leathern wings have either two feet or no feet at all: for there are said to be certain flying serpents in Ethiopia that are destitute of feet.

Creatures that have feathered wings are classed as a genus under the name of ‘bird’; the other two genera, the leathern-winged and membrane-winged, are as yet without a generic title.

Of creatures that can fly and are bloodless some are coleopterous or sheath-winged, for they have their wings in a sheath or shard, like the cockchafer and the dung-beetle; others are sheathless, and of these latter some are dipterous and some tetrapterous: tetrapterous, such as are comparatively large or have their stings in the tail, dipterous, such as are comparatively small or have their stings in front. The coleoptera are, without exception, devoid of stings; the diptera have the sting in front, as the fly, the horsefly, the gadfly, and the gnat.

Bloodless animals as a general rule are inferior in point of size to blooded animals; though, by the way, there are found in the sea some few bloodless creatures of abnormal size, as in the case of certain molluscs. And of these bloodless genera, those are the largest that dwell in milder climates, and those that inhabit the sea are larger than those living on dry land or in fresh water.

All creatures that are capable of motion move with four or more points of motion; the blooded animals with four only: as, for instance, man with two hands and two feet, birds with two wings and two feet, quadrupeds and fishes severally with four feet and four fins. Creatures that have two winglets or fins, or that have none at all like serpents, move all the same with not less than four points of motion; for there are four bends in their bodies as they move, or two bends together with their fins. Bloodless and many footed animals, whether furnished with wings or feet, move with more than four points of motion; as, for instance, the dayfly moves with four feet and four wings: and, I may observe in passing, this creature is exceptional not only in regard to the duration of its existence, whence it receives its name, but also because though a quadruped it has wings also.

All animals move alike, four-footed and many-footed; in other words, they all move cross-corner-wise. And animals in general have two feet in advance; the crab alone has four.

6

Very extensive genera of animals, into which other subdivisions fall, are the following: one, of birds; one, of fishes; and another, of cetaceans. Now all these creatures are blooded.

There is another genus of the hard-shell kind, which is called oyster;

another of the soft-shell kind, not as yet designated by a single term, such as the spiny crawfish and the various kinds of crabs and lobsters; and another of molluscs, as the two kinds of calamary and the cuttle-fish; that of insects is different. All these latter creatures are bloodless, and such of them as have feet have a goodly number of them; and of the insects some have wings as well as feet.

Of the other animals the genera are not extensive. For in them one species does not comprehend many species; but in one case, as man, the species is simple, admitting of no differentiation, while other cases admit of differentiation, but the forms lack particular designations.

So, for instance, creatures that are qudapedal and unprovided with wings are blooded without exception, but some of them are viviparous, and some oviparous. Such as are viviparous are hair-coated, and such as are oviparous are covered with a kind of tessellated hard substance; and the tessellated bits of this substance are, as it were, similar in regard to position to a scale.

An animal that is blooded and capable of movement on dry land, but is naturally unprovided with feet, belongs to the serpent genus; and animals of this genus are coated with the tessellated horny substance. Serpents in general are oviparous; the adder, an exceptional case, is viviparous: for not all viviparous animals are hair-coated, and some fishes also are viviparous.

All animals, however, that are hair-coated are viviparous. For, by the way, one must regard as a kind of hair such prickly hairs as hedgehogs and porcupines carry; for these spines perform the office of hair, and not of feet as is the case with similar parts of sea-urchins.

In the genus that combines all viviparous quadrupeds are many species, but under no common appellation. They are only named as it were one by one, as we say man, lion, stag, horse, dog, and so on; though, by the way, there is a sort of genus that embraces all creatures that have bushy manes and bushy tails, such as the horse, the ass, the mule, the jennet, and the animals that are called Hemioni in Syria,-from their externally resembling mules, though they are not strictly of the same species. And that they are not so is proved by the fact that they mate with and breed from one another. For all these reasons, we must take animals species by species, and discuss their peculiarities severally’

These preceding statements, then, have been put forward thus in a general way, as a kind of foretaste of the number of subjects and of the properties that we have to consider in order that we may first get a clear notion of distinctive character and common properties. By and by we shall discuss these matters with greater minuteness.

After this we shall pass on to the discussion of causes. For to do this when the investigation of the details is complete is the proper and natural method, and that whereby the subjects and the premisses of our argument will afterwards be rendered plain.

In the first place we must look to the constituent parts of animals. For it is in a way relative to these parts, first and foremost, that animals in their entirety differ from one another: either in the fact that some have this or that, while they have not that or this; or by peculiarities of position or of arrangement; or by the differences that have been previously mentioned, depending upon diversity of form, or excess or defect in this or that particular, on analogy, or on contrasts of the accidental qualities.

To begin with, we must take into consideration the parts of Man. For, just as each nation is wont to reckon by that monetary standard with which it is most familiar, so must we do in other matters. And, of course, man is the animal with which we are all of us the most familiar.

Now the parts are obvious enough to physical perception. However, with the view of observing due order and sequence and of combining rational notions with physical perception, we shall proceed to enumerate the parts: firstly, the organic, and afterwards the simple or non-composite.

7

The chief parts into which the body as a whole is subdivided, are the head, the neck, the trunk (extending from the neck to the privy parts), which is called the thorax, two arms and two legs.

Of the parts of which the head is composed the hair-covered portion is called the ‘skull’. The front portion of it is termed ‘bregma’ or ‘sinciput’, developed after birth-for it is the last of all the bones in the body to acquire solidity,-the hinder part is termed the ‘occiput’, and the part intervening between the sinciput and the occiput is the ‘crown’. The brain lies underneath the sinciput; the occiput is hollow. The skull consists entirely of thin bone, rounded in shape, and contained within a wrapper of fleshless skin.

The skull has sutures: one, of circular form, in the case of women; in the case of men, as a general rule, three meeting at a point. Instances have been known of a man's skull devoid of suture altogether. In the skull the middle line, where the hair parts, is called the crown or vertex. In some cases the parting is double; that is to say, some men are double crowned, not in regard to the bony skull, but in consequence of the double fall or set of the hair.

8

The part that lies under the skull is called the 'face': but in the case of man only, for the term is not applied to a fish or to an ox. In the face the part below the sinciput and between the eyes is termed the forehead. When men have large foreheads, they are slow to move; when they have small ones, they are fickle; when they have broad ones, they are apt to be distraught; when they have foreheads rounded or bulging out, they are quick-tempered.

9

Underneath the forehead are two eyebrows. Straight eyebrows are a sign of softness of disposition; such as curve in towards the nose, of harshness; such as curve out towards the temples, of humour and dissimulation; such as are drawn in towards one another, of jealousy.

Under the eyebrows come the eyes. These are naturally two in number. Each of them has an upper and a lower eyelid, and the hairs on the edges of these are termed 'eyelashes'. The central part of the eye includes the moist part whereby vision is effected, termed the 'pupil', and the part surrounding it called the 'black'; the part outside this is the 'white'. A part common to the upper and lower eyelid is a pair of nicks or corners, one in the direction of the nose, and the other in the direction of the temples. When these are long they are a sign of bad disposition; if the side toward the nostril be fleshy and comb-like, they are a sign of dishonesty.

All animals, as a general rule, are provided with eyes, excepting the ostracoderms and other imperfect creatures; at all events, all viviparous animals have eyes, with the exception of the mole. And yet one might assert that, though the mole has not eyes in the full sense, yet it has eyes in a kind of a way. For in point of absolute fact it cannot see, and has no eyes visible externally; but when the outer skin is removed, it is found to have the place where eyes are usually situated, and the black parts of the eyes rightly situated, and all the place that is usually devoted on the outside to eyes: showing that the parts are stunted in development, and the skin allowed to grow over.

10

Of the eye the white is pretty much the same in all creatures; but what is called the black differs in various animals. Some have the rim black, some distinctly blue, some greyish-blue, some greenish; and this last colour is the sign of an excellent disposition, and is particularly well adapted for sharpness of vision. Man is the only, or nearly the only, creature, that has eyes of diverse colours. Animals, as a rule, have eyes of one colour only. Some horses have blue eyes.

Of eyes, some are large, some small, some medium-sized; of these, the medium-sized are the best. Moreover, eyes sometimes protrude, sometimes recede, sometimes are neither protruding nor receding. Of these, the receding eye is in all animals the most acute; but the last kind are the sign of the best disposition. Again, eyes are sometimes inclined to wink under observation, sometimes to remain open and staring, and sometimes are disposed neither to wink nor stare. The last kind are the sign of the best nature, and of the others, the latter kind indicates impudence, and the former indecision.

11

Furthermore, there is a portion of the head, whereby an animal hears, a part incapable of breathing, the ‘ear’. I say ‘incapable of breathing’, for Alcmaeon is mistaken when he says that goats inspire through their ears. Of the ear one part is unnamed, the other part is called the ‘lobe’; and it is entirely composed of gristle and flesh. The ear is constructed internally like the trumpet-shell, and the innermost bone is like the ear itself, and into it at the end the sound makes its way, as into the bottom of a jar. This receptacle does not communicate by any passage with the brain, but does so with the palate, and a vein extends from the brain towards it. The eyes also are connected with the brain, and each of them lies at the end of a little vein. Of animals possessed of ears man is the only one that cannot move this organ. Of creatures possessed of hearing, some have ears, whilst others have none, but merely have the passages for ears visible, as, for example, feathered animals or animals coated with horny tessellates.

Viviparous animals, with the exception of the seal, the dolphin, and those others which after a similar fashion to these are cetaceans, are all provided with ears; for, by the way, the shark-kind are also viviparous. Now, the seal has the passages visible whereby it hears; but the dolphin can hear, but has no ears, nor yet any passages visible. But man alone is unable to move his ears, and all other animals can move them. And the ears lie, with man, in the same horizontal plane with the eyes, and not in a plane above them as is the case with some quadrupeds. Of ears, some are fine, some are coarse, and some are of medium texture; the last kind are best for hearing, but they serve in no way to indicate character. Some ears are large, some small, some medium-sized; again, some stand out far, some lie in close and tight, and some take up a medium position; of these such as are of medium size and of medium position are indications of the best disposition, while the large and outstanding ones indicate a tendency to irrelevant talk or chattering. The part intercepted between the eye, the ear, and the crown is termed the ‘temple’. Again, there is a part of the countenance that serves as a passage for the breath, the ‘nose’. For a man inhales and exhales by this organ, and sneezing is effected by its means: which last is an outward rush of collected breath, and is the only mode of breath used as an omen and regarded as supernatural. Both inhalation and exhalation go right on from the nose towards the chest; and with the nostrils alone and separately it is impossible to inhale or exhale, owing to the fact that the inspiration and respiration take place from the chest along the windpipe, and not by any portion connected with the head; and indeed it is possible for a creature to live without using this process of nasal respiration.

Again, smelling takes place by means of the nose,-smelling, or the sensible discrimination of odour. And the nostril admits of easy motion, and is not, like the ear, intrinsically immovable. A part of it, composed of gristle, constitutes, a septum or partition, and part is an open passage; for the nostril consists of two separate channels. The nostril (or nose) of the elephant is long and strong, and the animal uses it like a hand; for by means of this organ it draws objects towards it, and takes hold of them, and introduces its food into its mouth, whether liquid or dry food, and it is the only living creature that does so.

Furthermore, there are two jaws; the front part of them constitutes the chin, and the hinder part the cheek. All animals move the lower jaw, with the exception of the river crocodile; this creature moves the upper jaw only.

Next after the nose come two lips, composed of flesh, and facile of motion. The mouth lies inside the jaws and lips. Parts of the mouth are the roof or palate and the pharynx.

The part that is sensible of taste is the tongue. The sensation has its seat at the tip of the tongue; if the object to be tasted be placed on the flat surface of the organ, the taste is less sensibly experienced. The tongue is sensitive in all other ways wherein flesh in general is so: that is, it can appreciate hardness, or warmth and cold, in any part of it, just as it can appreciate taste. The tongue is sometimes broad, sometimes narrow, and sometimes of medium width; the last kind is the best and the clearest in its discrimination of taste. Moreover, the tongue is sometimes loosely hung, and sometimes fastened: as in the case of those who mumble and who lisp.

The tongue consists of flesh, soft and spongy, and the so-called ‘epiglottis’ is a part of this organ.

That part of the mouth that splits into two bits is called the ‘tonsils’; that part that splits into many bits, the ‘gums’. Both the tonsils and the gums are composed of flesh. In the gums are teeth, composed of bone.

Inside the mouth is another part, shaped like a bunch of grapes, a pillar streaked with veins. If this pillar gets relaxed and inflamed it is called ‘uvula’ or ‘bunch of grapes’, and it then has a tendency to bring about suffocation.

12

The neck is the part between the face and the trunk. Of this the front part is the larynx land the back part the ur The front part, composed of gristle, through which respiration and speech is effected, is termed the ‘windpipe’; the part that is fleshy is the oesophagus, inside just in front of the chine. The part to the back of the neck is the epomis, or ‘shoulder-point’.

These then are the parts to be met with before you come to the thorax.

To the trunk there is a front part and a back part. Next after the neck in the front part is the chest, with a pair of breasts. To each of the breasts is attached a teat or nipple, through which in the case of females the milk percolates; and the breast is of a spongy texture. Milk, by the way, is found at times in the male; but with the male the flesh of the breast is tough, with the female it is soft and porous.

13

Next after the thorax and in front comes the ‘belly’, and its root the ‘navel’. Underneath this root the bilateral part is the ‘flank’: the undivided part below the navel, the ‘abdomen’, the extremity of which is the region of the ‘pubes’; above the navel the ‘hypochondrium’; the cavity common to the hypochondrium and the flank is the gut-cavity.

Serving as a brace girdle to the hinder parts is the pelvis, and hence it gets its name (osphus), for it is symmetrical (isophues) in appearance; of the fundament the part for resting on is termed the ‘rump’, and the part whereon the thigh pivots is termed the ‘socket’ (or acetabulum).

The ‘womb’ is a part peculiar to the female; and the ‘penis’ is peculiar to the male. This latter organ is external and situated at the extremity of the trunk; it is composed of two separate parts: of which the extreme part is fleshy, does not alter in size, and is called the glans; and round about it is a skin devoid of any specific title, which integument if it be cut asunder never grows together again, any more than does the jaw or the eyelid. And the connexion between the latter and the glans is called the frenum. The remaining part of the penis is composed of gristle; it is easily susceptible of enlargement; and it protrudes and recedes in the reverse directions to what is observable in the identical organ in cats. Underneath the penis are two ‘testicles’, and the integument of these is a skin that is termed the ‘scrotum’.

Testicles are not identical with flesh, and are not altogether diverse from it. But by and by we shall treat in an exhaustive way regarding all such parts.

14

The privy part of the female is in character opposite to that of the male. In other words, the part under the pubes is hollow or receding, and not, like the male organ, protruding. Further, there is an ‘urethra’ outside the womb; which organ serves as a passage for the sperm of the male, and as an outlet for liquid excretion to both sexes).

The part common to the neck and chest is the ‘throat’; the ‘armpit’ is common to side, arm, and shoulder; and the ‘groin’ is common to thigh and abdomen. The part inside the thigh and buttocks is the ‘perineum’, and the part outside the thigh and buttocks is the ‘hypoglutis’.

The front parts of the trunk have now been enumerated.

The part behind the chest is termed the ‘back’.

15

Parts of the back are a pair of ‘shoulderblades’, the ‘back-bone’, and, underneath on a level with the belly in the trunk, the ‘loins’. Common to the upper and lower part of the trunk are the ‘ribs’, eight on either side, for as to the so-called seven-ribbed Ligyans we have not received any trustworthy evidence.

Man, then, has an upper and a lower part, a front and a back part, a right and a left side. Now the right and the left side are pretty well alike in their parts and identical throughout, except that the left side is the weaker of the two; but the back parts do not resemble the front ones, neither do the lower ones the upper: only that these upper and lower parts may be said to resemble one another thus far, that, if the face be plump or meagre, the abdomen is plump or meagre to correspond; and that the legs correspond to the arms, and where the upper arm is short the thigh is usually short also, and where the feet are small the hands are small correspondingly.

Of the limbs, one set, forming a pair, is ‘arms’. To the arm belong the ‘shoulder’, ‘upper-arm’, ‘elbow’, ‘fore-arm’, and ‘hand’. To the hand belong the ‘palm’, and the five ‘fingers’. The part of the finger that bends is termed ‘knuckle’, the part that is inflexible is termed the ‘phalanx’. The big finger or thumb is single-jointed, the other fingers are double jointed. The bending both of the arm and of the finger takes place from without inwards in all cases; and the arm bends at the elbow. The inner part of the hand is termed the palm’, and is fleshy and divided by joints or lines: in the case of long-lived people by one or two extending right across, in the case of the short-lived by two, not so extending. The joint between hand and arm is termed the ‘wrist’. The outside or back of the hand is sinewy, and has no specific designation.

There is another duplicate limb, the ‘leg’. Of this limb the double-knobbed part is termed the ‘thigh-bone’, the sliding part of the ‘kneecap’, the double-boned part the ‘leg’; the front part of this latter is termed the ‘shin’, and the part behind it the ‘calf’, wherein the flesh is sinewy and venous, in some cases drawn upwards towards the hollow behind the knee, as in the case of people with large hips, and in other cases drawn downwards. The lower extremity of the shin is the ‘ankle’, duplicate in either leg. The part of the limb that contains a multiplicity of bones is the ‘foot’. The hinder part of the foot is the ‘heel’; at the front of it the divided part consists of ‘toes’, five in number; the fleshy part underneath is the ‘ball’; the upper part or back of the foot is sinewy and has no particular appellation; of the toe, one portion is the ‘nail’ and another the ‘joint’, and the nail is in all cases at the extremity; and toes are without exception single jointed. Men that have the inside or sole of the foot clumsy and not arched, that is, that walk resting on the entire under-surface of their feet, are prone to roguery. The joint common to thigh and shin is the ‘knee’.

These, then, are the parts common to the male and the female sex. The relative position of the parts as to up and down, or to front and back, or to right and left, all this as regards externals might safely be left to mere ordinary perception. But for all that, we must treat of them for the same reason as the one previously brought forward; that is to say, we must refer to them in order that a due and regular sequence may be observed in our exposition, and in order that by the enumeration of these obvious facts due attention may be subsequently given to those parts in men and other animals that are diverse in any way from one another.

In man, above all other animals, the terms ‘upper’ and ‘lower’ are used in harmony with their natural positions; for in him, upper and lower have the same meaning as when they are applied to the universe as a whole. In like manner the terms, ‘in front’, ‘behind’, ‘right’ and ‘left’, are used in accordance with their natural sense. But in regard to other animals, in some cases these distinctions do not exist, and in others they do so, but in a vague way. For instance, the head with all animals is up and above in respect to their bodies; but man alone, as has been said, has, in maturity, this part uppermost in respect to the material universe.

Next after the head comes the neck, and then the chest and the back: the one in front and the other behind. Next after these come the belly, the loins, the sexual parts, and the haunches; then the thigh and shin; and, lastly, the feet.

The legs bend frontwards, in the direction of actual progression, and frontwards also lies that part of the foot which is the most effective of motion, and the flexure of that part; but the heel lies at the back, and the anklebones lie laterally, earwise. The arms are situated to right and left, and bend inwards: so that the convexities formed by bent arms and legs are practically face to face with one another in the case of man.

As for the senses and for the organs of sensation, the eyes, the nostrils, and the tongue, all alike are situated frontwards; the sense of hearing, and the organ of hearing, the ear, is situated sideways, on the same horizontal plane with the eyes. The eyes in man are, in proportion to his size, nearer to one another than in any other animal.

Of the senses man has the sense of touch more refined than any animal, and so also, but in less degree, the sense of taste; in the development of the other senses he is surpassed by a great number of animals.

16

The parts, then, that are externally visible are arranged in the way above stated, and as a rule have their special designations, and from use and wont are known familiarly to all; but this is not the case with the inner parts. For the fact is that the inner parts of man are to a very great extent unknown, and the consequence is that we must have recourse to an examination of the inner parts of other animals whose nature in any way resembles that of man.

In the first place then, the brain lies in the front part of the head. And this holds alike with all animals possessed of a brain; and all blooded animals are possessed thereof, and, by the way, molluscs as well. But, taking size for size of animal, the largest brain, and the moistest, is that of man. Two membranes enclose it: the stronger one near the bone of the skull; the inner one, round the brain itself, is finer. The brain in all cases is bilateral. Behind this, right at the back, comes what is termed the ‘cerebellum’, differing in form from the brain as we may both feel and see.

The back of the head is with all animals empty and hollow, whatever be its size in the different animals. For some creatures have big heads while the face below is small in proportion, as is the case with round-faced animals; some have little heads and long jaws, as is the case, without exception, among animals of the mane-and-tail species.

The brain in all animals is bloodless, devoid of veins, and naturally cold to the touch; in the great majority of animals it has a small hollow in its centre. The brain-caul around it is reticulated with veins; and this brain-caul is that skin-like membrane which closely surrounds the brain. Above the brain is the thinnest and weakest bone of the head, which is termed or ‘sinciput’.

From the eye there go three ducts to the brain: the largest and the medium-sized to the cerebellum, the least to the brain itself; and the least is the one situated nearest to the nostril. The two largest ones, then, run side by side and do not meet; the medium-sized ones meet-and this is particularly visible in fishes,-for they lie nearer than the large ones to the brain; the smallest pair are the most widely separate from one another, and do not meet.

Inside the neck is what is termed the oesophagus (whose other name is derived oesophagus from its length and narrowness), and the windpipe. The windpipe is situated in front of the oesophagus in all animals that have a windpipe, and all animals have one that are furnished with lungs. The windpipe is made up of gristle, is sparingly supplied with blood, and is streaked all round with numerous minute veins; it is situated, in its upper part, near the mouth, below the aperture formed by the nostrils into the mouth-an aperture through which, when men, in drinking, inhale any of the liquid, this liquid finds its way out through the nostrils. In betwixt the two openings comes the so-called epiglottis, an organ capable of being drawn over and covering the orifice of the windpipe communicating with the mouth; the end of the tongue is attached to the epiglottis. In the other direction the windpipe extends to the interval between the lungs, and hereupon bifurcates into each of the two divisions of the lung; for the lung in all animals possessed of the organ has a tendency to be double. In viviparous animals, however, the duplication is not so plainly discernible as in other species, and the duplication is least discernible in man. And in man the organ is not split into many parts, as is the case with some vivipara, neither is it smooth, but its surface is uneven.

In the case of the ovipara, such as birds and oviparous quadrupeds, the two parts of the organ are separated to a distance from one another, so that the creatures appear to be furnished with a pair of lungs; and from the windpipe, itself single, there branch off two separate parts extending to each of the two divisions of the lung. It is attached also to the great vein and to what is designated the ‘aorta’. When the windpipe is charged with air, the air passes on to the hollow parts of the lung. These parts have divisions, composed of gristle, which meet at an acute angle; from the divisions run passages through the entire lung, giving off smaller and smaller ramifications. The heart also is attached to the windpipe, by connexions of fat, gristle, and sinew; and at the point of juncture there is a hollow. When the windpipe is charged with air, the entrance of the air into the heart, though imperceptible in some animals, is perceptible enough in the larger ones. Such are the properties of the windpipe, and it takes in and throws out air only, and takes in nothing else either dry or liquid, or else it causes you pain until you shall have coughed up whatever may have gone down.

The oesophagus communicates at the top with the mouth, close to the windpipe, and is attached to the backbone and the windpipe by membranous ligaments, and at last finds its way through the midriff into the belly. It is composed of flesh-like substance, and is elastic both lengthways and breadthways.

The stomach of man resembles that of a dog; for it is not much bigger than the bowel, but is somewhat like a bowel of more than usual width; then comes the bowel, single, convoluted, moderately wide. The lower part of the gut is like that of a pig; for it is broad, and the part from it to the buttocks is thick and short. The caul, or great omentum, is attached to the middle of the stomach, and consists of a fatty membrane, as is the case with all other animals whose stomachs are single and which have teeth in both jaws.

The mesentery is over the bowels; this also is membranous and broad, and turns to fat. It is attached to the great vein and the aorta, and there run through it a number of veins closely packed together, extending towards the region of the bowels, beginning above and ending below.

So much for the properties of the oesophagus, the windpipe, and the stomach.

17

The heart has three cavities, and is situated above the lung at the division of the windpipe, and is provided with a fatty and thick membrane where it fastens on to the great vein and the aorta. It lies with its tapering portion upon the aorta, and this portion is similarly situated in relation to the chest in all animals that have a chest. In all animals alike, in those that have a chest and in those that have none, the apex of the heart points forwards, although this fact might possibly escape notice by a change of position under dissection. The rounded end of the heart is at the top. The apex is to a great extent fleshy and close in texture, and in the cavities of the heart are sinews. As a rule the heart is situated in the middle of the chest in animals that have a chest, and in man it is situated a little to the left-hand side, leaning a little way from the division of the breasts towards the left breast in the upper part of the chest.

The heart is not large, and in its general shape it is not elongated; in fact, it is somewhat round in form: only, be it remembered, it is sharp-pointed at the bottom. It has three cavities, as has been said: the right-hand one the largest of the three, the left-hand one the least, and the middle one intermediate in size. All these cavities, even the two small ones, are connected by passages with the lung, and this fact is rendered quite plain in one of the cavities. And below, at the point of attachment, in the largest cavity there is a connexion with the great vein (near which the mesentery lies); and in the middle one there is a connexion with the aorta.

Canals lead from the heart into the lung, and branch off just as the windpipe does, running all over the lung parallel with the passages from the windpipe. The canals from the heart are uppermost; and there is no common passage, but the passages through their having a common wall receive the breath and pass it on to the heart; and one of the passages conveys it to the right cavity, and the other to the left.

With regard to the great vein and the aorta we shall, by and by, treat of them together in a discussion devoted to them and to them alone. In all animals that are furnished with a lung, and that are both internally and externally viviparous, the lung is of all organs the most richly supplied with blood; for the lung is throughout spongy in texture, and along by every single pore in it go branches from the great vein. Those who imagine it to be empty are altogether mistaken; and they are led into their error by their observation of lungs removed from animals under dissection, out of which organs the blood had all escaped immediately after death.

Of the other internal organs the heart alone contains blood. And the lung has blood not in itself but in its veins, but the heart has blood in itself; for in each of its three cavities it has blood, but the thinnest blood is what it has in its central cavity.

Under the lung comes the thoracic diaphragm or midriff, attached to the ribs, the hypochondria and the backbone, with a thin membrane in the middle of it. It has veins running through it; and the diaphragm in the case of man is thicker in proportion to the size of his frame than in other animals.

Under the diaphragm on the right-hand side lies the ‘liver’, and on the left-hand side the ‘spleen’, alike in all animals that are provided with these organs in an ordinary and not preternatural way; for, be it observed, in some quadrupeds these organs have been found in a transposed position. These organs are connected with the stomach by the caul.

To outward view the spleen of man is narrow and long, resembling the self-same organ in the pig. The liver in the great majority of animals is not provided with a ‘gall-bladder’; but the latter is present in some. The liver of a man is round-shaped, and resembles the same organ in the ox. And, by the way, the absence above referred to of a gall-bladder is at times met with in the practice of augury. For instance, in a certain district of the Chalcidic settlement in Euboea the sheep are devoid of gall-bladders; and in Naxos nearly all the quadrupeds have one so large that foreigners when they offer sacrifice with such victims are bewildered with fright, under the impression that the phenomenon is not due to natural causes, but bodes some mischief to the individual offerers of the sacrifice.

Again, the liver is attached to the great vein, but it has no communication with the aorta; for the vein that goes off from the great vein goes right through the liver, at a point where are the so-called ‘portals’ of the liver. The spleen also is connected only with the great vein, for a vein extends to the spleen off from it.

After these organs come the ‘kidneys’, and these are placed close to the backbone, and resemble in character the same organ in kine. In all animals that are provided with this organ, the right kidney is situated higher up than the other. It has also less fatty substance than the left-hand one and is less moist. And this phenomenon also is observable in all the other animals alike.

Furthermore, passages or ducts lead into the kidneys both from the great vein and from the aorta, only not into the cavity. For, by the way, there is a cavity in the middle of the kidney, bigger in some creatures and less in others; but there is none in the case of the seal. This latter animal has kidneys resembling in shape the identical organ in kine, but in its case the organs are more solid than in any other known creature. The ducts that lead into the kidneys lose themselves in the substance of the kidneys themselves; and the proof that they extend no farther rests on the fact that they contain no blood, nor is any clot found therein. The kidneys, however, have, as has been said, a small cavity. From this cavity in the kidney there lead two considerable ducts or ureters into the bladder; and others spring from the aorta, strong and continuous. And to the middle of each of the two kidneys is attached a hollow sinewy vein, stretching right along the spine through the narrows; by and by these veins are lost in either loin, and again become visible extending to the flank. And these off-branchings of the veins terminate in the bladder. For the bladder lies at the extremity, and is held in position by the ducts stretching from the kidneys, along the stalk that extends to the urethra; and pretty well all round it is fastened by fine sinewy membranes, that resemble to some extent the thoracic diaphragm. The bladder in man is, proportionately to his size, tolerably large.

To the stalk of the bladder the private part is attached, the external orifices coalescing; but a little lower down, one of the openings communicates with the testicles and the other with the bladder. The penis is gristly and sinewy in its texture. With it are connected the testicles in male animals, and the properties of these organs we shall discuss in our general account of the said organ.

All these organs are similar in the female; for there is no difference in regard to the internal organs, except in respect to the womb, and with reference to the appearance of this organ I must refer the reader to diagrams in my ‘Anatomy’. The womb, however, is situated over the bowel, and the bladder lies over the womb. But we must treat by and by in our pages of the womb of all female animals viewed generally. For the wombs of all female animals are not identical, neither do their local dispositions coincide.

These are the organs, internal and external, of man, and such is their nature and such their local disposition.

Book II

1

With regard to animals in general, some parts or organs are common to all, as has been said, and some are common only to particular genera; the parts, moreover, are identical with or different from one another on the lines already repeatedly laid down. For as a general rule all animals that are generically distinct have the majority of their parts or organs different in form or species; and some of them they have only analogically similar and diverse in kind or genus, while they have others that are alike in kind but specifically diverse; and many parts or organs exist in some animals, but not in others.

For instance, viviparous quadrupeds have all a head and a neck, and all the parts or organs of the head, but they differ each from other in the shapes of the parts. The lion has its neck composed of one single bone instead of vertebrae; but, when dissected, the animal is found in all internal characters to resemble the dog.

The quadrupedal vivipara instead of arms have forelegs. This is true of all quadrupeds, but such of them as have toes have, practically speaking, organs analogous to hands; at all events, they use these fore-limbs for many purposes as hands. And they have the limbs on the left-hand side less distinct from those on the right than man.

The fore-limbs then serve more or less the purpose of hands in quadrupeds, with the exception of the elephant. This latter animal has its toes somewhat indistinctly defined, and its front legs are much bigger than its hinder ones; it is five-toed, and has short ankles to its hind feet. But it has a nose such in properties and such in size as to allow of its using the same for a hand. For it eats and drinks by lifting up its food with the aid of this organ into its mouth, and with the same organ it lifts up articles to the driver on its back; with this organ it can pluck up trees by the roots, and when walking through water it spouts the water up by means of it; and this organ is capable of being crooked or coiled at the tip, but not of flexing like a joint, for it is composed of gristle.

Of all animals man alone can learn to make equal use of both hands.

All animals have a part analogous to the chest in man, but not similar to his; for the chest in man is broad, but that of all other animals is narrow. Moreover, no other animal but man has breasts in front; the elephant, certainly, has two breasts, not however in the chest, but near it.

Moreover, also, animals have the flexions of their fore and hind limbs in directions opposite to one another, and in directions the reverse of those observed in the arms and legs of man; with the exception of the elephant. In other words, with the viviparous quadrupeds the front legs bend forwards and the hind ones backwards, and the concavities of the two pairs of limbs thus face one another.

The elephant does not sleep standing, as some were wont to assert, but it bends its legs and settles down; only that in consequence of its weight it cannot bend its leg on both sides simultaneously, but falls into a recumbent position on one side or the other, and in this position it goes to sleep. And it bends its hind legs just as a man bends his legs.

In the case of the ovipara, as the crocodile and the lizard and the like, both pairs of legs, fore and hind, bend forwards, with a slight swerve on one side. The flexion is similar in the case of the multipeds; only that the legs in between the extreme ends always move in a manner intermediate between that of those in front and those behind, and accordingly bend sideways rather than backwards or forwards. But man bends his arms and his legs towards the same point, and therefore in opposite ways: that is to say, he bends his arms backwards, with just a slight inclination inwards, and his legs frontwards. No animal bends both its fore-limbs and hind-limbs backwards; but in the case of all animals the flexion of the shoulders is in the opposite direction to that of the elbows or the joints of the forelegs, and the flexure in the hips to that of the knees of the hind-legs: so that since man differs from other animals in flexion, those animals that possess such parts as these move them contrariwise to man.

Birds have the flexions of their limbs like those of the quadrupeds; for, although bipeds, they bend their legs backwards, and instead of arms or front legs have wings which bend frontwards.

The seal is a kind of imperfect or crippled quadruped; for just behind the shoulder-blade its front feet are placed, resembling hands, like the front paws of the bear; for they are furnished with five toes, and each of the toes has three flexions and a nail of inconsiderable size. The hind feet are also furnished with five toes; in their flexions and nails they resemble the front feet, and in shape they resemble a fish’s tail.

The movements of animals, quadruped and multiped, are crosswise, or in diagonals, and their equilibrium in standing posture is maintained crosswise; and it is always the limb on the right-hand side that is the first to move. The lion, however, and the two species of camels, both the Bactrian and the Arabian, progress by an amble; and the action so called is when the animal never overpasses the right with the left, but always follows close upon it.

Whatever parts men have in front, these parts quadrupeds have below, in or on the belly; and whatever parts men have behind, these parts quadrupeds have above on their backs. Most quadrupeds have a tail; for even the seal has a tiny one resembling that of the stag. Regarding the tails of the pithecoids we must give their distinctive properties by and by animal

All viviparous quadrupeds are hair-coated, whereas man has only a few short hairs excepting on the head, but, so far as the head is concerned, he is hairier than any other animal. Further, of hair-coated animals, the back is hairier than the belly, which latter is either comparatively void of hair or smooth and void of hair altogether. With man the reverse is the case.

Man also has upper and lower eyelashes, and hair under the armpits and on the pubes. No other animal has hair in either of these localities, or has an under eyelash; though in the case of some animals a few straggling hairs grow under the eyelid.

Of hair-coated quadrupeds some are hairy all over the body, as the pig, the bear, and the dog; others are especially hairy on the neck and all round about it, as is the case with animals that have a shaggy mane, such as the lion; others again are especially hairy on the upper surface of the neck from the head as far as the withers, namely, such as have a crested mane, as in the case with the horse, the mule, and, among the undomesticated horned animals, the bison.

The so-called hippelaphus also has a mane on its withers, and the animal called pardion, in either case a thin mane extending from the head to the withers; the hippelaphus has, exceptionally, a beard by the larynx. Both these animals have horns and are cloven-footed; the female, however, of the hippelaphus has no horns. This latter animal resembles the stag in size; it is found in the territory of the Arachotae, where the wild cattle also are found. Wild cattle differ from their domesticated congeners just as the wild boar differs from the domesticated one. That is to say they are black, strong looking, with a hook-nosed muzzle, and with horns lying more over the back. The horns of the hippelaphus resemble those of the gazelle.

The elephant, by the way, is the least hairy of all quadrupeds. With animals, as a general rule, the tail corresponds with the body as regards thickness or thinness of hair-coating; that is, with animals that have long tails, for some creatures have tails of altogether insignificant size.

Camels have an exceptional organ wherein they differ from all other animals, and that is the so-called ‘hump’ on their back. The Bactrian camel differs from the Arabian; for the former has two humps and the latter only one, though it has, by the way, a kind of a hump below like the one above, on which, when it kneels, the weight of the whole body rests. The camel has four teats like the cow, a tail like that of an ass, and the privy parts of the male are directed backwards. It has one knee in each leg, and the flexures of the limb are not manifold, as some say, although they appear to be so from the constricted shape of the region of the belly. It has a huckle-bone like that of kine, but meagre and small in proportion to its bulk. It is cloven-footed, and has not got teeth in both jaws; and it is cloven footed in the following way: at the back there is a slight cleft extending as far up as the second joint of the toes; and in front there are small hooves on the tip of the first joint of the toes; and a sort of web passes across the cleft, as in geese. The foot is fleshy underneath, like that of the bear; so that, when the animal goes to war, they protect its feet, when they get sore, with sandals.

The legs of all quadrupeds are bony, sinewy, and fleshless; and in point of fact such is the case with all animals that are furnished with feet, with the exception of man. They are also unfurnished with buttocks; and this last point is plain in an especial degree in birds. It is the reverse with man; for there is scarcely any part of the body in which man is so fleshy as in the buttock, the thigh, and the calf; for the part of the leg called gastroenemia or is fleshy.

Of blooded and viviparous quadrupeds some have the foot cloven into many parts, as is the case with the hands and feet of man (for some animals, by the way, are many-toed, as the lion, the dog, and the pard); others have feet cloven in twain, and instead of nails have hooves, as the sheep, the goat, the deer, and the hippopotamus; others are uncloven of foot, such for instance as the solid-hooved animals, the horse and the mule. Swine are either cloven-footed or uncloven-footed; for there are in Illyria and in Paeonia and elsewhere solid-hooved swine. The cloven-footed animals have two clefts behind; in the solid-hooved this part is continuous and undivided.

Furthermore, of animals some are horned, and some are not so. The great majority of the horned animals are cloven-footed, as the ox, the stag, the goat; and a solid-hooved animal with a pair of horns has never yet been met with. But a few animals are known to be singled-horned and single-hooved, as the Indian ass; and one, to wit the oryx, is single horned and cloven-hooved.

Of all solid-hooved animals the Indian ass alone has an astragalus or huckle-bone; for the pig, as was said above, is either solid-hooved or cloven-footed, and consequently has no well-formed huckle-bone. Of the cloven footed many are provided with a huckle-bone. Of the many-fingered or many-toed, no single one has been observed to have a huckle-bone, none of the others any more than man. The lynx, however, has something like a hemiastragal, and the lion something resembling the sculptor's 'labyrinth'. All the animals that have a huckle-bone have it in the hinder legs. They have also the bone placed straight up in the joint; the upper part, outside; the lower part, inside; the sides called Coa turned towards one another, the sides called Chia outside, and the keraiae or 'horns' on the top. This, then, is the position of the hucklebone in the case of all animals provided with the part.

Some animals are, at one and the same time, furnished with a mane and furnished also with a pair of horns bent in towards one another, as is the bison (or aurochs), which is found in Paeonia and Maedica. But all animals that are horned are quadrupedal, except in cases where a creature is said metaphorically, or by a figure of speech, to have horns; just as the Egyptians describe the serpents found in the neighbourhood of Thebes, while in point of fact the creatures have merely protuberances on the head sufficiently large to suggest such an epithet.

Of horned animals the deer alone has a horn, or antler, hard and solid throughout. The horns of other animals are hollow for a certain distance, and solid towards the extremity. The hollow part is derived from the skin, but the core round which this is wrapped-the hard part-is derived from the bones; as is the case with the horns of oxen. The deer is the only animal that sheds its horns, and it does so annually, after reaching the age of two years, and again renews them. All other animals retain their horns permanently, unless the horns be damaged by accident.

Again, with regard to the breasts and the generative organs, animals differ widely from one another and from man. For instance, the breasts of some animals are situated in front, either in the chest or near to it, and there are in such cases two breasts and two teats, as is the case with man and the elephant, as previously stated. For the elephant has two breasts in the region of the axillae; and the female elephant has two breasts insignificant in size and in no way proportionate to the bulk of the entire frame, in fact, so insignificant as to be invisible in a sideways view; the males also have breasts, like the females, exceedingly small. The she-bear has four breasts. Some animals have two breasts, but situated near the thighs, and teats, likewise two in number, as the sheep; others have four teats, as the cow. Some have breasts neither in the chest nor at the thighs, but in the belly, as the dog and pig; and they have a considerable number of breasts or dugs, but not all of equal size. Thus the shepard has four dugs in the belly, the lioness two, and others more. The she-camel, also, has two dugs and four teats, like the cow. Of solid-hooved animals the males have no dugs, excepting in the case of males that take after the mother, which phenomenon is observable in horses.

Of male animals the genitals of some are external, as is the case with man, the horse, and most other creatures; some are internal, as with the dolphin. With those that have the organ externally placed, the organ in some cases is situated in front, as in the cases already mentioned, and of these some have the organ detached, both penis and testicles, as man; others have penis and testicles closely attached to the belly, some more closely, some less; for this organ is not detached in the wild boar nor in the horse.

The penis of the elephant resembles that of the horse; compared with the size of the animal it is disproportionately small; the testicles are not visible, but are concealed inside in the vicinity of the kidneys; and for this reason the male speedily gives over in the act of intercourse. The genitals of the female are situated where the udder is in sheep; when she is in heat, she draws the organ back and exposes it externally, to facilitate the act of intercourse for the male; and the organ opens out to a considerable extent.

With most animals the genitals have the position above assigned; but some animals discharge their urine backwards, as the lynx, the lion, the camel, and the hare. Male animals differ from one another, as has been said, in this particular, but all female animals are retromingent: even the female elephant like other animals, though she has the privy part below the thighs.

In the male organ itself there is a great diversity. For in some cases the organ is composed of flesh and gristle, as in man; in such cases, the fleshy part does not become inflated, but the gristly part is subject to enlargement. In other cases, the organ is composed of fibrous tissue, as with the camel and the deer; in other cases it is bony, as with the fox, the wolf, the marten, and the weasel; for this organ in the weasel has a bone.

When man has arrived at maturity, his upper part is smaller than the lower one, but with all other blooded animals the reverse holds good. By the 'upper' part we mean all extending from the head down to the parts used for excretion of residuum, and by the 'lower' part else. With animals that have feet the hind legs are to be rated as the lower part in our comparison of magnitudes, and with animals devoid of feet, the tail, and the like.

When animals arrive at maturity, their properties are as above stated; but they differ greatly from one another in their growth towards maturity. For instance, man, when young, has his upper part larger than the lower, but in course of growth he comes to reverse this condition; and it is owing to this circumstance that-an exceptional instance, by the way-he does not progress in early life as he does at maturity, but in infancy creeps on all fours; but some animals, in growth, retain the relative proportion of the parts, as the dog. Some animals at first have the upper part smaller and the lower part larger, and in course of growth the upper part gets to be the larger, as is the case with the bushy-tailed animals such as the horse; for in their case there is never, subsequently to birth, any increase in the part extending from the hoof to the haunch.

Again, in respect to the teeth, animals differ greatly both from one another and from man. All animals that are quadrupedal, blooded and viviparous, are furnished with teeth; but, to begin with, some are double-toothed (or fully furnished with teeth in both jaws), and some are not. For instance, horned quadrupeds are not double-toothed; for they have not got the front teeth in the upper jaw; and some hornless animals, also, are not double toothed, as the camel. Some animals have tusks, like the boar, and some have not. Further, some animals are saw-toothed, such as the lion, the pard, and the dog; and some have teeth that do not interlock but have flat opposing crowns, as the horse and the ox; and by 'saw-toothed' we mean such animals as interlock the sharp-pointed teeth in one jaw between the sharp-pointed ones in the other. No animal is there that possesses both tusks and horns, nor yet do either of these structures exist in any animal possessed of ‘saw-teeth’. The front teeth are usually sharp, and the back ones blunt. The seal is saw-toothed throughout, inasmuch as he is a sort of link with the class of fishes; for fishes are almost all saw-toothed.

No animal of these genera is provided with double rows of teeth. There is, however, an animal of the sort, if we are to believe Ctesias. He assures us that the Indian wild beast called the ‘martichoras’ has a triple row of teeth in both upper and lower jaw; that it is as big as a lion and equally hairy, and that its feet resemble those of the lion; that it resembles man in its face and ears; that its eyes are blue, and its colour vermilion; that its tail is like that of the land-scorpion; that it has a sting in the tail, and has the faculty of shooting off arrow-wise the spines that are attached to the tail; that the sound of its voice is a something between the sound of a pan-pipe and that of a trumpet; that it can run as swiftly as deer, and that it is savage and a man-eater.

Man sheds his teeth, and so do other animals, as the horse, the mule, and the ass. And man sheds his front teeth; but there is no instance of an animal that sheds its molars. The pig sheds none of its teeth at all.

2

With regard to dogs some doubts are entertained, as some contend that they shed no teeth whatever, and others that they shed the canines, but those alone; the fact being, that they do shed their teeth like man, but that the circumstance escapes observation, owing to the fact that they never shed them until equivalent teeth have grown within the gums to take the place of the shed ones. We shall be justified in supposing that the case is similar with wild beasts in general; for they are said to shed their canines only. Dogs can be distinguished from one another, the young from the old, by their teeth; for the teeth in young dogs are white and sharp-pointed; in old dogs, black and blunt.

3

In this particular, the horse differs entirely from animals in general: for, generally speaking, as animals grow older their teeth get blacker, but the horse's teeth grow whiter with age.

The so-called 'canines' come in between the sharp teeth and the broad or blunt ones, partaking of the form of both kinds; for they are broad at the base and sharp at the tip.

Males have more teeth than females in the case of men, sheep, goats, and swine; in the case of other animals observations have not yet been made: but the more teeth they have the more long-lived are they, as a rule, while those are short-lived in proportion that have teeth fewer in number and thinly set.

4

The last teeth to come in man are molars called 'wisdom-teeth', which come at the age of twenty years, in the case of both sexes. Cases have been known in women upwards. of eighty years old where at the very close of life the wisdom-teeth have come up, causing great pain in their coming; and cases have been known of the like phenomenon in men too. This happens, when it does happen, in the case of people where the wisdom-teeth have not come up in early years.

5

The elephant has four teeth on either side, by which it munches its food, grinding it like so much barley-meal, and, quite apart from these, it has its great teeth, or tusks, two in number. In the male these tusks are comparatively large and curved upwards; in the female, they are comparatively small and point in the opposite direction; that is, they look downwards towards the ground. The elephant is furnished with teeth at birth, but the tusks are not then visible.

6

The tongue of the elephant is exceedingly small, and situated far back in the mouth, so that it is difficult to get a sight of it.

7

Furthermore, animals differ from one another in the relative size of their mouths. In some animals the mouth opens wide, as is the case with the dog, the lion, and with all the saw-toothed animals; other animals have small mouths, as man; and others have mouths of medium capacity, as the pig and his congeners.

(The Egyptian hippopotamus has a mane like a horse, is cloven-footed like an ox, and is snub-nosed. It has a huckle-bone like cloven-footed animals, and tusks just visible; it has the tail of a pig, the neigh of a horse, and the dimensions of an ass. The hide is so thick that spears are made out of it. In its internal organs it resembles the horse and the ass.)

8

Some animals share the properties of man and the quadrupeds, as the ape, the monkey, and the baboon. The monkey is a tailed ape. The baboon resembles the ape in form, only that it is bigger and stronger, more like a dog in face, and is more savage in its habits, and its teeth are more dog-like and more powerful.

Apes are hairy on the back in keeping with their quadrupedal nature, and hairy on the belly in keeping with their human form-for, as was said above, this characteristic is reversed in man and the quadruped-only that the hair is coarse, so that the ape is thickly coated both on the belly and on the back. Its face resembles that of man in many respects; in other words, it has similar nostrils and ears, and teeth like those of man, both front teeth and molars. Further, whereas quadrupeds in general are not furnished with lashes on one of the two eyelids, this creature has them on both, only very thinly set, especially the under ones; in fact they are very insignificant indeed. And we must bear in mind that all other quadrupeds have no under eyelash at all.

The ape has also in its chest two teats upon poorly developed breasts. It has also arms like man, only covered with hair, and it bends these legs like man, with the convexities of both limbs facing one another. In addition, it has hands and fingers and nails like man, only that all these parts are somewhat more beast-like in appearance. Its feet are exceptional in kind. That is, they are like large hands, and the toes are like fingers, with the middle one the longest of all, and the under part of the foot is like a hand except for its length, and stretches out towards the extremities like the palm of the hand; and this palm at the after end is unusually hard, and in a clumsy obscure kind of way resembles a heel. The creature uses its feet either as hands or feet, and doubles them up as one doubles a fist. Its upper-arm and thigh are short in proportion to the forearm and the shin. It has no projecting navel, but only a hardness in the ordinary locality of the navel. Its upper part is much larger than its lower part, as is the case with quadrupeds; in fact, the proportion of the former to the latter is about as five to three. Owing to this circumstance and to the fact that its feet resemble hands and are composed in a manner of hand and of foot: of foot in the heel extremity, of the hand in all else-for even the toes have what is called a ‘palm’:-for these reasons the animal is oftener to be found on all fours than upright. It has neither hips, inasmuch as it is a quadruped, nor yet a tail, inasmuch as it is a biped, except nor yet a tal by the way that it has a tail as small as small can be, just a sort of indication of a tail. The genitals of the female resemble those of the female in the human species; those of the male are more like those of a dog than are those of a man.

9

The monkey, as has been observed, is furnished with a tail. In all such creatures the internal organs are found under dissection to correspond to those of man.

So much then for the properties of the organs of such animals as bring forth their young into the world alive.

10

Oviparous and blooded quadrupeds-and, by the way, no terrestrial blooded animal is oviparous unless it is quadrupedal or is devoid of feet altogether-are furnished with a head, a neck, a back, upper and under parts, the front legs and hind legs, and the part analogous to the chest, all as in the case of viviparous quadrupeds, and with a tail, usually large, in exceptional cases small. And all these creatures are many-toed, and the several toes are cloven apart. Furthermore, they all have the ordinary organs of sensation, including a tongue, with the exception of the Egyptian crocodile.

This latter animal, by the way, resembles certain fishes. For, as a general rule, fishes have a prickly tongue, not free in its movements; though there are some fishes that present a smooth undifferentiated surface where the tongue should be, until you open their mouths wide and make a close inspection.

Again, oviparous blooded quadrupeds are unprovided with ears, but possess only the passage for hearing; neither have they breasts, nor a copulatory organ, nor external testicles, but internal ones only; neither are they hair coated, but are in all cases covered with scaly plates. Moreover, they are without exception saw-toothed.

River crocodiles have pigs' eyes, large teeth and tusks, and strong nails, and an impenetrable skin composed of scaly plates. They see but poorly under water, but above the surface of it with remarkable acuteness. As a rule, they pass the day-time on land and the nighttime in the water; for the temperature of the water is at night-time more genial than that of the open air.

11

The chameleon resembles the lizard in the general configuration of its body, but the ribs stretch downwards and meet together under the belly as is the case with fishes, and the spine sticks up as with the fish. Its face resembles that of the baboon. Its tail is exceedingly long, terminates in a sharp point, and is for the most part coiled up, like a strap of leather. It stands higher off the ground than the lizard, but the flexure of the legs is the same in both creatures. Each of its feet is divided into two parts, which bear the same relation to one another that the thumb and the rest of the hand bear to one another in man. Each of these parts is for a short distance divided after a fashion into toes; on the front feet the inside part is divided into three and the outside into two, on the hind feet the inside part into two and the outside into three; it has claws also on these parts resembling those of birds of prey. Its body is rough all over, like that of the crocodile. Its eyes are situated in a hollow recess, and are very large and round, and are enveloped in a skin resembling that which covers the entire body; and in the middle a slight aperture is left for vision, through which the animal sees, for it never covers up this aperture with the cutaneous envelope. It keeps twisting its eyes round and shifting its line of vision in every direction, and thus contrives to get a sight of any object that it wants to see. The change in its colour takes place when it is inflated with air; it is then black, not unlike the crocodile, or green like the lizard but black-spotted like the pard. This change of colour takes place over the whole body alike, for the eyes and the tail come alike under its influence. In its movements it is very sluggish, like the tortoise. It assumes a greenish hue in dying, and retains this hue after death. It resembles the lizard in the position of the oesophagus and the windpipe. It has no flesh anywhere except a few scraps of flesh on the head and on the jaws and near to the root of the tail. It has blood only round about the heart, the eyes, the region above the heart, and in all the veins extending from these parts; and in all these there is but little blood after all. The brain is situated a little above the eyes, but connected with them. When the outer skin is drawn aside from off the eye, a something is found surrounding the eye, that gleams through like a thin ring of copper. Membranes extend well nigh over its entire frame, numerous and strong, and surpassing in respect of number and relative strength those found in any other animal. After being cut open along its entire length it continues to breathe for a considerable time; a very slight motion goes on in the region of the heart, and, while contraction is especially manifested in the neighbourhood of the ribs, a similar motion is more or less discernible over the whole body. It has no spleen visible. It hibernates, like the lizard.

12

Birds also in some parts resemble the above mentioned animals; that is to say, they have in all cases a head, a neck, a back, a belly, and what is analogous to the chest. The bird is remarkable among animals as having two feet, like man; only, by the way, it bends them backwards as quadrupeds bend their hind legs, as was noticed previously. It has neither hands nor front feet, but wings-an exceptional structure as compared with other animals. Its haunch-bone is long, like a thigh, and is attached to the body as far as the middle of the belly; so like to a thigh is it that when viewed separately it looks like a real one, while the real thigh is a separate structure betwixt it and the shin. Of all birds those that have crooked talons have the biggest thighs and the strongest breasts. All birds are furnished with many claws, and all have the toes separated more or less asunder; that is to say, in the greater part the toes are clearly distinct from one another, for even the swimming birds, although they are web-footed, have still their claws fully articulated and distinctly differentiated from one another. Birds that fly high in air are in all cases four-toed: that is, the greater part have three toes in front and one behind in place of a heel; some few have two in front and two behind, as the wryneck.

This latter bird is somewhat bigger than the chaffinch, and is mottled in appearance. It is peculiar in the arrangement of its toes, and resembles the snake in the structure of its tongue; for the creature can protrude its tongue to the extent of four finger-breadths, and then draw it back again. Moreover, it can twist its head backwards while keeping all the rest of its body still, like the serpent. It has big claws, somewhat resembling those of the woodpecker. Its note is a shrill chirp.

Birds are furnished with a mouth, but with an exceptional one, for they have neither lips nor teeth, but a beak. Neither have they ears nor a nose, but only passages for the sensations connected with these organs: that for the nostrils in the beak, and that for hearing in the head. Like all other animals they all have two eyes, and these are devoid of lashes. The heavy-bodied (or gallinaceous) birds close the eye by means of the lower lid, and all birds blink by means of a skin extending over the eye from the inner corner; the owl and its congeners also close the eye by means of the upper lid. The same phenomenon is observable in the animals that are protected by horny scutes, as in the lizard and its congeners; for they all without exception close the eye with the lower lid, but they do not blink like birds. Further, birds have neither scutes nor hair, but feathers; and the feathers are invariably furnished with quills. They have no tail, but a rump with tail-feathers, short in such as are long-legged and web-footed, large in others. These latter kinds of birds fly with their feet tucked up close to the belly; but the small rumped or short-tailed birds fly with their legs stretched out at full length. All are furnished with a tongue, but the organ is variable, being long in some birds and broad in others. Certain species of birds above all other animals, and next after man, possess the faculty of uttering articulate sounds; and this faculty is chiefly developed in broad-tongued birds. No oviparous creature has an epiglottis over the windpipe, but these animals so manage the opening and shutting of the windpipe as not to allow any solid substance to get down into the lung.

Some species of birds are furnished additionally with spurs, but no bird with crooked talons is found so provided. The birds with talons are among those that fly well, but those that have spurs are among the heavy-bodied.

Again, some birds have a crest. As a general rule the crest sticks up, and is composed of feathers only; but the crest of the barn-door cock is exceptional in kind, for, whereas it is not just exactly flesh, at the same time it is not easy to say what else it is.

13

Of water animals the genus of fishes constitutes a single group apart from the rest, and including many diverse forms.

In the first place, the fish has a head, a back, a belly, in the neighbourhood of which last are placed the stomach and viscera; and behind it has a tail of continuous, undivided shape, but not, by the way, in all cases alike. No fish has a neck, or any limb, or testicles at all, within or without, or breasts. But, by the way this absence of breasts may predicated of all non-viviparous animals; and in point of fact viviparous animals are not in all cases provided with the organ, excepting such as are directly viviparous without being first oviparous. Thus the dolphin is directly viviparous, and accordingly we find it furnished with two breasts, not situated high up, but in the neighbourhood of the genitals. And this creature is not provided, like quadrupeds, with visible teats, but has two vents, one on each flank, from which the milk flows; and its young have to follow after it to get suckled, and this phenomenon has been actually witnessed.

Fishes, then, as has been observed, have no breasts and no passage for the genitals visible externally. But they have an exceptional organ in the gills, whereby, after taking the water in the mouth, they discharge it again; and in the fins, of which the greater part have four, and the lanky ones two, as, for instance, the eel, and these two situated near to the gills. In like manner the grey mullet-as, for instance, the mullet found in the lake at Siphae-have only two fins; and the same is the case with the fish called Ribbon-fish. Some of the lanky fishes have no fins at all, such as the muraena, nor gills articulated like those of other fish.

And of those fish that are provided with gills, some have coverings for this organ, whereas all the selachians have the organ unprotected by a cover. And those fishes that have coverings or opercula for the gills have in all cases their gills placed sideways; whereas, among selachians, the broad ones have the gills down below on the belly, as the torpedo and the ray, while the lanky ones have the organ placed sideways, as is the case in all the dog-fish.

The fishing-frog has gills placed sideways, and covered not with a spiny operculum, as in all but the selachian fishes, but with one of skin.

Morever, with fishes furnished with gills, the gills in some cases are simple in others duplicate; and the last gill in the direction of the body is always simple. And, again, some fishes have few gills, and others have a great number; but all alike have the same number on both sides. Those that have the least number have one gill on either side, and this one duplicate, like the boar-fish; others have two on either side, one simple and the other duplicate, like the conger and the scarus; others have four on either side, simple, as the elops, the synagris, the muraena, and the eel; others have four, all, with the exception of the hindmost one, in double rows, as the wrasse, the perch, the sheat-fish, and the carp. The dog-fish have all their gills double, five on a side; and the sword-fish has eight double gills. So much for the number of gills as found in fishes.

Again, fishes differ from other animals in more ways than as regards the gills. For they are not covered with hairs as are viviparous land animals, nor, as is the case with certain oviparous quadrupeds, with tessellated scutes, nor, like birds, with feathers; but for the most part they are covered with scales. Some few are rough-skinned, while the smooth-skinned are very few indeed. Of the Selachia some are rough-skinned and some smooth-skinned; and among the smooth-skinned fishes are included the conger, the eel, and the tunny.

All fishes are saw-toothed excepting the scarus; and the teeth in all cases are sharp and set in many rows, and in some cases are placed on the tongue. The tongue is hard and spiny, and so firmly attached that fishes in many instances seem to be devoid of the organ altogether. The mouth in some cases is wide-stretched, as it is with some viviparous quadrupeds....

With regard to organs of sense, all save eyes, fishes possess none of them, neither the organs nor their passages, neither ears nor nostrils; but all fishes are furnished with eyes, and the eyes devoid of lids, though the eyes are not hard; with regard to the organs connected with the other senses, hearing and smell, they are devoid alike of the organs themselves and of passages indicative of them.

Fishes without exception are supplied with blood. Some of them are oviparous, and some viviparous; scaly fish are invariably oviparous, but cartilaginous fishes are all viviparous, with the single exception of the fishing-frog.

14

Of blooded animals there now remains the serpent genus. This genus is common to both elements, for, while most species comprehended therein are land animals, a small minority, to wit the aquatic species, pass their lives in fresh water. There are also sea-serpents, in shape to a great extent resembling their congeners of the land, with this exception that the head in their case is somewhat like the head of the conger; and there are several kinds of sea-serpent, and the different kinds differ in colour; these animals are not found in very deep water. Serpents, like fish, are devoid of feet.

There are also sea-scolopendras, resembling in shape their land congeners, but somewhat less in regard to magnitude. These creatures are found in the neighbourhood of rocks; as compared with their land congeners they are redder in colour, are furnished with feet in greater numbers and with legs of more delicate structure. And the same remark applies to them as to the sea-serpents, that they are not found in very deep water.

Of fishes whose habitat is in the vicinity of rocks there is a tiny one, which some call the Echeneis, or ‘ship-holder’, and which is by some people used as a charm to bring luck in affairs of law and love. The creature is unfit for eating. Some people assert that it has feet, but this is not the case: it appears, however, to be furnished with feet from the fact that its fins resemble those organs.

So much, then, for the external parts of blooded animals, as regards their numbers, their properties, and their relative diversities.

15

As for the properties of the internal organs, these we must first discuss in the case of the animals that are supplied with blood. For the principal genera differ from the rest of animals, in that the former are supplied with blood and the latter are not; and the former include man, viviparous and oviparous quadrupeds, birds, fishes, cetaceans, and all the others that come under no general designation by reason of their not forming genera, but groups of which simply the specific name is predicable, as when we say ‘the serpent,’ the ‘crocodile’.

All viviparous quadrupeds, then, are furnished with an oesophagus and a windpipe, situated as in man; the same statement is applicable to oviparous quadrupeds and to birds, only that the latter present diversities in the shapes of these organs. As a general rule, all animals that take up air and breathe it in and out are furnished with a lung, a windpipe, and an oesophagus, with the windpipe and oesophagus not admitting of diversity in situation but admitting of diversity in properties, and with the lung admitting of diversity in both these respects. Further, all blooded animals have a heart and a diaphragm or midriff; but in small animals the existence of the latter organ is not so obvious owing to its delicacy and minute size.

In regard to the heart there is an exceptional phenomenon observable in oxen. In other words, there is one species of ox where, though not in all cases, a bone is found inside the heart. And, by the way, the horse's heart also has a bone inside it.

The genera referred to above are not in all cases furnished with a lung: for instance, the fish is devoid of the organ, as is also every animal furnished with gills. All blooded animals are furnished with a liver. As a general rule blooded animals are furnished with a spleen; but with the great majority of non-viviparous but oviparous animals the spleen is so small as all but to escape observation; and this is the case with almost all birds, as with the pigeon, the kite, the falcon, the owl: in point of fact, the aegocephalus is devoid of the organ altogether. With oviparous quadrupeds the case is much the same as with the viviparous; that is to say, they also have the spleen exceedingly minute, as the tortoise, the freshwater tortoise, the toad, the lizard, the crocodile, and the frog.

Some animals have a gall-bladder close to the liver, and others have not. Of viviparous quadrupeds the deer is without the organ, as also the roe, the horse, the mule, the ass, the seal, and some kinds of pigs. Of deer those that are called Achainae appear to have gall in their tail, but what is so called does resemble gall in colour, though it is not so completely fluid, and the organ internally resembles a spleen.

However, without any exception, stags are found to have maggots living inside the head, and the habitat of these creatures is in the hollow underneath the root of the tongue and in the neighbourhood of the vertebra to which the head is attached. These creatures are as large as the largest grubs; they grow all together in a cluster, and they are usually about twenty in number.

Deer then, as has been observed, are without a gall-bladder; their gut, however, is so bitter that even hounds refuse to eat it unless the animal is exceptionally fat. With the elephant also the liver is unfurnished with a gall-bladder, but when the animal is cut in the region where the organ is found in animals furnished with it, there oozes out a fluid resembling gall, in greater or less quantities. Of animals that take in sea-water and are furnished with a lung, the dolphin is unprovided with a gall-bladder. Birds and fishes all have the organ, as also oviparous quadrupeds, all to a greater or a lesser extent. But of fishes some have the organ close to the liver, as the dogfishes, the sheat-fish, the rhine or angel-fish, the smooth skate, the torpedo, and, of the lanky fishes, the eel, the pipe-fish, and the hammer-headed shark. The callionymus, also, has the gall-bladder close to the liver, and in no other fish does the organ attain so great a relative size. Other fishes have the organ close to the gut, attached to the liver by certain extremely fine ducts. The bonito has the gall-bladder stretched alongside the gut and equalling it in length, and often a double fold of it. others have the organ in the region of the gut; in some cases far off, in others near; as the fishing-frog, the elops, the synagris, the muraena, and the sword-fish. Often animals of the same species show this diversity of position; as, for instance, some congers are found with the organ attached close to the liver, and others with it detached from and below it. The case is much the same with birds: that is, some have the gall-bladder close to the stomach, and others close to the gut, as the pigeon, the raven, the quail, the swallow, and the sparrow; some have it near at once to the liver and to the stomach as the aegocephalus; others have it near at once to the liver and the gut, as the falcon and the kite.

16

Again, all viviparous quadrupeds are furnished with kidneys and a bladder. Of the ovipara that are not quadrupedal there is no instance known of an animal, whether fish or bird, provided with these organs. Of the ovipara that are quadrupedal, the turtle alone is provided with these organs of a magnitude to correspond with the other organs of the animal. In the turtle the kidney resembles the same organ in the ox; that is to say, it looks one single organ composed of a number of small ones. (The bison also resembles the ox in all its internal parts).

With all animals that are furnished with these parts, the parts are similarly situated, and with the exception of man, the heart is in the middle; in man, however, as has been observed, the heart is placed a little to the left-hand side. In all animals the pointed end of the heart turns frontwards; only in fish it would at first sight seem otherwise, for the pointed end is turned not towards the breast, but towards the head and the mouth. And (in fish) the apex is attached to a tube just where the right and left gills meet together. There are other ducts extending from the heart to each of the gills, greater in the greater fish, lesser in the lesser; but in the large fishes the duct at the pointed end of the heart is a tube, white-coloured and exceedingly thick. Fishes in some few cases have an oesophagus, as the conger and the eel; and in these the organ is small.

In fishes that are furnished with an undivided liver, the organ lies entirely on the right side; where the liver is cloven from the root, the larger half of the organ is on the right side: for in some fishes the two parts are detached from one another, without any coalescence at the root, as is the case with the dogfish. And there is also a species of hare in what is named the Fig district, near Lake Bolbe, and elsewhere, which animal might be taken to have two livers owing to the length of the connecting ducts, similar to the structure in the lung of birds.

The spleen in all cases, when normally placed, is on the left-hand side, and the kidneys also lie in the same position in all creatures that possess them. There have been known instances of quadrupeds under dissection, where the spleen was on the right hand and the liver on the left; but all such cases are regarded as supernatural.

In all animals the wind-pipe extends to the lung, and the manner how, we shall discuss hereafter; and the oesophagus, in all that have the organ, extends through the midriff into the stomach. For, by the way, as has been observed, most fishes have no oesophagus, but the stomach is united directly with the mouth, so that in some cases when big fish are pursuing little ones, the stomach tumbles forward into the mouth.

All the afore-mentioned animals have a stomach, and one similarly situated, that is to say, situated directly under the midriff; and they have a gut connected therewith and closing at the outlet of the residuum and at what is termed the ‘rectum’. However, animals present diversities in the structure of their stomachs. In the first place, of the viviparous quadrupeds, such of the horned animals as are not equally furnished with teeth in both jaws are furnished with four such chambers. These animals, by the way, are those that are said to chew the cud. In these animals the oesophagus extends from the mouth downwards along the lung, from the midriff to the big stomach (or paunch); and this stomach is rough inside and semi-partitioned. And connected with it near to the entry of the oesophagus is what from its appearance is termed the ‘reticulum’ (or honeycomb bag); for outside it is like the stomach, but inside it resembles a netted cap; and the reticulum is a great deal smaller than the stomach. Connected with this is the ‘echinus’ (or many-plies), rough inside and laminated, and of about the same size as the reticulum. Next after this comes what is called the ‘enystrum’ (or abomasum), larger an longer than the echinus, furnished inside with numerous folds or ridges, large and smooth. After all this comes the gut.

Such is the stomach of those quadrupeds that are horned and have an unsymmetrical dentition; and these animals differ one from another in the shape and size of the parts, and in the fact of the oesophagus reaching the stomach centralwise in some cases and sideways in others. Animals that are furnished equally with teeth in both jaws have one stomach; as man, the pig, the dog, the bear, the lion, the wolf. (The Thos, by the by, has all its internal organs similar to the wolf’s.)

All these, then have a single stomach, and after that the gut; but the stomach in some is comparatively large, as in the pig and bear, and the stomach of the pig has a few smooth folds or ridges; others have a much smaller stomach, not much bigger than the gut, as the lion, the dog, and man. In the other animals the shape of the stomach varies in the direction of one or other of those already mentioned; that is, the stomach in some animals resembles that of the pig; in others that of the dog, alike with the larger animals and the smaller ones. In all these animals diversities occur in regard to the size, the shape, the thickness or the thinness of the stomach, and also in regard to the place where the oesophagus opens into it.

There is also a difference in structure in the gut of the two groups of animals above mentioned (those with unsymmetrical and those with symmetrical dentition) in size, in thickness, and in foldings.

The intestines in those animals whose jaws are unequally furnished with teeth are in all cases the larger, for the animals themselves are larger than those in the other category; for very few of them are small, and no single one of the horned animals is very small. And some possess appendages (or caeca) to the gut, but no animal that has not incisors in both jaws has a straight gut.

The elephant has a gut constricted into chambers, so constructed that the animal appears to have four stomachs; in it the food is found, but there is no distinct and separate receptacle. Its viscera resemble those of the pig, only that the liver is four times the size of that of the ox, and the other viscera in like proportion, while the spleen is comparatively small.

Much the same may be predicated of the properties of the stomach and the gut in oviparous quadrupeds, as in the land tortoise, the turtle, the lizard, both crocodiles, and, in fact, in all animals of the like kind; that is to say, their stomach is one and simple, resembling in some cases that of the pig, and in other cases that of the dog.

The serpent genus is similar and in almost all respects furnished similarly to the saurians among land animals, if one could only imagine these saurians to be increased in length and to be devoid of legs. That is to say, the serpent is coated with tessellated scutes, and resembles the saurian in its back and belly; only, by the way, it has no testicles, but, like fishes, has two ducts converging into one, and an ovary long and bifurcate. The rest of its internal organs are identical with those of the saurians, except that, owing to the narrowness and length of the animal, the viscera are correspondingly narrow and elongated, so that they are apt to escape recognition from the similarities in shape. Thus, the windpipe of the creature is exceptionally long, and the oesophagus is longer still, and the windpipe commences so close to the mouth that the tongue appears to be underneath it; and the windpipe seems to project over the tongue, owing to the fact that the tongue draws back into a sheath and does not remain in its place as in other animals. The tongue, moreover, is thin and long and black, and can be protruded to a great distance. And both serpents and saurians have this altogether exceptional property in the tongue, that it is forked at the outer extremity, and this property is the more marked in the serpent, for the tips of his tongue are as thin as hairs. The seal, also, by the way, has a split tongue.

The stomach of the serpent is like a more spacious gut, resembling the stomach of the dog; then comes the gut, long, narrow, and single to the end. The heart is situated close to the pharynx, small and kidney-shaped; and for this reason the organ might in some cases appear not to have the pointed end turned towards the breast. Then comes the lung, single, and articulated with a membranous passage, very long, and quite detached from the heart. The liver is long and simple; the spleen is short and round: as is the case in both respects with the saurians. Its gall resembles that of the fish; the water-snakes have it beside the liver, and the other snakes have it usually beside the gut. These creatures are all saw-toothed. Their ribs are as numerous as the days of the month; in other words, they are thirty in number.

Some affirm that the same phenomenon is observable with serpents as with swallow chicks; in other words, they say that if you prick out a serpent’s eyes they will grow again. And further, the tails of saurians and of serpents, if they be cut off, will grow again.

With fishes the properties of the gut and stomach are similar; that is, they have a stomach single and simple, but variable in shape according to species. For in some cases the stomach is gut-shaped, as with the scarus, or parrot-fish; which fish, by the way, appears to be the only fish that chews the cud. And the whole length of the gut is simple, and if it have a reduplication or kink it loosens out again into a simple form.

An exceptional property in fishes and in birds for the most part is the being furnished with gut-appendages or caeca. Birds have them low down and few in number. Fishes have them high up about the stomach, and sometimes numerous, as in the goby, the galeos, the perch, the scorpaena, the citharus, the red mullet, and the sparus; the cestreus or grey mullet has several of them on one side of the belly, and on the other side only one. Some fish possess these appendages but only in small numbers, as the hepatus and the glaucus; and, by the way, they are few also in the dorado. These fishes differ also from one another within the same species, for in the dorado one individual has many and another few. Some fishes are entirely without the part, as the majority of the selachians. As for all the rest, some of them have a few and some a great many. And in all cases where the gut-appendages are found in fish, they are found close up to the stomach.

In regard to their internal parts birds differ from other animals and from one another. Some birds, for instance, have a crop in front of the stomach, as the barn-door cock, the cushat, the pigeon, and the partridge; and the crop consists of a large hollow skin, into which the food first enters and where it lies ingested. Just where the crop leaves the oesophagus it is somewhat narrow; by and by it broadens out, but where it communicates with the stomach it narrows down again. The stomach (or gizzard) in most birds is fleshy and hard, and inside is a strong skin which comes away from the fleshy part. Other birds have no crop, but instead of it an oesophagus wide and roomy, either all the way or in the part leading to the stomach, as with the daw, the raven, and the carrion-crow. The quail also has the oesophagus widened out at the lower extremity, and in the aegocephalus and the owl the organ is slightly broader at the bottom than at the top. The duck, the goose, the gull, the catarrhactes, and the great bustard have the oesophagus wide and roomy from one end to the other, and the same applies to a great many other birds. In some birds there is a portion of the stomach that resembles a crop, as in the kestrel. In the case of small birds like the swallow and the sparrow neither the oesophagus nor the crop is wide, but the stomach is long. Some few have neither a crop nor a dilated oesophagus, but the latter is exceedingly long, as in long necked birds, such as the porphyrio, and, by the way, in the case of all these birds the excrement is unusually moist. The quail is exceptional in regard to these organs, as compared with other birds; in other words, it has a crop, and at the same time its oesophagus is wide and spacious in front of the stomach, and the crop is at some distance, relatively to its size, from the oesophagus at that part.

Further, in most birds, the gut is thin, and simple when loosened out. The gut-appendages or caeca in birds, as has been observed, are few in number, and are not situated high up, as in fishes, but low down towards the extremity of the gut. Birds, then, have caeca-not all, but the greater part of them, such as the barn-door cock, the partridge, the duck, the night-raven, (the localus,) the ascalaphus, the goose, the swan, the great bustard, and the owl. Some of the little birds also have these appendages; but the caeca in their case are exceedingly minute, as in the sparrow.

Book III

1

Now that we have stated the magnitudes, the properties, and the relative differences of the other internal organs, it remains for us to treat of the organs that contribute to generation. These organs in the female are in all cases internal; in the male they present numerous diversities.

In the blooded animals some males are altogether devoid of testicles, and some have the organ but situated internally; and of those males that have the organ internally situated, some have it close to the loin in the neighbourhood of the kidney and others close to the belly. Other males have the organ situated externally. In the case of these last, the penis is in some cases attached to the belly, whilst in others it is loosely suspended, as is the case also with the testicles; and, in the cases where the penis is attached to the belly, the attachment varies accordingly as the animal is emprosthuretic or opisthuretic.

No fish is furnished with testicles, nor any other creature that has gills, nor any serpent whatever: nor, in short, any animal devoid of feet, save such only as are viviparous within themselves. Birds are furnished with testicles, but these are internally situated, close to the loin. The case is similar with oviparous quadrupeds, such as the lizard, the tortoise and the crocodile; and among the viviparous animals this peculiarity is found in the hedgehog. Others among those creatures that have the organ internally situated have it close to the belly, as is the case with the dolphin amongst animals devoid of feet, and with the elephant among viviparous quadrupeds. In other cases these organs are externally conspicuous.

We have already alluded to the diversities observed in the attachment of these organs to the belly and the adjacent region; in other words, we have stated that in some cases the testicles are tightly fastened back, as in the pig and its allies, and that in others they are freely suspended, as in man.

Fishes, then, are devoid of testicles, as has been stated, and serpents also. They are furnished, however, with two ducts connected with the midriff and running on to either side of the backbone, coalescing into a single duct above the outlet of the residuum, and by ‘above’ the outlet I mean the region near to the spine. These ducts in the rutting season get filled with the genital fluid, and, if the ducts be squeezed, the sperm oozes out white in colour. As to the differences observed in male fishes of diverse species, the reader should consult my treatise on Anatomy, and the subject will be hereafter more fully discussed when we describe the specific character in each case.

The males of oviparous animals, whether biped or quadruped, are in all cases furnished with testicles close to the loin underneath the midriff. With some animals the organ is whitish, in others somewhat of a sallow hue; in all cases it is entirely enveloped with minute and delicate veins. From each of the two testicles extends a duct, and, as in the case of fishes, the two ducts coalesce into one above the outlet of the residuum. This constitutes the penis, which organ in the case of small ovipara is inconspicuous; but in the case of the larger ovipara, as in the goose and the like, the organ becomes quite visible just after copulation.

The ducts in the case of fishes and in biped and quadruped ovipara are attached to the loin under the stomach and the gut, in betwixt them and the great vein, from which ducts or blood-vessels extend, one to each of the two testicles. And just as with fishes the male sperm is found in the seminal ducts, and the ducts become plainly visible at the rutting season and in some instances become invisible after the season is passed, so also is it with the testicles of birds; before the breeding season the organ is small in some birds and quite invisible in others, but during the season the organ in all cases is greatly enlarged. This phenomenon is remarkably illustrated in the ring-dove and the partridge, so much so that some people are actually of opinion that these birds are devoid of the organ in the winter-time.

Of male animals that have their testicles placed frontwards, some have them inside, close to the belly, as the dolphin; some have them outside, exposed to view, close to the lower extremity of the belly. These animals resemble one another thus far in respect to this organ; but they differ from one another in this fact, that some of them have their testicles situated separately by themselves, while others, which have the organ situated externally, have them enveloped in what is termed the scrotum.

Again, in all viviparous animals furnished with feet the following properties are observed in the testicles themselves. From the aorta there extend vein-like ducts to the head of each of the testicles, and another two from the kidneys; these two from the kidneys are supplied with blood, while the two from the aorta are devoid of it. From the head of the testicle alongside of the testicle itself is a duct, thicker and more sinewy than the other just alluded to-a duct that bends back again at the end of the testicle to its head; and from the head of each of the two testicles the two ducts extend until they coalesce in front at the penis. The duct that bends back again and that which is in contact with the testicle are enveloped in one and the same membrane, so that, until you draw aside the membrane, they present all the appearance of being a single undifferentiated duct. Further, the duct in contact with the testicle has its moist content qualified by blood, but to a comparatively less extent than in the case of the ducts higher up which are connected with the aorta; in the ducts that bend back towards the tube of the penis, the liquid is white-coloured. There also runs a duct from the bladder, opening into the upper part of the canal, around which lies, sheathwise, what is called the 'penis'.

All these descriptive particulars may be regarded by the light of the accompanying diagram; wherein the letter A marks the starting-point of the ducts that extend from the aorta; the letters KK mark the heads of the testicles and the ducts descending thereunto; the ducts extending from these along the testicles are marked MM; the ducts turning back, in which is the white fluid, are marked BB; the penis D; the bladder E; and the testicles XX.

(By the way, when the testicles are cut off or removed, the ducts draw upwards by contraction. Moreover, when male animals are young, their owner sometimes destroys the organ in them by attrition; sometimes they castrate them at a later period. And I may here add, that a bull has been known to serve a cow immediately after castration, and actually to impregnate her.)

So much then for the properties of testicles in male animals.

In female animals furnished with a womb, the womb is not in all cases the same in form or endowed with the same properties, but both in the vivipara and the ovipara great diversities present themselves. In all creatures that have the womb close to the genitals, the womb is two-horned, and one horn lies to the right-hand side and the other to the left; its commencement, however, is single, and so is the orifice, resembling in the case of the most numerous and largest animals a tube composed of much flesh and gristle. Of these parts one is termed the hystera or delphys, whence is derived the word adelphos, and the other part, the tube or orifice, is termed metra. In all biped or quadruped vivipara the womb is in all cases below the midriff, as in man, the dog, the pig, the horse, and the ox; the same is the case also in all horned animals. At the extremity of the so-called ceratia, or horns, the wombs of most animals have a twist or convolution.

In the case of those ovipara that lay eggs externally, the wombs are not in all cases similarly situated. Thus the wombs of birds are close to the midriff, and the wombs of fishes down below, just like the wombs of biped and quadruped vivipara, only that, in the case of the fish, the wombs are delicately formed, membranous, and elongated; so much so that in extremely small fish, each of the two bifurcated parts looks like a single egg, and those fishes whose egg is described as crumbling would appear to have inside them a pair of eggs, whereas in reality each of the two sides consists not of one but of many eggs, and this accounts for their breaking up into so many particles.

The womb of birds has the lower and tubular portion fleshy and firm, and the part close to the midriff membranous and exceedingly thin and fine: so thin and fine that the eggs might seem to be outside the womb altogether. In the larger birds the membrane is more distinctly visible, and, if inflated through the tube, lifts and swells out; in the smaller birds all these parts are more indistinct.

The properties of the womb are similar in oviparous quadrupeds, as the tortoise, the lizard, the frog and the like; for the tube below is single and fleshy, and the cleft portion with the eggs is at the top close to the midriff. With animals devoid of feet that are internally oviparous and viviparous externally, as is the case with the dogfish and the other so-called Selachians (and by this title we designate such creatures destitute of feet and furnished with gills as are viviparous), with these animals the womb is bifurcate, and beginning down below it extends as far as the midriff, as in the case of birds. There is also a narrow part between the two horns running up as far as the midriff, and the eggs are engendered here and above at the origin of the midriff; afterwards they pass into the wider space and turn from eggs into young animals. However, the differences in respect to the wombs of these fishes as compared with others of their own species or with fishes in general, would be more satisfactorily studied in their various forms in specimens under dissection.

The members of the serpent genus also present divergencies either when compared with the above-mentioned creatures or with one another. Serpents as a rule are oviparous, the viper being the only viviparous member of the genus. The viper is, previously to external parturition, oviparous internally; and owing to this perculiarity the properties of the womb in the viper are similar to those of the womb in the selachians. The womb of the serpent is long, in keeping with the body, and starting below from a single duct extends continuously on both sides of the spine, so as to give the impression of thus being a separate duct on each side of the spine, until it reaches the midriff, where the eggs are engendered in a row; and these eggs are laid not one by one, but all strung together. (And all animals that are viviparous both internally and externally have the womb situated above the stomach, and all the ovipara underneath, near to the loin. Animals that are viviparous externally and internally oviparous present an intermediate arrangement; for the underneath portion of the womb, in which the eggs are, is placed near to the loin, but the part about the orifice is above the gut.)

Further, there is the following diversity observable in wombs as compared with one another: namely that the females of horned nonambidental animals are furnished with cotyledons in the womb when they are pregnant, and such is the case, among ambidentals, with the hare, the mouse, and the bat; whereas all other animals that are ambidental, viviparous, and furnished with feet, have the womb quite smooth, and in their case the attachment of the embryo is to the womb itself and not to any cotyledon inside it.

The parts, then, in animals that are not homogeneous with themselves and uniform in their texture, both parts external and parts internal, have the properties above assigned to them.

2

In sanguineous animals the homogeneous or uniform part most universally found is the blood, and its habitat the vein; next in degree of universality, their analogues, lymph and fibre, and, that which chiefly constitutes the frame of animals, flesh and whatsoever in the several parts is analogous to flesh; then bone, and parts that are analogous to bone, as fish-bone and gristle; and then, again, skin, membrane, sinew, hair, nails, and whatever corresponds to these; and, furthermore, fat, suet, and the excretions: and the excretions are dung, phlegm, yellow bile, and black bile.

Now, as the nature of blood and the nature of the veins have all the appearance of being primitive, we must discuss their properties first of all, and all the more as some previous writers have treated them very unsatisfactorily. And the cause of the ignorance thus manifested is the extreme difficulty experienced in the way of observation. For in the dead bodies of animals the nature of the chief veins is undiscoverable, owing to the fact that they collapse at once when the blood leaves them; for the blood pours out of them in a stream, like liquid out of a vessel, since there is no blood separately situated by itself, except a little in the heart, but it is all lodged in the veins. In living animals it is impossible to inspect these parts, for of their very nature they are situated inside the body and out of sight. For this reason anatomists who have carried on their investigations on dead bodies in the dissecting room have failed to discover the chief roots of the veins, while those who have narrowly inspected bodies of living men reduced to extreme attenuation have arrived at conclusions regarding the origin of the veins from the manifestations visible externally. Of these investigators, Syennesis, the physician of Cyprus, writes as follows: —

‘The big veins run thus:-from the navel across the loins, along the back, past the lung, in under the breasts; one from right to left, and the other from left to right; that from the left, through the liver to the kidney and the testicle, that from the right, to the spleen and kidney and testicle, and from thence to the penis.’ Diogenes of Apollonia writes thus: —

‘The veins in man are as follows:-There are two veins pre-eminent in magnitude. These extend through the belly along the backbone, one to right, one to left; either one to the leg on its own side, and upwards to the head, past the collar bones, through the throat. From these, veins extend all over the body, from that on the right hand to the right side and from that on the left hand to the left side; the most important ones, two in number, to the heart in the region of the backbone; other two a little higher up through the chest in underneath the armpit, each to the hand on its side: of these two, one being termed the vein splenitis, and the other the vein hepatitis. Each of the pair splits at its extremity; the one branches in the direction of the thumb and the other in the direction of the palm; and from these run off a number of minute veins branching off to the fingers and to all parts of the hand. Other veins, more minute, extend from the main veins; from that on the right towards the liver, from that on the left towards the spleen and the kidneys. The veins that run to the legs split at the juncture of the legs with the trunk and extend right down the thigh. The largest of these goes down the thigh at the back of it, and can be discerned and traced as a big one; the second one runs inside the thigh, not quite as big as the one just mentioned. After this they pass on along the knee to the shin and the foot (as the upper veins were described as passing towards the hands), and arrive at the sole of the foot, and from thence continue to the toes. Moreover, many delicate veins separate off from the great veins towards the stomach and towards the ribs.

'The veins that run through the throat to the head can be discerned and traced in the neck as large ones; and from each one of the two, where it terminates, there branch off a number of veins to the head; some from the right side towards the left, and some from the left side towards the right; and the two veins terminate near to each of the two ears. There is another pair of veins in the neck running along the big vein on either side, slightly less in size than the pair just spoken of, and with these the greater part of the veins in the head are connected. This other pair runs through the throat inside; and from either one of the two there extend veins in underneath the shoulder blade and towards the hands; and these appear alongside the veins splenitis and hepatitis as another pair of veins smaller in size. When there is a pain near the surface of the body, the physician lances these two latter veins; but when the pain is within and in the region of the stomach he lances the veins splenitis and hepatitis. And from these, other veins depart to run below the breasts.

'There is also another pair running on each side through the spinal marrow to the testicles, thin and delicate. There is, further, a pair running a little underneath the cuticle through the flesh to the kidneys, and these with men terminate at the testicle, and with women at the womb. These veins are termed the spermatic veins. The veins that leave the stomach are comparatively broad just as they leave; but they become gradually thinner, until they change over from right to left and from left to right.

'Blood is thickest when it is imbibed by the fleshy parts; when it is transmitted to the organs above-mentioned, it becomes thin, warm, and frothy.'

Such are the accounts given by Syennesis and Diogenes. Polybus writes to the following effect: —

‘There are four pairs of veins. The first extends from the back of the head, through the neck on the outside, past the backbone on either side, until it reaches the loins and passes on to the legs, after which it goes on through the shins to the outer side of the ankles and on to the feet. And it is on this account that surgeons, for pains in the back and loin, bleed in the ham and in the outer side of the ankle. Another pair of veins runs from the head, past ears, through the neck; which veins are termed the jugular veins. This pair goes on inside along the backbone, past the muscles of the loins, on to the testicles, and onwards to the thighs, and through the inside of the hams and through the shins down to the inside of the ankles and to the feet; and for this reason, surgeons, for pains in the muscles of the loins and in the testicles, bleed on the hams and the inner side of the ankles. The third pair extends from the temples, through the neck, in underneath the shoulder-blades, into the lung; those from right to left going in underneath the breast and on to the spleen and the kidney; those from left to right running from the lung in underneath the breast and into the liver and the kidney; and both terminate in the fundament. The fourth pair extend from the front part of the head and the eyes in underneath the neck and the collar-bones; from thence they stretch on through the upper part of the upper arms to the elbows and then through the fore-arms on to the wrists and the jointings of the fingers, and also through the lower part of the upper-arms to the armpits, and so on, keeping above the ribs, until one of the pair reaches the spleen and the other reaches the liver; and after this they both pass over the stomach and terminate at the penis.’

The above quotations sum up pretty well the statements of all previous writers. Furthermore, there are some writers on Natural History who have not ventured to lay down the law in such precise terms as regards the veins, but who all alike agree in assigning the head and the brain as the starting-point of the veins. And in this opinion they are mistaken.

The investigation of such a subject, as has been remarked, is one fraught with difficulties; but, if any one be keenly interested in the matter, his best plan will be to allow his animals to starve to emaciation, then to strangle them on a sudden, and thereupon to prosecute his investigations.

We now proceed to give particulars regarding the properties and functions of the veins. There are two blood-vessels in the thorax by the backbone, and lying to its inner side; and of these two the larger one is situated to the front, and the lesser one is to the rear of it; and the larger is situated rather to the right hand side of the body, and the lesser one to the left; and by some this vein is termed the 'aorta', from the fact that even in dead bodies part of it is observed to be full of air. These blood-vessels have their origins in the heart, for they traverse the other viscera, in whatever direction they happen to run, without in any way losing their distinctive characteristic as blood-vessels, whereas the heart is as it were a part of them (and that too more in respect to the frontward and larger one of the two), owing to the fact that these two veins are above and below, with the heart lying midway.

The heart in all animals has cavities inside it. In the case of the smaller animals even the largest of the chambers is scarcely discernible; the second larger is scarcely discernible in animals of medium size; but in the largest animals all three chambers are distinctly seen. In the heart then (with its pointed end directed frontwards, as has been observed) the largest of the three chambers is on the right-hand side and highest up; the least one is on the left-hand side; and the medium-sized one lies in betwixt the other two; and the largest one of the three chambers is a great deal larger than either of the two others. All three, however, are connected with passages leading in the direction of the lung, but all these communications are indistinctly discernible by reason of their minuteness, except one.

The great blood-vessel, then, is attached to the biggest of the three chambers, the one that lies uppermost and on the right-hand side; it then extends right through the chamber, coming out as blood-vessel again; just as though the cavity of the heart were a part of the vessel, in which the blood broadens its channel as a river that widens out in a lake. The aorta is attached to the middle chamber; only, by the way, it is connected with it by much narrower pipe.

The great blood-vessel then passes through the heart (and runs from the heart into the aorta). The great vessel looks as though made of membrane or skin, while the aorta is narrower than it, and is very sinewy; and as it stretches away to the head and to the lower parts it becomes exceedingly narrow and sinewy.

First of all, then, upwards from the heart there stretches a part of the great blood-vessel towards the lung and the attachment of the aorta, a part consisting of a large undivided vessel. But there split off from it two parts; one towards the lung and the other towards the backbone and the last vertebra of the neck.

The vessel, then, that extends to the lung, as the lung itself is duplicate, divides at first into two; and then extends along by every pipe and every perforation, greater along the greater ones, lesser along the less, so continuously that it is impossible to discern a single part wherein there is not perforation and vein; for the extremities are indistinguishable from their minuteness, and in point of fact the whole lung appears to be filled with blood.

The branches of the blood-vessels lie above the tubes that extend from the windpipe. And that vessel which extends to the vertebra of the neck and the backbone, stretches back again along the backbone; as Homer represents in the lines: —

(Antilochus, as Thoon turned him round),
Transpierc'd his back with a dishonest wound;
The hollow vein that to the neck extends,
Along the chine, the eager javelin rends.

From this vessel there extend small blood-vessels at each rib and each vertebra; and at the vertebra above the kidneys the vessel bifurcates. And in the above way the parts branch off from the great blood-vessel.

But up above all these, from that part which is connected with the heart, the entire vein branches off in two directions. For its branches extend to the sides and to the collarbones, and then pass on, in men through the armpits to the arms, in quadrupeds to the forelegs, in birds to the wings, and in fishes to the upper or pectoral fins. (See diagram.) The trunks of these veins, where they first branch off, are called the 'jugular' veins; and, where they branch off to the neck the great vein run alongside the windpipe; and, occasionally, if these veins are pressed externally, men, though not actually choked, become insensible, shut their eyes, and fall flat on the ground. Extending in the way described and keeping the windpipe in betwixt them, they pass on until they reach the ears at the junction of the lower jaw with the skull. Hence again they branch off into four veins, of which one bends back and descends through the neck and the shoulder, and meets the previous branching off of the vein at the bend of the arm, while the rest of it terminates at the hand and fingers. (See diagram.)

Each vein of the other pair stretches from the region of the ear to the brain, and branches off in a number of fine and delicate veins into the so-called meninx, or membrane, which surrounds the brain. The brain itself in all animals is destitute of blood, and no vein, great or small, holds its course therein. But of the remaining veins that branch off from the last mentioned vein some envelop the head, others close their courses in the organs of sense and at the roots of the teeth in veins exceedingly fine and minute.

4

And in like manner the parts of the lesser one of the two chief blood-vessels, designated the aorta, branch off, accompanying the branches from the big vein; only that, in regard to the aorta, the passages are less in size, and the branches very considerably less than are those of the great vein. So much for the veins as observed in the regions above the heart.

The part of the great vein that lies underneath the heart extends, freely suspended, right through the midriff, and is united both to the aorta and the backbone by slack membranous communications. From it one vein, short and wide, extends through the liver, and from it a number of minute veins branch off into the liver and disappear. From the vein that passes through the liver two branches separate off, of which one terminates in the diaphragm or so-called midriff, and the other runs up again through the armpit into the right arm and unites with the other veins at the inside of the bend of the arm; and it is in consequence of this local connexion that, when the surgeon opens this vein in the forearm, the patient is relieved of certain pains in the liver; and from the left-hand side of it there extends a short but thick vein to the spleen and the little veins branching off it disappear in that organ. Another part branches off from the left-hand side of the great vein, and ascends, by a course similar to the course recently described, into the left arm; only that the ascending vein in the one case is the vein that traverses the liver, while in this case it is distinct from the vein that runs into the spleen. Again, other veins branch off from the big vein; one to the omentum, and another to the pancreas, from which vein run a number of veins through the mesentery. All these veins coalesce in a single large vein, along the entire gut and stomach to the oesophagus; about these parts there is a great ramification of branch veins.

As far as the kidneys, each of the two remaining undivided, the aorta and the big vein extend; and here they get more closely attached to the backbone, and branch off, each of the two, into a A shape, and the big vein gets to the rear of the aorta. But the chief attachment of the aorta to the backbone takes place in the region of the heart; and the attachment is effected by means of minute and sinewy vessels. The aorta, just as it draws off from the heart, is a tube of considerable volume, but, as it advances in its course, it gets narrower and more sinewy. And from the aorta there extend veins to the mesentery just like the veins that extend thither from the big vein, only that the branches in the case of the aorta are considerably less in magnitude; they are, indeed, narrow and fibrillar, and they end in delicate hollow fibre-like veinlets.

There is no vessel that runs from the aorta into the liver or the spleen.

From each of the two great blood-vessels there extend branches to each of the two flanks, and both branches fasten on to the bone. Vessels also extend to the kidneys from the big vein and the aorta; only that they do not open into the cavity of the organ, but their ramifications penetrate into its substance. From the aorta run two other ducts to the bladder, firm and continuous; and there are other ducts from the hollow of the kidneys, in no way communicating with the big vein. From the centre of each of the two kidneys springs a hollow sinewy vein, running along the backbone right through the loins; by and by each of the two veins first disappears in its own flank, and soon afterwards reappears stretching in the direction of the flank. The extremities of these attach to the bladder, and also in the male to the penis and in the female to the womb. From the big vein no vein extends to the womb, but the organ is connected with the aorta by veins numerous and closely packed.

Furthermore, from the aorta and the great vein at the points of divarication there branch off other veins. Some of these run to the groins-large hollow veins-and then pass on down through the legs and terminate in the feet and toes. And, again, another set run through the groins and the thighs cross-garter fashion, from right to left and from left to right, and unite in the hams with the other veins.

In the above description we have thrown light upon the course of the veins and their points of departure.

In all sanguineous animals the case stands as here set forth in regard to the points of departure and the courses of the chief veins. But the description does not hold equally good for the entire vein-system in all these animals. For, in point of fact, the organs are not identically situated in them all; and, what is more, some animals are furnished with organs of which other animals are destitute. At the same time, while the description so far holds good, the proof of its accuracy is not equally easy in all cases, but is easiest in the case of animals of considerable magnitude and supplied abundantly with blood. For in little animals and those scantily supplied with blood, either from natural and inherent causes or from a prevalence of fat in the body, thorough accuracy in investigation is not equally attainable; for in the latter of these creatures the passages get clogged, like water-channels choked with slush; and the others have a few minute fibres to serve instead of veins. But in all cases the big vein is plainly discernible, even in creatures of insignificant size.

5

The sinews of animals have the following properties. For these also the point of origin is the heart; for the heart has sinews within itself in the largest of its three chambers, and the aorta is a sinew-like vein; in fact, at its extremity it is actually a sinew, for it is there no longer hollow, and is stretched like the sinews where they terminate at the jointings of the bones. Be it remembered, however, that the sinews do not proceed in unbroken sequence from one point of origin, as do the blood-vessels.

For the veins have the shape of the entire body, like a sketch of a mannikin; in such a way that the whole frame seems to be filled up with little veins in attenuated subjects-for the space occupied by flesh in fat individuals is filled with little veins in thin ones-whereas the sinews are distributed about the joints and the flexures of the bones. Now, if the sinews were derived in unbroken sequence from a common point of departure, this continuity would be discernible in attenuated specimens.

In the ham, or the part of the frame brought into full play in the effort of leaping, is an important system of sinews; and another sinew, a double one, is that called ‘the tendon’, and others are those brought into play when a great effort of physical strength is required; that is to say, the epitonos or back-stay and the shoulder-sinews. Other sinews, devoid of specific designation, are situated in the region of the flexures of the bones; for all the bones that are attached to one another are bound together by sinews, and a great quantity of sinews are placed in the neighbourhood of all the bones. Only, by the way, in the head there is no sinew; but the head is held together by the sutures of the bones.

Sinew is fissile lengthwise, but crosswise it is not easily broken, but admits of a considerable amount of hard tension. In connexion with sinews a liquid mucus is developed, white and glutinous, and the organ, in fact, is sustained by it and appears to be substantially composed of it. Now, vein may be submitted to the actual cautery, but sinew, when submitted to such action, shrivels up altogether; and, if sinews be cut asunder, the severed parts will not again cohere. A feeling of numbness is incidental only to parts of the frame where sinew is situated.

There is a very extensive system of sinews connected severally with the feet, the hands, the ribs, the shoulder-blades, the neck, and the arms.

All animals supplied with blood are furnished with sinews; but in the case of animals that have no flexures to their limbs, but are, in fact, destitute of either feet or hands, the sinews are fine and inconspicuous; and so, as might have been anticipated, the sinews in the fish are chiefly discernible in connexion with the fin.

6

The ines (or fibrous connective tissue) are a something intermediate between sinew and vein. Some of them are supplied with fluid, the lymph; and they pass from sinew to vein and from vein to sinew. There is another kind of ines or fibre that is found in blood, but not in the blood of all animals alike. If this fibre be left in the blood, the blood will coagulate; if it be removed or extracted, the blood is found to be incapable of coagulation. While, however, this fibrous matter is found in the blood of the great majority of animals, it is not found in all. For instance, we fail to find it in the blood of the deer, the roe, the antelope, and some other animals; and, owing to this deficiency of the fibrous tissue, the blood of these animals does not coagulate to the extent observed in the blood of other animals. The blood of the deer coagulates to about the same extent as that of the hare: that is to the blood in either case coagulates, but not into a stiff or jelly-like substance, like the blood of ordinary animals, but only into a flaccid consistency like that of milk which is not subjected to the action of rennet. The blood of the antelope admits of a firmer consistency in coagulation; for in this respect it resembles, or only comes a little short of, the blood of sheep. Such are the properties of vein, sinew, and fibrous tissue.

7

The bones in animals are all connected with one single bone, and are interconnected, like the veins, in one unbroken sequence; and there is no instance of a bone standing apart by itself. In all animals furnished with bones, the spine or backbone is the point of origin for the entire osseous system. The spine is composed of vertebrae, and it extends from the head down to the loins. The vertebrae are all perforated, and, above, the bony portion of the head is connected with the topmost vertebrae, and is designated the ‘skull’. And the serrated lines on the skull are termed ‘sutures’.

The skull is not formed alike in all animals. In some animals the skull consists of one single undivided bone, as in the case of the dog; in others it is composite in structure, as in man; and in the human species the suture is circular in the female, while in the male it is made up of three separate sutures, uniting above in three-corner fashion; and instances have been known of a man’s skull being devoid of suture altogether. The skull is composed not of four bones, but of six; two of these are in the region of the ears, small in comparison with the other four. From the skull extend the jaws, constituted of bone. (Animals in general move the lower jaw; the river crocodile is the only animal that moves the upper one.) In the jaws is the tooth-system; and the teeth are constituted of bone, and are half-way perforated; and the bone in question is the only kind of bone which it is found impossible to grave with a graving tool.

On the upper part of the course of the backbone are the collar-bones and the ribs. The chest rests on ribs; and these ribs meet together, whereas the others do not; for no animal has bone in the region of the stomach. Then come the shoulder-bones, or blade-bones, and the arm-bones connected with these, and the bones in the hands connected with the bones of the arms. With animals that have forelegs, the osseous system of the foreleg resembles that of the arm in man.

Below the level of the backbone, after the haunch-bone, comes the hip-socket; then the leg-bones, those in the thighs and those in the shins, which are termed colenes or limb-bones, a part of which is the ankle, while a part of the same is the so-called ‘plectrum’ in those creatures that have an ankle; and connected with these bones are the bones in the feet.

Now, with all animals that are supplied with blood and furnished with feet, and are at the same time viviparous, the bones do not differ greatly one from another, but only in the way of relative hardness, softness, or magnitude. A further difference, by the way, is that in one and the same animal certain bones are supplied with marrow, while others are destitute of it. Some animals might on casual observation appear to have no marrow whatsoever in their bones: as is the case with the lion, owing to his having marrow only in small amount, poor and thin, and in very few bones; for marrow is found in his thigh and armbones. The bones of the lion are exceptionally hard; so hard, in fact, that if they are rubbed hard against one another they emit sparks like flint-stones. The dolphin has bones, and not fish-spine.

Of the other animals supplied with blood, some differ but little, as is the case with birds; others have systems analogous, as fishes; for viviparous fishes, such as the cartilaginous species, are gristle-spined, while the ovipara have a spine which corresponds to the backbone in quadrupeds. This exceptional property has been observed in fishes, that in some of them there are found delicate spines scattered here and there throughout the fleshy parts. The serpent is similarly constructed to the fish; in other words, his backbone is spinous. With oviparous quadrupeds, the skeleton of the larger ones is more or less osseous; of the smaller ones, more or less spinous. But all sanguineous animals have a backbone of either one kind or other: that is, composed either of bone or of spine.

The other portions of the skeleton are found in some animals and not found in others, but the presence or the absence of this and that part carries with it, as a matter of course, the presence or the absence of the bones or the spines corresponding to this or that part. For animals that are destitute of arms and legs cannot be furnished with limb-bones: and in like manner with animals that have the same parts, but yet have them unlike in form; for in these animals the corresponding bones differ from one another in the way of relative excess or relative defect, or in the way of analogy taking the place of identity. So much for the osseous or spinous systems in animals.

8

Gristle is of the same nature as bone, but differs from it in the way of relative excess or relative defect. And just like bone, cartilage also, if cut, does not grow again. In terrestrial viviparous sanguinea the gristle formations are unperforated, and there is no marrow in them as there is in bones; in the selachia, however — for, be it observed, they are gristle-spined — there is found in the case of the flat space in the region of the backbone, a gristle-like substance analogous to bone, and in this gristle-like substance there is a liquid resembling marrow. In viviparous animals furnished with feet, gristle formations are found in the region of the ears, in the nostrils, and around certain extremities of the bones.

9

Furthermore, there are parts of other kinds, neither identical with, nor altogether diverse from, the parts above enumerated: such as nails, hooves, claws, and horns; and also, by the way, beaks, such as birds are furnished with-all in the several animals that are furnished therewithal. All these parts are flexible and fissile; but bone is neither flexible nor fissile, but frangible.

And the colours of horns and nails and claw and hoof follow the colour of the skin and the hair. For according as the skin of an animal is black, or white, or of medium hue, so are the horns, the claws, or the hooves, as the case may be, of hue to match. And it is the same with nails. The teeth, however, follow after the bones. Thus in black men, such as the Aethiopians and the like, the teeth and bones are white, but the nails are black, like the whole of the skin.

Horns in general are hollow at their point of attachment to the bone which juts out from the head inside the horn, but they have a solid portion at the tip, and they are simple and undivided in structure. In the case of the stag alone of all animals the horns are solid throughout, and ramify into branches (or antlers). And, whereas no other animal is known to shed its horns, the deer sheds its horns annually, unless it has been castrated; and with regard to the effects of castration in animals we shall have much to say hereafter. Horns attach rather to the skin than to the bone; which will account for the fact that there are found in Phrygia and elsewhere cattle that can move their horns as freely as their ears.

Of animals furnished with nails-and, by the way, all animals have nails that have toes, and toes that have feet, except the elephant; and the elephant has toes undivided and slightly articulated, but has no nails whatsoever — of animals furnished with nails, some are straight-nailed, like man; others are crooked nailed, as the lion among animals that walk, and the eagle among animals that fly.

10

The following are the properties of hair and of parts analogous to hair, and of skin or hide. All viviparous animals furnished with feet have hair; all oviparous animals furnished with feet have horn-like tessellates; fishes, and fishes only, have scales-that is, such oviparous fishes as have the crumbling egg or roe. For of the lanky fishes, the conger has no such egg, nor the muraena, and the eel has no egg at all.

The hair differs in the way of thickness and fineness, and of length, according to the locality of the part in which it is found, and according to the quality of skin or hide on which it grows. For, as a general rule, the thicker the hide, the harder and the thicker is the hair; and the hair is inclined to grow in abundance and to a great length in localities of the bodies hollow and moist, if the localities be fitted for the growth of hair at all. The facts are similar in the case of animals whether coated with scales or with tessellates. With soft-haired animals the hair gets harder with good feeding, and with hard-haired or bristly animals it gets softer and scantier from the same cause. Hair differs in quality also according to the relative heat or warmth of the locality: just as the hair in man is hard in warm places and soft in cold ones. Again, straight hair is inclined to be soft, and curly hair to be bristly.

11

Hair is naturally fissile, and in this respect it differs in degree in diverse animals. In some animals the hair goes on gradually hardening into bristle until it no longer resembles hair but spine, as in the case of the hedgehog.

And in like manner with the nails; for in some animals the nail differs as regards solidity in no way from bone.

Of all animals man has the most delicate skin: that is, if we take into consideration his relative size. In the skin or hide of all animals there is a mucous liquid, scanty in some animals and plentiful in others, as, for instance, in the hide of the ox; for men manufacture glue out of it. (And, by the way, in some cases glue is manufactured from fishes also.) The skin, when cut, is in itself devoid of sensation; and this is especially the case with the skin on the head, owing to there being no flesh between it and the skull. And wherever the skin is quite by itself, if it be cut asunder, it does not grow together again, as is seen in the thin part of the jaw, in the prepuce, and the eyelid. In all animals the skin is one of the parts that extends continuous and unbroken, and it comes to a stop only where the natural ducts pour out their contents, and at the mouth and nails.

All sanguineous animals, then, have skin; but not all such animals have hair, save only under the circumstances described above. The hair changes its colour as animals grow old, and in man it turns white or grey. With animals, in general, the change takes place, but not very obviously, or not so obviously as in the case of the horse. Hair turns grey from the point backwards to the roots. But, in the majority of cases, grey hairs are white from the beginning; and this is a proof that greyness of hair does not, as some believe to be the case, imply withering or decrepitude, for no part is brought into existence in a withered or decrepit condition.

In the eruptive malady called the white-sickness all the hairs get grey; and instances have been known where the hair became grey while the patients were ill of the malady, whereas the grey hairs shed off and black ones replaced them on their recovery. (Hair is more apt to turn grey when it is kept covered than when exposed to the action of the outer air.) In men, the hair over the temples is the first to turn grey, and the hair in the front grows grey sooner than the hair at the back; and the hair on the pubes is the last to change colour.

Some hairs are congenital, others grow after the maturity of the animal; but this occurs in man only. The congenital hairs are on the head, the eyelids, and the eyebrows; of the later growths the hairs on the pubes are the first to come, then those under the armpits, and, thirdly, those on the chin; for, singularly enough, the regions where congenital growths and the subsequent growths are found are equal in number. The hair on the head grows scanty and sheds out to a greater extent and sooner than all the rest. But this remark applies only to hair in front; for no man ever gets bald at the back of his head. Smoothness on the top of the head is termed ‘baldness’, but smoothness on the eyebrows is denoted by a special term which means ‘forehead-baldness’; and neither of these conditions of baldness supervenes in a man until he shall have come under the influence of sexual passion. For no boy ever gets bald, no woman, and no castrated man. In fact, if a man be castrated before reaching puberty, the later growths of hair never come at all; and, if the operation take place subsequently, the aftergrowths, and these only, shed off; or, rather, two of the growths shed off, but not that on the pubes.

Women do not grow hairs on the chin; except that a scanty beard grows on some women after the monthly courses have stopped; and similar phenomenon is observed at times in priestesses in Caria, but these cases are looked upon as portentous with regard to coming events. The other after-growths are found in women, but more scanty and sparse. Men and women are at times born constitutionally and congenitally incapable of the after-growths; and individuals that are destitute even of the growth upon the pubes are constitutionally impotent.

Hair as a rule grows more or less in length as the wearer grows in age; chiefly the hair on the head, then that in the beard, and fine hair grows longest of all. With some people as they grow old the eyebrows grow thicker, to such an extent that they have to be cut off; and this growth is owing to the fact that the eyebrows are situated at a conjuncture of bones, and these bones, as age comes on, draw apart and exude a gradual increase of moisture or rheum. The eyelashes do not grow in size, but they shed when the wearer comes first under the influence of sexual feelings, and shed all the quicker as this influence is the more powerful; and these are the last hairs to grow grey.

Hairs if plucked out before maturity grow again; but they do not grow again if plucked out afterwards. Every hair is supplied with a mucous moisture at its root, and immediately after being plucked out it can lift light articles if it touch them with this mucus.

Animals that admit of diversity of colour in the hair admit of a similar diversity to start with in the skin and in the cuticle of the tongue.

In some cases among men the upper lip and the chin is thickly covered with hair, and in other cases these parts are smooth and the cheeks are hairy;

and, by the way, smooth-chinned men are less inclined than bearded men to baldness.

The hair is inclined to grow in certain diseases, especially in consumption, and in old age, and after death; and under these circumstances the hair hardens concomitantly with its growth, and the same duplicate phenomenon is observable in respect of the nails.

In the case of men of strong sexual passions the congenital hairs shed the sooner, while the hairs of the after-growths are the quicker to come. When men are afflicted with varicose veins they are less inclined to take on baldness; and if they be bald when they become thus afflicted, they have a tendency to get their hair again.

If a hair be cut, it does not grow at the point of section; but it gets longer by growing upward from below. In fishes the scales grow harder and thicker with age, and when the amimal gets emaciated or is growing old the scales grow harder. In quadrupeds as they grow old the hair in some and the wool in others gets deeper but scantier in amount: and the hooves or claws get larger in size; and the same is the case with the beaks of birds. The claws also increase in size, as do also the nails.

12

With regard to winged animals, such as birds, no creature is liable to change of colour by reason of age, excepting the crane. The wings of this bird are ash-coloured at first, but as it grows old the wings get black. Again, owing to special climatic influences, as when unusual frost prevails, a change is sometimes observed to take place in birds whose plumage is of one uniform colour; thus, birds that have dusky or downright black plumage turn white or grey, as the raven, the sparrow, and the swallow; but no case has ever yet been known of a change of colour from white to black. (Further, most birds change the colour of their plumage at different seasons of the year, so much so that a man ignorant of their habits might be mistaken as to their identity.) Some animals change the colour of their hair with a change in their drinking-water, for in some countries the same species of animal is found white in one district and black in another. And in regard to the commerce of the sexes, water in many places is of such peculiar quality that rams, if they have intercourse with the female after drinking it, beget black lambs, as is the case with the water of the Psychrus (so-called from its coldness), a river in the district of Assyritis in the Chalcidic Peninsula, on the coast of Thrace; and in Antandria there are two rivers of which one makes the lambs white and the other black. The river Scamander also has the reputation of making lambs yellow, and that is the reason, they say, why Homer designates it the ‘Yellow River.’ Animals as a general rule have no hair on their internal surfaces, and, in regard to their extremities, they have hair on the upper, but not on the lower side.

The hare, or dasypod, is the only animal known to have hair inside its mouth and underneath its feet. Further, the so-called mousewhale instead of teeth has hairs in its mouth resembling pigs’ bristles.

Hairs after being cut grow at the bottom but not at the top; if feathers be cut off, they grow neither at top nor bottom, but shed and fall out. Further, the bee’s wing will not grow again after being plucked off, nor will the wing of any creature that has undivided wings. Neither will the sting grow again if the bee lose it, but the creature will die of the loss.

13

In all sanguineous animals membranes are found. And membrane resembles a thin close-textured skin, but its qualities are different, as it admits neither of cleavage nor of extension. Membrane envelops each one of the bones and each one of the viscera, both in the larger and the smaller animals; though in the smaller animals the membranes are indiscernible from their extreme tenuity and minuteness. The largest of all the membranes are the two that surround the brain, and of these two the one that lines the bony skull is stronger and thicker than the one that envelops the brain; next in order of magnitude comes the membrane that encloses the heart. If membrane be bared and cut asunder it will not grow together again, and the bone thus stripped of its membrane mortifies.

14

The omentum or caul, by the way, is membrane. All sanguineous animals are furnished with this organ; but in some animals the organ is supplied with fat, and in others it is devoid of it. The omentum has both its starting-point and its attachment, with ambidental vivipara, in the centre of the stomach, where the stomach has a kind of suture; in non-ambidental vivipara it has its starting-point and attachment in the chief of the ruminating stomachs.

15

The bladder also is of the nature of membrane, but of membrane peculiar in kind, for it is extensile. The organ is not common to all animals, but, while it is found in all the vivipara, the tortoise is the only oviparous animal that is furnished therewithal. The bladder, like ordinary membrane, if cut asunder will not grow together again, unless the section be just at the commencement of the urethra: except indeed in very rare cases, for instances of healing have been known to occur. After death, the organ passes no liquid excretion; but in life, in addition to the normal liquid excretion, it passes at times dry excretion also, which turns into stones in the case of sufferers from that malady. Indeed, instances have been known of concretions in the bladder so shaped as closely to resemble cockleshells.

Such are the properties, then, of vein, sinew and skin, of fibre and membrane, of hair, nail, claw and hoof, of horns, of teeth, of beak, of gristle, of bones, and of parts that are analogous to any of the parts here enumerated.

16

Flesh, and that which is by nature akin to it in sanguineous animals, is in all cases situated in between the skin and the bone, or the substance analogous to bone; for just as spine is a counterpart of bone, so is the flesh-like substance of animals that are constructed a spinous system the counterpart of the flesh of animals constructed on an osseous one.

Flesh can be divided asunder in any direction, not lengthwise only as is the case with sinew and vein. When animals are subjected to emaciation the flesh disappears, and the creatures become a mass of veins and fibres; when they are over fed, fat takes the place of flesh. Where the flesh is abundant in an animal, its veins are somewhat small and the blood abnormally red; the viscera also and the stomach are diminutive; whereas with animals whose veins are large the blood is somewhat black, the viscera and the stomach are large, and the flesh is somewhat scanty. And animals with small stomachs are disposed to take on flesh.

17

Again, fat and suet differ from one another. Suet is frangible in all directions and congeals if subjected to extreme cold, whereas fat can melt but cannot freeze or congeal; and soups made of the flesh of animals supplied with fat do not congeal or coagulate, as is found with horse-flesh and pork; but soups made from the flesh of animals supplied with suet do coagulate, as is seen with mutton and goat’s flesh. Further, fat and suet differ as to their localities: for fat is found between the skin and flesh, but suet is found only at the limit of the fleshy parts. Also, in animals supplied with fat the omentum or caul is supplied with fat, and it is supplied with suet in animals supplied with suet. Moreover, ambidental animals are supplied with fat, and non-ambidentals with suet.

Of the viscera the liver in some animals becomes fatty, as, among fishes, is the case with the selachia, by the melting of whose livers an oil is manufactured. These cartilaginous fish themselves have no free fat at all in connexion with the flesh or with the stomach. The suet in fish is fatty, and does not solidify or congeal. All animals are furnished with fat, either intermingled with their flesh, or apart. Such as have no free or separate fat are less fat than others in stomach and omentum, as the eel; for it has only a scanty supply of suet about the omentum. Most animals take on fat in the belly, especially such animals as are little in motion.

The brains of animals supplied with fat are oily, as in the pig; of animals supplied with suet, parched and dry. But it is about the kidneys more than any other viscera that animals are inclined to take on fat; and the right kidney is always less supplied with fat than the left kidney, and, be the two kidneys ever so fat, there is always a space devoid of fat in between the two. Animals supplied with suet are specially apt to have it about the kidneys, and especially the sheep; for this animal is apt to die from its kidneys being entirely enveloped. Fat or suet about the kidney is superinduced by overfeeding, as is found at Leontini in Sicily; and consequently in this district they defer driving out sheep to pasture until the day is well on, with the view of limiting their food by curtailment of the hours of pasture.

18

The part around the pupil of the eye is fatty in all animals, and this part resembles suet in all animals that possess such a part and that are not furnished with hard eyes.

Fat animals, whether male or female, are more or less unfitted for breeding purposes. Animals are disposed to take on fat more when old than when young, and especially when they have attained their full breadth and their full length and are beginning to grow depthways.

19

And now to proceed to the consideration of the blood. In sanguineous animals blood is the most universal and the most indispensable part; and it is not an acquired or adventitious part, but it is a consubstantial part of all animals that are not corrupt or moribund. All blood is contained in a vascular system, to wit, the veins, and is found nowhere else, excepting in the heart. Blood is not sensitive to touch in any animal, any more than the excretions of the stomach; and the case is similar with the brain and the marrow. When flesh is lacerated, blood exudes, if the animal be alive and unless the flesh be gangrened. Blood in a healthy condition is naturally sweet to the taste, and red in colour, blood that deteriorates from natural decay or from disease more or less black. Blood at its best, before it undergoes deterioration from either natural decay or from disease, is neither very thick nor very thin. In the living animal it is always liquid and warm, but, on issuing from the body, it coagulates in all cases except in the case of the deer, the roe, and the like animals; for, as a general rule, blood coagulates unless the fibres be extracted. Bull’s blood is the quickest to coagulate.

Animals that are internally and externally viviparous are more abundantly supplied with blood than the sanguineous ovipara. Animals that are in good condition, either from natural causes or from their health having been attended to, have the blood neither too abundant-as creatures just after drinking have the liquid inside them in abundance-nor again very scanty, as is the case with animals when exceedingly fat. For animals in this condition have pure blood, but very little of it, and the fatter an animal gets the less becomes its supply of blood; for whatsoever is fat is destitute of blood.

A fat substance is incorruptible, but blood and all things containing it corrupt rapidly, and this property characterizes especially all parts connected with the bones. Blood is finest and purest in man; and thickest and blackest in the bull and the ass, of all vivipara. In the lower and the higher parts of the body blood is thicker and blacker than in the central parts.

Blood beats or palpitates in the veins of all animals alike all over their bodies, and blood is the only liquid that permeates the entire frames of living animals, without exception and at all times, as long as life lasts. Blood is developed first of all in the heart of animals before the body is differentiated as a whole. If blood be removed or if it escape in any considerable quantity, animals fall into a faint or swoon; if it be removed or if it escape in an exceedingly large quantity they die. If the blood get exceedingly liquid, animals fall sick; for the blood then turns into something like ichor, or a liquid so thin that it at times has been known to exude through the pores like sweat. In some cases blood, when issuing from the veins, does not coagulate at all, or only here and there. Whilst animals are sleeping the blood is less abundantly supplied near the exterior surfaces, so that, if the sleeping creature be pricked with a pin, the blood does not issue as copiously as it would if the creature were awake. Blood is developed out of ichor by coction, and fat in like manner out of blood. If the blood get diseased, haemorrhoids may ensue in the nostril or at the anus, or the veins may become varicose. Blood, if it corrupt in the body, has a tendency to turn into pus, and pus may turn into a solid concretion.

Blood in the female differs from that in the male, for, supposing the male and female to be on a par as regards age and general health, the blood in the female is thicker and blacker than in the male; and with the female there is a comparative superabundance of it in the interior. Of all female animals the female in man is the most richly supplied with blood, and of all female animals the menstruous discharges are the most copious in woman. The blood of these discharges under disease turns into flux. Apart from the menstrual discharges, the female in the human species is less subject to diseases of the blood than the male.

Women are seldom afflicted with varicose veins, with haemorrhoids, or with bleeding at the nose, and, if any of these maladies supervene, the menses are imperfectly discharged.

Blood differs in quantity and appearance according to age; in very young animals it resembles ichor and is abundant, in the old it is thick and black and scarce, and in middle-aged animals its qualities are intermediate. In old animals the blood coagulates rapidly, even blood at the surface of the body; but this is not the case with young animals. Ichor is, in fact, nothing else but unconcocted blood: either blood that has not yet been concocted, or that has become fluid again.

20

We now proceed to discuss the properties of marrow; for this is one of the liquids found in certain sanguineous animals. All the natural liquids of the body are contained in vessels: as blood in veins, marrow in bones other moistures in membranous structures of the skin

In young animals the marrow is exceedingly sanguineous, but, as animals grow old, it becomes fatty in animals supplied with fat, and suet-like in animals with suet. All bones, however, are not supplied with marrow, but only the hollow ones, and not all of these. For of the bones in the lion some contain no marrow at all, and some are only scantily supplied therewith; and that accounts, as was previously observed, for the statement made by certain writers that the lion is marrowless. In the bones of pigs it is found in small quantities; and in the bones of certain animals of this species it is not found at all.

These liquids, then, are nearly always congenital in animals, but milk and sperm come at a later time. Of these latter, that which, whensoever it is present, is secreted in all cases ready-made, is the milk; sperm, on the other hand, is not secreted out in all cases, but in some only, as in the case of what are designated thori in fishes.

Whatever animals have milk, have it in their breasts. All animals have breasts that are internally and externally viviparous, as for instance all animals that have hair, as man and the horse; and the cetaceans, as the dolphin, the porpoise, and the whale-for these animals have breasts and are supplied with milk. Animals that are oviparous or only externally viviparous have neither breasts nor milk, as the fish and the bird.

All milk is composed of a watery serum called ‘whey’, and a consistent substance called curd (or cheese); and the thicker the milk, the more abundant the curd. The milk, then, of non-ambidentals coagulates, and that is why cheese is made of the milk of such animals under domestication; but the milk of ambidentals does not coagulate, nor their fat either, and the milk is thin and sweet. Now the camel's milk is the thinnest, and that of the human species next after it, and that of the ass next again, but cow's milk is the thickest. Milk does not coagulate under the influence of cold, but rather runs to whey; but under the influence of heat it coagulates and thickens. As a general rule milk only comes to animals in pregnancy. When the animal is pregnant milk is found, but for a while it is unfit for use, and then after an interval of usefulness it becomes unfit for use again. In the case of female animals not pregnant a small quantity of milk has been procured by the employment of special food, and cases have been actually known where women advanced in years on being submitted to the process of milking have produced milk, and in some cases have produced it in sufficient quantities to enable them to suckle an infant.

The people that live on and about Mount Oeta take such she-goats as decline the male and rub their udders hard with nettles to cause an irritation amounting to pain; hereupon they milk the animals, procuring at first a liquid resembling blood, then a liquid mixed with purulent matter, and eventually milk, as freely as from females submitting to the male.

As a general rule, milk is not found in the male of man or of any other animal, though from time to time it has been found in a male; for instance, once in Lemnos a he-goat was milked by its dugs (for it has, by the way, two dugs close to the penis), and was milked to such effect that cheese was made of the produce, and the same phenomenon was repeated in a male of its own begetting. Such occurrences, however, are regarded as supernatural and fraught with omen as to futurity, and in point of fact when the Lemnian owner of the animal inquired of the oracle, the god informed him that the portent foreshadowed the acquisition of a fortune. With some men, after puberty, milk can be produced by squeezing the breasts; cases have been known where on their being subjected to a prolonged milking process a considerable quantity of milk has been educed.

In milk there is a fatty element, which in clotted milk gets to resemble oil. Goat's milk is mixed with sheep's milk in Sicily, and wherever sheep's milk is abundant. The best milk for clotting is not only that where the cheese is most abundant, but that also where the cheese is driest.

Now some animals produce not only enough milk to rear their young, but a superfluous amount for general use, for cheese-making and for storage. This is especially the case with the sheep and the goat, and next in degree with the cow. Mare's milk, by the way, and milk of the she-ass are mixed in with Phrygian cheese. And there is more cheese in cow's milk than in goat's milk; for graziers tell us that from nine gallons of goat's milk they can get nineteen cheeses at an obol apiece, and from the same amount of cow's milk, thirty. Other animals give only enough of milk to rear their young withal, and no superfluous amount and none fitted for cheese-making, as is the case with all animals that have more than two breasts or dugs; for with none of such animals is milk produced in superabundance or used for the manufacture of cheese.

The juice of the fig and rennet are employed to curdle milk. The fig-juice is first squeezed out into wool; the wool is then washed and rinsed, and the rinsing put into a little milk, and if this be mixed with other milk it curdles Rennet is a kind of milk, for it is found in the stomach of the animal while it is yet suckling.

21

Rennet then consists of milk with an admixture of fire, which comes from the natural heat of the animal, as the milk is concocted. All ruminating animals produce rennet, and, of ambidentals, the hare. Rennet improves in quality the longer it is kept; and cow's rennet, after being kept a good while, and also hare's rennet, is good for diarrhoea, and the best of all rennet is that of the young deer.

In milk-producing animals the comparative amount of the yield varies with the size of the animal and the diversities of pasturage. For instance, there are in Phasis small cattle that in all cases give a copious supply of milk, and the large cows in Epirus yield each one daily some nine gallons of milk, and half of this from each pair of teats, and the milker has to stand erect, stooping forward a little, as otherwise, if he were seated, he would be unable to reach up to the teats. But, with the exception of the ass, all the quadrupeds in Epirus are of large size, and relatively, the cattle and the dogs are the largest. Now large animals require abundant pasture, and this country supplies just such pasturage, and also supplies diverse pasture grounds to suit the diverse seasons of the year. The cattle are particularly large, and likewise the sheep of the so-called Pyrrhic breed, the name being given in honour of King Pyrrhus.

Some pasture quenches milk, as Median grass or lucerne, and that especially in ruminants; other feeding renders it copious, as cytisus and vetch; only, by the way, cytisus in flower is not recommended, as it has burning properties, and vetch is not good for pregnant kine, as it causes increased difficulty in parturition. However, beasts that have access to good feeding, as they are benefited thereby in regard to pregnancy, so also being well nourished produce milk in plenty. Some of the leguminous plants bring milk in abundance, as for instance, a large feed of beans with the ewe, the common she-goat, the cow, and the small she-goat; for this feeding makes them drop their udders. And, by the way, the pointing of the udder to the ground before parturition is a sign of there being plenty of milk coming.

Milk remains for a long time in the female, if she be kept from the male and be properly fed, and, of quadrupeds, this is especially true of the ewe; for the ewe can be milked for eight months. As a general rule, ruminating animals give milk in abundance, and milk fitted for cheese manufacture. In the neighbourhood of Torone cows run dry for a few days before calving, and have milk all the rest of the time. In women, milk of a livid colour is better than white for nursing purposes; and swarthy women give healthier milk than fair ones. Milk that is richest in cheese is the most nutritious, but milk with a scanty supply of cheese is the more wholesome for children.

22

All sanguineous animals eject sperm. As to what, and how, it contributes to generation, these questions will be discussed in another treatise. Taking the size of his body into account, man emits more sperm than any other animal. In hairy-coated animals the sperm is sticky, but in other animals it is not so. It is white in all cases, and Herodotus is under a misapprehension when he states that the Aethiopians eject black sperm.

Sperm issues from the body white and consistent, if it be healthy, and after quitting the body becomes thin and black. In frosty weather it does not coagulate, but gets exceedingly thin and watery both in colour and consistency; but it coagulates and thickens under the influence of heat. If it be long in the womb before issuing out, it comes more than usually thick; and sometimes it comes out dry and compact. Sperm capable of impregnating or of fructification sinks in water; sperm incapable Of producing that result dissolves away. But there is no truth in what Ctesias has written about the sperm of the elephant.

Book IV

1

We have now treated, in regard to blooded animals of the parts they have in common and of the parts peculiar to this genus or that, and of the parts both composite and simple, whether without or within. We now proceed to treat of animals devoid of blood. These animals are divided into several genera.

One genus consists of so-called 'molluscs'; and by the term 'mollusc' we mean an animal that, being devoid of blood, has its flesh-like substance outside, and any hard structure it may happen to have, inside-in this respect resembling the red-blooded animals, such as the genus of the cuttle-fish.

Another genus is that of the malacostraca. These are animals that have their hard structure outside, and their soft or fleshlike substance inside, and the hard substance belonging to them has to be crushed rather than shattered; and to this genus belongs the crawfish and the crab.

A third genus is that of the ostracoderms or 'testaceans'. These are animals that have their hard substance outside and their flesh-like substance within, and their hard substance can be shattered but not crushed; and to this genus belong the snail and the oyster.

The fourth genus is that of insects; and this genus comprehends numerous and dissimilar species. Insects are creatures that, as the name implies, have nicks either on the belly or on the back, or on both belly and back, and have no one part distinctly osseous and no one part distinctly fleshy, but are throughout a something intermediate between bone and flesh; that is to say, their body is hard all through, inside and outside. Some insects are wingless, such as the iulus and the centipede; some are winged, as the bee, the cockchafer, and the wasp; and the same kind is in some cases both winged and wingless, as the ant and the glow-worm.

In molluscs the external parts are as follows: in the first place, the so-called feet; secondly, and attached to these, the head; thirdly, the mantle-sac, containing the internal parts, and incorrectly designated by some writers the head; and, fourthly, fins round about the sac. (See diagram.) In all molluscs the head is found to be between the feet and the belly. All molluscs are furnished with eight feet, and in all cases these feet are severally furnished with a double row of suckers, with the exception of one single species of poulpe or octopus. The sepia, the small calamary and the large calamary have an exceptional organ in a pair of long arms or tentacles, having at their extremities a portion rendered rough by the presence of two rows of suckers; and with these arms or tentacles they apprehend their food and draw it into their mouths, and in stormy weather they cling by them to a rock and sway about in the rough water like ships lying at anchor. They swim by the aid of the fins that they have about the sac. In all cases their feet are furnished with suckers.

The octopus, by the way, uses his feelers either as feet or hands; with the two which stand over his mouth he draws in food, and the last of his feelers he employs in the act of copulation; and this last one, by the way, is extremely sharp, is exceptional as being of a whitish colour, and at its extremity is bifurcate; that is to say, it has an additional something on the rachis, and by rachis is meant the smooth surface or edge of the arm on the far side from the suckers. (See diagram.)

In front of the sac and over the feelers they have a hollow tube, by means of which they discharge any sea-water that they may have taken into the sac of the body in the act of receiving food by the mouth. They can shift the tube from side to side, and by means of it they discharge the black liquid peculiar to the animal.

Stretching out its feet, it swims obliquely in the direction of the so-called head, and by this mode of swimming it can see in front, for its eyes are at the top, and in this attitude it has its mouth at the rear. The ‘head’, while the creature is alive, is hard, and looks as though it were inflated. It apprehends and retains objects by means of the under-surface of its arms, and the membrane in between its feet is kept at full tension; if the animal get on to the sand it can no longer retain its hold.

There is a difference between the octopus and the other molluscs above mentioned: the body of the octopus is small, and his feet are long, whereas in the others the body is large and the feet short; so short, in fact, that they cannot walk on them. Compared with one another, the teuthis, or calamary, is long-shaped, and the sepia flat-shaped; and of the calamaries the so-called teuthus is much bigger than the teuthis; for teuthi have been found as much as five ells long. Some sepiae attain a length of two ells, and the feelers of the octopus are sometimes as long, or even longer. The species teuthus is not a numerous one; the teuthus differs from the teuthis in shape; that is, the sharp extremity of the teuthus is broader than that of the other, and, further, the encircling fin goes all round the trunk, whereas it is in part lacking in the teuthis; both animals are pelagic.

In all cases the head comes after the feet, in the middle of the feet that are called arms or feelers. There is here situated a mouth, and two teeth in the mouth; and above these two large eyes, and betwixt the eyes a small cartilage enclosing a small brain; and within the mouth it has a minute organ of a fleshy nature, and this it uses as a tongue, for no other tongue does it possess. Next after this, on the outside, is what looks like a sac; the flesh of which it is made is divisible, not in long straight strips, but in annular flakes; and all molluscs have a cuticle around this flesh. Next after or at the back of the mouth comes a long and narrow oesophagus, and close after that a crop or craw, large and spherical, like that of a bird; then comes the stomach, like the fourth stomach in ruminants; and the shape of it resembles the spiral convolution in the trumpet-shell; from the stomach there goes back again, in the direction of the mouth, thin gut, and the gut is thicker than the oesophagus. (See diagram.)

Molluscs have no viscera, but they have what is called a mytis, and on it a vessel containing a thick black juice; in the sepia or cuttle-fish this vessel is the largest, and this juice is most abundant. All molluscs, when frightened, discharge such a juice, but the discharge is most copious in the cuttle-fish. The mytis, then, is situated under the mouth, and the oesophagus runs through it; and down below at the point to which the gut extends is the vesicle of the black juice, and the animal has the vesicle and the gut enveloped in one and the same membrane, and by the same membrane, same orifice discharges both the black juice and the residuum. The animals have also certain hair-like or furry growths in their bodies.

In the sepia, the teuthis, and the teuthus the hard parts are within, towards the back of the body; those parts are called in one the sepium, and in the other the ‘sword’. They differ from one another, for the sepium in the cuttle-fish and teuthus is hard and flat, being a substance intermediate between bone and fishbone, with (in part) a crumbling, spongy texture, but in the teuthis the part is thin and somewhat gristly. These parts differ from one another in shape, as do also the bodies of the animals. The octopus has nothing hard of this kind in its interior, but it has a gristly substance round the head, which, if the animal grows old, becomes hard.

The females differ from the males. The males have a duct in under the oesophagus, extending from the mantle-cavity to the lower portion of the sac, and there is an organ to which it attaches, resembling a breast; (see diagram) in the female there are two of these organs, situated higher up; (see diagram) with both sexes there are underneath these organs certain red formations. The egg of the octopus is single, uneven on its surface, and of large size; the fluid substance within is all uniform in colour, smooth, and in colour white; the size of the egg is so great as to fill a vessel larger than the creature’s head. The sepia has two sacs, and inside them a number of eggs, like in appearance to white hailstones. For the disposition of these parts I must refer to my anatomical diagrams.

The males of all these animals differ from the females, and the difference between the sexes is most marked in the sepia; for the back of the trunk, which is blacker than the belly, is rougher in the male than in the female, and in the male the back is striped, and the rump is more sharply pointed.

There are several species of the octopus. One keeps close to the surface, and is the largest of them all, and near the shore the size is larger than in deep water; and there are others, small, variegated in colour, which are not articles of food. There are two others, one called the heledone, which differs from its congeners in the length of its legs and in having one row of suckers-all the rest of the molluscs having two,-the other nicknamed variously the bolitaina or the ‘onion,’ and the ozolis or the ‘stinkard’.

There are two others found in shells resembling those of the testaceans. One of them is nicknamed by some persons the nautilus or the pontilus, or by others the ‘polypus’ egg’; and the shell of this creature is something like a separate valve of a deep scallop-shell. This polypus lives very often near to the shore, and is apt to be thrown up high and dry on the beach; under these circumstances it is found with its shell detached, and dies by and by on dry land. These polypods are small, and are shaped, as regards the form of their bodies, like the bolbidia. There is another polypus that is placed within a shell like a snail; it never comes out of the shell, but lives inside the shell like the snail, and from time to time protrudes its feelers.

So much for molluscs.

With regard to the Malacostraca or crustaceans, one species is that of the crawfish, and a second, resembling the first, is that of the lobster; the lobster differing from the crawfish in having claws, and in a few other respects as well. Another species is that of the carid, and another is that of the crab, and there are many kinds both of carid and of crab.

Of carids there are the so-called cyphae, or ‘hunch-backs’, the crangons, or squillae, and the little kind, or shrimps, and the little kind do not develop into a larger kind.

Of the crab, the varieties are indefinite and incalculable. The largest of all crabs is one nicknamed Maia, a second variety is the pagarus and the crab of Heracleotis, and a third variety is the fresh-water crab; the other varieties are smaller in size and destitute of special designations. In the neighbourhood of Phoenice there are found on the beach certain crabs that are nicknamed the ‘horsemen’, from their running with such speed that it is difficult to overtake them; these crabs, when opened, are usually found empty, and this emptiness may be put down to insufficiency of nutriment. (There is another variety, small like the crab, but resembling in shape the lobster.) All these animals, as has been stated, have their hard and shelly part outside, where the skin is in other animals, and the fleshy part inside; and the belly is more or less provided with lamellae, or little flaps, and the female here deposits her spawn.

The crawfishes have five feet on either side, including the claws at the end; and in like manner the crabs have ten feet in all, including the claws. Of the carids, the hunch-backed, or prawns, have five feet on either side, which are sharp-pointed-those towards the head; and five others on either side in the region of the belly, with their extremities flat; they are devoid of flaps on the under side such as the crawfish has, but on the back they resemble the crawfish. (See diagram.)It is very different with the crangon, or squilla; it has four front legs on either side, then three thin ones close behind on either side, and the rest of the body is for the most part devoid of feet. (See diagram.) Of all these animals the feet bend out obliquely, as is the case with insects; and the claws, where claws are found, turn inwards. The crawfish has a tail, and five fins on it; and the round-backed carid has a tail and four fins; the squilla also has fins at the tail on either side. In the case of both the hump-backed carid and the squilla the middle art of the tail is spinous: only that in the squilla the part is flattened and in the carid it is sharp-pointed. Of all animals of this genus the crab is the only one devoid of a rump; and, while the body of the carid and the crawfish is elongated, that of the crab is rotund.

In the crawfish the male differs from the female: in the female the first foot is bifurcate, in the male it is undivided; the belly-fins in the female are large and overlapping on the neck, while in the male they are smaller and do not overlap; and, further, on the last feet of the male there are spur-like projections, large and sharp, which projections in the female are small and smooth. Both male and female have two antennae in front of the eyes, large and rough, and other antennae underneath, small and smooth. The eyes of all these creatures are hard and beady, and can move either to the inner or to the outer side. The eyes of most crabs have a similar facility of movement, or rather, in the crab this facility is developed in a higher degree. (See diagram.)

The lobster is all over grey-coloured, with a mottling of black. Its under or hinder feet, up to the big feet or claws, are eight in number; then come the big feet, far larger and flatter at the tips than the same organs in the crawfish; and these big feet or claws are exceptional in their structure, for the right claw has the extreme flat surface long and thin, while the left claw has the corresponding surface thick and round. Each of the two claws, divided at the end like a pair of jaws, has both below and above a set of teeth: only that in the right claw they are all small and saw-shaped, while in the left claw those at the apex are saw-shaped and those within are molar-shaped, these latter being, in the under part of the cleft claw, four teeth close together, and in the upper part three teeth, not close together. Both right and left claws have the upper part mobile, and bring it to bear against the lower one, and both are curved like bandy-legs, being thereby adapted for apprehension and constriction. Above the two large claws come two others, covered with hair, a little underneath the mouth; and underneath these the gill-like formations in the region of the mouth, hairy and numerous. These organs the animal keeps in perpetual motion; and the two hairy feet it bends and draws in towards its mouth. The feet near the mouth are furnished also with delicate outgrowing appendages. Like the crawfish, the lobster has two teeth, or mandibles, and above these teeth are its antennae, long, but shorter and finer by far than those of the crawfish, and then four other antennae similar in shape, but shorter and finer than the others. Over these antennae come the eyes, small and short, not large like the eyes of the crawfish. Over the eyes is a peaky rough projection like a forehead, larger than the same part in the crawfish; in fact, the frontal part is more pointed and the thorax is much broader in the lobster than in the crawfish, and the body in general is smoother and more full of flesh. Of the eight feet, four are bifurcate at the extremities, and four are undivided. The region of the so-called neck is outwardly divided into five divisions, and sixthly comes the flattened portion at the end, and this portion has five flaps, or tail-fins; and the inner or under parts, into which the female drops her spawn, are four in number and hairy, and on each of the aforesaid parts is a spine turned outwards, short and straight. The body in general and the region of the thorax in particular are smooth, not rough as in the crawfish; but on the large claws the outer portion has larger spines. There is no apparent difference between the male and female, for they both have one claw, whichever it may be, larger than the other, and neither male nor female is ever found with both claws of the same size.

All crustaceans take in water close by the mouth. The crab discharges it, closing up, as it does so, a small portion of the same, and the crawfish discharges it by way of the gills; and, by the way, the gill-shaped organs in the crawfish are very numerous.

The following properties are common to all crustaceans: they have in all cases two teeth, or mandibles (for the front teeth in the crawfish are two in number), and in all cases there is in the mouth a small fleshy structure serving for a tongue; and the stomach is close to the mouth, only that the crawfish has a little oesophagus in front of the stomach, and there is a straight gut attached to it. This gut, in the crawfish and its congeners, and in the carids, extends in a straight line to the tail, and terminates where the animal discharges the residuum, and where the female deposits her spawn; in the crab it terminates where the flap is situated, and in the centre of the flap. (And by the way, in all these animals the spawn is deposited outside.) Further, the female has the place for the spawn running along the gut. And, again, all these animals have, more or less, an organ termed the ‘mytis’, or ‘poppyjuice’.

We must now proceed to review their several differentiae.

The crawfish then, as has been said, has two teeth, large and hollow, in which is contained a juice resembling the mytis, and in between the teeth is a fleshy substance, shaped like a tongue. After the mouth comes a short oesophagus, and then a membranous stomach attached to the oesophagus, and at the orifice Of the stomach are three teeth, two facing one another and a third standing by itself underneath. Coming off at a bend from the stomach is a gut, simple and of equal thickness throughout the entire length of the body until it reaches the anal vent.

These are all common properties of the crawfish, the carid, and the crab; for the crab, be it remembered, has two teeth.

Again, the crawfish has a duct attached all the way from the chest to the anal vent; and this duct is connected with the ovary in the female, and with the seminal ducts in the male. This passage is attached to the concave surface of the flesh in such a way that the flesh is in betwixt the duct and the gut; for the gut is related to the convexity and this duct to the concavity, pretty much as is observed in quadrupeds. And the duct is identical in both the sexes; that is to say, the duct in both is thin and white, and charged with a sallow-coloured moisture, and is attached to the chest.

(The following are the properties of the egg and of the convolutes in the carid.)

The male, by the way, differs from the female in regard to its flesh, in having in connexion with the chest two separate and distinct white substances, resembling in colour and conformation the tentacles of the cuttle-fish, and they are convoluted like the ‘poppy’ or quasi-liver of the trumpet-shell. These organs have their starting-point in ‘cotyledons’ or papillae, which are situated under the hindmost feet; and hereabouts the flesh is red and blood-coloured, but is slippery to the touch and in so far unlike flesh. Off from the convolute organ at the chest branches off another coil about as thick as ordinary twine; and underneath there are two granular seminal bodies in juxta-position with the gut. These are the organs of the male. The female has red-coloured eggs, which are adjacent to the stomach and to each side of the gut all along to the fleshy parts, being enveloped in a thin membrane.

Such are the parts, internal and external, of the carid.

3

The inner organs of sanguineous animals happen to have specific designations; for these animals have in all cases the inner viscera, but this is not the case with the bloodless animals, but what they have in common with red-blooded animals is the stomach, the oesophagus, and the gut.

With regard to the crab, it has already been stated that it has claws and feet, and their position has been set forth; furthermore, for the most part they have the right claw bigger and stronger than the left. It has also been stated' that in general the eyes of the crab look sideways. Further, the trunk of the crab's body is single and undivided, including its head and any other part it may possess. Some crabs have eyes placed sideways on the upper part, immediately under the back, and standing a long way apart, and some have their eyes in the centre and close together, like the crabs of Heracleotis and the so-called 'grannies'. The mouth lies underneath the eyes, and inside it there are two teeth, as is the case with the crawfish, only that in the crab the teeth are not rounded but long; and over the teeth are two lids, and in betwixt them are structures such as the crawfish has besides its teeth. The crab takes in water near by the mouth, using the lids as a check to the inflow, and discharges the water by two passages above the mouth, closing by means of the lids the way by which it entered; and the two passage-ways are underneath the eyes. When it has taken in water it closes its mouth by means of both lids, and ejects the water in the way above described. Next after the teeth comes the oesophagus, very short, so short in fact that the stomach seems to come straightway after the mouth. Next after the oesophagus comes the stomach, two-horned, to the centre of which is attached a simple and delicate gut; and the gut terminates outwards, at the operculum, as has been previously stated. (The crab has the parts in between the lids in the neighbourhood of the teeth similar to the same parts in the crawfish.) Inside the trunk is a sallow juice and some few little bodies, long and white, and others spotted red. The male differs from the female in size and breadth, and in respect of the ventral flap; for this is larger in the female than in the male, and stands out further from the trunk, and is more hairy (as is the case also with the female in the crawfish).

So much, then, for the organs of the malacostraca or crustacea.

4

With the ostracoderma, or testaceans, such as the land-snails and the sea-snails, and all the 'oysters' so-called, and also with the sea-urchin genus, the fleshy part, in such as have flesh, is similarly situated to the fleshy part in the crustaceans; in other words, it is inside the animal, and the shell is outside, and there is no hard substance in the interior. As compared with one another the testaceans present many diversities both in regard to their shells and to the flesh within. Some of them have no flesh at all, as the sea-urchin; others have flesh, but it is inside and wholly hidden, except the head, as in the land-snails, and the so-called cocalia, and, among pelagic animals, in the purple murex, the ceryx or trumpet-shell, the sea-snail, and the spiral-shaped testaceans in general. Of the rest, some are bivalved and some univalved; and by 'bivalves' I mean such as are enclosed within two shells, and by 'univalved' such as are enclosed within a single shell, and in these last the fleshy part is exposed, as in the case of the limpet. Of the bivalves, some can open out, like the scallop and the mussel; for all such shells are grown together on one side and are separate on the other, so as to open and shut. Other bivalves are closed on both sides alike, like the solen or razor-fish. Some testaceans there are, that are entirely enveloped in shell and expose no portion of their flesh outside, as the tethya or ascidians.

Again, in regard to the shells themselves, the testaceans present differences when compared with one another. Some are smooth-shelled, like the solen, the mussel, and some clams, viz. those that are nicknamed 'milkshells', while others are rough-shelled, such as the pool-oyster or edible oyster, the pinna, and certain species of cockles, and the trumpet shells; and of these some are ribbed, such as the scallop and a certain kind of clam or cockle, and some are devoid of ribs, as the pinna and another species of clam. Testaceans also differ from one another in regard to the thickness or thinness of their shell, both as regards the shell in its entirety and as regards specific parts of the shell, for instance, the lips; for some have thin-lipped shells, like the mussel, and others have thick-lipped shells, like the oyster. A property common to the above mentioned, and, in fact, to all testaceans, is the smoothness of their shells inside. Some also are capable of motion, like the scallop, and indeed some aver that scallops can actually fly, owing to the circumstance that they often jump right out of the apparatus by means of which they are caught; others are incapable of motion and are attached fast to some external object, as is the case with the pinna. All the spiral-shaped testaceans can move and creep, and even the limpet relaxes its hold to go in quest of food. In the case of the univalves and the bivalves, the fleshy substance adheres to the shell so tenaciously that it can only be removed by an effort; in the case of the stromboids, it is more loosely attached. And a peculiarity of all the stromboids is the spiral twist of the shell in the part farthest away from the head; they are also furnished from birth with an operculum. And, further, all stromboid testaceans have their shells on the right hand side, and move not in the direction of the spire, but the opposite way. Such are the diversities observed in the external parts of these animals.

The internal structure is almost the same in all these creatures, and in the stromboids especially; for it is in size that these latter differ from one another, and in accidents of the nature of excess or defect. And there is not much difference between most of the univalves and bivalves; but, while those that open and shut differ from one another but slightly, they differ considerably from such as are incapable of motion. And this will be illustrated more satisfactorily hereafter.

The spiral-shaped testaceans are all similarly constructed, but differ from one another, as has been said, in the way of excess or defect (for the larger species have larger and more conspicuous organs, and the smaller have smaller and less conspicuous), and, furthermore, in relative hardness or softness, and in other such accidents or properties. All the stromboids, for instance, have the flesh that extrudes from the mouth of the shell, hard and stiff; some more, and some less. From the middle of this protrudes the head and two horns, and these horns are large in the large species, but exceedingly minute in the smaller ones. The head protrudes from them all in the same way; and, if the animal be alarmed, the head draws in again. Some of these creatures have a mouth and teeth, as the snail; teeth sharp, and small, and delicate. They have also a proboscis just like that of the fly; and the proboscis is tongue-shaped. The ceryx and the purple murex have this organ firm and solid; and just as the myops, or horse-fly, and the oestrus, or gadfly, can pierce the skin of a quadruped, so is that proboscis proportionately stronger in these testaceans; for they bore right through the shells of other shell-fish on which they prey. The stomach follows close upon the mouth, and, by the way, this organ in the snail resembles a bird’s crop. Underneath come two white firm formations, mastoid or papillary in form; and similar formations are found in the cuttle-fish also, only that they are of a firmer consistency in the cuttle-fish. After the stomach comes an oesophagus, simple and long, extending to the poppy or quasi-liver, which is in the innermost recess of the shell. All these statements may be verified in the case of the purple murex and the ceryx by observation within the whorl of the shell. What comes next to the oesophagus is the gut; in fact, the gut is continuous with the oesophagus, and runs its whole length uncomplicated to the outlet of the residuum. The gut has its point of origin in the region of the coil of the mecon, or so-called ‘poppy’, and is wider hereabouts (for remember, the mecon is for the most part a sort of excretion in all testaceans); it then takes a bend and runs up again towards the fleshy part, and terminates by the side of the head, where the animal discharges its residuum; and this holds good in the case of all stromboid testaceans, whether terrestrial or marine. From the stomach there is drawn in a parallel direction with the oesophagus, in the larger snails, a long white duct enveloped in a membrane, resembling in colour the mastoid formations higher up; and in it are nicks or interruptions, as in the egg-mass of the crawfish, only, by the way, the duct of which we are treating is white and the egg-mass of the crawfish is red. This formation has no outlet nor duct, but is enveloped in a thin membrane with a narrow cavity in its interior. And from the gut downward extend black and rough formations, in close connexion, something like the formations in the tortoise, only not so black. Marine snails, also, have these formations, and the white ones, only that the formations are smaller in the smaller species.

The non-spiral univalves and bivalves are in some respect similar in construction, and in some respects dissimilar, to the spiral testaceans. They all have a head and horns, and a mouth, and the organ resembling a tongue; but these organs, in the smaller species, are indiscernible owing to the minuteness of these animals, and some are indiscernible even in the larger species when dead, or when at rest and motionless. They all have the mecon, or poppy, but not all in the same place, nor of equal size, nor similarly open to observation; thus, the limpets have this organ deep down in the bottom of the shell, and the bivalves at the hinge connecting the two valves. They also have in all cases the hairy growths or beards, in a circular form, as in the scallops. And, with regard to the so-called ‘egg’, in those that have it, when they have it, it is situated in one of the semi-circles of the periphery, as is the case with the white formation in the snail; for this white formation in the snail corresponds to the so-called egg of which we are speaking. But all these organs, as has been stated, are distinctly traceable in the larger species, while in the small ones they are in some cases almost, and in others altogether, indiscernible. Hence they are most plainly visible in the large scallops; and these are the bivalves that have one valve flat-shaped, like the lid of a pot. The outlet of the excretion is in all these animals (save for the exception to be afterwards related) on one side; for there is a passage whereby the excretion passes out. (And, remember, the mecon or poppy, as has been stated, is an excretion in all these animals-an excretion enveloped in a membrane.) The so-called egg has no outlet in any of these creatures, but is merely an excrescence in the fleshy mass; and it is not situated in the same region with the gut, but the 'egg' is situated on the right-hand side and the gut on the left. Such are the relations of the anal vent in most of these animals; but in the case of the wild limpet (called by some the 'sea-ear'), the residuum issues beneath the shell, for the shell is perforated to give an outlet. In this particular limpet the stomach is seen coming after the mouth, and the egg-shaped formations are discernible. But for the relative positions of these parts you are referred to my Treatise on Anatomy.

The so-called carcinium or hermit crab is in a way intermediate between the crustaceans and the testaceans. In its nature it resembles the crawfish kind, and it is born simple of itself, but by its habit of introducing itself into a shell and living there it resembles the testaceans, and so appears to partake of the characters of both kinds. In shape, to give a simple illustration, it resembles a spider, only that the part below the head and thorax is larger in this creature than in the spider. It has two thin red horns, and underneath these horns two long eyes, not retreating inwards, nor turning sideways like the eyes of the crab, but protruding straight out; and underneath these eyes the mouth, and round about the mouth several hair-like growths, and next after these two bifurcate legs or claws, whereby it draws in objects towards itself, and two other legs on either side, and a third small one. All below the thorax is soft, and when opened in dissection is found to be sallow-coloured within. From the mouth there runs a single passage right on to the stomach, but the passage for the excretions is not discernible. The legs and the thorax are hard, but not so hard as the legs and the thorax of the crab. It does not adhere to its shell like the purple murex and the ceryx, but can easily slip out of it. It is longer when found in the shell of the stromboids than when found in the shell of the neritae.

And, by the way, the animal found in the shell of the neritae is a separate species, like to the other in most respects; but of its bifurcate feet or claws, the right-hand one is small and the left-hand one is large, and it progresses chiefly by the aid of this latter and larger one. (In the shells of these animals, and in certain others, there is found a parasite whose mode of attachment is similar. The particular one which we have just described is named the cyllarus.)

The nerites has a smooth large round shell, and resembles the ceryx in shape, only the poppy-juice is, in its case, not black but red. It clings with great force near the middle. In calm weather, then, they go free afield, but when the wind blows the carcinia take shelter against the rocks: the neritae themselves cling fast like limpets; and the same is the case with the haemorrhoid or aporrhaid and all others of the like kind. And, by the way, they cling to the rock, when they turn back their operculum, for this operculum seems like a lid; in fact this structure represents the one part, in the stromboids, of that which in the bivalves is a duplicate shell. The interior of the animal is fleshy, and the mouth is inside. And it is the same with the haemorrhoid, the purple murex, and all suchlike animals.

Such of the little crabs as have the left foot or claw the bigger of the two are found in the neritae, but not in the stromboids. are some snail-shells which have inside them creatures resembling those little crayfish that are also found in fresh water. These creatures, however, differ in having the part inside the shells But as to the characters, you are referred to my Treatise on Anatomy.

5

The urchins are devoid of flesh, and this is a character peculiar to them; and while they are in all cases empty and devoid of any flesh within, they are in all cases furnished with the black formations. There are several species of the urchin, and one of these is that which is made use of for food; this is the kind in which are found the so-called eggs, large and edible, in the larger and smaller specimens alike; for even when as yet very small they are provided with them. There are two other species, the spatangus, and the so-called bryssus, these animals are pelagic and scarce. Further, there are the echinometrae, or ‘mother-urchins’, the largest in size of all the species. In addition to these there is another species, small in size, but furnished with large hard spines; it lives in the sea at a depth of several fathoms; and is used by some people as a specific for cases of strangury. In the neighbourhood of

Torone there are sea-urchins of a white colour, shells, spines, eggs and all, and that are longer than the ordinary sea-urchin. The spine in this species is not large nor strong, but rather limp; and the black formations in connexion with the mouth are more than usually numerous, and communicate with the external duct, but not with one another; in point of fact, the animal is in a manner divided up by them. The edible urchin moves with greatest freedom and most often; and this is indicated by the fact that these urchins have always something or other on their spines.

All urchins are supplied with eggs, but in some of the species the eggs are exceedingly small and unfit for food. Singularly enough, the urchin has what we may call its head and mouth down below, and a place for the issue of the residuum up above; (and this same property is common to all stromboids and to limpets). For the food on which the creature lives lies down below; consequently the mouth has a position well adapted for getting at the food, and the excretion is above, near to the back of the shell. The urchin has, also, five hollow teeth inside, and in the middle of these teeth a fleshy substance serving the office of a tongue. Next to this comes the oesophagus, and then the stomach, divided into five parts, and filled with excretion, all the five parts uniting at the anal vent, where the shell is perforated for an outlet. Underneath the stomach, in another membrane, are the so-called eggs, identical in number in all cases, and that number is always an odd number, to wit five. Up above, the black formations are attached to the starting-point of the teeth, and they are bitter to the taste, and unfit for food. A similar or at least an analogous formation is found in many animals; as, for instance, in the tortoise, the toad, the frog, the stromboids, and, generally, in the molluscs; but the formation varies here and there in colour, and in all cases is altogether uneatable, or more or less unpalatable. In reality the mouth-apparatus of the urchin is continuous from one end to the other, but to outward appearance it is not so, but looks like a horn lantern with the panes of horn left out. The urchin uses its spines as feet; for it rests its weight on these, and then moving shifts from place to place.

6

The so-called tethyum or ascidian has of all these animals the most remarkable characteristics. It is the only mollusc that has its entire body concealed within its shell, and the shell is a substance intermediate between hide and shell, so that it cuts like a piece of hard leather. It is attached to rocks by its shell, and is provided with two passages placed at a distance from one another, very minute and hard to see, whereby it admits and discharges the sea-water; for it has no visible excretion (whereas of shell fish in general some resemble the urchin in this matter of excretion, and others are provided with the so-called mecon, or poppy-juice). If the animal be opened, it is found to have, in the first place, a tendinous membrane running round inside the shell-like substance, and within this membrane is the flesh-like substance of the ascidian, not resembling that in other molluscs; but this flesh, to which I now allude, is the same in all ascidia. And this substance is attached in two places to the membrane and the skin, obliquely; and at the point of attachment the space is narrowed from side to side, where the fleshy substance stretches towards the passages that lead outwards through the shell; and here it discharges and admits food and liquid matter, just as it would if one of the passages were a mouth and the other an anal vent; and one of the passages is somewhat wider than the other Inside it has a pair of cavities, one on either side, a small partition separating them; and one of these two cavities contains the liquid. The creature has no other organ whether motor or sensory, nor, as was said in the case of the others, is it furnished with any organ connected with excretion, as other shell-fish are. The colour of the ascidian is in some cases sallow, and in other cases red.

There is, furthermore, the genus of the sea-nettles, peculiar in its way. The sea-nettle, or sea-anemone, clings to rocks like certain of the testaceans, but at times relaxes its hold. It has no shell, but its entire body is fleshy. It is sensitive to touch, and, if you put your hand to it, it will seize and cling to it, as the cuttlefish would do with its feelers, and in such a way as to make the flesh of your hand swell up. Its mouth is in the centre of its body, and it lives adhering to the rock as an oyster to its shell. If any little fish come up against it it it clings to it; in fact, just as I described it above as doing to your hand, so it does to anything edible that comes in its way; and it feeds upon sea-urchins and scallops. Another species of the sea-nettle roams freely abroad. The sea-nettle appears to be devoid altogether of excretion, and in this respect it resembles a plant.

Of sea-nettles there are two species, the lesser and more edible, and the large hard ones, such as are found in the neighbourhood of Chalcis. In winter time their flesh is firm, and accordingly they are sought after as articles of food, but in summer weather they are worthless, for they become thin and watery, and if you catch at them they break at once into bits, and cannot be taken off the rocks entire; and being oppressed by the heat they tend to slip back into the crevices of the rocks.

So much for the external and the internal organs of molluscs, crustaceans, and testaceans.

7

We now proceed to treat of insects in like manner. This genus comprises many species, and, though several kinds are clearly related to one another, these are not classified under one common designation, as in the case of the bee, the drone, the wasp, and all such insects, and again as in the case of those that have their wings in a sheath or shard, like the cockchafer, the carabus or stag-beetle, the cantharis or blister-beetle, and the like.

Insects have three parts common to them all; the head, the trunk containing the stomach, and a third part in betwixt these two, corresponding to what in other creatures embraces chest and back. In the majority of insects this intermediate part is single; but in the long and multipedal insects it has practically the same number of segments as of nicks.

All insects when cut in two continue to live, excepting such as are naturally cold by nature, or such as from their minute size chill rapidly; though, by the way, wasps notwithstanding their small size continue living after severance. In conjunction with the middle portion either the head or the stomach can live, but the head cannot live by itself. Insects that are long in shape and many-footed can live for a long while after being cut in twain, and the severed portions can move in either direction, backwards or forwards; thus, the hinder portion, if cut off, can crawl either in the direction of the section or in the direction of the tail, as is observed in the scolopendra.

All insects have eyes, but no other organ of sense discernible, except that some insects have a kind of a tongue corresponding to a similar organ common to all testaceans; and by this organ such insects taste and imbibe their food. In some insects this organ is soft; in other insects it is firm; as it is, by the way, in the purple-fish, among testaceans. In the horsefly and the gadfly this organ is hard, and indeed it is hard in most insects. In point of fact, such insects as have no sting in the rear use this organ as a weapon, (and, by the way, such insects as are provided with this organ are unprovided with teeth, with the exception of a few insects); the fly by a touch can draw blood with this organ, and the gnat can prick or sting with it.

Certain insects are furnished with prickers or stings. Some insects have the sting inside, as the bee and the wasp, others outside, as the scorpion; and, by the way, this is the only insect furnished with a long tail. And, further, the scorpion is furnished with claws, as is also the creature resembling a scorpion found within the pages of books.

In addition to their other organs, flying insects are furnished with wings. Some insects are dipterous or double-winged, as the fly; others are tetrapterous or furnished with four wings, as the bee; and, by the way, no insect with only two wings has a sting in the rear. Again, some winged insects have a sheath or shard for their wings, as the cockchafer; whereas in others the wings are unsheathed, as in the bee. But in the case of all alike, flight is in no way modified by tail-steerage, and the wing is devoid of quill-structure or division of any kind.

Again, some insects have antennae in front of their eyes, as the butterfly and the horned beetle. Such of them as have the power of jumping have the hinder legs the longer; and these long hind-legs whereby they jump bend backwards like the hind-legs of quadrupeds. All insects have the belly different from the back; as, in fact, is the case with all animals. The flesh of an insect’s body is neither shell-like nor is it like the internal substance of shell-covered animals, nor is it like flesh in the ordinary sense of the term; but it is a something intermediate in quality. Wherefore they have nor spine, nor bone, nor sepia-bone, nor enveloping shell; but their body by its hardness is its own protection and requires no extraneous support. However, insects have a skin; but the skin is exceedingly thin. These and such-like are the external organs of insects.

Internally, next after the mouth, comes a gut, in the majority of cases straight and simple down to the outlet of the residuum: but in a few cases the gut is coiled. No insect is provided with any viscera, or is supplied with fat; and these statements apply to all animals devoid of blood. Some have a stomach also, and attached to this the rest of the gut, either simple or convoluted as in the case of the acris or grasshopper.

The tettix or cicada, alone of such creatures (and, in fact, alone of all creatures), is unprovided with a mouth, but it is provided with the tongue-like formation found in insects furnished with frontward stings; and this formation in the cicada is long, continuous, and devoid of any split; and by the aid of this the creature feeds on dew, and on dew only, and in its stomach no excretion is ever found. Of the cicada there are several kinds, and they differ from one another in relative magnitude, and in this respect that the achetes or chirper is provided with a cleft or aperture under the hypozoma and has in it a membrane quite discernible, whilst the membrane is indiscernible in the tettigonia.

Furthermore, there are some strange creatures to be found in the sea, which from their rarity we are unable to classify. Experienced fishermen affirm, some that they have at times seen in the sea animals like sticks, black, rounded, and of the same thickness throughout; others that they have seen creatures resembling shields, red in colour, and furnished with fins packed close together; and others that they have seen creatures resembling the male organ in shape and size, with a pair of fins in the place of the testicles, and they aver that on one occasion a creature of this description was brought up on the end of a nightline.

So much then for the parts, external and internal, exceptional and common, of all animals.

8

We now proceed to treat of the senses; for there are diversities in animals with regard to the senses, seeing that some animals have the use of all the senses, and others the use of a limited number of them. The total number of the senses (for we have no experience of any special sense not here included), is five: sight, hearing, smell, taste, and touch.

Man, then, and all vivipara that have feet, and, further, all red-blooded ovipara, appear to have the use of all the five senses, except where some isolated species has been subjected to mutilation, as in the case of the mole. For this animal is deprived of sight; it has no eyes visible, but if the skin-a thick one, by the way-be stripped off the head, about the place in the exterior where eyes usually are, the eyes are found inside in a stunted condition, furnished with all the parts found in ordinary eyes; that is to say, we find there the black rim, and the fatty part surrounding it; but all these parts are smaller than the same parts in ordinary visible eyes. There is no external sign of the existence of these organs in the mole, owing to the thickness of the skin drawn over them, so that it would seem that the natural course of development were congenitally arrested; (for extending from the brain at its junction with the marrow are two strong sinewy ducts running past the sockets of the eyes, and terminating at the upper eye-teeth). All the other animals of the kinds above mentioned have a perception of colour and of sound, and the senses of smell and taste; the fifth sense, that, namely, of touch, is common to all animals whatsoever.

In some animals the organs of sense are plainly discernible; and this is especially the case with the eyes. For animals have a special locality for the eyes, and also a special locality for hearing: that is to say, some animals have ears, while others have the passage for sound discernible. It is the same with the sense of smell; that is to say, some animals have nostrils, and others have only the passages for smell, such as birds. It is the same also with the organ of taste, the tongue. Of aquatic red-blooded animals, fishes possess the organ of taste, namely the tongue, but it is in an imperfect and amorphous form, in other words it is osseous and undetached. In some fish the palate is fleshy, as in the fresh-water carp, so that by an inattentive observer it might be mistaken for a tongue.

There is no doubt but that fishes have the sense of taste, for a great number of them delight in special flavours; and fishes freely take the hook if it be baited with a piece of flesh from a tunny or from any fat fish, obviously enjoying the taste and the eating of food of this kind. Fishes have no visible organs for hearing or for smell; for what might appear to indicate an organ for smell in the region of the nostril has no communication with the brain. These indications, in fact, in some cases lead nowhere, like blind alleys, and in other cases lead only to the gills; but for all this fishes undoubtedly hear and smell. For they are observed to run away from any loud noise, such as would be made by the rowing of a galley, so as to become easy of capture in their holes; for, by the way, though a sound be very slight in the open air, it has a loud and alarming resonance to creatures that hear under water. And this is shown in the capture of the dolphin; for when the hunters have enclosed a shoal of these fishes with a ring of their canoes, they set up from inside the canoes a loud splashing in the water, and by so doing induce the creatures to run in a shoal high and dry up on the beach, and so capture them while stupefied with the noise. And yet, for all this, the dolphin has no organ of hearing discernible. Furthermore, when engaged in their craft, fishermen are particularly careful to make no noise with oar or net; and after they have spied a shoal, they let down their nets at a spot so far off that they count upon no noise being likely to reach the shoal, occasioned either by oar or by the surging of their boats through the water; and the crews are strictly enjoined to preserve silence until the shoal has been surrounded. And, at times, when they want the fish to crowd together, they adopt the stratagem of the dolphin-hunter; in other words they clatter stones together, that the fish may, in their fright, gather close into one spot, and so they envelop them within their nets. (Before surrounding them, then, they preserve silence, as was said; but, after hemming the shoal in, they call on every man to shout out aloud and make any kind of noise; for on hearing the noise and hubbub the fish are sure to tumble into the nets from sheer fright.) Further, when fishermen see a shoal of fish feeding at a distance, disporting themselves in calm bright weather on the surface of the water, if they are anxious to descry the size of the fish and to learn what kind of a fish it is, they may succeed in coming upon the shoal whilst yet basking at the surface if they sail up without the slightest noise, but if any man make a noise previously, the shoal will be seen to scurry away in alarm. Again, there is a small river-fish called the cottus or bullhead; this creature burrows under a rock, and fishers catch it by clattering stones against the rock, and the fish, bewildered at the noise, darts out of its hiding-place. From these facts it is quite obvious that fishes can hear; and indeed some people, from living near the sea and frequently witnessing such phenomena, affirm that of all living creatures the fish is the quickest of hearing. And, by the way, of all fishes the quickest of hearing are the cestreus or mullet, the chremps, the labrax or basse, the salpe or saupe, the chromis or sciaena, and such like. Other fishes are less quick of hearing, and, as might be expected, are more apt to be found living at the bottom of the sea.

The case is similar in regard to the sense of smell. Thus, as a rule, fishes will not touch a bait that is not fresh, neither are they all caught by one and the same bait, but they are severally caught by baits suited to their several likings, and these baits they distinguish by their sense of smell; and, by the way, some fishes are attracted by malodorous baits, as the saupe, for instance, is attracted by excrement. Again, a number of fishes live in caves; and accordingly fishermen, when they want to entice them out, smear the mouth of a cave with strong-smelling pickles, and the fish are Soon attracted to the smell. And the eel is caught in a similar way; for the fisherman lays down an earthen pot that has held pickles, after inserting a ‘weel’ in the neck thereof. As a general rule, fishes are especially attracted by savoury smells. For this reason, fishermen roast the fleshy parts of the cuttle-fish and use it as bait on account of its smell, for fish are peculiarly attracted by it; they also bake the octopus and bait their fish-baskets or weels with it, entirely, as they say, on account of its smell. Furthermore, gregarious fishes, if fish washings or bilge-water be thrown overboard, are observed to scud off to a distance, from apparent dislike of the smell. And it is asserted that they can at once detect by smell the presence of their own blood; and this faculty is manifested by their hurrying off to a great distance whenever fish-blood is spilt in the sea. And, as a general rule, if you bait your weel with a stinking bait, the fish refuse to enter the weel or even to draw near; but if you bait the weel with a fresh and savoury bait, they come at once from long distances and swim into it. And all this is particularly manifest in the dolphin; for, as was stated, it has no visible organ of hearing, and yet it is captured when stupefied with noise; and so, while it has no visible organ for smell, it has the sense of smell remarkably keen. It is manifest, then, that the animals above mentioned are in possession of all the five senses.

All other animals may, with very few exceptions, be comprehended within four genera: to wit, molluscs, crustaceans, testaceans, and insects. Of these four genera, the mollusc, the crustacean, and the insect have all the senses: at all events, they have sight, smell, and taste. As for insects, both winged and wingless, they can detect the presence of scented objects afar off, as for instance bees and snipes detect the presence of honey at a distance; and do so recognizing it by smell. Many insects are killed by the smell of brimstone; ants, if the apertures to their dwellings be smeared with powdered origanum and brimstone, quit their nests; and most insects may be banished with burnt hart’s horn, or better still by the burning of the gum styrax. The cuttle-fish, the octopus, and the crawfish may be caught by bait. The octopus, in fact, clings so tightly to the rocks that it cannot be pulled off, but remains attached even when the knife is employed to sever it; and yet, if you apply fleabane to the creature, it drops off at the very smell of it. The facts are similar in regard to taste. For the food that insects go in quest of is of diverse kinds, and they do not all delight in the same flavours: for instance, the bee never settles on a withered or wilted flower, but on fresh and sweet ones; and the conops or gnat settles only on acrid substances and not on sweet. The sense of touch, by the way, as has been remarked, is common to all animals. Testaceans have the senses of smell and taste. With regard to their possession of the sense of smell, that is proved by the use of baits, e.g. in the case of the purple-fish; for this creature is enticed by baits of rancid meat, which it perceives and is attracted to from a great distance. The proof that it possesses a sense of taste hangs by the proof of its sense of smell; for whenever an animal is attracted to a thing by perceiving its smell, it is sure to like the taste of it. Further, all animals furnished with a mouth derive pleasure or pain from the touch of sapid juices.

With regard to sight and hearing, we cannot make statements with thorough confidence or on irrefutable evidence. However, the solen or razor-fish, if you make a noise, appears to burrow in the sand, and to hide himself deeper when he hears the approach of the iron rod (for the animal, be it observed, juts a little out of its hole, while the greater part of the body remains within),-and scallops, if you present your finger near their open valves, close them tight again as though they could see what you were doing. Furthermore, when fishermen are laying bait for neritae, they always get to leeward of them, and never speak a word while so engaged, under the firm impression that the animal can smell and hear; and they assure us that, if any one speaks aloud, the creature makes efforts to escape. With regard to testaceans, of the walking or creeping species the urchin appears to have the least developed sense of smell; and, of the stationary species, the ascidian and the barnacle.

So much for the organs of sense in the general run of animals. We now proceed to treat of voice.

9

Voice and sound are different from one another; and language differs from voice and sound. The fact is that no animal can give utterance to voice except by the action of the pharynx, and consequently such animals as are devoid of lung have no voice; and language is the articulation of vocal sounds by the instrumentality of the tongue. Thus, the voice and larynx can emit vocal or vowel sounds; non-vocal or consonantal sounds are made by the tongue and the lips; and out of these vocal and non-vocal sounds language is composed. Consequently, animals that have no tongue at all or that have a tongue not freely detached, have neither voice nor language; although, by the way, they may be enabled to make noises or sounds by other organs than the tongue.

Insects, for instance, have no voice and no language, but they can emit sound by internal air or wind, though not by the emission of air or wind; for no insects are capable of respiration. But some of them make a humming noise, like the bee and the other winged insects; and others are said to sing, as the cicada. And all these latter insects make their special noises by means of the membrane that is underneath the ‘hypozoma’-those insects, that is to say, whose body is thus divided; as for instance, one species of cicada, which makes the sound by means of the friction of the air. Flies and bees, and the like, produce their special noise by opening and shutting their wings in the act of flying; for the noise made is by the friction of air between the wings when in motion. The noise made by grasshoppers is produced by rubbing or reverberating with their long hind-legs.

No mollusc or crustacean can produce any natural voice or sound. Fishes can produce no voice, for they have no lungs, nor windpipe and pharynx; but they emit certain inarticulate sounds and squeaks, which is what is called their ‘voice’, as the lyra or gurnard, and the sciaena (for these fishes make a grunting kind of noise) and the caprus or boar-fish in the river Achelous, and the chalcis and the cuckoo-fish; for the chalcis makes a sort piping sound, and the cuckoo-fish makes a sound greatly like the cry of the cuckoo, and is nicknamed from the circumstance. The apparent voice in all these fishes is a sound caused in some cases by a rubbing motion of their gills, which by the way are prickly, or in other cases by internal parts about their bellies; for they all have air or wind inside them, by rubbing and moving which they produce the sounds. Some cartilaginous fish seem to squeak.

But in these cases the term ‘voice’ is inappropriate; the more correct expression would be ‘sound’. For the scallop, when it goes along supporting itself on the water, which is technically called ‘flying’, makes a whizzing sound; and so does the sea-swallow or flying-fish: for this fish flies in the air, clean out of the water, being furnished with fins broad and long. Just then as in the flight of birds the sound made by their wings is obviously not voice, so is it in the case of all these other creatures.

The dolphin, when taken out of the water, gives a squeak and moans in the air, but these noises do not resemble those above mentioned. For this creature has a voice (and can therefore utter vocal or vowel sounds), for it is furnished with a lung and a windpipe; but its tongue is not loose, nor has it lips, so as to give utterance to an articulate sound (or a sound of vowel and consonant in combination.)

Of animals which are furnished with tongue and lung, the oviparous quadrupeds produce a voice, but a feeble one; in some cases, a shrill piping sound, like the serpent; in others, a thin faint cry; in others, a low hiss, like the tortoise. The formation of the tongue in the frog is exceptional. The front part of the tongue, which in other animals is detached, is tightly fixed in the frog as it is in all fishes; but the part towards the pharynx is freely detached, and may, so to speak, be spat outwards, and it is with this that it makes its peculiar croak. The croaking that goes on in the marsh is the call of the males to the females at rutting time; and, by the way, all animals have a special cry for the like end at the like season, as is observed in the case of goats, swine, and sheep. (The bull-frog makes its croaking noise by putting its under jaw on a level with the surface of the water and extending its upper jaw to its utmost capacity. The tension is so great that the upper jaw becomes transparent, and the animal's eyes shine through the jaw like lamps; for, by the way, the commerce of the sexes takes place usually in the night time.) Birds can utter vocal sounds; and such of them can articulate best as have the tongue moderately flat, and also such as have thin delicate tongues. In some cases, the male and the female utter the same note; in other cases, different notes. The smaller birds are more vocal and given to chirping than the larger ones; but in the pairing season every species of bird becomes particularly vocal. Some of them call when fighting, as the quail, others cry or crow when challenging to combat, as the partridge, or when victorious, as the barn-door cock. In some cases cock-birds and hens sing alike, as is observed in the nightingale, only that the hen stops singing when brooding or rearing her young; in other birds, the cocks sing more than the hens; in fact, with barn-door fowls and quails, the cock sings and the hen does not.

Viviparous quadrupeds utter vocal sounds of different kinds, but they have no power of converse. In fact, this power, or language, is peculiar to man. For while the capability of talking implies the capability of uttering vocal sounds, the converse does not hold good. Men that are born deaf are in all cases also dumb; that is, they can make vocal sounds, but they cannot speak. Children, just as they have no control over other parts, so have no control, at first, over the tongue; but it is so far imperfect, and only frees and detaches itself by degrees, so that in the interval children for the most part lisp and stutter.

Vocal sounds and modes of language differ according to locality. Vocal sounds are characterized chiefly by their pitch, whether high or low, and the kinds of sound capable of being produced are identical within the limits of one and the same species; but articulate sound, that one might reasonably designate ‘language’, differs both in various animals, and also in the same species according to diversity of locality; as for instance, some partridges cackle, and some make a shrill twittering noise. Of little birds, some sing a different note from the parent birds, if they have been removed from the nest and have heard other birds singing; and a mother-nightingale has been observed to give lessons in singing to a young bird, from which spectacle we might obviously infer that the song of the bird was not equally congenital with mere voice, but was something capable of modification and of improvement. Men have the same voice or vocal sounds, but they differ from one another in speech or language.

The elephant makes a vocal sound of a windlike sort by the mouth alone, unaided by the trunk, just like the sound of a man panting or sighing; but, if it employ the trunk as well, the sound produced is like that of a hoarse trumpet.

10

With regard to the sleeping and waking of animals, all creatures that are red-blooded and provided with legs give sensible proof that they go to sleep and that they waken up from sleep; for, as a matter of fact, all animals that are furnished with eyelids shut them up when they go to sleep. Furthermore, it would appear that not only do men dream, but horses also, and dogs, and oxen; aye, and sheep, and goats, and all viviparous quadrupeds; and dogs show their dreaming by barking in their sleep. With regard to oviparous animals we cannot be sure that they dream, but most undoubtedly they sleep. And the same may be said of water animals, such as fishes, molluscs, crustaceans, to wit crawfish and the like. These animals sleep without doubt, although their sleep is of very short duration. The proof of their sleeping cannot be got from the condition of their eyes-for none of these creatures are furnished with eyelids-but can be obtained only from their motionless repose.

Apart from the irritation caused by lice and what are nicknamed fleas, fish are met with in a state so motionless that one might easily catch them by hand; and, as a matter of fact, these little creatures, if the fish remain long in one position, will attack them in myriads and devour them. For these parasites are found in the depths of the sea, and are so numerous that they devour any bait made of fish's flesh if it be left long on the ground at the bottom; and fishermen often draw up a cluster of them, all clinging on to the bait.

But it is from the following facts that we may more reasonably infer that fishes sleep. Very often it is possible to take a fish off its guard so far as to catch hold of it or to give it a blow unawares; and all the while that you are preparing to catch or strike it, the fish is quite still but for a slight motion of the tail. And it is quite obvious that the animal is sleeping, from its movements if any disturbance be made during its repose; for it moves just as you would expect in a creature suddenly awakened. Further, owing to their being asleep, fish may be captured by torchlight. The watchmen in the tunny-fishery often take advantage of the fish being asleep to envelop them in a circle of nets; and it is quite obvious that they were thus sleeping by their lying still and allowing the glistening under-parts of their bodies to become visible, while the capture is taking Place. They sleep in the night-time more than during the day; and so soundly at night that you may cast the net without making them stir. Fish, as a general rule, sleep close to the ground, or to the sand or to a stone at the bottom, or after concealing themselves under a rock or the ground. Flat fish go to sleep in the sand; and they can be distinguished by the outlines of their shapes in the sand, and are caught in this position by being speared with pronged instruments. The basse, the chrysophrys or gilt-head, the mullet, and fish of the like sort are often caught in the daytime by the prong owing to their having been surprised when sleeping; for it is scarcely probable that fish could be pronged while awake. Cartilaginous fish sleep at times so soundly that they may be caught by hand. The dolphin and the whale, and all such as are furnished with a blow-hole, sleep with the blow-hole over the surface of the water, and breathe through the blow-hole while they keep up a quiet flapping of their fins; indeed, some mariners assure us that they have actually heard the dolphin snoring.

Molluscs sleep like fishes, and crustaceans also. It is plain also that insects sleep; for there can be no mistaking their condition of motionless repose. In the bee the fact of its being asleep is very obvious; for at night-time bees are at rest and cease to hum. But the fact that insects sleep may be very well seen in the case of common every-day creatures; for not only do they rest at night-time from dimness of vision (and, by the way, all hard-eyed creatures see but indistinctly), but even if a lighted candle be presented they continue sleeping quite as soundly.

Of all animals man is most given to dreaming. Children and infants do not dream, but in most cases dreaming comes on at the age of four or five years. Instances have been known of full-grown men and women that have never dreamed at all; in exceptional cases of this kind, it has been observed that when a dream occurs in advanced life it prognosticates either actual dissolution or a general break-up of the system.

So much then for sensation and for the phenomena of sleeping and of awakening.

11

With regard to sex, some animals are divided into male and female, but others are not so divided but can only be said in a comparative way to bring forth young and to be pregnant. In animals that live confined to one spot there is no duality of sex; nor is there such, in fact, in any testaceans. In molluscs and in crustaceans we find male and female: and, indeed, in all animals furnished with feet, biped or quadruped; in short, in all such as by copulation engender either live young or egg or grub. In the several genera, with however certain exceptions, there either absolutely is or absolutely is not a duality of sex. Thus, in quadrupeds the duality is universal, while the absence of such duality is universal in testaceans, and of these creatures, as with plants, some individuals are fruitful and some are not their lying still

But among insects and fishes, some cases are found wholly devoid of this duality of sex. For instance, the eel is neither male nor female, and can engender nothing. In fact, those who assert that eels are at times found with hair-like or worm-like progeny attached, make only random assertions from not having carefully noticed the locality of such attachments. For no eel nor animal of this kind is ever viviparous unless previously oviparous; and no eel was ever yet seen with an egg. And animals that are viviparous have their young in the womb and closely attached, and not in the belly; for, if the embryo were kept in the belly, it would be subjected to the process of digestion like ordinary food. When people rest duality of sex in the eel on the assertion that the head of the male is bigger and longer, and the head of the female smaller and more snubbed, they are taking diversity of species for diversity of sex.

There are certain fish that are nicknamed the epitragiae, or capon-fish, and, by the way, fish of this description are found in fresh water, as the carp and the balagrus. This sort of fish never has either roe or milt; but they are hard and fat all over, and are furnished with a small gut; and these fish are regarded as of super-excellent quality.

Again, just as in testaceans and in plants there is what bears and engenders, but not what impregnates, so is it, among fishes, with the psetta, the erythrinus, and the channe; for these fish are in all cases found furnished with eggs.

As a general rule, in red-blooded animals furnished with feet and not oviparous, the male is larger and longer-lived than the female (except with the mule, where the female is longer-lived and bigger than the male); whereas in oviparous and vermiparous creatures, as in fishes and in insects, the female is larger than the male; as, for instance, with the serpent, the phalangium or venom-spider, the gecko, and the frog. The same difference in size of the sexes is found in fishes, as, for instance, in the smaller cartilaginous fishes, in the greater part of the gregarious species, and in all that live in and about rocks. The fact that the female is longer-lived than the male is inferred from the fact that female fishes are caught older than males. Furthermore, in all animals the upper and front parts are better, stronger, and more thoroughly equipped in the male than in the female, whereas in the female those parts are the better that may be termed hinder-parts or underparts. And this statement is applicable to man and to all vivipara that have feet. Again, the female is less muscular and less compactly jointed, and more thin and delicate in the hair-that is, where hair is found; and, where there is no hair, less strongly furnished in some analogous substance. And the female is more flaccid in texture of flesh, and more knock-kneed, and the shin-bones are thinner; and the feet are more arched and hollow in such animals as are furnished with feet. And with regard to voice, the female in all animals that are vocal has a thinner and sharper voice than the male; except, by the way, with kine, for the lowing and bellowing of the cow has a deeper note than that of the bull. With regard to organs of defence and offence, such as teeth, tusks, horns, spurs, and the like, these in some species the male possesses and the female does not; as, for instance, the hind has no horns, and where the cock-bird has a spur the hen is entirely destitute of the organ; and in like manner the sow is devoid of tusks. In other species such organs are found in both sexes, but are more perfectly developed in the male; as, for instance, the horn of the bull is more powerful than the horn of the cow.

Book V

1

As to the parts internal and external that all animals are furnished withal, and further as to the senses, to voice, and sleep, and the duality sex, all these topics have now been touched upon. It now remains for us to discuss, duly and in order, their several modes of propagation.

These modes are many and diverse, and in some respects are like, and in other respects are unlike to one another. As we carried on our previous discussion genus by genus, so we must attempt to follow the same divisions in our present argument; only that whereas in the former case we started with a consideration of the parts of man, in the present case it behoves us to treat of man last of all because he involves most discussion. We shall commence, then, with testaceans, and then proceed to crustaceans, and then to the other genera in due order; and these other genera are, severally, molluscs, and insects, then fishes viviparous and fishes oviparous, and next birds; and afterwards we shall treat of animals provided with feet, both such as are oviparous and such as are viviparous, and we may observe that some quadrupeds are viviparous, but that the only viviparous biped is man.

Now there is one property that animals are found to have in common with plants. For some plants are generated from the seed of plants, whilst other plants are self-generated through the formation of some elemental principle similar to a seed; and of these latter plants some derive their nutriment from the ground, whilst others grow inside other plants, as is mentioned, by the way, in my treatise on Botany. So with animals, some spring from parent animals according to their kind, whilst others grow spontaneously and not from kindred stock; and of these instances of spontaneous generation some come from putrefying earth or vegetable matter, as is the case with a number of insects, while others are spontaneously generated in the inside of animals out of the secretions of their several organs.

In animals where generation goes by heredity, wherever there is duality of sex generation is due to copulation. In the group of fishes, however, there are some that are neither male nor female, and these, while they are identical generically with other fish, differ from them specifically; but there are others that stand altogether isolated and apart by themselves. Other fishes there are that are always female and never male, and from them are conceived what correspond to the wind-eggs in birds. Such eggs, by the way, in birds are all unfruitful; but it is their nature to be independently capable of generation up to the egg-stage, unless indeed there be some other mode than the one familiar to us of intercourse with the male; but concerning these topics we shall treat more precisely later on. In the case of certain fishes, however, after they have spontaneously generated eggs, these eggs develop into living animals; only that in certain of these cases development is spontaneous, and in others is not independent of the male; and the method of proceeding in regard to these matters will set forth by and by, for the method is somewhat like to the method followed in the case of birds. But whensoever creatures are spontaneously generated, either in other animals, in the soil, or on plants, or in the parts of these, and when such are generated male and female, then from the copulation of such spontaneously generated males and females there is generated a something-a something never identical in shape with the parents, but a something imperfect. For instance, the issue of copulation in lice is nits; in flies, grubs; in fleas, grubs egg-like in shape; and from these issues the parent-species is never reproduced, nor is any animal produced at all, but the like nondescripts only.

First, then, we must proceed to treat of ‘covering’ in regard to such animals as cover and are covered; and then after this to treat in due order of other matters, both the exceptional and those of general occurrence.

2

Those animals, then, cover and are covered in which there is a duality of sex, and the modes of covering in such animals are not in all cases similar nor analogous. For the red-blooded animals that are viviparous and furnished with feet have in all cases organs adapted for procreation, but the sexes do not in all cases come together in like manner. Thus, opisthuretic animals copulate with a rearward presentment, as is the case with the lion, the hare, and the lynx; though, by the way, in the case of the hare, the female is often observed to cover the male.

The case is similar in most other such animals; that is to say, the majority of quadrupeds copulate as best they can, the male mounting the female; and this is the only method of copulating adopted by birds, though there are certain diversities of method observed even in birds. For in some cases the female squats on the ground and the male mounts on top of her, as is the case with the cock and hen bustard, and the barn-door cock and hen; in other cases, the male mounts without the female squatting, as with the male and female crane; for, with these birds, the male mounts on to the back of the female and covers her, and like the cock-sparrow consumes but very little time in the operation. Of quadrupeds, bears perform the operation lying prone on one another, in the same way as other quadrupeds do while standing up; that is to say, with the belly of the male pressed to the back of the female. Hedgehogs copulate erect, belly to belly.

With regard to large-sized vivipara, the hind only very rarely sustains the mounting of the stag to the full conclusion of the operation, and the same is the case with the cow as regards the bull, owing to the rigidity of the penis of the bull. In point of fact, the females of these animals elicit the sperm of the male in the act of withdrawing from underneath him; and, by the way, this phenomenon has been observed in the case of the stag and hind, domesticated, of course. Covering with the wolf is the same as with the dog. Cats do not copulate with a rearward presentment on the part of the female, but the male stands erect and the female puts herself underneath him; and, by the way, the female cat is peculiarly lecherous, and wheedles the male on to sexual commerce, and caterwauls during the operation. Camels copulate with the female in a sitting posture, and the male straddles over and covers her, not with the hinder presentment on the female’s part but like the other quadrupeds mentioned above, and they pass the whole day long in the operation; when thus engaged they retire to lonely spots, and none but their keeper dare approach them. And, be it observed, the penis of the camel is so sinewy that bow-strings are manufactured out of it. Elephants, also, copulate in lonely places, and especially by river-sides in their usual haunts; the female squats down, and straddles with her legs, and the male mounts and covers her. The seal covers like all opisthuretic animals, and in this species the copulation extends over a lengthened time, as is the case with the dog and bitch; and the penis in the male seal is exceptionally large.

3

Oviparous quadrupeds cover one another in the same way. That is to say, in some cases the male mounts the female precisely as in the viviparous animals, as is observed in both the land and the sea tortoise....And these creatures have an organ in which the ducts converge, and with which they perform the act of copulation, as is also observed in the toad, the frog, and all other animals of the same group.

4

Long animals devoid of feet, like serpents and muraenae, intertwine in coition, belly to belly. And, in fact, serpents coil round one another so tightly as to present the appearance of a single serpent with a pair of heads. The same mode is followed by the saurians; that is to say, they coil round one another in the act of coition.

5

All fishes, with the exception of the flat selachians, lie down side by side, and copulate belly to belly. Fishes, however, that are flat and furnished with tails-as the ray, the trygon, and the like-copulate not only in this way, but also, where the tail from its thinness is no impediment, by mounting of the male upon the female, belly to back. But the rhina or angel-fish, and other like fishes where the tail is large, copulate only by rubbing against one another sideways, belly to belly. Some men assure us that they have seen some of the selachia copulating hindways, dog and bitch. In the cartilaginous species the female is larger than the male; and the same is the case with other fishes for the most part. And among cartilaginous fishes are included, besides those already named, the bos, the lamia, the aetos, the narce or torpedo, the fishing-frog, and all the galeodes or sharks and dogfish. Cartilaginous fishes, then, of all kinds, have in many instances been observed copulating in the way above mentioned; for, by the way, in viviparous animals the process of copulation is of longer duration than in the ovipara.

It is the same with the dolphin and with all cetaceans; that is to say, they come side by side, male and female, and copulate, and the act extends over a time which is neither short nor very long.

Again, in cartilaginous fishes the male, in some species, differs from the female in the fact that he is furnished with two appendages hanging down from about the exit of the residuum, and that the female is not so furnished; and this distinction between the sexes is observed in all the species of the sharks and dog-fish.

Now neither fishes nor any animals devoid of feet are furnished with testicles, but male serpents and male fishes have a pair of ducts which fill with milt or sperm at the rutting season, and discharge, in all cases, a milk-like juice. These ducts unite, as in birds; for birds, by the way, have their testicles in their interior, and so have all ovipara that are furnished with feet. And this union of the ducts is so far continued and of such extension as to enter the receptive organ in the female.

In viviparous animals furnished with feet there is outwardly one and the same duct for the sperm and the liquid residuum; but there are separate ducts internally, as has been observed in the differentiation of the organs. And with such animals as are not viviparous the same passage serves for the discharge also of the solid residuum; although, internally, there are two passages, separate but near to one another. And these remarks apply to both male and female; for these animals are unprovided with a bladder except in the case of the tortoise; and the she-tortoise, though furnished with a bladder, has only one passage; and tortoises, by the way, belong to the ovipara.

In the case of oviparous fishes the process of coition is less open to observation. In point of fact, some are led by the want of actual observation to surmise that the female becomes impregnated by swallowing the seminal fluid of the male. And there can be no doubt that this proceeding on the part of the female is often witnessed; for at the rutting season the females follow the males and perform this operation, and strike the males with their mouths under the belly, and the males are thereby induced to part with the sperm sooner and more plentifully. And, further, at the spawning season the males go in pursuit of the females, and, as the female spawns, the males swallow the eggs; and the species is continued in existence by the spawn that survives this process. On the coast of Phoenicia they take advantage of these instinctive propensities of the two sexes to catch both one and the other: that is to say, by using the male of the grey mullet as a decoy they collect and net the female, and by using the female, the male.

The repeated observation of this phenomenon has led to the notion that the process was equivalent to coition, but the fact is that a similar phenomenon is observable in quadrupeds. For at the rutting seasons both the males and the females take to running at their genitals, and the two sexes take to smelling each other at those parts. (With partridges, by the way, if the female gets to leeward of the male, she becomes thereby impregnated. And often when they happen to be in heat she is affected in this wise by the voice of the male, or by his breathing down on her as he flies overhead; and, by the way, both the male and the female partridge keep the mouth wide open and protrude the tongue in the process of coition.)

The actual process of copulation on the part of oviparous fishes is seldom accurately observed, owing to the fact that they very soon fall aside and slip asunder. But, for all that, the process has been observed to take place in the manner above described.

6

Molluscs, such as the octopus, the sepia, and the calamary, have sexual intercourse all in the same way; that is to say, they unite at the mouth, by an interlacing of their tentacles. When, then, the octopus rests its so-called head against the ground and spreads abroad its tentacles, the other sex fits into the outspreading of these tentacles, and the two sexes then bring their suckers into mutual connexion.

Some assert that the male has a kind of penis in one of his tentacles, the one in which are the largest suckers; and they further assert that the organ is tendinous in character, growing attached right up to the middle of the tentacle, and that the latter enables it to enter the nostril or funnel of the female.

Now cuttle-fish and calamaries swim about closely intertwined, with mouths and tentacles facing one another and fitting closely together, and swim thus in opposite directions; and they fit their so-called nostrils into one another, and the one sex swims backwards and the other frontwards during the operation. And the female lays its spawn by the so-called ‘blow-hole’; and, by the way, some declare that it is at this organ that the coition really takes place.

7

Crustaceans copulate, as the crawfish, the lobster, the carid and the like, just like the opisthuretic quadrupeds, when the one animal turns up its tail and the other puts his tail on the other's tail. Copulation takes place in the early spring, near to the shore; and, in fact, the process has often been observed in the case of all these animals. Sometimes it takes place about the time when the figs begin to ripen. Lobsters and carids copulate in like manner.

Crabs copulate at the front parts of one another, belly to belly, throwing their overlapping opercula to meet one another: first the smaller crab mounts the larger at the rear; after he has mounted, the larger one turns on one side. Now, the female differs in no respect from the male except in the circumstance that its operculum is larger, more elevated, and more hairy, and into this operculum it spawns its eggs and in the same neighbourhood is the outlet of the residuum. In the copulative process of these animals there is no protrusion of a member from one animal into the other.

8

Insects copulate at the hinder end, and the smaller individuals mount the larger; and the smaller individual is I I is the male. The female pushes from underneath her sexual organ into the body of the male above, this being the reverse of the operation observed in other creatures; and this organ in the case of some insects appears to be disproportionately large when compared to the size of the body, and that too in very minute creatures; in some insects the disproportion is not so striking. This phenomenon may be witnessed if any one will pull asunder flies that are copulating; and, by the way, these creatures are, under the circumstances, averse to separation; for the intercourse of the sexes in their case is of long duration, as may be observed with common everyday insects, such as the fly and the cantharis. They all copulate in the manner above described, the fly, the cantharis, the sphondyle, (the phalangium spider) any others of the kind that copulate at all. The phalangia-that is to say, such of the species as spin webs-perform the operation in the following way: the female takes hold of the suspended web at the middle and gives a pull, and the male gives a counter pull; this operation they repeat until they are drawn in together and interlaced at the hinder ends; for, by the way, this mode of copulation suits them in consequence of the rotundity of their stomachs.

So much for the modes of sexual intercourse in all animals; but, with regard to the same phenomenon, there are definite laws followed as regards the season of the year and the age of the animal.

Animals in general seem naturally disposed to this intercourse at about the same period of the year, and that is when winter is changing into summer. And this is the season of spring, in which almost all things that fly or walk or swim take to pairing. Some animals pair and breed in autumn also and in winter, as is the case with certain aquatic animals and certain birds. Man pairs and breeds at all seasons, as is the case also with domesticated animals, owing to the shelter and good feeding they enjoy: that is to say, with those whose period of gestation is also comparatively brief, as the sow and the bitch, and with those birds that breed frequently. Many animals time the season of intercourse with a view to the right nurture subsequently of their young. In the human species, the male is more under sexual excitement in winter, and the female in summer.

With birds the far greater part, as has been said, pair and breed during the spring and early summer, with the exception of the halcyon.

The halcyon breeds at the season of the winter solstice. Accordingly, when this season is marked with calm weather, the name of ‘halcyon days’ is given to the seven days preceding, and to as many following, the solstice; as Simonides the poet says:

God lulls for fourteen days the winds to sleep
In winter; and this temperate interlude
Men call the Holy Season, when the deep
Cradles the mother Halcyon and her brood.

And these days are calm, when southerly winds prevail at the solstice, northerly ones having been the accompaniment of the Pleiads. The halcyon is said to take seven days for building her nest, and the other seven for laying and hatching her eggs. In our country there are not always halcyon days about the time of the winter solstice, but in the Sicilian seas this season of calm is almost periodical. The bird lays about five eggs.

9

(The aithyia, or diver, and the larus, or gull, lay their eggs on rocks bordering on the sea, two or three at a time; but the gull lays in the summer, and the diver at the beginning of spring, just after the winter solstice, and it broods over its eggs as birds do in general. And neither of these birds resorts to a hiding-place.)

The halcyon is the most rarely seen of all birds. It is seen only about the time of the setting of the Pleiads and the winter solstice. When ships are lying at anchor in the roads, it will hover about a vessel and then disappear in a moment, and Stesichorus in one of his poems alludes to this peculiarity. The nightingale also breeds at the beginning of summer, and lays five or six eggs; from autumn until spring it retires to a hiding-place.

Insects copulate and breed in winter also, that is when the weather is fine and south winds prevail; such, I mean, as do not hibernate, as the fly and the ant. The greater part of wild animals bring forth once and once only in the year, except in the case of animals like the hare, where the female can become superfoetally impregnated.

In like manner the great majority of fishes breed only once a year, like the shoal-fishes (or, in other words, such as are caught in nets), the tunny, the pelamys, the grey mullet, the chalcis, the mackerel, the sciaena, the psetta and the like, with the exception of the labrax or basse; for this fish (alone amongst those mentioned) breeds twice a year, and the second brood is the weaker of the two. The trichias and the rock-fishes breed twice a year; the red mullet breeds thrice a year, and is exceptional in this respect. This conclusion in regard to the red mullet is inferred from the spawn; for the spawn of the fish may be seen in certain places at three different times of the year. The scorpaena breeds twice a year. The sargue breeds twice, in the spring and in the autumn. The saupe breeds once a year only, in the autumn. The female tunny breeds only once a year, but owing to the fact that the fish in some cases spawn early and in others late, it looks as though the fish bred twice over. The first spawning takes place in December before the solstice, and the latter spawning in the spring. The male tunny differs from the female in being unprovided with the fin beneath the belly which is called aphareus.

10

Of cartilaginous fishes, the rhina or angelfish is the only one that breeds twice; for it breeds at the beginning of autumn, and at the setting of the Pleiads: and, of the two seasons, it is in better condition in the autumn. It engenders at a birth seven or eight young. Certain of the dog-fishes, for example the spotted dog, seem to breed twice a month, and this results from the circumstance that the eggs do not all reach maturity at the same time.

Some fishes breed at all seasons, as the muraena. This animal lays a great number of eggs at a time; and the young when hatched are very small but grow with great rapidity, like the young of the hippurus, for these fishes from being diminutive at the outset grow with exceptional rapidity to an exceptional size. (Be it observed that the muraena breeds at all seasons, but the hippurus only in the spring. The smyrus differs from the smyraena; for the muraena is mottled and weakly, whereas the smyrus is strong and of one uniform colour, and the colour resembles that of the pine-tree, and the animal has teeth inside and out. They say that in this case, as in other similar ones, the one is the male, and the other the female, of a single species. They come out on to the land, and are frequently caught.) Fishes, then, as a general rule, attain their full growth with great rapidity, but this is especially the case, among small fishes, with the coracine or crow-fish: it spawns, by the way, near the shore, in weedy and tangled spots. The orphus also, or sea-perch, is small at first, and rapidly attains a great size. The pelamys and the tunny breed in the Euxine, and nowhere else. The cestreus or mullet, the chrysophrys or gilt-head, and the labrax or basse, breed best where rivers run into the sea. The orcys or large-sized tunny, the scorpis, and many other species spawn in the open sea.

11

Fish for the most part breed some time or other during the three months between the middle of March and the middle of June. Some few breed in autumn: as, for instance, the saupe and the sargus, and such others of this sort as breed shortly before the autumn equinox; likewise the electric ray and the angel-fish. Other fishes breed both in winter and in summer, as was previously observed: as, for instance, in winter-time the basse, the grey mullet, and the belone or pipe-fish; and in summer-time, from the middle of

June to the middle of July, the female tunny, about the time of the summer solstice; and the tunny lays a sac-like enclosure in which are contained a number of small eggs. The ryades or shoal-fishes breed in summer.

Of the grey mullets, the chelon begins to be in roe between the middle of November and the middle of December; as also the sargue, and the smyxon or myxon, and the cephalus; and their period of gestation is thirty days. And, by the way, some of the grey mullet species are not produced from copulation, but grow spontaneously from mud and sand.

As a general rule, then, fishes are in roe in the spring-time; while some, as has been said, are so in summer, in autumn, or in winter. But whereas the impregnation in the spring-time follows a general law, impregnation in the other seasons does not follow the same rule either throughout or within the limits of one genus; and, further, conception in these variant seasons is not so prolific. And, indeed, we must bear this in mind, that just as with plants and quadrupeds diversity of locality has much to do not only with general physical health but also with the comparative frequency of sexual intercourse and generation, so also with regard to fishes locality of itself has much to do not only in regard to the size and vigour of the creature, but also in regard to its parturition and its copulations, causing the same species to breed oftener in one place and seldomer in another.

12

The molluscs also breed in spring. Of the marine molluscs one of the first to breed is the sepia. It spawns at all times of the day and its period of gestation is fifteen days. After the female has laid her eggs, the male comes and discharges the milt over the eggs, and the eggs thereupon harden. And the two sexes of this animal go about in pairs, side by side; and the male is more mottled and more black on the back than the female.

The octopus pairs in winter and breeds in spring, lying hidden for about two months. Its spawn is shaped like a vine-tendril, and resembles the fruit of the white poplar; the creature is extraordinarily prolific, for the number of individuals that come from the spawn is something incalculable. The male differs from the female in the fact that its head is longer, and that the organ called by the fishermen its penis, in the tentacle, is white. The female, after laying her eggs, broods over them, and in consequence gets out of condition, by reason of not going in quest of food during the hatching period.

The purple murex breeds about springtime, and the ceryx at the close of the winter. And, as a general rule, the testaceans are found to be furnished with their so-called eggs in spring-time and in autumn, with the exception of the edible urchin; for this animal has the so-called eggs in most abundance in these seasons, but at no season is unfurnished with them; and it is furnished with them in especial abundance in warm weather or when a full moon is in the sky. Only, by the way, these remarks do not apply to the sea-urchin found in the Pyrrhaean Straits, for this urchin is at its best for table purposes in the winter; and these urchins are small but full of eggs.

Snails are found by observations to become in all cases impregnated about the same season.

13

(Of birds the wild species, as has been stated, as a general rule pair and breed only once a year. The swallow, however, and the blackbird breed twice. With regard to the blackbird, however, its first brood is killed by inclemency of weather (for it is the earliest of all birds to breed), but the second brood it usually succeeds in rearing.

Birds that are domesticated or that are capable of domestication breed frequently, just as the common pigeon breeds all through the summer, and as is seen in the barn-door hen; for the barn-door cock and hen have intercourse, and the hen breeds, at all seasons alike: excepting by the way, during the days about the winter solstice.

Of the pigeon family there are many diversities; for the peristera or common pigeon is not identical with the peleias or rock-pigeon. In other words, the rock-pigeon is smaller than the common pigeon, and is less easily domesticated; it is also black, and small, red-footed and rough-footed; and in consequence of these peculiarities it is neglected by the pigeon-fancier. The largest of all the pigeon species is the phatta or ring-dove; and the next in size is the oenas or stock-dove; and the stock-dove is a little larger than the common pigeon. The smallest of all the species is the turtle-dove. Pigeons breed and hatch at all seasons, if they are furnished with a sunny place and all requisites; unless they are so furnished, they breed only in the summer. The spring brood is the best, or the autumn brood. At all events, without doubt, the produce of the hot season, the summer brood, is the poorest of the three.)

14

Further, animals differ from one another in regard to the time of life that is best adapted for sexual intercourse.

To begin with, in most animals the secretion of the seminal fluid and its generative capacity are not phenomena simultaneously manifested, but manifested successively. Thus, in all animals, the earliest secretion of sperm is unfruitful, or if it be fruitful the issue is comparatively poor and small. And this phenomenon is especially observable in man, in viviparous quadrupeds, and in birds; for in the case of man and the quadruped the offspring is smaller, and in the case of the bird, the egg.

For animals that copulate, of one and the same species, the age for maturity is in most species tolerably uniform, unless it occurs prematurely by reason of abnormality, or is postponed by physical injury.

In man, then, maturity is indicated by a change of the tone of voice, by an increase in size and an alteration in appearance of the sexual organs, as also in an increase of size and alteration in appearance of the breasts; and above all, in the hair-growth at the pubes. Man begins to possess seminal fluid about the age of fourteen, and becomes generatively capable at about the age of twenty-one years.

In other animals there is no hair-growth at the pubes (for some animals have no hair at all, and others have none on the belly, or less on the belly than on the back), but still, in some animals the change of voice is quite obvious; and in some animals other organs give indication of the commencing secretion of the sperm and the onset of generative capacity. As a general rule the female is sharper-toned in voice than the male, and the young animal than the elder; for, by the way, the stag has a much deeper-toned bay than the hind. Moreover, the male cries chiefly at rutting time, and the female under terror and alarm; and the cry of the female is short, and that of the male prolonged. With dogs also, as they grow old, the tone of the bark gets deeper.

There is a difference observable also in the neighings of horses. That is to say, the female foal has a thin small neigh, and the male foal a small neigh, yet bigger and deeper-toned than that of the female, and a louder one as time goes on. And when the young male and female are two years old and take to breeding, the neighing of the stallion becomes loud and deep, and that of the mare louder and shriller than heretofore; and this change goes on until they reach the age of about twenty years; and after this time the neighing in both sexes becomes weaker and weaker.

As a rule, then, as was stated, the voice of the male differs from the voice of the female, in animals where the voice admits of a continuous and prolonged sound, in the fact that the note in the male voice is more deep and bass; not, however, in all animals, for the contrary holds good in the case of some, as for instance in kine: for here the cow has a deeper note than the bull, and the calves a deeper note than the cattle. And we can thus understand the change of voice in animals that undergo gelding; for male animals that undergo this process assume the characters of the female.

The following are the ages at which various animals become capacitated for sexual commerce. The ewe and the she-goat are sexually mature when one year old, and this statement is made more confidently in respect to the she-goat than to the ewe; the ram and the he-goat are sexually mature at the same age. The progeny of very young individuals among these animals differs from that of other males: for the males improve in the course of the second year, when they become fully mature. The boar and the sow are capable of intercourse when eight months old, and the female brings forth when one year old, the difference corresponding to her period of gestation. The boar is capable of generation when eight months old, but, with a sire under a year in age, the litter is apt to be a poor one. The ages, however, are not invariable; now and then the boar and the sow are capable of intercourse when four months old, and are capable of producing a litter which can be reared when six months old; but at times the boar begins to be capable of intercourse when ten months. He continues sexually mature until he is three years old. The dog and the bitch are, as a rule, sexually capable and sexually receptive when a year old, and sometimes when eight months old; but the priority in date is more common with the dog than with the bitch. The period of gestation with the bitch is sixty days, or sixty-one, or sixty-two, or sixty-three at the utmost; the period is never under sixty days, or, if it is, the litter comes to no good. The bitch, after delivering a litter, submits to the male in six months, but not before. The horse and the mare are, at the earliest, sexually capable and sexually mature when two years old; the issue, however, of parents of this age is small and poor. As a general rule these animals are sexually capable when three years old, and they grow better for breeding purposes until they reach twenty years. The stallion is sexually capable up to the age of thirty-three years, and the mare up to forty, so that, in point of fact, the animals are sexually capable all their lives long; for the stallion, as a rule, lives for about thirty-five years, and the mare for a little over forty; although, by the way, a horse has known to live to the age of seventy-five. The ass and the she-ass are sexually capable when thirty months old; but, as a rule, they are not generatively mature until they are three years old, or three years and a half. An instance has been known of a she-ass bearing and bringing forth a foal when only a year old. A cow has been known to calve when only a year old, and the calf grew as big as might be expected, but no more. So much for the dates in time at which these animals attain to generative capacity.

In the human species, the male is generative, at the longest, up to seventy years, and the female up to fifty; but such extended periods are rare. As a rule, the male is generative up to the age of sixty-five, and to the age of forty-five the female is capable of conception.

The ewe bears up to eight years, and, if she be carefully tended, up to eleven years; in fact, the ram and the ewe are sexually capable pretty well all their lives long. He-goats, if they be fat, are more or less unserviceable for breeding; and this, by the way, is the reason why country folk say of a vine when it stops bearing that it is ‘running the goat’. However, if an over-fat he-goat be thinned down, he becomes sexually capable and generative.

Rams single out the oldest ewes for copulation, and show no regard for the young ones. And, as has been stated, the issue of the younger ewes is poorer than that of the older ones.

The boar is good for breeding purposes until he is three years of age; but after that age his issue deteriorates, for after that age his vigour is on the decline. The boar is most capable after a good feed, and with the first sow it mounts; if poorly fed or put to many females, the copulation is abbreviated, and the litter is comparatively poor. The first litter of the sow is the fewest in number; at the second litter she is at her prime. The animal, as it grows old, continues to breed, but the sexual desire abates. When they reach fifteen years, they become unproductive, and are getting old. If a sow be highly fed, it is all the more eager for sexual commerce, whether old or young; but, if it be over-fattened in pregnancy, it gives the less milk after parturition. With regard to the age of the parents, the litter is the best when they are in their prime; but with regard to the seasons of the year, the litter is the best that comes at the beginning of winter; and the summer litter the poorest, consisting as it usually does of animals small and thin and flaccid. The boar, if it be well fed, is sexually capable at all hours, night and day; but otherwise is peculiarly salacious early in the morning. As it grows old the sexual passion dies away, as we have already remarked. Very often a boar, when more or less impotent from age or debility, finding itself unable to accomplish the sexual commerce with due speed, and growing fatigued with the standing posture, will roll the sow over on the ground, and the pair will conclude the operation side by side of one another. The sow is sure of conception if it drops its lugs in rutting time; if the ears do not thus drop, it may have to rut a second time before impregnation takes place.

Bitches do not submit to the male throughout their lives, but only until they reach a certain maturity of years. As a general rule, they are sexually receptive and conceptive until they are twelve years old; although, by the way, cases have been known where dogs and bitches have been respectively procreative and conceptive to the ages of eighteen and even of twenty years. But, as a rule, age diminishes the capability of generation and of conception with these animals as with all others.

The female of the camel is opisthuretic, and submits to the male in the way above described; and the season for copulation in Arabia is about the month of October. Its period of gestation is twelve months; and it is never delivered of more than one foal at a time. The female becomes sexually receptive and the male sexually capable at the age of three years. After parturition, an interval of a year elapses before the female is again receptive to the male.

The female elephant becomes sexually receptive when ten years old at the youngest, and when fifteen at the oldest; and the male is sexually capable when five years old, or six. The season for intercourse is spring. The male allows an interval of three years to elapse after commerce with a female: and, after it has once impregnated a female, it has no intercourse with her again. The period of gestation with the female is two years; and only one young animal is produced at a time, in other words it is uniparous. And the embryo is the size of a calf two or three months old.

So much for the copulations of such animals as copulate.

We now proceed to treat of generation both with respect to copulating and non-copulating animals, and we shall commence with discussing the subject of generation in the case of the testaceans.

The testacean is almost the only genus that throughout all its species is non-copulative.

The porphyrae, or purple murices, gather together to some one place in the spring-time, and deposit the so-called 'honeycomb'. This substance resembles the comb, only that it is not so neat and delicate; and looks as though a number of husks of white chick-peas were all stuck together. But none of these structures has any open passage, and the porphyra does not grow out of them, but these and all other testaceans grow out of mud and decaying matter. The substance, is, in fact, an excretion of the porphyra and the ceryx; for it is deposited by the ceryx as well. Such, then, of the testaceans as deposit the honeycomb are generated spontaneously like all other testaceans, but they certainly come in greater abundance in places where their congeners have been living previously. At the commencement of the process of depositing the honeycomb, they throw off a slippery mucus, and of this the husklike formations are composed. These formations, then, all melt and deposit their contents on the ground, and at this spot there are found on the ground a number of minute porphyrae, and porphyrae are caught at times with these animalculae upon them, some of which are too small to be differentiated in form. If the porphyrae are caught before producing this honey-comb, they sometimes go through the process in fishing-creels, not here and there in the baskets, but gathering to some one spot all together, just as they do in the sea; and owing to the narrowness of their new quarters they cluster together like a bunch of grapes.

There are many species of the purple murex; and some are large, as those found off Sigeum and Lectum; others are small, as those found in the Euripus, and on the coast of Caria. And those that are found in bays are large and rough; in most of them the peculiar bloom from which their name is derived is dark to blackness, in others it is reddish and small in size; some of the large ones weigh upwards of a mina apiece. But the specimens that are found along the coast and on the rocks are small-sized, and the bloom in their case is of a reddish hue. Further, as a general rule, in northern waters the bloom is blackish, and in southern waters of a reddish hue. The murex is caught in the spring-time when engaged in the construction of the honeycomb; but it is not caught at any time about the rising of the dog-star, for at that period it does not feed, but conceals itself and burrows. The bloom of the animal is situated between the mecon (or quasi-liver) and the neck, and the co-attachment of these is an intimate one. In colour it looks like a white membrane, and this is what people extract; and if it be removed and squeezed it stains your hand with the colour of the bloom. There is a kind of vein that runs through it, and this quasi-vein would appear to be in itself the bloom. And the qualities, by the way, of this organ are astringent. It is after the murex has constructed the honeycomb that the bloom is at its worst. Small specimens they break in pieces, shells and all, for it is no easy matter to extract the organ; but in dealing with the larger ones they first strip off the shell and then abstract the bloom. For this purpose the neck and mecon are separated, for the bloom lies in between them, above the so-called stomach; hence the necessity of separating them in abstracting the bloom. Fishermen are anxious always to break the animal in pieces while it is yet alive, for, if it die before the process is completed, it vomits out the bloom; and for this reason the fishermen keep the animals in creels, until they have collected a sufficient number and can attend to them at their leisure. Fishermen in past times used not to lower creels or attach them to the bait, so that very often the animal got dropped off in the pulling up; at present, however, they always attach a basket, so that if the animal fall off it is not lost. The animal is more inclined to slip off the bait if it be full inside; if it be empty it is difficult to shake it off. Such are the phenomena connected with the porphyra or murex.

The same phenomena are manifested by the ceryx or trumpet-shell; and the seasons are the same in which the phenomena are observable. Both animals, also, the murex and the ceryx, have their opercula similarly situated-and, in fact, all the stromboids, and this is congenital with them all; and they feed by protruding the so-called tongue underneath the operculum. The tongue of the murex is bigger than one’s finger, and by means of it, it feeds, and perforates conchylia and the shells of its own kind. Both the murex and the ceryx are long lived. The murex lives for about six years; and the yearly increase is indicated by a distinct interval in the spiral convolution of the shell.

The mussel also constructs a honeycomb.

With regard to the limnostreae, or lagoon oysters, wherever you have slimy mud there you are sure to find them beginning to grow. Cockles and clams and razor-fishes and scallops row spontaneously in sandy places. The pinna grows straight up from its tuft of anchoring fibres in sandy and slimy places; these creatures have inside them a parasite nicknamed the pinna-guard, in some cases a small carid and in other cases a little crab; if the pinna be deprived of this pinna-guard it soon dies.

As a general rule, then, all testaceans grow by spontaneous generation in mud, differing from one another according to the differences of the material; oysters growing in slime, and cockles and the other testaceans above mentioned on sandy bottoms; and in the hollows of the rocks the ascidian and the barnacle, and common sorts, such as the limpet and the nerites. All these animals grow with great rapidity, especially the murex and the scallop; for the murex and the scallop attain their full growth in a year. In some of the testaceans white crabs are found, very diminutive in size; they are most numerous in the trough shaped mussel. In the pinna also is found the so-called pinna-guard. They are found also in the scallop and in the oyster; these parasites never appear to grow in size. Fishermen declare that the parasite is congenital with the larger animal. (Scallops burrow for a time in the sand, like the murex.)

(Shell-fish, then, grow in the way above mentioned; and some of them grow in shallow water, some on the sea-shore, some in rocky places, some on hard and stony ground, and some in sandy places.) Some shift about from place to place, others remain permanent on one spot. Of those that keep to one spot the pinnae are rooted to the ground; the razor-fish and the clam keep to the same locality, but are not so rooted; but still, if forcibly removed they die.

(The star-fish is naturally so warm that whatever it lays hold of is found, when suddenly taken away from the animal, to have undergone a process like boiling. Fishermen say that the star-fish is a great pest in the Strait of Pyrrha. In shape it resembles a star as seen in an ordinary drawing. The so-called ‘lungs’ are generated spontaneously. The shells that painters use are a good deal thicker, and the bloom is outside the shell on the surface. These creatures are mostly found on the coast of Caria.)

The hermit-crab grows spontaneously out of soil and slime, and finds its way into untenanted shells. As it grows it shifts to a larger shell, as for instance into the shell of the nerites, or of the strombus or the like, and very often into the shell of the small ceryx. After entering new shell, it carries it about, and begins again to feed, and, by and by, as it grows, it shifts again into another larger one.

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Moreover, the animals that are unfurnished with shells grow spontaneously, like the testaceans, as, for instance, the sea-nettles and the sponges in rocky caves.

Of the sea-nettle, or sea-anemone, there are two species; and of these one species lives in hollows and never loosens its hold upon the rocks, and the other lives on smooth flat reefs, free and detached, and shifts its position from time to time. (Limpets also detach themselves, and shift from place to place.)

In the chambered cavities of sponges pinna-guards or parasites are found. And over the chambers there is a kind of spider's web, by the opening and closing of which they catch mute fishes; that is to say, they open the web to let the fish get in, and close it again to entrap them.

Of sponges there are three species; the first is of loose porous texture, the second is close textured, the third, which is nicknamed 'the sponge of Achilles', is exceptionally fine and close-textured and strong. This sponge is used as a lining to helmets and greaves, for the purpose of deadening the sound of the blow; and this is a very scarce species. Of the close textured sponges such as are particularly hard and rough are nicknamed 'goats'.

Sponges grow spontaneously either attached to a rock or on sea-beaches, and they get their nutriment in slime: a proof of this statement is the fact that when they are first secured they are found to be full of slime. This is characteristic of all living creatures that get their nutriment by close local attachment. And, by the way, the close-textured sponges are weaker than the more openly porous ones because their attachment extends over a smaller area.

It is said that the sponge is sensitive; and as a proof of this statement they say that if the sponge is made aware of an attempt being made to pluck it from its place of attachment it draws itself together, and it becomes a difficult task to detach it. It makes a similar contractile movement in windy and boisterous weather, obviously with the object of tightening its hold. Some persons express doubts as to the truth of this assertion; as, for instance, the people of Torone.

The sponge breeds parasites, worms, and other creatures, on which, if they be detached, the rock-fishes prey, as they prey also on the remaining stumps of the sponge; but, if the sponge be broken off, it grows again from the remaining stump and the place is soon as well covered as before.

The largest of all sponges are the loose-textured ones, and these are peculiarly abundant on the coast of Lycia. The softest are the close-textured sponges; for, by the way, the so-called sponges of Achilles are harder than these. As a general rule, sponges that are found in deep calm waters are the softest; for usually windy and stormy weather has a tendency to harden them (as it has to harden all similar growing things), and to arrest their growth. And this accounts for the fact that the sponges found in the Hellespont are rough and close-textured; and, as a general rule, sponges found beyond or inside Cape Malea are, respectively, comparatively soft or comparatively hard. But, by the way, the habitat of the sponge should not be too sheltered and warm, for it has a tendency to decay, like all similar vegetable-like growths. And this accounts for the fact that the sponge is at its best when found in deep water close to shore; for owing to the depth of the water they enjoy shelter alike from stormy winds and from excessive heat.

Whilst they are still alive and before they are washed and cleaned, they are blackish in colour. Their attachment is not made at one particular spot, nor is it made all over their bodies; for vacant pore-spaces intervene. There is a kind of membrane stretched over the under parts; and in the under parts the points of attachment are the more numerous. On the top most of the pores are closed, but four or five are open and visible; and we are told by some that it is through these pores that the animal takes its food.

There is a particular species that is named the ‘aplysia’ or the ‘unwashable’, from the circumstance that it cannot be cleaned. This species has the large open and visible pores, but all the rest of the body is close-textured; and, if it be dissected, it is found to be closer and more glutinous than the ordinary sponge, and, in a word, something lung like in consistency. And, on all hands, it is allowed that this species is sensitive and long-lived. They are distinguished in the sea from ordinary sponges from the circumstance that the ordinary sponges are white while the slime is in them, but that these sponges are under any circumstances black.

And so much with regard to sponges and to generation in the testaceans.

Of crustaceans, the female crawfish after copulation conceives and retains its eggs for about three months, from about the middle of May to about the middle of August; they then lay the eggs into the folds underneath the belly, and their eggs grow like grubs. This same phenomenon is observable in molluscs also, and in such fishes as are oviparous; for in all these cases the egg continues to grow.

The spawn of the crawfish is of a loose or granular consistency, and is divided into eight parts; for corresponding to each of the flaps on the side there is a gristly formation to which the spawn is attached, and the entire structure resembles a cluster of grapes; for each gristly formation is split into several parts. This is obvious enough if you draw the parts asunder; but at first sight the whole appears to be one and indivisible. And the largest are not those nearest to the outlet but those in the middle, and the farthest off are the smallest. The size of the small eggs is that of a small seed in a fig; and they are not quite close to the outlet, but placed middleways; for at both ends, tailwards and trunkwards, there are two intervals devoid of eggs; for it is thus that the flaps also grow. The side flaps, then, cannot close, but by placing the end flap on them the animal can close up all, and this end-flap serves them for a lid. And in the act of laying its eggs it seems to bring them towards the gristly formations by curving the flap of its tail, and then, squeezing the eggs towards the said gristly formations and maintaining a bent posture, it performs the act of laying. The gristly formations at these seasons increase in size and become receptive of the eggs; for the animal lays its eggs into these formations, just as the sepia lays its eggs among twigs and driftwood.

It lays its eggs, then, in this manner, and after hatching them for about twenty days it rids itself of them all in one solid lump, as is quite plain from outside. And out of these eggs crawfish form in about fifteen days, and these crawfish are caught at times less then a finger’s breadth, or seven-tenths of an inch, in length. The animal, then, lays its eggs before the middle of September, and after the middle of that month throws off its eggs in a lump. With the humped carids or prawns the time for gestation is four months or thereabouts.

Crawfish are found in rough and rocky places, lobsters in smooth places, and neither crawfish nor lobsters are found in muddy ones; and this accounts for the fact that lobsters are found in the Hellespont and on the coast of Thasos, and crawfish in the neighbourhood of Sigeum and Mount Athos. Fishermen, accordingly, when they want to catch these various creatures out at sea, take bearings on the beach and elsewhere that tell them where the ground at the bottom is stony and where soft with slime. In winter and spring these animals keep in near to land, in summer they keep in deep water; thus at various times seeking respectively for warmth or coolness.

The so-called arctus or bear-crab lays its eggs at about the same time as the crawfish; and consequently in winter and in the spring-time, before laying their eggs, they are at their best, and after laying at their worst.

They cast their shell in the spring-time (just as serpents shed their so-called ‘old-age’ or slough), both directly after birth and in later life; this is true both of crabs and crawfish. And, by the way, all crawfish are long lived.

18

Molluscs, after pairing and copulation, lay a white spawn; and this spawn, as in the case of the testacean, gets granular in time. The octopus discharges into its hole, or into a potsherd or into any similar cavity, a structure resembling the tendrils of a young vine or the fruit of the white poplar, as has been previously observed. The eggs, when the female has laid them, are clustered round the sides of the hole. They are so numerous that, if they be removed they suffice to fill a vessel much larger than the animal’s body in which they were contained. Some fifty days later, the eggs burst and the little polypuses creep out, like little spiders, in great numbers; the characteristic form of their limbs is not yet to be discerned in detail, but their general outline is clear enough. And, by the way, they are so small and helpless that the greater number perish; it is a fact that they have been seen so extremely minute as to be absolutely without organization, but nevertheless when touched they moved. The eggs of the sepia look like big black myrtle-berries, and they are linked all together like a bunch of grapes, clustered round a centre, and are not easily sundered from one another: for the male exudes over them some moist glairy stuff, which constitutes the sticky gum. These eggs increase in size; and they are white at the outset, but black and larger after the sprinkling of the male seminal fluid.

When it has come into being the young sepia is first distinctly formed inside out of the white substance, and when the egg bursts it comes out. The inner part is formed as soon as the female lays the egg, something like a hailstone; and out of this substance the young sepia grows by a head-attachment, just as young birds grow by a belly-attachment. What is the exact nature of the navel-attachment has not yet been observed, except that as the young sepia grows the white substance grows less and less in size, and at length, as happens with the yolk in the case of birds, the white substance in the case of the young sepia disappears. In the case of the young sepia, as in the case of the young of most animals, the eyes at first seem very large. To illustrate this by way of a figure, let A represent the ovum, B and C the eyes, and D the sepidium, or body of the little sepia. (See diagram.)

The female sepia goes pregnant in the spring-time, and lays its eggs after fifteen days of gestation; after the eggs are laid there comes in another fifteen days something like a bunch of grapes, and at the bursting of these the young sepiae issue forth. But if, when the young ones are fully formed, you sever the outer covering a moment too soon, the young creatures eject excrement, and their colour changes from white to red in their alarm.

Crustaceans, then, hatch their eggs by brooding over them as they carry them about beneath their bodies; but the octopus, the sepia, and the like hatch their eggs without stirring from the spot where they may have laid them, and this statement is particularly applicable to the sepia; in fact, the nest of the female sepia is often seen exposed to view close in to shore. The female octopus at times sits brooding over her eggs, and at other times squats in front of her hole, stretching out her tentacles on guard.

The sepia lays her spawn near to land in the neighbourhood of sea-weed or reeds or any off-sweepings such as brushwood, twigs, or stones; and fishermen place heaps of faggots here and there on purpose, and on to such heaps the female deposits a long continuous roe in shape like a vine tendril. It lays or spirts out the spawn with an effort, as though there were difficulty in the process. The female calamary spawns at sea; and it emits the spawn, as does the sepia, in the mass.

The calamary and the cuttle-fish are short-lived, as, with few exceptions, they never see the year out; and the same statement is applicable to the octopus.

From one single egg comes one single sepia; and this is likewise true of the young calamary.

The male calamary differs from the female; for if its gill-region be dilated and examined there are found two red formations resembling breasts, with which the male is unprovided. In the sepia, apart from this distinction in the sexes, the male, as has been stated, is more mottled than the female.

19

With regard to insects, that the male is less than the female and that he mounts upon her back, and how he performs the act of copulation and the circumstance that he gives over reluctantly, all this has already been set forth, most cases of insect copulation this process is speedily followed up by parturition.

All insects engender grubs, with the exception of a species of butterfly; and the female of this species lays a hard egg, resembling the seed of the cnecus, with a juice inside it. But from the grub, the young animal does not grow out of a mere portion of it, as a young animal grows from a portion only of an egg, but the grub entire grows and the animal becomes differentiated out of it.

And of insects some are derived from insect congeners, as the venom-spider and the common-spider from the venom-spider and the common-spider, and so with the attelabus or locust, the acris or grasshopper, and the tettix or cicada. Other insects are not derived from living parentage, but are generated spontaneously: some out of dew falling on leaves, ordinarily in spring-time, but not seldom in winter when there has been a stretch of fair weather and southerly winds; others grow in decaying mud or dung; others in timber, green or dry; some in the hair of animals; some in the flesh of animals; some in excrements: and some from excrement after it has been voided, and some from excrement yet within the living animal, like the helminthes or intestinal worms. And of these intestinal worms there are three species: one named the flat-worm, another the round worm, and the third the ascarid. These intestinal worms do not in any case propagate their kind. The flat-worm, however, in an exceptional way, clings fast to the gut, and lays a thing like a melon-seed, by observing which indication the physician concludes that his patient is troubled with the worm.

The so-called psyche or butterfly is generated from caterpillars which grow on green leaves, chiefly leaves of the raphanus, which some call crambe or cabbage. At first it is less than a grain of millet; it then grows into a small grub; and in three days it is a tiny caterpillar. After this it grows on and on, and becomes quiescent and changes its shape, and is now called a chrysalis. The outer shell is hard, and the chrysalis moves if you touch it. It attaches itself by cobweb-like filaments, and is unfurnished with mouth or any other apparent organ. After a little while the outer covering bursts asunder, and out flies the winged creature that we call the psyche or butterfly. At first, when it is a caterpillar, it feeds and ejects excrement; but when it turns into the chrysalis it neither feeds nor ejects excrement.

The same remarks are applicable to all such insects as are developed out of the grub, both such grubs as are derived from the copulation of living animals and such as are generated without copulation on the part of parents. For the grub of the bee, the anthrena, and the wasp, whilst it is young, takes food and voids excrement; but when it has passed from the grub shape to its defined form and become what is termed a ‘nympha’, it ceases to take food and to void excrement, and remains tightly wrapped up and motionless until it has reached its full size, when it breaks the formation with which the cell is closed, and issues forth. The insects named the hypera and the penia are derived from similar caterpillars, which move in an undulatory way, progressing with one part and then pulling up the hinder parts by a bend of the body. The developed insect in each case takes its peculiar colour from the parent caterpillar.

From one particular large grub, which has as it were horns, and in other respects differs from grubs in general, there comes, by a metamorphosis of the grub, first a caterpillar, then the cocoon, then the necydalus; and the creature passes through all these transformations within six months. A class of women unwind and reel off the cocoons of these creatures, and afterwards weave a fabric with the threads thus unwound; a Coan woman of the name of Pamphila, daughter of Plateus, being credited with the first invention of the fabric. After the same fashion the carabus or stag-beetle comes from grubs that live in dry wood: at first the grub is motionless, but after a while the shell bursts and the stag-beetle issues forth.

From the cabbage is engendered the cabbageworm, and from the leek the prasocuris or leekbane; this creature is also winged. From the flat animalcule that skims over the surface of rivers comes the oestrus or gadfly; and this accounts for the fact that gadflies most abound in the neighbourhood of waters on whose surface these animalcules are observed. From a certain small, black and hairy caterpillar comes first a wingless glow-worm; and this creature again suffers a metamorphosis, and transforms into a winged insect named the bostrychus (or hair-curl).

Gnats grow from ascarids; and ascarids are engendered in the slime of wells, or in places where there is a deposit left by the draining off of water. This slime decays, and first turns white, then black, and finally blood-red; and at this stage there originate in it, as it were, little tiny bits of red weed, which at first wriggle about all clinging together, and finally break loose and swim in the water, and are hereupon known as ascarids. After a few days they stand straight up on the water motionless and hard, and by and by the husk breaks off and the gnats are seen sitting upon it, until the sun's heat or a puff of wind sets them in motion, when they fly away.

With all grubs and all animals that break out from the grub state, generation is due primarily to the heat of the sun or to wind.

Ascarids are more likely to be found, and grow with unusual rapidity, in places where there is a deposit of a mixed and heterogeneous kind, as in kitchens and in ploughed fields, for the contents of such places are disposed to rapid putrefaction. In autumn, also, owing to the drying up of moisture, they grow in unusual numbers.

The tick is generated from couch-grass. The cockchafer comes from a grub that is generated in the dung of the cow or the ass. The cantharus or scarabeus rolls a piece of dung into a ball, lies hidden within it during the winter, and gives birth therein to small grubs, from which grubs come new canthari. Certain winged insects also come from the grubs that are found in pulse, in the same fashion as in the cases described.

Flies grow from grubs in the dung that farmers have gathered up into heaps: for those who are engaged in this work assiduously gather up the compost, and this they technically term 'working-up' the manure. The grub is exceedingly minute to begin with; first even at this stage-it assumes a reddish colour, and then from a quiescent state it takes on the power of motion, as though born to it; it then becomes a small motionless grub; it then moves again, and again relapses into immobility; it then comes out a perfect fly, and moves away under the influence of the sun's heat or of a puff of air. The myops or horse-fly is engendered in timber. The orsodacna or budbane is a transformed grub; and this grub is engendered in cabbage-stalks. The cantharis comes from the caterpillars that are found on fig-trees or pear-trees or fir-trees — for on all these grubs are engendered-and also from caterpillars found on the dog-rose; and the cantharis takes eagerly to ill-scented substances, from the fact of its having been engendered in ill-scented woods. The conops comes from a grub that is engendered in the slime of vinegar.

And, by the way, living animals are found in substances that are usually supposed to be incapable of putrefaction; for instance, worms are found in long-lying snow; and snow of this description gets reddish in colour, and the grub that is engendered in it is red, as might have been expected, and it is also hairy. The grubs found in the snows of Media are large and white; and all such grubs are little disposed to motion. In Cyprus, in places where copper-ore is smelted, with heaps of the ore piled on day after day, an animal is engendered in the fire, somewhat larger than a blue bottle fly, furnished with wings, which can hop or crawl through the fire. And the grubs and these latter animals perish when you keep the one away from the fire and the other from the snow. Now the salamander is a clear case in point, to show us that animals do actually exist that fire cannot destroy; for this creature, so the story goes, not only walks through the fire but puts it out in doing so.

On the river Hypanis in the Cimmerian Bosphorus, about the time of the summer solstice, there are brought down towards the sea by the stream what look like little sacks rather bigger than grapes, out of which at their bursting issues a winged quadruped. The insect lives and flies about until the evening, but as the sun goes down it pines away, and dies at sunset having lived just one day, from which circumstance it is called the ephemeron.

As a rule, insects that come from caterpillars and grubs are held at first by filaments resembling the threads of a spider’s web.

Such is the mode of generation of the insects above enumerated. but if the latter impregnation takes placeduring the change of the yellow

20

The wasps that are nicknamed ‘the ichneumons’ (or hunters), less in size, by the way, than the ordinary wasp, kill spiders and carry off the dead bodies to a wall or some such place with a hole in it; this hole they smear over with mud and lay their grubs inside it, and from the grubs come the hunter-wasps. Some of the coleoptera and of the small and nameless insects make small holes or cells of mud on a wall or on a grave-stone, and there deposit their grubs.

With insects, as a general rule, the time of generation from its commencement to its completion comprises three or four weeks. With grubs and grub-like creatures the time is usually three weeks, and in the oviparous insects as a rule four. But, in the case of oviparous insects, the egg-formation comes at the close of seven days from copulation, and during the remaining three weeks the parent broods over and hatches its young; i.e. where this is the result of copulation, as in the case of the spider and its congeners. As a rule, the transformations take place in intervals of three or four days, corresponding to the lengths of interval at which the crises recur in intermittent fevers.

So much for the generation of insects. Their death is due to the shrivelling of their organs, just as the larger animals die of old age.

Winged insects die in autumn from the shrinking of their wings. The myops dies from dropsy in the eyes.

21

With regard to the generation of bees different hypotheses are in vogue. Some affirm that bees neither copulate nor give birth to young, but that they fetch their young. And some say that they fetch their young from the flower of the callyntrum; others assert that they bring them from the flower of the reed, others, from the flower of the olive. And in respect to the olive theory, it is stated as a proof that, when the olive harvest is most abundant, the swarms are most numerous. Others declare that they fetch the brood of the drones from such things as above mentioned, but that the working bees are engendered by the rulers of the hive.

Now of these rulers there are two kinds: the better kind is red in colour, the inferior kind is black and variegated; the ruler is double the size of the working bee. These rulers have the abdomen or part below the waist half as large again, and they are called by some the ‘mothers’, from an idea that they bear or generate the bees; and, as a proof of this theory of their motherhood, they declare that the brood of the drones appears even when there is no ruler-bee in the hive, but that the bees do not appear in his absence. Others, again, assert that these insects copulate, and that the drones are male and the bees female.

The ordinary bee is generated in the cells of the comb, but the ruler-bees in cells down below attached to the comb, suspended from it, apart from the rest, six or seven in number, and growing in a way quite different from the mode of growth of the ordinary brood.

Bees are provided with a sting, but the drones are not so provided. The rulers are provided with stings, but they never use them; and this latter circumstance will account for the belief of some people that they have no stings at all.

22

Of bees there are various species. The best kind is a little round mottled insect; another is long, and resembles the anthrena; a third is a black and flat-bellied, and is nick-named the ‘robber’; a fourth kind is the drone, the largest of all, but stingless and inactive. And this proportionate size of the drone explains why some bee-masters place a net-work in front of the hives; for the network is put to keep the big drones out while it lets the little bees go in.

Of the king bees there are, as has been stated, two kinds. In every hive there are more kings than one; and a hive goes to ruin if there be too few kings, not because of anarchy thereby ensuing, but, as we are told, because these creatures contribute in some way to the generation of the common bees. A hive will go also to ruin if there be too large a number of kings in it; for the members of the hives are thereby subdivided into too many separate factions.

Whenever the spring-time is late a-coming, and when there is drought and mildew, then the progeny of the hive is small in number. But when the weather is dry they attend to the honey, and in rainy weather their attention is concentrated on the brood; and this will account for the coincidence of rich olive-harvests and abundant swarms.

The bees first work at the honeycomb, and then put the pupae in it: by the mouth, say those who hold the theory of their bringing them from elsewhere. After putting in the pupae they put in the honey for subsistence, and this they do in the summer and autumn; and, by the way, the autumn honey is the better of the two.

The honeycomb is made from flowers, and the materials for the wax they gather from the resinous gum of trees, while honey is distilled from dew, and is deposited chiefly at the risings of the constellations or when a rainbow is in the sky: and as a general rule there is no honey before the rising of the Pleiads. (The bee, then, makes the wax from flowers. The honey, however, it does not make, but merely gathers what is deposited out of the atmosphere; and as a proof of this statement we have the known fact that occasionally bee-keepers find the hives filled with honey within the space of two or three days. Furthermore, in autumn flowers are found, but honey, if it be withdrawn, is not replaced; now, after the withdrawal of the original honey, when no food or very little is in the hives, there would be a fresh stock of honey, if the bees made it from flowers.) Honey, if allowed to ripen and mature, gathers consistency; for at first it is like water and remains liquid for several days. If it be drawn off during these days it has no consistency; but it attains consistency in about twenty days. The taste of thyme-honey is discernible at once, from its peculiar sweetness and consistency.

The bee gathers from every flower that is furnished with a calyx or cup, and from all other flowers that are sweet-tasted, without doing injury to any fruit; and the juices of the flowers it takes up with the organ that resembles a tongue and carries off to the hive.

Swarms are robbed of their honey on the appearance of the wild fig. They produce the best larvae at the time the honey is a-making. The bee carries wax and bees' bread round its legs, but vomits the honey into the cell. After depositing its young, it broods over it like a bird. The grub when it is small lies slantwise in the comb, but by and by rises up straight by an effort of its own and takes food, and holds on so tightly to the honeycomb as actually to cling to it.

The young of bees and of drones is white, and from the young come the grubs; and the grubs grow into bees and drones. The egg of the king bee is reddish in colour, and its substance is about as consistent as thick honey; and from the first it is about as big as the bee that is produced from it. From the young of the king bee there is no intermediate stage, it is said, of the grub, but the bee comes at once.

Whenever the bee lays an egg in the comb there is always a drop of honey set against it. The larva of the bee gets feet and wings as soon as the cell has been stopped up with wax, and when it arrives at its completed form it breaks its membrane and flies away. It ejects excrement in the grub state, but not afterwards; that is, not until it has got out of the encasing membrane, as we have already described. If you remove the heads from off the larvae before the coming of the wings, the bees will eat them up; and if you nip off the wings from a drone and let it go, the bees will spontaneously bite off the wings from off all the remaining drones.

The bee lives for six years as a rule, as an exception for seven years. If a swarm lasts for nine years, or ten, great credit is considered due to its management.

In Pontus are found bees exceedingly white in colour, and these bees produce their honey twice a month. (The bees in Themiscyra, on the banks of the river Thermodon, build honeycombs in the ground and in hives, and these honeycombs are furnished with very little wax but with honey of great consistency; and the honeycomb, by the way, is smooth and level.) But this is not always the case with these bees, but only in the winter season; for in Pontus the ivy is abundant, and it flowers at this time of the year, and it is from the ivy-flower that they derive their honey. A white and very consistent honey is brought down from the upper country to Amisus, which is deposited by bees on trees without the employment of honeycombs: and this kind of honey is produced in other districts in Pontus.

There are bees also that construct triple honeycombs in the ground; and these honeycombs supply honey but never contain grubs. But the honeycombs in these places are not all of this sort, nor do all the bees construct them.

23

Anthrenae and wasps construct combs for their young. When they have no king, but are wandering about in search of one, the anthrene constructs its comb on some high place, and the wasp inside a hole. When the anthrene and the wasp have a king, they construct their combs underground. Their combs are in all cases hexagonal like the comb of the bee. They are composed, however, not of wax, but of a bark-like filamented fibre, and the comb of the anthrene is much neater than the comb of the wasp. Like the bee, they put their young just like a drop of liquid on to the side of the cell, and the egg clings to the wall of the cell. But the eggs are not deposited in the cells simultaneously; on the contrary, in some cells are creatures big enough to fly, in others are nymphae, and in others are mere grubs. As in the case of bees, excrement is observed only in the cells where the grubs are found. As long as the creatures are in the nymph condition they are motionless, and the cell is cemented over. In the comb of the anthrene there is found in the cell of the young a drop of honey in front of it. The larvae of the anthrene and the wasp make their appearance not in the spring but in the autumn; and their growth is especially discernible in times of full moon. And, by the way, the eggs and the grubs never rest at the bottom of the cells, but always cling on to the side wall.

24

There is a kind of humble-bee that builds a cone-shaped nest of clay against a stone or in some similar situation, besmearing the clay with something like spittle. And this nest or hive is exceedingly thick and hard; in point of fact, one can hardly break it open with a spike. Here the insects lay their eggs, and white grubs are produced wrapped in a black membrane. Apart from the membrane there is found some wax in the honeycomb; and this a wax is much sallower in hue than the wax in the honeycomb of the bee.

25

Ants copulate and engender grubs; and these grubs attach themselves to nothing in particular, but grow on and on from small and rounded shapes until they become elongated and defined in shape: and they are engendered in spring-time.

26

The land-scorpion also lays a number of egg shaped grubs, and broods over them. When the hatching is completed, the parent animal, as happens with the parent spider, is ejected and put to death by the young ones; for very often the young ones are about eleven in number.

27

Spiders in all cases copulate in the way above mentioned, and generate at first small grubs. And these grubs metamorphose in their entirety, and not partially, into spiders; for, by the way, the grubs are round-shaped at the outset. And the spider, when it lays its eggs, broods over them, and in three days the eggs or grubs take definite shape.

All spiders lay their eggs in a web; but some spiders lay in a small and fine web, and others in a thick one; and some, as a rule, lay in a round-shaped case or capsule, and some are only partially enveloped in the web. The young grubs are not all developed at one and the same time into young spiders; but the moment the development takes place, the young spider makes a leap and begins to spin his web. The juice of the grub, if you squeeze it, is the same as the juice found in the spider when young; that is to say, it is thick and white.

The meadow spider lays its eggs into a web, one half of which is attached to itself and the other half is free; and on this the parent broods until the eggs are hatched. The phalangia lay their eggs in a sort of strong basket which they have woven, and brood over it until the eggs are hatched. The smooth spider is much less prolific than the phalangium or hairy spider. These phalangia, when they grow to full size, very often envelop the mother phalangium and eject and kill her; and not seldom they kill the father-phalangium as well, if they catch him: for, by the way, he has the habit of co-operating with the mother in the hatching. The brood of a single phalangium is sometimes three hundred in number. The spider attains its full growth in about four weeks.

28

Grasshoppers (or locusts) copulate in the same way as other insects; that is to say, with the lesser covering the larger, for the male is smaller than the female. The females first insert the hollow tube, which they have at their tails, in the ground, and then lay their eggs: and the male, by the way, is not furnished with this tube. The females lay their eggs all in a lump together, and in one spot, so that the entire lump of eggs resembles a honeycomb. After they have laid their eggs, the eggs assume the shape of oval grubs that are enveloped by a sort of thin clay, like a membrane; in this membrane-like formation they grow on to maturity. The larva is so soft that it collapses at a touch. The larva is not placed on the surface of the ground, but a little beneath the surface; and, when it reaches maturity, it comes out of its clayey investiture in the shape of a little black grasshopper; by and by, the skin integument strips off, and it grows larger and larger.

The grasshopper lays its eggs at the close of summer, and dies after laying them. The fact is that, at the time of laying the eggs, grubs are engendered in the region of the mother grasshopper's neck; and the male grasshoppers die about the same time. In spring-time they come out of the ground; and, by the way, no grasshoppers are found in mountainous land or in poor land, but only in flat and loamy land, for the fact is they lay their eggs in cracks of the soil. During the winter their eggs remain in the ground; and with the coming of summer the last year's larva develops into the perfect grasshopper.

29

The attelabi or locusts lay their eggs and die in like manner after laying them. Their eggs are subject to destruction by the autumn rains, when the rains are unusually heavy; but in seasons of drought the locusts are exceedingly numerous, from the absence of any destructive cause, since their destruction seems then to be a matter of accident and to depend on luck.

30

Of the cicada there are two kinds; one, small in size, the first to come and the last to disappear; the other, large, the singing one that comes last and first disappears. Both in the small and the large species some are divided at the waist, to wit, the singing ones, and some are undivided; and these latter have no song. The large and singing cicada is by some designated the 'chirper', and the small cicada the 'tettigonium' or cicadelle. And, by the way, such of the tettigonia as are divided at the waist can sing just a little.

The cicada is not found where there are no trees; and this accounts for the fact that in the district surrounding the city of Cyrene it is not found at all in the plain country, but is found in great numbers in the neighbourhood of the city, and especially where olive-trees are growing: for an olive grove is not thickly shaded. And the cicada is not found in cold places, and consequently is not found in any grove that keeps out the sunlight.

The large and the small cicada copulate alike, belly to belly. The male discharges sperm into the female, as is the case with insects in general, and the female cicada has a cleft generative organ; and it is the female into which the male discharges the sperm.

They lay their eggs in fallow lands, boring a hole with the pointed organ they carry in the rear, as do the locusts likewise; for the locust lays its eggs in untilled lands, and this fact may account for their numbers in the territory adjacent to the city of Cyrene. The cicadae also lay their eggs in the canes on which husbandmen prop vines, perforating the canes; and also in the stalks of the squill. This brood runs into the ground. And they are most numerous in rainy weather. The grub, on attaining full size in the ground, becomes a tettigometra (or nymph), and the creature is sweetest to the taste at this stage before the husk is broken. When the summer solstice comes, the creature issues from the husk at night-time, and in a moment, as the husk breaks, the larva becomes the perfect cicada. creature, also, at once turns black in colour and harder and larger, and takes to singing. In both species, the larger and the smaller, it is the male that sings, and the female that is unvocal. At first, the males are the sweeter eating; but, after copulation, the females, as they are full then of white eggs.

If you make a sudden noise as they are flying overhead they let drop something like water. Country people, in regard to this, say that they are voiding urine, ie. that they have an excrement, and that they feed upon dew.

If you present your finger to a cicada and bend back the tip of it and then extend it again, it will endure the presentation more quietly than if you were to keep your finger outstretched altogether; and it will set to climbing your finger: for the creature is so weak-sighted that it will take to climbing your finger as though that were a moving leaf.

31

Of insects that are not carnivorous but that live on the juices of living flesh, such as lice and fleas and bugs, all, without exception, generate what are called ‘nits’, and these nits generate nothing.

Of these insects the flea is generated out of the slightest amount of putrefying matter; for wherever there is any dry excrement, a flea is sure to be found. Bugs are generated from the moisture of living animals, as it dries up outside their bodies. Lice are generated out of the flesh of animals.

When lice are coming there is a kind of small eruption visible, unaccompanied by any discharge of purulent matter; and, if you prick an animal when in this condition at the spot of eruption, the lice jump out. In some men the appearance of lice is a disease, in cases where the body is surcharged with moisture; and, indeed, men have been known to succumb to this louse-disease, as Alcman the poet and the Syrian Pherecydes are said to have done. Moreover, in certain diseases lice appear in great abundance.

There is also a species of louse called the ‘wild louse’, and this is harder than the ordinary louse, and there is exceptional difficulty in getting the skin rid of it. Boys’ heads are apt to be lousy, but men’s in less degree; and women are more subject to lice than men. But, whenever people are troubled with lousy heads, they are less than ordinarily troubled with headache. And lice are generated in other animals than man. For birds are infested with them; and pheasants, unless they clean themselves in the dust, are actually destroyed by them. All other winged animals that are furnished with feathers are similarly infested, and all hair-coated creatures also, with the single exception of the ass, which is infested neither with lice nor with ticks.

Cattle suffer both from lice and from ticks. Sheep and goats breed ticks, but do not breed lice. Pigs breed lice large and hard. In dogs are found the flea peculiar to the animal, the Cynoroestes. In all animals that are subject to lice, the latter originate from the animals themselves. Moreover, in animals that bathe at all, lice are more than usually abundant when they change the water in which they bathe.

In the sea, lice are found on fishes, but they are generated not out of the fish but out of slime; and they resemble multipedal wood-lice, only that their tail is flat. Sea-lice are uniform in shape and universal in locality, and are particularly numerous on the body of the red mullet. And all these insects are multipedal and devoid of blood.

The parasite that feeds on the tunny is found in the region of the fins; it resembles a scorpion, and is about the size of a spider. In the seas between Cyrene and Egypt there is a fish that attends on the dolphin, which is called the ‘dolphin’s louse’. This fish gets exceedingly fat from enjoying an abundance of food while the dolphin is out in pursuit of its prey.

32

Other animalcules besides these are generated, as we have already remarked, some in wool or in articles made of wool, as the ses or clothes-moth. And these animalcules come in greater numbers if the woollen substances are dusty; and they come in especially large numbers if a spider be shut up in the cloth or wool, for the creature drinks up any moisture that may be there, and dries up the woollen substance. This grub is found also in men’s clothes.

A creature is also found in wax long laid by, just as in wood, and it is the smallest of animalcules and is white in colour, and is designated the acari or mite. In books also other animalcules are found, some resembling the grubs found in garments, and some resembling tailless scorpions, but very small. As a general rule we may state that such animalcules are found in practically anything, both in dry things that are becoming moist and in moist things that are drying, provided they contain the conditions of life.

There is a grub entitled the ‘faggot-bearer’, as strange a creature as is known. Its head projects outside its shell, mottled in colour, and its feet are near the end or apex, as is the case with grubs in general; but the rest of its body is cased in a tunic as it were of spider’s web, and there are little dry twigs about it, that look as though they had stuck by accident to the creature as it went walking about. But these twig-like formations are naturally connected with the tunic, for just as the shell is with the body of the snail so is the whole superstructure with our grub; and they do not drop off, but can only be torn off, as though they were all of a piece with him, and the removal of the tunic is as fatal to this grub as the removal of the shell would be to the snail. In course of time this grub becomes a chrysalis, as is the case with the silkworm, and lives in a motionless condition. But as yet it is not known into what winged condition it is transformed.

The fruit of the wild fig contains the psen, or fig-wasp. This creature is a grub at first; but in due time the husk peels off and the psen leaves the husk behind it and flies away, and enters into the fruit of the fig-tree through its orifice, and causes the fruit not to drop off; and with a view to this phenomenon, country folk are in the habit of tying wild figs on to fig-trees, and of planting wild fig-trees near domesticated ones.

33

In the case of animals that are quadrupeds and red-blooded and oviparous, generation takes place in the spring, but copulation does not take place in an uniform season. In some cases it takes place in the spring, in others in summer time, and in others in the autumn, according as the subsequent season may be favourable for the young.

The tortoise lays eggs with a hard shell and of two colours within, like birds' eggs, and after laying them buries them in the ground and treads the ground hard over them; it then broods over the eggs on the surface of the ground, and hatches the eggs the next year. The hemys, or fresh-water tortoise, leaves the water and lays its eggs. It digs a hole of a casklike shape, and deposits therein the eggs; after rather less than thirty days it digs the eggs up again and hatches them with great rapidity, and leads its young at once off to the water. The sea-turtle lays on the ground eggs just like the eggs of domesticated birds, buries the eggs in the ground, and broods over them in the night-time. It lays a very great number of eggs, amounting at times to one hundred.

Lizards and crocodiles, terrestrial and fluvial, lay eggs on land. The eggs of lizards hatch spontaneously on land, for the lizard does not live on into the next year; in fact, the life of the animal is said not to exceed six months. The river-crocodile lays a number of eggs, sixty at the most, white in colour, and broods over them for sixty days: for, by the way, the creature is very long-lived. And the disproportion is more marked in this animal than in any other between the smallness of the original egg and the huge size of the full-grown animal. For the egg is not larger than that of the goose, and the young crocodile is small, answering to the egg in size, but the full-grown animal attains the length of twenty-six feet; in fact, it is actually stated that the animal goes on growing to the end of its days.

34

With regard to serpents or snakes, the viper is externally viviparous, having been previously oviparous internally. The egg, as with the egg of fishes, is uniform in colour and soft-skinned. The young serpent grows on the surface of the egg, and, like the young of fishes, has no shell-like envelopment. The young of the viper is born inside a membrane that bursts from off the young creature in three days; and at times the young viper eats its way out from the inside of the egg. The mother viper brings forth all its young in one day, twenty in number, and one at a time. The other serpents are externally oviparous, and their eggs are strung on to one another like a lady's necklace; after the dam has laid her eggs in the ground she broods over them, and hatches the eggs in the following year.

Book VI

1

So much for the generative processes in snakes and insects, and also in oviparous quadrupeds. Birds without exception lay eggs, but the pairing season and the times of parturition are not alike for all. Some birds couple and lay at almost any time in the year, as for instance the barn-door hen and the pigeon: the former of these coupling and laying during the entire year, with the exception of the month before and the month after the winter solstice. Some hens, even in the high breeds, lay a large quantity of eggs before brooding, amounting to as many as sixty; and, by the way, the higher breeds are less prolific than the inferior ones. The Adrian hens are small-sized, but they lay every day; they are cross-tempered, and often kill their chickens; they are of all colours. Some domesticated hens lay twice a day; indeed, instances have been known where hens, after exhibiting extreme fecundity, have died suddenly. Hens, then, lay eggs, as has been stated, at all times indiscriminately; the pigeon, the ring-dove, the turtle-dove, and the stock-dove lay twice a year, and the pigeon actually lays ten times a year. The great majority of birds lay during the spring-time. Some birds are prolific, and prolific in either of two ways-either by laying often, as the pigeon, or by laying many eggs at a sitting, as the barn-door hen. All birds of prey, or birds with crooked talons, are unprolific, except the kestrel: this bird is the most prolific of birds of prey; as many as four eggs have been observed in the nest, and occasionally it lays even more.

Birds in general lay their eggs in nests, but such as are disqualified for flight, as the partridge and the quail, do not lay them in nests but on the ground, and cover them over with loose material. The same is the case with the lark and the tetrix. These birds hatch in sheltered places; but the bird called merops in Boeotia, alone of all birds, burrows into holes in the ground and hatches there.

Thrushes, like swallows, build nests of clay, on high trees, and build them in rows all close together, so that from their continuity the structure resembles a necklace of nests. Of all birds that hatch for themselves the hoopoe is the only one that builds no nest whatever; it gets into the hollow of the trunk of a tree, and lays its eggs there without making any sort of nest. The circus builds either under a dwelling-roof or on cliffs. The tetrix, called ourax in Athens, builds neither on the ground nor on trees, but on low-lying shrubs.

2

The egg in the case of all birds alike is hard-shelled, if it be the produce of copulation and be laid by a healthy hen-for some hens lay soft eggs. The interior of the egg is of two colours, and the white part is outside and the yellow part within.

The eggs of birds that frequent rivers and marshes differ from those of birds that live on dry land; that is to say, the eggs of waterbirds have comparatively more of the yellow or yolk and less of the white. Eggs vary in colour according to their kind. Some eggs are white, as those of the pigeon and of the partridge; others are yellowish, as the eggs of marsh birds; in some cases the eggs are mottled, as the eggs of the guinea-fowl and the pheasant; while the eggs of the kestrel are red, like vermilion.

Eggs are not symmetrically shaped at both ends: in other words, one end is comparatively sharp, and the other end is comparatively blunt; and it is the latter end that protrudes first at the time of laying. Long and pointed eggs are female; those that are round, or more rounded at the narrow end, are male. Eggs are hatched by the incubation of the mother-bird. In some cases, as in Egypt, they are hatched spontaneously in the ground, by being buried in dung heaps. A story is told of a toper in Syracuse, how he used to put eggs into the ground under his rush-mat and to keep on drinking until he hatched them. Instances have occurred of eggs being deposited in warm vessels and getting hatched spontaneously.

The sperm of birds, as of animals in general, is white. After the female has submitted to the male, she draws up the sperm to underneath her midriff. At first it is little in size and white in colour; by and by it is red, the colour of blood; as it grows, it becomes pale and yellow all over. When at length it is getting ripe for hatching, it is subject to differentiation of substance, and the yolk gathers together within and the white settles round it on the outside.

When the full time is come, the egg detaches itself and protrudes, changing from soft to hard with such temporal exactitude that, whereas it is not hard during the process of protrusion, it hardens immediately after the process is completed: that is if there be no concomitant pathological circumstances. Cases have occurred where substances resembling the egg at a critical point of its growth-that is, when it is yellow all over, as the yolk is subsequently-have been found in the cock when cut open, underneath his midriff, just where the hen has her eggs; and these are entirely yellow in appearance and of the same size as ordinary eggs. Such phenomena are regarded as unnatural and portentous.

Such as affirm that wind-eggs are the residua of eggs previously begotten from copulation are mistaken in this assertion, for we have cases well authenticated where chickens of the common hen and goose have laid wind-eggs without ever having been subjected to copulation. Wind-eggs are smaller, less palatable, and more liquid than true eggs, and are produced in greater numbers. When they are put under the mother bird, the liquid contents never coagulate, but both the yellow and the white remain as they were. Wind-eggs are laid by a number of birds: as for instance by the common hen, the hen partridge, the hen pigeon, the peahen, the goose, and the vulpanser. Eggs are hatched under brooding hens more rapidly in summer than in winter; that is to say, hens hatch in eighteen days in summer, but occasionally in winter take as many as twenty-five. And by the way for brooding purposes some birds make better mothers than others. If it thunders while a hen-bird is brooding, the eggs get addled. Wind-eggs that are called by some cynosura and uria are produced chiefly in summer. Wind-eggs are called by some zephyr-eggs, because at spring-time hen-birds are observed to inhale the breezes; they do the same if they be stroked in a peculiar way by hand. Wind-eggs can turn into fertile eggs, and eggs due to previous copulation can change breed, if before the change of the yellow to the white the hen that contains wind-eggs, or eggs begotten of copulation be trodden by another cock-bird. Under these circumstances the wind-eggs turn into fertile eggs, and the previously impregnated eggs follow the breed of the impregnator; but if the latter impregnation takes place during the change of the yellow to the white, then no change in the egg takes place: the wind-egg does not become a true egg, and the true egg does not take on the breed of the latter impregnator. If when the egg-substance is small copulation be intermitted, the previously existing egg-substance exhibits no increase; but if the hen be again submitted to the male the increase in size proceeds with rapidity.

The yolk and the white are diverse not only in colour but also in properties. Thus, the yolk congeals under the influence of cold, whereas the white instead of congealing is inclined rather to liquefy. Again, the white stiffens under the influence of fire, whereas the yolk does not stiffen; but, unless it be burnt through and through, it remains soft, and in point of fact is inclined to set or to harden more from the boiling than from the roasting of the egg. The yolk and the white are separated by a membrane from one another. The so-called 'hail-stones', or treadles, that are found at the extremity of the yellow in no way contribute towards generation, as some erroneously suppose: they are two in number, one below and the other above. If you take out of the shells a number of yolks and a number of whites and pour them into a sauce pan and boil them slowly over a low fire, the yolks will gather into the centre and the whites will set all around them.

Young hens are the first to lay, and they do so at the beginning of spring and lay more eggs than the older hens, but the eggs of the younger hens are comparatively small. As a general rule, if hens get no brooding they pine and sicken. After copulation hens shiver and shake themselves, and often kick rubbish about all round them-and this, by the way, they do sometimes after laying-whereas pigeons trail their rumps on the ground, and geese dive under the water. Conception of the true egg and conformation of the wind-egg take place rapidly with most birds; as for instance with the hen-partridge when in heat. The fact is that, when she stands to windward and within scent of the male, she conceives, and becomes useless for decoy purposes: for, by the way, the partridge appears to have a very acute sense of smell.

The generation of the egg after copulation and the generation of the chick from the subsequent hatching of the egg are not brought about within equal periods for all birds, but differ as to time according to the size of the parent-birds. The egg of the common hen after copulation sets and matures in ten days a general rule; the egg of the pigeon in a somewhat lesser period. Pigeons have the faculty of holding back the egg at the very moment of parturition; if a hen pigeon be put about by any one, for instance if it be disturbed on its nest, or have a feather plucked out, or sustain any other annoyance or disturbance, then even though she had made up her mind to lay she can keep the egg back in abeyance. A singular phenomenon is observed in pigeons with regard to pairing: that is, they kiss one another just when the male is on the point of mounting the female, and without this preliminary the male would decline to perform his function. With the older males the preliminary kiss is only given to begin with, and subsequently sequently he mounts without previously kissing; with younger males the preliminary is never omitted. Another singularity in these birds is that the hens tread one another when a cock is not forthcoming, after kissing one another just as takes place in the normal pairing. Though they do not impregnate one another they lay more eggs under these than under ordinary circumstances; no chicks, however, result therefrom, but all such eggs are wind-eggs.

3

Generation from the egg proceeds in an identical manner with all birds, but the full periods from conception to birth differ, as has been said. With the common hen after three days and three nights there is the first indication of the embryo; with larger birds the interval being longer, with smaller birds shorter. Meanwhile the yolk comes into being, rising towards the sharp end, where the primal element of the egg is situated, and where the egg gets hatched; and the heart appears, like a speck of blood, in the white of the egg. This point beats and moves as though endowed with life, and from it two vein-ducts with blood in them trend in a convoluted course (as the egg substance goes on growing, towards each of the two circumjacent integuments); and a membrane carrying bloody fibres now envelops the yolk, leading off from the vein-ducts. A little afterwards the body is differentiated, at first very small and white. The head is clearly distinguished, and in it the eyes, swollen out to a great extent. This condition of the eyes lat on for a good while, as it is only by degrees that they diminish in size and collapse. At the outset the under portion of the body appears insignificant in comparison with the upper portion. Of the two ducts that lead from the heart, the one proceeds towards the circumjacent integument, and the other, like a navel-string, towards the yolk. The life-element of the chick is in the white of the egg, and the nutriment comes through the navel-string out of the yolk.

When the egg is now ten days old the chick and all its parts are distinctly visible. The head is still larger than the rest of its body, and the eyes larger than the head, but still devoid of vision. The eyes, if removed about this time, are found to be larger than beans, and black; if the cuticle be peeled off them there is a white and cold liquid inside, quite glittering in the sunlight, but there is no hard substance whatsoever. Such is the condition of the head and eyes. At this time also the larger internal organs are visible, as also the stomach and the arrangement of the viscera; and veins that seem to proceed from the heart are now close to the navel. From the navel there stretch a pair of veins; one towards the membrane that envelops the yolk (and, by the way, the yolk is now liquid, or more so than is normal), and the other towards that membrane which envelops collectively the membrane wherein the chick lies, the membrane of the yolk, and the intervening liquid. (For, as the chick grows, little by little one part of the yolk goes upward, and another part downward, and the white liquid is between them; and the white of the egg is underneath the lower part of the yolk, as it was at the outset.) On the tenth day the white is at the extreme outer surface, reduced in amount, glutinous, firm in substance, and sallow in colour.

The disposition of the several constituent parts is as follows. First and outermost comes the membrane of the egg, not that of the shell, but underneath it. Inside this membrane is a white liquid; then comes the chick, and a membrane round about it, separating it off so as to keep the chick free from the liquid; next after the chick comes the yolk, into which one of the two veins was described as leading, the other one leading into the enveloping white substance. (A membrane with a liquid resembling serum envelops the entire structure. Then comes another membrane right round the embryo, as has been described, separating it off against the liquid. Underneath this comes the yolk, enveloped in another membrane (into which yolk proceeds the navel-string that leads from the heart and the big vein), so as to keep the embryo free of both liquids.)

About the twentieth day, if you open the egg and touch the chick, it moves inside and chirps; and it is already coming to be covered with down, when, after the twentieth day is ast, the chick begins to break the shell. The head is situated over the right leg close to the flank, and the wing is placed over the head; and about this time is plain to be seen the membrane resembling an after-birth that comes next after the outermost membrane of the shell, into which membrane the one of the navel-strings was described as leading (and, by the way, the chick in its entirety is now within it), and so also is the other membrane resembling an after-birth, namely that surrounding the yolk, into which the second navel-string was described as leading; and both of them were described as being connected with the heart and the big vein. At this conjuncture the navel-string that leads to the outer afterbirth collapses and becomes detached from the chick, and the membrane that leads into the yolk is fastened on to the thin gut of the creature, and by this time a considerable amount of the yolk is inside the chick and a yellow sediment is in its stomach. About this time it discharges residuum in the direction of the outer after-birth, and has residuum inside its stomach; and the outer residuum is white (and there comes a white substance inside). By and by the yolk, diminishing gradually in size, at length becomes entirely used up and comprehended within the chick (so that, ten days after hatching, if you cut open the chick, a small remnant of the yolk is still left in connexion with the gut), but it is detached from the navel, and there is nothing in the interval between, but it has been used up entirely. During the period above referred to the chick sleeps, wakes up, makes a move and looks up and Chirps; and the heart and the navel together palpitate as though the creature were respiring. So much as to generation from the egg in the case of birds.

Birds lay some eggs that are unfruitful, even eggs that are the result of copulation, and no life comes from such eggs by incubation; and this phenomenon is observed especially with pigeons.

Twin eggs have two yolks. In some twin eggs a thin partition of white intervenes to prevent the yolks mixing with each other, but some twin eggs are unprovided with such partition, and the yokes run into one another. There are some hens that lay nothing but twin eggs, and in their case the phenomenon regarding the yolks has been observed. For instance, a hen has been known to lay eighteen eggs, and to hatch twins out of them all, except those that were wind-eggs; the rest were fertile (though, by the way, one of the twins is always bigger than the other), but the eighteenth was abnormal or monstrous.

4

Birds of the pigeon kind, such as the ringdove and the turtle-dove, lay two eggs at a time; that is to say, they do so as a general rule, and they never lay more than three. The pigeon, as has been said, lays at all seasons; the ring-dove and the turtle-dove lay in the springtime, and they never lay more than twice in the same season. The hen-bird lays the second pair of eggs when the first pair happens to have been destroyed, for many of the hen-pigeons destroy the first brood. The hen-pigeon, as has been said, occasionally lays three eggs, but it never rears more than two chicks, and sometimes rears only one; and the odd one is always a wind-egg.

Very few birds propagate within their first year. All birds, after once they have begun laying, keep on having eggs, though in the case of some birds it is difficult to detect the fact from the minute size of the creature.

The pigeon, as a rule, lays a male and a female egg, and generally lays the male egg first; after laying it allows a day's interval to ensue and then lays the second egg. The male takes its turn of sitting during the daytime; the female sits during the night. The first-laid egg is hatched and brought to birth within twenty days; and the mother bird pecks a hole in the egg the day before she hatches it out. The two parent birds brood for some time over the chicks in the way in which they brooded previously over the eggs. In all connected with the rearing of the young the female parent is more cross-tempered than the male, as is the case with most animals after parturition. The hens lay as many as ten times in the year; occasional instances have been known of their laying eleven times, and in Egypt they actually lay twelve times. The pigeon, male and female, couples within the year; in fact, it couples when only six months old. Some assert that ringdoves and turtle-doves pair and procreate when only three months old, and instance their superabundant numbers by way of proof of the assertion. The hen-pigeon carries her eggs fourteen days; for as many more days the parent birds hatch the eggs; by the end of another fourteen days the chicks are so far capable of flight as to be overtaken with difficulty. (The ring-dove, according to all accounts, lives up to forty years. The partridge lives over sixteen.) (After one brood the pigeon is ready for another within thirty days.)

5

The vulture builds its nest on inaccessible cliffs; for which reason its nest and young are rarely seen. And therefore Herodorus, father of Bryson the Sophist, declares that vultures belong to some foreign country unknown to us, stating as a proof of the assertion that no one has ever seen a vulture's nest, and also that vultures in great numbers make a sudden appearance in the rear of armies. However, difficult as it is to get a sight of it, a vulture's nest has been seen. The vulture lays two eggs.

(Carnivorous birds in general are observed to lay but once a year. The swallow is the only carnivorous bird that builds a nest twice. If you prick out the eyes of swallow chicks while they are yet young, the birds will get well again and will see by and by.)

6

The eagle lays three eggs and hatches two of them, as it is said in the verses ascribed to Musaeus:

That lays three, hatches two, and cares for one.

This is the case in most instances, though occasionally a brood of three has been observed. As the young ones grow, the mother becomes wearied with feeding them and extrudes one of the pair from the nest. At the same time the bird is said to abstain from food, to avoid harrying the young of wild animals. That is to say, its wings blanch, and for some days its talons get turned awry. It is in consequence about this time cross-tempered to its own young. The phene is said to rear the young one that has been expelled the nest. The eagle broods for about thirty days.

The hatching period is about the same for the larger birds, such as the goose and the great bustard; for the middle-sized birds it extends over about twenty days, as in the case of the kite and the hawk. The kite in general lays two eggs, but occasionally rears three young ones. The so-called aegolius at times rears four. It is not true that, as some aver, the raven lays only two eggs; it lays a larger number. It broods for about twenty days and then extrudes its young. Other birds perform the same operation; at all events mother birds that lay several eggs often extrude one of their young.

Birds of the eagle species are not alike in the treatment of their young. The white-tailed eagle is cross, the black eagle is affectionate in the feeding of the young; though, by the way, all birds of prey, when their brood is rather forward in being able to fly, beat and extrude them from the nest. The majority of birds other than birds of prey, as has been said, also act in this manner, and after feeding their young take no further care of them; but the crow is an exception. This bird for a considerable time takes charge of her young; for, even when her young can fly, she flies alongside of them and supplies them with food.

7

The cuckoo is said by some to be a hawk transformed, because at the time of the cuckoo’s coming, the hawk, which it resembles, is never seen; and indeed it is only for a few days that you will see hawks about when the cuckoo’s note sounds early in the season. The cuckoo appears only for a short time in summer, and in winter disappears. The hawk has crooked talons, which the cuckoo has not; neither with regard to the head does the cuckoo resemble the hawk. In point of fact, both as regards the head and the claws it more resembles the pigeon. However, in colour and in colour alone it does resemble the hawk, only that the markings of the hawk are striped, and of the cuckoo mottled. And, by the way, in size and flight it resembles the smallest of the hawk tribe, which bird disappears as a rule about the time of the appearance of the cuckoo, though the two have been seen simultaneously. The cuckoo has been seen to be preyed on by the hawk; and this never happens between birds of the same species. They say no one has ever seen the young of the cuckoo. The bird eggs, but does not build a nest. Sometimes it lays its eggs in the nest of a smaller bird after first devouring the eggs of this bird; it lays by preference in the nest of the ringdove, after first devouring the eggs of the pigeon. (It occasionally lays two, but usually one.) It lays also in the nest of the hypolais, and the hypolais hatches and rears the brood. It is about this time that the bird becomes fat and palatable. (The young of hawks also get palatable and fat. One species builds a nest in the wilderness and on sheer and inaccessible cliffs.)

8

With most birds, as has been said of the pigeon, the hatching is carried on by the male and the female in turns: with some birds, however, the male only sits long enough to allow the female to provide herself with food. In the goose tribe the female alone incubates, and after once sitting on the eggs she continues brooding until they are hatched.

The nests of all marsh-birds are built in districts fenny and well supplied with grass; consequently, the mother-bird while sitting quiet on her eggs can provide herself with food without having to submit to absolute fasting.

With the crow also the female alone broods, and broods throughout the whole period; the male bird supports the female, bringing her food and feeding her. The female of the ring-dove begins to brood in the afternoon and broods through the entire night until breakfast-time of the following day; the male broods during the rest of the time. Partridges build a nest in two compartments; the male broods on the one and the female on the other. After hatching, each of the parent birds rears its brood. But the male, when he first takes his young out of the nest, treads them.

9

Peafowl live for about twenty-five years, breed about the third year, and at the same time take on their spangled plumage. They hatch their eggs within thirty days or rather more. The peahen lays but once a year, and lays twelve eggs, or may be a slightly lesser number: she does not lay all the eggs there and then one after the other, but at intervals of two or three days. Such as lay for the first time lay about eight eggs. The peahen lays wind-eggs. They pair in the spring; and laying begins immediately after pairing. The bird moults when the earliest trees are shedding their leaves, and recovers its plumage when the same trees are recovering their foliage. People that rear peafowl put the eggs under the barn-door hen, owing to the fact that when the peahen is brooding over them the peacock attacks her and tries to trample on them; owing to this circumstance some birds of wild varieties run away from the males and lay their eggs and brood in solitude. Only two eggs are put under a barn-door hen, for she could not brood over and hatch a large number. They take every precaution, by supplying her with food, to prevent her going off the eggs and discontinuing the brooding.

With male birds about pairing time the testicles are obviously larger than at other times, and this is conspicuously the case with the more salacious birds, such as the barn-door cock and the cock partridge; the peculiarity is less conspicuous in such birds as are intermittent in regard to pairing.

10

So much for the conception and generation of birds.

It has been previously stated that fishes are not all oviparous. Fishes of the cartilaginous genus are viviparous; the rest are oviparous. And cartilaginous fishes are first oviparous internally and subsequently viviparous; they rear the embryos internally, the batrachus or fishing-frog being an exception.

Fishes also, as was above stated, are provided with wombs, and wombs of diverse kinds. The oviparous genera have wombs bifurcate in shape and low down in position; the cartilaginous genus have wombs shaped like those of O birds. The womb, however, in the cartilaginous fishes differs in this respect from the womb of birds, that with some cartilaginous fishes the eggs do not settle close to the diaphragm but middle-ways along the backbone, and as they grow they shift their position.

The egg with all fishes is not of two colours within but is of even hue; and the colour is nearer to white than to yellow, and that both when the young is inside it and previously as well.

Development from the egg in fishes differs from that in birds in this respect, that it does not exhibit that one of the two navel-strings that leads off to the membrane that lies close under the shell, while it does exhibit that one of the two that in the case of birds leads off to the yolk. In a general way the rest of the development from the egg onwards is identical in birds and fishes. That is to say, development takes place at the upper part of the egg, and the veins extend in like manner, at first from the heart; and at first the head, the eyes, and the upper parts are largest; and as the creature grows the egg-substance decreases and eventually disappears, and becomes absorbed within the embryo, just as takes place with the yolk in birds.

The navel-string is attached a little way below the aperture of the belly. When the creatures are young the navel-string is long, but as they grow it diminishes in size; at length it gets small and becomes incorporated, as was described in the case of birds. The embryo and the egg are enveloped by a common membrane, and just under this is another membrane that envelops the embryo by itself; and in between the two membranes is a liquid. The food inside the stomach of the little fishes resembles that inside the stomach of young chicks, and is partly white and partly yellow.

As regards the shape of the womb, the reader is referred to my treatise on Anatomy. The womb, however, is diverse in diverse fishes, as for instance in the sharks as compared one with another or as compared with the skate. That is to say, in some sharks the eggs adhere in the middle of the womb round about the backbone, as has been stated, and this is the case with the dog-fish; as the eggs grow they shift their place; and since the womb is bifurcate and adheres to the midriff, as in the rest of similar creatures, the eggs pass into one or other of the two compartments. This womb and the womb of the other sharks exhibit, as you go a little way off from the midriff, something resembling white breasts, which never make their appearance unless there be conception.

Dog-fish and skate have a kind of egg-shell, in the which is found an egg-like liquid. The shape of the egg-shell resembles the tongue of a bagpipe, and hair-like ducts are attached to the shell. With the dog-fish which is called by some the ‘dappled shark’, the young are born when the shell-formation breaks in pieces and falls out; with the ray, after it has laid the egg the shell-formation breaks up and the young move out. The spiny dog-fish has its close to the midriff above the breast like formations; when the egg descends, as soon as it gets detached the young is born. The mode of generation is the same in the case of the fox-shark.

The so-called smooth shark has its eggs in betwixt the wombs like the dog-fish; these eggs shift into each of the two horns of the womb and descend, and the young develop with the navel-string attached to the womb, so that, as the egg-substance gets used up, the embryo is sustained to all appearance just as in the case of quadrupeds. The navel-string is long and adheres to the under part of the womb (each navel-string being attached as it were by a sucker), and also to the centre of the embryo in the place where the liver is situated. If the embryo be cut open, even though it has the egg-substance no longer, the food inside is egg-like in appearance. Each embryo, as in the case of quadrupeds, is provided with a chorion and separate membranes. When young the embryo has its head upwards, but downwards when it gets strong and is completed in form. Males are generated on the left-hand side of the womb, and females on the right-hand side, and males and females on the same side together. If the embryo be cut open, then, as with quadrupeds, such internal organs as it is furnished with, as for instance the liver, are found to be large and supplied with blood.

All cartilaginous fishes have at one and the same time eggs above close to the midriff (some larger, some smaller), in considerable numbers, and also embryos lower down. And this circumstance leads many to suppose that fishes of this species pair and bear young every month, inasmuch as they do not produce all their young at once, but now and again and over a lengthened period. But such eggs as have come down below within the womb are simultaneously ripened and completed in growth.

Dog-fish in general can extrude and take in again their young, as can also the angel-fish and the electric ray-and, by the way, a large electric ray has been seen with about eighty embryos inside it-but the spiny dogfish is an exception to the rule, being prevented by the spine of the young fish from so doing. Of the flat cartilaginous fish, the trygon and the ray cannot extrude and take in again in consequence of the roughness of the tails of the young. The batrachus or fishing-frog also is unable to take in its young owing to the size of the head and the prickles; and, by the way, as was previously remarked, it is the only one of these fishes that is not viviparous.

So much for the varieties of the cartilaginous species and for their modes of generation from the egg.

11

At the breeding season the sperm-ducts of the male are filled with sperm, so much so that if they be squeezed the sperm flows out spontaneously as a white fluid; the ducts are bifurcate, and start from the midriff and the great vein. About this period the sperm-ducts of the male are quite distinct (from the womb of the female) but at any other than the actual breeding time their distinctness is not obvious to a non-expert. The fact is that in certain fishes at certain times these organs are imperceptible, as was stated regarding the testicles of birds.

Among other distinctions observed between the thoric ducts and the womb-ducts is the circumstance that the thoric ducts are attached to the loins, while the womb-ducts move about freely and are attached by a thin membrane. The particulars regarding the thoric ducts may be studied by a reference to the diagrams in my treatise on Anatomy.

Cartilaginous fishes are capable of superfoetation, and their period of gestation is six months at the longest. The so-called starry dogfish bears young the most frequently; in other words it bears twice a month. The breeding season is in the month of Maemacterion. The dog-fish as a general rule bear twice in the year, with the exception of the little dog-fish, which bears only once a year. Some of them bring forth in the springtime. The rhine, or angel-fish, bears its first brood in the springtime, and its second in the autumn, about the winter setting of the Pleiads; the second brood is the stronger of the two. The electric ray brings forth in the late autumn.

Cartilaginous fishes come out from the main seas and deep waters towards the shore and there bring forth their young, and they do so for the sake of warmth and by way of protection for their young.

Observations would lead to the general rule that no one variety of fish pairs with another variety. The angel-fish, however, and the batus or skate appear to pair with one another; for there is a fish called the rhinobatus, with the head and front parts of the skate and the after parts of the rhine or angel-fish, just as though it were made up of both fishes together.

Sharks then and their congeners, as the fox-shark and the dog-fish, and the flat fishes, such as the electric ray, the ray, the smooth skate, and the trygon, are first oviparous and then viviparous in the way above mentioned, (as are also the saw-fish and the ox-ray.)

12

The dolphin, the whale, and all the rest of the Cetacea, all, that is to say, that are provided with a blow-hole instead of gills, are viviparous. That is to say, no one of all these fishes is ever seen to be supplied with eggs, but directly with an embryo from whose differentiation comes the fish, just as in the case of mankind and the viviparous quadrupeds.

The dolphin bears one at a time generally, but occasionally two. The whale bears one or at the most two, generally two. The porpoise in this respect resembles the dolphin, and, by the way, it is in form like a little dolphin, and is found in the Euxine; it differs, however, from the dolphin as being less in size and broader in the back; its colour is leaden-black. Many people are of opinion that the porpoise is a variety of the dolphin.

All creatures that have a blow-hole respire and inspire, for they are provided with lungs. The dolphin has been seen asleep with his nose above water, and when asleep he snores.

The dolphin and the porpoise are provided with milk, and suckle their young. They also take their young, when small, inside them. The young of the dolphin grow rapidly, being full grown at ten years of age. Its period of gestation is ten months. It brings forth its young summer, and never at any other season; (and, singularly enough, under the Dogstar it disappears for about thirty days). Its young accompany it for a considerable period; and, in fact, the creature is remarkable for the strength of its parental affection. It lives for many years; some are known to have lived for more than twenty-five, and some for thirty years; the fact is fishermen nick their tails sometimes and set them adrift again, and by this expedient their ages are ascertained.

The seal is an amphibious animal: that is to say, it cannot take in water, but breathes and sleeps and brings forth on dry land-only close to the shore-as being an animal furnished with feet; it spends, however, the greater part of its time in the sea and derives its food from it, so that it must be classed in the category of marine animals. It is viviparous by immediate conception and brings forth its young alive, and exhibits an after-birth and all else just like a ewe. It bears one or two at a time, and three at the most. It has two teats, and suckles its young like a quadruped. Like the human species it brings forth at all seasons of the year, but especially at the time when the earliest kids are forthcoming. It conducts its young ones, when they are about twelve days old, over and over again during the day down to the sea, accustoming them by slow degrees to the water. It slips down steep places instead of walking, from the fact that it cannot steady itself by its feet. It can contract and draw itself in, for it is fleshy and soft and its bones are gristly. Owing to the flabbiness of its body it is difficult to kill a seal by a blow, unless you strike it on the temple. It looks like a cow. The female in regard to its genital organs resembles the female of the ray; in all other respects it resembles the female of the human species.

So much for the phenomena of generation and of parturition in animals that live in water and are viviparous either internally or externally.

13

Oviparous fishes have their womb bifurcate and placed low down, as was said previously-and, by the way, all scaly fish are oviparous, as the basse, the mullet, the grey mullet, and the etelis, and all the so-called white-fish, and all the smooth or slippery fish except the eel-and their roe is of a crumbling or granular substance. This appearance is due to the fact that the whole womb of such fishes is full of eggs, so that in little fishes there seem to be only a couple of eggs there; for in small fishes the womb is indistinguishable, from its diminutive size and thin contexture. The pairing of fishes has been discussed previously.

Fishes for the most part are divided into males and females, but one is puzzled to account for the erythrinus and the channa, for specimens of these species are never caught except in a condition of pregnancy.

With such fish as pair, eggs are the result of copulation, but such fish have them also without copulation; and this is shown in the case of some river-fish, for the minnow has eggs when quite small,-almost, one may say, as soon as it is born. These fishes shed their eggs little by little, and, as is stated, the males swallow the greater part of them, and some portion of them goes to waste in the water; but such of the eggs as the female deposits on the spawning beds are saved. If all the eggs were preserved, each species would be infinite in number. The greater number of these eggs so deposited are not productive, but only those over which the male sheds the milt or sperm; for when the female has laid her eggs, the male follows and sheds its sperm over them, and from all the eggs so besprinkled young fishes proceed, while the rest are left to their fate.

The same phenomenon is observed in the case of molluscs also; for in the case of the cuttlefish or sepia, after the female has deposited her eggs, the male besprinkles them. It is highly probable that a similar phenomenon takes place in regard to molluscs in general, though up to the present time the phenomenon has been observed only in the case of the cuttlefish.

Fishes deposit their eggs close in to shore, the goby close to stones; and, by the way, the spawn of the goby is flat and crumbly. Fish in general so deposit their eggs; for the water close in to shore is warm and is better supplied with food than the outer sea, and serves as a protection to the spawn against the voracity of the larger fish. And it is for this reason that in the Euxine most fishes spawn near the mouth of the river Thermodon, because the locality is sheltered, genial, and supplied with fresh water.

Oviparous fish as a rule spawn only once a year. The little phycis or black goby is an exception, as it spawns twice; the male of the black goby differs from the female as being blacker and having larger scales.

Fishes then in general produce their young by copulation, and lay their eggs; but the pipefish, as some call it, when the time of parturition arrives, bursts in two, and the eggs escape out. For the fish has a diaphysis or cloven growth under the belly and abdomen (like the blind snakes), and, after it has spawned by the splitting of this diaphysis, the sides of the split grow together again.

Development from the egg takes place similarly with fishes that are oviparous internally and with fishes that are oviparous externally; that is to say, the embryo comes at the upper end of the egg and is enveloped in a membrane, and the eyes, large and spherical, are the first organs visible. From this circumstance it is plain that the assertion is untenable which is made by some writers, to wit, that the young of oviparous fishes are generated like the grubs of worms; for the opposite phenomena are observed in the case of these grubs, in that their lower extremities are the larger at the outset, and that the eyes and the head appear later on. After the egg has been used up, the young fishes are like tadpoles in shape, and at first, without taking any nutriment, they grow by sustenance derived from the juice oozing from the egg; by and by, they are nourished up to full growth by the river-waters.

When the Euxine is ‘purged’ a substance called phycus is carried into the Hellespont, and this substance is of a pale yellow colour. Some writers aver that it is the flower of the phycus, from which rouge is made; it comes at the beginning of summer. Oysters and the small fish of these localities feed on this substance, and some of the inhabitants of these maritime districts say that the purple murex derives its peculiar colour from it.

14

Marsh-fishes and river-fishes conceive at the age of five months as a general rule, and deposit their spawn towards the close of the year without exception. And with these fishes, like as with the marine fishes, the female does not void all her eggs at one time, nor the male his sperm; but they are at all times more or less provided, the female with eggs, and the male with sperm. The-carp spawns as the seasons come round, five or six times, and follows in spawning the rising of the greater constellations. The chalcis spawns three times, and the other fishes once only in the year. They all spawn in pools left by the overflowing of rivers, and near to reedy places in marshes; as for instance the phoxinus or minnow and the perch.

The glanis or sheat-fish and the perch deposit their spawn in one continuous string, like the frog; so continuous, in fact, is the convoluted spawn of the perch that, by reason of its smoothness, the fishermen in the marshes can unwind it off the reeds like threads off a reel. The larger individuals of the sheat-fish spawn in deep waters, some in water of a fathom's depth, the smaller in shallower water, generally close to the roots of the willow or of some other tree, or close to reeds or to moss. At times these fishes intertwine with one another, a big with a little one, and bring into juxtaposition the ducts-which some writers designate as navels-at the point where they emit the generative products and discharge the egg in the case of the female and the milt in the case of the male. Such eggs as are besprinkled with the milt grow, in a day or thereabouts, whiter and larger, and in a little while afterwards the fish's eyes become visible for these organs in all fishes, as for that matter in all other animals, are early conspicuous and seem disproportionately big. But such eggs as the milt fails to touch remain, as with marine fishes, useless and infertile. From the fertile eggs, as the little fish grow, a kind of sheath detaches itself; this is a membrane that envelops the egg and the young fish. When the milt has mingled with the eggs, the resulting product becomes very sticky or viscous, and adheres to the roots of trees or wherever it may have been laid. The male keeps on guard at the principal spawning-place, and the female after spawning goes away.

In the case of the sheat-fish the growth from the egg is exceptionally slow, and, in consequence, the male has to keep watch for forty or fifty days to prevent the-spawn being devoured by such little fishes as chance to come by. Next in point of slowness is the generation of the carp. As with fishes in general, so even with these, the spawn thus protected disappears and gets lost rapidly.

In the case of some of the smaller fishes when they are only three days old young fishes are generated. Eggs touched by the male sperm take on increase both the same day and also later. The egg of the sheat-fish is as big as a vetch-seed; the egg of the carp and of the carp-species as big as a millet-seed.

These fishes then spawn and generate in the way here described. The chalcis, however, spawns in deep water in dense shoals of fish; and the so-called tilon spawns near to beaches in sheltered spots in shoals likewise. The carp, the baleros, and fishes in general push eagerly into the shallows for the purpose of spawning, and very often thirteen or fourteen males are seen following a single female. When the female deposits her spawn and departs, the males follow on and shed the milt. The greater portion of the spawn gets wasted; because, owing to the fact that the female moves about while spawning, the spawn scatters, or so much of it as is caught in the stream and does not get entangled with some rubbish. For, with the exception of the sheatfish, no fish keeps on guard; unless, by the way, it be the carp, which is said to remain on guard, if it so happen that its spawn lies in a solid mass.

All male fishes are supplied with milt, excepting the eel: with the eel, the male is devoid of milt, and the female of spawn. The mullet goes up from the sea to marshes and rivers; the eels, on the contrary, make their way down from the marshes and rivers to the sea.

15

The great majority of fish, then, as has been stated, proceed from eggs. However, there are some fish that proceed from mud and sand, even of those kinds that proceed also from pairing and the egg. This occurs in ponds here and there, and especially in a pond in the neighbourhood of Cnidos. This pond, it is said, at one time ran dry about the rising of the Dogstar, and the mud had all dried up; at the first fall of the rains there was a show of water in the pond, and on the first appearance of the water shoals of tiny fish were found in the pond. The fish in question was a kind of mullet, one which does not proceed from normal pairing, about the size of a small sprat, and not one of these fishes was provided with either spawn or milt. There are found also in Asia Minor, in rivers not communicating with the sea, little fishes like whitebait, differing from the small fry found near Cnidos but found under similar circumstances. Some writers actually aver that mullet all grow spontaneously. In this assertion they are mistaken, for the female of the fish is found provided with spawn, and the male with milt. However, there is a species of mullet that grows spontaneously out of mud and sand.

From the facts above enumerated it is quite proved that certain fishes come spontaneously into existence, not being derived from eggs or from copulation. Such fish as are neither oviparous nor viviparous arise all from one of two sources, from mud, or from sand and from decayed matter that rises thence as a scum; for instance, the so-called froth of the small fry comes out of sandy ground. This fry is incapable of growth and of propagating its kind; after living for a while it dies away and another creature takes its place, and so, with short intervals excepted, it may be said to last the whole year through. At all events, it lasts from the autumn rising of Arcturus up to the spring-time. As a proof that these fish occasionally come out of the ground we have the fact that in cold weather they are not caught, and that they are caught in warm weather, obviously coming up out of the ground to catch the heat; also, when the fishermen use dredges and the ground is scraped up fairly often, the fishes appear in larger numbers and of superior quality. All other small fry are inferior in quality owing to rapidity of growth. The fry are found in sheltered and marshy districts, when after a spell of fine weather the ground is getting warmer, as, for instance, in the neighbourhood of Athens, at Salamis and near the tomb of Themistocles and at Marathon; for in these districts the froth is found. It appears, then, in such districts and during such weather, and occasionally appears after a heavy fall of rain in the froth that is thrown up by the falling rain, from which circumstance the substance derives its specific name. Foam is occasionally brought in on the surface of the sea in fair weather. (And in this, where it has formed on the surface, the so-called froth collects, as grubs swarm in manure; for which-reason this fry is often brought in from the open sea. The fish is at its best in quality and quantity in moist warm weather.)

The ordinary fry is the normal issue of parent fishes: the so-called gudgeon-fry of small insignificant gudgeon-like fish that burrow under the ground. From the Phaleric fry comes the membras, from the membras the trichis, from the trichis the trichias, and from one particular sort of fry, to wit from that found in the harbour of Athens, comes what is called the encrasicholus, or anchovy. There is another fry, derived from the maenis and the mullet.

The unfertile fry is watery and keeps only a short time, as has been stated, for at last only head and eyes are left. However, the fishermen of late have hit upon a method of transporting it to a distance, as when salted it keeps for a considerable time.

16

Eels are not the issue of pairing, neither are they oviparous; nor was an eel ever found supplied with either milt or spawn, nor are they when cut open found to have within them passages for spawn or for eggs. In point of fact, this entire species of blooded animals proceeds neither from pair nor from the egg.

There can be no doubt that the case is so. For in some standing pools, after the water has been drained off and the mud has been dredged away, the eels appear again after a fall of rain. In time of drought they do not appear even in stagnant ponds, for the simple reason that their existence and sustenance is derived from rain-water.

There is no doubt, then, that they proceed neither from pairing nor from an egg. Some writers, however, are of opinion that they generate their kind, because in some eels little worms are found, from which they suppose that eels are derived. But this opinion is not founded on fact. Eels are derived from the so-called ‘earth’s guts’ that grow spontaneously in mud and in humid ground; in fact, eels have at times been seen to emerge out of such earthworms, and on other occasions have been rendered visible when the earthworms were laid open by either scraping or cutting. Such earthworms are found both in the sea and in rivers, especially where there is decayed matter: in the sea in places where sea-weed abounds, and in rivers and marshes near to the edge; for it is near to the water’s edge that sun-heat has its chief power and produces putrefaction. So much for the generation of the eel.

17

Fish do not all bring forth their young at the same season nor all in like manner, neither is the period of gestation for all of the same duration.

Before pairing the males and females gather together in shoals; at the time for copulation and parturition they pair off. With some fishes the time of gestation is not longer than thirty days, with others it is a lesser period; but with all it extends over a number of days divisible by seven. The longest period of gestation is that of the species which some call a marinus.

The sargue conceives during the month of Poseideon (or December), and carries its spawn for thirty days; and the species of mullet named by some the chelon, and the myxon, go with spawn at the same period and over the same length of time.

All fish suffer greatly during the period of gestation, and are in consequence very apt to be thrown up on shore at this time. In some cases they are driven frantic with pain and throw themselves on land. At all events they are throughout this time continually in motion until parturition is over (this being especially true of the mullet), and after parturition they are in repose. With many fish the time for parturition terminates on the appearance of grubs within the belly; for small living grubs get generated there and eat up the spawn.

With shoal fishes parturition takes place in the spring, and indeed, with most fishes, about the time of the spring equinox; with others it is at different times, in summer with some, and with others about the autumn equinox.

The first of shoal fishes to spawn is the atherine, and it spawns close to land; the last is the cephalus: and this is inferred from the fact that the brood of the atherine appears first of all and the brood of the cephalus last. The mullet also spawns early. The saupe spawns usually at the beginning of summer, but occasionally in the autumn. The aulopias, which some call the anthias, spawns in the summer. Next in order of spawning comes the chrysophrys or gilthead, the basse, the mormyrus, and in general such fish as are nicknamed ‘runners’. Latest in order of the shoal fish come the red mullet and the coracine; these spawn in autumn. The red mullet spawns on mud, and consequently, as the mud continues cold for a long while, spawns late in the year. The coracine carries its spawn for a long time; but, as it lives usually on rocky ground, it goes to a distance and spawns in places abounding in seaweed, at a period later than the red mullet. The maenis spawns about the winter solstice. Of the others, such as are pelagic spawn for the most part in summer; which fact is proved by their not being caught by fishermen during this period.

Of ordinary fishes the most prolific is the sprat; of cartilaginous fishes, the fishing-frog. Specimens, however, of the fishing-frog are rare from the facility with which the young are destroyed, as the female lays her spawn all in a lump close in to shore. As a rule, cartilaginous fish are less prolific than other fish owing to their being viviparous; and their young by reason of their size have a better chance of escaping destruction.

The so-called needle-fish (or pipe-fish) is late in spawning, and the greater portion of them are burst asunder by the eggs before spawning; and the eggs are not so many in number as large in size. The young fish cluster round the parent like so many young spiders, for the fish spawns on to herself; and, if any one touch the young, they swim away. The atherine spawns by rubbing its belly against the sand.

Tunny fish also burst asunder by reason of their fat. They live for two years; and the fishermen infer this age from the circumstance that once when there was a failure of the young tunny fish for a year there was a failure of the full-grown tunny the next summer. They are of opinion that the tunny is a fish a year older than the pelamyd. The tunny and the mackerel pair about the close of the month of Elaphebolion, and spawn about the commencement of the month of Hecatombaeon; they deposit their spawn in a sort of bag. The growth of the young tunny is rapid. After the females have spawned in the Euxine, there comes from the egg what some call scordylae, but what the Byzantines nickname the ‘auxids’ or ‘growers’, from their growing to a considerable size in a few days; these fish go out of the Pontus in autumn along with the young tunnies, and enter Pontus in the spring as pelamyds. Fishes as a rule take on growth with rapidity, but this is peculiarly the case with all species of fish found in the Pontus; the growth, for instance, of the amia-tunny is quite visible from day to day.

To resume, we must bear in mind that the same fish in the same localities have not the same season for pairing, for conception, for parturition, or for favouring weather. The coracine, for instance, in some places spawns about wheat-harvest. The statements here given pretend only to give the results of general observation.

The conger also spawns, but the fact is not equally obvious in all localities, nor is the spawn plainly visible owing to the fat of the fish; for the spawn is lanky in shape as it is with serpents. However, if it be put on the fire it shows its nature; for the fat evaporates and melts, while the eggs dance about and explode with a crack. Further, if you touch the substances and rub them with your fingers, the fat feels smooth and the egg rough. Some congers are provided with fat but not with any spawn, others are unprovided with fat but have egg-spawn as here described.

18

We have, then, treated pretty fully of the animals that fly in the air or swim in the water, and of such of those that walk on dry land as are oviparous, to wit of their pairing, conception, and the like phenomena; it now remains to treat of the same phenomena in connexion with viviparous land animals and with man.

The statements made in regard to the pairing of the sexes apply partly to the particular kinds of animal and partly to all in general. It is common to all animals to be most excited by the desire of one sex for the other and by the pleasure derived from copulation. The female is most cross-tempered just after parturition, the male during the time of pairing; for instance, stallions at this period bite one another, throw their riders, and chase them. Wild boars, though usually enfeebled at this time as the result of copulation, are now unusually fierce, and fight with one another in an extraordinary way, clothing themselves with defensive armour, or in other words deliberately thickening their hide by rubbing against trees or by coating themselves repeatedly all over with mud and then drying themselves in the sun. They drive one another away from the swine pastures, and fight with such fury that very often both combatants succumb. The case is similar with bulls, rams, and he-goats; for, though at ordinary times they herd together, at breeding time they hold aloof from and quarrel with one another. The male camel also is cross-tempered at pairing time if either a man or a camel comes near him; as for a horse, a camel is ready to fight him at any time. It is the same with wild animals. The bear, the wolf, and the lion are all at this time ferocious towards such as come in their way, but the males of these animals are less given to fight with one another from the fact that they are at no time gregarious. The she-bear is fierce after cubbing, and the bitch after pupping.

Male elephants get savage about pairing time, and for this reason it is stated that men who have charge of elephants in India never allow the males to have intercourse with the females; on the ground that the males go wild at this time and turn topsy-turvy the dwellings of their keepers, lightly constructed as they are, and commit all kinds of havoc. They also state that abundancy of food has a tendency to tame the males. They further introduce other elephants amongst the wild ones, and punish and break them in by setting on the new-comers to chastise the others.

Animals that pair frequently and not at a single specific season, as for instance animals domesticated by man, such as swine and dogs, are found to indulge in such freaks to a lesser degree owing to the frequency of their sexual intercourse.

Of female animals the mare is the most sexually wanton, and next in order comes the cow. In fact, the mare is said to go a-horsing; and the term derived from the habits of this one animal serves as a term of abuse applicable to such females of the human species as are unbridled in the way of sexual appetite. This is the common phenomenon as observed in the sow when she is said to go a-boaring. The mare is said also about this time to get wind-impregnated if not impregnated by the stallion, and for this reason in Crete they never remove the stallion from the mares; for when the mare gets into this condition she runs away from all other horses. The mares under these circumstances fly invariably either northwards or southwards, and never towards either east or west. When this complaint is on them they allow no one to approach, until either they are exhausted with fatigue or have reached the sea. Under either of these circumstances they discharge a certain substance ‘hippomanes’, the title given to a growth on a new-born foal; this resembles the sow-virus, and is in great request amongst women who deal in drugs and potions. About horsing time the mares huddle closer together, are continually switching their tails, their neigh is abnormal in sound, and from the sexual organ there flows a liquid resembling genital sperm, but much thinner than the sperm of the male. It is this substance that some call hippomanes, instead of the growth found on the foal; they say it is extremely difficult to get as it oozes out only in small drops at a time. Mares also, when in heat, discharge urine frequently, and frisk with one another. Such are the phenomena connected with the horse.

Cows go a-bulling; and so completely are they under the influence of the sexual excitement that the herdsmen have no control over them and cannot catch hold of them in the fields. Mares and kine alike, when in heat, indicate the fact by the upraising of their genital organs, and by continually voiding urine. Further, kine mount the bulls, follow them about; and keep standing beside them. The younger females both with horses and oxen are the first to get in heat; and their sexual appetites are all the keener if the weather warm and their bodily condition be healthy. Mares, when clipt of their coat, have the sexual feeling checked, and assume a downcast drooping appearance. The stallion recognizes by the scent the mares that form his company, even though they have been together only a few days before breeding time: if they get mixed up with other mares, the stallion bites and drives away the interlopers. He feeds apart, accompanied by his own troop of mares. Each stallion has assigned to him about thirty mares or even somewhat more; when a strange stallion approaches, he huddles his mares into a close ring, runs round them, then advances to the encounter of the newcomer; if one of the mares make a movement, he bites her and drives her back. The bull in breeding time begins to graze with the cows, and fights with other bulls (having hitherto grazed with them), which is termed by graziers ‘herd-spurning’. Often in Epirus a bull disappears for three months together. In a general way one may state that of male animals either none or few herd with their respective females before breeding time; but they keep separate after reaching maturity, and the two sexes feed apart. Sows, when they are moved by sexual desire, or are, as it is called, a-boaring, will attack even human beings.

With bitches the same sexual condition is termed ‘getting into heat’. The sexual organ rises at this time, and there is a moisture about the parts. Mares drip with a white liquid at this season.

Female animals are subject to menstrual discharges, but never in such-abundance as is the female of the human species. With ewes and she-goats there are signs of menstruation in breeding time, just before the for submitting to the male; after copulation also the signs are manifest, and then cease for an interval until the period of parturition arrives; the process then supervenes, and it is by this supervention that the shepherd knows that such and such an ewe is about to bring forth. After parturition comes copious menstruation, not at first much tinged with blood, but deeply dyed with it by and by. With the cow, the she ass, and the mare, the discharge is more copious actually, owing to their greater bulk, but proportionally to the greater bulk it is far less copious. The cow, for instance, when in heat, exhibits a small discharge to the extent of a quarter of a pint of liquid or a little less; and the time when this discharge takes place is the best time for her to be covered by the bull. Of all quadrupeds the mare is the most easily delivered of its young, exhibits the least amount of discharge after parturition, and emits the least amount of blood; that is to say, of all animals in proportion to size. With kine and mares menstruation usually manifests itself at intervals of two, four, and six months; but, unless one be constantly attending to and thoroughly acquainted with such animals, it is difficult to verify the circumstance, and the result is that many people are under the belief that the process never takes place with these animals at all.

With mules menstruation never takes place, but the urine of the female is thicker than the urine of the male. As a general rule the discharge from the bladder in the case of quadrupeds is thicker than it is in the human species, and this discharge with ewes and she-goats is thicker than with rams and he-goats; but the urine of the jackass is thicker than the urine of the she-ass, and the urine of the bull is more pungent than the urine of the cow. After parturition the urine of all quadrupeds becomes thicker, especially with such animals as exhibit comparatively slight discharges. At breeding time the milk become purulent, but after parturition it becomes wholesome. During pregnancy ewes and she-goats get fatter and eat more; as is also the case with cows, and, indeed, with the females of all quadrupeds.

In general the sexual appetites of animals are keenest in spring-time; the time of pairing, however, is not the same for all, but is adapted so as to ensure the rearing of the young at a convenient season.

Domesticated swine carry their young for four months, and bring forth a litter of twenty at the utmost; and, by the way, if the litter be exceedingly numerous they cannot rear all the young. As the sow grows old she continues to bear, but grows indifferent to the boar; she conceives after a single copulation, but they have to put the boar to her repeatedly owing to her dropping after intercourse what is called the sow-virus. This incident befalls all sows, but some of them discharge the genital sperm as well. During conception any one of the litter that gets injured or dwarfed is called an afterpig or scut: such injury may occur at any part of the womb. After littering the mother offers the foremost teat to the first-born. When the sow is in heat, she must not at once be put to the boar, but only after she lets her lugs drop, for otherwise she is apt to get into heat again; if she be put to the boar when in full condition of heat, one copulation, as has been said, is sufficient. It is as well to supply the boar at the period of copulation with barley, and the sow at the time of parturition with boiled barley. Some swine give fine litters only at the beginning, with others the litters improve as the mothers grow in age and size. It is said that a sow, if she have one of her eyes knocked out, is almost sure to die soon afterwards. Swine for the most part live for fifteen years, but some fall little short of the twenty.

19

Ewes conceive after three or four copulations with the ram. If rain falls after intercourse, the ram impregnates the ewe again; and it is the same with the she-goat. The ewe bears usually two lambs, sometimes three or four. Both ewe and she-goat carry their young for five months; consequently wherever a district is sunny and the animals are used to comfort and well fed, they bear twice in the year. The goat lives for eight years and the sheep for ten, but in most cases not so long; the bell-wether, however, lives to fifteen years. In every flock they train one of the rams for bell-wether. When he is called on by name by the shepherd, he takes the lead of the flock: and to this duty the creature is trained from its earliest years. Sheep in Ethiopia live for twelve or thirteen years, goats for ten or eleven. In the case of the sheep and the goat the two sexes have intercourse all their lives long.

Twins with sheep and goats may be due to richness of pasturage, or to the fact that either the ram or the he-goat is a twin-begetter or that the ewe or the she-goat is a twin-bearer. Of these animals some give birth to males and others to females; and the difference in this respect depends on the waters they drink and also on the sires. And if they submit to the male when north winds are blowing, they are apt to bear males; if when south winds are blowing, females. Such as bear females may get to bear males, due regard being paid to their looking northwards when put to the male. Ewes accustomed to be put to the ram early will refuse him if he attempt to mount them late. Lambs are born white and black according as white or black veins are under the ram’s tongue; the lambs are white if the veins are white, and black if the veins are black, and white and black if the veins are white and black; and red if the veins are red. The females that drink salted waters are the first to take the male; the water should be salted before and after parturition, and again in the springtime. With goats the shepherds appoint no bell-wether, as the animal is not capable of repose but frisky and apt to ramble. If at the appointed season the elders of the flock are eager for intercourse, the shepherds say that it bodes well for the flock; if the younger ones, that the flock is going to be bad.

20

Of dogs there are several breeds. Of these the Laconian hound of either sex is fit for breeding purposes when eight months old: at about the same age some dogs lift the leg when voiding urine. The bitch conceives with one lining; this is clearly seen in the case where a dog contrives to line a bitch by stealth, as they impregnate after mounting only once. The Laconian bitch carries her young the sixth part of a year or sixty days: or more by one, two, or three, or less by one; the pups are blind for twelve days after birth. After pupping, the bitch gets in heat again in six months, but not before. Some bitches carry their young for the fifth part of the year or for seventy-two days; and their pups are blind for fourteen days. Other bitches carry their young for a quarter of a year or for three whole months; and the whelps of these are blind for seventeen days. The bitch appears go in heat for the same length of time. Menstruation continues for seven days, and a swelling of the genital organ occurs simultaneously; it is not during this period that the bitch is disposed to submit to the dog, but in the seven days that follow. The bitch as a rule goes in heat for fourteen days, but occasionally for sixteen. The birth-discharge occurs simultaneously with the delivery of the whelps, and the substance of it is thick and mucous. (The falling-off in bulk on the part of the mother is not so great as might have been inferred from the size of her frame.) The bitch is usually supplied with milk five days before parturition; some seven days previously, some four; and the milk is serviceable immediately after birth. The Laconian bitch is supplied with milk thirty days after lining. The milk at first is thickish, but gets thinner by degrees; with the bitch the milk is thicker than with the female of any other animal excepting the sow and the hare. When the bitch arrives at full growth an indication is given of her capacity for the male; that is to say, just as occurs in the female of the human species, a swelling takes place in the teats of the breasts, and the breasts take on gristle. This incident, however, it is difficult for any but an expert to detect, as the part that gives the indication is inconsiderable. The preceding statements relate to the female, and not one of them to the male. The male as a rule lifts his leg to void urine when six months old; some at a later period, when eight months old, some before they reach six months. In a general way one may put it that they do so when they are out of puppyhood. The bitch squats down when she voids urine; it is a rare exception that she lifts the leg to do so. The bitch bears twelve pups at the most, but usually five or six; occasionally a bitch will bear one only. The bitch of the Laconian breed generally bears eight. The two sexes have intercourse with each other at all periods of life. A very remarkable phenomenon is observed in the case of the Laconian hound: in other words, he is found to be more vigorous in commerce with the female after being hard-worked than when allowed to live idle.

The dog of the Laconian breed lives ten years, and the bitch twelve. The bitch of other breeds usually lives for fourteen or fifteen years, but some live to twenty; and for this reason certain critics consider that Homer did well in representing the dog of Ulysses as having died in his twentieth year. With the Laconian hound, owing to the hardships to which the male is put, he is less long-lived than the female; with other breeds the distinction as to longevity is not very apparent, though as a general rule the male is the longer-lived.

The dog sheds no teeth except the so-called ‘canines’; these a dog of either sex sheds when four months old. As they shed these only, many people are in doubt as to the fact, and some people, owing to their shedding but two and its being hard to hit upon the time when they do so, fancy that the animal sheds no teeth at all; others, after observing the shedding of two, come to the conclusion that the creature sheds the rest in due turn. Men discern the age of a dog by inspection of its teeth; with young dogs the teeth are white and sharp pointed, with old dogs black and blunted.

21

The bull impregnates the cow at a single mount, and mounts with such vigour as to weigh down the cow; if his effort be unsuccessful, the cow must be allowed an interval of twenty days before being again submitted. Bulls of mature age decline to mount the same cow several times on one day, except, by the way, at considerable intervals. Young bulls by reason of their vigour are enabled to mount the same cow several times in one day, and a good many cows besides. The bull is the least salacious of male animals.... The victor among the bulls is the one that mounts the females; when he gets exhausted by his amorous efforts, his beaten antagonist sets on him and very often gets the better of the conflict. The bull and the cow are about a year old when it is possible for them to have commerce with chance of offspring: as a rule, however, they are about twenty months old, but it is universally allowed that they are capable in this respect at the age of two years. The cow goes with calf for nine months, and she calves in the tenth month; some maintain that they go in calf for ten months, to the very day. A calf delivered before the times here specified is an abortion and never lives, however little premature its birth may have been, as its hooves are weak and imperfect. The cow as a rule bears but one calf, very seldom two; she submits to the bull and bears as long as she lives.

Cows live for about fifteen years, and the bulls too, if they have been castrated; but some live for twenty years or even more, if their bodily constitutions be sound. The herdsmen tame the castrated bulls, and give them an office in the herd analogous to the office of the bell-wether in a flock; and these bulls live to an exceptionally advanced age, owing to their exemption from hardship and to their browsing on pasture of good quality. The bull is in fullest vigour when five years old, which leads the critics to commend Homer for applying to the bull the epithets of ‘five-year-old’, or ‘of nine seasons’, which epithets are alike in meaning. The ox sheds his teeth at the age of two years, not all together but just as the horse sheds his. When the animal suffers from podagra it does not shed the hoof, but is subject to a painful swelling in the feet. The milk of the cow is serviceable after parturition, and before parturition there is no milk at all. The milk that first presents itself becomes as hard as stone when it clots; this result ensues unless it be previously diluted with water. Oxen younger than a year old do not copulate unless under circumstances of an unnatural and portentous kind: instances have been recorded of copulation in both sexes at the age of four months. Kine in general begin to submit to the male about the month of Thargelion or of Scirophorion; some, however, are capable of conception right on to the autumn. When kine in large numbers receive the bull and conceive, it is looked upon as prognostic of rain and stormy weather. Kine herd together like mares, but in lesser degree.

22

In the case of horses, the stallion and the mare are first fitted for breeding purposes when two years old. Instances, however, of such early maturity are rare, and their young are exceptionally small and weak; the ordinary age for sexual maturity is three years, and from that age to twenty the two sexes go on improving in the quality of their offspring. The mare carries her foal for eleven months, and casts it in the twelfth. It is not a fixed number of days that the stallion takes to impregnate the mare; it may be one, two, three, or more. An ass in covering will impregnate more expeditiously than a stallion. The act of intercourse with horses is not laborious as it is with oxen. In both sexes the horse is the most salacious of animals next after the human species. The breeding faculties of the younger horses may be stimulated beyond their years if they be supplied with good feeding in abundance. The mare as a rule bears only one foal; occasionally she has two, but never more. A mare has been known to cast two mules; but such a circumstance was regarded as unnatural and portentous.

The horse then is first fitted for breeding purposes at the age of two and a half years, but achieves full sexual maturity when it has ceased to shed teeth, except it be naturally infertile; it must be added, however, that some horses have been known to impregnate the mare while the teeth were in process of shedding.

The horse has forty teeth. It sheds its first set of four, two from the upper jaw and two from the lower, when two and a half years old. After a year's interval, it sheds another set of four in like manner, and another set of four after yet another year's interval; after arriving at the age of four years and six months it sheds no more. An instance has occurred where a horse shed all his teeth at once, and another instance of a horse shedding all his teeth with his last set of four; but such instances are very rare. It consequently happens that a horse when four and a half years old is in excellent condition for breeding purposes.

The older horses, whether of the male or female, are the more generatively productive. Horses will cover mares from which they have been foaled and mares which they have begotten; and, indeed, a troop of horses is only considered perfect when such promiscuity of intercourse occurs. Scythians use pregnant mares for riding when the embryo has turned rather soon in the womb, and they assert that thereby the mothers have all the easier delivery. Quadrupeds as a rule lie down for parturition, and in consequence the young of them all come out of the womb sideways. The mare, however, when the time for parturition arrives, stands erect and in that posture casts its foal.

The horse in general lives for eighteen or twenty years; some horses live for twenty-five or even thirty, and if a horse be treated with extreme care, it may last on to the age of fifty years; a horse, however, when it reaches thirty years is regarded as exceptionally old. The mare lives usually for twenty-five years, though instances have occurred of their attaining the age of forty. The male is less long-lived than the female by reason of the sexual service he is called on to render; and horses that are reared in a private stable live longer than such as are reared in troops. The mare attains her full length and height at five years old, the stallion at six; in another six years the animal reaches its full bulk, and goes on improving until it is twenty years old. The female, then, reaches maturity more rapidly than the male, but in the womb the case is reversed, just as is observed in regard to the sexes of the human species; and the same phenomenon is observed in the case of all animals that bear several young.

The mare is said to suckle a mule-foal for six months, but not to allow its approach for any longer on account of the pain it is put to by the hard tugging of the young; an ordinary foal it allows to suck for a longer period.

Horse and mule are at their best after the shedding of the teeth. After they have shed them all, it is not easy to distinguish their age; hence they are said to carry their mark before the shedding, but not after. However, even after the shedding their age is pretty well recognized by the aid of the canines; for in the case of horses much ridden these teeth are worn away by attrition caused by the insertion of the bit; in the case of horses not ridden the teeth are large and detached, and in young horses they are sharp and small.

The male of the horse will breed at all seasons and during its whole life; the mare can take the horse all its life long, but is not thus ready to pair at all seasons unless it be held in check by a halter or some other compulsion be brought to bear. There is no fixed time at which intercourse of the two sexes cannot take place; and accordingly intercourse may chance to take place at a time that may render difficult the rearing of the future progeny. In a stable in Opus there was a stallion that used to serve mares when forty years old: his fore legs had to be lifted up for the operation.

Mares first take the horse in the spring-time. After a mare has foaled she does not get impregnated at once again, but only after a considerable interval; in fact, the foals will be all the better if the interval extend over four or five years. It is, at all events, absolutely necessary to allow an interval of one year, and for that period to let her lie fallow. A mare, then, breeds at intervals; a she-ass breeds on and on without intermission. Of mares some are absolutely sterile, others are capable of conception but incapable of bringing the foal to full term; it is said to be an indication of this condition in a mare, that her foal if dissected is found to have other kidney-shaped substances round about its kidneys, presenting the appearance of having four kidneys.

After parturition the mare at once swallows the after-birth, and bites off the growth, called the ‘hippomanes’, that is found on the forehead of the foal. This growth is somewhat smaller than a dried fig; and in shape is broad and round, and in colour black. If any bystander gets possession of it before the mare, and the mare gets a smell of it, she goes wild and frantic at the smell. And it is for this reason that venders of drugs and simples hold the substance in high request and include it among their stores.

If an ass cover a mare after the mare has been covered by a horse, the ass will destroy the previously formed embryo.

(Horse-trainers do not appoint a horse as leader to a troop, as herdsmen appoint a bull as leader to a herd, and for this reason that the horse is not steady but quick-tempered and skittish.)

23

The ass of both sexes is capable of breeding, and sheds its first teeth at the age of two and a half years; it sheds its second teeth within six months, its third within another six months, and the fourth after the like interval. These fourth teeth are termed the gnomons or age-indicators.

A she-ass has been known to conceive when a year old, and the foal to be reared. After intercourse with the male it will discharge the genital sperm unless it be hindered, and for this reason it is usually beaten after such intercourse and chased about. It casts its young in the twelfth month. It usually bears but one foal, and that is its natural number, occasionally however it bears twins. The ass if it cover a mare destroys, as has been said, the embryo previously begotten by the horse; but, after the mare has been covered by the ass, the horse supervening will not spoil the embryo. The she-ass has milk in the tenth month of pregnancy. Seven days after casting a foal the she-ass submits to the male, and is almost sure to conceive if put to the male on this particular day; the same result, however, is quite possible later on. The she-ass will refuse to cast her foal with any one looking on or in the daylight and just before foaling she has to be led away into a dark place. If the she-ass has had young before the shedding of the index-teeth, she will bear all her life through; but if not, then she will neither conceive nor bear for the rest of her days. The ass lives for more than thirty years, and the she-ass lives longer than the male.

When there is a cross between a horse and a she-ass or a jackass and a mare, there is much greater chance of a miscarriage than where the commerce is normal. The period for gestation in the case of a cross depends on the male, and is just what it would have been if the male had had commerce with a female of his own kind. In regard to size, looks, and vigour, the foal is more apt to resemble the mother than the sire. If such hybrid connexions be continued without intermittence, the female will soon go sterile; and for this reason trainers always allow of intervals between breeding times. A mare will not take the ass, nor a she ass the horse, unless the ass or she-ass shall have been suckled by a mare; and for this reason trainers put foals of the she-ass under mares, which foals are technically spoken of as ‘mare-suckled’. These asses, thus reared, mount the mares in the open pastures, mastering them by force as the stallions do.

24

A mule is fitted for commerce with the female after the first shedding of its teeth, and at the age of seven will impregnate effectually; and where connexion has taken place with a mare, a ‘hinny’ has been known to be produced. After the seventh year it has no further intercourse with the female. A female mule has been known to be impregnated, but without the impregnation being followed up by parturition. In Syrophoenicia she-mules submit to the mule and bear young; but the breed, though it resembles the ordinary one, is different and specific. The hinny or stunted mule is foaled by a mare when she has gone sick during gestation, and corresponds to the dwarf in the human species and to the after-pig or scut in swine; and as is the case with dwarfs, the sexual organ of the hinny is abnormally large.

The mule lives for a number of years. There are on record cases of mules living to the age of eighty, as did one in Athens at the time of the building of the temple; this mule on account of its age was let go free, but continued to assist in dragging burdens, and would go side by side with the other draught-beasts and stimulate them to their work; and in consequence a public decree was passed forbidding any baker driving the creature away from his bread-tray. The she-mule grows old more slowly than the mule. Some assert that the she-mule menstruates by the act of voiding her urine, and that the mule owes the prematurity of his decay to his habit of smelling at the urine. So much for the modes of generation in connexion with these animals.

25

Breeders and trainers can distinguish between young and old quadrupeds. If, when drawn back from the jaw, the skin at once goes back to its place, the animal is young; if it remains long wrinkled up, the animal is old.

26

The camel carries its young for ten months, and bears but one at a time and never more; the young camel is removed from the mother when a year old. The animal lives for a long period, more than fifty years. It bears in spring-time, and gives milk until the time of the next conception. Its flesh and milk are exceptionally palatable. The milk is drunk mixed with water in the proportion of either two to one or three to one.

27

The elephant of either sex is fitted for breeding before reaching the age of twenty. The female carries her young, according to some accounts, for two and a half years; according to others, for three years; and the discrepancy in the assigned periods is due to the fact that there are never human eyewitnesses to the commerce between the sexes. The female settles down on its rear to cast its young, and obviously suffers greatly during the process. The young one, immediately after birth, sucks the mother, not with its trunk but with the mouth; and can walk about and see distinctly the moment it is born.

28

The wild sow submits to the boar at the beginning of winter, and in the spring-time retreats for parturition to a lair in some district inaccessible to intrusion, hemmed in with sheer cliffs and chasms and overshadowed by trees. The boar usually remains by the sow for thirty days. The number of the litter and the period gestation is the same as in the case of the domesticated congener. The sound of the grunt also is similar; only that the sow grunts continually, and the boar but seldom. Of the wild boars such as are castrated grow to the largest size and become fiercest: to which circumstance Homer alludes when he says: —

‘He reared against him a wild castrated boar: it was not like a food-devouring brute, but like a forest-clad promontory.’

Wild boars become castrated owing to an itch befalling them in early life in the region of the testicles, and the castration is superinduced by their rubbing themselves against the trunks of trees.

29

The hind, as has been stated, submits to the stag as a rule only under compulsion, as she is unable to endure the male often owing to the rigidity of the penis. However, they do occasionally submit to the stag as the ewe submits ram; and when they are in heat the hinds avoid one another. The stag is not constant to one particular hind, but after a while quits one and mates with others. The breeding time is after the rising of Arcturus, during the months of Boedromion and Maimacterion. The period of gestation lasts for eight months. Conception comes on a few days after intercourse; and a number of hinds can be impregnated by a single male. The hind, as a rule, bears but one fawn, although instances have been known of her casting two. Out of dread of wild beasts she casts her young by the side of the high-road. The young fawn grows with rapidity. Menstruation occurs at no other time with the hind; it takes place only after parturition, and the substance is phlegm-like.

The hind leads the fawn to her lair; this is her place of refuge, a cave with a single inlet, inside which she shelters herself against attack.

Fabulous stories are told concerning the longevity of the animal, but the stories have never been verified, and the brevity of the period of gestation and the rapidity of growth in the fawn would not lead one to attribute extreme longevity to this creature.

In the mountain called Elaphoeis or Deer Mountain, which is in Arginussa in Asia Minor-the place, by the way, where Alcibiades was assassinated-all the hinds have the ear split, so that, if they stray to a distance, they can be recognized by this mark; and the embryo actually has the mark while yet in the womb of the mother.

The hind has four teats like the cow. After the hinds have become pregnant, the males all segregate one by one, and in consequence of the violence of their sexual passions they keep each one to himself, dig a hole in the ground, and bellow from time to time; in all these particulars they resemble the goat, and their foreheads from getting wetted become black, as is also the case with the goat. In this way they pass the time until the rain falls, after which time they turn to pasture. The animal acts in this way owing to its sexual wantonness and also to its obesity; for in summer-time it becomes so exceptionally fat as to be unable to run: in fact at this period they can be overtaken by the hunters that pursue them on foot in the second or third run; and, by the way, in consequence of the heat of the weather and their getting out of breath they always make for water in their runs. In the rutting season, the flesh of the deer is unsavoury and rank, like the flesh of the he-goat. In winter-time the deer becomes thin and weak, but towards the approach of the spring he is at his best for running. When on the run the deer keeps pausing from time to time, and waits until his pursuer draws upon him, whereupon he starts off again. This habit appears due to some internal pain: at all events, the gut is so slender and weak that, if you strike the animal ever so softly, it is apt to break asunder, though the hide of the animal remains sound and uninjured.

30

Bears, as has been previously stated, do not copulate with the male mounting the back of the female, but with the female lying down under the male. The she-bear goes with young for thirty days. She brings forth sometimes one cub, sometimes two cubs, and at most five. Of all animals the newly born cub of the she bear is the smallest in proportion to the size of the mother; that is to say, it is larger than a mouse but smaller than a weasel. It is also smooth and blind, and its legs and most of its organs are as yet inarticulate. Pairing takes Place in the month of Elaphebolion, and parturition about the time for retiring into winter quarters; about this time the bear and the she-bear are at the fattest. After the she-bear has reared her young, she comes out of her winter lair in the third month, when it is already spring. The female porcupine, by the way, hibernates and goes with young the same number of days as the she-bear, and in all respects as to parturition resembles this animal. When a she-bear is with young, it is a very hard task to catch her.

31

It has already been stated that the lion and lioness copulate rearwards, and that these animals are opisthuretic. They do not copulate nor bring forth at all seasons indiscriminately, but once in the year only. The lioness brings forth in the spring, generally two cubs at a time, and six at the very most; but sometimes only one. The story about the lioness discharging her womb in the act of parturition is a pure fable, and was merely invented to account for the scarcity of the animal; for the animal is, as is well known, a rare animal, and is not found in many countries. In fact, in the whole of Europe it is only found in the strip between the rivers Achelous and Nessus. The cubs of the lioness when newly born are exceedingly small, and can scarcely walk when two months old. The Syrian lion bears cubs five times: five cubs at the first litter, then four, then three, then two, and lastly one; after this the lioness ceases to bear for the rest of her days. The lioness has no mane, but this appendage is peculiar to the lion. The lion sheds only the four so-called canines, two in the upper jaw and two in the lower; and it sheds them when it is six months old.

32

The hyena in colour resembles the wolf, but is more shaggy, and is furnished with a mane running all along the spine. What is recounted concerning its genital organs, to the effect that every hyena is furnished with the organ both of the male and the female, is untrue. The fact is that the sexual organ of the male hyena resembles the same organ in the wolf and in the dog; the part resembling the female genital organ lies underneath the tail, and does to some extent resemble the female organ, but it is unprovided with duct or passage, and the passage for the residuum comes underneath it. The female hyena has the part that resembles the organ of the male, and, as in the case of the male, has it underneath her tail, unprovided with duct or passage; and after it the passage for the residuum, and underneath this the true female genital organ. The female hyena has a womb, like all other female animals of the same kind. It is an exceedingly rare circumstance to meet with a female hyena. At least a hunter said that out of eleven hyenas he had caught, only one was a female.

33

Hares copulate in a rearward posture, as has been stated, for the animal is opisthuretic. They breed and bear at all seasons, superfoetate during pregnancy, and bear young every month. They do not give birth to their young ones all together at one time, but bring them forth at intervals over as many days as the circumstances of each case may require. The female is supplied with milk before parturition; and after bearing submits immediately to the male, and is capable of conception while suckling her young. The milk in consistency resembles sow's milk. The young are born blind, as is the case with the greater part Of the fissipeds or toed animals.

34

The fox mounts the vixen in copulation, and the vixen bears young like the she-bear; in fact, her young ones are even more inarticulately formed. Before parturition she retires to sequestered places, so that it is a great rarity for a vixen to be caught while pregnant. After parturition she warms her young and gets them into shape by licking them. She bears four at most at a birth.

35

The wolf resembles the dog in regard to the time of conception and parturition, the number of the litter, and the blindness of the newborn young. The sexes couple at one special period, and the female brings forth at the beginning of the summer. There is an account given of the parturition of the she-wolf that borders on the fabulous, to the effect that she confines her lying-in to within twelve particular days of the year. And they give the reason for this in the form of a myth, viz. that when they transported Leto in so many days from the land of the Hyperboreans to the island of Delos, she assumed the form of a she-wolf to escape the anger of Here. Whether the account be correct or not has not yet been verified; I give it merely as it is currently told. There is no more of truth in the current statement that the she-wolf bears once and only once in her lifetime.

The cat and the ichneumon bear as many young as the dog, and live on the same food; they live about six years. The cubs of the panther are born blind like those of the wolf, and the female bears four at the most at one birth. The particulars of conception are the same for the thos, or civet, as for the dog;

the cubs of the animal are born blind, and the female bears two, or three, or four at a birth. It is long in the body and low in stature; but not withstanding the shortness of its legs it is exceptionally fleet of foot, owing to the suppleness of its frame and its capacity for leaping.

36

There is found in Syria a so-called mule. It is not the same as the cross between the horse and ass, but resembles it just as a wild ass resembles the domesticated congener, and derives its name from the resemblance. Like the wild ass, this wild mule is remarkable for its speed. The animals of this species interbreed with one another; and a proof of this statement may be gathered from the fact that a certain number of them were brought into Phrygia in the time of Pharnaces, the father of Pharnabazus, and the animal is there still. The number originally introduced was nine, and there are three there at the present day.

37

The phenomena of generation in regard to the mouse are the most astonishing both for the number of the young and for the rapidity of recurrence in the births. On one occasion a she-mouse in a state of pregnancy was shut up by accident in a jar containing millet-seed, and after a little while the lid of the jar was removed and upwards of one hundred and twenty mice were found inside it.

The rate of propagation of field mice in country places, and the destruction that they cause, are beyond all telling. In many places their number is so incalculable that but very little of the corn-crop is left to the farmer; and so rapid is their mode of proceeding that sometimes a small farmer will one day observe that it is time for reaping, and on the following morning, when he takes his reapers afield, he finds his entire crop devoured. Their disappearance is unaccountable: in a few days not a mouse will there be to be seen. And yet in the time before these few days men fail to keep down their numbers by fumigating and unearthing them, or by regularly hunting them and turning in swine upon them; for pigs, by the way, turn up the mouse-holes by rooting with their snouts. Foxes also hunt them, and the wild ferrets in particular destroy them, but they make no way against the prolific qualities of the animal and the rapidity of its breeding. When they are super-abundant, nothing succeeds in thinning them down except the rain; but after heavy rains they disappear rapidly.

In a certain district of Persia when a female mouse is dissected the female embryos appear to be pregnant. Some people assert, and positively assert, that a female mouse by licking salt can become pregnant without the intervention of the male.

Mice in Egypt are covered with bristles like the hedgehog. There is also a different breed of mice that walk on their two hind-legs; their front legs are small and their hind-legs long; the breed is exceedingly numerous. There are many other breeds of mice than are here referred to.

Book VII

1

As to Man's growth, first within his mother's womb and afterward to old age, the course of nature, in so far as man is specially concerned, is after the following manner. And, by the way, the difference of male and female and of their respective organs has been dealt with heretofore. When twice seven years old, in the most of cases, the male begins to engender seed; and at the same time hair appears upon the pubes, in like manner, so Alcmaeon of Croton remarks, as plants first blossom and then seed. About the same time, the voice begins to alter, getting harsher and more uneven, neither shrill as formerly nor deep as afterward, nor yet of any even tone, but like an instrument whose strings are frayed and out of tune; and it is called, by way of by-word, the bleat of the billy-goat. Now this breaking of the voice is the more apparent in those who are making trial of their sexual powers; for in those who are prone to lustfulness the voice turns into the voice of a man, but not so in the continent. For if a lad strive diligently to hinder his voice from breaking, as some do of those who devote themselves to music, the voice lasts a long while unbroken and may even persist with little change. And the breasts swell and likewise the private parts, altering in size and shape. (And by the way, at this time of life those who try by friction to provoke emission of seed are apt to experience pain as well as voluptuous sensations.) At the same age in the female, the breasts swell and the so-called catamenia commence to flow; and this fluid resembles fresh blood. There is another discharge, a white one, by the way, which occurs in girls even at a very early age, more especially if their diet be largely of a fluid nature; and this malady causes arrest of growth and loss of flesh. In the majority of cases the catamenia are noticed by the time the breasts have grown to the height of two fingers' breadth. In girls, too, about this time the voice changes to a deeper note; for while in general the woman's voice is higher than the man's, so also the voices of girls are pitched in a higher key than the elder women's, just as the boy's are higher than the men's; and the girls' voices are shriller than the boys’, and a maid’s flute is tuned sharper than a lad’s.

Girls of this age have much need of surveillance. For then in particular they feel a natural impulse to make usage of the sexual faculties that are developing in them; so that unless they guard against any further impulse beyond that inevitable one which their bodily development of itself supplies, even in the case of those who abstain altogether from passionate indulgence, they contract habits which are apt to continue into later life. For girls who give way to wantonness grow more and more wanton; and the same is true of boys, unless they be safeguarded from one temptation and another; for the passages become dilated and set up a local flux or running, and besides this the recollection of pleasure associated with former indulgence creates a longing for its repetition.

Some men are congenitally impotent owing to structural defect; and in like manner women also may suffer from congenital incapacity. Both men and women are liable to constitutional change, growing healthier or more sickly, or altering in the way of leanness, stoutness, and vigour; thus, after puberty some lads who were thin before grow stout and healthy, and the converse also happens; and the same is equally true of girls. For when in boy or girl the body is loaded with superfluous matter, then, when such superfluities are got rid of in the spermatic or catamenial discharge, their bodies improve in health and condition owing to the removal of what had acted as an impediment to health and proper nutrition; but in such as are of opposite habit their bodies become emaciated and out of health, for then the spermatic discharge in the one case and the catamenial flow in the other take place at the cost of natural healthy conditions.

Furthermore, in the case of maidens the condition of the breasts is diverse in different individuals, for they are sometimes quite big and sometimes little; and as a general rule their size depends on whether or not the body was burthened in childhood with superfluous material. For when the signs of womanhood are nigh but not come, the more there be of moisture the more will it cause the breasts to swell, even to the bursting point; and the result is that the breasts remain during after-life of the bulk that they then acquired. And among men, the breasts grow more conspicuous and more like to those of women, both in young men and old, when the individual temperament is moist and sleek and the reverse of sinewy, and all the more among the dark-complexioned than the fair.

At the outset and till the age of one and twenty the spermatic discharge is devoid of fecundity; afterwards it becomes fertile, but young men and women produce undersized and imperfect progeny, as is the case also with the common run of animals. Young women conceive readily, but, having conceived, their labour in childbed is apt to be difficult.

The frame fails of reaching its full development and ages quickly in men of intemperate lusts and in women who become mothers of many children; for it appears to be the case that growth ceases when the woman has given birth to three children. Women of a lascivious disposition grow more sedate and virtuous after they have borne several children.

After the age of twenty-one women are fully ripe for child-bearing, but men go on increasing in vigour. When the spermatic fluid is of a thin consistency it is infertile; when granular it is fertile and likely to produce male children, but when thin and unclotted it is apt to produce female offspring. And it is about this time of life that in men the beard makes its appearance.

2

The onset of the catamenia in women takes place towards the end of the month; and on this account the wiseacres assert that the moon is feminine, because the discharge in women and the waning of the moon happen at one and the same time, and after the wane and the discharge both one and the other grow whole again. (In some women the catamenia occur regularly but sparsely every month, and more abundantly every third month.) With those in whom the ailment lasts but a little while, two days or three, recovery is easy; but where the duration is longer, the ailment is more troublesome. For women are ailing during these days; and sometimes the discharge is sudden and sometimes gradual, but in all cases alike there is bodily distress until the attack be over. In many cases at the commencement of the attack, when the discharge is about to appear, there occur spasms and rumbling noises within the womb until such time as the discharge manifests itself.

Under natural conditions it is after recovery from these symptoms that conception takes place in women, and women in whom the signs do not manifest themselves for the most part remain childless. But the rule is not without exception, for some conceive in spite of the absence of these symptoms; and these are cases in which a secretion accumulates, not in such a way as actually to issue forth, but in amount equal to the residuum left in the case of child-bearing women after the normal discharge has taken place. And some conceive while the signs are on but not afterwards, those namely in whom the womb closes up immediately after the discharge. In some cases the menses persist during pregnancy up to the very last; but the result in these cases is that the offspring are poor, and either fail to survive or grow up weakly.

In many cases, owing to excessive desire, arising either from youthful impetuosity or from lengthened abstinence, prolapsion of the womb takes place and the catamenia appear repeatedly, thrice in the month, until conception occurs; and then the womb withdraws upwards again to its proper place...

As we have remarked above, the discharge is wont to be more abundant in women than in the females of any other animals. In creatures that do not bring forth their young alive nothing of the sort manifests itself, this particular superfluity being converted into bodily substance; and by the way, in such animals the females are sometimes larger than the males; and moreover, the material is used up sometimes for scutes and sometimes for scales, and sometimes for the abundant covering of feathers, whereas in the vivipara possessed of limbs it is turned into hair and into bodily substance (for man alone among them is smooth-skinned), and into urine, for this excretion is in the majority of such animals thick and copious. Only in the case of women is the superfluity turned into a discharge instead of being utilized in these other ways.

There is something similar to be remarked of men: for in proportion to his size man emits more seminal fluid than any other animal (for which reason man is the smoothest of animals), especially such men as are of a moist habit and not over corpulent, and fair men in greater degree than dark. It is likewise with women; for in the stout, great part of the excretion goes to nourish the body. In the act of intercourse, women of a fair complexion discharge a more plentiful secretion than the dark; and furthermore, a watery and pungent diet conduces to this phenomenon.

It is a sign of conception in women when the place is dry immediately after intercourse. If the lips of the orifice be smooth conception is difficult, for the matter slips off; and if they be thick it is also difficult. But if on digital examination the lips feel somewhat rough and adherent, and if they be likewise thin, then the chances are in favour of conception. Accordingly, if conception be desired, we must bring the parts into such a condition as we have just described; but if on the contrary we want to avoid conception then we must bring about a contrary disposition. Wherefore, since if the parts be smooth conception is prevented, some anoint that part of the womb on which the seed falls with oil of cedar, or with ointment of lead or with frankincense, commingled with olive oil. If the seed remain within for seven days then it is certain that conception has taken place; for it is during that period that what is known as effluxion takes place.

In most cases the menstrual discharge recurs for some time after conception has taken place, its duration being mostly thirty days in the case of a female and about forty days in the case of a male child. After parturition also it is common for the discharge to be withheld for an equal number of days, but not in all cases with equal exactitude. After conception, and when the above-mentioned days are past, the discharge no longer takes its natural course but finds its way to the breasts and turns to milk. The first appearance of milk in the breasts is scant in quantity and so to speak cobwebby or interspersed with little threads. And when conception has taken place, there is apt to be a sort of feeling in the region of the flanks, which in some cases quickly swell up a little, especially in thin persons, and also in the groin.

In the case of male children the first movement usually occurs on the right-hand side of the womb and about the fortieth day, but if the child be a female then on the left-hand side and about the ninetieth day. However, we must by no means assume this to be an accurate statement of fact, for there are many exceptions, in which the movement is manifested on the right-hand side though a female child be coming, and on the left-hand side though the infant be a male. And in short, these and all suchlike phenomena are usually subject to differences that may be summed up as differences of degree.

About this period the embryo begins to resolve into distinct parts, it having hitherto consisted of a fleshlike substance without distinction of parts.

What is called effluxion is a destruction of the embryo within the first week, while abortion occurs up to the fortieth day; and the greater number of such embryos as perish do so within the space of these forty days.

In the case of a male embryo aborted at the fortieth day, if it be placed in cold water it holds together in a sort of membrane, but if it be placed in any other fluid it dissolves and disappears. If the membrane be pulled to bits the embryo is revealed, as big as one of the large kind of ants; and all the limbs are plain to see, including the penis, and the eyes also, which as in other animals are of great size. But the female embryo, if it suffer abortion during the first three months, is as a rule found to be undifferentiated; if however it reach the fourth month it comes to be subdivided and quickly attains further differentiation. In short, while within the womb, the female infant accomplishes the whole development of its parts more slowly than the male, and more frequently than the man-child takes ten months to come to perfection. But after birth, the females pass more quickly than the males through youth and maturity and age; and this is especially true of those that bear many children, as indeed I have already said.

4

When the womb has conceived the seed, straightway in the majority of cases it closes up until seven months are fulfilled; but in the eighth month it opens, and the embryo, if it be fertile, descends in the eighth month. But such embryos as are not fertile but are devoid of breath at eight months old, their mothers do not bring into the world by parturition at eight months, neither does the embryo descend within the womb at that period nor does the womb open. And it is a sign that the embryo is not capable of life if it be formed without the above-named circumstances taking place.

After conception women are prone to a feeling of heaviness in all parts of their bodies, and for instance they experience a sensation of darkness in front of the eyes and suffer also from headache. These symptoms appear sooner or later, sometimes as early as the tenth day, according as the patient be more or less burthened with superfluous humours. Nausea also and sickness affect the most of women, and especially such as those that we have just now mentioned, after the menstrual discharge has ceased and before it is yet turned in the direction of the breasts.

Moreover, some women suffer most at the beginning of their pregnancy and some at a later period when the embryo has had time to grow; and in some women it is a common occurrence to suffer from strangury towards the end of their time. As a general rule women who are pregnant of a male child escape comparatively easily and retain a comparatively healthy look, but it is otherwise with those whose infant is a female; for these latter look as a rule paler and suffer more pain, and in many cases they are subject to swellings of the legs and eruptions on the body. Nevertheless the rule is subject to exceptions.

Women in pregnancy are a prey to all sorts of longings and to rapid changes of mood, and some folks call this the 'ivy-sickness'; and with the mothers of female infants the longings are more acute, and they are less contented when they have got what they desired.

In a certain few cases the patient feels unusually well during pregnancy. The worst time of all is just when the child's hair is beginning to grow.

In pregnant women their own natural hair is inclined to grow thin and fall out, but on the other hand hair tends to grow on parts of the body where it was not wont to be. As a general rule, a man-child is more prone to movement within its mother's womb than a female child, and it is usually born sooner. And labour in the case of female children is apt to be protracted and sluggish, while in the case of male children it is acute and by a long way more difficult. Women who have connexion with their husbands shortly before childbirth are delivered all the more quickly. Occasionally women seem to be in the pains of labour though labour has not in fact commenced, what seemed like the commencement of labour being really the result of the foetus turning its head.

Now all other animals bring the time of pregnancy to an end in a uniform way; in other words, one single term of pregnancy is defined for each of them. But in the case of mankind alone of all animals the times are diverse; for pregnancy may be of seven months' duration, or of eight months or of nine, and still more commonly of ten months, while some few women go even into the eleventh month.

Children that come into the world before seven months can under no circumstances survive. The seven-months' children are the earliest that are capable of life, and most of them are weakly-for which reason, by the way, it is customary to swaddle them in wool,-and many of them are born with some of the orifices of the body imperforate, for instance the ears or the nostrils. But as they get bigger they become more perfectly developed, and many of them grow up.

In Egypt, and in some other places where the women are fruitful and are wont to bear and bring forth many children without difficulty, and where the children when born are capable of living even if they be born subject to deformity, in these places the eight-months' children live and are brought up, but in Greece it is only a few of them that survive while most perish. And this being the general experience, when such a child does happen to survive the mother is apt to think that it was not an eight months' child after all, but that she had conceived at an earlier period without being aware of it.

Women suffer most pain about the fourth and the eighth months, and if the foetus perishes in the fourth or in the eighth month the mother also succumbs as a general rule; so that not only do the eight-months' children not live, but when they die their mothers are in great danger of their own lives. In like manner children that are apparently born at a later term than eleven months are held to be in doubtful case; inasmuch as with them also the beginning of conception may have escaped the notice of the mother. What I mean to say is that often the womb gets filled with wind, and then when at a later period connexion and conception take place, they think that the former circumstance was the beginning of conception from the similarity of the symptoms that they experienced.

Such then are the differences between mankind and other animals in regard to the many various modes of completion of the term of pregnancy. Furthermore, some animals produce one and some produce many at a birth, but the human species does sometimes the one and sometimes the other. As a general rule and among most nations the women bear one child a birth; but frequently and in many lands they bear twins, as for instance in Egypt especially. Sometimes women bring forth three and even four children, and especially in certain parts of the world, as has already been stated. The largest number ever brought forth is five, and such an occurrence has been witnessed on several occasions. There was once upon a time a certain women who had twenty children at four births; each time she had five, and most of them grew up.

Now among other animals, if a pair of twins happen to be male and female they have as good a chance of surviving as though both had been males or both females; but among mankind very few twins survive if one happen to be a boy and the other a girl.

Of all animals the woman and the mare are most inclined to receive the commerce of the male during pregnancy; while all other animals when they are pregnant avoid the male, save those in which the phenomenon of superfoetation occurs, such as the hare. Unlike that animal, the mare after once conceiving cannot be rendered pregnant again, but brings forth one foal only, at least as a general rule; in the human species cases of superfoetation are rare, but they do happen now and then.

An embryo conceived some considerable time after a previous conception does not come to perfection, but gives rise to pain and causes the destruction of the earlier embryo; and, by the way, a case has been known to occur where owing to this destructive influence no less than twelve embryos conceived by superfoetation have been discharged. But if the second conception take place at a short interval, then the mother bears that which was later conceived, and brings forth the two children like actual twins, as happened, according to the legend, in the case of Iphicles and Hercules. The following also is a striking example: a certain woman, having committed adultery, brought forth the one child resembling her husband and the other resembling the adulterous lover.

The case has also occurred where a woman, being pregnant of twins, has subsequently conceived a third child; and in course of time she brought forth the twins perfect and at full term, but the third a five-months’ child; and this last died there and then. And in another case it happened that the woman was first delivered of a seven-months’ child, and then of two which were of full term; and of these the first died and the other two survived.

Some also have been known to conceive while about to miscarry, and they have lost the one child and been delivered of the other.

If women while going with child cohabit after the eighth month the child is in most cases born covered over with a slimy fluid. Often also the child is found to be replete with food of which the mother had partaken.

5

When women have partaken of salt in overabundance their children are apt to be born destitute of nails.

Milk that is produced earlier than the seventh month is unfit for use; but as soon as the child is fit to live the milk is fit to use. The first of the milk is saltish, as it is likewise with sheep. Most women are sensibly affected by wine during pregnancy, for if they partake of it they grow relaxed and debilitated.

The beginning of child-bearing in women and of the capacity to procreate in men, and the cessation of these functions in both cases, coincide in the one case with the emission of seed and in the other with the discharge of the catamenia: with this qualification that there is a lack of fertility at the commencement of these symptoms, and again towards their close when the emissions become scanty and weak. The age at which the sexual powers begin has been related already. As for their end, the menstrual discharges ceases in most women about their fortieth year; but with those in whom it goes on longer it lasts even to the fiftieth year, and women of that age have been known to bear children. But beyond that age there is no case on record.

6

Men in most cases continue to be sexually competent until they are sixty years old, and if that limit be overpassed then until seventy years; and men have been actually known to procreate children at seventy years of age. With many men and many women it so happens that they are unable to produce children to one another, while they are able to do so in union with other individuals. The same thing happens with regard to the production of male and female offspring; for sometimes men and women in union with one another produce male children or female, as the case may be, but children of the opposite sex when otherwise mated. And they are apt to change in this respect with advancing age: for sometimes a husband and wife while they are young produce female children and in later life male children; and in other cases the very contrary occurs. And just the same thing is true in regard to the generative faculty: for some while young are childless, but have children when they grow older; and some have children to begin with, and later on no more.

There are certain women who conceive with difficulty, but if they do conceive, bring the child to maturity; while others again conceive readily, but are unable to bring the child to birth. Furthermore, some men and some women produce female offspring and some male, as for instance in the story of Hercules, who among all his two and seventy children is said to have begotten but one girl. Those women who are unable to conceive, save with the help of medical treatment or some other adventitious circumstance, are as a general rule apt to bear female children rather than male.

It is a common thing with men to be at first sexually competent and afterwards impotent, and then again to revert to their former powers.

From deformed parents come deformed children, lame from lame and blind from blind, and, speaking generally, children often inherit anything that is peculiar in their parents and are born with similar marks, such as pimples or scars. Such things have been known to be handed down through three generations; for instance, a certain man had a mark on his arm which his son did not possess, but his grandson had it in the same spot though not very distinct.

Such cases, however, are few; for the children of cripples are mostly sound, and there is no hard and fast rule regarding them. While children mostly resemble their parents or their ancestors, it sometimes happens that no such resemblance is to be traced. But parents may pass on resemblance after several generations, as in the case of the woman in Elis, who committed adultery with a negro; in this case it was not the woman’s own daughter but the daughter’s child that was a blackamoor.

As a rule the daughters have a tendency to take after the mother, and the boys after the father; but sometimes it is the other way, the boys taking after the mother and the girls after the father. And they may resemble both parents in particular features.

There have been known cases of twins that had no resemblance to one another, but they are alike as a general rule. There was once upon a time a woman who had intercourse with her husband a week after giving birth to a child and she conceived and bore a second child as like the first as any twin. Some women have a tendency to produce children that take after themselves, and others children that take after the husband; and this latter case is like that of the celebrated mare in Pharsalus, that got the name of the Honest Wife.

7

In the emission of sperm there is a preliminary discharge of air, and the outflow is manifestly caused by a blast of air; for nothing is cast to a distance save by pneumatic pressure. After the seed reaches the womb and remains there for a while, a membrane forms around it; for when it happens to escape before it is distinctly formed, it looks like an egg enveloped in its membrane after removal of the eggshell; and the membrane is full of veins.

All animals whatsoever, whether they fly or swim or walk upon dry land, whether they bring forth their young alive or in the egg, develop in the same way: save only that some have the navel attached to the womb, namely the viviparous animals, and some have it attached to the egg, and some to both parts alike, as in a certain sort of fishes. And in some cases membranous envelopes surround the egg, and in other cases the chorion surrounds it. And first of all the animal develops within the innermost envelope, and then another membrane appears around the former one, which latter is for the most part attached to the womb, but is in part separated from it and contains fluid. In between is a watery or sanguineous fluid, which the women folk call the forewaters.

8

All animals, or all such as have a navel, grow by the navel. And the navel is attached to the cotyledon in all such as possess cotyledons, and to the womb itself by a vein in all such as have the womb smooth. And as regards their shape within the womb, the four-footed animals all lie stretched out, and the footless animals lie on their sides, as for instance fishes; but two-legged animals lie in a bent position, as for instance birds; and human embryos lie bent, with nose between the knees and eyes upon the knees, and the ears free at the sides.

All animals alike have the head upwards to begin with; but as they grow and approach the term of egress from the womb they turn downwards, and birth in the natural course of things takes place in all animals head foremost; but in abnormal cases it may take place in a bent position, or feet foremost.

The young of quadrupeds when they are near their full time contain excrements, both liquid and in the form of solid lumps, the latter in the lower part of the bowel and the urine in the bladder.

In those animals that have cotyledons in the womb the cotyledons grow less as the embryo grows bigger, and at length they disappear altogether. The navel-string is a sheath wrapped about blood-vessels which have their origin in the womb, from the cotyledons in those animals which possess them and from a blood-vessel in those which do not. In the larger animals, such as the embryos of oxen, the vessels are four in number, and in smaller animals two; in the very little ones, such as fowls, one vessel only.

Of the four vessels that run into the embryo, two pass through the liver where the so-called gates or ‘portae’ are, running in the direction of the great vein, and the other two run in the direction of the aorta towards the point where it divides and becomes two vessels instead of one. Around each pair of blood-vessels are membranes, and surrounding these membranes is the navel-string itself, after the manner of a sheath. And as the embryo grows, the veins themselves tend more and more to dwindle in size. And also as the embryo matures it comes down into the hollow of the womb and is observed to move here, and sometimes rolls over in the vicinity of the groin.

9

When women are in labour, their pains determine towards many divers parts of the body, and in most cases to one or other of the thighs. Those are the quickest to be delivered who experience severe pains in the region of the belly; and parturition is difficult in those who begin by suffering pain in the loins, and speedy when the pain is abdominal. If the child about to be born be a male, the preliminary flood is watery and pale in colour, but if a girl it is tinged with blood, though still watery. In some cases of labour these latter phenomena do not occur, either one way or the other.

In other animals parturition is unaccompanied by pain, and the dam is plainly seen to suffer but moderate inconvenience. In women, however, the pains are more severe, and this is especially the case in persons of sedentary habits, and in those who are weak-chested and short of breath. Labour is apt to be especially difficult if during the process the woman while exerting force with her breath fails to hold it in.

First of all, when the embryo starts to move and the membranes burst, there issues forth the watery flood; then afterwards comes the embryo, while the womb everts and the afterbirth comes out from within.

10

The cutting of the navel-string, which is the nurse’s duty, is a matter calling for no little care and skill. For not only in cases of difficult labour must she be able to render assistance with skilful hand, but she must also have her wits about her in all contingencies, and especially in the operation of tying the cord. For if the afterbirth have come away, the navel is ligatured off from the afterbirth with a woollen thread and is then cut above the ligature; and at the place where it has been tied it heals up, and the remaining portion drops off. (If the ligature come loose the child dies from loss of blood.) But if the afterbirth has not yet come away, but remains after the child itself is extruded, it is cut away within after the ligaturing of the cord.

It often happens that the child appears to have been born dead when it is merely weak, and when before the umbilical cord has been ligatured, the blood has run out into the cord and its surroundings. But experienced midwives have been known to squeeze back the blood into the child's body from the cord, and immediately the child that a moment before was bloodless came back to life again.

It is the natural rule, as we have mentioned above, for all animals to come into the world head foremost, and children, moreover, have their hands stretched out by their sides. And the child gives a cry and puts its hands up to its mouth as soon as it issues forth.

Moreover the child voids excrement sometimes at once, sometimes a little later, but in all cases during the first day; and this excrement is unduly copious in comparison with the size of the child; it is what the midwives call the meconium or 'poppy-juice'. In colour it resembles blood, extremely dark and pitch-like, but later on it becomes milky, for the child takes at once to the breast. Before birth the child makes no sound, even though in difficult labour it put forth its head while the rest of the body remains within.

In cases where flooding takes place rather before its time, it is apt to be followed by difficult parturition. But if discharge take place after birth in small quantity, and in cases where it only takes place at the beginning and does not continue till the fortieth day, then in such cases women make a better recovery and are the sooner ready to conceive again.

Until the child is forty days old it neither laughs nor weeps during waking hours, but of nights it sometimes does both; and for the most part it does not even notice being tickled, but passes most of its time in sleep. As it keeps on growing, it gets more and more wakeful; and moreover it shows signs of dreaming, though it is long afterwards before it remembers what it dreams.

In other animals there is no contrasting difference between one bone and another, but all are properly formed; but in children the front part of the head is soft and late of ossifying. And by the way, some animals are born with teeth, but children begin to cut their teeth in the seventh month; and the front teeth are the first to come through, sometimes the upper and sometimes the lower ones. And the warmer the nurses’ milk so much the quicker are the children’s teeth to come.

11

After parturition and the cleasing flood the milk comes in plenty, and in some women it flows not only from the nipples but at divers parts of the breasts, and in some cases even from the armpits. And for some time afterwards there continue to be certain indurated parts of the breast called strangalides, or ‘knots’, which occur when it so happens that the moisture is not concocted, or when it finds no outlet but accumulates within. For the whole breast is so spongy that if a woman in drinking happen to swallow a hair, she gets a pain in her breast, which ailment is called ‘trichia’; and the pain lasts till the hair either find its own way out or be sucked out with the milk. Women continue to have milk until their next conception; and then the milk stops coming and goes dry, alike in the human species and in the quadrupedal vivipara. So long as there is a flow of milk the menstrual purgations do not take place, at least as a general rule, though the discharge has been known to occur during the period of suckling. For, speaking generally, a determination of moisture does not take place at one and the same time in several directions; as for instance the menstrual purgations tend to be scanty in persons suffering from haemorrhoids. And in some women the like happens owing to their suffering from varices, when the fluids issue from the pelvic region before entering into the womb. And patients who during suppression of the menses happen to vomit blood are no whit the worse.

12

Children are very commonly subject to convulsions, more especially such of them as are more than ordinarily well-nourished on rich or unusually plentiful milk from a stout nurse. Wine is bad for infants, in that it tends to excite this malady, and red wine is worse than white, especially when taken undiluted;

and most things that tend to induce flatulency are also bad, and constipation too is prejudicial. The majority of deaths in infancy occur before the child is a week old, hence it is customary to name the child at that age, from a belief that it has now a better chance of survival. This malady is worst at the full of the moon; and by the way, it is a dangerous symptom when the spasms begin in the child’s back.

Book VIII

1

WE have now discussed the physical characteristics of animals and their methods of generation. Their habits and their modes of living vary according to their character and their food.

In the great majority of animals there are traces of psychical qualities or attitudes, which qualities are more markedly differentiated in the case of human beings. For just as we pointed out resemblances in the physical organs, so in a number of animals we observe gentleness or fierceness, mildness or cross temper, courage, or timidity, fear or confidence, high spirit or low cunning, and, with regard to intelligence, something equivalent to sagacity. Some of these qualities in man, as compared with the corresponding qualities in animals, differ only quantitatively: that is to say, a man has more or less of this quality, and an animal has more or less of some other; other qualities in man are represented by analogous and not identical qualities: for instance, just as in man we find knowledge, wisdom, and sagacity, so in certain animals there exists some other natural potentiality akin to these. The truth of this statement will be the more clearly apprehended if we have regard to the phenomena of childhood: for in children may be observed the traces and seeds of what will one day be settled psychological habits, though psychologically a child hardly differs for the time being from an animal; so that one is quite justified in saying that, as regards man and animals, certain psychical qualities are identical with one another, whilst others resemble, and others are analogous to, each other.

Nature proceeds little by little from things lifeless to animal life in such a way that it is impossible to determine the exact line of demarcation, nor on which side thereof an intermediate form should lie. Thus, next after lifeless things in the upward scale comes the plant, and of plants one will differ from another as to its amount of apparent vitality; and, in a word, the whole genus of plants, whilst it is devoid of life as compared with an animal, is endowed with life as compared with other corporeal entities. Indeed, as we just remarked, there is observed in plants a continuous scale of ascent towards the animal. So, in the sea, there are certain objects concerning which one would be at a loss to determine whether they be animal or vegetable. For instance, certain of these objects are fairly rooted, and in several cases perish if detached; thus the pinna is rooted to a particular spot, and the solen (or razor-shell) cannot survive withdrawal from its burrow. Indeed, broadly speaking, the entire genus of testaceans have a resemblance to vegetables, if they be contrasted with such animals as are capable of progression.

In regard to sensibility, some animals give no indication whatsoever of it, whilst others indicate it but indistinctly. Further, the substance of some of these intermediate creatures is fleshlike, as is the case with the so-called tethya (or ascidians) and the acalephae (or sea-anemones); but the sponge is in every respect like a vegetable. And so throughout the entire animal scale there is a graduated differentiation in amount of vitality and in capacity for motion.

A similar statement holds good with regard to habits of life. Thus of plants that spring from seed the one function seems to be the reproduction of their own particular species, and the sphere of action with certain animals is similarly limited. The faculty of reproduction, then, is common to all alike. If sensibility be superadded, then their lives will differ from one another in respect to sexual intercourse through the varying amount of pleasure derived therefrom, and also in regard to modes of parturition and ways of rearing their young. Some animals, like plants, simply procreate their own species at definite seasons; other animals busy themselves also in procuring food for their young, and after they are reared quit them and have no further dealings with them; other animals are more intelligent and endowed with memory, and they live with their offspring for a longer period and on a more social footing.

The life of animals, then, may be divided into two acts-procreation and feeding; for on these two acts all their interests and life concentrate. Their food depends chiefly on the substance of which they are severally constituted; for the source of their growth in all cases will be this substance. And whatsoever is in conformity with nature is pleasant, and all animals pursue pleasure in keeping with their nature.

Animals are also differentiated locally: that is to say, some live upon dry land, while others live in the water. And this differentiation may be interpreted in two different ways. Thus, some animals are termed terrestrial as inhaling air, and others aquatic as taking in water; and there are others which do not actually take in these elements, but nevertheless are constitutionally adapted to the cooling influence, so far as is needful to them, of one element or the other, and hence are called terrestrial or aquatic though they neither breathe air nor take in water. Again, other animals are so called from their finding their food and fixing their habitat on land or in water: for many animals, although they inhale air and breed on land, yet derive their food from the water, and live in water for the greater part of their lives; and these are the only animals to which as living in and on two elements the term 'amphibious' is applicable. There is no animal taking in water that is terrestrial or aerial or that derives its food from the land, whereas of the great number of land animals inhaling air many get their food from the water; moreover some are so peculiarly organized that if they be shut off altogether from the water they cannot possibly live, as for instance, the so-called sea-turtle, the crocodile, the hippopotamus, the seal, and some of the smaller creatures, such as the fresh-water tortoise and the frog: now all these animals choke or drown if they do not from time to time breathe atmospheric air: they breed and rear their young on dry land, or near the land, but they pass their lives in water.

But the dolphin is equipped in the most remarkable way of all animals: the dolphin and other similar aquatic animals, including the other cetaceans which resemble it; that is to say, the whale, and all the other creatures that are furnished with a blow-hole. One can hardly allow that such an animal is terrestrial and terrestrial only, or aquatic and aquatic only, if by terrestrial we mean an animal that inhales air, and if by aquatic we mean an animal that takes in water. For the fact is the dolphin performs both these processes: he takes in water and discharges it by his blow-hole, and he also inhales air into his lungs; for, by the way, the creature is furnished with this organ and respires thereby, and accordingly, when caught in the nets, he is quickly suffocated for lack of air. He can also live for a considerable while out of the water, but all this while he keeps up a dull moaning sound corresponding to the noise made by air-breathing animals in general; furthermore, when sleeping, the animal keeps his nose above water, and he does so that he may breathe the air. Now it would be unreasonable to assign one and the same class of animals to both categories, terrestrial and aquatic, seeing that these categories are more or less exclusive of one another; we must accordingly supplement our definition of the term ‘aquatic’ or ‘marine’. For the fact is, some aquatic animals take in water and discharge it again, for the same reason that leads air-breathing animals to inhale air: in other words, with the object of cooling the blood. Others take in water as incidental to their mode of feeding; for as they get their food in the water they cannot but take in water along with their food, and if they take in water they must be provided with some organ for discharging it. Those blooded animals, then, that use water for a purpose analogous to respiration are provided with gills; and such as take in water when catching their prey, with the blow-hole. Similar remarks are applicable to molluscs and crustaceans; for again it is by way of procuring food that these creatures take in water.

Aquatic in different ways, the differences depending on bodily relation to external temperature and on habit of life, are such animals on the one hand as take in air but live in water, and such on the other hand as take in water and are furnished with gills but go upon dry land and get their living there. At present only one animal of the latter kind is known, the so-called cordylus or water-newt; this creature is furnished not with lungs but with gills, but for all that it is a quadruped and fitted for walking on dry land.

In the case of all these animals their nature appears in some kind of a way to have got warped, just as some male animals get to resemble the female, and some female animals the male. The fact is that animals, if they be subjected to a modification in minute organs, are liable to immense modifications in their general configuration. This phenomenon may be observed in the case of gelded animals: only a minute organ of the animal is mutilated, and the creature passes from the male to the female form. We may infer, then, that if in the primary conformation of the embryo an infinitesimally minute but absolutely essential organ sustain a change of magnitude one way or the other, the animal will in one case turn to male and in the other to female; and also that, if the said organ be obliterated altogether, the animal will be of neither one sex nor the other. And so by the occurrence of modification in minute organs it comes to pass that one animal is terrestrial and another aquatic, in both senses of these terms. And, again, some animals are amphibious whilst other animals are not amphibious, owing to the circumstance that in their conformation while in the embryonic condition there got intermixed into them some portion of the matter of which their subsequent food is constituted; for, as was said above, what is in conformity with nature is to every single animal pleasant and agreeable.

Animals then have been categorized into terrestrial and aquatic in three ways, according to their assumption of air or of water, the temperament of their bodies, or the character of their food; and the mode of life of an animal corresponds to the category in which it is found. That is to say, in some cases the animal depends for its terrestrial or aquatic nature on temperament and diet combined, as well as upon its method of respiration; and sometimes on temperament and habits alone.

Of testaceans, some, that are incapable of motion, subsist on fresh water, for, as the sea water dissolves into its constituents, the fresh water from its greater thinness percolates through the grosser parts; in fact, they live on fresh water just as they were originally engendered from the same. Now that fresh water is contained in the sea and can be strained off from it can be proved in a thoroughly practical way. Take a thin vessel of moulded wax, attach a cord to it, and let it down quite empty into the sea: in twenty-four hours it will be found to contain a quantity of water, and the water will be fresh and drinkable.

Sea-anemones feed on such small fishes as come in their way. The mouth of this creature is in the middle of its body; and this fact may be clearly observed in the case of the larger varieties. Like the oyster it has a duct for the outlet of the residuum; and this duct is at the top of the animal. In other words, the sea-anemone corresponds to the inner fleshy part of the oyster, and the stone to which the one creature clings corresponds to the shell which encases the other.

The limpet detaches itself from the rock and goes about in quest of food. Of shell-fish that are mobile, some are carnivorous and live on little fishes, as for instance, the purple murex-and there can be no doubt that the purple murex is carnivorous, as it is caught by a bait of fish; others are carnivorous, but feed also on marine vegetation.

The sea-turtles feed on shell-fish-for, by the way, their mouths are extraordinarily hard; whatever object it seizes, stone or other, it crunches into bits, but when it leaves the water for dry land it browses on grass). These creatures suffer greatly, and oftentimes die when they lie on the surface of the water exposed to a scorching sun; for, when once they have risen to the surface, they find a difficulty in sinking again.

Crustaceans feed in like manner. They are omnivorous; that is to say, they live on stones, slime, sea-weed, and excrement-as for instance the rock-crab-and are also carnivorous. The crawfish or spiny-lobster can get the better of fishes even of the larger species, though in some of them it occasionally finds more than its match. Thus, this animal is so overmastered and cowed by the octopus that it dies of terror if it become aware of an octopus in the same net with itself. The crawfish can master the conger-eel, for owing to the rough spines of the crawfish the eel cannot slip away and elude its hold. The conger-eel, however, devours the octopus, for owing to the slipperiness of its antagonist the octopus can make nothing of it. The crawfish feeds on little fish, capturing them beside its hole or dwelling place; for, by the way, it is found out at sea on rough and stony bottoms, and in such places it makes its den. Whatever it catches, it puts into its mouth with its pincer-like claws, like the common crab. Its nature is to walk straight forward when it has nothing to fear, with its feelers hanging sideways; if it be frightened, it makes its escape backwards, darting off to a great distance. These animals fight one another with their claws, just as rams fight with their horns, raising them and striking their opponents; they are often also seen crowded together in herds. So much for the mode of life of the crustacean.

Molluscs are all carnivorous; and of molluscs the calamary and the sepia are more than a match for fishes even of the large species. The octopus for the most part gathers shellfish, extracts the flesh, and feeds on that; in fact, fishermen recognize their holes by the number of shells lying about. Some say that the octopus devours its own species, but this statement is incorrect; it is doubtless founded on the fact that the creature is often found with its tentacles removed, which tentacles have really been eaten off by the conger.

Fishes, all without exception, feed on spawn in the spawning season; but in other respects the food varies with the varying species. Some fishes are exclusively carnivorous, as the cartilaginous genus, the conger, the channa or Serranus, the tunny, the bass, the synodon or Dentex, the amia, the sea-perch, and the muraena. The red mullet is carnivorous, but feeds also on sea-weed, on shell-fish, and on mud. The grey mullet feeds on mud, the dascyllus on mud and offal, the scarus or parrot-fish and the melanurus on sea-weed, the saupe on offal and sea-weed; the saupe feeds also on zostera, and is the only fish that is captured with a gourd. All fishes devour their own species, with the single exception of the cestreus or mullet; and the conger is especially ravenous in this respect. The cephalus and the mullet in general are the only fish that eat no flesh; this may be inferred from the facts that when caught they are never found with flesh in their intestines, and that the bait used to catch them is not flesh but barley-cake. Every fish of the mullet-kind lives on sea-weed and sand. The cephalus, called by some the ‘chelon’, keeps near in to the shore, the peraeas keeps out at a distance from it, and feeds on a mucous substance exuding from itself, and consequently is always in a starved condition. The cephalus lives in mud, and is in consequence heavy and slimy; it never feeds on any other fish. As it lives in mud, it has every now and then to make a leap upwards out of the mud so as to wash the slime from off its body. There is no creature known to prey upon the spawn of the cephalus, so that the species is exceedingly numerous; when, however, the is full-grown it is preyed upon by a number of fishes, and especially by the acharnas or bass. Of all fishes the mullet is the most voracious and insatiable, and in consequence its belly is kept at full stretch; whenever it is not starving, it may be considered as out of condition. When it is frightened, it hides its head in mud, under the notion that it is hiding its whole body. The synodon is carnivorous and feeds on molluscs. Very often the synodon and the channa cast up their stomachs while chasing smaller fishes; for, be it remembered, fishes have their stomachs close to the mouth, and are not furnished with a gullet.

Some fishes then, as has been stated, are carnivorous, and carnivorous only, as the dolphin, the synodon, the gilt-head, the selachians, and the molluscs. Other fishes feed habitually on mud or sea-weed or sea-moss or the so-called stalk-weed or growing plants; as for instance, the phycis, the goby, and the rock-fish; and, by the way, the only meat that the phycis will touch is that of prawns. Very often, however, as has been stated, they devour one another, and especially do the larger ones devour the smaller. The proof of their being carnivorous is the fact that they can be caught with flesh for a bait. The mackerel, the tunny, and the bass are for the most part carnivorous, but they do occasionally feed on sea-weed. The sargue feeds on the leavings of the trigle or red mullet. The red mullet burrows in the mud, when it sets the mud in motion and quits its haunt, the sargue settles down into the place and feeds on what is left behind, and prevents any smaller fish from settling in the immediate vicinity.

Of all fishes the so-called scarus, or parrot, wrasse, is the only one known to chew the cud like a quadruped.

As a general rule the larger fishes catch the smaller ones in their mouths whilst swimming straight after them in the ordinary position; but the selachians, the dolphin, and all the cetacea must first turn over on their backs, as their mouths are placed down below; this allows a fair chance of escape to the smaller fishes, and, indeed, if it were not so, there would be very few of the little fishes left, for the speed and voracity of the dolphin is something marvellous.

Of eels a few here and there feed on mud and on chance morsels of food thrown to them; the greater part of them subsist on fresh water. Eel-breeders are particularly careful to have the water kept perfectly clear, by its perpetually flowing on to flat slabs of stone and then flowing off again; sometimes they coat the eel-tanks with plaster. The fact is that the eel will soon choke if the water is not clear as his gills are peculiarly small. On this account, when fishing for eels, they disturb the water. In the river Strymon eel-fishing takes place at the rising of the Pleiads, because at this period the water is troubled and the mud raised up by contrary winds; unless the water be in this condition, it is as well to leave the eels alone. When dead the eel, unlike the majority of fishes, neither floats on nor rises to the surface; and this is owing to the smallness of the stomach. A few eels are supplied with fat, but the greater part have no fat whatsoever. When removed from the water they can live for five or six days; for a longer period if north winds prevail, for a shorter if south winds. If they are removed in summer from the pools to the tanks they will die; but not so if removed in the winter. They are not capable of holding out against any abrupt change; consequently they often die in large numbers when men engaged in transporting them from one place to another dip them into water particularly cold. They will also die of suffocation if they be kept in a scanty supply of water. This same remark will hold good for fishes in general; for they are suffocated if they be long confined in a short supply of water, with the water kept unchanged-just as animals that respire are suffocated if they be shut up with a scanty supply of air. The eel in some cases lives for seven or eight years. The river-eel feeds on his own species, on grass, or on roots, or on any chance food found in the mud. Their usual feeding-time is at night, and during the day-time they retreat into deep water. And so much for the food of fishes.

3

Of birds, such as have crooked talons are carnivorous without exception, and cannot swallow corn or bread-food even if it be put into their bills in tit-bits; as for instance, the eagle of every variety, the kite, the two species of hawks, to wit, the dove-hawk and the sparrow-hawk-and, by the way, these two hawks differ greatly in size from one another-and the buzzard. The buzzard is of the same size as the kite, and is visible at all seasons of the year. There is also the phene (or lammergeier) and the vulture. The phene is larger than the common eagle and is ashen in colour. Of the vulture there are two varieties: one small and whitish, the other comparatively large and rather more ashen-coloured than white. Further, of birds that fly by night, some have crooked talons, such as the night-raven, the owl, and the eagle-owl. The eagle-owl resembles the common owl in shape, but it is quite as large as the eagle. Again, there is the eleus, the Aegolian owl, and the little horned owl. Of these birds, the eleus is somewhat larger than the barn-door cock, and the Aegolian owl is of about the same size as the eleus, and both these birds hunt the jay; the little horned owl is smaller than the common owl. All these three birds are alike in appearance, and all three are carnivorous.

Again, of birds that have not crooked talons some are carnivorous, such as the swallow. Others feed on grubs, such as the chaffinch, the sparrow, the ‘batis’, the green linnet, and the titmouse. Of the titmouse there are three varieties. The largest is the finch-titmouse — for it is about the size of a finch; the second has a long tail, and from its habitat is called the hill-titmouse; the third resembles the other two in appearance, but is less in size than either of them. Then come the becca-fico, the black-cap, the bull-finch, the robin, the epilais, the midget-bird, and the golden-crested wren. This wren is little larger than a locust, has a crest of bright red gold, and is in every way a beautiful and graceful little bird. Then the anthus, a bird about the size of a finch; and the mountain-finch, which resembles a finch and is of much the same size, but its neck is blue, and it is named from its habitat; and lastly the wren and the rook. The above-enumerated birds and the like of them feed either wholly or for the most part on grubs, but the following and the like feed on thistles; to wit, the linnet, the thraupis, and the goldfinch. All these birds feed on thistles, but never on grubs or any living thing whatever; they live and roost also on the plants from which they derive their food.

There are other birds whose favourite food consists of insects found beneath the bark of trees; as for instance, the great and the small pie, which are nicknamed the woodpeckers. These two birds resemble one another in plumage and in note, only that the note of the larger bird is the louder of the two; they both frequent the trunks of trees in quest of food. There is also the greenpie, a bird about the size of a turtle-dove, green-coloured all over, that pecks at the bark of trees with extraordinary vigour, lives generally on the branch of a tree, has a loud note, and is mostly found in the Peloponnese. There is another bird called the 'grub-picker' (or tree-creeper), about as small as the penduline titmouse, with speckled plumage of an ashen colour, and with a poor note; it is a variety of the woodpecker.

There are other birds that live on fruit and herbage, such as the wild pigeon or ringdove, the common pigeon, the rock-dove, and the turtle-dove. The ring-dove and the common pigeon are visible at all seasons; the turtledove only in the summer, for in winter it lurks in some hole or other and is never seen. The rock-dove is chiefly visible in the autumn, and is caught at that season; it is larger than the common pigeon but smaller than the wild one; it is generally caught while drinking. These pigeons bring their young ones with them when they visit this country. All our other birds come to us in the early summer and build their nests here, and the greater part of them rear their young on animal food, with the sole exception of the pigeon and its varieties.

The whole genus of birds may be pretty well divided into such as procure their food on dry land, such as frequent rivers and lakes, and such as live on or by the sea.

Of water-birds such as are web-footed live actually on the water, while such as are split-footed live by the edge of it-and, by the way, water-birds that are not carnivorous live on water-plants, (but most of them live on fish), like the heron and the spoonbill that frequent the banks of lakes and rivers; and the spoonbill, by the way, is less than the common heron, and has a long flat bill. There are furthermore the stork and the seamew; and the seamew, by the way, is ashen-coloured. There is also the schoenilus, the cinclus, and the white-rump. Of these smaller birds the last mentioned is the largest, being about the size of the common thrush; all three may be described as 'wagtails’. Then there is the scalidris, with plumage ashen-grey, but speckled. Moreover, the family of the halcyons or kingfishers live by the waterside. Of kingfishers there are two varieties; one that sits on reeds and sings; the other, the larger of the two, is without a note. Both these varieties are blue on the back. There is also the trochilus (or sandpiper). The halcyon also, including a variety termed the cerylus, is found near the seaside. The crow also feeds on such animal life as is cast up on the beach, for the bird is omnivorous. There are also the white gull, the cepphus, the aethyia, and the charadrius.

Of web-footed birds, the larger species live on the banks of rivers and lakes; as the swan, the duck, the coot, the grebe, and the teal-a bird resembling the duck but less in size-and the water-raven or cormorant. This bird is the size of a stork, only that its legs are shorter; it is web-footed and is a good swimmer; its plumage is black. It roosts on trees, and is the only one of all such birds as these that is found to build its nest in a tree. Further there is the large goose, the little gregarious goose, the vulpanser, the horned grebe, and the penelops. The sea-eagle lives in the neighbourhood of the sea and seeks its quarry in lagoons.

A great number of birds are omnivorous. Birds of prey feed on any animal or bird, other than a bird of prey, that they may catch. These birds never touch one of their own genus, whereas fishes often devour members actually of their own species.

Birds, as a rule, are very spare drinkers. In fact birds of prey never drink at all, excepting a very few, and these drink very rarely; and this last observation is peculiarly applicable to the kestrel. The kite has been seen to drink, but he certainly drinks very seldom.

4

Animals that are coated with tessellates-such as the lizard and the other quadrupeds, and the serpents-are omnivorous: at all events they are carnivorous and graminivorous; and serpents, by the way, are of all animals the greatest gluttons.

Tessellated animals are spare drinkers, as are also all such animals as have a spongy lung, and such a lung, scantily supplied with blood, is found in all oviparous animals. Serpents, by the by, have an insatiate appetite for wine; consequently, at times men hunt for snakes by pouring wine into saucers and putting them into the interstices of walls, and the creatures are caught when inebriated. Serpents are carnivorous, and whenever they catch an animal they extract all its juices and eject the creature whole. And, by the way, this is done by all other creatures of similar habits, as for instance the spider; only that the spider sucks out the juices of its prey outside, and the serpent does so in its belly. The serpent takes any food presented to him, eats birds and animals, and swallows eggs entire. But after taking his prey he stretches himself until he stands straight out to the very tip, and then he contracts and squeezes himself into little compass, so that the swallowed mass may pass down his outstretched body; and this action on his part is due to the tenuity and length of his gullet. Spiders and snakes can both go without food for a long time; and this remark may be verified by observation of specimens kept alive in the shops of the apothecaries.

5

Of viviparous quadrupeds such as are fierce and jag-toothed are without exception carnivorous; though, by the way, it is stated of the wolf, but of no other animal, that in extremity of hunger it will eat a certain kind of earth. These carnivorous animals never eat grass except when they are sick, just as dogs bring on a vomit by eating grass and thereby purge themselves.

The solitary wolf is more apt to attack man than the wolf that goes with a pack.

The animal called ‘glanus’ by some and ‘hyaena’ by others is as large as a wolf, with a mane like a horse, only that the hair is stiffer and longer and extends over the entire length of the chine. It will lie in wait for a man and chase him, and will inveigle a dog within its reach by making a noise that resembles the retching noise of a man vomiting. It is exceedingly fond of putrefied flesh, and will burrow in a graveyard to gratify this propensity.

The bear is omnivorous. It eats fruit, and is enabled by the suppleness of its body to climb a tree; it also eats vegetables, and it will break up a hive to get at the honey; it eats crabs and ants also, and is in a general way carnivorous. It is so powerful that it will attack not only the deer but the wild boar, if it can take it unawares, and also the bull. After coming to close quarters with the bull it falls on its back in front of the animal, and, when the bull proceeds to butt, the bear seizes hold of the bull’s horns with its front paws, fastens its teeth into his shoulder, and drags him down to the ground. For a short time together it can walk erect on its hind legs. All the flesh it eats it first allows to become carrion.

The lion, like all other savage and jag-toothed animals, is carnivorous. It devours its food greedily and fiercely, and often swallows its prey entire without rending it at all; it will then go fasting for two or three days together, being rendered capable of this abstinence by its previous surfeit. It is a spare drinker. It discharges the solid residuum in small quantities, about every other day or at irregular intervals, and the substance of it is hard and dry like the excrement of a dog. The wind discharged from off its stomach is pungent, and its urine emits a strong odour, a phenomenon which, in the case of dogs, accounts for their habit of sniffing at trees; for, by the way, the lion, like the dog, lifts its leg to void its urine. It infects the food it eats with a strong smell by breathing on it, and when the animal is cut open an overpowering vapour exhales from its inside.

Some wild quadrupeds feed in lakes and rivers; the seal is the only one that gets its living on the sea. To the former class of animals belong the so-called castor, the satyrium, the otter, and the so-called latax, or beaver. The beaver is flatter than the otter and has strong teeth; it often at night-time emerges from the water and goes nibbling at the bark of the aspens that fringe the riversides. The otter will bite a man, and it is said that whenever it bites it will never let go until it hears a bone crack. The hair of the beaver is rough, intermediate in appearance between the hair of the seal and the hair of the deer.

6

Jag-toothed animals drink by lapping, as do also some animals with teeth differently formed, as the mouse. Animals whose upper and lower teeth meet evenly drink by suction, as the horse and the ox; the bear neither laps nor sucks, but gulps down his drink. Birds, a rule, drink by suction, but the long necked birds stop and elevate their heads at intervals; the purple coot is the only one (of the long-necked birds) that swallows water by gulps.

Horned animals, domesticated or wild, and all such as are not jag-toothed, are all frugivorous and graminivorous, save under great stress of hunger. The pig is an exception, it cares little for grass or fruit, but of all animals it is the fondest of roots, owing to the fact that its snout is peculiarly adapted for digging them out of the ground; it is also of all animals the most easily pleased in the matter of food. It takes on fat more rapidly in proportion to its size than any other animal; in fact, a pig can be fattened for the market in sixty days. Pig-dealers can tell the amount of flesh taken on, by having first weighed the animal while it was being starved. Before the fattening process begins, the creature must be starved for three days; and, by the way, animals in general will take on fat if subjected previously to a course of starvation; after the three days of starvation, pig-breeders feed the animal lavishly. Breeders in Thrace, when fattening pigs, give them a drink on the first day; then they miss one, and then two days, then three and four, until the interval extends over seven days. The pigs' meat used for fattening is composed of barley, millet, figs, acorns, wild pears, and cucumbers. These animals-and other animals that have warm bellies-are fattened by repose. (Pigs also fatten the better by being allowed to wallow in mud. They like to feed in batches of the same age. A pig will give battle even to a wolf.) If a pig be weighed when living, you may calculate that after death its flesh will weigh five-sixths of that weight, and the hair, the blood, and the rest will weigh the other sixth. When suckling their young, swinelike all other animals-get attenuated. So much for these animals.

7

Cattle feed on corn and grass, and fatten on vegetables that tend to cause flatulency, such as bitter vetch or bruised beans or bean-stalks. The older ones also will fatten if they be fed up after an incision has been made into their hide, and air blown thereinto. Cattle will fatten also on barley in its natural state or on barley finely winnowed, or on sweet food, such as figs, or pulp from the wine-press, or on elm-leaves. But nothing is so fattening as the heat of the sun and wallowing in warm waters. If the horns of young cattle be smeared with hot wax, you may mold them to any shape you please, and cattle are less subject to disease of the hoof if you smear the horny parts with wax, pitch, or olive oil. Herded cattle suffer more when they are forced to change their pasture ground by frost than when snow is the cause of change. Cattle grow all the more in size when they are kept from sexual commerce over a number of years; and it is with a view to growth in size that in Epirus the so-called Pyrrhic kine are not allowed intercourse with the bull until they are nine years old; from which circumstance they are nicknamed the ‘unbulled’ kine. Of these Pyrrhic cattle, by the way, they say that there are only about four hundred in the world, that they are the private property of the Epirote royal family, that they cannot thrive out of Epirus, and that people elsewhere have tried to rear them, but without success.

8

Horses, mules, and asses feed on corn and grass, but are fattened chiefly by drink. Just in proportion as beasts of burden drink water, so will they more or less enjoy their food, and a place will give good or bad feeding according as the water is good or bad. Green corn, while ripening, will give a smooth coat; but such corn is injurious if the spikes are too stiff and sharp. The first crop of clover is unwholesome, and so is clover over which ill-scented water runs; for the clover is sure to get the taint of the water. Cattle like clear water for drinking; but the horse in this respect resembles the camel, for the camel likes turbid and thick water, and will never drink from a stream until he has trampled it into a turbid condition. And, by the way, the camel can go without water for as much as four days, but after that when he drinks, he drinks in immense quantities.

9

The elephant at the most can eat nine Macedonian medimni of fodder at one meal; but so large an amount is unwholesome. As a general rule it can take six or seven medimni of fodder, five medimni of wheat, and five mareis of wine-six cotylae going to the maris. An elephant has been known to drink right off fourteen Macedonian metretae of water, and another metretae later in the day.

Camels live for about thirty years; in some exceptional cases they live much longer, and instances have been known of their living to the age of a hundred. The elephant is said by some to live for about two hundred years; by others, for three hundred.

10

Sheep and goats are graminivorous, but sheep browse assiduously and steadily, whereas goats shift their ground rapidly, and browse only on the tips of the herbage. Sheep are much improved in condition by drinking, and accordingly they give the flocks salt every five days in summer, to the extent of one medimnus to the hundred sheep, and this is found to render a flock healthier and fatter. In fact they mix salt with the greater part of their food; a large amount of salt is mixed into their bran (for the reason that they drink more when thirsty), and in autumn they get cucumbers with a sprinkling of salt on them; this admixture of salt in their food tends also to increase the quantity of milk in the ewes. If sheep be kept on the move at midday they will drink more copiously towards evening; and if the ewes be fed with salted food as the lambing season draws near they will get larger udders. Sheep are fattened by twigs of the olive or of the oleaster, by vetch, and bran of every kind; and these articles of food fatten all the more if they be first sprinkled with brine. Sheep will take on flesh all the better if they be first put for three days through a process of starving. In autumn, water from the north is more wholesome for sheep than water from the south. Pasture grounds are all the better if they have a westerly aspect.

Sheep will lose flesh if they be kept overmuch on the move or be subjected to any hardship. In winter time shepherds can easily distinguish the vigorous sheep from the weakly, from the fact that the vigorous sheep are covered with hoar-frost while the weakly ones are quite free of it; the fact being that the weakly ones feeling oppressed with the burden shake themselves and so get rid of it. The flesh of all quadrupeds deteriorates in marshy pastures, and is the better on high grounds. Sheep that have flat tails can stand the winter better than long-tailed sheep, and short-fleeced sheep than the shaggy-fleeced; and sheep with crisp wool stand the rigour of winter very poorly. Sheep are healthier than goats, but goats are stronger than sheep. (The fleeces and the wool of sheep that have been killed by wolves, as also the clothes made from them, are exceptionally infested with lice.)

11

Of insects, such as have teeth are omnivorous; such as have a tongue feed on liquids only, extracting with that organ juices from all quarters. And of these latter some may be called omnivorous, inasmuch as they feed on every kind of juice, as for instance, the common fly; others are blood-suckers, such as the gadfly and the horse-fly, others again live on the juices of fruits and plants. The bee is the only insect that invariably eschews whatever is rotten; it will touch no article of food unless it have a sweet-tasting juice, and it is particularly fond of drinking water if it be found bubbling up clear from a spring underground.

So much for the food of animals of the leading genera.

12

The habits of animals are all connected with either breeding and the rearing of young, or with the procuring a due supply of food; and these habits are modified so as to suit cold and heat and the variations of the seasons. For all animals have an instinctive perception of the changes of temperature, and, just as men seek shelter in houses in winter, or as men of great possessions spend their summer in cool places and their winter in sunny ones, so also all animals that can do so shift their habitat at various seasons.

Some creatures can make provision against change without stirring from their ordinary haunts; others migrate, quitting Pontus and the cold countries after the autumnal equinox to avoid the approaching winter, and after the spring equinox migrating from warm lands to cool lands to avoid the coming heat. In some cases they migrate from places near at hand, in others they may be said to come from the ends of the world, as in the case of the crane; for these birds migrate from the steppes of Scythia to the marshlands south of Egypt where the Nile has its source. And it is here, by the way, that they are said to fight with the pygmies; and the story is not fabulous, but there is in reality a race of dwarfish men, and the horses are little in proportion, and the men live in caves underground. Pelicans also migrate, and fly from the Strymon to the Ister, and breed on the banks of this river. They depart in flocks, and the birds in front wait for those in the rear, owing to the fact that when the flock is passing over the intervening mountain range, the birds in the rear lose sight of their companions in the van.

Fishes also in a similar manner shift their habitat now out of the Euxine and now into it. In winter they move from the outer sea in towards land in quest of heat; in summer they shift from shallow waters to the deep sea to escape the heat.

Weakly birds in winter and in frosty weather come down to the plains for warmth, and in summer migrate to the hills for coolness. The more weakly an animal is the greater hurry will it be in to migrate on account of extremes of temperature, either hot or cold; thus the mackerel migrates in advance of the tunnies, and the quail in advance of the cranes. The former migrates in the month of Boedromion, and the latter in the month of Maemacterion. All creatures are fatter in migrating from cold to heat than in migrating from heat to cold; thus the quail is fatter when he emigrates in autumn than when he arrives in spring. The migration from cold countries is contemporaneous with the close of the hot season. Animals are in better trim for breeding purposes in spring-time, when they change from hot to cool lands.

Of birds, the crane, as has been said, migrates from one end of the world to the other; they fly against the wind. The story told about the stone is untrue: to wit, that the bird, so the story goes, carries in its inside a stone by way of ballast, and that the stone when vomited up is a touchstone for gold.

The cushat and the rock-dove migrate, and never winter in our country, as is the case also with the turtle-dove; the common pigeon, however, stays behind. The quail also migrates; only, by the way, a few quails and turtle-doves may stay behind here and there in sunny districts. Cushats and turtle-doves flock together, both when they arrive and when the season for migration comes round again. When quails come to land, if it be fair weather or if a north wind is blowing, they will pair off and manage pretty comfortably; but if a southerly wind prevail they are greatly distressed owing to the difficulties in the way of flight, for a southerly wind is wet and violent. For this reason bird-catchers are never on the alert for these birds during fine weather, but only during the prevalence of southerly winds, when the bird from the violence of the wind is unable to fly. And, by the way, it is owing to the distress occasioned by the bulkiness of its body that the bird always screams while flying: for the labour is severe. When the quails come from abroad they have no leaders, but when they migrate hence, the glottis flits along with them, as does also the landrail, and the eared owl, and the corncrake. The corncrake calls them in the night, and when the birdcatchers hear the croak of the bird in the nighttime they know that the quails are on the move. The landrail is like a marsh bird, and the glottis has a tongue that can project far out of its beak. The eared owl is like an ordinary owl, only that it has feathers about its ears; by some it is called the night-raven. It is a great rogue of a bird, and is a capital mimic; a bird-catcher will dance before it and, while the bird is mimicking his gestures, the accomplice comes behind and catches it. The common owl is caught by a similar trick.

As a general rule all birds with crooked talons are short-necked, flat-tongued, and disposed to mimicry. The Indian bird, the parrot, which is said to have a man's tongue, answers to this description; and, by the way, after drinking wine, the parrot becomes more saucy than ever.

Of birds, the following are migratory-the crane, the swan, the pelican, and the lesser goose.

13

Of fishes, some, as has been observed, migrate from the outer seas in towards shore, and from the shore towards the outer seas, to avoid the extremes of cold and heat.

Fish living near to the shore are better eating than deep-sea fish. The fact is they have more abundant and better feeding, for wherever the sun's heat can reach vegetation is more abundant, better in quality, and more delicate, as is seen in any ordinary garden. Further, the black shore-weed grows near to shore; the other shore-weed is like wild weed. Besides, the parts of the sea near to shore are subjected to a more equable temperature; and consequently the flesh of shallow-water fishes is firm and consistent, whereas the flesh of deep-water fishes is flaccid and watery.

The following fishes are found near into the shore-the synodon, the black bream, the merou, the gilthead, the mullet, the red mullet, the wrasse, the weaver, the callionymus, the goby, and rock-fishes of all kinds. The following are deep-sea fishes — the trygon, the cartilaginous fishes, the white conger, the serranus, the erythrinus, and the glaucus. The braize, the sea-scorpion, the black conger, the muraena, and the piper or sea-cuckoo are found alike in shallow and deep waters. These fishes, however, vary for various localities; for instance, the goby and all rock-fish are fat off the coast of Crete. Again, the tunny is out of season in summer, when it is being preyed on by its own peculiar louse-parasite, but after the rising of Arcturus, when the parasite has left it, it comes into season again. A number of fish also are found in sea-estuaries; such as the saupe, the gilthead, the red mullet, and, in point of fact, the greater part of the gregarious fishes. The bonito also is found in such waters, as, for instance, off the coast of Alopeconnesus; and most species of fishes are found in Lake Bistonis. The coly-mackerel as a rule does not enter the Euxine, but passes the summer in the Propontis, where it spawns, and winters in the Aegean. The tunny proper, the pelamys, and the bonito penetrate into the Euxine in summer and pass the summer there; as do also the greater part of such fish as swim in shoals with the currents, or congregate in shoals together. And most fish congregate in shoals, and shoal-fishes in all cases have leaders.

Fish penetrate into the Euxine for two reasons, and firstly for food. For the feeding is more abundant and better in quality owing to the amount of fresh river-water that discharges into the sea, and moreover, the large fishes of this inland sea are smaller than the large fishes of the outer sea. In point of fact, there is no large fish in the Euxine excepting the dolphin and the porpoise, and the dolphin is a small variety; but as soon as you get into the outer sea the big fishes are on the big scale. Furthermore, fish penetrate into this sea for the purpose of breeding; for there are recesses there favourable for spawning, and the fresh and exceptionally sweet water has an invigorating effect upon the spawn. After spawning, when the young fishes have attained some size, the parent fish swim out of the Euxine immediately after the rising of the Pleiads. If winter comes in with a southerly wind, they swim out with more or less of deliberation; but, if a north wind be blowing, they swim out with greater rapidity, from the fact that the breeze is favourable to their own course. And, by the way, the young fish are caught about this time in the neighbourhood of Byzantium very small in size, as might have been expected from the shortness of their sojourn in the Euxine. The shoals in general are visible both as they quit and enter the Euxine. The trichiae, however, only can be caught during their entry, but are never visible during their exit; in point of fact, when a trichia is caught running outwards in the neighbourhood of Byzantium, the fishermen are particularly careful to cleanse their nets, as the circumstance is so singular and exceptional. The way of accounting for this phenomenon is that this fish, and this one only, swims northwards into the Danube, and then at the point of its bifurcation swims down southwards into the Adriatic. And, as a proof that this theory is correct, the very opposite phenomenon presents itself in the Adriatic; that is to say, they are not caught in that sea during their entry, but are caught during their exit.

Tunny-fish swim into the Euxine keeping the shore on their right, and swim out of it with the shore upon their left. It is stated that they do so as being naturally weak-sighted, and seeing better with the right eye.

During the daytime shoal-fish continue on their way, but during the night they rest and feed. But if there be moonlight, they continue their journey without resting at all. Some people accustomed to sea-life assert that shoal-fish at the period of the winter solstice never move at all, but keep perfectly still wherever they may happen to have been overtaken by the solstice, and this lasts until the equinox.

The coly-mackerel is caught more frequently on entering than on quitting the Euxine. And in the Propontis the fish is at its best before the spawning season. Shoal-fish, as a rule, are caught in greater quantities as they leave the Euxine, and at that season they are in the best condition. At the time of their entrance they are caught in very plump condition close to shore, but those are in comparatively poor condition that are caught farther out to sea. Very often, when the coly-mackerel and the mackerel are met by a south wind in their exit, there are better catches to the southward than in the neighbourhood of Byzantium. So much then for the phenomenon of migration of fishes.

Now the same phenomenon is observed in fishes as in terrestrial animals in regard to hibernation: in other words, during winter fishes take to concealing themselves in out of the way places, and quit their places of concealment in the warmer season. But, by the way, animals go into concealment by way of refuge against extreme heat, as well as against extreme cold. Sometimes an entire genus will thus seek concealment; in other cases some species will do so and others will not. For instance, the shell-fish seek concealment without exception, as is seen in the case of those dwelling in the sea, the purple murex, the ceryx, and all such like; but though in the case of the detached species the phenomenon is obvious-for they hide themselves, as is seen in the scallop, or they are provided with an operculum on the free surface, as in the case of land snails-in the case of the non-detached the concealment is not so clearly observed. They do not go into hiding at one and the same season; but the snails go in winter, the purple murex and the ceryx for about thirty days at the rising of the Dog-star, and the scallop at about the same period. But for the most part they go into concealment when the weather is either extremely cold or extremely hot.

14

Insects almost all go into hiding, with the exception of such of them as live in human habitations or perish before the completion of the year. They hide in the winter; some of them for several days, others for only the coldest days, as the bee. For the bee also goes into hiding: and the proof that it does so is that during a certain period bees never touch the food set before them, and if a bee creeps out of the hive, it is quite transparent, with nothing whatsoever in its stomach; and the period of its rest and hiding lasts from the setting of the Pleiads until springtime.

Animals take their winter-sleep or summer-sleep by concealing themselves in warm places, or in places where they have been used to lie concealed.

15

Several blooded animals take this sleep, such as the pholidotes or tessellates, namely, the serpent, the lizard, the gecko, and the river. crocodile, all of which go into hiding for four months in the depth of winter, and during that time eat nothing. Serpents in general burrow under ground for this purpose; the viper conceals itself under a stone.

A great number of fishes also take this sleep, and notably, the hippurus and coracinus in winter time; for, whereas fish in general may be caught at all periods of the year more or less, there is this singularity observed in these fishes, that they are caught within a certain fixed period of the year, and never by any chance out of it. The muraena also hides, and the orphus or sea-perch, and the conger. Rock-fish pair off, male and female, for hiding (just as for breeding); as is observed in the case of the species of wrasse called the thrush and the owzel, and in the perch.

The tunny also takes a sleep in winter in deep waters, and gets exceedingly fat after the sleep. The fishing season for the tunny begins at the rising of the Pleiads and lasts, at the longest, down to the setting of Arcturus; during the rest of the year they are hid and enjoying immunity. About the time of hibernation a few tunnies or other hibernating fishes are caught while swimming about, in particularly warm localities and in exceptionally fine weather, or on nights of full moon; for the fishes are induced (by the warmth or the light) to emerge for a while from their lair in quest of food.

Most fishes are at their best for the table during the summer or winter sleep.

The primas-tunny conceals itself in the mud; this may be inferred from the fact that during a particular period the fish is never caught, and that, when it is caught after that period, it is covered with mud and has its fins damaged. In the spring these tunnies get in motion and proceed towards the coast, coupling and breeding, and the females are now caught full of spawn. At this time they are considered as in season, but in autumn and in winter as of inferior quality; at this time also the males are full of milt. When the spawn is small, the fish is hard to catch, but it is easily caught when the spawn gets large, as the fish is then infested by its parasite. Some fish burrow for sleep in the sand and some in mud, just keeping their mouths outside.

Most fishes hide, then, during the winter only, but crustaceans, the rock-fish, the ray, and the cartilaginous species hide only during extremely severe weather, and this may be inferred from the fact that these fishes are never by any chance caught when the weather is extremely cold. Some fishes, however, hide during the summer, as the glaucus or grey-back; this fish hides in summer for about sixty days. The hake also and the gilthead hide; and we infer that the hake hides over a lengthened period from the fact that it is only caught at long intervals. We are led also to infer that fishes hide in summer from the circumstance that the takes of certain fish are made between the rise and setting of certain constellations: of the Dog-star in particular, the sea at this period being upturned from the lower depths. This phenomenon may be observed to best advantage in the Bosporus; for the mud is there brought up to the surface and the fish are brought up along with it. They say also that very often, when the sea-bottom is dredged, more fish will be caught by the second haul than by the first one. Furthermore, after very heavy rains numerous specimens become visible of creatures that at other times are never seen at all or seen only at intervals.

16

A great number of birds also go into hiding; they do not all migrate, as is generally supposed, to warmer countries. Thus, certain birds (as the kite and the swallow) when they are not far off from places of this kind, in which they have their permanent abode, betake themselves thither; others, that are at a distance from such places, decline the trouble of migration and simply hide themselves where they are. Swallows, for instance, have been often found in holes, quite denuded of their feathers, and the kite on its first emergence from torpidity has been seen to fly from out some such hiding-place. And with regard to this phenomenon of periodic torpor there is no distinction observed, whether the talons of a bird be crooked or straight; for instance, the stork, the owzel, the turtle-dove, and the lark, all go into hiding. The case of the turtledove is the most notorious of all, for we would defy any one to assert that he had anywhere seen a turtle-dove in winter-time; at the beginning of the hiding time it is exceedingly plump, and during this period it moults, but retains its plumpness. Some cushats hide; others, instead of hiding, migrate at the same time as the swallow. The thrush and the starling hide; and of birds with crooked talons the kite and the owl hide for a few days.

17

Of viviparous quadrupeds the porcupine and the bear retire into concealment. The fact that the bear hides is well established, but there are doubts as to its motive for so doing, whether it be by reason of the cold or from some other cause. About this period the male and the female become so fat as to be hardly capable of motion. The female brings forth her young at this time, and remains in concealment until it is time to bring the cubs out; and she brings them out in spring, about three months after the winter solstice. The bear hides for at least forty days; during fourteen of these days it is said not to move at all, but during most of the subsequent days it moves, and from time to time wakes up. A she-bear in pregnancy has either never been caught at all or has been caught very seldom. There can be no doubt but that during this period they eat nothing; for in the first place they never emerge from their hiding-place, and further, when they are caught, their belly and intestines are found to be quite empty. It is also said that from no food being taken the gut almost closes up, and that in consequence the animal on first emerging takes to eating arum with the view of opening up and distending the gut.

The dormouse actually hides in a tree, and gets very fat at that period; as does also the white mouse of Pontus.

(Of animals that hide or go torpid some slough off what is called their ‘old-age’. This name is applied to the outermost skin, and to the casing that envelops the developing organism.)

In discussing the case of terrestrial vivipara we stated that the reason for the bear's seeking concealment is an open question. We now proceed to treat of the tessellates. The tessellates for the most part go into hiding, and if their skin is soft they slough off their 'old-age', but not if the skin is shell-like, as is the shell of the tortoise-for, by the way, the tortoise and the fresh water tortoise belong to the tessellates. Thus, the old-age is sloughed off by the gecko, the lizard, and above all, by serpents; and they slough off the skin in springtime when emerging from their torpor, and again in the autumn. Vipers also slough off their skin both in spring and in autumn, and it is not the case, as some aver, that this species of the serpent family is exceptional in not sloughing. When the serpent begins to slough, the skin peels off at first from the eyes, so that any one ignorant of the phenomenon would suppose the animal were going blind; after that it peels off the head, and so on, until the creature presents to view only a white surface all over. The sloughing goes on for a day and a night, beginning with the head and ending with the tail. During the sloughing of the skin an inner layer comes to the surface, for the creature emerges just as the embryo from its afterbirth.

All insects that slough at all slough in the same way; as the silphe, and the empis or midge, and all the coleoptera, as for instance the cantharus-beetle. They all slough after the period of development; for just as the afterbirth breaks from off the young of the vivipara so the outer husk breaks off from around the young of the vermipara, in the same way both with the bee and the grasshopper. The cicada the moment after issuing from the husk goes and sits upon an olive tree or a reed; after the breaking up of the husk the creature issues out, leaving a little moisture behind, and after a short interval flies up into the air and sets a. chirping.

Of marine animals the crawfish and the lobster slough sometimes in the spring, and sometimes in autumn after parturition. Lobsters have been caught occasionally with the parts about the thorax soft, from the shell having there peeled off, and the lower parts hard, from the shell having not yet peeled off there; for, by the way, they do not slough in the same manner as the serpent. The crawfish hides for about five months. Crabs also slough off their old-age; this is generally allowed with regard to the soft-shelled crabs, and it is said to be the case with the testaceous kind, as for instance with the large 'granny' crab. When these animals slough their shell becomes soft all over, and as for the crab, it can scarcely crawl. These animals also do not cast their skins once and for all, but over and over again.

So much for the animals that go into hiding or torpidity, for the times at which, and the ways in which, they go; and so much also for the animals that slough off their old-age, and for the times at which they undergo the process.

18

Animals do not all thrive at the same seasons, nor do they thrive alike during all extremes of weather. Further animals of diverse species are in a diverse way healthy or sickly at certain seasons; and, in point of fact, some animals have ailments that are unknown to others. Birds thrive in times of drought, both in their general health and in regard to parturition, and this is especially the case with the cushat; fishes, however, with a few exceptions, thrive best in rainy weather; on the contrary rainy seasons are bad for birds-and so by the way is much drinking-and drought is bad for fishes. Birds of prey, as has been already stated, may in a general way be said never to drink at all, though Hesiod appears to have been ignorant of the fact, for in his story about the siege of Ninus he represents the eagle that presided over the auguries as in the act of drinking; all other birds drink, but drink sparingly, as is the case also with all other spongy-lunged oviparous animals. Sickness in birds may be diagnosed from their plumage, which is ruffled when they are sickly instead of lying smooth as when they are well.

19

The majority of fishes, as has been stated, thrive best in rainy seasons. Not only have they food in greater abundance at this time, but in a general way rain is wholesome for them just as it is for vegetation-for, by the way, kitchen vegetables, though artificially watered, derive benefit from rain; and the same remark applies even to reeds that grow in marshes, as they hardly grow at all without a rainfall. That rain is good for fishes may be inferred from the fact that most fishes migrate to the Euxine for the summer; for owing to the number of the rivers that discharge into this sea its water is exceptionally fresh, and the rivers bring down a large supply of food. Besides, a great number of fishes, such as the bonito and the mullet, swim up the rivers and thrive in the rivers and marshes. The sea-gudgeon also fattens in the rivers, and, as a rule, countries abounding in lagoons furnish unusually excellent fish. While most fishes, then, are benefited by rain, they are chiefly benefited by summer rain; or we may state the case thus, that rain is good for fishes in spring, summer, and autumn, and fine dry weather in winter. As a general rule what is good for men is good for fishes also.

Fishes do not thrive in cold places, and those fishes suffer most in severe winters that have a stone in their head, as the chromis, the basse, the sciaena, and the braize; for owing to the stone they get frozen with the cold, and are thrown up on shore.

Whilst rain is wholesome for most fishes, it is, on the contrary, unwholesome for the mullet, the cephalus, and the so-called marinus, for rain superinduces blindness in most of these fishes, and all the more rapidly if the rainfall be superabundant. The cephalus is peculiarly subject to this malady in severe winters; their eyes grow white, and when caught they are in poor condition, and eventually the disease kills them. It would appear that this disease is due to extreme cold even more than to an excessive rainfall; for instance, in many places and more especially in shallows off the coast of Nauplia, in the Argolid, a number of fishes have been known to be caught out at sea in seasons of severe cold. The gilthead also suffers in winter; the acharnas suffers in summer, and loses condition. The coracine is exceptional among fishes in deriving benefit from drought, and this is due to the fact that heat and drought are apt to come together.

Particular places suit particular fishes; some are naturally fishes of the shore, and some of the deep sea, and some are at home in one or the other of these regions, and others are common to the two and are at home in both. Some fishes will thrive in one particular spot, and in that spot only. As a general rule it may be said that places abounding in weeds are wholesome; at all events, fishes caught in such places are exceptionally fat: that is, such fishes a a habit all sorts of localities as well. The fact is that weed-eating fishes find abundance of their special food in such localities, and carnivorous fish find an unusually large number of smaller fish. It matters also whether the wind be from the north or south: the longer fish thrive better when a north wind prevails, and in summer at one and the same spot more long fish will be caught than flat fish with a north wind blowing.

The tunny and the sword-fish are infested with a parasite about the rising of the Dog-star; that is to say, about this time both these fishes have a grub beside their fins that is nicknamed the ‘gadfly’. It resembles the scorpion in shape, and is about the size of the spider. So acute is the pain it inflicts that the sword-fish will often leap as high out of the water as a dolphin; in fact, it sometimes leaps over the bulwarks of a vessel and falls back on the deck. The tunny delights more than any other fish in the heat of the sun. It will burrow for warmth in the sand in shallow waters near to shore, or will, because it is warm, disport itself on the surface of the sea.

The fry of little fishes escape by being overlooked, for it is only the larger ones of the small species that fishes of the large species will pursue. The greater part of the spawn and the fry of fishes is destroyed by the heat of the sun, for whatever of them the sun reaches it spoils.

Fishes are caught in greatest abundance before sunrise and after sunset, or, speaking generally, just about sunset and sunrise. Fishermen haul up their nets at these times, and speak of the hauls then made as the ‘nick-of-time’ hauls. The fact is, that at these times fishes are particularly weak-sighted; at night they are at rest, and as the light grows stronger they see comparatively well.

We know of no pestilential malady attacking fishes, such as those which attack man, and horses and oxen among the quadrupedal vivipara, and certain species of other genera, domesticated and wild; but fishes do seem to suffer from sickness; and fishermen infer this from the fact that at times fishes in poor condition, and looking as though they were sick, and of altered colour, are caught in a large haul of well-conditioned fish of their own species. So much for sea-fishes.

20

River-fish and lake-fish also are exempt from diseases of a pestilential character, but certain species are subject to special and peculiar maladies. For instance, the sheat-fish just before the rising of the Dog-star, owing to its swimming near the surface of the water, is liable to sunstroke, and is paralysed by a loud peal of thunder. The carp is subject to the same eventualities but in a lesser degree. The sheatfish is destroyed in great quantities in shallow waters by the serpent called the dragon. In the balerus and tilon a worm is engendered about the rising of the Dog-star, that sickens these fish and causes them to rise towards the surface, where they are killed by the excessive heat. The chalcis is subject to a very violent malady; lice are engendered underneath their gills in great numbers, and cause destruction among them; but no other species of fish is subject to any such malady.

If mullein be introduced into water it will kill fish in its vicinity. It is used extensively for catching fish in rivers and ponds; by the Phoenicians it is made use of also in the sea.

There are two other methods employed for catch-fish. It is a known fact that in winter fishes emerge from the deep parts of rivers and, by the way, at all seasons fresh water is tolerably cold. A trench accordingly is dug leading into a river, and wattled at the river end with reeds and stones, an aperture being left in the wattling through which the river water flows into the trench; when the frost comes on the fish can be taken out of the trench in weels. Another method is adopted in summer and winter alike. They run across a stream a dam composed of brushwood and stones leaving a small open space, and in this space they insert a weel; they then coop the fish in towards this place, and draw them up in the weel as they swim through the open space.

Shell-fish, as a rule, are benefited by rainy weather. The purple murex is an exception; if it be placed on a shore near to where a river discharges, it will die within a day after tasting the fresh water. The murex lives for about fifty days after capture; during this period they feed off one another, as there grows on the shell a kind of sea-weed or sea-moss; if any food is thrown to them during this period, it is said to be done not to keep them alive, but to make them weigh more.

To shell-fish in general drought is unwholesome. During dry weather they decrease in size and degenerate in quality; and it is during such weather that the red scallop is found in more than usual abundance. In the Pyrrhaean Strait the clam was exterminated, partly by the dredging-machine used in their capture, and partly by long-continued droughts. Rainy weather is wholesome to the generality of shellfish owing to the fact that the sea-water then becomes exceptionally sweet. In the Euxine, owing to the coldness of the climate, shellfish are not found: nor yet in rivers, excepting a few bivalves here and there. Univalves, by the way, are very apt to freeze to death in extremely cold weather. So much for animals that live in water.

To turn to quadrupeds, the pig suffers from three diseases, one of which is called branchos, a disease attended with swellings about the windpipe and the jaws. It may break out in any part of the body; very often it attacks the foot, and occasionally the ear; the neighbouring parts also soon rot, and the decay goes on until it reaches the lungs, when the animal succumbs. The disease develops with great rapidity, and the moment it sets in the animal gives up eating. The swineherds know but one way to cure it, namely, by complete excision, when they detect the first signs of the disease. There are two other diseases, which are both alike termed craurus. The one is attended with pain and heaviness in the head, and this is the commoner of the two, the other with diarrhoea. The latter is incurable, the former is treated by applying wine fomentations to the snout and rinsing the nostrils with wine. Even this disease is very hard to cure; it has been known to kill within three or four days. The animal is chiefly subject to branchos when it gets extremely fat, and when the heat has brought a good supply of figs. The treatment is to feed on mashed mulberries, to give repeated warm baths, and to lance the under part of the tongue.

Pigs with flabby flesh are subject to measles about the legs, neck, and shoulders, for the pimples develop chiefly in these parts. If the pimples are few in number the flesh is comparatively sweet, but if they be numerous it gets watery and flaccid. The symptoms of measles are obvious, for the pimples show chiefly on the under side of the tongue, and if you pluck the bristles off the chine the skin will appear suffused with blood, and further the animal will be unable to keep its hind-feet at rest. Pigs never take this disease while they are mere sucklings. The pimples may be got rid of by feeding on this kind of spelt called tiphe; and this spelt, by the way, is very good for ordinary food. The best food for rearing and fattening pigs is chickpeas and figs, but the one thing essential is to vary the food as much as possible, for this animal, like animals in general lights in a change of diet; and it is said that one kind of food blows the animal out, that another superinduces flesh, and that another puts on fat, and that acorns, though liked by the animal, render the flesh flaccid. Besides, if a sow eats acorns in great quantities, it will miscarry, as is also the case with the ewe; and, indeed, the miscarriage is more certain in the case of the ewe than in the case of the sow. The pig is the only animal known to be subject to measles.

22

Dogs suffer from three diseases; rabies, quinsy, and sore feet. Rabies drives the animal mad, and ary animal whatever, excepting man, will take the disease if bitten by a dog so afflicted; the disease is fatal to the dog itself, and to any animal it may bite, man excepted. Quinsy also is fatal to dogs; and only a few recover from disease of the feet. The camel, like the dog, is subject to rabies. The elephant, which is reputed to enjoy immunity from all other illnesses, is occasionally subject to flatulency.

23

Cattle in herds are liable to two diseases, foot, sickness and craurus. In the former their feet suffer from eruptions, but the animal recovers from the disease without even the loss of the hoof. It is found of service to smear the horny parts with warm pitch. In craurus, the breath comes warm at short intervals; in fact, craurus in cattle answers to fever in man. The symptoms of the disease are drooping of the ears and disinclination for food. The animal soon succumbs, and when the carcase is opened the lungs are found to be rotten.

24

Horses out at pasture are free from all diseases excepting disease of the feet. From this disease they sometimes lose their hooves: but after losing them they grow them soon again, for as one hoof is decaying it is being replaced by another. Symptoms of the malady are a sinking in and wrinkling of the lip in the middle under the nostrils, and in the case of the male, a twitching of the right testicle.

Stall-reared horses are subject to very numerous forms of disease. They are liable to disease called ‘eileus’. Under this disease the animal trails its hind-legs under its belly so far forward as almost to fall back on its haunches; if it goes without food for several days and turns rabid, it may be of service to draw blood, or to castrate the male. The animal is subject also to tetanus: the veins get rigid, as also the head and neck, and the animal walks with its legs stretched out straight. The horse suffers also from abscesses. Another painful illness afflicts them called the ‘barley-surfeit’. The are a softening of the palate and heat of the breath; the animal may recover through the strength of its own constitution, but no formal remedies are of any avail.

There is also a disease called nymphia, in which the animal is said to stand still and droop its head on hearing flute-music; if during this ailment the horse be mounted, it will run off at a gallop until it is pulled. Even with this rabies in full force, it preserves a dejected spiritless appearance; some of the symptoms are a throwing back of the ears followed by a projection of them, great languor, and heavy breathing. Heart-ache also is incurable, of which the symptom is a drawing in of the flanks; and so is displacement of the bladder, which is accompanied by a retention of urine and a drawing up of the hooves and haunches. Neither is there any cure if the animal swallow the grape-beetle, which is about the size of the sphondyle or knuckle-beetle. The bite of the shrewmouse is dangerous to horses and other draught animals as well; it is followed by boils. The bite is all the more dangerous if the mouse be pregnant when she bites, for the boils then burst, but do not burst otherwise. The cicigna-called ‘chalcis’ by some, and ‘zignis’ by others-either causes death by its bite or, at all events, intense pain; it is like a small lizard, with the colour of the blind snake. In point of fact, according to experts, the horse and the sheep have pretty well as many ailments as the human species. The drug known under the name of ‘sandarace’ or realgar, is extremely injurious to a horse, and to all draught animals; it is given to the animal as a medicine in a solution of water, the liquid being filtered through a colander. The mare when pregnant apt to miscarry when disturbed by the odour of an extinguished candle; and a similar accident happens occasionally to women in their pregnancy. So much for the diseases of the horse.

The so-called hippomanes grows, as has stated, on the foal, and the mare nibbles it off as she licks and cleans the foal. All the curious stories connected with the hippomanes are due to old wives and to the venders of charms. What is called the ‘polium’ or foal’s membrane, is, as all the accounts state, delivered by the mother before the foal appears.

A horse will recognize the neighing of any other horse with which it may have fought at any previous period. The horse delights in meadows and marshes, and likes to drink muddy water; in fact, if water be clear, the horse will trample in it to make it turbid, will then drink it, and afterwards will wallow in it. The animal is fond of water in every way, whether for drinking or for bathing purposes; and this explains the peculiar constitution of the hippopotamus or river-horse. In regard to water the ox is the opposite of the horse; for if the water be impure or cold, or mixed up with alien matter, it will refuse to drink it.

25

The ass suffers chiefly from one particular disease which they call ‘melis’. It arises first in the head, and a clammy humour runs down the nostrils, thick and red; if it stays in the head the animal may recover, but if it descends into the lungs the animal will die. Of all animals on its of its kind it is the least capable of enduring extreme cold, which circumstance will account for the fact that the animal is not found on the shores of the Euxine, nor in Scythia.

26

Elephants suffer from flatulence, and when thus afflicted can void neither solid nor liquid residuum. If the elephant swallow earth-mould it suffers from relaxation; but if it go on taking it steadily, it will experience no harm. From time to time it takes to swallowing stones. It suffers also from diarrhoea: in this case they administer draughts of lukewarm water or dip its fodder in honey, and either one or the other prescription will prove a costive. When they suffer from insomnia, they will be restored to health if their shoulders be rubbed with salt, olive-oil, and warm water; when they have aches in their shoulders they will derive great benefit from the application of roast pork. Some elephants like olive oil, and others do not. If there is a bit of iron in the inside of an elephant it is said that it will pass out if the animal takes a drink of olive-oil; if the animal refuses olive-oil, they soak a root in the oil and give it the root to swallow. So much, then, for quadrupeds.

27

Insects, as a general rule, thrive best in the time of year in which they come into being, especially if the season be moist and warm, as in spring.

In bee-hives are found creatures that do great damage to the combs; for instance, the grub that spins a web and ruins the honeycomb: it is called the ‘cleros’. It engenders an insect like itself, of a spider-shape, and brings disease into the swarm. There is another insect resembling the moth, called by some the ‘pyraustes’, that flies about a lighted candle: this creature engenders a brood full of a fine down. It is never stung by a bee, and can only be got out of a hive by fumigation. A caterpillar also is engendered in hives, of a species nicknamed the teredo, or ‘borer’, with which creature the bee never interferes. Bees suffer most when flowers are covered with mildew, or in seasons of drought.

All insects, without exception, die if they be smeared over with oil; and they die all the more rapidly if you smear their head with the oil and lay them out in the sun.

28

Variety in animal life may be produced by variety of locality: thus in one place an animal will not be found at all, in another it will be small, or short-lived, or will not thrive. Sometimes this sort of difference is observed in closely adjacent districts. Thus, in the territory of Miletus, in one district cicadas are found while there are none in the district close adjoining; and in Cephalenia there is a river on one side of which the cicada is found and not on the other. In Pordoselene there is a public road one side of which the weasel is found but not on the other. In Boeotia the mole is found in great abundance in the neighbourhood of Orchomenus, but there are none in Lebadia though it is in the immediate vicinity, and if a mole be transported from the one district to the other it will refuse to burrow in the soil. The hare cannot live in Ithaca if introduced there; in fact it will be found dead, turned towards the point of the beach where it was landed. The horseman-ant is not found in Sicily; the croaking frog has only recently appeared in the neighbourhood of Cyrene. In the whole of Libya there is neither wild boar, nor stag, nor wild goat; and in India, according to Ctesias-no very good authority, by the way-there are no swine, wild or tame, but animals that are devoid of blood and such as go into hiding or go torpid are all of immense size there. In the Euxine there are no small molluscs nor testaceans, except a few here and there; but in the Red Sea all the testaceans are exceedingly large. In Syria the sheep have tails a cubit in breadth; the goats have ears a span and a palm long, and some have ears that flap down to the ground; and the cattle have humps on their shoulders, like the camel. In Lycia goats are shorn for their fleece, just as sheep are in all other countries. In Libya the long-horned ram is born with horns, and not the ram only, as Homer' words it, but the ewe as well; in Pontus, on the confines of Scythia, the ram is without horns.

In Egypt animals, as a rule, are larger than their congeners in Greece, as the cow and the sheep; but some are less, as the dog, the wolf, the hare, the fox, the raven, and the hawk; others are of pretty much the same size, as the crow and the goat. The difference, where it exists, is attributed to the food, as being abundant in one case and insufficient in another, for instance for the wolf and the hawk; for provision is scanty for the carnivorous animals, small birds being scarce; food is scanty also for the hare and for all frugivorous animals, because neither the nuts nor the fruit last long.

In many places the climate will account for peculiarities; thus in Illyria, Thrace, and Epirus the ass is small, and in Gaul and in Scythia the ass is not found at all owing to the coldness of the climate of these countries. In Arabia the lizard is more than a cubit in length, and the mouse is much larger than our field-mouse, with its hind-legs a span long and its front legs the length of the first finger-joint. In Libya, according to all accounts, the length of the serpents is something appalling; sailors spin a yarn to the effect that some crews once put ashore and saw the bones of a number of oxen, and that they were sure that the oxen had been devoured by serpents, for, just as they were putting out to sea, serpents came chasing their galleys at full speed and overturned one galley and set upon the crew. Again, lions are more numerous in Libya, and in that district of Europe that lies between the Achelous and the Nessus; the leopard is more abundant in Asia Minor, and is not found in Europe at all. As a general rule, wild animals are at their wildest in Asia, at their boldest in Europe, and most diverse in form in Libya; in fact, there is an old saying, 'Always something fresh in Libya.'

It would appear that in that country animals of diverse species meet, on account of the rainless climate, at the watering-places, and there pair together; and that such pairs will often breed if they be nearly of the same size and have periods of gestation of the same length. For it is said that they are tamed down in their behaviour towards each other by extremity of thirst. And, by the way, unlike animals elsewhere, they require to drink more in wintertime than in summer: for they acquire the habit of not drinking in summer, owing to the circumstance that there is usually no water then; and the mice, if they drink, die. Elsewhere also bastard-animals are born to heterogeneous pairs; thus in Cyrene the wolf and the bitch will couple and breed; and the Laconian hound is a cross between the fox and the dog. They say that the Indian dog is a cross between the tiger and the bitch, not the first cross, but a cross in the third generation; for they say that the first cross is a savage creature. They take the bitch to a lonely spot and tie her up: if the tiger be in an amorous mood he will pair with her; if not he will eat her up, and this casualty is of frequent occurrence.

29

Locality will differentiate habits also: for instance, rugged highlands will not produce the same results as the soft lowlands. The animals of the highlands look fiercer and bolder, as is seen in the swine of Mount Athos; for a lowland boar is no match even for a mountain sow.

Again, locality is an important element in regard to the bite of an animal. Thus, in Pharos and other places, the bite of the scorpion is not dangerous; elsewhere-in Caria, for instances-where scorpions are venomous as well as plentiful and of large size, the sting is fatal to man or beast, even to the pig, and especially to a black pig, though the pig, by the way, is in general most singularly indifferent to the bite of any other creature. If a pig goes into water after being struck by the scorpion of Caria, it will surely die.

There is great variety in the effects produced by the bites of serpents. The asp is found in Libya; the so-called ‘septic’ drug is made from the body of the animal, and is the only remedy known for the bite of the original. Among the silphium, also, a snake is found, for the bite or which a certain stone is said to be a cure: a stone that is brought from the grave of an ancient king, which stone is put into water and drunk off. In certain parts of Italy the bite of the gecko is fatal. But the deadliest of all bites of venomous creatures is when one venomous animal has bitten another; as, for instance, a viper’s after it has bitten a scorpion. To the great majority of such creatures man’s is fatal. There is a very little snake, by some entitled the ‘holy-snake’, which is dreaded by even the largest serpents. It is about an ell long, and hairy-looking; whenever it bites an animal, the flesh all round the wound will at once mortify. There is in India a small snake which is exceptional in this respect, that for its bite no specific whatever is known.

Animals also vary as to their condition of health in connexion with their pregnancy.

Testaceans, such as scallops and all the oyster-family, and crustaceans, such as the lobster family, are best when with spawn. Even in the case of the testacean we speak of spawning (or pregnancy); but whereas the crustaceans may be seen coupling and laying their spawn, this is never the case with testaceans. Molluscs are best in the breeding time, as the calamary, the sepia, and the octopus.

Fishes, when they begin to breed, are nearly all good for the table; but after the female has gone long with spawn they are good in some cases, and in others are out of season. The maenis, for instance, is good at the breeding time. The female of this fish is round, the male longer and flatter; when the female is beginning to breed the male turns black and mottled, and is quite unfit for the table; at this period he is nicknamed the ‘goat’.

The wrasses called the owzel and the thrush, and the smaris have different colours at different seasons, as is the case with the plumage of certain birds; that is to say, they become black in the spring and after the spring get white again. The phycis also changes its hue: in general it is white, but in spring it is mottled; it is the only sea-fish which is said make a bed for itself, and the female lays her spawn in this bed or nest. The maenis, as was observed, changes its colour as does the smaris, and in summer-time changes back from whitish to black, the change being especially marked about the fins and gills. The coracine, like the maenis, is in best condition at breeding time; the mullet, the basse, and scaly fishes in general are in bad condition at this period. A few fish are in much the same condition at all times, whether with spawn or not, as the glaucus. Old fishes also are bad eating; the old tunny is unfit even for pickling, as a great part of its flesh wastes away with age, and the same wasting is observed in all old fishes. The age of a scaly fish may be told by the size and the hardness of its scales. An old tunny has been caught weighing fifteen talents, with the span of its tail two cubits and a palm broad.

River-fish and lake-fish are best after they have discharged the spawn in the case of the female and the milt in the case of the male: that is, when they have fully recovered from the exhaustion of such discharge. Some are good in the breeding time, as the saperdis, and some bad, as the sheat-fish. As a general rule, the male fish is better eating than the female; but the reverse holds good of the sheat-fish. The eels that are called females are the best for the table: they look as though they were female, but they really are not so.

Book IX

1

OF the animals that are comparatively obscure and short-lived the characters or dispositions are not so obvious to recognition as are those of animals that are longer-lived. These latter animals appear to have a natural capacity corresponding to each of the passions: to cunning or simplicity, courage or timidity, to good temper or to bad, and to other similar dispositions of mind.

Some also are capable of giving or receiving instruction-of receiving it from one another or from man: those that have the faculty of hearing, for instance; and, not to limit the matter to audible sound, such as can differentiate the suggested meanings of word and gesture.

In all genera in which the distinction of male and female is found, Nature makes a similar differentiation in the mental characteristics of the two sexes. This differentiation is the most obvious in the case of human kind and in that of the larger animals and the viviparous quadrupeds. In the case of these latter the female softer in character, is the sooner tamed, admits more readily of caressing, is more apt in the way of learning; as, for instance, in the Laconian breed of dogs the female is cleverer than the male. Of the Molossian breed of dogs, such as are employed in the chase are pretty much the same as those elsewhere; but sheep-dogs of this breed are superior to the others in size, and in the courage with which they face the attacks of wild animals.

Dogs that are born of a mixed breed between these two kinds are remarkable for courage and endurance of hard labour.

In all cases, excepting those of the bear and leopard, the female is less spirited than the male; in regard to the two exceptional cases, the superiority in courage rests with the female. With all other animals the female is softer in disposition than the male, is more mischievous, less simple, more impulsive, and more attentive to the nurture of the young: the male, on the other hand, is more spirited than the female, more savage, more simple and less cunning. The traces of these differentiated characteristics are more or less visible everywhere, but they are especially visible where character is the more developed, and most of all in man.

The fact is, the nature of man is the most rounded off and complete, and consequently in man the qualities or capacities above referred to are found in their perfection. Hence woman is more compassionate than man, more easily moved to tears, at the same time is more jealous, more querulous, more apt to scold and to strike. She is, furthermore, more prone to despondency and less hopeful than the man, more void of shame or self-respect, more false of speech, more deceptive, and of more retentive memory. She is also more wakeful, more shrinking, more difficult to rouse to action, and requires a smaller quantity of nutriment.

As was previously stated, the male is more courageous than the female, and more sympathetic in the way of standing by to help. Even in the case of molluscs, when the cuttle-fish is struck with the trident the male stands by to help the female; but when the male is struck the female runs away.

There is enmity between such animals as dwell in the same localities or subsist on the food. If the means of subsistence run short, creatures of like kind will fight together. Thus it is said that seals which inhabit one and the same district will fight, male with male, and female with female, until one combatant kills the other, or one is driven away by the other; and their young do even in like manner.

All creatures are at enmity with the carnivores, and the carnivores with all the rest, for they all subsist on living creatures. Soothsayers take notice of cases where animals keep apart from one another, and cases where they congregate together; calling those that live at war with one another ‘dissociates’, and those that dwell in peace with one another ‘associates’. One may go so far as to say that if there were no lack or stint of food, then those animals that are now afraid of man or are wild by nature would be tame and familiar with him, and in like manner with one another. This is shown by the way animals are treated in Egypt, for owing to the fact that food is constantly supplied to them the very fiercest creatures live peaceably together. The fact is they are tamed by kindness, and in some places crocodiles are tame to their priestly keeper from being fed by him. And elsewhere also the same phenomenon is to be observed.

The eagle and the snake are enemies, for the eagle lives on snakes; so are the ichneumon and the venom-spider, for the ichneumon preys upon the latter. In the case of birds, there is mutual enmity between the poecilis, the crested lark, the woodpecker (?), and the chloreus, for they devour one another's eggs; so also between the crow and the owl; for, owing to the fact that the owl is dim-sighted by day, the crow at midday preys upon the owl's eggs, and the owl at night upon the crow's, each having the whip-hand of the other, turn and turn about, night and day.

There is enmity also between the owl and the wren; for the latter also devours the owl's eggs. In the daytime all other little birds flutter round the owl-a practice which is popularly termed 'admiring him'-buffet him, and pluck out his feathers; in consequence of this habit, bird-catchers use the owl as a decoy for catching little birds of all kinds.

The so-called presbys or 'old man' is at war with the weasel and the crow, for they prey on her eggs and her brood; and so the turtle-dove with the pyrallis, for they live in the same districts and on the same food; and so with the green wood pecker and the libyus; and so with kite and the raven, for, owing to his having the advantage from stronger talons and more rapid flight the former can steal whatever the latter is holding, so that it is food also that makes enemies of these. In like manner there is war between birds that get their living from the sea, as between the brenthus, the gull, and the harpe; and so between the buzzard on one side and the toad and snake on the other, for the buzzard preys upon the eggs of the two others; and so between the turtle-dove and the chloreus; the chloreus kills the dove, and the crow kills the so-called drummer-bird.

The aegolius, and birds of prey in general, prey upon the calaris, and consequently there is war between it and them; and so is there war between the gecko-lizard and the spider, for the former preys upon the latter; and so between the woodpecker and the heron, for the former preys upon the eggs and brood of the latter. And so between the aegithus and the ass, owing to the fact that the ass, in passing a furze-bush, rubs its sore and itching parts against the prickles; by so doing, and all the more if it brays, it topples the eggs and the brood out of the nest, the young ones tumble out in fright, and the mother-bird, to avenge this wrong, flies at the beast and pecks at his sore places.

The wolf is at war with the ass, the bull, and the fox, for as being a carnivore, he attacks these other animals; and so for the same reason with the fox and the circus, for the circus, being carnivorous and furnished with crooked talons, attacks and maims the animal. And so the raven is at war with the bull and the ass, for it flies at them, and strikes them, and pecks at their eyes; and so with the eagle and the heron, for the former, having crooked talons, attacks the latter, and the latter usually succumbs to the attack; and so the merlin with the vulture; and the crex with the eleus-owl, the blackbird, and the oriole (of this latter bird, by the way, the story goes that he was originally born out of a funeral pyre): the cause of warfare is that the crex injures both them and their young. The nuthatch and the wren are at war with the eagle; the nuthatch breaks the eagle's eggs, so the eagle is at war with it on special grounds, though, as a bird of prey, it carries on a general war all round. The horse and the anthus are enemies, and the horse will drive the bird out of the field where he is grazing: the bird feeds on grass, and sees too dimly to foresee an attack; it mimics the whinnying of the horse, flies at him, and tries to frighten him away; but the horse drives the bird away, and whenever he catches it he kills it: this bird lives beside rivers or on marsh ground; it has pretty plumage, and finds its without trouble. The ass is at enmity with the lizard, for the lizard sleeps in his manger, gets into his nostril, and prevents his eating.

Of herons there are three kinds: the ash coloured, the white, and the starry heron (or bittern). Of these the first mentioned submits with reluctance to the duties of incubation, or to union of the sexes; in fact, it screams during the union, and it is said drips blood from its eyes; it lays its eggs also in an awkward manner, not unattended with pain. It is at war with certain creatures that do it injury: with the eagle for robbing it, with the fox for worrying it at night, and with the lark for stealing its eggs.

The snake is at war with the weasel and the pig; with the weasel when they are both at home, for they live on the same food; with the pig for preying on her kind. The merlin is at war with the fox; it strikes and claws it, and, as it has crooked talons, it kills the animal's young. The raven and the fox are good friends, for the raven is at enmity with the merlin; and so when the merlin assails the fox the raven comes and helps the animal. The vulture and the merlin are mutual enemies, as being both furnished with crooked talons. The vulture fights with the eagle, and so, by the way, does does swan; and the swan is often victorious: moreover, of all birds swans are most prone to the killing of one another.

In regard to wild creatures, some sets are at enmity with other sets at all times and under all circumstances; others, as in the case of man and man, at special times and under incidental circumstances. The ass and the acanthis are enemies; for the bird lives on thistles, and the ass browses on thistles when they are young and tender. The anthus, the acanthis, and the aegithus are at enmity with one another; it is said that the blood of the anthus will not intercommingle with the blood of the aegithus. The crow and the heron are friends, as also are the sedge-bird and lark, the laedus and the celeus or green woodpecker; the woodpecker lives on the banks of rivers and beside brakes, the laedus lives on rocks and bills, and is greatly attached to its nesting-place. The piphinx, the harpe, and the kite are friends; as are the fox and the snake, for both burrow underground; so also are the blackbird and the turtle-dove. The lion and the thos or civet are enemies, for both are carnivorous and live on the same food. Elephants fight fiercely with one another, and stab one another with their tusks; of two combatants the beaten one gets completely cowed, and dreads the sound of his conqueror's voice. These animals differ from one another an extraordinary extent in the way of courage. Indians employ these animals for war purposes, irrespective of sex; the females, however, are less in size and much inferior in point of spirit. An elephant by pushing with his big tusks can batter down a wall, and will butt with his forehead at a palm until he brings it down, when he stamps on it and lays it in orderly fashion on the ground. Men hunt the elephant in the following way: they mount tame elephants of approved spirit and proceed in quest of wild animals; when they come up with these they bid the tame brutes to beat the wild ones until they tire the latter completely. Hereupon the driver mounts a wild brute and guides him with the application of his metal prong; after this the creature soon becomes tame, and obeys guidance. Now when the driver is on their back they are all tractable, but after he has dismounted, some are tame and others vicious; in the case of these latter, they tie their front-legs with ropes to keep them quiet. The animal is hunted whether young or full grown.

Thus we see that in the case of the creatures above mentioned their mutual friendship or the is due to the food they feed on and the life they lead.

2

Of fishes, such as swim in shoals together are friendly to one another; such as do not so swim are enemies. Some fishes swarm during the spawning season; others after they have spawned. To state the matter comprehensively, we may say that the following are shoaling fish: the tunny, the maenis, the sea-gudgeon, the bogue, the horse-mackerel, the coracine, the synodon or dentex, the red mullet, the sphyraena, the anthias, the eleginus, the atherine, the sarginus, the gar-fish, (the squid,) the rainbow-wrasse, the pelamyd, the mackerel, the coly-mackerel. Of these some not only swim in shoals, but go in pairs inside the shoal; the rest without exception swim in pairs, and only swim in shoals at certain periods: that is, as has been said, when they are heavy with spawn or after they have spawned.

The basse and the grey mullet are bitter enemies, but they swarm together at certain times; for at times not only do fishes of the same species swarm together, but also those whose feeding-grounds are identical or adjacent, if the food-supply be abundant. The grey mullet is often found alive with its tail lopped off, and the conger with all that part of its body removed that lies to the rear of the vent; in the case of the mullet the injury is wrought by the basse, in that of the conger-eel by the muraena. There is war between the larger and the lesser fishes: for the big fishes prey on the little ones. So much on the subject of marine animals.

3

The characters of animals, as has been observed, differ in respect to timidity, to gentleness, to courage, to tameness, to intelligence, and to stupidity.

The sheep is said to be naturally dull and stupid. Of all quadrupeds it is the most foolish: it will saunter away to lonely places with no object in view; oftentimes in stormy weather it will stray from shelter; if it be overtaken by a snowstorm, it will stand still unless the shepherd sets it in motion; it will stay behind and perish unless the shepherd brings up the rams; it will then follow home.

If you catch hold of a goat’s beard at the extremity-the beard is of a substance resembling hair-all the companion goats will stand stock still, staring at this particular goat in a kind of dumbfounderment.

You will have a warmer bed in amongst the goats than among the sheep, because the goats will be quieter and will creep up towards you; for the goat is more impatient of cold than the sheep.

Shepherds train sheep to close in together at a clap of their hands, for if, when a thunderstorm comes on, a ewe stays behind without closing in, the storm will kill it if it be with young; consequently if a sudden clap or noise is made, they close in together within the sheepfold by reason of their training.

Even bulls, when they are roaming by themselves apart from the herd, are killed by wild animals.

Sheep and goats lie crowded together, kin by kin. When the sun turns early towards its setting, the goats are said to lie no longer face to face, but back to back.

4

Cattle at pasture keep together in their accustomed herds, and if one animal strays away the rest will follow; consequently if the herdsmen lose one particular animal, they keep close watch on all the rest.

When mares with their colts pasture together in the same field, if one dam dies the others will take up the rearing of the colt. In point of fact, the mare appears to be singularly prone by nature to maternal fondness; in proof whereof a barren mare will steal the foal from its dam, will tend it with all the solicitude of a mother, but, as it will be unprovided with mother's milk, its solicitude will prove fatal to its charge.

5

Among wild quadrupeds the hind appears to be pre-eminently intelligent; for example, in its habit of bringing forth its young on the sides of public roads, where the fear of man forbids the approach of wild animals. Again, after parturition, it first swallows the afterbirth, then goes in quest of the seseli shrub, and after eating of it returns to its young. The mother takes its young betimes to her lair, so leading it to know its place of refuge in time of danger; this lair is a precipitous rock, with only one approach, and there it is said to hold its own against all comers. The male when it gets fat, which it does in a high degree in autumn, disappears, abandoning its usual resorts, apparently under an idea that its fatness facilitates its capture. They shed their horns in places difficult of access or discovery, whence the proverbial expression of 'the place where the stag sheds his horns'; the fact being that, as having parted with their weapons, they take care not to be seen. The saying is that no man has ever seen the animal’s left horn; that the creature keeps it out of sight because it possesses some medicinal property.

In their first year stags grow no horns, but only an excrescence indicating where horns will be, this excrescence being short and thick. In their second year they grow their horns for the first time, straight in shape, like pegs for hanging clothes on; and on this account they have an appropriate nickname. In the third year the antlers are bifurcate; in the fourth year they grow trifurcate; and so they go on increasing in complexity until the creature is six years old: after this they grow their horns without any specific differentiation, so that you cannot by observation of them tell the animal’s age. But the patriarchs of the herd may be told chiefly by two signs; in the first place they have few teeth or none at all, and, in the second place, they have ceased to grow the pointed tips to their antlers. The forward-pointing tips of the growing horns (that is to say the brow antlers), with which the animal meets attack, are technically termed its ‘defenders’; with these the patriarchs are unprovided, and their antlers merely grow straight upwards. Stags shed their horns annually, in or about the month of May; after shedding, they conceal themselves, it is said, during the daytime, and, to avoid the flies, hide in thick copses; during this time, until they have grown their horns, they feed at night-time. The horns at first grow in a kind of skin envelope, and get rough by degrees; when they reach their full size the animal basks in the sun, to mature and dry them. When they need no longer rub them against tree-trunks they quit their hiding places, from a sense of security based upon the possession of arms defensive and offensive. An Achaeine stag has been caught with a quantity of green ivy grown over its horns, it having grown apparently, as on fresh green wood, when the horns were young and tender. When a stag is stung by a venom-spider or similar insect, it gathers crabs and eats them; it is said to be a good thing for man to drink the juice, but the taste is disagreeable. The hinds after parturition at once swallow the afterbirth, and it is impossible to secure it, for the hind catches it before it falls to the ground: now this substance is supposed to have medicinal properties. When hunted the creatures are caught by singing or pipe-playing on the part of the hunters; they are so pleased with the music that they lie down on the grass. If there be two hunters, one before their eyes sings or plays the pipe, the other keeps out of sight and shoots, at a signal given by the confederate. If the animal has its ears cocked, it can hear well and you cannot escape its ken; if its ears are down, you can.

6

When bears are running away from their pursuers they push their cubs in front of them, or take them up and carry them; when they are being overtaken they climb up a tree. When emerging from their winter-den, they at once take to eating cuckoo-pint, as has been said, and chew sticks of wood as though they were cutting teeth.

Many other quadrupeds help themselves in clever ways. Wild goats in Crete are said, when wounded by arrows, to go in search of dittany, which is supposed to have the property of ejecting arrows in the body. Dogs, when they are ill, eat some kind of grass and produce vomiting. The panther, after eating panther's-bane, tries to find some human excrement, which is said to heal its pain. This panther's-bane kills lions as well. Hunters hang up human excrement in a vessel attached to the boughs of a tree, to keep the animal from straying to any distance; the animal meets its end in leaping up to the branch and trying to get at the medicine. They say that the panther has found out that wild animals are fond of the scent it emits; that, when it goes a-hunting, it hides itself; that the other animals come nearer and nearer, and that by this stratagem it can catch even animals as swift of foot as stags.

The Egyptian ichneumon, when it sees the serpent called the asp, does not attack it until it has called in other ichneumons to help; to meet the blows and bites of their enemy the assailants beplaster themselves with mud, by first soaking in the river and then rolling on the ground.

When the crocodile yawns, the trochilus flies into his mouth and cleans his teeth. The trochilus gets his food thereby, and the crocodile gets ease and comfort; it makes no attempt to injure its little friend, but, when it wants it to go, it shakes its neck in warning, lest it should accidentally bite the bird.

The tortoise, when it has partaken of a snake, eats marjoram; this action has been actually observed. A man saw a tortoise perform this operation over and over again, and every time it plucked up some marjoram go back to partake of its prey; he thereupon pulled the marjoram up by the roots, and the consequence was the tortoise died. The weasel, when it fights with a snake, first eats wild rue, the smell of which is noxious to the snake. The dragon, when it eats fruit, swallows endive-juice; it has been seen in the act. Dogs, when they suffer from worms, eat the standing corn. Storks, and all other birds, when they get a wound fighting, apply marjoram to the place injured.

Many have seen the locust, when fighting with the snake get a tight hold of the snake by the neck. The weasel has a clever way of getting the better of birds; it tears their throats open, as wolves do with sheep. Weasels fight desperately with mice-catching snakes, as they both prey on the same animal.

In regard to the instinct of hedgehogs, it has been observed in many places that, when the wind is shifting from north to south, and from south to north, they shift the outlook of their earth-holes, and those that are kept in domestication shift over from one wall to the other. The story goes that a man in Byzantium got into high repute for foretelling a change of weather, all owing to his having noticed this habit of the hedgehog.

The polecat or marten is about as large as the smaller breed of Maltese dogs. In the thickness of its fur, in its look, in the white of its belly, and in its love of mischief, it resembles the weasel; it is easily tamed; from its liking for honey it is a plague to bee-hives; it preys on birds like the cat. Its genital organ, as has been said, consists of bone: the organ of the male is supposed to be a cure for strangury; doctors scrape it into powder, and administer it in that form.

7

In a general way in the lives of animals many resemblances to human life may be observed. Pre-eminent intelligence will be seen more in small creatures than in large ones, as is exemplified in the case of birds by the nest building of the swallow. In the same way as men do, the bird mixes mud and chaff together; if it runs short of mud, it souses its body in water and rolls about in the dry dust with wet feathers; furthermore, just as man does, it makes a bed of straw, putting hard material below for a foundation, and adapting all to suit its own size. Both parents co-operate in the rearing of the young; each of the parents will detect, with practised eye, the young one that has had a helping, and will take care it is not helped twice over; at first the parents will rid the nest of excrement, but, when the young are grown, they will teach their young to shift their position and let their excrement fall over the side of the nest.

Pigeons exhibit other phenomena with a similar likeness to the ways of humankind. In pairing the same male and the same female keep together; and the union is only broken by the death of one of the two parties. At the time of parturition in the female the sympathetic attentions of the male are extraordinary; if the female is afraid on account of the impending parturition to enter the nest, the male will beat her and force her to come in. When the young are born, he will take and masticate pieces of suitable food, will open the beaks of the fledglings, and inject these pieces, thus preparing them betimes to take food. (When the male bird is about to expel the the young ones from the nest he cohabits with them all.) As a general rule these birds show this conjugal fidelity, but occasionally a female will cohabit with other than her mate. These birds are combative, and quarrel with one another, and enter each other's nests, though this occurs but seldom; at a distance from their nests this quarrelsomeness is less marked, but in the close neighbourhood of their nests they will fight desperately. A peculiarity common to the tame pigeon, the ring-dove and the turtle-dove is that they do not lean the head back when they are in the act of drinking, but only when they have fully quenched their thirst. The turtle-dove and the ring-dove both have but one mate, and let no other come nigh; both sexes co-operate in the process of incubation. It is difficult to distinguish between the sexes except by an examination of their interiors. Ring-doves are long-lived; cases have been known where such birds were twenty-five years old, thirty years old, and in some cases forty. As they grow old their claws increase in size, and pigeon-fanciers cut the claws; as far as one can see, the birds suffer no other perceptible disfigurement by their increase in age. Turtle-doves and pigeons that are blinded by fanciers for use as decoys, live for eight years. Partridges live for about fifteen years. Ring-doves and turtle-doves always build their nests in the same place year after year. The male, as a general rule, is more long-lived than the female; but in the case of pigeons some assert that the male dies before the female, taking their inference from the statements of persons who keep decoy-birds in captivity. Some declare that the male sparrow lives only a year, pointing to the fact that early in spring the male sparrow has no black beard, but has one later on, as though the blackbearded birds of the last year had all died out; they also say that the females are the longer lived, on the grounds that they are caught in amongst the young birds and that their age is rendered manifest by the hardness about their beaks.

Turtle-doves in summer live in cold places, (and in warm places during the winter); chaffinches affect warm habitations in summer and cold ones in winter.

8

Birds of a heavy build, such as quails, partridges, and the like, build no nests; indeed, where they are incapable of flight, it would be of no use if they could do so. After scraping a hole on a level piece of ground-and it is only in such a place that they lay their eggs-they cover it over with thorns and sticks for security against hawks and eagles, and there lay their eggs and hatch them; after the hatching is over, they at once lead the young out from the nest, as they are not able to fly afield for food for them. Quails and partridges, like barn-door hens, when they go to rest, gather their brood under their wings. Not to be discovered, as might be the case if they stayed long in one spot, they do not hatch the eggs where they laid them. When a man comes by chance upon a young brood, and tries to catch them, the hen-bird rolls in front of the hunter, pretending to be lame: the man every moment thinks he is on the point of catching her, and so she draws him on and on, until every one of her brood has had time to escape; hereupon she returns to the nest and calls the young back. The partridge lays not less than ten eggs, and often lays as many as sixteen. As has been observed, the bird has mischievous and deceitful habits. In the spring-time, a noisy scrimmage takes place, out of which the male-birds emerge each with a hen. Owing to the lecherous nature of the bird, and from a dislike to the hen sitting, the males, if they find any eggs, roll them over and over until they break them in pieces; to provide against this the female goes to a distance and lays the eggs, and often, under the stress of parturition, lays them in any chance spot that offers; if the male be near at hand, then to keep the eggs intact she refrains from visiting them. If she be seen by a man, then, just as with her fledged brood, she entices him off by showing herself close at his feet until she has drawn him to a distance. When the females have run away and taken to sitting, the males in a pack take to screaming and fighting; when thus engaged, they have the nickname of ‘widowers’. The bird who is beaten follows his victor, and submits to be covered by him only; and the beaten bird is covered by a second one or by any other, only clandestinely without the victor’s knowledge; this is so, not at all times, but at a particular season of the year, and with quails as well as with partridges. A similar proceeding takes place occasionally with barn-door cocks: for in temples, where cocks are set apart as dedicate without hens, they all as a matter of course tread any new-comer. Tame partridges tread wild birds, pecket their heads, and treat them with every possible outrage. The leader of the wild birds, with a counter-note of challenge, pushes forward to attack the decoy-bird, and after he has been netted, another advances with a similar note. This is what is done if the decoy be a male; but if it be a female that is the decoy and gives the note, and the leader of the wild birds give a counter one, the rest of the males set upon him and chase him away from the female for making advances to her instead of to them; in consequence of this the male often advances without uttering any cry, so that no other may hear him and come and give him battle; and experienced fowlers assert that sometimes the male bird, when he approaches the female, makes her keep silence, to avoid having to give battle to other males who might have heard him. The partridge has not only the note here referred to, but also a thin shrill cry and other notes. Oftentimes the hen-bird rises from off her brood when she sees the male showing attentions to the female decoy; she will give the counter note and remain still, so as to be trodden by him and divert him from the decoy. The quail and the partridge are so intent upon sexual union that they often come right in the way of the decoy-birds, and not seldom alight upon their heads. So much for the sexual proclivities of the partridge, for the way in which it is hunted, and the general nasty habits of the bird.

As has been said, quails and partridges build their nests upon the ground, and so also do some of the birds that are capable of sustained flight. Further, for instance, of such birds, the lark and the woodcock, as well as the quail, do not perch on a branch, but squat upon the ground.

9

The woodpecker does not squat on the ground, but pecks at the bark of trees to drive out from under it maggots and gnats; when they emerge, it licks them up with its tongue, which is large and flat. It can run up and down a tree in any way, even with the head downwards, like the gecko-lizard. For secure hold upon a tree, its claws are better adapted than those of the daw; it makes its way by sticking these claws into the bark. One species of woodpecker is smaller than a blackbird, and has small reddish speckles; a second species is larger than the blackbird, and a third is not much smaller than a barn-door hen. It builds a nest on trees, as has been said, on olive trees amongst others. It feeds on the maggots and ants that are under the bark: it is so eager in the search for maggots that it is said sometimes to hollow a tree out to its downfall. A woodpecker once, in course of domestication, was seen to insert an almond into a hole in a piece of timber, so that it might remain steady under its pecking; at the third peck it split the shell of the fruit, and then ate the kernel.

10

Many indications of high intelligence are given by cranes. They will fly to a great distance and up in the air, to command an extensive view; if they see clouds and signs of bad weather they fly down again and remain still. They, furthermore, have a leader in their flight, and patrols that scream on the confines of the flock so as to be heard by all. When they settle down, the main body go to sleep with their heads under their wing, standing first on one leg and then on the other, while their leader, with his head uncovered, keeps a sharp look out, and when he sees anything of importance signals it with a cry.

Pelicans that live beside rivers swallow the large smooth mussel-shells: after cooking them inside the crop that precedes the stomach, they spit them out, so that, now when their shells are open, they may pick the flesh out and eat it.

11

Of wild birds, the nests are fashioned to meet the exigencies of existence and ensure the security of the young. Some of these birds are fond of their young and take great care of them, others are quite the reverse; some are clever in procuring subsistence, others are not so. Some of these birds build in ravines and clefts, and on cliffs, as, for instance, the so-called charadrius, or stone-curlew; this bird is in no way noteworthy for plumage or voice; it makes an appearance at night, but in the daytime keeps out of sight.

The hawk also builds in inaccessible places. Although a ravenous bird, it will never eat the heart of any bird it catches; this has been observed in the case of the quail, the thrush, and other birds. They modify betimes their method of hunting, for in summer they do not grab their prey as they do at other seasons.

Of the vulture, it is said that no one has ever seen either its young or its nest; on this account and on the ground that all of a sudden great numbers of them will appear without any one being able to tell from whence they come, Herodorus, the father of Bryson the sophist, says that it belongs to some distant and elevated land. The reason is that the bird has its nest on inaccessible crags, and is found only in a few localities. The female lays one egg as a rule, and two at the most.

Some birds live on mountains or in forests, as the hoopoe and the brenthus; this latter bird finds his food with ease and has a musical voice. The wren lives in brakes and crevices; it is difficult of capture, keeps out of sight, is gentle of disposition, finds its food with ease, and is something of a mechanic. It goes by the nickname of ‘old man’ or ‘king’; and the story goes that for this reason the eagle is at war with him.

12

Some birds live on the sea-shore, as the wagtail; the bird is of a mischievous nature, hard to capture, but when caught capable of complete domestication; it is a cripple, as being weak in its hinder quarters.

Web-footed birds without exception live near the sea or rivers or pools, as they naturally resort to places adapted to their structure. Several birds, however, with cloven toes live near pools or marshes, as, for instance, the anthus lives by the side of rivers; the plumage of this bird is pretty, and it finds its food with ease. The catarrhactes lives near the sea; when it makes a dive, it will keep under water for as long as it would take a man to walk a furlong; it is less than the common hawk. Swans are web-footed, and live near pools and marshes; they find their food with ease, are good-tempered, are fond of their young, and live to a green old age. If the eagle attacks them they will repel the attack and get the better of their assailant, but they are never the first to attack. They are musical, and sing chiefly at the approach of death; at this time they fly out to sea, and men, when sailing past the coast of Libya, have fallen in with many of them out at sea singing in mournful strains, and have actually seen some of them dying.

The cymindis is seldom seen, as it lives on mountains; it is black in colour, and about the size of the hawk called the ‘dove-killer’; it is long and slender in form. The Ionians call the bird by this name; Homer in the Iliad mentions it in the line:

Chalcis its name with those of heavenly birth,
But called Cymindis by the sons of earth.

The hybris, said by some to be the same as the eagle-owl, is never seen by daylight, as it is dim-sighted, but during the night it hunts like the eagle; it will fight the eagle with such desperation that the two combatants are often captured alive by shepherds; it lays two eggs, and, like others we have mentioned, it builds on rocks and in caverns. Cranes also fight so desperately among themselves as to be caught when fighting, for they will not leave off; the crane lays two eggs.

13

The jay has a great variety of notes: indeed, might almost say it had a different note for every day in the year. It lays about nine eggs; builds its nest on trees, out of hair and tags of wool; when acorns are getting scarce, it lays up a store of them in hiding.

It is a common story of the stork that the old birds are fed by their grateful progeny. Some tell a similar story of the bee-eater, and declare that the parents are fed by their young not only when growing old, but at an early period, as soon as the young are capable of feeding them; and the parent-birds stay inside the nest. The under part of the bird’s wing is pale yellow; the upper part is dark blue, like that of the halcyon; the tips of the wings are About autumn-time it lays six or seven eggs, in overhanging banks where the soil is soft; there it burrows into the ground to a depth of six feet.

The greenfinch, so called from the colour of its belly, is as large as a lark; it lays four or five eggs, builds its nest out of the plant called comfrey, pulling it up by the roots, and makes an under-mattress to lie on of hair and wool. The blackbird and the jay build their nests after the same fashion. The nest of the penduline tit shows great mechanical skill; it has the appearance of a ball of flax, and the hole for entry is very small.

People who live where the bird comes from say that there exists a cinnamon bird which brings the cinnamon from some unknown localities, and builds its nest out of it; it builds on high trees on the slender top branches. They say that the inhabitants attach leaden weights to the tips of their arrows and therewith bring down the nests, and from the intertexture collect the cinnamon sticks.

14

The halcyon is not much larger than the sparrow. Its colour is dark blue, green, and light purple; the whole body and wings, and especially parts about the neck, show these colours in a mixed way, without any colour being sharply defined; the beak is light green, long and slender: such, then, is the look of the bird. Its nest is like sea-balls, i.e. the things that by the name of halosachne or seafoam, only the colour is not the same. The colour of the nest is light red, and the shape is that of the long-necked gourd. The nests are larger than the largest sponge, though they vary in size; they are roofed over, and great part of them is solid and great part hollow. If you use a sharp knife it is not easy to cut the nest through; but if you cut it, and at the same time bruise it with your hand, it will soon crumble to pieces, like the halosachne. The opening is small, just enough for a tiny entrance, so that even if the nest upset the sea does not enter in; the hollow channels are like those in sponges. It is not known for certain of what material the nest is constructed; it is possibly made of the backbones of the gar-fish; for, by the way, the bird lives on fish. Besides living on the shore, it ascends fresh-water streams. It lays generally about five eggs, and lays eggs all its life long, beginning to do so at the age of four months.

15

The hoopoe usually constructs its nest out of human excrement. It changes its appearance in summer and in winter, as in fact do the great majority of wild birds. (The titmouse is said to lay a very large quantity of eggs: next to the ostrich the blackheaded tit is said by some to lay the largest number of eggs; seventeen eggs have been seen; it lays, however, more than twenty; it is said always to lay an odd number. Like others we have mentioned, it builds in trees; it feeds on caterpillars.) A peculiarity of this bird and of the nightingale is that the outer extremity of the tongue is not sharp-pointed.

The aegithus finds its food with ease, has many young, and walks with a limp. The golden oriole is apt at learning, is clever at making a living, but is awkward in flight and has an ugly plumage.

16

The reed-warbler makes its living as easily as any other bird, sits in summer in a shady spot facing the wind, in winter in a sunny and sheltered place among reeds in a marsh; it is small in size, with a pleasant note. The so-called chatterer has a pleasant note, beautiful plumage, makes a living cleverly, and is graceful in form; it appears to be alien to our country; at all events it is seldom seen at a distance from its own immediate home.

17

The crake is quarrelsome, clever at making a living, but in other ways an unlucky bird. The bird called sitta is quarrelsome, but clever and tidy, makes its living with ease, and for its knowingness is regarded as uncanny; it has a numerous brood, of which it is fond, and lives by pecking the bark of trees. The aegolius-owl flies by night, is seldom seen by day; like others we have mentioned, it lives on cliffs or in caverns; it feeds on two kinds of food; it has a strong hold on life and is full of resource. The tree-creeper is a little bird, of fearless disposition; it lives among trees, feeds on caterpillars, makes a living with ease, and has a loud clear note. The acanthis finds its food with difficulty; its plumage is poor, but its note is musical.

18

Of the herons, the ashen-coloured one, as has been said, unites with the female not without pain; it is full of resource, carries its food with it, is eager in the quest of it, and works by day; its plumage is poor, and its excrement is always wet. Of the other two species-for there are three in all-the white heron has handsome plumage, unites without harm to itself with the female, builds a nest and lays its eggs neatly in trees; it frequents marshes and lakes and Plains and meadow land. The speckled heron, which is nicknamed ‘the skulker’, is said in folklore stories to be of servile origin, and, as its nickname implies, it is the laziest bird of the three species. Such are the habits of herons. The bird that is called the poynx has this peculiarity, that it is more prone than any other bird to peck at the eyes of an assailant or its prey; it is at war with the harpy, as the two birds live on the same food.

19

There are two kinds of owsels; the one is black, and is found everywhere, the other is quite white, about the same size as the other, and with the same pipe. This latter is found on Cyllene in Arcadia, and is found nowhere else. The laius, or blue-thrush, is like the black owsel, only a little smaller; it lives on cliffs or on tile roofings; it has not a red beak as the black owsel has.

20

Of thrushes there are three species. One is the misselthrush; it feeds only on mistletoe and resin; it is about the size of the jay. A second is the song-thrush; it has a sharp pipe, and is about the size of the owsel. There is another species called the Illas; it is the smallest species of the three, and is less variegated in plumage than the others.

21

There is a bird that lives on rocks, called the blue-bird from its colour. It is comparatively common in Nisyros, and is somewhat less than the owsel and a little bigger than the chaffinch. It has large claws, and climbs on the face of the rocks. It is steel-blue all over; its beak is long and slender; its legs are short, like those of the woodpecker.

22

The oriole is yellow all over; it is not visible during winter, but puts in an appearance about the time of the summer solstice, and departs again at the rising of Arcturus; it is the size of the turtle-dove. The so-called soft-head (or shrike) always settles on one and the same branch, where it falls a prey to the birdcatcher. Its head is big, and composed of gristle; it is a little smaller than the thrush; its beak is strong, small, and round; it is ashen-coloured all over; is fleet of foot, but slow of wing. The bird-catcher usually catches it by help of the owl.

23

There is also the pardalus. As a rule, it is seen in flocks and not singly; it is ashen-coloured all over, and about the size of the birds last described; it is fleet of foot and strong of wing, and its pipe is loud and high-pitched. The collyrion (or fieldfare) feeds on the same food as the owsel; is of the same size as the above mentioned birds; and is trapped usually in the winter. All these birds are found at all times. Further, there are the birds that live as a rule in towns, the raven and the crow. These also are visible at all seasons, never shift their place of abode, and never go into winter quarters.

24

Of daws there are three species. One is the chough; it is as large as the crow, but has a red beak. There is another, called the ‘wolf’; and further there is the little daw, called the ‘railer’. There is another kind of daw found in Lybia and Phrygia, which is web-footed.

25

Of larks there are two kinds. One lives on the ground and has a crest on its head; the other is gregarious, and not sporadic like the first; it is, however, of the same coloured plumage, but is smaller, and has no crest; it is an article of human food.

26

The woodcock is caught with nets in gardens. It is about the size of a barn-door hen; it has a long beak, and in plumage is like the francolin-partridge. It runs quickly, and is pretty easily domesticated. The starling is speckled; it is of the same size as the owsel.

27

Of the Egyptian ibis there are two kinds, the white and the black. The white ones are found over Egypt, excepting in Pelusium; the black ones are found in Pelusium, and nowhere else in Egypt.

28

Of the little horned owls there are two kinds, and one is visible at all seasons, and for that reason has the nickname of ‘all-the-year-round owl’; it is not sufficiently palatable to come to table; another species makes its appearance sometimes in the autumn, is seen for a single day or at the most for two days, and is regarded as a table delicacy; it scarcely differs from the first species save only in being fatter; it has no note, but the other species has. With regard to their origin, nothing is known from ocular observation; the only fact known for certain is that they are first seen when a west wind is blowing.

29

The cuckoo, as has been said elsewhere, makes no nest, but deposits its eggs in an alien nest, generally in the nest of the ring-dove, or on the ground in the nest of the hypolais or lark, or on a tree in the nest of the green linnet. it lays only one egg and does not hatch it itself, but the mother-bird in whose nest it has deposited it hatches and rears it; and, as they say, this mother bird, when the young cuckoo has grown big, thrusts her own brood out of the nest and lets them perish; others say that this mother-bird kills her own brood and gives them to the alien to devour, despising her own young owing to the beauty of the cuckoo. Personal observers agree in telling most of these stories, but are not in agreement as to the instruction of the young. Some say that the mother-cuckoo comes and devours the brood of the rearing mother; others say that the young cuckoo from its superior size snaps up the food brought before the smaller brood have a chance, and that in consequence the smaller brood die of hunger; others say that, by its superior strength, it actually kills the other ones whilst it is being reared up with them. The cuckoo shows great sagacity in the disposal of its progeny; the fact is, the mother cuckoo is quite conscious of her own cowardice and of the fact that she could never help her young one in an emergency, and so, for the security of the young one, she makes of him a supposititious child in an alien nest. The truth is, this bird is pre-eminent among birds in the way of cowardice; it allows itself to be pecked at by little birds, and flies away from their attacks.

30

It has already been stated that the footless bird, which some term the cypselus, resembles the swallow; indeed, it is not easy to distinguish between the two birds, excepting in the fact that the cypselus has feathers on the shank. These birds rear their young in long cells made of mud, and furnished with a hole just big enough for entry and exit; they build under cover of some roofing-under a rock or in a cavern-for protection against animals and men.

The so-called goat-sucker lives on mountains; it is a little larger than the owsel, and less than the cuckoo; it lays two eggs, or three at the most, and is of a sluggish disposition. It flies up to the she-goat and sucks its milk, from which habit it derives its name; it is said that, after it has sucked the teat of the animal, the teat dries up and the animal goes blind. It is dim-sighted in the day-time, but sees well enough by night.

31

In narrow circumscribed districts where the food would be insufficient for more birds than two, ravens are only found in isolated pairs; when their young are old enough to fly, the parent couple first eject them from the nest, and by and by chase them from the neighbourhood. The raven lays four or five eggs. About the time when the mercenaries under Medius were slaughtered at Pharsalus, the districts about Athens and the Peloponnese were left destitute of ravens, from which it would appear that these birds have some means of intercommunicating with one another.

32

Of eagles there are several species. One of them, called ‘the white-tailed eagle’, is found on low lands, in groves, and in the neighbourhood of cities; some call it the ‘heron-killer’. It is bold enough to fly to mountains and the interior of forests. The other eagles seldom visit groves or low-lying land. There is another species called the ‘plangus’; it ranks second in point of size and strength; it lives in mountain combes and glens, and by marshy lakes, and goes by the name of ‘duck-killer’ and ‘swart-eagle.’ It is mentioned by Homer in his account of the visit made by Priam to the tent of Achilles. There is another species with black Plumage, the smallest but boldest of all the kinds. It dwells on mountains or in forests, and is called ‘the black-eagle’ or ‘the hare-killer’; it is the only eagle that rears its young and thoroughly takes them out with it. It is swift of flight, is neat and tidy in its habits, too proud for jealousy, fearless, quarrelsome; it is also silent, for it neither whimpers nor screams. There is another species, the percnopterus, very large, with white head, very short wings, long tail-feathers, in appearance like a vulture. It goes by the name of ‘mountain-stork’ or ‘half-eagle’. It lives in groves; has all the bad qualities of the other species, and none of the good ones; for it lets itself be chased and caught by the raven and the other birds. It is clumsy in its movements, has difficulty in procuring its food, preys on dead animals, is always hungry, and at all times whining and screaming. There is another species, called the ‘sea-eagle’ or ‘osprey’. This bird has a large thick neck, curved wings, and broad tailfeathers; it lives near the sea, grasps its prey with its talons, and often, from inability to carry it, tumbles down into the water. There is another species called the ‘true-bred’; people say that these are the only true-bred birds to be found, that all other birds-eagles, hawks, and the smallest birds-are all spoilt by the interbreeding of different species. The true-bred eagle is the largest of all eagles; it is larger than the phene; is half as large again as the ordinary eagle, and has yellow plumage; it is seldom seen, as is the case with the so-called cymindis. The time for an eagle to be on the wing in search of prey is from midday to evening; in the morning until the market-hour it remains on the nest. In old age the upper beak of the eagle grows gradually longer and more crooked, and the bird dies eventually of starvation; there is a folklore story that the eagle is thus punished because it once was a man and refused entertainment to a stranger. The eagle puts aside its superfluous food for its young; for owing to the difficulty in procuring food day by day, it at times may come back to the nest with nothing. If it catch a man prowling about in the neighbourhood of its nest, it will strike him with its wings and scratch him with its talons. The nest is built not on low ground but on an elevated spot, generally on an inaccessible ledge of a cliff; it does, however, build upon a tree. The young are fed until they can fly; hereupon the parent-birds topple them out of the nest, and chase them completely out of the locality. The fact is that a pair of eagles demands an extensive space for its maintenance, and consequently cannot allow other birds to quarter themselves in close neighbourhood. They do not hunt in the vicinity of their nest, but go to a great distance to find their prey. When the eagle has captured a beast, it puts it down without attempting to carry it off at once; if on trial it finds the burden too heavy, it will leave it. When it has spied a hare, it does not swoop on it at once, but lets it go on into the open ground; neither does it descend to the ground at one swoop, but goes gradually down from higher flights to lower and lower: these devices it adopts by way of security against the stratagem of the hunter. It alights on high places by reason of the difficulty it experiences in soaring up from the level ground; it flies high in the air to have the more extensive view; from its high flight it is said to be the only bird that resembles the gods. Birds of prey, as a rule, seldom alight upon rock, as the crookedness of their talons prevents a stable footing on hard stone. The eagle hunts hares, fawns, foxes, and in general all such animals as he can master with ease. It is a long-lived bird, and this fact might be inferred from the length of time during which the same nest is maintained in its place.

33

In Scythia there is found a bird as large as the great bustard. The female lays two eggs, but does not hatch them, but hides them in the skin of a hare or fox and leaves them there, and, when it is not in quest of prey, it keeps a watch on them on a high tree; if any man tries to climb the tree, it fights and strikes him with its wing, just as eagles do.

34

The owl and the night-raven and all the birds see poorly in the daytime seek their prey in the night, but not all the night through, but at evening and dawn. Their food consists of mice, lizards, chafers and the like little creatures. The so-called phene, or lammergeier, is fond of its young, provides its food with ease, fetches food to its nest, and is of a kindly disposition. It rears its own young and those of the eagle as well; for when the eagle ejects its young from the nest, this bird catches them up as they fall and feeds them. For the eagle, by the way, ejects the young birds prematurely, before they are able to feed themselves, or to fly. It appears to do so from jealousy; for it is by nature jealous, and is so ravenous as to grab furiously at its food; and when it does grab at its food, it grabs it in large morsels. It is accordingly jealous of the young birds as they approach maturity, since they are getting good appetites, and so it scratches them with its talons. The young birds fight also with one another, to secure a morsel of food or a comfortable position, whereupon the mother-bird beats them and ejects them from the nest; the young ones scream at this treatment, and the phene hearing them catches them as they fall. The phene has a film over its eyes and sees badly, but the sea-eagle is very keen-sighted, and before its young are fledged tries to make them stare at the sun, and beats the one that refuses to do so, and twists him back in the sun's direction; and if one of them gets watery eyes in the process, it kills him, and rears the other. It lives near the sea, and feeds, as has been said, on sea-birds; when in pursuit of them it catches them one by one, watching the moment when the bird rises to the surface from its dive. When a sea-bird, emerging from the water, sees the sea-eagle, he in terror dives under, intending to rise again elsewhere; the eagle, however, owing to its keenness of vision, keeps flying after him until he either drowns the bird or catches him on the surface. The eagle never attacks these birds when they are in a swarm, for they keep him off by raising a shower of water-drops with their wings.

35

The cepphus is caught by means of sea-foam; the bird snaps at the foam, and consequently fishermen catch it by sluicing with showers of sea-water. These birds grow to be plump and fat; their flesh has a good odour, excepting the hinder quarters, which smell of shoreweed.

36

Of hawks, the strongest is the buzzard; the next in point of courage is the merlin; and the circus ranks third; other diverse kinds are the asterias, the pigeon-hawk, and the pternis; the broaded-winged hawk is called the half-buzzard; others go by the name of hobby-hawk, or sparrow-hawk, or 'smooth-feathered', or 'toad-catcher'. Birds of this latter species find their food with very little difficulty, and flutter along the ground. Some say that there are ten species of hawks, all differing from one another. One hawk, they say, will strike and grab the pigeon as it rests on the ground, but never touch it while it is in flight; another hawk attacks the pigeon when it is perched upon a tree or any elevation, but never touches it when it is on the ground or on the wing; other hawks attack their prey only when it is on the wing. They say that pigeons can distinguish the various species: so that, when a hawk is an assailant, if it be one that attacks its prey when the prey is on the wing, the pigeon will sit still; if it be one that attacks sitting prey, the pigeon will rise up and fly away.

In Thrace, in the district sometimes called that of Cedripolis, men hunt for little birds in the marshes with the aid of hawks. The men with sticks in their hands go beating at the reeds and brushwood to frighten the birds out, and the hawks show themselves overhead and frighten them down. The men then strike them with their sticks and capture them. They give a portion of their booty to the hawks; that is, they throw some of the birds up in the air, and the hawks catch them.

In the neighbourhood of Lake Maeotis, it is said, wolves act in concert with the fishermen, and if the fishermen decline to share with them, they tear their nets in pieces as they lie drying on the shore of the lake.

37

So much for the habits of birds.

In marine creatures, also, one In marine creatures, also, one may observe many ingenious devices adapted to the circumstances of their lives. For the accounts commonly given of the so-called fishing-frog are quite true; as are also those given of the torpedo. The fishing-frog has a set of filaments that project in front of its eyes; they are long and thin like hairs, and are round at the tips; they lie on either side, and are used as baits. Accordingly, when the animal stirs up a place full of sand and mud and conceals itself therein, it raises the filaments, and, when the little fish strike against them, it draws them in underneath into its mouth. The torpedo narcotizes the creatures that it wants to catch, overpowering them by the power of shock that is resident in its body, and feeds upon them; it also hides in the sand and mud, and catches all the creatures that swim in its way and come under its narcotizing influence. This phenomenon has been actually observed in operation. The sting-ray also conceals itself, but not exactly in the same way. That the creatures get their living by this means is obvious from the fact that, whereas they are peculiarly inactive, they are often caught with mullets in their interior, the swiftest of fishes. Furthermore, the fishing-frog is unusually thin when he is caught after losing the tips of his filaments, and the torpedo is known to cause a numbness even in human beings. Again, the hake, the ray, the flat-fish, and the angelfish burrow in the sand, and after concealing themselves angle with the filaments on their mouths, that fishermen call their fishing-rods, and the little creatures on which they feed swim up to the filaments taking them for bits of sea-weed, such as they feed upon.

Wherever an anthias-fish is seen, there will be no dangerous creatures in the vicinity, and sponge-divers will dive in security, and they call these signal-fishes ‘holy-fish’. It is a sort of perpetual coincidence, like the fact that wherever snails are present you may be sure there is neither pig nor partridge in the neighbourhood; for both pig and partridge eat up the snails.

The sea-serpent resembles the conger in colour and shape, but is of lesser bulk and more rapid in its movements. If it be caught and thrown away, it will bore a hole with its snout and burrow rapidly in the sand; its snout, by the way, is sharper than that of ordinary serpents. The so-called sea-scolopendra, after swallowing the hook, turns itself inside out until it ejects it, and then it again turns itself outside in. The sea-scolopendra, like the land-scolopendra, will come to a savoury bait; the creature does not bite with its teeth, but stings by contact with its entire body, like the so-called sea-nettle. The so-called fox-shark, when it finds it has swallowed the hook, tries to get rid of it as the scolopendra does, but not in the same way; in other words, it runs up the fishing-line, and bites it off short; it is caught in some districts in deep and rapid waters, with night-lines.

The bonitos swarm together when they espy a dangerous creature, and the largest of them swim round it, and if it touches one of the shoal they try to repel it; they have strong teeth. Amongst other large fish, a lamia-shark, after falling in amongst a shoal, has been seen to be covered with wounds.

Of river-fish, the male of the sheat-fish is remarkably attentive to the young. The female after parturition goes away; the male stays and keeps on guard where the spawn is most abundant, contenting himself with keeping off all other little fishes that might steal the spawn or fry, and this he does for forty or fifty days, until the young are sufficiently grown to make away from the other fishes for themselves. The fishermen can tell where he is on guard: for, in warding off the little fishes, he makes a rush in the water and gives utterance to a kind of muttering noise. He is so earnest in the performance of his parental duties that the fishermen at times, if the eggs be attached to the roots of water-plants deep in the water, drag them into as shallow a place as possible; the male fish will still keep by the young, and, if it so happen, will be caught by the hook when snapping at the little fish that come by; if, however, he be sensible by experience of the danger of the hook, he will still keep by his charge, and with his extremely strong teeth will bite the hook in pieces.

All fishes, both those that wander about and those that are stationary, occupy the districts where they were born or very similar places, for their natural food is found there. Carnivorous fish wander most; and all fish are carnivorous with the exception of a few, such as the mullet, the saupe, the red mullet, and the chalcis. The so-called pholis gives out a mucous discharge, which envelops the creature in a kind of nest. Of shell-fish, and fish that are finless, the scallop moves with greatest force and to the greatest distance, impelled along by some internal energy; the murex or purple-fish, and others that resemble it, move hardly at all. Out of the lagoon of Pyrrha all the fishes swim in winter-time, except the sea-gudgeon; they swim out owing to the cold, for the narrow waters are colder than the outer sea, and on the return of the early summer they all swim back again. In the lagoon no scarus is found, nor thritta, nor any other species of the spiny fish, no spotted dogfish, no spiny dogfish, no sea-crawfish, no octopus either of the common or the musky kinds, and certain other fish are also absent; but of fish that are found in the lagoon the white gudgeon is not a marine fish. Of fishes the oviparous are in their prime in the early summer until the spawning time; the viviparous in the autumn, as is also the case with the mullet, the red mullet, and all such fish. In the neighbourhood of Lesbos, the fishes of the outer sea, or of the lagoon, bring forth their eggs or young in the lagoon; sexual union takes place in the autumn, and parturition in the spring. With fishes of the cartilaginous kind, the males and females swarm together in the autumn for the sake of sexual union; in the early summer they come swimming in, and keep apart until after parturition; the two sexes are often taken linked together in sexual union.

Of molluscs the sepia is the most cunning, and is the only species that employs its dark liquid for the sake of concealment as well as from fear: the octopus and calamary make the discharge solely from fear. These creatures never discharge the pigment in its entirety; and after a discharge the pigment accumulates again. The sepia, as has been said, often uses its colouring pigment for concealment; it shows itself in front of the pigment and then retreats back into it; it also hunts with its long tentacles not only little fishes, but oftentimes even mullets. The octopus is a stupid creature, for it will approach a man's hand if it be lowered in the water; but it is neat and thrifty in its habits: that is, it lays up stores in its nest, and, after eating up all that is eatable, it ejects the shells and sheaths of crabs and shell-fish, and the skeletons of little fishes. It seeks its prey by so changing its colour as to render it like the colour of the stones adjacent to it; it does so also when alarmed. By some the sepia is said to perform the same trick; that is, they say it can change its colour so as to make it resemble the colour of its habitat. The only fish that can do this is the angelfish, that is, it can change its colour like the octopus. The octopus as a rule does not live the year out. It has a natural tendency to run off into liquid; for, if beaten and squeezed, it keeps losing substance and at last disappears. The female after parturition is peculiarly subject to this colliquefaction; it becomes stupid; if tossed about by waves, it submits impassively; a man, if he dived, could catch it with the hand; it gets covered over with slime, and makes no effort to catch its wonted prey. The male becomes leathery and clammy. As a proof that they do not live into a second year there is the fact that, after the birth of the little octopuses in the late summer or beginning of autumn, it is seldom that a large-sized octopus is visible, whereas a little before this time of year the creature is at its largest. After the eggs are laid, they say that both the male and the female grow so old and feeble that they are preyed upon by little fish, and with ease dragged from their holes; and that this could not have been done previously; they say also that this is not the case with the small and young octopus, but that the young creature is much stronger than the grown-up one. Neither does the sepia live into a second year. The octopus is the only mollusc that ventures on to dry land; it walks by preference on rough ground; it is firm all over when you squeeze it, excepting in the neck. So much for the mollusca.

It is also said that they make a thin rough shell about them like a hard sheath, and that this is made larger and larger as the animal grows larger, and that it comes out of the sheath as though out of a den or dwelling place.

The nautilus (or argonaut) is a poulpe or octopus, but one peculiar both in its nature and its habits. It rises up from deep water and swims on the surface; it rises with its shell down-turned in order that it may rise the more easily and swim with it empty, but after reaching the surface it shifts the position of the shell. In between its feelers it has a certain amount of web-growth, resembling the substance between the toes of web-footed birds; only that with these latter the substance is thick, while with the nautilus it is thin and like a spider's web. It uses this structure, when a breeze is blowing, for a sail, and lets down some of its feelers alongside as rudder-oars. If it be frightened it fills its shell with water and sinks. With regard to the mode of generation and the growth of the shell knowledge from observation is not yet satisfactory; the shell, however, does not appear to be there from the beginning, but to grow in their cases as in that of other shell-fish; neither is it ascertained for certain whether the animal can live when stripped of the shell.

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Of all insects, one may also say of all living creatures, the most industrious are the ant, the bee, the hornet, the wasp, and in point of fact all creatures akin to these; of spiders some are more skilful and more resourceful than others. The way in which ants work is open to ordinary observation; how they all march one after the other when they are engaged in putting away and storing up their food; all this may be seen, for they carry on their work even during bright moonlight nights.

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Of spiders and phalangia there are many species. Of the venomous phalangia there are two; one that resembles the so-called wolf-spider, small, speckled, and tapering to a point; it moves with leaps, from which habit it is nicknamed 'the flea': the other kind is large, black in colour, with long front legs; it is heavy in its movements, walks slowly, is not very strong, and never leaps. (Of all the other species wherewith poison-vendors supply themselves, some give a weak bite, and others never bite at all. There is another kind, comprising the so-called wolf-spiders.) Of these spiders the small one weaves no web, and the large weaves a rude and poorly built one on the ground or on dry stone walls. It always builds its web over hollow places inside of which it keeps a watch on the end-threads, until some creature gets into the web and begins to struggle, when out the spider pounces. The speckled kind makes a little shabby web under trees.

There is a third species of this animal, preeminently clever and artistic. It first weaves a thread stretching to all the exterior ends of the future web; then from the centre, which it hits upon with great accuracy, it stretches the warp; on the warp it puts what corresponds to the woof, and then weaves the whole together. It sleeps and stores its food away from the centre, but it is at the centre that it keeps watch for its prey. Then, when any creature touches the web and the centre is set in motion, it first ties and wraps the creature round with threads until it renders it helpless, then lifts it and carries it off, and, if it happens to be hungry, sucks out the life-juices — for that is the way it feeds; but, if it be not hungry, it first mends any damage done and then hastens again to its quest of prey. If something comes meanwhile into the net, the spider at first makes for the centre, and then goes back to its entangled prey as from a fixed starting point. If any one injures a portion of the web, it recommences weaving at sunrise or at sunset, because it is chiefly at these periods that creatures are caught in the web. It is the female that does the weaving and the hunting, but the male takes a share of the booty captured.

Of the skilful spiders, weaving a substantial web, there are two kinds, the larger and the smaller. The one has long legs and keeps watch while swinging downwards from the web: from its large size it cannot easily conceal itself, and so it keeps underneath, so that its prey may not be frightened off, but may strike upon the web's upper surface; the less awkwardly formed one lies in wait on the top, using a little hole for a lurking-place. Spiders can spin webs from the time of their birth, not from their interior as a superfluity or excretion, as Democritus avers, but off their body as a kind of tree-bark, like the creatures that shoot out with their hair, as for instance the porcupine. The creature can attack animals larger than itself, and enwrap them with its threads: in other words, it will attack a small lizard, run round and draw threads about its mouth until it closes the mouth up; then it comes up and bites it.

So much for the spider. Of insects, there is a genus that has no one name that comprehends all the species, though all the species are akin to one another in form; it consists of all the insects that construct a honeycomb: to wit, the bee, and all the insects that resemble it in form.

There are nine varieties, of which six are gregarious-the bee, the king-bee, the drone bee, the annual wasp, and, furthermore, the anthrene (or hornet), and the tenthredo (or ground-wasp); three are solitary-the smaller siren, of a dun colour, the larger siren, black and speckled, and the third, the largest of all, that is called the humble-bee. Now ants never go a-hunting, but gather up what is ready to hand; the spider makes nothing, and lays up no store, but simply goes a-hunting for its food; while the bee — for we shall by and by treat of the nine varieties — does not go a-hunting, but constructs its food out of gathered material and stores it away, for honey is the bee’s food. This fact is shown by the beekeepers’ attempt to remove the combs; for the bees, when they are fumigated, and are suffering great distress from the process, then devour the honey most ravenously, whereas at other times they are never observed to be so greedy, but apparently are thrifty and disposed to lay by for their future sustenance. They have also another food which is called bee-bread; this is scarcer than honey and has a sweet figlike taste; this they carry as they do the wax on their legs.

Very remarkable diversity is observed in their methods of working and their general habits. When the hive has been delivered to them clean and empty, they build their waxen cells, bringing in the juice of all kinds of flowers and the ‘tears’ or exuding sap of trees, such as willows and elms and such others as are particularly given to the exudation of gum. With this material they besmear the groundwork, to provide against attacks of other creatures; the bee-keepers call this stuff ‘stop-wax’. They also with the same material narrow by side-building the entrances to the hive if they are too wide. They first build cells for themselves; then for the so-called kings and the drones; for themselves they are always building, for the kings only when the brood of young is numerous, and cells for the drones they build if a superabundance of honey should suggest their doing so. They build the royal cells next to their own, and they are of small bulk; the drones’ cells they build near by, and these latter are less in bulk than the bee’s cells.

They begin building the combs downwards from the top of the hive, and go down and down building many combs connected together until they reach the bottom. The cells, both those for the honey and those also for the grubs, are double-doored; for two cells are ranged about a single base, one pointing one way and one the other, after the manner of a double (or hour-glass-shaped) goblet. The cells that lie at the commencement of the combs and are attached to the hives, to the extent of two or three concentric circular rows, are small and devoid of honey; the cells that are well filled with honey are most thoroughly luted with wax. At the entry to the hive the aperture of the doorway is smeared with mitys; this substance is a deep black, and is a sort of dross or residual by-product of wax; it has a pungent odour, and is a cure for bruises and suppurating sores. The greasy stuff that comes next is pitch-wax; it has a less pungent odour and is less medicinal than the mitys. Some say that the drones construct combs by themselves in the same hive and in the same comb that they share with the bees; but that they make no honey, but subsist, they and their grubs also, on the honey made by the bees. The drones, as a rule, keep inside the hive; when they go out of doors, they soar up in the air in a stream, whirling round and round in a kind of gymnastic exercise; when this is over, they come inside the hive and feed to repletion ravenously. The kings never quit the hive, except in conjunction with the entire swarm, either for food or for any other reason. They say that, if a young swarm go astray, it will turn back upon its route and by the aid of scent seek out its leader. It is said that if he is unable to fly he is carried by the swarm, and that if he dies the swarm perishes; and that, if this swarm outlives the king for a while and constructs combs, no honey is produced and the bees soon die out.

Bees scramble up the stalks of flowers and rapidly gather the bees-wax with their front legs; the front legs wipe it off on to the middle legs, and these pass it on to the hollow curves of the hind-legs; when thus laden, they fly away home, and one may see plainly that their load is a heavy one. On each expedition the bee does not fly from a flower of one kind to a flower of another, but flies from one violet, say, to another violet, and never meddles with another flower until it has got back to the hive; on reaching the hive they throw off their load, and each bee on his return is accompanied by three or four companions. One cannot well tell what is the substance they gather, nor the exact process of their work. Their mode of gathering wax has been observed on olive-trees, as owing to the thickness of the leaves the bees remain stationary for a considerable while. After this work is over, they attend to the grubs. There is nothing to prevent grubs, honey, and drones being all found in one and the same comb. As long as the leader is alive, the drones are said to be produced apart by themselves; if he be no longer living, they are said to be reared by the bees in their own cells, and under these circumstances to become more spirited: for this reason they are called 'sting-drones', not that they really have stings, but that they have the wish without the power, to use such weapons. The cells for the drones are larger than the others; sometimes the bees construct cells for the drones apart, but usually they put them in amongst their own; and when this is the case the bee-keepers cut the drone-cells out of the combs.

There are several species of bees, as has been said; two of 'kings', the better kind red, the other black and variegated, and twice as big as the working-bee. The best workingbee is small, round, and speckled: another kind is long and like an anthrene wasp; another kind is what is called the robber-bee, black and flat-bellied; then there is the drone, the largest of all, but devoid of sting, and lazy. There is a difference between the progeny of bees that inhabit cultivated land and of those from the mountains: the forest-bees are more shaggy, smaller, more industrious and more fierce. Working-bees make their combs all even, with the superficial covering quite smooth. Each comb is of one kind only: that is, it contains either bees only, or grubs only, or drones only; if it happen, however, that they make in one and the same comb all these kinds of cells, each separate kind will be built in a continuous row right through. The long bees build uneven combs, with the lids of the cells protuberant, like those of the anthrene; grubs and everything else have no fixed places, but are put anywhere; from these bees come inferior kings, a large quantity of drones, and the so-called robber-bee; they produce either no honey at all, or honey in very small quantities. Bees brood over the combs and so mature them; if they fail to do so, the combs are said to go bad and to get covered with a sort of spider's web. If they can keep brooding over the part undamaged, the damaged part simply eats itself away; if they cannot so brood, the entire comb perishes; in the damaged combs small worms are engendered, which take on wings and fly away. When the combs keep settling down, the bees restore the level surface, and put props underneath the combs to give themselves free passage-room; for if such free passage be lacking they cannot brood, and the cobwebs come on. When the robber-bee and the drone appear, not only do they do no work themselves, but they actually damage the work of the other bees; if they are caught in the act, they are killed by the working-bees. These bees also kill without mercy most of their kings, and especially kings of the inferior sort; and this they do for fear a multiplicity of kings should lead to a dismemberment of the hive. They kill them especially when the hive is deficient in grubs, and a swarm is not intended to take place; under these circumstances they destroy the cells of the kings if they have been prepared, on the ground that these kings are always ready to lead out swarms. They destroy also the combs of the drones if a failure in the supply be threatening and the hive runs short of provisions; under such circumstances they fight desperately with all who try to take their honey, and eject from the hive all the resident drones; and oftentimes the drones are to be seen sitting apart in the hive. The little bees fight vigorously with the long kind, and try to banish them from the hives; if they succeed, the hive will be unusually productive, but if the bigger bees get left mistresses of the field they pass the time in idleness, and no good at all but die out before the autumn. Whenever the working-bees kill an enemy they try to do so out of doors; and whenever one of their own body dies, they carry the dead bee out of doors also. The so-called robber-bees spoil their own combs, and, if they can do so unnoticed, enter and spoil the combs of other bees; if they are caught in the act they are put to death. It is no easy task for them to escape detection, for there are sentinels on guard at every entry; and, even if they do escape detection on entering, afterwards from a surfeit of food they cannot fly, but go rolling about in front of the hive, so that their chances of escape are small indeed. The kings are never themselves seen outside the hive except with a swarm in flight: during which time all the other bees cluster around them. When the flight of a swarm is imminent, a monotonous and quite peculiar sound made by all the bees is heard for several days, and for two or three days in advance a few bees are seen flying round the hive; it has never as yet been ascertained, owing to the difficulty of the observation, whether or no the king is among these. When they have swarmed, they fly away and separate off to each of the kings; if a small swarm happens to settle near to a large one, it will shift to join this large one, and if the king whom they have abandoned follows them, they put him to death. So much for the quitting of the hive and the swarmflight. Separate detachments of bees are told off for diverse operations; that is, some carry flower-produce, others carry water, others smooth and arrange the combs. A bee carries water when it is rearing grubs. No bee ever settles on the flesh of any creature, or ever eats animal food. They have no fixed date for commencing work; but when their provender is forthcoming and they are in comfortable trim, and by preference in summer, they set to work, and when the weather is fine they work incessantly.

The bee, when quite young and in fact only three days old, after shedding its chrysalis-case, begins to work if it be well fed. When a swarm is settling, some bees detach themselves in search of food and return back to the swarm. In hives that are in good condition the production of young bees is discontinued only for the forty days that follow the winter solstice. When the grubs are grown, the bees put food beside them and cover them with a coating of wax; and, as soon as the grub is strong enough, he of his own accord breaks the lid and comes out. Creatures that make their appearance in hives and spoil the combs the working-bees clear out, but the other bees from sheer laziness look with indifference on damage done to their produce. When the bee-masters take out the combs, they leave enough food behind for winter use; if it be sufficient in quantity, the occupants of the hive will survive; if it be insufficient, then, if the weather be rough, they die on the spot, but if it be fair, they fly away and desert the hive. They feed on honey summer and winter; but they store up another article of food resembling wax in hardness, which by some is called sandarace, or bee-bread. Their worst enemies are wasps and the birds named titmice, and furthermore the swallow and the bee-eater. The frogs in the marsh also catch them if they come in their way by the water-side, and for this reason bee-keepers chase the frogs from the ponds from which the bees take water; they destroy also wasps’ nests, and the nests of swallows, in the neighbourhood of the hives, and also the nests of bee-eaters. Bees have fear only of one another. They fight with one another and with wasps. Away from the hive they attack neither their own species nor any other creature, but in the close proximity of the hive they kill whatever they get hold of. Bees that sting die from their inability to extract the sting without at the same time extracting their intestines. True, they often recover, if the person stung takes the trouble to press the sting out; but once it loses its sting the bee must die. They can kill with their stings even large animals; in fact, a horse has been known to have been stung to death by them. The kings are the least disposed to show anger or to inflict a sting. Bees that die are removed from the hive, and in every way the creature is remarkable for its cleanly habits; in point of fact, they often fly away to a distance to void their excrement because it is malodorous; and, as has been said, they are annoyed by all bad smells and by the scent of perfumes, so much so that they sting people that use perfumes.

They perish from a number of accidental causes, and when their kings become too numerous and try each to carry away a portion of the swarm.

The toad also feeds on bees; he comes to the doorway of the hive, puffs himself out as he sits on the watch, and devours the creatures as they come flying out; the bees can in no way retaliate, but the bee-keeper makes a point of killing him.

As for the class of bee that has been spoken of as inferior or good-for-nothing, and as constructing its combs so roughly, some bee-keepers say that it is the young bees that act so from inexperience; and the bees of the current year are termed young. The young bees do not sting as the others do; and it is for this reason that swarms may be safely carried, as it is of young bees that they are composed. When honey runs short they expel the drones, and the bee-keepers supply the bees with figs and sweet-tasting articles of food. The elder bees do the indoor work, and are rough and hairy from staying indoors; the young bees do the outer carrying, and are comparatively smooth. They kill the drones also when in their work they are confined for room; the drones, by the way, live in the innermost recess of the hive. On one occasion, when a hive was in a poor condition, some of the occupants assailed a foreign hive; proving victorious in a combat they took to carrying off the honey; when the bee-keeper tried to kill them, the other bees came out and tried to beat off the enemy but made no attempt to sting the man.

The diseases that chiefly attack prosperous hives are first of all the clerus-this consists in a growth of little worms on the floor, from which, as they develop, a kind of cobweb grows over the entire hive, and the combs decay; another diseased condition is indicated in a lassitude on the part of the bees and in malodorousness of the hive. Bees feed on thyme; and the white thyme is better than the red. In summer the place for the hive should be cool, and in winter warm. They are very apt to fall sick if the plant they are at work on be mildewed. In a high wind they carry a stone by way of ballast to steady them. If a stream be near at hand, they drink from it and from it only, but before they drink they first deposit their load; if there be no water near at hand, they disgorge their honey as they drink elsewhere, and at once make off to work.

There are two seasons for making honey, spring and autumn; the spring honey is sweeter, whiter, and in every way better than the autumn honey. Superior honey comes from fresh comb, and from young shoots; the red honey is inferior, and owes its inferiority to the comb in which it is deposited, just as wine is apt to be spoiled by its cask; consequently, one should have it looked to and dried. When the thyme is in flower and the comb is full, the honey does not harden. The honey that is golden in hue is excellent. White honey does not come from thyme pure and simple; it is good as a salve for sore eyes and wounds. Poor honey always floats on the surface and should be skimmed off; the fine clear honey rests below. When the floral world is in full bloom, then they make wax; consequently you must then take the wax out of the hive, for they go to work on new wax at once. The flowers from which they gather honey are as follows: the spindle-tree, the melilot-clover, king's-spear, myrtle, flowering-reed, withy, and broom. When they work at thyme, they mix in water before sealing up the comb. As has been already stated, they all either fly to a distance to discharge their excrement or make the discharge into one single comb. The little bees, as has been said, are more industrious than the big ones; their wings are battered; their colour is black, and they have a burnt-up aspect. Gaudy and showy bees, like gaudy and showy women, are good-for-nothings.

Bees seem to take a pleasure in listening to a rattling noise; and consequently men say that they can muster them into a hive by rattling with crockery or stones; it is uncertain, however, whether or no they can hear the noise at all and also whether their procedure is due to pleasure or alarm. They expel from the hive all idlers and unthrifts. As has been said, they differentiate their work; some make wax, some make honey, some make bee-bread, some shape and mould combs, some bring water to the cells and mingle it with the honey, some engage in out-of-door work. At early dawn they make no noise, until some one particular bee makes a buzzing noise two or three times and thereby awakes the rest; hereupon they all fly in a body to work. By and by they return and at first are noisy; then the noise gradually decreases, until at last some one bee flies round about, making a buzzing noise, and apparently calling on the others to go to sleep; then all of a sudden there is a dead silence.

The hive is known to be in good condition if the noise heard within it is loud, and if the bees make a flutter as they go out and in; for at this time they are constructing brood-cells. They suffer most from hunger when they recommence work after winter. They become somewhat lazy if the bee-keeper, in robbing the hive, leave behind too much honey; still one should leave cells numerous in proportion to the population, for the bees work in a spiritless way if too few combs are left. They become idle also, as being dispirited, if the hive be too big. A hive yields to the bee-keeper six or nine pints of honey; a prosperous hive will yield twelve or fifteen pints, exceptionally good hives eighteen. Sheep and, as has been said, wasps are enemies to the bees. Bee-keepers entrap the latter, by putting a flat dish on the ground with pieces of meat on it; when a number of the wasps settle on it, they cover them with a lid and put the dish and its contents on the fire. It is a good thing to have a few drones in a hive, as their presence increases the industry of the workers. Bees can tell the approach of rough weather or of rain; and the proof is that they will not fly away, but even while it is as yet fine they go fluttering about within a restricted space, and the bee-keeper knows from this that they are expecting bad weather. When the bees inside the hive hang clustering to one another, it is a sign that the swarm is intending to quit; consequently, occasion, when a bee-keepers, on seeing this, besprinkle the hive with sweet wine. It is advisable to plant about the hives pear-trees, beans, Median-grass, Syrian-grass, yellow pulse, myrtle, poppies, creeping-thyme, and almond-trees. Some bee-keepers sprinkle their bees with flour, and can distinguish them from others when they are at work out of doors. If the spring be late, or if there be drought or blight, then grubs are all the fewer in the hives. So much for the habits of bees.

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Of wasps, there are two kinds. Of these kinds one is wild and scarce, lives on the mountains, engenders grubs not underground but on oak-trees, is larger, longer, and blacker than the other kind, is invariably speckled and furnished with a sting, and is remarkably courageous. The pain from its sting is more severe than that caused by the others, for the instrument that causes the pain is larger, in proportion to its own larger size. These wild live over into a second year, and in winter time, when oaks have been in course of felling, they may be seen coming out and flying away. They lie concealed during the winter, and live in the interior of logs of wood. Some of them are mother-wasps and some are workers, as with the tamer kind; but it is by observation of the tame wasps that one may learn the varied characteristics of the mothers and the workers. For in the case of the tame wasps also there are two kinds; one consists of leaders, who are called mothers, and the other of workers. The leaders are far larger and milder-tempered than the others. The workers do not live over into a second year, but all die when winter comes on; and this can be proved, for at the commencement of winter the workers become drowsy, and about the time of the winter solstice they are never seen at all. The leaders, the so-called mothers, are seen all through the winter, and live in holes underground; for men when ploughing or digging in winter have often come upon mother-wasps, but never upon workers. The mode of reproduction of wasps is as follows. At the approach of summer, when the leaders have found a sheltered spot, they take to moulding their combs, and construct the so-called sphecons,-little nests containing four cells or thereabouts, and in these are produced working-wasps but not mothers. When these are grown up, then they construct other larger combs upon the first, and then again in like manner others; so that by the close of autumn there are numerous large combs in which the leader, the so-called mother, engenders no longer working-wasps but mothers. These develop high up in the nest as large grubs, in cells that occur in groups of four or rather more, pretty much in the same way as we have seen the grubs of the king-bees to be produced in their cells. After the birth of the working-grubs in the cells, the leaders do nothing and the workers have to supply them with nourishment; and this is inferred from the fact that the leaders (of the working-wasps) no longer fly out at this time, but rest quietly indoors. Whether the leaders of last year after engendering new leaders are killed by the new brood, and whether this occurs invariably or whether they can live for a longer time, has not been ascertained by actual observation; neither can we speak with certainty, as from observation, as to the age attained by the mother-wasp or by the wild wasps, or as to any other similar phenomenon. The mother-wasp is broad and heavy, fatter and larger than the ordinary wasp, and from its weight not very strong on the wing; these wasps cannot fly far, and for this reason they always rest inside the nest, building and managing its indoor arrangements. The so-called mother-wasps are found in most of the nests; it is a matter of doubt whether or no they are provided with stings; in all probability, like the king-bees, they have stings, but never protrude them for offence. Of the ordinary wasps some are destitute of stings, like the drone-bees, and some are provided with them. Those unprovided therewith are smaller and less spirited and never fight, while the others are big and courageous; and these latter, by some, are called males, and the stingless, females. At the approach of winter many of the wasps that have stings appear to lose them; but we have never met an eyewitness of this phenomenon. Wasps are more abundant in times of drought and in wild localities. They live underground; their combs they mould out of chips and earth, each comb from a single origin, like a kind of root. They feed on certain flowers and fruits, but for the most part on animal food. Some of the tame wasps have been observed when sexually united, but it was not determined whether both, or neither, had stings, or whether one had a sting and the other had not; wild wasps have been seen under similar circumstances, when one was seen to have a sting but the case of the other was left undetermined. The wasp-grub does not appear to come into existence by parturition, for at the outset the grub is too big to be the offspring of a wasp. If you take a wasp by the feet and let him buzz with the vibration of his wings, wasps that have no stings will fly toward it, and wasps that have stings will not; from which fact it is inferred by some that one set are males and the other females. In holes in the ground in winter-time wasps are found, some with stings, and some without. Some build cells, small and few in number; others build many and large ones. The so-called mothers are caught at the change of season, mostly on elm-trees, while gathering a substance sticky and gumlike. A large number of mother-wasps are found when in the previous year wasps have been numerous and the weather rainy; they are captured in precipitous places, or in vertical clefts in the ground, and they all appear to be furnished with stings.

42

So much for the habits of wasps.

Anthrenae do not subsist by culling from flowers as bees do, but for the most part on animal food: for this reason they hover about dung; for they chase the large flies, and after catching them lop off their heads and fly away with the rest of the carcases; they are furthermore fond of sweet fruits. Such is their food. They have also kings or leaders like bees and wasps; and their leaders are larger in proportion to themselves than are wasp-kings to wasps or bee-kings to bees. The anthrena-king, like the wasp-king, lives indoors. Anthrenae build their nests underground, scraping out the soil like ants; for neither anthrenae nor wasps go off in swarms as bees do, but successive layers of young anthrenae keep to the same habitat, and go on enlarging their nest by scraping out more and more of soil. The nest accordingly attains a great size; in fact, from a particularly prosperous nest have been removed three and even four baskets full of combs. They do not, like bees, store up food, but pass the winter in a torpid condition; the greater part of them die in the winter, but it is uncertain whether that can be said of them all, In the hives of bees several kings are found and they lead off detachments in swarms, but in the anthrena's nest only one king is found. When individual anthrenae have strayed from their nest, they cluster on a tree and construct combs, as may be often seen above-ground, and in this nest they produce a king; when the king is full-grown, he leads them away and settles them along with himself in a hive or nest. With regard to their sexual unions, and the method of their reproduction, nothing is known from actual observation. Among bees both the drones and the kings are stingless, and so are certain wasps, as has been said; but anthrenae appear to be all furnished with stings: though, by the way, it would well be worth while to carry out investigation as to whether the anthrena-king has a sting or not.

43

Humble-bees produce their young under a stone, right on the ground, in a couple of cells or little more; in these cells is found an attempt at honey, of a poor description. The tenthredon is like the anthrena, but speckled, and about as broad as a bee. Being epicures as to their food, they fly, one at a time, into kitchens and on to slices of fish and the like dainties. The tenthredon brings forth, like the wasp, underground, and is very prolific; its nest is much bigger and longer than that of the wasp. So much for the methods of working and the habits of life of the bee, the wasp, and all the other similar insects.

44

As regards the disposition or temper of animals, as has been previously observed, one may detect great differences in respect to courage and timidity, as also, even among wild animals, in regard to tameness and wildness. The lion, while he is eating, is most ferocious; but when he is not hungry and has had a good meal, he is quite gentle. He is totally devoid of suspicion or nervous fear, is fond of romping with animals that have been reared along with him and to whom he is accustomed, and manifests great affection towards them. In the chase, as long as he is in view, he makes no attempt to run and shows no fear, but even if he be compelled by the multitude of the hunters to retreat, he withdraws deliberately, step by step, every now and then turning his head to regard his pursuers. If, however, he reach wooded cover, then he runs at full speed, until he comes to open ground, when he resumes his leisurely retreat. When, in the open, he is forced by the number of the hunters to run while in full view, he does run at the top of his speed, but without leaping and bounding. This running of his is evenly and continuously kept up like the running of a dog; but when he is in pursuit of his prey and is close behind, he makes a sudden pounce upon it. The two statements made regarding him are quite true; the one that he is especially afraid of fire, as Homer pictures him in the line-'and glowing torches, which, though fierce he dreads,'-and the other, that he keeps a steady eye upon the hunter who hits him, and flings himself upon him. If a hunter hit him, without hurting him, then if with a bound he gets hold of him, he will do him no harm, not even with his claws, but after shaking him and giving him a fright will let him go again. They invade the cattle-folds and attack human beings when they are grown old and so by reason of old age and the diseased condition of their teeth are unable to pursue their wonted prey. They live to a good old age. The lion who was captured when lame, had a number of his teeth broken; which fact was regarded by some as a proof of the longevity of lions, as he could hardly have been reduced to this condition except at an advanced age. There are two species of lions, the plump, curly-maned, and the long-bodied, straight maned; the latter kind is courageous, and the former comparatively timid; sometimes they run away with their tail between their legs, like a dog. A lion was once seen to be on the point of attacking a boar, but to run away when the boar stiffened his bristles in defence. It is susceptible of hurt from a wound in the flank, but on any other part of its frame will endure any number of blows, and its head is especially hard. Whenever it inflicts a wound, either by its teeth or its claws, there flows from the wounded parts suppurating matter, quite yellow, and not to be stanched by bandage or sponge; the treatment for such a wound is the same as that for the bite of a dog.

The thos, or civet, is fond of man’s company; it does him no harm and is not much afraid of him, but it is an enemy to the dog and the lion, and consequently is not found in the same habitat with them. The little ones are the best. Some say that there are two species of the animal, and some say, three; there are probably not more than three, but, as is the case with certain of the fishes, birds, and quadrupeds, this animal changes in appearance with the change of season. His colour in winter is not the same as it is in summer; in summer the animal is smooth-haired, in winter he is clothed in fur.

45

The bison is found in Paeonia on Mount Messapium, which separates Paeonia from Maedica; and the Paeonians call it the monapos. It is the size of a bull, but stouter in build, and not long in the body; its skin, stretched tight on a frame, would give sitting room for seven people. In general it resembles the ox in appearance, except that it has a mane that reaches down to the point of the shoulder, as that of the horse reaches down to its withers; but the hair in its mane is softer than the hair in the horse’s mane, and clings more closely. The colour of the hair is brown-yellow; the mane reaches down to the eyes, and is deep and thick. The colour of the body is half red, half ashen-grey, like that of the so-called chestnut horse, but rougher. It has an undercoat of woolly hair. The animal is not found either very black or very red. It has the bellow of a bull. Its horns are crooked, turned inwards towards each other and useless for purposes of self-defence; they are a span broad, or a little more, and in volume each horn would hold about three pints of liquid; the black colour of the horn is beautiful and bright. The tuft of hair on the forehead reaches down to the eyes, so that the animal sees objects on either flank better than objects right in front. It has no upper teeth, as is the case also with kine and all other horned animals. Its legs are hairy; it is cloven-footed, and the tail, which resembles that of the ox, seems not big enough for the size of its body. It tosses up dust and scoops out the ground with its hooves, like the bull. Its skin is impervious to blows. Owing to the savour of its flesh it is sought for in the chase. When it is wounded it runs away, and stops only when thoroughly exhausted. It defends itself against an assailant by kicking and projecting its excrement to a distance of eight yards; this device it can easily adopt over and over again, and the excrement is so pungent that the hair of hunting-dogs is burnt off by it. It is only when the animal is disturbed or alarmed that the dung has this property; when the animal is undisturbed it has no blistering effect. So much for the shape and habits of the animal. When the season comes for parturition the mothers give birth to their young in troops upon the mountains. Before dropping their young they scatter their dung in all directions, making a kind of circular rampart around them; for the animal has the faculty of ejecting excrement in most extraordinary quantities.

46

Of all wild animals the most easily tamed and the gentlest is the elephant. It can be taught a number of tricks, the drift and meaning of which it understands; as, for instance, it can taught to kneel in presence of the king. It is very sensitive, and possessed of an intelligence superior to that of other animals. When the male has had sexual union with the female, and the female has conceived, the male has no further intercourse with her.

Some say that the elephant lives for two hundred years; others, for one hundred and twenty; that the female lives nearly as long as the male; that they reach their prime about the age of sixty, and that they are sensitive to inclement weather and frost. The elephant is found by the banks of rivers, but he is not a river animal; he can make his way through water, as long as the tip of his trunk can be above the surface, for he blows with his trunk and breathes through it. The animal is a poor swimmer owing to the heavy weight of his body.

47

The male camel declines intercourse with its mother; if his keeper tries compulsion, he evinces disinclination. On one occasion, when intercourse was being declined by the young male, the keeper covered over the mother and put the young male to her; but, when after the intercourse the wrapping had been removed, though the operation was completed and could not be revoked, still by and by he bit his keeper to death. A story goes that the king of Scythia had a highly-bred mare, and that all her foals were splendid; that wishing to mate the best of the young males with the mother, he had him brought to the stall for the purpose; that the young horse declined; that, after the mother’s head had been concealed in a wrapper he, in ignorance, had intercourse; and that, when immediately afterwards the wrapper was removed and the head of the mare was rendered visible, the young horse ran way and hurled himself down a precipice.

48

Among the sea-fishes many stories are told about the dolphin, indicative of his gentle and kindly nature, and of manifestations of passionate attachment to boys, in and about Tarentum, Caria, and other places. The story goes that, after a dolphin had been caught and wounded off the coast of Caria, a shoal of dolphins came into the harbour and stopped there until the fisherman let his captive go free; whereupon the shoal departed. A shoal of young dolphins is always, by way of protection, followed by a large one. On one occasion a shoal of dolphins, large and small, was seen, and two dolphins at a little distance appeared swimming in underneath a little dead dolphin when it was sinking, and supporting it on their backs, trying out of compassion to prevent its being devoured by some predaceous fish. Incredible stories are told regarding the rapidity of movement of this creature. It appears to be the fleetest of all animals, marine and terrestrial, and it can leap over the masts of large vessels. This speed is chiefly manifested when they are pursuing a fish for food; then, if the fish endeavours to escape, they pursue him in their ravenous hunger down to deep waters; but, when the necessary return swim is getting too long, they hold in their breath, as though calculating the length of it, and then draw themselves together for an effort and shoot up like arrows, trying to make the long ascent rapidly in order to breathe, and in the effort they spring right over the a ship’s masts if a ship be in the vicinity. This same phenomenon is observed in divers, when they have plunged into deep water; that is, they pull themselves together and rise with a speed proportional to their strength. Dolphins live together in pairs, male and female. It is not known for what reason they run themselves aground on dry land; at all events, it is said that they do so at times, and for no obvious reason.

49

Just as with all animals a change of action follows a change of circumstance, so also a change of character follows a change of action, and often some portions of the physical frame undergo a change, occurs in the case of birds. Hens, for instance, when they have beaten the cock in a fight, will crow like the cock and endeavour to tread him; the crest rises up on their head and the tail-feathers on the rump, so that it becomes difficult to recognize that they are hens; in some cases there is a growth of small spurs. On the death of a hen a cock has been seen to undertake the maternal duties, leading the chickens about and providing them with food, and so intent upon these duties as to cease crowing and indulging his sexual propensities. Some cock-birds are congenitally so feminine that they will submit patiently to other males who attempt to tread them.

50

Some animals change their form and character, not only at certain ages and at certain seasons, but in consequence of being castrated; and all animals possessed of testicles may be submitted to this operation. Birds have their testicles inside, and oviparous quadrupeds close to the loins; and of viviparous animals that walk some have them inside, and most have them outside, but all have them at the lower end of the belly. Birds are castrated at the rump at the part where the two sexes unite in copulation. If you burn this twice or thrice with hot irons, then, if the bird be full-grown, his crest grows sallow, he ceases to crow, and foregoes sexual passion; but if you cauterize the bird when young, none of these male attributes propensities will come to him as he grows up. The case is the same with men: if you mutilate them in boyhood, the later-growing hair never comes, and the voice never changes but remains high-pitched; if they be mutilated in early manhood, the late growths of hair quit them except the growth on the groin, and that diminishes but does not entirely depart. The congenital growths of hair never fall out, for a eunuch never grows bald. In the case of all castrated or mutilated male quadrupeds the voice changes to the feminine voice. All other quadrupeds when castrated, unless the operation be performed when they are young, invariably die; but in the case of boars, and in their case only, the age at which the operation is performed produces no difference. All animals, if operated on when they are young, become bigger and better looking than their unmutilated fellows; if they be mutilated when full-grown, they do not take on any increase of size. If stags be mutilated, when, by reason of their age, they have as yet no horns, they never grow horns at all; if they be mutilated when they have horns, the horns remain unchanged in size, and the animal does not lose them. Calves are mutilated when a year old; otherwise, they turn out uglier and smaller. Steers are mutilated in the following way: they turn the animal over on its back, cut a little off the scrotum at the lower end, and squeeze out the testicles, then push back the roots of them as far as they can, and stop up the incision with hair to give an outlet to suppurating matter; if inflammation ensues, they cauterize the scrotum and put on a plaster. If a full-grown bull be mutilated, he can still to all appearance unite sexually with the cow. The ovaries of sows are excised with the view of quenching in them sexual appetites and of stimulating growth in size and fatness. The sow has first to be kept two days without food, and, after being hung up by the hind legs, it is operated on; they cut the lower belly, about the place where the boars have their testicles, for it is there that the ovary grows, adhering to the two divisions (or horns) of the womb; they cut off a little piece and stitch up the incision. Female camels are mutilated when they are wanted for war purposes, and are mutilated to prevent their being got with young. Some of the inhabitants of Upper Asia have as many as three thousand camels: when they run, they run, in consequence of the length of their stride, much quicker than the horses of Nisaea. As a general rule, mutilated animals grow to a greater length than the unmutilated.

All animals that ruminate derive profit and pleasure from the process of rumination, as they do from the process of eating. It is the animals that lack the upper teeth that ruminate, such as kine, sheep, and goats. In the case of wild animals no observation has been possible; save in the case of animals that are occasionally domesticated, such as the stag, and it, we know, chews the cud. All animals that ruminate generally do so when lying down on the ground. They carry on the process to the greatest extent in winter, and stall-fed ruminants carry it on for about seven months in the year; beasts that go in herds, as they get their food out of doors, ruminate to a lesser degree and over a lesser period. Some, also, of the animals that have teeth in both jaws ruminate; as, for instance, the Pontic mice, and the fish which from the habit is by some called ‘the Ruminant’, (as well as other fish).

Long-limbed animals have loose faeces, and broad-chested animals vomit with comparative facility, and these remarks are, in a general way, applicable to quadrupeds, birds, and men.

49B

A considerable number of birds change according to season the colour of their plumage and their note; as, for instance, the owsel becomes yellow instead of black, and its note gets altered, for in summer it has a musical note and in winter a discordant chatter. The thrush also changes its colour; about the throat it is marked in winter with speckles like a starling, in summer distinctly spotted: however, it never alters its note. The nightingale, when the hills are taking on verdure, sings continually for fifteen days and fifteen nights; afterwards it sings, but not continuously. As summer advances it has a different song, not so varied as before, nor so deep, nor so intricately modulated, but simple; it also changes its colour, and in Italy about this season it goes by a different name. It goes into hiding, and is consequently visible only for a brief period. The erithacus (or redbreast) and the so-called redstart change into one another; the former is a winter bird, the latter a summer one, and the difference between them is practically limited to the coloration of their plumage. In the same way with the beccafico and the blackcap; these change into one another. The beccafico appears about autumn, and the blackcap as soon as autumn has ended. These birds, also, differ from one another only in colour and note; that these birds, two in name, are one in reality is proved by the fact that at the period when the change is in progress each one has been seen with the change as yet incomplete. It is not so very strange that in these cases there is a change in note and in plumage, for even the ring-dove ceases to coo in winter, and recommences cooing when spring comes in; in winter, however, when fine weather has succeeded to very stormy weather, this bird has been known to give its cooing note, to the astonishment of such as were acquainted with its usual winter silence. As a general rule, birds sing most loudly and most diversely in the pairing season. The cuckoo changes its colour, and its note is not clearly heard for a short time previous to its departure. It departs about the rising of the Dog-star, and it reappears from springtime to the rising of the Dog-star. At the rise of this star the bird called by some oenanthe disappears, and reappears when it is setting: thus keeping clear at one time of extreme cold, and at another time of extreme heat. The hoopoe also changes its colour and appearance, as Aeschylus has represented in the following lines: —

The Hoopoe, witness to his own distress,
Is clad by Zeus in variable dress:-
Now a gay mountain-bird, with knightly crest,
Now in the white hawk’s silver plumage drest,
For, timely changing, on the hawk’s white wing
He greets the apparition of the Spring.
Thus twofold form and colour are conferred,
In youth and age, upon the selfsame bird.
The spangled raiment marks his youthful days,
The argent his maturity displays;
And when the fields are yellow with ripe corn
Again his particoloured plumes are worn.
But evermore, in sullen discontent,
He seeks the lonely hills, in self-sought banishment.

Of birds, some take a dust-bath by rolling in dust, some take a water-bath, and some take neither the one bath nor the other. Birds that do not fly but keep on the ground take the dust-bath, as for instance the hen, the partridge, the francolin, the crested lark, the pheasant; some of the straight-taloned birds, and such as live on the banks of a river, in marshes, or by the sea, take a water-bath; some birds take both the dust-bath and the waterbath, as for instance the pigeon and the sparrow; of the crooked-taloned birds the greater part take neither the one bath nor the other. So much for the ways of the above-mentioned, but some birds have a peculiar habit of making a noise at their hinder quarters, as, for instance, the turtle-dove; and they make a violent movement of their tails at the same time that they produce this peculiar sound.

Parts of Animals (639a)

Translated by William Ogle

This treatise was written circa 350 BC and forms a study in animal anatomy and physiology, aiming to provide a scientific understanding of the various parts of living organisms, including the investigation of organs, tissues and fluids of animals.

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Book I

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EVERY systematic science, the humblest and the noblest alike, seems to admit of two distinct kinds of proficiency; one of which may be properly called scientific knowledge of the subject, while the other is a kind of educational acquaintance with it. For an educated man should be able to form a fair off-hand judgement as to the goodness or badness of the method used by a professor in his exposition. To be educated is in fact to be able to do this; and even the man of universal education we deem to be such in virtue of his having this ability. It will, however, of course, be understood that we only ascribe universal education to one who in his own individual person is thus critical in all or nearly all branches of knowledge, and not to one who has a like ability merely in some special subject. For it is possible for a man to have this competence in some one branch of knowledge without having it in all.

It is plain then that, as in other sciences, so in that which inquires into nature, there must be certain canons, by reference to which a hearer shall be able to criticize the method of a professed exposition, quite independently of the question whether the statements made be true or false. Ought we, for instance (to give an illustration of what I mean), to begin by discussing each separate species-man, lion, ox, and the like-taking each kind in hand inde. pendently of the rest, or ought we rather to deal first with the attributes which they have in common in virtue of some common element of their nature, and proceed from this as a basis for the consideration of them separately? For genera that are quite distinct yet oftentimes present many identical phenomena, sleep, for instance, respiration, growth, decay, death, and other similar affections and conditions, which may be passed over for the present, as we are not yet prepared to treat of them with clearness and precision. Now it is plain that if we deal with each species independently of the rest, we shall frequently be obliged to repeat the same statements over and over again; for horse and dog and man present, each and all, every one of the phenomena just enumerated. A discussion therefore of the attributes of each such species separately would necessarily involve frequent repetitions as to characters, themselves identical but recurring in animals specifically distinct. (Very possibly also there may be other characters which, though they present specific differences, yet come under one and the same category. For instance, flying, swimming, walking, creeping, are plainly specifically distinct, but yet are all forms of animal progression.) We must, then, have some clear understanding as to the manner in which our investigation is to be conducted; whether, I mean, we are first to deal with the common or generic characters, and afterwards to take into consideration special peculiarities; or whether we are to start straight off with the ultimate species. For as yet no definite rule has been laid down in this matter. So also there is a like uncertainty as to another point now to be mentioned. Ought the writer who deals with the works of nature to follow the plan adopted by the mathematicians in their astronomical demonstrations, and after considering the phenomena presented by animals, and their several parts, proceed subsequently to treat of the causes and the reason why; or ought he to follow some other method? And when these questions are answered, there yet remains another. The causes concerned in the generation of the works of nature are, as we see, more than one. There is the final cause and there is the motor cause. Now we must decide which of these two causes comes first, which second. Plainly, however, that cause is the first which we call the final one. For this is the Reason, and the Reason forms the starting-point, alike in the works of art and in works of nature. For consider how the physician or how the builder sets about his work. He starts by forming for himself a definite picture, in the one case perceptible to mind, in the other to sense, of his end-the physician of health, the builder of a house-and this he holds forward as the reason and explanation of each subsequent step that he takes, and of his acting in this or that way as the case may be. Now in the works of nature the good end and the final cause is still more dominant than in works of art such as these, nor is necessity a factor with the same significance in them all; though almost all writers, while they try to refer their origin to this cause, do so without distinguishing the various senses in which the term necessity is used. For there is absolute necessity, manifested in eternal phenomena; and there is hypothetical necessity, manifested in everything that is generated by nature as in everything that is produced by art, be it a house or what it may. For if a house or other such final object is to be realized, it is necessary that such and such material shall exist; and it is necessary that first this then that shall be produced, and first this and then that set in motion, and so on in continuous succession, until the end and final result is reached, for the sake of which each prior thing is produced and exists. As with these productions of art, so also is it with the productions of nature. The mode of necessity, however, and the mode of ratiocination are different in natural science from what they are in the theoretical sciences; of which we have spoken elsewhere. For in the latter the starting-point is that which is; in the former that which is to be. For it is that which is yet to be-health, let us say, or a man-that, owing to its being of such and such characters, necessitates the pre-existence or previous production of this and that antecedent; and not this or that antecedent which, because it exists or has been generated, makes it necessary that health or a man is in, or shall come into, existence. Nor is it possible to track back the series of necessary antecedents to a starting-point, of which you can say that, existing itself from eternity, it has determined their existence as its consequent. These however again, are matters that have been dealt with in another treatise. There too it was stated in what cases absolute and hypothetical necessity exist; in what cases also the proposition expressing hypothetical necessity is simply convertible, and what cause it is that determines this convertibility.

Another matter which must not be passed over without consideration is, whether the proper subject of our exposition is that with which the ancient writers concerned themselves, namely, what is the process of formation of each animal; or whether it is not rather, what are the characters of a given creature when formed. For there is no small difference between these two views. The best course appears to be that we should follow the method already mentioned, and begin with the phenomena presented by each group of animals, and, when this is done, proceed afterwards to state the causes of those phenomena, and to deal with their evolution. For elsewhere, as for instance in house building, this is the true sequence. The plan of the house, or the house, has this and that form; and because it has this and that form, therefore is its construction carried out in this or that manner. For the process of evolution is for the sake of the thing finally evolved, and not this for the sake of the process. Empedocles, then, was in error when he said that many of the characters presented by animals were merely the results of incidental occurrences during their development; for instance, that the backbone was divided as it is into vertebrae, because it happened to be broken owing to the contorted position of the foetus in the womb. In so saying he overlooked the fact that propagation implies a creative seed endowed with certain formative properties. Secondly, he neglected another fact, namely, that the parent animal pre-exists, not only in idea, but actually in time. For man is generated from man; and thus it is the possession of certain characters by the parent that determines the development of like characters in the child. The same statement holds good also for the operations of art, and even for those which are apparently spontaneous. For the same result as is produced by art may occur spontaneously. Spontaneity, for instance, may bring about the restoration of health. The products of art, however, require the pre-existence of an efficient cause homogeneous with themselves, such as the statuary's art, which must necessarily precede the statue; for this cannot possibly be produced spontaneously. Art indeed consists in the conception of the result to be produced before its realization in the material. As with spontaneity, so with chance; for this also produces the same result as art, and by the same process.

The fittest mode, then, of treatment is to say, a man has such and such parts, because the conception of a man includes their presence, and because they are necessary conditions of his existence, or, if we cannot quite say this, which would be best of all, then the next thing to it, namely, that it is either quite impossible for him to exist without them, or, at any rate, that it is better for him that they should be there; and their existence involves the existence of other antecedents. Thus we should say, because man is an animal with such and such characters, therefore is the process of his development necessarily such as it is; and therefore is it accomplished in such and such an order, this part being formed first, that next, and so on in succession; and after a like fashion should we explain the evolution of all other works of nature.

Now that with which the ancient writers, who first philosophized about Nature, busied themselves, was the material principle and the material cause. They inquired what this is, and what its character; how the universe is generated out of it, and by what motor influence, whether, for instance, by antagonism or friendship, whether by intelligence or spontaneous action, the substratum of matter being assumed to have certain inseparable properties;

fire, for instance, to have a hot nature, earth a cold one; the former to be light, the latter heavy. For even the genesis of the universe is thus explained by them. After a like fashion do they deal also with the development of plants and of animals. They say, for instance, that the water contained in the body causes by its currents the formation of the stomach and the other receptacles of food or of excretion; and that the breath by its passage breaks open the outlets of the nostrils; air and water being the materials of which bodies are made; for all represent nature as composed of such or similar substances.

But if men and animals and their several parts are natural phenomena, then the natural philosopher must take into consideration not merely the ultimate substances of which they are made, but also flesh, bone, blood, and all other homogeneous parts; not only these, but also the heterogeneous parts, such as face, hand, foot; and must examine how each of these comes to be what it is, and in virtue of what force. For to say what are the ultimate substances out of which an animal is formed, to state, for instance, that it is made of fire or earth, is no more sufficient than would be a similar account in the case of a couch or the like. For we should not be content with saying that the couch was made of bronze or wood or whatever it might be, but should try to describe its design or mode of composition in preference to the material; or, if we did deal with the material, it would at any rate be with the concretion of material and form. For a couch is such and such a form embodied in this or that matter, or such and such a matter with this or that form; so that its shape and structure must be included in our description. For the formal nature is of greater importance than the material nature.

Does, then, configuration and colour constitute the essence of the various animals and of their several parts? For if so, what Democritus says will be strictly correct. For such appears to have been his notion. At any rate he says that it is evident to every one what form it is that makes the man, seeing that he is recognizable by his shape and colour. And yet a dead body has exactly the same configuration as a living one; but for all that is not a man. So also no hand of bronze or wood or constituted in any but the appropriate way can possibly be a hand in more than name. For like a physician in a painting, or like a flute in a sculpture, in spite of its name it will be unable to do the office which that name implies. Precisely in the same way no part of a dead body, such I mean as its eye or its hand, is really an eye or a hand. To say, then, that shape and colour constitute the animal is an inadequate statement, and is much the same as if a woodcarver were to insist that the hand he had cut out was really a hand. Yet the physiologists, when they give an account of the development and causes of the animal form, speak very much like such a craftsman. What, however, I would ask, are the forces by which the hand or the body was fashioned into its shape? The woodcarver will perhaps say, by the axe or the auger; the physiologist, by air and by earth. Of these two answers the artificer's is the better, but it is nevertheless insufficient. For it is not enough for him to say that by the stroke of his tool this part was formed into a concavity, that into a flat surface; but he must state the reasons why he struck his blow in such a way as to effect this, and what his final object was; namely, that the piece of wood should develop eventually into this or that shape. It is plain, then, that the teaching of the old physiologists is inadequate, and that the true method is to state what the definitive characters are that distinguish the animal as a whole; to explain what it is both in substance and in form, and to deal after the same fashion with its several organs; in fact, to proceed in exactly the same way as we should do, were we giving a complete description of a couch.

If now this something that constitutes the form of the living being be the soul, or part of the soul, or something that without the soul cannot exist; as would seem to be the case, seeing at any rate that when the soul departs, what is left is no longer a living animal, and that none of the parts remain what they were before, excepting in mere configuration, like the animals that in the fable are turned into stone; if, I say, this be so, then it will come within the province of the natural philosopher to inform himself concerning the soul, and to treat of it, either in its entirety, or, at any rate, of that part of it which constitutes the essential character of an animal; and it will be his duty to say what this soul or this part of a soul is; and to discuss the attributes that attach to this essential character, especially as nature is spoken of in two senses, and the nature of a thing is either its matter or its essence; nature as essence including both the motor cause and the final cause. Now it is in the latter of these two senses that either the whole soul or some part of it constitutes the nature of an animal; and inasmuch as it is the presence of the soul that enables matter to constitute the animal nature, much more than it is the presence of matter which so enables the soul, the inquirer into nature is bound on every ground to treat of the soul rather than of the matter. For though the wood of which they are made constitutes the couch and the tripod, it only does so because it is capable of receiving such and such a form.

What has been said suggests the question, whether it is the whole soul or only some part of it, the consideration of which comes within the province of natural science. Now if it be of the whole soul that this should treat, then there is no place for any other philosophy beside it. For as it belongs in all cases to one and the same science to deal with correlated subjects-one and the same science, for instance, deals with sensation and with the objects of sense-and as therefore the intelligent soul and the objects of intellect, being correlated, must belong to one and the same science, it follows that natural science will have to include the whole universe in its province. But perhaps it is not the whole soul, nor all its parts collectively, that constitutes the source of motion; but there may be one part, identical with that in plants, which is the source of growth, another, namely the sensory part, which is the source of change of quality, while still another, and this not the intellectual part, is the source of locomotion. I say not the intellectual part; for other animals than man have the power of locomotion, but in none but him is there intellect. Thus then it is plain that it is not of the whole soul that we have to treat. For it is not the whole soul that constitutes the animal nature, but only some part or parts of it. Moreover, it is impossible that any abstraction can form a subject of natural science, seeing that everything that Nature makes is means to an end. For just as human creations are the products of art, so living objects are manifest in the products of an analogous cause or principle, not external but internal, derived like the hot and the cold from the environing universe. And that the heaven, if it had an origin, was evolved and is maintained by such a cause, there is therefore even more reason to believe, than that mortal animals so originated. For order and definiteness are much more plainly manifest in the celestial bodies than in our own frame; while change and chance are characteristic of the perishable things of earth. Yet there are some who, while they allow that every animal exists and was generated by nature, nevertheless hold that the heaven was constructed to be what it is by chance and spontaneity; the heaven, in which not the faintest sign of haphazard or of disorder is discernible! Again, whenever there is plainly some final end, to which a motion tends should nothing stand in the way, we always say that such final end is the aim or purpose of the motion; and from this it is evident that there must be a something or other really existing, corresponding to what we call by the name of Nature. For a given germ does not give rise to any chance living being, nor spring from any chance one; but each germ springs from a definite parent and gives rise to a definite progeny. And thus it is the germ that is the ruling influence and fabricator of the offspring. For these it is by nature, the offspring being at any rate that which in nature will spring from it. At the same time the offspring is anterior to the germ; for germ and perfected progeny are related as the developmental process and the result. Anterior, however, to both germ and product is the organism from which the germ was derived. For every germ implies two organisms, the parent and the progeny. For germ or seed is both the seed of the organism from which it came, of the horse, for instance, from which it was derived, and the seed of the organism that will eventually arise from it, of the mule, for example, which is developed from the seed of the horse. The same seed then is the seed both of the horse and of the mule, though in different ways as here set forth. Moreover, the seed is potentially that which will spring from it, and the relation of potentiality to actuality we know.

There are then two causes, namely, necessity and the final end. For many things are produced, simply as the results of necessity. It may, however, be asked, of what mode of necessity are we speaking when we say this. For it can be of neither of those two modes which are set forth in the philosophical treatises. There is, however, the third mode, in such things at any rate as are generated. For instance, we say that food is necessary; because an animal cannot possibly do without it. This third mode is what may be called hypothetical necessity. Here is another example of it. If a piece of wood is to be split with an axe, the axe must of necessity be hard; and, if hard, must of necessity be made of bronze or iron. Now exactly in the same way the body, which like the axe is an instrument-for both the body as a whole and its several parts individually have definite operations for which they are made-just in the same way, I say, the body, if it is to do its work, must of necessity be of such and such a character, and made of such and such materials.

It is plain then that there are two modes of causation, and that both of these must, so far as possible, be taken into account in explaining the works of nature, or that at any rate an attempt must be made to include them both; and that those who fail in this tell us in reality nothing about nature. For primary cause constitutes the nature of an animal much more than does its matter. There are indeed passages in which even Empedocles hits upon this, and following the guidance of fact, finds himself constrained to speak of the ratio (olugos) as constituting the essence and real nature of things. Such, for instance, is the case when he explains what is a bone. For he does not merely describe its material, and say it is this one element, or those two or three elements, or a compound of all the elements, but states the ratio (olugos) of their combination. As with a bone, so manifestly is it with the flesh and all other similar parts.

The reason why our predecessors failed in hitting upon this method of treatment was, that they were not in possession of the notion of essence, nor of any definition of substance. The first who came near it was Democritus, and he was far from adopting it as a necessary method in natural science, but was merely brought to it, spite of himself, by constraint of facts. In the time of Socrates a nearer approach was made to the method. But at this period men gave up inquiring into the works of nature, and philosophers diverted their attention to political science and to the virtues which benefit mankind.

Of the method itself the following is an example. In dealing with respiration we must show that it takes place for such or such a final object; and we must also show that this and that part of the process is necessitated by this and that other stage of it. By necessity we shall sometimes mean hypothetical necessity, the necessity, that is, that the requisite antecedants shall be there, if the final end is to be reached; and sometimes absolute necessity, such necessity as that which connects substances and their inherent properties and characters. For the alternate discharge and re-entrance of heat and the inflow of air are necessary if we are to live. Here we have at once a necessity in the former of the two senses. But the alternation of heat and refrigeration produces of necessity an alternate admission and discharge of the outer air, and this is a necessity of the second kind.

In the foregoing we have an example of the method which we must adopt, and also an example of the kind of phenomena, the causes of which we have to investigate.

2

Some writers propose to reach the definitions of the ultimate forms of animal life by bipartite division. But this method is often difficult, and often impracticable.

Sometimes the final differentia of the subdivision is sufficient by itself, and the antecedent differentiae are mere surplusage. Thus in the series Footed, Two-footed, Cleft-footed, the last term is all-expressive by itself, and to append the higher terms is only an idle iteration. Again it is not permissible to break up a natural group, Birds for instance, by putting its members under different bifurcations, as is done in the published dichotomies, where some birds are ranked with animals of the water, and others placed in a different class. The group Birds and the group Fishes happen to be named, while other natural groups have no popular names; for instance, the groups that we may call Sanguineous and Bloodless are not known popularly by any designations. If such natural groups are not to be broken up, the method of Dichotomy cannot be employed, for it necessarily involves such breaking up and dislocation. The group of the Many-footed, for instance, would, under this method, have to be dismembered, and some of its kinds distributed among land animals, others among water animals.

3

Again, privative terms inevitably form one branch of dichotomous division, as we see in the proposed dichotomies. But privative terms in their character of privatives admit of no subdivision. For there can be no specific forms of a negation, of Featherless for instance or of Footless, as there are of Feathered and of Footed. Yet a generic differentia must be subdivisible; for otherwise what is there that makes it generic rather than specific? There are to be found generic, that is specifically subdivisible, differentiae; Feathered for instance and Footed. For feathers are divisible into Barbed and Unbarbed, and feet into Manycleft, and Twocleft, like those of animals with bifid hoofs, and Uncleft or Undivided, like those of animals with solid hoofs. Now even with differentiae capable of this specific subdivision it is difficult enough so to make the classification, as that each animal shall be comprehended in some one subdivision and in not more than one; but far more difficult, nay impossible, is it to do this, if we start with a dichotomy into two contradictories. (Suppose for instance we start with the two contradictories, Feathered and Unfeathered; we shall find that the ant, the glow-worm, and some other animals fall under both divisions.) For each differentia must be presented by some species. There must be some species, therefore, under the privative heading. Now specifically distinct animals cannot present in their essence a common undifferentiated element, but any apparently common element must really be differentiated. (Bird and Man for instance are both Two-footed, but their two-footedness is diverse and differentiated. So any two sanguineous groups must have some difference in their blood, if their blood is part of their essence.) From this it follows that a privative term, being insusceptible of differentiation, cannot be a generic differentia; for, if it were, there would be a common undifferentiated element in two different groups.

Again, if the species are ultimate indivisible groups, that is, are groups with indivisible differentiae, and if no differentia be common to several groups, the number of differentiae must be equal to the number of species. If a differentia though not divisible could yet be common to several groups, then it is plain that in virtue of that common differentia specifically distinct animals would fall into the same division. It is necessary then, if the differentiae, under which are ranged all the ultimate and indivisible groups, are specific characters, that none of them shall be common; for otherwise, as already said, specifically distinct animals will come into one and the same division. But this would violate one of the requisite conditions, which are as follows. No ultimate group must be included in more than a single division; different groups must not be included in the same division; and every group must be found in some division. It is plain then that we cannot get at the ultimate specific forms of the animal, or any other, kingdom by bifurcate division. If we could, the number of ultimate differentiae would equal the number of ultimate animal forms. For assume an order of beings whose prime differentiae are White and Black. Each of these branches will bifurcate, and their branches again, and so on till we reach the ultimate differentiae, whose number will be four or some other power of two, and will also be the number of the ultimate species comprehended in the order.

(A species is constituted by the combination differentia and matter. For no part of an animal is purely material or purely immaterial; nor can a body, independently of its condition, constitute an animal or any of its parts, as has repeatedly been observed.)

Further, the differentiae must be elements of the essence, and not merely essential attributes. Thus if Figure is the term to be divided, it must not be divided into figures whose angles are equal to two right angles, and figures whose angles are together greater than two right angles. For it is only an attribute of a triangle and not part of its essence that its angles are equal to two right angles.

Again, the bifurcations must be opposites, like White and Black, Straight and Bent; and if we characterize one branch by either term, we must characterize the other by its opposite, and not, for example, characterize one branch by a colour, the other by a mode of progression, swimming for instance.

Furthermore, living beings cannot be divided by the functions common to body and soul, by Flying, for instance, and Walking, as we see them divided in the dichotomies already referred to. For some groups, Ants for instance, fall under both divisions, some ants flying while others do not. Similarly as regards the division into Wild and Tame; for it also would involve the disruption of a species into different groups. For in almost all species in which some members are tame, there are other members that are wild. Such, for example, is the case with Men, Horses, Oxen, Dogs in India, Pigs, Goats, Sheep; groups which, if double, ought to have what they have not, namely, different appellations; and which, if single, prove that Wildness and Tameness do not amount to specific differences. And whatever single element we take as a basis of division the same difficulty will occur.

The method then that we must adopt is to attempt to recognize the natural groups, following the indications afforded by the instincts of mankind, which led them for instance to form the class of Birds and the class of Fishes, each of which groups combines a multitude of differentiae, and is not defined by a single one as in dichotomy. The method of dichotomy is either impossible (for it would put a single group under different divisions or contrary groups under the same division), or it only furnishes a single ultimate differentia for each species, which either alone or with its series of antecedents has to constitute the ultimate species.

If, again, a new differential character be introduced at any stage into the division, the necessary result is that the continuity of the division becomes merely a unity and continuity of agglomeration, like the unity and continuity of a series of sentences coupled together by conjunctive particles. For instance, suppose we have the bifurcation Feathered and Featherless, and then divide Feathered into Wild and Tame, or into White and Black. Tame and White are not a differentiation of Feathered, but are the commencement of an independent bifurcation, and are foreign to the series at the end of which they are introduced.

As we said then, we must define at the outset by multiplicity of differentiae. If we do so, privative terms will be available, which are unavailable to the dichotomist.

The impossibility of reaching the definition of any of the ultimate forms by dichotomy of the larger group, as some propose, is manifest also from the following considerations. It is impossible that a single differentia, either by itself or with its antecedents, shall express the whole essence of a species. (In saying a single differentia by itself I mean such an isolated differentia as Cleft-footed; in saying a single differentia with antecedent I mean, to give an instance, Manycleft-footed preceded by Cleft-footed. The very continuity of a series of successive differentiae in a division is intended to show that it is their combination that expresses the character of the resulting unit, or ultimate group. But one is misled by the usages of language into imagining that it is merely the final term of the series, Manycleft-footed for instance, that constitutes the whole differentia, and that the antecedent terms, Footed, Cleft-footed, are superfluous. Now it is evident that such a series cannot consist of many terms. For if one divides and subdivides, one soon reaches the final differential term, but for all that will not have got to the ultimate division, that is, to the species.) No single differentia, I repeat, either by itself or with its antecedents, can possibly express the essence of a species. Suppose, for example, Man to be the animal to be defined; the single differentia will be Cleft-footed, either by itself or with its antecedents, Footed and Two-footed. Now if man was nothing more than a Cleft-footed animal, this single differentia would duly represent his essence. But seeing that this is not the case, more differentiae than this one will necessarily be required to define him; and these cannot come under one division; for each single branch of a dichotomy ends in a single differentia, and cannot possibly include several differentiae belonging to one and the same animal.

It is impossible then to reach any of the ultimate animal forms by dichotomous division.

4

It deserves inquiry why a single name denoting a higher group was not invented by mankind, as an appellation to comprehend the two groups of

Water animals and Winged animals. For even these have certain attributes in common. However, the present nomenclature is just. Groups that only differ in degree, and in the more or less of an identical element that they possess, are aggregated under a single class; groups whose attributes are not identical but analogous are separated. For instance, bird differs from bird by gradation, or by excess and defect; some birds have long feathers, others short ones, but all are feathered. Bird and Fish are more remote and only agree in having analogous organs; for what in the bird is feather, in the fish is scale. Such analogies can scarcely, however, serve universally as indications for the formation of groups, for almost all animals present analogies in their corresponding parts.

The individuals comprised within a species, such as Socrates and Coriscus, are the real existences; but inasmuch as these individuals possess one common specific form, it will suffice to state the universal attributes of the species, that is, the attributes common to all its individuals, once for all, as otherwise there will be endless reiteration, as has already been pointed out.

But as regards the larger groups-such as Birds-which comprehend many species, there may be a question. For on the one hand it may be urged that as the ultimate species represent the real existences, it will be well, if practicable, to examine these ultimate species separately, just as we examine the species Man separately; to examine, that is, not the whole class Birds collectively, but the Ostrich, the Crane, and the other indivisible groups or species belonging to the class.

On the other hand, however, this course would involve repeated mention of the same attribute, as the same attribute is common to many species, and so far would be somewhat irrational and tedious. Perhaps, then, it will be best to treat generically the universal attributes of the groups that have a common nature and contain closely allied subordinate forms, whether they are groups recognized by a true instinct of mankind, such as Birds and Fishes, or groups not popularly known by a common appellation, but withal composed of closely allied subordinate groups; and only to deal individually with the attributes of a single species, when such species, man, for instance, and any other such, if such there be-stands apart from others, and does not constitute with them a larger natural group.

It is generally similarity in the shape of particular organs, or of the whole body, that has determined the formation of the larger groups. It is in virtue of such a similarity that Birds, Fishes, Cephalopoda, and Testacea have been made to form each a separate class. For within the limits of each such class, the parts do not differ in that they have no nearer resemblance than that of analogy-such as exists between the bone of man and the spine of fish-but differ merely in respect of such corporeal conditions as largeness smallness, softness hardness, smoothness roughness, and other similar oppositions, or, in one word, in respect of degree.

We have now touched upon the canons for criticizing the method of natural science, and have considered what is the most systematic and easy course of investigation; we have also dealt with division, and the mode of conducting it so as best to attain the ends of science, and have shown why dichotomy is either impracticable or inefficacious for its professed purposes.

Having laid this foundation, let us pass on to our next topic.

5

Of things constituted by nature some are ungenerated, imperishable, and eternal, while others are subject to generation and decay. The former are excellent beyond compare and divine, but less accessible to knowledge. The evidence that might throw light on them, and on the problems which we long to solve respecting them, is furnished but scantily by sensation; whereas respecting perishable plants and animals we have abundant information, living as we do in their midst, and ample data may be collected concerning all their various kinds, if only we are willing to take sufficient pains. Both departments, however, have their special charm. The scanty conceptions to which we can attain of celestial things give us, from their excellence, more pleasure than all our knowledge of the world in which we live; just as a half glimpse of persons that we love is more delightful than a leisurely view of other things, whatever their number and dimensions. On the other hand, in certitude and in completeness our knowledge of terrestrial things has the advantage. Moreover, their greater nearness and affinity to us balances somewhat the loftier interest of the heavenly things that are the objects of the higher philosophy. Having already treated of the celestial world, as far as our conjectures could reach, we proceed to treat of animals, without omitting, to the best of our ability, any member of the kingdom, however ignoble. For if some have no graces to charm the sense, yet even these, by disclosing to intellectual perception the artistic spirit that designed them, give immense pleasure to all who can trace links of causation, and are inclined to philosophy. Indeed, it would be strange if mimic representations of them were attractive, because they disclose the mimetic skill of the painter or sculptor, and the original realities themselves were not more interesting, to all at any rate who have eyes to discern the reasons that determined their formation. We therefore must not recoil with childish aversion from the examination of the humbler animals. Every realm of nature is marvellous: and as Heraclitus, when the strangers who came to visit him found him warming himself at the furnace in the kitchen and hesitated to go in, reported to have bidden them not to be afraid to enter, as even in that kitchen divinities were present, so we should venture on the study of every kind of animal without distaste; for each and all will reveal to us something natural and something beautiful. Absence of haphazard and conduciveness of everything to an end are to be found in Nature's works in the highest degree, and the resultant end of her generations and combinations is a form of the beautiful.

If any person thinks the examination of the rest of the animal kingdom an unworthy task, he must hold in like disesteem the study of man. For no one can look at the primordia of the human frame-blood, flesh, bones, vessels, and the like-without much repugnance. Moreover, when any one of the parts or structures, be it which it may, is under discussion, it must not be supposed that it is its material composition to which attention is being directed or which is the object of the discussion, but the relation of such part to the total form. Similarly, the true object of architecture is not bricks, mortar, or timber, but the house; and so the principal object of natural philosophy is not the material elements, but their composition, and the totality of the form, independently of which they have no existence.

The course of exposition must be first to state the attributes common to whole groups of animals, and then to attempt to give their explanation. Many groups, as already noticed, present common attributes, that is to say, in some cases absolutely identical affections, and absolutely identical organs,-feet, feathers, scales, and the like-while in other groups the affections and organs are only so far identical as that they are analogous. For instance, some groups have lungs, others have no lung, but an organ analogous to a lung in its place; some have blood, others have no blood, but a fluid analogous to blood, and with the same office. To treat of the common attributes in connexion with each individual group would involve, as already suggested, useless iteration. For many groups have common attributes. So much for this topic.

As every instrument and every bodily member subserves some partial end, that is to say, some special action, so the whole body must be destined to minister to some Plenary sphere of action. Thus the saw is made for sawing, for sawing is a function, and not sawing for the saw. Similarly, the body too must somehow or other be made for the soul, and each part of it for some subordinate function, to which it is adapted.

We have, then, first to describe the common functions, common, that is, to the whole animal kingdom, or to certain large groups, or to the members of a species. In other words, we have to describe the attributes common to all animals, or to assemblages, like the class of Birds, of closely allied groups differentiated by gradation, or to groups like Man not differentiated into subordinate groups. In the first case the common attributes may be called analogous, in the second generic, in the third specific.

When a function is ancillary to another, a like relation manifestly obtains between the organs which discharge these functions; and similarly, if one function is prior to and the end of another, their respective organs will stand to each other in the same relation. Thirdly, the existence of these parts involves that of other things as their necessary consequents.

Instances of what I mean by functions and affections are Reproduction, Growth, Copulation, Waking, Sleep, Locomotion, and other similar vital actions. Instances of what I mean by parts are Nose, Eye, Face, and other so-called members or limbs, and also the more elementary parts of which these are made. So much for the method to be pursued. Let us now try to set forth the causes of all vital phenomena, whether universal or particular, and in so doing let us follow that order of exposition which conforms, as we have indicated, to the order of nature.

Book II

1

THE nature and the number of the parts of which animals are severally composed are matters which have already been set forth in detail in the book of Researches about Animals. We have now to inquire what are the causes that in each case have determined this composition, a subject quite distinct from that dealt with in the Researches.

Now there are three degrees of composition; and of these the first in order, as all will allow, is composition out of what some call the elements, such as earth, air, water, fire. Perhaps, however, it would be more accurate to say composition out of the elementary forces; nor indeed out of all of these, but out of a limited number of them, as defined in previous treatises. For fluid and solid, hot and cold, form the material of all composite bodies; and all other differences are secondary to these, such differences, that is, as heaviness or lightness, density or rarity, roughness or smoothness, and any other such properties of matter as there may be. second degree of composition is that by which the homogeneous parts of animals, such as bone, flesh, and the like, are constituted out of the primary substances. The third and last stage is the composition which forms the heterogeneous parts, such as face, hand, and the rest.

Now the order of actual development and the order of logical existence are always the inverse of each other. For that which is posterior in the order of development is antecedent in the order of nature, and that is genetically last which in nature is first.

(That this is so is manifest by induction; for a house does not exist for the sake of bricks and stones, but these materials for the sake of the house; and the same is the case with the materials of other bodies. Nor is induction required to show this. it is included in our conception of generation. For generation is a process from a something to a something; that which is generated having a cause in which it originates and a cause in which it ends. The originating cause is the primary efficient cause, which is something already endowed with tangible existence, while the final cause is some definite form or similar end; for man generates man, and plant generates plant, in each case out of the underlying material.)

In order of time, then, the material and the generative process must necessarily be anterior to the being that is generated; but in logical order the definitive character and form of each being precedes the material. This is evident if one only tries to define the process of formation. For the definition of house-building includes and presupposes that of the house; but the definition of the house does not include nor presuppose that of house-building; and the same is true of all other productions. So that it must necessarily be that the elementary material exists for the sake of the homogeneous parts, seeing that these are genetically posterior to it, just as the heterogeneous parts are posterior genetically to them. For these heterogeneous parts have reached the end and goal, having the third degree of composition, in which degree generation or development often attains its final term.

Animals, then, are composed of homogeneous parts, and are also composed of heterogeneous parts. The former, however, exist for the sake of the latter. For the active functions and operations of the body are carried on by these; that is, by the heterogeneous parts, such as the eye, the nostril, the whole face, the fingers, the hand, and the whole arm. But inasmuch as there is a great variety in the functions and motions not only of aggregate animals but also of the individual organs, it is necessary that the substances out of which these are composed shall present a diversity of properties. For some purposes softness is advantageous, for others hardness; some parts must be capable of extension, others of flexion. Such properties, then, are distributed separately to the different homogeneous parts, one being soft another hard, one fluid another solid, one viscous another brittle; whereas each of the heterogeneous parts presents a combination of multifarious properties. For the hand, to take an example, requires one property to enable it to effect pressure, and another and different property for simple prehension. For this reason the active or executive parts of the body are compounded out of bones, sinews, flesh, and the like, but not these latter out of the former.

So far, then, as has yet been stated, the relations between these two orders of parts are determined by a final cause. We have, however, to inquire whether necessity may not also have a share in the matter; and it must be admitted that these mutual relations could not from the very beginning have possibly been other than they are. For heterogeneous parts can be made up out of homogeneous parts, either from a plurality of them, or from a single one, as is the case with some of the viscera which, varying in configuration, are yet, to speak broadly, formed from a single homogeneous substance; but that homogeneous substances should be formed out of a combination of heterogeneous parts is clearly an impossibility. For these causes, then, some parts of animals are simple and homogeneous, while others are composite and heterogeneous; and dividing the parts into the active or executive and the sensitive, each one of the former is, as before said, heterogeneous, and each one of the latter homogeneous. For it is in homogeneous parts alone that sensation can occur, as the following considerations show.

Each sense is confined to a single order of sensibles, and its organ must be such as to admit the action of that kind or order. But it is only that which is endowed with a property in posse that is acted on by that which has the like property in esse, so that the two are the same in kind, and if the latter is single so also is the former. Thus it is that while no physiologists ever dream of saying of the hand or face or other such part that one is earth, another water, another fire, they couple each separate sense-organ with a separate element, asserting this one to be air and that other to be fire.

Sensation, then, is confined to the simple or homogeneous parts. But, as might reasonably be expected, the organ of touch, though still homogeneous, is yet the least simple of all the sense-organs. For touch more than any other sense appears to be correlated to several distinct kinds of objects, and to recognize more than one category of contrasts, heat and cold, for instance, solidity and fluidity, and other similar oppositions. Accordingly, the organ which deals with these varied objects is of all the sense-organs the most corporeal, being either the flesh, or the substance which in some animals takes the place of flesh.

Now as there cannot possibly be an animal without sensation, it follows as a necessary consequence that every animal must have some homogeneous parts; for these alone are capable of sensation, the heterogeneous parts serving for the active functions. Again, as the sensory faculty, the motor faculty, and the nutritive faculty are all lodged in one and the same part of the body, as was stated in a former treatise, it is necessary that the part which is the primary seat of these principles shall on the one hand, in its character of general sensory recipient, be one of the simple parts; and on the other hand shall, in its motor and active character, be one of the heterogeneous parts. For this reason it is the heart which in sanguineous animals constitutes this central part, and in bloodless animals it is that which takes the place of a heart. For the heart, like the other viscera, is one of the homogeneous parts; for, if cut up, its pieces are homogeneous in substance with each other. But it is at the same time heterogeneous in virtue of its definite configuration. And the same is true of the other so-called viscera, which are indeed formed from the same material as the heart. For all these viscera have a sanguineous character owing to their being situated upon vascular ducts and branches. For just as a stream of water deposits mud, so the various viscera, the heart excepted, are, as it were, deposits from the stream of blood in the vessels. And as to the heart, the very starting-point of the vessels, and the actual seat of the force by which the blood is first fabricated, it is but what one would naturally expect, that out of the selfsame nutriment of which it is the recipient its own proper substance shall be formed. Such, then, are the reasons why the viscera are of sanguineous aspect; and why in one point of view they are homogeneous, in another heterogeneous.

2

Of the homogeneous parts of animals, some are soft and fluid, others hard and solid; and of the former some are fluid permanently, others only so long as they are in the living body. Such are blood, serum, lard, suet, marrow, semen, bile, milk when present, flesh, and their various analogues. For the parts enumerated are not to be found in all animals, some animals only having parts analogous to them. Of the hard and solid homogeneous parts bone, fish-spine, sinew, blood-vessel, are examples. The last of these points to a sub-division that may be made in the class of homogeneous parts. For in some of them the whole and a portion of the whole in one sense are designated by the same term-as, for example, is the case with blood-vessel and bit of blood-vessel-while in another sense they are not; but a portion of a heterogeneous part, such as face, in no sense has the same designation as the whole.

The first question to be asked is what are the causes to which these homogeneous parts owe their existence? The causes are various; and this whether the parts be solid or fluid. Thus one set of homogeneous parts represent the material out of which the heterogeneous parts are formed; for each separate organ is constructed of bones, sinews, flesh, and the like; which are either essential elements in its formation, or contribute to the proper discharge of its function. A second set are the nutriment of the first, and are invariably fluid, for all growth occurs at the expense of fluid matter; while a third set are the residue of the second. Such, for instance, are the faeces and, in animals that have a bladder, the urine; the former being the dregs of the solid nutriment, the latter of the fluid.

Even the individual homogeneous parts present variations, which are intended in each case to render them more serviceable for their purpose. The variations of the blood may be selected to illustrate this. For different bloods differ in their degrees of thinness or thickness, of clearness or turbidity, of coldness or heat; and this whether we compare the bloods from different parts of the same individual or the bloods of different animals. For, in the individual, all the differences just enumerated distinguish the blood of the upper and of the lower halves of the body; and, dealing with classes, one section of animals is sanguineous, while the other has no blood, but only something resembling it in its place. As regards the results of such differences, the thicker and the hotter blood is, the more conducive is it to strength, while in proportion to its thinness and its coldness is its suitability for sensation and intelligence. A like distinction exists also in the fluid which is analogous to blood. This explains how it is that bees and other similar creatures are of a more intelligent nature than many sanguineous animals; and that, of sanguineous animals, those are the most intelligent whose blood is thin and cold. Noblest of all are those whose blood is hot, and at the same time thin and clear. For such are suited alike for the development of courage and of intelligence. Accordingly, the upper parts are superior in these respects to the lower, the male superior to the female, and the right side to the left. As with the blood so also with the other parts, homogeneous and heterogeneous alike. For here also such variations as occur must be held either to be related to the essential constitution and mode of life of the several animals, or, in other cases, to be merely matters of slightly better or slightly worse. Two animals, for instance, may have eyes. But in one these eyes may be of fluid consistency, while in the other they are hard; and in one there may be eyelids, in the other no such appendages. In such a case, the fluid consistency and the presence of eyelids, which are intended to add to the accuracy of vision, are differences of degree. As to why all animals must of necessity have blood or something of a similar character, and what the nature of blood may be, these are matters which can only be considered when we have first discussed hot and cold. For the natural properties of many substances are referable to these two elementary principles; and it is a matter of frequent dispute what animals or what parts of animals are hot and what cold. For some maintain that water animals are hotter than such as live on land, asserting that their natural heat counterbalances the coldness of their medium; and again, that bloodless animals are hotter than those with blood, and females than males. Parmenides, for instance, and some others declare that women are hotter than men, and that it is the warmth and abundance of their blood which causes their menstrual flow, while Empedocles maintains the opposite opinion. Again, comparing the blood and the bile, some speak of the former as hot and of the latter as cold, while others invert the description. If there be this endless disputing about hot and cold, which of all things that affect our senses are the most distinct, what are we to think as to our other sensory impressions?

The explanation of the difficulty appears to be that the term ‘hotter’ is used in several senses; so that different statements, though in verbal contradiction with each other, may yet all be more or less true. There ought, then, to be some clear understanding as to the sense in which natural substances are to be termed hot or cold, solid or fluid. For it appears manifest that these are properties on which even life and death are largely dependent, and that they are moreover the causes of sleep and waking, of maturity and old age, of health and disease; while no similar influence belongs to roughness and smoothness, to heaviness and lightness, nor, in short, to any other such properties of matter. That this should be so is but in accordance with rational expectation. For hot and cold, solid and fluid, as was stated in a former treatise, are the foundations of the physical elements.

Is then the term hot used in one sense or in many? To answer this we must ascertain what special effect is attributed to a hotter substance, and if there be several such, how many these may be. A body then is in one sense said to be hotter than another, if it impart a greater amount of heat to an object in contact with it. In a second sense, that is said to be hotter which causes the keener sensation when touched, and especially if the sensation be attended with pain. This criterion, however, would seem sometimes to be a false one; for occasionally it is the idiosyncrasy of the individual that causes the sensation to be painful. Again, of two things, that is the hotter which the more readily melts a fusible substance, or sets on fire an inflammable one. Again, of two masses of one and the same substance, the larger is said to have more heat than the smaller. Again, of two bodies, that is said to be the hotter which takes the longer time in cooling, as also we call that which is rapidly heated hotter than that which is long about it; as though the rapidity implied proximity and this again similarity of nature, while the want of rapidity implied distance and this again dissimilarity of nature. The term hotter is used then in all the various senses that have been mentioned, and perhaps in still more. Now it is impossible for one body to be hotter than another in all these different fashions. Boiling water for instance, though it is more scalding than flame, yet has no power of burning or melting combustible or fusible matter, while flame has. So again this boiling water is hotter than a small fire, and yet gets cold more rapidly and completely. For in fact fire never becomes cold; whereas water invariably does so. Boiling water, again, is hotter to the touch than oil; yet it gets cold and solid more rapidly than this other fluid. Blood, again, is hotter to the touch than either water or oil, and yet coagulates before them. Iron, again, and stones and other similar bodies are longer in getting heated than water, but when once heated burn other substances with a much greater intensity. Another distinction is this. In some of the bodies which are called hot the heat is derived from without, while in others it belongs to the bodies themselves; and it makes a most important difference whether the heat has the former or the latter origin. For to call that one of two bodies the hotter, which is possessed of heat, we may almost say, accidentally and not of its own essence, is very much the same thing as if, finding that some man in a fever was a musician, one were to say that musicians are hotter than healthy men. Of that which is hot per se and that which is hot per accidens, the former is the slower to cool, while not rarely the latter is the hotter to the touch. The former again is the more burning of the two-flame, for instance, as compared with boiling water-while the latter, as the boiling water, which is hot per accidens, is the more heating to the touch. From all this it is clear that it is no simple matter to decide which of two bodies is the hotter. For the first may be the hotter in one sense, the second the hotter in another. Indeed in some of these cases it is impossible to say simply even whether a thing is hot or not. For the actual substratum may not itself be hot, but may be hot when coupled with heat as an attribute, as would be the case if one attached a single name to hot water or hot iron. It is after this manner that blood is hot. In such cases, in those, that is, in which the substratum owes its heat to an external influence, it is plain that cold is not a mere privation, but an actual existence.

There is no knowing but that even fire may be another of these cases. For the substratum of fire may be smoke or charcoal, and though the former of these is always hot, smoke being an uprising vapour, yet the latter becomes cold when its flame is extinguished, as also would oil and pinewood under similar circumstances. But even substances that have been burnt nearly all possess some heat, cinders, for example, and ashes, the dejections also of animals, and, among the excretions, bile; because some residue of heat has been left in them after their combustion. It is in another sense that pinewood and fat substances are hot; namely, because they rapidly assume the actuality of fire.

Heat appears to cause both coagulation and melting. Now such things as are formed merely of water are solidified by cold, while such as are formed of nothing but earth are solidified by fire. Hot substances again are solidified by cold, and, when they consist chiefly of earth, the process of solidification is rapid, and the resulting substance is insoluble; but, when their main constituent is water, the solid matter is again soluble. What kinds of substances, however, admit of being solidified, and what are the causes of solidification, are questions that have already been dealt with more precisely in another treatise.

In conclusion, then, seeing that the terms hot and hotter are used in many different senses, and that no one substance can be hotter than others in all these senses, we must, when we attribute this character to an object, add such further statements as that this substance is hotter per se, though that other is often hotter per accidens; or again, that this substance is potentially hot, that other actually so; or again, that this substance is hotter in the sense of causing a greater feeling of heat when touched, while that other is hotter in the sense of producing flame and burning. The term hot being used in all these various senses, it plainly follows that the term cold will also be used with like ambiguity.

So much then as to the signification of the terms hot and cold, hotter and colder.

3

In natural sequence we have next to treat of solid and fluid. These terms are used in various senses. Sometimes, for instance, they denote things that are potentially, at other times things that are actually, solid or fluid. Ice for example, or any other solidified fluid, is spoken of as being actually and accidentally solid, while potentially and essentially it is fluid. Similarly earth and ashes and the like, when mixed with water, are actually and accidentally fluid, but potentially and essentially are solid. Now separate the constituents in such a mixture and you have on the one hand the watery components to which its fluidity was due, and these are both actually and potentially fluid, and on the other hand the earthy components, and these are in every way solid; and it is to bodies that are solid in this complete manner that the term 'solid' is most properly and absolutely applicable. So also the opposite term 'fluld' is strictly and absolutely applicable to that only which is both potentially and actually fluid. The same remark applies also to hot bodies and to cold.

These distinctions, then, being laid down, it is plain that blood is essentially hot in so far as that heat is connoted in its name; just as if boiling water were denoted by a single term, boiling would be connoted in that term. But the substratum of blood, that which it is in substance while it is blood in form, is not hot. Blood then in a certain sense is essentially hot, and in another sense is not so. For heat is included in the definition of blood, just as whiteness is included in the definition of a white man, and so far therefore blood is essentially hot. But so far as blood becomes hot from some external influence, it is not hot essentially.

As with hot and cold, so also is it with solid and fluid. We can therefore understand how some substances are hot and fluid so long as they remain in the living body, but become perceptibly cold and coagulate so soon as they are separated from it; while others are hot and consistent while in the body, but when withdrawn under a change to the opposite condition, and become cold and fluid. Of the former blood is an example, of the latter bile; for while blood solidifies when thus separated, yellow bile under the same circumstances becomes more fluid. We must attribute to such substances the possession of opposite properties in a greater or less degree.

In what sense, then, the blood is hot and in what sense fluid, and how far it partakes of the opposite properties, has now been fairly explained. Now since everything that grows must take nourishment, and nutriment in all cases consists of fluid and solid substances, and since it is by the force of heat that these are concocted and changed, it follows that all living things, animals and plants alike, must on this account, if on no other, have a natural source of heat. This natural heat, moreover, must belong to many parts, seeing that the organs by which the various elaborations of the food are effected are many in number. For first of all there is the mouth and the parts inside the mouth, on which the first share in the duty clearly devolves, in such animals at least as live on food which requires disintegration. The mouth, however, does not actually concoct the food, but merely facilitates concoction; for the subdivision of the food into small bits facilitates the action of heat upon it. After the mouth come the upper and the lower abdominal cavities, and here it is that concoction is effected by the aid of natural heat. Again, just as there is a channel for the admission of the unconcocted food into the stomach, namely the mouth, and in some animals the so-called oesophagus, which is continuous with the mouth and reaches to the stomach, so must there also be other and more numerous channels by which the concocted food or nutriment shall pass out of the stomach and intestines into the body at large, and to which these cavities shall serve as a kind of manger. For plants get their food from the earth by means of their roots; and this food is already elaborated when taken in, which is the reason why plants produce no excrement, the earth and its heat serving them in the stead of a stomach. But animals, with scarcely an exception, and conspicuously all such as are capable of locomotion, are provided with a stomachal sac, which is as it were an internal substitute for the earth. They must therefore have some instrument which shall correspond to the roots of plants, with which they may absorb their food from this sac, so that the proper end of the successive stages of concoction may at last be attained. The mouth then, its duty done, passes over the food to the stomach, and there must necessarily be something to receive it in turn from this. This something is furnished by the bloodvessels, which run throughout the whole extent of the mesentery from its lowest part right up to the stomach. A description of these will be found in the treatises on Anatomy and Natural History. Now as there is a receptacle for the entire matter taken as food, and also a receptacle for its excremental residue, and again a third receptacle, namely the vessels, which serve as such for the blood, it is plain that this blood must be the final nutritive material in such animals as have it; while in bloodless animals the same is the case with the fluid which represents the blood. This explains why the blood diminishes in quantity when no food is taken, and increases when much is consumed, and also why it becomes healthy and unhealthy according as the food is of the one or the other character. These facts, then, and others of a like kind, make it plain that the purpose of the blood in sanguineous animals is to subserve the nutrition of the body. They also explain why no more sensation is produced by touching the blood than by touching one of the excretions or the food, whereas when the flesh is touched sensation is produced. For the blood is not continuous nor united by growth with the flesh, but simply lies loose in its receptacle, that is in the heart and vessels. The manner in which the parts grow at the expense of the blood, and indeed the whole question of nutrition, will find a more suitable place for exposition in the treatise on Generation, and in other writings. For our present purpose all that need be said is that the blood exists for the sake of nutrition, that is the nutrition of the parts; and with this much let us therefore content ourselves.

4

What are called fibres are found in the blood of some animals but not of all. There are none, for instance, in the blood of deer and of roes; and for this reason the blood of such animals as these never coagulates. For one part of the blood consists mainly of water and therefore does not coagulate, this process occurring only in the other and earthy constituent, that is to say in the fibres, while the fluid part is evaporating.

Some at any rate of the animals with watery blood have a keener intellect than those whose blood is of an earthier nature. This is due not to the coldness of their blood, but rather to its thinness and purity; neither of which qualities belongs to the earthy matter. For the thinner and purer its fluid is, the more easily affected is an animal’s sensibility. Thus it is that some bloodless animals, notwithstanding their want of blood, are yet more intelligent than some among the sanguineous kinds. Such for instance, as already said, is the case with the bee and the tribe of ants, and whatever other animals there may be of a like nature. At the same time too great an excess of water makes animals timorous. For fear chills the body; so that in animals whose heart contains so watery a mixture the way is prepared for the operation of this emotion. For water is congealed by cold. This also explains why bloodless animals are, as a general rule, more timorous than such as have blood, so that they remain motionless, when frightened, and discharge their excretions, and in some instances change colour. Such animals, on the other hand, as have thick and abundant fibres in their blood are of a more earthy nature, and of a choleric temperament, and liable to bursts of passion. For anger is productive of heat; and solids, when they have been made hot, give off more heat than fluids. The fibres therefore, being earthy and solid, are turned into so many hot embers in the blood, like the embers in a vapour-bath, and cause ebullition in the fits of passion.

This explains why bulls and boars are so choleric and so passionate. For their blood is exceedingly rich in fibres, and the bull’s at any rate coagulates more rapidly than that of any other animal. If these fibres, that is to say if the earthy constituents of which we are speaking, are taken out of the blood, the fluid that remains behind will no longer coagulate; just as the watery residue of mud will not coagulate after removal of the earth. But if the fibres are left the fluid coagulates, as also does mud, under the influence of cold. For when the heat is expelled by the cold, the fluid, as has been already stated, passes off with it by evaporation, and the residue is dried up and solidified, not by heat but by cold. So long, however, as the blood is in the body, it is kept fluid by animal heat.

The character of the blood affects both the temperament and the sensory faculties of animals in many ways. This is indeed what might reasonably be expected, seeing that the blood is the material of which the whole body is made. For nutriment supplies the material, and the blood is the ultimate nutriment. It makes then a considerable difference whether the blood be hot or cold, thin or thick, turbid or clear.

The watery part of the blood is serum; and it is watery, either owing to its not being yet concocted, or owing to its having become corrupted; so that one part of the serum is the resultant of a necessary process, while another part is material intended to serve for the formation of the blood.

The differences between lard and suet correspond to differences of blood. For both are blood concocted into these forms as a result of abundant nutrition, being that surplus blood that is not expended on the fleshy part of the body, and is of an easily concocted and fatty character. This is shown by the unctuous aspect of these substances; for such unctuous aspect in fluids is due to a combination of air and fire. It follows from what has been said that no non-sanguineous animals have either lard or suet; for they have no blood. Among sanguineous animals those whose blood is dense have suet rather than lard. For suet is of an earthy nature, that is to say, it contains but a small proportion of water and is chiefly composed of earth; and this it is that makes it coagulate, just as the fibrous matter of blood coagulates, or broths which contain such fibrous matter. Thus it is that in those horned animals that have no front teeth in the upper jaw the fat consists of suet. For the very fact that they have horns and huckle-bones shows that their composition is rich in this earthy element; for all such appurtenances are solid and earthy in character. On the other hand in those hornless animals that have front teeth in both jaws, and whose feet are divided into toes, there is no suet, but in its place lard; and this, not being of an earthy character, neither coagulates nor dries up into a friable mass.

Both lard and suet when present in moderate amount are beneficial; for they contribute to health and strength, while they are no hindrance to sensation. But when they are present in great excess, they are injurious and destructive. For were the whole body formed of them it would perish. For an animal is an animal in virtue of its sensory part, that is in virtue of its flesh, or of the substance analogous to flesh. But the blood, as before stated, is not sensitive; as therefore is neither lard nor suet, seeing that they are nothing but concocted blood. Were then the whole body composed of these substances, it would be utterly without sensation. Such animals, again, as are excessively fat age rapidly. For so much of their blood is used in forming fat, that they have but little left; and when there is but little blood the way is already open for decay. For decay may be said to be deficiency of blood, the scantiness of which renders it liable, like all bodies of small bulk, to be injuriously affected by any chance excess of heat or cold. For the same reason fat animals are less prolific than others. For that part of the blood which should go to form semen and seed is used up in the production of lard and suet, which are nothing but concocted blood; so that in these animals there is either no reproductive excretion at all, or only a scanty amount.

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So much then of blood and serum, and of lard and suet. Each of these has been described, and the purposes told for which they severally exist. The marrow also is of the nature of blood, and not, as some think, the germinal force of the semen. That this is the case is quite evident in very young animals. For in the embryo the marrow of the bones has a blood-like appearance, which is but natural, seeing that the parts are all constructed out of blood, and that it is on blood that the embryo is nourished. But, as the young animal grows up and ripens into maturity, the marrow changes its colour, just as do the external parts and the viscera. For the viscera also in animals, so long as they are young, have each and all a blood-like look, owing to the large amount of this fluid which they contain.

The consistency of the marrow agrees with that of the fat. For when the fat consists of lard, then the marrow also is unctuous and lard-like; but when the blood is converted by concoction into suet, and does not assume the form of lard, then the marrow also has a suety character. In those animals, therefore, that have horns and are without upper front teeth, the marrow has the character of suet; while it takes the form of lard in those that have front teeth in both jaws, and that also have the foot divided into toes. What has ben said hardly applies to the spinal marrow. For it is necessary that this shall be continuous and extend without break through the whole backbone, inasmuch as this bone consists of separate vertebrae. But were the spinal marrow either of unctuous fat or of suet, it could not hold together in such a continuous mass as it does, but would either be too fluid or too frangible.

There are some animals that can hardly be said to have any marrow. These are those whose bones are strong and solid, as is the case with the lion. For in this animal the marrow is so utterly insignificant that the bones look as though they had none at all. However, as it is necessary that animals shall have bones or something analogous to them, such as the fish-spines of water-animals, it is also a matter of necessity that some of these bones shall contain marrow; for the substance contained within the bones is the nutriment out of which these are formed. Now the universal nutriment, as already stated, is blood; and the blood within the bone, owing to the heat which is developed in it from its being thus surrounded, undergoes concoction, and self-concocted blood is suet or lard; so that it is perfectly intelligible how the marrow within the bone comes to have the character of these substances. So also it is easy to understand why, in those animals that have strong and compact bones, some of these should be entirely void of marrow, while the rest contain but little of it; for here the nutriment is spent in forming the bones.

Those animals that have fish-spines in place of bones have no other marrow than that of the chine. For in the first place they have naturally but a small amount of blood; and secondly the only hollow fish-spine is that of the chine. In this then marrow is formed; this being the only spine in which there is space for it, and, moreover, being the only one which owing to its division into parts requires a connecting bond. This too is the reason why the marrow of the chine, as already mentioned, is somewhat different from that of other bones. For, having to act the part of a clasp, it must be of glutinous character, and at the same time sinewy so as to admit of stretching.

Such then are the reasons for the existence of marrow, in those animals that have any, and such its nature. It is evidently the surplus of the sanguineous nutriment apportioned to the bones and fish-spines, which has undergone concoction owing to its being enclosed within them.

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From the marrow we pass on in natural sequence to the brain. For there are many who think that the brain itself consists of marrow, and that it forms the commencement of that substance, because they see that the spinal marrow is continuous with it. In reality the two may be said to be utterly opposite to each other in character. For of all the parts of the body there is none so cold as the brain; whereas the marrow is of a hot nature, as is plainly shown by its fat and unctuous character. Indeed this is the very reason why the brain and spinal marrow are continuous with each other. For, wherever the action of any part is in excess, nature so contrives as to set by it another part with an excess of contrary action, so that the excesses of the two may counterbalance each other. Now that the marrow is hot is clearly shown by many indications. The coldness of the brain is also manifest enough. For in the first place it is cold even to the touch; and, secondly, of all the fluid parts of the body it is the driest and the one that has the least blood; for in fact it has no blood at all in its proper substance. This brain is not residual matter, nor yet is it one of the parts which are anatomically continuous with each other; but it has a character peculiar to itself, as might indeed be expected. That it has no continuity with the organs of sense is plain from simple inspection, and is still more clearly shown by the fact, that, when it is touched, no sensation is produced; in which respect it resembles the blood of animals and their excrement. The purpose of its presence in animals is no less than the preservation of the whole body. For some writers assert that the soul is fire or some such force. This, however, is but a rough and inaccurate assertion; and it would perhaps be better to say that the soul is incorporate in some substance of a fiery character. The reason for this being so is that of all substances there is none so suitable for ministering to the operations of the soul as that which is possessed of heat. For nutrition and the imparting of motion are offices of the soul, and it is by heat that these are most readily effected. To say then that the soul is fire is much the same thing as to confound the auger or the saw with the carpenter or his craft, simply because the work is wrought by the two in conjunction. So far then this much is plain, that all animals must necessarily have a certain amount of heat. But as all influences require to be counterbalanced, so that they may be reduced to moderation and brought to the mean (for in the mean, and not in either extreme, lies the true and rational position), nature has contrived the brain as a counterpoise to the region of the heart with its contained heat, and has given it to animals to moderate the latter, combining in it the properties of earth and water. For this reason it is, that every sanguineous animal has a brain; whereas no bloodless creature has such an organ, unless indeed it be, as the Poulp, by analogy. For where there is no blood, there in consequence there is but little heat. The brain, then, tempers the heat and seething of the heart. In order, however, that it may not itself be absolutely without heat, but may have a moderate amount, branches run from both blood-vessels, that is to say from the great vessel and from what is called the aorta, and end in the membrane which surrounds the brain; while at the same time, in order to prevent any injury from the heat, these encompassing vessels, instead of being few and large, are numerous and small, and their blood scanty and clear, instead of being abundant and thick. We can now understand why defluxions have their origin in the head, and occur whenever the parts about the brain have more than a due proportion of coldness. For when the nutriment steams upwards through the blood-vessels, its refuse portion is chilled by the influence of this region, and forms defluxions of phlegm and serum. We must suppose, to compare small things with great, that the like happens here as occurs in the production of showers. For when vapour steams up from the earth and is carried by the heat into the upper regions, so soon as it reaches the cold air that is above the earth, it condenses again into water owing to the refrigeration, and falls back to the earth as rain. These, however, are matters which may be suitably considered in the Principles of Diseases, so far as natural philosophy has anything to say to them.

It is the brain again-or, in animals that have no brain, the part analogous to it-which is the cause of sleep. For either by chilling the blood that streams upwards after food, or by some other similar influences, it produces heaviness in the region in which it lies (which is the reason why drowsy persons hang the head), and causes the heat to escape downwards in company with the blood. It is the accumulation of this in excess in the lower region that produces complete sleep, taking away the power of standing upright from those animals to whom that posture is natural, and from the rest the power of holding up the head. These, however, are matters which have been separately considered in the treatises on Sensation and on Sleep.

That the brain is a compound of earth and water is shown by what occurs when it is boiled. For, when so treated, it turns hard and solid, inasmuch as the water is evaporated by the heat, and leaves the earthy part behind. Just the same occurs when pulse and other fruits are boiled. For these also are hardened by the process, because the water which enters into their composition is driven off and leaves the earth, which is their main constituent, behind.

Of all animals, man has the largest brain in proportion to his size; and it is larger in men than in women. This is because the region of the heart and of the lung is hotter and richer in blood in man than in any other animal; and in men than in women. This again explains why man, alone of animals, stands erect. For the heat, overcoming any opposite inclination, makes growth take its own line of direction, which is from the centre of the body upwards. It is then as a counterpoise to his excessive heat that in man’s brain there is this superabundant fluidity and coldness; and it is again owing to this superabundance that the cranial bone, which some call the Bregma, is the last to become solidified; so long does evaporation continue to occur through it under the influence of heat. Man is the only sanguineous animal in which this takes place. Man, again, has more sutures in his skull than any other animal, and the male more than the female. The explanation is again to be found in the greater size of the brain, which demands free ventilation, proportionate to its bulk. For if the brain be either too fluid or too solid, it will not perform its office, but in the one case will freeze the blood, and in the other will not cool it at all; and thus will cause disease, madness, and death. For the cardiac heat and the centre of life is most delicate in its sympathies, and is immediately sensitive to the slightest change or affection of the blood on the outer surface of the brain.

The fluids which are present in the animal body at the time of birth have now nearly all been considered. Amongst those that appear only at a later period are the residua of the food, which include the deposits of the belly and also those of the bladder. Besides these there is the semen and the milk, one or the other of which makes its appearance in appropriate animals. Of these fluids the excremental residua of the food may be suitably discussed by themselves, when we come to examine and consider the subject of nutrition. Then will be the time to explain in what animals they are found, and what are the reasons for their presence. Similarly all questions concerning the semen and the milk may be dealt with in the treatise on Generation, for the former of these fluids is the very starting-point of the generative process, and the latter has no other ground of existence than generative purposes.

8

We have now to consider the remaining homogeneous parts, and will begin with flesh, and with the substance that, in animals that have no flesh, takes its place. The reason for so beginning is that flesh forms the very basis of animals, and is the essential constituent of their body. Its right to this precedence can also be demonstrated logically. For an animal is by our definition something that has sensibility and chief of all the primary sensibility, which is that of Touch; and it is the flesh, or analogous substance, which is the organ of this sense. And it is the organ, either in the same way as the pupil is the organ of sight, that is it constitutes the primary organ of the sense; or it is the organ and the medium through which the object acts combined, that is it answers to the pupil with the whole transparent medium attached to it. Now in the case of the other senses it was impossible for nature to unite the medium with the sense-organ, nor would such a junction have served any purpose; but in the case of touch she was compelled by necessity to do so. For of all the sense-organs that of touch is the only one that has corporeal substance, or at any rate it is more corporeal than any other, and its medium must be corporeal like itself.

It is obvious also to sense that it is for the sake of the flesh that all the other parts exist. By the other parts I mean the bones, the skin, the sinews, and the blood-vessels, and, again, the hair and the various kinds of nails, and anything else there may be of a like character. Thus the bones are a contrivance to give security to the soft parts, to which purpose they are adapted by their hardness; and in animals that have no bones the same office is fulfilled by some analogous substance, as by fishspine in some fishes, and by cartilage in others.

Now in some animals this supporting substance is situated within the body, while in some of the bloodless species it is placed on the outside. The latter is the case in all the Crustacea, as the Carcini (Crabs) and the Carabi (Prickly Lobsters); it is the case also in the Testacea, as for instance in the several species known by the general name of oysters. For in all these animals the fleshy substance is within, and the earthy matter, which holds the soft parts together and keeps them from injury, is on the outside. For the shell not only enables the soft parts to hold together, but also, as the animal is bloodless and so has but little natural warmth, surrounds it, as a chaufferette does the embers, and keeps in the smouldering heat. Similar to this seems to be the arrangement in another and distinct tribe of animals, namely the Tortoises, including the Chelone and the several kinds of Emys. But in Insects and in Cephalopods the plan is entirely different, there being moreover a contrast between these two themselves. For in neither of these does there appear to be any bony or earthy part, worthy of notice, distinctly separated from the rest of the body. Thus in the Cephalopods the main bulk of the body consists of a soft flesh-like substance, or rather of a substance which is intermediate to flesh and sinew, so as not to be so readily destructible as actual flesh. I call this substance intermediate to flesh and sinew, because it is soft like the former, while it admits of stretching like the latter. Its cleavage, however, is such that it splits not longitudinally, like sinew, but into circular segments, this being the most advantageous condition, so far as strength is concerned.

These animals have also a part inside them corresponding to the spinous bones of fishes. For instance, in the Cuttle-fishes there is what is known as the os sepiae, and in the Calamaries there is the so-called gladius. In the Poulps, on the other hand, there is no such internal part, because the body, or, as it is termed in them, the head, forms but a short sac, whereas it is of considerable length in the other two; and it was this length which led nature to assign to them their hard support, so as to ensure their straightness and inflexibility; just as she has assigned to sanguineous animals their bones or their fish-spines, as the case may be. To come now to Insects. In these the arrangement is quite different from that of the Cephalopods; quite different also from that which obtains in sanguineous animals, as indeed has been already stated. For in an insect there is no distinction into soft and hard parts, but the whole body is hard, the hardness, however, being of such a character as to be more flesh-like than bone, and more earthy and bone-like than flesh. The purpose of this is to make the body of the insect less liable to get broken into pieces.

9

There is a resemblance between the osseous and the vascular systems; for each has a central part in which it begins, and each forms a continuous whole. For no bone in the body exists as a separate thing in itself, but each is either a portion of what may be considered a continuous whole, or at any rate is linked with the rest by contact and by attachments; so that nature may use adjoining bones either as though they were actually continuous and formed a single bone, or, for purposes of flexure, as though they were two and distinct. And similarly no blood-vessel has in itself a separate individuality; but they all form parts of one whole. For an isolated bone, if such there were, would in the first place be unable to perform the office for the sake of which bones exist; for, were it discontinuous and separated from the rest by a gap, it would be perfectly unable to produce either flexure or extension; nor only so, but it would actually be injurious, acting like a thorn or an arrow lodged in the flesh. Similarly if a vessel were isolated, and not continuous with the vascular centre, it would be unable to retain the blood within it in a proper state. For it is the warmth derived from this centre that hinders the blood from coagulating; indeed the blood, when withdrawn from its influence, becomes manifestly putrid. Now the centre or origin of the blood-vessels is the heart, and the centre or origin of the bones, in all animals that have bones, is what is called the chine. With this all the other bones of the body are in continuity; for it is the chine that holds together the whole length of an animal and preserves its straightness. But since it is necessary that the body of an animal shall bend during locomotion, this chine, while it is one in virtue of the continuity of its parts, yet its division into vertebrae is made to consist of many segments. It is from this chine that the bones of the limbs, in such animals as have these parts, proceed, and with it they are continuous, being fastened together by the sinews where the limbs admit of flexure, and having their extremities adapted to each other, either by the one being hollowed and the other rounded, or by both being hollowed and including between them a hucklebone, as a connecting bolt, so as to allow of flexure and extension. For without some such arrangement these movements would be utterly impossible, or at any rate would be performed with great difficulty. There are some joints, again, in which the lower end of the one bone and the upper end of the other are alike in shape. In these cases the bones are bound together by sinews, and cartilaginous pieces are interposed in the joint, to serve as a kind of padding, and prevent the two extremities from grating against each other.

Round about the bones, and attached to them by thin fibrous bands, grow the fleshy parts, for the sake of which the bones themselves exist. For just as an artist, when he is moulding an animal out of clay or other soft substance, takes first some solid body as a basis, and round this moulds the clay, so also has nature acted in fashioning the animal body out of flesh. Thus we find all the fleshy parts, with one exception, supported by bones, which serve, when the parts are organs of motion, to facilitate flexure, and, when the parts are motionless, act as a protection. The ribs, for example, which enclose the chest are intended to ensure the safety of the heart and neighbouring viscera. The exception of which mention was made is the belly. The walls of this are in all animals devoid of bones; in order that there may be no hindrance to the expansion which necessarily occurs in this part after a meal, nor, in females, any interference with the growth of the foetus, which is lodged here.

Now the bones of viviparous animals, of such, that is, as are not merely externally but also internally viviparous, vary but very little from each other in point of strength, which in all of them is considerable. For the Vivipara in their bodily proportions are far above other animals, and many of them occasionally grow to an enormous size, as is the case in Libya and in hot and dry countries generally. But the greater the bulk of an animal, the stronger, the bigger, and the harder, are the supports which it requires; and comparing the big animals with each other, this requirement will be most marked in those that live a life of rapine. Thus it is that the bones of males are harder than those of females; and the bones of flesh-eaters, that get their food by fighting, are harder than those of Herbivora. Of this the Lion is an example; for so hard are its bones, that, when struck, they give off sparks, as though they were stones. It may be mentioned also that the Dolphin, in as much as it is viviparous, is provided with bones and not with fish-spines.

In those sanguineous animals, on the other hand, that are oviparous, the bones present successive slight variations of character. Thus in Birds there are bones, but these are not so strong as the bones of the Vivipara. Then come the Oviparous fishes, where there is no bone, but merely fish-spine. In the Serpents too the bones have the character of fish-spine, excepting in the very large species, where the solid foundation of the body requires to be stronger, in order that the animal itself may be strong, the same reason prevailing as in the case of the Vivipara. Lastly, in the Selachia, as they are called, the fish-spines are replaced by cartilage. For it is necessary that the movements of these animals shall be of an undulating character; and this again requires the framework that supports the body to be made of a pliable and not of a brittle substance. Moreover, in these Selachia nature has used all the earthy matter on the skin; and she is unable to allot to many different parts one and the same superfluity of material. Even in viviparous animals many of the bones are cartilaginous. This happens in those parts where it is to the advantage of the surrounding flesh that its solid base shall be soft and mucilaginous. Such, for instance, is the case with the ears and nostrils; for in projecting parts, such as these, brittle substances would soon get broken. Cartilage and bone are indeed fundamentally the same thing, the differences between them being merely matters of degree. Thus neither cartilage nor bone, when once cut off, grows again. Now the cartilages of these land animals are without marrow, that is without any distinctly separate marrow. For the marrow, which in bones is distinctly separate, is here mixed up with the whole mass, and gives a soft and mucilaginous consistence to the cartilage. But in the Selachia the chine, though it is cartilaginous, yet contains marrow; for here it stands in the stead of a bone.

Very nearly resembling the bones to the touch are such parts as nails, hoofs, whether solid or cloven, horns, and the beaks of birds, all of which are intended to serve as means of defence. For the organs which are made out of these substances, and which are called by the same names as the substances themselves, the organ hoof, for instance, and the organ horn, are contrivances to ensure the preservation of the animals to which they severally belong. In this class too must be reckoned the teeth, which in some animals have but a single function, namely the mastication of the food, while in others they have an additional office, namely to serve as weapons; as is the case with all animals that have sharp interfitting teeth or that have tusks. All these parts are necessarily of solid and earthy character; for the value of a weapon depends on such properties. Their earthy character explains how it is that all such parts are more developed in four-footed vivipara than in man. For there is always more earth in the composition of these animals than in that of the human body. However, not only all these parts but such others as are nearly connected with them, skin for instance, bladder, membrane, hairs, feathers, and their analogues, and any other similar parts that there may be, will be considered farther on with the heterogeneous parts. There we shall inquire into the causes which produce them, and into the objects of their presence severally in the bodies of animals. For, as with the heterogeneous parts, so with these, it is from a consideration of their functions that alone we can derive any knowledge of them. The reason for dealing with them at all in this part of the treatise, and classifying them with the homogeneous parts, is that under one and the same name are confounded the entire organs and the substances of which they are composed. But of all these substances flesh and bone form the basis. Semen and milk were also passed over when we were considering the homogeneous fluids. For the treatise on Generation will afford a more suitable place for their examination, seeing that the former of the two is the very foundation of the thing generated, while the latter is its nourishment.

10

Let us now make, as it were, a fresh beginning, and consider the heterogeneous parts, taking those first which are the first in importance. For in all animals, at least in all the perfect kinds, there are two parts more essential than the rest, namely the part which serves for the ingestion of food, and the part which serves for the discharge of its residue. For without food growth and even existence is impossible. Intervening again between these two parts there is invariably a third, in which is lodged the vital principle. As for plants, though they also are included by us among things that have life, yet are they without any part for the discharge of waste residue. For the food which they absorb from the ground is already concocted, and they give off as its equivalent their seeds and fruits. Plants, again, inasmuch as they are without locomotion, present no great variety in their heterogeneous parts. For, where the functions are but few, few also are the organs required to effect them. The configuration of plants is a matter then for separate consideration. Animals, however, that not only live but feel, present a greater multiformity of parts, and this diversity is greater in some animals than in others, being most varied in those to whose share has fallen not mere life but life of high degree. Now such an animal is man. For of all living beings with which we are acquainted man alone partakes of the divine, or at any rate partakes of it in a fuller measure than the rest. For this reason, then, and also because his external parts and their forms are more familiar to us than those of other animals, we must speak of man first; and this the more fitly, because in him alone do the natural parts hold the natural position; his upper part being turned towards that which is upper in the universe. For, of all animals, man alone stands erect.

In man, then, the head is destitute of flesh; this being the necessary consequence of what has already been stated concerning the brain. There are, indeed, some who hold that the life of man-would be longer than it is, were his head more abundantly furnished with flesh; and they account for the absence of this substance by saying that it is intended to add to the perfection of sensation. For the brain they assert to be the organ of sensation; and sensation, they say, cannot penetrate to parts that are too thickly covered with flesh. But neither part of this statement is true. On the contrary, were the region of the brain thickly covered with flesh, the very purpose for which animals are provided with a brain would be directly contravened. For the brain would itself be heated to excess and so unable to cool any other part; and, as to the other half of their statement, the brain cannot be the cause of any of the sensations, seeing that it is itself as utterly without feeling as any one of the excretions. These writers see that certain of the senses are located in the head, and are unable to discern the reason for this; they see also that the brain is the most peculiar of all the animal organs; and out of these facts they form an argument, by which they link sensation and brain together. It has, however, already been clearly set forth in the treatise on Sensation, that it is the region of the heart that constitutes the sensory centre. There also it was stated that two of the senses, namely touch and taste, are manifestly in immediate connexion with the heart; and that as regards the other three, namely hearing, sight, and the centrally placed sense of smell, it is the character of their sense-organs which causes them to be lodged as a rule in the head. Vision is so placed in all animals. But such is not invariably the case with hearing or with smell. For fishes and the like hear and smell, and yet have no visible organs for these senses in the head; a fact which demonstrates the accuracy of the opinion here maintained. Now that vision, whenever it exists, should be in the neighbourhood of the brain is but what one would rationally expect. For the brain is fluid and cold, and vision is of the nature of water, water being of all transparent substances the one most easily confined. Moreover it cannot but necessarily be that the more precise senses will have their precision rendered still greater if ministered to by parts that have the purest blood. For the motion of the heat of blood destroys sensory activity. For these reasons the organs of the precise senses are lodged in the head.

It is not only the fore part of the head that is destitute of flesh, but the hind part also. For, in all animals that have a head, it is this head which more than any other part requires to be held up. But, were the head heavily laden with flesh, this would be impossible; for nothing so burdened can be held upright. This is an additional proof that the absence of flesh from the head has no reference to brain sensation. For there is no brain in the hinder part of the head, and yet this is as much without flesh as is the front.

In some animals hearing as well as vision is lodged in the region of the head. Nor is this without a rational explanation. For what is called the empty space is full of air, and the organ of hearing is, as we say, of the nature of air. Now there are channels which lead from the eyes to the blood-vessels that surround the brain; and similarly there is a channel which leads back again from each ear and connects it with the hinder part of the head. But no part that is without blood is endowed with sensation, as neither is the blood itself, but only some one of the parts that are formed of blood.

The brain in all animals that have one is placed in the front part of the head; because the direction in which sensation acts is in front; and because the heart, from which sensation proceeds, is in the front part of the body; and lastly because the instruments of sensation are the blood-containing parts, and the cavity in the posterior part of the skull is destitute of blood-vessels.

As to the position of the sense-organs, they have been arranged by nature in the following well-ordered manner. The organs of hearing are so placed as to divide the circumference of the head into two equal halves; for they have to hear not only sounds which are directly in line with themselves, but sounds from all quarters. The organs of vision are placed in front, because sight is exercised only in a straight line, and moving as we do in a forward direction it is necessary that we should see before us, in the direction of our motion. Lastly, the organs of smell are placed with good reason between the eyes. For as the body consists of two parts, a right half and a left, so also each organ of sense is double. In the case of touch this is not apparent, the reason being that the primary organ of this sense is not the flesh or analogous part, but lies internally. In the case of taste, which is merely a modification of touch and which is placed in the tongue, the fact is more apparent than in the case of touch, but still not so manifest as in the case of the other senses. However, even in taste it is evident enough; for in some animals the tongue is plainly forked. The double character of the sensations is, however, more conspicuous in the other organs of sense. For there are two ears and two eyes, and the nostrils, though joined together, are also two. Were these latter otherwise disposed, and separated from each other as are the ears, neither they nor the nose in which they are placed would be able to perform their office. For in such animals as have nostrils olfaction is effected by means of inspiration, and the organ of inspiration is placed in front and in the middle line. This is the reason why nature has brought the two nostrils together and placed them as the central of the three sense-organs, setting them side by side on a level with each other, to avail themselves of the inspiratory motion. In other animals than man the arrangement of these sense-organs is also such as is adapted in each case to the special requirements.

11

For instance, in quadrupeds the ears stand out freely from the head and are set to all appearance above the eyes. Not that they are in reality above the eyes; but they seem to be so, because the animal does not stand erect, but has its head hung downwards. This being the usual attitude of the animal when in motion, it is of advantage that its ears shall be high up and movable; for by turning themselves about they can the better take in sounds from every quarter.

12

In birds, on the other hand, there are no ears, but only the auditory passages. This is because their skin is hard and because they have feathers instead of hairs, so that they have not got the proper material for the formation of ears. Exactly the same is the case with such oviparous quadrupeds as are clad with scaly plates, and the same explanation applies to them. There is also one of the viviparous quadrupeds, namely the seal, that has no ears but only the auditory passages. The explanation of this is that the seal, though a quadruped, is a quadruped of stunted formation.

13

Men, and Birds, and Quadrupeds, viviparous and oviparous alike, have their eyes protected by lids. In the Vivipara there are two of these; and both are used by these animals not only in closing the eyes, but also in the act of blinking; whereas the oviparous quadrupeds, and the heavy-bodied birds as well as some others, use only the lower lid to close the eye; while birds blink by means of a membrane that issues from the canthus. The reason for the eyes being thus protected is that nature has made them of fluid consistency, in order to ensure keenness of vision. For had they been covered with hard skin, they would, it is true, have been less liable to get injured by anything falling into them from without, but they would not have been sharp-sighted. It is then to ensure keenness of vision that the skin over the pupil is fine and delicate; while the lids are superadded as a protection from injury. It is as a still further safeguard that all these animals blink, and man most of all; this action (which is not performed from deliberate intention but from a natural instinct) serving to keep objects from falling into the eyes; and being more frequent in man than in the rest of these animals, because of the greater delicacy of his skin. These lids are made of a roll of skin; and it is because they are made of skin and contain no flesh that neither they, nor the similarly constructed prepuce, unite again when once cut.

As to the oviparous quadrupeds, and such birds as resemble them in closing the eye with the lower lid, it is the hardness of the skin of their heads which makes them do so. For such birds as have heavy bodies are not made for flight; and so the materials which would otherwise have gone to increase the growth of the feathers are diverted thence, and used to augment the thickness of the skin. Birds therefore of this kind close the eye with the lower lid; whereas pigeons and the like use both upper and lower lids for the purpose. As birds are covered with feathers, so oviparous quadrupeds are covered with scaly plates; and these in all their forms are harder than hairs, so that the skin also to which they belong is harder than the skin of hairy animals. In these animals, then, the skin on the head is hard, and so does not allow of the formation of an upper eyelid, whereas lower down the integument is of a flesh-like character, so that the lower lid can be thin and extensible.

The act of blinking is performed by the heavy-bodied birds by means of the membrane already mentioned, and not by this lower lid. For in blinking rapid motion is required, and such is the motion of this membrane, whereas that of the lower lid is slow. It is from the canthus that is nearest to the nostrils that the membrane comes. For it is better to have one starting-point for nictitation than two; and in these birds this starting-point is the junction of eye and nostrils, an anterior starting-point being preferable to a lateral one. Oviparous quadrupeds do not blink in like manner as the birds; for, living as they do on the ground, they are free from the necessity of having eyes of fluid consistency and of keen sight, whereas these are essential requisites for birds, inasmuch as they have to use their eyes at long distances. This too explains why birds with talons, that have to search for prey by eye from aloft, and therefore soar to greater heights than other birds, are sharpsighted; while common fowls and the like, that live on the ground and are not made for flight, have no such keenness of vision. For there is nothing in their mode of life which imperatively requires it.

Fishes and Insects and the hard-skinned Crustacea present certain differences in their eyes, but so far resemble each other as that none of them have eyelids. As for the hard-skinned Crustacea it is utterly out of the question that they should have any; for an eyelid, to be of use, requires the action of the skin to be rapid. These animals then have no eyelids and, in default of this protection, their eyes are hard, just as though the lid were attached to the surface of the eye, and the animal saw through it. Inasmuch, however, as such hardness must necessarily blunt the sharpness of vision, nature has endowed the eyes of Insects, and still more those of Crustacea, with mobility (just as she has given some quadrupeds movable ears), in order that they may be able to turn to the light and catch its rays, and so see more plainly. Fishes, however, have eyes of a fluid consistency. For animals that move much about have to use their vision at considerable distances. If now they live on land, the air in which they move is transparent enough. But the water in which fishes live is a hindrance to sharp sight, though it has this advantage over the air, that it does not contain so many objects to knock against the eyes. The risk of collision being thus small, nature, who makes nothing in vain, has given no eyelids to fishes, while to counterbalance the opacity of the water she has made their eyes of fluid consistency.

14

All animals that have hairs on the body have lashes on the eyelids; but birds and animals with scale-like plates, being hairless, have none. The Libyan ostrich, indeed, forms an exception; for, though a bird, it is furnished with eyelashes. This exception, however, will be explained hereafter. Of hairy animals, man alone has lashes on both lids. For in quadrupeds there is a greater abundance of hair on the back than on the under side of the body; whereas in man the contrary is the case, and the hair is more abundant on the front surface than on the back. The reason for this is that hair is intended to serve as a protection to its possessor. Now, in quadrupeds, owing to their inclined attitude, the under or anterior surface does not require so much protection as the back, and is therefore left comparatively bald, in spite of its being the nobler of the two sides. But in man, owing to his upright attitude, the anterior and posterior surfaces of the body are on an equality as regards need of protection. Nature therefore has assigned the protective covering to the nobler of the two surfaces; for invariably she brings about the best arrangement of such as are possible. This then is the reason that there is no lower eyelash in any quadruped; though in some a few scattered hairs sprout

out under the lower lid. This also is the reason that they never have hair in the axillae, nor on the pubes, as man has. Their hair, then, instead of being collected in these parts, is either thickly set over the whole dorsal surface, as is the case for instance in dogs, or, sometimes, forms a mane, as in horses and the like, or as in the male lion where the mane is still more flowing and ample. So, again, whenever there is a tail of any length, nature decks it with hair, with long hair if the stem of the tail be short, as in horses, with short hair if the stem be long, regard also being had to the condition of the rest of the body. For nature invariably gives to one part what she subtracts from another. Thus when she has covered the general surface of an animal's body with an excess of hair, she leaves a deficiency in the region of the tail. This, for instance, in the case with bears.

No animal has so much hair on the head as man. This, in the first place, is the necessary result of the fluid character of his brain, and of the presence of so many sutures in his skull. For wherever there is the most fluid and the most heat, there also must necessarily occur the greatest outgrowth. But, secondly, the thickness of the hair in this part has a final cause, being intended to protect the head, by preserving it from excess of either heat or cold. And as the brain of man is larger and more fluid than that of any other animal, it requires a proportionately greater amount of protection. For the more fluid a substance is, the more readily does it get excessively heated or excessively chilled, while substances of an opposite character are less liable to such injurious affections.

These, however, are matters which by their close connexion with eyelashes have led us to digress from our real topic, namely the cause to which these lashes owe their existence. We must therefore defer any further remarks we may have to make on these matters till the proper occasion arises and then return to their consideration.

15

Both eyebrows and eyelashes exist for the protection of the eyes; the former that they may shelter them, like the eaves of a house, from any fluids that trickle down from the head; the latter to act like the palisades which are sometimes placed in front of enclosures, and keep out any objects which might otherwise get in. The brows are placed over the junction of two bones, which is the reason that in old age they often become so bushy as to require cutting. The lashes are set at the terminations of small blood-vessels. For the vessels come to an end where the skin itself terminates; and, in all places where these endings occur, the exudation of moisture of a corporeal character necessitates the growth of hairs, unless there be some operation of nature which interferes, by diverting the moisture to another purpose.

16

Viviparous quadrupeds, as a rule, present no great variety of form in the organ of smell. In those of them, however, whose jaws project forwards and taper to a narrow end, so as to form what is called a snout, the nostrils are placed in this projection, there being no other available plan; while, in the rest, there is a more definite demarcation between nostrils and jaws. But in no animal is this part so peculiar as in the elephant, where it attains an extraordinary and strength. For the elephant uses its nostril as a hand; this being the instrument with which it conveys food, fluid and solid alike, to its mouth. With it, too, it tears up trees, coiling it round their stems. In fact it applies it generally to the purposes of a hand. For the elephant has the double character of a land animal, and of one that lives in swamps. Seeing then that it has to get its food from the water, and yet must necessarily breathe, inasmuch as it is a land animal and has blood; seeing, also, that its excessive weight prevents it from passing rapidly from water to land, as some other sanguineous vivipara that breathe can do, it becomes necessary that it shall be suited alike for life in the water and for life on dry land. just then as divers are sometimes provided with instruments for respiration, through which they can draw air from above the water, and thus may remain for a long time under the sea, so also have elephants been furnished by nature with their lengthened nostril; and, whenever they have to traverse the water, they lift this up above the surface and breathe through it. For the elephant’s proboscis, as already said, is a nostril. Now it would have been impossible for this nostril to have the form of a proboscis, had it been hard and incapable of bending. For its very length would then have prevented the animal from supplying itself with food, being as great an impediment as the of certain oxen, that are said to be obliged to walk backwards while they are grazing. It is therefore soft and flexible, and, being such, is made, in addition to its own proper functions, to serve the office of the fore-feet; nature in this following her wonted plan of using one and the same part for several purposes. For in polydactylous quadrupeds the fore-feet are intended not merely to support the weight of the body, but to serve as hands. But in elephants, though they must be reckoned polydactylous, as their foot has neither cloven nor solid hoof, the fore-feet, owing to the great size and weight of the body, are reduced to the condition of mere supports; and indeed their slow motion and unfitness for bending make them useless for any other purpose. A nostril, then, is given to the elephant for respiration, as to every other animal that has a lung, and is lengthened out and endowed with its power of coiling because the animal has to remain for considerable periods of time in the water, and is unable to pass thence to dry ground with any rapidity. But as the feet are shorn of their full office, this same part is also, as already said, made by nature to supply their place, and give such help as otherwise would be rendered by them.

As to other sanguineous animals, the Birds, the Serpents, and the Oviparous quadrupeds, in all of them there are the nostril-holes, placed in front of the mouth; but in none are there any distinctly formed nostrils, nothing in fact which can be called nostrils except from a functional point of view. A bird at any rate has nothing which can properly be called a nose. For its so-called beak is a substitute for jaws. The reason for this is to be found in the natural conformation of birds. For they are winged bipeds; and this makes it necessary that their heads and neck shall be of light weight; just as it makes it necessary that their breast shall be narrow. The beak therefore with which they are provided is formed of a bone-like substance, in order that it may serve as a weapon as well as for nutritive purposes, but is made of narrow dimensions to suit the small size of the head. In this beak are placed the olfactory passages. But there are no nostrils; for such could not possibly be placed there.

As for those animals that have no respiration, it has already been explained why it is that they are without nostrils, and perceive odours either through gills, or through a blowhole, or, if they are insects, by the hypozoma; and how the power of smelling depends, like their motion, upon the innate spirit of their bodies, which in all of them is implanted by nature and not introduced from without.

Under the nostrils are the lips, in such sanguineous animals, that is, as have teeth. For in birds, as already has been said, the purposes of nutrition and defence are fulfilled by a bonelike beak, which forms a compound substitute for teeth and lips. For supposing that one were to cut off a man’s lips, unite his upper teeth together, and similarly his under ones, and then were to lengthen out the two separate pieces thus formed, narrowing them on either side and making them project forwards, supposing, I say, this to be done, we should at once have a bird-like beak.

The use of the lips in all animals except man is to preserve and guard the teeth; and thus it is that the distinctness with which the lips are formed is in direct proportion to the degree of nicety and perfection with which the teeth are fashioned. In man the lips are soft and flesh-like and capable of separating from each other. Their purpose, as in other animals, is to guard the teeth, but they are more especially intended to serve a higher office, contributing in common with other parts to man’s faculty of speech. For just as nature has made man’s tongue unlike that of other animals, and, in accordance with what I have said is her not uncommon practice, has used it for two distinct operations, namely for the perception of savours and for speech, so also has she acted with regard to the lips, and made them serve both for speech and for the protection of the teeth. For vocal speech consists of combinations of the letters, and most of these would be impossible to pronounce, were the lips not moist, nor the tongue such as it is. For some letters are formed by closures of the lips and others by applications of the tongue. But what are the differences presented by these and what the nature and extent of such differences, are questions to which answers must be sought from those who are versed in metrical science. It was necessary that the two parts which we are discussing should, in conformity with the requirements, be severally adapted to fulfil the office mentioned above, and be of appropriate character. Therefore are they made of flesh, and flesh is softer in man than in any other animal, the reason for this being that of all animals man has the most delicate sense of touch.

17

The tongue is placed under the vaulted roof of the mouth. In land animals it presents but little diversity. But in other animals it is variable, and this whethe+r we compare them as a class with such as live on land, or compare their several species with each other. It is in man that the tongue attains its greatest degree of freedom, of softness, and of breadth; the object of this being to render it suitable for its double function. For its softness fits it for the perception of savours, a sense which is more delicate in man than in any other animal, softness being most impressionable by touch, of which sense taste is but a variety. This same softness again, together with its breadth, adapts it for the articulation of letters and for speech. For these qualities, combined with its freedom from attachment, are those which suit it best for advancing and retiring in every direction. That this is so is plain, if we consider the case of those who are tongue-tied in however slight a degree. For their speech is indistinct and lisping; that is to say there are certain letters which they cannot pronounce. In being broad is comprised the possibility of becoming narrow; for in the great the small is included, but not the great in the small.

What has been said explains why, among birds, those that are most capable of pronouncing letters are such as have the broadest tongues; and why the viviparous and sanguineous quadrupeds, where the tongue is hard and thick and not free in its motions, have a very limited vocal articulation. Some birds have a considerable variety of notes. These are the smaller kinds. But it is the birds with talons that have the broader tongues. All birds use their tongues to communicate with each other. But some do this in a greater degree than the rest; so that in some cases it even seems as though actual instruction were imparted from one to another by its agency. These, however, are matters which have already been discussed in the Researches concerning Animals.

As to those oviparous and sanguineous animals that live not in the air but on the earth, their tongue in most cases is tied down and hard, and is therefore useless for vocal purposes; in the serpents, however, and in the lizards it is long and forked, so as to be suited for the perception of savours. So long indeed is this part in serpents, that though small while in the mouth it can be protruded to a great distance. In these animals it is forked and has a fine and hair-like extremity, because of their great liking for dainty food. For by this arrangement they derive a twofold pleasure from savours, their gustatory sensation being as it were doubled.

Even some bloodless animals have an organ that serves for the perception of savours; and in sanguineous animals such an organ is invariably variably For even in such of these as would seem to an ordinary observer to have nothing of the kind, some of the fishes for example, there is a kind of shabby representative of a tongue, much like what exists in river crocodiles. In most of these cases the apparent absence of the part can be rationally explained on some ground or other. For in the first place the interior of the mouth in animals of this character is invariably spinous. Secondly, in water animals there is but short space of time for the perception of savours, and as the use of this sense is thus of short duration, shortened also is the separate part which subserves it. The reason for their food being so rapidly transmitted to the stomach is that they cannot possibly spend any time in sucking out the juices; for were they to attempt to do so, the water would make its way in during the process. Unless therefore one pulls their mouth very widely open, the projection of this part is quite invisible. The region exposed by thus opening the mouth is spinous; for it is formed by the close apposition of the gills, which are of a spinous character.

In crocodiles the immobility of the lower jaw also contributes in some measure to stunt the development of the tongue. For the crocodile’s tongue is adherent to the lower jaw. For its upper and lower jaws are, as it were, inverted, it being the upper jaw which in other animals is the immovable one. The tongue, however, on this animal is not attached to the upper jaw, because that would interfere with the ingestion of food, but adheres to the lower jaw, because this is, as it were, the upper one which has changed its place. Moreover, it is the crocodile’s lot, though a land animal, to live the life of a fish, and this again necessarily involves an indistinct formation of the part in question.

The roof of the mouth resembles flesh, even in many of the fishes; and in some of the river species, as for instance in the fishes known as Cyprini, is so very flesh-like and soft as to be taken by careless observers for a tongue. The tongue of fishes, however, though it exists as a separate part, is never formed with such distinctness as this, as has been already explained. Again, as the gustatory sensibility is intended to serve animals in the selection of food, it is not diffused equally over the whole surface of the tongue-like organ, but is placed chiefly in the tip; and for this reason it is the tip which is the only part of the tongue separated in fishes from the rest of the mouth. As all animals are sensible to the pleasure derivable from food, they all feel a desire for it. For the object of desire is the pleasant. The part, however, by which food produces the sensation is not precisely alike in all of them, but while in some it is free from attachments, in others, where it is not required for vocal pur, poses, it is adherent. In some again it is hard, in others soft or flesh-like. Thus even the Crustacea, the Carabi for instance and the like, and the Cephalopods, such as the Sepias and the Poulps, have some such part inside the mouth. As for the Insects, some of them have the part which serves as tongue inside the mouth, as is the case with ants, and as is also the case with many Testacea, while in others it is placed externally. In this latter case it resembles a sting, and is hollow and spongy, so as to serve at one and the same time for the tasting and for the sucking up of nutriment. This is plainly to be seen in flies and bees and all such animals, and likewise in some of the Testacea. In the Purpurae, for instance, so strong is this part that it enables them to bore holes through the hard covering of shell-fish, of the spiral snails, for example, that are used as bait to catch them. So also the gad-flies and cattle-flies can pierce through the skin of man, and some of them even through the skins of other animals. Such, then, in these animals is the nature of the tongue, which is thus as it were the counterpart of the elephant's nostril. For as in the elephant the nostril is used as a weapon, so in these animals the tongue serves as a sting.

In all other animals the tongue agrees with description already given.

Book III

1

WE have next to consider the teeth, and with these the mouth, that is the cavity which they enclose and form. The teeth have one invariable office, namely the reduction of food; but besides this general function they have other special ones, and these differ in different groups. Thus in some animals the teeth serve as weapons; but this with a distinction. For there are offensive weapons and there are defensive weapons; and while in some animals, as the wild Carnivora, the teeth answer both purposes, in many others, both wild and domesticated, they serve only for defence. In man the teeth are admirably constructed for their general office, the front ones being sharp, so as to cut the food into bits, and the hinder ones broad and flat, so as to grind it to a pulp; while between these and separating them are the dog-teeth, which, in accordance with the rule that the mean partakes of both extremes, share in the characters of those on either side, being broad in one part but sharp in another. Similar distinctions of shape are presented by the teeth of other animals, with the exception of those whose teeth are one and all of the sharp kind. In man, however, the number and the character even of these sharp teeth have been mainly determined by the requirements of speech. For the front teeth of man contribute in many ways to the formation of letter-sounds.

In some animals, however, the teeth, as already said, serve merely for the reduction of food. When, besides this, they serve as offensive and defensive weapons, they may either be formed into tusks, as for instance is the case in swine, or may be sharp-pointed and interlock with those of the opposite jaw, in which case the animal is said to be saw-toothed. The explanation of this latter arrangement is as follows. The strength of such an animal is in its teeth, and these depend for their efficiency on their sharpness. In order, then, to prevent their getting blunted by mutual friction, such of them as serve for weapons fit into each other's interspaces, and are so kept in proper condition. No animal that has sharp interfitting teeth is at the same time furnished with tusks. For nature never makes anything superfluous or in vain. She gives, therefore, tusks to such animals as strike in fighting, and serrated teeth to such as bite. Sows, for instance, have no tusks, and accordingly sows bite instead of striking.

A general principle must here be noted, which will be found applicable not only in this instance but in many others that will occur later on. Nature allots each weapon, offensive and defensive alike, to those animals alone that can use it; or, if not to them alone, to them in a more marked degree; and she allots it in its most perfect state to those that can use it best; and this whether it be a sting, or a spur, or horns, or tusks, or what it may of a like kind.

Thus as males are stronger and more choleric than females, it is in males that such parts as those just mentioned are found, either exclusively, as in some species, or more fully developed, as in others. For though females are of course provided with such parts as are no less necessary to them than to males, the parts, for instance, which subserve nutrition, they have even these in an inferior degree, and the parts which answer no such necessary purpose they do not possess at all. This explains why stags have horns, while does have none; why the horns of cows are different from those of bulls, and, similarly, the horns of ewes from those of rams. It explains also why the females are often without spurs in species where the males are provided with them, and accounts for similar facts relating to all other such parts.

All fishes have teeth of the serrated form, with the single exception of the fish known as the Scarus. In many of them there are teeth even on the tongue and on the roof of the mouth. The reason for this is that, living as they do in the water, they cannot but allow this fluid to pass into the mouth with the food. The fluid thus admitted they must necessarily discharge again without delay. For were they not to do so, but to retain it for a time while triturating the food, the water would run into their digestive cavities. Their teeth therefore are all sharp, being adapted only for cutting, and are numerous and set in many parts, that their abundance may serve in lieu of any grinding faculty, to mince the food into small bits. They are also curved, because these are almost the only weapons which fishes possess.

In all these offices of the teeth the mouth also takes its part; but besides these functions it is subservient to respiration, in all such animals as breathe and are cooled by external agency. For nature, as already said, uses the parts which are common to all animals for many special purposes, and this of her own accord. Thus the mouth has one universal function in all animals alike, namely its alimentary office; but in some, besides this, the special duty of serving as a weapon is attached to it; in others that of ministering to speech; and again in many, though not in all, the office of respiration. All these functions are thrown by nature upon one single organ, the construction of which she varies so as to suit the variations of office. Therefore it is that in some animals the mouth is contracted, while in others it is of wide dimensions. The contracted form belongs to such animals as use the mouth merely for nutritive, respiratory, and vocal purposes; whereas in such as use it as a means of defence it has a wide gape. This is its invariable form in such animals as are saw-toothed. For seeing that their mode of warfare consists in biting, it is advantageous to them that their mouth shall have a wide opening; for the wider it opens, the greater will be the extent of the bite, and the more numerous will be the teeth called into play.

What has just been said applies to fishes as well as to other animals; and thus in such of them as are carnivorous, and made for biting, the mouth has a wide gape; whereas in the rest it is small, being placed at the extremity of a tapering snout. For this form is suited for their purposes, while the other would be useless.

In birds the mouth consists of what is called the beak, which in them is a substitute for lips and teeth. This beak presents variations in harmony with the functions and protective purposes which it serves. Thus in those birds that are called Crooked-clawed it is invariably hooked, inasmuch as these birds are carnivorous, and eat no kind of vegetable food whatsoever. For this form renders it serviceable to them in obtaining the mastery over their prey, and is better suited for deeds of violence than any other. Moreover, as their weapons of offence consist of this beak and of their claws, these latter also are more crooked in them than in the generality of birds. Similarly in each other kind of bird the beak is suited to the mode of life. Thus, in woodpeckers it is hard and strong, as also in crows and birds of crowlike habit, while in the smaller birds it is delicate, so as to be of use in collecting seeds and picking up minute animals. In such birds, again, as eat herbage, and such as live about marshes-those, for example, that swim and have webbed feet-the bill is broad, or adapted in some other way to the mode of life. For a broad bill enables a bird to dig into the ground with ease, just as, among quadrupeds, does the broad snout of the pig, an animal which, like the birds in question, lives on roots. Moreover, in these root-eating birds and in some others of like habits of life, the tips of the bill end in hard points, which gives them additional facility in dealing with herbaceous food.

The several parts which are set on the head have now, pretty nearly all, been considered. In man, however, the part which lies between the head and the neck is called the face, this name, (prosopon) being, it would seem, derived from the function of the part. For as man is the only animal that stands erect, he is also the only one that looks directly in front (proso) and the only one whose voice is emitted in that direction.

2

We have now to treat of horns; for these also, when present, are appendages of the head. They exist in none but viviparous animals; though in some ovipara certain parts are metaphorically spoken of as horns, in virtue of a certain resemblance. To none of such parts, however, does the proper office of a horn belong; for they are never used, as are the horns of vivipara, for purposes which require strength, whether it be in self-protection or in offensive strife. So also no polydactylous animal is furnished with horns. For horns are defensive weapons, and these polydactylous animals possess other means of security. For to some of them nature has given claws, to others teeth suited for combat, and to the rest some other adequate defensive appliance. There are horns, however, in most of the cloven-hoofed animals, and in some of those that have a solid hoof, serving them as an offensive weapon, and in some cases also as a defensive one. There are horns also in all animals that have not been provided by nature with some other means of security; such means, for instance, as speed, which has been given to horses; or great size, as in camels; for excessive bulk, such as has been given to these animals, and in a still greater measure to elephants, is sufficient in itself to protect an animal from being destroyed by others. Other animals again are protected by the possession of tusks; and among these are the swine, though they have a cloven hoof.

All animals again, whose horns are but useless appendages, have been provided by nature with some additional means of security. Thus deer are endowed with speed; for the large size and great branching of their horns makes these a source of detriment rather than of profit to their possessors. Similarly endowed are the Bubalus and gazelle; for though these animals will stand up against some enemies and defend themselves with their horns, yet they run away from such as are fierce and pugnacious. The Bonasus again, whoe horns curve inwards towards each other, is provided with a means of protection in the discharge of its excrement; and of this it avails itself when frightened. There are some other animals besides the Bonasus that have a similar mode of defence. In no case, however, does nature ever give more than one adequate means of protection to one and the same animal.

Most of the animals that have horns are cloven-hoofed; but the Indian ass, as they call it, is also reported to be horned, though its hoof is solid.

Again as the body, so far as regards its organs of motion, consists of two distinct parts, the right and the left, so also and for like reasons the horns of animals are, in the great majority of cases, two in number. Still there are some that have but a single horn; the Oryx, for instance, and the so-called Indian ass; in the former of which the hoof is cloven, while in the latter it is solid. In such animals the horn is set in the centre of the head; for as the middle belongs equally to both extremes, this arrangement is the one that comes nearest to each side having its own horn.

Again, it would appear consistent with reason that the single horn should go with the solid rather than with the cloven hoof. For hoof, whether solid or cloven, is of the same nature as horn; so that the two naturally undergo division simultaneously and in the same animals. Again, since the division of the cloven hoof depends on deficiency of material, it is but rationally consistent, that nature, when she gave an animal an excess of material for the hoofs, which thus became solid, should have taken away something from the upper parts and so made the animal to have but one horn. Rightly too did she act when she chose the head whereon to set the horns; and AEsop’s Momus is beside the mark, when he finds fault with the bull for not having its horns upon its shoulders. For from this position, says he, they would have delivered their blow with the greatest force, whereas on the head they occupy the weakest part of the whole body. Momus was but dull-sighted in making this hostile criticism. For had the horns been set on the shoulders, or had they been set on any other part than they are, the encumbrance of their weight would have been increased, not only without any compensating gain whatso::ver, but with the disadvantage of impeding many bodily operations. For the point whence the blows could be delivered with the greatest force was not the only matter to be considered, but the point also whence they could be delivered with the widest range. But as the bull has no hands and cannot possibly have its horns on its feet or on its knees, where they would prevent flexion, there remains no other site for them but the head; and this therefore they necessarily occupy. In this position, moreover, they are much less in the way of the movements of the body than they would be elsewhere.

Deer are the only animals in which the horns are solid throughout, and are also the only animals that cast them. This casting is not simply advantageous to the deer from the increased lightness which it produces, but, seeing how heavy the horns are, is a matter of actual necessity.

In all other animals the horns are hollow for a certain distance, and the end alone is solid, this being the part of use in a blow. At the same time, to prevent even the hollow part from being weak, the horn, though it grows out of the skin, has a solid piece from the bones fitted into its cavity. For this arrangement is not only that which makes the horns of the greatest service in fighting, but that which causes them to be as little of an impediment as possible in the other actions of life.

Such then are the reasons for which horns exist; and such the reasons why they are present in some animals, absent from others.

Let us now consider the character of the material nature whose necessary results have been made available by rational nature for a final cause.

In the first place, then, the larger the bulk of animals, the greater is the proportion of corporeal and earthy matter which they contain. Thus no very small animal is known to have horns, the smallest horned animal that we are acquainted with being the gazelle. But in all our speculations concerning nature, what we have to consider is the general rule; for that is natural which applies either universally or generally. And thus when we say that the largest animals have most earthy matter, we say so because such is the general rule. Now this earthy matter is used in the animal body to form bone. But in the larger animals there is an excess of it, and this excess is turned by nature to useful account, being converted into weapons of defence. Part of it necessarily flows to the upper portion of the body, and this is allotted by her in some cases to the formation of tusks and teeth, in others to the formation of horns. Thus it is that no animal that has horns has also front teeth in both jaws, those in the upper jaw being deficient. For nature by subtracting from the teeth adds to the horns; the nutriment which in most animals goes to the former being here spent on the augmentation of the latter. Does, it is true, have no horns and yet are equally deficient with the males as regards the teeth. The reason, however, for this is that they, as much as the males, are naturally horn-bearing animals; but they have been stripped of their horns, because these would not only be useless to them but actually baneful; whereas the greater strength of the males causes these organs, though equally useless, to be less of an impediment. In other animals, where this material is not secreted from the body in the shape of horns, it is used to increase the size of the teeth; in some cases of all the teeth, in others merely of the tusks, which thus become so long as to resemble horns projecting from the jaws.

So much, then, of the parts which appertain to the head.

3

Below the head lies the neck, in such animals as have one. This is the case with those only that have the parts to which a neck is subservient. These parts are the larynx and what is called the oesophagus. Of these the former, or larynx, exists for the sake of respiration, being the instrument by which such animals as breathe inhale and discharge the air. Therefore it is that, when there is no lung, there is also no neck. Of this condition the Fishes are an example. The other part, or oesophagus, is the channel through which food is conveyed to the stomach; so that all animals that are without a neck are also without a distinct oesophagus; Such a part is in fact not required of necessity for nutritive purposes; for it has no action whatsoever on the food. Indeed there is nothing to prevent the stomach from being placed directly after the mouth. This, however, is quite impossible in the case of the lung. For there must be some sort of tube common to the two divisions of the lung, by which — it being bipartite — the breath may be apportioned to their respective bronchi, and thence pass into the air-pipes; and such an arrangement will be the best for giving perfection to inspiration and expiration. The organ then concerned in respiration must of necessity be of some length; and this, again, necessitates there being an oesophagus to unite mouth and stomach. This oesophagus is of a flesh-like character, and yet admits of extension like a sinew. This latter property is given to it, that it may stretch when food is introduced; while the flesh-like character is intended to make it soft and yielding, and to prevent it from being rasped by particles as they pass downwards, and so suffering damage. On the other hand, the windpipe and the so-called larynx are constructed out of a cartilaginous substance. For they have to serve not only for respiration, but also for vocal purposes; and an instrument that is to produce sounds must necessarily be not only smooth but firm. The windpipe lies in front of the oesophagus, although this position causes it to be some hindrance to the latter in the act of deglutition. For if a morsel of food, fluid or solid, slips into it by accident, choking and much distress and violent fits of coughing ensue. This must be a matter of astonishment to any of those who assert that it is by the windpipe that an animal imbibes fluid. For the consequences just mentioned occur invariably, whenever a particle of food slips in, and are quite obvious. Indeed on many grounds it is ridiculous to say that this is the channel through which animals imbibe fluid. For there is no passage leading from the lung to the stomach, such as the oesophagus which we see leading thither from the mouth. Moreover, when any cause produces sickness and vomiting, it is plain enough when the fluid is discharged. It is manifest also that fluid, when swallowed, does not pass directly into the bladder and collect there, but goes first into the stomach. For, when red wine is taken, the dejections of the stomach are seen to be coloured by its dregs; and such discoloration has been even seen on many occasions inside the stomach itself, in cases where there have been wounds opening into that organ. However, it is perhaps silly to be minutely particular in dealing with silly statements such as this.

The windpipe then, owing to its position in front of the oesophagus, is exposed, as we have said, to annoyance from the food. To obviate this, however, nature has contrived the epiglottis. This part is not found in all sanguineous animals, but only in such of them as have a lung; nor in all of these, but only in such as at the same time have their skin covered with hairs, and not either with scaly plates or with feathers. In such scaly and feathered animals there is no epiglottis, but its office is supplied by the larynx, which closes and opens, just as in the other case the epiglottis falls down and rises up; rising up during the ingress or egress of breath, and falling down during the ingestion of food, so as to prevent any particle from slipping into the windpipe. Should there be the slightest want of accuracy in this movement, or should an inspiration be made during the ingestion of food, choking and coughing ensue, as already has been noticed. So admirably contrived, however, is the movement both of the epiglottis and of the tongue, that, while the food is being ground to a pulp in the mouth, the tongue very rarely gets caught between the teeth; and, while the food is passing over the epiglottis seldom does a particle of it slip into the windpipe.

The animals which have been mentioned as having no epiglottis owe this deficiency to the dryness of their flesh and to the hardness of their skin. For an epiglottis made of such materials would not admit of easy motion. It would, indeed, take a longer time to shut down an epiglottis made of the peculiar flesh of these animals, and shaped like that of those with hairy skins, than to bring the edges of the windpipe itself into contact with each other.

Thus much then as to the reason why some animals have an epiglottis while others have none, and thus much also as to its use. It is a contrivance of nature to remedy the vicious position of the windpipe in front of the oesophagus. That position is the result of necessity. For it is in the front and centre of the body that the heart is situated, in which we say is the principle of life and the source of all motion and sensation. (For sensation and motion are exercised in the direction which we term forwards, and it is on this very relation that the distinction of before and behind is founded.) But where the heart is, there and surrounding it is the lung. Now inspiration, which occurs for the sake of the lung and for the sake of the principle which has its seat in the heart, is effected through the windpipe. Since then the heart must of necessity lie in the very front place of all, it follows that the larynx also and the windpipe must of necessity lie in front of the oesophagus. For they lead to the lung and heart, whereas the oesophagus leads to the stomach. And it is a universal law that, as regards above and below, front and back, right and left, the nobler and more honourable part invariably is placed uppermost, in front, and on the right, rather than in the opposite positions, unless some more important object stands in the way.

4

We have now dealt with the neck, the oesophagus, and the windpipe, and have next to treat of the viscera. These are peculiar to sanguineous animals, some of which have all of them, others only a part, while no bloodless animals have any at all. Democritus then seems to have been mistaken in the notion he formed of the viscera, if, that is to say, he fancied that the reason why none were discoverable in bloodless animals was that these animals were too small to allow them to be seen. For, in sanguineous animals, both heart and liver are visible enough when the body is only just formed, and while it is still extremely small. For these parts are to be seen in the egg sometimes as early as the third day, being then no bigger than a point; and are visible also in aborted embryos, while still excessively minute. Moreover, as the external organs are not precisely alike in all animals, but each creature is provided with such as are suited to its special mode of life and motion, so is it with the internal parts, these also differing in different animals. Viscera, then, are peculiar to sanguineous animals; and therefore are each and all formed from sanguineous material, as is plainly to be seen in the new-born young of these animals. For in such the viscera are more sanguineous, and of greater bulk in proportion to the body, than at any later period of life, it being in the earliest stage of formation that the nature of the material and its abundance are most conspicuous. There is a heart, then, in all sanguineous animals, and the reason for this has already been given. For that sanguineous animals must necessarily have blood is self-evident. And, as the blood is fluid, it is also a matter of necessity that there shall be a receptacle for it; and it is apparently to meet this requirement that nature has devised the blood-vessels. These, again, must necessarily have one primary source. For it is preferable that there shall be one such, when possible, rather than several. This primary source of the vessels is the heart. For the vessels manifestly issue from it and do not go through it. Moreover, being as it is homogeneous, it has the character of a blood-vessel. Again its position is that of a primary or dominating part. For nature, when no other more important purpose stands in her way, places the more honourable part in the more honourable position; and the heart lies about the centre of the body, but rather in its upper than its lower half, and also more in front than behind. This is most evident in the case of man, but even in other animals there is a tendency in the heart to assume a similar position, in the centre of the necessary part of the body, that is to say of the part which terminates in the vent for excrement. For the limbs vary in position in different animals, and are not to be counted with the parts which are necessary for life. For life can be maintained even when they are removed; while it is self-evident that the addition of them to an animal is not destructive of it.

There are some who say that the vessels commence in the head. In this they are clearly mistaken. For in the first place, according to their representation, there would be many sources for the vessels, and these scattered; and secondly, these sources would be in a region that is manifestly cold, as is shown by its intolerance of chill, whereas the region of the heart is as manifestly hot. Again, as already said, the vessels continue their course through the other viscera, but no vessel spreads through the heart. From this it is quite evident that the heart is a part of the vessels and their origin; and for this it is well suited by its structure. For its central part consists of a dense and hollow substance, and is moreover full of blood, as though the vessels took thence their origin. It is hollow to serve for the reception of the blood, while its wall is dense, that it may serve to protect the source of heat. For here, and here alone in all the viscera and indeed in all the body, there is blood without blood-vessels, the blood elsewhere being always contained within vessels. Nor is this but consistent with reason. For the blood is conveyed into the vessels from the heart, but none passes into the heart from without. For in itself it constitutes the origin and fountain, or primary receptacle, of the blood. It is however, from dissections and from observations on the process of development that the truth of these statements receives its clearest demonstration. For the heart is the first of all the parts to be formed; and no sooner is it formed than it contains blood. Moreover, the motions of pain and pleasure, and generally of all sensation, plainly have their source in the heart, and find in it their ultimate termination. This, indeed, reason would lead us to expect. For the source must, when. ever possible, be one; and, of all places, the best suited for a source is the centre. For the centre is one, and is equally or almost equally within reach of every part. Again, as neither the blood itself, nor yet any part which is bloodless, is endowed with sensation, it is plain that that part which first has blood, and which holds it as it were in a receptacle, must be the primary source of sensation. And that this part is the heart is not only a rational inference, but also evident to the senses. For no sooner is the embryo formed, than its heart is seen in motion as though it were a living creature, and this before any of the other parts, it being, as thus shown, the starting-point of their nature in all animals that have blood. A further evidence of the truth of what has been stated is the fact that no sanguineous animal is without a heart. For the primary source of blood must of necessity be present in them all. It is true that sanguineous animals not only have a heart but also invariably have a liver. But no one could ever deem the liver to be the primary organ either of the whole body or of the blood. For the position in which it is placed is far from being that of a primary or dominating part; and, moreover, in the most perfectly finished animals there is another part, the spleen, which as it were counterbalances it. Still further, the liver contains no spacious receptacle in its substance, as does the heart; but its blood is in a vessel as in all the other viscera. The vessel, moreover, extends through it, and no vessel whatsoever originates in it; for it is from the heart that all the vessels take their rise. Since then one or other of these two parts must be the central source, and since it is not the liver which is such, it follows of necessity that it is the heart which is the source of the blood, as also the primary organ in other respects. For the definitive characteristic of an animal is the possession of sensation; and the first sensory part is that which first has blood; that is to say is the heart, which is the source of blood and the first of the parts to contain it.

The apex of the heart is pointed and more solid than the rest of the organ. It lies against the breast, and entirely in the anterior part of the body, in order to prevent that region from getting chilled. For in all animals there is comparatively little flesh over the breast, whereas there is a more abundant covering of that substance on the posterior surface, so that the heat has in the back a sufficient amount of protection. In all animals but man the heart is placed in the centre of the pectoral region; but in man it inclines a little towards the left, so that it may counterbalance the chilliness of that side. For the left side is colder in man, as compared with the right, than in any other animal. It has been stated in an earlier treatise that even in fishes the heart holds the same position as in other animals; and the reason has been given why it appears not to do so. The apex of the heart, it is true, is in them turned towards the head, but this in fishes is the front aspect, for it is the direction in which their motion occurs.

The heart again is abundantly supplied with sinews, as might reasonably be expected. For the motions of the body commence from the heart, and are brought about by traction and relaxation. The heart therefore, which, as already said,' as it were a living creature inside its possessor, requires some such subservient and strengthening parts.

In no animals does the heart contain a bone, certainly in none of those that we have ourselves inspected, with the exception of the horse and a certain kind of ox. In these exceptional cases the heart, owing to its large bulk, is provided with a bone as a support; just as the bones serve as supports for the body generally.

In animals of great size the heart has three cavities; in smaller animals it has two; and in all has at least one, for, as already stated, there must be some place in the heart to serve as a receptacle for the first blood; which, as has been mentioned more than once, is formed in this organ. But inasmuch as the main blood-vessels are two in number, namely the so-called great vessel and the aorta, each of which is the origin of other vessels; inasmuch, moreover, as these two vessels present differences, hereafter to be discussed, when compared with each other, it is of advantage that they also shall themselves have distinct origins. This advantage will be obtained if each side have its own blood, and the blood of one side be kept separate from that of the other. For this reason the heart, whenever it is possible, has two receptacles. And this possibility exists in the case of large animals, for in them the heart, as the body generally, is of large size. Again it is still better that there shall be three cavities, so that the middle and odd one may serve as a centre common to both sides. But this requires the heart to be of greater magnitude, so that it is only in the largest hearts that there are three cavities.

Of these three cavities it is the right that has the most abundant and the hottest blood, and this explains why the limbs also on the right side of the body are warmer than those on the left. The left cavity has the least blood of all, and the coldest; while in the middle cavity the blood, as regards quantity and heat, is intermediate to the other two, being however of purer quality than either. For it behoves the supreme part to be as tranquil as possible, and this tranquillity can be ensured by the blood being pure, and of moderate amount and warmth.

In the heart of animals there is also a kind of joint-like division, something like the sutures of the skull. This is not, however, attributable to the heart being formed by the union of several parts into a compound whole, but is rather, as already said, the result of a joint-like division. These jointings are most distinct in animals of keen sensibility, and less so in those that are of duller feeling, in swine for instance. Different hearts differ also from each other in their sizes, and in their degrees of firmness; and these differences somehow extend their influence to the temperaments of the animals. For in animals of low sensibility the heart is hard and dense in texture, while it is softer in such as are endowed with keener feeling. So also when the heart is of large size the animal is timorous, while it is more courageous if the organ be smaller and of moderate bulk. For in the former the bodily affection which results from terror already pre-exists; for the bulk of the heart is out of all proportion to the animal’s heat, which being small is reduced to insignificance in the large space, and thus the blood is made colder than it would otherwise be.

The heart is of large size in the hare, the deer, the mouse, the hyena, the ass, the leopard, the marten, and in pretty nearly all other animals that either are manifestly timorous, or betray their cowardice by their spitefulness.

What has been said of the heart as a whole is no less true of its cavities and of the blood-vessels; these also if of large size being cold. For just as a fire of equal size gives less heat in a large room than in a small one, so also does the heat in a large cavity or a large blood-vessel, that is in a large receptacle, have less effect than in a small one. Moreover, all hot bodies are cooled by motions external to themselves, and the more spacious the cavities and vessels are, the greater the amount of spirit they contain, and the more potent its action. Thus it is that no animal that has large cavities in its heart, or large blood-vessels, is ever fat, the vessels being indistinct and the cavities small in all or most fat animals.

The heart again is the only one of the viscera, and indeed the only part of the body, that is unable to tolerate any serious affection. This is but what might reasonably be expected. For, if the primary or dominant part be diseased, there is nothing from which the other parts which depend upon it can derive succour. A proof that the heart is thus unable to tolerate any morbid affection is furnished by the fact that in no sacrificial victim has it ever been seen to be affected with those diseases that are observable in the other viscera. For the kidneys are frequently found to be full of stones, and growths, and small abscesses, as also are the liver, the lung, and more than all the spleen. There are also many other morbid conditions which are seen to occur in these parts, those which are least liable to such being the portion of the lung which is close to the windpipe, and the portion of the liver which lies about the junction with the great blood-vessel. This again admits of a rational explanation. For it is in these parts that the lung and liver are most closely in communion with the heart. On the other hand, when animals die not by sacrifice but from disease, and from affections such as are mentioned above, they are found on dissection to have morbid affections of the heart.

Thus much of the heart, its nature, and the end and cause of its existence in such animals as have it.

5

In due sequence we have next to discuss the blood-vessels, that is to say the great vessel and the aorta. For it is into these two that the blood first passes when it quits the heart; and all the other vessels are but offshoots from them. Now that these vessels exist on account of the blood has already been stated. For every fluid requires a receptacle, and in the case of the blood the vessels are that receptacle. Let us now explain why these vessels are two, and why they spring from one single source, and extend throughout the whole body.

The reason, then, why these two vessels coalesce into one centre, and spring from one source, is that the sensory soul is in all animals actually one; and this one-ness of the sensory soul determines a corresponding one-ness of the part in which it primarily abides. In sanguineous animals this one-ness is not only actual but potential, whereas in some bloodless animals it is only actual. Where, however, the sensory soul is lodged, there also and in the selfsame place must necessarily be the source of heat; and, again, where this is there also must be the source of the blood, seeing that it thence derives its warmth and fluidity. Thus, then, in the oneness of the part in which is lodged the prime source of sensation and of heat is involved the one-ness of the source in which the blood originates; and this, again, explains why the blood-vessels have one common starting-point.

The vessels, again, are two, because the body of every sanguineous animal that is capable of locomotion is bilateral; for in all such animals there is a distinguishable before and behind, a right and left, an above and below. Now as the front is more honourable and of higher supremacy than the hinder aspect, so also and in like degree is the great vessel superior to the aorta. For the great vessel is placed in front, while the aorta is behind; the former again is plainly visible in all sanguineous animals, while the latter is in some indistinct and in some not discernible at all.

Lastly, the reason for the vessels being distributed throughout the entire body is that in them, or in parts analogous to them, is contained the blood, or the fluid which in bloodless animals takes the place of blood, and that the blood or analogous fluid is the material from which the whole body is made. Now as to the manner in which animals are nourished, and as to the source from which they obtain nutriment and as to the way in which they absorb this from the stomach, these are matters which may be more suitably considered and explained in the treatise on Generation. But inasmuch as the parts are, as already said, formed out of the blood, it is but rational that the flow of the blood should extend, as it does, throughout the whole of the body. For since each part is formed of blood, each must have blood about and in its substance.

To give an illustration of this. The water-courses in gardens are so constructed as to distribute water from one single source or fount into numerous channels, which divide and subdivide so as to convey it to all parts; and, again, in house-building stones are thrown down along the whole ground-plan of the foundation walls; because the garden-plants in the one case grow at the expense of the water, and the foundation walls in the other are built out of the stones. Now just after the same fashion has nature laid down channels for the conveyance of the blood throughout the whole body, because this blood is the material out of which the whole fabric is made. This becomes very evident in bodies that have undergone great emaciation. For in such there is nothing to be seen but the blood-vessels; just as when fig-leaves or vine-leaves or the like have dried up, there is nothing left of them but their vessels. The explanation of this is that the blood, or fluid which takes its place, is potentially body and flesh, or substance analogous to flesh. Now just as in irrigation the largest dykes are permanent, while the smallest are soon filled up with mud and disappear, again to become visible when the deposit of mud ceases; so also do the largest blood-vessels remain permanently open, while the smallest are converted actually into flesh, though potentially they are no whit less vessels than before. This too explains why, so long as the flesh of an animal is in its integrity, blood will flow from any part of it whatsoever that is cut, though no vessel, however small, be visible in it. Yet there can be no blood, unless there be a blood-vessel. The vessels then are there, but are invisible owing to their being clogged up, just as the dykes for irrigation are invisible until they have been cleared of mud.

As the blood-vessels advance, they become gradually smaller and smaller, until at last their tubes are too fine to admit the blood. This fluid can therefore no longer find its way through them, though they still give passage to the humour which we call sweat; and especially so when the body is heated, and the mouths of the small vessels are dilated. Instances, indeed, are not unknown of persons who in consequence of a cachectic state have secreted sweat that resembled blood, their body having become loose and flabby, and their blood watery, owing to the heat in the small vessels having been too scanty for its concoction. For, as was before said, every compound of earth and water-and both nutriment and blood are such-becomes thicker from concoction. The inability of the heat to effect concoction may be due either to its being absolutely small in amount, or to its being small in proportion to the quantity of food, when this has been taken excess. This excess again may be of two kinds, either quantitative or qualitative; for all substances are not equally amenable to concoction.

The widest passages in the body are of all parts the most liable to haemorrhage; so that bleeding occurs not infrequently from the nostrils, the gums, and the fundament, occasionally also from the mouth. Such haemorrhages are of a passive kind, and not violent as are those from the windpipe.

The great vessel and the aorta, which above lie somewhat apart, lower down exchange positions, and by so doing give compactness to the body. For when they reach the point where the legs diverge, they each split into two, and the great vessel passes from the front to the rear, and the aorta from the rear to the front. By this they contribute to the unity of the whole fabric. For as in plaited work the parts hold more firmly together because of the interweaving, so also by the interchange of position between the blood-vessels are the anterior and posterior parts of the body more closely knit together. A similar exchange of position occurs also in the upper part of the body, between the vessels that have issued from the heart. The details however of the mutual relations of the different vessels must be looked for in the treatises on Anatomy and the Researches concerning Animals.

So much, then, as concerns the heart and the blood-vessels. We must now pass on to the other viscera and apply the same method of inquiry to them.

6

The lung, then, is an organ found in all the animals of a certain class, because they live on land. For there must of necessity be some means or other of tempering the heat of the body; and in sanguineous animals, as they are of an especially hot nature, the cooling agency must be external, whereas in the bloodless kinds the innate spirit is sufficient of itself for the purpose. The external cooling agent must be either air or water. In fishes the agent is water. Fishes therefore never have a lung, but have gills in its place, as was stated in the treatise on Respiration. But animals that breathe are cooled by air. These therefore are all provided with a lung.

All land animals breathe, and even some water animals, such as the whale, the dolphin, and all the spouting Cetacea. For many animals lie half-way between terrestrial and aquatic; some that are terrestrial and that inspire air being nevertheless of such a bodily constitution that they abide for the most time in the water; and some that are aquatic partaking so largely of the land character, that respiration constitutes for them the man condition of life.

The organ of respiration is the lung. This derives its motion from the heart; but it is its own large size and spongy texture that affords amplitude of space for entrance of the breath. For when the lung rises up the breath streams in, and is again expelled when the lung collapses. It has been said that the lung exists as a provision to meet the jumping of the heart. But this is out of the question. For man is practically the only animal whose heart presents this phenomenon of jumping, inasmuch as he alone is influenced by hope and anticipation of the future. Moreover, in most animals the lung is separated from the heart by a considerable interval and lies above it, so that it can contribute nothing to mitigate any jumping.

The lung differs much in different animals. For in some it is of large size and contains blood; while in others it is smaller and of spongy texture. In the vivipara it is large and rich in blood, because of their natural heat; while in the ovipara it is small and dry but capable of expanding to a vast extent when inflated. Among terrestrial animals, the oviparous quadrupeds, such as lizards, tortoises, and the like, have this kind of lung; and, among inhabitants of the air, the animals known as birds. For in all these the lung is spongy, and like foam. For it is membranous and collapses from a large bulk to a small one, as does foam when it runs together. In this too lies the explanation of the fact that these animals are little liable to thirst and drink but sparingly, and that they are able to remain for a considerable time under water. For, inasmuch as they have but little heat, the very motion of the lung, airlike and void, suffices by itself to cool them for a considerable period.

These animals, speaking generally, are also distinguished from others by their smaller bulk. For heat promotes growth, and abundance of blood is a sure indication of heat. Heat, again, tends to make the body erect; and thus it is that man is the most erect of animals, and the vivipara more erect than other quadrupeds. For no viviparous animal, be it apodous or be it possessed of feet, is so given to creep into holes as are the ovipara.

The lung, then, exists for respiration; and this is its universal office; but in one order of animals it is bloodless and has the structure described above, to suit the special requirements There is, however, no one term to denote all animals that have a lung; no designation, that is, like the term Bird, applicable to the whole of a certain class. Yet the possession of a lung is a part of their essence, just as much as the presence of certain characters constitutes the essence of a bird.

7

Of the viscera some appear to be single, as the heart and lung; others to be double, as the kidneys; while of a third kind it is doubtful in which class they should be reckoned. For the liver and the spleen would seem to lie half-way between the single and the double organs. For they may be regarded either as constituting each a single organ, or as a pair of organs resembling each other in character.

In reality, however, all the organs are double. The reason for this is that the body itself is double, consisting of two halves, which are however combined together under one supreme centre. For there is an upper and a lower half, a front and a rear, a right side and a left.

This explains why it is that even the brain and the several organs of sense tend in all animals to consist of two parts; and the same explanation applies to the heart with its cavities. The lung again in Ovipara is divided to such an extent that these animals look as though they had actually two lungs. As to the kidneys, no one can overlook their double character. But when we come to the liver and the spleen, any one might fairly be in doubt. The reason of this is, that, in animals that necessarily have a spleen, this organ is such that it might be taken for a kind of bastard liver; while in those in which a spleen is not an actual necessity but is merely present, as it were, by way of token, in an extremely minute form, the liver plainly consists of two parts; of which the larger tends to lie on the right side and the smaller on the left. Not but what there are some even of the Ovipara in which this condition is comparatively indistinctly marked; while, on the other hand, there are some

Vivipara in which the liver is manifestly divided into two parts. Examples of such division are furnished by the hares of certain regions, which have the appearance of having two livers, and by the cartilaginous and some other fishes.

It is the position of the liver on the right side of the body that is the main cause for the formation of the spleen; the existence of which thus becomes to a certain extent a matter of necessity in all animals, though not of very stringent necessity.

The reason, then, why the viscera are bilateral is, as we have said, that there are two sides to the body, a right and a left. For each of these sides aims at similarity with the other, and so likewise do their several viscera; and as the sides, though dual, are knit together into unity, so also do the viscera tend to be bilateral and yet one by unity of constitution.

Those viscera which lie below the diaphragm exist one and all on account of the blood-vessels; serving as a bond, by which these vessels, while floating freely, are yet held in connexion with the body. For the vessels give off branches which run to the body through the outstretched structures, like so many anchorlines thrown out from a ship. The great vessel sends such branches to the liver and the spleen; and these viscera-the liver and spleen on either side with the kidneys behind-attach the great vessel to the body with the firmness of nails. The aorta sends similar branches to each kidney, but none to the liver or spleen.

These viscera, then, contribute in this manner to the compactness of the animal body. The liver and spleen assist, moreover, in the concoction of the food; for both are of a hot character, owing to the blood which they contain. The kidneys, on the other hand, take part in the separation of the excretion which flows into the bladder.

The heart then and the liver are essential constituents of every animal; the liver that it may effect concoction, the heart that it may lodge the central source of heat. For some part or other there must be which, like a hearth, shall hold the kindling fire; and this part must be well protected, seeing that it is, as it were, the citadel of the body.

All sanguineous animals, then, need these two parts; and this explains why these two viscera, and these two alone, are invariably found in them all. In such of them, however, as breathe, there is also as invariably a third, namely the lung. The spleen, on the other hand, is not invariably present; and, in those animals that have it, is only present of necessity in the same sense as the excretions of the belly and of the bladder are necessary, in the sense, that is, of being an inevitable concomitant. Therefore it is that in some animals the spleen is but scantily developed as regards size. This, for instance, is the case in such feathered animals as have a hot stomach. Such are the pigeon, the hawk, and the kite. It is the case also in oviparous quadrupeds, where the spleen is excessively minute, and in many of the scaly fishes. These same animals are also without a bladder, because the loose texture of their flesh allows the residual fluid to pass through and to be applied to the formation of feathers and scales. For the spleen attracts the residual humours from the stomach, and owing to its bloodlike character is enabled to assist in their concoction. Should, however, this residual fluid be too abundant, or the heat of the spleen be too scanty, the body becomes sickly from over-repletion with nutriment. Often, too, when the spleen is affected by disease, the belly becomes hard owing to the reflux into it of the fluid; just as happens to those who form too much urine, for they also are liable to a similar diversion of the fluids into the belly. But in those animals that have but little superfluous fluid to excrete, such as birds and fishes, the spleen is never large, and in some exists no more than by way of token. So also in the oviparous quadrupeds it is small, compact, and like a kidney. For their lung is spongy, and they drink but little, and such superfluous fluid as they have is applied to the growth of the body and the formation of scaly plates, just as in birds it is applied to the formation of feathers.

On the other hand, in such animals as have a bladder, and whose lung contains blood, the spleen is watery, both for the reason already mentioned, and also because the left side of the body is more watery and colder than the right. For each of two contraries has been so placed as to go together with that which is akin to it in another pair of contraries. Thus right and left, hot and cold, are pairs of contraries; and right is conjoined with hot, after the manner described, and left with cold.

The kidneys when they are present exist not of actual necessity, but as matters of greater finish and perfection. For by their special character they are suited to serve in the excretion of the fluid which collects in the bladder. In animals therefore where this fluid is very abundantly formed, their presence enables the bladder to perform its proper office with greater perfection.

Since then both kidneys and bladder exist in animals for one and the same function, we must next treat of the bladder, though in so doing we disregard the due order of succession in which the parts should be enumerated. For not a word has yet been said of the midriff, which is one of the parts that environ the viscera and therefore has to be considered with them.

8

It is not every animal that has a bladder; those only being apparently intended by nature to have one, whose lung contains blood. To such it was but reasonable that she should give this part. For the superabundance in their lung of its natural constituents causes them to be the thirstiest of animals, and makes them require a more than ordinary quantity not merely of solid but also of liquid nutriment. This increased consumption necessarily entails the production of an increased amount of residue; which thus becomes too abundant to be concocted by the stomach and excreted with its own residual matter. The residual fluid must therefore of necessity have a receptacle of its own; and thus it comes to pass that all animals whose lung contains blood are provided with a bladder. Those animals, on the other hand, that are without a lung of this character, and that either drink but sparingly owing to their lung being of a spongy texture, or never imbibe fluid at all for drinking's sake but only as nutriment, insects for instance and fishes, and that are moreover clad with feathers or scales or scaly plates-all these animals, owing to the small amount of fluid which they imbibe, and owing also to such residue as there may be being converted into feathers and the like, are invariably without a bladder. The Tortoises, which are comprised among animals with scaly plates, form the only exception; and this is merely due to the imperfect development of their natural conformation; the explanation of the matter being that in the sea-tortoises the lung is flesh-like and contains blood, resembling the lung of the ox, and that in the land-tortoises it is of disproportionately large size. Moreover, inasmuch as the covering which invests them is dense and shell-like, so that the moisture cannot exhale through the porous flesh, as it does in birds and in snakes and other animals with scaly plates, such an amount of secretion is formed that some special part is required to receive and hold it. This then is the reason why these animals, alone of their kind, have a bladder, the sea-tortoise a large one, the land-tortoises an extremely small one.

9

What has been said of the bladder is equally true of the kidneys. For these also are wanting in all animals that are clad with feathers or with scales or with scale-like plates; the sea and land tortoises forming the only exception. In some of the birds, however, there are flattened kidney like bodies, as though the flesh allotted to the formation of the kidneys, unable to find one single place of sufficient size, had been scattered over several.

The Emys has neither bladder nor kidneys. For the softness of its shell allows of the ready transpiration of fluid; and for this reason neither of the organs mentioned exists in this animal. All other animals, however, whose lung contains blood are, as before said, provided with kidneys. For nature uses these organs for two separate purposes, namely for the excretion of the residual fluid, and to subserve the blood-vessels, a channel leading to them from the great vessel.

In the centre of the kidney is a cavity of variable size. This is the case in all animals, excepting the seal. The kidneys of this animal are more solid than those of any other, and in form resemble the kidneys of the ox. The human kidneys are of similar shape; being as it were made up of numerous small kidneys, and not presenting one unbroken surface like the kidneys of sheep and other quadrupeds. For this reason, should the kidneys of a man be once attacked by disease, the malady is not easily expelled. For it is as though many kidneys were diseased and not merely one; which naturally enhances the difficulties of a cure.

The duct which runs to the kidney from the great vessel does not terminate in the central cavity, but is expended on the substance of the organ, so that there is no blood in the cavity, nor is any coagulum found there after death. A pair of stout ducts, void of blood, run, one from the cavity of each kidney, to the bladder; and other ducts, strong and continuous, lead into the kidneys from the aorta. The purpose of this arrangement is to allow the superfluous fluid to pass from the blood-vessel into the kidney, and the resulting renal excretion to collect by the percolation of the fluid through the solid substance of the organ, in its centre, where as a general rule there is a cavity. (This by the way explains why the kidney is the most ill-savoured of all the viscera.) From the central cavity the fluid is discharged into the bladder by the ducts that have been mentioned, having already assumed in great degree the character of excremental residue. The bladder is as it were moored to the kidneys; for, as already has been stated, it is attached to them by strong ducts. These then are the purposes for which the kidneys exist, and such the functions of these organs.

In all animals that have kidneys, that on the right is placed higher than that on the left. For inasmuch as motion commences from the right, and the organs on this side are in consequence stronger than those on the left, they must all push upwards in advance of their opposite fellows; as may be seen in the fact that men even raise the right eyebrow more than the left, and that the former is more arched than the latter. The right kidney being thus drawn upwards is in all animals brought into contact with the liver; for the liver lies on the right side.

Of all the viscera the kidneys are those that have the most fat. This is in the first place the result of necessity, because the kidneys are the parts through which the residual matters percolate. For the blood which is left behind after this excretion, being of pure quality, is of easy concoction, and the final result of thorough blood-concoction is lard and suet. For just as a certain amount of fire is left in the ashes of solid substances after combustion, so also does a remnant of the heat that has been developed remain in fluids after concoction; and this is the reason why oily matter is light, and floats on the surface of other fluids. The fat is not formed in the kidneys themselves, the density of their substance forbidding this, but is deposited about their external surface. It consists of lard or of suet, according as the animal’s fat is of the former or latter character. The difference between these two kinds of fat has already been set forth in other passages. The formation, then, of fat in the kidneys is the result of necessity; being, as explained, a consequence of the necessary conditions which accompany the possession of such organs. But at the same time the fat has a final cause, namely to ensure the safety of the kidneys, and to maintain their natural heat. For placed, as these organs are, close to the surface, they require a greater supply of heat than other parts. For while the back is thickly covered with flesh, so as to form a shield for the heart and neighbouring viscera, the loins, in accordance with a rule that applies to all bendings, are destitute of flesh; and fat is therefore formed as a substitute for it, so that the kidneys may not be without protection. The kidneys, moreover, by being fat are the better enabled to secrete and concoct their fluid; for fat is hot, and it is heat that effects concoction.

Such, then, are the reasons why the kidneys are fat. But in all animals the right kidney is less fat than its fellow. The reason for this is, that the parts on the right side are naturally more solid and more suited for motion than those on the left. But motion is antagonistic to fat, for it tends to melt it.

Animals then, as a general rule, derive advantage from their kidneys being fat; and the fat is often very abundant and extends over the whole of these organs. But, should the like occur in the sheep, death ensues. Be its kidneys, however, as fat as they may, they are never so fat but that some part, if not in both at any rate in the right one, is left free. The reason why sheep are the only animals that suffer in this manner, or suffer more than others, is that in animals whose fat is composed of lard this is of fluid consistency, so that there is not the same chance in their case of wind getting shut in and causing mischief. But it is to such an enclosure of wind that rot is due. And thus even in men, though it is beneficial to them to have fat kidneys, yet should these organs become over-fat and diseased, deadly pains ensue. As to those animals whose fat consists of suet, in none is the suet so dense as in the sheep, neither is it nearly so abundant; for of all animals there is none in which the kidneys become so soon gorged with fat as in the sheep. Rot, then, is produced by the moisture and the wind getting shut up in the kidneys, and is a malady that carries off sheep with great rapidity. For the disease forthwith reaches the heart, passing thither by the aorta and the great vessel, the ducts which connect these with the kidneys being of unbroken continuity.

10

We have now dealt with the heart and the lung, as also with the liver, spleen, and kidneys. The latter are separated from the former by the midriff or, as some call it, the Phrenes. This divides off the heart and lung, and, as already said, is called Phrenes in sanguineous animals, all of which have a midriff, just as they all have a heart and a liver. For they require a midriff to divide the region of the heart from the region of the stomach, so that the centre wherein abides the sensory soul may be undisturbed, and not be overwhelmed, directly food is taken, by its up-steaming vapour and by the abundance of heat then superinduced. For it was to guard against this that nature made a division, constructing the midriff as a kind of partition-wall and fence, and so separated the nobler from the less noble parts, in all cases where a separation of upper from lower is possible. For the upper part is the more honourable, and is that for the sake of which the rest exists; while the lower part exists for the sake of the upper and constitutes the necessary element in the body, inasmuch as it is the recipient of the food.

That portion of the midriff which is near the ribs is fleshier and stronger than the rest, but the central part has more of a membranous character; for this structure conduces best to its strength and its extensibility. Now that the midriff, which is a kind of outgrowth from the sides of the thorax, acts as a screen to prevent heat mounting up from below, is shown by what happens, should it, owing to its proximity to the stomach, attract thence the hot and residual fluid. For when this occurs there ensues forthwith a marked disturbance of intellect and of sensation. It is indeed because of this that the midriff is called Phrenes, as though it had some share in the process of thinking (Phronein). in reality, however, it has no part whatsoever itself in the matter, but, lying in close proximity to organs that have, it brings about the manifest changes of intelligence in question by acting upon them. This too explains why its central part is thin. For though this is in some measure the result of necessity, inasmuch as those portions of the fleshy whole which lie nearest to the ribs must necessarily be fleshier than the rest, yet besides this there is a final cause, namely to give it as small a proportion of humour as possible; for, had it been made of flesh throughout, it would have been more likely to attract and hold a large amount of this. That heating of it affects sensation rapidly and in a notable manner is shown by the phenomena of laughing. For when men are tickled they are quickly set a-laughing, because the motion quickly reaches this part, and heating it though but slightly nevertheless manifestly so disturbs the mental action as to occasion movements that are independent of the will. That man alone is affected by tickling is due firstly to the delicacy of his skin, and secondly to his being the only animal that laughs. For to be tickled is to be set in laughter, the laughter being produced such a motion as mentioned of the region of the armpit.

It is said also that when men in battle are wounded anywhere near the midriff, they are seen to laugh, owing to the heat produced by the wound. This may possibly be the case. At any rate it is a statement made by much more credible persons than those who tell the story of the human head, how it speaks after it is cut off. For so some assert, and even call in Homer to support them, representing him as alluding to this when he wrote, ‘His head still speaking rolled into the dust,' instead of 'The head of the speaker'. So fully was the possibility of such an occurrence accepted in Caria, that one of that country was actually brought to trial under the following circumstances. The priest of Zeus Hoplosmios had been murdered; but as yet it had not been ascertained who was the assassin; when certain persons asserted that they had heard the murdered man's head, which had been severed from the body, repeat several times the words, 'Cercidas slew man on mam.' Search was thereupon made and a man of those parts who bore the name of Cercidas hunted out and put upon his trial. But it is impossible that any one should utter a word when the windpipe is severed and no motion any longer derived from the lung. Moreover, among the Barbarians, where heads are chopped off with great rapidity, nothing of the kind has ever yet occurred. Why, again, does not the like occur in the case of other animals than man? For that none of them should laugh, when their midriff is wounded, is but what one would expect; for no animal but man ever laughs. So, too, there is nothing irrational in supposing that the trunk may run forwards to a certain distance after the head has been cut seeing that bloodless animals at any rate can live, and that for a considerable time, after decapitation, as has been set forth and explained in other passages.

The purposes, then, for which the viscera severally exist have now been stated. It is of necessity upon the inner terminations of the vessels that they are developed; for humour, and that of a bloody character, cannot but exude at these points, and it is of this, solidified and coagulated, that the substance of the viscera is formed. Thus they are of a bloody character, and in substance resemble each other while they differ from other parts.

11

The viscera are enclosed each in a membrane. For they require some covering to protect them from injury, and require, moreover, that this covering shall be light. To such requirements membrane is well adapted; for it is close in texture so as to form a good protection, destitute of flesh so as neither to attract humour nor retain it, and thin so as to be light and not add to the weight of the body. Of the membranes those are the stoutest and strongest which invest the heart and the brain; as is but consistent with reason. For these are the parts which require most protection, seeing that they are the main governing powers of life, and that it is to governing powers that guard is due.

12

Some animals have all the viscera that have been enumerated; others have only some of them. In what kind of animals this latter is the case, and what is the explanation, has already been stated. Moreover, the self-same viscera present differences in different possessors. For the heart is not precisely alike in all animals that have one; nor, in fact, is any viscus whatsoever. Thus the liver is in some animals split into several parts, while in others it is comparatively undivided. Such differences in its form present themselves even among those sanguineous animals that are viviparous, but are more marked in fishes and in the oviparous quadrupeds, and this whether we compare them with each other or with the Vivipara. As for birds, their liver very nearly resembles that of the Vivipara; for in them, as in these, it is of a pure and blood-like colour. The reason of this is that the body in both these classes of animals admits of the freest exhalation, so that the amount of foul residual matter within is but small. Hence it is that some of the Vivipara are without any gall-bladder at all. For the liver takes a large share in maintaining the purity of composition and the healthiness of the body. For these are conditions that depend finally and in the main upon the blood, and there is more blood in the liver than in any of the other viscera, the heart only excepted. On the other hand, the liver of oviparous quadrupeds and fishes inclines, as a rule, to a yellow hue, and there are even some of them in which it is entirely of this bad colour, in accordance with the bad composition of their bodies generally. Such, for instance, is the case in the toad, the tortoise, and other similar animals.

The spleen, again, varies in different animals. For in those that have horns and cloven hoofs, such as the goat, the sheep, and the like, it is of a rounded form; excepting when increased size has caused some part of it to extend its growth longitudinally, as has happened in the case of the ox. On the other hand, it is elongated in all polydactylous animals. Such, for instance, is the case in the pig, in man, and in the dog. While in animals with solid hoofs it is of a form intermediate to these two, being broad in one part, narrow in another. Such, for example, is its shape in the horse, the mule, and the ass.

13

The viscera differ from the flesh not only in the turgid aspect of their substance, but also in position; for they lie within the body, whereas the flesh is placed on the outside. The explanation of this is that these parts partake of the character of blood-vessels, and that while the former exist for the sake of the vessels, the latter cannot exist without them.

14

Below the midriff lies the stomach, placed at the end of the oesophagus when there is one, and in immediate contiguity with the mouth when the oesophagus is wanting. Continuous with this stomach is what is called the gut. These parts are present in all animals, for reasons that are self-evident. For it is a matter of necessity that an animal shall receive the incoming food; and necessary also that it shall discharge the same when its goodness is exhausted. This residual matter, again, must not occupy the same place as the yet unconcocted nutriment. For as the ingress of food and the discharge of the residue occur at distinct periods, so also must they necessarily occur in distinct places. Thus there must be one receptacle for the ingoing food and another for the useless residue, and between these, therefore, a part in which the change from one condition to the other may be effected. These, however, are matters which will be more suitably set forth when we come to deal with Generation and Nutrition. What we have at present to consider are the variations presented by the stomach and its subsidiary parts. For neither in size nor in shape are these parts uniformly alike in all animals. Thus the stomach is single in all such sanguineous and viviparous animals as have teeth in front of both jaws. It is single therefore in all the polydactylous kinds, such as man, dog, lion, and the rest; in all the solid-hoofed animals also, such as horse, mule, ass; and in all those which, like the pig, though their hoof is cloven, yet have front teeth in both jaws. When, however, an animal is of large size, and feeds on substances of so thorny and ligneous a character as to be difficult of concoction, it may in consequence have several stomachs, as for instance is the case with the camel. A similar multiplicity of stomachs exists also in the horned animals; the reason being that horn-bearing animals have no front teeth in the upper jaw. The camel also, though it has no horns, is yet without upper front teeth. The explanation of this is that it is more essential for the camel to have a multiple stomach than to have these teeth. Its stomach, then, is constructed like that of animals without upper front teeth, and, its dental arrangements being such as to match its stomach, the teeth in question are wanting. They would indeed be of no service. Its food, moreover, being of a thorny character, and its tongue necessarily made of a fleshy substance, nature uses the earthy matter which is saved from the teeth to give hardness to the palate. The camel ruminates like the horned animals, because its multiple stomach resembles theirs. For all animals that have horns, the sheep for instance, the ox, the goat, the deer, and the like, have several stomachs. For since the mouth, owing to its lack of teeth, only imperfectly performs its office as regards the food, this multiplicity of stomachs is intended to make up for its shortcomings; the several cavities receiving the food one from the other in succession; the first taking the unreduced substances, the second the same when somewhat reduced, the third when reduction is complete, and the fourth when the whole has become a smooth pulp. Such is the reason why there is this multiplicity of parts and cavities in animals with such dentition. The names given to the several cavities are the paunch, the honeycomb bag, the manyplies, and the reed. How these parts are related to each other, in position and in shape, must be looked for in the treatises on Anatomy and the Researches concerning Animals.

Birds also present variations in the part which acts as a recipient of the food; and the reason for these variations is the same as in the animals just mentioned. For here again it is because the mouth fails to perform its office and fails even more completely-for birds have no teeth at all, nor any instrument whatsoever with which to comminute or grind down their food-it is, I say, because of this, that in some of them what is called the crop precedes the stomach and does the work of the mouth; while in others the oesophagus is either wide throughout or a part of it bulges just before it enters the stomach, so as to form a preparatory store-house for the unreduced food; or the stomach itself has a protuberance in some part, or is strong and fleshy, so as to be able to store up the food for a considerable period and to concoct it, in spite of its not having been ground into a pulp. For nature retrieves the inefficiency of the mouth by increasing the efficiency and heat of the stomach. Other birds there are, such, namely, as have long legs and live in marshes, that have none of these provisions, but merely an elongated oesophagus. The explanation of this is to be found in the moist character of their food. For all these birds feed on substances easy of reduction, and their food being moist and not requiring much concoction, their digestive cavities are of a corresponding character.

Fishes are provided with teeth, which in almost all of them are of the sharp interfitting kind. For there is but one small section in which it is otherwise. Of these the fish called Scarus (Parrot-fish) is an example. And this is probably the reason why this fish apparently ruminates, though no other fishes do so. For those horned animals that have no front teeth in the upper jaw also ruminate.

In fishes the teeth are all sharp; so that these animals can divide their food, though imperfectly. For it is impossible for a fish to linger or spend time in the act of mastication, and therefore they have no teeth that are flat or suitable for grinding; for such teeth would be to no purpose. The oesophagus again in some fishes is entirely wanting, and in the rest is but short. In order, however, to facilitate the concoction of the food, some of them, as the Cestreus (mullet), have a fleshy stomach resembling that of a bird; while most of them have numerous processes close against the stomach, to serve as a sort of antechamber in which the food may be stored up and undergo putrefaction and concoction. There is contrast between fishes and birds in the position of these processes. For in fishes they are placed close to the stomach; while in birds, if present at all, they are lower down, near the end of the gut. Some of the Vivipara also have processes connected with the lower part of the gut which serve the same purpose as that stated above.

The whole tribe of fishes is of gluttonous appetite, owing to the arrangements for the reduction of their food being very imperfect, and much of it consequently passing through them without undergoing concoction; and, of all, those are the most gluttonous that have a straight intestine. For as the passage of food in such cases is rapid, and the enjoyment derived from it in consequence but brief, it follows of necessity that the return of appetite is also speedy.

It has already been mentioned that in animals with front teeth in both jaws the stomach is of small size. It may be classed pretty nearly always under one or other of two headings, namely as resembling the stomach of the dog, or as resembling the stomach of the pig. In the pig the stomach is larger than in the dog, and presents certain folds of moderate size, the purpose of which is to lengthen out the period of concoction; while the stomach of the dog is of small size, not much larger in calibre than the gut, and smooth on the internal surface.

Not much larger, I say, than the gut; for in all animals after the stomach comes the gut. This, like the stomach, presents numerous modifications. For in some animals it is uniform, when uncoiled, and alike throughout, while in others it differs in different portions. Thus in some cases it is wider in the neighbourhood of the stomach, and narrower towards the other end; and this explains by the way why dogs have to strain so much in discharging their excrement. But in most animals it is the upper portion that is the narrower and the lower that is of greater width.

Of greater length than in other animals, and much convoluted, are the intestines of those that have horns. These intestines, moreover, as also the stomach, are of ampler volume, in accordance with the larger size of the body. For animals with horns are, as a rule, animals of no small bulk, because of the thorough elaboration which their food undergoes. The gut, except in those animals where it is straight, invariably widens out as we get farther from the stomach and come to what is called the colon, and to a kind of caecal dilatation. After this it again becomes narrower and convoluted. Then succeeds a straight portion which runs right on to the vent. This vent is known as the anus, and is in some animals surrounded by fat, in others not so. All these parts have been so contrived by nature as to harmonize with the various operations that relate to the food and its residue. For, as the residual food gets farther on and lower down, the space to contain it enlarges, allowing it to remain stationary and undergo conversion. Thus is it in those animals which, owing either to their large size, or to the heat of the parts concerned, require more nutriment, and consume more fodder than the rest.

Neither is it without a purpose, that, just as a narrower gut succeeds to the upper stomach, so also does the residual food, when its goodness is thoroughly exhausted, pass from the colon and the ample space of the lower stomach into a narrower channel and into the spiral coil. For so nature can regulate her expenditure and prevent the excremental residue from being discharged all at once.

In all such animals, however, as have to be comparatively moderate in their alimentation, the lower stomach presents no wide and roomy spaces, though their gut is not straight, but has a number of convolutions. For amplitude of space causes desire for ample food, and straightness of the intestine causes quick return of appetite. And thus it is that all animals whose food receptacles are either simple or spacious are of gluttonous habits, the latter eating enormously at a meal, the former making meals at short intervals.

Again, since the food in the upper stomach, having just been swallowed, must of necessity be quite fresh, while that which has reached the lower stomach must have had its juices exhausted and resemble dung, it follows of necessity that there must also be some intermediate part, in which the change may be effected, and where the food will be neither perfectly fresh nor yet dung. And thus it is that, in all such animals as we are now considering, there is found what is called the jejunum; which is a part of the small gut, of the gut, that is, which comes next to the stomach. For this jejunum lies between the upper cavity which contains the yet unconcocted food and the lower cavity which holds the residual matter, which by the time it has got here has become worthless. There is a jejunum in all these animals, but it is only plainly discernible in those of large size, and this only when they have abstained from food for a certain time. For then alone can one hit on the exact period when the food lies half-way between the upper and lower cavities; a period which is very short, for the time occupied in the transition of food is but brief. In females this jejunum may occupy any part whatsoever of the upper intestine, but in males it comes just before the caecum and the lower stomach.

15

What is known as rennet is found in all animals that have a multiple stomach, and in the hare among animals whose stomach is single. In the former the rennet neither occupies the large paunch, nor the honeycomb bag, nor the terminal reed, but is found in the cavity which separates this terminal one from the two first, namely in the so-called manyplies. It is the thick character of their milk which causes all these animals to have rennet; whereas in animals with a single stomach the milk is thin, and consequently no rennet is formed. It is this difference in thickness which makes the milk of horned animals coagulate, while that of animals without horns does not. Rennet forms in the hare because it feeds on herbage that has juice like that of the fig; for juice of this kind coagulates the milk in the stomach of the sucklings. Why it is in the manyplies that rennet is formed in animals with multiple stomachs has been stated in the Problems.

Book IV

1

THE account which has now been given of the viscera, the stomach, and the other several parts holds equally good not only for the oviparous quadrupeds, but also for such apodous animals as the Serpents. These two classes of animals are indeed nearly akin, a serpent resembling a lizard which has been lengthened out and deprived of its feet. Fishes, again, resemble these two groups in all their parts, excepting that, while these, being land animals, have a lung, fishes have no lung, but gills in its place. None of these animals, excepting the tortoise, as also no fish, has a urinary bladder. For owing to the bloodlessness of their lung, they drink but sparingly; and such fluid as they have is diverted to the scaly plates, as in birds it is diverted to the feathers, and thus they come to have the same white matter on the surface of their excrement as we see on that of birds. For in animals that have a bladder, its excretion when voided throws down a deposit of earthy brine in the containing vessel. For the sweet and fresh elements, being light, are expended on the flesh.

Among the Serpents, the same peculiarity attaches to vipers, as among fishes attaches to Selachia. For both these and vipers are externally viviparous, but previously produce ova internally.

The stomach in all these animals is single, just as it is single in all other animals that have teeth in front of both jaws; and their viscera are excessively small, as always happens when there is no bladder. In serpents these viscera are, moreover, differently shaped from those of other animals. For, a serpent’s body being long and narrow, its contents are as it were moulded into a similar form, and thus come to be themselves elongated.

All animals that have blood possess an omentum, a mesentery, intestines with their appendages, and, moreover, a diaphragm and a heart; and all, excepting fishes, a lung and a windpipe. The relative positions, moreover, of the windpipe and the oesophagus are precisely similar in them all; and the reason is the same as has already been given.

2

Almost all sanguineous animals have a gall-bladder. In some this is attached to the liver, in others separated from that organ and attached to the intestines, being apparently in the latter case no less than in the former an appendage of the lower stomach. It is in fishes that this is most clearly seen. For all fishes have a gall-bladder; and in most of them it is attached to the intestine, being in some, as in the Amia, united with this, like a border, along its whole length. It is similarly placed in most serpents There are therefore no good grounds for the view entertained by some writers, that the gall exists for the sake of some sensory action. For they say that its use is to affect that part of the soul which is lodged in the neighbourhood of the liver, vexing this part when it is congealed, and restoring it to cheerfulness when it again flows free. But this cannot be. For in some animals there is absolutely no gall-bladder at all — in the horse, for instance, the mule, the ass, the deer, and the roe; and in others, as the camel, there is no distinct bladder, but merely small vessels of a biliary character. Again, there is no such organ in the seal, nor, of purely sea-animals, in the dolphin. Even within the limits of the same genus, some animals appear to have and others to be without it. Such, for instance, is the case with mice; such also with man. For in some individuals there is a distinct gall-bladder attached to the liver, while in others there is no gall-bladder at all. This explains how the existence of this part in the whole genus has been a matter of dispute. For each observer, according as he has found it present or absent in the individual cases he has examined, has supposed it to be present or absent in the whole genus. The same has occurred in the case of sheep and of goats. For these animals usually have a gall-bladder; but, while in some localities it is so enormously big as to appear a monstrosity, as is the case in Naxos, in others it is altogether wanting, as is the case in a certain district belonging to the inhabitants of Chalcis in Euboea. Moreover, the gall-bladder in fishes is separated, as already mentioned, by a considerable interval from the liver. No less mistaken seems to be the opinion of Anaxagoras and his followers, that the gall-bladder is the cause of acute diseases, inasmuch as it becomes over-full, and spirts out its excess on to the lung, the blood-vessels, and the ribs. For, almost invariably, those who suffer from these forms of disease are persons who have no gall-bladder at all, as would be quite evident were they to be dissected. Moreover, there is no kind of correspondence between the amount of bile which is present in these diseases and the amount which is exuded. The most probable opinion is that, as the bile when it is present in any other part of the body is a mere residuum or a product of decay, so also when it is present in the region of the liver it is equally excremental and has no further use; just as is the case with the dejections of the stomach and intestines. For though even the residua are occasionally used by nature for some useful purpose, yet we must not in all cases expect to find such a final cause; for granted the existence in the body of this or that constituent, with such and such properties, many results must ensue merely as necessary consequences of these properties. All animals, then, whose is healthy in composition and supplied with none but sweet blood, are either entirely without a gall-bladder on this organ, or have merely small bile-containing vessels; or are some with and some without such parts. Thus it is that the liver in animals that have no gall-bladder is, as a rule, of good colour and sweet; and that, when there is a gall-bladder, that part of the liver is sweetest which lies immediately underneath it. But, when animals are formed of blood less pure in composition, the bile serves for the excretion of its impure residue. For the very meaning of excrement is that it is the opposite of nutriment, and of bitter that it is the opposite of sweet; and healthy blood is sweet. So that it is evident that the bile, which is bitter, cannot have any use, but must simply be a purifying excretion. It was therefore no bad saying of old writers that the absence of a gall-bladder gave long life. In so saying they had in mind deer and animals with solid hoofs. For such have no gall-bladder and live long. But besides these there are other animals that have no gall-bladder, though those old writers had not noticed the fact, such as the camel and the dolphin; and these also are, as it happens, long-lived. Seeing, indeed, that the liver is not only useful, but a necessary and vital part in all animals that have blood, it is but reasonable that on its character should depend the length or the shortness of life. Nor less reasonable is it that this organ and none other should have such an excretion as the bile. For the heart, unable as it is to stand any violent affection, would be utterly intolerant of the proximity of such a fluid; and, as to the rest of the viscera, none excepting the liver are necessary parts of an animal. It is the liver therefore that alone has this provision. In conclusion, wherever we see bile we must take it to be excremental. For to suppose that it has one character in this part, another in that, would be as great an absurdity as to suppose mucus or the dejections of the stomach to vary in character according to locality and not to be excremental wherever found.

3

So much then of the gall-bladder, and of the reasons why some animals have one, while others have not. We have still to speak of the mesentery and the omentum; for these are associated with the parts already described and contained in the same cavity. The omentum, then, is a membrane containing fat; the fat being suet or lard, according as the fat of the animal generally is of the former or latter description. What kinds of animals are so distinguished has been already set forth in an earlier part of this treatise. This membrane, alike in animals that have a single and in those that have a multiple stomach, grows from the middle of that organ, along a line which is marked on it like a seam. Thus attached, it covers the rest of the stomach and the greater part of the bowels, and this alike in all sanguineous animals, whether they live on land or in water. Now the development of this part into such a form as has been described is the result of necessity. For, whenever solid and fluid are mixed together and heated, the surface invariably becomes membranous and skin-like. But the region in which the omentum lies is full of nutriment of such a mixed character. Moreover, in consequence of the close texture of the membrane, that portion of the sanguineous nutriment will alone filter into it which is of a greasy character; for this portion is composed of the finest particles; and when it has so filtered in, it will be concocted by the heat of the part, and will be converted into suet or lard, and will not acquire a flesh-like or sanguineous constitution. The development, then, of the omentum is simply the result of necessity. But when once formed, it is used by nature for an end, namely, to facilitate and to hasten the concoction of food. For all that is hot aids concoction; and fat is hot, and the omentum is fat. This too explains why it hangs from the middle of the stomach; for the upper part of the stomach has no need of it, being assisted in concoction by the adjacent liver. Thus much as concerns the omentum.

4

The so-called mesentery is also a membrane; and extends continuously from the long stretch of intestine to the great vessel and the aorta. In it are numerous and close-packed vessels, which run from the intestines to the great vessel and to the aorta. The formation of this membrane we shall find to be the result of necessity, as is that of the other [similar] parts. What, however, is the final cause of its existence in sanguineous animals is manifest on reflection. For it is necessary that animals shall get nutriment from without; and, again, that this shall be converted into the ultimate nutriment, which is then distributed as sustenance to the various parts; this ultimate nutriment being, in sanguineous animals, what we call blood, and having, in bloodless animals, no definite name. This being so, there must be channels through which the nutriment shall pass, as it were through roots, from the stomach into the blood-vessels. Now the roots of plants are in the ground; for thence their nutriment is derived. But in animals the stomach and intestines represent the ground from which the nutriment is to be taken. The mesentery, then, is an organ to contain the roots; and these roots are the vessels that traverse it. This then is the final cause of its existence. But how it absorbs nutriment, and how that portion of the food which enters into the vessels is distributed by them to the various parts of the body, are questions which will be considered when we come to deal with the generation and nutrition of animals.

The constitution of sanguineous animals, so far as the parts as yet mentioned are concerned, and the reasons for such constitution, have now been set forth. In natural sequence we should next go on to the organs of generation, as yet undescribed, on which depend the distinctions of male and female. But, inasmuch as we shall have to deal specially with generation hereafter, it will be more convenient to defer the consideration of these parts to that occasion.

5

Very different from the animals we have as yet considered are the Cephalopoda and the Crustacea. For these have absolutely no viscera whatsoever; as is indeed the case with all bloodless animals, in which are included two other genera, namely the Testacea and the Insects. For in none of them does the material out of which viscera are formed exist. None of them, that is, have blood. The cause of this lies in their essential constitution. For the presence of blood in some animals, its absence from others, must be included in the conception which determines their respective essences. Moreover, in the animals we are now considering, none of those final causes will be found to exist which in sanguineous animals determine the presence of viscera. For they have no blood vessels nor urinary bladder, nor do they breathe; the only part that it is necessary for them to have being that which is analogous to a heart. For in all animals there must be some central and commanding part of the body, to lodge the sensory portion of the soul and the source of life. The organs of nutrition are also of necessity present in them all. They differ, however, in character because of differences of the habitats in which they get their subsistence.

In the Cephalopoda there are two teeth, enclosing what is called the mouth; and inside this mouth is a flesh-like substance which represents a tongue and serves for the discrimination of pleasant and unpleasant food. The Crustacea have teeth corresponding to those of the Cephalopoda, namely their anterior teeth, and also have the fleshy representative of a tongue. This latter part is found, moreover, in all Testacea, and serves, as in sanguineous animals, for gustatory sensations. Similarly provided also are the Insects. For some of these, such as the Bees and the Flies, have, as already described, their proboscis protruding from the mouth; while those others that have no such instrument in front have a part which acts as a tongue inside the mouth. Such, for instance, is the case in the Ants and the like. As for teeth, some insects have them, the Bees and the Ants for instance, though in a somewhat modified form, while others that live on fluid nutriment are without them. For in many insects the teeth are not meant to deal with the food, but to serve as weapons.

In some Testacea, as was said in the first treatise, the organ which is called the tongue is of considerable strength; and in the Cochli (Sea-snails) there are also two teeth, just as in the Crustacea. The mouth in the Cephalopoda is succeeded by a long gullet. This leads to a crop, like that of a bird, and directly continuous with this is the stomach, from which a gut runs without windings to the vent. The Sepias and the Poulps resemble each other completely, so far as regards the shape and consistency of these parts. But not so the Teuthides (Calamaries). Here, as in the other groups there are the two stomach-like receptacles; but the first of these cavities has less resemblance to a crop, and in neither is the form [or the consistency] the same as in the other kinds, the whole body indeed being made of a softer kind of flesh.

The object of this arrangement of the parts in question is the same in the Cephalopoda as in Birds; for these also are all unable to masticate their food; and therefore it is that a crop precedes their stomach.

For purposes of defence, and to enable them to escape from their foes, the Cephalopoda have what is called their ink. This is contained in a membranous pouch, which is attached to the body and provided with a terminal outlet just at the point where what is termed the funnel gives issue to the residua of the stomach. This funnel is placed on the ventral surface of the animal. All Cephalopoda alike have this characteristic ink, but chief of all the Sepia, where it is more abundant than in the rest. When the animal is disturbed and frightened it uses this ink to make the surrounding water black and turbid, and so, as it were, puts a shield in front of its body.

In the Calamaries and the Poulps the ink-bag is placed in the upper part of the body, in close proximity to the mytis, whereas in the Sepia it is lower down, against the stomach. For the Sepia has a more plentiful supply of ink than the rest, inasmuch as it makes more use of it. The reasons for this are, firstly, that it lives near the shore, and, secondly, that it has no other means of protection; whereas the Poulp has its long twining feet to use in its defence, and is, moreover, endowed with the power of changing colour. This changing of colour, like the discharge of ink, occurs as the result of fright. As to the Calamary, it lives far out at sea, being the only one of the Cephalopoda that does so; and this gives it protection. These then are the reasons why the ink is more abundant in the Sepia than in the Calamary, and this greater abundance explains the lower position; for it allows the ink to be ejected with ease even from a distance. The ink itself is of an earthy character, in this resembling the white deposit on the surface of a bird’s excrement and the explanation in both cases is the same, namely, the absence of a urinary bladder. For, in default of this, it is the ink that serves for the excretion of the earthiest matter. And this is more especially the case in the Sepia, because there is a greater proportion of earth in its composition than in that of the other Cephalopoda. The earthy character of its bone is a clear indication of this. For in the Poulp there is no bone at all, and in the Calamary it is thin and cartilaginous. Why this bone should be present in some Cephalopoda, and wanting in others, and how its character varies in those that have it, has now been set forth.

These animals, having no blood, are in consequence cold and of a timid character. Now, in some animals, fear causes a disturbance of the bowels, and, in others, a flow of urine from the bladder. Similarly in these it produces a discharge of ink, and, though the ejection of this ink in fright, like that of the urine, is the result of necessity, and, though it is of excremental character, yet it is used by nature for a purpose, namely, the protection and safety of the animal that excretes it.

The Crustacea also, both the Caraboid forms and the Crabs, are provided with teeth, namely their two anterior teeth; and between these they also present the tongue-like piece of flesh, as has indeed been already mentioned. Directly after their mouth comes a gullet, which, if we compare relative sizes, is but small in proportion to the body: and then a stomach, which in the Carabi and some of the Crabs is furnished with a second set of teeth, the anterior teeth being insufficient for adequate mastication. From the stomach a uniform gut runs in a direct line to the excremental vent.

The parts described are to be found also in all the various Testacea. The degree of distinctness, however, with which they are formed varies in the different kinds, and the larger the size of the animal the more easily distinguishable are all these parts severally. In the Sea-snails, for example, we find teeth, hard and sharp, as before mentioned, and between them the flesh-like substance, just as in the Crustacea and Cephalopoda, and again the proboscis, which, as has been stated, is something between a sting and a tongue. Directly after the mouth comes a kind of bird-like crop, then a gullet, succeeded by a stomach, in which is the mecon, as it is styled; and continuous with this mecon is an intestine, starting directly from it. It is this residual substance which appears in all the Testacea to form the most palatable morsel. Purpuras and Whelks, and all other Testacea that have turbinate shells, in structure resemble the Sea-snail. The genera and species of Testacea are very numerous. For there are those with turbinate shells, of which some have just been mentioned; and, besides these, there are bivalves and univalves. Those with turbinate shells may, indeed, after a certain fashion be said to resemble bivalves. For they all from their very birth have an operculum to protect that part of their body which is exposed to view. This is the case with the Purpuras, with Whelks, with the Nerites, and the like. Were it not for this, the part which is undefended by the shell would be very liable to injury by collision with external objects. The univalves also are not without protection. For on their dorsal surface they have a shell, and by the under surface they attach themselves to the rocks, and so after a manner become bivalved, the rock representing the second valve. Of these the animals known as Limpets are an example. The bivalves, scallops and mussels, for instance, are protected by the power they have of closing their valves; and the Turbinata by the operculum just mentioned, which transforms them, as it were, crom univalves into bivalves. But of all there is none so perfectly protected as the sea-urchin. For here there is a globular shell which encloses the body completely, and which is, moreover, set with sharp spines. This peculiarity distinguishes the sea-urchin from all other Testacea, as has already been mentioned.

The structure of the Testacea and of the Crustacea is exactly the reverse of that of the Cephalopoda. For in the latter the fleshy substance is on the outside and the earthy substance within, whereas in the former the soft parts are inside and the hard part without. In the sea-urchin, however, there is no fleshy part whatsoever.

All the Testacea then, those that have not been mentioned as well as those that have, agree as stated in possessing a mouth with the tongue-like body, a stomach, and a vent for excrement, but they differ from each other in the positions and proportions of these parts. The details, however, of these differences must be looked for in the Researches concerning Animals and the treatises on Anatomy. For while there are some points which can be made clear by verbal description, there are others which are more suited for ocular demonstration.

Peculiar among the Testacea are the sea-urchins and the animals known as Tethya (Ascidians). The sea-urchins have five teeth, and in the centre of these the fleshy body which is common to all the animals we have been discussing. Immediately after this comes a gullet, and then the stomach, divided into a number of separate compartments, which look like so many distinct stomachs; for the cavities are separate and all contain abundant residual matter. They are all, however, connected with one and the same oesophagus, and they all end in one and the same excremental vent. There is nothing besides the stomach of a fleshy character, as has already been stated. All that can be seen are the so-called ova, of which there are several, contained each in a separate membrane, and certain black bodies which have no name, and which, beginning at the animal’s mouth, are scattered round its body here and there promiscuously. These sea-urchins are not all of one species, but there are several different kinds, and in all of them the parts mentioned are to be found. It is not, however, in every kind that the so-called ova are edible. Neither do these attain to any size in any other species than that with which we are all familiar. A similar distinction may be made generally in the case of all Testacea. For there is a great difference in the edible qualities of the flesh of different kinds; and in some, moreover, the residual substance known as the mecon is good for food, while in others it is uneatable. This mecon in the turbinated genera is lodged in the spiral part of the shell, while in univalves, such as limpets, it occupies the fundus, and in bivalves is placed near the hinge, the so-called ovum lying on the right; while on the opposite side is the vent. The former is incorrectly termed ovum, for it merely corresponds to what in well-fed sanguineous animals is fat; and thus it is that it makes its appearance in Testacea at those seasons of the year when they are in good condition, namely, spring and autumn. For no Testacea can abide extremes of temperature, and they are therefore in evil plight in seasons of great cold or heat. This is clearly shown by what occurs in the case of the sea-urchins. For though the ova are to be found in these animals even directly they are born, yet they acquire a greater size than usual at the time of full moon; not, as some think, because sea-urchins eat more at that season, but because the nights are then warmer, owing to the moonlight. For these creatures are bloodless, and so are unable to stand cold and require warmth. Therefore it is that they are found in better condition in summer than at any other season; and this all over the world excepting in the Pyrrhean tidal strait. There the sea-urchins flourish as well in winter as in summer. But the reason for this is that they have a greater abundance of food in the winter, because the fish desert the strait at that season.

The number of the ova is the same in all sea-urchins, and is an odd one. For there are five ova, just as there are also five teeth and five stomachs; and the explanation of this is to be found in the fact that the so-called ova are not really ova, but merely, as was said before, the result of the animal’s well-fed condition. Oysters also have a so-called ovum, corresponding in character to that of the sea-urchins, but existing only on one side of their body. Now inasmuch as the sea-urchin is of a spherical form, and not merely a single disk like the oyster, and in virtue of its spherical shape is the same from whatever side it be examined, its ovum must necessarily be of a corresponding symmetry. For the spherical shape has not the asymmetry of the disk-shaped body of the oysters. For in all these animals the head is central, but in the sea-urchin the so-called ovum is above [and symmetrical, while in the oyster it is only one side]. Now the necessary symmetry would be observed were the ovum to form a continuous ring. But this may not be. For it would be in opposition to what prevails in the whole tribe of Testacea; for in all the ovum is discontinuous, and in all excepting the sea-urchins asymmetrical, being placed only on one side of the body. Owing then to this necessary discontinuity of the ovum, which belongs to the sea-urchin as a member of the class, and owing to the spherical shape of its body, which is its individual peculiarity, this animal cannot possibly have an even number of ova. For were they an even number, they would have to be arranged exactly opposite to each other, in pairs, so as to keep the necessary symmetry; one ovum of each pair being placed at one end, the other ovum at the other end of a transverse diameter. This again would violate the universal provision in Testacea. For both in the oysters and in the scallops we find the ovum only on one side of the circumference. The number then of the ova must be uneven, three for instance, or five. But if there were only three they would be much too far apart; while, if there were more than five, they would come to form a continuous mass. The former arrangement would be disadvantageous to the animal, the latter an impossibility. There can therefore be neither more nor less than five. For the same reason the stomach is divided into five parts, and there is a corresponding number of teeth. For seeing that the ova represent each of them a kind of body for the animal, their disposition must conform to that of the stomach, seeing that it is from this that they derive the material for their growth. Now if there were only one stomach, either the ova would be too far off from it, or it would be so big as to fill up the whole cavity, and the sea-urchin would have great difficulty in moving about and finding due nourishment for its repletion. As then there are five intervals between the five ova, so are there of necessity five divisions of the stomach, one for each interval. So also, and on like grounds, there are five teeth. For nature is thus enabled to allot to each stomachal compartment and ovum its separate and similar tooth. These, then, are the reasons why the number of ova in the sea-urchin is an odd one, and why that odd number is five. In some sea-urchins the ova are excessively small, in others of considerable size, the explanation being that the latter are of a warmer constitution, and so are able to concoct their food more thoroughly; while in the former concoction is less perfect, so that the stomach is found full of residual matter, while the ova are small and uneatable. Those of a warmer constitution are, moreover, in virtue of their warmth more given to motion, so that they make expeditions in search of food, instead of remaining stationary like the rest. As evidence of this, it will be found that they always have something or other sticking to their spines, as though they moved much about; for they use their spines as feet.

The Ascidians differ but slightly from plants, and yet have more of an animal nature than the sponges, which are virtually plants and nothing more. For nature passes from lifeless objects to animals in such unbroken sequence, interposing between them beings which live and yet are not animals, that scarcely any difference seems to exist between two neighbouring groups owing to their close proximity.

A sponge, then, as already said, in these respects completely resembles a plant, that throughout its life it is attached to a rock, and that when separated from this it dies. Slightly different from the sponges are the so-called Holothurias and the sea-lungs, as also sundry other sea-animals that resemble them. For these are free and unattached. Yet they have no feeling, and their life is simply that of a plant separated from the ground. For even among land-plants there are some that are independent of the soil, and that spring up and grow, either upon other plants, or even entirely free. Such, for example, is the plant which is found on Parnassus, and which some call the Epipetrum. This you may hang up on a peg and it will yet live for a considerable time. Sometimes it is a matter of doubt whether a given organism should be classed with plants or with animals. The Ascidians, for instance, and the like so far resemble plants as that they never live free and unattached, but, on the other hand, inasmuch as they have a certain flesh-like substance, they must be supposed to possess some degree of sensibility.

An Ascidian has a body divided by a single septum and with two orifices, one where it takes in the fluid matter that ministers to its nutrition, the other where it discharges the surplus of unused juice, for it has no visible residual substance, such as have the other Testacea. This is itself a very strong justification for considering an Ascidian, and anything else there may be among animals that resembles it, to be of a vegetable character; for plants also never have any residuum. Across the middle of the body of these Ascidians there runs a thin transverse partition, and here it is that we may reasonably suppose the part on which life depends to be situated.

The Acalephae, or Sea-nettles, as they are variously called, are not Testacea at all, but lie outside the recognized groups. Their constitution, like that of the Ascidians, approximates them on one side to plants, on the other to animals. For seeing that some of them can detach themselves and can fasten upon their food, and that they are sensible of objects which come in contact with them, they must be considered to have an animal nature. The like conclusion follows from their using the asperity of their bodies as a protection against their enemies. But, on the other hand, they are closely allied to plants, firstly by the imperfection of their structure, secondly by their being able to attach themselves to the rocks, which they do with great rapidity, and lastly by their having no visible residuum notwithstanding that they possess a mouth.

Very similar again to the Acalephae are the Starfishes. For these also fasten on their prey, and suck out its juices, and thus destroy a vast number of oysters. At the same time they present a certain resemblance to such of the animals we have described as the Cephalopoda and Crustacea, inasmuch as they are free and unattached. The same may also be said of the Testacea.

Such, then, is the structure of the parts that minister to nutrition and which every animal must possess. But besides these organs it is quite plain that in every animal there must be some part or other which shall be analogous to what in sanguineous animals is the presiding seat of sensation. Whether an animal has or has not blood, it cannot possibly be without this. In the Cephalopoda this part consists of a fluid substance contained in a membrane, through which runs the gullet on its way to the stomach. It is attached to the body rather towards its dorsal surface, and by some is called the mytis. Just such another organ is found also in the Crustacea and there too is known by the same name. This part is at once fluid and corporeal and, as before said, is traversed by the gullet. For had the gullet been placed between the mytis and the dorsal surface of the animal, the hardness of the back would have interfered with its due dilatation in the act of deglutition. On the outer surface of the mytis runs the intestine; and in contact with this latter is placed the ink-bag, so that it may be removed as far as possible from the mouth and its obnoxious fluid be kept at a distance from the nobler and sovereign part. The position of the mytis shows that it corresponds to the heart of sanguineous animals; for it occupies the self-same place. The same is shown by the sweetness of its fluid, which has the character of concocted matter and resembles blood.

In the Testacea the presiding seat of sensation is in a corresponding position, but is less easily made out. It should, however, always be looked for in some midway position; namely, in such Testacea as are stationary, midway between the part by which food is taken in and the channel through which either the excrement or the spermatic fluid is voided, and, in those species which are capable of locomotion, invariably midway between the right and left sides.

In Insects this organ, which is the seat of sensation, lies, as was stated in the first treatise, between the head and the cavity which contains the stomach. In most of them it consists of a single part; but in others, for instance in such as have long bodies and resemble the Juli (Millipedes), it is made up of several parts, so that such insects continue to live after they have been cut in pieces. For the aim of nature is to give to each animal only one such dominant part; and when she is unable to carry out this intention she causes the parts, though potentially many, to work together actually as one. This is much more clearly marked in some insects than in others.

The parts concerned in nutrition are not alike in all insects, but show considerable diversity. Thus some have what is called a sting in the mouth, which is a kind of compound instrument that combines in itself the character of a tongue and of lips. In others that have no such instrument in front there is a part inside the mouth that answers the same sensory purposes. Immediately after the mouth comes the intestine, which is never wanting in any insect. This runs in a straight line and without further complication to the vent; occasionally, however, it has a spiral coil. There are, moreover, some insects in which a stomach succeeds to the mouth, and is itself succeeded by a convoluted intestine, so that the larger and more voracious insects may be enabled to take in a more abundant supply of food. More curious than any are the Cicadae. For here the mouth and the tongue are united so as to form a single part, through which, as through a root, the insect sucks up the fluids on which it lives. Insects are always small eaters, not so much because of their diminutive size as because of their cold temperament. For it is heat which requires sustenance; just as it is heat which speedily concocts it. But cold requires no sustenance. In no insects is this so conspicuous as in these Cicadae. For they find enough to live on in the moisture which is deposited from the air. So also do the Ephemera that are found about the Black sea. But while these latter only live for a single day, the Cicadae subsist on such food for several days, though still not many.

We have now done with the internal parts of animals, and must therefore return to the consideration of the external parts which have not yet been described. It will be better to change our order of exposition and begin with the animals we have just been describing, so that proceeding from these, which require less discussion, our account may have more time to spend on the perfect kinds of animals, those namely that have blood.

6

We will begin with Insects. These animals, though they present no great multiplicity of parts, are not without diversities when compared with each other. They are all manyfooted; the object of this being to compensate their natural slowness and frigidity, and give greater activity to their motions. Accordingly we find that those which, as the (Millipedes), have long bodies, and are therefore the most liable to refrigeration, have also the greatest number of feet. Again, the body in these animals is insected-the reason for this being that they have not got one vital centre but many-and the number of their feet corresponds to that of the insections.

Should the feet fall short of this, their deficiency is compensated by the power of flight. Of such flying insects some live a wandering life, and are forced to make long expeditions in search of food. These have a body of light weight, and four feathers, two on either side, to support it. Such are bees and the insects akin to them. When, however, such insects are of very small bulk, their feathers are reduced to two, as is the case with flies. Insects with heavy bodies and of stationary habits, though not polypterous in the same way as bees, yet have sheaths to their feathers to maintain their efficiency. Such are the Melolonthae and the like. For their stationary habits expose their feathers to much greater risks than are run by those of insects that are more constantly in flight, and on this account they are provided with this protecting shield. The feather of an insect has neither barbs nor shaft. For, though it is called a feather, it is no feather at all, but merely a skin-like membrane that, owing to its dryness, necessarily becomes detached from the surface of the body, as the fleshy substance grows cold.

These animals then have their bodies insected, not only for the reasons already assigned, but also to enable them to curl round in such a manner as may protect them from injury; for such insects as have long bodies can roll themselves up, which would be impossible were it not for the insections; and those that cannot do this can yet draw their segments up into the insected spaces, and so increase the hardness of their bodies. This can be felt quite plainly by putting the finger on one of the insects, for instance, known as Canthari. The touch frightens the insect, and it remains motionless, while its body becomes hard. The division of the body into segments is also a necessary result of there being several supreme organs in place of one; and this again is a part of the essential constitution of insects, and is a character which approximates them to plants. For as plants, though cut into pieces, can still live, so also can insects. There is, however, this difference between the two cases, that the portions of the divided insect live only for a limited time, whereas the portions of the plant live on and attain the perfect form of the whole, so that from one single plant you may obtain two or more.

Some insects are also provided with another means of protection against their enemies, namely a sting. In some this is in front, connected with the tongue, in others behind at the posterior end. For just as the organ of smell in elephants answers several uses, serving alike as a weapon and for purposes of nutrition, so does also the sting, when placed in connexion with the tongue, as in some insects, answer more than one end. For it is the instrument through which they derive their sensations of food, as well as that with which they suck it up and bring it to the mouth. Such of these insects as have no anterior sting are provided with teeth, which serve in some of them for biting the food, and in others for its prehension and conveyance to the mouth. Such are their uses, for instance, in ants and all the various kinds of bees. As for the insects that have a sting behind, this weapon is given them because they are of a fierce disposition. In some of them the sting is lodged inside the body, in bees, for example, and wasps. For these insects are made for flight, and were their sting external and of delicate make it would soon get spoiled; and if, on the other hand, it were of thicker build, as in scorpions, its weight would be an incumbrance. As for scorpions that live on the ground and have a tail, their sting must be set upon this, as otherwise it would be of no use as a weapon. Dipterous insects never have a posterior sting. For the very reason of their being dipterous is that they are small and weak, and therefore require no more than two feathers to support their light weight; and the same reason which reduces their feathers to two causes their sting to be in front; for their strength is not sufficient to allow them to strike efficiently with the hinder part of the body. Polypterous insects, on the other hand, are of greater bulk-indeed it is this which causes them to have so many feathers; and their greater size makes them stronger in their hinder parts. The sting of such insects is therefore placed behind. Now it is better, when possible, that one and the same instrument shall not be made to serve several dissimilar uses; but that there shall be one organ to serve as a weapon, which can then be very sharp, and a distinct one to serve as a tongue, which can then be of spongy texture and fit to absorb nutriment. Whenever, therefore, nature is able to provide two separate instruments for two separate uses, without the one hampering the other, she does so, instead of acting like a coppersmith who for cheapness makes a spit and lampholder in one. It is only when this is impossible that she uses one organ for several functions.

The anterior legs are in some cases longer than the others, that they may serve to wipe away any foreign matter that may lodge on the insect's eyes and obstruct its sight, which already is not very distinct owing to the eyes being made of a hard substance. Flies and bees and the like may be constantly seen thus dressing themselves with crossed forelegs. Of the other legs, the hinder are bigger than the middle pair, both to aid in running and also that the insect, when it takes flight, may spring more easily from the ground. This difference is still more marked in such insects as leap, in locusts for instance, and in the various kinds of fleas. For these first bend and then extend the legs, and, by doing so, are necessarily shot up from the ground. It is only the. hind legs of locusts, and not the front ones, that resemble the steering oars of a ship. For this requires that the joint shall be deflected inwards, and such is never the case with the anterior limbs. The whole number of legs, including those used in leaping, is six in all these insects.

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In the Testacea the body consists of but few parts, the reason being that these animals live a stationary life. For such animals as move much about must of necessity have more numerous parts than such as remain quiet; for their activities are many, and the more diversified the movements the greater the number of organs required to effect them. Some species of Testacea are absolutely motionless, and others not quite but nearly so. Nature, however, has provided them with a protection in the hardness of the shell with which she has invested their body. This shell, as already has been said, may have one valve, or two valves, or be turbinate. In the latter case it may be either spiral, as in whelks, or merely globular, as in sea-urchins. When it has two valves, these may be gaping, as in scallops and mussels, where the valves are united together on one side only, so as to open and shut on the other; or they may be united together on both sides, as in the Solens (razor-fishes). In all cases alike the Testacea have, like plants, the head downwards. The reason for this is, that they take in their nourishment from below, just as do plants with their roots. Thus the under parts come in them to be above, and the upper parts to be below. The body is enclosed in a membrane, and through this the animal filters fluid free from salt and absorbs its nutriment. In all there is a head; but none of the parts, excepting this recipient of food, has any distinctive name.

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All the Crustacea can crawl as well as swim, and accordingly they are provided with numerous feet. There are four main genera, viz. the Carabi, as they are called, the Astaci, the Carides, and the Carcini. In each of these genera, again, there are numerous species, which differ from each other not only as regards shape, but also very considerably as regards size. For, while in some species the individuals are large, in others they are excessively minute. The Carcinoid and Caraboid Crustacea resemble each other in possessing claws. These claws are not for locomotion, but to serve in place of hands for seizing and holding objects; and they are therefore bent in the opposite direction to the feet, being so twisted as to turn their convexity towards the body, while their feet turn towards it their concavity. For in this position the claws are best suited for laying hold of the food and carrying it to the mouth. The distinction between the Carabi and the Carcini (Crabs) consists in the former having a tail while the latter have none. For the Carabi swim about and a tail is therefore of use to them, serving for their propulsion like the blade of an oar. But it would be of no use to the Crabs; for these animals live habitually close to the shore, and creep into holes and corners. In such of them as live out at sea, the feet are much less adapted for locomotion than in the rest, because they are little given to moving about but depend for protection on their shell-like covering. The Maiae and the crabs known as Heracleotic are examples of this; the legs in the former being very thin, in the latter very short.

The very minute crabs that are found among the small fry at the bottom of the net have their hindermost feet flattened out into the semblance of fins or oar-blades, so as to help the animal in swimming.

The Carides are distinguished from the Carcinoid species by the presence of a tail; and from the Caraboids by the absence of claws. This is explained by their large number of feet, on which has been expended the material for the growth of claws. Their feet again are numerous to suit their mode of progression, which is mainly by swimming.

Of the parts on the ventral surface, those near the head are in some of these animals formed like gills, for the admission and discharge of water; while the parts lower down differ in the two sexes. For in the female Carabi these are more laminar than in the males, and in the female crabs the flap is furnished with hairier appendages. This gives ampler space for the disposal of the ova, which the females retain in these parts instead of letting them go free, as do fishes and all other oviparous animals. In the Carabi and in the Crabs the right claw is invariably the larger and the stronger. For it is natural to every animal in active operations to use the parts on its right side in preference to those on its left; and nature, in distributing the organs, invariably assigns each, either exclusively or in a more perfect condition, to such animals as can use it. So it is with tusks, and teeth, and horns, and spurs, and all such defensive and offensive weapons.

In the Lobsters alone it is a matter of chance which claw is the larger, and this in either sex. Claws they must have, because they belong to a genus in which this is a constant character; but they have them in this indeterminate way, owing to imperfect formation and to their not using them for their natural purpose, but for locomotion.

For a detailed account of the several parts of these animals, of their position and their differences, those parts being also included which distinguish the sexes, reference must be made to the treatises on Anatomy and to the Researches concerning Animals.

We come now to the Cephalopoda. Their internal organs have already been described with those of other animals. Externally there is the trunk of the body, not distinctly defined, and in front of this the head surrounded by feet, which form a circle about the mouth and teeth, and are set between these and the eyes. Now in all other animals the feet, if there are any, are disposed in one of two ways; either before and behind or along the sides, the latter being the plan in such of them, for instance, as are bloodless and have numerous feet. But in the Cephalopoda there is a peculiar arrangement, different from either of these. For their feet are all placed at what may be called the fore end. The reason for this is that the hind part of their body has been drawn up close to the fore part, as is also the case in the turbinated Testacea. For the Testacea, while in some points they resemble the Crustacea, in others resemble the Cephalopoda. Their earthy matter is on the outside, and their fleshy substance within. So far they are like the Crustacea. But the general plan of their body is that of the Cephalopoda; and, though this is true in a certain degree of all the Testacea, it is more especially true of those turbinated species that have a spiral shell. Of this general plan, common to the two, we will speak presently. But let us first consider the case of quadrupeds and of man, where the arrangement is that of a straight line. Let A at the upper end of such a line be supposed to represent the mouth, then B the gullet, and C the stomach, and the intestine to run from this C to the excremental vent where D is inscribed. Such is the plan in sanguineous animals; and round this straight line as an axis are disposed the head and so-called trunk; the remaining parts, such as the anterior and posterior limbs, having been superadded by nature, merely to minister to these and for locomotion.

In the Crustacea also and in Insects there is a tendency to a similar arrangement of the internal parts in a straight line; the distinction between these groups and the sanguineous animals depending on differences of the external organs which minister to locomotion. But the Cephalopoda and the turbinated Testacea have in common an arrangement which stands in contrast with this. For here the two extremities are brought together by a curve, as if one were to bend the straight line marked E until D came close to Such, then, is the disposition of the internal parts; and round these, in the Cephalopoda, is placed the sac (in the Poulps alone called a head), and, in the Testacea, the turbinate shell which corresponds to the sac. There is, in fact, only this difference between them, that the investing substance of the Cephalopoda is soft while the shell of the Testacea is hard, nature having surrounded their fleshy part with this hard coating as a protection because of their limited power of locomotion. In both classes, owing to this arrangement of the internal organs, the excrement is voided near the mouth; at a point below this orifice in the Cephalopoda, and in the Turbinata on one side of it.

Such, then, is the explanation of the position of the feet in the Cephalopoda, and of the contrast they present to other animals in this matter. The arrangement, however, in the Sepias and the Calamaries is not precisely the same as in the Poulps, owing to the former having no other mode of progression than by swimming, while the latter not only swim but crawl. For in the former six of the feet are above the teeth and small, the outer one on either side being the biggest; while the remaining two, which make up the total weight, are below the mouth and are the biggest of all, just as the hind limbs in quadrupeds are stronger than the fore limbs. For it is these that have to support the weight, and to take the main part in locomotion. And the outer two of the upper six are bigger than the pair which intervene between them and the uppermost of all, because they have to assist the lowermost pair in their office. In the Poulps, on the other hand, the four central feet are the biggest. Again, though the number of feet is the same in all the Cephalopoda, namely eight, their length varies in different kinds, being short in the Sepias and the Calamaries, but greater in the Poulps. For in these latter the trunk of the body is of small bulk, while in the former it is of considerable size; and so in the one case nature has used the materials subtracted from the body to give length to the feet, while in the other she has acted in precisely the opposite way, and has given to the growth of the body what she has first taken from the feet. The Poulps, then, owing to the length of their feet, can not only swim but crawl, whereas in the other genera the feet are useless for the latter mode of progression, being small while the bulk of the body is considerable. These short feet would not enable their possessors to cling to the rocks and keep themselves from being torn off by the waves when these run high in times of storm; neither would they serve to lay hold of objects at all remote and bring them in; but, to supply these defects, the animal is furnished with two long proboscises, by which it can moor itself and ride at anchor like a ship in rough weather. These same processes serve also to catch prey at a distance and to bring it to the mouth. They are so used by both the Sepias and the Calamaries. In the Poulps the feet are themselves able to perform these offices, and there are consequently no proboscises. Proboscises and twining tentacles, with acetabula set upon them, act in the same way and have the same structure as those plaited instruments which were used by physicians of old to reduce dislocations of the fingers. Like these they are made by the interlacing of their fibres, and they act by pulling upon pieces of flesh and yielding substances. For the plaited fibres encircle an object in a slackened condition, and when they are put on the stretch they grasp and cling tightly to whatever it may be that is in contact with their inner surface. Since, then, the Cephalopoda have no other instruments with which to convey anything to themselves from without, than either twining tentacles, as in some species, or proboscises as in others, they are provided with these to serve as hands for offence and defence and other necessary uses.

The acetabula are set in double line in all the Cephalopoda excepting in one kind of poulp, where there is but a single row. The length and the slimness which is part of the nature of this kind of poulp explain the exception. For a narrow space cannot possibly admit of more than a single row. This exceptional character, then, belongs to them, not because it is the most advantageous arrangement, but because it is the necessary consequence of their essential specific constitution.

In all these animals there is a fin, encircling the sac. In the Poulps and the Sepias this fin is unbroken and continuous, as is also the case in the larger calamaries known as Teuthi. But in the smaller kind, called Teuthides, the fin is not only broader than in the Sepias and the Poulps, where it is very narrow, but, moreover, does not encircle the entire sac, but only begins in the middle of the side. The use of this fin is to enable the animal to swim, and also to direct its course. It acts, that is, like the rump-feathers in birds, or the tail-fin in fishes. In none is it so small or so indistinct as in the Poulps. For in these the body is of small bulk and can be steered by the feet sufficiently well without other assistance.

The Insects, the Crustacea, the Testacea, and the Cephalopoda, have now been dealt with in turn; and their parts have been described, whether internal or external.

We must now go back to the animals that have blood, and consider such of their parts, already enumerated, as were before passed over. We will take the viviparous animals first, and, we have done with these, will pass on to the oviparous, and treat of them in like manner.

The parts that border on the head, and on what is known as the neck and throat, have already been taken into consideration. All animals that have blood have a head; whereas in some bloodless animals, such as crabs, the part which represents a head is not clearly defined. As to the neck, it is present in all the Vivipara, but only in some of the Ovipara; for while those that have a lung also have a neck, those that do not inhale the outer air have none. The head exists mainly for the sake of the brain. For every animal that has blood must of necessity have a brain; and must, moreover, for reasons already given, have it placed in an opposite region to the heart. But the head has also been chosen by nature as the part in which to set some of the senses; because its blood is mixed in such suitable proportions as to ensure their tranquillity and precision, while at the same time it can supply the brain with such warmth as it requires. There is yet a third constituent superadded to the head, namely the part which ministers to the ingestion of food. This has been placed here by nature, because such a situation accords best with the general configuration of the body. For the stomach could not possibly be placed above the heart, seeing that this is the sovereign organ; and if placed below, as in fact it is, then the mouth could not possibly be placed there also. For this would have necessitated a great increase in the length of the body; and the stomach, moreover, would have been removed too far from the source of motion and of concoction.

The head, then, exists for the sake of these three parts; while the neck, again, exists for the sake of the windpipe. For it acts as a defence to this and to the oesophagus, encircling them and keeping them from injury. In all other animals this neck is flexible and contains several vertebrae; but in wolves and lions it contains only a single bone. For the object of nature was to give these animals an organ which should be serviceable in the way of strength, rather than one that should be useful for any of the other purposes to which necks are subservient.

Continuous with the head and neck is the trunk with the anterior limbs. In man the forelegs and forefeet are replaced by arms and by what we call hands. For of all animals man alone stands erect, in accordance with his godlike nature and essence. For it is the function of the god-like to think and to be wise; and no easy task were this under the burden of a heavy body, pressing down from above and obstructing by its weight the motions of the intellect and of the general sense. When, moreover, the weight and corporeal substance become excessive, the body must of necessity incline towards the ground. In such cases therefore nature, in order to give support to the body, has replaced the arms and hands by forefeet, and has thus converted the animal into a quadruped. For, as every animal that walks must of necessity have the two hinder feet, such an animal becomes a quadruped, its body inclining downwards in front from the weight which its soul cannot sustain. For all animals, man alone excepted, are dwarf-like in form. For the dwarf-like is that in which the upper part is large, while that which bears the weight and is used in progression is small. This upper part is what we call the trunk, which reaches from the mouth to the vent. In man it is duly proportionate to the part below, and diminishes much in its comparative size as the man attains to full growth. But in his infancy the contrary obtains, and the upper parts are large, while the lower part is small; so that the infant can only crawl, and is unable to walk; nay, at first cannot even crawl, but remains without motion. For all children are dwarfs in shape, but cease to be so as they become men, from the growth of their lower part; whereas in quadrupeds the reverse occurs, their lower parts being largest in youth, and advance of years bringing increased growth above, that is in the trunk, which extends from the rump to the head. Thus it is that colts are scarcely, if at all, below full-grown horses in height; and that while still young they can touch their heads with the hind legs, though this is no longer possible when they are older. Such, then, is the form of animals that have either a solid or a cloven hoof. But such as are polydactylous and without horns, though they too are of dwarf-like shape, are so in a less degree; and therefore the greater growth of the lower parts as compared with the upper is also small, being proportionate to this smaller deficiency.

Dwarf-like again is the race of birds and fishes; and so in fact, as already has been said, is every animal that has blood. This is the reason why no other animal is so intelligent as man. For even among men themselves if we compare children with adults, or such adults as are of dwarf-like shape with such as are not, we find that, whatever other superiority the former may possess, they are at any rate deficient as compared with the latter in intelligence. The explanation, as already stated, is that their psychical principle is corporeal, and much impeded in its motions. Let now a further decrease occur in the elevating heat, and a further increase in the earthy matter, and the animals become smaller in bulk, and their feet more numerous, until at a later stage they become apodous, and extended full length on the ground. Then, by further small successions of change, they come to have their principal organ below; and at last their cephalic part becomes motionless and destitute of sensation. Thus the animal becomes a plant, that has its upper parts downwards and its lower parts above. For in plants the roots are the equivalents of mouth and head, while the seed has an opposite significance, for it is produced above it the extremities of the twigs.

The reasons have now been stated why some animals have many feet, some only two, and others none; why, also, some living things are plants and others animals; and, lastly, why man alone of all animals stands erect. Standing thus erect, man has no need of legs in front, and in their stead has been endowed by nature with arms and hands. Now it is the opinion of Anaxagoras that the possession of these hands is the cause of man being of all animals the most intelligent. But it is more rational to suppose that his endowment with hands is the consequence rather than the cause of his superior intelligence. For the hands are instruments or organs, and the invariable plan of nature in distributing the organs is to give each to such animal as can make use of it; nature acting in this matter as any prudent man would do. For it is a better plan to take a person who is already a flute-player and give him a flute, than to take one who possesses a flute and teach him the art of flute-playing. For nature adds that which is less to that which is greater and more important, and not that which is more valuable and greater to that which is less. Seeing then that such is the better course, and seeing also that of what is possible nature invariably brings about the best, we must conclude that man does not owe his superior intelligence to his hands, but his hands to his superior intelligence. For the most intelligent of animals is the one who would put the most organs to use; and the hand is not to be looked on as one organ but as many; for it is, as it were, an instrument for further instruments. This instrument, therefore,-the hand-of all instruments the most variously serviceable, has been given by nature to man, the animal of all animals the most capable of acquiring the most varied handicrafts.

Much in error, then, are they who say that the construction of man is not only faulty, but inferior to that of all other animals; seeing that he is, as they point out, bare-footed, naked, and without weapon of which to avail himself. For other animals have each but one mode of defence, and this they can never change; so that they must perform all the offices of life and even, so to speak, sleep with sandals on, never laying aside whatever serves as a protection to their bodies, nor changing such single weapon as they may chance to possess. But to man numerous modes of defence are open, and these, moreover, he may change at will; as also he may adopt such weapon as he pleases, and at such times as suit him. For the hand is talon, hoof, and horn, at will. So too it is spear, and sword, and whatsoever other weapon or instrument you please; for all these can it be from its power of grasping and holding them all. In harmony with this varied office is the form which nature has contrived for it. For it is split into several divisions, and these are capable of divergence. Such capacity of divergence does not prevent their again converging so as to form a single compact body, whereas had the hand been an undivided mass, divergence would have been impossible. The divisions also may be used singly or two together and in various combinations. The joints, moreover, of the fingers are well constructed for prehension and for pressure. One of these also, and this not long like the rest but short and thick, is placed laterally. For were it not so placed all prehension would be as impossible, as were there no hand at all. For the pressure of this digit is applied from below upwards, while the rest act from above downwards; an arrangement which is essential, if the grasp is to be firm and hold like a tight clamp. As for the shortness of this digit, the object is to increase its strength, so that it may be able, though but one, to counterbalance its more numerous opponents. Moreover, were it long it would be of no use. This is the explanation of its being sometimes called the great digit, in spite of its small size; for without it all the rest would be practically useless. The finger which stands at the other end of the row is small, while the central one of all is long, like a centre oar in a ship. This is rightly so; for it is mainly by the central part of the encircling grasp that a tool must be held when put to use.

No less skilfully contrived are the nails. For, while in man these serve simply as coverings to protect the tips of the fingers, in other animals they are also used for active purposes; and their form in each case is suited to their office.

The arms in man and the fore limbs in quadrupeds bend in contrary directions, this difference having reference to the ingestion of food and to the other offices which belong to these parts. For quadrupeds must of necessity bend their anterior limbs inwards that they may serve in locomotion, for they use them as feet. Not but what even among quadrupeds there is at any rate a tendency for such as are polydactylous to use their forefeet not only for locomotion but as hands. And they are in fact so used, as any one may see. For these animals seize hold of objects, and also repel assailants with their anterior limbs; whereas quadrupeds with solid hoofs use their hind legs for this latter purpose. For their fore limbs are not analogous to the arms and hands of man.

It is this hand-like office of the anterior limbs which explains why in some of the polydactylous quadrupeds, such as wolves, lions, dogs, and leopards, there are actually five digits on each forefoot, though there are only four on each hind one. For the fifth digit of the foot corresponds to the fifth digit of the hand, and like it is called the big one. It is true that in the smaller polydactylous quadrupeds the hind feet also have each five toes. But this is because these animals are creepers; and the increased number of nails serves to give them a tighter grip, and so enables them to creep up steep places with greater facility, or even to run head downwards.

In man between the arms, and in other animals between the forelegs, lies what is called the breast. This in man is broad, as one might expect; for as the arms are set laterally on the body, they offer no impediment to such expansion in this part. But in quadrupeds the breast is narrow, owing to the legs having to be extended in a forward direction in progression and locomotion.

Owing to this narrowness the mammae of quadrupeds are never placed on the breast. But in the human body there is ample space in this part; moreover, the heart and neighbouring organs require protection, and for these reasons this part is fleshy and the mammae are placed upon it separately, side by side, being themselves of a fleshy substance in the male and therefore of use in the way just stated; while in the female, nature, in accordance with what we say is her frequent practice, makes them minister to an additional function, employing them as a store-place of nutriment for the offspring. The human mammae are two in number, in accordance with the division of the body into two halves, a right and a left. They are somewhat firmer than they would otherwise be, because the ribs in this region are joined together; while they form two separate masses, because their presence is in no wise burdensome. In other animals than man, it is impossible for the mammae to be placed on the breast between the forelegs, for they would interfere with locomotion; they are therefore disposed of otherwise, and in a variety of ways. Thus in such animals as produce but few at a birth, whether horned quadrupeds or those with solid hoofs, the mammae are placed in the region of the thighs, and are two in number, while in such as produce litters, or such as are polydactylous, the dugs are either numerous and placed laterally on the belly, as in swine and dogs, or are only two in number, being set, however, in the centre of the abdomen, as is the case in the lion. The explanation of this latter condition is not that the lion produces few at a birth, for sometimes it has more than two cubs at a time, but is to be found in the fact that this animal has no plentiful supply of milk. For, being a flesheater, it gets food at but rare intervals, and such nourishment as it obtains is all expended on the growth of its body.

In the elephant also there are but two mammae, which are placed under the axillae of the fore limbs. The mammae are not more than two, because this animal has only a single young one at a birth; and they are not placed in the region of the thighs, because they never occupy that position in any polydactylous animal such as this. Lastly, they are placed above, close to the axillae, because this is the position of the foremost dugs in all animals whose dugs are numerous, and the dugs so placed give the most milk. Evidence of this is furnished by the sow. For she always presents these foremost dugs to the first-born of her litter. A single young one is of course a first-born, and so such animals as only produce a single young one must have these anterior dugs to present to it; that is they must have the dugs which are under the axillae. This, then, is the reason why the elephant has but two mammae, and why they are so placed. But, in such animals as have litters of young, the dugs are disposed about the belly; the reason being that more dugs are required by those that will have more young to nourish. Now it is impossible that these dugs should be set transversely in rows of more than two, one, that is, for each side of the body, the right and the left; they must therefore be placed lengthways, and the only place where there is sufficient length for this is the region between the front and hind legs. As to the animals that are not polydactylous but produce few at a birth, or have horns, their dugs are placed in the region of the thighs. The horse, the ass, the camel are examples; all of which bear but a single young one at a time, and of which the two former have solid hoofs, while in the last the hoof is cloven. As still further examples may be mentioned the deer, the ox, the goat, and all other similar animals.

The explanation is that in these animals growth takes place in an upward direction; so that there must be an abundant collection of residual matter and of blood in the lower region, that is to say in the neighbourhood of the orifices for efflux, and here therefore nature has placed the mammae. For the place in which the nutriment is set in motion must also be the place whence nutriment can be derived by them. In man there are mammae in the male as well as in the female; but some of the males of other animals are without them. Such, for instance, is the case with horses, some stallions being destitute of these parts, while others that resemble their dams have them. Thus much then concerning the mammae.

Next after the breast comes the region of the belly, which is left unenclosed by the ribs for a reason which has already been given; namely that there may be no impediment to the swelling which necessarily occurs in the food as it gets heated, nor to the expansion of the womb in pregnancy.

At the extreme end of what is called the trunk are the parts concerned in the evacuation of the solid and also of the fluid residue. In all sanguineous animals with some few exceptions, and in all Vivipara without any exception at all, the same part which serves for the evacuation of the fluid residue is also made by nature to serve in sexual congress, and this alike in male and female. For the semen is a kind of fluid and residual matter. The proof of this will be given hereafter, but for the present let it taken for granted. (The like holds good of the menstrual fluid in women, and of the part where they emit semen. This also, however, is a matter of which a more accurate account will be given hereafter. For the present let it be simply stated as a fact, that the catamenia of the female like the semen of the male are residual matter. Both of them, moreover, being fluid, it is only natural that the parts which serve for voidance of the urine should give issue to residues which resemble it in character.) Of the internal structure of these parts, and of the differences which exist between the parts concerned with semen and the parts concerned with conception, a clear account is given in the book of Researches concerning Animals and in the treatises on Anatomy. Moreover, I shall have to speak of them again when I come to deal with Generation. As regards, however, the external shape of these parts, it is plain enough that they are adapted to their operations, as indeed of necessity they must be. There are, however, differences in the male organ corresponding to differences in the body generally. For all animals are not of an equally sinewy nature. This organ, again, is the only one that, independently of any morbid change, admits of augmentation and of diminution of bulk. The former condition is of service in copulation, while the other is required for the advantage of the body at large. For, were the organ constantly in the former condition, it would be an incumbrance. The organ therefore has been formed of such constituents as will admit of either state. For it is partly sinewy, partly cartilaginous, and thus is enabled either to contract or to become extended, and is capable of admitting air.

All female quadrupeds void their urine backwards, because the position of the parts which this implies is useful to them in the act of copulation. This is the case with only some few males, such as the lynx, the lion, the camel, and the hare. No quadruped with a solid hoof is retromingent.

The posterior portion of the body and the parts about the legs are peculiar in man as compared with quadrupeds. Nearly all these latter have a tail, and this whether they are viviparous or oviparous. For, even if the tail be of no great size, yet they have a kind of scut, as at any rate a small representative of it. But man is tail-less. He has, however, buttocks, which exist in none of the quadrupeds. His legs also are fleshy (as too are his thighs and feet); while the legs in all other animals that have any, whether viviparous or not, are fleshless, being made of sinew and bone and spinous substance. For all these differences there is, so to say, one common explanation, and this is that of all animals man alone stands erect. It was to facilitate the maintenance of this position that Nature made his upper parts light, taking away some of their corporeal substance, and using it to increase the weight of lithe parts below, so that the buttocks, the thighs, and the calves of the legs were all made fleshy. The character which she thus gave to the buttocks renders them at the same time useful in resting the body. For standing causes no fatigue to quadrupeds, and even the long continuance of this posture produces in them no weariness; for they are supported the whole time by four props, which is much as though they were lying down. But to man it is no task to remain for any length of time on his feet, his body demanding rest in a sitting position. This, then, is the reason why man has buttocks and fleshy legs; and the presence of these fleshy parts explains why he has no tail. For the nutriment which would otherwise go to the tail is used up in the production of these parts, while at the same time the existence of buttocks does away with the necessity of a tail. But in quadrupeds and other animals the reverse obtains. For they are of dwarf-like form, so that all the pressure of their weight and corporeal substance is on their upper part, and is withdrawn from the parts below. On this account they are without buttocks and have hard legs. In order, however, to cover and protect that part which serves for the evacuation of excrement, nature has given them a tail of some kind or other, subtracting for the purpose some of the nutriment which would otherwise go to the legs. Intermediate in shape between man and quadrupeds is the ape, belonging therefore to neither or to both, and having on this account neither tail nor buttocks; no tail in its character of biped, no buttocks in its character of quadruped. There is great diversity of so-called tails; and this organ like others is sometimes used by nature for by-purposes, being made to serve not only as a covering and protection to the fundament, but also for other uses and advantages of its possessor.

There are differences in the feet of quadrupeds. For in some of these animals there is a solid hoof, and in others a hoof cloven into two, and again in others a foot divided into many parts.

The hoof is solid when the body is large and the earthy matter present in great abundance; in which case the earth, instead of forming teeth and horns, is separated in the character of a nail, and being very abundant forms one continuous nail, that is a hoof, in place of several. This consumption of the earthy matter on the hoof explains why these animals, as a rule, have no huckle-bones; a second reason being that the presence of such a bone in the joint of the hind leg somewhat impedes its free motion. For extension and flexion can be made more rapidly in parts that have but one angle than in parts that have several. But the presence of a huckle-bone, as a connecting bolt, is the introduction as it were of a new limb-segment between the two ordinary ones. Such an addition adds to the weight of the foot, but renders the act of progression more secure. Thus it is that in such animals as have a hucklebone, it is only in the posterior and not in the anterior limbs that this bone is found. For the anterior limbs, moving as they do in advance of the others, require to be light and capable of ready flexion, whereas firmness and extensibility are what are wanted in the hind limbs. Moreover, a huckle-bone adds weight to the blow of a limb, and so renders it a suitable weapon of defence; and these animals all use their hind legs to protect themselves, kicking out with their heels against anything which annoys them. In the cloven-hoofed quadrupeds the lighter character of the hind legs admits of there being a huckle-bone; and the presence of the huckle-bone prevents them from having a solid hoof, the bony substance remaining in the joint, and therefore being deficient in the foot. As to the polydactylous quadrupeds, none of them have huckle-bones. For if they had they would not be polydactylous, but the divisions of the foot would only extend to that amount of its breadth which was covered by the huckle-bone. Thus it is that most of the animals that have huckle-bones are cloven-hoofed.

Of all animals man has the largest foot in proportion to the size of the body. This is only what might be expected. For seeing that he is the only animal that stands erect, the two feet which are intended to bear all the weight of the body must be both long and broad. Equally intelligible is it that the proportion between the size of the fingers and that of the whole hand should be inverted in the case of the toes and feet. For the function of the hands is to take hold of objects and retain them by pressure; so that the fingers require to be long. For it is by its flexed portion that the hand grasps an object. But the function of the feet is to enable us to stand securely, and for this the undivided part of the foot requires to be of larger size than the toes. However, it is better for the extremity to be divided than to be undivided. For in an undivided foot disease of any one part would extend to the whole organ; whereas, if the foot be divided into separate digits, there is not an equal liability to such an occurrence. The digits, again, by being short would be less liable to injury. For these reasons the feet in man are many-toed, while the separate digits are of no great length. The toes, finally, are furnished with nails for the same reason as are the fingers, namely because such projecting parts are weak and therefore require special protection.

11

We have now done with such sanguineous animals as live on land and bring forth their young alive; and, having dealt with all their main kinds, we may pass on to such sanguineous animals as are oviparous. Of these some have four feet, while others have none. The latter form a single genus, namely the

Serpents; and why these are apodous has been already explained in the dissertation on Animal Progression. Irrespective of this absence of feet, serpents resemble the oviparous quadrupeds in their conformation.

In all these animals there is a head with its component parts; its presence being determined by the same causes as obtain in the case of other sanguineous animals; and in all, with the single exception of the river crocodile, there is a tongue inside the mouth. In this one exception there would seem to be no actual tongue, but merely a space left vacant for it. The reason is that a crocodile is in a way a land-animal and a water-animal combined. In its character of land-animal it has a space for a tongue; but in its character of water-animal it is without the tongue itself. For in some fishes, as has already been mentioned, there is no appearance whatsoever of a tongue, unless the mouth be stretched open very widely indeed; while in others it is indistinctly separated from the rest of the mouth. The reason for this is that a tongue would be of but little service to such animals, seeing that they are unable to chew their food or to taste it before swallowing, the pleasurable sensations they derive from it being limited to the act of deglutition. For it is in their passage down the gullet that solid edibles cause enjoyment, while it is by the tongue that the savour of fluids is perceived. Thus it is during deglutition that the oiliness, the heat, and other such qualities of food are recognized; and, in fact, the satisfaction from most solid edibles and dainties is derived almost entirely from the dilatation of the oesophagus during deglutition. This sensation, then, belongs even to animals that have no tongue, but while other animals have in addition the sensations of taste, tongueless animals have, we may say, no other satisfaction than it. What has now been said explains why intemperance as regards drinks and savoury fluids does not go hand in hand with intemperance as regards eating and solid relishes.

In some oviparous quadrupeds, namely in lizards, the tongue is bifid, as also it is in serpents, and its terminal divisions are of hair-like fineness, as has already been described. (Seals also have a forked tongue.) This it is which accounts for all these animals being so fond of dainty food. The teeth in the four-footed Ovipara are of the sharp interfitting kind, like the teeth of fishes. The organs of all the senses are present and resemble those of other animals. Thus there are nostrils for smell, eves for vision, and ears for hearing. The latter organs, however, do not project from the sides of the head, but consist simply of the duct, as also is the case in birds. This is due in both cases to the hardness of the integument; birds having their bodies covered with feathers, and these oviparous quadrupeds with horny plates. These plates are equivalent to scales, but of a harder character. This is manifest in tortoises and river crocodiles, and also in the large serpents. For here the plates become stronger than the bones, being seemingly of the same substance as these.

These animals have no upper eyelid, but close the eye with the lower lid In this they resemble birds, and the reason is the same as was assigned in their case. Among birds there are some that can not only thus close the eye, but can also blink by means of a membrane which comes from its corner. But none of the oviparous quadrupeds blink; for their eyes are harder than those of birds. The reason for this is that keen vision and far-sightedness are of very considerable service to birds, flying as they do in the air, whereas they would be of comparatively small use to the oviparous quadrupeds, seeing that they are all of troglodytic habits.

Of the two separate portions which constitute the head, namely the upper part and the lower jaw, the latter in man and in the viviparous quadrupeds moves not only upwards and downwards, but also from side to side; while in fishes, and birds and oviparous quadrupeds, the only movement is up and down. The reason is that this latter movement is the one required in biting and dividing food, while the lateral movement serve to reduce substances to a pulp. To such animals, therefore, as have grinder-teeth this lateral motion is of service; but to those animals that have no grinders it would be quite useless, and they are therefore invariably without it. For nature never makes anything that is superfluous. While in all other animals it is the lower jaw that is movable, in the river crocodile it is exceptionally the upper. This is because the feet in this creature are so excessively small as to be useless for seizing and holding prey; on which account nature has given it a mouth that can serve for these purposes in their stead. For that direction of motion which will give the greater force to a blow will be the more serviceable one in holding or in seizing prey; and a blow from above is always more forcible than one from below. Seeing, then, that both the prehension and the mastication of food are offices of the mouth, and that the former of these two is the more essential in an animal that has neither hands nor suitably formed feet, these crocodiles will derive greater benefit from a motion of the upper jaw downwards than from a motion of the lower jaw upwards. The same considerations explain why crabs also move the upper division of each claw and not the lower. For their claws are substitutes for hands, and so require to be suitable for the prehension of food, and not for its comminution; for such comminution and biting is the office of teeth. In crabs, then, and in such other animals as are able to seize their food in a leisurely manner, inasmuch as their mouth is not called on to perform its office while they are still in the water, the two functions are assigned to different parts, prehension to the hands or feet, biting and comminution of food to the mouth. But in crocodiles the mouth has been so framed by nature as to serve both purposes, the jaws being made to move in the manner just described.

Another part present in these animals is a neck, this being the necessary consequence of their having a lung. For the windpipe by which the air is admitted to the lung is of some length. If, however, the definition of a neck be correct, which calls it the portion between the head and the shoulders, a serpent can scarcely be said with the same right as the rest of these animals to have a neck, but only to have something analogous to that part of the body. It is a peculiarity of serpents, as compared with other animals allied to them, that they are able to turn their head backwards without stirring the rest of the body. The reason of this is that a serpent, like an insect, has a body that admits of being curled up, its vertebrae being cartilaginous and easily bent. The faculty in question belongs then to serpents simply as a necessary consequence of this character of their vertebrae; but at the same time it has a final cause, for it enables them to guard against attacks from behind. For their body, owing to its length and the absence of feet, is ill-suited for turning round and protecting the hinder parts; and merely to lift the head, without the power of turning it round, would be of no use whatsoever.

The animals with which we are dealing have, moreover, a part which corresponds to the breast; but neither here nor elsewhere in their body have they any mammae, as neither has any bird or fish. This is a consequence of their having no milk; for a mamma is a receptacle for milk and, as it were, a vessel to contain it. This absence of milk is not peculiar to these animals, but is common to all such as are not internally viviparous. For all such produce eggs, and the nutriment which in Vivipara has the character of milk is in them engendered in the egg. Of all this, however, a clearer account will be given in the treatise on Generation. As to the mode in which the legs bend, a general account, in which all animals are considered, has already been given in the dissertation on Progression. These animals also have a tail, larger in some of them, smaller in others, and the reason for this has been stated in general terms in an earlier passage.

Of all oviparous animals that live on land there is none so lean as the Chamaeleon. For there is none that has so little blood. The explanation of this is to be found in the psychical temperament of the creature. For it is of a timid nature, as the frequent changes it undergoes in its outward aspect testify. But fear is a refrigeration, and results from deficiency of natural heat and scantiness of blood. We have now done with such sanguineous animals as are quadrupedous and also such as are apodous, and have stated with sufficient completeness what external parts they possess, and for what reason they have them.

12

The differences of birds compared one with another are differences of magnitude, and of the greater or smaller development of parts. Thus some have long legs, others short legs; some have a broad tongue, others a narrow tongue; and so on with the other parts. There are few of their parts that differ save in size, taking birds by themselves. But when birds are compared with other animals the parts present differences of form also. For in some animals these are hairy, in others scaly, and in others have scale-like plates, while birds are feathered.

Birds, then, are feathered, and this is a character common to them all and peculiar to them. Their feathers, too, are split and distinct in kind from the undivided feathers of insects; for the bird’s feather is barbed, these are not; the bird’s feather has a shaft, these have none. A second strange peculiarity which distinguishes birds from all other animals is their beak. For as in elephants the nostril serves in place of hands, and as in some insects the tongue serves in place of mouth, so in birds there is a beak, which, being bony, serves in place of teeth and lips. Their organs of sense have already been considered.

All birds have a neck extending from the body; and the purpose of this neck is the same as in such other animals as have one. This neck in some birds is long, in others short; its length, as a general rule, being pretty nearly determined by that of the legs. For long-legged birds have a long neck, short-legged birds a short one, to which rule, however, the web-footed birds form an exception. For to a bird perched up on long legs a short neck would be of no use whatsoever in collecting food from the ground; and equally useless would be a long neck, if the legs were short. Such birds, again, as are carnivorous would find length in this part interfere greatly with their habits of life. For a long neck is weak, and it is on their superior strength that carnivorous birds depend for their subsistence. No bird, therefore, that has talons ever has an elongated neck. In web-footed birds, however, and in those other birds belonging to the same class, whose toes though actually separate have flat marginal lobes, the neck is elongated, so as to be suitable for collecting food from the water; while the legs are short, so as to serve in swimming. The beaks of birds, as their feet, vary with their modes of life. For in some the beak is straight, in others crooked; straight, in those who use it merely for eating; crooked, in those that live on raw flesh. For a crooked beak is an advantage in fighting; and these birds must, of course, get their food from the bodies of other animals, and in most cases by violence. In such birds, again, as live in marshes and are herbivorous the beak is broad and flat, this form being best suited for digging and cropping, and for pulling up plants. In some of these marsh birds, however, the beak is elongated, as too is the neck, the reason for this being that the bird get its food from some depth below the surface. For most birds of this kind, and most of those whose feet are webbed, either in their entirety or each part separately, live by preying on some of the smaller animals that are to be found in water, and use these parts for their capture, the neck acting as a fishing-rod, and the beak representing the line and hook.

The upper and under sides of the body, that is of what in quadrupeds is called the trunk, present in birds one unbroken surface, and they have no arms or forelegs attached to it, but in their stead wings, which are a distinctive peculiarity of these animals; and, as these wings are substitutes for arms, their terminal segments lie on the back in the place of a shoulder-blade.

The legs are two in number, as in man; not however, as in man, bent outwards, but bent inwards like the legs of a quadruped. The wings are bent like the forelegs of a quadruped, having their convexity turned outwards. That the feet should be two in number is a matter of necessity. For a bird is essentially a sanguineous animal, and at the same time essentially a winged animal; and no sanguineous animal has more than four points for motion In birds, then, as in those other sanguineous animals that live and move upon the ground, the limbs attached to the trunk are four in number. But, while in all the rest these four limbs consist of a pair of arms and a pair of legs, or of four legs as in quadrupeds, in birds the arms or forelegs are replaced by a pair of wings, and this is their distinctive character. For it is of the essence of a bird that it shall be able to fly; and it is by the extension of wings that this is made possible. Of all arrangements, then, the only possible, and so the necessary, one is that birds shall have two feet; for this with the wings will give them four points for motion. The breast in all birds is sharp-edged, and fleshy. The sharp edge is to minister to flight, for broad surfaces move with considerable difficulty, owing to the large quantity of air which they have to displace; while the fleshy character acts as a protection, for the breast, owing to its form, would be weak, were it not amply covered.

Below the breast lies the belly, extending, as in quadrupeds and in man, to the vent and to the place where the legs are jointed to the trunk.

Such, then, are the parts which lie between the wings and the legs. Birds like all other animals, whether produced viviparously or from eggs, have an umbilicus during their development, but, when the bird has attained to fuller growth, no signs of this remain visible. The cause of this is plainly to be seen during the process of development; for in birds the umbilical cord unites with the intestine, and is not a portion of the vascular system, as is the case in viviparous animals.

Some birds, again, are well adapted for flight, their wings being large and strong. Such, for instance, are those that have talons and live on flesh. For their mode of life renders the power of flight a necessity, and it is on this account that their feathers are so abundant and their wings so large. Besides these, however, there are also other genera of birds that can fly well; all those, namely, that depend on speed for security, or that are of migratory habits. On the other hand, some kinds of birds have heavy bodies and are not constructed for flight. These are birds that are frugivorous and live on the ground, or that are able to swim and get their living in watery places. In those that have talons the body, without the wings, is small; for the nutriment is consumed in the production of these wings, and of the weapons and defensive appliances; whereas in birds that are not made for flight the contrary obtains, and the body is bulky and so of heavy weight. In some of these heavy-bodied birds the legs are furnished with what are called spurs, which replace the wings as a means of defence. Spurs and talons never co-exist in the same bird. For nature never makes anything superfluous; and if a bird can fly, and has talons, it has no use for spurs; for these are weapons for fighting on the ground, and on this account are an appanage of certain heavy-bodied birds. These latter, again, would find the possession of talons not only useless but actually injurious; for the claws would stick into the ground and interfere with progression. This is the reason why all birds with talons walk so badly, and why they never settle upon rocks. For the character of their claws is ill-suited for either action.

All this is the necessary consequence of the process of development. For the earthy matter in the body issuing from it is converted into parts that are useful as weapons. That which flows upwards gives hardness or size to the beak; and, should any flow downwards, it either forms spurs upon the legs or gives size and strength to the claws upon the feet. But it does not at one and the same time produce both these results, one in the legs, the other in the claws; for such a dispersion of this residual matter would destroy all its efficiency. In other birds this earthy residue furnishes the legs with the material for their elongation; or sometimes, in place of this, fills up the interspaces between the toes. Thus it is simply a matter of necessity, that such birds as swim shall either be actually web-footed, or shall have a kind of broad blade-like margin running along the whole length of each distinct toe. The forms, then, of these feet are simply the necessary results of the causes that have been mentioned. Yet at the same time they are intended for the animal’s advantage. For they are in harmony with the mode of life of these birds, who, living on the water, where their wings are useless, require that their feet shall be such as to serve in swimming. For these feet are so developed as to resemble the oars of a boat, or the fins of a fish; and the destruction of the foot-web has the same effect as the destruction of the fins; that is to say, it puts an end to all power of swimming.

In some birds the legs are very long, the cause of this being that they inhabit marshes. I say the cause, because nature makes the organs for the function, and not the function for the organs. It is, then, because these birds are not meant for swimming that their feet are without webs, and it is because they live on ground that gives way under the foot that their legs and toes are elongated, and that these latter in most of them have an extra number of joints. Again, though all birds have the same material composition, they are not all made for flight; and in these, therefore, the nutriment that should go to their tail-feathers is spent on the legs and used to increase their size. This is the reason why these birds when they fly make use of their legs as a tail, stretching them out behind, and so rendering them serviceable, whereas in any other position they would be simply an impediment.

In other birds, where the legs are short, these are held close against the belly during flight. In some cases this is merely to keep the feet out of the way, but in birds that have talons the position has a further purpose, being the one best suited for rapine. Birds that have a long and a thick neck keep it stretched out during flight; but those whose neck though long is slender fly with it coiled up. For in this position it is protected, and less likely to get broken, should the bird fly against any obstacle.

In all birds there is an ischium, but so placed and of such length that it would scarcely be taken for an ischium, but rather for a second thigh-bone; for it extends as far as to the middle of the belly. The reason for this is that the bird is a biped, and yet is unable to stand erect. For if its ischium extended but a short way from the fundament, and then immediately came the leg, as is the case in man and in quadrupeds, the bird would be unable to stand up at all. For while man stands erect, and while quadrupeds have their heavy bodies propped up in front by the forelegs, birds can neither stand erect owing to their dwarf-like shape, nor have anterior legs to prop them up, these legs being replaced by wings. As a remedy for this Nature has given them a long ischium, and brought it to the centre of the body, fixing it firmly; and she has placed the legs under this central point, that the weight on either side may be equally balanced, and standing or progression rendered possible. Such then is the reason why a bird, though it is a biped, does not stand erect. Why its legs are destitute of flesh has also already been stated; for the reasons are the same as in the case of quadrupeds.

In all birds alike, whether web-footed or not, the number of toes in each foot is four. For the Libyan ostrich may be disregarded for the present, and its cloven hoof and other discrepancies of structure as compared with the tribe of birds will be considered further on. Of these four toes three are in front, while the fourth points backward, serving, as a heel, to give steadiness. In the long-legged birds this fourth toe is much shorter than the others, as is the case with the Crex, but the number of their toes is not increased. The arrangement of the toes is such as has been described in all birds with the exception of the wryneck. Here only two of the toes are in front, the other two behind; and the reason for this is that the body of the wryneck is not inclined forward so much as that of other birds. All birds have testicles; but they are inside the body. The reason for this will be given in the treatise On the Generation of Animals.

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Thus then are fashioned the parts of birds. But in fishes a still further stunting has occurred in the external parts. For here, for reasons already given, there are neither legs nor hands nor wings, the whole body from head to tail presenting one unbroken surface. This tail differs in different fishes, in some approximating in character to the fins, while in others, namely in some of the flat kinds, it is spinous and elongated, because the material which should have gone to the tail has been diverted thence and used to increase the breadth of the body. Such, for instance, is the case with the Torpedos, the Trygons, and whatever other Selachia there may be of like nature. In such fishes, then, the tail is spinous and long; while in some others it is short and fleshy, for the same reason which makes it spinous and long in the Torpedo. For to be short and fleshy comes to the same thing as to be long and less amply furnished with flesh.

What has occurred in the Fishing-frog is the reverse of what has occurred in the other instances just given. For here the anterior and broad part of the body is not of a fleshy character, and so all the fleshy substance which has been thence diverted has been placed by nature in the tail and hinder portion of the body.

In fishes there are no limbs attached to the body. For in accordance with their essential constitution they are swimming animals; and nature never makes anything superfluous or void of use. Now inasmuch as fishes are made swimming they have fins, and as they are not made for walking they are without feet; for feet are attached to the body that they may be of use in progression on land. Moreover, fishes cannot have feet, or any other similar limbs, as well as four fins; for they are essentially sanguineous animals. The Cordylus, though it has gills, has feet, for it has no fins but merely has its tail flattened out and loose in texture.

Fishes, unless, like the Batos and the Trygon, they are broad and flat, have four fins, two on the upper and two on the under side of the body; and no fish ever has more than these. For, if it had, it would be a bloodless animal.

The upper pair of fins is present in nearly all fishes, but not so the under pair; for these are wanting in some of those fishes that have long thick bodies, such as the eel, the conger, and a certain kind of Cestreus that is found in the lake at Siphae. When the body is still more elongated, and resembles that of a serpent rather than that of a fish, as is the case in the Smuraena, there are absolutely no fins at all; and locomotion is effected by the flexures of the body, the water being put to the same use by these fishes as is the ground by serpents. For serpents swim in water exactly in the same way as they glide on the ground. The reason for these serpent-like fishes being without fins is the same as that which causes serpents to be without feet; and what this is has been already stated in the dissertations on the Progression and the Motion of Animals. The reason was this. If the points of motion were four, motion would be effected under difficulties; for either the two pairs of fins would be close to each other, in which case motion would scarcely be possible, or they would be at a very considerable distance apart, in which case the long interval between them would be just as great an evil. On the other hand, to have more than four such motor points would convert the fishes into bloodless animals. A similar explanation applies to the case of those fishes that have only two fins. For here again the body is of great length and like that of a serpent, and its undulations do the office of the two missing fins. It is owing to this that such fishes can even crawl on dry ground, and can live there for a considerable time; and do not begin to gasp until they have been for a considerable time out of the water, while others, whose nature is akin to that of land-animals, do not even do as much as that. In such fishes as have but two fins it is the upper pair (pectorals) that is present, excepting when the flat broad shape of the body prevents this. The fins in such cases are placed at the head, because in this region there is no elongation, which might serve in the absence of fins as a means of locomotion; whereas in the direction of the tail there is a considerable lengthening out in fishes of this conformation. As for the Bati and the like, they use the marginal part of their flattened bodies in place of fins for swimming.

In the Torpedo and the Fishing-frog the breadth of the anterior part of the body is not so great as to render locomotion by fins impossible, but in consequence of it the upper pair (pectorals) are placed further back and the under pair (ventrals) are placed close to the head, while to compensate for this advancement they are reduced in size so as to be smaller than the upper ones. In the Torpedo the two upper fins (pectorals) are placed on the tail, and the fish uses the broad expansion of its body to supply their place, each lateral half of its circumference serving the office of a fin.

The head, with its several parts, as also the organs of sense, have already come under consideration.

There is one peculiarity which distinguishes fishes from all other sanguineous animals, namely, the possession of gills. Why they have these organs has been set forth in the treatise on Respiration. These gills are in most fishes covered by opercula, but in the Selachia, owing to the skeleton being cartilaginous, there are no such coverings. For an operculum requires fish-spine for its formation, and in other fishes the skeleton is made of this substance, whereas in the Selachia it is invariably formed of cartilage. Again, while the motions of spinous fishes are rapid, those of the Selachia are sluggish, inasmuch as they have neither fish-spine nor sinew; but an operculum requires rapidity of motion, seeing that the office of the gills is to minister as it were to expiration. For this reason in Selachia the branchial orifices themselves effect their own closure, and thus there is no need for an operculum to ensure its taking place with due rapidity. In some fishes the gills are numerous, in others few in number; in some again they are double, in others single. The last gill in most cases is single. For a detailed account of all this, reference must be made to the treatises on Anatomy, and to the book of Researches concerning Animals.

It is the abundance or the deficiency of the cardiac heat which determines the numerical abundance or deficiency of the gills. For, the greater an animal’s heat, the more rapid and the more forcible does it require the branchial movement to be; and numerous and double gills act with more force and rapidity than such as are few and single. Thus, too, it is that some fishes that have but few gills, and those of comparatively small efficacy, can live out of water for a considerable time; for in them there is no great demand for refrigeration. Such, for example, are the eel and all other fishes of serpent-like form.

Fishes also present diversities as regards the mouth. For in some this is placed in front, at the very extremity of the body, while in others, as the dolphin and the Selachia, it is placed on the under surface; so that these fishes turn on the back in order to take their food. The purpose of Nature in this was apparently not merely to provide a means of salvation for other animals, by allowing them opportunity of escape during the time lost in the act of turning-for all the fishes with this kind of mouth prey on living animals-but also to prevent these fishes from giving way too much to their gluttonous ravening after food. For had they been able to seize their prey more easily than they do, they would soon have perished from over-repletion. An additional reason is that the projecting extremity of the head in these fishes is round and small, and therefore cannot admit of a wide opening.

Again, even when the mouth is not placed on the under surface, there are differences in the extent to which it can open. For in some cases it can gape widely, while in others it is set at the point of a small tapering snout; the former being the case in carnivorous fishes, such as those with sharp interfitting teeth, whose strength lies in their mouth, while the latter is its form in all such as are not carnivorous.

The skin is in some fishes covered with scales (the scale of a fish is a thin and shiny film, and therefore easily becomes detached from the surface of the body). In others it is rough, as for instance in the Rhine, the Batos, and the like. Fewest of all are those whose skin is smooth. The Selachia have no scales, but a rough skin. This is explained by their cartilaginous skeleton. For the earthy material which has been thence diverted is expended by nature upon the skin.

No fish has testicles either externally or internally; as indeed have no apodous animals, among which of course are included the serpents. One and the same orifice serves both for the excrement and for the generative secretions, as is the case also in all other oviparous animals, whether two-footed or four-footed, inasmuch as they have no urinary bladder and form no fluid excretion.

Such then are the characters which distinguish fishes from all other animals. But dolphins and whales and all such Cetacea are without gills; and, having a lung, are provided with a blow-hole; for this serves them to discharge the sea-water which has been taken into the mouth. For, feeding as they do in the water, they cannot but let this fluid enter into their mouth, and, having let it in, they must of necessity let it out again. The use of gills, however, as has been explained in the treatise on Respiration, is limited to such animals as do not breathe; for no animal can possibly possess gills and at the same time be a respiratory animal. In order, therefore, that these Cetacea may discharge the water, they are provided with a blow-hole. This is placed in front of the brain; for otherwise it would have cut off the brain from the spine. The reason for these animals having a lung and breathing, is that animals of large size require an excess of heat, to facilitate their motion. A lung, therefore, is placed within their body, and is fully supplied with blood-heat. These creatures are after a fashion land and water animals in one. For so far as they are inhalers of air they resemble land-animals, while they resemble water-animals in having no feet and in deriving their food from the sea. So also seals lie halfway between land and water animals, and bats half-way between animals that live on the ground and animals that fly; and so belong to both kinds or to neither. For seals, if looked on as water-animals, are yet found to have feet; and, if looked on as land-animals, are yet found to have fins. For their hind feet are exactly like the fins of fishes; and their teeth also are sharp and interfitting as in fishes. Bats again, if regarded as winged animals, have feet; and, if regarded as quadrupeds, are without them. So also they have neither the tail of a quadruped nor the tail of a bird; no quadruped's tail, because they are winted animals; no bird's tail, because they are terrestrial. This absence of tail is the result of necessity. For bats fly by means of a membrane, but no animal, unless it has barbed feathers, has the tail of a bird; for a bird's tail is composed of such feathers. As for a quadruped's tail, it would be an actual impediment, if present among the feathers.

14

Much the same may be said also of the Libyan ostrich. For it has some of the characters of a bird, some of the characters of a quadruped. It differs from a quadruped in being feathered; and from a bird in being unable to soar aloft and in having feathers that resemble hair and are useless for flight. Again, it agrees with quadrupeds in having upper eyelashes, which are the more richly supplied with hairs because the parts about the head and the upper portion of the neck are bare; and it agrees with birds in being feathered in all the parts posterior to these. Further, it resembles a bird in being a biped, and a quadruped in having a cloven hoof; for it has hoofs and not toes. The explanation of these peculiarities is to be found in its bulk, which is that of a quadruped rather than that of a bird. For, speaking generally, a bird must necessarily be of very small size. For a body of heavy bulk can with difficulty be raised into the air.

Thus much then as regards the parts of animals. We have discussed them all, and set forth the cause why each exists; and in so doing we have severally considered each group of animals. We must now pass on, and in due sequence must next deal with the question of their generation.

Movement of Animals (698a)

Translated by A. S. L. Farquharson

1

ELSEWHERE we have investigated in detail the movement of animals after their various kinds, the differences between them, and the reasons for their particular characters (for some animals fly, some swim, some walk, others move in various other ways); there remains an investigation of the common ground of any sort of animal movement whatsoever.

Now we have already determined (when we were discussing whether eternal motion exists or not, and its definition, if it does exist) that the origin of all other motions is that which moves itself, and that the origin of this is the immovable, and that the prime mover must of necessity be immovable. And we must grasp this not only generally in theory, but also by reference to individuals in the world of sense, for with these in view we seek general theories, and with these we believe that general theories ought to harmonize. Now in the world of sense too it is plainly impossible for movement to be initiated if there is nothing at rest, and before all else in our present subject — animal life. For if one of the parts of an animal be moved, another must be at rest, and this is the purpose of their joints; animals use joints like a centre, and the whole member, in which the joint is, becomes both one and two, both straight and bent, changing potentially and actually by reason of the joint. And when it is bending and being moved one of the points in the joint is moved and one is at rest, just as if the points A and D of a diameter were at rest, and B were moved, and DAC were generated. However, in the geometrical illustration, the centre is held to be altogether indivisible (for in mathematics motion is a fiction, as the phrase goes, no mathematical entity being really moved), whereas in the case of joints the centres become now one potentially and divided actually, and now one actually and divided potentially. But still the origin of movement, qua origin, always remains at rest when the lower part of a limb is moved; for example, the elbow joint, when the forearm is moved, and the shoulder, when the whole arm; the knee when the tibia is moved, and the hip when the whole leg. Accordingly it is plain that each animal as a whole must have within itself a point at rest, whence will be the origin of that which is moved, and supporting itself upon which it will be moved both as a complete whole and in its members.

2

But the point of rest in the animal is still quite ineffectual unless there be something without which is absolutely at rest and immovable. Now it is worth while to pause and consider what has been said, for it involves a speculation which extends beyond animals even to the motion and march of the universe. For just as there must be something immovable within the animal, if it is to be moved, so even more must there be without it something immovable, by supporting itself upon which that which is moved moves. For were that something always to give way (as it does for mice walking in grain or persons walking in sand) advance would be impossible, and neither would there be any walking unless the ground were to remain still, nor any flying or swimming were not the air and the sea to resist. And this which resists must needs be different from what is moved, the whole of it from the whole of that, and what is thus immovable must be no part of what is moved; otherwise there will be no movement. Evidence of this lies in the problem why it is that a man easily moves a boat from outside, if he push with a pole, putting it against the mast or some other part, but if he tried to do this when in the boat itself he would never move it, no not giant Tityus himself nor Boreas blowing from inside the ship, if he really were blowing in the way painters represent him; for they paint him sending the breath out from the boat. For whether one blew gently or so stoutly as to make a very great wind, and whether what were thrown or pushed were wind or something else, it is necessary in the first place to be supported upon one of one’s own members which is at rest and so to push, and in the second place for this member, either itself, or that of which it is a part, to remain at rest, fixing itself against something external to itself. Now the man who is himself in the boat, if he pushes, fixing himself against the boat, very naturally does not move the boat, because what he pushes against should properly remain at rest. Now what he is trying to move, and what he is fixing himself against is in his case the same. If, however, he pushes or pulls from outside he does move it, for the ground is no part of the boat.

3

Here we may ask the difficult question whether if something moves the whole heavens this mover must be immovable, and moreover be no part of the heavens, nor in the heavens. For either it is moved itself and moves the heavens, in which case it must touch something immovable in order to create movement, and then this is no part of that which creates movement; or if the mover is from the first immovable it will equally be no part of that which is moved. In this point at least they argue correctly who say that as the Sphere is carried round in a circle no single part remains still, for then either the whole would necessarily stand still or its continuity be torn asunder; but they argue less well in supposing that the poles have a certain force, though conceived as having no magnitude, but as merely termini or points. For besides the fact that no such things have any substantial existence it is impossible for a single movement to be initiated by what is twofold; and yet they make the poles two. From a review of these difficulties we may conclude that there is something so related to the whole of Nature, as the earth is to animals and things moved by them.

And the mythologists with their fable of Atlas setting his feet upon the earth appear to have based the fable upon intelligent grounds. They make Atlas a kind of diameter twirling the heavens about the poles. Now as the earth remains still this would be reasonable enough, but their theory involves them in the position that the earth is no part of the universe. And further the force of that which initiates movement must be made equal to the force of that which remains at rest. For there is a definite quantity of force or power by dint of which that which remains at rest does so, just as there is of force by dint of which that which initiates movement does so; and as there is a necessary proportion between opposite motions, so there is between absences of motion. Now equal forces are unaffected by one another, but are overcome by a superiority of force. And so in their theory Atlas, or whatever similar power initiates movement from within, must exert no more force than will exactly balance the stability of the earth — otherwise the earth will be moved out of her place in the centre of things. For as the pusher pushes so is the pushed pushed, and with equal force. But the prime mover moves that which is to begin with at rest, so that the power it exerts is greater, rather than equal and like to the power which produces absence of motion in that which is moved. And similarly also the power of what is moved and so moves must be greater than the power of that which is moved but does not initiate movement. Therefore the force of the earth in its immobility will have to be as great as the force of the whole heavens, and of that which moves the heavens. But if that is impossible, it follows that the heavens cannot possibly be moved by any force of this kind inside them.

4

There is a further difficulty about the motions of the parts of the heavens which, as akin to what has gone before, may be considered next. For if one could overcome by force of motion the immobility of the earth he would clearly move it away from the centre. And it is plain that the power from which this force would originate will not be infinite, for the earth is not infinite and therefore its weight is not. Now there are more senses than one of the word ‘impossible’. When we say it is impossible to see a sound, and when we say it is impossible to see the men in the moon, we use two senses of the word; the former is of necessity, the latter, though their nature is to be seen, cannot as a fact be seen by us. Now we suppose that the heavens are of necessity impossible to destroy and to dissolve, whereas the result of the present argument would be to do away with this necessity. For it is natural and possible for a motion to exist greater than the force by dint of which the earth is at rest, or than that by dint of which Fire and Aether are moved. If then there are superior motions, these will be dissolved in succession by one another: and if there actually are not, but might possibly be (for the earth cannot be infinite because no body can possibly be infinite), there is a possibility of the heavens being dissolved. For what is to prevent this coming to pass, unless it be impossible? And it is not impossible unless the opposite is necessary. This difficulty, however, we will discuss elsewhere.

To resume, must there be something immovable and at rest outside of what is moved, and no part of it, or not? And must this necessarily be so also in the case of the universe? Perhaps it would be thought strange were the origin of movement inside. And to those who so conceive it the word of Homer would appear to have been well spoken:

‘Nay, ye would not pull Zeus, highest of all from heaven to the plain, no not even if ye toiled right hard; come, all ye gods and goddesses! Set hands to the chain’; for that which is entirely immovable cannot possibly be moved by anything. And herein lies the solution of the difficulty stated some time back, the possibility or impossibility of dissolving the system of the heavens, in that it depends from an original which is immovable.

Now in the animal world there must be not only an immovable without, but also within those things which move in place, and initiate their own movement. For one part of an animal must be moved, and another be at rest, and against this the part which is moved will support itself and be moved; for example, if it move one of its parts; for one part, as it were, supports itself against another part at rest.

But about things without life which are moved one might ask the question whether all contain in themselves both that which is at rest and that which initiates movement, and whether they also, for instance fire, earth, or any other inanimate thing, must support themselves against something outside which is at rest. Or is this impossible and must it not be looked for rather in those primary causes by which they are set in motion? For all things without life are moved by something other, and the origin of all things so moved are things which move themselves. And out of these we have spoken about animals (for they must all have in themselves that which is at rest, and without them that against which they are supported); but whether there is some higher and prime mover is not clear, and an origin of that kind involves a different discussion. Animals at any rate which move themselves are all moved supporting themselves on what is outside them, even when they inspire and expire; for there is no essential difference between casting a great and a small weight, and this is what men do when they spit and cough and when they breathe in and breathe out.

5

But is it only in that which moves itself in place that there must be a point at rest, or does this hold also of that which causes its own qualitative changes, and its own growth? Now the question of original generation and decay is different; for if there is, as we hold, a primary movement, this would be the cause of generation and decay, and probably of all the secondary movements too. And as in the universe, so in the animal world this is the primary movement, when the creature attains maturity; and therefore it is the cause of growth, when the creature becomes the cause of its own growth, and the cause too of alteration. But if this is not the primary movement then the point at rest is not necessary. However, the earliest growth and alteration in the living creature arise through another and by other channels, nor can anything possibly be the cause of its own generation and decay, for the mover must exist before the moved, the begetter before the begotten, and nothing is prior to itself.

6

Now whether the soul is moved or not, and how it is moved if it be moved, has been stated before in our treatise concerning it. And since all inorganic things are moved by some other thing — and the manner of the movement of the first and eternally moved, and how the first mover moves it, has been determined before in our Metaphysics, it remains to inquire how the soul moves the body, and what is the origin of movement in a living creature. For, if we except the movement of the universe, things with life are the causes of the movement of all else, that is of all that are not moved by one another by mutual impact. And so all their motions have a term or limit, inasmuch as the movements of things with life have such. For all living things both move and are moved with some object, so that this is the term of all their movement, the end, that is, in view. Now we see that the living creature is moved by intellect, imagination, purpose, wish, and appetite. And all these are reducible to mind and desire. For both imagination and sensation are on common ground with mind, since all three are faculties of judgement though differing according to distinctions stated elsewhere. Will, however, impulse, and appetite, are all three forms of desire, while purpose belongs both to intellect and to desire. Therefore the object of desire or of intellect first initiates movement, not, that is, every object of intellect, only the end in the domain of conduct. Accordingly among goods that which moves is a practical end, not the good in its whole extent. For it initiates movement only so far as something else is for its sake, or so far as it is the object of that which is for the sake of something else. And we must suppose that a seeming good may take the room of actual good, and so may the pleasant, which is itself a seeming good. From these considerations it is clear that in one regard that which is eternally moved by the eternal mover is moved in the same way as every living creature, in another regard differently, and so while it is moved eternally, the movement of living creatures has a term. Now the eternal beautiful, and the truly and primarily good (which is not at one time good, at another time not good), is too divine and precious to be relative to anything else. The prime mover then moves, itself being unmoved, whereas desire and its faculty are moved and so move. But it is not necessary for the last in the chain of things moved to move something else; wherefore it is plainly reasonable that motion in place should be the last of what happens in the region of things happening, since the living creature is moved and goes forward by reason of desire or purpose, when some alteration has been set going on the occasion of sensation or imagination.

7

But how is it that thought (viz. sense, imagination, and thought proper) is sometimes followed by action, sometimes not; sometimes by movement, sometimes not? What happens seems parallel to the case of thinking and inferring about the immovable objects of science. There the end is the truth seen (for, when one conceives the two premisses, one at once conceives and comprehends the conclusion), but here the two premisses result in a conclusion which is an action — for example, one conceives that every man ought to walk, one is a man oneself: straightway one walks; or that, in this case, no man should walk, one is a man: straightway one remains at rest. And one so acts in the two cases provided that there is nothing in the one case to compel or in the other to prevent. Again, I ought to create a good, a house is good: straightway I make a house. I need a covering, a coat is a covering: I need a coat. What I need I ought to make, I need a coat: I make a coat. And the conclusion I must make a coat is an action. And the action goes back to the beginning or first step. If there is to be a coat, one must first have B, and if B then A, so one gets A to begin with. Now that the action is the conclusion is clear. But the premisses of action are of two kinds, of the good and of the possible.

And as in some cases of speculative inquiry we suppress one premise so here the mind does not stop to consider at all an obvious minor premise; for example if walking is good for man, one does not dwell upon the minor ‘I am a man’. And so what we do without reflection, we do quickly. For when a man actualizes himself in relation to his object either by perceiving, or imagining or conceiving it, what he desires he does at once. For the actualizing of desire is a substitute for inquiry or reflection. I want to drink, says appetite; this is drink, says sense or imagination or mind: straightway I drink. In this way living creatures are impelled to move and to act, and desire is the last or immediate cause of movement, and desire arises after perception or after imagination and conception. And things that desire to act now create and now act under the influence of appetite or impulse or of desire or wish.

The movements of animals may be compared with those of automatic puppets, which are set going on the occasion of a tiny movement; the levers are released, and strike the twisted strings against one another; or with the toy wagon. For the child mounts on it and moves it straight forward, and then again it is moved in a circle owing to its wheels being of unequal diameter (the smaller acts like a centre on the same principle as the cylinders). Animals have parts of a similar kind, their organs, the sinewy tendons to wit and the bones; the bones are like the wooden levers in the automaton, and the iron; the tendons are like the strings, for when these are tightened or leased movement begins. However, in the automata and the toy wagon there is no change of quality, though if the inner wheels became smaller and greater by turns there would be the same circular movement set up. In an animal the same part has the power of becoming now larger and now smaller, and changing its form, as the parts increase by warmth and again contract by cold and change their quality. This change of quality is caused by imaginations and sensations and by ideas. Sensations are obviously a form of change of quality, and imagination and conception have the same effect as the objects so imagined and conceived For in a measure the form conceived be it of hot or cold or pleasant or fearful is like what the actual objects would be, and so we shudder and are frightened at a mere idea. Now all these affections involve changes of quality, and with those changes some parts of the body enlarge, others grow smaller. And it is not hard to see that a small change occurring at the centre makes great and numerous changes at the circumference, just as by shifting the rudder a hair's breadth you get a wide deviation at the prow. And further, when by reason of heat or cold or some kindred affection a change is set up in the region of the heart, even in an imperceptibly small part of the heart, it produces a vast difference in the periphery of the body — blushing, let us say, or turning white, goose-skin and shivers and their opposites.

8

But to return, the object we pursue or avoid in the field of action is, as has been explained, the original of movement, and upon the conception and imagination of this there necessarily follows a change in the temperature of the body. For what is painful we avoid, what is pleasing we pursue. We are, however, unconscious of what happens in the minute parts; still anything painful or pleasing is generally speaking accompanied by a definite change of temperature in the body. One may see this by considering the affections. Blind courage and panic fears, erotic motions, and the rest of the corporeal affections, pleasant and painful, are all accompanied by a change of temperature, some in a particular member, others in the body generally. So, memories and anticipations, using as it were the reflected images of these pleasures and pains, are now more and now less causes of the same changes of temperature. And so we see the reason of nature's handiwork in the inward parts, and in the centres of movement of the organic members; they change from solid to moist, and from moist to solid, from soft to hard and vice versa. And so when these are affected in this way, and when besides the passive and active have the constitution we have many times described, as often as it comes to pass that one is active and the other passive, and neither of them falls short of the elements of its essence, straightway one acts and the other responds. And on this account thinking that one ought to go and going are virtually simultaneous, unless there be something else to hinder action. The organic parts are suitably prepared by the affections, these again by desire, and desire by imagination. Imagination in its turn depends either upon conception or sense-perception. And the simultaneity and speed are due to the natural correspondence of the active and passive.

However, that which first moves the animal organism must be situate in a definite original. Now we have said that a joint is the beginning of one part of a limb, the end of another. And so nature employs it sometimes as one, sometimes as two. When movement arises from a joint, one of the extreme points must remain at rest, and the other be moved (for as we explained above the mover must support itself against a point at rest); accordingly, in the case of the elbow-joint, the last point of the forearm is moved but does not move anything, while, in the flexion, one point of the elbow, which lies in the whole forearm that is being moved, is moved, but there must also be a point which is unmoved, and this is our meaning when we speak of a point which is in potency one, but which becomes two in actual exercise. Now if the arm were the living animal, somewhere in its elbow-joint would be situate the original seat of the moving soul. Since, however, it is possible for a lifeless thing to be so related to the hand as the forearm is to the upper (for example, when a man moves a stick in his hand), it is evident that the soul, the original of movement, could not lie in either of the two extreme points, neither, that is, in the last point of the stick which is moved, nor in the original point which causes movement. For the stick too has an end point and an originative point by reference to the hand. Accordingly, this example shows that the moving original which derives from the soul is not in the stick and if not, then not in the hand; for a precisely similar relation obtains between the hand and the wrist, as between the wrist and the elbow. In this matter it makes no difference whether the part is a continuous part of the body or not; the stick may be looked at as a detached part of the whole. It follows then of necessity that the original cannot lie in any individual origin which is the end of another member, even though there may lie another part outside the one in question. For example, relatively to the end point of the stick the hand is the original, but the original of the hand's movement is in the wrist. And so if the true original is not in the hand, be-there is still something higher up, neither is the true original in the wrist, for once more if the elbow is at rest the whole part below it can be moved as a continuous whole.

9

Now since the left and the right sides are symmetrical, and these opposites are moved simultaneously, it cannot be that the left is moved by the right remaining stationary, nor vice versa; the original must always be in what lies above both. Therefore, the original seat of the moving soul must be in that which lies in the middle, for of both extremes the middle is the limiting point; and this is similarly related to the movements from above [and below,] those that is from the head, and to the bones which spring from the spinal column, in creatures that have a spinal column.

And this is a reasonable arrangement. For the sensorium is in our opinion in the centre too; and so, if the region of the original of movement is altered in structure through sense-perception and thus changes, it carries with it the parts that depend upon it and they too are extended or contracted, and in this way the movement of the creature necessarily follows. And the middle of the body must needs be in potency one but in action more than one; for the limbs are moved simultaneously from the original seat of movement, and when one is at rest the other is moved. For example, in the line BAC, B is moved, and A is the mover. There must, however, be a point at rest if one is to move, the other to be moved. A (AE) then being one in potency must be two in action, and so be a definite spatial magnitude not a mathematical point. Again, C may be moved simultaneously with B. Both the originals then in A must move and be, and so there must be something other than them which moves but is not moved. For otherwise, when the movement begins, the extremes, i.e. the originals, in A would rest upon one another, like two men putting themselves back to back and so moving their legs. There must then be some one thing which moves both. This something is the soul, distinct from the spatial magnitude just described and yet located therein.

10

Although from the point of view of the definition of movement — a definition which gives the cause — desire is the middle term or cause, and desire moves being moved, still in the material animated body there must be some material which itself moves being moved. Now that which is moved, but whose nature is not to initiate movement, is capable of being passive to an external force, while that which initiates movement must needs possess a kind of force and power. Now experience shows us that animals do both possess connatural spirit and derive power from this. (How this connatural spirit is maintained in the body is explained in other passages of our works.) And this spirit appears to stand to the soul-centre or original in a relation analogous to that between the point in a joint which moves being moved and the unmoved. Now since this centre is for some animals in the heart, in the rest in a part analogous with the heart, we further see the reason for the connatural spirit being situate where it actually is found. The question whether the spirit remains always the same or constantly changes and is renewed, like the cognate question about the rest of the parts of the body, is better postponed. At all events we see that it is well disposed to excite movement and to exert power; and the functions of movement are thrusting and pulling. Accordingly, the organ of movement must be capable of expanding and contracting; and this is precisely the characteristic of spirit. It contracts and expands naturally, and so is able to pull and to thrust from one and the same cause, exhibiting gravity compared with the fiery element, and levity by comparison with the opposites of fire. Now that which is to initiate movement without change of structure must be of the kind described, for the elementary bodies prevail over one another in a compound body by dint of disproportion; the light is overcome and kept down by the heavier, and the heavy kept up by the lighter.

We have now explained what the part is which is moved when the soul originates movement in the body, and what is the reason for this. And the animal organism must be conceived after the similitude of a well-governed commonwealth. When order is once established in it there is no more need of a separate monarch to preside over each several task. The individuals each play their assigned part as it is ordered, and one thing follows another in its accustomed order. So in animals there is the same orderliness — nature taking the place of custom — and each part naturally doing his own work as nature has composed them. There is no need then of a soul in each part, but she resides in a kind of central governing place of the body, and the remaining parts live by continuity of natural structure, and play the parts Nature would have them play.

11

So much then for the voluntary movements of animal bodies, and the reasons for them. These bodies, however, display in certain members involuntary movements too, but most often non-voluntary movements. By involuntary I mean motions of the heart and of the privy member; for often upon an image arising and without express mandate of the reason these parts are moved. By non-voluntary I mean sleep and waking and respiration, and other similar organic movements. For neither imagination nor desire is properly mistress of any of these; but since the animal body must undergo natural changes of quality, and when the parts are so altered some must increase and other decrease, the body must straightway be moved and change with the changes that nature makes dependent upon one another. Now the causes of the movements are natural changes of temperature, both those coming from outside the body, and those taking place within it. So the involuntary movements which occur in spite of reason in the aforesaid parts occur when a change of quality supervenes. For conception and imagination, as we said above, produce the conditions necessary to affections, since they bring to bear the images or forms which tend to create these states. And the two parts aforesaid display this motion more conspicuously than the rest, because each is in a sense a separate vital organism, the reason being that each contains vital moisture. In the case of the heart the cause is plain, for the heart is the seat of the senses, while an indication that the generative organ too is vital is that there flows from it the seminal potency, itself a kind of organism. Again, it is a reasonable arrangement that the movements arise in the centre upon movements in the parts, and in the parts upon movements in the centre, and so reach one another. Conceive A to be the centre or starting point. The movements then arrive at the centre from each letter in the diagram we have drawn, and flow back again from the centre which is moved and changes, (for the centre is potentially multiple) the movement of B goes to B, that of C to C, the movement of both to both; but from B to C the movements flow by dint of going from B to A as to a centre, and then from A to C as from a centre.

Moreover a movement contrary to reason sometimes does and sometimes does not arise in the organs on the occasion of the same thoughts; the reason is that sometimes the matter which is passive to the impressions is there in sufficient quantity and of the right quality and sometimes not.

And so we have finished our account of the reasons for the parts of each kind of animal, of the soul, and furthere of sense-perception, of sleep, of memory, and of movement in general; it remains to speak of animal generation.

Progression of Animals (704a)

Translated by A. S. L. Farquharson

1

WE have now to consider the parts which are useful to animals for movement in place (locomotion); first, why each part is such as it is and to what end they possess them; and second, the differences between these parts both in one and the same creature, and again by comparison of the parts of creatures of different species with one another. First then let us lay down how many questions we have to consider.

The first is what are the fewest points of motion necessary to animal progression, the second why sanguineous animals have four points and not more, but bloodless animals more than four, and generally why some animals are footless, others bipeds, others quadrupeds, others polypods, and why all have an even number of feet, if they have feet at all; why in fine the points on which progression depends are even in number.

Next, why are man and bird bipeds, but fish footless; and why do man and bird, though both bipeds, have an opposite curvature of the legs. For man bends his legs convexly, a bird has his bent concavely; again, man bends his arms and legs in opposite directions, for he has his arms bent convexly, but his legs concavely. And a viviparous quadruped bends his limbs in opposite directions to a man's, and in opposite directions to one another; for he has his forelegs bent convexly, his hind legs concavely. Again, quadrupeds which are not viviparous but oviparous have a peculiar curvature of the limbs laterally away from the body. Again, why do quadrupeds move their legs criss-cross?

We have to examine the reasons for all these facts, and others cognate to them; that the facts are such is clear from our Natural History, we have now to ask reasons for the facts.

2

At the beginning of the inquiry we must postulate the principles we are accustomed constantly to use for our scientific investigation of nature, that is we must take for granted principles of this universal character which appear in all Nature’s work. Of these one is that Nature creates nothing without a purpose, but always the best possible in each kind of living creature by reference to its essential constitution. Accordingly if one way is better than another that is the way of Nature. Next we must take for granted the different species of dimensions which inhere in various things; of these there are three pairs of two each, superior and inferior, before and behind, to the right and to the left. Further we must assume that the originals of movements in place are thrusts and pulls. (These are the essential place-movements, it is only accidentally that what is carried by another is moved; it is not thought to move itself, but to be moved by something else.)

3

After these preliminaries, we go on to the next questions in order.

Now of animals which change their position some move with the whole body at once, for example jumping animals, others move one part first and then the other, for example walking (and running) animals. In both these changes the moving creature always changes its position by pressing against what lies below it. Accordingly if what is below gives way too quickly for that which is moving upon it to lean against it, or if it affords no resistance at all to what is moving, the latter can of itself effect no movement upon it. For an animal which jumps makes its jump both by leaning against its own upper part and also against what is beneath its feet; for at the joints the parts do in a sense lean upon one another, and in general that which pushes down leans upon what is pushed down. That is why athletes jump further with weights in their hands than without, and runners run faster if they swing their arms; there is in extending the arms a kind of leaning against the hands and wrists. In all cases then that which moves makes its change of position by the use of at least two parts of the body; one part so to speak squeezes, the other is squeezed; for the part that is still is squeezed as it has to carry the weight, the part that is lifted strains against that which carries the weight. It follows then that nothing without parts can move itself in this way, for it has not in it the distinction of the part which is passive and that which is active.

4

Again, the boundaries by which living beings are naturally determined are six in number, superior and inferior, before and behind, right and left. Of these all living beings have a superior and an inferior part; for superior and inferior is in plants too, not only in animals. And this distinction is one of function, not merely of position relatively to our earth and the sky above our heads. The superior is that from which flows in each kind the distribution of nutriment and the process of growth; the inferior is that to which the process flows and in which it ends. One is a starting-point, the other an end, and the starting-point is the superior. And yet it might be thought that in the case of plants at least the inferior is rather the appropriate starting-point, for in them the superior and inferior are in position other than in animals. Still they are similarly situated from the point of view of function, though not in their position relatively to the universe. The roots are the superior part of a plant, for from them the nutriment is distributed to the growing members, and a plant takes it with its roots as an animal does with its mouth.

Things that are not only alive but are animals have both a front and a back, because they all have sense, and front and back are distinguished by reference to sense. The front is the part in which sense is innate, and whence each thing gets its sensations, the opposite parts are the back.

All animals which partake not only in sense, but are able of themselves to make a change of place, have a further distinction of left and right besides those already enumerated; like the former these are distinctions of function and not of position. The right is that from which change of position naturally begins, the opposite which naturally depends upon this is the left.

This distinction (of right and left) is more articulate and detailed in some than in others. For animals which make the aforesaid change (of place) by the help of organized parts (I mean feet for example, or wings or similar organs) have the left and right distinguished in greater detail, while those which are not differentiated into such parts, but make the differentiation in the body itself and so progress, like some footless animals (for example snakes and caterpillars after their kind, and besides what men call earth-worms), all these have the distinction spoken of, although it is not made so manifest to us. That the beginning of movement is on the right is indicated by the fact that all men carry burdens on the left shoulder; in this way they set free the side which initiates movement and enable the side which bears the weight to be moved. And so men hop easier on the left leg; for the nature of the right is to initiate movement, that of the left to be moved. The burden then must rest on the side which is to be moved, not on that which is going to cause movement, and if it be set on the moving side, which is the original of movement, it will either not be moved at all or with more labour. Another indication that the right is the source of movement is the way we put our feet forward; all men lead off with the left, and after standing still prefer to put the left foot forward, unless something happens to prevent it. The reason is that their movement comes from the leg they step off, not from the one put forward. Again, men guard themselves with their right. And this is the reason why the right is the same in all, for that from which motion begins is the same for all, and has its natural position in the same place, and for this reason the spiral-shaped Testaceans have their shells on the right, for they do not move in the direction of the spire, but all go forward in the direction opposite to the spire. Examples are the murex and the ceryx. As all animals then start movement from the right, and the right moves in the same direction as the whole, it is necessary for all to be alike right-handed. And man has the left limbs detached more than any other animal because he is natural in a higher degree than the other animals; now the right is naturally both better than the left and separate from it, and so in man the right is more especially the right, more dextrous that is, than in other animals. The right then being differentiated it is only reasonable that in man the left should be most movable, and most detached. In man, too, the other starting-points are found most naturally and clearly distinct, the superior part that is and the front.

5

Animals which, like men and birds, have the superior part distinguished from the front are two-footed (biped). In them, of the four points of motion, two are wings in the one, hands and arms in the other. Animals which have the superior and the front parts identically situated are four-footed, many-footed, or footless (quadruped, polypod, limbless). I use the term foot for a member employed for movement in place connected with a point on the ground, for the feet appear to have got their name from the ground under our feet.

Some animals, too, have the front and back parts identically situated, for example, Cephalopods (molluscs) and spiral-shaped Testaceans, and these we have discussed elsewhere in another connexion.

Now there is in place a superior, an intermediate, and an inferior; in respect to place bipeds have their superior part corresponding to the part of the universe; quadrupeds, polypods, and footless animals to the intermediate part, and plants to the inferior. The reason is that these have no power of locomotion, and the superior part is determined relatively to the nutriment, and their nutriment is from the earth. Quadrupeds, polypods, and footless animals again have their superior part corresponding to the intermediate, because they are not erect. Bipeds have theirs corresponding to the superior part of the universe because they are erect, and of bipeds, man par excellence; for man is the most natural of bipeds. And it is reasonable for the starting points to be in these parts; for the starting-point is honourable, and the superior is more honourable than the inferior, the front than the back, and the right than the left. Or we may reverse the argument and say quite well that these parts are more honourable than their opposites just because the starting-points are in them.

6

The above discussion has made it clear that the original of movement is in the parts on the right. Now every continuous whole, one part of which is moved while the other remains at rest must, in order to be able to move as a whole while one part stands still, have in the place where both parts have opposed movements some common part which connects the moving parts with one another. Further in this common part the original of the motion (and similarly of the absence of motion) of each of the parts must lie.

Clearly then if any of the opposite pairs of parts (right and left, that is, superior and inferior, before and behind) have a movement of their own, each of them has for common original of its movements the juncture of the parts in question.

Now before and behind are not distinctions relatively to that which sets up its own motion, because in nature nothing has a movement backwards, nor has a moving animal any division whereby it may make a change of position towards its front or back; but right and left, superior and inferior are so distinguished. Accordingly, all animals which progress by the use of distinct members have these members distinguished not by the differences of before and behind, but only of the remaining two pairs; the prior difference dividing these members into right and left (a difference which must appear as soon as you have division into two), and the other difference appearing of necessity where there is division into four.

Since then these two pairs, the superior and inferior and the right and left, are linked to one another by the same common original (by which I mean that which controls their movement), and further, everything which is intended to make a movement in each such part properly must have the original cause of all the said movements arranged in a certain definite position relatively to the distances from it of the originals of the movements of the individual members (and these centres of the individual parts are in pairs arranged coordinately or diagonally, and the common centre is the original from which the animal's movements of right and left, and similarly of superior and inferior, start); each animal must have this original at a point where it is equally or nearly equally related to each of the centres in the four parts described.

7

It is clear then how locomotion belongs to those animals only which make their changes of place by means of two or four points in their structure, or to such animals par excellence. Moreover, since this property belongs almost peculiarly to Sanguineous animals, we see that no Sanguineous animal can progress at more points than four, and that if it is the nature of anything so to progress at four points it must of necessity be Sanguineous.

What we observe in the animal world is in agreement with the above account. For no Sanguineous animal if it be divided into more parts can live for any appreciable length of time, nor can it enjoy the power of locomotion which it possessed while it was a continuous and undivided whole. But some bloodless animals and polypods can live a long time, if divided, in each of the severed parts, and can move in the same way as before they were dismembered. Examples are what is termed the centipede and other insects that are long in shape, for even the hinder portion of all these goes on progressing in the same direction as before when they are cut in two.

The explanation of their living when thus divided is that each of them is constructed like a continuous body of many separate living beings. It is plain, too, from what was said above why they are like this. Animals constructed most naturally are made to move at two or four points, and even limbless Sanguinea are no exception. They too move by dint of four points, whereby they achieve progression. They go forward by means of two flexions. For in each of their flexions there is a right and a left, both before and behind in their flat surface, in the part towards the head a right and a left front point, and in the part towards the tail the two hinder points. They look as if they moved at two points only, where they touch before and behind, but that is only because they are narrow in breadth. Even. in them the right is the sovereign part, and there is an alternate correspondence behind, exactly as in quadrupeds. The reason of their flexions is their great length, for just as tall men walk with their spines bellied (undulated) forward, and when their right shoulder is leading in a forward direction their left hip rather inclined backwards, so that their middle becomes hollow and bellied (undulated), so we ought to conceive snakes as moving in concave curves (undulations) upon the ground. And this is evidence that they move themselves like the quadrupeds, for they make the concave in its turn convex and the convex concave. When in its turn the left of the forward parts is leading, the concavity is in its turn reversed, for the right becomes the inner. (Let the right front point be A, the left B, the right hind C, the left D.)

Among land animals this is the character of the movement of snakes, and among water animals of eels, and conger-eels and also lampreys, in fact of all that have their form snakelike. However, some marine animals of this shape have no fin, lampreys for example, but put the sea to the same use as snakes do both land and water (for snakes swim precisely as they move on the ground). Others have two fins only, for example conger-eels and eels and a kind of cestreus which breeds in the lake of Siphae. On this account too those that are accustomed to live on land, for example all the eels, move with fewer flexions in a fluid than on land, while the kind of cestreus which has two fins, by its flexion in a fluid makes up the remaining points.

The reason why snakes are limbless is first that nature makes nothing without purpose, but always regards what is the best possible for each individual, preserving the peculiar essence of each and its intended character, and secondly the principle we laid down above that no Sanguineous creature can move itself at more than four points. Granting this it is evident that Sanguineous animals like snakes, whose length is out of proportion to the rest of their dimensions, cannot possibly have limbs; for they cannot have more than four (or they would be bloodless), and if they had two or four they would be practically stationary; so slow and unprofitable would their movement necessarily be.

But every limbed animal has necessarily an even number of such limbs. For those which only jump and so move from place to place do not need limbs for this movement at least, but those which not only jump but also need to walk, finding that movement not sufficient for their purposes, evidently either are better able to progress with even limbs or cannot otherwise progress at all every animal which has limbs must have an even us for as this kind of movement is effected by part of the body at a time, and not by the whole at once as in the movement of leaping, some of the limbs must in turn remain at rest, and others be moved, and the animal must act in each of these cases with opposite limbs, shifting the weight from the limbs that are being moved to those at rest. And so nothing can walk on three limbs or on one; in the latter case it has no support at all on which to rest the body's weight, in the former only in respect of one pair of opposites, and so it must necessarily fall in endeavouring so to move.

Polypods however, like the Centipede, can indeed make progress on an odd number of limbs, as may be seen by the experiment of wounding one of their limbs; for then the mutilation of one row of limbs is corrected by the number of limbs which remain on either side. Such mutilated creatures, however, drag the wounded limb after them with the remainder, and do not properly speaking walk. Moreover, it is plain that they, too, would make the change of place better if they had an even number, in fact if none were missing and they had the limbs which correspond to one another. In this way they could equalize their own weight, and not oscillate to one side, if they had corresponding supports instead of one section of the opposite sides being unoccupied by a limb. A walking creature advances from each of its members alternately, for in this way it recovers the same figure that it had at first.

9

The fact that all animals have an even number of feet, and the reasons for the fact have been set forth. What follows will explain that if there were no point at rest flexion and straightening would be impossible. Flexion is a change from a right line to an arc or an angle, straightening a change from either of these to a right line. Now in all such changes the flexion or the straightening must be relative to one point. Moreover, without flexion there could not be walking or swimming or flying. For since limbed creatures stand and take their weight alternately on one or other of the opposite legs, if one be thrust forward the other of necessity must be bent. For the opposite limbs are naturally of equal length, and the one which is under the weight must be a kind of perpendicular at right angles to the ground.

When then one leg is advanced it becomes the hypotenuse of a right-angled triangle. Its square then is equal to the square on the other side together with the square on the base. As the legs then are equal, the one at rest must bend either at the knee or, if there were any kneeless animal which walked, at some other articulation. The following experiment exhibits the fact. If a man were to walk parallel to a wall in sunshine, the line described (by the shadow of his head> would be not straight but zigzag, becoming lower as he bends, and higher when he stands and lifts himself up.

It is, indeed, possible to move oneself even if the leg be not bent, in the way in which children crawl. This was the old though erroneous account of the movement of elephants. But these kinds of movements involve a flexion in the shoulders or in the hips. Nothing at any rate could walk upright continuously and securely without flexions at the knee, but would have to move like men in the wrestling schools who crawl forward through the sand on their knees. For the upper part of the upright creature is long so that its leg has to be correspondingly long; in consequence there must be flexion. For since a stationary position is perpendicular, if that which moves cannot bend it will either fall forward as the right angle becomes acute or will not be able to progress. For if one leg is at right angles to the ground and the other is advanced, the latter will be at once equal and greater. For it will be equal to the stationary leg and also equivalent to the hypotenuse of a right-angled triangle. That which goes forward therefore must bend, and while bending one, extend the other leg simultaneously, so as to incline forward and make a stride and still remain above the perpendicular; for the legs form an isosceles triangle, and the head sinks lower when it is perpendicularly above the base on which it stands.

Of limbless animals, some progress by undulations (and this happens in two ways, either they undulate on the ground, like snakes, or up and down, like caterpillars), and undulation is a flexion; others by a telescopic action, like what are called earthworms and leeches. These go forward, first one part leading and then drawing the whole of the rest of the body up to this, and so they change from place to place. It is plain too that if the two curves were not greater than the one line which subtends them undulating animals could not move themselves; when the flexure is extended they would not have moved forward at all if the flexure or arc were equal to the chord subtended; as it is, it reaches further when it is straightened out, and then this part stays still and it draws up what is left behind.

In all the changes described that which moves now extends itself in a straight line to progress, and now is hooped; it straightens itself in its leading part, and is hooped in what follows behind. Even jumping animals all make a flexion in the part of the body which is underneath, and after this fashion make their leaps. So too flying and swimming things progress, the one straightening and bending their wings to fly, the other their fins to swim. Of the latter some have four fins, others which are rather long, for example eels, have only two. These swim by substituting a flexion of the rest of their body for the (missing) pair of fins to complete the movement, as we have said before. Flat fish use two fins, and the flat of their body as a substitute for the absent pair of fins. Quite flat fish, like the Ray, produce their swimming movement with the actual fins and with the two extremes or semicircles of their body, bending and straightening themselves alternately.

10

A difficulty might perhaps be raised about birds. How, it may be said, can they, either when they fly or when they walk, be said to move at four points? Now we did not say that all Sanguinea move at four points, but merely at not more than four. Moreover, they cannot as a fact fly if their legs be removed, nor walk without their wings. Even a man does not walk without moving his shoulders. Everything indeed, as we have said, makes a change of place by flexion and straightening, for all things progress by pressing upon what being beneath them up to a point gives way as it were gradually; accordingly, even if there be no flexion in another member, there must be at least in the point whence motion begins, is in feathered (flying) insects at the base of the ‘scale-wing’, in birds at the base of the wing, in others at the base of the corresponding member, the fins, for instance, in fish. In others, for example snakes, the flexion begins in the joints of the body.

In winged creatures the tail serves, like a ship’s rudder, to keep the flying thing in its course. The tail then must like other limbs be able to bend at the point of attachment. And so flying insects, and birds (Schizoptera) whose tails are ill-adapted for the use in question, for example peacocks, and domestic cocks, and generally birds that hardly fly, cannot steer a straight course. Flying insects have absolutely no tail, and so drift along like a rudderless vessel, and beat against anything they happen upon; and this applies equally to sharded insects, like the scarab-beetle and the chafer, and to unsharded, like bees and wasps. Further, birds that are not made for flight have a tail that is of no use; for instance the purple coot and the heron and all water-fowl. These fly stretching out their feet as a substitute for a tail, and use their legs instead of a tail to direct their flight. The flight of insects is slow and frail because the character of their feathery wings is not proportionate to the bulk of their body; this is heavy, their wings small and frail, and so the flight they use is like a cargo boat attempting to make its voyage with oars; now the frailty both of the actual wings and of the outgrowths upon them contributes in a measure to the flight described. Among birds, the peacock’s tail is at one time useless because of its size, at another because it is shed. But birds are in general at the opposite pole to flying insects as regards their feathers, but especially the swiftest flyers among them. (These are the birds with curved talons, for swiftness of wing is useful to their mode of life.) The rest of their bodily structure is in harmony with their peculiar movement, the small head, the slight neck, the strong and acute breastbone (acute like the prow of a clipper-built vessel, so as to be well-girt, and strong by dint of its mass of flesh), in order to be able to push away the air that beats against it, and that easily and without exhaustion. The hind-quarters, too, are light and taper again, in order to conform to the movement of the front and not by their breadth to suck the air.

11

So much then for these questions. But why an animal that is to stand erect must necessarily be not only a biped, but must also have the superior parts of the body lighter, and those that lie under these heavier, is plain. Only if situated like this could it possibly carry itself easily. And so man, the only erect animal, has legs longer and stouter relatively to the upper parts of his body than any other animal with legs. What we observe in children also is evidence of this. Children cannot walk erect because they are always dwarf-like, the upper parts of their bodies being longer and stouter than the lower. With advancing years the lower increase disproportionately, until the children get their appropriate size, and then and not till then they succeed in walking erect. Birds are hunchbacked yet stand on two legs because their weight is set back, after the principle of horses fashioned in bronze with their forelegs prancing. But their being bipeds and able to stand is above all due to their having the hip-bone shaped like a thigh, and so large that it looks as if they had two thighs, one in the leg before the knee-joint, the other joining his part to the fundament. Really this is not a thigh but a hip, and if it were not so large the bird could not be a biped. As in a man or a quadruped, the thigh and the rest of the leg would be attached immediately to quite a small hip; consequently the whole body would be tilted forward. As it is, however, the hip is long and extends right along to the middle of the belly, so that the legs are attached at that point and carry as supports the whole frame. It is also evident from these considerations that a bird cannot possibly be erect in the sense in which man is. For as it holds its body now the wings are naturally useful to it, but if it were erect they would be as useless as the wings of Cupids we see in pictures. It must have been clear as soon as we spoke that the form of no human nor any similar being permits of wings; not only because it would, though Sanguineous, be moved at more than four points, but also because to have wings would be useless to it when moving naturally. And Nature makes nothing contrary to her own nature.

12

We have stated above that without flexion in the legs or shoulders and hips no Sanguineous animal with feet could progress, and that flexion is impossible except some point be at rest, and that men and birds, both bipeds, bend their legs in opposite directions, and further that quadrupeds bend their in opposite directions, and each pair in the opposite way to a man’s limbs. For men bend their arms backwards, their legs forwards; quadrupeds their forelegs forwards, their back legs backwards, and in like manner also birds bend theirs. The reason is that Nature’s workmanship is never purposeless, as we said above, but everything for the best possible in the circumstances. Inasmuch, therefore, as all creatures which naturally have the power of changing position by the use of limbs, must have one leg stationary with the weight of the body on it, and when they move forward the leg which has the leading position must be unencumbered, and the progression continuing the weight must shift and be taken off on this leading leg, it is evidently necessary for the back leg from being bent to become straight again, while the point of movement of the leg thrust forward and its lower part remain still. And so the legs must be jointed. And it is possible for this to take place and at the same time for the animal to go forward, if the leading leg has its articulation forwards, impossible if it be backwards. For, if it be forwards, the stretching out of the leg will be while the body is going forwards, but, if the other way, while it is going backwards. And again, if the flexion were backwards, the placing of the foot would be made by two movements and those contrary to one another, one, that is, backwards and one forwards; for in the bending together of the limb the lower end of the thigh would go backwards, and the shin would move the foot forwards away from the flexion; whereas, with the flexion forwards, the progression described will be performed not with contrary motions, but with one forward motion.

Now man, being a biped and making his change of position in the natural way with his two legs, bends them forward for the reasons set forth, but his arms bend backwards reasonably enough. If they bent the opposite way they would be useless for the work of the hands, and for taking food. But quadrupeds which are also viviparous necessarily bend their front legs forwards. For these lead off first when they move, and are also in the forepart of their body. The reason that they bend forward is the same as in the case of man, for in this respect they are like mankind. And so quadrupeds as well as men bend these legs forward in the manner described. Moreover, if the flexion is like this, they are enabled to lift their feet high; if they bent them in the opposite way they would only lift them a little way from the ground, because the whole thigh and the joint from which the shin-bone springs would lie under the belly as the beast moved forward. If, however, the flexion of the hind legs were forwards the lifting of these feet would be similar to that of the forefeet (for the hind legs, too, would in this case have only a little room for their lifting inasmuch as both the thigh and the knee-joint would fall under the position of the belly); but the flexion being backwards, as in fact it is, nothing comes in the way of their progression with this mode of moving the feet. Moreover, it is necessary or at least better for their legs to bend thus when they are suckling their young, with a view to such ministrations. If the flexion were inwards it would be difficult to keep their young under them and to shelter them.

13

Now there are four modes of flexion if we take the combinations in pairs. Fore and hind may bend either both backwards, as the figures marked A, or in the opposite way both forwards, as in B, or in converse ways and not in the same direction, as in C where the fore bend forwards and the hind bend backwards, or as in D, the opposite way to C, where the convexities are turned towards one another and the concavities outwards. Now no biped or quadruped bends his limbs like the figures A or B, but the quadrupeds like C, and like D only the elephant among quadrupeds and man if you consider his arms as well as his legs. For he bends his arms concavely and his legs convexly.

In man, too, the flexions of the limbs are always alternately opposite, for example the elbow bends back, but the wrist of the hand forwards, and again the shoulder forwards. In like fashion, too, in the case of the legs, the hip backwards, the knee forwards, the ankle in the opposite way backwards. And plainly the lower limbs are opposed in this respect to the upper, because the first joints are opposites, the shoulder bending forwards, the hip backwards; wherefore also the ankle bends backwards, and the wrist of the hand forwards.

14

This is the way then the limbs bend, and for the reasons given. But the hind limbs move criss-cross with the fore limbs; after the off fore they move the near hind, then the near fore, and then the off hind. The reason is that (a) if they moved the forelegs together and first, the animal would be wrenched, and the progression would be a stumbling forwards with the hind parts as it were dragged after. Again, that would not be walking but jumping, and it is hard to make a continuous change of place, jumping all the time. Here is evidence of what I say; even as it is, all horses that move in this way soon begin to refuse, for example the horses in a religious procession. For these reasons the fore limbs and the hind limbs move in this separate way. Again, (b) if they moved both the right legs first the weight would be outside the supporting limbs and they would fall. If then it is necessary to move in one or other of these ways or criss-cross fashion, and neither of these two is satisfactory, they must move criss-cross; for moving in the way we have said they cannot possibly experience either of these untoward results. And this is why horses and such-like animals stand still with their legs put forward criss-cross, not with the right or the left put forward together at once. In the same fashion animals with more than four legs make their movements; if you take two consecutive pairs of legs the hind move criss-cross with the forelegs; you can see this if you watch them moving slowly. Even crabs move in this way, and they are polypods. They, too, always move criss-cross in whichever direction they are making progress. For in direction this animal has a movement all its own; it is the only animal that moves not forwards, but obliquely. Yet since forwards is a distinction relative to the line of vision, Nature has made its eyes able to conform to its limbs, for its eyes can move themselves obliquely, and therefore after a fashion crabs are no exception but in this sense move forwards.

15

Birds bend their legs in the same way as quadrupeds. For their natural construction is broadly speaking nearly the same. That is, in birds the wings are a substitute for the forelegs; and so they are bent in the same way as the forelegs of a quadruped, since when they move to progress the natural beginning of change is from the wings (as in quadrupeds from the forelegs). Flight in fact is their appropriate movement. And so if the wings be cut off a bird can neither stand still nor go forwards.

Again, the bird though a biped is not erect, and has the forward parts of the body lighter than the hind, and so it is necessary (or at least preferable for the standing posture) to have the thigh so placed below the body as it actually is, I mean growing towards the back. If then it must have this situation the flexion of the leg must be backwards, as in the hind legs of quadrupeds. The reasons are the same as those given in the case of viviparous quadrupeds.

If now we survey generally birds and winged insects, and animals which swim in a watery medium, all I mean that make their progress in water by dint of organs of movement, it is not difficult to see that it is better to have the attachment of the parts in question oblique to the frame, exactly as in fact we see it to be both in birds and insects. And this same arrangement obtains also among fishes. Among birds the wings are attached obliquely; so are the fins in water animals, and the feather-like wings of insects. In this way they divide the air or water most quickly and with most force and so effect their movement. For the hinder parts in this way would follow forwards as they are carried along in the yielding medium, fish in the water, birds in the air.

Of oviparous quadrupeds all those that live in holes, like crocodiles, lizards, spotted lizards, freshwater tortoises, and turtles, have their legs attached obliquely as their whole body sprawls over the ground, and bend them obliquely. The reason is that this is useful for ease in creeping into holes, and for sitting upon their eggs and guarding them. And as they are splayed outwards they must of necessity tuck in their thighs and put them under them in order to achieve the lifting of the whole body. In view of this they cannot bend them otherwise than outwards.

16

We have already stated the fact that non-sanguineous animals with limbs are polypods and none of them quadrupeds. And the reason why their legs, except the extreme pairs, were necessarily attached obliquely and had their flexions upwards, and the legs themselves were somewhat turned under (bandy-shape) and backwards is plain. In all such creatures the intermediate legs both lead and follow. If then they lay under them, they must have had their flexion both forwards and backwards; on account of leading, forwards; and on account of following, backwards. Now since they have to do both, for this reason their limbs are turned under and bent obliquely, except the two extreme pairs. (These two are more natural in their movement, the front leading and the back following.) Another reason for this kind of flexion is the number of their legs; arranged in this way they would interfere less with one another in progression and not knock together. But the reason that they are bandy is that all of them or most of them live in holes, for creatures living so cannot possibly be high above the ground.

But crabs are in nature the oddest of all polypods; they do not progress forwards except in the sense explained above, they are the only animals which have more than one pair of leading limbs. The explanation of this is the hardness of their limbs, and the fact that they use them not for swimming but for walking; they always keep on the ground. However, the flexion of the limbs of all polypods is oblique, like that of the quadrupeds which live in holes-for example lizards and crocodiles and most of the oviparous quadrupeds. And the explanation is that some of them in their breeding periods, and some all their life, live in holes.

17

Now the rest have bandy legs because they are soft-skinned, but the crayfish is hard-skinned and its limbs are for swimming and not for walking (and so are not bandy). Crabs, too, have their limbs bent obliquely, but not bandy like oviparous quadrupeds and non-sanguineous polypods, because their limbs have a hard and shell-like skin, although they don’t swim but live in holes; they live in fact on the ground. Moreover, their shape is like a disk, as compared with the crayfish which is elongated, and they haven’t a tail like the crayfish; a tail is useful to the crayfish for swimming, but the crab is not a swimming creature. Further, it alone has its side equivalent to a hinder part, because it has many leading feet. The explanation of this is that its flexions are not forward nor its legs turned in under (bandy). We have given above the reason why its legs are not turned in under, that is the hardness and shell-like character of its integument.

For these reasons then it must lead off with more than one limb, and move obliquely; obliquely, because the flexion is oblique; and with more than one limb, because otherwise the limbs that were still would have got in the way of those that were moving.

Fishes of the flat kind swim with their heads twisted, as one-eyed men walk; they have their natural shape distorted. Web-footed birds swim with their feet; because they breath the air and have lungs they are bipeds, but because they have their home in the water they are webbed; by this arrangement their feet serve them instead of fins. They have their legs too, not like the rest of birds in the centre of their body, but rather set back. Their legs are short, and being set back are serviceable for swimming. The reason for their having short legs is that nature has added to their feet by subtracting from the length of their limbs; instead of length she gives stoutness to the legs and breadth to the feet. Broad feet are more useful than long for pushing away the water when they are swimming.

18

There is reason, too, for winged creatures having feet, but fish none. The former have their home in the dry medium, and cannot remain always in mid air; they must therefore have feet. Fish on the contrary live in the wet medium, and take in water, not air. Fins are useful for swimming, but feet not. And if they had both they would be non-sanguineous. There is a broad similarity between birds and fishes in the organs of locomotion. Birds have their wings on the superior part, similarly fish have two pectoral fins; again, birds have legs on their under parts and near the wings; similarly, most fish have two fins on the under parts and near the pectorals. Birds, too, have a tail and fish a tail-fin.

19

A difficulty may be suggested as to the movements of molluscs, that is, as to where that movement originates; for they have no distinction of left and right. Now observation shows them moving. We must, I think, treat all this class as mutilated, and as moving in the way in which limbed creatures do when one cuts off their legs, or as analogous with the seal and the bat. Both the latter are quadrupeds but misshapen. Now molluscs do move, but move in a manner contrary to nature. They are not moving things, but are moving if as sedentary creatures they are compared with zoophytes, and sedentary if classed with progressing animals.

As to right and left, crabs, too, show the distinction poorly, still they do show it. You can see it in the claw; the right claw is larger and stronger, as though the right and left sides were trying to get distinguished.

The structure of animals, both in their other parts, and especially in those which concern progression and any movement in place, is as we have now described. It remains, after determining these questions, to investigate the problems of Life and Death.

Generation of Animals (715a)

Translated by Arthur Platt

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Book I

1

WE have now discussed the other parts of animals, both generally and with reference to the peculiarities of each kind, explaining how each part exists on account of such a cause, and I mean by this the final cause.

There are four causes underlying everything: first, the final cause, that for the sake of which a thing exists; secondly, the formal cause, the definition of its essence (and these two we may regard pretty much as one and the same); thirdly, the material; and fourthly, the moving principle or efficient cause.

We have then already discussed the other three causes, for the definition and the final cause are the same, and the material of animals is their parts of the whole animal the non-homogeneous parts, of these again the homogeneous, and of these last the so-called elements of all matter. It remains to speak of those parts which contribute to the generation of animals and of which nothing definite has yet been said, and to explain what is the moving or efficient cause. To inquire into this last and to inquire into the generation of each animal is in a way the same thing; and, therefore, my plan has united them together, arranging the discussion of these parts last, and the beginning of the question of generation next to them.

Now some animals come into being from the union of male and female, i.e. all those kinds of animal which possess the two sexes. This is not the case with all of them; though in the sanguinea with few exceptions the creature, when its growth is complete, is either male or female, and though some bloodless animals have sexes so that they generate offspring of the same kind, yet other bloodless animals generate indeed, but not offspring of the same kind; such are all that come into being not from a union of the sexes, but from decaying earth and excrements. To speak generally, if we take all animals which change their locality, some by swimming, others by flying, others by walking, we find in these the two sexes, not only in the sanguinea but also in some of the bloodless animals; and this applies in the case of the latter sometimes to the whole class, as the cephalopoda and crustacea, but in the class of insects only to the majority. Of these, all which are produced by union of animals of the same kind generate also after their kind, but all which are not produced by animals, but from decaying matter, generate indeed, but produce another kind, and the offspring is neither male nor female; such are some of the insects. This is what might have been expected, for if those animals which are not produced by parents had themselves united and produced others, then their offspring must have been either like or unlike to themselves. If like, then their parents ought to have come into being in the same way; this is only a reasonable postulate to make, for it is plainly the case with other animals. If unlike, and yet able to copulate, then there would have come into being again from them another kind of creature and again another from these, and this would have gone on to infinity. But Nature flies from the infinite, for the infinite is unending or imperfect, and Nature ever seeks an end.

But all those creatures which do not move, as the testacea and animals that live by clinging to something else, inasmuch as their nature resembles that of plants, have no sex any more than plants have, but as applied to them the word is only used in virtue of a similarity and analogy. For there is a slight distinction of this sort, since even in plants we find in the same kind some trees which bear fruit and others which, while bearing none themselves, yet contribute to the ripening of the fruits of those which do, as in the case of the fig-tree and caprifig.

The same holds good also in plants, some coming into being from seed and others, as it were, by the spontaneous action of Nature, arising either from decomposition of the earth or of some parts in other plants, for some are not formed by themselves separately but are produced upon other trees, as the mistletoe. Plants, however, must be investigated separately.

2

Of the generation of animals we must speak as various questions arise in order in the case of each, and we must connect our account with what has been said. For, as we said above, the male and female principles may be put down first and foremost as origins of generation, the former as containing the efficient cause of generation, the latter the material of it. The most conclusive proof of this is drawn from considering how and whence comes the semen;

for there is no doubt that it is out of this that those creatures are formed which are produced in the ordinary course of Nature; but we must observe carefully the way in which this semen actually comes into being from the male and female. For it is just because the semen is secreted from the two sexes, the secretion taking place in them and from them, that they are first principles of generation. For by a male animal we mean that which generates in another, and by a female that which generates in itself; wherefore men apply these terms to the macrocosm also, naming Earth mother as being female, but addressing Heaven and the Sun and other like entities as fathers, as causing generation.

Male and female differ in their essence by each having a separate ability or faculty, and anatomically by certain parts; essentially the male is that which is able to generate in another, as said above; the female is that which is able to generate in itself and out of which comes into being the offspring previously existing in the parent. And since they are differentiated by an ability or faculty and by their function, and since instruments or organs are needed for all functioning, and since the bodily parts are the instruments or organs to serve the faculties, it follows that certain parts must exist for union of parents and production of offspring. And these must differ from each other, so that consequently the male will differ from the female. (For even though we speak of the animal as a whole as male or female, yet really it is not male or female in virtue of the whole of itself, but only in virtue of a certain faculty and a certain part — just as with the part used for sight or locomotion — which part is also plain to sense-perception.)

Now as a matter of fact such parts are in the female the so-called uterus, in the male the testes and the penis, in all the sanguinea; for some of them have testes and others the corresponding passages. There are corresponding differences of male and female in all the bloodless animals also which have this division into opposite sexes. But if in the sanguinea it is the parts concerned in copulation that differ primarily in their forms, we must observe that a small change in a first principle is often attended by changes in other things depending on it. This is plain in the case of castrated animals, for, though only the generative part is disabled, yet pretty well the whole form of the animal changes in consequence so much that it seems to be female or not far short of it, and thus it is clear than an animal is not male or female in virtue of an isolated part or an isolated faculty. Clearly, then, the distinction of sex is a first principle; at any rate, when that which distinguishes male and female suffers change, many other changes accompany it, as would be the case if a first principle is changed.

3

The sanguinea are not all alike as regards testes and uterus. Taking the former first, we find that some of them have not testes at all, as the classes of fish and of serpents, but only two spermatic ducts. Others have testes indeed, but internally by the loin in the region of the kidneys, and from each of these a duct, as in the case of those animals which have no testes at all, these ducts unite also as with those animals; this applies (among animals breathing air and having a lung) to all birds and oviparous quadrupeds. For all these have their testes internal near the loin, and two ducts from these in the same way as serpents; I mean the lizards and tortoises and all the scaly reptiles. But all the vivipara have their testes in front; some of them inside at the end of the abdomen, as the dolphin, not with ducts but with a penis projecting externally from them; others outside, either pendent as in man or towards the fundament as in swine. They have been discriminated more accurately in the Enquiries about Animals.

The uterus is always double, just as the testes are always two in the male. It is situated either near the pudendum (as in women, and all those animals which bring forth alive not only externally but also internally, and all fish that lay eggs externally) or up towards the hypozoma (as in all birds and in viviparous fishes). The uterus is also double in the crustacea and the cephalopoda, for the membranes which include their so-called eggs are of the nature of a uterus. It is particularly hard to distinguish in the case of the poulps, so that it seems to be single, but the reason of this is that the bulk of the body is everywhere similar.

It is double also in the larger insects; in the smaller the question is uncertain owing to the small size of the body.

Such is the description of the aforesaid parts of animals.

4

With regard to the difference of the spermatic organs in males, if we are to investigate the causes of their existence, we must first grasp the final cause of the testes. Now if Nature makes everything either because it is necessary or because it is better so, this part also must be for one of these two reasons. But that it is not necessary for generation is plain; else had it been possessed by all creatures that generate, but as it is neither serpents have testes nor have fish; for they have been seen uniting and with their ducts full of milt. It remains then that it must be because it is somehow better so. Now it is true that the business of most animals is, you may say, nothing else than to produce young, as the business of a plant is to produce seed and fruit. But still as, in the case of nutriment, animals with straight intestines are more violent in their desire for food, so those which have not testes but only ducts, or which have them indeed but internally, are all quicker in accomplishing copulation. But those which are to be more temperate in the one case have not straight intestines, and in the other have their ducts twisted to prevent their desire being too violent and hasty. It is for this that the testes are contrived; for they make the movement of the spermatic secretion steadier, preserving the folding back of the passages in the vivipara, as horses and the like, and in man. (For details see the Enquiries about Animals.) For the testes are no part of the ducts but are only attached to them, as women fasten stones to the loom when weaving; if they are removed the ducts are drawn up internally, so that castrated animals are unable to generate; if they were not drawn up they would be able, and before now a bull mounting immediately after castration has caused conception in the cow because the ducts had not yet been drawn up. In birds and oviparous quadrupeds the testes receive the spermatic secretion, so that its expulsion is slower than in fishes. This is clear in the case of birds, for their testes are much enlarged at the time of copulation, and all those which pair at one season of the year have them so small when this is past that they are almost indiscernible, but during the season they are very large. When the testes are internal the act of copulation is quicker than when they are external, for even in the latter case the semen is not emitted before the testes are drawn up.

5

Besides, quadrupeds have the organ of copulation, since it is possible for them to have it, but for birds and the footless animals it is not possible, because the former have their legs under the middle of the abdomen and the latter have no legs at all; now the penis depends from that region and is situated there. (Wherefore also the legs are strained in intercourse, both the penis and the legs being sinewy.) So that, since it is not possible for them to have this organ, they must necessarily either have no testes also, or at any rate not have them there, as those animals that have both penis and testes have them in the same situation.

Further, with those animals at any rate that have external testes, the semen is collected together before emission, and emission is due to the penis being heated by its movement; it is not ready for emission at immediate contact as in fishes.

All the vivipira have their testes in front, internally or externally, except the hedgehog; he alone has them near the loin. This is for the same reason as with birds, because their union must be quick, for the hedgehog does not, like the other quadrupeds, mount upon the back of the female, but they conjugate standing upright because of their spines.

So much for the reasons why those animals have testes which have them, and why they are sometimes external and sometimes internal.

6

All those animals which have no testes are deficient in this part, as has been said, not because it is better to be so but simply because of necessity, and secondly because it is necessary that their copulation should be speedy. Such is the nature of fish and serpents. Fish copulate throwing themselves alongside of the females and separating again quickly. For as men and all such creatures must hold their breath before emitting the semen, so fish at such times must cease taking in the sea-water, and then they perish easily. Therefore they must not mature the semen during copulation, as viviparous land-animals do, but they have it all matured together before the time, so as not to be maturing it while in contact but to emit it ready matured. So they have no testes, and the ducts are straight and simple. There is a small part similar to this connected with the testes in the system of quadrupeds, for part of the reflected duct is sanguineous and part is not; the fluid is already semen when it is received by and passes through this latter part, so that once it has arrived there it is soon emitted in these quadrupeds also. Now in fishes the whole passage resembles the last section of the reflected part of the duct in man and similar animals.

7

Serpents copulate twining round one another, and, as said above, have neither testes nor penis, the latter because they have no legs, the former because of their length, but they have ducts like for on account of their extreme length the seminal fluid would take too long in its passage and be cooled if it were further delayed by testes. (This happens also if the penis is large; such men are less fertile than when it is smaller because the semen, if cold, is not generative, and that which is carried too far is cooled.) So much for the reason why some animals have testes and others not. Serpents intertwine because of their inaptitude to cast themselves alongside of one another. For they are too long to unite closely with so small a part and have no organs of attachment, so they make use of the suppleness of their bodies, intertwining. Wherefore also they seem to be slower in copulation than fish, not only on account of the length of the ducts but also of this elaborate arrangement in uniting.

8

It is not easy to state the facts about the uterus in female animals, for there are many points of difference. The vivipara are not alike in this part; women and all the vivipara with feet have the uterus low down by the pudendum, but the cartilaginous viviparous fish have it higher up near the hypozoma. In the ovipara, again, it is low in fish (as in women and the viviparous quadrupeds), high in birds and all oviparous quadrupeds. Yet even these differences are on a principle. To begin with the ovipara, they differ in the manner of laying their eggs, for some produce them imperfect, as fishes whose eggs increase and are finally developed outside of them. The reason is that they produce many young, and this is their function as it is with plants. If then they perfected the egg in themselves they must needs be few in number, but as it is, they have so many that each uterus seems to be an egg, at any rate in the small fishes. For these are the most productive, just as with the other animals and plants whose nature is analogous to theirs, for the increase of size turns with them to seed.

But the eggs of birds and the quadrupedal ovipara are perfect when produced. In order that these may be preserved they must have a hard covering (for their envelope is soft so long as they are increasing in size), and the shell is made by heat squeezing out the moisture for the earthy material; consequently the place must be hot in which this is to happen. But the part about the hypozoma is hot, as is shown by that being the part which concocts the food. If then the eggs must be within the uterus, then the uterus must be near the hypozoma in those creatures which produce their eggs in a perfect form. Similarly it must be low down in those which produce them imperfect, for it is profitable that it should be so. And it is more natural for the uterus to be low down than high up, when Nature has no other business in hand to hinder it; for its end is low down, and where is the end, there is the function, and the uterus itself is naturally where the function is.

9

We find differences in the vivipara also as compared with one another. Some produce their young alive, not only externally, but also internally, as men, horses, dogs, and all those which have hair, and among aquatic animals, dolphins, whales, and such cetacea.

10

But the cartilaginous fish and the vipers produce their young alive externally, but first produce eggs internally. The egg is perfect, for so only can an animal be generated from an egg, and nothing comes from an imperfect one. It is because they are of a cold nature, not hot as some assert, that they do not lay their eggs externally.

11

At least they certainly produce their eggs in a soft envelope, the reason being that they have but little heat and so their nature does not complete the process of drying the egg-shell. Because, then, they are cold they produce soft-shelled eggs, and because the eggs are soft they do not produce them externally; for that would have caused their destruction.

The process is for the most part the same as in birds, for the egg descends and the young is hatched from it near the vagina, where the young is produced in those animals which are viviparous from the beginning. Therefore in such animals the uterus is dissimilar to that of both the vivipara and ovipara, because they participate in both classes; for it is at once near the hypozoma and also stretching along downwards in all the cartilaginous fishes. But the facts about this and the other kinds of uterus must be gathered from inspection of the drawings of dissections and from the Enquiries. Thus, because they are oviparous, laying perfect eggs, they have the uterus placed high, but, as being viviparous, low, participating in both classes.

Animals that are viviparous from the beginning all have it low, Nature here having no other business to interfere with her, and their production having no double character. Besides this, it is impossible for animals to be produced alive near the hypozoma, for the foetus must needs be heavy and move, and that region in the mother is vital and would not be able to bear the weight and the movement. Thirdly, parturition would be difficult because of the length of the passage to be traversed; even as it is there is difficulty with women if they draw up the uterus in parturition by yawning or anything of the kind, and even when empty it causes a feeling of suffocation if moved upwards. For if a uterus is to hold a living animal it must be stronger than in ovipara, and therefore in all the vivipara it is fleshy, whereas when the uterus is near the hypozoma it is membranous. And this is clear also in the case of the animals which produce young by the mixed method, for their eggs are high up and sideways, but the living young are produced in the lower part of the uterus.

So much for the reason why differences are found in the uterus of various animals, and generally why it is low in some and high in others near the hypozoma.

12

Why is the uterus always internal, but the testes sometimes internal, sometimes external? The reason for the uterus always being internal is that in this is contained the egg or foetus, which needs guarding, shelter, and maturation by concoction, while the outer surface of the body is easily injured and cold. The testes vary in position because they also need shelter and a covering to preserve them and to mature the semen; for it would be impossible for them, if chilled and stiffened, to be drawn up and discharge it. Therefore, whenever the testes are visible, they have a cuticular covering known as the scrotum. If the nature of the skin is opposed to this, being too hard to be adapted for enclosing them or for being soft like a true ‘skin’, as with the scaly integument of fish and reptiles, then the testes must needs be internal. Therefore they are so in dolphins and all the cetacea which have them, and in the oviparous quadrupeds among the scaly animals. The skin of birds also is hard so that it will not conform to the size of anything and enclose it neatly. (This is another reason with all these animals for their testes being internal besides those previously mentioned as arising necessarily from the details of copulation.) For the same reason they are internal in the elephant and hedgehog, for the skin of these, too, is not well suited to keep the protective part separate.

[The position of the uterus differs in animals viviparous within themselves and those externally oviparous, and in the latter class again it differs in those which have the uterus low and those which have it near the hypozoma, as in fishes compared with birds and oviparous quadrupeds. And it is different again in those which produce young in both ways, being oviparous internally and viviparous externally. For those which are viviparous both internally and externally have the uterus placed on the abdomen, as men, cattle, dogs, and the like, since it is expedient for the safety and growth of the foetus that no weight should be upon the uterus.]

13

The passages also are different through which the solid and liquid excreta pass out in all the vivipara. Wherefore both males and females in this class all have a part whereby the urine is voided, and this serves also for the issue of the semen in males, of the offspring in females. This passage is situated above and in front of the passage of the solid excreta. The passage is the same as that of the solid nutriment in all those animals that have no penis, in all the ovipara, even those of them that have a bladder, as the tortoises. For it is for the sake of generation, not for the evacuation of the urine, that the passages are double; but because the semen is naturally liquid, the liquid excretion also shares the same passage. This is clear from the fact that all animals produce semen, but all do not void liquid excrement. Now the spermatic passages of the male must be fixed and must not wander, and the same applies to the uterus of the female, and this fixing must take place at either the front or the back of the body. To take the uterus first, it is in the front of the body in vivipara because of the foetus, but at the loin and the back in ovipara. All animals which are internally oviparous and externally viviparous are in an intermediate condition because they participate in both classes, being at once oviparous and viviparous. For the upper part of the uterus, where the eggs are produced, is under the hypozoma by the loin and the back, but as it advances is low at the abdomen; for it is in that part that the animal is viviparous. In these also the passage for solid excrement and for copulation is the same, for none of these, as has been said already, has a separate pudendum.

The same applies to the passages in the male, whether they have testes or no, as to the uterus of the ovipara. For in all of them, not only in the ovipara, the ducts adhere to the back and the region of the spine. For they must not wander but be settled, and that is the character of the region of the back, which gives continuity and stability. Now in those which have internal testes, the ducts are fixed from the first, and they are fixed in like manner if the testes are external; then they meet together towards the region of the penis.

The like applies to the ducts in the dolphins, but they have their testes hidden under the abdominal cavity.

We have now discussed the situation of the parts contributing to generation, and the causes thereof.

14

The bloodless animals do not agree either with the sanguinea or with each other in the fashion of the parts contributing to generation. There are four classes still left to deal with, first the crustacea, secondly the cephalopoda, thirdly the insects, and fourthly the testacea. We cannot be certain about all of them, but that most of them copulate is plain; in what manner they unite must be stated later.

The crustacea copulate like the retromingent quadrupeds, fitting their tails to one another, the one supine and the other prone. For the flaps attached to the sides of the tail being long prevent them from uniting with the belly against the back. The males have fine spermatic ducts, the females a membranous uterus alongside the intestine, cloven on each side, in which the egg is produced.

15

The cephalopoda entwine together at the mouth, pushing against one another and enfolding their arms. This attitude is necessary, because Nature has bent backwards the end of the intestine and brought it round near the mouth, as has been said before in the treatise on the parts of animals. The female has a part corresponding to the uterus, plainly to be seen in each of these animals, for it contains an egg which is at first indivisible to the eye but afterwards splits up into many; each of these eggs is imperfect when deposited, as with the oviparous fishes. In the cephalopoda (as also in the crustacea) the same passage serves to void the excrement and leads to the part like a uterus, for the male discharges the seminal fluid through this passage. And it is on the lower surface of the body, where the mantle is open and the sea-water enters the cavity. Hence the union of the male with the female takes place at this point, for it is necessary, if the male discharges either semen or a part of himself or any other force, that he should unite with her at the uterine passage. But the insertion, in the case of the poulps, of the arm of the male into the funnel of the female, by which arm the fishermen say the male copulates with her, is only for the sake of attachment, and it is not an organ useful for generation, for it is outside the passage in the male and indeed outside the body of the male altogether.

Sometimes also cephalopoda unite by the male mounting on the back of the female, but whether for generation or some other cause has not yet been observed.

16

Some insects copulate and the offspring are produced from animals of the same name, just as with the sanguinea; such are the locusts, cicadae, spiders, wasps, and ants. Others unite indeed and generate; but the result is not a creature of the same kind, but only a scolex, and these insects do not come into being from animals but from putrefying matter, liquid or solid; such are fleas, flies, and cantharides. Others again are neither produced from animals nor unite with each other; such are gnats, ‘conopes’, and many similar kinds. In most of those which unite the female is larger than the male. The males do not appear to have spermatic passages. In most cases the male does not insert any part into the female, but the female from below upwards into the male; this has been observed in many cases (as also that the male mounts the female), the opposite in few cases; but observations are not yet comprehensive enough to enable us to make a distinction of classes. And generally it is the rule with most of the oviparous fish and oviparous quadrupeds that the female is larger than the because this is expedient in view of the increase of bulk in conception by reason of the eggs. In the female the part analogous to the uterus is cleft and extends along the intestine, as with the other animals; in this are produced the results of conception. This is clear in locusts and all other large insects whose nature it is to unite; most insects are too small to be observed in this respect.

Such is the character of the generative organs in animals which were not spoken of before. It remains now to speak of the homogeneous parts concerned, the seminal fluid and milk. We will take the former first, and treat of milk afterwards.

17

Some animals manifestly emit semen, as all the sanguinea, but whether the insects and cephalopoda do so is uncertain. Therefore this is a question to be considered, whether all males do so, or not all; and if not all, why some do and some not; and whether the female also contributes any semen or not; and, if not semen, whether she does not contribute anything else either, or whether she contributes something else which is not semen. We must also inquire what those animals which emit semen contribute by means of it to generation, and generally what is the nature of semen, and of the so-called catamenia in all animals which discharge this liquid.

Now it is thought that all animals are generated out of semen, and that the semen comes from the parents. Wherefore it is part of the same inquiry to ask whether both male and female produce it or only one of them, and to ask whether it comes from the whole of the body or not from the whole; for if the latter is true it is reasonable to suppose that it does not come from both parents either. Accordingly, since some say that it comes from the whole of the body, we must investigate this question first.

The proofs from which it can be argued that the semen comes from each and every part of the body may be reduced to four. First, the intensity of the pleasure of coition; for the same state of feeling is more pleasant if multiplied, and that which affects all the parts is multiplied as compared with that which affects only one or a few. Secondly, the alleged fact that mutilations are inherited, for they argue that since the parent is deficient in this part the semen does not come from thence, and the result is that the corresponding part is not formed in the offspring. Thirdly, the resemblances to the parents, for the young are born like them part for part as well as in the whole body; if then the coming of the semen from the whole body is cause of the resemblance of the whole, so the parts would be like because it comes from each of the parts. Fourthly, it would seem to be reasonable to say that as there is some first thing from which the whole arises, so it is also with each of the parts, and therefore if semen or seed is cause of the whole so each of the parts would have a seed peculiar to itself. And these opinions are plausibly supported by such evidence as that children are born with a likeness to their parents, not in congenital but also in acquired characteristics; for before now, when the parents have had scars, the children have been born with a mark in the form of the scar in the same place, and there was a case at Chalcedon where the father had a brand on his arm and the letter was marked on the child, only confused and not clearly articulated. That is pretty much the evidence on which some believe that the semen comes from all the body.

18

On examining the question, however, the opposite appears more likely, for it is not hard to refute the above arguments and the view involves impossibilities. First, then, the resemblance of children to parents is no proof that the semen comes from the whole body, because the resemblance is found also in voice, nails, hair, and way of moving, from which nothing comes. And men generate before they yet have certain characters, such as a beard or grey hair. Further, children are like their more remote ancestors from whom nothing has come, for the resemblances recur at an interval of many generations, as in the case of the woman in Elis who had intercourse with the Aethiop; her daughter was not an Aethiop but the son of that daughter was.

The same thing applies also to plants, for it is clear that if this theory were true the seed would come from all parts of plants also; but often a plant does not possess one part, and another part may be removed, and a third grows afterwards. Besides, the seed does not come from the pericarp, and yet this also comes into being with the same form as in the parent plant.

We may also ask whether the semen comes from each of the homogeneous parts only, such as flesh and bone and sinew, or also from the heterogeneous, such as face and hands. For if from the former only, we object that resemblance exists rather in the heterogeneous parts, such as face and hands and feet; if then it is not because of the semen coming from all parts that children resemble their parents in these, what is there to stop the homogeneous parts also from being like for some other reason than this? If the semen comes from the heterogeneous alone, then it does not come from all parts; but it is more fitting that it should come from the homogeneous parts, for they are prior to the heterogeneous which are composed of them; and as children are born like their parents in face and hands, so they are, necessarily, in flesh and nails. If the semen comes from both, what would be the manner of generation? For the heteroeneous parts are composed of the homogneous, so that to come from the former would be to come from the latter and from their composition. To make this clearer by an illustration, take a written name; if anything came from the whole of it, it would be from each of the syllables, and if from these, from the letters and their composition. So that if really flesh and bones are composed of fire and the like elements, the semen would come rather from the elements than anything else, for how can it come from their composition? Yet without this composition there would be no resemblance. If again something creates this composition later, it would be this that would be the cause of the resemblance, not the coming of the semen from every part of the body.

Further, if the parts of the future animal are separated in the semen, how do they live? and if they are connected, they would form a small animal.

And what about the generative parts? For that which comes from the male is not similar to what comes from the female.

Again, if the semen comes from all parts of both parents alike, the result is two animals, for the offspring will have all the parts of both. Wherefore Empedocles seems to say what agrees pretty well with this view (if we are to adopt it), to a certain extent at any rate, but to be wrong if we think otherwise.

What he says agrees with it when he declares that there is a sort of tally in the male and female, and that the whole offspring does not come from either, ‘but sundered is the fashion of limbs, some in man’s...’ For why does not the female generate from herself if the semen comes from all parts alike and she has a receptacle ready in the uterus? But, it seems, either it does not come from all the parts, or if it does it is in the way Empedocles says, not the same parts coming from each parent, which is why they need intercourse with each other.

Yet this also is impossible, just as much as it is impossible for the parts when full grown to survive and have life in them when torn apart, as Empedocles accounts for the creation of animals; in the time of his ‘Reign of Love’, says he, ‘many heads sprang up without necks,’ and later on these isolated parts combined into animals. Now that this is impossible is plain, for neither would the separate parts be able to survive without having any soul or life in them, nor if they were living things, so to say, could several of them combine so as to become one animal again. Yet those who say that semen comes from the whole of the body really have to talk in that way, and as it happened then in the earth during the ‘Reign of Love’, so it happens according to them in the body. Now it is impossible that the parts should be united together when they come into being and should come from different parts of the parent, meeting together in one place. Then how can the upper and lower, right and left, front and back parts have been ‘sundered’? All these points are unintelligible. Further, some parts are distinguished by possessing a faculty, others by being in certain states or conditions; the heterogeneous, as tongue and hand, by the faculty of doing something, the homogeneous by hardness and softness and the other similar states. Blood, then, will not be blood, nor flesh flesh, in any and every state. It is clear, then, that that which comes from any part, as blood from blood or flesh from flesh, will not be identical with that part. But if it is something different from which the blood of the offspring comes, the coming of the semen from all the parts will not be the cause of the resemblance, as is held by the supporters of this theory. For if blood is formed from something which is not blood, it is enough that the semen come from one part only, for why should not all the other parts of the offspring as well as blood be formed from one part of the parent? Indeed, this theory seems to be the same as that of Anaxagoras, that none of the homogeneous parts come into being, except that these theorists assume, in the case of the generation of animals, what he assumed of the universe.

Then, again, how will these parts that came from all the body of the parent be increased or grow? It is true that Anaxagoras plausibly says that particles of flesh out of the food are added to the flesh. But if we do not say this (while saying that semen comes from all parts of the body), how will the foetus become greater by the addition of something else if that which is added remain unchanged? But if that which is added can change, then why not say that the semen from the very first is of such a kind that blood and flesh can be made out of it, instead of saying that it itself is blood and flesh? Nor is there any other alternative, for surely we cannot say that it is increased later by a process of mixing, as wine when water is poured into it. For in that case each element of the mixture would be itself at first while still unmixed, but the fact rather is that flesh and bone and each of the other parts is such later. And to say that some part of the semen is sinew and bone is quite above us, as the saying is.

Besides all this there is a difficulty if the sex is determined in conception (as Empedocles says: 'it is shed in clean vessels; some wax female, if they fall in with cold'). Anyhow, it is plain that both men and women change not only from infertile to fertile, but also from bearing female to bearing male offspring, which looks as if the cause does not lie in the semen coming from all the parent or not, but in the mutual proportion or disproportion of that comes from the woman and the man, or in something of this kind. It is clear, then, if we are to put this down as being so, that the female sex is not determined by the semen coming from any particular part, and consequently neither is the special sexual part so determined (if really the same semen can become either male or female child, which shows that the sexual part does not exist in the semen). Why, then, should we assert this of this part any more than of others? For if semen does not come from this part, the uterus, the same account may be given of the others.

Again, some creatures come into being neither from parents of the same kind nor from parents of a different kind, as flies and the various kinds of what are called fleas; from these are produced animals indeed, but not in this case of similar nature but a kind of scolex. It is plain in this case that the young of a different kind are not produced by semen coming from all parts of the parent, for they would then resemble them, if indeed resemblance is a sign of its coming from all parts.

Further even among animals some produce many young from a single coition (and something like this is universal among plants, for it is plain that they bear all the fruit of a whole season from a single movement). And yet how would this be possible if the semen were secreted from all the body? For from a single coition and a single segregation of the semen scattered throughout the body must needs follow only a single secretion. Nor is it possible for it to be separated in the uterus, for this would no longer be a mere separation of semen, but, as it were, a severance from a new plant or animal.

Again, the cuttings from a plant bear seed; clearly, therefore, even before they were cut from the parent plant, they bore their fruit from their own mass alone, and the seed did not come from all the plant.

But the greatest proof of all is derived from observations we have sufficiently established on insects. For, if not in all, at least in most of these, the female in the act of copulation inserts a part of herself into the male. This, as we said before, is the way they copulate, for the females manifestly insert this from below into the males above, not in all cases, but in most of those observed. Hence it seems clear that, when the males do emit semen, then also the cause of the generation is not its coming from all the body, but something else which must be investigated hereafter. For even if it were true that it comes from all the body, as they say, they ought not to claim that it comes from all parts of it, but only from the creative part — from the workman, so to say, not the material he works in. Instead of that, they talk as if one were to say that the semen comes from the shoes, for, generally speaking, if a son is like his father, the shoes he wears are like his father's shoes.

As to the vehemence of pleasure in sexual intercourse, it is not because the semen comes from all the body, but because there is a strong friction (wherefore if this intercourse is often repeated the pleasure is diminished in the persons concerned). Moreover, the pleasure is at the end of the act, but it ought, on the theory, to be in each of the parts, and not at the same time, but sooner in some and later in others.

If mutilated young are born of mutilated parents, it is for the same reason as that for which they are like them. And the young of mutilated parents are not always mutilated, just as they are not always like their parents; the cause of this must be inquired into later, for this problem is the same as that.

Again, if the female does not produce semen, it is reasonable to suppose it does not come from all the body of the male either. Conversely, if it does not come from all the male it is not unreasonable to suppose that it does not come from the female, but that the female is cause of the generation in some other way. Into this we must next inquire, since it is plain that the semen is not secreted from all the parts.

In this investigation and those which follow from it, the first thing to do is to understand what semen is, for then it will be easier to inquire into its operations and the phenomena connected with it. Now the object of semen is to be of such a nature that from it as their origin come into being those things which are naturally formed, not because there is any agent which makes them from it as simply because this is the semen. Now we speak of one thing coming from another in many senses; it is one thing when we say that night comes from day or a man becomes man from boy, meaning that A follows B; it is another if we say that a statue is made from bronze and a bed from wood, and so on in all the other cases where we say that the thing made is made from a material, meaning that the whole is formed from something preexisting which is only put into shape. In a third sense a man becomes unmusical from being musical, sick from being well, and generally in this sense contraries arise from contraries. Fourthly, as in the ‘climax’ of Epicharmus; thus from slander comes railing and from this fighting, and all these are from something in the sense that it is the efficient cause. In this last class sometimes the efficient cause is in the things themselves, as in the last mentioned (for the slander is a part of the whole trouble), and sometimes external, as the art is external to the work of art or the torch to the burning house. Now the offspring comes from the semen, and it is plainly in one of the two following senses that it does so — either the semen is the material from which it is made, or it is the first efficient cause. For assuredly it is not in the sense of A being after B, as the voyage comes from, i.e. after, the Panathenaea; nor yet as contraries come from contraries, for then one of the two contraries ceases to be, and a third substance must exist as an immediate underlying basis from which the new thing comes into being. We must discover then, in which of the two other classes the semen is to be put, whether it is to be regarded as matter, and therefore acted upon by something else, or as a form, and therefore acting upon something else, or as both at once. For perhaps at the same time we shall see clearly also how all the products of semen come into being from contraries, since coming into being from contraries is also a natural process, for some animals do so, i.e. from male and female, others from only one parent, as is the case with plants and all those animals in which male and female are not separately differentiated. Now that which comes from the generating parent is called the seminal fluid, being that which first has in it a principle of generation, in the case of all animals whose nature it is to unite; semen is that which has in it the principles from both united parents, as the first mixture which arises from the union of male and female, be it a foetus or an ovum, for these already have in them that which comes from both. (Semen, or seed, and grain differ only in the one being earlier and the other later, grain in that it comes from something else, i.e. the seed, and seed in that something else, the grain, comes from it, for both are really the same thing.)

We must again take up the question what the primary nature of what is called semen is. Needs must everything which we find in the body either be (1) one of the natural parts, whether homogeneous or heterogeneous, or (2) an unnatural part such as a growth, or (3) a secretion or excretion, or (4) waste-product, or (5) nutriment. (By secretion or excretion I mean the residue of the nutriment, by waste-product that which is given off from the tissues by an unnatural decomposition.)

Now that semen cannot be a part of the body is plain, for it is homogeneous, and from the homogeneous nothing is composed, e.g. from only sinew or only flesh; nor is it separated as are all the other parts. But neither is it contrary to Nature nor a defect, for it exists in all alike, and the development of the young animal comes from it. Nutriment, again, is obviously introduced from without.

It remains, then, that it must be either a waste-product or a secretion or excretion. Now the ancients seem to think that it is a waste-product, for when they say that it comes from all the body by reason of the heat of the movement of the body in copulation, they imply that it is a kind of waste-product. But these are contrary to Nature, and from such arises nothing according to Nature. So then it must be a secretion or excretion.

But, to go further into it, every secretion or excretion is either of useless or useful nutriment; by ‘useless’ I mean that from which nothing further is contributed to natural growth, but which is particularly mischievous to the body if too much of it is consumed; by ‘useful’ I mean the opposite. Now it is evident that it cannot be of the former character, for such is most abundant in persons of the worst condition of body through age or sickness; semen, on the contrary, is least abundant in them for either they have none at all or it is not fertile, because a useless and morbid secretion is mingled with it.

Semen, then, is part of a useful secretion. But the most useful is the last and that from which finally is formed each of the parts of the body. For secretions are either earlier or later; of the nutriment in the first stage the secretion is phlegm and the like, for phlegm also is a secretion of the useful nutriment, an indication of this being that if it is mixed with pure nutriment it is nourishing, and that it is used up in cases of illness. The final secretion is the smallest in proportion to the quantity of nutriment. But we must reflect that the daily nutriment by which animals and plants grow is but small, for if a very little be added continually to the same thing the size of it will become excessive.

So we must say the opposite of what the ancients said. For whereas they said that semen is that which comes from all the body, we shall say it is that whose nature is to go to all of it, and what they thought a waste-product seems rather to be a secretion. For it is more reasonable to suppose that the last extract of the nutriment which goes to all parts resembles that which is left over from it, just as part of a painter's colour is often left over resembling that which he has used up. Waste-products, on the contrary, are always due to corruption or decay and to a departure from Nature.

A further proof that it is not a waste-product, but rather a secretion, is the fact that the large animals have few young, the small many. For the large must have more waste and less secretion, since the great size of the body causes most of the nutriment to be used up, so that the residue or secretion is small.

Again, no place has been set apart by Nature for waste-products but they flow wherever they can find an easy passage in the body, but a place has been set apart for all the natural secretions; thus the lower intestine serves for the excretion of the solid nutriment, the bladder for that of the liquid; for the useful part of the nutriment we have the upper intestine, for the spermatic secretions the uterus and pudenda and breasts, for it is collected and flows together into them.

And the resulting phenomena are evidence that semen is what we have said, and these result because such is the nature of the secretion. For the exhaustion consequent on the loss of even a very little of the semen is conspicuous because the body is deprived of the ultimate gain drawn from the nutriment. With some few persons, it is true, during a short time in the flower of their youth the loss of it, if it be excessive in quantity, is an alleviation (just as in the case of the nutriment in its first stage, if too much have been taken, since getting rid of this also makes the body more comfortable), and so it may be also when other secretions come away with it, for in that case it is not only semen that is lost but also other influences come away mingled with it, and these are morbid. Wherefore, with some men at least, that which comes from them proves sometimes incapable of procreation because the seminal element in it is so small. But still in most men and as a general rule the result of intercourse is exhaustion and weakness rather than relief, for the reason given. Moreover, semen does not exist in them either in childhood or in old age or in sickness — in the last case because of weakness, in old age because they do not sufficiently concoct their food, and in childhood because they are growing and so all the nutriment is used up too soon, for in about five years, in the case of human beings at any rate, the body seems to gain half the height that is gained in all the rest of life.

In many animals and plants we find a difference in this connexion not only between kinds as compared with kinds, but also between similar individuals of the same kind as compared with each other, e.g. man with man or vine with vine. Some have much semen, others little, others again none at all, not through weakness but the contrary, at any rate in some cases. This is because the nutriment is used up to form the body, as with some human beings, who, being in good condition and developing much flesh or getting rather too fat, produce less semen and are less desirous of intercourse. Like this is what happens with those vines which ‘play the goat’, that is, luxuriate wantonly through too much nutrition, for he-goats when fat are less inclined to mount the female; for which reason they thin them before breeding from them, and say that the vines ‘play the goat’, so calling it from the condition of the goats. And fat people, women as well as men, appear to be less fertile than others from the fact that the secretion when in process of concoction turns to fat with those who are too well-nourished. For fat also is a healthy secretion due to good living.

In some cases no semen is produced at all, as by the willow and poplar. This condition is due to each of the two causes, weakness and strength; the former prevents concoction of the nutriment, the latter causes it to be all consumed, as said above. In like manner other animals produce much semen through weakness as well as through strength, when a great quantity of a useless secretion is mixed with it; this sometimes results in actual disease when a passage is not found to carry off the impurity, and though some recover of this, others actually die of it. For corrupt humours collect here as in the urine, which also has been known to cause disease.

[Further the same passage serves for urine and semen; and whatever animals have both kinds of excrement, that of liquid and that of solid nutriment, discharge the semen by the same passage as the liquid excrement (for it is a secretion of a liquid, since the nutriment of all animals is rather liquid than solid), but those which have no liquid excrement discharge it at the passage of the solid residua. Moreover, waste-products are always morbid, but the removal of the secretion is useful; now the discharge of the semen participates in both characteristics because it takes up some of the non-useful nutriment. But if it were a waste-product it would be always harmful; as it is, it is not so.]

From what has been said, it is clear that semen is a secretion of useful nutriment, and that in its last stage, whether it is produced by all or no.

19

After this we must distinguish of what sort of nutriment it is a secretion, and must discuss the catamenia which occur in certain of the vivipara. For thus we shall make it clear (1) whether the female also produces semen like the male and the foetus is a single mixture of two semens, or whether no semen is secreted by the female, and, (2) if not, whether she contributes nothing else either to generation but only provides a receptacle, or whether she does contribute something, and, if so, how and in what manner she does so.

We have previously stated that the final nutriment is the blood in the sanguinea and the analogous fluid in the other animals. Since the semen is also a secretion of the nutriment, and that in its final stage, it follows that it will be either (1) blood or that which is analogous to blood, or (2) something formed from this. But since it is from the blood, when concocted and somehow divided up, that each part of the body is made, and since the semen if properly concocted is quite of a different character from the blood when it is separated from it, but if not properly concocted has been known in some cases to issue in a bloody condition if one forces oneself too often to coition, therefore it is plain that semen will be a secretion of the nutriment when reduced to blood, being that which is finally distributed to the parts of the body. And this is the reason why it has so great power, for the loss of the pure and healthy blood is an exhausting thing; for this reason also it is natural that the offspring should resemble the parents, for that which goes to all the parts of the body resembles that which is left over. So that the semen which is to form the hand or the face or the whole animal is already the hand or face or whole animal undifferentiated, and what each of them is actually such is the semen potentially, either in virtue of its own mass or because it has a certain power in itself. I mention these alternatives here because we have not yet made it clear from the distinctions drawn hitherto whether it is the matter of the semen that is the cause of generation, or whether it has in it some faculty and efficient cause thereof, for the hand also or any other bodily part is not hand or other part in a true sense if it be without soul or some other power, but is only called by the same name as the living hand.

On this subject, then, so much may be laid down. But since it is necessary (1) that the weaker animal also should have a secretion greater in quantity and less concocted, and (2) that being of such a nature it should be a mass of sanguineous liquid, and (3) since that which Nature endows with a smaller portion of heat is weaker, and (4) since it has already been stated that such is the character of the female — putting all these considerations together we see that the sanguineous matter discharged by the female is also a secretion. And such is the discharge of the so-called catamenia.

It is plain, then, that the catamenia are a secretion, and that they are analogous in females to the semen in males. The circumstances connected with them are evidence that this view is correct. For the semen begins to appear in males and to be emitted at the same time of life that the catamenia begin to flow in females, and that they change their voice and their breasts begin to develop. So, too, in the decline of life the generative power fails in the one sex and the catamenia in the other.

The following signs also indicate that this discharge in females is a secretion. Generally speaking women suffer neither from haemorrhoids nor bleeding at the nose nor anything else of the sort except when the catamenia are ceasing, and if anything of the kind occurs the flow is interfered with because the discharge is diverted to it.

Further, the blood-vessels of women stand out less than those of men, and women are rounder and smoother because the secretion which in men goes to these vessels is drained away with the catamenia. We must suppose, too, that the same cause accounts for the fact that the bulk of the body is smaller in females than in males among the vivipara, since this is the only class in which the catamenia are discharged from the body. And in this class the fact is clearest in women, for the discharge is greater in women than in the other animals. Wherefore her pallor and the absence of prominent blood-vessels is most conspicuous, and the deficient development of her body compared with a man's is obvious.

Now since this is what corresponds in the female to the semen in the male, and since it is not possible that two such discharges should be found together, it is plain that the female does not contribute semen to the generation of the offspring. For if she had semen she would not have the catamenia; but, as it is, because she has the latter she has not the former.

It has been stated then that the catamenia are a secretion as the semen is, and confirmation of this view may be drawn from some of the phenomena of animals. For fat creatures produce less semen than lean ones, as observed before. The reason is that fat also, like semen, is a secretion, is in fact concocted blood, only not concocted in the same way as the semen. Thus, if the secretion is consumed to form fat the semen is naturally deficient. And so among the bloodless animals the cephalopoda and crustacea are in best condition about the time of producing eggs, for, because they are bloodless and no fat is formed in them, that which is analogous in them to fat is at that season drawn off to form the spermatic secretion.

And a proof that the female does not emit similar semen to the male, and that the offspring is not formed by a mixture of both, as some say, is that often the female conceives without the sensation of pleasure in intercourse, and if again the pleasure is experience by her no less than by the male and the two sexes reach their goal together, yet often no conception takes place unless the liquid of the so-called catamenia is present in a right proportion. Hence the female does not produce young if the catamenia are absent altogether, nor often when, they being present, the efflux still continues; but she does so after the purgation. For in the one case she has not the nutriment or material from which the foetus can be framed by the power coming from the male and inherent in the semen, and in the other it is washed away with the catamenia because of their abundance. But when after their occurrence the greater part has been evacuated, the remainder is formed into a foetus. Cases of conception when the catamenia do not occur at all, or of conception during their discharge instead of after it, are due to the fact that in the former instance there is only so much liquid to begin with as remains behind after the discharge in fertile women, and no greater quantity is secreted so as to come away from the body, while in the latter instance the mouth of the uterus closes after the discharge. When, therefore, the quantity already expelled from the body is great but the discharge still continues, only not on such a scale as to wash away the semen, then it is that conception accompanies coition. Nor is it at all strange that the catamenia should still continue after conception (for even after it they recur to some extent, but are scanty and do not last during all the period of gestation; this, however, is a morbid phenomenon, wherefore it is found only in a few cases and then seldom, whereas it is that which happens as a regular thing that is according to Nature).

It is clear then that the female contributes the material for generation, and that this is in the substance of the catamenia, and that they are a secretion.

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Some think that the female contributes semen in coition because the pleasure she experiences is sometimes similar to that of the male, and also is attended by a liquid discharge. But this discharge is not seminal; it is merely proper to the part concerned in each case, for there is a discharge from the uterus which occurs in some women but not in others. It is found in those who are fair-skinned and of a feminine type generally, but not in those who are dark and of a masculine appearance. The amount of this discharge, when it occurs, is sometimes on a different scale from the emission of semen and far exceeds it. Moreover, different kinds of food cause a great difference in the quantity of such discharges; for instance some pungently-flavoured foods cause them to be conspicuously increased. And as to the pleasure which accompanies coition it is due to emission not only of semen, but also of a spiritus, the coming together of which precedes the emission. This is plain in the case of boys who are not yet able to emit semen, but are near the proper age, and of men who are impotent, for all these are capable of pleasure by attrition. And those who have been injured in the generative organs sometimes suffer from diarrhoea because the secretion, which they are not able to concoct and turn into semen, is diverted into the intestine. Now a boy is like a woman in form, and the woman is as it were an impotent male, for it is through a certain incapacity that the female is female, being incapable of concocting the nutriment in its last stage into semen (and this is either blood or that which is analogous to it in animals which are bloodless owing to the coldness of their nature). As then diarrhoea is caused in the bowels by the insufficient concoction of the blood, so are caused in the blood-vessels all discharges of blood, including that of the catamenia, for this also is such a discharge, only it is natural whereas the others are morbid.

Thus it is clear that it is reasonable to suppose that generation comes from this. For the catamenia are semen not in a pure state but in need of working up, as in the formation of fruits the nutriment is present, when it is not yet sifted thoroughly, but needs working up to purify it. Thus the catamenia cause generation mixture with the semen, as this impure nutriment in plants is nutritious when mixed with pure nutriment.

And a sign that the female does not emit semen is the fact that the pleasure of intercourse is caused by touch in the same region of the female as of the male; and yet is it not from thence that this flow proceeds. Further, it is not all females that have it at all, but only the sanguinea, and not all even of these, but only those whose uterus is not near the hypozoma and which do not lay eggs; it is not found in the animals which have no blood but only the analogous fluid (for what is blood in the former is represented by another fluid in the latter). The reason why neither the latter nor those sanguinea mentioned (i.e. those whose uterus is low and which do not lay eggs) have this effluxion is the dryness of their bodies; this allows but little matter to be secreted, only enough for generation but not enough to be discharged from the body. All animals that are viviparous without producing eggs first (such are man and all quadrupeds which bend their hind-legs outwards, for all these are viviparous without producing eggs) — all these have the catamenia, unless they are defective in development as the mule, only the efflux is not abundant as in women. Details of the facts in each animal have been given in the Enquiries concerning animals.

The catamenia are more abundant in women than in the other animals, and men emit the most semen in proportion to their size. The reason is that the composition of their bodies is liquid and hot compared to others, for more matter must be secreted in such a case. Further, man has no such parts in his body as those to which the superfluous matter is diverted in the other animals; for he has no great quantity of hair in proportion to his body, nor outgrowths of bones, horns, and teeth.

There is evidence that the semen is in the catamenia, for, as said before, this secretion appears in the male at the same time of life as the catamenia in the female; this indicates that the parts destined to receive each of these secretions are differentiated at the same time in both sexes; and as the neighboring parts in both become swollen the hair of puberty springs forth in both alike. As the parts in question are on the point of differentiating they are distended by the spiritus; this is clearer in males in the testes, but appears also about the breasts; in females it is more marked in the breasts, for it is when they have risen two fingers' breadth that the catamenia generally begin.

Now, in all living things in which the male and female are not separated the semen (or seed) is a sort of embryo; by embryo I mean the first mixture of male and female; hence, from one semen comes one bodys — for example, one stalk of wheat from one grain, as one animal from one egg (for twin eggs are really two eggs). But in whatever kinds the sexes are distinguished, in these many animals may come from one emission of semen, showing that the semen differs in its nature in plants and animals. A proof of this is that animals which can bear more than one young one at a time do so in consequence of only one coition. Whereby, too, it is plain that the semen does not come from the whole of the body; for neither would the different parts of the semen already be separated as soon as discharged from the same part, nor could they be separated in the uterus if they had once entered it all together; but what does happen is just what one would expect, since what the male contributes to generation is the form and the efficient cause, while the female contributes the material. In fact, as in the coagulation of milk, the milk being the material, the fig-juice or rennet is that which contains the curdling principle, so acts the secretion of the male, being divided into parts in the female. Why it is sometimes divided into more or fewer parts, and sometimes not divided at all, will be the subject of another discussion. But because it does not differ in kind at any rate this does not matter, but what does matter is only that each part should correspond to the material, being neither too little to concoct it and fix it into form, nor too much so as to dry it up; it then generates a number of offspring. But from this first formative semen, if it remains one, and is not divided, only one young one comes into being.

That, then, the female does not contribute semen to generation, but does contribute something, and that this is the matter of the catamenia, or that which is analogous to it in bloodless animals, is clear from what has been said, and also from a general and abstract survey of the question. For there must needs be that which generates and that from which it generates; even if these be one, still they must be distinct in form and their essence must be different; and in those animals that have these powers separate in two sexes the body and nature of the active and the passive sex must also differ. If, then, the male stands for the effective and active, and the female, considered as female, for the passive, it follows that what the female would contribute to the semen of the male would not be semen but material for the semen to work upon. This is just what we find to be the case, for the catamenia have in their nature an affinity to the primitive matter.

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So much for the discussion of this question. At the same time the answer to the next question we have to investigate is clear from these considerations, I mean how it is that the male contributes to generation and how it is that the semen from the male is the cause of the offspring. Does it exist in the body of the embryo as a part of it from the first, mingling with the material which comes from the female? Or does the semen communicate nothing to the material body of the embryo but only to the power and movement in it? For this power is that which acts and makes, while that which is made and receives the form is the residue of the secretion in the female. Now the latter alternative appears to be the right one both a priori and in view of the facts. For, if we consider the question on general grounds, we find that, whenever one thing is made from two of which one is active and the other passive, the active agent does not exist in that which is made; and, still more generally, the same applies when one thing moves and another is moved; the moving thing does not exist in that which is moved. But the female, as female, is passive, and the male, as male, is active, and the principle of the movement comes from him. Therefore, if we take the highest genera under which they each fall, the one being active and motive and the other passive and moved, that one thing which is produced comes from them only in the sense in which a bed comes into being from the carpenter and the wood, or in which a ball comes into being from the wax and the form. It is plain then that it is not necessary that anything at all should come away from the male, and if anything does come away it does not follow that this gives rise to the embryo as being in the embryo, but only as that which imparts the motion and as the form; so the medical art cures the patient.

This a priori argument is confirmed by the facts. For it is for this reason that some males which unite with the female do not, it appears, insert any part of themselves into the female, but on the contrary the female inserts a part of herself into the male; this occurs in some insects. For the effect produced by the semen in the female (in the case of those animals whose males do insert a part) is produced in the case of these insects by the heat and power in the male animal itself when the female inserts that part of herself which receives the secretion. And therefore such animals remain united a long time, and when they are separated the young are produced quickly. For the union lasts until that which is analogous to the semen has done its work, and when they separate the female produces the embryo quickly; for the young is imperfect inasmuch as all such creatures give birth to scoleces.

What occurs in birds and oviparous fishes is the greatest proof that neither does the semen come from all parts of the male nor does he emit anything of such a nature as to exist within that which is generated, as part of the material embryo, but that he only makes a living creature by the power which resides in the semen (as we said in the case of those insects whose females insert a part of themselves into the male). For if a hen-bird is in process of producing wind-eggs and is then trodden by the cock before the egg has begun to whiten and while it is all still yellow, then they become fertile instead of being wind-eggs. And if while it is still yellow she be trodden by another cock, the whole brood of chicks turn out like the second cock. Hence some of those who are anxious to rear fine birds act thus; they change the cocks for the first and second treading, not as if they thought that the semen is mingled with the egg or exists in it, or that it comes from all parts of the cock; for if it did it would have come from both cocks, so that the chick would have all its parts doubled. But it is by its force that the semen of the male gives a certain quality to the material and the nutriment in the female, for the second semen added to the first can produce this effect by heat and concoction, as the egg acquires nutriment so long as it is growing.

The same conclusion is to be drawn from the generation of oviparous fishes. When the female has laid her eggs, the male spinkles the milt over them, and those eggs are fertilized which it reaches, but not the others; this shows that the male does not contribute anything to the quantity but only to the quality of the embryo.

From what has been said it is plain that the semen does not come from the whole of the body of the male in those animals which emit it, and that the contribution of the female to the generative product is not the same as that of the male, but the male contributes the principle of movement and the female the material. This is why the female does not produce offspring by herself, for she needs a principle, i.e. something to begin the movement in the embryo and to define the form it is to assume. Yet in some animals, as birds, the nature of the female unassisted can generate to a certain extent, for they do form something, only it is incomplete; I mean the so-called wind-eggs.

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For the same reason the development of the embryo takes place in the female; neither the male himself nor the female emits semen into the male, but the female receives within herself the share contributed by both, because in the female is the material from which is made the resulting product. Not only must the mass of material exist there from which the embryo is formed in the first instance, but further material must constantly be added that it may increase in size. Therefore the birth must take place in the female. For the carpenter must keep in close connexion with his timber and the potter with his clay, and generally all workmanship and the ultimate movement imparted to matter must be connected with the material concerned, as, for instance, architecture is in the buildings it makes.

From these considerations we may also gather how it is that the male contributes to generation. The male does not emit semen at all in some animals, and where he does this is no part of the resulting embryo; just so no material part comes from the carpenter to the material, i.e. the wood in which he works, nor does any part of the carpenter’s art exist within what he makes, but the shape and the form are imparted from him to the material by means of the motion he sets up. It is his hands that move his tools, his tools that move the material; it is his knowledge of his art, and his soul, in which is the form, that moves his hands or any other part of him with a motion of some definite kind, a motion varying with the varying nature of the object made. In like manner, in the male of those animals which emit semen Nature uses the semen as a tool and as possessing motion in actuality, just as tools are used in the products of any art, for in them lies in a certain sense the motion of the art. Such, then, is the way in which these males contribute to generation. But when the male does not emit semen, but the female inserts some part of herself into the male, this is parallel to a case in which a man should carry the material to the workman. For by reason of weakness in such males Nature is not able to do anything by any secondary means, but the movements imparted to the material are scarcely strong enough when Nature herself watches over them. Thus here she resembles a modeller in clay rather than a carpenter, for she does not touch the work she is forming by means of tools, but, as it were, with her own hands.

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In all animals which can move about, the sexes are separated, one individual being male and one female, though both are the same in species, as with man and horse. But in plants these powers are mingled, female not being separated from male. Wherefore they generate out of themselves, and do not emit semen but produce an embryo, what is called the seed. Empedocles puts this well in the line: ‘and thus the tall trees oviposit; first olives...’ For as the egg is an embryo, a certain part of it giving rise to the animal and the rest being nutriment, so also from a part of the seed springs the growing plant, and the rest is nutriment for the shoot and the first root.

In a certain sense the same thing happens also in those animals which have the sexes separate. For when there is need for them to generate the sexes are no longer separated any more than in plants, their nature desiring that they shall become one; and this is plain to view when they copulate and are united, that one animal is made out of both.

It is the nature of those creatures which do not emit semen to remain united a long time until the male element has formed the embryo, as with those insects which copulate. The others so remain only until the male has discharged from the parts of himself introduced something which will form the embryo in a longer time, as among the sanguinea. For the former remain paired some part of a day, while the semen forms the embryo in several days. And after emitting this they cease their union.

And animals seem literally to be like divided plants, as though one should separate and divide them, when they bear seed, into the male and female existing in them.

In all this Nature acts like an intelligent workman. For to the essence of plants belongs no other function or business than the production of seed; since, then, this is brought about by the union of male and female, Nature has mixed these and set them together in plants, so that the sexes are not divided in them. Plants, however, have been investigated elsewhere. But the function of the animal is not only to generate (which is common to all living things), but they all of them participate also in a kind of knowledge, some more and some less, and some very little indeed. For they have sense-perception, and this is a kind of knowledge. (If we consider the value of this we find that it is of great importance compared with the class of lifeless objects, but of little compared with the use of the intellect. For against the latter the mere participation in touch and taste seems to be practically nothing, but beside absolute insensibility it seems most excellent; for it would seem a treasure to gain even this kind of knowledge rather than to lie in a state of death and non-existence.) Now it is by sense-perception that an animal differs from those organisms which have only life. But since, if it is a living animal, it must also live; therefore, when it is necessary for it to accomplish the function of that which has life, it unites and copulates, becoming like a plant, as we said before.

Testaceous animals, being intermediate between animals and plants, perform the function of neither class as belonging to both. As plants they have no sexes, and one does not generate in another; as animals they do not bear fruit from themselves like plants; but they are formed and generated from a liquid and earthy concretion. However, we must speak later of the generation of these animals.

Book II

1

THAT the male and the female are the principles of generation has been previously stated, as also what is their power and their essence. But why is it that one thing becomes and is male, another female? It is the business of our discussion as it proceeds to try and point out (1) that the sexes arise from Necessity and the first efficient cause, (2) from what sort of material they are formed. That (3) they exist because it is better and on account of the final cause, takes us back to a principle still further remote.

Now (1) some existing things are eternal and divine whilst others admit of both existence and non-existence. But (2) that which is noble and divine is always, in virtue of its own nature, the cause of the better in such things as admit of being better or worse, and what is not eternal does admit of existence and non-existence, and can partake in the better and the worse. And (3) soul is better than body, and living, having soul, is thereby better than the lifeless which has none, and being is better than not being, living than not living. These, then, are the reasons of the generation of animals. For since it is impossible that such a class of things as animals should be of an eternal nature, therefore that which comes into being is eternal in the only way possible. Now it is impossible for it to be eternal as an individual (though of course the real essence of things is in the individual) — were it such it would be eternal — but it is possible for it as a species. This is why there is always a class of men and animals and plants. But since the male and female essences are the first principles of these, they will exist in the existing individuals for the sake of generation. Again, as the first efficient or moving cause, to which belong the definition and the form, is better and more divine in its nature than the material on which it works, it is better that the superior principle should be separated from the inferior. Therefore, wherever it is possible and so far as it is possible, the male is separated from the female. For the first principle of the movement, or efficient cause, whereby that which comes into being is male, is better and more divine than the material whereby it is female. The male, however, comes together and mingles with the female for the work of generation, because this is common to both.

A thing lives, then, in virtue of participating in the male and female principles, wherefore even plants have some kind of life; but the class of animals exists in virtue of sense-perception. The sexes are divided in nearly all of these that can move about, for the reasons already stated, and some of them, as said before, emit semen in copulation, others not. The reason of this is that the higher animals are more independent in their nature, so that they have greater size, and this cannot exist without vital heat; for the greater body requires more force to move it, and heat is a motive force. Therefore, taking a general view, we may say that sanguinea are of greater size than bloodless animals, and those which move about than those which remain fixed. And these are just the animals which emit semen on account of their heat and size.

So much for the cause of the existence of the two sexes. Some animals bring to perfection and produce into the world a creature like themselves, as all those which bring their young into the world alive; others produce something undeveloped which has not yet acquired its own form; in this latter division the sanguinea lay eggs, the bloodless animals either lay an egg or give birth to a scolex. The difference between egg and scolex is this: an egg is that from a part of which the young comes into being, the rest being nutriment for it; but the whole of a scolex is developed into the whole of the young animal. Of the vivipara, which bring into the world an animal like themselves, some are internally viviparous (as men, horses, cattle, and of marine animals dolphins and the other cetacea); others first lay eggs within themselves, and only after this are externally viviparous (as the cartilaginous fishes). Among the ovipara some produce the egg in a perfect condition (as birds and all oviparous quadrupeds and footless animals, e.g. lizards and tortoises and most snakes; for the eggs of all these do not increase when once laid). The eggs of others are imperfect; such are those of fishes, crustaceans, and cephalopods, for their eggs increase after being produced.

All the vivipara are sanguineous, and the sanguinea are either viviparous or oviparous, except those which are altogether infertile. Among bloodless animals the insects produce a scolex, alike those that are generated by copulation and those that copulate themselves though not so generated. For there are some insects of this sort, which though they come into being by spontaneous generation are yet male and female; from their union something is produced, only it is imperfect; the reason of this has been previously stated.

These classes admit of much cross-division. Not all bipeds are viviparous (for birds are oviparous), nor are they all oviparous (for man is viviparous), nor are all quadrupeds oviparous (for horses, cattle, and countless others are viviparous), nor are they all viviparous (for lizards, crocodiles, and many others lay eggs). Nor does the presence or absence of feet make the difference between them, for not only are some footless animals viviparous, as vipers and the cartilaginous fishes, while others are oviparous, as the other fishes and serpents, but also among those which have feet many are oviparous and many viviparous, as the quadrupeds above mentioned. And some which have feet, as man, and some which have not, as the whale and dolphin, are internally viviparous. By this character then it is not possible to divide them, nor is any of the locomotive organs the cause of this difference, but it is those animals which are more perfect in their nature and participate in a purer element which are viviparous, for nothing is internally viviparous unless it receive and breathe out air. But the more perfect are those which are hotter in their nature and have more moisture and are not earthy in their composition. And the measure of natural heat is the lung when it has blood in it, for generally those animals which have a lung are hotter than those which have not, and in the former class again those whose lung is not spongy nor solid nor containing only a little blood, but soft and full of blood. And as the animal is perfect but the egg and the scolex are imperfect, so the perfect is naturally produced from the more perfect. If animals are hotter as shown by their possessing a lung but drier in their nature, or are colder but have more moisture, then they either lay a perfect egg or are viviparous after laying an egg within themselves. For birds and scaly reptiles because of their heat produce a perfect egg, but because of their dryness it is only an egg; the cartilaginous fishes have less heat than these but more moisture, so that they are intermediate, for they are both oviparous and viviparous within themselves, the former because they are cold, the latter because of their moisture; for moisture is vivifying, whereas dryness is furthest removed from what has life. Since they have neither feathers nor scales such as either reptiles or other fishes have, all which are signs rather of a dry and earthy nature, the egg they produce is soft; for the earthy matter does not come to the surface in their eggs any more than in themselves. This is why they lay eggs in themselves, for if the egg were laid externally it would be destroyed, having no protection.

Animals that are cold and rather dry than moist also lay eggs, but the egg is imperfect; at the same time, because they are of an earthy nature and the egg they produce is imperfect, therefore it has a hard integument that it may be preserved by the protection of the shell-like covering. Hence fishes, because they are scaly, and crustacea, because they are of an earthy nature, lay eggs with a hard integument.

The cephalopods, having themselves bodies of a sticky nature, preserve in the same way the imperfect eggs they lay, for they deposit a quantity of sticky material about the embryo. All insects produce a scolex. Now all the insects are bloodless, wherefore all creatures that produce a scolex from themselves are so. But we cannot say simply that all bloodless animals produce a scolex, for the classes overlap one another, (1) the insects, (2) the animals that produce a scolex, (3) those that lay their egg imperfect, as the scaly fishes, the crustacea, and the cephalopoda. I say that these form a gradation, for the eggs of these latter resemble a scolex, in that they increase after oviposition, and the scolex of insects again as it develops resembles an egg; how so we shall explain later.

We must observe how rightly Nature orders generation in regular gradation. The more perfect and hotter animals produce their young perfect in respect of quality (in respect of quantity this is so with no animal, for the young always increase in size after birth), and these generate living animals within themselves from the first. The second class do not generate perfect animals within themselves from the first (for they are only viviparous after first laying eggs), but still they are externally viviparous. The third class do not produce a perfect animal, but an egg, and this egg is perfect. Those whose nature is still colder than these produce an egg, but an imperfect one, which is perfected outside the body, as the class of scaly fishes, the crustacea, and the cephalopods. The fifth and coldest class does not even lay an egg from itself; but so far as the young ever attain to this condition at all, it is outside the body of the parent, as has been said already. For insects produce a scolex first; the scolex after developing becomes egg-like (for the so-called chrysalis or pupa is equivalent to an egg); then from this it is that a perfect animal comes into being, reaching the end of its development in the second change.

Some animals then, as said before, do not come into being from semen, but all the sanguinea do so which are generated by copulation, the male emitting semen into the female when this has entered into her the young are formed and assume their peculiar character, some within the animals themselves when they are viviparous, others in eggs.

There is a considerable difficulty in understanding how the plant is formed out of the seed or any animal out of the semen. Everything that comes into being or is made must (1) be made out of something, (2) be made by the agency of something, and (3) must become something. Now that out of which it is made is the material; this some animals have in its first form within themselves, taking it from the female parent, as all those which are not born alive but produced as a scolex or an egg; others receive it from the mother for a long time by sucking, as the young of all those which are not only externally but also internally viviparous. Such, then, is the material out of which things come into being, but we now are inquiring not out of what the parts of an animal are made, but by what agency. Either it is something external which makes them, or else something existing in the seminal fluid and the semen; and this must either be soul or a part of soul, or something containing soul.

Now it would appear irrational to suppose that any of either the internal organs or the other parts is made by something external, since one thing cannot set up a motion in another without touching it, nor can a thing be affected in any way by another if it does not set up a motion in it. Something then of the sort we require exists in the embryo itself, being either a part of it or separate from it. To suppose that it should be something else separate from it is irrational. For after the animal has been produced does this something perish or does it remain in it? But nothing of the kind appears to be in it, nothing which is not a part of the whole plant or animal. Yet, on the other hand, it is absurd to say that it perishes after making either all the parts or only some of them. If it makes some of the parts and then perishes, what is to make the rest of them? Suppose this something makes the heart and then perishes, and the heart makes another organ, by the same argument either all the parts must perish or all must remain. Therefore it is preserved and does not perish. Therefore it is a part of the embryo itself which exists in the semen from the beginning; and if indeed there is no part of the soul which does not exist in some part of the body, it would also be a part containing soul in it from the beginning.

How, then, does it make the other parts? Either all the parts, as heart, lung, liver, eye, and all the rest, come into being together or in succession, as is said in the verse ascribed to Orpheus, for there he says that an animal comes into being in the same way as the knitting of a net. That the former is not the fact is plain even to the senses, for some of the parts are clearly visible as already existing in the embryo while others are not; that it is not because of their being too small that they are not visible is clear, for the lung is of greater size than the heart, and yet appears later than the heart in the original development. Since, then, one is earlier and another later, does the one make the other, and does the later part exist on account of the part which is next to it, or rather does the one come into being only after the other? I mean, for instance, that it is not the fact that the heart, having come into being first, then makes the liver, and the liver again another organ, but that the liver only comes into being after the heart, and not by the agency of the heart, as a man becomes a man after being a boy, not by his agency. An explanation of this is that, in all the productions of Nature or of art, what already exists potentially is brought into being only by what exists actually; therefore if one organ formed another the form and the character of the later organ would have to exist in the earlier, e.g. the form of the liver in the heart. And otherwise also the theory is strange and fictitious.

Yet again, if the whole animal or plant is formed from semen or seed, it is impossible that any part of it should exist ready made in the semen or seed, whether that part be able to make the other parts or no. For it is plain that, if it exists in it from the first, it was made by that which made the semen. But semen must be made first, and that is the function of the generating parent. So, then, it is not possible that any part should exist in it, and therefore it has not within itself that which makes the parts.

But neither can this agent be external, and yet it must needs be one or other of the two. We must try, then, to solve this difficulty, for perhaps some one of the statements made cannot be made without qualification, e.g. the statement that the parts cannot be made by what is external to the semen. For if in a certain sense they cannot, yet in another sense they can. (Now it makes no difference whether we say ‘the semen’ or ‘that from which the semen comes’, in so far as the semen has in itself the movement initiated by the other.)

It is possible, then, that A should move B, and B move C; that, in fact, the case should be the same as with the automatic machines shown as curiosities. For the parts of such machines while at rest have a sort of potentiality of motion in them, and when any external force puts the first of them in motion, immediately the next is moved in actuality. As, then, in these automatic machines the external force moves the parts in a certain sense (not by touching any part at the moment, but by having touched one previously), in like manner also that from which the semen comes, or in other words that which made the semen, sets up the movement in the embryo and makes the parts of it by having first touched something though not continuing to touch it. In a way it is the innate motion that does this, as the act of building builds the house. Plainly, then, while there is something which makes the parts, this does not exist as a definite object, nor does it exist in the semen at the first as a complete part.

But how is each part formed? We must answer this by starting in the first instance from the principle that, in all products of Nature or art, a thing is made by something actually existing out of that which is potentially such as the finished product. Now the semen is of such a nature, and has in it such a principle of motion, that when the motion is ceasing each of the parts comes into being, and that as a part having life or soul. For there is no such thing as face or flesh without life or soul in it; it is only equivocally that they will be called face or flesh if the life has gone out of them, just as if they had been made of stone or wood. And the homogeneous parts and the organic come into being together. And just as we should not say that an axe or other instrument or organ was made by the fire alone, so neither shall we say that foot or hand were made by heat alone. The same applies also to flesh, for this too has a function. While, then, we may allow that hardness and softness, stickiness and brittleness, and whatever other qualities are found in the parts that have life and soul, may be caused by mere heat and cold, yet, when we come to the principle in virtue of which flesh is flesh and bone is bone, that is no longer so; what makes them is the movement set up by the male parent, who is in actuality what that out of which the offspring is made is in potentiality. This is what we find in the products of art; heat and cold may make the iron soft and hard, but what makes a sword is the movement of the tools employed, this movement containing the principle of the art. For the art is the starting-point and form of the product; only it exists in something else, whereas the movement of Nature exists in the product itself, issuing from another nature which has the form in actuality.

Has the semen soul, or not? The same argument applies here as in the question concerning the parts. As no part, if it participate not in soul, will be a part except in an equivocal sense (as the eye of a dead man is still called an ‘eye’), so no soul will exist in anything except that of which it is soul; it is plain therefore that semen both has soul, and is soul, potentially.

But a thing existing potentially may be nearer or further from its realization in actuality, as e.g. a mathematician when asleep is further from his realization in actuality as engaged in mathematics than when he is awake, and when awake again but not studying mathematics he is further removed than when he is so studying. Accordingly it is not any part that is the cause of the soul’s coming into being, but it is the first moving cause from outside. (For nothing generates itself, though when it has come into being it thenceforward increases itself.) Hence it is that only one part comes into being first and not all of them together. But that must first come into being which has a principle of increase (for this nutritive power exists in all alike, whether animals or plants, and this is the same as the power that enables an animal or plant to generate another like itself, that being the function of them all if naturally perfect). And this is necessary for the reason that whenever a living thing is produced it must grow. It is produced, then, by something else of the same name, as e.g. man is produced by man, but it is increased by means of itself. There is, then, something which increases it. If this is a single part, this must come into being first. Therefore if the heart is first made in some animals, and what is analogous to the heart in the others which have no heart, it is from this or its analogue that the first principle of movement would arise.

We have thus discussed the difficulties previously raised on the question what is the efficient cause of generation in each case, as the first moving and formative power.

2

The next question to be mooted concerns the nature of semen. For whereas when it issues from the animal it is thick and white, yet on cooling it becomes liquid as water, and its colour is that of water. This would appear strange, for water is not thickened by heat; yet semen is thick when it issues from within the animal’s body which is hot, and becomes liquid on cooling. Again, watery fluids freeze, but semen, if exposed in frosts to the open air, does not freeze but liquefies, as if it was thickened by the opposite of cold. Yet it is unreasonable, again, to suppose that it is thickened by heat. For it is only substances having a predominance of earth in their composition that coagulate and thicken on boiling, e.g. milk. It ought then to solidify on cooling, but as a matter of fact it does not become solid in any part but the whole of it goes like water.

This then is the difficulty. If it is water, water evidently does not thicken through heat, whereas the semen is thick and both it and the body whence it issues are hot. If it is made of earth or a mixture of earth and water, it ought not to liquefy entirely and turn to water.

Perhaps, however, we have not discriminated all the possibilities. It is not only the liquids composed of water and earthy matter that thicken, but also those composed of water and air; foam, for instance, becomes thicker and white, and the smaller and less visible the bubbles in it, the whiter and firmer does the mass appear. The same thing happens also with oil; on mixing with air it thickens, wherefore that which is whitening becomes thicker, the watery part in it being separated off by the heat and turning to air. And if oxide of lead is mixed with water or even with oil, the mass increases greatly and changes from liquid and dark to firm and white, the reason being that air is mixed in with it which increases the mass and makes the white shine through, as in foam and snow (for snow is foam). And water itself on mingling with oil becomes thick and white, because air is entangled in it by the act of pounding them together, and oil itself has much air in it (for shininess is a property of air, not of earth or water). This too is why it floats on the surface of the water, for the air contained in it as in a vessel bears it up and makes it float, being the cause of its lightness. So too oil is thickened without freezing in cold weather and frosts; it does not freeze because of its heat (for the air is hot and will not freeze), but because the air is forced together and compressed, as..., by the cold, the oil becomes thicker. These are the reasons why semen is firm and white when it issues from within the animal; it has a quantity of hot air in it because of the internal heat; afterwards, when the heat has evaporated and the air has cooled, it turns liquid and dark; for the water, and any small quantity of earthy matter there may be, remain in semen as it dries, as they do in phlegm.

Semen, then, is a compound of spirit (pneuma) and water, and the former is hot air (aerh); hence semen is liquid in its nature because it is made of water. What Ctesias the Cnidian has asserted of the semen of elephants is manifestly untrue; he says that it hardens so much in drying that it becomes like amber. But this does not happen, though it is true that one semen must be more earthy than another, and especially so with animals that have much earthy matter in them because of the bulk of their bodies. And it is thick and white because it is mixed with spirit, for it is also an invariable rule that it is white, and Herodotus does not report the truth when he says that the semen of the Aethiopians is black, as if everything must needs be black in those who have a black skin, and that too when he saw their teeth were white. The reason of the whiteness of semen is that it is a foam, and foam is white, especially that which is composed of the smallest parts, small in the sense that each bubble is invisible, which is what happens when water and oil are mixed and shaken together, as said before. (Even the ancients seem to have noticed that semen is of the nature of foam; at least it was from this they named the goddess who presides over union.)

This then is the explanation of the problem proposed, and it is plain too that this is why semen does not freeze; for air will not freeze.

3

The next question to raise and to answer is this. If, in the case of those animals which emit semen into the female, that which enters makes no part of the resulting embryo, where is the material part of it diverted if (as we have seen) it acts by means of the power residing in it? It is not only necessary to decide whether what is forming in the female receives anything material, or not, from that which has entered her, but also concerning the soul in virtue of which an animal is so called (and this is in virtue of the sensitive part of the soul) — does this exist originally in the semen and in the unfertilized embryo or not, and if it does whence does it come? For nobody would put down the unfertilized embryo as soulless or in every sense bereft of life (since both the semen and the embryo of an animal have every bit as much life as a plant), and it is productive up to a certain point. That then they possess the nutritive soul is plain (and plain is it from the discussions elsewhere about soul why this soul must be acquired first). As they develop they also acquire the sensitive soul in virtue of which an animal is an animal. For e.g. an animal does not become at the same time an animal and a man or a horse or any other particular animal. For the end is developed last, and the peculiar character of the species is the end of the generation in each individual. Hence arises a question of the greatest difficulty, which we must strive to solve to the best of our ability and as far as possible. When and how and whence is a share in reason acquired by those animals that participate in this principle? It is plain that the semen and the unfertilized embryo, while still separate from each other, must be assumed to have the nutritive soul potentially, but not actually, except that (like those unfertilized embryos that are separated from the mother) it absorbs nourishment and performs the function of the nutritive soul. For at first all such embryos seem to live the life of a plant. And it is clear that we must be guided by this in speaking of the sensitive and the rational soul. For all three kinds of soul, not only the nutritive, must be possessed potentially before they are possessed in actuality. And it is necessary either (1) that they should all come into being in the embryo without existing previously outside it, or (2) that they should all exist previously, or (3), that some should so exist and others not. Again, it is necessary that they should either (1) come into being in the material supplied by the female without entering with the semen of the male, or (2) come from the male and be imparted to the material in the female. If the latter, then either all of them, or none, or some must come into being in the male from outside.

Now that it is impossible for them all to preexist is clear from this consideration. Plainly those principles whose activity is bodily cannot exist without a body, e.g. walking cannot exist without feet. For the same reason also they cannot enter from outside. For neither is it possible for them to enter by themselves, being inseparable from a body, nor yet in a body, for the semen is only a secretion of the nutriment in process of change. It remains, then, for the reason alone so to enter and alone to be divine, for no bodily activity has any connexion with the activity of reason.

Now it is true that the faculty of all kinds of soul seems to have a connexion with a matter different from and more divine than the so-called elements; but as one soul differs from another in honour and dishonour, so differs also the nature of the corresponding matter. All have in their semen that which causes it to be productive; I mean what is called vital heat. This is not fire nor any such force, but it is the spiritus included in the semen and the foam-like, and the natural principle in the spiritus, being analogous to the element of the stars. Hence, whereas fire generates no animal and we do not find any living thing forming in either solids or liquids under the influence of fire, the heat of the sun and that of animals does generate them. Not only is this true of the heat that works through the semen, but whatever other residuum of the animal nature there may be, this also has still a vital principle in it. From such considerations it is clear that the heat in animals neither is fire nor derives its origin from fire.

Let us return to the material of the semen, in and with which comes away from the male the spiritus conveying the principle of soul. Of this principle there are two kinds; the one is not connected with matter, and belongs to those animals in which is included something divine (to wit, what is called the reason), while the other is inseparable from matter. This material of the semen dissolves and evaporates because it has a liquid and watery nature. Therefore we ought not to expect it always to come out again from the female or to form any part of the embryo that has taken shape from it; the case resembles that of the fig-juice which curdles milk, for this too changes without becoming any part of the curdling masses.

It has been settled, then, in what sense the embryo and the semen have soul, and in what sense they have not; they have it potentially but not actually.

Now semen is a secretion and is moved with the same movement as that in virtue of which the body increases (this increase being due to subdivision of the nutriment in its last stage). When it has entered the uterus it puts into form the corresponding secretion of the female and moves it with the same movement wherewith it is moved itself. For the female's contribution also is a secretion, and has all the arts in it potentially though none of them actually; it has in it potentially even those parts which differentiate the female from the male, for just as the young of mutilated parents are sometimes born mutilated and sometimes not, so also the young born of a female are sometimes female and sometimes male instead. For the female is, as it were, a mutilated male, and the catamenia are semen, only not pure; for there is only one thing they have not in them, the principle of soul. For this reason, whenever a wind-egg is produced by any animal, the egg so forming has in it the parts of both sexes potentially, but has not the principle in question, so that it does not develop into a living creature, for this is introduced by the semen of the male. When such a principle has ben imparted to the secretion of the female it becomes an embryo.

Liquid but corporeal substances become surrounded by some kind of covering on heating, like the solid scum which forms on boiled foods when cooling. All bodies are held together by the glutinous; this quality, as the embryo develops and increases in size, is acquired by the sinewy substance, which holds together the parts of animals, being actual sinew in some and its analogue in others. To the same class belong also skin, blood-vessels, membranes, and the like, for these differ in being more or less glutinous and generally in excess and deficiency.

4

In those animals whose nature is comparatively imperfect, when a perfect embryo (which, however, is not yet a perfect animal) has been formed, it is cast out from the mother, for reasons previously stated. An embryo is then complete when it is either male or female, in the case of those animals who possess this distinction, for some (i.e. all those which are not themselves produced from a male or female parent nor from a union of the two) produce an offspring which is neither male nor female. Of the generation of these we shall speak later.

The perfect animals, those internally viviparous, keep the developing embryo within themselves and in close connexion until they give birth to a complete animal and bring it to light.

A third class is externally viviparous but first internally oviparous; they develop the egg into a perfect condition, and then in some cases the egg is set free as with creatures externally oviparous, and the animal is produced from the egg within the mother's body; in other cases, when the nutriment from the egg is consumed, development is completed by connection with the uterus, and therefore the egg is not set free from the uterus. This character marks the cartilaginous fish, of which we must speak later by themselves.

Here we must make our first start from the first class; these are the perfect or viviparous animals, and of these the first is man. Now the secretion of the semen takes place in all of them just as does that of any other residual matter. For each is conveyed to its proper place without any force from the breath or compulsion of any other cause, as some assert, saying that the generative parts attract the semen like cupping-glasses, aided by the force of the breath, as if it were possible for either this secretion or the residue of the solid and liquid nutriment to go anywhere else than they do without the exertion of such a force. Their reason is that the discharge of both is attended by holding the breath, but this is a common feature of all cases when it is necessary to move anything, because strength arises through holding the breath. Why, even without this force the secretions or excretions are discharged in sleep if the parts concerned are full of them and are relaxed. One might as well say that it is by the breath that the seeds of plants are always segregated to the places where they are wont to bear fruit. No, the real cause, as has been stated already, is that there are special parts for receiving all the secretions, alike the useless (as the residues of the liquid and solid nutriment), and the blood, which has the so-called blood-vessels.

To consider now the region of the uterus in the female — the two blood-vessels, the great vessel and the aorta, divide higher up, and many fine vessels from them terminate in the uterus. These become over-filled from the nourishment they convey, nor is the female nature able to concoct it, because it is colder than man’s; so the blood is excreted through very fine vessels into the uterus, these being unable on account of their narrowness to receive the excessive quantity, and the result is a sort of haemorrhage. The period is not accurately defined in women, but tends to return during the waning of the moon. This we should expect, for the bodies of animals are colder when the environment happens to become so, and the time of change from one month to another is cold because of the absence of the moon, whence also it results that this time is stormier than the middle of the month. When then the residue of the nourishment has changed into blood, the catamenia tend to occur at the above-mentioned period, but when it is not concocted a little matter at a time is always coming away, and this is why ‘whites’ appear in females while still small, in fact mere children. If both these discharges of the secretions are moderate, the body remains in good health, for they act as a purification of the secretions which are the causes of a morbid state of body; if they do not occur at all or if they are excessive, they are injurious, either causing illness or pulling down the patient; hence whites, if continuous and excessive, prevent girls from growing. This secretion then is necessarily discharged by females for the reasons given; for, the female nature being unable to concoct the nourishment thoroughly, there must not only be left a residue of the useless nutriment, but also there must be a residue in the blood-vessels, and this filling the channels of the finest vessels must overflow. Then Nature, aiming at the best end, uses it up in this place for the sake of generation, that another creature may come into being of the same kind as the former was going to be, for the menstrual blood is already potentially such as the body from which it is discharged.

In all females, then, there must necessarily be such a secretion, more indeed in those that have blood and of these most of all in man, but in the others also some matter must be collected in the uterine region. The reason why there is more in those that have blood and most in man has been already given, but why, if all females have such a secretion, have not all males one to correspond? For some of them do not emit semen but, just as those which do emit it fashion by the movement in the semen the mass forming from the material supplied by the female, so do the animals in question bring the same to pass and exert the same formative power by the movement within themselves in that part from whence the semen is secreted. This is the region about the diaphragm in all those animals which have one, for the heart or its analogue is the first principle of a natural body, while the lower part is a mere addition for the sake of it. Now the reason why it is not all males that have a generative secretion, while all females do, is that the animal is a body with Soul or life; the female always provides the material, the male that which fashions it, for this is the power that we say they each possess, and this is what is meant by calling them male and female. Thus while it is necessary for the female to provide a body and a material mass, it is not necessary for the male, because it is not within the work of art or the embryo that the tools or the maker must exist. While the body is from the female, it is the soul that is from the male, for the soul is the reality of a particular body. For this reason if animals of a different kind are crossed (and this is possible when the periods of gestation are equal and conception takes place nearly at the same season and there is no great difference in the size of the animals), the first cross has a common resemblance to both parents, as the hybrid between fox and dog, partridge and domestic fowl, but as time goes on and one generation springs from another, the final result resembles the female in form, just as foreign seeds produce plants varying in accordance with the country in which they are sown. For it is the soil that gives to the seeds the material and the body of the plant. And hence the part of the female which receives the semen is not a mere passage, but the uterus has a considerable width, whereas the males that emit semen have only passages for this purpose, and these are bloodless.

Each of the secretions becomes such at the moment when it is in its proper place; before that there is nothing of the sort unless with much violence and contrary to nature.

We have thus stated the reason for which the generative secretions are formed in animals. But when the semen from the male (in those animals which emit semen) has entered, it puts into form the purest part of the female secretion (for the greater part of the catamenia also is useless and fluid, as is the most fluid part of the male secretion, i.e. in a single emission, the earlier discharge being in most cases apt to be infertile rather than the later, having less vital heat through want of concoction, whereas that which is concocted is thick and of a more material nature).

If there is no external discharge, either in women or other animals, on account of there not being much useless and superfluous matter in the secretion, then the quantity forming within the female altogether is as much as what is retained within those animals which have an external discharge; this is put into form by the power of the male residing in the semen secreted by him, or, as is clearly seen to happen in some insects, by the part in the female analogous to the uterus being inserted into the male.

It has been previously stated that the discharge accompanying sexual pleasure in the female contributes nothing to the embryo. The chief argument for the opposite view is that what are called bad dreams occur by night with women as with men; but this is no proof, for the same thing happens to young men also who do not yet emit semen, and to those who do emit semen but whose semen is infertile.

It is impossible to conceive without the emission of the male in union and without the secretion of the corresponding female material, whether it be discharged externally or whether there is only enough within the body. Women conceive, however, without experiencing the pleasure usual in such intercourse, if the part chance to be in heat and the uterus to have descended. But generally speaking the opposite is the case, because the os uteri is not closed when the discharge takes place which is usually accompanied by pleasure in women as well as men, and when this is so there is a readier way for the semen of the male to be drawn into the uterus.

The actual discharge does not take place within the uterus as some think, the os uteri being too narrow, but it is in the region in front of this, where the female discharges the moisture found in some cases, that the male emits the semen. Sometimes it remains in this place; at other times, if the uterus chance to be conveniently placed and hot on account of the purgation of the catamenia, it draws it within itself. A proof of this is that pessaries, though wet when applied, are removed dry. Moreover, in all those animals which have the uterus near the hypozoma, as birds and viviparous fishes, it is impossible that the semen should be so discharged as to enter it; it must be drawn into it. This region, on account of the heat which is in it, attracts the semen. The discharge and collection of the catamenia also excite heat in this part. Hence it acts like cone-shaped vessels which, when they have been washed out with hot water, their mouth being turned downwards, draw water into themselves. And this is the way things are drawn up, but some say that nothing of the kind happens with the organic parts concerned in copulation. Precisely the opposite is the case of those who say the woman emits semen as well as the man, for if she emits it outside the uterus this must then draw it back again into itself if it is to be mixed with the semen of the male. But this is a superfluous proceeding, and Nature does nothing superfluous.

When the material secreted by the female in the uterus has been fixed by the semen of the male (this acts in the same way as rennet acts upon milk, for rennet is a kind of milk containing vital heat, which brings into one mass and fixes the similar material, and the relation of the semen to the catamenia is the same, milk and the catamenia being of the same nature) — when, I say, the more solid part comes together, the liquid is separated off from it, and as the earthy parts solidify membranes form all round it; this is both a necessary result and for a final cause, the former because the surface of a mass must solidify on heating as well as on cooling, the latter because the foetus must not be in a liquid but be separated from it. Some of these are called membranes and others choria, the difference being one of more or less, and they exist in ovipara and vivipara alike.

When the embryo is once formed, it acts like the seeds of plants. For seeds also contain the first principle of growth in themselves, and when this (which previously exists in them only potentially) has been differentiated, the shoot and the root are sent off from it, and it is by the root that the plant gets nourishment; for it needs growth. So also in the embryo all the parts exist potentially in a way at the same time, but the first principle is furthest on the road to realization. Therefore the heart is first differentiated in actuality. This is clear not only to the senses (for it is so) but also on theoretical grounds. For whenever the young animal has been separated from both parents it must be able to manage itself, like a son who has set up house away from his father. Hence it must have a first principle from which comes the ordering of the body at a later stage also, for if it is to come in from outside at later period to dwell in it, not only may the question be asked at what time it is to do so, but also we may object that, when each of the parts is separating from the rest, it is necessary that this principle should exist first from which comes growth and movement to the other parts. (Wherefore all who say, as did Democritus, that the external parts of animals are first differentiated and the internal later, are much mistaken; it is as if they were talking of animals of stone or wood. For such as these have no principle of growth at all, but all animals have, and have it within themselves.) Therefore it is that the heart appears first distinctly marked off in all the sanguinea, for this is the first principle or origin of both homogeneous and heterogeneous parts, since from the moment that the animal or organism needs nourishment, from that moment does this deserve to be called its principle or origin. For the animal grows, and the nutriment, in its final stage, of an animal is the blood or its analogue, and of this the blood-vessels are the receptacle, wherefore the heart is the principle or origin of these also. (This is clear from the Enquiries and the anatomical drawings.)

Since the embryo is already potentially an animal but an imperfect one, it must obtain its nourishment from elsewhere; accordingly it makes use of the uterus and the mother, as a plant does of the earth, to get nourishment, until it is perfected to the point of being now an animal potentially locomotive. So Nature has first designed the two blood-vessels from the heart, and from these smaller vessels branch off to the uterus. These are what is called the umbilicus, for this is a blood-vessel, consisting of one or more vessels in different animals. Round these is a skin-like integument, because the weakness of the vessels needs protection and shelter. The vessels join on to the uterus like the roots of plants, and through them the embryo receives its nourishment. This is why the animal remains in the uterus, not, as Democritus says, that the parts of the embryo may be moulded in conformity with those of the mother. This is plain in the ovipara, for they have their parts differentiated in the egg after separation from the matrix.

Here a difficulty may be raised. If the blood is the nourishment, and if the heart, which first comes into being, already contains blood, and the nourishment comes from outside, whence did the first nourishment enter? Perhaps it is not true that all of it comes from outside just as in the seeds of plants there is something of this nature, the substance which at first appears milky, so also in the material of the animal embryo the superfluous matter of which it is formed is its nourishment from the first.

The embryo, then, grows by means of the umbilicus in the same way as a plant by its roots, or as animals themselves when separated from the nutriment within the mother, of which we must speak later at the time appropriate for discussing them. But the parts are not differentiated, as some suppose, because like is naturally carried to like. Besides many other difficulties involved in this theory, it results from it that the homogeneous parts ought to come into being each one separate from the rest, as bones and sinews by themselves, and flesh by itself, if one should accept this cause. The real cause why each of them comes into being is that the secretion of the female is potentially such as the animal is naturally, and all the parts are potentially present in it, but none actually. It is also because when the active and the passive come in contact with each other in that way in which the one is active and the other passive (I mean in the right manner, in the right place, and at the right time), straightway the one acts and the other is acted upon. The female, then, provides matter, the male the principle of motion. And as the products of art are made by means of the tools of the artist, or to put it more truly by means of their movement, and this is the activity of the art, and the art is the form of what is made in something else, so is it with the power of the nutritive soul. As later on in the case of mature animals and plants this soul causes growth from the nutriment, using heat and cold as its tools (for in these is the movement of the soul), and each thing comes into being in accordance with a certain formula, so also from the beginning does it form the product of nature. For the material by which this latter grows is the same as that from which it is constituted at first; consequently also the power which acts upon it is identical with that which originally generated it; if then this acting power is the nutritive soul, this is also the generative soul, and this is the nature of every organism, existing in all animals and plants. [But the other parts of the soul exist in some animals, not in others.] In plants, then, the female is not separated from the male, but in those animals in which it is separated the male needs the female besides.

5

And yet the question may be raised why it is that, if indeed the female possesses the same soul and if it is the secretion of the female which is the material of the embryo, she needs the male besides instead of generating entirely from herself. The reason is that the animal differs from the plant by having sense-perception; if the sensitive soul is not present, either actually or potentially, and either with or without qualification, it is impossible for face, hand, flesh, or any other part to exist; it will be no better than a corpse or part of a corpse. If then, when the sexes are separated, it is the male that has the power of making the sensitive soul, it is impossible for the female to generate an animal from itself alone, for the process in question was seen to involve the male quality. Certainly that there is a good deal in the difficulty stated is plain in the case of the birds that lay wind-eggs, showing that the female can generate up to a certain point unaided. But this still involves a difficulty; in what way are we to say that their eggs live? It neither possible that they should live in the same way as fertile eggs (for then they would produce a chick actually alive), nor yet can they be called eggs only in the sense in which an egg of wood or stone is so called, for the fact that these eggs go bad shows that they previously participate in some way in life. It is plain, then, that they have some soul potentially. What sort of soul will this be? It must be the lowest surely, and this is the nutritive, for this exists in all animals and plants alike. Why then does it not perfect the parts and the animal? Because they must have a sensitive soul, for the parts of animals are not like those of a plant. And so the female animal needs the help of the male, for in these animals we are speaking of the male is separate. This is exactly what we find, for the wind-eggs become fertile if the male tread the female in a certain space of time. About the cause of these things, however, we shall enter into detail later.

If there is any kind of animal which is female and has no male separate from it, it is possible that this may generate a young one from itself without copulation. No instance of this worthy of credit has been observed up to the present at any rate, but one case in the class of fishes makes us hesitate. No male of the so-called erythrinus has ever yet been seen, but females, and specimens full of roe, have been seen. Of this, however, we have as yet no proof worthy of credit. Again, some members of the class of fishes are neither male nor female, as eels and a kind of mullets found in stagnant waters. But whenever the sexes are separate the female cannot generate perfectly by herself alone, for then the male would exist in vain, and Nature makes nothing in vain. Hence in such animals the male always perfects the work of generation, for he imparts the sensitive soul, either by means of the semen or without it. Now the parts of the embryo already exist potentially in the material, and so when once the principle of movement has been imparted to them they develop in a chain one after another, as the wheels are moved one by another in the automatic machines. When some of the natural philosophers say that like is brought to like, this must be understood, not in the sense that the parts are moved as changing place, but that they stay where they are and the movement is a change of quality (such as softness, hardness, colour, and the other differences of the homogeneous parts); thus they become in actuality what they previously were in potentiality. And what comes into being first is the first principle; this is the heart in the sanguinea and its analogue in the rest, as has been often said already. This is plain not only to the senses (that it is first to come into being), but also in view of its end; for life fails in the heart last of all, and it happens in all cases that what comes into being last fails first, and the first last, Nature running a double course, so to say, and turning back to the point from whence she started. For the process of becoming is from the non-existent to the existent, and that of perishing is back again from the existent to the non-existent.

6

After this, as said already, the internal parts come into being before the external. The greater become visible before the less, even if some of them do not come into being before them. First the parts above the hypozoma are differentiated and are superior in size; the part below is both smaller and less differentiated. This happens in all animals in which exists the distinction of upper and lower, except in the insects; the growth of those that produce a scolex is towards the upper part, for this is smaller in the beginning. The cephalopoda are the only locomotive animals in which the distinction of upper and lower does not exist.

What has been said applies to plants also, that the upper portion is earlier in development than the lower, for the roots push out from the seed before the shoots.

The agency by which the parts of animals are differentiated is air, not however that of the mother nor yet of the embryo itself, as some of the physicists say. This is manifest in birds, fishes, and insects. For some of these are separated from the mother and produced from an egg, within which the differentiation takes place; other animals do not breathe at all, but are produced as a scolex or an egg; those which do breathe and whose parts are differentiated within the mother's uterus yet do not breathe until the lung is perfected, and the lung and the preceding parts are differentiated before they breathe. Moreover, all polydactylous quadrupeds, as dog, lion, wolf, fox, jackal, produce their young blind, and the eyelids do not separate till after birth. Manifestly the same holds also in all the other parts; as the qualitative, so also the quantitative differentia comes into being, pre-existing potentially but being actualized later by the same causes by which the qualitative distinction is produced, and so the eyelids become two instead of one. Of course air must be present, because heat and moisture are present, the former acting and the latter being acted upon.

Some of the ancient nature-philosolphers made an attempt to state which part comes into being after which, but were not sufficiently acquainted with the facts. It is with the parts as with other things; one naturally exists prior to another. But the word 'prior' is used in more senses than one. For there is a difference between the end or final cause and that which exists for the sake of it; the latter is prior in order of development, the former is prior in reality. Again, that which exists for the sake of the end admits of division into two classes, (1) the origin of the movement, (2) that which is used by the end; I mean, for instance, (1) that which can generate, (2) that which serves as an instrument to what is generated, for the one of these, that which makes, must exist first, as the teacher before the learner, and the other later, as the pipes are later than he who learns to play upon them, for it is superfluous that men who do not know how to play should have pipes. Thus there are three things: first, the end, by which we mean that for the sake of which something else exists; secondly, the principle of movement and of generation, existing for the sake of the end (for that which can make and generate, considered simply as such, exists only in relation to what is made and generated); thirdly, the useful, that is to say what the end uses. Accordingly, there must first exist some part in which is the principle of movement (I say a part because this is from the first one part of the end and the most important part too); next after this the whole and the end; thirdly and lastly, the organic parts serving these for certain uses. Hence if there is anything of this sort which must exist in animals, containing the principle and end of all their nature, this must be the first to come into being — first, that is, considered as the moving power, but simultaneous with the whole embryo if considered as a part of the end. Therefore all the organic parts whose nature is to bring others into being must always themselves exist before them, for they are for the sake of something else, as the beginning for the sake of the end; all those parts which are for the sake of something else but are not of the nature of beginnings must come into being later. So it is not easy to distinguish which of the parts are prior, those which are for the sake of another or that for the sake of which are the former. For the parts which cause the movement, being prior to the end in order of development, come in to cause confusion, and it is not easy to distinguish these as compared with the organic parts. And yet it is in accordance with this method that we must inquire what comes into being after what; for the end is later than some parts and earlier than others. And for this reason that part which contains the first principle comes into being first, next to this the upper half of the body. This is why the parts about the head, and particularly the eyes, appear largest in the embryo at an early stage, while the parts below the umbilicus, as the legs, are small; for the lower parts are for the sake of the upper, and are neither parts of the end nor able to form it.

But they do not say well nor do they assign a necessary cause who say simply that ‘it always happens so’, and imagine that this is a first principle in these cases. Thus Democritus of Abdera says that ‘there is no beginning of the infinite; now the cause is a beginning, and the eternal is infinite; in consequence, to ask the cause of anything of this kind is to seek for a beginning of the infinite’. Yet according to this argument, which forbids us to seek the cause, there will be no proof of any eternal truth whatever; but we see that there is a proof of many such, whether by ‘eternal’ we mean what always happens or what exists eternally; it is an eternal truth that the angles of a triangle are always equal to two right angles, or that the diagonal of a square is incommensurable with the side, and nevertheless a cause and a proof can be given for these truths. While, then, it is well said that we must not take on us to seek a beginning (or first principle) of all things, yet this is not well said of all things whatever that always are or always happen, but only of those which really are first principles of the eternal things; for it is by another method, not by proof, that we acquire knowledge of the first principle. Now in that which is immovable and unchanging the first principle is simply the essence of the thing, but when we come to those things which come into being the principles are more than one, varying in kind and not all of the same kind; one of this number is the principle of movement, and therefore in all the sanguinea the heart is formed first, as was said at the beginning, and in the other animals that which is analogous to the heart.

From the heart the blood-vessels extend throughout the body as in the anatomical diagrams which are represented on the wall, for the parts lie round these because they are formed out of them. The homogeneous parts are formed by heat and cold, for some are put together and solidified by the one and some by the other. The difference between these has already been discussed elsewhere, and it has been stated what kinds of things are soluble by liquid and fire, and what are not soluble by liquid and cannot be melted by fire. The nutriment then oozes through the blood-vessels and the passages in each of the parts, like water in unbaked pottery, and thus is formed the flesh or its analogues, being solidified by cold, which is why it is also dissolved by fire. But all the particles given off which are too earthy, having but little moisture and heat, cool as the moisture evaporates along with the heat; so they become hard and earthy in character, as nails, horns, hoofs, and beaks, and therefore they are softened by fire but none of them is melted by it, while some of them, as egg-shells, are soluble in liquids. The sinews and bones are formed by the internal heat as the moisture dries, and hence the bones are insoluble by fire like pottery, for like it they have been as it were baked in an oven by the heat in the process of development. But it is not anything whatever that is made into flesh or bone by the heat, but only something naturally fitted for the purpose; nor is it made in any place or time whatever, but only in a place and time naturally so fitted. For neither will that which exists potentially be made except by that moving agent which possesses the actuality, nor will that which possesses the actuality make anything whatever; the carpenter would not make a box except out of wood, nor will a box be made out of the wood without the carpenter. The heat exists in the seminal secretion, and the movement and activity in it is sufficient in kind and in quantity to correspond to each of the parts. In so far as there is any deficiency or excess, the resulting product is in worse condition or physically defective, in like manner as in the case of external substances which are thickened by boiling that they may be more palatable or for any other purpose. But in the latter case it is we who apply the heat in due measure for the motion required; in the former it is the nature of the male parent that gives it, or with animals spontaneously generated it is the movement and heat imparted by the right season of the year that it is the cause.

Cooling, again, is mere deprivation of heat. Nature makes use of both; they have of necessity the power of bringing about different results, but in the development of the embryo we find that the one cools and the other heats for some definite purpose, and so each of the parts is formed; thus it is in one sense by necessity, in another for a final cause, that they make the flesh soft, the sinews solid and elastic, the bones solid and brittle. The skin, again, is formed by the drying of the flesh, like the scum upon boiled substances; it is so formed not only because it is on the outside, but also because what is glutinous, being unable to evaporate, remains on the surface. While in other animals the glutinous is dry, for which reason the covering of the invertebrates is testaceous or crustaceous, in the vertebrates it is rather of the nature of fat. In all of these which are not of too earthy a nature the fat is collected under the covering of the skin, a fact which points to the skin being formed out of such a glutinous substance, for fat is somewhat glutinous. As we said, all these things must be understood to be formed in one sense of necessity, but in another sense not of necessity but for a final cause.

The upper half of the body, then, is first marked out in the order of development; as time goes on the lower also reaches its full size in the sanguinea. All the parts are first marked out in their outlines and acquire later on their colour and softness or hardness, exactly as if Nature were a painter producing a work of art, for painters, too, first sketch in the animal with lines and only after that put in the colours.

Because the source of the sensations is in the heart, therefore this is the part first formed in the whole animal, and because of the heat of this organ the cold forms the brain, where the blood-vessels terminate above, corresponding to the heat of the heart. Hence the parts about the head begin to form next in order after the heart, and surpass the other parts in size, for the brain is from the first large and fluid.

There is a difficulty about what happens with the eyes of animals. Though from the beginning they appear very large in all creatures, whether they walk or swim or fly, yet they are the last of the parts to be formed completely, for in the intervening time they collapse. The reason is this. The sense-organ of the eyes is set upon certain passages, as are the other sense-organs. Whereas those of touch and taste are simply the body itself or some part of the body of animals, those of smell and hearing are passages connecting with the external air and full themselves of innate spiritus; these passages end at the small blood-vessels about the brain which run thither from the heart. But the eye is the only sense-organ that has a bodily constitution peculiar to itself. It is fluid and cold, and does not exist from the first in the place which it occupies later in the same way as the other parts do, for they exist potentially to begin with and actually come into being later, but the eye is the purest part of the liquidity about the brain drained off through the passages which are visible running from them to the membrane round the brain. A proof of this is that, apart from the brain, there is no other part in the head that is cold and fluid except the eye. Of necessity therefore this region is large at first but falls in later. For the same thing happens with the brain; at first it is liquid and large, but in course of evaporation and concoction it becomes more solid and falls in; this applies both to the brain and the eyes. The head is very large at first, on account of the brain, and the eyes appear large because of the liquid in them. They are the last organs to reach completion because the brain is formed with difficulty; for it is at a late period that it gets rid of its coldness and fluidity; this applies to all animals possessing a brain, but especially to man. For this reason the ‘bregma’ is the last of the bones to be formed; even after birth this bone is still soft in children. The cause of this being so with men more than with other animals is the fact that their brain is the most fluid and largest. This again is because the heat in man’s heart is purest. His intellect shows how well he is tempered, for man is the wisest of animals. And children for a long time have no control over their heads on account of the heaviness of the brain; and the same applies to the parts which it is necessary to move, for it is late that the principle of motion gets control over the upper parts, and last of all over those whose motion is not connected directly with it, as that of the legs is not. Now the eyelid is such a part. But since Nature makes nothing superfluous nor in vain, it is clear also that she makes nothing too late or too soon, for if she did the result would be either in vain or superfluous. Hence it is necessary that the eyelids should be separated at the same time as the heart is able to move them. So then the eyes of animals are perfected late because of the amount of concoction required by the brain, and last of all the parts because the motion must be very strong before it can affect parts so far from the first principle of motion and so cold. And it is plain that such is the nature of the eyelids, for if the head is affected by never so little heaviness through sleepiness or drunkenness or anything else of the kind, we cannot raise the eyelids though their own weight is so small. So much for the question how the eyes come into being, and why and for what cause they are the last to be fully developed.

Each of the other parts is formed out of the nutriment, those most honourable and participating in the sovereign principle from the nutriment which is first and purest and fully concocted, those which are only necessary for the sake of the former parts from the inferior nutriment and the residues left over from the other. For Nature, like a good householder, is not in the habit of throwing away anything from which it is possible to make anything useful. Now in a household the best part of the food that comes in is set apart for the free men, the inferior and the residue of the best for the slaves, and the worst is given to the animals that live with them. Just as the intellect acts thus in the outside world with a view to the growth of the persons concerned, so in the case of the embryo itself does Nature form from the purest material the flesh and the body of the other sense-organs, and from the residues thereof bones, sinews, hair, and also nails and hoofs and the like; hence these are last to assume their form, for they have to wait till the time when Nature has some residue to spare.

The bones, then, are made in the first conformation of the parts from the seminal secretion or residue. As the animal grows the bones grow from the natural nourishment, being the same as that of the sovereign parts, but of this they only take up the superfluous residues. For everywhere the nutriment may be divided into two kinds, the first and the second; the former is ‘nutritious’, being that which gives its essence both to the whole and to the parts; the latter is concerned with growth, being that which causes quantitative increase. But these must be distinguished more fully later on. The sinews are formed in the same way as the bones and out of the same materials, the Seminal and nutritious residue. Nails, hair, hoofs, horns, beaks, the spurs of cocks, and any other similar parts, are on the contrary formed from the nutriment which is taken later and only concerned with growth, in other words that which is derived from the mother, or from the outer world after birth. For this reason the bones on the one hand only grow up to a certain point (for there is a limit of size in all animals, and therefore also of the growth of the bones; if these had been always able to grow, all animals that have bone or its analogue would grow as long as they lived, for these set the limit of size to animals. What is the reason of their not always increasing in size must be stated later.)

Hair, on the contrary, and growths akin to hair go on growing as long as they exist at all, and increase yet more in diseases and when the body is getting old and wasting, because more residual matter is left over, as owing to old age and disease less is expended on the important parts, though when the residual matter also fails through age the hair fails with it. But the contrary is the case with the bones, for they waste away along with the body and the other parts. Hair actually goes on growing after death; it does not, however, begin growing then.

About the teeth a difficulty may be raised. They have actually the same nature as the bones, and are formed out of the bones, but nails, hair, horns, and the like are formed out of the skin, and that is why they change in colour along with it, for they become white, black, and all sorts of colours according to that of the skin. But the teeth do nothing of the sort, for they are made out of the bones in all animals that have both bones and teeth. Of all the bones they alone go on growing through life, as is plain with the teeth which grow out of the straight line so as no longer to touch each other. The reason for their growth, as a final cause, is their function, for they would soon be worn down if there were not some means of saving them; even as it is they are altogether worn down in old age in some animals which eat much and have not large teeth, their growth not being in proportion to their detrition. And so Nature has contrived well to meet the case in this also, for she causes the failure of the teeth to synchronize with old age and death. If life lasted for a thousand or ten thousand years the original teeth must have been very large indeed, and many sets of them must have been produced, for even if they had grown continuously they would still have been worn smooth and become useless for their work. The final cause of their growth has been now stated, but besides this as a matter of fact the growth of the teeth is not the same as that of the other bones. The latter all come into being in the first formation of the embryo and none of them later, but the teeth do so later. Therefore it is possible for them to grow again after the first set falls out, for though they touch the bones they are not connate with them. They are formed, however, out of the nutriment distributed to the bones, and so have the same nature, even when the bones have their own number complete.

Other animals are born in possession of teeth or their analogue (unless in cases contrary to Nature), because when they are set free from the parent they are more perfect than man; but man (also unless in cases contrary to Nature) is born without them.

The reason will be stated later why some teeth are formed and fall out but others do not fall out.

It is because such parts are formed from a residue that man is the most naked in body of all animals and has the smallest nails in proportion to his size; he has the least amount of earthy residue, but that part of the blood which is not concocted is the residue, and the earthy part in the bodies of all animals is the least concocted. We have now stated how each of the parts is formed and what is the cause of their generation.

7

In viviparous animals, as said before, the embryo gets its growth through the umbilical cord. For since the nutritive power of the soul, as well as the others, is present in animals, it straightway sends off this cord like a root to the uterus. The cord consists of blood-vessels in a sheath, more numerous in the larger animals as cattle and the like, one in the smallest, two in those of intermediate size. Through this cord the embryo receives its nourishment in the form of blood, for the uterus is the termination of many blood-vessels. All animals with no front teeth in the upper jaw, and all those which have them in both jaws and whose uterus has not one great blood-vessel running through it but many close together insteadall these have in the uterus the so-called cotyledons (with which the umbilical cord connects and is closely united; for the vessels which pass through the cord run backwards and forwards between embryo and uterus and split up into smaller vessels all over the uterus; where they terminate, there are found the cotyledons). Their convexity is turned towards the uterus, the concavity towards the embryo. Between uterus and embryo are the chorion and the membranes. As the embryo grows and approaches perfection the cotyledons become smaller and finally disappear when it is perfected. For Nature sends the sanguineous nutriment for the embryo into this part of the uterus as she sends milk into the breasts, and because the cotyledons are gradually aggregated from many into a few the body of the cotyledon becomes like an eruption or inflammation. So long as the embryo is comparatively small, being unable to receive much nutriment, they are plain and large, but when it has increased in size they fall in together.

But most of the animals which have front teeth in both jaws and no horns have no cotyledons in the uterus, but the umbilical cord runs to meet one blood-vessel, which is large and extends throughout the uterus. Of such animals some produce one young at a time, some more than one, but the same description applies to both these classes. (This should be studied with the aid of the examples drawn in the Anatomy and the Enquiries.) For the young, if numerous, are attached each to its umbilical cord, and this to the blood-vessel of the mother; they are arranged next to one another along the stream of the blood-vessel as along a canal; and each embryo is enclosed in its membranes and chorion.

Those who say that children are nourished in the uterus by sucking some lump of flesh or other are mistaken. If so, the same would have been the case with other animals, but as it is we do not find this (and this can easily be observed by dissection). Secondly, all embryos alike, whether of creatures that fly or swim or walk, are surrounded by fine membranes separating them from the uterus and from the fluids which are formed in it; but neither in these themselves is there anything of the kind, nor is it possible for the embryo to take nourishment by means of any of them. Thirdly, it is plain that all creatures developed in eggs grow when separated from the uterus.

Natural intercourse takes place between animals of the same kind. However, those also unite whose nature is near akin and whose form is not very different, if their size is much the same and if the periods of gestation are equal. In other animals such cases are rare, but they occur with dogs and foxes and wolves; the Indian dogs also spring from the union of a dog with some wild dog-like animal. A similar thing has been seen to take place in those birds that are amative, as partridges and hens. Among birds of prey hawks of different form are thought to unite, and the same applies to some other birds. Nothing worth mentioning has been observed in the inhabitants of the sea, but the so-called ‘rhinobates’ especially is thought to spring from the union of the ‘rhini’ and ‘batus’. And the proverb about Libya, that ‘Libya is always producing something new', is said to have originated from animals of different species uniting with one another in that country, for it is said that because of the want of water all meet at the few places where springs are to be found, and that even different kinds unite in consequence.

Of the animals that arise from such union all except mules are found to copulate again with each other and to be able to produce young of both sexes, but mules alone are sterile, for they do not generate by union with one another or with other animals. The problem why any individual, whether male or female, is sterile is a general one, for some men and women are sterile, and so are other animals in their several kinds, as horses and sheep. But this kind, of mules, is universally so. The causes of sterility in other animals are several. Both men and women are sterile from birth when the parts useful for union are imperfect, so that men never grow a beard but remain like eunuchs, and women do not attain puberty; the same thing may befall others as their years advance, sometimes on account of the body being too well nourished (for men who are in too good condition and women who are too fat the seminal secretion is taken up into the body, and the former have no semen, the latter no catamenia); at other times by reason of sickness men emit the semen in a cold and liquid state, and the discharges of women are bad and full of morbid secretions. Often, too, in both sexes this state is caused by injuries in the parts and regions contributory to copulation. Some such cases are curable, others incurable, but the subjects especially remain sterile if anything of the sort has happened in the first formation of the parts in the embryo, for then are produced women of a masculine and men of a feminine appearance, and in the former the catamenia do not occur, in the latter the semen is thin and cold. Hence it is with good reason that the semen of men is tested in water to find out if it is infertile, for that which is thin and cold is quickly spread out on the surface, but the fertile sinks to the bottom, for that which is well concocted is hot indeed, but that which is firm and thick is well concocted. They test women by pessaries to see if the smells thereof permeate from below upwards to the breath from the mouth and by colours smeared upon the eyes to see if they colour the saliva. If these results do not follow it is a sign that the passages of the body, through which the catamenia are secreted, are clogged and closed. For the region about the eyes is, of all the head, that most nearly connected with the generative secretions; a proof of this is that it alone is visibly changed in sexual intercourse, and those who indulge too much in this are seen to have their eyes sunken in. The reason is that the nature of the semen is similar to that of the brain, for the material of it is watery (the heat being acquired later). And the seminal purgations are from the region of the diaphragm, for the first principle of nature is there, so that the movements from the pudenda are communicated to the chest, and the smells from the chest are perceived through the respiration.

8

In men, then, and in other kinds, as said before, such deficiency occurs sporadically, but the whole of the mule kind is sterile. The reason has not been rightly given by Empedocles and Democritus, of whom the former expresses himself obscurely, the latter more intelligibly. For they offer their demonstration in the case of all these animals alike which unite against their affinities. Democritus says that the genital passages of mules are spoilt in the mother's uterus because the animals from the first are not produced from parents of the same kind. But we find that though this is so with other animals they are none the less able to generate; yet, if this were the reason, all others that unite in this manner ought to be barren. Empedocles assigns as his reason that the mixture of the 'seeds' becomes dense, each of the two seminal fluids out of which it is made being soft, for the hollows in each fit into the densities of the other, and in such cases a hard substance is formed out of soft ones, like bronze mingled with tin. Now he does not give the correct reason in the case of bronze and tin — (we have spoken of them in the Problems) — nor, to take general ground, does he take his principles from the intelligible. How do the 'hollows' and 'solids' fit into one another to make the mixing, e.g. in the case of wine and water? This saying is quite beyond us; for how we are to understand the 'hollows' of the wine and water is too far beyond our perception. Again, when, as a matter of fact, horse is born of horse, ass of ass, and mule of horse and ass in two ways according as the parents are stallion and she-ass or jackass and mare, why in the last case does there result something so 'dense' that the offspring is sterile, whereas the offspring of male and female horse, male and female ass, is not sterile? And yet the generative fluid of the male and female horse is soft. But both sexes of the horse cross with both sexes of the ass, and the offspring of both crosses are barren, according to Empedocles, because from both is produced something ‘dense’, the ‘seeds’ being ‘soft’. If so, the offspring of stallion and mare ought also to be sterile. If one of them alone united with the ass, it might be said that the cause of the mule’s being unable to generate was the unlikeness of that one to the generative fluid of the ass; but, as it is, whatever be the character of that generative fluid with which it unites in the ass, such it is also in the animal of its own kind. Then, again, the argument is intended to apply to both male and female mules alike, but the male does generate at seven years of age, it is said; it is the female alone that is entirely sterile, and even she is so only because she does not complete the development of the embryo, for a female mule has been known to conceive.

Perhaps an abstract proof might appear to be more plausible than those already given; I call it abstract because the more general it is the further is it removed from the special principles involved. It runs somewhat as follows. From male and female of the same species there are born in course of nature male and female of the same species as the parents, e.g. male and female puppies from male and female dog. From parents of different species is born a young one different in species; thus if a dog is different from a lion, the offspring of male dog and lioness or of lion and bitch will be different from both parents. If this is so, then since (1) mules are produced of both sexes and are not different in species from one another, and (2) a mule is born of horse and ass and these are different in species from mules, it is impossible that anything should be produced from mules. For (1) another kind cannot be, because the product of male and female of the same species is also of the same species, and (2) a mule cannot be, because that is the product of horse and ass which are different in form, [and it was laid down that from parents different in form is born a different animal]. Now this theory is too general and empty. For all theories not based on the special principles involved are empty; they only appear to be connected with the facts without being so really. As geometrical arguments must start from geometrical principles, so it is with the others; that which is empty may seem to be something, but is really nothing. Now the basis of this particular theory is not true, for many animals of different species are fertile with one another, as was said before. So we must not inquire into questions of natural science in this fashion any more than any other questions; we shall be more likely to find the reason by considering the facts peculiar to the two kinds concerned, horse and ass. In the first place, each of them, if mated with its own kind, bears only one young one; secondly, the females are not always able to conceive from the male (wherefore breeders put the horse to the mare again at intervals). Indeed, both the mare is deficient in catamenia, discharging less than any other quadruped, and the she-ass does not admit the impregnation, but ejects the semen with her urine, wherefore men follow flogging her after intercourse. Again the ass is an animal of cold nature, and so is not wont to be produced in wintry regions because it cannot bear cold, as in Scythia and the neighbouring country and among the Celts beyond Iberia, for this country also is cold. For this cause they do not put the jackasses to the females at the equinox, as they do with horses, but about the summer solstice, in order that the ass-foals may be born in a warm season, for the mothers bear at the same season as that in which they are impregnated, the period of gestation in both horse and ass being one year. The animal, then, being, as has been said of such a cold nature, its semen also must be cold. A proof of this is that if a horse mount a female already impregnated by an ass he does not destroy the impregnation of the ass, but if the ass be the second to mount her he does destroy that of the horse because of the coldness of his own semen. When, therefore, they unite with each other, the generative elements are preserved by the heat of the one of them, that contributed by the horse being the hotter; for in the ass both the semen of the male and the material contributed by the female are cold, and those of the horse, in both sexes, are hotter. Now when either hot is added to cold or cold to hot so as to mix, the result is that the embryo itself arising from these is preserved and thus these animals are fertile when crossed with one another, but the animal produced by them is no longer fertile but unable to produce perfect offspring.

And in general each of these animals naturally tends towards sterility. The ass has all the disadvantages already mentioned, and if it should not begin to generate after the first shedding of teeth, it no longer generates at all; so near is the constitution of the ass to being sterile. The horse is much the same; it tends naturally towards sterility, and to make it entirely so it is only necessary that its generative secretion should become colder; now this is what happens to it when mixed with the corresponding secretion of the ass. The ass in like manner comes very near generating a sterile animal when mated with its own species. Thus when the difficulty of a cross contrary to nature is added, (when too even in the other case when united with their own species they with difficulty produce a single young one), the result of the cross, being still more sterile and contrary to nature, will need nothing further to make it sterile, but will be so of necessity.

We find also that the bodies of female mules grow large because the matter which is secreted in other animals to form the catamenia is diverted to growth. But since the period of gestation in such animals is a year, the mule must not only conceive, if she is to be fertile, but must also nourish the embryo till birth, and this is impossible if there are no catamenia. But there are none in the mule; the useless part of the nutriment is discharged with the excretion from the bladder — this is why male mules do not smell to the pudenda of the females, as do the other solid-hoofed ungulates, but only to the evacuation itself — and the rest of the nutriment is used up to increase the size of the body. Hence it is sometimes possible for the female to conceive, as has been known to happen before now, but it is impossible for her to complete the process of nourishing the embryo and bringing it to birth.

The male, again, may sometimes generate, both because the male sex is naturally hotter than the female and because it does not contribute any material substance to the mixture. The result in such cases is a ‘ginnus’, that is to say, a dwarf mule; for ‘ginni’ are produced also from the crossing of horse and ass when the embryo is diseased in the uterus. The ginnus is in fact like the so-called ‘metachoera’ in swine, for a ‘metachoerum’ also is a pig injured in the uterus; this may happen to any pig. The origin of human dwarfs is similar, for these also have their parts and their whole development injured during gestation, and resemble ginni and metachoera.

Book III

1

WE have now spoken about the sterility of mules, and about those animals which are viviparous both externally and within themselves. The generation of the oviparous sanguinea is to a certain extent similar to that of the animals that walk, and all may be embraced in the same general statement; but in other respects there are differences in them both as compared with each other and with those that walk. All alike are generated from sexual union, the male emitting semen into the female. But among the ovipara (1) birds produce a perfect hard-shelled egg, unless it be injured by disease, and the eggs of birds are all two-coloured. (2) The cartilaginous fishes, as has been often said already, are oviparous internally but produce the young alive, the egg changing previously from one part of the uterus to another; and their egg is soft-shelled and of one colour. One of this class alone does not produce the young from the egg within itself, the so-called 'frog'; the reason of which must be stated later. (3) All other oviparous fishes produce an egg of one colour, but this is imperfect, for its growth is completed outside the mother's body by the same cause as are those eggs which are perfected within.

Concerning the uterus of these classes of animals, what differences there are among them and for what reasons, has been stated previously. For in some of the viviparous creatures it is high up near the hypozoma, in others low down by the pudenda; the former in the cartilaginous fishes, the latter in animals both internally and externally viviparous, such as man and horse and the rest; in the ovipara it is sometimes low, as in the oviparous fish, and sometimes high, as in birds.

Some embryos are formed in birds spontaneously, which are called wind-eggs and 'zephyria' by some; these occur in birds which are not given to flight nor rapine but which produce many young, for these birds have much residual matter, whereas in the birds of prey all such secretion is diverted to the wings and wing-feathers, while the body is small and dry and hot. (The secretion corresponding in hen-birds to catamenia, and the semen of the cock, are residues.) Since then both the wings and the semen are made from residual matter, nature cannot afford to spend much upon both. And for this same reason the birds of prey are neither given to treading much nor to laying many eggs, as are the heavy birds and those flying birds whose bodies are bulky, as the pigeon and so forth. For such residual matter is secreted largely in the heavy birds not given to flying, such as fowls, partridges, and so on, wherefore their males tread often and their females produce much material. Of such birds some lay many eggs at a time and some lay often; for instance, the fowl, the partridge, and the Libyan ostrich lay many eggs, while the pigeon family do not lay many but lay often. For these are between the birds of prey and the heavy ones; they are flyers like the former, but have bulky bodies like the latter; hence, because they are flyers and the residue is diverted that. way, they lay few eggs, but they lay often because of their having bulky bodies and their stomachs being hot and very active in concoction, and because moreover they can easily procure their food, whereas the birds of prey do so with difficulty.

Small birds also tread often and are very fertile, as are sometimes small plants, for what causes bodily growth in others turn in them to a seminal residuum. Hence the Adrianic fowls lay most eggs, for because of the smallness of their bodies the nutriment is used up in producing young. And other birds are more fertile than game-fowl, for their bodies are more fluid and bulkier, whereas those of game-fowl are leaner and drier, since a passionate spirit is found rather in such bodies as the latter. Moreover the thinness and weakness of the legs contribute to making the former class of birds naturally inclined to tread and to be fertile, as we find also in the human species; for the nourishment which otherwise goes to the legs is turned in such into a seminal secretion, what Nature takes from the one place being added at the other. Birds of prey, on the contrary, have a strong walk and their legs are thick owing to their habits, so that for all these reasons they neither tread nor lay much. The kestrel is the most fertile; for this is nearly the only bird of prey which drinks, and its moisture, both innate and acquired, along with its heat is favourable to generative products. Even this bird does not lay very many eggs, but four at the outside.

The cuckoo, though not a bird of prey, lays few eggs, because it is of a cold nature, as is shown by the cowardice of the bird, whereas a generative animal should be hot and moist. That it is cowardly is plain, for it is pursued by all the birds and lays eggs in the nests of others.

The pigeon family are in the habit of laying two for the most part, for they neither lay one (no bird does except the cuckoo, and even that sometimes lays two) nor yet many, but they frequently produce two, or three at the most generally two, for this number lies between one and many.

It is plain from the facts that with the birds that lay many eggs the nutriment is diverted to the semen. For most trees, if they bear too much fruit, wither away after the crop when nutriment is not reserved for themselves, and this seems to be what happens to annuals, as leguminous plants, corn, and the like. For they consume all their nutriment to make seed, their kind being prolific. And some fowls after laying too much, so as even to lay two eggs in a day, have died after this. For both the birds the plants become exhausted, and this condition is an excess of secretion of residual matter. A similar condition is the cause of the later sterility of the lioness, for at the first birth she produces five or six, then in the next year four, and again three cubs, then the next number down to one, then none at all, showing that the residue is being used up and the generative secretion is failing along with the advance of years.

We have now stated in which birds wind-eggs are found, and also what sort of birds lay many eggs or few, and for what reasons. And wind-eggs, as said before, come into being because while it is the material for generation that exists in the female of all animals, birds have no discharge of catamenia like viviparous sanguinea (for they occur in all these latter, more in some, less in others, and in some only enough in quantity just to mark the class). The same applies to fish as to birds, and so in them as in birds is found an embryonic formation without impregnation, but it is less obvious because their nature is colder. The secretion corresponding to the catamenia of vivipara is formed in birds at the appropriate season for the discharge of superfluous matter, and, because the region near the hypozoma is hot, it is perfected so far as size is concerned, but in birds and fishes alike it is imperfect for generation without the seminal fluid of the male; the cause of this has been previously given. Wind-eggs are not formed in the flying birds, for the same reason as prevents their laying many eggs; for the residual matter in birds of prey is small, and they need the male to give an impulse for the discharge of it. The wind-eggs are produced in greater numbers than the impregnated but smaller in size for one and the same reason; they are smaller in size because they are imperfect, and because they are smaller in size they are more in number. They are less pleasant for food because they are less concocted, for in all foods the concocted is more agreeable. It has been sufficiently observed, then, that neither birds' nor fishes' eggs are perfected for generation without the males. As for embryos being formed in fish also (though in a less degree) without the males, the fact has been observed especially in river fish, for some are seen to have eggs from the first, as has been written in the Enquiries concerning them. And generally speaking in the case of birds even the impregnated eggs are not wont for the most part to attain their full growth unless the hen be trodden continually. The reason of this is that just as with women intercourse with men draws down the secretion of the catamenia (for the uterus being heated attracts the moisture and the passages are opened), so this happens also with birds; the residual matter corresponding to the catamenia advances a little at a time, and is not discharged externally, because its amount is small and the uterus is high up by the hypozoma, but trickles together into the uterus itself. For as the embryo of the vivipara grows by means of the umbilical cord, so the egg grows through this matter flowing to it through the uterus. For when once the hens have been trodden, they all continue to have eggs almost without intermission, though very small ones. Hence some are wont to speak of wind-eggs as not coming into being independently but as mere relics from a previous impregnation. But this is a false view, for sufficient observations have been made of their arising without impregnation in chickens and goslings. Also the female partridges which are taken out to act as decoys, whether they have ever been impregnated or not, immediately on smelling the male and hearing his call, become filled with eggs in the latter case and lay them in the former. The reason why this happens is the same as in men and quadrupeds, for if their bodies chance to be in rut they emit semen at the mere sight of the female or at a slight touch. And such birds are of a lascivious and fertile nature, so that the impulse they need is but small when they are in this excited condition, and the secreting activity takes place quickly in them, wind-eggs forming in the unimpregnated and the eggs in those which have been impregnated growing and reaching perfection swiftly.

Among creatures that lay eggs externally birds produce their egg perfect, fish imperfect, but the eggs of the latter complete their growth outside as has been said before. The reason is that the fish kind is very fertile; now it is impossible for many eggs to reach completion within the mother and therefore they lay them outside. They are quickly discharged, for the uterus of externally oviparous fishes is near the generative passage. While the eggs of birds are two-coloured, those of all fish are one-coloured. The cause of the double colour may be seen from considering the power of each of the two parts, the white and the yolk. For the matter of the egg is secreted from the blood [No bloodless animal lays eggs,] and that the blood is the material of the body has been often said already. The one part, then, of the egg is nearer the form of the animal coming into being, that is the hot part; the more earthy part gives the substance of the body and is further removed. Hence in all two-coloured eggs the animal receives the first principle of generation from the white (for the vital principle is in that which is hot), but the nutriment from the yolk. Now in animals of a hotter nature the part from which the first principle arises is separated off from the part from which comes the nutriment, the one being white and the other yellow, and the white and pure is always more than the yellow and earthy; but in the moister and less hot the yolk is more in quantity and more fluid. This is what we find in lake birds, for they are of a moister nature and are colder than the land birds, so that the so-called ‘lecithus’ or yolk in the eggs of such birds is large and less yellow because the white is less separated off from it. But when we come to the ovipara which are both of a cold nature and also moister (such is the fish kind) we find the white not separated at all because of the small size of the eggs and the quantity of the cold and earthy matter; therefore all fish eggs are of one colour, and white compared with yellow, yellow compared with white. Even the wind-eggs of birds have this distinction of colour, for they contain that out of which will come each of the two parts, alike that whence arises the principle of life and that whence comes the nutriment; only both these are imperfect and need the influence of the male in addition; for wind-eggs become fertile if impregnated by the male within a certain period. The difference in colour, however, is not due to any difference of sex, as if the white came from the male, the yolk from the female; both on the contrary come from the female, but the one is cold, the other hot. In all cases then where the hot part is considerable it is separated off, but where it is little it cannot be so; hence the eggs of such animals, as has been said, are of one colour. The semen of the male only puts them into form; and therefore at first the egg in birds appears white and small, but as it advances it is all yellow as more of the sanguineous material is continually mixed with it; finally as the hot part is separated the white takes up a position all round it and equally distributed on all sides, as when a liquid boils; for the white is naturally liquid and contains in itself the vital heat; therefore it is separated off all round, but the yellow and earthy part is inside. And if we enclose many eggs together in a bladder or something of the kind and boil them over a fire so as not to make the movement of the heat quicker than the separation of the white and yolk in the eggs, then the same process takes place in the whole mass of the eggs as in a single egg, all the yellow part coming into the middle and the white surrounding it.

We have thus stated why some eggs are of one colour and others of two.

2

The principle of the male is separated off in eggs at the point where the egg is attached to the uterus, and the reason why the shape of two-coloured eggs is unsymmetrical, and not perfectly round but sharper at one end, is that the part of the white in which is contained this principle must differ from the rest. Therefore the egg is harder at this point than below, for it is necessary to shelter and protect this principle. And this is why the sharp end of the egg comes out of the hen later than the blunt end; for the part attached to the uterus comes out later, and the egg is attached at the point where is the said principle, and the principle is in the sharp end. The same is the case also in the seeds of plants; the principle of the seed is attached sometimes to the twig, sometimes to the husk, sometimes to the pericarp. This is plain in the leguminous plants, for where the two cotyledons of beans and of similar seeds are united, there is the seed attached to the parent plant, and there is the principle of the seed.

A difficulty may be raised about the growth of the egg; how is it derived from the uterus? For if animals derive their nutriment through the umbilical cord, through what do eggs derive it? They do not, like a scolex, acquire their growth by their own means. If there is anything by which they are attached to the uterus, what becomes of this when the egg is perfected? It does not come out with the egg as the cord does with animals; for when its egg is perfected the shell forms all round it. This problem is rightly raised, but it is not observed that the shell is at first only a soft membrane, and that it is only after the egg is perfected that it becomes hard and brittle; this is so nicely adjusted that it is still soft when it comes out (for otherwise it would cause pain in laying), but no sooner has it come out than it is fixed hard by cooling, the moisture quickly evaporating because there is but little of it, and the earthy part remaining. Now at first a certain part of this membrane at the sharp end of eggs resembles an umbilical cord, and projects like a pipe from them while they are still small. It is plainly visible in small aborted eggs, for if the bird be drenched with water or suddenly chilled in any other way and cast out the egg too soon, it appears still sanguineous and with a small tail like an umbilical cord running through it. As the egg becomes larger this is more twisted round and becomes smaller, and when the egg is perfected this end is the sharp end. Under this is the inner membrane which separates the white and the yolk from this. When the egg is perfected, the whole of it is set free, and naturally the umbilical cord does not appear, for it is now the extreme end of the egg itself.

The egg is discharged in the opposite way from the young of vivipara; the latter are born head-first, the part where is the first principle leading, but the egg is discharged as it were feet first; the reason of this being what has been stated, that the egg is attached to the uterus at the point where is the first principle.

The young bird is produced out of the egg by the mother’s incubating and aiding the concoction, the creature developing out of part of the egg, and receiving growth and completion from the remaining part. For Nature not only places the material of the creature in the egg but also the nourishment sufficient for its growth; for since the mother bird cannot perfect her young within herself she produces the nourishment in the egg along with it. Whereas the nourishment, what is called milk, is produced for the young of vivipara in another part, in the breasts, Nature does this for birds in the egg. The opposite, however, is the case to what people think and what is asserted by Alcmaeon of Crotona. For it is not the white that is the milk, but the yolk, for it is this that is the nourishment of the chick, whereas they think it is the white because of the similarity of colour.

The chick then, as has been said, comes into being by the incubation of the mother; yet if the temperature of the season is favourable, or if the place in which the eggs happen to lie is warm, the eggs are sufficiently concocted without incubation, both those of birds and those of oviparous quadrupeds.

For these all lay their eggs upon the ground, where they are concocted by the heat in the earth. Such oviparous quadrupeds as do visit their eggs and incubate do so rather for the sake of protecting them than of incubation.

The eggs of these quadrupeds are formed in the same way as those of birds, for they are hard-shelled and two-coloured, and they are formed near the hypozoma as are those of birds, and in all other respects resemble them both internally and externally, so that the inquiry into their causes is the same for all. But whereas the eggs of quadrupeds are hatched out by the mere heat of the weather owing to their strength, those of birds are more exposed to destruction and need the mother-bird. Nature seems to wish to implant in animals a special sense of care for their young: in the inferior animals this lasts only to the moment of giving birth to the incompletely developed animal; in others it continues till they are perfect; in all that are more intelligent, during the bringing up of the young also. In those which have the greatest portion in intelligence we find familiarity and love shown also towards the young when perfected, as with men and some quadrupeds; with birds we find it till they have produced and brought up their young, and therefore if the hens do not incubate after laying they get into worse condition, as if deprived of something natural to them.

The young is perfected within the egg more quickly in sunshiny weather, the season aiding in the work, for concoction is a kind of heat. For the earth aids in the concoction by its heat, and the brooding hen does the same, for she applies the heat that is within her. And it is in the hot season, as we should expect, that the eggs are more apt to be spoilt and the so-called ‘uria’ or rotten eggs are produced; for just as wines turn sour in the heats from the sediment rising (for this is the cause of their being spoilt), so is it with the yolk in eggs, for the sediment and yolk are the earthy part in each case, wherefore the wine becomes turbid when the sediment mixes with it, and the like applies to the eggs that are spoiling because of the yolk. It is natural then that such should be the case with the birds that lay many eggs, for it is not easy to give the fitting amount of heat to all, but (while some have too little) others have too much and this makes them turbid, as it were by putrefaction. But this happens none the less with the birds of prey though they lay few eggs, for often one of the two becomes rotten, and the third practically always, for being of a hot nature they make the moisture in the eggs to overboil so to say. For the nature of the white is opposed to that of the yolk;

the yolk congeals in frosts but liquefies on heating, and therefore it liquefies on concoction in the earth or by reason of incubation, and becoming liquid serves as nutriment for the developing chick. If exposed to heat and roasted it does not become hard, because though earthy in nature it is only so in the same way as wax is; accordingly on heating too much the eggs become watery and rotten, [if they be not from a liquid residue]. The white on the contrary is not congealed by frost but rather liquefies (the reason of which has been stated before), but on exposure to heat becomes solid. Therefore being concocted in the development of the chick it is thickened. For it is from this that the young is formed (whereas the yolk turns to nutriment) and it is from this that the parts derive their growth as they are formed one after another. This is why the white and the yolk are separated by membranes, as being different in nature. The precise details of the relation of the parts to one another both at the beginning of generation and as the animals are forming, and also the details of the membranes and umbilical cords, must be learnt from what has been written in the Enquiries; for the present investigation it is sufficient to understand this much clearly, that, when the heart has been first formed and the great blood-vessel has been marked off from it, two umbilical cords run from the vessel, the one to the membrane which encloses the yolk, the other to the membrane resembling a chorion which surrounds the whole embryo; this latter runs round on the inside of the membrane of the shell. Through the one of these the embryo receives the nutriment from the yolk, and the yolk becomes larger, for it becomes more liquid by heating. This is because the nourishment, being of a material character in its first form, must become liquid before it can be absorbed, just as it is with plants, and at first this embryo, whether in an egg or in the mother’s uterus, lives the life of a plant, for it receives its first growth and nourishment by being attached to something else.

The second umbilical cord runs to the surrounding chorion. For we must understand that, in the case of animals developed in eggs, the chick has the same relation to the yolk as the embryo of the vivipara has to the mother so long as it is within the mother (for since the nourishment of the embryo of the ovipara is not completed within the mother, the embryo takes part of it away from her). So also the relation of the chick to the outermost membrane, the sanguineous one, is like that of the mammalian embryo to the uterus. At the same time the egg-shell surrounds both the yolk and the membrane analogous to the uterus, just as if it should be put round both the embryo itself and the whole of the mother, in the vivipara. This is so because the embryo must be in the uterus and attached to the mother. Now in the vivipara the uterus is within the mother, but in the ovipara it is the other way about, as if one should say that the mother was in the uterus, for that which comes from the mother, the nutriment, is the yolk. The reason is that the process of nourishment is not completed within the mother.

As the creature grows the umbilicus running the chorion collapses first, because it is here that the young is to come out; what is left of the yolk, and the umbilical cord running to the yolk, collapse later. For the young must have nourishment as soon as it is hatched; it is not nursed by the mother and cannot immediately procure its nourishment for itself; therefore the yolk enters within it along with its umbilicus and the flesh grows round it.

This then is the manner in which animals produced from perfect eggs are hatched in all those, whether birds or quadrupeds, which lay the egg with a hard shell. These details are plainer in the larger creatures; in the smaller they are obscure because of the smallness of the masses concerned.

3

The class of fishes is also oviparous. Those among them which have the uterus low down lay an imperfect egg for the reason previously given,' but the so-called ‘selache’ or cartilaginous fishes produce a perfect egg within themselves but are externally viviparous except one which they call the ‘frog’; this alone lays a perfect egg externally. The reason is the nature of its body, for its head is many times as large as the rest of the body and is spiny and very rough. This is also why it does not receive its young again within itself nor produce them alive to begin with, for as the size and roughness of the head prevents their entering so it would prevent their exit. And while the egg of the cartilaginous fishes is soft-shelled (for they cannot harden and dry its circumference, being colder than birds), the egg of the frog-fish alone is solid and firm to protect it outside, but those of the rest are of a moist and soft nature, for they are sheltered within and by the body of the mother.

The young are produced from the egg in the same way both with those externally perfected (the frog-fishes) and those internally, and the process in these eggs is partly similar to, partly different from that in birds’ eggs. In the first place they have not the second umbilicus which runs to the chorion under the surrounding shell. The reason of this is that they have not the surrounding shell, for it is no use to them since the mother shelters them, and the shell is a protection to the eggs against external injury between laying and hatching out. Secondly, the process in these also begins on the surface of the egg but not where it is attached to the uterus, as in birds, for the chick is developed from the sharp end and that is where the egg was attached. The reason is that the egg of birds is separated from the uterus before it is perfected, but in most though not all cartilaginous fishes the egg is still attached to the uterus when perfect. While the young develops upon the surface the egg is consumed by it just as in birds and the other animals detached from the uterus, and at last the umbilicus of the now perfect fish is left attached to the uterus. The like is the case with all those whose eggs are detached from the uterus, for in some of them the egg is so detached when it is perfect.

The question may be asked why the development of birds and cartilaginous fishes differs in this respect. The reason is that in birds the white and yolk are separate, but fish eggs are one-coloured, the corresponding matter being completely mixed, so that there is nothing to stop the first principle being at the opposite end, for the egg is of the same nature both at the point of attachment and at the opposite end, and it is easy to draw the nourishment from the uterus by passages running from this principle. This is plain in the eggs which are not detached, for in some of the cartilaginous fish the egg is not detached from the uterus, but is still connected with it as it comes downwards with a view to the production of the young alive; in these the young fish when perfected is still connected by the umbilicus to the uterus when the egg has been consumed. From this it is clear that previously also, while the egg was still round the young, the passages ran to the uterus. This happens as we have said in the ‘smooth hound’.

In these respects and for the reasons given the development of cartilaginous fishes differs from that of birds, but otherwise it takes place in the same way. For they have the one umbilicus in like manner as that of birds connecting with the yolk — only in these fishes it connects with the whole egg (for it is not divided into white and yolk but all one-coloured) — and get their nourishment from this, and as it is being consumed the flesh in like manner encroaches upon and grows round it.

Such is the process of development in those fish that produce a perfect egg within themselves but are externally viviparous.

4

Most of the other fish are externally oviparous, all laying an imperfect egg except the frog-fish; the reason of this exception has been previously stated, and the reason also why the others lay imperfect eggs. In these also the development from the egg runs on the same lines as that of the cartilaginous and internally oviparous fishes, except that the growth is quick and from small beginnings and the outside of the egg is harder. The growth of the egg is like that of a scolex, for those animals which produce a scolex give birth to a small thing at first and this grows by itself and not through any attachment to the parent. The reason is similar to that of the growth of yeast, for yeast also grows great from a small beginning as the more solid part liquefies and the liquid is aerated. This is effected in animals by the nature of the vital heat, in yeasts by the heat of the juice commingled with them. The eggs then grow of necessity through this cause (for they have in them superfluous yeasty matter), but also for the sake of a final cause, for it is impossible for them to attain their whole growth in the uterus because these animals have so many eggs. Therefore are they very small when set free and grow quickly, small because the uterus is narrow for the multitude of the eggs, and growing quickly that the race may not perish, as it would if much of the time required for the whole development were spent in this growth; even as it is most of those laid are destroyed before hatching. Hence the class of fish is prolific, for Nature makes up for the destruction by numbers. Some fish actually burst because of the size of the eggs, as the fish called ‘belone’, for its eggs are large instead of numerous, what Nature has taken away in number being added in size.

So much for the growth of such eggs and its reason.

5

A proof that these fish also are oviparous is the fact that even viviparous fish, such as the cartilaginous, are first internally oviparous, for hence it is plain that the whole class of fishes is oviparous. Where, however, both sexes exist and the eggs are produced in consequence of impregnation, the eggs do not arrive at completion unless the male sprinkle his milt upon them. Some erroneously assert that all fish are female except in the cartilaginous fishes, for they think that the females of fish differ from what are supposed to be males only in the same way as in those plants where the one bears fruit but the other is fruitless, as olive and oleaster, fig and caprifig. They think the like applies to fish except the cartilaginous, for they do not dispute the sexes in these. And yet there is no difference in the males of cartilaginous fishes and those belonging to the oviparous class in respect of the organs for the milt, and it is manifest that semen can be squeezed out of males of both classes at the right season. The female also has a uterus. But if the whole class were females and some of them unproductive (as with mules in the class of bushy-tailed animals), then not only should those which lay eggs have a uterus but also the others, only the uterus of the latter should be different from that of the former. But, as it is, some of them have organs for milt and others have a uterus, and this distinction obtains in all except two, the erythrinus and the channa, some of them having the milt organs, others a uterus. The difficulty which drives some thinkers to this conclusion is easily solved if we look at the facts. They say quite correctly that no animal which copulates produces many young, for of all those that generate from themselves perfect animals or perfect eggs none is prolific on the same scale as the oviparous fishes, for the number of eggs in these is enormous. But they had overlooked the fact that fish-eggs differ from those of birds in one circumstance. Birds and all oviparous quadrupeds, and any of the cartilaginous fish that are oviparous, produce a perfect egg, and it does not increase outside of them, whereas the eggs of fish are imperfect and do so complete their growth. Moreover the same thing applies to cephalopods also and crustacea, yet these animals are actually seen copulating, for their union lasts a long time, and it is plain in these cases that the one is male and the other has a uterus. Finally, it would be strange if this distinction did not exist in the whole class, just as male and female in all the vivipara. The cause of the ignorance of those who make this statement is that the differences in the copulation and generation of various animals are of all kinds and not obvious, and so, speculating on a small induction, they think the same must hold good in all cases.

So also those who assert that conception in female fishes is caused by their swallowing the semen of the male have not observed certain points when they say this. For the males have their milt and the females their eggs at about the same time of year, and the nearer the female is to laying the more abundant and the more liquid is the milt formed in the male. And just as the increase of the milt in the male and of the roe in the female takes place at the same time, so is it also with their emission, for neither do the females lay all their eggs together, but gradually, nor do the males emit all the milt at once. All these facts are in accordance with reason. For just as the class of birds in some cases has eggs without impregnation, but few and seldom, impregnation being generally required, so we find the same thing, though to a less degree, in fish. But in both classes these spontaneous eggs are infertile unless the male, in those kinds where the male exists, shed his fluid upon them. Now in birds this must take place while the eggs are still within the mother, because they are perfect when discharged, but in fish, because the eggs are imperfect and complete their growth outside the mother in all cases, those outside are preserved by the sprinkling of the milt over them, even if they come into being by impregnation, and here it is that the milt of the males is used up. Therefore it comes down the ducts and diminishes in quantity at the same time as this happens to the eggs of the females, for the males always attend them, shedding their milt upon the eggs as they are laid. Thus then they are male and female, and all of them copulate (unless in any kind the distinction of sex does not exist), and without the semen of the male no such animal comes into being.

What helps in the deception is also the fact that the union of such fishes is brief, so that it is not observed even by many of the fishermen, for none of them ever watches anything of the sort for the sake of knowledge. Nevertheless their copulation has been seen, for fish [when the tail part does not prevent it] copulate like the dolphins by throwing themselves alongside of one another. But the dolphins take longer to get free again, whereas such fishes do so quickly. Hence, not seeing this, but seeing the swallowing of the milt and the eggs, even the fishermen repeat the same simple tale, so much noised abroad, as Herodotus the storyteller, as if fish were conceived by the mother's swallowing the milt — not considering that this is impossible. For the passage which enters by way of the mouth runs to the intestines, not to the uterus, and what goes into the intestines must be turned into nutriment, for it is concocted; the uterus, however, is plainly full of eggs, and from whence did they enter it?

6

A similar story is told also of the generation of birds. For there are some who say that the raven and the ibis unite at the mouth, and among quadrupeds that the weasel brings forth its young by the mouth; so say Anaxagoras and some of the other physicists, speaking too superficially and without consideration. Concerning the birds, they are deceived by a false reasoning, because the copulation of ravens is seldom seen, but they are often seen uniting with one another with their beaks, as do all the birds of the raven family; this is plain with domesticated jackdaws. Birds of the pigeon kind do the same, but, because they also plainly copulate, therefore they have not had the same legend told of them. But the raven family is not amorous, for they are birds that produce few young, though this bird also has been seen copulating before now. It is a strange thing, however, that these theorists do not ask themselves how the semen enters the uterus through the intestine, which always concocts whatever comes into it, as the nutriment; and these birds have a uterus like others, and eggs are found them near the hypozoma. And the weasel has a uterus in like manner to the other quadrupeds; by what passage is the embryo to get from it to the mouth? But this opinion has arisen because the young of the weasel are very small like those of the other fissipeds, of which we shall speak later, and because they often carry the young about in their mouths.

Much deceived also are those who make a foolish statement about the trochus and the hyena. Many say that the hyena, and Herodorus the Heracleot says that the trochus, has two pudenda, those of the male and of the female, and that the trochus impregnates itself but the hyena mounts and is mounted in alternate years. This is untrue, for the hyena has been seen to have only one pudendum, there being no lack of opportunity for observation in some districts, but hyenas have under the tail a line like the pudendum of the female. Both male and female have such a mark, but the males are taken more frequently; this casual observation has given rise to this opinion. But enough has been said of this.

7

Touching the generation of fish, the question may be raised, why it is that in the cartilaginous fish neither the females are seen discharging their eggs nor the males their milt, whereas in the non-viviparous fishes this is seen in both sexes. The reason is that the whole cartilaginous class do not produce much semen, and further the females have their uterus near hypozoma. For the males and females of the one class of fish differ from the males and females of the other class in like manner, for the cartilaginous are less productive of semen. But in the oviparous fish, as the females lay their eggs on account of their number, so do the males shed their milt on account of its abundance. For they have more milt than just what is required for copulation, as Nature prefers to expend the milt in helping to perfect the eggs, when the female has deposited them, rather than in forming them at first. For as has been said both further back and in our recent discussions, the eggs of birds are perfected internally but those of fish externally. The latter, indeed, resemble in a way those animals which produce a scolex, for the product discharged by them is still more imperfect than a fish's egg. It is the male that brings about the perfection of the egg both of birds and of fishes, only in the former internally, as they are perfected internally, and in the latter externally, because the egg is imperfect when deposited; but the result is the same in both cases.

In birds the wind-eggs become fertile, and those previously impregnated by one kind of cock change their nature to that of the later cock. And if the eggs be behindhand in growth, then, if the same cock treads the hen again after leaving off treading for a time, he causes them to increase quickly, not, however, at any period whatever of their development, but if the treading take place before the egg changes so far that the white begins to separate from the yolk. But in the eggs of fishes no such limit of time has been laid down, but the males shed their milt quickly upon them to preserve them. The reason is that these eggs are not two-coloured, and hence there is no such limit of time fixed with them as with those of birds. This fact is what we should expect, for by the time that the white and yolk are separated off from one another, the birds egg already contains the principle that comes from the male parent.... for the male contributes to this.

Wind-eggs, then, participate in generation so far as is possible for them. That they should be perfected into an animal is impossible, for an animal requires sense-perception; but the nutritive faculty of the soul is possessed by females as well as males, and indeed by all living things, as has been often said, wherefore the egg itself is perfect only as the embryo of a plant, but imperfect as that of an animal. If, then, there had been no male sex in the class of birds, the egg would have been produced as it is in some fishes, if indeed there is any kind of fish of such a nature as to generate without a male; but it has been said of them before that this has not yet been satisfactorily observed. But as it is both sexes exist in all birds, so that, considered as a plant, the egg is perfect, but in so far as it is not a plant it is not perfect, nor does anything else result from it; for neither has it come into being simply like a real plant nor from copulation like an animal. Eggs, however, produced from copulation but already separated into white and yolk take after the first cock; for they already contain both principles, which is why they do not change again after the second impregnation.

8

The young are produced in the same way also by the cephalopoda, e.g. sepias and the like, and by the crustacea, e.g. carabi and their kindred, for these also lay eggs in consequence of copulation, and the male has often been seen uniting with the female. Therefore those who say that all fish are female and lay eggs without copulation are plainly speaking unscientifically from this point of view also. For it is a wonderful thing to suppose that the former animals lay eggs in consequence of copulation and that fish do not; if again they were unaware of this, it is a sign of ignorance. The union of all these creatures lasts a considerable time, as in insects, and naturally so, for they are bloodless and therefore of a cold nature.

In the sepias and calamaries or squids the eggs appear to be two, because the uterus is divided and appears double, but that of the poulps appears to be single. The reason is that the shape of the uterus in the poulp is round in form and spherical, the cleavage being obscure when it is filled with eggs. The uterus of the carabi is also bifid. All these animals also lay an imperfect egg for the same reason as fishes. In the carabi and their like the females produce their eggs so as to keep them attached to themselves, which is why the side-flaps of the females are larger than those of the males, to protect the eggs; the cephalopoda lay them away from themselves. The males of the cephalopoda sprinkle their milt over the females, as the male fish do over the eggs, and it becomes a sticky and glutinous mass, but in the carabi and their like nothing of the sort has been seen or can be naturally expected, for the egg is under the female and is hard-shelled. Both these eggs and those of the cephalopoda grow after deposition like those of fishes.

The sepia while developing is attached to the egg by its front part, for here alone is it possible, because this animal alone has its front and back pointing in the same direction. For the position and attitude of the young while developing you must look at the Enquiries.

9

We have now spoken of the generation of other animals, those that walk, fly, and swim; it remains to speak of insects and testacea according to the plan laid down. Let us begin with the insects. It was observed previously that some of these are generated by copulation, others spontaneously, and besides this that they produce a scolex, and why this is so. For pretty much all creatures seem in a certain way to produce a scolex first, since the most imperfect embryo is of such a nature; and in all animals, even the viviparous and those that lay a perfect egg, the first embryo grows in size while still undifferentiated into parts; now such is the nature of the scolex. After this stage some of the ovipara produce the egg in a perfect condition, others in an imperfect, but it is perfected outside as has been often stated of fish. With animals internally viviparous the embryo becomes egg-like in a certain sense after its original formation, for the liquid is contained in a fine membrane, just as if we should take away the shell of the egg, wherefore they call the abortion of an embryo at that stage an ‘efflux’.

Those insects which generate at all generate a scolex, and those which come into being spontaneously and not from copulation do so at first from a formation this nature. I say that the former generate a scolex, for we must put down caterpillars also and the product of spiders as a sort of scolex. And yet some even of these and many of the others may be thought to resemble eggs because of their round shape, but we must not judge by shapes nor yet by softness and hardness (for what is produced by some is hard), but by the fact that the whole of them is changed into the body of the creature and the animal is not developed from a part of them. All these products that are of the nature of a scolex, after progressing and acquiring their full size, become a sort of egg, for the husk about them hardens and they are motionless during this period. This is plain in the scolex of bees and wasps and in caterpillars. The reason of this is that their nature, because of its imperfection, oviposits as it were before the right time, as if the scolex, while still growing in size, were a soft egg. Similar to this is also what happens with all other insects which come into being without copulation in wool and other such materials and in water. For all of them after the scolex stage become immovable and their integument dries round them, and after this the latter bursts and there comes forth as from an egg an animal perfected in its second metamorphosis, most of those which are not aquatic being winged.

Another point is quite natural, which may wondered at by many. Caterpillars at first take nourishment, but after this stage do so no longer, but what is called by some the chrysalis is motionless. The same applies to the scolex of wasps and bees, but after this comes into being the so-called nymph.... and have nothing of the kind. For an egg is also of such a nature that when it has reached perfection it grows no more in size, but at first it grows and receives nourishment until it is differentiated and becomes a perfect egg. Sometimes the scolex contains in itself the material from which it is nourished and obtains such an addition to its size, e.g. in bees and wasps; sometimes it gets its nourishment from outside itself, as caterpillars and some others.

It has thus been stated why such animals go through a double development and for what reason they become immovable again after moving. And some of them come into being by copulation, like birds and vivipara and most fishes, others spontaneously, like some plants.

10

There is much difficulty about the generation of bees. If it is really true that in the case of some fishes there is such a method of generation that they produce eggs without copulation, this may well happen also with bees, to judge from appearances. For they must (1) either bring the young brood from elsewhere, as some say, and if so the young must either be spontaneously generated or produced by some other animal, or (2) they must generate them themselves, or (3) they must bring some and generate others, for this also is maintained by some, who say that they bring the young of the drones only. Again, if they generate them it must be either with or without copulation; if the former, then either (1) each kind must generate its own kind, or (2) some one kind must generate the others, or (3) one kind must unite with another for the purpose (I mean for instance (1) that bees may be generated from the union of bees, drones from that of drones, and kings from that of kings, or (2) that all the others may be generated from one, as from what are called kings and leaders, or (3) from the union of drones and bees, for some say that the former are male, the latter female, while others say that the bees are male and the drones female). But all these views are impossible if we reason first upon the facts peculiar to bees and secondly upon those which apply more generally to other animals also.

For if they do not generate the young but bring them from elsewhere, then bees ought to come into being also, if the bees did not carry them off, in the places from which the old bees carry the germs. For why, if new bees come into existence when the germs are transported, should they not do so if the germs are left there? They ought to do so just as much, whether the germs are spontaneously generated in the flowers or whether some animal generates them. And if the germs were of some other animal, then that animal ought to be produced from them instead of bees. Again, that they should collect honey is reasonable, for it is their food, but it is strange that they should collect the young if they are neither their own offspring nor food. With what object should they do so? for all animals that trouble themselves about the young labour for what appears to be their own offspring.

But, again, it is also unreasonable to suppose that the bees are female and the drones male, for Nature does not give weapons for fighting to any female, and while the drones are stingless all the bees have a sting. Nor is the opposite view reasonable, that the bees are male and the drones female, for no males are in the habit of working for their offspring, but as it is the bees do this. And generally, since the brood of the drones is found coming into being among them even if there is no mature drone present, but that of the bees is not so found without the presence of the kings (which is why some say that the young of the drones alone is brought in from outside), it is plain that they are not produced from copulation, either (1) of bee with bee or drone with drone or (2) of bees with drones. (That they should import the brood of the drones alone is impossible for the reasons already given, and besides it is unreasonable that a similar state of things should not prevail with all the three kinds if it prevails with one.) Then, again, it is also impossible that the bees themselves should be some of them male and some female, for in all kinds of animals the two sexes differ. Besides they would in that case generate their own kind, but as it is their brood is not found to come into being if the leaders are not among them, as men say. And an argument against both theories, that the young are generated by union of the bees with one another or with the drones, separately or with one another, is this: none of them has ever yet been seen copulating, whereas this would have often happened if the sexes had existed in them. It remains then, if they are generated by copulation at all, that the kings shall unite to generate them. But the drones are found to come into being even if no leaders are present, and it is not possible that the bees should either import their brood or themselves generate them by copulation. It remains then, as appears to be the case in certain fishes, that the bees should generate the drones without copulation, being indeed female in respect of generative power, but containing in themselves both sexes as plants do. Hence also they have the instrument of offence, for we ought not to call that female in which the male sex is not separated. But if this is found to be the case with drones, if they come into being without copulation, then as it is necessary that the same account should be given of the bees and the kings and that they also should be generated without copulation. Now if the brood of the bees had been found to come into being among them without the presence of the kings, it would necessarily follow that the bees also are produced from bees themselves without copulation, but as it is, since those occupied with the tendance of these creatures deny this, it remains that the kings must generate both their own kind and the bees.

As bees are a peculiar and extraordinary kind of animal so also their generation appears to be peculiar. That bees should generate without copulation is a thing which may be paralleled in other animals, but that what they generate should not be of the same kind is peculiar to them, for the erythrinus generates an erythrinus and the channa a channa. The reason is that bees themselves are not generated like flies and similar creatures, but from a kind different indeed but akin to them, for they are produced from the leaders. Hence in a sort of way their generation is analogous. For the leaders resemble the drones in size and the bees in possessing a sting; so the bees are like them in this respect, and the drones are like them in size. For there must needs be some overlapping unless the same kind is always to be produced from each; but this is impossible, for at that rate the whole class would consist of leaders. The bees, then, are assimilated to them their power of generation, the drones in size; if the latter had had a sting also they would have been leaders, but as it is this much of the difficulty has been solved, for the leaders are like both kinds at once, like the bees in possessing a sting, like the drones in size.

But the leaders also must be generated from something. Since it is neither from the bees nor from the drones, it must be from their own kind. The grubs of the kings are produced last and are not many in number.

Thus what happens is this: the leaders generate their own kind but also another kind, that of the bees; the bees again generate another kind, the drones, but do not also generate their own kind, but this has been denied them. And since what is according to Nature is always in due order, therefore it is necessary that it should be denied to the drones even to generate another kind than themselves. This is just what we find happening, for though the drones are themselves generated, they generate nothing else, but the process reaches its limit in the third stage. And so beautifully is this arranged by Nature that the three kinds always continue in existence and none of them fails, though they do not all generate.

Another fact is also natural, that in fine seasons much honey is collected and many drones are produced but in rainy reasons a large brood of ordinary bees. For the wet causes more residual matter to be formed in the bodies of the leaders, the fine weather in that of the bees, for being smaller in size they need the fine weather more than the kings do. It is right also that the kings, being as it were made with a view to producing young, should remain within, freed from the labour of procuring necessaries, and also that they should be of a considerable size, their bodies being, as it were, constituted with a view to bearing young, and that the drones should be idle as having no weapon to fight for the food and because of the slowness of their bodies. But the bees are intermediate in size between the two other kinds, for this is useful for their work, and they are workers as having to support not only their young but also their fathers. And it agrees with our views that the bees attend upon their kings because they are their offspring (for if nothing of the sort had been the case the facts about their leadership would be unreasonable), and that, while they suffer the kings to do no work as being their parents, they punish the drones as their children, for it is nobler to punish one’s children and those who have no work to perform. The fact that the leaders, being few, generate the bees in large numbers seems to be similar to what obtains in the generation of lions, which at first produce five, afterwards a smaller number each time at last one and thereafter none. So the leaders at first produce a number of workers, afterwards a few of their own kind; thus the brood of the latter is smaller in number than that of the former, but where Nature has taken away from them in number she has made it up again in size.

Such appears to be the truth about the generation of bees, judging from theory and from what are believed to be the facts about them; the facts, however, have not yet been sufficiently grasped; if ever they are, then credit must be given rather to observation than to theories, and to theories only if what they affirm agrees with the observed facts.

A further indication that bees are produced without copulation is the fact that the brood appears small in the cells of the comb, whereas, whenever insects are generated by copulation, the parents remain united for a long time but produce quickly something of the nature of a scolex and of a considerable size.

Concerning the generation of animals akin to them, as hornets and wasps, the facts in all cases are similar to a certain extent, but are devoid of the extraordinary features which characterize bees; this we should expect, for they have nothing divine about them as the bees have. For the so-called ‘mothers’ generate the young and mould the first part of the combs, but they generate by copulation with one another, for their union has often been observed. As for all the differences of each of these kind from one another and from bees, they must be investigated with the aid of the illustrations to the Enquiries.

11

Having spoken of the generation of all insects, we must now speak of the testacea. Here also the facts of generation are partly like and partly unlike those in the other classes. And this is what might be expected. For compared with animals they resemble plants, compared with plants they resemble animals, so that in a sense they appear to come into being from semen, but in another sense not so, and in one way they are spontaneously generated but in another from their own kind, or some of them in the latter way, others in the former. Because their nature answers to that of plants, therefore few or no kinds of testacea come into being on land, e.g. the snails and any others, few as they are, that resemble them; but in the sea and similar waters there are many of all kinds of forms. But the class of plants has but few and one may say practically no representatives in the sea and such places, all such growing on the land. For plants and testacea are analogous; and in proportion as liquid has more quickening power than solid, water than earth, so much does the nature of testacea differ from that of plants, since the object of testacea is to be in such a relation to water as plants are to earth, as if plants were, so to say, land-oysters, oysters water-plants.

For such a reason also the testacea in the water vary more in form than those on the land. For the nature of liquid is more plastic than that of earth and yet not much less material, and this is especially true of the inhabitants of the sea, for fresh water, though sweet and nutritious, is cold and less material. Wherefore animals having no blood and not of a hot nature are not produced in lakes nor in the fresher among brackish waters, but only exceptionally, but it is in estuaries and at the mouths of rivers that they come into being, as testacea and cephalopoda and crustacea, all these being bloodless and of a cold nature. For they seek at the same time the warmth of the sun and food; now the sea is not only water but much more material than fresh water and hot in its nature; it has a share in all the parts of the universe, water and air and earth, so that it also has a share in all living things which are produced in connexion with each of these elements. Plants may be assigned to land, the aquatic animals to water, the land animals to air, but variations of quantity and distance make a great and wonderful difference. The fourth class must not be sought in these regions, though there certainly ought to be some animal corresponding to the element of fire, for this is counted in as the fourth of the elementary bodies. But the form which fire assumes never appears to be peculiar to it, but it always exists in some other of the elements, for that which is ignited appears to be either air or smoke or earth. Such a kind of animal must be sought in the moon, for this appears to participate in the element removed in the third degree from earth. The discussion of these things however belongs to another subject.

To return to testacea, some of them are formed spontaneously, some emit a sort of generative substance from themselves, but these also often come into being from a spontaneous formation. To understand this we must grasp the different methods of generation in plants; some of these are produced from seed, some from slips, planted out, some by budding off alongside, as the class of onions. In the last way produced mussels, for smaller ones are always growing off alongside the original, but the whelks, the purple-fish, and those which are said to 'spawn' emit masses of a liquid slime as if originated by something of a seminal nature. We must not, however, consider that anything of the sort is real semen, but that these creatures participate in the resemblance to plants in the manner stated above. Hence when once one such creature has been produced, then is produced a number of them. For all these creatures are liable to be even spontaneously generated, and so to be formed still more plentifully in proportion if some are already existing. For it is natural that each should have some superfluous residue attached to it from the original, and from this buds off each of the creatures growing alongside of it. Again, since the nutriment and its residue possess a like power, it is likely that the product of those testacea which 'spawn' should resemble the original formation, and so it is natural that a new animal of the same kind should come into being from this also.

All those which do not bud off or 'spawn' are spontaneously generated. Now all things formed in this way, whether in earth or water, manifestly come into being in connexion with putrefaction and an admixture of rain-water. For as the sweet is separated off into the matter which is forming, the residue of the mixture takes such a form. Nothing comes into being by putrefying, but by concocting; putrefaction and the thing putrefied is only a residue of that which is concocted. For nothing comes into being out of the whole of anything, any more than in the products of art; if it did art would have nothing to do, but as it is in the one case art removes the useless material, in the other Nature does so. Animals and plants come into being in earth and in liquid because there is water in earth, and air in water, and in all air is vital heat so that in a sense all things are full of soul. Therefore living things form quickly whenever this air and vital heat are enclosed in anything. When they are so enclosed, the corporeal liquids being heated, there arises as it were a frothy bubble. Whether what is forming is to be more or less honourable in kind depends on the embracing of the psychical principle; this again depends on the medium in which the generation takes place and the material which is included. Now in the sea the earthy matter is present in large quantities, and consequently the testaceous animals are formed from a concretion of this kind, the earthy matter hardening round them and solidifying in the same manner as bones and horns (for these cannot be melted by fire), and the matter (or body) which contains the life being included within it.

The class of snails is the only class of such creatures that has been seen uniting, but it has never yet been sufficiently observed whether their generation is the result of the union or not.

It may be asked, if we wish to follow the right line of investigation, what it is in such animals the formation of which corresponds to the material principle. For in the females this is a residual secretion of the animal, potentially such as that from which it came, by imparting motion to which the principle derived from the male perfects the animal. But here what must be said to correspond to this, and whence comes or what is the moving principle which corresponds to the male? We must understand that even in animals which generate it is from the incoming nourishment that the heat in the animal makes the residue, the beginning of the conception, by secretion and concoction. The like is the case also in plants, except that in these (and also in some animals) there is no further need of the male principle, because they have it mingled with the female principle within themselves, whereas the residual secretion in most animals does need it. The nourishment again of some is earth and water, of others the more complicated combinations of these, so that what the heat in animals produces from their nutriment, this does the heat of the warm season in the environment put together and combine by concoction out of the sea-water on the earth. And the portion of the psychical principle which is either included along with it or separated off in the air makes an embryo and puts motion into it. Now in plants which are spontaneously generated the method of formation is uniform; they arise from a part of something, and while some of it is the starting-point of the plant, some is the first nourishment of the young shoots.... Other animals are produced in the form of a scolex, not only those bloodless animals which are not generated from parents but even some sanguinea, as a kind of mullet and some other river fishes and also the eel kind. For all of these, though they have but little blood by nature, are nevertheless sanguinea, and have a heart with blood in it as the origin of the parts; and the so-called ‘entrails of earth’, in which comes into being the body of the eel, have the nature of a scolex.

Hence one might suppose, in connexion with the origin of men and quadrupeds, that, if ever they were really ‘earth-born’ as some say, they came into being in one of two ways; that either it was by the formation of a scolex at first or else it was out of eggs. For either they must have had in themselves the nutriment for growth (and such a conception is a scolex) or they must have got it from elsewhere, and that either from the mother or from part of the conception. If then the former is impossible (I mean that nourishment should flow to them from the earth as it does in animals from the mother), then they must have got it from some part of the conception, and such generation we say is from an egg.

It is plain then that, if there really was any such beginning of the generation of all animals, it is reasonable to suppose to have been one of these two, scolex or egg. But it is less reasonable to suppose that it was from eggs, for we do not see such generation occurring with any animal, but we do see the other both in the sanguinea above mentioned and in the bloodless animals. Such are some of the insects and such are the testacea which we are discussing; for they do not develop out of a part of something (as do animals from eggs), and they grow like a scolex. For the scolex grows towards the upper part and the first principle, since in the lower part is the nourishment for the upper. And this resembles the development of animals from eggs, except that these latter consume the whole egg, whereas in the scolex, when the upper part has grown by taking up into itself part of the substance in the lower part, the lower part is then differentiated out of the rest. The reason is that in later life also the nourishment is absorbed by all animals in the part below the hypozoma.

That the scolex grows in this way is plain in the case of bees and the like, for at first the lower part is large in them and the upper is smaller. The details of growth in the testacea are similar. This is plain in the whorls of the turbinata, for always as the animal grows the whorls become larger towards the front and what is called the head of the creature.

We have now pretty well described the manner of the development of these and the other spontaneously generated animals. That all the testacea are formed spontaneously is clear from such facts as these. They come into being on the side of boats when the frothy mud putrefies. In many places where previously nothing of the kind existed, the so-called limnostrea, a kind of oyster, have come into being when the spot turned muddy through want of water; thus when a naval armament cast anchor at Rhodes a number of clay vessels were thrown out into the sea, and after some time, when mud had collected round them, oysters used to be found in them. Here is another proof that such animals do not emit any generative substance from themselves; when certain Chians carried some live oysters over from Pyrrha in Lesbos and placed them in narrow straits of the sea where tides clash, they became no more numerous as time passed, but increased greatly in size. The so-called eggs contribute to generation but are only a condition, like fat in the sanguinea, and therefore the oysters are savoury at these periods. A proof that this substance is not really eggs is the fact that such ‘eggs’ are always found in some testacea, as in pinnae, whelks, and purple-fish; only they are sometimes larger and sometimes smaller; in others as pectens, mussels, and the so-called limnostrea, they are not always present but only in the spring; as the season advances they dwindle and at last disappear altogether; the reason being that the spring is favourable to their being in good condition. In others again, as the ascidians, nothing of the sort is visible. (The details concerning these last, and the places in which they come into being, must be learnt from the Enquiry.)

Book IV

1

WE have thus spoken of the generation of animals both generally and separately in all the different classes. But, since male and female are distinct in the most perfect of them, and since we say that the sexes are first principles of all living things whether animals or plants, only in some of them the sexes are separated and in others not, therefore we must speak first of the origin of the sexes in the latter. For while the animal is still imperfect in its kind the distinction is already made between male and female.

It is disputed, however, whether the embryo is male or female, as the case may be, even before the distinction is plain to our senses, and further whether it is thus differentiated within the mother or even earlier. It is said by some, as by Anaxagoras and other of the physicists, that this antithesis exists from the beginning in the germs or seeds; for the germ, they say, comes from the male while the female only provides the place in which it is to be developed, and the male is from the right, the female from the left testis, and so also that the male embryo is in the right of the uterus, the female in the left. Others, as Empedocles, say that the differentiation takes place in the uterus; for he says that if the uterus is hot or cold what enters it becomes male or female, the cause of the heat or cold being the flow of the catamenia, according as it is colder or hotter, more ‘antique’ or more ‘recent’. Democritus of Abdera also says that the differentiation of sex takes place within the mother; that however it is not because of heat and cold that one embryo becomes female and another male, but that it depends on the question which parent it is whose semen prevails — not the whole of the semen, but that which has come from the part by which male and female differ from one another. This is a better theory, for certainly Empedocles has made a rather light-hearted assumption in thinking that the difference between them is due only to cold and heat, when he saw that there was a great difference in the whole of the sexual parts, the difference in fact between the male pudenda and the uterus. For suppose two animals already moulded in embryo, the one having all the parts of the female, the other those of the male; suppose them then to be put into the uterus as into an oven, the former when the oven is hot, the latter when it is cold; then on the view of Empedocles that which has no uterus will be female and that which has will be male. But this is impossible. Thus the theory of Democritus would be the better of the two, at least as far as this goes, for he seeks for the origin of this difference and tries to set it forth; whether he does so well or not is another question.

Again, if heat and cold were the cause of the difference of the parts, this ought to have been stated by those who maintain the view of Empedocles; for to explain the origin of male and female is practically the same thing as to explain this, which is the manifest difference between them. And it is no small matter, starting from temperature as a principle, to collect the cause of the origin of these parts, as if it were a necessary consequence for this part which they call the uterus to be formed in the embryo under the influence of cold but not under that of heat. The same applies also to the parts which serve for intercourse, since these also differ in the way stated previously.

Moreover male and female twins are often found together in the same part of the uterus; this we have observed sufficiently by dissection in all the vivipara, both land animals and fish. Now if Empedocles had not seen this it was only natural for him to fall into error in assigning this cause of his; but if he had seen it it is strange that he should still think the heat or cold of the uterus to be the cause, since on his theory both these twins would have become either male or female, but as it is we do not see this to be the fact.

Again he says that the parts of the embryo are ‘sundered’, some being in the male and some in the female parent, which is why they desire intercourse with one another. If so it is necessary that the sexual parts like the rest should be separated from one another, already existing as masses of a certain size, and that they should come into being in the embryo on account of uniting with one another, not on account of cooling or heating of the semen. But perhaps it would take too long to discuss thoroughly such a cause as this which is stated by Empedocles, for its whole character seems to be fanciful. If, however, the facts about semen are such as we have actually stated, if it does not come from the whole of the body of the male parent and if the secretion of the male does not give any material at all to the embryo, then we must make a stand against both Empedocles and Democritus and any one else who argues on the same lines. For then it is not possible that the body of the embryo should exist ‘sundered’, part in the female parent and part in the male, as Empedocles says in the words: ‘But the nature of the limbs hath been sundered, part in the man’s...’; nor yet that a whole embryo is drawn off from each parent and the combination of the two becomes male or female according as one part prevails over another.

And, to take a more general view, though it is better to say that the one part makes the embryo female by prevailing through some superiority than to assign nothing but heat as the cause without any reflection, yet, as the form of the pudendum also varies along with the uterus from that of the father, we need an explanation of the fact that both these parts go along with each other. If it is because they are near each other, then each of the other parts also ought to go with them, for one of the prevailing parts is always near another part where the struggle is not yet decided; thus the offspring would be not only female or male but also like its mother or father respectively in all other details.

Besides, it is absurd to suppose that these parts should come into being as something isolated, without the body as a whole having changed along with them. Take first and foremost the blood-vessels, round which the whole mass of the flesh lies as round a framework. It is not reasonable that these should become of a certain quality because of the uterus, but rather that the uterus should do so on account of them. For though it is true that each is a receptacle of blood of some kind, still the system of the vessels is prior to the other; the moving principle must needs always be prior to that which it moves, and it is because it is itself of a certain quality that it is the cause of the development. The difference, then, of these parts as compared with each other in the two sexes is only a concomitant result; not this but something else must be held to be the first principle and the cause of the development of an embryo as male or female; this is so even if no semen is secreted by either male or female, but the embryo is formed in any way you please.

The same argument as that with which we meet Empedocles and Democritus will serve against those who say that the male comes from the right and the female from the left. If the male contributes no material to the embryo, there can be nothing in this view. If, as they say, he does contribute something of the sort, we must confront them in the same way as we did the theory of Empedocles, which accounts for the difference between male and female by the heat and cold of the uterus. They make the same mistake as he does, when they account for the difference by their ‘right and left’, though they see that the sexes differ actually by the whole of the sexual parts; for what reason then is the body of the uterus to exist in those embryos which come from the left and not in those from the right? For if an embryo have come from the left but has not acquired this part, it will be a female without a uterus, and so too there is nothing to stop another from being a male with a uterus! Besides as has been said before, a female embryo has been observed in the right part of the uterus, a male in the left, or again both at once in the same part, and this not only once but several times.

Some again, persuaded of the truth of a view resembling that of these philosophers, say that if a man copulates with the right or left testis tied up the result is male or female offspring respectively; so at least Leophanes asserted. And some say that the same happens in the case of those who have one or other testis excised, not speaking truth but vaticinating what will happen from probabilities and jumping at the conclusion that it is so before seeing that it proves to be so. Moreover, they know not that these parts of animals contribute nothing to the production of one sex rather than the other; a proof of this is that many animals in which the distinction of sex exists, and which produce both male and female offspring, nevertheless have no testes, as the footless animals; I mean the classes of fish and of serpents.

To suppose, then, either that heat and cold are the causes of male and female, or that the different sexes come from the right and left, is not altogether unreasonable in itself; for the right of the body is hotter than the left, and the concocted semen is hotter than the unconcocted; again, the thickened is concocted, and the more thickened is more fertile. Yet to put it in this way is to seek for the cause from too remote a starting-point; we must draw near the immediate causes in so far as it is possible for us.

We have, then, previously spoken elsewhere of both the body as a whole and its parts, explaining what each part is and for what reason it exists. But (1) the male and female are distinguished by a certain capacity and incapacity. (For the male is that which can concoct the blood into semen and which can form and secrete and discharge a semen carrying with it the principle of form — by ‘principle’ I do not mean a material principle out of which comes into being an offspring resembling the parent, but I mean the first moving cause, whether it have power to act as such in the thing itself or in something else — but the female is that which receives semen, indeed, but cannot form it for itself or secrete or discharge it.) And (2) all concoction works by means of heat. Therefore the males of animals must needs be hotter than the females. For it is by reason of cold and incapacity that the female is more abundant in blood in certain parts of her anatomy, and this abundance is an evidence of the exact opposite of what some suppose, thinking that the female is hotter than the male for this reason, i.e. the discharge of the catamenia. It is true that blood is hot, and that which has more of it is hotter than that which has less. But they assume that this discharge occurs through excess of blood and of heat, as if it could be taken for granted that all blood is equally blood if only it be liquid and sanguineous in colour, and as if it might not become less in quantity but purer in quality in those who assimilate nourishment properly. In fact they look upon this residual discharge in the same light as that of the intestines, when they think that a greater amount of it is a sign of a hotter nature, whereas the truth is just the opposite. For consider the production of fruit; the nutriment in its first stage is abundant, but the useful product derived from it is small, indeed the final result is nothing at all compared to the quantity in the first stage. So is it with the body; the various parts receive and work up the nutriment, from the whole of which the final result is quite small. This is blood in some animals, in some its analogue. Now since (1) the one sex is able and the other is unable to reduce the residual secretion to a pure form, and (2) every capacity or power in an organism has a certain corresponding organ, whether the faculty produces the desired results in a lower degree or in a higher degree, and the two sexes correspond in this manner (the terms ‘able’ and ‘unable’ being used in more senses than one) — therefore it is necessary that both female and male should have organs. Accordingly the one has the uterus, the other the male organs.

Again, Nature gives both the faculty and the organ to each individual at the same time, for it is better so. Hence each region comes into being along with the secretions and the faculties, as e.g. the faculty of sight is not perfected without the eye, nor the eye without the faculty of sight; and so too the intestine and bladder come into being along with the faculty of forming the excreta. And since that from which an organ comes into being and that by which it is increased are the same (i.e. the nutriment), each of the parts will be made out of such a material and such residual matter as it is able to receive. In the second place, again, it is formed, as we say, in a certain sense, out of its opposite. Thirdly, we must understand besides this that, if it is true that when a thing perishes it becomes the opposite of what it was, it is necessary also that what is not under the sway of that which made it must change into its opposite. After these premisses it will perhaps be now clearer for what reason one embryo becomes female and another male. For when the first principle does not bear sway and cannot concoct the nourishment through lack of heat nor bring it into its proper form, but is defeated in this respect, then must needs the material which it works on change into its opposite. Now the female is opposite to the male, and that in so far as the one is female and the other male. And since it differs in its faculty, its organ also is different, so that the embryo changes into this state. And as one part of first-rate importance changes, the whole system of the animal differs greatly in form along with it. This may be seen in the case of eunuchs, who, though mutilated in one part alone, depart so much from their original appearance and approximate closely to the female form. The reason of this is that some of the parts are principles, and when a principle is moved or affected needs must many of the parts that go along with it change with it.

If then (1) the male quality or essence is a principle and a cause, and (2) the male is such in virtue of a certain capacity and the female is such in virtue of an incapacity, and (3) the essence or definition of the capacity and of the incapacity is ability or inability to concoct the nourishment in its ultimate stage, this being called blood in the sanguinea and the analogue of blood in the other animals, and (4) the cause of this capacity is in the first principle and in the part which contains the principle of natural heat — therefore a heart must be formed in the sanguinea (and the resulting animal will be either male or female), and in the other kinds which possess the sexes must be formed that which is analogous to the heart.

This, then, is the first principle and cause of male and female, and this is the part of the body in which it resides. But the animal becomes definitely female or male by the time when it possesses also the parts by which the female differs from the male, for it is not in virtue of any part you please that it is male or female, any more than it is able to see or hear by possessing any part you please.

To recapitulate, we say that the semen, which is the foundation of the embryo, is the ultimate secretion of the nutriment. By ultimate I mean that which is carried to every part of the body, and this is also the reason why the offspring is like the parent. For it makes no difference whether we say that the semen comes from all the parts or goes to all of them, but the latter is the better. But the semen of the male differs from the corresponding secretion of the female in that it contains a principle within itself of such a kind as to set up movements also in the embryo and to concoct thoroughly the ultimate nourishment, whereas the secretion of the female contains material alone. If, then, the male element prevails it draws the female element into itself, but if it is prevailed over it changes into the opposite or is destroyed. But the female is opposite to the male, and is female because of its inability to concoct and of the coldness of the sanguineous nutriment. And Nature assigns to each of the secretions the part fitted to receive it. But the semen is a secretion, and this in the hotter animals with blood, i.e. the males, is moderate in quantity, wherefore the recipient parts of this secretion in males are only passages. But the females, owing to inability to concoct, have a great quantity of blood, for it cannot be worked up into semen. Therefore they must also have a part to receive this, and this part must be unlike the passages of the male and of a considerable size. This is why the uterus is of such a nature, this being the part by which the female differs from the male.

2

We have thus stated for what reason the one becomes female and the other male. Observed facts confirm what we have said. For more females are produced by the young and by those verging on old age than by those in the prime of life; in the former the vital heat is not yet perfect, in the latter it is failing. And those of a moister and more feminine state of body are more wont to beget females, and a liquid semen causes this more than a thicker; now all these characteristics come of deficiency in natural heat.

Again, more males are born if copulation takes place when north than when south winds are blowing. For in the latter case the animals produce more secretion, and too much secretion is harder to concoct; hence the semen of the males is more liquid, and so is the discharge of the catamenia.

Also the fact that the catamenia occur in the course of nature rather when the month is waning is due to the same causes. For this time of the month is colder and moister because of the waning and failure of the moon; as the sun makes winter and summer in the year as a whole, so does the moon in the month. This is not due to the turning of the moon, but it grows warmer as the light increases and colder as it wanes.

The shepherds also say that it not only makes a difference in the production of males and females if copulation takes place during northern or southerly winds, but even if the animals while copulating look towards the south or north; so small a thing will sometimes turn the scale and cause cold or heat, and these again influence generation.

The male and female, then, are distinguished generally, as compared with one another in connexion with the production of male and female offspring, for the causes stated. However, they also need a certain correspondence with one another to produce at all, for all things that come into being as products of art or of Nature exist in virtue of a certain ratio. Now if the hot preponderates too much it dries up the liquid; if it is very deficient it does not solidify it; for the artistic or natural product we need the due mean between the extremes. Otherwise it will be as in cooking; too much fire burns the meat, too little does not cook it, and in either case the process is a failure. So also there is need of due proportion in the mixture of the male and female elements. And for this cause it often happens to many of both sexes that they do not generate with one another, but if divorced and remarried to others do generate; and these oppositions show themselves sometimes in youth, sometimes in advanced age, alike as concerns fertility or infertility, and as concerns generation of male or female offspring.

One country also differs from another in these respects, and one water from another, for the same reasons. For the nourishment and the medical condition of the body are of such or such a kind because of the tempering of the surrounding air and of the food entering the body, especially the water; for men consume more of this than of anything else, and this enters as nourishment into all food, even solids. Hence hard waters cause infertility, and cold waters the birth of females.

3

The same causes must be held responsible for the following groups of facts. (1) Some children resemble their parents, while others do not; some being like the father and others like the mother, both in the body as a whole and in each part, male and female offspring resembling father and mother respectively rather than the other way about. (2) They resemble their parents more than remoter ancestors, and resemble those ancestors more than any chance individual. (3) Some, though resembling none of their relations, yet do at any rate resemble a human being, but others are not even like a human being but a monstrosity. For even he who does not resemble his parents is already in a certain sense a monstrosity; for in these cases Nature has in a way departed from the type. The first departure indeed is that the offspring should become female instead of male; this, however, is a natural necessity. (For the class of animals divided into sexes must be preserved, and as it is possible for the male sometimes not to prevail over the female in the mixture of the two elements, either through youth or age or some other such cause, it is necessary that animals should produce female young). And the monstrosity, though not necessary in regard of a final cause and an end, yet is necessary accidentally. As for the origin of it, we must look at it in this way. If the generative secretion in the catamenia is properly concocted, the movement imparted by the male will make the form of the embryo in the likeness of itself. (Whether we say that it is the semen or this movement that makes each of the parts grow, makes no difference; nor again whether we say that it 'makes them grow' or 'forms them from the beginning', for the formula of the movement is the same in either case.) Thus if this movement prevail, it will make the embryo male and not female, like the father and not like the mother; if it prevail not, the embryo is deficient in that faculty in which it has not prevailed. By 'each faculty' I mean this. That which generates is not only male but also a particular male, e.g. Coriscus or Socrates, and it is not only Coriscus but also a man. In this way some of the characteristics of the father are more near to him, others more remote from him considered simply as a parent and not in reference to his accidental qualities (as for instance if the parent is a scholar or the neighbour of some particular person). Now the peculiar and individual has always more force in generation than the more general and wider characteristics. Coriscus is both a man and an animal, but his manhood is nearer to his individual existence than is his animalhood. In generation both the individual and the class are operative, but the individual is the more so of the two, for this is the only true existence. And the offspring is produced indeed of a certain quality, but also as an individual, and this latter is the true existence. Therefore it is from the forces of all such existences that the efficient movements come which exist in the semen; potentially from remoter ancestors but in a higher degree and more nearly from the individual (and by the individual I mean e.g. Coriscus or Socrates). Now since everything changes not into anything haphazard but into its opposite, therefore also that which is not prevailed over in generation must change and become the opposite, in respect of that particular force in which the paternal and efficient or moving element has not prevailed. If then it has not prevailed in so far as it is male, the offspring becomes female; if in so far as it is Coriscus or Socrates, the offspring does not resemble the father but the mother. For as ‘father’ and ‘mother’ are opposed as general terms, so also the individual father is opposed to the individual mother. The like applies also to the forces that come next in order, for the offspring always changes rather into the likeness of the nearer ancestor than the more remote, both in the paternal and in the maternal line.

Some of the movements exist in the semen actually, others potentially; actually, those of the father and the general type, as man and animal; potentially those of the female and the remoter ancestors. Thus the male and efficient principle, if it lose its own nature, changes to its opposites, but the movements which form the embryo change into those nearly connected with them; for instance, if the movement of the male parent be resolved, it changes by a very slight difference into that of his father, and in the next instance into that of his grandfather; and in this way not only in the male but also in the female line the movement of the female parent changes into that of her mother, and, if not into this, then into that of her grandmother; and similarly also with the more remote ancestors.

Naturally then it is most likely that the characteristics of ‘male’ and of the individual father will go together, whether they prevail or are prevailed over. For the difference between them is small so that there is no difficulty in both concurring, for Socrates is an individual man with certain characters. Hence for the most part the male offspring resemble the father, and the female the mother. For in the latter case the loss of both characters takes place at once, and the change is into the two opposites; now is opposed to male, and the individual mother to the individual father.

But if the movement coming from the male principle prevails while that coming from the individual Socrates does not, or vice versa, then the result is that male children are produced resembling the mother and female children resembling the father.

If again the movements be resolved, if the male character remain but the movement coming from the individual Socrates be resolved into that of the father of Socrates, the result will be a male child resembling its grandfather or some other of its more remote ancestors in the male line on the same principle. If the male principle be prevailed over, the child will be female and resembling most probably its mother, but, if the movement coming from the mother also be resolved, it will resemble its mother's mother or the resemblance will be to some other of its more remote ancestors in the female line on the same principle.

The same applies also to the separate parts, for often some of these take after the father, and others after the mother, and yet others after some of the remoter ancestors. For, as has been often said already, some of the movements which form the parts exist in the semen actually and others potentially. We must grasp certain fundamental general principles, not only that just mentioned (that some of the movements exist potentially and others actually), but also two others, that if a character be prevailed over it changes into its opposite, and, if it be resolved, is resolved into the movement next allied to it — if less, into that which is near, if more, into that which is further removed. Finally, the movements are so confused together that there is no resemblance to any of the family or kindred, but the only character that remains is that common to the race, i.e. it is a human being. The reason of this is that this is closely knit up with the individual characteristics; 'human being' is the general term, while Socrates, the father, and the mother, whoever she may be, are individuals.

The reason why the movements are resolved is this. The agent is itself acted upon by that on which it acts; thus that which cuts is blunted by that which is cut by it, that which heats is cooled by that which is heated by it, and in general the moving or efficient cause (except in the case of the first cause of all) does itself receive some motion in return; e.g. what pushes is itself in a way pushed again and what crushes is itself crushed again. Sometimes it is altogether more acted upon than is the thing on which it acts, so that what is heating or cooling something else is itself cooled or heated; sometimes having produced no effect, sometimes less than it has itself received. (This question has been treated in the special discussion of action and reaction, where it is laid down in what classes of things action and reaction exist.) Now that which is acted on escapes and is not mastered by the semen, either through deficiency of power in the concocting and moving agent or because what should be concocted and formed into distinct parts is too cold and in too great quantity. Thus the moving agent, mastering it in one part but not in another, makes the embryo in formation to be multiform, as happens with athletes because they eat so much. For owing to the quantity of their food their nature is not able to master it all, so as to increase and arrange their form symmetrically; therefore their limbs develop irregularly, sometimes indeed almost so much that no one of them resembles what it was before. Similar to this is also the disease known as satyrism, in which the face appears like that of a satyr owing to a quantity of unconcocted humour or wind being diverted into parts of the face.

We have thus discussed the cause of all these phenomena, (1) female and male offspring are produced, (2) why some are similar to their parents, female to female and male to male, and others the other way about, females being similar to the father and males to the mother, and in general why some are like their ancestors while others are like none of them, and all this as concerns both the body as a whole and each of the parts separately. Different accounts, however, have been given of these phenomena by some of the nature-philosophers; I mean why children are like or unlike their parents. They give two versions of the reason. Some say that the child is more like that parent of the two from whom comes more semen, this applying equally both to the body as a whole and to the separate parts, on the assumption that semen comes from each part of both parents; if an equal part comes from each, then, they say, the child is like neither. But if this is false, if semen does not come off from the whole body of the parents, it is clear that the reason assigned cannot be the cause of likeness and unlikeness. Moreover, they are hard put to it to explain how it is that a female child can be like the father and a male like the mother. For (1) those who assign the same cause of sex as Empedocles or Democritus say what is on other grounds impossible, and (2) those who say that it is determined by the greater or smaller amount of semen coming the male or female parent, and that this is why one child is male and another female, cannot show how the female is to resemble the father and the male the mother, for it is impossible that more should come from both at once. Again, for what reason is a child generally like its ancestors, even the more remote? None of the semen has come from them at any rate.

But those who account for the similarity in the manner which remains to be discussed, explain this point better, as well as the others. For there are some who say that the semen, though one, is as it were a common mixture (panspermia) of many elements; just as, if one should mix many juices in one liquid and then take some from it, it would be possible to take, not an equal quantity always from each juice, but sometimes more of one and sometimes more of another, sometimes some of one and none at all of another, so they say it is with the generative fluid, which is a mixture of many elements, for the offspring resembles that parent from which it has derived most. Though this theory is obscure and in many ways fictitious, it aims at what is better expressed by saying that what is called 'panspermia' exists potentially, not actually; it cannot exist actually, but it can do so potentially. Also, if we assign only one sort of cause, it is not easy to explain all the phenomena, (1) the distinction of sex, (2) why the female is often like the father and the male like the mother, and again (3) the resemblance to remoter ancestors, and further (4) the reason why the offspring is sometimes unlike any of these but still a human being, but sometimes, (5) proceeding further on these lines, appears finally to be not even a human being but only some kind of animal, what is called a monstrosity.

For, following what has been said, it remains to give the reason for such monsters. If the movements imparted by the semen are resolved and the material contributed by the mother is not controlled by them, at last there remains the most general substratum, that is to say the animal. Then people say that the child has the head of a ram or a bull, and so on with other animals, as that a calf has the head of a child or a sheep that of an ox. All these monsters result from the causes stated above, but they are none of the things they are said to be; there is only some similarity, such as may arise even where there is no defect of growth. Hence often jesters compare some one who is not beautiful to a 'goat breathing fire', or again to a 'ram butting', and a certain physiognomist reduced all faces to those of two or three animals, and his arguments often prevailed on people.

That, however, it is impossible for such a monstrosity to come into existence — I mean one animal in another — is shown by the great difference in the period of gestation between man, sheep, dog, and ox, it being impossible for each to be developed except in its proper time.

This is the description of some of the monsters talked about; others are such because certain parts of their form are multiplied so that they are born with many feet or many heads.

The account of the cause of monstrosities is very close and similar in a way to that of the cause of animals being born defective in any part, for monstrosity is also a kind of deficiency.

4

Democritus said that monstrosities arose because two emissions of seminal fluid met together, the one succeeding the other at an interval of time; that the later entering into the uterus reinforced the earlier so that the parts of the embryo grow together and get confused with one another. But in birds, he says, since copulation takes place quickly, both the eggs and their colour always cross one another. But if it is the fact, as it manifestly is, that several young are produced from one emission of semen and a single act of intercourse, it is better not to desert the short road to go a long way about, for in such cases it is absolutely necessary that this should occur when the semen is not separated but all enters the female at once.

If, then, we must attribute the cause to the semen of the male, this will be the way we shall have to state it, but we must rather by all means suppose that the cause lies in the material contributed by the female and in the embryo as it is forming. Hence also such monstrosities appear very rarely in animals producing only one young one, more frequently in those producing many, most of all in birds and among birds in the common fowl. For this bird produces many young, not only because it lays often like the pigeon family, but also because it has many embryos at once and copulates all the year round. Therefore it produces many double eggs, for the embryos grow together because they are near one another, as often happens with many fruits. In such double eggs, when the yolks are separated by the membrane, two separate chickens are produced with nothing abnormal about them; when the yolks are continuous, with no division between them, the chickens produced are monstrous, having one body and head but four legs and four wings; this is because the upper parts are formed earlier from the white, their nourishment being drawn from the yolk, whereas the lower part comes into being later and its nourishment is one and indivisible.

A snake has also been observed with two heads for the same reason, this class also being oviparous and producing many young. Monstrosities, however, are rarer among them owing to the shape of the uterus, for by reason of its length the numerous eggs are set in a line.

Nothing of the kind occurs with bees and wasps, because their brood is in separate cells. But in the fowl the opposite is the case, whereby it is plain that we must hold the cause of such phenomena to lie in the material. So, too, monstrosities are commoner in other animals if they produce many young. Hence they are less common in man, for he produces for the most part only one young one and that perfect; even in man monstrosities occur more often in regions where the women give birth to more than one at a time, as in Egypt. And they are commoner in sheep and goats, since they produce more young. Still more does this apply to the fissipeds, for such animals produce many young and imperfect, as the dog, the young of these creatures being generally blind. Why this happens and why they produce many young must be stated later, but in them Nature has made an advance towards the production of monstrosities in that what they generate, being imperfect, is so far unlike the parent; now monstrosities also belong to the class of things unlike the parent. Therefore this accident also often invades animals of such a nature. So, too, it is in these that the so-called ‘metachoera’ are most frequent, and the condition of these also is in a way monstrous, since both deficiency and excess are monstrous. For the monstrosity belongs to the class of things contrary to Nature, not any and every kind of Nature, but Nature in her usual operations; nothing can happen contrary to Nature considered as eternal and necessary, but we speak of things being contrary to her in those cases where things generally happen in a certain way but may also happen in another way. In fact, even in the case of monstrosities, whenever things occur contrary indeed to the established order but still always in a certain way and not at random, the result seems to be less of a monstrosity because even that which is contrary to Nature is in a certain sense according to Nature, whenever, that is, the formal nature has not mastered the material nature. Therefore they do not call such things monstrosities any more than in the other cases where a phenomenon occurs habitually, as in fruits; for instance, there is a vine which some call ‘capneos’; if this bear black grapes they do not judge it a monstrosity because it is in the habit of doing this very often. The reason is that it is in its nature intermediate between white and black; thus the change is not a violent one nor, so to say, contrary to Nature; at least, is it not a change into another nature. But in animals producing many young not only do the same phenomena occur, but also the numerous embryos hinder one another from becoming perfect and interfere with the generative motions imparted by the semen.

A difficulty may be raised concerning (1) the production of many young and the multiplication of the parts in a single young one, and (2) the production of few young or only one and the deficiency of the parts. Sometimes animals are born with too many toes, sometimes with one alone, and so on with the other parts, for they may be multiplied or they may be absent. Again, they may have the generative parts doubled, the one being male, the other female; this is known in men and especially in goats. For what are called 'tragaenae' are such because they have both male and female generative parts; there is a case also of a goat being born with a horn upon its leg. Changes and deficiencies are found also in the internal parts, animals either not possessing some at all, or possessing them in a rudimentary condition, or too numerous or in the wrong place. No animal, indeed, has ever been born without a heart, but they are born without a spleen or with two spleens or with one kidney; there is no case again of total absence of the liver, but there are cases of its being incomplete. And all these phenomena have been seen in animals perfect and alive. Animals also which naturally have a gall-bladder are found without one; others are found to have more than one. Cases are known, too, of the organs changing places, the liver being on the left, the spleen on the right. These phenomena have been observed, as stated above, in animals whose growth is perfected; at the time of birth great confusion of every kind has been found. Those deficiency which only depart a little from Nature commonly live; not so those which depart further, when the unnatural condition is in the parts which are sovereign over life.

The question then about all these cases is this. Are we to suppose that a single cause is responsible for the production of a single young one and for the deficiency of the parts, and another but still a single cause for the production of many young and the multiplication of parts, or not?

In the first place it seems only reasonable to wonder why some animals produce many young, others only one. For it is the largest animals that produce one, e.g. the elephant, camel, horse, and the other solid-hoofed ungulates; of these some are larger than all other animals, while the others are of a remarkable size. But the dog, the wolf, and practically all the fissipeds, produce many, even the small members of the class, as the mouse family. The cloven-footed animals again produce few, except the pig, which belongs to those that produce many. This certainly seems surprising, for we should expect the large animals to be able to generate more young and to secrete more semen. But precisely what we wonder at is the reason for not wondering; it is just because of their size that they do not produce many young, for the nutriment is expended in such animals upon increasing the body. But in the smaller animals Nature takes away from the size and adds the excess so gained to the seminal secretion. Moreover, more semen must needs be used in generation by the larger animal, and little by the smaller. Therefore many small ones may be produced together, but it is hard for many large ones to be so, and to those intermediate in size Nature has assigned the intermediate number. We have formerly given the reason why some animals are large, some smaller, and some between the two, and speaking generally, with regard to the number of young produced, the solid-hoofed produce one, the cloven-footed few, the many-toed many. (The reason of this is that, generally speaking, their sizes correspond to this difference.) It is not so, however, in all cases; for it is the largeness and smallness of the body that is cause of few or many young being born, not the fact that the kind of animal has one, two, or many toes. A proof of this is that the elephant is the largest of animals and yet is many-toed, and the camel, the next largest, is cloven-footed. And not only in animals that walk but also in those that fly or swim the large ones produce few, the small many, for the same reason. In like manner also it is not the largest plants that bear most fruit.

We have explained then why some animals naturally produce many young, some but few, and some only one; in the difficulty now stated we may rather be surprised with reason at those which produce many, since such animals are often seen to conceive from a single copulation. Whether the semen of the male contributes to the material of the embryo by itself becoming a part of it and mixing with the semen of the female, or whether, as we say, it does not act in this way but brings together and fashions the material within the female and the generative secretion as the fig-juice does the liquid substance of milk, what is the reason why it does not form a single animal of considerable size? For certainly in the parallel case the fig-juice is not separated if it has to curdle a large quantity of milk, but the more the milk and the more the fig-juice put into it, so much the greater is the curdled mass. Now it is no use to say that the several regions of the uterus attract the semen and therefore more young than one are formed, because the regions are many and the cotyledons are more than one. For two embryos are often formed in the same region of the uterus, and they may be seen lying in a row in animals that produce many, when the uterus is filled with the embryos. (This is plain from the dissections.) Rather the truth is this. As animals complete their growth there are certain limits to their size, both upwards and downwards, beyond which they cannot go, but it is in the space between these limits that they exceed or fall short of one another in size, and it is within these limits that one man (or any other animal) is larger or smaller than another. So also the generative material from which each animal is formed is not without a quantitative limit in both directions, nor can it be formed from any quantity you please. Whenever then an animal, for the cause assigned, discharges more of the female secretion than is needed for beginning the existence of a single animal, it is not possible that only one should be formed out of all this, but a number limited by the appropriate size in each case; nor will the semen of the male, or the power residing in the semen, form anything either more or less than what is according to Nature. In like manner, if the male emits more semen than is necessary, or more powers in different parts of the semen as it is divided, however much it is it will not make anything greater; on the contrary it will dry up the material of the female and destroy it. So fire also does not continue to make water hotter in proportion as it is itself increased, but there is a fixed limit to the heat of which water is capable; if that is once reached and the fire is then increased, the water no longer gets hotter but rather evaporates and at last disappears and is dried up. Now since it appears that the secretion of the female and that from the male need to stand in some proportionate relation to one another (I mean in animals of which the male emits semen), what happens in those that produce many young is this: from the very first the semen emitted by the male has power, being divided, to form several embryos, and the material contributed by the female is so much that several can be formed out of it. (The parallel of curdling milk, which we spoke of before, is no longer in point here, for what is formed by the heat of the semen is not only of a certain quantity but also of a certain quality, whereas with fig-juice and rennet quantity alone is concerned.) This then is just the reason why in such animals the embryos formed are numerous and do not all unite into one whole; it is because an embryo is not formed out of any quantity you please, but whether there is too much or too little, in either case there will be no result, for there is a limit set alike to the power of the heat which acts on the material and to the material so acted upon.

On the same principle many embryos are not formed, though the secretion is much, in the large animals which produce only one young one, for in them also both the material and that which works upon it are of a certain quantity. So then they do not secrete such material in too great quantity for the reason previously stated, and what they do secrete is naturally just enough for one embryo alone to be formed from it. If ever too much is secreted, then twins are born. Hence such cases seem to be more portentous, because they are contrary to the general and customary rule.

Man belongs to all three classes, for he produces one only and sometimes many or few, though naturally he almost always produces one. Because of the moisture and heat of his body he may produce many [for semen is naturally fluid and hot], but because of his size he produces few or one. On account of this it results that in man alone among animals the period of gestation is irregular; whereas the period is fixed in the rest, there are several periods in man, for children are born at seven months and at ten months and at the times between, for even those of eight months do live though less often than the rest. The reason may be gathered from what has just been said, and the question has been discussed in the Problems. Let this explanation suffice for these points.

The cause why the parts may be multiplied contrary to Nature is the same as the cause of the birth of twins. For the reason exists already in the embryo, whenever it aggregates more material at any point of itself than is required by the nature of the part. The result is then that either one of its parts is larger than the others, as a finger or hand or foot or any of the other extremities or limbs; or again if the embryo is cleft there may come into being more than one such part, as eddies do in rivers; as the water in these is carried along with a certain motion, if it dash against anything two systems or eddies come into being out of one, each retaining the same motion; the same thing happens also with the embryos. The abnormal parts generally are attached near those they resemble, but sometimes at a distance because of the movement — taking place in the embryo, and especially because of the excess of material returning to that place whence it was taken away while retaining the form of that part whence it arose as a superfluity.

In certain cases we find a double set of generative organs [one male and the other female]. When such duplication occurs the one is always functional but not the other, because it is always insufficiently supplied with nourishment as being contrary to Nature; it is attached like a growth (for such growths also receive nourishment though they are a later development than the body proper and contrary to Nature.) If the formative power prevails, both are similar; if it is altogether vanquished, both are similar; but if it prevail here and be vanquished there, then the one is female and the other male. (For whether we consider the reason why the whole animal is male or female, or why the parts are so, makes no difference.)

When we meet with deficiency in such parts, e.g. an extremity or one of the other members, we must assume the same cause as when the embryo is altogether aborted (abortion of embryos happens frequently).

Outgrowths differ from the production of many young in the manner stated before; monsters differ from these in that most of them are due to embryos growing together. Some however are also of the following kind, when the monstrosity affects greater and more sovereign parts, as for instance some monsters have two spleens or more than two kidneys. Further, the parts may migrate, the movements which form the embryo being diverted and the material changing its place. We must decide whether the monstrous animal is one or is composed of several grown together by considering the vital principle; thus, if the heart is a part of such a kind then that which has one heart will be one animal, the multiplied parts being mere outgrowths, but those which have more than one heart will be two animals grown together through their embryos having been confused.

It also often happens even in many animals that do not seem to be defective and whose growth is now complete, that some of their passages may have grown together or others may have been diverted from the normal course. Thus in some women before now the os uteri has remained closed, so that when the time for the catamenia has arrived pain has attacked them, till either the passage has burst open of its own accord or the physicians have removed the impediment; some such cases have ended in death if the rupture has been made too violently or if it has been impossible to make it at all. In some boys on the other hand the end of the penis has not coincided with the end of the passage where the urine is voided, but the passage has ended below, so that they crouch sitting to void it, and if the testes are drawn up they appear from a distance to have both male and female generative organs. The passage of the solid food also has been closed before now in sheep and some other animals; there was a cow in Perinthus which passed fine matter, as if it were sifted, through the bladder, and when the anus was cut open it quickly closed up again nor could they succeed in keeping it open.

We have now spoken of the production of few and many young, and of the outgrowth of superfluous parts or of their deficiency, and also of monstrosities.

5

Superfoetation does not occur at all in some animals but does in others; of the former some are able to bring the later formed embryo to birth, while others can only do so sometimes. The reason why it does not occur in some is that they produce only one young one, for it is not found in solid-hoofed animals and those larger than these, as owing to their size the secretion of the female is all used up for the one embryo. For all these have large bodies, and when an animal is large its foetus is large in proportion, e.g. the foetus of the elephant is as big as a calf. But superfoetation occurs in those which produce many young because the production of more than one at a birth is itself a sort of superfoetation, one being added to another. Of these all that are large, as man, bring to birth the later embryo, if the second impregnation takes place soon after the first, for such an event has been observed before now. The reason is that given above, for even in a single act of intercourse the semen discharged is more than enough for one embryo, and this being divided causes more than one child to be born, the one of which is later than the other. But when the embryo has already grown to some size and it so happens that copulation occurs again, superfoetation sometimes takes place, but rarely, since the uterus generally closes in women during the period of gestation. If this ever happens (for this also has occurred) the mother cannot bring the second embryo to perfection, but it is cast out in a state like what are called abortions. For just as, in those animals that bear only one, all the secretion of the female is converted to the first formed embryo because of its size, so it is here also; the only difference is that in the former case this happens at once, in the latter when the foetus has attained to some size, for then they are in the same state as those that bear only one. In like manner, since man naturally would produce many young, and since the size of the uterus and the quantity of the female secretion are both greater than is necessary for one embryo, only not so much so as to bring to birth a second, therefore women and mares are the only animals which admit the male during gestation, the former for the reason stated, and mares both because of the barrenness of their nature and because their uterus is of superfluous size, too large for one but too small to allow a second embryo to be brought to perfection by superfoetation. And the mare is naturally inclined to sexual intercourse because she is in the same case as the barren among women; these latter are barren because they have no monthly discharge (which corresponds to the act of intercourse in males) and mares have exceedingly little. And in all the vivipara the barren females are so inclined, because they resemble the males when the semen has collected in the testes but is not being got rid of. For the discharge of the catamenia is in females a sort of emission of semen, they being unconcocted semen as has been said before. Hence it is that those women also who are incontinent in regard to such intercourse cease from their passion for it when they have borne many children, for, the seminal secretion being then drained off, they no longer desire this intercourse. And among birds the hens are less disposed that way than the cocks, because the uterus of the hen-bird is up near the hypozoma; but with the cock-birds it is the other way, for their testes are drawn up within them, so that, if any kind of such birds has much semen naturally, it is always in need of this intercourse. In females then it encourages copulation to have the uterus low down, but in males to have the testes drawn up.

It has been now stated why superfoetation is not found in some animals at all, why it is found in others which sometimes bring the later embryos to birth and sometimes not, and why some such animals are inclined to sexual intercourse while others are not.

Some of those animals in which superfoetation occurs can bring the embryos to birth even if a long time elapses between the two impregnations, if their kind is spermatic, if their body is not of a large size, and if they bear many young. For because they bear many their uterus is spacious, because they are spermatic the generative discharge is copious, and because the body is not large but the discharge is excessive and in greater measure than is required for the nourishment wanted for the embryo, therefore they can not only form animals but also bring them to birth later on. Further, the uterus in such animals does not close up during gestation because there is a quantity of the residual discharge left over. This has happened before now even in women, for in some of them the discharge continues during all the time of pregnancy. In women, however, this is contrary to Nature, so that the embryo suffers, but in such animals it is according to Nature, for their body is so formed from the beginning, as with hares. For superfoetation occurs in these animals, since they are not large and they bear many young (for they have many toes and the many-toed animals bear many), and they are spermatic. This is shown by their hairiness, for the quantity of their hair is excessive, these animals alone having hair under the feet and within the jaws. Now hairiness is a sign of abundance of residual matter, wherefore among men also the hairy are given to sexual intercourse and have much semen rather than the smooth. In the hare it often happens that some of the embryos are imperfect while others of its young are produced perfect.

6

Some of the vivipara produce their young imperfect, others perfect; the one-hoofed and cloven-footed perfect, most of the many-toed imperfect. The reason of this is that the one-hoofed produce one young one, and the cloven-footed either one or two generally speaking; now it is easy to bring the few to perfection. All the many-toed animals that bear their young imperfect give birth to many. Hence, though they are able to nourish the embryos while newly formed, their bodies are unable to complete the process when the embryos have grown and acquired some size. So they produce them imperfect, like those animals which generate a scolex, for some of them when born are scarcely brought into form at all, as the fox, bear, and lion, and some of the rest in like manner; and nearly all of them are blind, as not only the animals mentioned but also the dog, wolf, and jackal. The pig alone produces both many and perfect young, and thus here alone we find any overlapping; it produces many as do the many-toed animals, but is cloven-footed or solid-hoofed (for there certainly are solid-hoofed swine). They bear, then, many young because the nutriment which would otherwise go to increase their size is diverted to the generative secretion (for considered as a solid-hoofed animal the pig is not a large one), and also it is more often cloven-hoofed, striving as it were with the nature of the solid-hoofed animals. For this reason it produces sometimes only one, sometimes two, but generally many, and brings them to perfection before birth because of the good condition of its body, being like a rich soil — which has sufficient and abundant nutriment for plants.

The young of some birds also are hatched imperfect, that is to say blind; this applies to all small birds which lay many eggs, as crows and rooks, jays, sparrows, swallows, and to all those which lay few eggs without producing abundant nourishment along with the young, as ring-doves, turtle-doves, and pigeons. Hence if the eyes of swallows while still young be put out they recover their sight again, for the birds are still developing, not yet developed, when the injury is inflicted, so that the eyes grow and sprout afresh. And in general the production of young before they are perfect is owing to inability to continue nourishing them, and they are born imperfect because they are born too soon. This is plain also with seven-months children, for since they are not perfected it often happens that even the passages, e.g. of the ears and nostrils, are not yet opened in some of them at birth, but only open later as they are growing, and many such infants survive.

In man males are more often born defective than females, but in the other animals this is not the case. The reason is that in man the male is much superior to the female in natural heat, and so the male foetus moves about more than the female, and on account of moving is more liable to injury, for what is young is easily injured since it is weak. For this same reason also the female foetus is not perfected equally with the male in man (but they are so in the other animals, for in them the female is not later in developing than the male). For while within the mother the female takes longer in developing, but after birth everything is perfected more quickly in females than in males; I mean, for instance, puberty, the prime of life, and old age. For females are weaker and colder in nature, and we must look upon the female character as being a sort of natural deficiency. Accordingly while it is within the mother it develops slowly because of its coldness (for development is concoction, and it is heat that concocts, and what is hotter is easily concocted); but after birth it quickly arrives at maturity and old age on account of its weakness, for all inferior things come sooner to their perfection or end, and as this is true of works of art so it is of what is formed by Nature. For the reason just given also twins are less likely to survive in man if one be male and one female, but this is not at all so in the other animals; for in man it is contrary to Nature that they should run an equal course, as their development does not take place in equal periods, but the male must needs be too late or the female too early; in the other animals, however, it is not contrary to Nature. A difference is also found between man and the other animals in respect of gestation, for animals are in better bodily condition most of the time, whereas in most women gestation is attended with discomfort. Their way of life is partly responsible for this, for being sedentary they are full of more residual matter; among nations where the women live a laborious life gestation is not equally conspicuous and those who are accustomed to work bear children easily both there and elsewhere; for work consumes the residual matter, but those who are sedentary have a great deal of it in them because not only is there no monthly discharge during pregnancy but also they do no work; therefore their travail is painful. But work exercises them so that they can hold their breath, upon which depends the ease or difficulty of child-birth. These circumstances then, as we have said, contribute to cause the difference between women and the other animals in this state, but the most important thing is this: in some animals the discharge corresponding to the catamenia is but small, and in some not visible at all, but in women it is greater than in any other animal, so that when this discharge ceases owing to pregnancy they are troubled (for if they are not pregnant they are afflicted with ailments whenever the catamenia do not occur); and they are more troubled as a rule at the beginning of pregnancy, for the embryo is able indeed to stop the catamenia but is too small at first to consume any quantity of the secretion; later on it takes up some of it and so alleviates the mother. In the other animals, on the contrary, the residual matter is but small and so corresponds with the growth of the foetus, and as the secretions which hinder nourishment are being consumed by the foetus the mother is in better bodily condition than usual. The same holds good also with aquatic animals and birds. If it ever happens that the body of the mother is no longer in good condition when the foetus is now becoming large, the reason is that its growth needs more nourishment than the residual matter supplies. (In some few women it happens that the body is in a better state during pregnancy; these are women in whose body the residual matter is small so that it is all used up along with the nourishment that goes to the foetus.)

7

We must also speak of what is known as mola uteri, which occurs rarely in women but still is found sometimes during pregnancy. For they produce what is called a mola; it has happened before now to a woman, after she had had intercourse with her husband and supposed she had conceived, that at first the size of her belly increased and everything else happened accordingly, but yet when the time for birth came on, she neither bore a child nor was her size reduced, but she continued thus for three or four years until dysentery came on, endangering her life, and she produced a lump of flesh which is called mola. Moreover this condition may continue till old age and death. Such masses when expelled from the body become so hard that they can hardly be cut through even by iron. Concerning the cause of this phenomenon we have spoken in the Problems; the same thing happens to the embryo in the womb as to meats half cooked in roasting, and it is not due to heat, as some say, but rather to the weakness of the maternal heat. (For their nature seems to be incapable, and unable to perfect or to put the last touches to the process of generation. Hence it is that the mola remains in them till old age or at any rate for a long time, for in its nature it is neither perfect nor altogether a foreign body.) It is want of concoction that is the reason of its hardness, as with half-cooked meat, for this half-dressing of meat is also a sort of want of concoction.

A difficulty is raised as to why this does not occur in other animals, unless indeed it does occur and has entirely escaped observation. We must suppose the reason to be that woman alone among animals is subject to troubles of the uterus, and alone has a superfluous amount of catamenia and is unable to concoct them; when, then, the embryo has been formed of a liquid hard to concoct, then comes the so-called mola into being, and this happens naturally in women alone or at any rate more than in other animals.

8

Milk is formed in the females of all internally viviparous animals, becoming useful for the time of birth. For Nature has made it for the sake of the nourishment of animals after birth, so that it may neither fail at this time at all nor yet be at all superfluous; this is just what we find happening, unless anything chance contrary to Nature. In the other animals the period of gestation does not vary, and so the milk is concocted in time to suit this moment, but in man, since there are several times of birth, it must be ready at the first of these; hence in women the milk is useless before the seventh month and only then becomes useful. That it is only concocted at the last stages is what we should expect to happen also as being due to a necessary cause. For at first such residual matter when secreted is used up for the development of the embryo; now the nutritious part in all things is the sweetest and the most concocted, and thus when all such elements are removed what remains must become of necessity bitter and ill-flavoured. As the embryo is perfecting, the residual matter left over increases in quantity because the part consumed by the embryo is less; it is also sweeter since the easily concocted part is less drawn away from it. For it is no longer expended on moulding the embryo but only on slightly increasing its growth, it being now fixed because it has reached perfection (for in a sense there is a perfection even of an embryo). Therefore it comes forth from the mother and changes its mode of development, as now possessing what belongs to it; and no longer takes that which does not belong to it; and it is at this season that the milk becomes useful.

The milk collects in the upper part of the body and the breasts because of the original plan of the organism. For the part above the hypozoma is the sovereign part of the animal, while that below is concerned with nourishment and residual matter, in order that all animals which move about may contain within themselves nourishment enough to make them independent when they move from one place to another. From this upper part also is produced the generative secretion for the reason mentioned in the opening of our discussion. But both the secretion of the male and the catamenia of the female are of a sanguineous nature, and the first principle of this blood and of the blood-vessels is the heart, and the heart is in this part of the body. Therefore it is here that the change of such a secretion must first become plain. This is why the voice changes in both sexes when they begin to bear seed (for the first principle of the voice resides there, and is itself changed when its moving cause changes). At the same time the parts about the breasts are raised visibly even in males but still more in females, for the region of the breasts becomes empty and spongy in them because so much material is drained away below. This is so not only in women but also in those animals which have the mammae low down.

This change in the voice and the parts about the mammae is plain even in other creatures to those who have experience of each kind of animal, but is most remarkable in man. The reason is that in man the production of secretion is greatest in both sexes in proportion to their size as compared with other animals; I mean that of the catamenia in women and the emission of semen in men. When, therefore, the embryo no longer takes up the secretion in question but yet prevents its being discharged from the mother, it is necessary that the residual matter should collect in all those empty parts which are set upon the same passages. And such is the position of the mammae in each kind of animals for both causes; it is so both for the sake of what is best and of necessity.

It is here, then, that the nourishment in animals is now formed and becomes thoroughly concocted. As for the cause of concoction, we may take that already given, or we may take the opposite, for it is a reasonable view also that the embryo being larger takes more nourishment, so that less is left over about this time, and the less is concocted more quickly.

That milk has the same nature as the secretion from which each animal is formed is plain, and has been stated previously. For the material which nourishes is the same as that from which Nature forms the animal in generation. Now this is the sanguineous liquid in the sanguinea, and milk is blood concocted (not corrupted; Empedocles either mistook the fact or made a bad metaphor when he composed the line: ‘On the tenth day of the eighth month the milk comes into being, a white pus’, for putrefaction and concoction are opposite things, and pus is a kind of putrefaction but milk is concocted). While women are suckling children the catamenia do not occur according to Nature, nor do they conceive; if they do conceive, the milk dries up. This is because the nature of the milk and of the catamenia is the same, and Nature cannot be so productive as to supply both at once; if the secretion is diverted in the one direction it must needs cease in the other, unless some violence is done contrary to the general rule. But this is as much as to say that it is contrary to Nature, for in all cases where it is not impossible for things to be otherwise than they generally are but where they may so happen, still what is the general rule is what is ‘according to Nature’.

The time also at which the young animal is born has been well arranged. For when the nourishment coming through the umbilical cord is no longer sufficient for the foetus because of its size, then at the same time the milk becomes useful for the nourishment of the newly-born animal, and the blood-vessels round which the so-called umbilical cord lies as a coat collapse as the nourishment is no longer passing through it; for these reasons it is at that time also that the young animal enters into the world.

9

The natural birth of all animals is head-foremost, because the parts above the umbilical cord are larger than those below. The body then, being suspended from the cord as in a balance, inclines towards the heavy end, and the larger parts are the heavier.

10

The period of gestation is, as a matter of fact, determined generally in each animal in proportion to the length of its life. This we should expect, for it is reasonable that the development of the long-lived animals should take a longer time. Yet this is not the cause of it, but the periods only correspond accidentally for the most part; for though the larger and more perfect sanguinea do live a long time, yet the larger are not all longer-lived. Man lives a longer time than any animal of which we have any credible experience except the elephant, and yet the human kind is smaller than that of the bushy-tailed animals and many others. The real cause of long life in any animal is its being tempered in a manner resembling the environing air, along with certain other circumstances of its nature, of which we will speak later; but the cause of the time of gestation is the size of the offspring. For it is not easy for large masses to arrive at their perfection in a small time, whether they be animals or, one may say, anything else whatever. That is why horses and animals akin to them, though living a shorter time than man, yet carry their young longer; for the time in the former is a year, but in the latter ten months at the outside. For the same reason also the time is long in elephants; they carry their young two years on account of their excessive size.

We find, as we might expect, that in all animals the time of gestation and development and the length of life aims at being measured by naturally complete periods. By a natural period I mean, e.g. a day and night, a month, a year, and the greater times measured by these, and also the periods of the moon, that is to say, the full moon and her disappearance and the halves of the times between these, for it is by these that the moon's orbit fits in with that of the sun [the month being a period common to both].

The moon is a first principle because of her connexion with the sun and her participation in his light, being as it were a second smaller sun, and therefore she contributes to all generation and development. For heat and cold varying within certain limits make things to come into being and after this to perish, and it is the motions of the sun and moon that fix the limit both of the beginning and of the end of these processes. Just as we see the sea and all bodies of water settling and changing according to the movement or rest of the winds, and the air and winds again according to the course of the sun and moon, so also the things which grow out of these or are in these must needs follow suit. For it is reasonable that the periods of the less important should follow those of the more important. For in a sense a wind, too, has a life and birth and death.

As for the revolutions of the sun and moon, they may perhaps depend on other principles. It is the aim, then, of Nature to measure the coming into being and the end of animals by the measure of these higher periods, but she does not bring this to pass accurately because matter cannot be easily brought under rule and because there are many principles which hinder generation and decay from being according to Nature, and often cause things to fall out contrary to Nature.

We have now spoken of the nourishment of animals within the mother and of their birth into the world, both of each kind separately and of all in common.

Book V

1

WE must now investigate the qualities by which the parts of animals differ. I mean such qualities of the parts as blueness and blackness in the eyes, height and depth of pitch in the voice, and differences in colour whether of the skin or of hair and feathers. Some such qualities are found to characterize the whole of a kind of animals sometimes, while in other kinds they occur at random, as is especially the case in man. Further, in connexion with the changes in the time of life, all animals are alike in some points, but are opposed in others as in the case of the voice and the colour of the hair, for some do not grow grey visibly in old age, while man is subject to this more than any other animal. And some of these affections appear immediately after birth, while others become plain as age advances or in old age.

Now we must no longer suppose that the cause of these and all such phenomena is the same. For whenever things are not the product of Nature working upon the animal kingdom as a whole, nor yet characteristic of each separate kind, then none of these things is such as it is or is so developed for any final cause. The eye for instance exists for a final cause, but it is not blue for a final cause unless this condition be characteristic of the kind of animal. In fact in some cases this condition has no connexion with the essence of the animal's being, but we must refer the causes to the material and the motive principle or efficient cause, on the view that these things come into being by Necessity. For, as was said originally in the outset of our discussion, when we are dealing with definite and ordered products of Nature, we must not say that each is of a certain quality because it becomes so, but rather that they become so and so because they are so and so, for the process of Becoming or development attends upon Being and is for the sake of Being, not vice versa.

The ancient Nature-philosophers however took the opposite view. The reason of this is that they did not see that the causes were numerous, but only saw the material and efficient and did not distinguish even these, while they made no inquiry at all into the formal and final causes.

Everything then exists for a final cause, and all those things which are included in the definition of each animal, or which either are means to an end or are ends in themselves, come into being both through this cause and the rest. But when we come to those things which come into being without falling under the heads just mentioned, their course must be sought in the movement or process of coming into being, on the view that the differences which mark them arise in the actual formation of the animal. An eye, for instance, the animal must have of necessity (for the fundamental idea of the animal is of such a kind), but it will have an eye of a particular kind of necessity in another sense, not the sense mentioned just above, because it is its nature to act or be acted on in this or that way.

These distinctions being drawn let us speak of what comes next in order. As soon then as the offspring of all animals are born, especially those born imperfect, they are in the habit of sleeping, because they continue sleeping also within the mother when they first acquire sensation. But there is a difficulty about the earliest period of development, whether the state of wakefulness exists in animals first, or that of sleep. Since they plainly wake up more as they grow older, it is reasonable to suppose that the opposite state, that of sleep, exists in the first stages of development. Moreover the change from not being to being must pass through the intermediate condition, and sleep seems to be in its nature such a condition, being as it were a boundary between living and not living, and the sleeper being neither altogether non-existent nor yet existent. For life most of all appertains to wakefulness, on account of sensation. But on the other hand, if it is necessary that the animal should have sensation and if it is then first an animal when it has acquired sensation, we ought to consider the original condition to be not sleep but only something resembling sleep, such a condition as we find also in plants, for indeed at this time animals do actually live the life of a plant. But it is impossible that plants should sleep, for there is no sleep which cannot be broken, and the condition in plants which is analogous to sleep cannot be broken.

It is necessary then for the embryo animal to sleep most of the time because the growth takes place in the upper part of the body, which is consequently heavier (and we have stated elsewhere that such is the cause of sleep). But nevertheless they are found to wake even in the womb (this is clear in dissections and in the ovipara), and then they immediately fall into a sleep again. This is why after birth also they spend most of their time in sleep.

When awake infants do not laugh, but while asleep they both laugh and cry. For animals have sensations even while asleep, not only what are called dreams but also others besides dreams, as those persons who arise while sleeping and do many things without dreaming. For there are some who get up while sleeping and walk about seeing just like those who are awake; these have perception of what is happening, and though they are not awake, yet this perception is not like a dream. So infants presumably have sense-perception and live in their sleep owing to previous habit, being as it were without knowledge of the waking state. As time goes on and their growth is transferred to the lower part of the body, they now wake up more and spend most of their time in that condition. Children continue asleep at first more than other animals, for they are born in a more imperfect condition than other animals that are produced in anything like a perfect state, and their growth has taken place more in the upper part of the body.

The eyes of all children are bluish immediately after birth; later on they change to the colour which is to be theirs permanently. But in the case of other animals this is not visible. The reason of this is that the eyes of other animals are more apt to have only one colour for each kind of animal; e.g. cattle are dark-eyed, the eye of all sheep is pale, of others again the whole kind is blue or grey-eyed, and some are yellow (goat-eyed), as the majority of goats themselves, whereas the eyes of men happen to be of many colours, for they are blue or grey or dark in some cases and yellow in others. Hence, as the individuals in other kinds of animals do not differ from one another in the colour, so neither do they differ from themselves, for they are not of a nature to have more than one colour. Of the other animals the horse has the greatest variety of colour in the eye, for some of them are actually heteroglaucous; this phenomenon is not to be seen in any of the other animals, but man is sometimes heteroglaucous.

Why then is it that there is no visible change in the other animals if we compare their condition when newly born with their condition at a more advanced age, but that there is such a change in children? We must consider just this to be a sufficient cause, that the part concerned has only one colour in the former but several colours in the latter. And the reason why the eyes of infants are bluish and have no other colour is that the parts are weaker in the newly born and blueness is a sort of weakness.

We must also gain a general notion about the difference in eyes, for what reason some are blue, some grey, some yellow, and some dark. To suppose that the blue are fiery, as Empedocles says, while the dark have more water than fire in them, and that this is why the former, the blue, have not keen sight by day, viz. owing to deficiency of water in their composition, and the latter are in like condition by night, viz. owing to deficiency of fire — this is not well said if indeed we are to assume sight to be connected with water, not fire, in all cases. Moreover it is possible to render another account of the cause of the colours, but if indeed the fact is as was stated before in the treatise on the senses, and still earlier than that in the investigations concerning soul — if this sense organ is composed of water and if we were right in saying for what reason it is composed of water and not of air or fire — then we must assume the water to be the cause of the colours mentioned. For some eyes have too much liquid to be adapted to the movement, others have too little, others the due amount. Those eyes therefore in which there is much liquid are dark because much liquid is not transparent, those which have little are blue; (so we find in the sea that the transparent part of it appears light blue, the less transparent watery, and the unfathomable water is dark or deep-blue on account of its depth). When we come to the eyes between these, they differ only in degree.

We must suppose the same cause also to be responsible for the fact that blue eyes are not keen-sighted by day nor dark eyes by night. Blue eyes, because there is little liquid in them, are too much moved by the light and by visible objects in respect of their liquidity as well as their transparency, but sight is the movement of this part in so far as it is transparent, not in so far as it is liquid. Dark eyes are less moved because of the quantity of liquid in them. And so they see less well in the dusk, for the nocturnal light is weak; at the same time also liquid is in general hard to move in the night. But if the eye is to see, it must neither not be moved at all nor yet more than in so far as it is transparent, for the stronger movement drives out the weaker. Hence it is that on changing from strong colours, or on going out of the sun into the dark, men cannot see, for the motion already existing in the eye, being strong, stops that from outside, and in general neither a strong nor a weak sight can see bright things because the liquid is acted upon and moved too much.

The same thing is shown also by the morbid affections of each kind of sight. Cataract attacks the blue-eyed more, but what is called ‘nyctalopia’ the dark-eyed. Now cataract is a sort of dryness of the eyes and therefore it is found more in the aged, for this part also like the rest of the body gets dry towards old age; but is an excess of liquidity and so is found more in the younger, for their brain is more liquid.

The sight of the eye which is intermediate between too much and too little liquid is the best, for it has neither too little so as to be disturbed and hinder the movement of the colours, nor too much so as to cause difficulty of movement.

Not only the above-mentioned facts are causes of seeing keenly or the reverse, but also the nature of the skin upon what is called the pupil. This ought to be transparent, and it is necessary that the transparent should be thin and white and even, thin that the movement coming from without may pass straight through it, even that it may not cast a shade the liquid behind it by wrinkling (for this also is a reason why old men have not keen sight, the skin of the eye like the rest of the skin wrinkling and becoming thicker in old age), and white because black is not transparent, for that is just what is meant by ‘black’, what is not shone through, and that is why lanterns cannot give light if they be made of black skin. It is for these reasons then that the sight is not keen in old age nor in the diseases in question, but it is because of the small amount of liquid that the eyes of children appear blue at first.

And the reason why men especially and horses occasionally are heteroglaucous is the same as the reason why man alone grows grey and the horse is the only other animal whose hairs whiten visibly in old age. For greyness is a weakness of the fluid in the brain and an incapacity to concoct properly, and so is blueness of the eyes; excess of thinness or of thickness produces the same effect, according as this liquidity is too little or too much. Whenever then Nature cannot make the eyes correspond exactly, either by concocting or by not concocting the liquid in both, but concocts the one and not the other, then the result is heteroglaucia.

The cause of some animals being keen-sighted and others not so is not simple but double. For the word ‘keen’ has pretty much a double sense (and this is the case in like manner with hearing and smelling). In one sense keen sight means the power of seeing at a distance, in another it means the power of distinguishing as accurately as possible the objects seen. These two faculties are not necessarily combined in the same individual. For the same person, if he shades his eyes with his hand or look through a tube, does not distinguish the differences of colour either more or less in any way, but he will see further; in fact, men in pits or wells sometimes see the stars. Therefore if any animal's brows project far over the eye, but if the liquid in the pupil is not pure nor suited to the movement coming from external objects and if the skin over the surface is not thin, this animal will not distinguish accurately the differences of the colours but it will be able to see from a long distance (just as it can from a short one) better than those in which the liquid and the covering membrane are pure but which have no brows projecting over the eyes. For the cause of seeing keenly in the sense of distinguishing the differences is in the eye itself; as on a clean garment even small stains are visible, so also in a pure sight even small movements are plain and cause sensation. But it is the position of the eyes that is the cause of seeing things far off and of the movements in the transparent medium coming to the eyes from distant objects. A proof of this is that animals with prominent eyes do not see well at a distance, whereas those which have their eyes lying deep in the head can see things at a distance because the movement is not dispersed in space but comes straight to the eye. For it makes no difference whether we say, as some do, that seeing is caused by the sight going forth from the eye — on that view, if there is nothing projecting over the eyes, the sight must be scattered and so less of it will fall on the objects of vision and things at a distance will not be seen so well — or whether we say that seeing is due to the movement coming from the objects; for the sight also must see, in a manner resembling the movement. Things at a distance, then, would be seen best if there were, so to say, a continuous tube straight from the sight to its object, for the movement from the object would not then be dissipated; but, if that is impossible, still the further the tube extends the more accurately must distant objects be seen.

Let these, then, be given as the causes of the difference in eyes.

2

It is the same also with hearing and smell; to hear and smell accurately mean in one sense to perceive as precisely as possible all the distinctions of the objects of perception, in another sense to hear and smell far off. As with sight, so here the sense-organ is the cause of judging well the distinctions, if both that organ itself and the membrane round it be pure. For the passages of all the sense-organs, as has been said in the treatise on sensation, run to the heart, or to its analogue in creatures that have no heart. The passage of the hearing, then, since this sense-organ is of air, ends at the place where the innate spiritus causes in some animals the pulsation of the heart and in others respiration; wherefore also it is that we are able to understand what is said and repeat what we have heard, for as was the movement which entered through the sense-organ, such again is the movement which is caused by means of the voice, being as it were of one and the same stamp, so that a man can say what he has heard. And we hear less well during a yawn or expiration than during inspiration, because the starting-point of the sense-organ of hearing is set upon the part concerned with breathing and is shaken and moved as the organ moves the breath, for while setting the breath in motion it is moved itself. The same thing happens in wet weather or a damp atmosphere.... And the ears seemed to be filled with air because their starting-point is near the region of breathing.

Accuracy then in judging the differences of sounds and smells depends on the purity of the sense-organ and of the membrane lying upon its surface, for then all the movements become clear in such cases, as in the case of sight. Perception and non-perception at a distance also depend on the same things with hearing and smell as with sight. For those animals can perceive at a distance which have channels, so to say, running through the parts concerned and projecting far in front of the sense-organs. Therefore all animals whose nostrils are long, as the Laconian hounds, are keen-scented, for the sense-organ being above them, the movements from a distance are not dissipated but go straight to the mark, just as the movements which cause sight do with those who shadow the eyes with the hand.

Similar is the case of animals whose ears are long and project far like the eaves of a house, as in some quadrupeds, with the internal spiral passage long; these also catch the movement from afar and pass it on to the sense-organ.

In respect of sense-perception at a distance, man is, one may say, the worst of all animals in proportion to his size, but in respect of judging the differences of quality in the objects he is the best of all. The reason is that the sense-organ in man is pure and least earthy and material, and he is by nature the thinnest-skinned of all animals for his size.

The workmanship of Nature is admirable also in the seal, for though a viviparous quadruped it has no ears but only passages for hearing. This is because its life is passed in the water; now the ear is a part added to the passages to preserve the movement of the air at a distance; therefore an ear is no use to it but would even bring about the contrary result by receiving a mass of water into itself.

We have thus spoken of sight, hearing, and smell.

3

As for hair, men differ in this themselves at different ages, and also from all other kinds of animals that have hair. These are almost all which are internally viviparous, for even when the covering of such animals is spiny it must be considered as a kind of hair, as in the land hedgehog and any other such animal among the vivipara. Hairs differ in respect of hardness and softness, length and shortness, straightness and curliness, quantity and scantiness, and in addition to these qualities, in their colours, whiteness and blackness and the intermediate shades. They differ also in some of these respects according to age, as they are young or growing old. This is especially plain in man; the hair gets coarser as time goes on, and some go bald on the front of the head; children indeed do not go bald, nor do women, but men do so by the time their age is advancing. Human beings also go grey on the head as they grow old, but this is not visible in practically any other animal, though more so in the horse than others. Men go bald on the front of the head, but turn grey first on the temples; no one goes bald first on these or on the back of the head. Some such affections occur in a corresponding manner also in all animals which have not hair but something analogous to it, as the feathers of birds and scales in the class of fish.

For what purpose Nature has made hair in general for animals has been previously stated in the work dealing with the causes of the parts of animals; it is the business of the present inquiry to show under what circumstances and for what necessary causes each particular kind of hair occurs. The principal cause then of thickness and thinness is the skin, for this is thick in some animals and thin in others, rare in some and dense in others. The different quality of the included moisture is also a helping cause, for in some animals this is greasy and in others watery. For generally speaking the substratum of the skin is of an earthy nature; being on the surface of the body it becomes solid and earthy as the moisture evaporates. Now the hairs or their analogue are not formed out of the flesh but out of the skin moisture evaporating and exhaling in them, and therefore thick hairs arise from a thick skin and thin from thin. If then the skin is rarer and thicker, the hairs are thick because of the quantity of earthy matter and the size of the pores, but if it is denser they are thin because of the narrowness of the pores. Further, if the moisture be watery it dries up quickly and the hairs do not gain in size, but if it be greasy the opposite happens, for the greasy is not easily dried up. Therefore the thicker-skinned animals are as a general rule thicker-haired for the causes mentioned; however, the thickest-skinned are not more so than other thick-skinned ones, as is shown by the class of swine compared to that of oxen and to the elephant and many others. And for the same reason also the hairs of the head in man are thickest, for this part of his skin is thickest and lies over most moisture and besides is very porous.

The cause of the hairs being long or short depends on the evaporating moisture not being easily dried. Of this there are two causes, quantity and quality; if the liquid is much it does not dry up easily nor if it is greasy. And for this reason the hairs of the head are longest in man, for the brain, being fluid and cold, supplies great abundance of moisture.

The hairs become straight or curly on account of the vapour arising in them. If it be smoke-like, it is hot and dry and so makes the hair curly, for it is twisted as being carried with a double motion, the earthy part tending downwards and the hot upwards. Thus, being easily bent, it is twisted owing to its weakness, and this is what is meant by curliness in hair. It is possible then that this is the cause, but it is also possible that, owing to its having but little moisture and much earthy matter in it, it is dried by the surrounding air and so coiled up together. For what is straight becomes bent, if the moisture in it is evaporated, and runs together as a hair does when burning upon the fire; curliness will then be a contraction owing to deficiency of moisture caused by the heat of the environment. A sign of this is the fact that curly hair is harder than straight, for the dry is hard. And animals with much moisture are straight-haired; for in these hairs the moisture advances as a stream, not in drops. For this reason the Scythians on the Black Sea and the Thracians are straight-haired, for both they themselves and the environing air are moist, whereas the Aethiopians and men in hot countries are curly-haired, for their brains and the surrounding air are dry.

Some, however, of the thick-skinned animals are fine-haired for the cause previously stated, for the finer the pores are the finer must the hairs be. Hence the class of sheep have such hairs (for wool is only a multitude of hairs).

There are some animals whose hair is soft and yet less fine, as is the case with the class of hares compared with that of sheep; in such animals the hair is on the surface of the skin, not deeply rooted in it, and so is not long but in much the same state as the scrapings from linen, for these also are not long but are soft and do not admit of weaving.

The condition of sheep in cold climates is opposite to that of man; the hair of the Scythians is soft but that of the Sauromatic sheep is hard. The reason of this is the same as it is also all wild animals. The cold hardens and solidifies them by drying them, for as the heat is pressed out the moisture evaporates, and both hair and skin become earthy and hard. In wild animals then the exposure to the cold is the cause of hardness in the hair, in the others the nature of the climate is the cause. A proof of this is also what happens in the sea-urchins which are used as a remedy in stranguries. For these, too, though small themselves, have large and hard spines because the sea in which they live is cold on account of its depth (for they are found in sixty fathoms and even more). The spines are large because the growth of the body is diverted to them, since having little heat in them they do not concoct their nutriment and so have much residual matter and it is from this that spines, hairs, and such things are formed; they are hard and petrified through the congealing effect of the cold. In the same way also plants are found to be harder, more earthy, and stony, if the region in which they grow looks to the north than if it looks to the south, and those in windy places than those in sheltered, for they are all more chilled and their moisture evaporates.

Hardening, then, comes of both heat and cold, for both cause the moisture to evaporate, heat per se and cold per accidens (since the moisture goes out of things along with the heat, there being no moisture without heat), but whereas cold not only hardens but also condenses, heat makes a substance rarer.

For the same reason, as animals grow older, the hairs become harder in those which have hairs, and the feathers and scales in the feathered and scaly kinds. For their skins become harder and thicker as they get older, for they are dried up, and old age, as the word denotes, is earthy because the heat fails and the moisture along with it.

Men go bald visibly more than any other animal, but still such a state is something general, for among plants also some are evergreens while others are deciduous, and birds which hibernate shed their feathers. Similar to this is the condition of baldness in those human beings to whom it is incident. For leaves are shed by all plants, from one part of the plant at a time, and so are feathers and hairs by those animals that have them; it is when they are all shed together that the condition is described by the terms mentioned, for it is called ‘going bald’ and ‘the fall of the leaf’ and ‘moulting’. The cause of the condition is deficiency of hot moisture, such moisture being especially the unctuous, and hence unctuous plants are more evergreen. (However we must elsewhere state the cause of this phenomena in plants, for other causes also contribute to it.) It is in winter that this happens to plants (for the change from summer to winter is more important to them than the time of life), and to those animals which hibernate (for these, too, are by nature less hot and moist than man); in the latter it is the seasons of life that correspond to summer and winter. Hence no one goes bald before the time of sexual intercourse, and at that time it is in those naturally inclined to such intercourse that baldness appears, for the brain is naturally the coldest part of the body and sexual intercourse makes men cold, being a loss of pure natural heat. Thus we should expect the brain to feel the effect of it first, for a little cause turns the scale where the thing concerned is weak and in poor condition. Thus if we reckon up these points, that the brain itself has but little heat, and further that the skin round it must needs have still less, and again that the hair must have still less than the skin inasmuch as it is furthest removed from the brain, we should reasonably expect baldness to come about this age upon those who have much semen. And it is for the same reason that the front part of the head alone goes bald in man and that he is the only animal to do so; the front part goes bald because the brain is there, and man is the only animal to go bald because his brain is much the largest and the moistest. Women do not go bald because their nature is like that of children, both alike being incapable of producing seminal secretion. Eunuchs do not become bald, because they change into the female condition. And as to the hair that comes later in life, eunuchs either do not grow it at all, or lose it if they happen to have it, with the exception of the pubic hair; for women also grow that though they have not the other, and this mutilation is a change from the male to the female condition.

The reason why the hair does not grow again in cases of baldness, although both hibernating animals recover their feathers or hair and trees that have shed their leaves grow leaves again, is this. The seasons of the year are the turning-points of their lives, rather than their age, so that when these seasons change they change with them by growing and losing feathers, hairs, or leaves respectively. But the winter and summer, spring and autumn of man are defined by his age, so that, since his ages do not return, neither do the conditions caused by them return, although the cause of the change of condition is similar in man to what it is in the animals and plants in question.

We have now spoken pretty much of all the other conditions of hair.

4

But as to their colour, it is the nature of the skin that is the cause of this in other animals and also of their being uni-coloured or vari-coloured); but in man it is not the cause, except of the hair going grey through disease (not through old age), for in what is called leprosy the hairs become white; on the contrary, if the hairs are white the whiteness does not invade the skin. The reason is that the hairs grow out of skin; if, then, the skin is diseased and white the hair becomes diseased with it, and the disease of hair is greyness. But the greyness of hair which is due to age results from weakness and deficiency of heat. For as the body declines in vigour we tend to cold at every time of life, and especially in old age, this age being cold and dry. We must remember that the nutriment coming to each part of the body is concocted by the heat appropriate to the part; if the heat is inadequate the part loses its efficiency, and destruction or disease results. (We shall speak more in detail of causes in the treatise on growth and nutrition.) Whenever, then, the hair in man has naturally little heat and too much moisture enters it, its own proper heat is unable to concoct the moisture and so it is decayed by the heat in the environing air. All decay is caused by heat, not the innate heat but external heat, as has been stated elsewhere. And as there is a decay of water, of earth, and all such material bodies, so there is also of the earthy vapour, for instance what is called mould (for mould is a decay of earthy vapour). Thus also the liquid nutriment in the hair decays because it is not concocted, and what is called greyness results. It is white because mould also, practically alone among decayed things, is white. The reason of this is that it has much air in it, all earthy vapour being equivalent to thick air. For mould is, as it were, the antithesis of hoar-frost; if the ascending vapour be frozen it becomes hoar-frost, if it be decayed, mould. Hence both are on the surface of things, for vapour is superficial. And so the comic poets make a good metaphor in jest when they call grey hairs 'mould of old age' and For the one is generically the same as greyness, the other specifically; hoar-frost generically (for both are a vapour), mould specifically (for both are a form of decay). A proof that this is so is this: grey hairs have often grown on men in consequence of disease, and later on dark hairs instead of them after restoration to health. The reason is that in sickness the whole body is deficient in natural heat and so the parts besides, even the very small ones, participate in this weakness; and again, much residual matter is formed in the body and all its parts in illness, wherefore the incapacity in the flesh to concoct the nutriment causes the grey hairs. But when men have recovered health and strength again they change, becoming as it were young again instead of old; in consequence the states change also. Indeed, we may rightly call disease an acquired old age, old age a natural disease; at any rate, some diseases produce the same effects as old age.

Men go grey on the temples first, because the back of the head is empty of moisture owing to its containing no brain, and the 'bregma' has a great deal of moisture, a large quantity not being liable to decay; the hair on the temples however has neither so little that it can concoct it nor so much that it cannot decay, for this region of the head being between the two extremes is exempt from both states. The cause of greyness in man has now been stated.

5

The reason why this change does not take place visibly on account of age in other animals is the same as that already given in the case of baldness; their brain is small and less fluid than in man, so that the heat required for concoction does not altogether fail. Among them it is most clear in horses of all animals that we know, because the bone about the brain is thinner in them than in others in proportion to their size. A sign of this is that a blow to this spot is fatal to them, wherefore Homer also has said: 'where the first hairs grow on the skull of horses, and a wound is most fatal.' As then the moisture easily flows to these hairs because of the thinness of the bone, whilst the heat fails on account of age, they go grey. The reddish hairs go grey sooner than the black, redness also being a sort of weakness of hair and all weak things ageing sooner. It is said, however, that cranes become darker as they grow old. The reason of this would be, if it should prove true, that their feathers are naturally moister than others and as they grow old the moisture in the feathers is too much to decay easily.

Greyness comes about by some sort of decay, and is not, as some think, a withering. (1) A proof of the former statement is the fact that hair protected by hats or other coverings goes grey sooner (for the winds prevent decay and the protection keeps off the winds), and the fact that it is aided by anointing with a mixture of oil and water. For, though water cools things, the oil mingled with it prevents the hair from drying quickly, water being easily dried up. (2) That the process is not a withering, that the hair does not whiten as grass does by withering, is shown by the fact that some hairs grow grey from the first, whereas nothing springs up in a withered state. Many hairs also whiten at the tip, for there is least heat in the extremities and thinnest parts.

When the hairs of other animals are white, this is caused by nature, not by any affection. The cause of the colours in other animals is the skin; if they are white, the skin is white, if they are dark it is dark, if they are piebald in consequence of a mixture of the hairs, it is found to be white in the one part and dark in the other. But in man the skin is in no way the cause, for even white-skinned men have very dark hair. The reason is that man has the thinnest skin of all animals in proportion to his size and therefore it has not strength to change the hairs; on the contrary the skin itself changes its colour through its weakness and is darkened by sun and wind, while the hairs do not change along with it at all. But in the other animals the skin, owing to its thickness, has the influence belonging to the soil in which a thing grows, therefore the hairs change according to the skin but the skin does not change at all in consequence of the winds and the sun.

6

Of animals some are uni-coloured (I mean by this term those of which the kind as a whole has one colour, as all lions are tawny; and this condition exists also in birds, fish, and the other classes of animals alike); others though many-coloured are yet whole-coloured (I mean those whose body as a whole has the same colour, as a bull is white as a whole or dark as a whole); others are vari-coloured. This last term is used in both ways; sometimes the whole kind is vari-coloured, as leopards and peacocks, and some fish, e.g. the so-called ‘thrattai’; sometimes the kind as a whole is not so, but such individuals are found in it, as with cattle and goats and, among birds, pigeons; the same applies also to other kinds of birds. The whole-coloured change much more than the uniformly coloured, both into the simple colour of another individual of the same kind (as dark changing into white and vice versa) and into both colours mingled. This is because it is a natural characteristic of the kind as a whole not to have one colour only, the kind being easily moved in both directions so that the colours both change more into one another and are more varied. The opposite holds with the uniformly coloured; they do not change except by an affection of the colour, and that rarely; but still they do so change, for before now white individuals have been observed among partridges, ravens, sparrows, and bears. This happens when the course of development is perverted, for what is small is easily spoilt and easily moved, and what is developing is small, the beginning of all such things being on a small scale.

Change is especially found in those animals of which by nature the individual is whole-coloured but the kind many-coloured. This is owing to the water which they drink, for hot waters make the hair white, cold makes it dark, an effect found also in plants. The reason is that the hot have more air than water in them, and the air shining through causes whiteness, as also in froth. As, then, skins which are white by reason of some affection differ from those white by nature, so also in the hair the whiteness due to disease or age differs from that due to nature in that the cause is different; the latter are whitened by the natural heat, the former by the external heat. Whiteness is caused in all things by the vaporous air imprisoned in them. Hence also in all animals not uniformly coloured all the part under the belly is whiter. For practically all white animals are both hotter and better flavoured for the same reason; the concoction of their nutriment makes them well-flavoured, and heat causes the concoction. The same cause holds for those animals which are uniformly-coloured, but either dark or white; heat and cold are the causes of the nature of the skin and hair, each of the parts having its own special heat.

The tongue also varies in colour in the simply coloured as compared with the vari-coloured animals, and again in the simply coloured which differ from one another, as white and dark. The reason is that assigned before, that the skins of the vari-coloured are vari-coloured, and the skins of the white-haired and dark-haired are white and dark in each case. Now we must conceive of the tongue as one of the external parts, not taking into account the fact that it is covered by the mouth but looking on it as we do on the hand or foot; thus since the skin of the vari-coloured animals is not uniformly coloured, this is the cause of the skin on the tongue being also vari-coloured.

Some birds and some wild quadrupeds change their colour according to the seasons of the year. The reason is that, as men change according to their age, so the same thing happens to them according to the season; for this makes a greater difference to them than the change of age.

The more omnivorous animals are more vari-coloured to speak generally, and this is what might be expected; thus bees are more uniformly coloured than hornets and wasps. For if the food is responsible for the change we should expect varied food to increase the variety in the movements which cause the development and so in the residual matter of the food, from which come into being hairs and feathers and skins.

So much for colours and hairs.

7

As to the voice, it is deep in some animals, high in others, in others again well-pitched and in due proportion between both extremes. Again, in some it is loud, in others small, and it differs in smoothness and roughness, flexibility and inflexibility. We must inquire then into the causes of each of these distinctions.

We must suppose then that the same cause is responsible for high and deep voices as for the change which they undergo in passing from youth to age. The voice is higher in all other animals when younger, but in cattle that of calves is deeper. We find the same thing also in the male and female sexes; in the other kinds of animals the voice of the female is higher than that of the male (this being especially plain in man, for Nature has given this faculty to him in the highest degree because he alone of animals makes use of speech and the voice is the material of speech), but in cattle the opposite obtains, for the voice of cows is deeper than that of bulls.

Now the purpose for which animals have a voice, and what is meant by ‘voice’ and by ‘sound’ generally, has been stated partly in the treatise on sensation, partly in that on the soul. But since lowness of voice depends on the movement of the air being slow and its highness on its being quick, there is a difficulty in knowing whether it is that which moves or that which is moved that is the cause of the slowness or quickness. For some say that what is much is moved slowly, what is little quickly, and that the quantity of the air is the cause of some animals having a deep and others a high voice. Up to a certain point this is well said (for it seems to be rightly said in a general way that the depth depends on a certain amount of the air put in motion), but not altogether, for if this were true it would not be easy to speak both soft and deep at once, nor again both loud and high. Again, the depth seems to belong to the nobler nature, and in songs the deep note is better than the high-pitched ones, the better lying in superiority, and depth of tone being a sort of superiority. But then depth and height in the voice are different from loudness and softness, and some high-voiced animals are loud-voiced, and in like manner some soft-voiced ones are deep-voiced, and the same applies to the tones lying between these extremes. And by what else can we define these (I mean loudness and softness of voice) except by the large and small amount of the air put in motion? If then height and depth are to be decided in accordance with the distinction postulated, the result will be that the same animals will be deep-and loud-voiced, and the same will be high-and not loud-voiced; but this is false.

The reason of the difficulty is that the words ‘great’ and ‘small’, ‘much’ and ‘little’ are used sometimes absolutely, sometimes relatively to one another. Whether an animal has a great (or loud) voice depends on the air which is moved being much absolutely, whether it has a small voice depends on its being little absolutely; but whether they have a deep or high voice depends on their being thus differentiated in relation to one another. For if that which is moved surpass the strength of that which moves it, the air that is sent forth must go slowly; if the opposite, quickly. The strong, then, on account of their strength, sometimes move much air and make the movement slow, sometimes, having complete command over it, make the movement swift. On the same principle the weak either move too much air for their strength and so make the movement slow, or if they make it swift move but little because of their weakness.

These, then, are the reasons of these contrarieties, that neither are all young animals high-voiced nor all deep-voiced, nor are all the older, nor yet are the two sexes thus opposed, and again that not only the sick speak in a high voice but also those in good bodily condition, and, further, that as men verge on old age they become higher-voiced, though this age is opposite to that of youth.

Most young animals, then, and most females set but little air in motion because of their want of power, and are consequently high-voiced, for a little air is carried along quickly, and in the voice what is quick is high. But in calves and cows, in the one case because of their age, in the other because of their female nature, the part by which they set the air in motion is not strong; at the same time they set a great quantity in motion and so are deep-voiced; for that which is borne along slowly is heavy, and much air is borne along slowly. And these animals set much in movement whereas the others set but little, because the vessel through which the breath is first borne has in them a large opening and necessarily sets much air in motion, whereas in the rest the air is better dispensed. As their age advances this part which moves the air gains more strength in each animal, so that they change into the opposite condition, the high-voiced becoming deeper-voiced than they were, and the deep-voiced higher-voiced, which is why bulls have a higher voice than calves and cows. Now the strength of all animals is in their sinews, and so those in the prime of life are stronger, the young being weaker in the joints and sinews; moreover, in the young they are not yet tense, and in those now growing old the tension relaxes, wherefore both these ages are weak and powerless for movement. And bulls are particularly sinewy, even their hearts, and therefore that part by which they set the air in motion is in a tense state, like a sinewy string stretched tight. (That the heart of bulls is of such a nature is shown by the fact that a bone is actually found in some of them, and bones are naturally connected with sinew.)

All animals when castrated change to the female character, and utter a voice like that of the females because the sinewy strength in the principle of the voice is relaxed. This relaxation is just as if one should stretch a string and make it taut by hanging some weight on to it, as women do who weave at the loom, for they stretch the warp by attaching to it what are called ‘laiai’. For in this way are the testes attached to the seminal passages, and these again to the blood-vessel which takes its origin in the heart near the organ which sets the voice in motion. Hence as the seminal passages change towards the age at which they are now able to secrete the semen, this part also changes along with them. As this changes, the voice again changes, more indeed in males, but the same thing happens in females too, only not so plainly, the result being what some call ‘bleating’ when the voice is uneven. After this it settles into the deep or high voice of the succeeding time of life. If the testes are removed the tension of the passages relaxes, as when the weight is taken off the string or the warp; as this relaxes, the organ which moves the voice is loosened in the same proportion. This, then, is the reason why the voice and the form generally changes to the female character in castrated animals; it is because the principle is relaxed upon which depends the tension of the body; not that, as some suppose, the testes are themselves a ganglion of many principles, but small changes are the causes of great ones, not per se but when it happens that a principle changes with them. For the principles, though small in size, are great in potency; this, indeed, is what is meant by a principle, that it is itself the cause of many things without anything else being higher than it for it to depend upon.

The heat or cold also of their habitat contributes to make some animals of such a character as to be deep-voiced, and others high-voiced. For hot breath being thick causes depth, cold breath being thin the opposite. This is clear also in pipe-playing, for if the breath of the performer is hotter, that is to say if it is expelled as by a groan, the note is deeper.

The cause of roughness and smoothness in the voice, and of all similar inequality, is that the part or organ through which the voice is conveyed is rough or smooth or generally even or uneven. This is plain when there is any moisture about the trachea or when it is roughened by any affection, for then the voice also becomes uneven.

Flexibility depends on the softness or hardness of the organ, for what is soft can be regulated and assume any form, while what is hard cannot; thus the soft organ can utter a loud or a small note, and accordingly a high or a deep one, since it easily regulates the breath, becoming itself easily great or small. But hardness cannot be regulated.

Let this be enough on all those points concerning the voice which have not been previously discussed in the treatise on sensation and in that on the soul.

8

With regard to the teeth it has been stated previously that they do not exist for a single purpose nor for the same purpose in all animals, but in some for nutrition only, in others also for fighting and for vocal speech. We must, however, consider it not alien to the discussion of generation and development to inquire into the reason why the front teeth are formed first and the grinders later, and why the latter are not shed but the former are shed and grow again.

Democritus has spoken of these questions but not well, for he assigns the cause too generally without investigating the facts in all cases. He says that the early teeth are shed because they are formed in animals too early, for it is when animals are practically in their prime that they grow according to Nature, and suckling is the cause he assigns for their being found too early. Yet the pig also suckles but does not shed its teeth, and, further, all the animals with carnivorous dentition suckle, but some of them do not shed any teeth except the canines, e.g. lions. This mistake, then, was due to his speaking generally without examining what happens in all cases; but this is what we to do, for any one who makes any general statement must speak of all the particular cases.

Now we assume, basing our assumption upon what we see, that Nature never fails nor does anything in vain so far as is possible in each case. And it is necessary, if an animal is to obtain food after the time of taking milk is over, that it should have instruments for the treatment of the food. If, then, as Democritus says, this happened about the time of reaching maturity, Nature would fail in something possible for her to do. And, besides, the operation of Nature would be contrary to Nature, for what is done by violence is contrary to Nature, and it is by violence that he says the formation of the first teeth is brought about. That this view then is not true is plain from these and other similar considerations.

Now these teeth are developed before the flat teeth, in the first place because their function is earlier (for dividing comes before crushing, and the flat teeth are for crushing, the others for dividing), in the second place because the smaller is naturally developed quicker than the larger, even if both start together, and these teeth are smaller in size than the grinders, because the bone of the jaw is flat in that part but narrow towards the mouth. From the greater part, therefore, must flow more nutriment to form the teeth, and from the narrower part less.

The act of sucking in itself contributes nothing to the formation of the teeth, but the heat of the milk makes them appear more quickly. A proof of this is that even in suckling animals those young which enjoy hotter milk grow their teeth quicker, heat being conducive to growth.

They are shed, after they have been formed, partly because it is better so (for what is sharp is soon blunted, so that a fresh relay is needed for the work, whereas the flat teeth cannot be blunted but are only smoothed in time by wearing down), partly from necessity because, while the roots of the grinders are fixed where the jaw is flat and the bone strong, those of the front teeth are in a thin part, so that they are weak and easily moved. They grow again because they are shed while the bone is still growing and the animal is still young enough to grow teeth. A proof of this is that even the flat teeth grow for a long time, the last of them cutting the gum at about twenty years of age; indeed in some cases the last teeth have been grown in quite old age. This is because there is much nutriment in the broad part of the bones, whereas the front part being thin soon reaches perfection and no residual matter is found in it, the nutriment being consumed in its own growth.

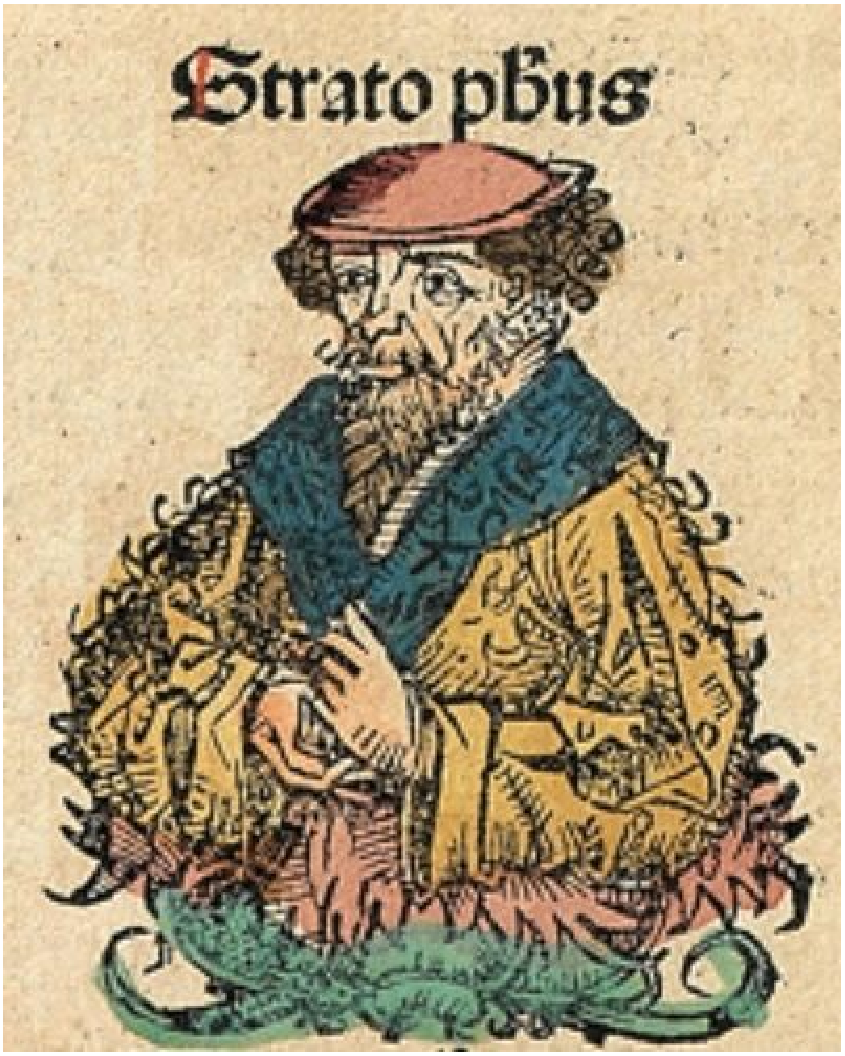
Democritus, however, neglecting the final cause, reduces to necessity all the operations of Nature. Now they are necessary, it is true, but yet they are for a final cause and for the sake of what is best in each case. Thus nothing prevents the teeth from being formed and being shed in this way; but it is not on account of these causes but on account of the end (or final cause); these are causes only in the sense of being the moving and efficient instruments and the material. So it is reasonable that Nature should perform most of her operations using breath as an instrument, for as some instruments serve many uses in the arts, e.g. the hammer and anvil in the smith’s art, so does breath in the living things formed by Nature. But to say that necessity is the only cause is much as if we should think that the water has been drawn off from a dropsical patient on account of the lancet, not on account of health, for the sake of which the lancet made the incision.

We have thus spoken of the teeth, saying why some are shed and grow again, and others not, and generally for what cause they are formed. And we have spoken of the other affections of the parts which are found to occur not for any final end but of necessity and on account of the motive or efficient cause.

On Colours (791a)

Translated by W. S. Hett

De Coloribus is a treatise attributed to Aristotle, though some ascribe the work to Theophrastus or Strato. It outlines the theory that all colours (yellow, red, purple, green, and blue) are derived from mixtures of black and white. The treatise had a pronounced impact on subsequent colour theories and remained influential until Isaac Newton’s much later experiments with light refraction.



Strato of Lampsacus (c. 335-c. 269 BC) depicted as a medieval scholar in the Nuremberg Chronicle. Strato was a Peripatetic philosopher and the third director of the Lyceum after the death of Theophrastus. He devoted himself especially to the study of natural science and increased the naturalistic elements in Aristotle's thought, encouraging some scholars to identify 'On Colours' as being the work of Strato.

ON COLOURS

Those colours are simple which belong to the elements, fire, air, water and earth. For air and water are naturally white in themselves, while fire and the sun are golden. The earth is also naturally white, but seems coloured because it is dyed. This becomes clear when we consider ashes; for they become white when the moisture which caused their dyeing is burned out of them; but not completely so, for they are also dyed by smoke, which is black. In the same way sand becomes golden, because the fiery red and black tints the water. The colour black belongs to the elements of things while they are undergoing a transformation of their nature. But the other colours are evidently due to mixture, when they are blended with each other. For darkness follows when light fails.

But black appears to us in three ways. In the first, that which is not seen is, generally speaking, black naturally (for any light from such things is reflected as black); or secondly, black is that from which no light is conveyed to the eyes; for that which is not seen, when the surrounding region is seen, gives an impression of black. Thirdly, all things appear black of the kind from which a very small amount of light is reflected. This is why shadows appear to be black. In the same way water appears to be black when it is rough, as for instance the ripple of the sea; for owing to the roughness of the surface few rays can fall on it, and the light is scattered, and so what is in shadow appears black. It is for the same reason that cloud appears to be black when it is very thick. It is just the same with water and air when the light does not entirely penetrate them. For these also appear to be black when deep, for very few rays of light are totally reflected; for all those parts which are in between the light parts seem to be black because of the darkness. One can learn from many facts that darkness is not a colour at all, but is merely an absence of light, and particularly from the fact that it is not possible to perceive in darkness the character or shape of anything, as it is in the case of visible objects.

But that light is the colour of fire is clear from the fact that it is discovered to have no colour but this, and because it alone is visible by itself, whereas all other things are visible by means of it. This point must be further considered. For some things which are neither fire nor forms of fire seem to produce light by nature. Unless the colour of fire is light, light is not the colour of fire alone; but it is possible that this colour does not belong to fire merely, but that light is actually its colour. Certainly visibility is impossible in any way except by light, just as the visibility of all other bodies is only possible by the appearance of colour. But the colour black is seen when air and water are burned by fire; thus all things grow black when burning, such as wood and coals when the fire is quenched, and the smoke from potter’s clay when the moisture which is in the clay separates out and is burned. For this reason smoke that arises from fat and oily matter is the blackest, such as from oil, pitch and a pinewood torch, because these burn to the greatest extent and have continuity of substance. Those things also become black through which water flows, when the moisture of those which are grown over with moss first dries up, like the plaster in walls. Stones behave in the same way in the presence of water. For these too when moss-grown and afterwards dried become black in colour.

These then are all the simple colours.

The other colours derived from these by mixture in greater or smaller proportions make many different varieties. By greater and smaller proportions I mean such as red and purple, by mixture such as white and black, which when mixed give an appearance of grey. So when what is black and shady is mixed with light the result is red. For we see that, when what is black is mixed with the light of the sun and fire, the result is always red, and black things when burned always change to the colour red; for smoky flame and coal, when it is burned through, are seen to have a red colour. Purple is gay and bright whenever the rays of the sun are a weak mixture of white and shady. Consequently at the hours of sunrise and sunset the air seems to have a purple tint, the sun being at its rising or setting. For its rays being weak at the time are cast upon the air when it is inclined to be dark. The sea again has a purple tinge when the waves rise at an angle, and consequently are in shadow; for the sun’s rays striking feebly at an angle cause the colour to appear purple. The same thing is seen to occur with plumage; for when exposed to the light it has a purple tint. When less light strikes it, it is of that dark tint which men call grey-brown; when however the light is strong and mixed with primary black it becomes red. But when it is light and shining as well it changes to flame colour.

As far as mixture with each other is concerned we must begin our inquiry by making a mixture starting with an observed base, but not assuming a similar origin for all. For some colours are not simple, but the same relation applies to some of the compound colours as the simple ones bear to them, because in a sense the simple colours must be mixed with one of these compounds, and we must not assume it to be equally obvious in every case even on a close inspection. For when we speak of a mixture of purple and red we must explain on similar lines those which are a mixture of these two and produce another colour, but must not expect a similar appearance. We must then base our assumptions and our examination of mixtures on what has been prepared before, for instance that the colour of dark wine occurs when sunlight rays are mixed with what is pure black and what is glittering, like the berries of the grape; for their colour is said to be wine-dark at the moment of ripening; for, when they are growing black, red changes to purple. According to the method we have laid down we must inquire into all the variations of colour, finding similarity of colour in objects undergoing movement according to their actual appearance, finding similar explanations of the mixing in each case, even in the case of those which both by origin and through mixture produce the appearance, and by bringing forward convincing proof. But we must make our investigation into these things not by mixing these colours as painters do, but by comparing the rays which are reflected from those to which we have already referred. For one could especially consider the mixing of rays in nature. But we require convincing proof and a consideration of similarities, if the origin of the colours is to become obvious. This is especially the case with the light of the sun, and that which comes from fire, air and water; for these being mixed in greater or less proportions produce in a sense all the colours. One must also base conclusions on the similarities of the other colours, when mixed with the rays of the sun; for coal, smoke, rust and sulphur and plumage when mixed, some with the rays of the sun and some with fire, provide many variations of colour. Other colours, again, must be considered in ripening, occurring as they do in plants and fruit, hair and feathers and all such things.

We must not, however, neglect the variegated and the ill defined among colours, and the quantities to which their occurrence is due. We shall find that it is because they have an unequal and disproportionate share of light and shade; for the difference between light and shade is a quantitative difference of more and less, so that by themselves and when mixed with colours they cause change of colour, either because the colours mixed differ in quantity and strength, or because they have not the same proportions. For purple exhibits a large number of variations, and so does red and white, and each of the other colours, both in the matter of greater and less, and in their mixture with each other and in their purity. It also makes a difference whether the colour mixed is bright and shining, or on the contrary dark and dull. Shining is nothing but the continuity and intensity of light. A golden colour appears when what is yellow and sunny gleams with great intensity. This is why the necks of doves and drops of water appear golden when light is reflected from them. Some objects, when smoothed by rubbing or by other forces, exhibit varied and different colours, like * * *, for though black they draw white lines, because they are originally composed of small elements which are thick and black, and by the dyeing process which takes place when they are made, all the passages through which the dyeing passes are coloured, so that a different appearances is given to the colour. But what is rubbed off from them is no longer golden in appearance, nor bronze, nor has it any other such tinge, but it is entirely black, because by the rubbing the passages through which the dyeing takes place are broken up, but originally they are of the same colour. For when the former colour is no longer obvious to us, because the dyeing process is dissipated, we see the colour which naturally belongs to them; and so they all appear black. But in the process of rubbing each of them to a homogeneous and smooth surface, as in treating on a touchstone, they lose their blackness, and recover their colour, the dye showing through when there is contact and continuity. But in the case of things burned and being disintegrated and melting in the fire those exhibit most colours where the smoke is light and misty and the colours are dark, like the smoke that arises from sulphur and from rusty bronze, and all substances which are dense and smooth such as silver. But other cases of variety are those which have dark colours and some measure of smoothness, such as water, clouds and birds' plumage. For these owing to their smoothness and the rays that fall upon them, mixed in various ways, produce various colours, just as darkness does.

We do not see any of the colours pure as they really are, but all are mixed with others; or if not mixed with any other colour they are mixed with rays of light and with shadows, and so they appear different and not as they are. Consequently things appear different according to whether they are seen in shadow or in sunlight, in a hard or a soft light, and according to the angle at which they are seen and in accordance with other differences as well. Those which are seen in the light of the fire or the moon and by the rays of a lamp differ by reason of the light in each case: and also by the mixture of the colours with each other; for in passing through each other they are coloured; for when light falls on something, and, being tinted by it, becomes reddish or greenish, and then the reflected light falls on another colour, being again mixed with it, it takes on still another mixture of colour. And by being affected in this way, continually but imperceptibly, it sometimes reaches the eyes as a mixture of many colours, but producing the sensation of the most predominant; so in water things appear more watery and things seen in mirrors appear to have similar colours to those in the mirrors. This also happens, one would suppose, in the case of air. So that all colours are a mixture of three things, the light, the medium through which the light is seen, such as water and air, and thirdly, the colours forming the ground, from which the light happens to be reflected. But the white and the transparent, when it is very thin, appears misty in colour. But over what is dense a haze invariably appears, as in the case of water, glass and air, when it is dense. For, as the rays from all directions fail owing to the density, we cannot see accurately into their inner parts. But the air when examined from near by seems to have no colour (for owing to its thinness it is controlled by the rays and is divided up by them, because they are denser and show right through it), but when examined in depth, the air appears from very near by to be blue in colour because of its rarity. For where the light fails, there, being penetrated by darkness at this point, it appears blue. But when dense, just as with water, it is the whitest of all things.

All dyed things take their colour from what dyes them. For many are coloured by the flowers of plants, many by the roots, many again by bark or wood or leaves or fruit. Many again are coloured by earth, by foam, and many by ink; others again are coloured by animal juices, such as purple by the murex. Others again by wine, by smoke, by sand, or by sea as is the case with the hair among sea creatures; for these are all made reddish by the sea. This is true, speaking generally, of all those which have distinctive colours. For when the colours enter the passages of that which is being dyed together with moisture and heat, when they are dried they take their colours with them. And so it is often washed out of them, when the dye flows out of the passages. But the steeping in alum in the dyeing process produces many differences and mixtures, and so do the qualities of the substances dyed, as has been said before in the case of mixtures. When black fleeces are dyed they do not become all equally bright in colour, because their passages are dyed when the dye enters into them, but the spaces in between the hair receive no dye. These being white and lying side by side with the colours make the dye appear brighter; the black parts on the other hand are shadowy and dark. Consequently what is called brown-grey is brighter when on black wool than on white. For in this case the dye appears purer, being mingled with the rays of the black. By itself the space in between the passages is not noticed because of its smallness, just as tin is not noticed when it is mixed with bronze, nor any other such thing. The colours of things dyed vary in kind according to the reasons we have outlined.

Hair and plumage and flowers and fruit and all points can in many ways be seen to take on changes of colour at the time of ripening; but now we have to consider what are the primary sources of the colours which belong naturally to each species, what changes they exhibit and from what and for what reason they are thus affected, and whether any other difficulties follow these facts. The inquiry depends on the following facts. The primary colour of all plants is green; for shoots and leaves and fruit are all green to begin with. One can see exactly the same thing in rain water; when the water has stood for a long time, as it dries up again it becomes green in colour. This happens logically, and in all growing things this is the first colour that obtains. For all water that stands for a long time is green originally, being mixed with the rays of the sun, but it gradually grows black, but becomes green again when mixed with fresh water. For anything moist, as has been said, as it grows old by itself and dries up, becomes black, as plaster does in its receptacles; for all things which are always in water become black, because the moisture does not grow cold and dry, but all that is drained out and exposed to the sun becomes green because the yellow is mixed with the black. Or rather, as the moist part blackens, the green becomes very dark, and of the colour of a leek. Consequently the older shoots are much blacker than the young ones; the latter are yellower because the moisture in them has not yet turned black. For as their growth becomes slower and their moisture lasts for a long time, as the moisture becomes very black as it cools, it changes to leek-green by being mixed with pure black.

But in the case of those in which the moisture is not mixed with the rays of the sun, their white colour persists, unless it grows black by lasting a long time and drying up first. Consequently in all plants the parts above the earth are green at first, but beneath the earth stalks and roots are white. Shoots, again, if they are below the earth are white, but if the earth is removed from around them they all become green right from the first, as has been said before, because the moisture which passes down into them through the shoots has this colour naturally and in the case of fruits this is soon spent on growth; but when they no longer grow, it is because the heat cannot control the food which flows into them, but on the contrary the moisture is exhausted by the heat. Then all the fruits become ripe; and as the moisture in them is also warmed by the sun and the heat of the atmosphere, each combines to take the colours from the juices, just as those which are dyed from the flowers. So they are coloured little by little, and most of all those which are turned towards the sun and the warmth.

So that the colours change in accordance with the seasons. This is obvious; those of a green hue all change as they grow ripe to their natural colour. For they are white, black, grey, yellow, blackish, dark, dull-coloured red, wine-dark and saffron and exhibit almost all the differences of colour. But since the largest number of colours appear when more are mixed with each other, it is obvious that the colours in plants must have the same mixture; for the moisture penetrating through them, and washing all colours through with it, produces all the possible colours. And as this is warmed up in the ripening of the fruit by the sun and the warmth of the air, each of the colours becomes fixed by itself, some more quickly and some more slowly, as occurs in dyeing by the murex. For when they have cut this open and drained from it all the moisture, and have poured this out and boiled it in vessels, at first none of the colours is quite obvious in the dye, because as the liquid boils more, and the colours which are still in it get more mixed, each of them exhibits many and various differences; for there is black and white, and dull, and misty, and finally all becomes purple when the boiling is complete, so that in the mixture none of the other colours is visible by itself.

The same thing occurs with fruits. For in many of them owing to the fact that the ripening of all the colours does not take place at once, but some form earlier and others later, they change from one to the other, as in grapes and dates. For some of these become red at first, but as the black is formed in them they turn to wine-dark; but at last they become purplish, when the red colour is mixed with a large quantity of pure black. For those colours which are formed later, when they prevail, cause the previous colours to change. This is most obvious in the case of the black fruits; for the larger number of them, as has been said, changing from their initial green redden and become tawny, but they soon change again from the red and become purple owing to the unmixed black which exists in them. But this proves the point; for cuttings, and shoots, and leaves of all such plants are red, because this kind of colour exists in them, since it is obvious that the black fruits share in both these colours; for the juice of all such plants is wine-dark.

But in their order of origin the red comes before the black. This is obvious; for the ground upon which the drops fall and speaking generally any spot at which there is a moderate fall of water in dark places all change first from a greenish colour to red, and the ground becomes as though blood had been recently spilled on the spot in which the green takes on the ripening; at the end this becomes very black and blueish. The same thing happens with fruits. In their case it is easy to see that the colour of the fruit changes, as the colours are laid on it afterwards. For the fruit of the pomegranate and the petals of the rose are white to begin with, but at last as the juices in them get tinted by ripening, they become shaded off and change again to the colour of sea purple and red. Other things have more colours in them, such as the juice of the poppy and the lees of the olive; for the latter is white at first, just like the fruit of the pomegranate, but after having grown white again it changes to the colour red, and at last by being mixed with black it becomes blueish. Consequently the leaves of the poppy are reddish on top, because their ripening comes quickly, but their other parts are black at the bottom, as this colour prevails in them, as is also the case with the fruit; for at last it becomes black. In the case of those plants which have one colour only, such as white, black, red or purple, the fruits of all these persist in having the same type of colour, when once they change from green to another colour. The flowers are in some cases of the same colour as the fruit, as is true of the pomegranate; for both its fruit and its flower become reddish; in some cases there is a great difference in colour, for instance in the bay and the ivy; for the flower of all these species is yellow, but the fruit of the latter is black and of the former red. The same thing is true of the apple-tree; for its flower is white tending to grow purple, while its fruit is golden. The flower of the poppy is red, and its fruit partly black and partly white, according to the ripening of the juices in it at different times. One can see this in many cases; for some fruits, as has already been said, exhibit many variations at the time of ripening.

So it happens that very different scents and juices are associated with both flower and fruit. This is still more obvious in the case of the flowers themselves, for, in the same petal, part may be black and part red and in some cases part may be white and part purplish. This is specially true of the iris; for this plant has many differences in colour during its ripening, as is also the case with grapes, when they come to ripen. So in their case the tips of the flowers ripen, but these at the extremities have much less colour than the rest. In some of them the moisture is, so to speak, burned out of them before they take on their own proper ripening. So the flowers remain of one colour, but the fruit changes as it ripens. Some plants owing to the smallness of their food ripen quickly, but the fruits owing to their quantity of moisture change at the time of their ripening into all their natural colours. This is clear, as has been said before, especially in the case of dyeing with colour. For sometimes to begin with, when they are dyeing purple and put in the blood red dye, it becomes grey-brown, black and sky blue; but when the dye is boiled enough, it becomes quite purple, gay, and bright. In the same way many of the flowers must differ from the colours of the fruits, some receiving an excess and some a deficiency of their natural colours, owing to the fact that in some the ripening is incomplete, and in some complete. For these reasons it happens that flowers and fruit differ from each other in colour; but the leaves of most trees become yellow at the end, because, when their food fails, they dry before they change into their natural colours: in the same way when fruits fall off some become yellow in colour because are food has failed them before the time of ripening. This is also true of corn° and of all growing things; for they all become yellow at the end. For the moisture in them being no longer blackened by drying causes the change of colour. For when growing black and mixed with green it becomes, as has been said, greenish; but as the black grows steadily weaker, the colour changes back again gradually to green, and at last becomes yellow. So the leaves of the parsley, purslane and of some other plants grow red as they ripen. Except for those which grow dry quickly, these become yellow because their food fails before they ripen. The differences in the colours of plants are most reasonably accounted for by the reasons we have given.

Hair, plumage, skin of horses, cattle, sheep, men and all other living creatures are white and grey and red and black for the same reason; white when the moisture which possesses its own natural colour dries up, and black on the other hand when the moisture about the skin at birth, as happens in all other cases, grows black when it grows old and has lasted a long time because of its quantity; for the complexion and the skin of all such is black. Those are grey, red, yellow, and other colours, which dry before the moisture in them changes completely to black. Those in whom this change takes place unevenly have all kinds of variegated colours.

So everything accords with the skin in colour, since men of ruddy complexion have pale red hair, and dark-skinned men have black hair. But if in any part of the body white leprosy has broken out, all have also white hairs in this place, as in the beasts of varied colours. So also the hair and plumage is in accordance with the skin, and what applies to the parts applies also to the whole body. The same is true of the hoofs, talons, bills and horns; for in the black animals these are black and in the white white, because in all these cases the food passes to the outer envelope through the skin. It can be seen from many facts that this is the reason. For the heads of all infants at birth are red because of their small amount of food. But this is obvious; for the hair grows weak and thin and short at first on all infants. But as their age increases the hair grows black, as they themselves get coloured by the amount of food that flows in. Similarly when the hair on the body grows and the beard at the time of adolescence, the hairs are reddish to begin with, as the moisture dries quickly because there is but little of it, but as more food travels to the parts the hair grows black. But the hairs on the body remain red for the longest time owing to lack of nourishment, since as long as it grows these also continue to grow black, as on other parts of the body and on the head. But this is clear; for in all living creatures which have long hair, speaking generally those near the body are blacker, while those at the extremities are more golden. The hair of sheep, horses and men are so, because the least amount of food is conveyed to those parts, and so they dry quickly. But even the plumage of black birds is blackest near the body and lighter at the extremities. The same thing is true of the parts about the neck, and speaking generally those which receive but little nourishment. This is clear; for before the period of becoming grey all the hair changes colour and becomes red, because the failing food supply dries quickly. But at last it is white, before the moisture grows black, as the food in those parts is matured. This is most evident in beasts of burden; for the hair of all such grows white. For as these parts are unable to draw their sustenance because of the feebleness of the heat, the moisture dries quickly and becomes white. So with men the hair about the temples most readily grows grey, and generally speaking about the parts that are weak and hard worked.

Most of all does the change to this colour take place when it changes its own nature. For a hare has been born white, and has also been seen black; so has a stag and a bear, and similarly a quail, a partridge and a swallow. For when they are weak at birth, all such things are white owing to the shortage of sustenance, because they ripen before their time. So, too, in the case of children; at first they have white heads and eyelids and eyebrows, as is true in each case when they approach old age. Obviously this affection is due to weakness and shortage of sustenance. Consequently most of the white animals are weaker than the black; for before their growth is complete, they are white while developing owing to shortage of sustenance, just as is true of fruits which happen to be diseased; for these ripen much more quickly owing to their weakness. But some creatures are born white and are very superior to the rest, as for instance horses and dogs. These change from their natural colour to white because they are well nourished. For the moisture in them not lasting a long time but being expended on their growth does not become black. Most of these are moist and fleshy because they are well nourished. So that not even the white of the hair changes. This is obvious; for the black parts become reddish before they go grey, because their sustenance is failing and becoming riper, but white in the last stage.

Yet there are some who suppose that all things become black because the food is burned up by the heat, just like the blood and other things, but they are wrong. For some living creatures are black to start with, such as dogs, goats and cattle, and speaking generally those whose skins and hair have sustenance from the beginning, but are less so as their age advances. And yet on this assumption it ought not to be so, but the hair of all such creatures should grow blacker at their prime, at which time the heat in them is strongest, and they should be more white at the beginning. For in every case the heat is much more feeble at the beginning than at the time at which the hair is beginning to turn white. This is clear in the case of those which are white. For some have the whitest skin from the start, those namely which have the greatest sustenance at the beginning, and in which the moisture does not dry before its time. But as their age advances they become yellow, because later on less food passes into them. But others are yellow to begin with, and whitest at their prime, just as among birds the colours change when the food in them fails. And this is the proof; for they all grow yellow round the neck, and speaking generally in those parts which go short when the food begins to fail. And this is clear; for as red changes into black and black again into red, so does white change to yellow. This happens in the case of plants; for some revert from the latter state of ripeness back to the former. This is most obvious in the case of the pomegranate. For the kernels are red to start with, and so are the leaves through scarcity of digested food, but later on they change back again into a greenish colour, when much food flows into them and the ripening cannot exercise the same degree of control; but at last, as the food is assimilated, the colour becomes red again.

Speaking generally we may say of the hair and plumage, that they all admit changes, in some cases as we have said because food fails, in others on the other hand because it is in excess. Consequently some hairs at some period of its growth and some at others are whitest and blackest, since the plumage even of ravens changes to a yellow tinge at last, when the food in them fails. But in the case of hair none ever changes in such a way as to have red, purple or green nor any other such colour, because all such colours occur when the rays of the sun are mixed with them, but in the case of hair which is moist all change takes place within the flesh, and it does not involve any mixture. This is obvious; for initially plumage is not at all like this in colour, but all the varied plumage of birds is, so to speak, black, such as the peacock, the pigeon and the swallow; but later on the plumage takes on all these varied hues, when the ripening of the body has taken place, both in the feathers and in the crests, so that in these cases as with plants the ripening of the colours takes place outside the body. So the remainder of living creatures, both water animals and reptiles and shellfish, have all sorts of colours, as the ripening in them is considerable. From what we have said one could best conduct an investigation into the question of colours.

On Things Heard (800a)

Translated by T. Loveday and E. S. Forster

The treatise *De audibilibus* was formerly attributed to Aristotle, though it is now generally believed to be the work of Strato of Lampsacus. The extant version of the text consists of long extracts included in Porphyry’s *Commentary on Ptolemy’s Harmonics*, concerning the study of sound production.

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PREFACE

THIS tract appears to be a fragment of a larger work. It is certainly not Aristotle's, and has been ascribed with some likelihood to Strato. It has never been separately edited. Prantl's text in the Teubner edition (1881) has been used.

Mr. W. D. Ross's advice has again been invaluable to us.

T. L.

E. S. F.

ON THINGS HEARD

All sounds, whether articulate or inarticulate, are produced by the meeting of bodies with other bodies or of the air with bodies, not because the air assumes certain shapes, as some people think, but because it is set in motion in the way in which, in other cases, bodies are moved, whether by contraction or expansion or compression, or again when it clashes together by an impact from the breath or from the strings of musical instruments. For, when the nearest portion of it is struck by the breath which comes into contact with it, the air is at once driven forcibly on, thrusting forward in like manner the adjoining air, so that the sound travels unaltered in quality as far as the disturbance of the air manages to reach. For, though the disturbance originates at a particular point, yet its force is dispersed over an extending area, like breezes which blow from rivers or from the land. Sounds which happen for any reason to have been stifled where they arise, are dim and misty; but, if they are clear, they travel far and fill all the space around them.

We all breathe in the same air, but the breath and the sounds which we emit differ owing to structural variations of the organs at our disposal, through which the breath must travel in its passage from within — namely, the wind-; pipe, the lungs, and the mouth. Now the impact of the breath upon the air and the shapes assumed by the mouth make most difference to the voice. This is clearly the case; for indeed all the differences in the kinds of sounds which are produced proceed from this cause, and we find the same people imitating the neighing of horses, the croaking of frogs, the song of the nightingale, the cries of cranes, and practically every other living creature, by means of the same breath and windpipe, merely by expelling the air from the mouth in different ways. Many birds also imitate by these means the cries of other birds which they hear.

As to the lungs, when they are small and inexpansive and hard, they cannot admit the air nor expel it again in large quantities, nor is the impact of the breath strong and vigorous. For, because they are hard and inexpansive and constricted, they do not admit of dilatation to any great extent, nor again can they force out the breath by contracting after wide distension; just as we ourselves cannot produce any effect with bellows, when they have become hard and cannot easily be dilated and closed. For what gives strength to the impact of the breath is that the lungs after wide distension contract and violently force out the air. This can be illustrated from the other parts of the body, none of which can strike a blow with any effect at a very close distance. It is impossible with either the leg or the hand to smite the object of your blow with any force or to hurl it far, unless you allow the limb a considerable distance in which to strike the blow. If you fail to do so, the blow is hard owing to the energy exerted, but it cannot force its object far. Under similar circumstances stone-throwing engines cannot shoot far, nor a sling, nor a bow, if it is stiff and will not bend, and the string cannot be drawn back far But if the lung is large and soft and flexible, it can admit the air and expel it again in large quantities, regulating it at will, thanks to its softness and the ease with which it can contract.

As for the windpipe, when it is long and narrow, it is only with difficulty that the voice is emitted, and considerable force is required owing to the distance that the breath has to travel. This is clear from the fact that creatures which have long necks force out their cries — geese, for example, and cranes and domestic fowls. A better illustration may be taken from the oboe; every one, for instance, finds a difficulty in filling an oboe of the kind called the ‘silkworm and considerable exertion is required owing to the amount of space to be filled. Further- more, owing to narrowness of the passage, the breath is compressed within, and on escaping immediately expands and disperses, like streams when they pass through narrow straits; so that the voice is not sustained and does not carry far. Moreover, in such cases the breath must necessarily be hard to regulate and not easily controlled. On the other hand, when the windpipe is of considerable width, the breath can pass out easily, but, whilst travelling within, it becomes dispersed owing to the abundance of space, and the voice becomes hollow and lacks solidity; furthermore, creatures which have wide windpipes cannot articulate clearly with their breath because the windpipe docs not hold firmly together. Creatures in whom the windpipe is irregular and has not the same width throughout must suffer from difficulties of every kind; for their breath must be under irregular control, and must be compressed in one part and dispersed again in another part. If the windpipe is short, it necessitates a quick expulsion of the breath, and the impact on the air s more violent; in such cases the voice is more piercing owing to the quick passage of the breath.

Not only structural variations in the organs of speech make a difference to the voice, but also their condition. When the lungs and the windpipe are full of moisture, the breath is impeded and does not pass out continuously, because it is interrupted and becomes thick and moist and difficult to move, as happens in the case of a catarrh and in drunkenness. If the breath be absolutely dry, the voice becomes rather hard and dispersed; for moisture, when it is slight, holds the air together and causes, as it were, a unity in the voice. Such, then, are the differences in the voice caused by structural variations in the organs of speech and the varying condition of the organs.

Now though we localize sounds where they severally originate, yet in every case we actually hear them only when they strike upon the ear; for the air struck by the impact of the breath is borne along for a certain distance in a mass, and then gradually becomes dispersed, and we hereby distinguish all sounds as near or distant. This can be illustrated by the fact that if a man takes a pot or a pipe or a trumpet and holds it up to another man’s ear and speaks through it, all the sounds which he utters seem quite close to the ear, because the air passing along the tube is not dispersed and the sound is kept uniform by the instrument which encloses it. Just as in a picture, if an artist represents two objects in colour, one as though it were at a distance and the other as though it were close at hand, the former object appears to us to be sunk into the background of the picture and the latter to stand out in the foreground, though they are really in the same plane; so, too, in the case of sounds, whether articulate or inarticulate, if one sound is already dissolved before it strikes the ear, whilst another still retains its continuity, though both reach the same spot, the former seems distant from the ear and the latter quite near to it, because the one resembles a sound coming from afar, the other a sound close at hand.

Voices are distinct in proportion to the accuracy of the sounds uttered; for it is impossible for the voice to be distinct if the sounds are not perfectly articulated, just as the sealings of signet-rings cannot be distinct unless they are accurately impressed. For this reason children cannot speak distinctly, nor drunken persons, nor old people, nor those who naturally lisp, nor, speaking generally, those whose tongues and mouths have any defect of movement. For as in instrumental music the sound produced by the combination of brass instruments and horns is less distinct, so too, in the case of speech, great indistinctness is caused by the escape of breath from the mouth if the sounds are irregularly formed. They not only present themselves indistinctly, but they also impede the carefully articulated sounds, because the movement to which they give rise, and which affects the ear, is irregular. Therefore, when we hear one person speaking, we understand better than when we hear a number of persons saying the same thing at the same time. The same is the case with stringed instruments; and we hear still less well when the oboe and lyre are played at the same time, because the sounds confuse one another. This is particularly evident when they are played in harmony, the result being that the two; sounds produced drown one another. The conditions under which sounds become distinct have now been stated.

Clearness in sound resembles clearness in colour. Those colours which most affect the eye are most clearly seen; in like manner we must suppose that those sounds are most: clearly heard which are most able to affect the hearing, when they strike upon it, in other words sounds which are distinct and solid and pure, and have most power of penetration; for indeed it is a general law of sense-perceptions that the most distinct impressions are produced by the strongest, solidest, and purest stimuli. This is borne out by the fact that all sounds finally become dim as the air which carries them becomes dispersed. The point can also be illustrated from the oboe; the sounds produced by oboes which have sloping reeds in their mouthpieces are softer, but not so clear; for the breath being forced down; passes immediately into a wide space and is not continuously and consistently sustained, but becomes dispersed. But when the reeds are closely constructed, the sound produced is harder and clearer, the more one presses them against the lips, because the breath is thus emitted with more violence. Such, then, are the conditions of clearness in the voice. So voices which are called ‘grey’ are: generally considered no worse than those which are called *t* white’. For voices which are rather harsh and slightly confused and have not any very marked clearness are the fitting accompaniment of outbreaks of passion and of advancing years, and at the same time, owing to their intensity, they are less under control; for what is produced by violent exertion is not easily regulated, for it is difficult to increase or decrease the strength of the sound at will.

In the case of oboes and other instruments of the same class, the sounds produced are clear when the breath emitted from them is concentrated and intense. For the impacts on the external air must be of this kind, and it is in this way that they will best travel to the ear in a solid mass. Similarly, in the case of odours and light and the various forms of heat, the weaker they are, the less definite is the impression which they convey to the sense-perception, just as juices are weaker when mixed with water or with other juices. Any second ingredient which makes itself felt obscures the power of the original object.

In contrast to all other musical instruments the notes produced by horns, if they strike the air in a solid and continuous mass, are indistinct. Therefore the horn which you choose ought to be one the nature of whose growth is regular and smooth, and which does not shoot up quickly. For such horns as shoot up quickly must necessarily be too soft and spongy, so that the notes are dispersed and do not pass out in a solid mass, nor do they produce a consistent sound owing to the softness of the horn and the sponginess caused by the pores. On the other hand, the horn must not be of too slowly growing a kind, nor must it be of a thick, hard consistency and lacking in resonance; for, if the sound in its passage strikes against anything, it is arrested at that point and ceases to advance on its outward course, so that the notes which proceed from such horns are dull and irregular. That the direction taken by sound follows a straight line is clear from the way in which carpenters test beams and large timber in general. For when they strike one end, the sound passes along continuously to the other end unless the wood has some flaw in it; if it has a flaw, the sound travels along up to that point and there ceases and is dispersed. It passes round the knots in the wood and cannot continue in a straight course through them. The point can also be illustrated from what happens in bronze-working when they are filing down the loosely hanging folds of drapery or the wings of statues; the cracks close up, so that the metal gives out a rasping sound and causes a considerable noise; but the sound immediately ceases if you tie a band round the folds; for the vibration continues till it strikes the soft material and is there checked.

The baking of horns contributes greatly to the excellence; of their tone; for, when they are well baked, they produce a sound very like that of pottery, owing to the hardness caused by the heat; whilst, if they are not sufficiently baked, the sound which they make is too gentle owing to the softness of the horn, and they cannot produce such well-defined notes. Men, therefore, choose the ages of their horns; the horns of old animals are dry and callous and porous, while those of young animals are quite soft and contain a considerable amount of moisture. As we have said, a horn should be dry, of uniform thickness, with straight pores and a smooth surface; for if it be so, the notes which pass through it will be full and smooth and even, and the impacts which they make upon the outer air will have the same qualities. For those strings too are best which are smoothest and most even all along, and show the same workmanship throughout, and in which the joining of the gut is not visible; for then the impacts which they make upon the an are most even.

The reeds of oboes, too, must be solid and smooth and even, so that the breath may pass through smoothly and evenly, without being dispersed. Therefore mouthpieces which have been well steeped and soaked in grease give a pleasant sound, while those which are dry produce less agreeable notes. For the air passes softly and evenly through a moist and smooth instrument. This is clear from the fact that the breath itself, when it contains some moisture, is less likely to strike against the mouthpiece and become dispersed; while dry breath is inclined to catch in the oboe, and the impact which it causes is too hard owing to the force necessary to expel it. Differences, then, in sound arise from the above causes.

Hard voices are those which strike forcibly upon the hearing; for which reason they are particularly unpleasing — those, that is to say, which are difficult to start, but which when once started travel with added force — for any quickly yielding body which comes in the way fails to abide the impact and quickly springs aside. To take an illustration of this; heavy missiles travel along with force,; as do streams when they pass through narrow channels, for they acquire very considerable force in the actual straits, because they cannot yield to restraint all in a moment, but are driven violently along. The same thing happens in the case of articulate and inarticulate sounds. For clearly all forceful sounds are hard; as, for instance, those caused by the forcible opening of boxes and turning of hinges, and those made by bronze and iron. For the sound made on the anvil is hard when the iron that is being forged is chilled and has become hard. So, too, is the noise from the file, when they are filing iron implements and making teeth in saws. The most violent claps of thunder, too, produce very hard sounds, and those showers which from their violence we call ‘tearing’ showers.

It is quickness of breathing which makes the voice shrill, force which makes it hard. So it happens that the same individuals have not only sometimes a shriller and at other times a deeper voice, but also at times a harder and at times a softer voice. Yet some people hold that it is owing, to the hardness of the windpipe that the voice becomes hard. In this they are wrong; for, though this may be quite a slight contributing cause, the real reason is the force of the impact caused by the breath from the lungs. For as some men’s bodies are moist and soft, while those of others are hard and closely knit, so do their lungs show variety. Therefore in some cases the breath which comes forth is soft, in others it is hard and violent; for it is easy to see at a glance that the windpipe by itself exercises but little influence. For no windpipe is of the hard consistency of an oboe; yet for all that, by passing the breath through the former and through the latter, some people produce soft and others hard tones on the oboe. This is clear from the direct perception; for, if by using greater force one increases the strength of the breathing, the voice immediately becomes harder as a result of the force applied, even if it be naturally a somewhat soft voice. So, too, in the case of the trumpet; when they are revelling, men relax the pressure of breath in the trumpet in order to make the sound as soft as possible. The point can also be illustrated from other classes of musical instruments; as has been stated, the sounds produced by tightly stretched strings are hard, as are the notes of horns which have been well baked. If one touches the strings violently instead of softly with the hand, they necessarily respond with more violent sounds. The notes produced by less tightly stretched strings and unbaked horns are softer, as are those produced by the longer musical instruments; for the impacts upon the air are both slower and softer owing to the distance that the sound has to travel, whereas in the shorter instruments they are harder owing to the tension of the strings. That this is so is shown by the fact that the sounds which the instrument itself gives forth are harder when one does not strike the string in the middle, because there is more strain upon the parts of the strings near the crossbar and near the pegs. The notes produced by instruments made of fennel-wood are softer; for the sounds striking on a soft material do not rebound with such violence.

Voices are rough when the impact of all the breath upon the air is not single and simultaneous but: divided and broken. For each portion of the air striking separately upon the hearing — as if each were moved by a different impact — the sense-impression is broken, so that one vocal utterance fails to produce any sound, while another strikes with great violence upon the ear, and the contact with the hearing is not evenly sustained; just as when a rough object touches the skin. This can be best illustrated from the file; for, when a file is being used, the air is set in motion simultaneously at a number of separate minute, points, and so the sounds passing from these points to strike the ear seem rough, and especially so when the file is scraped against a hard substance. One may compare the sense of touch; hard, rough objects produce stronger tactual impressions. The matter can also be illustrated from the pouring of liquids, for the sound made by olive-oil is less noticeable than that made by any other liquid, owing to the unbroken continuity of the parts which compose it.

Voices are thin, when the breath that is emitted is small in quantity. Children’s voices, therefore, are thin, and those of women and eunuchs, and in like manner those of persons who are enfeebled by disease or over-exertion or want of nourishment; for owing to their weakness they cannot expel the breath in large quantities. The same thing may be seen in the case of stringed instruments; the sounds produced from thin strings are thin and narrow and ‘fine as hairs’, because the impacts upon the air have only a narrow surface of origin. For the sounds that are produced and strike on the ear are of the same quality as the source of movement which gives rise to the impacts; for example, they are spongy or solid, soft or hard, thin or full. For one portion of the air striking upon another portion of the air preserves the quality of the sound, as is the case also in respect of shrillness and depth; for the quick impulsions of the air caused by the impact, quickly succeeding one another, preserve the quality of the voice, as it was in its first origin. Now the impacts upon the air from strings are many and are distinct from one another, but because, owing to the shortness of the intermittence, the car cannot appreciate the intervals, the sound appears to us to be united and continuous. The same thing is the case with colours; for separate coloured objects appear to join, when they are moved rapidly before our eyes. The same thing happens, too, when two notes form a concord; for owing to the fact that the two notes overlap and include one another and cease at the same moment, the intermediate constituent sounds escape our notice. For in all concords more frequent impacts upon the air are caused by the shriller note, owing to the quickness of its movement; the result is that the last note strikes upon our hearing simultaneously with an earlier sound produced by the slower impact.

Thus, because, as has been said, the ear cannot perceive all the constituent sounds, we seem to hear both notes together and continuously.

Thick sounds, on the contrary, are produced when the breath is emitted in great quantity and all together. Therefore the voices of men are inclined to be thick, and the notes of the so-called ‘perfect’ oboes, especially when the latter are well filled with air. This is clear from the fact that if you compress the mouthpiece the sound tends to become shrill and thin, as also if one draws the ‘speaker’ downwards; but if one stops up the exits, the volume of the sound becomes far greater owing to the amount of breath collected in the instrument, like the notes produced from thicker strings. The sounds uttered by those whose voices are breaking and persons suffering from sore-throats, and after vomiting, are thick owing to the roughness of the windpipe and the fact that the voice does not escape, but striking upon it is pent up and acquires volume; and above all, owing to the moist condition of the body.

Piping voices are those which are thin and concentrated, such as those of grasshoppers and locusts and the nightingale’s song, and, generally speaking, cries which are thin, and are not followed by a second and different sound. For this piping quality does not depend on volume of sound nor on the tones being without tension and deep, nor yet upon the close sequence of the sounds, but rather upon shrillness and thinness and accuracy. Therefore it is the instruments which are lightly constructed and tightly stretched, and those which have no horn-work about them, that produce piping notes. The sound of running water, and generally speaking, any sound which, whatever its cause, keeps up an unbroken continuity, preserve the accuracy of their tone.

Cracked voices which suddenly give way are those which travel along in a solid mass for a certain distance and then become dispersed. The best illustration may be taken from an earthenware vessel; every such vessel when broken as the result of a blow gives forth a cracked sound, for the course of the sound is broken at the point at which the blow was struck, so that the sounds which it gives forth no longer form a solid mass. The same thing happens in the case of broken horns and badly strung strings; in all such cases the sound travels in a solid mass up to a certain point and is then dispersed, wherever the medium which supports it is not continuous, so that the impact upon the air is not single but dispersed, and the sound produced seems cracked. Cracked voices closely resemble harsh voices, except that in the latter case the sounds are themselves dispersed into small portions, while cracked voices, for the most part, form a solid mass at first and afterwards become split up into a number of parts.

Aspirated sounds are formed when we emit the breath from within immediately together with the sounds; smooth sounds, on the contrary, are those which are formed without the emission of the breath.

Voices become broken when they have no longer strength enough to expel the air with an impact, but the region about the lungs collapses after distension. For just as the legs and shoulders eventually collapse when they are in a strained position, so too the region about the lungs. The breath, when it does come forth, comes forth lightly, because the impact which it produces is not forcible enough; at the same time, owing to the fact that the windpipe has become exceedingly rough, the breath cannot pass out in a solid mass, but is dispersed, and so the sounds which it produces are broken. Some people hold that it is owing to the adhesive condition of the lungs that the breath cannot pass out and abroad; but they are wrong, for what really happens is that they make a sound but cannot speak out, because the impact upon the air does not take place with sufficient energy, but they only make a sound such as the breath would make when forced merely from the throat.

When people stammer, it is due not to an affection of the veins or windpipe, but to the movement of the tongue; for they find a difficulty in changing the position of the tongue when they have to utter a second sound. They therefore keep on repeating the same word, for they cannot utter the next word; but the movements of articulation continue and the lungs go on working with an impetus in the same direction as before, owing to the quantity and force of the breath. For just as when one is running fast it is difficult to divert the whole body from its impetus in one direction to some other movement, so likewise is it with the individual parts of the body. So people who; stammer are often unable to say the next word, but can easily say the next but one, when they make a fresh start. This explanation of stammering is supported by the fact that people often stammer when angry, because then they force out their breath.

Physiognomonics (805a)

Translated by T. Loveday and E. S. Forster

Φυσιογνωμονικά, a treatise on physiognomy — the assessment of a person's character or personality from his outer appearance, especially the face. The text was formerly attributed to Aristotle, though most modern scholars regard it as spurious, written by an author in approximately 300BC. It is the earliest work surviving in Greek devoted to this subject, which in Aristotle's time was acknowledged as an art with its own skilled practitioners. The treatise is divided into two sections on theory and method, with the connections between bodily features and character being treated in detail. The treatise begins with an allusion to Aristotle's *Prior Analytics* (II.27, on the body-soul correlation), and many of the physiognomic connections discussed are mentioned specifically in the *History of Animals*.

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PHYSIOGNOMONICA

PREFACE

THIS work, as we have it, is evidently a compilation of two treatises, the second beginning with Chapter IV. Neither is Aristotle's: both may be Peripatetic. Prantl's text (Teubner, 1881) has been used, but a great many emendations have been taken from Forster's text and notes in his *Scriptores Physiognomonici* (1893), vol i. On Forster's excellent work we have chiefly relied; J. B. Porta's *De humana physiognmionia* (1650) has also proved very useful. We have, as before, to thank Mr. W. D. Ross for his kind advice and suggestions.

After some hesitation we decided to use the less clumsy forms 'Physiognomy', 'physiognomic', in place of the more accurate 'Physiognomony', 'physiognomonie'.

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MENTAL character is not independent of and unaffected by bodily processes, but is conditioned by the state of the body; and contrariwise the body is sympathetically influenced by affections of the soul. The former of these propositions is well exemplified by drunkenness and sickness, where altered bodily conditions produce obvious mental modifications, and the second by the emotions of love and fear, and by states of pleasure and pain. But still better instances of the fundamental connexion of body and soul and their very extensive interaction may be found in the normal products of nature. There never was an animal with the form of one kind and the mental character of another: the soul and body appropriate to the same kind always go together, and this shows that a specific body involves a specific mental character. Moreover, experts on the lower animals are always able to judge of character by bodily form: it is thus that a horseman chooses his horse or a sportsman his dogs. Now, supposing all this to be true (and it always is true), physiognomy must be practicable.

Three methods have been essayed in the past, each having had its special adherents.

1. The first method took as the basis for physiognomic inferences the various genera of animals, positing for each genus a peculiar animal form, and consequently upon this a peculiar mental character, and then assuming that if a man resembles such and such a genus in form he will resemble it also in soul.

2. Those who adopted the second method proceeded in the same way, except that they did not draw their inferences from all kinds of animals but confined themselves to human beings: they distinguished various races of men (e g. Egyptian, Thracian, Scythian) by differences of appearance and of character, and drew their signs of character from these races just as others did from animal genera.

3. The third method took as its basis the characteristic facial expressions which are observed to accompany different conditions of mind, such as anger, fear, erotic excitement, and all the other passions.

All these methods are possible, and others as well: the selection of signs may be made in diverse ways. The last- mentioned method by itself, however, is defective in more than one respect. For one thing, the same facial expression may belong to different characters: the brave and the impudent, for example, look alike, though their characters are far asunder. Besides, a man may at times wear an expression which is not normally his: for instance, a morose person will now and again spend an enjoyable day and assume a cheerful countenance, whilst a naturally cheerful man, if he be distressed, will change his expression accordingly. And, thirdly, the number of inferences that can be drawn from facial expression alone is small.

As to arguments from beasts, the selection of signs is made on wrong principles. Suppose you have passed in review one by one the forms of all the different kinds of animals, you still have no right to assert that a man who resembles a given kind in body will resemble it in soul also. In the first place, speaking broadly, you will never find this complete likeness, but only a resemblance, Moreover, very few signs are peculiar to individual genera; most of them are common to more than one kind, and of what use is resemblance in a common attribute? A man will resemble a lion, let us say, neither more nor less than a deer. (For we have a right to suppose that common signs indicate common mental characters and peculiar signs peculiar characters). Thus the physiognomist will not get any clear evidence from common signs. But is he any better off if he takes every genus by itself and selects signs that are peculiar to each? Surely not, for he cannot tell what they are signs of. They ought to be signs of peculiar characteristics, but we have no right to assume that there are any *mental* characteristics peculiar to the different kinds of animals that we examine in physiognomy. Courage is not confined to the lion, but is found in many other creatures; nor timidity to the hare, but it shares this quality with numberless other creatures. Thus it is equally fruitless to select the common and the peculiar features, and we must abandon the attempt to proceed by an examination of every kind of animal singly. Rather, we ought to select our signs from all animals that have some; mental affection in common. For instance, when investigating the external marks of courage, we ought to collect all brave animals, and then to inquire what sort of affections are natural to all of them but absent in all other animals. For if we were to select this or that as the signs of courage in the animals chosen in such a way as not to exclude the possibility of the presence in all these animals of some other mental affection, we should not be able to tell whether our selected marks were really signs of courage or of this other character. Two conditions must be fulfilled, therefore: — the animals from which we choose our signs must be as numerous as possible, and they must not have any mental affection in common except that one of which we are investigating the signs.

Permanent bodily signs will indicate permanent mental qualifies, but what about those that come and go? How can they be true signs if the mental character does not also come and go? No doubt if you took a transitory sign to be permanent, it might be true once in a way, but still it would be worthless because it would not be a constant concomitant of a particular state of soul.1

Then again there are affections of soul whose occurrence produces no change in the bodily marks on which the physiognomist relies, and they will not provide his art with recognizable signs. Thus as regards opinions or scientific knowledge, you cannot recognize a doctor or a musician, for the fact of having acquired a piece of knowledge will not have produced any alteration in the bodily signs on which physiognomy relies.

WE must now determine the special province of physiognomy (for the range of its application is limited), and the sources from which its various kinds of data are drawn, and then we may proceed to a detailed exposition of the more convincing among its conclusions.

Physiognomy has for its province, as the name implies, all natural affections of mental content, and also such acquired affections as on their occurrence modify the external signs which physiognomists interpret. I will explain later what kinds of acquired characters are meant, but now I will give a list — a complete list — of the sources from which physiognomic signs are drawn. They are these: movements, gestures of the body, colour, characteristic facial expression, the growth of the hair, the smoothness of the skin, the voice, condition of the flesh, the parts of the body, and the build of the body as a whole. Such is the list that physiognomists always give of the sources in which they find their signs. Had this list been obscure or insignificant, there would have been no use in my going any further; but, as things are, it may be worth while to give a more detailed description of the more convincing of the inferences that they draw from their material, and to state what their various signs are and where they are supposed to be found, so far as I have not already done so.

A brilliant *complexion* indicates a hot sanguine temper, whilst a pale pink complexion signifies naturally good parts, when it occurs on a smooth skin.

Soft *hair* indicates cowardice, and coarse hair courage. This inference is based on observation of the whole animal kingdom. The most timid of animals are deer, hares, and sheep, and they have the softest coats; whilst the lion and wild-boar are bravest and have the coarsest coats. Precisely the same holds good of birds, for it is the rule that birds with coarse plumage are brave and those with soft plumage timid, particular instances being the cock and the quail. And again, among the different races of mankind the same combination of qualities may be observed, the inhabitants of the north being brave and coarse haired, whilst southern peoples are cowardly and have soft hair. A thick growth of hair about the belly signifies loquacity, on the evidence of the whole tribe of birds, for the one is a bodily and the other a mental property peculiar to birds.

When the *flesh* is hard and constitutionally firm, it indicates dullness of sense; when smooth, it indicates naturally good parts combined with instability of character, except when smooth flesh goes with a strong frame and powerful extremities.

Lethargic *movements* are a sign of a soft character, rapid movements of a fervid temper.

As to the *voice,* when deep and full it is a sign of courage; when high-pitched and languid, of cowardice.

Gesture and the varieties of *facial expression* are interpreted by their affinity to different emotions: if, for instance, when disagreeably affected, a man takes on the look which normally characterizes an angry person, irascibility is signified.

Males are bigger and stronger than females of the same kind, and their extremities are stronger and sleeker and firmer and capable of more perfect performance of all functions. But inferences drawn from the parts of the body are less secure than those based on facial expression of character and movements and gesture. In general it is silly to rely on a single sign: you will have more reason for confidence in your conclusions when you find several signs all pointing one way.

Here I may mention a possible method of physiognomy which has never yet been tried. Suppose, e g., that irascibility and morose sulkiness necessarily involve an envious disposition, and that the physiognomist could, without any bodily signs of the last character, deduce its presence from the presence of the other characters, we should then have a method peculiarly appropriate to masters of philosophy, since it is, we suppose, the peculiar mark of philosophy, when certain premises are given, to know the necessary conclusion. But this method which considers the interrelations of mental affections and that which proceeds by empirical observation of animals sometimes arrive at contrary conclusions. Take the voice, for example. By the former method you might feel bound to connect a shrill voice with a fierce temper, because in vexation and anger one's voice tends to become loud and shrill, whilst placid people speak in tones at once languid and deep. But as against this, if you observe beasts, you find that a deep voice goes with courage and a shrill voice with timidity, as witness on the one hand the roar of lion and bull, the hound's bay, and the deep-noted crow of high-spirited cocks, and on the other, the high-pitched tones of deer and hares.

Yet perhaps even in these cases it is better not to connect courage and cowardice with the pitch of the voice, but rather with its intensity, so that it is strength of voice that marks the brave and a languid and feeble voice the coward. It is safest, however, to refrain from all positive assertion when you find that your signs are inconsistent and contrary to one another in detail, unless they belong to classes, some of which you have determined to be more trustworthy than others. Above all it is best to base your arguments upon assertions about species and not about entire genera, for the species more nearly resembles the individual, and it is with individuals that physiognomy is concerned; for in physiognomy we try to infer from bodily signs the character of this or that particular person, and not the characters of the whole human race.

SIGNS of *Courage* are — coarse hair; an upright carriage of the body; size and strength of bones, sides and extremities; the belly broad and flat; shoulder-blades broad and set well apart, neither too closely nor too loosely knit; a sturdy neck, not very fleshy; a chest well covered with flesh and broad; flat hips; the thickness of the calf low down the leg; gleaming eyes, neither wide and staring nor yet mere slits, and not glistening; the body of a brilliant hue; a forehead straight and lean, not large, and neither quite smooth nor yet a mass of wrinkles. Signs of *Cowardice* are — a small growth of soft hair; the figure stooping and lacking in quickness; the thickness of the calf high up the leg; a sallow complexion; weak blinking eyes; weak extremities; little legs, and hands long and delicate; loins small and weak; a rigid gesture of the body; with undecided, deprecating, scared movements, and a shifty downcast look.

Good natural parts are indicated by rather moist and tender flesh, not exactly firm nor yet extremely fat; by leanness of the shoulders, neck, face, and neighbouring regions; by shoulder-blades closely knit and the parts below slack; by supple sides; a somewhat gaunt back; a clear pinkish hue over the body; a thin skin; a small growth of hair, neither very coarse nor very black; and moist, gleaming eyes. *Dullness of sense* is indicated when the back of the neck and the legs are fleshy and stiffly fitted and knitted; the hip-joint round; the shoulder- blades high-set; the forehead big, round, and fleshy; the eyes pale and vacant; the legs thick and fleshy and round at the ankles; the jaws big and fleshy; loins fleshy; legs long; neck thick-set; the face fleshy and rather long. The manner of movement, gesture, and facial expression of the dull man, you may take it, are analogous to his character.

Impudence is signified by small, bright, wide-open eyes, with heavy bloodshot lids slightly bulging; high shoulder- blades; a carriage of the body not erect, but crouched slightly forwards; quickness of movement; a reddish hue over the body; with a sanguine complexion, a round face, and high chest. Signs of *Good Moral Character* are — a slow gait; a slow way of speaking with a breath-like and weak voice; small eyes, black but not lustrous, not open and staring, nor yet mere slits; with a slow, blinking movement of the lids — for rapid blinking signifies either cowardice or a hot temperament.

Good Spirits are indicated by a good-sized forehead, fleshy and smooth; the region of the eyes rather low; a rather drowsy-looking countenance, neither keen nor reflective. The gait, we may suppose, will be slow and languid, the gesture and facial expression those of a good but not a quick man. Signs of *Low Spirits* are — lean and wrinkled brows; enfeebled eyes (but you should notice that weak eyes may signify softness and effeminacy as well as dejection and low spirits); a meek bearing and weary gait.

The *Pathic* is weak-eyed and knock-kneed; his head hangs on his right shoulder; his hands are carried upturned and flabbily; and as he walks he either wags his loins or; else holds them rigid by an effort; and he casts a furtive gaze around, for all the world like Dionysius the Sophist.

Sulkiness is indicated by a snarling grin; a black complexion and withered skin; a gaunt, wrinkled face and the neighbouring regions furrowed with lines; and by straight black hair.

Men of *Fierce Temper* bear themselves erect, are broad. about the ribs and move with an easy gait; their bodies are of a reddish hue, their shoulder-blades set well apart, large and broad; their extremities large and powerful; they are smooth about the chest and groin; they have great beards, and the hair of the head starts low down with a vigorous growth.

Those of a *Gentle* disposition are robust-looking, well covered with plenty of moist flesh; well-sized men and; well-proportioned; carrying themselves with head thrown back; and their hair starts rather higher up on the head than is usual.

The *Sly* man is fat about the face, with wrinkles round his eyes, and he wears a drowsy expression.

The *Small-Minded* have small limbs and small, delicate, lean bodies, small eyes and small faces, just like a Corinthian or Leucadian.

Men addicted to *Gaming and Dancing* have short arms, like weasels.

Railers have the upper lip updrawn, and the lower projecting, and their hue is reddish.

The *Compassionate* are delicate, pale, and lustrous-eyed: the top of their nostrils is furrowed with lines, and they are always weeping. Such men are fond of women and beget female children, and in character they are erotic and mindful of the past, with good natural parts and a fervid temper. The signs of these qualities have already been mentioned. Compassion goes with wisdom, with cowardice, and with good moral character, hardness of heart with stupidity and effrontery.

Gluttony is indicated when the distance from navel to chest is greater than that from chest to neck.

Lasciviousness is indicated by a pale complexion, a heavy growth of straight, thick, black hair over the body, a heavy growth of straight hair on the temples, and small, lustrous, lewd eyes.

In the *Somnolent* the upper parts are disproportionately large: such men are bulky and hot, and their flesh is firm.

Loquacity is indicated by disproportionate size of the upper parts, with a round delicate build, and a thick growth of hair about the belly.

A *Good Memory* is signified when the upper parts are disproportionately small, and are delicate and tolerably well covered with flesh.

SOUL and body, as it seems to me, are affected sympathetically by one another: on the one hand, an alteration of the state of the soul produces an alteration in the form of the body, and contrariwise an alteration in bodily form produces an alteration in the state of soul. Grief and joy, to take an instance, are states of the soul, and every one knows that grief involves a gloomy and joy a cheerful countenance. Now if it were the case that the external expression persisted after the soul had got rid of these emotions, we might still say that soul and body are in sympathy, but their sympathetic changes would not be entirely concomitant. As a matter of fact, however, it is obvious that every modification of the one involves a modification of the other. The best instance of this is to be found in manic insanity. Mania, it is generally allowed, is a condition of the soul, yet doctors cure it partly by administering purgative drugs to the body, partly by prescribing, besides these, certain courses of diet. Thus the result of proper treatment of the body is that they succeed, and that too simultaneously, not only in altering the physical condition, but also in curing the soul of mania; and the fact that the changes are simultaneous proves that the sympathetic modifications of body and soul are thoroughly concomitant.

It is equally indisputable that differences in the soul's capacities are represented by corresponding physical traits, so that all the resemblances in animals are indicative of some identity.

Again, if we consider the behaviour of animals, we find that some affections of the soul are peculiar to particular genera, whilst others are common to several, and that the peculiar activities are accompanied by peculiar, the common by common, physical traits. Examples of common characters are insolence, which is found in all animals with bushy tails, and violent sexual excitability, which is found alike in asses and in dogs: whilst on the other hand railing is a character peculiar to dogs, and insensibility to pain is peculiar to the ass. I have already explained how common and peculiar characters are to be distinguished.

At the same time it is only by long and wide experience that one can hope for oneself to attain detailed and expert understanding of these matters. For not only are visible characteristics of the body to be referred for explanation, as we are told, to analogies drawn partly from animals, partly from modes of action, but there are other external traits which depend on the varying proportions of bodily heat and cold; and to add to the difficulty, some of these traits are very much alike and have not got distinctive names, as is the case e g with the paleness that results from terror and the paleness due to fatigue. Now when the difference is so slight, it can hardly be discerned except by those whom practice has taught to appreciate the congruity of different shades of expression with different conditions of mind, and so the argument from congruity leads to the quickest and soundest conclusions, and enables us to distinguish minute differences. It is a method generally useful, and particularly in the selection of physiognomic signs, for the signs selected must be congruous with what they stand for.

Deduction also should be used in the selection of signs, whenever possible. In the deductive procedure we attach to our data known attributes of them. For instance, if we have it given that a man is an impudent blackguard and penurious, we can add that he will be a thief and a miser, the one as a consequence of his effrontery, the other as a consequence of his penuriousness. In all such cases we ought to include the deductive method in our procedure.

I WILL now first attempt to make a division of animals by the marks in which they are bound to differ if they are respectively brave or timorous, upright, or dishonest. We have to divide the whole animal kingdom for this purpose into two physical types, male and female, and to show what mental attributes are congruous with each of these types. In all beasts that we try to breed the female is tamer and gentler in disposition than the male, less powerful, more easily reared and more manageable. One may conclude from this that the female has a less spirited temper, and I think we find a parallel to this in ourselves, for when we are mastered by a fit of temper we become more obstinate and totally intractable; we grow headstrong and violent and do whatever our temper impels us to do. Further, the female is, in my opinion, more mischievous than the male, and (though feebler) more reckless. Every one can see that this is so in women and in domesticated animals, and according to the unanimous evidence of herdsmen and hunters it is no less true of the beasts of the field. Moreover, it is beyond dispute that in every genus the head of the female is smaller than that of the male, her visage narrower, her neck thinner, her chest weaker, her sides of smaller build, and that, whilst her hips and thighs are fuller, she inclines to be knock-kneed, the lower parts of her legs are less stout, and her feet more delicately made: in short, the build of her body is pleasing to the eye rather than imposing, and she is in comparison feeble and tender, and of moister tissue. The male is the opposite of all this: his is the braver and more upright nature, whilst the female is the more timid and less upright.

This being so, the lion manifestly exhibits the male type in its most perfect form. He has a good-sized mouth: his visage is square and not too bony, the upper jaw level with the lower and not protruding: his nose you would call, if anything, rather thick: his gleaming eyes are deep-set, and neither absolutely round nor unduly long, and of moderate size: his brow is of the right size, his forehead square and slightly hollowed from the centre, and over its lower part, towards the eyebrows and nose, there hangs a sort of cloud, and from the top of his forehead down to his nose there runs a ridge of hairs sloping outwards: his head is of moderate size: his neck of due length and broad in proportion, with a tawny mane upon it, which is neither stiff and bristly nor yet too closely curled. About the clavicles he is supple and not too tightly articulated: his shoulders are stalwart, his chest powerful, his trunk broad, with sides and back to match: there is no superfluity of flesh on his haunches or thighs: his legs are powerful and sinewy, his gait vigorous, his whole frame well-knit and sinewy and neither too stiff nor too soft: he moves slowly with a large stride, rolling his shoulders as he goes. Such is his bodily appearance, and in soul he is generous and liberal, proud and ambitious, yet gentle and just and affectionate to his comrades.

The panther, on the other hand, of all animals accounted brave, approximates more closely to the feminine type, save in its legs, which it uses to perform any feat of strength. For its face is small, its mouth large, its eyes small and white, set in a hollow, but rather fiat in themselves: its forehead is too long and tends to be curved rather than fiat near the cars: its neck too long and thin: its chest narrow and its back long: haunches and thighs fleshy: flanks and abdomen rather flat: its colour blotchy: and its whole body ill-articulated and ill-proportioned. Such is its bodily aspect, and in soul it is mean and thievish, and in a word, a beast of low cunning.

I have now described the more notable examples of the male and the female types of body to be found among animals accounted brave, and the characterization of the remainder will present no difficulty. I will next proceed to explain in a chapter on selection of signs what marks derived from animals the student of physiognomies should take into consideration.

THE accepted doctrines of the semeiotics of human character are as follows:

A large and shapely *foot*, well-articulated and sinewy, is held to signify a strong character. For evidence we are referred to the male sex in general. A small, narrow, ill-articulated foot, pretty but weak, signifies a soft character, as in the female sex. Curved toes are a sign of impudence, and so are curved nails, on the evidence of birds with curved claws, whilst toes that are not properly divided indicate timidity, as in web-footed water-birds.

Ankles sinewy and well-articulated mark a strong character, on the evidence of the male sex; fleshy and ill- articulated ankles, a soft character, on the evidence of the female sex.

When the *lower leg* is at once well-articulated and sinewy and stalwart, it signifies a strong character, as in the male; sex: when it is thin and sinewy it signifies loquacity, as in birds. When it is full and almost bursting, it signifies by congruity blatant effrontery.

Knock-knees are a sign of the pathic, by congruity.

Thighs bony and sinewy indicate a strong character, as; in the male sex: but when bony and full, a soft character, as in females.

Buttocks pointed and bony are a mark of a strong character, as in males: fat fleshy buttocks of a soft character, as in females, whilst lean buttocks which look as if they had been rubbed bare, are indicative of a mischievous disposition, as in apes.

A narrow *waist* marks the hunter, as in the lion, and, you will find that the best hunting dogs also are narrow in the waist.

A loose build round about the *belly* indicates strength of character, as in the male sex, whilst the opposite is by congruity indicative of a soft character A well-sized and sturdy *back* marks strength, and a narrow: feeble back softness of character, as in males and females respectively.

Strong *sides* indicate strength and weak sides softness, as in males and females respectively, whilst swollen inflated sides signify aimless loquacity, as in frogs. When the distance from navel to infra-sternal notch exceeds that from the notch to the neck, it is a mark of gluttony and of dullness of sense, of gluttony because there is so large, a receptacle of food, and of dull sense because the seat of the senses is correspondingly confined and compressed by the receptacle of food, so that the senses have become stupefied by repletion of the stomach rather than, as is usual, by inanition.

A large well-articulated *chest* signifies strength of character, as in males.

When the *upper part of the back* is large and well covered with flesh and well-knit, the character is strong, as in males: when it is feeble and gaunt and ill-knit, the character is soft, as in females. When it is very much bent and the shoulders fall in upon the chest, it is argued by congruity to signify a mischievous disposition, since the front parts of the body, which ought to stand clear to view, become invisible. When it is curved backwards, it signifies vanity and lack of intelligence, as in the horse. So it must not be either convex or concave; and something intermediate between these extremes, therefore, should be looked for as marking a man of good natural parts.

When the *shoulders* and the back of the neck are well-articulated, they signify a strong character, whilst weak and ill-articulated shoulders signify a soft character, the reference being to the sexes, as I explained when speaking of feet and thighs. Supple shoulders signify liberality of soul, the argument being based on the external appearance, with which liberality seems to be congruous. On the other hand, stiff, clumsy shoulders indicate an illiberal disposition, also by congruity.

Suppleness of the *clavicles* signifies quickness of perception, for when the collar-bone is supple, stimulation of the senses is rendered easy. Contrariwise, a stiff collar-bone indicates dullness of sense, because then it is difficult to apprehend sense-stimuli.

A thick *neck* indicates a strong character, as in males: a thin neck, weakness, as in females: a neck thick and full, fierce temper, as in bulls: a well-sized neck, not too thick, a proud soul, as in lions: a long, thin neck, cowardice, as in deer: an unduly short neck, a treacherous disposition, as in wolves.

Lips thin and pendulous at their points of junction, such that part of the upper lip overhangs the lower at the corners, signify pride of soul. The reference generally given is to the lion, but you may see the same thing as well in large and powerful breeds of dogs. Lips thin and hard with a prominence about the eye-teeth are a sign of base breeding, on the evidence of swine. Thick lips, with the upper overhanging the lower, mean folly, as in the ass and the ape. Projecting upper lip and gums mark the railer, on the evidence of dogs.

A *nose* broad at the tip means laziness, as witness cattle: but if thick from the tip, it means dullness of sense, as in swine; if the tip is pointed, irascibility, as in dogs; whilst a round, blunt tip indicates pride, as in lions. Men with a nose thin at the tip have the characteristics of birds. When such a nose curves slightly right away from the forehead, it indicates impudence, as in ravens: but when it is strongly aquiline and demarcated from the forehead by a well-defined articulation, it indicates a proud soul, as in the eagle; and when it is hollow, with the part next the forehead rounded and the curve rising upwards, it signifies lasciviousness, as in cocks. A snub nose means lasciviousness, as in deer. Open nostrils are a sign of fierce temper, for they enter into the facial expression of temper.

The *face*, when fleshy, indicates laziness, as in cattle: if gaunt, assiduity, and if bony, cowardice, on the analogy of asses and deer. A small face marks a small soul, as in the cat and the ape: a large face means lethargy, as in asses and cattle. So the face must be neither large nor little: an intermediate size is therefore best. A mean- looking face signifies by congruity an illiberal spirit.

As to the *eyes*, when the lower lids are pendulous and baggy, you may know a bibulous fellow, for heavy drinking produces bagginess below the eyes: but when the upper lids are baggy and hang over the eyes, that signifies somnolence, for on first waking from sleep our upper lids hang heavily. Small eyes mean a small soul, by congruity and on the evidence of the ape: large eyes, lethargy, as in cattle. In a man of good natural parts, therefore, the eyes will be neither large nor small. Hollow eyes mean villainy, as in the ape: protruding eyes, imbecility, by congruity and as in the ass. The eyes, therefore, must neither recede nor protrude: an intermediate position is best. When the eyes are slightly deep-set, they signify a proud soul, as in lions: and when a little deeper still, gentleness, as in cattle.

A small *forehead* means stupidity, as in swine: too large a forehead, lethargy, as in cattle. A round forehead means dullness of sense, as in the ass: a somewhat long and flat forehead, quickness of sense, as in the dog. A square and well-proportioned forehead is a sign of a proud soul, as in the lion. A cloudy brow signifies self-will, as in the lion and the bull: a taut brow is taken from observation to mark the flatterer, and you may notice how a dog's brow smooths out when he fawns upon you. So, a cloudy brow indicating self-will and a smooth brow obsequiousness, the proper condition must be intermediate between these extremes. A scowling brow means a morose disposition, for we observe that vexation is thus expressed: a downcast brow means querulousness, as may also be verified by observation.

A large *head* means quickness and a small head dullness of sense, on the evidence of the dog and the ass respectively. A peaked head means impudence, as in those birds which have curved claws.

Men with small *ears* have the disposition of monkeys, those with large ears the disposition of asses, and you may notice that the best breeds of dogs have ears of moderate size.

Too black a *hue* marks the coward, as witness Egyptians and Ethiopians, and so does also too white a complexion, as you may see from women. So the hue that makes for courage must be intermediate between these extremes. A tawny colour indicates a bold spirit, as in lions: but too ruddy a hue marks a rogue, as in the case of the fox. A pale mottled hue signifies cowardice, for that is the colour one turns in terror. The honey-pale are cold, and coldness means immobility, and an immobile body means slowness. A red hue indicates hastiness, for all parts of the body on being heated by movement turn red. A flaming skin, however, indicates mania, for it results from an overheated body, and extreme bodily heat is likely to mean mania.

A fiery colour on the chest signifies irascibility, for it is part of the expression of the onset of anger. Swollen veins on the neck and temples also signify irascibility, being part of the expression of anger. A face that reddens easily marks a bashful man, for blushing is an expression of bashfulness. But when the jowl goes red, you have a drunkard, for a red jowl is an expression of heavy drinking: whilst eyes that flush red indicate uncontrollable temper, for in a wild outburst of temper the eyes flush red. If the eyes are too black, they signify cowardice, for we saw above that this is the signification of too black a hue: if they are not too black, but inclining to chestnut, they indicate a bold spirit. Grey or white eyes indicate cowardice, for we saw above that this is the signification of a white hue: but if they are gleaming rather than grey, they mean a bold spirit, as in lions and eagles. Goatish eyes mean lustfulness, as in goats: fiery eyes, impudence, as in dogs: eyes pale and mottled, cowardice, for in terror the eyes go pale with splotches of colour: glistening eyes, lasciviousness, on the analogy of the cock and the raven.

Hairy legs mean lasciviousness, as in goats. Too much hair on breast and belly means lack of persistence, as argued from birds, in which this bodily characteristic is most developed; but breasts too devoid of hair indicate impudence, as in women. So both extremes are bad, and an intermediate condition must be best. Hairy shoulders mean lack of persistence, on the analogy of birds: too much hair on the back, impudence, as in wild beasts. Hair on the nape of the neck indicates liberality, as in lions: hair on the point of the chin, a bold spirit, on the evidence i of dogs. Eyebrows that meet signify moroseness, by congruity: eyebrows that droop on the nasal and rise on the temporal side, silliness, as is seen in swine. When the hair of the head stands up stiff, it signifies cowardice, by congruity, for fright, as well as cowardly disposition, makes the hair stand on end: and very woolly hair also signifies cowardice, as may be seen in Ethiopians. Thus extremely bristly and extremely woolly hair alike signify cowardice, and so hair gently curling at the end will make for boldness of spirit, as is to be seen in lions. A ridge of hair on the upper part of the forehead indicates a liberal disposition, as in the lion: but a growth of hair on the forehead down by the nose indicates illiberality, the argument being from congruity, because such a growth presents a servile appearance.

A long and slow *step* indicates a mind slow to begin, but persistent when started, for the length of the stride shows determination, but its slowness procrastination. A short slow step means tardiness without persistence, for shortness and slowness do not indicate determination. A long quick step means enterprise and persistence, for its speed indicates enterprise and its length determination. A short quick step signifies enterprise without persistence.

Identical references are made about *gesture* of hand, elbow, and arm. To hold one’s shoulders straight and stiff and roll them as one walks signifies a vainglorious spirit, on the analogy of the horse: but to rolls the shoulders if one stoops a little forwards means a proud soul, as in the lion. To walk with feet and legs bent out means effeminacy, as being a characteristic of women. To keep turning and bending the body is a sign of obsequiousness, for that is the gesture of the flatterer, To walk with a stoop to the right is by congruity of appearance held to argue a pathic.

Mobile *eyes* signify keenness and rapacity, as in hawks: blinking eyes, cowardice, for flight begins with the eyes. Sidelong leering glances are held to be characteristic of a fop, and so are drooping movements of one lid half over a motionless eye, and an upward roll of the eyes under the upper lids with a tender gaze and drooping eyelids, and in general all tender melting glances; we argue partly from congruity, partly from the fact that these looks are common in women. A slow movement of the eyes which allows a tinge of white to show all the time, so that they look stationary, indicates a reflective character; for when the mind is absorbed in reflection, our eyes also are motionless.

A big, deep *voice* indicates insolence, as in the ass: a voice which, starting low, rises to a high pitch, indicates despondency and querulousness, the argument being partly from cattle and partly from congruity. Shrill, soft, broken tones mark the speech of the pathic, for such a voice is found in women and is congruous with the pathic's nature. A deep, hollow, simple voice signifies a noble soul, as in the stronger breeds of dogs, and also by the argument from congruity. A soft, languid voice means gentleness, as in sheep: a shrill, shrieking voice, lewdness, as in goats.

Men of abnormally small *stature* are hasty, for the flow of their blood having but a small area to cover, its movements are too rapidly propagated to the organ of intelligence. Men of abnormally large stature, on the other hand, are slow, for the flow of the blood has to cover a large area, and its movements are therefore propagated to the organ of intelligence slowly. Small men with dry tissues, or of the hue that heat produces in the body, have not persistence enough to effect their purposes; for their blood flowing in a confined space, and at the same time, in consequence of the fiery condition of the body, flowing rapidly, their thought never keeps to a single topic, but is always passing to something new before being done with the old. Again, big men with moist tissues or of the hue that results from cold, also lack persistence; for their blood flowing over a large area, and slowly, on account of the cold condition of the body, its movement does not manage to reach the organ of intelligence entire. On the other hand, small men with moist tissues and of the hue that results from cold, do effect their purposes; for their blood moving in a confined area, the less mobile constituent in its composition produces a proportion which conduces to effectiveness. And again, big men with dry tissues, and of the hue that results from heat, are also persistent, and are keen of sense; for the warmth of tissue and complexion counteracts the excessive size, so that a proportion conducive to effectiveness is attained. Such, then, are the conditions under which opposite extremes of stature tend now to effective activity, and now to ineffectiveness. But; a stature intermediate between these extremes confers upon its possessors the greatest acuity of sense and the greatest general effectiveness, for on the one hand, movements of the blood, not having a long distance to travel, easily reach the reason, while on the other hand, not being confined in too small a space, they do not pass beyond their mark. Thus the greatest tenacity of purpose and the greatest acuity of sense will be found in persons of moderate; stature.

An ill-proportioned body indicates a rogue, the argument being partly from congruity and partly from the female sex. But, it bad proportions mean villainy, a well-proportioned frame must be characteristic of upright men and brave: [only, the standard of the right proportions must be sought in the good training and good breeding of the body, and not in the male type, as determined at the beginning of this treatise].

It is advisable, in elucidating all the signs I have mentioned, to take into consideration both their congruity with various characters and the distinction of the sexes, which is, as I showed, the most complete distinction, the male being more upright and courageous and, in short, altogether better than the female. It will be found, moreover, in every selection of signs that some signs are better adapted than others to indicate the mental character behind them. The clearest indications are given by signs in certain particularly suitable parts of the body. The most suitable part of all is the region of the eyes and forehead, head and i — face; next to it comes the region of the chest and shoulders, and next again, that of the legs and feet; whilst the belly and neighbouring parts are of least service to physiognomies. In a word, the clearest signs are derived from those parts in which intelligence is most manifest.

On Plants (815a)

Translated by E. S. Forster

This treatise is generally believed to have been written by Nicolaus of Damascus, a Greek historian and philosopher that flourished during the Augustan age of the Roman Empire. *De Plantis* investigates a number of plant related topics and is divided in two parts. The work commences with a discussion of the nature of plant life, sex in plants, the parts of plants, the structure of plants, the classification of plants, the composition and products of plants, the methods of propagation and fertilisation of plants and the changes and variations of plants. The second part of the treatise describes the origins of plant life, the material of plants, the effects of external conditions and climate on plants, water plants, rock plants, effects of locality on plants, parasitism, the production of fruits and leaves, the colours and shapes of plants and fruits.

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PREFACE

The *De Plantis* is one of the least satisfactory of all the treatises which are included in the Aristotelian corpus.

Firstly, it was certainly not in its original form a work of Aristotle himself; E. H. F. Meyer, who has devoted most time to the text and its elucidation, attributes t to Nicolaus Damascenus. Much of it undoubtedly shows Peripatetic influence, and it has therefore some interest as compensating for the scantiness of our information on botanical subjects in other Aristotelian treatises. The views expressed on sex in plants are of particular importance, as partly anticipating the results of modern botanical research.

Secondly, the text has passed through a chequered career and is in a deplorable condition. The original Greek text having been lost, the treatise was preserved in an Arabic translation, now also lost, which in its turn was translated into Latin during the thirteenth century by a certain Englishman, by name Alfredus, whose knowledge of Arabic and whose Latin style leave something to be desired. The Greek text in Bekker's edition and the Teubner edition is a translation from the Latin back into Greek, and is therefore three times removed from the original.

The present translation has been made from the Latin version of Alfredus as edited by Meyer, to whose commentary I am deeply indebted. F. W. Wimmer's *Phytologiae Aristotelicae Fragmenta* has also been found useful. It has been thought worth while to note parallels with other passages in Aristotle when it has been possible to trace them.

My sincere thanks are due to the kindness of Mr. W. D Ross, who has read through the translation and made some valuable suggestions.

E. S. F.

BOOK I

Life is found in animals and plants; but while in animals it is clearly manifest, in plants it is hidden and less evident. But before we can assert the presence of life in plants, a long inquiry must be held as to whether plants possess a soul and a distinguishing capacity for desire and pleasure and pain. Now Anaxagoras and Empedocles say that they are influenced by desire; they also assert that they have sensation and sadness and pleasure. Anaxagoras declared that plants are animals and feel joy and sadness, deducing this from the bending of their foliage; while Empedocles held the opinion that sex has a place in their composition. Plato indeed declares that they feel desire only on account of their compelling need of nutriment. If this be granted, it will follow that they also feel joy and sadness and have sensation. I should also like to reach some conclusion as to whether they are refreshed by sleep and wake up again, and also whether they breathe, and whether they have sex through the mingling of the sexes or not. But the great diversity of opinion on these subjects involves too long an inquiry, and the best course is to pass over these topics and not to waste time on the unprofitable investigation of details. Some have asserted that plants have souls, because they have seen that they come to birth and receive nutriment and grow, and have the bloom of youth and the dissolution of old age — characteristics which nothing inanimate shares with plants; if plants possess these characteristics, they believed them also to be affected by desire.

Let us first examine their obvious characteristics, and afterwards those which are less evident. Plato says that whatsoever takes food desires food, and feels pleasure in satiety and pain when it is hungry, and that these dispositions do not occur without the accompaniment of sensation. The view of Plato in thus holding that plants have sensation and desire was marvellous enough; but Anaxagoras and Democritus and Empedocles declared that they possessed intellect and intelligence. These views we must repudiate as unsound and pursue a sane statement of the case. I assert, then, that plants have neither sensation nor desire; for desire can only proceed from sensation, and the end proposed by our volition changes in accordance with sensation.

In plants we do not find sensation nor any organ of sensation, nor any semblance of it, nor any definite form or capacity to pursue objects, nor movement or means of approach to any object perceived, nor any token whereby we may judge that they possess sense-perception corresponding to the tokens by which we know that they receive nutriment and grow. Of this we can only be certain because nutrition and growth are parts of the soul, and when we find a plant to be possessed of such a nature, we perceive of necessity that some part of a soul is present in it; but we ought not to contend that a plant which lacks sensation is a thing possessed of sense, because while sensation is the cause of the glorification of life, nutrition is merely the cause of growth in the living thing.

These differences of opinion come into consideration in their own proper place. It is certainly difficult to find a state intermediate between life and the absence of life. Some, too, will urge that a plant, if it be alive, is therefore an animal; for it is difficult to assign any principle to the life of plants except that of the life of nutrition. But, when men deny that plants have life, they do so because plants do not possess sensation; yet there are certain animals which lack foresight and intelligence. For nature, which destroys the life of the animal in death, preserves it in the continuation of the race, and it is wrong for us to suppose any intermediate state between the animate and the inanimate. We know that sea-shells are animals which lack foresight and intelligence and are at once plants and animals. The only reason, therefore, for their being called animals is that they have sensation; for genera give names and definitions to the species which fall under them, while the species give names to the individuals, and the genus ought to rest on a common cause present in the numerous individuals and not on the individuals themselves; but the meaning of the cause, on which the genus is based, is not obvious to every one. Now there are animals which have no female sex, and some which do not procreate their kind, and some which lack the power of movement, and some in which the colour varies, and some which produce an offspring unlike themselves, and some which are produced from decaying vegetation.

What, therefore, is the principle of life in animals? What is it that raises the noble animal, as surely as the heavens which encircle the sun and the planets, from the sphere of perplexity and doubt? For the heavenly bodies feel no outside influence, and sensation is an effect produced on a sentient being. Now a plant has no movement of itself, for it is fixed in the earth, which is itself immovable. Whence, then, shall we infer any similarity which may enable us to attribute life to the plant? For there is no one thing which includes all three forms of life. We therefore assert that sensation is common to all animal life, because sensation marks the distinction between life and death; but the heavens, which pursue a nobler and more sublime path than we do, are far removed from life and death. But it is fitting that animals should have some common characteristic perfect in itself but less sublime, and this is the acquisition and deprivation of life. And one ought not to shrink from the use of these terms on the ground that there is no mean between the animate and the inanimate, between life and the deprivation of life; nay, there is a mean between life and the inanimate, because the inanimate is that which has no soul nor any portion of it. But a plant is not one of those things which entirely lack a soul, because there is some portion of a soul in it; and it is not an animal, because there is no sensation in it, and plants pass one by one gradually from life into death. We can put the matter in a different way and say that a plant is animate. I cannot, however, assert that it is inanimate as long as it possesses soul and some form of sensation; for that which receives food is not entirely without soul, and every animal has sou!. But a plant is imperfect, and, whereas an animal has definite limbs, a plant is indefinite in form, and a plant derives its own particular nature from the motion which it possesses in itself. Some one might say that a plant has soul, because the soul is that which causes motion and desire to arise locally, and motion can only arise locally when sensation is present. But the absorption of food is in accordance with a natural principle, and is common both to animals and plants, and no sensation at all will accompany the absorption of food; for everything that absorbs food employs two qualities in feeding, namely, heat and cold, and an animal properly requires moist food and dry food, for coldness is always found in dry food; for neither of these two natures is ever unaccompanied by the other. And so food is continuously being supplied to that which feeds on it till the time when it begins to decay, and animals and plants have to be provided with food composed of the same elements as those of which they themselves are composed.

Let us now investigate what we have already mentioned, namely, desire in plants, their movement, and their soul, and that which is given forth by them. A plant has not respiration, although Anaxagoras declared that it has; and we even find many animals which have not respiration. We can see by ocular demonstration that plants do not sleep and wake, for waking is due to an effect of sensation, and sleeping is an enfeebled condition of sensation, and nothing of this kind is found in that which vegetates at all times in the same condition, and is itself naturally without sensation. When an animal takes food, a vapour rises from the food into its head and it falls asleep, and, when the vapour which rises to its head is consumed, it; wakes up. In some animals this vapour is plentiful and yet they sleep but little. Sleep is the suppression of motion and this involves the quiescence of the thing moved.

The most important and appropriate subject of inquiry, which arises in the science of botany is that proposed by! Empedocles, namely, whether female and male sex is found in plants, or whether there is a combination of the two sexes. Now we assert that when the male generates it generates *in* another, and when the female generates it generates *from* another, and both are mutually separate. This is not found to be the case in plants; for in a particular species the produce of the male plant will be rougher, harder, and stiffer, while the female will be weaker but more productive. We ought also to inquire whether the two kinds are found in combination in plants as Empedocles states that they are. But my opinion is that this is not the case, for things which mingle together ought first to be simple and separate, and so the male will be separate and the female separate; they afterwards mingle, and the mingling will only take place when it is produced by generation. A plant, therefore, would have been discovered before the mingling had taken place, and it ought therefore to be at the same time an active and a passive agent in the process of production. The two sexes cannot be found combined in any plant; if this were so, a plant would be more perfect than an animal, because it would not require anything outside itself in order to generate; whereas the plant *does* require the right season of the year and sunshine and its natural temperature more than anything, requiring them at the time when the tree sprouts. The nutritive principle in plants is derived from the earth, the generative principle is derived from the sun. Wherefore Anaxagoras said that the seeds of plants are borne down from the air, and other philosophers who profess the same doctrine call the earth the mother and the sun the father of plants. But we must suppose that the mingling of the male and the female in plants takes place in some other way, because the seed of a plant resembles the embryo in animals, being a mixture of the male and female elements. And just as in an egg there exists the force to generate the chicken and the material of its nutriment up to the time when it reaches perfection and emerges from the egg, and the female lays the egg in a short space of time; so too with the plant. And Empedocles is right when he said the tall trees bear their young; for that which is born can only be born from a portion of the seed, and the rest of the seed becomes at first the nutriment of the root; and the plant begins to move as soon as it is born. This, then, is the opinion which we ought to hold about the mingling of the male and female in plants, similar to that which we hold about animals. This process is the cause of plants under a certain disposition of circumstances; for in the case of an animal when the sexes mingle and afterwards separate a single offspring is produced from them both. But this is not the case with plants; when the sexes mingle, it is the forces of the sexes which mingle. And if nature has mingled the male and the female together, she has followed the right course; and in plants the only operation which we find is the generation of fruits; and an animal is only separated at the times when it is not having sexual intercourse, and this separation is due to its multifarious activities and intellectual pursuits.

But there are some who hold that the plant is complete and perfect because of its possession of these two powers, and because of the food which is adapted to feeding it, and the length of its existence and duration. When it bears leaves and fruit its life will continue and its youth return to it. No excrement will be produced from plants. A plant does not require sleep for many reasons, for if is placed and planted in the earth and attached to it and has no movement of itself, nor has it any definite bounds to its parts, nor does it possess sensation or voluntary motion, or a perfect soul; nay, it has only part of a soul. Plants are only created for the sake of animals, and animals are not created for the sake of plants. Some one will urge that a plant requires food which is easily obtained and poor, yet it needs it very regularly and continuously, and without interruption. If it were agreed that a plant has an advantage over an animal, it would follow that things which are inanimate were better and nobler than those which are animate; yet we see that the function of the animal is nobler and better than that of the plant, and we find in the animal all the virtues which are present in the plant and many others. Empedocles said that plants had their birth when the world was yet small and its perfection not attained, while animals were born after it was completed. But this account of creation does not suit the facts, for the world as a whole has existed continuously from eternity and has never ceased to produce animals and plants and all their species. In every kind of plant there is natural heat and moisture, and, when these are consumed, the plant will become weak and grow old and decay and dry up. Some people call this corruption, others do not.

Some trees contain a gummy substance, such as resin and almond-gum and myrrh, and frankincense, and gumarabic. Some trees have fibres and veins and flesh and wood and bark and marrow within them; some trees consist almost wholly of bark. In some the fruit is underneath the bark, that is, between the bark and the wood. Some parts of the tree are simple, such as the moisture found in it and the fibres and veins; other parts are composite, such as the branches and twigs and the like. These are not all found in all plants; for some have composite and some simple parts, while others do not have them. Some plants possess various other parts as well (roots, twigs), leaves, pedicels, flowers, catkins, tendrils, and bark surrounding the fruit.

Just as in the animal, so also in the plant there are members consisting of similar parts, and some of the parts of a plant are composed of other members, The bark of a plant resembles the skin of an animal, while the root of a plant is like the mouth of an animal, and its fibres are like an animal's muscles, and so with its other parts. Any of these parts can be divided on one principle into similar parts, or a division can be made by dissimilar parts (just as mud can be divided in one way into particles of earth only and in another into particles of water; similarly the lungs and flesh can be divided up on one principle so that they are pieces of flesh, while on the other principle they can be divided into their elements or radical parts).

‘ But a hand cannot be divided up into another hand, nor a root into another root, nor leaves into other leaves; but these roots and leaves are themselves the result of; composition. Some fruits are composed of few parts, some of many — olives, for example, which are made up of bark and a fleshy substance and a shell and a seed. Some fruits have as many as three coverings. All seeds consist of two bodies. We have now mentioned the parts of which individual plants consist The conclusion of our discussion is this: it is a difficult task to determine the parts of the plant in general, and its coverings and its variations, and in particular, to define its essential nature and its colour, and the period of its duration, and the effects which are produced upon it. Plants have not fixed habits of mind and the power of action like that possessed by animals; and if we compare the parts of an animal with those of a plant, our discussion will be a long one, and we shall not avoid considerable differences of opinion in naming the parts of plants. For a part of a thing is of its own kind and of its own particular substance, and, when it is once produced, any special part will remain in its original condition, unless it departs from it owing to some long continued infirmity. Flowers, fruits, and leaves will, in some cases, be produced annually, in others they are perennial; they have not the same permanence as the bark and body of a plant (though even this is shed under the influence of burning heat, being stripped off by the desert wind)... This does not happen in plants; for various undetermined parts of plants are often shed (like hair in the case of man and claws in the case of animals), and in their stead other parts grow either where the lost parts were, or elsewhere in some other place. It is clear from this that it is not determined whether the parts of a plant are really parts or not. It is wrong for us to say that those things with which a plant grows and by which it reaches completion are not parts of it; but the leaves and everything that is found in a plant are parts of that plant, although they are not determined and are gradually shed; for the antlers of a stag and the hair of certain animals, and the fur of certain of those which hibernate in hollows underground, fall off, and this process resembles the shedding of leaves.

We ought, therefore, to treat of the subjects which we mentioned first, and begin by enumerating the parts which are peculiar to certain plants and those which are common to all, and their differences. Let us say, therefore, that there is a great diversity in plants in respect of number and fewness, largeness and smallness, and in respect of strength and weakness. The reason of this is that the moisture which is found in large trees, is in some trees, the fig, for example, like milk, in others it is like pitch, as in the pine, in others it is watery, like the liquid found in the vine, in others it is acrid, like that found in marjoram and in the herb called opigaidum. There are also plants which have their parts dry. Some plants have their parts well defined, and neither alike nor equal in size; others have parts which are similar to one another but not equal, in others they are equal but not similar, and their position is not fixed. The differences of plants are recognized in their parts, their form and colour and sparseness and density and roughness and smoothness, and all their incidental differences of taste, their inequality of size, their numerical; increase and decrease, their largeness and smallness. Some plants, too, will not be uniform, but will show great variation, as we have already said.

Some plants produce their fruit above their leaves, others beneath; in some plants the fruit is suspended from the stock of the tree, in others it grows from the root, as in the Egyptian trees which are called vargariaton; in some cases it grows in the middle of the plant. In some plants the leaves and knots are not separated; in others the leaves are equal in size and similar to one another, and some of those which have branches have branches equal in size. The following parts, which we will name, are found in (almost) all plants, and admit of growth and addition — namely, the root, the shoots, the stem, and the branches; these resemble the limbs of animals which include all the other limbs. The root acts as an intermediary between the plants and its food, and for that reason the Greeks call it the root and cause of life in plants, for it supplies the plant with its means of life. The stem is the only part which grows out of the ground and forms, as it were, its erect stature. The suckers are the parts which sprout from the root of a tree, while the branches are above the suckers. They are not found in all plants; and in some plants which have branches these are not permanent, but only last from year to year. There are plants which do not have branches or leaves, fungi, for example, and mushrooms. Branches are only found on trees. Bark and wood and the pith of a tree are produced from moisture; some call this pith the womb of the tree, others the vitals, others the heart. The fibres and veins and flesh of the whole plant are made up from the four elements. Parts are often found which are adapted to reproduction, leaves, for example, and flowers and small twigs (which are flowers outside the plant); the fruit and leaves on a plant grow in the same way, being produced from the seed and the shell which surrounds it.

Of plants some are trees, some are midway between trees and herbs and are called bushes, some are herbs, and some are vegetables. Almost every plant falls under one of these classes. A tree is a plant which has a stem growing from its root, from which stem numerous branches grow, olive-trees, for example, and fig-trees. A plant which is something between a tree and a small herb, and is called a bush, has many branches growing out of its roots, like the thorn-tree and bramble. Vegetables are plants which have a number of stems growing out of one root and a number of branches, rue, for example, and cabbage. Herbs are plants which have no stem, but their leaves grow out of their roots. Some plants are produced and dry up every year, wheat, for example, and vegetables. We can only indicate these various classes of plants by general inferences, and by giving examples and descriptions. Some plants verge on two very different classes, mallow, for example (since it is both a herb and a vegetable), and likewise beet. Some plants grow at first in the form of low bushes and afterwards become trees, as, for instance, the nut-tree, the chaste-tree, and the plant called goatberry. Perhaps myrtles, apple-trees, and pear-trees fall also under this class, for all of them have a number of superfluous stems growing from their roots. It is worth while to specify these that they may serve for purposes of example and inference, but we must not investigate the definitions of every kind of plant.

Some plants are indoor plants, others garden plants, and others wild, in the same way as animals. I think, too, that all species of plants which are not cultivated become wild. Some plants produce fruit, others do not; some bear flowers, others do not; some have leaves and not others; some plants shed their leaves, others do not. Plants differ greatly in their large or small size, in beauty and ugliness, and in the excellence, or the contrary, of their fruits. Trees in a wild state bear more fruit than garden trees, but the fruit of the garden tree is better than that of the wild. Some plants grow in dry places, some in the sea, others in rivers. Plants which grow in the Red Sea will there reach a great size, whereas they are only small in other places. Some plants grow on the banks of rivers, others in standing water. Of plants which grow in dry places, some grow on mountains, others in the plain; some plants grow and flourish in the most arid districts, as, for example, in the land of the Ethiopians which is called Ziara, and increase there better than anywhere else. Some plants live at high altitudes, some on moist ground, others in dry, others equally well in either, as, for instance, willow and tamarisk.

A plant changes very much with a difference of locality, and such variations must be taken into consideration.

A plant which is fixed in the ground does not like to be separated from it. Some places are better for certain plants than others; similarly some fruits are better in one place than in another. In some plants the leaves are rough, in others smooth; in some they are small, in others they are cleft as in the vine. Some trees have a single bark, as the fig, others have several layers of bark, as in the case of the pine; some are bark throughout, as, for example, the mediannus. Some plants have joints, reeds, for example; some have thorns, like the bramble. Some have no branches, others have a great number, like the sycamore. Other plants show various differences; for instance, suckers grow from some and not from others; this can only be due to a difference in the root. Some plants have a single root only, the squill for example; for it grows in a single shoot and spreads by expansion underground, and will increase as it grows more and more and approaches the sunlight, because the sun draws out its scales.

Of the juices which are found in fruits, some are drinkable, as, for instance, the juice of grapes, pomegranates, mulberries, and myrtles. Some juices are oily, as in the olive and pine-nut; others are sweet like honey, as in the date and fig; others are hot and pungent, as in marjoram and mustard; others bitter, as in wormwood and centaury. Some fruits are made up of a fleshy and a bony substance and a seed, plums for example; others, cucumbers for instance, are made up of a fleshy substance and seeds, others of moisture and seeds like the pomegranate. Some have rind outside and seed inside, others flesh outside and seed inside; in others one comes immediately upon the seed with the envelope which encloses it, as in dates and almonds; in others this is not so. Fruits are edible or inedible accidentally, and some people can eat certain fruits while others cannot, and certain animals can eat certain fruits while others cannot. Some fruits, again, are in pods, like seeds; others in sheaths, like weapons, wheat for example; others are enclosed n a fleshy substance, dates for instance; others in husks, acorns for example, and some in several husks, a cuticle and a shell, walnuts for example. Some fruits mature quickly, like mulberries and cherries, others slowly, as do all or most wild fruits. Some plants produce their leaves and fruits quickly, others slowly; some wait for the winter before coming to maturity. The colours of fruits and flowers vary very much. One plant is green throughout, another has a tendency to blackness, another to whiteness, another to redness. Also the conformation of the fruit, if it be wild, varies considerably; for all fruits are not angular, nor do they take the form of straight lines.

IN aromatic trees it is sometimes the root which is aromatic, sometimes the bark, sometimes the flower, and sometimes the wood; in other cases every part is aromatic, in the balsam for example.

Some trees come into existence by being planted, some from seeds, others spontaneously. Those which are planted are separated either from the root, the stem, the branches, or the seed, or else the whole is transplanted; some are slightly bruised before being planted. Some are planted in the earth, others are planted, that is, grafted, on other trees. Grafting of one on another is better in the case of trees which are similar and have the same proportions; the best results are obtained in the grafting, for instance, of apple on pear, fig on fig, or vine on vine. Sometimes grafting of different species is resorted to, bay, for example, on wild plane, olive-trees on terebinth, mulberries on a number of different trees, and wild trees on garden trees. Every plant does not produce a seed similar to that from which it is sprung; some produce a better seed, others a worse, and good trees sometimes grow from bad seeds, as in the case of bitter almonds and pomegranates. In some trees too, when they are weak, the seed fails, in the pine for example, and the palm. But a good plant is not likely to be produced from a bad seed, nor a bad tree from a good seed. Instances, however, of good producing bad and *vice versa* often occur among animals.

A tree which has hard bark and has become barren, if its root be split and a stone inserted in the cleft will become fruitful again. In palms too, if the leaves or pollen or bark of the male palm be applied to the leaves of the female palm so as to cohere, its fruits will come to maturity quickly, and it will prevent their falling off. The male can be distinguished from the female palm, because it sprouts first and its leaves are small, and also because of its odour; sometimes all these conditions are present, sometimes only some of them. It will perhaps happen that the wind will bear the odour of the male to the female palm, and then the dates will come to maturity; the foliage of the male will also cohere to that of the female palm when they catch in one another. Wild fig-trees, too, spread along the ground and are attracted by garden fig-trees; similarly wild olives are attracted by olives, when they are planted together.

Again, some plants change into other species, the nut-tree, for example, when it becomes old. It is also said that catmint changes into mint, and basil, if plucked up and planted by the Persian Gulf, will perhaps turn into thyme. Also wheat and flax change into tares. The poisonous nightshade which grows in Persia changes its nature if transplanted into Egypt and Syria and becomes edible. Almond-trees and pomegranates change their condition for the better under cultivation. Pomegranates are improved by being manured with pigs’ dung and watered with fresh cold water. Almond-trees with pegs driven into them exude gum for a long while. Many wild plants are thus artificially changed into garden plants. Position and care, and, above all, the season of planting, contribute to this process. Some plants require some one to plant them, others do not. Most plants are planted in the spring, a few in the winter and autumn, very few in the summer after the rising of the dogstar; planting at this season takes place in few places — nowhere except in the Crimea. In Egypt planting only takes place once in the year.

Some trees produce shoots from their roots, some from their buds, some from the wood, others from every part. In some they are near the ground, in others far from it, in others they are neither high nor low: others produce a few shoots at various times. Some trees bear fruit once a year, others several times, and their fruit does not mature, but remains unripe. Certain trees are very fruitful over a long period, as, for instance, fig-trees. Some bear fruit one year and then recuperate for a year, as do olive-trees, although they produce a number of boughs which cover them. Some trees are more productive when they are young than when they are old; others, on the contrary, are more fertile when they are old, almond-trees, for example, and pear-trees and holm-oaks. Wild and garden plants can be distinguished by identification with the male and female, each being recognizable by its peculiar characteristics; for the male is thicker and harder and has more branches and less moisture and a smaller fruit, and does not reach such maturity; the leaves, too, and likewise the twigs, are different.

After these considerations we ought to form some conclusions in order that we may know trees and their various kinds apart, and similarly in the case of small herbs. We must consider what the ancients have said on these points, and examine the works written upon them. We shall only be able to take a brief survey and extract the essence of them. This means that we shall consider those plants which contain oil, those which produce seeds, and those which produce wine, and plants which have medicinal properties, and those which destroy life. All these particulars about trees and plants are well known. But in order to know their causes, we ought to inquire into their production, and discover why certain plants grow in certain places and not in others, and at certain seasons and not at others; we must examine their methods of planting, their, roots, their differences of sap and odour and juice and gum, and the excellence and defects of particular plants, and the fact that the fruits of some trees last but not those of others, and why some fruits putrefy quickly, others more slowly. We must inquire into the properties of all plants, and particularly those of their roots; and why some fruits grow soft while others do not; and why some affect the bowels, others cause sleep, and others are fatal to life; and many other differences.

BOOK II

A plant has three powers, the first derived from the element of earth, the second from that of water, the third from that of fire. From the earth the plant derives its solidity, from water the unity, and from fire the concretion of its solidity. We see much the same thing in vessels of pottery, which contain three elements — clay, which is, as it were, the material of pottery; secondly, water, which binds the pottery together; and, thirdly, fire, which draws its parts together, until it completes the process of manufacture. The appearance, then, of complete unity is due to the fire; because rarity is present in pottery according to the composition of its parts, and, when the fire heats them, the moist matter is solidified, and the parts of the clay will cohere together. Dryness will thus take the place of moisture, owing to the predominance of the fire and the process of concoction which takes place in all animals, plants, and metals. For concoction takes place where moisture and heat are present, when the struggle between them is allowed to run its course; and this is what will take place in the concoction of stone and metals. It is not so in animals and plants; for their parts are not closely compacted, and so there is an escape of moisture from them. But in metals there is no such escape of moisture or sweating, because their parts have no rarity, and therefore they can give up nothing except parts of themselves to correspond to certain superfluities which are given off by animals and plants. This escape of moisture can only take place where rarity is present; and so where there is no rarity, nothing at all can be given off. Therefore that which cannot be increased is solid, because that which might increase lacks space in which to dilate and grow; and therefore stones, salt, and earth are always the same, neither increasing nor growing. There is motion in plants in a secondary sense, and this is a form of attraction, namely, the force of the earthly element which attracts moisture; in this attraction there will be motion, and the moisture makes for a certain position, and the process of concoction is thus in a certain way completed. And so small plants usually come into being in the short space of a single day, unlike animals; for the nature of animals is in itself different; for no concoction will take place except by the use of material in the animal itself. But the material of which the plant is formed is near at hand, and therefore its generation is quick, and it grows and increases, because it is rare, more quickly than if it were dense. For that which is dense lacks many powers on account of the diversity of its form and the extension of its parts in relation to one another. Consequently the generation of a plant is quicker on account of the similarity of its parts to one another, and the completion of its growth is speedier. Now the parts of plants are usually rare, because the heat draws the moisture into the extremities of the plant, and the material is distributed through all its parts, and that which is superfluous will flow away; just as in a bath the heat attracts the moisture and turns it into vapour which rises, and, when it is present in superfluity, it will turn into drops of water. Similarly in animals and plants, the superfluities ascend from the lower into the upper parts and then descend in their action from the upper to the lower parts.

We find the same phenomenon in streams which are generated underground and come forth from mountains, and whose material is rain. When the waters increase and are confined within the earth, an excess of vapour will be produced from them on account of their compression underground, and the vapour will break its way through the earth and fountains and streams will appear, which were formerly hidden.

We have set forth the causes which produce springs and rivers in the book on Meteorology. An earthquake frequently discloses springs and rivers which had not before been visible, when the earth is rent by vapour. We also often find that springs and rivers are submerged when an earthquake takes place. But this does not happen in the case of plants, because air is present in the rarity of their parts. This can be illustrated by the fact that an earthquake never takes place in sandy localities, but only where the ground is hard, that is in districts of water and mountains. Earthquakes occur similarly in these districts, because water and stone have no rarity in them, and it is the nature of warm, dry air to ascend. When, therefore, the particles of air become massed together, they gain force and thrust up the ground and the vapour makes its way out; whereas, if the ground were rare, the vapour would make its way out gradually from the first. But the ground being solid, it does not make its way out gradually, but its parts collect, and it is then strong enough to rend the earth. This, then, is the cause of earthquakes in solid bodies; there will, therefore, be nothing to correspond to an earthquake in the parts of plants and animals, though it will occur in other things — often, for example, in pottery and glass, and in some cases in minerals. Any body which has considerable rarity tends to rise upwards, for the air supports it. This we often see when we throw: a gold coin or some other heavy substance into the water and it immediately sinks; whereas if we throw in a piece of wood, which has rarity in it, it does not sink. A gold coin sinks not because of its leaf-like form nor on account of its weight, but because it is solid. That which has rarity can never altogether sink. Ebony and similar substances sink because there is very little rarity in them, and therefore there will not be air present to support them; and so they sink, because their parts are practically solid. Oil and fat always float on the surface of water. We will now give the reason of this. We know that heat and moisture are present in these substances; and it is characteristic of moisture to cohere with particles of water, while it is characteristic of heat that it causes moisture to rise and makes its way towards the particles of air; and it is the habit of water to raise objects to its surface, and of air to rise upwards; and water does not rise above its surface, because the whole surface of the water is one and the same, and consequently the air rises with the oil above the water. Some stones too float on water, because rarity is present in them and is greater in quantity than the matter of which they are formed, and consequently the space occupied by air will be greater than that occupied by the earthy element. It is the nature of water to take up a position above the earth, and of air to rise above water; the material, therefore, which composes the stone, which is of the element of earth, sinks in the water, while the element of air enclosed in the stone rises above the water. Each element therefore attracts its like in a contrary direction to the element with which it is combined. If, then, one element is equal to the other, half the stone will be submerged and half will project above the surface; but if the air is present in greater quantity, the stone will float above the water. The weight of trees is made up in the same way. (These stones are due to a violent collision of waves, and are originally foam which forms a white oily substance; when the wave is dashed against the sand, the sand will collect the oily foam, and the dryness of the sea will dry it up together with the superfluous salt, and the particles of sand will collect, and thus in the long process of time stones will be formed.)

The presence of sand under the sea is explained by the fact that earth always has a fresh flavour, and when water stands it will be prevented from undergoing any change, and will form an enclosed mass of water in the place where it is, and the air will not draw it up; the particles of earth, therefore, gain the upper hand and become salty, and gradually acquire heat. (Now earth is found in its natural state in fresh running water, because there the water is sweet and light.) And because the dryness of the earth gains the upper hand in the water, it changes it into an earthy nature, or something like it, and makes both the earth and water crisp; and this process of drying goes on as long as the earth remains in its place and there is water still left, and it splits up the soil into small particles; and for this reason the earth near the sea is always sandy. The same thing happens on plains which have nothing to protect them from the sun, and which are far from fresh water; the sun has dried up the particles of fresh moisture and that which is of the nature of earth has remained; and because the sun shines continually upon an exposed place of this kind, the parts of the soil become separated and sand is thus formed. A further proof of this is that if we dig deep down in a desert, we shall find natural soil. Natural soil, therefore, will be the basis of sand, and will only become sand accidentally and under certain circumstances, namely, when the sun's rays dwell on it for a long time and it is far removed from fresh water. The saltness of the sea is to be accounted for in a similar way; for the basis of all water is fresh water, and saltness is accidental, occurring only under the circumstances which we have mentioned. The fact that the earth is below the sea and the sea naturally and necessarily above the earth is a self-evident proof of this. Some, however, have held that the common element is that which is present in the greatest quantity, and that there is a greater quantity of water in the sea than elsewhere, and that, therefore, sea-water is the element present in all water. But water naturally has its position above the earth and is lighter than it; for we have already shown that water is at a higher elevation than the earth according to the altitude at which the mass of water stands. Let us take two vessels of the same size and place fresh water in one and salt water in the other; then let us take an egg and place it in the fresh water; it will sink, whereas, if we place it in the salt water, it will float. It therefore rises above the particles of salt water because these particles do not let it sink, as do those of fresh water, but they can uphold the weight, which therefore does not sink. So in the Dead Sea no animal can sink, nor is any animal life produced in it, because dryness predominates in it and it is like the form of earth. It is clear, therefore, that dense water finds a lower level than water which is not dense; for the dense is of the nature of earth, the rare of the nature of air; therefore, fresh water stands at a higher elevation than any other water, and is therefore further removed from earth. Now' we already know that the water which is furthest removed from earth is the natural water, and we have shown that fresh water is higher in position than all other kinds of water; it therefore follows certainly and necessarily that it is the natural water. Salt water is also produced in pools, because fresh water becomes salt. The saltness, therefore, of the earth by its saltness prevails over the fresh water and the air will remain enclosed, and the mass of water will not therefore be fresh. Saltness may also be produced from water by being given off from it like sweat.

So too in the case of plants: their species will be formed, not from a simple element, but by a process of composition, just as saltness and the substance of sand are formed in the water of the sea. For vapours which rise, when they become solidified, will be able to conceive these plants, and the air will descend and bedew the ground, and from it will come forth the form of their seeds through the powerful influence of the stars. But plants must necessarily have some material, and this material is water. There are, however, different kinds of water, and water only rises if it is fresh, and salt water is heavier than fresh; and so that which rises above water is rarer than water. When, therefore, the air draws it up, it will become rarefied and rise still higher; and this is why fountains and streams are formed in mountains. Similarly phlegm and blood rise to the brain, and all foods also rise; so too all water rises. Even salt water rises in that part of it which heat dries out into the element of air, and, because air is always higher than water, that which rises from salt water is fresh. We shall often find the same thing taking place in baths. When heat takes hold of salt water, its parts will be rarefied, and vapour will rise in a contrary direction to the depth of the bath, and the particles of salt and the natural moisture become separated, for the latter is of the nature of air and follows the vapour; and cloud after cloud of vapour rises upwards, and when they reach the top of the room they press upon one another. The vapour will thus collect and become condensed, and will turn into drops of fresh water dripping down, and so in salt baths the vapour will always be fresh.

Plants ought not to grow in salt water, on account of its low temperature and dryness. This means that the plant lacks two things — its proper material and a position suitable to its nature; when these two conditions are present a plant will grow. Now we find that snow is the substance furthest removed from an equable temperature, and its most striking characteristic is the impossibility of its existing in a temperate region. We do not, therefore, find plants growing in snow; yet we often find plants appearing in the snow, and animals of all kinds, especially worms (for they are bred in the snow), and mullein and all bitter herbs. But it is not the snow which causes this to be so; but a certain characteristic of snow is active. The reason is that snow falls like smoke, and the wind congeals it and the air binds it together. There is therefore rarity amongst its parts, and air will be retained in it and will grow hot, and foul water flows from it, which had before enclosed the air; and when the air is present in considerable quantities and the sun shines upon it, the air which is enclosed in the snow will burst its way out, and a foul moisture will appear and will be solidified by the heat of the sun. But if the place is covered up by snow, plants will grow in it, but without leaves, because it is cut off from the equable temperature of the earth which is congenial to it. This is the reason why there are numerous flowers and leaves on small plants in places where the air and water are temperate, and few flowers and leaves on a plant which occurs in the snow. So too in very salty and dry places plants do not usually appear, because these places are far from being temperate; and the ground is impoverished, because heat and moisture, which are the characteristics of fresh water, are absent. So the soil that is fresh is the mountain soil, and there plants grow quickly.

But in warm places, because there the water is fresh and the heat plentiful, the process of concoction proceeds quickly, partly as a result of the position and the air which is found there, and partly because there is a concoction of the air owing to the heat of the sun there. On mountains, because they attract moisture and the clearness of the air assists the process, concoction proceeds apace; and therefore plants are generally found on mountains. In deserts the saltness gains the upper hand, as we have already shown, and rarities resembling one another are left between the particles of sand; the sun has therefore no power to produce or perpetuate any continuous plant life; and so in deserts separate species of plants will not occur, but species similar to one another.

PLANTS which grow on the surface of the water will only do so when there is density in the water; the reason of this is that, when heat touches water which has no current to move it, something of the nature of a cloud comes over it and retains a little of the air, and the moisture putrefies and the heat draws it up, and it spreads over the face of the water. Such a plant has no root, because roots will only attach themselves to the hard particles of the earth, and the particles of water are loose and scattered. The heat then comes forth with the putrefaction which takes place on the surface of the water. Such a plant has no leaves because it is produced under conditions which are far from temperate, and its parts are not compact, because the parts of water are not compact. It is for this reason too that such plants grow like threads. It is because the parts of earth are compact that the plants too which grow in the earth are compact. Sometimes putrefactions are set up in damp, smoky ground, and hold the air — the sun causing them to appear when rain and winds are frequent — and the dryness of the earth will make their roots dry up and solidify, and thus fungi and mushrooms and the like will be produced. In places that are exceedingly warm, because the heat assimilates the water in the interior of the earth and the sun holds the heat, a vapour is formed and a plant is thus produced. This process takes place in all warm places, and the formation of the plant is thus completed. A cold locality causes a similar but contrary process; the cold air forces the heat downwards and its particles collect together, and the ground undergoes concoction with the moisture present in it; the ground is then cleft open and a plant emerges from it. Where the ground is fresh, water is generally not far away. When, therefore, the air which is enclosed in the earth is stirred into motion, the moisture of the water will remain behind, and the air will solidify inside the water and a plant is produced, such as the water-lily and various kinds of small plants; these plants grow straight up and do not expand, because their roots are above the earth. In places too where there is warm water running, plants often grow, because the heat of the water attracts the vapours which are retained in the earth, and draws the cold moisture upwards, and air is solidified from the moisture, which it assimilates owing to the heat of the water, and a plant appears, but only after a long lapse of time. Small plants too appear in sulphurous places: and when the wind blows violently upon the brimstone, it will recoil back again, and the air which is in it will be stirred up, and the place will become hot, and fire will be produced from it, and will continue to be produced from it, because it exists deep down in the brimstone, which is due to impurities deposited by the air; the fire attracts the air when the sulphur putrefies, and a plant will be produced from it. Such a plant, as we have shown before, will not generally have many leaves, because it is produced under conditions which are far from equable.

Edible products will grow from plants in positions which are warm and slightly elevated, especially in the third and fourth zones; fruits which fail to provide food grow in cold and high districts. Many species are produced in cold, high positions owing to the attraction of the moisture and the temperate conditions which prevail in the warmth of the sun on spring days. Similarly natural soil readily produces plants which are full of oil; such soil, as we have already seen, is found where there is fresh water.

A PLANT which grows upon solid rock takes a long time to grow; tor the air which is enclosed in the stone strives to rise, and when it cannot find a way, owing to the resistance of the stone, it retreats back again and becomes heated, and attracts the residuum of the moisture in the stone upwards, and with this moisture a vapour comes forth accompanied by a resolution of small particles of the stone; and because the sun often acts upon the stone, it assists the moisture in the process of concoction, and as a result a plant is produced. Such plants do not generally grow to any height, unless they are near some soil or moisture. The growth of a plant requires soil, water, and air. A rock plant will grow low, and if it faces the east, it will grow quickly, and slowly if it faces the west. A plant, when water is the predominant element in it, will retain the air and will not allow it to rise, and thus the plant is not nourished. Similarly, when dryness predominates, the natural heat will be diverted into the extremities of the plant and will block up the ducts through which the flow of water passed, and the plant does not receive nourishment.

Every plant of whatsoever kind needs four things (just as an animal needs four things), namely, a definite seed, a suitable position, and properly attempered water and air. When these four conditions are fulfilled, a plant will grow and increase; but if they do not harmonize, the plant will be correspondingly weakened. A plant which is used for medicinal purposes will be more serviceable and suitable for such purposes if it grows on high mountains, its fruit, however, will be harder to assimilate and will contain less nourishment. Places which are secluded from the sun's rays will not produce much plant life (just as they will not produce much animal life), because the sun makes the day long or short according to the duration of its presence or absence, and it is the sun which draws out the moisture; and so plants which grow in sunless places will not have the strength to produce leaves and fruit. As for plants which grow in watery places, when the water is still, a foulness is formed, and there will be no power in the air to rarefy the particles of water, and the air will be imprisoned inside the earth, and this will prevent the thick matter in the water from rising; then the wind will invade the spot and the earth will be cleft open, and the air which is enclosed will retreat into the earth, and the wind will solidify the moisture, and from this condition of moisture marsh plants will spring. Usually such plants do not differ from one another in form on account of the constant presence of water and its thick consistency and the heat of the sun overhead. The plants which grow in damp places will appear like patches of verdure on the surface of the earth. In such a place there is, in my opinion, little rarity, and when the sun falls upon it, it will stir up the moisture and the spot will grow warm through the resulting motion and the heat which is enclosed within the earth; and so there is nothing to cause the upward growth of the plant, while the moisture helps its expansion; and so it spreads over the earth in a sheet of verdure and produces no leaves. A kind of plant also grows which appears above the surface of the water and is smaller in quantity than that just mentioned, because it is like the nature of earth, and it neither grows upwards nor expands. Often, too, one plant grows out of another plant of a different form from itself, without any root, and spreads all over the plant. For when a plant which has numerous thorns and contains an oily juice moves, its parts will open and the sun will cause its putrefactions to turn into vapour, and the putrefied place of its own accord will produce a plant, and the wind and a moderate heat assist, and the parasite grows in the form of threads and extends over the original plant. Parasitism is a peculiarity of very thorny plants, dodder and the like.

[There is also a class of plant which has neither root nor leaves, and another which has a stalk, but no fruit or leaves, the tamarisk, for example.]

All herbs and all things that grow above or in the earth have their origin in one of five ways, namely, either from seed, or from putrefaction, or from the moisture of water, or from being planted, or from growing as parasites on other plants. These are the five causes of plants.

TREES have three different methods of production; they produce their fruit either before their leaves, or at the same time as their leaves, or else after their leaves have grown. A plant which produces its fruit before its leaves contains a considerable amount of oily juice, and when the heat which is natural to the plant has assimilated the juice, its maturity will quickly follow, and the juice will acquire force and boil up within the branches of the plant and will prevent the moisture from rising; the result is that the fruit appears before the leaves. But in plants which produce their leaves more quickly than their fruits, the effects of the moisture are various. When the heat of the sun begins to disperse the particles of water, the sun attracts the particles of this moisture upwards, and the process of ripening will be delayed, because the concoction of the fruit will only take place through coagulation, and so the leaves come before the fruit. A plant which produces its leaves and fruit simultaneously has much moisture, and frequently also contains an oily juice. When the heat has assimilated the moisture, it will, as a result, rise upward, carrying the juice with it, and the air and sun will draw it out, and the oily juice which forms the fruit will come out, while the moisture will produce the leaves, leaves and fruit coming forth together. The wise men of old used to assert that all leaves were really fruits, but so much moisture was present, because the fruit did not mature or solidify owing to the presence of heat above and the sudden attraction exerted by the sun, and consequently the moisture on which the process of assimilation had had no effect changed into leaves; the leaves, they said, are simply intended to attract the moisture and serve as a protection to the fruit from the violence of the sun. The leaves ought therefore, they said, to be equally regarded as fruit. But the truth is that the moisture rises above them and the leaves are converted into real fruits, as we have already said. The same theory applies to olives, which often fail to produce fruit; for when nature brings about concoction of moisture, some of the thin moisture, which has not matured, will rise first, and this will produce leaves and its concoction will produce flowers, and when in the second year the process of concoction is completed, the fruit will grow and will eventually use up all the available material according to the space which it has in it.

Thorns are not characteristic of plants or natural to them. My opinion is that there is rarity present in a plant, and concoction will take place at the beginning of its existence, and moisture and cold rise upwards, and they are accompanied by a slight concoction; this circulates where there is rarity, and the sun causes it to solidify, and thus the thorns will be produced. Their form is pyramidal; for they begin by being thin at the point and gradually grow thicker, because when the air is withdrawn from the plant its parts increase, as the material of which it is composed expands. The same is true of any plant or tree which is pyramidal at the top.

Greenness must be the most common characteristic of plant life; for we see that trees are white internally and green externally. The reason is that the material which supplies their nutriment is more readily accessible: it follows therefore that there is greenness in all plants, because their material is absorbed and rarifies the wood of the tree, and the heat causes a slight concoction, and the moisture remains in the tree and appears externally: consequently there will be greenness. This is also the case with the leaves, unless the concoction in them is unusually powerful; and leaves are in respect of strength midway between bark and wood. But greenness does not persist, nor indeed come into existence without the presence of moisture, and is of the element of earth, and is the inter mediate colour between that of earth and water. This can be illustrated by the fact that when the bark of trees dries up it turns black, and the wood inside the tree becomes white, and the green, which comes between these two colours, is the colour presented by the outward appearance of the plant.

The shapes of plants fall under three classes. Some spread upwards, others downwards, while others are intermediate in height between the two. The upward extension is due to the fact that the nutritive material makes its appearance in the marrow of the plant, and the heat draws it up, and the air, which is present in the rarities of the plant, compresses it, and it assumes a pyramidal form, just as fire assumes a pyramidal form in bodies in which it is present and rises upwards. Downward extension is due to the blocking of ducts in the plant, and, when the nutritive material is assimilated, the water, which is in the marrow of the plant, will thicken, and the rarefied portion proceeds on its upward course, while the water returns to its former position in the lower portion of the plant, and by its weight presses the plant downwards. In the plants which are intermediate between the two classes already mentioned, the moisture is rarefied and the natural state of the plant is very nearly a temperate condition during the process of concoction, and the ducts are open through the middle of the plant, and the nutritive material spreads upwards and downwards. There is a double process of concoction;

the first takes place below the plant, while the second takes place in the marrow which comes out of the earth and is in the middle of the plant; afterwards the nutritive materials make their appearance fully matured and are distributed through the plant, and do not undergo a third assimilation. In animals there is a third process of assimilation; this is due simply to the diversity of their limbs and to the distinctness of their parts from one another. Plants, on the other hand, are more homogeneous and repeat the same members over and over again, and the nutritive material generally has a downward tendency. The shapes of plants will depend on the character of the seed, while the flower and fruit is dependent on the water and nutritive material. In all animals the first process of maturation and concoction of the nutritive liquids takes place within the animal; there is no exception to this rule. But in plants the first concoction and maturation takes place in the nutritive material. Every tree continues to grow up, until its growth is completed and it dies. The reason is that, while in any animal its height is much the same as its width, in a plant it is far from being so, because water and fire, the elements which compose it, rise quickly, and therefore the plant grows. Variety in the branches of a plant is due to excessive rarity, and, when the moisture is intercepted there, the process of nature will cause it to grow hot and will hasten the concoction, and thus boughs will form and leaves will appear, as we have already said.

The shedding of leaves from trees will be due to the tendency to fall, induced by quickly formed rarity. When the moisture is assimilated with the nutritive material, it will assume a pyramidal form, and therefore the ducts within will be wide and will afterwards become narrow; when the nutritive material makes its appearance already assimilated and formed, it will close up the extremities of the ducts above, and the leaves will have no nutritive material, and therefore dry up. When the contrary process takes place, as we have said, the leaves do not fall from the trees. When coldness dominates in the plant, it will affect its colour owing to the secretion of heat in the middle of the plant and the presence of cold outside in its extremities; the result is that the leaves are blue-grey and do not fall, as in the olive, and myrtle, and similar trees. When trees or plants exercise a violent force of attraction, fruit will be produced once a year; when they do not exercise such a force, nature will employ the process of concoction on successive occasions and at each concoction they produce fruit, and so some plants bear fruit several times in the year. Plants which are of the nature of water bear fruit with difficulty on account of the predominance of moisture in them, and the wideness of their ducts and the tendency of their roots to fall off; when the heat is intense, the assimilation will be quick and will be rarefied owing to the water and will not solidify; this we shall find to be the case in all small herbs and in some vegetables.

A grey colour will occur where the ground is exceedingly hot; here there will be little moisture and the ducts will become narrow, and when nature wishes to bring about assimilation it will not have sufficient moisture to supply the nutritive material and the ducts will become narrow. The process of assimilation therefore will be reversed and the heat will cause it to continue, and the plant will be seen to have a colour, intermediate between white and black. When this happens it will have black wood or anything approximating to white and ebony, that is, any of the whole range of colours from that of ebony to that of elm; and so such wood sinks in water because its parts are compact and the ducts in it are narrow, and no air enters into them. When white wood sinks the reason will be the narrowness of the ducts and the presence of superfluous moisture, which blocks up the ducts so that the air does not enter; consequently it sinks. Every flower is composed only of rarefied material when the assimilation first begins; and so the flower generally precedes the fruit in plants. We have already shown why it is that plants produce their leaves before their fruits. In the case of plants which have slender parts the colour of the flower will resemble a bright blue; when the parts are not closely compressed, it will tend to whiteness; under medium conditions it will be a blue-grey. The absence of flowers in certain plants is usually due to the variety of their parts and their rarity or their roughness or thickness. The palm and similar trees therefore have no flowers.

A plant which has thick bark expands owing to the pressure of moisture and the impelling force of heat; we see this in the pine and palm. A plant which gives forth a milky juice will have such juice within it; there will be powerful heat within and an oily substance will be present there. When the heat begins to cause assimilation, the oily substance will be turned into moisture, and the heat will solidify it to a slight extent, and local warmth will be caused, and an oily liquid will be produced similar to milk, and vapour will rise from the moisture which attracts the milky substance into the extremities of the plant, and the moisture will retain the heat which appears. The milky substance will not be solidified, because it is the function of heat to solidify it If the milky substance shows any considerable degree of solidification, it will be due to the presence of cold in the tree. The milky substance will solidify when it has left its original position in the tree, and the result will be the formation of gum. Gum comes out warm from the tree by distillation, and, when it comes into contact with the air, it will solidify. Some gums flow in temperate places, and these will be of the consistency of water; others flow out and solidify as hard as stone or shell. Gum which flows drop by drop keeps its form, as in the tree which is known as *aletafur.* The gum which changes into a stony substance will be very cold on its first appearance, and its appearance will be caused by heat, and when it flows it: will turn to stone; it will occur where the soil is very hot. Some trees undergo a change in the winter and will become sometimes green and sometimes blue-grey, and neither their leaves nor their fruits decay; for trees in which this occurs have a great quantity of heat and rarefied water in their lower reservoirs. Thus as the year goes on this water will retain its heat on account of the coldness of the air; and because the heat goes out to the cold, it carries the moisture out with it, and the moisture tinctures it with the natural colour of heat, and therefore the colour is seen in the appearance of the tree. Consequently cold and heat are converted into activity, and the moisture retains heat, and therefore another colour makes its appearance.

Fruit will be bitter because the heat and moisture have not completed the process of assimilation (cold and dryness hindering the completion of this process), and so fruit turns bitter. This can be illustrated by the fact that what is bitter, when put into fire, becomes sweet. Trees which grow in sour water produce sweet fruit, because the sourness assisted by the heat of the sun attracts that which is of its own quality, namely, cold and dryness. Sweet liquids therefore make their appearance inside the tree, and the innermost part of the tree becomes hot when the sun shines continuously above it, and the flavour of the fruit will be successively sour, and then, when the process of assimilation has taken place, the sourness will be gradually dissolved until it disappears, and sweetness will make its appearance. Consequently the fruit will be sweet, while the leaves and extremities of the tree will be acid. When the maturation is complete, the fruit will be bitter: this is due to a superfluity of heat with very little moisture. The moisture is used up and the fruit makes the heat rise, and so the fruit will be bitter, and the stones in the fruit will be pyramidal in form on account of the upward attraction of the heat and the downward attraction of the cold and moisture which are of the same nature as sour water; and the moisture remains in the trunk of the tree, which consequently thickens, while its extremities are thin. If trees are planted in temperate soil, they reach maturity quickly before the days of spring, because, when the heat is almost temperate and the moisture has made its appearance and the air is clear, the fruit will not require much heat during the process of assimilation. Consequently maturity comes quickly and takes place before the days of spring. Bitterness or harshness of flavour is prevalent in all trees when they are first planted. The reason is that when the moisture is in their extremities and has caused assimilation in the parts that are in the middle of the tree, from which the material of the fruit comes, the dryness comes forth and follows the moisture, and the first assimilation will be sour or bitter or harsh. The reason is that the assimilation takes place in the heat and moisture, and when moisture or dryness prevails over the heat, the fruit so produced will not at first have undergone complete assimilation, and consequently the production of fruit is at first without sweetness.

Bennut-trees at first when the fruit appears are sweet, and subsequently become harsh in flavour and finally bitter. The reason of this is that the tree has excessive rarity in it, and at the time of assimilation, when the ducts are wide, the heat will follow the moisture and will cause the fruit to mature; consequently the fruit will be sweet at first. Subsequently the heat attracts the dryness which resembles its own nature, and will cause the ducts to contract, and cold and dryness will prevail over heat and moisture; the fruit, therefore, will change to a harsh flavour. Next, the sun with its heat will prevail through the attraction of superfluous moisture in the seed, which is present at the first appearance of the tree, and the cold will prevail over the dryness; the fruit will therefore become exceedingly harsh in flavour. Next, the natural heat will rise upwards, and the heat of the sun outside will assist it; therefore the heat and dryness will prevail, and the fruit will become bitter.

Here ends the book on Plants.

On Marvelous Things Heard (830a)

Translated by W. S. Hett

De mirabilibus auscultationibus is a collection of thematically arranged anecdotes, traditionally attributed to Aristotle though most likely by a Pseudo-Aristotle writer. The anecdotes chiefly concern the natural world, examining themes such as plants, animals, minerals, weather and geography.

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INTRODUCTION

THIS curious collection of “marvels” reads like the jottings from a diary. All authorities are agreed that it is not the work of Aristotle, but it is included in this volume as it forms part of the “Corpus” which has come down to us; most Aristotelian scholars believe that it emanated from the Peripatetic School. Some of the notes are puerile, but some on the other hand are evidently the fruit of direct and accurate observation.

ON MARVELLOUS THINGS HEARD

In Paeonia they say that in the mountain called Hesaenus, which divides Paeonia from Maedice, there is a wild beast called “bolinthus,” which the Paeonians call “monaepus.” They say that the beast is in general character like an ox, but that it is larger and stronger, and also more hairy; for it has a mane on its neck like a horse, stretching down very thickly, and spreading from its brow to its eyes. Its horns are not like those of oxen, but are turned downwards, and come to a sharp point by the ears; each of these holds more than three pints and is pitch black, but they shine as though they were peeled. But when the hide is skinned it covers the space of eight couches. But when the beast is hit it flees, and even if incapacitated continues to do so; its flesh is sweet. It protects itself by kicking and voiding excrement over a distance of forty feet; it easily and often employs this form of defence, which scorches so fiercely that it will scrape off a dog’s hair. They say that it has this effect when the animal is disturbed, but that it does not scorch when it is undisturbed. When they bring forth their voting they meet in large numbers, and collecting in a herd all the biggest bring forth young and void excrement in a circle. For the beast voids a great deal of such excrement.

They say that camels in Arabia do not mate with their dams, and will not do so even if force is used. A story is told that once, when no stallion was available, the man in charge secretly introduced a colt. Apparently the colt completed the mating, but soon after bit the camel-driver to death.

They say that the cuckoos in Helice, when they are going to lay eggs, do not make a nest, but lay them in the nests of doves or pigeons, and do not sit, nor hatch, nor bring up their young; but when the young bird is born and has grown big, it casts out of the nest those with whom it has so far lived. It becomes apparently a fine strong bird, so it can easily master the others. They say that the ring-doves so delight in this, that they join in turning out their own young.

Goats in Crete when they are wounded with an arrow appear to hunt for dittany, which grows there. When they have eaten it, they immediately pull out the arrows.

They say that some deer in Achaea, when they shed their horns, go in to such places that they cannot easily be found. They do this because they have nothing to defend themselves with, and because the points from which they have cast off their horns are painful. In the place of the horns ivy may often be seen to have grown on them.

In Armenia they say that a plant grows which is called leopard’s bane. When a leopard has been seen, they anoint a victim with this, and set him free. When the leopard has touched this, he apparently seeks human excrement. So the hunters, putting this in a vessel, hang it from a tree, in order that he may get tired of jumping for it, and so may be captured.

In Egypt they say that sandpipers fly into the mouths of crocodiles, and pick their teeth, picking out the small pieces of flesh that adhere to them with their beaks; the crocodiles like this, and do them no harm.

They say that in Byzantium the hedgehogs can distinguish when the wind blows from the north and from the south, and promptly change their holes; when the south wind blows, they make the openings from the bottom, and when the north wind from the sides.

The goats in Cephallenia apparently do not drink like other quadrupeds, but every day turn their faces to the sea, open their mouths, and inhale the air.

They say that in Syria there is always one leader of a herd of wild asses. When one of the younger animals wishes to mate with a female, the leader is enraged and pursues the young one until he catches him, and then stooping between his hind legs tears out his organs.

They say that tortoises when they have eaten a snake eat marjoram on top, and that if they do not find any they die quickly. Many shepherds have experimented to see if this is true, and when they see a tortoise eating a snake pull up the marjoram; whenever they do this they see the tortoise die in a short space of time.

The organ of the marten is said to be unlike that of other animals, being as hard as a bone, in whatever condition it is. They say that it is an excellent cure for strangury and is administered in powdered form.

They say that the woodpecker climbs up trees like a lizard, upside down and on its belly. It is said to feed on insects from the trees, and to dig so deep into the trees in its search for worms, that it actually brings them down.

They say that pelicans dig up the mussels which live in rivers and swallow them; then when they have taken in a quantity they vomit, and so eat the flesh of the mussels without dealing with their shells.

They say that in Cyllene in Arcadia the blackbirds are white, but not in any other place, and that they have harmonious voices and come out into the moonshine; and that if one were to try by day, they are very hard to catch.

It is said that the honey called flower honey at Melos and Cnidos is sweet-scented, but only lasts for a short time, but that there is bee-bread in it.

In certain parts of Cappadocia they say that honey is made without wax, and that it is of the consistency of oil.

At Trapezus in Pontus honey from boxwood has a heavy scent; and they say that healthy men go mad, but that epileptics are cured by it immediately.

They say that in Lydia much honey is collected from trees, and that the inhabitants make small balls out of it without wax, that they cut pieces off by violent friction, and use them. The same thing is done in Thrace, but it is not so hard though rather gritty. They say that all the honey that sets retains the same bulk, not like water and other liquids.

Chalcidian grass and almond are most useful for making honey. For they say that the greatest quantity is produced from them.

They say that bees are stupefied by myrrh, and cannot bear its smell; some say that bees sting violently those smeared with myrrh.

Among the Illyrians they say that the people called Taulantii make wine out of honey. When they have squeezed out the wax, they pour in water and boil in a cauldron, until only half the liquid is left; then they pour it into earthenware vessels; they say that it ferments in these for a long time, and that it becomes vinous, sweet and strong. They say that this has occurred even among some people in Greece, so that it shows no difference from old wine; but that when they sought for the mixture later on they could not find it.

In Thessaly they record that snakes are born alive in such quantities that if they were not eaten by storks the people would leave. Consequently they honour storks, and it is unlawful to kill them; if anyone does so, he is liable to the same penalties as a murderer.

In the same way at certain times in Sparta, it is said that there is such a crowd of snakes, that in times of famine the Spartans use them as food; hence they say that the Pythian oracle called them “serpent-necked.”

In Cyprus they say that mice eat iron.

And they say that the Chalybes, in one of the islands lying above them, collect gold from many of these creatures. For this reason apparently they cut up the mice which they catch in mines.

It is said that when one goes from Susa to Media in the second stage there is a large quantity of scorpions. Consequently the king of the Persians, whenever he went through the district, stayed there three days, ordering all his men to hunt; and he gave a prize to the man who caught most.

In Cyrene they say that there is not one kind of mouse but many, differing in shape and colour; for some have flat heads like polecats, and others are shaped like hedgehogs, which they call "echines."

In Cilicia they say that there is a whirlpool; when birds and other creatures which have been drowned are put into it, they come to life again.

Among the Scythians called Geloni they say that there is a beast, excessively rare, which is called "tarandos"; they say that it changes the colour of its hair according to the place it is in. For this reason it is difficult to catch; for it becomes the same colour as the trees and the ground, and generally of the place in which it is. But the changing of the colour of the hair is most remarkable; other creatures change their skin like the chameleon and polypus.

But this animal is of the size of an ox. But its head is of the same kind as a deer.

It is said that at Abydus a man who was mad went into the theatre and watched for many days, as if there were people acting, and showed his approval; and when he recovered from his madness, he said that he had enjoyed the best time of his life.

In Tarentum they say that a seller of wine went mad at night, but sold wine by day. For he kept the key of his room at his girdle, and, though many tried to get it from him and take it, he never lost it.

In the island of Tenos they say there is a cup containing a mixture, from which they very easily kindle a fire. And among the Bithynians in Thrace there is in the mines a stone called "spinos," from which they say that fire is kindled.

In the island of Lipara they say that there is a place with a down draught, in which if they hide a pipkin, anything they put into it boils.

In Media and in the district of Psittacus in Persia there are fires burning, a small one in Media, but a large one in Psittacus with a clear flame. For this reason the Persian king built his kitchen near it. Both are on level ground and not in high places. These can be seen both by night and by day, but those in Pamphylia only by night.

Also they say that in Atitania, near the boundaries of Apolloniatis, there is a rock, from which the fire which rises cannot be seen, but when oil is poured over it, it blazes.

It is said also that the district outside the Pillars of Heracles burns, part of it all the time, and part only at night, as is narrated in Hanno's *Voyages.* The fire in Lipara can be seen flaming, not by day, but only by night. In Pithecusae they say it is fiery and hot, but not burning.

Xenophanes says that the one in Lipara faded for sixteen years, but reappeared in the seventeenth.

They say that the flow of lava in Etna is neither flaming nor continuous, but that it appears after an interval of many years.

In Lydia it is said that the fire is very strong, and bums for seven days on end.

A remarkable story is told about the lava flow in Sicily; for the width of the boiling flame is forty stades, and the height to which it travels is three.

They say the stone in Thrace called "spinos" bums when split in half, and joins together again, like charcoal embers, and that this, when joined together and sprinkled with water, burns; and that the "marieus" does the same thing. — r Near Philippi in Macedonia they say that there are mines, the dross from which when cast out grows and produces gold, and that this can be seen.

They also say that in Cyprus in the district called Tyrrias bronze behaves in a similar way. For apparently they cut it into small pieces and sow it; then when the rain comes it grows, and puts out shoots and so is collected.

They say also that in the island of Melos places that are excavated automatically fill up again.

In Paeonia they say that when showers of rain fall continuously, as the soil melts away, gold is found called unfired gold. They say that in Paeonia the ground is so full of gold that many have found more than a mina's weight. They say that one man found two lumps and took them to the king, one weighing three minae and one five; these were laid by him on the table, and, if he ate anything, he first poured a libation on these.

They also say that among the Bactrians the river Oxus brings down lumps of gold in huge quantities, and that in Iberia the river called Theodorus silts up quantities of gold at its mouth, and similarly washes it down.

They say that in Pieria in Macedonia uncoined gold was dug into the earth by the ancient kings in four holes, and that from one of them gold a span high grew up.

It is said that the origin of Chalybian and Amisenian iron is most extraordinary. For it grows, so they say, from the sand which is borne down by the rivers. Some say that they simply wash this and heat it in a furnace; others say that they repeatedly wash the residue which is left after the first washing and heat it, and that they put into it a stone which is called fire-proof; and there is much of this in the district. This iron is much superior to all other kinds. If it were not burned in a furnace, it would not apparently be very different from silver. They say that it alone is not liable to rust, but that there is not much of it.

They say that among the Indians copper is so bright, clean, and rustless that it is indistinguishable in appearance from gold, but that among the cups of Darius there are a considerable number which could not be determined as copper or gold except by the smell.

They say that Celtic tin melts much more easily than lead. A proof of its solubility may be seen from the fact that it seems to melt even in water; for instance, apparently it stains very quickly. It melts even in the cold, when there is frost, owing, so they say, to the heat stored up and compressed with it because of its weakness.

There is a wild olive at Pantheion called the “beautiful crown” olive. All its leaves have characteristics contrary to those of other olives; for they have the grey colour on the upper and not the under side. They put out branches like the myrtle suitable for crowns. Taking a cutting from this Heracles planted it at Olympia, and from it crowns are given to the victorious athletes. This is by the river Ilissus, about 60 stades away from the river; it has a wall round it and there is a heavy penalty for anyone who touches it. Taking a cutting from this the Eleians planted it at Olympia, and gave crowns from it.

In the mines in Lydia about Pergamum, which Croesus worked, when war broke out, the workers fled to them, and when the mouth was closed up were suffocated; much later on when the mines were cleared out the vessels which they used for their handiwork were found petrified, such as amphorae and similar vessels. These being filled with some liquid were petrified, and so were the bones of the men.

In the lake Ascania the water is so full of soda that clothes need no further cleansing, and if one lets them stay long in the water they crumble to pieces.

Near the lake Ascania there is a village called Pythopolis, about a hundred and twenty stades from Cios, in which all the wells go dry in the winter, so that it is impossible to dip a vessel into them, but in the summer they are full to the brim.

The strait between Sicily and Italy grows bigger and smaller according to the moon.

Also on the road to Syracuse there is a spring in a meadow neither large nor with much water; but when a large crowd met at the place it supplied ample water.

There is a spring among the Palici in Sicily, covering the space of ten couches; this throws up water to the height of six cubits, so that the whole place is thought by observers to be inundated; and it falls back again to the same spot. There is an oath which is regarded as very sacred there; for a man writes down the oath he takes on a small tablet and casts it into the water. If he swears truly, the tablet floats. If he swears falsely, the tablet is said to grow heavy and disappear, and the man is burned. So the priest takes security from him that someone shall purify the temple.

Demonesus, the Chalcedonian island, took its name from Demonesus who first worked there: the place has a mine of cyanus and malachite. The best of this fetches a price comparable with gold; for it is a drug used for the eyes. There is also copper to be dived for in two fathoms of sea; from this is made the statue in Sicyon in the ancient temple of Apollo, and also those in Pheneus called yellow-copper. On them is inscribed “Heracles, son of Amphitryon, dedicated these on capturing Elis.” He captured Elis under the guidance of a woman, in accordance with the oracle, whose father Augeas he had killed. Those who dig for copper become very keen-sighted, and those who have no eyelashes grow them; hence doctors also use the flower of copper and Phrygian ash for the eyes.

There is a cave called the “hollow cave”; in it are pillars made of stalagmites; these can be seen joined to the floor, for it is very narrow there.

From a pair of eagles one of the young is alternately a sea-eagle, as long as they are mated. From sea-eagles are born the osprey and from these hawks and vultures; these do not stop as vultures, but produce large vultures; these have no young. This is proved by the fact that no one has ever seen a nest of large vultures.

Among the Indians an extraordinary occurrence is told of the lead there; for when it is melted and poured into cold water it leaps out of the water.

They say that Mossynecian copper is very shiny and white, not because there is tin mixed with it, but because some earth is combined and molten with it. But they say that the man who discovered the mixture never taught anyone: so the copper vessels which were made in earlier days have this distinction, but subsequent ones have not.

They say in Pontus that some birds are found retiring into holes in winter and do not void, nor do they feel it when their wings are plucked, nor when they are put on to a small spit, but they do when they are roasted by the fire. They also say that many fish cannot feel when they are cut up and sliced, but they can feel when they are heated by the fire.

The bee appears to herald the winter solstice by walking to his work, a sign of which bee-keepers make use; for it is their quiet time. The cicala seems to sing after the solstice.

They say that the hedgehog can go without food for a year.

The spotted lizard, when it has sloughed its skin like a snake, is said to turn round and devour it; for it is watched for by physicians because of its value for epileptics.

They say that the fat of the she-bear, when it becomes set in winter, during the time that the bear lives in a cave, grows, and overflows the vessels in which it is placed.

In Cyrene they say that frogs are entirely voiceless; and in Macedonia, in the country of the Emathiotae, that pigs are solid-hooved.

In Cappadocia they say that mules breed and in Crete that poplars bear fruit.

They say that in Seriphus frogs do not croak, but if they are removed to another place they do.

Among the Indians in the part called Keras, they say that there are small fish which wander about on dry land, and then run back again to the river.

Some say that in Babylonia certain fishes remain in holes which retain moisture when the river dries up; these come out on to the threshing-floor to feed, and walk on their fins and wave their tails; when they are pursued they flee, and diving down stand to face the pursuer. For men will often approach, and even torment them. They have a head like a sea-frog, but the rest of their body is like a gudgeon, but they have gills like other fish.

In Heraclea in Pontus and in Rhegium they say that some fish are caught by digging, and that these are mostly found in riverside and watery places. Where these places dry up they can be caught in certain places on land, and then when the ground dries still more they penetrate into the mud in search of moisture; then when that grows dry they remain in the moisture, like those that survive in holes. But when they are dug up before the water comes they move.

And they say that in Paphlagonia those fishes which are dug up are bred deep down, and that they are good in quality; although no water is to be seen near by, nor any river flowing in, but the earth itself propagates the creatures.

They say that the deer in Epirus dig down and bury the right horn, when they shed it, and that this is valuable for many purposes.

They say that the lynx conceals his urine because it is used for many purposes, especially for making signets.

They say that the seal vomits beestings when caught; this has curative properties, and is good for epileptics.

It is said that in Italy near the mountain Circe a fatal drug grows, which has this property, that when it is sprinkled on anyone, it makes him fall immediately and causes his hair to fall out; all the limbs of his body grow weak, so that the appearance of the body of those who are dying is pitiful. They say that Aulus the Peucestrian and Gaius who were going to give it to Cleonymus the Spartan were detected, and after cross-examination were put to death by the Tarentines.

They say that in the island of Diomedeia in the Adriatic there is a remarkable and hallowed shrine of Diomedes, and that birds of vast size sit round this shrine in a circle, having large hard beaks. They say moreover that if ever Greeks disembark on the spot they keep quiet, but if any of the barbarians that live round about land there, they rise and wheeling round attack their heads, and wounding them with their bills kill them. The legend is that these birds are descended from the companions of Diomedes, who were wrecked near the island, when Diomedes was treacherously murdered by Aeneas, the king of those parts at the time.

Among the Umbrians they say that the cattle bear three times in the year, and the earth bears many times as many fruits as that which is sown; also that the women have many children and seldom bear one (at a time), but most of them two or three.

In the Electrides Islands, which lie in the gulf of the Adriatic, they say that two statues have been dedicated, one of tin and one of copper, wrought in the old-fashioned style. It is said that these are the works of Daedalus, a reminder of the old days, when escaping from Minos he came to this district from Sicily and Crete. They say that the river Eridanus silted up these islands. There is a lake apparently near the river, containing hot water. A heavy and unpleasant smell comes from it, and no animal ever drinks from it nor does bird fly over it without falling and dying. It has a circumference of two hundred furlongs, and a breadth of ten. The local inhabitants say that Phaethon fell into this lake when he was struck by a thunderbolt. There are many poplars in it, from which oozes the so-called electron. They say that this is like gum, and hardens like a stone; it is collected by the inhabitants and brought to the Greeks. They say that Daedalus came to these islands, and putting in there set up in one of them his own image, and in the other that of his son Icarus. Later on, when the Pelasgians, who were expelled from Argos, sailed there, Daedalus fled, and sailed to the island of Icarus.

In Sicily in the district called Enna there is said to be a cave, around which is an abundance of flowers at every season of the year, and particularly that a vast space is filled with violets, which fill the neighbourhood with sweet scent, so that hunters cannot chase hares, because the dogs are overcome by the scent. Through this cave there is an invisible underground passage, by means of which Pluto is said to have made the rape of Core. They say that wheat is found in this place unlike the local grain, which they use, and unlike any that is imported, but having great peculiarities. They say that this was the first place in which wheat appeared among them. They also claim Demeter, saying that the goddess was born among them.

They say that there are no wolves, bears or snakes in Crete, and, generally speaking, no beasts of the kind, because Zeus was born there.

In the sea outside the Pillars of Heracles they say that a desert island was found by the Carthaginians, having woods of all kinds and navigable rivers, remarkable for all other kinds of fruits, and a few days’ voyage away; as the Carthaginians frequented it often owing to its prosperity, and some even lived there, the chief of the Carthaginians announced that they would punish with death any who proposed to sail there, and that they massacred all the inhabitants, that they might not tell the story, and that a crowd might not resort to the island, and get possession of it, and take away the prosperity of the Carthaginians.

They say that there is a road called “the Heraclean” from Italy as far as the Celts, Celtoligyes, and Iberians, through which, if a Greek or native travels, he is guarded by the inhabitants, that no harm may befall him; and that they exact punishment from those through whom such harm comes.

They say that among the Celts there is a drug called by them the “arrow drug”; this produces so swift a death that the Celtic hunters, when they have shot at a deer or other beast, run hastily, and cut out the wounded part of the flesh before the poison sinks in, both for the sake of its use, and to prevent the animal from rotting. They say that the bark of the oak-tree has been discovered to be an antidote to this; others, however, speak of another leaf which they call “raven,” because a raven has been seen by them, after tasting the drug and becoming ill, to run to this leaf, and after swallowing it to cease from his pain.

In Iberia they say that when the undergrowth has been burned by shepherds, and the earth heated by the wood, that the ground can be seen to flow with silver, and that after a time when earthquakes have occurred and the ground split, that much silver has been collected, which supplied the Massaliots with considerable revenue.

In the islands of Gymnesiae, which he off Iberia, which they say are the greatest after the so-called “seven,” oil is said to have come not from olives, but from the terebinth, which corresponds in every respect to olive-oil. They also say that the Iberians who live there are so much given to women, that they Mill give the merchants four or five male persons in exchange for one female. On service with the Carthaginians, when they receive their pay, they apparently buy nothing but women. None of them is allowed to possess any gold or silver article. It is added that this is done with a view to preventing them from bringing in gold, because Heracles made an expedition against Iberia because of the wealth of the inhabitants.

In the country of the Massaliots about Liguria they say there is a lake, and that this boils up and overflows, and throws up an incredible quantity of fish. But when the etesian winds blow they heap the ground up over it, and so much dust arises there, that the surface of the lake vanishes and becomes like solid ground. Then the inhabitants easily raise fish out of the lake by spearing them with a threepronged fork.

Some of the Ligurians are said to use the sling so well that, when they see a number of birds, they discuss with each other which each of them shall prepare to hit, on the assumption that they will easily get them all.

They tell also of another peculiarity among them: the women bear children while at work; after washing the infant in water, they immediately dig, and hoe, and do all the household jobs which they have to do when not bearing children.

This is another marvel among the Ligurians: they say that there is a river among them whose stream is raised so high that it is impossible to see people on the further bank.

In Tyrrhenia there is said to be an island called Aethaleia, in which in olden days copper was dug from a mine, from which all their copper vessels come; after that it was found no longer, but, after the lapse of considerable time, iron appeared from the same mine, which the Tyrrhenians who live in the district called Poplonium still use.

In Tyrrhenia also there is a city called Oenaria, which they say is remarkably strong: for in the middle of it is a wide hill, stretching up to a height of thirty stades, and below wood of all kinds, and water. They say that the inhabitants, fearing lest there should be a tyrant, set over themselves those of the household slaves who were freed, and these rule over them, and every year they set up others of the same kind.

In Cyme in Italy an underground chamber is shown apparently of the Sibyl, the reciter of the oracles, who they say was long-lived and remained a maiden, a native of Erythrae, but by some of those who live in Italy is said to come from Cyme, and by others called Melancraera. This place is said to be controlled by Leucanians. And they say that in those places about Cyme there is a river called Cetus, into which what is cast for a long time first grows a layer on top, and then becomes petrified.

They say that a cloak was made for Alcimenes, the Sybarite, so expensive that it was produced at Lacinium at the festival of Hera, to which all Italiots come, and was admired more than anything else displayed there; they say that Dionysius the Elder acquired it, and sold it to the Carthaginians for a hundred and twenty talents. It was purple, fifteen cubits in size, and on each side it was ornamented with embroidered figures, of Susa above, and of the Persians below; in the centre were Zeus, Hera, Themis, Athene, Apollo and Aphrodite. At one extremity was Alcimenes, and on either side Sybaris.

Near the promontory of Iapygia is a spot, in which it is alleged, so runs the legend, that the battle between Heracles and the giants took place; from here flows such a stream of ichor that the sea cannot be navigated at the spot owing to the heaviness of the scent. They say that in many parts of Italy there are many memorials of Heracles on the roads over which he travelled. But about Pandosia in Iapygia footprints of the god are shown, upon which no one may walk.

Also near the promontory of Iapygia is a stone large enough to load a wagon, which they say was lifted up and moved by him, and that too with one finger.

In the city of Orchomenus in Boeotia they say that a fox was seen, which, when pursued by a dog, dived into an underground passage, and that the dog dived in after it, and made a loud noise of barking, as if it had found a wide open space; the huntsmen, assuming some supernatural agency, broke down the entrance, and forced their way in as well; but seeing by some openings that light was coming in they had a complete view of the whole, and went and reported it to the magistrates.

In the island of Sardinia they say that there are many fine buildings arranged in the ancient Greek style, and among others domed buildings, carved with many shapes; these are said to have been built by Iolaus the son of Iphicles, when he took the Thespians, descended from Heracles, and sailed to those parts to colonize them, on the grounds that they belonged to him by his kinship with Heracles, because Heracles was master of all the country towards the west. Apparently the island was originally called Ichnussa, because its circumference made a shape like a man’s footstep (Greek ichnos), and it is said before this time to have been prosperous and fruitful; for the legend was that Aristaeus, who, they say, was the most efficient husbandman in ancient times, ruled them, in a district previously full of many great birds. Now the island no longer bears anything, because the Carthaginians who got possession of it cut down all the fruits useful for food, and prescribed the penalty of death to the inhabitants, if any of them replanted them.

In one of the seven islands called those of Aeolus, which is known as Lipara, runs a legend that there is a tomb, concerning which they tell many marvels; among other things they agree that it is not safe to approach the place by night, for the sound of drums and cymbals can be heard, and distinct laughter, with noise and the clapping of castanets. There is a still more remarkable story about the cave; for someone once slept here drunk before dawn, and was sought for by his servants for three days, and on the fourth was found, and taken away for dead by the servants and put into his own tomb; after receiving all the usual rites he suddenly arose and told all that had happened to him. This strikes us as more like legend; but at the same time one must not pass over it without record, when making a catalogue of events on the spot.

Near Cyme in Italy there is a lake called Aornos; in itself it has no remarkable properties; but they say that hills lie round it in a circle not less than three stades high, and that the lake itself is circular in shape, having an incredible depth. But this seems remarkable; for though thick trees grow over it, and some even bend down to it, one can never see a leaf lying on the water, but the water is so clear that those who look into it are amazed. But on the land not far away from it hot water flows in many places, and the whole region is called Pyriphlegethon. It is not true that no bird flies over it; for those who have been there assert that there are a quantity of swans on it.

They say that the islands of Seirenusae lie near Italy off the promontory itself near the strait, which lies in front of the place, and separates the strait which surrounds Cyme, and that which cuts off the promontory called Poseidonia; on which stands a temple of the Sirens, and they are honoured very highly by the inhabitants with sacrifices punctually. In remembrance of their names they call one Parthenope, one Leuconia, and a third Ligeia.

There is said to be a mountain between Mentorice and Istriane called Delphium, having a high peak. When the Mentores who live near the Adriatic climb this peak they can apparently see ships sailing in the Pontus. There is a spot in the gap in the middle in which, when a common market is held, Lesbian, Chian and Thasian goods are bought from the merchants who come up from Pontus, and Corcyrean amphorae from those who come from the Adriatic.

They say that the Ister flowing from the forests called Hercynian divides, and one part flows into the Pontus, and the other into the Adriatic. We can see proof not only at the present time, but still more in ancient days that the river at these points is not navigable; for they say that Jason made his entry to the Pontus by the Cyanean rocks, but his exit by the Ister; and they produce a considerable number of other proofs, and in particular they show altars in the district dedicated by Jason, and in one of the islands of the Adriatic a temple of Artemis built by Medea. They also say that he could not have sailed past the so-called Planktae, unless he had journeyed from there. Also in the island of Aethaleia, which lies in the Tyrrhenian Sea, they show other memorials of the heroes, and one which is called the "Pebble" memorial; for by the seashore they say that there are painted pebbles, and the Greeks who inhabit the island say that these derive their colour from the dirt removed by the scrapers when they oiled themselves; they say that these pebbles were to be seen from that date and not before, nor were they found afterwards. But they quote even more convincing evidence than this, that the voyage out did not take place through the Symplegades, using the poet himself in that place as a witness. For in explaining the seriousness of the danger he says that it is impossible to sail past the place.

The waves of the sea carry the timber of ships and the bodies of men all together, and so do the storms of destructive fire.

Now it is not said that fire issues from about the Cyaneae, but about the strait which divides Sicily (from Italy), where there are eruptions of fire on both sides of the strait, and the island burns continuously and the lava about Etna frequently flows over the district.

At Tarentum it is said that at certain times sacrifices are offered to the spirits of the Atreidae, Tydidae, Aeacidae and Laertiadae, but that they offer sacrifice to the Agamemnonidae separately on another special day, upon which it is the custom for the women not to taste the victims sacrificed to them. They also possess Achilles' temple. It is also said that after the Tarentines took the place in which they now live it was called Heracleia, but in earlier time when the Ionians held it, Pleion; even before this date it was called Sigeum by the Trojans, who possessed it.

It is said that Philoctetes is honoured among the Sybarites. For when he was brought back from Troy, he lived in a place called Macalla in the region of Croton, which they say is a hundred and twenty stades away, and they relate that he dedicated Heracles' bow and arrows at the temple of Apollo the sea god. There they say that the Crotoniates during their supremacy dedicated them at the Apollonium in their own district. It is also said that, when he died, he was buried there by the river Sybaris, after helping the Rhodians who landed at the spot with Tlepolemus, and joined battle with the barbarians, who dwelt in that part of the country.

In Italy in the district called Gargaria, near Metapontum, they say that there is a temple of the Hellenian Athene, where the tools of Epeius are dedicated, which he made for the wooden horse, giving the goddess this name. For they say that Athene appeared to him in a dream, and demanded that he should dedicate the tools to her, and that, having delayed his setting out on this account, he was shut up in the place and unable to set out; whence the temple of Hellenian Athene derived its name.

In the region called Daunia there is said to be a temple of Athene called Achaean, in which are dedicated the bronze axes and the arms of Diomedes' companion and his own. In this place they say there are dogs which do no harm to any Greeks who come there, but fawn on them as though they were their dearest friends. But all the Daunians and their neighbours dress in black, both men and women, apparently for the following reason. The Trojan women who were taken prisoners and came to that district, in their anxiety to avoid bitter slavery at the hands of the women who belonged to the Greeks before in their own country, burned their ships according to the story, that they might at the same time escape the slavery which they expected, and that, joined with them as husbands, as they were compelled to remain, they might keep them. A very fine account of them is given by the poet; for one can see that they were "long-robed" and "deep-bosomed."

Among the Peucetini they say that there is a temple of Artemis, in which is dedicated what is called the bronze necklet, bearing the legend "Diomedes to Artemis." The story goes that he hung it about the neck of a deer, and that it grew there, and in this way being found later by Agathocles, king of the Siceliots, they say that it was dedicated at the temple of Zeus.

On the promontory in Sicily called Pelorias there is said to be a crocus which grows so large that among some of the inhabitants of the district the Greeks do not know what kind of flower it is, but at Pelorias any who wish bring large wagons, and in the season of spring make beds and platforms out of the crocus.

Polycritus, who wrote the Sicilian history, says in his story that in a certain part of the interior there is a little lake having a circumference of a shield, and this has water which is transparent, but the surface is somewhat ruffled. If anyone goes into it needing to wash, it increases in width, and if a second man goes in, it grows still broader. But the limit of its expansion is reached when it has received fifty men. But when it has received this number, it swells up from the bottom and casts up the bodies of the bathers high and dry on the land; when this has occurred it reverts again to its original size in circumference. This does not occur merely in the case of men, but if a quadruped goes into it the same thing happens.

In the empire of the Carthaginians they say that there is a mountain called Uranium, full of every kind of timber, and made beautiful by many-coloured flowers, so that a succession of places sharing the sweet scent over a large district gives a most delightful air to travellers. At this place they say that there is a spring of oil, which has a scent like the cuttings of cedar. But he who approaches it must be pure, and when this is the case the oil bubbles up more than before, so that it can be safely drawn off.

They say that near this spring there is a natural rock, of vast size. When it is summer it sends up a flame of fire, but in winter a spring of water flows from the same source, so cold that, when compared with snow, its temperature is the same. They say that this is in no way concealed, nor happens for a short time, but that the fire rises all the summer time, and water all the winter.

The story goes that in the district of Thrace called the Sintian and Maedian there is a river called Pontus, which rolls down stones which burn and behave in the opposite way to embers made from wood; for when the flame is fanned these stones are quickly quenched, but when soaked in water they light up and kindle finely. When they burn they have a smell like pitch, just as unpleasant and acrid, so that no reptile can stay in the place while they are burning.

They also say that there is a district there, not very large, but somewhere about twenty stades, which bears the barley which men use, but horses and cattle will not eat it, nor will any other animal; nor will any pigs nor dogs venture to touch the excrement of men who void after eating meal or bread made from this barley, because death follows.

In Scotussae in Thessaly they say that there is a little spring, from which a kind of water flows, which quickly heals wounds and bruises both of men and beasts, but if one puts a log of wood into it without completely crushing it, but only breaking it in half, it grows again and returns to its original state.

In Thrace above Amphipolis they say that there is a remarkable occurrence, which is incredible to those who have not seen it. For boys, coming out of the villages and places round to hunt small birds, take hawks with them, and behave as follows: when they have come to a suitable spot, they call the hawks addressing them by name; when they hear the boys' voices, they swoop down on the birds. The birds fly in terror into the bushes, where the boys catch them by knocking them down with sticks. But there is one most remarkable feature in this; when the hawks themselves catch any of the birds, they throw them down to the hunters, and the boys after giving a portion of all that is caught to the hawks go home.

They relate a remarkable occurrence among the Heneti; for countless thousands of jackdaws come to their country and consume their grain, when they have sown it; before they are about to fly over there the Heneti put out gifts for the birds on their boundaries, putting down seeds of all kinds of fruits; if the jackdaws taste these, they do not pass over the border into their country, and the Heneti know that they will be in peace; but if they do not taste them, they expect as it were an invasion of the enemy.

In Thracian Chalcidice near Olynthus they say that there is a place called Cantharolethros, a little larger in size than a threshing-floor; when any other animal comes to it, it immediately retires, but none of the cantharus beetles do so, but wheeling round and round the place die of hunger.

Among the Cyclopes in Thrace there is a small spring with water which is clear and transparent to look at, and just like other water, but, when any animal drinks of it, it immediately dies.

They say that in Crastonia near the country of the Bisaltae hares which are caught have two livers, and that there is a place there about an acre in extent, into which if any animal enters it dies. There is also there a fine large temple of Dionysus, in which when a sacrifice and feast takes place, should the god intend to give a good season, it is said that a huge flame of fire appears and that all who go to the sacred enclosure see this, but when the season is going to be very bad, this light does not appear, but darkness covers the place, just as on other nights.

In Elis they say there is a building about eight stades from the city into which at the Dionysia they place three empty bronze cauldrons. When they have done this they call upon any of the visiting Greeks who wishes to examine the vessels, and seal up the doors of the house. When they are going to open it, they show the seals to citizens and strangers, and then open it. Those that go in find the cauldrons full of wine, but the ceiling and walls intact, so that there is no suspicion that they effect it by any artifice. They also say that there are kites among them which seize pieces of meat from those who are carrying them through the market-place, but they do not touch those which are offerings to the gods.

In Coroneia in Boeotia it is said that the moles cannot live, nor dig in the earth, though the rest of Boeotia has many of them.

At Lusi in Arcadia they say there is a spring in which there are land mice; they dive and live in it. The same thing is said to occur at Lampsacus.

At Crannon in Thessaly they say that there are only two ravens in the city. After they have nested apparently they migrate, and leave behind just the same number of the young birds they hatch.

At Apollonia, which lies near to the country of the Atlantini, they say that bitumen and pitch is buried, and springs up out of the earth in the same way as water, in no way different from that in Macedonia, except that it is blacker and thicker. Not far from this spot is a fire which burns perpetually, as those who live in the district testify. The burning place is apparently not large, about enough to give room for five couches. It smells of sulphur and vitriol, and round it grows thick grass, which is a most surprising fact, and there are huge trees not more than four cubits away from the fire. There is also continuous burning in Lycia and near Megalopolis in the Peloponnese.

Cattle in Illyria are said to breed twice during the year, and most commonly of all to have twins, and that goats often bear three or four, and some five or even more; they readily yield a gallon of milk. They also say that hens do not lay once a day, as they do elsewhere, but two or three times.

It is also said in Paeonia that the wild bulls are bigger than in any of the other races, and that their horns will hold two gallons, and some of them even more.

About the Sicilian strait many others have written, and this author says that a marvellous thing happens. For the waves from the Tyrrhenian Sea are borne with much surge to both the promontories, the one on the Sicilian side and the other on the Italian side called Rhegium, and being carried from the great sea into a narrow one are compressed. When this happens the wave is carried high in the air with a loud noise over a wide space upwards, so that, when hurled high in the air, it can be seen by those who are a long way off, not like the high travel of the sea but white and foamy, and like the tracks which are made by violent storms. Sometimes the waves crash against each other on both promontories and come together with a crash impossible to describe, and unbearable to look at; and sometimes, when they have parted after dashing against each other, so deep and terrifying is the appearance to those who are forced to see it that many cannot control themselves, but grow dizzy and fall down from fear. But when the wave falling on either of the spots, and flung as high as the promontories, dashes back again into the sea flowing below, with a vast roar and with huge swift eddies the sea boils up and is hurled high, seething from the depths and changing to every kind of colour; sometimes it appears black and sometimes blue, and then again purple. No beast can bear either to hear or to see the race and length of it, and in addition to this the upward flow, but all flee to the foot of the mountain. When the wave ceases, the eddies are carried up into the air and make such varied whirlings that the movements look like the coils of sea-serpents, or some other huge snakes.

They say that while the Athenians were building the temple of Demeter at Eleusis, a brazen pillar was found surrounded by stones, upon which was inscribed "This is the tomb of Deiope," whom some say was the wife of Musaeus, and others the mother of Triptolemus.

In one of the islands called Aeolian they say that there are a number of date-palms, whence it is called "Phoenicodes." The statement of Callisthenes cannot be true, that the plant took its name from the Phoenicians of Syria, who inhabit the sea coast. But some say that the Phoenicians were so-called by the Greeks because they were the first to sail the sea, and killed and murdered everyone at the point at which they disembarked: for in the language of the Perrhachi to shed blood is "phoenixai."

In the country called Aeniac, in that part called Hypate, an ancient pillar is said to have been found; as it bore an inscription in archaic characters of which the Aenianes wished to know the origin, they sent messengers to Athens to take it there. But as they were travelling through Boeotia, and discussing their journey from home with some strangers, it is said that they were escorted into the so-called Ismenium in Thebes. For they were told that the inscription was most likely to be deciphered there, as they possessed certain offerings having ancient letters similar in form. There having discovered what they were seeking from the known letters they transcribed the following lines:

Heracles dedicated a sacred grove to Cythera Persephassa, when I was driving the flocks of Geryon and Erythea.

The goddess Persephassa subdued me with desire for her.

Here my newly wed Erythe brought forth a son Erython; then I gave her the plain in memory of our love under a shady beech-tree.

The place called Erythus answered to this inscription and also the fact that he brought the cows from there, and not from Erytheia; for they say that the name Erytheia does not occur in the districts of Libya and Iberia.

In that part of Libya called Ityce, which lies, as they say, in the gulf between the promontories of Hermaeum and Hippus opposite Carthage at a distance of about 200 stades (which was said to have been founded by Phoenicians two hundred and eighty-seven years before Carthage itself, as is recorded in the Phoenician histories) they say there is salt buried at a depth of three fathoms, white in appearance but not hard, but like very sticky gum; when it is brought out into the sun, it hardens and becomes like Parian marble. They say that small figures and other objects are carved out of it.

It is said that the first Phoenicians who sailed to Tartessus took away so much silver as cargo, carrying there olive-oil and other petty wares, that no one could keep or receive the silver, but that on sailing away from the district they had to make all their other vessels of silver, and even all their anchors.

They say that Phoenicians who live in what is called Gades, on sailing outside the Pillars of Heracles with an east wind for four days, came to some desert lands, full of rushes and seaweed, which were not submerged when the tide ebbed, but were covered when the tide was full, upon which were found a quantity of tunny-fish, of incredible size and weight when brought to shore; pickling these and putting them into jars they brought them to Carthage. These alone the Carthaginians do not export, but owing to their value as food they consume them themselves.

In Pedasia in Caria sacrifices are offered to Zeus, in which they take a she-goat in procession, concerning which a marvel is related. For, when walking seventy stades from the Pedasi through a large crowd of watchers, it is not disturbed on its journey, nor does it turn out of the road, but tied with a rope it walks in front of the man who is conducting the sacrifice. There is also a wonderful thing, in that there are two ravens always about the temple of Zeus, and that no other approaches the spot, and that one of them has a white patch in the front of its neck.

Among the Illyrians who are called Ardiaeans along the boundary between them and the Autariatae, they say there is a high mountain, and near to it a glen from which the water rises, not at all seasons but in the spring, in considerable quantity, which they take and keep under cover by day, but put in the open at night. After they have done this for five or six days, the water hardens and becomes very fine salt, which they keep especially for the cattle; for salt is not imported to them because they live far from the sea and do not associate with others. Consequently they need it very much for the cattle; for they give them salt twice a year. If they fail to do this, most of the cattle are found to die.

They say that there is a class of locust in Argos which is called the "scorpion-fighter." For the moment it sees a scorpion, it attacks it, and the scorpion does exactly the same thing. It flies in a circle round the scorpion and chirps; the scorpion raises its sting and turns it round in the same place, then gradually raises its sting and stretches it to its full length, while the locust circles round. At last the locust approaches and eats it. They say it is a good thing to eat a locust as a protection against the scorpion's sting.

They say that wasps in Naxos, when they have eaten adder's flesh (and apparently they are very partial to it), should they sting anyone, produce so much pain, that the sting is worse than the adder's bite.

They say that they make the Scythian poison with which they smear arrows, out of the snake. Apparently the Scythians watch for those that have just borne young, and taking them let them rot for some days. When they think that they are completely decomposed, they pour a man's blood into a small vessel, and dig it into a dunghill, and cover it up. When this has also decomposed they mix the part which stands on the blood, which is watery, with the juice of the snake, and so make a deadly poison.

They say that there is a kind of snake in Curium in Cyprus which has the same power as the asp in Egypt, except that, if it bites in the winter, it has no effect, either for some other reason, or because the animal does not move easily when numbed by the cold, and is quite powerless, unless it is warmed.

They say that there is a kind of prickly pear in Ceos, and that, if one is pricked by a thorn, one dies.

In Mysia they say that there is a species of white bear which lets out so foul a breath when it is hunted that it causes the flesh of the dogs to decompose: it has the same effect upon all other kinds of animals, and makes them uneatable. But if one forces one's way close to them, they let out of their mouths a quantity of phlegm, which apparently blows at the faces of dogs and men alike, so as to choke and blind them.

In Arabia they say there is a species of hyaena, which, when it sees a beast in front, or comes into the shadow of a man, produces dumbness, and such paralysis that it is impossible to move the body. It has the same effect on dogs.

In Syria they say there is a beast called the lion-killer; for the lion apparently dies when it eats of it. The lion does not do this deliberately but avoids the animal; but when the hunters catch the animal and sprinkle white meal over it to cook it, as they would with another animal, on tasting it they are said to die at once. This beast hurts a lion if it even makes water on it.

Vultures are said to die from the scent of myrrh, if anyone smears it on them, or gives them anything steeped in myrrh to eat. In the same way beetles are said to die from the scent of roses.

In Sicily and in Italy they say that the bite of the spotted lizard is mortal, and not harmless and slight as with us. There is also a kind of mouse which when it bites, causes death.

In Mesopotamia in Syria, and in Istrus, there is said to be a small snake, which does not bite the natives, but does grievous harm to strangers.

They say this happens particularly about the Euphrates. They say that apparently they often swim about the mouths of the river, and to one of the banks, so that, though seen there in the evening, at dawn they appear on the other side, and do not bite the Syrians who rest there, but do not refrain from the Greeks.

In Thessaly they say that the sacred snake destroys everyone, not only if it bites, but even if it touches them. Consequently, when it appears and they hear the sound it makes (it appears but rarely), snakes, vipers, and all other wild beasts avoid it. It is not of great, but only moderate size. They say that once in Tenos, the Thessalian city, one was killed by a woman, and that this was the manner of its death. A woman drew a circle on the ground and putting drugs in the circle, entered it, she and her son, and then imitated the cry of the creature; the snake replied and approached. While it was replying the woman became sleepy, and as it approached still nearer she could not control her sleepiness. But her son sat by her side, and aroused her by striking her at her command, and said that, if she went to sleep, both she and he would die; but that if she restrained herself and attracted the creature they would be saved. But when the snake approached the circle, it was immediately withered up.

It is said about Tyana that there is some water sacred to Zeus, God of oaths (they call it Asbamaeum) from which a very cold stream arises and bubbles as cauldrons do. To men who keep their oaths this water is sweet and kindly, but to perjurers judgement is close at their heels. For the water leaps at their eyes, their hands and their feet, and they are seized with dropsy and consumption; and it is impossible for them to get away before it happens, but they are rooted to the spot lamenting by the water, and confessing their perjuries.

At Athens they say that the sacred olive branch sprouted in a single day, and became bigger, and then quickly contracted again.

When the crater on Etna erupted, and lava was carried here and there over the land like a swollen stream, all the pious paid honour to the god. Some young men were encircled by the stream, because they were bearing their aged parents on their shoulders, and saving them; but the fiery stream parted in two, and part of the flame went one side and part the other, and preserved the young men unharmed together with their parents.

It is said that Pheidias the sculptor, when he was making the statue of Athene on the Acropolis, carved his own head in the centre of the shield, and fastened it to the statue by some mysterious craftsmanship, so that anyone wishing to remove it could only do so by breaking up and spoiling the whole statue.

They say that the statue of Bitys in Argos killed the man who was responsible for the death of Bitys by falling on him when he was looking at it. One would suppose that this kind of thing does not happen at random.

They say that dogs only pursue wild beasts as far as the peaks of the so-called Black Mountains, and that, when they have followed them as far as this, they turn back.

At the river Phasis they say that a stick grows called “white leaf,” which jealous husbands pluck, and put round the bridal chamber and so preserve their marriage inviolate.

At the Tigris they say there is a stone, called in foreign tongue “Modon,” of a very white colour; any man who holds it suffers no harm from wild beasts.

At the Scamander there is said to be a wild herb called sistrus, very like the chick-pea, and it has seeds that shake, whence it derives its name. Those who possess it need not fear anything supernatural or any apparition.

In Libya there is a vine which some call mad, which ripens some of its fruit, but keeps the rest unripe, and some even in flower for a short time.

Near the mountain Sipylus they say that there is a stone in the shape of a cylinder, which when pious sons find it they place in the shrine of the mother of the gods, and never err in the matter of impiety, but are always affectionate to their fathers.

In the mountain Taygetus they say there is a wild herb called “charisia” which women hang round their necks at the beginning of spring, and are more affectionately loved by their husbands.

Othrys is a mountain in Thessaly, which breeds snakes called Sepes, which have not one colour, but are always like the ground on which they live. Some of them have the colour of land snails. In others the scales are green. But those that live in sandy places are like the sand in colour. When they bite they produce thirst. Their bite is not fierce and fiery, but it is unpleasant.

When the male adder associates with the female, the female bites off its head. And so the young ones, as though avenging the death of their father, bite through their mother’s belly.

In the river Nile they say that there is a stone like a bean: if dogs see it, they do not bark. But this helps those who are possessed by an evil spirit; for, as soon as their noses are put against it, the evil spirit leaves them.

In the river Maeander there is said to be a stone called “wise” by contradiction; for, if one puts it into anyone’s lap, he goes mad, and murders one of his relations.

The rivers Rhenus and Ister flow northwards, the one past the Germans, the other past the Paeonians. In summer their stream is navigable, but in winter, when it is frozen by ice, they ride on it, as though it were dry land.

Near the city of Thurium they say that there are two rivers, Sybaris and Crathis. The Sybaris makes those who drink from it timorous, but the Crathis makes men who bathe in it golden-haired.

In Euboea there are two rivers; cattle that drink from one become white; it is called Cerbes; the other is called Neleus, which makes them black.

By the river Lycormas a wild herb grows in the shape of a spear, which is very valuable as a cure for blindness.

They say that the spring at Syracuse in Sicily called Arethusa only moves every five years.

On the mountain Berecynthus there is said to be a stone called “Dagger.” If anyone finds it when the mysteries of Hecate are being celebrated, he becomes mad, as Eudoxus says.

On Mount Tmolus they say that, there is a stone like ivy which changes its colour four times a day; it is seen by girls who have not reached the age of discretion.

At the altar of Artemis Orthosia a golden bull is set up, which bellows when hunters come in.

Among the Aetolians they say that moles can see indistinctly, and do not eat earth but locusts.

They say that elephants go two years with young, but others say eighteen months; they have much difficulty in producing their young.

They say that Demaratus, a disciple of Timaeus the Locrian, fell ill, and became dumb for ten days; on the eleventh, having recovered slowly from his affliction, he said that he had had the happiest time of his life.

Mechanics (847a)

Translated by W. S. Hett

It seems certain that this collection of “mechanical” problems and their solutions is not the work of Aristotle, though it is likely the product of the Peripatetic School. The reader will find most of them interesting, particularly those dealing with the circle and the lever. Though the author is misinformed in some cases, it is surprising to find how far the science of Applied Mathematics had advanced by this date.

MECHANICAL PROBLEMS

Remarkable things occur in accordance with nature, the cause of which is unknown, and others occur contrary to nature, which are produced by skill for the benefit of mankind. For in many cases nature produces effects against our advantage; for nature always acts consistently and simply, but our advantage changes in many ways. When, then, we have to produce an effect contrary to nature, we are at a loss, because of the difficulty, and require skill. Therefore we call that part of skill which assists such difficulties, a device. For as the poet Antiphon wrote, this is true: “We by skill gain mastery over things in which we are conquered by nature.” Of this kind are those in which the less master the greater, and things possessing little weight move heavy weights, and all similar devices which we term mechanical problems.

These are not altogether identical with physical problems, nor are they entirely separate from them, but they have a share in both mathematical and physical speculations, for the method is demonstrated by mathematics, but the practical application belongs to physics.

Among the problems included in this class are included those concerned with the lever. For it is strange that a great weight can be moved by a small force, and that, too, when a greater weight is involved.

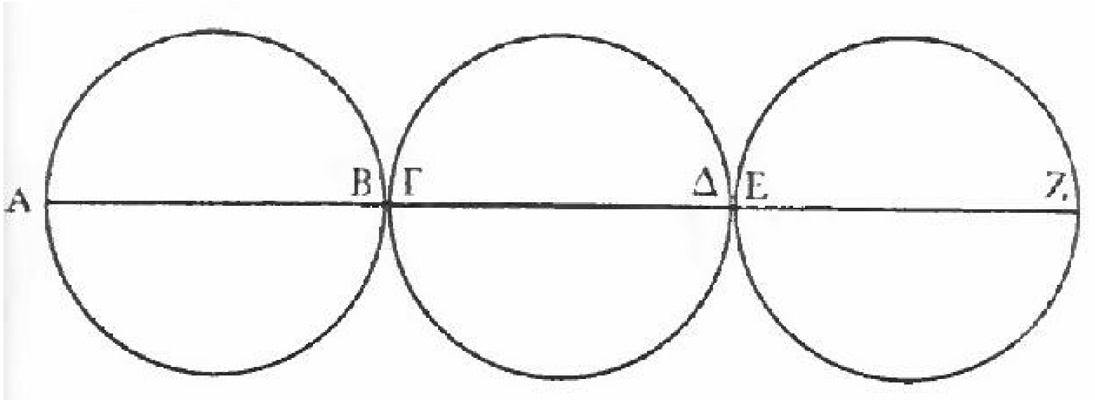
For the very same weight, which a man cannot move without a lever, he quickly moves by applying the weight of the lever.

Now the original cause of all such phenomena is the circle; and this is natural, for it is in no way strange that something remarkable should result from something more remarkable, and the most remarkable fact is the combination of opposites with each other.

The circle is made up of such opposites, for to begin with it is composed both of the moving and of the stationary, which are by nature opposite to each other. So when one reflects on this, it becomes less remarkable that opposites should exist in it. First of all, in the circumference of the circle which has no breadth, an opposition of the kind appears, the concave and the convex. These differ from each other in the same way as the great and small; for the mean between these latter is the equal, and between the former is the straight line. Therefore, as in the former case, if they were to change into each other they must become equal before they could pass to either of the extremes, so also the line must become straight either when it changes from convex to concave, or by the reverse process becomes a convex curve. This, then, is one peculiarity of the circle, and a second is that it moves simultaneously in opposite directions; for it moves simultaneously forwards and backwards, and the radius which describes it behaves in the same way; for from whatever point it begins, it returns again to the same point; and as it moves continuously the last point again becomes the first in such a way that it is evidently changed from its first position.

Therefore, as has been said before, there is nothing strange in the circle being the first of all marvels. The facts about the balance depend upon the circle and those about the lever upon the balance, while nearly all the other problems of mechanical movement can depend upon the lever. Again, no two points on one line drawn as a radius from the centre travel at the same pace, but that which is further from the fixed centre travels more rapidly; it is due to this that many of the remarkable properties in the movement of circles arise; concerning which there will be a demonstration in what follows.

But owing to the fact that a circle has two opposite movements at the same time, and that one extremity of the diameter — that at Ac — moves forward while the other at B moves backwards, some people arrange that from one movement many circles move simultaneously in contrary directions, like the wheels of bronze and steel which they dedicate in temples. Let there be a circle with diameter AT touching the circle AB; if the diameter of the circle AB moves forward, then the diameter of the circle AT will move backward in relation to AB, if the diameter revolves round one point. That is, the circle TA will move in the opposite direction to the circle AB; and again it wiil move the next in succession, the circle EZ in the opposite direction to itself for the same reason. In the same way also, if there are more circles they will show the same process, when only one of them is moved. So making use of this property inherent in the circle, craftsmen make an instrument concealing the original circle, so that the marvel of the machine is alone apparent, while its cause is invisible.



First of all then a difficulty will arise as to what happens to the balance; why, that is, larger balances are more accurate than smaller ones. The origin of this is the question why that part of the radius of a circle which is farthest from the centre moves quicker than the smaller radius which is close to the centre, and is moved by the same force. The word quicker is used in two senses; if a point covers the same distance as another in a shorter space of time we call it quicker, and also if it covers a greater distance in an equal time. But in our case the greater radius describes a greater circle in equal time; for the circumference outside is greater than the circumference inside.

The reason is that the radius describing the circle is performing two movements. Now whenever a body is moved in two directions in a fixed ratio it necessarily travels in a straight line, which is the diagonal of the figure which the lines arranged in this ratio describe.

Let the ratio according to which the body moves be represented by the ratio of AB to AT. Let AT move towards B while AB be moved towards the position HT; now let A travel to A, and let AB travel a distance determined by the point E. Then if the ratio of the movement is that of AB to AT, then the line AA must bear the same ratio to AE. Then the small parallelogram has the same proportions as the larger, so that its diagonal is the same, and the body will move to Z. It can be shown that it will behave in the same way at whatever point its movement be interrupted; it will always be on the diagonal. Conversely it is obvious that an object travelling with two movements along a diagonal will always move in the ratio of the sides of the parallelogram. For with any other proportion it will not travel along the diagonal. But, if a body travels with two movements with no fixed ratio and in no fixed time, it would be impossible for it to travel in a straight line. For suppose it to be a straight line. If this line is drawn as a diagonal and the sides of the parallelogram be filled in, the body must move in the ratio of the sides; this has been demonstrated before. Hence the body that travels in no constant ratio and in no fixed time will not make a straight line. For if it travels in a fixed ratio for a given time, during this time it must move in a straight line, because of what we have already said. So that if it moves in two directions with no fixed ratio and in no fixed time it will be a curve.

That the line describing a circle moves in two directions simultaneously is obvious from these considerations, and also because that which travels along a straight line is along a perpendicular, so that it again travels along the perpendicular to a point above the centre.

Let ABT be a circle, and from the point B above the centre let a line be drawn to A; it is joined to the point T; if it travelled with velocities in the ratio of BA to AT it would move along the diagonal BT But, as it is, seeing that it is in no such proportion it travels along the arc BET. Now if of two objects moving under the influence of the same force one suffers more interference, and the other less; it is reasonable to suppose that the one suffering the greater interference should move more slowly than that suffering less, which seems to take place in the case of the greater and the less of those radii which describe circles from the centre. For because the extremity of the less is nearer the fixed point than the extremity of the greater, being attracted towards the centre in the opposite direction, the extremity of the lesser radius moves more slowly. This happens with any radius which describes a circle; it moves along a curve naturally in the direction of the tangent, but is attracted to the centre contrary to nature. The lesser radius always moves in its unnatural direction; for because it is nearer the centre which attracts it, it is the more influenced. That the lesser radius moves more than the greater in the unnatural direction in the case of radii describing the circles from a fixed centre is obvious from the following considerations.

Let there be a circle BTEA and another smaller one inside it XNME described about the same centre A and let the diameters be drawn, the larger AT and BE and in the smaller circle MX and NE; let the rectangle AŸ PT be completed. If the radius AB describing the circle returns again to the same position from which it started, namelv to AB, it is clearly travelling towards itself. In the same way AX will return to the position AX. But AX travels more slowly than AB, as has been said, because the interference with it is greater, and AX is more interrupted.

Let AOH be drawn, and from the point O a perpendicular OZ be dropped within the circle to AB; again from 0 let O2 be drawn parallel to AB, and the perpendiculars Î2Y and HK dropped on AB. Now the lines OY and 0Z are equal, but BY is less than XZ. For in unequal circles equal straight lines drawn perpendicular to the diameter cut off smaller parts of the diameter in the greater circles, and QY is equal to 0Z. Now in the same time in which A0 travels along the distance XO the extremity of the radius BA has described a greater arc than BÎ2 in the greater circle. For the natural travel is equal, but the unnatural is less; and BY is less than XZ: but one would expect them to be in proportion, the two that is whose travel is natural, and the two whose travel is unnatural.

The point has actually travelled over HB, which is greater than fB. Now in the given time *(i e.,* that in which AX moves to A0) AB must have travelled over the arc HB; for that will be its position, when the proportion between the natural and unnatural movements is true. If, then, the natural movement is greater in the greater circle, the unnatural movement would at that point have the same proportion only in the sense that the point B would travel along the arc BH in the same time as the point X would travel along the arc X0. For in that case the natural movement of the point B carries it to H, but its unnatural movement to K. For HK is the perpendicular dropped from H. Then HK is in the same ratio to KB, as 0Z is to ZX. This will be obvious if B and X are joined respectively to H and O. But if the distance travelled by B is either greater or less than HB, the result will not be the same, nor will the proportion, between the natural and unnatural movements be the same in the two-circles.

From what has already been said the reason why the point more distant from the centre travels more quickly than the nearer point, though impelled by the same force, and why the greater radius describes the greater arc, is quite obvious. Why also greater balances are more accurate than smaller ones, is clear from these considerations. The cord which suspends the balance is the centre (for it is a fixed point), and the parts on either side of the balance scale are the radii from the centre. Now the extremity of the balance scale must move at a greater rate under the influence of the same weight, inasmuch as it is further from the cord, and consequently in small balances some weights must make no impression on the senses, but in large balances the movement must be obvious; for there is nothing to prevent a quantity from moving too little for it to be observed by the senses. But in a large balance the same weight makes the movement visible. Some movements are obvious in both cases, but arc much more obvious in larger balances, because then the extent of the swing is much greater for the same weight. This is how sellers of purple arrange their weighing machines to deceive, by putting the cord out of the true centre, and pouring lead into one arm of the balance, or by employing wood for the side to which they want it to incline taken from the root or from where there is a knot. For the part of the tree in which the root lies is heavier, and a knot is in a sense a root.

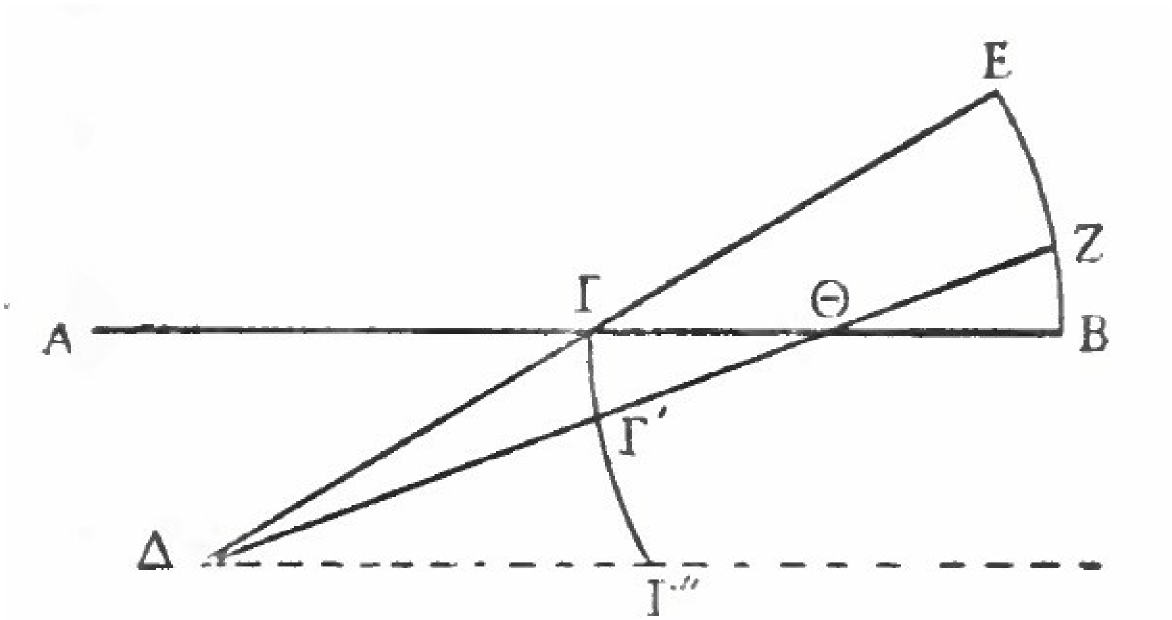
If the cord supporting a balance is fixed from above, when after the beam has inclined the weight is removed, the balance returns to its original position. If, however, it is supported from below, then it does not return to its original position. Why is this? It is because, when the support is from above (when the weight is applied) the larger portion of the beam is above the perpendicular. For the cord is the perpendicular. So that the greater weight must swing downwards until the line dividing the beam coincides with the perpendicular, because the greater weight now lies in the raised part of the beam. Let the beam be a straight one represented by BT and the cord be AA. When this is driven downwards the perpendicular will be represented by AAM, if the weight is attached in the direction of B. The face B will then adopt the position E, and the face T that of Z, so that the line bisecting the beam at first was in the position of the perpendicular AM, but when the weight was attached took up the position A0. Consequently that part of the beam in its position EZ which is outside the perpendicular AM will exceed half the beam by OII. If, then, the weight is removed from the arm E, the arm Z must be depressed, for the arm E is the smaller. If, then, the cord is attached from above, the balance returns again to its original position.

If, however, the support is from below, the opposite results; for now the portion of the beam which is lower than the perpendicular dividing it is more than half; consequently it does not return to its place; for the part rising above is lighter. Let the straight beam be represented by XE, the perpendicular being KAM, and this bisects NE. When the weight is attached to the arm N, X will take up the position 0 and H will take up the position P, while KA will go to GA, so that KO is greater than AP by OKA. Now when the weight is removed the beam must keep its new position; for the excess over half the beam beyond K acts as a weight and depresses the beam.

Why is it that small forces can move great weights by means of a lever, as was said at the beginning of the treatise, seeing that one naturally adds the weight of the lever? For surely the smaller weight is easier to move, and it is smaller without the lever. Is the lever the reason, being equivalent to a beam with its cord attached below, and divided into two equal parts? For the fulcrum acts as the attached cord: for both these remain stationary, and act as a centre. But since under the impulse of the same weight the greater radius from the centre moves the more rapidly, and there are three elements in the lever, the fulcrum, that is the cord or centre, and the two weights, the one which causes the movement, and the one that is moved; now the ratio of the weight moved to the weight moving it is the inverse ratio of the distances from the centre. Now the greater the distance from the fulcrum, the more easily it will move. The reason has been given before that the point further from the centre describes the greater circle, so that by the use of the same force, when the motive force is farther from the lever, it will cause a greater movement. Let AB be the bar, T be the weight, and A the moving force, E the fulcrum; and let H be the point to which the moving force travels and K the point to which T the weight moved travels.

Why do the rowers in the middle of the ship contribute most to its movement? Is it because the oar acts like a bar? For the thole-pin is the fulcrum (for it is fixed), and the sea is the weight, which the oar presses; the sailor is the force which moves the bar. In proportion as the moving force is further away from the fulcrum, so it always moves the weight more; for the circle described from the centre is greater, and the thole-pin, which is the fulcrum, is the centre. The largest part of the oar is within in the centre of the ship. For the ship is broadest at this point, so that it is possible for the greater part of the oar to be within the sides of the ship on either side. Therefore the movement of the ship is caused, because the end of the oar which is within the ship travels forward when the oar is supported against the sea, and the ship being fastened to the thole-pin travels forward in the same direction as the end of the oar. The ship must be thrust forward most at the point at which the oar displaces most sea, where the distance between the handle and the thole-pin is greatest. This is the reason why those in the middle of the ship contribute most to the movement of the ship: for that part of the oar which stretches inside from the tholepin is greatest in the middle of the ship.

Why does the rudder, which is small and at the end of the vessel, have so great power that it is able to move the huge mass of the ship, though it is moved by a smaller tiller and by the strength of but one man, and then without violent exertion? Is it because the rudder is a bar, and the helmsman works a lever? The point at which it is attached to the ship is the fulcrum, the whole rudder is the bar, the sea is the weight, and the helmsman is the motive force. The rudder does not strike the sea at right angles to its length, as an oar does. For it does not drive the ship forward, but turns it while it moves, receiving the sea at an angle. For since the sea is the weight, it turns the ship by pushing in a contrary direction. For the lever and the sea turn in opposite directions, the sea to the inside and the lever to the outside. The ship follows because it is attached to it. The oar pushes the weight against its breadth, and being pushed by it it in return drives the ship straight forward; but the rudder, being placed aslant, causes movement also to be at an angle, either in one direction or the other. It is placed at the end and not in the middle of the ship, because the part moved can move most easily when the moving agent acts from the end. For the first part moves most rapidly because as in other travelling bodies the travel ceases at the end, so in a continuous body the travel is weakest at the end. If, then, it is weakest there, it is at that point easiest to shift it from its position. This is why the rudder is at the stern and also because, as there is very little movement at that point, the displacement is much greater at the end, because the same angle stands on a large base, and because the enclosing lines are greater. From this it is obvious why the ship moves further in an opposite direction than the oar-blade; for the same mass, when moved by the same force, will travel further in air than in water. For let AB be the oar, *T* the thole-pin, and A the part of the oar inside the ship, that is, the handle of the oar, while the point B is the end in the sea. Now if the point A be moved to the point A, the point B will not be at E; for BE is equal to AA, and it would thus have travelled an equal distance. But it is smaller, and it will be at the point Z. The point O then cuts the line AB, not where *T* is but below. For BZ is less than AA, just as OZ is less than AO; for the triangles are similar.



The centre T will also be displaced; for it moves in the opposite direction to the part B, which is in the sea, and in the same direction as A, the part in the boat, and A has changed its position to A. So the position of the ship will be changed, and the point where the handle of the oar is will be moved. The rudder acts in the same way except that it does not contribute anything to the forward movement of the ship, but only pushes the stern sideways in one direction or the other; for the bow moves in the opposite direction to the rudder. The point at which the rudder is attached must be regarded as the pivot of the moving part, and functions like the thole-pin for the oar; but the centre of the ship is moved in the same direction as the rudder. If it is moved inwards the stern moves in that direction; but the bow moves in a contrary direction, for while the bow remains in the same place the whole ship changes position.

Why is it that the higher the yard-arm, the faster the ship travels with the same sail and the same wind? Is it because the mast acts as a lever with its base in which it is fixed as a fulcrum? Then the weight which requires to be moved is the ship, and the agent of movement is the wind in the sail. If then, it is true that the farther the fulcrum, the more easily and rapidly does a given power move a given weight, then the yard-arm being higher makes the sail also farther away from the base which is the fulcrum.

Why is it that, when the wind is unfavourable and they wish to run before it, they reef the sail in the direction of the helmsman, and slacken the part of the sheet towards the bows? Is it because the rudder cannot act against the wind when it is stormy, but can when the wind is slight and so they shorten sail? In this way the wind carries the ship forward, but the rudder turns it into the wind, acting against the sea as a lever. At the same time the sailors fight against the wind; for they lean over in the opposite direction. —

Why are round and circular bodies easiest to move? It is possible for a wheel to move in three ways; first, it may move along the felloe, the centre moving also, just as the wheel of a cart revolves; secondly, it may move about the centre, like a pulley, the centre remaining fixed; thirdly, it may move in a plane parallel to the ground, the centre still remaining fixed, as the potter's wheel revolves. All such movements are fast because the contact with the ground is slight, as a circle has only one point of contact, and because of the absence of friction; for the angle of the circumference is away from the ground. If also it meets a body, it again only comes into contact with a small surface. If, on the other hand, the body were rectilinear, it would because of its straight side touch the ground for a considerable distance. Again, the mover moves it in the same direction as its weight inclines. For when the diameter of the circle is at right angles to the ground, as the circle only touches the ground at one point, the diameter divides the weight equally on both sides of it; but when it moves the weight is immediately more in the direction of the movement, as though its balance were thrown that way. Consequently it is easier for the pusher to move it forward; for any body is easily moved in the direction towards which it inclines, and is similarly difficult to move in a direction opposite to its weight. Some say that the circumference of a circle travels perpetually, just as things remain at rest owing to resistance, as one can see in the case of greater circles in comparison with less. For greater circles move quickly and move greater weights by the application of the same force, because the angle of the greater circle has considerable influence in comparison with that of the lesser, and is in the same ratio as the diameter of the one bears to the diameter of the other. Now every circle is greater than some smaller one; for there are an infinite number of smaller circles. Now if it is a fact that one circle has weight in comparison with another, and is therefore easy to move, there are cases in which the circle and the things moved by it have an additional inclination; that is when they do not touch the surface with the felloe, but either move parallel with the ground, or with the motion of pulleys; for in this position they move very easily, and move weights as well. But this is not due to the small degree of contact and friction, but to another cause. This is the one mentioned before, that a circle consists of two directions of motion, so that the weight must always incline in the direction of one of them; thus the mover always impels it in the direction in which it is already travelling, when they move it in any direction in a line with its circumference. For they are moving it when it is already travelling; for the moving force drives it in the direction of the tangent, while the circle itself moves in the direction of its diameter.

Why is it that we can move more easily and quickly things raised and drawn by means of greater circles? For instance larger pulleys work better than smaller ones and so do large rollers. Surely it is because, the distance from the centre being larger, a greater space is covered in the same time, and this result will still take place if an equal weight is put upon it, just as we said that larger balances are more accurate than smaller ones. For the cord is the centre and the parts of the beam which are on either side of the cord are the radii of the circle.

Why is a balance moved more easily when it is without a weight than when it has one? In the same way in the case of a wheel or anything of the kind the smaller and lighter is more easily moved than the larger and heavier. Is it because the weight is more difficult to move, not only in the opposite direction but at an angle? For it is hard to move a thing in the opposite direction to its weight, but easy in the direction of its weight; but it does not incline at an angle.

Why are heavy weights more easily carried on rollers than on carts, though the latter’s wheels are larger while the circumference of rollers is small? Is it because in the case of rollers there is no friction, but in the case of carts there is the axle, and there is friction on that; for there is pressure upon it not only from above, but also horizontally? But a weight resting on rollers moves at two points of them, the ground supporting from below and the weight pressing from above; for the circle is revolving at both these points, and is impelled in the direction it travels.

Why does a missile travel further from the sling than from the hand? And yet the thrower has more control with his hand than when he has a suspended weight. In the case of a sling he has two weights to move, that of the sling and that of the missile, whereas in the former case he has the missile only. Is it because the man who hurls the missile has it already moving in the sling (for he only lets it go after swinging it round in a circle many times), but when projected from the hand it starts from rest? For everything is easier to move when it is already set in motion than when it is at rest. Is this, then, one reason, and is this another, that in using a sling the hand becomes the centre and the sling the radius? The greater then the radius, the faster the movement. But the cast from the hand is at a small distance compared to the sling.

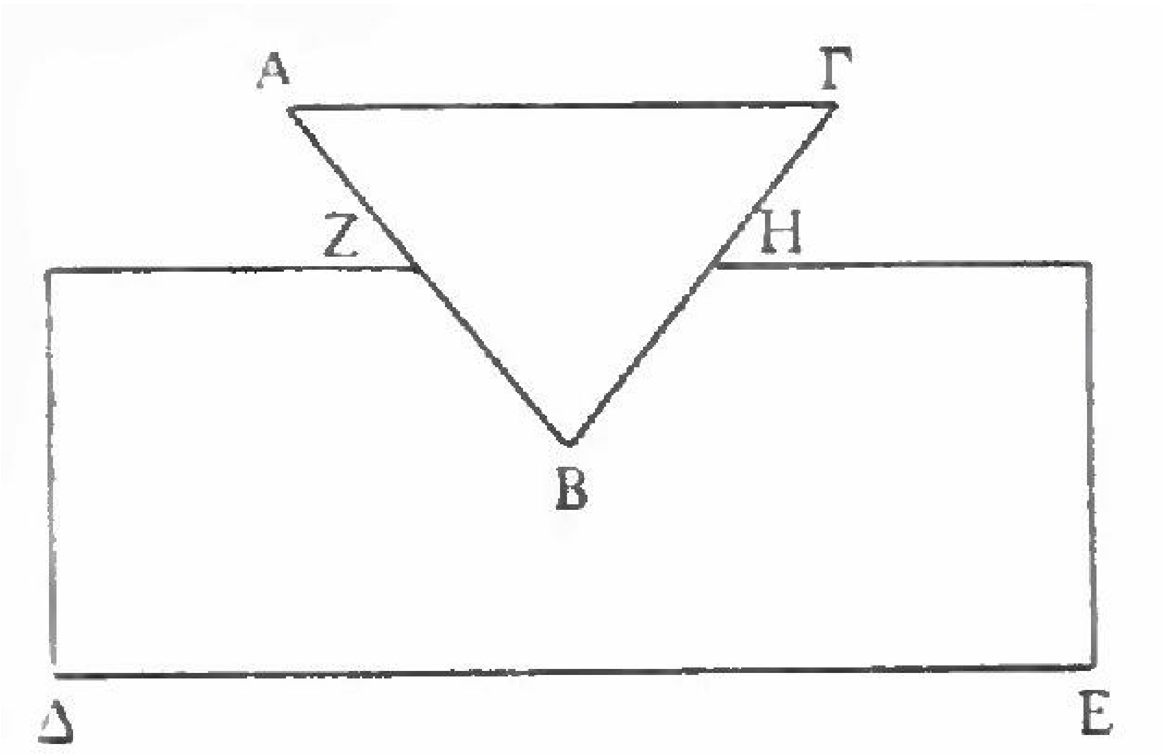
Why are the larger handles more easy to move round a spindle than smaller ones, and in the same way less bulky windlasses are more easily moved than thicker ones by the application of the same force? Is it because the windlass and the spindle are the centre and the parts which stand away from them are the radii? Now the radii of greater circles move more quickly and a greater distance by the application of the same force than the radii of smaller circles; for by the application of the same force the extremity which is farther from the centre moves more. This is why they fit handles to the spindle with which they turn it more easily; in the case of light windlasses the part outside the centre travels further, and this is the radius of the circle.

Why is a piece of wood of equal size more easily broken over the knee, if one holds it at equal distance far away from the knee to break it, than if one holds it by the knee and quite close to it? And similarly if one supports the wood on the ground and then putting the foot on it one breaks it with the hand, it breaks more easily if the hand is at some distance rather than if one holds it at a point close to the foot. Is it because in one case the knee and in the other the foot is the centre? But the farther it is away from the centre the more easily is everything moved. And what is being broken must necessarily be moved.

Why are the stones on the seashore which are called pebbles round, when they are originally made from long stones and shells? Surely it is because in movement what is further from the middle moves more rapidly. For the middle is the centre, and the distance from this is the radius. And from an equal movement the greater radius describes a greater circle. But that which travels a greater distance in an equal time describes a greater circle. Things travelling with a greater velocity over a greater distance strike harder; and things which strike harder are themselves struck harder. So that the parts further from the middle must always get worn down. As this happens to them they become round. In the case of pebbles, owing to the movement of the sea and the fact that they are moving with the sea, they are perpetually in motion and are liable to friction as they roll. But this must occur most of all at their extremities.

Why are pieces of timber weaker the longer they are, and why do they bend more easily when raised; even if the short piece is for instance two cubits and light, while the long piece of a hundred cubits is thick? Is it because the length of the wood in the act of raising it forms the lever, weight and fulcrum? For the first part of it, that which the hand raises, acts as a fulcrum, the part at the end is the weight. Consequently the greater the distance from the fulcrum the more it must bend; for the greater the distance from the fulcrum the greater the bending must be. So the ends of the bar must be raised. If, then, the bar bends, it will bend more the more it is raised — a condition which occurs in the case of long pieces of wood; whereas in short pieces the end is close to the fulcrum, which is at rest.

Why are great weights and bodies of considerable size split by a small wedge, and why does it exert great pressure? Is it because the wedge consists of two levers opposite to each other? And each has both a weight and a fulcrum, which works either upwards or downwards. The travel of the blow is the weight which strikes and causes movement, and which makes the weight heavy; and because it moves an already moving object with considerable speed, the force is even greater. Great forces then follow what is in itself a small object; so we do not notice that it produces a considerable movement in comparison with its size.



Let ABT be the wedge, and the block to which it is applied AEHZ. Now AB is the lever, and the weight is below at B, while ZA is the fulcrum. Opposite this is the other lever BT. When AT is struck it makes use of both these levers; for at the point B there is an upward thrust.

18. Why is it that if one puts two pulleys on two blocks which support each other in opposite directions, and passes a rope round them in a circle, with one end suspended from one of the blocks, and the other either supported by or passed over the pulleys, if one drags one end of the rope, one can draw up great weights, even if the dragging force is small? Is it because the same weight, if less force is used, can be raised, if a lever is employed, than by hand? The pulley acts in the same way as the lever, so that even one will draw the weight more easily and will raise a much heavier weight with less pull than by hand. And two pulleys will quickly raise more than twice as much. For the second rope is drawing even less weight than it would be, if it were drawing by itself, when the one rope is passed over the other; for that makes the weight still less. So if one puts the rope over still more, a great difference is made by a few pulleys, so that supposing a weight of four minae is being borne by the first, much less is being borne by the last. In this way in building construction they can easily raise great weights; for they shift from

the one pulley to the other, and again from that to capstans and levers; and this is equivalent to making many pulleys.

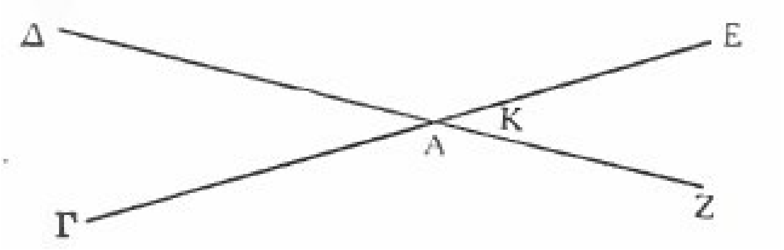
Why is it that if one puts a large axe on a block of wood and a heavy weight on top of it, it does not cut the wood to any extent; but if one raises the axe and strikes with it, it splits it in half, even if the striker has far less weight than one placed on it and pressing it down? Is it because all work is produced by movement; and a heavy object produces the movement of weight more when it is moving than when it is at rest? When the weight lies on it, it does not produce the movement of the weight, but when it travels it produces both this movement and that of the striker. Moreover, the axe acts like a wedge; but the wedge, though it is small, splits large pieces of wood, because it is composed of two levers fixed together, and acting in opposite directions.

How is it that a steelyard can weigh heavy pieces of meat for a small weight, when the whole apparatus is only half the beam? For from the point at which the weight is placed, there hangs only the scale-pan, while on the other end there is nothing but the steelyard. Is it because the steelyard is both balance and lever at the same time? It is a balance insomuch as each of the cords becomes the centre of the steelyard. Now at one end it has a scale-pan, and at the other instead of a pan it has a round weight, which is fastened on to the beam, just as if one were to put the other scale-pan and the weight at the other end of the steelyard; for it is clear that it draws just as much weight when it lies in the other pan. But in order that the one beam may act as a number of beams, a number of small cords are attached to such a beam; in each case the part on the side of the round ball constitutes half of the steelyard, and the weight acts equally when the small cords are moved away from each other, so that it is possible to measure how much weight the object lying in the scale-pan draws; so that one knows, when the steelyard is straight, how much weight the scale-pan holds according to the position of the rope, as has been said. Speaking generally this is a balance, having but one scale-pan, in which the weight is placed, the other being that in which the weight of the steelyard lies. So the steelyard at the opposite end is the ball weight. Being made in this way it acts as a number of beams, according to the number of cords it possesses. But the cord nearer to the scale-pan and the weight thereon draws a greater weight, because the whole steelyard is really an inverted lever (for each cord is the fulcrum which supports from above, and the weight is what is in the scale-pan), but the greater the distance of the beam from the fulcrum, the more easily does it move, but in this case it produces a balance, and balances the weight of the steelyard by the ball weight.

Why do dentists find it easier to take out teeth by applying the weight of the forceps than with the bare hand? Is it because the tooth more easily slips from the hand than it does from the forceps? Or does iron slip more easily than the hand and also does not press evenly on the tooth all round? For the flesh of the fingers being soft should stick more easily and fit more readily round it. But the forceps are really two levers working in opposite directions, having the point at which the blades are joined together as the fulcrum; dentists use this instrument for extraction because they find it moves more easily.

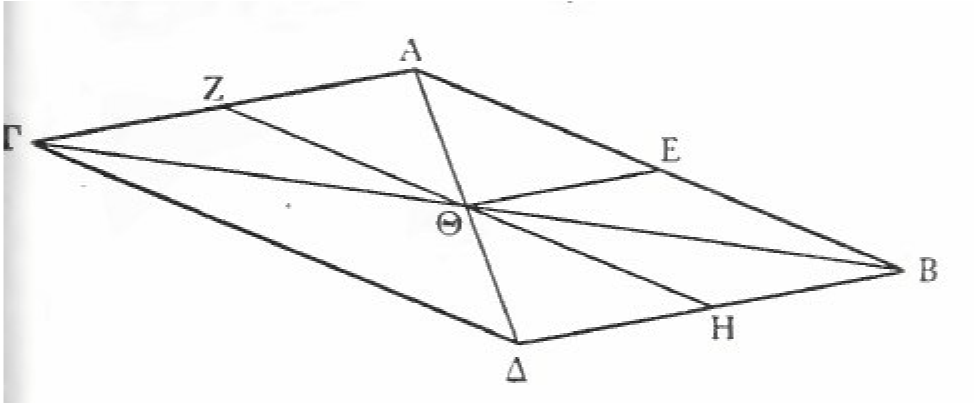
Let one end of the forceps be A and the other, the end which extracts, B. Now the one lever is AAZ and the other BFE and T0A is the fulcrum; the tooth is at the point I, where the extremities of the forceps come together; this is the weight. The dentist holds the tooth with BZ and moves it at the same time; but when he has moved it he can extract it more easily with the hand than with the instrument.

Why can one easily break nuts without a blow in instruments made to break them? For the considerable force of motion and violence is missing. Moreover one could break them more quickly with hard and heavy nutcrackers than with wooden and light ones. Is it because the nut is crushed in two directions by two levers, and heavy bodies are easily split by a lever? For nutcrackers consist of two levers having the same fulcrum, namely the point of junction, the point A in the figure. Just, then, as the extremities EZ could easily be pushed apart, so they can easily be brought together by small force applied at the points Δ and T So the two arms ET and ZΔ being levers produce as much or even more force than that which the weight produces in a blow; for by raising them they are raised in opposite directions, and when they crush they break what is at the point K.



For exactly the same reason the nearer K is to the point A the more quickly is it crushed; for the farther the distance the lever is from the fulcrum, the more easily and the more considerably does it move it by use of the same force. A is then the fulcrum and ΔAZ is the lever, as also is TAE. The nearer, then, that K is to the angle A the nearer it is to the junction at A; and this is the fulcrum. It follows therefore that ZE is raised farther by the use of the same force. So that when the raising is from two opposite directions, it must be the more crushed; and that which is more crushed is more easily broken.

Why is it that in a rhombus, when the extreme points travel in two movements, they do not each travel along an equal straight line, but one travels much farther than the other? It is only another way of asking the same question to inquire why the travelling point passes through a distance less than the side? For the diagonal is the less distance and the side the greater; the one travels with one motion and the other with two. Let A travel towards B, and B towards A with the same velocity along the line AB; again let AB travel along ΔΓ parallel to ΓA with the same velocity as these. The point A must be carried along the diagonal AΔ and B along BΓ, and each must arrive at the end at the same time, and AB moves along the side AΓ. For let the point A be carried along AE, and AB along to AZ, so as to make ZH parallel to AB, and a line drawn from E to complete the parallelogram. The parallelogram thus formed is similar to the whole.

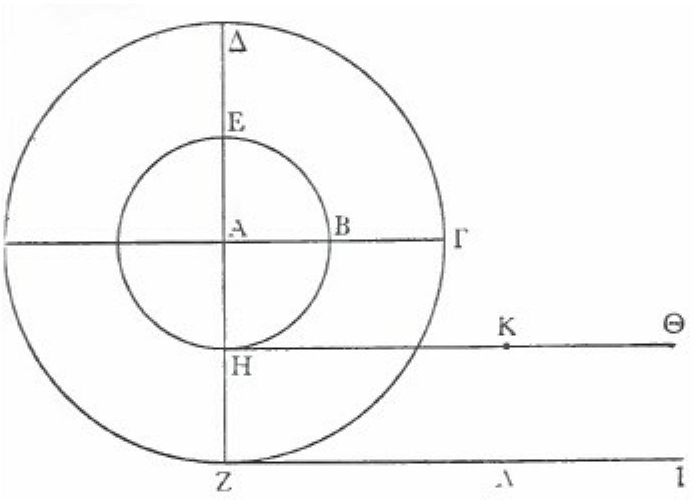


Then AZ is equal to AE, so that the point A is borne along the side AE. Then

AB would travel along AZ and will therefore be on the diagonal at Θ. And it must always travel along the diagonal. At the same time the side AB will travel along the side AΓ, and the point A will travel along the diagonal AΔ. Similarly it can be proved that the point B is borne along the diagonal BΓ; for BE is equal to BH. When, then, the parallelogram is completed by a line drawn from H, the enclosed parallelogram is similar to the whole. The point B will be on the diagonal at the intersection of the diagonals, and the side will travel along the side at the same time as the point B will travel along the diagonal BΓ Then the point B will travel many times more than AB, and the side will travel along the lesser side, though carried at the same velocity, and the side in one journey has travelled further than A. The more acute-angled the rhombus is the less the diagonal AA becomes and the greater BΓ but the side is less than BT For it is odd, as has been said, that the point travelling along two components should sometimes move more slowly than that travelling along one, and that when both points are given an equal velocity one should travel a greater distance than the other.

But the reason is, that when a point moves from an obtuse angle, the two paths are more or less opposite, I mean the path which the point travels and that in which it is impelled along the side; when on the other hand the point moves from the acute angle it is almost being borne in the same direction. For the angle made by the sides assists to move the point along the diagonal; and in proportion as the one makes the angle more acute and the other more obtuse, so the former travels more slowly and the latter more quickly. For they are more in opposite directions because the angle is more obtuse; but in the other case they approximate more nearly to the same direction because the lines are closer together. For the point B in both its movements is travelling nearly in the same direction; for the one movement is assisted by the other, and the more acute the angle the more this becomes true. But with A the opposite is the case; for the point itself is travelling towards B, while the side tends to divert it to A. The more obtuse the angle, the more opposed to each other do the two movements become; for the lines approach more nearly to the straight. If they were entirely straight, they would be entirely opposite. But the side travelling in one direction is checked by nothing. Naturally therefore it traverses the greater distance.

A difficulty arises as to how it is that a greater circle when it revolves traces out a path of the same length as a smaller circle, if the two are concentric. When they are revolved separately, then the paths along which they travel are in the same ratio as their respective sizes. Again, assuming that the two have the same centre, sometimes the path along which they revolve is the same size as the smaller circle would travel independently, and sometimes it is the size of the larger circle's path. Now it is evident that the larger circle revolves along a larger path. For an examination of the angle which each circumference makes with its own diameter shows that the angle of the larger circle is larger, and of the smaller circle smaller, so that they bear the same ratio as that of the paths on which they travel bear to each other. Yet on the other hand it is clear that they do revolve over the same distance, when they are described about the same centre; and thus it comes about that sometimes the revolution is equal to the path which the larger circle traces out, and sometimes to that of the smaller. Let AZT be the greater circle and EHB the less, with A as the centre of both. Let the line ZI be the path traced by the circumference of the larger circle, when it travels independently, and HK the path travelled independently by the smaller circle, HK being equal to ZA. If I move the smaller circle I am moving the same centre, namely A; now let the larger circle be attached to it. At the moment when AB becomes perpendicular to HK, AT also becomes perpendicular to ZA; so that it will have invariably travelled the same distance, that is HK, the distance over which the circumference HB has travelled, and ZA that over which ZT has travelled. Now if the quadrant in each case has travelled an equal distance, it is obvious that the whole circle will travel over a distance equal to the whole circumference, so that when the line BH has reached the point K, then the arc of the circumference ZT will have travelled along ZA, and the circle will have performed a complete revolution.



Similarly, if I move the large circle and fit the small one to it, the two circles being concentric as before, the line AB will be perpendicular and vertical at the same time as AT, the latter to ZI, the former to H0. So that whenever the one shall have traversed a distance equal to H0, and the other to ZI, and ZA has again become perpendicular to ZA, and AH again to HK, the points H and Z will again be in their original positions at 0 and I. As, then, nowhere does the greater stop and wait for the less in such a way as to remain stationary for a time at the same point (for in both cases both are moving continuously), and as the smaller does not skip any point, it is remarkable that in the one case the greater should travel over a path equal to the smaller, and in the other case the smaller equal to the larger. It is indeed remarkable that as the movement is one all the time, that the same centre should in one case travel a large path and in the other a smaller one. For the same thing travelling at the same speed should always cover an equal path; and moving anything with the same velocity implies travelling over the same distance in both cases.

To discover the cause of these things we may start with this axiom, that the same or equal forces move one mass more slowlv and another more rapidly. Let us suppose that there is a body which has no natural movement of its own; if a body which has a natural movement of its own moves the former as well as itself, it will move more slowly than if it moved by itself; and it will be just the same if it naturally moves by itself, and nothing is moved with it. It is impossible for it to have a greater movement than that which moves it; for it moves not with a motion of its own, but with that of the mover.

Suppose that there are two circles, the greater A and the lesser B. If the lesser were to push the greater without revolving itself it is clear that the greater will travel along a straight path as far as it is pushed by the lesser. It must have been pushed as far as the small circle has moved. Therefore they have travelled over an equal amount of the straight path. So if the lesser circle were to push the larger while revolving, the latter would be revolved as well as pushed, and only so far as the smaller revolves, if it does not move at all by its own motion. For that which is moved must be moved just so far as the mover moves it; so the small circle has moved it so far and in such a way, *e g* in a circle over one foot (let this be the extent of the movement), and the greater circle has moved thus far. Similarly, if the greater circle moves the less, the small circle will move exactly as the greater does. (This will be true) whichever of the two circles is moved independently, whether fast or slowly; so the lesser circle will trace a path at the same velocity, and of the same length as the greater does. This, then, constitutes our difficulty, that they do not behave in the same way when joined together; that is to say, if one is moved by the other, not in a natural way nor by its own movement. For it makes no difference whether it is enclosed and fitted in or whether one is attached to the other. In the same way, when one produces the movement, and the other is moved by it, to whatever distance the one moves the other will also move. Now when one moves a circle which is leaning against or suspended from another, one does not move it continuously; but when they are fastened about the same centre, the one must of necessity revolve with the other. But nevertheless the other does not move with its own motion, but just as if it had no motion. This also occurs if it has a motion of its own, but does not use it. When, then, the large circle moves the small one attached to it, the smaller one moves exactly as the larger one; when the small one is the mover, the larger one moves according to the other's movement. But when separated each of them has its own movement. If anyone objects that the two circles trace out unequal paths though they have the same centre, and move at the same speed, his argument is erroneous. It is true that both circles have the same centre, but this fact is only accidental, just as a thing might be both "musical" and "white." For the fact of each circle having the same centre does not affect it in the same way in the two cases. When the small circle produces the movement the centre, and origin of movement belongs to the small circle, but when the large circle produces the movement, the centre belongs to it. Therefore what produces the movement is not the same in both cases, though in a sense it is.

Why do they make beds with the length double the ends, the former being six feet or a little more and the latter three? And why do they not cord them diagonally? Probably they are of those dimensions, that they may fit ordinary bodies; for the length is twice the ends, the length being four cubits and the width two. They do not cord them diagonally, but from side to side, that the timbers may be less strained; for these are most easily split when they are cleft in a natural direction, and they suffer most strain when pulled in this way. Moreover, since the ropes have to bear the weight, they will be much less strained if the weight is put on the ropes stretched crosswise than diagonally. Also in this way less rope is expended. Let AZHI be the bed and let ZH be bisected at B. The holes in ZB are equal to those in ZA. For these sides are equal; and the whole length ZH is twice ZA. Now they cord them as has been explained from A to B, then to T, then to A, and then to 0 and then to E and so on continuously until they return to the other comer. For the terminations of the rope are at two corners.

Now the lengths of rope that form the angles are equal, *e g.* AB and BT to TA and A0. For the same proof shows it in each case. For instance, AB is equal to E0; for the opposite sides of the parallelogram BHKA are equal, and the holes are an equal distance apart. BH is equal to KA; for the angle at B is equal to the angle at H; for the exterior angle of a parallelogram is equal to the interior and opposite; and the angle at B is half a right angle; for ZB is equal to ZA, and the angle at Z is a right angle. Again, the angle at B is equal to the angle H; for the angle at Z Is a right angle, since the one side is double the other, and is bisected at B. So BT is equal to EH; and KO is also equal to it; for it is parallel to it, so that BT is equal to KO. And TE to AO. Similarly also the other sides forming the turns can be shown to be equal pair by pair. So that it is clear that there are four lengths of rope equal to AB in the bed; and whatever number of holes there are in ZH, there will be half the number in ZB, which is half of it. So that in half the bed there are as many lengths of rope as there are in BA, and just as many holes as there are in BH. This is equivalent to saying as many as there are in AZ plus BZ. But if the ropes were fastened diagonally as in the bed ABrA, the halves are not of the same length as the sides of both AZ and ZH, but they are the same number as the holes in ZB, ZA; for AZ, BZ being two lines are greater than AB. So that the rope is greater by the amount that the two sides are greater than the diagonal.

Why is it more difficult to carry long timbers on the shoulders by the end than by the middle, provided that the weight is equal in the two cases? Is it because the vibration of the end of the timber prevents the carrying, because it interferes with the carrying by its vibration? Hardly, because even if it does not bend at all, and is not very long, still it is more difficult to carry it by the end. For the same reason that it is more easily lifted from the middle than from the end, it is easier to carry it in this position. The reason is that when raised from the middle each end tends to lighten the other, and the one end assists in lifting the other. For the middle acts as a centre, whether it is being lifted or carried. Each of the two ends by pressing downwards raises the other in an upward direction. But when raised or carried from the end this does not happen, but all the weight presses in one direction. Let A be the centre of a piece of timber while the ends are B and T When lifted or carried from A, the end B pressing downwards tends to raise the end T, while *T* pressing downwards tends to raise B; this is not what happens when they are both raised together.

Why is it that if the weight in question is extremely long, it is harder to raise it on the shoulder, even if one carries it by the middle, than if it is smaller? In the previous case it was stated that it was not due to vibration; but in this case it is. For when the timber is longer the ends vibrate more, so that it would be more difficult for the bearer to carry it. The reason why the vibration is greater is, that under the influence of the same movement the ends shift further, inasmuch as the timber is longer. For the shoulder is the centre, at A (and this remains stationary), and AB and AT are the radii from the centre. In so far as the radius, that is AB or AT, is larger the more movement will take place in the mass. This has been demonstrated before.

Why do men make swing-beams at wells in the way they do? For they add the weight of the lead to the wooden beam, the bucket itself having weight whether empty or full. Is it because the machine functions in two stages (for it must be let down and drawn up again), and it can easily be let down whereas it is difficult to draw up? The disadvantage, then, of letting it down rather more slowly is balanced by the advantage of lightening the weight when drawing it up. The attachment of lead or a stone at the end of the swing-beam produces this result. For thus, when one lets down the bucket by a rope, the weight is greater than if one let the bucket down alone and empty; but when it is full, the lead draws it up, or whatever weight is attached to it.

So that on the average the two processes are easier than they would be in the other case.

Why is it that when two men carry a weight between them on a plank or something of the kind, they do not feel the pressure equally, unless the weight is midway between them, but the nearer carrier feels it more? Surely it is because in these circumstances the plank becomes a lever, the weight the fulcrum, and the nearer of the two carrying the weight is the object moved, and the other carrier is the mover of the weight. For the farther he is from the weight, the more easily he moves it, and the more downward pressure falls on the other, as though the weight attached pressed in the opposite direction, and became the fulcrum. But when the weight is placed in the middle, the one no more becomes the weight than the other, nor does either do the moving, but one is the weight in just the same sense as the other.

Why is it that, when men stand up, they rise by making an acute angle between the lower leg and the thigh, and between the trunk and the thigh? Otherwise they cannot rise at all. Is it because equilibrium is always a cause of rest, and a right angle is a type of equilibrium, and so produces immobility: so the man is travelling towards a position in which he makes equal angles with the earth's surface; for he will not be actually at right angles to the ground? Or is it because when standing up he becomes at right angles, and the man in an erect position must be at right angles to the ground? If, then, he is going to arrive at the perpendicular, that is, so that his head is immediately above his feet, this must happen when he rises. For when he is seated, his head and feet are parallel and not in one straight line. Let A be the head, AB the trunk, BT the thigh, and TA the lower leg. The trunk, that is AB, is perpendicular to the thigh, and the thigh to the lower leg, when the man is seated in this position. So that while in this position he cannot rise. But he must bend the lower leg, and bring the feet below the head. This will be the position if TA takes up the position *TZ,* and then he will rise at the same time as he brings the head and the feet into the same straight line. And *TZ* makes an acute angle with BT.

Why is it easier to move that which is already moving than that which is stationary? For instance, a moving wagon is more easily shifted than it is at the beginning. Is it for the same reason that it is most difficult to shift a weight which is moving in the opposite direction? For some of the power of the mover is lost, even if it is much quicker than the object moved. For the thrust of the body which is being pushed against has to become slower. In a secondary degree it is more difficult, if it is at rest; for what is at rest offers a resistance. But when a body is moving in the same direction as the pusher, it acts just as if one increased the force and speed of the mover; for by moving forward itself it has the same effect as would be produced by the mover.

Why do objects thrown ever stop travelling? Is it when the force that discharged them is exhausted, or because of the resistance, or because of the weight, if any of these is stronger than the discharging force? Or is it ridiculous to deal with these difficulties, when we have not the underlying principle?

Why, again, does a body travel at all except by its own motion, when the discharging force does not follow and continue to push it? Surely it is clear that the initial impulse given causes it to push something else in the first instance, while this in turn pushes something else; it stops when the force which is pushing the travelling object has no longer power to push it along, and when the weight of the travelling object pulls it down more than the power of the pushing force can drive it forwards.

Why can neither small nor great bodies travel far when thrown, but must always bear a relation to the thrower? Is it because an object thrown or pushed must always offer resistance in the direction from which the thrust comes? But that which by its size cannot give way, or by its weakness cannot offer any resistance can neither be thrown nor pushed. That which far exceeds the strength of what pushes it does not yield at all, but that which is much weaker offers no resistance. Is it because a travelling body can only travel as far as it can penetrate into the depths of the air? But that which does not move at all cannot move anything. Both these conditions occur with these things. For the superlatively great and the superlatively small may both be regarded as having no movement; for the one moves nothing and the other does not move at all.

Why do objects which are travelling in eddying water all finish their movement in the middle? Is it because the travelling object has definite magnitude, so that it is moving in two circles, one less and one greater, each of its ends being in one of them? The greater circle then, because it is travelling more quickly, turns the object round and drives it sideways into the smaller circle. But since the travelling object has breadth, this second circle produces the same result, and again drives it into the next inner circle, until ultimately it reaches the middle. There it remains because being in the middle it is in the same relation to all circles. For in each circle the centre is the same distance from the circumference. Or can it be because objects which the travel of the whirling water cannot control because of their weight (that is, that the weight of the object overcomes the speed of the revolving circle) must get left behind and must travel more slowly? But the smaller circle travels more slowly; for the large circle revolves to the same extent in the same time as the smaller circle, when the two are concentric. So that the object must be left in each lesser circle in succession until it comes to the centre. In cases in which the travel prevails at the beginning, it will do the same until it stops. For the original circle and then the next must prevail by its speed over the weight of the object, so that it will pass successively to each smaller circle all the time. For an object which does not prevail must be moved either inside or outside. For that which is not overcome cannot continue to travel in the circle in which it is originally. Still less can it remain in the outer circle; for the travel of the outer circle is more rapid. The only thing left is for the object which is not controlled by the water to shift to the inside. Now each object always inclines not to be controlled. But since its arrival at the middle puts an end to the movement, the centre is the only part at rest, and everything therefore must collect there.

Problems (859a)

Translated by E. S. Forster

The Προβλήματα is most likely a pseudo-Aristotelian text, forming a collection of problems written in a question and answer format. The collection was gradually assembled by the Peripatetic school, culminating its final form at some point between the third century BC and the 6th century AD. The work is divided by topic into 38 sections and it contains almost nine hundred problems, concerning a diverse range of ailments and natural phenomena.

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PREFACE

The inclusion of the *Problemata* in the Aristotelian Corpus is no doubt due to the fact that Aristotle is known to have written a work of this kind, to which reference is made in his genuine works and by other writers. An examination of these references shows that some of them can be connected with passages in the *Problemata*, while others cannot; from which it may be concluded that, while the *Problemata* is not the genuine Aristotelian work, it nevertheless contains an element derived from such a work. It is also obviously indebted to other Aristotelian treatises, especially those on Natural History, to the Hippocratean writings, and to Theophrastus. The repetitions and contradictions which occur in the work seem to show that it was a gradual compilation by several hands; and, if one may judge from the late forms of words which occur in several passages, it did not reach its final form until some time after the beginning of the Christian Era. Some critics would date its completion as late as the fifth or sixth century A.D. The doctrine throughout is Peripatetic, and the variety of subjects treated shows the wide interests of that school.

The text used for this translation is that of Ruelle-Knoellinger-Klek (Leipzig, Teubner,). The preface to that edition contains a complete account of the MSS. and a valuable bibliography. Wherever any other reading is adopted the fact is stated in the foot-notes.

Professor W. D. Ross has been good enough to read the translation both in MS. and in proof; a small part of the debt which I owe him is indicated in the foot-notes, but there are innumerable other passages in which his vast knowledge of Aristotelian usage has enabled me to introduce material improvements. I have also to thank Sir Henry Hadow, D.Mus., Vice-Chancellor of the University of Sheffield, and my colleague Mr. G. E. Linfoot, Mus.Bac., B.Sc., for generous assistance in elucidating the Musical Problems.

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BOOK I. PROBLEMS CONNECTED WITH MEDICINE

WHY is it that great excesses cause disease? Is it because they engender excess or defect, and it is in these after all that disease consists?

But why is it that diseases can often be cured if the patient indulges in excess of some kind? And this is the treatment used by some doctors; for they cure by the excessive use of wine or water or salt, or by over-feeding or starving the patient. Is it because the causes of the disease are opposites of one another, so that each reduces the other to the mean?

Why is it that the changes of the seasons and the winds intensify or stop diseases and bring them to a crisis and engender them? Is it because the seasons are hot and cold and moist and dry, while diseases are due to excess of these qualities and health to their equality? In that case, if the disease is due to moisture or cold, a season which has the opposite characteristics stops it; but if a season of the opposite kind follows, the same admixture of qualities being caused as before intensifies the disease and kills the patient. For this reason the seasons even cause disease in healthy persons, because by their changes they destroy the proper admixture of qualities; for it is at the same time improved by suitable seasons, times of life, and localities. The health therefore requires careful management at times of change. And what has been said generally as to the effect of the seasons applies also in detail; for changes of winds and of age and of locality are to some extent; changes of season. These also therefore intensify and stop diseases and bring them to a crisis and engender them, as do the seasons and the risings of certain constellations, such as Orion and Arcturus and the Pleiads and the Dogstar, since they cause wind and rain and fine weather and storms and sunshine.

Why ought emetics to be avoided at the changes of the seasons? Is it in order that there may be no disturbance when the excretions are being altered by such changes?

Why is it that the feet swell both of those who are bilious and of those who are suffering from starvation? Is it in both cases the effect of wasting? For those who are starving waste because they do not receive any nourishment at all, while the bilious waste because they do not derive any benefit from the nourishment which they take.

Why it is that, though the diseases due to bile occur in the summer (the season when fevers are at their height), acute diseases due to bile occur rather in the winter? Is it because, being accompanied by fever, they are acute because they are violent, and violence is unnatural? For fervent inflammation is set up when certain parts of the body are moist, and inflammation, being due to an excess of heat, engenders fevers. In the summer, therefore, diseases are dry and hot, but in the winter they are moist and consequently acute (for they soon kill the patient), for concoction will not take place because of the abundance of the excretion.

Why is it that the plague alone among diseases infects particularly persons who come into contact with those who are under treatment for it? Is it because it is the only disease to which all men alike are liable, and so the plague affects any one who is already in a low state of health? For they quickly become infected by the inflammatory matter caused by the disease which is communicated by the patient.

Why is it that, when north winds have been prevalent in the winter, if the spring is rainy and characterized by south winds the summer is unhealthy with fever and ophthalmia? Is it because the summer finds the body full of alien humours, and the earth, and any place in which men dwell, becomes moist and resembles localities which are regarded as permanently unhealthy? The result is that, first, ophthalmia occurs when the excretion in the region of the head liquefies, and, secondly, fever ensues.

For it is noticeable that anything which admits of extreme cold also admits of extreme heat, — water, for example, and a stone, of which the former boils quicker than other things, the latter burns more. As, therefore, in the air a stifling heat occurs when it grows warm owing to its density, so likewise in the body stifling and heat are engendered, and heat in the body is fever and in the eyes ophthalmia. Generally speaking the change which occurs when a warm, dry summer follows immediately on a wet spring, being violent has a deleterious effect upon the body. The effect is still worse if the summer is rainy; for then the sun finds material, which it will cause to boil in the body as in the earth and air; the result is fever and ophthalmia. —

Why is it that, if the winter is characterized by south winds and rainy and if the spring is dry with the wind in the north, both the spring and the summer are unhealthy? Is it because in the winter owing to the heat and moisture the body assimilates its condition to that of the season, since it must necessarily be moist and relaxed? When the body is in this state, the spring being cool congeals and hardens it owing to its dryness. The result is that women who are pregnant run a risk of abortion in the spring because of the inflammation and mortification caused by the dry cold, since the necessary moisture is not secreted, and the foetus in the womb becomes weakly and defective owing to the excess of cold; for children who are born at this season in fine weather become strong and receive nourishment in the womb. In the case of other persons — because in the spring the phlegm is not purged away owing to its excess (as happens when the weather is warm), but congeals owing to the cold — when the summer and warmth succeeds, setting up violent liquefaction, humours form in those who are bilious and dry because their bodies lack moisture and are naturally parched; but these humours are slight and so such people suffer from dry ophthalmia. Those on the other hand who are phlegmatic are afflicted with sore throats and catarrh of the lungs. Women suffer from dysentery owing to their natural moisture and cold; while elderly persons are afflicted with apoplexy, when moisture being all set free at once overcomes them and solidifies owing to the weakness of their natural heat.

Why is it that, when the summer is dry and northerly winds prevail and the autumn on the contrary is wet and characterized by south winds, headaches and sore throats and coughs occur in the ensuing winter and then terminate in phthisis? Is it because the winter finds a considerable amount of matter in the body and so it is a difficult task for it to solidify the moisture and form phlegm? Consequently, when moisture is engendered in the head, it causes a feeling of heaviness, and if it is plenteous and cold, it causes mortification; but if, owing to its abundance, it does not solidify, it flows into the nearest region of the body, and thus coughs are caused and sore throats and wasting.

But why is it that if the summer and autumn are dry and northerly winds prevail, this weather suits those who are phlegmatic, and women? Is it because in both cases nature tends to an excess in one direction, and so the season exerting its influence in the opposite direction establishes an equable temperament, and they are healthy at the time, unless they themselves do anything which harms them, and, when the winter comes on, they are not in a moist condition, having heat in them with which to resist the cold?

Why is it that a dry summer and autumn in which northerly winds prevail is unhealthy for those who are bilious? Is it because their bodily condition and the season have the same tendency and it is like adding fire to fire? For the body becoming dry (the freshest element in it becoming evaporated) and being overheated, dry ophthalmia must necessarily ensue owing to solidification; but because the remaining humours are full of bile and these become overheated, acute fevers must ensue caused by the bile, which is undiluted, and in some cases madness, where black bile is naturally present; for the black bile comes to the surface as the contrary humours are dried up.

Why do they say that a change of drinking-water is unhealthy, but not a change of air? Is it because water becomes nutriment, with the result that it gets into one’s system and has an effect upon one, which is not the case with air? Further there are many kinds of water differing intrinsically from one another, but not of air; this then may also be a reason. For even when we change our place of dwelling we continue to breathe practically the same air, but we drink different waters. It is, therefore, probably a right opinion that change of drinking-water is unhealthy.

Why is it that a change of drinking-water is more unhealthy than a change of food? Is it because we consume more water than anything else? For water is found in farinaceous and other foods and whatever we drink consists mainly of water.

But why is a change of water unhealthy? Is it because every change also of season and of age is liable to disturbance? For extremities, such as beginnings and ends, are particularly liable to disturbance. So too foods, when they are different, corrupt one another; for some have only just entered the system, while others have not yet done so. Further, just as a varied diet is unhealthy (for the concoction is then disturbed and not uniform), so those who change their drinking-water are using a varied diet in what they drink; and liquid nourishment has more effect than dry food because it is greater in bulk and because the moisture from the foods themselves forms nourishment.

Why does a change of drinking-water cause an increase of lice in those who suffer from louse-disease? Is it because, owing to the disturbance set up by the different water in those who frequently change their drinking-water, the unconcocted state of the liquid causes a moist condition, especially in that part where the conditions are suitable?

Now the brain is moist, and therefore the head is always the moistest part of the body (as is shown by the fact that hair grows there more than elsewhere), and it is the moisture of this part which generates lice. This is clear in the case of children; for their heads are moist and they frequently have either running at the nose or discharge of blood, and persons of this age suffer particularly from lice.

Why is it that from the rising of the Pleiads until the west wind blows those who suffer from chronic diseases are most likely to die, and the old rather than the young? Is it because two things are fatal to life, excess and cold?

For life is heat, whereas this season has both the above characteristics, for it is cold, and winter is then at its height, the subsequent season being spring. Or is it because those who suffer from chronic diseases are in a similar condition to the old? For the occurrence of a long illness is like premature old age, since in both the body is dry and cold, — in the one case owing to the time of life, in the other from disease. Now winter and frosts constitute an excess of coldness and dryness; therefore to those who are in a condition where a very little will turn the scale, winter is like ‘fire added to fire’ and so causes death.

Why is it that in marshy districts sores on the head are quickly cured, but those on the legs only with difficulty? Is it because the moisture, owing to the fact that it contains an earthy element, is heavy, and heavy things are carried c downwards? Thus the upper parts of the body are cleared out because the impurities are carried to the lower parts, and these become full of excretions which easily putrefy.

Why is it that, when a very dry summer follows after northerly winds have prevailed in the winter and the spring has been damp and rainy, the autumn is universally fatal, especially to children, while in other people dysentery and prolonged quartan fevers occur then? Is it because, when there is a moderate amount of rain in the summer, the moisture boiling within us, which collected in the damp spring, is cooled and becomes quiescent? If on the other hand this does not happen, children, because they are moist and hot, are in a state of excessive boiling, because they are not cooled; and anything which does not as it were boil out in the summer, does so in the autumn. If the excretions do not cause death immediately, but settle round the lungs and windpipe — for they collect first in the upper part of the body, because we are warmed by the air, for it is owing to this that ophthalmia occurs before fever in an unhealthy summer — if then, as I have said, the excretions in the upper parts of the body do not immediately kill the patient, they descend in an unconcocted condition into the stomach; and thus dysentery is caused, because the moisture owing to its abundance is not discharged. If the dysentery ceases, quartan fevers arise in those patients who survive; for the sediment of the unconcocted moisture remains very persistently in the body and becomes active, just like black bile.

Why is it that, if the summer and the autumn have been rainy and damp, the ensuing winter is unhealthy? Is it because the winter finds the body in a very moist state, and also the change from great heat is violent and not gradual, because the autumn as well as the summer has been hot, and so acute diseases are caused in some persons, if they have no rarity in their bodies (for in such persons the moist excretions tend to collect in the upper part of the body, because these parts provide room for them, whereas the lower parts differ in this respect)? Those then whose flesh is solid do not allow of much excretion. When therefore the excretion in the upper parts of the body cools (as happens in drunken persons when they grow cold), the above-mentioned diseases are engendered. On the other hand when fevers are set up in persons in whose bodies there is more rarity, the fevers caused by a large quantity of unconcocted moisture become burning fevers, because in such people the humours are distributed more through the whole body than in solid-fleshed people, and, when the flesh is contracted by the winter-cold, the humours being heated cause fever. For excessive heat in the whole body is fever, and, when it is intensified by the abundance of moisture already present there, it turns into a burning fever.

Why is it that when a large amount of vapour is drawn out of the earth by the sun, the year is pestilential? Is it because it is necessarily a sign that the year is damp and rainy and the ground is necessarily damp? The conditions of life will then resemble those under which people live in a marshy district, and these are unhealthy. The body must then have in it an abundance of excretion and so contain unhealthy matter in the summer.

Why is it that those years are unhealthy in which small toad-like frogs are produced in abundance? Is it because everything flourishes in its natural environment, and these frogs are naturally moist and so signify that the year is moist and damp? Now such years are unhealthy; for then the body being moist contains abundant excretion, which is a cause of diseases.

Why is it that south winds which are dry and do not bring rain cause fever? Is it because they cause alien moisture and heat (for they are naturally moist and hot), and this is what causes fever, for it is due to the combined excess of moisture and heat? When therefore south winds blow without bringing rain, they engender this condition in us, whereas, when they bring rain with them, the rain cools us. Now south winds from the sea are also beneficial to plants, for they are cooled by the sea before they reach them; whereas blight is due to alien moisture and heat.

Why is it that men feel heavier and weaker when the wind is in the south? Is it because moisture becomes abundant instead of scanty, being melted by the heat, and moisture, which is heavy, takes the place of breath, which is light? Further, our strength is in our joints, and they are relaxed by south winds (as is shown by the fact that things which have been glued together creak); for the viscous matter in the joints, if it hardens, prevents us from moving, whereas, if it is too moist, it prevents us from exerting ourselves.

Why are people more liable to fall ill in the summer,

while those who are ill are more liable to die in the winter? Is it because in the winter, owing to the fact that the hot matter from its density becomes collected within the body and we suffer more through the excretions which solidify in us, if we cannot concoct them, the commencement of the disease must necessarily be violent, and being of this character it is likely to prove fatal? In the summer on the other hand, because the whole body is in a state of rarity and cool and too much relaxed for great exertion, there must necessarily be many commencements of disease owing to fatigue and to the fact that we do not concoct all that we swallow (for summer is the season of fresh fruit); but such diseases are not so violent, and therefore yield easily to treatment.

Why is it that deaths are particularly likely to occur during the hundred days following each solstice? Is it because in each case the excess of heat or cold extends over this period, and excess causes disease and death in the weakly?

Why is it that the spring and the autumn are unhealthy? Is it because changes are unhealthy? The autumn is more unhealthy than the spring, because we are more apt to contract disease when heat turns to cold than when cold turns to heat, and it is in spring that cold turns to heat and in autumn that heat turns to cold.

Why is it that illnesses are rarer in the winter than in the summer, but more often fatal? Is it because illnesses arise from slight causes in the summer but not in the winter? For in winter we are in a better condition for concoction and at the very height of our health, so that naturally illnesses which arise from more serious causes are themselves more serious and more likely to prove fatal. We see the same thing in athletes and generally amongst those who are in a healthy condition; for they either are not afflicted with disease, or, if they are, they rapidly succumb, for they only become ill from some serious cause.

Why is it that in the autumn and winter burning fevers are more likely to occur when the weather is cold, while in the summer chills are most troublesome when it is hot? Is it due to the fact that of the humours in man the bile is hot and the phlegm cold? As a result, in summer the cold matter is set free, and being diffused in the body gives rise to chill and shivering; in the winter, on the other hand, the hot matter is overpowered by the weather and cooled. Burning fevers are more troublesome in the winter and autumn, because, owing to the cold, the hot matter collects within, and the fever is within and not on the surface; it is natural therefore that burning fevers should occur during this part of the year. This can be well illustrated by contrasting those who bathe in cold water and those who use warm water in the winter; those who wash in cold water, though they feel chilled for a short time whilst they are actually washing, suffer no ill effects from the cold during the rest of the day, while those who use hot water continue to be less able to resist the cold. For the flesh of those who wash in cold water becomes solid, and the hot matter collects within; but the flesh of those who use warm water becomes rare, and the hot matter is diverted to the outside of the body.

In what does the virtue of a poultice consist? Would it, owing to its dissolvent action, set up perspiration and evaporation?

How can the presence of an abscess be diagnosed? Is it true that, if, when hot water is poured over it, a change takes place, there is an abscess, but none if there is no change?

In what cases ought cauterization to be employed, and in what cases the surgeon’s knife? Is it true that wounds which have large openings and do not close up quickly ought to be cauterized, so that a scab may form? If this is done, there will be no festering.

In what does the virtue of a remedy for stanching blood consist? Is it because it has a drying effect and stops the discharge of excretions without making a scab or causing decay of the flesh? If so, the wound must be free from inflammation and likely to heal up. For if there is no discharge, it will be free from inflammation, and being dry it will close up; whereas it will not close up as long as it is discharging moisture. Most remedies, therefore, for stanching blood are pungent, so as to cause contraction.

When ought drugs to be employed and not the knife or cauterization? Ought drugs to be used for the armpits and groin? For sores in these parts are sometimes painful and sometimes dangerous after they are cut open. Flat growths and those which project considerably and are situated in parts which are venous and not fleshy, should be cauterized; but those which collect at an acute point and are not situated in solid parts of the body should be treated with the knife.

Why is it that, if one is cut with a copper instrument, the wound heals more quickly than if the cut is made with iron? Is it because copper is smoother and so tears the flesh and bruises the body less? Or must we reject this explanation, since, if iron takes a better edge, the cleavage is easier and less painful? Yet even so copper has a medicinal power of its own, and ‘in all things it is the beginning that is important’, and so the copper, by its immediate action as soon as the cut is made, causes the wound to close up.

Why is it that burns inflicted by copper heal more quickly than others? Is it because copper contains more rarity and is less substantial, and the more solid a thing is the more heat it contains?

Is barley-gruel lighter and better for use in sickness than that made from wheat? For the latter commends itself to some people who argue from the fact that amongst bakers those who handle wheaten flour have a much better colour than those who employ barley meal, and furthermore that barley is moister and that which is moister requires more concoction. But is there any reason why barley should not have some qualities which make it more difficult of concoction and others which make it more serviceable because of its lightness? For barley is not only moister than wheat, but it is also colder, and porridge and any other food which is served to one who is in a fever ought to be such that it will provide him with a little nourishment and also cool him. Now barley-gruel has these qualities; for, because it is moist rather than substantial, it gives nourishment which is small in bulk and at the same time has a cooling effect.

Why do purslane and salt stop inflammation of the gums? Is it because purslane contains some moisture? This is seen if one chews it or if it is crushed together for some time; for the moisture is then drawn out of it. This glutinous matter sinks into the gum and drives out the acidity. For that there is an affinity between the disease and the remedy is shown by the acidity; for the juice of purslane has a certain acidity. Salt on the other hand dissolves and draws out the acidity. Why then do lye and soda not have this effect? Is it because they have an astringent instead of a dissolvent action?

Why is it that fatigue must be cured in summer by baths, in winter by anointing? Is anointing employed in the latter case because of the cold and the changes which it causes in the body? For the fatigue must be got rid of by heat which will warm the body, and olive-oil contains heat.

In summer, on the other hand, the body requires moisture, because the season is then dry and chills are not to be feared, because the natural inclination is towards heat.

A sparing diet of solid food and a liberal indulgence in liquid nourishment are appropriate to the summer, the latter being peculiar to summer, while the former is commoner then than at other seasons; for indulgence in drinking is peculiar to the summer because of the dryness of the season, but a sparing diet is found at all seasons but is more general in the summer; for then, owing to the weather, heat is engendered by food.

Why do some drugs relax the stomach and not the bladder, others the bladder and not the stomach? Is it true that anything which is naturally moist and full of water, if it has medicinal properties, relaxes the bladder?

For it is there that the unconcocted moisture settles; for the bladder is a receptacle for any moisture which is not concocted in the stomach; and such moisture does not remain there, but passes away without undergoing or causing any change. But anything which partakes of the nature of earth, if it has medicinal properties, relaxes the stomach; for it is to the stomach that anything of an earthy nature is carried, so that, if it has any motive power, it causes a disturbance in the stomach.

Why is it that some things affect the upper part of the stomach, hellebore for example, others the lower part, for instance scammony, while others like elaterium and the juice of thapsia affect both parts? Is it because some of the drugs which affect the stomach are hot and others cold, so that some of them, owing to their heat, as soon as they reach the upper part of the stomach are carried thence to the upper region of the body, melting in particular anything there which is most alien to them and least substantial; and if the drug be powerful or has been administered in a dose stronger than nature can withstand, it carries these liquefactions and any excretions that there may be down into the upper part of the stomach, and by its heat stirring up the breath, which it engenders in great quantity, checks their progress and causes vomiting? Drugs of a cold nature, on the other hand, owing to their weight are carried downwards before undergoing or causing any change and, borne thence, have the same action as those which affect the upper part of the body; for passing thence upwards through the ducts and setting in motion any excretions or liquefactions over which they prevail, they carry them with them in the same direction. Drugs which partake of both these kinds and are a mixture of hot and cold, possessing both qualities, have both these effects, and are the composite drugs which doctors now make up.

Why is it that drugs have a purgative effect, while other things, though they surpass them in bitterness and astringency and other such qualities, do not have this effect? Is it because the purgative effect is not due to these qualities but to the fact that they are unconcocted? For anything which, though small in bulk, owing to its excessive heat or cold is unconcocted and of such a nature as to overcome, and not be overcome by, animal heat, if it is easily dissolved in the two stomachs, is a drug. For when such drugs enter the stomach and become dissolved, they are carried into the vein by the ducts through which the food passes, and, not being concocted but themselves prevailing, they make their way out, carrying with them anything which gets in their way; and this is called purging. Copper and silver and the like, although they are not concocted by animal heat, are not easily dissolved in the stomach. Oil and honey and milk and other such foods have a purgative effect; but this depends, not on any quality which they possess, but on quantity; for, if they act as a purge, they only do so when they are unconcocted owing to their quantity. For things can be unconcocted for two reasons, either because of their quality or because of their quantity. So none of the above-mentioned foods are drugs, because they do not purge owing to their quality. Astringency and bitterness and unpleasant odour are characteristic of drugs, because a drug is the opposite of a food; for that which is concocted by a natural process amalgamates with the body and is called a food; but that whose nature it is to refuse to be overcome and which enters into the veins and causes disturbance there owing to its excess of heat or cold, this is of the nature of a drug.

Why is it that pepper if taken in large quantities relaxes the bladder, but if taken in small quantities affects the stomach, whereas scammony if taken in large quantities relaxes the stomach, but if taken in small quantities and when it is old affects the bladder? Is it because each has more effect on one part of the body? For pepper promotes urine, while scammony is purgative. Pepper therefore if taken in large quantities is carried into the bladder and does not dissolve in the stomach, but if taken in small quantities it is overcome and relaxes the stomach and acts upon it as a drug. Scammony, on the other hand, if it is taken in large quantities, is overcome to such an extent that it is dissolved, and being dissolved it becomes a drug for the reason mentioned above; but, if it is taken in small quantities, it is swallowed with what is drunk and passes into the ducts and is quickly carried into the bladder before it can cause any disturbance, and there by its own force it carries off all the excretions and liquefactions which are on the surface. When it is taken in large quantities, as has already been remarked, owing to its strength it remains a long time in the stomach and effects an extensive purgation of the earthy element.

“ — Why do some cure by cooling the same inflammations which others bring to a head by heating them? Surely it is because the latter collect the inflammation by applying external heat, the former by cooling the heat already present in the body.

Why is it necessary to change poultices? Is it in order that they may be more felt? For as, in things which we eat, that to which we have grown accustomed no longer acts as a drug but becomes a food, so poultices lose their effect.

Why does it promote health to reduce one’s diet and increase one’s exercise? Is it because an excess of excretion causes disease, and this occurs when we take too much nourishment or too little exercise?

Why is it that drugs, and bitter and evil-smelling substances generally, have a purgative effect? Is it because any thing which is evil-smelling and bitter does not admit of concoction? Drugs therefore are bitter and evil-smelling; for they are drugs because, in addition to being bitter, they do not admit of concoction and can cause motion; and if they are administered in too large doses, they are destructive of life. But substances which are destructive of life even if given in small quantities are not drugs but deadly poisons. Nor again do we give the name of drugs to those substances which are not purgative through their natural qualities; for indeed many foods have the effect of drugs, if taken in sufficient quantity — milk, for example, and olive oil and unfermented wine; all these things, because they are not easily concocted, have a purgative effect on those by whom they are not easily concocted. For different things are easy or difficult of concoction to different people; and so the same things do not act upon every one as drugs, but particular things act upon certain people. For, generally speaking, a drug ought not only to be difficult of concoction, but also ought to have the power to produce movement; just as also exercises, whether external or internal, expel alien matter.

Why is it that sweet-smelling seeds or plants promote the flow of urine? Is it because they contain heat and are easily concocted, and such things have this effect? For the heat in them causes quick digestion, and their odour has no corporeal existence; for even strong-smelling plants, such as garlic, promote the flow of urine owing to their heat, though their wasting effect is a still more marked characteristic; but sweet-smelling seeds contain heat.

Why is it that unclean and foul sores require to be treated with dry, pungent, and astringent drugs, while clean, healthy sores require moist, porous remedies? Is it because something must be drawn out from unclean sores, and it is foreign moisture which must be extracted? Now biting, pungent, and astringent substances have this effect, and the dry rather than the moist. Clean sores, on the other hand, only require to skin over.

Why is it that sexual excess is beneficial to diseases caused by phlegm? Is it because the semen is the secretion of an excrement and in its nature resembles phlegm, and so sexual intercourse is beneficial because it draws off a quantity of phlegm-like matter?

Is it better to give the patient nourishment at first or later? Ought nourishment to be given at the beginning, so that the inflammation, when it sets in, may not find the patient already weak? Or ought the patient to be reduced at once? Or ought the following to be the treatment, namely, that the patient should first take nourishment in the form of draughts, since food of this kind is milder and more readily swallowed and dissolved, and it is easier for a sick person to receive nourishment from this sort of food? For where the food has first to be acted upon in the stomach, — namely, both dissolved and heated — these processes cause pain to the body.

Why is it that, in order to examine urine to see if it is concocted, one must stop the flow of urine rather than continue to pass it? Is it because it is a sign of concoction if it is reddish in colour, and this is better detected if the flow is stopped? Or is it because anything that is liquid forms as it were a better mirror of its colour in a small than in a large quantity? For form is better discerned in a large quantity, but colour in a small quantity, in dew, for example, and drops of rain and tears on the eyelids. If urine, therefore, is allowed to flow it becomes greater in quantity, but, if it is checked, it takes on colour more readily; and so if it has already taken on this character by concoction, this can be better observed if the flow of urine is stopped and light thus refracted and a mirror formed.

Why should the flesh be made rare rather than dense in order to promote health? For just as a city or locality is healthy which is open to the breezes (and this is why the sea too is healthy), so a body is healthier in which the air can circulate. For either there ought to be no excrement present in the body or else the body ought to get rid of it as soon as possible and ought always to be in such a condition that it can reject the excrement as soon as it receives it, and be in a state of motion and never at rest. For that which remains stationary putrefies (standing water, for example), and that which putrefies causes disease; but that which is rejected passes away before it becomes corrupt. This then does not occur if the flesh is dense, the ducts being as it were blocked up, but it does happen if the flesh is rare. One ought not therefore to walk naked in the sun; for the flesh thereby solidifies and acquires an absolutely fleshy consistency, and the body becomes moister; for the internal moisture remains, but the surface moisture is expelled, a process which also takes place in meat when it is roasted rather than boiled. Nor ought one to walk about with the chest bare; for then the sun draws the moisture out of the best constructed parts of the body, which least of all require to be deprived of it. It is rather the inner parts of the body which should be submitted to this process; because they are remote, it is impossible to produce perspiration from them except by violent effort, but it is easy to produce it from the chest because it is near the surface.

Why is it that both cold and hot water are beneficial to chilblains? Is it because chilblains are caused by an excess of moisture? If so, the cold water thickens and hardens the moisture, while the hot water causes it to evaporate and enables the vapour to escape by rarefying the flesh.

Why is it that cold both causes and stops chilblains, and heat both causes and stops burns? Is the cause the same in both cases, namely, that they cause them by setting up liquefaction and stop them by drying them up?

In fevers liquid nourishment ought to be administered often and in small quantities. For a large quantity flows away and is wasted, but a small quantity taken frequently sinks in and penetrates into the flesh. For as the rain, if it comes down upon the earth in torrents, runs to waste, but, if it comes down in small quantities, merely moistens the ground; so the same thing occurs in fever patients. In irrigation, if the water is allowed to flow gradually, the channel sucks it up; whereas, if the same amount of water is allowed to flow all at once, it makes its way wherever it is directed.

Next the patient ought to lie as still as possible, because fire also obviously dies down if one does not stir it. And he ought not to lie in a draught, because the wind stirs up the fire, and, being fanned, it becomes great instead of small. For this reason the patient ought to be well wrapped up, because fire is extinguished if it is not allowed to draw in air; and the garments ought not to be removed until damp heat is present, for the fire if exposed to the air dries up the moisture — just as happens also in nature.

In the case of intermittent fevers one must make preparations beforehand by washing the patient and applying fomentations to his feet, and he must rest well wrapped up, in order that there may be as much heat as possible in him before the attack begins. For a flame will not be able to burn where there is a great fire; for the great fire will absorb the little fire. Consequently a great fire must be prepared beforehand in the body; for fever has but little fire in it, and so the great fire will absorb the little fire.

In quartan fevers the patient must not be allowed to get thin, and heat must be introduced and engendered in his body. Exercises must also be employed. On the day on which the attack is expected he must bathe himself and avoid sleep. A heating diet is beneficial, because a quartan fever is weak; for if it were not so, it would not occur only every fourth day. For, mark you, where there is a great fire, a flame cannot burn; for the great fire attracts and absorbs the little fire. For this reason it is necessary to engender great heat in the body, because fever has but little fire in it. The daily treatment consists in introducing at one time heat and at another time moisture into the body. Some diseases are caused by heat, others by moisture; those which are caused by heat are cured by moisture, and those which are due to moisture are cured by heat, for heat dries up moisture.

BOOK II. PROBLEMS CONNECTED WITH PERSPIRATION

Why is it that perspiration is caused neither when the breath is expanded nor when it is held in, but rather when TO it is relaxed? Is it because, when it is held in, the breath fills out the veins and so does not allow the perspiration to escape, just as the water in a water clock cannot escape if you turn it off when the clock is full? But when the perspiration does come out, it does so in great abundance, because it has gradually collected during the actual period that it has been checked.

Why is it that the parts of the body that are immersed in hot water do not perspire, even though they are themselves hot? Is it because the water prevents liquefaction, while perspiration is formed when matter which is not properly attached to the flesh is expelled by heat?

Why is perspiration salty? Is it because it is caused by movement and heat which rejects any foreign matter in the process by which nourishment passes into blood and flesh? For such matter quickly separates, because it has no affinity with the body, and evaporates externally. It is salty because the sweetest and lightest part of the food is taken up by the body, while the unsuitable and unconcocted part is discharged. This when it is excreted below is called urine, in the flesh it is sweat; both of these are salty for the same reason.

Why is it that the upper parts of the body perspire more freely than the lower? Is it because heat rises upwards and remains there, and this carries the moisture upwards? Or is it because breath causes sweat, and the breath is in the upper parts of the body? Or is it because sweat is unconcocted moisture, and such moisture resides in the upper parts because the process of its composition takes place there?

Why is it that sweat is produced most copiously if we exercise the arms while we keep the other parts of the body in the same position? Is it because we have most strength in this region of the body? For it is in this region, which is nearest to the strongest part of us, that we hold our breath; and we gain strength by violent exertion, and, having gained strength, we can hold the breath more easily. Furthermore, we feel the effect of friction more in the arm than when any other part of the body is rubbed; for it is by holding the breath that we get exercise, both when we are rubbed and when we rub.

Why is it that sweat given off from the head either has no odour or less than that from the body? Is it because air circulates freely in the region of the head? That the head possesses rarity is shown by the fact that it produces hair. And it is those regions of the body and the substances of which they are composed through which the air does not circulate that are malodorous.

Why is it that those who take athletic exercise, if they wrestle after a period of rest, perspire more freely than if they wrestle continuously? Is it because the sweat collects while they are resting, and then the wrestling afterwards brings out this sweat? Continuous exercise, on the other hand, dries up the sweat, just as does the heat of the sun.

Why is it that one sweats more freely if one has not for a long time employed means to induce perspiration? Is it because sweat is not caused by moisture alone, but is also due to the fact that the pores are opened wider and the body becomes porous? In those, therefore, who take no measures to induce perspiration the pores become closed up, whereas if they do take such measures the pores are kept open. g Why is it that, although the sun warms those who are naked more than those who are clothed, the latter perspire more freely? Is it because the sun by burning causes the pores to close up? Or is it because it dries up the moisture? These processes are less likely to happen in those who are clothed.

Why is it that the face gives off the most perspiration? Is it because the sweat can find a way out through parts which are particularly porous and moist? Now the head seems to be the source of moisture, and it is owing to the presence of copious moisture that the hair grows; and the region of the head is rare and porous, and so the sweat naturally finds a way out.

Why is it that one perspires most freely, not when the heat is applied all at once or when it is gradually diminished, but when it is gradually increased? For those who are in vapour baths perspire under these conditions more freely than if all the heat be applied at once. Is it because it is the presence of anything in proper proportions which produces each required effect, and so, if it produces this effect, its presence in greater quantity will not produce a greater effect, or will rather produce the contrary effect, for it is because a thing is proportionate that it produces a certain effect? For this reason then increased perspiration is not induced as the result of greater heat; but because to each increment of heat there answers a different proportion, and that which has already produced its effect produces no greater effect, increased perspiration is rather the result of successive additions of heat. For it is not the same cause which prepares the way and creates a favourable condition for a series of effects and then begins to produce the effect, but a different cause. So a small quantity of heat prepares the way and predisposes the body to perspire better than a large quantity; but another and a greater proportion is required actually to produce the perspiration, but this does not continue to produce the effect which it originally produced, but must be followed by another application of heat different again in its proportions.

Why does the sweat flow more freely if a scraper be used than if it be allowed to remain on the body? Is it because the presence of external sweat induces cooling? Or is it because the external sweat forms as it were a lid over the pores and so prevents the movement of the internal sweat?

Why is it that rue and certain unguents give the perspiration an evil odour? Is it because things which have a heavy scent, mixing with the excretory fluids, make the odour of these still more unpleasant?

Why do we perspire more on the back than on the front of the body? Is it because in the front of the body there is an interior region into which the moisture is drained, but this is not the case with the back, but there the excretion of moisture must be external? (It is for the same reason that we perspire less on the stomach than on the chest.) A further reason is the fact that the back and hinder parts hold the perspiration more than the front, because the latter become more cooled than the former. (This is the reason too why the armpits perspire most readily and freely; for they are least subject to cooling.) Further, the regions about the back are fleshier than those in front and therefore moister; and there is more moisture in the hinder parts, because the marrow in the spine causes considerable humidity.

Why is it that we do not perspire in those parts of the body on which we are lying-? Is it because the area with which we come into contact with anything is hot and therefore prevents the perspiration from passing forth, for it dries it up? Furthermore it is compressed, and pressure causes the blood to disperse, and, when this happens, the part tends to become cool. This can be illustrated from numbness, which is a condition due to cooling and is caused by pressure or by a blow.

Why do those who are asleep perspire more freely? Is it due to the heat being driven inwards? For the heat collects a inside and expels the moisture.

Why is it that one perspires most freely on the face, though it is far from being fleshy? Is it because parts which are rather moist and rare perspire freely, and the head has these characteristics? For it possesses an abundance of natural moisture; this is shown by the veins which extend from it and the discharges which it produces and the brain-fluid and the numerous pores. That there are numerous pores extending outwards is shown by the presence of the hair. The perspiration then comes not from the lower parts of the body but from the head; and so one perspires most readily and freely on the forehead, for it is the first thing below the top of the head, and moisture flows down and not up.

Why is it that those who are perspiring are apt to vomit if they are cooled either by water or by air? Is it because the moisture when cooled ceases to move and collects together, whereas before it was not at rest because it was in a state of flux? Or is it because the breath which turns into perspiration by being cooled as it passes out, being cooled internally before passing out turns into moisture and attacking the body causes vomiting?

Why is it that sweat is given off from the head and feet of those who are heated more freely than from any other part of the body? Is it because the part which is heated attracts the moisture to itself, and the moisture has nowhere where it can expend itself in these regions of the body, because they are bony, and therefore it finds its way out?

Why do those who exert themselves perspire when they cease to exert themselves? For since the exertion is the cause, they ought to perspire while they are exerting themselves. Is it because during their exertion the veins, being inflated with breath, cause the pores to close up, whereas, when they stop, the veins contract, and so the pores become wider and the moisture finds an easier outlet? Or is it because during the exertion the motion expels air from the solidified moisture and, owing to the heat caused by the motion, the moisture becomes breath on the surface of the body; while on the other hand, when the exertion ceases, the heat also stops at the same time, and then the moisture, which we call perspiration, is generated from the condensation of the breath?

Is it more necessary to induce perspiration in the summer or in the winter?

Is it not more necessary to do so at a time when, unless care be taken, the body would become too moist and in a dangerous condition? If so, it would be more necessary to perspire in the summer, when a violent change takes place in the body and the excretions are not thoroughly concocted. Again in the winter, since the body is cool, it is also unnatural to perspire. It is clearly, therefore, more necessary to induce perspiration in the summer; for moisture of all kinds is then more apt to putrefy and should therefore be drawn off. This was the opinion of all the ancients and for the above reason.

Why is it that, although the body is in a state of continual flux, and effluvia are given off from the excrements, the body is only lightened if it perspires? Is it because the excretion in the form of effluvia is too little? For when liquid is transformed into air much air is formed out of little liquid; for what is excreted in liquid form is more abundant. The process of excretion, therefore, takes longer to begin, both for the above reason and because the excretion takes place through smaller pores. Further, the viscous and adhesive matter is expelled with the moisture, because it mingles with it, but it cannot be expelled with the breath; and it is this thick matter in particular that causes pain. Therefore also vomiting lightens the body more than sweating, because that which is vomited, being thicker and more substantial, carries away this viscous matter with it. Or is there a further reason, namely, that the region in which the viscous and the adhesive matter is, is situated at a distance in relation to the flesh (and so it is difficult to make it change its position), but near the stomach? For it is engendered either in or close to it; and therefore it is difficult to get rid of it in any other way.

Why is it that one perspires less during actual exertion than when one ceases? Is it because while one is exerting oneself one is engendering perspiration, but the process of engendering it is only complete when the exertion is ended?

This then is naturally the time when it is expelled from the body in greater quantities; for during exertion it is coming into being, but, when the exertion is finished, it actually exists. Or is it because during exertion the pores of the flesh are closed, because the breath is held, but when the pressure of the breath is relaxed the pores open again? Consequently one perspires less when one is holding the breath.

Why is it that perspiration is more copious not when one is running and the body is in motion, but when one stops? Is it because the same thing happens as when flowing water is checked by the hand or by some other means and collects from every direction, and, when it is released, flows in greater volume than before; so perspiration can be stopped by the breath — like water in a water clock — and also in the bladder, which keeps the moisture within. So too, while there is considerable movement, the breath is cut off inside the body, and so the veins are distended, the moisture being unable to find its way out. The moisture then, being cut off, collects, and when the breath is relaxed comes all out at once.

Why is it that, when one is drinking, one perspires less if one eats something as well? Is it because the food sucks up the moisture, as though a sponge were applied, and, just as a stream can be stopped by blocking up its channels, so by stopping the pores through administering food it is possible to a large extent to prevent the flowing of moisture?

Why is that the feet of those who are nervous perspire and not the face? For it would be more natural that the feet should perspire only when the whole body perspires; for the feet are the coldest region of the body and therefore least liable to perspire. Also in sickness physicians order the feet in particular to be wrapped up, because they are especially susceptible to cold and so readily give rise to cold in the rest of the body also. Is it because nervousness does not cause a displacement of heat — such as takes place from the upper to the lower parts of the body under the influence of fear (hence the relaxation of the bowels in those who are alarmed). — but an increase of heat such as is caused by anger? For anger causes the heat round the heart to boil up; and one who is nervous is affected not by fear or cold, but by an increase of heat.

How is it that one can become red in the face without perspiring? Is it due to excessive warmth which results in the heat on the surface drying up the moisture in the face, whilst it liquefies the moisture in the feet because, though less than the heat on the surface, it is more powerful than the natural heat already existent in the feet?

Why is it that we perspire more when asleep than when awake? Is it because perspiration originates internally, and the interior parts of the body are hotter, and so the internal heat melts and expels the internal moisture? Or is it because in all probability there is always something given off from the body, but it is not apparent because there is nothing with which it can come into contact and by which its escape can be arrested? That this is so is shown by the fact that the hollow parts of the body perspire continually.

Why is it that persons in vapour baths perspire more freely when it is cold? Is it because the heat does not find a way out, because it is surrounded by the cold, which prevents its exit, but collects internally, and, remaining there, dissolves the moisture in our body and engenders perspiration from it?

Why is it that perspiration, even though it be less ° profuse, is more beneficial if it be induced by running naked rather than clothed? Is it because exertion in general is better than non-exertion, and perspiration which is induced by exertion is better than that which is produced without exertion, and that which is due in a greater degree to exertion is better than that which is due in a less degree? Now perspiration involves more exertion if induced by running about naked: for a naked man cannot perspire at all unless he runs with considerable energy; whereas, if he be clothed, owing to the heat produced by his garments, he soon perspires although he runs only moderately fast. Those too who run naked in the summer have a healthier colour than those who wear garments; for just as those who live in regions open to the air have a better colour than those who live in a stifling atmosphere, so too a man, when he is as it were in a well-aired condition, acquires a better colour than when he is stifled and surrounded by considerable heat, as he is more likely to be when he runs clothed.

For this reason too those who sleep much have a less healthy colour than those who sleep a moderate amount; for a man who is asleep is in a stifled condition.

Why is it that our feet perspire, but not our faces, when we are in a state of nervousness, whereas under ordinary conditions our faces perspire most and our feet least? Is it because nervousness is a kind of fear connected with the beginning of an action, and fear causes a cooling in the upper part of the body; this is also why those who are nervous are pale-faced. On the other hand they move and dance their feet about, thus resembling those who are taking exercise; therefore they naturally perspire in those parts which they are exercising. Also they rub their hands together and bend and stretch themselves and keep jumping up and can never remain still; for they are eager for action, because the heat within them is collected in the region of the chest, which is one of the more substantial parts of the body, and this heat and the blood rushing thence through their whole body results in frequent and varied movement. But they perspire most in the feet, because these are being continually exerted, whereas the other parts of the body obtain rest in the changes of position and movement.

Why is it that in a vapour bath one perspires most freely not when the heat is applied all at once nor when it is gradually diminished, but when it is gradually increased? For if the heat is gradually introduced into the vapour bath, one perspires more freely than if the full amount were admitted at first. Is it because heat which is great from the beginning, finding the flesh on the surface dry, burns the skin and bakes it hard, and the flesh when it is in this condition holds the perspiration within? Less heat on the other hand tends to relax and rarefy the flesh and as it were stimulates the internal moisture to separate itself and come forth. This condition being established, when more heat is gradually introduced and penetrates deep into the flesh owing to its rarity, it vaporizes the already softened humours and separating those which are light expels them with the breath.

Is it more necessary to induce perspiration in the summer I or in the winter? In winter does not the heat collecting within the body concoct and vaporize our internal humours, and so, because all or most of them are expended, there is no need to supply an appropriate method of expelling them? In the summer, on the other hand, because the flesh is in a state of rarity, the heat escapes and our internal humours become less concocted and therefore need to be drawn off. For if they are allowed to remain, they putrefy owing to the season and cause disease; for anything that putrefies does so owing to heat that is not its own, whereas its own natural heat causes concoction. Consequently in the summer the external heat prevails, and so everything within the body tends to putrefy; but in the winter the natural heat predominates, and so the winter does not cause putrefaction.

Why is it that, whereas perspiration is due to internal heat or else to heat attacking the body from without, yet we sometimes shiver while we perspire? Is it because, when owing to the internal heat the perspiration is expelled from a large area into a small space, it collects on the surface of the body and entirely blocks up the channels through which the heat circulates, and so shivering ensues? Another reason is that the flesh becomes saturated and the heat escapes. On the other hand the external heat attacking the flesh at first rarefies it, and then the internal natural heat as it is given off causes the shivering.

Why are hot sweats considered to be better than cold? Is it because all perspiration is the rejection of some excretion, and it is natural that a small excretion should become heated, whereas a more abundant excretion is less likely to do so, and so a cold sweat would be an indication of a copious excretion; consequently the disease, the presence of which so it indicates, is likely to last longer?

Why is it that, although perspiration is caused by heat, we perspire less in front of a large fire? Is it because, when the body is subjected to considerable heat, the humours are dissolved into vapour; or else we do not feel the moisture, because it makes its way out and quickly dies on the surface?

Why is it that, though the sun heats us more if we wear no clothing, yet we perspire more freely when we are clothed? To this we shall give the same answer as to the last problem.

Why is it that, though brisk movements are generally regarded as more heating than slow movements, walking ° up a steep hill, which is a slower movement, induces more perspiration and obstructs the breathing, as though it were more heating than walking down hill? Is it because it is natural for weights to be carried downwards and unnatural for them to be carried upwards? Consequently the nature of the heat which carries us along does not undergo any strain when we are going down hill, but has to bear a continual burden when we are walking up hill; and so it grows exceedingly hot by movement of this kind and causes more profuse perspiration and obstructs the breath. The bending, too, of the body involved in walking up hill contributes to prevent the free passage of the breath by obstructing it.

Why is it that, although more perspiration is induced by additional clothing, it is not those who wear most clothing that perspire most? To this question we shall give the same answer as we gave above.

Why is it that, although our bodies are drier in the summer than in the winter, we are more disposed to perspire in the summer? Is it because, our bodies being in a condition of rarity in the summer, not much natural heat is contained in them? This, therefore, dissolves the humours into vapour. In the winter on the contrary, our bodies being externally in a dense condition, the considerable amount of natural heat enclosed within does not dissolve the humours into vapour. Moreover, in the summer we swallow liquid in large quantities, but in small quantities in the winter. exertion? Is it because exertion continually drains off the superfluous moisture and makes the flesh drier, so that the hollows of the pores are healthy and there is no obstruction to the straining off of the heat? On the other hand the so-called spontaneous perspiration (which really occurs of necessity when the natural pores are disturbed by excessive moisture, and the heat is not completely retained, but can still resist and expel the moisture) is rightly regarded as a sign of disease. For then, owing to the presence of a more than proportionate amount of moisture, a natural process of cooling takes place, and the flesh becoming saturated assumes a most unhealthy condition.

Why is it that in the winter perspiration is given off less freely and we do not feel the same desire to induce it, although our bodies are moister in the winter? Do we perspire less, because in winter our humours are congealed and solidified to a considerable extent, and are consequently less easily dissolved? The reason why we do not think it necessary to induce perspiration in the winter is because the condition in which we are is a healthy one, and any one who induces perspiration dissolves and upsets that condition; moreover, by creating in the body a condition of greater rarity than it ought to have, he expels and reduces the natural heat, so that it cannot so effectively resist the surrounding cold; also external moisture will more easily burst its way into the body when the pores are rarefied by process of perspiration.

BOOK III. PROBLEMS CONNECTED WITH THE DRINKING OF WINE AND DRUNKENNESS

WHY is it that, though wine is hot, the drunken are unable to endure cold and are very readily attacked by pleurisy and similar diseases? Is it because a large quantity of moisture, if it be cooled, forms a mass of cold and so overpowers the natural heat? For this is similar to what happens when, if a garment is soaked in cold water, the flesh beneath it also becomes cold.

Why is it that it is not those who are very drunk that are most troublesome in their cups, but those who are only slightly intoxicated? Is it because they have neither drunk so little that they still resemble the sober nor so much that they are in the incapacitated state of those who have drunk deep? Further, those who are sober have more power of judgement, while those who are very drunk make no attempt to exercise their judgement; but those who are only slightly intoxicated can still exercise their judgement because they are not very drunk, but they exercise it badly because they are not sober, and they are ready to despise some of their neighbours and imagine that they are being slighted by others.

Why is it that those who drink slightly diluted wine suffer more from the after effects than those who drink wine absolutely unmixed? Is it because owing to its lightness diluted wine penetrates better into more numerous and narrower parts of the body than unmixed wine, and so is less easy to get rid of? Or is it because those who drink unmixed wine drink a less quantity, because it is impossible to drink more, and vomit more readily? Furthermore unmixed wine, being hotter, causes concoction in other things and in itself; whereas watery wine has the opposite effect.

Why is the semen of drunkards generally infertile? Is it because the composition of their body has become full of moisture, and the semen is fertile not when it is liquid but when it has body and consistency?

Why do drunkards tremble, and more so the more they drink unmixed wine? Now wine is heating; but trembling is chiefly due to cold, and so those who are chilled tremble very much. Yet many people before now, who have taken unmixed wine as their only form of nourishment, have been seized with such violent trembling as to throw off those who were trying to hold them down; and when they wash in hot water, they have no perception of it. Is it because trembling is due to cooling, and cooling takes place either when the heat is driven within by external cold, as happens in winter, or when the natural heat is extinguished either by its opposite or by lapse of time, as in old age, or by the excess of extraneous heat which is caused in that which is exposed to the sun or to a blazing fire? This occurs also in those who take unmixed wine. The wine, being hot, when on mingling with the proper heat of the body it exceeds it in power, quenches the bodily heat; and the heat being thus extinguished and the body cooled, trembling ensues. But there is also another process of cooling differing from all those described above; namely, when the matter whereby the heat in anything is fed, is removed, and, as a result, the heat dies down. This can be illustrated in the inanimate world from the lamp; for when the oil is expended, the light goes out; and in living beings old age and long, wasting diseases have a similar effect. For when that which feeds the heat is removed or diminished, the result is that the heat fails; for heat is fed by moisture, not, however, by any kind of moisture but by that which is smooth and fat. In those, therefore, who are suffering from the diseases mentioned above and in those who are growing old, when moisture of this kind becomes corrupted and changed (becoming harsh and dry instead of smooth and oily), as a result the heat fails. A proof of the above is afforded by the treatment applied to those who are wasting to death; for, whenever they have any nourishing liquid administered to them, the result is that their vitality is revived, which implies that their bodily dissolution is due to the lack of such a substance. The same cause seems to operate in those who drink unmixed wine. For the wine, being warm, co-operating with the heat already naturally present in the body, tends to use up the supply already present in the body for the natural heat; consequently some drunkards become dropsical, others rheumatic, whilst in others the stomach is affected. For the other humours in them are harsh, and what they imbibe, being soft, does not acquire consistency owing to the weakness of the natural heat. Their heat is weak because the matter in which it is still contained is itself weak; like a fire fed by reeds, which, because its material is weak, is weaker than a wood-fire.

Why is it that, though wine is hot, the drunken are unable to endure cold and are very readily attacked by pleurisy and similar diseases? Is it because a large quantity of moisture, if it be cooled, forms a mass of cold, and so overpowers the natural heat? Now the moister anything is the hotter it is by nature, as is shown by the fact that external agencies cause heat but do not cause liquefaction; but where there is less heat, it is clear that either the heat or the moisture is failing too quickly, and so, cold humours only being left, it is natural that the drunken should be colder and show the usual symptoms of chill.

Why is it that children, who have a hot temperament, are not fond of wine, although the Scythians and all who are courageous are fond of wine because they have a hot temperament? Is it because the latter, though they are hot, are also dry (for this is the natural condition of a man), whereas children are hot and moist? Now fondness for drink is due to a desire for moisture; and so their moist condition prevents children from being thirsty, for desire implies a lack of something.

Why is it that men are more sensitive to salty and bad o — water when they are drunk than when they are sober? Is it because that which is like and similarly constituted is unaffected by its like, but opposites are very sensitive to opposites? A drunken man then has sweet liquids in him (for such seems to be the nature of wine), and so is more sensitive to bad liquids; but the sober man has harsh and salty liquids in him, and so, when his food becomes concocted, the excretory humours come to the surface and these are unaffected by their like and cause the man in whose body they are to be similarly unaffected.

Why is it that to those who are very drunk everything seems to revolve in a circle, and as soon as the wine takes hold of them they cannot see objects at a distance, and so this is used by some as a test of drunkenness? Is it because the vision is continually disturbed by the heat of the wine?

It makes no difference then whether it is the vision that is disturbed or the object seen; for the result is the same in producing the above-mentioned effect. And since the vision of drunken persons is often mistaken about objects near at hand, it is only natural that it should be even more so in looking at distant objects. So the latter are not visible to them at all, while objects near at hand are not seen in their proper places, but appear to revolve in a circle and not to be near or far, because, firstly, the circular motion makes it less possible for the sight to be directed towards distant objects; for it is difficult to do two contrary things at the same time. Now the movement of the sight in a straight line towards the distance is strong, but the circular movement of the vision is restricted to the area implied by its name. For the above-mentioned reasons then the vision does not travel to a distance. Secondly, if it could travel to both near and distant objects, it would not see them, for the next moment the near or distant object at which it was looking in the same direction would fail, and, if it did so, the eye could not see it. The circular movement is due to the natural constitution of the sight; for it is a cone, the base of which is a circle, and, moving in this circle, the sight always sees the same thing, because it never fails, but it is deceived as to its position, because it never directs the same glance upon it; for just the same thing would happen whether the object moved in relation to the eye or the eye in relation to the object.

Why is it that to those who are drunk one thing at which they are looking sometimes appears to be many? Is it because, as has already been remarked, the vision is disturbed, with the result that the same glance does not rest on the same object for any length of time? Now that which is seen differently at the same time appears to exist later in time; for that which is seen is seen by contact with the vision, and it is impossible for several objects to be in contact with the same thing at the same time. But because the intervening time, during which the vision comes into contact with and passes away from the object seen, is imperceptible, the moment during which it has been in contact and passed away seems to be one and the same; and so when several glances come into contact with the same object at the same time, the objects seen appear to be several, because it is impossible for the glances to be in contact with the same thing at the same time.

Why is it that those who are drunk are incapable of having sexual intercourse? Is it because to do so a certain part of the body must be in a state of greater heat than the rest, and this is impossible in the drunken owing to the large quantity of heat present in the whole body, for the heat set up by the movement is extinguished by the greater surrounding heat, because they have in them a considerable quantity of unconcocted moisture? Furthermore the semen is derived from food and all food is concocted, and those who are satiated with food are more inclined for sexual intercourse. This is why some people say that with a view to the sexual act one ought to take a plenteous midday meal but a light supper, so that there may be less unconcocted than concocted matter in the body.

Why is it that sweet wine and unmixed wine and mead if drunk from time to time during a drinking bout make men more sober? And why do those who drink from large vessels become less drunk? Is the reason in all cases the same, namely the repression of heat on the surface of the body? For drunkenness takes place when the heat is in the region of the head.

Why is it that, though that which is sweet tends to rise to the surface, if any one who is already drunk takes a sweet draught the wine which he has drunk before is concocted and causes less discomfort? Is it because that which is sweet is both soothing and adhesive (which is the reason why it blocks up the pores), while that which is bitter has a roughening effect? The latter makes it easy for the heat ! to rise, but the sweet draught keeps it in by blocking up the pores; and it has already been remarked that drunkenness is due to the upper parts of the body becoming heated. Furthermore sweet wine is odourless, but bitter wine is not, and any odour oppresses the head.

Why is it that wine which is mixed but tends towards the unmixed causes a worse headache the next morning than entirely unmixed wine? Is it because unmixed wine is composed of heavy particles and so does not find its way into the pores of the head, which are narrow, but only its power, namely its odour and heat, reaches the head? Diluted wine on the other hand, being mixed with water, which is light, itself penetrates to the head and having body, as well as much of the power of unmixed wine, is much less easily concocted; for moist things are most difficult of all to concoct, and actual substances are more difficult of concoction than mere effects.

Why is it that those who do not take physical exercise are better able to drink themselves into a condition of drunkenness, and throw it off more easily, than those who take such exercise? Is it because those who have excretions and moisture in their bodies are more inclined to pass urine? This enables them to drink and afterwards to be relieved of the effects, because much vinous moisture does not remain in them. Those who take no exercise are moist and full of excretions; but those who do take exercise are dry, and so the vinous moisture penetrates into their body, and its impetus immediately checks the flow of urine, and the moisture remaining afterwards behind forms a weight in the body.

Why has wine the effect both of stupefying and of driving to frenzy those who drink it? For these are contrary states, the frenzied being in a state of excessive movement and the stupid in a condition of too little movement. Is it true, as Chaeremon says, that

Wine mingles with the temper of the drinker?

It therefore has the opposite effect not on the same but upon the unlike, just as fire dries up some things but liquefies others, but does not have both these effects on the same things — for instance it melts ice, but hardens salt. So wine, being in its nature moist, excites the slow and makes them quicker, while it enervates the quick. Therefore some of those who are naturally of a melancholic temperament become entirely enervated as the result of a drunken debauch. For just as a bath makes supple those who have a well-knit and hard frame, while it relaxes those who are supple and moist, so wine has this effect, acting as an internal bath.

Why is it that cabbage stops the ill effects of drinking? Is it because its juice is sweet and has a cleansing effect (and so doctors use it to purge the bowels), while in itself it is cold? This is shown by the fact that doctors use it in cases of acute diarrhoea, boiling it thoroughly and draining off the juice and letting it cool. In those who are suffering from the after effects of drinking the effect of the juice of cabbage is to draw off the internal humours, which are vinous and unconcocted, into the stomach, whilst the cabbage itself remains in the upper part of the stomach and cools the body. As the body cools, the light humours are carried into the bladder. Thus since the humours throughout the body are expelled by these two methods and it becomes cool, the ill effects of drinking naturally vanish; for wine is moist and hot. A further result of the humours being drawn downwards and expelled is that breath is thereby carried down into the body, and it is only from there that breath can be carried from the wine into the head and cause stupor and headache. But if the breath is carried downwards and the body cooled in the manner mentioned above, the pain of the headache is relieved. For the headache is due to a seething and to inflammation as it dies down; but it is more painful than drunkenness, because the latter drives men out of their senses, but the headache causes them pain when they are in full possession of their wits. Just as those who are in a fever are delirious rather than in pain, but feel pain when they are relieved of the fever and recover their senses; for just the same thing happens with headache and drunkenness.

Why is it that watery wine is more apt to cause vomiting than water and than unmixed wine? Is it because anything that tends to rise to the surface and is unpleasant to the taste is most likely to cause vomiting? Now wine has the effect of repression; while water is light and not unpleasant, and, therefore, being light it quickly penetrates downwards, but, not being unpleasant, it does not cause heartburn. Now excessively diluted wine is not light enough to percolate through quickly, and because it has ° a little wine in it, it is unpleasant; for it disturbs the sense of taste by setting up two kinds of movement, one produced by the wine and the other by the water, both of which make themselves felt. But the proper mixing of wine does away with the taste of water and gives the wine a soft taste, which makes it pleasant to drink. But watery wine, being unpleasant to the taste, has a tendency to rise, and anything which does this is apt to cause vomiting.

Why is it that men are more sensitive to salty and bad water when they are drunk than when they are sober? Is it because anything which has an unpleasant taste is more perceptible to those who feel no desire, but is not noticed by those who feel desire? A man therefore who is in a state of lacking something resembles one who feels a desire, and the sober man is in this condition; whereas the drunken man is satiated.

Why is it that to those who are very drunk everything seems to revolve in a circle, and as soon as the wine takes hold of them they cannot count objects at a distance, and so this is used by some as a test of drunkenness? Is it because the vision is continually disturbed by the heat of the wine? The same thing then happens to those who are drunk as when an object appears double if one puts it close to the eye. For it makes no difference if you move the eye instead of putting the object close to it, and whether the movement is within the eye or outside it; for the effect on the vision is the same in both cases. The result will be that the object seen appears not to be at rest, and more so if it is at a distance (for it has less hold upon the vision when the latter is extended to a distance); and this near movement causes a still greater variation at the farthest point to which the eye reaches; and if the vision is moved violently and unevenly up and down, it has still less hold upon the distant object. Now anything which is extended to a distance moves in a circle, masts, for example, and objects suspended; and so the same thing happens to the vision owing to its weakness, as though it were actually projected to a distance. It makes no difference whether it is the vision which moves or the object seen; for the effect on the appearance of the object is the same.

Why is it that, when a quantity of wine is drunk at once, the stomach becomes drier, whereas it ought to be rendered moister by the additional liquid? Is it because the stomach has no action upon a large amount of liquid swallowed at once, but it goes unaltered to its proper place (and the proper place for unconcocted liquid is the bladder), whereas the stomach acts upon a small quantity and concocts it, so that it remains in the stomach and makes it moist?

Why is it that those who drink wine properly diluted suffer more from the after effects than those who drink unmixed wine? Is it because diluted wine, being light, finds its way into more parts of the body (just as it penetrates into clothing), and is more difficult to expel (water by itself being of a thinner consistency but easier to expel)? Or is it because the amount of unmixed wine which is drunk is less because of the impossibility of drinking a large quantity, and there is more liability to vomiting? Moreover unmixed wine concocts everything else as well as itself.

Why is it that death ensues from the drinking of unmixed wine in large quantities by one who is already in a lean condition? On the other hand, those who are addicted to drinking, if they are not in a lean condition, often become dry from drinking a large quantity at a time; for both wine and life seem to be of the nature of hot things, whereas death is a process of cooling. Is it because death by drinking resembles death by hemlock, the natural heat being gradually extinguished? But the process is different in the two cases; for hemlock by its coldness congeals the moisture and heat, whereas wine by its own heat parches up the natural heat. So just as a small fire is extinguished by a large blaze and by the heat of the sun, so too the heat in the body is extinguished by that in the wine, if the latter surpasses it in strength.

Why are the drunken more easily moved to tears? Is it because they become hot and moist, and so they have no command over themselves and are affected by trifling causes?

(Why is it that sweet wine and unmixed wine and mead if drunk from time to time during a drinking bout make men more sober? And) why do those who drink from large vessels become less drunk? Is the reason in all cases the same, namely the repression of heat; that is to say, on the surface of the body? For drunkenness takes place in the region of the head.

(Why is it that those who drink much unmixed wine fall asleep easily?) Is it because to induce sleep warm moisture must be present, for it is easily concocted? But if no moisture is present, or only a little, or moisture which is difficult of concoction, sleep does not come on. Therefore men become sleepiest when they are fatigued and after meat and drink, owing to the heat. But sleeplessness afflicts the melancholic and those who are in a high fever, the former because the moisture in them is cooled, the latter because there is little or no moisture in them; these facts must clearly be looked to as the causes of sleeplessness in these two cases.

Why do drunkards tremble, and the more so the more they drink unmixed wine? Now wine is heating, and trembling is chiefly due to cold; and so it is principally those who are chilled that tremble. Yet many people before now who have taken unmixed wine as their only form of nourishment, have been seized with such violent trembling as to throw off those who were trying to hold them down, and when they wash with hot water they have no perception of it. Others who live in this way, but also undergo massage and take meat as part of their diet, have been stricken with apoplectic seizures; these are less subject to trembling, because they are unable to move, but they suffer from violent pain and an inability to rest. Trembling is due to cooling; for, as has been remarked, it is those who are chilled who suffer from it and the very old, the cause being in the former their cold condition, in the latter their age. Wine, on the other hand, is very heating; so that it ought to have the opposite effect. Is there any reason why the same effect should not be produced by contraries working in a different manner?

For example, burning is caused both by frost and by heat, when the frost collects the heat in one place. Thus there is a sense in which the same condition is produced both by contrary causes and by the same cause. Now trembling is due to lack of heat, — not, however, of any kind of heat, but of natural heat. Heat perishes either by dying down or by being extinguished; it is extinguished by its contraries, cold and moisture, and it dies down either through lack of material, as lamps do when they have no more fuel or oil, or under the influence of external heat, as the fire goes out in the sunlight and lamps when they are exposed to the fire. Those then who are chilled tremble because the heat in them is extinguished by the cold. This is why the pouring of hot water over a person makes his hair bristle; for the cold being enclosed within and being compressed causes the hair to stand on end. The coldness of one who is beginning to suffer from fever is due to a like cause. In old age the heat dies down because the material which feeds it fails; for moisture is the food of heat, and old age is dry. Now it is because their own heat dies down that drunkards tremble and any others in whom this effect is produced by wine; but they do not do so in the same way as those who tremble from old age, but there is, as we saw, a third way in which the heat is destroyed. For when too much wine is taken, the heat being considerable in the body extinguishes or weakens our own heat, in which our strength consists; for trembling arises when the motive power loses control over that which it moves, just as the extremity of a long and large piece of wood trembles if one has not a good hold upon it, and this happens because either that which is being held is too large or that which is moving it is too weak. So, when the heat is extinguished (for heat appears to be the cause of motion in animals), the natural control of the body is lost. That this condition is induced in drunkards and the aged by a process of cooling is proved by the fact that the trembling is unaccompanied by chill.

Why is it that one who is slightly intoxicated is more troublesome in his cups than one who is more drunk and ° than the sober man? Is it because the sober man exercises his judgement properly, whereas one who is quite drunk, because his senses are blocked up, being unable to resist the heaviness which oppresses him, cannot exercise his judgement at all, and, this being so, he is not troublesome in his cups? But he who is slightly intoxicated uses his judgement, but, owing to the wine which he has drunk, he uses it amiss, and so is troublesome in his cups. He is like Satyrus of Clazomenae, who was given to abuse, and so when he was defendant in a lawsuit, in order that he might speak to the point and not abuse his adversary, they stopped up his ears, so that he might not hear anything and become abusive; but as his adversary was finishing his speech, they uncovered his ears, and he, hearing a few words at the end of the speech, could not restrain himself and began to revile him, because he could use his senses ° but could not use his judgement aright.

Why is it that men do not become drunkards by being addicted to sweet wine, which is pleasanter to the taste?

Is it because sweet wine possesses a flavour other than that of wine? He then who is addicted to sweet wine will be a lover of what is sweet rather than of wine.

Why is it that drunkards take a particular delight in the warmth of the sun? Is it because they need concoction? Another reason is the fact that they are cooled by the wine; which is also a reason why apoplectic seizures and torpidity very readily occur after drinking.

Why is it that drunkards when looking at a single object sometimes see several objects? Is it because the sources of vision (like the whole head) are disturbed internally by the wine, and, this being so, the vision of the two eyes cannot meet at the same point, but as it were moves to different parts of the object seen; consequently the object appears to be two? The same thing happens if one presses one eye from below; for this disturbs the source of its vision, so that it no longer falls upon the same point as the other eye. This then is an external disturbance, while that caused by wine is internal; but there is no real difference, the effect being the same whatever the cause of the disturbance.

Why is it that the tongue of those who are drunk stumbles? Is it because, just as the whole body staggers in drunkenness, so also the tongue staggers and stumbles and cannot articulate clearly? Or is it because the flesh of the tongue is spongy? It therefore becomes saturated and swells up, and when this happens it is more difficult to move, owing to the thickness caused by its increased bulk, and it cannot articulate distinctly. Or is it because, just as we cannot speak under water through lack of air, so we cannot speak when we take liquid into the mouth?

So in a state of drunkenness we cannot articulate because the tongue is surrounded by a large quantity of moisture; for a stumbling speech is due to inability to articulate.

Or is it because in drunkenness the mind is affected and stumbles? If the mind is in this condition, it is only natural that the tongue should suffer likewise; for the mind is the source of speech. This is why, apart from drunkenness, if the mind is affected, the tongue is affected also, as for example in those who are frightened.

Why is it that drunkards and those who have to do with the sea delight in the sun? Is it because drunkards require concoction and at the same time certain parts of their bodies have become cooled? This is why apoplectic seizures and torpor follow after drinking. Those who have to do with the sea like the sun because they live always amid moisture.

Why is it that those who are drunk are incapable of having sexual intercourse? Is it because to do so a certain part of the body ought to be in a state of greater heat than the rest, and this is impossible in the drunken owing to the large quantity of heat in them; the heat therefore caused by the movement is extinguished, being heated by the surrounding heat? Or is it because for sexual intercourse the lower parts of the body must be heated, whereas wine naturally rises upwards and so creates heat in the upper parts and withdraws it from the lower parts? Also people are least inclined for sexual intercourse after food and are recommended to take a heavy midday meal and a light supper with a view to it, for the heat and moisture move upwards when the food is unconcocted and downwards when it is concocted; and the semen is formed from concocted food. Those who are fatigued emit semen during JO sleep, because fatigue is a moist and hot condition; if therefore the excretion takes place in this part of the body, the result is that semen is emitted during sleep. This also occurs for the same reason in certain forms of illness, and likewise in those who are frightened and in the dying.

Why is it that the young wet their beds more, when they are drunk, than the old? Is it because they are hot and moist, and so the excretion which collects is abundant, because the body does not expend the moisture, and so it overflows; but as they become older, the body owing to its dryness absorbs the excess of moisture? Or is it because the young are more inclined to sleep than the old? Consequently, without their being aware of it, the flow of urine finds its way out while they are asleep, before they can wake up, whereas the old are aware of it, just as they are more alive to any external movement than the young. This is confirmed by the fact that the young themselves wet their beds most when they are most sound asleep.

Why is it that oil is beneficial against drunkenness and sipping it enables one to continue drinking? Is it because it promotes the flow of urine and so prepares a way for the liquor?

BOOK IV. PROBLEMS CONNECTED WITH SEXUAL INTERCOURSE

WHY is it that one who is having sexual intercourse, I and also a dying person, casts his eyes upwards, while a sleeper casts them downwards? Is it because the heat going out in an upward direction makes the eyes turn in the direction in which it is itself travelling, whereas during sleep the heat collects in the lower part of the body and so inclines the eyes downwards? The eyes close because there is no moisture left in them.

Why do the eyes and flanks of those who indulge too frequently in sexual intercourse sink very noticeably, though the latter are near and the former far from the sexual organs?

Is it because these parts co-operate very noticeably in the effort made in the act of coition, contracting at the time of the emission of the semen? It is from these parts then in particular that any easily liquefied nourishment which is present there is squeezed out by the pressure. Or is it because these parts become overheated and waste away most, and sexual intercourse operates through heat, and those parts are most heated which are moved in the act of coition? Now the eyes and the parts about the buttocks noticeably co-operate in the sexual act; for it is impossible to emit the semen without drawing the buttocks together and closing the eyes, for the buttocks by their contraction press out the semen (just as the liquid can be expelled from the bladder by the pressure of the hand), while the bringing together of the eyelids presses out the moisture in the brain.

That the eyes and the region near them have considerable influence in procreation is shown by the fact that childless and fruitful women alike try the experiment of anointing them, thinking that strength must pass by this way into the semen. These two parts, the fundament and the eyes, are always in all persons full of fatness; and, because they co-operate in the act of coition, they share in the heat which it engenders and are made lean thereby, and much of their substance is excreted into the semen. For unless a part of the body is fat, the heat will not melt it properly, nor will it do so if the part is fat but does not co-operate in the sexual act, as is the case with the stomach.

(The kidneys, however, have more sensation in sexual intercourse than other parts of the body because of their nearness to the organs employed.) Moreover, the mere passage of the semen through these parts, which is quite perceptible by these parts, is sufficient to make them lean; for its proximity takes away something without adding anything to them.

Why is it that both those who indulge in sexual excess and eunuchs, who never do so, alike lose their sharpness of vision? Is it because in the former owing to their desire, and in the latter owing to their mutilation, the upper parts of the body become drier than they ought to be, and this is most noticeable in those organs which have delicate work to do, such as the eye? So when the moisture is drawn away downwards, the upper parts become dry. It is quite obvious that sexual intercourse has this effect. In eunuchs the legs swell and the bowels are easily relaxed, which shows that the moisture has moved downwards.

Why is it that man alone grows hair on the face and body when he begins to be capable of sexual intercourse, whereas this does not happen in the other animals which have hair? Is it because on coming to maturity the characteristics of animals change to their opposites? For the voice becomes deep instead of shrill, and they become hairy instead of bare; it is clear therefore that animals which are hirsute from birth ought to become bare and not continue to be hirsute when they begin to secrete semen. But this is not so, because animals which emit semen become drier and rarer, conditions which are favourable to the growth of hair. This is shown by the fact that hair does not grow on scars, for scars are of a close texture and not rare; nor does hair grow upon women and children, both of whom are moist and not dry.

Why is it that having the feet bare is prejudicial to sexual intercourse? Is it because the body, when it is about to have sexual intercourse, ought to be warm and moist internally? This condition is attained during sleep rather than when one is awake; and so emission of semen takes place readily and without effort during sleep, but requires exertion in those who are awake. When the to body is moist and warm, the feet are even more so; as is shown by the fact that the feet of those who are asleep are warm, being in this condition simultaneously with the interior of the body. But bareness of the feet has the opposite effect of causing dryness and cold. So since it is either difficult or impossible to have sexual intercourse when the feet are not warm, bareness of the feet must necessarily be prejudicial to the performance of the sexual act.

Why is it that man is more languid after sexual intercourse than any other animal? Is it because in proportion to his bulk he emits more semen than any other animal? But why does he do so? Is it because man digests his food with less effort and is naturally moister and hotter than all the other animals? His moistness then creates an abundance of semen, while his heat creates a natural condition favourable to it; for the semen must be moist and hot as long as it is kept in the body.

Why is it that, whereas sexual intercourse takes place by means of heat, and fear and death have a cooling effect, yet semen is sometimes emitted by those who are frightened and by the dying? Is it because, though some parts are cooled, others become somewhat warmed, since they already have their own heat and receive additional heat from the parts which are cooling? So that, though such persons are growing cold, the emission of semen is due not to cooling but to the simultaneous heating. Observation proves this to be so in those who are frightened; for the blood leaves ° the upper parts of the body, and the lower parts become moist, and the bowels and bladder are relaxed. Thus under the influence of fright the heat makes its way downwards, and at death it travels upwards from below, and, because it creates a state of moisture by its warmth, it causes the emission of semen.

Why is it that one ought not to have sexual intercourse or vomit or sneeze or emit a deep breath, unless one is in a turgid state? Is it because if we are not in a turgid state, we are in the condition of plants torn up from the earth with which something which does not belong to them is torn up also, or of which some part is torn off and left in the ground? Now anything which ought to be removed, but of which a part is detached and remains behind, will cause trouble for a long while. And if one disturbs something external to oneself, this will cause trouble, because it is not in its proper place; and this is what will happen if we do any of the above-mentioned things when we are not in a turgid state.

Why is it that one can have sexual intercourse more readily when fasting? Is it because the ducts of the body are emptier in those who are fasting and full in those who are full? In the latter case they prevent the moisture from passing through into the semen. This is seen to be the case with the bladder; for when it is full it is impossible to have sexual intercourse readily.

Why is it that the young, when they first begin to have sexual intercourse, feel loathing after the act for those with whom they have had intercourse? Is it due to the fact that the change caused in them is great? For they are only conscious of the ensuing feeling of discomfort, and so avoid those with whom they have had intercourse as being the cause of this feeling.

Why is it that those who are continually on horseback are more inclined for sexual intercourse? Is it because owing to the heat and movement they are in the same condition as during sexual intercourse? So as growth takes place with increasing age in the region of the genital organs, these parts become enlarged. Since then they are always in this state of movement, their bodies become open-pored and in a condition which disposes them for sexual intercourse.

Why is it that when sexual powers begin to be present the flesh has an unpleasant odour which is not present in men or women before puberty? Is it because unconcocted matter always has a worse taste — being more acid or salty or bitter — and a more unpleasant odour, while concocted matter has a pleasant, or less unpleasant, taste and a more agreeable, or less disagreeable, odour? This is clear from an observation of the whole vegetable and animal world. If the properly concocted matter is removed, that which is left is unconcocted, — for instance in ashes, the sweet portion having been consumed, the dust which remains is bitter, and similarly perspiration is salty. Now the natural heat concocts the semen, which though small in amount is very strong, being a large quantity in a concentrated form. When, therefore, it leaves the body, the latter usually becomes languid and cold; and so the juices in it are subject to less concoction, since the pores are opened owing to the excretion of the semen. Consequently the perspiration of adults is saltier and has a more unpleasant odour than that of children, because it is unconcocted; and if their natural condition is such that the residue of their perspiration has an unpleasant odour, it is still more evident in such persons, and particularly in those parts, such as the armpit, in which it is especially evident in other people also.

Why is it that we regard the creature which is born from our own semen as our offspring, while that which is produced from any other part of us or from any other excretion is not looked upon as our own? For many things are produced by putrefaction, even from semen.

Why then is that which resembles us claimed as our own, while that which is alien to us is not so considered? For either all or none ought to belong to us. Is the reason that, in the first place, what is produced from the semen is born from what is our own, but that which is produced otherwise originates from something which is not ours, namely, from what is purged or excreted from us? In a word, nothing in a creature procreates another creature except the semen; and that which is harmful and evil, and also that which is alien, is not claimed by anything as its own; for it is not the same thing to be part of a thing and to be alien to it and other than it and evil. Now our excretions and putrefactions are not our own but are other than us and alien to our nature. For all things that grow in the body must not be considered as belonging to the body, for even boils grow on it and these are removed and cast forth. In a word, all things that are contrary to nature are alien to the body, and many of the things that grow there are contrary to nature. If therefore the semen is the only thing in us from which a creature can be born, we should be right in regarding as our own offspring that only which is produced from the semen. Moreover anything else which is produced from the semen, as for instance, when it putrefies, a worm, or the so-called monstrosities, when there is corruption in the womb, are not to be reckoned as offspring. In a word, anything which is produced from corruption is no longer produced from that which is our own but from that which is alien to us, like that which is generated from excretions such as ordure. That all such things are produced from corruption is proved by the fact that what is generated from uncorrupted semen is of such a nature as to resemble that from which the semen came, a horse being born from a horse and a man from a man. And we do not value the semen in itself or everything that is being completed in the process of coming into being (for it is sometimes moisture and a mere mass and flesh which is coming into being), because it has not yet its true nature but only so much of its nature as is implied in the fact that it is so disposed as to produce something resembling ourselves; and nothing even of this kind can be produced from corrupted semen. For these reasons we do not regard as our offspring that which is produced either from anything else in us except the semen, or from the semen when it is corrupted or fails to achieve perfection.

Why are people less able to have sexual intercourse in the water? Is it because in water none of those things liquefy which liquefy with heat — lead, for example, or wax? Now the semen obviously liquefies with heat, for it does not liquefy until it is warmed by the friction. Fishes, however, have sexual intercourse without friction.

Why is it that sexual intercourse is the most pleasant of all things to animals, and is it so of necessity or with some purpose in view? Is it pleasant because the semen comes either from the whole body, as some declare, or not from the whole body but only from the area over which all the ducts of the veins extend? The pleasure then of the friction being similar in both cases, the sensation extends as it were over the whole body. Now the friction is pleasant, since it involves the emission of vaporous moisture enclosed unnaturally in the body; but the act of generation is an emission of similar matter for its natural purpose.

It is pleasant both of necessity and because it has a purpose in view, — of necessity, because the way to a natural result is pleasant, if it is realized by the senses; and because of its purpose, namely, the procreation of animal life. For it is the pleasure more than anything else which incites animals to sexual intercourse.

Why is it that sexual excess is beneficial in some diseases caused by phlegm Is it because it involves the emission of an excretion, and so a considerable amount of excreted matter is rejected with it, and phlegm is an excretion?

Why does sexual intercourse cool and dry the stomach? Does it cool it because the heat is expelled in coition? Coition causes dryness, because, as the heat goes out, the moisture is vaporized and finds its way out as the body cools, while at the same time the heat caused by the act of copulation has a drying effect.

Why are those whose eyelashes fall off accounted lustful?

Is it for the same reason as that for which the bald also are so accounted? For the eyelashes and the hair of the head really belong together. The reason is that all the congenital hair which does not increase as a man gets older, falls off owing to lustfulness. For the hair of the head and the eyebrows and eyelashes are congenital hair; and of these the eyebrows alone sometimes grow thicker with advancing years (the reason for this has been stated elsewhere), while the hair of the head and the eyelashes both fail from the same cause, viz., that lustfulness cools the upper parts of the body which are deficient in blood, and so this portion of the body does not concoct any of the nourishment, and the hair not receiving any nourishment drops off.

Why is it that those who wish to pass urine cannot have sexual intercourse? Is it because the ducts become full?

Now that which is full of moisture cannot admit any more moisture.

Why is it that varicocele prevents both man and any other animals which suffer from it from procreating their species? Is it because varicocele is due to a displacement of breath, and this is why it is beneficial to melancholic diseases? Now sexual intercourse also is accompanied by an emission of breath. If therefore a rush of breath makes its way along when sexual intercourse is taking place, it fails to impart movement to the semen and the latter becomes cold; consequently it enfeebles the erection of the penis.

Why do those who have sexual intercourse usually become languid and weaker? Is it because the semen is an excretion from the whole body, and so the composition of the body, like the harmony of a building, is disturbed by the loss of any portion of it — if, for example, all the blood or any other component part of it is removed?

So important is that which the body loses in sexual intercourse, being indeed formed from a large amount of nourishment though itself small in quantity, just as a cake is made from wheaten flour.

Why is it that the penis is greatly distended in those who have sexual intercourse at a time when they desire to pass urine? Is it because, owing to the ducts being full of moisture, the semen, passing out through a narrower space, swells the bulk of the penis and lifts it up, for it is situated close to the ducts.

What is the cause of the erection and swelling of the penis? Are there two reasons, first, that it is raised by a weight applied behind the testicles, the latter acting as the fulcrum, and, secondly, that the pores become full of breath? Or does its bulk become greater from the increase of the moisture and its change of position, or from the formation of moisture? Now very large objects are less easily moved, because the weight is farther away from the fulcrum.

Why is it that those who have sexual intercourse or are capable of it have an evil odour and what is called a hircine smell, whereas children do not? Is it because, as has already been said, in children the breath concocts the moisture and perspiration, whereas the perspiration of grown men remains unconcocted?

Why is it that in summer men are less capable of sexual intercourse and women more so? As the poet says, Men, when the artichoke blooms, are weaker and women more wanton.

Is it because the testicles hang down lower then than in the winter, and they must be drawn up if sexual intercourse is to take place? Or is it because hot natures collapse in summer when the heat is excessive, but cold natures are invigorated by it? Now a man is dry and hot, but a woman is cold and moist; consequently a man's strength is impaired, but a woman's force is invigorated, its deficiency being compensated by its opposite.

Why is it that some persons find pleasure in submitting to sexual intercourse, and some take pleasure in performing the active part, and others do not? Is it because each form of excretion has a region in which it is naturally secreted and, when an effort is made, the breath in finding its way out causes the excretion to swell and expels it; for example, urine collects in the bladder, food from which the moisture has been extracted in the bowels, tears in the eyes, mucous matter in the nostrils, and blood in the veins? Similarly the semen collects in the testicles and penis. In those whose ducts are not in a natural condition, owing either to the blocking up of the ducts leading to the sexual organs (as in the case of eunuchs or other victims of sexual disablement) or to some other cause, all such moisture collects in the region of the fundament; for it is by this way that it passes out of the body. That this is so is proved by the contraction of that part in sexual intercourse and the wasting of that region of the body. If therefore through wantonness a man has a superfluity of semen, it all collects there; and so, when desire comes upon him, the part in which it is collected desires friction. This desire may be due to diet or to the imagination. When desire is stirred from any cause, the breath collects and secretion of this kind flows to its natural place. If the secretion be thin and full of air, when the breath finds its way out the desire ceases (just as the erection in boys and older persons sometimes ceases without the discharge of any moisture); and the same thing happens, if the moisture dries up. But if neither of these things occurs, the desire continues till the one or the other of them takes place. But those who are effeminate by nature are so constituted that little or no semen is secreted where it is secreted by those who are in a natural state, but it collects in this part of the body. The reason of this is that they are unnaturally constituted; for, though male, they are in a condition in which this part of them is necessarily incapacitated. Now incapacity may involve either complete destruction or else perversion; the former, however, is impossible, for it would involve a man becoming a woman. They must therefore become perverted and aim at something other than the discharge of semen. The result is that they suffer from unsatisfied desires, like women; for the moisture is scanty and has not enough force to find its way out and quickly cools. When it finds its way to the fundament only, there is a desire to submit to sexual intercourse; but if it settles both there and in the sexual organs, there is a desire both for performing and submitting to the sexual act, and the desire for one or other is greater as more semen is present in either part. This condition is sometimes the result of habit; for men take a pleasure in whatever they are accustomed to do and emit the semen accordingly. They therefore desire to do the acts by which pleasure and the emission of semen are produced, and habit becomes more and more a second nature.

For this reason those who have been accustomed to submit to sexual intercourse about the age of puberty and not before, because recollection of the past presents itself to them during the act of copulation and with the recollection the idea of pleasure, desire to take a passive part owing to habit, as though it were natural to them to do so; frequent repetition, however, and habit become a second nature.

All this is more likely to occur in the case of one who is both lustful and effeminate.

Why is it that those who desire to submit to sexual intercourse feel a great shame about confessing it, which they do not feel in confessing a desire for meat or drink or anything of that kind? Is it because the desire for most things is necessary and its non-satisfaction is sometimes fatal to life, but sexual desires proceed from something beyond mere necessity?

Why is it that men are more inclined for sexual intercourse in the winter and women in the summer? Is it because men are hotter and drier in their nature, and women moister and cooler? In men therefore during the winter the moisture and heat are sufficient to cause the impulse (and it is moisture and heat which give rise to the production of the semen), whereas in women the heat is less and the moisture is congealed owing to the lack of fire. But in summer in women the heat is well proportioned, whereas in men it is more than sufficient; for the excess dissolves much of their strength. For this reason also children are thinner during the summer; for it is a case of ‘fire added to fire ‘.

Why is it that those who are hot by nature, when they are strong and well nourished, if they do not have sexual intercourse are often oppressed by bile, which makes its way down in a very bitter condition, and a salty phlegm is engendered, and their complexion changes? Is it because some excretion always comes away with the semen? (Wherefore also the semen of some men who emit a large quantity of excretion is said to smell of the water in which fish have been washed.) So when they have sexual intercourse, this excretion comes away with the semen and so causes no inconvenience; but if they abstain from copulation, the excretion becomes bitter or salty.

Why are the melancholic particularly inclined for sexual intercourse? Is it because they are full of breath, and the semen is a discharge of breath? If so, those whose semen is full of breath must necessarily often desire to purge themselves of it; for thus they are relieved of it.

Why are birds, and men with thick hair, lustful? Is it because they have a large amount of moisture? Or is this not true (for the female sex is moist and not hairy), but is the real reason that the natures both of birds and of thick haired men are able owing to their heat to concoct a large quantity of moisture? This is indicated by the presence of hair and feathers. Or is it because the moisture is plentiful and is overpowered by the heat? For if the moisture were not plentiful or were not overpowered, hair would not grow on human beings nor feathers on birds. Now the semen is formed most plentifully under conditions of locality and at seasons that have these characteristics, in spring for example, which is naturally moist and hot. Birds and lame men are lustful for the same reason, namely, that in both, owing to the deficiencies of their legs, the nourishment is carried downwards in small quantities only, while the rest travels into the upper region of the body and is converted into semen.

Why is it that when a man has sexual intercourse his eyes grow very weak? Is it not clear that this happens because the moisture leaves them? This is proved by the fact that the semen is cold; for it does not become moist unless the heat warms it thoroughly. Nor does it require melting, for it is dispersed about the body like blood.

BOOK V. PROBLEMS CONNECTED WITH FATIGUE

WHY is it that long walks are more fatiguing and short I walks less fatiguing over level ground than over uneven country? Is it because much movement and violent movement causes fatigue, and spasmodic movement is violent, and continuous and monotonous movement is much movement? In walking therefore on hilly ground, if the distance be long, the change provides a rest, and the same movement is not continued for long, even in the case of horses, owing to the change. On even ground, on the other hand, the similarity of position continues uninterruptedly and gives the limbs no rest, but helps to make the movement continuous. Now if the distance is short, no fatigue is caused on flat ground by long-continued motion; whereas over hilly ground the violent change to an opposite kind of movement, sometimes uphill and sometimes down, gives rise to fatigue. Such, in our opinion, is movement over hill country, and that over level ground is the contrary.

Why is it that those who faint and those who collapse after physical exertion are generally held to become smaller in bulk and their voices shriller? Is it because their voices, appearing to be less, seem shriller (this can be illustrated by the fact that those who imitate distant voices make shrill sounds), while their bulk appears less (because the blood removes from the upper to the lower parts of the body)?

Why is it that only the stomach becomes thinner in those who take violent physical exercise? Is it because the greatest quantity of fat is found round the stomach?

Why is it that the fat is consumed in those who exert themselves? Is it because fat melts when heated, and the movement causes heat, whereas flesh does not melt?

Why is it that the parts round the belly are fattest? Is it because they are near to the nourishment? While then the other parts of the body receive something from the belly, the belly itself often receives something. Or is it because the belly is exerted less than the other parts, because it has no joints?

Why is it that fatigue ceases more readily if one mixes water with the oil with which one rubs oneself? Is it because the oil sinks in farther when mixed with water, whereas by itself it does not penetrate so well, because it has a tendency to remain on the surface? If, therefore, it sinks in, the body is more softened; for oil is naturally hot, and hot things have a drying and hardening effect, and dryness and hardness are inexpedient in fatigue; but when applied with water the oil has a less drying effect.

Why is it that vomiting is prescribed for those who are suffering from fatigue, although vomiting is itself fatiguing?

Is it because fatigue is caused by the crushing and pressure and weariness of the bones, and this can be caused either by some external or by some internal agency, and in the latter case from one of two causes, either because the flesh overreaches its own strength, or because one bodily constituent mingles in a large quantity with the rest of the body and does not keep to its proper place, as happens with the excretions? For any burdens which are put upon us externally cause more fatigue than our own members, even though they are lighter than these in weight. This can be illustrated by the fact that those who have eaten or drunk somewhat freely, though they have exerted themselves less than when they were fasting, yet feel more fatigue, because the food, being unconcocted, is not in its proper place.

And since fatigue causes liquefaction, and liquefaction is an excretion, it is the latter which produces fatigue in us, wandering about at random and attacking the bones and sinews and the interior parts of the flesh, which are rare and open. Consequently vomiting, by dislodging the excretion which is the cause of fatigue, naturally makes us less fatigued; for it leaves the body in the state in which it was when the exertion began. Vomiting is fatiguing, not because of the excess of movement caused while it is taking place, but when it does not happen to be thoroughly carried out; for fatigue caused by vomiting occurs when a considerable amount of food is left behind and this contains excretions, which, as we have already said, happens in those who have eaten largely. If, therefore, in the latter it is not exertion which causes fatigue, but they feel fatigue because of the condition in which they are, so vomiting could not be the cause of fatigue in those who do not get rid of all the food which is in them; for in that case every one who vomited would feel fatigue, whereas many through vomiting become less fatigued.

Why is it more fatiguing to the arm if one casts with the hand empty than with a stone in it? Is it because the movement is more spasmodic if the hand be empty, for the hand has nothing to rest upon, such as the thrower finds in the missile which he holds in his hand? Similarly the competitor in the fivefold contest finds resistance in the weights which he holds, and the runner in his arms which he swings; so the former jumps farther if he holds weights than if he does not, and the latter runs more quickly if he swings his arms than if he does not do so.

Why is it that quick running causes a tendency to disease in the head both in man and in the other animals? Yet generally speaking running appears to draw the excretions downwards, as does walking; for which reason also those who walk much grow fat in the legs, because both the nourishment and the excretions settle down from the upper into the lower parts. Is it true that while motion has this effect, yet quick motion, owing to the strain and the holding of the breath which it involves, causes heat in the head and inflates the veins in it and renders them liable to be affected by external influences, such as cold and heat, and by the contents of the trunk; and that if these can enter the head, disease is necessarily engendered in that region?

Why is it more fatiguing to walk on level than on uneven ground, whereas one can walk more quickly on an even than on an uneven road? Is it because it is less fatiguing if one does not move continually in the same position, and this is the case rather in traversing uneven ground? On the other hand one progresses more quickly the less one’s movement is contrary to nature. On even ground, therefore, the raising and planting of the foot is a slight but frequent movement, while the opposite occurs on uneven ground. Now to raise the foot is unnatural (for raising anything requires an effort); and the slight movement of raising the foot at each step becomes considerable when repeated many times.

Why is it more fatiguing to lie down on a flat than on a concave surface? Is it for the same reason that it is more fatiguing to lie on a convex than on a flat surface?

For the weight being concentrated in one place in the sitting or reclining position causes pain owing to the pressure. This is more the case on a convex than on a straight surface, and more on a straight than on a concave; for our body assumes curved rather than straight lines, and in such circumstances concave surfaces give more points of contact than flat surfaces. For this reason also couches and seats which yield to pressure are less fatiguing than those which do not do so.

Why are short walks fatiguing? Is it because they involve abrupt change, for they necessitate coming often to a standstill? Now frequent change from one extreme to another is fatiguing, for it does not allow one to become accustomed to either extreme, and this is tiring; and one cannot become accustomed to both things at once.

Why is it that those who ride on horseback water more freely at the eyes the quicker the horse goes? Is it because the stream of air which meets them is colder according as it is for a shorter time in contact with the body (as happens in the case of naked runners), and it is the cold which makes the eyes water? Or is the reason the contrary of this, namely, that heat makes the eyes water (the sun, for instance), and movement engenders heat?

Or is it due to the impact of the air? For as blasts of wind coming from an opposite direction trouble the eyes, so the air all the more deals a gentle blow the quicker the horse is driven.

Why is it that the other parts of the body become more fleshy when subjected to friction, but the stomach becomes leaner? Or is it true that the stomach does not become gradually leaner but solider? The flesh, however, is not similarly affected, and this is the point of the problem; for, speaking generally, the stomach does become leaner as the result of exercise and exertion. The reason is that the fat parts, and those which naturally admit of more expansion, liquefy when heated. Now the skin naturally admits of expansion; but, because it very quickly fattens, it always contains some fat, unless any disease is present. The reason of this is that it is near the nourishment. Since, therefore, generally speaking, fat is not natural but adventitious, and is not one of the necessary constituents of the body, as is the flesh, the movements set up by exercise and friction warm and melt it and distribute the superfluous nourishment in the other portions of the body. It is for this reason that sitting still makes the stomach fat and the rest of the body thin; whereas movement and friction make the stomach thin and fill out the rest of the body.

Why is it that after long and violent walking or running, if one stands on tiptoe, the heels quiver and are hastily drawn down again? Is it because, owing to the continuity and violence of the movement, the quivering of the muscles in the man does not cease? For the mind often controls the body as a whole, but does not control certain parts of it, when they have been set in motion in a certain way, the heart, for example, and the sexual organ. The reason is that a considerable quantity of breath is consumed by heat round the muscles, which does not cool off immediately a man comes to a standstill. This breath, therefore, is drawn down, making him quiver, as it were dragging at him beneath by its movement, and leaves him little control over the most distant part of his body — in this case over his heels. A similar phenomenon occurs in the trembling of the lower lip in those who are angry.

Why is it that those who are not running very hard respire rhythmically? Is it because every rhythm is measured by a definite movement, and the movement at regular intervals which occurs in running is of this nature?

As soon, therefore, as they begin to run they respire; and so the respiration taking place at equal intervals, because it is measured out by a uniform movement, creates a rhythm.

Or is it because all respiration without exception takes place at equal intervals in those who respire naturally and do not hold their breath? The rhythm then is not obvious in those who are sitting or walking, because the movement of the body is slight; and in those who are running vigorously we cannot comprehend the rhythm of the respiration, because our senses cannot follow the movement. But in those who are running moderately fast the movement allows the measure observed by the breathing to be perceptible, and so shows the rhythm.

Why is it that, when we are running, the air seems to turn into breath? Is it because, while we are moving in the act of running, we set in motion a stream of air continuous with our bodies, and this is breath? Wherefore the air not only seems to turn into breath, but actually does so. Or is it because in running we come into collision with the air, and, when this happens, we have a more acute perception of the air owing to the movement? It is only natural, therefore, that it should seem to us to turn into breath; for the phenomenon occurs through the rush of our movement.

Why is it that one is more liable to fall when running than when walking? Is it because in the former case one raises oneself higher before moving? For this is the difference between running and walking.

Why is it that in ascending a slope our knees feel the strain, and in descending our thighs? Is it because when we ascend we throw the body upwards and the jerk of the body from the knees is considerable, and so we feel the strain in the knees? But in going downhill, because the ° weight is carried by the legs, we are supported by our thighs, and so they feel the strain. Furthermore, whatever is unnatural causes strain and pain. Now it is natural for the knees to bend forward and the thighs to bend backwards.

In going uphill then the knees are bent backwards owing to one’s desire to support oneself, but in going downhill the thighs are bent forwards because the body has a tendency to fall forwards.

Why is it that on journeys the middle of the thigh is the part which feels the strain most? Is it because in anything that is prolonged and continuous and fixed the strain falls most upon the centre, and so it is most likely to break at that point? Now the thigh is of this nature, and so it is in the middle of it that we feel the strain most.

Why is it that persons of a moist temperament easily choke as a result of exertion and through heat? Is it because their moisture when heated becomes air and the excess of it burns more fiercely? When, therefore, it cannot find its way out owing to its abundance, the process of cooling does not take place; and so it quickly catches fire owing to the natural and adventitious heat. It is for this reason that perspiration induced by taking physical exercise, and by exerting oneself generally, and the emission of breath are beneficial; for breath is formed by the separation and rarefaction of moisture.

Why is it that bodies of an equable temperament often feel weariness but throw it off more easily? Is the cause the same in both cases? For that which is equable is uniform, and that which is uniform is the more subject to similar influences; so if any part suffers, the whole straightway suffers in sympathy. But that which is not equable, being more disunited, is not sympathetically affected by its parts. A body of equable temperament therefore often feels weariness, but throws it off more easily, because the whole body shares it; for the suffering, being distributed over a larger area, is weaker and therefore more easily got rid of. But a body which is not of an equable temperament, inasmuch as it has no communion with its members, is less often afflicted with weariness, but has greater difficulty in shaking it off; for its suffering is acute. —

Why is it more fatiguing to walk on level than on uneven ground, whereas one can walk more quickly on an even than on an uneven road? Is it because it is least fatiguing if one does not move continually in the same position, and this is the case rather in traversing uneven ground? But one travels more quickly when the foot has to be lifted less in any equal period of time. On level ground the raising of the foot is a slight but frequent movement, on uneven ground the reverse; but the slight movement of raising the foot at each step becomes considerable when repeated many times.

Why is it that in descending a slope we feel the strain most in the thighs, and in ascending in the legs? Is it because in ascending the strain is due to the raising of the body? For the whole body becomes a burden; and so the part upon which it all rests and with which we raise it (that is, the legs) feels the strain most. For the leg is an extremity, having length but not having width, as the foot has; consequently it is shaken. So we may cite in illustration the fact that we move weights with the shoulder and rest them upon it, and therefore feel the strain most in the shoulder. But when we are descending, the strain is caused by the body falling downwards and thrusting us forward unnaturally, so that we feel the strain most in the part on which it falls most and which it shakes. Now the leg remains unaffected, and the trunk forms the weight; but it is the thigh which receives the weight and is shaken, because it has extension and is forced from above into a bent position where the trunk presses on it.

Why is it that a journey seems longer when we traverse it without knowing its length than when we do know it, all other conditions being equal? Is it because to know its length is to be able to connect a number with it, and the indeterminate is always more than the determinate? Just as, therefore, if one knows that a journey is a certain length, it must necessarily be finite, so, if one does not know, as though the proposition was convertible, the mind draws a false conclusion, and the distance appears infinite. Furthermore, a quantity is determinate, and that which is determinate is a quantity; therefore when a thing appears not to be determinate, it appears to be as it were infinite, because that which is of a nature to be determined, if it is not so is infinite; so that what appears not to be determined necessarily appears in a sense unlimited.

Why is it that the thighs feel fatigue more than the legs? Is it because they are nearer to the part of the body which contains the excrement, so that, when that part overflows with heat owing to the movement, the thighs contract more readily and to a greater extent? Or is it because the thighs are more closely connected by growth with one another, for they suffer considerably owing to the separation of what is really continuous? For indeed, If one feels fatigue when there is no excrement in the body, yet it is the thighs and loins which suffer more than the other parts. Or is it because, just as swellings in the groin are caused, if one receives a blow, owing to the close connexion of the veins and sinews, so the thigh is similarly affected? For the thigh is nearer than the leg to the source of the veins. Or is it because the thigh remains more in the same position than the legs, and this is more fatiguing? Or is it because the thigh is fleshy, and therefore the natural heat there is considerable?

Why is it that in some people sores are formed as the result of exertion? Is it because, when the body contains impurities, movement heats it and causes other excretions to exude with the perspiration? These excretions, being thick and containing harmful humours of an acid, bitter, and salty nature, cannot be expelled owing to their thickness, but swell up through the flesh and cause sores owing to the bitterness of the humour which they contain.

Why is it that food is not given immediately after exercise and after medicine has been administered? Is it because the body is still being purged and has not yet rested from its toil, and the excretions have not yet been expelled?

Why is it more difficult to run than to walk? Is it because the runner has a heavier burden, since, when he is raised in the air, he has his whole weight to support? But a man who is walking continues to put his weight on the part of him which is at rest, like a man leaning against a wall.

Why is it that one does not feel hungry immediately after exercise? Is it because liquefaction still remains until the concoction of anything is complete? Or is it owing to the breath which the exertion engenders from the moisture?

Or is it owing to the thirst which is due to the heat caused by the exertion? All these possible causes are present.

Why is it that those who are fatigued and those who are suffering from phthisis are apt to emit semen during sleep? Is it because generally speaking those who are warm and moist are inclined to do so, since the semen naturally has these characteristics? Now such a thing is most likely to happen in persons in these conditions, when the heat engendered by sleep is added; for the body requires a slight impulse only, which must be internal and not external. This condition is fulfilled in those who are suffering from phthisis and in those who are fatigued; the latter being full of hot liquid owing to their fatigue and movement, and the former owing to their state of flux and the heat engendered by their inflamed condition. —

Why is it more difficult to apply prolonged friction oneself to the left leg than to the right? Is it because, though our right is the side which is capable of exertion, yet the rubbing of the left leg, since it involves a distorted attitude, is unnatural, and anything which is unnatural is difficult? The difficulty of rubbing the right side with the left hand is not obvious, because the left hand has no strength whichever side it is applied to.

Why is it healthy to reduce the amount of nourishment and to increase the amount of exercise? Is it because abundance of excretion is the cause of disease? Now this is due either to excess of nourishment or to lack of exercise.

Why should the flesh be made rare rather than dense in order to promote health? For just as a city or locality is healthy which is open to the breezes (and that is why the sea too is healthy), so a body is healthier in which the air can circulate. For either there ought to be no excrement present in the body, or else the body ought to get rid of it as soon as possible and ought to be in such a condition that it can reject the excrement as soon as it receives it and be always in a state of motion and never at rest. For that which remains stationary putrefies (standing water, for example), and that which putrefies and does not move causes disease; but that which is rejected passes away before it becomes corrupt. This then does not occur if the flesh is dense, the ducts being as it were blocked up, but it does happen if the flesh is rare. One ought not, therefore, to walk naked in the sun; for the flesh thereby solidifies and acquires an absolutely fleshy consistency, and the body becomes moister, for the internal moisture remains, but the surface moisture is expelled, a process which also takes place in meat when it is roasted rather than boiled. Nor ought one to walk about with the chest bare; for then the sun draws the moisture out of the best constructed parts of the body, which least of all require to be deprived of it.

It is rather the inner parts of the body which should be submitted to this process; for, because they are remote, it is impossible to produce perspiration from them except by violent effort, but it is easy to produce it from the chest because it is near the surface.

Why is it that short walks are fatiguing? Is it because one often comes to a standstill and there is no uniform movement in the joints, and this is fatiguing?

Why do those who stand still in the sun become warmer than those who move, and this although movement is productive of heat? Is it true that every kind of movement does not produce heat, but some kinds have a cooling effect, as happens, for example, when one blows upon or keeps in motion kitchen-pots which have boiled up? If then the heat remains when one stands still and, doing so, heats us more than if it were in motion (for our own body always gives off a warm steam, which heats the neighbouring air, as though there were a burning brand there), then, if we remain motionless, the air surrounding us becomes warm for the reasons already stated; whereas, if we move, a wind is set up which cools us, for wind always has a cooling effect.

Why is it that those who ride on horseback water more freely at the eyes the quicker the horse goes, and those on foot the quicker they run? Is it due to the fact that the air which meets them is cold? For cold causes the eyes to water; for by contracting and solidifying the flesh it purges out the moisture. Or is the reason the contrary of this, namely, that the heat causes perspiration, and watering at the eyes is a form of perspiration? Therefore both perspiration and watering at the eyes are due to heat and are alike salty; and it is movement which causes heat. Or is it due to the impact of the air? For as blasts of wind coming from an opposite direction trouble the eyes, so too the quicker a man drives or runs the more does the air deal a gentle blow, and this causes the eyes to water, because the ducts of the eye are rarefied by the blow; for every blow has the effect either of cleaving or crushing. —

Why is it that fatigue must be cured in the summer by baths, in the winter by anointing? Is it because the latter, owing to the cold and the changes which it causes in the body, must be got rid of by heat, which will cause warmth, and olive-oil contains heat? In summer, on the other hand, the body requires moisture; for the season is dry and chills are not engendered, because it is warm. A sparing diet of solid food and a liberal indulgence in liquid nourishment are characteristic of the summer, the latter being peculiar to the summer, while the former is commoner than another seasons; for indulgence in drinking is peculiar to the summer because of the dryness of the season, but a sparing diet is found at all seasons, but is more general in the summer; for then owing to the season more heat is engendered by food.

Why is it that those who are running vigorously experience the greatest shock, if any one impedes them in their course? Is it because a thing is being drawn apart most vigorously when it is being dragged or moved violently in a contrary direction? If therefore any one impedes one who is running and whose limbs are being vigorously thrust forward, the result is that he wrenches him back at the same time as his limbs are still moving forward, and so the more vigorously he is running the more violent is the shock which he receives.

Why is it that walking along roads over uneven ground if is less fatiguing than along a flat, straight surface? Is it because an upright carriage is natural to everybody, but walking over even surfaces is more fatiguing than over uneven ground, since walking over even ground causes a continuous strain on the same members, whereas walking over uneven ground distributes the strain over the whole body? Now walking in warm weather tends more to make the body thin than in cold weather; for it causes more strain upon the outer parts, and so causes thinness by engendering perspiration. Walking in cold weather makes the flesh more solid and causes a great desire for food; for it engenders an increase of heat in the inner parts and, since they become less liable to be affected by the cold, it cleanses the inner region by increasing the heat there, while it makes the flesh firm, since it cannot prevail over the whole of it.

In like manner walking uphill is a greater exertion and tends more to cause thinness than walking downhill. For walking uphill causes most strain to the loins (whereas walking downhill is most trying to the thighs, for the whole weight falls upon them and so usually causes fatigue in them); for as they are forcibly carried upwards in an unnatural manner, heat is engendered. Walking uphill therefore induces perspiration and causes thinness by heightening the respiration and engenders pain in the loins; for the legs, being lifted with difficulty, cause the loins to bend and draw them up, which naturally causes a very great strain. Walking on hard, resisting ground causes fatigue to the muscles and tendons of the legs; for it causes tension in the sinews and muscles, because the pressure upon them is violent. Walking on soft ground is fatiguing to the joints; for it causes frequent bending of the joints, because the surface trodden gives way.

Why do we walk with difficulty up a steep slope? Is it because all progression is made up of raising the feet and putting them down again? Now raising the foot is unnatural and putting it down is natural, while putting the foot forward is a mean between the two. Now in walking up a steep slope the unnatural motion preponderates.

[Why are riders on horseback less likely to fall? Is it because owing to their fear they are more careful?]

BOOK VI. PROBLEMS CONNECTED WITH THE POSITIONS ASSUMED IN LYING DOWN AND IN OTHER POSTURES.

WHY is it that sitting down makes some persons fat and I others lean? Is it because bodily conditions differ, some men being hot, others cold? Those therefore who are hot grow fat (for the body owing to its heat prevails over the nourishment); but those who are cold, owing to the fact that their body requires heat introduced from without and derives it chiefly from movement, cannot concoct their food while they are at rest. Or is it because the hot are full of superfluities and require movement to expend them, while the cold are not so?

Why is it necessary that the parts of the body should be distended, as happens when a man takes athletic exercise?

Is it because the ducts must be purged by their own breath?

Why is it better to lie in a curved position and why do many physicians prescribe this? Is it because the stomach concocts food more quickly when it is kept warm, and it keeps warmer in this position? Furthermore it is necessary to give the vapours a place where they can settle; for then there is less likely to be pain from flatulence. (It is on this account that swollen veins and abscesses of all kinds help to restore a healthy condition, because they form hollows in which they receive the vapours.) When the body then is extended no hollow is formed (for the internal organs occupy all the space); but a hollow is formed when the body is curved.

Why is dizziness more likely to occur in those who are standing than in those who are sitting? Is it because, when one is still, the moisture all inclines to one part of the body? This is why raw eggs cannot be spun round and round but fall over. The same thing occurs when the moisture in the body is put in motion. So one stands up after having been at rest, when one is in this condition; but one sits down after having been in motion, when the moisture is evenly and uniformly distributed Why is it that sleep comes more readily if one lies on the right side? Is it because the conditions when we are awake and when we are asleep are the contrary of one another? Since, therefore, when we are awake we recline on the left side, the contrary will occur when another principle, namely, the contrary, is at work. Or is it because sleep is the absence of movement? The parts then of the body which are most active must be at rest; and the parts of the body on the right are most active.

So, if one is lying on this side, a waking principle is as it were enchained.

Why does one feel numbness? And why more in the hands and feet than elsewhere? Is it because numbness is a process of cooling, being due to deprivation of blood and its transference elsewhere? Now these parts, especially the feet, are least fleshy and most muscular, and so they are naturally disposed to cool quickly.

Why do we find it comfortable to recline on the left side, but sleep better on the right side? Is it because by turning away we avoid looking towards the light, since in the dark sleep comes on more readily? Or is it because we keep awake when reclining on the left side, and in this position we can easily employ ourselves in any particular function; and so for the contrary purpose the contrary position is advantageous; for each position invites to a particular function.

BOOK VII. PROBLEMS CONNECTED WITH SYMPATHETIC

ACTION

WHY do men generally themselves yawn when they see I others yawn? Is it because, if they are reminded of it when they feel a desire to perform any function, they then put it into execution, particularly where the desire is easily stirred, for example, that of passing urine? Now a yawn is a breath and a movement of moisture; it is therefore easy of performance, if only one sees some one else yawning; for the yawn is always ready to come.

Why is it that, although we do not imitate the action if we see a man stretching out his hand or foot or doing anything else of the kind, yet we ourselves yawn if we see some one else doing so? Or does this not always occur, but only when the body happens to feel a desire and is in such a condition that its moisture becomes heated? For then it is recollection which gives the impulse, as also in sexual desire and hunger; for it is that which causes recollection to exist that provides the stimulus towards the condition observed in another person.

Why is it that if we stand by a fire we desire to pass urine, and if men stand near water (for example, near a river) they actually pass urine? Is it because water in general reminds us of the water in our own bodies, and the neighbourhood of water incites our internal moisture to come out? Fire of itself dissolves anything which is solidified in the body, just as the sun melts the snow.

Why is it that those who come into contact with certain diseases become affected by them, but no one ever becomes healthy through contact with health? Is it because disease is a state of movement, while health is a state of rest? If so, disease can set up movement, but health cannot. Or is it because disease comes to us against our will, while health comes by our own wish? Things then which occur against our will are different from those which occur by our wish and deliberate choice.

Why is it that not only do some unpleasant sounds make us shudder — for example, when a saw is being sharpened, or pumice-stone cut, or a stone ground — but the signs of effects produced in others conveyed by the sight cause those very effects in ourselves? For our teeth are set on edge when we see others eating anything bitter, and some people faint when they see any one being strangled. Is it because every sound or noise is a breath, and this penetrating into us naturally causes disturbance? Now it will cause greater disturbance if it comes either in great quantity or with an unusually violent impact, setting up a new condition or causing some alteration within us. Wherefore breaths which, though large in bulk, are yet soft, stir the actual seat of sensation, and such have a pleasant effect; but those which are rough, causing a violent impact, shake the seat of sensation and affect a wide area owing to the force of their impact. Now things which are cold also affect a wide area, for coldness is a kind of force; therefore, as has been already said, it causes shuddering. But things which are rough, because they cause a series of frequent impacts, striking on the base of the hair thrust it in the opposite direction; for when the hair is thrust out, its ends must necessarily assume a contrary position, with the result that it stands upright; for hair always naturally lies flat. The direction taken by the breath which is conveyed to the body by the hearing is downwards from above. The sounds, therefore, which we have mentioned being harsh, the hair bristles for the reasons stated. The bristling occurs more on the rest of the body than on the head, because the hair there is weaker and the effect produced is weaker. The sensation produced by hearing being blunter than that produced by sight, the effects produced by it are confined to the surface of the body; the bristling of the hair is an effect of this kind, so it occurs from many dissimilar causes. The sensation produced by sight being very distinct, its results too are correspondingly more distinct; therefore the effects actually occurring in others are reproduced in those who observe them, but more mildly than in the original. But as a result of hearing our hair stands on end for fear, not of the actual sounds, but of the anticipation which they arouse; for it is an anticipation of grievous ill.

Why is yawning caused by the sight of others yawning,

and so also the passing of urine, particularly in beasts of burden? Is it due to recollection? For when recollection occurs the part of the body concerned is stimulated. In men then, because their sensations are finer, when they see something stimulation and recollection occur simultaneously. But in the beasts the sight is not sufficient by itself, but they require another sense to be called into activity; so the sense of smell must also be employed, this being a more easily stimulated sense in unreasoning animals. So the other animals always pass urine in the same spot as the first one; for the stimulus is most acute when the sense of smell is employed; and the sense of smell is called in play when they are near the spot.

Why is it that when we see any one cut or burned or tortured or undergoing any other painful suffering, we share mentally in his pain? Is it because nature is common to us all, and it is this which shares in the sufferer's pain, when we see any of these things happening to him, through kinship with him? Or is it because, just as the nose and hearing according to their particular faculties receive certain emanations, so also the sight does the same as the result of things pleasant and painful?

Why is it that those who come into contact with phthisis or ophthalmia or scurvy become affected by them, but there is no contagion from dropsy or fevers or apoplexy and the rest? In ophthalmia is contagion due to the fact that the eye is very easily affected and more than the other senses assimilates itself to that which it sees — for example, it moves when it sees something else moved — and so it very readily becomes disordered when it sees another eye in that condition? In phthisis is the contagion due to the fact that phthisis makes the breath weak and laboured, and those diseases are most quickly contracted which are due to the corruption of the breath, as is seen in plagues? He therefore who comes into contact with the sufferer inhales this corrupted breath, and so himself becomes ill, because the breath is unhealthy; and he catches the disease from one person only, because that person exhales this particular breath, which is different from that which others exhale; and he catches the same disease, because, in inhaling the breath by which he becomes infected, he is inhaling just such breath as he would if he were already suffering from the disease. Scurvy alone is catching among similar diseases, such as leprosy and the like, because it affects the surface of the body and causes a glutinous discharge (for this is the nature of itching diseases), and so this disease, being on the surface of the body and glutinous, can be conveyed by contact. Other similar diseases are not so conveyed, because either they are not on the surface, or else, being on the surface, they do not remain there, because they are dry.

Why do purslane and salt stop inflammation of the gums? Is it because purslane contains some moisture? This is seen to be so if one chews it or if it be crushed together for some time; for the moisture is then drawn out of it. The glutinous matter sinks into the gum and draws out the acidity. For that there is an affinity between the disease and the remedy is shown by the acidity; for the juice of the purslane has a certain acidity. Salt, on the other hand, dissolves and draws out the acidity. Why then do lye and soda not have this effect? Is it because they have an astringent instead of a dissolvent effect?

BOOK VIII. PROBLEMS CONNECTED WITH CHILL AND SHIVERING.

WHY is it that those who are chilled become livid? Is it because the blood is congealed by the cold and, as it congeals, becomes black through the absence of heat?

(A white colour, on the other hand, is to be attributed to fire.) For this reason also the flesh of the aged is particularly livid, because it contains very little heat.

Why is it that those who are chilled cannot sleep? Is it because any one who is chilled tends to hold his breath, but a sleeper exhales rather than inhales, so that it is difficult for one who is cold to sleep, since it is impossible to do contrary things simultaneously?

Why is it that those who are ill or in pain or angry become more active under the influence of cold? Is it because a cold condition makes a man stronger?

Why is it that athletes in good training do not bear the cold well? Is it because their condition is clean and airy and free from fat? Such a condition is easily accessible to the air, since it is permeable and does not contain any heat; fat, on the other hand, is hot, unless it is saturated with moisture.

Why are the extremities most affected by cold? Is it due to their narrow shape? Also the ducts in them, being narrow, hold little blood, and therefore little heat; for the blood is hot.

Why are the feet more liable to become chilled when they are suspended in mid air? Is it because the wind blows more underneath then? Or is it because the blood is contracted into a narrower space below, and so the rest of the foot is more easily chilled, because the heat leaves it?

Why is it that stout persons are especially liable to chill, although fat is warm? Is it because, owing to the greatness of their bulk, their extreme parts are far from the internal heat, while their near parts are far from the external cold?

Why do people shiver after sneezing and after passing urine? Is it because in both processes the veins are emptied, and when they are empty the cold air enters, and this causes shivering?

Why is it that ravenous hunger is felt in cold weather and in winter rather than in summer? Is it because ravenous hunger is brought on through lack of dry nourishment, and in the cold and winter the internal heat contracts into a narrower space and its internal nourishment soon fails, and when this happens ravenous hunger is more likely to occur? The faintness and weakness due to ravenous hunger occur when liquefaction takes place in the body owing to the collection of heat in one place. This liquefied matter flows into the region usually occupied by the nourishment and itself becomes nourishment for the body; if it attacks the seat of respiration, loss of voice and weakness ensue, the loss of voice being due to the obstruction of the passage of the breath, while the weakness is caused by the lack of nourishment in the body and internal liquefaction. Treatment in such cases can be quickly and simply applied, because the cause of the trouble is external; for it is the external cold making our heat contract which causes the ravenous hunger. So just as one trembles and turns pale from fear, but, when freed from the danger, one recovers immediately; so too those who are suffering from ravenous hunger, after taking a little bread, quickly recover, having undergone a violent and unnatural disturbance, but not having been permanently injured thereby; for the same thing which resists the tendency of nature also restores us to our natural course. Once relax the force which is straining against nature, and the body slips back into its natural state as suddenly as children who are playing at ‘ tug-of-war’ with a rope, if the rope is let go, fall on their backs.

Why is it that those who have undergone athletic training do not bear the cold so well as those who have not done so? Is it because the fat is got rid of by their exercises, and it is the fat which gives warmth, since that which is oily is hot? Or is it because the body is in a more airy and rare condition, because the fat and the excretions have been got rid of, so that there is nothing to keep out the cold? Or is it because through the opening of the pores by perspiration a number of doors are as it were removed? It is clear that the same condition does not conduce both to health and to strength; for obviously a condition of health is one of fatness, while a condition of strength is a state of rarity.

Why do we shiver both when hot and when cold water is poured over us? For it is strange that contraries should produce the same result. Is it because, when cold water is poured over us, the extinguishing of the internal heat causes shivering, whereas, as the effect of warm water, the superficial cold is enclosed in one place and massed together by its inward rush? So both effects are due to the same cause, but in one case it operates from within and in the other from without.

Why do the hairs bristle upon the skin? Is it because they naturally stand erect when the skin is contracted, and this contraction occurs owing to cold and certain other conditions?

Why is it that one shivers at the last emission of urine? Is it because, whilst the warm liquid is still within, the bladder and the passages round it are full, but when it has passed out they fill up again with cold air, for nothing can be empty, but must be full either of something corporeal or of air? Inasmuch then as cold air enters, shivering is a natural result.

Why is it that the tongue of those who are chilled, like that of the drunken, stumbles? Is it because, as it stiffens and hardens with the cold, it becomes difficult to move, and, when this happens, it cannot speak plainly? Or is it because, the outer parts of the body being solidified by the cold, the moisture flows together within and saturates the tongue, and so it cannot perform its function, as has been already described in the case of the drunken? Or is it because owing to the trembling produced by chill, the movement of the tongue is irregular and it cannot articulate the words which it utters, and consequently it stumbles?

Why do the hairs stand erect on the bodies of those who are chilled? Is it because as a result of cooling the heat collects in the inner region of the body, and the flesh, as the heat leaves it, contracts more and more, and, as it is drawn together, the hairs become more upright?

[Or is it because...]

Why in the winter are we more likely to become chilled through running than through standing still? Is it because the air surrounding the body, when we stand still, no longer causes discomfort when once the body is thoroughly warm, but on the other hand, when we are running, we are continually encountering more and more cold air, and so are more liable to become chilled? Moreover also air is cold when it is in motion, and it is for the most part such air that meets us in running.

Why is it that it is colder at dawn, although the sun is nearer to us? Is it because the period of the sun’s absence is then at its longest, so that the earth has become more cooled? Or is it because towards daybreak the dew falls, as does the hoar-frost, and both of these are cold? Or do they too fall because the heat which rises from the earth is overpowered, the reason that it is overpowered being the absence of the sun? So that they do not fall when the sun is farther away, but when it is nearer they fall and become congealed, because the longer the sun is absent the cooler the ground becomes. Or is it because the nocturnal breezes tend to cause cold towards daybreak? Or do we only imagine that it is colder because then the food within us is concocted and, the stomach being emptier, we are more liable to feel the cold? This can be illustrated by the fact that we feel very cold after vomiting.

Why is it that those who are chilled feel pain if they are taken straight to the fire, whereas they do not do so if they are warmed gradually? Is it because one contrary immediately succeeding another contrary always sets up a violent change? We may compare the fact that if one bends a tree by degrees, it does not suffer, but if one bends it with greater violence and not gradually, it breaks off.

If therefore like is unaffected by like, and the heat of a man who is chilled collects and concentrates within him, and the moisture and cold are left behind, and a contrary is destructive of its contrary, it follows that, if one is warmed by degrees, the heat comes out gradually and less pain is caused, but, if the warming is not gradual, the heat is rather drawn out.

Why is it that when we are chilled the same heat causes more burning and pain? Is it because owing to its density the flesh holds the heat which comes into contact with it? This is the reason why lead becomes hotter than wool. Or is the passage of the heat violent because the pores are congealed by the cold?

Why is it that those who are angry do not become cold? Is it because anger and wrath are the opposite of cowardice? Now anger is the result of fiery heat, for by retaining a large quantity of fiery heat within us we become warm. This is particularly noticeable in children. For grown-up men when angry become distracted, but children first of all take in breath in large quantities and then blush; for the amount of heat in them being very great and causing liquefaction makes them blush, since, if one were to pour a quantity of cold water on them, they would cease from their wrath, for their heat would be quenched. The opposite occurs in cowards and those who are afraid; for they are chilled and become cold and pale; for the heat leaves the superficial region of their bodies.

Why is it that when we shiver, the hairs stand erect? Do they lie down because they grow in moisture? For the weight of the hair prevails over the moisture. Now shivering is caused by the cold, for the cold naturally congeals the moisture. When therefore the moisture, out of which the hair grows, undergoes a change and congeals, it is natural that the hair should undergo a change also.

If therefore it changes into a contrary condition, it either remains permanently in that condition, or else the hair will again prevail over the moisture. It is not, however, likely that the hair can by its weight overpower the moisture when it is congealed and condensed; and if it is impossible for the hair to lie down anywhere because the moisture is congealed, the only thing left for it to do is to stand erect. Or is it because, as a result of cooling, the heat collects in the interior region of the body, and the flesh, as the heat leaves it, contracts more and more, and, as it draws together, the hair grows more upright, just as when one fixes a twig or some other object into the ground and fills the space round it and collects the soil on every side, it is more likely to remain erect than if one leaves the soil loose round it?

Why is it that those who are chilled find it particularly difficult to go to sleep? Is it because one who is chilled holds his breath rather than exhales, and a sleeper exhales rather than inhales? Chill therefore induces a condition which is directly opposed to sleep.

BOOK IX. PROBLEMS CONNECTED WITH BRUISES, SCARS, AND WEALS

Why is it that weals can be prevented by the application I of newly flayed hides, particularly those of rams, and by breaking-eggs over the part affected? Is it because both these things prevent the collection of moisture and the consequent swelling? For the wounded place attracts the moisture and swells owing to the inflammation. Now eggs owing to their glutinous consistency cause adhesion and prevent swelling (their effect resembling that of cautery), acting as a kind of glue. The hide owing to its glutinous condition adheres and at the same time by its heat sets up concoction and stops the inflammation, for they do not remove it for several days. Rubbing with salt and vinegar is also employed with the object of drawing out the inflammation.

Why is it that scars are black on the rest of the body but white on the eye? Is it because a scar, like everything else which is diseased, takes on the contrary of its original colour, and it is in the black part of the eye that wounds are inflicted? However, scars on the body do not become black immediately, but are white at first; nor are scars in the eye always white, but it is only after a while that they become absolutely or comparatively so.

Why does a fennel-stalk make the parts round the place which is struck red and the centre of it white? Is it because it presses the blood away from the middle, at the point where, being round, it strikes deepest? Or would one not expect the blood for this reason to return there again, the redness being due to the rush of blood and such a rush taking place towards the part which is struck?

Why is it that, when a violent blow is struck with a fennel-stalk, the middle of the flesh which is struck turns white and the surrounding parts red, whereas, if an ordinary stick is used, the middle is the reddest part? Is it because the fennel-stalk owing to its lightness, if it strikes a hard blow, disperses the blood on the surface, and so the part from which the blood has retired has a white appearance, but the parts to which it flows in greater quantities become redder? When the part struck swells up, the dispersed blood does not readily return to its place, because it is scanty and the course which it must follow is upwards; for it needs the force imparted by mass to make it follow an unnatural course. But blows dealt with hard objects owing to their weight and strength cause compression and crushing.

The compression, therefore, produces a hollow, while the crushing causes rarity; for crushing is a mild form of cutting and cleaving. The middle of the part struck becoming hollow and rare, the blood flows into it from the surrounding surface; for it naturally flows downwards and into the rare parts, because they give way before it. The blood collecting there naturally makes this part red, whilst the surrounding regions, from which the blood retires, turn white.

Why do those who are splenetic have black scars? Is it because their blood is corrupted by the admixture of vitiated and watery blood from the spleen? Now the scar occupies only a small depth of the skin on the surface, but the blood, which is black because it is watery and hot, shows through the skin and gives the scar also a black appearance. Moreover, very often the scar meanwhile becomes blacker and blacker; this is due to the same cause, for owing to the weakness of the skin the blood cools, and as the heat evaporates, turns blacker. Similarly in the aged the flesh becomes blacker, and their congenital scars are blacker than those of the young; for their whole body assumes as it were the condition of a bruise owing not to the thinness of their skin but to the fact that their heat fails.

Do things which cause the same effect possess the same power for the production of that effect, or not? For example, seeing that copper and radishes and mashed beans and ‘sea-lungs’ and clay and various other things take away bruises, do they do so in virtue of the same power? Or does copper produce this effect because of its rust, which has a medicinal value, and beans and ‘sea-lungs’ and clay because they have an attractive force owing to their rarity, and other things for various other reasons? Or is the ultimate effect the same in all these cases (for many of them possess contrary qualities, for example heat and cold), while the earlier effects may nevertheless be different?

Why do all other scars turn black, while those in the eye are white? Is it because they cause a change in respect of colour in the parts in which they occur, and so scars which occur in the eye, which is black, must necessarily be white?

Why is the blow of a fennel-stalk more painful than that of some much harder instruments, if in dealing the blow one considers their comparative effects? For it would be much more natural to suppose that the stroke of a harder instrument would be more painful, for it deals a heavier blow. Is it because the flesh is pained not only by receiving a blow but also by dealing one? When it is struck by hard substances, it only receives a blow (for it yields to them because they are hard); but when it is struck by a fennel-stalk, two effects are produced — it receives a blow and it also deals one, because it does not yield owing to the lightness of the weight imposed upon it; and so the blow is of a double nature.

Why are thapsia and metal ladles used to stop bruises, (the former being applied immediately, the latter at a later stage), containing as they do opposite qualities? For a ladle is cold, as the poet says, Between his teeth the chilly bronze he bit; whilst thapsia is hot and burning. Does the ladle have the same effect that water has upon the fainting? For its coldness encounters the heat and prevents it from escaping out of the blood, which collects on the surface owing to the blow and congeals when the heat passes out. For just as would happen if it congealed outside, so the blood congeals near the outer surface while it is still under the skin; but if the heat is prevented from escaping by the coldness of the bronze, the blood does not congeal, but disperses again and returns to the area from which it was collected. Thapsia being hot has the same effect; for by its heat it prevents congelation.

Why are bruises dispersed by the application of copper objects such as ladles and the like? Is it because copper is cold? It therefore prevents the escape of the heat from the blood which collects as the result of the blow, and it is the loss of heat from the surface which causes the bruise. The ladle must therefore be applied quickly before congelation takes place. Thapsia, too, mixed with honey is a good remedy for the same reason; for being hot it prevents the blood from becoming cold.

Why is it that if a wound occurs several times in the II same place, the scar turns black? Is it because, whenever a wound is dealt, the part affected is always weak and becomes weaker the more often it is wounded? Now that which is weak is chilled and full of moisture; therefore it has a black appearance. Again large and inveterate wounds form black scars, and to receive frequent wounds is equivalent to having one wound for a long time.

Why do we apply metal ladles to bruises? Is it because, when we are struck, the part affected is cooled and the heat leaves it? So the application of the ladle, the material of which, being copper, is cold, prevents the heat from escaping.

Why is it that hairs do not grow on scars? Is it because the pores, from which the hairs grow, become blocked up and displaced?

Why do blows cause swelling and discoloration? Is it because the moisture in the part affected is dispersed and, after breaking its way into the adjoining regions, recoils again and collects owing to the conglutination of the moisture? Also if any small veins are burst, a collection of bloodshot matter is formed.

BOOK X. A SUMMARY OF PHYSICAL PROBLEMS

WHY is it that some animals cough, while others do not, for example a man coughs, but an ox does not? Is it because in most animals the excretion is directed to some other part, but in man to this part? Or is it because in man the matter in the brain is very copious and liquid, and coughing occurs when phlegm flows down?

Why is it that in man alone of the animals blood flows from the nostrils? Is it because the matter in his brain is very copious and liquid, whence the veins, becoming full of excretion, send forth a stream through the ducts? For unhealthy blood (that is, blood which is mixed with excretions from the brain) is thinner than pure blood and resembles lymph.

Why is it that some animals are fat under the flesh, others in the flesh, and others in both these places? Is it because in those whose flesh is dense the moisture collects between the skin and the flesh, because the skin there is naturally loose, and this moisture being concocted turns into fat? Those, on the other hand, who have rare flesh and a tightly fitting skin, become fat in the flesh; while those who have both these characteristics are fat both in and under the flesh.

Why are boys and women less liable to white leprosy than men, and middled-aged women more than young? Is it because white leprosy is due to the escape of breath, and the bodies of boys are dense and do not allow the passage of breath, and those of women do so less than those of men, for the breath is diverted into the *catamenia*? The density of their flesh is shown by its smoothness. But the bodies of middle-aged and old women allow the passage of breath; for they alone, like old buildings, have a loose structure of their component parts.

Why is it that man alone has white leprosy? Is it because he is the thinnest-skinned and at the same time the fullest of breath amongst the animals? An indication of this is the fact that leprosy appears most abundantly and soonest on the parts of the body where the skin is thinnest. Or, while this is true, is there a further reason, namely, that in man alone of the animals the hair turns grey? For in leprosy the hair becomes grey, and so it is impossible for leprosy to occur in those in whom the hair does not turn grey.

Why is it that goats and sheep yield the most milk, although their bodies are not the largest, whereas women and cows produce proportionately less? Is it because in the latter two cases the available material is used up to form bulk, whilst in the other animals it goes into excretions, and in sheep and goats the residue of the excretion all becomes milk? Or is it because sheep and goats are more prolific than the large animals, and so draw off more excretion, because they have more offspring to nourish? Or is it because owing to the weakness of their bodies more excretion is formed during the period of gestation, and the milk comes from the excretion?

Why is it that in some animals (goats, for example) a change of water causes a change in their colour, which assimilates to that of other animals in the new locality, whereas with other animals (man, for example) this is not so? Or, to put the question generally, why do some animals change and others not (the crow, for example)? Do those animals not change in whom the element of moisture does not predominate, birds, for example, which consequently have no bladder? Why is it that while such creatures do not themselves change, yet their offspring do so? Is it because the offspring is weaker than its parents?

Why are males usually larger than females? Is it because they are hotter, and heat is productive of growth? Or is it because the male is complete in all its parts, whereas the female is defective? Or is it because the male takes a long time to attain perfection, the female a short time?

Why is it that some animals bear their young quickly, but in others the period of gestation is a long one? Is it because the longer-lived animals come to perfection more slowly? It is the longer-lived animals that take a long time to bear their young. This is not, however, true of the longest lived of all animals; for example, the horse is slower in bearing its young but shorter-lived than man.

The reason of this is the hardness of the uterus; for the uterus of a mare may be compared to a dry soil which does not readily bring the crops to maturity.

Why is it that the young of all other animals resemble their parents in nature more closely than do those of man?

Is it because man's mental condition is more varied at the moment of sexual intercourse, and so the offspring varies according to the condition of the male and female parents? The other animals, or most of them, are wholly absorbed in the sexual act; further, owing to this avidity, impregnation does not usually take place.

Why is it that fair men and white horses usually have grey eyes? Is it because there are three colours in eyes, black, greenish, and grey, and the colour of the eyes follows that of the body, resulting in this case in greyness?

For what reason are there dwarfs? Or to put the question more generally, why are some creatures quite large, others small? Let us examine the latter question. The causes of smallness are two, either space or nourishment — space, if it be narrow, and nourishment, if it be scanty; as happens when attempts are made to make animals small after their birth, for example by keeping puppies in quail-cages. Those who suffer from lack of space become pygmies; for they have width and depth corresponding to the dimensions of their parents, but they are quite small in stature. The reason of this is that owing to the narrowness of the space in which they are confined the straight lines become crushed and bent. So pygmies are like figures painted on shops which are short in stature but are seen to be of ordinary width and depth. Those who fail to come to perfection from lack of nourishment clearly have the limbs of children, and one sometimes sees persons who are very small and yet perfectly proportioned, like Melitaean terriers. The reason is that the process of growth has a different effect from that of space.

Why is it that some animals come into being from the sexual intercourse of animals with one another, others from the compounding of certain elements — a process resembling the original production of their species? Just as the writers on natural phenomena explain the first origin of animals as being due to powerful changes and movements in the world and universe; so now, if it is to happen again, some similar movements must take place. For the beginning of anything is the most important part, being indeed half of the whole; and in this case the seed is the beginning. The reason then why small animals which are not produced by sexual intercourse resemble the species as it originally came into being, is the smallness of the seed; for the smaller a thing is, the smaller is its first beginning. So the changes even of this are sufficient to produce a seed for it. And this is what actually happens; for it is under conditions of change that such creatures usually come into being. In the larger animals a greater change is necessary for their production.

Why is it that some animals are prolific, such as the pig, the dog, and the hare, whilst others are not so, for instance man and the lion? Is it because the former class has a number of wombs which they desire to fill and moulds into which the semen is distributed, while with the latter the opposite is the case?

Why has man a smaller distance between his eyes in proportion to his size than any other animal? Is it because man follows the law of nature most closely and perception is naturally of that which is in front, since it is necessary to see beforehand that to which the movement is directed?

Now the greater the distance between the eyes, the more will the sight incline sideways. So if the sight is to accord with the law of nature, the distance between the eyes ought to be as small as possible, for then it will travel most directly forward. Further, the other animals must necessarily turn their gaze sideways, since they do not possess hands; their eyes therefore are farther apart, especially those of sheep, because they generally advance bending their heads downwards.

Why is it that the other animals seldom or never emit semen during sleep? Is it because no animal except man sleeps on its back and no emission of semen takes place except in that position? Or is it because the other animals dream less than man, and the emission of semen only takes place when the imagination is stirred?

Why is it that some animals move their heads and others not? Is it because some have no necks and so cannot move their heads?

Why does man sneeze more than the other animals? Is it because in him the ducts are wide through which the breath and scent pass in? For it is with these, when they fill with breath, that he sneezes. That these ducts are wide is shown by the fact that man has a weaker sense of smell than any other animal; and the narrower the ducts, the keener is the sense of smell. Since, therefore, the moisture, the evaporation of which causes sneezing, enters in larger quantities and more often into wide ducts, and man more than any other animal has such ducts, he might naturally be expected to sneeze most often. Or is it because his nostrils are particularly short and so the heated moisture can quickly turn into breath, whereas in the other animals, owing to the length of their nostrils, it cools before it can evaporate?

Why is it that in no animal is the tongue of a fatty consistency? Is it because that which is fat is dense, whereas the tongue is naturally rare in order that it may recognize different flavours?

Why is it that females pass urine with an effort, but males without an effort? Is it because in the female the bladder is farther away both in depth of position and in distance, since the womb is situated between the fundament and the bladder? It therefore requires a greater effort to drive the urine owing to the distance of the womb; and the requisite force is exercised by an effort of the breath.

Why is it that all such animals as do not fly shed their winter coats, except the pig? The dog, for example, does so, and the ox. Is it because the pig is very hot and its hairs grow out of a hot substance (for that which is fat is hot)? In the other animals the hair is shed because either the moisture cools or else the natural heat cannot concoct the nourishment. But the pig does not shed its hair, either because the moisture in it undergoes no change or because its nourishment is properly concocted; for whenever any cause is present to make it shed its hair, the fat is sufficient to prevent it. Sheep and men are unaffected owing to the quantity and density of their hair; for the cold cannot penetrate deep enough to congeal the moisture or to prevent the heat from concocting it.

Why is it that in sheep the hair grows again softer when it is plucked out, but in man it is harder? Is it because the hair of sheep grows out of the surface, and so can be plucked out without causing pain, the source of its nourishment, which is in the flesh, remaining unimpaired? So the pores being opened, the excretions evaporate more readily, and the wool receives the natural nourishment of the flesh, the latter being fed by soft, sweet nourishment. The hair of man, on the other hand, since it grows from a great depth, can only be plucked out by force and painfully. This is shown by the fact that it draws blood with it. The place therefore from which it is plucked is wounded and scarred. So at last the hair ceases to grow on those who pluck it out, and as long as it does grow again, it grows hard, because all the nourishing food in the flesh fails, and it is from the excretions of this food that the hair grows. This can be illustrated by the fact that in all those who inhabit a southerly clime the hair is hard, because the exterior heat penetrates deeply and vaporizes the well-concocted nourishment; but the hair of those who dwell in northern climes is soft, because in them the blood and sweet humours are nearer the surface, for which reason also they have a healthy complexion.

Why is it that in sheep the longer the hair grows the harder it is, whereas in man it is softer? Is it because the hair of sheep, obtaining the nourishment described above, receives less food because it is far removed from the source of it, and the nourishment already present in it easily evaporates out of it owing to the heat as a result of incomplete concoction? And as the hair dries it becomes harder; for it is the moisture which makes it soft. Human hair, on the other hand, receives less nourishment but is situated nearer to the source of it; and the nourishment is more thoroughly concocted because it is less abundant, and, being concocted, it makes the hair softer, because anything that is concocted is softer than that which is unconcocted; for human hair is derived more from excretion than that of sheep. That concocted matter is softer than unconcocted is shown by the fact that the wool of young sheep is softer than that of old.

Why is it that thick-haired men and birds with thick feathers are lustful? Is it because they are naturally hot and moist? Now both these characteristics are necessary for sexual intercourse; for the heat causes excretion, and the moisture is the form which the excretion takes. Lame men are lustful for the same reason as birds; for, owing to the deficiencies of their legs, the nourishment is carried downwards in small quantities only, but travels into the upper region of the body in large quantities, and is there converted into semen.

Why has man no mane? Is it because he has a beard, and so the nourishment consisting of the necessary excretion, which in animals goes into the mane, in man goes into the beard?

Why is it that all animals have an even number of feet? Is it because it is impossible to move (except by jumping), unless some part is at rest? Since, then, progression involves two things, namely, movement and rest, we immediately get here a pair and an even number. Quadrupeds have two more legs; for they move two, while the other two are at rest. Six-footed animals have an additional pair, of which one moves while the other is at rest.

Why is it that in horses and asses hair grows out of scars, but not in man? ‘I s it because in the other animals the skin is part of the flesh, but in man it is only as it were a condition of the flesh? For in man the surface of the flesh seems to become harder through cooling and resembles what we call the crust of boiled meal; just, then, as this crust is really only boiled meal, so what is called man’s skin would really be only flesh. Now when a man receives a wound or is chafed, the result is that his flesh becomes denser; and so, the surface of the flesh having undergone a change, the wounded parts do not assume the same nature as the original skin; and, as the flesh has undergone a change, it is not to be wondered at that what grew from it no longer does so — a phenomenon also occurring in what is called baldness, which is also due to a corruption and change in the surface of the flesh. When, however, beasts of burden have been chafed and recover again, the parts of the body affected fill out again with the same substance, but it is weaker than it was before; and since their skin too is a part of them, the hair (which grows out of the skin) must come forth and grow, but it is white, because the skin which was formed is weaker than the original skin, and white hair is the weakest kind of hair.

Why is it that among the other animals twins though differing in sex are just as likely to survive, but this is not so with the young of man? Is it because human twins are particularly weak, for man naturally produces only one offspring at a time? Now in twins it is unnatural to find a diversity of sex; and so what is most contrary to nature is also weakest.

Why is it that in horses and asses hair grows out of scars, but not in man? Is it because the scar impedes the growth of the hair, either owing to the condensation of the flesh or because its nutrition is impaired? In man, therefore, it absolutely prevents the growth owing to the weakness of the hair; but in horses it does not prevent, but merely impairs, the growth.

Why have animals an even number of feet? Is it because in anything that moves something must necessarily be at rest, and this could not happen if there were an odd number of feet (for it was the arrangement of the feet in pairs which originally made movement possible)?

Why is it that animals are asleep for a shorter time than they are awake, and their sleep is not continuous? Is it because all the excretion is not concocted at the same time, but, when some is concocted, the animal is relieved and wakes up? Again, they more often wake up when the region in which the excretion is concocted becomes cold; for it quickly and frequently ceases to do its work, and this cessation causes awakening. Sleep not unnaturally seems to be pleasant, because it gives us rest; but the rest which we take in sleep does not last longer than the time taken by our natural activities, nor do we eat for a longer period than that during which we abstain from food, in spite of the fact that eating is pleasanter than fasting.

Why is it that some animals imitate their parents immediately after birth, whilst others, like man, do so late, or hardly at all, or never? Is it because some quickly attain a state of physical perfection, whilst others are late in doing so, and some are without a perception of what is for their good, whilst others possess such a perception? Those therefore which possess both these qualities, namely, perception of what is for their good and physical perfection, imitate their parents, but those who have not both these qualities do not do so; for physical and perceptive powers are both requisite.

Why is it that white leprosy does not occur in animals other than man? Is it because, while it is a disease which afflicts other animals, only in man does the hair and skin turn partially white? (But, if so, one might raise the question why diversity of colour in animals occurs at birth and not afterwards.) Or is it because the skin of other animals is hard, whereas man has naturally very thin skin? Now white leprosy is an excretion of breath, which in the other animals is prevented from escaping by the thickness of their skin.

Why is it that in white leprosy the hair turns grey, but it does not necessarily follow that leprosy is always present where there is grey hair? Is it because the hair grows from the skin, and greyness is as it were a corruption of the hair? When therefore the skin is in a morbid condition, the hair that grows from it is necessarily affected; but when the hair is unhealthy the skin is not necessarily so.

Why is it that some animals are ill-tempered after bearing young, dogs, for example, and pigs, but others are not noticeably so, for instance women and sheep? Is it because those animals which are full of excretions are mild-tempered, for that which causes them pain passes out at the time of birth? Those, on the other hand, who in bearing young lose healthy material, are made irritable by the reduced condition in which they are; just as hens are bad-tempered, not just when they have laid, but when they are sitting, from want of food.

Why is it that eunuchs, when they are emasculated, in other respects change into the likeness of the female, — for they have the voice, the shapelessness, and the looseness of joints which characterize women, and so undergo a violent change, as do other animals when castrated (in bulls and rams, however, we find the horns assuming contrary forms, the reason being that their females have contrary kinds of horns, and so bulls when they are castrated grow larger horns and rams smaller horns) — in respect of size, however, alone eunuchs change into the likeness of the male, for they become larger? Now size is characteristic of the male, for the female is smaller than the male. Or is it not after all a change into the likeness of the female rather than the male? For it is not a change in every dimension, but only in height, whereas the male is characterized by width and depth as well; for this is what his full growth involves. Furthermore, as is the female to the male, so within the female sex is the maiden to the woman; for the latter has reached the full nobility of form, while the former has not yet done so. It is into the likeness of *their* nature then that the eunuch changes; for their growth is in height.

So Homer well says, Stature chaste Artemis gave them, as being able to give what, being a maiden, she herself possessed. When, therefore, a eunuch changes in size, he does not change into the likeness of the male; for the change is not in the direction of physical perfection, but eunuchs increase in size only in respect of height.

Why is it that eunuchs either never suffer from varicocele, or do so less than others? Is it because, by their being castrated, their nature changes into that of persons lacking generative power? Now boys and women lack this power, and neither has varicose veins except women very occasionally.

Why is man better able to utter many voices, while other animals of one and the same species utter only one voice?

Has man too really only one voice, but many forms of speech?

And why has man different forms of speech in different places, while the other animals have not? Is it because men in their speech make use of a number of letters, but the other animals employ either none or only two or three consonants?

(Now it is consonants combined with vowels that form speech.) Now speaking is signifying something not merely by the voice but by certain conditions of the voice, and not merely to signify pain or pleasure; and it is the letters which regulate these conditions. But children express what they want to say just in the same way as wild beasts; for young children cannot yet make use of the letters in speech.

Why is it that of all animals man alone is apt to hesitate in his speech? Is it because he is also liable to be dumb, and hesitancy of speech is a form of dumbness, or at any rate the organ of speech is not perfect? Or is it because man partakes more of rational speech, while the other animals only possess voice, and hesitancy of speech, as its name implies, is simply being unable to explain one’s meaning continuously?

Why is it that man more than the other animals is apt to be lame from birth? Is it because the legs of animals are strong (for quadrupeds and birds have bony and sinewy legs), but human legs are fleshy, and so owing to their softness they more easily become damaged through movement? Or is it because in man alone of animals the period of gestation varies? For he may be born after the seventh or the eighth or the tenth month. For the other animals there is one fixed time for coming to perfection without any further delay; but in man the period of delay is long, and so, when the foetus moves, its extremities being soft are more liable to become broken in the longer period.

Why have eunuchs sore and ulcerated legs? Is it because this is also characteristic of women, and eunuchs are effeminate? Or, while this is true, is the cause in women as well this, that the heat has a downward tendency? (Menstruation shows that this is so.) So neither eunuchs nor women grow thick hair, owing to the presence of copious moisture in them.

Why is it that no animal except man suffers from gallstones? Is it because in beasts of burden and cloven-hoofed animals the ducts of the bladder are wide? Those animals which produce their young alive not immediately but after an interval, like certain of the fishes, never have bladders, but the sediment which might form gall-stones is forced into the bowels (as happens also in birds), and so easily passes out with the excrement. But man has a bladder and a stalk to the bladder, which is narrow in proportion to his size; so, because he has this part, the earthy matter is forced into the bladder (and so chamber-pots become discoloured by it) and, owing to the heat in that region, it becomes concocted and thickens still more and remains there and increases owing to the narrowness of the urethra; for the earthy sediment, being unable to make its way out easily, coheres together and forms a gall-stone.

“ — Why is it that beasts of burden and cattle and horned animals and birds do not eruct? Is it owing to the dryness of their stomachs? For the moisture is quickly used up and percolates through; whereas eructation results when the moisture remains and evaporates. In animals with long manes and tails, owing to the length of their necks, the breath tends to travel downwards, and therefore they generally break wind backwards. Birds and horned animals neither eruct nor break wind; and ruminating animals do not eruct, because they have several stomachs and the so-called ‘reticulum’; and so the breath finds a passage up and down through many channels, and the moisture is taken up before it can become vaporized and cause either eructation or breaking of wind.

Why is it that tame animals are invariably found also in a wild state, but wild animals are not always found also in a tame condition? For even men certainly exist in a wild state in some places, and wild dogs are found in India and horses elsewhere; but lions and leopards and vipers and many other animals are never found in a tame state. Is it because the inferior condition is more easily acquired at first and it is easier to degenerate into it, since it is not the original but the ultimate nature which is difficult to attain to at once? For this reason all tame animals are at first wild rather than tame (for example the child is greedier and more quick-tempered than the man), but physically weaker. So we find the same state of affairs in the products of nature as in those of the arts. For among the latter there are always badly made objects, and the bad are more numerous than the good, beds for instance and garments and the like; and, where a good object is produced, it is always possible to find also a bad one, but, where a bad object is produced, it is not also possible always to find a good one. This can be seen from an examination of the works of the primitive painters and sculptors; for in their day there was not yet any good painting or sculpture anywhere, but only inferior work. So likewise nature always produces inferior specimens and in a greater number, and superior specimens in a smaller number and in some cases not at all. Now the tame is superior and the wild inferior.

It is, I suppose, easier for nature — not the primitive nature but that towards which animals develop — to make the good kinds also tame; but the opposite kinds never, or scarcely ever, become tame, and it is only under certain conditions of locality and time that sooner or later owing to a general admixture of circumstances all animals can become tame. The same thing happens in plants of all kinds; those which are garden plants are also found in a wild state, but it is impossible for all to be cultivated, but some are so peculiarly conditioned in many respects in their natural soil that, though neglected and left wild, they grow better and more like cultivated plants than those which are carefully tilled in other soil.

Why is it that men have large navels, whereas in the other animals they are inconspicuous? Is it because in the latter, owing to the long period of gestation, they wither off and project outwards and swell all up into sores, and so the navel sometimes even becomes misshapen? Now man comes forth from the womb in an imperfect condition, and so his navel comes away still full of moisture and blood. That some animals are perfect and others imperfect at birth is shown by the fact that some animals can fend for themselves, but children require looking after.

Why is it that some animals copulate only once, others frequently, and some only at certain seasons of the year and others at no fixed time? For example, man does so at all times but wild animals only occasionally, and the wild boar only does so once but the domesticated pig frequently. Is it the effect of nourishment and warmth and exercise, since ‘Cypris depends on fullness’? Again, the same species bears young once in some localities but several times in others; for instance, the sheep in Magnesia and Libya have young twice a year. The reason is the prolonged period of gestation; for animals, when their desire is satisfied, feel desire no longer, just as, when they have fed, they no longer desire food. Also animals when pregnant feel less desire for sexual intercourse, because the menstrual purgation does not take place.

Why is it that men who have porous teeth are generally short-lived? Is it a sign that the skull is thick? For the brain is weak if it is not well ventilated, and so, being moist, it quickly decays, just as all other things decay if they are not in motion and cannot evaporate. For this reason too man has very thick hair upon the head, and the male is longer-lived than the female because of the sutures in his skull.

But we must next consider length of life in relation to other conditions.

Why then are men long-lived who have a cut right across their hands? Is it because animals whose limbs are badly articulated are shortest-lived, aquatic animals for example?

And if those which are badly articulated are short-lived, clearly those that are well articulated must be the opposite. Now the latter are those in which even those parts are best articulated which are by nature badly articulated; and the inside of the hand is the least well articulated part of the body.

Why is it that man alone squints, or at any rate does so more than any other animal? Is it because he alone, or more than other animals, is liable to epilepsy in infancy, when distortion of the vision also always begins?

Why is man more affected by smoke than other animals? Is it because he is most prone to shed tears, and shedding tears is one of the effects of smoke?

Why does horse take pleasure in and desire horse, and man take pleasure in man, and generally why do animals delight in animals which are akin to and like them? For every animal is not equally beautiful, and desire is of the beautiful. The beautiful then ought to be pleasanter; but in actual fact it is truer that not every kind of beauty is pleasant, nor are pleasure and the beautiful equally pleasing to all men; for example, one creature takes greater pleasure in eating or drinking and another in sexual intercourse. The question why each creature prefers and takes greatest pleasure in sexual intercourse with a creature that is akin to it is dealt with elsewhere; but to add that what is akin is also most beautiful is not true. But we regard as beautiful that which is pleasing with a view to sexual intercourse, because, when we feel desire, we delight in looking upon the object of our desire. And indeed the same thing happens in other forms of desire; for example, when we are thirsty we take greater pleasure in the sight of something to drink. So that which is beautiful in view of a certain use of it seems to be most pleasant because we particularly desire it. (But this is not true of that which is beautiful in itself, as is proved by the fact that even grown men appear to us beautiful, when we look at them without any idea of sexual intercourse. Do they then appear beautiful in such a way as to give our eyes more pleasure than those who are of an age for sexual intercourse? There is no reason why they should not, provided we do not happen to feel a desire for sexual intercourse.) Thus something to drink appears to us as particularly good; for, if we happen to be thirsty, we shall see it with considerable pleasure.

Why is it that in man the front of the body is more thickly covered with hair than the posterior portion, but in quadrupeds the posterior part is hairiest? Is it because all two-footed animals have the front part of the body more thickly covered? For the birds resemble man in this respect. Or is nature always wont to protect the weaker parts and is every creature weak in some respect? Now in all quadrupeds the posterior portions are weaker than the front parts owing to their position; for they are more liable to suffer from cold and heat; but in man the front portions of the body are weaker and suffer likewise under these conditions.

Why is it that man sneezes more than any other animal? Is it because he also suffers most from running at the nose? The reason of this is that, the heat being situated in the region of the heart and being naturally disposed to rise upwards, in the other animals its natural direction is towards the shoulders and thence, splitting up owing to refraction, it travels partly into the neck and head and partly into the backbone and flanks, because these parts are all in the same straight line and parallel to the ground on which the animal stands. Now the heat, as it travels along, distributes the moisture uniformly to these parts alike; for the moisture follows the heat. Four-footed animals therefore do not suffer either much from running at the nose or sneeze; for sneezing is due to the rush either of a mass of breath, when moisture evaporates more quickly than the body, or of unconcocted moisture (hence it precedes a cold in the head); and these forms of moisture are not found in the other animals, because the rush of heat is equally distributed between the fore and hind parts of an animal. Man being naturally, like the plants, at a right angle to the ground on which he stands, the result is that a very copious and violent rush of heat takes place in the direction of the head, and the heat in its course thither rarefies and heats the ducts in the region of the head. Now these ducts being in this condition are better able to receive the moisture than those leading downwards from the heart. When, therefore, a man happens to have become in too moist a condition and to have been cooled off externally, the result is that the heat obtaining nourishment and collecting within increases, and as it does so it is carried to the head and the ducts there.

Into these the moisture, which is thin and unconcocted, follows the heat and fills them up and causes cold in the head and likewise sneezing. For at the beginning of a cold the heat, being carried along in advance of the moisture and inflating the ducts, causes sneezing by the expulsion of the breath and by the drawing off of those humours which are light and pungent. Hence it happens that after sneezing from a cold in the head one wipes away watery matter. These all having been set in motion, the continuous and solid humours follow closely upon them and block up the ducts in the region of the head and nostrils. If they become swollen and distended, they cause pain in the region of the head. That the ducts are blocked is shown by the fact that no breath can pass out through them; so those who suffer from running at the nose neither sneeze nor can they use their sense of smell. Sneezing unaccompanied by running at the nose is due to the same causes, but has some slight and insignificant origin; and so the humours, being collected by the heat and vaporized by it owing to their small mass, are precipitated down the nostrils. The noise made by the breath is due quite as much to the violence of its rush as to its quantity. For the heat, being carried along in a direct line to the brain and rushing into it, is refracted into the nostrils, because the ducts there lead out from the brain. The rush made by the breath in breaking out into the nostrils, being unnatural, is consequently violent, and therefore makes loud noises. Amongst the other animals birds are most liable to running at the nose, because they most resemble man in form; but they are less liable to it than man, because they usually hold their heads down, since they derive their food from the ground.

Why are marine animals larger and better nourished than land animals? Is it because the sun consumes the outer surface of the earth and takes the nourishment out of it? (For this reason too those animals which are enclosed in the earth are better nourished.) Marine animals then are free from all these disadvantages.

Why is it that the other animals provide themselves more often with dry than with moist food, but man takes more moist than dry nourishment? Is it because man is naturally very hot and therefore requires most cooling?

Why is it that eunuchs do not become bald? Is it because they have a large amount of brain-matter? Now this is the result of their not having sexual intercourse with women; for the semen passes from the brain through the spine. For this reason too bulls which have been castrated appear to have large horns after castration. For the same reason also, apparently, women and children are not bald.

Why is it that some animals are able to feed themselves directly after birth, while others cannot? Are those who can do so the shorter-lived among those animals which are capable of memory? It is for this reason that they always die sooner.

Why does man produce more moist than dry excrement, but horses and asses more dry than moist? Is it because the latter animals take more dry food, whereas man takes more moist than dry nourishment? For all excrement comes from food, and a greater amount of food produces a greater quantity of excrement. Some animals then take more moist food, others more dry food, because some are naturally dry and others moist. Animals then which are naturally dry feel more desire for moist food, since they require it more; but those which are naturally moist desire dry food, for they stand more in need of it.

Why is it that birds and men and the courageous animals have hard frames? Is it because high spirit is accompanied by bodily heat, since fear is a process of cooling? Those then whose blood is hot are also courageous and high-spirited; for the blood gives them sustenance. Plants too which are watered with warm water become harder.

Why is it that quadrupeds of a small size most often give birth to monstrosities, whereas man and the larger quadrupeds, such as horses and asses, do so less often?

Is it because the small quadrupeds, such as dogs, pigs, goats, and sheep, have much more abundant progeny than the larger animals, which either always or usually produce only one offspring at a time? Monstrosities come into being when the semen becomes confused and disturbed either in the emission of the seminal fluid or in the mingling which takes place in the uterus of the female. So birds too produce monstrosities; for they lay twin eggs, and their monstrosities are born from such eggs in which the yolk is not separated by the membrane.

Why is the head in man more hairy than the rest of the body — in fact quite disproportionately so — while in the other animals the opposite is the case? Is it because some of the other animals send an excessive amount of their nutritive material into teeth, others into horns, others into hair? Those who expend their nourishment on horns have less thick hair on the head; for the available material is used up in the horns. Those whose nourishment goes into teeth have thicker hair on the head than horned animals (for they have crests or manes), but less thick than such creatures as birds. For birds have the same sort of covering as man; but, whereas in birds the covering is distributed all over the body owing to its abundance, in man it breaks out only on the head; for man is neither on the one hand devoid of hair, nor on the other hand has he sufficient to cover the whole body.

Why is it that in man alone of the animals the hair turns white? Is it because most of the animals shed their coats every year, for instance the horse and the ox, while others, though they do not do so, are short-lived, such as sheep and others (in which case the hair does not turn white, because it does not as it were grow old)? But man does not change his hair and is long-lived, and so he grows white owing to age.

Why is it that those in whom the distance from the navel downwards is longer than that from the navel to the chest are short-lived and weak? Is it because their stomach is cold owing to its small size, and therefore it tends to cause excretion rather than concoction? Now such persons are unhealthy.

Why is it that some animals come into being not only from the sexual intercourse of animals with one another but also spontaneously, while others, such as man and the horse, can only be born as the result of sexual intercourse? Is it due, if to no other cause, at any rate to the fact that the former have a short period of coming to birth, so that the moment of birth is not protracted and can take place at the change of the seasons; but of the latter class the coming to birth is much protracted, since they are born after a year or ten months, so that they must necessarily be born from the intercourse of animals with each other or not at all?

Why is it that the teeth of Ethiopians are white — indeed whiter than those of other nations, but their nails are not correspondingly white? Are their nails dark because their skin also is black and blacker than that of others, and the nails grow out of the skin? But why are their teeth white? Is it because those things turn white out of which the sun extracts the moisture without adding any colour to them, as happens in the case of wax? Now the sun colours the skin, but it does not colour the teeth, but the moisture is evaporated out of them by the heat.

Why is it that, when the head is removed, some animals die immediately or very soon, while others do not? Does death occur less quickly in the bloodless animals, which require little nourishment, since they do not need food immediately and the heat in them is not diffused in moisture, whereas full-blooded animals cannot live without food and heat? The former can live after their heads are cut off, for they can live longer without breathing. The reason for this has been stated elsewhere.

BOOK XI. PROBLEMS CONNECTED WITH THE VOICE

Why is it that of all the senses the hearing is most liable to be defective from birth? Is it because the sense of hearing and the voice may be held to arise from the same source? Now language, which is a kind of voice, seems to be very easily destroyed and to be very difficult to perfect; this is indicated by the fact that we are dumb for a long time after our birth, for at first we simply do not talk at all and then at length begin only to lisp. And because language is easily destroyed, and language (being a kind of voice) and hearing both have the same source, hearing is, as it were, *per accidens*, though not *per se*, the most easily destroyed of the senses. Further evidence of the fact that the source of language is eminently easy to destroy may be taken from the other animals; for no animal other than man talks, and even he begins to do so late, as has already been remarked.

Why is it that the deaf always speak through their nostrils? Is it because they are near to being dumb? Now the dumb make sounds through their nostrils; for the breath escapes by that way because their mouth is closed, and it is closed because they make no use of their tongue for vocal purposes.

Why have all hot-natured men big voices? Is it because they necessarily have a large amount of cold air in them?

For their breath, which is hot, attracts the air to itself, and the more of it there is the more it attracts. Now a big voice arises from setting in motion a large quantity of air, and when the motion is swift, the voice is shrill, and when it is slow, it is deep.

Why do the deaf always speak through their nostrils? Is it because the deaf breathe more violently? For they are near to being dumb; the passage therefore of the nostrils is distended by the breath, and those who are in this condition speak through the nostrils.

Why are sounds more audible at night? Is it because there is more quiet then owing to the absence of great heat? For this reason too there is usually less disturbance; for it is the sun which is the source of movement.

Why do voices sound shriller at a distance? For example, those who try to imitate persons shouting from a very great distance utter shrill noises, like those of an echo; and the sound of an echo is distinctly shriller, and it is a distant sound, being the result of refraction. Since then in sound the swift is shrill and the slow is deep, one would have expected voices to seem deeper from a distance, for all moving bodies move more slowly the farther they progress from their starting-point, and at last fall. May not the explanation be that these mimics use a feeble and thin voice when they imitate a distant sound? Now a thin voice is not deep, and it is impossible to emit a small and feeble sound that is deep, but such a sound is necessarily shrill. Or is it true that not only do the mimics imitate for this reason, but also the sounds themselves become shriller? The reason is that the air which travels makes the sound; and just as that which first sets the air in motion causes the sound, so the air in its turn must do likewise and be partly a motive power and partly itself set in motion. That is why sound is continuous, motive power continually succeeding to motive power, until the force is spent, which results in falling in the case of bodies, when the air can no longer impel the missile, while in the case of sound the air can no longer impel other air. Continuous sound is produced when air is impelled by air, while the missile continues its progress as long as there is air to keep a body in motion. In the latter it is always the same body that is carried along until it drops, in the former it is always different air. Smaller objects travel more quickly at first, but do not go far. Therefore voices are shriller and thinner at a distance; for that which moves more quickly is shrill — a question which we have already raised. It is for the same reason that children and invalids have shrill voices, whereas grown men and healthy persons have deep voices. That from near at hand one cannot clearly distinguish degrees of deepness and shrillness and that altogether the conditions are not the same as those of heavy bodies thrown, is due to the fact that the body thrown is one and preserves its identity throughout; whereas sound is air impelled by air. Consequently a body falls in one particular spot, while the voice scatters in every direction, just as though a body thrown were, in the course of its flight, to be broken into infinitesimally small pieces, some particles even returning on their track.

Why are newly plastered houses more resonant? Is it because their smoothness gives greater facility for refraction? They are smoother because they are free from cracks and their surface is continuous. One must, however, take a house which is already dry and not one which is still quite wet; for damp clay gives no refraction of sound.

It is for this reason that stucco has a higher degree of resonance. Perhaps the absence of disturbance in the air also contributes something; for when the air is massed together it beats back the air that strikes against it.

Why is it that if a large jar or empty earthenware vessels are buried in the ground and lids placed on them, the buildings in which they are have more resonance, and the same is true if there is a well or cistern in the house? Is it because, since an echo is due to refraction, the air when enclosed is necessarily massed together, and so the sound has something dense and smooth upon which it can strike and from which it can be refracted, these being the most favourable conditions for an echo? A well, then, or a cistern causes the contraction and massing together of air, and jars and earthenware vessels also have dense surrounding walls, and so the phenomenon in question results in both cases. For anything which is hollow is particularly resonant; for which reason bronze vessels are particularly so. That resonance still continues when the vessels are buried need not surprise us; for the voice is carried downwards as much as in any other direction — indeed one conceives of it as being carried in a circle in every direction.

But why is it that there is more resonance where vessels are buried than where they are not? Is it because covered vessels receive the air and retain it better? The result is that the impact of sound upon them is more violent.

Why does cold water poured out of a jug make a shriller sound than hot water poured from the same vessel? Is it because the cold water falls at a greater speed, being heavier, and the greater speed causes the sound to be shriller?

Heat, on the other hand, makes water lighter by rarefying it and causing it to rise. We may compare the phenomenon that torches deal softer blows when they are alight.

Why is it that the voice is rougher when one has passed II a sleepless night? Is it because the body, owing to absence of concoction, is moister than usual, especially in its upper part (which is also the cause of heaviness in the head), and moisture in the region of the windpipe necessarily makes the voice rougher? For roughness is due to unevenness, whilst depth is due to congestion; for the passage of sound is then slower.

Why does the voice become broken very readily after meals? Is it because the region in which it is produced is thoroughly heated by constant impacts, and, becoming heated, attracts the moisture? The moisture too is itself more copious and readier to hand when food is being taken.

Why is the sound of weeping shrill, whereas that of laughing is deep? Is it because those who weep either set only a little breath in motion, because they are weak, or else exhale violently, which makes their breath travel quickly? Now speed makes for shrillness; for that which is hurled from a body which is tense travels quickly. (On the other hand, a man who is laughing is in a relaxed condition.) Those who are weak make shrill sounds, for they set only a little air in motion, in some cases merely on the surface. Further, the air emitted by those who are laughing is warm, while the breath of those who are weeping is colder, just as pain is a chilling of the region round the breast. Now heat sets a great mass of air in motion, so that its progress is slow, whereas cold imparts movement to a little air only. The same thing happens with flutes; when the player's breath is hot, the sound produced is much deeper.

Why do children and the young of other animals have shriller voices than the full-grown of their species, and that though shrillness involves a quality of violence? Is it because the voice is a movement of the air, and the swifter the movement the shriller is the sound? Now a little air can be moved more easily and quickly than a large quantity, and it is set in motion owing either to its concretion or to its dissolution by heat. Now since we draw in cold air when we inhale, the air within us can become concreted by the act of inhalation; but exhalation, when heat sets air in motion, can become voice, for it is when we are exhaling that we speak, not when we are inhaling. And since the young are hotter than their elders, and their interior passages are narrower, they may well have less air in them. So, as there is less in them of that which is moved and more motive power, namely heat, for both reasons the movement of the air may be quicker; and, for the reasons already stated, the quicker the movement the shriller the voice.

Why is the sound of weeping shrill and of laughter deep? Is it because those who weep, in uttering their cries, strain and contract the mouth? Owing to the tension the air that is in them is impelled into swift motion, and the contraction of the mouth, through which it passes, makes its speed still greater. For both these reasons the voice becomes shrill. On the other hand, those who laugh relax the tension in doing so and open the mouth. Since then for this reason they emit the air from the mouth through a wide aperture and slowly, their voice is naturally deep.

Why is it that persons without generative power, such as boys, women, men grown old, and eunuchs, have shrill voices, while adult men have deep voices? Is it because the thin voice has only one dimension, just as the line and other thin things have one dimension, while thick things have more than one? Now it is easier to create and set in motion one thing than several things. Now the breathing of the persons mentioned above is feeble and sets little air in motion; and the air which has only one dimension is very small in quantity, for it will be thin for the reasons already stated. And the voice produced from it will be of the same quality, and a thin voice is shrill. This then is the reason why persons without generative power have shrill voices; whereas men who are vigorous set a large quantity of air in motion with their breath, and the air, being large in quantity, is likely to move slowly and causes the voice to be deep. For shrillness of voice is, as we have seen, produced by a movement at once swift and thin, neither of which conditions is fulfilled in an adult man.

Why are our voices deeper in the winter? Is it because then the air both inside and outside us is thicker, and, being such, its movement is slower and the voice therefore deeper? Further, we are drowsier in the winter than in the summer and sleep longer, and we are heavier after sleeping. In the period then during which we sleep for a longer time than we are awake (namely, the winter), we may expect to have deeper voices than in the season when the contrary happens. For during the short interval of wakefulness the condition set up during sleep persists and causes a tendency to drowsiness.

Why is the voice deeper as a result of drinking and vomiting and cold weather? Is it due to the congestion of the larynx caused by phlegm, which makes fluid matter collect in it? In some people vomiting and drinking, in others the season and the constriction resulting therefrom, make the larynx narrower, so that the passage of breath is slower; and its slow passage makes the voice deep.

Why is it that a deeper voice is more audible close at hand, but less so at a distance? Is it because a deeper voice sets a greater amount of air in motion, but not at a distance?

So we hear it less well at a distance, because it travels less far, but better from near at hand, because a greater mass of air strikes upon our sensory organ. A shrill sound is audible at a distance, because it is thinner; and that which is thin has greater longitudinal extension. It might also be said that the motion which causes it is quicker; this would be so, if the breath which sets the air in motion were at the same time dense and narrow. For, in the first place, air which is small in bulk moves more readily (for the air which is set in motion by that which is narrow is small in bulk); and, secondly, that which is dense deals more impacts, and it is these which cause the sound. This can be illustrated from musical instruments; for, all other conditions being the same, it is the thinner strings that give shriller sounds.

Why does the voice seem shriller to those standing at a distance, whereas shrillness depends on the rapidity at which the voice travels, and that which travels moves more slowly the farther it goes? Is it because the shrillness of the voice depends not only on the rapidity with which it travels but also on the attenuation of sound? The farther one is away the more attenuated is the voice when it reaches one, because very little air is set in motion. For the motion gradually diminishes; and just as number in diminishing terminates in the unit, so a body terminates in a single dimension, and this in a body is tenuity. So it is also with the voice.

Why is it that both those who have taken violent exercise and those who are ill speak shrilly? Is it because those who are ill set only a little air in motion, and a little air travels more quickly than a larger quantity? Those who have taken violent exercise, on the other hand, set the air in vigorous motion, and air which is in vigorous motion travels more quickly, and in the voice quickness of motion causes shrillness.

Why do those who shout after meals spoil their voices? Indeed, we can see how those who are training their voices, such as actors and chorus-men and all such persons, practice early in the morning and on an empty stomach. Is it because the spoiling of the voice is simply the spoiling of the region through which the voice passes out? So too those who have sore throats have their voices spoilt, not because the breath which causes the voice is any worse, but because the windpipe is roughened. This region by its nature is especially liable to be roughened by violent heat; and so neither can those who are in a fever sing, nor can those who have been suffering from a violent fever sing immediately after it leaves them; for their larynx is roughened by the heat. The consumption of food naturally increases and heats the breath, and it is reasonable to suppose that the breath being in this state makes the windpipe sore and rough as it passes through; and when this happens the voice is naturally spoilt.

Why is it that the voice, which is air that has taken a certain form and is carried along, often loses its form by dissolution, but an echo, which is caused by such air striking on something hard, does not become dissolved, but we hear it distinctly? Is it because in an echo refraction takes place and not dispersion? This being so, the whole continues to exist and there are two parts of it of similar form; for refraction takes place at the same angle. So the voice of the echo is similar to the original voice.

Why is it that, although the young of all other animals and infants have shriller voices than the full-grown of their species, calves have deeper voices than full-grown oxen? Is it because in each species the young resembles the female of the same kind? Now among cattle cows have deeper voices than bulls, and the calves resemble the former rather than the latter; but in all other species the males have deeper voices.

Why is it that when the orchestra of a theatre is spread with straw, the chorus makes less sound? Is it because, owing to the unevenness of the surface, the voice does not find the ground smooth when it strikes upon it and is therefore less uniform, and so is less in bulk, because it is not continuous? Similarly light too shines more on smooth surfaces, because it is not cut off by anything which intercepts it.

Why does salt make a noise when it is thrown on fire? Is it because salt has a little moisture in it which is evaporated by the heat and violently bursting forth rends the salt?

Now anything which is rent makes a noise.

Why is it that some children, before they reach the age at which it is time for them to express themselves clearly, find voice and say something distinctly, and then go on as before until the usual age for speaking arrives? Some regard such incidents as portents; and before now cases have been reported of children who spoke immediately after birth. Is it because generally the majority of children at birth follow the usual course of nature (and so the phenomenon in question occurs only in a few), and their faculties keep pace with one another; and so they hear [and find voice] and understand what they hear and speak and express themselves clearly all at the same time? Sometimes, however, these things do not go together, but some children understand before the faculty by which they converse is set free for use, while in others the opposite happens. The latter, then, would not converse intelligently (for they merely repeat what they hear); but when the time comes at which they can both speak and understand, they make a natural use of both functions. But in those in whose souls perception through hearing has been perfected before the organ by which the voice is first set in motion and speech is formed, the full power and freeing of the organ of speech sometimes comes to pass when they already understand a great deal. This is especially likely to happen after sleep — the reason being that sleep makes the body and the faculties more sluggish by giving them a rest — or, if not after sleep, after some other similar change has taken place. We can do many things of this sort which require some short-lived opportunity — after which the conditions are no longer suitable — when the organ of speech is in this state of freedom; and when there has been obviously present to their sensation something by which thought was stirred, in virtue of having heard it the child returns to it and utters it. Now tunes and phrases often occur to us without our deliberate intention, but if we originally utter them deliberately, we afterwards speak or sing them without deliberate intention and cannot get rid of them from our lips. So too when this happens in children, they speak, and then the faculty involved relapses again into its natural condition, until the time comes for it to become strong and to be separately constituted.

Why do some objects, chests for example, suddenly make a noise and move, when nothing perceptible sets them in motion? Yet that which causes motion is stronger than that which is moved. The same question arises in connexion with corruption and old age; for everything which is said to be ‘destroyed by time’ is destroyed by something imperceptible. Is it similar to dripping water and stones lifted by the growth of plants, namely, that it is not the final effort but its continuity which raises or moves the object? This continuity of effort is imperceptible, but it results in a movement which is perceptible. So too that which is contained within perceptible spaces of time moves and can be divided into imperceptible portions, but these cause motion and corruption by their sum and their continuity. Now continuity is not in the present time but in the period of time terminated by the present.

Why does one hear less well when one is yawning? Is it because a quantity of breath emitted in the yawn finds its way also into the ears, so that the motion which it sets up in the neighbourhood of the ears makes a distinct impression on the perception, especially after sleep? Now sound is air or a certain condition of it. The sound then from outside enters the ear, and that from within comes into collision with it, and the movement thus caused checks the progress of the sound from without.

Why do children hesitate more in their speech than grown men? Is it because, just as, when we are children, we always have less control over our hands and feet and at a still earlier age cannot walk at all, so the young cannot control their tongue? Now when they are quite small, they cannot speak at all but can only make sounds like the animals, because they lack control. This is the cause not only of hesitancy in speech but also of lisping and stammering. Lisping is due to the inability to master a letter — not any letter but some particular one; stammering is due to the dropping out of some particular letter or syllable; hesitancy is due to the inability to join one syllable to another sufficiently quickly. All three are due to want of power; for the tongue is not an efficient servant of the intelligence. The same thing occurs in those who are drunken and in the old; but always to a less extent than in children.

Why is it that the voice trembles in those who are nervous or afraid? Is it because the heart is shaken by the passing out of the heat? For this happens in both conditions, being an effect both of nervousness and of fear. When the heart is shaken, the impact is not one but many, like that from strings which are not properly stretched.

Why is it that those who are nervous have deep voices, but those who are afraid speak shrilly? Is it because in those who are afraid the region about the heart is chilled, because the heat passes downwards, and so they set only a little air in motion? For the force which sets the air in motion is derived from heat. In those who are nervous the heat travels upwards, as happens in those who are ashamed; for it is through shame that nervousness is felt. In those who are ashamed the heat travels upwards to the face, as is shown by the fact that they tend to blush. The heat therefore dissolves and thickens the air with which they speak, and such air can only be propelled slowly; and in the voice that which is slow is deep.

Why are sounds more audible in the night than in the day? Is it for the reason that Anaxagoras gives, namely, that in the day-time the air, heated by the sun, hisses and roars, but at night it is still because the heat has ceased, and that when there is no noise hearing is easier? Or is it because one hears more easily through a comparative void than through a *plenum*? Now in the day the air is dense, being full of light and of the sun’s rays; but at night it is rarer, for then the fire and the rays, which are bodies, have gone out of it. Or is it because in the day-time the various bodies around us distract our intelligence, and so it is less able to distinguish what it hears? Also because we do all that we have to do preferably in the day rather than at night, our intelligence too is busy then; and the perception apart from intelligence does, if one may say so, only an imperceptible amount of work — as the saying is, ‘It is the mind which sees, the mind which hears’. But at night when our sight has no work to do and our intelligence is more at liberty, the channel of hearing, being wider open, is just as receptive of sounds and better able to report them to the intelligence, because the latter is neither busy nor distracted by the sight, as it is in the day-time.

Why is it that persons without generative power, such as boys, women, men grown old, and eunuchs, have shrill voices, while adult men have deeper voices? Is it because of the weakness of the organ which sets the air in motion? For that which is weak sets only a little in motion; and a little air travels quickly, and that which travels quickly is shrill. Or is it because the first passage through which the air passes is narrow in those who are without generative power, so that that which expels the air from it has little force, and the air, being small in volume, travels quickly through the larynx above, which is wide? But in the adult and fully developed men this passage is wide (just as also is that leading to the testicles), and so the quantity of the air expelled is also greater; and so passing through more slowly it makes a deeper sound.

Why is it that those who hesitate in their speech cannot speak in a low voice? Is it because they are hindered from using their voice by some impediment? Since, then, there is not equal force exerted and similar movement set up when there is some impediment to the movement and when there is none, a violent effort is required. Now the voice is a movement, and those who use more force speak louder; and so, since they have to force the hindrance out of the way, those who hesitate in their speech must necessarily speak louder.

Why do those who hesitate in their speech become worse when they are nervous, but better under the influence of drunkenness? Is it because their condition is a state resembling apoplexy of some interior part of the body which they cannot move and which by its coldness hinders their speech? Wine then, being naturally hot, tends to get rid of the coldness, but nervousness creates coldness; for it is a form of fear, and fear is a chilling condition.

Why is it easier to hear sounds from outside in a house than those from inside a house outside it? Is it because the sound from inside becomes dispersed because it travels over an immense space, so that each component part of the sound is not sufficiently strong to make itself heard, or at any rate is less audible? On the other hand, a voice from without entering within into a smaller space and into stagnant air arrives in a close mass, and so being greater in bulk is more audible.

Why are those who hesitate in their speech melancholic?

Is it because melancholy is due to their responding too quickly to the imagination? Now this is characteristic of those who hesitate in their speech; for the impulse to speak outstrips their power to do so, the mind responding too quickly to that which is presented to it. The same thing occurs in those who lisp; for in them the organs employed in speech are too slow. This is shown by the fact that men under the influence of wine become lispers, since then they respond most to the objects presented to their vision and not so much to the mind.

Why do leeks contribute to loudness of the voice (for we find that this is so even with partridges)? Is it because, whereas boiled garlic makes the throat smooth, leeks contain a certain amount of adhesive matter, and this cleanses the larynx?

Why is it that in all other creatures the sounds made are shriller when more violence is used, but man speaks more shrilly when he is weak? Is it because then he sets less air in motion, and this passes along quickly, and its speed makes the sound shrill?

Why can one hear better when one holds one’s breath than when one exhales? This is why people when hunting tell one another not to breathe. Is it because the power of perception rises into the upper parts of the body when the veins are distended? For it sinks when one is asleep; and so those who are sleeping exhale rather than inhale, and lose the sense of hearing. Or does the blood rise upwards when one exhales, so that the lower parts of the body become void, and one can hear better in a void? Or is it because breathing is a noise, and when it takes place in the act of exhaling it impedes the hearing?

Why do small quantities of salt make a noise and explode more quickly, but large quantities more violently? Is it because in the former case the particles burst quickly because they are small (for the fire does not have far to penetrate), but in the latter case slowly, since a large mass is more difficult to burst than a small? A small quantity makes a small noise because the impact is small, whereas a large quantity makes a loud noise because the impact is greater; and sound is an impact. The stronger an object is, the greater is the explosion if it is struck; for it is less yielding.

Why is it that if the same quantity of salt is thrown on to a large fire, it makes less noise than if thrown on a small fire, or else makes no noise at all? Is it because it is burnt up before it can burst? For it burns because the moisture is used up, and it makes a noise because it bursts.

Why does one hear less well when one is yawning? “ Is it because the action of yawning cuts off the breath internally and the breath so cut off accumulates in the region of the ears? This is shown by the fact that there is a noise in the ears when one yawns. Now the breath thus cut off hinders the hearing. Further one also makes a noise when one yawns, and this tends to impede the hearing. Also the organs of hearing must necessarily become compressed by the distension of the mouth in yawning.

Why is it that though the voice, since it is a kind of stream, is naturally inclined to travel upwards, yet it is more audible below from above than above from below?

Is it because the voice is a kind of air mingled with moisture, and this air being weighed down by the moisture is carried downwards instead of upwards, since it is the natural characteristic of moisture to be carried downwards? For this reason one hears better when one is below. Or is such a result characteristic only of the voice of a living creature (for it contains moisture), while the phenomenon which we are discussing is found also in other sounds?

Just as the sight then, if it be allowed to fall from a higher to a lower object, makes an upward reflexion and vice versa, so the voice, which has a natural tendency to rise, coming into collision with the air which bars its progress, cannot overpower the air, which is greater in mass and heavier, but the air which is set in motion by the voice, being refracted, is carried in a contrary direction and downwards, and so, being scattered in a downward direction, it is more audible below. Somewhat similar is that which happens in an echo, which is due to the refraction of the voice in a contrary direction.

Why are the voices of drunken persons more broken than those of the sober? Is it because their voice breaks easily owing to their state of repletion? This can be illustrated by the fact that chorus-men and actors practise not after a meal but on an empty stomach. Now since a person in a state of drunkenness is in a condition of greater repletion, his voice is naturally more broken.

Why can one hear shriller voices at a greater distance?

Is it because shrillness in the voice is rapidity, and what is carried forcibly along moves more rapidly, and what is carried violently along is carried farther? —

Why can we hear better if we hold the breath? Is it because breathing makes a noise? It is only natural therefore that we should hear better when the noise is less; for the noise is less when we hold the breath.

Why is it that light cannot penetrate through dense objects, whereas sound can do so, although light is rarer and travels farther and quicker than sound? Is it because light travels in a straight line, and so, if anything blocks its direct course, it is completely cut off, but sound, because it is a breath, can also travel in a line that is not direct? So we can hear those who make sounds from any direction and not only those who are in a straight line with our ears.

Why is the sound of laughing deep, whereas that of weeping is shrill? Is it because a voice which comes from those who are in a state of tension is shrill, and that which is shrill is weak? Now both these characteristics are found rather in those who are weeping; for they are in a state of greater tension and they are weaker.

Why is it that the voice, being air which has assumed a certain form and is carried along, often loses its form by dissolution, but an echo, which is formed by such air striking on something hard, does not become dissolved, but we hear it distinctly? Is it because in an echo refraction takes place, not dispersion? It starts then as a complete whole and continues to be so. Also, the effect produced upon it is due to a similar agency; for it is refracted from the air in the hollow, not from the hollow itself.

Why is it that when one person makes a sound and a number of persons make the same sound simultaneously, the sound produced is not equal nor does it reach correspondingly farther? Is it because each of them thrusts forward his own portion of air and they do not all impel the same air, except to a very small extent? The result is much the same as when a number of persons throw stones but each throws a different stone, or at any rate most of them do so. Neither in the latter case will any missile travel far (or at any rate not correspondingly farther), nor in the former case will the voice reach farther. For this great voice is that of many, not of one; so at a short distance it appears correspondingly greater (just as a number of missiles reaches the same spot), but at a great distance this is no longer so.

Why do those who are nervous have deep voices, but those who are afraid speak shrilly, though a feeling of shame is a kind of fear? Or are the two conditions really very different? For those who feel shame blush (and nervousness is a kind of shame), whereas those who are afraid turn pale. It is clear then that in those who are afraid the heat fails in the upper part of the body, so that the breath, being weak, sets only a little air in motion; and that which is small in bulk travels quickly, and in the voice quickness is shrillness. But in those who feel shame the heat in the region of the breast travels upwards, as is shown by the fact that they blush. Now a strong force sets a great mass of air in motion, and a great mass travels slowly, and in the voice slowness is deepness.

What is the cause of hesitation of speech? Is it due to the chilling of the region in which the sound is produced, and to a condition resembling apoplexy in that part of the body? This is why those who hesitate, if warmed with wine and deriving thence a continuity of speech, are better able to connect their words together.

Why is it that of all animals man alone is apt to become hesitating in speech? Is it because he alone possesses the power of uttering words, while the other animals only have voices? Now those who hesitate in their speech use their voice, but they cannot connect their words together.

Why is the voice shriller in winter and in those who are sober, and deeper in summer and in those who are drunken? Is it because the quicker a voice is the shriller it is, and it is quicker when it proceeds from one who is in a state of tension? The bodies of those who are sober are in a more solid condition than those of the drunken, and bodies are in a more solid condition in winter than in summer; for heat and warmth have a dissolvent effect upon the body.

Why does the voice come to perfection later in man than in any other creature capable of sound? Is it because there are many variations and kinds of sounds in the human voice? For the other animals can express few or no letters; and that which is most elaborate and contains a large number of variations takes a long time to perfect. *p,* Why is it that the sight cannot pass through hard objects, but the voice can do so? Is it because the course of the sight can only take one direction, namely, a straight line (as is shown by the rays of the sun and the fact that we can only see what is directly opposite us), whereas the voice can take many directions, since we can hear from everywhere? When therefore the sight is prevented from making its way through in a straight line, because there is no continuous passage between the eye and the object, it is impossible to see through the impeding matter. But the air and the voice, since they travel everywhere, find their way everywhere and make themselves audible. On the other hand, the sight can penetrate through liquids, but voices cannot be heard through them or hardly at all, although the liquid is rarer than the earth, because the passages are small and close together and continuous, and so the sight is not prevented from travelling in a straight line. For the same reason it is possible to see through glass, although it is dense, but not through a fennel-stalk, although it contains rarities, because in the former the pores are continuous, in the latter they are irregular, and their size is no advantage if they are not straight. The voice is not audible through water, because the empty air-spaces in it are too small and so cannot admit the voice or let it pass through, or only with difficulty; for the voice is a kind of air. For that which is rarer is not necessarily more penetrable, unless at the same time the passages are adapted to that which is passing through. So also that which is rarer is not necessarily more compressible, unless its passages are of such a kind as to admit the passage of other bodies. But, it may be urged, that which is rare is soft and compressible. True, but in some things compression is impossible owing to the smallness of the passages — in glass, for example; for its passages cannot be contracted, although it may be rarer than a fennel-stalk, for the reason already mentioned. So too with water and the like. This then is clear, that, although the rare and the soft are either identical or else of a very similar nature, yet it does not follow that the rarer a thing is the more it admits of contraction. The reason in all these cases is the same.

Why is it that the sound produced becomes less if some of those who produce it are withdrawn, but its character is unchanged? Is it because their voice had formed part of a general mingling of sound, and that which is mingled is not mingled in one part and not in another, but is mingled throughout? So when some of those who make the sound are withdrawn, the volume of sound comes forth in the same way as before from the various voices, and must therefore, though smaller, necessarily retain the same characteristics.

What is the cause of hesitancy in speech? Are those who hesitate in too great a hurry because of the heat that is in them, and so they stumble and stop? If so, they resemble those who are angry, for they too become full of panting, with the result that a large quantity of breath comes together. Or do they pant owing to the boiling of the heat, because it is abundant and cannot come forth before the proper moment of exhalation? Or is the right explanation the exact contrary, namely, that it is the chilling rather than the heating of the region in which the sound is produced — a state resembling apoplexy in that part of the body? That is why those who hesitate, when warmed with wine and deriving thence a continuity of speech, are better able to connect their words together.

Why are voices deeper in the winter? Is it because then the air is thicker and as a consequence its movement is slower, and therefore the voice is deeper? Or is it because the air passes more slowly through narrow passages, and the region round the larynx is closed by the cold and by the phlegm which flows into it?

Why is it that boys, women, eunuchs, and old men have shrill voices? Is it because the movement of air which creates a shriller sound is quicker? Now it is more difficult to move a greater amount of the same thing, and so those who are in the prime of life draw in the air in greater quantities, and therefore this air, since it travels more slowly, makes the voice deeper. In boys and eunuchs the contrary occurs, because they contain less air. Old men’s voices tremble because they cannot control them, just as, when invalids and children take hold of a long stick by one end, the other end shakes, because they have no control over it; this too is the cause of trembling in old men, namely lack of control. We must suppose also that trembling of the voice in those who are nervous or afraid or chilled is due to the same cause. For in one whose voice is in this state, since most of the heat collects within as a result of the above conditions, the rest, which is small in quantity, cannot control the voice; consequently it shakes and trembles. This is the reason why artists who belong to the class of those who are conscious of nervousness speak in a low voice at first, until they settle down to their work; for by keeping the voice low they can control it.

BOOK XII. PROBLEMS CONNECTED WITH THINGS OF PLEASANT ODOUR

Why is it that perfumes produced by burning affect the I senses less at a short distance? Is it because the effluvium is pleasanter when mingled with the air in a weak form, as happens in medicinal myrrh? Or can the contrary of this be the explanation, namely, that the fire destroys the odour in the immediate neighbourhood of the flames? For the odour is produced when the perfume evaporates; wherefore near the embers the effluvium has no odour, but it appears purer and thinner the farther away it is.

Why is it that the odours of burning perfumes and of flowers are less sweet-scented at a close distance? Is it because particles of earth are given off with the odour, and these, owing to their weight, fall more quickly to the ground, and therefore the odour is pure at a greater distance? Or is the effluvium not at its strongest either quite near to its source or very far from it? For close at hand it has not yet gained strength, while at a distance it has become dissipated. It is said that trees become sweet-scented upon which the rainbow has fallen. Is this true or false? And if it is true, what can be the cause of the phenomenon? That it does not happen always and as a universal rule is obvious; for rainbows often occur without any visible effect on the trees. When it does happen (for it does occur sometimes and this has given rise to the saying), the effect is not produced on every kind of wood. The cause can only be attributed to the rainbow *per accidens*, especially if the rainbow does not really occur in nature but is an effect produced on the eye by refraction. Now the phenomenon, as we said, does not occur whatever the condition of the wood; for shepherds say that sweet odour is noticeable after the rains which accompany the rainbow not in green or in dry trees but in burnt wood, and in particular where briers and brambles grow and trees which have sweet-scented flowers. The reason of the sweet scent is the same as in the soil; for where the soil is hot and burnt through and through, anything which grows from it is at first sweet-scented. For things which contain but little moisture, if they are burnt at all, become sweet-scented; for the heat concocts this moisture. (So, all the world over, those parts towards the sun have a sweeter odour than those towards the north; and of the former those towards the east have a sweeter odour than those towards the south, for the districts of Syria and Arabia have more soil, but Libya is sandy and free from moisture.) For there must not be a large amount of moisture — for much moisture is difficult of concoction — nor must there be a complete absence of it, or else there will be no evaporization. These conditions are fulfilled in newly burnt wood and wood which naturally has a sweet odour in itself. This is proved to be true by the flowers, for it is through them that the wood emits its scent. The theory that sweet odour is engendered in any trees upon which the rainbow rests is due to the fact that this cannot happen without the presence of water; for it is when the wood has been wetted and has then concocted the moisture by the heat which is in it, that it gives out the vapour which is being engendered in it. But there must not be a large amount of water; for too much water drenches the tree and extinguishes the heat previously caused by the burning. Now the rains which follow the rainbow, so far from being heavy, may almost be called slight. Also if there is a number of rainbows, the rain is not heavy, but it falls little and often. It is therefore natural under these circumstances that men notice nothing unusual except the rainbow and attribute to it the cause of the sweet odour.

Why is it that flowers and burnt perfumes smell sweeter at a distance, whereas close at hand they have rather the smell either of vegetation or of smoke? Is it because scent is a form of heat and sweet-scented things are hot?

Now heat is light, and so, the further the perfumes penetrate, the more does their scent become purified from other concomitant odours produced by their leaves and by smoke, which is a watery steam; at a short distance, on the other hand, the mingled odours are simultaneously perceptible in the plants in which they are present.

Why do things always emit a stronger odour when they are in motion? Is it because they fill a larger space of air than when they are at rest? The result is that the odour is thus transmitted more quickly to our perception.

Why is it that we perceive odours less in the winter, especially in frosty weather? Is it because the air is more free from motion when it is cold? The motion therefore set up by the body which produces the odour cannot have such a far-reaching effect owing to the difficulty of imparting motion to the effluvium and to the air in which it is present.

Why do perfumes have a more pungent odour when they are burnt on ashes than on the fire? And why is their odour stronger and more persistent when they are burnt on ashes? Is it because their odour is less thoroughly concocted on ashes, and therefore greater in bulk?

Now fire by quickly concocting their natural force alters their odour; for concoction involves alteration in that which is concocted.

Why do those roses in which the centres are rough smell sweeter than those in which they are smooth? Is it because those roses smell sweetest which partake most of the natural characteristics of the rose? Now the rose is naturally ‘spiky’, and so it smells sweeter when its characteristics are more a centuated.

Why are the odours both of burnt perfumes and of flowers less pleasant at a short distance? Is it because at a short distance the earthy element is transmitted with the scent, and so mixing with it lessens its strength, whereas the odour travels to a distance? It is for this reason too that flowers when rubbed lose their scent.

Are scents smoke [or air] or vapour? For it makes a difference, in that the former is produced by fire, the latter without it. And is something transmitted from the sense to the objects producing the scent or vice versa, causing a continuous motion in the adjoining air? Also, if any effluvium is given off by these objects, one would expect them to become less; yet we see that those things which have the strongest scent last the longest.

Why have perfumes a more pungent odour when they are burnt on ashes than on fire? Is it because their odour is less thoroughly concocted on ashes and is therefore greater in bulk? Consequently a large quantity of the earthy element is vaporized in the process and becomes smoke; but the fire burns up the earthy element before it can escape, and so the odour is purer and reaches the senses untainted by the smoke. This is also the reason why flowers when rubbed smell less sweet; for the rubbing imparts motion to the earthy element and the slow heat does not destroy it.

Why is it that sweet-smelling seeds and plants promote the flow of urine? Is it because they contain heat and are easily concocted, and such things have this effect? For the heat which is in them causes quick digestion and their odour has no corporeal existence; for evil-smelling plants, such as garlic, by reason of their heat promote the flow of urine, but their wasting effect is a still more marked characteristic. But sweet-smelling seeds contain heat, because odour is in general engendered by heat; to while evil-smelling things are unconcocted. Now anything which is to promote the flow of urine must be not only hot but also easily concocted, in order that it may accompany the liquids in their downward course and effect their digestion.

Why is it that wines mixed with water have a less strong odour than when they are unmixed? Is it because wine is mixed with water is weaker than unmixed wine? Now the weaker is more easily changed by any force acting upon it than the stronger. So wine mixed in the water is more easily affected than unmixed wine. Now it is characteristic of that which is easily affected to yield to something else or to receive something which does not belong to it; unmixed wine, therefore, has a strong odour, but wine mixed with water is odourless.

BOOK XIII. PROBLEMS CONNECTED WITH THINGS OF UNPLEASANT ODOUR

WHY is it that urine acquires a more unpleasant odour the longer it remains in the body, whereas ordure becomes less unpleasant to the smell? Is it because the latter becomes drier the longer it remains in the body (and what is dry is less liable to putrefaction), but urine thickens, and the fresher it is the more like it is to the original liquid drunk?

Why is it that things of unpleasant odour do not seem to have an odour to those who have eaten them? Is it because, owing to the fact that the scent penetrates to the mouth through the palate, the sense of smell soon becomes satiated and so it no longer perceives the odour inside the mouth to the same extent — for at first every one perceives the odour, but, when they are in actual contact with it, they no longer do so, as though it had become part of themselves — and the similar odour from without is overpowered by the odour within?

Why have flowers an unpleasant odour when they are rubbed? Is it because the earthy element, which is in the flower, mingles with the odour?

Why is it that no living creature is pleasant to the smell except the panther — which is pleasing even to the animals, for they are said to find pleasure in its odour — and when they decay they are unpleasant to the smell, but many plants when they decay and wither become still more pleasant to the smell? Is it because the cause of evil odour is an unconcocted condition of excretion? For this reason the perspiration of some people is sometimes unpleasant, particularly in those whose perspiration is not usually unpleasant, as the result of disease. Also the exhalations and eructations of those who are in an unconcocted state are unpleasant. The same cause must be ascribed for evil odour in the flesh and in that which is analogous to it (by which I mean that which in other animals corresponds to flesh); for here too there is sometimes unconcocted excretion. This then when it putrefies is a cause of evil odour in living creatures and in decaying bodies. For this reason too the fat and the bony parts and the hair have no evil odour, because the fat and bones are already concocted, while the hair contains no moisture. Now plants contain no excretion. Or is there excretion in them also, but, because plants are naturally dry and hot, is the moisture in them more easily concocted and not of a thick consistency? This can be illustrated from the soil, which is pleasant to the smell in hot regions, such as Syria and Arabia, and from the fact that the plants which come from there are sweet-smelling, because they are dry and hot; and such plants are not liable to decay. But animals are not dry and hot, and so their excretions are unconcocted and malodorous, and likewise their exhalations, and when they decay the moisture putrefies. This does not happen in plants, because they contain no excretions.

Why are things of unpleasant odour more unpleasant when they are hot than when they are cool? Is it because odour is a vapour and an effluvium? A vapour, then, and an effluvium is caused by heat; for a movement takes place, and heat is the source of the movement. Cold, on the contrary, is a source of stagnation and contraction and downward movement; but heat and all odours have an upward tendency, because they are in the air, and the organ which perceives them is above and not below; for odour penetrates to the brain and so causes perception.

Why, if one eats garlic, does the urine smell of it, whereas this does not happen when other things are eaten which have a strong odour? Is it because, as some of the followers of Heraclitus say, vaporization takes place in the body just as in the universe, and then, when the process of cooling succeeds, moisture is formed in the universe and urine in the body, so the vaporization from the food, when it is formed by intermixture, causes the odour (for it is odour after it has undergone change)? If so, ought not all the foods too which have a strong odour to produce this effect, which we know they do not? Furthermore, concretions from vapour do not resume their original form — which would result in wine, for example, being produced from the vapour of wine instead of water, as actually happens — and so this part of their theory is also untrue. The truth is that garlic, alone of foods which have an odour which is strong and also promotes the flow of urine, has the quality of inflating the lower part of the belly; all other such foods (radishes, for example) engender breath higher up or else do not promote the flow of urine.

But garlic has these three qualities: it promotes the flow of urine, it engenders breath, and it does so in the lower part of the body. The region round the privy parts and the bladder feels the effect of such foods owing to its nearness and because it is liable to admit breath; that this is so is shown by the distension of the privy parts.

It is clear therefore that the excretion of garlic is more liable than that of any other such food to reach the bladder with the breath, and this excretion mingling with the urine imparts its odour to it.

Why is it that the mouths of those who have eaten nothing, but are fasting, have a stronger odour, ‘the smell of fasting’, as it is called, but when they eat the odour ceases, when one would expect it to increase? Is it because, as the stomach becomes empty, the air becomes hotter from the absence of motion and causes the breath and the excretions of phlegm to putrefy? That the air becomes hotter is proved by the fact that fasting also induces an increase of thirst. When food is taken, the odour ceases because it is less than that of the food; for the heat in the food overcomes the internal heat, so that it cannot undergo any process of change. Why has the armpit a more unpleasant odour than any other part of the body? Is it because it is least exposed to the air? Such parts have a particularly unpleasant odour because putrefaction takes place in them owing to the stagnation of fat. Or is it because the armpit is not moved and exercised?

Why is it that those who have a rank odour are still more unpleasant when they anoint themselves with unguents? Is it because this kind of thing happens in many instances; for example, if something acid and something sweet are mixed, the resulting whole is sweeter? Now any one who perspires has an unpleasant odour, and unguents are productive of heat and therefore induce perspiration.

Why is it that the odour of the breath of those who are bent and deformed is more unpleasant and oppressive? Is it because the region round the lungs is contracted and bent out of an upright position, so that it does not give a free passage to the air, but the moisture and the breath, which tends to be enclosed within, putrefies?

Why is it that most unguents are unpleasant when they mingle with perspiration, but others have a sweeter or at any rate not a more unpleasant odour? Do those which change as a result of movement or friction deteriorate in odour, whereas those which do not are improved? There are some such perfumes, just as there are some flowers from which scents are made, which deteriorate when rubbed or heated or dried, white violets, for example; but others remain the same, for instance roses. The unguents too made from flowers of the former class change, while those made from the latter do not;

and so rose-perfume is least liable to change. Also unguents have a more unpleasant odour on those whose perspiration is malodorous, through mingling with their opposite, just as honey when mixed with salt becomes not sweeter but less sweet.

Why do objects always produce a stronger odour when they are in motion? Is it because they fill up the air?

The result is that the odour is thus transmitted more quickly to our perception.

BOOK XIV. PROBLEMS CONNECTED WITH THE EFFECT OF LOCALITY ON TEMPERAMENT

WHY are those who live under conditions of excessive I cold or heat brutish in character and aspect? Is the cause the same in both cases? For the best mixture of conditions benefits the mind as well as the body, but excesses of all kinds cause disturbance, and, as they distort the body, so do they pervert the mental temperament.

Why is it that in Pontus corn, if exposed to the cold, keeps intact for many years? Is it because the extraneous moisture is evaporated together with the heat, as happens in grapes? For some things are evaporated by the cold and others with the heat.

Why do burning fevers occur more frequently in the coldest season? Is it because the cold imprisons the heat within? In the summer the contrary occurs, the interior of the body being cooler than the exterior. Burning fever is the inflammation in which, the exterior of the body being cold, the interior is in a condition of excessive heat.

Why are the Ethiopians and the Egyptians bandy-legged? Is it because the bodies of living creatures become distorted by heat, like logs of wood when they become dry? The condition of their hair too supports this theory; for it is curlier than that of other nations, and curliness is as it were crookedness of the hair.

Why is it that in damp regions copulation is more likely to lead to the birth of female offspring? Is it because a large amount of moisture thickens more slowly, and in damp regions the semen is moister owing to the presence of more moisture in the temperament?

Why is it that in marshy districts sores on the head are quickly cured, but those on the legs only with difficulty? Is it because the moisture, since it contains an earthy element, is heavy, and heavy things are carried downwards? Thus the upper parts of the body are easily concocted, because the impurities are carried downwards; but the lower parts become full of abundant excretion which easily putrefies. —

Why is it that those who live in airy regions grow old slowly, but those who inhabit hollow and marshy districts age quickly? Is it because old age is a process of putrefaction, and that which is at rest putrefies, but that which is in motion is either quite free from, or at any rate less liable to, putrefaction, as we see in water? In lofty regions, therefore, owing to the free access of the breezes, the air is in motion, but in hollow districts it stagnates. Furthermore, in the former, owing to its movement, the air is always pure and constantly renewed, but in marshy districts it is stagnant.

Why are the inhabitants of warm regions cowardly, and those who dwell in cold districts courageous? Is it because there is a natural tendency which counteracts the effects of locality and season, since if both had the same effect mankind would inevitably be soon destroyed by heat or cold? Now those who are hot by nature are courageous, and those who are cold are cowardly. But the effect of hot regions upon those who dwell in them is that they are cooled, while cold regions engender a natural state of heat in their inhabitants. Both races are large of stature — those who live in cold regions because of the innate heat in them, and those who inhabit hot districts owing to the heat in which they live; for increase of stature occurs both in those who are hot and as a result of heat, whereas cold has a contracting effect. Since then those who live in cold districts have a powerful principle of growth in themselves, and those who live in hot regions encounter no external cold which prevents their growth, both naturally admit of considerable increase in stature. But this is less true of those who live in our latitudes, because the principle of growth in them is less strong, and those who live in cold regions feel the contracting effect of cold.

Why are those who live in hot regions longer-lived? Is it because their natural condition is drier, and that which is drier is less liable to putrefaction and more lasting, and death is as it were a kind of putrefaction? Or is it because death is due to the chilling of the interior heat, and everything is chilled by a surrounding medium which is colder than itself? Now in warm regions the surrounding air is hot, but in cold regions it is cold and so more quickly and effectively destroys the interior heat of the body.

Why are those who live in hot regions longer-lived? Is it because they preserve their heat and moisture better? For death is the corruption of these.

Why is it that we become drowsier in marshy districts? Is it because there we are more cooled, and cooling, being a kind of rest, induces sleep, and sleep occurs during rest?

Why is it that those who live on board ship, though they spend their time on the water, have a healthier colour than those who live in marshes? Is the weather and the free access of the breezes the cause? Now water makes men pale when it putrefies, a process which is due to the absence of movement; that is why those who live in marshy regions are rather pale.

Why is suffocating heat very frequently experienced in wintry regions, much more so than in warm districts? Is it because of the moisture in the air? For as a result of the same heat applied to it water becomes hotter than air, and therefore damper air becomes hotter than dry air. Or perhaps the air is not really hotter in these regions, but only seems so by contrast with the general coolness, as the sun emerging from a cloud seems hotter in contrast with its effect when it is behind a cloud.

Why do those who live in southerly climes tend to have black eyes? Is blueness of the eyes due to excess of internal heat, whereas blackness is due to its absence, as Empedocles affirms? Just, therefore, as those who dwell in the north have blue eyes, because the internal heat is prevented from escaping owing to the external cold; so in those who dwell in southerly climes the moisture cannot escape owing to the surrounding heat, but the heat escapes because there is nothing to bar its exit, and the moisture left behind causes blackness; for when light departs that which is left behind is dark. Or does the pigmentation of the eye assimilate itself to the colour of the rest of the body? If so, the eyes of those who live towards the north are blue, because they are themselves white (for blue is akin to white); and those who dwell in the south being black, their eyes also are black.

Why are those who live in warm regions wiser than those who dwell in cold districts? Is it for the same reason as that for which the old are wiser than the young? For those who live in cold regions are much hotter, because their nature recoils owing to the coldness of the region in which they live, so that they are very like the drunken and are not of an inquisitive turn of mind, but are courageous and sanguine; but those who live in hot regions are sober because they are cool. Now everywhere those who feel fear make more attempt to inquire into things than do the self-confident, and therefore they discover more. Or is it because the race of those who live in warm regions is more ancient, the inhabitants of the cold regions having perished in the Flood, so that the latter stand in the same relation to the former as do the young to the old?

Why are the inhabitants of warm regions cowardly, and those who dwell in cold regions courageous? Is it because human beings have a natural tendency which counteracts the effect of locality and season (for, if both had the same tendency, they would soon be destroyed)? Now those who are hot by nature are courageous and those who are cold are cowardly. The effect of hot regions upon their inhabitants is to cool them (for, their bodies having rarities, the heat escapes out of them), but those who live in a cold climate become heated in their nature, because their flesh is densified by the external cold, and when it is in this condition the heat collects internally.

BOOK XV. PROBLEMS CONNECTED WITH MATHEMATICAL THEORY

Why is it that of all the lines which divide a rectilinear figure into two parts that drawn from angle to angle alone bears the name of diameter? Is it because the diameter, as its name implies, divides the figure of which it is the diameter into two parts without destroying it? The line therefore which divides it at its joints (by which I mean the angles) will be the diameter; for it does not destroy the figure but divides it, like those who divide up implements of war for distribution. But a division which cuts through a composite figure in the lines which form it destroys the figure; for a rectilinear figure is constructed on angles.

Why is the diameter so called? Is it because it is the only line which divides a rectilinear figure into two parts, as though one should call it the dichameter? And why is it the only one that bears this name of all the lines which divide a rectilinear figure into two parts? Is it because it is the only line which divides the figure at the points where its limbs bend, whereas all other lines divide it in its sides? just as they say eleven, twelve? Or why do they not stop at some point beyond ten and repeat from there? For every number is made up of one, two, &c., combined with a preceding number, and thus a different number is formed; but the counting always proceeds in fixed sets of ten. For it is clearly not the result of chance that all men invariably o — count in tens; and that which is invariable and universal is not the result of chance, but is in the nature of things.

Is it because ten is a perfect number? For it combines every kind of number, odd and even, square and cube, length and surface, prime and composite. Or is it because ten is the original number, since one, two, three, and four together make ten? Or is it because the bodies which move in the heavens are nine in number? Or is it because in ten proportions four cubic numbers result, from which numbers the Pythagoreans declare that the whole universe is constituted? Or is it because all men have ten fingers, and so, as though possessing counters that indicate a the numbers proper to man, they count all other things by this quantity? One race among the Thracians alone of all men count in fours, because their memory, like that of children, cannot extend farther and they do not use a large number of anything.

(Why is it that the shapes of the heavenly bodies always appear to us the same? Is it) because the earth is a centre? For the shapes which appear to us are always similar. This does not seem to be so unless one views them from the centre, but they would sometimes appear triangular, sometimes irregular four-sided figures, and sometimes take other forms. Now the earth would appear to us to be the centre of the universe, if we could view it from the heavenly bodies. For the earth being spherical, the centre of the universe and of the earth will be the same. But we dwell on the surface of the earth, so that it is not from the centre but at the distance of half the diameter that the heavenly bodies appear to have the shapes that they do appear to have. What reason then is there why the appearance of their shapes should not remain the same when the distance is increased?

Why is it that, although the sun moves with uniform motion, yet the increase and decrease of the shadows is not the same in any equal period of time? Is it because the angles to the objects seen, that is the angles made by the rays of the sun and subtending equal arcs, are equal? Now if these are equal, so also are the angles which the rays when produced make in the triangle formed by the first ray and the object seen and the shadow. If the angles are equal, the line which is farther from the object seen must be greater than that which is less far; for we know that this is so. Let the circumference, therefore, be divided into any number of equal parts, and let the object seen be . When therefore the sun at *A* falling on makes the shadow OMEGO LAMBA the ray must fall on LAMBA. But when the sun comes to *B,* the ray from *B* will fall within OMEGO LAMBA and similarly again when the sun comes to T; otherwise one straight line will touch another straight line at two points. Since therefore *AB* is equal to BT the angles which subtend them at *A* will also be equal, for they are situated about the centre. But if the angles on this side *of A* are equal, so also are the corresponding angles in the triangle; for they are at the apices of the first pair of angles. So while the angle is divided into two equal parts, the line *AE* will be greater than the line E*Z* within LAMBA OMEGO. So too with the other angles formed by the rays from the circumference. At the same time it is clear that the shadow must be shortest at midday and that then its increases are least. For the sun is most over our head at midday, and stifling heat occurs both for the reason just mentioned and because there is no wind; for wind is caused when the sun dissipates the air near the earth. If therefore it does so simultaneously in both hemispheres, midnight and midday would naturally be windless.

Why does the sun penetrating through quadrilaterals form not rectilinear shapes but circles, as for instance when it passes through wicker-work? Is it because the projection of the vision is in the form of a cone, and the base of a cone is a circle, so that the rays of the sun always appear circular on whatever object they fall? For the figure also formed by the sun must be contained by straight lines, if the rays are straight; for when they fall in a straight line on to a straight line, they form a figure contained by straight lines. And this is what happens with the rays; for they fall on the straight line of the wicker-work, at the point where they shine through, and are themselves straight, so that their projection is a straight line. But because the parts of the vision which are cut off towards the extremities of the straight lines are weak, the parts of the figure about the angles are not seen; but what there is of straight line in the cone describes a straight line, while the rest does not, but the sight falls on part of the figure without perceiving it. For there are many things to which the sight penetrates without our seeing them, objects, for instance, which are in darkness. A similar phenomenon is the fact that a quadrilateral figure appears polygonal, and at a greater distance circular. Now since the projection of sight is in the form of a cone, when the figure is removed to a distance the parts of the vision which are cut off towards the angles, because they are weak and few, do not see anything when the distance is increased; but the parts of the vision which fall upon the centre of the figure, being numerous and strong, are more persistent. When, therefore, the figure is near at hand, they can see the parts in the angles; but, when the distance is greater, they cannot do so. For this reason too a curved line removed to a distance appears straight, and the moon on the eighth day seems to be contained by straight lines, if the vision falls upon the line which encloses it and not on its breadth. For when the circumference is near, the sight can discern how much nearer one part of the circumference is than another; but when it is distant, the sight does not perceive it clearly, and it seems to be equally distant; and so it appears to be straight.

Why, though the moon is spherical, do we see it straight when it is half-full? Is it because our vision and the circumference of the circles which the sun makes when it falls upon the moon are in the same plane? Whenever this happens, the sun appears as a straight line; for, since that which casts its vision on a sphere must see a circle, and the moon is spherical, and the sun looks down upon it, there must be a circle which is caused by the sun. When therefore this is opposite to us, the whole is visible and the moon appears to be full; but when it changes owing to the altered position of the sun, its circumference becomes on a plane with our sight and so it appears straight, and the rest appears circular, because a hemisphere is opposite our vision, and this has the appearance of a semicircle; for the moon is always facing our vision, but when the sun sheds its rays we do not see it. And after the eighth day it begins to fill out from the middle, because the sun as it passes on makes the circle incline more towards us; and the circle being thus presented to view resembles the section of a cone. It assumes a crescent-like appearance when the sun changes its position; for when the circle of the sun reaches the extreme points, which make the moon seem half-full, the circumference of the circle appears; for it is no longer in a straight line with the vision, but passes beyond it. When this happens and the circle passes through the same points, it must necessarily appear to have a crescent shape; for a part of the circle is directly on a plane with the eye (a part of the circle, that is, which was formerly opposite to us), so that part of the brightness is cut off. Then the extremities too remain in the same position, so that the moon must have a crescent shape to a greater or less extent according to the sun’s movement; for when the sun changes its position, the circle upon which it looks also turns, remaining on the same points; for it might assume an infinite number of inclinations, since an infinite number of the largest circles can be described through the same points.

Why is it that the sun and moon, which are round, have the appearance of being flat? Is it because all things of which the distance is uncertain seem to be equidistant, when they are more or less distant? And so in a single body ° composed of parts, provided that it is uniform in colour, the parts must necessarily appear equidistant, and the equidistant must appear to be uniform and flat.

Why does the sun make long shadows as it rises and sets, and shorter when it is high in the heavens, and shortest of all at midday? Is it because, as it rises, it will at first make a shadow parallel to the earth and cast it to an infinite distance, and then make a long shadow, which grows ever less because the straight line from the higher point falls within that from the lower point. Let *AB* be the gnomon, and P and *A* two positions of the sun. The ray from T, the line TZ, will fall outside the line *AE*; and the shadow *BE* is formed when the sun is higher in the heavens, and *BZ* when it is lower, and it will be shortest when the sun is at its highest and over our head.

Why are the shadows thrown by the moon longer than those thrown by the sun, though both are thrown by the same perpendicular object? Is it because the sun is higher than the moon, and so the ray from the higher point must fall within that from the lower point? Let *AA* be the gnomon, *B* the moon, and *T* the sun. The ray from the moon is *BZ*, so that the shadow will be JZ; but the ray from the sun is *TE*, and its shadow therefore will necessarily be less, viz. *AE*.

Why is it that during eclipses of the sun, if one views them through a sieve or a leaf — for example, that of a plane-tree or any other broad-leaved tree — or through the two hands with the fingers interlaced, the rays are crescent shaped in the direction of the earth? Is it because, just as, when the light shines through an aperture with regular angles, the result is a round figure, namely a cone (the reason being that two cones are formed, one between the sun and the aperture and the other between the aperture and the ground, and their apices meet), so, when under these conditions part is cut off from the orb in the sky, there will be a crescent on the other side of the aperture from the illuminant, that is, in the direction of the earth (for the rays proceed from that part of the circumference which is a crescent)? Now as it were small apertures are formed between the fingers and in a sieve, and so the phenomenon can be more clearly demonstrated than when the rays pass through wide apertures. Such crescents are not formed by the moon, whether in eclipse or waxing or waning, because the rays from its extremities are not clear-cut, but it sheds its light from the middle, and the middle portion of the crescent is but small.

Why does the parhelion not occur either when the sun is in mid-heaven or above the sun or below it, but only at the side of it? Is it because the parhelion is produced when our visual ray to the sun is refracted, and this stationary condition of the air, on the occasion of which the vision is refracted, cannot occur either near the sun or far away from it? For, if it is near, the sun will dissolve it, whereas, if it is far away, the sight will not be refracted; for, if it is strained to a distance, it is weak when refracted from a small refractor. (So too a halo does not form.) If then a refractor forms opposite the sun and near to it, the sun will dissolve it, whereas if it be far away, the incidence of the sight upon it will be too weak. If, however, it forms at the side of the sun, it is possible for the refractor to be at such a distance that neither does the sun dissolve it nor does the sight ascend weakened by passing under the earth.

It does not form below the sun because, being near the earth, it would be dissolved by the sun; whereas, if it were above the sun when the sun is in mid-heaven, the sight would be distracted. And it cannot form at all even at the side of the sun when it is in mid-heaven, because, if the sight is directed too far under the earth, very little of it will reach the refractor, so that, when it is refracted, it will be very weak.

Why does the extremity of the shadow caused by the sun seem to tremble? For it is not due to the fact that the sun is travelling along; for it is impossible for it to move in contrary directions, and it is of such motion that trembling consists. (Moreover it is uncertain why a shadow changes its position, as also why the sun itself moves.) Is it due to the movement of the so-called motes in the air? These can be seen in the rays which enter through a window; for they move even when there is no wind. These then being constantly carried from the shadow into the light and from the light into the shadow, the common boundary between the light and the shadow is seen to move similarly. For changing from side to side of it, these motes cause as it were shadow in one place and light in another; so that the shadow appears to move, though it is not really it but the motes which move in this way.

BOOK XVI. PROBLEMS CONNECTED WITH INANIMATE THINGS

WHY is it that the bases of bubbles in water are white, and if they are placed in the sun they do not make any shadow, but, while the rest of the bubble casts a shadow, the base does not do so but is surrounded on all sides by sunlight? And, what is still more wonderful, even if apiece of wood is placed on the water in the sunlight, (there is no continuous shadow but) it is cut off by the water at that point. Is no shadow really formed? Is the shadow dissolved by the sun? If then a shadow is to be defined as anything which is not visible to the sun, the whole mass of the object all round must be visible to the sun; but the impossibility of this has been demonstrated in the treatises on optics," for even the largest optical system cannot see the whole circumference of the smallest visible object.

Why are bubbles hemispherical? Is it because the radii between the centre and the outer air extend in every direction upwards to the same distance and thus necessarily produce a hemispherical form? The corresponding hemisphere below is cut off by the watery surface in which the central point is situated.

Why is it that in magnitudes of uneven weight, if you set the lighter part of them in motion, the object thrown revolves in a circle, as happens, for example, with loaded dice if you throw them with the unweighted side turned towards you? Is it because the heavier part cannot travel at the same speed as the lighter when hurled with the same force? Now the object must travel as a single whole, but cannot move alike in all its parts; therefore if the parts were moved with equal speed they would move in the same line, while since one part travels more quickly than the other, the object necessarily revolves as it moves; for it is only in this manner that the parts which are always opposite one another can follow unequal paths in the same time.

Why is it that objects which fall to the earth and rebound describe similar angles to the earth's surface on either side of the point at which they touch the surface? Is it because all things naturally tend to travel at right angles to the earth? Objects, therefore, which fall upon the ground at right angles, striking the surface perpendicularly and diametrically, when they rebound, form angles of that size, because the diameter divides the angle at the surface into equal parts. But objects which fall obliquely, since they do not strike the ground perpendicularly but at a point above the perpendicular, when they are thrust back by that against which they strike, travel in the opposite direction. This in the case of round objects is due to the fact that, striking against it in their course, they revolve in an opposite direction to that in which they are thrust back, whether their central point is at rest or changes its position. In the case of rectilinear objects it is due to the fact that their perpendicular is thrown backwards after being brought forward; just as happens to those whose legs are sheared away from under them or whose scrotum is pulled downwards, for such persons always fall in a contrary direction and backwards, because their perpendicular is raised above the ground and then thrust forward. For clearly the opposite of perpendicularity will be to fall backwards and downwards, and objects carried downwards would be heavier. That, therefore, which in these persons involves a fall, becomes movement in rebounding objects. Neither round nor rectilinear objects therefore rebound at right angles, because the perpendicular divides the objects in motion into two parts depthways, and there cannot be several perpendiculars to the same plane surface cutting one another, which will happen if a perpendicular is formed at the moment of their impact at the point where the object in motion strikes the plane surface, so that the original perpendicular along which it travelled must necessarily be cut by the new perpendicular. Now since the object will be borne back, but will not be borne back at a right angle, it remains that the angle on either side of the point of impact with the plane surface must be an acute angle; for the right angle forms the division between the opposite angles.

Why is it that a cylinder, when it is set in motion, travels straight and describes straight lines with the circles in which it terminates, whereas a cone revolves in a circle, its apex remaining still, and describes a circle with the circle in which it terminates? Both move with a circular motion, but the cylinder describes straight lines on the plane surface, while the cone describes circles because the circles which compose the cone are unequal and the greater circle always moves more quickly than the less about the same centre. Now since all the circles composing the cone move at different rates, it results that the outermost circles travel over most space and describe the longest line in the same time (hence they must move in a circle); for all the circles are described by the same straight line, and when the straight line revolves the various points on it do not describe an equal line in the same time, but can travel along an equal line only if they proceed in a straight direction. But in the cylinders, since all the circles are equal and about the same centre, the result is that, since they touch the plane surface at all the points on them at the same time, as they roll they travel at a uniform speed (because cylinders are uniform throughout), and reach the plane surface again simultaneously when each has completed its own circuit; thus the straight lines described on the plane surface are also equal, for the circles describe them by contact, since they both are equal and travel at the same speed. Now the lines described by the same line travelling in a straight direction are straight, and so the cylinder would travel straight along them; for it makes no difference whether you drag the cylinder over the plane surface at the line where it first touched the plane surface, or whether you roll it over it; for the result will always be that an equal and similar line made up of points on the cylinder will touch the plane surface, both when the cylinder is dragged and when it is rolled along.

Why is it that the section of a rolled book, which is flat, if you cut it parallel to the base becomes straight when unrolled, but if it is cut obliquely becomes crooked? Is it due to the fact that, since the circles in the first section are in the same plane, the result is that the oblique section is not parallel but is partly more and partly less distant from the first section, so that, when the roll is unfolded, the circles, which are in the same plane and have their origin in the same plane, assume, when unrolled, the line which they themselves form? For the resulting line is formed from the circles which are in the same plane, so that the line, being on a plane, is also straight. But the line of the oblique section when it is unrolled, not being parallel to the first section, but partly more and partly less distant from it (this being the position of the section relative to it), will not be on a plane and therefore not straight either; for part of a straight line cannot be in one plane and part in another.

Why is it that magnitudes always appear less when divided up than when taken as a whole? Is it because, though things which are divided always possess number, in size they are smaller than that which is single and undivided? For that which is great is said to be great owing to its continuity and because it is of a certain size, but the number of its parts is always greater than the number of any undivided magnitude. So it is only natural that the whole should appear greater than the parts into which it is divided; for, though the whole and its parts are identical, the whole, being continuous, possesses more of the quality of magnitude, while the parts have more of the quality of number.

Of the phenomena which occur in the water-clock the cause seems to be in general that ascribed by Anaxagoras; for the air which is cut off within it is the cause of the water not entering when the tube has been closed. The air, however, by itself is not the cause; for if one plunges the water-clock obliquely into the water, having first blocked up the tube, the water will enter. So Anaxagoras does not adequately explain how the air is the cause; though, as has been said, it certainly is the cause. Now air, whether impelled along or travelling of itself without any compelling force, naturally travels in a straight line like the other elements. When therefore the water-clock is plunged obliquely into the water, the air preserving its straight course is driven out by the water through the holes opposite to those which are in the water, and, as it goes out, the water flows in. But if the water-clock is plunged upright into the water, the air not being able to pass straight up, because the upper parts are closed, remains round the first holes; for it cannot contract into itself. The fact that the air can keep out the water by its immobility can be illustrated by an experiment with the water-clock itself. For if you fill the bulb itself of the water-clock with water, having stopped up the tube, and invert it with the tube downwards, the water does not flow along the tube to the outlet. And when the outlet is opened, it does not immediately flow out along the tube but only after a moment’s interval, since it is not already at the outlet of the tube but passes along it afterwards, when it is opened. But when the water-clock is full and in an upright position, the water passes through the strainer as soon as ever the tube is opened, because it is in contact with the strainer, whereas it is not in contact with the extremities of the tube. The water does not, therefore, flow into the water-clock, for the reason already mentioned, but flows out when the tube is opened because the air in it being set in motion up and down causes considerable movement in the water inside the water-clock. The water then, being thrust downwards and having itself also a tendency in that direction, naturally flows out, forcing its way through the air outside the water-clock, which is set in motion and is equal in force to the air which impels it but weaker than it in its power of resistance, because the interior air, since it passes through the tube, which is narrow, flows more quickly and violently and forces the water on. The reason why the water does not flow when the tube is closed is that the water on entering into the water-clock drives the air forcibly out of it. (That this is so is shown by the breath and noise engendered in it as the water enters.) And driving the air forcibly along it rushes into the tube itself, and like wedges of wood or bronze driven in by cleavage, remains in position without anything else to hold it together, until it is expelled from the opposite direction, as pegs which are broken in wood are knocked out. This occurs when the tube is opened for the reasons already mentioned. If this is the reason, it is only natural that it should not flow out or make its way forth, since the air forcibly prevents it and becomes inflated. (The noise which is made shows that the water is drawn up by the air, and this is a common phenomenon.) All the water then, being drawn up and being in itself continuous, remains in the same position under the pressure of the air, until it is thrust away again by it; and, since the first part of the water remains in the same position, the rest of the water is dependent from it in one continuous mass. It is only natural that this should be so; for it is the property of the same thing to move something from its own place and to hold it when it has moved it, and to do so for a longer time, if that which holds and that which is held are of equal force, or if that which holds is stronger, as occurs in the present case; for air has greater force than water.

Why is it that the parts of plants and of animals which have no functional importance are all round — in plants, for instance, the stem and the shoots, and in animals the legs, thighs, arms, and chest — and no whole or part is triangular or multi-angular? Is it due, as Archytas used to say, to the fact that in natural movement the proportion of equality is always present (for he holds that all things move in a proportion), and that this is the only proportion which can return to itself, and so it forms circles and rotundities wherever it occurs?

Why do extremities always take rounded forms? Is it because nature makes everything as excellent and as beautiful as the available material permits, and a rounded form is the most beautiful, being as uniform as possible?

Why does a circular object when it is thrown at first describe a straight line, but, as it ceases to move, describe a spiral, until it falls? Does it describe a straight line at first, because the air on either side of it alike keeps it upright? The inclination then to either side being equal, the line also which it describes must be of such a nature that it divides the space on either side of it equally, and such a line is a straight line. But when it inclines to one side, because the air on either side of it is not even, it no longer describes an equal line with its inner and with its outer edge, but is forced to describe a circular line.

Why is it that in magnitudes of uneven weight, if you set the lighter part of them in motion, the object thrown revolves in a circle, as happens for example with loaded dice if you throw them with the unweighted side towards you? Is it because the heavier part cannot travel at the same speed as the lighter when hurled with the same force? Now since it must necessarily move, but cannot do so in the same manner, that is in a straight line, it must take an inward direction and revolve; just as, if part of the object had as a whole remained motionless owing to a weight in the centre, the part next to the person setting the object in motion would have moved so as to occupy the position of the part away from him, while the farther side would have moved towards him. But when the whole object moves and, as it travels, has a weight in the middle, it must necessarily behave in the same manner.

Why is it that objects which are travelling along, when they come into collision with anything, rebound in a direction opposite to that in which they are naturally travelling, and at similar angles? Is it because they move not only with the impetus which accords with their own nature but also with that which is due to the agent which throws them? Their own impetus then ceases when they reach their own proper position (for everything comes to rest when it reaches the position to which it is naturally carried), but, owing to the extraneous impetus, it is forced to continue to move, not, however, in a forward direction, because it is prevented from doing so, but either sideways or in a direct line backwards. Now every object rebounds at similar angles, because it is travelling to the point to which it is carried by the impetus which was imparted by the person who threw it; and at that point it must be travelling at an acute angle or at a right angle. Since then the repelling object stops the movement in a straight line, it stops alike the moving object and its impetus. As then in a mirror the image appears at the end of the line along which the sight travels, so the opposite occurs in moving objects, for they are repelled at an angle of the same magnitude as the angle at the apex (for it must be observed that both the angle and the impetus are changed), and in these circumstances it is clear that moving objects must rebound at similar angles.

BOOK XVII. PROBLEMS CONNECTED WITH ANIMATE THINGS

Why do those who are unsymmetrical appear larger when set side by side with other men than by themselves?

Is it because that which is symmetrical is one, and symmetry more than anything else gives unity to a thing, and that which is one tends to be indivisible, and the indivisible is smaller, whereas asymmetry by causing diversity creates a multiplicity? When things therefore are seen by themselves, their dimensions are less likely to be noticed; but this is not so when they are seen side by side with one another. That then which is indivisible appears to be one, and the impression which it makes on the beholder is one because of its symmetry. But that which is unsymmetrical makes a greater impression, as though it were many, and appears greater because, though in reality only one, it seems to be many; for it partakes of the nature of magnitude, because it is continuous, and of number, because of the inequality of its parts; and so being increased in both these respects, it naturally appears great by the side of that which is simple and one.

Why do animals and plants grow more in length than otherwise? Is it because length increases three times over, width twice, and depth once? For length is the first and original dimension, and so it increases both of itself, and secondly in combination with width, and thirdly in combination with depth. But width implies an increase in two dimensions only, in itself and at the same time in depth.

In what sense must we understand the terms prior’ and ‘posterior’? As those who lived in the time of Troy are prior’ to us, so are those who lived before them ‘prior’ to them and so on *ad infinitum*? Or since there is a beginning and a middle and an end of the universe, and when a man, as he becomes old, reaches the limit and turns again towards the beginning, that which is nearer to the beginning is earlier, what prevents our being nearer to the beginning than to the end, in which case we should be ‘prior’? Just as the course of the firmament and of each of the stars is a circle, why should not also the coming into being and the decay of perishable things be of such a kind that the same things again come into being and decay? This agrees with the saying that ‘human life is a circle’. To demand that those who are coming into being should always be numerically identical is foolish, but one would more readily accept the theory of the identity of the species. And so we should ourselves be ‘prior’, and one might suppose the arrangement of the series to be such that it returns back in a circle to the point from which it began and thus secures continuity and identity of composition. For Alcmaeon declares that men perish because they cannot link together the beginning to the end — a clever saying, if one supposes that he uses it metaphorically and the literal meaning is not insisted upon. If then human life is a circle, and a circle has neither beginning nor end, we should not be ‘prior’ to those who lived in the time of Troy nor they prior’ to us by being nearer to the beginning.

BOOK XVIII. PROBLEMS CONNECTED WITH LITERARY STUDY

I WHY is it that some people, if they begin to read, are overcome by sleep even against their will, whereas others wishing to be overcome by sleep are kept awake by taking up a book? Is it because in those in whom movements of breath take place owing to the coldness of their nature or of melancholic humours, which by their coldness engender an unconcocted excretion of breath — in such people, the intelligence, when it is set in motion and does not think of anything with concentrated attention, is checked by the second movement, which has a cooling effect, and this causes a tendency to sleep? But when they fix the intelligence firmly upon something, as happens in reading, they are impelled by the heating movement, which is unchecked by anything, and so they cannot go to sleep. In those who are in a natural condition, however, when the intelligence, which is very powerful, stands at a single point and does not keep changing from one subject to another, every function in that region (whose inactivity involves sleep) is at a standstill; and when the intelligence stands still and is as it were weary, being situated in the head, it weighs it down and produces sleep. But as long as the mind moves naturally, it does not go to sleep; for it is then that it is most alive, and wakefulness rather than sleeping is the cause of life.

Why are contentious disputations useful as a mental exercise? Is it because they involve frequent victories and defeats? They therefore quickly instil a spirit of rivalry; for, when men are victorious, they are induced by their joy to contend yet more, and, when they are defeated, they continue the struggle in hopes of turning defeat into victory. Those engaged in struggles of other kinds act in the same way, and so when fighting and getting the worst of it often refuse to come to terms.

Why is it that in rhetorical displays men prefer examples and fables rather than enthymemes? Is it because they like to learn and to learn quickly, and this end is achieved more easily by examples and fables, since these are familiar to them and are of the nature of particulars, whereas enthymemes are proofs based on generalities, with which we are less familiar than with the particular? Further, we attach more credence to any evidence which is supported by several witnesses, and examples and fables resemble evidence, and proofs supported by witnesses are easily obtained. Further, men like to hear of similarities, and examples and fables display similarities.

Why do we talk of an orator, or a general, or a business man as being shrewd, but not use the term of a musician or of an actor? Is it because the powers of the two last are exercised apart from any desire of gaining an advantage (for their aim is pleasure), whereas the three first aim at some advantage? For a good orator or general or business man is one who can gain some advantage, and shrewdness consists mainly in getting the better of some one else.

Why is the philosopher generally regarded as superior to the orator? Is it because the philosopher treats of the nature of injustice, while the orator says that such and such a person is unjust, and the orator states that such and such a person is a tyrant, while the philosopher discusses the nature of tyranny? —

Why is it that some men spend their time in pursuits which they have chosen, though these are sometimes mean, rather than in more honourable professions? Why, for example, should a man who chooses to be a conjurer or an actor or a piper prefer these callings to that of an astronomer or an orator? Is it because some men would prefer to undertake the more honourable professions but do not do so because they do not feel confident that they would succeed in them? Or is it because each man chooses the calling in which he thinks he can excel and devotes himself to that which he chooses, giving up the greater part of each day to it, in order that he may improve his own proficiency in it? Now when men have chosen a calling from the first and have become accustomed to it, they lose the power of discriminating between the higher and the lower; for their mind is warped by their bad choice.

Why is it that some persons, if they begin to read, are overcome by sleep even against their will, whereas those who wish to go to sleep are made unable to do so if they take up a book? Is it because in those in whom movements of breath take place owing to the coldness of their nature or of melancholic humours, which by their coldness engender an unconcocted excretion of breath — in these when the intelligence is set in motion and does not think of anything with concentrated attention, the intelligence is checked by the second movement, and so they undergo a great mental change and go to sleep (for the movement of breath is overcome)? But when they fix their intelligence on something, as happens in reading, they are impelled by the movement of breath unchecked by anything, and so cannot sleep. But in those who are in a natural condition, when the intelligence is fixed on one thing and does not keep changing from one subject to another, every function in that region (the inactivity of which involves sleep) is at a standstill. (Similarly during a rout, if the leader halts, all the forces under his command halt also.) For naturally that which is light rises, while the heavy sinks. As long, therefore, as the mind moves naturally, it does not go to sleep; for it is then that it is most alive. When the mind stands still and is as it were weary, the intellect undergoes a change, and the corporeal elements rise to the head and produce sleep. Reading might be expected to prevent sleep; but wakefulness is not due to the fact that we are thinking (for then our mind is most concentrated) but to the constant change; for the intellectual activities which cause wakefulness are those in which the mind searches and finds difficulties rather than those in which it pursues continual contemplation; for the former cause lack of concentration, while the latter do not.

Why is it that in contentious disputes no trifling can ever occur? Is it because such reasoning is apparent syllogism, and syllogism involves only a brief discussion; and, if it be prolonged, after a time the false reasoning is detected and the disputant can withdraw the premisses which he has granted?

Why do we feel more pleasure in listening to narratives in which the attention is concentrated on a single point than in hearing those which are concerned with many subjects?

Is it because we pay more attention to and feel more pleasure in listening to things which are more easily comprehended, and that which is definite is more easily comprehended than that which is indefinite? Now a single thing is definite, but a plurality partakes of the nature of the infinite.

Why do we like to hear of events which are neither very old nor quite new? Is it because we discredit events which occurred long before our time and take no pleasure in events which we discredit, while we can still as it were perceive very recent events and so take no pleasure in hearing about them?

BOOK XIX. PROBLEMS CONNECTED WITH MUSIC

WHY do those who are grieving and those who are I enjoying themselves alike have the flute played to them?

Is it in order that the distress of the former may be lessened and the pleasure of the latter increased?

Why is it that, when the same person uses the same vocal power, the sound travels farther when he is singing or shouting with others than when he does so by himself? Is it because the doing of anything with a number of other people — compressing, for instance, or pushing something — does not produce an effect in simple proportion to the number of persons; but, just as a line two feet long describes a circle which is not double but quadruple that described by a line a foot long, so collective actions have greater force in proportion to their number than when they are carried out separately? When, therefore, a number of persons sing together, the force of their voice unites, and impels the air simultaneously, so that it travels many times as far; for the voice produced by all is the multiple of each single voice.

Why does the voice waver most when singing *parky pate* and to no less a degree than when singing *nete* and the higher notes, although the interval is greater? Is it because the interval is more difficult to sing and is a primary element? Now the difficulty is due to the straining and pressure of the voice; and these require an effort, and things which require an effort are more likely to fail.

But why is *parhypate* difficult to sing, but *hypate* easy, although there is only a quarter-tone between them? Is it because *hypate* is accompanied by relaxation of the voice and also because after tension it is easy to slacken? It is probably for the same reason that what a man says with violence, he says with this note or *paranete*. [For one must... with a consciousness of the character which one is representing and under conditions most akin to it according to one’s purpose.] [But what is the first condition of concordant music?]

Why do men take greater pleasure in listening to those who are singing such music as they already know than music which they do not know? Is it because, when they recognize what is being sung, it is more obvious that the singer is as it were achieving his aims, and this is pleasant to contemplate? Or is it because it is less pleasant to learn? And the reason of this is that in the one case there is acquisition of knowledge, in the other the use and recognition of it. Further, that which is familiar is always pleasanter than the unfamiliar. to the resulting contrast? For the contrast gives an expression of feeling and implies extremity of calamity or grief, whereas uniformity is less mournful.

Why did the ancients, when they gave the scale seven notes, leave in *hypate* and not *nete*? Is this a false statement, since they left in both and omitted *trite,* or is the truer answer that the lower note contains the sound of the higher note, so that *hypate* gives the impression of the octave above better than *(nete* for the high note needs more force, while the low note is easier to utter)?

Why does the low note contain the sound of the high note? Is it because the low note is greater and resembles an obtuse angle, while the high note resembles an acute angle?

Why do we listen with greater pleasure to a solo when a man sings it to the accompaniment of a flute or lyre? Yet the same tune is sung note for note with or without accompaniment. This creates a problem, for if it gave more delight to hear more of the same thing, we ought to sing to the accompaniment of a large number off flute-players and this ought to be even more pleasant. Is it because the singer is more obviously achieving his aim when he is accompanied y a flute or lyre? And the accompaniment of a number of flute-players or lyres does not add to the pleasure, because it drowns the singing.

Why, if the human voice is more pleasant than an instrument, is the voice of a man singing without words — as, for example, when making meaningless warblings — not so pleasant as a flute or lyre? Or is it true that even in the case of an instrument we get less pleasure if it is not expressive of meaning? The instrument, however, has an advantage even in its actual effect; for while the human voice is pleasanter, instruments strike the note better than the human mouth, wherefore they are pleasanter to hear than meaningless warblings.

Why is the voice higher when it echoes back? Is it because it is smaller, having become weaker?

Why does the lower of two strings sounded together always give the tune? For if one omits *paranete*, when one should sound it with *mese*, the tune is given none the less; but if one omits *mese*, when one should sound both, the tune is lost. Is it because the low note is large and ° therefore strong, and the less is contained in the greater? So too if *hypate* is stopped down in the centre, two *netes* are produced.

Why is it that the low note in the octave gives the effect of unison with the high, but not vice versa? Is it because, if possible, the sound of both notes is in both notes, but, failing that, in the low note, since it is greater?

Why does the accord in the octave escape notice, and why does there appear to be a simple unison, as for example in the Phoenician lyre and in the human voice? For the upper and lower note do not give the same sound but are analogous to one another at the octave. Is it because their sound appears to be practically the same owing to the analogy, and analogy is equality in sounds, and equality is of the one? The same deception occurs also in the pipes.

Why were 'nomes' not composed in antistrophes like all other songs, that is, choric songs? Is it because the 'nomes' were assigned to virtuosi, and as these were already able to imitate different characters and sustain their parts, the songs composed for them became long and elaborate? Like the words, therefore, the music conformed to the imitation, becoming constantly different; for it was more essential for the music to be imitative than the words. (For this reason too dithyrambs, since they have become imitative, no longer have antistrophes, as they had formerly.) The reason is that in the old days free citizens themselves formed the choruses; it was difficult, therefore, for a large number to sing together like virtuosi, so they sang in one mode. For it is easier for a single person to make many changes than for a large chorus, and for a professional than for those who are preserving the character of the music. And so they made the music more simple for them. Now the antistrophic song is simple; for there is one rhythm and one unit of metre. For the same reason songs executed from the stage are not antistrophic, but those sung by the chorus are so; for the actor is a virtuoso and an imitator, but the chorus is less imitative.

Why is 'antiphonal' accompaniment more pleasing than symphonic' accompaniment? Is it because in the former the consonance is more obvious than when the accompaniment of the singing is 'symphonic'? For of the two notes played by the instrument one must be in unison with the note sung, and so two notes contending against one drown the other note.

Why is it that singing in fifths does not give the effect of antiphony'? Is it because one symphonic' note is not the same as the other 'symphonic ' note, as are the notes which are an octave apart? For in the accord in the octave the deep note in the lower part of the scale is analogous to the high note in the upper part; it is, therefore, as it were at once the same and different. But this does not occur in fifths and fourths, so that the sound of the 'antiphonal' note does not appear, for it is not identical.

Why is it that the accord in the octave alone is used in ; singing? For in 'magadizing' this and no other accord is used. Is it because it alone is made up of 'antiphonal' notes, and with 'antiphonal' notes, if but one be sung, the same effect is produced as if both were sung? For the one note in a way contains the sounds of both, so that, when one is sung, the concordant note at this interval is also sung; and when they sing both, or when one note is sung and the other played on the flute, they both as it were sing one note. Therefore the accord in the octave alone is sung, because the 'antiphonal' notes have the sound of one note.

But why does the power of producing the effect of a single note belong only to 'antiphonal' notes? Is it because they alone are equidistant from *mese*? The presence then of this mean creates a certain similarity in their sounds, and the ear seems to tell us that it is the same note and that they are both extremes.

Why is it that, if, after tuning the other strings, one alters *mese* and uses the instrument, the ear is offended and an unmusical effect is produced not only when *mese* is used, but in the rest of the piece as well, whereas, if *lichanos* or any other string is altered, it only seems to make a difference when that particular string is used? Surely this is only natural; for in all good music *mese* occurs frequently, and all good composers have frequent recourse to *mese*, and, if they leave it, they soon return to it, as they do to no other note. Similarly in language, if certain connecting particles are removed, such as *re* and *kai*, the language is no longer Greek; whereas the omission of some particles does not offend the ear, because certain particles must be frequently used, if there is to be language, but others not. So *mese* is as it were a conjunction among sounds, and more so than the other notes, because its sound occurs more often.

Why is it that of singers those who are singing low notes are more conspicuous if they sing out of tune than those ° who are singing high? So too those who make mistakes in time in the lower notes are more conspicuous. Is it because the period of time occupied by the low note is longer, and this longer period is more perceptible (for, lasting for a greater time, it creates a deeper sense-impression), whereas a quick, high note escapes notice owing to its swiftness?

Why does a large choir keep better time than a small one? Is it because they look more to one man, their leader, and dance more slowly and so more easily achieve unity?

For mistakes occur more frequently in quick singing.

Why is *hypate* double *nete*? Is it because in the first place, when half the string is struck and when the whole string is struck an accord in the octave is produced? So too with wind instruments, the sound produced through the middle hole and that produced through the whole flute give an accord in the octave. Again, in the reed-pipe an accord in the octave is obtained by doubling the length, and this is how flute-makers produce it. Similarly they obtain a fifth by means of a length in the ratio of three to two. Again, those who construct Pan-pipes stuff wax into the extreme end of the h*ypate-reed,* but fill up the *nete*-reed to the middle. Similarly they obtain a fifth by means of a length in the ratio of to , and a fourth by means of a length in the ratio of to . Further, *hypate* and *netez* on triangular stringed instruments, when they are equally stretched, give an accord in the octave when one is double the other in length.

Why, if one strikes *nete* and then stops it down, does *hypate* alone seem to resound? Is it because the vibration produced from *hypate* is very much of the same nature as the sound of *nete*, because it is in accord with it? When it is increased by the addition of its like, it alone is audible, the other sounds being imperceptible owing to their smallness.

Why is *mese* (‘the middle note’) so called in the scale, though there is no middle of eight notes? Is it because in the old days scales had seven notes, and seven has a middle?

Why do most men sing high when they sing out of tune? Is it because it is easier to sing high than low?

Or is it because singing high is worse than singing low, and a mistake is doing what is worse? —

Why is it that of all things which are perceived by the senses that which is heard alone possesses moral character? For music, even if it is unaccompanied by words, yet has character; whereas a colour and an odour and a savour have not. Is it because that which is heard alone has movement, not, however, the movement in us to which the sound gives rise (for such movement exists also in the other ° things which affect our senses, for colour also moves our sight), but we perceive the movement which follows such and such a sound? This movement resembles moral character both in the rhythms and in the melodic disposition of the high and low notes, but not in their commingling; for 'symphony' does possess moral character.

This does not occur in the other objects of sense-perception. Now these movements are connected with action, and actions are indicative of moral character.

Why are the 'nomes' (nomoi) which are sung so called?

Is it because before men knew the art of writing they used to sing their laws (nomoi) in order not to forget them, as they are still accustomed to do among the Agathyrsi? They, therefore, called the earliest of their subsequent songs by the same name as their earliest songs.

Why do rhythms and tunes, which after all are only voice, resemble moral characters, whereas savours do not, nor yet colours and odours? Is it because they are movements, as actions also are? Now efficient action is already moral and determines character, but savours and colours have no similar effect.

Why is neither the Hypodorian nor the Hypophrygian mode suitable for use by the chorus in tragedy? Is it because they do not admit of antistrophic melody? They are used, however, from the stage, because they are imitative.

Why were Phrynichus and his contemporaries primarily musicians? Is it because in those days the lyrical portions of tragedies were many times longer than the purely metrical?

Why is the 'diapason' (accord in the octave) so called and not named after the number of notes a 'diocto', like the 'diatessaron' (fourth) and the 'diapente' (fifth)? Is it because the notes were originally seven in number, and then Terpander took away *trite* and added *nete,* and in his time it was called 'diapason and not 'diocto', since it was really 'diepta ?

Why is it more satisfactory for a singer to pass from a high to a low note than from a low to a high note? Is it because the former amounts to beginning at the beginning, for the *mese,* or leader, is the highest note in the tetrachord? But in passing from a low to a high note one begins not at the beginning but at the end. Or is it because a low note is nobler and more euphonious after a high note?

Why are a double fifth and a double fourth not concordant, whereas a double octave is? Is it because neither a double fifth nor a double fourth is in a superparticular ratio, though a fourth and a fifth are so?

Why is the accord in the octave the most beautiful of all?

Is it because its ratios are contained within integral terms, while those of the others are not so contained? For since *nete* is double *hypate*, as *nete* is two, so *hypate* is one; and as *hypate* is two, *nete* is four; and so on. But *nete* is to *mese* in the ratio of three/two to one (for a fifth is in this ratio), and that which is in the ratio of three/two to one is not contained within integral terms; for as the lesser number is one, so the greater number is one with the addition of a half, so that it is no longer a comparison of whole numbers, but fractions are left over. The like happens also with the fourth; for the 'epitrite' of a term is as great as that term and one third as great again. Or is it because the accord which is made up of both the other two is the most perfect, and because it is the measure of the melody?

Why (is the sound shrillest in the middle of the note?

Is it because) in any body which is displaced the movement is most violent in the middle and quieter at the beginning and end, and when the movement is most violent the sound of that which is displaced is shriller? For this reason also strings which are tightly stretched give a shriller note, for their movement is quicker. Now if a sound is the displacement of air or of something else, a sound which is in the middle of its course must be shrillest. If this were not so, there would be no displacement of anything.

Why is it that if *mese* is altered, the sound of the other strings also is spoilt, but if on the other hand *mese* is left alone and one of the other strings altered, the note which is altered alone is spoilt? Is it because for all strings 'being in tune' means standing in a certain relation to *mese?* and the tension of each is already determined by *mese*? If, therefore, that which is the cause of their being in tune and which holds them together is taken away, their proper relationship appears to be no longer maintained. But if one string is out of tune but *mese* is not altered, naturally the defect lies in that string only; for all the others are in tune.

Why is it that, though height in a voice is in accordance with smallness and lowness in accordance with largeness (for a low note is slow owing to its largeness, and a high note quick owing to its smallness), yet more effort is required to sing a high than a low note, and few can sing the top notes, and the ‘Orthian songs’ and high music are hard to sing owing to the strain which they involve? Yet it requires less effort to set in motion that which is small than that which is large, and this ought to be true also of the air. Is it because the possession of a naturally high voice and the singing of high notes are not the same thing, but naturally high voices are always due to weakness because of the inability to set more than a little air in motion, and the little air thus set in motion is carried quickly along? But height of note in singing is a sign of strength; for that which is carried violently along is carried swiftly. Hence persons in robust health can sing high. And it requires an effort to sing the high notes, but the low notes are easier.

Why do all men delight in rhythm and melody and concords in general? Is it because we naturally rejoice in natural movements? This is shown by the fact that children rejoice in them as soon as they are born. Now we delight in the various types of melody for their moral character, but we delight in rhythm because it contains a familiar and ordered number and moves in a regular manner; for ordered movement is naturally more akin to us than disordered, and is therefore more in accordance with nature. This is shown by the fact that by working and eating and drinking in an ordered manner we preserve and improve our nature and strength, whereas if we do these things irregularly we destroy and derange our nature; for diseases are disturbances of the natural order of the body. Thirdly, we delight in concord because it is the mingling of contraries which stand in proportion to one another. Proportion, then, is order, which, as we have said, is naturally pleasant. Now that which is mingled is always more pleasant than that which is unmingled, especially if, being perceived by the senses, it contains equally the force of both extremes; and in a concord the proportion has this characteristic.

Why is ‘antiphony’ more pleasant than ‘ homophony’? Is it because ‘antiphony’ is concord in the octave? For ‘ antiphony’ is produced by young boys and men whose voices are separated in pitch as *nete* is from *hypate*. Now any concord is more pleasing than a simple note for the reasons already stated, and of concords that in the octave is the most pleasing; whereas ‘homophony’ produces only a simple sound. ‘Magadizing’ is in the concord of the octave, because, just as in verses the syllables stand to one another in the proportion of equal to equal, or two to one, or some other proportion, so too the sounds in a concord stand in a proportion of movement to one another. In the other concords the termination of one of the two notes is incomplete since it coincides with the end of only a half of the other; and so they are not equal in force, and being unequal they make a different impression on the sense-perception, as happens in a chorus when at the conclusion some are singing louder than others. Furthermore, *hypate* happens to have the same conclusions to the periods in its sounds as *nete,* for the second stroke which *nete* makes upon the air is *hypate*. As, then, these notes, though they do not do the same thing, terminate together, the result is that they carry out one common task, like those who are playing a stringed accompaniment to a song; for these, though they do not play the same other notes as the singer, yet, if they finish on the same note, give more pleasure by their conclusion than they give pain by the differences which occur earlier in the piece, because after diversity the unity due to the accord in the octave is very pleasing. Now ‘magadizing’ is made up of contrary notes, and for this reason it is carried out in the accord in the octave.

Why do men take greater pleasure in listening to those who are singing tunes which they already know than if they do not know them? Is it because it is more obvious that the singer is as it were achieving his aim when they recognize what is being sung, and when they recognize it the contemplation of it is pleasant? Or is it because the listener is in sympathy with one who sings what he himself knows? For he sings with him; and every one enjoys singing when he is under no compulsion to sing.

Why are a double fifth and a double fourth not concordant, whereas a double octave is? Is it because a fifth is in the ratio of to , and a fourth in that of to ? Now in a series of three numbers in a ratio of three to two or four to three, the two extreme numbers will have no ratio to one another; for neither will they be in a superparticular ratio nor will one be a multiple of the other. But, since the octave is in a ratio of two to one if it be doubled the extreme numbers would be in a fourfold ratio. So, since a concord is a compound of sounds which are in a proper ratio to one another, and sounds which are at an interval of two octaves from one another are in a ratio to one another (while double fourths and double fifths are not), the sounds constituting the double octave would give a concord (while the others would not) for the reasons given above.

Why is it that, if one strikes *nete* and then stops it down, *hypate* seems to respond? Is it because *nete*, as it ceases and dies down, becomes *hypate*? (This can be illustrated by the fact that it is possible to sing *nete* from *hypate*; for the similarity can be taken from *hypate* as being a response to *nete*.) And since an echo is a response to a note, and when *nete* ceases a sound is set in motion which is the same as the note of *hypate*, it is only natural owing to the similarity that *nete* should seem to set *hypate* in motion. For we know that *nete* is not in motion, because it is stopped down, and seeing that *hypate* itself is not stopped down and hearing its note we think that it is *hypate* which is giving forth a sound. (This kind of illusion is quite common, where we cannot perceive the exact truth either by reasoning or by the senses.) Again, it would be nothing extraordinary if, after *nete* is struck when it is very tightly stretched, the bridge were set in motion; and it would not be strange if, when the bridge moved, all the strings were set in motion with it and made a sound. Now the sound of *nete* is alien to the other notes both in its end and in its beginning, but is the same as *hypate* in its end. This having been added to the movement of *hypate* itself, it would not be strange that the sound should seem to be entirely that of *hypate*; and it will be louder than the combined sound of the other notes, because the latter, being as it were impelled by *nete,* give only a soft sound, whereas *nete,* being the most violent of notes, sounds with its full force; and so naturally its second sound would be louder than that of the others, especially if only a slight movement has taken place in them.

Why do we listen with greater pleasure to a solo sung to a flute than to one sung to a lyre? Is it because anything becomes still more pleasant when mingled with what is more pleasant? Now the flute is more pleasant than the lyre, so that singing would be more pleasant when it mingles with the flute than with the lyre. Further, that which is mingled is more pleasant than that which is unmingled, if there is a simultaneous perception of both the elements. For wine is pleasanter than ‘oxymel’, because natural mixtures are more thoroughly mingled than those which we make ourselves. For there is also wine which is mingled of bitter and sweet savours, as is shown by the so called vinous pomegranates. Singing, then, and the flute mingle with one another owing to their similarity, for they are both produced by breath. But the sound of the lyre, since it is not produced by breath (which is what makes the sound of the flute less noticeable), mingles less well with the voice and, causing a contrast in the perception, has a less sweetening effect, as has been said of savours. Furthermore, the flute by its own sound and by its likeness to the voice covers up many of the mistakes of the singer; but the sounds of the lyre, which are isolated and mingle less well with the voice, since they are themselves observed, and exist, on their own account, show up the mistakes of the singing as well, providing as it were a standard for criticizing it. And when there are many mistakes in the singing, the combined effect of the singing and the accompaniment must necessarily be worse.

“ — Why is *mese* (‘the middle note’) so called, though there is no middle of eight notes? Is it because in the old days the scales had seven notes, and seven has a middle? Again, since of the points which fall between two extremes the middle alone forms a kind of starting-point, that which lies between the points which verge towards either end in an extended space, being also a starting-point — *that* will be the true middle. And since *nete* and *hypate* are the extremes of the scale and the other sounds lie between them, of which the one which is called *mese* alone is the beginning of the second tetrachord, the name *mese* (‘middle note’) is amply justified; for of the points lying between certain extremities, as has been shown, the middle alone forms a beginning.

Why does a large chorus keep the rhythm better than a small one? Is it because they look more to one man, their leader, and dance more slowly, and so more easily achieve unity? For mistakes occur more frequently in quick singing. Now a large chorus attends to its leader, and no one by differing from the rest would render himself conspicuous by making himself heard above the rest: in a small chorus, on the other hand, individuals can make themselves more conspicuous; they, therefore, vie with one another instead of looking to their leader.

Why do most men sing high when they sing out of tune? Is it because it is easier to sing a high note than a low note? They have at all events a tendency to sing high and so make mistakes in what they sing.

Why did the ancients, when they made the scales consist of seven strings, leave in *hypate* but not *nete*? Or should we say that they omitted not *nete* but what is now called *paramese* and the interval of a tone? They treated *mese* then, as the lower note of the upper ‘pycnon’; whence came the name *mese*, because it was the end of the upper tetrachord and the beginning of the lower, and was in pitch in an intermediate relation between the extreme notes.

Why do the choruses in tragedy not sing either in the Hypodorian or in the Hypophrygian mode? Is it because these modes have very little of the kind of tune which is specially necessary to a chorus? Now the Hypophrygian mode has a character of action (hence in the *Geryone* the march-forth and arming are composed in this mode); and the Hypodorian is magnificent and steadfast, and so is the most suitable of all the modes to accompaniment by the lyre. Now both these are unsuited to the chorus and more proper for the characters on the stage; for the latter imitate heroes, and among the ancients the leaders alone were heroes, and the people, of whom the chorus consists, were mere men. So a woeful and quiet character and type of music are suited to the chorus, for they are more human. These characteristics belong to the other modes, but least to the Phrygian among them — for it is exciting and orgiastic — and most to the Mixolydian. In accordance with this mode, then, we adopt a passive attitude, and the weak are more passive than the strong; and so this mode is appropriate to choruses. When we use the Hypodorian and Hypophrygian modes, on the other hand, we are active, and action is not fitting for choruses; for the chorus is in attendance and takes no active part, for it simply shows goodwill towards those with whom it is present.

Why is it that of the sounds which form a consonance the lower is more suited to melody? Is it because melody is in its own nature soft and tranquil, but becomes harsh and full of movement by the admixture of rhythm? Now since the low note is soft and tranquil, and the high note full of movement, of the notes which maintain the same melody the lower would rather be more melodious in the same melody; for melody in itself, as has been shown, is soft.

Why is it that the sounds produced from two jars of the same size and quality, one empty and the other half-full, give an accord in the octave? Is it because the sound produced from the half-full jar is double that produced from the empty jar? This surely is just what happens in the pipes. For the quicker the movement, the higher seems the note, and in larger spaces the air collects more slowly, and in double the space in double the time, and proportionately in the other spaces. A wine-skin too which is double the size of another, gives an accord in the octave with one which is half its size.

BOOK XX. PROBLEMS CONCERNING SHRUBS AND VEGETABLES

WHY is it that celery can endure salt water, but the leek cannot? Is it because the roots of the latter are weak, but those of the former are strong, and that which is stronger is less liable to be affected?

What is the reason of the saying:

Mint should neither be eaten nor planted in season of warfare?

Is it because mint has a cooling effect upon the body, as is shown by the corruption which it causes in the semen? This is opposed to courage and spirit, being the same in kind.

Why is it that some plants, though they have blossom, have no fruit, such as the cucumber and the pumpkin and the pomegranate? Or have they fruit, the blossom being the fruit? For example the part which blossoms is a fruit-case, and the cucumber is a fruit-case.

Why is it that some plants are edible only after they have been boiled, while others can be eaten raw? Do the juices of such plants as are not at first edible become sweeter when the plants have been warmed by heat, whilst in others the juices are originally sweet, and these can be eaten raw?

Why is it that some plants are boiled, others roasted?

Is it because the moister plants do not require so much moistening, while the drier plants must not be further dried? Now anything which is boiled becomes moister and softer, and that which is less moist becomes dry if exposed to the fire.

Why are some plants edible and others inedible? Is it owing to their juices? For plants which in their raw state have unconcocted juices and, when heated, do not undergo change, are inedible. Now those of which the juice is edible but somewhat strong are used as condiments; for plants which have a strong savour in a small compass serve to flavour those of which the savour is distributed over a large bulk.

Why is it that some plants live only until they have produced seeds and having borne seeds dry up — grass, for instance, and the so-called herbs — while others do not, but bear seeds time after time? And of those which live only until they have produced seed why are the majority annuals, while horse-parsley produces its fruit in the second year and having done so dries up? Is it because all things flourish until their seed reaches its prime (for man too continues to grow until the age of thirty, sometimes in height and sometimes in bulk), but when they can no longer produce seed, as in the case of man, they begin to dry up and grow old — in some cases slowly and in proportion? The reason why some forms of life are long-lived and others shortlived is to be the subject of another treatise. But since the perfection of the seed is the limit in all cases, it necessarily follows that the short-lived bear fruit only once or only a few times, and the long-lived many times; so that the weakest bear only once and so necessarily dry up; and those of them which can bear seed in a year are annuals, whilst others, like horse-parsley, do so in the second year, both plants and trees alike.

Why is it that if one digs down to the roots of celery and surrounds them with barley-husks, and puts earth over these and then waters the plants, the roots become very large? Is it because the barley-husks, being hot and spongy, hold the nourishment in a mass so that it does not rise upwards, but, being hot, causes concoction, and so considerable growth takes place?

Why is it that if one buries gourds or pumpkins in the ground when they are still small, they become large? Is it because the wind and the sun dry everything up and prevent growth, and make everything smaller in bulk but closer in texture? (As can be seen in the difference between trees growing in windy and sunny localities and those in hollow and moist places, the latter being large and spongy in texture, the former small and dense.) Now the burying of things in the earth is the contrary of this and produces a contrary result. (A similar difference occurs in fruits placed in vessels; if pumpkins are placed in hollow fennel-stalks or boxes, and pomegranates or apples in earthenware jars, the apples become large and spongy, but the pumpkins become small and hard because they grow against a resisting surface.) The reason then is that the nutriment is increased, because it is not dispersed by the wind or dried up; for the covering of earth prevents it from being thus affected.

Why are the seeds of pungent plants more pungent than the roots and the leaves? Is it because everything is derived from the seed and distributed to the other parts from it, as it were pre-existing in it, as some contend, including the juices and odours, since the odours always become distinctive as soon as the seeds are formed? If, therefore, the pungency in the rest of the plant is derived from the seed, it is only natural that it should be present in the greatest degree in the seed.

Why are thin radishes more pungent? Is it because the larger radishes are more concocted owing to the lapse of time?

Why is it that the caper-plant will not grow easily in tilled ground — for the experiment has often been made of transplanting the roots or sowing the seed (for in some places it is more profitable than roses) — but grows best among the tombs because the ground is most untrodden? As regards this and similar questions the principle must be accepted that all things do not come into being and grow from the same matter, but some things originally come into being and grow from the corruption of other things — for instance lice and the hair on the body when its nutriment is corrupted and when the body is itself in a state of deterioration. As therefore in the body certain products are engendered from the excrement of nutriment (which means that concoction is incomplete), and since, when nature cannot prevail over the excrement, the commonest excretions are absorbed into the bladder and bowels, while from others living organisms are engendered (and so these attain the greatest growth in old age and disease), so in the earth some products are engendered and grow from the concoction of nutriment, others from excretions and matter that is in a condition which is the opposite of concoction. Now tillage concocts the nutriment and makes it productive, and from this the cultivated fruits are formed. The products, therefore, of this cultivation are called cultivated because they are benefited by art, undergoing as it were a kind of training. Plants, on the other hand, which cannot be so benefited or are formed from an opposite condition, are ‘wild’ and will not grow in a highly tilled soil. For tillage spoils them by trying to train them; for they are engendered from corruption. It is to this class that the caper-plant belongs.

Why is it that, when radishes are in their prime in the winter, if one cuts off the leaves and heaps earth round them and treads it in so as to keep out the water, they grow to an extraordinary size in the summer? Is it because the heaping up of the earth round them secures them from becoming corrupted by preventing the water from rotting them, and the nutriment, which the plant used to send into the shoot, enters into the radish, so that it must either itself increase in size or send out lateral shoots and grow other roots, as do onions? For onions, if they are not pulled up each year but are left in the ground during the winter, become multiplied. Now onions are among the plants which send out shoots laterally; but the radish does not do so, and must therefore increase in bulk, because it absorbs all the nutriment.

Why is it that if one plants pumpkins or gourds near a well and, when they are ripe, lets them down into the well and covers them over, they remain green for a whole year? Is it because the vapour from the water cools them and prevents them from drying up and keeps them in good condition, and the covering of them up fosters the breath which has formed in them? Their conservation is due to the fact that they still receive nutriment, because their roots are left undisturbed; for even if one removes the shoots, when they have borne fruit, and after cutting them away heaps earth round the roots and treads it down, the plant will produce early pumpkins, because the roots can survive; for the pumpkin-plant is not a biennial. Plants treated in this way will bear fruit more quickly than seedlings, because the root, the most important part of their organism, is already present in their growth, whereas in seedlings the roots must grow first. Furthermore, the heaping of earth round the root engenders warmth, so that it is preserved and sends up a shoot more quickly. So too if one sows gourd-seeds during the winter in small wicker baskets and waters them with hot water and carries them out into the sun and places them by the fire, very early gourds will be produced if one plants them out in the ground, as they are, in the baskets, when the proper season arrives.

Why are plants watered at dawn or at night or in the evening? Is it in order that the sun may not consume the water? Or is it because, when the water is warm, it corrupts the plants which are watered with it?

Why is it that sweet-smelling seeds and plants promote the flow of urine? Is it because they contain heat and are easily concocted, and such things have this effect? For the heat which is in them causes quick digestion, and their odour has no corporeal existence; for evil-smelling plants, such as garlic, owing to their heat, promote the flow of urine, but their wasting effect is a more marked characteristic. But sweet-smelling seeds contain heat, because odour is entirely engendered by the presence of some heat; but evil-smelling things are unconcocted. Now anything which is to promote the flow of urine must be not only hot but also easily concocted, so that it may accompany the liquids in their downward course and effect their digestion.

Why is it that vegetables which are produced from older seeds (for example, two or three years old) produce more stalk than those grown from fresh seeds? Is it because, just as in animals that which is at its prime produces semen most readily, so too very old seeds lose their vigour by evaporation, and those which are produced from fresh seeds are too weak because they still contain excrement which is alien to them, but those which are of moderate age are strongest, because the moisture has left them, and so they produce seed more readily? And the production of seed is the same process as the production of stalk, since the seed comes from the stalk.

Why does rue grow best and most abundantly if it is grafted on to a fig-tree? Now it is grafted inside the bark and plastered with clay. Is it because the roots of the rue require heat and warmth (and this is why they are benefited by being surrounded with ashes), and the fig-tree contains heat? That this is so is shown by the fact that its sap is the most pungent of all and by the amount of smoke which it produces when burnt. It therefore possesses the same kind of heat and moisture as ashes, so that if ashes benefit rue, it must necessarily flourish greatly when grafted on the fig-tree, since, whereas ashes give off no fluid, the flow of liquid from the fig-tree is continuous, its moisture being never exhausted. —

Why do some plants always produce empty stalks?

Are they among those plants which have to produce something other than stalk?

Why is it that in Attica, while all other fruits are very sweet, thyme is very bitter, yet thyme is a kind of fruit?

Is it because the soil there is thin and dry,’ so that the plants which grow there do not contain much moisture?

In plants, then, which are naturally sweet, owing to the moderate quantity of moisture which they contain, when the sun has absorbed the greater part of it the remainder is easily concocted; for it is difficult for a large amount, but easy for a moderate amount, to be ripened. Fruits, therefore, which are naturally sweet become more so; but in those which are naturally dry and not sweet, the natural moisture fails, because it is scanty, and is very far from being sweet. For the sun absorbs the sweetest and lightest part of it; and these fruits have no superfluous moisture, as have other fruits.

Why do pennyroyal and narcissi and onions bloom if hung up at the time of the summer solstice? Is it because there is unconcocted nutriment in them, which in winter does not become concocted owing to the cold, but at the summer solstice owing to the season becomes concocted, and so the growth takes place? This growth, however, because there is no influx of moisture, quickly dies down; for if they have not some source of nutriment or influx of moisture, they dry up. A similar phenomenon occurs in Scythia, where, owing to the presence of abundant snow, the corn remains a long time in the earth and then suddenly shoots up.

Why does the onion alone make the eyes smart to such an excessive degree (hence it is said to derive its name because it makes one cover up the pupil), whereas marjoram and other pungent plants do not have this effect? For the nasturtium, though it is more stinging, does not cause tears to the same extent if placed near the eyes, whereas the onion has this effect both when so placed and when eaten. Is it because many differences attach to each of the pungent plants, which give each its peculiar property? The nasturtium then, because it is hotter, is so dry that it prevails over the liquefaction which it causes; for it causes tears when it is eaten, but it does not cause tears when placed near the eyes, because it does not give off any thin vapour, being too dry and hot to do so. But marjoram and such warm plants are dry, though only slightly so; and that which is to cause tears must be stinging and moist and viscous. This is why olive oil causes tears, though its sting is weak; for it penetrates owing to its viscosity and tenuity and causes pain, and the pain causes melting. Now the onion has such properties that its moisture and the vapour which it gives off are hot and tenuous and viscous; and so, when it is placed near the eye, it causes tears, because the vapour which it gives off is of such a character and carries with it a thin moisture; and, when it is eaten, the exhalation penetrates and produces the same effect. Garlic, on the other hand, is hot and pungent and contains moisture, but is not viscous; and so does not cause tears.

Why is it that myrtle-berries which have been compressed in the hand seem to us sweeter than those which have not been so compressed? Is it for the same reason as makes dried grapes sweeter than fresh clusters and undried grapes?

For dried grapes are, it appears, flavoured by the juice, which is naturally sweet (for they are even externally saturated by it), but the grapes which are still in the cluster are not so flavoured. So too myrtle-berries, which are naturally sweet and have their sweetness within, like grapes when they are compressed, become saturated by the sweetness which is within them and are clearly sweeter externally.

Why is it that, the smaller myrtle-berries are, the more they tend to have no stones, and the same is true also of dates and clusters of grapes, in which the small grapes have no stones at all or only smaller stones? Is it because, being less perfect, they have less distinctly formed stones?

For the purpose of the stone is to contain the seed. Now the berries are smaller, because they are mere offshoots and imperfect, and they are less sweet than those which have proper stones; for they are less concocted, and concoction is a process which produces perfection.

Why is it that in some fruits the parts which are near the root are more bitter (for example in the cucumber), but in others the parts towards the upper extremity (for example in acorns)? Is it because in the former the nutriment in that part is unconcocted, because there is a continual influx along the root; while the latter are naturally dry, and so, when the sweetness is drawn off from the extremity and has become concocted, they are henceforward dry and the bitterness is left behind like salt? Now as anything becomes dry, it becomes more bitter, just as olives and acorns become bitter as they grow old.

Why do some plants sprout when they are not in the earth, but either cut off or placed in store, lily-stalks, for example, and garlic and onions? Is it because they all have nutriment within themselves and not in any definite place outside the plant? [It is therefore their superabundance of nutriment which makes them sprout, as is clear from the fact that squills and purse-tassels do the same.] Now each of them grows not merely because it contains nutriment, but only when that nutriment is concocted and distributed; it therefore contains nutriment before, but it only grows when the season comes at which this process takes place owing to the concoction caused by the season, as happens also to crocodiles' eggs. The growth, however,; is not continuous, because there is no influx of more nutriment.

Why is it that garlic and onions grow better according as they are drier when planted, whilst other plants grow worse under such conditions? Is it because all plants of this kind are exceedingly full of moisture? If, then, they are planted in this condition, they enjoy equable conditions.

A further reason is that they are less likely to rot if they are dried before being planted. —

Why is it that garlic and onions alone among plants sprout when they are stored away? Is it because they are full of moisture and nutriment? It is abundance of nutriment, then, which makes them sprout, as is clear from the fact that squills and purse-tassels do the same.

But they grow only when the proper season for each of them comes.

Why is it that plants which are watered with cold water are sweeter than those watered with warm water? Is it because the warm water when it becomes enclosed in the plant is saltier (just as that which is saltier is hotter, and that which is sweet is the opposite, that is, in a sense, cold)?

Now the nutriment of vegetables is liquid, and it is this which gives them their juices.

Why is it that garlic has a stronger odour when it has run to stalk than when it is young? Is it because, when it is young, there is still a large quantity of alien moisture in it which deprives it of its strength? When, however, the plant has ripened, the alien moisture having been already excreted, it then has its own proper odour; and this is naturally pungent. Similarly, all other fruits when they are young are more watery. This is the reason why young onions are less pungent.

Why is it that, if myrtle-branches are not embalmed, the berries rather than the leaves drop off, whereas, if they are embalmed with seaweed, the leaves drop off but the berries do not? Is it what naturally happens if the branches are not embalmed, for the berries naturally drop off when they become ripe? This does not occur when the branches are stored away, but the moisture in the seaweed only prevents the moisture in the berries from undergoing change. The leaves, on the other hand, drop off as the branches become dry, and the seaweed, which is salty, has a drying effect upon them. The leaves thus undergo different processes when they remain on the tree and when they are stored away.

Why do melons grow best in marshy plains which are humid, for example, round Orchomenus and in Egypt, which appears to be a well-watered country? Now marshy districts are full of water and melons themselves are somewhat moist; and this is why those grown in gardens are poor. Is it because they have to be planted deep owing to the hardness of the ground? For clayey, flat ground becomes very hard, and plants grow best which are deeply planted. Or is it because the ground must be dry, because the plant itself is naturally moist? For thus being pulled in opposite directions it will attain the mean. Now ground which is somewhat marshy but deep contains nutriment owing to the depth of the soil and the locality, but not in an excessive quantity, because the ground dries up again.

Why is it that rue and certain unguents give the perspiration an evil odour? Is it because things which have a heavy and pungent odour, mixing with the excretory fluids, make the odour of these still more unpleasant?

Why is rue said to be a remedy against the evil eye? Is it because men think they are victims of the evil eye when they eat greedily or when they expect some enmity and are suspicious of the food set before them? For instance, when they take anything for themselves from the same course, they offer some one else a portion, adding the words, ‘so that you may not cast the evil eye upon me All therefore will take with alarm of what is offered them, whether liquid or solid, of those foods, the constriction or vomiting forth of which causes the solids to be carried upwards and ejected or the flatulence from the liquid to give rise to pain and writhing. Rue, therefore, being eaten beforehand, since it is naturally warming, rarefies the organ which receives the food and the whole body, with the result that it drives out the flatulence enclosed within it.

Why is it that marjoram, being thrown into the must, makes the wine sweet, and two cupfuls are thrown into a jar of wine? Is it because it takes away the elements which cause harshness by absorbing into itself by its dryness the watery and sedimentary parts? That it is these which cause harshness is shown by the fact that wines are less soft if water is added or if they have been allowed to stand a long time on the lees. Also when they make raisin wine, they expose the grapes for a long time to the sun, which draws out the watery element and concocts the remainder. Now marjoram produces the same result, for it is dry and hot, and so naturally has a lasting effect.

Why do black myrtle-trees have thicker foliage than white? Is it because they are a wilder species? That they are so is proved by the fact that they grow in the untilled ground and undergo very little modification as a result of cultivation. Now wild plants invariably have denser foliage; for, because their fruit is less concocted, the nutriment is diverted into the foliage.

BOOK XXI. PROBLEMS CONCERNING BARLEY-MEAL, BARLEY-CAKE, AND THE LIKE

Why is it that barley-gruel and wheaten-flour become whiter if oil is poured on to them, though oil is reddish in colour? Is it because oil naturally foams when it is mixed with liquid, and foaming causes whiteness? Now mixing is carried out by pounding and motion, and is most complete in the case of corporeal substances. This process occurs in foods which are boiled, and so makes them whiter.

Why is it that foods made from wheat suit our bodies best and are more nourishing than those made from barley? Is it because wheat contains a moderate amount of stickiness, and food ought to have this quality, since it ought to cling and adhere to the body, and its stickiness causes it to do so? But barley is less cohesive, and so cakes in which the barley is well kneaded are more nourishing than those in which it is not kneaded.

Why is it that of wheaten-flour that which is ground first is whiter, but of barley-meal that which is ground last? Is it because barley, being dry, breaks into pieces, whereas wheat is soft and crushes? Now in both it is the inner part which is whitest.

Why do loaves appear whiter when they are cold than when they are hot? Is it somehow for the same reason that stale oil is whiter than fresh? For the cause of the blackness is the water which in both cases is present in larger quantities when they are fresh; but after a time, owing to evaporation, the water remaining near the surface becomes less. Now it is either the passage of time or the heat of the sun which causes evaporation from the oil; and from loaves the heat goes forth as they cool and has entirely departed when they are cold, whereas it is still present when they are warm.

Why do loaves which contain no salt weigh heavier than those which are salted, the other ingredients being exactly the same? The contrary would be expected, since salt is added, and salt is heavier than water. Is it because the salt causes drying to take place? This is why things which are preserved with salt remain uncorrupted; for the moisture in them is taken up and dried up by the salt, and it is the moisture in things that is corrupted by heat.

So too in bread the moisture is taken up by the salt and evaporates outside. Stale bread therefore is lighter than hot bread, since it is colder. Now in loaves which do not contain salt this moisture is present in greater quantities and makes them heavier.

Why is it that loaves which have become cold, if they are moistened and placed in contact with one another, do not cohere, whereas hot loaves do so? Is it because the cold loaves give off with the vapour the sticky moisture which is in them, and, because this has gone forth, do not cohere (for the water with which they were wetted is too uncohesive); but the hot loaves contain a certain amount of stickiness, and so, when they are moistened and the vapour comes forth, the heat, owing to its rarity, is given off, but the sticky matter, which comes out with it and mingles with the moisture, causes the loaves to adhere together?

Why is it that of wheaten-flour that which is ground first is whiter, but of barley-meal that which is ground last? Is it because barley, being dry, breaks into pieces, and this happens most when it is ground for a very long time, but the flour which is inside the wheat is soft and fine and is crushed out at first? Now in both cases it is the inner part which is whitest.

Why is it that barley-cake becomes more indigestible the more it is kneaded, whereas wheaten-bread becomes easier to digest? Is it because dough becomes less by being much kneaded (and this is the nature of that which is sticky), but the moisture has been expelled from every part of the loaf by the fire, so that, when the moisture has been entirely expelled, the loaf becomes more uncohesive the more it is kneaded, because in the kneading it is divided up into smaller particles? Now that which is uncohesive is more easily concocted. Barley-cake, on the other hand, the more it is kneaded becomes more sticky, as the liquid mingles in it; and that which is sticky is not easily divided up, and such foods are not easily concocted; for that which is to be concocted must be split up into small parts.

Why does barley-cake become less when it is kneaded, whereas dough becomes more? Is it because barley-meal when moistened and kneaded unites owing to the binding quality of the moisture, because it is of even texture and granulated, but wheaten-flour rises, because it is very dense? For that which is dense grows hot when kneaded and, when it is hot and inflated, it rises, as does the flesh.

But why does dough increase more when it is heated than barley-cake does? Is it because dough contains moisture which is not separated in such a way that it can escape when warmed, owing to the kneading? When therefore it is warmed, breath is engendered, and more breath is necessarily engendered from a greater amount of moisture.

Why is it that although honey is more adhesive than water, wheaten-flour is more uncohesive, when it is boiled or baked, if it is mixed with honey-water than with water?

Is it because water becomes stiff and solid under the influence of the heat, whereas the honey becomes solid but also has a drying effect, and so makes the food more uncohesive (for this quality is produced by dryness)?

Why do twice-baked loaves, when they are cool, not become hard? Is it because wheat has in it a certain sweet and sticky juice, which is as it were its ‘soul’? This can be illustrated by the fact that when it is dried it becomes quite empty, but, when it is wetted, it expands. This juice, therefore, being present also in wheaten-flour, especially in that of the purest quality, when the flour is made into dough and the dough is kneaded the same thing happens, as is proved by the fact that when it is boiled it becomes more digestible. When, therefore, the bread is baked for the first time, the thin and light part of the moisture is evaporated from the bread, and the part of the flour which most resembles chaff is burnt out. But when the dough is taken out and kneaded again, the smoothest part of the flour and the stickiest part of the moisture being left mingle more with one another, owing to the fact that they have become smoother and stickier, and owing to the effect of the heat; for their mixing resembles the process of dyeing, so that the dough, when subsequently kneaded, is like boiled flour. For when this dough is kneaded and the lightest flour and the stickiest moisture are left, the bread, when it has been exposed to the fire, becomes glutinous and does not dry up; for that which is sticky cannot be separated, and that which is dense does not of itself give up any moisture. Twice-baked bread then undergoes this same process for the reasons mentioned above, and, always containing moisture, does not become hard.

Why is it that we can go on partaking of some kinds both of solid and of liquid food for a long period — for instance, food made from barley-meal and wheaten-flour, and dry wines, and water — whereas we cannot partake continually of others, though they are pleasanter to the taste? Is it because some of the foods which we take tend to float on the stomach and are highly nutritious, so that when one has discharged them, though their first nutriment has been consumed, a considerable force still remains in the body, concocted for the first bodily process but unconcocted for its final purpose and for the succeeding process? Now most of the pleasing foods belong to this class; for the fatty and sweet and rich foods seem pleasantest to our taste, and these, however they differ from one another, are all foods which are nutritious, and not difficult of concoction, and apt to float on the stomach; their force is therefore lasting, if one takes one's fill of them, and the perception of them does not quickly pass away; for the feeling of satiety does not only continue while they are in the stomach but also when their nutriment has been distributed to other parts of the body. Or is this not the only reason, and is there a further reason, namely, that some foods are naturally suited and akin to us? For our bodies accept all such foods more readily because they are natural, while they accept less readily those which are unnatural. And different foods suit different temperaments; for example, honey is the natural food of bees, so that they take no other, though they are physically weak; so that what they consume must be small in amount, but must be to their strength as what men eat is to theirs. And so any pleasing foods which are of this kind seem pleasing because they are present in small quantities in our nature, but they only appear so for a short time, and then soon cause a feeling of satiety. But we always need the natural foods, so that we feel less satiety from foods continually taken other than those which are most pleasing in themselves.

Why is it that the same things seem pleasant when we are becoming accustomed to them and not pleasant if we partake of them too continuously, though being accustomed to anything is doing it often and continuously? Is it because custom engenders a receptive habit but does not bring satiety, whereas taking anything continuously fills up the desire, just as a vessel is filled; for desire is a kind of void? Now habits, when exercised, increase and grow, but vessels when they are filled full do not become any bigger. Hence custom, being an exercise, increases the ° receptive habit; but that which is continuously taken fills up and satisfies the desire, and, when this is satisfied, we no longer receive any more, and nothing can increase the desire for the reasons already stated regarding the filling of vessels. Furthermore, custom is not pleasant through constantly giving pleasure (for such things too cause pain through continual practice), but because we enter upon the beginning of the process with pleasure and can continue doing the same thing longer than if we were unaccustomed to it.

In the same way then as custom, which is pleasant, causes pain, so too do all other pleasant things; for things which happen and foods which are taken continuously, both alike cause pain. The reason is that the powers of acceptance and action which we possess in ourselves are not unlimited but limited, and when they have reached their full capacity (and this is continually visible to an increasing extent) the receptive powers are satisfied, and the powers for action can no longer function. —

Why does dough become white when it is kneaded, while barley-cake becomes blacker? Is it because the surface of the barley-meal becomes drier, and it is the heat in the moisture which causes the whiteness? Or is it because, through exposure to the heat, the surface of barley-meal attracts the moisture, since it consists of larger particles?

Why does barley-meal adhere better together when mixed with water than with oil, though oil is more viscous? Yet that which is viscous is more binding, and oil is more viscous than water. Is it because water is thinner and so penetrates into everything and makes the barley-meal soft, and the grains adhere together better and are compressed into one another, even though pressed together without any kneading?

Why does bread which is either not kneaded or very much kneaded break up? Does the unkneaded bread do so because it is not sufficiently bound together? Now it is the kneading that binds the bread; so that unkneaded bread is already on the way to breaking up. Further, it contains much moisture not properly mixed in. Bread which is very much kneaded is dry, because it has very little moisture; for when it is heated, the moisture all escapes. So that in both cases the bread breaks up because much moisture goes forth; for much moisture is actually present in the unkneaded bread, and in the over-kneaded bread much (escapes) compared to what remains behind.

Why is the admixture of barley-meal and liquid lighter than the two things together when unmixed? Is it because, when they are mixed, air is enclosed in them? Or is it because part of the water is evaporated by the heat in the barley-meal, and so the mixture becomes smaller in bulk? The air, however, if it were also mixed in, would not make the mixture any lighter; for air enclosed in air possesses weight.

Why do milk and sweet wine appear sweeter if drunk with barley-meal?

Do they appear sweeter in contrast with anything which is not sweet (for barley-meal is not sweet)? Or is it because the barley-meal continues to hold sweetness, and so the perception of it is prolonged?

Why does the same potion seem less strong if it is drunk with barley-meal? Is it because the barley unites what has one quality with what has another, or because the barley - meal interferes with the potion and destroys it, absorbing it into itself?

Why does gruel take up more water than the wheat from which such gruel is made? Is it because the gruel is a kind of flour, and flour takes up more water (for its bulk is greater than that of the wheat, for even the particles of the wheat are packed closely together)? Now that which is more holds more both for this reason and also because both flour and gruel contain heat, and heat both attracts the moisture more and expends it by evaporation.

Why does wheaten-flour increase much more in proportion than barley-meal when it is kneaded? Is it because flour admits a large quantity of water, but barley-meal only a little? (But why does it admit more, for barley-meal would naturally be expected to do so, because it has been exposed to heat, whereas the flour has not, and that which has been exposed to heat is drier?) Or is it because flour admits of more kneading', the reason being that it is composed of smaller particles? As therefore it is potentially as it were more manifold by reason of the smallness of its parts, so much the more water does it take up. For it uses the water as a glue — a metaphor employed by Empedocles in the *Physics?* when he says 'gluing barley with water' — and it consumes much water for this reason.

Why does dough increase more when it has been heated than barley-cake does? Is it because it contains moisture which is not separated in such a way that it can escape when it is warmed, and this moisture, becoming breath and not being able to escape (as it can in the barley-cake) owing to the density of the dough (for that which is made up of smaller particles is dense), makes the dough, therefore, rise and causes the mass to be greater? Furthermore, the moisture which it contains is more considerable, and it is from this, when it is heated, that the breath is engendered; and from the greater amount of moisture more breath must necessarily be engendered.

Why is it that, of persons engaged in the preparation of cereals, those who handle barley become pale and are subject to catarrh, while those who handle wheat are healthy? Is it because wheat is more easily concocted than barley, and therefore its emanations are also more easily concocted?

Why is it that bread, if one toasts it, becomes harder, whereas, if one warms it, it becomes moister up to a certain point? Is it because, when it is toasted, the moisture goes out of it, and so it becomes harder, whereas, when it is warmed, the moisture having acquired consistency is liquefied again by the fire, and so the bread becomes moister?

Why does flour, as it cools, become less closely packed, but barley-meal more so? Is it because things which are made up of small particles contain no vacant spaces, and heavy things, by the pressure which they exert, take up the same space whether they are more or less numerically? Barley-meal then is soft; when it cools, therefore, it becomes less, so that the less is more compressed. But wheaten-flour already consists of small particles, and so it does not cool in this way, but in such a way as to become lighter and not so as to become more closely packed by compression; for wheaten-flour is naturally heavier than barley-meal.

BOOK XXII. PROBLEMS CONNECTED WITH FRUIT

WHY is it that the volume of food necessary for repletion is not proportionate in the same persons if they eat fruit at the beginning and at the end of a meal? Is it because fruit is much heavier than solid food? This can be illustrated by the fact that figs, though eaten last, are vomited out last. If, therefore, they are eaten first, owing to their weight they sink downwards and leave ample space above, so that one can easily contain the volume of solid food. If, however, the converse takes place, the solid food when it enters in, because it does not sink downwards, quickly occupies the vacant upper space.

Why is it that, although sweet foods are more akin to us than pungent, we are more quickly sated by the former? For the contrary might have been expected, since we might naturally be supposed to be less sated by foods which are akin to us. Is it because the organ whereby we receive nourishment and the body, which is nourished, are not sated equally quickly, but sometimes the stomach is full, in those, for instance, who are thirsty, but the thirst is not less? For we do not cease being thirsty because the stomach is full, but when each part of the body has drawn thence its own particular moisture; and we cease being thirsty only when they have received this in sufficiency. The same thing also occurs when we are hungry.

Why are we more quickly sated by sweet than by pungent foods? Is it because we cease desiring sweet things sooner? Or, while it is not generally admitted that we become satiated as the stomach is filled by sweet foods, yet might it not be said that our desire is more quickly sated by them? Or is it because desire is simply a want, which occurs when we no longer have any nutriment in us or very little? Pungent foods then are not nourishing, but contain little nutriment and a considerable amount of excrement. We therefore naturally seek to eat them in large quantities, and yet do not satiate our desire with them, because we still lack nutriment and they do not contain it. But all sweet foods are nutriment, and the body derives a large amount of nutriment from a small quantity of them. When, therefore, it derives a large amount of nutriment, it can no longer eat, because it cannot tolerate more. We are therefore naturally more quickly satisfied by sweet foods.

Why is it that fruits and meat and the like remain uncorrupted if placed in skins, when these are tightly inflated, as also do substances placed in closely covered vessels? Is it because all things become corrupt through being in motion, and things which are full are without motion (for it is impossible for anything to be moved without there being a void), and these vessels are full?

Why does wine seem bitter when drunk after the eating of rotten fruits? Is it because such rottenness contains bitterness? That, then, which remains on the tongue, mingling with the draught and becoming diffused in it, makes the draught bitter. The fruit by itself, when eaten, seems less bitter, because juice of this kind takes effect at many different points and is divided up into small particles.

Why should dried fruits be eaten? Is it in order that we may drink sufficiently? For we ought not only to drink to satisfy the thirst which is engendered by solid food, but also when the solid food is finished.

Why do roasted nuts deteriorate when they become cool, and also bread and acorns and many such things, but improve when they are heated again? Is it because, when they become cold, the juice becomes hard, but, when they are warmed up, it becomes liquid again, and it is the juice which is pleasing?

Why is it that, for the proper enjoyment of fruits such as figs and the like, one ought to drink with them either unmixed wine or water, which are the opposites of one another? Is it because fruit is both hot and moist owing to the manner of its growth? For it contains much both of fire and of moisture; and so, owing to the fire, the juice causes as it were a boiling within, such as must makes on the surface (though the others, the hard-shelled fruit, also have this force, but in a less degree), while the large quantity of moisture causes an unconcocted condition. Water then, owing to its coldness, extinguishes the boiling, as wine also usually does by its heat; for it takes away its power, just as one fire extinguishes another if the latter be less. And wine by its heat is better able to concoct the moisture, and by its weight it prevails over the scum formed on the surface by the boiling.

Why is it that those dried figs are sweetest which are slit twice, and not those which are slit either many times or not at all? Is it because, if they are slit many times, most of the sweetness escapes and evaporates with the moisture, whereas in those which are entirely closed the watery element is considerable, because it has not been turned into vapour? Those, however, which have been slit, but not many times, do not suffer from either of these disadvantages.

Why is it that figs when they are dried in an oven are harder if they are left to cool in the oven than if they are taken out to cool? Is it because in the oven all the moisture is evaporated by the heat, whereas outside the surrounding air cools the moisture and prevents it from escaping and the moisture retains its consistency rather than evaporates? Now what is dry is hard, and what is moist is soft.

Why is it that wine and water seem sweeter when taken II with something sour, if, for instance, one munches acorns or myrtle-berries or something of the kind? Is not this natural and does it not happen in other things too? For everything seems to assert its identity more forcibly when compared with its opposite, and here the tastes of the two opposites are in a way set against one another. Or is it because, as in objects which are being dyed, the tongue has already been permeated by the sour matter and opens its pores, and so the sweetness can penetrate better? For objects which are being dyed are first of all moistened in sour liquid, because that which is thus permeated takes the dye better.

Why do sweet things seem to be less sweet when they is are hot than when they are cold? Is it because two sensations of the two qualities are present together, and so that of heat dispels the other? Or is it because that which is sweet is also hot, and it is therefore a case of ‘fire upon fire and thus the heat prevents the perception of the sweetness? Or is it because fire takes away the power of everything, since it causes motion? Things, then, which are hot are nearer to change, but when they cool they become stable again.

Why is it that chaff concocts hard fruits and does not corrupt those which are already concocted? Is it because chaff is both hot and absorbent? It, therefore, by its heat causes concoction, while owing to its absorbent property it attracts the corrupted impurity, which therefore does not cause corruption.

Why do figs, which are soft and sweet, destroy the teeth? Do they, owing to their stickiness, penetrate into the gums, and, because they are soft, insinuate themselves into the spaces between the teeth, and, being hot, quickly cause decay? Perhaps also, owing to the hardness of the seeds, the teeth are quickly caused to ache in the process of chewing them up.

BOOK XXIII. PROBLEMS CONNECTED WITH SALT WATER AND THE SEA

WHY is it that the waves do not ripple in the deep open sea, but only where it is confined and shallow? Is it because a small amount of liquid, as it is carried along, is more divided up by the wind than a large amount?

Why do the waves sometimes begin to move before the winds reach them? Is it because the portion of the sea near the source of the wind being impelled along first has continually the same effect upon the adjoining part, and so, since the sea is continuous, the same effect is caused in every part of it, as though from one continuous impetus?

Now this occurs simultaneously, with the result that the first and the last parts of the sea are set in motion at the same time. This effect is not produced in the air, because it is not a single body (since many hindrances affect it from all sides, which often cut short the first and most vigorous movement); the sea, however, suffers from no such impediments, because it is heavier and less easily disturbed than the air.

Why do ships seem to be more heavily loaded in harbour than out at sea, and why do they travel more quickly from the open sea towards the land than from the land towards the open sea? Is it because the greater quantity of water offers more resistance than the less, and the vessel sinks deeper into the latter, because it prevails more over it, for it pushes up the water from below? Now in a harbour the sea is shallow, but deep out at sea; so that a vessel will seem to carry a heavier load in harbour and will move with greater difficulty, because it is sunk deeper into the water, which offers less resistance. But in the open sea the contrary happens.

Why is it that if anything (for example an anchor) is so thrown into the sea when it is rough, a calm ensues? Is it because the sea is stopped by the descending object, with which a certain amount of air is carried down, and this air, carried in a direct course downwards and drawn thither, draws with it also the lateral force which is disturbing the sea? Now a wave does not move downwards from above but along the surface, and, when it ceases, a calm ensues.

Furthermore, the sea, as it closes in upon the space opened by the descending object, makes an eddy, and eddies move in a circle. Now since it is a case of a straight line touching a circle at a point (and waves travel obliquely in a straight line), the result would be that the waves touch the circumference of the eddy only at a point, both for the reasons stated and because the eddy pushes the wave off as soon as it comes into contact with it. The place, then, where the eddy is, being without waves, the result is that there is a calm where the surface is broken, because the air, which descended with the object thrown in, subsequently ascending and thrusting the sea upwards, causes it as it were to bubble; for a bubble consists of moisture thrust up by air from below. Now every bubble is smooth and still. A proof that the above process takes place is given by the fact that the sea at the point where the object is thrown in rises a moment later to a higher level than the surrounding sea.

Why is it that sometimes vessels which are journeying over the sea in fine weather are swallowed up and disappear so completely that no wreckage even is washed up? Is it because, when a cavernous space breaks open in the earth beneath the sea, the ship at the same time follows the rush of air into the sea and into the cavern? And in like manner the sea, being carried everywhere round in a circle, is borne downwards; and this constitutes a whirlpool. And ships in the Straits of Messina suffer the same fate owing to the flow of water, which causes eddies, and are swallowed up into the abyss, for the reasons stated above and also because the sea is deep and the land cavernous to a great distance. The eddies, therefore, overpower the ships and carry them thither, and so no wreckage is washed up. The flow occurs when, the former wind having stopped, a contrary wind blows over the sea when it is running under the impulse of the former wind, and especially when the contrary wind is the south wind. For the currents flowing against one another try to thrust one another aside, as happens in rivers, and eddies are formed. And the original movement, which is strong, is borne whirling round and round from above. Since then the currents cannot travel laterally (for they are mutually repelled), they must be thrust down into the depths, and so whatever is caught by the eddy must necessarily be carried down too. Hence they build ships with slanting ends; for cases have been recorded before now in which a ship with straight ends has been swallowed up. —

Why is the water whiter in the Black Sea than in the Aegean? Is it owing to the refraction of the vision from the sea into the air? For in the region of the Black Sea the air is thick and white, so that the surface of the sea appears to be similar, whereas in the Aegean it is blue, because it is clear to a great distance, and so the sea too reflecting the air appears to be similar. Or is it because all lakes are more whitish than the sea, and the Black Sea has the character of a lake because many rivers flow into it? Now lakes are whiter than the sea, and than rivers; for example, painters picture rivers as pale yellow and the sea as blue. Or is it because the sight cannot penetrate quickly through fresh water and is refracted into the air, but is not perishes before it becomes perceptible; and so the wave is not really prior to the wind, but the former is noticeable, while the latter is not. Or do the winds not blow everywhere at the same time, but at first only in the quarter from which they arise? Now as soon as they begin to blow, they set in motion the sea which is near them, and this sets in motion the adjoining sea; and thus it would be possible for the wave to break forth before the wind reaches it. For the movement is due to the sea and not to wind, being a movement of the sea which travels more quickly than that of the air.

Why is it easier to swim in the sea than in a river? Is it because the swimmer always leans on the water as he swims, and we receive more support from that which is of a more corporeal nature, and’ sea water is more corporeal than river water, for it is thicker and able to offer more resistance to pressure?

Why can one remain longer in the sea than in a river?

Is it because river water is rare and therefore penetrates more into the body and chokes one?

Why is sea water combustible, while fresh water is not? Or does fresh water also burn, while the reason why sea water has less power to extinguish fire is because it is of a more fatty composition? (And that it is so is proved by the fact that an oil is given off from sea water.) Or are the interstices in sea water less able to adapt themselves to fire because they are too wide, and all the more so owing to the presence also of salt? As, therefore, that which is dry has less power to quench than that which is moist, so that which is drier is proportionately more capable of being burnt, one thing being more so than another, since the drier a thing is the more closely allied is it to heat; and sea water possesses both these qualities of dryness and heat to a greater extent than fresh water.

Why is it that the wind blows cold in early morning from rivers, but not from the sea? Is it because the sea extends over open spaces, but rivers are in narrow places? The breeze, therefore, from the sea is dispersed over a wide area and is consequently weak; whereas the breeze from a river is carried along in a mass and is stronger and therefore naturally seems colder. Or is the reason other than this, namely, that the rivers are cold, but the sea is neither hot nor cold? Now a breeze or an exhalation is due to the heating or cooling of liquids; for whichever of these two processes they undergo, evaporation takes place, and, when water evaporates, the resultant air is set in motion, and this is a breeze. That which is produced from cold liquids naturally blows cold, while that which blows from very hot liquids cools and becomes cold. One would, therefore, find that all the rivers are cold, but that the sea is neither very hot nor very cold. That which blows from it, therefore, is not cold, because it is not itself cold, nor does it cool quickly, because it is not very hot.

Why do waves calm down more slowly in the wider open sea than in shallow waters? Is it because everything calms down more slowly after much motion than after little? Now in the wide open sea the ebb and flow is greater than in shallow waters; there is, therefore, nothing strange if that which is greater is more slow in calming down. —

Why is it that salt water when it is cold is not drinkable, but becomes more drinkable when it is heated, and when it is heated and then cooled? Is it because a thing naturally changes from one opposite into the other? Now drinkable water is the opposite of salt water; and, when salt water is heated, the salt is boiled out, and, when it cools, is precipitated.

Why is it that waters near the sea are usually fresh and not salty? Is it because water which is allowed to percolate becomes more drinkable, and the nearer water is to the sea the more it percolates?

Why does salt water not flow readily? Is it because that which is heavy is stationary, and salt water is heavy? Hence only warm salt waters flow readily, for they have lightness in them which prevails over the heaviness which is in their saltness; for that which is hot is lighter. Furthermore, water which flows readily can percolate through the earth; and if water can percolate, the thickest and heaviest part of it is always carried to the bottom, while the light and clean element becomes separated. For salt water is heavy and fresh water is light. And so flowing water is fresh. It is for the same reason that salt water, when it is set in motion and undergoes change, becomes fresher; for it becomes lighter and weaker owing to the motion.

Why is it that in Libya, if one digs a hole near the sea, the water that first comes is drinkable, but afterwards quickly becomes salty, but this happens less elsewhere? Is it because the water which comes first is the water which was already there and has been concocted by the earth, but after a time the sea also percolates through and, because it has had no time to undergo any change, makes the water more salty? [Elsewhere, however, there is either no water or abundant water, because the ground is not dried up.]

Why does salt water melt salt more quickly than drinking water? Is it because the process of melting anything is its dissolution by moisture or heat penetrating into it so that it becomes liquid? Now those things do not cause melting which either cannot penetrate at all or penetrate in such a way as not to touch the substance. Those things which pass through easily scarcely cause any melting, but those which enter in with violence dissolve substances very quickly. Now those liquids which are composed of very large particles do not penetrate, for they are too large for the pores; while those which are composed of small particles pass through without touching. Now drinking water is rare, while salt water is thicker; and so the former, passing through easily owing to its rarity, scarcely causes any melting, whereas the latter penetrates, but percolates through to a less extent, because it is composed of larger particles, and forces its way in more quickly.

Why does water appear less white when it is in motion, for instance when there is a ripple? Whence Homer says that, when the wind begins to blow, the sea grows blacker beneath it. —

Are there two reasons? Firstly, because, when the sight is near to it, it can penetrate farther through the water when it is still, but when it is in motion the sight cannot pass directly through it. (And that which is transparent appears white, for that through which the sight cannot pass is what Homer calls black; therefore the air appears black from a distance but white near at hand, and the part of the sea which is near is white, while that which is distant is blue or black.) And, secondly, because, when the sight is at a distance and is subject in any way to disturbance, it is refracted back in a mass towards the light, if the water is still, but cannot be refracted when it is in motion.

Why is it that the waves do not ripple in the deep, open sea, but only on small expanses? Is it because a small amount of water, as it is carried along, is more divided by the air than a large amount? Hence it beats more and is broken up. Now in deep water the quantity which is set in motion is great, but in shallow water it is small.

Why are the waters saltier in regions facing the south wind? Do they become mixed because the sea is driven under the earth by the south wind?

Why does the salty element in water come to the surface more in sweet than in dry wine? Is it because sweet wine, like raisin wine, has more earth in it? Or is it because sweet wine is heavier and stickier and so mixes less, and, as the wine does not mix with the water, the salty element comes to the surface?

Why does the salty element, being earthy, float on the surface at all (for its natural tendency is to sink)? Is it owing to its heat, as happens with salt (for it resembles an efflorescence)? Or is there some other reason? For if it is for no other reason, it is not unreasonable that it should be for this reason that it floats specially on the surface of sweet wine; for that is the hottest of wines.

Why do the waves sometimes begin to move before the winds reach them? Is it because they also cease to move later? For the first breath of wind as it were dies down before the wave which has been impelled by it into motion; and it is not the wave which is first set in motion that arrives, but there is a successive impetus given to the adjoining water.

Why is it that the ground where the waves break more violently becomes solid, often to such an extent as to appear to have been artificially levelled, and why is the ground where the waves break solid, whereas further from the sea it is loose? Is it because the fine sand is not cast up from a long way off by the waves, but rather the coarser sand, just as it is not possible to throw a very small object far with the hand? Then, many objects being mingled in confusion, the smallest particles fall out and form into a mass, and the motion of the wave, as it recedes, levels them and no longer disturbs them. Since, then, the smallest particles cannot leap far, a mass is formed of very small objects; and since it is in frequent motion, it becomes continuous, the sand falling in amongst it until it unites it together; it is then levelled by the last waves, and the slight moisture causes it to adhere together. But the ground farther from the sea, being dry, becomes disintegrated, and is formed of larger pebbles and is unlevelled.

Why is it that the upper parts of the sea are saltier and hotter than the depths? So, too, in wells of drinking water the upper water is saltier than that at the bottom; yet salty water, being heavier, ought to stand at a lower level.

Is it because the sun and the air always attract the lightest part of liquid? Now water which is suitable for drinking is always lighter, and the sun can more easily attract it from the part of the water nearest to it. And so that which is left on the surface both of the sea and of drinking water is saltier (since the fresh element has been extracted) than that from which little or nothing has been withdrawn. For this reason the upper part is also hotter; for salt water is hotter than drinking water. Therefore some of the followers of Heraclitus declare that stones and earth are formed from the drying and solidifying of fresh water and that the sun draws up vapours from the sea.

Why are the waters of the sea fresher which are nearer the land? Is it because they are more continuously in motion? Now salt water becomes fresher through motion.

Or is it because the water is saltier in its depths, and the part of the sea near the land is less deep? Wherefore also water which shelves deeply near the shore is less fresh.

The reason of this is that the salty element being heavy is carried down more into deep water.

Why is sea water the only kind of water that is combustible, whereas drinking water and river water are not?

Is it because it has much earth in it, as is proved by the presence of the salt in it? Or is it because it is of a fatty composition, as is proved by the oil which forms on the surface of salt water?

Why does sand not form in lakes, or at any rate less than in the sea and in rivers? Is it because rocks form in the sea and the earth has been to a great extent burnt out of them? Now sand is rock which has been broken up into small and minute particles, and it is broken up by the impetus of the waves. But in lakes rocks free of earth are not formed to the same extent, nor are they broken to the same extent, because there are not waves to the same extent. But sand is formed more in rivers, because they carry down the earth and break up the rocks with their impetus.

Why is it that, when a lake either falls or dries up, the corn in the adjoining plain is more likely to be cut off by frost? Is it because the moisture in the lake evaporates and warms the air with its vapour, and so makes the frosts slighter and weaker than in hollow and marshy districts?

Or is it from the earth, as men say, that the cold begins and penetrates unnoticed? If then the lake becomes dry, owing to the larger space of earth greater cold attacks the crops and freezes them and cuts them off to a greater extent; and on such ground the cold comes from below, as is the popular belief. And yet the earth is warm in winter; but the surface heat which is in the earth, owing to the fact that it is moist, becomes cooled, for the moisture is neither so far in as not to be affected by cold, owing to the heat which is present in liquids, nor so slight as to have no force, since the earth is permeated with water. For instance, owing to its becoming cold, one walks and lives upon ice.

Why is the sea salty and bitter? Is it because the juices in the sea are numerous? For saltness and bitterness appear at the same time.

Why do shells and stones which are in the sea become round? Is it because the breaking off of their extremities equally on every side causes diem to assume a round form?

For this is the only shape in which the outer surface is the same on all sides, and the sea by moving objects in every direction breaks off their extremities equally.

Why is it that sometimes, if one digs a hole near the sea, the first water which enters is drinkable but afterwards it becomes salty? Is it because the water comes from the sea itself which percolates under the earth? The water which first comes is, therefore, naturally fresh; for fresh water is lighter than salt water, and the sea has some freshness in it, which mingling with the earth tends to come to the surface. But the salt water, owing to its weight and to the fact that it has power to penetrate, is carried downwards. Whether this is so or whether the fresh water flows from the mainland into the sea through the earth's veins, it would naturally float on the surface of the sea which mingles with it; but, the passages being opened, the salt water, owing to its greater volume, subsequently prevails and makes the whole sea salty. For if the passages are blocked the result is that the inflowing salt water finds another way higher up; but when they are opened, it is all carried there, just as happens in the veins in the body.

Why is it that the sea, which is heavier than fresh water, is more transparent? Is it because of its fattier composition? Now oil poured on the surface of water makes it more transparent, and the sea, having fat in it, is naturally more transparent. Or is that which is lighter not always more transparent also? For oil itself is lighter than water but not more transparent. Or is the sea not really more transparent, but only apparently so? For fresh water comes from the earth or from streams, and its source sends forth earth also with the water, so that the streams, not being pure, bring down with them the earth and sediment. This then is the reason why fresh water is less transparent.

Why do the bowels of those who swim in the sea open readily? For if it is because they take violent exercise, those who run also take very violent exercise, yet their bowels do not open. Or does not every form of exertion cause the bowels to open, but only such exercise as does not cause wasting? Now staying in the sea seems to make men, generally speaking, hungrier and opens the bowels; for the vapour given off by it is both hot and dry.

Why does the Lake of Paesus, of which the water is drinkable, wash and also remove the stains from garments?

For water which is fresh washes, but that which is bitter removes stains, and water cannot have both these qualities at the same time. Are stains removed not because the water is bitter, but by the quality of stickiness which has this power? Hence animals’ hoofs have this effect, and anything which contains gelatinous matter; and so also any bitter substances which partake of this character do the same. Now in this lake it so happens that the bitter element of the quality of soda has been burnt out, but the fatty and sticky element remains. It is by virtue of this that it removes stains, and it washes because it is fresh.

Why does the part of the sea which is calm appear white, r while that which is agitated appears black? Is it because that which is less visible appears blacker, and water which *)* is in motion is less seen than that which is still? Or is it because that which is transparent is white, while that which is not so is black, and that which is in motion is less transparent?

BOOK XXIV. PROBLEMS CONCERNING HOT WATER

WHY is it that, if one is anointed with oil, hot water poured over one seems less hot, in spite of the fact that oil contains heat? Is it because owing to the smoothness caused by the oil the water glides off and sinks in less?

Why is it that in the summer the water in wells becomes warm after midday? Is it because by that hour the heat has mastered the air, whereas before midday the heat is dissolving and putting an end to the cold; but the one does not prevail as soon as the other has ceased, but only after time has elapsed?

Why is it that water, which sometimes becomes hotter than a flame, does not burn wood, whereas the flame does so? Is it because the flame, and the breath which comes from it, consist of small particles, whereas water is made up of large particles and so does not penetrate? Now flame and the heat from coals owing to their rarity can penetrate and destroy.

Why is it that boiling water has not the power to melt, while the stomach possesses this power? Is it because the heat which is in the stomach penetrates owing to its rarity, whereas water cannot penetrate because of its density? Or is it because liquid prevents other things also from melting (for nothing melts in liquid)? In the stomach, however, the liquid flows down into the bladder and so does not prevent the process of melting.

Why is it that the bottom of a vessel containing boiling water does not burn, but one can carry it holding it by the bottom, whereas if the water be removed it burns? Is it because the heat as it is engendered in the bottom of the vessel is extinguished by the water? Wherefore also substances which can be melted do not melt if any liquid is added to them.

Why is it that water does not boil over so much in winter as in summer, although heated not only up to the same temperature but even higher, and although equally hot or even hotter? Is it because boiling over is due to the rising of bubbles? The water then itself becomes just as hot in winter as in summer, but the bubbles cannot rise to the same extent, because the surrounding air is cold, but they rise smaller in size, being compressed by the cold, and soon burst, being broken by the air. They are, therefore, smaller in bulk and fewer in number in the winter, and the contrary in summer. Now boiling over is due to the number and size of the bubbles forming the froth. Why does hot water cause wrinkles, but fire, though it is hot, not do so? Is it because fire produces breath and so causes swelling (for it distends the skin), whereas it is the curving of the skin which makes wrinkles?

Why is it that the bottoms of vessels in which water is being heated are hotter while the water is still cold? Is it because, while the water is still cool, the heat is enclosed and driven inwards, being prevented from making its way out, but, when the water in the vessel becomes thoroughly heated, since the fire no longer holds the heat but expends itself and becomes less, the bottom of the vessel becomes cooler, just as a bath does? For a bath is hotter in winter than in summer, because the heat is more enclosed in winter than in summer by the surrounding air which is cold.

Why is it that water when it boils does not form a scum, as do pea-soup and lentil-soup? And yet water is lighter than these, and light substances ought to be able to project themselves more easily to a distance. The same thing happens in the case of silver when it is being purified; for those who clean out the mint make gains by appropriating the remnants, sweeping up the silver which is scattered about. Is it because the heat causes the scum by vaporizing and subjecting to force anything which opposes its own natural impetus? Water, therefore, owing to its lightness and rarity is not subjected to force, and so no great heat is collected in it, but the heat which continually passes into it cuts its way through before it can become massed together. But substances which have body in them, like thick soups and silver, since, owing to their weight, they contain much corporeal matter and offer resistance, because they are subjected to violent force as the heat tries to make its way out, form bubbles wherever the heat prevails; for, owing to their density, the heat cannot pass through them, but the density prevails until it is thrown off by the heat which flows into it. The result is a sudden impact, and not a continuous pressure, owing to the heat passing up quickly from below.

Why, if substances are moistened in hot water for a short time, do they swell, but, if for a long time, collapse and become wrinkled? Is it because the heat makes a thing liquid instead of solid and produces breath from liquid and rarefies what is dense? At first, therefore, it heats things which are solid and makes them moister, and producing breath from the moisture distends and swells them; but when it heats them still more, it rarefies their outer part, so that the vapour is given off, and the drying up of moisture causes their bulk to collapse. Now, as anything collapses, its outer skin shrivels up, and where it shrivels up unevenly, wrinkles are formed.

I — Why are stones formed by hot water rather than by cold? Is it because a stone is produced from the failure of moisture, and moisture fails more through the operation of heat than of cold, in other words petrifaction is the result of heat, as Empedocles says both rocks and stones come into being through the action of hot waters? Or, while it is true that heat petrifies, can petrifaction also take place through cold, because an extremely hard frost consumes the moisture and causes hardening? That cold, pure and simple, produces this effect is clear from the fact that its excess does so.

Why is it that if one has one’s foot in hot water, if the I foot is kept still the water appears to be less hot, but hotter if it is moved? Does the same thing happen as in the body,; viz that, when one runs in the wind, the opposing air becomes increasingly colder, and the farther one continues to go the more one notices it?

Why do hot things cool off more in the sun than in the shade? Is it because the lesser heat is destroyed by the greater? Or is it because in the shade the surrounding cold represses the interior heat and does not allow it to make its way out, producing the same effect as the pouring of cold water produces upon those who are fainting (for it encloses the heat and prevents it from escaping); and speaking generally the interior parts of anything are warmer in the winter? But in the sun, since there is nothing which intercepts it, the heat is free to move and vanishes more quickly.

Why is it that water heated by the sun is not more, wholesome for washing purposes? Is it because, owing to the fact that it is cooling, it causes shivering while it is still upon the body? Or, while it has this effect, is it unhealthy if used often for washing? For hot water, generally speaking, produces concoction and has a drying effect, whereas cold water has an astringent effect, and so both do good. Therefore cold water and water heated over a fire are both beneficial to those who wash in them; but water heated by the sun owing to the weakness of its heat produces the effect of neither of these, but merely has the effect of moistening — like the light of the moon.

Why is water which has been heated in the sun not wholesome? Is it because that which is cooling causes shivering?

Why are the hot waters at Magnesia and at Atarneus drinkable? Is it because more water pours into the hot water as it flows out, and so its saltness disappears, but its heat remains? —

Why is it that in Magnesia the hot waters ceased to be hot but the water remained salty? Is it because more cold water from elsewhere was poured at the same time into the springs and extinguished the heat? Now the earth was salty, but not hot owing to the abundance of water flowing into it. (A similar process occurs in water which is strained through hot ashes; for the water being strained through the hot ashes cools the ashes and itself becomes cold, but is salty and bitter owing to the ashes.) But when the water which was added had become transformed, the heat in the earth for a different reason prevailed over the coldness of the water owing to its small volume, and hot waters flowed again.

Why are waters from hot springs all salty? Is it because they usually percolate through earth which contains alum (as is shown by the smell of the water) and has been burnt? Now the ashes of anything are salty and smell of sulphur.

The earth therefore burns the water like a thunderbolt. Many hot springs therefore are due to strokes of thunderbolts.

Why are hot bathing-places sacred? Is it because they are due to two very sacred things, sulphur and the thunder-

BOOK XXV. PROBLEMS CONNECTED WITH THE AIR

WHY is it that pain is caused if the limbs are enclosed in inflated skins? Is it due to the pressure of the air? For just as the air does not yield to pressure applied to the skin from outside but repels it, so the air also presses upon the limbs enclosed within. Or is it because the air is held within by force and is compressed, and so, having naturally an outward impetus in every direction, it presses against the body enclosed within?

Why is it that in marshes near rivers the so-called ‘bellowings’ take place, which according to the fable are uttered by the sacred bulls of the god? That which is produced is certainly a noise which resembles the roaring of a bull, so much so that it has the same effect on cows when they hear it as the bellowing of a bull. Is it due to the fact that this phenomenon always occurs wherever rivers stagnate into marshes, or are driven back by the sea, or give forth wind in unusually large quantities? The reason is that hollows in the earth form, and the water making its way in (for there is always a flow of water in marshy ground of this kind) thrusts the air also through a narrow entrance into a wider hollow, just as a noise like roaring is produced if one makes a sound through the aperture into an empty jar; for it is by a similarly shaped organ that a bull’s roaring is produced. Now, if the hollows have irregular forms, a variety of strange noises is produced; for if one takes off the base of a vessel and rubs it against the bottom, drawing it in and out, it makes enough noise to frighten away wild animals when orchard-watchers employ this device.

Why does the air not become moist when it comes into contact with water? For all other things become moist when they touch water. Is it because the extremities of the air and water meet, but the surface of each remains distinct? All other things then are heavier, but the air does not sink below the outer extremity of the water.

It therefore touches it, because there is nothing between them; but it does not become wet, because it always remains above the water.

Why does calm weather occur most often at midnight and at midday? Is it because calm is immobility of the air, and the air is most at rest when it either has the mastery or is overmastered, and it is in movement when it is struggling? Now it has the mastery most at midnight and is overmastered at midday; for at the former time the sun is farthest away and at the latter nearest at hand. Again, the winds begin to blow either about dawn or about sunset; and the wind which blows at dawn dies down when it is overpowered, and that which blows at sunset dies down when it ceases to have the mastery. Consequently the former dies down at midday, the latter at midnight.

Why is it colder when dawn is breaking and it is already early morning than at night, although the sun is nearer to us? Is it because towards daybreak dew and hoar-frost fall, and both of these are cold? The whole ground then being as it were sprinkled with cold moisture, a process of cooling takes place.

Why is it that in Pontus both intense cold and stifling heat occur? Is it because of the thickness of the air?

For in the winter it cannot be thoroughly warmed, and in the summer, when it is heated, it burns because it is thick.

It is for the same reason also that marshy regions are cold in winter and hot in summer. Or is it because of the course of the sun? For in the winter it is far away, and in the summer near at hand.

Why is the sky finer at night than by day? Is the sun the cause of wind and disturbance? For these occur when some movement takes place; the cause therefore is the heat.

So, when the heat is not present, everything is at rest, and there is more rest when the sun is rising than when it is sinking. And the saying,

Have no fear of a cloud from the land, — means that, where there is most movement, there must be least permanence and consistency, that which is trying to hold together being inequable and unable to gain the mastery. And this is what happens on the sea in winter and on land in summer.

Why is it that when liquid which fills a jar is poured into skins the jar not only holds the liquid and the skins as well but also has room for more liquid? Is it because there is air present in the liquid? This then, when it is in the jar, cannot be given off owing to the size of the jar; for the larger anything is the more difficult it is to press any moisture or air out of it, as can be seen in sponges. But when it is divided up into small portions, it is pressed out of the skin together with the air already there, so that the space occupied by the air becomes empty; and so the jar can hold the skins and additional liquid as well. This is more especially the case with wine, because there is more air in wine than in water. Similarly the same vessel can hold the same quantities of ashes and water together as it can hold of each poured in separately. For there are apparently many empty spaces in ashes, and so the water, being thinner, sinks in more and saturates the ashes, so that they become dense, because the saturation takes place in one part after another (for a thing always becomes more thoroughly saturated if the process takes place little by little than all at once), and, as this takes place, the ashes gradually sink, at the same time absorbing the liquid because they contain hollows. (But ashes thrown into water while still hot cleave the water and cause it to evaporate.) And the same thing happens if the water is poured in first and the ashes put in afterwards, so that the water also would seem to contain hollows and empty spaces. Or do the ashes take up the water, and not the water the ashes? For it is only natural that that which is composed of smaller particles should be that which finds its way into something else. (Further, this can be illustrated by an experiment; for when ashes are sprinkled water is attracted to any spot where they are sprinkled; whereas the contrary would have taken place if it were the water which takes up the ashes.) Or does this process not occur if the water be poured in first and fill the vessel to the brim, but, if anything then be added, does it overflow? But if the water once overflows and the ashes settle down, then it does occur; for it was the ashes which took up the water. There is a parallel to this in the fact that trenches do not hold all the earth which has been dug out of them; for apparently some air occupies the space excavated, and for this reason it does not hold all the earth.

Why is it that, though air is denser than light, it can pass through solids? Is it because light travels in a straight line only, and so the sight cannot see through porous substances like pumice-stone, in which the pores are irregular, whereas they are not so in glass? The air, on the other hand, is not obstructed, because it does not travel directly through anything through which it passes.

Why is it that the air becomes cold by touching water but not moist, even though one blows so hard upon water as to cause waves? That it becomes cold is clear from the change which it undergoes; for the air from water causes cold. Is it because it is the nature of air to be cold or hot, and it changes by touching anything with which it comes into contact; but it does not also become moist, because it is too light and so never penetrates below the level of the water, but always remains in contact only with the surface, even though it be forced downwards, and the water then recedes still lower, so that the air can never penetrate into its depth?

Why is the air from bubbles and the air which comes up from beneath the water never wet? Is it because the moisture is not retained, but the water drops off? The water on the surface of a bubble is also too little to moisten anything.

Why is it that air cannot saturate anything, but water can? For water even when it is transformed into air is moist. Is it for the same reason as that for which stone cannot do so? For everything has not this faculty of saturating other things, but only that which is viscous or liquid.

(Why is it that an inflated skin floats?) Is it because the air in it is carried upwards? For when the skin is empty it sinks; but when it is inflated, it remains on the surface, because the air supports it. But if the air makes it lighter and prevents it from sinking, why does a skin become heavier when it is inflated? And how is it that when it is heavier it floats, and when it is lighter it sinks?

Why is it that the air does not rise upwards? For if the winds are the result of air being moved by heat and it is the nature of fire to rise upwards, the wind ought to travel upwards, since that which sets it in motion rushes upwards and that which is set in motion has a natural tendency to travel in the same direction. As a matter of fact, however, the air obviously travels in an oblique direction.

Why is the hour of dawn colder than the evening? Is it because the former is nearer to midnight and the latter to midday? Now midday is the hottest time, because it is nearest to the sun, and midnight the coldest for the opposite reason.

Why is it that in hot weather the nights are more stifling than the days? Is it owing to the absence of wind? For the periodical winds and the ‘forerunners ‘ blow less at night.

Why is it that substances enclosed in inflated skins and closely covered vessels remain uncorrupted? Is it because things which are in motion become corrupt, and all things that are full are without motion, and such skins and vessels are full?

Why is it that it is colder when the sky is clear than when it is overcast, though the stars and the heaven are warm? Is it because in clear weather there is nothing to hold the vapour, but it is diffused everywhere, whereas in cloudy weather it is contained? For the same reason it is colder when the wind is in the North than when it is in the South; for the South wind attracts cloud, whereas the North wind dispels it, and more evaporation appears to take place when the wind is in the North than when it is in the South, and in winter than in summer. Or is it because of dissimilarity? Or because vapour is formed when that which is hot cools?

Why is it that a smaller amount of air is warmer than a larger quantity (for confined spaces are always warmer)?

Is it because a larger quantity is subjected to more motion, and motion makes a thing cold? This can be seen from the fact that hot things become cold if set in motion.

Why is it that water and earth become corrupt, but air and fire do not? Is it because anything which is corrupted must become hotter, but there is nothing hotter than fire? Or is it because a thing must be chilled before it can be corrupted, but fire is always hot and the air is full of fire?

So nothing becomes corrupted when it is hot, but only when it is chilled. Now earth and water can become hot and cold.

Why is cloudy weather hotter than clear weather? Is it because, as the men of old said, the stars are cold?

Or is this too absurd a doctrine, and is the real reason that in clear weather vaporization takes place? That this is so can be inferred from the fact that, when there is no wind, dew and hoar-frost are formed. When, therefore, the weather is clear, the hot substance, by which the moisture is taken up, is blown about, and so the air becomes cold; for which reason also the moisture which the hot substance lets fall forms dew. But when the weather is cloudy the moisture is contained; and therefore there is no dew or hoar-frost in cloudy weather. The heat, therefore, remaining in the neighbourhood of the earth makes the weather warm.

Why is it that in lofty rooms the air constantly ebbs and flows, especially in calm weather? Is it because the air contains much void in its composition? When, therefore, it begins to flow in, the air inside the room gives way and contracts; and when in course of time this air becomes massed together, the air outside becomes more full of voids and contains much vacant space. Into this space then the air from the room rushes, since it is near at hand, and passes into it, because it is in suspense and the nature of the void cannot resist. So when this happens in many parts of it, the adjoining air follows it owing to the forward impetus and then, since a large quantity of air rushes out, the space within becomes full of voids, while the air outside is denser and so rushes in again from outside. Thus these two currents continually interchange.

BOOK XXVI. PROBLEMS CONNECTED WITH THE WINDS

I Why does the North-East wind (Caecias) alone of the winds attract the clouds to itself? Is it because it blows from higher regions? For the parts towards the East are higher than those towards the West, as is shown by the Caecias does not strictly speaking correspond with our NE. wind, since the quadrants of the Greek compass were divided into three and not four sections as in a modern compass; Caecias is, therefore, thirty degrees and not north of the East wind. The chart of the Greek winds has been dealt with by Professor D'Arcy Thompson in *C. R.,* xxxii, who has independently come to the same conclusion as I had previously formed in translating the *de Mundo*: he proves conclusively that Kaibel and Capelle's 'wind-rose which I had adopted when translating the *de Ventorum Sitibus,* is wrong, but he was apparently unaware that I had changed my view when translating the *de Mundo.*

Now the North-East wind (Caecias), blowing from above to a contrary direction, describes in its course a line which follows an upward curve in relation to the earth; and falling, as has been said, upon the western regions of the earth and massing the clouds together as a result of the form of line which it follows, on its return back it thrusts the clouds before it towards itself. It is the only one of all the winds which does this, because for some the opposing regions are higher, towards which their course, either starting from a lower level or proceeding in a straight line, as a result travels in a downward curve towards the earth, so that there can be no return of the wind to its source because it ends its course round the earth, where, besides, there are no clouds. The East wind and the other winds which follow a less curving course do not form clouds because they have no moisture. Since, then, it forms no clouds, the effect produced by the East wind is less obvious than that produced by the North-East wind.

Why do the North winds occur at a fixed period of the year, whereas the South winds do not? Or do South winds occur annually but are they not continuous, because the source of the South wind is far away from us, and we live close to the North wind? Further, the annual North winds blow when the air is still (for they blow in summer); whereas the South winds occur in the spring, when the region of the air is less stable. Again, the South wind is moist, and the upper region of the atmosphere is unfavourable to moisture; so any moisture which is formed in it is quickly dissolved. Also moisture is erratic; and so the South wind, because it does not remain in the same place, helps to set up changes in the movement of the air. And since the air does not remain in the same place when it moves, other winds are consequently set up; for a wind is a movement of air.

Why does the South wind blow after a hoar-frost? Is it because hoar-frost occurs when concoction takes place, and after concoction and cleansing a change to the opposite condition takes place? Now the South wind is the opposite of the North wind. For the same reason also the South wind blows after snow. In a word, both snow and hail and rain and all such processes of cleansing are a sign of concoction; therefore after rain and similar storms the winds fall.

Why do the alternating winds blow? Is it for the same reason as causes the change of current in straits?

For both sea and air are carried along until they flow; then, when the land-winds encounter opposition and can no longer advance, because the source of their motion and impetus is not strong, they retire in a contrary direction.

Why do the alternating winds come from the sea? Is it because the sea is close at hand? Or is it because the alternating wind is the opposite of the land-wind and as it were the reverse of it? Now the land-wind is the breeze which blows from the land towards the sea, and the alternating wind is the reflux of the land-wind, so that it must necessarily come from the sea. Or is it because the air which has been set in motion collects out at sea? The reason of its not collecting on land and of its being thrown back is the fact that the sea is in a hollow, and air, like water, flows always into the deepest hollow it can find.

Why do cloud-winds stop sooner when rain falls? Is it because, when it rains, the hollows of the cloud, in which the source of the wind is formed, collapse?

Why are not the same winds everywhere rainy? Is it because the same winds do not everywhere blow against mountains, but different winds are opposed to different mountains? For example, when the winds blow laboriously against steep mountains, the clouds are more likely to form there, since the wind cannot push them farther forward; and when the clouds form and are compressed, they burst.

Why are sunsets, if they are clear, a sign of fine weather; if they are disturbed, a sign of stormy weather? Is it because a storm occurs when the air is dense and thick? When, therefore, the sun prevails, it breaks up and clears the air; but, if it is itself overpowered, an overcast sky results. If, therefore, the density is excessive, a storm occurs as soon as the day dawns; whereas if it is weaker but not completely overpowered, the denseness which forms is driven towards the setting sun and remains there, because the air round the earth is thicker than the storm. And the rest of the air quickly densifies, because a beginning of the process has already been made and there is a rallying point to receive and collect anything which comes to it, the same thing occurring in the air as happens in a rout, where, if one man makes a stand, the rest also remain firm. Hence the sky sometimes becomes quickly and suddenly overcast. When, therefore, there is a disturbed sunset, it is a strong indication that the sun has not got the mastery over the density, though it has struggled long against it, so that probably further condensation has taken place. This is a less alarming symptom when it occurs after a storm than in calm weather; for in the former circumstances it is probably the remnant of a storm, but in the latter the beginning of condensation.

What is the origin of the saying, —

Boreas blows not at night when once the third sun hath arisen?

Is it because the breezes which come from the north are weak when they blow at night? A proof that the amount of air which is set in motion is not great is the fact that they blow at a time when there was a small amount of heat; and a small amount of heat was moving a small amount of air. Now all things terminate in multiples of three, and things which are very small terminate at the end of the first triad; and that is what this wind does.

Why does the North wind blow more frequently than the South wind? Is it because the North wind, being near the inhabited portion of the world, attracts our notice in spite of its short duration (for it is with us as soon as it begins to blow), whereas the South wind does not reach us, because it blows from a distance?

Why does the South wind blow as much on winter nights as on winter days? Is it because during the night the sun is near the southern region, and the nights there are warmer than are the days in the north? Much air, therefore, is set in motion and not less than by day; but the warmer days prevent the wind from blowing more strongly by drying up the moisture.

Why does the South wind blow at the time of the Dog-star, and why does this happen regularly like any other natural phenomenon? Is it because the southern regions are warm, since the sun is not far away, and so the evaporation is considerable? The South winds would blow frequently if it were not for the annual winds; as it is, these prevent their blowing. Or is it because a sign occurs at the setting and rising of any star, and especially of the Dog-star? It is clear that winds blow most at the time of and after its rising, and since it causes stifling heat, it is only natural that the hottest winds should be set in motion when it rises; and the South wind is hot. And since things are most accustomed to pass from contraries into contraries, and the 'forerunners', which are northern winds, blow before the rising of the Dog-star, the South wind naturally blows after the Dog-star appears, since a sign then occurs, and the occurrence of a sign at the time when stars rise means a change in the air. Now all winds change either into their contraries or into those on their right; but since the North wind cannot change into the winds on its right, the only thing left for it to do would be to change into a South wind. Now on the fifteenth day after the winter solstice the wind is in the south, because the solstice marks as it were a fresh start and the sun sets in motion air which is nearest to it and at this solstice it is near the south.

Just as, therefore, when it sets the region of the east in motion it stirs up the East winds, so when it sets in motion the southern region it stirs up the South winds. It does not do this immediately after the solstice, because the changes which it sets up extend at first over a very small area, but only on the fifteenth day, because this date corresponds to the first sensible impression made by the change; for the said date is simply the most significant part of a whole.

Why are the days most changeable during the period of Orion, and why is there then such variability in the wind? Is it because during a period of change all things are always most indeterminate, and Orion rises at the beginning of autumn and sets in the winter, so that, since there is not yet one settled season, but one is coming on and the other coming to an end, the winds must therefore necessarily be unsettled, because those of each season are passing into one another? And Orion is said to be dangerous both in his setting and in his rising owing to the uncertainty of the season; for it must needs be full of confusion and inconsistency.

Why does the North wind which blows at night cease on the third day? Is it because it comes from a small and weak source and the third day marks the crisis? or is it because it expends itself all at once like the ‘cloud-winds’, and therefore quickly dies down again?

Why do the North winds blow more than the other winds? Is it owing to the fact that the inhabited portion of the earth is near the region of the north, which is high and outside the tropics and full of snow, which never leaves some of the mountains? As, therefore, frozen matter is usually melting there, a wind often arises, and this wind is the North wind which comes from the region of the pole.

Why do the South winds blow during winter and at the beginning of spring and the end of the autumn, and why are they boisterous and whirling in their course, and why are they cold to the inhabitants of Libya in like manner as the North winds are to us? Is it because, the sun being near, the winds must necessarily be set in motion? Now during the winter the sun travels towards the south, and at the beginning of the spring and at the end of autumn it is giving forth heat; whereas during the summer the sun travels towards the north and leaves those other regions. The South wind is hot, because it mingles its breath with the air in the region of Libya, which is hot; and so it is boisterous and makes the summer rainy, sweeping down on the sea.

Why does the South wind cause evil odours? Is it because it makes bodies moist and hot, and they are then most liable to corruption? South winds, however, which come from the sea are good for plants — for the South wind reaches the Thriasian Plain in Attica from the sea — and the reason is that it is cooled before it arrives. Now mildew is caused by moisture which is hot and comes from without.

Why does wind usually occur before eclipses, at nightfall before midnight eclipses and at midnight before those which occur at dawn? Is it because the heat which comes from the moon becomes faint, because its course is already getting near the earth, and when it is quite near the eclipse will take place? Now when the heat, by which the air is held back and kept still, is set free, the air begins to move again and a wind springs up later in time according as the eclipse is later.

Why is the South wind rainy not when it is beginning but when it is ending? Is it because it collects the air ° from a distance? For the rain comes when the South wind masses the air together, and it masses the air together only after it begins to blow. Or is it because, when the South wind begins to blow, the air is still hot, because it comes from a hot region, but in course of time it becomes cool, and then tends to become massed into rain?

Why is it that the South wind, when it is less strong, brings clear weather, but, when it is strong, brings clouds and lasts longer? Is it, as some say, owing to the source from which it comes? For if it comes from a weaker source it brings clear weather, but if it starts from a stronger source it brings clouds. Or is it because it is weaker when it begins, so that it does not propel much air, but in the end it usually becomes strong? Hence comes the proverb, When the South wind begins and when Boreas ceases his blowing.

Why is it that in the winter the winds come forth from the east, but in the summer also from the west? Is it because, when the sun no longer prevails, the air flows freely? When, therefore, the sun sinks, it leaves clouds behind it, which cause the West winds, and anything which it carries with it to the inhabitants of the southern hemisphere becomes an East wind. And, contrariwise, when it sinks in the southern region of the earth, it will cause West winds for the inhabitants of that region and East winds in our part of the world from the air which accompanies it. For this reason too, if it finds another wind blowing, that wind becomes stronger when the sun rises, because it adds something to it.

Why are hounds least able to find the scent when a West wind is blowing? Is it because it disperses the scent most owing to the fact that of all the winds it blows most continuously and down on to the earth?

Why, when there are shooting stars, is it a sign of wind? Is it because they are carried along by the wind, and the wind occurs where they are, before it reaches us? For this reason also the wind rises in that quarter from which the stars are set in motion.

Why is it that of all the winds the West wind drives the largest clouds? Is it because it blows from the open sea and over the deep, so that it collects clouds from a large area?

Why are the winds strongest which are at their ending? Is it because when they expend themselves all at once, what remains is very little?

Why is it that, if the South-West wind (Lips) blows about the time of the equinox, rain results? Is it because the sun sets the winds in motion from any part of the universe in which it is? Hence the succession of the winds corresponds to the course of the sun. Now since the equinox is the boundary between winter and summer, when it happens that the sun, according to the equinox as it appears to us, has passed the exact boundary or falls short of it and is rather in the wintry region, the result is that the winds from that region blow, of which the first is the South-West wind (Lips), which is naturally moist. Now when the sun is rather in the wintry region of the universe and stirs up the winds there, the result is that the functions of winter come into operation; one of which is wet weather. Again, since the equinox is as it were winter and summer equally balanced, if anything is added to either one of them it causes a distinct inclination in one direction, just as happens in the case of equally balanced scales. But, since the South-West wind (Lips) is of the wintry order and naturally moist, its addition at the equinox causes an inclination towards winter and rainy weather; for rain is the wintry weather most akin to the wind that has begun to blow.

Why are the South wind and the South-East wind (Eurus), which are warmer than their respective contraries, the North wind and the West wind, more rainy, although water is engendered from the air by cold? For it is not true that the clouds form because the North wind thrusts them away from our part of the world; for the West and SouthEast winds both alike — for they are similarly at the sides of the world — drive away clouds from the quarter from which they blow, as also do all the other winds. Is it because the more the heat exists outside, the more the cold is driven within? Or is it due in some degree to the quarter from which they blow that certain winds bring clear weather? For the South-East wind rises from the dawn (and the region is warm), while the West wind is situated towards the evening. But is there not a further reason, namely, that air; like water, cools most quickly and thoroughly when it is previously heated? The air then brought by the South-East wind arrives warm from the rising sun, as does that brought by the South wind from the midday sun; when, therefore, they reach the colder region, they quickly condense and become massed into rain. And the South-East wind has a greater tendency to form rain, because it brings the air more directly from the sun and equally hot; but the South wind is rainy as it ceases to blow, because the first air that is brought comes cold from the sea, whereas the last air, which is very warm, is brought from the land. Or is there not a further reason, namely, that the South wind is stronger as it ceases to blow (hence the proverb applied to it, ‘When the South wind begins...’), and stronger winds are colder, and so the South wind masses the clouds together at the end of its duration? Is not this why it is more rainy then than when it first begins to blow?

Why do the winds, though they are cold, cause dryness? Is it because the colder winds cause evaporation? But why should they do so more than the sun? Is it because they carry off the vapour, whereas the sun leaves it where it is and consequently causes more moisture and less dryness?

Why does the North-East wind (Caecias) alone of all the winds attract the clouds towards itself, as the proverb has it, 'Drawing it to himself, as Caecias draws clouds'? For the other winds simply drive forward the clouds from the quarter from which they blow. Is this phenomenon to be attributed to the fact that the contrary wind blows at the same time? But would not this have been obvious, and is it not more likely that the North-East wind naturally follows a circular course? The other winds therefore blow round the earth, but the North-East wind (Caecias) has the concave side of its course towards the heavens and not towards the earth, and so, blowing towards its source, it attracts the clouds to itself.

Why is it that the wind blows cold in the early morning from rivers but not from the sea? Is it because the sea extends over open spaces, but rivers are in narrow places? The breeze, therefore, from the sea is dispersed over a wide area and is consequently weak; whereas the breeze from a river is carried along in a mass and is stronger and therefore naturally appears colder. Or is the reason other than this, namely, that the rivers are cold, but the sea is neither hot nor cold? Now a breeze or exhalation is due to the heating cooling of liquids; for whichever of these two processes they undergo, evaporation takes place, and, when water evaporates, the resultant air is set in motion, and this is a breeze. That which is produced from cold liquids naturally blows cold, while that which blows from very hot liquids cools and becomes cold. One would therefore find that all the rivers are cold, but the sea is neither very hot nor very cold. That which blows from it therefore is not cold, because the sea is not itself very cold, nor does it cool quickly because the sea is not very hot.

Why is the West wind always considered to bring fair weather and to be the pleasantest of the winds? So, for instance, Homer says that in the Elysian Plains Ever the breezes blow of the Zephyr. Is it because in the first place it has an equable temperature? For it is neither hot like the winds from the south and east, nor cold like that from the north, but is on the boundary between the cold and the hot winds; and, being near to them both, it partakes of their qualities, and is consequently temperate and breathes most of spring. Furthermore, the winds change either into their contraries or into those on their right; blowing therefore after the North wind (for the west is on the right of the north), it enjoys a good reputation, as being mild as compared with an inclement wind. Also as soon as wintry weather ceases, fine weather usually follows; and the North wind is a wintry wind. [The East wind, though it lies between the warm and the cold winds, partakes less of them; for, when it blows, it sets in motion the winds towards the south (for when it changes it does so in that direction), but though it sets them in motion it does not mingle with them. The West wind is set in motion by the South winds, and when it blows it sets the North winds in motion; for there the succession of the winds ceases. Hence the West wind, constituting as it does the end of some winds and the starting-point of others, justly is and is considered to be a pleasant wind.]

Why does the South wind blow at the time of the Dog-star? Is it because a sign occurs at the setting or rising of any star, and especially of the Dog-star? It is clear then that the wind blows most at the time of and after its rising. And since it causes stifling heat, it is only natural that the hottest winds should be set in motion when it rises; and the South wind is hot. And since, &c. (as -).

Why does the West wind blow towards evening and not in the early morning? Is the sun at its rising and setting usually the cause of breezes? For when it concocts and dissolves the air, which is moist, by thoroughly heating it, it dissolves it into breath; and if the air is full of breath, it becomes still more evaporated by the sun. When, therefore, the sun is in the east, it is far away from the West wind, for the latter blows from the setting sun; but when the sun is already near its setting, the breath is then thoroughly dissolved, and from midday onwards and towards evening the sun is most suitably situated for heating and dissolving the air. It is for this reason also that the East wind begins to blow in the early morning; for since the air above the earth becomes charged with moisture during the night and owing to its weight approaches the earth, the sun from dawn onwards dissolves it and sets in motion first the air which is nearest to itself. Now the East wind get its name Apeliotes because it is the wind which blows from the rising sun.

Why is it that when the sun rises the winds both rise and fall? Is it because a wind is the movement either of the air or of moisture carried up? Now this movement, when it is only slight, is quickly absorbed by the sun, so that no wind occurs; but when it is greater, the movement is increased when the sun rises, for the sun is a source of movement. —

Why does the West wind blow in the evening? Is it because all the winds blow when the sun disperses the moisture? For the moisture being already in a mass, the power of heat, when it approaches it, concocts it. Now the West wind blows from the setting sun; it is only natural then that it should rise in the evening, for then the sun reaches the quarter proper to that wind.

The North and the South winds are the most frequent of winds, because, when one contrary is overcome by its direct contrary, it is least able to continue, whereas it is better able to resist a wind blowing against it from an angle.’ Now the South and the North winds blow from regions on either side of the sun’s course, while the other winds blow rather in a straight line with it.

Does the wind come from a source, as water does, and is it unable to rise to a higher level than that source, or is this not so? And does it come from a single point or from a wider area? There are indeed in the wind certain similarities to that which seems to occur in water; for water flows faster when it travels downhill, whereas it stagnates on flat and level ground, and the winds act similarly, for on promontories and high ground the air is always in motion, whereas in hollows it is often at rest and there is a calm. Moreover on exceedingly high mountains there is no wind at all — on Mount Athos, for example, amongst others, as is proved by the fact that offerings which persons sacrificing leave there one year are, so it is said, found there still in the following year. It is clear then that the course of the wind starts as it were from a source of some kind. It cannot, therefore, rise any higher. Hence the above phenomenon occurs on high mountains, to which what happens to water would be a close parallel; for apparently neither a strong flow of water nor a violent wind is found in high mountains.

Why is it that when the South wind blows the sea becomes blue, but when the North wind blows it becomes dark? Is it because the North wind disturbs the sea less, and that which is less disturbed appears to be all black?

Why do the South winds when they blow gently cause no overclouding, but when they become strong overcloud the sky? Is it because, when they blow gently, they cannot thrust many clouds along? They therefore cover only a small area with cloud; but, when they blow strongly, they thrust along many clouds, and therefore seem to cause more overclouding.

Why is the North wind strong when it begins to blow, but weak as it ceases, whereas the South wind is weak when it begins, but strong as it ceases? Is it because the North wind is near to us and the South wind distant? The former then, when it begins, blows immediately in one part of the world, whereas the beginning of the latter becomes dispersed owning to the long time it takes to travel, and little of its first breath reaches us; and we feel the end of the North wind, but that of the South wind not at all. It is, therefore, only natural that the North wind should be weak as it ceases (for the end of all things is weak), while the South wind is not weak at its close, since we do not feel its ending at all.

Why do alternating winds blow where there are bay but not where there is a wide expanse of open sea? Is it because the wind, when it pours into the bays, is less broken up and travels practically in a collected mass, whereas over open expanses of sea the land-winds tend to be broken up as they begin to flow, and when they move the same thing happens to them, because they are free to travel in many directions? For an alternating wind is the reflux of a land-wind.

What is the origin of the saying, When the South wind begins and when Boreas ceases his blowing?

Is it because the North wind, owing to the fact that we live near it and our habitation is towards the pole, immediately blows strongly, for it is with us as soon as it begins? Hence, as it ceases, it blows pleasantly; for it then blows weakly.

The South wind, on the other hand, because it is far away, reaches us later in greater strength.

Why is it that men feel heavier and weaker when the wind is in the south? Is it because moisture becomes abundant instead of scanty, being melted by the heat, and moisture, which is heavy, takes the place of breath, which is light, and under these conditions men’s strength becomes languid?

Why are men hungrier when the wind is in the north than when it is in the south? Is it because the North winds are colder?

Why does the South wind not blow in Egypt itself in the regions towards the sea nor for the distance of a day and a night’s journey inland, while in the regions beyond Memphis and for the distance of a day and a night’s journey it blows freshly; and does not blow to the west for the distance of two days' and two nights' journey, while to the east the South-West wind (Lips) blows? Is it because Egypt in its lower regions is hollow, so the South wind passes over above it, but to the south and farther away the regions are loftier?

Why is it that the South wind is weak when it begins to blow, but becomes stronger as it ceases, while with the North wind the contrary is the case, hence the proverb, Sail when the South wind begins and when Boreas ceases his blowing?

Is it because we dwell rather towards the pole than towards the midday sun, and the North wind blows from the pole, while the South wind blows from the midday sun? It is only natural, therefore, that the North wind, when it begins, immediately attacks with violence the regions nearer to it, and afterwards transfers its violence to the dwellers farther south. The South wind, on the contrary, when it begins, presses upon those who dwell towards the midday sun, and, when it has passed them by, blows freshly upon those who dwell towards the pole.

What is the origin of the saying, —

Straightway the winter comes, if the South wind call to the North wind?

Is it because it is the nature of the South wind to collect clouds and much rain? When therefore the North wind blows under these conditions, since there is abundant material, the North wind freezes it and brings on the winter. Hence the saying, When Boreas findeth the mire, soon cometh the season of winter.

Now mud and rain in general are usually, if not invariably, due to the South wind.

Why does the North wind follow quickly upon the South wind, but not the South wind upon the North wind? Is it because the North wind arrives from near at hand, but the South wind from a distance, since our habitation is towards the pole?

Why is it that the winds are cold, although they are due to movement caused by heat? Is movement caused by heat not invariably hot, but only when it occurs in a certain manner? If it comes forth in a mass, it burns with its heat the very thing which emits it; but if it passes out gradually through a narrow space, it is itself hot, but the air which is set in motion by this process completes the movement in accordance with whatever was its original nature. This can be seen in the mouth; for there is a saying that from the same organ we breathe both hot and cold, but this is untrue, since all that proceeds from the mouth is hot, as is shown by the fact that it appears hot if the hand is placed close to the mouth. It is the manner in which it comes forth which makes the difference. For if in yawning we emit breath from a wide opening, it appears hot because we can feel it; but if it be emitted through a narrow opening, being more violent, it impels the air in its immediate neighbourhood, which in its turn impels the adjoining air. If the air is cold, its movement is also cold. May not the same thing happen also in the winds, and their first movement be through a narrow channel and then set in motion the adjoining air, and then other air begin to rush onwards? So in the summer the winds are hot, in winter they are cold, because in each case this is the temperature of the air which is already there; for that the air does not follow this course because it is either set in motion by itself or overpowered by the heat, is clear not only from the fact that it heats the winds when there is more heat in it, but also because it was originally being carried upwards. For fire is of this nature; whereas cold naturally travels downwards. The winds move horizontally and for good reason; for since the heat presses upwards and the cold downwards and neither prevails, and the air cannot remain still, it is only natural that its motion should be sideways.

Why are the South winds cold in Libya as the North winds are with us? Is it primarily because the sources of these winds are respectively nearer to us and to them? For if, as we have already said, the winds pass through a narrow channel, they will be colder to those who are nearer to them owing to the violence of their movement; for when their movement proceeds farther, they become dispersed. Hence the North winds are cold in our part of the world, because we are nearer to them and dwell quite near the pole.

Why is it that those South winds which are dry and do not bring rain cause fever? Is it because they engender unnatural moist heat in the body? For they are by nature moist and hot, and this causes fever, which is due to a combined excess of these two things. When, therefore, the South winds blow under the influence of the sun without bringing rain, they engender this condition in us; whereas, when they bring rain with them, the rain cools us.

Why do the periodical winds always blow at the season at which they do blow and with the force with which they blow? And why do they cease at close of day and not blow during the night? Is this due to the fact that the melting of snow by the sun ceases towards evening and at night? Now these winds blow in general when the sun begins to prevail and melt the northern ice. When the ice begins to melt, the forerunners' blow; when it is already melting, the periodic winds blow.

Why is the West wind at once the gentlest of winds and also cold, and why does it blow mainly at two seasons, namely, spring and autumn, and towards evening, and usually in the direction of the land? Is it cold because it blows from the sea and from extended areas? It is less cold indeed than the North wind, because it blows from evaporated water and not from snow; but it *is* cold, because it blows either after the winter, when the sun is only just beginning to prevail, or in the autumn, when the sun no longer has power. For it does not have to wait for its proper matter, as it would if it were a land-wind, but wanders freely, because it has travelled over water. For the same reason it blows evenly; for it does not blow from mountains or from forcibly melted matter, but flowing gently as through a channel. For the regions towards the north and south are mountainous; but towards the west there is neither mountain nor land but the Atlantic Sea, so that it travels in the direction of the land. Further, it blows towards evening owing to the quarter from which it comes; for the sun then approaches that quarter. It ceases at night because the movement set up by the sun dies down.

Why do all things appear larger when the South-East wind (Eurus) blows? Is it because it makes the air gloomier?

Why is it that during the winter the winds blow early and from the east, but in summer in the evening and from the setting sun? Is it because what happens in our part of the world during the summer occurs during the winter among those who inhabit the opposite hemisphere of the earth, and with us in the winter the winds blow early and from the east, because the air, which during the night is full of moisture, is dissolved and set in motion by the sun in the early morning, the air nearest the sun being the first to be affected? The sun begins to produce this effect even before it rises; therefore the breezes blow just as much before sunrise. Since then the sun attracts the moisture to itself and in the winter before its rising sets in motion in our part of the earth the air which is moist, it is clear that it would also attract the moisture when it is in the southern hemisphere, and it would be evening there when it is early morning with us. The result would be that the air, which the sun attracts to itself before its rising in our part of the world, would become a West wind to the dwellers in the south and would blow in the evening. Now what happens during our winter at dawn happens to them in the evening, and what happens in the summer to them at dawn happens to us in the evening; for when it is summer here, it is winter there, and our evening is their early morning, at which time they have breezes from the east, while we have West winds for the same reasons as are mentioned above.

In the summer breezes do not blow from the east, because the sun, when it rises, finds the air in our part of the earth still too dry, owing to the short period of its absence; and West winds do not blow in the evening during the winter, because East winds do not blow in the southern hemisphere either at that time for the aforesaid reasons, in virtue of which the sun attracts the moisture to itself and produces the West wind in our part of the earth.

Why is the West wind always considered to bring fair weather and to be the pleasantest of the winds? Is it because it is on the boundary between the hot and the cold winds, and being near to them both it partakes of their qualities, and is therefore temperate? The East wind, though it also lies between the hot and the cold winds, partakes less of them; for when it blows it sets in motion the winds towards the south (for, when it changes, it does so in that direction), but, though it sets them in motion, it does not mingle with them. The West wind is set in motion by the South winds and, when it blows, it sets the North winds in motion; for there the succession of the winds ceases. Hence the West wind, constituting as it does the end of some winds and the starting-point of others, justly is and is considered to be a pleasant wind.

Why are different winds rainy in different places; for example. Hellespontias (the East wind) in Attica and the islands, the North wind on the Hellespont and in Cyrene, and the South wind round Lesbos? Is it because rain occurs wherever there is a collection of clouds, since density collects wherever it can settle? It is for this reason that there is more rain among the mountains than where the mass of clouds can find a free passage, for that which is confined becomes dense as a necessary consequence; also it rains more in calm weather. In the Hellespont the North wind, blowing from its upper end, masses together many clouds, which Hellespontias (the East wind) drives towards Attica and the islands, being thus provided with ample material; for most clouds come round from the north.

Round Lesbos the South-East (Eurus) and South winds bring much cloud from the open sea and drive it against the land. Similar instances might be quoted for the other winds.

What is the origin of the saying, —

Have no fear of a cloud from the land in the season of winter, But if it come from over the deep have a care; and in summer Ever distrust the cloud that sweeps from the gloom of the mainland? Is it because in the winter the sea is warmer, so that, if any cloud has formed, it must have done so from some powerful cause, otherwise it would have been dissolved, because the region in which it forms is warm? Now in the summer the sea is cold, as also are the sea breezes, but the land is hot, so that if any cloud comes from the land, it must have been formed from some considerable cause; for it would have been dissolved if it had been weak.

Why is it that in Arcadia, which is high, the winds are no colder than elsewhere, but when there is no wind and it is cloudy, it is cold, just as it is in flat, marshy districts?

Is it because Arcadia resembles a marshy district, since it has no outlet for its waters to the sea, for which reason also there are many chasms there? When, therefore, there is a wind, it winnows away the exhalations from the earth,’ which are cold, but the winds themselves are not cold, because they arrive from the sea; but when there is no wind the vapour which rises from the stagnant water causes the cold.

Why is it that the wind lasts a long time when it begins to blow at dawn? Is it because, when the sun rises, the impetus given to the wind is very violent and can therefore maintain its character? That this is so is shown by the fact that it forms a strong mass.

Why is it that the North wind is keen during the day but falls at night? Is it because it is generated from frozen rain when this is evaporated by the sun? It falls at night, because the process does not go on as before, but is reversed; for at night the North wind expends itself, but it is less apt to do so during the day.

Why is it that when many spiders’ webs are borne through the air, they are a sign of wind? Is it because the spider works in fine weather, but the webs are set in motion because the air, as it cools, collects on the ground, and this cooling process is the beginning of winter, so that the movement of the webs is a sign? Or is it because after rain and storms the spiders are borne through the air in large numbers, since they work in fine weather (for they do not appear at all in the winter, the spider being an animal which cannot support the cold), and as they are borne along by the wind they unwind a quantity of web?

Now after rain winds usually blow.

Why is it that the strong North winds in winter cause clouds in the cold regions, but outside them bring a clear sky? Is it because they are at the same time cold and strong, and in the regions near the north they are colder and so congeal the clouds before they can drive them along, and the clouds, when they are congealed, remain where they are owing to their weight? Elsewhere, however, it is their strength rather than their coldness which takes effect.

BOOK XXVII. PROBLEMS CONNECTED WITH FEAR AND COURAGE

WHY do those who are afraid tremble? Is it due to the I process of chilling? For the heat fails and contracts; that is also why the bowels usually are loosened.

Why do men become thirsty under certain conditions, those, for example, who are about to be punished? For this ought not to be so, since they are chilled. Is it because the chilling and heating do not occur in the same region, but the former takes place on the surface of the body, from which the heat departs, but the heating takes place in the interior, so that it warms it, as is proved by the fact that the bowels become loosened? For thirst occurs when the sovereign region of the body becomes dry. The same thing seems to happen as occurs in those suffering from ague, who are thirsty and cold at the same time; for in their case too the same part of the body is not hot and cold.

Why is it that under the influence of anger men become heated and bold (the heat collecting in the interior of the body), whereas in a state of fear they are in a contrary condition? Is it because they are not affected in the same region, but in those who are angry the heat collects in the region of the heart — hence they become courageous and red in the face and full of breath — the course of the heat being upwards, whereas in those who are afraid the blood and heat both retreat in a downward direction — hence the bowels become loosened. For the beating of the heart is different, since in those who are frightened it is frequent and strongly punctuated, as would naturally occur from the failure of heat, while in those who are angry it has the character which one would expect when a greater quantity of heat collects. Hence the expressions about anger ‘boiling up and ‘rising and ‘being stirred up and the like are apt and fitting. Is the thirst also due to this cause, since dry-spitting and the parching of the tongue and the like are due to the simultaneous upward rush of breath and heat? Thirst, moreover, is clearly due to the body becoming heated. How then can the same region, namely, that in which we feel thirst, become dried up both in one who is afraid and in one who is angry? That fear tends to produce thirst is clearly shown in the case of routed soldiers; for under no other condition is such thirst experienced. The same is true of those suffering from great anxiety; therefore they wash out their mouths and swallow liquid, as did Parmenon the actor. Or is it in such cases not thirst but dryness due to the flight of blood (whence also they become pale)? This is indicated by the fact that they do not drink much but simply take a gulp; routed soldiers on the other hand are undergoing violent exertion. So those who are about to be punished feel thirst, and in this there is nothing strange. In war some brave men even, when they are drawn up in battle array, actually tremble when they are not distraught but confident; and they often beat their bodies with a flat cane or, failing that, with the hand, in order that they may be warmed. It seems probable that owing to the violence and impetus of the heat a disturbing inequality of the temperature is set up in the body.

Why are brave men generally fond of wine? Is it because the brave are full of heat, and the heat is in the region of the chest? (For it is there also that fear shows itself, acting as a process of cooling; with the result that less heat remains in the region of the heart, and in some men the heart beats violently as it is cooled.) Those then who have an abundance of blood in their lungs have hot lungs, as though they were drunk, and so the presentiment of danger does not chill them. Such men are fond of drinking; for the desire for drink is due to the heat of this, region, as has been stated elsewhere, and the desire is for that which has power to stop the heat. Now wine is naturally hot and satisfies the thirst better than water, particularly in those whom we are now considering; the reason for this has been stated elsewhere. Hence those who are suffering from inflammation of the lungs and those who are mad both desire wine, though the lungs of the former are hot owing to the fever, and those of the latter owing to their state of disturbance. Since, then, the same people are usually of a thirsty and of a brave kind, and those who are thirsty desire wine and are therefore fond of drinking-, it necessarily follows that the two characteristics of bravery and fondness for wine usually go together. Hence those who are drunk are braver than those who are not.

Why do states honour courage more than anything else, though it is not the highest of the virtues? Is it because they are continually either making war or having war made against them, and courage is most useful in both these circumstances? They, therefore, honour not that which is ideally best, but that which is best for themselves.

Why do those who are afraid tremble most in the voice, the hands, and the lower lip? Is it because this affection is due to the departure of heat from the upper parts of the body? If so, their pallor is due to the same cause. The voice, then, trembles owing to the departure of heat from the chest, the region in which the voice is set in motion thus becoming cooled. So too with the hands; for they are attached to the chest. The lower lip trembles, and not the upper, because the upper lip hangs downwards in the direction of its natural tendency; but the upward direction of the lower lip is contrary to nature and it is held steady in that position by the heat. When, therefore, the heat is withdrawn as the process of cooling takes place, it trembles.

For the same reason the lip hangs down when a man is angry, as can be seen clearly in children; for the heat rushes together into the heart.

Why do those who are afraid tremble, especially in the voice, the hands, and the lower lip? Is it because the heat fails in the region of the body in which the voice is situated, while the trembling of the lip and hands is due to the fact that they are very easily set in motion and contain very little blood? Those who are afraid also emit bile and their sexual organs contract, the emission of bile being due to the heat which descends and causes liquefaction, while the contraction of the sexual organs is due to the fact that fear comes from outside, and therefore the rush of heat is in the contrary direction.

Why do those who are afraid feel both thirst and cold, these being contrary affections? Do they feel cold because they are chilled, and thirst because they are heated, since under the influence of fear the heat and the moisture leave the upper parts of the body? That this happens is shown by the change of colour and by the effect on the bowels; for the face becomes pale and the bowels are sometimes loosened. The cold, therefore, is caused by the departure of the heat, and the thirst by the departure of the moisture, from the upper parts of the body.

Why is it that, although both fear and pain are a kind of grief, those who are in pain cry out, but those who are afraid keep silence? Is it because those who are in pain hold their breath (and so it is emitted all at once and comes forth with a loud cry), whereas the body of those who are afraid is chilled and the heat is carried downwards and creates breath? It creates breath in the particular region to which it is carried; hence those who are frightened break wind. Now the voice is a rush of breath upwards in a particular manner and through certain channels; and the reason why those who are in pain hold the breath is that when we suffer anything (just as the other animals use their horns or teeth or claws in self-defence) we invariably make use straightway and without thought of the resources which we have in ourselves by nature, and against all or most forms of pain heat is helpful. This is what occurs when a man holds his breath; for he applies heat and concoction to the pain by collecting heat within him by means of the breath.

Why is it that in those who are afraid the bowels are loosened and they desire to pass urine? Is it because the heat in us is as it were alive? It therefore flees whenever it is afraid of anything. Since, then, the fears due to nervousness and the like come from without and pass from the upper to the lower parts of the body and from the surface to the interior, the regions round the bowels and bladder becoming heated are loosened and make these organs ready to function. For anise and wormwood and all substances which promote the flow of urine have heating properties. Similarly the drugs which affect the bowels are those

... which cause heat in the lower parts of the body, and some of those which are applied merely have a loosening effect, while others set up a further process of liquefaction, like garlic, which passes into the urine. Now heat coming from the surfaces of the body and meeting in these regions has the same effect as such drugs.

Why do the sexual organs contract in those who are afraid? For one would expect the contrary to happen, namely, that they should become relaxed, since the heat collects in this region in those who are afraid. Is it because those who are afraid are almost always as it were chilled? Their sexual organs therefore contract, because the heat has left the surface of the body; hence also those who are greatly frightened have internal rumblings. The surface of the body and the skin of those who are cold seems to contract, because the heat is driven out; and it is for this reason too that they shiver. Now the scrotum too contracts upwards and the testicles also are lifted up with it as it is drawn in. This is more readily seen in the effect on the sexual organs; for fear causes excretion, and an emission of semen often occurs in those who are nervous or greatly alarmed.

BOOK XXVIII. PROBLEMS CONNECTED WITH TEMPERANCE AND INTEMPERANCE, CONTINENCE AND INCONTINENCE

WHY is it that some men become ill when, after having been accustomed to live intemperately, they adopt a temperate mode of life? For example, Dionysius the tyrant, when during the siege he ceased drinking for a short time, immediately became consumptive, until he changed his manner of life and began to drink again. Is it because in every one habit is a matter of importance, since it soon becomes a second nature? Just, then, as a fish would fare ill if it continued long in the air or a man if he continued long in the water, so those who alter their manner of life suffer from the change, and a resumption of their accustomed mode of life is just as much their salvation as if they were returning to a natural condition. Furthermore, men waste away if they have been accustomed to large quantities of a particular diet; for if they do not receive their usual food, they are reduced to the condition in which they would be if they had no nourishment at all. Moreover, the excretions, when mixed with a large quantity of food, disappear, but by themselves they rise to the surface and are carried to the eyes or lungs; whereas, if one takes nourishment, they mix with it and become diluted and harmless.

But in those who live an intemperate life the excretions become superabundant up to a certain point, when they cease from their accustomed mode of life, owing to the fact that much undigested matter is still present in them from their former manner of living; and, when this is melted, like a mass of snow, by the natural heat, the result is that violent fluxes take place.

Why is it that we speak of men as incontinent in connexion with two only of the senses, namely, touch and taste? Is it because of the pleasures that result from these in us and in the other animals? Being then shared by the animals, they are held in least honour and so are regarded as the only pleasures deserving of reproach, or at any rate more so than any others. So we blame a man who is a slave to them and call him incontinent and intemperate, because he is a slave to the worst pleasures.

Why are men called incontinent in respect only of their desires, although incontinence is possible also in anger?

Is it because an incontinent man is one who acts in some way contrary to reason, and incontinence is a mode of life r which is contrary to reason, and the desires are, generally speaking, contrary to reason? Feelings of anger, on the other hand, are in consonance with reason, not in the sense that reason prompts them, but in the sense that reason informs us of the insult or of the charge made against us.

Why is it that we approve most of continence and temperance in the young and wealthy, and of justice in the poor? Is it because we feel most admiration if a man abstains from what he most desires, rather than from the contrary? Now a poor man desires easy circumstances, while a rich young man wants enjoyment. —

Why can men tolerate thirst less easily than hunger? Is it because thirst is more painful? A proof that it is so is the fact that there is more pleasure in drinking when one is thirsty than in eating when one is hungry. Now the contrary of what is more pleasant is more painful. Or is it because the heat whereby we live requires moisture more? Or is it because thirst is a desire of two things, namely, drink and food, but hunger is a desire of only one, namely, food? —

Why can we endure thirst less than hunger? Is it because the former causes us more pain? A proof of the pain it causes is the fact that the pleasure it gives is more intense. Further, he who is thirsty needs two things, nourishment and cooling, and drink provides both of these; but he who is hungry needs one of them only.

Why are men called incontinent if they indulge to excess in the pleasures connected with touch and taste? (For those who are intemperate in sexual intercourse and the enjoyments of eating and drinking are called incontinent; and in the joys of eating and drinking the pleasure is partly in the tongue and partly in the throat; hence Philoxenus longed for the throat of a crane.) And why is the term incontinent never extended to the pleasures of sight and hearing?

Is it because the pleasures of touch and taste are common to us and the other animals? Being, then, shared by the animals they are held in least honour and so are regarded as the only pleasures deserving of reproach, or at any rate more so than any others. So we blame a man who is a slave to them and call him incontinent and intemperate, because he is a slave to the worst pleasures. Now the senses being five in number, the other animals find pleasure only in the two already mentioned; in the others they find no pleasure, or, if they do, it is only incidentally. For the lion rejoices when he sees or scents his prey, because he is going to enjoy it; and when he has satisfied his hunger, such things do not please him, just as the smell of dried fish gives us no pleasure when we have eaten our fill of it, though, when we wanted to partake of it, it was pleasant.

The scent of the rose, on the other hand, is always pleasant.

Why are men less able to restrain their laughter in the presence of friends? Is it because, when anything is especially elated, it is easily set in motion? Now benevolence causes elation, so that laughter more readily moves us.

BOOK XXIX. PROBLEMS CONNECTED WITH JUSTICE AND INJUSTICE

Why is it that, although injustice is greater according as I the good which is injured is greater, and honour is a greater good, yet injustice in the matter of money seems to be more serious and those who are unjust as regards money are considered more unjust? Is it because men prefer money to honour, and money is common to all, whereas honour comes only to a few and its enjoyment is a rare occurrence?

Why is it a more terrible thing to rob a man of a deposit than of a loan? Is it because it is disgraceful to wrong a friend? Now he who robs another of a deposit does wrong to a friend; for no one places a deposit with another unless he trusts him. A creditor, on the other hand, is not a friend; for, if a man is a friend, he gives and does not lend. Or is it because the injustice is greater, since, in addition to the loss inflicted, he also violates his plighted word, for the sake of which, if for no other reason, he ought to abstain from doing the wrong? Further, it is base not to requite like with like; for the one party in making the deposit regarded the other as his friend, but the latter in robbing him treated him as an enemy; but a lender does not lend in the spirit of friendship. Again, a deposit is handed over to be guarded and returned, whereas the lender lends for his own advantage as well. Now we are less angry at losing if we are in pursuit of gain, like fishermen when they lose their bait; for the risk is obvious. Again, those who make deposits are generally the victims of plots or misfortune, but it is the rich who lend money; and it is more terrible to wrong the unfortunate than the fortunate.

Why is it that in some law courts the jury give their verdict in accordance with the birth of the litigants rather than the provisions of the will? Is it because about birth it is impossible to lie, but the truth must be declared, whereas before now many wills have been proved to be forged?

Why is it that poverty is more commonly found amongst the good than amongst the bad? Is it because, being universally hated and despised, she takes refuge with the good, thinking that with them she is most likely to find safety and a place of habitation; whereas she thinks that if she goes to the wicked, they would never remain content with the same condition but would steal or plunder, in which case she could no longer remain with them? Or is it because she thinks that the good will treat her better than any one else and that she is least likely to be insulted by them? So, just as we place deposits of money with good men, so she of her own accord ranges herself with them. Or is it because, being of the female sex, she is more helpless, so that she needs the assistance of the good? Or is it because, being herself an evil, she will not betake herself to that which is evil, since if she were to choose the evil, her position would be quite irremediable?

Why is it that wrongs in other matters are not so liable to be committed on a large scale as those in respect of money? For example, a man who has spoken a light word would not therefore necessarily divulge a secret, nor would one who has betrayed an individual also betray a city, as a man who has stolen an obol would steal a talent also. Is it because, though there are forms of unjust disposition which are worse, the acts resulting from them are less serious owing to lack of power?

Why is it more disgraceful to rob a man of a small deposit than of a large loan? Is it because he who robs another of a deposit is deceiving a man who thought him to be honest? Or is it because he who commits the one crime would commit the other also?

Why is it that man, who of all animals has the advantage of most education, is yet the most unjust of all? Is it because he possesses the power of reasoning to the greatest degree, and has therefore most carefully estimated the pleasures and happiness, and these are impossible of attainment without injustice? —

Why is it that wealth is more often found in the hands of the wicked than in those of the good? Is it because, being blind, it cannot read men’s hearts and choose the best?

Why is it considered more just to defend the dead than the living? Is it because those who are alive can look after themselves, but a dead man can no longer do so?

Why is it that a man who associates with one who is healthy does not himself become any healthier, nor does intercourse with the strong or beautiful improve a man’s condition, whereas association with the just and temperate and good does have this effect? Is it because some qualities can, and others cannot, be imitated by the soul, goodness being a quality of the soul and health of the body? A man can, therefore, accustom himself to feel pleasure and pain under the proper circumstances; but his association with the healthy does not produce this result, for health does not consist in taking pleasure or not in certain things, since none of these things can produce health.

Why is it more terrible to kill a woman than a man, although the male is naturally superior to the female? Is it because she is weaker and so he commits a greater injustice? Or is it because it is not a manly act to use one's strength against that which is greatly inferior?

Why is the defendant given the position on the right hand in a law court? Is it from a desire to equalize matters? Since, then, the plaintiff possesses other advantages, the defendant is given the advantage of position. Further, as a rule defendants are under guard; and, if the defendant has the right-hand position, the guard is on his right.

Why is it that, when the votes for the plaintiff and for the defendant are shown to be equal, the defendant wins the case? Is it because the defendant has heard only in court, during the course of the trial itself, the charges against which he has to make his defence and produce the witnesses to refute the accusations, if any advantage is to be obtained from them? Now it is not easy for a man to foresee of what he ought to provide witnesses or some other kind of evidence to prove his innocence. The plaintiff, on the other hand, can act as he pleases and can begin to take action before having the summons issued; and even after he has summoned his opponent he can invent and bring against him any plausible accusation he likes. The lawgiver then, recognizing that the defendant has the disadvantage in all these respects, has given him any advantage which may accrue from the disagreement of the jury. And, indeed, that defendants are at a disadvantage is shown by the fact that when men are in a state of alarm they omit much of what they ought to have said or done, and defendants are, generally speaking, always in greater danger; and so, if they omit necessary parts of their defence, when they are put on a level with their opponents in respect of their claims, they would clearly have been victorious if they had not omitted anything.

Further, any one of us would prefer to pass a sentence acquitting a wrong-doer rather than condemn as guilty one who is innocent, in the case, for example, of a man being accused of enslavement or murder. For we should prefer to acquit either of such persons, though the charges brought against them by their accuser were true, rather than condemn them if they were untrue; for, when any doubt is entertained, the less grave error ought to be preferred; it is a serious matter to decide that a slave is free, yet it is much more serious to convict a freeman of being a slave.

Further, if one man brings a charge and another disputes his claim to any piece of property, we do not consider that we ought to award the disputed property immediately to the plaintiff, but that the man in possession ought to enjoy it until the matter is decided. Similarly, when a number of persons are involved in a case and the numbers of those who declare that a wrong has been committed and of those who deny it are equal — just as in the case cited above when one man brought an accusation, while another denied the truth of it — we consider that the lawgiver is right in not handing over the disputed property to the accuser but allowing the defendant to remain in possession until the plaintiff has established some superiority. Similarly, when the votes of the jury are equal and so neither side has the superiority, the lawgiver has allowed matters to be left as they are.

Again, in serious crimes the punishments are also heavy, so that, if the jury pass an unjust sentence and then change their mind, it is impossible to take the opportunity of remedying the mistake; if, on the other hand, they acquit the accused when they ought not to do so, if he lives so circumspectly as never to commit any crime again, how can the jury have made a serious mistake in failing to condemn such a man to death? If, however, he subsequently commits a crime, the law would consider that he ought to be punished for both crimes.

Or is it because it is an act of greater injustice to bring an unjust accusation than to commit an offence which may easily be made the subject of an unjust accusation? For wrong-doing may be due to anger or fear or desire and to many other causes, and not only to design, but an unjust accusation is generally due to design. So when the votes have proved equal, indicating both that the accuser has brought an unjust charge and that the defendant is in the wrong, the unjust accuser being judged the greater offender, the lawgiver has awarded the legal victory to the defendant.

Again, we ourselves adopt the attitude towards our servants that, when we suspect that they have committed a crime and have no certain knowledge, but nevertheless think that they have done the deed, we do not immediately proceed to punish them; and when we cannot pursue our inquiries any further, we acquit them of blame. —

Further, he who designedly commits a crime does a greater wrong than he who does not act designedly. Now the man who brings a vexatious charge against another always does wrong designedly, whereas he who commits any other crime may happen to do so either under compulsion or through ignorance or by some other chance. But when the votes are equal, the prosecutor has been judged by half the jury to be committing a wrong wilfully, while the defendant is considered by the remainder to be in the wrong, but not wilfully; and so, since the prosecutor is judged guilty of a more serious wrong than the defendant, the lawgiver has rightly decided that he who has committed the less serious wrong wins the case.

Further, a man is always more unjust who does not expect to escape the observation of the man whom he wrongs and nevertheless commits the wrong, than he who expects to remain undiscovered. Now he who brings a vexatious charge against another does not expect to escape the observation of the man whom he falsely accuses, whereas those who commit any other crime usually try to commit an injustice with the expectation of doing so without the knowledge of their victims, so that plaintiffs ought to be regarded as more unjust than defendants.

Why is it that, if a man steals from the baths or the wrestling-school or the market or any similar place, he is punished with death, whereas, if he steals from a house, he merely pays back double the value of what he has stolen?

Is it because in houses it is possible in some way or other to safeguard one’s property? For the wall is strong and there is a key, and it is the business of all the slaves in the house to see that the contents of the house are kept safe. At the baths, however, and in places which are similarly public, it is easy for any one who wishes to commit a crime; for those who place their property there have no sure means of guarding it except their own eyes, so that, if one takes ones eye off it for a moment, it is immediately placed at the mercy of the thief. Hence the lawgiver, considering that bathers are not able to guard their property, has set the law to guard against thieves by threatening that they shall lose their lives if they appropriate the possessions of others.

Further, the owner of a house is responsible for admitting into it whom he wishes and for introducing into it any one whom he does not trust; but the man who deposits any property in a bath cannot prevent any one from coming in, nor can he prevent him, when he has entered, from placing his garments next to his own when he has stripped himself; but, contrary to his wishes, the clothing of the thief and of the man who is about to be robbed lie together in a confused heap. Therefore the lawgiver has prescribed not very heavy penalties to help the man who of his own free will and by his own mistake has admitted the thief to his house, but has clearly fixed heavy penalties for theft to aid those who are obliged to share with others the right of entrance and the promiscuity of the baths.

Further, it is obvious that all those who commit theft in places the entrance to which is open to any one who wishes to come are bad men, and so, if they are allowed to live, do not desire to have the semblance of honest men even for the future advantage which they can gain from it, regarding it as useless to pretend to be honest in the eyes of those who know their real character; they therefore continue henceforward to be openly wicked. Those, on the other hand, whose wickedness is known to one person only, try to persuade that person by bribery not to make known their real character to the rest of the world; they are not likely therefore to be completely wicked for ever, and so the penalty which the lawgiver has fixed for them is less severe.

Further, of all crimes those which are committed in the most crowded meetings and assemblies bring most disgrace upon the city, just as public orderliness brings the greatest credit; for it is at public gatherings that the citizens are most conspicuous to each other and the rest of the world.

The result, therefore, of such thefts is that not only is the man who loses his property personally injured, but also abuse is heaped upon the city. This is why the lawgiver has fixed heavier penalties for such thieves than for those who abstract property from a private house.

Again, the man who loses anything from a private house is in a place where it is easy for him to bear his misfortune, since he is in his own home and neither suffers anything nor is jeered at by others. But the man who is robbed at the baths finds it difficult to leave without his clothing, and, in addition, is usually jeered at by others; and this is harder to bear than the actual loss. Therefore the lawgiver has prescribed heavier penalties to assist such persons.

Again, many legislative parallels can be found for these penalties. For example, if any one speaks evil of a magistrate the punishment is severe, but there is no penalty for speaking evil of an ordinary individual; and rightly so, for the legislator considers that the slanderer not only commits an offence against the magistrate but also insults the city. Similarly, a man who commits a theft at the harbour is considered not only to harm the individual whom he robs, but also to bring disgrace upon the city. And the same is true of any crime committed in a place of public meeting.

Why is it that in law courts, if equal votes are given for the two adversaries, the defendant wins the case? Is it because the defendant has remained unaffected by the action of the plaintiff, and in a position of equality with him he would probably have won?

Why is it that for theft the punishment is death, whereas for assault, which is a more serious crime, the penalty or fine is assessable in court? Is it because to commit an assault is an act of human weakness, of which all more or less partake, whereas there is no force which compels us to theft? A further reason is the fact that a man who tries to commit theft would think nothing of committing assault also.

BOOK XXX. PROBLEMS CONNECTED WITH PRUDENCE, INTELLIGENCE, AND WISDOM

I Why is it that all those who have become eminent in philosophy or politics or poetry or the arts are clearly of an atrabilious temperament, and some of them to such an extent as to be affected by diseases caused by black bile, as is said to have happened to Heracles among the heroes? For he appears to have been of this nature, wherefore epileptic afflictions were called by the ancients ‘the sacred disease’ after him. That his temperament was atrabilious is shown by the fury which he displayed towards his children and the eruption of sores which took place before his disappearance on Mount Oeta; for this often occurs as the result of black bile. Lysander the Lacedaemonian also suffered from similar sores before his death. There are also the stories of Ajax and Bellerophon, of whom the former became insane, while the latter sought out habitations in desert places; wherefore Homer writes, And since of all the gods he was hated, Verily o’er the Aleïan plain alone he would wander, Eating his own heart out, avoiding the pathway of mortals.

And many others of the heroes seem to have been similarly afflicted, and among men of recent times Empedocles, Plato, and Socrates, and numerous other well-known men, and also most of the poets. For many such persons have bodily afflictions as the result of this kind of temperament, while some of them obviously possess a natural inclination to affections of this kind; in a word, they all, as has been said, are naturally atrabilious. The cause of this may be understood if we first take an example from the effect of wine, which if taken in large quantities appears to produce such qualities as we attribute to the atrabilious, inducing, as it is drunk, many different characteristics, making men for instance irritable, benevolent, compassionate, or reckless; whereas no such results are produced by honey or milk or water or anything similar. One can easily see that wine has a variety of effects by observing how it gradually changes those who drink it; for, finding them chilled and taciturn as the result of abstinence, a small quantity makes them more talkative, while a larger quantity makes them eloquent and bold, and, when they proceed to action, reckless, and a still larger quantity makes them insolent and afterwards frenzied, while outrageous excess enfeebles them and makes them stupid like those who have been epileptic from childhood, and very similar to those who are exceedingly atrabilious. As, therefore, an individual as he drinks and takes wine in different quantities changes his character, so there are men who embody each character. For the temporary condition of one man when he is drunk is the permanent character of another, and one man is loquacious, another emotional, another easily moved to tears; for wine has this effect also on some people and therefore Homer writes,

He says that I swim in tears, like a man that is heavy with drinking.

Others become compassionate or savage or taciturn; for some maintain a complete silence, especially those atrabilious subjects who are out of their minds. Wine also makes men amorous; as is shown by the fact that a man who is drinking is induced to kiss those whom, owing to their appearance or age, no sober person would kiss. Wine then gives a man extraordinary characteristics, but for a short time only, while nature gives them permanently for the period of a lifetime; for some men are bold, others taciturn, others compassionate, and others cowardly by nature. It is therefore clear that each characteristic is produced by wine and by nature by the same means; for the whole body functions under the control of heat. Now both the juice and the atrabilious temperament are full of wind; wherefore the physicians say that flatulence and disorders of the stomach are due to black bile. Now wine has the quality of containing air; so wine and the atrabilious temperament are similar in nature. The froth which forms on wine shows that it contains air; for oil — does not produce froth, although it is hot, but wine produces it in large quantities and dark wine more than white because it contains more heat and substance. It is ° for this reason that wine excites sexual desire, and Dionysus and Aphrodite are rightly coupled together, and atrabilious persons are generally lustful. For sexual desire is due to the presence of breath, as is shown by the fact that the virile organ quickly increases from a small to a large size by inflation; also boys before they are capable of emitting semen find a certain pleasure in rubbing their sexual organs through lust when they are approaching the age of puberty, and the swelling of the organ becomes manifest because breath passes through the passages through which the semen subsequently passes; also the effusion and impetus of the semen in sexual intercourse is clearly due to propulsion by the breath. So those foods and liquids which fill the region of the sexual organs with breath are rightly regarded as aphrodisiac. Thus dark wine more than anything else produces the condition found in atrabilious persons. This condition is obvious in some individuals; for most atrabilious persons are thin and their veins stand out, the reason being the abundance not of blood but of breath. The reason why all atrabilious persons are not thin or dark, but only those who contain particularly unhealthy humours, is stated elsewhere.

But to return to our previous subject of discussion, this humour, namely, the atrabilious, is originally mingled in the bodily nature, for it is a mixture of heat and cold, which two things the bodily nature consists. Black bile, therefore, becomes both very hot and very cold, for the same thing naturally admits both heat and cold, like water, which, though cold, yet when it is sufficiently heated (for example, when it boils) is hotter than the actual flame which heats it, and similarly a stone or a piece of iron when thoroughly heated becomes hotter than charcoal, though they are naturally cold. (This subject has been dealt with more clearly in dealing with Fire.) Now black bile, which is naturally cold and not on the surface, being in the condition mentioned above, if it abounds in the body, produces apoplexy or torpor or despondency or fear; but when it is overheated, it produces cheerfulness accompanied by song, and frenzy, and the breaking forth of sores, and the like. In most people then black bile engendered from their daily nutriment does not change their character, but merely produces an atrabilious disease. But those who naturally possess an atrabilious temperament immediately develop diverse characters in accordance with their various temperaments; for example, those who are originally full of cold black bile become dull and stupid, whereas those who possess a large quantity of hot black bile become frenzied or clever or erotic or easily moved to anger and desire, while some become more loquacious. Many too, if this heat approaches the region of the intellect, are affected by diseases of frenzy and possession; and this is the origin of Sibyls and soothsayers and all inspired persons, when they are affected not by disease but by natural temperament. Maracus, the Syracusan, was actually a better poet when he was out of his mind. Those in whom the excessive heat dies down to a mean temperature are atrabilious, but they are cleverer and less eccentric and in many respects superior to others either in mental accomplishments or in the arts or in public life. In respect too of facing dangers an atrabilious state causes great variation, in that many of those who are in this condition are inconsistent under the influence of fears; for they vary from time to time according to the state in which their bodies happen to be in respect to the atrabilious temperament. Now this temperament is itself also inconsistent, just as it produces inconsistency in those suffering from the diseases which it causes; for, like water, it is sometimes cold and sometimes hot. And so the announcement of something alarming, if it occurs at a time when the temperament is rather cold, makes a man cowardly; for it has already prepared a way for the entrance of fear, and fear has a chilling effect (as is shown by the fact that those who are greatly alarmed tremble). If, however, the temperament is inclined to be hot, fear reduces it to a moderate temperature and causes a man to be in his senses and *I* unexcited. So too with the despondency which occurs in everyday life (for we are often in the condition of feeling grief without being able to ascribe any cause for it, while at other times we feel cheerful without knowing why), such feelings and those usually called superficial feelings occur to a slight degree in every one, for something of the force which produces them is mingled in every one; but those who are thoroughly penetrated by them acquire them as a permanent part of their nature. For as men differ in appearance not because they possess faces but because they possess certain kinds of faces, some handsome, others ugly, others with nothing remarkable about them (those, that is, who are naturally ordinary); so those who possess an atrabilious temperament in a slight degree are ordinary, but those who have much of it are quite unlike the majority of people. For, if their condition is quite complete, they are very atrabilious; but, if they possess a mixed temperament, they are men of genius. If they neglect their health, they have a tendency towards the atrabilious diseases, the part of the body affected varying in different people; in some persons epileptic symptoms declare themselves, in others apoplectic, in others violent despondency or terrors, in others over-confidence, as happened to Archelaus, King of Macedonia. The force which gives rise to such a condition is the temperament according as it contains heat or cold.

If it be cold beyond due measure, it produces groundless despondency; hence suicide by hanging occurs most frequently among the young, but sometimes also among older men. Many men too put an end to themselves after drunkenness, and some atrabilious persons continue in a state of despondency after drinking; for the heat of the wine quenches their natural heat. Heat in the region in which we think and form hopes makes us cheerful; and for this reason all men are eager to drink until they become \ intoxicated, for abundance of wine makes all men hopeful, just as their youth makes children sanguine; for old age is despairing but youth is full of hope. There are a few who are seized with despondency while they are drinking, for the same reason as makes others despondent after drinking. Those then who become despondent as the heat in them dies down tend to hang themselves. Hence the young and the old are more likely to hang themselves; for old age makes the heat die down, and so, in the young, does their condition, which is itself natural. When the heat is extinguished suddenly, most men make away with themselves to the general astonishment of all, since they have given no previous sign of any such intention. When the temperament caused by the admixture of black bile is colder, it gives rise, as has been already remarked, to despondency of various kinds, but when it is hotter to cheerfulness. Hence the young are more cheerful, the old more despondent, the former being hot and the latter cold; for old age is a process of cooling. Extinction takes place suddenly from external causes, just as objects which have been heated in the fire are cooled by unnatural processes, as for example when water is poured over hot coals. Hence men sometimes commit suicide after drunkenness; for the heat of the wine is introduced from outside, and when it is extinguished the condition which leads to suicide is set up. Also after sexual intercourse most people tend to be despondent; those, however, who emit a considerable amount of excrement with the semen become more cheerful, for they are relieved of an excess of excrement and breath and heat. But those who indulge in sexual intercourse are often more despondent, for by so doing they become cooled, because they lose something which is valuable, as is shown by the fact that the amount of semen which is emitted is not great.

To sum the matter up, owing to the fact that the effect of black bile is variable, atrabilious persons also show variation; for the black bile becomes very hot and very cold. And because it has an effect upon the character (for heat and cold have such an effect to a greater extent than anything else in us), like wine mingling in a stronger or weaker form in the body, it gives us our own special characters. Now both wine and black bile are full of breath. And since it is possible for an abnormal state to be well attempered and in a sense a favourable condition, and since it is possible for the condition to be hotter and then again cold, when it should be so, or to change to the contrary owing to excess, the result is that all atrabilious persons have remarkable gifts, not owing to disease but from natural causes.

Why do we say that we acquire a habit as the result of pursuing some sciences but not others? Are we said to acquire a habit only by such sciences as enable us to make discoveries, since discovery is the result of a habit?

Why is it that of all the animals man has most practical wisdom? Is it because he has the smallest head in proportion to his body? Or is it because he is abnormally small in certain parts? For that is why his head is small, and among men those who have smaller heads are wiser than those who have larger heads.

Why is it that a journey seems longer when we traverse it without knowing its length than when we know it, all other conditions being equal? Is it because to know its length is to be able to connect a number with it? For that which cannot be numbered is the same as the infinite, and the infinite is always more than the determinate. Just as, therefore, if one knows that a journey is a certain length it must necessarily be finite, so if one does not know its length one as it were converts the proposition and the mind draws a false conclusion, and this journey appears infinite. Furthermore, a quantity is determinate, and that which is determinate is a quantity; therefore when a thing does not appear determinate it will appear to be as it were infinite, because that which is of a nature to be determined, if it is not so, is infinite, and that which appears not to be determined necessarily appears in a sense unlimited.

Why is it that, whereas we become wiser as we grow older, yet the younger we are the more easily we can learn? Is it because God has given us two instruments within ourselves, which enable us to use external instruments, providing the body with the hand and the soul with intelligence? For intelligence is among the things implanted in us by nature, being as it were an instrument; and, whereas the sciences and arts are among the things created by us, intelligence is one of the gifts of nature.

So just as we cannot use the hand to the best advantage immediately after birth, but only when nature has perfected it (for the hand can perform its particular function best as age progresses), in like manner of our natural endowments reason is of most assistance to us not in early life but as we get old, and is then at its highest perfection, unless it becomes incapacitated by anything, as may happen also to the other natural endowments. Intelligence comes to us later than the faculty of using the hands, because the instruments used by the intelligence are posterior to those used by the hands. For science is an instrument of the intelligence (for it is useful to the intelligence just as flutes are useful to the flute-player), and many things in nature are instruments of the hands, but nature itself and its creations are prior to science. Now it is natural that where the instruments are prior, the faculties should also come into being in us first (for it is by using the instruments that we acquire a habit); and the instrument of each faculty is related similarly to that faculty, and conversely, as the instruments are to one another, so are the faculties of which they are the instruments to one another. Intelligence then for this reason comes to us when we are older; but we learn more quickly when we are young because we do not yet know anything, and when we know more we are no longer so well able to acquire knowledge, just as we remember best what we come upon early in the day, and then, as the day goes on, are less able to remember what happens, because we have come into contact with a number of incidents.

Why should man be obeyed more than any other animal? Is it because, as Plato answered to Neocles, he alone of all the animals can count? Or is it because he is the only animal that believes in gods? Or is it because he is the most imitative (for it is for this reason that he can learn)?

Why is it that we feel no pleasure in the contemplation or anticipation of the fact that the interior angles of a triangle are equal to two right angles, and similar geometrical truths — except in so far as we enjoy the speculation, and the pleasure of this is always the same and would be equally great if these angles were equal to three or more right angles — but we rejoice at the recollection of an Olympic victory or the sea-battle at Salamis, and at the anticipation of such events, but not in their opposites? Is it because we rejoice in such events as having taken place or taking place, but as regards what happens in the course of nature the contemplation of the real state of affairs alone causes us pleasure, whereas actions give rise to the pleasure caused by their results? Since, then, actions are various, their results too are sometimes painful and sometimes pleasant; and we avoid and pursue anything in accordance with pleasure and pain.

Why do doctors continue their treatment only until health is restored? For the doctor reduces the patient, and next dries his body, then creates a healthy condition and at that point stops. Is it because it is impossible for any other condition to be produced from health? Or, if it is possible, is it the task of another science, and will what is produced from health be something different? Now, if health is produced from conditions which are its opposite or are intermediate between health and sickness, it is obvious that the patient is sick because he is too moist or too dry or something else. The doctor, then, from a state of cold creates a less extreme condition and, finally, a condition of a certain heat or dryness or moisture by change from the opposite or intermediate condition, until he achieves a state which is such as to constitute a condition of health; and from this no condition can be produced except one which is intermediate between health and sickness. The possessor of the art can, then, create some new condition; for, when he has reached a certain point, he can retrace his steps and undo his work; but the doctor's *art* has nothing to do with such a course, for its aim is always to create a better condition. So neither the doctor's art nor any other art will create anything else out of health; for either nothing would be being produced, or else the opposite of health, if the same science were being employed (so too out of a house nothing could make its contrary): nor is there any other art which can make anything out of health, except as making a whole out of a part, as, for example, when the cobbler's art makes a shoe out of the front part of a shoe; for these two things can be produced out of one another by two processes, one of composition and the other of destruction.

Why is it generally considered that the philosopher is superior to the orator? Is it because the philosopher spends his time in studying the actual forms of things, while the orator deals with the embodiments of these forms — the former considering what injustice and tyranny are, the latter urging that a certain individual is unjust or dealing with the character of a tyrant?

Why are theatrical artists generally persons of bad character? Is it because they partake but little of reason and wisdom, because most of their life is spent in the pursuit of the arts which provide their daily needs, and because the greater part of their life is passed in incontinence and often in want, and both these things prepare the way to villainy?

Why did the men of old institute prizes for physical contests but none for wisdom? Is it because in all fairness the judges should in the intellectual sphere be either the superiors or at any rate not the inferiors of the competitors? Now if those who were pre-eminent in wisdom had to compete and a prize had been offered, they would have no one to act as judges. In athletic contests, however, anyone can judge by merely using his eyes. Further, the original institutor of the games did not wish to propose to the Greeks such a contest as would be likely to produce violent disputes and enmity; for when one is rejected or accepted in a contest of bodily strength, men do not altogether harbour any grievance nor feel sentiments of enmity towards the judges, but they feel great wrath and indignation against those who decide their relative wisdom or worthlessness; and this is a quarrelsome and bad state of affairs.

Furthermore, the prize ought to be better than the contest; for in athletic games the prize is more desirable than, and superior to, the contest. But what prize could be found superior to wisdom?

Why is it that man in particular thinks one thing and does another? Is it because the same science deals with contraries? Or is it because the reason has many objects, desire one? Now man usually lives by the intelligence, the animals by appetite, passion, and desire.

Why is it that some prudent men spend their time acquiring rather than using? Is it because they are following the habit of doing so? Or is it due to the pleasure of anticipation?

(Why do those who sleep deeply and most pleasantly see no visions? Is it) because sensation and thought function because the mind is at rest — hence the word knowledge (episteme)seems to be derived from the fact that knowledge checks the mind (istesi) — since when it is in motion and being carried along it can neither have sensation nor think? Hence it is that children and those who are drunk and the insane are senseless; for, owing to the abundance of heat present in them, they are in a state of considerable and very violent movement, but when this ceases they become more sensible; for, when the thought is undisturbed, they can control it better. Those who have visions during their sleep dream because thought is checked, and in proportion as it is at rest. For the mind is greatly moved during sleep, since, when heat collects in the interior from the rest of the body, there is a very considerable and violent movement; and it is not true, as most people suppose, that it is most at rest and by itself, and especially so when no vision is seen. The contrary is really true; for because it is in considerable movement and never rests for a moment, it cannot think. And it is naturally in most movement when it sleeps most pleasantly, because it is then in particular that the greatest amount of heat collects in the interior of the body. That, when it is in motion, the mind cannot think, not only in its waking hours but also in sleep, is proved by the fact that one is least likely to see visions during the sleep which follows the taking of food; now this is the time when the mind is most disturbed owing to the nourishment which has been introduced into the body. A vision occurs when sleep comes over us while we are thinking or letting things pass before our eyes. Hence we usually see things which we are doing or intend or wish to do; for it is on these things that our thoughts and fancies most often dwell. And the better men are, the better are their dreams, because they think of better things in their waking hours, while those who are less well disposed in mind or body have worse dreams. For there is a close correspondence between the disposition of the body and the images of our dreams; for, when a man is ill, the ideas proposed by his thoughts are bad, and furthermore, owing to the disturbance which reigns in his body, his mind cannot rest. It is for this reason that atrabilious persons start in their sleep, because, owing to the excess of heat, the mind is in a state of too much movement, and, when the movement is too violent, they cannot sleep.

BOOK XXXI. PROBLEMS CONNECTED WITH THE EYES

Why does rubbing the eye stop sneezing? Is it because by this means evaporation is given to the moisture? For the eye sheds tears after friction, and sneezing is due to an abundance of moisture. Or is it because the lesser heat is destroyed by the greater? Now the eye when it is rubbed acquires more heat than is contained in the nose; and for this reason even if we rub the nose itself the sneezing stops.

Why can one see more accurately with one eye than with both eyes? Is it because more movements are set up by the two eyes, as certainly happens in those who squint?

The movement of the two eyes, therefore, is not one, but that of a single eye is one; therefore one sees less accurately with both eyes.

Why do the eyes tend to become very red in those who are angry, and the ears in those who are ashamed? Is it because the eyes are chilled in those who are ashamed (for ‘shame dwells in the eyes’), so that they cannot look straight in front of them? (Cowardice also involves a cooling in the same region.) Now the heat travels in a direction away from the forepart of the head, and the ears are situated in the opposite part of the head, and therefore they redden most under the emotion of shame. But under the influence of provocation assistance is sent to the more sensitive and easily affected part, as though it were suffering violence; for in those who are frightened it fails altogether there.

Why is it that, if one eye is held down, the other has a more intent gaze? Is it because the origins of sight in the two eyes are connected at one source? So when one eye moves, the common source of sight is also set in motion; and when this moves, the other eye moves also. When one eye therefore is held down, all the movement will be concentrated on the other eye, which consequently will be able to gaze more intently.

Why is it that those who are blind from birth do not become bald? Is it because the eye is injured by the presence of a large quantity of moisture in the region of the head? This is why they cauterize the veins round the temples of those who suffer from running at the eyes (thus closing the ducts through which the humours flow), and scrape the head, cutting into the skin upon it. Since, therefore, it is the excretion gathering in the head which injures the eyes, this same excretion by collecting in too great quantities in the head might prevent the eyes from originally coming into being at all. And since the hair grows from excretions, and the excretion in the head of those who are blind from birth is abundant, it is only natural that they are not bald.

Why are those whose eyes protrude affected more than others by smoke? Is it because smoke reaches the projecting parts most quickly?

Why is it that we can turn the gaze of both eyes simultaneously towards the right and the left and in the direction of the nose, and that of one eye to the left or to the right, but cannot direct them simultaneously one to the right and the other to the left? Similarly, we can direct them downwards and upwards; for we can turn them simultaneously in the same direction, but not separately. Is it because the eyes, though two, are connected at one point, and under such conditions, when one extremity moves, the other must follow in the same direction, for one extremity becomes the source of movement to the other extremity? Since, therefore, it is impossible for one thing to move simultaneously in contrary directions, it is impossible also for the eyes to do so; for the extremities would move in opposite directions if one moved up and the other down, and the source of the movement of both of them would have to make corresponding movements, which is impossible. The distortion of the eyes is due to the fact that the eyeballs possess a moving principle and turn, to a certain extent, upwards and downwards and sideways. When, therefore, being so placed that they are in a similar position to one another and midway between an upward and a downward and an oblique movement, the two eyeballs catch the visual ray on corresponding points of themselves, they are not distorted and their gaze is quite mobile (though when they catch the visual rays on corresponding points of themselves, although the vision is not distorted it does not follow that the position of the eyes is the same.) Yet, if you turn up the whites of the eyes, part of the pupil is obscured, as for example in those who are about to sneeze; others have oblique vision, madmen for example; in others the gaze is turned towards the nose, as in tragic masks and in those who are nervous, for their glance denotes concentrated thought. But those who keep their gaze fixed on one point without having their eyeballs similarly situated, or who have them similarly situated but do not keep them fixed on the same point, both these have distorted vision; they therefore scowl and screw up the eyes, for they try to fix one eyeball in the same position as the other; so they leave one eye alone and try to bring the other into position. If the vision of both eyes does not rest on the same point, they must be distorted; for the same thing happens as in those to whom, when they press under the eye, a single object appears double, for in these too the source of vision is disturbed. If, therefore, the eye is moved upwards, the terminus of the vision is lowered; if downwards, it is raised. And if the position of one eye is changed, the object of the vision therefore seems to move up or down, because the vision also does so, but it does not appear double unless the vision of both eyes is in use.

A similar distortion occurs also in one whose eyes do not correspond, causing him to see double; but this is due to the position of the vision, because it is not in the middle of the eye.

Why do those who are short-sighted write in small characters? For it is strange that those who have not acute vision should do what requires such vision. Is it because small things appear large when they are near at hand, and the short-sighted hold what they are writing close to their eyes? Or is it because they screw up their eyes when they write? For owing to the feebleness of their sight, if they write with their eyes wide open, the vision, being dispersed, can only see dimly; but when the eyes are screwed up, it all falls on one point, and, since it forms a small angle, it necessarily causes the writing of small characters. g Why can some people see more clearly after suffering from ophthalmia? Is it because their eyes are thus purged? For often the external thickening blocks the vision, but is dissolved when the eye discharges. Hence also it is beneficial that the eyes should be made to smart, with onion for example; but a substance of the opposite kind, such as marjoram, has an adverse effect.

Why are those who see with only one eye less liable to disturbance of the vision? Is it because their mind is less affected, and so the disturbance of the vision is less felt?

Why do objects appear double to those whose eyes are distorted? Is it because the movement does not reach the same point on each of the eyes? So the mind thinks that it sees two objects when it really sees one twice. A similar phenomenon occurs if one crosses the fingers; for a single object appears to be two to a single person touching it twice.

Why is it that the senses on the right side of the body are not superior to those on the left side, but in all other respects the right side of the body is superior? Is it a question of habit, namely, that we accustom ourselves immediately to perceive equally well with the senses on both sides of the body? And it seems that the superiority of the right-hand parts of the body is due to habit, for we can accustom ourselves to be ambidextrous. Or is it because to feel sensation is to be passive, and the right parts of the body are superior in that they are more active and less passive than the left?

Why is it that in all other respects the right side of the body is superior, but in sensation the two sides are alike?

Is it because we habitually practise the equal use of sensation on both sides? Moreover, to feel sensation is to be passive, and the superiority of the right side of the body is shown in activity, not in passivity.

Why is physical exercise detrimental to acuteness of vision? Is it because it makes the eye dry, as it does the rest of the body? Now dryness hardens every kind of skin; so it has that effect also on the skin covering the pupil. This is also the reason why the aged have not acute vision; for their eyes have a hard and wrinkled surface, and so the vision is obscured.

Why do the short-sighted, though they have not acute

vision, write in small characters? Yet it is characteristic of acute vision to see what is small. Is it because, having weak sight, they screw up their eyes? For when the sight proceeds forth in a concentrated glance it sees better, but when the eye is wide open its vision is dispersed. So owing to the feebleness of their sight they bring their eyelids close together, and, because their vision proceeds from a small area, they see magnitude on a small scale, and the characters which they write are on the same scale as their vision.

Why do the short-sighted bring their eyelids close together when they look at anything? Is it due to the weakness of their sight, so that, just as a man in looking at a distant object puts his hand up to his eyes, they close the eyelids to look at objects near at hand? They do so in order that the vision may proceed forth in a more concentrated form, since it passes through a narrower opening, and that it may not be immediately dispersed by passing out through a wide aperture. A wider vision, however, covers a larger field.

Why is it that if the eye be moved sideways a single object does not appear double? Is it because the source of sight is still in the same line? It can only appear double when the line is altered upwards or downwards; and it makes no difference if it is altered sideways, unless it is also at the same time altered upwards or downwards. Why, then, is it possible in sight for a single object to appear double if the eyes are in a certain position in relation to one another, but impossible in the other senses?

Is it not possible also in touch that one thing becomes two if the fingers are crossed? But with the other senses this does not happen, because they do not perceive objects which extend to a distance away from them, nor are they duplicated like the eyes. It takes place for the same reason as it does with the fingers; for then the touch is imitating the sight.

Why is it that, though in the rest of the body the left side is weaker than the right, this is not true of the eyes, but the sight of both eyes is equally acute? Is it because the parts of the body on the right side are superior in activity but not in passivity, and the sight is passive?

Why is it that when we keep our gaze fixed on objects of other colours our vision deteriorates, whereas it improves if we gaze intently on yellow and green objects, such as herbs and the like? Is it because we are least able to gaze intently on white and black (for they both mar the vision), and the above-mentioned colours come midway between these, so that, the conditions of vision being of the nature of a mean, our sight is not weakened thereby but improved? Perhaps, just as we take harm from over-violent physical exertion but moderate exercise is beneficial, so too is it with the sight; for we over-exert the sight if we gaze intently on solid objects, but we do not strain it in looking at objects which contain moisture, since there is nothing in them to resist the vision. Now green things are only moderately solid and contain a considerable amount of moisture; they therefore do not harm the sight at all, but compel it to rest upon them, because the admixture of their colouring is well attempered to the vision.

Why is it that we see other things better with both eyes, but we can judge of the straightness of lines of writing better with one eye, putting it close to the letters? Do both eyes falling on the same point cause confusion, as the writers on optics say, whereas, when we look with one eye, straightness is more apparent to the straight vision, just as it is when a measuring rod is used?

Why does smoke make the eyes smart more than any other part of the body? Is it because they alone are very weak, since the inner parts of the body are always the weakest? (This is shown by the fact that vinegar and anything pungent causes not the outer but the inner flesh to smart, because the latter is the rarest flesh in the body and contains most pores.) For the vision finds its exit through certain pores, and so what causes most stinging within is drawn away from the outer flesh. The onion too has a similar effect and anything else which causes the eye to smart, and of liquids olive-oil more than any other, because it is composed of very small particles and so sinks in through the pores. Vinegar is used as a medicament for the rest of the flesh.

Why is it that the eye, although it is very weak, is the only part of the body which does not feel the cold? Is it because the eye is of a fatty consistency and does not partake of the nature of flesh, and such substances are unaffected by the cold? For if the eye is really a fire, this is not the reason why it does not feel cold, for its fire is not at any rate of such a character as to engender heat.

Why are tears warm when we let them fall in weeping, but cold when we shed them owing to an affection of the eyes? Is it because that which is unconcocted is cold, while that which is concocted is hot? Now every malady certainly proceeds from lack of concoction, and the tears of those whose eyes are affected are unconcocted and therefore cold. It is for this reason that physicians regard cold sweating as a sign of serious illness, while on the contrary they consider that hot sweating tends to get rid of disease. For if the excretion is abundant, the internal heat cannot concoct it, so that it must necessarily be cold; but when it is scanty, the internal heat prevails over it. Now all diseases are caused by excretions.

Why is it that, though the parts of the body on the right side are more easily moved, the left eye can be closed more easily than the right? Is it because the parts of the body on the left always contain more moisture, and things that are moist naturally close up more easily?

Why is it that though both a short-sighted and an old man are affected by weakness of the eyes, the former places an object, if he wishes to see it, near the eye, while the latter holds it at a distance? Is it because they are afflicted with different forms of weakness? For the old man cannot see the object; he therefore removes the object at which he is looking to the point at which the vision of his two eyes meets, expecting them to be able to see it best in this position; and this point is at a distance. The short-sighted man, on the other hand, can see the object but cannot proceed to distinguish which parts of the thing which Empedocles appears at times to hint, is criticized at great length. at which he is looking are concave and which convex, but he is deceived on these points. Now concavity and convexity are distinguished by means of the light which they reflect; so at a distance the short-sighted man cannot discern how the light falls on the object seen; but near at hand the incidence of light can be more easily perceived.

Why is man alone, or at any rate more than the other animals, liable to distortion of vision? Is it because he alone, or more than the other animals, suffers from epilepsy in his youth, at which time distortion of the vision always begins?

Why are men alone among the animals liable to distortion of the vision? Is it because they have the smallest distance between their eyes and their eyes are in a straight line, so that any perversion is very obvious? Or is it because the eyes of the other animals tend to be of one colour only, and if the eyes were of uniform colour there could be no distortion? Or is it because man alone in the animal world is liable to epilepsy, and epilepsy, whenever it occurs, causes distortion in the eyes as in the other parts of the body? Distortion, however, sometimes occurs quite late in life, namely, in those to whom the illness comes late.

Why is it that we can see better against the light of a lamp or the sun, if we place the hand in front of the light? Is it because the light of the sun or of the lamp falling on our vision makes it weaker by its excess of brightness, since by this excess it destroys those very things which are akin to it? But if the light is shaded by the hand, it does not hurt the sight, and the object seen is equally in the light; so the sight sees better and the object seen is just as visible.

Why is there a difference between the left and the right hand and foot, while this is not so with the eyes and ears? Is it because the elements, when they are pure, show no variation, but variations occur where the elements are compounded? Now these senses consist of pure elements — the sight of fire and the hearing of air.

BOOK XXXII. PROBLEMS CONNECTED WITH THE EARS

WHY is it that, though the ears are the most bloodless part I of the face, they are most affected by blushing in those who feel shame? Is it because extraneous moisture naturally makes its way most easily into a void, and so, when the moisture is dissolved by the heat engendered in those who feel shame, it collects in the ears? Or is it because the ears are near the temples, where the moisture most collects? Now under the emotion of shame the moisture flows into the face and causes blushing. But the ears have less depth than any other part of the face and are naturally very warm and fresh coloured, unless they have been long numbed by the cold; they are then the most fresh coloured of all the parts of the face, and so the heat, when it is dispersed, being nearest the surface in the ears, makes them red.

Why is it that the ear-drums of divers burst in the sea? Is it because the ear, as it fills with water, is subject to violent pressure, because it retains the breath? Surely, if this is the reason, the same thing ought to happen in the air. Or is it because a thing breaks more easily if it does not yield, and more readily under pressure from what is hard than from what is soft? Now that which is inflated is less yielding, and the ears, as has been said, are inflated because the breath is retained in them; and so the water, which is harder than the air, when it presses upon them bursts them.

Why do divers tie sponges round their ears? Is it in order that the sea may not rush violently in and burst the ear-drums? For thus the ears do not become full, as they do when the sponges are removed.

Why is the dirt in the ears bitter? Is it because sweat is corrupt? It is, therefore, a salty, corrupt substance; and that which is corrupt and salty is bitter. —

Why do sponge-divers slit their ears and nostrils? Is it in order that the breath may pass more freely? For it is by this way that the breath seems to pass out; for it is said that they suffer more from difficulty of breathing by being unable to expel the breath, and they are relieved when they can as it were vomit the breath forth. It is strange, then, that they cannot achieve respiration for the sake of its cooling effect; this appears to be a greater necessity. Is it not quite natural that the strain should be greater when the breath is held, since then they are swollen and distended? But there appears to be a spontaneous passage of the breath outwards; and we must next consider whether breathing inwards is so also. Apparently it is; for they enable the divers to respire equally well by letting down a cauldron; for this does not fill with water, but retains the air, for it is forced down straight into the water; since, if it inclines at all from an upright position, the water flows in.

Why do some people cough when they scrape their ears? Is it because the hearing is connected with the same duct as the lungs and the wind-pipe? This is shown by the fact that, if these parts are filled up, a man becomes deaf. When, therefore, heat is set up by the friction, moisture is caused by melting and flows downwards from the duct into the wind-pipe and causes coughing.

Why is it that, if a hole is pierced in the left ear, it generally closes up more quickly than in the right ear? It is for this reason that women call the right ear the ‘male’ and the left the ‘female Is it because the left parts of the body are moister and hotter, and such things close up very quickly? This is why green plants grow together again; and why wounds close up more readily in the young than in the old. That the parts on the left side of the body are moister is shown by the fact that they are softer and, generally speaking, partake rather of feminine characteristics.

Why is it that in those who feel shame the extremities of the ears turn red, but in those who are angry it is the eyes that do so? Is it because shame is a cooling in the eyes accompanied by fear, so that the heat naturally leaves the eyes? So, when it withdraws thence, it travels to the region best adapted to receive it, and this is the extremity of the ears; for the region of the face is otherwise bony. In those who are angry the heat travels in the other direction and makes itself most manifest in the eyes owing to their white colour.

Why is it that buzzing in the ears ceases if one makes a sound? Is it because the greater sound drives out the less?

Why is it that, if water has flowed into the ear, one pours olive oil in, though the moisture in the ear cannot pass out through another liquid? Is it because the oil floats on the surface of the water and, owing to the adhesive nature of the oil, the water clings to it when it comes out, the object being to make the water come out with the oil? Or is it in order that the ear may be lubricated and the water therefore come out? For oil being smooth acts as a lubricant.

Why is it that the ear-drums of divers are less liable to burst if they pour olive-oil beforehand into them? Does the reason for their bursting already mentioned still hold good, but the oil poured into the ears cause the sea-water, which subsequently enters the ear, to glide smoothly over its surface, just as happens on the exterior parts of the bodies of those who anoint themselves? The sea-water gliding smoothly along does not make a violent impact upon the inside of the ear, and so does not break the drum.

Why is it that, although the ears are the most bloodless part of the face, they turn red in those who feel shame? Is everything carried to that part which is most devoid of it? Now in a man who feels shame the blood seems to be carried upwards in a heated condition; it therefore passes into the part which is most devoid of it and causes it to become red. The same thing happens also in the cheeks.

A further reason is that the skin of the ears, which is tightly stretched, is very thin and therefore very transparent.

Why is it that no one scrapes out the ear while yawning?

Is it because, when one yawns, the drum of the ear, by means of which he hears, is inflated? That this is so is shown by the fact that one hears least well while yawning; for the breath, as happens also in the mouth, finds its way into the interior of the ears and thrusts the membrane outwards and prevents the sound from entering. If, therefore, one touches the seat of hearing when in this condition in such a way as to scrape it, one might cause considerable damage to it; for the impact would be against a resisting and unyielding surface inflated by the breath, and it is obvious that the skin and the membrane are far from being solid; and so great pain is caused and a wound might result.

BOOK XXXIII. PROBLEMS CONCERNING THE NOSE

WHY is it that sneezing stops hiccuping but does not stop eructation? Is it because they are not affections of the same region, but eructation is a cooling and lack of concoction in the stomach, while hiccuping is a similar affection of breath and moisture in the region of the lungs? Now the regions about the head (the ears, for example) are closely connected with the lungs. This is proved by the facts that deafness and dumbness are found together, and that the diseases of the ears become diverted into affections of the lungs; also in some persons coughing results when the ears are scratched. That there is a connexion between the region of the nose, in which the sneeze takes place, and the lungs is shown by the fact that both share in respiration; and so, while the nose sneezes when that region becomes hot, the lower region, where hiccuping takes place, also sneezes in sympathy. Now heat causes concoction; hence vinegar stops hiccups, as also does holding the breath if the hiccup is only slight, for it heats the breath which is constricted. So too in sneezing the counter-constriction of the breath has this effect and expiration takes place properly and from the upper region; for it is impossible to sneeze without expiring.

The impetus then dispels the enclosed breath which is the cause of the hiccup.

Why is it that if, when one is about to sneeze, one rubs the eye, one sneezes less? Is it because what causes the sneeze is a kind of heat, and friction produces heat, which, owing to the close proximity to the eyes of the region in which the sneeze occurs, destroys the other heat, just as the lesser fire fades away before the greater?

Why is it that one generally sneezes twice, and not once or many times? Is it because there are two nostrils? The channel, therefore, through which the breath passes is divided between the two.

Why is it that one sneezes more after one has looked at the sun? Is it because the sun engenders heat and so causes movement, just as does tickling the nose with a feather? For both have the same effect; by setting up movement they cause heat and create breath more quickly from the moisture;

and it is the escape of this breath which causes sneezing.

Why do sneezing and holding the breath and vinegar stop hiccups? Does sneezing, since it is a displacement of the lower breath, act in the same sort of way as medicines which, though applied to the upper part of the body, affect the lower part of the stomach? Holding the breath stops weak hiccups, because the slight impetus of the breath which comes forth represses and stifles and completely dispels the hiccup, just as happens in coughing, which ceases if you hold it back. Vinegar stops hiccuping because by its heat it vaporizes the surrounding moisture, which prevents eructation; for eructation takes place when the moisture in the upper part of the stomach is vaporized and concocted, whereas hiccuping occurs when by the action of moisture breath is retained in an excessive quantity in the region of the lungs; for this, gaining impetus and being unable to break through, causes a spasm, and this spasm is called a hiccup. Hence hiccuping seizes those who are cold, because the cold causes the moisture to acquire consistency from the breath, and the rest of the breath, being still enclosed, gives a leap, and its movement is hiccuping.

Why do we sometimes pour cold water over a person’s face when his nose is bleeding? Is it because the heat is thus driven inwards? If, therefore, the blood is near the surface, it tends to liquefy it.

Why do we regard sneezing as divine, but not coughing or running at the nose? Is it because it comes from the most divine part of us, namely, the head, which is the seat of reasoning? Or is it because the other affections are the results of disease, but sneezing is not?

Why does rubbing the eye stop sneezing? Is it because by this means evaporation is given to the moisture? For the eye sheds tears after friction, and sneezing is due to an abundance of moisture. Or is it because the lesser heat is destroyed by the greater? Now the eye when rubbed acquires more heat than is contained in the nose; and for this reason, even if we rub the nose itself, the sneezing stops.

Why is it that the emission of other kinds of breath, of wind, for example, and of eructation are not regarded as sacred, but that of a sneeze is so regarded? Is it because of the three regions of the body — the head, the thorax, and the lower stomach — the head is the most divine? Now wind is breath from the lower stomach and eructation is from the upper stomach, but sneezing is from the head; because, therefore, this region is most sacred, the breath also from it is revered as sacred. Or is it because all discharges of breath show that the above-mentioned parts are in a better state generally (for without any discharge of excrement the breath in its passage out lightens the body), and so too sneezing shows that the region of the head is in a healthy condition and capable of concoction? For when the heat in the head overcomes the moisture, the breath turns into a sneeze. This is why men test the dying by applying something which will cause sneezing, with the idea that, if this does not affect them, their case is indeed *t* desperate. Thus sneezing is revered as sacred as being a sign of health in the best and most sacred region of the body, and is regarded as a good omen.

Why does man sneeze most of all animals? Is it because in him the ducts are wide through which the breath and scent pass in? For it is with these when they are full of breath that he sneezes. That these ducts are wide is shown by the fact that man has a weaker sense of smell than any other animal, and those who have narrow ducts have a keener sense of smell. If, therefore, the moisture, the evaporation of which causes sneezing, enters in larger quantities and more often into wide ducts, and man more than any other animal has such ducts, he might naturally be expected to sneeze more often. Or is it because his nostrils are particularly short, and so the heated moisture can quickly become breath and be expelled, whereas in other animals owing to the length of their nostrils it cools before it can evaporate?

Why is sneezing between midnight and midday regarded as a bad thing, but between midday and midnight as a good thing? Is it because sneezing seems rather to check those who are commencing anything and are at the beginning? And so, if it occurs when we are intending or beginning something, we are deterred from action. Now early morning and the period after midnight are as it were a new beginning; therefore we carefully avoid sneezing so as not to hinder the action which has been begun. But towards evening and up to midnight there is as it were an ending and the contrary of the earlier period, so that the same thing that was undesirable becomes, under contrary conditions, desirable.

Why do the old sneeze with difficulty? Is it because the ducts through which the breath passes have become partially closed? Or is it because they are no longer able to raise the breath up with ease, and, when they have done so, they expel it downwards with a violent effort?

Why is it that, if one holds the breath, hiccuping ceases? Is it because hiccuping is the result of cooling (hence those who are frightened and those who are chilled hiccup), whereas the breath when it is held back warms the interior region?

Why do the deaf usually talk through their noses? Is it because they suffer from lung trouble, since deafness is simply a congestion in the region of the lungs? The voice therefore does not easily find a passage; but, just as the breath of those who are panting or gasping accumulates owing to their inability to exhale it, so it is with the voice of the deaf. It therefore forces its way even through the nostrils, and, as it does so, owing to the friction, causes the echoing sound. For talking through the nose takes place when the upper part of the nose, where the openings to the roof of the mouth are situated, becomes hollow in form; it then resounds like a bell, its lower part being narrow.

Why is sneezing the only phenomenon which does not occur when we are asleep, but takes place practically always while we are awake? Is it because sneezing is the result of heat of some kind causing motion in the region from which the sneeze proceeds (and this is why we look up at the sun when we want to sneeze), whereas when we are asleep the heat is driven inwards? This is why the lower parts become warm in those who are asleep, and the large quantity of breath which collects there is the cause of the emission of semen during sleep. It is only natural, therefore, that we do not sneeze; for when the heat (which naturally sets in motion the moisture in the head, the evaporation of which causes the sneeze) is withdrawn from the head, it is only natural that the phenomenon which it causes does not take place. Men break wind and eruct rather than sneeze when they are asleep, because, as the region about the stomach becomes hot during sleep, the moisture there becomes vaporized and, as it does so, is carried into the nearest parts; for it is thrust together there by the breath engendered during sleep. For a man who is asleep is better able to hold than to expel the breath; therefore he collects the heat within him. Now when a man holds his breath he forces it downwards; for a downward course is unnatural to the breath, and that is why it is difficult to hold the breath. The same thing is the cause of sleep also; for since waking is movement and this movement occurs to a great extent in the organs of sensation while we are awake, it is plain that we should go to sleep when our organs of sense are at rest. And since it is fire which creates movement in our parts, and this during sleep is driven inwards and leaves the region of the head, where the seat of sensation is situated, our organs of sense would then be most at rest, and this must be the cause of sleep.

Why do people shiver after sneezing and passing urine? Is it because by both actions the veins are emptied of the warm air which was previously in them, and, when they are empty, other air enters from without colder than that which was previously in the veins; and such air entering in causes shivering?

Why does sneezing stop hiccuping? Is it because hiccuping (unlike eructation, which comes from the stomach when it receives food) comes from the lungs and generally results from cooling as an effect of chill or pain or medicine entering from above? For the region of the lungs, being naturally hot, when it is cooled does not emit all the breath but forms as it were bubbles. This is why hiccuping stops if the breath is held (for the region then becomes warm); and the application of vinegar, which is heating, has the same effect. Heat then collecting from the heat of the brain also (for the upper regions are connected by passages with the lungs) and the lungs being warm, the holding of the breath which precedes the sneeze, and the downward impetus from above, dissolve the hiccuping. Why is it that those who have crisp hair and whose hair l curls are usually rather snub-nosed? Is it because crispness resides in fatness, and fatness is accompanied by hardness, and the blood being hard is hot, and heat does not produce excrement, and boniness is formed from excrement, and the cartilage of the nose is bony — therefore a scantiness of this part is a natural result? This theory is supported by the fact that young children are always snub-nosed.

BOOK XXXIV. PROBLEMS CONCERNING THE MOUTH AND THE PARTS THEREIN

WHY is it that those who have spongy teeth are not long-lived? Is it because the long-lived have more teeth, for instance males have more than females, men than women, and rams than ewes? Those then who have spongy teeth apparently resemble those who have fewer teeth.

Why is it that, though the teeth are stronger than the flesh, yet they are more sensitive to cold? Is it because they are closely connected with the pores, in which the heat, because it is small, is quickly overcome by the cold and causes pain?

Why are the teeth more sensitive to cold than to heat, while the contrary is true of the flesh? Is it because the flesh partakes of the mean and is of moderate temperature, but the teeth are cold and therefore more sensitive to cold? Or is it because the teeth consist of narrow pores in which the heat is scanty, so that they are quickly affected by the opposite of heat? Now the flesh is warm, so that it is unaffected by the cold, but is quickly sensitive to heat; for it is a case of ‘fire added to fire Why is it that the tongue is indicative of many things? For in acute diseases it indicates fever by the presence of blisters upon it; also the tongues of sheep are parti-coloured if the sheep are so. Is it because the tongue is capable of taking up moisture and is situated near the lungs, which are the seat of fevers? Now all things which are parti-coloured are so because their humours are parti-coloured, and that part first takes on colour through which the humour first passes; and this is what happens to the tongue. Now blisters collect on the tongue because it is spongy; for a blister is as it were an eruption which has not been concocted within.

Why is it that the tongue becomes bitter and salty and acid, but never sweet? Is it because these qualities are corruptions and so the tongue cannot perceive its own real nature?

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Why is it that the coloration of the tongue corresponds with that of the skin? Is it because it is really an external part of the body, though it is enclosed in the mouth, and is it because the skin on it is thin that even a slight variegation of colour makes itself visible? Or is it because it is liquid that causes change of colour, and the tongue is most affected by what is drunk?

Why is it that one can emit both hot and cold breath from the mouth? For one can puff out cold breath and breathe out warm breath. That the breath is warm can be demonstrated by placing the hand near the mouth. Or is the air which is set in motion warm in both cases, but does he who puffs out breath not set the air in motion all at once but blow through a partly closed mouth, so that, though he emits but little breath, he sets up motion over a large area of the outer air, in which the warmth from his mouth is not apparent owing to its scantiness? But one who breathes out breath emits it all at once, and therefore it is warm. For it is characteristic of puffing out breath to pack the air into a particularly small space; whereas breathing out air is emitting it all at once.

Why is it that, if one expires violently and with all the breath at once, it is impossible to expire again? So too with violent inspiration, which cannot be repeated again immediately. Is it because expiration is a local dilatation, and inspiration a local contraction, both of which can be carried out within certain limits? Clearly, therefore, the two processes must be carried out one after another, but neither can be performed twice consecutively.

Why is it that, though there is one passage through which meat and drink pass and another through which we breathe, if we swallow too large a morsel we choke? In this there is nothing strange; for not only do we choke if something penetrates into this passage, but we choke still more if it be blocked. Now the passages through which we take food and through which we breathe are ° parallel to one another; when, therefore, too large a morsel is swallowed, the respiration is also blocked, so that there is no way out for the breath.

Why is it that men are very long-lived who have a cut right across the hand? Is it because those animals which are badly articulated are short-lived and weak? As an instance of weakness we may take young animals, and of shortness of life the aquatic creatures. Clearly then those who are well articulated must be the opposite, namely, those in whom even those parts are best articulated which are by nature badly articulated. Now the inside of the hand is the least well articulated part of the body.

Why is it that, in deep breathing, when we draw in the breath the stomach contracts, but when we expire it fills out? Now the contrary of this might be expected to occur. Is it because in breathing the stomach is compressed downwards by the flanks and then appears to expand again, like bellows?

Why do we respire? Does the breath dissolve into fire, just as the moisture dissolves into breath? The heat, then, of nature, when the greater part of the breath produces fire, causes pain and pressure upon the ducts; and that is why we emit the fire with the breath. Now when the breath and fire go forth, the ducts contract and are cooled, and pain results; we therefore draw the breath in again. Then when we have opened the breath-ducts and given them relief, fire is again engendered and we again feel discomfort, and therefore expel it and continue to do so indefinitely; just as we continually blink as the part round the eye cools and becomes dry. Also we walk without giving attention to the manner of our walking, the intellect by itself guiding us. In like manner, therefore, we carry out the process of breathing; for we do so by contriving to draw in air, and then continue to draw it in.

BOOK XXXV. PROBLEMS CONNECTED WITH THE EFFECTS OF TOUCH

WHY do we shudder more when some one else touches us than when we touch ourselves? Is it because the touch of a part of some one else has more power to produce sensation than that of a part of oneself, since that which is connected by growth with the sense-organ is imperceptible?

Also anything which occurs unawares and suddenly is more frightening, and fright is a process of cooling; and both these qualities are possessed by the touch of another as contrasted with one's own touch. And, speaking generally, passive sensation is produced either solely by some one else or at any rate in a greater degree than by oneself; as happens for example in tickling.

Why do we feel tickling in the armpits and on the soles of the feet? Is it owing to the thinness of the skin? And do we feel it most where we are unaccustomed to being touched, as in these parts and the ears?

Why is it that every one does not shudder at the same things? Is it because, just as we do not all feel pleasure or pain at the same things, so we do not shudder at the same things? For the same sort of cooling process takes place. So some people shudder when a garment is torn, others when a saw is being sharpened or drawn through wood, others when pumice-stone is being cut, others when the millstone is grinding on stone.

Why is it that, though the summer is warm and the winter cold, bodies are colder to the touch in summer than in winter? Is it because perspiration and the act of perspiring cool the body, and this takes place in summer but not in winter? Or is it because cold and heat are driven inwards inversely to the seasons, and in the summer the cold takes refuge within and therefore causes perspiration to be given off, whereas in winter the cold keeps the perspiration in and the body vaporizes it, as does the earth?

Why do the hairs bristle upon the skin? Is it because they naturally stand erect when the skin is contracted, and this contraction occurs owing to cold and certain other conditions?

Why is it that no one can tickle himself? Is it because one also feels tickling by another person less if one knows beforehand that it is going to take place, and more if one does not foresee it? A man will therefore feel tickling least when he is causing it and knows that he is doing so. Now laughter is a kind of derangement and deception (and so men laugh when they are struck in the midriff; for it is no ordinary part of the body with which one laughs). Now that which comes unawares tends to deceive, and it is this also which causes the laughter, whereas one does not make oneself laugh.

Why is it that we feel tickling in particular on the lips? Is it because the part which feels tickling must be situated not far from the seat of sensation? Now the lips are essentially in this position, and so of all parts of the head the most sensitive to tickling are the lips, which are fleshy, and therefore very easily set in motion.

Why is it that a man bursts out laughing if one scratches the region of his armpits, though he does not do so when any other part is tickled? And why does a man sneeze if he tickles his nostrils with a feather? Is it because these parts are regions where the small veins are situated, and when these are cooled or undergo the opposite process they become moist or dissolve into breath as the result of the moisture? (Similarly, if one compresses the veins in the neck of one who is asleep, an extraordinarily pleasant sensation is caused.) And when the breath is engendered in greater abundance, we emit it in a single mass. Similarly also in sneezing, when we warm the moisture in the nostrils and scratch them with a feather, we dissolve it into breath; and when the breath becomes superabundant we expel it.

Why is it that we often shudder after taking solid food?

Is it because when food which is cold enters the body it prevails at first over the natural heat rather than vice versa?

Why is it that an object which is held between two crossed fingers appears to be two? Is it because we touch it at two sentient points? For when we hold the hand in its natural position we cannot touch an object with the outer sides of the two fingers.

BOOK XXXVI. PROBLEMS CONNECTED WITH THE FACE

WHY is the face chosen for representation in portraits?! Is it because the face shows best what the character of a person is? Or is it because it is most easily recognized?

Why is it that one perspires most freely on the face, though it is far from being fleshy? Is it because parts which are rather moist and rare perspire freely, and the head has these characteristics? For it contains an abundance of natural moisture; this is shown by the veins which extend from it and the discharges which it produces, and the fluidity of the brain and the numerous pores. That there are numerous pores extending outwards is o shown by the presence of the hair. The perspiration then comes not from the lower parts of the body but from the head; and so one perspires most readily and freely on the forehead, for it is highest in position and moisture flows down and not up.

Why do eruptions occur more frequently on the face than elsewhere? Is it because this part contains rarities and moisture? That this is so is shown by the growth of hair on it and by its power of sensation; and an eruption is as it were an efflorescence of unconcocted moisture.

BOOK XXXVII. PROBLEMS CONNECTED WITH THE WHOLE BODY

WHY is it that, though the body is in a state of continual flux, and effluvia are given off from the excrements, the body is only lightened if it perspires? Is it because the excretion in the form of effluvia is too little (for when liquid is transformed into air, much air is formed out of little liquid)? For what is excreted is more, which accounts for the excretion taking longer to begin.

And what is the reason of this? Is it because its exit takes place through smaller pores? For the viscous and the adhesive matter is expelled with the moisture because it mingles with it, but it cannot be expelled with the breath; and it is this thick matter in particular which causes pain. Therefore also vomiting lightens the body more than sweating, because that which is vomited, being thicker and more substantial, carries away this viscous matter with it. Or is there a further reason, namely, that the region in which the viscous and the adhesive matter is, is situated at a distance in relation to the flesh (and so it is difficult to make it change its position), but near to the stomach? For it is engendered either in or close to it; and therefore it is difficult to get rid of it in any other way. body is in continual motion and if our internal humours are carried upwards and vaporized, and this occurs as a result of friction; whereas in the absence of this, the body wastes away and decreases. Or is it because the flesh increases in bulk by nutriment as the result of heat (for anything which is hot has the power to attract moisture, and the nutriment distributed in the flesh is moist and the flesh takes up moisture better by being rare, for the rarer a thing is the more it can absorb, like a sponge), whereas friction makes the flesh well ventilated and rare and prevents congestion in the body? Now if there is no congestion, there can be no wasting either; for atrophy and wasting are the result of conglomeration. But the better ventilated and the rarer and the more homogeneous the parts of the body are the more likely they are to acquire bulk, for they are better able to take up nutriment and to get rid of excrements, since the flesh must be rarefied and not densified in order to promote health. For just as a city or locality is healthy which is open to the breezes (and that is why the sea too is healthy), so the body is healthier if the air can circulate in it than when it is in the contrary condition. For either there ought to be no excrement in the body, or else the body ought to be able to get rid of it as soon as possible and be in such a condition that it can reject the excrement as soon as it receives it and be always o — in a state of motion and never at rest. For that which remains stationary putrefies (standing water, for example), and that which putrefies creates disease; but that which is rejected passes away before it becomes corrupt. This then does not occur if the flesh is dense (the ducts being as it were blocked up), but it does happen if the flesh is rare. One ought not therefore to walk naked in the sun; for the flesh thereby solidifies and acquires an absolutely fleshy consistency; for the internal moisture remains, but the surface moisture is expelled in the form of vapour, just as in roast meat the inner portions are moister than in boiled meat.

Nor ought one to walk in the sun with the chest bare, for then the sun draws out the moisture from the best constructed parts of the body, which least require to be deprived of it; but it is rather the inner parts which need to be dried, for, because they are remote, it is impossible to produce perspiration except by a violent effort; but it is easy to exhaust the moisture in the chest, because it is near the surface.

Why is it that, when we are chilled, the same heat causes more burning and pain? Is it because owing to its density the flesh holds the heat which comes into contact with it? This is the reason why lead becomes hotter than wool. Or is the passage of the heat violent because the body is congealed by cold?

Why does dry friction render the flesh solid? Is it because heat is engendered by the friction and the moisture is used up? Furthermore, the flesh when rubbed becomes dense, and everything becomes denser and solider the more it is rubbed. This can be seen in many examples; dough, for instance, and clay and similar substances, if you pour water into them and spread them out, remain moist and fluid, but, if you apply more friction, they quickly densify and solidify and become viscous.

Why does friction produce more flesh than running? Is it because running cools the flesh and makes it less absorbent of nutriment, but part of the nutriment is shaken downwards, while the part on the surface, owing to the exhaustion of the natural heat, becomes quite thin and is expelled in the form of breath? But the hand by friction makes the flesh rare and able to take up nutriment. Moreover, the external contact, opposing by its pressure the natural impetus of the flesh, makes it compact and drives it back upon itself.

BOOK XXXVIII. PROBLEMS CONCERNING THE COLORATION OF THE FLESH

WHY is it that the sun bleaches wax and olive oil, but darkens the flesh? Is it because it bleaches the former by extracting the water from them (for that which is moist is naturally black owing to the admixture of the earthy element), whereas it scorches the flesh?

Why have fishermen reddish hair, and purple-fishers and in short all who work on the sea? Is it because the sea is hot and full of dryness because it is salty? Now that which is of this nature, like lye and orpiment, makes the hair reddish. Or is it because they are warmer in their outer parts, but their inner parts are chilled, because, owing to their getting wet, the surrounding parts are always being dried by the sun? And as they undergo this process, the hair being dried becomes fine and reddish. Furthermore all those who live towards the north have fine, reddish hair.

Why is it that running in clothing and anointing the body under the clothing with oil makes men pale skinned, whereas running naked makes them ruddy? Is it because ventilation produces a ruddy colour, while suffocation has the opposite effect and causes pallor because the moisture on the surface is heated up and does not cool? Now perspiring in clothes and anointing the body under the clothing both have the same effect, namely, that the heat is enclosed. But running naked makes the flesh ruddy for the opposite reason, because the air cools the excrements which form and ventilates the body. Further, the oil, which is moist and thin, being smeared over the body under the clothing and blocking up the pores, does not allow either the moisture and breath from the body to escape or the external air to penetrate inwards. Therefore the moist excrements being choked in the body decay and produce pallor.

Why is it that the ventilation of the flesh makes it ruddy? Is it because pallor is as it were a corruption of the flesh? When, therefore, the surface is moist and hot, — it becomes yellow unless it is cooled and gives off the heat in the form of breath.

Why is it that those who perspire are ruddy as a result of their exercises, whereas athletes are pale? Is it because as the result of moderate exertion the heat is burnt up and comes to the surface, whereas by constant exertion it is drained off with the perspiration and breath, the body being rarefied by exertion? When, therefore, the heat comes to the surface, a man becomes ruddy, just as he does when he is hot or ashamed; but when the heat fails, he is pallid. Now ordinary persons indulge in moderate exercise, whereas athletes are constantly training.

Why are men more sunburnt who sit still in the sun than those who take exercise? Is it because those who are in motion are as it were fanned by the breath owing to the movement of the air which they set up, whereas those who are sitting still do not undergo this process?

Why does the sun scorch, while fire does not? Is it because the heat of the sun is finer and can penetrate farther into the flesh? Fire, on the other hand, if it does scorch, only raises the surface of the flesh by creating what we call blisters, and does not penetrate within.

Why is it that fire does not make men black, whereas the sun does so, and why does fire blacken earthenware, while the sun does not? Or do they produce their effects by dissimilar means, the sun blackening the flesh by scorching it and the fire permeating the earthenware with the soot which it sends up? (Now soot consists of fine ember-dust, formed by the simultaneous breaking-up and burning of the charcoal.) The sun, then, makes men black, while the fire does not do so, because the heat of the sun is gentle and owing to the smallness of its parts it can scorch the flesh itself; and so, because it does not set the flesh on fire, it does not cause pain, but it blackens it because it scorches it. Fire, on the other hand, either does not kindle at all or else penetrates within; for what is burnt by fire also becomes black, but it does not burn merely that part of the body in which the colour is situated.

Why do men become darker complexioned as they become older? Is it because anything which decays becomes blacker, except mildew? And old age and decay are the same thing. Further, since the blood when it dries up becomes blacker, it is only likely that the older men are the darker they are; for it is the blood which naturally gives colour to our bodies.

Why is it that, of persons engaged in the preparation of cereals, those who handle barley become pale and are subject to catarrh, while those who handle wheat are healthy? Is it because wheat is more easily concocted than barley, and therefore its emanations are also more easily concocted?

Why is it that the sun bleaches olive oil but darkens the flesh? Is it because it extracts the earthy element from the olive oil, and this, like the earthy element in wine, is the black part of it? Now it darkens the flesh because it burns it; for that which is earthy always becomes black when burnt.

On Indivisible Lines (968a)

Translated by W. S. Hett

Written with the purpose of refuting Xenocrates’ views on lines and minimal parts, this short treatise was traditionally attributed to Aristotle, but was most likely written by a member of the Peripatetic school, at some time before the 2nd century BC.

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INTRODUCTION

THIS is a most interesting and extremely difficult treatise, written by some author of the Peripatetic School. It refers directly to Euclid’s *Elementa,* Book X., and is unintelligible without some understanding of Euclid’s definitions. Unfortunately the condition of the manuscripts is most unsatisfactory. By kind permission of Messrs. Teubner, Apelt’s text has been used for this volume. This together with his comments in the Introduction has elucidated a number of difficulties, but, even so the thought as well as the terminology is involved. The treatise is mainly concerned with a refutation of the theory that every line contains a unit which is an indivisible line. Without the modern view of infinity, there is much which is mathematically brilliant, and on his own terms the author seems to prove his case. The main argument is a syllogism:

All lines consist of indivisible lines (Zeno).

All indivisible lines are points.

.-. all lines consist of points.

Aristotle then demonstrates the absurdity of this conclusion, thus demolishing the major premiss.

ON INDIVISIBLE LINES (DE LINEIS INSECABILIBUS)

Are there such things as indivisible lines, and must there be in all magnitudes some unit which has no parts, as some say?

If "much" and "big," and their opposites "few" and "little," are similarly constituted, and if that which has almost infinite divisions is not small, but big, it is evident that "few" and "little" will have a limited number of divisions; if, then, the divisions are limited, there must be some magnitude which has no parts, so that in all magnitudes there will be some indivisible unit, since in all of them there is a "few" and a "little."

Moreover, if there is an idea of a line, and the Idea is the first of quantities so called, and if the parts are logically prior to the whole, this unit line must be indivisible, and the same argument will apply to the square, triangle, and other figures, and generally speaking to a plane figure or to any other body; for there must be some unit prior in their case too.

Again, if there are elements in a body, and there is nothing prior to the elements, and if the parts are prior to the whole, fire and, generally speaking, each of the elements of the body would be indivisible, so that there must be a unit without parts, not only in the world of thought, but also in the world of perception.

Again, according to the argument of Zeno, there must be some magnitude without parts, since it is impossible to touch an infinite number of things in a finite time, when touching each of them, and that which moves must first reach half-way, and half clearly belongs to that which is not without parts. But if anything travelling along a line touches an infinite series in a finite time, secondly if the faster it travels the greater the space it covers in the same time, and lastly if the movement of thought is the quickest movement, then even thought must touch an infinite series one by one in a finite time. If, then, thought touching the series one by one is counting, then it must be possible to count an infinite series in finite time. If this is impossible, then there must exist an indivisible line.

The next argument, we are told, is used by the mathematicians to prove that the indivisible line must exist, if we admit that "commensurate" lines are those which are measured by the same unit, and all the lines measured are "commensurate." For there must be some length by which they are all measured. And this must be incapable of division. For if it is divisible, then its parts can also be expressed in the terms of some unit. For they are commensurate with the whole. So that the measurement of each part would be double its half; since this is impossible the unit of measurement must itself be indivisible.

Again, just as the lines built up from the unit of measurement are all composed of units without parts, so also must those be which are once measured by it. The same thing will also happen in plane figures; for all the squares on rational lines are commensurable with each other, so that their unit of measurement will also be without parts. Moreover if any one of them is cut (on any unit) by a fixed and finite line, this line will neither be rational nor irrational, nor will belong to any of the categories to which the rational functions belong, such as "apotome" or "of two terms"; but in themselves they have no natural characteristics, though they will be rational or irrational in relation to each other.

Now in the first place it does not follow that what admits of infinite division is not either "small" or "little"; for we can apply the term "small" to space, and size, and generally to anything which is continuous, and in a similar way we apply the term "little" where it is applicable, not but what we admit that they have infinite divisions.

Secondly, if among commensurables there are lines, we can apply the term "small" to these indivisible units, and they themselves contain an infinite number of points. But in so far as it is a line it admits of division at a point, and similarly at any other point; consequently every line which is not indivisible must have an infinite number of divisions.

Now some of these divisions are small; and possible ratios between the divisions are infinite. It is possible for every line which is not indivisible to be cut in accordance with any given ratio.

Moreover, if "great" is compounded of a number of "smalls," "great" either has no meaning at all, or "great" will be that which has finite divisions. For the whole must be susceptible of the same divisions as its parts. But it is illogical to suppose that the small has finite divisions and the great infinite; yet this is what they claim.

So it is clear that the terms "great" and "small" are not applied because the one has finite, and the other infinite, divisions. Again, if any man claims that because in numbers the “little” has finite divisions, the “small” in lines must do the same, his argument is foolish. For in the case of numbers *a* the whole is built from units which have no parts, and there is some unit which is the basis of all numbers, and every number which is not infinite has finite divisions; but the same thing is not true of magnitudes.

But those who build up their theory of indivisible lines on Ideas have, I fancy, too slight a basis for the superstructure, the supposition that there are Ideas of these indivisible lines; and in a certain sense they destroy their own argument by their demonstration. For the whole theory of Ideas is destroyed by their arguments.

Again, in the case of bodily elements it is foolish to maintain that they are without parts. For, if any do actually demonstrate this, they are for the purpose of the argument under discussion assuming the major premiss of the argument. And the more this major premiss is assumed, the more does it appear that the body and length are divisible both in two dimensions and in one.

Again, Zeno’s reasoning does not prove that what moves along a line touches an infinite series in finite time on this same plan. For “time” and “length” must be called both infinite and finite, and admit of the same divisions.

Again, the process of the mind touching an infinite series one by one is not the process of counting, if indeed anyone supposes that the mind does in this way touch an infinite series. Perhaps this supposition is in itself impossible; for the movement of the mind does not take place like the movement of travelling bodies in continuous matter.

But to resume — even if its movement can be of this kind, this is not counting. For counting involves a series of pauses. But it is perhaps quite unreasonable that those who have failed to solve the riddle should be subservient to their own weakness, and should cheat themselves still more in an effort to reinforce their incapacity.

As for the argument about commensurate lines, namely that all lines are measured by one and the same unit of measurement, this is merely chopping logic, and does not agree with mathematical assumptions; for the mathematician does not lay this down, and it would be of no use to him if he did. In fact the two statements are actually contradictory — that all lines are commensurable, and that there is a common measure of all commensurable lines.

So their position is absurd; after professing that they are going to demonstrate the mathematicians’ own opinions, and to argue from their statements, they merely relapse into a contentious and casuistical argument, and a weak one at that. For it is weak from many points of view, and in every way fails to escape both contradictoriness and refutation.

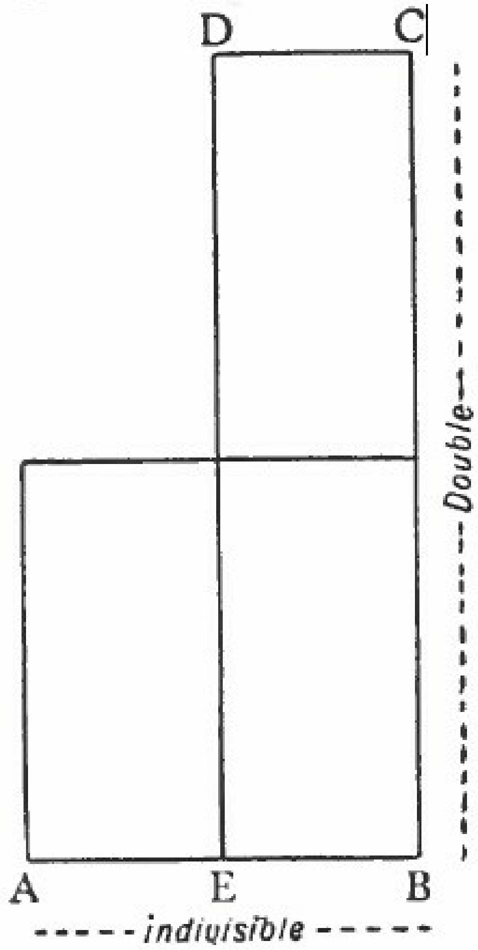
Moreover it is unreasonable for them to be led astray on the one hand by the reasoning of Zeno, and presume the existence of indivisible lines merely because they cannot disprove their existence; and on the other to be unimpressed by the arguments both from the movement of a straight line in a semicircle, which must clearly touch all the infinite points of the circumference and its divisions, and again to neglect the convincing fact about a circle that there must be movement of some such kind, if the radius moves in a semicircle,” and all the other theorems demonstrated about lines showing that movement is impossible of such a kind that it does not fall upon all the intervening points in turn; for these theorems are far more universally admitted than the others.

It is, then, clear from the arguments we have adduced that it is not inevitable nor even plausible that indivisible lines should exist. But from what follows it will become still more obvious. First of all from theorems demonstrated and laid down as axiomatic in mathematics, which must either be accepted or removed by more convincing arguments.

For neither the definition of “line” nor of “straight line” will fit in with the “indivisible line,” because it does not lie between points nor has it a middle point.

Secondly all lines will be commensurate on the assumption of indivisible lines. For all lines will be measured by indivisible lines, both those which are commensurable in length and in their squares. But indivisible lines are commensurate in length; for they are all equal; so they must also be commensurate in their squares. If this is true, then every square will be rational.

• The following (taken from Apelt's Introduction) are the figures to which the author refers.

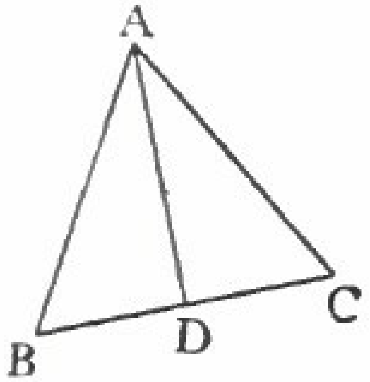


(1) The rectangle EDCB is constructed so as to be equal to the square on AB. Then one side of this rectangle will divide AB in half, which (AB being by hypothesis indivisible) is impossible.

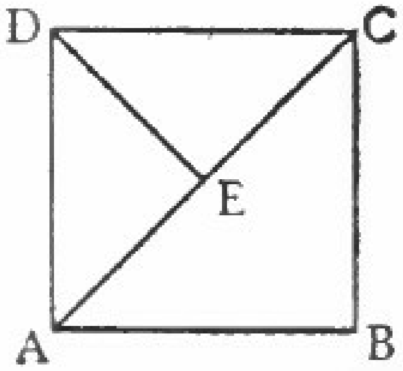
Again, seeing that the line applied to the longer side determines the breadth of a rectangle, the rectangle which is equal in area to the square on the indivisible line (suppose it to be one foot long) will, when applied to a line twice the length, have a breadth shorter than the indivisible line (which is *a priori* impossible); for its breadth will be less than that of the square on the indivisible line. *(See note a* (1).)

Again, since a triangle can be made from three given straight lines, it will also be made from three indivisible lines. Now in every equilateral triangle the perpendicular from any angle bisects the base and so must divide the indivisible line. *(See note a* (2).)

(2) ABC is an equilateral triangle, and AD the perpendicular dropped on BC from A. This figure produces exactly the same impossibility as the last.



(3) ABCD is a square, of which AC is the diagonal. A perpendicular is dropped from D to the diagonal. Here again we have the same impossibility.



(2) — ABC is an equilateral triangle, and AD the perpendicular dropped on BC from A. This figure produces exactly the same impossibility as the last.

(3) — ABCD is a square, of which AC is the diagonal. A perpendicular is dropped from D to the diagonal. Here again we have the same impossibility.

Again, if a square can be made of indivisible lines, then when a diagonal is drawn and a perpendicular dropped on it from an angle, the side of the square will equal the perpendicular plus half the diagonal, so that it will not be the smallest line. *(See note a* (3).)

Nor will the area which is the square on the diagonal be double the square on the indivisible line. For when the equal part is taken away, the remainder will be less than the indivisible line; but if it were equal, then the square on the diagonal would be four times that on the original square; one could of course collect other examples; for they are opposed practically to all mathematical principles.

Again, there is only one way of joining what has no parts to anything else, but two ways in the case of a line; for two lines may be joined lengthways, or on the other hand, end to end.

Again, a line fitted to another side by side will not make the whole any greater; for lines without parts when put together will not make them any longer.

Again, no continuous length can be made out of two lines without parts, for every continuous length can be divided into more than one part, and if every line is continuous in contrast with an indivisible line, then there can be no such thing as an indivisible line.

Again, if in contrast with the indivisible line every line can be divided into equal and unequal parts, even if it is constructed out of three indivisible lines or generally speaking out of any odd number, the indivisible line will be capable of division. Equally so every line can be cut in half; for every line made up of odd numbers will involve bisection of the indivisible line. But if no such lines can be bisected, unless they are composed of an even number of lines, even in this case it must be possible to divide a bisected line any number of times, and thus the indivisible line will be divided, whenever the line composed of an even number of parts is divided into unequal parts.

Again, if the moving object moves over half the line in half the time it takes to move over the whole line, it also moves over less than half in less than half the time, so that if the whole length is composed of an odd number of indivisible lines the bisection of indivisible lines will be seen again, if it covers half the length in half the time; for the time and the line will be divided in proportionate divisions. So that none of the component lines will admit of equal and unequal divisions; if they are divided proportionately to the time, they will not be indivisible lines. And yet, as has been said, constructing all these things from lines without parts belongs to the same argument.

Again, everything which is not unlimited has two limits; for by these the line is defined. But the indivisible line is not unlimited, and so will possess a limit. Therefore it is divisible: for the limit is not the same as that of which it is the limit. Or else there will be a line which is neither unlimited nor limited, beyond these two categories.

Again, there will not be a point in every line; for there will be no point in the indivisible line; for if there were one and one only, a line would be a point; if there are more than one, then the line is divisible.

But if there is no point in the indivisible line, then there is not generally in any line; for the other lines are made up of indivisible lines.

Again, (if such points exist in a line) there will be either nothing between them, or a line; if there is a line between, and more than one point in all lines, then the line will not be indivisible.

Again, it will not be possible to construct a square on every line; for a square will have length and breadth, so that it is divisible, since both its length and its breadth are quantities. But if the square is divisible, so also is the line upon which it is constructed.

Again, the limit of a line will be a line, and not a point. For the limit is the ultimate thing, and the indivisible line is ultimate. For if a point is the limit, the point will be the limit of an indivisible line, and a line will then be greater than another line by a point. But if the limiting point is within the indivisible line, because two connected lines have the same limit, there will be a limit to the line without parts. Generally speaking, then, what will be the difference between a point and a line? For in comparison with the point the indivisible line will have no property peculiar to it except the name.

Again, in the same sense, the plane figure and the solid will be indivisible. For if the one is indivisible, it will follow that the others are so, for the one is divided by means of the other. But the solid is not indivisible because it contains both depth and breadth; then a line cannot be indivisible; for a solid is formed by the addition of a line to a plane surface, and a plane surface by the addition of a line to a line.

But since the arguments by which they attempt to prove their case, are not only feeble but even false, and their opinions are opposed to all those which carry conviction, it is evident that there cannot be an indivisible line. For nearly all the same arguments will apply.

For instance, it must be possible to divide the point, when a line consisting of an odd number of points is divided into equal parts, or one consisting of an even number of points into unequal parts; also, the part of a line would not be a line, nor the part of a plane figure a plane figure.

Also, one line would have to be greater than another by a point; and it will then be greater than the elements out of which it is composed. That this is impossible is obvious from the principles of mathematics, and a further consequence will be that a travelling object will pass over a point in a definite time, since it travels over a greater distance in a longer time, and an equal distance in an equal time, but the excess of one time over another is in itself a time.

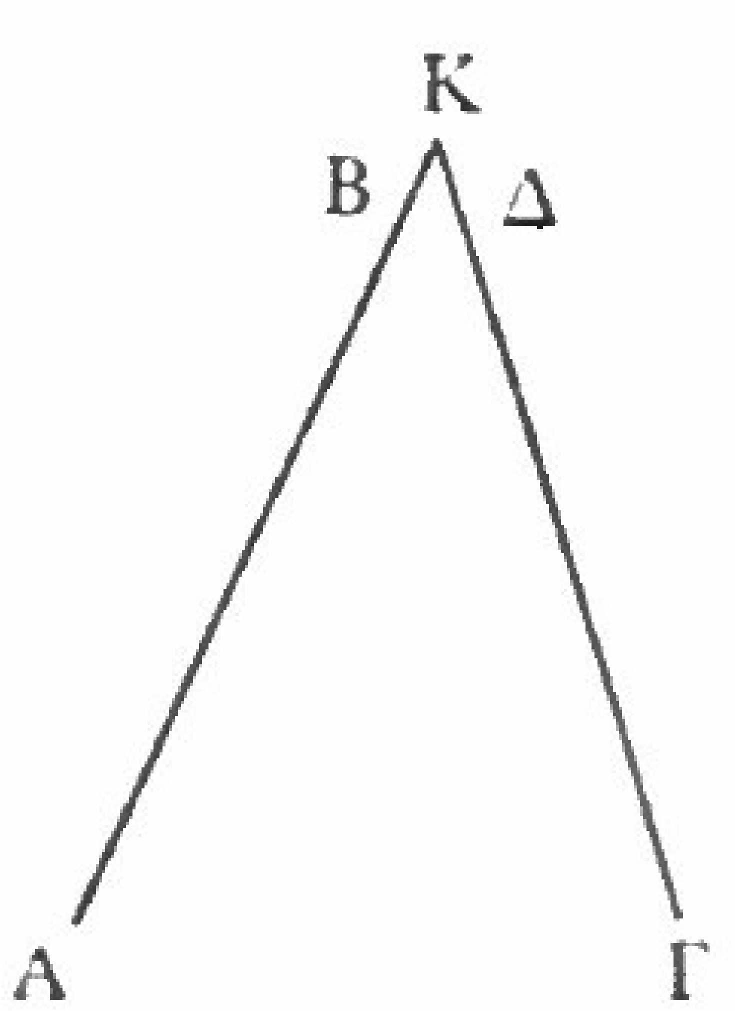
But perhaps time consists of a succession of “nows,” and both ideas belong to the same theory.

But if a “now” is the beginning and the limit of time, and a point is in a similar relation to a line, the beginning and the end cannot be in themselves continuous, but there must be something in between, so that neither the “nows” (in time), nor the points (in a line) could by themselves form a continuous whole.

Again, the line is a certain magnitude, but an aggregation of points produces no magnitude, because such an aggregation fills no greater space. For when a line is added to a line and fitted on to it, the width does not increase.” If, then, points constitute lines, the points, however many, would occupy no larger space, so that they could not produce a magnitude.

Again, if they all touched every point, whether the whole was in contact with the whole, or a part with a part, or the whole with a part, and since the point is indivisible, the contact would be the whole with the whole. But the whole in contact with the whole must produce a unit. For if anything belongs to one which does not belong to the other, then the whole is not in contact with the whole. But if the indivisible parts are all in one place, then a number of things occupy the same space which was formerly occupied by a unit; for in the case of two things, which are together and yet have no power of extension, the same space must serve for both. But since what has no parts cannot have dimensions, nothing composed of units without parts can produce a continuous magnitude. Hence it follows that a line cannot be made out of a series of points, nor a time out of a series of “nows.”

Moreover, if a line were composed of points, a point would be in contact with a point. Suppose that from K two lines AB and TA are drawn, both the point which terminates ΔK and the point which terminates KΔ will meet in K, so that the two points will be in contact A with each other; for the indivisible touches the indivisible, as a whole touches a whole. So that it will occupy the same space as K, and the points will be in contact with each other in the same place. Conversely, if they are in the same place, they must be in contact; for in the first place things which are in the same space must touch, and, if this is so, the straight line touches a straight line in two points. For the point in AK touches both the points in KΓ, and also another *(i e.,* the next point in AΓ which occupies the same place as K). So that AK touches TA in more points than one. And the same argument applies not merely to two lines in contact but to any number.



Again, the circumference of a circle would touch the tangent in more points than one. For both the point on the circumference and the point on the tangent are touching the point of contact, and each other. If this is impossible, then a point cannot touch a point; but if it cannot, then a line cannot consist of points; for otherwise it would be in contact.

Again, how will it affect the question of straight lines and curves? For there can be no difference between the contact of points in the straight and in the curved line. For the line without parts touches a similar line over all its length, and cannot touch it in any other way. If, then, there are lines of different kinds and no different kind of contact, a line will not depend on the elements of its construction, and so does not depend on points.

Again, the points must either be in contact with each other or not. If they are in contact in series, the argument is the same; if it is possible for the series to be continuous without contact, still by continuous we mean nothing except something whose component parts are in contact, so that on this supposition also the points must touch each other, or eke the line cannot be described as continuous.

Moreover, if it is absurd to put a point on a point to produce a line, and a line on a point to produce a plane surface, what they say cannot be true. For if either of the points is continuous then the line will not be cut at either of the points, but in between them; if, on the other hand, they touch, the line will be in the place of one point, and this is impossible.

Moreover, all geometrical figures could be divided and resolved into points, and a point would be part of a solid *(i e.,* have three dimensions), since the solid is constructed out of the plane figure, the plane figure from lines, and lines from points. But if each thing consists of its original elements, then points would be the elements of solid bodies. So that elements would have the same name, and be no different in kind.

So it is clear from what we have already said that the line is not composed of points. Nor can the point be detached from the line. For if it can be so detached, it can also be added. But, when anything is added, that to which it is added will be greater than it was at the beginning, if the addition is of such a kind as to make a complete unit. Then one line will be greater than another by a point. But this is impossible. It is impossible, that is to say, in itself, but incidentally it is possible to take a point away from a line, by the fact of its existence in the line taken away. For if the whole is taken away, the beginning and end must be taken away, and the beginning and end of a line is a point. If, then, it is possible to take away a line from a line, it must be possible to take away a point. But this taking away of a point is only incidental. But if the end touches that of which it is the end — that is either touches itself, or any part of it — and the point also touches it in virtue of its being the end of a line, — then one line is greater than another by a point, and a point will consist of points; for there can be nothing in between two things which touch.

The same argument will apply to division, if division is of a point and if division touches something, both in the solid and plane figure; just in the same way the solid is made up of plane figures, and the plane figure of lines.

Nor, again, is it true to say of a point that it is the smallest component of a line.

For if it is the smallest component of a line, the “smallest” must be smaller than those things of which it is the smallest, but in the line there is nothing but points and lines, and a line is not greater than a point (any more than a plane figure can be called greater than a line), so that the smallest component of a line will not be a point.

Even if the point could be compared to the line, the word “smallest” can only be used of three terms, so that the point could not be the smallest component of a line. Also, there must be a third element in length beyond points and lines; for it is not composed of points. But if everything in space is either a point or a length or a plane figure or a solid, or is composed of these, and if the components of a line are in space (for a line is), and if there is neither a solid nor a plane figure nor any such thing in a line, there will be nothing in a given length besides points and lines.

Further, the term greater can only be applied to the following things in space — a length, a surface, or a solid, and a point is in space, but that which is in a length, besides points and lines, is none of the foregoing, so that the point cannot be the smallest component of a line.

Again, since the phrase “the smallest of the things in the house” is used without any reference to the size of the house, so also in other cases, nor will the smallest thing in a line have any reference to the line, so that the phrase smallest does not apply to the line.

Further, if that which is not” in the house cannot be the smallest of the things in the house, just in the same way in other cases (for a point can exist by itself) it will not be true to say of the point that it is the smallest thing in the line.

Again, the point is not an indivisible joint; for the joint is the limit of two things, but the point is the limit of a single line. Again, the point is an end, but the joint is more a division. Again, the line and plane figure are joints; for they have some analogy with it. Again, the joint is in a sense connected with movement, wherefore Empedocles wrote the line “A joint binds two things”; but a point is among the immovable things. Again, no one has an infinite number of joints in the body, or in the hand, but they have an infinite number of points. Again, there can be no joints in a stone, nor has it any, but it has points.

The Situations and Names of Winds (973a)

Translated by W. S. Hett

Though attributed to Aristotle, the tiny treatise *Ventorum Situs* is a spurious work, which lists winds blowing from twelve different directions and their alternative names used in different places. According to the manuscript version of the work, the text is an extract from a larger work entitled *On Signs* (De Signis), which was most likely written by a member of the Peripatetic school.

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INTRODUCTION

THE heading of this short summary of the winds in the manuscript shows it to be an extract from a work called *De Signis,* not by Aristotle but by some member of the Peripatetic School. Bekker's text has been used for the translation, but it has been extensively corrected by that of Apelt, whose edition of 1888 shows a marked advance on the previous German text.

THE SITUATIONS AND NAMES OF WINDS

From Aristotle's Treatise of *Meteorological Signs*

BORRAS. At Mallus this is called Pagreus, for it blows from high cliffs and the parallel ranges of two mountains, which are called Pagrica. At Caunus it is called Meses; and at Rhodes Caunias, as it blows from Caunus and ruffles the harbour of the Caunians. In Olbia by Magydum in Pamphylia it is called Idyreus; for it blows from the island called Idyris. Some there, like the Lyrnantieis at Phaselis, call it Borras. Caecias. In Lesbos this is called Thebanas, for it blows from the plains of Thebes above the Eleatic Gulf in Mysia, and ruffles the harbour of the Mityleneans, and especially the Malian, but among some the wind is called Caunias which others name Borras. Apeliotes. In Tripolis in Phoenicia this is called Potameus, and it blows from a plain like a huge threshing-floor, which is surrounded by the mountains Libanus and Bapyrus; hence it is called Potameus. It ruffles the harbour of Poseidonium. In the Issic Gulf and about Rhosus it is called Syriander; it blows from the Syrian gates, which the Taurus and Rhosian mountains divide. In the gulf of Tripolis it is called Marseus from a village Marsus. At Proconnesus, Teos, Crete, Euboea and Cyrene it is called Hellespontias. It specially ruffles the harbour of Capheres in Euboea and the harbour of Cyrene, which is called Apollonia; it blows from the Hellespont. In Sinope it is called Berecyntias, blowing from parts of Phrygia. In Sicily it is called Cataporthmias, blowing from the strait. Some also call it Caecias, adding the title Thebanas.

Eurus. At Aegae in Syria it is called Scopelus from the Rhosian crag *(skopelos),* and at Cyrene Carbas from the Carbanes who dwell in Phoenicia; wherefore some call it Phoenicias. Some also believe it to be the Apeliotes.

Orthonotus. Some add the title Eurus and some Amneus. Notus has the same name everywhere. Its name is due to its bringing disease (nosos), apart from its being showery (notios), so there are two reasons for its name. Similarly with Leuconotus; its name is due to an accidental property; for it bleaches... Lips. This name is derived from Libya whence it blows. Zephyrus.

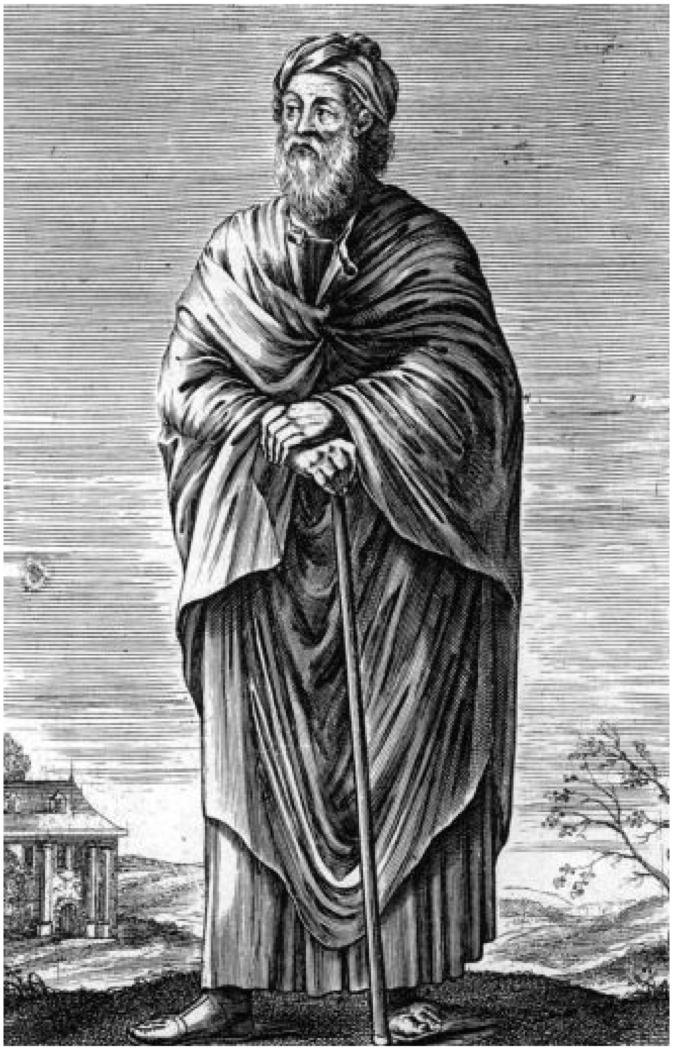
This derives its name from the fact that it blows from the west.... Iapyx. At Tarentum this is called Scylletinus from a place Scylletium. At Dorylaeum it is called Phrygias, and by some Pharangites, for it blows from a certain gorge at Pangaeus. Among many it is known as Argestes. Thracias, called Strymonias in Thrace, because it blows from the river Strymon, and in the Megarid Scirron from the Scirronides rocks, and in Italy and in Sicily Circias because it blows from Circaeum. In Euboea and Lesbos it is called Olympias, and its name comes from Pierian Olympus; it gives trouble to the Pyrrhaei.

I have written down for you also the situation of the winds, where they are situate and whence they blow, drawing in a chart the earth's circumference, in order that these things may be set before your eyes.

On Melissus, Xenophanes, and Gorgias (974a)

Translated by W. S. Hett

This short collection of three studies of philosophers was falsely attributed to Aristotle, being likely written during the 1st century AD. or later by a member of the Peripatetic school.



Xenophanes of Colophon (c.570 – c.475 BC) was a Greek philosopher, theologian, poet and religious critic. He forms the subject of one of these spurious works.

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INTRODUCTION

THE Greek text of Bekker is largely untranslatable. Apelt, by a careful recension of a manuscript not used by Bekker, has cleared up a great many obscurities, and by the kindness of Messrs. Teubner this text has been used for the translation in this volume. The notes of Professor J. Cook Wilson in the *Classical Review* (Vol. VI) have also been consulted, and a few alterations made in Apelt's text in accordance with them. The difficulties of the manuscript may be gathered from a comment of a scribe who copied out one of them.

"The original is too mutilated, so no one need blame me. As I see, so have I written." Even the title in Bekker's text is wrong.

ON MELISSUS

MELISSUS maintains that if anything exists it must be eternal, on the ground that it is impossible for anything to come into existence from nothing. (1) Whether everything has come into existence or only some things, they are in either case eternal; otherwise they would have come into existence from nothing. For if we suppose that everything has come into existence, then nothing existed beforehand; supposing, on the other hand, that some things existed, and that others were added thereto, then the body of existence would have grown more and larger. And its increment would have come into existence from nothing; for the more cannot exist in the less, nor the greater in the smaller. (2) But anything eternal must be infinite, because it has not a beginning from which its existence arose, nor any end into which it could ever terminate (for it is universal). (3) Again, anything eternal must be a unity. For if it were two or more, these would terminate in each other. (4) One again must be in every way homogeneous; for if it were not homogeneous, being plural, it could not be a unity, but would be many. (5) The eternal, then, being infinite and homogeneous in every way, the unity must be immovable. For it could not move unless it passed into something. In that case it must pass either into what is full or into what is empty. Of these two what is full cannot receive it, and what is empty has no existence. (6) This being the nature of what exists the unity is insensible to pain and sorrow, but is healthy and free from disease, neither showing any alteration in position nor betraying any change in form, nor any mixture with anything else. For in any of these cases the unity would become plural, the non-existent would be born, and that which does exist would be destroyed. And this is impossible. For if we were to say that the unity could be a mixture of many things, and that many things could move into each other, then the mixture would be either a kind of composition of many things in one, or by a different change there would be a laying of each ingredient on another; in the former case the elements mixed would be obviously separate, and in the latter each layer would become apparent by rubbing, as the first layers put under one another were removed; neither of which things happens in fact. In these ways only they could be many and could appear to us as they actually are. So that since this is impossible, what exists cannot be multiple, and to suppose so is an error. As many other things which appear true by sense. But this does not do away with the argument that things which exist come into existence, that what is one is not multiple, and that this is infinite and in every way homogeneous.

In the first place, one must not begin by adopting any opinion, but only those which have the soundest foundations. So that if all apparent truths are not correctly assumed, perhaps we have no right to subscribe to this theory, that nothing can arise out of nothing. For this opinion may also be one of the incorrect, which all of us assume from perception in many cases. But if all appearances are not false, but some of them are correct suppositions, either pointing to the real opinion which is, or at any rate to those which appear most correct, we must assume these; and these must always be regarded as more sure than those which are to be demonstrated from arguments of the other kind. For if there were two contradictory opinions, as he thinks (for he says that if there are many things, coming into existence must take place from what does not exist; but if this is impossible, then the things existing cannot be plural; for, as it does not come into existence, that which is must be infinite; but if this is so it is also a unity), in the same way if we admit both contentions, there is not more proof that it is one than that it is many. But if the one is better substantiated, then the conclusions arising from it are better proven. We chance then to be confronted with two propositions — *(a)* that nothing can come into existence from nothing, and (6) that what exists is plural and moving — and of the two the latter is more credible; everyone would rather reject the former view than the latter. If, then, it is true that the statements are contradictory, and that “growing out of the non-existent,” and “the present existence of many things” cannot both be true, then these views would be refuted by each other. But why should this be the case? Perhaps one could state a thesis that contradicts these. For Melissus has not proved anything by showing that the premiss from which he starts is correct, nor any more certain than that concerning which he is arguing. For it may be regarded as more probable that something should arise from nothing than that many things should not exist. In fact it is very commonly said that things which do not exist do come into existence, and that many things arise from what does not exist; and this is the opinion not merely of chance persons, but some men with reputations, as philosophers have said it too. So Hesiod says “first of all there was created Chaos, then the broad-bosomed earth, ever the safe foundation of all things, and then Love which belongs to all the Immortals.” All the rest of the universe he says grew out of these, but these out of nothing. Many others, again, say that nothing exists but everything is becoming, stating that what is becoming does not arise from what exists. For in that case everything would not come into existence. So that this is clear, that some at any rate believe that things come into existence from what does not exist.

But shall we now leave the question whether his conclusions are possible or impossible? It is now proper to inquire whether his conclusions follow from his premisses, or whether there is anything to prevent others being drawn; perhaps this is really a different question to the other. Admitting his first assumption that nothing can come into existence from what does not exist, does it follow that everything has not come into existence? Or is there anything to prevent one thing arising out of another, and this from being an infinite process? Or they might travel in a circle, so that each one arose out of the next, something always existing and each arising from each in an endless series. So there is nothing to prevent all things from having come into existence, even assuming that nothing can arise from what does not exist. None of the terms attached to unity prevents us from applying the term infinite to the existent. For it is said, and he himself attaches to the infinite the fact that it is equivalent to all. Also, even if things existing are not infinite there is nothing to prevent their birth taking place in a circle. Again, if everything is in a state of becoming and nothing exists, as some say, how could they be eternal? But he speaks of existence as something real and admitted. For he says, if a thing has not come into existence, but yet exists, it must be eternal on the assumption that existence is inherent in things. Furthermore supposing that it is impossible for what does not exist to come into being, and for what exists to be destroyed, all the same what is there to prevent some things from coming into being and existing and others from being eternal, as Empedocles himself really admits? For he has in reality admitted all these things himself when he says that, “It is impossible that anything can come into being from what does not exist, and incredible and unworkable that what exists should be destroyed, for it will ever be in the place where someone has fixed it”; yet at the same time he says that some existing things are eternal, fire, water, earth and air, and that all else arises and has arisen from these; for he says there is no other possible birth for things that exist, "other than mixture and interchange of the parts mixed; this is what men call natural process." He states that for the eternal and the existent there is no process of developing into existence, since he believes this impossible. For he says; "How could anything increase the sum total, and whence could it come?" But the many, he thinks, comes into being by the mixing and putting together of fire with the elements combined with fire, and by their parting and separation they are destroyed again, and that the many exist by mixture and by separation, but that in nature there are only four elements apart from the causes, or else only one. If then, the elements by whose composition creation takes place, and by whose separation destruction ensues, are entirely infinite, as some allege that Anaxagoras says, what comes into existence would do so from what is always existent and is infinite, and thus all this would not be eternal, but some becoming and having become from what is, and being destroyed into other forms. Again, there is nothing to prevent the sum total of existence from being one form, as Anaximander and Anaximenes say, the former stating that the whole is water, and Anaximenes that it is air, and all the other philosophers who have maintained that the whole is one, and that this appears under varying forms, and in different degrees of number and size, and differs by its rarity and density, both what exists and what is coming into existence being many and infinite, and producing the whole. Now Democritus maintains that water, and air, and each of the many being essentially the same only differ in rhythm. What, then, is there to prevent the many from coming into existence and being destroyed in this way, what exists continually changing into what exists by the aforesaid differences in the one, and the sum total never becoming either more or less? Again, what is there to prevent bodies coming into existence from other bodies and again being resolved into bodies, and in this way by being dissolved coming into existence and being destroyed again in equal balance? But if one can agree to this and a thing might exist and yet never be born, why should it be further proved infinite? For he says that it is infinite if it exists and has not come into being. This he states on the ground that the beginning and the end of becoming are limits. And vet what is there in the previous argument to prevent a thing which has not come into existence from having a limit? For he claims that, if it has come into existence, it has as a beginning that from which it began to come into existence. What then, is there to prevent this having a beginning, even if it has not come into existence? Not of course, that from which they came into existence but another, and from their all having limits in relation to each other supposing that they are infinite? Again, what is there to prevent the sum total from being infinite because it has not come into existence, and the things which become in this sum total from being limited, seeing that they have the beginning and end of becoming? Again, as Parmenides says, what is there to prevent the sum total, even if it is one, and does not come into existence, from being limited, and from being "everywhere like unto the mass of a well-shaped sphere, each point on the circumference being equidistant from the centre for no measurement may be longer or shorter either in one direction or in another." Seeing that it has a centre and extremes, it has a limit, although it has not come into existence. Again, being infinite if, as he says, the whole is one, and is a body, it has different parts of itself, but all its parts are like each other (for he declares the whole to be alike in this sense, not as one thing to another, which, you see, proves it limited, if the infinite is alike — for its likeness is like another, so that being two or more it could not be one or infinite — but perhaps he means like itself, and that the whole is alike in the sense that its parts are alike, all being water or earth or something else; for it is clear that he believes it one), but each of the parts being a body is not infinite (for the whole is infinite), so that these have a limit in relation to each other, without coming into existence. Further, if it is eternal and infinite, how could it be one, seeing that it is a body? For if its parts were unlike, he himself would admit that it was many. But if it is all water or all earth, or whatever it may be, it would have many parts, as even Zeno undertakes to prove that what is thus existent is one. Then its parts would be more than one, some being less than others and some smaller, so that it would be in every way different from one with no body either added or subtracted. But if it is not a body, and has neither breadth nor length, how could it be infinite? What, then, is there to prevent such things from being many and countless? What is to prevent their being infinite in size, even if they are more than one? As also Xenophanes says that the depth of the earth and the air are unlimited. So also does Empedocles prove this; for he criticizes the view, saying it is impossible if they are thus, as some people say, that they should ever come together. "If the depths of the earth are unlimited and the air is vast, like the things which pour vainly out from the mouths of men, they have but little conception of the whole.” Again, supposing it is one, there is nothing surprising in its not being alike in every part. For if it is all water, or fire, or whatever else it may be, there is nothing to prevent there being several forms of the one existence, though each is similar to each by itself. There is nothing to prevent part being rare and part dense, as long as there is no empty space in the rare; for in the rare there is no empty space isolated among its parts, so that of the whole part is dense and part empty (that which is rare is consistently so all through), but, the whole thing being alike full, the rare part is less full than the dense. But if it is also unborn, and for this reason would be admitted to be infinite, and that it is impossible for one thing to be infinite as well as another, and on this account it is necessary to attach the term one to it, again it is impossible; for how could it be unmoved, if it is quite impossible for a void to exist? For everything moves by changing its place. Now first of all everyone does not agree to this, but some think that there is an empty space, not that this is a body, but such as Hesiod describes Chaos to have been in the beginning, on the ground that there must be a space for existing things, and that this is empty like a vessel we are looking for in the centre. How, he argues, if there were no empty space could anything move? Since Anaxagoras, who concentrated on this problem, found himself content to demonstrate that there is no such thing, and yet believes that existing things move, even though there is no empty space. In the same way too Empedocles says that all existing things are continually moving while fusing together, but does not believe that there is an empty space, saying, “There is nothing entirely empty. Whence, then, could anything come into it?” But when things are collected into one form so as to become a unity, there is nothing, he says, either empty or overflowing. For what is to prevent their being carried into each other’s place and moving from one spot to another, and from this to a third, and then with another change back to the first and so on continually? Moreover, with the change of form which takes place in a thing remaining in the same spot, which others as well as he call change of state, there is nothing from what has been said to prevent things from being moved, when a change takes place from white to black or from bitter to sweet. For the nonexistence of an empty space or the fact that a full one can admit nothing else does not prevent a change of state. So that it is not essential that either everything should be eternal, or that the one should be infinite, but many are infinite. Nor is the one either homogeneous or immovable, neither if there is only one, nor if there is many. But when once this is admitted, there is nothing in his statements to prevent what exists from changing and becoming different; if what is existent is one, and movement belongs to the whole of it, and its differences are only quantitative, and a body changes its state without anything added or subtracted, and if the many is produced by union and separation among each other. This mixture is not likely to be a question of addition or of union of the kind Melissus mentions, in which the parts would be immediately separable, or in layers so that by rubbing off one the second would be seen to be different, but it is more probable that the union is arranged in such a way that one part of the mixture becomes actually part of that with which it is mixed, so that the parts will not be found lying side by side, one by another, but actually fused together. Since, therefore, no one body can be called smallest, each single part is fused with each other part, just as the whole is fused together.

ON XENOPHANES

XENOPHANES says that, if anything exists, it cannot have become, and he applies his conclusions to God. For that which has come into existence must have risen either from like or from unlike. But neither of these is possible. For it is neither natural that like should be begotten by like, any more than that like should beget like (for the same features occur in all equal quantities and their interrelations are similar), nor is it possible that unlike has come into existence from unlike. For he argues that if the stronger could arise from the weaker or the greater from the less, or conversely the inferior from the better, the nonexistent would arise from the existent, or conversely the existent from the non-existent; both of which are impossible. On these grounds then he claims that God must be eternal. Further, he says that if God is the most powerful of all, He must be one. For if there were two or more gods, He would no longer be the most powerful and best of them all. For each of the many being a god would also share His characteristics. For the essence of God and of His power is to rule and not to be ruled, and to be the most powerful of all. In so far then as He is not most powerful He is not God. But supposing that there are many gods in some respects more powerful than each other, and in other respects less so, they would not be gods; for it is the essential nature of God not to be subject to any control. Supposing that there were equal gods none of them would have the nature of gods; for God by nature must be most powerful of all; but that which is equal is neither better nor worse than that to which it is equal. If then God exists, and such is His character, God must be one alone. If this were not so, God could not do whatever He wished. He could not if there were more gods: therefore God must be one. But being one He must be similar in every direction, both having power to see and to hear and all the other senses in every part. For otherwise different parts of God would control and be controlled by each other; which is impossible. Again, Xenophanes says that being alike in all parts He must be spherical; for He cannot be of such a kind in one direction and not in another, but must be of that kind in every part. But being eternal, and one, and spherical He must be neither limited nor unlimited. For non-

Being is unlimited; for this has neither middle, nor beginning, nor end, nor any other part, and this is the character of the unlimited. But Being cannot have the same character as non-Being. If they were more than one they would be limited by each other. But the one is in no way similar to non Being, or to the many; for the one has nothing in which it could reach a limit. Again the one, of the type which Xenophanes declares God to be, could neither move nor be immovable. For non-Being is immovable. For another thing cannot enter into its place, nor it into the place of another. It is only things more than one which move. For one thing must move into the place of another. But nothing could move into the place of the non-Being; for non-Being has no place. If, then, they could change places, the one would be more than one. Two, then, or more than one, could be moved, but what does not exist must be at rest and immovable. But the one can neither be at rest nor be moved; for it is similar neither to non-Being nor to the many. In all respects, then, God is of this kind, eternal and one, alike throughout and spherical, neither limited nor unlimited neither at rest nor movable.

Now to begin with Xenophanes assumes, as Melissus does, that what comes into existence arises from what is. Yet what is there to prevent what comes into existence arising neither from what is like nor from what is unlike, but from what is nonexistent? Again, God is no more unborn than everything else, even if everything has come into existence from what is like or from what is unlike; which is impossible. So that either there is nothing existing except God, or everything is eternal. Again, he assumes God to be strongest of all, when he calls Him most powerful and best. This is not the popular view, which is that the different gods are superior to each other in many ways. Xenophanes, then, did not take this as an admission from popular opinion. It is possible, then, that, in speaking of the pre-eminence of God, he means not that this is His nature in comparison with anything else, but only in comparison with His own disposition, since in relation to another there would be nothing to prevent His excelling not by His own excellence and strength, but by the weakness of others. But no one would wish to describe God as most powerful in this sense, but only because He is as good as it is possible to be, and in His excellence there is nothing lacking; this of course might be true of one who was His equal. There would be nothing to prevent a number from being so, all of them having the best possible disposition, and being superior to all others though not to each other. But, one would think, there are others besides God. For he says that God is most powerful, but this must necessarily be over something. Again, there is no need for God, because He is one, to see and hear in every part; for if He does not see with one part, He does not see worse with this part, but He does not see at all. But perhaps by perception in every part He means that the best possible condition would be if He were alike in every part. But, supposing this were His character, why should He be spherical, and not have rather some other shape, because He hears and has power in every part? Just in this way, when we say of white lead that it is entirely white, we mean nothing but that whiteness is a colour which dyes all parts of it; what, then, is there to prevent our meaning, when we say that hearing, seeing and power lie in every part, that whatever part one takes will always show this characteristic? In this case God need no more be spherical than white lead. Again, how is it possible that God should be neither limited nor unlimited, supposing that He is corporeal and has magnitude, since that is unlimited which has no limit, though it is capable of having such; and a limit is a characteristic of size and number and every quantity, so that if being a magnitude it has no limit, it may be called unlimited? But again, if spherical, it must have a limit. For a sphere has limits, since it has a centre, and these limits are the farthest points from the centre. It must have a centre, if it is spherical; for a definition of the spherical is that which has all its limits equidistant from the centre. It makes no difference whether we say that a body has extremes or limits. But if the non-existent is unlimited, why should not the existent also be unlimited? For what is there to prevent the same things being said of the existent and the non-existent? For no one can now see what does not exist, and one might not now see what does exist; both things can be both said and thought. But what does not exist cannot be white; I suppose, then, that on this account either all existing things are white, to prevent our attaching the same meaning to the existent and the nonexistent, or there is, I imagine, nothing to prevent anything that exists from being not white; and so they will readily allow another negative, namely, unlimited, if, as we have said before, “infinite” depends upon its having, or not having, a limit. So that being is either unlimited or else it has a limit. But perhaps it is absurd to attach absence of limit to what does not exist. For we do not call everything unlimited if it has not a limit, just as we could not call the not-equal unequal. Moreover, why should not God have a limit because He is one, but His limit would not be God. But if God is one only, then both God and His parts must be one only. Again, this too is absurd, that if it falls to the lot of many to have a limit in each other, on this account the one has no limit. For many of the same qualities belong to the many and to the one, since existence is common to both of them. It would be unreasonable if we were to say on this account that there is no God, because the many exist, and He cannot therefore resemble the many in this way. Again, what is there to prevent God from being limited and having limits because He is one? So Parmenides says that being one He "is in every way like to the circle, all points in the circumference being equidistant from the centre." For presumably the limit of everything must exist, but it need not end in anything, nor need what has a limit have its limit in anything, as for instance when its limit is the unlimited next to it in series, but that which is limited must have extremities but need not have them ending in anything. Some things may have both qualities, that is, are limited and impinge on something else, but others may be limited but not be limited by anything else. Again, on the question of being and not being unmoved, on the ground that what is non-existent does not move, perhaps it is just as absurd as the former. Again, no one would suppose that not being moved and being unmoved were the same thing; not being moved is merely a negation of moving (just as not-equal is a negation of equal), which can truthfully be predicated of the non-existent, but unmoved is the attribution of a certain positive quality, like unequal, and implies the opposite of being moved, namely keeping still, almost as the privative alpha makes words mean their opposites. Not being moved is a true description of the non-existent, but being at rest cannot be attributed to the non-existent. In the same way it cannot be unmoved, which means the same thing. But Xenophanes applies the term "at rest" to the non-existent, and says that the non-existent is at rest, because it admits no change of place. As we said above, it is absurd, if we attach any attribute to the non-existent, to say that therefore it cannot be applied with truth to the existent, especially if what is said is a mere negation, such as not-moving and not-changing position. For, as has been said, it would make it impossible to attribute many things to what exists. It would not even be true to say that the "many" is "not one", since what does not exist is also "not one."

Again, in some cases contraries seem to arise from the actual negations; for instance, one of the terms equal and unequal must apply, whether we are dealing with numbers or magnitudes, and odd and even must apply if we are dealing with numbers. Possibly in the same way the terms “at rest” or “in motion” must apply if we are dealing with a body.

Again, if God, or the one, does not move because the many move by passing into each other, what is there to prevent God from moving into another place? For he never claims that God is the only existent, but that only one God exists. If this is the case, what is there to prevent God from moving in a circle by His parts moving into each other? For he will surely not say, as Zeno does, that a one of this kind is really many. For he himself says that God is a body, whether this body is the “all” or whether he calls it something else. For if God were not corporeal, how could He be spherical?

Again, the only case in which God could neither be at rest nor moving would be if He existed nowhere. Since God is a body, what prevents that body from moving, as has been said?

ON GORGIAS

GORGIAS maintains first, that nothing exists; secondly, that if anything exists it is unknowable; and thirdly, that if anything exists and is knowable, it cannot be demonstrated to others. To prove that nothing exists, he combines the statements made by different people, who in discussing the question of Being have apparently made contradictory assertions; some say that Being is one and not many, others that it is many and not one, some that it has never come into being, and others claim that it has; he attempts to draw his conclusions from both sides. For he says, if anything exists, it is either one or many, and either has not come into existence or it has. If, then, it happens that it is neither one nor many, neither born nor unborn, it would be nothing. If then, there were anything, it would be one of these two things. To prove that it is neither one nor many, neither unborn nor born, he tries to prove partly on the lines of Melissus and partly on those of Zeno, after the first demonstration of his own, in which he says that neither Being nor not-Being can exist. For if Not-Being is Not-Being. Not-Being IS no less than being. For Not-Being IS Not-being, and Being IS also Being, so that things exist no more than not exist. If Not-Being exists, then Being, which is its opposite, does not. For if Not-Being exists, then Being and Not-Being seem to be the same. On these grounds, he says, nothing could exist, unless Being and Not-Being are the same thing. And if they were the same thing, on these grounds too nothing would exist; for Not-Being does not exist, and the same applies to Being, since it is the same thing as Not-Being. This, then, is his argument.

Now it does not follow from any of his statements that nothing exists. His own demonstration is thus disproved. If Not-Being exists, either it exists in the ordinary sense of the term, or in the sense in which Not-Being does not exist. Now this is not apparent, nor is it a necessary conclusion; supposing, then, there are two things, one of which is, and one only seems to be, the one exists, but the other is not true, because it is non-existent. Why, then, should there be neither Being nor Not-Being? Both, and not only one, are possible. For he says Not-Being would exist no less than Being, if Not-Being had any existence, whence he states that Not-Being has no existence of any sort. But even if Not-Being IS Not-Being, Not-Being need not BE in the same sense as Being IS *a;* for the former simply is Not-Being, but the latter also exists. Even if it were possible to apply the word IS in its truest sense, how absurd it would be to say that Not-Being IS. And even if it were, would it be any more reasonable to say that everything IS not rather than IS? In this case the opposite seems to be true. For if Not-Being can be said to exist, and Being also exists, then all things exist, for both things which are and those which are not exist. For it does not follow that if Not-Being exists Being does not exist. If, then, anyone were to agree both that Not-Being exists, and that Being does not exist, even in this case something would exist; for according to his argument Not-Being would exist. If, then, Being and Not-Being are identical, in this case nothing can be said to exist any more than not to exist. For, as he himself says, if Not-Being and Being are identical, then neither Being nor Not-Being has any existence, so that nothing exists, and changing the argument round it is just as true to say that everything exists. For both Not-Being and Being exist, and therefore everything exists. After this argument Gorgias says that if anything exists it is either unborn or born. If it is unborn he maintains by the axioms of Melissus that it is infinite; and the infinite, he says, is nowhere. For it can neither be in itself nor in another: if it existed in another there would be two infinites, that which is in something and that in which it is: and according to Zeno's discussion on Space, that which is no-thing must be no-where. For this reason, then, it is not unborn, nor can it be born. For nothing could be born either from Being or from Not-Being. For if it were born from Being, it would have changed, which is impossible; for if it were to change, it would no longer be Being, just as if Not-Being were to be born, it would no longer be Not-Being. Again it could not be born from Being, for if Not-Being does not exist, clearly nothing could be born out of nothing; but if Not-Being does exist, it could not be born from Not-Being, for the same reason as it could not be born from Being. If, then, it is inevitable, that if anything exists it is either unborn or born (and this is impossible), then it is impossible for anything to exist. Again, if anything exists, he says it must be either one or many; if it were neither one nor many, it could not exist. He says it cannot be one, because one is really not corporeal, as it has no magnitude: which is disproved by Zeno's argument. If, then, it is not one, it could not exist at all. For if it is not one, it cannot be many. But, he argues, if it is neither one nor many, it does not exist at all.

Again, he says that nothing can be moved. For if it were moved, it would not be the same as it was before, but Being would have become Not-Being, and Not-Being would be born. Again if it has any motion whereby it can change its place, not being continuous it suffers division, and at the point where Being is divided, it does not exist; so that if it moves in every part, it is divided in every part. If this is the case, it ceases to exist in any part. For it falls short of Being (so Gorgias says) at the point of its division, and he calls it division instead of Void, as it is described in the works ascribed to Leucippus.

"These, then, he claims as proofs that nothing exists; after this he states his proof that, if anything exists, it is unknowable. For if it could be known, then all subjects of thought must exist and Not-Being, since it does not exist, could not be thought of. But, if this is so, no one, he says, could say anything false, not even if he said that chariots compete in the sea. For everything would be in the same category. So things seen and things heard will exist, because each of them is an object of thought; if this is not the case, if, that is, what we see no more exists because we see it, so what we think no more exists because we think of it (for just as in that case many would see this, and in the other many would think of it), why should it be any more clear, if such things exist? But it is quite uncertain which kind of things is true. So that, if they exist, things must in any case be unknown by us. But even if they are known, how, he says, could anyone communicate them to another? For how could a man express in words what he has seen? Or how could a thing be clear to a man who heard it, if he has not seen it? For just as sight is not the sense which recognizes sounds, so hearing cannot hear colours, but only sounds; and the speaker speaks, but he does not speak a colour or a thing. Anything, then, which a man has not in his own consciousness, how can he acquire it from the word of another, or by any sign which is different from the thing, except by seeing it if it is a colour, or hearing it if it is a sound? For, to begin with, no one speaks a sound or a colour, but only a word; so that it is not possible to think a colour but only to see it, nor to think a sound, but only to hear it. Granting, then, that it is possible to know and read a word, how can the hearer be conscious of the same thing? For it is impossible for the same thing to exist in several separate persons; for then the one would be two. But if the same things were in several persons, there is nothing to prevent it from not being the same in them all, seeing that they are not in *every* way alike, nor in the same place; for if anything were this, it would be one and not two. But even the man himself does not seem to perceive similar things at the same time, but different things with his hearing and with his vision, and different again at the moment and long ago, so that one man can hardly perceive the same things as another. Thus if anything exists, it cannot be known, and if it is known, no one could show it to another; because things are not words, and because no one thinks the same things as another.

All philosophers including Gorgias are here dealing with difficulties of other older thinkers, so that in consideration of their views these must also be examined.

METAPHYSICS

The remains of the Lyceum - a gymnasium and public meeting place in Athens, named after the god of the grove that housed the Lyceum, Apollo. Though best known for its connection with Aristotle and the Peripatetic school, the Lyceum was in existence long before Aristotle's formal founding in 334 or 335 BC and continued under several heads until the Roman general Sulla sacked Athens in 86 BC. These ruins were discovered in Athens in 1996.

Metaphysics (980a)

Translated by W. D. Ross

The τὰ μετὰ τὰ φυσικά is one of Aristotle's most important works, having an immense influence on subsequent philosophical writers across the world. The principal subject is 'being qua being', or being understood as being. It examines what can be asserted about anything that exists just because of its existence and not because of any special qualities it inherits. The treatise also explores different kinds of causation, form and matter, the existence of mathematical objects and consideration of divinity.

The *Metaphysics* is essentially a reconciliation of Plato's theory of Forms that Aristotle had studied at the Academy in Athens, with the view of the world given by common sense and the observations of the natural sciences. According to Plato, the real nature of things is eternal and unchangeable. However, the world we observe around us is constantly and perpetually changing. In his own work, Aristotle reconciles these two apparently contradictory views of the world, resulting with a synthesis of the naturalism of empirical science.

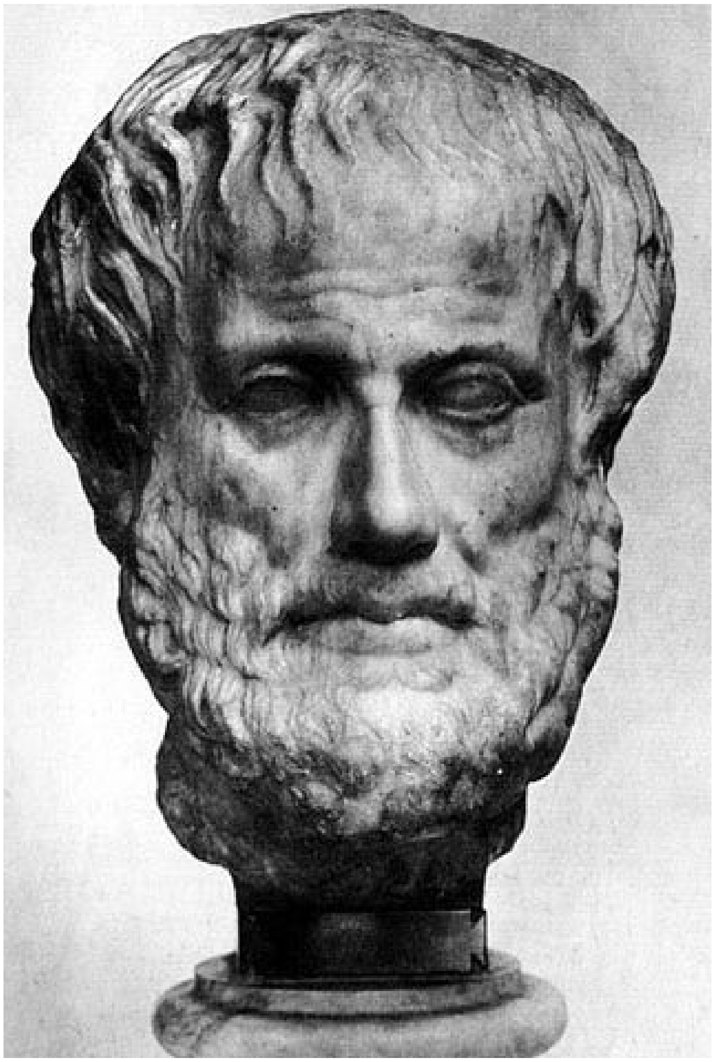
At the heart of the work lie three questions:

- What is existence and what sorts of things exist in the world?
- How can things continue to exist, and yet undergo the change we see about us in the natural world?
- And how can this world be understood?

Due to the arrangement of Aristotle's works by scholars at Alexandria in the first century CE, a number of his treatises were referred to as τὰ μετὰ τὰ φυσικά. This is the origin of the title for collection of treatises now known as

Aristotle's *Metaphysics*, formed of fourteen books in their extant state. Some have interpreted the expression "τὰ μετὰ τὰ φυσικά" to imply that the subject of the work goes "beyond" that of Aristotle's *Physics* or that it is metatheoretical in relation to the *Physics*. But others believe that "τὰ μετὰ τὰ φυσικά" referred simply to the work's place in the canonical arrangement of Aristotle's writings, which is at least as old as Andronicus of Rhodes or even Hermippus of Smyrna. Within the Aristotelian corpus itself, the metaphysical treatises are referred to as τὰ περὶ τῆς πρώτης φιλοσοφίας (literally, "the [writings] concerning first philosophy"); "first philosophy" was what Aristotle called the subjects of metaphysics. It is particularly difficult to specify the date at which Aristotle wrote these treatises as a whole or even individually, due to their varied and diverse nature. It is almost certain that Aristotle did not write the books in the order in which they have come down to us, as their arrangement is due to later editors.

Book I opens with an explanation of "first philosophy", which is a knowledge of the first principles or causes of things. The wise are able to teach because they know the why of things, unlike those who only know that things are a certain way based on their memory and sensations. Because of their knowledge of first causes and principles they are better fitted to command, rather than to obey. Book Alpha also surveys previous philosophies from Thales to Plato, especially their treatment of causes.



Second century BC bust of Aristotle

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Book I

1

ALL men by nature desire to know. An indication of this is the delight we take in our senses; for even apart from their usefulness they are loved for themselves; and above all others the sense of sight. For not only with a view to action, but even when we are not going to do anything, we prefer seeing (one might say) to everything else. The reason is that this, most of all the senses, makes us know and brings to light many differences between things.

By nature animals are born with the faculty of sensation, and from sensation memory is produced in some of them, though not in others. And therefore the former are more intelligent and apt at learning than those which cannot remember; those which are incapable of hearing sounds are intelligent though they cannot be taught, e.g. the bee, and any other race of animals that may be like it; and those which besides memory have this sense of hearing can be taught.

The animals other than man live by appearances and memories, and have but little of connected experience; but the human race lives also by art and reasonings. Now from memory experience is produced in men; for the several memories of the same thing produce finally the capacity for a single experience. And experience seems pretty much like science and art, but really science and art come to men through experience; for 'experience made art', as Polus says, 'but inexperience luck.' Now art arises when from many notions gained by experience one universal judgement about a class of objects is produced. For to have a judgement that when Callias was ill of this disease this did him good, and similarly in the case of Socrates and in many individual cases, is a matter of experience; but to judge that it has done good to all persons of a certain constitution, marked off in one class, when they were ill of this disease, e.g. to phlegmatic or bilious people when burning with fevers-this is a matter of art.

With a view to action experience seems in no respect inferior to art, and men of experience succeed even better than those who have theory without experience. (The reason is that experience is knowledge of individuals, art of universals, and actions and productions are all concerned with the individual; for the physician does not cure man, except in an incidental way, but Callias or Socrates or some other called by some such individual name, who happens to be a man. If, then, a man has the theory without the experience, and recognizes the universal but does not know the individual included in this, he will often fail to cure; for it is the individual that is to be cured.) But yet we think that knowledge and understanding belong to art rather than to experience, and we suppose artists to be wiser than men of experience (which implies that Wisdom depends in all cases rather on knowledge); and this because the former know the cause, but the latter do not. For men of experience know that the thing is so, but do not know why, while the others know the 'why' and the cause. Hence we think also that the masterworkers in each craft are more honourable and know in a truer sense and are wiser than the manual workers, because they know the causes of the things that are done (we think the manual workers are like certain lifeless things which act indeed, but act without knowing what they do, as fire burns,-but while the lifeless things perform each of their functions by a natural tendency, the labourers perform them through habit); thus we view them as being wiser not in virtue of being able to act, but of having the theory for themselves and knowing the causes. And in general it is a sign of the man who knows and of the man who does not know, that the former can teach, and therefore we think art more truly knowledge than experience is; for artists can teach, and men of mere experience cannot.

Again, we do not regard any of the senses as Wisdom; yet surely these give the most authoritative knowledge of particulars. But they do not tell us the 'why' of anything-e.g. why fire is hot; they only say that it is hot.

At first he who invented any art whatever that went beyond the common perceptions of man was naturally admired by men, not only because there was something useful in the inventions, but because he was thought wise and superior to the rest. But as more arts were invented, and some were directed to the necessities of life, others to recreation, the inventors of the latter were naturally always regarded as wiser than the inventors of the former, because their branches of knowledge did not aim at utility. Hence when all such inventions were already established, the sciences which do not aim at giving pleasure or at the necessities of life were discovered, and first in the places where men first began to have leisure. This is why the mathematical arts were founded in Egypt; for there the priestly caste was allowed to be at leisure.

We have said in the Ethics what the difference is between art and science and the other kindred faculties; but the point of our present discussion is this, that all men suppose what is called Wisdom to deal with the first causes and the principles of things; so that, as has been said before, the man of experience is thought to be wiser than the possessors of any sense-perception whatever, the artist wiser than the men of experience, the masterworker than the mechanic, and the theoretical kinds of knowledge to be more of the nature of Wisdom than the productive. Clearly then Wisdom is knowledge about certain principles and causes.

2

Since we are seeking this knowledge, we must inquire of what kind are the causes and the principles, the knowledge of which is Wisdom. If one were to take the notions we have about the wise man, this might perhaps make the answer more evident. We suppose first, then, that the wise man knows all things, as far as possible, although he has not knowledge of each of them in detail; secondly, that he who can learn things that are difficult, and not easy for man to know, is wise (sense-perception is common to all, and therefore easy and no mark of Wisdom); again, that he who is more exact and more capable of teaching the causes is wiser, in every branch of knowledge; and that of the sciences, also, that which is desirable on its own account and for the sake of knowing it is more of the nature of Wisdom than that which is desirable on account of its results, and the superior science is more of the nature of Wisdom than the ancillary; for the wise man must not be ordered but must order, and he must not obey another, but the less wise must obey him.

Such and so many are the notions, then, which we have about Wisdom and the wise. Now of these characteristics that of knowing all things must belong to him who has in the highest degree universal knowledge; for he knows in a sense all the instances that fall under the universal. And these things, the most universal, are on the whole the hardest for men to know; for they are farthest from the senses. And the most exact of the sciences are those which deal most with first principles; for those which involve fewer principles are more exact than those which involve additional principles, e.g. arithmetic than geometry. But the science which investigates causes is also instructive, in a higher degree, for the people who instruct us are those who tell the causes of each thing. And understanding and knowledge pursued for their own sake are found most in the knowledge of that which is most knowable (for he who chooses to know for the sake of knowing will choose most readily that which is most truly knowledge, and such is the knowledge of that which is most knowable); and the first principles and the causes are most knowable; for by reason of these, and from these, all other things come to be known, and not these by means of the things subordinate to them. And the science which knows to what end each thing must be done is the most authoritative of the sciences, and more authoritative than any ancillary science; and this end is the good of that thing, and in general the supreme good in the whole of nature. Judged by all the tests we have mentioned, then, the name in question falls to the same science; this must be a science that investigates the first principles and causes; for the good, i.e. the end, is one of the causes.

That it is not a science of production is clear even from the history of the earliest philosophers. For it is owing to their wonder that men both now begin and at first began to philosophize; they wondered originally at the obvious difficulties, then advanced little by little and stated difficulties about the greater matters, e.g. about the phenomena of the moon and those of the sun and of the stars, and about the genesis of the universe. And a man who is puzzled and wonders thinks himself ignorant (whence even the lover of myth is in a sense a lover of Wisdom, for the myth is composed of wonders); therefore since they philosophized order to escape from ignorance, evidently they were pursuing science in order to know, and not for any utilitarian end. And this is confirmed by the facts; for it was when almost all the necessities of life and the things that make for comfort and recreation had been secured, that such knowledge began to be sought. Evidently then we do not seek it for the sake of any other advantage; but as the man is free, we say, who exists for his own sake and not for another's, so we pursue this as the only free science, for it alone exists for its own sake.

Hence also the possession of it might be justly regarded as beyond human power; for in many ways human nature is in bondage, so that according to Simonides 'God alone can have this privilege', and it is unfitting that man should not be content to seek the knowledge that is suited to him. If, then, there is something in what the poets say, and jealousy is natural to the divine power, it would probably occur in this case above all, and all who excelled in this knowledge would be unfortunate. But the divine power cannot be jealous (nay, according to the proverb, ‘bards tell a lie’), nor should any other science be thought more honourable than one of this sort. For the most divine science is also most honourable; and this science alone must be, in two ways, most divine. For the science which it would be most meet for God to have is a divine science, and so is any science that deals with divine objects; and this science alone has both these qualities; for (1) God is thought to be among the causes of all things and to be a first principle, and (2) such a science either God alone can have, or God above all others. All the sciences, indeed, are more necessary than this, but none is better.

Yet the acquisition of it must in a sense end in something which is the opposite of our original inquiries. For all men begin, as we said, by wondering that things are as they are, as they do about self-moving marionettes, or about the solstices or the incommensurability of the diagonal of a square with the side; for it seems wonderful to all who have not yet seen the reason, that there is a thing which cannot be measured even by the smallest unit. But we must end in the contrary and, according to the proverb, the better state, as is the case in these instances too when men learn the cause; for there is nothing which would surprise a geometer so much as if the diagonal turned out to be commensurable.

We have stated, then, what is the nature of the science we are searching for, and what is the mark which our search and our whole investigation must reach.

3

Evidently we have to acquire knowledge of the original causes (for we say we know each thing only when we think we recognize its first cause), and causes are spoken of in four senses. In one of these we mean the substance, i.e. the essence (for the ‘why’ is reducible finally to the definition, and the ultimate ‘why’ is a cause and principle); in another the matter or substratum, in a third the source of the change, and in a fourth the cause opposed to this, the purpose and the good (for this is the end of all generation and change). We have studied these causes sufficiently in our work on nature, but yet let us call to our aid those who have attacked the investigation of being and philosophized about reality before us. For obviously they too speak of certain principles and causes; to go over their views, then, will be of profit to the present inquiry, for we shall either find another kind of cause, or be more convinced of the correctness of those which we now maintain.

Of the first philosophers, then, most thought the principles which were of the nature of matter were the only principles of all things. That of which all things that are consist, the first from which they come to be, the last into which they are resolved (the substance remaining, but changing in its modifications), this they say is the element and this the principle of things, and therefore they think nothing is either generated or destroyed, since this sort of entity is always conserved, as we say Socrates neither comes to be absolutely when he comes to be beautiful or musical, nor ceases to be when loses these characteristics, because the substratum, Socrates himself remains. just so they say nothing else comes to be or ceases to be; for there must be some entity-either one or more than one-from which all other things come to be, it being conserved.

Yet they do not all agree as to the number and the nature of these principles. Thales, the founder of this type of philosophy, says the principle is water (for which reason he declared that the earth rests on water), getting the notion perhaps from seeing that the nutriment of all things is moist, and that heat itself is generated from the moist and kept alive by it (and that from which they come to be is a principle of all things). He got his notion from this fact, and from the fact that the seeds of all things have a moist nature, and that water is the origin of the nature of moist things.

Some think that even the ancients who lived long before the present generation, and first framed accounts of the gods, had a similar view of nature; for they made Ocean and Tethys the parents of creation, and described the oath of the gods as being by water, to which they give the name of Styx; for what is oldest is most honourable, and the most honourable thing is that by which one swears. It may perhaps be uncertain whether this opinion about nature is primitive and ancient, but Thales at any rate is said to have declared himself thus about the first cause. Hippo no one would think fit to include among these thinkers, because of the paltriness of his thought.

Anaximenes and Diogenes make air prior to water, and the most primary of the simple bodies, while Hippasus of Metapontium and Heraclitus of

Ephesus say this of fire, and Empedocles says it of the four elements (adding a fourth-earth-to those which have been named); for these, he says, always remain and do not come to be, except that they come to be more or fewer, being aggregated into one and segregated out of one.

Anaxagoras of Clazomenae, who, though older than Empedocles, was later in his philosophical activity, says the principles are infinite in number; for he says almost all the things that are made of parts like themselves, in the manner of water or fire, are generated and destroyed in this way, only by aggregation and segregation, and are not in any other sense generated or destroyed, but remain eternally.

From these facts one might think that the only cause is the so-called material cause; but as men thus advanced, the very facts opened the way for them and joined in forcing them to investigate the subject. However true it may be that all generation and destruction proceed from some one or (for that matter) from more elements, why does this happen and what is the cause? For at least the substratum itself does not make itself change; e.g. neither the wood nor the bronze causes the change of either of them, nor does the wood manufacture a bed and the bronze a statue, but something else is the cause of the change. And to seek this is to seek the second cause, as we should say,-that from which comes the beginning of the movement. Now those who at the very beginning set themselves to this kind of inquiry, and said the substratum was one, were not at all dissatisfied with themselves; but some at least of those who maintain it to be one-as though defeated by this search for the second cause-say the one and nature as a whole is unchangeable not only in respect of generation and destruction (for this is a primitive belief, and all agreed in it), but also of all other change; and this view is peculiar to them. Of those who said the universe was one, then none succeeded in discovering a cause of this sort, except perhaps Parmenides, and he only inasmuch as he supposes that there is not only one but also in some sense two causes. But for those who make more elements it is more possible to state the second cause, e.g. for those who make hot and cold, or fire and earth, the elements; for they treat fire as having a nature which fits it to move things, and water and earth and such things they treat in the contrary way.

When these men and the principles of this kind had had their day, as the latter were found inadequate to generate the nature of things men were again forced by the truth itself, as we said, to inquire into the next kind of cause.

For it is not likely either that fire or earth or any such element should be the reason why things manifest goodness and, beauty both in their being and in their coming to be, or that those thinkers should have supposed it was; nor again could it be right to entrust so great a matter to spontaneity and chance. When one man said, then, that reason was present-as in animals, so throughout nature-as the cause of order and of all arrangement, he seemed like a sober man in contrast with the random talk of his predecessors. We know that Anaxagoras certainly adopted these views, but Hermotimus of Clazomenae is credited with expressing them earlier. Those who thought thus stated that there is a principle of things which is at the same time the cause of beauty, and that sort of cause from which things acquire movement.

4

One might suspect that Hesiod was the first to look for such a thing-or some one else who put love or desire among existing things as a principle, as Parmenides, too, does; for he, in constructing the genesis of the universe, says: —

Love first of all the Gods she planned.

And Hesiod says: —

First of all things was chaos made, and then
Broad-breasted earth...
And love, ‘mid all the gods pre-eminent,

which implies that among existing things there must be from the first a cause which will move things and bring them together. How these thinkers should be arranged with regard to priority of discovery let us be allowed to decide later; but since the contraries of the various forms of good were also perceived to be present in nature-not only order and the beautiful, but also disorder and the ugly, and bad things in greater number than good, and ignoble things than beautiful-therefore another thinker introduced friendship and strife, each of the two the cause of one of these two sets of qualities. For if we were to follow out the view of Empedocles, and interpret it according to its meaning and not to its lisping expression, we should find that friendship is the cause of good things, and strife of bad. Therefore, if we said that

Empedocles in a sense both mentions, and is the first to mention, the bad and the good as principles, we should perhaps be right, since the cause of all goods is the good itself.

These thinkers, as we say, evidently grasped, and to this extent, two of the causes which we distinguished in our work on nature-the matter and the source of the movement-vaguely, however, and with no clearness, but as untrained men behave in fights; for they go round their opponents and often strike fine blows, but they do not fight on scientific principles, and so too these thinkers do not seem to know what they say; for it is evident that, as a rule, they make no use of their causes except to a small extent. For Anaxagoras uses reason as a deus ex machina for the making of the world, and when he is at a loss to tell from what cause something necessarily is, then he drags reason in, but in all other cases ascribes events to anything rather than to reason. And Empedocles, though he uses the causes to a greater extent than this, neither does so sufficiently nor attains consistency in their use. At least, in many cases he makes love segregate things, and strife aggregate them. For whenever the universe is dissolved into its elements by strife, fire is aggregated into one, and so is each of the other elements; but whenever again under the influence of love they come together into one, the parts must again be segregated out of each element.

Empedocles, then, in contrast with his precessors, was the first to introduce the dividing of this cause, not positing one source of movement, but different and contrary sources. Again, he was the first to speak of four material elements; yet he does not use four, but treats them as two only; he treats fire by itself, and its opposite-earth, air, and water-as one kind of thing. We may learn this by study of his verses.

This philosopher then, as we say, has spoken of the principles in this way, and made them of this number. Leucippus and his associate Democritus say that the full and the empty are the elements, calling the one being and the other non-being-the full and solid being being, the empty non-being (whence they say being no more is than non-being, because the solid no more is than the empty); and they make these the material causes of things. And as those who make the underlying substance one generate all other things by its modifications, supposing the rare and the dense to be the sources of the modifications, in the same way these philosophers say the differences in the elements are the causes of all other qualities. These differences, they say, are three-shape and order and position. For they say the real is differentiated only by ‘rhythm and ‘inter-contact’ and ‘turning’; and of these rhythm is shape, inter-contact is order, and turning is position; for A differs from N in shape, AN from NA in order, M from W in position. The question of movement-whence or how it is to belong to things-these thinkers, like the others, lazily neglected.

Regarding the two causes, then, as we say, the inquiry seems to have been pushed thus far by the early philosophers.

5

Contemporaneously with these philosophers and before them, the so-called Pythagoreans, who were the first to take up mathematics, not only advanced this study, but also having been brought up in it they thought its principles were the principles of all things. Since of these principles numbers are by nature the first, and in numbers they seemed to see many resemblances to the things that exist and come into being-more than in fire and earth and water (such and such a modification of numbers being justice, another being soul and reason, another being opportunity-and similarly almost all other things being numerically expressible); since, again, they saw that the modifications and the ratios of the musical scales were expressible in numbers;-since, then, all other things seemed in their whole nature to be modelled on numbers, and numbers seemed to be the first things in the whole of nature, they supposed the elements of numbers to be the elements of all things, and the whole heaven to be a musical scale and a number. And all the properties of numbers and scales which they could show to agree with the attributes and parts and the whole arrangement of the heavens, they collected and fitted into their scheme; and if there was a gap anywhere, they readily made additions so as to make their whole theory coherent. E.g. as the number 10 is thought to be perfect and to comprise the whole nature of numbers, they say that the bodies which move through the heavens are ten, but as the visible bodies are only nine, to meet this they invent a tenth — the ‘counter-earth’. We have discussed these matters more exactly elsewhere.

But the object of our review is that we may learn from these philosophers also what they suppose to be the principles and how these fall under the causes we have named. Evidently, then, these thinkers also consider that number is the principle both as matter for things and as forming both their modifications and their permanent states, and hold that the elements of number are the even and the odd, and that of these the latter is limited, and the former unlimited; and that the One proceeds from both of these (for it is both even and odd), and number from the One; and that the whole heaven, as has been said, is numbers.

Other members of this same school say there are ten principles, which they arrange in two columns of cognates-limit and unlimited, odd and even, one and plurality, right and left, male and female, resting and moving, straight and curved, light and darkness, good and bad, square and oblong. In this way Alcmaeon of Croton seems also to have conceived the matter, and either he got this view from them or they got it from him; for he expressed himself similarly to them. For he says most human affairs go in pairs, meaning not definite contrarieties such as the Pythagoreans speak of, but any chance contrarieties, e.g. white and black, sweet and bitter, good and bad, great and small. He threw out indefinite suggestions about the other contrarieties, but the Pythagoreans declared both how many and which their contraricties are.

From both these schools, then, we can learn this much, that the contraries are the principles of things; and how many these principles are and which they are, we can learn from one of the two schools. But how these principles can be brought together under the causes we have named has not been clearly and articulately stated by them; they seem, however, to range the elements under the head of matter; for out of these as immanent parts they say substance is composed and moulded.

From these facts we may sufficiently perceive the meaning of the ancients who said the elements of nature were more than one; but there are some who spoke of the universe as if it were one entity, though they were not all alike either in the excellence of their statement or in its conformity to the facts of nature. The discussion of them is in no way appropriate to our present investigation of causes, for. they do not, like some of the natural philosophers, assume being to be one and yet generate it out of the one as out of matter, but they speak in another way; those others add change, since they generate the universe, but these thinkers say the universe is unchangeable. Yet this much is germane to the present inquiry: Parmenides seems to fasten on that which is one in definition, Melissus on that which is one in matter, for which reason the former says that it is limited, the latter that it is unlimited;

while Xenophanes, the first of these partisans of the One (for Parmenides is said to have been his pupil), gave no clear statement, nor does he seem to have grasped the nature of either of these causes, but with reference to the whole material universe he says the One is God. Now these thinkers, as we said, must be neglected for the purposes of the present inquiry-two of them entirely, as being a little too naive, viz. Xenophanes and Melissus; but Parmenides seems in places to speak with more insight. For, claiming that, besides the existent, nothing non-existent exists, he thinks that of necessity one thing exists, viz. the existent and nothing else (on this we have spoken more clearly in our work on nature), but being forced to follow the observed facts, and supposing the existence of that which is one in definition, but more than one according to our sensations, he now posits two causes and two principles, calling them hot and cold, i.e. fire and earth; and of these he ranges the hot with the existent, and the other with the non-existent.

From what has been said, then, and from the wise men who have now sat in council with us, we have got thus much-on the one hand from the earliest philosophers, who regard the first principle as corporeal (for water and fire and such things are bodies), and of whom some suppose that there is one corporeal principle, others that there are more than one, but both put these under the head of matter; and on the other hand from some who posit both this cause and besides this the source of movement, which we have got from some as single and from others as twofold.

Down to the Italian school, then, and apart from it, philosophers have treated these subjects rather obscurely, except that, as we said, they have in fact used two kinds of cause, and one of these-the source of movement-some treat as one and others as two. But the Pythagoreans have said in the same way that there are two principles, but added this much, which is peculiar to them, that they thought that finitude and infinity were not attributes of certain other things, e.g. of fire or earth or anything else of this kind, but that infinity itself and unity itself were the substance of the things of which they are predicated. This is why number was the substance of all things. On this subject, then, they expressed themselves thus; and regarding the question of essence they began to make statements and definitions, but treated the matter too simply. For they both defined superficially and thought that the first subject of which a given definition was predicable was the substance of the thing defined, as if one supposed that ‘double’ and ‘2’ were the same, because 2 is the first thing of which ‘double’ is predicable. But surely to be double and to be 2 are not the same; if they are, one thing will be many-a consequence which they actually drew. From the earlier philosophers, then, and from their successors we can learn thus much.

6

After the systems we have named came the philosophy of Plato, which in most respects followed these thinkers, but had peculiarities that distinguished it from the philosophy of the Italians. For, having in his youth first become familiar with Cratylus and with the Heraclitean doctrines (that all sensible things are ever in a state of flux and there is no knowledge about them), these views he held even in later years. Socrates, however, was busying himself about ethical matters and neglecting the world of nature as a whole but seeking the universal in these ethical matters, and fixed thought for the first time on definitions; Plato accepted his teaching, but held that the problem applied not to sensible things but to entities of another kind-for this reason, that the common definition could not be a definition of any sensible thing, as they were always changing. Things of this other sort, then, he called Ideas, and sensible things, he said, were all named after these, and in virtue of a relation to these; for the many existed by participation in the Ideas that have the same name as they. Only the name ‘participation’ was new; for the Pythagoreans say that things exist by ‘imitation’ of numbers, and Plato says they exist by participation, changing the name. But what the participation or the imitation of the Forms could be they left an open question.

Further, besides sensible things and Forms he says there are the objects of mathematics, which occupy an intermediate position, differing from sensible things in being eternal and unchangeable, from Forms in that there are many alike, while the Form itself is in each case unique.

Since the Forms were the causes of all other things, he thought their elements were the elements of all things. As matter, the great and the small were principles; as essential reality, the One; for from the great and the small, by participation in the One, come the Numbers.

But he agreed with the Pythagoreans in saying that the One is substance and not a predicate of something else; and in saying that the Numbers are the causes of the reality of other things he agreed with them; but positing a dyad and constructing the infinite out of great and small, instead of treating the infinite as one, is peculiar to him; and so is his view that the Numbers exist apart from sensible things, while they say that the things themselves are Numbers, and do not place the objects of mathematics between Forms and sensible things. His divergence from the Pythagoreans in making the One and the Numbers separate from things, and his introduction of the Forms, were due to his inquiries in the region of definitions (for the earlier thinkers had no tincture of dialectic), and his making the other entity besides the One a dyad was due to the belief that the numbers, except those which were prime, could be neatly produced out of the dyad as out of some plastic material. Yet what happens is the contrary; the theory is not a reasonable one. For they make many things out of the matter, and the form generates only once, but what we observe is that one table is made from one matter, while the man who applies the form, though he is one, makes many tables. And the relation of the male to the female is similar; for the latter is impregnated by one copulation, but the male impregnates many females; yet these are analogues of those first principles.

Plato, then, declared himself thus on the points in question; it is evident from what has been said that he has used only two causes, that of the essence and the material cause (for the Forms are the causes of the essence of all other things, and the One is the cause of the essence of the Forms); and it is evident what the underlying matter is, of which the Forms are predicated in the case of sensible things, and the One in the case of Forms, viz. that this is a dyad, the great and the small. Further, he has assigned the cause of good and that of evil to the elements, one to each of the two, as we say some of his predecessors sought to do, e.g. Empedocles and Anaxagoras.

7

Our review of those who have spoken about first principles and reality and of the way in which they have spoken, has been concise and summary; but yet we have learnt this much from them, that of those who speak about ‘principle’ and ‘cause’ no one has mentioned any principle except those which have been distinguished in our work on nature, but all evidently have some inkling of them, though only vaguely. For some speak of the first principle as matter, whether they suppose one or more first principles, and whether they suppose this to be a body or to be incorporeal; e.g. Plato spoke of the great and the small, the Italians of the infinite, Empedocles of fire, earth, water, and air, Anaxagoras of the infinity of things composed of similar parts. These, then, have all had a notion of this kind of cause, and so have all who speak of air or fire or water, or something denser than fire and rarer than air; for some have said the prime element is of this kind.

These thinkers grasped this cause only; but certain others have mentioned the source of movement, e.g. those who make friendship and strife, or reason, or love, a principle.

The essence, i.e. the substantial reality, no one has expressed distinctly. It is hinted at chiefly by those who believe in the Forms; for they do not suppose either that the Forms are the matter of sensible things, and the One the matter of the Forms, or that they are the source of movement (for they say these are causes rather of immobility and of being at rest), but they furnish the Forms as the essence of every other thing, and the One as the essence of the Forms.

That for whose sake actions and changes and movements take place, they assert to be a cause in a way, but not in this way, i.e. not in the way in which it is its nature to be a cause. For those who speak of reason or friendship class these causes as goods; they do not speak, however, as if anything that exists either existed or came into being for the sake of these, but as if movements started from these. In the same way those who say the One or the existent is the good, say that it is the cause of substance, but not that substance either is or comes to be for the sake of this. Therefore it turns out that in a sense they both say and do not say the good is a cause; for they do not call it a cause qua good but only incidentally.

All these thinkers then, as they cannot pitch on another cause, seem to testify that we have determined rightly both how many and of what sort the causes are. Besides this it is plain that when the causes are being looked for, either all four must be sought thus or they must be sought in one of these four ways. Let us next discuss the possible difficulties with regard to the way in which each of these thinkers has spoken, and with regard to his situation relatively to the first principles.

Those, then, who say the universe is one and posit one kind of thing as matter, and as corporeal matter which has spatial magnitude, evidently go astray in many ways. For they posit the elements of bodies only, not of incorporeal things, though there are also incorporeal things. And in trying to state the causes of generation and destruction, and in giving a physical account of all things, they do away with the cause of movement. Further, they err in not positing the substance, i.e. the essence, as the cause of anything, and besides this in lightly calling any of the simple bodies except earth the first principle, without inquiring how they are produced out of one anothers-I mean fire, water, earth, and air. For some things are produced out of each other by combination, others by separation, and this makes the greatest difference to their priority and posteriority. For (1) in a way the property of being most elementary of all would seem to belong to the first thing from which they are produced by combination, and this property would belong to the most fine-grained and subtle of bodies. For this reason those who make fire the principle would be most in agreement with this argument. But each of the other thinkers agrees that the element of corporeal things is of this sort. At least none of those who named one element claimed that earth was the element, evidently because of the coarseness of its grain. (Of the other three elements each has found some judge on its side; for some maintain that fire, others that water, others that air is the element. Yet why, after all, do they not name earth also, as most men do? For people say all things are earth Hesiod says earth was produced first of corporeal things; so primitive and popular has the opinion been.) According to this argument, then, no one would be right who either says the first principle is any of the elements other than fire, or supposes it to be denser than air but rarer than water. But (2) if that which is later in generation is prior in nature, and that which is concocted and compounded is later in generation, the contrary of what we have been saying must be true,-water must be prior to air, and earth to water.

So much, then, for those who posit one cause such as we mentioned; but the same is true if one supposes more of these, as Empedocles says matter of things is four bodies. For he too is confronted by consequences some of which are the same as have been mentioned, while others are peculiar to him. For we see these bodies produced from one another, which implies that the same body does not always remain fire or earth (we have spoken about this in our works on nature); and regarding the cause of movement and the question whether we must posit one or two, he must be thought to have spoken neither correctly nor altogether plausibly. And in general, change of quality is necessarily done away with for those who speak thus, for on their view cold will not come from hot nor hot from cold. For if it did there would be something that accepted the contraries themselves, and there would be some one entity that became fire and water, which Empedocles denies.

As regards Anaxagoras, if one were to suppose that he said there were two elements, the supposition would accord thoroughly with an argument which Anaxagoras himself did not state articulately, but which he must have accepted if any one had led him on to it. True, to say that in the beginning all things were mixed is absurd both on other grounds and because it follows that they must have existed before in an unmixed form, and because nature does not allow any chance thing to be mixed with any chance thing, and also because on this view modifications and accidents could be separated from substances (for the same things which are mixed can be separated); yet if one were to follow him up, piecing together what he means, he would perhaps be seen to be somewhat modern in his views. For when nothing was separated out, evidently nothing could be truly asserted of the substance that then existed. I mean, e.g. that it was neither white nor black, nor grey nor any other colour, but of necessity colourless; for if it had been coloured, it would have had one of these colours. And similarly, by this same argument, it was flavourless, nor had it any similar attribute; for it could not be either of any quality or of any size, nor could it be any definite kind of thing. For if it were, one of the particular forms would have belonged to it, and this is impossible, since all were mixed together; for the particular form would necessarily have been already separated out, but he all were mixed except reason, and this alone was unmixed and pure. From this it follows, then, that he must say the principles are the One (for this is simple and unmixed) and the Other, which is of such a nature as we suppose the indefinite to be before it is defined and partakes of some form. Therefore, while expressing himself neither rightly nor clearly, he means something like what the later thinkers say and what is now more clearly seen to be the case.

But these thinkers are, after all, at home only in arguments about generation and destruction and movement; for it is practically only of this sort of substance that they seek the principles and the causes. But those who extend their vision to all things that exist, and of existing things suppose some to be perceptible and others not perceptible, evidently study both classes, which is all the more reason why one should devote some time to seeing what is good in their views and what bad from the standpoint of the inquiry we have now before us.

The 'Pythagoreans' treat of principles and elements stranger than those of the physical philosophers (the reason is that they got the principles from non-sensible things, for the objects of mathematics, except those of astronomy, are of the class of things without movement); yet their discussions and investigations are all about nature; for they generate the heavens, and with regard to their parts and attributes and functions they observe the phenomena, and use up the principles and the causes in explaining these, which implies that they agree with the others, the physical philosophers, that the real is just all that which is perceptible and contained by the so-called 'heavens'. But the causes and the principles which they mention are, as we said, sufficient to act as steps even up to the higher realms of reality, and are more suited to these than to theories about nature. They do not tell us at all, however, how there can be movement if limit and unlimited and odd and even are the only things assumed, or how without movement and change there can be generation and destruction, or the bodies that move through the heavens can do what they do.

Further, if one either granted them that spatial magnitude consists of these elements, or this were proved, still how would some bodies be light and others have weight? To judge from what they assume and maintain they are speaking no more of mathematical bodies than of perceptible; hence they have said nothing whatever about fire or earth or the other bodies of this sort, I suppose because they have nothing to say which applies peculiarly to perceptible things.

Further, how are we to combine the beliefs that the attributes of number, and number itself, are causes of what exists and happens in the heavens both from the beginning and now, and that there is no other number than this number out of which the world is composed? When in one particular region they place opinion and opportunity, and, a little above or below, injustice and decision or mixture, and allege, as proof, that each of these is a number, and that there happens to be already in this place a plurality of the extended bodies composed of numbers, because these attributes of number attach to the various places,-this being so, is this number, which we must suppose each of these abstractions to be, the same number which is exhibited in the material universe, or is it another than this? Plato says it is different; yet even he thinks that both these bodies and their causes are numbers, but that the intelligible numbers are causes, while the others are sensible.

9

Let us leave the Pythagoreans for the present; for it is enough to have touched on them as much as we have done. But as for those who posit the Ideas as causes, firstly, in seeking to grasp the causes of the things around us, they introduced others equal in number to these, as if a man who wanted to count things thought he would not be able to do it while they were few, but tried to count them when he had added to their number. For the Forms are practically equal to-or not fewer than-the things, in trying to explain which these thinkers proceeded from them to the Forms. For to each thing there answers an entity which has the same name and exists apart from the substances, and so also in the case of all other groups there is a one over many, whether the many are in this world or are eternal.

Further, of the ways in which we prove that the Forms exist, none is convincing; for from some no inference necessarily follows, and from some arise Forms even of things of which we think there are no Forms. For according to the arguments from the existence of the sciences there will be Forms of all things of which there are sciences and according to the ‘one over many’ argument there will be Forms even of negations, and according to the argument that there is an object for thought even when the thing has perished, there will be Forms of perishable things; for we have an image of these. Further, of the more accurate arguments, some lead to Ideas of relations, of which we say there is no independent class, and others introduce the ‘third man’.

And in general the arguments for the Forms destroy the things for whose existence we are more zealous than for the existence of the Ideas; for it follows that not the dyad but number is first, i.e. that the relative is prior to the absolute,-besides all the other points on which certain people by following out the opinions held about the Ideas have come into conflict with the principles of the theory.

Further, according to the assumption on which our belief in the Ideas rests, there will be Forms not only of substances but also of many other things (for the concept is single not only in the case of substances but also in the other cases, and there are sciences not only of substance but also of other things, and a thousand other such difficulties confront them). But according to the necessities of the case and the opinions held about the Forms, if Forms can be shared in there must be Ideas of substances only. For they are not shared in incidentally, but a thing must share in its Form as in something not predicated of a subject (by 'being shared in incidentally' I mean that e.g. if a thing shares in 'double itself', it shares also in 'eternal', but incidentally; for 'eternal' happens to be predicable of the 'double'). Therefore the Forms will be substance; but the same terms indicate substance in this and in the ideal world (or what will be the meaning of saying that there is something apart from the particulars-the one over many?). And if the Ideas and the particulars that share in them have the same form, there will be something common to these; for why should '2' be one and the same in the perishable 2's or in those which are many but eternal, and not the same in the '2' itself' as in the particular 2? But if they have not the same form, they must have only the name in common, and it is as if one were to call both Callias and a wooden image a 'man', without observing any community between them.

Above all one might discuss the question what on earth the Forms contribute to sensible things, either to those that are eternal or to those that come into being and cease to be. For they cause neither movement nor any change in them. But again they help in no wise either towards the knowledge of the other things (for they are not even the substance of these, else they would have been in them), or towards their being, if they are not in the particulars which share in them; though if they were, they might be thought to be causes, as white causes whiteness in a white object by entering into its composition. But this argument, which first Anaxagoras and later Eudoxus and certain others used, is very easily upset; for it is not difficult to collect many insuperable objections to such a view.

But, further, all other things cannot come from the Forms in any of the usual senses of 'from'. And to say that they are patterns and the other things share in them is to use empty words and poetical metaphors. For what is it that works, looking to the Ideas? And anything can either be, or become, like another without being copied from it, so that whether Socrates or not a man Socrates like might come to be; and evidently this might be so even if Socrates were eternal. And there will be several patterns of the same thing, and therefore several Forms; e.g. ‘animal’ and ‘two-footed’ and also ‘man himself’ will be Forms of man. Again, the Forms are patterns not only sensible things, but of Forms themselves also; i.e. the genus, as genus of various species, will be so; therefore the same thing will be pattern and copy.

Again, it would seem impossible that the substance and that of which it is the substance should exist apart; how, therefore, could the Ideas, being the substances of things, exist apart? In the Phaedo’ the case is stated in this way-that the Forms are causes both of being and of becoming; yet when the Forms exist, still the things that share in them do not come into being, unless there is something to originate movement; and many other things come into being (e.g. a house or a ring) of which we say there are no Forms. Clearly, therefore, even the other things can both be and come into being owing to such causes as produce the things just mentioned.

Again, if the Forms are numbers, how can they be causes? Is it because existing things are other numbers, e.g. one number is man, another is Socrates, another Callias? Why then are the one set of numbers causes of the other set? It will not make any difference even if the former are eternal and the latter are not. But if it is because things in this sensible world (e.g. harmony) are ratios of numbers, evidently the things between which they are ratios are some one class of things. If, then, this — the matter — is some definite thing, evidently the numbers themselves too will be ratios of something to something else. E.g. if Callias is a numerical ratio between fire and earth and water and air, his Idea also will be a number of certain other underlying things; and man himself, whether it is a number in a sense or not, will still be a numerical ratio of certain things and not a number proper, nor will it be a of number merely because it is a numerical ratio.

Again, from many numbers one number is produced, but how can one Form come from many Forms? And if the number comes not from the many numbers themselves but from the units in them, e.g. in 10,000, how is it with the units? If they are specifically alike, numerous absurdities will follow, and also if they are not alike (neither the units in one number being themselves like one another nor those in other numbers being all like to all); for in what will they differ, as they are without quality? This is not a plausible view, nor is it consistent with our thought on the matter.

Further, they must set up a second kind of number (with which arithmetic deals), and all the objects which are called ‘intermediate’ by some thinkers;

and how do these exist or from what principles do they proceed? Or why must they be intermediate between the things in this sensible world and the things-themselves?

Further, the units in must each come from a prior but this is impossible.

Further, why is a number, when taken all together, one?

Again, besides what has been said, if the units are diverse the Platonists should have spoken like those who say there are four, or two, elements; for each of these thinkers gives the name of element not to that which is common, e.g. to body, but to fire and earth, whether there is something common to them, viz. body, or not. But in fact the Platonists speak as if the One were homogeneous like fire or water; and if this is so, the numbers will not be substances. Evidently, if there is a One itself and this is a first principle, ‘one’ is being used in more than one sense; for otherwise the theory is impossible.

When we wish to reduce substances to their principles, we state that lines come from the short and long (i.e. from a kind of small and great), and the plane from the broad and narrow, and body from the deep and shallow. Yet how then can either the plane contain a line, or the solid a line or a plane? For the broad and narrow is a different class from the deep and shallow. Therefore, just as number is not present in these, because the many and few are different from these, evidently no other of the higher classes will be present in the lower. But again the broad is not a genus which includes the deep, for then the solid would have been a species of plane. Further, from what principle will the presence of the points in the line be derived? Plato even used to object to this class of things as being a geometrical fiction. He gave the name of principle of the line-and this he often posited-to the indivisible lines. Yet these must have a limit; therefore the argument from which the existence of the line follows proves also the existence of the point.

In general, though philosophy seeks the cause of perceptible things, we have given this up (for we say nothing of the cause from which change takes its start), but while we fancy we are stating the substance of perceptible things, we assert the existence of a second class of substances, while our account of the way in which they are the substances of perceptible things is empty talk; for ‘sharing’, as we said before, means nothing.

Nor have the Forms any connexion with what we see to be the cause in the case of the arts, that for whose sake both all mind and the whole of nature are operative,-with this cause which we assert to be one of the first principles; but mathematics has come to be identical with philosophy for modern thinkers, though they say that it should be studied for the sake of other things. Further, one might suppose that the substance which according to them underlies as matter is too mathematical, and is a predicate and differentia of the substance, ie. of the matter, rather than matter itself; i.e. the great and the small are like the rare and the dense which the physical philosophers speak of, calling these the primary differentiae of the substratum; for these are a kind of excess and defect. And regarding movement, if the great and the small are to he movement, evidently the Forms will be moved; but if they are not to be movement, whence did movement come? The whole study of nature has been annihilated.

And what is thought to be easy-to show that all things are one-is not done; for what is proved by the method of setting out instances is not that all things are one but that there is a One itself,-if we grant all the assumptions. And not even this follows, if we do not grant that the universal is a genus; and this in some cases it cannot be.

Nor can it be explained either how the lines and planes and solids that come after the numbers exist or can exist, or what significance they have; for these can neither be Forms (for they are not numbers), nor the intermediates (for those are the objects of mathematics), nor the perishable things. This is evidently a distinct fourth class.

In general, if we search for the elements of existing things without distinguishing the many senses in which things are said to exist, we cannot find them, especially if the search for the elements of which things are made is conducted in this manner. For it is surely impossible to discover what ‘acting’ or ‘being acted on’, or ‘the straight’, is made of, but if elements can be discovered at all, it is only the elements of substances; therefore either to seek the elements of all existing things or to think one has them is incorrect.

And how could we learn the elements of all things? Evidently we cannot start by knowing anything before. For as he who is learning geometry, though he may know other things before, knows none of the things with which the science deals and about which he is to learn, so is it in all other cases. Therefore if there is a science of all things, such as some assert to exist, he who is learning this will know nothing before. Yet all learning is by means of premisses which are (either all or some of them) known before,-whether the learning be by demonstration or by definitions; for the elements of the definition must be known before and be familiar; and learning by induction proceeds similarly. But again, if the science were actually innate, it were strange that we are unaware of our possession of the greatest of sciences.

Again, how is one to come to know what all things are made of, and how is this to be made evident? This also affords a difficulty; for there might be a conflict of opinion, as there is about certain syllables; some say za is made out of s and d and a, while others say it is a distinct sound and none of those that are familiar.

Further, how could we know the objects of sense without having the sense in question? Yet we ought to, if the elements of which all things consist, as complex sounds consist of the clements proper to sound, are the same.

10

It is evident, then, even from what we have said before, that all men seem to seek the causes named in the Physics, and that we cannot name any beyond these; but they seek these vaguely; and though in a sense they have all been described before, in a sense they have not been described at all. For the earliest philosophy is, on all subjects, like one who lisps, since it is young and in its beginnings. For even Empedocles says bone exists by virtue of the ratio in it. Now this is the essence and the substance of the thing. But it is similarly necessary that flesh and each of the other tissues should be the ratio of its elements, or that not one of them should; for it is on account of this that both flesh and bone and everything else will exist, and not on account of the matter, which he names,-fire and earth and water and air. But while he would necessarily have agreed if another had said this, he has not said it clearly.

On these questions our views have been expressed before; but let us return to enumerate the difficulties that might be raised on these same points; for perhaps we may get from them some help towards our later difficulties.

Book II

1

THE investigation of the truth is in one way hard, in another easy. An indication of this is found in the fact that no one is able to attain the truth adequately, while, on the other hand, we do not collectively fail, but every one says something true about the nature of things, and while individually we contribute little or nothing to the truth, by the union of all a considerable amount is amassed. Therefore, since the truth seems to be like the proverbial door, which no one can fail to hit, in this respect it must be easy, but the fact that we can have a whole truth and not the particular part we aim at shows the difficulty of it.

Perhaps, too, as difficulties are of two kinds, the cause of the present difficulty is not in the facts but in us. For as the eyes of bats are to the blaze of day, so is the reason in our soul to the things which are by nature most evident of all.

It is just that we should be grateful, not only to those with whose views we may agree, but also to those who have expressed more superficial views; for these also contributed something, by developing before us the powers of thought. It is true that if there had been no Timotheus we should have been without much of our lyric poetry; but if there had been no Phrynis there would have been no Timotheus. The same holds good of those who have expressed views about the truth; for from some thinkers we have inherited certain opinions, while the others have been responsible for the appearance of the former.

It is right also that philosophy should be called knowledge of the truth. For the end of theoretical knowledge is truth, while that of practical knowledge is action (for even if they consider how things are, practical men do not study the eternal, but what is relative and in the present). Now we do not know a truth without its cause; and a thing has a quality in a higher degree than other things if in virtue of it the similar quality belongs to the other things as well (e.g. fire is the hottest of things; for it is the cause of the heat of all other things); so that that causes derivative truths to be true is most true. Hence the principles of eternal things must be always most true (for they are not merely sometimes true, nor is there any cause of their being, but they themselves are the cause of the being of other things), so that as each thing is in respect of being, so is it in respect of truth.

2

But evidently there is a first principle, and the causes of things are neither an infinite series nor infinitely various in kind. For neither can one thing proceed from another, as from matter, ad infinitum (e.g. flesh from earth, earth from air, air from fire, and so on without stopping), nor can the sources of movement form an endless series (man for instance being acted on by air, air by the sun, the sun by Strife, and so on without limit). Similarly the final causes cannot go on ad infinitum,-walking being for the sake of health, this for the sake of happiness, happiness for the sake of something else, and so one thing always for the sake of another. And the case of the essence is similar. For in the case of intermediates, which have a last term and a term prior to them, the prior must be the cause of the later terms. For if we had to say which of the three is the cause, we should say the first; surely not the last, for the final term is the cause of none; nor even the intermediate, for it is the cause only of one. (It makes no difference whether there is one intermediate or more, nor whether they are infinite or finite in number.) But of series which are infinite in this way, and of the infinite in general, all the parts down to that now present are alike intermediates; so that if there is no first there is no cause at all.

Nor can there be an infinite process downwards, with a beginning in the upward direction, so that water should proceed from fire, earth from water, and so always some other kind should be produced. For one thing comes from another in two ways-not in the sense in which ‘from’ means ‘after’ (as we say ‘from the Isthmian games come the Olympian’), but either (i) as the man comes from the boy, by the boy’s changing, or (ii) as air comes from water. By ‘as the man comes from the boy’ we mean ‘as that which has come to be from that which is coming to be’ or ‘as that which is finished from that which is being achieved’ (for as becoming is between being and not being, so that which is becoming is always between that which is and that which is not;

for the learner is a man of science in the making, and this is what is meant when we say that from a learner a man of science is being made); on the other hand, coming from another thing as water comes from air implies the destruction of the other thing. This is why changes of the former kind are not reversible, and the boy does not come from the man (for it is not that which comes to be something that comes to be as a result of coming to be, but that which exists after the coming to be; for it is thus that the day, too, comes from the morning-in the sense that it comes after the morning; which is the reason why the morning cannot come from the day); but changes of the other kind are reversible. But in both cases it is impossible that the number of terms should be infinite. For terms of the former kind, being intermediates, must have an end, and terms of the latter kind change back into one another, for the destruction of either is the generation of the other.

At the same time it is impossible that the first cause, being eternal, should be destroyed; for since the process of becoming is not infinite in the upward direction, that which is the first thing by whose destruction something came to be must be non-eternal.

Further, the final cause is an end, and that sort of end which is not for the sake of something else, but for whose sake everything else is; so that if there is to be a last term of this sort, the process will not be infinite; but if there is no such term, there will be no final cause, but those who maintain the infinite series eliminate the Good without knowing it (yet no one would try to do anything if he were not going to come to a limit); nor would there be reason in the world; the reasonable man, at least, always acts for a purpose, and this is a limit; for the end is a limit.

But the essence, also, cannot be reduced to another definition which is fuller in expression. For the original definition is always more of a definition, and not the later one; and in a series in which the first term has not the required character, the next has not it either. Further, those who speak thus destroy science; for it is not possible to have this till one comes to the unanalysable terms. And knowledge becomes impossible; for how can one apprehend things that are infinite in this way? For this is not like the case of the line, to whose divisibility there is no stop, but which we cannot think if we do not make a stop (for which reason one who is tracing the infinitely divisible line cannot be counting the possibilities of section), but the whole line also must be apprehended by something in us that does not move from part to part.-Again, nothing infinite can exist; and if it could, at least the notion of infinity is not infinite.

But if the kinds of causes had been infinite in number, then also knowledge would have been impossible; for we think we know, only when we have ascertained the causes, that but that which is infinite by addition cannot be gone through in a finite time.

3

The effect which lectures produce on a hearer depends on his habits; for we demand the language we are accustomed to, and that which is different from this seems not in keeping but somewhat unintelligible and foreign because of its unwontedness. For it is the customary that is intelligible. The force of habit is shown by the laws, in which the legendary and childish elements prevail over our knowledge about them, owing to habit. Thus some people do not listen to a speaker unless he speaks mathematically, others unless he gives instances, while others expect him to cite a poet as witness. And some want to have everything done accurately, while others are annoyed by accuracy, either because they cannot follow the connexion of thought or because they regard it as pettifoggery. For accuracy has something of this character, so that as in trade so in argument some people think it mean. Hence one must be already trained to know how to take each sort of argument, since it is absurd to seek at the same time knowledge and the way of attaining knowledge; and it is not easy to get even one of the two.

The minute accuracy of mathematics is not to be demanded in all cases, but only in the case of things which have no matter. Hence method is not that of natural science; for presumably the whole of nature has matter. Hence we must inquire first what nature is: for thus we shall also see what natural science treats of (and whether it belongs to one science or to more to investigate the causes and the principles of things).

Book III

1

WE must, with a view to the science which we are seeking, first recount the subjects that should be first discussed. These include both the other opinions that some have held on the first principles, and any point besides these that happens to have been overlooked. For those who wish to get clear of difficulties it is advantageous to discuss the difficulties well; for the subsequent free play of thought implies the solution of the previous difficulties, and it is not possible to untie a knot of which one does not know. But the difficulty of our thinking points to a ‘knot’ in the object; for in so far as our thought is in difficulties, it is in like case with those who are bound; for in either case it is impossible to go forward. Hence one should have surveyed all the difficulties beforehand, both for the purposes we have stated and because people who inquire without first stating the difficulties are like those who do not know where they have to go; besides, a man does not otherwise know even whether he has at any given time found what he is looking for or not; for the end is not clear to such a man, while to him who has first discussed the difficulties it is clear. Further, he who has heard all the contending arguments, as if they were the parties to a case, must be in a better position for judging.

The first problem concerns the subject which we discussed in our prefatory remarks. It is this-(1) whether the investigation of the causes belongs to one or to more sciences, and (2) whether such a science should survey only the first principles of substance, or also the principles on which all men base their proofs, e.g. whether it is possible at the same time to assert and deny one and the same thing or not, and all other such questions; and (3) if the science in question deals with substance, whether one science deals with all substances, or more than one, and if more, whether all are akin, or some of them must be called forms of Wisdom and the others something else. And (4) this itself is also one of the things that must be discussed-whether sensible substances alone should be said to exist or others also besides them, and whether these others are of one kind or there are several classes of substances, as is supposed by those who believe both in Forms and in mathematical objects intermediate between these and sensible things. Into these questions, then, as we say, we must inquire, and also (5) whether our investigation is concerned only with substances or also with the essential attributes of substances. Further, with regard to the same and other and like and unlike and contrariety, and with regard to prior and posterior and all other such terms about which the dialecticians try to inquire, starting their investigation from probable premises only,-whose business is it to inquire into all these? Further, we must discuss the essential attributes of these themselves; and we must ask not only what each of these is, but also whether one thing always has one contrary. Again (6), are the principles and elements of things the genera, or the parts present in each thing, into which it is divided; and (7) if they are the genera, are they the genera that are predicated proximately of the individuals, or the highest genera, e.g. is animal or man the first principle and the more independent of the individual instance? And (8) we must inquire and discuss especially whether there is, besides the matter, any thing that is a cause in itself or not, and whether this can exist apart or not, and whether it is one or more in number, and whether there is something apart from the concrete thing (by the concrete thing I mean the matter with something already predicated of it), or there is nothing apart, or there is something in some cases though not in others, and what sort of cases these are. Again (9) we ask whether the principles are limited in number or in kind, both those in the definitions and those in the substratum; and (10) whether the principles of perishable and of imperishable things are the same or different; and whether they are all imperishable or those of perishable things are perishable. Further (11) there is the question which is hardest of all and most perplexing, whether unity and being, as the Pythagoreans and Plato said, are not attributes of something else but the substance of existing things, or this is not the case, but the substratum is something else,-as Empedocles says, love; as some one else says, fire; while another says water or air. Again (12) we ask whether the principles are universal or like individual things, and (13) whether they exist potentially or actually, and further, whether they are potential or actual in any other sense than in reference to movement; for these questions also would present much difficulty. Further (14), are numbers and lines and figures and points a kind of substance or not, and if they are substances are they separate from sensible things or present in them? With regard to all these matters not only is it hard to get possession of the truth, but it is not easy even to think out the difficulties well.

2

(1) First then with regard to what we mentioned first, does it belong to one or to more sciences to investigate all the kinds of causes? How could it belong to one science to recognize the principles if these are not contrary?

Further, there are many things to which not all the principles pertain. For how can a principle of change or the nature of the good exist for unchangeable things, since everything that in itself and by its own nature is good is an end, and a cause in the sense that for its sake the other things both come to be and are, and since an end or purpose is the end of some action, and all actions imply change? So in the case of unchangeable things this principle could not exist, nor could there be a good itself. This is why in mathematics nothing is proved by means of this kind of cause, nor is there any demonstration of this kind-'because it is better, or worse'; indeed no one even mentions anything of the kind. And so for this reason some of the Sophists, e.g. Aristippus, used to ridicule mathematics; for in the arts (he maintained), even in the industrial arts, e.g. in carpentry and cobbling, the reason always given is 'because it is better, or worse,' but the mathematical sciences take no account of goods and evils.

But if there are several sciences of the causes, and a different science for each different principle, which of these sciences should be said to be that which we seek, or which of the people who possess them has the most scientific knowledge of the object in question? The same thing may have all the kinds of causes, e.g. the moving cause of a house is the art or the builder, the final cause is the function it fulfils, the matter is earth and stones, and the form is the definition. To judge from our previous discussion of the question which of the sciences should be called Wisdom, there is reason for applying the name to each of them. For inasmuch as it is most architectonic and authoritative and the other sciences, like slavewomen, may not even contradict it, the science of the end and of the good is of the nature of Wisdom (for the other things are for the sake of the end). But inasmuch as it was described' as dealing with the first causes and that which is in the highest sense object of knowledge, the science of substance must be of the nature of Wisdom. For since men may know the same thing in many ways, we say that he who recognizes what a thing is by its being so and so knows more fully than he who recognizes it by its not being so and so, and in the former class itself one knows more fully than another, and he knows most fully who knows what a thing is, not he who knows its quantity or quality or what it can by nature do or have done to it. And further in all cases also we think that the knowledge of each even of the things of which demonstration is possible is present only when we know what the thing is, e.g. what squaring a rectangle is, viz. that it is the finding of a mean; and similarly in all other cases. And we know about becomings and actions and about every change when we know the source of the movement; and this is other than and opposed to the end. Therefore it would seem to belong to different sciences to investigate these causes severally.

But (2), taking the starting-points of demonstration as well as the causes, it is a disputable question whether they are the object of one science or of more (by the starting-points of demonstration I mean the common beliefs, on which all men base their proofs); e.g. that everything must be either affirmed or denied, and that a thing cannot at the same time be and not be, and all other such premisses:-the question is whether the same science deals with them as with substance, or a different science, and if it is not one science, which of the two must be identified with that which we now seek.-It is not reasonable that these topics should be the object of one science; for why should it be peculiarly appropriate to geometry or to any other science to understand these matters? If then it belongs to every science alike, and cannot belong to all, it is not peculiar to the science which investigates substances, any more than to any other science, to know about these topics.-And, at the same time, in what way can there be a science of the first principles? For we are aware even now what each of them in fact is (at least even other sciences use them as familiar); but if there is a demonstrative science which deals with them, there will have to be an underlying kind, and some of them must be demonstrable attributes and others must be axioms (for it is impossible that there should be demonstration about all of them); for the demonstration must start from certain premisses and be about a certain subject and prove certain attributes. Therefore it follows that all attributes that are proved must belong to a single class; for all demonstrative sciences use the axioms.

But if the science of substance and the science which deals with the axioms are different, which of them is by nature more authoritative and prior? The axioms are most universal and are principles of all things. And if it is not the business of the philosopher, to whom else will it belong to inquire what is true and what is untrue about them?

(3) In general, do all substances fall under one science or under more than one? If the latter, to what sort of substance is the present science to be assigned?-On the other hand, it is not reasonable that one science should deal with all. For then there would be one demonstrative science dealing with all attributes. For ever demonstrative science investigates with regard to some subject its essential attributes, starting from the common beliefs. Therefore to investigate the essential attributes of one class of things, starting from one set of beliefs, is the business of one science. For the subject belongs to one science, and the premisses belong to one, whether to the same or to another; so that the attributes do so too, whether they are investigated by these sciences or by one compounded out of them.

(5) Further, does our investigation deal with substances alone or also with their attributes? I mean for instance, if the solid is a substance and so are lines and planes, is it the business of the same science to know these and to know the attributes of each of these classes (the attributes about which the mathematical sciences offer proofs), or of a different science? If of the same, the science of substance also must be a demonstrative science, but it is thought that there is no demonstration of the essence of things. And if of another, what will be the science that investigates the attributes of substance? This is a very difficult question.

(4) Further, must we say that sensible substances alone exist, or that there are others besides these? And are substances of one kind or are there in fact several kinds of substances, as those say who assert the existence both of the Forms and of the intermediates, with which they say the mathematical sciences deal?-The sense in which we say the Forms are both causes and self-dependent substances has been explained in our first remarks about them; while the theory presents difficulties in many ways, the most paradoxical thing of all is the statement that there are certain things besides those in the material universe, and that these are the same as sensible things except that they are eternal while the latter are perishable. For they say there is a man-himself and a horse-itself and health-itself, with no further qualification,-a

procedure like that of the people who said there are gods, but in human form. For they were positing nothing but eternal men, nor are the Platonists making the Forms anything other than eternal sensible things.

Further, if we are to posit besides the Forms and the sensibles the intermediates between them, we shall have many difficulties. For clearly on the same principle there will be lines besides the lines-themselves and the sensible lines, and so with each of the other classes of things; so that since astronomy is one of these mathematical sciences there will also be a heaven besides the sensible heaven, and a sun and a moon (and so with the other heavenly bodies) besides the sensible. Yet how are we to believe in these things? It is not reasonable even to suppose such a body immovable, but to suppose it moving is quite impossible.-And similarly with the things of which optics and mathematical harmonics treat; for these also cannot exist apart from the sensible things, for the same reasons. For if there are sensible things and sensations intermediate between Form and individual, evidently there will also be animals intermediate between animals-themselves and the perishable animals.-We might also raise the question, with reference to which kind of existing things we must look for these sciences of intermediates. If geometry is to differ from mensuration only in this, that the latter deals with things that we perceive, and the former with things that are not perceptible, evidently there will also be a science other than medicine, intermediate between medical-science-itself and this individual medical science, and so with each of the other sciences. Yet how is this possible? There would have to be also healthy things besides the perceptible healthy things and the healthy-itself. — And at the same time not even this is true, that mensuration deals with perceptible and perishable magnitudes; for then it would have perished when they perished.

But on the other hand astronomy cannot be dealing with perceptible magnitudes nor with this heaven above us. For neither are perceptible lines such lines as the geometer speaks of (for no perceptible thing is straight or round in the way in which he defines ‘straight’ and ‘round’; for a hoop touches a straight edge not at a point, but as Protagoras used to say it did, in his refutation of the geometers), nor are the movements and spiral orbits in the heavens like those of which astronomy treats, nor have geometrical points the same nature as the actual stars.-Now there are some who say that these so-called intermediates between the Forms and the perceptible things exist, not apart from the perceptible things, however, but in these; the impossible results of this view would take too long to enumerate, but it is enough to consider even such points as the following:-It is not reasonable that this should be so only in the case of these intermediates, but clearly the Forms also might be in the perceptible things; for both statements are parts of the same theory. Further, it follows from this theory that there are two solids in the same place, and that the intermediates are not immovable, since they are in the moving perceptible things. And in general to what purpose would one suppose them to exist indeed, but to exist in perceptible things? For the same paradoxical results will follow which we have already mentioned; there will be a heaven besides the heaven, only it will be not apart but in the same place; which is still more impossible.

3

(6) Apart from the great difficulty of stating the case truly with regard to these matters, it is very hard to say, with regard to the first principles, whether it is the genera that should be taken as elements and principles, or rather the primary constituents of a thing; e.g. it is the primary parts of which articulate sounds consist that are thought to be elements and principles of articulate sound, not the common genus-articulate sound; and we give the name of ‘elements’ to those geometrical propositions, the proofs of which are implied in the proofs of the others, either of all or of most. Further, both those who say there are several elements of corporeal things and those who say there is one, say the parts of which bodies are compounded and consist are principles; e.g. Empedocles says fire and water and the rest are the constituent elements of things, but does not describe these as genera of existing things. Besides this, if we want to examine the nature of anything else, we examine the parts of which, e.g. a bed consists and how they are put together, and then we know its nature.

To judge from these arguments, then, the principles of things would not be the genera; but if we know each thing by its definition, and the genera are the principles or starting-points of definitions, the genera must also be the principles of definable things. And if to get the knowledge of the species according to which things are named is to get the knowledge of things, the genera are at least starting-points of the species. And some also of those who say unity or being, or the great and the small, are elements of things, seem to treat them as genera.

But, again, it is not possible to describe the principles in both ways. For the formula of the essence is one; but definition by genera will be different from that which states the constituent parts of a thing.

(7) Besides this, even if the genera are in the highest degree principles, should one regard the first of the genera as principles, or those which are predicated directly of the individuals? This also admits of dispute. For if the universals are always more of the nature of principles, evidently the uppermost of the genera are the principles; for these are predicated of all things. There will, then, be as many principles of things as there are primary genera, so that both being and unity will be principles and substances; for these are most of all predicated of all existing things. But it is not possible that either unity or being should be a single genus of things; for the differentiae of any genus must each of them both have being and be one, but it is not possible for the genus taken apart from its species (any more than for the species of the genus) to be predicated of its proper differentiae; so that if unity or being is a genus, no differentia will either have being or be one. But if unity and being are not genera, neither will they be principles, if the genera are the principles. Again, the intermediate kinds, in whose nature the differentiae are included, will on this theory be genera, down to the indivisible species; but as it is, some are thought to be genera and others are not thought to be so. Besides this, the differentiae are principles even more than the genera; and if these also are principles, there comes to be practically an infinite number of principles, especially if we suppose the highest genus to be a principle.-But again, if unity is more of the nature of a principle, and the indivisible is one, and everything indivisible is so either in quantity or in species, and that which is so in species is the prior, and genera are divisible into species for man is not the genus of individual men), that which is predicated directly of the individuals will have more unity.-Further, in the case of things in which the distinction of prior and posterior is present, that which is predicable of these things cannot be something apart from them (e.g. if two is the first of numbers, there will not be a Number apart from the kinds of numbers; and similarly there will not be a Figure apart from the kinds of figures; and if the genera of these things do not exist apart from the species, the genera of other things will scarcely do so; for genera of these things are

thought to exist if any do). But among the individuals one is not prior and another posterior. Further, where one thing is better and another worse, the better is always prior; so that of these also no genus can exist. From these considerations, then, the species predicated of individuals seem to be principles rather than the genera. But again, it is not easy to say in what sense these are to be taken as principles. For the principle or cause must exist alongside of the things of which it is the principle, and must be capable of existing in separation from them; but for what reason should we suppose any such thing to exist alongside of the individual, except that it is predicated universally and of all? But if this is the reason, the things that are more universal must be supposed to be more of the nature of principles; so that the highest genera would be the principles.

4

(8) There is a difficulty connected with these, the hardest of all and the most necessary to examine, and of this the discussion now awaits us. If, on the one hand, there is nothing apart from individual things, and the individuals are infinite in number, how then is it possible to get knowledge of the infinite individuals? For all things that we come to know, we come to know in so far as they have some unity and identity, and in so far as some attribute belongs to them universally.

But if this is necessary, and there must be something apart from the individuals, it will be necessary that the genera exist apart from the individuals, either the lowest or the highest genera; but we found by discussion just now that this is impossible.

Further, if we admit in the fullest sense that something exists apart from the concrete thing, whenever something is predicated of the matter, must there, if there is something apart, be something apart from each set of individuals, or from some and not from others, or from none? (A) If there is nothing apart from individuals, there will be no object of thought, but all things will be objects of sense, and there will not be knowledge of anything, unless we say that sensation is knowledge. Further, nothing will be eternal or unmovable; for all perceptible things perish and are in movement. But if there is nothing eternal, neither can there be a process of coming to be; for there must be something that comes to be, i.e. from which something comes to be, and the ultimate term in this series cannot have come to be, since the series has a limit and since nothing can come to be out of that which is not. Further, if generation and movement exist there must also be a limit; for no movement is infinite, but every movement has an end, and that which is incapable of completing its coming to be cannot be in process of coming to be; and that which has completed its coming to be must he as soon as it has come to be. Further, since the matter exists, because it is ungenerated, it is a fortiori reasonable that the substance or essence, that which the matter is at any time coming to be, should exist; for if neither essence nor matter is to be, nothing will be at all, and since this is impossible there must be something besides the concrete thing, viz. the shape or form.

But again (B) if we are to suppose this, it is hard to say in which cases we are to suppose it and in which not. For evidently it is not possible to suppose it in all cases; we could not suppose that there is a house besides the particular houses.-Besides this, will the substance of all the individuals, e.g. of all men, be one? This is paradoxical, for all the things whose substance is one are one. But are the substances many and different? This also is unreasonable.-At the same time, how does the matter become each of the individuals, and how is the concrete thing these two elements?

(9) Again, one might ask the following question also about the first principles. If they are one in kind only, nothing will be numerically one, not even unity-itself and being-itself; and how will knowing exist, if there is not to be something common to a whole set of individuals?

But if there is a common element which is numerically one, and each of the principles is one, and the principles are not as in the case of perceptible things different for different things (e.g. since this particular syllable is the same in kind whenever it occurs, the elements it are also the same in kind; only in kind, for these also, like the syllable, are numerically different in different contexts),-if it is not like this but the principles of things are numerically one, there will be nothing else besides the elements (for there is no difference of meaning between ‘numerically one’ and ‘individual’; for this is just what we mean by the individual-the numerically one, and by the universal we mean that which is predicable of the individuals). Therefore it will be just as if the elements of articulate sound were limited in number; all the language in the world would be confined to the ABC, since there could not be two or more letters of the same kind.

(10) One difficulty which is as great as any has been neglected both by modern philosophers and by their predecessors-whether the principles of perishable and those of imperishable things are the same or different. If they are the same, how are some things perishable and others imperishable, and for what reason? The school of Hesiod and all the theologians thought only of what was plausible to themselves, and had no regard to us. For, asserting the first principles to be gods and born of gods, they say that the beings which did not taste of nectar and ambrosia became mortal; and clearly they are using words which are familiar to themselves, yet what they have said about the very application of these causes is above our comprehension. For if the gods taste of nectar and ambrosia for their pleasure, these are in no wise the causes of their existence; and if they taste them to maintain their existence, how can gods who need food be eternal?-But into the subtleties of the mythologists it is not worth our while to inquire seriously; those, however, who use the language of proof we must cross-examine and ask why, after all, things which consist of the same elements are, some of them, eternal in nature, while others perish. Since these philosophers mention no cause, and it is unreasonable that things should be as they say, evidently the principles or causes of things cannot be the same. Even the man whom one might suppose to speak most consistently-Empedocles, even he has made the same mistake; for he maintains that strife is a principle that causes destruction, but even strife would seem no less to produce everything, except the One; for all things excepting God proceed from strife. At least he says: —

From which all that was and is and will be hereafter-
Trees, and men and women, took their growth,
And beasts and birds and water-nourished fish,
And long-aged gods.

The implication is evident even apart from these words; for if strife had not been present in things, all things would have been one, according to him; for when they have come together, ‘then strife stood outermost.’ Hence it also follows on his theory that God most blessed is less wise than all others; for he does not know all the elements; for he has in him no strife, and knowledge is of the like by the like. ‘For by earth,’ he says,

we see earth, by water water,
By ether godlike ether, by fire wasting fire,
Love by love, and strife by gloomy strife.

But-and this is the point we started from this at least is evident, that on his theory it follows that strife is as much the cause of existence as of destruction. And similarly love is not specially the cause of existence; for in collecting things into the One it destroys all other things. And at the same time Empedocles mentions no cause of the change itself, except that things are so by nature.

But when strife at last waxed great in the limbs of the
Sphere,
And sprang to assert its rights as the time was fulfilled
Which is fixed for them in turn by a mighty oath.

This implies that change was necessary; but he shows no cause of the necessity. But yet so far at least he alone speaks consistently; for he does not make some things perishable and others imperishable, but makes all perishable except the elements. The difficulty we are speaking of now is, why some things are perishable and others are not, if they consist of the same principles.

Let this suffice as proof of the fact that the principles cannot be the same. But if there are different principles, one difficulty is whether these also will be imperishable or perishable. For if they are perishable, evidently these also must consist of certain elements (for all things that perish, perish by being resolved into the elements of which they consist); so that it follows that prior to the principles there are other principles. But this is impossible, whether the process has a limit or proceeds to infinity. Further, how will perishable things exist, if their principles are to be annulled? But if the principles are imperishable, why will things composed of some imperishable principles be perishable, while those composed of the others are imperishable? This is not probable, but is either impossible or needs much proof. Further, no one has even tried to maintain different principles; they maintain the same principles for all things. But they swallow the difficulty we stated first as if they took it to be something trifling.

(11) The inquiry that is both the hardest of all and the most necessary for knowledge of the truth is whether being and unity are the substances of things, and whether each of them, without being anything else, is being or unity respectively, or we must inquire what being and unity are, with the implication that they have some other underlying nature. For some people think they are of the former, others think they are of the latter character. Plato and the Pythagoreans thought being and unity were nothing else, but this was their nature, their essence being just unity and being. But the natural philosophers take a different line; e.g. Empedocles-as though reducing to something more intelligible-says what unity is; for he would seem to say it is love: at least, this is for all things the cause of their being one. Others say this unity and being, of which things consist and have been made, is fire, and others say it is air. A similar view is expressed by those who make the elements more than one; for these also must say that unity and being are precisely all the things which they say are principles.

(A) If we do not suppose unity and being to be substances, it follows that none of the other universals is a substance; for these are most universal of all, and if there is no unity itself or being-itself, there will scarcely be in any other case anything apart from what are called the individuals. Further, if unity is not a substance, evidently number also will not exist as an entity separate from the individual things; for number is units, and the unit is precisely a certain kind of one.

But (B) if there is a unity-itself and a being itself, unity and being must be their substance; for it is not something else that is predicated universally of the things that are and are one, but just unity and being. But if there is to be a being-itself and a unity-itself, there is much difficulty in seeing how there will be anything else besides these,-I mean, how things will be more than one in number. For what is different from being does not exist, so that it necessarily follows, according to the argument of Parmenides, that all things that are are one and this is being.

There are objections to both views. For whether unity is not a substance or there is a unity-itself, number cannot be a substance. We have already said why this result follows if unity is not a substance; and if it is, the same difficulty arises as arose with regard to being. For whence is there to be another one besides unity-itself? It must be not-one; but all things are either one or many, and of the many each is one.

Further, if unity-itself is indivisible, according to Zeno's postulate it will be nothing. For that which neither when added makes a thing greater nor when subtracted makes it less, he asserts to have no being, evidently assuming that whatever has being is a spatial magnitude. And if it is a magnitude, it is corporeal; for the corporeal has being in every dimension, while the other objects of mathematics, e.g. a plane or a line, added in one way will increase what they are added to, but in another way will not do so, and a point or a unit does so in no way. But, since his theory is of a low order, and an indivisible thing can exist in such a way as to have a defence even against him (for the indivisible when added will make the number, though not the size, greater),-yet how can a magnitude proceed from one such indivisible or from many? It is like saying that the line is made out of points.

But even if ore supposes the case to be such that, as some say, number proceeds from unity-itself and something else which is not one, none the less we must inquire why and how the product will be sometimes a number and sometimes a magnitude, if the not-one was inequality and was the same principle in either case. For it is not evident how magnitudes could proceed either from the one and this principle, or from some number and this principle.

5

(14) A question connected with these is whether numbers and bodies and planes and points are substances of a kind, or not. If they are not, it baffles us to say what being is and what the substances of things are. For modifications and movements and relations and dispositions and ratios do not seem to indicate the substance of anything; for all are predicated of a subject, and none is a 'this'. And as to the things which might seem most of all to indicate substance, water and earth and fire and air, of which composite bodies consist, heat and cold and the like are modifications of these, not substances, and the body which is thus modified alone persists as something real and as a substance. But, on the other hand, the body is surely less of a substance than the surface, and the surface than the line, and the line than the unit and the point. For the body is bounded by these; and they are thought to be capable of existing without body, but body incapable of existing without these. This is why, while most of the philosophers and the earlier among them thought that

substance and being were identical with body, and that all other things were modifications of this, so that the first principles of the bodies were the first principles of being, the more recent and those who were held to be wiser thought numbers were the first principles. As we said, then, if these are not substance, there is no substance and no being at all; for the accidents of these it cannot be right to call beings.

But if this is admitted, that lines and points are substance more than bodies, but we do not see to what sort of bodies these could belong (for they cannot be in perceptible bodies), there can be no substance.-Further, these are all evidently divisions of body,-one in breadth, another in depth, another in length. Besides this, no sort of shape is present in the solid more than any other; so that if the Hermes is not in the stone, neither is the half of the cube in the cube as something determinate; therefore the surface is not in it either; for if any sort of surface were in it, the surface which marks off the half of the cube would be in it too. And the same account applies to the line and to the point and the unit. Therefore, if on the one hand body is in the highest degree substance, and on the other hand these things are so more than body, but these are not even instances of substance, it baffles us to say what being is and what the substance of things is.-For besides what has been said, the questions of generation and instruction confront us with further paradoxes. For if substance, not having existed before, now exists, or having existed before, afterwards does not exist, this change is thought to be accompanied by a process of becoming or perishing; but points and lines and surfaces cannot be in process either of becoming or of perishing, when they at one time exist and at another do not. For when bodies come into contact or are divided, their boundaries simultaneously become one in the one case when they touch, and two in the other-when they are divided; so that when they have been put together one boundary does not exist but has perished, and when they have been divided the boundaries exist which before did not exist (for it cannot be said that the point, which is indivisible, was divided into two). And if the boundaries come into being and cease to be, from what do they come into being? A similar account may also be given of the ‘now’ in time; for this also cannot be in process of coming into being or of ceasing to be, but yet seems to be always different, which shows that it is not a substance. And evidently the same is true of points and lines and planes; for the same argument applies, since they are all alike either limits or divisions.

In general one might raise the question why after all, besides perceptible things and the intermediates, we have to look for another class of things, i.e. the Forms which we posit. If it is for this reason, because the objects of mathematics, while they differ from the things in this world in some other respect, differ not at all in that there are many of the same kind, so that their first principles cannot be limited in number (just as the elements of all the language in this sensible world are not limited in number, but in kind, unless one takes the elements of this individual syllable or of this individual articulate sound-whose elements will be limited even in number; so is it also in the case of the intermediates; for there also the members of the same kind are infinite in number), so that if there are not-besides perceptible and mathematical objects-others such as some maintain the Forms to be, there will be no substance which is one in number, but only in kind, nor will the first principles of things be determinate in number, but only in kind:-if then this must be so, the Forms also must therefore be held to exist. Even if those who support this view do not express it articulately, still this is what they mean, and they must be maintaining the Forms just because each of the Forms is a substance and none is by accident.

But if we are to suppose both that the Forms exist and that the principles are one in number, not in kind, we have mentioned the impossible results that necessarily follow.

(13) Closely connected with this is the question whether the elements exist potentially or in some other manner. If in some other way, there will be something else prior to the first principles; for the potency is prior to the actual cause, and it is not necessary for everything potential to be actual.-But if the elements exist potentially, it is possible that everything that is should not be. For even that which is not yet is capable of being; for that which is not comes to be, but nothing that is incapable of being comes to be.

(12) We must not only raise these questions about the first principles, but also ask whether they are universal or what we call individuals. If they are universal, they will not be substances; for everything that is common indicates not a ‘this’ but a ‘such’, but substance is a ‘this’. And if we are to be allowed to lay it down that a common predicate is a ‘this’ and a single thing,

Socrates will be several animals-himself and ‘man’ and ‘animal’, if each of these indicates a ‘this’ and a single thing.

If, then, the principles are universals, these universal. Therefore if there is to be results follow; if they are not universals but of knowledge of the principles there must be the nature of individuals, they will not be other principles prior to them, namely those knowable; for the knowledge of anything is that are universally predicated of them.

Book IV

1

THERE is a science which investigates being as being and the attributes which belong to this in virtue of its own nature. Now this is not the same as any of the so-called special sciences; for none of these others treats universally of being as being. They cut off a part of being and investigate the attribute of this part; this is what the mathematical sciences for instance do. Now since we are seeking the first principles and the highest causes, clearly there must be some thing to which these belong in virtue of its own nature. If then those who sought the elements of existing things were seeking these same principles, it is necessary that the elements must be elements of being not by accident but just because it is being. Therefore it is of being as being that we also must grasp the first causes.

2

There are many senses in which a thing may be said to 'be', but all that 'is' is related to one central point, one definite kind of thing, and is not said to 'be' by a mere ambiguity. Everything which is healthy is related to health, one thing in the sense that it preserves health, another in the sense that it produces it, another in the sense that it is a symptom of health, another because it is capable of it. And that which is medical is relative to the medical art, one thing being called medical because it possesses it, another because it is naturally adapted to it, another because it is a function of the medical art. And we shall find other words used similarly to these. So, too, there are many senses in which a thing is said to be, but all refer to one starting-point; some things are said to be because they are substances, others because they are affections of substance, others because they are a process towards substance, or destructions or privations or qualities of substance, or productive or generative of substance, or of things which are relative to substance, or negations of one of these thing of substance itself. It is for this reason that we say even of non-being that it is nonbeing. As, then, there is one science which deals with all healthy things, the same applies in the other cases also. For not only in the case of things which have one common notion does the investigation belong to one science, but also in the case of things which are related to one common nature; for even these in a sense have one common notion. It is clear then that it is the work of one science also to study the things that are, qua being.-But everywhere science deals chiefly with that which is primary, and on which the other things depend, and in virtue of which they get their names. If, then, this is substance, it will be of substances that the philosopher must grasp the principles and the causes.

Now for each one class of things, as there is one perception, so there is one science, as for instance grammar, being one science, investigates all articulate sounds. Hence to investigate all the species of being qua being is the work of a science which is generically one, and to investigate the several species is the work of the specific parts of the science.

If, now, being and unity are the same and are one thing in the sense that they are implied in one another as principle and cause are, not in the sense that they are explained by the same definition (though it makes no difference even if we suppose them to be like that-in fact this would even strengthen our case); for ‘one man’ and ‘man’ are the same thing, and so are ‘existent man’ and ‘man’, and the doubling of the words in ‘one man and one existent man’ does not express anything different (it is clear that the two things are not separated either in coming to be or in ceasing to be); and similarly ‘one existent man’ adds nothing to ‘existent man’, and that it is obvious that the addition in these cases means the same thing, and unity is nothing apart from being; and if, further, the substance of each thing is one in no merely accidental way, and similarly is from its very nature something that is:-all this being so, there must be exactly as many species of being as of unity. And to investigate the essence of these is the work of a science which is generically one-I mean, for instance, the discussion of the same and the similar and the other concepts of this sort; and nearly all contraries may be referred to this origin; let us take them as having been investigated in the ‘Selection of Contraries’.

And there are as many parts of philosophy as there are kinds of substance, so that there must necessarily be among them a first philosophy and one which follows this. For being falls immediately into genera; for which reason the sciences too will correspond to these genera. For the philosopher is like the mathematician, as that word is used; for mathematics also has parts, and there is a first and a second science and other successive ones within the sphere of mathematics.

Now since it is the work of one science to investigate opposites, and plurality is opposed to unity-and it belongs to one science to investigate the negation and the privation because in both cases we are really investigating the one thing of which the negation or the privation is a negation or privation (for we either say simply that that thing is not present, or that it is not present in some particular class; in the latter case difference is present over and above what is implied in negation; for negation means just the absence of the thing in question, while in privation there is also employed an underlying nature of which the privation is asserted):-in view of all these facts, the contraries of the concepts we named above, the other and the dissimilar and the unequal, and everything else which is derived either from these or from plurality and unity, must fall within the province of the science above named. And contrariety is one of these concepts; for contrariety is a kind of difference, and difference is a kind of otherness. Therefore, since there are many senses in which a thing is said to be one, these terms also will have many senses, but yet it belongs to one science to know them all; for a term belongs to different sciences not if it has different senses, but if it has not one meaning and its definitions cannot be referred to one central meaning. And since all things are referred to that which is primary, as for instance all things which are called one are referred to the primary one, we must say that this holds good also of the same and the other and of contraries in general; so that after distinguishing the various senses of each, we must then explain by reference to what is primary in the case of each of the predicates in question, saying how they are related to it; for some will be called what they are called because they possess it, others because they produce it, and others in other such ways.

It is evident, then, that it belongs to one science to be able to give an account of these concepts as well as of substance (this was one of the questions in our book of problems), and that it is the function of the philosopher to be able to investigate all things. For if it is not the function of the philosopher, who is it who will inquire whether Socrates and Socrates seated are the same thing, or whether one thing has one contrary, or what contrariety is, or how many meanings it has? And similarly with all other such questions. Since, then, these are essential modifications of unity qua unity and of being qua being, not qua numbers or lines or fire, it is clear that it belongs to this science to investigate both the essence of these concepts and their properties. And those who study these properties err not by leaving the sphere of philosophy, but by forgetting that substance, of which they have no correct idea, is prior to these other things. For number qua number has peculiar attributes, such as oddness and evenness, commensurability and equality, excess and defect, and these belong to numbers either in themselves or in relation to one another. And similarly the solid and the motionless and that which is in motion and the weightless and that which has weight have other peculiar properties. So too there are certain properties peculiar to being as such, and it is about these that the philosopher has to investigate the truth.-An indication of this may be mentioned: dialecticians and sophists assume the same guise as the philosopher, for sophistic is Wisdom which exists only in semblance, and dialecticians embrace all things in their dialectic, and being is common to all things; but evidently their dialectic embraces these subjects because these are proper to philosophy.-For sophistic and dialectic turn on the same class of things as philosophy, but this differs from dialectic in the nature of the faculty required and from sophistic in respect of the purpose of the philosophic life. Dialectic is merely critical where philosophy claims to know, and sophistic is what appears to be philosophy but is not.

Again, in the list of contraries one of the two columns is privative, and all contraries are reducible to being and non-being, and to unity and plurality, as for instance rest belongs to unity and movement to plurality. And nearly all thinkers agree that being and substance are composed of contraries; at least all name contraries as their first principles-some name odd and even, some hot and cold, some limit and the unlimited, some love and strife. And all the others as well are evidently reducible to unity and plurality (this reduction we must take for granted), and the principles stated by other thinkers fall entirely under these as their genera. It is obvious then from these considerations too that it belongs to one science to examine being qua being. For all things are either contraries or composed of contraries, and unity and plurality are the starting-points of all contraries. And these belong to one science, whether they have or have not one single meaning. Probably the truth is that they have not; yet even if ‘one’ has several meanings, the other meanings will be related to the primary meaning (and similarly in the case of the contraries), even if being or unity is not a universal and the same in every instance or is not separable from the particular instances (as in fact it probably is not; the unity is in some cases that of common reference, in some cases that of serial succession). And for this reason it does not belong to the geometer to inquire what is contrariety or completeness or unity or being or the same or the other, but only to presuppose these concepts and reason from this starting-point. — Obviously then it is the work of one science to examine being qua being, and the attributes which belong to it qua being, and the same science will examine not only substances but also their attributes, both those above named and the concepts ‘prior’ and ‘posterior’, ‘genus’ and ‘species’, ‘whole’ and ‘part’, and the others of this sort.

3

We must state whether it belongs to one or to different sciences to inquire into the truths which are in mathematics called axioms, and into substance. Evidently, the inquiry into these also belongs to one science, and that the science of the philosopher; for these truths hold good for everything that is, and not for some special genus apart from others. And all men use them, because they are true of being qua being and each genus has being. But men use them just so far as to satisfy their purposes; that is, as far as the genus to which their demonstrations refer extends. Therefore since these truths clearly hold good for all things qua being (for this is what is common to them), to him who studies being qua being belongs the inquiry into these as well. And for this reason no one who is conducting a special inquiry tries to say anything about their truth or falsity,-neither the geometer nor the arithmetician. Some natural philosophers indeed have done so, and their procedure was intelligible enough; for they thought that they alone were inquiring about the whole of nature and about being. But since there is one kind of thinker who is above even the natural philosopher (for nature is only one particular genus of being), the discussion of these truths also will belong to him whose inquiry is universal and deals with primary substance. Physics also is a kind of Wisdom, but it is not the first kind.-And the attempts of some of those who discuss the terms on which truth should be accepted, are due to a want of training in logic; for they should know these things already when they come to a special study, and not be inquiring into them while they are listening to lectures on it.

Evidently then it belongs to the philosopher, i.e. to him who is studying the nature of all substance, to inquire also into the principles of syllogism. But he who knows best about each genus must be able to state the most certain principles of his subject, so that he whose subject is existing things qua existing must be able to state the most certain principles of all things. This is the philosopher, and the most certain principle of all is that regarding which it is impossible to be mistaken; for such a principle must be both the best known (for all men may be mistaken about things which they do not know), and non-hypothetical. For a principle which every one must have who understands anything that is, is not a hypothesis; and that which every one must know who knows anything, he must already have when he comes to a special study. Evidently then such a principle is the most certain of all; which principle this is, let us proceed to say. It is, that the same attribute cannot at the same time belong and not belong to the same subject and in the same respect; we must presuppose, to guard against dialectical objections, any further qualifications which might be added. This, then, is the most certain of all principles, since it answers to the definition given above. For it is impossible for any one to believe the same thing to be and not to be, as some think Heraclitus says. For what a man says, he does not necessarily believe; and if it is impossible that contrary attributes should belong at the same time to the same subject (the usual qualifications must be presupposed in this premiss too), and if an opinion which contradicts another is contrary to it, obviously it is impossible for the same man at the same time to believe the same thing to be and not to be; for if a man were mistaken on this point he would have contrary opinions at the same time. It is for this reason that all who are carrying out a demonstration reduce it to this as an ultimate belief; for this is naturally the starting-point even for all the other axioms.

4

There are some who, as we said, both themselves assert that it is possible for the same thing to be and not to be, and say that people can judge this to be the case. And among others many writers about nature use this language. But we have now posited that it is impossible for anything at the same time to be and not to be, and by this means have shown that this is the most indisputable of all principles.-Some indeed demand that even this shall be demonstrated, but this they do through want of education, for not to know of what things one should demand demonstration, and of what one should not, argues want of education. For it is impossible that there should be demonstration of absolutely everything (there would be an infinite regress, so that there would still be no demonstration); but if there are things of which one should not demand demonstration, these persons could not say what principle they maintain to be more self-evident than the present one.

We can, however, demonstrate negatively even that this view is impossible, if our opponent will only say something; and if he says nothing, it is absurd to seek to give an account of our views to one who cannot give an account of anything, in so far as he cannot do so. For such a man, as such, is from the start no better than a vegetable. Now negative demonstration I distinguish from demonstration proper, because in a demonstration one might be thought to be begging the question, but if another person is responsible for the assumption we shall have negative proof, not demonstration. The starting-point for all such arguments is not the demand that our opponent shall say that something either is or is not (for this one might perhaps take to be a begging of the question), but that he shall say something which is significant both for himself and for another; for this is necessary, if he really is to say anything. For, if he means nothing, such a man will not be capable of reasoning, either with himself or with another. But if any one grants this, demonstration will be possible; for we shall already have something definite. The person responsible for the proof, however, is not he who demonstrates but he who listens; for while disowning reason he listens to reason. And again he who admits this has admitted that something is true apart from demonstration (so that not everything will be ‘so and not so’).

First then this at least is obviously true, that the word ‘be’ or ‘not be’ has a definite meaning, so that not everything will be ‘so and not so’. Again, if ‘man’ has one meaning, let this be ‘two-footed animal’; by having one meaning I understand this:-if ‘man’ means ‘X’, then if A is a man ‘X’ will be what ‘being a man’ means for him. (It makes no difference even if one were to say a word has several meanings, if only they are limited in number; for to each definition there might be assigned a different word. For instance, we might say that ‘man’ has not one meaning but several, one of which would have one definition, viz. ‘two-footed animal’, while there might be also several other definitions if only they were limited in number; for a peculiar name might be assigned to each of the definitions. If, however, they were not limited but one were to say that the word has an infinite number of meanings, obviously reasoning would be impossible; for not to have one meaning is to have no meaning, and if words have no meaning our reasoning with one another, and indeed with ourselves, has been annihilated; for it is impossible to think of anything if we do not think of one thing; but if this is possible, one name might be assigned to this thing.)

Let it be assumed then, as was said at the beginning, that the name has a meaning and has one meaning; it is impossible, then, that ‘being a man’ should mean precisely ‘not being a man’, if ‘man’ not only signifies something about one subject but also has one significance (for we do not identify ‘having one significance’ with ‘signifying something about one subject’, since on that assumption even ‘musical’ and ‘white’ and ‘man’ would have had one significance, so that all things would have been one; for they would all have had the same significance).

And it will not be possible to be and not to be the same thing, except in virtue of an ambiguity, just as if one whom we call ‘man’, others were to call ‘not-man’; but the point in question is not this, whether the same thing can at the same time be and not be a man in name, but whether it can in fact. Now if ‘man’ and ‘not-man’ mean nothing different, obviously ‘not being a man’ will mean nothing different from ‘being a man’; so that ‘being a man’ will be ‘not being a man’; for they will be one. For being one means this-being related as ‘raiment’ and ‘dress’ are, if their definition is one. And if ‘being a man’ and ‘being a not-man’ are to be one, they must mean one thing. But it was shown earlier’ that they mean different things.-Therefore, if it is true to say of anything that it is a man, it must be a two-footed animal (for this was what ‘man’ meant); and if this is necessary, it is impossible that the same thing should not at that time be a two-footed animal; for this is what ‘being necessary’ means-that it is impossible for the thing not to be. It is, then, impossible that it should be at the same time true to say the same thing is a man and is not a man.

The same account holds good with regard to ‘not being a man’, for ‘being a man’ and ‘being a not-man’ mean different things, since even ‘being white’ and ‘being a man’ are different; for the former terms are much more different so that they must a fortiori mean different things. And if any one says that 'white' means one and the same thing as 'man', again we shall say the same as what was said before, that it would follow that all things are one, and not only opposites. But if this is impossible, then what we have maintained will follow, if our opponent will only answer our question.

And if, when one asks the question simply, he adds the contradictories, he is not answering the question. For there is nothing to prevent the same thing from being both a man and white and countless other things: but still, if one asks whether it is or is not true to say that this is a man, our opponent must give an answer which means one thing, and not add that 'it is also white and large'. For, besides other reasons, it is impossible to enumerate its accidental attributes, which are infinite in number; let him, then, enumerate either all or none. Similarly, therefore, even if the same thing is a thousand times a man and a not-man, he must not, in answering the question whether this is a man, add that it is also at the same time a not-man, unless he is bound to add also all the other accidents, all that the subject is or is not; and if he does this, he is not observing the rules of argument.

And in general those who say this do away with substance and essence. For they must say that all attributes are accidents, and that there is no such thing as 'being essentially a man' or 'an animal'. For if there is to be any such thing as 'being essentially a man' this will not be 'being a not-man' or 'not being a man' (yet these are negations of it); for there was one thing which it meant, and this was the substance of something. And denoting the substance of a thing means that the essence of the thing is nothing else. But if its being essentially a man is to be the same as either being essentially a not-man or essentially not being a man, then its essence will be something else. Therefore our opponents must say that there cannot be such a definition of anything, but that all attributes are accidental; for this is the distinction between substance and accident-'white' is accidental to man, because though he is white, whiteness is not his essence. But if all statements are accidental, there will be nothing primary about which they are made, if the accidental always implies predication about a subject. The predication, then, must go on ad infinitum. But this is impossible; for not even more than two terms can be combined in accidental predication. For (1) an accident is not an accident of an accident, unless it be because both are accidents of the same subject. I mean, for instance, that the white is musical and the latter is white, only because both are accidental to man. But (2) Socrates is musical, not in this sense, that both terms are accidental to something else. Since then some predicates are accidental in this and some in that sense, (a) those which are accidental in the latter sense, in which white is accidental to Socrates, cannot form an infinite series in the upward direction; e.g. Socrates the white has not yet another accident; for no unity can be got out of such a sum. Nor again (b) will ‘white’ have another term accidental to it, e.g. ‘musical’. For this is no more accidental to that than that is to this; and at the same time we have drawn the distinction, that while some predicates are accidental in this sense, others are so in the sense in which ‘musical’ is accidental to Socrates; and the accident is an accident of an accident not in cases of the latter kind, but only in cases of the other kind, so that not all terms will be accidental. There must, then, even so be something which denotes substance. And if this is so, it has been shown that contradictories cannot be predicated at the same time.

Again, if all contradictory statements are true of the same subject at the same time, evidently all things will be one. For the same thing will be a trireme, a wall, and a man, if of everything it is possible either to affirm or to deny anything (and this premiss must be accepted by those who share the views of Protagoras). For if any one thinks that the man is not a trireme, evidently he is not a trireme; so that he also is a trireme, if, as they say, contradictory statements are both true. And we thus get the doctrine of Anaxagoras, that all things are mixed together; so that nothing really exists. They seem, then, to be speaking of the indeterminate, and, while fancying themselves to be speaking of being, they are speaking about non-being; for it is that which exists potentially and not in complete reality that is indeterminate. But they must predicate of every subject the affirmation or the negation of every attribute. For it is absurd if of each subject its own negation is to be predicable, while the negation of something else which cannot be predicated of it is not to be predicable of it; for instance, if it is true to say of a man that he is not a man, evidently it is also true to say that he is either a trireme or not a trireme. If, then, the affirmative can be predicated, the negative must be predicable too; and if the affirmative is not predicable, the negative, at least, will be more predicable than the negative of the subject itself. If, then, even the latter negative is predicable, the negative of ‘trireme’ will be also predicable; and, if this is predicable, the affirmative will be so too.

Those, then, who maintain this view are driven to this conclusion, and to the further conclusion that it is not necessary either to assert or to deny. For if it is true that a thing is a man and a not-man, evidently also it will be neither a man nor a not-man. For to the two assertions there answer two negations, and if the former is treated as a single proposition compounded out of two, the latter also is a single proposition opposite to the former.

Again, either the theory is true in all cases, and a thing is both white and not-white, and existent and non-existent, and all other assertions and negations are similarly compatible or the theory is true of some statements and not of others. And if not of all, the exceptions will be contradictories of which admittedly only one is true; but if of all, again either the negation will be true wherever the assertion is, and the assertion true wherever the negation is, or the negation will be true where the assertion is, but the assertion not always true where the negation is. And (a) in the latter case there will be something which fixedly is not, and this will be an indisputable belief; and if non-being is something indisputable and knowable, the opposite assertion will be more knowable. But (b) if it is equally possible also to assert all that it is possible to deny, one must either be saying what is true when one separates the predicates (and says, for instance, that a thing is white, and again that it is not-white), or not. And if (i) it is not true to apply the predicates separately, our opponent is not saying what he professes to say, and also nothing at all exists; but how could non-existent things speak or walk, as he does? Also all things would on this view be one, as has been already said, and man and God and trireme and their contradictories will be the same. For if contradictories can be predicated alike of each subject, one thing will in no wise differ from another; for if it differ, this difference will be something true and peculiar to it. And (ii) if one may with truth apply the predicates separately, the above-mentioned result follows none the less, and, further, it follows that all would then be right and all would be in error, and our opponent himself confesses himself to be in error.-And at the same time our discussion with him is evidently about nothing at all; for he says nothing. For he says neither ‘yes’ nor ‘no’, but ‘yes and no’; and again he denies both of these and says ‘neither yes nor no’; for otherwise there would already be something definite.

Again if when the assertion is true, the negation is false, and when this is true, the affirmation is false, it will not be possible to assert and deny the same thing truly at the same time. But perhaps they might say this was the very question at issue.

Again, is he in error who judges either that the thing is so or that it is not so, and is he right who judges both? If he is right, what can they mean by saying that the nature of existing things is of this kind? And if he is not right, but more right than he who judges in the other way, being will already be of a definite nature, and this will be true, and not at the same time also not true. But if all are alike both wrong and right, one who is in this condition will not be able either to speak or to say anything intelligible; for he says at the same time both ‘yes’ and ‘no.’ And if he makes no judgement but ‘thinks’ and ‘does not think’, indifferently, what difference will there be between him and a vegetable?-Thus, then, it is in the highest degree evident that neither any one of those who maintain this view nor any one else is really in this position. For why does a man walk to Megara and not stay at home, when he thinks he ought to be walking there? Why does he not walk early some morning into a well or over a precipice, if one happens to be in his way? Why do we observe him guarding against this, evidently because he does not think that falling in is alike good and not good? Evidently, then, he judges one thing to be better and another worse. And if this is so, he must also judge one thing to be a man and another to be not-a-man, one thing to be sweet and another to be not-sweet. For he does not aim at and judge all things alike, when, thinking it desirable to drink water or to see a man, he proceeds to aim at these things; yet he ought, if the same thing were alike a man and not-a-man. But, as was said, there is no one who does not obviously avoid some things and not others. Therefore, as it seems, all men make unqualified judgements, if not about all things, still about what is better and worse. And if this is not knowledge but opinion, they should be all the more anxious about the truth, as a sick man should be more anxious about his health than one who is healthy; for he who has opinions is, in comparison with the man who knows, not in a healthy state as far as the truth is concerned.

Again, however much all things may be ‘so and not so’, still there is a more and a less in the nature of things; for we should not say that two and three are equally even, nor is he who thinks four things are five equally wrong with him who thinks they are a thousand. If then they are not equally wrong, obviously one is less wrong and therefore more right. If then that which has more of any quality is nearer the norm, there must be some truth to which the more true is nearer. And even if there is not, still there is already something better founded and liker the truth, and we shall have got rid of the unqualified doctrine which would prevent us from determining anything in our thought.

5

From the same opinion proceeds the doctrine of Protagoras, and both doctrines must be alike true or alike untrue. For on the one hand, if all opinions and appearances are true, all statements must be at the same time true and false. For many men hold beliefs in which they conflict with one another, and think those mistaken who have not the same opinions as themselves; so that the same thing must both be and not be. And on the other hand, if this is so, all opinions must be true; for those who are mistaken and those who are right are opposed to one another in their opinions; if, then, reality is such as the view in question supposes, all will be right in their beliefs.

Evidently, then, both doctrines proceed from the same way of thinking. But the same method of discussion must not be used with all opponents; for some need persuasion, and others compulsion. Those who have been driven to this position by difficulties in their thinking can easily be cured of their ignorance; for it is not their expressed argument but their thought that one has to meet. But those who argue for the sake of argument can be cured only by refuting the argument as expressed in speech and in words.

Those who really feel the difficulties have been led to this opinion by observation of the sensible world. (1) They think that contradictories or contraries are true at the same time, because they see contraries coming into existence out of the same thing. If, then, that which is not cannot come to be, the thing must have existed before as both contraries alike, as Anaxagoras says all is mixed in all, and Democritus too; for he says the void and the full exist alike in every part, and yet one of these is being, and the other non-being. To those, then, whose belief rests on these grounds, we shall say that in a sense they speak rightly and in a sense they err. For ‘that which is’ has two meanings, so that in some sense a thing can come to be out of that which is not, while in some sense it cannot, and the same thing can at the same time be in being and not in being-but not in the same respect. For the same thing can be potentially at the same time two contraries, but it cannot actually. And again we shall ask them to believe that among existing things there is also another kind of substance to which neither movement nor destruction nor generation at all belongs.

And (2) similarly some have inferred from observation of the sensible world the truth of appearances. For they think that the truth should not be determined by the large or small number of those who hold a belief, and that the same thing is thought sweet by some when they taste it, and bitter by others, so that if all were ill or all were mad, and only two or three were well or sane, these would be thought ill and mad, and not the others.

And again, they say that many of the other animals receive impressions contrary to ours; and that even to the senses of each individual, things do not always seem the same. Which, then, of these impressions are true and which are false is not obvious; for the one set is no more true than the other, but both are alike. And this is why Democritus, at any rate, says that either there is no truth or to us at least it is not evident.

And in general it is because these thinkers suppose knowledge to be sensation, and this to be a physical alteration, that they say that what appears to our senses must be true; for it is for these reasons that both Empedocles and Democritus and, one may almost say, all the others have fallen victims to opinions of this sort. For Empedocles says that when men change their condition they change their knowledge;

For wisdom increases in men according to what is before them.

And elsewhere he says that: —

So far as their nature changed, so far to them always
Came changed thoughts into mind.

And Parmenides also expresses himself in the same way:

For as at each time the much-bent limbs are composed,
So is the mind of men; for in each and all men
‘Tis one thing thinks-the substance of their limbs:
For that of which there is more is thought.

A saying of Anaxagoras to some of his friends is also related,-that things would be for them such as they supposed them to be. And they say that

Homer also evidently had this opinion, because he made Hector, when he was unconscious from the blow, lie ‘thinking other thoughts’,-which implies that even those who are bereft of thought have thoughts, though not the same thoughts. Evidently, then, if both are forms of knowledge, the real things also are at the same time ‘both so and not so’. And it is in this direction that the consequences are most difficult. For if those who have seen most of such truth as is possible for us (and these are those who seek and love it most)-if these have such opinions and express these views about the truth, is it not natural that beginners in philosophy should lose heart? For to seek the truth would be to follow flying game.

But the reason why these thinkers held this opinion is that while they were inquiring into the truth of that which is, they thought, ‘that which is’ was identical with the sensible world; in this, however, there is largely present the nature of the indeterminate-of that which exists in the peculiar sense which we have explained; and therefore, while they speak plausibly, they do not say what is true (for it is fitting to put the matter so rather than as Epicharmus put it against Xenophanes). And again, because they saw that all this world of nature is in movement and that about that which changes no true statement can be made, they said that of course, regarding that which everywhere in every respect is changing, nothing could truly be affirmed. It was this belief that blossomed into the most extreme of the views above mentioned, that of the professed Heracliteans, such as was held by Cratylus, who finally did not think it right to say anything but only moved his finger, and criticized Heraclitus for saying that it is impossible to step twice into the same river; for he thought one could not do it even once.

But we shall say in answer to this argument also that while there is some justification for their thinking that the changing, when it is changing, does not exist, yet it is after all disputable; for that which is losing a quality has something of that which is being lost, and of that which is coming to be, something must already be. And in general if a thing is perishing, will be present something that exists; and if a thing is coming to be, there must be something from which it comes to be and something by which it is generated, and this process cannot go on ad infinitum.-But, leaving these arguments, let us insist on this, that it is not the same thing to change in quantity and in quality. Grant that in quantity a thing is not constant; still it is in respect of its form that we know each thing.-And again, it would be fair to criticize those who hold this view for asserting about the whole material universe what they saw only in a minority even of sensible things. For only that region of the sensible world which immediately surrounds us is always in process of destruction and generation; but this is-so to speak-not even a fraction of the whole, so that it would have been juster to acquit this part of the world because of the other part, than to condemn the other because of this.-And again, obviously we shall make to them also the same reply that we made long ago; we must show them and persuade them that there is something whose nature is changeless. Indeed, those who say that things at the same time are and are not, should in consequence say that all things are at rest rather than that they are in movement; for there is nothing into which they can change, since all attributes belong already to all subjects.

Regarding the nature of truth, we must maintain that not everything which appears is true; firstly, because even if sensation-at least of the object peculiar to the sense in question-is not false, still appearance is not the same as sensation.-Again, it is fair to express surprise at our opponents' raising the question whether magnitudes are as great, and colours are of such a nature, as they appear to people at a distance, or as they appear to those close at hand, and whether they are such as they appear to the healthy or to the sick, and whether those things are heavy which appear so to the weak or those which appear so to the strong, and those things true which appear to the slee ing or to the waking. For obviously they do not think these to be open questions; no one, at least, if when he is in Libya he has fancied one night that he is in Athens, starts for the concert hall.-And again with regard to the future, as Plato says, surely the opinion of the physician and that of the ignorant man are not equally weighty, for instance, on the question whether a man will get well or not.-And again, among sensations themselves the sensation of a foreign object and that of the appropriate object, or that of a kindred object and that of the object of the sense in question, are not equally authoritative, but in the case of colour sight, not taste, has the authority, and in the case of flavour taste, not sight; each of which senses never says at the same time of the same object that it simultaneously is 'so and not so'.-But not even at different times does one sense disagree about the quality, but only about that to which the quality belongs. I mean, for instance, that the same wine might seem, if either it or one's body changed, at one time sweet and at another time not sweet; but at least the sweet, such as it is when it exists, has never yet changed, but one is always right about it, and that which is to be sweet is of necessity of such and such a nature. Yet all these views destroy this necessity, leaving nothing to be of necessity, as they leave no essence of anything; for the necessary cannot be in this way and also in that, so that if anything is of necessity, it will not be ‘both so and not so’.

And, in general, if only the sensible exists, there would be nothing if animate things were not; for there would be no faculty of sense. Now the view that neither the sensible qualities nor the sensations would exist is doubtless true (for they are affections of the perceiver), but that the substrata which cause the sensation should not exist even apart from sensation is impossible. For sensation is surely not the sensation of itself, but there is something beyond the sensation, which must be prior to the sensation; for that which moves is prior in nature to that which is moved, and if they are correlative terms, this is no less the case.

6

There are, both among those who have these convictions and among those who merely profess these views, some who raise a difficulty by asking, who is to be the judge of the healthy man, and in general who is likely to judge rightly on each class of questions. But such inquiries are like puzzling over the question whether we are now asleep or awake. And all such questions have the same meaning. These people demand that a reason shall be given for everything; for they seek a starting-point, and they seek to get this by demonstration, while it is obvious from their actions that they have no conviction. But their mistake is what we have stated it to be; they seek a reason for things for which no reason can be given; for the starting-point of demonstration is not demonstration.

These, then, might be easily persuaded of this truth, for it is not difficult to grasp; but those who seek merely compulsion in argument seek what is impossible; for they demand to be allowed to contradict themselves-a claim which contradicts itself from the very first.-But if not all things are relative, but some are self-existent, not everything that appears will be true; for that which appears is apparent to some one; so that he who says all things that appear are true, makes all things relative. And, therefore, those who ask for an irresistible argument, and at the same time demand to be called to account for their views, must guard themselves by saying that the truth is not that what appears exists, but that what appears exists for him to whom it appears, and when, and to the sense to which, and under the conditions under which it appears. And if they give an account of their view, but do not give it in this way, they will soon find themselves contradicting themselves. For it is possible that the same thing may appear to be honey to the sight, but not to the taste, and that, since we have two eyes, things may not appear the same to each, if their sight is unlike. For to those who for the reasons named some time ago say that what appears is true, and therefore that all things are alike false and true, for things do not appear either the same to all men or always the same to the same man, but often have contrary appearances at the same time (for touch says there are two objects when we cross our fingers, while sight says there is one)-to these we shall say ‘yes, but not to the same sense and in the same part of it and under the same conditions and at the same time’, so that what appears will be with these qualifications true. But perhaps for this reason those who argue thus not because they feel a difficulty but for the sake of argument, should say that this is not true, but true for this man. And as has been said before, they must make everything relative-relative to opinion and perception, so that nothing either has come to be or will be without some one’s first thinking so. But if things have come to be or will be, evidently not all things will be relative to opinion.-Again, if a thing is one, it is in relation to one thing or to a definite number of things; and if the same thing is both half and equal, it is not to the double that the equal is correlative. If, then, in relation to that which thinks, man and that which is thought are the same, man will not be that which thinks, but only that which is thought. And if each thing is to be relative to that which thinks, that which thinks will be relative to an infinity of specifically different things.

Let this, then, suffice to show (1) that the most indisputable of all beliefs is that contradictory statements are not at the same time true, and (2) what consequences follow from the assertion that they are, and (3) why people do assert this. Now since it is impossible that contradictories should be at the same time true of the same thing, obviously contraries also cannot belong at the same time to the same thing. For of contraries, one is a privation no less than it is a contrary-and a privation of the essential nature; and privation is the denial of a predicate to a determinate genus. If, then, it is impossible to affirm and deny truly at the same time, it is also impossible that contraries should belong to a subject at the same time, unless both belong to it in particular relations, or one in a particular relation and one without qualification.

7

But on the other hand there cannot be an intermediate between contradictories, but of one subject we must either affirm or deny any one predicate. This is clear, in the first place, if we define what the true and the false are. To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, and of what is not that it is not, is true; so that he who says of anything that it is, or that it is not, will say either what is true or what is false; but neither what is nor what is not is said to be or not to be.-Again, the intermediate between the contradictories will be so either in the way in which grey is between black and white, or as that which is neither man nor horse is between man and horse. (a) If it were of the latter kind, it could not change into the extremes (for change is from not-good to good, or from good to not-good), but as a matter of fact when there is an intermediate it is always observed to change into the extremes. For there is no change except to opposites and to their intermediates. (b) But if it is really intermediate, in this way too there would have to be a change to white, which was not from not-white; but as it is, this is never seen.-Again, every object of understanding or reason the understanding either affirms or denies-this is obvious from the definition-whenever it says what is true or false. When it connects in one way by assertion or negation, it says what is true, and when it does so in another way, what is false.-Again, there must be an intermediate between all contradictories, if one is not arguing merely for the sake of argument; so that it will be possible for a man to say what is neither true nor untrue, and there will be a middle between that which is and that which is not, so that there will also be a kind of change intermediate between generation and destruction.-Again, in all classes in which the negation of an attribute involves the assertion of its contrary, even in these there will be an intermediate; for instance, in the sphere of numbers there will be number which is neither odd nor not-odd. But this is impossible, as is obvious from the definition.-Again, the process will go on ad infinitum, and the number of realities will be not only half as great again, but even greater. For again it will be possible to deny this intermediate with reference both to its assertion and to its negation, and this new term will be some definite thing; for its essence is something different.-Again, when a man, on being asked whether a thing is white, says ‘no’, he has denied nothing except that it is; and its not being is a negation.

Some people have acquired this opinion as other paradoxical opinions have been acquired; when men cannot refute eristical arguments, they give in to the argument and agree that the conclusion is true. This, then, is why some express this view; others do so because they demand a reason for everything. And the starting-point in dealing with all such people is definition. Now the definition rests on the necessity of their meaning something; for the form of words of which the word is a sign will be its definition.-While the doctrine of Heraclitus, that all things are and are not, seems to make everything true, that of Anaxagoras, that there is an intermediate between the terms of a contradiction, seems to make everything false; for when things are mixed, the mixture is neither good nor not-good, so that one cannot say anything that is true.

8

In view of these distinctions it is obvious that the one-sided theories which some people express about all things cannot be valid-on the one hand the theory that nothing is true (for, say they, there is nothing to prevent every statement from being like the statement ‘the diagonal of a square is commensurate with the side’), on the other hand the theory that everything is true. These views are practically the same as that of Heraclitus; for he who says that all things are true and all are false also makes each of these statements separately, so that since they are impossible, the double statement must be impossible too.-Again, there are obviously contradictories which cannot be at the same time true-nor on the other hand can all statements be false; yet this would seem more possible in the light of what has been said.-But against all such views we must postulate, as we said above,’ not that something is or is not, but that something has a meaning, so that we must argue from a definition, viz. by assuming what falsity or truth means. If that which it is true to affirm is nothing other than that which it is false to deny, it is impossible that all statements should be false; for one side of the contradiction must be true. Again, if it is necessary with regard to everything either to assert or to deny it, it is impossible that both should be false; for it is one side of the contradiction that is false.-Therefore all such views are also exposed to the often expressed objection, that they destroy themselves. For he who says that everything is true makes even the statement contrary to his own true, and therefore his own not true (for the contrary statement denies that it is true), while he who says everything is false makes himself also false.-And if the former person excepts the contrary statement, saying it alone is not true, while the latter excepts his own as being not false, none the less they are driven to postulate the truth or falsity of an infinite number of statements; for that which says the true statement is true is true, and this process will go on to infinity.

Evidently, again, those who say all things are at rest are not right, nor are those who say all things are in movement. For if all things are at rest, the same statements will always be true and the same always false,-but this obviously changes; for he who makes a statement, himself at one time was not and again will not be. And if all things are in motion, nothing will be true; everything therefore will be false. But it has been shown that this is impossible. Again, it must be that which is that changes; for change is from something to something. But again it is not the case that all things are at rest or in motion sometimes, and nothing for ever; for there is something which always moves the things that are in motion, and the first mover is itself unmoved.

Book V

1

‘BEGINNING’ means (1) that part of a thing from which one would start first, e.g a line or a road has a beginning in either of the contrary directions. (2) That from which each thing would best be originated, e.g. even in learning we must sometimes begin not from the first point and the beginning of the subject, but from the point from which we should learn most easily. (3) That from which, as an immanent part, a thing first comes to be, e,g, as the keel of a ship and the foundation of a house, while in animals some suppose the heart, others the brain, others some other part, to be of this nature. (4) That from which, not as an immanent part, a thing first comes to be, and from which the movement or the change naturally first begins, as a child comes from its father and its mother, and a fight from abusive language. (5) That at whose will that which is moved is moved and that which changes changes, e.g. the magistracies in cities, and oligarchies and monarchies and tyrannies, are called arhchai, and so are the arts, and of these especially the architectonic arts. (6) That from which a thing can first be known,-this also is called the beginning of the thing, e.g. the hypotheses are the beginnings of demonstrations. (Causes are spoken of in an equal number of senses; for all causes are beginnings.) It is common, then, to all beginnings to be the first point from which a thing either is or comes to be or is known; but of these some are immanent in the thing and others are outside. Hence the nature of a thing is a beginning, and so is the element of a thing, and thought and will, and essence, and the final cause-for the good and the beautiful are the beginning both of the knowledge and of the movement of many things.

2

‘Cause’ means (1) that from which, as immanent material, a thing comes into being, e.g. the bronze is the cause of the statue and the silver of the saucer, and so are the classes which include these. (2) The form or pattern, i.e. the definition of the essence, and the classes which include this (e.g. the ratio 2:1 and number in general are causes of the octave), and the parts included in the definition. (3) That from which the change or the resting from change first begins; e.g. the adviser is a cause of the action, and the father a cause of the child, and in general the maker a cause of the thing made and the change-producing of the changing. (4) The end, i.e. that for the sake of which a thing is; e.g. health is the cause of walking. For ‘Why does one walk?’ we say; ‘that one may be healthy’; and in speaking thus we think we have given the cause. The same is true of all the means that intervene before the end, when something else has put the process in motion, as e.g. thinning or purging or drugs or instruments intervene before health is reached; for all these are for the sake of the end, though they differ from one another in that some are instruments and others are actions.

These, then, are practically all the senses in which causes are spoken of, and as they are spoken of in several senses it follows both that there are several causes of the same thing, and in no accidental sense (e.g. both the art of sculpture and the bronze are causes of the statue not in respect of anything else but qua statue; not, however, in the same way, but the one as matter and the other as source of the movement), and that things can be causes of one another (e.g. exercise of good condition, and the latter of exercise; not, however, in the same way, but the one as end and the other as source of movement).-Again, the same thing is the cause of contraries; for that which when present causes a particular thing, we sometimes charge, when absent, with the contrary, e.g. we impute the shipwreck to the absence of the steersman, whose presence was the cause of safety; and both-the presence and the privation-are causes as sources of movement.

All the causes now mentioned fall under four senses which are the most obvious. For the letters are the cause of syllables, and the material is the cause of manufactured things, and fire and earth and all such things are the causes of bodies, and the parts are causes of the whole, and the hypotheses are causes of the conclusion, in the sense that they are that out of which these respectively are made; but of these some are cause as the substratum (e.g. the parts), others as the essence (the whole, the synthesis, and the form). The semen, the physician, the adviser, and in general the agent, are all sources of change or of rest. The remainder are causes as the end and the good of the other things; for that for the sake of which other things are tends to be the best and the end of the other things; let us take it as making no difference whether we call it good or apparent good.

These, then, are the causes, and this is the number of their kinds, but the varieties of causes are many in number, though when summarized these also are comparatively few. Causes are spoken of in many senses, and even of those which are of the same kind some are causes in a prior and others in a posterior sense, e.g. both ‘the physician’ and ‘the professional man’ are causes of health, and both ‘the ratio 2:1’ and ‘number’ are causes of the octave, and the classes that include any particular cause are always causes of the particular effect. Again, there are accidental causes and the classes which include these; e.g. while in one sense ‘the sculptor’ causes the statue, in another sense ‘Polyclitus’ causes it, because the sculptor happens to be Polyclitus; and the classes that include the accidental cause are also causes, e.g. ‘man’-or in general ‘animal’-is the cause of the statue, because Polyclitus is a man, and man is an animal. Of accidental causes also some are more remote or nearer than others, as, for instance, if ‘the white’ and ‘the musical’ were called causes of the statue, and not only ‘Polyclitus’ or ‘man’. But besides all these varieties of causes, whether proper or accidental, some are called causes as being able to act, others as acting; e.g. the cause of the house’s being built is a builder, or a builder who is building.-The same variety of language will be found with regard to the effects of causes; e.g. a thing may be called the cause of this statue or of a statue or in general of an image, and of this bronze or of bronze or of matter in general; and similarly in the case of accidental effects. Again, both accidental and proper causes may be spoken of in combination; e.g. we may say not ‘Polyclitus’ nor ‘the sculptor’ but ‘Polyclitus the sculptor’. Yet all these are but six in number, while each is spoken of in two ways; for (A) they are causes either as the individual, or as the genus, or as the accidental, or as the genus that includes the accidental, and these either as combined, or as taken simply; and (B) all may be taken as acting or as having a capacity. But they differ inasmuch as the acting causes, i.e. the individuals, exist, or do not exist, simultaneously with the things of which they are causes, e.g. this particular man who is healing, with this particular man who is recovering health, and this particular builder with this particular thing that is being built; but the potential causes are not always in this case; for the house does not perish at the same time as the builder.

3

‘Element’ means (1) the primary component immanent in a thing, and indivisible in kind into other kinds; e.g. the elements of speech are the parts of which speech consists and into which it is ultimately divided, while they are no longer divided into other forms of speech different in kind from them. If they are divided, their parts are of the same kind, as a part of water is water (while a part of the syllable is not a syllable). Similarly those who speak of the elements of bodies mean the things into which bodies are ultimately divided, while they are no longer divided into other things differing in kind; and whether the things of this sort are one or more, they call these elements. The so-called elements of geometrical proofs, and in general the elements of demonstrations, have a similar character; for the primary demonstrations, each of which is implied in many demonstrations, are called elements of demonstrations; and the primary syllogisms, which have three terms and proceed by means of one middle, are of this nature.

(2) People also transfer the word ‘element’ from this meaning and apply it to that which, being one and small, is useful for many purposes; for which reason what is small and simple and indivisible is called an element. Hence come the facts that the most universal things are elements (because each of them being one and simple is present in a plurality of things, either in all or in as many as possible), and that unity and the point are thought by some to be first principles. Now, since the so-called genera are universal and indivisible (for there is no definition of them), some say the genera are elements, and more so than the differentia, because the genus is more universal; for where the differentia is present, the genus accompanies it, but where the genus is present, the differentia is not always so. It is common to all the meanings that the element of each thing is the first component immanent in each.

4

‘Nature’ means (1) the genesis of growing things-the meaning which would be suggested if one were to pronounce the ‘u’ in phusis long. (2) That immanent part of a growing thing, from which its growth first proceeds. (3) The source from which the primary movement in each natural object is present in it in virtue of its own essence. Those things are said to grow which derive increase from something else by contact and either by organic unity, or by organic adhesion as in the case of embryos. Organic unity differs from contact; for in the latter case there need not be anything besides the contact, but in organic unities there is something identical in both parts, which makes them grow together instead of merely touching, and be one in respect of continuity and quantity, though not of quality.-(4) ‘Nature’ means the primary material of which any natural object consists or out of which it is made, which is relatively unshaped and cannot be changed from its own potency, as e.g. bronze is said to be the nature of a statue and of bronze utensils, and wood the nature of wooden things; and so in all other cases; for when a product is made out of these materials, the first matter is preserved throughout. For it is in this way that people call the elements of natural objects also their nature, some naming fire, others earth, others air, others water, others something else of the sort, and some naming more than one of these, and others all of them.-(5) ‘Nature’ means the essence of natural objects, as with those who say the nature is the primary mode of composition, or as Empedocles says: —

Nothing that is has a nature,
But only mixing and parting of the mixed,
And nature is but a name given them by men.

Hence as regards the things that are or come to be by nature, though that from which they naturally come to be or are is already present, we say they have not their nature yet, unless they have their form or shape. That which comprises both of these exists by nature, e.g. the animals and their parts; and not only is the first matter nature (and this in two senses, either the first, counting from the thing, or the first in general; e.g. in the case of works in bronze, bronze is first with reference to them, but in general perhaps water is first, if all things that can be melted are water), but also the form or essence, which is the end of the process of becoming.-(6) By an extension of meaning from this sense of ‘nature’ every essence in general has come to be called a ‘nature’, because the nature of a thing is one kind of essence.

From what has been said, then, it is plain that nature in the primary and strict sense is the essence of things which have in themselves, as such, a source of movement; for the matter is called the nature because it is qualified to receive this, and processes of becoming and growing are called nature because they are movements proceeding from this. And nature in this sense is the source of the movement of natural objects, being present in them somehow, either potentially or in complete reality.

5

We call ‘necessary’ (1) (a) that without which, as a condition, a thing cannot live; e.g. breathing and food are necessary for an animal; for it is incapable of existing without these; (b) the conditions without which good cannot be or come to be, or without which we cannot get rid or be freed of evil; e.g. drinking the medicine is necessary in order that we may be cured of disease, and a man’s sailing to Aegina is necessary in order that he may get his money.-(2) The compulsory and compulsion, i.e. that which impedes and tends to hinder, contrary to impulse and purpose. For the compulsory is called necessary (whence the necessary is painful, as Evenus says: ‘For every necessary thing is ever irksome’), and compulsion is a form of necessity, as Sophocles says: ‘But force necessitates me to this act’. And necessity is held to be something that cannot be persuaded-and rightly, for it is contrary to the movement which accords with purpose and with reasoning.-(3) We say that that which cannot be otherwise is necessarily as it is. And from this sense of ‘necessary’ all the others are somehow derived; for a thing is said to do or suffer what is necessary in the sense of compulsory, only when it cannot act according to its impulse because of the compelling forces-which implies that necessity is that because of which a thing cannot be otherwise; and similarly as regards the conditions of life and of good; for when in the one case good, in the other life and being, are not possible without certain conditions, these are necessary, and this kind of cause is a sort of necessity. Again, demonstration is a necessary thing because the conclusion cannot be otherwise, if there has been demonstration in the unqualified sense; and the causes of this necessity are the first premisses, i.e. the fact that the propositions from which the syllogism proceeds cannot be otherwise.

Now some things owe their necessity to something other than themselves; others do not, but are themselves the source of necessity in other things. Therefore the necessary in the primary and strict sense is the simple; for this does not admit of more states than one, so that it cannot even be in one state and also in another; for if it did it would already be in more than one. If, then, there are any things that are eternal and unmovable, nothing compulsory or against their nature attaches to them.

6

'One' means (1) that which is one by accident, (2) that which is one by its own nature. (1) Instances of the accidentally one are 'Coriscus and what is musical', and 'musical Coriscus' (for it is the same thing to say 'Coriscus and what is musical', and 'musical Coriscus'), and 'what is musical and what is just', and 'musical Coriscus and just Coriscus'. For all of these are called one by virtue of an accident, 'what is just and what is musical' because they are accidents of one substance, 'what is musical and Coriscus' because the one is an accident of the other; and similarly in a sense 'musical Coriscus' is one with 'Coriscus' because one of the parts of the phrase is an accident of the other, i.e. 'musical' is an accident of Coriscus; and 'musical Coriscus' is one with 'just Coriscus' because one part of each is an accident of one and the same subject. The case is similar if the accident is predicated of a genus or of any universal name, e.g. if one says that man is the same as 'musical man'; for this is either because 'musical' is an accident of man, which is one substance, or because both are accidents of some individual, e.g. Coriscus. Both, however, do not belong to him in the same way, but one presumably as genus and included in his substance, the other as a state or affection of the substance.

The things, then, that are called one in virtue of an accident, are called so in this way. (2) Of things that are called one in virtue of their own nature some (a) are so called because they are continuous, e.g. a bundle is made one by a band, and pieces of wood are made one by glue; and a line, even if it is bent, is called one if it is continuous, as each part of the body is, e.g. the leg or the arm. Of these themselves, the continuous by nature are more one than the continuous by art. A thing is called continuous which has by its own nature one movement and cannot have any other; and the movement is one when it is indivisible, and it is indivisible in respect of time. Those things are continuous by their own nature which are one not merely by contact; for if you put pieces of wood touching one another, you will not say these are one piece of wood or one body or one continuum of any other sort. Things, then, that are continuous in any way called one, even if they admit of being bent, and still more those which cannot be bent; e.g. the shin or the thigh is more one than the leg, because the movement of the leg need not be one. And the straight line is more one than the bent; but that which is bent and has an angle we call both one and not one, because its movement may be either simultaneous or not simultaneous; but that of the straight line is always simultaneous, and no part of it which has magnitude rests while another moves, as in the bent line.

(b)(i) Things are called one in another sense because their substratum does not differ in kind; it does not differ in the case of things whose kind is indivisible to sense. The substratum meant is either the nearest to, or the farthest from, the final state. For, one the one hand, wine is said to be one and water is said to be one, qua indivisible in kind; and, on the other hand, all juices, e.g. oil and wine, are said to be one, and so are all things that can be melted, because the ultimate substratum of all is the same; for all of these are water or air.

(ii) Those things also are called one whose genus is one though distinguished by opposite differentiae-these too are all called one because the genus which underlies the differentiae is one (e.g. horse, man, and dog form a unity, because all are animals), and indeed in a way similar to that in which the matter is one. These are sometimes called one in this way, but sometimes it is the higher genus that is said to be the same (if they are infimae species of their genus)-the genus above the proximate genera; e.g. the isosceles and the equilateral are one and the same figure because both are triangles; but they are not the same triangles.

(c) Two things are called one, when the definition which states the essence of one is indivisible from another definition which shows us the other (though in itself every definition is divisible). Thus even that which has increased or is diminishing is one, because its definition is one, as, in the case of plane figures, is the definition of their form. In general those things the thought of whose essence is indivisible, and cannot separate them either in time or in place or in definition, are most of all one, and of these especially those which are substances. For in general those things that do not admit of division are called one in so far as they do not admit of it; e.g. if two things are indistinguishable qua man, they are one kind of man; if qua animal, one kind of animal; if qua magnitude, one kind of magnitude.-Now most things are called one because they either do or have or suffer or are related to something else that is one, but the things that are primarily called one are those whose substance is one,-and one either in continuity or in form or in definition; for we count as more than one either things that are not continuous, or those whose form is not one, or those whose definition is not one.

While in a sense we call anything one if it is a quantity and continuous, in a sense we do not unless it is a whole, i.e. unless it has unity of form; e.g. if we saw the parts of a shoe put together anyhow we should not call them one all the same (unless because of their continuity); we do this only if they are put together so as to be a shoe and to have already a certain single form. This is why the circle is of all lines most truly one, because it is whole and complete.

(3) The essence of what is one is to be some kind of beginning of number; for the first measure is the beginning, since that by which we first know each class is the first measure of the class; the one, then, is the beginning of the knowable regarding each class. But the one is not the same in all classes. For here it is a quarter-tone, and there it is the vowel or the consonant; and there is another unit of weight and another of movement. But everywhere the one is indivisible either in quantity or in kind. Now that which is indivisible in quantity is called a unit if it is not divisible in any dimension and is without position, a point if it is not divisible in any dimension and has position, a line if it is divisible in one dimension, a plane if in two, a body if divisible in quantity in all — i.e. in three — dimensions. And, reversing the order, that which is divisible in two dimensions is a plane, that which is divisible in one a line, that which is in no way divisible in quantity is a point or a unit,-that which has not position a unit, that which has position a point.

Again, some things are one in number, others in species, others in genus, others by analogy; in number those whose matter is one, in species those whose definition is one, in genus those to which the same figure of predication applies, by analogy those which are related as a third thing is to a fourth. The latter kinds of unity are always found when the former are; e.g. things that are one in number are also one in species, while things that are one in species are not all one in number; but things that are one in species are all one in genus, while things that are so in genus are not all one in species but are all one by analogy; while things that are one by analogy are not all one in genus.

Evidently 'many' will have meanings opposite to those of 'one'; some things are many because they are not continuous, others because their matter-either the proximate matter or the ultimate-is divisible in kind, others because the definitions which state their essence are more than one.

7

Things are said to 'be' (1) in an accidental sense, (2) by their own nature.

(1) In an accidental sense, e.g. we say 'the righteous doer is musical', and 'the man is musical', and 'the musician is a man', just as we say 'the musician builds', because the builder happens to be musical or the musician to be a builder; for here 'one thing is another' means 'one is an accident of another'. So in the cases we have mentioned; for when we say 'the man is musical' and 'the musician is a man', or 'he who is pale is musical' or 'the musician is pale', the last two mean that both attributes are accidents of the same thing; the first that the attribute is an accident of that which is, while 'the musical is a man' means that 'musical' is an accident of a man. (In this sense, too, the not-pale is said to be, because that of which it is an accident is.) Thus when one thing is said in an accidental sense to be another, this is either because both belong to the same thing, and this is, or because that to which the attribute belongs is, or because the subject which has as an attribute that of which it is itself predicated, itself is.

(2) The kinds of essential being are precisely those that are indicated by the figures of predication; for the senses of 'being' are just as many as these figures. Since, then, some predicates indicate what the subject is, others its quality, others quantity, others relation, others activity or passivity, others its 'where', others its 'when', 'being' has a meaning answering to each of these. For there is no difference between 'the man is recovering' and 'the man recovers', nor between 'the man is walking or cutting' and 'the man walks' or 'cuts'; and similarly in all other cases.

(3) Again, 'being' and 'is' mean that a statement is true, 'not being' that it is not true but falses-and this alike in the case of affirmation and of negation; e.g. 'Socrates is musical' means that this is true, or 'Socrates is not-pale' means that this is true; but 'the diagonal of the square is not commensurate

with the side’ means that it is false to say it is.

(4) Again, ‘being’ and ‘that which is’ mean that some of the things we have mentioned ‘are’ potentially, others in complete reality. For we say both of that which sees potentially and of that which sees actually, that it is ‘seeing’, and both of that which can actualize its knowledge and of that which is actualizing it, that it knows, and both of that to which rest is already present and of that which can rest, that it rests. And similarly in the case of substances; we say the Hermes is in the stone, and the half of the line is in the line, and we say of that which is not yet ripe that it is corn. When a thing is potential and when it is not yet potential must be explained elsewhere.

8

We call ‘substance’ (1) the simple bodies, i.e. earth and fire and water and everything of the sort, and in general bodies and the things composed of them, both animals and divine beings, and the parts of these. All these are called substance because they are not predicated of a subject but everything else is predicated of them.-(2) That which, being present in such things as are not predicated of a subject, is the cause of their being, as the soul is of the being of an animal.-(3) The parts which are present in such things, limiting them and marking them as individuals, and by whose destruction the whole is destroyed, as the body is by the destruction of the plane, as some say, and the plane by the destruction of the line; and in general number is thought by some to be of this nature; for if it is destroyed, they say, nothing exists, and it limits all things.-(4) The essence, the formula of which is a definition, is also called the substance of each thing.

It follows, then, that ‘substance’ has two senses, (A) ultimate substratum, which is no longer predicated of anything else, and (B) that which, being a ‘this’, is also separable and of this nature is the shape or form of each thing.

9

‘The same’ means (1) that which is the same in an accidental sense, e.g. ‘the pale’ and ‘the musical’ are the same because they are accidents of the same thing, and ‘a man’ and ‘musical’ because the one is an accident of the other; and ‘the musical’ is ‘a man’ because it is an accident of the man. (The complex entity is the same as either of the simple ones and each of these is the same as it; for both ‘the man’ and ‘the musical’ are said to be the same as ‘the musical man’, and this the same as they.) This is why all of these statements are made not universally; for it is not true to say that every man is the same as ‘the musical’ (for universal attributes belong to things in virtue of their own nature, but accidents do not belong to them in virtue of their own nature); but of the individuals the statements are made without qualification. For ‘Socrates’ and ‘musical Socrates’ are thought to be the same; but ‘Socrates’ is not predicable of more than one subject, and therefore we do not say ‘every Socrates’ as we say ‘every man’.

Some things are said to be the same in this sense, others (2) are the same by their own nature, in as many senses as that which is one by its own nature is so; for both the things whose matter is one either in kind or in number, and those whose essence is one, are said to be the same. Clearly, therefore, sameness is a unity of the being either of more than one thing or of one thing when it is treated as more than one, ie. when we say a thing is the same as itself; for we treat it as two.

Things are called ‘other’ if either their kinds or their matters or the definitions of their essence are more than one; and in general ‘other’ has meanings opposite to those of ‘the same’.

‘Different’ is applied (1) to those things which though other are the same in some respect, only not in number but either in species or in genus or by analogy; (2) to those whose genus is other, and to contraries, and to an things that have their otherness in their essence.

Those things are called ‘like’ which have the same attributes in every respect, and those which have more attributes the same than different, and those whose quality is one; and that which shares with another thing the greater number or the more important of the attributes (each of them one of two contraries) in respect of which things are capable of altering, is like that other thing. The senses of ‘unlike’ are opposite to those of ‘like’.

10

The term ‘opposite’ is applied to contradictories, and to contraries, and to relative terms, and to privation and possession, and to the extremes from which and into which generation and dissolution take place; and the attributes that cannot be present at the same time in that which is receptive of both, are said to be opposed,-either themselves of their constituents. Grey and white colour do not belong at the same time to the same thing; hence their constituents are opposed.

The term ‘contrary’ is applied (1) to those attributes differing in genus which cannot belong at the same time to the same subject, (2) to the most different of the things in the same genus, (3) to the most different of the attributes in the same recipient subject, (4) to the most different of the things that fall under the same faculty, (5) to the things whose difference is greatest either absolutely or in genus or in species. The other things that are called contrary are so called, some because they possess contraries of the above kind, some because they are receptive of such, some because they are productive of or susceptible to such, or are producing or suffering them, or are losses or acquisitions, or possessions or privations, of such. Since ‘one’ and ‘being’ have many senses, the other terms which are derived from these, and therefore ‘same’, ‘other’, and ‘contrary’, must correspond, so that they must be different for each category.

The term ‘other in species’ is applied to things which being of the same genus are not subordinate the one to the other, or which being in the same genus have a difference, or which have a contrariety in their substance; and contraries are other than one another in species (either all contraries or those which are so called in the primary sense), and so are those things whose definitions differ in the infima species of the genus (e.g. man and horse are indivisible in genus, but their definitions are different), and those which being in the same substance have a difference. ‘The same in species’ has the various meanings opposite to these.

11

The words ‘prior’ and ‘posterior’ are applied (1) to some things (on the assumption that there is a first, i.e. a beginning, in each class) because they are nearer some beginning determined either absolutely and by nature, or by reference to something or in some place or by certain people; e.g. things are prior in place because they are nearer either to some place determined by nature (e.g. the middle or the last place), or to some chance object; and that which is farther is posterior.-Other things are prior in time; some by being farther from the present, i.e. in the case of past events (for the Trojan war is prior to the Persian, because it is farther from the present), others by being nearer the present, i.e. in the case of future events (for the Nemean games are prior to the Pythian, if we treat the present as beginning and first point, because they are nearer the present).-Other things are prior in movement; for that which is nearer the first mover is prior (e.g. the boy is prior to the man); and the prime mover also is a beginning absolutely.-Others are prior in power; for that which exceeds in power, i.e. the more powerful, is prior; and such is that according to whose will the other-i.e. the posterior-must follow, so that if the prior does not set it in motion the other does not move, and if it sets it in motion it does move; and here will is a beginning.-Others are prior in arrangement; these are the things that are placed at intervals in reference to some one definite thing according to some rule, e.g. in the chorus the second man is prior to the third, and in the lyre the second lowest string is prior to the lowest; for in the one case the leader and in the other the middle string is the beginning.

These, then, are called prior in this sense, but (2) in another sense that which is prior for knowledge is treated as also absolutely prior; of these, the things that are prior in definition do not coincide with those that are prior in relation to perception. For in definition universals are prior, in relation to perception individuals. And in definition also the accident is prior to the whole, e.g. ‘musical’ to ‘musical man’, for the definition cannot exist as a whole without the part; yet musicalness cannot exist unless there is some one who is musical.

(3) The attributes of prior things are called prior, e.g. straightness is prior to smoothness; for one is an attribute of a line as such, and the other of a surface.

Some things then are called prior and posterior in this sense, others (4) in respect of nature and substance, i.e. those which can be without other things, while the others cannot be without them,-a distinction which Plato used. (If we consider the various senses of ‘being’, firstly the subject is prior, so that substance is prior; secondly, according as potency or complete reality is taken into account, different things are prior, for some things are prior in respect of potency, others in respect of complete reality, e.g. in potency the half line is prior to the whole line, and the part to the whole, and the matter to the concrete substance, but in complete reality these are posterior; for it is only when the whole has been dissolved that they will exist in complete reality.) In a sense, therefore, all things that are called prior and posterior are so called with reference to this fourth sense; for some things can exist without others in respect of generation, e.g. the whole without the parts, and others in respect of dissolution, e.g. the part without the whole. And the same is true in all other cases.

12

‘Potency’ means (1) a source of movement or change, which is in another thing than the thing moved or in the same thing qua other; e.g. the art of building is a potency which is not in the thing built, while the art of healing, which is a potency, may be in the man healed, but not in him qua healed. ‘Potency’ then means the source, in general, of change or movement in another thing or in the same thing qua other, and also (2) the source of a thing’s being moved by another thing or by itself qua other. For in virtue of that principle, in virtue of which a patient suffers anything, we call it ‘capable’ of suffering; and this we do sometimes if it suffers anything at all, sometimes not in respect of everything it suffers, but only if it suffers a change for the better — (3) The capacity of performing this well or according to intention; for sometimes we say of those who merely can walk or speak but not well or not as they intend, that they cannot speak or walk. So too (4) in the case of passivity — (5) The states in virtue of which things are absolutely impassive or unchangeable, or not easily changed for the worse, are called potencies; for things are broken and crushed and bent and in general destroyed not by having a potency but by not having one and by lacking something, and things are impassive with respect to such processes if they are scarcely and slightly affected by them, because of a ‘potency’ and because they ‘can’ do something and are in some positive state.

‘Potency’ having this variety of meanings, so too the ‘potent’ or ‘capable’ in one sense will mean that which can begin a movement (or a change in general, for even that which can bring things to rest is a ‘potent’ thing) in another thing or in itself qua other; and in one sense that over which something else has such a potency; and in one sense that which has a potency of changing into something, whether for the worse or for the better (for even that which perishes is thought to be ‘capable’ of perishing, for it would not have perished if it had not been capable of it; but, as a matter of fact, it has a certain disposition and cause and principle which fits it to suffer this; sometimes it is thought to be of this sort because it has something, sometimes because it is deprived of something; but if privation is in a sense ‘having’ or ‘habit’, everything will be capable by having something, so that things are capable both by having a positive habit and principle, and by having the privation of this, if it is possible to have a privation; and if privation is not in a sense ‘habit’, ‘capable’ is used in two distinct senses); and a thing is capable in another sense because neither any other thing, nor itself qua other, has a potency or principle which can destroy it. Again, all of these are capable either merely because the thing might chance to happen or not to happen, or because it might do so well. This sort of potency is found even in lifeless things, e.g. in instruments; for we say one lyre can speak, and another cannot speak at all, if it has not a good tone.

Incapacity is privation of capacity-i.e. of such a principle as has been described either in general or in the case of something that would naturally have the capacity, or even at the time when it would naturally already have it; for the senses in which we should call a boy and a man and a eunuch ‘incapable of begetting’ are distinct.-Again, to either kind of capacity there is an opposite incapacity-both to that which only can produce movement and to that which can produce it well.

Some things, then, are called adunata in virtue of this kind of incapacity, while others are so in another sense; i.e. both dunaton and adunaton are used as follows. The impossible is that of which the contrary is of necessity true, e.g. that the diagonal of a square is commensurate with the side is impossible, because such a statement is a falsity of which the contrary is not only true but also necessary; that it is commensurate, then, is not only false but also of necessity false. The contrary of this, the possible, is found when it is not necessary that the contrary is false, e.g. that a man should be seated is possible; for that he is not seated is not of necessity false. The possible, then, in one sense, as has been said, means that which is not of necessity false; in one, that which is true; in one, that which may be true.-A ‘potency’ or ‘power’ in geometry is so called by a change of meaning.-These senses of ‘capable’ or ‘possible’ involve no reference to potency. But the senses which involve a reference to potency all refer to the primary kind of potency; and this is a source of change in another thing or in the same thing qua other. For other things are called ‘capable’, some because something else has such a potency over them, some because it has not, some because it has it in a particular way. The same is true of the things that are incapable. Therefore the proper definition of the primary kind of potency will be ‘a source of change in another thing or in the same thing qua other’.

13

‘Quantum’ means that which is divisible into two or more constituent parts of which each is by nature a ‘one’ and a ‘this’. A quantum is a plurality if it is numerable, a magnitude if it is a measurable. ‘Plurality’ means that which is divisible potentially into non-continuous parts, ‘magnitude’ that which is divisible into continuous parts; of magnitude, that which is continuous in one dimension is length; in two breadth, in three depth. Of these, limited plurality is number, limited length is a line, breadth a surface, depth a solid.

Again, some things are called quanta in virtue of their own nature, others incidentally; e.g. the line is a quantum by its own nature, the musical is one incidentally. Of the things that are quanta by their own nature some are so as substances, e.g. the line is a quantum (for ‘a certain kind of quantum’ is present in the definition which states what it is), and others are modifications and states of this kind of substance, e.g. much and little, long and short, broad and narrow, deep and shallow, heavy and light, and all other such attributes. And also great and small, and greater and smaller, both in themselves and when taken relatively to each other, are by their own nature attributes of what is quantitative; but these names are transferred to other things also. Of things that are quanta incidentally, some are so called in the sense in which it was said that the musical and the white were quanta, viz. because that to which musicalness and whiteness belong is a quantum, and some are quanta in the way in which movement and time are so; for these also are called quanta of a sort and continuous because the things of which these are attributes are divisible. I mean not that which is moved, but the space through which it is moved; for because that is a quantum movement also is a quantum, and because this is a quantum time is one.

14

‘Quality’ means (1) the differentia of the essence, e.g. man is an animal of a certain quality because he is two-footed, and the horse is so because it is four-footed; and a circle is a figure of particular quality because it is without angles,-which shows that the essential differentia is a quality.-This, then, is one meaning of quality-the differentia of the essence, but (2) there is another sense in which it applies to the unmovable objects of mathematics, the sense in which the numbers have a certain quality, e.g. the composite numbers which are not in one dimension only, but of which the plane and the solid are copies (these are those which have two or three factors); and in general that which exists in the essence of numbers besides quantity is quality; for the essence of each is what it is once, e.g. that of is not what it is twice or thrice, but what it is once; for 6 is once 6.

(3) All the modifications of substances that move (e.g. heat and cold, whiteness and blackness, heaviness and lightness, and the others of the sort) in virtue of which, when they change, bodies are said to alter. (4) Quality in respect of virtue and vice, and in general, of evil and good.

Quality, then, seems to have practically two meanings, and one of these is the more proper. The primary quality is the differentia of the essence, and of this the quality in numbers is a part; for it is a differentia of essences, but either not of things that move or not of them qua moving. Secondly, there are the modifications of things that move, qua moving, and the differentiae of movements. Virtue and vice fall among these modifications; for they indicate differentiae of the movement or activity, according to which the things in motion act or are acted on well or badly; for that which can be moved or act in one way is good, and that which can do so in another — the contrary — way is vicious. Good and evil indicate quality especially in living things, and among these especially in those which have purpose.

15

Things are ‘relative’ (1) as double to half, and treble to a third, and in general that which contains something else many times to that which is contained many times in something else, and that which exceeds to that which is exceeded; (2) as that which can heat to that which can be heated, and that which can cut to that which can be cut, and in general the active to the passive; (3) as the measurable to the measure, and the knowable to knowledge, and the perceptible to perception.

(1) Relative terms of the first kind are numerically related either indefinitely or definitely, to numbers themselves or to 1. E.g. the double is in a definite numerical relation to 1, and that which is 'many times as great' is in a numerical, but not a definite, relation to 1, i.e. not in this or in that numerical relation to it; the relation of that which is half as big again as something else to that something is a definite numerical relation to a number; that which is n+I/n times something else is in an indefinite relation to that something, as that which is 'many times as great' is in an indefinite relation to 1; the relation of that which exceeds to that which is exceeded is numerically quite indefinite; for number is always commensurate, and 'number' is not predicated of that which is not commensurate, but that which exceeds is, in relation to that which is exceeded, so much and something more; and this something is indefinite; for it can, indifferently, be either equal or not equal to that which is exceeded.-All these relations, then, are numerically expressed and are determinations of number, and so in another way are the equal and the like and the same. For all refer to unity. Those things are the same whose substance is one; those are like whose quality is one; those are equal whose quantity is one; and 1 is the beginning and measure of number, so that all these relations imply number, though not in the same way.

(2) Things that are active or passive imply an active or a passive potency and the actualizations of the potencies; e.g. that which is capable of heating is related to that which is capable of being heated, because it can heat it, and, again, that which heats is related to that which is heated and that which cuts to that which is cut, in the sense that they actually do these things. But numerical relations are not actualized except in the sense which has been elsewhere stated; actualizations in the sense of movement they have not. Of relations which imply potency some further imply particular periods of time, e.g. that which has made is relative to that which has been made, and that which will make to that which will be made. For it is in this way that a father is called the father of his son; for the one has acted and the other has been acted on in a certain way. Further, some relative terms imply privation of potency, i.e. 'incapable' and terms of this sort, e.g. 'invisible'.

Relative terms which imply number or potency, therefore, are all relative because their very essence includes in its nature a reference to something else, not because something else involves a reference to it; but (3) that which is measurable or knowable or thinkable is called relative because something else involves a reference to it. For ‘that which is thinkable’ implies that the thought of it is possible, but the thought is not relative to ‘that of which it is the thought’; for we should then have said the same thing twice. Similarly sight is the sight of something, not ‘of that of which it is the sight’ (though of course it is true to say this); in fact it is relative to colour or to something else of the sort. But according to the other way of speaking the same thing would be said twice,-’the sight is of that of which it is.’

Things that are by their own nature called relative are called so sometimes in these senses, sometimes if the classes that include them are of this sort; e.g. medicine is a relative term because its genus, science, is thought to be a relative term. Further, there are the properties in virtue of which the things that have them are called relative, e.g. equality is relative because the equal is, and likeness because the like is. Other things are relative by accident; e.g. a man is relative because he happens to be double of something and double is a relative term; or the white is relative, if the same thing happens to be double and white.

16

What is called ‘complete’ is (1) that outside which it is not possible to find any, even one, of its parts; e.g. the complete time of each thing is that outside which it is not possible to find any time which is a part proper to it.-(2) That which in respect of excellence and goodness cannot be excelled in its kind; e.g. we have a complete doctor or a complete flute-player, when they lack nothing in respect of the form of their proper excellence. And thus, transferring the word to bad things, we speak of a complete scandal-monger and a complete thief; indeed we even call them good, i.e. a good thief and a good scandal-monger. And excellence is a completion; for each thing is complete and every substance is complete, when in respect of the form of its proper excellence it lacks no part of its natural magnitude.-(3) The things which have attained their end, this being good, are called complete; for things are complete in virtue of having attained their end. Therefore, since the end is something ultimate, we transfer the word to bad things and say a thing has been completely spoilt, and completely destroyed, when it in no wise falls short of destruction and badness, but is at its last point. This is why death, too, is by a figure of speech called the end, because both are last things. But the ultimate purpose is also an end.-Things, then, that are called complete in virtue of their own nature are so called in all these senses, some because in respect of goodness they lack nothing and cannot be excelled and no part proper to them can be found outside them, others in general because they cannot be exceeded in their several classes and no part proper to them is outside them; the others presuppose these first two kinds, and are called complete because they either make or have something of the sort or are adapted to it or in some way or other involve a reference to the things that are called complete in the primary sense.

17

'Limit' means (1) the last point of each thing, i.e. the first point beyond which it is not possible to find any part, and the first point within which every part is; (2) the form, whatever it may be, of a spatial magnitude or of a thing that has magnitude; (3) the end of each thing (and of this nature is that towards which the movement and the action are, not that from which they are-though sometimes it is both, that from which and that to which the movement is, i.e. the final cause); (4) the substance of each thing, and the essence of each; for this is the limit of knowledge; and if of knowledge, of the object also. Evidently, therefore, 'limit' has as many senses as 'beginning', and yet more; for the beginning is a limit, but not every limit is a beginning.

18

'That in virtue of which' has several meanings:-(1) the form or substance of each thing, e.g. that in virtue of which a man is good is the good itself, (2) the proximate subject in which it is the nature of an attribute to be found, e.g. colour in a surface. 'That in virtue of which', then, in the primary sense is the form, and in a secondary sense the matter of each thing and the proximate substratum of each.-In general 'that in virtue of which' will found in the same number of senses as 'cause'; for we say indifferently (3) in virtue of what has he come?' or 'for what end has he come?'; and (4) in virtue of what has he inferred wrongly, or inferred?’ or ‘what is the cause of the inference, or of the wrong inference?’-Further (5) Kath’ d is used in reference to position, e.g. ‘at which he stands’ or ‘along which he walks; for all such phrases indicate place and position.

Therefore ‘in virtue of itself’ must likewise have several meanings. The following belong to a thing in virtue of itself:-(1) the essence of each thing, e.g. Callias is in virtue of himself Callias and what it was to be Callias;-(2) whatever is present in the ‘what’, e.g. Callias is in virtue of himself an animal. For ‘animal’ is present in his definition; Callias is a particular animal.-(3) Whatever attribute a thing receives in itself directly or in one of its parts; e.g. a surface is white in virtue of itself, and a man is alive in virtue of himself; for the soul, in which life directly resides, is a part of the man.-(4) That which has no cause other than itself; man has more than one cause — animal, two-footed — but yet man is man in virtue of himself.-(5) Whatever attributes belong to a thing alone, and in so far as they belong to it merely by virtue of itself considered apart by itself.

19

‘Disposition’ means the arrangement of that which has parts, in respect either of place or of potency or of kind; for there must be a certain position, as even the word ‘disposition’ shows.

20

‘Having’ means (1) a kind of activity of the haver and of what he has-something like an action or movement. For when one thing makes and one is made, between them there is a making; so too between him who has a garment and the garment which he has there is a having. This sort of having, then, evidently we cannot have; for the process will go on to infinity, if it is to be possible to have the having of what we have.-(2) ‘Having’ or ‘habit’ means a disposition according to which that which is disposed is either well or ill disposed, and either in itself or with reference to something else; e.g. health is a ‘habit’; for it is such a disposition.-(3) We speak of a ‘habit’ if there is a portion of such a disposition; and so even the excellence of the parts is a ‘habit’ of the whole thing.

21

‘Affection’ means (1) a quality in respect of which a thing can be altered, e.g. white and black, sweet and bitter, heaviness and lightness, and all others of the kind.-(2) The actualization of these-the already accomplished alterations.-(3) Especially, injurious alterations and movements, and, above all painful injuries.-(4) Misfortunes and painful experiences when on a large scale are called affections.

22

We speak of ‘privation’ (1) if something has not one of the attributes which a thing might naturally have, even if this thing itself would not naturally have it; e.g. a plant is said to be ‘deprived’ of eyes.-(2) If, though either the thing itself or its genus would naturally have an attribute, it has it not; e.g. a blind man and a mole are in different senses ‘deprived’ of sight; the latter in contrast with its genus, the former in contrast with his own normal nature.-(3) If, though it would naturally have the attribute, and when it would naturally have it, it has it not; for blindness is a privation, but one is not ‘blind’ at any and every age, but only if one has not sight at the age at which one would naturally have it. Similarly a thing is called blind if it has not sight in the medium in which, and in respect of the organ in respect of which, and with reference to the object with reference to which, and in the circumstances in which, it would naturally have it.-(4) The violent taking away of anything is called privation.

Indeed there are just as many kinds of privations as there are of words with negative prefixes; for a thing is called unequal because it has not equality though it would naturally have it, and invisible either because it has no colour at all or because it has a poor colour, and apodous either because it has no feet at all or because it has imperfect feet. Again, a privative term may be used because the thing has little of the attribute (and this means having it in a sense imperfectly), e.g. ‘kernel-less’; or because it has it not easily or not well (e.g. we call a thing uncuttable not only if it cannot be cut but also if it cannot be cut easily or well); or because it has not the attribute at all; for it is not the one-eyed man but he who is sightless in both eyes that is called blind. This is why not every man is ‘good’ or ‘bad’, ‘just’ or ‘unjust’, but there is also an intermediate state.

23

To ‘have’ or ‘hold’ means many things:-(1) to treat a thing according to one’s own nature or according to one’s own impulse; so that fever is said to have a man, and tyrants to have their cities, and people to have the clothes they wear.-(2) That in which a thing is present as in something receptive of it is said to have the thing; e.g. the bronze has the form of the statue, and the body has the disease.-(3) As that which contains holds the things contained; for a thing is said to be held by that in which it is as in a container; e.g. we say that the vessel holds the liquid and the city holds men and the ship sailors; and so too that the whole holds the parts.-(4) That which hinders a thing from moving or acting according to its own impulse is said to hold it, as pillars hold the incumbent weights, and as the poets make Atlas hold the heavens, implying that otherwise they would collapse on the earth, as some of the natural philosophers also say. In this way also that which holds things together is said to hold the things it holds together, since they would otherwise separate, each according to its own impulse.

‘Being in something’ has similar and corresponding meanings to ‘holding’ or ‘having’.

24

‘To come from something’ means (1) to come from something as from matter, and this in two senses, either in respect of the highest genus or in respect of the lowest species; e.g. in a sense all things that can be melted come from water, but in a sense the statue comes from bronze.-(2) As from the first moving principle; e.g. ‘what did the fight come from?’ From abusive language, because this was the origin of the fight.-(3) From the compound of matter and shape, as the parts come from the whole, and the verse from the Iliad, and the stones from the house; (in every such case the whole is a compound of matter and shape,) for the shape is the end, and only that which attains an end is complete.-(4) As the form from its part, e.g. man from ‘two-footed’and syllable from ‘letter’; for this is a different sense from that in which the statue comes from bronze; for the composite substance comes from the sensible matter, but the form also comes from the matter of the form.-Some things, then, are said to come from something else in these senses; but (5) others are so described if one of these senses is applicable to a part of that other thing; e.g. the child comes from its father and mother, and plants come from the earth, because they come from a part of those things.-(6) It means coming after a thing in time, e.g. night comes from day and storm from fine weather, because the one comes after the other. Of these things some are so described because they admit of change into one another, as in the cases now mentioned; some merely because they are successive in time, e.g. the voyage took place 'from' the equinox, because it took place after the equinox, and the festival of the Thargelia comes 'from' the Dionysia, because after the Dionysia.

25

'Part' means (1) (a) that into which a quantum can in any way be divided; for that which is taken from a quantum qua quantum is always called a part of it, e.g. two is called in a sense a part of three. It means (b), of the parts in the first sense, only those which measure the whole; this is why two, though in one sense it is, in another is not, called a part of three.-(2) The elements into which a kind might be divided apart from the quantity are also called parts of it; for which reason we say the species are parts of the genus.-(3) The elements into which a whole is divided, or of which it consists-the 'whole' meaning either the form or that which has the form; e.g. of the bronze sphere or of the bronze cube both the bronze-i.e. the matter in which the form is-and the characteristic angle are parts.-(4) The elements in the definition which explains a thing are also parts of the whole; this is why the genus is called a part of the species, though in another sense the species is part of the genus.

26

'A whole' means (1) that from which is absent none of the parts of which it is said to be naturally a whole, and (2) that which so contains the things it contains that they form a unity; and this in two senses-either as being each severally one single thing, or as making up the unity between them. For (a) that which is true of a whole class and is said to hold good as a whole (which implies that it is a kind whole) is true of a whole in the sense that it contains many things by being predicated of each, and by all of them, e.g. man, horse, god, being severally one single thing, because all are living things. But (b) the continuous and limited is a whole, when it is a unity consisting of several parts, especially if they are present only potentially, but, failing this, even if they are present actually. Of these things themselves, those which are so by nature are wholes in a higher degree than those which are so by art, as we said in the case of unity also, wholeness being in fact a sort of oneness.

Again (3) of quanta that have a beginning and a middle and an end, those to which the position does not make a difference are called totals, and those to which it does, wholes. Those which admit of both descriptions are both wholes and totals. These are the things whose nature remains the same after transposition, but whose form does not, e.g. wax or a coat; they are called both wholes and totals; for they have both characteristics. Water and all liquids and number are called totals, but 'the whole number' or 'the whole water' one does not speak of, except by an extension of meaning. To things, to which qua one the term 'total' is applied, the term 'all' is applied when they are treated as separate; 'this total number,' 'all these units.'

27

It is not any chance quantitative thing that can be said to be 'mutilated'; it must be a whole as well as divisible. For not only is two not 'mutilated' if one of the two ones is taken away (for the part removed by mutilation is never equal to the remainder), but in general no number is thus mutilated; for it is also necessary that the essence remain; if a cup is mutilated, it must still be a cup; but the number is no longer the same. Further, even if things consist of unlike parts, not even these things can all be said to be mutilated, for in a sense a number has unlike parts (e.g. two and three) as well as like; but in general of the things to which their position makes no difference, e.g. water or fire, none can be mutilated; to be mutilated, things must be such as in virtue of their essence have a certain position. Again, they must be continuous; for a musical scale consists of unlike parts and has position, but cannot become mutilated. Besides, not even the things that are wholes are mutilated by the privation of any part. For the parts removed must be neither those which determine the essence nor any chance parts, irrespective of their position; e.g. a cup is not mutilated if it is bored through, but only if the handle or a projecting part is removed, and a man is mutilated not if the flesh or the spleen is removed, but if an extremity is, and that not every extremity but one which when completely removed cannot grow again. Therefore baldness is not a mutilation.

28

The term ‘race’ or ‘genus’ is used (1) if generation of things which have the same form is continuous, e.g. ‘while the race of men lasts’ means ‘while the generation of them goes on continuously’.-(2) It is used with reference to that which first brought things into existence; for it is thus that some are called Hellenes by race and others Ionians, because the former proceed from Hellen and the latter from Ion as their first begetter. And the word is used in reference to the begetter more than to the matter, though people also get a race-name from the female, e.g. ‘the descendants of Pyrrha’.-(3) There is genus in the sense in which ‘plane’ is the genus of plane figures and solid’ of solids; for each of the figures is in the one case a plane of such and such a kind, and in the other a solid of such and such a kind; and this is what underlies the differentiae. Again (4) in definitions the first constituent element, which is included in the ‘what’, is the genus, whose differentiae the qualities are said to be ‘Genus’ then is used in all these ways, (1) in reference to continuous generation of the same kind, (2) in reference to the first mover which is of the same kind as the things it moves, (3) as matter; for that to which the differentia or quality belongs is the substratum, which we call matter.

Those things are said to be ‘other in genus’ whose proximate substratum is different, and which are not analysed the one into the other nor both into the same thing (e.g. form and matter are different in genus); and things which belong to different categories of being (for some of the things that are said to ‘be’ signify essence, others a quality, others the other categories we have before distinguished); these also are not analysed either into one another or into some one thing.

29

‘The false’ means (1) that which is false as a thing, and that (a) because it is not put together or cannot be put together, e.g. ‘that the diagonal of a square is commensurate with the side’ or ‘that you are sitting’; for one of these is false always, and the other sometimes; it is in these two senses that they are non-existent. (b) There are things which exist, but whose nature it is to appear either not to be such as they are or to be things that do not exist, e.g. a sketch or a dream; for these are something, but are not the things the appearance of which they produce in us. We call things false in this way, then,-either because they themselves do not exist, or because the appearance which results from them is that of something that does not exist.

(2) A false account is the account of non-existent objects, in so far as it is false. Hence every account is false when applied to something other than that of which it is true; e.g. the account of a circle is false when applied to a triangle. In a sense there is one account of each thing, i.e. the account of its essence, but in a sense there are many, since the thing itself and the thing itself with an attribute are in a sense the same, e.g. Socrates and musical Socrates (a false account is not the account of anything, except in a qualified sense). Hence Antisthenes was too simple-minded when he claimed that nothing could be described except by the account proper to it,-one predicate to one subject; from which the conclusion used to be drawn that there could be no contradiction, and almost that there could be no error. But it is possible to describe each thing not only by the account of itself, but also by that of something else. This may be done altogether falsely indeed, but there is also a way in which it may be done truly; e.g. eight may be described as a double number by the use of the definition of two.

These things, then, are called false in these senses, but (3) a false man is one who is ready at and fond of such accounts, not for any other reason but for their own sake, and one who is good at impressing such accounts on other people, just as we say things are which produce a false appearance. This is why the proof in the Hippias that the same man is false and true is misleading. For it assumes that he is false who can deceive (i.e. the man who knows and is wise); and further that he who is willingly bad is better. This is a false result of induction-for a man who limps willingly is better than one who does so unwillingly-by ‘limping’ Plato means ‘mimicking a limp’, for if the man were lame willingly, he would presumably be worse in this case as in the corresponding case of moral character.

‘Accident’ means (1) that which attaches to something and can be truly asserted, but neither of necessity nor usually, e.g. if some one in digging a hole for a plant has found treasure. This-the finding of treasure-is for the man who dug the hole an accident; for neither does the one come of necessity from the other or after the other, nor, if a man plants, does he usually find treasure. And a musical man might be pale; but since this does not happen of necessity nor usually, we call it an accident. Therefore since there are attributes and they attach to subjects, and some of them attach to these only in a particular place and at a particular time, whatever attaches to a subject, but not because it was this subject, or the time this time, or the place this place, will be an accident. Therefore, too, there is no definite cause for an accident, but a chance cause, i.e. an indefinite one. Going to Aegina was an accident for a man, if he went not in order to get there, but because he was carried out of his way by a storm or captured by pirates. The accident has happened or exists,-not in virtue of the subject’s nature, however, but of something else; for the storm was the cause of his coming to a place for which he was not sailing, and this was Aegina.

‘Accident’ has also (2) another meaning, i.e. all that attaches to each thing in virtue of itself but is not in its essence, as having its angles equal to two right angles attaches to the triangle. And accidents of this sort may be eternal, but no accident of the other sort is. This is explained elsewhere.

Book VI

1

WE are seeking the principles and the causes of the things that are, and obviously of them qua being. For, while there is a cause of health and of good condition, and the objects of mathematics have first principles and elements and causes, and in general every science which is ratiocinative or at all involves reasoning deals with causes and principles, more or less precise, all these sciences mark off some particular being-some genus, and inquire into this, but not into being simply nor qua being, nor do they offer any discussion of the essence of the things of which they treat; but starting from the essence-some making it plain to the senses, others assuming it as a hypothesis-they then demonstrate, more or less cogently, the essential attributes of the genus with which they deal. It is obvious, therefore, that such an induction yields no demonstration of substance or of the essence, but some other way of exhibiting it. And similarly the sciences omit the question whether the genus with which they deal exists or does not exist, because it belongs to the same kind of thinking to show what it is and that it is.

And since natural science, like other sciences, is in fact about one class of being, i.e. to that sort of substance which has the principle of its movement and rest present in itself, evidently it is neither practical nor productive. For in the case of things made the principle is in the maker-it is either reason or art or some faculty, while in the case of things done it is in the doer-viz. will, for that which is done and that which is willed are the same. Therefore, if all thought is either practical or productive or theoretical, physics must be a theoretical science, but it will theorize about such being as admits of being moved, and about substance-as-defined for the most part only as not separable from matter. Now, we must not fail to notice the mode of being of the essence and of its definition, for, without this, inquiry is but idle. Of things defined, i.e. of 'whats', some are like 'snub', and some like 'concave'. And these differ because 'snub' is bound up with matter (for what is snub is a concave nose), while concavity is independent of perceptible matter. If then all natural things are a analogous to the snub in their nature; e.g. nose, eye, face, flesh, bone, and, in general, animal; leaf, root, bark, and, in general, plant (for none of these can be defined without reference to movement-they always have matter), it is clear how we must seek and define the ‘what’ in the case of natural objects, and also that it belongs to the student of nature to study even soul in a certain sense, i.e. so much of it as is not independent of matter.

That physics, then, is a theoretical science, is plain from these considerations. Mathematics also, however, is theoretical; but whether its objects are immovable and separable from matter, is not at present clear; still, it is clear that some mathematical theorems consider them qua immovable and qua separable from matter. But if there is something which is eternal and immovable and separable, clearly the knowledge of it belongs to a theoretical science,-not, however, to physics (for physics deals with certain movable things) nor to mathematics, but to a science prior to both. For physics deals with things which exist separately but are not immovable, and some parts of mathematics deal with things which are immovable but presumably do not exist separately, but as embodied in matter; while the first science deals with things which both exist separately and are immovable. Now all causes must be eternal, but especially these; for they are the causes that operate on so much of the divine as appears to us. There must, then, be three theoretical philosophies, mathematics, physics, and what we may call theology, since it is obvious that if the divine is present anywhere, it is present in things of this sort. And the highest science must deal with the highest genus. Thus, while the theoretical sciences are more to be desired than the other sciences, this is more to be desired than the other theoretical sciences. For one might raise the question whether first philosophy is universal, or deals with one genus, i.e. some one kind of being; for not even the mathematical sciences are all alike in this respect,-geometry and astronomy deal with a certain particular kind of thing, while universal mathematics applies alike to all. We answer that if there is no substance other than those which are formed by nature, natural science will be the first science; but if there is an immovable substance, the science of this must be prior and must be first philosophy, and universal in this way, because it is first. And it will belong to this to consider being qua being-both what it is and the attributes which belong to it qua being.

2

But since the unqualified term ‘being’ has several meanings, of which one was seen’ to be the accidental, and another the true (‘non-being’ being the false), while besides these there are the figures of predication (e.g. the ‘what’, quality, quantity, place, time, and any similar meanings which ‘being’ may have), and again besides all these there is that which ‘is’ potentially or actually:-since ‘being’ has many meanings, we must say regarding the accidental, that there can be no scientific treatment of it. This is confirmed by the fact that no science practical, productive, or theoretical troubles itself about it. For on the one hand he who produces a house does not produce all the attributes that come into being along with the house; for these are innumerable; the house that has been made may quite well be pleasant for some people, hurtful for some, and useful to others, and different-to put it shortly from all things that are; and the science of building does not aim at producing any of these attributes. And in the same way the geometer does not consider the attributes which attach thus to figures, nor whether ‘triangle’ is different from ‘triangle whose angles are equal to two right angles’.-And this happens naturally enough; for the accidental is practically a mere name. And so Plato was in a sense not wrong in ranking sophistic as dealing with that which is not. For the arguments of the sophists deal, we may say, above all with the accidental; e.g. the question whether ‘musical’ and ‘lettered’ are different or the same, and whether ‘musical Coriscus’ and ‘Coriscus’ are the same, and whether ‘everything which is, but is not eternal, has come to be’, with the paradoxical conclusion that if one who was musical has come to be lettered, he must also have been lettered and have come to be musical, and all the other arguments of this sort; the accidental is obviously akin to non-being. And this is clear also from arguments such as the following: things which are in another sense come into being and pass out of being by a process, but things which are accidentally do not. But still we must, as far as we can, say further, regarding the accidental, what its nature is and from what cause it proceeds; for it will perhaps at the same time become clear why there is no science of it.

Since, among things which are, some are always in the same state and are of necessity (not necessity in the sense of compulsion but that which we assert of things because they cannot be otherwise), and some are not of necessity nor always, but for the most part, this is the principle and this the cause of the existence of the accidental; for that which is neither always nor for the most part, we call accidental. For instance, if in the dog-days there is wintry and cold weather, we say this is an accident, but not if there is sultry heat, because the latter is always or for the most part so, but not the former. And it is an accident that a man is pale (for this is neither always nor for the most part so), but it is not by accident that he is an animal. And that the builder produces health is an accident, because it is the nature not of the builder but of the doctor to do this,-but the builder happened to be a doctor. Again, a confectioner, aiming at giving pleasure, may make something wholesome, but not in virtue of the confectioner's art; and therefore we say 'it was an accident', and while there is a sense in which he makes it, in the unqualified sense he does not. For to other things answer faculties productive of them, but to accidental results there corresponds no determinate art nor faculty; for of things which are or come to be by accident, the cause also is accidental. Therefore, since not all things either are or come to be of necessity and always, but, the majority of things are for the most part, the accidental must exist; for instance a pale man is not always nor for the most part musical, but since this sometimes happens, it must be accidental (if not, everything will be of necessity). The matter, therefore, which is capable of being otherwise than as it usually is, must be the cause of the accidental. And we must take as our starting-point the question whether there is nothing that is neither always nor for the most part. Surely this is impossible. There is, then, besides these something which is fortuitous and accidental. But while the usual exists, can nothing be said to be always, or are there eternal things? This must be considered later,' but that there is no science of the accidental is obvious; for all science is either of that which is always or of that which is for the most part. (For how else is one to learn or to teach another? The thing must be determined as occurring either always or for the most part, e.g. that honey-water is useful for a patient in a fever is true for the most part.) But that which is contrary to the usual law science will be unable to state, i.e. when the thing does not happen, e.g.'on the day of new moon'; for even that which happens on the day of new moon happens then either always or for the most part; but the accidental is contrary to such laws. We have stated, then, what the accidental is, and from what cause it arises, and that there is no science which deals with it.

3

That there are principles and causes which are generable and destructible without ever being in course of being generated or destroyed, is obvious. For otherwise all things will be of necessity, since that which is being generated or destroyed must have a cause which is not accidentally its cause. Will A exist or not? It will if B happens; and if not, not. And B will exist if C happens. And thus if time is constantly subtracted from a limited extent of time, one will obviously come to the present. This man, then, will die by violence, if he goes out; and he will do this if he gets thirsty; and he will get thirsty if something else happens; and thus we shall come to that which is now present, or to some past event. For instance, he will go out if he gets thirsty; and he will get thirsty if he is eating pungent food; and this is either the case or not; so that he will of necessity die, or of necessity not die. And similarly if one jumps over to past events, the same account will hold good; for this-I mean the past condition-is already present in something. Everything, therefore, that will be, will be of necessity; e.g. it is necessary that he who lives shall one day die; for already some condition has come into existence, e.g. the presence of contraries in the same body. But whether he is to die by disease or by violence is not yet determined, but depends on the happening of something else. Clearly then the process goes back to a certain starting-point, but this no longer points to something further. This then will be the starting-point for the fortuitous, and will have nothing else as cause of its coming to be. But to what sort of starting-point and what sort of cause we thus refer the fortuitous-whether to matter or to the purpose or to the motive power, must be carefully considered.

4

Let us dismiss accidental being; for we have sufficiently determined its nature. But since that which is in the sense of being true, or is not in the sense of being false, depends on combination and separation, and truth and falsity together depend on the allocation of a pair of contradictory judgements (for the true judgement affirms where the subject and predicate really are combined, and denies where they are separated, while the false judgement has the opposite of this allocation; it is another question, how it happens that we think things together or apart; by ‘together’ and ‘apart’ I mean thinking them so that there is no succession in the thoughts but they become a unity); for falsity and truth are not in things-it is not as if the good were true, and the bad were in itself false-but in thought; while with regard to simple concepts and ‘whats’ falsity and truth do not exist even in thought — this being so, we must consider later what has to be discussed with regard to that which is or is not in this sense. But since the combination and the separation are in thought and not in the things, and that which is in this sense is a different sort of ‘being’ from the things that are in the full sense (for the thought attaches or removes either the subject’s ‘what’ or its having a certain quality or quantity or something else), that which is accidentally and that which is in the sense of being true must be dismissed. For the cause of the former is indeterminate, and that of the latter is some affection of the thought, and both are related to the remaining genus of being, and do not indicate the existence of any separate class of being. Therefore let these be dismissed, and let us consider the causes and the principles of being itself, qua being. (It was clear in our discussion of the various meanings of terms, that ‘being’ has several meanings.)

Book VII

1

THERE are several senses in which a thing may be said to 'be', as we pointed out previously in our book on the various senses of words;' for in one sense the 'being' meant is 'what a thing is' or a 'this', and in another sense it means a quality or quantity or one of the other things that are predicated as these are. While 'being' has all these senses, obviously that which 'is' primarily is the 'what', which indicates the substance of the thing. For when we say of what quality a thing is, we say that it is good or bad, not that it is three cubits long or that it is a man; but when we say what it is, we do not say 'white' or 'hot' or 'three cubits long', but 'a man' or 'a 'god'. And all other things are said to be because they are, some of them, quantities of that which is in this primary sense, others qualities of it, others affections of it, and others some other determination of it. And so one might even raise the question whether the words 'to walk', 'to be healthy', 'to sit' imply that each of these things is existent, and similarly in any other case of this sort; for none of them is either self-subsistent or capable of being separated from substance, but rather, if anything, it is that which walks or sits or is healthy that is an existent thing. Now these are seen to be more real because there is something definite which underlies them (i.e. the substance or individual), which is implied in such a predicate; for we never use the word 'good' or 'sitting' without implying this. Clearly then it is in virtue of this category that each of the others also is. Therefore that which is primarily, i.e. not in a qualified sense but without qualification, must be substance.

Now there are several senses in which a thing is said to be first; yet substance is first in every sense-(1) in definition, (2) in order of knowledge, (3) in time. For (3) of the other categories none can exist independently, but only substance. And (1) in definition also this is first; for in the definition of each term the definition of its substance must be present. And (2) we think we know each thing most fully, when we know what it is, e.g. what man is or what fire is, rather than when we know its quality, its quantity, or its place;

since we know each of these predicates also, only when we know what the quantity or the quality is.

And indeed the question which was raised of old and is raised now and always, and is always the subject of doubt, viz. what being is, is just the question, what is substance? For it is this that some assert to be one, others more than one, and that some assert to be limited in number, others unlimited. And so we also must consider chiefly and primarily and almost exclusively what that is which is in this sense.

2

Substance is thought to belong most obviously to bodies; and so we say that not only animals and plants and their parts are substances, but also natural bodies such as fire and water and earth and everything of the sort, and all things that are either parts of these or composed of these (either of parts or of the whole bodies), e.g. the physical universe and its parts, stars and moon and sun. But whether these alone are substances, or there are also others, or only some of these, or others as well, or none of these but only some other things, are substances, must be considered. Some think the limits of body, i.e. surface, line, point, and unit, are substances, and more so than body or the solid.

Further, some do not think there is anything substantial besides sensible things, but others think there are eternal substances which are more in number and more real; e.g. Plato posited two kinds of substance-the Forms and objects of mathematics-as well as a third kind, viz. the substance of sensible bodies. And Speusippus made still more kinds of substance, beginning with the One, and assuming principles for each kind of substance, one for numbers, another for spatial magnitudes, and then another for the soul; and by going on in this way he multiplies the kinds of substance. And some say Forms and numbers have the same nature, and the other things come after them-lines and planes-until we come to the substance of the material universe and to sensible bodies.

Regarding these matters, then, we must inquire which of the common statements are right and which are not right, and what substances there are, and whether there are or are not any besides sensible substances, and how sensible substances exist, and whether there is a substance capable of separate existence (and if so why and how) or no such substance, apart from sensible substances; and we must first sketch the nature of substance.

3

The word ‘substance’ is applied, if not in more senses, still at least to four main objects; for both the essence and the universal and the genus, are thought to be the substance of each thing, and fourthly the substratum. Now the substratum is that of which everything else is predicated, while it is itself not predicated of anything else. And so we must first determine the nature of this; for that which underlies a thing primarily is thought to be in the truest sense its substance. And in one sense matter is said to be of the nature of substratum, in another, shape, and in a third, the compound of these. (By the matter I mean, for instance, the bronze, by the shape the pattern of its form, and by the compound of these the statue, the concrete whole.) Therefore if the form is prior to the matter and more real, it will be prior also to the compound of both, for the same reason.

We have now outlined the nature of substance, showing that it is that which is not predicated of a stratum, but of which all else is predicated. But we must not merely state the matter thus; for this is not enough. The statement itself is obscure, and further, on this view, matter becomes substance. For if this is not substance, it baffles us to say what else is. When all else is stripped off evidently nothing but matter remains. For while the rest are affections, products, and potencies of bodies, length, breadth, and depth are quantities and not substances (for a quantity is not a substance), but the substance is rather that to which these belong primarily. But when length and breadth and depth are taken away we see nothing left unless there is something that is bounded by these; so that to those who consider the question thus matter alone must seem to be substance. By matter I mean that which in itself is neither a particular thing nor of a certain quantity nor assigned to any other of the categories by which being is determined. For there is something of which each of these is predicated, whose being is different from that of each of the predicates (for the predicates other than substance are predicated of substance, while substance is predicated of matter). Therefore the ultimate substratum is of itself neither a particular thing nor of a particular quantity nor otherwise positively characterized; nor yet is it the negations of these, for negations also will belong to it only by accident.

If we adopt this point of view, then, it follows that matter is substance. But this is impossible; for both separability and 'thisness' are thought to belong chiefly to substance. And so form and the compound of form and matter would be thought to be substance, rather than matter. The substance compounded of both, i.e. of matter and shape, may be dismissed; for it is posterior and its nature is obvious. And matter also is in a sense manifest. But we must inquire into the third kind of substance; for this is the most perplexing.

Some of the sensible substances are generally admitted to be substances, so that we must look first among these. For it is an advantage to advance to that which is more knowable. For learning proceeds for all in this way-through that which is less knowable by nature to that which is more knowable; and just as in conduct our task is to start from what is good for each and make what is without qualification good good for each, so it is our task to start from what is more knowable to oneself and make what is knowable by nature knowable to oneself. Now what is knowable and primary for particular sets of people is often knowable to a very small extent, and has little or nothing of reality. But yet one must start from that which is barely knowable but knowable to oneself, and try to know what is knowable without qualification, passing, as has been said, by way of those very things which one does know.

4

Since at the start we distinguished the various marks by which we determine substance, and one of these was thought to be the essence, we must investigate this. And first let us make some linguistic remarks about it. The essence of each thing is what it is said to be propter se. For being you is not being musical, since you are not by your very nature musical. What, then, you are by your very nature is your essence.

Nor yet is the whole of this the essence of a thing; not that which is propter se as white is to a surface, because being a surface is not identical with being white. But again the combination of both-'being a white surface'-is not the essence of surface, because 'surface' itself is added. The formula, therefore, in which the term itself is not present but its meaning is expressed, this is the formula of the essence of each thing. Therefore if to be a white surface is to be a smooth surface, to be white and to be smooth are one and the same.

But since there are also compounds answering to the other categories (for there is a substratum for each category, e.g. for quality, quantity, time, place, and motion), we must inquire whether there is a formula of the essence of each of them, i.e. whether to these compounds also there belongs an essence, e.g. ‘white man’. Let the compound be denoted by ‘cloak’. What is the essence of cloak? But, it may be said, this also is not a propter se expression. We reply that there are just two ways in which a predicate may fail to be true of a subject propter se, and one of these results from the addition, and the other from the omission, of a determinant. One kind of predicate is not propter se because the term that is being defined is combined with another determinant, e.g. if in defining the essence of white one were to state the formula of white man; the other because in the subject another determinant is combined with that which is expressed in the formula, e.g. if ‘cloak’ meant ‘white man’, and one were to define cloak as white; white man is white indeed, but its essence is not to be white.

But is being-a-cloak an essence at all? Probably not. For the essence is precisely what something is; but when an attribute is asserted of a subject other than itself, the complex is not precisely what some ‘this’ is, e.g. white man is not precisely what some ‘this’ is, since thisness belongs only to substances. Therefore there is an essence only of those things whose formula is a definition. But we have a definition not where we have a word and a formula identical in meaning (for in that case all formulae or sets of words would be definitions; for there will be some name for any set of words whatever, so that even the Iliad will be a definition), but where there is a formula of something primary; and primary things are those which do not imply the predication of one element in them of another element. Nothing, then, which is not a species of a genus will have an essence-only species will have it, for these are thought to imply not merely that the subject participates in the attribute and has it as an affection, or has it by accident; but for ever thing else as well, if it has a name, there be a formula of its meaning-viz. that this attribute belongs to this subject; or instead of a simple formula we shall be able to give a more accurate one; but there will be no definition nor essence.

Or has ‘definition’, like ‘what a thing is’, several meanings? ‘What a thing is’ in one sense means substance and the ‘this’, in another one or other of the predicates, quantity, quality, and the like. For as ‘is’ belongs to all things, not however in the same sense, but to one sort of thing primarily and to others in a secondary way, so too ‘what a thing is’ belongs in the simple sense to substance, but in a limited sense to the other categories. For even of a quality we might ask what it is, so that quality also is a ‘what a thing is’,-not in the simple sense, however, but just as, in the case of that which is not, some say, emphasizing the linguistic form, that that is which is not is-not is simply, but is non-existent; so too with quality.

We must no doubt inquire how we should express ourselves on each point, but certainly not more than how the facts actually stand. And so now also, since it is evident what language we use, essence will belong, just as ‘what a thing is’ does, primarily and in the simple sense to substance, and in a secondary way to the other categories also,-not essence in the simple sense, but the essence of a quality or of a quantity. For it must be either by an equivocation that we say these are, or by adding to and taking from the meaning of ‘are’ (in the way in which that which is not known may be said to be known),-the truth being that we use the word neither ambiguously nor in the same sense, but just as we apply the word ‘medical’ by virtue of a reference to one and the same thing, not meaning one and the same thing, nor yet speaking ambiguously; for a patient and an operation and an instrument are called medical neither by an ambiguity nor with a single meaning, but with reference to a common end. But it does not matter at all in which of the two ways one likes to describe the facts; this is evident, that definition and essence in the primary and simple sense belong to substances. Still they belong to other things as well, only not in the primary sense. For if we suppose this it does not follow that there is a definition of every word which means the same as any formula; it must mean the same as a particular kind of formula; and this condition is satisfied if it is a formula of something which is one, not by continuity like the Iliad or the things that are one by being bound together, but in one of the main senses of ‘one’, which answer to the senses of ‘is’; now ‘that which is’ in one sense denotes a ‘this’, in another a quantity, in another a quality. And so there can be a formula or definition even of white man, but not in the sense in which there is a definition either of white or of a substance.

5

It is a difficult question, if one denies that a formula with an added determinant is a definition, whether any of the terms that are not simple but coupled will be definable. For we must explain them by adding a determinant. E.g. there is the nose, and concavity, and snubness, which is compounded out of the two by the presence of the one in the other, and it is not by accident that the nose has the attribute either of concavity or of snubness, but in virtue of its nature; nor do they attach to it as whiteness does to Callias, or to man (because Callias, who happens to be a man, is white), but as 'male' attaches to animal and 'equal' to quantity, and as all so-called 'attributes propter se' attach to their subjects. And such attributes are those in which is involved either the formula or the name of the subject of the particular attribute, and which cannot be explained without this; e.g. white can be explained apart from man, but not female apart from animal. Therefore there is either no essence and definition of any of these things, or if there is, it is in another sense, as we have said.

But there is also a second difficulty about them. For if snub nose and concave nose are the same thing, snub and concave will be the thing; but if snub and concave are not the same (because it is impossible to speak of snubness apart from the thing of which it is an attribute propter se, for snubness is concavity-in-a-nose), either it is impossible to say 'snub nose' or the same thing will have been said twice, concave-nose nose; for snub nose will be concave-nose nose. And so it is absurd that such things should have an essence; if they have, there will be an infinite regress; for in snub-nose nose yet another 'nose' will be involved.

Clearly, then, only substance is definable. For if the other categories also are definable, it must be by addition of a determinant, e.g. the qualitative is defined thus, and so is the odd, for it cannot be defined apart from number; nor can female be defined apart from animal. (When I say 'by addition' I mean the expressions in which it turns out that we are saying the same thing twice, as in these instances.) And if this is true, coupled terms also, like 'odd number', will not be definable (but this escapes our notice because our formulae are not accurate.). But if these also are definable, either it is in some other way or, as we definition and essence must be said to have more than one sense. Therefore in one sense nothing will have a definition and nothing will have an essence, except substances, but in another sense other things will have them. Clearly, then, definition is the formula of the essence, and essence belongs to substances either alone or chiefly and primarily and in the unqualified sense.

6

We must inquire whether each thing and its essence are the same or different. This is of some use for the inquiry concerning substance; for each thing is thought to be not different from its substance, and the essence is said to be the substance of each thing.

Now in the case of accidental unities the two would be generally thought to be different, e.g. white man would be thought to be different from the essence of white man. For if they are the same, the essence of man and that of white man are also the same; for a man and a white man are the same thing, as people say, so that the essence of white man and that of man would be also the same. But perhaps it does not follow that the essence of accidental unities should be the same as that of the simple terms. For the extreme terms are not in the same way identical with the middle term. But perhaps this might be thought to follow, that the extreme terms, the accidents, should turn out to be the same, e.g. the essence of white and that of musical; but this is not actually thought to be the case.

But in the case of so-called self-subsistent things, is a thing necessarily the same as its essence? E.g. if there are some substances which have no other substances nor entities prior to them-substances such as some assert the Ideas to be?-If the essence of good is to be different from good-itself, and the essence of animal from animal-itself, and the essence of being from being-itself, there will, firstly, be other substances and entities and Ideas besides those which are asserted, and, secondly, these others will be prior substances, if essence is substance. And if the posterior substances and the prior are severed from each other, (a) there will be no knowledge of the former, and (b) the latter will have no being. (By ‘severed’ I mean, if the good-itself has not the essence of good, and the latter has not the property of being good.) For (a) there is knowledge of each thing only when we know its essence. And (b) the case is the same for other things as for the good; so that if the essence of good is not good, neither is the essence of reality real, nor the essence of unity one. And all essences alike exist or none of them does; so that if the essence of reality is not real, neither is any of the others. Again, that to which the essence of good does not belong is not good.-The good, then, must be one with the essence of good, and the beautiful with the essence of beauty, and so with all things which do not depend on something else but are self-subsistent and primary. For it is enough if they are this, even if they are not Forms; or rather, perhaps, even if they are Forms. (At the same time it is clear that if there are Ideas such as some people say there are, it will not be substratum that is substance; for these must be substances, but not predicable of a substratum; for if they were they would exist only by being participated in.)

Each thing itself, then, and its essence are one and the same in no merely accidental way, as is evident both from the preceding arguments and because to know each thing, at least, is just to know its essence, so that even by the exhibition of instances it becomes clear that both must be one.

(But of an accidental term, e.g.'the musical' or 'the white', since it has two meanings, it is not true to say that it itself is identical with its essence; for both that to which the accidental quality belongs, and the accidental quality, are white, so that in a sense the accident and its essence are the same, and in a sense they are not; for the essence of white is not the same as the man or the white man, but it is the same as the attribute white.)

The absurdity of the separation would appear also if one were to assign a name to each of the essences; for there would be yet another essence besides the original one, e.g. to the essence of horse there will belong a second essence. Yet why should not some things be their essences from the start, since essence is substance? But indeed not only are a thing and its essence one, but the formula of them is also the same, as is clear even from what has been said; for it is not by accident that the essence of one, and the one, are one. Further, if they are to be different, the process will go on to infinity; for we shall have (1) the essence of one, and (2) the one, so that to terms of the former kind the same argument will be applicable.

Clearly, then, each primary and self-subsistent thing is one and the same as its essence. The sophistical objections to this position, and the question whether Socrates and to be Socrates are the same thing, are obviously answered by the same solution; for there is no difference either in the standpoint from which the question would be asked, or in that from which one could answer it successfully. We have explained, then, in what sense each thing is the same as its essence and in what sense it is not.

7

Of things that come to be, some come to be by nature, some by art, some spontaneously. Now everything that comes to be comes to be by the agency of something and from something and comes to be something. And the something which I say it comes to be may be found in any category; it may come to be either a ‘this’ or of some size or of some quality or somewhere.

Now natural comings to be are the comings to be of those things which come to be by nature; and that out of which they come to be is what we call matter; and that by which they come to be is something which exists naturally; and the something which they come to be is a man or a plant or one of the things of this kind, which we say are substances if anything is-all things produced either by nature or by art have matter; for each of them is capable both of being and of not being, and this capacity is the matter in each-and, in general, both that from which they are produced is nature, and the type according to which they are produced is nature (for that which is produced, e.g. a plant or an animal, has a nature), and so is that by which they are produced — the so-called ‘formal’ nature, which is specifically the same (though this is in another individual); for man begets man.

Thus, then, are natural products produced; all other productions are called ‘makings’. And all makings proceed either from art or from a faculty or from thought. Some of them happen also spontaneously or by luck just as natural products sometimes do; for there also the same things sometimes are produced without seed as well as from seed. Concerning these cases, then, we must inquire later, but from art proceed the things of which the form is in the soul of the artist. (By form I mean the essence of each thing and its primary substance.) For even contraries have in a sense the same form; for the substance of a privation is the opposite substance, e.g. health is the substance of disease (for disease is the absence of health); and health is the formula in the soul or the knowledge of it. The healthy subject is produced as the result of the following train of thought:-since this is health, if the subject is to be healthy this must first be present, e.g. a uniform state of body, and if this is to be present, there must be heat; and the physician goes on thinking thus until he reduces the matter to a final something which he himself can produce.

Then the process from this point onward, i.e. the process towards health, is called a ‘making’. Therefore it follows that in a sense health comes from health and house from house, that with matter from that without matter; for the medical art and the building art are the form of health and of the house, and when I speak of substance without matter I mean the essence.

Of the productions or processes one part is called thinking and the other making,-that which proceeds from the starting-point and the form is thinking, and that which proceeds from the final step of the thinking is making. And each of the other, intermediate, things is produced in the same way. I mean, for instance, if the subject is to be healthy his bodily state must be made uniform. What then does being made uniform imply? This or that. And this depends on his being made warm. What does this imply? Something else. And this something is present potentially; and what is present potentially is already in the physician’s power.

The active principle then and the starting point for the process of becoming healthy is, if it happens by art, the form in the soul, and if spontaneously, it is that, whatever it is, which starts the making, for the man who makes by art, as in healing the starting-point is perhaps the production of warmth (and this the physician produces by rubbing). Warmth in the body, then, is either a part of health or is followed (either directly or through several intermediate steps) by something similar which is a part of health; and this, viz. that which produces the part of health, is the limiting-point — and so too with a house (the stones are the limiting-point here) and in all other cases. Therefore, as the saying goes, it is impossible that anything should be produced if there were nothing existing before. Obviously then some part of the result will pre-exist of necessity; for the matter is a part; for this is present in the process and it is this that becomes something. But is the matter an element even in the formula? We certainly describe in both ways what brazen circles are; we describe both the matter by saying it is brass, and the form by saying that it is such and such a figure; and figure is the proximate genus in which it is placed. The brazen circle, then, has its matter in its formula.

As for that out of which as matter they are produced, some things are said, when they have been produced, to be not that but ‘thaten’; e.g. the statue is not gold but golden. And a healthy man is not said to be that from which he has come. The reason is that though a thing comes both from its privation and from its substratum, which we call its matter (e.g. what becomes healthy is both a man and an invalid), it is said to come rather from its privation (e.g. it is from an invalid rather than from a man that a healthy subject is produced). And so the healthy subject is not said to he an invalid, but to be a man, and the man is said to be healthy. But as for the things whose privation is obscure and nameless, e.g. in brass the privation of a particular shape or in bricks and timber the privation of arrangement as a house, the thing is thought to be produced from these materials, as in the former case the healthy man is produced from an invalid. And so, as there also a thing is not said to be that from which it comes, here the statue is not said to be wood but is said by a verbal change to be wooden, not brass but brazen, not gold but golden, and the house is said to be not bricks but bricken (though we should not say without qualification, if we looked at the matter carefully, even that a statue is produced from wood or a house from bricks, because coming to be implies change in that from which a thing comes to be, and not permanence). It is for this reason, then, that we use this way of speaking.

8

Since anything which is produced is produced by something (and this I call the starting-point of the production), and from something (and let this be taken to be not the privation but the matter; for the meaning we attach to this has already been explained), and since something is produced (and this is either a sphere or a circle or whatever else it may chance to be), just as we do not make the substratum (the brass), so we do not make the sphere, except incidentally, because the brazen sphere is a sphere and we make the forme. For to make a ‘this’ is to make a ‘this’ out of the substratum in the full sense of the word. (I mean that to make the brass round is not to make the round or the sphere, but something else, i.e. to produce this form in something different from itself. For if we make the form, we must make it out of something else; for this was assumed. E.g. we make a brazen sphere; and that in the sense that out of this, which is brass, we make this other, which is a sphere.) If, then, we also make the substratum itself, clearly we shall make it in the same way, and the processes of making will regress to infinity. Obviously then the form also, or whatever we ought to call the shape present in the sensible thing, is not produced, nor is there any production of it, nor is the essence produced; for this is that which is made to be in something else either by art or by nature or by some faculty. But that there is a brazen sphere, this we make. For we make it out of brass and the sphere; we bring the form into this particular matter, and the result is a brazen sphere. But if the essence of sphere in general is to be produced, something must be produced out of something. For the product will always have to be divisible, and one part must be this and another that; I mean the one must be matter and the other form. If, then, a sphere is ‘the figure whose circumference is at all points equidistant from the centre’, part of this will be the medium in which the thing made will be, and part will be in that medium, and the whole will be the thing produced, which corresponds to the brazen sphere. It is obvious, then, from what has been said, that that which is spoken of as form or substance is not produced, but the concrete thing which gets its name from this is produced, and that in everything which is generated matter is present, and one part of the thing is matter and the other form.

Is there, then, a sphere apart from the individual spheres or a house apart from the bricks? Rather we may say that no ‘this’ would ever have been coming to be, if this had been so, but that the ‘form’ means the ‘such’, and is not a ‘this’-a definite thing; but the artist makes, or the father begets, a ‘such’ out of a ‘this’; and when it has been begotten, it is a ‘this such’. And the whole ‘this’, Callias or Socrates, is analogous to ‘this brazen sphere’, but man and animal to ‘brazen sphere’ in general. Obviously, then, the cause which consists of the Forms (taken in the sense in which some maintain the existence of the Forms, i.e. if they are something apart from the individuals) is useless, at least with regard to comings-to-be and to substances; and the Forms need not, for this reason at least, be self-subsistent substances. In some cases indeed it is even obvious that the begetter is of the same kind as the begotten (not, however, the same nor one in number, but in form), i.e. in the case of natural products (for man begets man), unless something happens contrary to nature, e.g. the production of a mule by a horse. (And even these cases are similar; for that which would be found to be common to horse and ass, the genus next above them, has not received a name, but it would doubtless be both in fact something like a mule.) Obviously, therefore, it is quite unnecessary to set up a Form as a pattern (for we should have looked for Forms in these cases if in any; for these are substances if anything is so); the begetter is adequate to the making of the product and to the causing of the form in the matter. And when we have the whole, such and such a form in this flesh and in these bones, this is Callias or Socrates; and they are different in virtue of their matter (for that is different), but the same in form; for their form is indivisible.

9

The question might be raised, why some things are produced spontaneously as well as by art, e.g. health, while others are not, e.g. a house. The reason is that in some cases the matter which governs the production in the making and producing of any work of art, and in which a part of the product is present,-some matter is such as to be set in motion by itself and some is not of this nature, and of the former kind some can move itself in the particular way required, while other matter is incapable of this; for many things can be set in motion by themselves but not in some particular way, e.g. that of dancing. The things, then, whose matter is of this sort, e.g. stones, cannot be moved in the particular way required, except by something else, but in another way they can move themselves-and so it is with fire. Therefore some things will not exist apart from some one who has the art of making them, while others will; for motion will be started by these things which have not the art but can themselves be moved by other things which have not the art or with a motion starting from a part of the product.

And it is clear also from what has been said that in a sense every product of art is produced from a thing which shares its name (as natural products are produced), or from a part of itself which shares its name (e.g. the house is produced from a house, qua produced by reason; for the art of building is the form of the house), or from something which contains a art of it,-if we exclude things produced by accident; for the cause of the thing's producing the product directly per se is a part of the product. The heat in the movement caused heat in the body, and this is either health, or a part of health, or is followed by a part of health or by health itself. And so it is said to cause health, because it causes that to which health attaches as a consequence.

Therefore, as in syllogisms, substance is the starting-point of everything. It is from 'what a thing is' that syllogisms start; and from it also we now find processes of production to start.

Things which are formed by nature are in the same case as these products of art. For the seed is productive in the same way as the things that work by art; for it has the form potentially, and that from which the seed comes has in a sense the same name as the offspring only in a sense, for we must not expect parent and offspring always to have exactly the same name, as in the production of ‘human being’ from ‘human’ for a ‘woman’ also can be produced by a ‘man’-unless the offspring be an imperfect form; which is the reason why the parent of a mule is not a mule. The natural things which (like the artificial objects previously considered) can be produced spontaneously are those whose matter can be moved even by itself in the way in which the seed usually moves it; those things which have not such matter cannot be produced except from the parent animals themselves.

But not only regarding substance does our argument prove that its form does not come to be, but the argument applies to all the primary classes alike, i.e. quantity, quality, and the other categories. For as the brazen sphere comes to be, but not the sphere nor the brass, and so too in the case of brass itself, if it comes to be, it is its concrete unity that comes to be (for the matter and the form must always exist before), so is it both in the case of substance and in that of quality and quantity and the other categories likewise; for the quality does not come to be, but the wood of that quality, and the quantity does not come to be, but the wood or the animal of that size. But we may learn from these instances a peculiarity of substance, that there must exist beforehand in complete reality another substance which produces it, e.g. an animal if an animal is produced; but it is not necessary that a quality or quantity should pre-exist otherwise than potentially.

10

Since a definition is a formula, and every formula has parts, and as the formula is to the thing, so is the part of the formula to the part of the thing, the question is already being asked whether the formula of the parts must be present in the formula of the whole or not. For in some cases the formulae of the parts are seen to be present, and in some not. The formula of the circle does not include that of the segments, but that of the syllable includes that of the letters; yet the circle is divided into segments as the syllable is into letters.-And further if the parts are prior to the whole, and the acute angle is a part of the right angle and the finger a part of the animal, the acute angle will be prior to the right angle and finger to the man. But the latter are thought to be prior; for in formula the parts are explained by reference to them, and in respect also of the power of existing apart from each other the wholes are prior to the parts.

Perhaps we should rather say that ‘part’ is used in several senses. One of these is ‘that which measures another thing in respect of quantity’. But let this sense be set aside; let us inquire about the parts of which substance consists. If then matter is one thing, form another, the compound of these a third, and both the matter and the form and the compound are substance even the matter is in a sense called part of a thing, while in a sense it is not, but only the elements of which the formula of the form consists. E.g. of concavity flesh (for this is the matter in which it is produced) is not a part, but of snubness it is a part; and the bronze is a part of the concrete statue, but not of the statue when this is spoken of in the sense of the form. (For the form, or the thing as having form, should be said to be the thing, but the material element by itself must never be said to be so.) And so the formula of the circle does not include that of the segments, but the formula of the syllable includes that of the letters; for the letters are parts of the formula of the form, and not matter, but the segments are parts in the sense of matter on which the form supervenes; yet they are nearer the form than the bronze is when roundness is produced in bronze. But in a sense not even every kind of letter will be present in the formula of the syllable, e.g. particular waxen letters or the letters as movements in the air; for in these also we have already something that is part of the syllable only in the sense that it is its perceptible matter. For even if the line when divided passes away into its halves, or the man into bones and muscles and flesh, it does not follow that they are composed of these as parts of their essence, but rather as matter; and these are parts of the concrete thing, but not also of the form, i.e. of that to which the formula refers; wherefore also they are not present in the formulae. In one kind of formula, then, the formula of such parts will be present, but in another it must not be present, where the formula does not refer to the concrete object. For it is for this reason that some things have as their constituent principles parts into which they pass away, while some have not. Those things which are the form and the matter taken together, e.g. the snub, or the bronze circle, pass away into these materials, and the matter is a part of them; but those things which do not involve matter but are without matter, and whose formulae are formulae of the form only, do not pass away,-either not at all or at any rate not in this way. Therefore these materials are principles and parts of the concrete things, while of the form they are neither parts nor principles. And therefore the clay statue is resolved into clay and the ball into bronze and Callias into flesh and bones, and again the circle into its segments; for there is a sense of ‘circle’ in which involves matter. For ‘circle’ is used ambiguously, meaning both the circle, unqualified, and the individual circle, because there is no name peculiar to the individuals.

The truth has indeed now been stated, but still let us state it yet more clearly, taking up the question again. The parts of the formula, into which the formula is divided, are prior to it, either all or some of them. The formula of the right angle, however, does not include the formula of the acute, but the formula of the acute includes that of the right angle; for he who defines the acute uses the right angle; for the acute is ‘less than a right angle’. The circle and the semicircle also are in a like relation; for the semicircle is defined by the circle; and so is the finger by the whole body, for a finger is ‘such and such a part of a man’. Therefore the parts which are of the nature of matter, and into which as its matter a thing is divided, are posterior; but those which are of the nature of parts of the formula, and of the substance according to its formula, are prior, either all or some of them. And since the soul of animals (for this is the substance of a living being) is their substance according to the formula, i.e. the form and the essence of a body of a certain kind (at least we shall define each part, if we define it well, not without reference to its function, and this cannot belong to it without perception), so that the parts of soul are prior, either all or some of them, to the concrete ‘animal’, and so too with each individual animal; and the body and parts are posterior to this, the essential substance, and it is not the substance but the concrete thing that is divided into these parts as its matter:-this being so, to the concrete thing these are in a sense prior, but in a sense they are not. For they cannot even exist if severed from the whole; for it is not a finger in any and every state that is the finger of a living thing, but a dead finger is a finger only in name. Some parts are neither prior nor posterior to the whole, i.e. those which are dominant and in which the formula, i.e. the essential substance, is immediately present, e.g. perhaps the heart or the brain; for it does not matter in the least which of the two has this quality. But man and horse and terms which are thus applied to individuals, but universally, are not substance but something composed of this particular formula and this particular matter treated as universal; and as regards the individual, Socrates already includes in him ultimate individual matter; and similarly in all other cases. ‘A part’ may be a part either of the form (i.e. of the essence), or of the compound of the form and the matter, or of the matter itself. But only the parts of the form are parts of the formula, and the formula is of the universal; for ‘being a circle’ is the same as the circle, and ‘being a soul’ the same as the soul. But when we come to the concrete thing, e.g. this circle, i.e. one of the individual circles, whether perceptible or intelligible (I mean by intelligible circles the mathematical, and by perceptible circles those of bronze and of wood),-of these there is no definition, but they are known by the aid of intuitive thinking or of perception; and when they pass out of this complete realization it is not clear whether they exist or not; but they are always stated and recognized by means of the universal formula. But matter is unknowable in itself. And some matter is perceptible and some intelligible, perceptible matter being for instance bronze and wood and all matter that is changeable, and intelligible matter being that which is present in perceptible things not qua perceptible, i.e. the objects of mathematics.

We have stated, then, how matters stand with regard to whole and part, and their priority and posteriority. But when any one asks whether the right angle and the circle and the animal are prior, or the things into which they are divided and of which they consist, i.e. the parts, we must meet the inquiry by saying that the question cannot be answered simply. For if even bare soul is the animal or the living thing, or the soul of each individual is the individual itself, and ‘being a circle’ is the circle, and ‘being a right angle’ and the essence of the right angle is the right angle, then the whole in one sense must be called posterior to the art in one sense, i.e. to the parts included in the formula and to the parts of the individual right angle (for both the material right angle which is made of bronze, and that which is formed by individual lines, are posterior to their parts); while the immaterial right angle is posterior to the parts included in the formula, but prior to those included in the particular instance, and the question must not be answered simply. If, however, the soul is something different and is not identical with the animal, even so some parts must, as we have maintained, be called prior and others must not.

Another question is naturally raised, viz. what sort of parts belong to the form and what sort not to the form, but to the concrete thing. Yet if this is not plain it is not possible to define any thing; for definition is of the universal and of the form. If then it is not evident what sort of parts are of the nature of matter and what sort are not, neither will the formula of the thing be evident. In the case of things which are found to occur in specifically different materials, as a circle may exist in bronze or stone or wood, it seems plain that these, the bronze or the stone, are no part of the essence of the circle, since it is found apart from them. Of things which are not seen to exist apart, there is no reason why the same may not be true, just as if all circles that had ever been seen were of bronze; for none the less the bronze would be no part of the form; but it is hard to eliminate it in thought. E.g. the form of man is always found in flesh and bones and parts of this kind; are these then also parts of the form and the formula? No, they are matter; but because man is not found also in other matters we are unable to perform the abstraction.

Since this is thought to be possible, but it is not clear when it is the case, some people already raise the question even in the case of the circle and the triangle, thinking that it is not right to define these by reference to lines and to the continuous, but that all these are to the circle or the triangle as flesh and bones are to man, and bronze or stone to the statue; and they reduce all things to numbers, and they say the formula of ‘line’ is that of ‘two’. And of those who assert the Ideas some make ‘two’ the line-itself, and others make it the Form of the line; for in some cases they say the Form and that of which it is the Form are the same, e.g. ‘two’ and the Form of two; but in the case of ‘line’ they say this is no longer so.

It follows then that there is one Form for many things whose form is evidently different (a conclusion which confronted the Pythagoreans also); and it is possible to make one thing the Form-itself of all, and to hold that the others are not Forms; but thus all things will be one.

We have pointed out, then, that the question of definitions contains some difficulty, and why this is so. And so to reduce all things thus to Forms and to eliminate the matter is useless labour; for some things surely are a particular form in a particular matter, or particular things in a particular state. And the comparison which Socrates the younger used to make in the case of ‘animal’ is not sound; for it leads away from the truth, and makes one suppose that man can possibly exist without his parts, as the circle can without the bronze. But the case is not similar; for an animal is something perceptible, and it is not possible to define it without reference to movement-nor, therefore, without reference to the parts' being in a certain state. For it is not a hand in any and every state that is a part of man, but only when it can fulfil its work, and therefore only when it is alive; if it is not alive it is not a part.

Regarding the objects of mathematics, why are the formulae of the parts not parts of the formulae of the wholes; e.g. why are not the semicircles included in the formula of the circle? It cannot be said, 'because these parts are perceptible things'; for they are not. But perhaps this makes no difference; for even some things which are not perceptible must have matter; indeed there is some matter in everything which is not an essence and a bare form but a 'this'. The semicircles, then, will not be parts of the universal circle, but will be parts of the individual circles, as has been said before; for while one kind of matter is perceptible, there is another which is intelligible.

It is clear also that the soul is the primary substance and the body is matter, and man or animal is the compound of both taken universally; and 'Socrates' or 'Coriscus', if even the soul of Socrates may be called Socrates, has two meanings (for some mean by such a term the soul, and others mean the concrete thing), but if 'Socrates' or 'Coriscus' means simply this particular soul and this particular body, the individual is analogous to the universal in its composition.

Whether there is, apart from the matter of such substances, another kind of matter, and one should look for some substance other than these, e.g. numbers or something of the sort, must be considered later. For it is for the sake of this that we are trying to determine the nature of perceptible substances as well, since in a sense the inquiry about perceptible substances is the work of physics, i.e. of second philosophy; for the physicist must come to know not only about the matter, but also about the substance expressed in the formula, and even more than about the other. And in the case of definitions, how the elements in the formula are parts of the definition, and why the definition is one formula (for clearly the thing is one, but in virtue of what is the thing one, although it has parts?),-this must be considered later.

What the essence is and in what sense it is independent, has been stated universally in a way which is true of every case, and also why the formula of the essence of some things contains the parts of the thing defined, while that of others does not. And we have stated that in the formula of the substance the material parts will not be present (for they are not even parts of the substance in that sense, but of the concrete substance; but of this there is in a sense a formula, and in a sense there is not; for there is no formula of it with its matter, for this is indefinite, but there is a formula of it with reference to its primary substance-e.g. in the case of man the formula of the soul-, for the substance is the indwelling form, from which and the matter the so-called concrete substance is derived; e.g. concavity is a form of this sort, for from this and the nose arise 'snub nose' and 'snubness'); but in the concrete substance, e.g. a snub nose or Callias, the matter also will be present. And we have stated that the essence and the thing itself are in some cases the same; ie. in the case of primary substances, e.g. curvature and the essence of curvature if this is primary. (By a 'primary' substance I mean one which does not imply the presence of something in something else, i.e. in something that underlies it which acts as matter.) But things which are of the nature of matter, or of wholes that include matter, are not the same as their essences, nor are accidental unities like that of 'Socrates' and 'musical'; for these are the same only by accident.

12

Now let us treat first of definition, in so far as we have not treated of it in the Analytics; for the problem stated in them is useful for our inquiries concerning substance. I mean this problem:-wherein can consist the unity of that, the formula of which we call a definition, as for instance, in the case of man, 'two-footed animal'; for let this be the formula of man. Why, then, is this one, and not many, viz. 'animal' and 'two-footed'? For in the case of 'man' and 'pale' there is a plurality when one term does not belong to the other, but a unity when it does belong and the subject, man, has a certain attribute; for then a unity is produced and we have 'the pale man'. In the present case, on the other hand, one does not share in the other; the genus is not thought to share in its differentiae (for then the same thing would share in contraries; for the differentiae by which the genus is divided are contrary). And even if the genus does share in them, the same argument applies, since the differentiae present in man are many, e.g. endowed with feet, two-footed, featherless. Why are these one and not many? Not because they are present in one thing; for on this principle a unity can be made out of all the attributes of a thing. But surely all the attributes in the definition must be one; for the definition is a single formula and a formula of substance, so that it must be a formula of some one thing; for substance means a ‘one’ and a ‘this’, as we maintain.

We must first inquire about definitions reached by the method of divisions. There is nothing in the definition except the first-named and the differentiae. The other genera are the first genus and along with this the differentiae that are taken with it, e.g. the first may be ‘animal’, the next ‘animal which is two-footed’, and again ‘animal which is two-footed and featherless’, and similarly if the definition includes more terms. And in general it makes no difference whether it includes many or few terms,-nor, therefore, whether it includes few or simply two; and of the two the one is differentia and the other genus; e.g. in ‘two-footed animal’ ‘animal’ is genus, and the other is differentia.

If then the genus absolutely does not exist apart from the species-of-a-genus, or if it exists but exists as matter (for the voice is genus and matter, but its differentiae make the species, i.e. the letters, out of it), clearly the definition is the formula which comprises the differentiae.

But it is also necessary that the division be by the differentia of the diferentia; e.g. ‘endowed with feet’ is a differentia of ‘animal’; again the differentia of ‘animal endowed with feet’ must be of it qua endowed with feet. Therefore we must not say, if we are to speak rightly, that of that which is endowed with feet one part has feathers and one is featherless (if we do this we do it through incapacity); we must divide it only into cloven-footed and not cloven; for these are differentiae in the foot; cloven-footedness is a form of footedness. And the process wants always to go on so till it reaches the species that contain no differences. And then there will be as many kinds of foot as there are differentiae, and the kinds of animals endowed with feet will be equal in number to the differentiae. If then this is so, clearly the last differentia will be the substance of the thing and its definition, since it is not right to state the same things more than once in our definitions; for it is superfluous. And this does happen; for when we say ‘animal endowed with feet and two-footed’ we have said nothing other than ‘animal having feet, having two feet’; and if we divide this by the proper division, we shall be saying the same thing more than once-as many times as there are differentiae.

If then a differentia of a differentia be taken at each step, one differentia-the last-will be the form and the substance; but if we divide according to accidental qualities, e.g. if we were to divide that which is endowed with feet into the white and the black, there will be as many differentiae as there are cuts. Therefore it is plain that the definition is the formula which contains the differentiae, or, according to the right method, the last of these. This would be evident, if we were to change the order of such definitions, e.g. of that of man, saying 'animal which is two-footed and endowed with feet'; for 'endowed with feet' is superfluous when 'two-footed' has been said. But there is no order in the substance; for how are we to think the one element posterior and the other prior? Regarding the definitions, then, which are reached by the method of divisions, let this suffice as our first attempt at stating their nature.

13

Let us return to the subject of our inquiry, which is substance. As the substratum and the essence and the compound of these are called substance, so also is the universal. About two of these we have spoken; both about the essence and about the substratum, of which we have said that it underlies in two senses, either being a 'this'-which is the way in which an animal underlies its attributes-or as the matter underlies the complete reality. The universal also is thought by some to be in the fullest sense a cause, and a principle; therefore let us attack the discussion of this point also. For it seems impossible that any universal term should be the name of a substance. For firstly the substance of each thing is that which is peculiar to it, which does not belong to anything else; but the universal is common, since that is called universal which is such as to belong to more than one thing. Of which individual then will this be the substance? Either of all or of none; but it cannot be the substance of all. And if it is to be the substance of one, this one will be the others also; for things whose substance is one and whose essence is one are themselves also one.

Further, substance means that which is not predicable of a subject, but the universal is predicable of some subject always.

But perhaps the universal, while it cannot be substance in the way in which the essence is so, can be present in this; e.g. 'animal' can be present in 'man' and ‘horse’. Then clearly it is a formula of the essence. And it makes no difference even if it is not a formula of everything that is in the substance; for none the less the universal will be the substance of something, as ‘man’ is the substance of the individual man in whom it is present, so that the same result will follow once more; for the universal, e.g. ‘animal’, will be the substance of that in which it is present as something peculiar to it. And further it is impossible and absurd that the ‘this’, i.e. the substance, if it consists of parts, should not consist of substances nor of what is a ‘this’, but of quality; for that which is not substance, i.e. the quality, will then be prior to substance and to the ‘this’. Which is impossible; for neither in formula nor in time nor in coming to be can the modifications be prior to the substance; for then they will also be separable from it. Further, Socrates will contain a substance present in a substance, so that this will be the substance of two things. And in general it follows, if man and such things are substance, that none of the elements in their formulae is the substance of anything, nor does it exist apart from the species or in anything else; I mean, for instance, that no ‘animal’ exists apart from the particular kinds of animal, nor does any other of the elements present in formulae exist apart.

If, then, we view the matter from these standpoints, it is plain that no universal attribute is a substance, and this is plain also from the fact that no common predicate indicates a ‘this’, but rather a ‘such’. If not, many difficulties follow and especially the ‘third man’.

The conclusion is evident also from the following consideration. A substance cannot consist of substances present in it in complete reality; for things that are thus in complete reality two are never in complete reality one, though if they are potentially two, they can be one (e.g. the double line consists of two halves-potentially; for the complete realization of the halves divides them from one another); therefore if the substance is one, it will not consist of substances present in it and present in this way, which Democritus describes rightly; he says one thing cannot be made out of two nor two out of one; for he identifies substances with his indivisible magnitudes. It is clear therefore that the same will hold good of number, if number is a synthesis of units, as is said by some; for two is either not one, or there is no unit present in it in complete reality. But our result involves a difficulty. If no substance can consist of universals because a universal indicates a ‘such’, not a ‘this’, and if no substance can be composed of substances existing in complete reality, every substance would be incomposite, so that there would not even be a formula of any substance. But it is thought by all and was stated long ago that it is either only, or primarily, substance that can defined; yet now it seems that not even substance can. There cannot, then, be a definition of anything; or in a sense there can be, and in a sense there cannot. And what we are saying will be plainer from what follows.

14

It is clear also from these very facts what consequence confronts those who say the Ideas are substances capable of separate existence, and at the same time make the Form consist of the genus and the differentiae. For if the Forms exist and 'animal' is present in 'man' and 'horse', it is either one and the same in number, or different. (In formula it is clearly one; for he who states the formula will go through the formula in either case.) If then there is a 'man-in-himself' who is a 'this' and exists apart, the parts also of which he consists, e.g. 'animal' and 'two-footed', must indicate 'thises', and be capable of separate existence, and substances; therefore 'animal', as well as 'man', must be of this sort.

Now (1) if the 'animal' in 'the horse' and in 'man' is one and the same, as you are with yourself, (a) how will the one in things that exist apart be one, and how will this 'animal' escape being divided even from itself?

Further, (b) if it is to share in 'two-footed' and 'many-footed', an impossible conclusion follows; for contrary attributes will belong at the same time to it although it is one and a 'this'. If it is not to share in them, what is the relation implied when one says the animal is two-footed or possessed of feet? But perhaps the two things are 'put together' and are 'in contact', or are 'mixed'. Yet all these expressions are absurd.

But (2) suppose the Form to be different in each species. Then there will be practically an infinite number of things whose substance is animal'; for it is not by accident that 'man' has 'animal' for one of its elements. Further, many things will be 'animal-itself'. For (i) the 'animal' in each species will be the substance of the species; for it is after nothing else that the species is called; if it were, that other would be an element in 'man', i.e. would be the genus of man. And further, (ii) all the elements of which 'man' is composed will be Ideas. None of them, then, will be the Idea of one thing and the substance of another; this is impossible. The ‘animal’, then, present in each species of animals will be animal-itself. Further, from what is this ‘animal’ in each species derived, and how will it be derived from animal-itself? Or how can this ‘animal’, whose essence is simply animality, exist apart from animal-itself?

Further, (3)in the case of sensible things both these consequences and others still more absurd follow. If, then, these consequences are impossible, clearly there are not Forms of sensible things in the sense in which some maintain their existence.

15

Since substance is of two kinds, the concrete thing and the formula (I mean that one kind of substance is the formula taken with the matter, while another kind is the formula in its generality), substances in the former sense are capable of destruction (for they are capable also of generation), but there is no destruction of the formula in the sense that it is ever in course of being destroyed (for there is no generation of it either; the being of house is not generated, but only the being of this house), but without generation and destruction formulae are and are not; for it has been shown that no one begets nor makes these. For this reason, also, there is neither definition of nor demonstration about sensible individual substances, because they have matter whose nature is such that they are capable both of being and of not being; for which reason all the individual instances of them are destructible. If then demonstration is of necessary truths and definition is a scientific process, and if, just as knowledge cannot be sometimes knowledge and sometimes ignorance, but the state which varies thus is opinion, so too demonstration and definition cannot vary thus, but it is opinion that deals with that which can be otherwise than as it is, clearly there can neither be definition of nor demonstration about sensible individuals. For perishing things are obscure to those who have the relevant knowledge, when they have passed from our perception; and though the formulae remain in the soul unchanged, there will no longer be either definition or demonstration. And so when one of the definition-mongers defines any individual, he must recognize that his definition may always be overthrown; for it is not possible to define such things.

Nor is it possible to define any Idea. For the Idea is, as its supporters say, an individual, and can exist apart; and the formula must consist of words; and he who defines must not invent a word (for it would be unknown), but the established words are common to all the members of a class; these then must apply to something besides the thing defined; e.g. if one were defining you, he would say 'an animal which is lean' or 'pale', or something else which will apply also to some one other than you. If any one were to say that perhaps all the attributes taken apart may belong to many subjects, but together they belong only to this one, we must reply first that they belong also to both the elements; e.g. 'two-footed animal' belongs to animal and to the two-footed. (And in the case of eternal entities this is even necessary, since the elements are prior to and parts of the compound; nay more, they can also exist apart, if 'man' can exist apart. For either neither or both can. If, then, neither can, the genus will not exist apart from the various species; but if it does, the differentia will also.) Secondly, we must reply that 'animal' and 'two-footed' are prior in being to 'two-footed animal'; and things which are prior to others are not destroyed when the others are.

Again, if the Ideas consist of Ideas (as they must, since elements are simpler than the compound), it will be further necessary that the elements also of which the Idea consists, e.g. 'animal' and 'two-footed', should be predicated of many subjects. If not, how will they come to be known? For there will then be an Idea which cannot be predicated of more subjects than one. But this is not thought possible-every Idea is thought to be capable of being shared.

As has been said, then, the impossibility of defining individuals escapes notice in the case of eternal things, especially those which are unique, like the sun or the moon. For people err not only by adding attributes whose removal the sun would survive, e.g. 'going round the earth' or 'night-hidden' (for from their view it follows that if it stands still or is visible, it will no longer be the sun; but it is strange if this is so; for 'the sun' means a certain substance); but also by the mention of attributes which can belong to another subject; e.g. if another thing with the stated attributes comes into existence, clearly it will be a sun; the formula therefore is general. But the sun was supposed to be an individual, like Cleon or Socrates. After all, why does not one of the supporters of the Ideas produce a definition of an Idea? It would become clear, if they tried, that what has now been said is true.

Evidently even of the things that are thought to be substances, most are only potencies,-both the parts of animals (for none of them exists separately; and when they are separated, then too they exist, all of them, merely as matter) and earth and fire and air; for none of them is a unity, but as it were a mere heap, till they are worked up and some unity is made out of them. One might most readily suppose the parts of living things and the parts of the soul nearly related to them to turn out to be both, i.e. existent in complete reality as well as in potency, because they have sources of movement in something in their joints; for which reason some animals live when divided. Yet all the parts must exist only potentially, when they are one and continuous by nature,-not by force or by growing into one, for such a phenomenon is an abnormality.

Since the term ‘unity’ is used like the term ‘being’, and the substance of that which is one is one, and things whose substance is numerically one are numerically one, evidently neither unity nor being can be the substance of things, just as being an element or a principle cannot be the substance, but we ask what, then, the principle is, that we may reduce the thing to something more knowable. Now of these concepts ‘being’ and ‘unity’ are more substantial than ‘principle’ or ‘element’ or ‘cause’, but not even the former are substance, since in general nothing that is common is substance; for substance does not belong to anything but to itself and to that which has it, of which it is the substance. Further, that which is one cannot be in many places at the same time, but that which is common is present in many places at the same time; so that clearly no universal exists apart from its individuals.

But those who say the Forms exist, in one respect are right, in giving the Forms separate existence, if they are substances; but in another respect they are not right, because they say the one over many is a Form. The reason for their doing this is that they cannot declare what are the substances of this sort, the imperishable substances which exist apart from the individual and sensible substances. They make them, then, the same in kind as the perishable things (for this kind of substance we know)—’man-himself’ and ‘horse-itself’, adding to the sensible things the word ‘itself’. Yet even if we had not seen the stars, none the less, I suppose, would they have been eternal substances apart from those which we knew; so that now also if we do not know what non-sensible substances there are, yet it is doubtless necessary that there should he some.-Clearly, then, no universal term is the name of a substance, and no substance is composed of substances.

17

Let us state what, i.e. what kind of thing, substance should be said to be, taking once more another starting-point; for perhaps from this we shall get a clear view also of that substance which exists apart from sensible substances. Since, then, substance is a principle and a cause, let us pursue it from this starting-point. The ‘why’ is always sought in this form—’why does one thing attach to some other?’ For to inquire why the musical man is a musical man, is either to inquire — as we have said why the man is musical, or it is something else. Now ‘why a thing is itself’ is a meaningless inquiry (for (to give meaning to the question ‘why’) the fact or the existence of the thing must already be evident-e.g. that the moon is eclipsed-but the fact that a thing is itself is the single reason and the single cause to be given in answer to all such questions as why the man is man, or the musician musical’, unless one were to answer ‘because each thing is inseparable from itself, and its being one just meant this’; this, however, is common to all things and is a short and easy way with the question). But we can inquire why man is an animal of such and such a nature. This, then, is plain, that we are not inquiring why he who is a man is a man. We are inquiring, then, why something is predicable of something (that it is predicable must be clear; for if not, the inquiry is an inquiry into nothing). E.g. why does it thunder? This is the same as ‘why is sound produced in the clouds?’ Thus the inquiry is about the predication of one thing of another. And why are these things, i.e. bricks and stones, a house? Plainly we are seeking the cause. And this is the essence (to speak abstractly), which in some cases is the end, e.g. perhaps in the case of a house or a bed, and in some cases is the first mover; for this also is a cause. But while the efficient cause is sought in the case of genesis and destruction, the final cause is sought in the case of being also.

The object of the inquiry is most easily overlooked where one term is not expressly predicated of another (e.g. when we inquire ‘what man is’), because we do not distinguish and do not say definitely that certain elements make up a certain whole. But we must articulate our meaning before we begin to inquire; if not, the inquiry is on the border-line between being a search for something and a search for nothing. Since we must have the existence of the thing as something given, clearly the question is why the matter is some definite thing; e.g. why are these materials a house? Because that which was the essence of a house is present. And why is this individual thing, or this body having this form, a man? Therefore what we seek is the cause, i.e. the form, by reason of which the matter is some definite thing; and this is the substance of the thing. Evidently, then, in the case of simple terms no inquiry nor teaching is possible; our attitude towards such things is other than that of inquiry.

Since that which is compounded out of something so that the whole is one, not like a heap but like a syllable-now the syllable is not its elements, ba is not the same as b and a, nor is flesh fire and earth (for when these are separated the wholes, i.e. the flesh and the syllable, no longer exist, but the elements of the syllable exist, and so do fire and earth); the syllable, then, is something-not only its elements (the vowel and the consonant) but also something else, and the flesh is not only fire and earth or the hot and the cold, but also something else:-if, then, that something must itself be either an element or composed of elements, (1) if it is an element the same argument will again apply; for flesh will consist of this and fire and earth and something still further, so that the process will go on to infinity. But (2) if it is a compound, clearly it will be a compound not of one but of more than one (or else that one will be the thing itself), so that again in this case we can use the same argument as in the case of flesh or of the syllable. But it would seem that this ‘other’ is something, and not an element, and that it is the cause which makes this thing flesh and that a syllable. And similarly in all other cases. And this is the substance of each thing (for this is the primary cause of its being); and since, while some things are not substances, as many as are substances are formed in accordance with a nature of their own and by a process of nature, their substance would seem to be this kind of ‘nature’, which is not an element but a principle. An element, on the other hand, is that into which a thing is divided and which is present in it as matter; e.g. a and b are the elements of the syllable.

Book VIII

1

WE must reckon up the results arising from what has been said, and compute the sum of them, and put the finishing touch to our inquiry. We have said that the causes, principles, and elements of substances are the object of our search. And some substances are recognized by every one, but some have been advocated by particular schools. Those generally recognized are the natural substances, i.e. fire, earth, water, air, &c., the simple bodies; second plants and their parts, and animals and the parts of animals; and finally the physical universe and its parts; while some particular schools say that Forms and the objects of mathematics are substances. But there are arguments which lead to the conclusion that there are other substances, the essence and the substratum. Again, in another way the genus seems more substantial than the various spccies, and the universal than the particulars. And with the universal and the genus the Ideas are connected; it is in virtue of the same argument that they are thought to be substances. And since the essence is substance, and the definition is a formula of the essence, for this reason we have discussed definition and essential predication. Since the definition is a formula, and a formula has parts, we had to consider also with respect to the notion of ‘part’, what are parts of the substance and what are not, and whether the parts of the substance are also parts of the definition. Further, too, neither the universal nor the genus is a substance; we must inquire later into the Ideas and the objects of mathematics; for some say these are substances as well as the sensible substances.

But now let us resume the discussion of the generally recognized substances. These are the sensible substances, and sensible substances all have matter. The substratum is substance, and this is in one sense the matter (and by matter I mean that which, not being a ‘this’ actually, is potentially a ‘this’), and in another sense the formula or shape (that which being a ‘this’ can be separately formulated), and thirdly the complex of these two, which alone is generated and destroyed, and is, without qualification, capable of separate existence; for of substances completely expressible in a formula some are separable and some are separable and some are not.

But clearly matter also is substance; for in all the opposite changes that occur there is something which underlies the changes, e.g. in respect of place that which is now here and again elsewhere, and in respect of increase that which is now of one size and again less or greater, and in respect of alteration that which is now healthy and again diseased; and similarly in respect of substance there is something that is now being generated and again being destroyed, and now underlies the process as a ‘this’ and again underlies it in respect of a privation of positive character. And in this change the others are involved. But in either one or two of the others this is not involved; for it is not necessary if a thing has matter for change of place that it should also have matter for generation and destruction.

The difference between becoming in the full sense and becoming in a qualified sense has been stated in our physical works.

2

Since the substance which exists as underlying and as matter is generally recognized, and this that which exists potentially, it remains for us to say what is the substance, in the sense of actuality, of sensible things. Democritus seems to think there are three kinds of difference between things; the underlying body, the matter, is one and the same, but they differ either in rhythm, i.e. shape, or in turning, i.e. position, or in inter-contact, i.e. order. But evidently there are many differences; for instance, some things are characterized by the mode of composition of their matter, e.g. the things formed by blending, such as honey-water; and others by being bound together, e.g. bundle; and others by being glued together, e.g. a book; and others by being nailed together, e.g. a casket; and others in more than one of these ways; and others by position, e.g. threshold and lintel (for these differ by being placed in a certain way); and others by time, e.g. dinner and breakfast; and others by place, e.g. the winds; and others by the affections proper to sensible things, e.g. hardness and softness, density and rarity, dryness and wetness; and some things by some of these qualities, others by them all, and in general some by excess and some by defect. Clearly, then, the word ‘is’ has just as many meanings; a thing is a threshold because it lies in such and such a position, and its being means its lying in that position, while being ice means having been solidified in such and such a way. And the being of some things will be defined by all these qualities, because some parts of them are mixed, others are blended, others are bound together, others are solidified, and others use the other differentiae; e.g. the hand or the foot requires such complex definition. We must grasp, then, the kinds of differentiae (for these will be the principles of the being of things), e.g. the things characterized by the more and the less, or by the dense and the rare, and by other such qualities; for all these are forms of excess and defect. And anything that is characterized by shape or by smoothness and roughness is characterized by the straight and the curved. And for other things their being will mean their being mixed, and their not being will mean the opposite.

It is clear, then, from these facts that, since its substance is the cause of each thing's being, we must seek in these differentiae what is the cause of the being of each of these things. Now none of these differentiae is substance, even when coupled with matter, yet it is what is analogous to substance in each case; and as in substances that which is predicated of the matter is the actuality itself, in all other definitions also it is what most resembles full actuality. E.g. if we had to define a threshold, we should say 'wood or stone in such and such a position', and a house we should define as 'bricks and timbers in such and such a position',(or a purpose may exist as well in some cases), and if we had to define ice we should say 'water frozen or solidified in such and such a way', and harmony is 'such and such a blending of high and low'; and similarly in all other cases.

Obviously, then, the actuality or the formula is different when the matter is different; for in some cases it is the composition, in others the mixing, and in others some other of the attributes we have named. And so, of the people who go in for defining, those who define a house as stones, bricks, and timbers are speaking of the potential house, for these are the matter; but those who propose 'a receptacle to shelter chattels and living beings', or something of the sort, speak of the actuality. Those who combine both of these speak of the third kind of substance, which is composed of matter and form (for the formula that gives the differentiae seems to be an account of the form or actuality, while that which gives the components is rather an account of the matter); and the same is true of the kind of definitions which Archytas used to accept; they are accounts of the combined form and matter. E.g. what is still weather? Absence of motion in a large expanse of air; air is the matter, and absence of motion is the actuality and substance. What is a calm? Smoothness of sea; the material substratum is the sea, and the actuality or shape is smoothness. It is obvious then, from what has been said, what sensible substance is and how it exists-one kind of it as matter, another as form or actuality, while the third kind is that which is composed of these two.

3

We must not fail to notice that sometimes it is not clear whether a name means the composite substance, or the actuality or form, e.g. whether 'house' is a sign for the composite thing, 'a covering consisting of bricks and stones laid thus and thus', or for the actuality or form, 'a covering', and whether a line is 'twoness in length' or 'twoness', and whether an animal is soul in a body' or 'a soul'; for soul is the substance or actuality of some body. 'Animal' might even be applied to both, not as something definable by one formula, but as related to a single thing. But this question, while important for another purpose, is of no importance for the inquiry into sensible substance; for the essence certainly attaches to the form and the actuality. For 'soul' and 'to be soul' are the same, but 'to be man' and 'man' are not the same, unless even the bare soul is to be called man; and thus on one interpretation the thing is the same as its essence, and on another it is not.

If we examine we find that the syllable does not consist of the letters + juxtaposition, nor is the house bricks + juxtaposition. And this is right; for the juxtaposition or mixing does not consist of those things of which it is the juxtaposition or mixing. And the same is true in all other cases; e.g. if the threshold is characterized by its position, the position is not constituted by the threshold, but rather the latter is constituted by the former. Nor is man animal + biped, but there must be something besides these, if these are matter,-something which is neither an element in the whole nor a compound, but is the substance; but this people eliminate, and state only the matter. If, then, this is the cause of the thing's being, and if the cause of its being is its substance, they will not be stating the substance itself.

(This, then, must either be eternal or it must be destructible without being ever in course of being destroyed, and must have come to be without ever being in course of coming to be. But it has been proved and explained elsewhere that no one makes or begets the form, but it is the individual that is made, i.e. the complex of form and matter that is generated. Whether the substances of destructible things can exist apart, is not yet at all clear; except that obviously this is impossible in some cases-in the case of things which cannot exist apart from the individual instances, e.g. house or utensil. Perhaps, indeed, neither these things themselves, nor any of the other things which are not formed by nature, are substances at all; for one might say that the nature in natural objects is the only substance to be found in destructible things.)

Therefore the difficulty which used to be raised by the school of Antisthenes and other such uneducated people has a certain timeliness. They said that the ‘what’ cannot be defined (for the definition so called is a ‘long rigmarole’) but of what sort a thing, e.g. silver, is, they thought it possible actually to explain, not saying what it is, but that it is like tin. Therefore one kind of substance can be defined and formulated, i.e. the composite kind, whether it be perceptible or intelligible; but the primary parts of which this consists cannot be defined, since a definitory formula predicates something of something, and one part of the definition must play the part of matter and the other that of form.

It is also obvious that, if substances are in a sense numbers, they are so in this sense and not, as some say, as numbers of units. For a definition is a sort of number; for (1) it is divisible, and into indivisible parts (for definitory formulae are not infinite), and number also is of this nature. And (2) as, when one of the parts of which a number consists has been taken from or added to the number, it is no longer the same number, but a different one, even if it is the very smallest part that has been taken away or added, so the definition and the essence will no longer remain when anything has been taken away or added. And (3) the number must be something in virtue of which it is one, and this these thinkers cannot state, what makes it one, if it is one (for either it is not one but a sort of heap, or if it is, we ought to say what it is that makes one out of many); and the definition is one, but similarly they cannot say what makes it one. And this is a natural result; for the same reason is applicable, and substance is one in the sense which we have explained, and not, as some say, by being a sort of unit or point; each is a complete reality and a definite nature. And (4) as number does not admit of the more and the less, neither does substance, in the sense of form, but if any substance does, it is only the substance which involves matter. Let this, then, suffice for an account of the generation and destruction of so-called substances in what sense it is possible and in what sense impossible — and of the reduction of things to number.

4

Regarding material substance we must not forget that even if all things come from the same first cause or have the same things for their first causes, and if the same matter serves as starting-point for their generation, yet there is a matter proper to each, e.g. for phlegm the sweet or the fat, and for bile the bitter, or something else; though perhaps these come from the same original matter. And there come to be several matters for the same thing, when the one matter is matter for the other; e.g. phlegm comes from the fat and from the sweet, if the fat comes from the sweet; and it comes from bile by analysis of the bile into its ultimate matter. For one thing comes from another in two senses, either because it will be found at a later stage, or because it is produced if the other is analysed into its original constituents. When the matter is one, different things may be produced owing to difference in the moving cause; e.g. from wood may be made both a chest and a bed. But some different things must have their matter different; e.g. a saw could not be made of wood, nor is this in the power of the moving cause; for it could not make a saw of wool or of wood. But if, as a matter of fact, the same thing can be made of different material, clearly the art, i.e. the moving principle, is the same; for if both the matter and the moving cause were different, the product would be so too.

When one inquires into the cause of something, one should, since ‘causes’ are spoken of in several senses, state all the possible causes. what is the material cause of man? Shall we say ‘the menstrual fluid’? What is moving cause? Shall we say ‘the seed’? The formal cause? His essence. The final cause? His end. But perhaps the latter two are the same.-It is the proximate causes we must state. What is the material cause? We must name not fire or earth, but the matter peculiar to the thing.

Regarding the substances that are natural and generable, if the causes are really these and of this number and we have to learn the causes, we must inquire thus, if we are to inquire rightly. But in the case of natural but eternal substances another account must be given. For perhaps some have no matter, or not matter of this sort but only such as can be moved in respect of place. Nor does matter belong to those things which exist by nature but are not substances; their substratum is the substance. E.g what is the cause of eclipse? What is its matter? There is none; the moon is that which suffers eclipse. What is the moving cause which extinguished the light? The earth. The final cause perhaps does not exist. The formal principle is the definitory formula, but this is obscure if it does not include the cause. E.g. what is eclipse? Deprivation of light. But if we add 'by the earth's coming in between', this is the formula which includes the cause. In the case of sleep it is not clear what it is that proximately has this affection. Shall we say that it is the animal? Yes, but the animal in virtue of what, i.e. what is the proximate subject? The heart or some other part. Next, by what is it produced? Next, what is the affection-that of the proximate subject, not of the whole animal? Shall we say that it is immobility of such and such a kind? Yes, but to what process in the proximate subject is this due?

5

Since some things are and are not, without coming to be and ceasing to be, e.g. points, if they can be said to be, and in general forms (for it is not 'white' comes to be, but the wood comes to be white, if everything that comes to be comes from something and comes to be something), not all contraries can come from one another, but it is in different senses that a pale man comes from a dark man, and pale comes from dark. Nor has everything matter, but only those things which come to be and change into one another. Those things which, without ever being in course of changing, are or are not, have no matter.

There is difficulty in the question how the matter of each thing is related to its contrary states. E.g. if the body is potentially healthy, and disease is contrary to health, is it potentially both healthy and diseased? And is water potentially wine and vinegar? We answer that it is the matter of one in virtue of its positive state and its form, and of the other in virtue of the privation of its positive state and the corruption of it contrary to its nature. It is also hard to say why wine is not said to be the matter of vinegar nor potentially vinegar (though vinegar is produced from it), and why a living man is not said to be potentially dead. In fact they are not, but the corruptions in question are accidental, and it is the matter of the animal that is itself in virtue of its corruption the potency and matter of a corpse, and it is water that is the matter of vinegar. For the corpse comes from the animal, and vinegar from wine, as night from day. And all the things which change thus into one another must go back to their matter; e.g. if from a corpse is produced an animal, the corpse first goes back to its matter, and only then becomes an animal; and vinegar first goes back to water, and only then becomes wine.

6

To return to the difficulty which has been stated with respect both to definitions and to numbers, what is the cause of their unity? In the case of all things which have several parts and in which the totality is not, as it were, a mere heap, but the whole is something beside the parts, there is a cause; for even in bodies contact is the cause of unity in some cases, and in others viscosity or some other such quality. And a definition is a set of words which is one not by being connected together, like the Iliad, but by dealing with one object.-What then, is it that makes man one; why is he one and not many, e.g. animal + biped, especially if there are, as some say, an animal-itself and a biped-itself? Why are not those Forms themselves the man, so that men would exist by participation not in man, nor in-one Form, but in two, animal and biped, and in general man would be not one but more than one thing, animal and biped?

Clearly, then, if people proceed thus in their usual manner of definition and speech, they cannot explain and solve the difficulty. But if, as we say, one element is matter and another is form, and one is potentially and the other actually, the question will no longer be thought a difficulty. For this difficulty is the same as would arise if ‘round bronze’ were the definition of ‘cloak’; for this word would be a sign of the definitory formula, so that the question is, what is the cause of the unity of ‘round’ and ‘bronze’? The difficulty disappears, because the one is matter, the other form. What, then, causes this-that which was potentially to be actually-except, in the case of things which are generated, the agent? For there is no other cause of the potential sphere’s becoming actually a sphere, but this was the essence of either. Of matter some is intelligible, some perceptible, and in a formula there is always an element of matter as well as one of actuality; e.g. the circle is ‘a plane figure’. But of the things which have no matter, either intelligible or perceptible, each is by its nature essentially a kind of unity, as it is essentially a kind of being-individual substance, quality, or quantity (and so neither ‘existent’ nor ‘one’ is present in their definitions), and the essence of each of them is by its very nature a kind of unity as it is a kind of being-and so none of these has any reason outside itself, for being one, nor for being a kind of being; for each is by its nature a kind of being and a kind of unity, not as being in the genus ‘being’ or ‘one’ nor in the sense that being and unity can exist apart from particulars.

Owing to the difficulty about unity some speak of ‘participation’, and raise the question, what is the cause of participation and what is it to participate; and others speak of ‘communion’, as Lycophron says knowledge is a communion of knowing with the soul; and others say life is a ‘composition’ or ‘connexion’ of soul with body. Yet the same account applies to all cases; for being healthy, too, will on this showing be either a ‘communion’ or a ‘connexion’ or a ‘composition’ of soul and health, and the fact that the bronze is a triangle will be a ‘composition’ of bronze and triangle, and the fact that a thing is white will be a ‘composition’ of surface and whiteness. The reason is that people look for a unifying formula, and a difference, between potency and complete reality. But, as has been said, the proximate matter and the form are one and the same thing, the one potentially, and the other actually. Therefore it is like asking what in general is the cause of unity and of a thing’s being one; for each thing is a unity, and the potential and the actual are somehow one. Therefore there is no other cause here unless there is something which caused the movement from potency into actuality. And all things which have no matter are without qualification essentially unities.

Book IX

1

WE have treated of that which is primarily and to which all the other categories of being are referred-i.e. of substance. For it is in virtue of the concept of substance that the others also are said to be-quantity and quality and the like; for all will be found to involve the concept of substance, as we said in the first part of our work. And since 'being' is in one way divided into individual thing, quality, and quantity, and is in another way distinguished in respect of potency and complete reality, and of function, let us now add a discussion of potency and complete reality. And first let us explain potency in the strictest sense, which is, however, not the most useful for our present purpose. For potency and actuality extend beyond the cases that involve a reference to motion. But when we have spoken of this first kind, we shall in our discussions of actuality' explain the other kinds of potency as well.

We have pointed out elsewhere that 'potency' and the word 'can' have several senses. Of these we may neglect all the potencies that are so called by an equivocation. For some are called so by analogy, as in geometry we say one thing is or is not a 'power' of another by virtue of the presence or absence of some relation between them. But all potencies that conform to the same type are originative sources of some kind, and are called potencies in reference to one primary kind of potency, which is an originative source of change in another thing or in the thing itself qua other. For one kind is a potency of being acted on, i.e. the originative source, in the very thing acted on, of its being passively changed by another thing or by itself qua other; and another kind is a state of insusceptibility to change for the worse and to destruction by another thing or by the thing itself qua other by virtue of an originative source of change. In all these definitions is implied the formula if potency in the primary sense.-And again these so-called potencies are potencies either of merely acting or being acted on, or of acting or being acted on well, so that even in the formulae of the latter the formulae of the prior kinds of potency are somehow implied.

Obviously, then, in a sense the potency of acting and of being acted on is one (for a thing may be ‘capable’ either because it can itself be acted on or because something else can be acted on by it), but in a sense the potencies are different. For the one is in the thing acted on; it is because it contains a certain originative source, and because even the matter is an originative source, that the thing acted on is acted on, and one thing by one, another by another; for that which is oily can be burnt, and that which yields in a particular way can be crushed; and similarly in all other cases. But the other potency is in the agent, e.g. heat and the art of building are present, one in that which can produce heat and the other in the man who can build. And so, in so far as a thing is an organic unity, it cannot be acted on by itself; for it is one and not two different things. And ‘impotence’and ‘impotent’ stand for the privation which is contrary to potency of this sort, so that every potency belongs to the same subject and refers to the same process as a corresponding impotence. Privation has several senses; for it means (1) that which has not a certain quality and (2) that which might naturally have it but has not it, either (a) in general or (b) when it might naturally have it, and either (a) in some particular way, e.g. when it has not it completely, or (b) when it has not it at all. And in certain cases if things which naturally have a quality lose it by violence, we say they have suffered privation.

2

Since some such originative sources are present in soulless things, and others in things possessed of soul, and in soul, and in the rational part of the soul, clearly some potencies will, be non-rational and some will be non-rational and some will be accompanied by a rational formula. This is why all arts, i.e. all productive forms of knowledge, are potencies; they are originative sources of change in another thing or in the artist himself considered as other.

And each of those which are accompanied by a rational formula is alike capable of contrary effects, but one non-rational power produces one effect; e.g. the hot is capable only of heating, but the medical art can produce both disease and health. The reason is that science is a rational formula, and the same rational formula explains a thing and its privation, only not in the same way; and in a sense it applies to both, but in a sense it applies rather to the positive fact. Therefore such sciences must deal with contraries, but with one in virtue of their own nature and with the other not in virtue of their nature; for the rational formula applies to one object in virtue of that object's nature, and to the other, in a sense, accidentally. For it is by denial and removal that it exhibits the contrary; for the contrary is the primary privation, and this is the removal of the positive term. Now since contraries do not occur in the same thing, but science is a potency which depends on the possession of a rational formula, and the soul possesses an originative source of movement; therefore, while the wholesome produces only health and the calorific only heat and the frigorific only cold, the scientific man produces both the contrary effects. For the rational formula is one which applies to both, though not in the same way, and it is in a soul which possesses an originative source of movement; so that the soul will start both processes from the same originative source, having linked them up with the same thing. And so the things whose potency is according to a rational formula act contrariwise to the things whose potency is non-rational; for the products of the former are included under one originative source, the rational formula.

It is obvious also that the potency of merely doing a thing or having it done to one is implied in that of doing it or having it done well, but the latter is not always implied in the former: for he who does a thing well must also do it, but he who does it merely need not also do it well.

3

There are some who say, as the Megaric school does, that a thing 'can' act only when it is acting, and when it is not acting it 'cannot' act, e.g. that he who is not building cannot build, but only he who is building, when he is building; and so in all other cases. It is not hard to see the absurdities that attend this view.

For it is clear that on this view a man will not be a builder unless he is building (for to be a builder is to be able to build), and so with the other arts. If, then, it is impossible to have such arts if one has not at some time learnt and acquired them, and it is then impossible not to have them if one has not sometime lost them (either by forgetfulness or by some accident or by time; for it cannot be by the destruction of the object, for that lasts for ever), a man will not have the art when he has ceased to use it, and yet he may immediately build again; how then will he have got the art? And similarly with regard to lifeless things; nothing will be either cold or hot or sweet or perceptible at all if people are not perceiving it; so that the upholders of this view will have to maintain the doctrine of Protagoras. But, indeed, nothing will even have perception if it is not perceiving, i.e. exercising its perception. If, then, that is blind which has not sight though it would naturally have it, when it would naturally have it and when it still exists, the same people will be blind many times in the day-and deaf too.

Again, if that which is deprived of potency is incapable, that which is not happening will be incapable of happening; but he who says of that which is incapable of happening either that it is or that it will be will say what is untrue; for this is what incapacity meant. Therefore these views do away with both movement and becoming. For that which stands will always stand, and that which sits will always sit, since if it is sitting it will not get up; for that which, as we are told, cannot get up will be incapable of getting up. But we cannot say this, so that evidently potency and actuality are different (but these views make potency and actuality the same, and so it is no small thing they are seeking to annihilate), so that it is possible that a thing may be capable of being and not he, and capable of not being and yet he, and similarly with the other kinds of predicate; it may be capable of walking and yet not walk, or capable of not walking and yet walk. And a thing is capable of doing something if there will be nothing impossible in its having the actuality of that of which it is said to have the capacity. I mean, for instance, if a thing is capable of sitting and it is open to it to sit, there will be nothing impossible in its actually sitting; and similarly if it is capable of being moved or moving, or of standing or making to stand, or of being or coming to be, or of not being or not coming to be.

The word ‘actuality’, which we connect with ‘complete reality’, has, in the main, been extended from movements to other things; for actuality in the strict sense is thought to be identical with movement. And so people do not assign movement to non-existent things, though they do assign some other predicates. E.g. they say that non-existent things are objects of thought and desire, but not that they are moved; and this because, while ex hypothesi they do not actually exist, they would have to exist actually if they were moved. For of non-existent things some exist potentially; but they do not exist, because they do not exist in complete reality.

4

If what we have described is identical with the capable or convertible with it, evidently it cannot be true to say ‘this is capable of being but will not be’, which would imply that the things incapable of being would on this showing vanish. Suppose, for instance, that a man-one who did not take account of that which is incapable of being-were to say that the diagonal of the square is capable of being measured but will not be measured, because a thing may well be capable of being or coming to be, and yet not be or be about to be. But from the premisses this necessarily follows, that if we actually supposed that which is not, but is capable of being, to be or to have come to be, there will be nothing impossible in this; but the result will be impossible, for the measuring of the diagonal is impossible. For the false and the impossible are not the same; that you are standing now is false, but that you should be standing is not impossible.

At the same time it is clear that if, when A is real, B must be real, then, when A is possible, B also must be possible. For if B need not be possible, there is nothing to prevent its not being possible. Now let A be supposed possible. Then, when A was possible, we agreed that nothing impossible followed if A were supposed to be real; and then B must of course be real. But we supposed B to be impossible. Let it be impossible then. If, then, B is impossible, A also must be so. But the first was supposed impossible; therefore the second also is impossible. If, then, A is possible, B also will be possible, if they were so related that if A,is real, B must be real. If, then, A and B being thus related, B is not possible on this condition, and B will not be related as was supposed. And if when A is possible, B must be possible, then if A is real, B also must be real. For to say that B must be possible, if A is possible, means this, that if A is real both at the time when and in the way in which it was supposed capable of being real, B also must then and in that way be real.

5

As all potencies are either innate, like the senses, or come by practice, like the power of playing the flute, or by learning, like artistic power, those which come by practice or by rational formula we must acquire by previous exercise but this is not necessary with those which are not of this nature and which imply passivity.

Since that which is 'capable' is capable of something and at some time in some way (with all the other qualifications which must be present in the definition), and since some things can produce change according to a rational formula and their potencies involve such a formula, while other things are nonrational and their potencies are non-rational, and the former potencies must be in a living thing, while the latter can be both in the living and in the lifeless; as regards potencies of the latter kind, when the agent and the patient meet in the way appropriate to the potency in question, the one must act and the other be acted on, but with the former kind of potency this is not necessary. For the nonrational potencies are all productive of one effect each, but the rational produce contrary effects, so that if they produced their effects necessarily they would produce contrary effects at the same time; but this is impossible. There must, then, be something else that decides; I mean by this, desire or will. For whichever of two things the animal desires decisively, it will do, when it is present, and meets the passive object, in the way appropriate to the potency in question. Therefore everything which has a rational potency, when it desires that for which it has a potency and in the circumstances in which it has the potency, must do this. And it has the potency in question when the passive object is present and is in a certain state; if not it will not be able to act. (To add the qualification 'if nothing external prevents it' is not further necessary; for it has the potency on the terms on which this is a potency of acting, and it is this not in all circumstances but on certain conditions, among which will be the exclusion of external hindrances; for these are barred by some of the positive qualifications.) And so even if one has a rational wish, or an appetite, to do two things or contrary things at the same time, one will not do them; for it is not on these terms that one has the potency for them, nor is it a potency of doing both at the same time, since one will do the things which it is a potency of doing, on the terms on which one has the potency.

6

Since we have treated of the kind of potency which is related to movement, let us discuss actuality-what, and what kind of thing, actuality is. For in the course of our analysis it will also become clear, with regard to the potential, that we not only ascribe potency to that whose nature it is to move something else, or to be moved by something else, either without qualification or in some particular way, but also use the word in another sense, which is the reason of the inquiry in the course of which we have discussed these previous senses also. Actuality, then, is the existence of a thing not in the way which we express by ‘potentially’; we say that potentially, for instance, a statue of Hermes is in the block of wood and the half-line is in the whole, because it might be separated out, and we call even the man who is not studying a man of science, if he is capable of studying; the thing that stands in contrast to each of these exists actually. Our meaning can be seen in the particular cases by induction, and we must not seek a definition of everything but be content to grasp the analogy, that it is as that which is building is to that which is capable of building, and the waking to the sleeping, and that which is seeing to that which has its eyes shut but has sight, and that which has been shaped out of the matter to the matter, and that which has been wrought up to the unwrought. Let actuality be defined by one member of this antithesis, and the potential by the other. But all things are not said in the same sense to exist actually, but only by analogy-as A is in B or to B, C is in D or to D; for some are as movement to potency, and the others as substance to some sort of matter.

But also the infinite and the void and all similar things are said to exist potentially and actually in a different sense from that which applies to many other things, e.g. to that which sees or walks or is seen. For of the latter class these predicates can at some time be also truly asserted without qualification; for the seen is so called sometimes because it is being seen, sometimes because it is capable of being seen. But the infinite does not exist potentially in the sense that it will ever actually have separate existence; it exists potentially only for knowledge. For the fact that the process of dividing never comes to an end ensures that this activity exists potentially, but not that the infinite exists separately.

Since of the actions which have a limit none is an end but all are relative to the end, e.g. the removing of fat, or fat-removal, and the bodily parts themselves when one is making them thin are in movement in this way (i.e. without being already that at which the movement aims), this is not an action or at least not a complete one (for it is not an end); but that movement in which the end is present is an action. E.g. at the same time we are seeing and have seen, are understanding and have understood, are thinking and have thought (while it is not true that at the same time we are learning and have learnt, or are being cured and have been cured). At the same time we are living well and have lived well, and are happy and have been happy. If not, the process would have had sometime to cease, as the process of making thin ceases: but, as things are, it does not cease; we are living and have lived. Of these processes, then, we must call the one set movements, and the other actualities. For every movement is incomplete-making thin, learning, walking, building; these are movements, and incomplete at that. For it is not true that at the same time a thing is walking and has walked, or is building and has built, or is coming to be and has come to be, or is being moved and has been moved, but what is being moved is different from what has been moved, and what is moving from what has moved. But it is the same thing that at the same time has seen and is seeing, seeing, or is thinking and has thought. The latter sort of process, then, I call an actuality, and the former a movement.

7

What, and what kind of thing, the actual is, may be taken as explained by these and similar considerations. But we must distinguish when a thing exists potentially and when it does not; for it is not at any and every time. E.g. is earth potentially a man? No-but rather when it has already become seed, and perhaps not even then. It is just as it is with being healed; not everything can be healed by the medical art or by luck, but there is a certain kind of thing which is capable of it, and only this is potentially healthy. And (1) the delimiting mark of that which as a result of thought comes to exist in complete reality from having existed potentially is that if the agent has willed it it comes to pass if nothing external hinders, while the condition on the other side-viz. in that which is healed-is that nothing in it hinders the result. It is on similar terms that we have what is potentially a house; if nothing in the thing acted on-i.e. in the matter-prevents it from becoming a house, and if there is nothing which must be added or taken away or changed, this is potentially a house; and the same is true of all other things the source of whose becoming is external. And (2) in the cases in which the source of the becoming is in the very thing which comes to be, a thing is potentially all those things which it will be of itself if nothing external hinders it. E.g. the seed is not yet potentially a man; for it must be deposited in something other than itself and undergo a change. But when through its own motive principle it has already got such and such attributes, in this state it is already potentially a man; while in the former state it needs another motive principle, just as earth is not yet potentially a statue (for it must first change in order to become brass.)

It seems that when we call a thing not something else but ‘thaten’-e.g. a casket is not ‘wood’ but ‘wooden’, and wood is not ‘earth’ but ‘earthen’, and again earth will illustrate our point if it is similarly not something else but ‘thaten’-that other thing is always potentially (in the full sense of that word) the thing which comes after it in this series. E.g. a casket is not ‘earthen’ nor ‘earth’, but ‘wooden’; for this is potentially a casket and this is the matter of a casket, wood in general of a casket in general, and this particular wood of this particular casket. And if there is a first thing, which is no longer, in reference to something else, called ‘thaten’, this is prime matter; e.g. if earth is ‘airy’ and air is not ‘fire’ but ‘fiery’, fire is prime matter, which is not a ‘this’. For the subject or substratum is differentiated by being a ‘this’ or not being one; i.e. the substratum of modifications is, e.g. a man, i.e. a body and a soul, while the modification is ‘musical’ or ‘pale’. (The subject is called, when music comes to be present in it, not ‘music’ but ‘musical’, and the man is not ‘paleness’ but ‘pale’, and not ‘ambulation’ or ‘movement’ but ‘walking’ or ‘moving’,-which is akin to the ‘thaten’.) Wherever this is so, then, the ultimate subject is a substance; but when this is not so but the predicate is a form and a ‘this’, the ultimate subject is matter and material substance. And it is only right that ‘thaten’ should be used with reference both to the matter and to the accidents; for both are indeterminates.

We have stated, then, when a thing is to be said to exist potentially and when it is not.

8

From our discussion of the various senses of ‘prior’, it is clear that actuality is prior to potency. And I mean by potency not only that definite kind which is said to be a principle of change in another thing or in the thing itself regarded as other, but in general every principle of movement or of rest. For nature also is in the same genus as potency; for it is a principle of movement-not, however, in something else but in the thing itself qua itself. To all such potency, then, actuality is prior both in formula and in substantiality; and in time it is prior in one sense, and in another not.

(1) Clearly it is prior in formula; for that which is in the primary sense potential is potential because it is possible for it to become active; e.g. I mean by ‘capable of building’ that which can build, and by ‘capable of seeing’ that which can see, and by ‘visible’ that which can be seen. And the same account applies to all other cases, so that the formula and the knowledge of the one must precede the knowledge of the other.

(2) In time it is prior in this sense: the actual which is identical in species though not in number with a potentially existing thing is to it. I mean that to this particular man who now exists actually and to the corn and to the seeing subject the matter and the seed and that which is capable of seeing, which are potentially a man and corn and seeing, but not yet actually so, are prior in time; but prior in time to these are other actually existing things, from which they were produced. For from the potentially existing the actually existing is always produced by an actually existing thing, e.g. man from man, musician by musician; there is always a first mover, and the mover already exists actually. We have said in our account of substance that everything that is produced is something produced from something and by something, and that the same in species as it.

This is why it is thought impossible to be a builder if one has built nothing or a harper if one has never played the harp; for he who learns to play the harp learns to play it by playing it, and all other learners do similarly. And thence arose the sophistical quibble, that one who does not possess a science will be doing that which is the object of the science; for he who is learning it does not possess it. But since, of that which is coming to be, some part must have come to be, and, of that which, in general, is changing, some part must have changed (this is shown in the treatise on movement), he who is learning must, it would seem, possess some part of the science. But here too, then, it is clear that actuality is in this sense also, viz. in order of generation and of time, prior to potency.

But (3) it is also prior in substantiality; firstly, (a) because the things that are posterior in becoming are prior in form and in substantiality (e.g. man is prior to boy and human being to seed; for the one already has its form, and the other has not), and because everything that comes to be moves towards a principle, i.e. an end (for that for the sake of which a thing is, is its principle, and the becoming is for the sake of the end), and the actuality is the end, and it is for the sake of this that the potency is acquired. For animals do not see in order that they may have sight, but they have sight that they may see. And similarly men have the art of building that they may build, and theoretical science that they may theorize; but they do not theorize that they may have theoretical science, except those who are learning by practice; and these do not theorize except in a limited sense, or because they have no need to theorize. Further, matter exists in a potential state, just because it may come to its form; and when it exists actually, then it is in its form. And the same holds good in all cases, even those in which the end is a movement. And so, as teachers think they have achieved their end when they have exhibited the pupil at work, nature does likewise. For if this is not the case, we shall have Pauson’s Hermes over again, since it will be hard to say about the knowledge, as about the figure in the picture, whether it is within or without. For the action is the end, and the actuality is the action. And so even the word ‘actuality’ is derived from ‘action’, and points to the complete reality.

And while in some cases the exercise is the ultimate thing (e.g. in sight the ultimate thing is seeing, and no other product besides this results from sight), but from some things a product follows (e.g. from the art of building there results a house as well as the act of building), yet none the less the act is in the former case the end and in the latter more of an end than the potency is. For the act of building is realized in the thing that is being built, and comes to be, and is, at the same time as the house.

Where, then, the result is something apart from the exercise, the actuality is in the thing that is being made, e.g. the act of building is in the thing that is being built and that of weaving in the thing that is being woven, and similarly in all other cases, and in general the movement is in the thing that is being moved; but where there is no product apart from the actuality, the actuality is present in the agents, e.g. the act of seeing is in the seeing subject and that of theorizing in the theorizing subject and the life is in the soul (and therefore well-being also; for it is a certain kind of life).

Obviously, therefore, the substance or form is actuality. According to this argument, then, it is obvious that actuality is prior in substantial being to potency; and as we have said, one actuality always precedes another in time right back to the actuality of the eternal prime mover.

But (b) actuality is prior in a stricter sense also; for eternal things are prior in substance to perishable things, and no eternal thing exists potentially. The reason is this. Every potency is at one and the same time a potency of the opposite; for, while that which is not capable of being present in a subject cannot be present, everything that is capable of being may possibly not be actual. That, then, which is capable of being may either be or not be; the same thing, then, is capable both of being and of not being. And that which is capable of not being may possibly not be; and that which may possibly not be is perishable, either in the full sense, or in the precise sense in which it is said that it possibly may not be, i.e. in respect either of place or of quantity or quality; 'in the full sense' means 'in respect of substance'. Nothing, then, which is in the full sense imperishable is in the full sense potentially existent (though there is nothing to prevent its being so in some respect, e.g. potentially of a certain quality or in a certain place); all imperishable things, then, exist actually. Nor can anything which is of necessity exist potentially; yet these things are primary; for if these did not exist, nothing would exist. Nor does eternal movement, if there be such, exist potentially; and, if there is an eternal mobile, it is not in motion in virtue of a potentiality, except in respect of 'whence' and 'whither' (there is nothing to prevent its having matter which makes it capable of movement in various directions). And so the sun and the stars and the whole heaven are ever active, and there is no fear that they may sometime stand still, as the natural philosophers fear they may. Nor do they tire in this activity; for movement is not for them, as it is for perishable things, connected with the potentiality for opposites, so that the continuity of the movement should be laborious; for it is that kind of substance which is matter and potency, not actuality, that causes this.

Imperishable things are imitated by those that are involved in change, e.g. earth and fire. For these also are ever active; for they have their movement of themselves and in themselves. But the other potencies, according to our previous discussion, are all potencies for opposites; for that which can move another in this way can also move it not in this way, i.e. if it acts according to a rational formula; and the same non-rational potencies will produce opposite results by their presence or absence.

If, then, there are any entities or substances such as the dialecticians say the Ideas are, there must be something much more scientific than science-itself and something more mobile than movement-itself; for these will be more of the nature of actualities, while science-itself and movement-itself are potencies for these.

Obviously, then, actuality is prior both to potency and to every principle of change.

9

That the actuality is also better and more valuable than the good potency is evident from the following argument. Everything of which we say that it can do something, is alike capable of contraries, e.g. that of which we say that it can be well is the same as that which can be ill, and has both potencies at once; for the same potency is a potency of health and illness, of rest and motion, of building and throwing down, of being built and being thrown down. The capacity for contraries, then, is present at the same time; but contraries cannot be present at the same time, and the actualities also cannot be present at the same time, e.g. health and illness. Therefore, while the good must be one of them, the capacity is both alike, or neither; the actuality, then, is better. Also in the case of bad things the end or actuality must be worse than the potency; for that which 'can' is both contraries alike. Clearly, then, the bad does not exist apart from bad things; for the bad is in its nature posterior to the potency. And therefore we may also say that in the things which are from the beginning, i.e. in eternal things, there is nothing bad, nothing defective, nothing perverted (for perversion is something bad).

It is an activity also that geometrical constructions are discovered; for we find them by dividing. If the figures had been already divided, the constructions would have been obvious; but as it is they are present only potentially. Why are the angles of the triangle equal to two right angles? Because the angles about one point are equal to two right angles. If, then, the line parallel to the side had been already drawn upwards, the reason would have been evident to any one as soon as he saw the figure. Why is the angle in a semicircle in all cases a right angle? If three lines are equal the two which form the base, and the perpendicular from the centre-the conclusion is evident at a glance to one who knows the former proposition. Obviously, therefore, the potentially existing constructions are discovered by being brought to actuality; the reason is that the geometer's thinking is an actuality; so that the potency proceeds from an actuality; and therefore it is by making constructions that people come to know them (though the single actuality is later in generation than the corresponding potency). (See diagram.)

10

The terms 'being' and 'non-being' are employed firstly with reference to the categories, and secondly with reference to the potency or actuality of these or their non-potency or nonactuality, and thirdly in the sense of true and false. This depends, on the side of the objects, on their being combined or separated, so that he who thinks the separated to be separated and the combined to be combined has the truth, while he whose thought is in a state contrary to that of the objects is in error. This being so, when is what is called truth or falsity present, and when is it not? We must consider what we mean by these terms. It is not because we think truly that you are pale, that you are pale, but because you are pale we who say this have the truth. If, then, some things are always combined and cannot be separated, and others are always separated and cannot be combined, while others are capable either of combination or of separation, 'being' is being combined and one, and 'not being' is being not combined but more than one. Regarding contingent facts, then, the same opinion or the same statement comes to be false and true, and it is possible for it to be at one time correct and at another erroneous; but regarding things that cannot be otherwise opinions are not at one time true and at another false, but the same opinions are always true or always false.

But with regard to incomposites, what is being or not being, and truth or falsity? A thing of this sort is not composite, so as to 'be' when it is compounded, and not to 'be' if it is separated, like 'that the wood is white' or 'that the diagonal is incommensurable'; nor will truth and falsity be still present in the same way as in the previous cases. In fact, as truth is not the same in these cases, so also being is not the same; but (a) truth or falsity is as follows — contact and assertion are truth (assertion not being the same as affirmation), and ignorance is non-contact. For it is not possible to be in error regarding the question what a thing is, save in an accidental sense; and the same holds good regarding non-composite substances (for it is not possible to be in error about them). And they all exist actually, not potentially; for otherwise they would have come to be and ceased to be; but, as it is, being itself does not come to be (nor cease to be); for if it had done so it would have had to come out of something. About the things, then, which are essences and actualities, it is not possible to be in error, but only to know them or not to know them. But we do inquire what they are, viz. whether they are of such and such a nature or not.

(b) As regards the 'being' that answers to truth and the 'non-being' that answers to falsity, in one case there is truth if the subject and the attribute are really combined, and falsity if they are not combined; in the other case, if the object is existent it exists in a particular way, and if it does not exist in this way does not exist at all. And truth means knowing these objects, and falsity does not exist, nor error, but only ignorance-and not an ignorance which is like blindness; for blindness is akin to a total absence of the faculty of thinking.

It is evident also that about unchangeable things there can be no error in respect of time, if we assume them to be unchangeable. E.g. if we suppose that the triangle does not change, we shall not suppose that at one time its angles are equal to two right angles while at another time they are not (for that would imply change). It is possible, however, to suppose that one member of such a class has a certain attribute and another has not; e.g. while we may suppose that no even number is prime, we may suppose that some are and some are not. But regarding a numerically single number not even this form of error is possible; for we cannot in this case suppose that one instance has an attribute and another has not, but whether our judgement be true or false, it is implied that the fact is eternal.

Book X

1

WE have said previously, in our distinction of the various meanings of words, that ‘one’ has several meanings; the things that are directly and of their own nature and not accidentally called one may be summarized under four heads, though the word is used in more senses. (1) There is the continuous, either in general, or especially that which is continuous by nature and not by contact nor by being together; and of these, that has more unity and is prior, whose movement is more indivisible and simpler. (2) That which is a whole and has a certain shape and form is one in a still higher degree; and especially if a thing is of this sort by nature, and not by force like the things which are unified by glue or nails or by being tied together, i.e. if it has in itself the cause of its continuity. A thing is of this sort because its movement is one and indivisible in place and time; so that evidently if a thing has by nature a principle of movement that is of the first kind (i.e. local movement) and the first in that kind (i.e. circular movement), this is in the primary sense one extended thing. Some things, then, are one in this way, qua continuous or whole, and the other things that are one are those whose definition is one. Of this sort are the things the thought of which is one, i.e. those the thought of which is indivisible; and it is indivisible if the thing is indivisible in kind or in number. (3) In number, then, the individual is indivisible, and (4) in kind, that which in intelligibility and in knowledge is indivisible, so that that which causes substances to be one must be one in the primary sense. ‘One’, then, has all these meanings-the naturally continuous and the whole, and the individual and the universal. And all these are one because in some cases the movement, in others the thought or the definition is indivisible.

But it must be observed that the questions, what sort of things are said to be one, and what it is to be one and what is the definition of it, should not be assumed to be the same. ‘One’ has all these meanings, and each of the things to which one of these kinds of unity belongs will be one; but ‘to be one’ will sometimes mean being one of these things, and sometimes being something else which is even nearer to the meaning of the word ‘one’ while these other things approximate to its application. This is also true of ‘element’ or ‘cause’, if one had both to specify the things of which it is predicable and to render the definition of the word. For in a sense fire is an element (and doubtless also ‘the indefinite’ or something else of the sort is by its own nature the element), but in a sense it is not; for it is not the same thing to be fire and to be an element, but while as a particular thing with a nature of its own fire is an element, the name ‘element’ means that it has this attribute, that there is something which is made of it as a primary constituent. And so with ‘cause’ and ‘one’ and all such terms. For this reason, too, ‘to be one’ means ‘to be indivisible, being essentially one means a “this” and capable of being isolated either in place, or in form or thought’; or perhaps ‘to be whole and indivisible’; but it means especially ‘to be the first measure of a kind’, and most strictly of quantity; for it is from this that it has been extended to the other categories. For measure is that by which quantity is known; and quantity qua quantity is known either by a ‘one’ or by a number, and all number is known by a ‘one’. Therefore all quantity qua quantity is known by the one, and that by which quantities are primarily known is the one itself; and so the one is the starting-point of number qua number. And hence in the other classes too ‘measure’ means that by which each is first known, and the measure of each is a unit-in length, in breadth, in depth, in weight, in speed. (The words ‘weight’ and ‘speed’ are common to both contraries; for each of them has two meanings-’weight’ means both that which has any amount of gravity and that which has an excess of gravity, and ‘speed’ both that which has any amount of movement and that which has an excess of movement; for even the slow has a certain speed and the comparatively light a certain weight.)

In all these, then, the measure and starting-point is something one and indivisible, since even in lines we treat as indivisible the line a foot long. For everywhere we seek as the measure something one and indivisible; and this is that which is simple either in quality or in quantity. Now where it is thought impossible to take away or to add, there the measure is exact (hence that of number is most exact; for we posit the unit as indivisible in every respect); but in all other cases we imitate this sort of measure. For in the case of a furlong or a talent or of anything comparatively large any addition or subtraction might more easily escape our notice than in the case of something smaller; so that the first thing from which, as far as our perception goes, nothing can be subtracted, all men make the measure, whether of liquids or of solids, whether of weight or of size; and they think they know the quantity when they know it by means of this measure. And indeed they know movement too by the simple movement and the quickest; for this occupies least time. And so in astronomy a ‘one’ of this sort is the starting-point and measure (for they assume the movement of the heavens to be uniform and the quickest, and judge the others by reference to it), and in music the quarter-tone (because it is the least interval), and in speech the letter. And all these are ones in this sense — not that ‘one’ is something predicable in the same sense of all of these, but in the sense we have mentioned.

But the measure is not always one in number — sometimes there are several; e.g. the quarter-tones (not to the ear, but as determined by the ratios) are two, and the articulate sounds by which we measure are more than one, and the diagonal of the square and its side are measured by two quantities, and all spatial magnitudes reveal similar varieties of unit. Thus, then, the one is the measure of all things, because we come to know the elements in the substance by dividing the things either in respect of quantity or in respect of kind. And the one is indivisible just because the first of each class of things is indivisible. But it is not in the same way that every ‘one’ is indivisible e.g. a foot and a unit; the latter is indivisible in every respect, while the former must be placed among things which are undivided to perception, as has been said already-only to perception, for doubtless every continuous thing is divisible.

The measure is always homogeneous with the thing measured; the measure of spatial magnitudes is a spatial magnitude, and in particular that of length is a length, that of breadth a breadth, that of articulate sound an articulate sound, that of weight a weight, that of units a unit. (For we must state the matter so, and not say that the measure of numbers is a number; we ought indeed to say this if we were to use the corresponding form of words, but the claim does not really correspond-it is as if one claimed that the measure of units is units and not a unit; number is a plurality of units.)

Knowledge, also, and perception, we call the measure of things for the same reason, because we come to know something by them-while as a matter of fact they are measured rather than measure other things. But it is with us as if some one else measured us and we came to know how big we are by seeing that he applied the cubit-measure to such and such a fraction of us. But

Protagoras says ‘man is the measure of all things’, as if he had said ‘the man who knows’ or ‘the man who perceives’; and these because they have respectively knowledge and perception, which we say are the measures of objects. Such thinkers are saying nothing, then, while they appear to be saying something remarkable.

Evidently, then, unity in the strictest sense, if we define it according to the meaning of the word, is a measure, and most properly of quantity, and secondly of quality. And some things will be one if they are indivisible in quantity, and others if they are indivisible in quality; and so that which is one is indivisible, either absolutely or qua one.

2

With regard to the substance and nature of the one we must ask in which of two ways it exists. This is the very question that we reviewed in our discussion of problems, viz. what the one is and how we must conceive of it, whether we must take the one itself as being a substance (as both the Pythagoreans say in earlier and Plato in later times), or there is, rather, an underlying nature and the one should be described more intelligibly and more in the manner of the physical philosophers, of whom one says the one is love, another says it is air, and another the indefinite.

If, then, no universal can be a substance, as has been said our discussion of substance and being, and if being itself cannot be a substance in the sense of a one apart from the many (for it is common to the many), but is only a predicate, clearly unity also cannot be a substance; for being and unity are the most universal of all predicates. Therefore, on the one hand, genera are not certain entities and substances separable from other things; and on the other hand the one cannot be a genus, for the same reasons for which being and substance cannot be genera.

Further, the position must be similar in all the kinds of unity. Now ‘unity’ has just as many meanings as ‘being’; so that since in the sphere of qualities the one is something definite-some particular kind of thing-and similarly in the sphere of quantities, clearly we must in every category ask what the one is, as we must ask what the existent is, since it is not enough to say that its nature is just to be one or existent. But in colours the one is a colour, e.g. white, and then the other colours are observed to be produced out of this and black, and black is the privation of white, as darkness of light. Therefore if all existent things were colours, existent things would have been a number, indeed, but of what? Clearly of colours; and the ‘one’ would have been a particular ‘one’, i.e. white. And similarly if all existing things were tunes, they would have been a number, but a number of quarter-tones, and their essence would not have been number; and the one would have been something whose substance was not to be one but to be the quarter-tone. And similarly if all existent things had been articulate sounds, they would have been a number of letters, and the one would have been a vowel. And if all existent things were rectilinear figures, they would have been a number of figures, and the one would have been the triangle. And the same argument applies to all other classes. Since, therefore, while there are numbers and a one both in affections and in qualities and in quantities and in movement, in all cases the number is a number of particular things and the one is one something, and its substance is not just to be one, the same must be true of substances also; for it is true of all cases alike.

That the one, then, in every class is a definite thing, and in no case is its nature just this, unity, is evident; but as in colours the one-itself which we must seek is one colour, so too in substance the one-itself is one substance. That in a sense unity means the same as being is clear from the facts that its meanings correspond to the categories one to one, and it is not comprised within any category (e.g. it is comprised neither in ‘what a thing is’ nor in quality, but is related to them just as being is); that in ‘one man’ nothing more is predicated than in ‘man’ (just as being is nothing apart from substance or quality or quantity); and that to be one is just to be a particular thing.

3

The one and the many are opposed in several ways, of which one is the opposition of the one and plurality as indivisible and divisible; for that which is either divided or divisible is called a plurality, and that which is indivisible or not divided is called one. Now since opposition is of four kinds, and one of these two terms is privative in meaning, they must be contraries, and neither contradictory nor correlative in meaning. And the one derives its name and its explanation from its contrary, the indivisible from the divisible, because plurality and the divisible is more perceptible than the indivisible, so that in definition plurality is prior to the indivisible, because of the conditions of perception.

To the one belong, as we indicated graphically in our distinction of the contraries, the same and the like and the equal, and to plurality belong the other and the unlike and the unequal. ‘The same’ has several meanings; (1) we sometimes mean ‘the same numerically’; again, (2) we call a thing the same if it is one both in definition and in number, e.g. you are one with yourself both in form and in matter; and again, (3) if the definition of its primary essence is one; e.g. equal straight lines are the same, and so are equal and equal-angled quadrilaterals; there are many such, but in these equality constitutes unity.

Things are like if, not being absolutely the same, nor without difference in respect of their concrete substance, they are the same in form; e.g. the larger square is like the smaller, and unequal straight lines are like; they are like, but not absolutely the same. Other things are like, if, having the same form, and being things in which difference of degree is possible, they have no difference of degree. Other things, if they have a quality that is in form one and same-e.g. whiteness-in a greater or less degree, are called like because their form is one. Other things are called like if the qualities they have in common are more numerous than those in which they differ-either the qualities in general or the prominent qualities; e.g. tin is like silver, qua white, and gold is like fire, qua yellow and red.

Evidently, then, ‘other’ and ‘unlike’ also have several meanings. And the other in one sense is the opposite of the same (so that everything is either the same as or other than everything else). In another sense things are other unless both their matter and their definition are one (so that you are other than your neighbour). The other in the third sense is exemplified in the objects of mathematics. ‘Other or the same’ can therefore be predicated of everything with regard to everything else-but only if the things are one and existent, for ‘other’ is not the contradictory of ‘the same’; which is why it is not predicated of non-existent things (while ‘not the same’ is so predicated). It is predicated of all existing things; for everything that is existent and one is by its very nature either one or not one with anything else.

The other, then, and the same are thus opposed. But difference is not the same as otherness. For the other and that which it is other than need not be other in some definite respect (for everything that is existent is either other or the same), but that which is different is different from some particular thing in some particular respect, so that there must be something identical whereby they differ. And this identical thing is genus or species; for everything that differs differs either in genus or in species, in genus if the things have not their matter in common and are not generated out of each other (i.e. if they belong to different figures of predication), and in species if they have the same genus ('genus' meaning that identical thing which is essentially predicated of both the different things).

Contraries are different, and contrariety is a kind of difference. That we are right in this supposition is shown by induction. For all of these too are seen to be different; they are not merely other, but some are other in genus, and others are in the same line of predication, and therefore in the same genus, and the same in genus. We have distinguished elsewhere what sort of things are the same or other in genus.

4

Since things which differ may differ from one another more or less, there is also a greatest difference, and this I call contrariety. That contrariety is the greatest difference is made clear by induction. For things which differ in genus have no way to one another, but are too far distant and are not comparable; and for things that differ in species the extremes from which generation takes place are the contraries, and the distance between extremes-and therefore that between the contraries-is the greatest.

But surely that which is greatest in each class is complete. For that is greatest which cannot be exceeded, and that is complete beyond which nothing can be found. For the complete difference marks the end of a series (just as the other things which are called complete are so called because they have attained an end), and beyond the end there is nothing; for in everything it is the extreme and includes all else, and therefore there is nothing beyond the end, and the complete needs nothing further. From this, then, it is clear that contrariety is complete difference; and as contraries are so called in several senses, their modes of completeness will answer to the various modes of contrariety which attach to the contraries.

This being so, it is clear that one thing have more than one contrary (for neither can there be anything more extreme than the extreme, nor can there be more than two extremes for the one interval), and, to put the matter generally, this is clear if contrariety is a difference, and if difference, and therefore also the complete difference, must be between two things.

And the other commonly accepted definitions of contraries are also necessarily true. For not only is (1) the complete difference the greatest difference (for we can get no difference beyond it of things differing either in genus or in species; for it has been shown that there is no ‘difference’ between anything and the things outside its genus, and among the things which differ in species the complete difference is the greatest); but also (2) the things in the same genus which differ most are contrary (for the complete difference is the greatest difference between species of the same genus); and (3) the things in the same receptive material which differ most are contrary (for the matter is the same for contraries); and (4) of the things which fall under the same faculty the most different are contrary (for one science deals with one class of things, and in these the complete difference is the greatest).

The primary contrariety is that between positive state and privation-not every privation, however (for ‘privation’ has several meanings), but that which is complete. And the other contraries must be called so with reference to these, some because they possess these, others because they produce or tend to produce them, others because they are acquisitions or losses of these or of other contraries. Now if the kinds of opposition are contradiction and privation and contrariety and relation, and of these the first is contradiction, and contradiction admits of no intermediate, while contraries admit of one, clearly contradiction and contrariety are not the same. But privation is a kind of contradiction; for what suffers privation, either in general or in some determinate way, either that which is quite incapable of having some attribute or that which, being of such a nature as to have it, has it not; here we have already a variety of meanings, which have been distinguished elsewhere. Privation, therefore, is a contradiction or incapacity which is determinate or taken along with the receptive material. This is the reason why, while contradiction does not admit of an intermediate, privation sometimes does; for everything is equal or not equal, but not everything is equal or unequal, or if it is, it is only within the sphere of that which is receptive of equality. If, then, the comings-to-be which happen to the matter start from the contraries, and proceed either from the form and the possession of the form or from a privation of the form or shape, clearly all contrariety must be privation, but presumably not all privation is contrariety (the reason being that that has suffered privation may have suffered it in several ways); for it is only the extremes from which changes proceed that are contraries.

And this is obvious also by induction. For every contrariety involves, as one of its terms, a privation, but not all cases are alike; inequality is the privation of equality and unlikeness of likeness, and on the other hand vice is the privation of virtue. But the cases differ in a way already described; in one case we mean simply that the thing has suffered privation, in another case that it has done so either at a certain time or in a certain part (e.g. at a certain age or in the dominant part), or throughout. This is why in some cases there is a mean (there are men who are neither good nor bad), and in others there is not (a number must be either odd or even). Further, some contraries have their subject defined, others have not. Therefore it is evident that one of the contraries is always privative; but it is enough if this is true of the first-i.e. the generic-contraries, e.g. the one and the many; for the others can be reduced to these.

5

Since one thing has one contrary, we might raise the question how the one is opposed to the many, and the equal to the great and the small. For if we used the word ‘whether’ only in an antithesis such as ‘whether it is white or black’, or ‘whether it is white or not white’ (we do not ask ‘whether it is a man or white’), unless we are proceeding on a prior assumption and asking something such as ‘whether it was Cleon or Socrates that came’ as this is not a necessary disjunction in any class of things; yet even this is an extension from the case of opposites; for opposites alone cannot be present together; and we assume this incompatibility here too in asking which of the two came; for if they might both have come, the question would have been absurd; but if they might, even so this falls just as much into an antithesis, that of the ‘one or many’, i.e. ‘whether both came or one of the two’:-if, then, the question ‘whether’ is always concerned with opposites, and we can ask ‘whether it is greater or less or equal’, what is the opposition of the equal to the other two? It is not contrary either to one alone or to both; for why should it be contrary to the greater rather than to the less? Further, the equal is contrary to the unequal. Therefore if it is contrary to the greater and the less, it will be contrary to more things than one. But if the unequal means the same as both the greater and the less together, the equal will be opposite to both (and the difficulty supports those who say the unequal is a ‘two’), but it follows that one thing is contrary to two others, which is impossible. Again, the equal is evidently intermediate between the great and the small, but no contrariety is either observed to be intermediate, or, from its definition, can be so; for it would not be complete if it were intermediate between any two things, but rather it always has something intermediate between its own terms.

It remains, then, that it is opposed either as negation or as privation. It cannot be the negation or privation of one of the two; for why of the great rather than of the small? It is, then, the privative negation of both. This is why ‘whether’ is said with reference to both, not to one of the two (e.g. ‘whether it is greater or equal’ or ‘whether it is equal or less’); there are always three cases. But it is not a necessary privation; for not everything which is not greater or less is equal, but only the things which are of such a nature as to have these attributes.

The equal, then, is that which is neither great nor small but is naturally fitted to be either great or small; and it is opposed to both as a privative negation (and therefore is also intermediate). And that which is neither good nor bad is opposed to both, but has no name; for each of these has several meanings and the recipient subject is not one; but that which is neither white nor black has more claim to unity. Yet even this has not one name, though the colours of which this negation is privatively predicated are in a way limited; for they must be either grey or yellow or something else of the kind. Therefore it is an incorrect criticism that is passed by those who think that all such phrases are used in the same way, so that that which is neither a shoe nor a hand would be intermediate between a shoe and a hand, since that which is neither good nor bad is intermediate between the good and the bad-as if there must be an intermediate in all cases. But this does not necessarily follow. For the one phrase is a joint denial of opposites between which there is an intermediate and a certain natural interval; but between the other two there is no ‘difference’; for the things, the denials of which are combined, belong to different classes, so that the substratum is not one.

We might raise similar questions about the one and the many. For if the many are absolutely opposed to the one, certain impossible results follow. One will then be few, whether few be treated here as singular or plural; for the many are opposed also to the few. Further, two will be many, since the double is multiple and 'double' derives its meaning from 'two'; therefore one will be few; for what is that in comparison with which two are many, except one, which must therefore be few? For there is nothing fewer. Further, if the much and the little are in plurality what the long and the short are in length, and whatever is much is also many, and the many are much (unless, indeed, there is a difference in the case of an easily-bounded continuum), the little (or few) will be a plurality. Therefore one is a plurality if it is few; and this it must be, if two are many. But perhaps, while the 'many' are in a sense said to be also 'much', it is with a difference; e.g. water is much but not many. But 'many' is applied to the things that are divisible; in the one sense it means a plurality which is excessive either absolutely or relatively (while 'few' is similarly a plurality which is deficient), and in another sense it means number, in which sense alone it is opposed to the one. For we say 'one or many', just as if one were to say 'one and ones' or 'white thing and white things', or to compare the things that have been measured with the measure. It is in this sense also that multiples are so called. For each number is said to be many because it consists of ones and because each number is measurable by one; and it is 'many' as that which is opposed to one, not to the few. In this sense, then, even two is many-not, however, in the sense of a plurality which is excessive either relatively or absolutely; it is the first plurality. But without qualification two is few; for it is first plurality which is deficient (for this reason Anaxagoras was not right in leaving the subject with the statement that 'all things were together, boundless both in plurality and in smallness'-where for 'and in smallness' he should have said 'and in fewness'; for they could not have been boundless in fewness), since it is not one, as some say, but two, that make a few.

The one is opposed then to the many in numbers as measure to thing measurable; and these are opposed as are the relatives which are not from their very nature relatives. We have distinguished elsewhere the two senses in which relatives are so called:-(1) as contraries; (2) as knowledge to thing known, a term being called relative because another is relative to it. There is nothing to prevent one from being fewer than something, e.g. than two; for if one is fewer, it is not therefore few. Plurality is as it were the class to which number belongs; for number is plurality measurable by one, and one and number are in a sense opposed, not as contrary, but as we have said some relative terms are opposed; for inasmuch as one is measure and the other measurable, they are opposed. This is why not everything that is one is a number; i.e. if the thing is indivisible it is not a number. But though knowledge is similarly spoken of as relative to the knowable, the relation does not work out similarly; for while knowledge might be thought to be the measure, and the knowable the thing measured, the fact that all knowledge is knowable, but not all that is knowable is knowledge, because in a sense knowledge is measured by the knowable.-Plurality is contrary neither to the few (the many being contrary to this as excessive plurality to plurality exceeded), nor to the one in every sense; but in the one sense these are contrary, as has been said, because the former is divisible and the latter indivisible, while in another sense they are relative as knowledge is to knowable, if plurality is number and the one is a measure.

7

Since contraries admit of an intermediate and in some cases have it, intermediates must be composed of the contraries. For (1) all intermediates are in the same genus as the things between which they stand. For we call those things intermediates, into which that which changes must change first; e.g. if we were to pass from the highest string to the lowest by the smallest intervals, we should come sooner to the intermediate notes, and in colours if we were to pass from white to black, we should come sooner to crimson and grey than to black; and similarly in all other cases. But to change from one genus to another genus is not possible except in an incidental way, as from colour to figure. Intermediates, then, must be in the same genus both as one another and as the things they stand between.

But (2) all intermediates stand between opposites of some kind; for only between these can change take place in virtue of their own nature (so that an intermediate is impossible between things which are not opposite; for then there would be change which was not from one opposite towards the other). Of opposites, contradictories admit of no middle term; for this is what contradiction is-an opposition, one or other side of which must attach to anything whatever, i.e. which has no intermediate. Of other opposites, some are relative, others privative, others contrary. Of relative terms, those which are not contrary have no intermediate; the reason is that they are not in the same genus. For what intermediate could there be between knowledge and knowable? But between great and small there is one.

(3) If intermediates are in the same genus, as has been shown, and stand between contraries, they must be composed of these contraries. For either there will be a genus including the contraries or there will be none. And if (a) there is to be a genus in such a way that it is something prior to the contraries, the differentiae which constituted the contrary species-of-a-genus will be contraries prior to the species; for species are composed of the genus and the differentiae. (E.g. if white and black are contraries, and one is a piercing colour and the other a compressing colour, these differentiae-'piercing' and 'compressing'-are prior; so that these are prior contraries of one another.) But, again, the species which differ contrariwise are the more truly contrary species. And the other.species, i.e. the intermediates, must be composed of their genus and their differentiae. (E.g. all colours which are between white and black must be said to be composed of the genus, i.e. colour, and certain differentiae. But these differentiae will not be the primary contraries; otherwise every colour would be either white or black. They are different, then, from the primary contraries; and therefore they will be between the primary contraries; the primary differentiae are 'piercing' and 'compressing'.)

Therefore it is (b) with regard to these contraries which do not fall within a genus that we must first ask of what their intermediates are composed. (For things which are in the same genus must be composed of terms in which the genus is not an element, or else be themselves incomposite.) Now contraries do not involve one another in their composition, and are therefore first principles; but the intermediates are either all incomposite, or none of them. But there is something compounded out of the contraries, so that there can be a change from a contrary to it sooner than to the other contrary; for it will have less of the quality in question than the one contrary and more than the other. This also, then, will come between the contraries. All the other intermediates also, therefore, are composite; for that which has more of a quality than one thing and less than another is compounded somehow out of the things than which it is said to have more and less respectively of the quality. And since there are no other things prior to the contraries and homogeneous with the intermediates, all intermediates must be compounded out of the contraries. Therefore also all the inferior classes, both the contraries and their intermediates, will be compounded out of the primary contraries. Clearly, then, intermediates are (1) all in the same genus and (2) intermediate between contraries, and (3) all compounded out of the contraries.

8

That which is other in species is other than something in something, and this must belong to both; e.g. if it is an animal other in species, both are animals. The things, then, which are other in species must be in the same genus. For by genus I mean that one identical thing which is predicated of both and is differentiated in no merely accidental way, whether conceived as matter or otherwise. For not only must the common nature attach to the different things, e.g. not only must both be animals, but this very animality must also be different for each (e.g. in the one case equinity, in the other humanity), and so this common nature is specifically different for each from what it is for the other. One, then, will be in virtue of its own nature one sort of animal, and the other another, e.g. one a horse and the other a man. This difference, then, must be an otherness of the genus. For I give the name of ‘difference in the genus’ an otherness which makes the genus itself other.

This, then, will be a contrariety (as can be shown also by induction). For all things are divided by opposites, and it has been proved that contraries are in the same genus. For contrariety was seen to be complete difference; and all difference in species is a difference from something in something; so that this is the same for both and is their genus. (Hence also all contraries which are different in species and not in genus are in the same line of predication, and other than one another in the highest degree-for the difference is complete-, and cannot be present along with one another.) The difference, then, is a contrariety.

This, then, is what it is to be ‘other in species’-to have a contrariety, being in the same genus and being indivisible (and those things are the same in species which have no contrariety, being indivisible); we say ‘being indivisible’, for in the process of division contrarieties arise in the intermediate stages before we come to the indivisibles. Evidently, therefore, with reference to that which is called the genus, none of the species-of-a-genus is either the same as it or other than it in species (and this is fitting; for the matter is indicated by negation, and the genus is the matter of that of which it is called the genus, not in the sense in which we speak of the genus or family of the Heraclidae, but in that in which the genus is an element in a thing’s nature), nor is it so with reference to things which are not in the same genus, but it will differ in genus from them, and in species from things in the same genus. For a thing’s difference from that from which it differs in species must be a contrariety; and this belongs only to things in the same genus.

9

One might raise the question, why woman does not differ from man in species, when female and male are contrary and their difference is a contrariety; and why a female and a male animal are not different in species, though this difference belongs to animal in virtue of its own nature, and not as paleness or darkness does; both ‘female’ and ‘male’ belong to it qua animal. This question is almost the same as the other, why one contrariety makes things different in species and another does not, e.g. ‘with feet’ and ‘with wings’ do, but paleness and darkness do not. Perhaps it is because the former are modifications peculiar to the genus, and the latter are less so. And since one element is definition and one is matter, contrarieties which are in the definition make a difference in species, but those which are in the thing taken as including its matter do not make one. And so paleness in a man, or darkness, does not make one, nor is there a difference in species between the pale man and the dark man, not even if each of them be denoted by one word. For man is here being considered on his material side, and matter does not create a difference; for it does not make individual men species of man, though the flesh and the bones of which this man and that man consist are other. The concrete thing is other, but not other in species, because in the definition there is no contrariety. This is the ultimate indivisible kind. Callias is definition + matter, the pale man, then, is so also, because it is the individual Callias that is pale; man, then, is pale only incidentally. Neither do a brazen and a wooden circle, then, differ in species; and if a brazen triangle and a wooden circle differ in species, it is not because of the matter, but because there is a contrariety in the definition. But does the matter not make things other in species, when it is other in a certain way, or is there a sense in which it does? For why is this horse other than this man in species, although their matter is included with their definitions? Doubtless because there is a contrariety in the definition. For while there is a contrariety also between pale man and dark horse, and it is a contrariety in species, it does not depend on the paleness of the one and the darkness of the other, since even if both had been pale, yet they would have been other in species. But male and female, while they are modifications peculiar to ‘animal’, are so not in virtue of its essence but in the matter, ie. the body. This is why the same seed becomes female or male by being acted on in a certain way. We have stated, then, what it is to be other in species, and why some things differ in species and others do not.

10

Since contraries are other in form, and the perishable and the imperishable are contraries (for privation is a determinate incapacity), the perishable and the imperishable must be different in kind.

Now so far we have spoken of the general terms themselves, so that it might be thought not to be necessary that every imperishable thing should be different from every perishable thing in form, just as not every pale thing is different in form from every dark thing. For the same thing can be both, and even at the same time if it is a universal (e.g. man can be both pale and dark), and if it is an individual it can still be both; for the same man can be, though not at the same time, pale and dark. Yet pale is contrary to dark.

But while some contraries belong to certain things by accident (e.g. both those now mentioned and many others), others cannot, and among these are ‘perishable’ and ‘imperishable’. For nothing is by accident perishable. For what is accidental is capable of not being present, but perishableness is one of the attributes that belong of necessity to the things to which they belong; or else one and the same thing may be perishable and imperishable, if perishableness is capable of not belonging to it. Perishableness then must either be the essence or be present in the essence of each perishable thing.

The same account holds good for imperishableness also; for both are attributes which are present of necessity. The characteristics, then, in respect of which and in direct consequence of which one thing is perishable and another imperishable, are opposite, so that the things must be different in kind.

Evidently, then, there cannot be Forms such as some maintain, for then one man would be perishable and another imperishable. Yet the Forms are said to be the same in form with the individuals and not merely to have the same name; but things which differ in kind are farther apart than those which differ in form.

Book XI

1

THAT Wisdom is a science of first principles is evident from the introductory chapters, in which we have raised objections to the statements of others about the first principles; but one might ask the question whether Wisdom is to be conceived as one science or as several. If as one, it may be objected that one science always deals with contraries, but the first principles are not contrary. If it is not one, what sort of sciences are those with which it is to be identified?

Further, is it the business of one science, or of more than one, to examine the first principles of demonstration? If of one, why of this rather than of any other? If of more, what sort of sciences must these be said to be?

Further, does Wisdom investigate all substances or not? If not all, it is hard to say which; but if, being one, it investigates them all, it is doubtful how the same science can embrace several subject-matters.

Further, does it deal with substances only or also with their attributes? If in the case of attributes demonstration is possible, in that of substances it is not. But if the two sciences are different, what is each of them and which is Wisdom? If we think of it as demonstrative, the science of the attributes is Wisdom, but if as dealing with what is primary, the science of substances claims the tide.

But again the science we are looking for must not be supposed to deal with the causes which have been mentioned in the Physics. For (A) it does not deal with the final cause (for that is the nature of the good, and this is found in the field of action and movement; and it is the first mover-for that is the nature of the end-but in the case of things unmovable there is nothing that moved them first), and (B) in general it is hard to say whether perchance the science we are now looking for deals with perceptible substances or not with them, but with certain others. If with others, it must deal either with the Forms or with the objects of mathematics. Now (a) evidently the Forms do not exist. (But it is hard to say, even if one suppose them to exist, why in the world the same is not true of the other things of which there are Forms, as of the objects of mathematics. I mean that these thinkers place the objects of mathematics between the Forms and perceptible things, as a kind of third set of things apart both from the Forms and from the things in this world; but there is not a third man or horse besides the ideal and the individuals. If on the other hand it is not as they say, with what sort of things must the mathematician be supposed to deal? Certainly not with the things in this world; for none of these is the sort of thing which the mathematical sciences demand.) Nor (b) does the science which we are now seeking treat of the objects of mathematics; for none of them can exist separately. But again it does not deal with perceptible substances; for they are perishable.

In general one might raise the question, to what kind of science it belongs to discuss the difficulties about the matter of the objects of mathematics. Neither to physics (because the whole inquiry of the physicist is about the things that have in themselves a principle. of movement and rest), nor yet to the science which inquires into demonstration and science; for this is just the subject which it investigates. It remains then that it is the philosophy which we have set before ourselves that treats of those subjects.

One might discuss the question whether the science we are seeking should be said to deal with the principles which are by some called elements; all men suppose these to be present in composite things. But it might be thought that the science we seek should treat rather of universals; for every definition and every science is of universals and not of infimae species, so that as far as this goes it would deal with the highest genera. These would turn out to be being and unity; for these might most of all be supposed to contain all things that are, and to be most like principles because they are by nature; for if they perish all other things are destroyed with them; for everything is and is one. But inasmuch as, if one is to suppose them to be genera, they must be predicable of their differentiae, and no genus is predicable of any of its differentiae, in this way it would seem that we should not make them genera nor principles. Further, if the simpler is more of a principle than the less simple, and the ultimate members of the genus are simpler than the genera (for they are indivisible, but the genera are divided into many and differing species), the species might seem to be the principles, rather than the genera. But inasmuch as the species are involved in the destruction of the genera, the genera are more like principles; for that which involves another in its destruction is a principle of it. These and others of the kind are the subjects that involve difficulties.

2

Further, must we suppose something apart from individual things, or is it these that the science we are seeking treats of? But these are infinite in number. Yet the things that are apart from the individuals are genera or species; but the science we now seek treats of neither of these. The reason why this is impossible has been stated. Indeed, it is in general hard to say whether one must assume that there is a separable substance besides the sensible substances (i.e. the substances in this world), or that these are the real things and Wisdom is concerned with them. For we seem to seek another kind of substance, and this is our problem, i.e. to see if there is something which can exist apart by itself and belongs to no sensible thing.-Further, if there is another substance apart from and corresponding to sensible substances, which kinds of sensible substance must be supposed to have this corresponding to them? Why should one suppose men or horses to have it, more than either the other animals or even all lifeless things? On the other hand to set up other and eternal substances equal in number to the sensible and perishable substances would seem to fall beyond the bounds of probability.-But if the principle we now seek is not separable from corporeal things, what has a better claim to the name matter? This, however, does not exist in actuality, but exists in potency. And it would seem rather that the form or shape is a more important principle than this; but the form is perishable, so that there is no eternal substance at all which can exist apart and independent. But this is paradoxical; for such a principle and substance seems to exist and is sought by nearly all the most refined thinkers as something that exists; for how is there to be order unless there is something eternal and independent and permanent?

Further, if there is a substance or principle of such a nature as that which we are now seeking, and if this is one for all things, and the same for eternal and for perishable things, it is hard to say why in the world, if there is the same principle, some of the things that fall under the principle are eternal, and others are not eternal; this is paradoxical. But if there is one principle of perishable and another of eternal things, we shall be in a like difficulty if the principle of perishable things, as well as that of eternal, is eternal; for why, if the principle is eternal, are not the things that fall under the principle also eternal? But if it is perishable another principle is involved to account for it, and another to account for that, and this will go on to infinity.

If on the other hand we are to set up what are thought to be the most unchangeable principles, being and unity, firstly, if each of these does not indicate a ‘this’ or substance, how will they be separable and independent? Yet we expect the eternal and primary principles to be so. But if each of them does signify a ‘this’ or substance, all things that are are substances; for being is predicated of all things (and unity also of some); but that all things that are are substance is false. Further, how can they be right who say that the first principle is unity and this is substance, and generate number as the first product from unity and from matter, assert that number is substance? How are we to think of ‘two’, and each of the other numbers composed of units, as one? On this point neither do they say anything nor is it easy to say anything. But if we are to suppose lines or what comes after these (I mean the primary surfaces) to be principles, these at least are not separable substances, but sections and divisions-the former of surfaces, the latter of bodies (while points are sections and divisions of lines); and further they are limits of these same things; and all these are in other things and none is separable. Further, how are we to suppose that there is a substance of unity and the point? Every substance comes into being by a gradual process, but a point does not; for the point is a division.

A further difficulty is raised by the fact that all knowledge is of universals and of the ‘such’, but substance is not a universal, but is rather a ‘this’-a separable thing, so that if there is knowledge about the first principles, the question arises, how are we to suppose the first principle to be substance?

Further, is there anything apart from the concrete thing (by which I mean the matter and that which is joined with it), or not? If not, we are met by the objection that all things that are in matter are perishable. But if there is something, it must be the form or shape. Now it is hard to determine in which cases this exists apart and in which it does not; for in some cases the form is evidently not separable, e.g. in the case of a house.

Further, are the principles the same in kind or in number? If they are one in number, all things will be the same.

3

Since the science of the philosopher treats of being qua being universally and not in respect of a part of it, and ‘being’ has many senses and is not used in one only, it follows that if the word is used equivocally and in virtue of nothing common to its various uses, being does not fall under one science (for the meanings of an equivocal term do not form one genus); but if the word is used in virtue of something common, being will fall under one science. The term seems to be used in the way we have mentioned, like ‘medical’ and ‘healthy’. For each of these also we use in many senses. Terms are used in this way by virtue of some kind of reference, in the one case to medical science, in the other to health, in others to something else, but in each case to one identical concept. For a discussion and a knife are called medical because the former proceeds from medical science, and the latter is useful to it. And a thing is called healthy in a similar way; one thing because it is indicative of health, another because it is productive of it. And the same is true in the other cases. Everything that is, then, is said to ‘be’ in this same way; each thing that is is said to ‘be’ because it is a modification of being qua being or a permanent or a transient state or a movement of it, or something else of the sort. And since everything that is may be referred to something single and common, each of the contrarieties also may be referred to the first differences and contrarieties of being, whether the first differences of being are plurality and unity, or likeness and unlikeness, or some other differences; let these be taken as already discussed. It makes no difference whether that which is be referred to being or to unity. For even if they are not the same but different, at least they are convertible; for that which is one is also somehow being, and that which is being is one.

But since every pair of contraries falls to be examined by one and the same science, and in each pair one term is the privative of the other though one might regarding some contraries raise the question, how they can be privately related, viz. those which have an intermediate, e.g. unjust and just-in all such cases one must maintain that the privation is not of the whole definition, but of the infima species. if the just man is ‘by virtue of some permanent disposition obedient to the laws’, the unjust man will not in every case have the whole definition denied of him, but may be merely ‘in some respect deficient in obedience to the laws’, and in this respect the privation will attach to him; and similarly in all other cases.

As the mathematician investigates abstractions (for before beginning his investigation he strips off all the sensible qualities, e.g. weight and lightness, hardness and its contrary, and also heat and cold and the other sensible contrarieties, and leaves only the quantitative and continuous, sometimes in one, sometimes in two, sometimes in three dimensions, and the attributes of these qua quantitative and continuous, and does not consider them in any other respect, and examines the relative positions of some and the attributes of these, and the commensurabilities and incommensurabilities of others, and the ratios of others; but yet we posit one and the same science of all these things — geometry) — the same is true with regard to being. For the attributes of this in so far as it is being, and the contrarieties in it qua being, it is the business of no other science than philosophy to investigate; for to physics one would assign the study of things not qua being, but rather qua sharing in movement; while dialectic and sophistic deal with the attributes of things that are, but not of things qua being, and not with being itself in so far as it is being; therefore it remains that it is the philosopher who studies the things we have named, in so far as they are being. Since all that is is to ‘be’ in virtue of something single and common, though the term has many meanings, and contraries are in the same case (for they are referred to the first contrarieties and differences of being), and things of this sort can fall under one science, the difficulty we stated at the beginning appears to be solved,-I mean the question how there can be a single science of things which are many and different in genus.

4

Since even the mathematician uses the common axioms only in a special application, it must be the business of first philosophy to examine the principles of mathematics also. That when equals are taken from equals the remainders are equal, is common to all quantities, but mathematics studies a part of its proper matter which it has detached, e.g. lines or angles or numbers or some other kind of quantity-not, however, qua being but in so far as each of them is continuous in one or two or three dimensions; but philosophy does not inquire about particular subjects in so far as each of them has some attribute or other, but speculates about being, in so far as each particular thing is.-Physics is in the same position as mathematics; for physics studies the attributes and the principles of the things that are, qua moving and not qua being (whereas the primary science, we have said, deals with these, only in so far as the underlying subjects are existent, and not in virtue of any other character); and so both physics and mathematics must be classed as parts of Wisdom.

5

There is a principle in things, about which we cannot be deceived, but must always, on the contrary recognize the truth,-viz. that the same thing cannot at one and the same time be and not be, or admit any other similar pair of opposites. About such matters there is no proof in the full sense, though there is proof ad hominem. For it is not possible to infer this truth itself from a more certain principle, yet this is necessary if there is to be completed proof of it in the full sense. But he who wants to prove to the asserter of opposites that he is wrong must get from him an admission which shall be identical with the principle that the same thing cannot be and not be at one and the same time, but shall not seem to be identical; for thus alone can his thesis be demonstrated to the man who asserts that opposite statements can be truly made about the same subject. Those, then, who are to join in argument with one another must to some extent understand one another; for if this does not happen how are they to join in argument with one another? Therefore every word must be intelligible and indicate something, and not many things but only one; and if it signifies more than one thing, it must be made plain to which of these the word is being applied. He, then, who says ‘this is and is not’ denies what he affirms, so that what the word signifies, he says it does not signify; and this is impossible. Therefore if ‘this is’ signifies something, one cannot truly assert its contradictory.

Further, if the word signifies something and this is asserted truly, this connexion must be necessary; and it is not possible that that which necessarily is should ever not be; it is not possible therefore to make the opposed affirmations and negations truly of the same subject. Further, if the affirmation is no more true than the negation, he who says ‘man’ will be no more right than he who says ‘not-man’. It would seem also that in saying the man is not a horse one would be either more or not less right than in saying he is not a man, so that one will also be right in saying that the same person is a horse; for it was assumed to be possible to make opposite statements equally truly. It follows then that the same person is a man and a horse, or any other animal.

While, then, there is no proof of these things in the full sense, there is a proof which may suffice against one who will make these suppositions. And perhaps if one had questioned Heraclitus himself in this way one might have forced him to confess that opposite statements can never be true of the same subjects. But, as it is, he adopted this opinion without understanding what his statement involves. But in any case if what is said by him is true, not even this itself will be true-viz. that the same thing can at one and the same time both be and not be. For as, when the statements are separated, the affirmation is no more true than the negation, in the same way-the combined and complex statement being like a single affirmation-the whole taken as an affirmation will be no more true than the negation. Further, if it is not possible to affirm anything truly, this itself will be false-the assertion that there is no true affirmation. But if a true affirmation exists, this appears to refute what is said by those who raise such objections and utterly destroy rational discourse.

6

The saying of Protagoras is like the views we have mentioned; he said that man is the measure of all things, meaning simply that that which seems to each man also assuredly is. If this is so, it follows that the same thing both is and is not, and is bad and good, and that the contents of all other opposite statements are true, because often a particular thing appears beautiful to some and the contrary of beautiful to others, and that which appears to each man is the measure. This difficulty may be solved by considering the source of this opinion. It seems to have arisen in some cases from the doctrine of the natural philosophers, and in others from the fact that all men have not the same views about the same things, but a particular thing appears pleasant to some and the contrary of pleasant to others.

That nothing comes to be out of that which is not, but everything out of that which is, is a dogma common to nearly all the natural philosophers. Since, then, white cannot come to be if the perfectly white and in no respect not-white existed before, that which becomes white must come from that which is not white; so that it must come to be out of that which is not (so they argue), unless the same thing was at the beginning white and not-white. But it is not hard to solve this difficulty; for we have said in our works on physics in what sense things that come to be come to be from that which is not, and in what sense from that which is.

But to attend equally to the opinions and the fancies of disputing parties is childish; for clearly one of them must be mistaken. And this is evident from what happens in respect of sensation; for the same thing never appears sweet to some and the contrary of sweet to others, unless in the one case the sense-organ which discriminates the aforesaid flavours has been perverted and injured. And if this is so the one party must be taken to be the measure, and the other must not. And say the same of good and bad, and beautiful and ugly, and all other such qualities. For to maintain the view we are opposing is just like maintaining that the things that appear to people who put their finger under their eye and make the object appear two instead of one must be two (because they appear to be of that number) and again one (for to those who do not interfere with their eye the one object appears one).

In general, it is absurd to make the fact that the things of this earth are observed to change and never to remain in the same state, the basis of our judgement about the truth. For in pursuing the truth one must start from the things that are always in the same state and suffer no change. Such are the heavenly bodies; for these do not appear to be now of one nature and again of another, but are manifestly always the same and share in no change.

Further, if there is movement, there is also something moved, and everything is moved out of something and into something; it follows that that that which is moved must first be in that out of which it is to be moved, and then not be in it, and move into the other and come to be in it, and that the contradictory statements are not true at the same time, as these thinkers assert they are.

And if the things of this earth continuously flow and move in respect of quantity-if one were to suppose this, although it is not true-why should they not endure in respect of quality? For the assertion of contradictory statements about the same thing seems to have arisen largely from the belief that the quantity of bodies does not endure, which, our opponents hold, justifies them in saying that the same thing both is and is not four cubits long. But essence depends on quality, and this is of determinate nature, though quantity is of indeterminate.

Further, when the doctor orders people to take some particular food, why do they take it? In what respect is ‘this is bread’ truer than ‘this is not bread’? And so it would make no difference whether one ate or not. But as a matter of fact they take the food which is ordered, assuming that they know the truth about it and that it is bread. Yet they should not, if there were no fixed constant nature in sensible things, but all natures moved and flowed for ever.

Again, if we are always changing and never remain the same, what wonder is it if to us, as to the sick, things never appear the same? (For to them also, because they are not in the same condition as when they were well, sensible qualities do not appear alike; yet, for all that, the sensible things themselves need not share in any change, though they produce different, and not identical, sensations in the sick. And the same must surely happen to the healthy if the afore-said change takes place.) But if we do not change but remain the same, there will be something that endures.

As for those to whom the difficulties mentioned are suggested by reasoning, it is not easy to solve the difficulties to their satisfaction, unless they will posit something and no longer demand a reason for it; for it is only thus that all reasoning and all proof is accomplished; if they posit nothing, they destroy discussion and all reasoning. Therefore with such men there is no reasoning. But as for those who are perplexed by the traditional difficulties, it is easy to meet them and to dissipate the causes of their perplexity. This is evident from what has been said.

It is manifest, therefore, from these arguments that contradictory statements cannot be truly made about the same subject at one time, nor can contrary statements, because every contrariety depends on privation. This is evident if we reduce the definitions of contraries to their principle.

Similarly, no intermediate between contraries can be predicated of one and the same subject, of which one of the contraries is predicated. If the subject is white we shall be wrong in saying it is neither black nor white, for then it follows that it is and is not white; for the second of the two terms we have put together is true of it, and this is the contradictory of white.

We could not be right, then, in accepting the views either of Heraclitus or of Anaxagoras. If we were, it would follow that contraries would be predicated of the same subject; for when Anaxagoras says that in everything there is a part of everything, he says nothing is sweet any more than it is bitter, and so with any other pair of contraries, since in everything everything is present not potentially only, but actually and separately. And similarly all statements cannot be false nor all true, both because of many other difficulties which might be adduced as arising from this position, and because if all are false it will not be true to say even this, and if all are true it will not be false to say all are false.

7

Every science seeks certain principles and causes for each of its objects-e.g. medicine and gymnastics and each of the other sciences, whether productive or mathematical. For each of these marks off a certain class of things for itself and busies itself about this as about something existing and real,-not however qua real; the science that does this is another distinct from these. Of the sciences mentioned each gets somehow the ‘what’ in some class of things and tries to prove the other truths, with more or less precision. Some get the ‘what’ through perception, others by hypothesis; so that it is clear from an induction of this sort that there is no demonstration. of the substance or ‘what’.

There is a science of nature, and evidently it must be different both from practical and from productive science. For in the case of productive science the principle of movement is in the producer and not in the product, and is either an art or some other faculty. And similarly in practical science the movement is not in the thing done, but rather in the doers. But the science of the natural philosopher deals with the things that have in themselves a principle of movement. It is clear from these facts, then, that natural science must be neither practical nor productive, but theoretical (for it must fall into some one of these classes). And since each of the sciences must somehow know the ‘what’ and use this as a principle, we must not fall to observe how the natural philosopher should define things and how he should state the definition of the essence-whether as akin to ‘snub’ or rather to ‘concave’. For of these the definition of ‘snub’ includes the matter of the thing, but that of ‘concave’ is independent of the matter; for snubness is found in a nose, so that we look for its definition without eliminating the nose, for what is snub is a concave nose. Evidently then the definition of flesh also and of the eye and of the other parts must always be stated without eliminating the matter.

Since there is a science of being qua being and capable of existing apart, we must consider whether this is to be regarded as the same as physics or rather as different. Physics deals with the things that have a principle of movement in themselves; mathematics is theoretical, and is a science that deals with things that are at rest, but its subjects cannot exist apart. Therefore about that which can exist apart and is unmovable there is a science different from both of these, if there is a substance of this nature (I mean separable and unmovable), as we shall try to prove there is. And if there is such a kind of thing in the world, here must surely be the divine, and this must be the first and most dominant principle. Evidently, then, there are three kinds of theoretical sciences-physics, mathematics, theology. The class of theoretical sciences is the best, and of these themselves the last named is best; for it deals with the highest of existing things, and each science is called better or worse in virtue of its proper object.

One might raise the question whether the science of being qua being is to be regarded as universal or not. Each of the mathematical sciences deals with some one determinate class of things, but universal mathematics applies alike to all. Now if natural substances are the first of existing things, physics must be the first of sciences; but if there is another entity and substance, separable and unmovable, the knowledge of it must be different and prior to physics and universal because it is prior.

8

Since ‘being’ in general has several senses, of which one is ‘being by accident’, we must consider first that which ‘is’ in this sense. Evidently none of the traditional sciences busies itself about the accidental. For neither does architecture consider what will happen to those who are to use the house (e.g. whether they have a painful life in it or not), nor does weaving, or shoemaking, or the confectioner’s art, do the like; but each of these sciences considers only what is peculiar to it, i.e. its proper end. And as for the argument that ‘when he who is musical becomes lettered he’ll be both at once, not having been both before; and that which is, not always having been, must have come to be; therefore he must have at once become musical and lettered’,-this none of the recognized sciences considers, but only sophistic;

for this alone busies itself about the accidental, so that Plato is not far wrong when he says that the sophist spends his time on non-being.

That a science of the accidental is not even possible will be evident if we try to see what the accidental really is. We say that everything either is always and of necessity (necessity not in the sense of violence, but that which we appeal to in demonstrations), or is for the most part, or is neither for the most part, nor always and of necessity, but merely as it chances; e.g. there might be cold in the dogdays, but this occurs neither always and of necessity, nor for the most part, though it might happen sometimes. The accidental, then, is what occurs, but not always nor of necessity, nor for the most part. Now we have said what the accidental is, and it is obvious why there is no science of such a thing; for all science is of that which is always or for the most part, but the accidental is in neither of these classes.

Evidently there are not causes and principles of the accidental, of the same kind as there are of the essential; for if there were, everything would be of necessity. If A is when B is, and B is when C is, and if C exists not by chance but of necessity, that also of which C was cause will exist of necessity, down to the last causatum as it is called (but this was supposed to be accidental). Therefore all things will be of necessity, and chance and the possibility of a thing's either occurring or not occurring are removed entirely from the range of events. And if the cause be supposed not to exist but to be coming to be, the same results will follow; everything will occur of necessity. For to-morrow's eclipse will occur if A occurs, and A if B occurs, and B if C occurs; and in this way if we subtract time from the limited time between now and to-morrow we shall come sometime to the already existing condition. Therefore since this exists, everything after this will occur of necessity, so that all things occur of necessity.

As to that which 'is' in the sense of being true or of being by accident, the former depends on a combination in thought and is an affection of thought (which is the reason why it is the principles, not of that which 'is' in this sense, but of that which is outside and can exist apart, that are sought); and the latter is not necessary but indeterminate (I mean the accidental); and of such a thing the causes are unordered and indefinite.

Adaptation to an end is found in events that happen by nature or as the result of thought. It is 'luck' when one of these events happens by accident. For as a thing may exist, so it may be a cause, either by its own nature or by accident. Luck is an accidental cause at work in such events adapted to an end as are usually effected in accordance with purpose. And so luck and thought are concerned with the same sphere; for purpose cannot exist without thought. The causes from which lucky results might happen are indeterminate; and so luck is obscure to human calculation and is a cause by accident, but in the unqualified sense a cause of nothing. It is good or bad luck when the result is good or evil; and prosperity or misfortune when the scale of the results is large.

Since nothing accidental is prior to the essential, neither are accidental causes prior. If, then, luck or spontaneity is a cause of the material universe, reason and nature are causes before it.

9

Some things are only actually, some potentially, some potentially and actually, what they are, viz. in one case a particular reality, in another, characterized by a particular quantity, or the like. There is no movement apart from things; for change is always according to the categories of being, and there is nothing common to these and in no one category. But each of the categories belongs to all its subjects in either of two ways (e.g. ‘this-ness’-for one kind of it is ‘positive form’, and the other is ‘privation’; and as regards quality one kind is ‘white’ and the other ‘black’, and as regards quantity one kind is ‘complete’ and the other ‘incomplete’, and as regards spatial movement one is ‘upwards’ and the other ‘downwards’, or one thing is ‘light’ and another ‘heavy’); so that there are as many kinds of movement and change as of being. There being a distinction in each class of things between the potential and the completely real, I call the actuality of the potential as such, movement. That what we say is true, is plain from the following facts. When the ‘buildable’, in so far as it is what we mean by ‘buildable’, exists actually, it is being built, and this is the process of building. Similarly with learning, healing, walking, leaping, ageing, ripening. Movement takes when the complete reality itself exists, and neither earlier nor later. The complete reality, then, of that which exists potentially, when it is completely real and actual, not qua itself, but qua movable, is movement. By qua I mean this: bronze is potentially a statue; but yet it is not the complete reality of bronze qua bronze that is movement. For it is not the same thing to be bronze and to be a certain potency. If it were absolutely the same in its definition, the complete reality of bronze would have been a movement. But it is not the same. (This is evident in the case of contraries; for to be capable of being well and to be capable of being ill are not the same-for if they were, being well and being ill would have been the same-it is that which underlies and is healthy or diseased, whether it is moisture or blood, that is one and the same.) And since it is not. the same, as colour and the visible are not the same, it is the complete reality of the potential, and as potential, that is movement. That it is this, and that movement takes place when the complete reality itself exists, and neither earlier nor later, is evident. For each thing is capable of being sometimes actual, sometimes not, e.g. the buildable qua buildable; and the actuality of the buildable qua buildable is building. For the actuality is either this-the act of building-or the house. But when the house exists, it is no longer buildable; the buildable is what is being built. The actuality, then, must be the act of building, and this is a movement. And the same account applies to all other movements.

That what we have said is right is evident from what all others say about movement, and from the fact that it is not easy to define it otherwise. For firstly one cannot put it in any class. This is evident from what people say. Some call it otherness and inequality and the unreal; none of these, however, is necessarily moved, and further, change is not either to these or from these any more than from their opposites. The reason why people put movement in these classes is that it is thought to be something indefinite, and the principles in one of the two ‘columns of contraries’ are indefinite because they are privative, for none of them is either a ‘this’ or a ‘such’ or in any of the other categories. And the reason why movement is thought to be indefinite is that it cannot be classed either with the potency of things or with their actuality; for neither that which is capable of being of a certain quantity, nor that which is actually of a certain quantity, is of necessity moved, and movement is thought to be an actuality, but incomplete; the reason is that the potential, whose actuality it is, is incomplete. And therefore it is hard to grasp what movement is; for it must be classed either under privation or under potency or under absolute actuality, but evidently none of these is possible. Therefore what remains is that it must be what we said-both actuality and the actuality we have described-which is hard to detect but capable of existing.

And evidently movement is in the movable; for it is the complete realization of this by that which is capable of causing movement. And the actuality of that which is capable of causing movement is no other than that of the movable. For it must be the complete reality of both. For while a thing is capable of causing movement because it can do this, it is a mover because it is active; but it is on the movable that it is capable of acting, so that the actuality of both is one, just as there is the same interval from one to two as from two to one, and as the steep ascent and the steep descent are one, but the being of them is not one; the case of the mover and the moved is similar.

10

The infinite is either that which is incapable of being traversed because it is not its nature to be traversed (this corresponds to the sense in which the voice is ‘invisible’), or that which admits only of incomplete traverse or scarcely admits of traverse, or that which, though it naturally admits of traverse, is not traversed or limited; further, a thing may be infinite in respect of addition or of subtraction, or both. The infinite cannot be a separate, independent thing. For if it is neither a spatial magnitude nor a plurality, but infinity itself is its substance and not an accident of it, it will be indivisible; for the divisible is either magnitude or plurality. But if indivisible, it is not infinite, except as the voice is invisible; but people do not mean this, nor are we examining this sort of infinite, but the infinite as untraversable. Further, how can an infinite exist by itself, unless number and magnitude also exist by themselvess-since infinity is an attribute of these? Further, if the infinite is an accident of something else, it cannot be qua infinite an element in things, as the invisible is not an element in speech, though the voice is invisible. And evidently the infinite cannot exist actually. For then any part of it that might be taken would be infinite (for ‘to be infinite’ and ‘the infinite’ are the same, if the infinite is substance and not predicated of a subject). Therefore it is either indivisible, or if it is partible, it is divisible into infinites; but the same thing cannot be many infinites (as a part of air is air, so a part of the infinite would be infinite, if the infinite is substance and a principle). Therefore it must be impartible and indivisible. But the actually infinite cannot be indivisible; for it must be of a certain quantity. Therefore infinity belongs to its subject incidentally. But if so, then (as we have said) it cannot be it that is a principle, but that of which it is an accident-the air or the even number.

This inquiry is universal; but that the infinite is not among sensible things, is evident from the following argument. If the definition of a body is ‘that which is bounded by planes’, there cannot be an infinite body either sensible or intelligible; nor a separate and infinite number, for number or that which has a number is numerable. Concretely, the truth is evident from the following argument. The infinite can neither be composite nor simple. For (a) it cannot be a composite body, since the elements are limited in multitude. For the contraries must be equal and no one of them must be infinite; for if one of the two bodies falls at all short of the other in potency, the finite will be destroyed by the infinite. And that each should be infinite is impossible. For body is that which has extension in all directions, and the infinite is the boundlessly extended, so that if the infinite is a body it will be infinite in every direction. Nor (b) can the infinite body be one and simple-neither, as some say, something apart from the elements, from which they generate these (for there is no such body apart from the elements; for everything can be resolved into that of which it consists, but no such product of analysis is observed except the simple bodies), nor fire nor any other of the elements. For apart from the question how any of them could be infinite, the All, even if it is finite, cannot either be or become any one of them, as Heraclitus says all things sometime become fire. The same argument applies to this as to the One which the natural philosophers posit besides the elements. For everything changes from contrary to contrary, e.g. from hot to cold.

Further, a sensible body is somewhere, and whole and part have the same proper place, e.g. the whole earth and part of the earth. Therefore if (a) the infinite body is homogeneous, it will be unmovable or it will be always moving. But this is impossible; for why should it rather rest, or move, down, up, or anywhere, rather than anywhere else? E.g. if there were a clod which were part of an infinite body, where will this move or rest? The proper place of the body which is homogeneous with it is infinite. Will the clod occupy the whole place, then? And how? (This is impossible.) What then is its rest or its movement? It will either rest everywhere, and then it cannot move; or it will move everywhere, and then it cannot be still. But (b) if the All has unlike parts, the proper places of the parts are unlike also, and, firstly, the body of the All is not one except by contact, and, secondly, the parts will be either finite or infinite in variety of kind. Finite they cannot be; for then those of one kind will be infinite in quantity and those of another will not (if the All is infinite), e.g. fire or water would be infinite, but such an infinite element would be destruction to the contrary elements. But if the parts are infinite and simple, their places also are infinite and there will be an infinite number of elements; and if this is impossible, and the places are finite, the All also must be limited.

In general, there cannot be an infinite body and also a proper place for bodies, if every sensible body has either weight or lightness. For it must move either towards the middle or upwards, and the infinite either the whole or the half of it-cannot do either; for how will you divide it? Or how will part of the infinite be down and part up, or part extreme and part middle? Further, every sensible body is in a place, and there are six kinds of place, but these cannot exist in an infinite body. In general, if there cannot be an infinite place, there cannot be an infinite body; (and there cannot be an infinite place,) for that which is in a place is somewhere, and this means either up or down or in one of the other directions, and each of these is a limit.

The infinite is not the same in the sense that it is a single thing whether exhibited in distance or in movement or in time, but the posterior among these is called infinite in virtue of its relation to the prior; i.e. a movement is called infinite in virtue of the distance covered by the spatial movement or alteration or growth, and a time is called infinite because of the movement which occupies it.

11

Of things which change, some change in an accidental sense, like that in which ‘the musical’ may be said to walk, and others are said, without qualification, to change, because something in them changes, i.e. the things that change in parts; the body becomes healthy, because the eye does. But there is something which is by its own nature moved directly, and this is the essentially movable. The same distinction is found in the case of the mover; for it causes movement either in an accidental sense or in respect of a part of itself or essentially. There is something that directly causes movement; and there is something that is moved, also the time in which it is moved, and that from which and that into which it is moved. But the forms and the affections and the place, which are the terminals of the movement of moving things, are unmovable, e.g. knowledge or heat; it is not heat that is a movement, but heating. Change which is not accidental is found not in all things, but between contraries, and their intermediates, and between contradictories. We may convince ourselves of this by induction.

That which changes changes either from positive into positive, or from negative into negative, or from positive into negative, or from negative into positive. (By positive I mean that which is expressed by an affirmative term.) Therefore there must be three changes; that from negative into negative is not change, because (since the terms are neither contraries nor contradictories) there is no opposition. The change from the negative into the positive which is its contradictory is generation-absolute change absolute generation, and partial change partial generation; and the change from positive to negative is destruction-absolute change absolute destruction, and partial change partial destruction. If, then, ‘that which is not’ has several senses, and movement can attach neither to that which implies putting together or separating, nor to that which implies potency and is opposed to that which is in the full sense (true, the not-white or not-good can be moved incidentally, for the not-white might be a man; but that which is not a particular thing at all can in no wise be moved), that which is not cannot be moved (and if this is so, generation cannot be movement; for that which is not is generated; for even if we admit to the full that its generation is accidental, yet it is true to say that ‘not-being’ is predicable of that which is generated absolutely). Similarly rest cannot be long to that which is not. These consequences, then, turn out to be awkward, and also this, that everything that is moved is in a place, but that which is not is not in a place; for then it would be somewhere. Nor is destruction movement; for the contrary of movement is rest, but the contrary of destruction is generation. Since every movement is a change, and the kinds of change are the three named above, and of these those in the way of generation and destruction are not movements, and these are the changes from a thing to its contradictory, it follows that only the change from positive into positive is movement. And the positives are either contrary or intermediate (for even privation must be regarded as contrary), and are expressed by an affirmative term, e.g. ‘naked’ or ‘toothless’ or ‘black’.

12

If the categories are classified as substance, quality, place, acting or being acted on, relation, quantity, there must be three kinds of movement-of quality, of quantity, of place. There is no movement in respect of substance (because there is nothing contrary to substance), nor of relation (for it is possible that if one of two things in relation changes, the relative term which was true of the other thing ceases to be true, though this other does not change at all,-so that their movement is accidental), nor of agent and patient, or mover and moved, because there is no movement of movement nor generation of generation, nor, in general, change of change. For there might be movement of movement in two senses; (1) movement might be the subject moved, as a man is moved because he changes from pale to dark,-so that on this showing movement, too, may be either heated or cooled or change its place or increase. But this is impossible; for change is not a subject. Or (2) some other subject might change from change into some other form of existence (e.g. a man from disease into health). But this also is not possible except incidentally. For every movement is change from something into something. (And so are generation and destruction; only, these are changes into things opposed in certain ways while the other, movement, is into things opposed in another way.) A thing changes, then, at the same time from health into illness, and from this change itself into another. Clearly, then, if it has become ill, it will have changed into whatever may be the other change concerned (though it may be at rest), and, further, into a determinate change each time; and that new change will be from something definite into some other definite thing; therefore it will be the opposite change, that of growing well. We answer that this happens only incidentally; e.g. there is a change from the process of recollection to that of forgetting, only because that to which the process attaches is changing, now into a state of knowledge, now into one of ignorance.

Further, the process will go on to infinity, if there is to be change of change and coming to be of coming to be. What is true of the later, then, must be true of the earlier; e.g. if the simple coming to be was once coming to be, that which comes to be something was also once coming to be; therefore that which simply comes to be something was not yet in existence, but something which was coming to be coming to be something was already in existence. And this was once coming to be, so that at that time it was not yet coming to be something else. Now since of an infinite number of terms there is not a first, the first in this series will not exist, and therefore no following term exist. Nothing, then, can either come term wi to be or move or change. Further, that which is capable of a movement is also capable of the contrary movement and rest, and that which comes to be also ceases to be. Therefore that which is coming to be is ceasing to be when it has come to be coming to be; for it cannot cease to be as soon as it is coming to be coming to be, nor after it has come to be; for that which is ceasing to be must be. Further, there must be a matter underlying that which comes to be and changes. What will this be, then,-what is it that becomes movement or becoming, as body or soul is that which suffers alteration? And; again, what is it that they move into? For it must be the movement or becoming of something from something into something. How, then, can this condition be fulfilled? There can be no learning of learning, and therefore no becoming of becoming. Since there is not movement either of substance or of relation or of activity and passivity, it remains that movement is in respect of quality and quantity and place; for each of these admits of contrariety. By quality I mean not that which is in the substance (for even the differentia is a quality), but the passive quality, in virtue of which a thing is said to be acted on or to be incapable of being acted on. The immobile is either that which is wholly incapable of being moved, or that which is moved with difficulty in a long time or begins slowly, or that which is of a nature to be moved and can be moved but is not moved when and where and as it would naturally be moved. This alone among immobiles I describe as being at rest; for rest is contrary to movement, so that it must be a privation in that which is receptive of movement.

Things which are in one proximate place are together in place, and things which are in different places are apart: things whose extremes are together touch: that at which a changing thing, if it changes continuously according to its nature, naturally arrives before it arrives at the extreme into which it is changing, is between. That which is most distant in a straight line is contrary in place. That is successive which is after the beginning (the order being determined by position or form or in some other way) and has nothing of the same class between it and that which it succeeds, e.g. lines in the case of a line, units in that of a unit, or a house in that of a house. (There is nothing to prevent a thing of some other class from being between.) For the successive succeeds something and is something later; ‘one’ does not succeed ‘two’, nor the first day of the month the second. That which, being successive, touches, is contiguous. (Since all change is between opposites, and these are either contraries or contradictories, and there is no middle term for contradictories, clearly that which is between is between contraries.) The continuous is a species of the contiguous. I call two things continuous when the limits of each, with which they touch and by which they are kept together, become one and the same, so that plainly the continuous is found in the things out of which a unity naturally arises in virtue of their contact. And plainly the successive is the first of these concepts (for the successive does not necessarily touch, but that which touches is successive; and if a thing is continuous, it touches, but if it touches, it is not necessarily continuous; and in things in which there is no touching, there is no organic unity); therefore a point is not the same as a unit; for contact belongs to points, but not to units, which have only succession; and there is something between two of the former, but not between two of the latter.

Book XII

1

The subject of our inquiry is substance; for the principles and the causes we are seeking are those of substances. For if the universe is of the nature of a whole, substance is its first part; and if it coheres merely by virtue of serial succession, on this view also substance is first, and is succeeded by quality, and then by quantity. At the same time these latter are not even being in the full sense, but are qualities and movements of it,-or else even the not-white and the not-straight would be being; at least we say even these are, e.g. ‘there is a not-white’. Further, none of the categories other than substance can exist apart. And the early philosophers also in practice testify to the primacy of substance; for it was of substance that they sought the principles and elements and causes. The thinkers of the present day tend to rank universals as substances (for genera are universals, and these they tend to describe as principles and substances, owing to the abstract nature of their inquiry); but the thinkers of old ranked particular things as substances, e.g. fire and earth, not what is common to both, body.

There are three kinds of substance-one that is sensible (of which one subdivision is eternal and another is perishable; the latter is recognized by all men, and includes e.g. plants and animals), of which we must grasp the elements, whether one or many; and another that is immovable, and this certain thinkers assert to be capable of existing apart, some dividing it into two, others identifying the Forms and the objects of mathematics, and others positing, of these two, only the objects of mathematics. The former two kinds of substance are the subject of physics (for they imply movement); but the third kind belongs to another science, if there is no principle common to it and to the other kinds.

2

Sensible substance is changeable. Now if change proceeds from opposites or from intermediates, and not from all opposites (for the voice is not-white, (but it does not therefore change to white)), but from the contrary, there must be something underlying which changes into the contrary state; for the contraries do not change. Further, something persists, but the contrary does not persist; there is, then, some third thing besides the contraries, viz. the matter. Now since changes are of four kinds-either in respect of the ‘what’ or of the quality or of the quantity or of the place, and change in respect of ‘thisness’ is simple generation and destruction, and change in quantity is increase and diminution, and change in respect of an affection is alteration, and change of place is motion, changes will be from given states into those contrary to them in these several respects. The matter, then, which changes must be capable of both states. And since that which ‘is’ has two senses, we must say that everything changes from that which is potentially to that which is actually, e.g. from potentially white to actually white, and similarly in the case of increase and diminution. Therefore not only can a thing come to be, incidentally, out of that which is not, but also all things come to be out of that which is, but is potentially, and is not actually. And this is the ‘One’ of Anaxagoras; for instead of ‘all things were together’-and the ‘Mixture’ of Empedocles and Anaximander and the account given by Democritus-it is better to say ‘all things were together potentially but not actually’. Therefore these thinkers seem to have had some notion of matter. Now all things that change have matter, but different matter; and of eternal things those which are not generable but are movable in space have matter-not matter for generation, however, but for motion from one place to another.

One might raise the question from what sort of non-being generation proceeds; for ‘non-being’ has three senses. If, then, one form of non-being exists potentially, still it is not by virtue of a potentiality for any and every thing, but different things come from different things; nor is it satisfactory to say that ‘all things were together’; for they differ in their matter, since otherwise why did an infinity of things come to be, and not one thing? For ‘reason’ is one, so that if matter also were one, that must have come to be in actuality which the matter was in potency. The causes and the principles, then, are three, two being the pair of contraries of which one is definition and form and the other is privation, and the third being the matter.

Note, next, that neither the matter nor the form comes to be-and I mean the last matter and form. For everything that changes is something and is changed by something and into something. That by which it is changed is the immediate mover; that which is changed, the matter; that into which it is changed, the form. The process, then, will go on to infinity, if not only the bronze comes to be round but also the round or the bronze comes to be; therefore there must be a stop.

Note, next, that each substance comes into being out of something that shares its name. (Natural objects and other things both rank as substances.) For things come into being either by art or by nature or by luck or by spontaneity. Now art is a principle of movement in something other than the thing moved, nature is a principle in the thing itself (for man begets man), and the other causes are privations of these two.

There are three kinds of substance-the matter, which is a 'this' in appearance (for all things that are characterized by contact and not, by organic unity are matter and substratum, e.g. fire, flesh, head; for these are all matter, and the last matter is the matter of that which is in the full sense substance); the nature, which is a 'this' or positive state towards which movement takes place; and again, thirdly, the particular substance which is composed of these two, e.g. Socrates or Callias. Now in some cases the 'this' does not exist apart from the composite substance, e.g. the form of house does not so exist, unless the art of building exists apart (nor is there generation and destruction of these forms, but it is in another way that the house apart from its matter, and health, and all ideals of art, exist and do not exist); but if the 'this' exists apart from the concrete thing, it is only in the case of natural objects. And so Plato was not far wrong when he said that there are as many Forms as there are kinds of natural object (if there are Forms distinct from the things of this earth). The moving causes exist as things preceding the effects, but causes in the sense of definitions are simultaneous with their effects. For when a man is healthy, then health also exists; and the shape of a bronze sphere exists at the same time as the bronze sphere. (But we must examine whether any form also survives afterwards. For in some cases there is nothing to prevent this; e.g. the soul may be of this sort-not all soul but the reason; for presumably it is impossible that all soul should survive.) Evidently then there is no necessity, on this ground at least, for the existence of the Ideas. For man is begotten by man, a given man by an individual father; and similarly in the arts; for the medical art is the formal cause of health.

4

The causes and the principles of different things are in a sense different, but in a sense, if one speaks universally and analogically, they are the same for all. For one might raise the question whether the principles and elements are different or the same for substances and for relative terms, and similarly in the case of each of the categories. But it would be paradoxical if they were the same for all. For then from the same elements will proceed relative terms and substances. What then will this common element be? For (1) (a) there is nothing common to and distinct from substance and the other categories, viz. those which are predicated; but an element is prior to the things of which it is an element. But again (b) substance is not an element in relative terms, nor is any of these an element in substance. Further, (2) how can all things have the same elements? For none of the elements can be the same as that which is composed of elements, e.g. b or a cannot be the same as ba. (None, therefore, of the intelligibles, e.g. being or unity, is an element; for these are predicable of each of the compounds as well.) None of the elements, then, will be either a substance or a relative term; but it must be one or other. All things, then, have not the same elements.

Or, as we are wont to put it, in a sense they have and in a sense they have not; e.g. perhaps the elements of perceptible bodies are, as form, the hot, and in another sense the cold, which is the privation; and, as matter, that which directly and of itself potentially has these attributes; and substances comprise both these and the things composed of these, of which these are the principles, or any unity which is produced out of the hot and the cold, e.g. flesh or bone; for the product must be different from the elements. These things then have the same elements and principles (though specifically different things have specifically different elements); but all things have not the same elements in this sense, but only analogically; i.e. one might say that there are three principles-the form, the privation, and the matter. But each of these is different for each class; e.g. in colour they are white, black, and surface, and in day and night they are light, darkness, and air.

Since not only the elements present in a thing are causes, but also something external, i.e. the moving cause, clearly while ‘principle’ and ‘element’ are different both are causes, and ‘principle’ is divided into these two kinds; and that which acts as producing movement or rest is a principle and a substance. Therefore analogically there are three elements, and four causes and principles; but the elements are different in different things, and the proximate moving cause is different for different things. Health, disease, body; the moving cause is the medical art. Form, disorder of a particular kind, bricks; the moving cause is the building art. And since the moving cause in the case of natural things is-for man, for instance, man, and in the products of thought the form or its contrary, there will be in a sense three causes, while in a sense there are four. For the medical art is in some sense health, and the building art is the form of the house, and man begets man; further, besides these there is that which as first of all things moves all things.

5

Some things can exist apart and some cannot, and it is the former that are substances. And therefore all things have the same causes, because, without substances, modifications and movements do not exist. Further, these causes will probably be soul and body, or reason and desire and body.

And in yet another way, analogically identical things are principles, i.e. actuality and potency; but these also are not only different for different things but also apply in different ways to them. For in some cases the same thing exists at one time actually and at another potentially, e.g. wine or flesh or man does so. (And these too fall under the above-named causes. For the form exists actually, if it can exist apart, and so does the complex of form and matter, and the privation, e.g. darkness or disease; but the matter exists potentially; for this is that which can become qualified either by the form or by the privation.) But the distinction of actuality and potentiality applies in another way to cases where the matter of cause and of effect is not the same, in some of which cases the form is not the same but different; e.g. the cause of man is (1) the elements in man (viz. fire and earth as matter, and the peculiar form), and further (2) something else outside, i.e. the father, and (3) besides these the sun and its oblique course, which are neither matter nor form nor privation of man nor of the same species with him, but moving causes.

Further, one must observe that some causes can be expressed in universal terms, and some cannot. The proximate principles of all things are the 'this' which is proximate in actuality, and another which is proximate in potentiality. The universal causes, then, of which we spoke do not exist. For it is the individual that is the originative principle of the individuals. For while man is the originative principle of man universally, there is no universal man, but Peleus is the originative principle of Achilles, and your father of you, and this particular b of this particular ba, though b in general is the originative principle of ba taken without qualification.

Further, if the causes of substances are the causes of all things, yet different things have different causes and elements, as was said; the causes of things that are not in the same class, e.g. of colours and sounds, of substances and quantities, are different except in an analogical sense; and those of things in the same species are different, not in species, but in the sense that the causes of different individuals are different, your matter and form and moving cause being different from mine, while in their universal definition they are the same. And if we inquire what are the principles or elements of substances and relations and qualities-whether they are the same or different-clearly when the names of the causes are used in several senses the causes of each are the same, but when the senses are distinguished the causes are not the same but different, except that in the following senses the causes of all are the same. They are (1) the same or analogous in this sense, that matter, form, privation, and the moving cause are common to all things; and (2) the causes of substances may be treated as causes of all things in this sense, that when substances are removed all things are removed; further, (3) that which is first in respect of complete reality is the cause of all things. But in another sense there are different first causes, viz. all the contraries which are neither generic nor ambiguous terms; and, further, the matters of different things are different. We have stated, then, what are the principles of sensible things and how many they are, and in what sense they are the same and in what sense different.

6

Since there were three kinds of substance, two of them physical and one unmovable, regarding the latter we must assert that it is necessary that there should be an eternal unmovable substance. For substances are the first of existing things, and if they are all destructible, all things are destructible. But it is impossible that movement should either have come into being or cease to be (for it must always have existed), or that time should. For there could not be a before and an after if time did not exist. Movement also is continuous, then, in the sense in which time is; for time is either the same thing as movement or an attribute of movement. And there is no continuous movement except movement in place, and of this only that which is circular is continuous.

But if there is something which is capable of moving things or acting on them, but is not actually doing so, there will not necessarily be movement; for that which has a potency need not exercise it. Nothing, then, is gained even if we suppose eternal substances, as the believers in the Forms do, unless there is to be in them some principle which can cause change; nay, even this is not enough, nor is another substance besides the Forms enough; for if it is not to act, there will be no movement. Further even if it acts, this will not be enough, if its essence is potency; for there will not be eternal movement, since that which is potentially may possibly not be. There must, then, be such a principle, whose very essence is actuality. Further, then, these substances must be without matter; for they must be eternal, if anything is eternal. Therefore they must be actuality.

Yet there is a difficulty; for it is thought that everything that acts is able to act, but that not everything that is able to act acts, so that the potency is prior. But if this is so, nothing that is need be; for it is possible for all things to be capable of existing but not yet to exist.

Yet if we follow the theologians who generate the world from night, or the natural philosophers who say that ‘all things were together’, the same impossible result ensues. For how will there be movement, if there is no actually existing cause? Wood will surely not move itself-the carpenter’s art must act on it; nor will the menstrual blood nor the earth set themselves in motion, but the seeds must act on the earth and the semen on the menstrual blood.

This is why some suppose eternal actuality-e.g. Leucippus and Plato; for they say there is always movement. But why and what this movement is they do say, nor, if the world moves in this way or that, do they tell us the cause of its doing so. Now nothing is moved at random, but there must always be something present to move it; e.g. as a matter of fact a thing moves in one way by nature, and in another by force or through the influence of reason or something else. (Further, what sort of movement is primary? This makes a vast difference.) But again for Plato, at least, it is not permissible to name here that which he sometimes supposes to be the source of movement-that which moves itself; for the soul is later, and coeval with the heavens, according to his account. To suppose potency prior to actuality, then, is in a sense right, and in a sense not; and we have specified these senses. That actuality is prior is testified by Anaxagoras (for his ‘reason’ is actuality) and by Empedocles in his doctrine of love and strife, and by those who say that there is always movement, e.g. Leucippus. Therefore chaos or night did not exist for an infinite time, but the same things have always existed (either passing through a cycle of changes or obeying some other law), since actuality is prior to potency. If, then, there is a constant cycle, something must always remain, acting in the same way. And if there is to be generation and destruction, there must be something else which is always acting in different ways. This must, then, act in one way in virtue of itself, and in another in virtue of something else-either of a third agent, therefore, or of the first. Now it must be in virtue of the first. For otherwise this again causes the motion both of the second agent and of the third. Therefore it is better to say ‘the first’. For it was the cause of eternal uniformity; and something else is the cause of variety, and evidently both together are the cause of eternal variety. This, accordingly, is the character which the motions actually exhibit. What need then is there to seek for other principles?

7

Since (1) this is a possible account of the matter, and (2) if it were not true, the world would have proceeded out of night and ‘all things together’ and out of non-being, these difficulties may be taken as solved. There is, then, something which is always moved with an unceasing motion, which is motion in a circle; and this is plain not in theory only but in fact. Therefore the first heaven must be eternal. There is therefore also something which moves it. And since that which moves and is moved is intermediate, there is something which moves without being moved, being eternal, substance, and actuality. And the object of desire and the object of thought move in this way; they move without being moved. The primary objects of desire and of thought are the same. For the apparent good is the object of appetite, and the real good is the primary object of rational wish. But desire is consequent on opinion rather than opinion on desire; for the thinking is the starting-point. And thought is moved by the object of thought, and one of the two columns of opposites is in itself the object of thought; and in this, substance is first, and in substance, that which is simple and exists actually. (The one and the simple are not the same; for 'one' means a measure, but 'simple' means that the thing itself has a certain nature.) But the beautiful, also, and that which is in itself desirable are in the same column; and the first in any class is always best, or analogous to the best.

That a final cause may exist among unchangeable entities is shown by the distinction of its meanings. For the final cause is (a) some being for whose good an action is done, and (b) something at which the action aims; and of these the latter exists among unchangeable entities though the former does not. The final cause, then, produces motion as being loved, but all other things move by being moved. Now if something is moved it is capable of being otherwise than as it is. Therefore if its actuality is the primary form of spatial motion, then in so far as it is subject to change, in this respect it is capable of being otherwise,-in place, even if not in substance. But since there is something which moves while itself unmoved, existing actually, this can in no way be otherwise than as it is. For motion in space is the first of the kinds of change, and motion in a circle the first kind of spatial motion; and this the first mover produces. The first mover, then, exists of necessity; and in so far as it exists by necessity, its mode of being is good, and it is in this sense a first principle. For the necessary has all these senses-that which is necessary perforce because it is contrary to the natural impulse, that without which the good is impossible, and that which cannot be otherwise but can exist only in a single way.

On such a principle, then, depend the heavens and the world of nature. And it is a life such as the best which we enjoy, and enjoy for but a short time (for it is ever in this state, which we cannot be), since its actuality is also pleasure. (And for this reason are waking, perception, and thinking most pleasant, and hopes and memories are so on account of these.) And thinking in itself deals with that which is best in itself, and that which is thinking in the fullest sense with that which is best in the fullest sense. And thought thinks on itself because it shares the nature of the object of thought; for it becomes an object of thought in coming into contact with and thinking its objects, so that thought and object of thought are the same. For that which is capable of receiving the object of thought, i.e. the essence, is thought. But it is active when it possesses this object. Therefore the possession rather than the receptivity is the divine element which thought seems to contain, and the act of contemplation is what is most pleasant and best. If, then, God is always in that good state in which we sometimes are, this compels our wonder; and if in a better this compels it yet more. And God is in a better state. And life also belongs to God; for the actuality of thought is life, and God is that actuality; and God's self-dependent actuality is life most good and eternal. We say therefore that God is a living being, eternal, most good, so that life and duration continuous and eternal belong to God; for this is God.

Those who suppose, as the Pythagoreans and Speusippus do, that supreme beauty and goodness are not present in the beginning, because the beginnings both of plants and of animals are causes, but beauty and completeness are in the effects of these, are wrong in their opinion. For the seed comes from other individuals which are prior and complete, and the first thing is not seed but the complete being; e.g. we must say that before the seed there is a man,-not the man produced from the seed, but another from whom the seed comes.

It is clear then from what has been said that there is a substance which is eternal and unmovable and separate from sensible things. It has been shown also that this substance cannot have any magnitude, but is without parts and indivisible (for it produces movement through infinite time, but nothing finite has infinite power; and, while every magnitude is either infinite or finite, it cannot, for the above reason, have finite magnitude, and it cannot have infinite magnitude because there is no infinite magnitude at all). But it has also been shown that it is impassive and unalterable; for all the other changes are posterior to change of place.

8

It is clear, then, why these things are as they are. But we must not ignore the question whether we have to suppose one such substance or more than one, and if the latter, how many; we must also mention, regarding the opinions expressed by others, that they have said nothing about the number of the substances that can even be clearly stated. For the theory of Ideas has no special discussion of the subject; for those who speak of Ideas say the Ideas are numbers, and they speak of numbers now as unlimited, now as limited by the number 10; but as for the reason why there should be just so many numbers, nothing is said with any demonstrative exactness. We however must discuss the subject, starting from the presuppositions and distinctions we have mentioned. The first principle or primary being is not movable either in itself or accidentally, but produces the primary eternal and single movement. But since that which is moved must be moved by something, and the first mover must be in itself unmovable, and eternal movement must be produced by something eternal and a single movement by a single thing, and since we see that besides the simple spatial movement of the universe, which we say the first and unmovable substance produces, there are other spatial movements-those of the planets-which are eternal (for a body which moves in a circle is eternal and unresting; we have proved these points in the physical treatises), each of these movements also must be caused by a substance both unmovable in itself and eternal. For the nature of the stars is eternal just because it is a certain kind of substance, and the mover is eternal and prior to the moved, and that which is prior to a substance must be a substance. Evidently, then, there must be substances which are of the same number as the movements of the stars, and in their nature eternal, and in themselves unmovable, and without magnitude, for the reason before mentioned. That the movers are substances, then, and that one of these is first and another second according to the same order as the movements of the stars, is evident. But in the number of the movements we reach a problem which must be treated from the standpoint of that one of the mathematical sciences which is most akin to philosophy-viz. of astronomy; for this science speculates about substance which is perceptible but eternal, but the other mathematical sciences, i.e. arithmetic and geometry, treat of no substance. That the movements are more numerous than the bodies that are moved is evident to those who have given even moderate attention to the matter; for each of the planets has more than one movement. But as to the actual number of these movements, we now-to give some notion of the subject-quote what some of the mathematicians say, that our thought may have some definite number to grasp; but, for the rest, we must partly investigate for ourselves, Partly learn from other investigators, and if those who study this subject form an opinion contrary to what we have now stated, we must esteem both parties indeed, but follow the more accurate.

Eudoxus supposed that the motion of the sun or of the moon involves, in either case, three spheres, of which the first is the sphere of the fixed stars, and the second moves in the circle which runs along the middle of the zodiac, and the third in the circle which is inclined across the breadth of the zodiac; but the circle in which the moon moves is inclined at a greater angle than that in which the sun moves. And the motion of the planets involves, in each case, four spheres, and of these also the first and second are the same as the first two mentioned above (for the sphere of the fixed stars is that which moves all the other spheres, and that which is placed beneath this and has its movement in the circle which bisects the zodiac is common to all), but the poles of the third sphere of each planet are in the circle which bisects the zodiac, and the motion of the fourth sphere is in the circle which is inclined at an angle to the equator of the third sphere; and the poles of the third sphere are different for each of the other planets, but those of Venus and Mercury are the same.

Callippus made the position of the spheres the same as Eudoxus did, but while he assigned the same number as Eudoxus did to Jupiter and to Saturn, he thought two more spheres should be added to the sun and two to the moon, if one is to explain the observed facts; and one more to each of the other planets.

But it is necessary, if all the spheres combined are to explain the observed facts, that for each of the planets there should be other spheres (one fewer than those hitherto assigned) which counteract those already mentioned and bring back to the same position the outermost sphere of the star which in each case is situated below the star in question; for only thus can all the forces at work produce the observed motion of the planets. Since, then, the spheres involved in the movement of the planets themselves are — eight for Saturn and Jupiter and twenty-five for the others, and of these only those involved in the movement of the lowest-situated planet need not be counteracted the spheres which counteract those of the outermost two planets will be six in number, and the spheres which counteract those of the next four planets will be sixteen; therefore the number of all the spheres — both those which move the planets and those which counteract these — will be fifty-five. And if one were not to add to the moon and to the sun the movements we mentioned, the whole set of spheres will be forty-seven in number.

Let this, then, be taken as the number of the spheres, so that the unmovable substances and principles also may probably be taken as just so many; the assertion of necessity must be left to more powerful thinkers. But if there can be no spatial movement which does not conduce to the moving of a star, and if further every being and every substance which is immune from change and in virtue of itself has attained to the best must be considered an end, there can be no other being apart from these we have named, but this must be the number of the substances. For if there are others, they will cause change as being a final cause of movement; but there cannot he other movements besides those mentioned. And it is reasonable to infer this from a consideration of the bodies that are moved; for if everything that moves is for the sake of that which is moved, and every movement belongs to something that is moved, no movement can be for the sake of itself or of another movement, but all the movements must be for the sake of the stars. For if there is to be a movement for the sake of a movement, this latter also will have to be for the sake of something else; so that since there cannot be an infinite regress, the end of every movement will be one of the divine bodies which move through the heaven.

(Evidently there is but one heaven. For if there are many heavens as there are many men, the moving principles, of which each heaven will have one, will be one in form but in number many. But all things that are many in number have matter; for one and the same definition, e.g. that of man, applies to many things, while Socrates is one. But the primary essence has not matter; for it is complete reality. So the unmovable first mover is one both in definition and in number; so too, therefore, is that which is moved always and continuously; therefore there is one heaven alone.) Our forefathers in the most remote ages have handed down to their posterity a tradition, in the form of a myth, that these bodies are gods, and that the divine encloses the whole of nature. The rest of the tradition has been added later in mythical form with a view to the persuasion of the multitude and to its legal and utilitarian expediency; they say these gods are in the form of men or like some of the other animals, and they say other things consequent on and similar to these which we have mentioned. But if one were to separate the first point from these additions and take it alone-that they thought the first substances to be gods, one must regard this as an inspired utterance, and reflect that, while probably each art and each science has often been developed as far as possible and has again perished, these opinions, with others, have been preserved until the present like relics of the ancient treasure. Only thus far, then, is the opinion of our ancestors and of our earliest predecessors clear to us.

9

The nature of the divine thought involves certain problems; for while thought is held to be the most divine of things observed by us, the question how it must be situated in order to have that character involves difficulties. For if it thinks of nothing, what is there here of dignity? It is just like one who sleeps. And if it thinks, but this depends on something else, then (since that which is its substance is not the act of thinking, but a potency) it cannot be the best substance; for it is through thinking that its value belongs to it. Further, whether its substance is the faculty of thought or the act of thinking, what does it think of? Either of itself or of something else; and if of something else, either of the same thing always or of something different. Does it matter, then, or not, whether it thinks of the good or of any chance thing? Are there not some things about which it is incredible that it should think? Evidently, then, it thinks of that which is most divine and precious, and it does not change; for change would be change for the worse, and this would be already a movement. First, then, if 'thought' is not the act of thinking but a potency, it would be reasonable to suppose that the continuity of its thinking is wearisome to it. Secondly, there would evidently be something else more precious than thought, viz. that which is thought of. For both thinking and the act of thought will belong even to one who thinks of the worst thing in the world, so that if this ought to be avoided (and it ought, for there are even some things which it is better not to see than to see), the act of thinking cannot be the best of things. Therefore it must be of itself that the divine thought thinks (since it is the most excellent of things), and its thinking is a thinking on thinking.

But evidently knowledge and perception and opinion and understanding have always something else as their object, and themselves only by the way. Further, if thinking and being thought of are different, in respect of which does goodness belong to thought? For to he an act of thinking and to he an object of thought are not the same thing. We answer that in some cases the knowledge is the object. In the productive sciences it is the substance or essence of the object, matter omitted, and in the theoretical sciences the definition or the act of thinking is the object. Since, then, thought and the object of thought are not different in the case of things that have not matter, the divine thought and its object will be the same, i.e. the thinking will be one with the object of its thought.

A further question is left-whether the object of the divine thought is composite; for if it were, thought would change in passing from part to part of the whole. We answer that everything which has not matter is indivisible-as human thought, or rather the thought of composite beings, is in a certain period of time (for it does not possess the good at this moment or at that, but its best, being something different from it, is attained only in a whole period of time), so throughout eternity is the thought which has itself for its object.

10

We must consider also in which of two ways the nature of the universe contains the good, and the highest good, whether as something separate and by itself, or as the order of the parts. Probably in both ways, as an army does; for its good is found both in its order and in its leader, and more in the latter; for he does not depend on the order but it depends on him. And all things are ordered together somehow, but not all alike,-both fishes and fowls and plants; and the world is not such that one thing has nothing to do with another, but they are connected. For all are ordered together to one end, but it is as in a house, where the freemen are least at liberty to act at random, but all things or most things are already ordained for them, while the slaves and the animals do little for the common good, and for the most part live at random; for this is the sort of principle that constitutes the nature of each. I mean, for instance, that all must at least come to be dissolved into their elements, and there are other functions similarly in which all share for the good of the whole.

We must not fail to observe how many impossible or paradoxical results confront those who hold different views from our own, and what are the views of the subtler thinkers, and which views are attended by fewest difficulties. All make all things out of contraries. But neither ‘all things’ nor ‘out of contraries’ is right; nor do these thinkers tell us how all the things in which the contraries are present can be made out of the contraries; for contraries are not affected by one another. Now for us this difficulty is solved naturally by the fact that there is a third element. These thinkers however make one of the two contraries matter; this is done for instance by those who make the unequal matter for the equal, or the many matter for the one. But this also is refuted in the same way; for the one matter which underlies any pair of contraries is contrary to nothing. Further, all things, except the one, will, on the view we are criticizing, partake of evil; for the bad itself is one of the two elements. But the other school does not treat the good and the bad even as principles; yet in all things the good is in the highest degree a principle. The school we first mentioned is right in saying that it is a principle, but how the good is a principle they do not say-whether as end or as mover or as form.

Empedocles also has a paradoxical view; for he identifies the good with love, but this is a principle both as mover (for it brings things together) and as matter (for it is part of the mixture). Now even if it happens that the same thing is a principle both as matter and as mover, still the being, at least, of the two is not the same. In which respect then is love a principle? It is paradoxical also that strife should be imperishable; the nature of his ‘evil’ is just strife.

Anaxagoras makes the good a motive principle; for his ‘reason’ moves things. But it moves them for an end, which must be something other than it, except according to our way of stating the case; for, on our view, the medical art is in a sense health. It is paradoxical also not to suppose a contrary to the good, i.e. to reason. But all who speak of the contraries make no use of the contraries, unless we bring their views into shape. And why some things are perishable and others imperishable, no one tells us; for they make all existing things out of the same principles. Further, some make existing things out of the nonexistent; and others to avoid the necessity of this make all things one.

Further, why should there always be becoming, and what is the cause of becoming?-this no one tells us. And those who suppose two principles must suppose another, a superior principle, and so must those who believe in the Forms; for why did things come to participate, or why do they participate, in the Forms? And all other thinkers are confronted by the necessary consequence that there is something contrary to Wisdom, i.e. to the highest knowledge; but we are not. For there is nothing contrary to that which is primary; for all contraries have matter, and things that have matter exist only potentially; and the ignorance which is contrary to any knowledge leads to an object contrary to the object of the knowledge; but what is primary has no contrary.

Again, if besides sensible things no others exist, there will be no first principle, no order, no becoming, no heavenly bodies, but each principle will have a principle before it, as in the accounts of the theologians and all the natural philosophers. But if the Forms or the numbers are to exist, they will be causes of nothing; or if not that, at least not of movement. Further, how is extension, i.e. a continuum, to be produced out of unextended parts? For number will not, either as mover or as form, produce a continuum. But again there cannot be any contrary that is also essentially a productive or moving principle; for it would be possible for it not to be. Or at least its action would be posterior to its potency. The world, then, would not be eternal. But it is; one of these premisses, then, must be denied. And we have said how this must be done. Further, in virtue of what the numbers, or the soul and the body, or in general the form and the thing, are one-of this no one tells us anything; nor can any one tell, unless he says, as we do, that the mover makes them one. And those who say mathematical number is first and go on to generate one kind of substance after another and give different principles for each, make the substance of the universe a mere series of episodes (for one substance has no influence on another by its existence or nonexistence), and they give us many governing principles; but the world refuses to be governed badly.

‘The rule of many is not good; one ruler let there be.’

Book XIII

1

WE have stated what is the substance of sensible things, dealing in the treatise on physics with matter, and later with the substance which has actual existence. Now since our inquiry is whether there is or is not besides the sensible substances any which is immovable and eternal, and, if there is, what it is, we must first consider what is said by others, so that, if there is anything which they say wrongly, we may not be liable to the same objections, while, if there is any opinion common to them and us, we shall have no private grievance against ourselves on that account; for one must be content to state some points better than one's predecessors, and others no worse.

Two opinions are held on this subject; it is said that the objects of mathematics-i.e. numbers and lines and the like-are substances, and again that the Ideas are substances. And (1) since some recognize these as two different classes-the Ideas and the mathematical numbers, and (2) some recognize both as having one nature, while (3) some others say that the mathematical substances are the only substances, we must consider first the objects of mathematics, not qualifying them by any other characteristic-not asking, for instance, whether they are in fact Ideas or not, or whether they are the principles and substances of existing things or not, but only whether as objects of mathematics they exist or not, and if they exist, how they exist. Then after this we must separately consider the Ideas themselves in a general way, and only as far as the accepted mode of treatment demands; for most of the points have been repeatedly made even by the discussions outside our school, and, further, the greater part of our account must finish by throwing light on that inquiry, viz. when we examine whether the substances and the principles of existing things are numbers and Ideas; for after the discussion of the Ideas this remans as a third inquiry.

If the objects of mathematics exist, they must exist either in sensible objects, as some say, or separate from sensible objects (and this also is said by some); or if they exist in neither of these ways, either they do not exist, or they exist only in some special sense. So that the subject of our discussion will be not whether they exist but how they exist.

2

That it is impossible for mathematical objects to exist in sensible things, and at the same time that the doctrine in question is an artificial one, has been said already in our discussion of difficulties we have pointed out that it is impossible for two solids to be in the same place, and also that according to the same argument the other powers and characteristics also should exist in sensible things and none of them separately. This we have said already. But, further, it is obvious that on this theory it is impossible for any body whatever to be divided; for it would have to be divided at a plane, and the plane at a line, and the line at a point, so that if the point cannot be divided, neither can the line, and if the line cannot, neither can the plane nor the solid. What difference, then, does it make whether sensible things are such indivisible entities, or, without being so themselves, have indivisible entities in them? The result will be the same; if the sensible entities are divided the others will be divided too, or else not even the sensible entities can be divided.

But, again, it is not possible that such entities should exist separately. For if besides the sensible solids there are to be other solids which are separate from them and prior to the sensible solids, it is plain that besides the planes also there must be other and separate planes and points and lines; for consistency requires this. But if these exist, again besides the planes and lines and points of the mathematical solid there must be others which are separate. (For incomposites are prior to compounds; and if there are, prior to the sensible bodies, bodies which are not sensible, by the same argument the planes which exist by themselves must be prior to those which are in the motionless solids. Therefore these will be planes and lines other than those that exist along with the mathematical solids to which these thinkers assign separate existence; for the latter exist along with the mathematical solids, while the others are prior to the mathematical solids.) Again, therefore, there will be, belonging to these planes, lines, and prior to them there will have to be, by the same argument, other lines and points; and prior to these points in the prior lines there will have to be other points, though there will be no others prior to these. Now (1) the accumulation becomes absurd; for we find ourselves with one set of solids apart from the sensible solids; three sets of planes apart from the sensible planes-those which exist apart from the sensible planes, and those in the mathematical solids, and those which exist apart from those in the mathematical solids; four sets of lines, and five sets of points. With which of these, then, will the mathematical sciences deal? Certainly not with the planes and lines and points in the motionless solid; for science always deals with what is prior. And (the same account will apply also to numbers; for there will be a different set of units apart from each set of points, and also apart from each set of realities, from the objects of sense and again from those of thought; so that there will be various classes of mathematical numbers.

Again, how is it possible to solve the questions which we have already enumerated in our discussion of difficulties? For the objects of astronomy will exist apart from sensible things just as the objects of geometry will; but how is it possible that a heaven and its parts-or anything else which has movement-should exist apart? Similarly also the objects of optics and of harmonics will exist apart; for there will be both voice and sight besides the sensible or individual voices and sights. Therefore it is plain that the other senses as well, and the other objects of sense, will exist apart; for why should one set of them do so and another not? And if this is so, there will also be animals existing apart, since there will be senses.

Again, there are certain mathematical theorems that are universal, extending beyond these substances. Here then we shall have another intermediate substance separate both from the Ideas and from the intermediates,-a substance which is neither number nor points nor spatial magnitude nor time. And if this is impossible, plainly it is also impossible that the former entities should exist separate from sensible things.

And, in general, conclusion contrary alike to the truth and to the usual views follow, if one is to suppose the objects of mathematics to exist thus as separate entities. For because they exist thus they must be prior to sensible spatial magnitudes, but in truth they must be posterior; for the incomplete spatial magnitude is in the order of generation prior, but in the order of substance posterior, as the lifeless is to the living.

Again, by virtue of what, and when, will mathematical magnitudes be one? For things in our perceptible world are one in virtue of soul, or of a part of soul, or of something else that is reasonable enough; when these are not present, the thing is a plurality, and splits up into parts. But in the case of the subjects of mathematics, which are divisible and are quantities, what is the cause of their being one and holding together?

Again, the modes of generation of the objects of mathematics show that we are right. For the dimension first generated is length, then comes breadth, lastly depth, and the process is complete. If, then, that which is posterior in the order of generation is prior in the order of substantiality, the solid will be prior to the plane and the line. And in this way also it is both more complete and more whole, because it can become animate. How, on the other hand, could a line or a plane be animate? The supposition passes the power of our senses.

Again, the solid is a sort of substance; for it already has in a sense completeness. But how can lines be substances? Neither as a form or shape, as the soul perhaps is, nor as matter, like the solid; for we have no experience of anything that can be put together out of lines or planes or points, while if these had been a sort of material substance, we should have observed things which could be put together out of them.

Grant, then, that they are prior in definition. Still not all things that are prior in definition are also prior in substantiality. For those things are prior in substantiality which when separated from other things surpass them in the power of independent existence, but things are prior in definition to those whose definitions are compounded out of their definitions; and these two properties are not coextensive. For if attributes do not exist apart from the substances (e.g. a ‘mobile’ or a pale’), pale is prior to the pale man in definition, but not in substantiality. For it cannot exist separately, but is always along with the concrete thing; and by the concrete thing I mean the pale man. Therefore it is plain that neither is the result of abstraction prior nor that which is produced by adding determinants posterior; for it is by adding a determinant to pale that we speak of the pale man.

It has, then, been sufficiently pointed out that the objects of mathematics are not substances in a higher degree than bodies are, and that they are not prior to sensibles in being, but only in definition, and that they cannot exist somewhere apart. But since it was not possible for them to exist in sensibles either, it is plain that they either do not exist at all or exist in a special sense and therefore do not ‘exist’ without qualification. For ‘exist’ has many senses.

3

For just as the universal propositions of mathematics deal not with objects which exist separately, apart from extended magnitudes and from numbers, but with magnitudes and numbers, not however qua such as to have magnitude or to be divisible, clearly it is possible that there should also be both propositions and demonstrations about sensible magnitudes, not however qua sensible but qua possessed of certain definite qualities. For as there are many propositions about things merely considered as in motion, apart from what each such thing is and from their accidents, and as it is not therefore necessary that there should be either a mobile separate from sensibles, or a distinct mobile entity in the sensibles, so too in the case of mobiles there will be propositions and sciences, which treat them however not qua mobile but only qua bodies, or again only qua planes, or only qua lines, or qua divisibles, or qua indivisibles having position, or only qua indivisibles. Thus since it is true to say without qualification that not only things which are separable but also things which are inseparable exist (for instance, that mobiles exist), it is true also to say without qualification that the objects of mathematics exist, and with the character ascribed to them by mathematicians. And as it is true to say of the other sciences too, without qualification, that they deal with such and such a subject-not with what is accidental to it (e.g. not with the pale, if the healthy thing is pale, and the science has the healthy as its subject), but with that which is the subject of each science-with the healthy if it treats its object qua healthy, with man if qua man:-so too is it with geometry; if its subjects happen to be sensible, though it does not treat them qua sensible, the mathematical sciences will not for that reason be sciences of sensibles-nor, on the other hand, of other things separate from sensibles. Many properties attach to things in virtue of their own nature as possessed of each such character; e.g. there are attributes peculiar to the animal qua female or qua male (yet there is no ‘female’ nor ‘male’ separate from animals); so that there are also attributes which belong to things merely as lengths or as planes. And in proportion as we are dealing with things which are prior in definition and simpler, our knowledge has more accuracy, i.e. simplicity. Therefore a science which abstracts from spatial magnitude is more precise than one which takes it into account; and a science is most precise if it abstracts from movement, but if it takes account of movement, it is most precise if it deals with the primary movement, for this is the simplest; and of this again uniform movement is the simplest form.

The same account may be given of harmonics and optics; for neither considers its objects qua sight or qua voice, but qua lines and numbers; but the latter are attributes proper to the former. And mechanics too proceeds in the same way. Therefore if we suppose attributes separated from their fellow attributes and make any inquiry concerning them as such, we shall not for this reason be in error, any more than when one draws a line on the ground and calls it a foot long when it is not; for the error is not included in the premisses.

Each question will be best investigated in this way-by setting up by an act of separation what is not separate, as the arithmetician and the geometer do. For a man qua man is one indivisible thing; and the arithmetician supposed one indivisible thing, and then considered whether any attribute belongs to a man qua indivisible. But the geometer treats him neither qua man nor qua indivisible, but as a solid. For evidently the properties which would have belonged to him even if perchance he had not been indivisible, can belong to him even apart from these attributes. Thus, then, geometers speak correctly; they talk about existing things, and their subjects do exist; for being has two forms-it exists not only in complete reality but also materially.

Now since the good and the beautiful are different (for the former always implies conduct as its subject, while the beautiful is found also in motionless things), those who assert that the mathematical sciences say nothing of the beautiful or the good are in error. For these sciences say and prove a great deal about them; if they do not expressly mention them, but prove attributes which are their results or their definitions, it is not true to say that they tell us nothing about them. The chief forms of beauty are order and symmetry and definiteness, which the mathematical sciences demonstrate in a special degree. And since these (e.g. order and definiteness) are obviously causes of many things, evidently these sciences must treat this sort of causative principle also (i.e. the beautiful) as in some sense a cause. But we shall speak more plainly elsewhere about these matters.

So much then for the objects of mathematics; we have said that they exist and in what sense they exist, and in what sense they are prior and in what sense not prior. Now, regarding the Ideas, we must first examine the ideal theory itself, not connecting it in any way with the nature of numbers, but treating it in the form in which it was originally understood by those who first maintained the existence of the Ideas. The supporters of the ideal theory were led to it because on the question about the truth of things they accepted the Heraclitean sayings which describe all sensible things as ever passing away, so that if knowledge or thought is to have an object, there must be some other and permanent entities, apart from those which are sensible; for there could be no knowledge of things which were in a state of flux. But when Socrates was occupying himself with the excellences of character, and in connexion with them became the first to raise the problem of universal definition (for of the physicists Democritus only touched on the subject to a small extent, and defined, after a fashion, the hot and the cold; while the Pythagoreans had before this treated of a few things, whose definitions-e.g. those of opportunity, justice, or marriage-they connected with numbers; but it was natural that Socrates should be seeking the essence, for he was seeking to syllogize, and ‘what a thing is’ is the starting-point of syllogisms; for there was as yet none of the dialectical power which enables people even without knowledge of the essence to speculate about contraries and inquire whether the same science deals with contraries; for two things may be fairly ascribed to Socrates-inductive arguments and universal definition, both of which are concerned with the starting-point of science):-but Socrates did not make the universals or the definitions exist apart: they, however, gave them separate existence, and this was the kind of thing they called Ideas. Therefore it followed for them, almost by the same argument, that there must be Ideas of all things that are spoken of universally, and it was almost as if a man wished to count certain things, and while they were few thought he would not be able to count them, but made more of them and then counted them; for the Forms are, one may say, more numerous than the particular sensible things, yet it was in seeking the causes of these that they proceeded from them to the Forms. For to each thing there answers an entity which has the same name and exists apart from the substances, and so also in the case of all other groups there is a one over many, whether these be of this world or eternal.

Again, of the ways in which it is proved that the Forms exist, none is convincing; for from some no inference necessarily follows, and from some arise Forms even of things of which they think there are no Forms. For according to the arguments from the sciences there will be Forms of all things of which there are sciences, and according to the argument of the ‘one over many’ there will be Forms even of negations, and according to the argument that thought has an object when the individual object has perished, there will be Forms of perishable things; for we have an image of these. Again, of the most accurate arguments, some lead to Ideas of relations, of which they say there is no independent class, and others introduce the ‘third man’.

And in general the arguments for the Forms destroy things for whose existence the believers in Forms are more zealous than for the existence of the Ideas; for it follows that not the dyad but number is first, and that prior to number is the relative, and that this is prior to the absolute-besides all the other points on which certain people, by following out the opinions held about the Forms, came into conflict with the principles of the theory.

Again, according to the assumption on the belief in the Ideas rests, there will be Forms not only of substances but also of many other things; for the concept is single not only in the case of substances, but also in that of non-substances, and there are sciences of other things than substance; and a thousand other such difficulties confront them. But according to the necessities of the case and the opinions about the Forms, if they can be shared in there must be Ideas of substances only. For they are not shared in incidentally, but each Form must be shared in as something not predicated of a subject. (By ‘being shared in incidentally’ I mean that if a thing shares in ‘double itself’, it shares also in ‘eternal’, but incidentally; for ‘the double’ happens to be eternal.) Therefore the Forms will be substance. But the same names indicate substance in this and in the ideal world (or what will be the meaning of saying that there is something apart from the particulars-the one over many?). And if the Ideas and the things that share in them have the same form, there will be something common: for why should ‘2’ be one and the same in the perishable 2’s, or in the 2’s which are many but eternal, and not the same in the ‘2 itself’ as in the individual 2? But if they have not the same form, they will have only the name in common, and it is as if one were to call both Callias and a piece of wood a ‘man’, without observing any community between them.

But if we are to suppose that in other respects the common definitions apply to the Forms, e.g. that ‘plane figure’ and the other parts of the definition apply to the circle itself, but ‘what really is’ has to be added, we must inquire whether this is not absolutely meaningless. For to what is this to be added? To ‘centre’ or to ‘plane’ or to all the parts of the definition? For all the elements in the essence are Ideas, e.g. ‘animal’ and ‘two-footed’. Further, there must be some Ideal answering to ‘plane’ above, some nature which will be present in all the Forms as their genus.

5

Above all one might discuss the question what in the world the Forms contribute to sensible things, either to those that are eternal or to those that come into being and cease to be; for they cause neither movement nor any change in them. But again they help in no wise either towards the knowledge of other things (for they are not even the substance of these, else they would have been in them), or towards their being, if they are not in the individuals which share in them; though if they were, they might be thought to be causes, as white causes whiteness in a white object by entering into its composition. But this argument, which was used first by Anaxagoras, and later by Eudoxus in his discussion of difficulties and by certain others, is very easily upset; for it is easy to collect many and insuperable objections to such a view.

But, further, all other things cannot come from the Forms in any of the usual senses of ‘from’. And to say that they are patterns and the other things share in them is to use empty words and poetical metaphors. For what is it that works, looking to the Ideas? And any thing can both be and come into being without being copied from something else, so that, whether Socrates exists or not, a man like Socrates might come to be. And evidently this might be so even if Socrates were eternal. And there will be several patterns of the same thing, and therefore several Forms; e.g. ‘animal’ and ‘two-footed’, and also ‘man-himself’, will be Forms of man. Again, the Forms are patterns not only of sensible things, but of Forms themselves also; i.e. the genus is the pattern of the various forms-of-a-genus; therefore the same thing will be pattern and copy.

Again, it would seem impossible that substance and that whose substance it is should exist apart; how, therefore, could the Ideas, being the substances of things, exist apart?

In the Phaedo the case is stated in this way-that the Forms are causes both of being and of becoming. Yet though the Forms exist, still things do not come into being, unless there is something to originate movement; and many other things come into being (e.g. a house or a ring) of which they say there are no Forms. Clearly therefore even the things of which they say there are Ideas can both be and come into being owing to such causes as produce the things just mentioned, and not owing to the Forms. But regarding the Ideas it is possible, both in this way and by more abstract and accurate arguments, to collect many objections like those we have considered.

6

Since we have discussed these points, it is well to consider again the results regarding numbers which confront those who say that numbers are separable substances and first causes of things. If number is an entity and its substance is nothing other than just number, as some say, it follows that either (1) there is a first in it and a second, each being different in species,-and either (a) this is true of the units without exception, and any unit is inassociable with any unit, or (b) they are all without exception successive, and any of them are associable with any, as they say is the case with mathematical number; for in mathematical number no one unit is in any way different from another. Or (c) some units must be associable and some not; e.g. suppose that 2 is first after 1, and then comes 3 and then the rest of the number series, and the units in each number are associable, e.g. those in the first 2 are associable with one another, and those in the first 3 with one another, and so with the other numbers; but the units in the '2-itself' are inassociable with those in the '3-itself'; and similarly in the case of the other successive numbers. And so while mathematical number is counted thus-after 1, 2 (which consists of another 1 besides the former 1), and 3 which consists of another 1 besides these two), and the other numbers similarly, ideal number is counted thus-after 1, a distinct 2 which does not include the first 1, and a 3 which does not include the 2 and the rest of the number series similarly. Or (2) one kind of number must be like the first that was named, one like that which the mathematicians speak of, and that which we have named last must be a third kind.

Again, these kinds of numbers must either be separable from things, or not separable but in objects of perception (not however in the way which we first considered, in the sense that objects of perception consists of numbers which are present in them)-either one kind and not another, or all of them.

These are of necessity the only ways in which the numbers can exist. And of those who say that the 1 is the beginning and substance and element of all things, and that number is formed from the 1 and something else, almost every one has described number in one of these ways; only no one has said all the units are inassociable. And this has happened reasonably enough; for there can be no way besides those mentioned. Some say both kinds of number exist, that which has a before and after being identical with the Ideas, and mathematical number being different from the Ideas and from sensible things, and both being separable from sensible things; and others say mathematical number alone exists, as the first of realities, separate from sensible things. And the Pythagoreans, also, believe in one kind of number-the mathematical; only they say it is not separate but sensible substances are formed out of it. For they construct the whole universe out of numbers-only not numbers consisting of abstract units; they suppose the units to have spatial magnitude. But how the first 1 was constructed so as to have magnitude, they seem unable to say.

Another thinker says the first kind of number, that of the Forms, alone exists, and some say mathematical number is identical with this.

The case of lines, planes, and solids is similar. For some think that those which are the objects of mathematics are different from those which come after the Ideas; and of those who express themselves otherwise some speak of the objects of mathematics and in a mathematical way-viz. those who do not make the Ideas numbers nor say that Ideas exist; and others speak of the objects of mathematics, but not mathematically; for they say that neither is every spatial magnitude divisible into magnitudes, nor do any two units taken at random make 2. All who say the 1 is an element and principle of things suppose numbers to consist of abstract units, except the Pythagoreans; but they suppose the numbers to have magnitude, as has been said before. It is clear from this statement, then, in how many ways numbers may be described, and that all the ways have been mentioned; and all these views are impossible, but some perhaps more than others.

First, then, let us inquire if the units are associable or inassociable, and if inassociable, in which of the two ways we distinguished. For it is possible that any unity is inassociable with any, and it is possible that those in the ‘itself’ are inassociable with those in the ‘itself’, and, generally, that those in each ideal number are inassociable with those in other ideal numbers. Now (1) all units are associable and without difference, we get mathematical number-only one kind of number, and the Ideas cannot be the numbers. For what sort of number will man-himself or animal-itself or any other Form be? There is one Idea of each thing e.g. one of man-himself and another one of animal-itself; but the similar and undifferentiated numbers are infinitely many, so that any particular 3 is no more man-himself than any other 3. But if the Ideas are not numbers, neither can they exist at all. For from what principles will the Ideas come? It is number that comes from the 1 and the indefinite dyad, and the principles or elements are said to be principles and elements of number, and the Ideas cannot be ranked as either prior or posterior to the numbers.

But (2) if the units are inassociable, and inassociable in the sense that any is inassociable with any other, number of this sort cannot be mathematical number; for mathematical number consists of undifferentiated units, and the truths proved of it suit this character. Nor can it be ideal number. For 2 will not proceed immediately from 1 and the indefinite dyad, and be followed by the successive numbers, as they say ‘2,3,4’ for the units in the ideal are generated at the same time, whether, as the first holder of the theory said, from unequals (coming into being when these were equalized) or in some other way-since, if one unit is to be prior to the other, it will be prior also to 2 the composed of these; for when there is one thing prior and another posterior, the resultant of these will be prior to one and posterior to the other. Again, since the 1-itself is first, and then there is a particular 1 which is first among the others and next after the 1-itself, and again a third which is next after the second and next but one after the first 1,-so the units must be prior to the numbers after which they are named when we count them; e.g. there will be a third unit in 2 before 3 exists, and a fourth and a fifth in 3 before the numbers 4 and 5 exist.-Now none of these thinkers has said the units are inassociable in this way, but according to their principles it is reasonable that they should be so even in this way, though in truth it is impossible. For it is reasonable both that the units should have priority and posteriority if there is a first unit or first 1, and also that the 2's should if there is a first 2; for after the first it is reasonable and necessary that there should be a second, and if a second, a third, and so with the others successively. (And to say both things at the same time, that a unit is first and another unit is second after the ideal 1, and that a 2 is first after it, is impossible.) But they make a first unit or 1, but not also a second and a third, and a first 2, but not also a second and a third. Clearly, also, it is not possible, if all the units are inassociable, that there should be a 2-itself and a 3-itself; and so with the other numbers. For whether the units are undifferentiated or different each from each, number must be counted by addition, e.g. 2 by adding another 1 to the one, 3 by adding another 1 to the two, and similarly. This being so, numbers cannot be generated as they generate them, from the 2 and the 1; for 2 becomes part of 3 and 3 of 4 and the same happens in the case of the succeeding numbers, but they say 4 came from the first 2 and the indefinite which makes it two 2's other than the 2-itself; if not, the 2-itself will be a part of 4 and one other 2 will be added. And similarly 2 will consist of the 1-itself and another 1; but if this is so, the other element cannot be an indefinite 2; for it generates one unit, not, as the indefinite 2 does, a definite 2.

Again, besides the 3-itself and the 2-itself how can there be other 3's and 2's? And how do they consist of prior and posterior units? All this is absurd and fictitious, and there cannot be a first 2 and then a 3-itself. Yet there must, if the 1 and the indefinite dyad are to be the elements. But if the results are impossible, it is also impossible that these are the generating principles.

If the units, then, are differentiated, each from each, these results and others similar to these follow of necessity. But (3) if those in different numbers are differentiated, but those in the same number are alone undifferentiated from one another, even so the difficulties that follow are no less. E.g. in the 10-itself their are ten units, and the 10 is composed both of them and of two 5's. But since the 10-itself is not any chance number nor composed of any chance 5's — or, for that matter, units — the units in this 10 must differ. For if they do not differ, neither will the 5's of which the 10 consists differ; but since these differ, the units also will differ. But if they differ, will there be no other 5's in the 10 but only these two, or will there be others? If there are not, this is paradoxical; and if there are, what sort of 10 will consist of them? For there is no other in the 10 but the 10 itself. But it is actually necessary on their view that the 4 should not consist of any chance 2's; for the indefinite as they say, received the definite 2 and made two 2's; for its nature was to double what it received.

Again, as to the 2 being an entity apart from its two units, and the 3 an entity apart from its three units, how is this possible? Either by one's sharing in the other, as 'pale man' is different from 'pale' and 'man' (for it shares in these), or when one is a differentia of the other, as 'man' is different from 'animal' and 'two-footed'.

Again, some things are one by contact, some by intermixture, some by position; none of which can belong to the units of which the 2 or the 3 consists; but as two men are not a unity apart from both, so must it be with the units. And their being indivisible will make no difference to them; for points too are indivisible, but yet a pair of them is nothing apart from the two.

But this consequence also we must not forget, that it follows that there are prior and posterior 2 and similarly with the other numbers. For let the 2's in the 4 be simultaneous; yet these are prior to those in the 8 and as the 2 generated them, they generated the 4's in the 8-itself. Therefore if the first 2 is an Idea, these 2's also will be Ideas of some kind. And the same account applies to the units; for the units in the first 2 generate the four in 4, so that all the units come to be Ideas and an Idea will be composed of Ideas. Clearly therefore those things also of which these happen to be the Ideas will be composite, e.g. one might say that animals are composed of animals, if there are Ideas of them.

In general, to differentiate the units in any way is an absurdity and a fiction; and by a fiction I mean a forced statement made to suit a hypothesis. For neither in quantity nor in quality do we see unit differing from unit, and number must be either equal or unequal-all number but especially that which consists of abstract units-so that if one number is neither greater nor less than another, it is equal to it; but things that are equal and in no wise differentiated we take to be the same when we are speaking of numbers. If not, not even the 2 in the 10-itself will be undifferentiated, though they are equal; for what reason will the man who alleges that they are not differentiated be able to give?

Again, if every unit + another unit makes two, a unit from the 2-itself and one from the 3-itself will make a 2. Now (a) this will consist of differentiated units; and will it be prior to the 3 or posterior? It rather seems that it must be prior; for one of the units is simultaneous with the 3 and the other is simultaneous with the 2. And we, for our part, suppose that in general 1 and 1, whether the things are equal or unequal, is 2, e.g. the good and the bad, or a man and a horse; but those who hold these views say that not even two units are 2.

If the number of the 3-itself is not greater than that of the 2, this is surprising; and if it is greater, clearly there is also a number in it equal to the 2, so that this is not different from the 2-itself. But this is not possible, if there is a first and a second number.

Nor will the Ideas be numbers. For in this particular point they are right who claim that the units must be different, if there are to be Ideas; as has been said before. For the Form is unique; but if the units are not different, the 2's and the 3's also will not be different. This is also the reason why they must say that when we count thus-'1,2'-we do not proceed by adding to the given number; for if we do, neither will the numbers be generated from the indefinite dyad, nor can a number be an Idea; for then one Idea will be in another, and all Forms will be parts of one Form. And so with a view to their hypothesis their statements are right, but as a whole they are wrong; for their view is very destructive, since they will admit that this question itself affords some difficulty-whether, when we count and say — 1,2,3-we count by addition or by separate portions. But we do both; and so it is absurd to reason back from this problem to so great a difference of essence.

8

First of all it is well to determine what is the differentia of a number-and of a unit, if it has a differentia. Units must differ either in quantity or in quality; and neither of these seems to be possible. But number qua number differs in quantity. And if the units also did differ in quantity, number would differ from number, though equal in number of units. Again, are the first units greater or smaller, and do the later ones increase or diminish? All these are irrational suppositions. But neither can they differ in quality. For no attribute can attach to them; for even to numbers quality is said to belong after quantity. Again, quality could not come to them either from the 1 or the dyad; for the former has no quality, and the latter gives quantity; for this entity is what makes things to be many. If the facts are really otherwise, they should state this quite at the beginning and determine if possible, regarding the differentia of the unit, why it must exist, and, failing this, what differentia they mean.

Evidently then, if the Ideas are numbers, the units cannot all be associable, nor can they be inassociable in either of the two ways. But neither is the way in which some others speak about numbers correct. These are those who do not think there are Ideas, either without qualification or as identified with certain numbers, but think the objects of mathematics exist and the numbers are the first of existing things, and the 1-itself is the starting-point of them. It is paradoxical that there should be a 1 which is first of 1's, as they say, but not a 2 which is first of 2's, nor a 3 of 3's; for the same reasoning applies to all. If, then, the facts with regard to number are so, and one supposes mathematical number alone to exist, the 1 is not the starting-point (for this sort of 1 must differ from the-other units; and if this is so, there must also be a 2 which is first of 2's, and similarly with the other successive numbers). But if the 1 is the starting-point, the truth about the numbers must rather be what Plato used to say, and there must be a first 2 and 3 and numbers must not be associable with one another. But if on the other hand one supposes this, many impossible results, as we have said, follow. But either this or the other must be the case, so that if neither is, number cannot exist separately.

It is evident, also, from this that the third version is the worst,-the view ideal and mathematical number is the same. For two mistakes must then meet in the one opinion. (1) Mathematical number cannot be of this sort, but the holder of this view has to spin it out by making suppositions peculiar to himself. And (2) he must also admit all the consequences that confront those who speak of number in the sense of 'Forms'.

The Pythagorean version in one way affords fewer difficulties than those before named, but in another way has others peculiar to itself. For not thinking of number as capable of existing separately removes many of the impossible consequences; but that bodies should be composed of numbers, and that this should be mathematical number, is impossible. For it is not true to speak of indivisible spatial magnitudes; and however much there might be magnitudes of this sort, units at least have not magnitude; and how can a magnitude be composed of indivisibles? But arithmetical number, at least, consists of units, while these thinkers identify number with real things; at any rate they apply their propositions to bodies as if they consisted of those numbers.

If, then, it is necessary, if number is a self-subsistent real thing, that it should exist in one of these ways which have been mentioned, and if it cannot exist in any of these, evidently number has no such nature as those who make it separable set up for it.

Again, does each unit come from the great and the small, equalized, or one from the small, another from the great? (a) If the latter, neither does each thing contain all the elements, nor are the units without difference; for in one there is the great and in another the small, which is contrary in its nature to the great. Again, how is it with the units in the 3-itself? One of them is an odd unit. But perhaps it is for this reason that they give 1-itself the middle place in odd numbers. (b) But if each of the two units consists of both the great and the small, equalized, how will the 2 which is a single thing, consist of the great and the small? Or how will it differ from the unit? Again, the unit is prior to the 2; for when it is destroyed the 2 is destroyed. It must, then, be the Idea of an Idea since it is prior to an Idea, and it must have come into being before it. From what, then? Not from the indefinite dyad, for its function was to double.

Again, number must be either infinite or finite; for these thinkers think of number as capable of existing separately, so that it is not possible that neither of those alternatives should be true. Clearly it cannot be infinite; for infinite number is neither odd nor even, but the generation of numbers is always the generation either of an odd or of an even number; in one way, when 1 operates on an even number, an odd number is produced; in another way, when 2 operates, the numbers got from 1 by doubling are produced; in another way, when the odd numbers operate, the other even numbers are produced. Again, if every Idea is an Idea of something, and the numbers are Ideas, infinite number itself will be an Idea of something, either of some sensible thing or of something else. Yet this is not possible in view of their thesis any more than it is reasonable in itself, at least if they arrange the Ideas as they do.

But if number is finite, how far does it go? With regard to this not only the fact but the reason should be stated. But if number goes only up to 10 as some say, firstly the Forms will soon run short; e.g. if 3 is man-himself, what number will be the horse-itself? The series of the numbers which are the several things-themselves goes up to 10. It must, then, be one of the numbers within these limits; for it is these that are substances and Ideas. Yet they will run short; for the various forms of animal will outnumber them. At the same time it is clear that if in this way the 3 is man-himself, the other 3's are so also (for those in identical numbers are similar), so that there will be an infinite number of men; if each 3 is an Idea, each of the numbers will be man-himself, and if not, they will at least be men. And if the smaller number is part of the greater (being number of such a sort that the units in the same number are associable), then if the 4-itself is an Idea of something, e.g. of 'horse' or of 'white', man will be a part of horse, if man is It is paradoxical also that there should be an Idea of 10 but not of 11, nor of the succeeding numbers. Again, there both are and come to be certain things of which there are no Forms; why, then, are there not Forms of them also? We infer that the Forms are not causes. Again, it is paradoxical-if the number series up to 10 is more of a real thing and a Form than 10 itself. There is no generation of the former as one thing, and there is of the latter. But they try to work on the assumption that the series of numbers up to 10 is a complete series. At least they generate the derivatives-e.g. the void, proportion, the odd, and the others of this kind-within the decade. For some things, e.g. movement and rest, good and bad, they assign to the originative principles, and the others to the numbers. This is why they identify the odd with 1; for if the odd implied 3 how would 5 be odd? Again, spatial magnitudes and all such things are explained without going beyond a definite number; e.g. the first, the indivisible, line, then the 2 &c.; these entities also extend only up to 10.

Again, if number can exist separately, one might ask which is prior — 1, or 3 or 2? Inasmuch as the number is composite, 1 is prior, but inasmuch as the universal and the form is prior, the number is prior; for each of the units is part of the number as its matter, and the number acts as form. And in a sense the right angle is prior to the acute, because it is determinate and in virtue of its definition; but in a sense the acute is prior, because it is a part and the right angle is divided into acute angles. As matter, then, the acute angle and the element and the unit are prior, but in respect of the form and of the substance as expressed in the definition, the right angle, and the whole consisting of the matter and the form, are prior; for the concrete thing is nearer to the form and to what is expressed in the definition, though in generation it is later. How then is 1 the starting-point? Because it is not divisiable, they say; but both the universal, and the particular or the element, are indivisible. But they are starting-points in different ways, one in definition and the other in time. In which way, then, is 1 the starting-point? As has been said, the right angle is thought to be prior to the acute, and the acute to the right, and each is one. Accordingly they make 1 the starting-point in both ways. But this is impossible. For the universal is one as form or substance, while the element is one as a part or as matter. For each of the two is in a sense one-in truth each of the two units exists potentially (at least if the number is a unity and not like a heap, i.e. if different numbers consist of differentiated units, as they say), but not in complete reality; and the cause of the error they fell into is that they were conducting their inquiry at the same time from the standpoint of mathematics and from that of universal definitions, so that (1) from the former standpoint they treated unity, their first principle, as a point; for the unit is a point without position. They put things together out of the smallest parts, as some others also have done. Therefore the unit becomes the matter of numbers and at the same time prior to 2; and again posterior, 2 being treated as a whole, a unity, and a form. But (2) because they were seeking the universal they treated the unity which can be predicated of a number, as in this sense also a part of the number. But these characteristics cannot belong at the same time to the same thing.

If the 1-itself must be unitary (for it differs in nothing from other 1's except that it is the starting-point), and the 2 is divisible but the unit is not, the unit must be liker the 1-itself than the 2 is. But if the unit is liker it, it must be liker to the unit than to the 2; therefore each of the units in 2 must be prior to the 2. But they deny this; at least they generate the 2 first. Again, if the 2-itself is a unity and the 3-itself is one also, both form a 2. From what, then, is this 2 produced?

9

Since there is not contact in numbers, but succession, viz. between the units between which there is nothing, e.g. between those in 2 or in 3 one might ask whether these succeed the 1-itself or not, and whether, of the terms that succeed it, 2 or either of the units in 2 is prior.

Similar difficulties occur with regard to the classes of things posterior to number,-the line, the plane, and the solid. For some construct these out of the species of the 'great and small'; e.g. lines from the 'long and short', planes from the ‘broad and narrow’, masses from the ‘deep and shallow’; which are species of the ‘great and small’. And the originative principle of such things which answers to the 1 different thinkers describe in different ways, And in these also the impossibilities, the fictions, and the contradictions of all probability are seen to be innumerable. For (i) geometrical classes are severed from one another, unless the principles of these are implied in one another in such a way that the ‘broad and narrow’ is also ‘long and short’ (but if this is so, the plane will be line and the solid a plane; again, how will angles and figures and such things be explained?). And (ii) the same happens as in regard to number; for ‘long and short’, &c., are attributes of magnitude, but magnitude does not consist of these, any more than the line consists of ‘straight and curved’, or solids of ‘smooth and rough’.

(All these views share a difficulty which occurs with regard to species-of-a-genus, when one posits the universals, viz. whether it is animal-itself or something other than animal-itself that is in the particular animal. True, if the universal is not separable from sensible things, this will present no difficulty; but if the 1 and the numbers are separable, as those who express these views say, it is not easy to solve the difficulty, if one may apply the words ‘not easy’ to the impossible. For when we apprehend the unity in 2, or in general in a number, do we apprehend a thing-itself or something else?).

Some, then, generate spatial magnitudes from matter of this sort, others from the point — and the point is thought by them to be not 1 but something like 1-and from other matter like plurality, but not identical with it; about which principles none the less the same difficulties occur. For if the matter is one, line and plane-and soli will be the same; for from the same elements will come one and the same thing. But if the matters are more than one, and there is one for the line and a second for the plane and another for the solid, they either are implied in one another or not, so that the same results will follow even so; for either the plane will not contain a line or it will he a line.

Again, how number can consist of the one and plurality, they make no attempt to explain; but however they express themselves, the same objections arise as confront those who construct number out of the one and the indefinite dyad. For the one view generates number from the universally predicated plurality, and not from a particular plurality; and the other generates it from a particular plurality, but the first; for 2 is said to be a ‘first plurality’. Therefore there is practically no difference, but the same difficulties will follow,-is it intermixture or position or blending or generation? and so on. Above all one might press the question ‘if each unit is one, what does it come from?’ Certainly each is not the one-itself. It must, then, come from the one itself and plurality, or a part of plurality. To say that the unit is a plurality is impossible, for it is indivisible; and to generate it from a part of plurality involves many other objections; for (a) each of the parts must be indivisible (or it will be a plurality and the unit will be divisible) and the elements will not be the one and plurality; for the single units do not come from plurality and the one. Again, (,the holder of this view does nothing but presuppose another number; for his plurality of indivisibles is a number. Again, we must inquire, in view of this theory also, whether the number is infinite or finite. For there was at first, as it seems, a plurality that was itself finite, from which and from the one comes the finite number of units. And there is another plurality that is plurality-itself and infinite plurality; which sort of plurality, then, is the element which co-operates with the one? One might inquire similarly about the point, i.e. the element out of which they make spatial magnitudes. For surely this is not the one and only point; at any rate, then, let them say out of what each of the points is formed. Certainly not of some distance + the point-itself. Nor again can there be indivisible parts of a distance, as the elements out of which the units are said to be made are indivisible parts of plurality; for number consists of indivisibles, but spatial magnitudes do not.

All these objections, then, and others of the sort make it evident that number and spatial magnitudes cannot exist apart from things. Again, the discord about numbers between the various versions is a sign that it is the incorrectness of the alleged facts themselves that brings confusion into the theories. For those who make the objects of mathematics alone exist apart from sensible things, seeing the difficulty about the Forms and their fictitiousness, abandoned ideal number and posited mathematical. But those who wished to make the Forms at the same time also numbers, but did not see, if one assumed these principles, how mathematical number was to exist apart from ideal, made ideal and mathematical number the same-in words, since in fact mathematical number has been destroyed; for they state hypotheses peculiar to themselves and not those of mathematics. And he who first supposed that the Forms exist and that the Forms are numbers and that the objects of mathematics exist, naturally separated the two. Therefore it turns out that all of them are right in some respect, but on the whole not right. And they themselves confirm this, for their statements do not agree but conflict. The cause is that their hypotheses and their principles are false. And it is hard to make a good case out of bad materials, according to Epicharmus: ‘as soon as ‘tis said, ‘tis seen to be wrong.’

But regarding numbers the questions we have raised and the conclusions we have reached are sufficient (for while he who is already convinced might be further convinced by a longer discussion, one not yet convinced would not come any nearer to conviction); regarding the first principles and the first causes and elements, the views expressed by those who discuss only sensible substance have been partly stated in our works on nature, and partly do not belong to the present inquiry; but the views of those who assert that there are other substances besides the sensible must be considered next after those we have been mentioning. Since, then, some say that the Ideas and the numbers are such substances, and that the elements of these are elements and principles of real things, we must inquire regarding these what they say and in what sense they say it.

Those who posit numbers only, and these mathematical, must be considered later; but as regards those who believe in the Ideas one might survey at the same time their way of thinking and the difficulty into which they fall. For they at the same time make the Ideas universal and again treat them as separable and as individuals. That this is not possible has been argued before. The reason why those who described their substances as universal combined these two characteristics in one thing, is that they did not make substances identical with sensible things. They thought that the particulars in the sensible world were a state of flux and none of them remained, but that the universal was apart from these and something different. And Socrates gave the impulse to this theory, as we said in our earlier discussion, by reason of his definitions, but he did not separate universals from individuals; and in this he thought rightly, in not separating them. This is plain from the results; for without the universal it is not possible to get knowledge, but the separation is the cause of the objections that arise with regard to the Ideas. His successors, however, treating it as necessary, if there are to be any substances besides the sensible and transient substances, that they must be separable, had no others, but gave separate existence to these universally predicated substances, so that it followed that universals and individuals were almost the same sort of thing. This in itself, then, would be one difficulty in the view we have mentioned.

10

Let us now mention a point which presents a certain difficulty both to those who believe in the Ideas and to those who do not, and which was stated before, at the beginning, among the problems. If we do not suppose substances to be separate, and in the way in which individual things are said to be separate, we shall destroy substance in the sense in which we understand ‘substance’; but if we conceive substances to be separable, how are we to conceive their elements and their principles?

If they are individual and not universal, (a) real things will be just of the same number as the elements, and (b) the elements will not be knowable. For (a) let the syllables in speech be substances, and their elements elements of substances; then there must be only one ‘ba’ and one of each of the syllables, since they are not universal and the same in form but each is one in number and a ‘this’ and not a kind possessed of a common name (and again they suppose that the ‘just what a thing is’ is in each case one). And if the syllables are unique, so too are the parts of which they consist; there will not, then, be more a’s than one, nor more than one of any of the other elements, on the same principle on which an identical syllable cannot exist in the plural number. But if this is so, there will not be other things existing besides the elements, but only the elements.

(b) Again, the elements will not be even knowable; for they are not universal, and knowledge is of universals. This is clear from demonstrations and from definitions; for we do not conclude that this triangle has its angles equal to two right angles, unless every triangle has its angles equal to two right angles, nor that this man is an animal, unless every man is an animal.

But if the principles are universal, either the substances composed of them are also universal, or non-substance will be prior to substance; for the universal is not a substance, but the element or principle is universal, and the element or principle is prior to the things of which it is the principle or element.

All these difficulties follow naturally, when they make the Ideas out of elements and at the same time claim that apart from the substances which have the same form there are Ideas, a single separate entity. But if, e.g. in the case of the elements of speech, the a’s and the b’s may quite well be many and there need be no a-itself and b-itself besides the many, there may be, so far as this goes, an infinite number of similar syllables. The statement that an knowledge is universal, so that the principles of things must also be universal and not separate substances, presents indeed, of all the points we have mentioned, the greatest difficulty, but yet the statement is in a sense true, although in a sense it is not. For knowledge, like the verb ‘to know’, means two things, of which one is potential and one actual. The potency, being, as matter, universal and indefinite, deals with the universal and indefinite; but the actuality, being definite, deals with a definite object, being a ‘this’, it deals with a ‘this’. But per accidens sight sees universal colour, because this individual colour which it sees is colour; and this individual a which the grammarian investigates is an a. For if the principles must be universal, what is derived from them must also be universal, as in demonstrations; and if this is so, there will be nothing capable of separate existence-i.e. no substance. But evidently in a sense knowledge is universal, and in a sense it is not.

Book XIV

1

REGARDING this kind of substance, what we have said must be taken as sufficient. All philosophers make the first principles contraries: as in natural things, so also in the case of unchangeable substances. But since there cannot be anything prior to the first principle of all things, the principle cannot be the principle and yet be an attribute of something else. To suggest this is like saying that the white is a first principle, not qua anything else but qua white, but yet that it is predicable of a subject, i.e. that its being white presupposes its being something else; this is absurd, for then that subject will be prior. But all things which are generated from their contraries involve an underlying subject; a subject, then, must be present in the case of contraries, if anywhere. All contraries, then, are always predicable of a subject, and none can exist apart, but just as appearances suggest that there is nothing contrary to substance, argument confirms this. No contrary, then, is the first principle of all things in the full sense; the first principle is something different.

But these thinkers make one of the contraries matter, some making the unequal which they take to be the essence of plurality-matter for the One, and others making plurality matter for the One. (The former generate numbers out of the dyad of the unequal, i.e. of the great and small, and the other thinker we have referred to generates them out of plurality, while according to both it is generated by the essence of the One.) For even the philosopher who says the unequal and the One are the elements, and the unequal is a dyad composed of the great and small, treats the unequal, or the great and the small, as being one, and does not draw the distinction that they are one in definition, but not in number. But they do not describe rightly even the principles which they call elements, for some name the great and the small with the One and treat these three as elements of numbers, two being matter, one the form; while others name the many and few, because the great and the small are more appropriate in their nature to magnitude than to number; and others name rather the universal character common to these-’that which exceeds and that which is exceeded'. None of these varieties of opinion makes any difference to speak of, in view of some of the consequences; they affect only the abstract objections, which these thinkers take care to avoid because the demonstrations they themselves offer are abstract,-with this exception, that if the exceeding and the exceeded are the principles, and not the great and the small, consistency requires that number should come from the elements before does; for number is more universal than as the exceeding and the exceeded are more universal than the great and the small. But as it is, they say one of these things but do not say the other. Others oppose the different and the other to the One, and others oppose plurality to the One. But if, as they claim, things consist of contraries, and to the One either there is nothing contrary, or if there is to be anything it is plurality, and the unequal is contrary to the equal, and the different to the same, and the other to the thing itself, those who oppose the One to plurality have most claim to plausibility, but even their view is inadequate, for the One would on their view be a few; for plurality is opposed to fewness, and the many to the few.

'The one' evidently means a measure. And in every case there is some underlying thing with a distinct nature of its own, e.g. in the scale a quarter-tone, in spatial magnitude a finger or a foot or something of the sort, in rhythms a beat or a syllable; and similarly in gravity it is a definite weight; and in the same way in all cases, in qualities a quality, in quantities a quantity (and the measure is indivisible, in the former case in kind, and in the latter to the sense); which implies that the one is not in itself the substance of anything. And this is reasonable; for 'the one' means the measure of some plurality, and 'number' means a measured plurality and a plurality of measures. (Thus it is natural that one is not a number; for the measure is not measures, but both the measure and the one are starting-points.) The measure must always be some identical thing predicable of all the things it measures, e.g. if the things are horses, the measure is 'horse', and if they are men, 'man'. If they are a man, a horse, and a god, the measure is perhaps 'living being', and the number of them will be a number of living beings. If the things are 'man' and 'pale' and 'walking', these will scarcely have a number, because all belong to a subject which is one and the same in number, yet the number of these will be a number of 'kinds' or of some such term.

Those who treat the unequal as one thing, and the dyad as an indefinite compound of great and small, say what is very far from being probable or possible. For (a) these are modifications and accidents, rather than substrata, of numbers and magnitudes-the many and few of number, and the great and small of magnitude-like even and odd, smooth and rough, straight and curved. Again, (b) apart from this mistake, the great and the small, and so on, must be relative to something; but what is relative is least of all things a kind of entity or substance, and is posterior to quality and quantity; and the relative is an accident of quantity, as was said, not its matter, since something with a distinct nature of its own must serve as matter both to the relative in general and to its parts and kinds. For there is nothing either great or small, many or few, or, in general, relative to something else, which without having a nature of its own is many or few, great or small, or relative to something else. A sign that the relative is least of all a substance and a real thing is the fact that it alone has no proper generation or destruction or movement, as in respect of quantity there is increase and diminution, in respect of quality alteration, in respect of place locomotion, in respect of substance simple generation and destruction. In respect of relation there is no proper change; for, without changing, a thing will be now greater and now less or equal, if that with which it is compared has changed in quantity. And (c) the matter of each thing, and therefore of substance, must be that which is potentially of the nature in question; but the relative is neither potentially nor actually substance. It is strange, then, or rather impossible, to make not-substance an element in, and prior to, substance; for all the categories are posterior to substance. Again, (d) elements are not predicated of the things of which they are elements, but many and few are predicated both apart and together of number, and long and short of the line, and both broad and narrow apply to the plane. If there is a plurality, then, of which the one term, viz. few, is always predicated, e.g. 2 (which cannot be many, for if it were many, 1 would be few), there must be also one which is absolutely many, e.g. 10 is many (if there is no number which is greater than 10), or 10,000. How then, in view of this, can number consist of few and many? Either both ought to be predicated of it, or neither; but in fact only the one or the other is predicated.

2

We must inquire generally, whether eternal things can consist of elements. If they do, they will have matter; for everything that consists of elements is composite. Since, then, even if a thing exists for ever, out of that of which it consists it would necessarily also, if it had come into being, have come into being, and since everything comes to be what it comes to be out of that which is it potentially (for it could not have come to be out of that which had not this capacity, nor could it consist of such elements), and since the potential can be either actual or not,-this being so, however everlasting number or anything else that has matter is, it must be capable of not existing, just as that which is any number of years old is as capable of not existing as that which is a day old; if this is capable of not existing, so is that which has lasted for a time so long that it has no limit. They cannot, then, be eternal, since that which is capable of not existing is not eternal, as we had occasion to show in another context. If that which we are now saying is true universally-that no substance is eternal unless it is actuality-and if the elements are matter that underlies substance, no eternal substance can have elements present in it, of which it consists.

There are some who describe the element which acts with the One as an indefinite dyad, and object to ‘the unequal’, reasonably enough, because of the ensuing difficulties; but they have got rid only of those objections which inevitably arise from the treatment of the unequal, i.e. the relative, as an element; those which arise apart from this opinion must confront even these thinkers, whether it is ideal number, or mathematical, that they construct out of those elements.

There are many causes which led them off into these explanations, and especially the fact that they framed the difficulty in an obsolete form. For they thought that all things that are would be one (viz. Being itself), if one did not join issue with and refute the saying of Parmenides:

‘For never will this he proved, that things that are not are.’

They thought it necessary to prove that that which is not is; for only thus-of that which is and something else-could the things that are be composed, if they are many.

But, first, if ‘being’ has many senses (for it means sometimes substance, sometimes that it is of a certain quality, sometimes that it is of a certain quantity, and at other times the other categories), what sort of ‘one’, then, are all the things that are, if non-being is to be supposed not to be? Is it the substances that are one, or the affections and similarly the other categories as well, or all together-so that the ‘this’ and the ‘such’ and the ‘so much’ and the other categories that indicate each some one class of being will all be one? But it is strange, or rather impossible, that the coming into play of a single thing should bring it about that part of that which is is a ‘this’, part a ‘such’, part a ‘so much’, part a ‘here’.

Secondly, of what sort of non-being and being do the things that are consist? For ‘nonbeing’ also has many senses, since ‘being’ has; and ‘not being a man’ means not being a certain substance, ‘not being straight’ not being of a certain quality, ‘not being three cubits long’ not being of a certain quantity. What sort of being and non-being, then, by their union pluralize the things that are? This thinker means by the non-being the union of which with being pluralizes the things that are, the false and the character of falsity. This is also why it used to be said that we must assume something that is false, as geometers assume the line which is not a foot long to be a foot long. But this cannot be so. For neither do geometers assume anything false (for the enunciation is extraneous to the inference), nor is it non-being in this sense that the things that are are generated from or resolved into. But since ‘non-being’ taken in its various cases has as many senses as there are categories, and besides this the false is said not to be, and so is the potential, it is from this that generation proceeds, man from that which is not man but potentially man, and white from that which is not white but potentially white, and this whether it is some one thing that is generated or many.

The question evidently is, how being, in the sense of ‘the substances’, is many; for the things that are generated are numbers and lines and bodies. Now it is strange to inquire how being in the sense of the ‘what’ is many, and not how either qualities or quantities are many. For surely the indefinite dyad or ‘the great and the small’ is not a reason why there should be two kinds of white or many colours or flavours or shapes; for then these also would be numbers and units. But if they had attacked these other categories, they would have seen the cause of the plurality in substances also; for the same thing or something analogous is the cause. This aberration is the reason also why in seeking the opposite of being and the one, from which with being and the one the things that are proceed, they posited the relative term (i.e. the unequal), which is neither the contrary nor the contradictory of these, and is one kind of being as ‘what’ and quality also are.

They should have asked this question also, how relative terms are many and not one. But as it is, they inquire how there are many units besides the first 1, but do not go on to inquire how there are many unequals besides the unequal. Yet they use them and speak of great and small, many and few (from which proceed numbers), long and short (from which proceeds the line), broad and narrow (from which proceeds the plane), deep and shallow (from which proceed solids); and they speak of yet more kinds of relative term. What is the reason, then, why there is a plurality of these?

It is necessary, then, as we say, to presuppose for each thing that which is it potentially; and the holder of these views further declared what that is which is potentially a ‘this’ and a substance but is not in itself being-viz. that it is the relative (as if he had said ‘the qualitative’), which is neither potentially the one or being, nor the negation of the one nor of being, but one among beings. And it was much more necessary, as we said, if he was inquiring how beings are many, not to inquire about those in the same category-how there are many substances or many qualities-but how beings as a whole are many; for some are substances, some modifications, some relations. In the categories other than substance there is yet another problem involved in the existence of plurality. Since they are not separable from substances, qualities and quantities are many just because their substratum becomes and is many; yet there ought to be a matter for each category; only it cannot be separable from substances. But in the case of ‘thises’, it is possible to explain how the ‘this’ is many things, unless a thing is to be treated as both a ‘this’ and a general character. The difficulty arising from the facts about substances is rather this, how there are actually many substances and not one.

But further, if the ‘this’ and the quantitative are not the same, we are not told how and why the things that are are many, but how quantities are many. For all ‘number’ means a quantity, and so does the ‘unit’, unless it means a measure or the quantitatively indivisible. If, then, the quantitative and the ‘what’ are different, we are not told whence or how the ‘what’ is many; but if any one says they are the same, he has to face many inconsistencies.

One might fix one’s attention also on the question, regarding the numbers, what justifies the belief that they exist. To the believer in Ideas they provide some sort of cause for existing things, since each number is an Idea, and the Idea is to other things somehow or other the cause of their being; for let this supposition be granted them. But as for him who does not hold this view because he sees the inherent objections to the Ideas (so that it is not for this reason that he posits numbers), but who posits mathematical number, why must we believe his statement that such number exists, and of what use is such number to other things? Neither does he who says it exists maintain that it is the cause of anything (he rather says it is a thing existing by itself), nor is it observed to be the cause of anything; for the theorems of arithmeticians will all be found true even of sensible things, as was said before.

3

As for those, then, who suppose the Ideas to exist and to be numbers, by their assumption in virtue of the method of setting out each term apart from its instances-of the unity of each general term they try at least to explain somehow why number must exist. Since their reasons, however, are neither conclusive nor in themselves possible, one must not, for these reasons at least, assert the existence of number. Again, the Pythagoreans, because they saw many attributes of numbers belonging te sensible bodies, supposed real things to be numbers-not separable numbers, however, but numbers of which real things consist. But why? Because the attributes of numbers are present in a musical scale and in the heavens and in many other things. Those, however, who say that mathematical number alone exists cannot according to their hypotheses say anything of this sort, but it used to be urged that these sensible things could not be the subject of the sciences. But we maintain that they are, as we said before. And it is evident that the objects of mathematics do not exist apart; for if they existed apart their attributes would not have been present in bodies. Now the Pythagoreans in this point are open to no objection; but in that they construct natural bodies out of numbers, things that have lightness and weight out of things that have not weight or lightness, they seem to speak of another heaven and other bodies, not of the sensible. But those who make number separable assume that it both exists and is separable because the axioms would not be true of sensible things, while the statements of mathematics are true and ‘greet the soul’; and similarly with the spatial magnitudes of mathematics. It is evident, then, both that the rival theory will say the contrary of this, and that the difficulty we raised just now, why if numbers are in no way present in sensible things their attributes are present in sensible things, has to be solved by those who hold these views.

There are some who, because the point is the limit and extreme of the line, the line of the plane, and the plane of the solid, think there must be real things of this sort. We must therefore examine this argument too, and see whether it is not remarkably weak. For (i) extremes are not substances, but rather all these things are limits. For even walking, and movement in general, has a limit, so that on their theory this will be a 'this' and a substance. But that is absurd. Not but what (ii) even if they are substances, they will all be the substances of the sensible things in this world; for it is to these that the argument applied. Why then should they be capable of existing apart?

Again, if we are not too easily satisfied, we may, regarding all number and the objects of mathematics, press this difficulty, that they contribute nothing to one another, the prior to the posterior; for if number did not exist, none the less spatial magnitudes would exist for those who maintain the existence of the objects of mathematics only, and if spatial magnitudes did not exist, soul and sensible bodies would exist. But the observed facts show that nature is not a series of episodes, like a bad tragedy. As for the believers in the Ideas, this difficulty misses them; for they construct spatial magnitudes out of matter and number, lines out of the number planes doubtless out of solids out of or they use other numbers, which makes no difference. But will these magnitudes be Ideas, or what is their manner of existence, and what do they contribute to things? These contribute nothing, as the objects of mathematics contribute nothing. But not even is any theorem true of them, unless we want to change the objects of mathematics and invent doctrines of our own. But it is not hard to assume any random hypotheses and spin out a long string of conclusions. These thinkers, then, are wrong in this way, in wanting to unite the objects of mathematics with the Ideas. And those who first posited two kinds of number, that of the Forms and that which is mathematical, neither have said nor can say how mathematical number is to exist and of what it is to consist. For they place it between ideal and sensible number. If (i) it consists of the great and small, it will be the same as the other-ideal-number (he makes spatial magnitudes out of some other small and great). And if (ii) he names some other element, he will be making his elements rather many. And if the principle of each of the two kinds of number is a 1, unity will be something common to these, and we must inquire how the one is these many things, while at the same time number, according to him, cannot be generated except from one and an indefinite dyad.

All this is absurd, and conflicts both with itself and with the probabilities, and we seem to see in it Simonides 'long rigmarole' for the long rigmarole comes into play, like those of slaves, when men have nothing sound to say. And the very elements-the great and the small-seem to cry out against the violence that is done to them; for they cannot in any way generate numbers other than those got from 1 by doubling.

It is strange also to attribute generation to things that are eternal, or rather this is one of the things that are impossible. There need be no doubt whether the Pythagoreans attribute generation to them or not; for they say plainly that when the one had been constructed, whether out of planes or of surface or of seed or of elements which they cannot express, immediately the nearest part of the unlimited began to be constrained and limited by the limit. But since they are constructing a world and wish to speak the language of natural science, it is fair to make some examination of their physical theorics, but to let them off from the present inquiry; for we are investigating the principles at work in unchangeable things, so that it is numbers of this kind whose genesis we must study.

4

These thinkers say there is no generation of the odd number, which evidently implies that there is generation of the even; and some present the even as produced first from unequals-the great and the small-when these are equalized. The inequality, then, must belong to them before they are equalized. If they had always been equalized, they would not have been unequal before; for there is nothing before that which is always. Therefore evidently they are not giving their account of the generation of numbers merely to assist contemplation of their nature.

A difficulty, and a reproach to any one who finds it no difficulty, are contained in the question how the elements and the principles are related to the good and the beautiful; the difficulty is this, whether any of the elements is such a thing as we mean by the good itself and the best, or this is not so, but these are later in origin than the elements. The theologians seem to agree with some thinkers of the present day, who answer the question in the negative, and say that both the good and the beautiful appear in the nature of things only when that nature has made some progress. (This they do to avoid a real objection which confronts those who say, as some do, that the one is a first principle. The objection arises not from their ascribing goodness to the first principle as an attribute, but from their making the one a principle-and a principle in the sense of an element-and generating number from the one.) The old poets agree with this inasmuch as they say that not those who are first in time, e.g. Night and Heaven or Chaos or Ocean, reign and rule, but Zeus. These poets, however, are led to speak thus only because they think of the rulers of the world as changing; for those of them who combine the two characters in that they do not use mythical language throughout, e.g. Pherecydes and some others, make the original generating agent the Best, and so do the Magi, and some of the later sages also, e.g. both Empedocles and Anaxagoras, of whom one made love an element, and the other made reason a principle. Of those who maintain the existence of the unchangeable substances some say the One itself is the good itself; but they thought its substance lay mainly in its unity.

This, then, is the problem,-which of the two ways of speaking is right. It would be strange if to that which is primary and eternal and most self-sufficient this very quality — self-sufficiency and self-maintenance — belongs primarily in some other way than as a good. But indeed it can be for no other reason indestructible or self-sufficient than because its nature is good. Therefore to say that the first principle is good is probably correct; but that this principle should be the One or, if not that, at least an element, and an element of numbers, is impossible. Powerful objections arise, to avoid which some have given up the theory (viz. those who agree that the One is a first principle and element, but only of mathematical number). For on this view all the units become identical with species of good, and there is a great profusion of goods. Again, if the Forms are numbers, all the Forms are identical with species of good. But let a man assume Ideas of anything he pleases. If these are Ideas only of goods, the Ideas will not be substances; but if the Ideas are also Ideas of substances, all animals and plants and all individuals that share in Ideas will be good.

These absurdities follow, and it also follows that the contrary element, whether it is plurality or the unequal, i.e. the great and small, is the bad-itself. (Hence one thinker avoided attaching the good to the One, because it would necessarily follow, since generation is from contraries, that badness is the fundamental nature of plurality; while others say inequality is the nature of the bad.) It follows, then, that all things partake of the bad except one — the One itself, and that numbers partake of it in a more undiluted form than spatial magnitudes, and that the bad is the space in which the good is realized, and that it partakes in and desires that which tends to destroy it; for contrary tends to destroy contrary. And if, as we were saying, the matter is that which is potentially each thing, e.g. that of actual fire is that which is potentially fire, the bad will be just the potentially good.

All these objections, then, follow, partly because they make every principle an element, partly because they make contraries principles, partly because they make the One a principle, partly because they treat the numbers as the first substances, and as capable of existing apart, and as Forms.

5

If, then, it is equally impossible not to put the good among the first principles and to put it among them in this way, evidently the principles are not being correctly described, nor are the first substances. Nor does any one conceive the matter correctly if he compares the principles of the universe to that of animals and plants, on the ground that the more complete always comes from the indefinite and incomplete-which is what leads this thinker to say that this is also true of the first principles of reality, so that the One itself is not even an existing thing. This is incorrect, for even in this world of animals and plants the principles from which these come are complete; for it is a man that produces a man, and the seed is not first.

It is out of place, also, to generate place simultaneously with the mathematical solids (for place is peculiar to the individual things, and hence they are separate in place; but mathematical objects are nowhere), and to say that they must be somewhere, but not say what kind of thing their place is.

Those who say that existing things come from elements and that the first of existing things are the numbers, should have first distinguished the senses in which one thing comes from another, and then said in which sense number comes from its first principles.

By intermixture? But (1) not everything is capable of intermixture, and (2) that which is produced by it is different from its elements, and on this view the one will not remain separate or a distinct entity; but they want it to be so.

By juxtaposition, like a syllable? But then (1) the elements must have position; and (2) he who thinks of number will be able to think of the unity and the plurality apart; number then will be this-a unit and plurality, or the one and the unequal.

Again, coming from certain things means in one sense that these are still to be found in the product, and in another that they are not; which sense does number come from these elements? Only things that are generated can come from elements which are present in them. Does number come, then, from its elements as from seed? But nothing can be excreted from that which is indivisible. Does it come from its contrary, its contrary not persisting? But all things that come in this way come also from something else which does persist. Since, then, one thinker places the 1 as contrary to plurality, and another places it as contrary to the unequal, treating the 1 as equal, number must be being treated as coming from contraries. There is, then, something else that persists, from which and from one contrary the compound is or has come to be. Again, why in the world do the other things that come from contraries, or that have contraries, perish (even when all of the contrary is used to produce them), while number does not? Nothing is said about this. Yet whether present or not present in the compound the contrary destroys it, e.g. ‘strife’ destroys the ‘mixture’ (yet it should not; for it is not to that that is contrary).

Once more, it has not been determined at all in which way numbers are the causes of substances and of being-whether (1) as boundaries (as points are of spatial magnitudes). This is how Eurytus decided what was the number of what (e.g. one of man and another of horse), viz. by imitating the figures of living things with pebbles, as some people bring numbers into the forms of triangle and square. Or (2) is it because harmony is a ratio of numbers, and so is man and everything else? But how are the attributes-white and sweet and hot-numbers? Evidently it is not the numbers that are the essence or the causes of the form; for the ratio is the essence, while the number the causes of the form; for the ratio is the essence, while the number is the matter. E.g. the essence of flesh or bone is number only in this way, ‘three parts of fire and two of earth’. And a number, whatever number it is, is always a number of certain things, either of parts of fire or earth or of units; but the essence is that there is so much of one thing to so much of another in the mixture; and this is no longer a number but a ratio of mixture of numbers, whether these are corporeal or of any other kind.

Number, then, whether it be number in general or the number which consists of abstract units, is neither the cause as agent, nor the matter, nor the ratio and form of things. Nor, of course, is it the final cause.

6

One might also raise the question what the good is that things get from numbers because their composition is expressible by a number, either by one which is easily calculable or by an odd number. For in fact honey-water is no more wholesome if it is mixed in the proportion of three times three, but it would do more good if it were in no particular ratio but well diluted than if it were numerically expressible but strong. Again, the ratios of mixtures are expressed by the adding of numbers, not by mere numbers; e.g. it is ‘three parts to two’, not ‘three times two’. For in any multiplication the genus of the things multiplied must be the same; therefore the product 1X2X3 must be measurable by 1, and 4X5X6 by 4 and therefore all products into which the same factor enters must be measurable by that factor. The number of fire, then, cannot be 2X5X3X6 and at the same time that of water 2X3.

If all things must share in number, it must follow that many things are the same, and the same number must belong to one thing and to another. Is number the cause, then, and does the thing exist because of its number, or is this not certain? E.g. the motions of the sun have a number, and again those of the moon,-yes, and the life and prime of each animal. Why, then, should not some of these numbers be squares, some cubes, and some equal, others double? There is no reason why they should not, and indeed they must move within these limits, since all things were assumed to share in number. And it was assumed that things that differed might fall under the same number. Therefore if the same number had belonged to certain things, these would have been the same as one another, since they would have had the same form of number; e.g. sun and moon would have been the same. But why need these numbers be causes? There are seven vowels, the scale consists of seven strings, the Pleiades are seven, at seven animals lose their teeth (at least some do, though some do not), and the champions who fought against Thebes were seven. Is it then because the number is the kind of number it is, that the champions were seven or the Pleiad consists of seven stars? Surely the champions were seven because there were seven gates or for some other reason, and the Pleiad we count as seven, as we count the Bear as twelve, while other peoples count more stars in both. Nay they even say that X, Ps and Z are concords and that because there are three concords, the double consonants also are three. They quite neglect the fact that there might be a thousand such letters; for one symbol might be assigned to GP. But if they say that each of these three is equal to two of the other letters, and no other is so, and if the cause is that there are three parts of the mouth and one letter is in each applied to sigma, it is for this reason that there are only three, not because the concords are three; since as a matter of fact the concords are more than three, but of double consonants there cannot be more.

These people are like the old-fashioned Homeric scholars, who see small resemblances but neglect great ones. Some say that there are many such cases, e.g. that the middle strings are represented by nine and eight, and that the epic verse has seventeen syllables, which is equal in number to the two strings, and that the scansion is, in the right half of the line nine syllables, and in the left eight. And they say that the distance in the letters from alpha to omega is equal to that from the lowest note of the flute to the highest, and that the number of this note is equal to that of the whole choir of heaven. It may be suspected that no one could find difficulty either in stating such analogies or in finding them in eternal things, since they can be found even in perishable things.

But the lauded characteristics of numbers, and the contraries of these, and generally the mathematical relations, as some describe them, making them causes of nature, seem, when we inspect them in this way, to vanish; for none of them is a cause in any of the senses that have been distinguished in reference to the first principles. In a sense, however, they make it plain that goodness belongs to numbers, and that the odd, the straight, the square, the potencies of certain numbers, are in the column of the beautiful. For the seasons and a particular kind of number go together; and the other agreements that they collect from the theorems of mathematics all have this meaning. Hence they are like coincidences. For they are accidents, but the things that agree are all appropriate to one another, and one by analogy. For in each category of being an analogous term is found-as the straight is in length, so is the level in surface, perhaps the odd in number, and the white in colour.

Again, it is not the ideal numbers that are the causes of musical phenomena and the like (for equal ideal numbers differ from one another in form; for even the units do); so that we need not assume Ideas for this reason at least.

These, then, are the results of the theory, and yet more might be brought together. The fact that our opponnts have much trouble with the generation of numbers and can in no way make a system of them, seems to indicate that the objects of mathematics are not separable from sensible things, as some say, and that they are not the first principles.

ETHICS AND POLITICS

Temple of Zeus, Athens

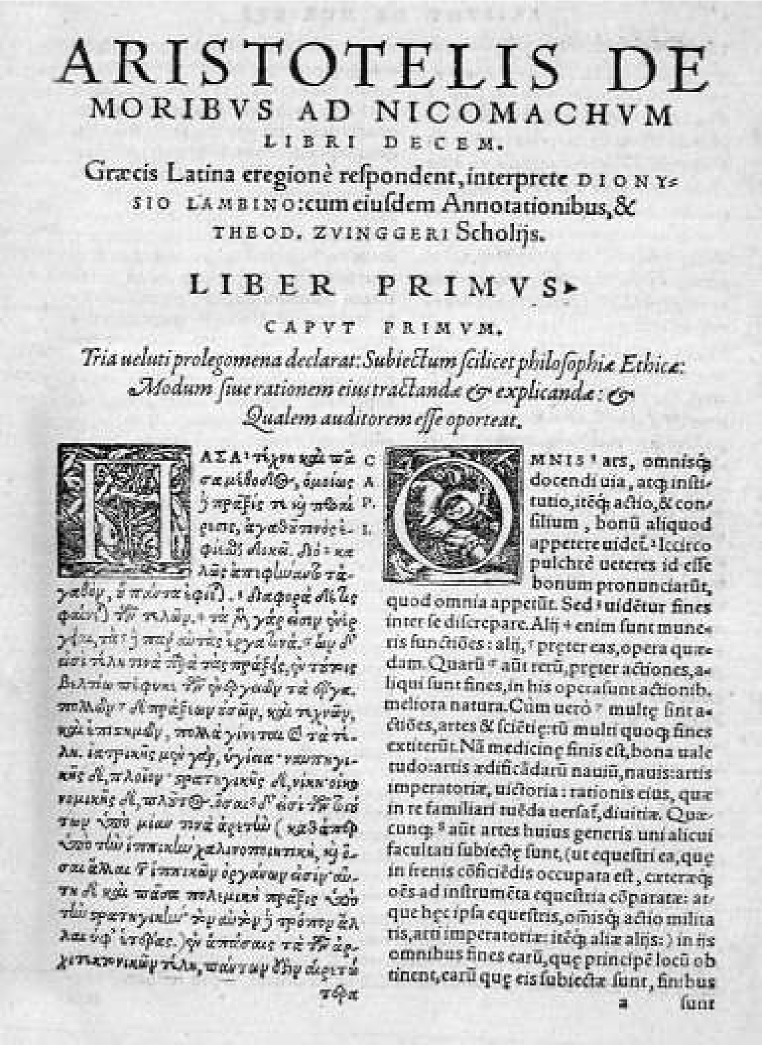
Nicomachean Ethics (1094a)

Translated by W. D. Ross

Ἠθικὰ Νικομάχεια is considered to be one of the most important philosophical works ever written, having a significant impact upon the Middle Ages thought and establishing itself as one of the core works of medieval philosophy. Consisting of ten books, the extant text is believed to be based on notes from Aristotle's lectures at the Lyceum, which were either edited by or dedicated to his son, Nicomachus, hence the title. The theme of the work is the Socratic question which had previously been explored in Plato's works, of how men should best live. In the *Metaphysics*, Aristotle had described how Socrates turned philosophy to human questions, whereas Pre-Socratic philosophy had only been theoretical. *Ethics*, as now separated out for discussion by Aristotle, is practical rather than theoretical, in the original Aristotelian senses of these terms. Therefore, ethics is about how individuals should best live, while the study of politics is from the perspective of a law-giver, looking at the good of a whole community.

The Nicomachean Ethics argues that the correct approach in studying controversial subjects such as Ethics or Politics is to start with what would be roughly agreed to be true by people of good up-bringing and experience in life, and to work from there to a higher understanding. Taking this approach, Aristotle claims that the highest good for humans, the highest aim of all human practical thinking, is *eudaimonia*, 'well-being' or 'happiness'. Aristotle argues that happiness is properly understood as an on-going and stable dynamic, a way of being in action, specifically appropriate to the human soul at its most virtuous state. If there are several virtues the best and most complete or perfect of them will be the happiest one. An excellent human will be a person good at living life, living well and 'beautifully'.

From this starting point, Aristotle develops a discussion of what constitutes ethics – the pursuit of what makes a virtuous character possible, which is in turn necessary if happiness is to be possible. The philosopher describes a sequence of necessary steps in order to achieve this: righteous actions, often done under the influence of teachers, allow the development of the right habits, which in turn can allow the development of a good stable character in which the habits are voluntary, and this in turn gives a chance of achieving eudaimonia.



ARISTOTELIS DE
MORIBVS AD NICOMACHVM
LIBRI DECEM.
Græcis Latina eregionè reſpondent, interprete DIONYSIO LAMBINO: cum eiuſdem Annotationibus, & THEOD. ZVINGGERI Scholijs.

LIBER PRIMVS.

CAPVT PRIMVM.

Tria ueluti prolegomena declarat: Subiectum ſcilicet philoſophiæ Ethicæ: Modum ſiue rationem eius tractandæ & explicandæ: & Qualem auditorem eſſe oporteat.

CAP. I.

OMNIS [1] ars, omniſq; docendi uia, atq; inſtitutio, itéq; actio, & conſilium, bonũ aliquod appetere uidet. [2] Iccirco pulchrè ueteres id eſſe bonum pronunciarũt, quod omnia appetũt. Sed [3] uidétur fines inter ſe diſcrepare. Alij [4] enim ſunt muneris functiões: alij, [5] pręter eas, opera quędam. Quarũ [6] aũt rerũ, pręter actiones, aliqui ſunt fines, in his opera ſunt actionib. meliora natura. Cùm uerò [7] multę ſint actiões, artes & ſciẽtię: tũ multi quoq; fines extiterũt. Nã medicinę finis eſt, bona ualetudo: artis ædificãdarũ nauiũ, nauis: artis imperatoriæ, uictoria: rationis eius, quæ in re familiari tuẽda uerſat, diuitiæ. Quæcunq; [8] aũt artes huius generis uni alicui facultati ſubiectę ſunt, (ut equeſtri ea, quę in frenis cõficiẽdis occupata eſt, cæteræq; oẽs ad inſtrumẽta equeſtria cõparatæ: atque hęc ipſa equeſtris, omniſq; actio militaris, arti imperatoriæ: itéq; aliæ alijs:) in ijs omnibus fines earũ, quę principẽ locũ obtinent, earũ quę eis ſubiectæ ſunt, finibus

a ſunt

A 1566 edition of Aristotle's most famous work

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Book I

1

EVERY art and every inquiry, and similarly every action and pursuit, is thought to aim at some good; and for this reason the good has rightly been declared to be that at which all things aim. But a certain difference is found among ends; some are activities, others are products apart from the activities that produce them. Where there are ends apart from the actions, it is the nature of the products to be better than the activities. Now, as there are many actions, arts, and sciences, their ends also are many; the end of the medical art is health, that of shipbuilding a vessel, that of strategy victory, that of economics wealth. But where such arts fall under a single capacity — as bridle-making and the other arts concerned with the equipment of horses fall under the art of riding, and this and every military action under strategy, in the same way other arts fall under yet others — in all of these the ends of the master arts are to be preferred to all the subordinate ends; for it is for the sake of the former that the latter are pursued. It makes no difference whether the activities themselves are the ends of the actions, or something else apart from the activities, as in the case of the sciences just mentioned.

2

If, then, there is some end of the things we do, which we desire for its own sake (everything else being desired for the sake of this), and if we do not choose everything for the sake of something else (for at that rate the process would go on to infinity, so that our desire would be empty and vain), clearly this must be the good and the chief good. Will not the knowledge of it, then, have a great influence on life? Shall we not, like archers who have a mark to aim at, be more likely to hit upon what is right? If so, we must try, in outline at least, to determine what it is, and of which of the sciences or capacities it is the object. It would seem to belong to the most authoritative art and that which is most truly the master art. And politics appears to be of this nature;

for it is this that ordains which of the sciences should be studied in a state, and which each class of citizens should learn and up to what point they should learn them; and we see even the most highly esteemed of capacities to fall under this, e.g. strategy, economics, rhetoric; now, since politics uses the rest of the sciences, and since, again, it legislates as to what we are to do and what we are to abstain from, the end of this science must include those of the others, so that this end must be the good for man. For even if the end is the same for a single man and for a state, that of the state seems at all events something greater and more complete whether to attain or to preserve; though it is worth while to attain the end merely for one man, it is finer and more godlike to attain it for a nation or for city-states. These, then, are the ends at which our inquiry aims, since it is political science, in one sense of that term.

3

Our discussion will be adequate if it has as much clearness as the subject-matter admits of, for precision is not to be sought for alike in all discussions, any more than in all the products of the crafts. Now fine and just actions, which political science investigates, admit of much variety and fluctuation of opinion, so that they may be thought to exist only by convention, and not by nature. And goods also give rise to a similar fluctuation because they bring harm to many people; for before now men have been undone by reason of their wealth, and others by reason of their courage. We must be content, then, in speaking of such subjects and with such premisses to indicate the truth roughly and in outline, and in speaking about things which are only for the most part true and with premisses of the same kind to reach conclusions that are no better. In the same spirit, therefore, should each type of statement be received; for it is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject admits; it is evidently equally foolish to accept probable reasoning from a mathematician and to demand from a rhetorician scientific proofs.

Now each man judges well the things he knows, and of these he is a good judge. And so the man who has been educated in a subject is a good judge of that subject, and the man who has received an all-round education is a good judge in general. Hence a young man is not a proper hearer of lectures on political science; for he is inexperienced in the actions that occur in life, but its discussions start from these and are about these; and, further, since he tends to follow his passions, his study will be vain and unprofitable, because the end aimed at is not knowledge but action. And it makes no difference whether he is young in years or youthful in character; the defect does not depend on time, but on his living, and pursuing each successive object, as passion directs. For to such persons, as to the incontinent, knowledge brings no profit; but to those who desire and act in accordance with a rational principle knowledge about such matters will be of great benefit.

These remarks about the student, the sort of treatment to be expected, and the purpose of the inquiry, may be taken as our preface.

4

Let us resume our inquiry and state, in view of the fact that all knowledge and every pursuit aims at some good, what it is that we say political science aims at and what is the highest of all goods achievable by action. Verbally there is very general agreement; for both the general run of men and people of superior refinement say that it is happiness, and identify living well and doing well with being happy; but with regard to what happiness is they differ, and the many do not give the same account as the wise. For the former think it is some plain and obvious thing, like pleasure, wealth, or honour; they differ, however, from one another — and often even the same man identifies it with different things, with health when he is ill, with wealth when he is poor; but, conscious of their ignorance, they admire those who proclaim some great ideal that is above their comprehension. Now some thought that apart from these many goods there is another which is self-subsistent and causes the goodness of all these as well. To examine all the opinions that have been held were perhaps somewhat fruitless; enough to examine those that are most prevalent or that seem to be arguable.

Let us not fail to notice, however, that there is a difference between arguments from and those to the first principles. For Plato, too, was right in raising this question and asking, as he used to do, ‘are we on the way from or to the first principles?’ There is a difference, as there is in a race-course between the course from the judges to the turning-point and the way back. For, while we must begin with what is known, things are objects of knowledge in two sensessome to us, some without qualification. Presumably, then, we must begin with things known to us. Hence any one who is to listen intelligently to lectures about what is noble and just, and generally, about the subjects of political science must have been brought up in good habits. For the fact is the starting-point, and if this is sufficiently plain to him, he will not at the start need the reason as well; and the man who has been well brought up has or can easily get startingpoints. And as for him who neither has nor can get them, let him hear the words of Hesiod:

Far best is he who knows all things himself;
Good, he that hearkens when men counsel right;
But he who neither knows, nor lays to heart
Another’s wisdom, is a useless wight.

5

Let us, however, resume our discussion from the point at which we digressed. To judge from the lives that men lead, most men, and men of the most vulgar type, seem (not without some ground) to identify the good, or happiness, with pleasure; which is the reason why they love the life of enjoyment. For there are, we may say, three prominent types of life — that just mentioned, the political, and thirdly the contemplative life. Now the mass of mankind are evidently quite slavish in their tastes, preferring a life suitable to beasts, but they get some ground for their view from the fact that many of those in high places share the tastes of Sardanapallus. A consideration of the prominent types of life shows that people of superior refinement and of active disposition identify happiness with honour; for this is, roughly speaking, the end of the political life. But it seems too superficial to be what we are looking for, since it is thought to depend on those who bestow honour rather than on him who receives it, but the good we divine to be something proper to a man and not easily taken from him. Further, men seem to pursue honour in order that they may be assured of their goodness; at least it is by men of practical wisdom that they seek to be honoured, and among those who know them, and on the ground of their virtue; clearly, then, according to them, at any rate, virtue is better. And perhaps one might even suppose this to be, rather than honour, the end of the political life. But even this appears somewhat incomplete; for possession of virtue seems actually compatible with being asleep, or with lifelong inactivity, and, further, with the greatest sufferings and misfortunes; but a man who was living so no one would call happy, unless he were maintaining a thesis at all costs. But enough of this; for the subject has been sufficiently treated even in the current discussions. Third comes the contemplative life, which we shall consider later.

The life of money-making is one undertaken under compulsion, and wealth is evidently not the good we are seeking; for it is merely useful and for the sake of something else. And so one might rather take the aforenamed objects to be ends; for they are loved for themselves. But it is evident that not even these are ends; yet many arguments have been thrown away in support of them. Let us leave this subject, then.

6

We had perhaps better consider the universal good and discuss thoroughly what is meant by it, although such an inquiry is made an uphill one by the fact that the Forms have been introduced by friends of our own. Yet it would perhaps be thought to be better, indeed to be our duty, for the sake of maintaining the truth even to destroy what touches us closely, especially as we are philosophers or lovers of wisdom; for, while both are dear, piety requires us to honour truth above our friends.

The men who introduced this doctrine did not posit Ideas of classes within which they recognized priority and posteriority (which is the reason why they did not maintain the existence of an Idea embracing all numbers); but the term ‘good’ is used both in the category of substance and in that of quality and in that of relation, and that which is per se, i.e. substance, is prior in nature to the relative (for the latter is like an off shoot and accident of being); so that there could not be a common Idea set over all these goods. Further, since ‘good’ has as many senses as ‘being’ (for it is predicated both in the category of substance, as of God and of reason, and in quality, i.e. of the virtues, and in quantity, i.e. of that which is moderate, and in relation, i.e. of the useful, and in time, i.e. of the right opportunity, and in place, i.e. of the right locality and the like), clearly it cannot be something universally present in all cases and single; for then it could not have been predicated in all the categories but in one only. Further, since of the things answering to one Idea there is one science, there would have been one science of all the goods; but as it is there are many sciences even of the things that fall under one category, e.g. of opportunity, for opportunity in war is studied by strategics and in disease by medicine, and the moderate in food is studied by medicine and in exercise by the science of gymnastics. And one might ask the question, what in the world they mean by ‘a thing itself’, is (as is the case) in ‘man himself’ and in a particular man the account of man is one and the same. For in so far as they are man, they will in no respect differ; and if this is so, neither will ‘good itself’ and particular goods, in so far as they are good. But again it will not be good any the more for being eternal, since that which lasts long is no whiter than that which perishes in a day. The Pythagoreans seem to give a more plausible account of the good, when they place the one in the column of goods; and it is they that Speusippus seems to have followed.

But let us discuss these matters elsewhere; an objection to what we have said, however, may be discerned in the fact that the Platonists have not been speaking about all goods, and that the goods that are pursued and loved for themselves are called good by reference to a single Form, while those which tend to produce or to preserve these somehow or to prevent their contraries are called so by reference to these, and in a secondary sense. Clearly, then, goods must be spoken of in two ways, and some must be good in themselves, the others by reason of these. Let us separate, then, things good in themselves from things useful, and consider whether the former are called good by reference to a single Idea. What sort of goods would one call good in themselves? Is it those that are pursued even when isolated from others, such as intelligence, sight, and certain pleasures and honours? Certainly, if we pursue these also for the sake of something else, yet one would place them among things good in themselves. Or is nothing other than the Idea of good good in itself? In that case the Form will be empty. But if the things we have named are also things good in themselves, the account of the good will have to appear as something identical in them all, as that of whiteness is identical in snow and in white lead. But of honour, wisdom, and pleasure, just in respect of their goodness, the accounts are distinct and diverse. The good, therefore, is not some common element answering to one Idea.

But what then do we mean by the good? It is surely not like the things that only chance to have the same name. Are goods one, then, by being derived from one good or by all contributing to one good, or are they rather one by analogy? Certainly as sight is in the body, so is reason in the soul, and so on in other cases. But perhaps these subjects had better be dismissed for the present; for perfect precision about them would be more appropriate to another branch of philosophy. And similarly with regard to the Idea; even if there is some one good which is universally predicable of goods or is capable of separate and independent existence, clearly it could not be achieved or attained by man; but we are now seeking something attainable. Perhaps, however, some one might think it worth while to recognize this with a view to the goods that are attainable and achievable; for having this as a sort of pattern we shall know better the goods that are good for us, and if we know them shall attain them. This argument has some plausibility, but seems to clash with the procedure of the sciences; for all of these, though they aim at some good and seek to supply the deficiency of it, leave on one side the knowledge of the good. Yet that all the exponents of the arts should be ignorant of, and should not even seek, so great an aid is not probable. It is hard, too, to see how a weaver or a carpenter will be benefited in regard to his own craft by knowing this 'good itself', or how the man who has viewed the Idea itself will be a better doctor or general thereby. For a doctor seems not even to study health in this way, but the health of man, or perhaps rather the health of a particular man; it is individuals that he is healing. But enough of these topics.

7

Let us again return to the good we are seeking, and ask what it can be. It seems different in different actions and arts; it is different in medicine, in strategy, and in the other arts likewise. What then is the good of each? Surely that for whose sake everything else is done. In medicine this is health, in strategy victory, in architecture a house, in any other sphere something else, and in every action and pursuit the end; for it is for the sake of this that all men do whatever else they do. Therefore, if there is an end for all that we do, this will be the good achievable by action, and if there are more than one, these will be the goods achievable by action.

So the argument has by a different course reached the same point; but we must try to state this even more clearly. Since there are evidently more than one end, and we choose some of these (e.g. wealth, flutes, and in general instruments) for the sake of something else, clearly not all ends are final ends; but the chief good is evidently something final. Therefore, if there is only one final end, this will be what we are seeking, and if there are more than one, the most final of these will be what we are seeking. Now we call that which is in itself worthy of pursuit more final than that which is worthy of pursuit for the sake of something else, and that which is never desirable for the sake of something else more final than the things that are desirable both in themselves and for the sake of that other thing, and therefore we call final without qualification that which is always desirable in itself and never for the sake of something else.

Now such a thing happiness, above all else, is held to be; for this we choose always for self and never for the sake of something else, but honour, pleasure, reason, and every virtue we choose indeed for themselves (for if nothing resulted from them we should still choose each of them), but we choose them also for the sake of happiness, judging that by means of them we shall be happy. Happiness, on the other hand, no one chooses for the sake of these, nor, in general, for anything other than itself.

From the point of view of self-sufficiency the same result seems to follow; for the final good is thought to be self-sufficient. Now by self-sufficient we do not mean that which is sufficient for a man by himself, for one who lives a solitary life, but also for parents, children, wife, and in general for his friends and fellow citizens, since man is born for citizenship. But some limit must be set to this; for if we extend our requirement to ancestors and descendants and friends' friends we are in for an infinite series. Let us examine this question, however, on another occasion; the self-sufficient we now define as that which when isolated makes life desirable and lacking in nothing; and such we think happiness to be; and further we think it most desirable of all things, without being counted as one good thing among others — if it were so counted it would clearly be made more desirable by the addition of even the least of goods; for that which is added becomes an excess of goods, and of goods the greater is always more desirable. Happiness, then, is something final and self-sufficient, and is the end of action.

Presumably, however, to say that happiness is the chief good seems a platitude, and a clearer account of what it is still desired. This might perhaps be given, if we could first ascertain the function of man. For just as for a flute-player, a sculptor, or an artist, and, in general, for all things that have a function or activity, the good and the ‘well’ is thought to reside in the function, so would it seem to be for man, if he has a function. Have the carpenter, then, and the tanner certain functions or activities, and has man none? Is he born without a function? Or as eye, hand, foot, and in general each of the parts evidently has a function, may one lay it down that man similarly has a function apart from all these? What then can this be? Life seems to be common even to plants, but we are seeking what is peculiar to man. Let us exclude, therefore, the life of nutrition and growth. Next there would be a life of perception, but it also seems to be common even to the horse, the ox, and every animal. There remains, then, an active life of the element that has a rational principle; of this, one part has such a principle in the sense of being obedient to one, the other in the sense of possessing one and exercising thought. And, as ‘life of the rational element’ also has two meanings, we must state that life in the sense of activity is what we mean; for this seems to be the more proper sense of the term. Now if the function of man is an activity of soul which follows or implies a rational principle, and if we say ‘so-and-so-and ‘a good so-and-so’ have a function which is the same in kind, e.g. a lyre, and a good lyre-player, and so without qualification in all cases, eminence in respect of goodness being idded to the name of the function (for the function of a lyre-player is to play the lyre, and that of a good lyre-player is to do so well): if this is the case, and we state the function of man to be a certain kind of life, and this to be an activity or actions of the soul implying a rational principle, and the function of a good man to be the good and noble performance of these, and if any action is well performed when it is performed in accordance with the appropriate excellence: if this is the case, human good turns out to be activity of soul in accordance with virtue, and if there are more than one virtue, in accordance with the best and most complete.

But we must add ‘in a complete life.’ For one swallow does not make a summer, nor does one day; and so too one day, or a short time, does not make a man blessed and happy.

Let this serve as an outline of the good; for we must presumably first sketch it roughly, and then later fill in the details. But it would seem that any one is capable of carrying on and articulating what has once been well outlined, and that time is a good discoverer or partner in such a work; to which facts the advances of the arts are due; for any one can add what is lacking. And we must also remember what has been said before, and not look for precision in all things alike, but in each class of things such precision as accords with the subject-matter, and so much as is appropriate to the inquiry. For a carpenter and a geometer investigate the right angle in different ways; the former does so in so far as the right angle is useful for his work, while the latter inquires what it is or what sort of thing it is; for he is a spectator of the truth. We must act in the same way, then, in all other matters as well, that our main task may not be subordinated to minor questions. Nor must we demand the cause in all matters alike; it is enough in some cases that the fact be well established, as in the case of the first principles; the fact is the primary thing or first principle. Now of first principles we see some by induction, some by perception, some by a certain habituation, and others too in other ways. But each set of principles we must try to investigate in the natural way, and we must take pains to state them definitely, since they have a great influence on what follows. For the beginning is thought to be more than half of the whole, and many of the questions we ask are cleared up by it.

8

We must consider it, however, in the light not only of our conclusion and our premisses, but also of what is commonly said about it; for with a true view all the data harmonize, but with a false one the facts soon clash. Now goods have been divided into three classes, and some are described as external, others as relating to soul or to body; we call those that relate to soul most properly and truly goods, and psychical actions and activities we class as relating to soul. Therefore our account must be sound, at least according to this view, which is an old one and agreed on by philosophers. It is correct also in that we identify the end with certain actions and activities; for thus it falls among goods of the soul and not among external goods. Another belief which harmonizes with our account is that the happy man lives well and does well; for we have practically defined happiness as a sort of good life and good action. The characteristics that are looked for in happiness seem also, all of them, to belong to what we have defined happiness as being. For some identify happiness with virtue, some with practical wisdom, others with a kind of philosophic wisdom, others with these, or one of these, accompanied by pleasure or not without pleasure; while others include also external prosperity. Now some of these views have been held by many men and men of old, others by a few eminent persons; and it is not probable that either of these should be entirely mistaken, but rather that they should be right in at least some one respect or even in most respects.

With those who identify happiness with virtue or some one virtue our account is in harmony; for to virtue belongs virtuous activity. But it makes, perhaps, no small difference whether we place the chief good in possession or in use, in state of mind or in activity. For the state of mind may exist without producing any good result, as in a man who is asleep or in some other way quite inactive, but the activity cannot; for one who has the activity will of necessity be acting, and acting well. And as in the Olympic Games it is not the most beautiful and the strongest that are crowned but those who compete (for it is some of these that are victorious), so those who act win, and rightly win, the noble and good things in life.

Their life is also in itself pleasant. For pleasure is a state of soul, and to each man that which he is said to be a lover of is pleasant; e.g. not only is a horse pleasant to the lover of horses, and a spectacle to the lover of sights, but also in the same way just acts are pleasant to the lover of justice and in general virtuous acts to the lover of virtue. Now for most men their pleasures are in conflict with one another because these are not by nature pleasant, but the lovers of what is noble find pleasant the things that are by nature pleasant; and virtuous actions are such, so that these are pleasant for such men as well as in their own nature. Their life, therefore, has no further need of pleasure as a sort of adventitious charm, but has its pleasure in itself. For, besides what we have said, the man who does not rejoice in noble actions is not even good; since no one would call a man just who did not enjoy acting justly, nor any man liberal who did not enjoy liberal actions; and similarly in all other cases. If this is so, virtuous actions must be in themselves pleasant. But they are also good and noble, and have each of these attributes in the highest degree, since the good man judges well about these attributes; his judgement is such as we have described. Happiness then is the best, noblest, and most pleasant thing in the world, and these attributes are not severed as in the inscription at Delos

Most noble is that which is justest, and best is health;
But pleasantest is it to win what we love.

For all these properties belong to the best activities; and these, or one — the best — of these, we identify with happiness.

Yet evidently, as we said, it needs the external goods as well; for it is impossible, or not easy, to do noble acts without the proper equipment. In many actions we use friends and riches and political power as instruments; and there are some things the lack of which takes the lustre from happiness, as good birth, goodly children, beauty; for the man who is very ugly in appearance or ill-born or solitary and childless is not very likely to be happy, and perhaps a man would be still less likely if he had thoroughly bad children or friends or had lost good children or friends by death. As we said, then, happiness seems to need this sort of prosperity in addition; for which reason some identify happiness with good fortune, though others identify it with virtue.

9

For this reason also the question is asked, whether happiness is to be acquired by learning or by habituation or some other sort of training, or comes in virtue of some divine providence or again by chance. Now if there is any gift of the gods to men, it is reasonable that happiness should be god-given, and most surely god-given of all human things inasmuch as it is the best. But this question would perhaps be more appropriate to another inquiry; happiness seems, however, even if it is not god-sent but comes as a result of virtue and some process of learning or training, to be among the most godlike things; for that which is the prize and end of virtue seems to be the best thing in the world, and something godlike and blessed.

It will also on this view be very generally shared; for all who are not maimed as regards their potentiality for virtue may win it by a certain kind of study and care. But if it is better to be happy thus than by chance, it is reasonable that the facts should be so, since everything that depends on the action of nature is by nature as good as it can be, and similarly everything that depends on art or any rational cause, and especially if it depends on the best of all causes. To entrust to chance what is greatest and most noble would be a very defective arrangement.

The answer to the question we are asking is plain also from the definition of happiness; for it has been said to be a virtuous activity of soul, of a certain kind. Of the remaining goods, some must necessarily pre-exist as conditions of happiness, and others are naturally co-operative and useful as instruments. And this will be found to agree with what we said at the outset; for we stated the end of political science to be the best end, and political science spends most of its pains on making the citizens to be of a certain character, viz. good and capable of noble acts.

It is natural, then, that we call neither ox nor horse nor any other of the animals happy; for none of them is capable of sharing in such activity. For this reason also a boy is not happy; for he is not yet capable of such acts, owing to his age; and boys who are called happy are being congratulated by reason of the hopes we have for them. For there is required, as we said, not only complete virtue but also a complete life, since many changes occur in life, and all manner of chances, and the most prosperous may fall into great misfortunes in old age, as is told of Priam in the Trojan Cycle; and one who has experienced such chances and has ended wretchedly no one calls happy.

10

Must no one at all, then, be called happy while he lives; must we, as Solon says, see the end? Even if we are to lay down this doctrine, is it also the case that a man is happy when he is dead? Or is not this quite absurd, especially for us who say that happiness is an activity? But if we do not call the dead man happy, and if Solon does not mean this, but that one can then safely call a man blessed as being at last beyond evils and misfortunes, this also affords matter for discussion; for both evil and good are thought to exist for a dead man, as much as for one who is alive but not aware of them; e.g. honours and dishonours and the good or bad fortunes of children and in general of descendants. And this also presents a problem; for though a man has lived happily up to old age and has had a death worthy of his life, many reverses may befall his descendants — some of them may be good and attain the life they deserve, while with others the opposite may be the case; and clearly too the degrees of relationship between them and their ancestors may vary indefinitely. It would be odd, then, if the dead man were to share in these changes and become at one time happy, at another wretched; while it would also be odd if the fortunes of the descendants did not for some time have some effect on the happiness of their ancestors.

But we must return to our first difficulty; for perhaps by a consideration of it our present problem might be solved. Now if we must see the end and only then call a man happy, not as being happy but as having been so before, surely this is a paradox, that when he is happy the attribute that belongs to him is not to be truly predicated of him because we do not wish to call living men happy, on account of the changes that may befall them, and because we have assumed happiness to be something permanent and by no means easily changed, while a single man may suffer many turns of fortune's wheel. For clearly if we were to keep pace with his fortunes, we should often call the same man happy and again wretched, making the happy man out to be chameleon and insecurely based. Or is this keeping pace with his fortunes quite wrong? Success or failure in life does not depend on these, but human life, as we said, needs these as mere additions, while virtuous activities or their opposites are what constitute happiness or the reverse.

The question we have now discussed confirms our definition. For no function of man has so much permanence as virtuous activities (these are thought to be more durable even than knowledge of the sciences), and of these themselves the most valuable are more durable because those who are happy spend their life most readily and most continuously in these; for this seems to be the reason why we do not forget them. The attribute in question, then, will belong to the happy man, and he will be happy throughout his life; for always, or by preference to everything else, he will be engaged in virtuous action and contemplation, and he will bear the chances of life most nobly and altogether decorously, if he is 'truly good' and 'foursquare beyond reproach'.

Now many events happen by chance, and events differing in importance; small pieces of good fortune or of its opposite clearly do not weigh down the scales of life one way or the other, but a multitude of great events if they turn out well will make life happier (for not only are they themselves such as to add beauty to life, but the way a man deals with them may be noble and good), while if they turn out ill they crush and maim happiness; for they both bring pain with them and hinder many activities. Yet even in these nobility shines through, when a man bears with resignation many great misfortunes, not through insensibility to pain but through nobility and greatness of soul.

If activities are, as we said, what gives life its character, no happy man can become miserable; for he will never do the acts that are hateful and mean. For the man who is truly good and wise, we think, bears all the chances life becomingly and always makes the best of circumstances, as a good general makes the best military use of the army at his command and a good shoemaker makes the best shoes out of the hides that are given him; and so with all other craftsmen. And if this is the case, the happy man can never become miserable; though he will not reach blessedness, if he meet with fortunes like those of Priam.

Nor, again, is he many-coloured and changeable; for neither will he be moved from his happy state easily or by any ordinary misadventures, but only by many great ones, nor, if he has had many great misadventures, will he recover his happiness in a short time, but if at all, only in a long and complete one in which he has attained many splendid successes.

When then should we not say that he is happy who is active in accordance with complete virtue and is sufficiently equipped with external goods, not for some chance period but throughout a complete life? Or must we add 'and who is destined to live thus and die as befits his life'? Certainly the future is obscure to us, while happiness, we claim, is an end and something in every way final. If so, we shall call happy those among living men in whom these conditions are, and are to be, fulfilled — but happy men. So much for these questions.

11

That the fortunes of descendants and of all a man's friends should not affect his happiness at all seems a very unfriendly doctrine, and one opposed to the opinions men hold; but since the events that happen are numerous and admit of all sorts of difference, and some come more near to us and others less so, it seems a long — nay, an infinite — task to discuss each in detail; a general outline will perhaps suffice. If, then, as some of a man's own misadventures have a certain weight and influence on life while others are, as it were, lighter, so too there are differences among the misadventures of our friends taken as a whole, and it makes a difference whether the various suffering befall the living or the dead (much more even than whether lawless and terrible deeds are presupposed in a tragedy or done on the stage), this difference also must be taken into account; or rather, perhaps, the fact that doubt is felt whether the dead share in any good or evil. For it seems, from these considerations, that even if anything whether good or evil penetrates to them, it must be something weak and negligible, either in itself or for them, or if not, at least it must be such in degree and kind as not to make happy those who are not happy nor to take away their blessedness from those who are. The good or bad fortunes of friends, then, seem to have some effects on the dead, but effects of such a kind and degree as neither to make the happy unhappy nor to produce any other change of the kind.

12

These questions having been definitely answered, let us consider whether happiness is among the things that are praised or rather among the things that are prized; for clearly it is not to be placed among potentialities. Everything that is praised seems to be praised because it is of a certain kind and is related somehow to something else; for we praise the just or brave man and in general both the good man and virtue itself because of the actions and functions involved, and we praise the strong man, the good runner, and so on, because he is of a certain kind and is related in a certain way to something good and important. This is clear also from the praises of the gods; for it seems absurd that the gods should be referred to our standard, but this is done because praise involves a reference, to something else. But if if praise is for things such as we have described, clearly what applies to the best things is not praise, but something greater and better, as is indeed obvious; for what we do to the gods and the most godlike of men is to call them blessed and happy. And so too with good things; no one praises happiness as he does justice, but rather calls it blessed, as being something more divine and better.

Eudoxus also seems to have been right in his method of advocating the supremacy of pleasure; he thought that the fact that, though a good, it is not praised indicated it to be better than the things that are praised, and that this is what God and the good are; for by reference to these all other things are judged. Praise is appropriate to virtue, for as a result of virtue men tend to do noble deeds, but encomia are bestowed on acts, whether of the body or of the soul. But perhaps nicety in these matters is more proper to those who have made a study of encomia; to us it is clear from what has been said that happiness is among the things that are prized and perfect. It seems to be so also from the fact that it is a first principle; for it is for the sake of this that we all do all that we do, and the first principle and cause of goods is, we claim, something prized and divine.

13

Since happiness is an activity of soul in accordance with perfect virtue, we must consider the nature of virtue; for perhaps we shall thus see better the nature of happiness. The true student of politics, too, is thought to have studied virtue above all things; for he wishes to make his fellow citizens good and obedient to the laws. As an example of this we have the lawgivers of the Cretans and the Spartans, and any others of the kind that there may have been. And if this inquiry belongs to political science, clearly the pursuit of it will be in accordance with our original plan. But clearly the virtue we must study is human virtue; for the good we were seeking was human good and the happiness human happiness. By human virtue we mean not that of the body but that of the soul; and happiness also we call an activity of soul. But if this is so, clearly the student of politics must know somehow the facts about soul, as the man who is to heal the eyes or the body as a whole must know about the eyes or the body; and all the more since politics is more prized and better than medicine; but even among doctors the best educated spend much labour on acquiring knowledge of the body. The student of politics, then, must study the soul, and must study it with these objects in view, and do so just to the extent which is sufficient for the questions we are discussing; for further precision is perhaps something more laborious than our purposes require.

Some things are said about it, adequately enough, even in the discussions outside our school, and we must use these; e.g. that one element in the soul is irrational and one has a rational principle. Whether these are separated as the parts of the body or of anything divisible are, or are distinct by definition but by nature inseparable, like convex and concave in the circumference of a circle, does not affect the present question.

Of the irrational element one division seems to be widely distributed, and vegetative in its nature, I mean that which causes nutrition and growth; for it is this kind of power of the soul that one must assign to all nurslings and to embryos, and this same power to fullgrown creatures; this is more reasonable than to assign some different power to them. Now the excellence of this seems to be common to all species and not specifically human; for this part or faculty seems to function most in sleep, while goodness and badness are least manifest in sleep (whence comes the saying that the happy are not better off than the wretched for half their lives; and this happens naturally enough, since sleep is an inactivity of the soul in that respect in which it is called good or bad), unless perhaps to a small extent some of the movements actually penetrate to the soul, and in this respect the dreams of good men are better than those of ordinary people. Enough of this subject, however; let us leave the nutritive faculty alone, since it has by its nature no share in human excellence.

There seems to be also another irrational element in the soul-one which in a sense, however, shares in a rational principle. For we praise the rational principle of the continent man and of the incontinent, and the part of their soul that has such a principle, since it urges them aright and towards the best objects; but there is found in them also another element naturally opposed to the rational principle, which fights against and resists that principle. For exactly as paralysed limbs when we intend to move them to the right turn on the contrary to the left, so is it with the soul; the impulses of incontinent people move in contrary directions. But while in the body we see that which moves astray, in the soul we do not. No doubt, however, we must none the less suppose that in the soul too there is something contrary to the rational principle, resisting and opposing it. In what sense it is distinct from the other elements does not concern us. Now even this seems to have a share in a rational principle, as we said; at any rate in the continent man it obeys the rational principle and presumably in the temperate and brave man it is still more obedient; for in him it speaks, on all matters, with the same voice as the rational principle.

Therefore the irrational element also appears to be two-fold. For the vegetative element in no way shares in a rational principle, but the appetitive and in general the desiring element in a sense shares in it, in so far as it listens to and obeys it; this is the sense in which we speak of ‘taking account’ of one’s father or one’s friends, not that in which we speak of ‘accounting for a mathematical property. That the irrational element is in some sense persuaded by a rational principle is indicated also by the giving of advice and by all reproof and exhortation. And if this element also must be said to have a rational principle, that which has a rational principle (as well as that which has not) will be twofold, one subdivision having it in the strict sense and in itself, and the other having a tendency to obey as one does one’s father.

Virtue too is distinguished into kinds in accordance with this difference; for we say that some of the virtues are intellectual and others moral, philosophic wisdom and understanding and practical wisdom being intellectual, liberality and temperance moral. For in speaking about a man's character we do not say that he is wise or has understanding but that he is good-tempered or temperate; yet we praise the wise man also with respect to his state of mind; and of states of mind we call those which merit praise virtues.

Book II

1

VIRTUE, then, being of two kinds, intellectual and moral, intellectual virtue in the main owes both its birth and its growth to teaching (for which reason it requires experience and time), while moral virtue comes about as a result of habit, whence also its name (ethike) is one that is formed by a slight variation from the word ethos (habit). From this it is also plain that none of the moral virtues arises in us by nature; for nothing that exists by nature can form a habit contrary to its nature. For instance the stone which by nature moves downwards cannot be habituated to move upwards, not even if one tries to train it by throwing it up ten thousand times; nor can fire be habituated to move downwards, nor can anything else that by nature behaves in one way be trained to behave in another. Neither by nature, then, nor contrary to nature do the virtues arise in us; rather we are adapted by nature to receive them, and are made perfect by habit.

Again, of all the things that come to us by nature we first acquire the potentiality and later exhibit the activity (this is plain in the case of the senses; for it was not by often seeing or often hearing that we got these senses, but on the contrary we had them before we used them, and did not come to have them by using them); but the virtues we get by first exercising them, as also happens in the case of the arts as well. For the things we have to learn before we can do them, we learn by doing them, e.g. men become builders by building and lyreplayers by playing the lyre; so too we become just by doing just acts, temperate by doing temperate acts, brave by doing brave acts.

This is confirmed by what happens in states; for legislators make the citizens good by forming habits in them, and this is the wish of every legislator, and those who do not effect it miss their mark, and it is in this that a good constitution differs from a bad one.

Again, it is from the same causes and by the same means that every virtue is both produced and destroyed, and similarly every art; for it is from playing the lyre that both good and bad lyre-players are produced. And the corresponding statement is true of builders and of all the rest; men will be good or bad builders as a result of building well or badly. For if this were not so, there would have been no need of a teacher, but all men would have been born good or bad at their craft. This, then, is the case with the virtues also; by doing the acts that we do in our transactions with other men we become just or unjust, and by doing the acts that we do in the presence of danger, and being habituated to feel fear or confidence, we become brave or cowardly. The same is true of appetites and feelings of anger; some men become temperate and good-tempered, others self-indulgent and irascible, by behaving in one way or the other in the appropriate circumstances. Thus, in one word, states of character arise out of like activities. This is why the activities we exhibit must be of a certain kind; it is because the states of character correspond to the differences between these. It makes no small difference, then, whether we form habits of one kind or of another from our very youth; it makes a very great difference, or rather all the difference.

2

Since, then, the present inquiry does not aim at theoretical knowledge like the others (for we are inquiring not in order to know what virtue is, but in order to become good, since otherwise our inquiry would have been of no use), we must examine the nature of actions, namely how we ought to do them; for these determine also the nature of the states of character that are produced, as we have said. Now, that we must act according to the right rule is a common principle and must be assumed-it will be discussed later, i.e. both what the right rule is, and how it is related to the other virtues. But this must be agreed upon beforehand, that the whole account of matters of conduct must be given in outline and not precisely, as we said at the very beginning that the accounts we demand must be in accordance with the subject-matter; matters concerned with conduct and questions of what is good for us have no fixity, any more than matters of health. The general account being of this nature, the account of particular cases is yet more lacking in exactness; for they do not fall under any art or precept but the agents themselves must in each case consider what is appropriate to the occasion, as happens also in the art of medicine or of navigation.

But though our present account is of this nature we must give what help we can. First, then, let us consider this, that it is the nature of such things to be destroyed by defect and excess, as we see in the case of strength and of health (for to gain light on things imperceptible we must use the evidence of sensible things); both excessive and defective exercise destroys the strength, and similarly drink or food which is above or below a certain amount destroys the health, while that which is proportionate both produces and increases and preserves it. So too is it, then, in the case of temperance and courage and the other virtues. For the man who flies from and fears everything and does not stand his ground against anything becomes a coward, and the man who fears nothing at all but goes to meet every danger becomes rash; and similarly the man who indulges in every pleasure and abstains from none becomes self-indulgent, while the man who shuns every pleasure, as boors do, becomes in a way insensible; temperance and courage, then, are destroyed by excess and defect, and preserved by the mean.

But not only are the sources and causes of their origination and growth the same as those of their destruction, but also the sphere of their actualization will be the same; for this is also true of the things which are more evident to sense, e.g. of strength; it is produced by taking much food and undergoing much exertion, and it is the strong man that will be most able to do these things. So too is it with the virtues; by abstaining from pleasures we become temperate, and it is when we have become so that we are most able to abstain from them; and similarly too in the case of courage; for by being habituated to despise things that are terrible and to stand our ground against them we become brave, and it is when we have become so that we shall be most able to stand our ground against them.

3

We must take as a sign of states of character the pleasure or pain that ensues on acts; for the man who abstains from bodily pleasures and delights in this very fact is temperate, while the man who is annoyed at it is self-indulgent, and he who stands his ground against things that are terrible and delights in this or at least is not pained is brave, while the man who is pained is a coward. For moral excellence is concerned with pleasures and pains; it is on account of the pleasure that we do bad things, and on account of the pain that we abstain from noble ones. Hence we ought to have been brought up in a particular way from our very youth, as Plato says, so as both to delight in and to be pained by the things that we ought; for this is the right education.

Again, if the virtues are concerned with actions and passions, and every passion and every action is accompanied by pleasure and pain, for this reason also virtue will be concerned with pleasures and pains. This is indicated also by the fact that punishment is inflicted by these means; for it is a kind of cure, and it is the nature of cures to be effected by contraries.

Again, as we said but lately, every state of soul has a nature relative to and concerned with the kind of things by which it tends to be made worse or better; but it is by reason of pleasures and pains that men become bad, by pursuing and avoiding these — either the pleasures and pains they ought not or when they ought not or as they ought not, or by going wrong in one of the other similar ways that may be distinguished. Hence men even define the virtues as certain states of impassivity and rest; not well, however, because they speak absolutely, and do not say ‘as one ought’ and ‘as one ought not’ and ‘when one ought or ought not’, and the other things that may be added. We assume, then, that this kind of excellence tends to do what is best with regard to pleasures and pains, and vice does the contrary.

The following facts also may show us that virtue and vice are concerned with these same things. There being three objects of choice and three of avoidance, the noble, the advantageous, the pleasant, and their contraries, the base, the injurious, the painful, about all of these the good man tends to go right and the bad man to go wrong, and especially about pleasure; for this is common to the animals, and also it accompanies all objects of choice; for even the noble and the advantageous appear pleasant.

Again, it has grown up with us all from our infancy; this is why it is difficult to rub off this passion, engrained as it is in our life. And we measure even our actions, some of us more and others less, by the rule of pleasure and pain. For this reason, then, our whole inquiry must be about these; for to feel delight and pain rightly or wrongly has no small effect on our actions.

Again, it is harder to fight with pleasure than with anger, to use Heraclitus’ phrase’, but both art and virtue are always concerned with what is harder; for even the good is better when it is harder. Therefore for this reason also the whole concern both of virtue and of political science is with pleasures and pains; for the man who uses these well will be good, he who uses them badly bad.

That virtue, then, is concerned with pleasures and pains, and that by the acts from which it arises it is both increased and, if they are done differently, destroyed, and that the acts from which it arose are those in which it actualizes itself — let this be taken as said.

4

The question might be asked,; what we mean by saying that we must become just by doing just acts, and temperate by doing temperate acts; for if men do just and temperate acts, they are already just and temperate, exactly as, if they do what is in accordance with the laws of grammar and of music, they are grammarians and musicians.

Or is this not true even of the arts? It is possible to do something that is in accordance with the laws of grammar, either by chance or at the suggestion of another. A man will be a grammarian, then, only when he has both done something grammatical and done it grammatically; and this means doing it in accordance with the grammatical knowledge in himself.

Again, the case of the arts and that of the virtues are not similar; for the products of the arts have their goodness in themselves, so that it is enough that they should have a certain character, but if the acts that are in accordance with the virtues have themselves a certain character it does not follow that they are done justly or temperately. The agent also must be in a certain condition when he does them; in the first place he must have knowledge, secondly he must choose the acts, and choose them for their own sakes, and thirdly his action must proceed from a firm and unchangeable character. These are not reckoned in as conditions of the possession of the arts, except the bare knowledge; but as a condition of the possession of the virtues knowledge has little or no weight, while the other conditions count not for a little but for everything, i.e. the very conditions which result from often doing just and temperate acts.

Actions, then, are called just and temperate when they are such as the just or the temperate man would do; but it is not the man who does these that is just and temperate, but the man who also does them as just and temperate men do them. It is well said, then, that it is by doing just acts that the just man is produced, and by doing temperate acts the temperate man; without doing these no one would have even a prospect of becoming good.

But most people do not do these, but take refuge in theory and think they are being philosophers and will become good in this way, behaving somewhat like patients who listen attentively to their doctors, but do none of the things they are ordered to do. As the latter will not be made well in body by such a course of treatment, the former will not be made well in soul by such a course of philosophy.

5

Next we must consider what virtue is. Since things that are found in the soul are of three kinds — passions, faculties, states of character, virtue must be one of these. By passions I mean appetite, anger, fear, confidence, envy, joy, friendly feeling, hatred, longing, emulation, pity, and in general the feelings that are accompanied by pleasure or pain; by faculties the things in virtue of which we are said to be capable of feeling these, e.g. of becoming angry or being pained or feeling pity; by states of character the things in virtue of which we stand well or badly with reference to the passions, e.g. with reference to anger we stand badly if we feel it violently or too weakly, and well if we feel it moderately; and similarly with reference to the other passions.

Now neither the virtues nor the vices are passions, because we are not called good or bad on the ground of our passions, but are so called on the ground of our virtues and our vices, and because we are neither praised nor blamed for our passions (for the man who feels fear or anger is not praised, nor is the man who simply feels anger blamed, but the man who feels it in a certain way), but for our virtues and our vices we are praised or blamed.

Again, we feel anger and fear without choice, but the virtues are modes of choice or involve choice. Further, in respect of the passions we are said to be moved, but in respect of the virtues and the vices we are said not to be moved but to be disposed in a particular way.

For these reasons also they are not faculties; for we are neither called good nor bad, nor praised nor blamed, for the simple capacity of feeling the passions; again, we have the faculties by nature, but we are not made good or bad by nature; we have spoken of this before. If, then, the virtues are neither passions nor faculties, all that remains is that they should be states of character.

Thus we have stated what virtue is in respect of its genus.

6

We must, however, not only describe virtue as a state of character, but also say what sort of state it is. We may remark, then, that every virtue or excellence both brings into good condition the thing of which it is the excellence and makes the work of that thing be done well; e.g. the excellence of the eye makes both the eye and its work good; for it is by the excellence of the eye that we see well. Similarly the excellence of the horse makes a horse both good in itself and good at running and at carrying its rider and at awaiting the attack of the enemy. Therefore, if this is true in every case, the virtue of man also will be the state of character which makes a man good and which makes him do his own work well.

How this is to happen we have stated already, but it will be made plain also by the following consideration of the specific nature of virtue. In everything that is continuous and divisible it is possible to take more, less, or an equal amount, and that either in terms of the thing itself or relatively to us; and the equal is an intermediate between excess and defect. By the intermediate in the object I mean that which is equidistant from each of the extremes, which is one and the same for all men; by the intermediate relatively to us that which is neither too much nor too little — and this is not one, nor the same for all. For instance, if ten is many and two is few, six is the intermediate, taken in terms of the object; for it exceeds and is exceeded by an equal amount; this is intermediate according to arithmetical proportion. But the intermediate relatively to us is not to be taken so; if ten pounds are too much for a particular person to eat and two too little, it does not follow that the trainer will order six pounds; for this also is perhaps too much for the person who is to take it, or too little — too little for Milo, too much for the beginner in athletic exercises. The same is true of running and wrestling. Thus a master of any art avoids excess and defect, but seeks the intermediate and chooses this — the intermediate not in the object but relatively to us.

If it is thus, then, that every art does its work well — by looking to the intermediate and judgling its works by this standard (so that we often say of good works of art that it is not possible either to take away or to add anything, implying that excess and defect destroy the goodness of works of art, while the mean preserves it; and good artists, as we say, look to this in their work), and if, further, virtue is more exact and better than any art, as nature also is, then virtue must have the quality of aiming at the intermediate. I mean moral virtue; for it is this that is concerned with passions and actions, and in these there is excess, defect, and the intermediate. For instance, both fear and confidence and appetite and anger and pity and in general pleasure and pain may be felt both too much and too little, and in both cases not well; but to feel them at the right times, with reference to the right objects, towards the right people, with the right motive, and in the right way, is what is both intermediate and best, and this is characteristic of virtue. Similarly with regard to actions also there is excess, defect, and the intermediate. Now virtue is concerned with passions and actions, in which excess is a form of failure, and so is defect, while the intermediate is praised and is a form of success; and being praised and being successful are both characteristics of virtue. Therefore virtue is a kind of mean, since, as we have seen, it aims at what is intermediate.

Again, it is possible to fail in many ways (for evil belongs to the class of the unlimited, as the Pythagoreans conjectured, and good to that of the limited), while to succeed is possible only in one way (for which reason also one is easy and the other difficult — to miss the mark easy, to hit it difficult); for these reasons also, then, excess and defect are characteristic of vice, and the mean of virtue;

For men are good in but one way, but bad in many.

Virtue, then, is a state of character concerned with choice, lying in a mean, i.e. the mean relative to us, this being determined by a rational principle, and by that principle by which the man of practical wisdom would determine it. Now it is a mean between two vices, that which depends on excess and that which depends on defect; and again it is a mean because the vices respectively fall short of or exceed what is right in both passions and actions, while virtue both finds and chooses that which is intermediate. Hence in respect of its substance and the definition which states its essence virtue is a mean, with regard to what is best and right an extreme.

But not every action nor every passion admits of a mean; for some have names that already imply badness, e.g. spite, shamelessness, envy, and in the case of actions adultery, theft, murder; for all of these and suchlike things imply by their names that they are themselves bad, and not the excesses or deficiencies of them. It is not possible, then, ever to be right with regard to them; one must always be wrong. Nor does goodness or badness with regard to such things depend on committing adultery with the right woman, at the right time, and in the right way, but simply to do any of them is to go wrong. It would be equally absurd, then, to expect that in unjust, cowardly, and voluptuous action there should be a mean, an excess, and a deficiency; for at that rate there would be a mean of excess and of deficiency, an excess of excess, and a deficiency of deficiency. But as there is no excess and deficiency of temperance and courage because what is intermediate is in a sense an extreme, so too of the actions we have mentioned there is no mean nor any excess and deficiency, but however they are done they are wrong; for in general there is neither a mean of excess and deficiency, nor excess and deficiency of a mean.

7

We must, however, not only make this general statement, but also apply it to the individual facts. For among statements about conduct those which are general apply more widely, but those which are particular are more genuine, since conduct has to do with individual cases, and our statements must harmonize with the facts in these cases. We may take these cases from our table. With regard to feelings of fear and confidence courage is the mean; of the people who exceed, he who exceeds in fearlessness has no name (many of the states have no name), while the man who exceeds in confidence is rash, and he who exceeds in fear and falls short in confidence is a coward. With regard to pleasures and pains — not all of them, and not so much with regard to the pains — the mean is temperance, the excess self-indulgence. Persons deficient with regard to the pleasures are not often found; hence such persons also have received no name. But let us call them ‘insensible’.

With regard to giving and taking of money the mean is liberality, the excess and the defect prodigality and meanness. In these actions people exceed and fall short in contrary ways; the prodigal exceeds in spending and falls short in taking, while the mean man exceeds in taking and falls short in spending. (At present we are giving a mere outline or summary, and are satisfied with this; later these states will be more exactly determined.) With regard to money there are also other dispositions — a mean, magnificence (for the magnificent man differs from the liberal man; the former deals with large sums, the latter with small ones), an excess, tastelessness and vulgarity, and a deficiency, niggardliness; these differ from the states opposed to liberality, and the mode of their difference will be stated later. With regard to honour and dishonour the mean is proper pride, the excess is known as a sort of 'empty vanity', and the deficiency is undue humility; and as we said liberality was related to magnificence, differing from it by dealing with small sums, so there is a state similarly related to proper pride, being concerned with small honours while that is concerned with great. For it is possible to desire honour as one ought, and more than one ought, and less, and the man who exceeds in his desires is called ambitious, the man who falls short unambitious, while the intermediate person has no name. The dispositions also are nameless, except that that of the ambitious man is called ambition. Hence the people who are at the extremes lay claim to the middle place; and we ourselves sometimes call the intermediate person ambitious and sometimes unambitious, and sometimes praise the ambitious man and sometimes the unambitious. The reason of our doing this will be stated in what follows; but now let us speak of the remaining states according to the method which has been indicated.

With regard to anger also there is an excess, a deficiency, and a mean. Although they can scarcely be said to have names, yet since we call the intermediate person good-tempered let us call the mean good temper; of the persons at the extremes let the one who exceeds be called irascible, and his vice irascibility, and the man who falls short an inirascible sort of person, and the deficiency inirascibility.

There are also three other means, which have a certain likeness to one another, but differ from one another: for they are all concerned with intercourse in words and actions, but differ in that one is concerned with truth in this sphere, the other two with pleasantness; and of this one kind is exhibited in giving amusement, the other in all the circumstances of life. We must therefore speak of these too, that we may the better see that in all things the mean is praise-worthy, and the extremes neither praiseworthy nor right, but worthy of blame. Now most of these states also have no names, but we must try, as in the other cases, to invent names ourselves so that we may be clear and easy to follow. With regard to truth, then, the intermediate is a truthful sort of person and the mean may be called truthfulness, while the pretence which exaggerates is boastfulness and the person characterized by it a boaster, and that which understates is mock modesty and the person characterized by it mock-modest. With regard to pleasantness in the giving of amusement the intermediate person is ready-witted and the disposition ready wit, the excess is buffoonery and the person characterized by it a buffoon, while the man who falls short is a sort of boor and his state is boorishness. With regard to the remaining kind of pleasantness, that which is exhibited in life in general, the man who is pleasant in the right way is friendly and the mean is friendliness, while the man who exceeds is an obsequious person if he has no end in view, a flatterer if he is aiming at his own advantage, and the man who falls short and is unpleasant in all circumstances is a quarrelsome and surly sort of person.

There are also means in the passions and concerned with the passions; since shame is not a virtue, and yet praise is extended to the modest man. For even in these matters one man is said to be intermediate, and another to exceed, as for instance the bashful man who is ashamed of everything; while he who falls short or is not ashamed of anything at all is shameless, and the intermediate person is modest. Righteous indignation is a mean between envy and spite, and these states are concerned with the pain and pleasure that are felt at the fortunes of our neighbours; the man who is characterized by righteous indignation is pained at undeserved good fortune, the envious man, going beyond him, is pained at all good fortune, and the spiteful man falls so far short of being pained that he even rejoices. But these states there will be an opportunity of describing elsewhere; with regard to justice, since it has not one simple meaning, we shall, after describing the other states, distinguish its two kinds and say how each of them is a mean; and similarly we shall treat also of the rational virtues.

8

There are three kinds of disposition, then, two of them vices, involving excess and deficiency respectively, and one a virtue, viz. the mean, and all are in a sense opposed to all; for the extreme states are contrary both to the intermediate state and to each other, and the intermediate to the extremes; as the equal is greater relatively to the less, less relatively to the greater, so the middle states are excessive relatively to the deficiencies, deficient relatively to the excesses, both in passions and in actions. For the brave man appears rash relatively to the coward, and cowardly relatively to the rash man; and similarly the temperate man appears self-indulgent relatively to the insensible man, insensible relatively to the self-indulgent, and the liberal man prodigal relatively to the mean man, mean relatively to the prodigal. Hence also the people at the extremes push the intermediate man each over to the other, and the brave man is called rash by the coward, cowardly by the rash man, and correspondingly in the other cases.

These states being thus opposed to one another, the greatest contrariety is that of the extremes to each other, rather than to the intermediate; for these are further from each other than from the intermediate, as the great is further from the small and the small from the great than both are from the equal. Again, to the intermediate some extremes show a certain likeness, as that of rashness to courage and that of prodigality to liberality; but the extremes show the greatest unlikeness to each other; now contraries are defined as the things that are furthest from each other, so that things that are further apart are more contrary.

To the mean in some cases the deficiency, in some the excess is more opposed; e.g. it is not rashness, which is an excess, but cowardice, which is a deficiency, that is more opposed to courage, and not insensibility, which is a deficiency, but self-indulgence, which is an excess, that is more opposed to temperance. This happens from two reasons, one being drawn from the thing itself; for because one extreme is nearer and liker to the intermediate, we oppose not this but rather its contrary to the intermediate. E.g. since rashness is thought liker and nearer to courage, and cowardice more unlike, we oppose rather the latter to courage; for things that are further from the intermediate are thought more contrary to it. This, then, is one cause, drawn from the thing itself; another is drawn from ourselves; for the things to which we ourselves more naturally tend seem more contrary to the intermediate. For instance, we ourselves tend more naturally to pleasures, and hence are more easily carried away towards self-indulgence than towards propriety. We describe as contrary to the mean, then, rather the directions in which we more often go to great lengths; and therefore self-indulgence, which is an excess, is the more contrary to temperance.

9

That moral virtue is a mean, then, and in what sense it is so, and that it is a mean between two vices, the one involving excess, the other deficiency, and that it is such because its character is to aim at what is intermediate in passions and in actions, has been sufficiently stated. Hence also it is no easy task to be good. For in everything it is no easy task to find the middle, e.g. to find the middle of a circle is not for every one but for him who knows; so, too, any one can get angry — that is easy — or give or spend money; but to do this to the right person, to the right extent, at the right time, with the right motive, and in the right way, that is not for every one, nor is it easy; wherefore goodness is both rare and laudable and noble.

Hence he who aims at the intermediate must first depart from what is the more contrary to it, as Calypso advises

Hold the ship out beyond that surf and spray.

For of the extremes one is more erroneous, one less so; therefore, since to hit the mean is hard in the extreme, we must as a second best, as people say, take the least of the evils; and this will be done best in the way we describe. But we must consider the things towards which we ourselves also are easily carried away; for some of us tend to one thing, some to another; and this will be recognizable from the pleasure and the pain we feel. We must drag ourselves away to the contrary extreme; for we shall get into the intermediate state by drawing well away from error, as people do in straightening sticks that are bent.

Now in everything the pleasant or pleasure is most to be guarded against; for we do not judge it impartially. We ought, then, to feel towards pleasure as the elders of the people felt towards Helen, and in all circumstances repeat their saying; for if we dismiss pleasure thus we are less likely to go astray. It is by doing this, then, (to sum the matter up) that we shall best be able to hit the mean.

But this is no doubt difficult, and especially in individual cases; for or is not easy to determine both how and with whom and on what provocation and how long one should be angry; for we too sometimes praise those who fall short and call them good-tempered, but sometimes we praise those who get angry and call them manly. The man, however, who deviates little from goodness is not blamed, whether he do so in the direction of the more or of the less, but only the man who deviates more widely; for he does not fail to be noticed. But up to what point and to what extent a man must deviate before he becomes blameworthy it is not easy to determine by reasoning, any more than anything else that is perceived by the senses; such things depend on particular facts, and the decision rests with perception. So much, then, is plain, that the intermediate state is in all things to be praised, but that we must incline sometimes towards the excess, sometimes towards the deficiency; for so shall we most easily hit the mean and what is right.

Book III

1

SINCE virtue is concerned with passions and actions, and on voluntary passions and actions praise and blame are bestowed, on those that are involuntary pardon, and sometimes also pity, to distinguish the voluntary and the involuntary is presumably necessary for those who are studying the nature of virtue, and useful also for legislators with a view to the assigning both of honours and of punishments. Those things, then, are thought-involuntary, which take place under compulsion or owing to ignorance; and that is compulsory of which the moving principle is outside, being a principle in which nothing is contributed by the person who is acting or is feeling the passion, e.g. if he were to be carried somewhere by a wind, or by men who had him in their power.

But with regard to the things that are done from fear of greater evils or for some noble object (e.g. if a tyrant were to order one to do something base, having one's parents and children in his power, and if one did the action they were to be saved, but otherwise would be put to death), it may be debated whether such actions are involuntary or voluntary. Something of the sort happens also with regard to the throwing of goods overboard in a storm; for in the abstract no one throws goods away voluntarily, but on condition of its securing the safety of himself and his crew any sensible man does so. Such actions, then, are mixed, but are more like voluntary actions; for they are worthy of choice at the time when they are done, and the end of an action is relative to the occasion. Both the terms, then, 'voluntary' and 'involuntary', must be used with reference to the moment of action. Now the man acts voluntarily; for the principle that moves the instrumental parts of the body in such actions is in him, and the things of which the moving principle is in a man himself are in his power to do or not to do. Such actions, therefore, are voluntary, but in the abstract perhaps involuntary; for no one would choose any such act in itself.

For such actions men are sometimes even praised, when they endure something base or painful in return for great and noble objects gained; in the opposite case they are blamed, since to endure the greatest indignities for no noble end or for a trifling end is the mark of an inferior person. On some actions praise indeed is not bestowed, but pardon is, when one does what he ought not under pressure which overstrains human nature and which no one could withstand. But some acts, perhaps, we cannot be forced to do, but ought rather to face death after the most fearful sufferings; for the things that 'forced' Euripides Alcmaeon to slay his mother seem absurd. It is difficult sometimes to determine what should be chosen at what cost, and what should be endured in return for what gain, and yet more difficult to abide by our decisions; for as a rule what is expected is painful, and what we are forced to do is base, whence praise and blame are bestowed on those who have been compelled or have not.

What sort of acts, then, should be called compulsory? We answer that without qualification actions are so when the cause is in the external circumstances and the agent contributes nothing. But the things that in themselves are involuntary, but now and in return for these gains are worthy of choice, and whose moving principle is in the agent, are in themselves involuntary, but now and in return for these gains voluntary. They are more like voluntary acts; for actions are in the class of particulars, and the particular acts here are voluntary. What sort of things are to be chosen, and in return for what, it is not easy to state; for there are many differences in the particular cases.

But if some one were to say that pleasant and noble objects have a compelling power, forcing us from without, all acts would be for him compulsory; for it is for these objects that all men do everything they do. And those who act under compulsion and unwillingly act with pain, but those who do acts for their pleasantness and nobility do them with pleasure; it is absurd to make external circumstances responsible, and not oneself, as being easily caught by such attractions, and to make oneself responsible for noble acts but the pleasant objects responsible for base acts. The compulsory, then, seems to be that whose moving principle is outside, the person compelled contributing nothing.

Everything that is done by reason of ignorance is not voluntary; it is only what produces pain and repentance that is involuntary. For the man who has done something owing to ignorance, and feels not the least vexation at his action, has not acted voluntarily, since he did not know what he was doing, nor yet involuntarily, since he is not pained. Of people, then, who act by reason of ignorance he who repents is thought an involuntary agent, and the man who does not repent may, since he is different, be called a not voluntary agent; for, since he differs from the other, it is better that he should have a name of his own.

Acting by reason of ignorance seems also to be different from acting in ignorance; for the man who is drunk or in a rage is thought to act as a result not of ignorance but of one of the causes mentioned, yet not knowingly but in ignorance.

Now every wicked man is ignorant of what he ought to do and what he ought to abstain from, and it is by reason of error of this kind that men become unjust and in general bad; but the term ‘involuntary’ tends to be used not if a man is ignorant of what is to his advantage — for it is not mistaken purpose that causes involuntary action (it leads rather to wickedness), nor ignorance of the universal (for that men are blamed), but ignorance of particulars, i.e. of the circumstances of the action and the objects with which it is concerned. For it is on these that both pity and pardon depend, since the person who is ignorant of any of these acts involuntarily.

Perhaps it is just as well, therefore, to determine their nature and number. A man may be ignorant, then, of who he is, what he is doing, what or whom he is acting on, and sometimes also what (e.g. what instrument) he is doing it with, and to what end (e.g. he may think his act will conduce to some one’s safety), and how he is doing it (e.g. whether gently or violently). Now of all of these no one could be ignorant unless he were mad, and evidently also he could not be ignorant of the agent; for how could he not know himself? But of what he is doing a man might be ignorant, as for instance people say ‘it slipped out of their mouths as they were speaking’, or ‘they did not know it was a secret’, as Aeschylus said of the mysteries, or a man might say he ‘let it go off when he merely wanted to show its working’, as the man did with the catapult. Again, one might think one’s son was an enemy, as Merope did, or that a pointed spear had a button on it, or that a stone was pumicestone; or one might give a man a draught to save him, and really kill him; or one might want to touch a man, as people do in sparring, and really wound him. The ignorance may relate, then, to any of these things, i.e. of the circumstances of the action, and the man who was ignorant of any of these is thought to have acted involuntarily, and especially if he was ignorant on the most important points; and these are thought to be the circumstances of the action and its end. Further, the doing of an act that is called involuntary in virtue of ignorance of this sort must be painful and involve repentance.

Since that which is done under compulsion or by reason of ignorance is involuntary, the voluntary would seem to be that of which the moving principle is in the agent himself, he being aware of the particular circumstances of the action. Presumably acts done by reason of anger or appetite are not rightly called involuntary. For in the first place, on that showing none of the other animals will act voluntarily, nor will children; and secondly, is it meant that we do not do voluntarily any of the acts that are due to appetite or anger, or that we do the noble acts voluntarily and the base acts involuntarily? Is not this absurd, when one and the same thing is the cause? But it would surely be odd to describe as involuntary the things one ought to desire; and we ought both to be angry at certain things and to have an appetite for certain things, e.g. for health and for learning. Also what is involuntary is thought to be painful, but what is in accordance with appetite is thought to be pleasant. Again, what is the difference in respect of involuntariness between errors committed upon calculation and those committed in anger? Both are to be avoided, but the irrational passions are thought not less human than reason is, and therefore also the actions which proceed from anger or appetite are the man’s actions. It would be odd, then, to treat them as involuntary.

2

Both the voluntary and the involuntary having been delimited, we must next discuss choice; for it is thought to be most closely bound up with virtue and to discriminate characters better than actions do.

Choice, then, seems to be voluntary, but not the same thing as the voluntary; the latter extends more widely. For both children and the lower animals share in voluntary action, but not in choice, and acts done on the spur of the moment we describe as voluntary, but not as chosen.

Those who say it is appetite or anger or wish or a kind of opinion do not seem to be right. For choice is not common to irrational creatures as well, but appetite and anger are. Again, the incontinent man acts with appetite, but not with choice; while the continent man on the contrary acts with choice, but not with appetite. Again, appetite is contrary to choice, but not appetite to appetite. Again, appetite relates to the pleasant and the painful, choice neither to the painful nor to the pleasant.

Still less is it anger; for acts due to anger are thought to be less than any others objects of choice.

But neither is it wish, though it seems near to it; for choice cannot relate to impossibles, and if any one said he chose them he would be thought silly; but there may be a wish even for impossibles, e.g. for immortality. And wish may relate to things that could in no way be brought about by one's own efforts, e.g. that a particular actor or athlete should win in a competition; but no one chooses such things, but only the things that he thinks could be brought about by his own efforts. Again, wish relates rather to the end, choice to the means; for instance, we wish to be healthy, but we choose the acts which will make us healthy, and we wish to be happy and say we do, but we cannot well say we choose to be so; for, in general, choice seems to relate to the things that are in our own power.

For this reason, too, it cannot be opinion; for opinion is thought to relate to all kinds of things, no less to eternal things and impossible things than to things in our own power; and it is distinguished by its falsity or truth, not by its badness or goodness, while choice is distinguished rather by these.

Now with opinion in general perhaps no one even says it is identical. But it is not identical even with any kind of opinion; for by choosing what is good or bad we are men of a certain character, which we are not by holding certain opinions. And we choose to get or avoid something good or bad, but we have opinions about what a thing is or whom it is good for or how it is good for him; we can hardly be said to opine to get or avoid anything. And choice is praised for being related to the right object rather than for being rightly related to it, opinion for being truly related to its object. And we choose what we best know to be good, but we opine what we do not quite know; and it is not the same people that are thought to make the best choices and to have the best opinions, but some are thought to have fairly good opinions, but by reason of vice to choose what they should not. If opinion precedes choice or accompanies it, that makes no difference; for it is not this that we are considering, but whether it is identical with some kind of opinion.

What, then, or what kind of thing is it, since it is none of the things we have mentioned? It seems to be voluntary, but not all that is voluntary to be an object of choice. Is it, then, what has been decided on by previous deliberation? At any rate choice involves a rational principle and thought. Even the name seems to suggest that it is what is chosen before other things.

3

Do we deliberate about everything, and is everything a possible subject of deliberation, or is deliberation impossible about some things? We ought presumably to call not what a fool or a madman would deliberate about, but what a sensible man would deliberate about, a subject of deliberation. Now about eternal things no one deliberates, e.g. about the material universe or the incommensurability of the diagonal and the side of a square. But no more do we deliberate about the things that involve movement but always happen in the same way, whether of necessity or by nature or from any other cause, e.g. the solstices and the risings of the stars; nor about things that happen now in one way, now in another, e.g. droughts and rains; nor about chance events, like the finding of treasure. But we do not deliberate even about all human affairs; for instance, no Spartan deliberates about the best constitution for the Scythians. For none of these things can be brought about by our own efforts.

We deliberate about things that are in our power and can be done; and these are in fact what is left. For nature, necessity, and chance are thought to be causes, and also reason and everything that depends on man. Now every class of men deliberates about the things that can be done by their own efforts. And in the case of exact and self-contained sciences there is no deliberation, e.g. about the letters of the alphabet (for we have no doubt how they should be written); but the things that are brought about by our own efforts, but not always in the same way, are the things about which we deliberate, e.g. questions of medical treatment or of money-making. And we do so more in the case of the art of navigation than in that of gymnastics, inasmuch as it has been less exactly worked out, and again about other things in the same ratio, and more also in the case of the arts than in that of the sciences; for we have more doubt about the former. Deliberation is concerned with things that happen in a certain way for the most part, but in which the event is obscure, and with things in which it is indeterminate. We call in others to aid us in deliberation on important questions, distrusting ourselves as not being equal to deciding.

We deliberate not about ends but about means. For a doctor does not deliberate whether he shall heal, nor an orator whether he shall persuade, nor a statesman whether he shall produce law and order, nor does any one else deliberate about his end. They assume the end and consider how and by what means it is to be attained; and if it seems to be produced by several means they consider by which it is most easily and best produced, while if it is achieved by one only they consider how it will be achieved by this and by what means this will be achieved, till they come to the first cause, which in the order of discovery is last. For the person who deliberates seems to investigate and analyse in the way described as though he were analysing a geometrical construction (not all investigation appears to be deliberation — for instance mathematical investigations — but all deliberation is investigation), and what is last in the order of analysis seems to be first in the order of becoming. And if we come on an impossibility, we give up the search, e.g. if we need money and this cannot be got; but if a thing appears possible we try to do it. By 'possible' things I mean things that might be brought about by our own efforts; and these in a sense include things that can be brought about by the efforts of our friends, since the moving principle is in ourselves. The subject of investigation is sometimes the instruments, sometimes the use of them; and similarly in the other cases — sometimes the means, sometimes the mode of using it or the means of bringing it about. It seems, then, as has been said, that man is a moving principle of actions; now deliberation is about the things to be done by the agent himself, and actions are for the sake of things other than themselves. For the end cannot be a subject of deliberation, but only the means; nor indeed can the particular facts be a subject of it, as whether this is bread or has been baked as it should; for these are matters of perception. If we are to be always deliberating, we shall have to go on to infinity.

The same thing is deliberated upon and is chosen, except that the object of choice is already determinate, since it is that which has been decided upon as a result of deliberation that is the object of choice. For every one ceases to inquire how he is to act when he has brought the moving principle back to himself and to the ruling part of himself; for this is what chooses. This is plain also from the ancient constitutions, which Homer represented; for the kings announced their choices to the people. The object of choice being one of the things in our own power which is desired after deliberation, choice will be deliberate desire of things in our own power; for when we have decided as a result of deliberation, we desire in accordance with our deliberation.

We may take it, then, that we have described choice in outline, and stated the nature of its objects and the fact that it is concerned with means.

4

That wish is for the end has already been stated; some think it is for the good, others for the apparent good. Now those who say that the good is the object of wish must admit in consequence that that which the man who does not choose aright wishes for is not an object of wish (for if it is to be so, it must also be good; but it was, if it so happened, bad); while those who say the apparent good is the object of wish must admit that there is no natural object of wish, but only what seems good to each man. Now different things appear good to different people, and, if it so happens, even contrary things.

If these consequences are unpleasing, are we to say that absolutely and in truth the good is the object of wish, but for each person the apparent good; that that which is in truth an object of wish is an object of wish to the good man, while any chance thing may be so the bad man, as in the case of bodies also the things that are in truth wholesome are wholesome for bodies which are in good condition, while for those that are diseased other things are wholesome — or bitter or sweet or hot or heavy, and so on; since the good man judges each class of things rightly, and in each the truth appears to him? For each state of character has its own ideas of the noble and the pleasant, and perhaps the good man differs from others most by seeing the truth in each class of things, being as it were the norm and measure of them. In most things the error seems to be due to pleasure; for it appears a good when it is not. We therefore choose the pleasant as a good, and avoid pain as an evil.

5

The end, then, being what we wish for, the means what we deliberate about and choose, actions concerning means must be according to choice and voluntary. Now the exercise of the virtues is concerned with means. Therefore virtue also is in our own power, and so too vice. For where it is in our power to act it is also in our power not to act, and vice versa; so that, if to act, where this is noble, is in our power, not to act, which will be base, will also be in our power, and if not to act, where this is noble, is in our power, to act, which will be base, will also be in our power. Now if it is in our power to do noble or base acts, and likewise in our power not to do them, and this was what being good or bad meant, then it is in our power to be virtuous or vicious.

The saying that ‘no one is voluntarily wicked nor involuntarily happy’ seems to be partly false and partly true; for no one is involuntarily happy, but wickedness is voluntary. Or else we shall have to dispute what has just been said, at any rate, and deny that man is a moving principle or begetter of his actions as of children. But if these facts are evident and we cannot refer actions to moving principles other than those in ourselves, the acts whose moving principles are in us must themselves also be in our power and voluntary.

Witness seems to be borne to this both by individuals in their private capacity and by legislators themselves; for these punish and take vengeance on those who do wicked acts (unless they have acted under compulsion or as a result of ignorance for which they are not themselves responsible), while they honour those who do noble acts, as though they meant to encourage the latter and deter the former. But no one is encouraged to do the things that are neither in our power nor voluntary; it is assumed that there is no gain in being persuaded not to be hot or in pain or hungry or the like, since we shall experience these feelings none the less. Indeed, we punish a man for his very ignorance, if he is thought responsible for the ignorance, as when penalties are doubled in the case of drunkenness; for the moving principle is in the man himself, since he had the power of not getting drunk and his getting drunk was the cause of his ignorance. And we punish those who are ignorant of anything in the laws that they ought to know and that is not difficult, and so too in the case of anything else that they are thought to be ignorant of through carelessness; we assume that it is in their power not to be ignorant, since they have the power of taking care.

But perhaps a man is the kind of man not to take care. Still they are themselves by their slack lives responsible for becoming men of that kind, and men make themselves responsible for being unjust or self-indulgent, in the one case by cheating and in the other by spending their time in drinking bouts and the like; for it is activities exercised on particular objects that make the corresponding character. This is plain from the case of people training for any contest or action; they practise the activity the whole time. Now not to know that it is from the exercise of activities on particular objects that states of character are produced is the mark of a thoroughly senseless person. Again, it is irrational to suppose that a man who acts unjustly does not wish to be unjust or a man who acts self-indulgently to be self-indulgent. But if without being ignorant a man does the things which will make him unjust, he will be unjust voluntarily. Yet it does not follow that if he wishes he will cease to be unjust and will be just. For neither does the man who is ill become well on those terms. We may suppose a case in which he is ill voluntarily, through living incontinently and disobeying his doctors. In that case it was then open to him not to be ill, but not now, when he has thrown away his chance, just as when you have let a stone go it is too late to recover it; but yet it was in your power to throw it, since the moving principle was in you. So, too, to the unjust and to the self-indulgent man it was open at the beginning not to become men of this kind, and so they are unjust and selfindulgent voluntarily; but now that they have become so it is not possible for them not to be so.

But not only are the vices of the soul voluntary, but those of the body also for some men, whom we accordingly blame; while no one blames those who are ugly by nature, we blame those who are so owing to want of exercise and care. So it is, too, with respect to weakness and infirmity; no one would reproach a man blind from birth or by disease or from a blow, but rather pity him, while every one would blame a man who was blind from drunkenness or some other form of self-indulgence. Of vices of the body, then, those in our own power are blamed, those not in our power are not. And if this be so, in the other cases also the vices that are blamed must be in our own power.

Now some one may say that all men desire the apparent good, but have no control over the appearance, but the end appears to each man in a form answering to his character. We reply that if each man is somehow responsible for his state of mind, he will also be himself somehow responsible for the appearance; but if not, no one is responsible for his own evildoing, but every one does evil acts through ignorance of the end, thinking that by these he will get what is best, and the aiming at the end is not self-chosen but one must be born with an eye, as it were, by which to judge rightly and choose what is truly good, and he is well endowed by nature who is well endowed with this.

For it is what is greatest and most noble, and what we cannot get or learn from another, but must have just such as it was when given us at birth, and to be well and nobly endowed with this will be perfect and true excellence of natural endowment. If this is true, then, how will virtue be more voluntary than vice? To both men alike, the good and the bad, the end appears and is fixed by nature or however it may be, and it is by referring everything else to this that men do whatever they do.

Whether, then, it is not by nature that the end appears to each man such as it does appear, but something also depends on him, or the end is natural but because the good man adopts the means voluntarily virtue is voluntary, vice also will be none the less voluntary; for in the case of the bad man there is equally present that which depends on himself in his actions even if not in his end. If, then, as is asserted, the virtues are voluntary (for we are ourselves somehow partly responsible for our states of character, and it is by being persons of a certain kind that we assume the end to be so and so), the vices also will be voluntary; for the same is true of them.

With regard to the virtues in general we have stated their genus in outline, viz. that they are means and that they are states of character, and that they tend, and by their own nature, to the doing of the acts by which they are produced, and that they are in our power and voluntary, and act as the right rule prescribes. But actions and states of character are not voluntary in the same way; for we are masters of our actions from the beginning right to the end, if we know the particular facts, but though we control the beginning of our states of character the gradual progress is not obvious any more than it is in illnesses; because it was in our power, however, to act in this way or not in this way, therefore the states are voluntary.

Let us take up the several virtues, however, and say which they are and what sort of things they are concerned with and how they are concerned with them; at the same time it will become plain how many they are. And first let us speak of courage.

6

That it is a mean with regard to feelings of fear and confidence has already been made evident; and plainly the things we fear are terrible things, and these are, to speak without qualification, evils; for which reason people even define fear as expectation of evil. Now we fear all evils, e.g. disgrace, poverty, disease, friendlessness, death, but the brave man is not thought to be concerned with all; for to fear some things is even right and noble, and it is base not to fear them — e.g. disgrace; he who fears this is good and modest, and he who does not is shameless. He is, however, by some people called brave, by a transference of the word to a new meaning; for he has in him something which is like the brave man, since the brave man also is a fearless person. Poverty and disease we perhaps ought not to fear, nor in general the things that do not proceed from vice and are not due to a man himself. But not even the man who is fearless of these is brave. Yet we apply the word to him also in virtue of a similarity; for some who in the dangers of war are cowards are liberal and are confident in face of the loss of money. Nor is a man a coward if he fears insult to his wife and children or envy or anything of the kind; nor brave if he is confident when he is about to be flogged. With what sort of terrible things, then, is the brave man concerned? Surely with the greatest; for no one is more likely than he to stand his ground against what is awe-inspiring. Now death is the most terrible of all things; for it is the end, and nothing is thought to be any longer either good or bad for the dead. But the brave man would not seem to be concerned even with death in all circumstances, e.g. at sea or in disease. In what circumstances, then? Surely in the noblest. Now such deaths are those in battle; for these take place in the greatest and noblest danger. And these are correspondingly honoured in city-states and at the courts of monarchs. Properly, then, he will be called brave who is fearless in face of a noble death, and of all emergencies that involve death; and the emergencies of war are in the highest degree of this kind. Yet at sea also, and in disease, the brave man is fearless, but not in the same way as the seaman; for he has given up hope of safety, and is disliking the thought of death in this shape, while they are hopeful because of their experience. At the same time, we show courage in situations where there is the opportunity of showing prowess or where death is noble; but in these forms of death neither of these conditions is fulfilled.

7

What is terrible is not the same for all men; but we say there are things terrible even beyond human strength. These, then, are terrible to every one —

at least to every sensible man; but the terrible things that are not beyond human strength differ in magnitude and degree, and so too do the things that inspire confidence. Now the brave man is as dauntless as man may be. Therefore, while he will fear even the things that are not beyond human strength, he will face them as he ought and as the rule directs, for honour's sake; for this is the end of virtue. But it is possible to fear these more, or less, and again to fear things that are not terrible as if they were. Of the faults that are committed one consists in fearing what one should not, another in fearing as we should not, another in fearing when we should not, and so on; and so too with respect to the things that inspire confidence. The man, then, who faces and who fears the right things and from the right motive, in the right way and from the right time, and who feels confidence under the corresponding conditions, is brave; for the brave man feels and acts according to the merits of the case and in whatever way the rule directs. Now the end of every activity is conformity to the corresponding state of character. This is true, therefore, of the brave man as well as of others. But courage is noble. Therefore the end also is noble; for each thing is defined by its end. Therefore it is for a noble end that the brave man endures and acts as courage directs.

Of those who go to excess he who exceeds in fearlessness has no name (we have said previously that many states of character have no names), but he would be a sort of madman or insensible person if he feared nothing, neither earthquakes nor the waves, as they say the Celts do not; while the man who exceeds in confidence about what really is terrible is rash. The rash man, however, is also thought to be boastful and only a pretender to courage; at all events, as the brave man is with regard to what is terrible, so the rash man wishes to appear; and so he imitates him in situations where he can. Hence also most of them are a mixture of rashness and cowardice; for, while in these situations they display confidence, they do not hold their ground against what is really terrible. The man who exceeds in fear is a coward; for he fears both what he ought not and as he ought not, and all the similar characterizations attach to him. He is lacking also in confidence; but he is more conspicuous for his excess of fear in painful situations. The coward, then, is a despairing sort of person; for he fears everything. The brave man, on the other hand, has the opposite disposition; for confidence is the mark of a hopeful disposition. The coward, the rash man, and the brave man, then, are concerned with the same objects but are differently disposed towards them; for the first two exceed and fall short, while the third holds the middle, which is the right, position; and rash men are precipitate, and wish for dangers beforehand but draw back when they are in them, while brave men are keen in the moment of action, but quiet beforehand.

As we have said, then, courage is a mean with respect to things that inspire confidence or fear, in the circumstances that have been stated; and it chooses or endures things because it is noble to do so, or because it is base not to do so. But to die to escape from poverty or love or anything painful is not the mark of a brave man, but rather of a coward; for it is softness to fly from what is troublesome, and such a man endures death not because it is noble but to fly from evil.

8

Courage, then, is something of this sort, but the name is also applied to five other kinds.

First comes the courage of the citizen-soldier; for this is most like true courage. Citizen-soldiers seem to face dangers because of the penalties imposed by the laws and the reproaches they would otherwise incur, and because of the honours they win by such action; and therefore those peoples seem to be bravest among whom cowards are held in dishonour and brave men in honour. This is the kind of courage that Homer depicts, e.g. in Diomede and in Hector:

First will Polydamas be to heap reproach on me then;

and

For Hector one day ‘mid the Trojans shall utter his vaulting harangue:
Afraid was Tydeides, and fled from my face.

This kind of courage is most like to that which we described earlier, because it is due to virtue; for it is due to shame and to desire of a noble object (i.e. honour) and avoidance of disgrace, which is ignoble. One might rank in the same class even those who are compelled by their rulers; but they are inferior, inasmuch as they do what they do not from shame but from fear, and to avoid not what is disgraceful but what is painful; for their masters compel them, as Hector does:

But if I shall spy any dastard that cowers far from the fight,
Vainly will such an one hope to escape from the dogs.

And those who give them their posts, and beat them if they retreat, do the same, and so do those who draw them up with trenches or something of the sort behind them; all of these apply compulsion. But one ought to be brave not under compulsion but because it is noble to be so.

(2) Experience with regard to particular facts is also thought to be courage; this is indeed the reason why Socrates thought courage was knowledge. Other people exhibit this quality in other dangers, and professional soldiers exhibit it in the dangers of war; for there seem to be many empty alarms in war, of which these have had the most comprehensive experience; therefore they seem brave, because the others do not know the nature of the facts. Again, their experience makes them most capable in attack and in defence, since they can use their arms and have the kind that are likely to be best both for attack and for defence; therefore they fight like armed men against unarmed or like trained athletes against amateurs; for in such contests too it is not the bravest men that fight best, but those who are strongest and have their bodies in the best condition. Professional soldiers turn cowards, however, when the danger puts too great a strain on them and they are inferior in numbers and equipment; for they are the first to fly, while citizen-forces die at their posts, as in fact happened at the temple of Hermes. For to the latter flight is disgraceful and death is preferable to safety on those terms; while the former from the very beginning faced the danger on the assumption that they were stronger, and when they know the facts they fly, fearing death more than disgrace; but the brave man is not that sort of person.

(3) Passion also is sometimes reckoned as courage; those who act from passion, like wild beasts rushing at those who have wounded them, are thought to be brave, because brave men also are passionate; for passion above all things is eager to rush on danger, and hence Homer's 'put strength into his passion' and 'aroused their spirit and passion and 'hard he breathed panting' and 'his blood boiled'. For all such expressions seem to indicate the stirring and onset of passion. Now brave men act for honour's sake, but passion aids them; while wild beasts act under the influence of pain; for they attack

because they have been wounded or because they are afraid, since if they are in a forest they do not come near one. Thus they are not brave because, driven by pain and passion, they rush on danger without foreseeing any of the perils, since at that rate even asses would be brave when they are hungry; for blows will not drive them from their food; and lust also makes adulterers do many daring things. (Those creatures are not brave, then, which are driven on to danger by pain or passion.) The ‘courage’ that is due to passion seems to be the most natural, and to be courage if choice and motive be added.

Men, then, as well as beasts, suffer pain when they are angry, and are pleased when they exact their revenge; those who fight for these reasons, however, are pugnacious but not brave; for they do not act for honour’s sake nor as the rule directs, but from strength of feeling; they have, however, something akin to courage.

(4) Nor are sanguine people brave; for they are confident in danger only because they have conquered often and against many foes. Yet they closely resemble brave men, because both are confident; but brave men are confident for the reasons stated earlier, while these are so because they think they are the strongest and can suffer nothing. (Drunken men also behave in this way; they become sanguine). When their adventures do not succeed, however, they run away; but it was the mark of a brave man to face things that are, and seem, terrible for a man, because it is noble to do so and disgraceful not to do so. Hence also it is thought the mark of a braver man to be fearless and undisturbed in sudden alarms than to be so in those that are foreseen; for it must have proceeded more from a state of character, because less from preparation; acts that are foreseen may be chosen by calculation and rule, but sudden actions must be in accordance with one’s state of character.

(5) People who are ignorant of the danger also appear brave, and they are not far removed from those of a sanguine temper, but are inferior inasmuch as they have no self-reliance while these have. Hence also the sanguine hold their ground for a time; but those who have been deceived about the facts fly if they know or suspect that these are different from what they supposed, as happened to the Argives when they fell in with the Spartans and took them for Sicyonians.

We have, then, described the character both of brave men and of those who are thought to be brave.

9

Though courage is concerned with feelings of confidence and of fear, it is not concerned with both alike, but more with the things that inspire fear; for he who is undisturbed in face of these and bears himself as he should towards these is more truly brave than the man who does so towards the things that inspire confidence. It is for facing what is painful, then, as has been said, that men are called brave. Hence also courage involves pain, and is justly praised; for it is harder to face what is painful than to abstain from what is pleasant.

Yet the end which courage sets before it would seem to be pleasant, but to be concealed by the attending circumstances, as happens also in athletic contests; for the end at which boxers aim is pleasant — the crown and the honours — but the blows they take are distressing to flesh and blood, and painful, and so is their whole exertion; and because the blows and the exertions are many the end, which is but small, appears to have nothing pleasant in it. And so, if the case of courage is similar, death and wounds will be painful to the brave man and against his will, but he will face them because it is noble to do so or because it is base not to do so. And the more he is possessed of virtue in its entirety and the happier he is, the more he will be pained at the thought of death; for life is best worth living for such a man, and he is knowingly losing the greatest goods, and this is painful. But he is none the less brave, and perhaps all the more so, because he chooses noble deeds of war at that cost. It is not the case, then, with all the virtues that the exercise of them is pleasant, except in so far as it reaches its end. But it is quite possible that the best soldiers may be not men of this sort but those who are less brave but have no other good; for these are ready to face danger, and they sell their life for trifling gains.

So much, then, for courage; it is not difficult to grasp its nature in outline, at any rate, from what has been said.

10

After courage let us speak of temperance; for these seem to be the virtues of the irrational parts. We have said that temperance is a mean with regard to pleasures (for it is less, and not in the same way, concerned with pains); self-indulgence also is manifested in the same sphere. Now, therefore, let us determine with what sort of pleasures they are concerned. We may assume the distinction between bodily pleasures and those of the soul, such as love of honour and love of learning; for the lover of each of these delights in that of which he is a lover, the body being in no way affected, but rather the mind; but men who are concerned with such pleasures are called neither temperate nor self-indulgent. Nor, again, are those who are concerned with the other pleasures that are not bodily; for those who are fond of hearing and telling stories and who spend their days on anything that turns up are called gossips, but not self-indulgent, nor are those who are pained at the loss of money or of friends.

Temperance must be concerned with bodily pleasures, but not all even of these; for those who delight in objects of vision, such as colours and shapes and painting, are called neither temperate nor self-indulgent; yet it would seem possible to delight even in these either as one should or to excess or to a deficient degree.

And so too is it with objects of hearing; no one calls those who delight extravagantly in music or acting self-indulgent, nor those who do so as they ought temperate.

Nor do we apply these names to those who delight in odour, unless it be incidentally; we do not call those self-indulgent who delight in the odour of apples or roses or incense, but rather those who delight in the odour of unguents or of dainty dishes; for self-indulgent people delight in these because these remind them of the objects of their appetite. And one may see even other people, when they are hungry, delighting in the smell of food; but to delight in this kind of thing is the mark of the self-indulgent man; for these are objects of appetite to him.

Nor is there in animals other than man any pleasure connected with these senses, except incidentally. For dogs do not delight in the scent of hares, but in the eating of them, but the scent told them the hares were there; nor does the lion delight in the lowing of the ox, but in eating it; but he perceived by the lowing that it was near, and therefore appears to delight in the lowing; and similarly he does not delight because he sees ‘a stag or a wild goat’, but because he is going to make a meal of it. Temperance and self-indulgence, however, are concerned with the kind of pleasures that the other animals share in, which therefore appear slavish and brutish; these are touch and taste. But even of taste they appear to make little or no use; for the business of taste is the discriminating of flavours, which is done by winetasters and people who season dishes; but they hardly take pleasure in making these discriminations, or at least self-indulgent people do not, but in the actual enjoyment, which in all cases comes through touch, both in the case of food and in that of drink and in that of sexual intercourse. This is why a certain gourmand prayed that his throat might become longer than a crane's, implying that it was the contact that he took pleasure in. Thus the sense with which self-indulgence is connected is the most widely shared of the senses; and self-indulgence would seem to be justly a matter of reproach, because it attaches to us not as men but as animals. To delight in such things, then, and to love them above all others, is brutish. For even of the pleasures of touch the most liberal have been eliminated, e.g. those produced in the gymnasium by rubbing and by the consequent heat; for the contact characteristic of the self-indulgent man does not affect the whole body but only certain parts.

11

Of the appetites some seem to be common, others to be peculiar to individuals and acquired; e.g. the appetite for food is natural, since every one who is without it craves for food or drink, and sometimes for both, and for love also (as Homer says) if he is young and lusty; but not every one craves for this or that kind of nourishment or love, nor for the same things. Hence such craving appears to be our very own. Yet it has of course something natural about it; for different things are pleasant to different kinds of people, and some things are more pleasant to every one than chance objects. Now in the natural appetites few go wrong, and only in one direction, that of excess; for to eat or drink whatever offers itself till one is surfeited is to exceed the natural amount, since natural appetite is the replenishment of one's deficiency. Hence these people are called belly-gods, this implying that they fill their belly beyond what is right. It is people of entirely slavish character that become like this. But with regard to the pleasures peculiar to individuals many people go wrong and in many ways. For while the people who are 'fond of so and so' are so called because they delight either in the wrong things, or more than most people do, or in the wrong way, the self-indulgent exceed in all three ways; they both delight in some things that they ought not to delight in (since they are hateful), and if one ought to delight in some of the things they delight in, they do so more than one ought and than most men do.

Plainly, then, excess with regard to pleasures is self-indulgence and is culpable; with regard to pains one is not, as in the case of courage, called temperate for facing them or self-indulgent for not doing so, but the selfindulgent man is so called because he is pained more than he ought at not getting pleasant things (even his pain being caused by pleasure), and the temperate man is so called because he is not pained at the absence of what is pleasant and at his abstinence from it.

The self-indulgent man, then, craves for all pleasant things or those that are most pleasant, and is led by his appetite to choose these at the cost of everything else; hence he is pained both when he fails to get them and when he is merely craving for them (for appetite involves pain); but it seems absurd to be pained for the sake of pleasure. People who fall short with regard to pleasures and delight in them less than they should are hardly found; for such insensibility is not human. Even the other animals distinguish different kinds of food and enjoy some and not others; and if there is any one who finds nothing pleasant and nothing more attractive than anything else, he must be something quite different from a man; this sort of person has not received a name because he hardly occurs. The temperate man occupies a middle position with regard to these objects. For he neither enjoys the things that the self-indulgent man enjoys most-but rather dislikes them-nor in general the things that he should not, nor anything of this sort to excess, nor does he feel pain or craving when they are absent, or does so only to a moderate degree, and not more than he should, nor when he should not, and so on; but the things that, being pleasant, make for health or for good condition, he will desire moderately and as he should, and also other pleasant things if they are not hindrances to these ends, or contrary to what is noble, or beyond his means. For he who neglects these conditions loves such pleasures more than they are worth, but the temperate man is not that sort of person, but the sort of person that the right rule prescribes.

12

Self-indulgence is more like a voluntary state than cowardice. For the former is actuated by pleasure, the latter by pain, of which the one is to be chosen and the other to be avoided; and pain upsets and destroys the nature of the person who feels it, while pleasure does nothing of the sort. Therefore self-indulgence is more voluntary. Hence also it is more a matter of reproach; for it is easier to become accustomed to its objects, since there are many things of this sort in life, and the process of habituation to them is free from danger, while with terrible objects the reverse is the case. But cowardice would seem to be voluntary in a different degree from its particular manifestations; for it is itself painless, but in these we are upset by pain, so that we even throw down our arms and disgrace ourselves in other ways; hence our acts are even thought to be done under compulsion. For the self-indulgent man, on the other hand, the particular acts are voluntary (for he does them with craving and desire), but the whole state is less so; for no one craves to be self-indulgent.

The name self-indulgence is applied also to childish faults; for they bear a certain resemblance to what we have been considering. Which is called after which, makes no difference to our present purpose; plainly, however, the later is called after the earlier. The transference of the name seems not a bad one; for that which desires what is base and which develops quickly ought to be kept in a chastened condition, and these characteristics belong above all to appetite and to the child, since children in fact live at the beck and call of appetite, and it is in them that the desire for what is pleasant is strongest. If, then, it is not going to be obedient and subject to the ruling principle, it will go to great lengths; for in an irrational being the desire for pleasure is insatiable even if it tries every source of gratification, and the exercise of appetite increases its innate force, and if appetites are strong and violent they even expel the power of calculation. Hence they should be moderate and few, and should in no way oppose the rational principle-and this is what we call an obedient and chastened state-and as the child should live according to the direction of his tutor, so the appetitive element should live according to rational principle. Hence the appetitive element in a temperate man should harmonize with the rational principle; for the noble is the mark at which both aim, and the temperate man craves for the things be ought, as he ought, as when he ought; and when he ought; and this is what rational principle directs.

Here we conclude our account of temperance.

Book IV

1

LET us speak next of liberality. It seems to be the mean with regard to wealth; for the liberal man is praised not in respect of military matters, nor of those in respect of which the temrate man is praised, nor of judicial decisions, but with regard to the giving and taking of wealth, and especially in respect of giving. Now by 'wealth' we mean all the things whose value is measured by money. Further, prodigality and meanness are excesses and defects with regard to wealth; and meanness we always impute to those who care more than they ought for wealth, but we sometimes apply the word 'prodigality' in a complex sense; for we call those men prodigals who are incontinent and spend money on self-indulgence. Hence also they are thought the poorest characters; for they combine more vices than one. Therefore the application of the word to them is not its proper use; for a 'prodigal' means a man who has a single evil quality, that of wasting his substance; since a prodigal is one who is being ruined by his own fault, and the wasting of substance is thought to be a sort of ruining of oneself, life being held to depend on possession of substance.

This, then, is the sense in which we take the word 'prodigality'. Now the things that have a use may be used either well or badly; and riches is a useful thing; and everything is used best by the man who has the virtue concerned with it; riches, therefore, will be used best by the man who has the virtue concerned with wealth; and this is the liberal man. Now spending and giving seem to be the using of wealth; taking and keeping rather the possession of it. Hence it is more the mark of the liberal man to give to the right people than to take from the right sources and not to take from the wrong. For it is more characteristic of virtue to do good than to have good done to one, and more characteristic to do what is noble than not to do what is base; and it is not hard to see that giving implies doing good and doing what is noble, and taking implies having good done to one or not acting basely. And gratitude is felt towards him who gives, not towards him who does not take, and praise also is bestowed more on him. It is easier, also, not to take than to give; for men are apter to give away their own too little than to take what is another's. Givers, too, are called liberal; but those who do not take are not praised for liberality but rather for justice; while those who take are hardly praised at all. And the liberal are almost the most loved of all virtuous characters, since they are useful; and this depends on their giving.

Now virtuous actions are noble and done for the sake of the noble. Therefore the liberal man, like other virtuous men, will give for the sake of the noble, and rightly; for he will give to the right people, the right amounts, and at the right time, with all the other qualifications that accompany right giving; and that too with pleasure or without pain; for that which is virtuous is pleasant or free from pain-least of all will it be painful. But he who gives to the wrong people or not for the sake of the noble but for some other cause, will be called not liberal but by some other name. Nor is he liberal who gives with pain; for he would prefer the wealth to the noble act, and this is not characteristic of a liberal man. But no more will the liberal man take from wrong sources; for such taking is not characteristic of the man who sets no store by wealth. Nor will he be a ready asker; for it is not characteristic of a man who confers benefits to accept them lightly. But he will take from the right sources, e.g. from his own possessions, not as something noble but as a necessity, that he may have something to give. Nor will he neglect his own property, since he wishes by means of this to help others. And he will refrain from giving to anybody and everybody, that he may have something to give to the right people, at the right time, and where it is noble to do so. It is highly characteristic of a liberal man also to go to excess in giving, so that he leaves too little for himself; for it is the nature of a liberal man not to look to himself. The term 'liberality' is used relatively to a man's substance; for liberality resides not in the multitude of the gifts but in the state of character of the giver, and this is relative to the giver's substance. There is therefore nothing to prevent the man who gives less from being the more liberal man, if he has less to give those are thought to be more liberal who have not made their wealth but inherited it; for in the first place they have no experience of want, and secondly all men are fonder of their own productions, as are parents and poets. It is not easy for the liberal man to be rich, since he is not apt either at taking or at keeping, but at giving away, and does not value wealth for its own sake but as a means to giving. Hence comes the charge that is brought against fortune, that those who deserve riches most get it least. But it is not unreasonable that it should turn out so; for he cannot have wealth, any more than anything else, if he does not take pains to have it. Yet he will not give to the wrong people nor at the wrong time, and so on; for he would no longer be acting in accordance with liberality, and if he spent on these objects he would have nothing to spend on the right objects. For, as has been said, he is liberal who spends according to his substance and on the right objects; and he who exceeds is prodigal. Hence we do not call despots prodigal; for it is thought not easy for them to give and spend beyond the amount of their possessions. Liberality, then, being a mean with regard to giving and taking of wealth, the liberal man will both give and spend the right amounts and on the right objects, alike in small things and in great, and that with pleasure; he will also take the right amounts and from the right sources. For, the virtue being a mean with regard to both, he will do both as he ought; since this sort of taking accompanies proper giving, and that which is not of this sort is contrary to it, and accordingly the giving and taking that accompany each other are present together in the same man, while the contrary kinds evidently are not. But if he happens to spend in a manner contrary to what is right and noble, he will be pained, but moderately and as he ought; for it is the mark of virtue both to be pleased and to be pained at the right objects and in the right way. Further, the liberal man is easy to deal with in money matters; for he can be got the better of, since he sets no store by money, and is more annoyed if he has not spent something that he ought than pained if he has spent something that he ought not, and does not agree with the saying of Simonides.

The prodigal errs in these respects also; for he is neither pleased nor pained at the right things or in the right way; this will be more evident as we go on. We have said that prodigality and meanness are excesses and deficiencies, and in two things, in giving and in taking; for we include spending under giving. Now prodigality exceeds in giving and not taking, while meanness falls short in giving, and exceeds in taking, except in small things.

The characteristics of prodigality are not often combined; for it is not easy to give to all if you take from none; private persons soon exhaust their substance with giving, and it is to these that the name of prodigals is applied — though a man of this sort would seem to be in no small degree better than a mean man. For he is easily cured both by age and by poverty, and thus he may move towards the middle state. For he has the characteristics of the liberal man, since he both gives and refrains from taking, though he does neither of these in the right manner or well. Therefore if he were brought to do so by habituation or in some other way, he would be liberal; for he will then give to the right people, and will not take from the wrong sources. This is why he is thought to have not a bad character; it is not the mark of a wicked or ignoble man to go to excess in giving and not taking, but only of a foolish one. The man who is prodigal in this way is thought much better than the mean man both for the aforesaid reasons and because he benefits many while the other benefits no one, not even himself.

But most prodigal people, as has been said, also take from the wrong sources, and are in this respect mean. They become apt to take because they wish to spend and cannot do this easily; for their possessions soon run short. Thus they are forced to provide means from some other source. At the same time, because they care nothing for honour, they take recklessly and from any source; for they have an appetite for giving, and they do not mind how or from what source. Hence also their giving is not liberal; for it is not noble, nor does it aim at nobility, nor is it done in the right way; sometimes they make rich those who should be poor, and will give nothing to people of respectable character, and much to flatterers or those who provide them with some other pleasure. Hence also most of them are self-indulgent; for they spend lightly and waste money on their indulgences, and incline towards pleasures because they do not live with a view to what is noble.

The prodigal man, then, turns into what we have described if he is left untutored, but if he is treated with care he will arrive at the intermediate and right state. But meanness is both incurable (for old age and every disability is thought to make men mean) and more innate in men than prodigality; for most men are fonder of getting money than of giving. It also extends widely, and is multiform, since there seem to be many kinds of meanness.

For it consists in two things, deficiency in giving and excess in taking, and is not found complete in all men but is sometimes divided; some men go to excess in taking, others fall short in giving. Those who are called by such names as ‘miserly’, ‘close’, ‘stingy’, all fall short in giving, but do not covet the possessions of others nor wish to get them. In some this is due to a sort of honesty and avoidance of what is disgraceful (for some seem, or at least profess, to hoard their money for this reason, that they may not some day be forced to do something disgraceful; to this class belong the cheeseparer and every one of the sort; he is so called from his excess of unwillingness to give anything); while others again keep their hands off the property of others from fear, on the ground that it is not easy, if one takes the property of others oneself, to avoid having one’s own taken by them; they are therefore content neither to take nor to give.

Others again exceed in respect of taking by taking anything and from any source, e.g. those who ply sordid trades, pimps and all such people, and those who lend small sums and at high rates. For all of these take more than they ought and from wrong sources. What is common to them is evidently sordid love of gain; they all put up with a bad name for the sake of gain, and little gain at that. For those who make great gains but from wrong sources, and not the right gains, e.g. despots when they sack cities and spoil temples, we do not call mean but rather wicked, impious, and unjust. But the gamester and the footpad (and the highwayman) belong to the class of the mean, since they have a sordid love of gain. For it is for gain that both of them ply their craft and endure the disgrace of it, and the one faces the greatest dangers for the sake of the booty, while the other makes gain from his friends, to whom he ought to be giving. Both, then, since they are willing to make gain from wrong sources, are sordid lovers of gain; therefore all such forms of taking are mean.

And it is natural that meanness is described as the contrary of liberality; for not only is it a greater evil than prodigality, but men err more often in this direction than in the way of prodigality as we have described it.

So much, then, for liberality and the opposed vices.

2

It would seem proper to discuss magnificence next. For this also seems to be a virtue concerned with wealth; but it does not like liberality extend to all the actions that are concerned with wealth, but only to those that involve expenditure; and in these it surpasses liberality in scale. For, as the name itself suggests, it is a fitting expenditure involving largeness of scale. But the scale is relative; for the expense of equipping a trireme is not the same as that of heading a sacred embassy. It is what is fitting, then, in relation to the agent, and to the circumstances and the object. The man who in small or middling things spends according to the merits of the case is not called magnificent (e.g. the man who can say ‘many a gift I gave the wanderer’), but only the man who does so in great things. For the magnificent man is liberal, but the liberal man is not necessarily magnificent. The deficiency of this state of character is called niggardliness, the excess vulgarity, lack of taste, and the like, which do not go to excess in the amount spent on right objects, but by showy expenditure in the wrong circumstances and the wrong manner; we shall speak of these vices later.

The magnificent man is like an artist; for he can see what is fitting and spend large sums tastefully. For, as we said at the begining, a state of character is determined by its activities and by its objects. Now the expenses of the magnificent man are large and fitting. Such, therefore, are also his results; for thus there will be a great expenditure and one that is fitting to its result. Therefore the result should be worthy of the expense, and the expense should be worthy of the result, or should even exceed it. And the magnificent man will spend such sums for honour’s sake; for this is common to the virtues. And further he will do so gladly and lavishly; for nice calculation is a niggardly thing. And he will consider how the result can be made most beautiful and most becoming rather than for how much it can be produced and how it can be produced most cheaply. It is necessary, then, that the magnificent man be also liberal. For the liberal man also will spend what he ought and as he ought; and it is in these matters that the greatness implied in the name of the magnificent man-his bigness, as it were-is manifested, since liberality is concerned with these matters; and at an equal expense he will produce a more magnificent work of art. For a possession and a work of art have not the same excellence. The most valuable possession is that which is worth most, e.g. gold, but the most valuable work of art is that which is great and beautiful (for the contemplation of such a work inspires admiration, and so does magnificence); and a work has an excellence-viz. magnificence-which involves magnitude. Magnificence is an attribute of expenditures of the kind which we call honourable, e.g. those connected with the gods-votive offerings, buildings, and sacrifices-and similarly with any form of religious worship, and all those that are proper objects of public-spirited ambition, as when people think they ought to equip a chorus or a trireme, or entertain the city, in a brilliant way. But in all cases, as has been said, we have regard to the agent as well and ask who he is and what means he has; for the expenditure should be worthy of his means, and suit not only the result but also the producer. Hence a poor man cannot be magnificent, since he has not the means with which to spend large sums fittingly; and he who tries is a fool, since he spends beyond what can be expected of him and what is proper, but it is right expenditure that is virtuous. But great expenditure is becoming to those who have suitable means to start with, acquired by their own efforts or from ancestors or connexions, and to people of high birth or reputation, and so on; for all these things bring with them greatness and prestige. Primarily, then, the magnificent man is of this sort, and magnificence is shown in expenditures of this sort, as has been said; for these are the greatest and most honourable. Of private occasions of expenditure the most suitable are those that take place once for all, e.g. a wedding or anything of the kind, or anything that interests the whole city or the people of position in it, and also the receiving of foreign guests and the sending of them on their way, and gifts and counter-gifts; for the magnificent man spends not on himself but on public objects, and gifts bear some resemblance to votive offerings. A magnificent man will also furnish his house suitably to his wealth (for even a house is a sort of public ornament), and will spend by preference on those works that are lasting (for these are the most beautiful), and on every class of things he will spend what is becoming; for the same things are not suitable for gods and for men, nor in a temple and in a tomb. And since each expenditure may be great of its kind, and what is most magnificent absolutely is great expenditure on a great object, but what is magnificent here is what is great in these circumstances, and greatness in the work differs from greatness in the expense (for the most beautiful ball or bottle is magnificent as a gift to a child, but the price of it is small and mean),-therefore it is characteristic of the magnificent man, whatever kind of result he is producing, to produce it magnificently (for such a result is not easily surpassed) and to make it worthy of the expenditure.

Such, then, is the magnificent man; the man who goes to excess and is vulgar exceeds, as has been said, by spending beyond what is right. For on small objects of expenditure he spends much and displays a tasteless showiness; e.g. he gives a club dinner on the scale of a wedding banquet, and when he provides the chorus for a comedy he brings them on to the stage in purple, as they do at Megara. And all such things he will do not for honour's sake but to show off his wealth, and because he thinks he is admired for these things, and where he ought to spend much he spends little and where little, much. The niggardly man on the other hand will fall short in everything, and after spending the greatest sums will spoil the beauty of the result for a trifle, and whatever he is doing he will hesitate and consider how he may spend least, and lament even that, and think he is doing everything on a bigger scale than he ought.

These states of character, then, are vices; yet they do not bring disgrace because they are neither harmful to one's neighbour nor very unseemly.

3

Pride seems even from its name to be concerned with great things; what sort of great things, is the first question we must try to answer. It makes no difference whether we consider the state of character or the man characterized by it. Now the man is thought to be proud who thinks himself worthy of great things, being worthy of them; for he who does so beyond his deserts is a fool, but no virtuous man is foolish or silly. The proud man, then, is the man we have described. For he who is worthy of little and thinks himself worthy of little is temperate, but not proud; for pride implies greatness, as beauty implies a goodsized body, and little people may be neat and well-proportioned but cannot be beautiful. On the other hand, he who thinks himself worthy of great things, being unworthy of them, is vain; though not every one who thinks himself worthy of more than he really is worthy of in vain. The man who thinks himself worthy of worthy of less than he is really worthy of is unduly humble, whether his deserts be great or moderate, or his deserts be small but his claims yet smaller. And the man whose deserts are great would seem most unduly humble; for what would he have done if they had been less? The proud man, then, is an extreme in respect of the greatness of his claims, but a mean in respect of the rightness of them; for he claims what is accordance with his merits, while the others go to excess or fall short.

If, then, he deserves and claims great things, and above all the great things, he will be concerned with one thing in particular. Desert is relative to external goods; and the greatest of these, we should say, is that which we render to the gods, and which people of position most aim at, and which is the prize appointed for the noblest deeds; and this is honour; that is surely the greatest of external goods. Honours and dishonours, therefore, are the objects with respect to which the proud man is as he should be. And even apart from argument it is with honour that proud men appear to be concerned; for it is honour that they chiefly claim, but in accordance with their deserts. The unduly humble man falls short both in comparison with his own merits and in comparison with the proud man's claims. The vain man goes to excess in comparison with his own merits, but does not exceed the proud man's claims.

Now the proud man, since he deserves most, must be good in the highest degree; for the better man always deserves more, and the best man most. Therefore the truly proud man must be good. And greatness in every virtue would seem to be characteristic of a proud man. And it would be most unbecoming for a proud man to fly from danger, swinging his arms by his sides, or to wrong another; for to what end should he do disgraceful acts, he to whom nothing is great? If we consider him point by point we shall see the utter absurdity of a proud man who is not good. Nor, again, would he be worthy of honour if he were bad; for honour is the prize of virtue, and it is to the good that it is rendered. Pride, then, seems to be a sort of crown of the virtues; for it makes them greater, and it is not found without them. Therefore it is hard to be truly proud; for it is impossible without nobility and goodness of character. It is chiefly with honours and dishonours, then, that the proud man is concerned; and at honours that are great and conferred by good men he will be moderately Pleased, thinking that he is coming by his own or even less than his own; for there can be no honour that is worthy of perfect virtue, yet he will at any rate accept it since they have nothing greater to bestow on him; but honour from casual people and on trifling grounds he will utterly despise, since it is not this that he deserves, and dishonour too, since in his case it cannot be just. In the first place, then, as has been said, the proud man is concerned with honours; yet he will also bear himself with moderation towards wealth and power and all good or evil fortune, whatever may befall him, and will be neither over-joyed by good fortune nor over-pained by evil. For not even towards honour does he bear himself as if it were a very great thing. Power and wealth are desirable for the sake of honour (at least those who have them wish to get honour by means of them); and for him to whom even honour is a little thing the others must be so too. Hence proud men are thought to be disdainful.

The goods of fortune also are thought to contribute towards pride. For men who are well-born are thought worthy of honour, and so are those who enjoy power or wealth; for they are in a superior position, and everything that has a superiority in something good is held in greater honour. Hence even such things make men prouder; for they are honoured by some for having them; but in truth the good man alone is to be honoured; he, however, who has both advantages is thought the more worthy of honour. But those who without virtue have such goods are neither justified in making great claims nor entitled to the name of ‘proud’; for these things imply perfect virtue. Disdainful and insolent, however, even those who have such goods become. For without virtue it is not easy to bear gracefully the goods of fortune; and, being unable to bear them, and thinking themselves superior to others, they despise others and themselves do what they please. They imitate the proud man without being like him, and this they do where they can; so they do not act virtuously, but they do despise others. For the proud man despises justly (since he thinks truly), but the many do so at random.

He does not run into trifling dangers, nor is he fond of danger, because he honours few things; but he will face great dangers, and when he is in danger he is unsparing of his life, knowing that there are conditions on which life is not worth having. And he is the sort of man to confer benefits, but he is ashamed of receiving them; for the one is the mark of a superior, the other of an inferior. And he is apt to confer greater benefits in return; for thus the original benefactor besides being paid will incur a debt to him, and will be the gainer by the transaction. They seem also to remember any service they have done, but not those they have received (for he who receives a service is inferior to him who has done it, but the proud man wishes to be superior), and to hear of the former with pleasure, of the latter with displeasure; this, it seems, is why Thetis did not mention to Zeus the services she had done him, and why the Spartans did not recount their services to the Athenians, but those they had received. It is a mark of the proud man also to ask for nothing or scarcely anything, but to give help readily, and to be dignified towards people who enjoy high position and good fortune, but unassuming towards those of the middle class; for it is a difficult and lofty thing to be superior to the former, but easy to be so to the latter, and a lofty bearing over the former is no mark of ill-breeding, but among humble people it is as vulgar as a display of strength against the weak. Again, it is characteristic of the proud man not to aim at the things commonly held in honour, or the things in which others excel; to be sluggish and to hold back except where great honour or a great work is at stake, and to be a man of few deeds, but of great and notable ones. He must also be open in his hate and in his love (for to conceal one's feelings, i.e. to care less for truth than for what people will think, is a coward's part), and must speak and act openly; for he is free of speech because he is contemptuous, and he is given to telling the truth, except when he speaks in irony to the vulgar. He must be unable to make his life revolve round another, unless it be a friend; for this is slavish, and for this reason all flatterers are servile and people lacking in self-respect are flatterers. Nor is he given to admiration; for nothing to him is great. Nor is he mindful of wrongs; for it is not the part of a proud man to have a long memory, especially for wrongs, but rather to overlook them. Nor is he a gossip; for he will speak neither about himself nor about another, since he cares not to be praised nor for others to be blamed; nor again is he given to praise; and for the same reason he is not an evil-speaker, even about his enemies, except from haughtiness. With regard to necessary or small matters he is least of all me given to lamentation or the asking of favours; for it is the part of one who takes such matters seriously to behave so with respect to them. He is one who will possess beautiful and profitless things rather than profitable and useful ones; for this is more proper to a character that suffices to itself.

Further, a slow step is thought proper to the proud man, a deep voice, and a level utterance; for the man who takes few things seriously is not likely to be hurried, nor the man who thinks nothing great to be excited, while a shrill voice and a rapid gait are the results of hurry and excitement.

Such, then, is the proud man; the man who falls short of him is unduly humble, and the man who goes beyond him is vain. Now even these are not thought to be bad (for they are not malicious), but only mistaken. For the unduly humble man, being worthy of good things, robs himself of what he deserves, and to have something bad about him from the fact that he does not think himself worthy of good things, and seems also not to know himself; else he would have desired the things he was worthy of, since these were good. Yet such people are not thought to be fools, but rather unduly retiring. Such a reputation, however, seems actually to make them worse; for each class of people aims at what corresponds to its worth, and these people stand back even from noble actions and undertakings, deeming themselves unworthy, and from external goods no less. Vain people, on the other hand, are fools and ignorant of themselves, and that manifestly; for, not being worthy of them, they attempt honourable undertakings, and then are found out; and tetadorn themselves with clothing and outward show and such things, and wish their strokes of good fortune to be made public, and speak about them as if they would be honoured for them. But undue humility is more opposed to pride than vanity is; for it is both commoner and worse.

Pride, then, is concerned with honour on the grand scale, as has been said.

4

There seems to be in the sphere of honour also, as was said in our first remarks on the subject, a virtue which would appear to be related to pride as liberality is to magnificence. For neither of these has anything to do with the grand scale, but both dispose us as is right with regard to middling and unimportant objects; as in getting and giving of wealth there is a mean and an excess and defect, so too honour may be desired more than is right, or less, or from the right sources and in the right way. We blame both the ambitious man as am at honour more than is right and from wrong sources, and the unambitious man as not willing to be honoured even for noble reasons. But sometimes we praise the ambitious man as being manly and a lover of what is noble, and the unambitious man as being moderate and self-controlled, as we said in our first treatment of the subject. Evidently, since 'fond of such and such an object' has more than one meaning, we do not assign the term 'ambition' or 'love of honour' always to the same thing, but when we praise the quality we think of the man who loves honour more than most people, and when we blame it we think of him who loves it more than is right. The mean being without a name, the extremes seem to dispute for its place as though that were vacant by default. But where there is excess and defect, there is also an intermediate; now men desire honour both more than they should and less; therefore it is possible also to do so as one should; at all events this is the state of character that is praised, being an unnamed mean in respect of honour. Relatively to ambition it seems to be unambitiousness, and relatively to unambitiousness it seems to be ambition, while relatively to both severally it seems in a sense to be both together. This appears to be true of the other virtues also. But in this case the extremes seem to be contradictories because the mean has not received a name.

5

Good temper is a mean with respect to anger; the middle state being unnamed, and the extremes almost without a name as well, we place good temper in the middle position, though it inclines towards the deficiency, which is without a name. The excess might called a sort of ‘irascibility’. For the passion is anger, while its causes are many and diverse.

The man who is angry at the right things and with the right people, and, further, as he ought, when he ought, and as long as he ought, is praised. This will be the good-tempered man, then, since good temper is praised. For the good-tempered man tends to be unperturbed and not to be led by passion, but to be angry in the manner, at the things, and for the length of time, that the rule dictates; but he is thought to err rather in the direction of deficiency; for the good-tempered man is not revengeful, but rather tends to make allowances.

The deficiency, whether it is a sort of ‘inirascibility’ or whatever it is, is blamed. For those who are not angry at the things they should be angry at are thought to be fools, and so are those who are not angry in the right way, at the right time, or with the right persons; for such a man is thought not to feel things nor to be pained by them, and, since he does not get angry, he is thought unlikely to defend himself; and to endure being insulted and put up with insult to one’s friends is slavish.

The excess can be manifested in all the points that have been named (for one can be angry with the wrong persons, at the wrong things, more than is right, too quickly, or too long); yet all are not found in the same person. Indeed they could not; for evil destroys even itself, and if it is complete becomes unbearable. Now hot-tempered people get angry quickly and with the wrong persons and at the wrong things and more than is right, but their anger ceases quickly-which is the best point about them. This happens to them because they do not restrain their anger but retaliate openly owing to their quickness of temper, and then their anger ceases. By reason of excess choleric people are quick-tempered and ready to be angry with everything and on every occasion; whence their name. Sulky people are hard to appease, and retain their anger long; for they repress their passion. But it ceases when they retaliate; for revenge relieves them of their anger, producing in them pleasure instead of pain. If this does not happen they retain their burden; for owing to its not being obvious no one even reasons with them, and to digest one's anger in oneself takes time. Such people are most troublesome to themselves and to their dearest friends. We call had-tempered those who are angry at the wrong things, more than is right, and longer, and cannot be appeased until they inflict vengeance or punishment.

To good temper we oppose the excess rather than the defect; for not only is it commoner since revenge is the more human), but bad-tempered people are worse to live with.

What we have said in our earlier treatment of the subject is plain also from what we are now saying; viz. that it is not easy to define how, with whom, at what, and how long one should be angry, and at what point right action ceases and wrong begins. For the man who strays a little from the path, either towards the more or towards the less, is not blamed; since sometimes we praise those who exhibit the deficiency, and call them good-tempered, and sometimes we call angry people manly, as being capable of ruling. How far, therefore, and how a man must stray before he becomes blameworthy, it is not easy to state in words; for the decision depends on the particular facts and on perception. But so much at least is plain, that the middle state is praiseworthy — that in virtue of which we are angry with the right people, at the right things, in the right way, and so on, while the excesses and defects are blameworthy — slightly so if they are present in a low degree, more if in a higher degree, and very much if in a high degree. Evidently, then, we must cling to the middle state. — Enough of the states relative to anger.

6

In gatherings of men, in social life and the interchange of words and deeds, some men are thought to be obsequious, viz. those who to give pleasure praise everything and never oppose, but think it their duty 'to give no pain to the people they meet'; while those who, on the contrary, oppose everything and care not a whit about giving pain are called churlish and contentious. That the states we have named are culpable is plain enough, and that the middle state is laudable — that in virtue of which a man will put up with, and will resent, the right things and in the right way; but no name has been assigned to it, though it most resembles friendship. For the man who corresponds to this middle state is very much what, with affection added, we call a good friend. But the state in question differs from friendship in that it implies no passion or affection for one's associates; since it is not by reason of loving or hating that such a man takes everything in the right way, but by being a man of a certain kind. For he will behave so alike towards those he knows and those he does not know, towards intimates and those who are not so, except that in each of these cases he will behave as is befitting; for it is not proper to have the same care for intimates and for strangers, nor again is it the same conditions that make it right to give pain to them. Now we have said generally that he will associate with people in the right way; but it is by reference to what is honourable and expedient that he will aim at not giving pain or at contributing pleasure. For he seems to be concerned with the pleasures and pains of social life; and wherever it is not honourable, or is harmful, for him to contribute pleasure, he will refuse, and will choose rather to give pain; also if his acquiescence in another's action would bring disgrace, and that in a high degree, or injury, on that other, while his opposition brings a little pain, he will not acquiesce but will decline. He will associate differently with people in high station and with ordinary people, with closer and more distant acquaintances, and so too with regard to all other differences, rendering to each class what is befitting, and while for its own sake he chooses to contribute pleasure, and avoids the giving of pain, he will be guided by the consequences, if these are greater, i.e. honour and expediency. For the sake of a great future pleasure, too, he will inflict small pains.

The man who attains the mean, then, is such as we have described, but has not received a name; of those who contribute pleasure, the man who aims at being pleasant with no ulterior object is obsequious, but the man who does so in order that he may get some advantage in the direction of money or the things that money buys is a flatterer; while the man who quarrels with everything is, as has been said, churlish and contentious. And the extremes seem to be contradictory to each other because the mean is without a name.

7

The mean opposed to boastfulness is found in almost the same sphere; and this also is without a name. It will be no bad plan to describe these states as well; for we shall both know the facts about character better if we go through them in detail, and we shall be convinced that the virtues are means if we see this to be so in all cases. In the field of social life those who make the giving of pleasure or pain their object in associating with others have been described; let us now describe those who pursue truth or falsehood alike in words and deeds and in the claims they put forward. The boastful man, then, is thought to be apt to claim the things that bring glory, when he has not got them, or to claim more of them than he has, and the mock-modest man on the other hand to disclaim what he has or belittle it, while the man who observes the mean is one who calls a thing by its own name, being truthful both in life and in word, owning to what he has, and neither more nor less. Now each of these courses may be adopted either with or without an object. But each man speaks and acts and lives in accordance with his character, if he is not acting for some ulterior object. And falsehood is in itself mean and culpable, and truth noble and worthy of praise. Thus the truthful man is another case of a man who, being in the mean, is worthy of praise, and both forms of untruthful man are culpable, and particularly the boastful man.

Let us discuss them both, but first of all the truthful man. We are not speaking of the man who keeps faith in his agreements, i.e. in the things that pertain to justice or injustice (for this would belong to another virtue), but the man who in the matters in which nothing of this sort is at stake is true both in word and in life because his character is such. But such a man would seem to be as a matter of fact equitable. For the man who loves truth, and is truthful where nothing is at stake, will still more be truthful where something is at stake; he will avoid falsehood as something base, seeing that he avoided it even for its own sake; and such a man is worthy of praise. He inclines rather to understate the truth; for this seems in better taste because exaggerations are wearisome.

He who claims more than he has with no ulterior object is a contemptible sort of fellow (otherwise he would not have delighted in falsehood), but seems futile rather than bad; but if he does it for an object, he who does it for the sake of reputation or honour is (for a boaster) not very much to be blamed, but he who does it for money, or the things that lead to money, is an uglier character (it is not the capacity that makes the boaster, but the purpose; for it is in virtue of his state of character and by being a man of a certain kind that he is boaster); as one man is a liar because he enjoys the lie itself, and another because he desires reputation or gain. Now those who boast for the sake of reputation claim such qualities as will praise or congratulation, but those whose object is gain claim qualities which are of value to one’s neighbours and one’s lack of which is not easily detected, e.g. the powers of a seer, a sage, or a physician. For this reason it is such things as these that most people claim and boast about; for in them the above-mentioned qualities are found.

Mock-modest people, who understate things, seem more attractive in character; for they are thought to speak not for gain but to avoid parade; and here too it is qualities which bring reputation that they disclaim, as Socrates used to do. Those who disclaim trifling and obvious qualities are called humbugs and are more contemptible; and sometimes this seems to be boastfulness, like the Spartan dress; for both excess and great deficiency are boastful. But those who use understatement with moderation and understate about matters that do not very much force themselves on our notice seem attractive. And it is the boaster that seems to be opposed to the truthful man; for he is the worse character.

8

Since life includes rest as well as activity, and in this is included leisure and amusement, there seems here also to be a kind of intercourse which is tasteful; there is such a thing as sayingand again listening to — what one should and as one should. The kind of people one is speaking or listening to will also make a difference. Evidently here also there is both an excess and a deficiency as compared with the mean. Those who carry humour to excess are thought to be vulgar buffoons, striving after humour at all costs, and aiming rather at raising a laugh than at saying what is becoming and at avoiding pain to the object of their fun; while those who can neither make a joke themselves nor put up with those who do are thought to be boorish and unpolished. But those who joke in a tasteful way are called ready-witted, which implies a sort of readiness to turn this way and that; for such sallies are thought to be movements of the character, and as bodies are discriminated by their movements, so too are characters. The ridiculous side of things is not far to seek, however, and most people delight more than they should in amusement and in jestinly. and so even buffoons are called ready-witted because they are found attractive; but that they differ from the ready-witted man, and to no small extent, is clear from what has been said.

To the middle state belongs also tact; it is the mark of a tactful man to say and listen to such things as befit a good and well-bred man; for there are some things that it befits such a man to say and to hear by way of jest, and the well-bred man's jesting differs from that of a vulgar man, and the joking of an educated man from that of an uneducated. One may see this even from the old and the new comedies; to the authors of the former indecency of language was amusing, to those of the latter innuendo is more so; and these differ in no small degree in respect of propriety. Now should we define the man who jokes well by his saying what is not unbecoming to a well-bred man, or by his not giving pain, or even giving delight, to the hearer? Or is the latter definition, at any rate, itself indefinite, since different things are hateful or pleasant to different people? The kind of jokes he will listen to will be the same; for the kind he can put up with are also the kind he seems to make. There are, then, jokes he will not make; for the jest is a sort of abuse, and there are things that lawgivers forbid us to abuse; and they should, perhaps, have forbidden us even to make a jest of such. The refined and well-bred man, therefore, will be as we have described, being as it were a law to himself.

Such, then, is the man who observes the mean, whether he be called tactful or ready-witted. The buffoon, on the other hand, is the slave of his sense of humour, and spares neither himself nor others if he can raise a laugh, and says things none of which a man of refinement would say, and to some of which he would not even listen. The boor, again, is useless for such social intercourse; for he contributes nothing and finds fault with everything. But relaxation and amusement are thought to be a necessary element in life.

The means in life that have been described, then, are three in number, and are all concerned with an interchange of words and deeds of some kind. They differ, however, in that one is concerned with truth; and the other two with pleasantness. Of those concerned with pleasure, one is displayed in jests, the other in the general social intercourse of life.

9

Shame should not be described as a virtue; for it is more like a feeling than a state of character. It is defined, at any rate, as a kind of fear of dishonour, and produces an effect similar to that produced by fear of danger; for people who feel disgraced blush, and those who fear death turn pale. Both, therefore, seem to be in a sense bodily conditions, which is thought to be characteristic of feeling rather than of a state of character.

The feeling is not becoming to every age, but only to youth. For we think young people should be prone to the feeling of shame because they live by feeling and therefore commit many errors, but are restrained by shame; and we praise young people who are prone to this feeling, but an older person no one would praise for being prone to the sense of disgrace, since we think he should not do anything that need cause this sense. For the sense of disgrace is not even characteristic of a good man, since it is consequent on bad actions (for such actions should not be done; and if some actions are disgraceful in very truth and others only according to common opinion, this makes no difference; for neither class of actions should be done, so that no disgrace should be felt); and it is a mark of a bad man even to be such as to do any disgraceful action. To be so constituted as to feel disgraced if one does such an action, and for this reason to think oneself good, is absurd; for it is for voluntary actions that shame is felt, and the good man will never voluntarily do bad actions. But shame may be said to be conditionally a good thing; if a good man does such actions, he will feel disgraced; but the virtues are not subject to such a qualification. And if shamelessness-not to be ashamed of doing base actions-is bad, that does not make it good to be ashamed of doing such actions. Continence too is not virtue, but a mixed sort of state; this will be shown later. Now, however, let us discuss justice.

Book V

1

WITH regards to justice and injustice we must (1) consider what kind of actions they are concerned with, (2) what sort of mean justice is, and (3) between what extremes the just act is intermediate. Our investigation shall follow the same course as the preceding discussions.

We see that all men mean by justice that kind of state of character which makes people disposed to do what is just and makes them act justly and wish for what is just; and similarly by injustice that state which makes them act unjustly and wish for what is unjust. Let us too, then, lay this down as a general basis. For the same is not true of the sciences and the faculties as of states of character. A faculty or a science which is one and the same is held to relate to contrary objects, but a state of character which is one of two contraries does not produce the contrary results; e.g. as a result of health we do not do what is the opposite of healthy, but only what is healthy; for we say a man walks healthily, when he walks as a healthy man would.

Now often one contrary state is recognized from its contrary, and often states are recognized from the subjects that exhibit them; for (A) if good condition is known, bad condition also becomes known, and (B) good condition is known from the things that are in good condition, and they from it. If good condition is firmness of flesh, it is necessary both that bad condition should be flabbiness of flesh and that the wholesome should be that which causes firmness in flesh. And it follows for the most part that if one contrary is ambiguous the other also will be ambiguous; e.g. if ‘just’ is so, that ‘unjust’ will be so too.

Now ‘justice’ and ‘injustice’ seem to be ambiguous, but because their different meanings approach near to one another the ambiguity escapes notice and is not obvious as it is, comparatively, when the meanings are far apart, e.g. (for here the difference in outward form is great) as the ambiguity in the use of kleis for the collar-bone of an animal and for that with which we lock a door. Let us take as a starting-point, then, the various meanings of ‘an unjust man’. Both the lawless man and the grasping and unfair man are thought to be unjust, so that evidently both the law-abiding and the fair man will be just. The just, then, is the lawful and the fair, the unjust the unlawful and the unfair.

Since the unjust man is grasping, he must be concerned with goods-not all goods, but those with which prosperity and adversity have to do, which taken absolutely are always good, but for a particular person are not always good. Now men pray for and pursue these things; but they should not, but should pray that the things that are good absolutely may also be good for them, and should choose the things that are good for them. The unjust man does not always choose the greater, but also the less-in the case of things bad absolutely; but because the lesser evil is itself thought to be in a sense good, and graspingness is directed at the good, therefore he is thought to be grasping. And he is unfair; for this contains and is common to both.

Since the lawless man was seen to be unjust and the law-abiding man just, evidently all lawful acts are in a sense just acts; for the acts laid down by the legislative art are lawful, and each of these, we say, is just. Now the laws in their enactments on all subjects aim at the common advantage either of all or of the best or of those who hold power, or something of the sort; so that in one sense we call those acts just that tend to produce and preserve happiness and its components for the political society. And the law bids us do both the acts of a brave man (e.g. not to desert our post nor take to flight nor throw away our arms), and those of a temperate man (e.g. not to commit adultery nor to gratify one’s lust), and those of a good-tempered man (e.g. not to strike another nor to speak evil), and similarly with regard to the other virtues and forms of wickedness, commanding some acts and forbidding others; and the rightly-framed law does this rightly, and the hastily conceived one less well. This form of justice, then, is complete virtue, but not absolutely, but in relation to our neighbour. And therefore justice is often thought to be the greatest of virtues, and ‘neither evening nor morning star’ is so wonderful; and proverbially ‘in justice is every virtue comprehended’. And it is complete virtue in its fullest sense, because it is the actual exercise of complete virtue. It is complete because he who possesses it can exercise his virtue not only in himself but towards his neighbour also; for many men can exercise virtue in their own affairs, but not in their relations to their neighbour. This is why the saying of Bias is thought to be true, that ‘rule will show the man’; for a ruler is necessarily in relation to other men and a member of a society. For this same reason justice, alone of the virtues, is thought to be ‘another’s good’, because it is related to our neighbour; for it does what is advantageous to another, either a ruler or a copartner. Now the worst man is he who exercises his wickedness both towards himself and towards his friends, and the best man is not he who exercises his virtue towards himself but he who exercises it towards another; for this is a difficult task. Justice in this sense, then, is not part of virtue but virtue entire, nor is the contrary injustice a part of vice but vice entire. What the difference is between virtue and justice in this sense is plain from what we have said; they are the same but their essence is not the same; what, as a relation to one’s neighbour, is justice is, as a certain kind of state without qualification, virtue.

2

But at all events what we are investigating is the justice which is a part of virtue; for there is a justice of this kind, as we maintain. Similarly it is with injustice in the particular sense that we are concerned.

That there is such a thing is indicated by the fact that while the man who exhibits in action the other forms of wickedness acts wrongly indeed, but not graspingly (e.g. the man who throws away his shield through cowardice or speaks harshly through bad temper or fails to help a friend with money through meanness), when a man acts graspingly he often exhibits none of these vices,-no, nor all together, but certainly wickedness of some kind (for we blame him) and injustice. There is, then, another kind of injustice which is a part of injustice in the wide sense, and a use of the word ‘unjust’ which answers to a part of what is unjust in the wide sense of ‘contrary to the law’. Again if one man commits adultery for the sake of gain and makes money by it, while another does so at the bidding of appetite though he loses money and is penalized for it, the latter would be held to be self-indulgent rather than grasping, but the former is unjust, but not self-indulgent; evidently, therefore, he is unjust by reason of his making gain by his act. Again, all other unjust acts are ascribed invariably to some particular kind of wickedness, e.g. adultery to self-indulgence, the desertion of a comrade in battle to cowardice, physical violence to anger; but if a man makes gain, his action is ascribed to no form of wickedness but injustice. Evidently, therefore, there is apart from injustice in the wide sense another, ‘particular’, injustice which shares the name and nature of the first, because its definition falls within the same genus; for the significance of both consists in a relation to one’s neighbour, but the one is concerned with honour or money or safety-or that which includes all these, if we had a single name for it-and its motive is the pleasure that arises from gain; while the other is concerned with all the objects with which the good man is concerned.

It is clear, then, that there is more than one kind of justice, and that there is one which is distinct from virtue entire; we must try to grasp its genus and differentia.

The unjust has been divided into the unlawful and the unfair, and the just into the lawful and the fair. To the unlawful answers the afore-mentioned sense of injustice. But since unfair and the unlawful are not the same, but are different as a part is from its whole (for all that is unfair is unlawful, but not all that is unlawful is unfair), the unjust and injustice in the sense of the unfair are not the same as but different from the former kind, as part from whole; for injustice in this sense is a part of injustice in the wide sense, and similarly justice in the one sense of justice in the other. Therefore we must speak also about particular justice and particular and similarly about the just and the unjust. The justice, then, which answers to the whole of virtue, and the corresponding injustice, one being the exercise of virtue as a whole, and the other that of vice as a whole, towards one’s neighbour, we may leave on one side. And how the meanings of ‘just’ and ‘unjust’ which answer to these are to be distinguished is evident; for practically the majority of the acts commanded by the law are those which are prescribed from the point of view of virtue taken as a whole; for the law bids us practise every virtue and forbids us to practise any vice. And the things that tend to produce virtue taken as a whole are those of the acts prescribed by the law which have been prescribed with a view to education for the common good. But with regard to the education of the individual as such, which makes him without qualification a good man, we must determine later whether this is the function of the political art or of another; for perhaps it is not the same to be a good man and a good citizen of any state taken at random.

Of particular justice and that which is just in the corresponding sense, (A) one kind is that which is manifested in distributions of honour or money or the other things that fall to be divided among those who have a share in the constitution (for in these it is possible for one man to have a share either unequal or equal to that of another), and (B) one is that which plays a rectifying part in transactions between man and man. Of this there are two divisions; of transactions (1) some are voluntary and (2) others involuntary — voluntary such transactions as sale, purchase, loan for consumption, pledging, loan for use, depositing, letting (they are called voluntary because the origin of these transactions is voluntary), while of the involuntary (a) some are clandestine, such as theft, adultery, poisoning, procuring, enticement of slaves, assassination, false witness, and (b) others are violent, such as assault, imprisonment, murder, robbery with violence, mutilation, abuse, insult.

3

(A) We have shown that both the unjust man and the unjust act are unfair or unequal; now it is clear that there is also an intermediate between the two unequals involved in either case. And this is the equal; for in any kind of action in which there’s a more and a less there is also what is equal. If, then, the unjust is unequal, just is equal, as all men suppose it to be, even apart from argument. And since the equal is intermediate, the just will be an intermediate. Now equality implies at least two things. The just, then, must be both intermediate and equal and relative (i.e. for certain persons). And since the equall intermediate it must be between certain things (which are respectively greater and less); equal, it involves two things; qua just, it is for certain people. The just, therefore, involves at least four terms; for the persons for whom it is in fact just are two, and the things in which it is manifested, the objects distributed, are two. And the same equality will exist between the persons and between the things concerned; for as the latter the things concerned-are related, so are the former; if they are not equal, they will not have what is equal, but this is the origin of quarrels and complaints-when either equals have and are awarded unequal shares, or unequals equal shares. Further, this is plain from the fact that awards should be ‘according to merit’; for all men agree that what is just in distribution must be according to merit in some sense, though they do not all specify the same sort of merit, but democrats identify it with the status of freeman, supporters of oligarchy with wealth (or with noble birth), and supporters of aristocracy with excellence.

The just, then, is a species of the proportionate (proportion being not a property only of the kind of number which consists of abstract units, but of number in general). For proportion is equality of ratios, and involves four terms at least (that discrete proportion involves four terms is plain, but so does continuous proportion, for it uses one term as two and mentions it twice; e.g. 'as the line A is to the line B, so is the line B to the line C'; the line B, then, has been mentioned twice, so that if the line B be assumed twice, the proportional terms will be four); and the just, too, involves at least four terms, and the ratio between one pair is the same as that between the other pair; for there is a similar distinction between the persons and between the things. As the term A, then, is to B, so will C be to D, and therefore, alternando, as A is to C, B will be to D. Therefore also the whole is in the same ratio to the whole; and this coupling the distribution effects, and, if the terms are so combined, effects justly. The conjunction, then, of the term A with C and of B with D is what is just in distribution, and this species of the just is intermediate, and the unjust is what violates the proportion; for the proportional is intermediate, and the just is proportional. (Mathematicians call this kind of proportion geometrical; for it is in geometrical proportion that it follows that the whole is to the whole as either part is to the corresponding part.) This proportion is not continuous; for we cannot get a single term standing for a person and a thing.

This, then, is what the just is-the proportional; the unjust is what violates the proportion. Hence one term becomes too great, the other too small, as indeed happens in practice; for the man who acts unjustly has too much, and the man who is unjustly treated too little, of what is good. In the case of evil the reverse is true; for the lesser evil is reckoned a good in comparison with the greater evil, since the lesser evil is rather to be chosen than the greater, and what is worthy of choice is good, and what is worthier of choice a greater good.

This, then, is one species of the just.

4

(B) The remaining one is the rectificatory, which arises in connexion with transactions both voluntary and involuntary. This form of the just has a different specific character from the former. For the justice which distributes common possessions is always in accordance with the kind of proportion mentioned above (for in the case also in which the distribution is made from the common funds of a partnership it will be according to the same ratio which the funds put into the business by the partners bear to one another); and the injustice opposed to this kind of justice is that which violates the proportion. But the justice in transactions between man and man is a sort of equality indeed, and the injustice a sort of inequality; not according to that kind of proportion, however, but according to arithmetical proportion. For it makes no difference whether a good man has defrauded a bad man or a bad man a good one, nor whether it is a good or a bad man that has committed adultery; the law looks only to the distinctive character of the injury, and treats the parties as equal, if one is in the wrong and the other is being wronged, and if one inflicted injury and the other has received it. Therefore, this kind of injustice being an inequality, the judge tries to equalize it; for in the case also in which one has received and the other has inflicted a wound, or one has slain and the other been slain, the suffering and the action have been unequally distributed; but the judge tries to equalize by means of the penalty, taking away from the gain of the assailant. For the term ‘gain’ is applied generally to such cases, even if it be not a term appropriate to certain cases, e.g. to the person who inflicts a woundand ‘loss’ to the sufferer; at all events when the suffering has been estimated, the one is called loss and the other gain. Therefore the equal is intermediate between the greater and the less, but the gain and the loss are respectively greater and less in contrary ways; more of the good and less of the evil are gain, and the contrary is loss; intermediate between them is, as we saw, equal, which we say is just; therefore corrective justice will be the intermediate between loss and gain. This is why, when people dispute, they take refuge in the judge; and to go to the judge is to go to justice; for the nature of the judge is to be a sort of animate justice; and they seek the judge as an intermediate, and in some states they call judges mediators, on the assumption that if they get what is intermediate they will get what is just. The just, then, is an intermediate, since the judge is so. Now the judge restores equality; it is as though there were a line divided into unequal parts, and he took away that by which the greater segment exceeds the half, and added it to the smaller segment. And when the whole has been equally divided, then they say they have ‘their own’-i.e. when they have got what is equal. The equal is intermediate between the greater and the lesser line according to arithmetical proportion. It is for this reason also that it is called just (sikaion), because it is a division into two equal parts (sicha), just as if one were to call it sichaion; and the judge (sikastes) is one who bisects (sichastes). For when something is subtracted from one of two equals and added to the other, the other is in excess by these two; since if what was taken from the one had not been added to the other, the latter would have been in excess by one only. It therefore exceeds the intermediate by one, and the intermediate exceeds by one that from which something was taken. By this, then, we shall recognize both what we must subtract from that which has more, and what we must add to that which has less; we must add to the latter that by which the intermediate exceeds it, and subtract from the greatest that by which it exceeds the intermediate. Let the lines AA', BB', CC' be equal to one another; from the line AA' let the segment AE have been subtracted, and to the line CC' let the segment CD have been added, so that the whole line DCC' exceeds the line EA' by the segment CD and the segment CF; therefore it exceeds the line BB' by the segment CD. (See diagram.)

These names, both loss and gain, have come from voluntary exchange; for to have more than one's own is called gaining, and to have less than one's original share is called losing, e.g. in buying and selling and in all other matters in which the law has left people free to make their own terms; but when they get neither more nor less but just what belongs to themselves, they say that they have their own and that they neither lose nor gain.

Therefore the just is intermediate between a sort of gain and a sort of loss, viz. those which are involuntary; it consists in having an equal amount before and after the transaction.

5

Some think that reciprocity is without qualification just, as the Pythagoreans said; for they defined justice without qualification as reciprocity. Now 'reciprocity' fits neither distributive nor rectificatory justice-yet people want even the justice of Rhadamanthus to mean this:

Should a man suffer what he did, right justice would be done -for in many cases reciprocity and rectificatory justice are not in accord; e.g. (1) if an official has inflicted a wound, he should not be wounded in return, and if some one has wounded an official, he ought not to be wounded only but punished in addition. Further (2) there is a great difference between a voluntary and an involuntary act. But in associations for exchange this sort of justice does hold men together-reciprocity in accordance with a proportion and not on the basis of precisely equal return. For it is by proportionate requital that the city holds together. Men seek to return either evil for evil-and if they cana not do so, think their position mere slavery-or good for good-and if they cannot do so there is no exchange, but it is by exchange that they hold together. This is why they give a prominent place to the temple of the Graces-to promote the requital of services; for this is characteristic of grace-we should serve in return one who has shown grace to us, and should another time take the initiative in showing it.

Now proportionate return is secured by cross-conjunction. Let A be a builder, B a shoemaker, C a house, D a shoe. The builder, then, must get from the shoemaker the latter's work, and must himself give him in return his own. If, then, first there is proportionate equality of goods, and then reciprocal action takes place, the result we mention will be effected. If not, the bargain is not equal, and does not hold; for there is nothing to prevent the work of the one being better than that of the other; they must therefore be equated. (And this is true of the other arts also; for they would have been destroyed if what the patient suffered had not been just what the agent did, and of the same amount and kind.) For it is not two doctors that associate for exchange, but a doctor and a farmer, or in general people who are different and unequal; but these must be equated. This is why all things that are exchanged must be somehow comparable. It is for this end that money has been introduced, and it becomes in a sense an intermediate; for it measures all things, and therefore the excess and the defect-how many shoes are equal to a house or to a given amount of food. The number of shoes exchanged for a house (or for a given amount of food) must therefore correspond to the ratio of builder to shoemaker. For if this be not so, there will be no exchange and no intercourse. And this proportion will not be effected unless the goods are somehow equal. All goods must therefore be measured by some one thing, as we said before. Now this unit is in truth demand, which holds all things together (for if men did not need one another's goods at all, or did not need them equally, there would be either no exchange or not the same exchange); but money has become by convention a sort of representative of demand; and this is why it has the name 'money' (nomisma)-because it exists not by nature but by law (nomos) and it is in our power to change it and make it useless. There will, then, be reciprocity when the terms have been equated so that as farmer is to shoemaker, the amount of the shoemaker's work is to that of the farmer's work for which it exchanges. But we must not bring them into a figure of proportion when they have already exchanged (otherwise one extreme will have both excesses), but when they still have their own goods. Thus they are equals and associates just because this equality can be effected in their case. Let A be a farmer, C food, B a shoemaker, D his product equated to C. If it had not been possible for reciprocity to be thus effected, there would have been no association of the parties. That demand holds things together as a single unit is shown by the fact that when men do not need one another, i.e. when neither needs the other or one does not need the other, they do not exchange, as we do when some one wants what one has oneself, e.g. when people permit the exportation of corn in exchange for wine. This equation therefore must be established. And for the future exchange-that if we do not need a thing now we shall have it if ever we do need it-money is as it were our surety; for it must be possible for us to get what we want by bringing the money. Now the same thing happens to money itself as to goods-it is not always worth the same; yet it tends to be steadier. This is why all goods must have a price set on them; for then there will always be exchange, and if so, association of man with man. Money, then, acting as a measure, makes goods commensurate and equates them; for neither would there have been association if there were not exchange, nor exchange if there were not equality, nor equality if there were not commensurability. Now in truth it is impossible that things differing so much should become commensurate, but with reference to demand they may become so sufficiently. There must, then, be a unit, and that fixed by agreement (for which reason it is called money); for it is this that makes all things commensurate, since all things are measured by money. Let A be a house, B ten minae, C a bed. A is half of B, if the house is worth five minae or equal to them; the bed, C, is a tenth of B; it is plain, then, how many beds are equal to a house, viz. five. That exchange took place thus before there was money is plain; for it makes no difference whether it is five beds that exchange for a house, or the money value of five beds.

We have now defined the unjust and the just. These having been marked off from each other, it is plain that just action is intermediate between acting unjustly and being unjustly treated; for the one is to have too much and the other to have too little. Justice is a kind of mean, but not in the same way as the other virtues, but because it relates to an intermediate amount, while injustice relates to the extremes. And justice is that in virtue of which the just man is said to be a doer, by choice, of that which is just, and one who will distribute either between himself and another or between two others not so as to give more of what is desirable to himself and less to his neighbour (and conversely with what is harmful), but so as to give what is equal in accordance with proportion; and similarly in distributing between two other persons. Injustice on the other hand is similarly related to the unjust, which is excess and defect, contrary to proportion, of the useful or hurtful. For which reason injustice is excess and defect, viz. because it is productive of excess and defect-in one's own case excess of what is in its own nature useful and defect of what is hurtful, while in the case of others it is as a whole like what it is in one's own case, but proportion may be violated in either direction. In the unjust act to have too little is to be unjustly treated; to have too much is to act unjustly.

Let this be taken as our account of the nature of justice and injustice, and similarly of the just and the unjust in general.

6

Since acting unjustly does not necessarily imply being unjust, we must ask what sort of unjust acts imply that the doer is unjust with respect to each type of injustice, e.g. a thief, an adulterer, or a brigand. Surely the answer does not turn on the difference between these types. For a man might even lie with a woman knowing who she was, but the origin of his might be not deliberate choice but passion. He acts unjustly, then, but is not unjust; e.g. a man is not a thief, yet he stole, nor an adulterer, yet he committed adultery; and similarly in all other cases.

Now we have previously stated how the reciprocal is related to the just; but we must not forget that what we are looking for is not only what is just without qualification but also political justice. This is found among men who share their life with a view to selfsufficiency, men who are free and either proportionately or arithmetically equal, so that between those who do not fulfil this condition there is no political justice but justice in a special sense and by analogy. For justice exists only between men whose mutual relations are governed by law; and law exists for men between whom there is injustice; for legal justice is the discrimination of the just and the unjust. And between men between whom there is injustice there is also unjust action (though there is not injustice between all between whom there is unjust action), and this is assigning too much to oneself of things good in themselves and too little of things evil in themselves. This is why we do not allow a man to rule, but rational principle, because a man behaves thus in his own interests and becomes a tyrant. The magistrate on the other hand is the guardian of justice, and, if of justice, then of equality also. And since he is assumed to have no more than his share, if he is just (for he does not assign to himself more of what is good in itself, unless such a share is proportional to his merits-so that it is for others that he labours, and it is for this reason that men, as we stated previously, say that justice is ‘another’s good’), therefore a reward must be given him, and this is honour and privilege; but those for whom such things are not enough become tyrants.

The justice of a master and that of a father are not the same as the justice of citizens, though they are like it; for there can be no injustice in the unqualified sense towards thing that are one’s own, but a man’s chattel, and his child until it reaches a certain age and sets up for itself, are as it were part of himself, and no one chooses to hurt himself (for which reason there can be no injustice towards oneself). Therefore the justice or injustice of citizens is not manifested in these relations; for it was as we saw according to law, and between people naturally subject to law, and these as we saw’ are people who have an equal share in ruling and being ruled. Hence justice can more truly be manifested towards a wife than towards children and chattels, for the former is household justice; but even this is different from political justice.

7

Of political justice part is natural, part legal, natural, that which everywhere has the same force and does not exist by people’s thinking this or that; legal, that which is originally indifferent, but when it has been laid down is not indifferent, e.g. that a prisoner’s ransom shall be a mina, or that a goat and not two sheep shall be sacrificed, and again all the laws that are passed for particular cases, e.g. that sacrifice shall be made in honour of Brasidas, and the provisions of decrees. Now some think that all justice is of this sort, because that which is by nature is unchangeable and has everywhere the same force (as fire burns both here and in Persia), while they see change in the things recognized as just. This, however, is not true in this unqualified way, but is true in a sense; or rather, with the gods it is perhaps not true at all, while with us there is something that is just even by nature, yet all of it is changeable; but still some is by nature, some not by nature. It is evident which sort of thing, among things capable of being otherwise, is by nature, and which is not but is legal and conventional, assuming that both are equally changeable. And in all other things the same distinction will apply; by nature the right hand is stronger, yet it is possible that all men should come to be ambidextrous. The things which are just by virtue of convention and expediency are like measures; for wine and corn measures are not everywhere equal, but larger in wholesale and smaller in retail markets. Similarly, the things which are just not by nature but by human enactment are not everywhere the same, since constitutions also are not the same, though there is but one which is everywhere by nature the best. Of things just and lawful each is related as the universal to its particulars; for the things that are done are many, but of them each is one, since it is universal.

There is a difference between the act of injustice and what is unjust, and between the act of justice and what is just; for a thing is unjust by nature or by enactment; and this very thing, when it has been done, is an act of injustice, but before it is done is not yet that but is unjust. So, too, with an act of justice (though the general term is rather ‘just action’, and ‘act of justice’ is applied to the correction of the act of injustice).

Each of these must later be examined separately with regard to the nature and number of its species and the nature of the things with which it is concerned.

8

Acts just and unjust being as we have described them, a man acts unjustly or justly whenever he does such acts voluntarily; when involuntarily, he acts neither unjustly nor justly except in an incidental way; for he does things which happen to be just or unjust. Whether an act is or is not one of injustice (or of justice) is determined by its voluntariness or involuntariness; for when it is voluntary it is blamed, and at the same time is then an act of injustice; so that there will be things that are unjust but not yet acts of injustice, if voluntariness be not present as well. By the voluntary I mean, as has been said before, any of the things in a man's own power which he does with knowledge, i.e. not in ignorance either of the person acted on or of the instrument used or of the end that will be attained (e.g. whom he is striking, with what, and to what end), each such act being done not incidentally nor under compulsion (e.g. if A takes B's hand and therewith strikes C, B does not act voluntarily; for the act was not in his own power). The person struck may be the striker's father, and the striker may know that it is a man or one of the persons present, but not know that it is his father; a similar distinction may be made in the case of the end, and with regard to the whole action. Therefore that which is done in ignorance, or though not done in ignorance is not in the agent's power, or is done under compulsion, is involuntary (for many natural processes, even, we knowingly both perform and experience, none of which is either voluntary or involuntary; e.g. growing old or dying). But in the case of unjust and just acts alike the injustice or justice may be only incidental; for a man might return a deposit unwillingly and from fear, and then he must not be said either to do what is just or to act justly, except in an incidental way. Similarly the man who under compulsion and unwillingly fails to return the deposit must be said to act unjustly, and to do what is unjust, only incidentally. Of voluntary acts we do some by choice, others not by choice; by choice those which we do after deliberation, not by choice those which we do without previous deliberation. Thus there are three kinds of injury in transactions between man and man; those done in ignorance are mistakes when the person acted on, the act, the instrument, or the end that will be attained is other than the agent supposed; the agent thought either that he was not hiting any one or that he was not hitting with this missile or not hitting this person or to this end, but a result followed other than that which he thought likely (e.g. he threw not with intent to wound but only to prick), or the person hit or the missile was other than he supposed. Now when (1) the injury takes place contrary to reasonable expectation, it is a misadventure. When (2) it is not contrary to reasonable expectation, but does not imply vice, it is a mistake (for a man makes a mistake when the fault originates in him, but is the victim of accident when the origin lies outside him). When (3) he acts with knowledge but not after deliberation, it is an act of injustice-e.g. the acts due to anger or to other passions necessary or natural to man; for when men do such harmful and mistaken acts they act unjustly, and the acts are acts of injustice, but this does not imply that the doers are unjust or wicked; for the injury is not due to vice. But when (4) a man acts from choice, he is an unjust man and a vicious man.

Hence acts proceeding from anger are rightly judged not to be done of malice aforethought; for it is not the man who acts in anger but he who enraged him that starts the mischief. Again, the matter in dispute is not whether the thing happened or not, but its justice; for it is apparent injustice that occasions rage. For they do not dispute about the occurrence of the act-as in commercial transactions where one of the two parties must be vicious-unless they do so owing to forgetfulness; but, agreeing about the fact, they dispute on which side justice lies (whereas a man who has deliberately injured another cannot help knowing that he has done so), so that the one thinks he is being treated unjustly and the other disagrees.

But if a man harms another by choice, he acts unjustly; and these are the acts of injustice which imply that the doer is an unjust man, provided that the act violates proportion or equality. Similarly, a man is just when he acts justly by choice; but he acts justly if he merely acts voluntarily.

Of involuntary acts some are excusable, others not. For the mistakes which men make not only in ignorance but also from ignorance are excusable, while those which men do not from ignorance but (though they do them in ignorance) owing to a passion which is neither natural nor such as man is liable to, are not excusable.

9

Assuming that we have sufficiently defined the suffering and doing of injustice, it may be asked (1) whether the truth in expressed in Euripides' paradoxical words:

I slew my mother, that's my tale in brief.
Were you both willing, or unwilling both?

Is it truly possible to be willingly treated unjustly, or is all suffering of injustice the contrary involuntary, as all unjust action is voluntary? And is all suffering of injustice of the latter kind or else all of the former, or is it sometimes voluntary, sometimes involuntary? So, too, with the case of being justly treated; all just action is voluntary, so that it is reasonable that there should be a similar opposition in either case-that both being unjustly and being justly treated should be either alike voluntary or alike involuntary. But it would be thought paradoxical even in the case of being justly treated, if it were always voluntary; for some are unwillingly treated justly. (2) One might raise this question also, whether every one who has suffered what is unjust is being unjustly treated, or on the other hand it is with suffering as with acting. In action and in passivity alike it is possible to partake of justice incidentally, and similarly (it is plain) of injustice; for to do what is unjust is not the same as to act unjustly, nor to suffer what is unjust as to be treated unjustly, and similarly in the case of acting justly and being justly treated; for it is impossible to be unjustly treated if the other does not act unjustly, or justly treated unless he acts justly. Now if to act unjustly is simply to harm some one voluntarily, and 'voluntarily' means 'knowing the person acted on, the instrument, and the manner of one's acting', and the incontinent man voluntarily harms himself, not only will he voluntarily be unjustly treated but it will be possible to treat oneself unjustly. (This also is one of the questions in doubt, whether a man can treat himself unjustly.) Again, a man may voluntarily, owing to incontinence, be harmed by another who acts voluntarily, so that it would be possible to be voluntarily treated unjustly. Or is our definition incorrect; must we to 'harming another, with knowledge both of the person acted on, of the instrument, and of the manner' add 'contrary to the wish of the person acted on'? Then a man may be voluntarily harmed and voluntarily suffer what is unjust, but no one is voluntarily treated unjustly; for no one wishes to be unjustly treated, not even the incontinent man. He acts contrary to his wish; for no one wishes for what he does not think to be good, but the incontinent man does do things that he does not think he ought to do. Again, one who gives what is his own, as Homer says Glaucus gave Diomede

Armour of gold for brazen, the price of a hundred beeves for nine, is not unjustly treated; for though to give is in his power, to be unjustly treated is not, but there must be some one to treat him unjustly. It is plain, then, that being unjustly treated is not voluntary.

Of the questions we intended to discuss two still remain for discussion; (3) whether it is the man who has assigned to another more than his share that acts unjustly, or he who has the excessive share, and (4) whether it is possible to treat oneself unjustly. The questions are connected; for if the former alternative is possible and the distributor acts unjustly and not the man who has the excessive share, then if a man assigns more to another than to himself, knowingly and voluntarily, he treats himself unjustly; which is what modest people seem to do, since the virtuous man tends to take less than his share. Or does this statement too need qualification? For (a) he perhaps gets more than his share of some other good, e.g. of honour or of intrinsic nobility. (b) The question is solved by applying the distinction we applied to unjust action; for he suffers nothing contrary to his own wish, so that he is not unjustly treated as far as this goes, but at most only suffers harm.

It is plain too that the distributor acts unjustly, but not always the man who has the excessive share; for it is not he to whom what is unjust appertains that acts unjustly, but he to whom it appertains to do the unjust act voluntarily, i.e. the person in whom lies the origin of the action, and this lies in the distributor, not in the receiver. Again, since the word ‘do’ is ambiguous, and there is a sense in which lifeless things, or a hand, or a servant who obeys an order, may be said to slay, he who gets an excessive share does not act unjustly, though he ‘does’ what is unjust.

Again, if the distributor gave his judgement in ignorance, he does not act unjustly in respect of legal justice, and his judgement is not unjust in this sense, but in a sense it is unjust (for legal justice and primordial justice are different); but if with knowledge he judged unjustly, he is himself aiming at an excessive share either of gratitude or of revenge. As much, then, as if he were to share in the plunder, the man who has judged unjustly for these reasons has got too much; the fact that what he gets is different from what he distributes makes no difference, for even if he awards land with a view to sharing in the plunder he gets not land but money.

Men think that acting unjustly is in their power, and therefore that being just is easy. But it is not; to lie with one’s neighbour’s wife, to wound another, to deliver a bribe, is easy and in our power, but to do these things as a result of a certain state of character is neither easy nor in our power. Similarly to know what is just and what is unjust requires, men think, no great wisdom, because it is not hard to understand the matters dealt with by the laws (though these are not the things that are just, except incidentally); but how actions must be done and distributions effected in order to be just, to know this is a greater achievement than knowing what is good for the health; though even there, while it is easy to know that honey, wine, hellebore, cautery, and the use of the knife are so, to know how, to whom, and when these should be applied with a view to producing health, is no less an achievement than that of being a physician. Again, for this very reason men think that acting unjustly is characteristic of the just man no less than of the unjust, because he would be not less but even more capable of doing each of these unjust acts; for he could lie with a woman or wound a neighbour; and the brave man could throw away his shield and turn to flight in this direction or in that. But to play the coward or to act unjustly consists not in doing these things, except incidentally, but in doing them as the result of a certain state of character, just as to practise medicine and healing consists not in applying or not applying the knife, in using or not using medicines, but in doing so in a certain way.

Just acts occur between people who participate in things good in themselves and can have too much or too little of them; for some beings (e.g. presumably the gods) cannot have too much of them, and to others, those who are incurably bad, not even the smallest share in them is beneficial but all such goods are harmful, while to others they are beneficial up to a point; therefore justice is essentially something human.

10

Our next subject is equity and the equitable (to epiekes), and their respective relations to justice and the just. For on examination they appear to be neither absolutely the same nor generically different; and while we sometime praise what is equitable and the equitable man (so that we apply the name by way of praise even to instances of the other virtues, instead of ‘good’ meaning by epieikestebon that a thing is better), at other times, when we reason it out, it seems strange if the equitable, being something different from the just, is yet praiseworthy; for either the just or the equitable is not good, if they are different; or, if both are good, they are the same.

These, then, are pretty much the considerations that give rise to the problem about the equitable; they are all in a sense correct and not opposed to one another; for the equitable, though it is better than one kind of justice, yet is just, and it is not as being a different class of thing that it is better than the just. The same thing, then, is just and equitable, and while both are good the equitable is superior. What creates the problem is that the equitable is just, but not the legally just but a correction of legal justice. The reason is that all law is universal but about some things it is not possible to make a universal statement which shall be correct. In those cases, then, in which it is necessary to speak universally, but not possible to do so correctly, the law takes the usual case, though it is not ignorant of the possibility of error. And it is none the less correct; for the error is in the law nor in the legislator but in the nature of the thing, since the matter of practical affairs is of this kind from the start. When the law speaks universally, then, and a case arises on it which is not covered by the universal statement, then it is right, where the legislator fails us and has erred by oversimplicity, to correct the omission-to say what the legislator himself would have said had he been present, and would have put into his law if he had known. Hence the equitable is just, and better than one kind of justice-not better than absolute justice but better than the error that arises from the absoluteness of the statement. And this is the nature of the equitable, a correction of law where it is defective owing to its universality. In fact this is the reason why all things are not determined by law, that about some things it is impossible to lay down a law, so that a decree is needed. For when the thing is indefinite the rule also is indefinite, like the leaden rule used in making the Lesbian moulding; the rule adapts itself to the shape of the stone and is not rigid, and so too the decree is adapted to the facts.

It is plain, then, what the equitable is, and that it is just and is better than one kind of justice. It is evident also from this who the equitable man is; the man who chooses and does such acts, and is no stickler for his rights in a bad sense but tends to take less than his share though he has the law oft his side, is equitable, and this state of character is equity, which is a sort of justice and not a different state of character.

11

Whether a man can treat himself unjustly or not, is evident from what has been said. For (a) one class of just acts are those acts in accordance with any virtue which are prescribed by the law; e.g. the law does not expressly permit suicide, and what it does not expressly permit it forbids. Again, when a man in violation of the law harms another (otherwise than in retaliation) voluntarily, he acts unjustly, and a voluntary agent is one who knows both the person he is affecting by his action and the instrument he is using; and he who through anger voluntarily stabs himself does this contrary to the right rule of life, and this the law does not allow; therefore he is acting unjustly. But towards whom? Surely towards the state, not towards himself. For he suffers voluntarily, but no one is voluntarily treated unjustly. This is also the reason why the state punishes; a certain loss of civil rights attaches to the man who destroys himself, on the ground that he is treating the state unjustly.

Further (b) in that sense of 'acting unjustly' in which the man who 'acts unjustly' is unjust only and not bad all round, it is not possible to treat oneself unjustly (this is different from the former sense; the unjust man in one sense of the term is wicked in a particularized way just as the coward is, not in the sense of being wicked all round, so that his 'unjust act' does not manifest wickedness in general). For (i) that would imply the possibility of the same thing's having been subtracted from and added to the same thing at the same time; but this is impossible-the just and the unjust always involve more than one person. Further, (ii) unjust action is voluntary and done by choice, and takes the initiative (for the man who because he has suffered does the same in return is not thought to act unjustly); but if a man harms himself he suffers and does the same things at the same time. Further, (iii) if a man could treat himself unjustly, he could be voluntarily treated unjustly. Besides, (iv) no one acts unjustly without committing particular acts of injustice; but no one can commit adultery with his own wife or housebreaking on his own house or theft on his own property,

In general, the question 'can a man treat himself unjustly?' is solved also by the distinction we applied to the question 'can a man be voluntarily treated unjustly?'

(It is evident too that both are bad, being unjustly treated and acting unjustly; for the one means having less and the other having more than the intermediate amount, which plays the part here that the healthy does in the medical art, and that good condition does in the art of bodily training. But still acting unjustly is the worse, for it involves vice and is blameworthy-involves vice which is either of the complete and unqualified kind or almost so (we must admit the latter alternative, because not all voluntary unjust action implies injustice as a state of character), while being unjustly treated does not involve vice and injustice in oneself. In itself, then, being unjustly treated is less bad, but there is nothing to prevent its being incidentally a greater evil. But theory cares nothing for this; it calls pleurisy a more serious mischief than a stumble; yet the latter may become incidentally the more serious, if the fall due to it leads to your being taken prisoner or put to death the enemy.)

Metaphorically and in virtue of a certain resemblance there is a justice, not indeed between a man and himself, but between certain parts of him; yet not every kind of justice but that of master and servant or that of husband and wife. For these are the ratios in which the part of the soul that has a rational principle stands to the irrational part; and it is with a view to these parts that people also think a man can be unjust to himself, viz. because these parts are liable to suffer something contrary to their respective desires; there is therefore thought to be a mutual justice between them as between ruler and ruled.

Let this be taken as our account of justice and the other, i.e. the other moral, virtues.

Book VI

1

SINCE we have previously said that one ought to choose that which is intermediate, not the excess nor the defect, and that the intermediate is determined by the dictates of the right rule, let us discuss the nature of these dictates. In all the states of character we have mentioned, as in all other matters, there is a mark to which the man who has the rule looks, and heightens or relaxes his activity accordingly, and there is a standard which determines the mean states which we say are intermediate between excess and defect, being in accordance with the right rule. But such a statement, though true, is by no means clear; for not only here but in all other pursuits which are objects of knowledge it is indeed true to say that we must not exert ourselves nor relax our efforts too much nor too little, but to an intermediate extent and as the right rule dictates; but if a man had only this knowledge he would be none the wiser e.g. we should not know what sort of medicines to apply to our body if some one were to say ‘all those which the medical art prescribes, and which agree with the practice of one who possesses the art’. Hence it is necessary with regard to the states of the soul also not only that this true statement should be made, but also that it should be determined what is the right rule and what is the standard that fixes it.

We divided the virtues of the soul and a said that some are virtues of character and others of intellect. Now we have discussed in detail the moral virtues; with regard to the others let us express our view as follows, beginning with some remarks about the soul. We said before that there are two parts of the soul-that which grasps a rule or rational principle, and the irrational; let us now draw a similar distinction within the part which grasps a rational principle. And let it be assumed that there are two parts which grasp a rational principle-one by which we contemplate the kind of things whose originative causes are invariable, and one by which we contemplate variable things; for where objects differ in kind the part of the soul answering to each of the two is different in kind, since it is in virtue of a certain likeness and kinship with their objects that they have the knowledge they have. Let one of these parts be called the scientific and the other the calculative; for to deliberate and to calculate are the same thing, but no one deliberates about the invariable. Therefore the calculative is one part of the faculty which grasps a rational principle. We must, then, learn what is the best state of each of these two parts; for this is the virtue of each.

2

The virtue of a thing is relative to its proper work. Now there are three things in the soul which control action and truth-sensation, reason, desire.

Of these sensation originates no action; this is plain from the fact that the lower animals have sensation but no share in action.

What affirmation and negation are in thinking, pursuit and avoidance are in desire; so that since moral virtue is a state of character concerned with choice, and choice is deliberate desire, therefore both the reasoning must be true and the desire right, if the choice is to be good, and the latter must pursue just what the former asserts. Now this kind of intellect and of truth is practical; of the intellect which is contemplative, not practical nor productive, the good and the bad state are truth and falsity respectively (for this is the work of everything intellectual); while of the part which is practical and intellectual the good state is truth in agreement with right desire.

The origin of action-its efficient, not its final cause-is choice, and that of choice is desire and reasoning with a view to an end. This is why choice cannot exist either without reason and intellect or without a moral state; for good action and its opposite cannot exist without a combination of intellect and character. Intellect itself, however, moves nothing, but only the intellect which aims at an end and is practical; for this rules the productive intellect, as well, since every one who makes makes for an end, and that which is made is not an end in the unqualified sense (but only an end in a particular relation, and the end of a particular operation)-only that which is done is that; for good action is an end, and desire aims at this. Hence choice is either desiderative reason or ratiocinative desire, and such an origin of action is a man. (It is to be noted that nothing that is past is an object of choice, e.g. no one chooses to have sacked Troy; for no one deliberates about the past, but about what is future and capable of being otherwise, while what is past is not capable of not having taken place; hence Agathon is right in saying

For this alone is lacking even to God,
To make undone things thathave once been done.)

The work of both the intellectual parts, then, is truth. Therefore the states that are most strictly those in respect of which each of these parts will reach truth are the virtues of the two parts.

3

Let us begin, then, from the beginning, and discuss these states once more. Let it be assumed that the states by virtue of which the soul possesses truth by way of affirmation or denial are five in number, i.e. art, scientific knowledge, practical wisdom, philosophic wisdom, intuitive reason; we do not include judgement and opinion because in these we may be mistaken.

Now what scientific knowledge is, if we are to speak exactly and not follow mere similarities, is plain from what follows. We all suppose that what we know is not even capable of being otherwise; of things capable of being otherwise we do not know, when they have passed outside our observation, whether they exist or not. Therefore the object of scientific knowledge is of necessity. Therefore it is eternal; for things that are of necessity in the unqualified sense are all eternal; and things that are eternal are ungenerated and imperishable. Again, every science is thought to be capable of being taught, and its object of being learned. And all teaching starts from what is already known, as we maintain in the Analytics also; for it proceeds sometimes through induction and sometimes by syllogism. Now induction is the starting-point which knowledge even of the universal presupposes, while syllogism proceeds from universals. There are therefore starting-points from which syllogism proceeds, which are not reached by syllogism; it is therefore by induction that they are acquired. Scientific knowledge is, then, a state of capacity to demonstrate, and has the other limiting characteristics which we specify in the Analytics, for it is when a man believes in a certain way and the starting-points are known to him that he has scientific knowledge, since if they are not better known to him than the conclusion, he will have his knowledge only incidentally.

Let this, then, be taken as our account of scientific knowledge.

4

In the variable are included both things made and things done; making and acting are different (for their nature we treat even the discussions outside our school as reliable); so that the reasoned state of capacity to act is different from the reasoned state of capacity to make. Hence too they are not included one in the other; for neither is acting making nor is making acting. Now since architecture is an art and is essentially a reasoned state of capacity to make, and there is neither any art that is not such a state nor any such state that is not an art, art is identical with a state of capacity to make, involving a true course of reasoning. All art is concerned with coming into being, i.e. with contriving and considering how something may come into being which is capable of either being or not being, and whose origin is in the maker and not in the thing made; for art is concerned neither with things that are, or come into being, by necessity, nor with things that do so in accordance with nature (since these have their origin in themselves). Making and acting being different, art must be a matter of making, not of acting. And in a sense chance and art are concerned with the same objects; as Agathon says, 'art loves chance and chance loves art'. Art, then, as has been is a state concerned with making, involving a true course of reasoning, and lack of art on the contrary is a state concerned with making, involving a false course of reasoning; both are concerned with the variable.

5

Regarding practical wisdom we shall get at the truth by considering who are the persons we credit with it. Now it is thought to be the mark of a man of practical wisdom to be able to deliberate well about what is good and expedient for himself, not in some particular respect, e.g. about what sorts of thing conduce to health or to strength, but about what sorts of thing conduce to the good life in general. This is shown by the fact that we credit men with practical wisdom in some particular respect when they have calculated well with a view to some good end which is one of those that are not the object of any art. It follows that in the general sense also the man who is capable of deliberating has practical wisdom. Now no one deliberates about things that are invariable, nor about things that it is impossible for him to do. Therefore, since scientific knowledge involves demonstration, but there is no demonstration of things whose first principles are variable (for all such things might actually be otherwise), and since it is impossible to deliberate about things that are of necessity, practical wisdom cannot be scientific knowledge nor art; not science because that which can be done is capable of being otherwise, not art because action and making are different kinds of thing. The remaining alternative, then, is that it is a true and reasoned state of capacity to act with regard to the things that are good or bad for man. For while making has an end other than itself, action cannot; for good action itself is its end. It is for this reason that we think Pericles and men like him have practical wisdom, viz. because they can see what is good for themselves and what is good for men in general; we consider that those can do this who are good at managing households or states. (This is why we call temperance (sophrosune) by this name; we imply that it preserves one's practical wisdom (sozousa tan phronsin). Now what it preserves is a judgement of the kind we have described. For it is not any and every judgement that pleasant and painful objects destroy and pervert, e.g. the judgement that the triangle has or has not its angles equal to two right angles, but only judgements about what is to be done. For the originating causes of the things that are done consist in the end at which they are aimed; but the man who has been ruined by pleasure or pain forthwith fails to see any such originating cause-to see that for the sake of this or because of this he ought to choose and do whatever he chooses and does; for vice is destructive of the originating cause of action.) Practical wisdom, then, must be a reasoned and true state of capacity to act with regard to human goods. But further, while there is such a thing as excellence in art, there is no such thing as excellence in practical wisdom; and in art he who errs willingly is preferable, but in practical wisdom, as in the virtues, he is the reverse. Plainly, then, practical wisdom is a virtue and not an art. There being two parts of the soul that can follow a course of reasoning, it must be the virtue of one of the two, i.e. of that part which forms opinions; for opinion is about the variable and so is practical wisdom. But yet it is not only a reasoned state; this is shown by the fact that a state of that sort may forgotten but practical wisdom cannot.

6

Scientific knowledge is judgement about things that are universal and necessary, and the conclusions of demonstration, and all scientific knowledge, follow from first principles (for scientific knowledge involves apprehension of a rational ground). This being so, the first principle from which what is scientifically known follows cannot be an object of scientific knowledge, of art, or of practical wisdom; for that which can be scientifically known can be demonstrated, and art and practical wisdom deal with things that are variable. Nor are these first principles the objects of philosophic wisdom, for it is a mark of the philosopher to have demonstration about some things. If, then, the states of mind by which we have truth and are never deceived about things invariable or even variable are scientific knowlededge, practical wisdom, philosophic wisdom, and intuitive reason, and it cannot be any of the three (i.e. practical wisdom, scientific knowledge, or philosophic wisdom), the remaining alternative is that it is intuitive reason that grasps the first principles.

7

Wisdom (1) in the arts we ascribe to their most finished exponents, e.g. to Phidias as a sculptor and to Polyclitus as a maker of portrait-statues, and here we mean nothing by wisdom except excellence in art; but (2) we think that some people are wise in general, not in some particular field or in any other limited respect, as Homer says in the Margites,

Him did the gods make neither a digger nor yet a ploughman
Nor wise in anything else.

Therefore wisdom must plainly be the most finished of the forms of knowledge. It follows that the wise man must not only know what follows from the first principles, but must also possess truth about the first principles. Therefore wisdom must be intuitive reason combined with scientific knowledge-scientific knowledge of the highest objects which has received as it were its proper completion.

Of the highest objects, we say; for it would be strange to think that the art of politics, or practical wisdom, is the best knowledge, since man is not the best thing in the world. Now if what is healthy or good is different for men and for fishes, but what is white or straight is always the same, any one would say that what is wise is the same but what is practically wise is different; for it is to that which observes well the various matters concerning itself that one ascribes practical wisdom, and it is to this that one will entrust such matters. This is why we say that some even of the lower animals have practical wisdom, viz. those which are found to have a power of foresight with regard to their own life. It is evident also that philosophic wisdom and the art of politics cannot be the same; for if the state of mind concerned with a man's own interests is to be called philosophic wisdom, there will be many philosophic wisdoms; there will not be one concerned with the good of all animals (any more than there is one art of medicine for all existing things), but a different philosophic wisdom about the good of each species.

But if the argument be that man is the best of the animals, this makes no difference; for there are other things much more divine in their nature even than man, e.g., most conspicuously, the bodies of which the heavens are framed. From what has been said it is plain, then, that philosophic wisdom is scientific knowledge, combined with intuitive reason, of the things that are highest by nature. This is why we say Anaxagoras, Thales, and men like them have philosophic but not practical wisdom, when we see them ignorant of what is to their own advantage, and why we say that they know things that are remarkable, admirable, difficult, and divine, but useless; viz. because it is not human goods that they seek.

Practical wisdom on the other hand is concerned with things human and things about which it is possible to deliberate; for we say this is above all the work of the man of practical wisdom, to deliberate well, but no one deliberates about things invariable, nor about things which have not an end, and that a good that can be brought about by action. The man who is without qualification good at deliberating is the man who is capable of aiming in accordance with calculation at the best for man of things attainable by action. Nor is practical wisdom concerned with universals only-it must also recognize the particulars; for it is practical, and practice is concerned with particulars. This is why some who do not know, and especially those who have experience, are more practical than others who know; for if a man knew that light meats are digestible and wholesome, but did not know which sorts of meat are light, he would not produce health, but the man who knows that chicken is wholesome is more likely to produce health.

Now practical wisdom is concerned with action; therefore one should have both forms of it, or the latter in preference to the former. But of practical as of philosophic wisdom there must be a controlling kind.

8

Political wisdom and practical wisdom are the same state of mind, but their essence is not the same. Of the wisdom concerned with the city, the practical wisdom which plays a controlling part is legislative wisdom, while that which is related to this as particulars to their universal is known by the general name ‘political wisdom’; this has to do with action and deliberation, for a decree is a thing to be carried out in the form of an individual act. This is why the exponents of this art are alone said to ‘take part in politics’; for these alone ‘do things’ as manual labourers ‘do things’.

Practical wisdom also is identified especially with that form of it which is concerned with a man himself-with the individual; and this is known by the general name ‘practical wisdom’; of the other kinds one is called household management, another legislation, the third politics, and of the latter one part is called deliberative and the other judicial. Now knowing what is good for oneself will be one kind of knowledge, but it is very different from the other kinds; and the man who knows and concerns himself with his own interests is thought to have practical wisdom, while politicians are thought to be busybodies; hence the word of Euripides,

But how could I be wise, who might at ease,
Numbered among the army’s multitude,
Have had an equal share?
For those who aim too high and do too much.

Those who think thus seek their own good, and consider that one ought to do so. From this opinion, then, has come the view that such men have practical wisdom; yet perhaps one’s own good cannot exist without household management, nor without a form of government. Further, how one should order one’s own affairs is not clear and needs inquiry.

What has been said is confirmed by the fact that while young men become geometricians and mathematicians and wise in matters like these, it is thought that a young man of practical wisdom cannot be found. The cause is that such wisdom is concerned not only with universals but with particulars, which become familiar from experience, but a young man has no experience, for it is length of time that gives experience; indeed one might ask this question too, why a boy may become a mathematician, but not a philosopher or a physicist. It is because the objects of mathematics exist by abstraction, while the first principles of these other subjects come from experience, and because young men have no conviction about the latter but merely use the proper language, while the essence of mathematical objects is plain enough to them?

Further, error in deliberation may be either about the universal or about the particular; we may fall to know either that all water that weighs heavy is bad, or that this particular water weighs heavy.

That practical wisdom is not scientific knowledge is evident; for it is, as has been said, concerned with the ultimate particular fact, since the thing to be done is of this nature. It is opposed, then, to intuitive reason; for intuitive reason is of the limiting premisses, for which no reason can be given, while practical wisdom is concerned with the ultimate particular, which is the object not of scientific knowledge but of perception-not the perception of qualities peculiar to one sense but a perception akin to that by which we perceive that the particular figure before us is a triangle; for in that direction as well as in that of the major premiss there will be a limit. But this is rather perception than practical wisdom, though it is another kind of perception than that of the qualities peculiar to each sense.

9

There is a difference between inquiry and deliberation; for deliberation is inquiry into a particular kind of thing. We must grasp the nature of excellence in deliberation as well whether it is a form of scientific knowledge, or opinion, or skill in conjecture, or some other kind of thing. Scientific knowledge it is not; for men do not inquire about the things they know about, but good deliberation is a kind of deliberation, and he who deliberates inquires and calculates. Nor is it skill in conjecture; for this both involves no reasoning and is something that is quick in its operation, while men deliberate a long time, and they say that one should carry out quickly the conclusions of one's deliberation, but should deliberate slowly. Again, readiness of mind is different from excellence in deliberation; it is a sort of skill in conjecture. Nor again is excellence in deliberation opinion of any sort. But since the man who deliberates badly makes a mistake, while he who deliberates well does so correctly, excellence in deliberation is clearly a kind of correctness, but neither of knowledge nor of opinion; for there is no such thing as correctness of knowledge (since there is no such thing as error of knowledge), and correctness of opinion is truth; and at the same time everything that is an object of opinion is already determined. But again excellence in deliberation involves reasoning. The remaining alternative, then, is that it is correctness of thinking; for this is not yet assertion, since, while even opinion is not inquiry but has reached the stage of assertion, the man who is deliberating, whether he does so well or ill, is searching for something and calculating.

But excellence in deliberation is a certain correctness of deliberation; hence we must first inquire what deliberation is and what it is about. And, there being more than one kind of correctness, plainly excellence in deliberation is not any and every kind; for (1) the incontinent man and the bad man, if he is clever, will reach as a result of his calculation what he sets before himself, so that he will have deliberated correctly, but he will have got for himself a great evil. Now to have deliberated well is thought to be a good thing; for it is this kind of correctness of deliberation that is excellence in deliberation, viz. that which tends to attain what is good. But (2) it is possible to attain even good by a false syllogism, and to attain what one ought to do but not by the right means, the middle term being false; so that this too is not yet excellence in deliberation this state in virtue of which one attains what one ought but not by the right means. Again (3) it is possible to attain it by long deliberation while another man attains it quickly. Therefore in the former case we have not yet got excellence in deliberation, which is rightness with regard to the expedient-rightness in respect both of the end, the manner, and the time. (4) Further it is possible to have deliberated well either in the unqualified sense or with reference to a particular end. Excellence in deliberation in the unqualified sense, then, is that which succeeds with reference to what is the end in the unqualified sense, and excellence in deliberation in a particular sense is that which succeeds relatively to a particular end. If, then, it is characteristic of men of practical wisdom to have deliberated well, excellence in deliberation will be correctness with regard to what conduces to the end of which practical wisdom is the true apprehension.

10

Understanding, also, and goodness of understanding, in virtue of which men are said to be men of understanding or of good understanding, are neither entirely the same as opinion or scientific knowledge (for at that rate all men would have been men of understanding), nor are they one of the particular sciences, such as medicine, the science of things connected with health, or geometry, the science of spatial magnitudes. For understanding is neither about things that are always and are unchangeable, nor about any and every one of the things that come into being, but about things which may become subjects of questioning and deliberation. Hence it is about the same objects as practical wisdom; but understanding and practical wisdom are not the same. For practical wisdom issues commands, since its end is what ought to be done or not to be done; but understanding only judges. (Understanding is identical with goodness of understanding, men of understanding with men of good understanding.) Now understanding is neither the having nor the acquiring of practical wisdom; but as learning is called understanding when it means the exercise of the faculty of knowledge, so ‘understanding’ is applicable to the exercise of the faculty of opinion for the purpose of judging of what some one else says about matters with which practical wisdom is concerned-and of judging soundly; for ‘well’ and ‘soundly’ are the same thing. And from this has come the use of the name ‘understanding’ in virtue of which men are said to be ‘of good understanding’, viz. from the application of the word to the grasping of scientific truth; for we often call such grasping understanding.

11

What is called judgement, in virtue of which men are said to ‘be sympathetic judges’ and to ‘have judgement’, is the right discrimination of the equitable. This is shown by the fact that we say the equitable man is above all others a man of sympathetic judgement, and identify equity with sympathetic judgement about certain facts. And sympathetic judgement is judgement which discriminates what is equitable and does so correctly; and correct judgement is that which judges what is true.

Now all the states we have considered converge, as might be expected, to the same point; for when we speak of judgement and understanding and practical wisdom and intuitive reason we credit the same people with possessing judgement and having reached years of reason and with having practical wisdom and understanding. For all these faculties deal with ultimates, i.e. with particulars; and being a man of understanding and of good or sympathetic judgement consists in being able judge about the things with which practical wisdom is concerned; for the equities are common to all good men in relation to other men. Now all things which have to be done are included among particulars or ultimates; for not only must the man of practical wisdom know particular facts, but understanding and judgement are also concerned with things to be done, and these are ultimates. And intuitive reason is concerned with the ultimates in both directions; for both the first terms and the last are objects of intuitive reason and not of argument, and the intuitive reason which is presupposed by demonstrations grasps the unchangeable and first terms, while the intuitive reason involved in practical reasonings grasps the last and variable fact, i.e. the minor premiss. For these variable facts are the starting-points for the apprehension of the end, since the universals are reached from the particulars; of these therefore we must have perception, and this perception is intuitive reason.

This is why these states are thought to be natural endowments-why, while no one is thought to be a philosopher by nature, people are thought to have by nature judgement, understanding, and intuitive reason. This is shown by the fact that we think our powers correspond to our time of life, and that a particular age brings with it intuitive reason and judgement; this implies that nature is the cause. (Hence intuitive reason is both beginning and end; for demonstrations are from these and about these.) Therefore we ought to attend to the undemonstrated sayings and opinions of experienced and older people or of people of practical wisdom not less than to demonstrations; for because experience has given them an eye they see aright.

We have stated, then, what practical and philosophic wisdom are, and with what each of them is concerned, and we have said that each is the virtue of a different part of the soul.

Difficulties might be raised as to the utility of these qualities of mind. For (1) philosophic wisdom will contemplate none of the things that will make a man happy (for it is not concerned with any coming into being), and though practical wisdom has this merit, for what purpose do we need it? Practical wisdom is the quality of mind concerned with things just and noble and good for man, but these are the things which it is the mark of a good man to do, and we are none the more able to act for knowing them if the virtues are states of character, just as we are none the better able to act for knowing the things that are healthy and sound, in the sense not of producing but of issuing from the state of health; for we are none the more able to act for having the art of medicine or of gymnastics. But (2) if we are to say that a man should have practical wisdom not for the sake of knowing moral truths but for the sake of becoming good, practical wisdom will be of no use to those who are good; again it is of no use to those who have not virtue; for it will make no difference whether they have practical wisdom themselves or obey others who have it, and it would be enough for us to do what we do in the case of health; though we wish to become healthy, yet we do not learn the art of medicine. (3) Besides this, it would be thought strange if practical wisdom, being inferior to philosophic wisdom, is to be put in authority over it, as seems to be implied by the fact that the art which produces anything rules and issues commands about that thing.

These, then, are the questions we must discuss; so far we have only stated the difficulties.

(1) Now first let us say that in themselves these states must be worthy of choice because they are the virtues of the two parts of the soul respectively, even if neither of them produce anything.

(2) Secondly, they do produce something, not as the art of medicine produces health, however, but as health produces health; so does philosophic wisdom produce happiness; for, being a part of virtue entire, by being possessed and by actualizing itself it makes a man happy.

(3) Again, the work of man is achieved only in accordance with practical wisdom as well as with moral virtue; for virtue makes us aim at the right mark, and practical wisdom makes us take the right means. (Of the fourth part of the soul-the nutritive-there is no such virtue; for there is nothing

which it is in its power to do or not to do.)

(4) With regard to our being none the more able to do because of our practical wisdom what is noble and just, let us begin a little further back, starting with the following principle. As we say that some people who do just acts are not necessarily just, i.e. those who do the acts ordained by the laws either unwillingly or owing to ignorance or for some other reason and not for the sake of the acts themselves (though, to be sure, they do what they should and all the things that the good man ought), so is it, it seems, that in order to be good one must be in a certain state when one does the several acts, i.e. one must do them as a result of choice and for the sake of the acts themselves. Now virtue makes the choice right, but the question of the things which should naturally be done to carry out our choice belongs not to virtue but to another faculty. We must devote our attention to these matters and give a clearer statement about them. There is a faculty which is called cleverness; and this is such as to be able to do the things that tend towards the mark we have set before ourselves, and to hit it. Now if the mark be noble, the cleverness is laudable, but if the mark be bad, the cleverness is mere smartness; hence we call even men of practical wisdom clever or smart. Practical wisdom is not the faculty, but it does not exist without this faculty. And this eye of the soul acquires its formed state not without the aid of virtue, as has been said and is plain; for the syllogisms which deal with acts to be done are things which involve a starting-point, viz. ‘since the end, i.e. what is best, is of such and such a nature’, whatever it may be (let it for the sake of argument be what we please); and this is not evident except to the good man; for wickedness perverts us and causes us to be deceived about the starting-points of action. Therefore it is evident that it is impossible to be practically wise without being good.

13

We must therefore consider virtue also once more; for virtue too is similarly related; as practical wisdom is to cleverness-not the same, but like it-so is natural virtue to virtue in the strict sense. For all men think that each type of character belongs to its possessors in some sense by nature; for from the very moment of birth we are just or fitted for selfcontrol or brave or have the other moral qualities; but yet we seek something else as that which is good in the strict sense-we seek for the presence of such qualities in another way. For both children and brutes have the natural dispositions to these qualities, but without reason these are evidently hurtful. Only we seem to see this much, that, while one may be led astray by them, as a strong body which moves without sight may stumble badly because of its lack of sight, still, if a man once acquires reason, that makes a difference in action; and his state, while still like what it was, will then be virtue in the strict sense. Therefore, as in the part of us which forms opinions there are two types, cleverness and practical wisdom, so too in the moral part there are two types, natural virtue and virtue in the strict sense, and of these the latter involves practical wisdom. This is why some say that all the virtues are forms of practical wisdom, and why Socrates in one respect was on the right track while in another he went astray; in thinking that all the virtues were forms of practical wisdom he was wrong, but in saying they implied practical wisdom he was right. This is confirmed by the fact that even now all men, when they define virtue, after naming the state of character and its objects add ‘that (state) which is in accordance with the right rule’; now the right rule is that which is in accordance with practical wisdom. All men, then, seem somehow to divine that this kind of state is virtue, viz. that which is in accordance with practical wisdom. But we must go a little further. For it is not merely the state in accordance with the right rule, but the state that implies the presence of the right rule, that is virtue; and practical wisdom is a right rule about such matters. Socrates, then, thought the virtues were rules or rational principles (for he thought they were, all of them, forms of scientific knowledge), while we think they involve a rational principle.

It is clear, then, from what has been said, that it is not possible to be good in the strict sense without practical wisdom, nor practically wise without moral virtue. But in this way we may also refute the dialectical argument whereby it might be contended that the virtues exist in separation from each other; the same man, it might be said, is not best equipped by nature for all the virtues, so that he will have already acquired one when he has not yet acquired another. This is possible in respect of the natural virtues, but not in respect of those in respect of which a man is called without qualification good; for with the presence of the one quality, practical wisdom, will be given all the virtues. And it is plain that, even if it were of no practical value, we should have needed it because it is the virtue of the part of us in question;

plain too that the choice will not be right without practical wisdom any more than without virtue; for the one deter, mines the end and the other makes us do the things that lead to the end.

But again it is not supreme over philosophic wisdom, i.e. over the superior part of us, any more than the art of medicine is over health; for it does not use it but provides for its coming into being; it issues orders, then, for its sake, but not to it. Further, to maintain its supremacy would be like saying that the art of politics rules the gods because it issues orders about all the affairs of the state.

Book VII

1

LET us now make a fresh beginning and point out that of moral states to be avoided there are three kinds-vice, incontinence, brutishness. The contraries of two of these are evident,-one we call virtue, the other continence; to brutishness it would be most fitting to oppose superhuman virtue, a heroic and divine kind of virtue, as Homer has represented Priam saying of Hector that he was very good,

For he seemed not, he,
The child of a mortal man, but as one that of God's seed came.

Therefore if, as they say, men become gods by excess of virtue, of this kind must evidently be the state opposed to the brutish state; for as a brute has no vice or virtue, so neither has a god; his state is higher than virtue, and that of a brute is a different kind of state from vice.

Now, since it is rarely that a godlike man is found-to use the epithet of the Spartans, who when they admire any one highly call him a 'godlike man'-so too the brutish type is rarely found among men; it is found chiefly among barbarians, but some brutish qualities are also produced by disease or deformity; and we also call by this evil name those men who go beyond all ordinary standards by reason of vice. Of this kind of disposition, however, we must later make some mention, while we have discussed vice before we must now discuss incontinence and softness (or effeminacy), and continence and endurance; for we must treat each of the two neither as identical with virtue or wickedness, nor as a different genus. We must, as in all other cases, set the observed facts before us and, after first discussing the difficulties, go on to prove, if possible, the truth of all the common opinions about these affections of the mind, or, failing this, of the greater number and the most authoritative; for if we both refute the objections and leave the common opinions undisturbed, we shall have proved the case sufficiently.

Now (1) both continence and endurance are thought to be included among things good and praiseworthy, and both incontinence and soft, ness among things bad and blameworthy; and the same man is thought to be continent and ready to abide by the result of his calculations, or incontinent and ready to abandon them. And (2) the incontinent man, knowing that what he does is bad, does it as a result of passion, while the continent man, knowing that his appetites are bad, refuses on account of his rational principle to follow them (3) The temperate man all men call continent and disposed to endurance, while the continent man some maintain to be always temperate but others do not; and some call the self-indulgent man incontinent and the incontinent man selfindulgent indiscriminately, while others distinguish them. (4) The man of practical wisdom, they sometimes say, cannot be incontinent, while sometimes they say that some who are practically wise and clever are incontinent. Again (5) men are said to be incontinent even with respect to anger, honour, and gain.-These, then, are the things that are said.

2

Now we may ask (1) how a man who judges rightly can behave incontinently. That he should behave so when he has knowledge, some say is impossible; for it would be strange-so Socrates thought-if when knowledge was in a man something else could master it and drag it about like a slave. For Socrates was entirely opposed to the view in question, holding that there is no such thing as incontinence; no one, he said, when he judges acts against what he judges best-people act so only by reason of ignorance. Now this view plainly contradicts the observed facts, and we must inquire about what happens to such a man; if he acts by reason of ignorance, what is the manner of his ignorance? For that the man who behaves incontinently does not, before he gets into this state, think he ought to act so, is evident. But there are some who concede certain of Socrates' contentions but not others; that nothing is stronger than knowledge they admit, but not that on one acts contrary to what has seemed to him the better course, and therefore they say that the incontinent man has not knowledge when he is mastered by his pleasures, but opinion. But if it is opinion and not knowledge, if it is not a strong conviction that resists but a weak one, as in men who hesitate, we sympathize with their failure to stand by such convictions against strong appetites; but we do not sympathize with wickedness, nor with any of the other blameworthy states. Is it then practical wisdom whose resistance is mastered? That is the strongest of all states. But this is absurd; the same man will be at once practically wise and incontinent, but no one would say that it is the part of a practically wise man to do willingly the basest acts. Besides, it has been shown before that the man of practical wisdom is one who will act (for he is a man concerned with the individual facts) and who has the other virtues.

(2) Further, if continence involves having strong and bad appetites, the temperate man will not be continent nor the continent man temperate; for a temperate man will have neither excessive nor bad appetites. But the continent man must; for if the appetites are good, the state of character that restrains us from following them is bad, so that not all continence will be good; while if they are weak and not bad, there is nothing admirable in resisting them, and if they are weak and bad, there is nothing great in resisting these either.

(3) Further, if continence makes a man ready to stand by any and every opinion, it is bad, i.e. if it makes him stand even by a false opinion; and if incontinence makes a man apt to abandon any and every opinion, there will be a good incontinence, of which Sophocles' Neoptolemus in the Philoctetes will be an instance; for he is to be praised for not standing by what Odysseus persuaded him to do, because he is pained at telling a lie.

(4) Further, the sophistic argument presents a difficulty; the syllogism arising from men's wish to expose paradoxical results arising from an opponent's view, in order that they may be admired when they succeed, is one that puts us in a difficulty (for thought is bound fast when it will not rest because the conclusion does not satisfy it, and cannot advance because it cannot refute the argument). There is an argument from which it follows that folly coupled with incontinence is virtue; for a man does the opposite of what he judges, owing to incontinence, but judges what is good to be evil and something that he should not do, and consequence he will do what is good and not what is evil.

(5) Further, he who on conviction does and pursues and chooses what is pleasant would be thought to be better than one who does so as a result not of calculation but of incontinence; for he is easier to cure since he may be persuaded to change his mind. But to the incontinent man may be applied the

proverb ‘when water chokes, what is one to wash it down with?’ If he had been persuaded of the rightness of what he does, he would have desisted when he was persuaded to change his mind; but now he acts in spite of his being persuaded of something quite different.

(6) Further, if incontinence and continence are concerned with any and every kind of object, who is it that is incontinent in the unqualified sense? No one has all the forms of incontinence, but we say some people are incontinent without qualification.

3

Of some such kind are the difficulties that arise; some of these points must be refuted and the others left in possession of the field; for the solution of the difficulty is the discovery of the truth. (1) We must consider first, then, whether incontinent people act knowingly or not, and in what sense knowingly; then (2) with what sorts of object the incontinent and the continent man may be said to be concerned (i.e. whether with any and every pleasure and pain or with certain determinate kinds), and whether the continent man and the man of endurance are the same or different; and similarly with regard to the other matters germane to this inquiry. The starting-point of our investigation is (a) the question whether the continent man and the incontinent are differentiated by their objects or by their attitude, i.e. whether the incontinent man is incontinent simply by being concerned with such and such objects, or, instead, by his attitude, or, instead of that, by both these things; (b) the second question is whether incontinence and continence are concerned with any and every object or not. The man who is incontinent in the unqualified sense is neither concerned with any and every object, but with precisely those with which the self-indulgent man is concerned, nor is he characterized by being simply related to these (for then his state would be the same as self-indulgence), but by being related to them in a certain way. For the one is led on in accordance with his own choice, thinking that he ought always to pursue the present pleasure; while the other does not think so, but yet pursues it.

(1) As for the suggestion that it is true opinion and not knowledge against which we act incontinently, that makes no difference to the argument; for some people when in a state of opinion do not hesitate, but think they know

exactly. If, then, the notion is that owing to their weak conviction those who have opinion are more likely to act against their judgement than those who know, we answer that there need be no difference between knowledge and opinion in this respect; for some men are no less convinced of what they think than others of what they know; as is shown by the of Heraclitus. But (a), since we use the word ‘know’ in two senses (for both the man who has knowledge but is not using it and he who is using it are said to know), it will make a difference whether, when a man does what he should not, he has the knowledge but is not exercising it, or is exercising it; for the latter seems strange, but not the former.

(b) Further, since there are two kinds of premisses, there is nothing to prevent a man’s having both premisses and acting against his knowledge, provided that he is using only the universal premiss and not the particular; for it is particular acts that have to be done. And there are also two kinds of universal term; one is predicable of the agent, the other of the object; e.g. ‘dry food is good for every man’, and ‘I am a man’, or ‘such and such food is dry’; but whether ‘this food is such and such’, of this the incontinent man either has not or is not exercising the knowledge. There will, then, be, firstly, an enormous difference between these manners of knowing, so that to know in one way when we act incontinently would not seem anything strange, while to know in the other way would be extraordinary.

And further (c) the possession of knowledge in another sense than those just named is something that happens to men; for within the case of having knowledge but not using it we see a difference of state, admitting of the possibility of having knowledge in a sense and yet not having it, as in the instance of a man asleep, mad, or drunk. But now this is just the condition of men under the influence of passions; for outbursts of anger and sexual appetites and some other such passions, it is evident, actually alter our bodily condition, and in some men even produce fits of madness. It is plain, then, that incontinent people must be said to be in a similar condition to men asleep, mad, or drunk. The fact that men use the language that flows from knowledge proves nothing; for even men under the influence of these passions utter scientific proofs and verses of Empedocles, and those who have just begun to learn a science can string together its phrases, but do not yet know it; for it has to become part of themselves, and that takes time; so that we must suppose that the use of language by men in an incontinent state means no more than its utterance by actors on the stage. (d) Again, we may also view the cause as follows with reference to the facts of human nature. The one opinion is universal, the other is concerned with the particular facts, and here we come to something within the sphere of perception; when a single opinion results from the two, the soul must in one type of case affirm the conclusion, while in the case of opinions concerned with production it must immediately act (e.g. if ‘everything sweet ought to be tasted’, and ‘this is sweet’, in the sense of being one of the particular sweet things, the man who can act and is not prevented must at the same time actually act accordingly). When, then, the universal opinion is present in us forbidding us to taste, and there is also the opinion that ‘everything sweet is pleasant’, and that ‘this is sweet’ (now this is the opinion that is active), and when appetite happens to be present in us, the one opinion bids us avoid the object, but appetite leads us towards it (for it can move each of our bodily parts); so that it turns out that a man behaves incontinently under the influence (in a sense) of a rule and an opinion, and of one not contrary in itself, but only incidentally-for the appetite is contrary, not the opinion-to the right rule. It also follows that this is the reason why the lower animals are not incontinent, viz. because they have no universal judgement but only imagination and memory of particulars.

The explanation of how the ignorance is dissolved and the incontinent man regains his knowledge, is the same as in the case of the man drunk or asleep and is not peculiar to this condition; we must go to the students of natural science for it. Now, the last premiss both being an opinion about a perceptible object, and being what determines our actions this a man either has not when he is in the state of passion, or has it in the sense in which having knowledge did not mean knowing but only talking, as a drunken man may utter the verses of Empedocles. And because the last term is not universal nor equally an object of scientific knowledge with the universal term, the position that Socrates sought to establish actually seems to result; for it is not in the presence of what is thought to be knowledge proper that the affection of incontinence arises (nor is it this that is ‘dragged about’ as a result of the state of passion), but in that of perceptual knowledge.

This must suffice as our answer to the question of action with and without knowledge, and how it is possible to behave incontinently with knowledge.

4

(2) We must next discuss whether there is any one who is incontinent without qualification, or all men who are incontinent are so in a particular sense, and if there is, with what sort of objects he is concerned. That both continent persons and persons of endurance, and incontinent and soft persons, are concerned with pleasures and pains, is evident.

Now of the things that produce pleasure some are necessary, while others are worthy of choice in themselves but admit of excess, the bodily causes of pleasure being necessary (by such I mean both those concerned with food and those concerned with sexual intercourse, i.e. the bodily matters with which we defined self-indulgence and temperance as being concerned), while the others are not necessary but worthy of choice in themselves (e.g. victory, honour, wealth, and good and pleasant things of this sort). This being so, (a) those who go to excess with reference to the latter, contrary to the right rule which is in themselves, are not called incontinent simply, but incontinent with the qualification 'in respect of money, gain, honour, or anger',-not simply incontinent, on the ground that they are different from incontinent people and are called incontinent by reason of a resemblance. (Compare the case of Anthropos (Man), who won a contest at the Olympic games; in his case the general definition of man differed little from the definition peculiar to him, but yet it was different.) This is shown by the fact that incontinence either without qualification or in respect of some particular bodily pleasure is blamed not only as a fault but as a kind of vice, while none of the people who are incontinent in these other respects is so blamed.

But (b) of the people who are incontinent with respect to bodily enjoyments, with which we say the temperate and the self-indulgent man are concerned, he who pursues the excesses of things pleasant-and shuns those of things painful, of hunger and thirst and heat and cold and all the objects of touch and taste-not by choice but contrary to his choice and his judgement, is called incontinent, not with the qualification 'in respect of this or that', e.g. of anger, but just simply. This is confirmed by the fact that men are called 'soft' with regard to these pleasures, but not with regard to any of the others. And for this reason we group together the incontinent and the self-indulgent, the continent and the temperate man-but not any of these other types-because they are concerned somehow with the same pleasures and pains; but though these are concerned with the same objects, they are not similarly related to them, but some of them make a deliberate choice while the others do not.

This is why we should describe as self-indulgent rather the man who without appetite or with but a slight appetite pursues the excesses of pleasure and avoids moderate pains, than the man who does so because of his strong appetites; for what would the former do, if he had in addition a vigorous appetite, and a violent pain at the lack of the 'necessary' objects?

Now of appetites and pleasures some belong to the class of things generically noble and good-for some pleasant things are by nature worthy of choice, while others are contrary to these, and others are intermediate, to adopt our previous distinction-e.g. wealth, gain, victory, honour. And with reference to all objects whether of this or of the intermediate kind men are not blamed for being affected by them, for desiring and loving them, but for doing so in a certain way, i.e. for going to excess. (This is why all those who contrary to the rule either are mastered by or pursue one of the objects which are naturally noble and good, e.g. those who busy themselves more than they ought about honour or about children and parents, (are not wicked); for these too are good, and those who busy themselves about them are praised; but yet there is an excess even in them-if like Niobe one were to fight even against the gods, or were to be as much devoted to one's father as Satyrus nicknamed 'the filial', who was thought to be very silly on this point.) There is no wickedness, then, with regard to these objects, for the reason named, viz. because each of them is by nature a thing worthy of choice for its own sake; yet excesses in respect of them are bad and to be avoided. Similarly there is no incontinence with regard to them; for incontinence is not only to be avoided but is also a thing worthy of blame; but owing to a similarity in the state of feeling people apply the name incontinence, adding in each case what it is in respect of, as we may describe as a bad doctor or a bad actor one whom we should not call bad, simply. As, then, in this case we do not apply the term without qualification because each of these conditions is no shadness but only analogous to it, so it is clear that in the other case also that alone must be taken to be incontinence and continence which is concerned with the same objects as temperance and self-indulgence, but we apply the term to anger by virtue of a resemblance; and this is why we say with a qualification 'incontinent in respect of anger' as we say 'incontinent in respect of honour, or of gain'.

5

(1) Some things are pleasant by nature, and of these (a) some are so without qualification, and (b) others are so with reference to particular classes either of animals or of men; while (2) others are not pleasant by nature, but (a) some of them become so by reason of injuries to the system, and (b) others by reason of acquired habits, and (c) others by reason of originally bad natures. This being so, it is possible with regard to each of the latter kinds to discover similar states of character to those recognized with regard to the former; I mean (A) the brutish states, as in the case of the female who, they say, rips open pregnant women and devours the infants, or of the things in which some of the tribes about the Black Sea that have gone savage are said to delight-in raw meat or in human flesh, or in lending their children to one another to feast upon-or of the story told of Phalaris.

These states are brutish, but (B) others arise as a result of disease (or, in some cases, of madness, as with the man who sacrificed and ate his mother, or with the slave who ate the liver of his fellow), and others are morbid states (C) resulting from custom, e.g. the habit of plucking out the hair or of gnawing the nails, or even coals or earth, and in addition to these paederasty; for these arise in some by nature and in others, as in those who have been the victims of lust from childhood, from habit.

Now those in whom nature is the cause of such a state no one would call incontinent, any more than one would apply the epithet to women because of the passive part they play in copulation; nor would one apply it to those who are in a morbid condition as a result of habit. To have these various types of habit is beyond the limits of vice, as brutishness is too; for a man who has them to master or be mastered by them is not simple (continence or) incontinence but that which is so by analogy, as the man who is in this condition in respect of fits of anger is to be called incontinent in respect of that feeling but not incontinent simply. For every excessive state whether of folly, of cowardice, of self-indulgence, or of bad temper, is either brutish or morbid; the man who is by nature apt to fear everything, even the squeak of a mouse, is cowardly with a brutish cowardice, while the man who feared a weasel did so in consequence of disease; and of foolish people those who by nature are thoughtless and live by their senses alone are brutish, like some races of the distant barbarians, while those who are so as a result of disease (e.g. of epilepsy) or of madness are morbid. Of these characteristics it is possible to have some only at times, and not to be mastered by them. e.g. Phalaris may have restrained a desire to eat the flesh of a child or an appetite for unnatural sexual pleasure; but it is also possible to be mastered, not merely to have the feelings. Thus, as the wickedness which is on the human level is called wickedness simply, while that which is not is called wickedness not simply but with the qualification 'brutish' or 'morbid', in the same way it is plain that some incontinence is brutish and some morbid, while only that which corresponds to human self-indulgence is incontinence simply.

That incontinence and continence, then, are concerned only with the same objects as selfindulgence and temperance and that what is concerned with other objects is a type distinct from incontinence, and called incontinence by a metaphor and not simply, is plain.

6

That incontinence in respect of anger is less disgraceful than that in respect of the appetites is what we will now proceed to see. (1) Anger seems to listen to argument to some extent, but to mishear it, as do hasty servants who run out before they have heard the whole of what one says, and then muddle the order, or as dogs bark if there is but a knock at the door, before looking to see if it is a friend; so anger by reason of the warmth and hastiness of its nature, though it hears, does not hear an order, and springs to take revenge. For argument or imagination informs us that we have been insulted or slighted, and anger, reasoning as it were that anything like this must be fought against, boils up straightway; while appetite, if argument or perception merely says that an object is pleasant, springs to the enjoyment of it. Therefore anger obeys the argument in a sense, but appetite does not. It is therefore more disgraceful; for the man who is incontinent in respect of anger is in a sense conquered by argument, while the other is conquered by appetite and not by argument.

(2) Further, we pardon people more easily for following natural desires, since we pardon them more easily for following such appetites as are common to all men, and in so far as they are common; now anger and bad

temper are more natural than the appetites for excess, i.e. for unnecessary objects. Take for instance the man who defended himself on the charge of striking his father by saying ‘yes, but he struck his father, and he struck his, and’ (pointing to his child) ‘this boy will strike me when he is a man; it runs in the family’; or the man who when he was being dragged along by his son bade him stop at the doorway, since he himself had dragged his father only as far as that.

(2) Further, those who are more given to plotting against others are more criminal. Now a passionate man is not given to plotting, nor is anger itself-it is open; but the nature of appetite is illustrated by what the poets call Aphrodite, ‘guile-weaving daughter of Cyprus’, and by Homer’s words about her ‘embroidered girdle’:

And the whisper of wooing is there,
Whose subtlety stealeth the wits of the wise, how prudent soe’er.

Therefore if this form of incontinence is more criminal and disgraceful than that in respect of anger, it is both incontinence without qualification and in a sense vice.

(4) Further, no one commits wanton outrage with a feeling of pain, but every one who acts in anger acts with pain, while the man who commits outrage acts with pleasure. If, then, those acts at which it is most just to be angry are more criminal than others, the incontinence which is due to appetite is the more criminal; for there is no wanton outrage involved in anger.

Plainly, then, the incontinence concerned with appetite is more disgraceful than that concerned with anger, and continence and incontinence are concerned with bodily appetites and pleasures; but we must grasp the differences among the latter themselves. For, as has been said at the beginning, some are human and natural both in kind and in magnitude, others are brutish, and others are due to organic injuries and diseases. Only with the first of these are temperance and self-indulgence concerned; this is why we call the lower animals neither temperate nor self-indulgent except by a metaphor, and only if some one race of animals exceeds another as a whole in wantonness, destructiveness, and omnivorous greed; these have no power of choice or calculation, but they are departures from the natural norm, as, among men, madmen are. Now brutishness is a less evil than vice, though more alarming; for it is not that the better part has been perverted, as in man,-they have no better part. Thus it is like comparing a lifeless thing with a living in respect of badness; for the badness of that which has no originative source of movement is always less hurtful, and reason is an originative source. Thus it is like comparing injustice in the abstract with an unjust man. Each is in some sense worse; for a bad man will do ten thousand times as much evil as a brute.

7

With regard to the pleasures and pains and appetites and aversions arising through touch and taste, to which both self-indulgence and temperance were formerly narrowed down, it possible to be in such a state as to be defeated even by those of them which most people master, or to master even those by which most people are defeated; among these possibilities, those relating to pleasures are incontinence and continence, those relating to pains softness and endurance. The state of most people is intermediate, even if they lean more towards the worse states.

Now, since some pleasures are necessary while others are not, and are necessary up to a point while the excesses of them are not, nor the deficiencies, and this is equally true of appetites and pains, the man who pursues the excesses of things pleasant, or pursues to excess necessary objects, and does so by choice, for their own sake and not at all for the sake of any result distinct from them, is self-indulgent; for such a man is of necessity unlikely to repent, and therefore incurable, since a man who cannot repent cannot be cured. The man who is deficient in his pursuit of them is the opposite of self-indulgent; the man who is intermediate is temperate. Similarly, there is the man who avoids bodily pains not because he is defeated by them but by choice. (Of those who do not choose such acts, one kind of man is led to them as a result of the pleasure involved, another because he avoids the pain arising from the appetite, so that these types differ from one another. Now any one would think worse of a man with no appetite or with weak appetite were he to do something disgraceful, than if he did it under the influence of powerful appetite, and worse of him if he struck a blow not in anger than if he did it in anger; for what would he have done if he had been strongly affected? This is why the self-indulgent man is worse than the incontinent.) of the states named, then, the latter is rather a kind of softness; the former is self-indulgence. While to the incontinent man is opposed the continent, to the soft is opposed the man of endurance; for endurance consists in resisting, while continence consists in conquering, and resisting and conquering are different, as not being beaten is different from winning; this is why continence is also more worthy of choice than endurance. Now the man who is defective in respect of resistance to the things which most men both resist and resist successfully is soft and effeminate; for effeminacy too is a kind of softness; such a man trails his cloak to avoid the pain of lifting it, and plays the invalid without thinking himself wretched, though the man he imitates is a wretched man.

The case is similar with regard to continence and incontinence. For if a man is defeated by violent and excessive pleasures or pains, there is nothing wonderful in that; indeed we are ready to pardon him if he has resisted, as Theodectes’ Philoctetes does when bitten by the snake, or Carcinus’ Cercyon in the Alope, and as people who try to restrain their laughter burst out into a guffaw, as happened to Xenophantus. But it is surprising if a man is defeated by and cannot resist pleasures or pains which most men can hold out against, when this is not due to heredity or disease, like the softness that is hereditary with the kings of the Scythians, or that which distinguishes the female sex from the male.

The lover of amusement, too, is thought to be self-indulgent, but is really soft. For amusement is a relaxation, since it is a rest from work; and the lover of amusement is one of the people who go to excess in this.

Of incontinence one kind is impetuosity, another weakness. For some men after deliberating fail, owing to their emotion, to stand by the conclusions of their deliberation, others because they have not deliberated are led by their emotion; since some men (just as people who first tickle others are not tickled themselves), if they have first perceived and seen what is coming and have first roused themselves and their calculative faculty, are not defeated by their emotion, whether it be pleasant or painful. It is keen and excitable people that suffer especially from the impetuous form of incontinence; for the former by reason of their quickness and the latter by reason of the violence of their passions do not await the argument, because they are apt to follow their imagination.

8

The self-indulgent man, as was said, is not apt to repent; for he stands by his choice; but incontinent man is likely to repent. This is why the position is not as it was expressed in the formulation of the problem, but the selfindulgent man is incurable and the incontinent man curable; for wickedness is like a disease such as dropsy or consumption, while incontinence is like epilepsy; the former is a permanent, the latter an intermittent badness. And generally incontinence and vice are different in kind; vice is unconscious of itself, incontinence is not (of incontinent men themselves, those who become temporarily beside themselves are better than those who have the rational principle but do not abide by it, since the latter are defeated by a weaker passion, and do not act without previous deliberation like the others); for the incontinent man is like the people who get drunk quickly and on little wine, i.e. on less than most people.

Evidently, then, incontinence is not vice (though perhaps it is so in a qualified sense); for incontinence is contrary to choice while vice is in accordance with choice; not but what they are similar in respect of the actions they lead to; as in the saying of Demodocus about the Milesians, ‘the Milesians are not without sense, but they do the things that senseless people do’, so too incontinent people are not criminal, but they will do criminal acts.

Now, since the incontinent man is apt to pursue, not on conviction, bodily pleasures that are excessive and contrary to the right rule, while the self-indulgent man is convinced because he is the sort of man to pursue them, it is on the contrary the former that is easily persuaded to change his mind, while the latter is not. For virtue and vice respectively preserve and destroy the first principle, and in actions the final cause is the first principle, as the hypotheses are in mathematics; neither in that case is it argument that teaches the first principles, nor is it so here-virtue either natural or produced by habituation is what teaches right opinion about the first principle. Such a man as this, then, is temperate; his contrary is the self-indulgent.

But there is a sort of man who is carried away as a result of passion and contrary to the right rule-a man whom passion masters so that he does not act according to the right rule, but does not master to the extent of making him ready to believe that he ought to pursue such pleasures without reserve; this is the incontinent man, who is better than the self-indulgent man, and not bad without qualification; for the best thing in him, the first principle, is preserved. And contrary to him is another kind of man, he who abides by his convictions and is not carried away, at least as a result of passion. It is evident from these considerations that the latter is a good state and the former a bad one.

9

Is the man continent who abides by any and every rule and any and every choice, or the man who abides by the right choice, and is he incontinent who abandons any and every choice and any and every rule, or he who abandons the rule that is not false and the choice that is right; this is how we put it before in our statement of the problem. Or is it incidentally any and every choice but per se the true rule and the right choice by which the one abides and the other does not? If any one chooses or pursues this for the sake of that, per se he pursues and chooses the latter, but incidentally the former. But when we speak without qualification we mean what is per se. Therefore in a sense the one abides by, and the other abandons, any and every opinion; but without qualification, the true opinion.

There are some who are apt to abide by their opinion, who are called strong-headed, viz. those who are hard to persuade in the first instance and are not easily persuaded to change; these have in them something like the continent man, as the prodigal is in a way like the liberal man and the rash man like the confident man; but they are different in many respects. For it is to passion and appetite that the one will not yield, since on occasion the continent man will be easy to persuade; but it is to argument that the others refuse to yield, for they do form appetites and many of them are led by their pleasures. Now the people who are strong-headed are the opinionated, the ignorant, and the boorish-the opinionated being influenced by pleasure and pain; for they delight in the victory they gain if they are not persuaded to change, and are pained if their decisions become null and void as decrees sometimes do; so that they are liker the incontinent than the continent man.

But there are some who fail to abide by their resolutions, not as a result of incontinence, e.g. Neoptolemus in Sophocles' Philoctetes; yet it was for the sake of pleasure that he did not stand fast-but a noble pleasure; for telling the truth was noble to him, but he had been persuaded by Odysseus to tell the lie.

For not every one who does anything for the sake of pleasure is either self-indulgent or bad or incontinent, but he who does it for a disgraceful pleasure.

Since there is also a sort of man who takes less delight than he should in bodily things, and does not abide by the rule, he who is intermediate between him and the incontinent man is the continent man; for the incontinent man fails to abide by the rule because he delights too much in them, and this man because he delights in them too little; while the continent man abides by the rule and does not change on either account. Now if continence is good, both the contrary states must be bad, as they actually appear to be; but because the other extreme is seen in few people and seldom, as temperance is thought to be contrary only to self-indulgence, so is continence to incontinence.

Since many names are applied analogically, it is by analogy that we have come to speak of the 'continence' the temperate man; for both the continent man and the temperate man are such as to do nothing contrary to the rule for the sake of the bodily pleasures, but the former has and the latter has not bad appetites, and the latter is such as not to feel pleasure contrary to the rule, while the former is such as to feel pleasure but not to be led by it. And the incontinent and the self-indulgent man are also like another; they are different, but both pursue bodily pleasures — the latter, however, also thinking that he ought to do so, while the former does not think this.

10

Nor can the same man have practical wisdom and be incontinent; for it has been shown' that a man is at the same time practically wise, and good in respect of character. Further, a man has practical wisdom not by knowing only but by being able to act; but the incontinent man is unable to act-there is, however, nothing to prevent a clever man from being incontinent; this is why it is sometimes actually thought that some people have practical wisdom but are incontinent, viz. because cleverness and practical wisdom differ in the way we have described in our first discussions, and are near together in respect of their reasoning, but differ in respect of their purpose-nor yet is the incontinent man like the man who knows and is contemplating a truth, but like the man who is asleep or drunk. And he acts willingly (for he acts in a sense with knowledge both of what he does and of the end to which he does it), but is not wicked, since his purpose is good; so that he is half-wicked.

And he is not a criminal; for he does not act of malice aforethought; of the two types of incontinent man the one does not abide by the conclusions of his deliberation, while the excitable man does not deliberate at all. And thus the incontinent man like a city which passes all the right decrees and has good laws, but makes no use of them, as in Anaxandrides' jesting remark,

The city willed it, that cares nought for laws;

but the wicked man is like a city that uses its laws, but has wicked laws to use.

Now incontinence and continence are concerned with that which is in excess of the state characteristic of most men; for the continent man abides by his resolutions more and the incontinent man less than most men can.

Of the forms of incontinence, that of excitable people is more curable than that of those who deliberate but do not abide by their decisions, and those who are incontinent through habituation are more curable than those in whom incontinence is innate; for it is easier to change a habit than to change one's nature; even habit is hard to change just because it is like nature, as Evenus says:

I say that habit's but a long practice, friend,
And this becomes men's nature in the end.

We have now stated what continence, incontinence, endurance, and softness are, and how these states are related to each other.

11

The study of pleasure and pain belongs to the province of the political philosopher; for he is the architect of the end, with a view to which we call one thing bad and another good without qualification. Further, it is one of our necessary tasks to consider them; for not only did we lay it down that moral virtue and vice are concerned with pains and pleasures, but most people say that happiness involves pleasure; this is why the blessed man is called by a name derived from a word meaning enjoyment.

Now (1) some people think that no pleasure is a good, either in itself or incidentally, since the good and pleasure are not the same; (2) others think that some pleasures are good but that most are bad. (3) Again there is a third view, that even if all pleasures are good, yet the best thing in the world cannot be pleasure. (1) The reasons given for the view that pleasure is not a good at all are (a) that every pleasure is a perceptible process to a natural state, and that no process is of the same kind as its end, e.g. no process of building of the same kind as a house. (b) A temperate man avoids pleasures. (c) A man of practical wisdom pursues what is free from pain, not what is pleasant. (d) The pleasures are a hindrance to thought, and the more so the more one delights in them, e.g. in sexual pleasure; for no one could think of anything while absorbed in this. (e) There is no art of pleasure; but every good is the product of some art. (f) Children and the brutes pursue pleasures. (2) The reasons for the view that not all pleasures are good are that (a) there are pleasures that are actually base and objects of reproach, and (b) there are harmful pleasures; for some pleasant things are unhealthy. (3) The reason for the view that the best thing in the world is not pleasure is that pleasure is not an end but a process.

12

These are pretty much the things that are said. That it does not follow from these grounds that pleasure is not a good, or even the chief good, is plain from the following considerations. (A) (a) First, since that which is good may be so in either of two senses (one thing good simply and another good for a particular person), natural constitutions and states of being, and therefore also the corresponding movements and processes, will be correspondingly divisible. Of those which are thought to be bad some will be bad if taken without qualification but not bad for a particular person, but worthy of his choice, and some will not be worthy of choice even for a particular person, but only at a particular time and for a short period, though not without qualification; while others are not even pleasures, but seem to be so, viz. all those which involve pain and whose end is curative, e.g. the processes that go on in sick persons.

(b) Further, one kind of good being activity and another being state, the processes that restore us to our natural state are only incidentally pleasant; for that matter the activity at work in the appetites for them is the activity of so much of our state and nature as has remained unimpaired; for there are actually pleasures that involve no pain or appetite (e.g. those of contemplation), the nature in such a case not being defective at all. That the others are incidental is indicated by the fact that men do not enjoy the same pleasant objects when their nature is in its settled state as they do when it is being replenished, but in the former case they enjoy the things that are pleasant without qualification, in the latter the contraries of these as well; for then they enjoy even sharp and bitter things, none of which is pleasant either by nature or without qualification. The states they produce, therefore, are not pleasures naturally or without qualification; for as pleasant things differ, so do the pleasures arising from them.

(c) Again, it is not necessary that there should be something else better than pleasure, as some say the end is better than the process; for leasures are not processes nor do they all involve process-they are activities and ends; nor do they arise when we are becoming something, but when we are exercising some faculty; and not all pleasures have an end different from themselves, but only the pleasures of persons who are being led to the perfecting of their nature. This is why it is not right to say that pleasure is perceptible process, but it should rather be called activity of the natural state, and instead of 'perceptible' 'unimpeded'. It is thought by some people to be process just because they think it is in the strict sense good; for they think that activity is process, which it is not.

(B) The view that pleasures are bad because some pleasant things are unhealthy is like saying that healthy things are bad because some healthy things are bad for money-making; both are bad in the respect mentioned, but they are not bad for that reason-indeed, thinking itself is sometimes injurious to health.

Neither practical wisdom nor any state of being is impeded by the pleasure arising from it; it is foreign pleasures that impede, for the pleasures arising from thinking and learning will make us think and learn all the more.

(C) The fact that no pleasure is the product of any art arises naturally enough; there is no art of any other activity either, but only of the corresponding faculty; though for that matter the arts of the perfumer and the cook are thought to be arts of pleasure.

(D) The arguments based on the grounds that the temperate man avoids pleasure and that the man of practical wisdom pursues the painless life, and that children and the brutes pursue pleasure, are all refuted by the same consideration. We have pointed out in what sense pleasures are good without qualification and in what sense some are not good; now both the brutes and children pursue pleasures of the latter kind (and the man of practical wisdom pursues tranquil freedom from that kind), viz. those which imply appetite and pain, i.e. the bodily pleasures (for it is these that are of this nature) and the excesses of them, in respect of which the self-indulgent man is self-indulent. This is why the temperate man avoids these pleasures; for even he has pleasures of his own.

13

But further (E) it is agreed that pain is bad and to be avoided; for some pain is without qualification bad, and other pain is bad because it is in some respect an impediment to us. Now the contrary of that which is to be avoided, qua something to be avoided and bad, is good. Pleasure, then, is necessarily a good. For the answer of Speusippus, that pleasure is contrary both to pain and to good, as the greater is contrary both to the less and to the equal, is not successful; since he would not say that pleasure is essentially just a species of evil.

And (F) if certain pleasures are bad, that does not prevent the chief good from being some pleasure, just as the chief good may be some form of knowledge though certain kinds of knowledge are bad. Perhaps it is even necessary, if each disposition has unimpeded activities, that, whether the activity (if unimpeded) of all our dispositions or that of some one of them is happiness, this should be the thing most worthy of our choice; and this activity is pleasure. Thus the chief good would be some pleasure, though most pleasures might perhaps be bad without qualification. And for this reason all men think that the happy life is pleasant and weave pleasure into their ideal of happiness-and reasonably too; for no activity is perfect when it is impeded, and happiness is a perfect thing; this is why the happy man needs the goods of the body and external goods, i.e. those of fortune, viz. in order that he may not be impeded in these ways. Those who say that the victim on the rack or the man who falls into great misfortunes is happy if he is good, are, whether they mean to or not, talking nonsense. Now because we need fortune as well as other things, some people think good fortune the same thing as happiness; but it is not that, for even good fortune itself when in excess is an impediment, and perhaps should then be no longer called good fortune; for its limit is fixed by reference to happiness.

And indeed the fact that all things, both brutes and men, pursue pleasure is an indication of its being somehow the chief good:

No voice is wholly lost that many peoples...

But since no one nature or state either is or is thought the best for all, neither do all pursue the same pleasure; yet all pursue pleasure. And perhaps they actually pursue not the pleasure they think they pursue nor that which they would say they pursue, but the same pleasure; for all things have by nature something divine in them. But the bodily pleasures have appropriated the name both because we oftenest steer our course for them and because all men share in them; thus because they alone are familiar, men think there are no others.

It is evident also that if pleasure, i.e. the activity of our faculties, is not a good, it will not be the case that the happy man lives a pleasant life; for to what end should he need pleasure, if it is not a good but the happy man may even live a painful life? For pain is neither an evil nor a good, if pleasure is not; why then should he avoid it? Therefore, too, the life of the good man will not be pleasanter than that of any one else, if his activities are not more pleasant.

14

(G) With regard to the bodily pleasures, those who say that some pleasures are very much to be chosen, viz. the noble pleasures, but not the bodily pleasures, i.e. those with which the self-indulgent man is concerned, must consider why, then, the contrary pains are bad. For the contrary of bad is good. Are the necessary pleasures good in the sense in which even that which is not bad is good? Or are they good up to a point? Is it that where you have states and processes of which there cannot be too much, there cannot be too much of the corresponding pleasure, and that where there can be too much of the one there can be too much of the other also? Now there can be too much of bodily goods, and the bad man is bad by virtue of pursuing the excess, not by virtue of pursuing the necessary pleasures (for all men enjoy in some way or other both dainty foods and wines and sexual intercourse, but not all men do so as they ought). The contrary is the case with pain; for he does not avoid the excess of it, he avoids it altogether; and this is peculiar to him, for the alternative to excess of pleasure is not pain, except to the man who pursues this excess.

Since we should state not only the truth, but also the cause of error-for this contributes towards producing conviction, since when a reasonable explanation is given of why the false view appears true, this tends to produce belief in the true view-therefore we must state why the bodily pleasures appear the more worthy of choice. (a) Firstly, then, it is because they expel pain; owing to the excesses of pain that men experience, they pursue excessive and in general bodily pleasure as being a cure for the pain. Now curative agencies produce intense feeling-which is the reason why they are pursued-because they show up against the contrary pain. (Indeed pleasure is thought not to be good for these two reasons, as has been said, viz. that (a) some of them are activities belonging to a bad nature-either congenital, as in the case of a brute, or due to habit, i.e. those of bad men; while (b) others are meant to cure a defective nature, and it is better to be in a healthy state than to be getting into it, but these arise during the process of being made perfect and are therefore only incidentally good.) (b) Further, they are pursued because of their violence by those who cannot enjoy other pleasures. (At all events they go out of their way to manufacture thirsts somehow for themselves. When these are harmless, the practice is irreproachable; when they are hurtful, it is bad.) For they have nothing else to enjoy, and, besides, a neutral state is painful to many people because of their nature. For the animal nature is always in travail, as the students of natural science also testify, saying that sight and hearing are painful; but we have become used to this, as they maintain. Similarly, while, in youth, people are, owing to the growth that is going on, in a situation like that of drunken men, and youth is pleasant, on the other hand people of excitable nature always need relief; for even their body is ever in torment owing to its special composition, and they are always under the influence of violent desire; but pain is driven out both by the contrary pleasure, and by any chance pleasure if it be strong; and for these reasons they become self-indulgent and bad. But the pleasures that do not involve pains do not admit of excess; and these are among the things pleasant by nature and not incidentally. By things pleasant incidentally I mean those that act as cures (for because as a result people are cured, through some action of the part that remains healthy, for this reason the process is thought pleasant); by things naturally pleasant I mean those that stimulate the action of the healthy nature.

There is no one thing that is always pleasant, because our nature is not simple but there is another element in us as well, inasmuch as we are perishable creatures, so that if the one element does something, this is unnatural to the other nature, and when the two elements are evenly balanced, what is done seems neither painful nor pleasant; for if the nature of anything were simple, the same action would always be most pleasant to it. This is why God always enjoys a single and simple pleasure; for there is not only an activity of movement but an activity of immobility, and pleasure is found more in rest than in movement. But ‘change in all things is sweet’, as the poet says, because of some vice; for as it is the vicious man that is changeable, so the nature that needs change is vicious; for it is not simple nor good.

We have now discussed continence and incontinence, and pleasure and pain, both what each is and in what sense some of them are good and others bad; it remains to speak of friendship.

Book VIII

1

AFTER what we have said, a discussion of friendship would naturally follow, since it is a virtue or implies virtue, and is besides most necessary with a view to living. For without friends no one would choose to live, though he had all other goods; even rich men and those in possession of office and of dominating power are thought to need friends most of all; for what is the use of such prosperity without the opportunity of beneficence, which is exercised chiefly and in its most laudable form towards friends? Or how can prosperity be guarded and preserved without friends? The greater it is, the more exposed is it to risk. And in poverty and in other misfortunes men think friends are the only refuge. It helps the young, too, to keep from error; it aids older people by ministering to their needs and supplementing the activities that are failing from weakness; those in the prime of life it stimulates to noble actions-'two going together'-for with friends men are more able both to think and to act. Again, parent seems by nature to feel it for offspring and offspring for parent, not only among men but among birds and among most animals; it is felt mutually by members of the same race, and especially by men, whence we praise lovers of their fellowmen. We may even in our travels how near and dear every man is to every other. Friendship seems too to hold states together, and lawgivers to care more for it than for justice; for unanimity seems to be something like friendship, and this they aim at most of all, and expel faction as their worst enemy; and when men are friends they have no need of justice, while when they are just they need friendship as well, and the truest form of justice is thought to be a friendly quality.

But it is not only necessary but also noble; for we praise those who love their friends, and it is thought to be a fine thing to have many friends; and again we think it is the same people that are good men and are friends.

Not a few things about friendship are matters of debate. Some define it as a kind of likeness and say like people are friends, whence come the sayings 'like to like', 'birds of a feather flock together', and so on; others on the contrary say ‘two of a trade never agree’. On this very question they inquire for deeper and more physical causes, Euripides saying that ‘parched earth loves the rain, and stately heaven when filled with rain loves to fall to earth’, and Heraclitus that ‘it is what opposes that helps’ and ‘from different tones comes the fairest tune’ and ‘all things are produced through strife’; while Empedocles, as well as others, expresses the opposite view that like aims at like. The physical problems we may leave alone (for they do not belong to the present inquiry); let us examine those which are human and involve character and feeling, e.g. whether friendship can arise between any two people or people cannot be friends if they are wicked, and whether there is one species of friendship or more than one. Those who think there is only one because it admits of degrees have relied on an inadequate indication; for even things different in species admit of degree. We have discussed this matter previously.

2

The kinds of friendship may perhaps be cleared up if we first come to know the object of love. For not everything seems to be loved but only the lovable, and this is good, pleasant, or useful; but it would seem to be that by which some good or pleasure is produced that is useful, so that it is the good and the useful that are lovable as ends. Do men love, then, the good, or what is good for them? These sometimes clash. So too with regard to the pleasant. Now it is thought that each loves what is good for himself, and that the good is without qualification lovable, and what is good for each man is lovable for him; but each man loves not what is good for him but what seems good. This however will make no difference; we shall just have to say that this is ‘that which seems lovable’. Now there are three grounds on which people love; of the love of lifeless objects we do not use the word ‘friendship’; for it is not mutual love, nor is there a wishing of good to the other (for it would surely be ridiculous to wish wine well; if one wishes anything for it, it is that it may keep, so that one may have it oneself); but to a friend we say we ought to wish what is good for his sake. But to those who thus wish good we ascribe only goodwill, if the wish is not reciprocated; goodwill when it is reciprocal being friendship. Or must we add ‘when it is recognized’? For many people have goodwill to those whom they have not seen but judge to be good or useful; and one of these might return this feeling. These people seem to bear goodwill to each other; but how could one call them friends when they do not know their mutual feelings? To be friends, then, the must be mutually recognized as bearing goodwill and wishing well to each other for one of the aforesaid reasons.

3

Now these reasons differ from each other in kind; so, therefore, do the corresponding forms of love and friendship. There are therefore three kinds of friendship, equal in number to the things that are lovable; for with respect to each there is a mutual and recognized love, and those who love each other wish well to each other in that respect in which they love one another. Now those who love each other for their utility do not love each other for themselves but in virtue of some good which they get from each other. So too with those who love for the sake of pleasure; it is not for their character that men love ready-witted people, but because they find them pleasant. Therefore those who love for the sake of utility love for the sake of what is good for themselves, and those who love for the sake of pleasure do so for the sake of what is pleasant to themselves, and not in so far as the other is the person loved but in so far as he is useful or pleasant. And thus these friendships are only incidental; for it is not as being the man he is that the loved person is loved, but as providing some good or pleasure. Such friendships, then, are easily dissolved, if the parties do not remain like themselves; for if the one party is no longer pleasant or useful the other ceases to love him.

Now the useful is not permanent but is always changing. Thus when the motive of the friendship is done away, the friendship is dissolved, inasmuch as it existed only for the ends in question. This kind of friendship seems to exist chiefly between old people (for at that age people pursue not the pleasant but the useful) and, of those who are in their prime or young, between those who pursue utility. And such people do not live much with each other either; for sometimes they do not even find each other pleasant; therefore they do not need such companionship unless they are useful to each other; for they are pleasant to each other only in so far as they rouse in each other hopes of something good to come. Among such friendships people also class the friendship of a host and guest. On the other hand the friendship of young people seems to aim at pleasure; for they live under the guidance of emotion, and pursue above all what is pleasant to themselves and what is immediately before them; but with increasing age their pleasures become different. This is why they quickly become friends and quickly cease to be so; their friendship changes with the object that is found pleasant, and such pleasure alters quickly. Young people are amorous too; for the greater part of the friendship of love depends on emotion and aims at pleasure; this is why they fall in love and quickly fall out of love, changing often within a single day. But these people do wish to spend their days and lives together; for it is thus that they attain the purpose of their friendship.

Perfect friendship is the friendship of men who are good, and alike in virtue; for these wish well alike to each other qua good, and they are good themselves. Now those who wish well to their friends for their sake are most truly friends; for they do this by reason of own nature and not incidentally; therefore their friendship lasts as long as they are good-and goodness is an enduring thing. And each is good without qualification and to his friend, for the good are both good without qualification and useful to each other. So too they are pleasant; for the good are pleasant both without qualification and to each other, since to each his own activities and others like them are pleasurable, and the actions of the good are the same or like. And such a friendship is as might be expected permanent, since there meet in it all the qualities that friends should have. For all friendship is for the sake of good or of pleasure-good or pleasure either in the abstract or such as will be enjoyed by him who has the friendly feeling-and is based on a certain resemblance; and to a friendship of good men all the qualities we have named belong in virtue of the nature of the friends themselves; for in the case of this kind of friendship the other qualities also are alike in both friends, and that which is good without qualification is also without qualification pleasant, and these are the most lovable qualities. Love and friendship therefore are found most and in their best form between such men.

But it is natural that such friendships should be infrequent; for such men are rare. Further, such friendship requires time and familiarity; as the proverb says, men cannot know each other till they have ‘eaten salt together’; nor can they admit each other to friendship or be friends till each has been found lovable and been trusted by each. Those who quickly show the marks of friendship to each other wish to be friends, but are not friends unless they both are lovable and know the fact; for a wish for friendship may arise quickly, but friendship does not.

4

This kind of friendship, then, is perfect both in respect of duration and in all other respects, and in it each gets from each in all respects the same as, or something like what, he gives; which is what ought to happen between friends. Friendship for the sake of pleasure bears a resemblance to this kind; for good people too are pleasant to each other. So too does friendship for the sake of utility; for the good are also useful to each other. Among men of these inferior sorts too, friendships are most permanent when the friends get the same thing from each other (e.g. pleasure), and not only that but also from the same source, as happens between readywitted people, not as happens between lover and beloved. For these do not take pleasure in the same things, but the one in seeing the beloved and the other in receiving attentions from his lover; and when the bloom of youth is passing the friendship sometimes passes too (for the one finds no pleasure in the sight of the other, and the other gets no attentions from the first); but many lovers on the other hand are constant, if familiarity has led them to love each other’s characters, these being alike. But those who exchange not pleasure but utility in their amour are both less truly friends and less constant. Those who are friends for the sake of utility part when the advantage is at an end; for they were lovers not of each other but of profit.

For the sake of pleasure or utility, then, even bad men may be friends of each other, or good men of bad, or one who is neither good nor bad may be a friend to any sort of person, but for their own sake clearly only good men can be friends; for bad men do not delight in each other unless some advantage come of the relation.

The friendship of the good too and this alone is proof against slander; for it is not easy to trust any one talk about a man who has long been tested by oneself; and it is among good men that trust and the feeling that ‘he would never wrong me’ and all the other things that are demanded in true friendship are found. In the other kinds of friendship, however, there is nothing to prevent these evils arising. For men apply the name of friends even to those whose motive is utility, in which sense states are said to be friendly (for the alliances of states seem to aim at advantage), and to those who love each other for the sake of pleasure, in which sense children are called friends. Therefore we too ought perhaps to call such people friends, and say that there are several kinds of friendship-firstly and in the proper sense that of good men qua good, and by analogy the other kinds; for it is in virtue of something good and something akin to what is found in true friendship that they are friends, since even the pleasant is good for the lovers of pleasure. But these two kinds of friendship are not often united, nor do the same people become friends for the sake of utility and of pleasure; for things that are only incidentally connected are not often coupled together.

Friendship being divided into these kinds, bad men will be friends for the sake of pleasure or of utility, being in this respect like each other, but good men will be friends for their own sake, i.e. in virtue of their goodness. These, then, are friends without qualification; the others are friends incidentally and through a resemblance to these.

5

As in regard to the virtues some men are called good in respect of a state of character, others in respect of an activity, so too in the case of friendship; for those who live together delight in each other and confer benefits on each other, but those who are asleep or locally separated are not performing, but are disposed to perform, the activities of friendship; distance does not break off the friendship absolutely, but only the activity of it. But if the absence is lasting, it seems actually to make men forget their friendship; hence the saying ‘out of sight, out of mind’. Neither old people nor sour people seem to make friends easily; for there is little that is pleasant in them, and no one can spend his days with one whose company is painful, or not pleasant, since nature seems above all to avoid the painful and to aim at the pleasant. Those, however, who approve of each other but do not live together seem to be well-disposed rather than actual friends. For there is nothing so characteristic of friends as living together (since while it people who are in need that desire benefits, even those who are supremely happy desire to spend their days together; for solitude suits such people least of all); but people cannot live together if they are not pleasant and do not enjoy the same things, as friends who are companions seem to do.

The truest friendship, then, is that of the good, as we have frequently said; for that which is without qualification good or pleasant seems to be lovable and desirable, and for each person that which is good or pleasant to him; and the good man is lovable and desirable to the good man for both these reasons. Now it looks as if love were a feeling, friendship a state of character; for love may be felt just as much towards lifeless things, but mutual love involves choice and choice springs from a state of character; and men wish well to those whom they love, for their sake, not as a result of feeling but as a result of a state of character. And in loving a friend men love what is good for themselves; for the good man in becoming a friend becomes a good to his friend. Each, then, both loves what is good for himself, and makes an equal return in goodwill and in pleasantness; for friendship is said to be equality, and both of these are found most in the friendship of the good.

6

Between sour and elderly people friendship arises less readily, inasmuch as they are less good-tempered and enjoy companionship less; for these are thou to be the greatest marks of friendship productive of it. This is why, while men become friends quickly, old men do not; it is because men do not become friends with those in whom they do not delight; and similarly sour people do not quickly make friends either. But such men may bear goodwill to each other; for they wish one another well and aid one another in need; but they are hardly friends because they do not spend their days together nor delight in each other, and these are thought the greatest marks of friendship.

One cannot be a friend to many people in the sense of having friendship of the perfect type with them, just as one cannot be in love with many people at once (for love is a sort of excess of feeling, and it is the nature of such only to be felt towards one person); and it is not easy for many people at the same time to please the same person very greatly, or perhaps even to be good in his eyes. One must, too, acquire some experience of the other person and become familiar with him, and that is very hard. But with a view to utility or pleasure it is possible that many people should please one; for many people are useful or pleasant, and these services take little time.

Of these two kinds that which is for the sake of pleasure is the more like friendship, when both parties get the same things from each other and delight in each other or in the things, as in the friendships of the young; for generosity is more found in such friendships. Friendship based on utility is for the commercially minded. People who are supremely happy, too, have no need of useful friends, but do need pleasant friends; for they wish to live with some one and, though they can endure for a short time what is painful, no one could put up with it continuously, nor even with the Good itself if it were painful to him; this is why they look out for friends who are pleasant. Perhaps they should look out for friends who, being pleasant, are also good, and good for them too; for so they will have all the characteristics that friends should have.

People in positions of authority seem to have friends who fall into distinct classes; some people are useful to them and others are pleasant, but the same people are rarely both; for they seek neither those whose pleasantness is accompanied by virtue nor those whose utility is with a view to noble objects, but in their desire for pleasure they seek for ready-witted people, and their other friends they choose as being clever at doing what they are told, and these characteristics are rarely combined. Now we have said that the good man is at the same time pleasant and useful; but such a man does not become the friend of one who surpasses him in station, unless he is surpassed also in virtue; if this is not so, he does not establish equality by being proportionally exceeded in both respects. But people who surpass him in both respects are not so easy to find.

However that may be, the aforesaid friendships involve equality; for the friends get the same things from one another and wish the same things for one another, or exchange one thing for another, e.g. pleasure for utility; we have said, however, that they are both less truly friendships and less permanent.

But it is from their likeness and their unlikeness to the same thing that they are thought both to be and not to be friendships. It is by their likeness to the friendship of virtue that they seem to be friendships (for one of them involves pleasure and the other utility, and these characteristics belong to the friendship of virtue as well); while it is because the friendship of virtue is proof against slander and permanent, while these quickly change (besides differing from the former in many other respects), that they appear not to be friendships; i.e. it is because of their unlikeness to the friendship of virtue.

7

But there is another kind of friendship, viz. that which involves an inequality between the parties, e.g. that of father to son and in general of elder to younger, that of man to wife and in general that of ruler to subject. And these friendships differ also from each other; for it is not the same that exists between parents and children and between rulers and subjects, nor is even that of father to son the same as that of son to father, nor that of husband to wife the same as that of wife to husband. For the virtue and the function of each of these is different, and so are the reasons for which they love; the love and the friendship are therefore different also. Each party, then, neither gets the same from the other, nor ought to seek it; but when children render to parents what they ought to render to those who brought them into the world, and parents render what they should to their children, the friendship of such persons will be abiding and excellent. In all friendships implying inequality the love also should be proportional, i.e. the better should be more loved than he loves, and so should the more useful, and similarly in each of the other cases; for when the love is in proportion to the merit of the parties, then in a sense arises equality, which is certainly held to be characteristic of friendship.

But equality does not seem to take the same form in acts of justice and in friendship; for in acts of justice what is equal in the primary sense is that which is in proportion to merit, while quantitative equality is secondary, but in friendship quantitative equality is primary and proportion to merit secondary. This becomes clear if there is a great interval in respect of virtue or vice or wealth or anything else between the parties; for then they are no longer friends, and do not even expect to be so. And this is most manifest in the case of the gods; for they surpass us most decisively in all good things. But it is clear also in the case of kings; for with them, too, men who are much their inferiors do not expect to be friends; nor do men of no account expect to be friends with the best or wisest men. In such cases it is not possible to define exactly up to what point friends can remain friends; for much can be taken away and friendship remain, but when one party is removed to a great distance, as God is, the possibility of friendship ceases. This is in fact the origin of the question whether friends really wish for their friends the greatest goods, e.g. that of being gods; since in that case their friends will no longer be friends to them, and therefore will not be good things for them (for friends are good things). The answer is that if we were right in saying that friend wishes good to friend for his sake, his friend must remain the sort of being he is, whatever that may be; therefore it is for him oily so long as he remains a man that he will wish the greatest goods. But perhaps not all the greatest goods; for it is for himself most of all that each man wishes what is good.

8

Most people seem, owing to ambition, to wish to be loved rather than to love; which is why most men love flattery; for the flatterer is a friend in an inferior position, or pretends to be such and to love more than he is loved; and being loved seems to be akin to being honoured, and this is what most people aim at. But it seems to be not for its own sake that people choose honour, but incidentally. For most people enjoy being honoured by those in positions of authority because of their hopes (for they think that if they want anything they will get it from them; and therefore they delight in honour as a token of favour to come); while those who desire honour from good men, and men who know, are aiming at confirming their own opinion of themselves; they delight in honour, therefore, because they believe in their own goodness on the strength of the judgement of those who speak about them. In being loved, on the other hand, people delight for its own sake; whence it would seem to be better than being honoured, and friendship to be desirable in itself. But it seems to lie in loving rather than in being loved, as is indicated by the delight mothers take in loving; for some mothers hand over their children to be brought up, and so long as they know their fate they love them and do not seek to be loved in return (if they cannot have both), but seem to be satisfied if they see them prospering; and they themselves love their children even if these owing to their ignorance give them nothing of a mother’s due. Now since friendship depends more on loving, and it is those who love their friends that are praised, loving seems to be the characteristic virtue of friends, so that it is only those in whom this is found in due measure that are lasting friends, and only their friendship that endures.

It is in this way more than any other that even unequals can be friends; they can be equalized. Now equality and likeness are friendship, and especially the likeness of those who are like in virtue; for being steadfast in themselves they hold fast to each other, and neither ask nor give base services, but (one may say) even prevent them; for it is characteristic of good men neither to go wrong themselves nor to let their friends do so. But wicked men have no steadfastness (for they do not remain even like to themselves), but become friends for a short time because they delight in each other's wickedness. Friends who are useful or pleasant last longer; i.e. as long as they provide each other with enjoyments or advantages. Friendship for utility's sake seems to be that which most easily exists between contraries, e.g. between poor and rich, between ignorant and learned; for what a man actually lacks he aims at, and one gives something else in return. But under this head, too, might bring lover and beloved, beautiful and ugly. This is why lovers sometimes seem ridiculous, when they demand to be loved as they love; if they are equally lovable their claim can perhaps be justified, but when they have nothing lovable about them it is ridiculous. Perhaps, however, contrary does not even aim at contrary by its own nature, but only incidentally, the desire being for what is intermediate; for that is what is good, e.g. it is good for the dry not to become wet but to come to the intermediate state, and similarly with the hot and in all other cases. These subjects we may dismiss; for they are indeed somewhat foreign to our inquiry.

9

Friendship and justice seem, as we have said at the outset of our discussion, to be concerned with the same objects and exhibited between the same persons. For in every community there is thought to be some form of justice, and friendship too; at least men address as friends their fellow-voyagers and fellowsoldiers, and so too those associated with them in any other kind of community. And the extent of their association is the extent of their friendship, as it is the extent to which justice exists between them. And the proverb 'what friends have is common property' expresses the truth; for friendship depends on community. Now brothers and comrades have all things in common, but the others to whom we have referred have definite things in common-some more things, others fewer; for of friendships, too, some are more and others less truly friendships. And the claims of justice differ too; the duties of parents to children, and those of brothers to each other are not the same, nor those of comrades and those of fellow-citizens, and so, too, with the other kinds of friendship. There is a difference, therefore, also between the acts that are unjust towards each of these classes of associates, and the injustice increases by being exhibited towards those who are friends in a fuller sense; e.g. it is a more terrible thing to defraud a comrade than a fellow-citizen, more terrible not to help a brother than a stranger, and more terrible to wound a father than any one else. And the demands of justice also seem to increase with the intensity of the friendship, which implies that friendship and justice exist between the same persons and have an equal extension.

Now all forms of community are like parts of the political community; for men journey together with a view to some particular advantage, and to provide something that they need for the purposes of life; and it is for the sake of advantage that the political community too seems both to have come together originally and to endure, for this is what legislators aim at, and they call just that which is to the common advantage. Now the other communities aim at advantage bit by bit, e.g. sailors at what is advantageous on a voyage with a view to making money or something of the kind, fellow-soldiers at what is advantageous in war, whether it is wealth or victory or the taking of a city that they seek, and members of tribes and demes act similarly (Some communities seem to arise for the sake or pleasure, viz. religious guilds and social clubs; for these exist respectively for the sake of offering sacrifice and of companionship. But all these seem to fall under the political community; for it aims not at present advantage but at what is advantageous for life as a whole), offering sacrifices and arranging gatherings for the purpose, and assigning honours to the gods, and providing pleasant relaxations for themselves. For the ancient sacrifices and gatherings seem to take place after the harvest as a sort of firstfruits, because it was at these seasons that people had most leisure. All the communities, then, seem to be parts of the political community; and the particular kinds friendship will correspond to the particular kinds of community.

10

There are three kinds of constitution, and an equal number of deviation-forms — perversions, as it were, of them. The constitutions are monarchy, aristocracy, and thirdly that which is based on a property qualification, which it seems appropriate to call timocratic, though most people are wont to call it polity. The best of these is monarchy, the worst timocracy. The deviation from monarchy is tyrany; for both are forms of one-man rule, but there is the greatest difference between them; the tyrant looks to his own advantage, the king to that of his subjects. For a man is not a king unless he is sufficient to himself and excels his subjects in all good things; and such a man needs nothing further; therefore he will not look to his own interests but to those of his subjects; for a king who is not like that would be a mere titular king. Now tyranny is the very contrary of this; the tyrant pursues his own good. And it is clearer in the case of tyranny that it is the worst deviation-form; but it is the contrary of the best that is worst. Monarchy passes over into tyranny; for tyranny is the evil form of one-man rule and the bad king becomes a tyrant. Aristocracy passes over into oligarchy by the badness of the rulers, who distribute contrary to equity what belongs to the city-all or most of the good things to themselves, and office always to the same people, paying most regard to wealth; thus the rulers are few and are bad men instead of the most worthy. Timocracy passes over into democracy; for these are coterminous, since it is the ideal even of timocracy to be the rule of the majority, and all who have the property qualification count as equal. Democracy is the least bad of the deviations; for in its case the form of constitution is but a slight deviation. These then are the changes to which constitutions are most subject; for these are the smallest and easiest transitions.

One may find resemblances to the constitutions and, as it were, patterns of them even in households. For the association of a father with his sons bears the form of monarchy, since the father cares for his children; and this is why Homer calls Zeus ‘father’; it is the ideal of monarchy to be paternal rule. But among the Persians the rule of the father is tyrannical; they use their sons as slaves. Tyrannical too is the rule of a master over slaves; for it is the advantage of the master that is brought about in it. Now this seems to be a correct form of government, but the Persian type is perverted; for the modes of rule appropriate to different relations are diverse. The association of man and wife seems to be aristocratic; for the man rules in accordance with his worth, and in those matters in which a man should rule, but the matters that befit a woman he hands over to her. If the man rules in everything the relation passes over into oligarchy; for in doing so he is not acting in accordance with their respective worth, and not ruling in virtue of his superiority. Sometimes, however, women rule, because they are heiresses; so their rule is not in virtue of excellence but due to wealth and power, as in oligarchies. The association of brothers is like timocracy; for they are equal, except in so far as they differ in age; hence if they differ much in age, the friendship is no longer of the fraternal type. Democracy is found chiefly in masterless dwellings (for here every one is on an equality), and in those in which the ruler is weak and every one has licence to do as he pleases.

11

Each of the constitutions may be seen to involve friendship just in so far as it involves justice. The friendship between a king and his subjects depends on an excess of benefits conferred; for he confers benefits on his subjects if being a good man he cares for them with a view to their well-being, as a shepherd does for his sheep (whence Homer called Agamemnon ‘shepherd of the peoples’). Such too is the friendship of a father, though this exceeds the other in the greatness of the benefits conferred; for he is responsible for the existence of his children, which is thought the greatest good, and for their nurture and upbringing.

These things are ascribed to ancestors as well. Further, by nature a father tends to rule over his sons, ancestors over descendants, a king over his subjects. These friendships imply superiority of one party over the other, which is why ancestors are honoured. The justice therefore that exists between persons so related is not the same on both sides but is in every case proportioned to merit; for that is true of the friendship as well. The friendship of man and wife, again, is the same that is found in an aristocracy; for it is in accordance with virtue the better gets more of what is good, and each gets what befits him; and so, too, with the justice in these relations. The friendship of brothers is like that of comrades; for they are equal and of like age, and such persons are for the most part like in their feelings and their character. Like this, too, is the friendship appropriate to timocratic government; for in such a constitution the ideal is for the citizens to be equal and fair; therefore rule is taken in turn, and on equal terms; and the friendship appropriate here will correspond.

But in the deviation-forms, as justice hardly exists, so too does friendship. It exists least in the worst form; in tyranny there is little or no friendship. For where there is nothing common to ruler and ruled, there is not friendship either, since there is not justice; e.g. between craftsman and tool, soul and body, master and slave; the latter in each case is benefited by that which uses it, but there is no friendship nor justice towards lifeless things. But neither is there friendship towards a horse or an ox, nor to a slave qua slave. For there is nothing common to the two parties; the slave is a living tool and the tool a lifeless slave. Qua slave then, one cannot be friends with him. But qua man one can; for there seems to be some justice between any man and any other who can share in a system of law or be a party to an agreement; therefore there can also be friendship with him in so far as he is a man. Therefore while in tyrannies friendship and justice hardly exist, in democracies they exist more fully; for where the citizens are equal they have much in common.

12

Every form of friendship, then, involves association, as has been said. One might, however, mark off from the rest both the friendship of kindred and that of comrades. Those of fellow-citizens, fellow-tribesmen, fellow-voyagers, and the like are more like mere friendships of association; for they seem to rest on a sort of compact. With them we might class the friendship of host and guest. The friendship of kinsmen itself, while it seems to be of many kinds, appears to depend in every case on parental friendship; for parents love their children as being a part of themselves, and children their parents as being something originating from them. Now (1) arents know their offspring better than there children know that they are their children, and (2) the originator feels his offspring to be his own more than the offspring do their begetter; for the product belongs to the producer (e.g. a tooth or hair or anything else to him whose it is), but the producer does not belong to the product, or belongs in a less degree. And (3) the length of time produces the same result; parents love their children as soon as these are born, but children love their parents only after time has elapsed and they have acquired understanding or the power of discrimination by the senses. From these considerations it is also plain why mothers love more than fathers do. Parents, then, love their children as themselves (for their issue are by virtue of their separate existence a sort of other selves), while children love their parents as being born of them, and brothers love each other as being born of the same parents; for their identity with them makes them identical with each other (which is the reason why people talk of ‘the same blood’, ‘the same stock’, and so on). They are, therefore, in a sense the same thing, though in separate individuals. Two things that contribute greatly to friendship are a common upbringing and similarity of age; for ‘two of an age take to each other’, and people brought up together tend to be comrades; whence the friendship of brothers is akin to that of comrades. And cousins and other kinsmen are bound up together by derivation from brothers, viz. by being derived from the same parents. They come to be closer together or farther apart by virtue of the nearness or distance of the original ancestor.

The friendship of children to parents, and of men to gods, is a relation to them as to something good and superior; for they have conferred the greatest benefits, since they are the causes of their being and of their nourishment, and of their education from their birth; and this kind of friendship possesses pleasantness and utility also, more than that of strangers, inasmuch as their life is lived more in common. The friendship of brothers has the characteristics found in that of comrades (and especially when these are good), and in general between people who are like each other, inasmuch as they belong more to each other and start with a love for each other from their very birth, and inasmuch as those born of the same parents and brought up together and similarly educated are more akin in character; and the test of time has been applied most fully and convincingly in their case.

Between other kinsmen friendly relations are found in due proportion. Between man and wife friendship seems to exist by nature; for man is naturally inclined to form couples-even more than to form cities, inasmuch as the household is earlier and more necessary than the city, and reproduction is more common to man with the animals. With the other animals the union extends only to this point, but human beings live together not only for the sake of reproduction but also for the various purposes of life; for from the start the functions are divided, and those of man and woman are different; so they help each other by throwing their peculiar gifts into the common stock. It is for these reasons that both utility and pleasure seem to be found in this kind of friendship. But this friendship may be based also on virtue, if the parties are good; for each has its own virtue and they will delight in the fact. And children seem to be a bond of union (which is the reason why childless people part more easily); for children are a good common to both and what is common holds them together.

How man and wife and in general friend and friend ought mutually to behave seems to be the same question as how it is just for them to behave; for a man does not seem to have the same duties to a friend, a stranger, a comrade, and a schoolfellow.

13

There are three kinds of friendship, as we said at the outset of our inquiry, and in respect of each some are friends on an equality and others by virtue of a superiority (for not only can equally good men become friends but a better man can make friends with a worse, and similarly in friendships of pleasure or utility the friends may be equal or unequal in the benefits they confer). This being so, equals must effect the required equalization on a basis of equality in love and in all other respects, while unequals must render what is in proportion to their superiority or inferiority. Complaints and reproaches arise either only or chiefly in the friendship of utility, and this is only to be expected. For those who are friends on the ground of virtue are anxious to do well by each other (since that is a mark of virtue and of friendship), and between men who are emulating each other in this there cannot be complaints or quarrels; no one is offended by a man who loves him and does well by him-if he is a person of nice feeling he takes his revenge by doing well by the other. And the man who excels the other in the services he renders will not complain of his friend, since he gets what he aims at; for each man desires what is good. Nor do complaints arise much even in friendships of pleasure; for both get at the same time what they desire, if they enjoy spending their time together; and even a man who complained of another for not affording him pleasure would seem ridiculous, since it is in his power not to spend his days with him.

But the friendship of utility is full of complaints; for as they use each other for their own interests they always want to get the better of the bargain, and think they have got less than they should, and blame their partners because they do not get all they ‘want and deserve’; and those who do well by others cannot help them as much as those whom they benefit want.

Now it seems that, as justice is of two kinds, one unwritten and the other legal, one kind of friendship of utility is moral and the other legal. And so complaints arise most of all when men do not dissolve the relation in the spirit of the same type of friendship in which they contracted it. The legal type is that which is on fixed terms; its purely commercial variety is on the basis of immediate payment, while the more liberal variety allows time but stipulates for a definite quid pro quo. In this variety the debt is clear and not ambiguous, but in the postponement it contains an element of friendliness; and so some states do not allow suits arising out of such agreements, but think men who have bargained on a basis of credit ought to accept the consequences. The moral type is not on fixed terms; it makes a gift, or does whatever it does, as to a friend; but one expects to receive as much or more, as having not given but lent; and if a man is worse off when the relation is dissolved than he was when it was contracted he will complain. This happens because all or most men, while they wish for what is noble, choose what is advantageous; now it is noble to do well by another without a view to repayment, but it is the receiving of benefits that is advantageous. Therefore if we can we should return the equivalent of what we have received (for we must not make a man our friend against his will; we must recognize that we were mistaken at the first and took a benefit from a person we should not have taken it from-since it was not from a friend, nor from one who did it just for the sake of acting so-and we must settle up just as if we had been benefited on fixed terms). Indeed, one would agree to repay if one could (if one could not, even the giver would not have expected one to do so); therefore if it is possible we must repay. But at the outset we must consider the man by whom we are being benefited and on what terms he is acting, in order that we may accept the benefit on these terms, or else decline it.

It is disputable whether we ought to measure a service by its utility to the receiver and make the return with a view to that, or by the benevolence of the giver. For those who have received say they have received from their benefactors what meant little to the latter and what they might have got from others-minimizing the service; while the givers, on the contrary, say it was the biggest thing they had, and what could not have been got from others, and that it was given in times of danger or similar need. Now if the friendship is one that aims at utility, surely the advantage to the receiver is the measure. For it is he that asks for the service, and the other man helps him on the assumption that he will receive the equivalent; so the assistance has been precisely as great as the advantage to the receiver, and therefore he must return as much as he has received, or even more (for that would be nobler). In friendships based on virtue on the other hand, complaints do not arise, but the purpose of the doer is a sort of measure; for in purpose lies the essential element of virtue and character.

14

Differences arise also in friendships based on superiority; for each expects to get more out of them, but when this happens the friendship is dissolved. Not only does the better man think he ought to get more, since more should be assigned to a good man, but the more useful similarly expects this; they say a useless man should not get as much as they should, since it becomes an act of public service and not a friendship if the proceeds of the friendship do not answer to the worth of the benefits conferred. For they think that, as in a commercial partnership those who put more in get more out, so it should be in friendship. But the man who is in a state of need and inferiority makes the opposite claim; they think it is the part of a good friend to help those who are in need; what, they say, is the use of being the friend of a good man or a powerful man, if one is to get nothing out of it?

At all events it seems that each party is justified in his claim, and that each should get more out of the friendship than the other-not more of the same thing, however, but the superior more honour and the inferior more gain; for honour is the prize of virtue and of beneficence, while gain is the assistance required by inferiority.

It seems to be so in constitutional arrangements also; the man who contributes nothing good to the common stock is not honoured; for what belongs to the public is given to the man who benefits the public, and honour does belong to the public. It is not possible to get wealth from the common stock and at the same time honour. For no one puts up with the smaller share in all things; therefore to the man who loses in wealth they assign honour and to the man who is willing to be paid, wealth, since the proportion to merit equalizes the parties and preserves the friendship, as we have said. This then is also the way in which we should associate with unequals; the man who is benefited in respect of wealth or virtue must give honour in return, repaying what he can. For friendship asks a man to do what he can, not what is proportional to the merits of the case; since that cannot always be done, e.g.

in honours paid to the gods or to parents; for no one could ever return to them the equivalent of what he gets, but the man who serves them to the utmost of his power is thought to be a good man. This is why it would not seem open to a man to disown his father (though a father may disown his son); being in debt, he should repay, but there is nothing by doing which a son will have done the equivalent of what he has received, so that he is always in debt. But creditors can remit a debt; and a father can therefore do so too. At the same time it is thought that presumably no one would repudiate a son who was not far gone in wickedness; for apart from the natural friendship of father and son it is human nature not to reject a son's assistance. But the son, if he is wicked, will naturally avoid aiding his father, or not be zealous about it; for most people wish to get benefits, but avoid doing them, as a thing unprofitable.-So much for these questions.

Book IX

1

IN all friendships between dissimilars it is, as we have said, proportion that equalizes the parties and preserves the friendship; e.g. in the political form of friendship the shoemaker gets a return for his shoes in proportion to his worth, and the weaver and all other craftsmen do the same. Now here a common measure has been provided in the form of money, and therefore everything is referred to this and measured by this; but in the friendship of lovers sometimes the lover complains that his excess of love is not met by love in return though perhaps there is nothing lovable about him), while often the beloved complains that the lover who formerly promised everything now performs nothing. Such incidents happen when the lover loves the beloved for the sake of pleasure while the beloved loves the lover for the sake of utility, and they do not both possess the qualities expected of them. If these be the objects of the friendship it is dissolved when they do not get the things that formed the motives of their love; for each did not love the other person himself but the qualities he had, and these were not enduring; that is why the friendships also are transient. But the love of characters, as has been said, endures because it is self-dependent. Differences arise when what they get is something different and not what they desire; for it is like getting nothing at all when we do not get what we aim at; compare the story of the person who made promises to a lyre-player, promising him the more, the better he sang, but in the morning, when the other demanded the fulfilment of his promises, said that he had given pleasure for pleasure. Now if this had been what each wanted, all would have been well; but if the one wanted enjoyment but the other gain, and the one has what he wants while the other has not, the terms of the association will not have been properly fulfilled; for what each in fact wants is what he attends to, and it is for the sake of that that that he will give what he has.

But who is to fix the worth of the service; he who makes the sacrifice or he who has got the advantage? At any rate the other seems to leave it to him.

This is what they say Protagoras used to do; whenever he taught anything whatsoever, he bade the learner assess the value of the knowledge, and accepted the amount so fixed. But in such matters some men approve of the saying ‘let a man have his fixed reward’. Those who get the money first and then do none of the things they said they would, owing to the extravagance of their promises, naturally find themselves the objects of complaint; for they do not fulfil what they agreed to. The sophists are perhaps compelled to do this because no one would give money for the things they do know. These people then, if they do not do what they have been paid for, are naturally made the objects of complaint.

But where there is no contract of service, those who give up something for the sake of the other party cannot (as we have said) be complained of (for that is the nature of the friendship of virtue), and the return to them must be made on the basis of their purpose (for it is purpose that is the characteristic thing in a friend and in virtue). And so too, it seems, should one make a return to those with whom one has studied philosophy; for their worth cannot be measured against money, and they can get no honour which will balance their services, but still it is perhaps enough, as it is with the gods and with one’s parents, to give them what one can.

If the gift was not of this sort, but was made with a view to a return, it is no doubt preferable that the return made should be one that seems fair to both parties, but if this cannot be achieved, it would seem not only necessary that the person who gets the first service should fix the reward, but also just; for if the other gets in return the equivalent of the advantage the beneficiary has received, or the price lie would have paid for the pleasure, he will have got what is fair as from the other.

We see this happening too with things put up for sale, and in some places there are laws providing that no actions shall arise out of voluntary contracts, on the assumption that one should settle with a person to whom one has given credit, in the spirit in which one bargained with him. The law holds that it is more just that the person to whom credit was given should fix the terms than that the person who gave credit should do so. For most things are not assessed at the same value by those who have them and those who want them; each class values highly what is its own and what it is offering; yet the return is made on the terms fixed by the receiver. But no doubt the receiver should assess a thing not at what it seems worth when he has it, but at what he assessed it at before he had it.

2

A further problem is set by such questions as, whether one should in all things give the preference to one’s father and obey him, or whether when one is ill one should trust a doctor, and when one has to elect a general should elect a man of military skill; and similarly whether one should render a service by preference to a friend or to a good man, and should show gratitude to a benefactor or oblige a friend, if one cannot do both.

All such questions are hard, are they not, to decide with precision? For they admit of many variations of all sorts in respect both of the magnitude of the service and of its nobility necessity. But that we should not give the preference in all things to the same person is plain enough; and we must for the most part return benefits rather than oblige friends, as we must pay back a loan to a creditor rather than make one to a friend. But perhaps even this is not always true; e.g. should a man who has been ransomed out of the hands of brigands ransom his ransomer in return, whoever he may be (or pay him if he has not been captured but demands payment) or should he ransom his father? It would seem that he should ransom his father in preference even to himself. As we have said, then, generally the debt should be paid, but if the gift is exceedingly noble or exceedingly necessary, one should defer to these considerations. For sometimes it is not even fair to return the equivalent of what one has received, when the one man has done a service to one whom he knows to be good, while the other makes a return to one whom he believes to be bad. For that matter, one should sometimes not lend in return to one who has lent to oneself; for the one person lent to a good man, expecting to recover his loan, while the other has no hope of recovering from one who is believed to be bad. Therefore if the facts really are so, the demand is not fair; and if they are not, but people think they are, they would be held to be doing nothing strange in refusing. As we have often pointed out, then, discussions about feelings and actions have just as much definiteness as their subject-matter.

That we should not make the same return to every one, nor give a father the preference in everything, as one does not sacrifice everything to Zeus, is plain enough; but since we ought to render different things to parents, brothers, comrades, and benefactors, we ought to render to each class what is appropriate and becoming. And this is what people seem in fact to do; to marriages they invite their kinsfolk; for these have a part in the family and therefore in the doings that affect the family; and at funerals also they think that kinsfolk, before all others, should meet, for the same reason. And it would be thought that in the matter of food we should help our parents before all others, since we owe our own nourishment to them, and it is more honourable to help in this respect the authors of our being even before ourselves; and honour too one should give to one's parents as one does to the gods, but not any and every honour; for that matter one should not give the same honour to one's father and one's mother, nor again should one give them the honour due to a philosopher or to a general, but the honour due to a father, or again to a mother. To all older persons, too, one should give honour appropriate to their age, by rising to receive them and finding seats for them and so on; while to comrades and brothers one should allow freedom of speech and common use of all things. To kinsmen, too, and fellow-tribesmen and fellow-citizens and to every other class one should always try to assign what is appropriate, and to compare the claims of each class with respect to nearness of relation and to virtue or usefulness. The comparison is easier when the persons belong to the same class, and more laborious when they are different. Yet we must not on that account shrink from the task, but decide the question as best we can.

3

Another question that arises is whether friendships should or should not be broken off when the other party does not remain the same. Perhaps we may say that there is nothing strange in breaking off a friendship based on utility or pleasure, when our friends no longer have these attributes. For it was of these attributes that we were the friends; and when these have failed it is reasonable to love no longer. But one might complain of another if, when he loved us for our usefulness or pleasantness, he pretended to love us for our character. For, as we said at the outset, most differences arise between friends when they are not friends in the spirit in which they think they are. So when a man has deceived himself and has thought he was being loved for his character, when the other person was doing nothing of the kind, he must blame himself; when he has been deceived by the pretences of the other person, it is just that he should complain against his deceiver; he will complain with more justice than one does against people who counterfeit the currency, inasmuch as the wrongdoing is concerned with something more valuable.

But if one accepts another man as good, and he turns out badly and is seen to do so, must one still love him? Surely it is impossible, since not everything can be loved, but only what is good. What is evil neither can nor should be loved; for it is not one's duty to be a lover of evil, nor to become like what is bad; and we have said that like is dear like. Must the friendship, then, be forthwith broken off? Or is this not so in all cases, but only when one's friends are incurable in their wickedness? If they are capable of being reformed one should rather come to the assistance of their character or their property, inasmuch as this is better and more characteristic of friendship. But a man who breaks off such a friendship would seem to be doing nothing strange; for it was not to a man of this sort that he was a friend; when his friend has changed, therefore, and he is unable to save him, he gives him up.

But if one friend remained the same while the other became better and far outstripped him in virtue, should the latter treat the former as a friend? Surely he cannot. When the interval is great this becomes most plain, e.g. in the case of childish friendships; if one friend remained a child in intellect while the other became a fully developed man, how could they be friends when they neither approved of the same things nor delighted in and were pained by the same things? For not even with regard to each other will their tastes agree, and without this (as we saw) they cannot be friends; for they cannot live together. But we have discussed these matters.

Should he, then, behave no otherwise towards him than he would if he had never been his friend? Surely he should keep a remembrance of their former intimacy, and as we think we ought to oblige friends rather than strangers, so to those who have been our friends we ought to make some allowance for our former friendship, when the breach has not been due to excess of wickedness.

4

Friendly relations with one's neighbours, and the marks by which friendships are defined, seem to have proceeded from a man's relations to himself. For

(1) we define a friend as one who wishes and does what is good, or seems so, for the sake of his friend, or (2) as one who wishes his friend to exist and live, for his sake; which mothers do to their children, and friends do who have come into conflict. And (3) others define him as one who lives with and (4) has the same tastes as another, or (5) one who grieves and rejoices with his friend; and this too is found in mothers most of all. It is by some one of these characterstics that friendship too is defined.

Now each of these is true of the good man's relation to himself (and of all other men in so far as they think themselves good; virtue and the good man seem, as has been said, to be the measure of every class of things). For his opinions are harmonious, and he desires the same things with all his soul; and therefore he wishes for himself what is good and what seems so, and does it (for it is characteristic of the good man to work out the good), and does so for his own sake (for he does it for the sake of the intellectual element in him, which is thought to be the man himself); and he wishes himself to live and be preserved, and especially the element by virtue of which he thinks. For existence is good to the virtuous man, and each man wishes himself what is good, while no one chooses to possess the whole world if he has first to become some one else (for that matter, even now God possesses the good); he wishes for this only on condition of being whatever he is; and the element that thinks would seem to be the individual man, or to be so more than any other element in him. And such a man wishes to live with himself; for he does so with pleasure, since the memories of his past acts are delightful and his hopes for the future are good, and therefore pleasant. His mind is well stored too with subjects of contemplation. And he grieves and rejoices, more than any other, with himself; for the same thing is always painful, and the same thing always pleasant, and not one thing at one time and another at another; he has, so to speak, nothing to repent of.

Therefore, since each of these characteristics belongs to the good man in relation to himself, and he is related to his friend as to himself (for his friend is another self), friendship too is thought to be one of these attributes, and those who have these attributes to be friends. Whether there is or is not friendship between a man and himself is a question we may dismiss for the present; there would seem to be friendship in so far as he is two or more, to judge from the afore-mentioned attributes of friendship, and from the fact that the extreme of friendship is likened to one's love for oneself.

But the attributes named seem to belong even to the majority of men, poor creatures though they may be. Are we to say then that in so far as they are satisfied with themselves and think they are good, they share in these attributes? Certainly no one who is thoroughly bad and impious has these attributes, or even seems to do so. They hardly belong even to inferior people; for they are at variance with themselves, and have appetites for some things and rational desires for others. This is true, for instance, of incontinent people; for they choose, instead of the things they themselves think good, things that are pleasant but hurtful; while others again, through cowardice and laziness, shrink from doing what they think best for themselves. And those who have done many terrible deeds and are hated for their wickedness even shrink from life and destroy themselves. And wicked men seek for people with whom to spend their days, and shun themselves; for they remember many a grevious deed, and anticipate others like them, when they are by themselves, but when they are with others they forget. And having nothing lovable in them they have no feeling of love to themselves. Therefore also such men do not rejoice or grieve with themselves; for their soul is rent by faction, and one element in it by reason of its wickedness grieves when it abstains from certain acts, while the other part is pleased, and one draws them this way and the other that, as if they were pulling them in pieces. If a man cannot at the same time be pained and pleased, at all events after a short time he is pained because he was pleased, and he could have wished that these things had not been pleasant to him; for bad men are laden with repentance.

Therefore the bad man does not seem to be amicably disposed even to himself, because there is nothing in him to love; so that if to be thus is the height of wretchedness, we should strain every nerve to avoid wickedness and should endeavour to be good; for so and only so can one be either friendly to oneself or a friend to another.

5

Goodwill is a friendly sort of relation, but is not identical with friendship; for one may have goodwill both towards people whom one does not know, and without their knowing it, but not friendship. This has indeed been said already.’ But goodwill is not even friendly feeling. For it does not involve intensity or desire, whereas these accompany friendly feeling; and friendly feeling implies intimacy while goodwill may arise of a sudden, as it does towards competitors in a contest; we come to feel goodwill for them and to share in their wishes, but we would not do anything with them; for, as we said, we feel goodwill suddenly and love them only superficially.

Goodwill seems, then, to be a beginning of friendship, as the pleasure of the eye is the beginning of love. For no one loves if he has not first been delighted by the form of the beloved, but he who delights in the form of another does not, for all that, love him, but only does so when he also longs for him when absent and craves for his presence; so too it is not possible for people to be friends if they have not come to feel goodwill for each other, but those who feel goodwill are not for all that friends; for they only wish well to those for whom they feel goodwill, and would not do anything with them nor take trouble for them. And so one might by an extension of the term friendship say that goodwill is inactive friendship, though when it is prolonged and reaches the point of intimacy it becomes friendship-not the friendship based on utility nor that based on pleasure; for goodwill too does not arise on those terms. The man who has received a benefit bestows goodwill in return for what has been done to him, but in doing so is only doing what is just; while he who wishes some one to prosper because he hopes for enrichment through him seems to have goodwill not to him but rather to himself, just as a man is not a friend to another if he cherishes him for the sake of some use to be made of him. In general, goodwill arises on account of some excellence and worth, when one man seems to another beautiful or brave or something of the sort, as we pointed out in the case of competitors in a contest.

6

Unanimity also seems to be a friendly relation. For this reason it is not identity of opinion; for that might occur even with people who do not know each other; nor do we say that people who have the same views on any and every subject are unanimous, e.g. those who agree about the heavenly bodies (for unanimity about these is not a friendly relation), but we do say that a city is unanimous when men have the same opinion about what is to their interest, and choose the same actions, and do what they have resolved in common. It is about things to be done, therefore, that people are said to be unanimous, and, among these, about matters of consequence and in which it is possible for both or all parties to get what they want; e.g. a city is unanimous when all its citizens think that the offices in it should be elective, or that they should form an alliance with Sparta, or that Pittacus should be their ruler-at a time when he himself was also willing to rule. But when each of two people wishes himself to have the thing in question, like the captains in the Phoenissae, they are in a state of faction; for it is not unanimity when each of two parties thinks of the same thing, whatever that may be, but only when they think of the same thing in the same hands, e.g. when both the common people and those of the better class wish the best men to rule; for thus and thus alone do all get what they aim at. Unanimity seems, then, to be political friendship, as indeed it is commonly said to be; for it is concerned with things that are to our interest and have an influence on our life.

Now such unanimity is found among good men; for they are unanimous both in themselves and with one another, being, so to say, of one mind (for the wishes of such men are constant and not at the mercy of opposing currents like a strait of the sea), and they wish for what is just and what is advantageous, and these are the objects of their common endeavour as well. But bad men cannot be unanimous except to a small extent, any more than they can be friends, since they aim at getting more than their share of advantages, while in labour and public service they fall short of their share; and each man wishing for advantage to himself criticizes his neighbour and stands in his way; for if people do not watch it carefully the common weal is soon destroyed. The result is that they are in a state of faction, putting compulsion on each other but unwilling themselves to do what is just.

7

Benefactors are thought to love those they have benefited, more than those who have been well treated love those that have treated them well, and this is discussed as though it were paradoxical. Most people think it is because the latter are in the position of debtors and the former of creditors; and therefore as, in the case of loans, debtors wish their creditors did not exist, while creditors actually take care of the safety of their debtors, so it is thought that benefactors wish the objects of their action to exist since they will then get their gratitude, while the beneficiaries take no interest in making this return.

Epicharmus would perhaps declare that they say this because they 'look at things on their bad side', but it is quite like human nature; for most people are forgetful, and are more anxious to be well treated than to treat others well. But the cause would seem to be more deeply rooted in the nature of things; the case of those who have lent money is not even analogous. For they have no friendly feeling to their debtors, but only a wish that they may kept safe with a view to what is to be got from them; while those who have done a service to others feel friendship and love for those they have served even if these are not of any use to them and never will be. This is what happens with craftsmen too; every man loves his own handiwork better than he would be loved by it if it came alive; and this happens perhaps most of all with poets; for they have an excessive love for their own poems, doting on them as if they were their children. This is what the position of benefactors is like; for that which they have treated well is their handiwork, and therefore they love this more than the handiwork does its maker. The cause of this is that existence is to all men a thing to be chosen and loved, and that we exist by virtue of activity (i.e. by living and acting), and that the handiwork is in a sense, the producer in activity; he loves his handiwork, therefore, because he loves existence. And this is rooted in the nature of things; for what he is in potentiality, his handiwork manifests in activity.

At the same time to the benefactor that is noble which depends on his action, so that he delights in the object of his action, whereas to the patient there is nothing noble in the agent, but at most something advantageous, and this is less pleasant and lovable. What is pleasant is the activity of the present, the hope of the future, the memory of the past; but most pleasant is that which depends on activity, and similarly this is most lovable. Now for a man who has made something his work remains (for the noble is lasting), but for the person acted on the utility passes away. And the memory of noble things is pleasant, but that of useful things is not likely to be pleasant, or is less so; though the reverse seems true of expectation.

Further, love is like activity, being loved like passivity; and loving and its concomitants are attributes of those who are the more active.

Again, all men love more what they have won by labour; e.g. those who have made their money love it more than those who have inherited it; and to be well treated seems to involve no labour, while to treat others well is a laborious task. These are the reasons, too, why mothers are fonder of their children than fathers; bringing them into the world costs them more pains, and they know better that the children are their own. This last point, too, would seem to apply to benefactors.

8

The question is also debated, whether a man should love himself most, or some one else. People criticize those who love themselves most, and call them self-lovers, using this as an epithet of disgrace, and a bad man seems to do everything for his own sake, and the more so the more wicked he is-and so men reproach him, for instance, with doing nothing of his own accord-while the good man acts for honour's sake, and the more so the better he is, and acts for his friend's sake, and sacrifices his own interest.

But the facts clash with these arguments, and this is not surprising. For men say that one ought to love best one's best friend, and man's best friend is one who wishes well to the object of his wish for his sake, even if no one is to know of it; and these attributes are found most of all in a man's attitude towards himself, and so are all the other attributes by which a friend is defined; for, as we have said, it is from this relation that all the characteristics of friendship have extended to our neighbours. All the proverbs, too, agree with this, e.g. 'a single soul', and 'what friends have is common property', and 'friendship is equality', and 'charity begins at home'; for all these marks will be found most in a man's relation to himself; he is his own best friend and therefore ought to love himself best. It is therefore a reasonable question, which of the two views we should follow; for both are plausible.

Perhaps we ought to mark off such arguments from each other and determine how far and in what respects each view is right. Now if we grasp the sense in which each school uses the phrase 'lover of self', the truth may become evident. Those who use the term as one of reproach ascribe self-love to people who assign to themselves the greater share of wealth, honours, and bodily pleasures; for these are what most people desire, and busy themselves about as though they were the best of all things, which is the reason, too, why they become objects of competition. So those who are grasping with regard to these things gratify their appetites and in general their feelings and the irrational element of the soul; and most men are of this nature (which is the reason why the epithet has come to be used as it is-it takes its meaning from the prevailing type of self-love, which is a bad one); it is just, therefore, that men who are lovers of self in this way are reproached for being so. That it is those who give themselves the preference in regard to objects of this sort that most people usually call lovers of self is plain; for if a man were always anxious that he himself, above all things, should act justly, temperately, or in accordance with any other of the virtues, and in general were always to try to secure for himself the honourable course, no one will call such a man a lover of self or blame him.

But such a man would seem more than the other a lover of self; at all events he assigns to himself the things that are noblest and best, and gratifies the most authoritative element in and in all things obeys this; and just as a city or any other systematic whole is most properly identified with the most authoritative element in it, so is a man; and therefore the man who loves this and gratifies it is most of all a lover of self. Besides, a man is said to have or not to have self-control according as his reason has or has not the control, on the assumption that this is the man himself; and the things men have done on a rational principle are thought most properly their own acts and voluntary acts. That this is the man himself, then, or is so more than anything else, is plain, and also that the good man loves most this part of him. Whence it follows that he is most truly a lover of self, of another type than that which is a matter of reproach, and as different from that as living according to a rational principle is from living as passion dictates, and desiring what is noble from desiring what seems advantageous. Those, then, who busy themselves in an exceptional degree with noble actions all men approve and praise; and if all were to strive towards what is noble and strain every nerve to do the noblest deeds, everything would be as it should be for the common weal, and every one would secure for himself the goods that are greatest, since virtue is the greatest of goods.

Therefore the good man should be a lover of self (for he will both himself profit by doing noble acts, and will benefit his fellows), but the wicked man should not; for he will hurt both himself and his neighbours, following as he does evil passions. For the wicked man, what he does clashes with what he ought to do, but what the good man ought to do he does; for reason in each of its possessors chooses what is best for itself, and the good man obeys his reason. It is true of the good man too that he does many acts for the sake of his friends and his country, and if necessary dies for them; for he will throw away both wealth and honours and in general the goods that are objects of competition, gaining for himself nobility; since he would prefer a short period of intense pleasure to a long one of mild enjoyment, a twelvemonth of noble life to many years of humdrum existence, and one great and noble action to many trivial ones. Now those who die for others doubtless attain this result; it is therefore a great prize that they choose for themselves. They will throw away wealth too on condition that their friends will gain more; for while a man's friend gains wealth he himself achieves nobility; he is therefore assigning the greater good to himself. The same too is true of honour and office; all these things he will sacrifice to his friend; for this is noble and laudable for himself. Rightly then is he thought to be good, since he chooses nobility before all else. But he may even give up actions to his friend; it may be nobler to become the cause of his friend's acting than to act himself. In all the actions, therefore, that men are praised for, the good man is seen to assign to himself the greater share in what is noble. In this sense, then, as has been said, a man should be a lover of self; but in the sense in which most men are so, he ought not.

9

It is also disputed whether the happy man will need friends or not. It is said that those who are supremely happy and self-sufficient have no need of friends; for they have the things that are good, and therefore being self-sufficient they need nothing further, while a friend, being another self, furnishes what a man cannot provide by his own effort; whence the saying 'when fortune is kind, what need of friends?' But it seems strange, when one assigns all good things to the happy man, not to assign friends, who are thought the greatest of external goods. And if it is more characteristic of a friend to do well by another than to be well done by, and to confer benefits is characteristic of the good man and of virtue, and it is nobler to do well by friends than by strangers, the good man will need people to do well by. This is why the question is asked whether we need friends more in prosperity or in adversity, on the assumption that not only does a man in adversity need people to confer benefits on him, but also those who are prospering need people to do well by. Surely it is strange, too, to make the supremely happy man a solitary; for no one would choose the whole world on condition of being alone, since man is a political creature and one whose nature is to live with others. Therefore even the happy man lives with others; for he has the things that are by nature good. And plainly it is better to spend his days with friends and good men than with strangers or any chance persons. Therefore the happy man needs friends.

What then is it that the first school means, and in what respect is it right? Is it that most identify friends with useful people? Of such friends indeed the supremely happy man will have no need, since he already has the things that are good; nor will he need those whom one makes one's friends because of their pleasantness, or he will need them only to a small extent (for his life, being pleasant, has no need of adventitious pleasure); and because he does not need such friends he is thought not to need friends.

But that is surely not true. For we have said at the outset that happiness is an activity; and activity plainly comes into being and is not present at the start like a piece of property. If (1) happiness lies in living and being active, and the good man's activity is virtuous and pleasant in itself, as we have said at the outset, and (2) a thing's being one's own is one of the attributes that make it pleasant, and (3) we can contemplate our neighbours better than ourselves and their actions better than our own, and if the actions of virtuous men who are their friends are pleasant to good men (since these have both the attributes that are naturally pleasant),-if this be so, the supremely happy man will need friends of this sort, since his purpose is to contemplate worthy actions and actions that are his own, and the actions of a good man who is his friend have both these qualities.

Further, men think that the happy man ought to live pleasantly. Now if he were a solitary, life would be hard for him; for by oneself it is not easy to be continuously active; but with others and towards others it is easier. With others therefore his activity will be more continuous, and it is in itself pleasant, as it ought to be for the man who is supremely happy; for a good man qua good delights in virtuous actions and is vexed at vicious ones, as a musical man enjoys beautiful tunes but is pained at bad ones. A certain training in virtue arises also from the company of the good, as Theognis has said before us.

If we look deeper into the nature of things, a virtuous friend seems to be naturally desirable for a virtuous man. For that which is good by nature, we have said, is for the virtuous man good and pleasant in itself. Now life is defined in the case of animals by the power of perception in that of man by the power of perception or thought; and a power is defined by reference to the corresponding activity, which is the essential thing; therefore life seems to be essentially the act of perceiving or thinking. And life is among the things that are good and pleasant in themselves, since it is determinate and the determinate is of the nature of the good; and that which is good by nature is also good for the virtuous man (which is the reason why life seems pleasant to all men); but we must not apply this to a wicked and corrupt life nor to a life spent in pain; for such a life is indeterminate, as are its attributes. The nature of pain will become plainer in what follows. But if life itself is good and pleasant (which it seems to be, from the very fact that all men desire it, and particularly those who are good and supremely happy; for to such men life is most desirable, and their existence is the most supremely happy) and if he who sees perceives that he sees, and he who hears, that he hears, and he who walks, that he walks, and in the case of all other activities similarly there is something which perceives that we are active, so that if we perceive, we perceive that we perceive, and if we think, that we think; and if to perceive that we perceive or think is to perceive that we exist (for existence was defined as perceiving or thinking); and if perceiving that one lives is in itself one of the things that are pleasant (for life is by nature good, and to perceive what is good present in oneself is pleasant); and if life is desirable, and particularly so for good men, because to them existence is good and pleasant for they are pleased at the consciousness of the presence in them of what is in itself good); and if as the virtuous man is to himself, he is to his friend also (for his friend is another self):-if all this be true, as his own being is desirable for each man, so, or almost so, is that of his friend. Now his being was seen to be desirable because he perceived his own goodness, and such perception is pleasant in itself. He needs, therefore, to be conscious of the existence of his friend as well, and this will be realized in their living together and sharing in discussion and thought; for this is what living together would seem to mean in the case of man, and not, as in the case of cattle, feeding in the same place.

If, then, being is in itself desirable for the supremely happy man (since it is by its nature good and pleasant), and that of his friend is very much the same, a friend will be one of the things that are desirable. Now that which is desirable for him he must have, or he will be deficient in this respect. The man who is to be happy will therefore need virtuous friends.

10

Should we, then, make as many friends as possible, or-as in the case of hospitality it is thought to be suitable advice, that one should be ‘neither a man of many guests nor a man with none’-will that apply to friendship as well; should a man neither be friendless nor have an excessive number of friends?

To friends made with a view to utility this saying would seem thoroughly applicable; for to do services to many people in return is a laborious task and life is not long enough for its performance. Therefore friends in excess of those who are sufficient for our own life are superfluous, and hindrances to the noble life; so that we have no need of them. Of friends made with a view to pleasure, also, few are enough, as a little seasoning in food is enough.

But as regards good friends, should we have as many as possible, or is there a limit to the number of one’s friends, as there is to the size of a city? You cannot make a city of ten men, and if there are a hundred thousand it is a city no longer. But the proper number is presumably not a single number, but anything that falls between certain fixed points. So for friends too there is a fixed number perhaps the largest number with whom one can live together (for that, we found, thought to be very characteristic of friendship); and that one cannot live with many people and divide oneself up among them is plain. Further, they too must be friends of one another, if they are all to spend their days together; and it is a hard business for this condition to be fulfilled with a large number. It is found difficult, too, to rejoice and to grieve in an intimate way with many people, for it may likely happen that one has at once to be happy with one friend and to mourn with another. Presumably, then, it is well not to seek to have as many friends as possible, but as many as are enough for the purpose of living together; for it would seem actually impossible to be a great friend to many people. This is why one cannot love several people; love is ideally a sort of excess of friendship, and that can only be felt towards one person; therefore great friendship too can only be felt towards a few people. This seems to be confirmed in practice; for we do not find many people who are friends in the comradely way of friendship, and the famous friendships of this sort are always between two people. Those who have many friends and mix intimately with them all are thought to be no one’s friend, except in the way proper to fellow-citizens, and such people are also called obsequious. In the way proper to fellow-citizens, indeed, it is possible to be the friend of many and yet not be obsequious but a genuinely good man; but one cannot have with many people the friendship based on virtue and on the character of our friends themselves, and we must be content if we find even a few such.

11

Do we need friends more in good fortune or in bad? They are sought after in both; for while men in adversity need help, in prosperity they need people to live with and to make the objects of their beneficence; for they wish to do well by others. Friendship, then, is more necessary in bad fortune, and so it is useful friends that one wants in this case; but it is more noble in good fortune, and so we also seek for good men as our friends, since it is more desirable to confer benefits on these and to live with these. For the very presence of friends is pleasant both in good fortune and also in bad, since grief is lightened when friends sorrow with us. Hence one might ask whether they share as it were our burden, or-without that happening-their presence by its pleasantness, and the thought of their grieving with us, make our pain less. Whether it is for these reasons or for some other that our grief is lightened, is a question that may be dismissed; at all events what we have described appears to take place.

But their presence seems to contain a mixture of various factors. The very seeing of one’s friends is pleasant, especially if one is in adversity, and becomes a safeguard against grief (for a friend tends to comfort us both by the sight of him and by his words, if he is tactful, since he knows our character and the things that please or pain us); but to see him pained at our misfortunes is painful; for every one shuns being a cause of pain to his friends. For this reason people of a manly nature guard against making their friends grieve with them, and, unless he be exceptionally insensible to pain, such a man cannot stand the pain that ensues for his friends, and in general does not admit fellow-mourners because he is not himself given to mourning; but women and womanly men enjoy sympathisers in their grief, and love them as friends and companions in sorrow. But in all things one obviously ought to imitate the better type of person.

On the other hand, the presence of friends in our prosperity implies both a pleasant passing of our time and the pleasant thought of their pleasure at our own good fortune. For this cause it would seem that we ought to summon our friends readily to share our good fortunes (for the beneficent character is a noble one), but summon them to our bad fortunes with hesitation; for we ought to give them as little a share as possible in our evils whence the saying ‘enough is my misfortune’. We should summon friends to us most of all when they are likely by suffering a few inconveniences to do us a great service.

Conversely, it is fitting to go unasked and readily to the aid of those in adversity (for it is characteristic of a friend to render services, and especially to those who are in need and have not demanded them; such action is nobler and pleasanter for both persons); but when our friends are prosperous we should join readily in their activities (for they need friends for these too), but be tardy in coming forward to be the objects of their kindness; for it is not noble to be keen to receive benefits. Still, we must no doubt avoid getting the reputation of kill-joys by repulsing them; for that sometimes happens.

The presence of friends, then, seems desirable in all circumstances.

12

Does it not follow, then, that, as for lovers the sight of the beloved is the thing they love most, and they prefer this sense to the others because on it love depends most for its being and for its origin, so for friends the most desirable thing is living together? For friendship is a partnership, and as a man is to himself, so is he to his friend; now in his own case the consciousness of his being is desirable, and so therefore is the consciousness of his friend’s being, and the activity of this consciousness is produced when they live together, so that it is natural that they aim at this. And whatever existence means for each class of men, whatever it is for whose sake they value life, in that they wish to occupy themselves with their friends; and so some drink together, others dice together, others join in athletic exercises and hunting, or in the study of philosophy, each class spending their days together in whatever they love most in life; for since they wish to live with their friends, they do and share in those things which give them the sense of living together. Thus the friendship of bad men turns out an evil thing (for because of their instability they unite in bad pursuits, and besides they become evil by becoming like each other), while the friendship of good men is good, being augmented by their companionship; and they are thought to become better too by their activities and by improving each other; for from each other they take the mould of the characteristics they approve-whence the saying ‘noble deeds from noble men’.-So much, then, for friendship; our next task must be to discuss pleasure.

Book X

1

AFTER these matters we ought perhaps next to discuss pleasure. For it is thought to be most intimately connected with our human nature, which is the reason why in educating the young we steer them by the rudders of pleasure and pain; it is thought, too, that to enjoy the things we ought and to hate the things we ought has the greatest bearing on virtue of character. For these things extend right through life, with a weight and power of their own in respect both to virtue and to the happy life, since men choose what is pleasant and avoid what is painful; and such things, it will be thought, we should least of all omit to discuss, especially since they admit of much dispute. For some say pleasure is the good, while others, on the contrary, say it is thoroughly bad-some no doubt being persuaded that the facts are so, and others thinking it has a better effect on our life to exhibit pleasure as a bad thing even if it is not; for most people (they think) incline towards it and are the slaves of their pleasures, for which reason they ought to lead them in the opposite direction, since thus they will reach the middle state. But surely this is not correct. For arguments about matters concerned with feelings and actions are less reliable than facts: and so when they clash with the facts of perception they are despised, and discredit the truth as well; if a man who runs down pleasure is once seen to be alming at it, his inclining towards it is thought to imply that it is all worthy of being aimed at; for most people are not good at drawing distinctions. True arguments seem, then, most useful, not only with a view to knowledge, but with a view to life also; for since they harmonize with the facts they are believed, and so they stimulate those who understand them to live according to them.-Enough of such questions; let us proceed to review the opinions that have been expressed about pleasure.

2

Eudoxus thought pleasure was the good because he saw all things, both rational and irrational, aiming at it, and because in all things that which is the object of choice is what is excellent, and that which is most the object of choice the greatest good; thus the fact that all things moved towards the same object indicated that this was for all things the chief good (for each thing, he argued, finds its own good, as it finds its own nourishment); and that which is good for all things and at which all aim was the good. His arguments were credited more because of the excellence of his character than for their own sake; he was thought to be remarkably self-controlled, and therefore it was thought that he was not saying what he did say as a friend of pleasure, but that the facts really were so. He believed that the same conclusion followed no less plainly from a study of the contrary of pleasure; pain was in itself an object of aversion to all things, and therefore its contrary must be similarly an object of choice. And again that is most an object of choice which we choose not because or for the sake of something else, and pleasure is admittedly of this nature; for no one asks to what end he is pleased, thus implying that pleasure is in itself an object of choice. Further, he argued that pleasure when added to any good, e.g. to just or temperate action, makes it more worthy of choice, and that it is only by itself that the good can be increased.

This argument seems to show it to be one of the goods, and no more a good than any other; for every good is more worthy of choice along with another good than taken alone. And so it is by an argument of this kind that Plato proves the good not to be pleasure; he argues that the pleasant life is more desirable with wisdom than without, and that if the mixture is better, pleasure is not the good; for the good cannot become more desirable by the addition of anything to it. Now it is clear that nothing else, any more than pleasure, can be the good if it is made more desirable by the addition of any of the things that are good in themselves. What, then, is there that satisfies this criterion, which at the same time we can participate in? It is something of this sort that we are looking for. Those who object that that at which all things aim is not necessarily good are, we may surmise, talking nonsense. For we say that that which every one thinks really is so; and the man who attacks this belief will hardly have anything more credible to maintain instead. If it is senseless creatures that desire the things in question, there might be something in what they say; but if intelligent creatures do so as well, what sense can there be in this view? But perhaps even in inferior creatures there is some natural good stronger than themselves which aims at their proper good.

Nor does the argument about the contrary of pleasure seem to be correct. They say that if pain is an evil it does not follow that pleasure is a good; for evil is opposed to evil and at the same time both are opposed to the neutral state-which is correct enough but does not apply to the things in question. For if both pleasure and pain belonged to the class of evils they ought both to be objects of aversion, while if they belonged to the class of neutrals neither should be an object of aversion or they should both be equally so; but in fact people evidently avoid the one as evil and choose the other as good; that then must be the nature of the opposition between them.

3

Nor again, if pleasure is not a quality, does it follow that it is not a good; for the activities of virtue are not qualities either, nor is happiness. They say, however, that the good is determinate, while pleasure is indeterminate, because it admits of degrees. Now if it is from the feeling of pleasure that they judge thus, the same will be true of justice and the other virtues, in respect of which we plainly say that people of a certain character are so more or less, and act more or less in accordance with these virtues; for people may be more just or brave, and it is possible also to act justly or temperately more or less. But if their judgement is based on the various pleasures, surely they are not stating the real cause, if in fact some pleasures are unmixed and others mixed. Again, just as health admits of degrees without being indeterminate, why should not pleasure? The same proportion is not found in all things, nor a single proportion always in the same thing, but it may be relaxed and yet persist up to a point, and it may differ in degree. The case of pleasure also may therefore be of this kind.

Again, they assume that the good is perfect while movements and comings into being are imperfect, and try to exhibit pleasure as being a movement and a coming into being. But they do not seem to be right even in saying that it is a movement. For speed and slowness are thought to be proper to every movement, and if a movement, e.g. that of the heavens, has not speed or slowness in itself, it has it in relation to something else; but of pleasure neither of these things is true. For while we may become pleased quickly as we may become angry quickly, we cannot be pleased quickly, not even in relation to some one else, while we can walk, or grow, or the like, quickly.

While, then, we can change quickly or slowly into a state of pleasure, we cannot quickly exhibit the activity of pleasure, i.e. be pleased. Again, how can it be a coming into being? It is not thought that any chance thing can come out of any chance thing, but that a thing is dissolved into that out of which it comes into being; and pain would be the destruction of that of which pleasure is the coming into being.

They say, too, that pain is the lack of that which is according to nature, and pleasure is replenishment. But these experiences are bodily. If then pleasure is replenishment with that which is according to nature, that which feels pleasure will be that in which the replenishment takes place, i.e. the body; but that is not thought to be the case; therefore the replenishment is not pleasure, though one would be pleased when replenishment was taking place, just as one would be pained if one was being operated on. This opinion seems to be based on the pains and pleasures connected with nutrition; on the fact that when people have been short of food and have felt pain beforehand they are pleased by the replenishment. But this does not happen with all pleasures; for the pleasures of learning and, among the sensuous pleasures, those of smell, and also many sounds and sights, and memories and hopes, do not presuppose pain. Of what then will these be the coming into being? There has not been lack of anything of which they could be the supplying anew.

In reply to those who bring forward the disgraceful pleasures one may say that these are not pleasant; if things are pleasant to people of vicious constitution, we must not suppose that they are also pleasant to others than these, just as we do not reason so about the things that are wholesome or sweet or bitter to sick people, or ascribe whiteness to the things that seem white to those suffering from a disease of the eye. Or one might answer thus-that the pleasures are desirable, but not from these sources, as wealth is desirable, but not as the reward of betrayal, and health, but not at the cost of eating anything and everything. Or perhaps pleasures differ in kind; for those derived from noble sources are different from those derived from base sources, and one cannot the pleasure of the just man without being just, nor that of the musical man without being musical, and so on.

The fact, too, that a friend is different from a flatterer seems to make it plain that pleasure is not a good or that pleasures are different in kind; for the one is thought to consort with us with a view to the good, the other with a view to our pleasure, and the one is reproached for his conduct while the other is praised on the ground that he consorts with us for different ends. And no one would choose to live with the intellect of a child throughout his life, however much he were to be pleased at the things that children are pleased at, nor to get enjoyment by doing some most disgraceful deed, though he were never to feel any pain in consequence. And there are many things we should be keen about even if they brought no pleasure, e.g. seeing, remembering, knowing, possessing the virtues. If pleasures necessarily do accompany these, that makes no odds; we should choose these even if no pleasure resulted. It seems to be clear, then, that neither is pleasure the good nor is all pleasure desirable, and that some pleasures are desirable in themselves, differing in kind or in their sources from the others. So much for the things that are said about pleasure and pain.

4

What pleasure is, or what kind of thing it is, will become plainer if we take up the question aga from the beginning. Seeing seems to be at any moment complete, for it does not lack anything which coming into being later will complete its form; and pleasure also seems to be of this nature. For it is a whole, and at no time can one find a pleasure whose form will be completed if the pleasure lasts longer. For this reason, too, it is not a movement. For every movement (e.g. that of building) takes time and is for the sake of an end, and is complete when it has made what it aims at. It is complete, therefore, only in the whole time or at that final moment. In their parts and during the time they occupy, all movements are incomplete, and are different in kind from the whole movement and from each other. For the fitting together of the stones is different from the fluting of the column, and these are both different from the making of the temple; and the making of the temple is complete (for it lacks nothing with a view to the end proposed), but the making of the base or of the triglyph is incomplete; for each is the making of only a part. They differ in kind, then, and it is not possible to find at any and every time a movement complete in form, but if at all, only in the whole time. So, too, in the case of walking and all other movements. For if locomotion is a movement from to there, it, too, has differences in kind-flying, walking, leaping, and so on. And not only so, but in walking itself there are such differences; for the whence and whither are not the same in the whole racecourse and in a part of it, nor in one part and in another, nor is it the same thing to traverse this line and that; for one traverses not only a line but one which is in a place, and this one is in a different place from that. We have discussed movement with precision in another work, but it seems that it is not complete at any and every time, but that the many movements are incomplete and different in kind, since the whence and whither give them their form. But of pleasure the form is complete at any and every time. Plainly, then, pleasure and movement must be different from each other, and pleasure must be one of the things that are whole and complete. This would seem to be the case, too, from the fact that it is not possible to move otherwise than in time, but it is possible to be pleased; for that which takes place in a moment is a whole.

From these considerations it is clear, too, that these thinkers are not right in saying there is a movement or a coming into being of pleasure. For these cannot be ascribed to all things, but only to those that are divisible and not wholes; there is no coming into being of seeing nor of a point nor of a unit, nor is any of these a movement or coming into being; therefore there is no movement or coming into being of pleasure either; for it is a whole.

Since every sense is active in relation to its object, and a sense which is in good condition acts perfectly in relation to the most beautiful of its objects (for perfect activity seems to be ideally of this nature; whether we say that it is active, or the organ in which it resides, may be assumed to be immaterial), it follows that in the case of each sense the best activity is that of the best-conditioned organ in relation to the finest of its objects. And this activity will be the most complete and pleasant. For, while there is pleasure in respect of any sense, and in respect of thought and contemplation no less, the most complete is pleasantest, and that of a well-conditioned organ in relation to the worthiest of its objects is the most complete; and the pleasure completes the activity. But the pleasure does not complete it in the same way as the combination of object and sense, both good, just as health and the doctor are not in the same way the cause of a man’s being healthy. (That pleasure is produced in respect to each sense is plain; for we speak of sights and sounds as pleasant. It is also plain that it arises most of all when both the sense is at its best and it is active in reference to an object which corresponds; when both object and perceiver are of the best there will always be pleasure, since the requisite agent and patient are both present.) Pleasure completes the activity not as the corresponding permanent state does, by its immanence, but as an end which supervenes as the bloom of youth does on those in the flower of their age. So long, then, as both the intelligible or sensible object and the discriminating or contemplative faculty are as they should be, the pleasure will be involved in the activity; for when both the passive and the active factor are unchanged and are related to each other in the same way, the same result naturally follows.

How, then, is it that no one is continuously pleased? Is it that we grow weary? Certainly all human beings are incapable of continuous activity. Therefore pleasure also is not continuous; for it accompanies activity. Some things delight us when they are new, but later do so less, for the same reason; for at first the mind is in a state of stimulation and intensely active about them, as people are with respect to their vision when they look hard at a thing, but afterwards our activity is not of this kind, but has grown relaxed; for which reason the pleasure also is dulled.

One might think that all men desire pleasure because they all aim at life; life is an activity, and each man is active about those things and with those faculties that he loves most; e.g. the musician is active with his hearing in reference to tunes, the student with his mind in reference to theoretical questions, and so on in each case; now pleasure completes the activities, and therefore life, which they desire. It is with good reason, then, that they aim at pleasure too, since for every one it completes life, which is desirable. But whether we choose life for the sake of pleasure or pleasure for the sake of life is a question we may dismiss for the present. For they seem to be bound up together and not to admit of separation, since without activity pleasure does not arise, and every activity is completed by the attendant pleasure.

5

For this reason pleasures seem, too, to differ in kind. For things different in kind are, we think, completed by different things (we see this to be true both of natural objects and of things produced by art, e.g. animals, trees, a painting, a sculpture, a house, an implement); and, similarly, we think that activities differing in kind are completed by things differing in kind. Now the activities of thought differ from those of the senses, and both differ among themselves, in kind; so, therefore, do the pleasures that complete them.

This may be seen, too, from the fact that each of the pleasures is bound up with the activity it completes. For an activity is intensified by its proper pleasure, since each class of things is better judged of and brought to precision by those who engage in the activity with pleasure; e.g. it is those who enjoy geometrical thinking that become geometers and grasp the various propositions better, and, similarly, those who are fond of music or of building, and so on, make progress in their proper function by enjoying it; so the pleasures intensify the activities, and what intensifies a thing is proper to it, but things different in kind have properties different in kind.

This will be even more apparent from the fact that activities are hindered by pleasures arising from other sources. For people who are fond of playing the flute are incapable of attending to arguments if they overhear some one playing the flute, since they enjoy flute-playing more than the activity in hand; so the pleasure connected with fluteplaying destroys the activity concerned with argument. This happens, similarly, in all other cases, when one is active about two things at once; the more pleasant activity drives out the other, and if it is much more pleasant does so all the more, so that one even ceases from the other. This is why when we enjoy anything very much we do not throw ourselves into anything else, and do one thing only when we are not much pleased by another; e.g. in the theatre the people who eat sweets do so most when the actors are poor. Now since activities are made precise and more enduring and better by their proper pleasure, and injured by alien pleasures, evidently the two kinds of pleasure are far apart. For alien pleasures do pretty much what proper pains do, since activities are destroyed by their proper pains; e.g. if a man finds writing or doing sums unpleasant and painful, he does not write, or does not do sums, because the activity is painful. So an activity suffers contrary effects from its proper pleasures and pains, i.e. from those that supervene on it in virtue of its own nature. And alien pleasures have been stated to do much the same as pain; they destroy the activity, only not to the same degree.

Now since activities differ in respect of goodness and badness, and some are worthy to be chosen, others to be avoided, and others neutral, so, too, are the pleasures; for to each activity there is a proper pleasure. The pleasure proper to a worthy activity is good and that proper to an unworthy activity bad; just as the appetites for noble objects are laudable, those for base objects culpable. But the pleasures involved in activities are more proper to them than the desires; for the latter are separated both in time and in nature, while the former are close to the activities, and so hard to distinguish from them that it admits of dispute whether the activity is not the same as the pleasure. (Still, pleasure does not seem to be thought or perception-that would be strange; but because they are not found apart they appear to some people the same.) As activities are different, then, so are the corresponding pleasures. Now sight is superior to touch in purity, and hearing and smell to taste; the pleasures, therefore, are similarly superior, and those of thought superior to these, and within each of the two kinds some are superior to others.

Each animal is thought to have a proper pleasure, as it has a proper function; viz. that which corresponds to its activity. If we survey them species by species, too, this will be evident; horse, dog, and man have different pleasures, as Heraclitus says ‘asses would prefer sweepings to gold’; for food is pleasanter than gold to asses. So the pleasures of creatures different in kind differ in kind, and it is plausible to suppose that those of a single species do not differ. But they vary to no small extent, in the case of men at least; the same things delight some people and pain others, and are painful and odious to some, and pleasant to and liked by others. This happens, too, in the case of sweet things; the same things do not seem sweet to a man in a fever and a healthy man-nor hot to a weak man and one in good condition. The same happens in other cases. But in all such matters that which appears to the good man is thought to be really so. If this is correct, as it seems to be, and virtue and the good man as such are the measure of each thing, those also will be pleasures which appear so to him, and those things pleasant which he enjoys. If the things he finds tiresome seem pleasant to some one, that is nothing surprising; for men may be ruined and spoilt in many ways; but the things are not pleasant, but only pleasant to these people and to people in this condition. Those which are admittedly disgraceful plainly should not be said to be pleasures, except to a perverted taste; but of those that are thought to be good what kind of pleasure or what pleasure should be said to be that proper to man? Is it not plain from the corresponding activities? The pleasures follow these. Whether, then, the perfect and supremely happy man has one or more activities, the pleasures that perfect these will be said in the strict sense to be pleasures proper to man, and the rest will be so in a secondary and fractional way, as are the activities.

6

Now that we have spoken of the virtues, the forms of friendship, and the varieties of pleasure, what remains is to discuss in outline the nature of happiness, since this is what we state the end of human nature to be. Our discussion will be the more concise if we first sum up what we have said already. We said, then, that it is not a disposition; for if it were it might belong to some one who was asleep throughout his life, living the life of a plant, or, again, to some one who was suffering the greatest misfortunes. If these implications are unacceptable, and we must rather class happiness as an activity, as we have said before, and if some activities are necessary, and desirable for the sake of something else, while others are so in themselves, evidently happiness must be placed among those desirable in themselves, not among those desirable for the sake of something else; for happiness does not lack anything, but is self-sufficient. Now those activities are desirable in themselves from which nothing is sought beyond the activity. And of this nature virtuous actions are thought to be; for to do noble and good deeds is a thing desirable for its own sake.

Pleasant amusements also are thought to be of this nature; we choose them not for the sake of other things; for we are injured rather than benefited by them, since we are led to neglect our bodies and our property. But most of the people who are deemed happy take refuge in such pastimes, which is the reason why those who are ready-witted at them are highly esteemed at the courts of tyrants; they make themselves pleasant companions in the tyrants' favourite pursuits, and that is the sort of man they want. Now these things are thought to be of the nature of happiness because people in despotic positions spend their leisure in them, but perhaps such people prove nothing; for virtue and reason, from which good activities flow, do not depend on despotic position; nor, if these people, who have never tasted pure and generous pleasure, take refuge in the bodily pleasures, should these for that reason be thought more desirable; for boys, too, think the things that are valued among themselves are the best. It is to be expected, then, that, as different things seem valuable to boys and to men, so they should to bad men and to good. Now, as we have often maintained, those things are both valuable and pleasant which are such to the good man; and to each man the activity in accordance with his own disposition is most desirable, and, therefore, to the good man that which is in accordance with virtue. Happiness, therefore, does not lie in amusement; it would, indeed, be strange if the end were amusement, and one were to take trouble and suffer hardship all one's life in order to amuse oneself. For, in a word, everything that we choose we choose for the sake of something else-except happiness, which is an end. Now to exert oneself and work for the sake of amusement seems silly and utterly childish. But to amuse oneself in order that one may exert oneself, as Anacharsis puts it, seems right; for amusement is a sort of relaxation, and we need relaxation because we cannot work continuously. Relaxation, then, is not an end; for it is taken for the sake of activity.

The happy life is thought to be virtuous; now a virtuous life requires exertion, and does not consist in amusement. And we say that serious things are better than laughable things and those connected with amusement, and that the activity of the better of any two things-whether it be two elements of our being or two men-is the more serious; but the activity of the better is ipso facto superior and more of the nature of happiness. And any chance person-even a slave-can enjoy the bodily pleasures no less than the best man; but no one assigns to a slave a share in happiness-unless he assigns to him also a share in human life. For happiness does not lie in such occupations, but, as we have said before, in virtuous activities.

7

If happiness is activity in accordance with virtue, it is reasonable that it should be in accordance with the highest virtue; and this will be that of the best thing in us. Whether it be reason or something else that is this element which is thought to be our natural ruler and guide and to take thought of things noble and divine, whether it be itself also divine or only the most divine element in us, the activity of this in accordance with its proper virtue will be perfect happiness. That this activity is contemplative we have already said.

Now this would seem to be in agreement both with what we said before and with the truth. For, firstly, this activity is the best (since not only is reason the best thing in us, but the objects of reason are the best of knowable objects); and secondly, it is the most continuous, since we can contemplate truth more continuously than we can do anything. And we think happiness has pleasure mingled with it, but the activity of philosophic wisdom is admittedly the pleasantest of virtuous activities; at all events the pursuit of it is thought to offer pleasures marvellous for their purity and their enduringness, and it is to be expected that those who know will pass their time more pleasantly than those who inquire. And the self-sufficiency that is spoken of must belong most to the contemplative activity. For while a philosopher, as well as a just man or one possessing any other virtue, needs the necessaries of life, when they are sufficiently equipped with things of that sort the just man needs people towards whom and with whom he shall act justly, and the temperate man, the brave man, and each of the others is in the same case, but the philosopher, even when by himself, can contemplate truth, and the better the wiser he is; he can perhaps do so better if he has fellow-workers, but still he is the most self-sufficient. And this activity alone would seem to be loved for its own sake; for nothing arises from it apart from the contemplating, while from practical activities we gain more or less apart from the action. And happiness is thought to depend on leisure; for we are busy that we may have leisure, and make war that we may live in peace. Now the activity of the practical virtues is exhibited in political or military affairs, but the actions concerned with these seem to be unleisurely. Warlike actions are completely so (for no one chooses to be at war, or provokes war, for the sake of being at war; any one would seem absolutely murderous if he were to make enemies of his friends in order to bring about battle and slaughter); but the action of the statesman is also unleisurely, and-apart from the political action itself-aims at despotic power and honours, or at all events happiness, for him and his fellow citizens-a happiness different from political action, and evidently sought as being different. So if among virtuous actions political and military actions are distinguished by nobility and greatness, and these are unleisurely and aim at an end and are not desirable for their own sake, but the activity of reason, which is contemplative, seems both to be superior in serious worth and to aim at no end beyond itself, and to have its pleasure proper to itself (and this augments the activity), and the self-sufficiency, leisureliness, unweariedness (so far as this is possible for man), and all the other attributes ascribed to the supremely happy man are evidently those connected with this activity, it follows that this will be the complete happiness of man, if it be allowed a complete term of life (for none of the attributes of happiness is incomplete).

But such a life would be too high for man; for it is not in so far as he is man that he will live so, but in so far as something divine is present in him; and by so much as this is superior to our composite nature is its activity superior to that which is the exercise of the other kind of virtue. If reason is divine, then, in comparison with man, the life according to it is divine in comparison with human life. But we must not follow those who advise us, being men, to think of human things, and, being mortal, of mortal things, but must, so far as we can, make ourselves immortal, and strain every nerve to live in accordance with the best thing in us; for even if it be small in bulk, much more does it in power and worth surpass everything. This would seem, too, to be each man himself, since it is the authoritative and better part of him. It would be strange, then, if he were to choose not the life of his self but that of something else. And what we said before’ will apply now; that which is proper to each thing is by nature best and most pleasant for each thing; for man, therefore, the life according to reason is best and pleasantest, since reason more than anything else is man. This life therefore is also the happiest.

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But in a secondary degree the life in accordance with the other kind of virtue is happy; for the activities in accordance with this befit our human estate. Just and brave acts, and other virtuous acts, we do in relation to each other, observing our respective duties with regard to contracts and services and all manner of actions and with regard to passions; and all of these seem to be typically human. Some of them seem even to arise from the body, and virtue of character to be in many ways bound up with the passions. Practical wisdom, too, is linked to virtue of character, and this to practical wisdom, since the principles of practical wisdom are in accordance with the moral virtues and rightness in morals is in accordance with practical wisdom. Being connected with the passions also, the moral virtues must belong to our composite nature; and the virtues of our composite nature are human; so, therefore, are the life and the happiness which correspond to these. The excellence of the reason is a thing apart; we must be content to say this much about it, for to describe it precisely is a task greater than our purpose requires. It would seem, however, also to need external equipment but little, or less than moral virtue does. Grant that both need the necessaries, and do so equally, even if the statesman’s work is the more concerned with the body and things of that sort; for there will be little difference there; but in what they need for the exercise of their activities there will be much difference. The liberal man will need money for the doing of his liberal deeds, and the just man too will need it for the returning of services (for wishes are hard to discern, and even people who are not just pretend to wish to act justly); and the brave man will need power if he is to accomplish any of the acts that correspond to his virtue, and the temperate man will need opportunity; for how else is either he or any of the others to be recognized? It is debated, too, whether the will or the deed is more essential to virtue, which is assumed to involve both; it is surely clear that its perfection involves both; but for deeds many things are needed, and more, the greater and nobler the deeds are. But the man who is contemplating the truth needs no such thing, at least with a view to the exercise of his activity; indeed they are, one may say, even hindrances, at all events to his contemplation; but in so far as he is a man and lives with a number of people, he chooses to do virtuous acts; he will therefore need such aids to living a human life.

But that perfect happiness is a contemplative activity will appear from the following consideration as well. We assume the gods to be above all other beings blessed and happy; but what sort of actions must we assign to them? Acts of justice? Will not the gods seem absurd if they make contracts and return deposits, and so on? Acts of a brave man, then, confronting dangers and running risks because it is noble to do so? Or liberal acts? To whom will they give? It will be strange if they are really to have money or anything of the kind. And what would their temperate acts be? Is not such praise tasteless, since they have no bad appetites? If we were to run through them all, the circumstances of action would be found trivial and unworthy of gods. Still, every one supposes that they live and therefore that they are active; we cannot suppose them to sleep like Endymion. Now if you take away from a living being action, and still more production, what is left but contemplation? Therefore the activity of God, which surpasses all others in blessedness, must be contemplative; and of human activities, therefore, that which is most akin to this must be most of the nature of happiness.

This is indicated, too, by the fact that the other animals have no share in happiness, being completely deprived of such activity. For while the whole life of the gods is blessed, and that of men too in so far as some likeness of such activity belongs to them, none of the other animals is happy, since they in no way share in contemplation. Happiness extends, then, just so far as contemplation does, and those to whom contemplation more fully belongs are more truly happy, not as a mere concomitant but in virtue of the contemplation; for this is in itself precious. Happiness, therefore, must be some form of contemplation.

But, being a man, one will also need external prosperity; for our nature is not self-sufficient for the purpose of contemplation, but our body also must be healthy and must have food and other attention. Still, we must not think that the man who is to be happy will need many things or great things, merely because he cannot be supremely happy without external goods; for self-sufficiency and action do not involve excess, and we can do noble acts without ruling earth and sea; for even with moderate advantages one can act virtuously (this is manifest enough; for private persons are thought to do worthy acts no less than despots-indeed even more); and it is enough that we should have so much as that; for the life of the man who is active in accordance with virtue will be happy. Solon, too, was perhaps sketching well the happy man when he described him as moderately furnished with externals but as having done (as Solon thought) the noblest acts, and lived temperately; for one can with but moderate possessions do what one ought. Anaxagoras also seems to have supposed the happy man not to be rich nor a despot, when he said that he would not be surprised if the happy man were to seem to most people a strange person; for they judge by externals, since these are all they perceive. The opinions of the wise seem, then, to harmonize with our arguments. But while even such things carry some conviction, the truth in practical matters is discerned from the facts of life; for these are the decisive factor. We must therefore survey what we have already said, bringing it to the test of the facts of life, and if it harmonizes with the facts we must accept it, but if it clashes with them we must suppose it to be mere theory. Now he who exercises his reason and cultivates it seems to be both in the best state of mind and most dear to the gods. For if the gods have any care for human affairs, as they are thought to have, it would be reasonable both that they should delight in that which was best and most akin to them (i.e. reason) and that they should reward those who love and honour this most, as caring for the things that are dear to them and acting both rightly and nobly. And that all these attributes belong most of all to the philosopher is manifest. He, therefore, is the dearest to the gods. And he who is that will presumably be also the happiest; so that in this way too the philosopher will more than any other be happy.

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If these matters and the virtues, and also friendship and pleasure, have been dealt with sufficiently in outline, are we to suppose that our programme has reached its end? Surely, as the saying goes, where there are things to be done the end is not to survey and recognize the various things, but rather to do them; with regard to virtue, then, it is not enough to know, but we must try to have and use it, or try any other way there may be of becoming good. Now if arguments were in themselves enough to make men good, they would justly, as Theognis says, have won very great rewards, and such rewards should have been provided; but as things are, while they seem to have power to encourage and stimulate the generous-minded among our youth, and to make a character which is gently born, and a true lover of what is noble, ready to be possessed by virtue, they are not able to encourage the many to nobility and goodness. For these do not by nature obey the sense of shame, but only fear, and do not abstain from bad acts because of their baseness but through fear of punishment; living by passion they pursue their own pleasures and the means to them, and and the opposite pains, and have not even a conception of what is noble and truly pleasant, since they have never tasted it. What argument would remould such people? It is hard, if not impossible, to remove by argument the traits that have long since been incorporated in the character; and perhaps we must be content if, when all the influences by which we are thought to become good are present, we get some tincture of virtue.

Now some think that we are made good by nature, others by habituation, others by teaching. Nature's part evidently does not depend on us, but as a result of some divine causes is present in those who are truly fortunate; while argument and teaching, we may suspect, are not powerful with all men, but the soul of the student must first have been cultivated by means of habits for noble joy and noble hatred, like earth which is to nourish the seed. For he who lives as passion directs will not hear argument that dissuades him, nor understand it if he does; and how can we persuade one in such a state to change his ways? And in general passion seems to yield not to argument but to force. The character, then, must somehow be there already with a kinship to virtue, loving what is noble and hating what is base.

But it is difficult to get from youth up a right training for virtue if one has not been brought up under right laws; for to live temperately and hardily is not pleasant to most people, especially when they are young. For this reason their nurture and occupations should be fixed by law; for they will not be painful when they have become customary. But it is surely not enough that when they are young they should get the right nurture and attention; since they must, even when they are grown up, practise and be habituated to them, we shall need laws for this as well, and generally speaking to cover the whole of life; for most people obey necessity rather than argument, and punishments rather than the sense of what is noble.

This is why some think that legislators ought to stimulate men to virtue and urge them forward by the motive of the noble, on the assumption that those who have been well advanced by the formation of habits will attend to such influences; and that punishments and penalties should be imposed on those who disobey and are of inferior nature, while the incurably bad should be completely banished. A good man (they think), since he lives with his mind fixed on what is noble, will submit to argument, while a bad man, whose desire is for pleasure, is corrected by pain like a beast of burden. This is, too, why they say the pains inflicted should be those that are most opposed to the pleasures such men love.

However that may be, if (as we have said) the man who is to be good must be well trained and habituated, and go on to spend his time in worthy occupations and neither willingly nor unwillingly do bad actions, and if this can be brought about if men live in accordance with a sort of reason and right order, provided this has force,-if this be so, the paternal command indeed has not the required force or compulsive power (nor in general has the command of one man, unless he be a king or something similar), but the law has compulsive power, while it is at the same time a rule proceeding from a sort of practical wisdom and reason. And while people hate men who oppose their impulses, even if they oppose them rightly, the law in its ordaining of what is good is not burdensome.

In the Spartan state alone, or almost alone, the legislator seems to have paid attention to questions of nurture and occupations; in most states such matters have been neglected, and each man lives as he pleases, Cyclops-fashion, ‘to his own wife and children dealing law’. Now it is best that there should be a public and proper care for such matters; but if they are neglected by the community it would seem right for each man to help his children and friends towards virtue, and that they should have the power, or at least the will, to do this.

It would seem from what has been said that he can do this better if he makes himself capable of legislating. For public control is plainly effected by laws, and good control by good laws; whether written or unwritten would seem to make no difference, nor whether they are laws providing for the education of individuals or of groups-any more than it does in the case of music or gymnastics and other such pursuits. For as in cities laws and prevailing types of character have force, so in households do the injunctions and the habits of the father, and these have even more because of the tie of blood and the benefits he confers; for the children start with a natural affection and disposition to obey. Further, private education has an advantage over public, as private medical treatment has; for while in general rest and abstinence from food are good for a man in a fever, for a particular man they may not be; and a boxer presumably does not prescribe the same style of fighting to all his pupils. It would seem, then, that the detail is worked out with more precision if the control is private; for each person is more likely to get what suits his case.

But the details can be best looked after, one by one, by a doctor or gymnastic instructor or any one else who has the general knowledge of what is good for every one or for people of a certain kind (for the sciences both are said to be, and are, concerned with what is universal); not but what some particular detail may perhaps be well looked after by an unscientific person, if he has studied accurately in the light of experience what happens in each case, just as some people seem to be their own best doctors, though they could give no help to any one else. None the less, it will perhaps be agreed that if a man does wish to become master of an art or science he must go to the universal, and come to know it as well as possible; for, as we have said, it is with this that the sciences are concerned.

And surely he who wants to make men, whether many or few, better by his care must try to become capable of legislating, if it is through laws that we can become good. For to get any one whatever-any one who is put before us-into the right condition is not for the first chance comer; if any one can do it, it is the man who knows, just as in medicine and all other matters which give scope for care and prudence.

Must we not, then, next examine whence or how one can learn how to legislate? Is it, as in all other cases, from statesmen? Certainly it was thought to be a part of statesmanship. Or is a difference apparent between statesmanship and the other sciences and arts? In the others the same people are found offering to teach the arts and practising them, e.g. doctors or painters; but while the sophists profess to teach politics, it is practised not by any of them but by the politicians, who would seem to do so by dint of a certain skill and experience rather than of thought; for they are not found either writing or speaking about such matters (though it were a nobler occupation perhaps than composing speeches for the law-courts and the assembly), nor again are they found to have made statesmen of their own sons or any other of their friends. But it was to be expected that they should if they could; for there is nothing better than such a skill that they could have left to their cities, or could prefer to have for themselves, or, therefore, for those dearest to them. Still, experience seems to contribute not a little; else they could not have become politicians by familiarity with politics; and so it seems that those who aim at knowing about the art of politics need experience as well.

But those of the sophists who profess the art seem to be very far from teaching it. For, to put the matter generally, they do not even know what kind of thing it is nor what kinds of things it is about; otherwise they would not have classed it as identical with rhetoric or even inferior to it, nor have thought it easy to legislate by collecting the laws that are thought well of; they say it is possible to select the best laws, as though even the selection did not demand intelligence and as though right judgement were not the greatest thing, as in matters of music. For while people experienced in any department judge rightly the works produced in it, and understand by what means or how they are achieved, and what harmonizes with what, the inexperienced must be content if they do not fail to see whether the work has been well or ill made-as in the case of painting. Now laws are as it were the’ works’ of the political art; how then can one learn from them to be a legislator, or judge which are best? Even medical men do not seem to be made by a study of text-books. Yet people try, at any rate, to state not only the treatments, but also how particular classes of people can be cured and should be treated-distinguishing the various habits of body; but while this seems useful to experienced people, to the inexperienced it is valueless. Surely, then, while collections of laws, and of constitutions also, may be serviceable to those who can study them and judge what is good or bad and what enactments suit what circumstances, those who go through such collections without a practised faculty will not have right judgement (unless it be as a spontaneous gift of nature), though they may perhaps become more intelligent in such matters.

Now our predecessors have left the subject of legislation to us unexamined; it is perhaps best, therefore, that we should ourselves study it, and in general study the question of the constitution, in order to complete to the best of our ability our philosophy of human nature. First, then, if anything has been said well in detail by earlier thinkers, let us try to review it; then in the light of the constitutions we have collected let us study what sorts of influence preserve and destroy states, and what sorts preserve or destroy the particular kinds of constitution, and to what causes it is due that some are well and others ill administered. When these have been studied we shall perhaps be more likely to see with a comprehensive view, which constitution is best, and how each must be ordered, and what laws and customs it must use, if it is to be at its best. Let us make a beginning of our discussion.

Great Ethics (1181a)

Translated by E. S. Forster

Traditionally attributed to Aristotle, the *Magna Moralia* is a treatise on ethics, now thought to represent the epitome of his ethical thought, as written by a later writer. Several scholars have disagreed with this, taking the *Magna Moralia* to be an authentic work. Nevertheless, it is considered to be a less mature piece than *The Nicomachean Ethics*, the *Eudemian Ethics* and *Virtues and Vices*.

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BOOK I

SINCE our purpose is to speak about ethics, we must first inquire of what moral character is a branch. To speak concisely, then, it would seem to be a branch of nothing else than statecraft. For it is not possible to act at all in affairs of state unless one is of a certain kind, to wit, good. Now to be good is to possess the virtues.

If therefore one is to act successfully in affairs of state, one must be of a good moral character. The treatment of moral character then is, as it seems, a branch and starting-point of statecraft. And as a whole it seems to me that the subject ought rightly to be called, not Ethics, but Politics.

We must therefore, as it seems, first say about virtue both what it is and from what it comes. For it is perhaps of no use to know virtue without understanding how or from what it is to arise. We must not limit our inquiry to knowing what it is, but extend it to how it is to be produced. For we wish not only to know but also ourselves to be such; and this will be impossible for us, unless we know from what and how it is to be produced.

Of course, it is indispensable to know what virtue is (for it is not easy to know the source and manner of its production, if one does not know what it is, any more than in the sciences); but we ought to be aware also of what others have said before us on this subject.

Pythagoras first attempted to speak about virtue, but not successfully; for by reducing the virtues to numbers he submitted the virtues to a treatment which was not proper to them. For justice is not a square number.

After him came Socrates, who spoke better and further about this subject, but even he was not successful. For he used to make the virtues sciences, and this is impossible. For the sciences all involve reason, and reason is to be found in the intellectual part of the soul. So that all the virtues, according to him, are *to* be found in the rational part of the soul. The result is that in making the virtues sciences he is doing away with the irrational part of the soul, and is thereby doing away also both with passion and moral character; so that he has not been successful in this respect in his treatment of the virtues.

After this Plato divided the soul into the rational and the irrational part — and in this he was right — assigning appropriate virtues to each. So far so good. But after this he went astray. For he mixed up virtue with the treatment of the good, which cannot be right, not being appropriate. For in speaking about the truth of things he ought not to have discoursed upon virtue; for there is nothing common to the two.

The above-mentioned, then, have touched upon the subject so far and in the way above described. The next thing will be to see what we ought to say ourselves upon the subject.

First of all, then, we must see that every science and art has an end, and that too a good one; for no science or art exists for the sake of evil. Since then in all the arts the end is good, it is plain that the end of the best art will be the best good. But statecraft is the best art, so that the end of this will be the good. It is about good, then, as it seems, that we must speak, and about good not without qualification, but relatively to ourselves. For we have not to do with the good of the Gods. To speak about that is a different matter, and the inquiry is foreign to our present purpose. It is therefore about the good of the state that we must speak.

But we must distinguish different meanings in the word 'good' itself. About good in what sense of the term have we to speak? For the word is not univocal. For 'good ' is used either of what is best in the case of each being, that is, what is choice worthy because of its own nature, or of that by partaking in which all other things are good, that is, the Idea of Good.

Are we, then, to speak of the Idea of Good? Or not of that, but of good as the element common to all goods? For this would seem to be different from the Idea. For the Idea is a thing apart and by itself, whereas the common element exists in all: it therefore is not identical with what is apart. For that which is apart and whose nature it is to be by itself cannot possibly exist in all. Are we then to speak about this indwelling good? Surely not! And why? Because the common element is that which is got by definition or by induction. Now the aim of defining is to state the essence of each thing, either what good is what evil is, or whatever else it may be. But the definition states that whatever thing is of such a kind as to be choice worthy for its own sake is good in all cases. And the common element in all goods is much the same as the definition. And the definition says what is good, whereas no science or art whatsoever states of its own end that it is good, but it is the province of another art to speculate as to this (for neither the physician nor the mason says that health or a house is good, but that one thing produces health, and how it produces it, and another thing a house).

It is evident then that neither has statecraft to do with the common element of good. For it is itself only one science among the rest, and we have seen that it is not the business of any art or science to talk of this as end. It is not therefore the business of statecraft any more than of any other art to speak of the common element of good corresponding to the definition.

But neither has it to speak of the common element as arrived at by induction. Why so? Because when we wish to show some particular good, we either show by defining that the same description applies to the good and to the thing which we wish to show to be good, or else have recourse to induction; for instance, when we wish to show that magnanimity is a good, we say that justice is a good and courage is a good, and so of the virtues generally, and that magnanimity is a virtue, so that magnanimity also is a good. Neither then will statecraft have to speak of the common good arrived at by induction, because the — same impossible consequences will ensue in this case as in that of the common good conformable to the definition. For here also one will be saying that the end is good. It is clear therefore that what it has to speak about is the best good, and the best in the sense of ‘the best for us’.

And generally one can see that it is not the part of any one science or art to consider the question of good in general. Why so? Because good occurs in all the categories — in that of substance, quality, quantity, time, relation, [instrument], and generally in all. But what is good at a given time is known in medicine by the doctor, in navigation by the pilot, and in each art by the expert in that art. For it is the doctor who knows when one ought to amputate, and the pilot when one ought to sail. And in each art each expert will know the time of the good which concerns himself. For neither will the doctor know the time of the good in navigation nor the pilot that in medicine. It follows then from this point of view also that we have not to speak about the common good: for time is common to all the arts. Similarly the relative good and the good which corresponds to other categories is common to all, and it does not belong to any art or science to speak of what is good in each at a given time, nor, we may add, is it the part of statecraft to speak about the common element of good. Our subject then is the good, in the sense of the best, and that the best for us.

Perhaps when one wishes to show something, one ought not to employ illustrations that are not manifest, but to illustrate the obscure by the manifest, and the things of mind by the things of sense, for the latter are more manifest. When, therefore, one takes in hand to speak about the good, one ought not to speak about the Idea. And yet they think it quite necessary, when they are speaking about the good, to speak about the Idea. For they say that it is necessary to speak about what is most good, and the very thing in each kind has the quality of that kind in the highest degree, so that the Idea will be the most good, as they think. Possibly there is truth in such a contention: but all the same the science or art of statecraft, about which we are now speaking, does not inquire about this good, but about that which is good for us. [For no science or art pronounces its end to be good, so that statecraft does not do so either.] Wherefore it does not concern itself to speak about the good in the sense of the Idea.

But, it may be said, one may employ this good as a first principle to start from in speaking about particular goods.

Even this is not correct. For the first principles that one assumes ought to be appropriate. How absurd it would be if, when one wished to show that the three angles of a triangle are equal to two right angles, one were to assume as a principle that the soul is immortal! For it is not appropriate, and the first principle ought to be appropriate and connected. As a matter of fact, one can prove that the three angles of a triangle are equal to two right angles quite as well without the immortality of the soul. In the same way in the case of goods, one can speculate about the rest without the Ideal Good. Wherefore we declare such a good is not an appropriate principle.

Neither was Socrates right in making the virtues sciences. For he used to think that nothing ought to be in vain, but from the virtues being sciences he met with the result that the virtues were in vain. Why so? Because in the case of the sciences, as soon as one knows the essence of a science, it results that one is scientific (for any one who knows the essence of medicine is forthwith a physician, and so with the other sciences). But this result does not follow in the case of the virtues. For any one who knows the essence of justice is not forthwith just, and similarly in the case of the rest. It follows then both that the virtues are in vain and that they are not sciences.

Now that we have settled these points, let us try to say in how many senses the term ‘good’ is used. For goods may be divided into the honourable, the praiseworthy, and potencies. By the ‘honourable ‘ I mean such a thing as the divine, the more excellent (for instance, soul, intellect), the more ancient, the first principle, and so on. For those things are honourable which attract honour, and all such things as these are attended with honour. Virtue then also is a thing that is honourable, at least when some one has become a good man in consequence of it; for already such a one has come into the form of virtue. Other goods are praiseworthy, as virtues; for praise is bestowed in consequence of the actions which are prompted by them. Others are potencies, for instance, office, wealth, strength, beauty; for these are things which the good man can use well and the bad man ill. Wherefore such goods are called potencies. Goods indeed they are (for everything is judged by the use made of it by the good man, not by that of the bad); and it is incidental to these same goods that fortune is the cause of their production. For from fortune comes wealth, and also office, and generally all the things which rank as potencies. The fourth and last class of goods is that which is preservative and productive of good, as exercise of health, and other things of that sort.

But goods admit of another division, to wit, some goods are everywhere and absolutely choice worthy, and some are not. For instance, justice and the other virtues are everywhere and absolutely choice worthy, but strength, and wealth, and power, and the like, are not so everywhere nor absolutely.

Again, take another division. Some goods are ends and some are not; for instance, health is an end, but the means to health are not ends. And wherever things stand in this relation, the end is always better; for instance, health is better than the means to health, and without exception, always and universally, that thing is better for the sake of which the rest are.

Again, among ends themselves the complete is always better than the incomplete. A ‘complete ‘ good is one the presence of which leaves us in need of nothing; an ‘incomplete’ good is one which may be present while yet we need something further; for instance, we may have justice and yet need many things besides, but when we have happiness we need nothing more. This then is the best thing of which we are in search, which is the complete end. The complete end then is the good and end of goods.

The next point is how we are to look for the best good. Is it itself to be reckoned in with other goods? Surely that is absurd. For the best is the final end, and the final end, roughly speaking, would seem to be nothing else than happiness, and happiness we regard as made up of many goods; so that if, in looking for the best, you reckon in itself also, it will be better than itself, because it is itself the best thing. For instance, take the means to health, and health, and raise the question which is the best of all these. The answer is that health is the best. If then this is the best of all, it is also better than itself: so that an absurdity ensues. Perhaps then this is not the way in which we ought to look for the best. Are the other goods then to be separated from it? Is not this also absurd? For happiness is composed of certain goods. But to raise the question whether a given thing is better than its own components is absurd. For happiness is not something else apart from these, but just these.

But perhaps the right method of inquiry may be by comparison of the best somewhat as follows. I mean by comparing happiness itself, which is made up of these goods, with others which are not contained in it. But the best of which we are now in search is not of a simple nature. For instance, one might say that wisdom is the best of all goods when they are compared one by one. But perhaps this is not the way in which we ought to seek for the best good. For it is the complete good whereof we are in search, and wisdom by itself is not complete. It is not, therefore, the best in this sense, nor in this way, of which we are in search.

After this, then, goods admit of another division. For some goods are in the soul — for instance, the virtues; some in the body — for instance, health, beauty; and some outside of us — wealth, office, honour, and such like. Of these those in the soul are best. But the goods in the soul are divided into three — wisdom, virtue, and pleasure.

Now we come to happiness, which we all declare to be, and which seems in fact to be, the final good and the most complete thing, and this we maintain to be identical with doing well and living well. But the end is not single but twofold. For the end of some things is the activity and use itself — for instance, of sight; and the using is more choice worthy than the having; for the using is the end.

For no one would care to have sight, if he were destined never to see, but always to have his eyes shut. And the same with hearing and the like. When then a thing may be both used and had the using is always better and more choice worthy than the having. For the use and exercise are the end, whereas the having is with a view to the using.

Next, then, if one examines this point in the case of all the arts, he will see that it is not one art that makes a house and another that makes a good house, but simply the art of house building; and what the house builder makes, that same thing his virtue enables him to make well. Similarly in all other cases.

— After this, then, we see that it is by nothing else than soul that we live. Virtue is in the soul. We maintain that the soul and the virtue of the soul do the same thing.

But virtue in each thing does that well of which it is the virtue, and, among the other functions of the soul, it is by it we live. It is therefore owing to the virtue of the soul that we shall live well. But to live well and do well we say is nothing else than being happy. Being happy, then, and happiness, consist in living well, and living well is living in accordance with the virtues. This, then, is the end and happiness and the best thing. [Happiness therefore will consist in a kind of use and activity. For we found that where there was having and using, the use and exercise are the end. Now virtue is a habit of the soul. And there is such a thing as the exercise and use of it; so that the end will be its activity and use. Happiness therefore will consist in living in accordance with the virtues.] Since then the best good is happiness, and this is the end, and the final end is an activity, it follows that it is by living in accordance with the virtues that we shall be happy and shall have the best good.

Since, then, happiness is a complete good and end, we must not fail to observe that it will be found in that which is complete. For it will not be found in a child (for a child is not happy), but in a man; for he is complete. Nor will it be found in an incomplete, but in a complete, period. And a complete period of time will be as long as a man lives. For it is rightly said among the many that one ought to judge of the happy man in the longest time of his life, on the assumption that what is complete ought to be in a complete period and a complete person. But that it is an activity can be seen also from the following consideration. For supposing some one to be asleep all his life, we should hardly consent to call such a man happy. Life indeed he has, but life in accordance with the virtues he has not, and it was in this that we made the activity to consist.

The topic that is next about to be treated of is neither very intimately connected with our main subject nor yet quite alien from it. I mean, since there is, as it seems, a part of the soul whereby we are nourished, which we call ‘nutritive’ (for it is reasonable to suppose that this exists; at all events we see that stones are incapable of being nourished, so that it is evident that to be nourished is a property of living things; and, if so, the soul will be the cause of it; but none of these parts of the soul will be the cause of nourishment, to wit, the rational or spirited or appetitive, but something else besides these, to which we can apply no more appropriate name than ‘nutritive’), one might say, ‘Very well, has this part of the soul also a virtue? For if it has, it is plain that we ought to act with this also. For happiness is the exercise of perfect virtue.’ Now, whether there is or is not a virtue of this part is another question; but, if there is, it has no activity.

For those things which have no impulse will not have any activity either; and there does not seem to be any impulse in this part, but it seems to be on a par with fire. For that also will consume whatever you throw in, but if you do not throw anything in, it has no impulse to get it. So it is also with this part of the soul; for, if you throw in food, it nourishes, but, if you fail to throw in food, it has no impulse to nourish. Wherefore it has no activity, being devoid of impulse. So that this part in no way co-operates towards happiness. —

After this, then, we must say what virtue is, since it is the exercise of this which is happiness. Speaking generally, then, virtue is the best state. But perhaps it is not sufficient to speak thus generally, but it is necessary to define more clearly.

First, then, we ought to speak about the soul in which it resides, not to say what the soul is (for to speak about that is another matter), but to divide it in outline. Now the soul is, as we say, divided into two parts, the rational and the irrational. In the rational part, then, there resides wisdom, readiness of wit, philosophy, aptitude to learn, memory, and so on; but in the irrational those which are called the virtues — temperance, justice, courage, and such other moral states as are held to be praiseworthy. For it is in respect of these that we are called praiseworthy; but no one is praised for the virtues of the rational part. For no one is praised for being philosophical nor for being wise, nor generally on the ground of anything of that sort. Nor indeed is the irrational part praised, except in so far as it is capable of subserving or actually subserves the rational part.

Moral virtue is destroyed by defect and excess. Now, that defect and excess destroy can be seen from moral instances, but we must use what we can see as an illustration of what we cannot see. For one can see this at once in the case of gymnastic exercises. If they are overdone, the strength is destroyed, while if they are deficient, it is so also. And the same is the case with food and drink.

For if too much is taken health is destroyed, and also if too little, but by the right proportion strength and health are preserved. The same is the case with temperance and courage and the rest of the virtues. For if you make a man too fearless, so as not even to fear the Gods, he is not brave but mad, but if you make him afraid of everything, he is a coward. To be brave, then, a man must not either fear everything or nothing. The same things, then, both increase and destroy virtue. For undue and indiscriminate fears destroy, and so does the lack of fear about anything at all. And courage has to do with fears, so that moderate fears increase courage. Courage, then, is both increased and destroyed by the same things. For men are liable to this effect owing to fears. And the same holds true of the other virtues.

In addition to the preceding, virtue may also be determined by pleasure and pain. For it is owing to pleasure that we commit base actions, and owing to pain that we abstain from noble ones. And generally it is not possible to achieve virtue or vice without pain and pleasure. Virtue then has to do with pleasures and pains.

The word ‘ethical’ (or ‘moral’) virtue is derived as follows, if etymology has any bearing upon truth, as perhaps it has. From *ethos* comes *ethos*, and so moral virtue is called ‘ethical’, as being attained by practice. Whereby it is evident that no one of the virtues of the irrational part springs up in us by nature. For nothing that is by nature becomes other by training. For instance, a stone, and heavy things in general, naturally go downwards. If any one, then, throws them up repeatedly, and tries to train them to go up, all the same they never would go up, but always down. Similarly in all other such cases.

After this, then, as we wish to say what virtue is, we must know what are the things that there are in the soul.

They are these — feelings, capacities, states; so that it is evident that virtue will be some one of these. Now feelings are anger, fear, hate, regret, emulation, pity, and the like, which are usually attended by pain pleasure. Capacities are those things in virtue of which we are said to be capable of these feelings; for instance, those things in virtue of which we are capable of feeling anger or pain or pity, and so on. States are those things in virtue of which we stand in a good or bad relation to these feelings; for instance, towards being angered; if we are angry overmuch, we stand in a bad relation towards anger, whereas if we are not angry at all where we ought to be, in that case also we stand in a bad relation towards anger.

The mean state, then, is neither to be pained overmuch nor to be absolutely insensible. When, then, we stand thus, we are in a good disposition. And similarly as regards other like things. For good temper and gentleness are in a mean between anger and insensibility to anger. Similarly in the case of boastfulness and mock-humility. For to pretend to more than one has shows boastfulness, while to pretend to less shows mock-humility. The mean state, then, between these is truthfulness.

Similarly in all other cases. For this is what marks the state, to stand in a good or bad relation towards these feelings, and to stand in a good relation towards them is neither to incline towards the excess nor towards the defect. The state, then, which implies a good relation is directed towards the mean of such things, in respect of which we are called praiseworthy, whereas that which implies a bad relation inclines towards excess or defect.

Since, then, virtue is a mean of these feelings, and the feelings are either pains or pleasures or impossible apart from pain or pleasure, it is evident from this that virtue has to do with pains and pleasures.

But there are other feelings, as one might think, in the case of which the vice does not lie in any excess or defect; for instance, adultery and the adulterer. The adulterer is not the man who corrupts free women too much; but both this and anything else of the kind which is comprised under the pleasure of intemperance, whether it be something in the way of excess or of defect, is blamed.

After this, then, it is perhaps necessary to have it stated what is opposed to the mean, whether it is the excess or the defect. For to some means the defect is opposed and to some the excess; for instance, to courage it is not rashness, which is the excess, that is opposed, but cowardice, which is the defect; and to temperance, which is a mean between intemperance and insensibility to pleasures, it does not seem that insensibility, which is the defect, is opposed, but intemperance, which is the excess. But both are opposed to the mean, excess and defect. For the mean is in defect of the excess and in excess of the defect. Hence it is that prodigals call the liberal illiberal, while the illiberal call the liberal prodigals, and the rash and headlong call the brave cowards, while cowards call the brave headlong and mad.

There would seem to be two reasons for our opposing the excess or the defect to the mean. Either people look at the matter from the point of view of the thing itself, to see which is nearer to, or further from, the mean; for instance, in the case of liberality, whether prodigality or illiberality is further from it. For prodigality would seem more to be liberality than illiberality is. Illiberality, then, is further off. But things which are further distant from the mean would seem to be more opposed to it. From the point of view, then, of the thing itself the defect presents itself as more opposed. But there is also another way, to wit, those things are more opposed to the mean to which we have a greater natural inclination. For instance, we have a greater natural inclination to be intemperate than sober in our conduct. The tendency, therefore, occurs rather towards the things to which nature inclines us; and the things to which we have a greater tendency are more opposed; and our tendency is towards intemperance rather than towards sobriety; so that the excess of the mean will be the more opposed; for intemperance is the excess in the case of temperance.

What virtue is, then, has been examined (for it seems to be a mean of the feelings, so that it will be necessary for the man who is to obtain credit for moral character to observe the mean with regard to each of the feelings; for which reason it is a difficult matter to be good; for to seize the mean in anything is a difficult matter; for instance, any one can draw a circle, but to fix upon the mean point in it is hard; and in the same way to be angry indeed is easy, and so is the opposite of this, but to be in the mean is hard; and generally in each of the feelings one can see that what surrounds the mean is easy, but the mean is hard, and this is the point for which we are praised; for which reason the good is rare).

Since, then, virtue has been spoken of...we must next inquire whether it is possible of attainment or is not, but, as Socrates said, to be virtuous or vicious does not rest with us to come about. For if, he says, one were to ask any one whatever whether he would wish to be just or unjust, no one would choose injustice. Similarly in the case of courage and cowardice, and so on always with the rest of the virtues. And it is evident that any who are vicious will not be vicious voluntarily; so that it is evident that neither will they be voluntarily virtuous .

Such a statement is not true. For why does the lawgiver forbid the doing of wrong acts, and bid the doing of right and virtuous ones? And why does he appoint a penalty for wrong acts, if one does them, and for right acts, if one fails to do them? Yet it would be absurd to legislate about those things which are not in our power to do. But, as it seems, it is in our power to be virtuous or vicious.

Again, we have evidence in the praise and blame that are accorded. For there is praise for virtue and blame for vice. But praise and blame are not bestowed upon things involuntary. So it is evident that it is equally in our power to do virtuous and vicious acts.

They used also to employ some such comparison as this in their desire to show that vice is not voluntary. For why, they say, when we are ill or ugly, does no one blame us for things of this sort? But this is not true. For we do blame people for things of this sort, when we think that they themselves are the causes of their being ill or of their having their body in a bad state, on the assumption that there is voluntary action even there. It seems, then, that there is voluntariness in being virtuous and vicious.

— One can see this still more clearly from the following considerations. Every natural kind is given to begetting a being like itself, i.e. plants and animals; for both are apt to beget. And they are given to beget from their first principles — for instance, the tree from the seed; for this is a kind of principle. And what follows the principles stands thus: as are the principles, so is what comes from the principles.

This can be seen more clearly in matters of geometry. For there also, when certain principles are assumed, as are the principles, so are what follow the principles; for instance, if the triangle has its angles equal to two right angles, and the quadrilateral to four, then according as the triangle changes, so does the quadrilateral share in its changes (for it is convertible), and if the quadrilateral has not its angles equal to four right angles, neither will the triangle have its angles equal to two right angles.

— So, then, and in the like way with this, is it in the case of man. For since man is apt to produce, being, he tends to produce the actions which he does from certain principles. How else could it be? For we do not say that any of the things without life acts, nor any other of the things with life, except men. It is evident, then, that man is the begetter of his acts.

Since, then, we see that the acts change, and we never do the same things, and the acts have been brought into being from certain principles, it is evident that, since the acts change, the principles from which the acts proceed also change, as we said in our comparison was the case with geometrical properties.

Now the principle of an act, whether virtuous or vicious, is purpose and wish, and all that accords with reason. It is evident, then, that these also change. But we change in our actions voluntarily. So that the principle also, purpose, changes voluntarily. So that it is plain that it will be in our power to be either virtuous or vicious.

Perhaps, then, some one may say, 'Since it is in my power to be just and good, if I wish I shall be the best of all men'. This, of course, is not possible. Why so? Because in the case of the body it is not so either. For if one wishes to bestow attention upon his body, it does not follow that he will have the best body that any one has. For it is necessary not merely for attention to be bestowed, but also for the body to be beautiful and good by nature. He will then have his body better, but best of all men, No. And so we must suppose it to be also in the case of soul. For he who wills to be best will not be so, unless Nature also be presupposed; better, however, he will be.

Since, then, it appears that to be good is in our power, it is necessary next to say what the voluntary is. For this is what chiefly determines virtue, to wit, the voluntary.

Roughly speaking, that is voluntary which we do when not under compulsion. But perhaps we ought to speak more clearly about it.

What prompts us to action is impulse; and impulse has three forms — appetite, passion, wish.

First of all, then, we must inquire into the act which is in accordance with appetite. Is that voluntary or involuntary? That it is involuntary would not seem to be the case. Why so? And on what ground? Because wherever we do not act voluntarily, we act under compulsion, and all acts done under compulsion are attended with pain, whereas acts due to appetite are attended with pleasure, so that on this way of looking at the matter acts due to appetite will not be involuntary, but voluntary.

But, again, there is another argument opposed to this, which makes its appeal to incontinence. No one, it is maintained, does evil voluntarily, knowing it to be evil. But yet the incontinent, knowing that what he does is vicious, nevertheless does it, and does it in accordance with appetite; he is not therefore acting voluntarily; therefore he is under compulsion. There again the old answer will meet this argument. For if the act be in accordance with appetite, it is not of compulsion; for appetite is attended with pleasure, and acts due to pleasure are not of compulsion.

There is another way in which this conclusion may be made plain; I mean, that the incontinent acts voluntarily. For those who commit injustice do so voluntarily, and the incontinent are unjust and act unjustly. So that the incontinent man will voluntarily commit his acts of incontinence.

But, again, there is another argument opposed to this, which maintains that action due to appetite is not voluntary.

For the self-restrained man voluntarily performs his acts of self-restraint. For he is praised, and people are praised for voluntary acts. But if that which is in accordance with appetite is voluntary, that which runs counter to appetite is involuntary. But the man of self-restraint acts contrary to his appetite. So that the man of self-restraint will not be self-restrained voluntarily. But this conclusion does not commend itself. Therefore the act which is in accordance ‘ with appetite is not voluntary.

Again, the same thing holds of acts prompted by passion. For the same arguments apply as to appetite, so that they will cause the difficulty. For it is possible to be incontinent continent of anger.

Among the impulses in our division we have still to inquire about wish, whether it is voluntary. But assuredly the incontinent wish for the time being the things to which their impulse is directed. Therefore the incontinent perform their vicious acts with their own wish. But no one voluntarily does evil, knowing it to be evil. But the incontinent man, knowing evil to be evil, does it with his own wish. Therefore he is not a voluntary agent, and wish therefore is not a voluntary thing. But this argument annuls incontinence and the incontinent man. For, if he is not a voluntary agent, he is not blameworthy. But the incontinent is blameworthy. Therefore he is a voluntary agent. Therefore wish is voluntary.

Since, then, certain arguments seem opposed, we must speak more clearly about the voluntary.

Before doing so, however, we must speak about force and about necessity. Force may occur even in the case of things without life. For things without life have each their proper place assigned to them — to fire the upper region and to earth the lower. It is, however, possible to force a stone to go up and fire to go down. It is also possible to apply force to an animal; for instance, when a horse is galloping straight ahead, one may take hold of him and divert his course. Now whenever the cause of men’s doing something contrary to their nature or contrary to their wish is outside of them, we will say that they are forced to do what they do. But when the cause is in themselves, we will not in that case say that they are forced. Otherwise the incontinent man will have his answer ready, in denying that he is vicious. For he will say that he is forced by his appetite to perform the vicious acts.

Let this, then, be our definition of what is due to force — those things of which the cause by which men are forced to do them is external (but where the cause is internal and in themselves there is no force).

— But now we must speak about necessity and the necessary. The term ‘ necessary’ must not be used in all circumstances nor in every case — for instance, of what we do for the sake of pleasure. For if one were to say ‘ I was necessitated by pleasure to debauch my friend’s wife’, he would be a strange person. For ‘ necessary ‘ does not apply to everything, but only to externals; for instance, whenever a man receives some damage by way of alternative to some other greater, when compelled by circumstances. For instance, ‘ — I found it necessary to hurry my steps to the country; otherwise I should have found my stock destroyed.’ Such, then, are the cases in which we have the necessary.

— But since the voluntary lies in no impulse, there will remain what proceeds from thought. For the involuntary is what is done from necessity or from force, and, thirdly, what is not accompanied by thought. This is plain from facta. ‘ For whenever a man has struck or killed a man, or has done something of that sort without having thought about it beforehand, we say that he has acted involuntarily, implying that the voluntariness lies in the having thought about it. For instance, they say that once on a time a woman gave a love-potion to somebody; then the man died from the effects of the love-potion, and the woman was put on her trial before the Areopagus; on her appearance before which she was acquitted, just for the reason that she did not do it with design. For she gave it in love, but missed her mark; wherefore it was not held to be voluntary, because in giving the love-potion she did not give it with the thought of killing. In that case, therefore, the voluntary falls under the head of what is accompanied with thought.

— It now remains for us to inquire into purpose. Is purpose impulse or is it not? Now impulse is found in the lower animals, but not purpose; for purpose is attended with reason, and none of the lower animals has reason. Therefore it will not be impulse.

Is it then wish? Or is it not this either? For wish is concerned even with the impossible; for instance, we wish that we may live for ever, but we do not purpose it, Again, purpose is not concerned with the end but with the means; for instance, no one purposes to be in health, but we purpose what leads to health, e g. walking, running; but we wish for the ends. For we wish to be in health. So that it is evident in this way also that wish and purpose are not the same thing.

But purpose seems to be what its name suggests; I mean, we choose one thing instead of another; for instance, the better instead of the worse. Whenever, then, we take the better in exchange for the worse as a matter of choice, there the verb ‘to purpose’ would seem to be appropriate.

Since, then, purpose is none of these things, can it be thought that constitutes purpose? Or is this not so either? For we entertain many thoughts and opinions in our minds. Do we then purpose whatever we think? Or is this not so? For often we think about things in India, but it does not follow that we purpose them. Purpose therefore is not thought either.

Since, then, purpose is not any of these singly, and these are the things that there are in the soul, purpose must result from the combination of some of them.

Since, then, purpose, as was said before, is concerned with the goods that are means and not with the end, and with the things that are possible to us, and with such as afford ground for controversy as to whether this or that is choice worthy, it is evident that one must have thought and deliberated about them beforehand; then when a thing appears best to us after having thought it over, there ensues an impulse to act, and it is when we act in this way that we are held to act on purpose.

Since, then, purpose is a deliberate impulse attended with thought, the voluntary is not necessarily done on purpose. For there are many acts which we do voluntarily before thinking and deliberating about them; for instance, we sit down and rise up, and do many other things of the same sort voluntarily but without having thought about them, whereas every act done on purpose was found to be attended with thought. The voluntary, therefore, is not necessarily done on purpose, but the act done on purpose is voluntary; for if we purpose to do anything after deliberation, we act voluntarily. And a few legislators, even, appear to distinguish the voluntary act from the act done on purpose as being something different, in making the penalties that they appoint for voluntary acts less than for those that are done on purpose.

Purpose, then, lies in matters of action, and in those in which it is in our power to do or not to do, and to act in this way or in that, and where we can know the reason why.

But the reason why is not always of the same kind.

For in geometry, when one says that the quadrilateral has its angles equal to four right angles, and one asks the reason why, one says, ‘Because the triangle has its angles equal to two right angles.’ Now in such cases they reached the reason why from a definite principle; but in matters of action, with which purpose has to do, it is not so (for there is no definite principle laid down), but if one asks, ‘Why did you do this? ‘ the answer is, ‘Because it was the only thing possible,’ or ‘Because it was better so.’ It is from the consequences themselves, according as they appear to be better, that one forms one’s purpose, and these are the reason why.

Wherefore in such matters the deliberation is as to the how, but not so in the sciences. For no one deliberates how he ought to write the name Archicles, because it is a settled matter how one ought to write the name Archicles. The error, then, does not arise in the thought, but in the act of writing. For where the error is not in the thought, neither do people deliberate about those things.

But wherever there is an indefiniteness about the how, there error comes in.

Now there is the element of indefiniteness in matters of action, and in those matters in which the errors are two-fold. We err, then, in matters of action and in what pertains to the virtues in the same way. For in aiming at virtue we err in the natural directions. For there is error both in defect and in excess, and we are carried in both these directions through pleasure and pain. For it is owing to pleasure that we do base deeds, and owing to pain that we abstain from noble ones.

Again, thought is not like the senses; for instance, with sight one could not do anything else than see, nor with hearing anything else than hear. So also we do not deliberate whether we ought to hear with hearing or see. But thought is not like this, but it is able to do one thing and others also. That is why deliberation comes in there.

The error, then, in the choice of goods is not about the ends (for as to these all are at one in their judgement, for instance, that health is a good), but only about those which. lead to the ends; for instance, whether a particular food is good for health or not. The chief cause of our going wrong in these matters is pleasure and pain; for we avoid the one and choose the other. —

Since, then, it has been settled in what error takes place and how, it remains to ask what it is that virtue aims at. Does it aim at the end or at the means; for instance, at what is right or at what conduces thereto?

How, then, is it with science? Does it belong to the science of house building to design the end rightly, or to see the means that conduce to it? For if the design be right — I mean, to make a beautiful house — it is no other than the house builder who will discover and provide the means. And similarly in the case of all the other sciences.

So, then, it would seem to be also in the case of virtue, that its aim is rather the end, which it must design rightly, than the means. And no one else will provide the materials for this or discover the means that are required. And it is reasonable to suppose that virtue should have this in view. For both design and execution always belong to that with which the origination of the best lies. Now there is nothing better than virtue; for it is for its sake that all other things are, and the origination looks to this, and the means are rather for the sake of it; now the end seems to be a kind of principle, and everything is for the sake of it. But this will be as it ought to be. So that it is plain also in the case of virtue, since it is the best mode of causation, that it aims at the end rather than at the means.

— Now the end of virtue is the right. This, then, is what virtue aims at rather than the things from which it will be produced. But it has to do also with these. But to make these its whole concern is manifestly absurd. For perhaps in painting one might be a good imitator and yet not be praised, if one does not make it his aim to imitate the best subjects. This, therefore, is quite the business of virtue, to design the right.

Why, then, some one may say, did we say before that the activity was better than the corresponding state, whereas now we are assigning to virtue as nobler not the material for activity, but something in which there is no activity? Yes, but now also we assert this just the same, that the activity is better than the state. For his fellow men in viewing the good man judge him from his acts, owing to its not being possible to make clear the purpose which each has, since if it were possible to know how the judgement of each man stands towards the right, he would have been thought good even without acting.

But since we reckoned up certain means of the feelings, we must say with what sort of feelings they are concerned.

Since, then, courage has to do with feelings of confidence and fear, we must examine with what sort of fears and confidences it has to do. If, then, any one is afraid of losing his property, is he a coward? And if any one is confident about these matters, is he brave? Surely not! And in the same way if one is afraid of or confident about illness, one ought not to say that the man who fears is a coward or that the man who does not fear is brave. It is not, therefore, in such fears and confidences as these that courage consists. Nor yet in such as follow; for instance, if one is not afraid of thunder or lightning or any other superhuman terror, he is not brave but a sort of madman. It is with human fears and confidences, then, that the brave man has to do; I mean to say that whoso is confident under circumstances in which most people or all are afraid, he is a brave man.

These points having been settled, we must inquire, since there are many ways in which men are brave, which is the truly brave man. For you may have a man who is brave from experience, like professional soldiers. For they know, owing to experience, that in such a place or time or condition it is impossible to suffer any damage. But the man who knows these things and for this reason stands his ground against the enemy is not brave; for if none of these things be the case, he does not stand his ground. Wherefore one ought not to call those brave whose courage is due to experience. Nor indeed was Socrates right in asserting that courage was knowledge. For knowledge becomes knowledge by getting experience from habit. But of those whose endurance is due to experience we do not say, nor would men in general say, that they are brave. Courage, therefore, will not consist in knowledge.

But again, on the other hand, there are some who are brave from the opposite of experience. For those who have no experience of the probable results are free from fear owing to their inexperience. Neither, then, must we call these brave.

Again, there are others who appear brave owing to their passions; for instance, those who are in love or are inspired by religion. We must not call these brave either. For if their passion be taken away, they are not brave any more, whereas the truly brave man must always be brave. Wherefore one would not call wild beasts like boars brave, owing to their defending themselves when they have been pained by a wound, nor ought the brave man to be brave through passion.

Again, there is another form of courage, which we may call civic; for instance, if men endure dangers out of shame before their fellow citizens, and so appear to be brave. In illustration of this we may take the way in which Homer has represented Hector as saying —

Then were Polydamas first to pile reproaches upon me; for which reason he thinks that he ought to fight. We must not call this sort courage either. For the same definition will apply to each of these. For he whose courage does not endure on the deprivation of something cannot properly be considered brave; if, then, I take away the shame owing to which he was brave, he will no longer be brave.

There is yet another way of appearing brave, namely, through hope and anticipation of good. We must not say that these are brave either, since it appears absurd to call those brave who are of such a character and under such circumstances. —

No one, then, of the above kinds must be put down as brave.

We have then to ask who is to be so put down, and who is the really brave man. Broadly speaking, then, it is he who is brave owing to none of the things above-mentioned, but owing to his thinking it to be right, and who acts bravely whether any one be present or not.

Not, indeed, that courage arises in one entirely without passion and impulse. But the impulse must proceed from reason and be directed to the right. He, then, who is carried by a rational impulse to face danger for the sake of right, being free from fear about these things, is brave; and these are the things with which courage has to do.

When we say free from fear’, it is not to be understood that the brave man feels no fear at all. For such a person is not brave, for whom nothing at all has any terrors. For in that way a stone and other things without life would be brave. But it is necessary that while he feels fear he should still face the danger; for if, on the other hand, he faces it without feeling fear, he will not be brave.

Further, according to the distinction that we made above, it is not concerned with all fears and dangers, but only with those which threaten existence. Moreover, not at any and every time, but when the fears and the dangers are near. For if one is void of fear with regard to a danger that is ten years off, it does not follow that he is brave. For some are confident owing to its being far away, but, if they come near it, are ready to die with fear. Such, then, are courage and the brave man.

Temperance is a mean between intemperance and insensibility to pleasures. For temperance and generally every virtue is the best state, and the best state lies in the attainment of the best thing, and the best thing is the mean between excess and defect; for people are blameworthy on both grounds, both on that of excess and on that of defect. So that, since the mean is best, temperance will be a mean state between intemperance and insensibility. These, then, are the vices between which it will be a mean.

Temperance is concerned with pleasures and pains, but not with all, nor with those that have to do with all objects. For one is not intemperate if one takes pleasure in beholding a painting or a statue or something of that sort, and in the same way not so in the case of hearing or smell; but only in the pleasures which have to do with touch and taste. —

Nor yet with regard to these will a man be temperate who is in such a state as not to be affected at all by any pleasures of this sort (for such a person is devoid of feeling), but rather he who feels them and yet does not let himself be led away into enjoying them to excess and regarding everything else as of secondary consideration; and, we must add, the man who acts for the sake of right and nothing else.... For whoever abstains from the excess of such pleasures either from fear or some other such motive is not temperate. For neither do we call the other animals temperate except man, because there is not reason in them whereby they test and choose the right. For every virtue is concerned with and aims at the right. So temperance will be concerned with pleasures and pains, and these those that occur in touch and taste. —

Next to this it behoves us to speak about the definition and sphere of gentleness: Gentleness, then, is in a mean between irascibility and a want of anger. And generally the virtues seem to be a kind of means. One can show that they are so in this way as well. For if the best is in the mean, and virtue is the best state [and the mean is best], virtue will be the mean. But it will be more plain as we inquire into them separately. For since he is irascible who gets angry with everybody and under all circumstances and to too great an extent, and such a one is blameworthy (for one ought not to be angry with everybody nor at everything nor under all circumstances and always, nor yet again on the other hand ought one to be in such a state as never to be angry with anybody; for this character also is blameworthy, as being insensible), since then both he who is in the excess is blameworthy and he who is in the defect, the man who is in the mean between them will be gentle and praiseworthy. For neither he who is in defect in anger nor he who is in excess is praiseworthy, but he who stands in a mean with regard to these things. He is gentle; and gentleness will be a mean state with regard to these feelings.

Liberality is a mean state between prodigality and illiberality. Feelings of this sort have to do with property. The prodigal is he who spends on wrong objects and more than he ought and at wrong times, while the illiberal man, in the opposite way to him, is he who does not spend on right objects and as much as he ought and when he ought. And both these characters are blameworthy. And one of them is characterized by defect and the other by excess. The liberal man, therefore, since he is praiseworthy, will be in a mean between them. Who, then, is he? He who spends on right objects and right amounts and at right times.

There are several forms of illiberality; for instance, we call some people *niggards* and *cheese-parers,* and *lovers of base gain*, and *penurious.* Now all these fall under the head of illiberality. For evil is multiform, but good uniform; for instance, health is single, but disease has many shapes. In the same way virtue is single, but vice has many shapes. For all these characters are blameworthy in relation to property.

Is it, then, the business of the liberal man also to get and procure property? Surely not! That sort of thing is not the business of any virtue at all. It is not the business of courage to make weapons, but of something else, but it is the business of this when it has got them to make a right use of them; and so in the case of temperance and the other virtues. This, then, is not the business of liberality, but rather of the art of procuring property. —

— Greatness of soul is a mean between vanity and littleness of soul, and it has to do with honour and dishonour, not so much with honour from the many as with that from the good, and more indeed with this. For the good will bestow honour with knowledge and good judgement. He will wish then rather to be honoured by those who know as he does himself that he deserves honour. For he will not be concerned with every honour, but with the best, and with the good that is honourable and ranks as a principle. Those, then, who are despicable and bad, but who deem themselves worthy of great things, and besides ° that think that they ought to be honoured, are vain. But those who deem themselves worthy of less than befits them are men of little soul. The man, therefore, who is in the mean between these is he who neither deems himself worthy of less honour than is befitting to him, nor of greater than he deserves, nor of all. And he is the man of great soul.

So that it is evident that greatness of soul is a mean between vanity and littleness of soul.

— Magnificence is a mean between ostentation and shabbiness. Now magnificence has to do with expenses which are proper to be incurred by a man of eminence. Whoever therefore spends on the wrong occasions is ostentatious; for instance, one who feasts his dinner-club as though he were giving a wedding-banquet, such a person is ostentatious (for the ostentatious man is the sort of person who shows off his own means on the wrong occasion). But the shabby man is the opposite of this, who fails to make a great expenditure when he ought; or if, without going to that length, when, for instance, he is spending money on a wedding-feast or the mounting of a play, he does it in an unworthy and deficient way, such a person is shabby. Magnificence from its very name shows itself to be such as we are describing. For since it spends the great amount on the fitting occasion, it is rightly called magnificence. Magnificence, then, since it is praiseworthy, is a mean between defect and excess with regard to proper expenses on the right occasions.

But there are, as people think, more kinds of magnificence than one; for instance, people say, ‘ his gait was magnificent,’ and there are of course other uses of the term ‘magnificent’ in a metaphorical, not in a strict sense. For it is not in those things that magnificence lies, but in those which we have mentioned.

Righteous indignation is a mean state between enviousness and malice. For both these states are blameworthy, but the man who shows righteous indignation is praiseworthy.

Now righteous indignation is a kind of pain with regard to good things which are found to attach to the undeserving. The man, then, who feels righteous indignation is he who is apt to feel pain at such things. And this same person again will feel pain, if he sees a man faring ill, who does not deserve it. Righteous indignation, then, and the person who feels it, are perhaps of this sort, but the envious man is the opposite of this. For he will feel pain without distinction as to whether one deserves the good fortune or not. In the same way with him the malicious man will be pleased at ill-fortune, whether deserved or undeserved. Not so with the man who feels righteous indignation, but he is in the mean between these.

— Reserve is in a mean between pride and complaisance, and has to do with social intercourse. For the proud man is inclined not to meet or talk to anybody (but his name seems to be given to him from his character; for it means self-pleasing, from his gratifying himself); but the complaisant is ready to associate with every one under all circumstances and in all places. Neither of these characters, then, is praiseworthy, but the reserved man, being in the mean between them, is praiseworthy. For he does not lay himself out to please everybody, but only those who are worthy, nor yet nobody, for he does so to these same.

— Modesty is a mean between shamelessness and bashfulness, and it has to do with deeds and words. For the shameless man is he who says and does anything on any occasion or before any people; but the bashful man is the opposite of this, who is afraid to say or do anything before anybody (for such a man is incapacitated for action, who is bashful about everything); but modesty and the modest man are a mean between these. For he will not say and do anything under any circumstances, like the shameless man, nor, like the bashful man, be afraid on every occasion and under all circumstances, but will say and do what he ought, where he ought, and when he ought.

— Wit is a mean state between buffoonery and boorishness, and it is concerned with jests. For the buffoon is he who thinks fit to jest at every one and everything, and the boor is he who neither thinks fit to make jests nor to have them made at him, but gets angry. But the witty man is midway between these, who neither jests at all persons and under all circumstances, nor on the other hand is a boor. But wit has two sides to it. For both he who is able to jest in good taste and he who can stand being jested at may be called a man of wit. Such, then, is wit.

Friendliness is a mean state between flattery and unfriendliness, and it has to do with acts and words. For the flatterer is he who adds more than is proper and true, while the unfriendly man is hostile and detracts from the truth. Neither of them, then, can rightly be praised, but the friendly man is between the two. For he will not add more than the facts, nor praise what is not proper, nor on the other hand will he represent things as less than they are, nor oppose in all cases even contrary to what he thinks. Such, then, is the friendly man.

Truthfulness is a mean between self-depreciation and boastfulness. It has to do, of course, with words, but not with all words. For the boaster is he who pretends to have more than he has, or to know what he does not know; while the self-depreciator, on the other hand, lays claim to less than he really has and does not declare what he knows, but tries to hide his knowledge. But the truthful man will do neither of these things. For he will not pretend either to more than he has or less, but will say that he has and knows what as a matter of fact he does have and does know.

Whether, then, these are virtues or not is another question. But that they are means of the above-mentioned states is plain. For those who live according to them are praised.

It remains to speak about justice — what it is, in what, and about what.

First, then, if we could fix upon what justice is. Justice is twofold, of which one kind is legal justice. For people say that what the law commands is just. Now the law commands us to act bravely and temperately, and generally to perform the actions which come under the head of the virtues. For which reason also, they say, justice appears to be a kind of perfect virtue. For if the things which the law" commands us to do are just, and the law ordains what is in accordance with all virtues, it follows that he who abides by legal justice will be perfectly virtuous, so that the just man and justice are a kind of perfect virtue.

The just, then, in one sense is in these things and about these things. But it is not the just in this sense, nor the justice which deals with these things, of which we are in search. For in respect of just conduct of this sort it is possible to be just when one is alone (for the temperate and the brave and the self-controlled is so each of them when alone). But what is just towards one's neighbour is different from the legal justice that has been spoken of. For in things just towards one's neighbour it is not possible to be just when alone. But it is the just in this sense of which we are in search, and the justice which has to do with these things.

The just, then, in relation to one's neighbour is, speaking generally, the equal. For the unjust is the unequal. For when people assign more of the goods to themselves and less of the evils, this is unequal, and in that case they think that injustice is done and suffered. It is evident, therefore, that since injustice implies unequal things, justice and the just will consist in an equality of contracts. So that it is evident that justice will be a mean between excess and defect, between too much and too little. For the unjust man by doing wrong has more, and his victim by being wronged has less; but the mean between these is just. And the mean is equal. So that the equal between more and less will be just, and he will be just who wishes to have what is equal. But the equal implies two things at least. To be equal therefore in relation to one's neighbour is just, and a man of this sort will be just.

Since, then, justice consists in just and equal dealing and in a mean, we must notice that the just is said to be just as between certain persons, and the equal is a relation between certain persons, and the mean is a mean for certain persons; so that justice and the just will have relation to certain persons and be between certain persons.

Since, then, the just is equal, the proportionally equal will be just. Now proportion implies four terms at least: A: B:: C: D. For instance, it is proportional that he who has much should contribute much, and that he who has little should contribute little; again, in the same, way, that he who has worked much should receive much, and that he who has worked little should receive little. But as the man who has worked is to the man who has not worked, so is the much to the little; and as the man who has worked is to the much, so is the man who has not worked to the little. Plato also seems to employ proportional justice in - his *Republic}* For the farmer, he says, produces food, and the house builder a house, and the weaver a cloak, and the shoemaker a shoe. Now the farmer gives the house builder food, and the house builder gives the farmer a house; and in the same way all the rest exchange their products against those of others. And this is the proportion. As the farmer is to the house builder, so is the house builder to the farmer. In the same way with the shoemaker, the weaver, and all the rest, the same proportion holds towards one another. And this proportion holds the commonwealth together. So that the just seems to be the proportional. For the just holds commonwealths together, and the just is the same thing as the proportional.

But since the work which the house builder produces is of more value than that of the shoemaker, and the shoe-maker had to exchange his work with the house builder, but it was not possible to get a house for shoes; under these circumstances they had recourse to using something for which all these things are purchasable, to wit silver, which they called money, and to effecting their mutual exchanges by each paying the worth of each product, and thereby holding the political communion together. —

Since, then, the just is in those things and in what was mentioned before, the justice which is concerned with these things will be an habitual impulse attended with purpose about and in these things.

Retaliation also is just; not, however, as the Pythagoreans maintained. For they thought that it was just that a man should suffer in return what he had done. But this cannot be the case in relation to all persons. For the same thing is not just for a domestic as for a freeman. For if the domestic has struck the freeman, it is not just that he should merely be struck in return, but many times. And retaliatory justice, also, consists in proportion. For as the freeman is to the slave in being superior, so is retaliation to aggression. It will be the same with one freeman in relation to another. For it is not just, if a man has knocked out somebody's eye, merely that he should have his own knocked out, but that he should suffer more, if he is to observe the proportion. For he was the first to begin and did a wrong, and is in the wrong in both ways, so that the acts of injustice are proportional, and for him to suffer more than he did is just.

But since the term 'just' is used in more senses than one, we must determine what kind of justice it is about which our inquiry is.

There is, then, a sort of justice, as they say, for a domestic as against his master, and a son as against his father. But the just in these cases would seem only to share the name of political justice without sharing the nature (for the justice about which we are inquiring is political justice); for this above all consists in equality (for citizens are a sort of partners, and tend to be on a par by nature, though they differ in character), but a son as against his father or a domestic against his master would not seem to have any rights at all, any more than my foot or my hand has any rights against me, and in the same way with each of the members. The same, then, would seem to be the case with the son as against his father. For the son is, as it were, a part of his father, except when he has already attained to the position of a man and has been separated from him; then, and not till then, is he the equal and peer of his father. Now citizens are supposed to be on that footing. And in the same way neither has a domestic any rights as against his master for the same reason. For the domestic is a part of his master. Or if he has any rights as against him, it is in the way of economic justice. But this is not what we are in search of, but political justice; for political justice seems to lie in equality and peerdom. Though, indeed, the justice that there is in the intercourse between wife and husband comes near to political justice. For the wife is inferior to the husband, but more intimately connected with him, and partakes in a way more of equality, because their life is an approximation to political society, so that justice between man and wife is more than any other like that between citizens. Since, then, the just is that which is found in political society, justice also and the just man will be concerned with the politically just.

Things are just either by nature or by law. But we must not regard the natural as being something which cannot by any possibility change; for even the things which are by nature partake of change. I mean, for instance, if we were all to practise always throwing with the left hand, we should become ambidextrous. But still by nature left is left, and the right is none the less naturally superior to the left hand, even if we do everything with the left as we do with the right. Nor because things change does it follow that they are not by nature. But if for the most part and for the greater length of time the left continues thus to be left and the right right, this is by nature. The same is the case with things just by nature. Do not suppose that, if things change owing to our use, there is not therefore a natural justice; because there is. For that which continues for the most part can plainly be seen to be naturally just. As to what we establish for ourselves and practise, that is thereby just, and we call it just according to law. Natural justice, then, is better than legal. But what we are in search of is political justice. Now the politically just is the legal, not the natural.

The unjust and the unjust act might seem on first hearing to be the same, but they are not. For the unjust is that which is determined by law; for instance, it is unjust to steal a deposit, but the unjust act is the actual doing of something unjustly. And in the same way the just is not the same with a piece of just conduct. For the just is what is determined by law, but a piece of just conduct is the doing of just deeds. —

When, therefore, have we the just, and when not? Generally speaking, when one acts in accordance with purpose and voluntarily (what was meant by the voluntary has been stated by us above), and when one does so knowing the person, the means, and the end, those are the conditions of a just act. In the very same way the unjust man will be he who knows the person, the means, and the end. But when without knowing any of these things one has done something that is unjust, one is not unjust oneself, but unfortunate. For if a man has slain his father under the idea that he was slaying an enemy, though he has done something that is unjust, still he is not doing injustice to anybody, but is unfortunate.

The possibility, then, of not committing injustice when one does things that are unjust lies in being ignorant of what was mentioned a little above, viz when one does not know whom one is hurting, nor with what, nor to what end. But we must now define the ignorance, and say how the ignorance must arise if a man is not to be doing an injustice to the person whom he hurts. Let this, then, be the definition. When the ignorance is the cause of his doing something, he does not do this voluntarily, so that he does not commit injustice; but when he is himself the cause of his ignorance and does something in accordance with the ignorance of which he is himself the cause, then he is guilty of injustice, and such a person will justly be called unjust. Take for instance people who are drunk. Those who are drunk and have done something bad commit injustice. For they are themselves the causes of their ignorance. For they need not have drunk so much as not to know that they were beating their father. Similarly with the other sorts of ignorance which are due to men themselves, the people who commit injustice from them are unjust. But where they are not themselves the causes, but their ignorance is the cause of their doing what they do, they are not unjust. This sort of ignorance is that which comes from nature; for instance, children strike their parents in ignorance, but the ignorance which is in them being due to nature does not make the children to be called unjust owing to this conduct. For it is ignorance which is the cause of their behaving thus, and they are not themselves to blame for their ignorance, for which reason they are not called unjust either.

But how about being injured? Can a man be injured voluntarily? Surely not! We do indeed voluntarily perform just and unjust acts, but we cannot be said to be injured voluntarily. For we avoid being punished, so that it is evident that we would not voluntarily let ourselves be injured. For no one voluntarily endures to be hurt. Now to be injured is to be hurt.

Yes, but there are some who, when they ought to have an equal share, give way to others, so that if, as we have seen, to have the equal is just, and to have less is to be injured, and a man voluntarily has less, it follows, it is maintained, that he is injured voluntarily. But from the following consideration it is evident, on the other hand, that this is not so. For all who accept less get compensation for it in the way of honour, or praise, or glory, or friendship, or something of that sort. But he who takes compensation of some kind for what he forgoes cannot be said to be injured; and if he is not injured at all, then he is not injured voluntarily.

Yet again, those who get less and are injured in so far as they do not get what is equal, pride and plume themselves on such things, for they say, ‘Though I might have had my share, I did not take it, but gave way to an elder or ‘to a friend ‘ But no one prides himself on being injured. But if they do not pride themselves upon suffering acts of injustice and do pride themselves upon such things, it follows generally that they will not be injured by thus getting less. And if they are not injured at all, then they will not be injured voluntarily.

But as against these and the like arguments we have a counter-argument in the case of the incontinent man. For the incontinent man hurts himself by doing bad acts, and these acts he does voluntarily; he therefore hurts himself knowingly, so that he is voluntarily injured by himself. But here if we add the distinction, it will impede the force of the argument. And the distinction is this, that no one wishes to be injured. The incontinent man does with his own wish what is prompted by his incontinence, so that he injures himself; he therefore wishes to do to himself what is bad. But no one wishes to be injured, so that even the incontinent man will not voluntarily be doing an injury to himself.

But here again one might perhaps raise a difficulty. Is it possible for a man to be unjust to himself? Judging from the incontinent man it would seem possible. And, again, in this way. If it is just to do those things which the law ordains to be done, he who does not do these is committing injustice; and if when he does not do them to him to whom the law commands, he is doing an injustice to that person, but the law commands one to be temperate, to possess property, to take care of one’s body, and all other such things, then he who does not do these things is doing an injustice to himself. For it is not possible to refer such acts of injustice to any one else.

But these statements can hardly have been true, nor is it possible for a man to be unjust to himself. For it is not possible for the same man at the same time to have more and less, nor at once to act voluntarily and involuntarily. But yet he who does injustice, in so far as he does it, has more, and he who suffers it, in so far as he suffers it, has less. If therefore a man does injustice to himself, it is possible for the same man at the same time to have more and less. But this is impossible. It is not therefore possible for a man to be unjust to himself.

Again, he who does injustice does it voluntarily, and he who suffers it suffers it involuntarily, so that, if it is possible for a man to be unjust to himself, it would be possible at the same time to do something involuntarily and voluntarily. But this is impossible. So in this way also it is not possible for a man to be unjust to himself.

Again, one might look at the question from the point of view of particular acts of injustice. Whenever men commit injustice, it is either by stealing a deposit, or committing adultery, or thieving, or doing some other particular act of injustice; but no one ever robbed himself of a deposit, or committed adultery with his own wife, or stole his own property; so that if the commission of injustice lies in such things, and it is not possible to do any of them to oneself, it will not be possible to commit injustice against oneself.

Or if so, it will not be an act of injustice of the political, but rather of the family type. For the soul being divided into several parts has in itself a something better and a something worse, so that if there is any act of injustice within the soul, it will be done by the parts against one another. Now we distinguished the economic act of injustice by its being directed against the better or worse, so that in this sense a man may be unjust or just to himself. But this is not what we are investigating, but the political act of injustice. So that in such acts of injustice as form the subject of our inquiry, it is not possible for a man to commit injustice against himself.

Which of the two, again, commits injustice, and with which of the two does the act of injustice lie, when a man has anything unjustly? Is it not with him who has judged and made the award, as in the games? For he who takes the palm from the president who has adjudged it to him is not committing injustice, even if it be wrongly awarded to him; but without doubt it is he who has judged badly and given it who is in the wrong. And he is in a way committing injustice, while in a way he is not. For in that he has not judged what is really and naturally just, he is committing an injustice, while in that he has judged what appears to him to be just, he is not committing an injustice.

— Now since we have spoken about the virtues in general, saying what they are and in what and about what, and about each of them in particular, how that we must do the best in accordance with right reason, to say no more than this, namely, ‘to act in accordance with right reason,’ would be much the same as if one were to say that health would be best secured, if one were to adopt the means of health. Such a statement is of course obscure. I shall have it said to me, ‘Explain what are the means of health.’ So also in the case of reason, ‘What is reason and which is right reason? ‘

Perhaps it is necessary first of all to make a division of that in which reason is found. A distinction, indeed, was made in outline about soul before, how that one part of it is possessed of reason, while there is another part of the soul that is irrational. But the part of the soul which is possessed of reason has two divisions, of which one is the deliberative faculty, the other the faculty by which we know. That they are different from one another will be evident from their subject-matter. For as colour and flavour and sound and smell are different from one another, so also nature has rendered the senses whereby we perceive them different (for sound we cognise by hearing, flavour by taste, and colour by sight), and in like manner we must suppose it to be the same with all other things. When, then, the subject-matters are different, we must suppose that the parts of the soul whereby we cognise these are also different. Now there is a difference between the object of thought and the object of sense; and these we cognise by soul. The part of the soul, therefore, which is concerned with objects of sense will be different from that which is concerned with objects of thought. But the faculty of deliberation and purpose has to do with objects of sense that are liable to change, and generally all that is subject to generation and destruction. For we deliberate ° about those things which depend upon us and our purpose to do or not to do, about which there is deliberation and purpose as to whether to do them or not. And these are sensible objects which are in process of change. So that the part of the soul in which purpose resides will correspond to sensible objects.

These points having been settled, we must go on as follows. The question is one of truth, and the subject of our inquiry is how the truth stands, and we have to do with science, wisdom, intellect, philosophy, supposition. What, then, is the object of each of these?

Now science deals with the object of science, and this through a process accompanied with demonstration and reason, but wisdom with matters of action, in which there is choice and avoidance, and it is in our power to do or not to do.

When things are made and done, that which makes and that which does them are not the same. For the arts of making have some other end beyond the making; for instance, beyond house building, since that is the art of making a house, there is a house as its end beyond the making, and similarly in the case of carpentry and the other arts of making; but in the processes of doing there is no other end beyond the doing; for instance, beyond playing the harp there is no other end, but just this is the end, the activity and the doing. Wisdom, then, is concerned with doing and things done, but art with making and things made; for it is in things made rather than in things done that artistic contrivance is displayed.

So that wisdom will be a state of purposing and doing things which it is in our own power to do or not to do, so far as they are of actual importance to welfare.

Wisdom is a virtue, it would seem, not a science. For the wise are praiseworthy, and praise is bestowed on virtue. Again, every science has its virtue, but wisdom has no virtue, but as it seems, is itself a virtue.

Intellect has to do with the first principles of things intelligible and real. For science has to do with things that admit of demonstration, but the principles are indemonstrable, so that it will not be science but intellect that is concerned with the principles.

Philosophy is compounded of science and intellect. For philosophy has to do both with the principles and with what can be proved from the principles, with which science deals. In so far, then, as it deals with the principles, it itself partakes of intellect, but in so far as it deals with demonstrative conclusions from the principles, it partakes of science. So that it is evident that philosophy is compounded of intellect and science, so that it will deal with the same things with which intellect and science do.

Supposition is that whereby we are left in doubt about all things as to whether they are in a particular way or not.

Are wisdom and philosophy the same thing? Surely not! For philosophy has to do with things that can be demonstrated and are eternally the same, but wisdom has not to do with these, but with things that undergo change. I mean, for instance, straight or crooked or convex and the like are always what they are, but things expedient do not follow this analogy, so as never to change into anything else; they do change, and a given thing is expedient now, but not tomorrow, to this man but not to that, and is expedient in this way, but not in that way. Now wisdom has to do with things expedient, but philosophy not. Therefore philosophy and wisdom are not the same.

Is philosophy a virtue or not? It can become plain to us that it is a virtue by merely looking at wisdom. For if wisdom is, as we maintain, the virtue of one of the two rational parts, and wisdom is inferior to philosophy (for its objects are inferior; for philosophy has to do with the eternal and the divine, as we maintain, but wisdom with what is expedient for man), if, then, the inferior thing is a virtue, it is reasonable that the better should be a virtue, so that it is evident that philosophy is a virtue.

What is intelligence, and with what is it concerned? The sphere of intelligence is the same as that of wisdom, having to do with matters of action. For the intelligent man is doubtless so called from his capacity for deliberation, and in that he judges and sees a thing rightly. But his judgement is about small things and on small occasions. Intelligence, then, and the intelligent man are a part of wisdom and the wise man, and cannot be found apart from these; for you cannot separate the intelligent from the wise man.

The case would seem to be the same with cleverness.

For cleverness and the clever man are not wisdom and the wise man; the wise man, however, is clever, wherefore also cleverness co-operates in a way with wisdom. But the bad man also is called clever; for instance, Mentor was thought to be clever, but he was not wise. For it is the part of the wise man and of wisdom to aim at the best things, and always to purpose and do these, but it is the part of cleverness and the clever man to consider by what means each object of action may be effected, and to provide these.

Such, then, would seem to be the surroundings and sphere of the clever man.

It may raise a question and cause surprise that, when speaking of ethics and dealing with a department of statecraft, we are speaking about philosophy. Perhaps the reason is, firstly, that the inquiry about it will not appear foreign to our subject, if it is a virtue, as we maintain. Again, it is perhaps the part of the philosopher to glance also at subjects adjacent to his main interest. And it is necessary, when we are speaking about the contents of soul, to speak about them all; now philosophy is also in soul; so that we are not going beyond our proper subject in speaking about it.

But as cleverness is to wisdom, so it would seem to be in the case of all the virtues. What I mean is that there are virtues which spring up even by nature in different persons, a sort of impulses in the individual, apart from reason, to courageous and just conduct and the like behaviour in accordance with virtue; and there are also virtues due to habit and purpose. But the virtues that are accompanied with reason, when they supervene, are completely praiseworthy.

Now this natural virtue which is unaccompanied by reason, so long as it remains apart from reason, is of little account, and falls short of being praised, but when added to reason and purpose, it makes perfect virtue. Wherefore also the natural impulse to virtue co-operates with reason and is not apart from reason. Nor, on the other hand, are reason and purpose quite perfected as regards being virtue without the natural impulse. Wherefore Socrates was not speaking correctly when he said that virtue was reason, thinking that it was no use doing brave and just acts, unless one did them from knowledge and rational purpose. This was why he said that virtue was reason. Herein he was not right, but the men of the present day say better; for they say that virtue is doing what is good in accordance with right reason. Even they, indeed, are not right. For one might do what is just without any purpose at all or knowledge of the good, but from an irrational impulse, and yet do this rightly and in accordance with right reason (I mean he may have acted in the way that right reason would command); but all the same, this sort of conduct does not merit praise. But it is better to say, according to our definition, that it is the accompaniment by reason of the impulse to good. For that is virtue and that is praiseworthy.

The question might be raised whether wisdom is a virtue or not. It will be evident, however, from the following consideration that it is a virtue. For if justice and courage and the rest of the virtues, because they lead to the doing of right, are also praiseworthy, it is evident that wisdom will also be among the things that are praiseworthy and that rank as virtues. For wisdom also has an impulse towards those acts which courage has an impulse to do. For, speaking generally, courage acts as wisdom ordains, so that if it is itself praiseworthy for doing what wisdom ordains, wisdom will be in a perfect degree both praiseworthy and virtue.

But whether wisdom is practical or not one might see from this, namely, by looking at the sciences, for instance at house building. For there is, as we say, in house building one person who is called an architect, and another, who is subordinate to him, a house builder; and he is capable of making a house. But the architect also, inasmuch as he made the house, is capable of making a house. And the case is the same in all the other productive arts, in which there is a master-craftsman and his subordinate. The master-craftsman therefore also will be capable of making something, and that the same thing which his subordinate is capable of making. If, then, the analogy holds in the case of the virtues, as is likely and reasonable, wisdom also will be practical. For all the virtues are practical, and wisdom is a kind of master-craftsman of them. For as it shall ordain, so the virtues and the virtuous act. Since then the virtues are practical, wisdom also will be practical.

But does this hold sway over all things in the soul, as is held and also questioned? Surely not! For it would not seem to do so over what is superior to itself; for instance, it does not hold sway over philosophy. But, it is said, this has charge of all, and is supreme in issuing commands. But perhaps it holds the same position as the steward in the household. For he is supreme over all and manages everything. But it does not follow that he holds sway over all; instead of that he is procuring leisure for the master, in order that he may not be hindered by necessary cares and so shut out from doing something that is noble and befitting. So and in like manner with him wisdom is, as it were, a kind of steward of philosophy, and is procuring leisure for it and for the doing of its work, by subduing the passions and keeping them in order. —

BOOK II

After this we must inquire into equity. What is it? And what is its field and sphere? The equitable man with his equity is he who is inclined to take less than his legal rights. There are matters in which it is impossible for the lawgiver to enter into exact details in defining, and where he has to content himself with a general statement. When, then, a man gives way in these matters, and chooses those things which the lawgiver would have wished indeed to determine in detail, but was not able to, such a man is equitable. It is not the way with him to take less than what is just absolutely; for he does not fall short of what is naturally and really just, but only of what is legally just in matters which the law left undetermined for want of power.

Considerateness and the considerate man have to do with the same things as equity, with points of justice that have been omitted by the lawgiver owing to the inexactness of his definitions. The considerate man criticizes the omissions of the lawgiver, and knows that, though things have been omitted by the lawgiver, they are nevertheless just. Such is the considerate man. Now considerateness is not found apart from equity. To the considerate man it belongs to judge, and to the equitable man to act in accordance with the judgement.

Good counsel is concerned with the same things as wisdom (dealing with matters of action which concern choice and avoidance), and it is not found apart from wisdom. For wisdom leads to the doing of these things, while good counsel is a state or disposition, or whatever you are pleased to call it, which leads to the attainment of the best and most expedient in matters of action. Hence things that turn out right spontaneously do not seem to form the subject of good counsel. For where there is no reason which is on the look-out for what is best, you would not in that case say that a man to whom something turned out as it should be was well counselled, but lucky. For things that go right without the judgement of reason are due to good luck.

Is it the part of the just man to put himself on a level with everybody in his intercourse (I mean in the way of becoming all things to all men)? Surely not! For this would seem to be the part of a flatterer and obsequious person. But to suit his intercourse to the worth of each, this would seem to be the part of the man who is absolutely just and virtuous.

Here is also a difficulty that might be raised. If doing injustice is hurting somebody voluntarily and with full knowledge of the person and the manner and the end, and harm and injustice are in and concerned with good things, it follows that the doer of injustice and the unjust man will know what kind of things are good and what bad. But to know about these things is a peculiar property of the wise man and of wisdom. The absurdity then follows that wisdom, which is the greatest good, is attendant upon the unjust man. Surely it will not be thought that wisdom is attendant upon the unjust man. For the unjust man does not discern and is not able to judge between what is good in itself and what is good for him, but makes a mistake. But this is the province of wisdom, to be able to take a right view of these things (just as in matters of medicine we all know what is absolutely wholesome and what is productive of health, that hellebore and an aperient and surgery and cautery are wholesome and productive of health, and yet we do not possess the science of medicine), for without it we no longer know what is good in particular cases, just as the doctor knows for whom a given thing is good and when and in what disposition; for herein the science of medicine displays itself. Now we may know things that are absolutely wholesome, and yet not have the science of medicine attendant upon us; and the same is the case with the unjust man. That in an absolute sense autocracy and government and power are good, he knows; but whether they are good for him or not, or when, or in what condition, that is what he does not also know. But this is just the business of wisdom, so that wisdom does not attend upon the unjust man. For the goods which he chooses and for which he commits injustice are what are absolutely good, not what are good for him. For wealth and office are good in themselves, but for him perhaps they are not good; for by obtaining wealth and office he will do much evil to himself and his friends, for he will not be able to make a right use of office.

Here also is a point which presents a difficulty and suggests inquiry. Can injustice be done to a bad man or not? For if injustice consists in hurt, and hurt in the deprivation of goods, it would seem not to hurt him. For the goods which he supposes to be good for him are not really so. For office and wealth will hurt the bad man who is not able to make a right use of them. If then they will hurt him by their presence, he who deprives him of these would not seem to be doing him an injustice. This kind of argument indeed will appear a paradox to the many. For all think that they are able to use office and power and wealth, but they are not right in this supposition. This is made plain by the lawgiver. For the lawgiver does not allow all to hold office, but there is a standard of age and means which must be possessed by him who is to hold office, implying that it is not possible for every one to do so. If then some one were to make it a grievance that he does not hold office or that he is not allowed to steer the ship, the answer would be, ‘Well, you have nothing in your soul of a kind which will enable you to hold office or steer the ship.’ In the case of the body we see that those cannot be in good health who apply to themselves things that are absolutely good, but if a man is to have his bad body in health, he must first apply to it water and a low diet.

And when a man has his soul in a vicious state, in order that he may not work any ill must we not withhold him from wealth and office and power and things of that sort generally, the more so as soul is easier to move and more ready to change than body? For as the man whose body was bad was fit to be dieted in that way, so the man whose soul is bad is fit to live thus, without having any things of this sort. —

This also presents a difficulty. For instance, when it is not possible at the same time to do brave and just acts, which is one to do? Now in the case of the natural virtues we said that there existed only the impulse to right without reason; but he who has choice has it in reason and the rational part. So that as soon as choice is present, perfect virtue will be there, which we said was accompanied by wisdom, but not without the natural’ impulse to right. Nor will one virtue run counter to another, for its nature is to obey the dictates of reason, so that it inclines to that to which reason leads. For it is this which chooses the better. For the other virtues do not come into existence without wisdom, nor is wisdom perfect without the other virtues, but they co-operate in a way with one another, attending upon wisdom.

Nor less will the following present itself as a difficulty.

Is it in the case of the virtues as it is in the case of the other goods, whether external or bodily? For these when they run to excess make men worse; for instance, when wealth becomes great it makes men supercilious and disagreeable. And so also with the other goods — office, honour, beauty, stature. Is it, then, thus in the case of virtue also, so that, if one comes to have justice or courage to excess, he will be worse? Surely not! But, it will be said, from virtue comes honour, and when honour becomes great, it makes men worse, so that it is evident that virtue when progressing to a great extent will make men worse. For virtue is the cause of honour, so that virtue also, if it becomes great, will make men worse. Surely this cannot be true! For virtue, though it may have many other functions, as it has, has this among the most special, to be able to make a right use of these and the like goods when they are there. If therefore the good man on there coming to him high honour or high office shall not make a right use of these, it shows that he is not a good man. Therefore neither honour nor office will make the good man worse, so that neither will virtue. But generally, since it was laid down by us at the start that the virtues are mean states, it follows that the more any state is a virtue, the more it is a mean; so that not only will virtue as it becomes great not make a man worse, but it will make him better. For the mean in question was found to be the mean between excess and defect in the passions.

So much then for these matters.

After this we must make a new start and speak about self-control and its opposite. But as the virtue and the vice are themselves of a strange nature, so the discussion which will ensue about them must necessarily be strange also. For this virtue is not like the rest. For in the rest reason and passion have an impulse towards the same objects and are not opposed to one another, but in the case of this reason and passion are opposed to one another.

— There are three things in the soul in respect of which we are called bad — vice, incontinence, brutality. About virtue and vice, then, their nature and their sphere, we have spoken above; but now we must speak about incontinence and brutality.

Brutality is a kind of excessive vice. For when we see some one utterly degraded, we say that he is not even a man but a brute, implying that there is a vice of brutality.

Now the virtue opposed to this is without a name, but this sort of thing is above man, a kind of heroic and divine virtue. But this virtue is without a name, because virtue does not belong to God. For God is superior to virtue and it is not in the way of virtue that his goodness lies. For, if it were, virtue would be better than God. For this reason the virtue which is opposed to the vice of brutality is without a name. But the usual antithesis to this kind of vice is divine and superhuman virtue. For as the vice of brutality transcends man, so also does the virtue opposed to it.

— But with regard to incontinence and self-control we must first state the difficulties and the arguments which run counter to appearances, in order that, having viewed the matter together from the point of view of the difficulties and counter-arguments, and having examined these, we may see the truth about them so far as possible; for it will be more easy to see the truth in that way.

Now Socrates of old used to annul and deny incontinence altogether, saying that no one would choose evil who knew it to be such. But the incontinent seems, while knowing things to be bad, to choose them all the same, letting himself be led by passion. Owing to such considerations he did not think that there was incontinence. But there he was wrong. For it is absurd that conviction of the truth of this argument should lead to the annulment of a fairly established fact. For men do display lack of self-control, and do things which they themselves know to be bad.

Since, then, there is such a thing as lack of self-control, does the incontinent possess some knowledge whereby he views and examines his bad acts? But, again, this would not seem so. For it would be strange that the strongest and surest thing in us should be vanquished by anything. For knowledge is of all things in us the most permanent and the most constraining. So that this argument again runs counter to there being knowledge. —

Is it then not knowledge, but opinion? But if the incontinent man only has opinion, he will not be blameworthy. For if he does something bad with respect to which he has no exact knowledge but only an opinion, one would make allowances for his siding with pleasure and doing what is bad, if he does not know for certain that it is bad, but only has an opinion; and those for whom we — make allowances we do not blame. So that the incontinent, if he only has opinion, will not be to blame. But he is to blame; Such arguments then land us in difficulties. For one denied knowledge on the ground of absurd consequences, and the other again denied opinion on the ground that there were absurd consequences from that also.

Here is also a difficulty that might be raised. It is held that the temperate man is also self-controlled. Will this involve the temperate man's having vehement appetites? If then he is to be self-controlled, it will be necessary for him to have vehement appetites (for you would not speak of a man as self-controlled who masters moderate appetites); but if he is to have vehement appetites, in that case he will not be temperate (for the temperate is he who does not display appetite or feeling at all).

The following considerations again present a difficulty. For it results from the statements that the man who lacks self-control is sometimes praiseworthy and the man who possesses it blameworthy. For let it be supposed, it may be said, that some one has gone wrong in his reasoning, and let it appear to him as the result of his reasoning that what is right is wrong, but let appetite lead him to the right; then reason indeed will forbid his doing it, but being led by appetite he does it (for such we found was the incontinent man); he will therefore do what is right, supposing that appetite leads him thereto (but reason will try to hinder him; for let it be supposed that he is mistaken in his reasoning about right); it follows that he will be lacking in self-control, and yet be praiseworthy; for in so far as he does what is right, he is praiseworthy. The result then is a paradox.

Again, on the other hand, let his reason be mistaken, and let what is right not seem to him to be so, but let appetite lead him to the right. Now he is self-controlled who, though he has an appetite for a thing, yet does not act ° upon it owing to reason; therefore if his reason is wrong it will hinder him from doing what he has an appetite for; therefore it hinders him from doing what is right (for to that we supposed that his appetite led him); but he who fails to do what is right, when it is his duty to do it, is blameworthy; therefore the man of self-control will sometimes be blameworthy. In this way then also the result is a paradox.

A difficulty might also be raised as to whether lack of self-control and the incontinent man display themselves in and about everything, for instance, property and honour and anger and glory (for people seem to be deficient in self-control with regard to all these things), or whether they do not, but lack of self-control has a certain definite sphere.

The above, then, are the points which present a difficulty; but it is necessary to solve these difficulties. First, then, that which is connected with knowledge. For it appeared to be an absurdity that one who possessed knowledge should cast it from him or fall away from it. But the same reasoning applies also to opinion; for it makes no difference whether it is opinion or knowledge. For if opinion is intensely firm and unalterable by persuasion, it will not differ at all from knowledge, opinion carrying with it the belief that things are as people opine them to be; for instance, Heraclitus of Ephesus has this sort of opinion about his own dogmas.

But there is no paradox in the incontinent man's doing something bad, whether he has knowledge or opinion such as we describe. For there are two ways of knowing, one of which is the possessing knowledge (for we say that one knows when he possesses knowledge), the other is putting the knowledge into operation. He then who possesses the knowledge of right, but does not operate with it, is incontinent. When, then, he does not operate with this knowledge, it is nothing surprising that he should do what is bad, though he possesses the knowledge. For the case is the same as that of sleepers. For they, though they possess the knowledge, nevertheless in their sleep both do and suffer many disgusting things. For the knowledge is not operative in them. So it is in the case of the incontinent For he seems like one asleep and does not operate with his knowledge. Thus, then, is the difficulty solved. For the difficulty was whether the incontinent man at the moment of action expels his knowledge or falls away from it, both of which appear paradoxical.

But, again, the thing may be made manifest in this way, as we said in the *Analytics* that the syllogism consists of two premisses, and that of these the first is universal, while the second is subsumed under it and is particular. For instance —

I — know how to cure any one with a fever.

This man has a fever.

.. I know how to cure this man.

Now there are things which I know with the knowledge; of the universal, but not with that of the particular. Here then also mistake becomes possible to the man who possesses the knowledge, for instance how to cure any one with a fever; whether, however, a given person has a fever, I do not know. Similarly then in the case of the incontinent man who possesses the knowledge the same mistake will arise. For it is possible for the incontinent man to possess the knowledge of the universal, that such and such things are bad and hurtful, but yet not to know that these particular things are bad, so that while possessing knowledge in this way he will go wrong; for he has the universal knowledge, but not the particular. Neither, then, in this way is it at all a surprising result in the case of the incontinent man, that he who has the knowledge should do something bad. —

For it is so in the case of persons who are drunk. For those who are drunk, when the intoxication has passed off, are themselves again. Reason was not expelled from them, nor was knowledge, but it was overcome by the intoxication, but when they have got rid of the intoxication, they are themselves again. So, then, it is with the incontinent. His passion gains the mastery and brings his reasoning to a standstill. But when the passion, like the intoxication, has been got rid of, he is himself again.

There was another argument touching incontinence which presented a difficulty as seeming to show that the man who lacks self-control will sometimes be praiseworthy, and the man who possesses it blameworthy. But this is not the case. For the man who is deceived in his reason is neither continent nor incontinent, but only he who possesses right reason and thereby judges of right and wrong, and it is the man who disobeys this kind of reason who lacks self-control, while he who obeys it and is not led by his appetites is self-controlled. If a man does not think it disgraceful to strike his father and has a desire to strike him, but abstains from doing so, he is not a man of self-control. So that, since there is neither self-control nor its opposite in such cases, neither will lack of self-control be praiseworthy nor self-control blameworthy in the way that was thought.

There are forms of incontinence which are morbid and others which are due to nature. For instance, such as these are morbid. There are some people who pluck their hairs and nibble them. If one masters this pleasure, then, he is not praiseworthy, nor blameworthy if he fails to do so, or not very much. As an instance of incontinence due to nature we may take the story of a son who was brought to trial in court for beating his father, and who defended himself by saying, Why, he did so to his own father', and, what 's more, who was acquitted, for the judges thought that his going wrong was due to nature. If, then, one were to master the impulse to beat his father, he is not praiseworthy. It is not, then, such forms of incontinence or continence as these of which we are now in search, but those for which we are called blameworthy or praiseworthy without qualification.

Of goods some are external, as wealth, office, honour, friends, glory; others necessary and concerned with the body, for instance, touch and taste [he, then, who is incontinent with respect to these, would appear to be incontinent without qualification] and bodily pleasures. And the incontinence of which we are in search would seem to be concerned with just these. And the difficulty was about the sphere of incontinence. As regards honour, then, a man is not incontinent without qualification; for he who is incontinent with regard to honour is praised in a way, as being ambitious. And generally when we call a man incontinent in the case of such things we do it with some addition, incontinent ‘as regards honour or glory or anger ‘. But when a man is incontinent in the strict sense we do not add the sphere, it being assumed in his case, and being manifest without the addition, what the sphere is.

For he who is incontinent in the strict sense has to do with the pleasures and pains of the body.

It is evident also from the following consideration that incontinence has to do with these things. For since the incontinent man is blameworthy, the subject-matter of his incontinence ought also to be blameworthy. Now honour and glory and office and riches, and the other things with respect to which people are called incontinent, are not blameworthy, whereas bodily pleasures are blameworthy. Therefore, reasonably enough, the man who is concerned with these more than he ought is called incontinent in the complete sense.

Among the so-called ‘incontinences’ with respect to other things that which is concerned with anger is the most blameworthy. But which is more blameworthy, this or incontinence with regard to pleasures? Now incontinence with regard to anger resembles servants who are eager to minister to one’s needs. For they, when the master says ‘Give me’, are carried away by their eagerness, and before they hear what they ought to give, give something, and give the wrong thing. For often, when they ought to give a book, they give a pen. Something like this is the case with the man who cannot control his anger. For passion, as soon as it hears the first mention of injury, starts up to take vengeance, without waiting to hear whether it ought or ought not, or not so vehemently. This sort of impulse, then, to anger, which appears to be incontinence of anger, is not greatly to be blamed, but the impulse to pleasure is blameworthy. For this latter differs from the former owing to the injunction of reason to abstain, which it nevertheless acts against; for which reason it is more blameworthy than incontinence due to anger. For incontinence due to anger is a pain (for no one feels anger without being pained), but that which is due to appetite is attended with pleasure, for which reason it is more blameworthy. For incontinence due to pleasure seems to involve wantonness.

Are self-control and endurance the same thing? Surely not! For self-control has to do with pleasures and the man of self-control is he who masters pleasures, but endurance has to do with pains. For the man of endurance is he who endures and undergoes pains. Again, lack of self-control and softness are not the same thing. For the soft person with his softness is he who does not undergo pains — not all of them, but such as any one else would undergo, if he had to; whereas the man who lacks self-control is he who is not able to endure pleasures, but succumbs to them and lets himself be led by them.

Again, there is another character who is called intemperate’. Is the intemperate, then, the same with the incontinent? Surely not! For the intemperate is the kind of man who thinks that what he does is best and most expedient for himself, and who has no reason opposing the things which appear pleasant to himself, whereas the incontinent does possess reason which opposes his going in pursuit of those things to which his appetite leads.

But which is the more curable, the intemperate or the incontinent? On first sight, indeed, it might seem that it is not the incontinent. The intemperate, it may be urged, is more easy to cure; for if reason could be engendered in him, to teach him that things are bad, he will leave off doing them; but the incontinent man has reason, and yet acts as he does, so that such a person would seem to be incurable. But on the other hand which is in the worse condition, he who has no good at all, (or he who has some good) joined with these evils? Plainly the former, the more so inasmuch as it is the more valuable part that is in a bad condition. The incontinent man, then, does possess a good in his reason being right, while the intemperate does not. Again, reason is the principle in each. Now in the incontinent the principle, which is the most valuable thing, is in a good condition, but in the intemperate in a bad; so that the intemperate will be worse than the incontinent. Again, like the vice of brutality of which we spoke, you cannot see it in a beast, but only in a human being (for brutality is a name for excessive vice). Why so? Just because a beast has in it no bad principle. Now the principle is reason. For which would do more evil, a lion, or Dionysius or Phalaris or Clearchus, or some of those monsters of wickedness? Plainly the latter. For their having in them a principle which is at the same time a bad principle contributes greatly to their powers of mischief, but in the beast there is no principle at all. In the intemperate, then, there is a bad principle. For inasmuch as he does bad acts and reason assents to these, and it seems to him that he ought to do these things, there is in him a principle which is not a sound one. Wherefore the incontinent would seem to be better than the intemperate.

There are two species of incontinence, one in the way of precipitancy and want of forethought, a kind that comes on suddenly (for instance, when we see a beautiful woman, we are at once affected in some way, and from the affection there ensues an impulse to do something which perhaps we ought not), the other a sort of weakness, but attended with reason which warns against action. Now the former would not seem to be very blameworthy. For this kind occurs even in the good, in those who are of warm temperament and of a rich natural endowment; but the other in the cold and atrabilious, and such are blameworthy. Again, one may avoid being affected by fortifying oneself beforehand with the thought, ‘There will come a pretty woman, so one must repress oneself.’ So that, if he has fortified himself beforehand with a thought of this kind, he whose incontinence is due to the suddenness of the impression will not be affected at all, nor do anything wrong. But he who knows indeed from reason that he ought not, but gives in to pleasure and succumbs to it, is more blameworthy. The good man would never become incontinent in that way, and fortification by reason would be no cure for it. For this is the guide within the man, and yet he does not obey it, but gives in to pleasure, and succumbs with a contemptible sort of weakness.

Whether the temperate man is self-controlled was raised as a difficulty above, but now let us speak of it. Yes, the temperate man is also self-controlled. For the man of self-control is not merely he who, when he has appetites in him, represses these owing to reason, but also he who is of such a kind that, though he has not appetites in him, he would repress them, if they did arise. But it is he who has not bad desires and who has his reason right with respect to these things who is temperate, while the man of self-control is he who has bad desires and who has his reason right with regard to these things; so that self-control will go along with temperance, and the temperate (will be self-controlled, but not the self-controlled temperate). For the temperate is he who does not feel passion, while the self-controlled man is he who does feel passion, or is capable of feeling it, but subdues it. But neither of these is actually the case with the temperate. Wherefore the self-controlled is not temperate.

But is the intemperate incontinent or the incontinent intemperate? Or does neither follow on the other? For the incontinent is he whose reason fights with his passions, but the intemperate is not of this sort, but he who in doing base deeds has the consent of his reason. Neither then is the intemperate like the incontinent nor the incontinent like the intemperate. Further, the intemperate is worse than the incontinent. For what comes by nature is harder to cure than what results from habit (for the reason why habit is held to be so strong is that it turns things into nature). The intemperate, then, is in himself the kind of man who is bad by nature, owing to which, and as a result of which, the reason in him is bad. But not so the incontinent. It is not true of him that his reason is not good because he is himself such (for he must needs have been bad, if he were of himself by nature such as the bad). The incontinent, then, seems to be bad by habit, but the intemperate by nature. Therefore the intemperate is the harder to cure. For one habit is dislodged by another, but nothing will dislodge nature.

But seeing that the incontinent is the kind of man who knows and is not deceived in his reason, while the wise man also is of the same kind, who views everything by right reason, is it possible for the wise man to be incontinent? Surely not! For though one might raise the foregoing difficulties, yet if we keep consistent with our former statements, the wise man will not be incontinent. For we said that the wise man was not merely he in whom right reason exists, but he who also does what appears in accordance with right reason to be best. Now if the wise man does what is best, the wise man will not be incontinent; but an incontinent man may be clever. For we distinguished above between the clever and the wise as being different. For though their spheres are the same, yet the one does what he ought and the other does not. It is possible, then, for the clever man to be incontinent (for he does not succeed in doing what he ought), but it is not possible for the wise man to be incontinent.

After this we must speak about pleasure, since our discussion is on the subject of happiness, and all think that: happiness is pleasure and living pleasantly, or not without pleasure. Even those who feel disgust at pleasure, and do not think that pleasure ought to be reckoned among goods, at least add the absence of pain; now to live without pain borders on pleasure. Therefore we must speak about pleasure, not merely because other people think that we ought, but because it is actually indispensable for us to do so. For since our discussion is about happiness, and we have defined and declare happiness to be an exercise of virtue in a perfect life, and virtue has to do with pleasure and pain, it is indispensable to speak about pleasure, since happiness is not apart from pleasure.

First, then, let us mention the reasons which some people give for thinking that one ought not to regard pleasure as part of good. First, they say that pleasure is a becoming, and that a becoming is something incomplete, but that the good never occupies the place of the incomplete. Secondly, that there are some bad pleasures, whereas the good is never to be found in badness. Again, that it is found in all, both in the bad man and in the good, and in beasts wild and tame; but the good is unmixed with the bad and not promiscuous. And that pleasure is not the best thing, whereas the good is the best thing. And that it is an impediment to right action, and what tends to impede right cannot be good.

First, then, we must address ourselves to the first argument, that about becoming, and must endeavour to dispose of this on the ground of its not being true. For, to begin with, not every pleasure is a becoming. For the pleasure which results from thought is not a becoming, nor that which comes from hearing and (seeing and) smelling. For it is not the effect of want, as in the other cases; for instance, those of eating and drinking. For these are the result of defect and excess, owing to the fulfilment of a want or the relief of an excess; which is why they are held to be a becoming. Now defect and excess are pain. There is therefore pain wherever there is a becoming of pleasure. But in the case of seeing and hearing and smelling there is no previous pain. For no one in taking pleasure in seeing or smelling was affected with pain beforehand. Similarly in the case of thought. One may speculate on something with pleasure without having felt any pain beforehand. So that there may be a pleasure which is not a becoming. If then pleasure, as their argument maintained, is not a good for this reason, namely, that it is a becoming, but there is some pleasure which is not a becoming, this pleasure may be good.

But generally no pleasure is a becoming. For even the vulgar pleasures of eating and drinking are not becomings, but there is a mistake on the part of those who say that these pleasures are becomings. For they think that pleasure is a becoming because it ensues on the application of the remedy; but it is not. For there being a part of the soul with which we feel pleasure, this part of the soul acts and moves simultaneously with the application of the things which we need, and its movement and action are pleasure. Owing, then, to that part of the soul acting simultaneously with the application, or owing to its activity, they think that pleasure is a becoming, from the application being visible, but the part of the soul invisible. It is like thinking that man is body, because this is perceptible by sense, while the soul is not: but the soul also exists.

So it is also in this case; for there is a part of the soul with which we feel pleasure, which acts along with the application. Therefore no pleasure is a becoming.

And it is, they say, a conscious restoration to a normal state. (This, however, cannot be accepted either.) For there is pleasure without such restoration to a normal state. For restoration means the filling up of what by nature is wanting, but it is possible, as we maintain, to feel pleasure without any want. For the want is pain, and we say that there is pleasure without pain and prior to pain. So that pleasure will not be a restoration in respect of a want. For in such pleasures there is no want. So that if the reason for thinking that pleasure is not a good was because it is a becoming, and it is found that no pleasure is a becoming, pleasure may be a good.

But next it is maintained that some pleasures are not good. One can get a comprehensive view of this point as follows. Since we maintain that good is mentioned in all the categories (in that of substance and relation and quantity and time and generally in all), this much is plain at once. Every activity of good is attended with a certain pleasure, so that, since good is in all the categories, pleasure also will be good; so that since the goods and pleasure are in these, and the pleasure that comes from the goods is pleasure, every pleasure will be good.

At the same time it is manifest from this that pleasures differ in kind. For the categories are different in which pleasure is. For it is not as in the sciences, for instance grammar or any other science whatever. For if Lampros possesses the science of grammar, he as a grammarian will be disposed by this knowledge of grammar in the same way as any one else who possesses the science; there will not be two different sciences of grammar, that in Lampros and that in Ileus. But in the case of pleasure it is not so. For the pleasure which comes from drunkenness and that which comes from the commerce of the sexes do not dispose in the same way. Therefore pleasures would seem to differ in kind.

But another reason why pleasure was held by them not to be good was because some pleasures are bad. But this sort of objection and this kind of judgement is not peculiar to pleasure, but applies also to nature and knowledge. For there is such a thing as a bad nature, for example that of worms and beetles and of ignoble creatures generally, but it does not follow that nature is a bad thing. In the same way there are bad branches of knowledge, for instance the mechanical; nevertheless it does not follow that knowledge is a bad thing, but both knowledge and nature are good in kind. For just as one must not form one's views of the quality of a statuary from his failures and bad workmanship, but from his successes, so one must not judge of the quality of knowledge or nature or of anything else from the bad, but from the good.

In the same way pleasure is good in kind, though there are bad pleasures — of that we ourselves are as well aware as any one. For since the natures of creatures differ in the way of bad and good, for instance that of man is good, but that of a wolf or some other beast bad, and in like manner there is one nature of a horse, another of a man, an ass, or a dog, and since pleasure is a restoration of each to its own nature from that which runs counter to it, it follows that this will be appropriate, that the bad nature should have the bad pleasure. For the thing is not the same for a horse and a man, any more than for any of the rest. But since their natures are different, their pleasures also are different. For pleasure, as we saw, is a restoration, and the restoration, they maintain, restores to nature, so that the restoration of the bad nature is bad, and that of the good, good.

But those who assert that pleasure is not a good thing are in much the same case as those who, not knowing nectar, think that the gods drink wine, and that there is nothing more delightful than this. But this is owing to their ignorance. In much the same case, I say, are all those who assert that all pleasures are becoming, and therefore not a good. For owing to their not knowing other than bodily pleasures, and seeing these to be becomings and not good, for this reason they think in general that pleasure is not a good.

Since, then, there are pleasures both of a nature undergoing restoration and also of one in its normal state, for instance of the former the satisfactions which follow upon want, but of a nature in its normal state the pleasures ‘ of sight, hearing, and so on, the activities of the nature in its normal state will be better—’activities’ I say, for the pleasures of both kinds are activities. It is evident, then, that the pleasures of sight, bearing, and thought will be best, since the bodily result from a satisfaction.

Again, this was also said by way of showing that it is not a good, that what exists in all and is common to all is not good. Such an objection might seem to be appropriate in the case of a man who covets honour and is actuated by that feeling. For the man who is covetous of honour is one who wishes to be sole possessor of something and by some such means to surpass all others; so he thinks that, if pleasure is to be a good, it too must be something of this sort. Surely this is not so, but, on the contrary, it would seem to be a good for this reason, that all things aim at it. For it is the nature of all things to aim at the good, so that, if all things aim at pleasure, pleasure must be good in kind. Again, it was denied that pleasure is a good on the ground that it is an impediment. But their asserting it to be an impediment seems to arise from a wrong view of the matter. For the pleasure that comes from the performance of the action is not an impediment; if, however, it be a different pleasure, it is an impediment; for instance, — the pleasure of intoxication is an impediment to action; but on this principle one kind of knowledge will be a hindrance to another, for one cannot exercise both at once. But why is knowledge not good, if it produces the pleasure that comes from knowledge? And will that pleasure be an impediment? Surely not; but it will intensify the action. For the pleasure is an incentive to increased action, if it comes from the action itself. For suppose the good man to be doing his acts of virtue, and to be doing them pleasantly; will he not much more exert himself in the action? And if he acts with pleasure, he will be virtuous, but if he does the right with pain, he is not virtuous. For pain attends upon what is due to compulsion, so that if one is pained at doing right, he is acting under compulsion; and he who acts under compulsion is not virtuous.

But indeed it is not possible to perform virtuous acts without pain or pleasure. The middle state does not exist. Why so? Because virtue implies feeling, and feeling pain or pleasure, and there is nothing intermediate.

It is evident, then, that virtue is either attended with pain or with pleasure. Now if one does the right with pain he is not good. So that virtue will not be attended with pain. Therefore with pleasure. Not only, then, is pleasure not an impediment, but it is actually an incentive to action, and generally virtue cannot be without the pleasure that comes from it. —

There was another argument, to the effect that there is no science which produces pleasure. But this is not true either. For cooks and garland-makers and perfumers are engaged in the production of pleasure. But indeed the other sciences do not have pleasure as end, but the end is with pleasure and not without it; there is, therefore, a science productive of pleasure. —

Again, there was another argument, that it is not the best thing. But in that way and by the like reasoning you will annul the particular virtues. For courage is not the best thing. Is it, therefore, not a good? Surely this is absurd! And the same with the rest. Neither, then, is pleasure not a good simply because it is not the best thing.

To pass on, a difficulty of the following kind might be raised in the case of the virtues. I mean, since the reason sometimes masters the passions (for we say so in the case of the man of self-control), and the passions again conversely master the reason (as happens in the case of the incontinent), since, then, the irrational part of the soul, being vicious, masters the reason, which is well-disposed (for the incontinent man is of this kind), the reason in like manner, being in a bad condition, will master the passions, which are well-disposed and have their proper virtue, and if this should be the case, the result will be a bad use of virtue (for the reason being in a bad condition and using virtue will use it badly); now such a result would appear paradoxical.

This difficulty it is easy to answer and resolve from what has been said by us before about virtue. For we assert that then, and only then, is there virtue, when reason being in a good condition is commensurate with the passions, these possessing their proper virtue, and the passions with the reason; for in such a condition they will accord with one another, so that reason should always ordain what is best, and the passions being well disposed find it easy to carry out what reason ordains. If, then, the reason be in a bad condition, and the passions not, there will not be virtue owing to the failure of reason (for virtue consists in both). So that it is not possible to make a bad use of virtue.

Speaking generally, it is not the case, as the rest of the world think, that reason is the principle and guide to virtue, but rather the feelings. For there must first be produced in us (as indeed is the case) an irrational impulse to the right, and then later on reason must put the question to the vote and decide it. One may see this from the case of children and those who live without reason. For in these, apart from reason, there spring up, first, impulses of the feelings towards right, and reason supervening later and giving its vote the same way is the cause of right action. But if they have received from reason the principle that leads to right, the feelings do not necessarily follow and consent thereto, but often oppose it. Wherefore a right disposition of the feelings seems to be the principle that leads to virtue rather than the reason.

Since our discussion is about happiness, it will be connected with the preceding to speak about good fortune. For the majority think that the happy must be the fortunate life, or not apart from good fortune, and perhaps they are right in thinking so. For it is not possible to be happy without external goods, over which fortune is supreme.

Therefore we must speak about good fortune, saying generally who the fortunate man is, and what are his surroundings and his sphere.

First, then, one may raise difficulties by having recourse to the following considerations. One would not say of fortune that it is nature. For what nature is the cause of, that she produces for the most part or without exception, but this is never the case with fortune — her effects are disorderly and as it may chance; this is why we speak of ‘chance’ in the case of such things.

Neither would one identify it with any mind or right reason. For here more than ever is there order and uniformity, but not chance. Wherefore, where there is most of mind and reason, there is least chance, and where there is most chance, there is there least mind.

Can it be, then, that good fortune is a sort of care of the gods? Surely it will not be thought to be this! For we suppose that, if God is the disposer of such things, he assigns both good and evil in accordance with desert, whereas chance and the things of chance do really occur as it may chance. But if we assign such a dispensation to God, we shall be making him a bad judge or else unjust.

And this is not befitting to God.

And yet outside of these there is no other position which one can assign to fortune, so that it is plain that it must be one of these. Now mind and reason and knowledge seem to be a thing utterly foreign to it. And yet neither would the care and providence of God seem to be good fortune, owing to its being found also in the bad, though it is not likely that God would have a care of the bad. -

Nature, then, only is left as being most connected with good fortune. And good fortune and fortune generally displays itself in things that are not in our own power, and of which we are not masters nor able to bring them about.

For which reason no one calls the just man, in so far as he is just, fortunate, nor yet the brave man, nor any other virtuous character. For these things are in our power to have or not to have. But it is just in such things as follow that we shall speak more appropriately of good fortune. For we do call the well-born fortunate, and generally the man who possesses such kinds of goods, whereof he is not himself the arbiter.

But all the same even there good fortune would not seem to be used in its strict sense. But there are more meanings than one of the term ‘fortunate’. For we call a man fortunate to whom it has befallen to achieve some good beyond his own calculation, and him who has made a gain when he ought reasonably to have incurred a loss. Good fortune, then, consists in some good accruing beyond expectation, and in escaping some evil that might reasonably have been expected. But good fortune would seem to consist to a greater extent and more properly in the obtaining of good. For the obtaining of good would seem to be in itself a piece of good fortune, while the escaping evil is a piece of good fortune indirectly.

Good fortune, then, is nature without reason. For the fortunate man is he who apart from reason has an impulse to good things and obtains these, and this comes from nature. For there is in the soul by nature something of this sort whereby we move, not under the guidance of reason, towards things for which we are well fitted. And if one were to ask a man in this state, ‘Why does it please you to do so?’ — he would say, ‘ I don’t know, except that it does please me,’ being in the same condition as those who are inspired by religious frenzy; for they also have an impulse to do something apart from reason.

We cannot call good fortune by a proper name of its own, but we often say that it is a cause, though cause is not a suitable name for it. For a cause and its effect are different, and what is called a cause contains no reference to an impulse which attains good, in the way either of avoiding evil or on the other hand of obtaining good, when not thinking to obtain it. Good fortune, then, in this sense is different from the former, and this seems to result from the way in which things fall out, and to be good fortune indirectly. So that, if this also is to be called good fortune, at all events the other sort has a more intimate connexion with happiness, namely, that wherein the principle of impulse towards the attainment of goods is in the man himself.

Since, then, happiness cannot exist apart from external goods, and these result from good fortune, as we said just now, it follows that it will work along with happiness. So much then about good fortune.

But since we have spoken about each of the virtues in detail, it remains to sum up the particulars under one general statement. There is a phrase, then, which is not badly used of the perfectly good man, namely, ‘nobility and goodness.’ For ‘he is noble and good’, they say, when a man is perfectly virtuous. For it is in the case of virtue that they use the expression ‘noble and good ‘; for instance, they say that the just man is noble and good, the brave man, the temperate, and generally in the case of the virtues.

Since, then, we make a dual division, and say that some things are noble and others good, and that some goods are absolutely good and others not so, calling ‘noble’ such things as the virtues and the actions which spring from them, and ‘good ‘, office, wealth, glory, honour, and the like, the noble and good man is he to whom the things that are absolutely good are good, and the things that are absolutely noble are noble. For such a man is noble and good. But he to whom things absolutely good are not good is not noble and good, any more than he would be thought to be in health to whom the things that are absolutely healthy are not healthy.

For if the accession of wealth and office were to hurt anybody, they would not be choice worthy, but he will choose to have for himself such things as will not hurt him. But he who is of such a nature as to shrink from having anything good would not seem to be noble and good. But he for whom the possession of all good things is good and who is not spoilt by them, as, for instance, by wealth and power, such a man is noble and good.

— But about acting rightly in accordance with the virtues something indeed has been said, but not enough. For we said that it was acting in accordance with right reason. But possibly one might be ignorant as to this very point, and might ask, ‘What is acting in accordance with right reason? And where is right reason?’ To act, then, in accordance with right reason is when the irrational part of the soul does not prevent the rational from displaying its own activity. For then only will the action be in accordance with right reason. For seeing that in the soul we have a something worse and a something better, and the worse is always for the sake of the better, as in the case of body and soul the body is for the sake of the soul, and then only shall we say that we have our body in a good state, when its state is such as not to hinder, but actually to help and take part in inciting towards the soul accomplishing its own work (for the worse is for the sake of the better, to aid the better in its work); when, then, the passions do not hinder the mind from performing its own work, then you will have what is done in accordance with right reason.

Yes, but perhaps some one may say, ‘In what state must the passions be so as not to act as a hindrance, and when are they in this state? For I do not know.’ This sort of thing is not easy to put into words, any more than the doctor finds it so. But when he has given orders that barley-gruel shall be administered to a patient in a fever, and you say to him, ‘ But how am I to know when he has a fever? ‘ — he replies, ‘When you see him pale.’ But how am I to know when he is pale?’ There the doctor loses patience with you, ‘Well, if you can’t perceive that much yourself, it’s no good talking to you any more.’ The same thing applies in like manner to all such subjects. And the case is the same with regard to recognizing the passions. For one must contribute something oneself towards the perception.

But perhaps one might raise the following sort of question also, ‘If I really know these things, shall I then be happy?’

For they think they must be; whereas it is not so. For none of the other sciences transmits to the learner the use and exercise, but only the faculty. So in this case also the knowing of these things does not transmit the use (for happiness is an activity, as we maintain), but the faculty, nor does happiness consist in the knowledge of what produces it, but comes from the use of these means. Now the use and exercise of these it is not the business of this treatise to impart, any more than any other science imparts the use of anything, but only the faculty.

In addition to all that has gone before, it is necessary to speak about friendship, saying what it is, and what are its circumstances and sphere. For since we see that it is co-extensive with life and presents itself on every occasion, and that it is a good, we must embrace it also in our view of happiness.

First, then, perhaps it will be as well to go through the difficulties and questions that are raised about it. Does friendship exist among the like, as is thought and said?

For ‘Jackdaw sits by jackdaw’, as the proverb has it, and ‘Unto the like God ever brings the like’. —

There is a story also of a dog that used always to sleep upon the same tile, and how Empedocles, on being asked, ‘Why does the dog sleep on the same tile?’ said, ‘Because the dog has something that is like the tile’, implying that it was owing to the likeness that the dog resorted to it.

But again, on the other hand, some people think that friendship occurs rather among opposites. Take the saying —

‘Earth loves the shower, what time the plain is dry’.

It is the opposite, they say, that loves to be friends with the opposite; for among the like there is no room for friendship. For the like, they say, has no need of the like, and more to the same effect.

Again, is it hard or easy to become a friend? Flatterers, at all events, who quickly gain a footing of close attendance, are not friends, though they appear to be.

Further, such difficulties as the following are raised. Will the good man be a friend to the bad? Or will he not? For friendship implies fidelity and steadfastness, and the bad man is not at all of this character. And will one bad man be a friend to another? Or will this not be the case either?

First, then, we must determine what kind of friendship we are in search of. For there is, people think, a friendship towards God and towards things without life, but here they are wrong. For friendship, we maintain, exists only where there can be a return of affection, but friendship towards God does not admit of love being returned, nor at all of loving. For it would be strange if one were to say that he loved Zeus. Neither is it possible to have affection returned by lifeless objects, though there is a love for such things, for instance wine or something else of that sort. Therefore it is not love towards God of which we are in search, nor love towards things without life, but love towards things with life, that is, where there can be a return of affection.

If, then, one were to inquire next what is the lovable, it is none other than the good. Now there is a difference between the lovable and what is to be loved, as between the desirable and what is to be desired. For that is desirable which is absolutely good, but that is to be desired by each which is good for him; so also that which is absolutely good is lovable, but that is to be loved which is good for oneself, so that the lovable is also to be loved, but that which is to be loved is not necessarily lovable.

Here, then, we see the source of the difficulty as to whether the good man is a friend to the bad man or not. For what is good for oneself is in a way attached to the good, and so is that which is to be loved to the lovable, and it depends as a consequence upon the good that it should be pleasant and that it should be useful. Now the friendship of the virtuous lies in their loving one another; and they love one another in so far as they are lovable; and they are lovable in so far as they are good. ‘ The good man, then,’ it will be replied, ‘will not be a friend to the bad.’ Nay, but he will. For since the good had as its consequence the useful and the pleasant, in so far as, though bad, he is agreeable, so far he is a friend; again, on the other hand, being useful, then so far as he is useful, so far is he a friend. But this sort of friendship will not depend upon lovableness. For the good, we saw, was lovable, but the bad man is not lovable. Rather such a friendship will depend on a man’s being one who is to be loved. For springing from the perfect friendship which exists among the good there are also these forms of friendship, that which refers to the pleasant and that which refers to the useful. He, then, whose love is based on the pleasant does not love with the love which is based on the good, nor does he whose friendship is based upon the useful. And these forms of friendship, that of the good, the pleasant, and the useful, are not indeed the same, nor yet absolutely different from one another, but hang in a way from the same head. Just so we call a knife surgical, a man surgical, and knowledge surgical. These are not called so in the same way, but the knife is called surgical from being useful in surgery, and the man from his being able to produce health, and the knowledge from its being cause and principle. Similarly, the forms of friendship are not all called so in the same way, the friendship of the virtuous which is based on the good, the friendship depending on pleasure, and that depending on utility. Nor yet is it a mere case of equivocation, but, while they are not actually the same, they have still in a way the same sphere and the same origin. If, therefore, some one were to say, ‘ He whose love is prompted by pleasure is not a friend to so-and-so; for his friendship is not based on the good,’ such an one is having recourse to the friendship of the virtuous, which is a compound of all these, of the good and the pleasant and the useful, so that it is true that he is not a friend in respect of that friendship, but only in respect of the friendship depending on the pleasant or the useful.

Will the good man then be a friend to the good, or will he not? For the like, it is urged, has no need of the like. An argument of this sort is on the look-out for the friendship based on utility; for if they are friends in so far as the one has need of the other, they are in the friendship which is based on utility. But the friendship which is based on utility has been distinguished from that which is based on virtue or on pleasure. It is likely, then, that the virtuous should be much more friends; for they have all the qualifications for friendship, the good and the pleasant and the useful. But the good may also be a friend to the bad; for it may be that he is a friend in so far as he is agreeable. And the bad also to the bad; for it may be that they are friends in so far as they have the same interest. For we see this as a matter of fact, that, when persons have the same interest, they are friends owing to that interest, so that there will be nothing to prevent the bad also having to some extent the same interest.

Now friendship among the serious, which is founded on virtue and the good, is naturally the surest, the most abiding, and the finest form. For virtue, to which the friendship is due, is unchangeable, so that it is natural that this form of friendship should be unchangeable, whereas interest is never the same. Wherefore the friendship which rests on interest is never secure, but changes along with the interest; and the same with the friendship which rests on pleasure. The friendship, then, of the best men is that which arises from virtue, but that of the common run of men depends upon utility, while that which rests on pleasure is found among vulgar and commonplace persons.

When people find their friends bad, the result is complaint and expressions of surprise; but it is nothing extraordinary.

For when friendship has taken its start from pleasure, and this is why they are friends, or from interest, so soon as these fail the friendship does not continue. Very often the friendship does remain, but a man treats his friend badly, owing to which there are complaints; but neither is this anything out of the way, For your friendship with this man was not from the first founded on virtue, so that it is not extraordinary that he should do nothing of what virtue requires. The complaints, then, are unreasonable. Having formed their friendship with a view to pleasure, they think they ought to have the kind which is due to virtue; but that is not possible. For the friendship of pleasure and interest does not depend on virtue. Having entered then into a partnership in pleasure, they expect virtue, but there they are wrong. For virtue does not follow upon pleasure and utility, but both these follow upon virtue. For it would be strange not to suppose that the serious are the most agreeable to one another. For even the bad, as Euripides says, are pleasant to one another. ‘ The bad man is fused into one with the bad.’ For virtue does not follow upon pleasure, whereas pleasure does follow upon virtue.

But is it necessary that there should be pleasure in the friendship of the serious? Or is it not? It would be strange indeed to say that it is not. For if you deprive them of the quality of being agreeable to one another, they will procure other friends, who are agreeable, to live with, for in view of that there is nothing more important than being agreeable. It would be curious then not to think that the virtuous ought above all others to live in common one with another; and this cannot be without the element of pleasure. It will be necessary, then, as it seems, for them above all to be agreeable.

But since friendships have been divided into three species, and in the case of these the question was raised whether friendship takes place in equality or in inequality, the answer is that it may depend on either. For that which implies likeness is the friendship of the serious, and perfect friendship; but that which implies unlikeness is the friendship of utility. For the poor man is a friend to the rich owing to his own lack of what the wealthy man has in abundance, and the bad man to the good for the same reason. For owing to his lack of virtue he is for this reason a friend to him from whom he thinks he will get it. Among the unequal then there arises friendship based on utility. So that Euripides says, ‘Earth loves the shower, what time the plain is dry,’ intimating that the friendship of utility has place between these as opposites. For if you like to set down fire and water as the extreme opposites, these are useful to one another. For fire, they say, if it has not moisture, perishes, as this provides it with a kind of nutriment, but that to such an extent as it can get the better of; for if you make the moisture too great, it will obtain the mastery, and will cause the fire to go out, but if you supply it in moderation, it will be of service to it. It is evident, then, that friendship based on utility occurs among things the most opposite.

All the forms of friendship, both those in equality and those in inequality, are reducible to the three in our division. But in all the forms of friendship there is a difference that arises between the partners when they are not on a level in love or in benefaction or in service, or whatever else of the kind it may be. For when one exerts himself energetically, and the other is in defect, there is complaint and blame on the score of the defect. Not but that the defect on the part of the one is plain to see in the case of such persons as have the same end in view in their friendship; for instance, if both are friends to one another on the ground of utility or of pleasure or of virtue. If, then, you do me more good than I do you, I do not even dispute that you ought to be loved more by me; but in a friendship where we are not friends with the same object, there is more room for differences. For the defect on one side or the other is not manifest. For instance, if one is a friend for pleasure and the other for interest, that is where the dispute will arise. For he who is superior in utility does not think the pleasure a fair exchange for the utility, and he who is more agreeable does not think that he receives in the utility an adequate return for the pleasure which he bestows. Wherefore differences are more likely to arise in such kinds of friendship.

When men are friends on an unequal footing, those who are superior in wealth or anything of that sort do not think that they themselves ought to love, but think that they ought to be loved by their inferiors. But it is better to love than to be loved. For to love is a pleasurable activity and a good, whereas from being loved there results no activity to the object of the love. Again, it is better to know than to be known; for to be known and to be loved attaches even to things without life, but to know and to love only to things with life. Again, to be inclined to benefit is better than not; now he who loves is inclined to benefit, just in so far as he loves, but this is not the case with him who is loved, in so far as he is loved.

But owing to ambition men wish rather to be loved than to love, because of there being a certain superiority in being loved. For he who is loved has always a superiority in agreeableness or means or virtue, and the ambitious man reaches out after superiority. And those who are in a position of superiority do not think that they themselves ought to love, since they make a return to those who love them, in those things in which they are superior. And again the others are inferior to them, for which reason the superiors do not think they themselves ought to love but to be loved. But he who is deficient in wealth or pleasures or virtue admires him who has a superiority in these things, and loves him owing to his getting these things or thinking that he will get them.

Now such friendships arise from sympathy, that is, from wishing good to some one. But the friendship which takes place in these cases has not all the required attributes. For often we wish good to one person and like to live with another. But ought we to say that these things are friendships or that they are characteristics of the perfect friendship which is founded on virtue? For in that friendship all these things are contained; for there is none other with whom we should more wish to live (for pleasantness and — usefulness and virtue are attributes of the good man), and it is to him that we should most wish good, and to live and to live well we should wish to none other than he.

Whether a man can have friendship for and towards himself may be omitted for the present, but we shall speak of it later. But all the things that we wish for a friend we — wish for ourselves. For we wish to live along with ourselves (though that is perhaps unavoidable), and to live well, and to live, and the wishing of the good applies to none so much. Further, we are most sympathetic with ourselves; for if we meet with a defeat or fall into any kind of misfortune, we are at once grieved. So looking at the matter in this way it would seem that there is friendship towards oneself. In speaking then of such things as sympathy and living well and so on we are referring either to friendship towards ourselves or to the perfect friendship. For all these things are found in both. For the living together and the wish for a thing's being and for its wellbeing and all the rest are found in these.

Further, it may perhaps be thought that wherever justice is possible, there friendship may exist too. Wherefore there are as many species of friendship as there are of just dealing. Now there can be justice between a foreigner and a citizen, between a slave and his master, between one citizen and another, between son and father, between wife and husband, and generally every form of association has its separate form of friendship. But the firmest of friendships would seem to be that with a foreigner; for they have no common aim about which to dispute, as is the case with fellow-citizens; for when these dispute with one another for the priority, they do not remain friends. —

It will be in place now to speak about this, whether there is friendship towards oneself or not. Since then we see, as we said just a little above, that the act of loving is recognized from the particulars, and it is to ourselves that we should most wish the particulars (the good, and being, and well-being; and we are most sympathetic with ourselves, and we most wish to live along with ourselves); therefore, if friendship is known from the particulars, and we should wish the particulars to belong to ourselves, it is plain that there is friendship towards ourselves, just as we maintained that there is injustice towards oneself. Though, indeed, as it takes one person to inflict and another to receive an injury, while each individual is the same person, it appeared for that reason that there was no injustice towards oneself. It is possible, however, as we said on examining into the parts of the soul, when these, as they are more than one, are not in agreement, that then there should be injustice towards oneself. In the same way then there would seem to be friendship towards oneself. For the friend being, according to the proverb — when we wish to describe a very great friend, we say ‘my soul and his are one’; since then the parts of the soul are more than one, then only will the soul be one, when the reason and the passions are in accord with one another (for so it will be one): so that when it has become one there will be friendship towards oneself. And this friendship towards oneself will exist in the virtuous man; for in him alone the parts of the soul are in proper relation to one another owing to their not being at variance, since the bad man is never a friend to himself, for he is always at strife with himself. At all events the incontinent man, when he has done something to which pleasure prompts, not long afterwards repents and reviles himself. It is the same with the bad man in other vices. For he is always fighting with and opposing himself.

There is also a friendship in equality; for instance, that of comrades is on an equality in respect of number and capacity of good (for neither of them deserves more than the other to have a greater share of goods either in number or capacity or size, but what is equal; for comrades are supposed to be a kind of equals). But that between father and son is on an inequality, and that between ruler and subject, between worse and better, between wife and husband, and generally in all cases where there is one who occupies the position of worse or better in friendship. This friendship in inequality, indeed, is proportional. For in giving of good no one would ever give an equal share to the better and the worse, but always a greater to the one who was superior. And this is the proportionally equal. For the worse with a less good is in a kind of way equal to the better with a greater.

Among all the above-mentioned forms of friendship love is in a way strongest in that which is based on kindred, and more particularly in the relation of father to son. Now why is it that the father loves the son more than the son the father? Is it, as some say rightly enough as regards the many, because the father has been a kind of benefactor to the son, and the son owes him a return for the benefit? Now this cause would seem to hold good in the friendship which is based on utility. But as we see it to be in the sciences, so it is here also. What I mean is that in some the end and the activity are the same, and there is not any other end beyond the activity; for instance, to the flute-player the activity and end are the same (for to play the flute is both his end and his activity); but not to the art of house building (for it has a different end beyond the activity); now friendship is a sort of activity, and there is not any other end beyond the act of loving, but just this.

Now the father is always in a way more active owing to the son being a kind of production of his own. And this we see to be so in the other cases also. For all feel a sort of kindness towards what they have themselves produced.

The father, then, feels a sort of kindness towards the son as being his own production, led on by memory and by hope. This is why the father loves the son more than the son the father.

There are other things which are called and are thought to be forms of friendship, about which we must inquire whether they are friendship. For instance, goodwill is thought to be friendship. Now, speaking absolutely, goodwill would seem not to be friendship (for towards many persons and on many occasions we entertain a feeling of goodwill either from seeing or hearing some good about them. Does it follow then that we are friends? Surely not! For if some one felt goodwill towards Darius, when he was alive among the Persians, as some one may have done, it did not follow that he had a friendship towards Darius); but goodwill would seem to be sometimes the beginning of friendship, and goodwill may become friendship if, where one has the power to do good, there be added the wish to do it for the sake of the person towards whom the goodwill is felt. But goodwill implies moral quality and is relative to it. For no one is said to have a goodwill towards wine or towards anything else without life that is good or pleasant, but if any one be of a good character, goodwill is felt towards him. And goodwill is not separate from friendship, but acts in the same sphere.

This is why it is thought to be friendship.

Unanimity borders close on friendship, if the kind of » unanimity that you take be that which is strictly so called.

For if one entertains the same notions as Empedocles and has the same views about the elements as he, is he unanimous with Empedocles? Surely not! Since the same thing would have to hold in any like case. For to begin with, the sphere of unanimity is not matters of thought but matters of action, and herein it is not in so far as they think the same, but in so far as in addition to thinking the same they have a purpose to do the same about what they think. For if both think to rule, but each of them thinks that he is to be ruler, are they therefore unanimous? Surely not. But if I wish to be ruler myself, and he wishes me to be so, then it is that we are unanimous. Unanimity, then, is found in matters of action coupled with the wish for the same thing. It is therefore the establishment of the same ruler in matters of action that is the sphere of unanimity in the strict sense.

Since there is, as we maintain, such a thing as friendship towards oneself, will the good man be a lover of self or not? Now the lover of self is he who does everything for his own sake in matters of advantage. The bad man is a lover of self (for he does everything for his own sake), but not the good man. For the reason why he is a good man is because he does so and so for the sake of another; wherefore he is not actuated by self-love. But it is true that all feel an impulse towards things that are good, and think that they themselves ought to have these in the highest degree. This is most apparent in the case of wealth and rule. Now the good man will resign these to another, not on the ground that it does not become him in the highest degree to have them, but if he sees that another will be able to make more use of these than he; but the rest of the world will not do this owing to ignorance (for they do not think they might make a bad use of such goods) or else owing to the ambition of ruling. But the good man will not be affected in either of these ways.

Wherefore he is not a lover of self as regards such goods at least; but, if at all, in respect of the noble. For this is the only thing in which he will not resign his share, but in respect of things useful and pleasant he will. In the choice, then, of things in accordance with the noble he will display love of self, but in the choice which we describe as being prompted by the useful and the pleasant it is not he who will do so, but the bad man.

Will the good man love himself most of all or not? In a way he will love himself most and in a way not. For since we say that the good man will resign goods in the way of utility to his friend, he will be loving his friend more than himself. Yes: but his resignation of such goods implies that he is compassing the noble for himself in resigning these to his friend. In a way, therefore, he is loving his friend more than himself, and in a way he is loving himself most. In respect of the useful he is loving his friend, but in respect of the noble and good he is loving himself most; for he is compassing these for himself as being noblest. He is therefore a lover of good, not a lover of self. For, if he does love himself, it is only because he is good. But the bad man is a lover of self. For he has nothing in the way of nobility for which he should love himself, but apart from these grounds he will love himself *qua* self. Wherefore it is he who will be called a lover of self in the strict sense. —

It will come next to speak about self-sufficingness and the self-sufficing man. Will the self-sufficing man require friendship too? Or will he not, but will he be sufficient to himself as regards that also? For even the poets have such sayings as these —

What need of friends, when Heaven bestows the good? Whence also the difficulty arises, whether he who has all the goods and is self-sufficing will need a friend too? Or is it then that he will need him most? For to whom will he do good? Or with whom will he live? For surely he will not live alone. If, then, he will need these things, and these are not possible without friendship, the self-sufficing man will need friendship too. Now the analogy that is generally derived from God in discussions is not right there, nor will it be useful here. For if God is self-sufficing and has need of none, it does not follow that we shall need no one. For we hear this kind of thing said about God. Seeing that God, so it is said, possesses all goods and is self-sufficing, what will he do? We can hardly suppose that he will sleep. It follows, we are told, that he will contemplate something; for this is the noblest and the most appropriate employment. What, then, will he contemplate? For if he is to contemplate anything else, it must be something better than himself that he will contemplate. But this is absurd, that there should be anything better than God. Therefore he will contemplate himself. But this also is absurd. For if a human being surveys himself, we censure him as stupid. It will be absurd therefore, it is said, for God to contemplate himself. As to what God is to contemplate, then, we may let that pass. But the self-sufficingness about which we are conducting our inquiry is not that of God but of man, the question being whether the self-sufficing man will require friendship or not. If, then, when one looked upon a friend one could see the nature and attributes of the friend,... such as to be a second self, at least if you make a very great friend, as the saying has it, ‘Here is another Heracles, a dear other self.’ Since then it is both a most difficult thing, as some of the sages have said, to attain a knowledge of oneself, and also a most pleasant (for to know oneself is pleasant) — now we are not able to see what we are from ourselves (and that we cannot do so is plain from the way in which we blame others without being aware that we do the same things ourselves; and this is the effect of favour or passion, and there are many of us who are blinded by these things so that we judge not aright); as then when we wish to see our own face, we do so by looking into the mirror, in the same way when we wish to know ourselves we can obtain that knowledge by looking at our friend. For the friend is, as we assert, a second self. If, then, it is pleasant to know oneself, and it is not possible to know this without having some one else for a friend, the self-sufficing man will require friendship in order to know himself.

Again, if it is a fine thing, as it is, to do good when one has the goods of fortune, to whom will he do good? And with whom will he live? For surely he will not spend his time alone; for to live with some one is pleasant and necessary. If, then, these things are fine and pleasant and necessary, and these things cannot be without friendship, the self-sufficing man will need friendship too.

Should one acquire many friends or few? They ought neither to be absolutely many nor yet few. For if they are many, it is difficult to apportion one’s love to each. For in all other things also the weakness of our nature incapacitates us from reaching far. For we do not see far with our eyes, but if you set the object unduly far off, the sight fails owing to the weakness of nature; and the case is the same with hearing and with all other things alike. Failing, then, to show love through incapacity one would, not unjustly, incur accusations, and would not be a friend, as one would be loving only in name; but this is not what friendship means. Again, if they are many, one can never be quit of grief. For if they are many, it is always likely that something unfortunate will occur to one at least of them, and when these things take place grief is unavoidable. Nor yet, on the other hand, should one have few, only one or two, but a number commensurate with one’s circumstances’ and one’s own impulse to love.

After this we must inquire how one ought to treat a friend. This inquiry does not present itself in every friendship, but in that in which friends are most liable to bring complaints against one another. They do not do this so much in the other cases; for instance, in the friendship between father and son there is no complaint such as the claim that we hear made in some forms of friendship, ‘ As I to you, so you to me,’ failing which there is in those cases grave complaint. But between unequal friends equality is not expected, and the relation between father and son is on a footing of inequality, as is also that between wife and husband, or between servant and master, and generally between the worse and the better. They will therefore not have complaints of this sort. But it is between equal friends and in a friendship of that sort that a complaint of this kind arises. So we must inquire how we ought to treat a friend in the friendship between friends who are on a footing of equality.

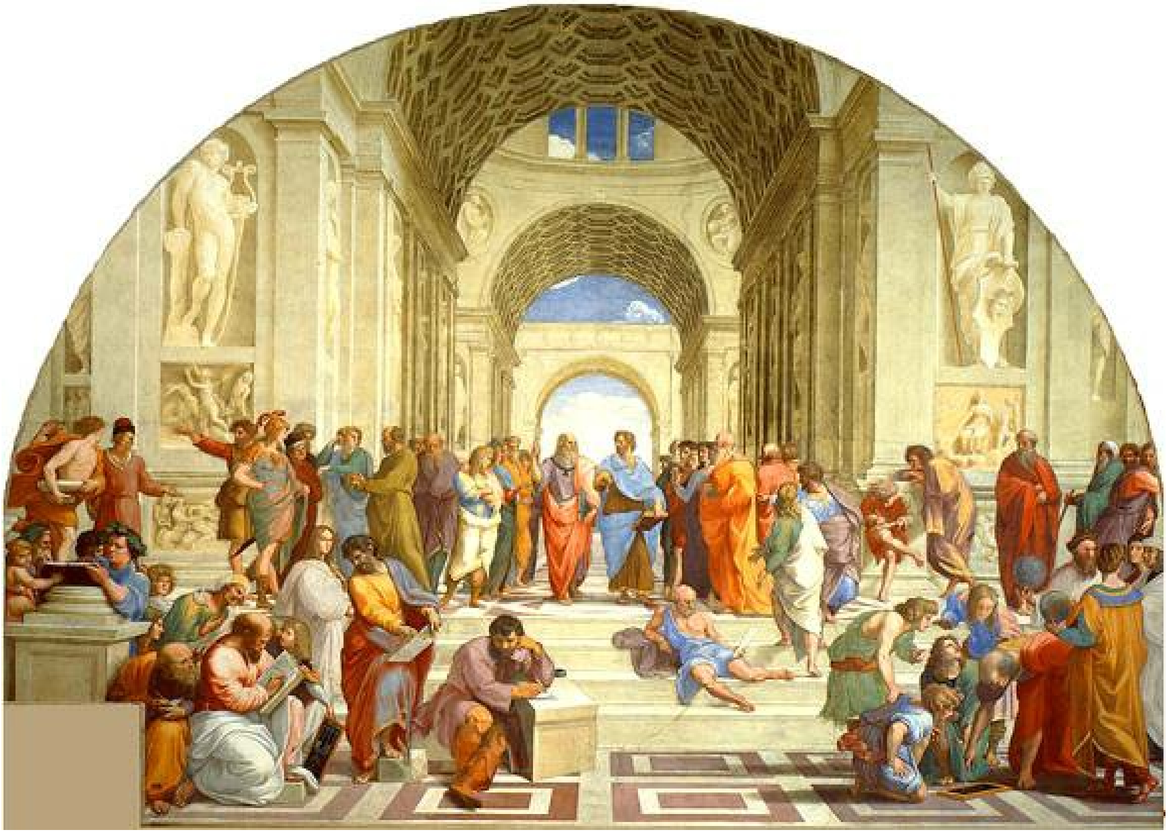
Eudemian Ethics (1214a)

Translated by H. Rackham

This treatise is one of the primary sources available for study of Aristotelian Ethics. The work is named after Eudemus of Rhodes, a pupil of Aristotle who may also have had a hand in editing the final work. It is commonly believed to have been written before the *Nicomachean Ethics*, though this is not without controversy.

The *Eudemian Ethics* is shorter than the *Nicomachean Ethics*, receiving much less critical attention, being composed of eight books as opposed to ten, with some of its most interesting passages mirrored in the longer work. For example, Books IV, V, and VI of the *Eudemian Ethics* are identical to Books V, VI, and VII of the *Nicomachean Ethics*.

One of the more prominent and original differences in *The Eudemian Ethics* can be found in Book VIII, in a section concerning *kalokagathia*, the beautiful and good nobility of a gentleman, a virtue which implies all the moral virtues as well as good fortune. This tenet has no parallel in the *Nicomachean Ethics*.



The School of Athens by Raphael

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Please note: Books IV to VI are exactly the same as given in *The Nicomachean Ethics* and can be accessed from that text.

BOOK I

The man who at Delos set forth in the precinct of the god his own opinion composed an inscription for the forecourt of the temple of Leto in which he distinguished goodness, beauty and pleasantness as not all being properties of the same thing. His verses are:

“ Justice is fairest, and Health is best,
But to win one’s desire is the pleasantest.”

Theog. 255f.

But for our part let us not allow that he is right; for Happiness is at once the pleasantest and the fairest and best of all things whatever.

About every thing and every natural species there are many views that involve difficulty and require examination; of these some relate only to our knowledge of the thing, others deal also with modes of acquiring it and of acting in relation to it. As to all those views therefore that involve only speculative philosophy, we must say whatever may be proper to the inquiry when the suitable occasion occurs. But we must consider first what the good life consists in and how it is to be obtained — whether all of those who receive the designation ‘happy’ acquire happiness by nature, as is the case with tallness and shortness of stature and differences of complexion, or by study, which would imply that there is a science of happiness, or by some form of training, for there are many human attributes that are not bestowed by nature nor acquired by study but gained by habituation — bad attributes by those trained in bad habits and good attributes by those trained in good ones. Or does happiness come in none of these ways, but either by a sort of elevation of mind inspired by some divine power, as in the case of persons possessed by a nymph or a god, or, alternatively, by fortune? for many people identify happiness with good fortune.

Now it is pretty clear that the presence of happiness is bestowed upon men by all of these things, or by some or one of them; for almost all the modes in which it is produced fall under these principles, inasmuch as all the acts that spring from thought may be included with those that spring from knowledge.

But to be happy and to five blissfully and finely may consist chiefly in three things deemed to be most desirable: some people say that Wisdom is the greatest good, others Goodness and others Pleasure. And certain persons debate about their importance in relation to happiness, [1214b] declaring that one contributes more to it than another — some holding that Wisdom is a greater good than Goodness, others the reverse, and others that Pleasure is a greater good than either of them; and some think that the happy life comes from them all, others from two of them, others that it consists in some one of them.

Having then in regard to this subject established that everybody able to live according to his own purposive choice should set before him some object for noble living to aim at — either honor or else glory or wealth or culture — on which he will keep his eyes fixed in all his conduct (since clearly it is a mark of much folly not to have one's life regulated with regard to some End), it is therefore most necessary first to decide within oneself, neither hastily nor carelessly, in which of the things that belong to us the good life consists, and what are the indispensable conditions for men's possessing it. For there is a distinction between health and the things that are indispensable conditions of health, and this is similarly the case with many other things; consequently also to live finely is not the same as the things without which living finely is impossible. And in the latter class of things some that are indispensable conditions of health and life are not peculiar to special people but common to practically all men — both some states and some actions — for instance, without breathing or being awake or participating in movement we could not possess any good or any evil at all; whereas others are more peculiar to special types of natural constitution — for instance, eating meat and taking walking exercise after dinner are not closely related to health in the same way as the conditions mentioned. And these facts must not be overlooked, for these are the causes of the disputes about the real nature of happiness and about the means of procuring it; for some people regard the things that are indispensable conditions of being happy as actual parts of happiness.

Now to examine all the opinions that any people hold about happiness is a superfluous task For children and the sick and insane have many opinions which no sensible man would discuss, for these persons need not argument but the former time in which to grow up and alter and the latter medical or official chastisement (treatment with drugs being chastisement just as much as flogging is). And similarly it is also superfluous to examine the opinions of the multitude either; [1215a] for they talk at random about almost everything, and especially about happiness. We ought to examine only the opinions of the wise; for it is out of place to apply reasoning to those who do not need reasoning at all, but experience. But since every subject has special difficulties related to it, it is clear that there are such in regard to the highest life and the best mode of existence; it is then well to examine the opinions putting these difficulties, since the refutations advanced by those who challenge them are demonstrations of the theories that are opposed to them.

Moreover to notice such matters is especially advantageous with a view to the subjects to which all inquiry ought to be directed — the question what are the means that make it possible to participate in living well and finely (if 'blissfully' is too invidious an expression) — and with a view to the hope that we may have of the things that are good in the various departments. For if living finely depends on things that come by fortune or by nature, it would be beyond the hopes of many men, for then its attainment is not to be secured by effort, and does not rest with men themselves and is not a matter of their own conduct; but if it consists in oneself and one's own actions having a particular quality, the good would be more common and more divine — more common because it would be possible for more people to share it, and more divine because happiness would then be in store for those who made themselves and their actions of a particular quality. Most of the points debated and the difficulties raised will be clear if it be satisfactorily determined what the proper conception of happiness is — does it consist merely in a person's possessing some particular quality of spirit, as some of the sages and the older thinkers held, or although a particular personal character is indeed an indispensable condition, is a particular quality of conduct even more necessary?

There are various different modes of life, and some do not lay any claim to well-being of the kind under consideration, but are pursued merely for the sake of things necessary — for instance the lives devoted to the vulgar and mechanic arts and those dealing with business (by vulgar arts I mean those pursued only for reputation, by mechanic the sedentary and wage-earning pursuits, and by arts of business those concerned with market purchase and retail selling); but on the other hand, the things related to the happy conduct of life being three, the things already mentioned as the greatest possible goods for men — goodness, wisdom and pleasure, we see that there are also three ways of life in which those to whom fortune gives opportunity invariably choose to live, the life of politics, the life of philosophy, and the life of enjoyment. [1215b] Of these the philosophic life denotes being concerned with the contemplation of truth, the political life means being occupied with honorable activities (and these are the activities that spring from goodness), and the life of enjoyment is concerned with the pleasures of the body. Owing to this, different people give the name of happy to different persons, as was said before too; and Anaxagoras of Clazomenae when asked 'Who is the happiest man?' said 'None of those whom you think, but he would seem to you an odd sort of person.' But Anaxagoras answered in that way because he saw that the man who put the question supposed it to be impossible to receive the appellation 'happy' without being great and beautiful or rich, whereas he himself perhaps thought that the person who humanly speaking enjoys bliss is he that lives by the standard of justice without pain and in purity, or participates in some form of divine contemplation.

While there are many different things as to which it is not easy to make a right judgement, this is especially the case with one about which everybody thinks that it is very easy to judge and that anybody can decide — the question which of the things contained in being alive is preferable, and which when attained would fully satisfy a man's desire. For many of life's events are such that they cause men to throw life away, for instance, diseases, excessive pains, storms; so that it is clear that on account of these things any way it would actually be preferable, if someone offered us the choice, not to be born at all. And in addition, the kind of life that people live while still children is not desirable — in fact no sensible person could endure to go back to it again. And further, many of the experiences that contain no pleasure nor pain, and also of those that do contain pleasure but pleasure of an ignoble kind, are such that non-existence would be better than being alive. And generally, if one collected together the whole of the things that the whole of mankind do and experience yet do and experience unwillingly, because not for the sake of the things themselves, and if one added an infinite extent of time, these things would not cause a man to choose to be alive rather than not alive. But moreover, also the pleasure of food or of sex alone, with the other pleasures abstracted that knowledge or sight or any other of the senses provides for human beings, would not induce anybody to value life higher if he were not utterly slavish, for it is clear that to one making this choice there would be no difference between being born a beast or a man; at all events, the ox in Egypt, [1216a] which they reverence as Apis, has a greater abundance of such indulgences than many monarchs. Nor likewise would anyone desire life for the pleasure of sleep either; for what is the difference between slumbering without being awakened from the first day till the last of a thousand or any number of years, and living a vegetable existence? any way plants seem to participate in life of that kind; and so do children too, inasmuch as at their first procreation in the mother, although alive, they stay asleep all the time. So that it is clear from considerations of this sort that the precise nature of well-being and of the good in life escapes our investigation.

Now it is said that when somebody persisted in putting various difficulties of this sort to Anaxagoras and went on asking for what object one should choose to come into existence rather than not, he replied by saying, 'For the sake of contemplating the heavens and the whole order of the universe.' Anaxagoras therefore thought that the alternative of being alive was valuable for the sake of some kind of knowledge; but those who ascribe bliss to Sardanapallus or Smindyrides of Sybaris or some of the others living the life of enjoyment, all appear for their part to place happiness in delight; while a different set would not choose either wisdom of any kind or the bodily pleasures in preference to the actions that spring from goodness: at all events, some people choose those actions not only for the sake of reputation but even when they are not going to get any credit. But the majority of those engaged in politics are not correctly designated 'politicians,' for they are not truly political, since the political man is one who purposely chooses noble actions for their own sake, whereas the majority embrace that mode of life for the sake of money and gain.

What has been said, therefore, demonstrates that all men ascribe happiness to three modes of life — the political, the philosophic, and the life of enjoyment. Among these, the nature and quality of the pleasure connected with the body and with enjoyment, and the means that procure it, are not hard to see; so that it is not necessary for us to inquire what these pleasures are, but whether they conduce at all to happiness or not, and how they so conduce, and, if it be the case that the noble life ought to have some pleasures attached to it, whether these are the pleasures that ought to be attached, or whether these must be enjoyed in some other way, whereas the pleasures which people reasonably believe to make the happy man's life pleasant and not merely painless are different ones.

But these matters must be examined later. Let us first consider Goodness and Wisdom — what the nature of each is, and also whether they themselves or the actions that spring from them are parts of the good life, [1216b] since that they are connected with happiness is asserted, if not by everybody, at all events by all of mankind who are worthy of consideration.

Accordingly Socrates the senior thought that the End is to get to know virtue, and he pursued an inquiry into the nature of justice and courage and each of the divisions of virtue. And this was a reasonable procedure, since he thought that all the virtues are forms of knowledge, so that knowing justice and being just must go together, for as soon as we have learnt geometry and architecture, we are architects and geometricians; owing to which he used to inquire what virtue is, but not how and from what sources it is produced. But although this does happen in the case of the theoretical sciences, inasmuch as astronomy and natural science and geometry have no other End except to get to know and to contemplate the nature of the things that are the subjects of the sciences (although it is true that they may quite possibly be useful to us accidentally for many of our necessary requirements), yet the End of the productive sciences is something different from science and knowledge, for example the End of medicine is health and that of political science ordered government, or something of that sort, different from mere knowledge of the science. Although, therefore, it is fine even to attain a knowledge of the various fine things, all the same nevertheless in the case of goodness it is not the knowledge of its essential nature that is most valuable but the ascertainment of the sources that produce it. For our aim is not to know what courage is but to be courageous, not to know what justice is but to be just, in the same way as we want to be healthy rather than to ascertain what health is, and to be in good condition of body rather than to ascertain what good bodily condition is.

And about all these matters the endeavor must be made to seek to convince by means of rational arguments, using observed facts as evidences and examples. For the best thing would be if all mankind were seen to be in agreement with the views that will be stated, but failing that, at any rate that all should agree in some way. And this they will do if led to change their ground, for everyone has something relative to contribute to the truth, and we must start from this to give a sort of proof about our views; for from statements that are true but not clearly expressed, as we advance, clearness will also be attained, if at every stage we adopt more scientific positions in exchange for the customary confused statements. And in every investigation arguments stated in philosophical form are different from those that are non-philosophical; hence we must not think that theoretical study of such a sort as to make manifest not only the nature of a thing but also its cause is superfluous even for the political student, since that is the philosophic procedure in every field of inquiry. Nevertheless this requires much caution. [1217a] For because to say nothing at random but use reasoned argument seems to mark a philosopher, some people often without being detected advance arguments that are not germane to the subject under treatment and that have nothing in them (and they do this sometimes through ignorance and sometimes from charlatanry), which bring it about that even men of experience and practical capacity are taken in by these people, who neither possess nor are capable of constructive or practical thought. And this befalls them owing to lack of education — for in respect of each subject inability to distinguish arguments germane to the subject from those foreign to it is lack of education. And it is also well to judge separately the statement of the cause and the demonstrated fact, both for the reason stated just now, that it is not proper in regard to all things to attend to theoretical arguments, but often rather to the facts of observation (whereas now when men are unable to refute an argument they are forced to believe what has been said), and also because often, although the result that seems to have been proved by the arguments is true, it is not true because of the cause asserted in the argument. For it is possible to prove truth by falsehood, as is clear from Analytics.

These prefatory remarks having also been made, let us proceed by starting first from the firststatements, which, as has been said, are not clearly expressed, afterwards seeking to discover clearly the essential nature of happiness. Now it is agreed that happiness is the greatest and best of human goods (and we say ‘human’ because there might very likely also be a happiness belonging to some higher being, for instance a god); since none of the other animals, which are inferior in nature to men, share in the designation ‘happy,’ for a horse is not happy, nor is a bird nor a fish nor any other existing thing whose designation does not indicate that it possesses in its nature a share of something divine, but it is by some other mode of participating in things good that one of them has a better life and another a worse.

But the fact that this is so must be considered later. At the present let us say that among things good some are within the range of action for a human being and others are not. And we make this distinction for the reason that some existing things do not participate in change at all, and therefore some good things do not, and these are perhaps in their nature the best things; and some things, though practicable, are only practicable for beings superior to us. And inasmuch as 'practicable' has two meanings (for both the Ends for which we act and the actions that we do as means to those Ends have to do with action — for example we class among things practicable both health and wealth and the pursuits that are followed for the sake of health and wealth, healthy exercise and lucrative business), it is clear that happiness must be set down as the best of the things practicable for a human being. [1217b]

We must consider, therefore, what the best is, and in how many senses the term is used. The answer seems to be principally contained in three views. For it is said that the best of all things is the Absolute Good, and that the Absolute Good is that which has the attributes of being the first of goods and of being by its presence the cause to the other goods of their being good; and both of these attributes, it is said, belong to the Form of good (I mean both being the first of goods and being by its presence the cause to the other goods of their being good), since it is of that Form that goodness is most truly predicated (inasmuch as the other goods are good by participation in and resemblance to the Form of good) and also it is the first of goods, for the destruction of that which is participated in involves the destruction of the things participating in the Form (which get their designation by participating in it), and that is the relation existing between what is primary and what is subsequent; so that the Form of good is the Absolute Good, inasmuch as the Form of good is separable from the things that participate in it, as are the other Forms also.

Now a thorough examination of this opinion belongs to another course of study, and one that for the most part necessarily lies more in the field of Logic, for that is the only science dealing with arguments that are at the same time destructive and general. But if we are to speak about it concisely, we say that in the first place to assert the existence of a Form not only of good but of anything else is an expression of logic and a mere abstraction (but this has been considered in various ways both in extraneous discourses and in those on philosophical lines); next, even granting that Forms and the Form of good exist in the fullest sense, surely this is of no practical value for the good life or for conduct.

For 'good' has many senses, in fact as many as 'being.' For the term 'is,' as it has been analyzed in other works, signifies now substance, now quality, now quantity, now time, and in addition to these meanings it consists now in undergoing change and now in causing it; and the good is found in each of these cases — in essence, as mind and God, in quality justice, in quantity moderation, in time opportunity, and as instances of change, the teacher and the taught. Therefore, just as being is not some one thing in respect of the categories mentioned, so neither is the good, and there is no one science either of the real or of the good. But also even the goods predicated in the same category, for example opportunity or moderation, do not fall within the province of a single science to study, but different sorts of opportunity and of moderation are studied by different sciences, for instance opportunity and moderation in respect of food are studied by medicine and gymnastics, in respect of military operations by strategics, and similarly in respect of another pursuit by another science; so that it can hardly be the case that the Absolute Good is the subject of only one science. [1218a]

Again, wherever there is a sequence of factors, a prior and a subsequent, there is not some common element beside these factors and that element separable; for then there would be something prior to the first in the series, for the common and separable term would be prior because when the common element was destroyed the first factor would be destroyed. For example, if double is the first of the multiples, the multiplicity predicated of them in common cannot exist as a separable thing, for then it will be prior to double, if it is the case that the common element is the Form, as it would be if one were to make the common element separable: for if justice is a good, and courage, there is then, they say, a Good-in-itself, so the term 'in itself' is added to the common definition. But what could this denote except that the good is eternal and separable? Yet a thing that is white for days is no more white than a thing that is white for one day, so that the good is no more good by being eternal; nor yet therefore is the common good the same as the Form, for it is the common property of all the goods.

Also the proper method of proving the Absolute Good is the contrary of the method now adopted. At present it is from things not admitted to possess goodness that they prove the things admitted to be good, for instance, they prove from numbers that justice and health are good, because they are arrangements and numbers — on the assumption that goodness is a property of numbers and monads because the Absolute Good is unity. But the proper method is to start from things admitted to be good, for instance health, strength, sobriety of mind, and prove that beauty is present even more in the unchanging; for all these admitted goods consist in order and rest, and therefore, if that is so, the things unchanging are good in an even greater degree, for they possess order and rest in a greater degree. — And it is a hazardous way of proving that the Absolute Good is unity to say that numbers aim at unity; for it is not clearly stated how they aim at it, but the expression is used in too unqualified a manner; and how can one suppose that things not possessing life can have appetition? One ought to study this matter carefully, and not make an unreasoned assumption about something as to which it is not easy to attain certainty even with the aid of reason. — And the statement that all existing things desire some one good is not true; each thing seeks its own particular good, the eye sight, the body health, and similarly another thing another good.

Such then are the difficulties indicating that the Absolute Good does not exist, — and that it is of no use for political science, but that this has a special good of its own, as have the other sciences also — for instance the good of gymnastics is good bodily condition.

Further there is also what has been written in the discourse: either the Class-form of the good is in itself useful to no science, or it is useful to all alike.

Further it is not practicable.

And similarly the good as universal also is not an Absolute Good [1218b] (for universality might be an attribute of even a small good), and also it is not practicable; for medical science does not study how to procure an attribute that belongs to anything, but how to procure health, and similarly also each of the other practical sciences. But ‘good’ has many meanings, and there is a part of it that is beautiful, and one form of it is practicable but another is not. The sort of good that is practicable is that which is an object aimed at, but the good in things unchangeable is not practicable. It is manifest, therefore, that the Absolute Good we are looking for is not the Form of good, nor yet the good as universal, for the Form is unchangeable and impracticable, and the universal good though changeable is not practicable. But the object aimed at as End is the chief good, and is the cause of the subordinate goods and first of all; so that the Absolute Good would be this — the End of the goods practicable for man. And this is the good that comes under the supreme of all the practical sciences, which is Politics and Economics and Wisdom; for these states of character differ from the others in the fact that they are supreme (whether they differ at all from one another must be discussed later on). And that the End stands in a causal relation to the means subordinate to it is shown by the method of teachers; they prove that the various means are each good by first defining the End, because the End aimed at is a cause: for example, since to be in health is so-and-so, what contributes to health must necessarily be so-and-so; the wholesome is the efficient cause of health, though only the cause of its existing — it is not the cause of health's being a good. Furthermore nobody proves that health is a good (unless he is a sophist and not a physician — it is sophists that juggle with irrelevant arguments), any more than he proves any other first principle.

After this we must take a fresh starting-point and consider, in regard to the good as End for man and in regard to the best of practicable goods, how many senses there are of the term 'best of all,' since this is best.

BOOK II

After this we must take a fresh starting-point and discuss the subjects that follow.

Now all goods are either external or within the spirit, and of these two kinds the latter are preferable, as we class them even in the extraneous discourses. For Wisdom and Goodness and Pleasure are in the spirit, and either some or all of these are thought by everybody to be an End. And the contents of the spirit are in two groups, one states or faculties, the other activities and processes.

Let these assumptions, then, be made, and let it be assumed as to Goodness that it is the best disposition or state or faculty of each class of things that have some use or work. [1219a] This is clear from induction, for we posit this in all cases: for instance, there is a goodness that belongs to a coat, for a coat has a particular function and use, and the best state of a coat is its goodness; and similarly with a ship and a house and the rest. So that the same is true also of the spirit, for it has a work of its own. And therefore let us assume that the better the state is the better is the work of that state, and that as states stand in relation to one another so do the works that result from them. And the work of each thing is its End; from this, therefore, it is plain that the work is a greater good than the state, for the End is the best as being an End, since the greatest good is assumed as an End and as the ultimate object for the sake of which all the other things exist. It is clear, therefore, that the work is a greater good than the state and disposition. But the term 'work' has two meanings; for some things have a work that is something different from the employment of them, for instance the work of architecture is a house, not the act of building, that of medicine health, not the process of healing or curing, whereas with other things their work is the process of using them, for instance the work of sight is the act of seeing, that of mathematical science the contemplation of mathematical truths. So it follows that with the things whose work is the employment of them, the act of employing them must be of more value than the state of possessing them.

And these points having been decided in this way, we say that the same work belongs to a thing and to its goodness (although not in the same way): for example, a shoe is the work of the art of shoemaking and of the act of shoemaking; so if there is such a thing as shoemaking goodness and a good shoemaker, their work is a good shoe; and in the same way in the case of the other arts also.

Again, let us grant that the work of the spirit is to cause life, and that being alive is employment and being awake (for sleep is a kind of inactivity and rest); with the consequence that since the work of the spirit and that of its goodness are necessarily one and the same, the work of goodness would be good life. Therefore this is the perfect good, which as we saw is happiness. And it is clear from the assumptions laid down (for we said that happiness is the greatest good and that the Ends or the greatest of goods are in the spirit, but things in the spirit are either a state or an activity) that, since an activity is a better thing than a disposition and the best activity than the best state, and since goodness is the best state, the activity of goodness is the spirit's greatest good. But also we saw that the greatest good is happiness. Therefore happiness is the activity of a good spirit. And since we saw that happiness is something perfect, and life is either perfect or imperfect, and the same with goodness (for some goodness is a whole and some a part), but the activity of imperfect things is imperfect, it would follow that happiness is an activity of perfect life in accordance with perfect goodness.

And that our classification and definition of it are correct is evidenced by opinions that we all hold. [1219b] For we think that to do well and live well are the same as to be happy; but each of these, both life and action, is employment and activity, inasmuch as active life involves employing things — the coppersmith makes a bridle, but the horseman uses it. There is also the evidence of the opinion that a person is not happy for one day only, and that a child is not happy, nor any period of life(hence also Solon's advice holds good, not to call a man happy while he is alive, but only when he has reached the end), for nothing incomplete is happy, since it is not a whole. And again, there are the praises given to goodness on account of its deeds, and panegyrics describing deeds (and it is the victorious who are given wreaths, not those who are capable of winning but do not win); and there is the fact that we judge a man's character from his actions. Also why is happiness not praised? It is because it is on account of it that the other things are praised, either by being placed in relation to it or as being parts of it. Hence felicitation, praise and panegyric are different things: panegyric is a recital of a particular exploit, praise a statement of a man's general distinction, felicitation is bestowed on an end achieved. From these considerations light is also thrown on the question sometimes raised — what is the precise reason why the virtuous are for half their lives no better than the base, since all men are alike when asleep? The reason is that sleep is inaction of the spirit, not an activity. Hence the goodness of any other part of the spirit, for instance the nutritive, is not a portion of goodness as a whole, just as also goodness of the body is not; for the nutritive part functions more actively in sleep, where as the sensory and appetitive parts are ineffective in sleep. But even the imaginations of the virtuous, so far as the imaginative faculty participates in any mode of motion, are better than those of the base, provided they are not perverted by disease or mutilation.

Next we must study the spirit; for goodness is a property of the spirit, it is not accidental. And since it is human goodness that we are investigating, let us begin by positing that the spirit has two parts that partake of reason, but that they do not both partake of reason in the same manner, but one of them by having by nature the capacity to give orders, and the other to obey and listen (let us leave out any part that is irrational in another way). And it makes no difference whether the spirit is divisible or is undivided yet possessed of different capacities, namely those mentioned, just as the concave and convex sides in a curve are inseparable, and the straightness and whiteness in a straight white line, although a straight thing is not white except accidentally and not by its own essence. And we have also abstracted any other part of the spirit that there may be, for instance the factor of growth; for the parts that we have mentioned are the special properties of the human spirit, and hence the excellences of the part dealing with nutrition and growth are not the special property of a man, for necessarily, if considered as a man, he must possess a reasoning faculty for a principle and with a view to conduct, [1220a] and the reasoning faculty is a principle controlling not reasoning but appetite and passions; therefore he must necessarily possess those parts. And just as a good constitution consists of the separate excellences of the parts of the body, so also the goodness of the spirit, as being an End, is composed of the separate virtues.

And goodness has two forms, moral virtue and intellectual excellence; for we praise not only the just but also the intelligent and the wise. For we assumed that what is praiseworthy is either goodness or its work, and these are not activities but possess activities. And since the intellectual excellences involve reason, these forms of goodness belong to the rational part, which as having reason is in command of the spirit; whereas the moral virtues belong to the part that is irrational but by nature capable of following the rational — for in stating a man's moral qualities we do not say that he is wise or clever but that he is gentle or rash.

After this we must first consider Moral Goodness — its essence and the nature of its divisions (for that is the subject now arrived at), and the means by which it is produced. Our method of inquiry then must be that employed by all people in other matters when they have something in hand to start with — we must endeavor by means of statements that are true but not clearly expressed to arrive at a result that is both true and clear. For our present state is as if we knew that health is the best disposition of the body and that Coriscus is the darkest man in the market-place; for that is not to know what health is and who Coriscus is, but nevertheless to be in that state is a help towards knowing each of these things. — Then let it first be taken as granted that the best disposition is produced by the best means, and that the best actions in each department of conduct result from the excellences belonging to each department — for example, it is the best exercises and food that produce a good condition of body, and a good condition of body enables men to do the best work; further, that every disposition is both produced and destroyed by the same things applied in a certain manner, for example health by food and exercises and climate; these points are clear from induction. Therefore goodness too is the sort of disposition that is created by the best movements in the spirit and is also the source of the production of the spirit's best actions and emotions; and it is in one way produced and in another way destroyed by the same things, and its employment of the things that cause both its increase and its destruction is directed towards the things towards which it creates the best disposition. And this is indicated by the fact that both goodness and badness have to do with things pleasant and painful; for punishments, which are medicines, and which as is the case with other cures operate by means of opposites, operate by means of pleasures and pains.

It is clear, therefore, that Moral Goodness has to do with pleasures and pains. And since moral character is, [1220b] as even its name implies that it has its growth from habit, and by our often moving in a certain way a habit not innate in us is finally trained to be operative in that way (which we do not observe in inanimate objects, for not even if you throw a stone upwards ten thousand times will it ever rise upward unless under the operation of force) — let moral character then be defined as a quality of the spirit in accordance with governing reason that is capable of following the reason. We have then to say what is the part of the spirit in respect of which our moral characters are of a certain quality. And it will be in respect of our faculties for emotions according to which people are termed liable to some emotion, and also of the states of character according to which people receive certain designations in respect of the emotions, because of their experiencing or being exempt from some form of emotion.

After this comes the classification, made in previous discussions, of the modes of emotion, the faculties and the states of character. By emotions I mean such things as anger, fear, shame, desire, and generally those experiences that are in themselves usually accompanied by sensory pleasure or pain. And to these there is no quality corresponding [but they are passive]. But quality corresponds to the faculties: by faculties I mean the properties acting by which persons are designated by the names of the various emotions, for instance choleric, insensitive, erotic, bashful, shameless. States of character are the states that cause the emotions to be present either rationally or the opposite: for example courage, sobriety of mind, cowardice, profligacy.

These distinctions having been established, it must be grasped that in every continuum that is divisible there is excess and deficiency and a mean, and these either in relation to one another or in relation to us, for instance in gymnastics or medicine or architecture or navigation, and in any practical pursuit of whatever sort, both scientific and unscientific, both technical and untechnical; for motion is a continuum, and conduct is a motion. And in all things the mean in relation to us is the best, for that is as knowledge and reason bid. And everywhere this also produces the best state. This is proved by induction and reason: contraries are mutually destructive, and extremes are contrary both to each other and to the mean, as the mean is either extreme in relation to the other — for example the equal is greater than the less and less than the greater. Hence moral goodness must be concerned with certain means and must be a middle state. We must, therefore, ascertain what sort of middle state is goodness and with what sort of means it is concerned. Let each then be taken by way of illustration and studied with the help of the schedule:

Irascibility
Spiritlessness
Gentleness

Rashness
Cowardice
Courage

[1221a]
Shamelessness
Diffidence
Modesty

Profligacy
Insensitiveness
Temperance

Envy
(nameless)
Righteous Indignation

Profit
Loss
The Just

Prodigality
Meanness
Liberality

Boastfulness
Self-depreciation
Sincerity

Flattery
Surliness
Friendliness

Subservience
Stubbornness
Dignity

Luxuriousness
Endurance
Hardiness

Vanity
Smallness of Spirit
Greatness of Spirit

Extravagance
Shabbiness
Magnificence

Rascality
Simpleness
Wisdom.

These and such as these are the emotions that the spirit experiences, and they are all designated from being either excessive or defective. The man that gets angry more and more quickly and with more people than he ought is irascible, he that in respect of persons and occasions and manner is deficient in anger is insensitive; the man that is not afraid of things of which he ought to be afraid, nor when nor as he ought, is rash, he that is afraid of things of which he ought not to be afraid, and when and as he ought not to be, is cowardly. Similarly also one that is a prey to his desires and that exceeds in everything possible is profligate, and one that is deficient and does not desire even to a proper degree and in a natural way, but is as devoid of feeling as a stone, is insensitive. The man that seeks gain from every source is a profiteer, and he that seeks gain if not from no source, yet from few, is a waster. He that pretends to have more possessions than he really has is a boaster, and he that pretends to have fewer is a self-depreciator. One that joins in approval more than is fitting is a flatterer, one that does so less than is fitting is surly. To be too complaisant is subservience; to be complaisant seldom and reluctantly is stubbornness. Again, the man that endures no pain, not even if it is good for him, is luxurious; one that can endure all pain alike is strictly speaking nameless, but by metaphor he is called hard, patient or enduring. He that rates himself too high is vain, he that rates himself too low, small-spirited. Again, he that exceeds in all expenditure is prodigal, he that falls short in all, mean. Similarly the shabby man and the swaggerer — the latter exceeds what is fitting and the former falls below it. The rascal grasps profit by every means and from every source, the simpleton does not make profit even from the proper sources. Envy consists in being annoyed at prosperity more often than one ought to be, for the envious are annoyed by the prosperity even of those who deserve to prosper; the opposite character is less definitely named, [1221b] but it is the man that goes too far in not being annoyed even at the prosperity of the undeserving, and is easy going, as gluttons are in regard to food, whereas his opposite is difficult-tempered in respect of jealousy. — It is superfluous to state in the definition that the specified relation to each thing must not be accidental; no science whether theoretical or productive makes this addition to the definition either in discourse or in practice, but this addition is aimed against the logical quibbling of the sciences. Let us then accept these simple definitions, and let us make them more precise when we are speaking about the opposite dispositions. But these modes of emotion themselves are divided into species designated according to their difference in respect of time or intensity or in regard to one of the objects that cause the emotions. I mean for instance that a man is called quick-tempered from feeling the emotion of anger sooner than he ought, harsh and passionate from feeling it more than he ought, bitter from having a tendency to cherish his anger, violent and abusive owing to the acts of retaliation to which his anger gives rise. Men are called gourmands or gluttons and drunkards from having an irrational liability to indulgence in one or the other sort of nutriment.

But it must not be ignored that some of the vices mentioned cannot be classed under the heading of manner, if manner is taken to be feeling the emotion to excess. For example, a man is not an adulterer because he exceeds in intercourse with married women, for ‘excess’ does not apply here, but adultery merely in itself is a vice, since the term denoting the passion implicitly denotes that the man is vicious; and similarly with outrage. Hence men dispute the charge, and admit intercourse but deny adultery on the ground of having acted in ignorance or under compulsion, or admit striking a blow but deny committing an outrage; and similarly in meeting the other charges of the same kind.

These points having been taken, we must next say that since the spirit has two parts, and the virtues are divided between them, one set being those of the rational part, intellectual virtues, whose work is truth, whether about the nature of a thing or about its mode of production, while the other set belongs to the part that is irrational but possesses appetition (for if the spirit is divided into parts, not any and every part possesses appetition), it therefore follows that the moral character is vicious or virtuous by reason of pursuing or avoiding certain pleasures and pains. This is clear from the classification of the emotions, faculties and states of character. For the faculties and the states are concerned with the modes of emotion, and the emotions are distinguished by pain and pleasure; so that it follows from these considerations as well as from the positions already laid down that all moral goodness is concerned with pleasures and pains. For our state of character is related to and concerned with such things as have the property of making every person’s spirit worse and better. [1222a] But we say that men are wicked owing to pleasures and pains, through pursuing and avoiding the wrong ones or in the wrong way. Hence all men readily define the virtues as insensitiveness or tranquillity in regard to pleasures and pains, and the vices by the opposite qualities.

But since it has been assumed that goodness is a state of character of a sort that causes men to be capable of doing the best actions and gives them the best disposition in regard to the greatest good, and the best and greatest good is that which is in accordance with right principle, and this is the mean between excess and deficiency relative to ourselves, it would necessarily follow that moral goodness corresponds with each particular middle state and is concerned with certain mean points in pleasures and pains and pleasant and painful things. And this middle state will sometimes be in pleasures (for even in these there is excess and deficiency), sometimes in pains, sometimes in both. For he that exceeds in feeling delight exceeds in the pleasant, and he that exceeds in feeling pain exceeds in the opposite — and this whether his feelings are excessive absolutely or excessive in relation to some standard, for instance are felt more than ordinary men feel them; whereas the good man feels in the proper way. — And since there is a certain state of character which results in its possessor's being in one instance such as to accept an excess and in another such as to accept a deficiency of the same thing, it follows that as these actions are contrary to each other and to the mean, so also the states of character that cause them are contrary to each other and to virtue.

It comes about, however, that sometimes all the oppositions are more evident, sometimes those on the side of excess, in some cases those on the side of deficiency. The cause of this contrariety is that the resemblance does not always reach the same point of inequality in regard to the middle, but sometimes it may pass over more quickly from the excess, sometimes from the deficiency, to the middle state, the person farther removed from which seems to be more contrary: for instance, with regard to the body excess is more healthy and nearer the middle than deficiency in the case of exercises but deficiency than excess in the case of food. Consequently the states of will favorable to athletic training will be variously favorable to health according to the two different fields of choice — in the one case the over-energetic men <will be nearer the mean than the slack ones>, in the other the too hardy <will be nearer the mean than the self-indulgent ones>; and also the character contrary to the moderate and rational will be in the one case the slack and not both the slack and the over-energetic, and in the other case the self-indulgent and not the man who goes hungry. And this comes about because from the start our nature does not diverge from the mean in the same way as regards everything, but in energy we are deficient and in self-indulgence excessive, and this is also the same with regard the spirit. And we class as contrary to the mean the disposition to which we, and most men, are more liable to err; whereas the other passes unnoticed as if non-existent, because its rarity makes it not observed. For instance we count anger the contrary of gentleness and the passionate man the contrary of the gentle; [1222b] yet there is also excess in the direction of being gentle and placable and not being angry when struck, but men of that sort are few, and everyone is more prone to the other extreme; on which account moreover a passionate temper is not a characteristic of a toady.

And since we have dealt with the scheme of states of character in respect of the various emotions in which there are excesses and deficiencies, and of the opposite states in accordance with which men are disposed in accordance with right principle (though the question what is the right principle and what rule is to guide us in defining the mean must be considered later), it is evident that all the forms of moral goodness and badness have to do with excesses and deficiencies of pleasures and pains, and that pleasures and pains result from the states of character and modes of emotion mentioned. But then the best state in relation to each class of thing is the middle state. It is clear, therefore, that the virtues will be either all or some of these middle states.

Let us, therefore, take another starting-point for the ensuing inquiry. Now all essences are by nature first principles of a certain kind, owing to which each is able to generate many things of the same sort as itself, for example a man engenders men, and in general an animal animals, and a plant plants. And in addition to this, obviously man alone among animals initiates certain conduct — for we should not ascribe conduct to any of the others. And the first principles of that sort, which are the first source of motions, are called first principles in the strict sense, and most rightly those that have necessary results; doubtless God is a ruling principle that acts in this way. But the strict sense of 'first principle' is not found in first principles incapable of movement, for example those of mathematics, although the term is indeed used of them by analogy, for in mathematics if the first principle were changed virtually all the things proved from it would change, though they do not change owing to themselves, one being destroyed by the other, except by destroying the assumption and thereby establishing a proof. But man is a first principle of a certain motion, for action is motion. And since as in other matters the first principle is a cause of the things that exist or come into existence because of it, we must think as we do in the case of demonstrations. For example, if as the angles of a triangle are together equal to two right angles the angles of a quadrilateral are necessarily equal to four right angles, that the angles of a triangle are equal to two right angles is clearly the cause of that fact; and supposing a triangle were to change, a quadrilateral would necessarily change too — for example if the angles of a triangle became equal to three right angles, the angles of a quadrilateral would become equal to six right angles, or if four, eight; also if a triangle does not change but is as described, a quadrilateral too must of necessity be as described.

The necessity of what we are arguing is clear from Analytics; at present we cannot either deny or affirm anything definitely except just this. Supposing there were no further cause of the triangle's having the property stated, then the triangle would be a sort of first principle or cause of the later stages. Hence if in fact there are among existing things some that admit of the opposite state, their first principles also must necessarily have the same quality; [1223a] for of things that are of necessity the result is necessary, albeit the subsequent stages may possibly happen in the opposite way. And the things that depend on men themselves in many cases belong to this class of variables, and men are themselves the first principle of things of this sort. Hence it is clear that all the actions of which a man is the first principle and controller may either happen or not happen, and that it depends on himself for them to happen or not, as he controls their existence or non-existence. But of things which it depends on him to do or not to do he is himself the cause, and what he is the cause of depends on himself. And since goodness and badness and the actions that spring from them are in some cases praiseworthy and in other cases blameworthy (for praise and blame are not given to things that we possess from necessity or fortune or nature but to things of which we ourselves are the cause, since for things of which another person is the cause, that person has the blame and the praise), it is clear that both goodness and badness have to do with things where a man is himself the cause and origin of his actions. We must, then, ascertain what is the kind of actions of which a man is himself the cause and origin. Now we all agree that each man is the cause of all those acts that are voluntary and purposive for him individually, and that he is not himself the cause of those that are involuntary. And clearly he commits voluntarily all the acts that he commits purposely. It is clear, then, that both goodness and badness will be in the class of things voluntary.

We must, therefore, ascertain what voluntary and involuntary mean, and what is purposive choice, since they enter into the definition of goodness and badness. And first we must consider the meaning of voluntary and involuntary. Now they would seem to refer to one of three things — conformity with appetition, or with purposive choice, or with thought: voluntary is what conforms with one of these and involuntary is what contravenes one of them. But moreover there are three subdivisions of appetition — wish, passion and desire; so that we have to distinguish these. And first we must consider conformity with desire.

It would seem that everything that conforms with desire is voluntary. For everything involuntary seems to be forced, and what is forced and everything that people do or suffer under necessity is painful, as indeed Evenus says: " For all necessity doth cause distress —
" Evenus of Paros = Theog. 472 so that if a thing is painful it is forced and if a thing is forced it is painful; but everything contrary to desire is painful (for desire is for what is pleasant), so that it is forced and involuntary. Therefore what conforms with desire is voluntary, for things contrary to and things in conformity with desire are opposite to one another. Again, all wickedness makes a man more unrighteous, and lack of self-control seems to be wickedness; and the uncontrolled man is the sort of man to act in conformity with desire contrary to calculation, and he shows his lack of control when his conduct is guided by desire; [1223b] so that the uncontrolled man will act unrighteously by acting in conformity with desire. But unrighteous action is voluntary. Therefore he will be acting voluntarily, and action guided by desire is voluntary. Indeed it would be strange if those who become uncontrolled will be more righteous. — From these considerations, then, it would appear that what is in conformity with desire is voluntary; and from this the opposite follows, for all that a man does voluntarily he wishes to do, and what he wishes to do he does voluntarily, but nobody wishes what he thinks to be bad. But yet the uncontrolled man does not do what he wishes, for being uncontrolled means acting against what one thinks to be best owing to desire; hence it will come about that the same person is acting voluntarily and involuntarily at the same time. But this is impossible. And further, the self-controlled man will act righteously, or more righteously than lack of control will; for self-control is goodness, and goodness makes men more righteous. And a man exercises self-control when he acts against his desire in conformity with rational calculation. So that if righteous action is voluntary, as also unrighteous action (for both of these seem to be voluntary, and if one of them is voluntary it follows of necessity that the other is also), whereas what is contrary to desire is involuntary, it therefore follows that the same person will do the same action voluntarily and involuntarily at the same time.

The same argument applies also in the case of passion; for there appear to be control and lack of control of passion as well as of desire and what is contrary to passion is painful and restraint is a matter of force, so that if what is forced is involuntary, what is in accordance with passion will always be voluntary. Even Heracleitus seems to have in view the strength of passion when he remarks that the checking of passion is painful; for ‘It is difficult (he says) to do battle with passion, for it buys its wish at the price of life.’ And if it is impossible to do the same act voluntarily and involuntarily at the same time and in respect of the same part of the act, action guided by one’s wish is more voluntary than action guided by desire or passion. And a proof of this is that we do many things voluntarily without anger or desire.

It remains, therefore, to consider whether acting as we wish and acting voluntarily are the same. This also seems impossible. For it is a fundamental assumption with us, and a general opinion, that wickedness makes men more unrighteous; and lack of self-control seems to be a sort of wickedness. But from the hypothesis that acting as we wish and acting voluntarily are the same the opposite will result; for nobody wishes things that he thinks to be bad, yet he does them when he has become uncontrolled, so if to do injustice is voluntary and the voluntary is what is in accordance with one’s wish, then when a man has become uncontrolled he will no longer be acting unjustly but will be more just than he was before he lost control of himself. But this is impossible. Therefore it is clear that acting voluntarily does not mean acting in accordance with appetition nor acting involuntarily acting in opposition to appetition.

Also it is clear from the following considerations that voluntary action does not mean acting in accordance with purposive choice. It was proved that acting in accordance with one’s wish is not acting involuntarily, [1224a] but rather everything that one wishes is also voluntary — it has only been proved that it is possible to do a thing voluntarily without wishing; but many things that we wish we do suddenly, whereas nobody makes a purposive choice suddenly.

But if as we said the voluntary must necessarily be one of three things — what is in conformity with appetition, or with purposive choice, or with thought — , and if it is not the two former, it remains that voluntariness consists in acting with some kind of thought. Moreover, let us put a conclusion to our delimitation of the voluntary and involuntary by carrying the thought argument a little further. Acting under compulsion and not under compulsion seem to be terms akin to the ones mentioned; for we say that everything forced is involuntary and everything involuntary is forced. So we must first consider the exact meaning of ‘forced,’ and how what is forced is related to the voluntary and involuntary. It seems, then, that in the sphere of conduct ‘forced’ or ‘necessary,’ and force or necessity, are the opposite of ‘voluntary,’ and of persuasion. And we employ the terms force and necessity in a general sense even in the case of inanimate objects: we say that a stone travels upwards and fire downwards by force and under necessity, whereas when they travel according to their natural and intrinsic impulse we say that they do not move under force — although nevertheless they are not spoken of as moving voluntarily: the state opposite to forced motion has no name, but when they travel contrary to their natural impulse we say that they move by force. Similarly also in the case of living things and of animals, we see many being acted on by force, and also acting under force when something moves them from outside, contrary to the impulse within the thing itself. In inanimate things the moving principle is simple, but in living things it is multiple, for appetition and rational principle are not always in harmony. Hence whereas in the case of the other animals the factor of force is simple, as it is in the case of inanimate objects, for animals do not possess rational principle and appetition in opposition to it, but live by their appetition, in man both forms of force are present — that is, at a certain age, the age to which we attribute action in the proper sense; for we do not speak of a child as acting, any more than a wild animal, but only a person who has attained to acting by rational calculation. So what is forced always seems to be painful, and no one acting under force acts gladly. Consequently there is a great deal of dispute about the self-controlled man and the uncontrolled. For each of them acts under a conflict of impulses within him, so that the self-controlled man, they say, acts under force in dragging himself away from the pleasures that he covets (for he feels pain in dragging himself away against the resistance of appetition), while the uncontrolled man acts under force in going contrary to his rational faculty. But he seems to feel less pain, because desire is for what is pleasant, and he follows his desire; so that the uncontrolled man rather acts voluntarily and not under force, because not painfully. On the other hand persuasion is thought to be the opposite of force and necessity; and the self-controlled man is led towards things that he has been persuaded to pursue, and proceeds not under force but voluntarily; [1224b] whereas desire leads a man on without employing persuasion, since it possesses no element of rational principle. It has, then, been stated that these men only seem to act under force and involuntarily; and we have shown the reason — it is because their action has a certain resemblance to forced action, just as we speak of forced action even in the case of inanimate objects too. Yet nevertheless if one added there also the addition made in our definition, the statement is refuted. For we speak of a thing as being forced to act when something external moves it or brings it to rest, acting against the impulse within the thing itself — when there is no external motive, we do not say that it acts under force; and in the uncontrolled man and the self-controlled it is the impulse present in the man himself that drives him (for he has both impulses), so that as far as these considerations go neither of them would be acting under force, but voluntarily; nor yet are they acting of necessity, for by necessity we mean an external principle that either checks or moves a man in opposition to his impulse — as if A were to take hold of B's hand and with it strike C, B's will and desire both resisting; whereas when the source of action is from within, we do not speak of the act as done under force. Again, both pleasure and pain are present in both cases; for a man exercising self-control both feels pain when he finally acts in opposition to his desire and enjoys the pleasure of hoping that he will be benefited later on, or is even being benefited already, by being in good health; and the uncontrolled man enjoys getting what he desires owing to his lack of self-control, but feels prospective pain because he thinks he is doing a bad thing. Hence it is reasonable to say that each does what he does under compulsion, and that each is at one point acting involuntarily, from motives both of appetition and of rational calculation — for calculation and appetition are things quite separate, and each is pushed aside by the other. Hence men transfer this to the spirit as a whole, because they see something of this sort in the experiences of the spirit. Now it is admissible to say this in the case of the parts, but the spirit as a whole both in the uncontrolled and in the self-controlled man acts voluntarily, and in neither case does the man act under compulsion, but one of the parts in them so acts — for we possess by nature both parts; since rational principle is a natural property, because it will be present in us if our growth is allowed and not stunted, and also desire is natural, because it accompanies and is present in us from birth; and these are pretty nearly the two things by which we define the natural — it is what accompanies everybody as soon as he is born, or else what comes to us if development is allowed to go on regularly, for example grey hair, old age, etc. Therefore each of the two persons in a way acts not in accordance with nature, but absolutely each does act according to nature, though not according to the same nature. The difficulties, then, raised about the uncontrolled and the self-controlled man are these: do both, or does one of them, act under compulsion, so that they either act not voluntarily or else voluntarily and under compulsion at the same time — and if what is done under compulsion is involuntary, act voluntarily and involuntarily at the same time? And it is fairly clear from what has been said how these difficulties are to be met. [1225a]

But there is another way in which people are said to act under compulsion and of necessity without disagreement between rational principle and appetition, when they do something that they consider actually painful and bad but they are faced by flogging or imprisonment or execution if they do not do it; for in these cases they say that they are acting under necessity. Possibly, however, this is not the case, but they all do the actual deeds willingly, since it is open to them not to do them but to endure the penalty threatened. Moreover, perhaps someone might say that in some cases these actions are done of necessity and in others not. For in cases where the presence or absence of such circumstances depends on the agent himself, even the actions that he does without wishing to do them he does willingly and not under compulsion; but where in such cases the circumstances do not rest with himself, he acts under compulsion in a sense, though not indeed under compulsion absolutely, because he does not definitely choose the actual thing that he does but the object for which he does it; since even in the objects of action there is a certain difference. For if someone were to kill a man to prevent his catching him by groping for him, it would be ridiculous for him to say that he had done it under compulsion and of necessity — there must be some greater and more painful evil that he will suffer if he does not do it. It is when a man does something evil for the sake of something good, or for deliverance from another evil, that he will be acting under necessity and by compulsion, or at all events not by nature; and then he will really be acting unwillingly, for these actions do not rest with himself. On this account many reckon even love as involuntary, and some forms of anger, and natural impulses, because their power is even beyond nature; and we pardon them as naturally capable of constraining nature. And it would be thought that a man is acting more under compulsion and involuntarily when his object is to avoid violent pain than when it is to avoid mild pain, and in general more when his object is the avoidance of pain than when it is to gain enjoyment. For what rests with himself — and it wholly turns on this — means what his nature is able to bear; what his nature is not able to bear and what is not a matter of his own natural appetition or calculation does not rest with himself. On this account also in the case of persons who are inspired and utter prophecies, although they perform an act of thought, nevertheless we do not say that saying what they said and doing what they did rested with themselves. Nor yet do we say that what men do because of desire rests with themselves; so that some thoughts and emotions, or the actions that are guided by such thoughts and calculations, do not rest with ourselves, but it is as Philolaus said—'some arguments are too strong for us.' Hence if it was necessary to consider the voluntary and involuntary with reference also to acting under compulsion, let this be our decision of the matter (for those who cause most hindrance . . . the voluntary . . . as acting under compulsion, but voluntarily).

Now that this is concluded, and as the voluntary has been found not to be defined by appetition, nor yet by purposive choice, it therefore remains to define it as that which is in accordance with thought. [1225b] Now the voluntary seems to be the opposite of the involuntary; and acting with knowledge of either the person acted on or the instrument or the result (for sometimes the agent knows that it is his father but does not intend to kill him but to save him — as the Peliads did — or knows that what he is offering is a drink but offers it as a love-charm or wine, when really it is hemlock) seems to be the opposite of acting without knowing the person acted on, the instrument and the nature of the act, through ignorance and not by accident. But to act through ignorance of the act, the means and the person acted on is involuntary action. Therefore the opposite is voluntary. It follows then that all the things that a man does not in ignorance, and through his own agency, when it is in his power not to do them, are voluntary acts, and it is in this that the voluntary consists; and all the things that he does in ignorance, and through being in ignorance, he does involuntarily. But since to understand or know has two meanings, one being to have the knowledge and the other to use it, a man who has knowledge but is not using it would in one case be justly described as acting in ignorance but in another case unjustly — namely, if his non-employment of the knowledge were due to carelessness.

And similarly one would be blamed for not having the knowledge, if it were something that was easy or necessary and his not having it is due to carelessness or pleasure or pain. These points therefore must be added to our definition. Let this, then, be our mode of definition about the voluntary and involuntary.

Next let us speak about purposive choice, first raising various difficulties about it. For one might doubt to which class it naturally belongs and in what class it ought to be put, and whether the voluntary and the purposely chosen are different things or the same thing. And a view specially put forward from some quarters, which on inquiry may seem correct, is that purposive choice is one of two things, either opinion or appetition; for both are seen to accompany it. Now it is evident that it is not appetition; for in that case it would be either wish or desire or passion, since nobody wants to get a thing without having experienced one of those feelings. Now even animals possess passion and desire, but they do not have purposive choice. And again, beings that possess both of these often make choices even without passion and desire; and while they are experiencing these feelings do not make a choice but hold out. Again, desire and passion are always accompanied by pain, but we often make a choice even without pain. But moreover purposive choice is not the same as wish either; for men wish for some things that they know to be impossible, for instance to be king of all mankind and to be immortal, but nobody purposively chooses a thing knowing it to be impossible, nor in general a thing that, though possible, he does not think in his own power to do or not to do. So that this much is clear — a thing purposively chosen must necessarily be something that rests with oneself. [1226a] And similarly it is manifest that purposive choice is not opinion either, nor something that one simply thinks; for we saw that a thing chosen is something in one's own power, but we have opinions as to many things that do not depend on us, for instance that the diagonal of a square is incommensurable with the side; and again, choice is not true or false. Nor yet is purposive choice an opinion about practicable things within one's own power that makes us think that we ought to do or not to do something; but this characteristic is common to opinion and to wish. For no one purposively chooses any End, but the means to his End — I mean for instance no one chooses to be healthy, but to take a walk or sit down for the sake of being healthy, no one chooses to be well off, but to go into business or to speculate for the sake of being well off; and generally, one who makes a choice always makes it clear both what his choice is and what its object is, ‘object’ meaning that for the sake of which he chooses something else and ‘choice’ meaning that which he chooses for the sake of something else. Whereas clearly it is specially an End that a man wishes, and the feeling that he ought to be healthy and prosperous is an opinion. So these considerations make it clear that purposive choice is different from both opinion and wish. Forming wishes and forming opinions apply specially to one’s End; purposive choice is not of Ends.

It is clear, then, that purposive choice is not either wish or opinion or judgement simply; but in what does it differ from them? and how is it related to the voluntary? To answer these questions will make it clear what purposive choice is. Now of things that can both be and not be, some are such that it is possible to deliberate about them, but about others it is not possible. Some things can either be or not be but their coming into being does not rest with us, but in some cases is due to the operation of nature and in others to other causes; and about these things nobody would deliberate unless in ignorance of the facts. But with some things not only their existence or non-existence is possible, but also for human beings to deliberate about them; and these are all the things that it rests with us to do or not to do. Hence we do not deliberate about affairs in India, or about how to square the circle; for affairs in India do not rest with us, whereas the objects of choice and things practicable are among things resting with us, and squaring the circle is entirely impracticable (and thus it is clear that purposive choice is not simply opinion either). But purposive choice does not deal with all the practicable things resting with us either. Hence one might also raise the question, why is it exactly that, whereas doctors deliberate about things in their field of science, scholars do not? The reason is that since error occurs in two ways (for we err either in reasoning, or in perception when actually doing the thing), in medicine it is possible to err in both ways, but in grammar error only occurs in our perception and action, [1226b] to investigate which would be an endless undertaking.

Since then purposive choice is not either opinion nor wish separately, nor yet both (for no one makes a deliberate choice suddenly, but men do suddenly think they ought to act and wish to act), therefore it arises as from both, for both of them are present with a person choosing. But how purposive choice arises out of opinion and wish must be considered. And indeed in a manner the actual term ‘choice’ makes this clear. ‘Choice’ is ‘taking,’ but not taking simply — it is taking one thing in preference to another; but this cannot be done without consideration and deliberation; hence purposive choice arises out of deliberative opinion.

Now nobody deliberates about his End — this everybody has fixed; but men deliberate about the means leading to their End — does this contribute to it, or does this ? or when a means has been decided on, how will that be procured? and this deliberation as to means we all pursue until we have carried the starting-point in the process of producing the End back to ourselves. If, then, nobody chooses without first preparing, and deliberating as to the comparative merits of the alternatives, and a man deliberates as to those among the means to the End capable of existing or not existing that are within our power, it is clear that purposive choice is deliberative appetition of things within one’s power. For we deliberate about everything that we choose, although of course we do not choose everything that we deliberate about. I call appetition deliberative when its origin or cause is deliberation, and when a man desires because of having deliberated. Therefore the faculty of purposive choice is not present in the other animals, nor in man at every age nor in every condition, for no more is the act of deliberation, nor yet the concept of cause: it is quite possible that many men may possess the faculty of forming an opinion whether to do or not to do a thing without also having the power of forming this opinion by process of reasoning. For the deliberative faculty is the spirit’s power of contemplating a kind of cause — for one sort of cause is the final cause, as although cause means anything because of which a thing comes about, it is the object of a thing’s existence or production that we specially designate as its cause: for instance, if a man walks in order to fetch things, fetching things is the cause of his walking. Consequently people who have no fixed aim are not given to deliberation. Hence inasmuch as if a man of his own accord and not through ignorance does or refrains from doing something resting with himself either to do or not to do, he acts or refrains from acting voluntarily, but yet we do many such things without deliberation or previous thought, it necessarily follows that, although all that has been purposively chosen is voluntary, ‘voluntary’ is not the same as ‘chosen,’ and, although all things done by purposive choice are voluntary, not all things voluntary are done by purposive choice. And at the same time it is clear from these considerations that the classification of offences made by legislators as in voluntary, voluntary and premeditated is a good one; [1227a] for even if it is not precisely accurate, yet at all events it approximates to the truth in a way. But we will speak about this in our examination of justice. As to purposive choice, it is clear that it is not absolutely identical with wish nor with opinion, but is opinion plus appetition when these follow as a conclusion from deliberation.

But since one who deliberates always deliberates for the sake of some object, and a man deliberating always has some aim in view with reference to which he considers what is expedient, nobody deliberates about his End, but this is a starting-point or assumption, like the postulates in the theoretic sciences (we have spoken about this briefly at the beginning of this discourse, and in detail in Analytics); whereas with all men deliberation whether technical or untechnical is about the means that lead to their End, e.g. when they deliberate about whether to go to war or not to go to war with a given person. And the question of means will depend rather on a prior question, that is, the question of object, for instance wealth or pleasure or something else of that kind which happens to be our object. For one who deliberates deliberates if he has considered, from the standpoint of the End, either what tends to enable him to bring the End to himself or how he can himself go to the End. And by nature the End is always a good and a thing about which men deliberate step by step (for example a doctor may deliberate whether he shall give a drug, and a general where he shall pitch his camp) when their End is the good that is the absolute best; but in contravention of nature and by perversion not the good but the apparent good is the End. The reason is that there are some things that cannot be employed for something other than their natural objects, for instance sight — it is not possible to see a thing that is not visible, or to hear a thing that is not audible; but a science does enable us to do a thing that is not the object of the science. For health and disease are not the objects of the same science in the same way: health is its object in accordance with nature, and disease in contravention of nature. And similarly, by nature good is the object of wish, but evil is also its object in contravention of nature; by nature one wishes good, against nature and by perversion one even wishes evil.

But moreover with everything its corruption and perversion are not in any chance direction, but leads to the contrary and intermediate states. For it is not possible to go outside these, since even error does not lead to any chance thing, but, in the case of things that have contraries, to the contraries, and to those contraries that are contrary according to their science. It therefore necessarily follows that both error and purposive choice take place from the middle point to the contraries (the contraries of the middle being the more and the less). — And the cause is pleasure and pain; for things are so constituted that the pleasant appears to the spirit good and the more pleasant better, the painful bad and the more painful worse. [1227b] So from these things also it is clear that goodness and badness have to do with pleasures and pains; for they occur in connection with the objects of purposive choice, and this has to do with good and bad and what appears to be good and bad, and pleasure and pain are by nature things of that kind.

It therefore follows that since moral goodness is itself a middle state and is entirely concerned with pleasures and pains, and badness consists in excess and defect and is concerned with the same things as goodness, moral goodness or virtue is a state of purposively choosing the mean in relation to ourselves in all those pleasant and painful things in regard to which according as a person feels pleasure or pain he is described as having some particular moral quality(for a person is not said to have a particular moral character merely for being fond of sweets or savories).

These things having been settled, let us say whether goodness makes the purposive choice correct and the End right in the sense of making the agent choose for the sake of the proper End, or whether (as some hold) it makes the rational principle right. But what does this is self-control — for that saves the rational principle from being corrupted; and goodness and self-control are different. But we must speak about this later, since all who do hold that goodness makes the rational principle right think so on the ground that that is the nature of self-control and self-control is a praiseworthy thing. Having raised this preliminary question let us continue. It is possible to have one's aim right but to be entirely wrong in one's means to the end aimed at; and it is possible for the aim to have been wrongly chosen but the means conducing to it to be right; and for neither to be right. But does goodness decide the aim or the means to it? Well, our position is that it decides the aim, because this is not a matter of logical inference or rational principle, but in fact this must be assumed as a starting-point. For a doctor does not consider whether his patient ought to be healthy or not, but whether he ought to take walking exercise or not, and the gymnastic trainer does not consider whether his pupil ought to be in good condition or not, but whether he ought to go in for wrestling or not; and similarly no other science either deliberates about its End. For as in the theoretic sciences the assumptions are first principles, so in the productive sciences the End is a starting-point and assumption: since it is required that so-and-so is to be in good health, if that is to be secured it is necessary for such-and-such a thing to be provided — just as in mathematics, if the angles of a triangle are together equal to two right angles, such and such a consequence necessarily follows. Therefore the End is the starting-point of the process of thought, but the conclusion of the process of thought is the starting-point of action. If, then, of all rightness either rational principle or goodness is the cause, if rational principle is not the cause of the rightness of the End, then the End (though not the means to the End) will be right owing to goodness. But the End is the object for which one acts; for every purposive choice is a choice of something and for some object. The End is therefore the object for which the thing chosen is the mean, of which End goodness is the cause by its act of choice — though the choice is not of the End but of the means adopted for the sake of the End. Therefore though it belongs to another faculty to hit on the things that must be done for the sake of the End, [1228a] goodness is the cause of the End aimed at by choice being right. And owing to this it is by a man's purposive choice that we judge his character — that is, not by what he does but what he does it for. Similarly also badness causes purposive choice to be made from the opposite motives. If therefore, when a man has it in his power to do what is honorable and refrain from doing what is base, he does the opposite, it is clear that this man is not virtuous. Hence it necessarily follows that both badness and goodness are voluntary; for there is no necessity to do wicked things. For this reason badness is a blameworthy thing and goodness praiseworthy; for involuntary baseness and evil are not blamed nor involuntary good things praised, but voluntary ones are. Moreover we praise and blame all men with regard to their purpose rather than with regard to their actions (although activity is a more desirable thing than goodness), because men may do bad acts under compulsion, but no one is compelled to choose to do them. Moreover because it is not easy to see the quality of a man's purpose we are forced to judge his character from his actions; therefore activity is more desirable, but purpose more praiseworthy. And this not only follows from our assumptions but also is admitted by reason of observed facts.

BOOK III

It has then been stated in general terms that there are middle states in the virtues and that these are purposive, and also that the opposite dispositions are vices and what these are. But let us take them separately and discuss them seriatim. And first let us speak about Courage.

Now almost everybody holds that the brave man is concerned with fears, and that courage is one of the virtues. And in our schedule previously we distinguished daring and fear as contraries, for they are indeed in a manner opposed to one another. It is clear, therefore, that the persons named after these states of character will also be similarly opposed to each other — that is, the coward (for that is the term that denotes being more afraid than is proper and less daring than is proper) and the daring man (for that denotes the characteristic of being less afraid than is proper and more daring than is proper — and from this the name is derived, as the word ‘daring’ is cognate with the word ‘dare’). So that since courage is the best state of character in relation to feelings of fear and daring, and the proper character is neither that of the daring (for they fall short in one respect and exceed in another) nor that of the cowardly (for they also do the same, only not as regards the same things but inversely — [1228b] they fall short in daring and exceed in being afraid), it is clear that the middle state of character between daring and cowardice is courage, for this is the best state.

And it seems that the brave man is in general fearless, and the coward liable to fear; and that the latter fears things when they are few in number and small in size as well as when numerous and great, and fears violently, and gets frightened quickly, whereas the former on the contrary either never feels fear at all or only slightly and reluctantly and seldom, and in regard to things of magnitude; and he endures things that are extremely formidable, whereas the other does not endure even those that are slightly formidable. What sort of things, then, does the brave man endure? First, is it the things that are formidable to himself or formidable to somebody else? If the things formidable to somebody else, one would not indeed call it anything remarkable; but if it is those that are formidable to himself, what is formidable to him must be things of great magnitude and number. But formidable things are productive of fear in the particular person to whom they are formidable — that is, if they are very formidable, the fear they produce will be violent, if slightly formidable, it will be weak; so it follows that the brave man's fears are great and many. Yet on the contrary it appeared that courage makes a man fearless, and that fearlessness consists in fearing nothing, or else few things, and those slightly and reluctantly. But perhaps 'formidable' is an ambiguous term, like 'pleasant' and 'good.' Some things are pleasant and good absolutely, whereas others are so to a particular person but absolutely are not so, but on the contrary are bad and unpleasant — all the things that are beneficial for the base, and all those that are pleasant to children qua children. And similarly some things are formidable absolutely and others to a particular person: thus the things that the coward qua coward fears are some of them not formidable to anybody and others only slightly formidable, but things that are formidable to most men, and all that are formidable to human nature, we pronounce to be formidable absolutely. But the brave man is fearless in regard to them, and endures formidable things of this sort, which are formidable to him in one way but in another way are not — they are formidable to him qua human being, but qua brave not formidable except slightly, or not at all. Yet such things really are formidable, for they are formidable to most men. Owing to this the brave man's state of character is praised, because it resembles that of the strong and the healthy. These have those characters not because no labor in the one case or extreme of temperature in the other can crush them, but because they are not affected at all, or only affected slightly, by the things that affect the many or the majority. Therefore whereas the sickly and weak and cowardly are affected also by the afflictions commonly felt, only more quickly and to a greater extent than the mass of men, the healthy, strong and brave, although affected by the very great afflictions, are affected by them more slowly and less than the mass of men, and moreover they are entirely unaffected or only slightly affected by things that affect the mass.

But the question is raised whether to the brave man nothing is formidable, and whether he would be insensible to fear. [1229a] Or is it not possible that he may feel fear in the way described? For courage is following reason, and reason bids us choose what is fine. Hence he who endures formidable things not on account of reason is either out of his mind or daring, but only he who does so from motives of honor is fearless and brave. The coward, therefore, fears even things that he ought not to fear, and the daring man is bold even about things about which he ought not to be bold, but the brave man alone does both as he ought, and is intermediate in this respect, for he feels both confidence and fear about what ever things reason bids; but reason does not bid him endure things that are extremely painful and destructive, unless they are fine. The daring man, therefore, faces such things with confidence even if reason does not bid him face them, and the coward does not face them even if it does, but only the brave man faces them if reason bids.

There are five kinds of courage so called by analogy, because brave men of these kinds endure the same things as the really courageous but not for the same reasons. One is civic courage; this is courage due to a sense of shame. Second is military courage; this is due to experience and to knowledge, not of what is formidable, as Socrates said, but of ways of encountering what is formidable. Third is the courage due to inexperience and ignorance, that makes children and madmen face things rushing on them, or grasp snakes. Another is the courage caused by hope, which often makes those who have had a stroke of luck endure dangers, and those who are intoxicated — for wine makes men sanguine. Another is due to some irrational emotion, for example love or passion. For if a man is in love he is more daring than cowardly, and endures many dangers, like the man who murdered the tyrant at Metapontium and the person in Crete in the story; and similarly if a man is under the influence of anger and passion, for passion is a thing that makes him beside himself. Hence wild boars are thought to be brave, though they are not really, for they are so when they are beside themselves, but otherwise they are variable, like daring men. But nevertheless the courage of passion is in the highest degree natural; passion is a thing that does not know defeat, owing to which the young are the best fighters. Civic courage is due to law. But none of these is truly courage, though they are all useful for encouragement in dangers.

Up to this point we have spoken about things formidable in general terms, but it will be better to define them more precisely. As a general term the formidable denotes what causes fear, and that is of a property of things that appear capable of causing pain of a destructive kind: for persons expecting some other pain might perhaps experience a different sort of pain and a different feeling, but will not have fear — for example if a man foresaw that he was going to feel the pain felt by the jealous, or the sort of pain felt by the envious or by those who are ashamed. But fear only occurs in the case of pains that seem likely to be of the kind whose nature it is to destroy life. [1229b] Hence some people who are even very soft about certain things are brave, and some who are hard and enduring are also cowardly. Moreover it is thought to be almost a special property of courage to be of a certain disposition in regard to death and the pain of death; for if a man were such as to be capable of rational endurance in respect of heat and cold and pains of that sort that are not dangerous, but at the same time soft and excessively timid about death, not because of any other feeling but just because it brings destruction, while another man was soft in regard to those pains but impassive as regards death, the former would be thought a coward and the latter brave. For we speak of danger only in the case of such formidable things as bring near to us what causes destruction of that sort, and when this appears near it appears to be danger.

The formidable things, therefore, in relation to which we speak of a man as brave are, we have said, those that appear likely to cause pain of the destructive kind — provided that these appear close at hand and not far off, and are or appear to be of a magnitude proportionate to a human being; for some things must necessarily appear fearful to every human being and throw everybody into alarm, since it is quite possible that, just as heat and cold and some of the other forces are above us and above the conditions of the human body, so also are some mental sufferings.

Therefore whereas the cowardly and the daring are mistaken owing to their characters, since the coward thinks things not formidable formidable and things slightly formidable extremely formidable, and the daring man on the contrary thinks formidable things perfectly safe and extremely formidable things only slightly formidable, to the brave man on the other hand things seem exactly what they are. Hence a man is not brave if he endures formidable things through ignorance (for instance, if owing to madness he were to endure a flight of thunderbolts), nor if he does so owing to passion when knowing the greatness of the danger, as the Celts ‘take arms and march against the waves’; and in general, the courage of barbarians has an element of passion. And some men endure terrors for the sake of other pleasures also — for even passion contains pleasure of a sort, since it is combined with hope of revenge. But nevertheless neither if a man endures death for the sake of this pleasure nor for another, nor for the sake of avoiding greater pains, would any of these persons justly be termed brave. For if dying were pleasant, profligates would be dying constantly, owing to lack of self-control, just as even as it is, when, although death itself is not pleasant, things that cause it are, many men through lack of self control knowingly encounter it; none of whom would be thought brave, even though he were thought to die quite readily. Nor yet are any of those brave who, as many men do, commit suicide to escape from trouble, as Agathon says: [1230a]

“

The base among mankind, by toil o’ercome,
Conceive a love of death.
“

Agathon Fr. 7

As also Cheiron, in the legendary story of the poets, because of the pain from his wound prayed that though immortal he might die. And in like manner to these, all who face dangers because of experience are not brave; this is how perhaps most of the military class face dangers. For the fact is the exact opposite of the view of Socrates, who thought that bravery was knowledge: sailors who know how to go aloft are not daring through knowing what things are formidable, but because they know how to protect themselves against the dangers; also courage is not merely what makes men more daring fighters, for in that case strength and wealth would be courage — as Theognis puts it:

“

For every man by poverty subdued.
“

Theog. 177

But manifestly some men do face emergencies in spite of being cowards, owing to experience, and they do so because they do not think that there is any danger, as they know how to protect themselves. A proof of this is that when they think that they have no protection and that the cause of alarm is now close at hand, they turn tail. But among all such causes, it is when shame makes men face what is alarming that they would appear to be bravest, as Homer says Hector faced the danger of encountering Achilles: “ And shame on Hector seized —

“ Source unknown   and

“ Polydamas will be the first to taunt me.

“

Hom. Il. 22.100

Civic courage is this kind. But true courage is neither this nor any of the others, though it resembles them, as does the courage of wild animals, which are led by passion to rush to meet the blow. For it is not from fear that he will incur disgrace that a man ought to stand his ground, nor from motives of anger, nor because he does not think that he will be killed or because he has forces to protect him, for in that case he will not think that there is really anything to be afraid of. But, since indeed all goodness involves purposive choice (it has been said before what we mean by this — goodness makes a man choose everything for the sake of some object, and that object is what is fine), it is clear that courage being a form of goodness will make a man face formidable things for some object, so that he does not do it through ignorance (for it rather makes him judge correctly), nor yet for pleasure, but because it is fine, since in a case where it is not fine but insane he will not face them, for then it would be base to do so.

We have now given an account that is fairly adequate for our present procedure of the kind of things in relation to which Courage is a middle state, and between what vices and for what reason it is this, and what is the power that formidable things exercise.

We must next attempt to decide about Temperance and Profligacy. The term ‘profligate’ (unchaste) has a variety of meanings. It means the man who has not been (as it were) ‘chastised’ or cured, just as ‘undivided’ means one that has not been divided; and these terms include both one capable of the process and one not capable of it: [1230b] ‘undivided’ means both that which cannot be divided and that which though it can be has not been; and similarly with ‘unchaste’ — it denotes both that which is by nature incapable of chastening and that which, though capable, has not actually been chastened in respect of the errors as regards which the temperate man acts rightly, as is the case with children; for of them it is in this sense that the term ‘unchaste’ is used, whereas another use of it again refers to persons hard to cure or entirely incurable by chastisement. But though ‘profligacy’ has more than one sense, it is clear that the profligate are concerned with certain pleasures and pains and that they differ from one another and from the other vicious characters in being disposed in a certain manner towards these; and we described previously the way in which we apply the term ‘profligacy’ by analogy. Persons on the other hand who owing to insensitiveness are uninfluenced by these pleasures are called by some people ‘insensitive’ and by others are designated by other names of the same sort; but the state is not a very familiar one nor of common occurrence, because all men err more in the other direction, and susceptibility and sensitiveness to pleasures of this sort are natural to everybody. It specially attaches to persons like the boors who are a stock character in comedy — people who steer clear of pleasures even in moderate and necessary indulgences.

And since the temperate character is shown in connection with pleasures, it follows that it is also related to certain desires. We must, therefore, ascertain what these are. For the temperate man is not temperate about all pleasures nor about everything pleasant, but apparently about the objects of two of the senses, taste and touch, and in reality about the objects of touch. For the temperate man is not concerned with the pleasure of beautiful things (apart from sexual desire) or pain caused by ugly things, the medium of which is sight, nor with the pleasure of harmonious sounds or pain of discords conveyed through the medium of hearing, nor yet with the pleasures and pains of smell, derived from good and bad scents; for neither is anyone termed profligate because of being sensitive or not sensitive to sensations of that sort — for example, a man would not be considered profligate if when looking at a beautiful statue or horse or person, or listening to someone singing, he did not wish for food or drink or sexual indulgence but only wished to look at the beautiful objects or listen to the music, — any more than the persons held spell-bound in the abode of the Sirens. Temperance and profligacy have to do with those two sorts of sensory objects in relation to which alone the lower animals also happen to be sensitive and to feel pleasure and pain — the objects of taste and of touch, whereas about virtually all the pleasures of the other senses alike animals are clearly so constituted as to be insensitive — [1231a] e.g. harmonious sound, or beauty; for clearly they are not affected in any degree worth speaking of by the mere sight of beautiful objects or by listening to musical sounds, except possibly in the case of some miraculous occurrences. Nor yet are they sensitive to good or bad smells, although it is true that all their senses are keener than man's; but even the smells they enjoy are those that have agreeable associations, and are not intrinsically agreeable. By smells not intrinsically agreeable I mean those that we enjoy because of either anticipation or recollection, for example the smell of things to eat or drink, for we enjoy these scents on account of a different pleasure, that of eating or drinking; by intrinsically agreeable I mean scents such as those of flowers (this is the reason of Stratonicus's neat remark that the scent of flowers is beautiful but that of things to eat and drink sweet). For even the pleasures of taste are not all attractive to animals, nor are those perceived with the tip of the tongue, but those perceived by the throat, the sensation of which seems more like touch than taste; so that gourmands do not pray that they may have a long tongue but a crane's gullet, like Philoxenus son of Eryxis. It follows that broadly speaking profligacy must be considered to be related to the objects of touch, and likewise it is with pleasures of that sort that the profligate is concerned; for tippling and gluttony and lechery and gormandizing and the like all have to do with the sensations specified, and these are the departments into which profligacy is divided. But nobody is called profligate if he exceeds in regard to the pleasures of sight or hearing or smell; those errors we criticize without severe rebuke, and generally all the things included under the term 'lack of self-control': the uncontrolled are not profligate, yet they are not temperate.

Therefore the person of such a character as to be deficient in all the enjoyments which practically everybody must share and must enjoy, is insensitive (or whatever the proper term is), and he that exceeds in them is profligate. For all people by nature enjoy these things, and conceive desires for them, without being or being called profligate, for they do not exceed by feeling more joy than they ought when they get them nor more pain than they ought when they do not get them; nor yet are they unfeeling, for they do not fall short in feeling joy or pain, but rather exceed.

And since there are excess and deficiency in regard to these things, it is clear that there is also a middle state, and that this state of character is the best one, and is the opposite of both the others. Hence if temperance is the best state of character in relation to the things with which the profligate is concerned, the middle state in regard to the pleasant objects of sense mentioned will be Temperance, being a middle state between profligacy and insensitiveness: the excess will be Profligacy, [1231b] and the deficiency will either be nameless or will be denoted by the terms mentioned. We shall have to define the class of pleasures concerned more exactly in our discussion of Self-control and Lack of Control later on.

And also the nature of Gentleness and Harshness must be ascertained in the same way. For we see that the term ‘gentle’ is concerned with the pain that arises from passion — a man is gentle by being disposed in a certain way towards that pain. And in our diagram we opposed to the irascible and harsh and fierce man (for all such traits belong to the same disposition) the slavish and spiritless man; for these are perhaps the most usual words to denote those whose passion is not aroused even at all the things at which it ought to be, but who undergo insulting treatment readily and meet slights with humility; since as opposed to feeling the pain that we call passion quickly, extremely or for a long time there is feeling it slowly, slightly, or for a short time. And since, as we said in the other cases, so here also there is excess and deficiency (for the harsh man is the sort of man that feels this emotion too quickly, too long, at the wrong time, with the wrong kind of people, and with many people, while the slavish man is the opposite), it is clear that there is also some body who is at the middle point in the inequality. Since, therefore, both those states of character are wrong, it is clear that the state midway between them is right, for it is neither too hasty nor too slow-tempered, nor does it get angry with the people with whom it ought not nor fail to get angry with those with whom it ought. So that since the best state of character in regard to those feelings is gentleness, Gentleness also would be a middle state, and the gentle man would be midway between the harsh man and the slavish man.

Greatness of Spirit and Magnificence and Liberality are also middle states. Liberality is the mean in regard to the acquisition and expenditure of wealth. The man who is more pleased than he ought to be by all acquisition and more pained than he ought to be by all expenditure is mean, he that feels both feelings less than he ought is prodigal, and he that feels both as he ought is liberal (what I mean by ‘as he ought,’ both in this and in the other cases, is ‘as right principle directs’). And since the two former characters consist in excess and deficiency, and where there are extremes there is also a mean, and that mean is best, there being a single best for each kind of action, a single thing, it necessarily follows that liberality is a middle state between prodigality and meanness as regards getting and parting with wealth. But the terms ‘wealth’ and ‘art of wealth’ we use in two senses, since one way of using an article of property, [1232a] for example a shoe or a cloak, is proper to the article itself, another is accidental, though not as using a shoe for a weight would be an accidental use of it, but for example selling it or letting it on hire, for these uses do employ it as a shoe. The covetous man is the party whose interest centers on money, and money is a thing of ownership instead of accidental use. But the mean man might be even prodigal in regard to the accidental mode of getting wealth, inasmuch as it is in the natural acquisition of wealth that he pursues increase. The prodigal man lacks necessities, but the liberal man gives his superfluity. And of these classes themselves there are species designated as exceeding or deficient in respect of parts of the matter concerned: for example, the stingy man, the skinflint and the profiteer are mean — the stingy in not parting with money, the profiteer in accepting anything, the skinflint is he who is very excited about small sums; also the man who offends by way of meanness is a false reckoner and a cheat. Similarly ‘prodigal’ includes the spendthrift who is prodigal in unregulated spending and the reckless man who is prodigal in not being able to endure the pain of calculation.

On the subject of Greatness of Spirit we must define its characteristic from the attributes of the great-spirited man. For just as in the other cases of things that, owing to their affinity and similarity up to a point, are not noticed to differ when they advance further, the same has happened about greatness of spirit. Hence sometimes the opposite characters claim the same quality, for instance the extravagant man claims to be the same as the liberal, the self-willed as the proud, the daring as the brave; for they are concerned with the same things, and also are neighbors up to a point, as the brave man can endure dangers and so can the daring man, but the former in one way and the latter in another, and that makes a very great difference. And we use the term ‘great-spirited’ according to the designation of the word, as consisting in a certain greatness or power of spirit. So that the great-spirited man seems to resemble both the proud man and the magnificent, because greatness of spirit seems to go with all the virtues also. For it is praiseworthy to judge great and small goods rightly; and those goods seem great which a man pursues who possesses the best state of character in relation to such pleasures, and greatness of spirit is the best. And the virtue concerned with each thing judges rightly the greater and the smaller good, just as the wise man and virtue would bid, so that all the virtues go with it, or it goes with all the virtues.

Again, it is thought characteristic of the great-spirited man to be disdainful. Each virtue makes men disdainful of things irrationally deemed great: [1232b] for example, courage makes a man disdainful of dangers, for he thinks that to consider danger a great matter is a disgraceful thing, and that numbers are not always formidable; and the sober-minded man disdains great and numerous pleasures, and the liberal man wealth. But the reason why this is thought characteristic of the great-spirited man is because of his caring about few things and those great ones, and not about whatever somebody else thinks. And a great-spirited man would consider more what one virtuous man thinks than what many ordinary people think, as Antiphon after his condemnation said to Agathon when he praised his speech for his defence. And a feeling thought to be specially characteristic of the great-spirited man is disdain. On the other hand, as to the accepted objects of human interest, honor, life, wealth, he is thought to care nothing about any of them except honor; it would grieve him to be dishonored and ruled by someone unworthy, and his greatest joy is to obtain honor.

Thus he might therefore be thought inconsistent, on the ground that to be specially concerned about honor and to be disdainful of the multitude and of reputation do not go together. But in saying this we must distinguish. Honor is small or great in two ways: it differs in being conferred either by many ordinary people or by persons of consideration, and again it differs in what it is conferred for, since its greatness does not depend only on the number or the quality of those who confer it, but also on its being honorable; and in reality those offices and other good things are honorable and worthy of serious pursuit that are truly great, so that there is no goodness without greatness; owing to which each of the virtues seems to make men great-spirited in regard to the things with which that virtue is concerned, as we said. But nevertheless there is a single virtue of greatness of spirit side by side with the other virtues, so that the possessor of this virtue must be termed great-spirited in a special sense. And since there are certain goods which are in some cases honorable and in others not, according to the distinction made before, and of goods of this sort some are truly great and others small, and some men deserve and claim the former, it is among these men that the great-spirited man must be looked for. And there are necessarily four varieties of claim: it is possible to deserve great things and to claim them as one's desert; and there are small things and a man may deserve and claim things of that size; and as regards each of these two classes of things the reverse is possible — one man may be of such a character that although deserving small things he claims great ones — the goods held in high honor, and another man though deserving great things may claim small ones. Now the man worthy of small things but claiming great ones is blameworthy, for it is foolish and not fine to obtain what does not correspond to one's deserts. And he also is blameworthy who though worthy of such things does not deem himself worthy to partake of them although they are available for him. [1233a] But there is left here the man who is the opposite of both of these, who being worthy of great things claims them as his desert, and is of such a character as to deem himself worthy: he is praiseworthy, and he is in the middle between the two. Since, therefore, greatness of spirit is the best disposition in relation to the choice and the employment of honor and of the other good things that are esteemed, and not in relation to useful things, and since we assign this to the great-spirited man, and since also at the same time the middle state is most praiseworthy, it is clear that even greatness of spirit must be a middle state. And of the opposites as shown in our diagram, the one in the direction of deeming oneself worthy of great goods when one is not worthy is vanity (for the sort of men that fancy themselves worthy of great things though they are not we call vain), and the one that is concerned with not deeming oneself worthy of great things when one is worthy of them is smallness of spirit (for if a man does not think himself worthy of anything great although he possesses qualities which would justly make him considered worthy of it, he is thought small-spirited); so that it follows that greatness of spirit is a middle state between vanity and smallness of spirit. But the fourth of the persons in our classification is neither entirely reprehensible nor is he great spirited, as he is concerned with nothing possessing greatness, for he neither is nor thinks himself worthy of great things; owing to which he is not the opposite of the man of great spirit. Yet thinking oneself worthy of small things when one is worthy of small things might be thought the opposite of thinking oneself worthy of great ones when one is worthy of great ones; but he is not opposite to the great-spirited man because he is not blameworthy either, for his character is as reason bids, and in nature he is the same as the great-spirited man, for both claim as their desert the things that they are worthy of. And he might become great-spirited, for he will claim the things that he is worthy of; whereas the small-spirited man, who when great goods corresponding to his worth are available does not think himself worthy of them — what would he have done if his deserts were small? For either he would have conceitedly thought himself worthy of great things, or of still less. Hence nobody would call a man small-spirited for not claiming to hold office and submitting to authority if he is a resident alien, but one would do so if he were of noble birth and attached great importance to office.

The Magnificent Man also (except in a case when we are using the term metaphorically) is not concerned with any and every action and purposive choice, but with expenditure. Without expenditure there is no magnificence, for it is what is appropriate in ornament, and ornament does not result from any chance expenditure, but consists in going beyond the merely necessary. Therefore the magnificent man is the man who purposively chooses the appropriate greatness in great expenditure, and who even on the occasion of a pleasure of this nature aims at this sort of moderation. There is no name denoting the man who likes spending to excess and inappropriately; however the persons whom some people call tasteless and swaggering have a certain affinity to him. [1233b] For instance if a rich man spending money on the wedding of a favorite thinks it fitting for him to have the sort of arrangements that would be fitting when entertaining abstainers, he is shabby, while one who entertains guests of that sort after the manner of a wedding feast, if he does not do it for the sake of reputation or to gain an office, resembles the swaggerer; but he that entertains suitably and as reason directs is magnificent, for the fitting is the suitable, as nothing is fitting that is unsuitable. But it must be fitting in each particular, that is, in suitability to the agent and to the recipient and to the occasion — for example, what is fitting at the wedding of a servant is not what is fitting at that of a favorite; and it is fitting for the agent himself, if it is of an amount or quality suitable to him — for example people thought that the mission that Themistocles conducted to Olympia was not fitting for him, because of his former low station, but would have been for Cimon. But he who is casual in regard to the question of suitability is not in any of these classes.

Similarly in regard to liberality: a man may be neither liberal nor illiberal.

Generally speaking the other praiseworthy and blameworthy states of character also are excesses or deficiencies or middle states, but in respect of an emotion: for instance, the envious man and the malicious. For — to take the states of character after which they are named — Envy means being pained at people who are deservedly prosperous, while the emotion of the malicious man is itself nameless, but the possessor of it is shown by his feeling joy at undeserved adversities; and midway between them is the righteously indignant man, and what the ancients called Righteous Indignation — feeling pain at undeserved adversities and prosperities and pleasure at those that are deserved; hence the idea that Nemesis is a deity.

Modesty is a middle state between Shamelessness and Bashfulness: the man who pays regard to nobody's opinion is shameless, he who regards everybody's is bashful, he who regards the opinion of those who appear good is modest.

Friendliness is a middle state between Animosity and Flattery; the man who accommodates himself readily to his associates' desires in everything is a flatterer, he who runs counter to them all shows animosity, he who neither falls in with nor resists every pleasure, but falls in with what seems to be the best, is friendly.

Dignity is a middle state between Self-will and Obsequiousness. A man who in his conduct pays no regard at all to another but is contemptuous is self-willed; he who regards another in everything and is inferior to everybody is obsequious; he who regards another in some things but not in others, and is regardful of persons worthy of regard, is dignified.

The truthful and sincere man, called 'downright,' is midway between the dissembler and the charlatan. He that wittingly makes a false statement against himself that is depreciatory is a dissembler, [1234a] he that exaggerates his merits is a charlatan, he that speaks of himself as he is is truthful and in Homer's phrase 'sagacious'; and in general the one is a lover of truth and the others lovers of falsehood.Wittiness also is a middle state, and the witty man is midway between the boorish or stiff man and the buffoon. For just as in the matter of food the squeamish man differs from the omnivorous in that the former takes nothing or little, and that reluctantly, and the latter accepts everything readily, so the boor stands in relation to the vulgar man or buffoon — the former takes no joke except with difficulty, the latter accepts everything easily and with pleasure. Neither course is right: one should allow some things and not others, and on principle, — that constitutes the witty man. The proof of the formula is the same as in the other cases: wittiness of this kind (not the quality to which we apply the term in a transferred sense) is a very becoming sort of character, and also a middle state is praiseworthy, whereas extremes are blameworthy. But as there are two kinds of wit (one consisting in liking a joke, even one that tells against oneself if it is funny, for instance a jeer, the other in the ability to produce things of this sort), these kinds of wit differ from one another, but both are middle states; for a man who can produce jokes of a sort that will give pleasure to a person of good judgement even though the laugh is against himself will be midway between the vulgar man and the frigid. This is a better definition than that the thing said must not be painful to the victim whatever sort of man he may be — rather, it must give pleasure to the man in the middle position, since his judgement is good.

All these middle states, though praiseworthy, are not virtues, nor are the opposite states vices, for they do not involve purposive choice; they are all in the classification of the emotions, for each of them is an emotion. But because they are natural they contribute to the natural virtues; for, as will be said in what follows, each virtue exists both naturally and otherwise, that is, in conjunction with thought. Therefore envy contributes to injustice (for the actions that spring from it affect another person), and righteous indignation to justice, and modesty to temperance (owing to which people even define temperance as a species of emotion), and the sincere and false are respectively wise and foolish.

And the mean is more opposed to the extremes than the extremes are to one another, [1234b] because the mean does not occur in combination with either extreme, whereas the extremes often do occur in combination with one another, and sometimes the same men are venturesome cowards, or extravagant in some things and illiberal in others, and in general not uniform in a bad way — for when men lack uniformity in a good way, this results in men of the middle characters, since the mean contains both extremes.

The opposition existing between the mean and the extremes does not seem to be the same in the case of both the extremes, but sometimes the greater opposition is by way of excess, sometimes by way of deficiency. The causes of this are partly the two first mentioned, rarity (for example, the rarity of people insensitive to pleasant things) and the fact that the error to which we are more prone seems more opposite to the mean, and thirdly the fact that the extreme that more resembles the mean seems less opposite to it, as is the case with daring in relation to boldness and extravagance in relation to liberality. We have therefore sufficiently discussed the other praiseworthy virtues, and must now speak about Justice.

BOOK VII

Friendship — its nature and qualities, what constitutes a friend, and whether the term friendship has one or several meanings, and if several, how many, and also what is our duty towards a friend and what are the just claims of friendship — is a matter that calls for investigation no less than any of the things that are fine and desirable in men's characters. For to promote friendship is thought to be the special task of political science; and people say that it is on this account that goodness is a valuable thing, for persons wrongfully treated by one another cannot be each other's friends. Furthermore we all say that justice and injustice are chiefly displayed towards friends; it is thought that a good man is a friendly man, and that friendship is a state of the moral character; and if one wishes to make men not act unjustly, it is enough to make them friends, for true friends do not wrong one another. But neither will men act unjustly if they are just; therefore justice and friendship are either the same or nearly the same thing.

In addition to this, we consider a friend to be one of the greatest goods, and friendlessness and solitude a very terrible thing, because the whole of life and voluntary association is with friends; [1235a] for we pass our days with our family or relations or comrades, children, parents or wife. And our private rights in relation to our friends depend only on ourselves, whereas our rights in relation to the rest of men are established by law and do not depend on us.

Many questions are raised about friendship — first, on the line of those who take in wider considerations and extend the term. For some hold that like is friend to like, whence the sayings:

“ Mark how God ever brings like men together
“

Hom. Od. 17.218

;

“ For jackdaw by the side of jackdaw . . .
“

; “And thief knows thief and wolf his fellow wolf.”

And the natural philosophers even arrange the whole of nature in a system by assuming as a first principle that like goes to like, owing to which Empedocles said that the dog sits on the tiling because it is most like him.

Some people then give this account of a friend; but others say that opposite is dear to opposite, since it is what is loved and desired that is dear to everybody, and the dry does not desire the dry but the wet (whence the sayings—”Earth loveth rain,” and “In all things change is sweet—” change being transition to the opposite), whereas like hates like, for “Potter against potter has a grudge,” and animals that live on the same food are hostile to one another. These opinions, therefore, are thus widely variant. One party thinks that the like is friend and the opposite foe —

“ The less is rooted enemy to the more
For ever, and begins the day of hate,
“

Eur. Phoen. 539f.

and moreover adversaries are separated in locality, whereas friendship seems to bring men together. The other party say that opposites are friends, and Heracleitus rebukes the poet who wrote —

“ Would strife might perish out of heaven and earth,
“

Hom. Il. 18.107

for, he says, there would be no harmony without high and low notes, and no animals without male and female, which are opposites.

These, then, are two opinions about friendship, and being so widely separated they are too general; but there are others that are closer together and more akin to the facts of observation. Some persons think that it is not possible for bad men to be friends, but only for the good. Others think it strange that mothers should not love their own children (and maternal affection we see existing even among animals — at least, animals choose to die for their young). Others hold that only what is useful is a friend, the proof being that all men actually do pursue the useful, and discard what is useless even in their own persons (as the old Socrates used to say, instancing spittle, hair and nails), and that we throw away even parts of the body that are of no use, and finally the body itself, [1235b] when it dies, as a corpse is useless — but people that have a use for it keep it, as in Egypt. Now all these factors seem to be somewhat opposed to one another. For like is of no use to like and opposition is farthest removed from likeness, and at the same time opposite is most useless to opposite, since opposite is destructive of opposite. Moreover some think that to gain a friend is easy, but others that it is the rarest thing to recognize a friend, and not possible without misfortune, as everybody wants to be thought a friend of the prosperous; and others maintain that we must not trust even those who stay with us in our misfortunes, because they are deceiving us and pretending, in order that by associating with us when unfortunate they may gain our friendship when we are again prosperous.

Accordingly a line of argument must be taken that will best explain to us the views held on these matters and at the same time solve the difficulties and contradictions. And this will be secured if the contradictory views are shown to be held with some reason. For such a line of argument will be most in agreement with the observed facts: and in the upshot, if what is said is true in one sense but not true in another, both the contradictory views stand good.

There is also a question as to whether what is dear to us is the pleasant or the good. If we hold dear what we desire (and that is specially characteristic of love, for “None is a lover that holds not dear for aye”), and desire is for what is pleasant, on this showing it is the pleasant that is dear; whereas if we hold dear what we wish, it is the good; but the pleasant and the good are different things.

We must therefore attempt to decide about these matters and others akin to them, taking as a starting point the following. The thing desired and wished is either the good or the apparent good. Therefore also the pleasant is desired, for it is an apparent good, since some people think it good, and to others it appears good even though they do not think it so (as appearance and opinion are not in the same part of the spirit). Yet it is clear that both the good and the pleasant are dear.

This being decided, we must make another assumption. Things good are some of them absolutely good, others good for someone but not good absolutely; and the same things are absolutely good and absolutely pleasant. For things advantageous for a healthy body we pronounce good for the body absolutely, but things good for a sick body not — for example doses of medicine and surgical operations; and likewise also the things pleasant for a healthy and perfect body are pleasant for the body absolutely, for example to live in the light and not in the dark, although the reverse is the case for a man with ophthalmia. And the pleasanter wine is not the wine pleasant to a man whose palate has been corrupted by tippling, since sometimes they pour in a dash of vinegar, but to the uncorrupted taste. [1236a] And similarly also in the case of the spirit, the really pleasant things are not those pleasant to children and animals, but those pleasant to the adult; at least it is these that we prefer when we remember both. And as a child or animal stands to an adult human being, so the bad and foolish man stands to the good and wise man; and these take pleasure in things that correspond to their characters, and these are things good and fine.

Since therefore good is a term of more than one meaning (for we call one thing good because that is its essential nature, but another because it is serviceable and useful), and furthermore pleasant includes both what is absolutely pleasant and absolutely good and what is pleasant for somebody and apparently good — , as in the case of inanimate objects we may choose a thing and love it for each of these reasons, so also in the case of a human being, one man we love because of his character, and for goodness, another because he is serviceable and useful, another because he is pleasant, and for pleasure. And a man becomes a friend when while receiving affection he returns it, and when he and the other are in some way aware of this.

It follows, therefore, that there are three sorts of friendship, and that they are not all so termed in respect of one thing or as species of one genus, nor yet have they the same name entirely by accident. For all these uses of the term are related to one particular sort of friendship which is primary, like the term ‘surgical’ — and we speak of a surgical mind and a surgical hand and a surgical instrument and a surgical operation, but we apply the term properly to that which is primarily so called. The primary is that of which the definition is implicit in the definition of all, for example a surgical instrument is an instrument that a surgeon would use, whereas the definition of the instrument is not implicit in that of surgeon. Therefore in every case people seek the primary, and because the universal is primary they assume that also the primary is universal; but this is untrue. Hence in the case of friendship, they cannot take account of all the observed facts. For as one definition does not fit, they think that the other kinds of friendship are not friendships at all; but really they are, although not in the same way, but when they find that the primary friendship does not fit, assuming that it would be universal if it really were primary, they say that the others are not friendships at all. But in reality there are many kinds of friendships: this was among the things said already, as we have distinguished three senses of the term friendship — one sort has been defined as based on goodness, another on utility, another on pleasure.

Of these the one based on utility is assuredly the friendship of most people; for they love one another because they are useful, and in so far as they are and so, as says the proverb—”Glaucus, an ally is a friend, as long as he our battle fights, and

“ Athens no longer knows Megara.
“

Fr. Eleg. Adespota 6 (Bergk)

On the other hand friendship based on pleasure is the friendship of the young, for they have a sense of what is pleasant; hence young people’s friendship easily changes, for since their characters change as they grow up, their taste in pleasure also changes. But the friendship in conformity with goodness is the friendship of the best men. [1236b]

It is clear from this that the primary friendship, that of the good, is mutual reciprocity of affection and purpose. For the object of affection is dear to the giver of it, but also the giver of affection is himself dear to the object. This friendship, therefore, only occurs in man, for he alone perceives purpose; but the other forms occur also in the lower animals. Indeed mutual utility manifestly exists to some small extent between the domestic animals and man, and between animals themselves, for instance Herodotus’s account of the friendship between the crocodile and the sandpiper, and the perching together and separating of birds of which soothsayers speak. The bad may be each other’s friends from motives both of utility and of pleasure; though some say that they are not really friends, because the primary kind of friendship does not belong to them, since obviously a bad man will injure a bad man, and those who suffer injury from one another do not feel affection for one another. But as a matter of fact bad men do feel affection for one another, though not according to the primary form of friendship — because clearly nothing hinders their being friends under the other forms, since for the sake of pleasure they put up with one another although they are being harmed, so long as they are lacking in self-restraint. The view is also held, when people look into the matter closely, that those who feel affection for each other on account of pleasure are not friends, because it is not the primary friendship, since that is reliable but this is unreliable. But as a matter of fact it is friendship, as has been said, though not that sort of friendship but one derived from it. Therefore to confine the use of the term friend to that form of friendship alone is to do violence to observed facts, and compels one to talk paradoxes; though it is not possible to bring all friendship under one definition. The only remaining alternative, therefore, is, that in a sense the primary sort of friendship alone is friendship, but in a sense all sorts are, not as having a common name by accident and standing in a merely chance relationship to one another, nor yet as falling under one species, but rather as related to one thing.

And since the same thing is absolutely good and absolutely pleasant at the same time if nothing interferes, and the true friend and friend absolutely is the primary friend, and such is a friend chosen in and for himself (and he must necessarily be such, for he for whom one wishes good for his own sake must necessarily be desirable for his own sake), a true friend is also absolutely pleasant; owing to which it is thought that a friend of any sort is pleasant. But we must define this still further, for it is debatable whether what is good merely for oneself is dear or what is absolutely good, and whether the actual exercise of affection is accompanied by pleasure, so that an object of affection is also pleasant, or not. Both questions must be brought to the same issue; for things not absolutely good but possibly evil are to be avoided, and also a thing not good for oneself is no concern of oneself, but what is sought for is that things absolutely good shall be good for oneself. For the absolutely good is absolutely desirable, but what is good for oneself is desirable for oneself; [1237a] and the two ought to come into agreement. This is effected by goodness; and the purpose of political science is to bring it about in cases where it does not yet exist. And one who is a human being is well adapted to this and on the way to it (for by nature things that are absolutely good are good to him), and similarly a man rather than a woman and a gifted man rather than a dull one; but the road is through pleasure — it is necessary that fine things shall be pleasant. When there is discord between them, a man is not yet perfectly good; for it is possible for unrestraint to be engendered in him, as unrestraint is caused by discord between the good and the pleasant in the emotions.

Therefore since the primary sort of friendship is in accordance with goodness, friends of this sort will be absolutely good in themselves also, and this not because of being useful, but in another manner. For good for a given person and good absolutely are twofold; and the same is the case with states of character as with profitableness — what is profitable absolutely and what is profitable for given persons are different things (just as taking exercise is a different thing from taking drugs). So the state of character called human goodness is of two kinds — for let us assume that man is one of the things that are excellent by nature: consequently the goodness of a thing excellent by nature is good absolutely, but that of a thing not excellent by nature is only good for that thing.

The case of the pleasant also, therefore, is similar. For here we must pause and consider whether there is any friendship without pleasure, and how such a friendship differs from other friendship, and on which exactly of the two things the affection depends — do we love a man because he is good even if he is not pleasant, but not because he is pleasant? Then, affection having two meanings, does actual affection seem to involve pleasure because activity is good? It is clear that as in science recent studies and acquirements are most fully apprehended, because of their pleasantness, so with the recognition of familiar things, and the principle is the same in both cases. By nature at all events the absolutely good is absolutely pleasant, and the relatively good is pleasant to those for whom it is good. Hence ipso facto like takes pleasure in like, and man is the thing most pleasant to man; so that as this is so even with imperfect things, it is clearly so with things when perfected, and a good man is a perfect man. And if active affection is the reciprocal choice, accompanied by pleasure, of one another's acquaintance, it is clear that friendship of the primary kind is in general the reciprocal choice of things absolutely good and pleasant because they are good and pleasant; and friendship itself is a state from which such choice arises. For its function is an activity, but this not external but within the lover himself; whereas the function of every faculty is external, for it is either in another or in oneself qua other. Hence to love is to feel pleasure but to be loved is not; for being loved is not an activity of the thing loved, whereas loving is an activity — the activity of friendship; and loving occurs only in an animate thing, whereas being loved occurs with an inanimate thing also, for even inanimate things are loved. And since to love actively is to treat the loved object qua loved, [1237b] and the friend is an object of love to the friend qua dear to him but not qua musician or medical man, the pleasure of friendship is the pleasure derived from the person himself qua himself; for the friend loves him as himself, not because he is something else. Consequently if he does not take pleasure in him qua good, it is not the primary friendship. Nor ought any accidental quality to cause more hindrance than the friend's goodness causes delight; for surely, if a person is very evil-smelling, people cut him — he must be content with our goodwill, he must not expect our society!

This then is the primary friendship, which all people recognize. It is on account of it that the other sorts are considered to be friendship, and also that their claim is disputed — for friendship seems to be some thing stable, and only this friendship is stable; for a formed judgement is stable, and not doing things quickly or easily makes the judgement right. And there is no stable friendship without confidence, and confidence only comes with time; for it is necessary to make trial, as Theognis says:

“ You cannot know the mind of man nor woman
Before have you tried them as you try cattle.
“

Theog. 125f.

Those who become friends without the test of time are not real friends but only wish to be friends; and such a character very readily passes for friendship, because when eager to be friends they think that by rendering each other all friendly services they do not merely wish to be friends but actually are friends. But as a matter of fact it happens in friendship as in everything else; people are not healthy merely if they wish to be healthy, so that even if people wish to be friends they are not actually friends already. A proof of this is that people who have come into this position without first testing one another are easily set at variance; for though men are not set at variance easily about things in which they have allowed each other to test them, in cases where they have not, whenever those who are attempting to set then, at variance produce evidence they may be convinced. At the same time it is manifest that this friendship does not occur between base people either; for the base and evil-natured man is distrustful towards everybody, because he measures other people by himself. Hence good men are more easily cheated, unless as a result of trial they are distrustful. But the base prefer the goods of nature to a friend, and none of them love people more than things; and so they are not friends, for the proverbial 'common property as between friends' is not realized in this way — the friend is made an appendage of the things, not the things of the friends.

Therefore the first kind of friendship does not occur between many men, because it is difficult to test many — one would have to go and live with each of them. Nor indeed should one exercise choice in the case of a friend in the same way as about a coat; although in all matters it seems the mark of a sensible man to choose the better of two things, and if he had been wearing his worse coat for a long time and had not yet worn his better one, the better one ought to be chosen — but you ought not in place of an old friend to choose one whom you do not know to be a better man. [1238a] For a friend is not to be had without trial and is not a matter of a single day, but time is needed; hence the peck of salt' has come to be proverbial. At the same time if a friend is really to be your friend he must be not only good absolutely but also good to you; for a man is good absolutely by being good, but he is a friend by being good to another, and he is both good absolutely and a friend when both these attributes harmonize together, so that what is good absolutely is also good for another person; or also he may be not good absolutely yet good to another because useful. But being a friend of many people at once is prevented even by the factor of affection, for it is not possible for affection to be active in relation to many at once.

These things, therefore, show the correctness of the saying that friendship is a thing to be relied on, just as happiness is a thing that is self-sufficing. And it has been rightly said: "Nature is permanent, but wealth is not—" although it would be much finer to say 'Friendship' than 'Nature.' And it is proverbial that time shows a friend, and also misfortunes more than good fortune. For then the truth of the saying ‘friends’ possessions are common property’ is clear for only friends, instead of the natural goods and natural evils on which good and bad fortune turn, choose a human being rather than the presence of the former and the absence of the latter; and misfortune shows those who are not friends really but only because of some casual utility. And both are shown by time; for even the useful friend is not shown quickly, but rather the pleasant one — except that one who is absolutely pleasant is also not quick to show himself. For men are like wines and foods; the sweetness of those is quickly evident, but when lasting longer it is unpleasant and not sweet, and similarly in the case of men. For absolute pleasantness is a thing to be defined by the End it effects and the time it lasts. And even the multitude would agree, not in consequence of results only, but in the same way as in the case of a drink they call it sweeter — for a drink fails to be pleasant not because of its result, but because its pleasantness is not continuous, although at first it quite takes one in.

The primary form of friendship therefore, and the one that causes the name to be given to the others, is friendship based on goodness and due to the pleasure of goodness, as has been said before. The other friendships occur even among children and animals and wicked people: whence the sayings —”Two of an age each other gladden” and “Pleasure welds the bad man to the bad.”

And also the bad may be pleasant to each other not as being bad or neutral, but if for instance both are musicians or one fond of music and the other a musician, and in the way in which all men have some good in them and so fit in with one another. Further they might be mutually useful and beneficial (not absolutely but for their purpose) not as being bad or neutral. [1238b] It is also possible for a bad man to be friends with a good man, for the bad man may be useful to the good man for his purpose at the time-and the good man to the uncontrolled man for his purpose at the time and to the bad man for the purpose natural to him; and he will wish his friend what is good — wish absolutely things absolutely good, and under a given condition things good for him, as poverty or disease may be beneficial: things good for him he will wish for the sake of the absolute goods, in the way in which he wishes his friend to drink medicine — he does not wish the action in itself but wishes it for the given purpose. Moreover a bad man may also be friends with a good one in the ways in which men not good may be friends with one another: he may be pleasant to him not as being bad but as sharing some common characteristic, for instance if he is musical. Again they may be friends in the way in which there is some good in everybody (owing to which some men are sociable even though good), or in the way in which they suit each particular person, for all men have something of good.

These then are three kinds of friendship; and in all of these the term friendship in a manner indicates equality, for even with those who are friends on the ground of goodness the friendship is in a manner based on equality of goodness.

But another variety of these kinds is friendship on a basis of superiority, as in that of a god for a man, for that is a different kind of friendship, and generally of a ruler and subject; just as the principle of justice between them is also different, being one of equality proportionally but not of equality numerically. The friendship of father for son is in this class, and that of benefactor for beneficiary. And of these sorts of friendship themselves there are varieties: the friendship of father for son is different from that of husband for wife — the former is friendship as between ruler and subject, the latter that of benefactor for beneficiary. And in these varieties either there is no return of affection or it is not returned in a similar way. For it would be ludicrous if one were to accuse God because he does not return love in the same way as he is loved, or for a subject to make this accusation against a ruler; for it is the part of a ruler to be loved, not to love, or else to love in another way. And the pleasure differs; the pleasure that a man of established position has in his own property or son and that which one who lacks them feels in an estate or a child coming to him are not one and the same. And in the same way also in the case of those who are friends for utility or for pleasure — some are on a footing of equality, others one of superiority. Owing to this those who think they are on the former footing complain if they are not useful and beneficial in a similar manner; and also in the case of pleasure. This is clear in cases of passionate affection, for this is often a cause of combat between the lover and his beloved: the lover does not see that they have not the same reason for their affection. Hence Aenicus has said: “A loved one so would speak, but not a lover.” But they think that the reason is the same. [1239a] There being then, as has been said, three kinds of friendship, based on goodness, utility and pleasantness, these are again divided in two, one set being on a footing of equality and the other on one of superiority. Though both sets, therefore, are friendships, only when they are on an equality are the parties friends; for it would be absurd for a man to be a friend of a child, though he does feel affection for him and receive it from him. In some cases, while the superior partner ought to receive affection, if he gives it he is reproached as loving an unworthy object; for affection is measured by the worth of the friends and by one sort of equality. So in some cases there is properly a dissimilarity of affection because of inferiority of age, in others on the ground of goodness or birth or some other such superiority; it is right for the superior to claim to feel either less affection or none, alike in a friendship of utility and in one of pleasure and one based on goodness. So in cases of small degrees of superiority disputes naturally occur (for a small amount is not of importance in some matters, as in weighing timber, though in gold plate it is; but people judge smallness of amount badly, since one's own good because of its nearness appears big and that of others because of its remoteness small); but when there is an excessive amount of difference, then even the parties themselves do not demand that they ought to be loved in return, or not loved alike — for example, if one were claiming a return of love from God. It is manifest, therefore, that men are friends when they are on an equality, but that a return of affection is possible without their being friends. And it is clear why men seek friendship on a basis of superiority more than that on one of equality; for in the former case they score both affection and a sense of superiority at the same time. Hence with some men the flatterer is more esteemed than the friend, for he makes the person flattered appear to score both advantages. And this most of all characterizes men ambitious of honors, since to be admired implies superiority. Some persons grow up by nature affectionate and others ambitious; one who enjoys loving more than being loved is affectionate, whereas the other enjoys being loved more. So the man who enjoys being admired and loved is a lover of superiority, whereas the other, the affectionate man, loves the pleasure of loving. For this he necessarily possesses by the mere activity of loving; for being loved is an accident, as one can be loved without knowing it, but one cannot love without knowing it. Loving depends, more than being loved, on the actual feeling, whereas being loved corresponds with the nature of the object. A sign of this is that a friend, if both things were not possible, would choose to know the other person rather than to be known by him, as for example women do when they allow others to adopt their children, and Andromache in the tragedy of Antiphon. Indeed the wish to be known seems to be selfish, and its motive a desire to receive and not to confer some benefit, whereas to wish to know a person is for the sake of conferring benefit and bestowing affection. [1239b] For this reason we praise those who remain constant in affection towards the dead; for they know, but are not known. It has, then, been stated that there are several modes of friendship, and how many modes there are, namely three, and that receiving affection and having one's affection returned, and friends on an equality and those on a footing of superiority, are different.

But as the term 'friend' is used in a more universal sense as well, as was also said at the beginning, by those who take in wider considerations (some saying that what is like is dear, others what is opposite), we must also speak about these forms of friendship and their relation to the kinds that have been discussed. As for likeness, it connects with pleasantness and also with goodness. For the good is simple, whereas the bad is multiform; and also the good man is always alike and does not change in character, whereas the wicked and the foolish are quite different in the evening from what they were in the morning. Hence if wicked men do not hit it off together, they are not friends with one another but they separate; yet an insecure friendship is not friendship at all. So the like is dear to us in this way, because the good is like. But in a way it is also dear on the score of pleasantness; for to those who are alike the same things are pleasant, and also everything is by nature pleasant to itself. Owing to this relations find one another's voices and characters and society pleasantest, and so with the lower animals; and in this way it is possible even for bad men to feel affection for each other: "But pleasure welds the bad man to the bad." But opposite is dear to opposite on the score of utility. For the like is useless to itself, and therefore master needs slave and slave master, man and wife need one another; and the opposite is pleasant and desirable as useful, not as contained in the End but as a means to the End — for when a thing has got what it desires it has arrived at its End, and does not strive to get its opposite, for example the hot the cold and the wet the dry.

But in a way love of the opposite is also love of the good. For opposites strive to reach one another through the middle point, for they strive after each other as tallies, because in that way one middle thing results from the two. Hence accidentally love of the good is love of the opposite, but essentially it is love of the middle, for opposites do not strive to reach one another but the middle. If when people have got too cold they are subjected to heat, and when they have got too hot to cold, they reach a mean temperature, and similarly in other matters; but without such treatment they are always in a state of desire, because they are not at the middle points. But a man in the middle enjoys without passionate desire things by nature pleasant, whereas the others enjoy everything that takes them outside their natural state. This kind of relationship, then, exists even between inanimate things; but when it occurs in the case of living things it becomes affection. [1240a] Hence sometimes people take delight in persons unlike themselves, the stiff for instance in the witty and the active in the lazy, for they are brought by one another into the middle state. Hence accidentally, as was said, opposites are dear to opposites also on account of the good.

It has, then, been said how many kinds of friendship there are, and what are the different senses in which people are termed friends, and also givers and objects of affection, both in a manner that makes them actually friends and without being friends.

The question whether one is one’s own friend or not involves much consideration. Some think that every man is his own best friend, and they use this friendship as a standard by which to judge his friendship for his other friends. On theoretical grounds, and in view of the accepted attributes of friends, self-love and love of others are in some respects opposed but in others manifestly similar. For in a way self-love is friendship by analogy, but not absolutely. For being loved and loving involve two separate factors; owing to which a man is his own friend rather in the way in which, in the case of the unrestrained and the self-restrained man, we have said how one has those qualities voluntarily or involuntarily — namely by the parts of one’s spirit being related to each other in a certain way; and all such matters are a similar thing,whether a man can be his own friend or foe, and whether a man can treat himself unjustly. For all these relations involve two separate factors; in so far then as the spirit is in a manner two, these relations do in a manner belong to it, but in so far as the two are not separate, they do not.

From the state of friendship for oneself are determined the remaining modes of friendship under which we usually study it in our discourses. For a man is thought to be a friend who wishes for somebody things that are good, or that he believes to be good, not on his own account but for the other’s sake; and in another way when a man wishes another's existence — even though not bestowing goods on him, let alone existence — for that other's sake and not for his own, he would be thought to be in a high degree the friend of that other; and in another way a man is a friend of one whose society he desires merely for the sake of his company and not for something else, as fathers desire their children's existence, though they associate with other people. All these cases conflict with one another; some men do not think they are loved unless the friend wishes them this or that particular good, others unless their existence is desired, others unless their society. Again we shall reckon it affection to grieve with one who grieves not for some ulterior motive — as for instance slaves in relation to their masters share their grief because when in grief they are harsh, and not for their masters' own sake, as mothers grieve with their children, and birds that share each other's pain. For a friend wishes most of all that he might not only feel pain when his friend is in pain but feel actually the same pain — for example when he is thirsty, share his thirst — if this were possible, and if not, as nearly the same as may be. The same principle applies also in the case of joy; it is characteristic of a friend to rejoice for no other reason than because the other is rejoicing. [1240b] Again there are sayings about friendship such as 'Amity is equality' and 'True friends have one spirit.' All these sayings refer back to the single individual; for that is the way in which the individual wishes good to himself, as nobody benefits himself for some ulterior motive, nor speaks well of himself for such and such a consideration, because he acted as an individual; for one who displays his affection wishes not to be but to be thought affectionate. And wishing for the other to exist, and associating together, and sharing joy and grief, and 'being one spirit' and being unable even to live without one another but dying together — for this is the case with the single individual, and he associates with himself in this way, — all these characteristics then belong to the man in relation to himself. In a wicked man on the other hand, for instance in one who lacks self-control, there is discord, and because of this it is thought to be possible for a man actually to be his own enemy; but as being one and indivisible he is desirable to himself. This is the case with a good man and one whose friendship is based on goodness, because assuredly an evil man is not a single individual but many, and a different person in the same day, and full of caprice. Hence a man's affection for himself carries back to love of the good; for because in a way a man is like himself and a single person and good to himself, in this way he is dear and desirable to himself. And a man is like that by nature, but a wicked man is contrary to nature. But a good man does not rebuke himself either at the time, like the uncontrolled, nor yet his former self his later, like the penitent, nor his later self his former, like the liar — (and generally, if it is necessary to distinguish as the sophists do, he is related to himself as 'John Styles' is related to 'good John Styles'; for it is clear that the same amount of 'John Styles' is good as of 'good John Styles') — because when men blame themselves they are murdering their own personalities, whereas everybody seems to himself good. And he who is absolutely good seeks to be dear even to himself, as has been said, because he has two factors within him which by nature desire to be friendly and which it is impossible to draw asunder. Therefore in the case of man each individual seems dear to himself, although in the case of other animals it is not so, for example a horse to itself . . . so it is not dear to itself. But neither are children, but only when they have come to possess purposive choice; for when that point is reached the mind is at variance with the appetite. And affection for oneself resembles the affection of relationship: neither connection is in people's own power to dissolve, but even if the parties quarrel, nevertheless relatives are still relatives and the individual is still one as long as he lives. From what has been said, then, it is clear how many meanings there are of the term 'affection,' and that all the forms of friendship carry back to the first one. [1241a] It is relative to our inquiry to consider also the subject of agreement of feeling and kindly feeling; for some people think that they are the same thing, and others that they cannot exist apart. Kindly feeling is neither entirely distinct from friendship nor yet identical with it. If friendship is divided into three modes, kindly feeling is not found in the friendship of utility nor in friendship for pleasure. If A wishes B prosperity because he is useful, the motive of his wish would be not B's interest but his own, whereas it is thought that kindly feeling like . . . is not for the sake of the person who feels it himself but for the sake of him for whom he feels kindly; and if kindly feeling were found in friendship for the pleasant, men would feel kindly even towards inanimate objects. So that it is clear that kindly feeling has to do with the friendship that is based on character. But it is the mark of one who feels kindly only to wish good, whereas it is the mark of the friend also to do the good that he wishes; for kindly feeling is the beginning of friendship, as every friend feels kindly, but not everyone who feels kindly is a friend, since the kindly man is only as it were making a beginning. Therefore kindly feeling is the beginning of friendship, but it is not friendship.

For it is thought that friends agree in feeling, and that those who agree in feeling are friends. But the agreement of friendship is not in regard to everything, but to things practicable for the parties, and the good to all that contributes to their association. Nor is it only agreement in thought or in appetition, for it is possible to think and to desire opposite things, as in the man lacking self-control this discord occurs; if a man agrees with another in purposive choice he does not necessarily agree with him in desire also. Agreement occurs in the case of good men — at all events when bad men purpose and desire the same things they harm one another. And it appears that agreement, like friendship, is not a term of single meaning, but whereas the primary and natural form of it is good, so that it is not possible for bad men to agree in this way, there is another sort of agreement shown even by bad men when their purpose and desire are for the same objects. But it is only proper for them to aim at the same objects in cases when it is possible for both to have the things aimed at, since if they aim at a thing of a kind that it is not possible for both to have, they will quarrel; but those who agree in mind do not quarrel.

Therefore agreement exists when there is the same purposive choice as to ruling and being ruled — not each choosing himself to rule but both the same one. Agreement is civic friendship. So much for the subject of agreement in feeling and kindly feeling.

The question is raised, why those who have conferred a benefit feel more affection for those who have received it than those who have received it feel for those who have conferred it; whereas justice seems to require the opposite. One might conceive that it occurs for reasons of utility and personal benefit; for benefit is owing to one party and it is the other party’s duty to repay it. But really it is not this alone; it is also a law of nature — activity is a more desirable thing, [1241b] and there is the same relation between effect and activity as between the parties here: the person benefited is as it were the product of the benefactor. This is why even animals have the philoprogenitive instinct, which urges them to produce offspring and also to protect the offspring produced. And in fact fathers love their children more than they are loved by them (mothers more so than fathers) and these in their turn love their children more than their parents, because activity is the greatest good. And mothers love their children more than fathers, because they think that the children are more their work; for people estimate work by its difficulty, and in the production of a child the mother has more pain.

Such may be our decision on the subject of friendship for oneself and of friendship among more than one.

It is thought that what is just is something that is equal, and also that friendship is based on equality, if there is truth in the saying 'Amity is equality.' And all constitutions are some species of justice; for they are partnerships, and every partnership is founded on justice, so that there are as many species of justice and of partnership as there are of friendship, and all these species border on each other and have their differentia closely related. But since the relations of soul and body, craftsman and tool, and master and slave are similar, between the two terms of each of these pairs there is no partnership; for they are not two, but the former is one and the latter a part of that one, not one itself; nor is the good divisible between them, but that of both belongs to the one for whose sake they exist. For the body is the soul's tool born with it, a slave is as it were a member or tool of his master, a tool is a sort of inanimate slave.

The other partnerships are a constituent part of the partnerships of the state — for example that of the members of a brotherhood or a priesthood, or with business partnerships. All forms of constitution exist together in the household, both the correct forms and the deviations (for the same thing is found in constitutions as in the case of musical modes) — paternal authority being royal, the relationship of man and wife aristocratic, that of brothers a republic, while the deviation-forms of these are tyranny, oligarchy and democracy; and there are therefore as many varieties of justice.

And since there are two sorts of equality, numerical and proportional, there will also be various species of justice and of partnership and friendship. The partnership of democracy is based on numerical equality, and so is the friendship of comrades, as it is measured by the same standard; whereas the aristocratic partnership (which is the best) and the royal are proportional, for it is just for superior and inferior to have not the same share but proportional shares; and similarly also the friendship of father and son, and the same way in partnerships. [1242a]

Specified sorts of friendship are therefore the friendship of relatives, that of comrades, that of partners and what is termed civic friendship. Really friendship of relatives has more than one species, one as between brothers, another as of father and son: it may be proportional, for example paternal friendship, or based on number, for example the friendship of brothers — for this is near the friendship of comrades, as in this also they claim privileges of seniority. Civic friendship on the other hand is constituted in the fullest degree on the principle of utility, for it seems to be the individual's lack of self-sufficiency that makes these unions permanent — since they would have been formed in any case merely for the sake of society. Only civic friendship and the deviation from it are not merely friendships but also partnerships on a friendly footing; the others are on a basis of superiority. The justice that underlies a friendship of utility is in the highest degree just, because this is the civic principle of justice. The coming together of a saw with the craft that uses it is on different lines — it is not for the sake of some common object, for saw and craft are like instrument and spirit, but for the sake of the man who employs them. It does indeed come about that even the tool itself receives attention which it deserves with a view to its work, since it exists for the sake of its work, and the essential nature of a gimlet is twofold, the more important half being its activity, boring. And the body and the slave are in the class of tool, as has been said before. Therefore to seek the proper way of associating with a friend is to seek for a particular kind of justice. In fact the whole of justice in general is in relation to a friend, for what is just is just for certain persons; and persons who are partners, and a friend is a partner, either in one's family or in one's life. For man is not only a political but also a house-holding animal, and does not, like the other animals, couple occasionally and with any chance female or male, but man is in a special way not a solitary but a gregarious animal, associating with the persons with whom he has a natural kinship; accordingly there would be partnership; and justice of a sort, even if there were no state. And a household is a sort of friendship — or rather the relationships of master and slave is that of craft and tools, and of spirit and body, and such relationships are not friendships or forms of justice but something analogous, just as health is not justice but analogous to it. But the friendship of man and wife is one of utility, a partnership; that of father and son is the same as that between god and man and between benefactor and beneficiary, and generally between natural ruler

and natural subject. That between brothers is principally the friendship of comrades, as being on a footing of equality—” For never did he make me out a bastard,
But the same Zeus, my lord, was called the sire
Of both —
“ for these are the words of men seeking equality. [1242b] Hence in the household are first found the origins and springs of friendship, of political organization and of justice.

And since there are three sorts of friendship, based on goodness, on utility and on pleasure, and two varieties of each sort (for each of them is either on a basis of superiority or of equality), and what is just in relation to them is clear from our discussions, in the variety based on superiority the proportionate claims are not on the same lines, but the superior party claims by inverse proportion — the contribution of the inferior to stand in the same ratio to his own as he himself stands in to the inferior, his attitude being that of ruler to subject; or if not that, at all events he claims a numerically equal share (for in fact it happens in this way in other associations too — sometimes the shares are numerically equal, sometimes proportionally: if the parties contributed a numerically equal sum of money, they also take a share equal by numerical equality, if an unequal sum, a share proportionally equal). The inferior party on the contrary inverts the proportion, and makes a diagonal conjunction; but it would seem that in this way the superior comes off worse, and the friendship or partnership is a charitable service. Therefore equality must be restored and proportion secured by some other means; and this means is honor, which belongs by nature to a ruler and god in relation to a subject. But the profit must be made equal to the honor.

Friendship on a footing of equality is civic friendship. Civic friendship is, it is true, based on utility, and fellow-citizens are one another’s friends in the same way as different cities are, and “Athens no longer knoweth Megara,” nor similarly do citizens know one another, when they are not useful to one another; their friendship is a ready-money transaction. Nevertheless there is present here a ruling factor and a ruled — not a natural ruler or a royal one, but one that rules in his turn, and not for the purpose of conferring benefit, as God rules, but in order that he may have an equal share of the benefit and of

the burden. Therefore civic friendship aims at being on a footing of equality. But useful friendship is of two kinds, the merely legal and the moral. Civic friendship looks to equality and to the object, as buyers and sellers do — hence the saying “ Unto a friend his wage —
“.

When, therefore, it is based on a definite agreement, this is civic and legal friendship; but when they trust each other for repayment, it tends to be moral friendship, that of comrades. Hence this is the kind of friendship in which recriminations most occur, the reason being that it is contrary to nature; for friendship based on utility and friendship based on goodness are different, but these people wish to have it both ways at once — they associate together for the sake of utility but make it out to be a moral friendship as between good men, [1243a] and so represent it as not merely legal, pretending that it is a matter of trust.

For in general, of the three kinds of friendship, it is in useful friendship that most recriminations occur (for goodness is not given to recrimination, and pleasant friends having got and given their share break it off, but useful friends do not dissolve the association at once, if their intercourse is on comradely and not merely legal lines); nevertheless the legal sort of useful friendship is not given to recrimination. The legal method of discharging the obligation is a matter of money, for that serves as a measure of equality; but the moral method is voluntary. Hence in some places there is a law prohibiting friendly associates of this sort from actions as to their voluntary contracts — rightly, since it is not natural for good men to go to law, and these men make their contracts as good men and as dealing with trustworthy people. And in fact in this sort of friendship the recriminations are doubtful on both sides — what line of accusation each party will take, inasmuch as their confidence was of a moral kind and not merely legal.

Indeed it is a question in which of two ways one ought to judge what is a just return, whether by looking at the actual amount or quality of the service rendered, or by its amount or quality for the recipient; for it may be as Theognis says—” Goddess, ‘tis small to thee, but great to me
“, and also the result may be opposite, as in the saying ‘This is sport to you but death to me.’ Hence recriminations, as has been said; for one party claims

recompense as having rendered a great service, because he did it for his friend in need, or saying something else of the sort as to how much it was worth in relation to the benefit given to the recipient and not what it was to himself, while the other party on the contrary speaks of how much it was to the donor and not bow much it was to himself. And at other times the position is reversed: the one says how little he got out of it, the other how much the service was worth to him — for instance, if by taking a risk he did the other a shilling's worth of benefit, the one talks about the amount of the risk and the other about the amount of the cash; just as in the repayment of a money loan, for there too the dispute turns on this — one claims to be repaid the value that the money had when lent,the other claims to repay it at the present value, unless they have put a proviso in the contract.

Civic friendship, then, looks at the agreement and to the thing, but moral friendship at the intention; hence the latter is more just — it is friendly justice. The cause of conflict is that moral friendship is nobler but friendship of utility more necessary; and men begin as being moral friends and friends on grounds of goodness, but when some private interest comes into collision it becomes clear that really they were different. For most men pursue what is fine only when they have a good margin in hand, and so with the finer sort of friendship too. [1243b] Hence it is clear how these cases must be decided. If they are moral friends, we must consider if their intentions are equal, and nothing else must be claimed by either from the other; and if they are friends on the ground of utility or civic friends, we must consider what form of agreement would have been profitable for them. But if one says they are friends on one footing and the other on another, it is not honorable, when an active return is due, merely to make fine speeches, and similarly also in the other case; — but since they did not provide for this in the contract, on the ground that it was a moral friendship, somebody must judge, and neither party must cheat by pretending; so that each must be content with his luck. But it is clear that moral friendship is a matter of intention, since even if a man after having received great benefits owing to inability did not repay them, but only repaid as much as he was able, he acts honorably; for even God is content with getting sacrifices in accordance with our ability. But a seller will not be satisfied if a man says he cannot pay more, nor will one who has made a loan.

In friendships not based on direct reciprocity many causes of recrimination occur, and it is not easy to see what is just; for it is difficult to measure by one given thing relations that are not directly reciprocal. This is how it happens in love affairs, since in them one party pursues the other as a pleasant person to live with, but sometimes the other the one as useful, and when the lover ceases to love, he having changed the other changes, and then they calculate the quid pro quo, and quarrel as Pytho and Pammenes used, and as teacher and pupil do in general (for knowledge and money have no common measure), and as Herodicus the doctor did with the patient who offered to pay his fee with a discount, and as the harpist and the king fell out. The king associated with the harpist as pleasant and the harpist with the king as useful; but the king, when the time came for him to pay, made out that he was himself of the pleasant sort, and said that just as the harpist had given him pleasure by his singing, so he had given the harpist pleasure by his promises to him. Nevertheless here too it is clear how we must decide: here too we must measure by one standard, but by a ratio, not a number. For we must measure by proportion, as also the civic partnership is measured. For how is a shoemaker to be partner with a farmer unless their products are equalized by proportion? Therefore the measure for partnerships not directly reciprocal is proportion — for example if one party complains that he has given wisdom and the other says he has given the former money, what is the ratio of wisdom to being rich? and then, what is the amount given for each? for if one party has given half of the smaller amount but the other not even a small fraction of the larger, it is clear that the latter is cheating. But here too there is a dispute at the outset, if one says that they came together on grounds of utility and the other denies it and says it was on the basis of some other kind of friendship. [1244a]

About the good friend and the friend on the basis of goodness, we must consider whether one ought to render useful services and assistance to him or to the friend who is able to make an equal return. This is the same problem as whether it is more one’s duty to benefit a friend or a virtuous man. If a man is a friend and virtuous, perhaps it is not over-difficult, provided one does not exaggerate the one factor and underrate the other, benefiting him greatly as friend but only slightly as good. But in other cases many problems arise, for instance, if A was a friend but is going not to be and B is going to be but is not now, or if A became one but is not one now and B is one now but was not and is going not to be. But the former problem is more difficult. For possibly there is something in the lines of Euripides:

“ Prithee take words as thy just pay for words,
But he, that gave a deed, a deed shall have;
“

Eur. Fr. 882 (Nauck)

and it is not one’s duty to give everything to one’s father, but there are other things that one ought to give to one’s mother, although the father is the superior; for even to Zeus not all the sacrifices are offered, nor does he have all the honors but some particular ones. Perhaps, therefore, there are some services that ought to be rendered to the useful friend and others to the good friend: for instance, if a friend gives you food and necessaries you are not therefore bound to give him your society, and accordingly also you are not bound to render to the friend to whom you give your society the things that you do not get from him but from the useful friend; but those who by so doing wrongly give everything to one whom they love are good-for-nothing people. And the defining marks of friendship stated in the discourses all belong to friendship in some sense, but not to the same kind of friendship. It is a mark of the useful friend that one wishes the things good for him, and so of the benefactor, and in fact a friend of any sort (for this definition of friendship is not distinctive); of another friend, that one wishes his existence, of another that one wishes his society; of the friend on the ground of pleasure, that one shares his grief and his joy. All these defining marks are predicated in the case of some friendship, but none of them with reference to friendship as a single thing. Hence there are many of them, and each is thought to belong to friendship as one, though it does not: for instance, the desire for the friend’s existence — for the superior friend and benefactor wishes existence to belong to his own work — and to him who gave one existence it is one’s duty to give existence in return; but he wishes the society not of this friend but of the pleasant one.

Friends in some cases wrong each other, because they love things more, not the possessor of them, and are friends of the possessor too on this account (just as a man chose his wine because it was sweet and chose his wealth because it was useful), for he is more useful. Hence naturally he is annoyed, just as if they had preferred his possessions to himself as being inferior; and they complain, for now they look to find in him the good man, having previously looked for the pleasant or the useful man. [1244b]

We must also consider self-sufficiency and friendship, and the interrelationship of their potentialities. For one may raise the question whether if a person be self-sufficing in every respect he will have a friend, or whether on the contrary a friend is sought for in need, and the good man will be most self-sufficing. If the life that is combined with goodness is happy, what need would there be of a friend? For it does not belong to the self-sufficing man to need either useful friends or friends to amuse him and society, for he is sufficient society for himself. This is most manifest in the case of God; for it is clear that as he needs nothing more he will not need a friend, and that supposing he has no need of one he will not have one. Consequently the happiest human being also will very little need a friend, except in so far as to be self-sufficing is impossible. Of necessity, therefore, he who lives the best life will have fewest friends, and they will constantly become fewer, and he will not be eager to have friends but will think lightly not only of useful friends but also of those desirable for society. But assuredly even his case would seem to show that a friend is not for the sake of utility or benefit but that one loved on account of goodness is the only real friend. For when we are not in need of something, then we all seek people to share our enjoyments, and beneficiaries rather than benefactors; and we can judge them better when we are self-sufficing than when in need, and we most need friends who are worthy of our society.

But about this question we must consider whether perhaps, although the view stated is partly sound, in part the truth escapes us because of the comparison. The matter is clear if we ascertain what life in the active sense and as an End is. It is manifest that life is perception and knowledge, and that consequently social life is perception and knowledge in common. But perception and knowledge themselves are the thing most desirable for each individually (and it is owing to this that the appetition for life is implanted by nature in all, for living must be deemed a mode of knowing). If therefore one were to abstract and posit absolute knowledge and its negation (though this, it is true, is obscure in the argument as we have written it, but it may be observed in experience), there would be no difference between absolute knowledge and another person's knowing instead of oneself; but that is like another person's living instead of oneself, whereas perceiving and knowing oneself is reasonably more desirable. For two things must be taken into consideration together, that life is desirable and that good is desirable, and as a consequence that it is desirable for ourselves to possess a nature of that quality. [1245a] If, therefore, of the pair of corresponding series of this kind one is always in the class of the desirable, and the known and the perceived are generally speaking constituted by their participation in the 'determined' nature, so that to wish to perceive oneself is to wish oneself to be of a certain character, — since, then, we are not each of these things in ourselves but only by participating in these faculties in the process of perceiving or knowing (for when perceiving one becomes perceived by means of what one previously perceives, in the manner and in the respect in which one perceives it, and when knowing one becomes known) — hence owing to this one wishes always to live because one wishes always to know; and this is because one wishes to be oneself the object known. To choose to live in the society of others might, therefore, from a certain point of view seem foolish (first in the case of the things common to the other animals also, for instance eating together or drinking together, for what difference does it make whether these things take place when we are near together or apart, if you take away speech? but even to share in speech that is merely casual is a thing indifferent, and also neither to impart nor to receive information is possible for friends who are self-sufficing, since receiving information implies a deficiency in oneself and imparting it a deficiency in one's friend, and likeness is friendship) — but nevertheless it surely seems that we all find it pleasanter to share good things with our friends, as far as these fall to each, and the best that each can — but among these, it falls to one to share bodily pleasure, to another artistic study, to another philosophy — ; and so it is pleasanter to be with one's friend (whence the saying 'Distant friends a burden are'), so that they must not be separated when this is taking place. Hence also love seems to resemble friendship, for the lover is eager to share the life of the loved one, although not in the most proper way but in a sensuous manner.

Therefore the argument in raising the question asserts the former position, but the facts of experience are obviously on the latter lines, so that it is clear that the raiser of the question in a way misleads us. We must therefore examine the truth from the following consideration: 'friend' really denotes, in the language of the proverb,’another Hercules’ — another self; but the characteristics are scattered, and it is difficult for all to be realized in the case of one person; though by nature a friend is what is most akin, yet one resembles his friend in body and another in spirit, and one in one part of the body or spirit, another in another. But still none the less a friend really means as it were a separate self. To perceive and to know a friend, therefore, is necessarily in a manner to perceive and in a manner to know oneself. Consequently to share even vulgar pleasures and ordinary life with a friend is naturally pleasant (for it always involves our simultaneously perceiving the friend), but more so to share the more divine pleasures; the reason of which is that it is always more pleasant to behold oneself enjoying the superior good, [1245b] and this is sometimes a passive, sometimes an active experience, sometimes something else. But if it is pleasant to live well oneself and for one’s friend also to live well, and if living together involves working together, surely their partnership will be pre-eminently in things included in the End. Hence we should study together, and feast together — not on the pleasures of food and the necessary pleasures (for such partnerships do not seem to be real social intercourse but mere enjoyment), but each really wishes to share with his friends the End that he is capable of attaining, or failing this, men choose most of all to benefit their friends and to be benefited by them. It is therefore manifest that to live together is actually a duty, and that all people wish it very much, and that this is most the case with the man that is the happiest and best. But that the contrary appeared to be the conclusion of the argument was also reasonable, the statement being true. For the solution is on the line of the comparison, the correspondence being true; for the fact that God is not of such a nature as to need a friend postulates that man, who is like God, also does not need one. Yet according to this argument the virtuous man will not think of anything; for God’s perfection does not permit of this, but he is too perfect to think of anything else beside himself. And the reason is that for us well-being has reference to something other than ourselves, but in his case he is himself his own well-being. As to seeking for ourselves and praying for many friends, and at the same time saying that one who has many friends has no friend, both statements are correct. For if it is possible to live with and share the perceptions of many at once, it is most desirable for them to be the largest possible number; but as that is very difficult, active community of perception must of necessity be in a smaller circle, so that it is not only difficult to acquire many friends (for probation is needed), but also to use them when one has got them.

One for whom we feel affection we sometimes wish to prosper in absence from us, but sometimes to share the same experiences. And to wish to be together is a mark of friendship, for if it is possible to be together and to prosper all choose this; but if it is not possible to prosper together, then we choose as the mother of Heracles perhaps would have chosen for her son, to be a god rather than to be with her but in service to Eurystheus. For men would say things like the jest which the Spartan made when somebody told him to invoke the Dioscuri in a storm.

It seems to be characteristic of one who feels affection for another to debar him from sharing his troubles, and of the person for whom affection is felt to wish to share them. Both these things happen reasonably; for to a friend nothing ought to give so much pain as his friend gives pleasure, yet it is felt that he ought not to choose his own interest. Hence people hinder their friends from sharing their sorrows; they are content to be in trouble by themselves, [1246a] in order that they may not appear from selfish considerations actually to choose the joy of their friend’s grief and furthermore to find it a relief not to bear their misfortunes alone. And as both well-being and companionship are desirable, it is clear that companionship combined with even a lesser good is in a way more desirable than separation with a greater good. But as it is not clear how much value companionship has, at this point men differ, and some think it is friendly to share everything in company, and say, for instance, that it is pleasanter to dine with company though having the same food; others wish to share only in well-being, because, they say, if one supposes extreme cases, people experiencing great adversity in company or great prosperity separately are on a par. And it is much the same as this in regard to misfortunes also; sometimes we wish our friends to be absent, and do not want to give them pain when their presence is not going to do any good, but at other times for them to be present is most pleasant. And the reason of this contrariety is very easily explained; it comes about because of the things stated before, and because to behold a friend in pain or in a bad state is a thing we absolutely shun, as we shun it in our own case, but to see a friend is as pleasant as anything can be, for the reason stated, and indeed to see him ill if one is ill oneself; so that whichever of these is more pleasant, it sways the balance of wishing him to be present or not. And it fits in that the former occurs in the case of inferior people, and for the same reason; they are most eager for their friends not to prosper and not to be absent if they themselves have to suffer adversity. Hence sometimes suicides kill those whom they love with themselves, as they think that they feel their own misfortune more if their loved ones are to survive; just as, if a man in trouble had the memory that he had once been prosperous, he would be more conscious of his trouble than if he thought that he had always done badly.

BOOK VIII

But one may raise the question whether it is possible to use any given thing both for its natural purpose and otherwise, and in the latter case to use it qua itself or on the contrary incidentally: for instance, with an eye qua eye, to see, or also just to see wrong, by squinting so that one object appears two — both these uses of the eye, then, use it because it is an eye, but it would be possible to make use of an eye but to use it in another way, incidentally, for example, if it were possible to sell it or to eat it. And similarly with the use of knowledge: one can use it truly, and one can use it wrongly — for instance, when one spells a word incorrectly on purpose, then at the time one is using knowledge as ignorance, just as dancing-girls sometimes interchange the hand and the foot and use foot as hand and hand as foot. If then all the virtues are forms of knowledge, it would be possible to use even justice as injustice — in that case a man will be behaving unjustly by doing unjust acts as a result of justice, as when one makes ignorant mistakes from knowledge; but if this is impossible, it is clear that the virtues cannot be branches of knowledge. [1246b] And also if it is not possible from knowledge to be ignorant, but only to make mistakes and do the same things as one does from ignorance, a man will assuredly never act from justice in the same way as he will act from injustice. But since wisdom is knowledge and a form of truth, wisdom also will produce the same effect as knowledge, that is, it would be possible from wisdom to act unwisely and to make the same mistakes as the unwise man does; but if the use of anything qua itself were single, when so acting men would be acting wisely. In the case of the other forms of knowledge, therefore, another higher form causes their diversion; but what knowledge causes the diversion of the actually highest of all? Obviously there is no longer any knowledge or any mind to do it. But moreover goodness does not cause it either; for wisdom makes use of goodness, since the goodness of the ruling part uses that of the ruled. Who then is there in whom this occurs? or is it in the same way as the vice of the irrational part of the spirit is termed lack of control, and the uncontrolled man is in a manner profligate — possessing reason, but ultimately if his appetite is powerful it will turn him round, and he will draw the opposite inference? Or is it manifest that also if there is goodness in the irrational part but folly in the reason, goodness and folly are transformed in another way? so that it will be possible to use justice unjustly and badly, and wisdom unwisely; and therefore the opposite uses also will be possible. For it is strange if whereas when wickedness at any time arises in the irrational part it will pervert the goodness in the rational and cause it to be ignorant, yet goodness in the irrational part when there is folly in the rational should not convert the folly and make it form wise and proper judgements, and again wisdom in the rational part should not make profligacy in the irrational act temperately — which seems to be what self-control essentially is. So that there will actually be wise action arising from folly. But these consequences are absurd, especially that of using wisdom wisely as a result of folly; for that is a thing which we certainly do not see in other cases — for instance profligacy perverts one's medical knowledge or scholarship, but it does not pervert one's ignorance if it be opposed to it, because it does not contain superiority, but rather it is goodness in general that stands in this relation to badness; for example, the just man is capable of all that the unjust man is, and in general inability is contained in ability. So that it is clear that men are wise and good simultaneously, and that the states of character above described belong to a different person, and the Socratic dictum 'Nothing is mightier than wisdom,' is right. But in that by 'wisdom' he meant 'knowledge,' he was wrong; for wisdom is a form of goodness, and is not scientific knowledge but another kind of cognition.

But wisdom is not the only thing which acting in accordance with goodness causes welfare, [1247a] but we also speak of the fortunate as faring well, which implies that good fortune also engenders welfare in the same way as knowledge does; we must therefore consider whether one man is fortunate and another unfortunate by nature or not, and how it stands with these matters. For that some men are fortunate we see, since many though foolish succeed in things in which luck is paramount, and some even in things which involve skill although also containing a large element of luck — for example strategy and navigation. Are, then, these men fortunate as a result of a certain state of character, or are they enabled to achieve fortunate results not by reason of a certain quality in themselves? As it is, people think the latter, holding that some men are successful by natural causes; but nature makes men of a certain quality, and the fortunate and unfortunate are different even from birth, in the same way as some men are blue-eyed and others black-eyed because a particular part of them is of a particular quality. For it is clear that they do not succeed by means of wisdom, because wisdom is not irrational but can give reason why it acts as it does, whereas they could not say why they succeed — for that would be science; and moreover it is manifest that they succeed in spite of being unwise — not unwise about other matters (for that would not be anything strange, for example Hippocrates was skilled in geometry but was thought to be stupid and unwise in other matters, and it is said that on a voyage owing to foolishness he lost a great deal of money, taken from him by the collectors of the two-per-cent duty at Byzantium), but even though they are unwise about the matters in which they are fortunate. For in navigation it is not the cleverest who are fortunate, but (just as in throwing dice one man throws a blank and another a six) a man is fortunate according as things were arranged by nature. Or is it because he is loved by God, as the phrase goes, and because success is something from outside? as for instance a badly built ship often gets through a voyage better, though not owing to itself, but because it has a good man at the helm. But on this showing the fortunate man has the deity as steersman. But it is strange that a god or deity should love a man of this sort, and not the best and most prudent. If, then, the success of the lucky must necessarily be due to either nature or intellect or some guardianship, and of these three causes two are ruled out, those who are fortunate will be so by nature. But again, nature of course is the cause of a thing that happens either always or generally in the same way, whereas fortune is the opposite. If, then, unexpected achievement seems a matter of fortune, but, if a man is fortunate owing to fortune, it would seem that the cause is not of such a sort as to produce the same result always or generally — further, if a man's succeeding or not succeeding is due to his being of a certain sort, as a man does not see clearly because he has blue eyes, not fortune but nature is the cause; therefore he is not a man who has good fortune but one who has as it were a good nature. Hence we should have to say that the people we call fortunate are so not by reason of fortune; therefore they are not fortunate, [1247b] for the fortunate are those for whom good fortune is a cause of good things.

But if so, shall we say that there is no such thing as fortune at all, or that it does exist but is not a cause? No, it must both exist and be a cause.

Consequently it will furthermore be a cause of goods or evils to certain persons; whereas if fortune is to be eliminated altogether, then nothing must be said to come about from fortune, in spite of the fact that, although there is another cause, because we do not see it we say that fortune is a cause — owing to which people give it as a definition of fortune that it is a cause incalculable to human reasoning, implying that it is a real natural principle. This, then, would be a matter for another inquiry. But since we see that some people have good fortune on one occasion, why should they not succeed a second time too owing to the same cause? and a third time? and a fourth? for the same cause produces the same effect. Therefore this will not be a matter of fortune; but when the same result follows from indeterminate and indefinite antecedents, it will be good or bad for somebody, but there will not be the knowledge of it that comes by experience, since, if there were, some fortunate persons would learn it, or indeed all branches of knowledge would, as Socrates said, be forms of good fortune. What, then, prevents such things from happening to somebody a number of times running not because he has a certain character, but in the way in which for instance it would be possible to make the highest throw at dice every time? And what then? are there not some impulses in the spirit that arise from reasoning and others from irrational appetition? and are not the latter prior? because if the impulse caused by desire for what is pleasant exists by nature, appetition also would merely by nature proceed towards what is good in every case. If, therefore, some men have good natures — just as musical people though they have not learnt to sing have a natural aptitude for it — and without the aid of reason have an impulse in the direction of the natural order of things and desire the right thing in the right way at the right time, these men will succeed even although they are in fact foolish and irrational, just as the others will sing well although unable to teach singing. And men of this sort obviously are fortunate — men who without the aid of reason are usually successful. Hence it will follow that the fortunate are so by nature.

Or has the term ‘good fortune’ more than one meaning? For some things are done from impulse and as a result of the agents’ purposive choice, other things not so but on the contrary; and if in the former cases when the agents succeed they seem to have reasoned badly, we say that in fact they have had good fortune; and again in the latter cases, if they wished for a different good or less good than they have got. The former persons then may possibly owe their good fortune to nature, for their impulse and appetition, being for the right object, succeeded, but their reasoning was foolish; and in their case, when it happens that their reasoning seems to be incorrect but that impulse is the cause of it, this impulse being right has saved them; although sometimes on the contrary owing to appetite they have reasoned in this way and come to misfortune. But in the case of the others, then, how will good fortune be due to natural goodness of appetition and desire? [1248a] The fact is that the good fortune here and that in the other case are the same. Or is good fortune of more than one kind, and is fortune twofold? But since we see some people being fortunate contrary to all the teachings of science and correct calculation, it is clear that the cause of good fortune must be something different. But is it or is it not good fortune whereby a man formed a desire for the right thing and at the right time when in his case human reasoning could not make this calculation? For a thing the desire for which is natural is not altogether uncalculated, but the reasoning is perverted by something. So no doubt he seems fortunate, because fortune is the cause of things contrary to reason, and this is contrary to reason, for it is contrary to knowledge and to general principle. But probably it does not really come from fortune, but seems to do so from the above cause. So that this argument does not prove that good fortune comes by nature, but that not all those who seem fortunate succeed because of fortune, but because of nature; nor does it prove that there is no such thing as fortune, nor that fortune is not the cause of anything, but that it is not the cause of all the things of which it seems to be the cause.

Yet someone may raise the question whether fortune is the cause of precisely this — forming a desire for the right thing at the right time. Or, on that showing, will not fortune be the cause of everything — even of thought and deliberation? since it is not the case, that one only deliberates when one has deliberated even previously to that deliberation, nor does one only think when one has previously thought before thinking, and so on to infinity, but there is some starting-point; therefore thought is not the starting-point of thinking, nor deliberation of deliberating. Then what else is, save fortune? It will follow that everything originates from fortune. Or shall we say that there is a certain starting-point outside which there is no other, and that this, merely owing to its being of such and such a nature, can produce a result of such and such a nature? But this is what we are investigating — what is the starting-point of motion in the spirit? The answer then is clear: as in the universe, so there, everything is moved by God; for in a manner the divine element in us is the cause of all our motions. And the starting-point of reason is not reason but something superior to reason. What, then, could be superior even to knowledge and to intellect, except God? Not goodness, for goodness is an instrument of the mind; and owing to this, as I was saying some time ago, those are called fortunate who although irrational succeed in whatever they start on. And it does not pay them to deliberate, for they have within them a principle of a kind that is better than mind and deliberation (whereas the others have reason but have not this): they have inspiration, but they cannot deliberate. For although irrational they attain even what belongs to the prudent and wise — swiftness of divination: only the divination that is based on reason we must not specify, but some of them attain it by experience and others by practice in the use of observation; and these men use the divine. For this quality discerns aright the future as well as the present, and these are the men whose reason is disengaged. This is why the melancholic even have dreams that are true; for it seems that when the reason is disengaged principle has more strength — [1248b] just as the blind remember better, being released from having their faculty of memory engaged with objects of sight.

It is clear, then, that there are two kinds of good fortune — one divine, owing to which the fortunate man's success is thought to be due to the aid of God, and this is the man who is successful in accordance with his impulse, while the other is he who succeeds against his impulse. Both persons are irrational. The former kind is more continuous good fortune, the latter is not continuous.

We have, then, previously spoken about each virtue in particular; and as we have distinguished their meaning separately, we must also describe in detail the virtue constituted from them, to which we now give the name of nobility. Now it is manifest that one who is to obtain this appellation truly must possess the particular virtues; for it is impossible for it to be otherwise in the case of any other matter either — for instance, no one is healthy in his whole body but not in any part of it, but all the parts, or most of them and the most important, must necessarily be in the same condition as the whole. Now being good and being noble are really different not only in their names but also in themselves. For all goods have Ends that are desirable in and for themselves. Of these, all those are fine which are laudable as existing for their own sakes, for these are the Ends which are both the motives of laudable actions and laudable themselves — justice itself and its actions, and temperate actions, for temperance also is laudable; but health is not laudable, for its effect is not, nor is vigorous action laudable, for strength is not — these things are good but they are not laudable. And similarly induction makes this clear in the other cases also. Therefore a man is good for whom the things good by nature are good. For the things men fight about and think the greatest, honor and wealth and bodily excellences and pieces of good fortune and powers, are good by nature but may possibly be harmful to some men owing to their characters. If a man is foolish or unjust or profligate he would gain no profit by employing them, any more than an invalid would benefit from using the diet of a man in good health, or a weakling and cripple from the equipment of a healthy man and of a sound one. A man is noble because he possesses those good things that are fine for their own sake and because he is a doer of fine deeds even for their own sake; and the fine things are the virtues and the actions that arise from virtue.

But there is also a state of character that is the 'civic' character, such as the Spartans have or others like them may have; and this character is of the following sort. There are those who think that one ought, it is true, to possess goodness, but for the sake of the things that are naturally good; [1249a] hence though they are good men (for the things naturally good are good for them), yet they have not nobility, for it is not the case with them that they possess fine things for their own sake and that they purpose fine actions, and not only this, but also that things not fine by nature but good by nature are fine for them. For things are fine when that for which men do them and choose them is fine. Therefore to the noble man the things good by nature are fine; for what is just is fine, and what is according to worth is just, and he is worthy of these things; and what is befitting is fine, and these things befit him — wealth, birth, power. Hence for the noble man the same things are both advantageous and fine; but for the multitude these things do not coincide, for things absolutely good are not also good for them, whereas they are good for the good man; and to the noble man they are also fine, for he performs many fine actions because of them. But he who thinks that one ought to possess the virtues for the sake of external goods does fine things only by accident. Nobility then is perfect goodness.

We have also spoken about the nature of pleasure and the manner in which it is a good, and have said that things pleasant absolutely are also fine and that things good absolutely are also pleasant. Pleasure does not occur except in action; on this account the truly happy man will also live most pleasantly, and it is not without reason that people demand this.

But since a doctor has a certain standard by referring to which he judges the healthy body and the goods unhealthy, and in relation to which each thing up to a certain point ought to be done and is wholesome, but if less is done, or more, it ceases to be wholesome, so in regard to actions and choices of things good by nature but not laudable a virtuous man ought to have a certain standard both of character and of choice and avoidance; [1249b] and also in regard to large and small amount of property and of good fortune. Now in what preceded we stated the standard 'as reason directs'; but this is as if in matters of diet one were to say 'as medical science and its principles direct,' and this though true is not clear. It is proper, therefore, here as in other matters to live with reference to the ruling factor, and to the state and the activity of the ruling factor, as for example slave must live with reference to the rule of master, and each person with reference to the rule appropriate to each. And since man consists by nature of a ruling part and a subject part, and each would properly live with reference to the ruling principle within him (and this is twofold, for medical science is a ruling principle in one way and health is in another, and the former is a means to the latter), this is therefore the case in regard to the faculty of contemplation. For God is not a ruler in the sense of issuing commands, but is the End as a means to which wisdom gives commands (and the term 'End' has two meanings, but these have been distinguished elsewhere); since clearly God is in need of nothing. Therefore whatever mode of choosing and of acquiring things good by nature — whether goods of body or wealth or friends or the other goods — will best promote the contemplation of God, that is the best mode, and that standard is the finest; and any mode of choice and acquisition that either through deficiency or excess hinders us from serving and from contemplating God — that is a bad one. This is how it is for the spirit, and this is the best spiritual standard — to be as far as possible unconscious of the irrational part of the spirit, as such.

Let this, then, be our statement of what is the standard of nobility and what is the aim of things absolutely good.

On Virtues and Vices (1249a)

Translated by H. Rackham

De Virtutibus et Vitiis Libellus is the shortest of the four ethical treatises attributed to Aristotle. The work is now regarded as spurious by scholars and its true origins are uncertain, though it was most likely written by a member of the Peripatetic school.

On Virtues and Vices

Fine things are the objects of praise, base things of blame; and at the head of the fine stand the virtues, at the head of the base the vices; consequently the virtues are objects of praise, and also the causes of the virtues are objects of praise, and the things that accompany the virtues and that result from them, and their works, while the opposite are the objects of blame.

If in accordance with Plato the spirit is taken as having three parts, wisdom is goodness of the rational part, gentleness and courage of the passionate, of the appetitive sobriety of mind and self-control, and of the spirit as a whole righteousness, liberality and, great-spiritedness; while badness of the rational part is folly, of the passionate ill-temper and cowardice, of the appetitive profligacy and uncontrol, and of the spirit as a whole unrighteousness, meanness and smallmindedness.

Wisdom is goodness of the rational part that is productive of the things contributing to happiness. Gentleness is goodness of the passionate part that makes people difficult to move to anger. Courage is goodness of the passionate part that makes them undismayed by fear of death. Sobriety of mind is goodness of the appetitive part that makes them not desirous of the base pleasures of sensual enjoyment. Self-control is goodness of the appetitive part that enables men by means of reason to restrain their appetite when it is set on base pleasures. Righteousness is goodness of the spirit shown in distributing what is according to desert.

Liberality is goodness of spirit shown in spending rightly on fine objects. Great-spiritedness is goodness of spirit that enables men to bear good fortune and bad, honor and dishonor. On the other hand folly is badness of the rational part that causes bad living. Ill-temper is badness of the passionate part that makes men easy to provoke to anger. Cowardice is badness of the passionate part that causes men to be dismayed by fear, and especially by fear of death. Profligacy is badness of the appetitive part that makes men desirous of the base pleasures of sensual enjoyment. Uncontrol is badness of the appetitive part that makes men choose base pleasures when reason tries to hinder. Unrighteousness is badness of spirit that makes men covetous of what is contrary to their desert. Meanness is badness of spirit that makes men try to get profit from all sources. Smallmindedness is badness of spirit that makes men unable to bear good fortune and bad, honor and dishonor.

It belongs to wisdom to take counsel, to judge the goods and evils and all the things in life that are desirable and to be avoided, to use all the available goods finely, to behave rightly in society, to observe due occasions, to employ both speech and action with sagacity, to have expert knowledge of all things that are useful. Memory and experience and acuteness are each of them either a consequence or a concomitant of wisdom; or some of them are as it were subsidiary causes of wisdom, as for instance experience and memory, others as it were parts of it, for example good counsel and acuteness.

To gentleness belongs ability to bear reproaches and slights with moderation, and not to embark on revenge quickly, and not to be easily provoked to anger, but free from bitterness and contentiousness, having tranquillity and stability in the spirit.

To courage it belongs to be undismayed by fears of death and confident in alarms and brave in face of dangers, and to prefer a fine death to base security, and to be a cause of victory. It also belongs to courage to labor and endure and play a manly part. Courage is accompanied by confidence and bravery and daring, and also by perseverance and endurance.

To sobriety of mind it belongs not to value highly bodily pleasures and enjoyments, not to be covetous of every enjoyable pleasure, to fear disorder, and to live an orderly life in small things and great alike. Sobriety of mind is accompanied by orderliness, regularity, modesty, caution.

To self-control belongs ability to restrain desire by reason when it is set on base enjoyments and pleasures, and to be resolute, and readiness to endure natural want and pain.

To righteousness it belongs to be ready to distribute according to desert, and to preserve ancestral customs and institutions and the established laws, and to tell the truth when interest is at stake, and to keep agreements. First among the claims of righteousness are our duties to the gods, then our duties to the spirits, then those to country and parents, then those to the departed; and among these claims is piety, which is either a part of righteousness or a concomitant of it. Righteousness is also accompanied by holiness and truth and loyalty and hatred of wickedness.

To liberality it belongs to be profuse of money on praiseworthy objects and lavish in spending on what is necessary, and to be helpful in a matter of dispute, and not to take from wrong sources. The liberal man is cleanly in his dress and dwelling, and fond of providing himself with things that are above the ordinary and fine and that afford entertainment without being profitable; and he is fond of keeping animals that have something special or remarkable about them. Liberality is accompanied by elasticity and ductility of character, and kindness, and a compassionate and affectionate and hospitable and honorable nature.

To greatness of spirit it belongs to bear finely both good fortune and bad, honor and disgrace, and not to think highly of luxury or attention or power or victories in contests, and to possess a certain depth and magnitude of spirit. He who values life highly and who is fond of life is not great-spirited. The great-spirited man is simple and noble in character, able to bear injustice and not revengeful. Greatness of spirit is accompanied by simplicity and sincerity.

To folly belongs bad judgement of affairs, bad counsel, bad fellowship, bad use of one’s resources, false opinions about what is fine and good in life. Folly is accompanied by unskilfulness, ignorance, uncontrol, awkwardness, forgetfulness.

Of ill-temper there are three kinds, irascibility, bitterness, sullenness. It belongs to the ill-tempered man to be unable to bear either small slights or defeats but to be given to retaliation and revenge, and easily moved to anger by any chance deed or word. Ill-temper is accompanied by excitability of character, instability, bitter speech, and liability to take offence at trifles and to feel these feelings quickly and on slight occasions.

To cowardice it belongs to be easily excited by chance alarms, and especially by fear of death or of bodily injuries, and to think it better to save oneself by any means than to meet a fine end. Cowardice is accompanied by softness, unmanliness, faint-heartedness, fondness of life; and it also has an element of cautiousness and submissiveness of character.

To profligacy belongs choosing harmful and base pleasures and enjoyments, and thinking that the happiest people are those who pass their lives in pleasures of that kind, and being fond of laughter and mockery and jokes and levity in words and deeds. Profligacy is accompanied by disorder, shamelessness, irregularity, luxury, slackness, carelessness, negligence, remissness.

To uncontrol it belongs to choose the enjoyment of pleasures when reason would restrain, and although one believes that it would be better not to participate in them, to participate in them all the same, and while thinking one ought to do fine and expedient things yet to abstain from them for the sake of one's pleasures. The concomitants of uncontrol are softness and negligence and in general the same as those of profligacy.

Of unrighteousness there are three kinds, impiety, greed, outrage. Transgression in regard to gods and spirits, or even in regard to the departed and to parents and country, is impiety. Transgression in regard to contracts, taking what is in dispute contrary to one's desert, is greed. Outrage is the unrighteousness that makes men procure pleasures for themselves while leading others into disgrace; in consequence of which Evenus says about outrage: She that wrongs others e'en when she gaineth nought. And it belongs to unrighteousness to transgress ancestral customs and regulations, to disobey the laws and the rulers, to lie, to perjure, to transgress covenants and pledges. Unrighteousness is accompanied by slander, imposture, pretence of kindness, malignity, unscrupulousness.

Of meanness there are three kinds, love of base gain, parsimony, niggardliness. Love of base gain makes men seek profit from all sources and pay more regard to the profit than to the disgrace; parsimony makes them unwilling to spend money on a necessary object; niggardliness causes them only to spend in driblets and in a bad way, and to lose more than they gain by not at the proper moment letting go the difference. It belongs to meanness to set a very high value on money and to think nothing that brings profit a disgrace — a menial and servile and squalid mode of life, alien to ambition and to liberality. Meanness is accompanied by pettiness, sulkiness, self-abasement, lack of proportion, ignobleness, misanthropy.

It belongs to small-mindedness to be unable to bear either honor or dishonor, either good fortune or bad, but to be filled with conceit when honored and puffed up by trifling good fortune, and to be unable to bear even the smallest dishonor and to deem any chance failure a great misfortune, and to be distressed and annoyed at everything. Moreover the small-minded man is the sort of person to call all slights an insult and dishonor, even those that are due to ignorance or forgetfulness. Small-mindedness is accompanied by pettiness, querulousness, pessimism, self-abasement.

In general it belongs to goodness to make the spirit's disposition virtuous, experiencing tranquil and ordered emotions and in harmony throughout all its parts; this is the cause of the opinion that the disposition of a good spirit is a pattern of a good constitution of the state. It also belongs to goodness to do good to the deserving and love the good and hate the wicked, and not to be eager to inflict punishment or take vengeance, but gracious and kindly and forgiving. Goodness is accompanied by honesty, reasonableness, kindness, hopefulness, and also by such traits as love of home and of friends and comrades and guests, and of one's fellow-men, and love of what is noble — all of which qualities are among those that are praised.

To badness belong the opposite qualities, and it has the opposite concomitants : all the qualities and concomitants of badness are among the things that are blamed.

Politics (1252a)

Translated by Benjamin Jowett

The Πολιτικά is a primary work of political philosophy. At the end of the *Nicomachean Ethics*, Aristotle declares that the inquiry into ethics necessarily follows into politics, and so the two works are frequently considered to be parts of a larger treatise. The title of the *Politics* literally means ‘the things concerning the city’.

In the first book, Aristotle discusses the political community as opposed to other types of communities and partnerships, such as the household and village. To the philosopher, the highest form of community is the *polis*. Aristotle derives this conclusion because he believes the public life is far more virtuous than the private life. He commences with the relationship between the city and man, before specifically discussing the household. Aristotle considers the view that political rule, kingly rule, rule over slaves, and rule over a household or village are only different in terms of size. He then examines in what way the city may be said to be natural.

Aristotle discusses the parts of the household, which includes slaves, leading to a discussion of whether slavery can ever be just and better for the person enslaved or is always unjust and bad. He distinguishes between those who are slaves because the law says they are and those who are slaves by nature, saying the inquiry hinges on whether there are any such natural slaves. Only someone as different from other people as the body is from the soul or beasts are from human beings would be a slave by nature, Aristotle concludes, all others being slaves solely by law or convention. Some scholars have therefore concluded that the qualifications for natural slavery preclude the existence of such a being.

Aristotle then moves to the question of property in general, arguing that the acquisition of property does not form a part of household management and criticising those who take it too seriously. It is necessary, but that does not make it a part of household management any more than it makes medicine a part of household management just because health is necessary. He criticises income based upon trade and says that those who become avaricious do so because they forget that money merely symbolises wealth without being wealth.

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Book One

I

EVERY STATE is a community of some kind, and every community is established with a view to some good; for mankind always act in order to obtain that which they think good. But, if all communities aim at some good, the state or political community, which is the highest of all, and which embraces all the rest, aims at good in a greater degree than any other, and at the highest good.

Some people think that the qualifications of a statesman, king, householder, and master are the same, and that they differ, not in kind, but only in the number of their subjects. For example, the ruler over a few is called a master; over more, the manager of a household; over a still larger number, a statesman or king, as if there were no difference between a great household and a small state. The distinction which is made between the king and the statesman is as follows: When the government is personal, the ruler is a king; when, according to the rules of the political science, the citizens rule and are ruled in turn, then he is called a statesman.

But all this is a mistake; for governments differ in kind, as will be evident to any one who considers the matter according to the method which has hitherto guided us. As in other departments of science, so in politics, the compound should always be resolved into the simple elements or least parts of the whole. We must therefore look at the elements of which the state is composed, in order that we may see in what the different kinds of rule differ from one another, and whether any scientific result can be attained about each one of them.

II

He who thus considers things in their first growth and origin, whether a state or anything else, will obtain the clearest view of them. In the first place there must be a union of those who cannot exist without each other; namely, of male and female, that the race may continue (and this is a union which is formed, not of deliberate purpose, but because, in common with other animals and with plants, mankind have a natural desire to leave behind them an image of themselves), and of natural ruler and subject, that both may be preserved. For that which can foresee by the exercise of mind is by nature intended to be lord and master, and that which can with its body give effect to such foresight is a subject, and by nature a slave; hence master and slave have the same interest. Now nature has distinguished between the female and the slave. For she is not niggardly, like the smith who fashions the Delphian knife for many uses; she makes each thing for a single use, and every instrument is best made when intended for one and not for many uses. But among barbarians no distinction is made between women and slaves, because there is no natural ruler among them: they are a community of slaves, male and female. Wherefore the poets say,

It is meet that Hellenes should rule over barbarians;

as if they thought that the barbarian and the slave were by nature one.

Out of these two relationships between man and woman, master and slave, the first thing to arise is the family, and Hesiod is right when he says,

First house and wife and an ox for the plough,

for the ox is the poor man’s slave. The family is the association established by nature for the supply of men’s everyday wants, and the members of it are called by Charondas ‘companions of the cupboard,’ and by Epimenides the Cretan, ‘companions of the manger.’ But when several families are united, and the association aims at something more than the supply of daily needs, the first society to be formed is the village. And the most natural form of the village appears to be that of a colony from the family, composed of the children and grandchildren, who are said to be suckled ‘with the same milk.’ And this is the reason why Hellenic states were originally governed by kings; because the Hellenes were under royal rule before they came together, as the barbarians still are. Every family is ruled by the eldest, and therefore in the colonies of the family the kingly form of government prevailed because they were of the same blood. As Homer says:

Each one gives law to his children and to his wives.

For they lived dispersedly, as was the manner in ancient times. Wherefore men say that the Gods have a king, because they themselves either are or were in ancient times under the rule of a king. For they imagine, not only the forms of the Gods, but their ways of life to be like their own.

When several villages are united in a single complete community, large enough to be nearly or quite self-sufficing, the state comes into existence, originating in the bare needs of life, and continuing in existence for the sake of a good life. And therefore, if the earlier forms of society are natural, so is the state, for it is the end of them, and the nature of a thing is its end. For what each thing is when fully developed, we call its nature, whether we are speaking of a man, a horse, or a family. Besides, the final cause and end of a thing is the best, and to be self-sufficing is the end and the best.

Hence it is evident that the state is a creation of nature, and that man is by nature a political animal. And he who by nature and not by mere accident is without a state, is either a bad man or above humanity; he is like the

Tribeless, lawless, hearthless one,

whom Homer denounces — the natural outcast is forthwith a lover of war; he may be compared to an isolated piece at draughts.

Now, that man is more of a political animal than bees or any other gregarious animals is evident. Nature, as we often say, makes nothing in vain, and man is the only animal whom she has endowed with the gift of speech. And whereas mere voice is but an indication of pleasure or pain, and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another, and no further), the power of speech is intended to set forth the expedient and inexpedient, and therefore likewise the just and the unjust. And it is a characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and the association of living beings who have this sense makes a family and a state.

Further, the state is by nature clearly prior to the family and to the individual, since the whole is of necessity prior to the part; for example, if the whole body be destroyed, there will be no foot or hand, except in an equivocal sense, as we might speak of a stone hand; for when destroyed the hand will be no better than that. But things are defined by their working and power; and we ought not to say that they are the same when they no longer have their proper quality, but only that they have the same name. The proof that the state is a creation of nature and prior to the individual is that the individual, when isolated, is not self-sufficing; and therefore he is like a part in relation to the whole. But he who is unable to live in society, or who has no need because he is sufficient for himself, must be either a beast or a god: he is no part of a state. A social instinct is implanted in all men by nature, and yet he who first founded the state was the greatest of benefactors. For man, when perfected, is the best of animals, but, when separated from law and justice, he is the worst of all; since armed injustice is the more dangerous, and he is equipped at birth with arms, meant to be used by intelligence and virtue, which he may use for the worst ends. Wherefore, if he have not virtue, he is the most unholy and the most savage of animals, and the most full of lust and gluttony. But justice is the bond of men in states, for the administration of justice, which is the determination of what is just, is the principle of order in political society.

III

Seeing then that the state is made up of households, before speaking of the state we must speak of the management of the household. The parts of household management correspond to the persons who compose the household, and a complete household consists of slaves and freemen. Now we should begin by examining everything in its fewest possible elements; and the first and fewest possible parts of a family are master and slave, husband and wife, father and children. We have therefore to consider what each of these three relations is and ought to be: I mean the relation of master and servant, the marriage relation (the conjunction of man and wife has no name of its own), and thirdly, the procreative relation (this also has no proper name). And there is another element of a household, the so-called art of getting wealth, which, according to some, is identical with household management, according to others, a principal part of it; the nature of this art will also have to be considered by us.

Let us first speak of master and slave, looking to the needs of practical life and also seeking to attain some better theory of their relation than exists at present. For some are of opinion that the rule of a master is a science, and that the management of a household, and the mastership of slaves, and the political and royal rule, as I was saying at the outset, are all the same. Others affirm that the rule of a master over slaves is contrary to nature, and that the distinction between slave and freeman exists by law only, and not by nature; and being an interference with nature is therefore unjust.

IV

Property is a part of the household, and the art of acquiring property is a part of the art of managing the household; for no man can live well, or indeed live at all, unless he be provided with necessaries. And as in the arts which have a definite sphere the workers must have their own proper instruments for the accomplishment of their work, so it is in the management of a household. Now instruments are of various sorts; some are living, others lifeless; in the rudder, the pilot of a ship has a lifeless, in the look-out man, a living instrument; for in the arts the servant is a kind of instrument. Thus, too, a possession is an instrument for maintaining life. And so, in the arrangement of the family, a slave is a living possession, and property a number of such instruments; and the servant is himself an instrument which takes precedence of all other instruments. For if every instrument could accomplish its own work, obeying or anticipating the will of others, like the statues of Daedalus, or the tripods of Hephaestus, which, says the poet,

of their own accord entered the assembly of the Gods;

if, in like manner, the shuttle would weave and the plectrum touch the lyre without a hand to guide them, chief workmen would not want servants, nor masters slaves. Here, however, another distinction must be drawn; the instruments commonly so called are instruments of production, whilst a possession is an instrument of action. The shuttle, for example, is not only of use; but something else is made by it, whereas of a garment or of a bed there is only the use. Further, as production and action are different in kind, and both require instruments, the instruments which they employ must likewise differ in kind. But life is action and not production, and therefore the slave is the minister of action. Again, a possession is spoken of as a part is spoken of; for the part is not only a part of something else, but wholly belongs to it; and this is also true of a possession. The master is only the master of the slave; he does not belong to him, whereas the slave is not only the slave of his master, but wholly belongs to him. Hence we see what is the nature and office of a slave; he who is by nature not his own but another’s man, is by nature a slave; and he may be said to be another’s man who, being a human being, is also a possession. And a possession may be defined as an instrument of action, separable from the possessor.

V

But is there any one thus intended by nature to be a slave, and for whom such a condition is expedient and right, or rather is not all slavery a violation of nature?

There is no difficulty in answering this question, on grounds both of reason and of fact. For that some should rule and others be ruled is a thing not only necessary, but expedient; from the hour of their birth, some are marked out for subjection, others for rule.

And there are many kinds both of rulers and subjects (and that rule is the better which is exercised over better subjects — for example, to rule over men is better than to rule over wild beasts; for the work is better which is executed by better workmen, and where one man rules and another is ruled, they may be said to have a work); for in all things which form a composite whole and which are made up of parts, whether continuous or discrete, a distinction between the ruling and the subject element comes to fight. Such a duality exists in living creatures, but not in them only; it originates in the constitution of the universe; even in things which have no life there is a ruling principle, as in a musical mode. But we are wandering from the subject. We will therefore restrict ourselves to the living creature, which, in the first place, consists of soul and body: and of these two, the one is by nature the ruler, and the other the subject. But then we must look for the intentions of nature in things which retain their nature, and not in things which are corrupted. And therefore we must study the man who is in the most perfect state both of body and soul, for in him we shall see the true relation of the two; although in bad or corrupted natures the body will often appear to rule over the soul, because they are in an evil and unnatural condition. At all events we may firstly observe in living creatures both a despotical and a constitutional rule; for the soul rules the body with a despotical rule, whereas the intellect rules the appetites with a constitutional and royal rule. And it is clear that the rule of the soul over the body, and of the mind and the rational element over the passionate, is natural and expedient; whereas the equality of the two or the rule of the inferior is always hurtful. The same holds good of animals in relation to men; for tame animals have a better nature than wild, and all tame animals are better off when they are ruled by man; for then they are preserved. Again, the male is by nature superior, and the female inferior;

and the one rules, and the other is ruled; this principle, of necessity, extends to all mankind.

Where then there is such a difference as that between soul and body, or between men and animals (as in the case of those whose business is to use their body, and who can do nothing better), the lower sort are by nature slaves, and it is better for them as for all inferiors that they should be under the rule of a master. For he who can be, and therefore is, another's and he who participates in rational principle enough to apprehend, but not to have, such a principle, is a slave by nature. Whereas the lower animals cannot even apprehend a principle; they obey their instincts. And indeed the use made of slaves and of tame animals is not very different; for both with their bodies minister to the needs of life. Nature would like to distinguish between the bodies of freemen and slaves, making the one strong for servile labor, the other upright, and although useless for such services, useful for political life in the arts both of war and peace. But the opposite often happens — that some have the souls and others have the bodies of freemen. And doubtless if men differed from one another in the mere forms of their bodies as much as the statues of the Gods do from men, all would acknowledge that the inferior class should be slaves of the superior. And if this is true of the body, how much more just that a similar distinction should exist in the soul? but the beauty of the body is seen, whereas the beauty of the soul is not seen. It is clear, then, that some men are by nature free, and others slaves, and that for these latter slavery is both expedient and right.

VI

But that those who take the opposite view have in a certain way right on their side, may be easily seen. For the words slavery and slave are used in two senses. There is a slave or slavery by law as well as by nature. The law of which I speak is a sort of convention — the law by which whatever is taken in war is supposed to belong to the victors. But this right many jurists impeach, as they would an orator who brought forward an unconstitutional measure: they detest the notion that, because one man has the power of doing violence and is superior in brute strength, another shall be his slave and subject. Even among philosophers there is a difference of opinion. The origin of the dispute, and what makes the views invade each other's territory, is as follows: in some sense virtue, when furnished with means, has actually the greatest power of exercising force; and as superior power is only found where there is superior excellence of some kind, power seems to imply virtue, and the dispute to be simply one about justice (for it is due to one party identifying justice with goodwill while the other identifies it with the mere rule of the stronger). If these views are thus set out separately, the other views have no force or plausibility against the view that the superior in virtue ought to rule, or be master. Others, clinging, as they think, simply to a principle of justice (for law and custom are a sort of justice), assume that slavery in accordance with the custom of war is justified by law, but at the same moment they deny this. For what if the cause of the war be unjust? And again, no one would ever say he is a slave who is unworthy to be a slave. Were this the case, men of the highest rank would be slaves and the children of slaves if they or their parents chance to have been taken captive and sold. Wherefore Hellenes do not like to call Hellenes slaves, but confine the term to barbarians. Yet, in using this language, they really mean the natural slave of whom we spoke at first; for it must be admitted that some are slaves everywhere, others nowhere. The same principle applies to nobility. Hellenes regard themselves as noble everywhere, and not only in their own country, but they deem the barbarians noble only when at home, thereby implying that there are two sorts of nobility and freedom, the one absolute, the other relative. The Helen of Theodectes says:

Who would presume to call me servant who am on both sides
sprung from the stem of the Gods?

What does this mean but that they distinguish freedom and slavery, noble and humble birth, by the two principles of good and evil? They think that as men and animals beget men and animals, so from good men a good man springs. But this is what nature, though she may intend it, cannot always accomplish.

We see then that there is some foundation for this difference of opinion, and that all are not either slaves by nature or freemen by nature, and also that there is in some cases a marked distinction between the two classes, rendering it expedient and right for the one to be slaves and the others to be masters: the one practicing obedience, the others exercising the authority and lordship which nature intended them to have. The abuse of this authority is injurious to both; for the interests of part and whole, of body and soul, are the same, and the slave is a part of the master, a living but separated part of his bodily frame. Hence, where the relation of master and slave between them is natural they are friends and have a common interest, but where it rests merely on law and force the reverse is true.

VII

The previous remarks are quite enough to show that the rule of a master is not a constitutional rule, and that all the different kinds of rule are not, as some affirm, the same with each other. For there is one rule exercised over subjects who are by nature free, another over subjects who are by nature slaves. The rule of a household is a monarchy, for every house is under one head: whereas constitutional rule is a government of freemen and equals. The master is not called a master because he has science, but because he is of a certain character, and the same remark applies to the slave and the freeman. Still there may be a science for the master and science for the slave. The science of the slave would be such as the man of Syracuse taught, who made money by instructing slaves in their ordinary duties. And such a knowledge may be carried further, so as to include cookery and similar menial arts. For some duties are of the more necessary, others of the more honorable sort; as the proverb says, ‘slave before slave, master before master.’ But all such branches of knowledge are servile. There is likewise a science of the master, which teaches the use of slaves; for the master as such is concerned, not with the acquisition, but with the use of them. Yet this so-called science is not anything great or wonderful; for the master need only know how to order that which the slave must know how to execute. Hence those who are in a position which places them above toil have stewards who attend to their households while they occupy themselves with philosophy or with politics. But the art of acquiring slaves, I mean of justly acquiring them, differs both from the art of the master and the art of the slave, being a species of hunting or war. Enough of the distinction between master and slave.

VIII

Let us now inquire into property generally, and into the art of getting wealth, in accordance with our usual method, for a slave has been shown to be a part of property. The first question is whether the art of getting wealth is the same with the art of managing a household or a part of it, or instrumental to it; and if the last, whether in the way that the art of making shuttles is instrumental to the art of weaving, or in the way that the casting of bronze is instrumental to the art of the statuary, for they are not instrumental in the same way, but the one provides tools and the other material; and by material I mean the substratum out of which any work is made; thus wool is the material of the weaver, bronze of the statuary. Now it is easy to see that the art of household management is not identical with the art of getting wealth, for the one uses the material which the other provides. For the art which uses household stores can be no other than the art of household management. There is, however, a doubt whether the art of getting wealth is a part of household management or a distinct art. If the getter of wealth has to consider whence wealth and property can be procured, but there are many sorts of property and riches, then are husbandry, and the care and provision of food in general, parts of the wealth-getting art or distinct arts? Again, there are many sorts of food, and therefore there are many kinds of lives both of animals and men; they must all have food, and the differences in their food have made differences in their ways of life. For of beasts, some are gregarious, others are solitary; they live in the way which is best adapted to sustain them, accordingly as they are carnivorous or herbivorous or omnivorous: and their habits are determined for them by nature in such a manner that they may obtain with greater facility the food of their choice. But, as different species have different tastes, the same things are not naturally pleasant to all of them; and therefore the lives of carnivorous or herbivorous animals further differ among themselves. In the lives of men too there is a great difference. The laziest are shepherds, who lead an idle life, and get their subsistence without trouble from tame animals; their flocks having to wander from place to place in search of pasture, they are compelled to follow them, cultivating a sort of living farm. Others support themselves by hunting, which is of different kinds. Some, for example, are brigands, others, who dwell near lakes or marshes or rivers or a sea in which there are fish, are fishermen, and others live by the pursuit of birds or wild beasts. The greater number obtain a living from the cultivated fruits of the soil. Such are the modes of subsistence which prevail among those whose industry springs up of itself, and whose food is not acquired by exchange and retail trade — there is the shepherd, the husbandman, the brigand, the fisherman, the hunter. Some gain a comfortable maintenance out of two employments, eking out the deficiencies of one of them by another: thus the life of a shepherd may be combined with that of a brigand, the life of a farmer with that of a hunter. Other modes of life are similarly combined in any way which the needs of men may require. Property, in the sense of a bare livelihood, seems to be given by nature herself to all, both when they are first born, and when they are grown up. For some animals bring forth, together with their offspring, so much food as will last until they are able to supply themselves; of this the vermiparous or oviparous animals are an instance; and the viviparous animals have up to a certain time a supply of food for their young in themselves, which is called milk. In like manner we may infer that, after the birth of animals, plants exist for their sake, and that the other animals exist for the sake of man, the tame for use and food, the wild, if not all at least the greater part of them, for food, and for the provision of clothing and various instruments. Now if nature makes nothing incomplete, and nothing in vain, the inference must be that she has made all animals for the sake of man. And so, in one point of view, the art of war is a natural art of acquisition, for the art of acquisition includes hunting, an art which we ought to practice against wild beasts, and against men who, though intended by nature to be governed, will not submit; for war of such a kind is naturally just.

Of the art of acquisition then there is one kind which by nature is a part of the management of a household, in so far as the art of household management must either find ready to hand, or itself provide, such things necessary to life, and useful for the community of the family or state, as can be stored. They are the elements of true riches; for the amount of property which is needed for a good life is not unlimited, although Solon in one of his poems says that

No bound to riches has been fixed for man.

But there is a boundary fixed, just as there is in the other arts; for the instruments of any art are never unlimited, either in number or size, and riches may be defined as a number of instruments to be used in a household or in a state. And so we see that there is a natural art of acquisition which is practiced by managers of households and by statesmen, and what is the reason of this.

IX

There is another variety of the art of acquisition which is commonly and rightly called an art of wealth-getting, and has in fact suggested the notion that riches and property have no limit. Being nearly connected with the preceding, it is often identified with it. But though they are not very different, neither are they the same. The kind already described is given by nature, the other is gained by experience and art.

Let us begin our discussion of the question with the following considerations:

Of everything which we possess there are two uses: both belong to the thing as such, but not in the same manner, for one is the proper, and the other the improper or secondary use of it. For example, a shoe is used for wear, and is used for exchange; both are uses of the shoe. He who gives a shoe in exchange for money or food to him who wants one, does indeed use the shoe as a shoe, but this is not its proper or primary purpose, for a shoe is not made to be an object of barter. The same may be said of all possessions, for the art of exchange extends to all of them, and it arises at first from what is natural, from the circumstance that some have too little, others too much. Hence we may infer that retail trade is not a natural part of the art of getting wealth; had it been so, men would have ceased to exchange when they had enough. In the first community, indeed, which is the family, this art is obviously of no use, but it begins to be useful when the society increases. For the members of the family originally had all things in common; later, when the family divided into parts, the parts shared in many things, and different parts in different things, which they had to give in exchange for what they wanted, a kind of barter which is still practiced among barbarous nations who exchange with one another the necessaries of life and nothing more; giving and receiving wine, for example, in exchange for coin, and the like. This sort of barter is not part of the wealth-getting art and is not contrary to nature, but is needed for the satisfaction of men's natural wants. The other or more complex form of exchange grew, as might have been inferred, out of the simpler. When the inhabitants of one country became more dependent on those of another, and they imported what they needed, and exported what they had too much of, money necessarily came into use. For the various necessaries of life are not easily carried about, and hence men agreed to employ in their dealings with each other something which was intrinsically useful and easily applicable to the purposes of life, for example, iron, silver, and the like. Of this the value was at first measured simply by size and weight, but in process of time they put a stamp upon it, to save the trouble of weighing and to mark the value.

When the use of coin had once been discovered, out of the barter of necessary articles arose the other art of wealth getting, namely, retail trade; which was at first probably a simple matter, but became more complicated as soon as men learned by experience whence and by what exchanges the greatest profit might be made. Originating in the use of coin, the art of getting wealth is generally thought to be chiefly concerned with it, and to be the art which produces riches and wealth; having to consider how they may be accumulated. Indeed, riches is assumed by many to be only a quantity of coin, because the arts of getting wealth and retail trade are concerned with coin. Others maintain that coined money is a mere sham, a thing not natural, but conventional only, because, if the users substitute another commodity for it, it is worthless, and because it is not useful as a means to any of the necessities of life, and, indeed, he who is rich in coin may often be in want of necessary food. But how can that be wealth of which a man may have a great abundance and yet perish with hunger, like Midas in the fable, whose insatiable prayer turned everything that was set before him into gold?

Hence men seek after a better notion of riches and of the art of getting wealth than the mere acquisition of coin, and they are right. For natural riches and the natural art of wealth-getting are a different thing; in their true form they are part of the management of a household; whereas retail trade is the art of producing wealth, not in every way, but by exchange. And it is thought to be concerned with coin; for coin is the unit of exchange and the measure or limit of it. And there is no bound to the riches which spring from this art of wealth getting. As in the art of medicine there is no limit to the pursuit of health, and as in the other arts there is no limit to the pursuit of their several ends, for they aim at accomplishing their ends to the uttermost (but of the means there is a limit, for the end is always the limit), so, too, in this art of wealth-getting there is no limit of the end, which is riches of the spurious kind, and the acquisition of wealth. But the art of wealth-getting which consists in household management, on the other hand, has a limit; the unlimited acquisition of wealth is not its business. And, therefore, in one point of view, all riches must have a limit; nevertheless, as a matter of fact, we find the opposite to be the case; for all getters of wealth increase their hoard of coin without limit. The source of the confusion is the near connection between the two kinds of wealth-getting; in either, the instrument is the same, although the use is different, and so they pass into one another; for each is a use of the same property, but with a difference: accumulation is the end in the one case, but there is a further end in the other. Hence some persons are led to believe that getting wealth is the object of household management, and the whole idea of their lives is that they ought either to increase their money without limit, or at any rate not to lose it. The origin of this disposition in men is that they are intent upon living only, and not upon living well; and, as their desires are unlimited they also desire that the means of gratifying them should be without limit. Those who do aim at a good life seek the means of obtaining bodily pleasures; and, since the enjoyment of these appears to depend on property, they are absorbed in getting wealth: and so there arises the second species of wealth-getting. For, as their enjoyment is in excess, they seek an art which produces the excess of enjoyment; and, if they are not able to supply their pleasures by the art of getting wealth, they try other arts, using in turn every faculty in a manner contrary to nature. The quality of courage, for example, is not intended to make wealth, but to inspire confidence; neither is this the aim of the general's or of the physician's art; but the one aims at victory and the other at health. Nevertheless, some men turn every quality or art into a means of getting wealth; this they conceive to be the end, and to the promotion of the end they think all things must contribute.

Thus, then, we have considered the art of wealth-getting which is unnecessary, and why men want it; and also the necessary art of wealth-getting, which we have seen to be different from the other, and to be a natural part of the art of managing a household, concerned with the provision of food, not, however, like the former kind, unlimited, but having a limit.

X

And we have found the answer to our original question, Whether the art of getting wealth is the business of the manager of a household and of the statesman or not their business? viz., that wealth is presupposed by them. For as political science does not make men, but takes them from nature and uses them, so too nature provides them with earth or sea or the like as a source of food. At this stage begins the duty of the manager of a household, who has to order the things which nature supplies; he may be compared to the weaver who has not to make but to use wool, and to know, too, what sort of wool is good and serviceable or bad and unserviceable. Were this otherwise, it would be difficult to see why the art of getting wealth is a part of the management of a household and the art of medicine not; for surely the members of a household must have health just as they must have life or any other necessary. The answer is that as from one point of view the master of the house and the ruler of the state have to consider about health, from another point of view not they but the physician; so in one way the art of household management, in another way the subordinate art, has to consider about wealth. But, strictly speaking, as I have already said, the means of life must be provided beforehand by nature; for the business of nature is to furnish food to that which is born, and the food of the offspring is always what remains over of that from which it is produced. Wherefore the art of getting wealth out of fruits and animals is always natural.

There are two sorts of wealth-getting, as I have said; one is a part of household management, the other is retail trade: the former necessary and honorable, while that which consists in exchange is justly censured; for it is unnatural, and a mode by which men gain from one another. The most hated sort, and with the greatest reason, is usury, which makes a gain out of money itself, and not from the natural object of it. For money was intended to be used in exchange, but not to increase at interest. And this term interest, which means the birth of money from money, is applied to the breeding of money because the offspring resembles the parent. Wherefore of an modes of getting wealth this is the most unnatural.

XI

Enough has been said about the theory of wealth-getting; we will now proceed to the practical part. The discussion of such matters is not unworthy of philosophy, but to be engaged in them practically is illiberal and irksome. The useful parts of wealth-getting are, first, the knowledge of livestock — which are most profitable, and where, and how — as, for example, what sort of horses or sheep or oxen or any other animals are most likely to give a return. A man ought to know which of these pay better than others, and which pay best in particular places, for some do better in one place and some in another. Secondly, husbandry, which may be either tillage or planting, and the keeping of bees and of fish, or fowl, or of any animals which may be useful to man. These are the divisions of the true or proper art of wealth-getting and come first. Of the other, which consists in exchange, the first and most important division is commerce (of which there are three kinds — the provision of a ship, the conveyance of goods, exposure for sale — these again differing as they are safer or more profitable), the second is usury, the third, service for hire — of this, one kind is employed in the mechanical arts, the other in unskilled and bodily labor. There is still a third sort of wealth getting intermediate between this and the first or natural mode which is partly natural, but is also concerned with exchange, viz., the industries that make their profit from the earth, and from things growing from the earth which, although they bear no fruit, are nevertheless profitable; for example, the cutting of timber and all mining. The art of mining, by which minerals are obtained, itself has many branches, for there are various kinds of things dug out of the earth. Of the several divisions of wealth-getting I now speak generally; a minute consideration of them might be useful in practice, but it would be tiresome to dwell upon them at greater length now.

Those occupations are most truly arts in which there is the least element of chance; they are the meanest in which the body is most deteriorated, the most servile in which there is the greatest use of the body, and the most illiberal in which there is the least need of excellence.

Works have been written upon these subjects by various persons; for example, by Chares the Parian, and Apollodorus the Lemnian, who have treated of Tillage and Planting, while others have treated of other branches; any one who cares for such matters may refer to their writings. It would be well also to collect the scattered stories of the ways in which individuals have succeeded in amassing a fortune; for all this is useful to persons who value the art of getting wealth. There is the anecdote of Thales the Milesian and his financial device, which involves a principle of universal application, but is attributed to him on account of his reputation for wisdom. He was reproached for his poverty, which was supposed to show that philosophy was of no use. According to the story, he knew by his skill in the stars while it was yet winter that there would be a great harvest of olives in the coming year; so, having a little money, he gave deposits for the use of all the olive-presses in Chios and Miletus, which he hired at a low price because no one bid against him. When the harvest-time came, and many were wanted all at once and of a sudden, he let them out at any rate which he pleased, and made a quantity of money. Thus he showed the world that philosophers can easily be rich if they like, but that their ambition is of another sort. He is supposed to have given a striking proof of his wisdom, but, as I was saying, his device for getting wealth is of universal application, and is nothing but the creation of a monopoly. It is an art often practiced by cities when they are want of money; they make a monopoly of provisions.

There was a man of Sicily, who, having money deposited with him, bought up an the iron from the iron mines; afterwards, when the merchants from their various markets came to buy, he was the only seller, and without much increasing the price he gained 200 per cent. Which when Dionysius heard, he told him that he might take away his money, but that he must not remain at Syracuse, for he thought that the man had discovered a way of making money which was injurious to his own interests. He made the same discovery as Thales; they both contrived to create a monopoly for themselves. And statesmen as well ought to know these things; for a state is often as much in want of money and of such devices for obtaining it as a household, or even more so; hence some public men devote themselves entirely to finance.

XII

Of household management we have seen that there are three parts — one is the rule of a master over slaves, which has been discussed already, another of a father, and the third of a husband. A husband and father, we saw, rules over wife and children, both free, but the rule differs, the rule over his children being a royal, over his wife a constitutional rule. For although there may be exceptions to the order of nature, the male is by nature fitter for command than the female, just as the elder and full-grown is superior to the younger and more immature. But in most constitutional states the citizens rule and are ruled by turns, for the idea of a constitutional state implies that the natures of the citizens are equal, and do not differ at all. Nevertheless, when one rules and the other is ruled we endeavor to create a difference of outward forms and names and titles of respect, which may be illustrated by the saying of Amasis about his foot-pan. The relation of the male to the female is of this kind, but there the inequality is permanent. The rule of a father over his children is royal, for he rules by virtue both of love and of the respect due to age, exercising a kind of royal power. And therefore Homer has appropriately called Zeus 'father of Gods and men,' because he is the king of them all. For a king is the natural superior of his subjects, but he should be of the same kin or kind with them, and such is the relation of elder and younger, of father and son.

XIII

Thus it is clear that household management attends more to men than to the acquisition of inanimate things, and to human excellence more than to the excellence of property which we call wealth, and to the virtue of freemen more than to the virtue of slaves. A question may indeed be raised, whether there is any excellence at all in a slave beyond and higher than merely instrumental and ministerial qualities — whether he can have the virtues of temperance, courage, justice, and the like; or whether slaves possess only bodily and ministerial qualities. And, whichever way we answer the question, a difficulty arises; for, if they have virtue, in what will they differ from freemen? On the other hand, since they are men and share in rational principle, it seems absurd to say that they have no virtue. A similar question may be raised about women and children, whether they too have virtues: ought a woman to be temperate and brave and just, and is a child to be called temperate, and intemperate, or note So in general we may ask about the natural ruler, and the natural subject, whether they have the same or different virtues. For if a noble nature is equally required in both, why should one of them always rule, and the other always be ruled? Nor can we say that this is a question of degree, for the difference between ruler and subject is a difference of kind, which the difference of more and less never is. Yet how strange is the supposition that the one ought, and that the other ought not, to have virtue! For if the ruler is intemperate and unjust, how can he rule well? If the subject, how can he obey well? If he be licentious and cowardly, he will certainly not do his duty. It is evident, therefore, that both of them must have a share of virtue, but varying as natural subjects also vary among themselves. Here the very constitution of the soul has shown us the way; in it one part naturally rules, and the other is subject, and the virtue of the ruler we in maintain to be different from that of the subject; the one being the virtue of the rational, and the other of the irrational part. Now, it is obvious that the same principle applies generally, and therefore almost all things rule and are ruled according to nature. But the kind of rule differs; the freeman rules over the slave after another manner from that in which the male rules over the female, or the man over the child; although the parts of the soul are present in an of them, they are present in different degrees. For the slave has no deliberative faculty at all; the woman has, but it is without authority, and the child has, but it is immature. So it must necessarily be supposed to be with the moral virtues also; all should partake of them, but only in such manner and degree as is required by each for the fulfillment of his duty. Hence the ruler ought to have moral virtue in perfection, for his function, taken absolutely, demands a master artificer, and rational principle is such an artificer; the subjects, oil the other hand, require only that measure of virtue which is proper to each of them. Clearly, then, moral virtue belongs to all of them; but the temperance of a man and of a woman, or the courage and justice of a man and of a woman, are not, as Socrates maintained, the same; the courage of a man is shown in commanding, of a woman in obeying. And this holds of all other virtues, as will be more clearly seen if we look at them in detail, for those who say generally that virtue consists in a good disposition of the soul, or in doing rightly, or the like, only deceive themselves. Far better than such definitions is their mode of speaking, who, like Gorgias, enumerate the virtues. All classes must be deemed to have their special attributes; as the poet says of women,

Silence is a woman’s glory,

but this is not equally the glory of man. The child is imperfect, and therefore obviously his virtue is not relative to himself alone, but to the perfect man and to his teacher, and in like manner the virtue of the slave is relative to a master. Now we determined that a slave is useful for the wants of life, and therefore he will obviously require only so much virtue as will prevent him from failing in his duty through cowardice or lack of self-control. Some one will ask whether, if what we are saying is true, virtue will not be required also in the artisans, for they often fail in their work through the lack of self control? But is there not a great difference in the two cases?

For the slave shares in his master’s life; the artisan is less closely connected with him, and only attains excellence in proportion as he becomes a slave. The meaner sort of mechanic has a special and separate slavery; and whereas the slave exists by nature, not so the shoemaker or other artisan. It is manifest, then, that the master ought to be the source of such excellence in the slave, and not a mere possessor of the art of mastership which trains the slave in his duties. Wherefore they are mistaken who forbid us to converse with slaves and say that we should employ command only, for slaves stand even more in need of admonition than children.

So much for this subject; the relations of husband and wife, parent and child, their several virtues, what in their intercourse with one another is good, and what is evil, and how we may pursue the good and good and escape the evil, will have to be discussed when we speak of the different forms of government. For, inasmuch as every family is a part of a state, and these relationships are the parts of a family, and the virtue of the part must have regard to the virtue of the whole, women and children must be trained by education with an eye to the constitution, if the virtues of either of them are supposed to make any difference in the virtues of the state. And they must make a difference: for the children grow up to be citizens, and half the free persons in a state are women.

Of these matters, enough has been said; of what remains, let us speak at another time. Regarding, then, our present inquiry as complete, we will make a new beginning. And, first, let us examine the various theories of a perfect state.

Book Two

I

OUR PURPOSE is to consider what form of political community is best of all for those who are most able to realize their ideal of life. We must therefore examine not only this but other constitutions, both such as actually exist in well-governed states, and any theoretical forms which are held in esteem; that what is good and useful may be brought to light. And let no one suppose that in seeking for something beyond them we are anxious to make a sophistical display at any cost; we only undertake this inquiry because all the constitutions with which we are acquainted are faulty.

We will begin with the natural beginning of the subject. Three alternatives are conceivable: The members of a state must either have (1) all things or (2) nothing in common, or (3) some things in common and some not. That they should have nothing in common is clearly impossible, for the constitution is a community, and must at any rate have a common place — one city will be in one place, and the citizens are those who share in that one city. But should a well ordered state have all things, as far as may be, in common, or some only and not others? For the citizens might conceivably have wives and children and property in common, as Socrates proposes in the Republic of Plato. Which is better, our present condition, or the proposed new order of society.

II

There are many difficulties in the community of women. And the principle on which Socrates rests the necessity of such an institution evidently is not established by his arguments. Further, as a means to the end which he ascribes to the state, the scheme, taken literally is impracticable, and how we are to interpret it is nowhere precisely stated. I am speaking of the premise from which the argument of Socrates proceeds, ‘that the greater the unity of the state the better.’ Is it not obvious that a state may at length attain such a degree of unity as to be no longer a state? since the nature of a state is to be a plurality, and in tending to greater unity, from being a state, it becomes a family, and from being a family, an individual; for the family may be said to be more than the state, and the individual than the family. So that we ought not to attain this greatest unity even if we could, for it would be the destruction of the state. Again, a state is not made up only of so many men, but of different kinds of men; for similars do not constitute a state. It is not like a military alliance The usefulness of the latter depends upon its quantity even where there is no difference in quality (for mutual protection is the end aimed at), just as a greater weight of anything is more useful than a less (in like manner, a state differs from a nation, when the nation has not its population organized in villages, but lives an Arcadian sort of life); but the elements out of which a unity is to be formed differ in kind. Wherefore the principle of compensation, as I have already remarked in the Ethics, is the salvation of states. Even among freemen and equals this is a principle which must be maintained, for they cannot an rule together, but must change at the end of a year or some other period of time or in some order of succession. The result is that upon this plan they all govern; just as if shoemakers and carpenters were to exchange their occupations, and the same persons did not always continue shoemakers and carpenters. And since it is better that this should be so in politics as well, it is clear that while there should be continuance of the same persons in power where this is possible, yet where this is not possible by reason of the natural equality of the citizens, and at the same time it is just that an should share in the government (whether to govern be a good thing or a bad), an approximation to this is that equals should in turn retire from office and should, apart from official position, be treated alike. Thus the one party rule and the others are ruled in turn, as if they were no longer the same persons. In like manner when they hold office there is a variety in the offices held. Hence it is evident that a city is not by nature one in that sense which some persons affirm; and that what is said to be the greatest good of cities is in reality their destruction; but surely the good of things must be that which preserves them. Again, in another point of view, this extreme unification of the state is clearly not good; for a family is more self-sufficing than an individual, and a city than a family, and a city only comes into being when the community is large enough to be self-sufficing. If then self-sufficiency is to be desired, the lesser degree of unity is more desirable than the greater.

III

But, even supposing that it were best for the community to have the greatest degree of unity, this unity is by no means proved to follow from the fact ‘of all men saying “mine” and “not mine” at the same instant of time,’ which, according to Socrates, is the sign of perfect unity in a state. For the word ‘all’ is ambiguous. If the meaning be that every individual says ‘mine’ and ‘not mine’ at the same time, then perhaps the result at which Socrates aims may be in some degree accomplished; each man will call the same person his own son and the same person his wife, and so of his property and of all that falls to his lot. This, however, is not the way in which people would speak who had their had their wives and children in common; they would say ‘all’ but not ‘each.’ In like manner their property would be described as belonging to them, not severally but collectively. There is an obvious fallacy in the term ‘all’: like some other words, ‘both,’ ‘odd,’ ‘even,’ it is ambiguous, and even in abstract argument becomes a source of logical puzzles. That all persons call the same thing mine in the sense in which each does so may be a fine thing, but it is impracticable; or if the words are taken in the other sense, such a unity in no way conduces to harmony. And there is another objection to the proposal. For that which is common to the greatest number has the least care bestowed upon it. Every one thinks chiefly of his own, hardly at all of the common interest; and only when he is himself concerned as an individual. For besides other considerations, everybody is more inclined to neglect the duty which he expects another to fulfill; as in families many attendants are often less useful than a few. Each citizen will have a thousand sons who will not be his sons individually but anybody will be equally the son of anybody, and will therefore be neglected by all alike. Further, upon this principle, every one will use the word ‘mine’ of one who is prospering or the reverse, however small a fraction he may himself be of the whole number; the same boy will be ‘so and so’s son,’ the son of each of the thousand, or whatever be the number of the citizens; and even about this he will not be positive; for it is impossible to know who chanced to have a child, or whether, if one came into existence, it has survived. But which is better — for each to say ‘mine’ in this way, making a man the same relation to two thousand or ten thousand citizens, or to use the word ‘mine’ in the ordinary and more restricted sense?

For usually the same person is called by one man his own son whom another calls his own brother or cousin or kinsman — blood relation or connection by marriage either of himself or of some relation of his, and yet another his clansman or tribesman; and how much better is it to be the real cousin of somebody than to be a son after Plato's fashion! Nor is there any way of preventing brothers and children and fathers and mothers from sometimes recognizing one another; for children are born like their parents, and they will necessarily be finding indications of their relationship to one another. Geographers declare such to be the fact; they say that in part of Upper Libya, where the women are common, nevertheless the children who are born are assigned to their respective fathers on the ground of their likeness. And some women, like the females of other animals — for example, mares and cows — have a strong tendency to produce offspring resembling their parents, as was the case with the Pharsalian mare called Honest.

IV

Other evils, against which it is not easy for the authors of such a community to guard, will be assaults and homicides, voluntary as well as involuntary, quarrels and slanders, all which are most unholy acts when committed against fathers and mothers and near relations, but not equally unholy when there is no relationship. Moreover, they are much more likely to occur if the relationship is unknown, and, when they have occurred, the customary expiations of them cannot be made. Again, how strange it is that Socrates, after having made the children common, should hinder lovers from carnal intercourse only, but should permit love and familiarities between father and son or between brother and brother, than which nothing can be more unseemly, since even without them love of this sort is improper. How strange, too, to forbid intercourse for no other reason than the violence of the pleasure, as though the relationship of father and son or of brothers with one another made no difference.

This community of wives and children seems better suited to the husbandmen than to the guardians, for if they have wives and children in common, they will be bound to one another by weaker ties, as a subject class should be, and they will remain obedient and not rebel. In a word, the result of such a law would be just the opposite of which good laws ought to have, and the intention of Socrates in making these regulations about women and children would defeat itself. For friendship we believe to be the greatest good of states and the preservative of them against revolutions; neither is there anything which Socrates so greatly lauds as the unity of the state which he and all the world declare to be created by friendship. But the unity which he commends would be like that of the lovers in the Symposium, who, as Aristophanes says, desire to grow together in the excess of their affection, and from being two to become one, in which case one or both would certainly perish. Whereas in a state having women and children common, love will be watery; and the father will certainly not say ‘my son,’ or the son ‘my father.’ As a little sweet wine mingled with a great deal of water is imperceptible in the mixture, so, in this sort of community, the idea of relationship which is based upon these names will be lost; there is no reason why the so-called father should care about the son, or the son about the father, or brothers about one another. Of the two qualities which chiefly inspire regard and affection — that a thing is your own and that it is your only one-neither can exist in such a state as this.

Again, the transfer of children as soon as they are born from the rank of husbandmen or of artisans to that of guardians, and from the rank of guardians into a lower rank, will be very difficult to arrange; the givers or transferrers cannot but know whom they are giving and transferring, and to whom. And the previously mentioned evils, such as assaults, unlawful loves, homicides, will happen more often amongst those who are transferred to the lower classes, or who have a place assigned to them among the guardians; for they will no longer call the members of the class they have left brothers, and children, and fathers, and mothers, and will not, therefore, be afraid of committing any crimes by reason of consanguinity. Touching the community of wives and children, let this be our conclusion.

V

Next let us consider what should be our arrangements about property: should the citizens of the perfect state have their possessions in common or not? This question may be discussed separately from the enactments about women and children. Even supposing that the women and children belong to individuals, according to the custom which is at present universal, may there not be an advantage in having and using possessions in common? Three cases are possible: (1) the soil may be appropriated, but the produce may be thrown for consumption into the common stock; and this is the practice of some nations. Or (2), the soil may be common, and may be cultivated in common, but the produce divided among individuals for their private use; this is a form of common property which is said to exist among certain barbarians. Or (3), the soil and the produce may be alike common.

When the husbandmen are not the owners, the case will be different and easier to deal with; but when they till the ground for themselves the question of ownership will give a world of trouble. If they do not share equally enjoyments and toils, those who labor much and get little will necessarily complain of those who labor little and receive or consume much. But indeed there is always a difficulty in men living together and having all human relations in common, but especially in their having common property. The partnerships of fellow-travelers are an example to the point; for they generally fall out over everyday matters and quarrel about any trifle which turns up. So with servants: we are most able to take offense at those with whom we most we most frequently come into contact in daily life.

These are only some of the disadvantages which attend the community of property; the present arrangement, if improved as it might be by good customs and laws, would be far better, and would have the advantages of both systems. Property should be in a certain sense common, but, as a general rule, private; for, when everyone has a distinct interest, men will not complain of one another, and they will make more progress, because every one will be attending to his own business. And yet by reason of goodness, and in respect of use, ‘Friends,’ as the proverb says, ‘will have all things common.’ Even now there are traces of such a principle, showing that it is not impracticable, but, in well-ordered states, exists already to a certain extent and may be carried further. For, although every man has his own property, some things he will place at the disposal of his friends, while of others he shares the use with them. The Lacedaemonians, for example, use one another’s slaves, and horses, and dogs, as if they were their own; and when they lack provisions on a journey, they appropriate what they find in the fields throughout the country. It is clearly better that property should be private, but the use of it common; and the special business of the legislator is to create in men this benevolent disposition. Again, how immeasurably greater is the pleasure, when a man feels a thing to be his own; for surely the love of self is a feeling implanted by nature and not given in vain, although selfishness is rightly censured; this, however, is not the mere love of self, but the love of self in excess, like the miser's love of money; for all, or almost all, men love money and other such objects in a measure. And further, there is the greatest pleasure in doing a kindness or service to friends or guests or companions, which can only be rendered when a man has private property. These advantages are lost by excessive unification of the state. The exhibition of two virtues, besides, is visibly annihilated in such a state: first, temperance towards women (for it is an honorable action to abstain from another's wife for temperance' sake); secondly, liberality in the matter of property. No one, when men have all things in common, will any longer set an example of liberality or do any liberal action; for liberality consists in the use which is made of property.

Such legislation may have a specious appearance of benevolence; men readily listen to it, and are easily induced to believe that in some wonderful manner everybody will become everybody's friend, especially when some one is heard denouncing the evils now existing in states, suits about contracts, convictions for perjury, flatteries of rich men and the like, which are said to arise out of the possession of private property. These evils, however, are due to a very different cause — the wickedness of human nature. Indeed, we see that there is much more quarrelling among those who have all things in common, though there are not many of them when compared with the vast numbers who have private property.

Again, we ought to reckon, not only the evils from which the citizens will be saved, but also the advantages which they will lose. The life which they are to lead appears to be quite impracticable. The error of Socrates must be attributed to the false notion of unity from which he starts. Unity there should be, both of the family and of the state, but in some respects only. For there is a point at which a state may attain such a degree of unity as to be no longer a state, or at which, without actually ceasing to exist, it will become an inferior state, like harmony passing into unison, or rhythm which has been reduced to a single foot. The state, as I was saying, is a plurality which should be united and made into a community by education; and it is strange that the author of a system of education which he thinks will make the state virtuous, should expect to improve his citizens by regulations of this sort, and not by philosophy or by customs and laws, like those which prevail at Sparta and Crete respecting common meals, whereby the legislator has made property common. Let us remember that we should not disregard the experience of ages; in the multitude of years these things, if they were good, would certainly not have been unknown; for almost everything has been found out, although sometimes they are not put together; in other cases men do not use the knowledge which they have. Great light would be thrown on this subject if we could see such a form of government in the actual process of construction; for the legislator could not form a state at all without distributing and dividing its constituents into associations for common meals, and into phratries and tribes. But all this legislation ends only in forbidding agriculture to the guardians, a prohibition which the Lacedaemonians try to enforce already.

But, indeed, Socrates has not said, nor is it easy to decide, what in such a community will be the general form of the state. The citizens who are not guardians are the majority, and about them nothing has been determined: are the husbandmen, too, to have their property in common? Or is each individual to have his own? And are the wives and children to be individual or common. If, like the guardians, they are to have all things in common, what do they differ from them, or what will they gain by submitting to their government? Or, upon what principle would they submit, unless indeed the governing class adopt the ingenious policy of the Cretans, who give their slaves the same institutions as their own, but forbid them gymnastic exercises and the possession of arms. If, on the other hand, the inferior classes are to be like other cities in respect of marriage and property, what will be the form of the community? Must it not contain two states in one, each hostile to the other He makes the guardians into a mere occupying garrison, while the husbandmen and artisans and the rest are the real citizens. But if so the suits and quarrels, and all the evils which Socrates affirms to exist in other states, will exist equally among them. He says indeed that, having so good an education, the citizens will not need many laws, for example laws about the city or about the markets; but then he confines his education to the guardians. Again, he makes the husbandmen owners of the property upon condition of their paying a tribute. But in that case they are likely to be much more unmanageable and conceited than the Helots, or Penestae, or slaves in general. And whether community of wives and property be necessary for the lower equally with the higher class or not, and the questions akin to this, what will be the education, form of government, laws of the lower class, Socrates has nowhere determined: neither is it easy to discover this, nor is their character of small importance if the common life of the guardians is to be maintained.

Again, if Socrates makes the women common, and retains private property, the men will see to the fields, but who will see to the house? And who will do so if the agricultural class have both their property and their wives in common? Once more: it is absurd to argue, from the analogy of the animals, that men and women should follow the same pursuits, for animals have not to manage a household. The government, too, as constituted by Socrates, contains elements of danger; for he makes the same persons always rule. And if this is often a cause of disturbance among the meaner sort, how much more among high-spirited warriors? But that the persons whom he makes rulers must be the same is evident; for the gold which the God mingles in the souls of men is not at one time given to one, at another time to another, but always to the same: as he says, 'God mingles gold in some, and silver in others, from their very birth; but brass and iron in those who are meant to be artisans and husbandmen.' Again, he deprives the guardians even of happiness, and says that the legislator ought to make the whole state happy. But the whole cannot be happy unless most, or all, or some of its parts enjoy happiness. In this respect happiness is not like the even principle in numbers, which may exist only in the whole, but in neither of the parts; not so happiness. And if the guardians are not happy, who are? Surely not the artisans, or the common people. The Republic of which Socrates discourses has all these difficulties, and others quite as great.

VI

The same, or nearly the same, objections apply to Plato's later work, the Laws, and therefore we had better examine briefly the constitution which is therein described. In the Republic, Socrates has definitely settled in all a few questions only; such as the community of women and children, the community of property, and the constitution of the state. The population is divided into two classes — one of husbandmen, and the other of warriors; from this latter is taken a third class of counselors and rulers of the state. But

Socrates has not determined whether the husbandmen and artisans are to have a share in the government, and whether they, too, are to carry arms and share in military service, or not. He certainly thinks that the women ought to share in the education of the guardians, and to fight by their side. The remainder of the work is filled up with digressions foreign to the main subject, and with discussions about the education of the guardians. In the Laws there is hardly anything but laws; not much is said about the constitution. This, which he had intended to make more of the ordinary type, he gradually brings round to the other or ideal form. For with the exception of the community of women and property, he supposes everything to be the same in both states; there is to be the same education; the citizens of both are to live free from servile occupations, and there are to be common meals in both. The only difference is that in the Laws, the common meals are extended to women, and the warriors number 5000, but in the Republic only 1000.

The discourses of Socrates are never commonplace; they always exhibit grace and originality and thought; but perfection in everything can hardly be expected. We must not overlook the fact that the number of 5000 citizens, just now mentioned, will require a territory as large as Babylon, or some other huge site, if so many persons are to be supported in idleness, together with their women and attendants, who will be a multitude many times as great. In framing an ideal we may assume what we wish, but should avoid impossibilities.

It is said that the legislator ought to have his eye directed to two points — the people and the country. But neighboring countries also must not be forgotten by him, firstly because the state for which he legislates is to have a political and not an isolated life. For a state must have such a military force as will be serviceable against her neighbors, and not merely useful at home. Even if the life of action is not admitted to be the best, either for individuals or states, still a city should be formidable to enemies, whether invading or retreating.

There is another point: Should not the amount of property be defined in some way which differs from this by being clearer? For Socrates says that a man should have so much property as will enable him to live temperately, which is only a way of saying ‘to live well’; this is too general a conception. Further, a man may live temperately and yet miserably. A better definition would be that a man must have so much property as will enable him to live not only temperately but liberally; if the two are parted, liberally will combine with luxury; temperance will be associated with toil. For liberality and temperance are the only eligible qualities which have to do with the use of property. A man cannot use property with mildness or courage, but temperately and liberally he may; and therefore the practice of these virtues is inseparable from property. There is an inconsistency, too, in too, in equalizing the property and not regulating the number of the citizens; the population is to remain unlimited, and he thinks that it will be sufficiently equalized by a certain number of marriages being unfruitful, however many are born to others, because he finds this to be the case in existing states. But greater care will be required than now; for among ourselves, whatever may be the number of citizens, the property is always distributed among them, and therefore no one is in want; but, if the property were incapable of division as in the Laws, the supernumeraries, whether few or many, would get nothing. One would have thought that it was even more necessary to limit population than property; and that the limit should be fixed by calculating the chances of mortality in the children, and of sterility in married persons. The neglect of this subject, which in existing states is so common, is a never-failing cause of poverty among the citizens; and poverty is the parent of revolution and crime. Pheidon the Corinthian, who was one of the most ardent legislators, thought that the families and the number of citizens ought to remain the same, although originally all the lots may have been of different sizes: but in the Laws the opposite principle is maintained. What in our opinion is the right arrangement will have to be explained hereafter.

There is another omission in the Laws: Socrates does not tell us how the rulers differ from their subjects; he only says that they should be related as the warp and the woof, which are made out of different wools. He allows that a man’s whole property may be increased fivefold, but why should not his land also increase to a certain extent? Again, will the good management of a household be promoted by his arrangement of homesteads? For he assigns to each individual two homesteads in separate places, and it is difficult to live in two houses.

The whole system of government tends to be neither democracy nor oligarchy, but something in a mean between them, which is usually called a polity, and is composed of the heavy-armed soldiers. Now, if he intended to frame a constitution which would suit the greatest number of states, he was very likely right, but not if he meant to say that this constitutional form came nearest to his first or ideal state; for many would prefer the Lacedaemonian, or, possibly, some other more aristocratic government. Some, indeed, say that the best constitution is a combination of all existing forms, and they praise the Lacedaemonian because it is made up of oligarchy, monarchy, and democracy, the king forming the monarchy, and the council of elders the oligarchy while the democratic element is represented by the Ephors; for the Ephors are selected from the people. Others, however, declare the Ephoralty to be a tyranny, and find the element of democracy in the common meals and in the habits of daily life. In the Laws it is maintained that the best constitution is made up of democracy and tyranny, which are either not constitutions at all, or are the worst of all. But they are nearer the truth who combine many forms; for the constitution is better which is made up of more numerous elements. The constitution proposed in the Laws has no element of monarchy at all; it is nothing but oligarchy and democracy, leaning rather to oligarchy. This is seen in the mode of appointing magistrates; for although the appointment of them by lot from among those who have been already selected combines both elements, the way in which the rich are compelled by law to attend the assembly and vote for magistrates or discharge other political duties, while the rest may do as they like, and the endeavor to have the greater number of the magistrates appointed out of the richer classes and the highest officers selected from those who have the greatest incomes, both these are oligarchical features. The oligarchical principle prevails also in the choice of the council, for all are compelled to choose, but the compulsion extends only to the choice out of the first class, and of an equal number out of the second class and out of the third class, but not in this latter case to all the voters but to those of the first three classes; and the selection of candidates out of the fourth class is only compulsory on the first and second. Then, from the persons so chosen, he says that there ought to be an equal number of each class selected. Thus a preponderance will be given to the better sort of people, who have the larger incomes, because many of the lower classes, not being compelled will not vote. These considerations, and others which will be adduced when the time comes for examining similar polities, tend to show that states like Plato's should not be composed of democracy and monarchy. There is also a danger in electing the magistrates out of a body who are themselves elected; for, if but a small number choose to combine, the elections will always go as they desire. Such is the constitution which is described in the Laws.

VII

Other constitutions have been proposed; some by private persons, others by philosophers and statesmen, which all come nearer to established or existing ones than either of Plato’s. No one else has introduced such novelties as the community of women and children, or public tables for women: other legislators begin with what is necessary. In the opinion of some, the regulation of property is the chief point of all, that being the question upon which all revolutions turn. This danger was recognized by Phaleas of Chalcedon, who was the first to affirm that the citizens of a state ought to have equal possessions. He thought that in a new colony the equalization might be accomplished without difficulty, not so easily when a state was already established; and that then the shortest way of compassing the desired end would be for the rich to give and not to receive marriage portions, and for the poor not to give but to receive them.

Plato in the Laws was of opinion that, to a certain extent, accumulation should be allowed, forbidding, as I have already observed, any citizen to possess more than five times the minimum qualification But those who make such laws should remember what they are apt to forget — that the legislator who fixes the amount of property should also fix the number of children; for, if the children are too many for the property, the law must be broken. And, besides the violation of the law, it is a bad thing that many from being rich should become poor; for men of ruined fortunes are sure to stir up revolutions. That the equalization of property exercises an influence on political society was clearly understood even by some of the old legislators. Laws were made by Solon and others prohibiting an individual from possessing as much land as he pleased; and there are other laws in states which forbid the sale of property: among the Locrians, for example, there is a law that a man is not to sell his property unless he can prove unmistakably that some misfortune has befallen him. Again, there have been laws which enjoin the preservation of the original lots. Such a law existed in the island of Leucas, and the abrogation of it made the constitution too democratic, for the rulers no longer had the prescribed qualification. Again, where there is equality of property, the amount may be either too large or too small, and the possessor may be living either in luxury or penury. Clearly, then, the legislator ought not only to aim at the equalization of properties, but at moderation in their amount. Further, if he prescribe this moderate amount equally to all, he will be no nearer the mark; for it is not the possessions but the desires of mankind which require to be equalized, and this is impossible, unless a sufficient education is provided by the laws. But Phaleas will probably reply that this is precisely what he means; and that, in his opinion, there ought to be in states, not only equal property, but equal education. Still he should tell precisely what he means; and that, in his opinion, there ought to be in be in having one and the same for all, if it is of a sort that predisposes men to avarice, or ambition, or both. Moreover, civil troubles arise, not only out of the inequality of property, but out of the inequality of honor, though in opposite ways. For the common people quarrel about the inequality of property, the higher class about the equality of honor; as the poet says,

The bad and good alike in honor share.

There are crimes of which the motive is want; and for these Phaleas expects to find a cure in the equalization of property, which will take away from a man the temptation to be a highwayman, because he is hungry or cold. But want is not the sole incentive to crime; men also wish to enjoy themselves and not to be in a state of desire — they wish to cure some desire, going beyond the necessities of life, which preys upon them; nay, this is not the only reason — they may desire superfluities in order to enjoy pleasures unaccompanied with pain, and therefore they commit crimes.

Now what is the cure of these three disorders? Of the first, moderate possessions and occupation; of the second, habits of temperance; as to the third, if any desire pleasures which depend on themselves, they will find the satisfaction of their desires nowhere but in philosophy; for all other pleasures we are dependent on others. The fact is that the greatest crimes are caused by excess and not by necessity. Men do not become tyrants in order that they may not suffer cold; and hence great is the honor bestowed, not on him who kills a thief, but on him who kills a tyrant. Thus we see that the institutions of Phaleas avail only against petty crimes.

There is another objection to them. They are chiefly designed to promote the internal welfare of the state. But the legislator should consider also its relation to neighboring nations, and to all who are outside of it. The government must be organized with a view to military strength; and of this he has said not a word. And so with respect to property: there should not only be enough to supply the internal wants of the state, but also to meet dangers coming from without. The property of the state should not be so large that more powerful neighbors may be tempted by it, while the owners are unable to repel the invaders; nor yet so small that the state is unable to maintain a war even against states of equal power, and of the same character. Phaleas has not laid down any rule; but we should bear in mind that abundance of wealth is an advantage. The best limit will probably be, that a more powerful neighbor must have no inducement to go to war with you by reason of the excess of your wealth, but only such as he would have had if you had possessed less. There is a story that Eubulus, when Autophradates was going to besiege Atarneus, told him to consider how long the operation would take, and then reckon up the cost which would be incurred in the time. 'For,' said he, 'I am willing for a smaller sum than that to leave Atarneus at once.' These words of Eubulus made an impression on Autophradates, and he desisted from the siege.

The equalization of property is one of the things that tend to prevent the citizens from quarrelling. Not that the gain in this direction is very great. For the nobles will be dissatisfied because they think themselves worthy of more than an equal share of honors; and this is often found to be a cause of sedition and revolution. And the avarice of mankind is insatiable; at one time two obols was pay enough; but now, when this sum has become customary, men always want more and more without end; for it is of the nature of desire not to be satisfied, and most men live only for the gratification of it. The beginning of reform is not so much to equalize property as to train the nobler sort of natures not to desire more, and to prevent the lower from getting more; that is to say, they must be kept down, but not ill-treated. Besides, the equalization proposed by Phaleas is imperfect; for he only equalizes land, whereas a man may be rich also in slaves, and cattle, and money, and in the abundance of what are called his movables. Now either all these things must be equalized, or some limit must be imposed on them, or they must an be let alone. It would appear that Phaleas is legislating for a small city only, if, as he supposes, all the artisans are to be public slaves and not to form a supplementary part of the body of citizens. But if there is a law that artisans are to be public slaves, it should only apply to those engaged on public works, as at Epidamnus, or at Athens on the plan which Diophantus once introduced.

From these observations any one may judge how far Phaleas was wrong or right in his ideas.

VIII

Hippodamus, the son of Euryphon, a native of Miletus, the same who invented the art of planning cities, and who also laid out the Piraeus — a strange man, whose fondness for distinction led him into a general eccentricity of life, which made some think him affected (for he would wear flowing hair and expensive ornaments; but these were worn on a cheap but warm garment both in winter and summer); he, besides aspiring to be an adept in the knowledge of nature, was the first person not a statesman who made inquiries about the best form of government.

The city of Hippodamus was composed of 10,000 citizens divided into three parts — one of artisans, one of husbandmen, and a third of armed defenders of the state. He also divided the land into three parts, one sacred, one public, the third private: the first was set apart to maintain the customary worship of the Gods, the second was to support the warriors, the third was the property of the husbandmen. He also divided laws into three classes, and no more, for he maintained that there are three subjects of lawsuits — insult, injury, and homicide. He likewise instituted a single final court of appeal, to which all causes seeming to have been improperly decided might be referred; this court he formed of elders chosen for the purpose. He was further of opinion that the decisions of the courts ought not to be given by the use of a voting pebble, but that every one should have a tablet on which he might not only write a simple condemnation, or leave the tablet blank for a simple acquittal; but, if he partly acquitted and partly condemned, he was to distinguish accordingly. To the existing law he objected that it obliged the judges to be guilty of perjury, whichever way they voted. He also enacted that those who discovered anything for the good of the state should be honored; and he provided that the children of citizens who died in battle should be maintained at the public expense, as if such an enactment had never been heard of before, yet it actually exists at Athens and in other places. As to the magistrates, he would have them all elected by the people, that is, by the three classes already mentioned, and those who were elected were to watch over the interests of the public, of strangers, and of orphans. These are the most striking points in the constitution of Hippodamus. There is not much else.

The first of these proposals to which objection may be taken is the threefold division of the citizens. The artisans, and the husbandmen, and the warriors, all have a share in the government. But the husbandmen have no arms, and the artisans neither arms nor land, and therefore they become all but slaves of the warrior class. That they should share in all the offices is an impossibility; for generals and guardians of the citizens, and nearly all the principal magistrates, must be taken from the class of those who carry arms. Yet, if the two other classes have no share in the government, how can they be loyal citizens? It may be said that those who have arms must necessarily be masters of both the other classes, but this is not so easily accomplished unless they are numerous; and if they are, why should the other classes share in the government at all, or have power to appoint magistrates? Further, what use are farmers to the city? Artisans there must be, for these are wanted in every city, and they can live by their craft, as elsewhere; and the husbandmen too, if they really provided the warriors with food, might fairly have a share in the government. But in the republic of Hippodamus they are supposed to have land of their own, which they cultivate for their private benefit. Again, as to this common land out of which the soldiers are maintained, if they are themselves to be the cultivators of it, the warrior class will be identical with the husbandmen, although the legislator intended to make a distinction between them. If, again, there are to be other cultivators distinct both from the husbandmen, who have land of their own, and from the warriors, they will make a fourth class, which has no place in the state and no share in anything. Or, if the same persons are to cultivate their own lands, and those of the public as well, they will have difficulty in supplying the quantity of produce which will maintain two households: and why, in this case, should there be any division, for they might find food themselves and give to the warriors from the same land and the same lots? There is surely a great confusion in all this.

Neither is the law to commended which says that the judges, when a simple issue is laid before them, should distinguish in their judgement; for the judge is thus converted into an arbitrator. Now, in an arbitration, although the arbitrators are many, they confer with one another about the decision, and therefore they can distinguish; but in courts of law this is impossible, and, indeed, most legislators take pains to prevent the judges from holding any communication with one another. Again, will there not be confusion if the judge thinks that damages should be given, but not so much as the suitor demands? He asks, say, for twenty minae, and the judge allows him ten minae (or in general the suitor asks for more and the judge allows less), while another judge allows five, another four minae. In this way they will go on splitting up the damages, and some will grant the whole and others nothing: how is the final reckoning to be taken? Again, no one contends that he who votes for a simple acquittal or condemnation perjures himself, if the indictment has been laid in an unqualified form; and this is just, for the judge who acquits does not decide that the defendant owes nothing, but that he does not owe the twenty minae. He only is guilty of perjury who thinks that the defendant ought not to pay twenty minae, and yet condemns him.

To honor those who discover anything which is useful to the state is a proposal which has a specious sound, but cannot safely be enacted by law, for it may encourage informers, and perhaps even lead to political commotions. This question involves another. It has been doubted whether it is or is not expedient to make any changes in the laws of a country, even if another law be better. Now, if an changes are inexpedient, we can hardly assent to the proposal of Hippodamus; for, under pretense of doing a public service, a man may introduce measures which are really destructive to the laws or to the constitution. But, since we have touched upon this subject, perhaps we had better go a little into detail, for, as I was saying, there is a difference of opinion, and it may sometimes seem desirable to make changes. Such changes in the other arts and sciences have certainly been beneficial; medicine, for example, and gymnastic, and every other art and craft have departed from traditional usage. And, if politics be an art, change must be necessary in this as in any other art. That improvement has occurred is shown by the fact that old customs are exceedingly simple and barbarous. For the ancient Hellenes went about armed and bought their brides of each other. The remains of ancient laws which have come down to us are quite absurd; for example, at Cumae there is a law about murder, to the effect that if the accuser produce a certain number of witnesses from among his own kinsmen, the accused shall be held guilty. Again, men in general desire the good, and not merely what their fathers had. But the primeval inhabitants, whether they were born of the earth or were the survivors of some destruction, may be supposed to have been no better than ordinary or even foolish people among ourselves (such is certainly the tradition concerning the earth-born men); and it would be ridiculous to rest contented with their notions. Even when laws have been written down, they ought not always to remain unaltered. As in other sciences, so in politics, it is impossible that all things should be precisely set down in writing; for enactments must be universal, but actions are concerned with particulars. Hence we infer that sometimes and in certain cases laws may be changed; but when we look at the matter from another point of view, great caution would seem to be required. For the habit of lightly changing the laws is an evil, and, when the advantage is small, some errors both of lawgivers and rulers had better be left; the citizen will not gain so much by making the change as he will lose by the habit of disobedience. The analogy of the arts is false; a change in a law is a very different thing from a change in an art. For the law has no power to command obedience except that of habit, which can only be given by time, so that a readiness to change from old to new laws enfeebles the power of the law. Even if we admit that the laws are to be changed, are they all to be changed, and in every state? And are they to be changed by anybody who likes, or only by certain persons? These are very important questions; and therefore we had better reserve the discussion of them to a more suitable occasion.

IX

In the governments of Lacedaemon and Crete, and indeed in all governments, two points have to be considered: first, whether any particular law is good or bad, when compared with the perfect state; secondly, whether it is or is not consistent with the idea and character which the lawgiver has set before his citizens. That in a well-ordered state the citizens should have leisure and not have to provide for their daily wants is generally acknowledged, but there is a difficulty in seeing how this leisure is to be attained. The Thessalian Penestae have often risen against their masters, and the Helots in like manner against the Lacedaemonians, for whose misfortunes they are always lying in wait. Nothing, however, of this kind has as yet happened to the Cretans; the reason probably is that the neighboring cities, even when at war with one another, never form an alliance with rebellious serfs, rebellions not being for their interest, since they themselves have a dependent population. Whereas all the neighbors of the Lacedaemonians, whether Argives, Messenians, or Arcadians, were their enemies. In Thessaly, again, the original revolt of the slaves occurred because the Thessalians were still at war with the neighboring Achaeans, Perrhaebians, and Magnesians. Besides, if there were no other difficulty, the treatment or management of slaves is a troublesome affair; for, if not kept in hand, they are insolent, and think that they are as good as their masters, and, if harshly treated, they hate and conspire against them. Now it is clear that when these are the results the citizens of a state have not found out the secret of managing their subject population.

Again, the license of the Lacedaemonian women defeats the intention of the Spartan constitution, and is adverse to the happiness of the state. For, a husband and wife being each a part of every family, the state may be considered as about equally divided into men and women; and, therefore, in those states in which the condition of the women is bad, half the city may be regarded as having no laws. And this is what has actually happened at Sparta; the legislator wanted to make the whole state hardy and temperate, and he has carried out his intention in the case of the men, but he has neglected the women, who live in every sort of intemperance and luxury. The consequence is that in such a state wealth is too highly valued, especially if the citizen fall under the dominion of their wives, after the manner of most warlike races, except the Celts and a few others who openly approve of male loves. The old mythologer would seem to have been right in uniting Ares and Aphrodite, for all warlike races are prone to the love either of men or of women. This was exemplified among the Spartans in the days of their greatness; many things were managed by their women. But what difference does it make whether women rule, or the rulers are ruled by women? The result is the same. Even in regard to courage, which is of no use in daily life, and is needed only in war, the influence of the Lacedaemonian women has been most mischievous. The evil showed itself in the Theban invasion, when, unlike the women other cities, they were utterly useless and caused more confusion than the enemy. This license of the Lacedaemonian women existed from the earliest times, and was only what might be expected. For, during the wars of the Lacedaemonians, first against the Argives, and afterwards against the Arcadians and Messenians, the men were long away from home, and, on the return of peace, they gave themselves into the legislator’s hand, already prepared by the discipline of a soldier’s life (in which there are many elements of virtue), to receive his enactments. But, when Lycurgus, as tradition says, wanted to bring the women under his laws, they resisted, and he gave up the attempt. These then are the causes of what then happened, and this defect in the constitution is clearly to be attributed to them. We are not, however, considering what is or is not to be excused, but what is right or wrong, and the disorder of the women, as I have already said, not only gives an air of indecorum to the constitution considered in itself, but tends in a measure to foster avarice.

The mention of avarice naturally suggests a criticism on the inequality of property. While some of the Spartan citizen have quite small properties, others have very large ones; hence the land has passed into the hands of a few. And this is due also to faulty laws; for, although the legislator rightly holds up to shame the sale or purchase of an inheritance, he allows anybody who likes to give or bequeath it. Yet both practices lead to the same result. And nearly two-fifths of the whole country are held by women; this is owing to the number of heiresses and to the large dowries which are customary. It would surely have been better to have given no dowries at all, or, if any, but small or moderate ones. As the law now stands, a man may bestow his heiress on any one whom he pleases, and, if he die intestate, the privilege of giving her away descends to his heir. Hence, although the country is able to maintain 1500 cavalry and 30,000 hoplites, the whole number of Spartan citizens fell below 1000. The result proves the faulty nature of their laws respecting property; for the city sank under a single defeat; the want of men was their ruin. There is a tradition that, in the days of their ancient kings, they were in the habit of giving the rights of citizenship to strangers, and therefore, in spite of their long wars, no lack of population was experienced by them; indeed, at one time Sparta is said to have numbered not less than 10,000 citizens Whether this statement is true or not, it would certainly have been better to have maintained their numbers by the equalization of property. Again, the law which relates to the procreation of children is adverse to the correction of this inequality. For the legislator, wanting to have as many Spartans as he could, encouraged the citizens to have large families; and there is a law at Sparta that the father of three sons shall be exempt from military service, and he who has four from all the burdens of the state. Yet it is obvious that, if there were many children, the land being distributed as it is, many of them must necessarily fall into poverty.

The Lacedaemonian constitution is defective in another point; I mean the Ephoralty. This magistracy has authority in the highest matters, but the Ephors are chosen from the whole people, and so the office is apt to fall into the hands of very poor men, who, being badly off, are open to bribes. There have been many examples at Sparta of this evil in former times; and quite recently, in the matter of the Andrians, certain of the Ephors who were bribed did their best to ruin the state. And so great and tyrannical is their power, that even the kings have been compelled to court them, so that, in this way as well together with the royal office, the whole constitution has deteriorated, and from being an aristocracy has turned into a democracy. The Ephoralty certainly does keep the state together; for the people are contented when they have a share in the highest office, and the result, whether due to the legislator or to chance, has been advantageous. For if a constitution is to be permanent, all the parts of the state must wish that it should exist and the same arrangements be maintained. This is the case at Sparta, where the kings desire its permanence because they have due honor in their own persons; the nobles because they are represented in the council of elders (for the office of elder is a reward of virtue); and the people, because all are eligible to the Ephoralty. The election of Ephors out of the whole people is perfectly right, but ought not to be carried on in the present fashion, which is too childish. Again, they have the decision of great causes, although they are quite ordinary men, and therefore they should not determine them merely on their own judgment, but according to written rules, and to the laws. Their way of life, too, is not in accordance with the spirit of the constitution — they have a deal too much license; whereas, in the case of the other citizens, the excess of strictness is so intolerable that they run away from the law into the secret indulgence of sensual pleasures.

Again, the council of elders is not free from defects. It may be said that the elders are good men and well trained in manly virtue; and that, therefore, there is an advantage to the state in having them. But that judges of important causes should hold office for life is a disputable thing, for the mind grows old as well as the body. And when men have been educated in such a manner that even the legislator himself cannot trust them, there is real danger. Many of the elders are well known to have taken bribes and to have been guilty of partiality in public affairs. And therefore they ought not to be irresponsible; yet at Sparta they are so. But (it may be replied), ‘All magistracies are accountable to the Ephors.’ Yes, but this prerogative is too great for them, and we maintain that the control should be exercised in some other manner. Further, the mode in which the Spartans elect their elders is childish; and it is improper that the person to be elected should canvass for the office; the worthiest should be appointed, whether he chooses or not. And here the legislator clearly indicates the same intention which appears in other parts of his constitution; he would have his citizens ambitious, and he has reckoned upon this quality in the election of the elders; for no one would ask to be elected if he were not. Yet ambition and avarice, almost more than any other passions, are the motives of crime.

Whether kings are or are not an advantage to states, I will consider at another time; they should at any rate be chosen, not as they are now, but with regard to their personal life and conduct. The legislator himself obviously did not suppose that he could make them really good men; at least he shows a great distrust of their virtue. For this reason the Spartans used to join enemies with them in the same embassy, and the quarrels between the kings were held to be conservative of the state.

Neither did the first introducer of the common meals, called ‘phiditia,’ regulate them well. The entertainment ought to have been provided at the public cost, as in Crete; but among the Lacedaemonians every one is expected to contribute, and some of them are too poor to afford the expense; thus the intention of the legislator is frustrated. The common meals were meant to be a popular institution, but the existing manner of regulating them is the reverse of popular. For the very poor can scarcely take part in them; and, according to ancient custom, those who cannot contribute are not allowed to retain their rights of citizenship.

The law about the Spartan admirals has often been censured, and with justice; it is a source of dissension, for the kings are perpetual generals, and this office of admiral is but the setting up of another king.

The charge which Plato brings, in the Laws, against the intention of the legislator, is likewise justified; the whole constitution has regard to one part of virtue only — the virtue of the soldier, which gives victory in war. So long as they were at war, therefore, their power was preserved, but when they had attained empire they fell for of the arts of peace they knew nothing, and had never engaged in any employment higher than war. There is another error, equally great, into which they have fallen. Although they truly think that the goods for which men contend are to be acquired by virtue rather than by vice, they err in supposing that these goods are to be preferred to the virtue which gains them.

Once more: the revenues of the state are ill-managed; there is no money in the treasury, although they are obliged to carry on great wars, and they are unwilling to pay taxes. The greater part of the land being in the hands of the Spartans, they do not look closely into one another's contributions. The result which the legislator has produced is the reverse of beneficial; for he has made his city poor, and his citizens greedy.

Enough respecting the Spartan constitution, of which these are the principal defects.

X

The Cretan constitution nearly resembles the Spartan, and in some few points is quite as good; but for the most part less perfect in form. The older constitutions are generally less elaborate than the later, and the Lacedaemonian is said to be, and probably is, in a very great measure, a copy of the Cretan. According to tradition, Lycurgus, when he ceased to be the guardian of King Charillus, went abroad and spent most of his time in Crete. For the two countries are nearly connected; the Lyctians are a colony of the Lacedaemonians, and the colonists, when they came to Crete, adopted the constitution which they found existing among the inhabitants. Even to this day the Perioeci, or subject population of Crete, are governed by the original laws which Minos is supposed to have enacted. The island seems to be intended by nature for dominion in Hellas, and to be well situated; it extends right across the sea, around which nearly all the Hellenes are settled; and while one end is not far from the Peloponnese, the other almost reaches to the region of Asia about Triopium and Rhodes. Hence Minos acquired the empire of the sea, subduing some of the islands and colonizing others; at last he invaded Sicily, where he died near Camicus.

The Cretan institutions resemble the Lacedaemonian. The Helots are the husbandmen of the one, the Perioeci of the other, and both Cretans and Lacedaemonians have common meals, which were anciently called by the

Lacedaemonians not ‘phiditia’ but ‘andria’; and the Cretans have the same word, the use of which proves that the common meals originally came from Crete. Further, the two constitutions are similar; for the office of the Ephors is the same as that of the Cretan Cosmi, the only difference being that whereas the Ephors are five, the Cosmi are ten in number. The elders, too, answer to the elders in Crete, who are termed by the Cretans the council. And the kingly office once existed in Crete, but was abolished, and the Cosmi have now the duty of leading them in war. All classes share in the ecclesia, but it can only ratify the decrees of the elders and the Cosmi.

The common meals of Crete are certainly better managed than the Lacedaemonian; for in Lacedaemon every one pays so much per head, or, if he fails, the law, as I have already explained, forbids him to exercise the rights of citizenship. But in Crete they are of a more popular character. There, of all the fruits of the earth and cattle raised on the public lands, and of the tribute which is paid by the Perioeci, one portion is assigned to the Gods and to the service of the state, and another to the common meals, so that men, women, and children are all supported out of a common stock. The legislator has many ingenious ways of securing moderation in eating, which he conceives to be a gain; he likewise encourages the separation of men from women, lest they should have too many children, and the companionship of men with one another — whether this is a good or bad thing I shall have an opportunity of considering at another time. But that the Cretan common meals are better ordered than the Lacedaemonian there can be no doubt.

On the other hand, the Cosmi are even a worse institution than the Ephors, of which they have all the evils without the good. Like the Ephors, they are any chance persons, but in Crete this is not counterbalanced by a corresponding political advantage. At Sparta every one is eligible, and the body of the people, having a share in the highest office, want the constitution to be permanent. But in Crete the Cosmi are elected out of certain families, and not out of the whole people, and the elders out of those who have been Cosmi.

The same criticism may be made about the Cretan, which has been already made about the Lacedaemonian elders. Their irresponsibility and life tenure is too great a privilege, and their arbitrary power of acting upon their own judgment, and dispensing with written law, is dangerous. It is no proof of the goodness of the institution that the people are not discontented at being excluded from it. For there is no profit to be made out of the office as out of the Ephoralty, since, unlike the Ephors, the Cosmi, being in an island, are removed from temptation.

The remedy by which they correct the evil of this institution is an extraordinary one, suited rather to a close oligarchy than to a constitutional state. For the Cosmi are often expelled by a conspiracy of their own colleagues, or of private individuals; and they are allowed also to resign before their term of office has expired. Surely all matters of this kind are better regulated by law than by the will of man, which is a very unsafe rule. Worst of all is the suspension of the office of Cosmi, a device to which the nobles often have recourse when they will not submit to justice. This shows that the Cretan government, although possessing some of the characteristics of a constitutional state, is really a close oligarchy.

The nobles have a habit, too, of setting up a chief; they get together a party among the common people and their own friends and then quarrel and fight with one another. What is this but the temporary destruction of the state and dissolution of society? A city is in a dangerous condition when those who are willing are also able to attack her. But, as I have already said, the island of Crete is saved by her situation; distance has the same effect as the Lacedaemonian prohibition of strangers; and the Cretans have no foreign dominions. This is the reason why the Perioeci are contented in Crete, whereas the Helots are perpetually revolting. But when lately foreign invaders found their way into the island, the weakness of the Cretan constitution was revealed. Enough of the government of Crete.

XI

The Carthaginians are also considered to have an excellent form of government, which differs from that of any other state in several respects, though it is in some very like the Lacedaemonian. Indeed, all three states — the Lacedaemonian, the Cretan, and the Carthaginian — nearly resemble one another, and are very different from any others. Many of the Carthaginian institutions are excellent The superiority of their constitution is proved by the fact that the common people remain loyal to the constitution the Carthaginians have never had any rebellion worth speaking of, and have never been under the rule of a tyrant.

Among the points in which the Carthaginian constitution resembles the Lacedaemonian are the following: The common tables of the clubs answer to the Spartan phiditia, and their magistracy of the 104 to the Ephors; but, whereas the Ephors are any chance persons, the magistrates of the Carthaginians are elected according to merit — this is an improvement. They have also their kings and their gerusia, or council of elders, who correspond to the kings and elders of Sparta. Their kings, unlike the Spartan, are not always of the same family, nor that an ordinary one, but if there is some distinguished family they are selected out of it and not appointed by senority — this is far better. Such officers have great power, and therefore, if they are persons of little worth, do a great deal of harm, and they have already done harm at Lacedaemon.

Most of the defects or deviations from the perfect state, for which the Carthaginian constitution would be censured, apply equally to all the forms of government which we have mentioned. But of the deflections from aristocracy and constitutional government, some incline more to democracy and some to oligarchy. The kings and elders, if unanimous, may determine whether they will or will not bring a matter before the people, but when they are not unanimous, the people decide on such matters as well. And whatever the kings and elders bring before the people is not only heard but also determined by them, and any one who likes may oppose it; now this is not permitted in Sparta and Crete. That the magistrates of five who have under them many important matters should be co-opted, that they should choose the supreme council of 100, and should hold office longer than other magistrates (for they are virtually rulers both before and after they hold office) — these are oligarchical features; their being without salary and not elected by lot, and any similar points, such as the practice of having all suits tried by the magistrates, and not some by one class of judges or jurors and some by another, as at Lacedaemon, are characteristic of aristocracy. The Carthaginian constitution deviates from aristocracy and inclines to oligarchy, chiefly on a point where popular opinion is on their side. For men in general think that magistrates should be chosen not only for their merit, but for their wealth: a man, they say, who is poor cannot rule well — he has not the leisure. If, then, election of magistrates for their wealth be characteristic of oligarchy, and election for merit of aristocracy, there will be a third form under which the constitution of Carthage is comprehended; for the Carthaginians choose their magistrates, and particularly the highest of them — their kings and generals — with an eye both to merit and to wealth.

But we must acknowledge that, in thus deviating from aristocracy, the legislator has committed an error. Nothing is more absolutely necessary than to provide that the highest class, not only when in office, but when out of office, should have leisure and not disgrace themselves in any way; and to this his attention should be first directed. Even if you must have regard to wealth, in order to secure leisure, yet it is surely a bad thing that the greatest offices, such as those of kings and generals, should be bought. The law which allows this abuse makes wealth of more account than virtue, and the whole state becomes avaricious. For, whenever the chiefs of the state deem anything honorable, the other citizens are sure to follow their example; and, where virtue has not the first place, their aristocracy cannot be firmly established. Those who have been at the expense of purchasing their places will be in the habit of repaying themselves; and it is absurd to suppose that a poor and honest man will be wanting to make gains, and that a lower stamp of man who has incurred a great expense will not. Wherefore they should rule who are able to rule best. And even if the legislator does not care to protect the good from poverty, he should at any rate secure leisure for them when in office.

It would seem also to be a bad principle that the same person should hold many offices, which is a favorite practice among the Carthaginians, for one business is better done by one man. The legislator should see to this and should not appoint the same person to be a flute-player and a shoemaker. Hence, where the state is large, it is more in accordance both with constitutional and with democratic principles that the offices of state should be distributed among many persons. For, as I said, this arrangement is fairer to all, and any action familiarized by repetition is better and sooner performed. We have a proof in military and naval matters; the duties of command and of obedience in both these services extend to all.

The government of the Carthaginians is oligarchical, but they successfully escape the evils of oligarchy by enriching one portion of the people after another by sending them to their colonies. This is their panacea and the means by which they give stability to the state. Accident favors them, but the legislator should be able to provide against revolution without trusting to accidents. As things are, if any misfortune occurred, and the bulk of the subjects revolted, there would be no way of restoring peace by legal methods.

Such is the character of the Lacedaemonian, Cretan, and Carthaginian constitutions, which are justly celebrated.

XII

Of those who have treated of governments, some have never taken any part at all in public affairs, but have passed their lives in a private station; about most of them, what was worth telling has been already told. Others have been lawgivers, either in their own or in foreign cities, whose affairs they have administered; and of these some have only made laws, others have framed constitutions; for example, Lycurgus and Solon did both. Of the Lacedaemonian constitution I have already spoken. As to Solon, he is thought by some to have been a good legislator, who put an end to the exclusiveness of the oligarchy, emancipated the people, established the ancient Athenian democracy, and harmonized the different elements of the state. According to their view, the council of Areopagus was an oligarchical element, the elected magistracy, aristocratical, and the courts of law, democratical. The truth seems to be that the council and the elected magistracy existed before the time of Solon, and were retained by him, but that he formed the courts of law out of an the citizens, thus creating the democracy, which is the very reason why he is sometimes blamed. For in giving the supreme power to the law courts, which are elected by lot, he is thought to have destroyed the non-democratic element. When the law courts grew powerful, to please the people who were now playing the tyrant the old constitution was changed into the existing democracy. Ephialtes and Pericles curtailed the power of the Areopagus; Pericles also instituted the payment of the juries, and thus every demagogue in turn increased the power of the democracy until it became what we now see. All this is true; it seems, however, to be the result of circumstances, and not to have been intended by Solon. For the people, having been instrumental in gaining the empire of the sea in the Persian War, began to get a notion of itself, and followed worthless demagogues, whom the better class opposed. Solon, himself, appears to have given the Athenians only that power of electing to offices and calling to account the magistrates which was absolutely necessary; for without it they would have been in a state of slavery and enmity to the government. All the magistrates he appointed from the notables and the men of wealth, that is to say, from the pentacosio-medimni, or from the class called zeugitae, or from a third class of so-called knights or cavalry. The fourth class were laborers who had no share in any magistracy.

Mere legislators were Zaleucus, who gave laws to the Epizephyrian Locrians, and Charondas, who legislated for his own city of Catana, and for the other Chalcidian cities in Italy and Sicily. Some people attempt to make out that Onomacritus was the first person who had any special skill in legislation, and that he, although a Locrian by birth, was trained in Crete, where he lived in the exercise of his prophetic art; that Thales was his companion, and that Lycurgus and Zaleucus were disciples of Thales, as Charondas was of Zaleucus. But their account is quite inconsistent with chronology.

There was also Philolaus, the Corinthian, who gave laws to the Thebans. This Philolaus was one of the family of the Bacchiadae, and a lover of Diocles, the Olympic victor, who left Corinth in horror of the incestuous passion which his mother Halcyone had conceived for him, and retired to Thebes, where the two friends together ended their days. The inhabitants still point out their tombs, which are in full view of one another, but one is visible from the Corinthian territory, the other not. Tradition says the two friends arranged them thus, Diocles out of horror at his misfortunes, so that the land of Corinth might not be visible from his tomb; Philolaus that it might. This is the reason why they settled at Thebes, and so Philolaus legislated for the Thebans, and, besides some other enactments, gave them laws about the procreation of children, which they call the ‘Laws of Adoption.’ These laws were peculiar to him, and were intended to preserve the number of the lots.

In the legislation of Charondas there is nothing remarkable, except the suits against false witnesses. He is the first who instituted denunciation for perjury. His laws are more exact and more precisely expressed than even those of our modern legislators.

(Characteristic of Phaleas is the equalization of property; of Plato, the community of women, children, and property, the common meals of women, and the law about drinking, that the sober shall be masters of the feast; also the training of soldiers to acquire by practice equal skill with both hands, so that one should be as useful as the other.)

Draco has left laws, but he adapted them to a constitution which already existed, and there is no peculiarity in them which is worth mentioning, except the greatness and severity of the punishments.

Pittacus, too, was only a lawgiver, and not the author of a constitution; he has a law which is peculiar to him, that, if a drunken man do something wrong, he shall be more heavily punished than if he were sober; he looked not to the excuse which might be offered for the drunkard, but only to expediency, for drunken more often than sober people commit acts of violence.

Androdamas of Rhegium gave laws to the Chalcidians of Thrace. Some of them relate to homicide, and to heiresses; but there is nothing remarkable in them.

And here let us conclude our inquiry into the various constitutions which either actually exist, or have been devised by theorists.

Book Three

I

HE who would inquire into the essence and attributes of various kinds of governments must first of all determine ‘What is a state?’ At present this is a disputed question. Some say that the state has done a certain act; others, no, not the state, but the oligarchy or the tyrant. And the legislator or statesman is concerned entirely with the state; a constitution or government being an arrangement of the inhabitants of a state. But a state is composite, like any other whole made up of many parts; these are the citizens, who compose it. It is evident, therefore, that we must begin by asking, Who is the citizen, and what is the meaning of the term? For here again there may be a difference of opinion. He who is a citizen in a democracy will often not be a citizen in an oligarchy. Leaving out of consideration those who have been made citizens, or who have obtained the name of citizen any other accidental manner, we may say, first, that a citizen is not a citizen because he lives in a certain place, for resident aliens and slaves share in the place; nor is he a citizen who has no legal right except that of suing and being sued; for this right may be enjoyed under the provisions of a treaty. Nay, resident aliens in many places do not possess even such rights completely, for they are obliged to have a patron, so that they do but imperfectly participate in citizenship, and we call them citizens only in a qualified sense, as we might apply the term to children who are too young to be on the register, or to old men who have been relieved from state duties. Of these we do not say quite simply that they are citizens, but add in the one case that they are not of age, and in the other, that they are past the age, or something of that sort; the precise expression is immaterial, for our meaning is clear. Similar difficulties to those which I have mentioned may be raised and answered about deprived citizens and about exiles. But the citizen whom we are seeking to define is a citizen in the strictest sense, against whom no such exception can be taken, and his special characteristic is that he shares in the administration of justice, and in offices. Now of offices some are discontinuous, and the same persons are not allowed to hold them twice, or can only hold them after a fixed interval; others have no limit of time — for example, the office of a dicast or ecclesiast. It may, indeed, be argued that these are not magistrates at all, and that their functions give them no share in the government. But surely it is ridiculous to say that those who have the power do not govern. Let us not dwell further upon this, which is a purely verbal question; what we want is a common term including both dicast and ecclesiast. Let us, for the sake of distinction, call it 'indefinite office,' and we will assume that those who share in such office are citizens. This is the most comprehensive definition of a citizen, and best suits all those who are generally so called.

But we must not forget that things of which the underlying principles differ in kind, one of them being first, another second, another third, have, when regarded in this relation, nothing, or hardly anything, worth mentioning in common. Now we see that governments differ in kind, and that some of them are prior and that others are posterior; those which are faulty or perverted are necessarily posterior to those which are perfect. (What we mean by perversion will be hereafter explained.) The citizen then of necessity differs under each form of government; and our definition is best adapted to the citizen of a democracy; but not necessarily to other states. For in some states the people are not acknowledged, nor have they any regular assembly, but only extraordinary ones; and suits are distributed by sections among the magistrates. At Lacedaemon, for instance, the Ephors determine suits about contracts, which they distribute among themselves, while the elders are judges of homicide, and other causes are decided by other magistrates. A similar principle prevails at Carthage; there certain magistrates decide all causes. We may, indeed, modify our definition of the citizen so as to include these states. In them it is the holder of a definite, not of an indefinite office, who legislates and judges, and to some or all such holders of definite offices is reserved the right of deliberating or judging about some things or about all things. The conception of the citizen now begins to clear up.

He who has the power to take part in the deliberative or judicial administration of any state is said by us to be a citizens of that state; and, speaking generally, a state is a body of citizens sufficing for the purposes of life.

II

But in practice a citizen is defined to be one of whom both the parents are citizens; others insist on going further back; say to two or three or more ancestors. This is a short and practical definition but there are some who raise the further question: How this third or fourth ancestor came to be a citizen? Gorgias of Leontini, partly because he was in a difficulty, partly in irony, said—'Mortars are what is made by the mortar-makers, and the citizens of Larissa are those who are made by the magistrates; for it is their trade to make Larissaeans.' Yet the question is really simple, for, if according to the definition just given they shared in the government, they were citizens. This is a better definition than the other. For the words, 'born of a father or mother who is a citizen,' cannot possibly apply to the first inhabitants or founders of a state.

There is a greater difficulty in the case of those who have been made citizens after a revolution, as by Cleisthenes at Athens after the expulsion of the tyrants, for he enrolled in tribes many metics, both strangers and slaves. The doubt in these cases is, not who is, but whether he who is ought to be a citizen; and there will still be a furthering the state, whether a certain act is or is not an act of the state; for what ought not to be is what is false. Now, there are some who hold office, and yet ought not to hold office, whom we describe as ruling, but ruling unjustly. And the citizen was defined by the fact of his holding some kind of rule or office — he who holds a judicial or legislative office fulfills our definition of a citizen. It is evident, therefore, that the citizens about whom the doubt has arisen must be called citizens.

III

Whether they ought to be so or not is a question which is bound up with the previous inquiry. For a parallel question is raised respecting the state, whether a certain act is or is not an act of the state; for example, in the transition from an oligarchy or a tyranny to a democracy. In such cases persons refuse to fulfill their contracts or any other obligations, on the ground that the tyrant, and not the state, contracted them; they argue that some constitutions are established by force, and not for the sake of the common good. But this would apply equally to democracies, for they too may be founded on violence, and then the acts of the democracy will be neither more nor less acts of the state in question than those of an oligarchy or of a tyranny. This question runs up into another: on what principle shall we ever say that the state is the same, or different? It would be a very superficial view which considered only the place and the inhabitants (for the soil and the population may be separated, and some of the inhabitants may live in one place and some in another). This, however, is not a very serious difficulty; we need only remark that the word ‘state’ is ambiguous.

It is further asked: When are men, living in the same place, to be regarded as a single city — what is the limit? Certainly not the wall of the city, for you might surround all Peloponnesus with a wall. Like this, we may say, is Babylon, and every city that has the compass of a nation rather than a city; Babylon, they say, had been taken for three days before some part of the inhabitants became aware of the fact. This difficulty may, however, with advantage be deferred to another occasion; the statesman has to consider the size of the state, and whether it should consist of more than one nation or not.

Again, shall we say that while the race of inhabitants, as well as their place of abode, remain the same, the city is also the same, although the citizens are always dying and being born, as we call rivers and fountains the same, although the water is always flowing away and coming again Or shall we say that the generations of men, like the rivers, are the same, but that the state changes? For, since the state is a partnership, and is a partnership of citizens in a constitution, when the form of government changes, and becomes different, then it may be supposed that the state is no longer the same, just as a tragic differs from a comic chorus, although the members of both may be identical. And in this manner we speak of every union or composition of elements as different when the form of their composition alters; for example, a scale containing the same sounds is said to be different, accordingly as the Dorian or the Phrygian mode is employed. And if this is true it is evident that the sameness of the state consists chiefly in the sameness of the constitution, and it may be called or not called by the same name, whether the inhabitants are the same or entirely different. It is quite another question, whether a state ought or ought not to fulfill engagements when the form of government changes.

IV

There is a point nearly allied to the preceding: Whether the virtue of a good man and a good citizen is the same or not. But, before entering on this discussion, we must certainly first obtain some general notion of the virtue of the citizen. Like the sailor, the citizen is a member of a community. Now, sailors have different functions, for one of them is a rower, another a pilot, and a third a look-out man, a fourth is described by some similar term; and while the precise definition of each individual's virtue applies exclusively to him, there is, at the same time, a common definition applicable to them all. For they have all of them a common object, which is safety in navigation. Similarly, one citizen differs from another, but the salvation of the community is the common business of them all. This community is the constitution; the virtue of the citizen must therefore be relative to the constitution of which he is a member. If, then, there are many forms of government, it is evident that there is not one single virtue of the good citizen which is perfect virtue. But we say that the good man is he who has one single virtue which is perfect virtue. Hence it is evident that the good citizen need not of necessity possess the virtue which makes a good man.

The same question may also be approached by another road, from a consideration of the best constitution. If the state cannot be entirely composed of good men, and yet each citizen is expected to do his own business well, and must therefore have virtue, still inasmuch as all the citizens cannot be alike, the virtue of the citizen and of the good man cannot coincide. All must have the virtue of the good citizen — thus, and thus only, can the state be perfect; but they will not have the virtue of a good man, unless we assume that in the good state all the citizens must be good.

Again, the state, as composed of unlikes, may be compared to the living being: as the first elements into which a living being is resolved are soul and body, as soul is made up of rational principle and appetite, the family of husband and wife, property of master and slave, so of all these, as well as other dissimilar elements, the state is composed; and, therefore, the virtue of all the citizens cannot possibly be the same, any more than the excellence of the leader of a chorus is the same as that of the performer who stands by his side. I have said enough to show why the two kinds of virtue cannot be absolutely and always the same.

But will there then be no case in which the virtue of the good citizen and the virtue of the good man coincide? To this we answer that the good ruler is a good and wise man, and that he who would be a statesman must be a wise man. And some persons say that even the education of the ruler should be of a special kind; for are not the children of kings instructed in riding and military exercises? As Euripides says:

No subtle arts for me, but what the state requires.

As though there were a special education needed by a ruler. If then the virtue of a good ruler is the same as that of a good man, and we assume further that the subject is a citizen as well as the ruler, the virtue of the good citizen and the virtue of the good man cannot be absolutely the same, although in some cases they may; for the virtue of a ruler differs from that of a citizen. It was the sense of this difference which made Jason say that 'he felt hungry when he was not a tyrant,' meaning that he could not endure to live in a private station. But, on the other hand, it may be argued that men are praised for knowing both how to rule and how to obey, and he is said to be a citizen of approved virtue who is able to do both. Now if we suppose the virtue of a good man to be that which rules, and the virtue of the citizen to include ruling and obeying, it cannot be said that they are equally worthy of praise. Since, then, it is sometimes thought that the ruler and the ruled must learn different things and not the same, but that the citizen must know and share in them both, the inference is obvious. There is, indeed, the rule of a master, which is concerned with menial offices — the master need not know how to perform these, but may employ others in the execution of them: the other would be degrading; and by the other I mean the power actually to do menial duties, which vary much in character and are executed by various classes of slaves, such, for example, as handicraftsmen, who, as their name signifies, live by the labor of their hands: under these the mechanic is included. Hence in ancient times, and among some nations, the working classes had no share in the government — a privilege which they only acquired under the extreme democracy. Certainly the good man and the statesman and the good citizen ought not to learn the crafts of inferiors except for their own occasional use; if they habitually practice them, there will cease to be a distinction between master and slave.

This is not the rule of which we are speaking; but there is a rule of another kind, which is exercised over freemen and equals by birth -a constitutional rule, which the ruler must learn by obeying, as he would learn the duties of a general of cavalry by being under the orders of a general of cavalry, or the duties of a general of infantry by being under the orders of a general of infantry, and by having had the command of a regiment and of a company. It has been well said that ‘he who has never learned to obey cannot be a good commander.’ The two are not the same, but the good citizen ought to be capable of both; he should know how to govern like a freeman, and how to obey like a freeman — these are the virtues of a citizen. And, although the temperance and justice of a ruler are distinct from those of a subject, the virtue of a good man will include both; for the virtue of the good man who is free and also a subject, e.g., his justice, will not be one but will comprise distinct kinds, the one qualifying him to rule, the other to obey, and differing as the temperance and courage of men and women differ. For a man would be thought a coward if he had no more courage than a courageous woman, and a woman would be thought loquacious if she imposed no more restraint on her conversation than the good man; and indeed their part in the management of the household is different, for the duty of the one is to acquire, and of the other to preserve. Practical wisdom only is characteristic of the ruler: it would seem that all other virtues must equally belong to ruler and subject. The virtue of the subject is certainly not wisdom, but only true opinion; he may be compared to the maker of the flute, while his master is like the flute-player or user of the flute.

From these considerations may be gathered the answer to the question, whether the virtue of the good man is the same as that of the good citizen, or different, and how far the same, and how far different.

V

There still remains one more question about the citizen: Is he only a true citizen who has a share of office, or is the mechanic to be included? If they who hold no office are to be deemed citizens, not every citizen can have this virtue of ruling and obeying; for this man is a citizen And if none of the lower class are citizens, in which part of the state are they to be placed? For they are not resident aliens, and they are not foreigners. May we not reply, that as far as this objection goes there is no more absurdity in excluding them than in excluding slaves and freedmen from any of the above-mentioned classes? It must be admitted that we cannot consider all those to be citizens who are necessary to the existence of the state; for example, children are not citizen equally with grown-up men, who are citizens absolutely, but children, not being grown up, are only citizens on a certain assumption. Nay, in ancient times, and among some nations the artisan class were slaves or foreigners, and therefore the majority of them are so now. The best form of state will not admit them to citizenship; but if they are admitted, then our definition of the virtue of a citizen will not apply to every citizen nor to every free man as such, but only to those who are freed from necessary services. The necessary people are either slaves who minister to the wants of individuals, or mechanics and laborers who are the servants of the community. These reflections carried a little further will explain their position; and indeed what has been said already is of itself, when understood, explanation enough.

Since there are many forms of government there must be many varieties of citizen and especially of citizens who are subjects; so that under some governments the mechanic and the laborer will be citizens, but not in others, as, for example, in aristocracy or the so-called government of the best (if there be such an one), in which honors are given according to virtue and merit; for no man can practice virtue who is living the life of a mechanic or laborer. In oligarchies the qualification for office is high, and therefore no laborer can ever be a citizen; but a mechanic may, for an actual majority of them are rich. At Thebes there was a law that no man could hold office who had not retired from business for ten years. But in many states the law goes to the length of admitting aliens; for in some democracies a man is a citizen though his mother only be a citizen; and a similar principle is applied to illegitimate children; the law is relaxed when there is a dearth of population. But when the number of citizens increases, first the children of a male or a female slave are excluded; then those whose mothers only are citizens; and at last the right of citizenship is confined to those whose fathers and mothers are both citizens.

Hence, as is evident, there are different kinds of citizens; and he is a citizen in the highest sense who shares in the honors of the state. Compare Homer's words, 'like some dishonored stranger'; he who is excluded from the honors of the state is no better than an alien. But when his exclusion is concealed, then the object is that the privileged class may deceive their fellow inhabitants.

As to the question whether the virtue of the good man is the same as that of the good citizen, the considerations already adduced prove that in some states the good man and the good citizen are the same, and in others different. When they are the same it is not every citizen who is a good man, but only the statesman and those who have or may have, alone or in conjunction with others, the conduct of public affairs.

VI

Having determined these questions, we have next to consider whether there is only one form of government or many, and if many, what they are, and how many, and what are the differences between them.

A constitution is the arrangement of magistracies in a state, especially of the highest of all. The government is everywhere sovereign in the state, and the constitution is in fact the government. For example, in democracies the people are supreme, but in oligarchies, the few; and, therefore, we say that these two forms of government also are different: and so in other cases.

First, let us consider what is the purpose of a state, and how many forms of government there are by which human society is regulated. We have already said, in the first part of this treatise, when discussing household management and the rule of a master, that man is by nature a political animal. And therefore, men, even when they do not require one another's help, desire to live together; not but that they are also brought together by their common interests in proportion as they severally attain to any measure of well-being. This is certainly the chief end, both of individuals and of states. And also for the sake of mere life (in which there is possibly some noble element so long as the evils of existence do not greatly overbalance the good) mankind meet together and maintain the political community. And we all see that men cling to life even at the cost of enduring great misfortune, seeming to find in life a natural sweetness and happiness.

There is no difficulty in distinguishing the various kinds of authority; they have been often defined already in discussions outside the school. The rule of a master, although the slave by nature and the master by nature have in reality the same interests, is nevertheless exercised primarily with a view to the interest of the master, but accidentally considers the slave, since, if the slave perish, the rule of the master perishes with him. On the other hand, the government of a wife and children and of a household, which we have called household management, is exercised in the first instance for the good of the governed or for the common good of both parties, but essentially for the good of the governed, as we see to be the case in medicine, gymnastic, and the arts in general, which are only accidentally concerned with the good of the artists themselves. For there is no reason why the trainer may not sometimes practice gymnastics, and the helmsman is always one of the crew. The trainer or the helmsman considers the good of those committed to his care. But, when he is one of the persons taken care of, he accidentally participates in the advantage, for the helmsman is also a sailor, and the trainer becomes one of those in training. And so in politics: when the state is framed upon the principle of equality and likeness, the citizens think that they ought to hold office by turns. Formerly, as is natural, every one would take his turn of service; and then again, somebody else would look after his interest, just as he, while in office, had looked after theirs. But nowadays, for the sake of the advantage which is to be gained from the public revenues and from office, men want to be always in office. One might imagine that the rulers, being sickly, were only kept in health while they continued in office; in that case we may be sure that they would be hunting after places. The conclusion is evident: that governments which have a regard to the common interest are constituted in accordance with strict principles of justice, and are therefore true forms; but those which regard only the interest of the rulers are all defective and perverted forms, for they are despotic, whereas a state is a community of freemen.

VII

Having determined these points, we have next to consider how many forms of government there are, and what they are; and in the first place what are the true forms, for when they are determined the perversions of them will at once be apparent. The words constitution and government have the same meaning, and the government, which is the supreme authority in states, must be in the hands of one, or of a few, or of the many. The true forms of government, therefore, are those in which the one, or the few, or the many, govern with a view to the common interest; but governments which rule with a view to the private interest, whether of the one or of the few, or of the many, are perversions. For the members of a state, if they are truly citizens, ought to participate in its advantages. Of forms of government in which one rules, we call that which regards the common interests, kingship or royalty; that in which more than one, but not many, rule, aristocracy; and it is so called, either because the rulers are the best men, or because they have at heart the best interests of the state and of the citizens. But when the citizens at large administer the state for the common interest, the government is called by the generic name — a constitution. And there is a reason for this use of language. One man or a few may excel in virtue; but as the number increases it becomes more difficult for them to attain perfection in every kind of virtue, though they may in military virtue, for this is found in the masses. Hence in a constitutional government the fighting-men have the supreme power, and those who possess arms are the citizens.

Of the above-mentioned forms, the perversions are as follows: of royalty, tyranny; of aristocracy, oligarchy; of constitutional government, democracy. For tyranny is a kind of monarchy which has in view the interest of the monarch only; oligarchy has in view the interest of the wealthy; democracy, of the needy: none of them the common good of all.

VIII

But there are difficulties about these forms of government, and it will therefore be necessary to state a little more at length the nature of each of them. For he who would make a philosophical study of the various sciences, and does not regard practice only, ought not to overlook or omit anything, but to set forth the truth in every particular. Tyranny, as I was saying, is monarchy exercising the rule of a master over the political society; oligarchy is when men of property have the government in their hands; democracy, the opposite, when the indigent, and not the men of property, are the rulers. And here arises the first of our difficulties, and it relates to the distinction drawn. For democracy is said to be the government of the many. But what if the many are men of property and have the power in their hands? In like manner oligarchy is said to be the government of the few; but what if the poor are fewer than the rich, and have the power in their hands because they are stronger? In these cases the distinction which we have drawn between these different forms of government would no longer hold good.

Suppose, once more, that we add wealth to the few and poverty to the many, and name the governments accordingly — an oligarchy is said to be that in which the few and the wealthy, and a democracy that in which the many and the poor are the rulers — there will still be a difficulty. For, if the only forms of government are the ones already mentioned, how shall we describe those other governments also just mentioned by us, in which the rich are the more numerous and the poor are the fewer, and both govern in their respective states?

The argument seems to show that, whether in oligarchies or in democracies, the number of the governing body, whether the greater number, as in a democracy, or the smaller number, as in an oligarchy, is an accident due to the fact that the rich everywhere are few, and the poor numerous. But if so, there is a misapprehension of the causes of the difference between them. For the real difference between democracy and oligarchy is poverty and wealth. Wherever men rule by reason of their wealth, whether they be few or many, that is an oligarchy, and where the poor rule, that is a democracy. But as a fact the rich are few and the poor many; for few are well-to-do, whereas freedom is enjoyed by an, and wealth and freedom are the grounds on which the oligarchical and democratical parties respectively claim power in the state.

IX

Let us begin by considering the common definitions of oligarchy and democracy, and what is justice oligarchical and democratical. For all men cling to justice of some kind, but their conceptions are imperfect and they do not express the whole idea. For example, justice is thought by them to be, and is, equality, not. however, for however, for but only for equals. And inequality is thought to be, and is, justice; neither is this for all, but only for unequals. When the persons are omitted, then men judge erroneously. The reason is that they are passing judgment on themselves, and most people are bad judges in their own case. And whereas justice implies a relation to persons as well as to things, and a just distribution, as I have already said in the Ethics, implies the same ratio between the persons and between the things, they agree about the equality of the things, but dispute about the equality of the persons, chiefly for the reason which I have just given — because they are bad judges in their own affairs; and secondly, because both the parties to the argument are speaking of a limited and partial justice, but imagine themselves to be speaking of absolute justice. For the one party, if they are unequal in one respect, for example wealth, consider themselves to be unequal in all; and the other party, if they are equal in one respect, for example free birth, consider themselves to be equal in all. But they leave out the capital point. For if men met and associated out of regard to wealth only, their share in the state would be proportioned to their property, and the oligarchical doctrine would then seem to carry the day. It would not be just that he who paid one mina should have the same share of a hundred minae, whether of the principal or of the profits, as he who paid the remaining ninety-nine. But a state exists for the sake of a good life, and not for the sake of life only: if life only were the object, slaves and brute animals might form a state, but they cannot, for they have no share in happiness or in a life of free choice. Nor does a state exist for the sake of alliance and security from injustice, nor yet for the sake of exchange and mutual intercourse; for then the Tyrrhenians and the Carthaginians, and all who have commercial treaties with one another, would be the citizens of one state. True, they have agreements about imports, and engagements that they will do no wrong to one another, and written articles of alliance. But there are no magistrates common to the contracting parties who will enforce their engagements; different states have each their own magistracies. Nor does one state take care that the citizens of the other are such as they ought to be, nor see that those who come under the terms of the treaty do no wrong or wickedness at an, but only that they do no injustice to one another. Whereas, those who care for good government take into consideration virtue and vice in states. Whence it may be further inferred that virtue must be the care of a state which is truly so called, and not merely enjoys the name: for without this end the community becomes a mere alliance which differs only in place from alliances of which the members live apart; and law is only a convention, ‘a surety to one another of justice,’ as the sophist Lycophron says, and has no real power to make the citizens

This is obvious; for suppose distinct places, such as Corinth and Megara, to be brought together so that their walls touched, still they would not be one city, not even if the citizens had the right to intermarry, which is one of the rights peculiarly characteristic of states. Again, if men dwelt at a distance from one another, but not so far off as to have no intercourse, and there were laws among them that they should not wrong each other in their exchanges, neither would this be a state. Let us suppose that one man is a carpenter, another a husbandman, another a shoemaker, and so on, and that their number is ten thousand: nevertheless, if they have nothing in common but exchange, alliance, and the like, that would not constitute a state. Why is this? Surely not because they are at a distance from one another: for even supposing that such a community were to meet in one place, but that each man had a house of his own, which was in a manner his state, and that they made alliance with one another, but only against evil-doers; still an accurate thinker would not deem this to be a state, if their intercourse with one another was of the same character after as before their union. It is clear then that a state is not a mere society, having a common place, established for the prevention of mutual crime and for the sake of exchange. These are conditions without which a state cannot exist; but all of them together do not constitute a state, which is a community of families and aggregations of families in well-being, for the sake of a perfect and self-sufficing life. Such a community can only be established among those who live in the same place and intermarry. Hence arise in cities family connections, brotherhoods, common sacrifices, amusements which draw men together. But these are created by friendship, for the will to live together is friendship. The end of the state is the good life, and these are the means towards it. And the state is the union of families and villages in a perfect and self-sufficing life, by which we mean a happy and honorable life.

Our conclusion, then, is that political society exists for the sake of noble actions, and not of mere companionship. Hence they who contribute most to such a society have a greater share in it than those who have the same or a greater freedom or nobility of birth but are inferior to them in political virtue; or than those who exceed them in wealth but are surpassed by them in virtue.

From what has been said it will be clearly seen that all the partisans of different forms of government speak of a part of justice only.

X

There is also a doubt as to what is to be the supreme power in the state: Is it the multitude? Or the wealthy? Or the good? Or the one best man? Or a tyrant? Any of these alternatives seems to involve disagreeable consequences. If the poor, for example, because they are more in number, divide among themselves the property of the rich — is not this unjust? No, by heaven (will be the reply), for the supreme authority justly willed it. But if this is not injustice, pray what is? Again, when in the first division all has been taken, and the majority divide anew the property of the minority, is it not evident, if this goes on, that they will ruin the state? Yet surely, virtue is not the ruin of those who possess her, nor is justice destructive of a state; and therefore this law of confiscation clearly cannot be just. If it were, all the acts of a tyrant must of necessity be just; for he only coerces other men by superior power, just as the multitude coerce the rich. But is it just then that the few and the wealthy should be the rulers? And what if they, in like manner, rob and plunder the people — is this just? if so, the other case will likewise be just. But there can be no doubt that all these things are wrong and unjust.

Then ought the good to rule and have supreme power? But in that case everybody else, being excluded from power, will be dishonored. For the offices of a state are posts of honor; and if one set of men always holds them, the rest must be deprived of them. Then will it be well that the one best man should rule? Nay, that is still more oligarchical, for the number of those who are dishonored is thereby increased. Some one may say that it is bad in any case for a man, subject as he is to all the accidents of human passion, to have the supreme power, rather than the law. But what if the law itself be democratical or oligarchical, how will that help us out of our difficulties? Not at all; the same consequences will follow.

XI

Most of these questions may be reserved for another occasion. The principle that the multitude ought to be supreme rather than the few best is one that is maintained, and, though not free from difficulty, yet seems to contain an element of truth. For the many, of whom each individual is but an ordinary person, when they meet together may very likely be better than the few good, if regarded not individually but collectively, just as a feast to which many contribute is better than a dinner provided out of a single purse. For each individual among the many has a share of virtue and prudence, and when they meet together, they become in a manner one man, who has many feet, and hands, and senses; that is a figure of their mind and disposition. Hence the many are better judges than a single man of music and poetry; for some understand one part, and some another, and among them they understand the whole. There is a similar combination of qualities in good men, who differ from any individual of the many, as the beautiful are said to differ from those who are not beautiful, and works of art from realities, because in them the scattered elements are combined, although, if taken separately, the eye of one person or some other feature in another person would be fairer than in the picture. Whether this principle can apply to every democracy, and to all bodies of men, is not clear. Or rather, by heaven, in some cases it is impossible of application; for the argument would equally hold about brutes; and wherein, it will be asked, do some men differ from brutes? But there may be bodies of men about whom our statement is nevertheless true. And if so, the difficulty which has been already raised, and also another which is akin to it — viz., what power should be assigned to the mass of freemen and citizens, who are not rich and have no personal merit — are both solved. There is still a danger in aflowing them to share the great offices of state, for their folly will lead them into error, and their dishonesty into crime. But there is a danger also in not letting them share, for a state in which many poor men are excluded from office will necessarily be full of enemies. The only way of escape is to assign to them some deliberative and judicial functions. For this reason Solon and certain other legislators give them the power of electing to offices, and of calling the magistrates to account, but they do not allow them to hold office singly. When they meet together their perceptions are quite good enough, and combined with the better class they are useful to the state (just as impure food when mixed with what is pure sometimes makes the entire mass more wholesome than a small quantity of the pure would be), but each individual, left to himself, forms an imperfect judgment. On the other hand, the popular form of government involves certain difficulties. In the first place, it might be objected that he who can judge of the healing of a sick man would be one who could himself heal his disease, and make him whole — that is, in other words, the physician; and so in all professions and arts. As, then, the physician ought to be called to account by physicians, so ought men in general to be called to account by their peers. But physicians are of three kinds: there is the ordinary practitioner, and there is the physician of the higher class, and thirdly the intelligent man who has studied the art: in all arts there is such a class; and we attribute the power of judging to them quite as much as to professors of the art. Secondly, does not the same principle apply to elections? For a right election can only be made by those who have knowledge; those who know geometry, for example, will choose a geometrician rightly, and those who know how to steer, a pilot; and, even if there be some occupations and arts in which private persons share in the ability to choose, they certainly cannot choose better than those who know. So that, according to this argument, neither the election of magistrates, nor the calling of them to account, should be entrusted to the many. Yet possibly these objections are to a great extent met by our old answer, that if the people are not utterly degraded, although individually they may be worse judges than those who have special knowledge — as a body they are as good or better. Moreover, there are some arts whose products are not judged of solely, or best, by the artists themselves, namely those arts whose products are recognized even by those who do not possess the art; for example, the knowledge of the house is not limited to the builder only; the user, or, in other words, the master, of the house will be even a better judge than the builder, just as the pilot will judge better of a rudder than the carpenter, and the guest will judge better of a feast than the cook.

This difficulty seems now to be sufficiently answered, but there is another akin to it. That inferior persons should have authority in greater matters than the good would appear to be a strange thing, yet the election and calling to account of the magistrates is the greatest of all. And these, as I was saying, are functions which in some states are assigned to the people, for the assembly is supreme in all such matters. Yet persons of any age, and having but a small property qualification, sit in the assembly and deliberate and judge, although for the great officers of state, such as treasurers and generals, a high qualification is required. This difficulty may be solved in the same manner as the preceding, and the present practice of democracies may be really defensible. For the power does not reside in the dicast, or senator, or ecclesiast, but in the court, and the senate, and the assembly, of which individual senators, or ecclesiasts, or dicasts, are only parts or members. And for this reason the many may claim to have a higher authority than the few; for the people, and the senate, and the courts consist of many persons, and their property collectively is greater than the property of one or of a few individuals holding great offices. But enough of this.

The discussion of the first question shows nothing so clearly as that laws, when good, should be supreme; and that the magistrate or magistrates should regulate those matters only on which the laws are unable to speak with precision owing to the difficulty of any general principle embracing all particulars. But what are good laws has not yet been clearly explained; the old difficulty remains. The goodness or badness, justice or injustice, of laws varies of necessity with the constitutions of states. This, however, is clear, that the laws must be adapted to the constitutions. But if so, true forms of government will of necessity have just laws, and perverted forms of government will have unjust laws.

XII

In all sciences and arts the end is a good, and the greatest good and in the highest degree a good in the most authoritative of all — this is the political science of which the good is justice, in other words, the common interest. All men think justice to be a sort of equality; and to a certain extent they agree in the philosophical distinctions which have been laid down by us about Ethics. For they admit that justice is a thing and has a relation to persons, and that equals ought to have equality. But there still remains a question: equality or inequality of what? Here is a difficulty which calls for political speculation. For very likely some persons will say that offices of state ought to be unequally distributed according to superior excellence, in whatever respect, of the citizen, although there is no other difference between him and the rest of the community; for that those who differ in any one respect have different rights and claims. But, surely, if this is true, the complexion or height of a man, or any other advantage, will be a reason for his obtaining a greater share of political rights. The error here lies upon the surface, and may be illustrated from the other arts and sciences. When a number of flute players are equal in their art, there is no reason why those of them who are better born should have better flutes given to them; for they will not play any better on the flute, and the superior instrument should be reserved for him who is the superior artist. If what I am saying is still obscure, it will be made clearer as we proceed. For if there were a superior flute-player who was far inferior in birth and beauty, although either of these may be a greater good than the art of flute-playing, and may excel flute-playing in a greater ratio than he excels the others in his art, still he ought to have the best flutes given to him, unless the advantages of wealth and birth contribute to excellence in flute-playing, which they do not. Moreover, upon this principle any good may be compared with any other. For if a given height may be measured wealth and against freedom, height in general may be so measured. Thus if A excels in height more than B in virtue, even if virtue in general excels height still more, all goods will be commensurable; for if a certain amount is better than some other, it is clear that some other will be equal. But since no such comparison can be made, it is evident that there is good reason why in politics men do not ground their claim to office on every sort of inequality any more than in the arts. For if some be slow, and others swift, that is no reason why the one should have little and the others much; it is in gymnastics contests that such excellence is rewarded. Whereas the rival claims of candidates for office can only be based on the possession of elements which enter into the composition of a state. And therefore the noble, or free-born, or rich, may with good reason claim office; for holders of offices must be freemen and taxpayers: a state can be no more composed entirely of poor men than entirely of slaves. But if wealth and freedom are necessary elements, justice and valor are equally so; for without the former qualities a state cannot exist at all, without the latter not well.

XIII

If the existence of the state is alone to be considered, then it would seem that all, or some at least, of these claims are just; but, if we take into account a good life, then, as I have already said, education and virtue have superior claims. As, however, those who are equal in one thing ought not to have an equal share in all, nor those who are unequal in one thing to have an unequal share in all, it is certain that all forms of government which rest on either of these principles are perversions. All men have a claim in a certain sense, as I have already admitted, but all have not an absolute claim. The rich claim because they have a greater share in the land, and land is the common element of the state; also they are generally more trustworthy in contracts. The free claim under the same tide as the noble; for they are nearly akin. For the noble are citizens in a truer sense than the ignoble, and good birth is always valued in a man’s own home and country. Another reason is, that those who are sprung from better ancestors are likely to be better men, for nobility is excellence of race. Virtue, too, may be truly said to have a claim, for justice has been acknowledged by us to be a social virtue, and it implies all others. Again, the many may urge their claim against the few; for, when taken collectively, and compared with the few, they are stronger and richer and better. But, what if the good, the rich, the noble, and the other classes who make up a state, are all living together in the same city, Will there, or will there not, be any doubt who shall rule? No doubt at all in determining who ought to rule in each of the above-mentioned forms of government. For states are characterized by differences in their governing bodies-one of them has a government of the rich, another of the virtuous, and so on. But a difficulty arises when all these elements co-exist. How are we to decide? Suppose the virtuous to be very few in number: may we consider their numbers in relation to their duties, and ask whether they are enough to administer the state, or so many as will make up a state? Objections may be urged against all the aspirants to political power. For those who found their claims on wealth or family might be thought to have no basis of justice; on this principle, if any one person were richer than all the rest, it is clear that he ought to be ruler of them. In like manner he who is very distinguished by his birth ought to have the superiority over all those who claim on the ground that they are freeborn. In an aristocracy, or government of the best, a like difficulty occurs about virtue; for if one citizen be better than the other members of the government, however good they may be, he too, upon the same principle of justice, should rule over them. And if the people are to be supreme because they are stronger than the few, then if one man, or more than one, but not a majority, is stronger than the many, they ought to rule, and not the many.

All these considerations appear to show that none of the principles on which men claim to rule and to hold all other men in subjection to them are strictly right. To those who claim to be masters of the government on the ground of their virtue or their wealth, the many might fairly answer that they themselves are often better and richer than the few — I do not say individually, but collectively. And another ingenious objection which is sometimes put forward may be met in a similar manner. Some persons doubt whether the legislator who desires to make the justest laws ought to legislate with a view to the good of the higher classes or of the many, when the case which we have mentioned occurs. Now what is just or right is to be interpreted in the sense of ‘what is equal’; and that which is right in the sense of being equal is to be considered with reference to the advantage of the state, and the common good of the citizens. And a citizen is one who shares in governing and being governed. He differs under different forms of government, but in the best state he is one who is able and willing to be governed and to govern with a view to the life of virtue.

If, however, there be some one person, or more than one, although not enough to make up the full complement of a state, whose virtue is so pre-eminent that the virtues or the political capacity of all the rest admit of no comparison with his or theirs, he or they can be no longer regarded as part of a state; for justice will not be done to the superior, if he is reckoned only as the equal of those who are so far inferior to him in virtue and in political capacity. Such an one may truly be deemed a God among men. Hence we see that legislation is necessarily concerned only with those who are equal in birth and in capacity; and that for men of pre-eminent virtue there is no law — they are themselves a law. Any would be ridiculous who attempted to make laws for them: they would probably retort what, in the fable of Antisthenes, the lions said to the hares, when in the council of the beasts the latter began haranguing and claiming equality for all. And for this reason democratic states have instituted ostracism; equality is above all things their aim, and therefore they ostracized and banished from the city for a time those who seemed to predominate too much through their wealth, or the number of their friends, or through any other political influence. Mythology tells us that the Argonauts left Heracles behind for a similar reason; the ship Argo would not take him because she feared that he would have been too much for the rest of the crew. Wherefore those who denounce tyranny and blame the counsel which Periander gave to Thrasybulus cannot be held altogether just in their censure. The story is that Periander, when the herald was sent to ask counsel of him, said nothing, but only cut off the tallest ears of corn till he had brought the field to a level. The herald did not know the meaning of the action, but came and reported what he had seen to Thrasybulus, who understood that he was to cut off the principal men in the state; and this is a policy not only expedient for tyrants or in practice confined to them, but equally necessary in oligarchies and democracies. Ostracism is a measure of the same kind, which acts by disabling and banishing the most prominent citizens. Great powers do the same to whole cities and nations, as the

Athenians did to the Samians, Chians, and Lesbians; no sooner had they obtained a firm grasp of the empire, than they humbled their allies contrary to treaty; and the Persian king has repeatedly crushed the Medes, Babylonians, and other nations, when their spirit has been stirred by the recollection of their former greatness.

The problem is a universal one, and equally concerns all forms of government, true as well as false; for, although perverted forms with a view to their own interests may adopt this policy, those which seek the common interest do so likewise. The same thing may be observed in the arts and sciences; for the painter will not allow the figure to have a foot which, however beautiful, is not in proportion, nor will the shipbuilder allow the stem or any other part of the vessel to be unduly large, any more than the chorus-master will allow any one who sings louder or better than all the rest to sing in the choir. Monarchs, too, may practice compulsion and still live in harmony with their cities, if their own government is for the interest of the state. Hence where there is an acknowledged superiority the argument in favor of ostracism is based upon a kind of political justice. It would certainly be better that the legislator should from the first so order his state as to have no need of such a remedy. But if the need arises, the next best thing is that he should endeavor to correct the evil by this or some similar measure. The principle, however, has not been fairly applied in states; for, instead of looking to the good of their own constitution, they have used ostracism for factious purposes. It is true that under perverted forms of government, and from their special point of view, such a measure is just and expedient, but it is also clear that it is not absolutely just. In the perfect state there would be great doubts about the use of it, not when applied to excess in strength, wealth, popularity, or the like, but when used against some one who is pre-eminent in virtue — what is to be done with him? Mankind will not say that such an one is to be expelled and exiled; on the other hand, he ought not to be a subject — that would be as if mankind should claim to rule over Zeus, dividing his offices among them. The only alternative is that all should joyfully obey such a ruler, according to what seems to be the order of nature, and that men like him should be kings in their state for life.

XIV

The preceding discussion, by a natural transition, leads to the consideration of royalty, which we admit to be one of the true forms of government. Let us see whether in order to be well governed a state or country should be under the rule of a king or under some other form of government; and whether monarchy, although good for some, may not be bad for others. But first we must determine whether there is one species of royalty or many. It is easy to see that there are many, and that the manner of government is not the same in all of them.

Of royalties according to law, (1) the Lacedaemonian is thought to answer best to the true pattern; but there the royal power is not absolute, except when the kings go on an expedition, and then they take the command. Matters of religion are likewise committed to them. The kingly office is in truth a kind of generalship, irresponsible and perpetual. The king has not the power of life and death, except in a specified case, as for instance, in ancient times, he had it when upon a campaign, by right of force. This custom is described in Homer. For Agamemnon is patient when he is attacked in the assembly, but when the army goes out to battle he has the power even of life and death. Does he not say—’When I find a man skulking apart from the battle, nothing shall save him from the dogs and vultures, for in my hands is death’?

This, then, is one form of royalty-a generalship for life: and of such royalties some are hereditary and others elective.

(2) There is another sort of monarchy not uncommon among the barbarians, which nearly resembles tyranny. But this is both legal and hereditary. For barbarians, being more servile in character than Hellenes, and Asiadics than Europeans, do not rebel against a despotic government. Such royalties have the nature of tyrannies because the people are by nature slaves; but there is no danger of their being overthrown, for they are hereditary and legal. Wherefore also their guards are such as a king and not such as a tyrant would employ, that is to say, they are composed of citizens, whereas the guards of tyrants are mercenaries. For kings rule according to law over voluntary subjects, but tyrants over involuntary; and the one are guarded by their fellow-citizens the others are guarded against them.

These are two forms of monarchy, and there was a third (3) which existed in ancient Hellas, called an Aesymnetia or dictatorship. This may be defined generally as an elective tyranny, which, like the barbarian monarchy, is legal, but differs from it in not being hereditary. Sometimes the office was held for life, sometimes for a term of years, or until certain duties had been performed. For example, the Mytilenaeans elected Pittacus leader against the exiles, who were headed by Antimenides and Alcaeus the poet. And Alcaeus himself shows in one of his banquet odes that they chose Pittacus tyrant, for he reproaches his fellow-citizens for ‘having made the low-born Pittacus tyrant of the spiritless and ill-fated city, with one voice shouting his praises.’

These forms of government have always had the character of tyrannies, because they possess despotic power; but inasmuch as they are elective and acquiesced in by their subjects, they are kingly.

(4) There is a fourth species of kingly rule — that of the heroic times — which was hereditary and legal, and was exercised over willing subjects. For the first chiefs were benefactors of the people in arts or arms; they either gathered them into a community, or procured land for them; and thus they became kings of voluntary subjects, and their power was inherited by their descendants. They took the command in war and presided over the sacrifices, except those which required a priest. They also decided causes either with or without an oath; and when they swore, the form of the oath was the stretching out of their sceptre. In ancient times their power extended continuously to all things whatsoever, in city and country, as well as in foreign parts; but at a later date they relinquished several of these privileges, and others the people took from them, until in some states nothing was left to them but the sacrifices; and where they retained more of the reality they had only the right of leadership in war beyond the border.

These, then, are the four kinds of royalty. First the monarchy of the heroic ages; this was exercised over voluntary subjects, but limited to certain functions; the king was a general and a judge, and had the control of religion The second is that of the barbarians, which is a hereditary despotic government in accordance with law. A third is the power of the so-called Aesynmete or Dictator; this is an elective tyranny. The fourth is the Lacedaemonian, which is in fact a generalship, hereditary and perpetual. These four forms differ from one another in the manner which I have described.

(5) There is a fifth form of kingly rule in which one has the disposal of all, just as each nation or each state has the disposal of public matters; this form corresponds to the control of a household. For as household management is the kingly rule of a house, so kingly rule is the household management of a

city, or of a nation, or of many nations.

XV

Of these forms we need only consider two, the Lacedaemonian and the absolute royalty; for most of the others he in a region between them, having less power than the last, and more than the first. Thus the inquiry is reduced to two points: first, is it advantageous to the state that there should be a perpetual general, and if so, should the office be confined to one family, or open to the citizens in turn? Secondly, is it well that a single man should have the supreme power in all things? The first question falls under the head of laws rather than of constitutions; for perpetual generalship might equally exist under any form of government, so that this matter may be dismissed for the present. The other kind of royalty is a sort of constitution; this we have now to consider, and briefly to run over the difficulties involved in it. We will begin by inquiring whether it is more advantageous to be ruled by the best man or by the best laws.

The advocates of royalty maintain that the laws speak only in general terms, and cannot provide for circumstances; and that for any science to abide by written rules is absurd. In Egypt the physician is allowed to alter his treatment after the fourth day, but if sooner, he takes the risk. Hence it is clear that a government acting according to written laws is plainly not the best. Yet surely the ruler cannot dispense with the general principle which exists in law; and this is a better ruler which is free from passion than that in which it is innate. Whereas the law is passionless, passion must ever sway the heart of man. Yes, it may be replied, but then on the other hand an individual will be better able to deliberate in particular cases.

The best man, then, must legislate, and laws must be passed, but these laws will have no authority when they miss the mark, though in all other cases retaining their authority. But when the law cannot determine a point at all, or not well, should the one best man or should all decide? According to our present practice assemblies meet, sit in judgment, deliberate, and decide, and their judgments an relate to individual cases. Now any member of the assembly, taken separately, is certainly inferior to the wise man. But the state is made up of many individuals. And as a feast to which all the guests contribute is better than a banquet furnished by a single man, so a multitude is a better judge of many things than any individual.

Again, the many are more incorruptible than the few; they are like the greater quantity of water which is less easily corrupted than a little. The individual is liable to be overcome by anger or by some other passion, and then his judgment is necessarily perverted; but it is hardly to be supposed that a great number of persons would all get into a passion and go wrong at the same moment. Let us assume that they are the freemen, and that they never act in violation of the law, but fill up the gaps which the law is obliged to leave. Or, if such virtue is scarcely attainable by the multitude, we need only suppose that the majority are good men and good citizens, and ask which will be the more incorruptible, the one good ruler, or the many who are all good? Will not the many? But, you will say, there may be parties among them, whereas the one man is not divided against himself. To which we may answer that their character is as good as his. If we call the rule of many men, who are all of them good, aristocracy, and the rule of one man royalty, then aristocracy will be better for states than royalty, whether the government is supported by force or not, provided only that a number of men equal in virtue can be found.

The first governments were kingships, probably for this reason, because of old, when cities were small, men of eminent virtue were few. Further, they were made kings because they were benefactors, and benefits can only be bestowed by good men. But when many persons equal in merit arose, no longer enduring the pre-eminence of one, they desired to have a commonwealth, and set up a constitution. The ruling class soon deteriorated and enriched themselves out of the public treasury; riches became the path to honor, and so oligarchies naturally grew up. These passed into tyrannies and tyrannies into democracies; for love of gain in the ruling classes was always tending to diminish their number, and so to strengthen the masses, who in the end set upon their masters and established democracies. Since cities have increased in size, no other form of government appears to be any longer even easy to establish.

Even supposing the principle to be maintained that kingly power is the best thing for states, how about the family of the king? Are his children to succeed him? If they are no better than anybody else, that will be mischievous. But, says the lover of royalty, the king, though he might, will not hand on his power to his children. That, however, is hardly to be expected, and is too much to ask of human nature. There is also a difficulty about the force which he is to employ; should a king have guards about him by whose aid he may be able to coerce the refractory? If not, how will he administer his kingdom? Even if he be the lawful sovereign who does nothing arbitrarily or contrary to law, still he must have some force wherewith to maintain the law. In the case of a limited monarchy there is not much difficulty in answering this question; the king must have such force as will be more than a match for one or more individuals, but not so great as that of the people. The ancients observe this principle when they have guards to any one whom they appointed dictator or tyrant. Thus, when Dionysius asked the Syracusans to allow him guards, somebody advised that they should give him only such a number.

XVI

At this place in the discussion there impends the inquiry respecting the king who acts solely according to his own will he has now to be considered. The so-called limited monarchy, or kingship according to law, as I have already remarked, is not a distinct form of government, for under all governments, as, for example, in a democracy or aristocracy, there may be a general holding office for life, and one person is often made supreme over the administration of a state. A magistracy of this kind exists at Epidamnus, and also at Opus, but in the latter city has a more limited power. Now, absolute monarchy, or the arbitrary rule of a sovereign over an the citizens, in a city which consists of equals, is thought by some to be quite contrary to nature; it is argued that those who are by nature equals must have the same natural right and worth, and that for unequals to have an equal share, or for equals to have an uneven share, in the offices of state, is as bad as for different bodily constitutions to have the same food and clothing. Wherefore it is thought to be just that among equals every one be ruled as well as rule, and therefore that an should have their turn. We thus arrive at law; for an order of succession implies law. And the rule of the law, it is argued, is preferable to that of any individual. On the same principle, even if it be better for certain individuals to govern, they should be made only guardians and ministers of the law. For magistrates there must be — this is admitted; but then men say that to give authority to any one man when all are equal is unjust. Nay, there may indeed be cases which the law seems unable to determine, but in such cases can a man? Nay, it will be replied, the law trains officers for this express purpose, and appoints them to determine matters which are left undecided by it, to the best of their judgment. Further, it permits them to make any amendment of the existing laws which experience suggests. Therefore he who bids the law rule may be deemed to bid God and Reason alone rule, but he who bids man rule adds an element of the beast; for desire is a wild beast, and passion perverts the minds of rulers, even when they are the best of men. The law is reason unaffected by desire. We are told that a patient should call in a physician; he will not get better if he is doctored out of a book. But the parallel of the arts is clearly not in point; for the physician does nothing contrary to rule from motives of friendship; he only cures a patient and takes a fee; whereas magistrates do many things from spite and partiality. And, indeed, if a man suspected the physician of being in league with his enemies to destroy him for a bribe, he would rather have recourse to the book. But certainly physicians, when they are sick, call in other physicians, and training-masters, when they are in training, other training-masters, as if they could not judge judge truly about their own case and might be influenced by their feelings. Hence it is evident that in seeking for justice men seek for the mean or neutral, for the law is the mean. Again, customary laws have more weight, and relate to more important matters, than written laws, and a man may be a safer ruler than the written law, but not safer than the customary law.

Again, it is by no means easy for one man to superintend many things; he will have to appoint a number of subordinates, and what difference does it make whether these subordinates always existed or were appointed by him because he needed theme If, as I said before, the good man has a right to rule because he is better, still two good men are better than one: this is the old saying, two going together, and the prayer of Agamemnon,

Would that I had ten such councillors!

And at this day there are magistrates, for example judges, who have authority to decide some matters which the law is unable to determine, since no one doubts that the law would command and decide in the best manner whatever it could. But some things can, and other things cannot, be comprehended under the law, and this is the origin of the nexted question whether the best law or the best man should rule. For matters of detail about which men deliberate cannot be included in legislation. Nor does any one deny that the decision of such matters must be left to man, but it is argued that there should be many judges, and not one only. For every ruler who has been trained by the law judges well; and it would surely seem strange that a person should see better with two eyes, or hear better with two ears, or act better with two hands or feet, than many with many; indeed, it is already the practice of kings to make to themselves many eyes and ears and hands and feet. For they make colleagues of those who are the friends of themselves and their governments. They must be friends of the monarch and of his government; if not his friends, they will not do what he wants; but friendship implies likeness and equality; and, therefore, if he thinks that his friends ought to rule, he must think that those who are equal to himself and like himself ought to rule equally with himself. These are the principal controversies relating to monarchy.

XVII

But may not all this be true in some cases and not in others? for there is by nature both a justice and an advantage appropriate to the rule of a master, another to kingly rule, another to constitutional rule; but there is none naturally appropriate to tyranny, or to any other perverted form of government; for these come into being contrary to nature. Now, to judge at least from what has been said, it is manifest that, where men are alike and equal, it is neither expedient nor just that one man should be lord of all, whether there are laws, or whether there are no laws, but he himself is in the place of law. Neither should a good man be lord over good men, nor a bad man over bad; nor, even if he excels in virtue, should he have a right to rule, unless in a particular case, at which I have already hinted, and to which I will once more recur. But first of all, I must determine what natures are suited for government by a king, and what for an aristocracy, and what for a constitutional government.

A people who are by nature capable of producing a race superior in the virtue needed for political rule are fitted for kingly government; and a people submitting to be ruled as freemen by men whose virtue renders them capable of political command are adapted for an aristocracy; while the people who are suited for constitutional freedom are those among whom there naturally exists a warlike multitude able to rule and to obey in turn by a law which gives office to the well-to-do according to their desert. But when a whole family or some individual, happens to be so pre-eminent in virtue as to surpass all others, then it is just that they should be the royal family and supreme over all, or that this one citizen should be king of the whole nation. For, as I said before, to give them authority is not only agreeable to that ground of right which the founders of all states, whether aristocratical, or oligarchical, or again democratical, are accustomed to put forward (for these all recognize the claim of excellence, although not the same excellence), but accords with the principle already laid down. For surely it would not be right to kill, or ostracize, or exile such a person, or require that he should take his turn in being governed. The whole is naturally superior to the part, and he who has this pre-eminence is in the relation of a whole to a part. But if so, the only alternative is that he should have the supreme power, and that mankind should obey him, not in turn, but always. These are the conclusions at which we arrive respecting royalty and its various forms, and this is the answer to the question, whether it is or is not advantageous to states, and to which, and how.

XVIII

We maintain that the true forms of government are three, and that the best must be that which is administered by the best, and in which there is one man, or a whole family, or many persons, excelling all the others together in virtue, and both rulers and subjects are fitted, the one to rule, the others to be ruled, in such a manner as to attain the most eligible life. We showed at the commencement of our inquiry that the virtue of the good man is necessarily the same as the virtue of the citizen of the perfect state. Clearly then in the same manner, and by the same means through which a man becomes truly good, he will frame a state that is to be ruled by an aristocracy or by a king, and the same education and the same habits will be found to make a good man and a man fit to be a statesman or a king.

Having arrived at these conclusions, we must proceed to speak of the perfect state, and describe how it comes into being and is established.

Book Four

I

IN all arts and sciences which embrace the whole of any subject, and do not come into being in a fragmentary way, it is the province of a single art or science to consider all that appertains to a single subject. For example, the art of gymnastic considers not only the suitableness of different modes of training to different bodies (2), but what sort is absolutely the best (1); (for the absolutely best must suit that which is by nature best and best furnished with the means of life), and also what common form of training is adapted to the great majority of men (4). And if a man does not desire the best habit of body, or the greatest skill in gymnastics, which might be attained by him, still the trainer or the teacher of gymnastic should be able to impart any lower degree of either (3). The same principle equally holds in medicine and shipbuilding, and the making of clothes, and in the arts generally.

Hence it is obvious that government too is the subject of a single science, which has to consider what government is best and of what sort it must be, to be most in accordance with our aspirations, if there were no external impediment, and also what kind of government is adapted to particular states. For the best is often unattainable, and therefore the true legislator and statesman ought to be acquainted, not only with (1) that which is best in the abstract, but also with (2) that which is best relatively to circumstances. We should be able further to say how a state may be constituted under any given conditions (3); both how it is originally formed and, when formed, how it may be longest preserved; the supposed state being so far from having the best constitution that it is unprovided even with the conditions necessary for the best; neither is it the best under the circumstances, but of an inferior type.

He ought, moreover, to know (4) the form of government which is best suited to states in general; for political writers, although they have excellent ideas, are often unpractical. We should consider, not only what form of government is best, but also what is possible and what is easily attainable by all. There are some who would have none but the most perfect; for this many natural advantages are required. Others, again, speak of a more attainable form, and, although they reject the constitution under which they are living, they extol some one in particular, for example the Lacedaemonian. Any change of government which has to be introduced should be one which men, starting from their existing constitutions, will be both willing and able to adopt, since there is quite as much trouble in the reformation of an old constitution as in the establishment of a new one, just as to unlearn is as hard as to learn. And therefore, in addition to the qualifications of the statesman already mentioned, he should be able to find remedies for the defects of existing constitutions, as has been said before. This he cannot do unless he knows how many forms of government there are. It is often supposed that there is only one kind of democracy and one of oligarchy. But this is a mistake; and, in order to avoid such mistakes, we must ascertain what differences there are in the constitutions of states, and in how many ways they are combined. The same political insight will enable a man to know which laws are the best, and which are suited to different constitutions; for the laws are, and ought to be, relative to the constitution, and not the constitution to the laws. A constitution is the organization of offices in a state, and determines what is to be the governing body, and what is the end of each community. But laws are not to be confounded with the principles of the constitution; they are the rules according to which the magistrates should administer the state, and proceed against offenders. So that we must know the varieties, and the number of varieties, of each form of government, if only with a view to making laws. For the same laws cannot be equally suited to all oligarchies or to all democracies, since there is certainly more than one form both of democracy and of oligarchy.

II

In our original discussion about governments we divided them into three true forms: kingly rule, aristocracy, and constitutional government, and three corresponding perversions — tyranny, oligarchy, and democracy. Of kingly rule and of aristocracy, we have already spoken, for the inquiry into the perfect state is the same thing with the discussion of the two forms thus named, since both imply a principle of virtue provided with external means. We have already determined in what aristocracy and kingly rule differ from one another, and when the latter should be established. In what follows we have to describe the so-called constitutional government, which bears the common name of all constitutions, and the other forms, tyranny, oligarchy, and democracy.

It is obvious which of the three perversions is the worst, and which is the next in badness. That which is the perversion of the first and most divine is necessarily the worst. And just as a royal rule, if not a mere name, must exist by virtue of some great personal superiority in the king, so tyranny, which is the worst of governments, is necessarily the farthest removed from a well-constituted form; oligarchy is little better, for it is a long way from aristocracy, and democracy is the most tolerable of the three.

A writer who preceded me has already made these distinctions, but his point of view is not the same as mine. For he lays down the principle that when all the constitutions are good (the oligarchy and the rest being virtuous), democracy is the worst, but the best when all are bad. Whereas we maintain that they are in any case defective, and that one oligarchy is not to be accounted better than another, but only less bad.

Not to pursue this question further at present, let us begin by determining (1) how many varieties of constitution there are (since of democracy and oligarchy there are several): (2) what constitution is the most generally acceptable, and what is eligible in the next degree after the perfect state; and besides this what other there is which is aristocratical and well-constituted, and at the same time adapted to states in general; (3) of the other forms of government to whom each is suited. For democracy may meet the needs of some better than oligarchy, and conversely. In the next place (4) we have to consider in what manner a man ought to proceed who desires to establish some one among these various forms, whether of democracy or of oligarchy; and lastly, (5) having briefly discussed these subjects to the best of our power, we will endeavor to ascertain the modes of ruin and preservation both of constitutions generally and of each separately, and to what causes they are to be attributed.

III

The reason why there are many forms of government is that every state contains many elements. In the first place we see that all states are made up of families, and in the multitude of citizen there must be some rich and some poor, and some in a middle condition; the rich are heavy-armed, and the poor not. Of the common people, some are husbandmen, and some traders, and some artisans. There are also among the notables differences of wealth and property — for example, in the number of horses which they keep, for they cannot afford to keep them unless they are rich. And therefore in old times the cities whose strength lay in their cavalry were oligarchies, and they used cavalry in wars against their neighbors; as was the practice of the Eretrians and Chalcidians, and also of the Magnesians on the river Maeander, and of other peoples in Asia. Besides differences of wealth there are differences of rank and merit, and there are some other elements which were mentioned by us when in treating of aristocracy we enumerated the essentials of a state. Of these elements, sometimes all, sometimes the lesser and sometimes the greater number, have a share in the government. It is evident then that there must be many forms of government, differing in kind, since the parts of which they are composed differ from each other in kind. For a constitution is an organization of offices, which all the citizens distribute among themselves, according to the power which different classes possess, for example the rich or the poor, or according to some principle of equality which includes both. There must therefore be as many forms of government as there are modes of arranging the offices, according to the superiorities and differences of the parts of the state.

There are generally thought to be two principal forms: as men say of the winds that there are but two — north and south, and that the rest of them are only variations of these, so of governments there are said to be only two forms — democracy and oligarchy. For aristocracy is considered to be a kind of oligarchy, as being the rule of a few, and the so-called constitutional government to be really a democracy, just as among the winds we make the west a variation of the north, and the east of the south wind. Similarly of musical modes there are said to be two kinds, the Dorian and the Phrygian; the other arrangements of the scale are comprehended under one or other of these two. About forms of government this is a very favorite notion. But in either case the better and more exact way is to distinguish, as I have done, the one or two which are true forms, and to regard the others as perversions, whether of the most perfectly attempered mode or of the best form of government: we may compare the severer and more overpowering modes to the oligarchical forms, and the more relaxed and gentler ones to the democratic.

IV

It must not be assumed, as some are fond of saying, that democracy is simply that form of government in which the greater number are sovereign, for in oligarchies, and indeed in every government, the majority rules; nor again is oligarchy that form of government in which a few are sovereign. Suppose the whole population of a city to be 1300, and that of these 1000 are rich, and do not allow the remaining 300 who are poor, but free, and in an other respects their equals, a share of the government — no one will say that this is a democracy. In like manner, if the poor were few and the masters of the rich who outnumber them, no one would ever call such a government, in which the rich majority have no share of office, an oligarchy. Therefore we should rather say that democracy is the form of government in which the free are rulers, and oligarchy in which the rich; it is only an accident that the free are the many and the rich are the few. Otherwise a government in which the offices were given according to stature, as is said to be the case in Ethiopia, or according to beauty, would be an oligarchy; for the number of tall or good-looking men is small. And yet oligarchy and democracy are not sufficiently distinguished merely by these two characteristics of wealth and freedom. Both of them contain many other elements, and therefore we must carry our analysis further, and say that the government is not a democracy in which the freemen, being few in number, rule over the many who are not free, as at Apollonia, on the Ionian Gulf, and at Thera; (for in each of these states the nobles, who were also the earliest settlers, were held in chief honor, although they were but a few out of many). Neither is it a democracy when the rich have the government because they exceed in number; as was the case formerly at Colophon, where the bulk of the inhabitants were possessed of large property before the Lydian War. But the form of government is a democracy when the free, who are also poor and the majority, govern, and an oligarchy when the rich and the noble govern, they being at the same time few in number.

I have said that there are many forms of government, and have explained to what causes the variety is due. Why there are more than those already mentioned, and what they are, and whence they arise, I will now proceed to consider, starting from the principle already admitted, which is that every state consists, not of one, but of many parts. If we were going to speak of the different species of animals, we should first of all determine the organs which are indispensable to every animal, as for example some organs of sense and the instruments of receiving and digesting food, such as the mouth and the stomach, besides organs of locomotion. Assuming now that there are only so many kinds of organs, but that there may be differences in them — I mean different kinds of mouths, and stomachs, and perceptive and locomotive organs — the possible combinations of these differences will necessarily furnish many variedes of animals. (For animals cannot be the same which have different kinds of mouths or of ears.) And when all the combinations are exhausted, there will be as many sorts of animals as there are combinations of the necessary organs. The same, then, is true of the forms of government which have been described; states, as I have repeatedly said, are composed, not of one, but of many elements. One element is the food-producing class, who are called husbandmen; a second, the class of mechanics who practice the arts without which a city cannot exist; of these arts some are absolutely necessary, others contribute to luxury or to the grace of life. The third class is that of traders, and by traders I mean those who are engaged in buying and selling, whether in commerce or in retail trade. A fourth class is that of the serfs or laborers. The warriors make up the fifth class, and they are as necessary as any of the others, if the country is not to be the slave of every invader. For how can a state which has any title to the name be of a slavish nature? The state is independent and self-sufficing, but a slave is the reverse of independent. Hence we see that this subject, though ingeniously, has not been satisfactorily treated in the Republic. Socrates says that a state is made up of four sorts of people who are absolutely necessary; these are a weaver, a husbandman, a shoemaker, and a builder; afterwards, finding that they are not enough, he adds a smith, and again a herdsman, to look after the necessary animals; then a merchant, and then a retail trader. All these together form the complement of the first state, as if a state were established merely to supply the necessaries of life, rather than for the sake of the good, or stood equally in need of shoemakers and of husbandmen. But he does not admit into the state a military class until the country has increased in size, and is beginning to encroach on its neighbor’s land, whereupon they go to war. Yet even amongst his four original citizens, or whatever be the number of those whom he associates in the state, there must be some one who will dispense justice and determine what is just. And as the soul may be said to be more truly part of an animal than the body, so the higher parts of states, that is to say, the warrior class, the class engaged in the administration of justice, and that engaged in deliberation, which is the special business of political common sense-these are more essential to the state than the parts which minister to the necessaries of life. Whether their several functions are the functions of different citizens, or of the same — for it may often happen that the same persons are both warriors and husbandmen — is immaterial to the argument. The higher as well as the lower elements are to be equally considered parts of the state, and if so, the military element at any rate must be included. There are also the wealthy who minister to the state with their property; these form the seventh class. The eighth class is that of magistrates and of officers; for the state cannot exist without rulers. And therefore some must be able to take office and to serve the state, either always or in turn. There only remains the class of those who deliberate and who judge between disputants; we were just now distinguishing them. If presence of all these elements, and their fair and equitable organization, is necessary to states, then there must also be persons who have the ability of statesmen. Different functions appear to be often combined in the same individual; for example, the warrior may also be a husbandman, or an artisan; or, again, the councillor a judge. And all claim to possess political ability, and think that they are quite competent to fill most offices. But the same persons cannot be rich and poor at the same time. For this reason the rich and the poor are regarded in an especial sense as parts of a state. Again, because the rich are generally few in number, while the poor are many, they appear to be antagonistic, and as the one or the other prevails they form the government. Hence arises the common opinion that there are two kinds of government — democracy and oligarchy.

I have already explained that there are many forms of constitution, and to what causes the variety is due. Let me now show that there are different forms both of democracy and oligarchy, as will indeed be evident from what has preceded. For both in the common people and in the notables various classes are included; of the common people, one class are husbandmen, another artisans; another traders, who are employed in buying and selling; another are the seafaring class, whether engaged in war or in trade, as ferrymen or as fishermen. (In many places any one of these classes forms quite a large population; for example, fishermen at Tarentum and Byzantium, crews of triremes at Athens, merchant seamen at Aegina and Chios, ferrymen at Tenedos.) To the classes already mentioned may be added day-laborers, and those who, owing to their needy circumstances, have no leisure, or those who are not of free birth on both sides; and there may be other classes as well. The notables again may be divided according to their wealth, birth, virtue, education, and similar differences.

Of forms of democracy first comes that which is said to be based strictly on equality. In such a democracy the law says that it is just for the poor to have no more advantage than the rich; and that neither should be masters, but both equal. For if liberty and equality, as is thought by some, are chiefly to be found in democracy, they will be best attained when all persons alike share in the government to the utmost. And since the people are the majority, and the opinion of the majority is decisive, such a government must necessarily be a democracy. Here then is one sort of democracy. There is another, in which the magistrates are elected according to a certain property qualification, but a low one; he who has the required amount of property has a share in the government, but he who loses his property loses his rights. Another kind is that in which all the citizens who are under no disqualification share in the government, but still the law is supreme. In another, everybody, if he be only a citizen, is admitted to the government, but the law is supreme as before. A fifth form of democracy, in other respects the same, is that in which, not the law, but the multitude, have the supreme power, and supersede the law by their decrees. This is a state of affairs brought about by the demagogues. For in democracies which are subject to the law the best citizens hold the first place, and there are no demagogues; but where the laws are not supreme, there demagogues spring up. For the people becomes a monarch, and is many in one; and the many have the power in their hands, not as individuals, but collectively. Homer says that ‘it is not good to have a rule of many,’ but whether he means this corporate rule, or the rule of many individuals, is uncertain. At all events this sort of democracy, which is now a monarch, and no longer under the control of law, seeks to exercise monarchical sway, and grows into a despot; the flatterer is held in honor; this sort of democracy being relatively to other democracies what tyranny is to other forms of monarchy. The spirit of both is the same, and they alike exercise a despotic rule over the better citizens. The decrees of the demos correspond to the edicts of the tyrant; and the demagogue is to the one what the flatterer is to the other. Both have great power; the flatterer with the tyrant, the demagogue with democracies of the kind which we are describing. The demagogues make the decrees of the people override the laws, by referring all things to the popular assembly. And therefore they grow great, because the people have an things in their hands, and they hold in their hands the votes of the people, who are too ready to listen to them. Further, those who have any complaint to bring against the magistrates say, ‘Let the people be judges’; the people are too happy to accept the invitation; and so the authority of every office is undermined. Such a democracy is fairly open to the objection that it is not a constitution at all; for where the laws have no authority, there is no constitution. The law ought to be supreme over all, and the magistracies should judge of particulars, and only this should be considered a constitution. So that if democracy be a real form of government, the sort of system in which all things are regulated by decrees is clearly not even a democracy in the true sense of the word, for decrees relate only to particulars.

These then are the different kinds of democracy.

V

Of oligarchies, too, there are different kinds: one where the property qualification for office is such that the poor, although they form the majority, have no share in the government, yet he who acquires a qualification may obtain a share. Another sort is when there is a qualification for office, but a high one, and the vacancies in the governing body are fired by co-optation. If the election is made out of all the qualified persons, a constitution of this kind inclines to an aristocracy, if out of a privileged class, to an oligarchy. Another sort of oligarchy is when the son succeeds the father. There is a fourth form, likewise hereditary, in which the magistrates are supreme and not the law. Among oligarchies this is what tyranny is among monarchies, and the last-mentioned form of democracy among democracies; and in fact this sort of oligarchy receives the name of a dynasty (or rule of powerful families).

These are the different sorts of oligarchies and democracies. It should, however, be remembered that in many states the constitution which is established by law, although not democratic, owing to the education and habits of the people may be administered democratically, and conversely in other states the established constitution may incline to democracy, but may be administered in an oligarchical spirit. This most often happens after a revolution: for governments do not change at once; at first the dominant party are content with encroaching a little upon their opponents. The laws which existed previously continue in force, but the authors of the revolution have the power in their hands.

VI

From what has been already said we may safely infer that there are so many different kinds of democracies and of oligarchies. For it is evident that either all the classes whom we mentioned must share in the government, or some only and not others. When the class of husbandmen and of those who possess moderate fortunes have the supreme power, the government is administered according to law. For the citizens being compelled to live by their labor have no leisure; and so they set up the authority of the law, and attend assemblies only when necessary. They all obtain a share in the government when they have acquired the qualification which is fixed by the law — the absolute exclusion of any class would be a step towards oligarchy; hence all who have acquired the property qualification are admitted to a share in the constitution. But leisure cannot be provided for them unless there are revenues to support them. This is one sort of democracy, and these are the causes which give birth to it. Another kind is based on the distinction which naturally comes next in order; in this, every one to whose birth there is no objection is eligible, but actually shares in the government only if he can find leisure. Hence in such a democracy the supreme power is vested in the laws, because the state has no means of paying the citizens. A third kind is when all freemen have a right to share in the government, but do not actually share, for the reason which has been already given; so that in this form again the law must rule. A fourth kind of democracy is that which comes latest in the history of states. In our own day, when cities have far outgrown their original size, and their revenues have increased, all the citizens have a place in the government, through the great preponderance of the multitude; and they all, including the poor who receive pay, and therefore have leisure to exercise their rights, share in the administration. Indeed, when they are paid, the common people have the most leisure, for they are not hindered by the care of their property, which often fetters the rich, who are thereby prevented from taking part in the assembly or in the courts, and so the state is governed by the poor, who are a majority, and not by the laws.

So many kinds of democracies there are, and they grow out of these necessary causes.

Of oligarchies, one form is that in which the majority of the citizens have some property, but not very much; and this is the first form, which allows to any one who obtains the required amount the right of sharing in the government. The sharers in the government being a numerous body, it follows that the law must govern, and not individuals. For in proportion as they are further removed from a monarchical form of government, and in respect of property have neither so much as to be able to live without attending to business, nor so little as to need state support, they must admit the rule of law and not claim to rule themselves. But if the men of property in the state are fewer than in the former case, and own more property, there arises a second form of oligarchy. For the stronger they are, the more power they claim, and having this object in view, they themselves select those of the other classes who are to be admitted to the government; but, not being as yet strong enough to rule without the law, they make the law represent their wishes. When this power is intensified by a further diminution of their numbers and increase of their property, there arises a third and further stage of oligarchy, in which the governing class keep the offices in their own hands, and the law ordains that the son shall succeed the father. When, again, the rulers have great wealth and numerous friends, this sort of family despotism approaches a monarchy; individuals rule and not the law. This is the fourth sort of oligarchy, and is analogous to the last sort of democracy.

VII

There are still two forms besides democracy and oligarchy; one of them is universally recognized and included among the four principal forms of government, which are said to be (1) monarchy, (2) oligarchy, (3) democracy, and (4) the so-called aristocracy or government of the best. But there is also a fifth, which retains the generic name of polity or constitutional government; this is not common, and therefore has not been noticed by writers who attempt to enumerate the different kinds of government; like Plato, in their books about the state, they recognize four only. The term ‘aristocracy’ is rightly applied to the form of government which is described in the first part of our treatise; for that only can be rightly called aristocracy which is a government formed of the best men absolutely, and not merely of men who are good when tried by any given standard. In the perfect state the good man is absolutely the same as the good citizen; whereas in other states the good citizen is only good relatively to his own form of government. But there are some states differing from oligarchies and also differing from the so-called polity or constitutional government; these are termed aristocracies, and in them the magistrates are certainly chosen, both according to their wealth and according to their merit. Such a form of government differs from each of the two just now mentioned, and is termed an aristocracy. For indeed in states which do not make virtue the aim of the community, men of merit and reputation for virtue may be found. And so where a government has regard to wealth, virtue, and numbers, as at Carthage, that is aristocracy; and also where it has regard only to two out of the three, as at Lacedaemon, to virtue and numbers, and the two principles of democracy and virtue temper each other. There are these two forms of aristocracy in addition to the first and perfect state, and there is a third form, viz., the constitutions which incline more than the so-called polity towards oligarchy.

VIII

I have yet to speak of the so-called polity and of tyranny. I put them in this order, not because a polity or constitutional government is to be regarded as a perversion any more than the above mentioned aristocracies. The truth is, that they an fall short of the most perfect form of government, and so they are reckoned among perversions, and the really perverted forms are perversions of these, as I said in the original discussion. Last of all I will speak of tyranny, which I place last in the series because I am inquiring into the constitutions of states, and this is the very reverse of a constitution

Having explained why I have adopted this order, I will proceed to consider constitutional government; of which the nature will be clearer now that oligarchy and democracy have been defined. For polity or constitutional government may be described generally as a fusion of oligarchy and democracy; but the term is usually applied to those forms of government which incline towards democracy, and the term aristocracy to those which incline towards oligarchy, because birth and education are commonly the accompaniments of wealth. Moreover, the rich already possess the external advantages the want of which is a temptation to crime, and hence they are called noblemen and gentlemen. And inasmuch as aristocracy seeks to give predominance to the best of the citizens, people say also of oligarchies that they are composed of noblemen and gentlemen. Now it appears to be an impossible thing that the state which is governed not by the best citizens but by the worst should be well-governed, and equally impossible that the state which is ill-governed should be governed by the best. But we must remember that good laws, if they are not obeyed, do not constitute good government. Hence there are two parts of good government; one is the actual obedience of citizens to the laws, the other part is the goodness of the laws which they obey; they may obey bad laws as well as good. And there may be a further subdivision; they may obey either the best laws which are attainable to them, or the best absolutely.

The distribution of offices according to merit is a special characteristic of aristocracy, for the principle of an aristocracy is virtue, as wealth is of an oligarchy, and freedom of a democracy. In all of them there of course exists the right of the majority, and whatever seems good to the majority of those who share in the government has authority. Now in most states the form called polity exists, for the fusion goes no further than the attempt to unite the freedom of the poor and the wealth of the rich, who commonly take the place of the noble. But as there are three grounds on which men claim an equal share in the government, freedom, wealth, and virtue (for the fourth or good birth is the result of the two last, being only ancient wealth and virtue), it is clear that the admixture of the two elements, that is to say, of the rich and poor, is to be called a polity or constitutional government; and the union of the three is to be called aristocracy or the government of the best, and more than any other form of government, except the true and ideal, has a right to this name.

Thus far I have shown the existence of forms of states other than monarchy, democracy, and oligarchy, and what they are, and in what aristocracies differ from one another, and polities from aristocracies — that the two latter are not very unlike is obvious.

IX

Next we have to consider how by the side of oligarchy and democracy the so-called polity or constitutional government springs up, and how it should be organized. The nature of it will be at once understood from a comparison of oligarchy and democracy; we must ascertain their different characteristics, and taking a portion from each, put the two together, like the parts of an indenture. Now there are three modes in which fusions of government may be affected. In the first mode we must combine the laws made by both governments, say concerning the administration of justice. In oligarchies they impose a fine on the rich if they do not serve as judges, and to the poor they give no pay; but in democracies they give pay to the poor and do not fine the rich. Now (1) the union of these two modes is a common or middle term between them, and is therefore characteristic of a constitutional government, for it is a combination of both. This is one mode of uniting the two elements. Or (2) a mean may be taken between the enactments of the two: thus democracies require no property qualification, or only a small one, from members of the assembly, oligarchies a high one; here neither of these is the common term, but a mean between them. (3) There is a third mode, in which something is borrowed from the oligarchical and something from the democratical principle. For example, the appointment of magistrates by lot is thought to be democratical, and the election of them oligarchical; democratical again when there is no property qualification, oligarchical when there is. In the aristocratical or constitutional state, one element will be taken from each — from oligarchy the principle of electing to offices, from democracy the disregard of qualification. Such are the various modes of combination.

There is a true union of oligarchy and democracy when the same state may be termed either a democracy or an oligarchy; those who use both names evidently feel that the fusion is complete. Such a fusion there is also in the mean; for both extremes appear in it. The Lacedaemonian constitution, for example, is often described as a democracy, because it has many democratical features. In the first place the youth receive a democratical education. For the sons of the poor are brought up with with the sons of the rich, who are educated in such a manner as to make it possible for the sons of the poor to be educated by them. A similar equality prevails in the following period of life, and when the citizens are grown up to manhood the same rule is observed; there is no distinction between the rich and poor. In like manner they all have the same food at their public tables, and the rich wear only such clothing as any poor man can afford. Again, the people elect to one of the two greatest offices of state, and in the other they share; for they elect the Senators and share in the Ephoralty. By others the Spartan constitution is said to be an oligarchy, because it has many oligarchical elements. That all offices are filled by election and none by lot, is one of these oligarchical characteristics; that the power of inflicting death or banishment rests with a few persons is another; and there are others. In a well attempted polity there should appear to be both elements and yet neither; also the government should rely on itself, and not on foreign aid, and on itself not through the good will of a majority — they might be equally well-disposed when there is a vicious form of government — but through the general willingness of all classes in the state to maintain the constitution.

Enough of the manner in which a constitutional government, and in which the so-called aristocracies ought to be framed.

X

Of the nature of tyranny I have still to speak, in order that it may have its place in our inquiry (since even tyranny is reckoned by us to be a form of government), although there is not much to be said about it. I have already in the former part of this treatise discussed royalty or kingship according to the most usual meaning of the term, and considered whether it is or is not advantageous to states, and what kind of royalty should be established, and from what source, and how.

When speaking of royalty we also spoke of two forms of tyranny, which are both according to law, and therefore easily pass into royalty. Among barbarians there are elected monarchs who exercise a despotic power; despotic rulers were also elected in ancient Hellas, called Aesymnetes or Dictators. These monarchies, when compared with one another, exhibit certain differences. And they are, as I said before, royal, in so far as the monarch rules according to law over willing subjects; but they are tyrannical in so far as he is despotic and rules according to his own fancy. There is also a third kind of tyranny, which is the most typical form, and is the counterpart of the perfect monarchy. This tyranny is just that arbitrary power of an individual which is responsible to no one, and governs all alike, whether equals or better, with a view to its own advantage, not to that of its subjects, and therefore against their will. No freeman, if he can escape from it, will endure such a government.

The kinds of tyranny are such and so many, and for the reasons which I have given.

XI

We have now to inquire what is the best constitution for most states, and the best life for most men, neither assuming a standard of virtue which is above ordinary persons, nor an education which is exceptionally favored by nature and circumstances, nor yet an ideal state which is an aspiration only, but having regard to the life in which the majority are able to share, and to the form of government which states in general can attain. As to those aristocracies, as they are called, of which we were just now speaking, they either lie beyond the possibilities of the greater number of states, or they approximate to the so-called constitutional government, and therefore need no separate discussion. And in fact the conclusion at which we arrive respecting all these forms rests upon the same grounds. For if what was said in the Ethics is true, that the happy life is the life according to virtue lived without impediment, and that virtue is a mean, then the life which is in a mean, and in a mean attainable by every one, must be the best. And the same the same principles of virtue and vice are characteristic of cities and of constitutions; for the constitution is in a figure the life of the city.

Now in all states there are three elements: one class is very rich, another very poor, and a third in a mean. It is admitted that moderation and the mean are best, and therefore it will clearly be best to possess the gifts of fortune in moderation; for in that condition of life men are most ready to follow rational principle. But he who greatly excels in beauty, strength, birth, or wealth, or on the other hand who is very poor, or very weak, or very much disgraced, finds it difficult to follow rational principle. Of these two the one sort grow into violent and great criminals, the others into rogues and petty rascals. And two sorts of offenses correspond to them, the one committed from violence, the other from roguery. Again, the middle class is least likely to shrink from rule, or to be over-ambitious for it; both of which are injuries to the state. Again, those who have too much of the goods of fortune, strength, wealth, friends, and the like, are neither willing nor able to submit to authority. The evil begins at home; for when they are boys, by reason of the luxury in which they are brought up, they never learn, even at school, the habit of obedience. On the other hand, the very poor, who are in the opposite extreme, are too degraded. So that the one class cannot obey, and can only rule despotically; the other knows not how to command and must be ruled like slaves. Thus arises a city, not of freemen, but of masters and slaves, the one despising, the other envying; and nothing can be more fatal to friendship and good fellowship in states than this: for good fellowship springs from friendship; when men are at enmity with one another, they would rather not even share the same path. But a city ought to be composed, as far as possible, of equals and similars; and these are generally the middle classes. Wherefore the city which is composed of middle-class citizens is necessarily best constituted in respect of the elements of which we say the fabric of the state naturally consists. And this is the class of citizens which is most secure in a state, for they do not, like the poor, covet their neighbors' goods; nor do others covet theirs, as the poor covet the goods of the rich; and as they neither plot against others, nor are themselves plotted against, they pass through life safely. Wisely then did Phocylides pray—'Many things are best in the mean; I desire to be of a middle condition in my city.'

Thus it is manifest that the best political community is formed by citizens of the middle class, and that those states are likely to be well-administered in which the middle class is large, and stronger if possible than both the other classes, or at any rate than either singly; for the addition of the middle class turns the scale, and prevents either of the extremes from being dominant. Great then is the good fortune of a state in which the citizens have a moderate and sufficient property; for where some possess much, and the others nothing, there may arise an extreme democracy, or a pure oligarchy; or a tyranny may grow out of either extreme — either out of the most rampant democracy, or out of an oligarchy; but it is not so likely to arise out of the middle constitutions and those akin to them. I will explain the reason of this hereafter, when I speak of the revolutions of states. The mean condition of states is clearly best, for no other is free from faction; and where the middle class is large, there are least likely to be factions and dissensions. For a similar reason large states are less liable to faction than small ones, because in them the middle class is large; whereas in small states it is easy to divide all the citizens into two classes who are either rich or poor, and to leave nothing in the middle. And democracies are safer and more permanent than oligarchies, because they have a middle class which is more numerous and has a greater share in the government; for when there is no middle class, and the poor greatly exceed in number, troubles arise, and the state soon comes to an end. A proof of the superiority of the middle class is that the best legislators have been of a middle condition; for example, Solon, as his own verses testify; and Lycurgus, for he was not a king; and Charondas, and almost all legislators.

These considerations will help us to understand why most governments are either democratical or oligarchical. The reason is that the middle class is seldom numerous in them, and whichever party, whether the rich or the common people, transgresses the mean and predominates, draws the constitution its own way, and thus arises either oligarchy or democracy. There is another reason — the poor and the rich quarrel with one another, and whichever side gets the better, instead of establishing a just or popular government, regards political supremacy as the prize of victory, and the one party sets up a democracy and the other an oligarchy. Further, both the parties which had the supremacy in Hellas looked only to the interest of their own form of government, and established in states, the one, democracies, and the other, oligarchies; they thought of their own advantage, of the public not at all. For these reasons the middle form of government has rarely, if ever, existed, and among a very few only. One man alone of all who ever ruled in Hellas was induced to give this middle constitution to states. But it has now become a habit among the citizens of states, not even to care about equality; all men are seeking for dominion, or, if conquered, are willing to submit.

What then is the best form of government, and what makes it the best, is evident; and of other constitutions, since we say that there are many kinds of democracy and many of oligarchy, it is not difficult to see which has the first and which the second or any other place in the order of excellence, now that we have determined which is the best. For that which is nearest to the best must of necessity be better, and that which is furthest from it worse, if we are judging absolutely and not relatively to given conditions: I say ‘relatively to given conditions,' since a particular government may be preferable, but another form may be better for some people.

XII

We have now to consider what and what kind of government is suitable to what and what kind of men. I may begin by assuming, as a general principle common to all governments, that the portion of the state which desires the permanence of the constitution ought to be stronger than that which desires the reverse. Now every city is composed of quality and quantity. By quality I mean freedom, wealth, education, good birth, and by quantity, superiority of numbers. Quality may exist in one of the classes which make up the state, and quantity in the other. For example, the meanly-born may be more in number than the well-born, or the poor than the rich, yet they may not so much exceed in quantity as they fall short in quality; and therefore there must be a comparison of quantity and quality. Where the number of the poor is more than proportioned to the wealth of the rich, there will naturally be a democracy, varying in form with the sort of people who compose it in each case. If, for example, the husbandmen exceed in number, the first form of democracy will then arise; if the artisans and laboring class, the last; and so with the intermediate forms. But where the rich and the notables exceed in quality more than they fall short in quantity, there oligarchy arises, similarly assuming various forms according to the kind of superiority possessed by the oligarchs.

The legislator should always include the middle class in his government; if he makes his laws oligarchical, to the middle class let him look; if he makes them democratical, he should equally by his laws try to attach this class to the state. There only can the government ever be stable where the middle class exceeds one or both of the others, and in that case there will be no fear that the rich will unite with the poor against the rulers. For neither of them will ever be willing to serve the other, and if they look for some form of government more suitable to both, they will find none better than this, for the rich and the poor will never consent to rule in turn, because they mistrust one another. The arbiter is always the one trusted, and he who is in the middle is an arbiter. The more perfect the admixture of the political elements, the more lasting will be the constitution. Many even of those who desire to form aristocratical governments make a mistake, not only in giving too much power to the rich, but in attempting to overreach the people. There comes a time when out of a false good there arises a true evil, since the encroachments of the rich are more destructive to the constitution than those of the people.

XIII

The devices by which oligarchies deceive the people are five in number; they relate to (1) the assembly; (2) the magistracies; (3) the courts of law; (4) the use of arms; (5) gymnastic exercises. (1) The assemblies are thrown open to all, but either the rich only are fined for non-attendance, or a much larger fine is inflicted upon them. (2) to the magistracies, those who are qualified by property cannot decline office upon oath, but the poor may. (3) In the law courts the rich, and the rich only, are fined if they do not serve, the poor are let off with impunity, or, as in the laws of Charondas, a larger fine is inflicted on the rich, and a smaller one on the poor. In some states all citizen who have registered themselves are allowed to attend the assembly and to try causes; but if after registration they do not attend either in the assembly or at the courts, heavy fines are imposed upon them. The intention is that through fear of the fines they may avoid registering themselves, and then they cannot sit in the law-courts or in the assembly. concerning (4) the possession of arms, and (5) gymnastic exercises, they legislate in a similar spirit. For the poor are not obliged to have arms, but the rich are fined for not having them; and in like manner no penalty is inflicted on the poor for non-attendance at the gymnasium, and consequently, having nothing to fear, they do not attend, whereas the rich are liable to a fine, and therefore they take care to attend.

These are the devices of oligarchical legislators, and in democracies they have counter devices. They pay the poor for attending the assemblies and the law-courts, and they inflict no penalty on the rich for non-attendance. It is obvious that he who would duly mix the two principles should combine the practice of both, and provide that the poor should be paid to attend, and the rich fined if they do not attend, for then all will take part; if there is no such combination, power will be in the hands of one party only. The government should be confined to those who carry arms. As to the property qualification, no absolute rule can be laid down, but we must see what is the highest qualification sufficiently comprehensive to secure that the number of those who have the rights of citizens exceeds the number of those excluded. Even if they have no share in office, the poor, provided only that they are not outraged or deprived of their property, will be quiet enough.

But to secure gentle treatment for the poor is not an easy thing, since a ruling class is not always humane. And in time of war the poor are apt to hesitate unless they are fed; when fed, they are willing enough to fight. In some states the government is vested, not only in those who are actually serving, but also in those who have served; among the Malians, for example, the governing body consisted of the latter, while the magistrates were chosen from those actually on service. And the earliest government which existed among the Hellenes, after the overthrow of the kingly power, grew up out of the warrior class, and was originally taken from the knights (for strength and superiority in war at that time depended on cavalry; indeed, without discipline, infantry are useless, and in ancient times there was no military knowledge or tactics, and therefore the strength of armies lay in their cavalry). But when cities increased and the heavy armed grew in strength, more had a share in the government; and this is the reason why the states which we call constitutional governments have been hitherto called democracies. Ancient constitutions, as might be expected, were oligarchical and royal; their population being small they had no considerable middle class; the people were weak in numbers and organization, and were therefore more contented to be governed.

I have explained why there are various forms of government, and why there are more than is generally supposed; for democracy, as well as other constitutions, has more than one form: also what their differences are, and whence they arise, and what is the best form of government, speaking generally and to whom the various forms of government are best suited; all this has now been explained.

XIV

Having thus gained an appropriate basis of discussion, we will proceed to speak of the points which follow next in order. We will consider the subject not only in general but with reference to particular constitutions. All constitutions have three elements, concerning which the good lawgiver has to regard what is expedient for each constitution. When they are well-ordered, the constitution is well-ordered, and as they differ from one another, constitutions differ. There is (1) one element which deliberates about public affairs; secondly (2) that concerned with the magistrates — the question being, what they should be, over what they should exercise authority, and what should be the mode of electing to them; and thirdly (3) that which has judicial power.

The deliberative element has authority in matters of war and peace, in making and unmaking alliances; it passes laws, inflicts death, exile, confiscation, elects magistrates and audits their accounts. These powers must be assigned either all to all the citizens or an to some of them (for example, to one or more magistracies, or different causes to different magistracies), or some of them to all, and others of them only to some. That all things should be decided by all is characteristic of democracy; this is the sort of equality which the people desire. But there are various ways in which all may share in the government; they may deliberate, not all in one body, but by turns, as in the constitution of Telecles the Milesian. There are other constitutions in which the boards of magistrates meet and deliberate, but come into office by turns, and are elected out of the tribes and the very smallest divisions of the state, until every one has obtained office in his turn. The citizens, on the other hand, are assembled only for the purposes of legislation, and to consult about the constitution, and to hear the edicts of the magistrates. In another variety of democracy the citizen form one assembly, but meet only to elect magistrates, to pass laws, to advise about war and peace, and to make scrutinies. Other matters are referred severally to special magistrates, who are elected by vote or by lot out of all the citizens Or again, the citizens meet about election to offices and about scrutinies, and deliberate concerning war or alliances while other matters are administered by the magistrates, who, as far as is possible, are elected by vote. I am speaking of those magistracies in which special knowledge is required. A fourth form of democracy is when all the citizens meet to deliberate about everything, and the magistrates decide nothing, but only make the preliminary inquiries; and that is the way in which the last and worst form of democracy, corresponding, as we maintain, to the close family oligarchy and to tyranny, is at present administered. All these modes are democratical.

On the other hand, that some should deliberate about all is oligarchical. This again is a mode which, like the democratical has many forms. When the deliberative class being elected out of those who have a moderate qualification are numerous and they respect and obey the prohibitions of the law without altering it, and any one who has the required qualification shares in the government, then, just because of this moderation, the oligarchy inclines towards polity. But when only selected individuals and not the whole people share in the deliberations of the state, then, although, as in the former case, they observe the law, the government is a pure oligarchy. Or, again, when those who have the power of deliberation are self-elected, and son succeeds father, and they and not the laws are supreme — the government is of necessity oligarchical. Where, again, particular persons have authority in particular matters — for example, when the whole people decide about peace and war and hold scrutinies, but the magistrates regulate everything else, and they are elected by vote — there the government is an aristocracy. And if some questions are decided by magistrates elected by vote, and others by magistrates elected by lot, either absolutely or out of select candidates, or elected partly by vote, partly by lot — these practices are partly characteristic of an aristocratical government, and party of a pure constitutional government.

These are the various forms of the deliberative body; they correspond to the various forms of government. And the government of each state is administered according to one or other of the principles which have been laid down. Now it is for the interest of democracy, according to the most prevalent notion of it (I am speaking of that extreme form of democracy in which the people are supreme even over the laws), with a view to better deliberation to adopt the custom of oligarchies respecting courts of law. For in oligarchies the rich who are wanted to be judges are compelled to attend under pain of a fine, whereas in deinocracies the poor are paid to attend. And this practice of oligarchies should be adopted by democracies in their public assemblies, for they will advise better if they all deliberate together — the people with the notables and the notables with the people. It is also a good plan that those who deliberate should be elected by vote or by lot in equal numbers out of the different classes; and that if the people greatly exceed in number those who have political training, pay should not be given to all, but only to as many as would balance the number of the notables, or that the number in excess should be eliminated by lot. But in oligarchies either certain persons should be co-opted from the mass, or a class of officers should be appointed such as exist in some states who are termed probuli and guardians of the law; and the citizens should occupy themselves exclusively with matters on which these have previously deliberated; for so the people will have a share in the deliberations of the state, but will not be able to disturb the principles of the constitution. Again, in oligarchies either the people ought to accept the measures of the government, or not to pass anything contrary to them; or, if all are allowed to share in counsel, the decision should rest with the magistrates. The opposite of what is done in constitutional governments should be the rule in oligarchies; the veto of the majority should be final, their assent not final, but the proposal should be referred back to the magistrates. Whereas in constitutional governments they take the contrary course; the few have the negative, not the affirmative power; the affirmation of everything rests with the multitude.

These, then, are our conclusions respecting the deliberative, that is, the supreme element in states.

XV

Next we will proceed to consider the distribution of offices; this too, being a part of politics concerning which many questions arise: What shall their number be? Over what shall they preside, and what shall be their duration? Sometimes they last for six months, sometimes for less; sometimes they are annual, while in other cases offices are held for still longer periods. Shall they be for life or for a long term of years; or, if for a short term only, shall the same persons hold them over and over again, or once only? Also about the appointment to them — from whom are they to be chosen, by whom, and how? We should first be in a position to say what are the possible varieties of them, and then we may proceed to determine which are suited to different forms of government. But what are to be included under the term ‘offices’? That is a question not quite so easily answered. For a political community requires many officers; and not every one who is chosen by vote or by lot is to be regarded as a ruler. In the first place there are the priests, who must be distinguished from political officers; masters of choruses and heralds, even ambassadors, are elected by vote. Some duties of superintendence again are political, extending either to all the citizens in a single sphere of action, like the office of the general who superintends them when they are in the field, or to a section of them only, like the inspectorships of women or of youth. Other offices are concerned with household management, like that of the corn measurers who exist in many states and are elected officers. There are also menial offices which the rich have executed by their slaves. Speaking generally, those are to be called offices to which the duties are assigned of deliberating about certain measures and ofjudging and commanding, especially the last; for to command is the especial duty of a magistrate. But the question is not of any importance in practice; no one has ever brought into court the meaning of the word, although such problems have a speculative interest.

What kinds of offices, and how many, are necessary to the existence of a state, and which, if not necessary, yet conduce to its well being are much more important considerations, affecting all constitutions, but more especially small states. For in great states it is possible, and indeed necessary, that every office should have a special function; where the citizens are numerous, many may hold office. And so it happens that some offices a man holds a second time only after a long interval, and others he holds once only; and certainly every work is better done which receives the sole, and not the divided attention of the worker. But in small states it is necessary to combine many offices in a few hands, since the small number of citizens does not admit of many holding office: for who will there be to succeed them? And yet small states at times require the same offices and laws as large ones; the difference is that the one want them often, the others only after long intervals. Hence there is no reason why the care of many offices should not be imposed on the same person, for they will not interfere with each other. When the population is small, offices should be like the spits which also serve to hold a lamp. We must first ascertain how many magistrates are necessary in every state, and also how many are not exactly necessary, but are nevertheless useful, and then there will be no difficulty in seeing what offices can be combined in one. We should also know over which matters several local tribunals are to have jurisdiction, and in which authority should be centralized: for example, should one person keep order in the market and another in some other place, or should the same person be responsible everywhere? Again, should offices be divided according to the subjects with which they deal, or according to the persons with whom they deal: I mean to say, should one person see to good order in general, or one look after the boys, another after the women, and so on? Further, under different constitutions, should the magistrates be the same or different? For example, in democracy, oligarchy, aristocracy, monarchy, should there be the same magistrates, although they are elected, not out of equal or similar classes of citizen but differently under different constitutions — in aristocracies, for example, they are chosen from the educated, in oligarchies from the wealthy, and in democracies from the free — or are there certain differences in the offices answering to them as well, and may the same be suitable to some, but different offices to others? For in some states it may be convenient that the same office should have a more extensive, in other states a narrower sphere. Special offices are peculiar to certain forms of government: for example that of probuli, which is not a democratic office, although a bule or council is. There must be some body of men whose duty is to prepare measures for the people in order that they may not be diverted from their business; when these are few in number, the state inclines to an oligarchy: or rather the probuli must always be few, and are therefore an oligarchical element. But when both institutions exist in a state, the probuli are a check on the council; for the counselors is a democratic element, but the probuli are oligarchical. Even the power of the council disappears when democracy has taken that extreme form in which the people themselves are always meeting and deliberating about everything. This is the case when the members of the assembly receive abundant pay; for they have nothing to do and are always holding assemblies and deciding everything for themselves. A magistracy which controls the boys or the women, or any similar office, is suited to an aristocracy rather than to a democracy; for how can the magistrates prevent the wives of the poor from going out of doors? Neither is it an oligarchical office; for the wives of the oligarchs are too fine to be controlled.

Enough of these matters. I will now inquire into appointments to offices. The varieties depend on three terms, and the combinations of these give all possible modes: first, who appoints? secondly, from whom? and thirdly, how? Each of these three admits of three varieties: (A) All the citizens, or (B) only some, appoint. Either (1) the magistrates are chosen out of all or (2) out of some who are distinguished either by a property qualification, or by birth, or merit, or for some special reason, as at Megara only those were eligible who had returned from exile and fought together against the democracy. They may be appointed either (a) by vote or (b) by lot. Again, these several varieties may be coupled, I mean that (C) some officers may be elected by some, others by all, and (3) some again out of some, and others out of all, and (c) some by vote and others by lot. Each variety of these terms admits of four modes.

For either (A 1 a) all may appoint from all by vote, or (A 1 b) all from all by lot, or (A 2 a) all from some by vote, or (A 2 b) all from some by lot (and from all, either by sections, as, for example, by tribes, and wards, and phratries, until all the citizens have been gone through; or the citizens may be in all cases eligible indiscriminately); or again (A 1 c, A 2 c) to some offices in the one way, to some in the other. Again, if it is only some that appoint, they may do so either (B 1 a) from all by vote, or (B 1 b) from all by lot, or (B 2 a) from some by vote, or (B 2 b) from some by lot, or to some offices in the one way, to others in the other, i.e., (B 1 c) from all, to some offices by vote, to some by lot, and (B 2 C) from some, to some offices by vote, to some by lot. Thus the modes that arise, apart from two (C, 3) out of the three couplings, number twelve. Of these systems two are popular, that all should appoint from all (A 1 a) by vote or (A 1 b) by lot — or (A 1 c) by both. That all should not appoint at once, but should appoint from all or from some either by lot or by vote or by both, or appoint to some offices from all and to others from some (‘by both’ meaning to some offices by lot, to others by vote), is characteristic of a polity. And (B 1 c) that some should appoint from all, to some offices by vote, to others by lot, is also characteristic of a polity, but more oligarchical than the former method. And (A 3 a, b, c, B 3 a, b, c) to appoint from both, to some offices from all, to others from some, is characteristic of a polity with a leaning towards aristocracy. That (B 2) some should appoint from some is oligarchical — even (B 2 b) that some should appoint from some by lot (and if this does not actually occur, it is none the less oligarchical in character), or (B 2 C) that some should appoint from some by both. (B 1 a) that some should appoint from all, and (A 2 a) that all should appoint from some, by vote, is aristocratic.

These are the different modes of constituting magistrates, and these correspond to different forms of government: which are proper to which, or how they ought to be established, will be evident when we determine the nature of their powers. By powers I mean such powers as a magistrate exercises over the revenue or in defense of the country; for there are various kinds of power: the power of the general, for example, is not the same with that which regulates contracts in the market.

XVI

Of the three parts of government, the judicial remains to be considered, and this we shall divide on the same principle. There are three points on which the variedes of law-courts depend: The persons from whom they are appointed, the matters with which they are concerned, and the manner of their appointment. I mean, (1) are the judges taken from all, or from some only? (2) how many kinds of law-courts are there? (3) are the judges chosen by vote or by lot?

First, let me determine how many kinds of law-courts there are. There are eight in number: One is the court of audits or scrutinies; a second takes cognizance of ordinary offenses against the state; a third is concerned with treason against the constitution; the fourth determines disputes respecting penalties, whether raised by magistrates or by private persons; the fifth decides the more important civil cases; the sixth tries cases of homicide, which are of various kinds, (a) premeditated, (b) involuntary, (c) cases in which the guilt is confessed but the justice is disputed; and there may be a fourth court (d) in which murderers who have fled from justice are tried after their return; such as the Court of Phreatto is said to be at Athens. But cases of this sort rarely happen at all even in large cities. The different kinds of homicide may be tried either by the same or by different courts. (7) There are courts for strangers: of these there are two subdivisions, (a) for the settlement of their disputes with one another, (b) for the settlement of disputes between them and the citizens. And besides all these there must be (8) courts for small suits about sums of a drachma up to five drachmas, or a little more, which have to be determined, but they do not require many judges.

Nothing more need be said of these small suits, nor of the courts for homicide and for strangers: I would rather speak of political cases, which, when mismanaged, create division and disturbances in constitutions.

Now if all the citizens judge, in all the different cases which I have distinguished, they may be appointed by vote or by lot, or sometimes by lot and sometimes by vote. Or when a single class of causes are tried, the judges who decide them may be appointed, some by vote, and some by lot. These then are the four modes of appointing judges from the whole people, and there will be likewise four modes, if they are elected from a part only; for they may be appointed from some by vote and judge in all causes; or they may be appointed from some by lot and judge in all causes; or they may be elected in some cases by vote, and in some cases taken by lot, or some courts, even when judging the same causes, may be composed of members some appointed by vote and some by lot. These modes, then, as was said, answer to those previously mentioned.

Once more, the modes of appointment may be combined; I mean, that some may be chosen out of the whole people, others out of some, some out of both; for example, the same tribunal may be composed of some who were elected out of all, and of others who were elected out of some, either by vote or by lot or by both.

In how many forms law-courts can be established has now been considered. The first form, viz., that in which the judges are taken from all the citizens, and in which all causes are tried, is democratical; the second, which is composed of a few only who try all causes, oligarchical; the third, in which some courts are taken from all classes, and some from certain classes only, aristocratical and constitutional.

Book Five

I

THE DESIGN which we proposed to ourselves is now nearly completed. Next in order follow the causes of revolution in states, how many, and of what nature they are; what modes of destruction apply to particular states, and out of what, and into what they mostly change; also what are the modes of preservation in states generally, or in a particular state, and by what means each state may be best preserved: these questions remain to be considered.

In the first place we must assume as our starting-point that in the many forms of government which have sprung up there has always been an acknowledgment of justice and proportionate equality, although mankind fail attaining them, as I have already explained. Democracy, for example, arises out of the notion that those who are equal in any respect are equal in all respects; because men are equally free, they claim to be absolutely equal. Oligarchy is based on the notion that those who are unequal in one respect are in all respects unequal; being unequal, that is, in property, they suppose themselves to be unequal absolutely. The democrats think that as they are equal they ought to be equal in all things; while the oligarchs, under the idea that they are unequal, claim too much, which is one form of inequality. All these forms of government have a kind of justice, but, tried by an absolute standard, they are faulty; and, therefore, both parties, whenever their share in the government does not accord with their preconceived ideas, stir up revolution. Those who excel in virtue have the best right of all to rebel (for they alone can with reason be deemed absolutely unequal), but then they are of all men the least inclined to do so. There is also a superiority which is claimed by men of rank; for they are thought noble because they spring from wealthy and virtuous ancestors. Here then, so to speak, are opened the very springs and fountains of revolution; and hence arise two sorts of changes in governments; the one affecting the constitution, when men seek to change from an existing form into some other, for example, from democracy into oligarchy, and from oligarchy into democracy, or from either of them into constitutional government or aristocracy, and conversely; the other not affecting the constitution, when, without disturbing the form of government, whether oligarchy, or monarchy, or any other, they try to get the administration into their own hands. Further, there is a question of degree; an oligarchy, for example, may become more or less oligarchical, and a democracy more or less democratical; and in like manner the characteristics of the other forms of government may be more or less strictly maintained. Or the revolution may be directed against a portion of the constitution only, e.g., the establishment or overthrow of a particular office: as at Sparta it is said that Lysander attempted to overthrow the monarchy, and King Pausanias, the Ephoralty. At Epidamnus, too, the change was partial. For instead of phylarchs or heads of tribes, a council was appointed; but to this day the magistrates are the only members of the ruling class who are compelled to go to the Heliaea when an election takes place, and the office of the single archon was another oligarchical feature. Everywhere inequality is a cause of revolution, but an inequality in which there is no proportion — for instance, a perpetual monarchy among equals; and always it is the desire of equality which rises in rebellion.

Now equality is of two kinds, numerical and proportional; by the first I mean sameness or equality in number or size; by the second, equality of ratios. For example, the excess of three over two is numerically equal to the excess of two over one; whereas four exceeds two in the same ratio in which two exceeds one, for two is the same part of four that one is of two, namely, the half. As I was saying before, men agree that justice in the abstract is proportion, but they differ in that some think that if they are equal in any respect they are equal absolutely, others that if they are unequal in any respect they should be unequal in all. Hence there are two principal forms of government, democracy and oligarchy; for good birth and virtue are rare, but wealth and numbers are more common. In what city shall we find a hundred persons of good birth and of virtue? whereas the rich everywhere abound. That a state should be ordered, simply and wholly, according to either kind of equality, is not a good thing; the proof is the fact that such forms of government never last. They are originally based on a mistake, and, as they begin badly, cannot fall to end badly. The inference is that both kinds of equality should be employed; numerical in some cases, and proportionate in others.

Still democracy appears to be safer and less liable to revolution than oligarchy. For in oligarchies there is the double danger of the oligarchs falling out among themselves and also with the people; but in democracies there is only the danger of a quarrel with the oligarchs. No dissension worth mentioning arises among the people themselves. And we may further remark that a government which is composed of the middle class more nearly approximates to democracy than to oligarchy, and is the safest of the imperfect forms of government.

II

In considering how dissensions and poltical revolutions arise, we must first of all ascertain the beginnings and causes of them which affect constitutions generally. They may be said to be three in number; and we have now to give an outline of each. We want to know (1) what is the feeling? (2) what are the motives of those who make them? (3) whence arise political disturbances and quarrels? The universal and chief cause of this revolutionary feeling has been already mentioned; viz., the desire of equality, when men think that they are equal to others who have more than themselves; or, again, the desire of inequality and superiority, when conceiving themselves to be superior they think that they have not more but the same or less than their inferiors; pretensions which may and may not be just. Inferiors revolt in order that they may be equal, and equals that they may be superior. Such is the state of mind which creates revolutions. The motives for making them are the desire of gain and honor, or the fear of dishonor and loss; the authors of them want to divert punishment or dishonor from themselves or their friends. The causes and reasons of revolutions, whereby men are themselves affected in the way described, and about the things which I have mentioned, viewed in one way may be regarded as seven, and in another as more than seven. Two of them have been already noticed; but they act in a different manner, for men are excited against one another by the love of gain and honor — not, as in the case which I have just supposed, in order to obtain them for themselves, but at seeing others, justly or unjustly, engrossing them. Other causes are insolence, fear, excessive predominance, contempt, disproportionate increase in some part of the state; causes of another sort are election intrigues, carelessness, neglect about trifles, dissimilarity of elements.

III

What share insolence and avarice have in creating revolutions, and how they work, is plain enough. When the magistrates are insolent and grasping they conspire against one another and also against the constitution from which they derive their power, making their gains either at the expense of individuals or of the public. It is evident, again, what an influence honor exerts and how it is a cause of revolution. Men who are themselves dishonored and who see others obtaining honors rise in rebellion; the honor or dishonor when undeserved is unjust; and just when awarded according to merit.

Again, superiority is a cause of revolution when one or more persons have a power which is too much for the state and the power of the government; this is a condition of affairs out of which there arises a monarchy, or a family oligarchy. And therefore, in some places, as at Athens and Argos, they have recourse to ostracism. But how much better to provide from the first that there should be no such pre-eminent individuals instead of letting them come into existence and then finding a remedy.

Another cause of revolution is fear. Either men have committed wrong, and are afraid of punishment, or they are expecting to suffer wrong and are desirous of anticipating their enemy. Thus at Rhodes the notables conspired against the people through fear of the suits that were brought against them. Contempt is also a cause of insurrection and revolution; for example, in oligarchies — when those who have no share in the state are the majority, they revolt, because they think that they are the stronger. Or, again, in democracies, the rich despise the disorder and anarchy of the state; at Thebes, for example, where, after the battle of Oenophyta, the bad administration of the democracy led to its ruin. At Megara the fall of the democracy was due to a defeat occasioned by disorder and anarchy. And at Syracuse the democracy aroused contempt before the tyranny of Gelo arose; at Rhodes, before the insurrection.

Political revolutions also spring from a disproportionate increase in any part of the state. For as a body is made up of many members, and every member ought to grow in proportion, that symmetry may be preserved; but loses its nature if the foot be four cubits long and the rest of the body two spans; and, should the abnormal increase be one of quality as well as of quantity, may even take the form of another animal: even so a state has many parts, of which some one may often grow imperceptibly; for example, the number of poor in democracies and in constitutional states. And this disproportion may sometimes happen by an accident, as at Tarentum, from a defeat in which many of the notables were slain in a battle with the Iapygians just after the Persian War, the constitutional government in consequence becoming a democracy; or as was the case at Argos, where the Argives, after their army had been cut to pieces on the seventh day of the month by Cleomenes the Lacedaemonian, were compelled to admit to citizen some of their Perioeci; and at Athens, when, after frequent defeats of their infantry at the time of the Peloponnesian War, the notables were reduced in number, because the soldiers had to be taken from the roll of citizens. Revolutions arise from this cause as well, in democracies as in other forms of government, but not to so great an extent. When the rich grow numerous or properties increase, the form of government changes into an oligarchy or a government of families. Forms of government also change — sometimes even without revolution, owing to election contests, as at Heraea (where, instead of electing their magistrates, they took them by lot, because the electors were in the habit of choosing their own partisans); or owing to carelessness, when disloyal persons are allowed to find their way into the highest offices, as at Oreum, where, upon the accession of Heracleodorus to office, the oligarchy was overthrown, and changed by him into a constitutional and democratical government.

Again, the revolution may be facilitated by the slightness of the change; I mean that a great change may sometimes slip into the constitution through neglect of a small matter; at Ambracia, for instance, the qualification for office, small at first, was eventually reduced to nothing. For the Ambraciots thought that a small qualification was much the same as none at all.

Another cause of revolution is difference of races which do not at once acquire a common spirit; for a state is not the growth of a day, any more than it grows out of a multitude brought together by accident. Hence the reception of strangers in colonies, either at the time of their foundation or afterwards, has generally produced revolution; for example, the Achaeans who joined the Troezenians in the foundation of Sybaris, becoming later the more numerous, expelled them; hence the curse fell upon Sybaris. At Thurii the Sybarites quarrelled with their fellow-colonists; thinking that the land belonged to them, they wanted too much of it and were driven out. At Byzantium the new colonists were detected in a conspiracy, and were expelled by force of arms; the people of Antissa, who had received the Chian exiles, fought with them, and drove them out; and the Zancleans, after having received the Samians, were driven by them out of their own city. The citizens of Apollonia on the Euxine, after the introduction of a fresh body of colonists, had a revolution; the Syracusans, after the expulsion of their tyrants, having admitted strangers and mercenaries to the rights of citizenship, quarrelled and came to blows; the people of Amphipolis, having received Chalcidian colonists, were nearly all expelled by them.

Now, in oligarchies the masses make revolution under the idea that they are unjustly treated, because, as I said before, they are equals, and have not an equal share, and in democracies the notables revolt, because they are not equals, and yet have only an equal share.

Again, the situation of cities is a cause of revolution when the country is not naturally adapted to preserve the unity of the state. For example, the Chytians at Clazomenae did not agree with the people of the island; and the people of Colophon quarrelled with the Notians; at Athens too, the inhabitants of the Piraeus are more democratic than those who live in the city. For just as in war the impediment of a ditch, though ever so small, may break a regiment, so every cause of difference, however slight, makes a breach in a city. The greatest opposition is confessedly that of virtue and vice; next comes that of wealth and poverty; and there are other antagonistic elements, greater or less, of which one is this difference of place.

IV

In revolutions the occasions may be trifling, but great interests are at stake. Even trifles are most important when they concern the rulers, as was the case of old at Syracuse; for the Syracusan constitution was once changed by a love-quarrel of two young men, who were in the government. The story is that while one of them was away from home his beloved was gained over by his companion, and he to revenge himself seduced the other's wife. They then drew the members of the ruling class into their quarrel and so split all the people into portions. We learn from this story that we should be on our guard against the beginnings of such evils, and should put an end to the quarrels of chiefs and mighty men. The mistake lies in the beginning — as the proverb says—'Well begun is half done'; so an error at the beginning, though quite small, bears the same ratio to the errors in the other parts. In general, when the notables quarrel, the whole city is involved, as happened in Hesdaea after the Persian War. The occasion was the division of an inheritance; one of two brothers refused to give an account of their father's property and the treasure which he had found: so the poorer of the two quarrelled with him and enlisted in his cause the popular party, the other, who was very rich, the wealthy classes.

At Delphi, again, a quarrel about a marriage was the beginning of all the troubles which followed. In this case the bridegroom, fancying some occurrence to be of evil omen, came to the bride, and went away without taking her. Whereupon her relations, thinking that they were insulted by him, put some of the sacred treasure among his offerings while he was sacrificing, and then slew him, pretending that he had been robbing the temple. At Mytilene, too, a dispute about heiresses was the beginning of many misfortunes, and led to the war with the Athenians in which Paches took their city. A wealthy citizen, named Timophanes, left two daughters; Dexander, another citizen, wanted to obtain them for his sons; but he was rejected in his suit, whereupon he stirred up a revolution, and instigated the Athenians (of whom he was proxenus) to interfere. A similar quarrel about an heiress arose at Phocis between Mnaseas the father of Mnason, and Euthycrates the father of Onomarchus; this was the beginning of the Sacred War. A marriage-quarrel was also the cause of a change in the government of Epidamnus. A certain man betrothed his daughter to a person whose father, having been made a magistrate, fined the father of the girl, and the latter, stung by the insult, conspired with the unenfranchised classes to overthrow the state.

Governments also change into oligarchy or into democracy or into a constitutional government because the magistrates, or some other section of the state, increase in power or renown. Thus at Athens the reputation gained by the court of the Areopagus, in the Persian War, seemed to tighten the reins of government. On the other hand, the victory of Salamis, which was gained by the common people who served in the fleet, and won for the Athenians the empire due to command of the sea, strengthened the democracy. At Argos, the notables, having distinguished themselves against the Lacedaemonians in the battle of Mantinea, attempted to put down the democracy. At Syracuse, the people, having been the chief authors of the victory in the war with the Athenians, changed the constitutional government into democracy. At Chalcis, the people, uniting with the notables, killed Phoxus the tyrant, and then seized the government. At Ambracia, the people, in like manner, having joined with the conspirators in expelling the tyrant Periander, transferred the government to themselves. And generally it should be remembered that those who have secured power to the state, whether private citizens, or magistrates, or tribes, or any other part or section of the state, are apt to cause revolutions. For either envy of their greatness draws others into rebellion, or they themselves, in their pride of superiority, are unwilling to remain on a level with others.

Revolutions also break out when opposite parties, e.g., the rich and the people, are equally balanced, and there is little or no middle class; for, if either party were manifestly superior, the other would not risk an attack upon them. And, for this reason, those who are eminent in virtue usually do not stir up insurrections, always being a minority. Such are the beginnings and causes of the disturbances and revolutions to which every form of government is liable.

Revolutions are effected in two ways, by force and by fraud. Force may be applied either at the time of making the revolution or afterwards. Fraud, again, is of two kinds; for (1) sometimes the citizens are deceived into acquiescing in a change of government, and afterwards they are held in subjection against their will. This was what happened in the case of the Four Hundred, who deceived the people by telling them that the king would provide money for the war against the Lacedaemonians, and, having cheated the people, still endeavored to retain the government. (2) In other cases the people are persuaded at first, and afterwards, by a repetition of the persuasion, their goodwill and allegiance are retained. The revolutions which effect constitutions generally spring from the above-mentioned causes.

V

And now, taking each constitution separately, we must see what follows from the principles already laid down.

Revolutions in democracies are generally caused by the intemperance of demagogues, who either in their private capacity lay information against rich men until they compel them to combine (for a common danger unites even the bitterest enemies), or coming forward in public stir up the people against them. The truth of this remark is proved by a variety of examples. At Cos the democracy was overthrown because wicked demagogues arose, and the notables combined. At Rhodes the demagogues not only provided pay for the multitude, but prevented them from making good to the trierarchs the sums which had been expended by them; and they, in consequence of the suits which were brought against them, were compelled to combine and put down the democracy. The democracy at Heraclea was overthrown shortly after the foundation of the colony by the injustice of the demagogues, which drove out the notables, who came back in a body and put an end to the democracy. Much in the same manner the democracy at Megara was overturned; there the demagogues drove out many of the notables in order that they might be able to confiscate their property. At length the exiles, becoming numerous, returned, and, engaging and defeating the people, established the oligarchy. The same thing happened with the democracy of Cyme, which was overthrown by Thrasymachus. And we may observe that in most states the changes have been of this character. For sometimes the demagogues, in order to curry favor with the people, wrong the notables and so force them to combine; either they make a division of their property, or diminish their incomes by the imposition of public services, and sometimes they bring accusations against the rich that they may have their wealth to confiscate.

Of old, the demagogue was also a general, and then democracies changed into tyrannies. Most of the ancient tyrants were originally demagogues. They are not so now, but they were then; and the reason is that they were generals and not orators, for oratory had not yet come into fashion. Whereas in our day, when the art of rhetoric has made such progress, the orators lead the people, but their ignorance of military matters prevents them from usurping power; at any rate instances to the contrary are few and slight. Tyrannies were more common formerly than now, for this reason also, that great power was placed in the hands of individuals; thus a tyranny arose at Miletus out of the office of the Prytanis, who had supreme authority in many important matters. Moreover, in those days, when cities were not large, the people dwelt in the fields, busy at their work; and their chiefs, if they possessed any military talent, seized the opportunity, and winning the confidence of the masses by professing their hatred of the wealthy, they succeeded in obtaining the tyranny. Thus at Athens Peisistratus led a faction against the men of the plain, and Theagenes at Megara slaughtered the cattle of the wealthy, which he found by the river side, where they had put them to graze in land not their own. Dionysius, again, was thought worthy of the tyranny because he denounced Daphnaeus and the rich; his enmity to the notables won for him the confidence of the people. Changes also take place from the ancient to the latest form of democracy; for where there is a popular election of the magistrates and no property qualification, the aspirants for office get hold of the people, and contrive at last even to set them above the laws. A more or less complete cure for this state of things is for the separate tribes, and not the whole people, to elect the magistrates.

These are the principal causes of revolutions in democracies.

VI

There are two patent causes of revolutions in oligarchies: (1) First, when the oligarchs oppress the people, for then anybody is good enough to be their champion, especially if he be himself a member of the oligarchy, as Lygdamis at Naxos, who afterwards came to be tyrant. But revolutions which commence outside the governing class may be further subdivided. Sometimes, when the government is very exclusive, the revolution is brought about by persons of the wealthy class who are excluded, as happened at Massalia and Istros and Heraclea, and other cities. Those who had no share in the government created a disturbance, until first the elder brothers, and then the younger, were admitted; for in some places father and son, in others elder and younger brothers, do not hold office together. At Massalia the oligarchy became more like a constitutional government, but at Istros ended in a democracy, and at Heraclea was enlarged to 600. At Cnidos, again, the oligarchy underwent a considerable change. For the notables fell out among themselves, because only a few shared in the government; there existed among them the rule already mentioned, that father and son not hold office together, and, if there were several brothers, only the eldest was admitted. The people took advantage of the quarrel, and choosing one of the notables to be their leader, attacked and conquered the oligarchs, who were divided, and division is always a source of weakness. The city of Erythrae, too, in old times was ruled, and ruled well, by the Basilidae, but the people took offense at the narrowness of the oligarchy and changed the constitution.

(2) Of internal causes of revolutions in oligarchies one is the personal rivalry of the oligarchs, which leads them to play the demagogue. Now, the oligarchical demagogue is of two sorts: either (a) he practices upon the oligarchs themselves (for, although the oligarchy are quite a small number, there may be a demagogue among them, as at Athens Charicles' party won power by courting the Thirty, that of Phrynichus by courting the Four Hundred); or (b) the oligarchs may play the demagogue with the people. This was the case at Larissa, where the guardians of the citizens endeavored to gain over the people because they were elected by them; and such is the fate of all oligarchies in which the magistrates are elected, as at Abydos, not by the class to which they belong, but by the heavy-armed or by the people, although they may be required to have a high qualification, or to be members of a political club; or, again, where the law-courts are composed of persons outside the government, the oligarchs flatter the people in order to obtain a decision in their own favor, and so they change the constitution; this happened at Heraclea in Pontus. Again, oligarchies change whenever any attempt is made to narrow them; for then those who desire equal rights are compelled to call in the people. Changes in the oligarchy also occur when the oligarchs waste their private property by extravagant living; for then they want to innovate, and either try to make themselves tyrants, or install some one else in the tyranny, as Hipparinus did Dionysius at Syracuse, and as at Amphipolis a man named Cleotimus introduced Chalcidian colonists, and when they arrived, stirred them up against the rich. For a like reason in Aegina the person who carried on the negotiation with Chares endeavored to revolutionize the state. Sometimes a party among the oligarchs try directly to create a political change; sometimes they rob the treasury, and then either the thieves or, as happened at Apollonia in Pontus, those who resist them in their thieving quarrel with the rulers. But an oligarchy which is at unity with itself is not easily destroyed from within; of this we may see an example at Pharsalus, for there, although the rulers are few in number, they govern a large city, because they have a good understanding among themselves.

Oligarchies, again, are overthrown when another oligarchy is created within the original one, that is to say, when the whole governing body is small and yet they do not all share in the highest offices. Thus at Elis the governing body was a small senate; and very few ever found their way into it, because the senators were only ninety in number, and were elected for life and out of certain families in a manner similar to the Lacedaemonian elders. Oligarchy is liable to revolutions alike in war and in peace; in war because, not being able to trust the people, the oligarchs are compelled to hire mercenaries, and the general who is in command of them often ends in becoming a tyrant, as Timophanes did at Corinth; or if there are more generals than one they make themselves into a company of tyrants. Sometimes the oligarchs, fearing this danger, give the people a share in the government because their services are necessary to them. And in time of peace, from mutual distrust, the two parties hand over the defense of the state to the army and to an arbiter between the two factions, who often ends the master of both. This happened at Larissa when Simos the Aleuad had the government, and at Abydos in the days of Iphiades and the political clubs. Revolutions also arise out of marriages or lawsuits which lead to the overthrow of one party among the oligarchs by another. Of quarrels about marriages I have already mentioned some instances; another occurred at Eretria, where Diagoras overturned the oligarchy of the knights because he had been wronged about a marriage. A revolution at Heraclea, and another at Thebes, both arose out of decisions of law-courts upon a charge of adultery; in both cases the punishment was just, but executed in the spirit of party, at Heraclea upon Eurytion, and at Thebes upon Archias; for their enemies were jealous of them and so had them pilloried in the agora. Many oligarchies have been destroyed by some members of the ruling class taking offense at their excessive despotism; for example, the oligarchy at Cnidus and at Chios.

Changes of constitutional governments, and also of oligarchies which limit the office of counselor, judge, or other magistrate to persons having a certain money qualification, often occur by accident. The qualification may have been originally fixed according to the circumstances of the time, in such a manner as to include in an oligarchy a few only, or in a constitutional government the middle class. But after a time of prosperity, whether arising from peace or some other good fortune, the same property becomes many times as valuable, and then everybody participates in every office; this happens sometimes gradually and insensibly, and sometimes quickly. These are the causes of changes and revolutions in oligarchies.

We must remark generally both of democracies and oligarchies, that they sometimes change, not into the opposite forms of government, but only into another variety of the same class; I mean to say, from those forms of democracy and oligarchy which are regulated by law into those which are arbitrary, and conversely.

VII

In aristocracies revolutions are stirred up when a few only share in the honors of the state; a cause which has been already shown to affect oligarchies; for an aristocracy is a sort of oligarchy, and, like an oligarchy, is the government of a few, although few not for the same reason; hence the two are often confounded. And revolutions will be most likely to happen, and must happen, when the mass of the people are of the high-spirited kind, and have a notion that they are as good as their rulers. Thus at Lacedaemon the so-called Partheniae, who were the [illegitimate] sons of the Spartan peers, attempted a revolution, and, being detected, were sent away to colonize Tarentum. Again, revolutions occur when great men who are at least of equal merit are dishonored by those higher in office, as Lysander was by the kings of Sparta; or, when a brave man is excluded from the honors of the state, like Cinadon, who conspired against the Spartans in the reign of Agesilaus; or, again, when some are very poor and others very rich, a state of society which is most often the result of war, as at Lacedaemon in the days of the Messenian War; this is proved from the poem of Tyrtaeus, entitled ‘Good Order’; for he speaks of certain citizens who were ruined by the war and wanted to have a redistribution of the land. Again, revolutions arise when an individual who is great, and might be greater, wants to rule alone, as, at Lacedaemon, Pausanias, who was general in the Persian War, or like Hanno at Carthage.

Constitutional governments and aristocracies are commonly overthrown owing to some deviation from justice in the constitution itself; the cause of the downfall is, in the former, the ill-mingling of the two elements, democracy and oligarchy; in the latter, of the three elements, democracy, oligarchy, and virtue, but especially democracy and oligarchy. For to combine these is the endeavor of constitutional governments; and most of the so-called aristocracies have a like aim, but differ from polities in the mode of combination; hence some of them are more and some less permanent. Those which incline more to oligarchy are called aristocracies, and those which incline to democracy constitutional governments. And therefore the latter are the safer of the two; for the greater the number, the greater the strength, and when men are equal they are contented. But the rich, if the constitution gives them power, are apt to be insolent and avaricious; and, in general, whichever way the constitution inclines, in that direction it changes as either party gains strength, a constitutional government becoming a democracy, an aristocracy an oligarchy. But the process may be reversed, and aristocracy may change into democracy. This happens when the poor, under the idea that they are being wronged, force the constitution to take an opposite form. In like manner constitutional governments change into oligarchies. The only stable principle of government is equality according to proportion, and for every man to enjoy his own.

What I have just mentioned actually happened at Thurii, where the qualification for office, at first high, was therefore reduced, and the magistrates increased in number. The notables had previously acquired the whole of the land contrary to law; for the government tended to oligarchy, and they were able to encroach.... But the people, who had been trained by war, soon got the better of the guards kept by the oligarchs, until those who had too much gave up their land.

Again, since all aristocratical governments incline to oligarchy, the notables are apt to be grasping; thus at Lacedaemon, where property tends to pass into few hands, the notables can do too much as they like, and are allowed to marry whom they please. The city of Locri was ruined by a marriage connection with Dionysius, but such a thing could never have happened in a democracy, or in a wellbalanced aristocracy.

I have already remarked that in all states revolutions are occasioned by trifles. In aristocracies, above all, they are of a gradual and imperceptible nature. The citizens begin by giving up some part of the constitution, and so with greater ease the government change something else which is a little more important, until they have undermined the whole fabric of the state. At Thurii there was a law that generals should only be re-elected after an interval of five years, and some young men who were popular with the soldiers of the guard for their military prowess, despising the magistrates and thinking that they would easily gain their purpose, wanted to abolish this law and allow their generals to hold perpetual commands; for they well knew that the people would be glad enough to elect them. Whereupon the magistrates who had charge of these matters, and who are called councillors, at first determined to resist, but they afterwards consented, thinking that, if only this one law was changed, no further inroad would be made on the constitution. But other changes soon followed which they in vain attempted to oppose; and the state passed into the hands of the revolutionists, who established a dynastic oligarchy.

All constitutions are overthrown either from within or from without; the latter, when there is some government close at hand having an opposite interest, or at a distance, but powerful. This was exemplified in the old times of the Athenians and the Lacedaemonians; the Athenians everywhere put down the oligarchies, and the Lacedaemonians the democracies.

I have now explained what are the chief causes of revolutions and dissensions in states.

VIII

We have next to consider what means there are of preserving constitutions in general, and in particular cases. In the first place it is evident that if we know the causes which destroy constitutions, we also know the causes which preserve them; for opposites produce opposites, and destruction is the opposite of preservation.

In all well-attempered governments there is nothing which should be more jealously maintained than the spirit of obedience to law, more especially in small matters; for transgression creeps in unperceived and at last ruins the state, just as the constant recurrence of small expenses in time eats up a fortune. The expense does not take place at once, and therefore is not observed; the mind is deceived, as in the fallacy which says that ‘if each part is little, then the whole is little.’ this is true in one way, but not in another, for the whole and the all are not little, although they are made up of littles.

In the first place, then, men should guard against the beginning of change, and in the second place they should not rely upon the political devices of which I have already spoken invented only to deceive the people, for they are proved by experience to be useless. Further, we note that oligarchies as well as aristocracies may last, not from any inherent stability in such forms of government, but because the rulers are on good terms both with the unenfranchised and with the governing classes, not maltreating any who are excluded from the government, but introducing into it the leading spirits among them. They should never wrong the ambitious in a matter of honor, or the common people in a matter of money; and they should treat one another and their fellow citizen in a spirit of equality. The equality which the friends of democracy seek to establish for the multitude is not only just but likewise expedient among equals. Hence, if the governing class are numerous, many democratic institutions are useful; for example, the restriction of the tenure of offices to six months, that all those who are of equal rank may share in them. Indeed, equals or peers when they are numerous become a kind of democracy, and therefore demagogues are very likely to arise among them, as I have already remarked. The short tenure of office prevents oligarchies and aristocracies from falling into the hands of families; it is not easy for a person to do any great harm when his tenure of office is short, whereas long possession begets tyranny in oligarchies and democracies. For the aspirants to tyranny are either the principal men of the state, who in democracies are demagogues and in oligarchies members of ruling houses, or those who hold great offices, and have a long tenure of them.

Constitutions are preserved when their destroyers are at a distance, and sometimes also because they are near, for the fear of them makes the government keep in hand the constitution. Wherefore the ruler who has a care of the constitution should invent terrors, and bring distant dangers near, in order that the citizens may be on their guard, and, like sentinels in a night watch, never relax their attention. He should endeavor too by help of the laws to control the contentions and quarrels of the notables, and to prevent those who have not hitherto taken part in them from catching the spirit of contention. No ordinary man can discern the beginning of evil, but only the true statesman.

As to the change produced in oligarchies and constitutional governments by the alteration of the qualification, when this arises, not out of any variation in the qualification but only out of the increase of money, it is well to compare the general valuation of property with that of past years, annually in those cities in which the census is taken annually and in larger cities every third or fifth year. If the whole is many times greater or many times less than when the ratings recognized by the constitution were fixed, there should be power given by law to raise or lower the qualification as the amount is greater or less. Where this is not done a constitutional government passes into an oligarchy, and an oligarchy is narrowed to a rule of families; or in the opposite case constitutional government becomes democracy, and oligarchy either constitutional government or democracy.

It is a principle common to democracy, oligarchy, and every other form of government not to allow the disproportionate increase of any citizen but to give moderate honor for a long time rather than great honor for a short time. For men are easily spoilt; not every one can bear prosperity. But if this rule is not observed, at any rate the honors which are given all at once should be taken away by degrees and not all at once. Especially should the laws provide against any one having too much power, whether derived from friends or money; if he has, he should be sent clean out of the country. And since innovations creep in through the private life of individuals also, there ought to be a magistracy which will have an eye to those whose life is not in harmony with the government, whether oligarchy or democracy or any other. And for a like reason an increase of prosperity in any part of the state should be carefully watched. The proper remedy for this evil is always to give the management of affairs and offices of state to opposite elements; such opposites are the virtuous and the many, or the rich and the poor. Another way is to combine the poor and the rich in one body, or to increase the middle class: thus an end will be put to the revolutions which arise from inequality.

But above all every state should be so administered and so regulated by law that its magistrates cannot possibly make money. In oligarchies special precautions should be used against this evil. For the people do not take any great offense at being kept out of the government — indeed they are rather pleased than otherwise at having leisure for their private business — but what irritates them is to think that their rulers are stealing the public money; then they are doubly annoyed; for they lose both honor and profit. If office brought no profit, then and then only could democracy and aristocracy be combined; for both notables and people might have their wishes gratified. All would be able to hold office, which is the aim of democracy, and the notables would be magistrates, which is the aim of aristocracy. And this result may be accomplished when there is no possibility of making money out of the offices; for the poor will not want to have them when there is nothing to be gained from them — they would rather be attending to their own concerns; and the rich, who do not want money from the public treasury, will be able to take them; and so the poor will keep to their work and grow rich, and the notables will not be governed by the lower class. In order to avoid peculation of the public money, the transfer of the revenue should be made at a general assembly of the citizens, and duplicates of the accounts deposited with the different brotherhoods, companies, and tribes. And honors should be given by law to magistrates who have the reputation of being incorruptible. In democracies the rich should be spared; not only should their property not be divided, but their incomes also, which in some states are taken from them imperceptibly, should be protected. It is a good thing to prevent the wealthy citizens, even if they are willing from undertaking expensive and useless public services, such as the giving of choruses, torch-races, and the like. In an oligarchy, on the other hand, great care should be taken of the poor, and lucrative offices should go to them; if any of the wealthy classes insult them, the offender should be punished more severely than if he had wronged one of his own class. Provision should be made that estates pass by inheritance and not by gift, and no person should have more than one inheritance; for in this way properties will be equalized, and more of the poor rise to competency. It is also expedient both in a democracy and in an oligarchy to assign to those who have less share in the government (i.e., to the rich in a democracy and to the poor in an oligarchy) an equality or preference in all but the principal offices of state. The latter should be entrusted chiefly or only to members of the governing class.

IX

There are three qualifications required in those who have to fill the highest offices — (1) first of all, loyalty to the established constitution; (2) the greatest administrative capacity; (3) virtue and justice of the kind proper to each form of government; for, if what is just is not the same in all governments, the quality of justice must also differ. There may be a doubt, however, when all these qualities do not meet in the same person, how the selection is to be made; suppose, for example, a good general is a bad man and not a friend to the constitution, and another man is loyal and just, which should we choose? In making the election ought we not to consider two points? what qualities are common, and what are rare. Thus in the choice of a general, we should regard his skill rather than his virtue; for few have military skill, but many have virtue. In any office of trust or stewardship, on the other hand, the opposite rule should be observed; for more virtue than ordinary is required in the holder of such an office, but the necessary knowledge is of a sort which all men possess.

It may, however, be asked what a man wants with virtue if he have political ability and is loyal, since these two qualities alone will make him do what is for the public interest. But may not men have both of them and yet be deficient in self-control? If, knowing and loving their own interests, they do not always attend to them, may they not be equally negligent of the interests of the public?

Speaking generally, we may say that whatever legal enactments are held to be for the interest of various constitutions, all these preserve them. And the great preserving principle is the one which has been repeatedly mentioned — to have a care that the loyal citizen should be stronger than the disloyal. Neither should we forget the mean, which at the present day is lost sight of in perverted forms of government; for many practices which appear to be democratical are the ruin of democracies, and many which appear to be oligarchical are the ruin of oligarchies. Those who think that all virtue is to be found in their own party principles push matters to extremes; they do not consider that disproportion destroys a state. A nose which varies from the ideal of straightness to a hook or snub may still be of good shape and agreeable to the eye; but if the excess be very great, all symmetry is lost, and the nose at last ceases to be a nose at all on account of some excess in one direction or defect in the other; and this is true of every other part of the human body. The same law of proportion equally holds in states. Oligarchy or democracy, although a departure from the most perfect form, may yet be a good enough government, but if any one attempts to push the principles of either to an extreme, he will begin by spoiling the government and end by having none at all. Wherefore the legislator and the statesman ought to know what democratical measures save and what destroy a democracy, and what oligarchical measures save or destroy an oligarchy. For neither the one nor the other can exist or continue to exist unless both rich and poor are included in it. If equality of property is introduced, the state must of necessity take another form; for when by laws carried to excess one or other element in the state is ruined, the constitution is ruined.

There is an error common both to oligarchies and to democracies: in the latter the demagogues, when the multitude are above the law, are always cutting the city in two by quarrels with the rich, whereas they should always profess to be maintaining their cause; just as in oligarchies the oligarchs should profess to maintaining the cause of the people, and should take oaths the opposite of those which they now take. For there are cities in which they swear—'I will be an enemy to the people, and will devise all the harm against them which I can'; but they ought to exhibit and to entertain the very opposite feeling; in the form of their oath there should be an express declaration—'I will do no wrong to the people.'

But of all the things which I have mentioned that which most contributes to the permanence of constitutions is the adaptation of education to the form of government, and yet in our own day this principle is universally neglected. The best laws, though sanctioned by every citizen of the state, will be of no avail unless the young are trained by habit and education in the spirit of the constitution, if the laws are democratical, democratically or oligarchically, if the laws are oligarchical. For there may be a want of self-discipline in states as well as in individuals. Now, to have been educated in the spirit of the constitution is not to perform the actions in which oligarchs or democrats delight, but those by which the existence of an oligarchy or of a democracy is made possible. Whereas among ourselves the sons of the ruling class in an oligarchy live in luxury, but the sons of the poor are hardened by exercise and toil, and hence they are both more inclined and better able to make a revolution. And in democracies of the more extreme type there has arisen a false idea of freedom which is contradictory to the true interests of the state. For two principles are characteristic of democracy, the government of the majority and freedom. Men think that what is just is equal; and that equality is the supremacy of the popular will; and that freedom means the doing what a man likes. In such democracies every one lives as he pleases, or in the words of Euripides, 'according to his fancy.' But this is all wrong; men should not think it slavery to live according to the rule of the constitution; for it is their salvation.

I have now discussed generally the causes of the revolution and destruction of states, and the means of their preservation and continuance.

X

I have still to speak of monarchy, and the causes of its destruction and preservation. What I have said already respecting forms of constitutional government applies almost equally to royal and to tyrannical rule. For royal rule is of the nature of an aristocracy, and a tyranny is a compound of oligarchy and democracy in their most extreme forms; it is therefore most injurious to its subjects, being made up of two evil forms of government, and having the perversions and errors of both. These two forms of monarchy are contrary in their very origin. The appointment of a king is the resource of the better classes against the people, and he is elected by them out of their own number, because either he himself or his family excel in virtue and virtuous actions; whereas a tyrant is chosen from the people to be their protector against the notables, and in order to prevent them from being injured. History shows that almost all tyrants have been demagogues who gained the favor of the people by their accusation of the notables. At any rate this was the manner in which the tyrannies arose in the days when cities had increased in power. Others which were older originated in the ambition of kings wanting to overstep the limits of their hereditary power and become despots. Others again grew out of the class which were chosen to be chief magistrates; for in ancient times the people who elected them gave the magistrates, whether civil or religious, a long tenure. Others arose out of the custom which oligarchies had of making some individual supreme over the highest offices. In any of these ways an ambitious man had no difficulty, if he desired, in creating a tyranny, since he had the power in his hands already, either as king or as one of the officers of state. Thus Pheidon at Argos and several others were originally kings, and ended by becoming tyrants; Phalaris, on the other hand, and the Ionian tyrants, acquired the tyranny by holding great offices. Whereas Panaetius at Leontini, Cypselus at Corinth, Peisistratus at Athens, Dionysius at Syracuse, and several others who afterwards became tyrants, were at first demagogues.

And so, as I was saying, royalty ranks with aristocracy, for it is based upon merit, whether of the individual or of his family, or on benefits conferred, or on these claims with power added to them. For all who have obtained this honor have benefited, or had in their power to benefit, states and nations; some, like Codrus, have prevented the state from being enslaved in war; others, like Cyrus, have given their country freedom, or have settled or gained a territory, like the Lacedaemonian, Macedonian, and Molossian kings. The idea of a king is to be a protector of the rich against unjust treatment, of the people against insult and oppression. Whereas a tyrant, as has often been repeated, has no regard to any public interest, except as conducive to his private ends; his aim is pleasure, the aim of a king, honor. Wherefore also in their desires they differ; the tyrant is desirous of riches, the king, of what brings honor. And the guards of a king are citizens, but of a tyrant mercenaries.

That tyranny has all the vices both of democracy and oligarchy is evident. As of oligarchy so of tyranny, the end is wealth; (for by wealth only can the tyrant maintain either his guard or his luxury). Both mistrust the people, and therefore deprive them of their arms. Both agree too in injuring the people and driving them out of the city and dispersing them. From democracy tyrants have borrowed the art of making war upon the notables and destroying them secretly or openly, or of exiling them because they are rivals and stand in the way of their power; and also because plots against them are contrived by men of this class, who either want to rule or to escape subjection. Hence Periander advised Thrasybulus by cutting off the tops of the tallest ears of corn, meaning that he must always put out of the way the citizens who overtop the rest. And so, as I have already intimated, the beginnings of change are the same in monarchies as in forms of constitutional government; subjects attack their sovereigns out of fear or contempt, or because they have been unjustly treated by them. And of injustice, the most common form is insult, another is confiscation of property.

The ends sought by conspiracies against monarchies, whether tyrannies or royalties, are the same as the ends sought by conspiracies against other forms of government. Monarchs have great wealth and honor, which are objects of desire to all mankind. The attacks are made sometimes against their lives, sometimes against the office; where the sense of insult is the motive, against their lives. Any sort of insult (and there are many) may stir up anger, and when men are angry, they commonly act out of revenge, and not from ambition. For example, the attempt made upon the Peisistratidae arose out of the public dishonor offered to the sister of Harmodius and the insult to himself. He attacked the tyrant for his sister’s sake, and Aristogeiton joined in the attack for the sake of Harmodius. A conspiracy was also formed against Periander, the tyrant of Ambracia, because, when drinking with a favorite youth, he asked him whether by this time he was not with child by him. Philip, too, was attacked by Pausanias because he permitted him to be insulted by Attalus and his friends, and Amyntas the little, by Derdas, because he boasted of having enjoyed his youth. Evagoras of Cyprus, again, was slain by the eunuch to revenge an insult; for his wife had been carried off by Evagoras's son. Many conspiracies have originated in shameful attempts made by sovereigns on the persons of their subjects. Such was the attack of Crataeas upon Archelaus; he had always hated the connection with him, and so, when Archelaus, having promised him one of his two daughters in marriage, did not give him either of them, but broke his word and married the elder to the king of Elymeia, when he was hard pressed in a war against Sirrhas and Arrhabaeus, and the younger to his own son Amyntas, under the idea that Amyntas would then be less likely to quarrel with his son by Cleopatra — Crataeas made this slight a pretext for attacking Archelaus, though even a less reason would have sufficed, for the real cause of the estrangement was the disgust which he felt at his connection with the king. And from a like motive Hellonocrates of Larissa conspired with him; for when Archelaus, who was his lover, did not fulfill his promise of restoring him to his country, he thought that the connection between them had originated, not in affection, but in the wantonness of power. Pytho, too, and Heracleides of Aenos, slew Cotys in order to avenge their father, and Adamas revolted from Cotys in revenge for the wanton outrage which he had committed in mutilating him when a child.

Many, too, irritated at blows inflicted on the person which they deemed an insult, have either killed or attempted to kill officers of state and royal princes by whom they have been injured. Thus, at Mytilene, Megacles and his friends attacked and slew the Penthilidae, as they were going about and striking people with clubs. At a later date Smerdis, who had been beaten and torn away from his wife by Penthilus, slew him. In the conspiracy against Archelaus, Decamnichus stimulated the fury of the assassins and led the attack; he was enraged because Archelaus had delivered him to Euripides to be scourged; for the poet had been irritated at some remark made by Decamnichus on the foulness of his breath. Many other examples might be cited of murders and conspiracies which have arisen from similar causes.

Fear is another motive which, as we have said, has caused conspiracies as well in monarchies as in more popular forms of government. Thus Artapanes conspired against Xerxes and slew him, fearing that he would be accused of hanging Darius against his orders-he having been under the impression that Xerxes would forget what he had said in the middle of a meal, and that the offense would be forgiven.

Another motive is contempt, as in the case of Sardanapalus, whom some one saw carding wool with his women, if the storytellers say truly; and the tale may be true, if not of him, of some one else. Dion attacked the younger Dionysius because he despised him, and saw that he was equally despised by his own subjects, and that he was always drunk. Even the friends of a tyrant will sometimes attack him out of contempt; for the confidence which he reposes in them breeds contempt, and they think that they will not be found out. The expectation of success is likewise a sort of contempt; the assailants are ready to strike, and think nothing of the danger, because they seem to have the power in their hands. Thus generals of armies attack monarchs; as, for example, Cyrus attacked Astyages, despising the effeminacy of his life, and believing that his power was worn out. Thus again, Seuthes the Thracian conspired against Amadocus, whose general he was.

And sometimes men are actuated by more than one motive, like Mithridates, who conspired against Ariobarzanes, partly out of contempt and partly from the love of gain.

Bold natures, placed by their sovereigns in a high military position, are most likely to make the attempt in the expectation of success; for courage is emboldened by power, and the union of the two inspires them with the hope of an easy victory.

Attempts of which the motive is ambition arise in a different way as well as in those already mentioned. There are men who will not risk their lives in the hope of gains and honors however great, but who nevertheless regard the killing of a tyrant simply as an extraordinary action which will make them famous and honorable in the world; they wish to acquire, not a kingdom, but a name. It is rare, however, to find such men; he who would kill a tyrant must be prepared to lose his life if he fail. He must have the resolution of Dion, who, when he made war upon Dionysius, took with him very few troops, saying ‘that whatever measure of success he might attain would be enough for him, even if he were to die the moment he landed; such a death would be welcome to him.’ this is a temper to which few can attain.

Once more, tyrannies, like all other governments, are destroyed from without by some opposite and more powerful form of government. That such a government will have the will to attack them is clear; for the two are opposed in principle; and all men, if they can, do what they will. Democracy is antagonistic to tyranny, on the principle of Hesiod, ‘Potter hates Potter,’ because they are nearly akin, for the extreme form of democracy is tyranny; and royalty and aristocracy are both alike opposed to tyranny, because they are constitutions of a different type. And therefore the Lacedaemonians put down most of the tyrannies, and so did the Syracusans during the time when they were well governed.

Again, tyrannies are destroyed from within, when the reigning family are divided among themselves, as that of Gelo was, and more recently that of Dionysius; in the case of Gelo because Thrasybulus, the brother of Hiero, flattered the son of Gelo and led him into excesses in order that he might rule in his name. Whereupon the family got together a party to get rid of Thrasybulus and save the tyranny; but those of the people who conspired with them seized the opportunity and drove them all out. In the case of Dionysius, Dion, his own relative, attacked and expelled him with the assistance of the people; he afterwards perished himself.

There are two chief motives which induce men to attack tyrannies — hatred and contempt. Hatred of tyrants is inevitable, and contempt is also a frequent cause of their destruction. Thus we see that most of those who have acquired, have retained their power, but those who have inherited, have lost it, almost at once; for, living in luxurious ease, they have become contemptible, and offer many opportunities to their assailants. Anger, too, must be included under hatred, and produces the same effects. It is often times even more ready to strike — the angry are more impetuous in making an attack, for they do not follow rational principle. And men are very apt to give way to their passions when they are insulted. To this cause is to be attributed the fall of the Peisistratidae and of many others. Hatred is more reasonable, for anger is accompanied by pain, which is an impediment to reason, whereas hatred is painless.

In a word, all the causes which I have mentioned as destroying the last and most unmixed form of oligarchy, and the extreme form of democracy, may be assumed to affect tyranny; indeed the extreme forms of both are only tyrannies distributed among several persons. Kingly rule is little affected by external causes, and is therefore lasting; it is generally destroyed from within. And there are two ways in which the destruction may come about; (1) when the members of the royal family quarrel among themselves, and (2) when the kings attempt to administer the state too much after the fashion of a tyranny, and to extend their authority contrary to the law. Royalties do not now come into existence; where such forms of government arise, they are rather monarchies or tyrannies. For the rule of a king is over voluntary subjects, and he is supreme in all important matters; but in our own day men are more upon an equality, and no one is so immeasurably superior to others as to represent adequately the greatness and dignity of the office. Hence mankind will not, if they can help, endure it, and any one who obtains power by force or fraud is at once thought to be a tyrant. In hereditary monarchies a further cause of destruction is the fact that kings often fall into contempt, and, although possessing not tyrannical power, but only royal dignity, are apt to outrage others. Their overthrow is then readily effected; for there is an end to the king when his subjects do not want to have him, but the tyrant lasts, whether they like him or not.

The destruction of monarchies is to be attributed to these and the like causes.

XI

And they are preserved, to speak generally, by the opposite causes; or, if we consider them separately, (1) royalty is preserved by the limitation of its powers. The more restricted the functions of kings, the longer their power will last unimpaired; for then they are more moderate and not so despotic in their ways; and they are less envied by their subjects. This is the reason why the kingly office has lasted so long among the Molossians. And for a similar reason it has continued among the Lacedaemonians, because there it was always divided between two, and afterwards further limited by Theopompus in various respects, more particularly by the establishment of the Ephoralty. He diminished the power of the kings, but established on a more lasting basis the kingly office, which was thus made in a certain sense not less, but greater. There is a story that when his wife once asked him whether he was not ashamed to leave to his sons a royal power which was less than he had inherited from his father, ‘No indeed,’ he replied, ‘for the power which I leave to them will be more lasting.’

As to (2) tyrannies, they are preserved in two most opposite ways. One of them is the old traditional method in which most tyrants administer their government. Of such arts Periander of Corinth is said to have been the great master, and many similar devices may be gathered from the Persians in the administration of their government. There are firstly the prescriptions mentioned some distance back, for the preservation of a tyranny, in so far as this is possible; viz., that the tyrant should lop off those who are too high; he must put to death men of spirit; he must not allow common meals, clubs, education, and the like; he must be upon his guard against anything which is likely to inspire either courage or confidence among his subjects; he must prohibit literary assemblies or other meetings for discussion, and he must take every means to prevent people from knowing one another (for acquaintance begets mutual confidence). Further, he must compel all persons staying in the city to appear in public and live at his gates; then he will know what they are doing: if they are always kept under, they will learn to be humble. In short, he should practice these and the like Persian and barbaric arts, which all have the same object. A tyrant should also endeavor to know what each of his subjects says or does, and should employ spies, like the 'female detectives' at Syracuse, and the eavesdroppers whom Hiero was in the habit of sending to any place of resort or meeting; for the fear of informers prevents people from speaking their minds, and if they do, they are more easily found out. Another art of the tyrant is to sow quarrels among the citizens; friends should be embroiled with friends, the people with the notables, and the rich with one another. Also he should impoverish his subjects; he thus provides against the maintenance of a guard by the citizen and the people, having to keep hard at work, are prevented from conspiring. The Pyramids of Egypt afford an example of this policy; also the offerings of the family of Cypselus, and the building of the temple of Olympian Zeus by the Peisistratidae, and the great Polycratean monuments at Samos; all these works were alike intended to occupy the people and keep them poor. Another practice of tyrants is to multiply taxes, after the manner of Dionysius at Syracuse, who contrived that within five years his subjects should bring into the treasury their whole property. The tyrant is also fond of making war in order that his subjects may have something to do and be always in want of a leader. And whereas the power of a king is preserved by his friends, the characteristic of a tyrant is to distrust his friends, because he knows that all men want to overthrow him, and they above all have the power.

Again, the evil practices of the last and worst form of democracy are all found in tyrannies. Such are the power given to women in their families in the hope that they will inform against their husbands, and the license which is allowed to slaves in order that they may betray their masters; for slaves and women do not conspire against tyrants; and they are of course friendly to tyrannies and also to democracies, since under them they have a good time. For the people too would fain be a monarch, and therefore by them, as well as by the tyrant, the flatterer is held in honor; in democracies he is the demagogue; and the tyrant also has those who associate with him in a humble spirit, which is a work of flattery.

Hence tyrants are always fond of bad men, because they love to be flattered, but no man who has the spirit of a freeman in him will lower himself by flattery; good men love others, or at any rate do not flatter them. Moreover, the bad are useful for bad purposes; 'nail knocks out nail,' as the proverb says. It is characteristic of a tyrant to dislike every one who has dignity or independence; he wants to be alone in his glory, but any one who claims a like dignity or asserts his independence encroaches upon his prerogative, and is hated by him as an enemy to his power. Another mark of a tyrant is that he likes foreigners better than citizens, and lives with them and invites them to his table; for the one are enemies, but the Others enter into no rivalry with him.

Such are the notes of the tyrant and the arts by which he preserves his power; there is no wickedness too great for him. All that we have said may be summed up under three heads, which answer to the three aims of the tyrant. These are, (1) the humiliation of his subjects; he knows that a mean-spirited man will not conspire against anybody; (2) the creation of mistrust among them; for a tyrant is not overthrown until men begin to have confidence in one another; and this is the reason why tyrants are at war with the good; they are under the idea that their power is endangered by them, not only because they would not be ruled despotically but also because they are loyal to one another, and to other men, and do not inform against one another or against other men; (3) the tyrant desires that his subjects shall be incapable of action, for no one attempts what is impossible, and they will not attempt to overthrow a tyranny, if they are powerless. Under these three heads the whole policy of a tyrant may be summed up, and to one or other of them all his ideas may be referred: (1) he sows distrust among his subjects; (2) he takes away their power; (3) he humbles them.

This then is one of the two methods by which tyrannies are preserved; and there is another which proceeds upon an almost opposite principle of action. The nature of this latter method may be gathered from a comparison of the causes which destroy kingdoms, for as one mode of destroying kingly power is to make the office of king more tyrannical, so the salvation of a tyranny is to make it more like the rule of a king. But of one thing the tyrant must be careful; he must keep power enough to rule over his subjects, whether they like him or not, for if he once gives this up he gives up his tyranny. But though power must be retained as the foundation, in all else the tyrant should act or appear to act in the character of a king. In the first place he should pretend a care of the public revenues, and not waste money in making presents of a sort at which the common people get excited when they see their hard-won earnings snatched from them and lavished on courtesans and strangers and artists. He should give an account of what he receives and of what he spends (a practice which has been adopted by some tyrants); for then he will seem to be a steward of the public rather than a tyrant; nor need he fear that, while he is the lord of the city, he will ever be in want of money. Such a policy is at all events much more advantageous for the tyrant when he goes from home, than to leave behind him a hoard, for then the garrison who remain in the city will be less likely to attack his power; and a tyrant, when he is absent from home, has more reason to fear the guardians of his treasure than the citizens, for the one accompany him, but the others remain behind. In the second place, he should be seen to collect taxes and to require public services only for state purposes, and that he may form a fund in case of war, and generally he ought to make himself the guardian and treasurer of them, as if they belonged, not to him, but to the public. He should appear, not harsh, but dignified, and when men meet him they should look upon him with reverence, and not with fear. Yet it is hard for him to be respected if he inspires no respect, and therefore whatever virtues he may neglect, at least he should maintain the character of a great soldier, and produce the impression that he is one. Neither he nor any of his associates should ever be guilty of the least offense against modesty towards the young of either sex who are his subjects, and the women of his family should observe a like self-control towards other women; the insolence of women has ruined many tyrannies. In the indulgence of pleasures he should be the opposite of our modern tyrants, who not only begin at dawn and pass whole days in sensuality, but want other men to see them, that they may admire their happy and blessed lot. In these things a tyrant should if possible be moderate, or at any rate should not parade his vices to the world; for a drunken and drowsy tyrant is soon despised and attacked; not so he who is temperate and wide awake. His conduct should be the very reverse of nearly everything which has been said before about tyrants. He ought to adorn and improve his city, as though he were not a tyrant, but the guardian of the state. Also he should appear to be particularly earnest in the service of the Gods; for if men think that a ruler is religious and has a reverence for the Gods, they are less afraid of suffering injustice at his hands, and they are less disposed to conspire against him, because they believe him to have the very Gods fighting on his side. At the same time his religion must not be thought foolish. And he should honor men of merit, and make them think that they would not be held in more honor by the citizens if they had a free government. The honor he should distribute himself, but the punishment should be inflicted by officers and courts of law. It is a precaution which is taken by all monarchs not to make one person great; but if one, then two or more should be raised, that they may look sharply after one another. If after all some one has to be made great, he should not be a man of bold spirit; for such dispositions are ever most inclined to strike. And if any one is to be deprived of his power, let it be diminished gradually, not taken from him all at once. The tyrant should abstain from all outrage; in particular from personal violence and from wanton conduct towards the young. He should be especially careful of his behavior to men who are lovers of honor; for as the lovers of money are offended when their property is touched, so are the lovers of honor and the virtuous when their honor is affected. Therefore a tyrant ought either not to commit such acts at all; or he should be thought only to employ fatherly correction, and not to trample upon others — and his acquaintance with youth should be supposed to arise from affection, and not from the insolence of power, and in general he should compensate the appearance of dishonor by the increase of honor.

Of those who attempt assassination they are the most dangerous, and require to be most carefully watched, who do not care to survive, if they effect their purpose. Therefore special precaution should be taken about any who think that either they or those for whom they care have been insulted; for when men are led away by passion to assault others they are regardless of themselves. As Heracleitus says, ‘It is difficult to fight against anger; for a man will buy revenge with his soul.'

And whereas states consist of two classes, of poor men and of rich, the tyrant should lead both to imagine that they are preserved and prevented from harming one another by his rule, and whichever of the two is stronger he should attach to his government; for, having this advantage, he has no need either to emancipate slaves or to disarm the citizens; either party added to the force which he already has, will make him stronger than his assailants.

But enough of these details; what should be the general policy of the tyrant is obvious. He ought to show himself to his subjects in the light, not of a tyrant, but of a steward and a king. He should not appropriate what is theirs, but should be their guardian; he should be moderate, not extravagant in his way of life; he should win the notables by companionship, and the multitude by flattery. For then his rule will of necessity be nobler and happier, because he will rule over better men whose spirits are not crushed, over men to whom he himself is not an object of hatred, and of whom he is not afraid. His power too will be more lasting. His disposition will be virtuous, or at least half virtuous; and he will not be wicked, but half wicked only.

XII

Yet no forms of government are so short-lived as oligarchy and tyranny. The tyranny which lasted longest was that of Orthagoras and his sons at Sicyon; this continued for a hundred years. The reason was that they treated their subjects with moderation, and to a great extent observed the laws; and in various ways gained the favor of the people by the care which they took of them. Cleisthenes, in particular, was respected for his military ability. If report may be believed, he crowned the judge who decided against him in the games; and, as some say, the sitting statue in the Agora of Sicyon is the likeness of this person. (A similar story is told of Peisistratus, who is said on one occasion to have allowed himself to be summoned and tried before the Areopagus.)

Next in duration to the tyranny of Orthagoras was that of the Cypselidae at Corinth, which lasted seventy-three years and six months: Cypselus reigned thirty years, Periander forty and a half, and Psammetichus the son of Gorgus three. Their continuance was due to similar causes: Cypselus was a popular man, who during the whole time of his rule never had a bodyguard; and

Periander, although he was a tyrant, was a great soldier. Third in duration was the rule of the Peisistratidae at Athens, but it was interrupted; for Peisistratus was twice driven out, so that during three and thirty years he reigned only seventeen; and his sons reigned eighteen-altogether thirty-five years. Of other tyrannies, that of Hiero and Gelo at Syracuse was the most lasting. Even this, however, was short, not more than eighteen years in all; for Gelo continued tyrant for seven years, and died in the eighth; Hiero reigned for ten years, and Thrasybulus was driven out in the eleventh month. In fact, tyrannies generally have been of quite short duration.

I have now gone through almost all the causes by which constitutional governments and monarchies are either destroyed or preserved.

In the Republic of Plato, Socrates treats of revolutions, but not well, for he mentions no cause of change which peculiarly affects the first, or perfect state. He only says that the cause is that nothing is abiding, but all things change in a certain cycle; and that the origin of the change consists in those numbers ‘of which 4 and 3, married with 5, furnish two harmonies’ (he means when the number of this figure becomes solid); he conceives that nature at certain times produces bad men who will not submit to education; in which latter particular he may very likely be not far wrong, for there may well be some men who cannot be educated and made virtuous. But why is such a cause of change peculiar to his ideal state, and not rather common to all states, nay, to everything which comes into being at all? And is it by the agency of time, which, as he declares, makes all things change, that things which did not begin together, change together? For example, if something has come into being the day before the completion of the cycle, will it change with things that came into being before? Further, why should the perfect state change into the Spartan? For governments more often take an opposite form than one akin to them. The same remark is applicable to the other changes; he says that the Spartan constitution changes into an oligarchy, and this into a democracy, and this again into a tyranny. And yet the contrary happens quite as often; for a democracy is even more likely to change into an oligarchy than into a monarchy. Further, he never says whether tyranny is, or is not, liable to revolutions, and if it is, what is the cause of them, or into what form it changes. And the reason is, that he could not very well have told: for there is no rule; according to him it should revert to the first and best, and then there would be a complete cycle. But in point of fact a tyranny often changes into a tyranny, as that at Sicyon changed from the tyranny of Myron into that of Cleisthenes; into oligarchy, as the tyranny of Antileon did at Chalcis; into democracy, as that of Gelo's family did at Syracuse; into aristocracy, as at Carthage, and the tyranny of Charilaus at Lacedaemon. Often an oligarchy changes into a tyranny, like most of the ancient oligarchies in Sicily; for example, the oligarchy at Leontini changed into the tyranny of Panaetius; that at Gela into the tyranny of Cleander; that at Rhegium into the tyranny of Anaxilaus; the same thing has happened in many other states. And it is absurd to suppose that the state changes into oligarchy merely because the ruling class are lovers and makers of money, and not because the very rich think it unfair that the very poor should have an equal share in the government with themselves. Moreover, in many oligarchies there are laws against making money in trade. But at Carthage, which is a democracy. there is no such prohibition; and yet to this day the Carthaginians have never had a revolution. It is absurd too for him to say that an oligarchy is two cities, one of the rich, and the other of the poor. Is not this just as much the case in the Spartan constitution, or in any other in which either all do not possess equal property, or all are not equally good men? Nobody need be any poorer than he was before, and yet the oligarchy may change an the same into a democracy, if the poor form the majority; and a democracy may change into an oligarchy, if the wealthy class are stronger than the people, and the one are energetic, the other indifferent. Once more, although the causes of the change are very numerous, he mentions only one, which is, that the citizens become poor through dissipation and debt, as though he thought that all, or the majority of them, were originally rich. This is not true: though it is true that when any of the leaders lose their property they are ripe for revolution; but, when anybody else, it is no great matter, and an oligarchy does not even then more often pass into a democracy than into any other form of government. Again, if men are deprived of the honors of state, and are wronged, and insulted, they make revolutions, and change forms of government, even although they have not wasted their substance because they might do what they liked — of which extravagance he declares excessive freedom to be the cause.

Finally, although there are many forms of oligarchies and democracies, Socrates speaks of their revolutions as though there were only one form of either of them.

Book Six

I

WE have now considered the varieties of the deliberative or supreme power in states, and the various arrangements of law-courts and state offices, and which of them are adapted to different forms of government. We have also spoken of the destruction and preservation of constitutions, how and from what causes they arise.

Of democracy and all other forms of government there are many kinds; and it will be well to assign to them severally the modes of organization which are proper and advantageous to each, adding what remains to be said about them. Moreover, we ought to consider the various combinations of these modes themselves; for such combinations make constitutions overlap one another, so that aristocracies have an oligarchical character, and constitutional governments incline to democracies.

When I speak of the combinations which remain to be considered, and thus far have not been considered by us, I mean such as these: when the deliberative part of the government and the election of officers is constituted oligarchically, and the law-courts aristocratically, or when the courts and the deliberative part of the state are oligarchical, and the election to office aristocratical, or when in any other way there is a want of harmony in the composition of a state.

I have shown already what forms of democracy are suited to particular cities, and what of oligarchy to particular peoples, and to whom each of the other forms of government is suited. Further, we must not only show which of these governments is the best for each state, but also briefly proceed to consider how these and other forms of government are to be established.

First of all let us speak of democracy, which will also bring to light the opposite form of government commonly called oligarchy. For the purposes of this inquiry we need to ascertain all the elements and characteristics of democracy, since from the combinations of these the varieties of democratic government arise. There are several of these differing from each other, and the difference is due to two causes. One (1) has been already mentioned — differences of population; for the popular element may consist of husbandmen, or of mechanics, or of laborers, and if the first of these be added to the second, or the third to the two others, not only does the democracy become better or worse, but its very nature is changed. A second cause (2) remains to be mentioned: the various properties and characteristics of democracy, when variously combined, make a difference. For one democracy will have less and another will have more, and another will have all of these characteristics. There is an advantage in knowing them all, whether a man wishes to establish some new form of democracy, or only to remodel an existing one. Founders of states try to bring together all the elements which accord with the ideas of the several constitutions; but this is a mistake of theirs, as I have already remarked when speaking of the destruction and preservation of states. We will now set forth the principles, characteristics, and aims of such states.

II

The basis of a democratic state is liberty; which, according to the common opinion of men, can only be enjoyed in such a state; this they affirm to be the great end of every democracy. One principle of liberty is for all to rule and be ruled in turn, and indeed democratic justice is the application of numerical not proportionate equality; whence it follows that the majority must be supreme, and that whatever the majority approve must be the end and the just. Every citizen, it is said, must have equality, and therefore in a democracy the poor have more power than the rich, because there are more of them, and the will of the majority is supreme. This, then, is one note of liberty which all democrats affirm to be the principle of their state. Another is that a man should live as he likes. This, they say, is the privilege of a freeman, since, on the other hand, not to live as a man likes is the mark of a slave. This is the second characteristic of democracy, whence has arisen the claim of men to be ruled by none, if possible, or, if this is impossible, to rule and be ruled in turns; and so it contributes to the freedom based upon equality.

Such being our foundation and such the principle from which we start, the characteristics of democracy are as follows the election of officers by all out of all; and that all should rule over each, and each in his turn over all; that the appointment to all offices, or to all but those which require experience and skill, should be made by lot; that no property qualification should be required for offices, or only a very low one; that a man should not hold the same office twice, or not often, or in the case of few except military offices: that the tenure of all offices, or of as many as possible, should be brief, that all men should sit in judgment, or that judges selected out of all should judge, in all matters, or in most and in the greatest and most important — such as the scrutiny of accounts, the constitution, and private contracts; that the assembly should be supreme over all causes, or at any rate over the most important, and the magistrates over none or only over a very few. Of all magistracies, a council is the most democratic when there is not the means of paying all the citizens, but when they are paid even this is robbed of its power; for the people then draw all cases to themselves, as I said in the previous discussion. The next characteristic of democracy is payment for services; assembly, law courts, magistrates, everybody receives pay, when it is to be had; or when it is not to be had for all, then it is given to the law-courts and to the stated assemblies, to the council and to the magistrates, or at least to any of them who are compelled to have their meals together. And whereas oligarchy is characterized by birth, wealth, and education, the notes of democracy appear to be the opposite of these — low birth, poverty, mean employment. Another note is that no magistracy is perpetual, but if any such have survived some ancient change in the constitution it should be stripped of its power, and the holders should be elected by lot and no longer by vote. These are the points common to all democracies; but democracy and demos in their truest form are based upon the recognized principle of democratic justice, that all should count equally; for equality implies that the poor should have no more share in the government than the rich, and should not be the only rulers, but that all should rule equally according to their numbers. And in this way men think that they will secure equality and freedom in their state.

III

Next comes the question, how is this equality to be obtained? Are we to assign to a thousand poor men the property qualifications of five hundred rich men? and shall we give the thousand a power equal to that of the five hundred? or, if this is not to be the mode, ought we, still retaining the same ratio, to take equal numbers from each and give them the control of the elections and of the courts? — Which, according to the democratical notion, is the juster form of the constitution — this or one based on numbers only? Democrats say that justice is that to which the majority agree, oligarchs that to which the wealthier class; in their opinion the decision should be given according to the amount of property. In both principles there is some inequality and injustice. For if justice is the will of the few, any one person who has more wealth than all the rest of the rich put together, ought, upon the oligarchical principle, to have the sole power — but this would be tyranny; or if justice is the will of the majority, as I was before saying, they will unjustly confiscate the property of the wealthy minority. To find a principle of equality which they both agree we must inquire into their respective ideas of justice.

Now they agree in saying that whatever is decided by the majority of the citizens is to be deemed law. Granted: but not without some reserve; since there are two classes out of which a state is composed — the poor and the rich — that is to be deemed law, on which both or the greater part of both agree; and if they disagree, that which is approved by the greater number, and by those who have the higher qualification. For example, suppose that there are ten rich and twenty poor, and some measure is approved by six of the rich and is disapproved by fifteen of the poor, and the remaining four of the rich join with the party of the poor, and the remaining five of the poor with that of the rich; in such a case the will of those whose qualifications, when both sides are added up, are the greatest, should prevail. If they turn out to be equal, there is no greater difficulty than at present, when, if the assembly or the courts are divided, recourse is had to the lot, or to some similar expedient. But, although it may be difficult in theory to know what is just and equal, the practical difficulty of inducing those to forbear who can, if they like, encroach, is far greater, for the weaker are always asking for equality and justice, but the stronger care for none of these things.

IV

Of the four kinds of democracy, as was said in the in the previous discussion, the best is that which comes first in order; it is also the oldest of them all. I am speaking of them according to the natural classification of their inhabitants. For the best material of democracy is an agricultural population; there is no difficulty in forming a democracy where the mass of the people live by agriculture or tending of cattle. Being poor, they have no leisure, and therefore do not often attend the assembly, and not having the necessaries of life they are always at work, and do not covet the property of others. Indeed, they find their employment pleasanter than the cares of government or office where no great gains can be made out of them, for the many are more desirous of gain than of honor. A proof is that even the ancient tyrannies were patiently endured by them, as they still endure oligarchies, if they are allowed to work and are not deprived of their property; for some of them grow quickly rich and the others are well enough off. Moreover, they have the power of electing the magistrates and calling them to account; their ambition, if they have any, is thus satisfied; and in some democracies, although they do not all share in the appointment of offices, except through representatives elected in turn out of the whole people, as at Mantinea; yet, if they have the power of deliberating, the many are contented. Even this form of government may be regarded as a democracy, and was such at Mantinea. Hence it is both expedient and customary in the aforementioned type of democracy that all should elect to offices, and conduct scrutinies, and sit in the law-courts, but that the great offices should be filled up by election and from persons having a qualification; the greater requiring a greater qualification, or, if there be no offices for which a qualification is required, then those who are marked out by special ability should be appointed. Under such a form of government the citizens are sure to be governed well (for the offices will always be held by the best persons; the people are willing enough to elect them and are not jealous of the good). The good and the notables will then be satisfied, for they will not be governed by men who are their inferiors, and the persons elected will rule justly, because others will call them to account. Every man should be responsible to others, nor should any one be allowed to do just as he pleases; for where absolute freedom is allowed, there is nothing to restrain the evil which is inherent in every man. But the principle of responsibility secures that which is the greatest good in states; the right persons rule and are prevented from doing wrong, and the people have their due. It is evident that this is the best kind of democracy, and why? Because the people are drawn from a certain class. Some of the ancient laws of most states were, all of them, useful with a view to making the people husbandmen. They provided either that no one should possess more than a certain quantity of land, or that, if he did, the land should not be within a certain distance from the town or the acropolis. Formerly in many states there was a law forbidding any one to sell his original allotment of land. There is a similar law attributed to Oxylus, which is to the effect that there should be a certain portion of every man's land on which he could not borrow money. A useful corrective to the evil of which I am speaking would be the law of the Aphytaeans, who, although they are numerous, and do not possess much land, are all of them husbandmen. For their properties are reckoned in the census; not entire, but only in such small portions that even the poor may have more than the amount required.

Next best to an agricultural, and in many respects similar, are a pastoral people, who live by their flocks; they are the best trained of any for war, robust in body and able to camp out. The people of whom other democracies consist are far inferior to them, for their life is inferior; there is no room for moral excellence in any of their employments, whether they be mechanics or traders or laborers. Besides, people of this class can readily come to the assembly, because they are continually moving about in the city and in the agora; whereas husbandmen are scattered over the country and do not meet, or equally feel the want of assembling together. Where the territory also happens to extend to a distance from the city, there is no difficulty in making an excellent democracy or constitutional government; for the people are compelled to settle in the country, and even if there is a town population the assembly ought not to meet, in democracies, when the country people cannot come. We have thus explained how the first and best form of democracy should be constituted; it is clear that the other or inferior sorts will deviate in a regular order, and the population which is excluded will at each stage be of a lower kind.

The last form of democracy, that in which all share alike, is one which cannot be borne by all states, and will not last long unless well regulated by laws and customs. The more general causes which tend to destroy this or other kinds of government have been pretty fully considered. In order to constitute such a democracy and strengthen the people, the leaders have been in the habit including as many as they can, and making citizens not only of those who are legitimate, but even of the illegitimate, and of those who have only one parent a citizen, whether father or mother; for nothing of this sort comes amiss to such a democracy. This is the way in which demagogues proceed. Whereas the right thing would be to make no more additions when the number of the commonalty exceeds that of the notables and of the middle class — beyond this not to go. When in excess of this point, the constitution becomes disorderly, and the notables grow excited and impatient of the democracy, as in the insurrection at Cyrene; for no notice is taken of a little evil, but when it increases it strikes the eye. Measures like those which Cleisthenes passed when he wanted to increase the power of the democracy at Athens, or such as were taken by the founders of popular government at Cyrene, are useful in the extreme form of democracy. Fresh tribes and brotherhoods should be established; the private rites of families should be restricted and converted into public ones; in short, every contrivance should be adopted which will mingle the citizens with one another and get rid of old connections. Again, the measures which are taken by tyrants appear all of them to be democratic; such, for instance, as the license permitted to slaves (which may be to a certain extent advantageous) and also that of women and children, and the aflowing everybody to live as he likes. Such a government will have many supporters, for most persons would rather live in a disorderly than in a sober manner.

V

The mere establishment of a democracy is not the only or principal business of the legislator, or of those who wish to create such a state, for any state, however badly constituted, may last one, two, or three days; a far greater difficulty is the preservation of it. The legislator should therefore endeavor to have a firm foundation according to the principles already laid down concerning the preservation and destruction of states; he should guard against the destructive elements, and should make laws, whether written or unwritten, which will contain all the preservatives of states. He must not think the truly democratical or oligarchical measure to be that which will give the greatest amount of democracy or oligarchy, but that which will make them last longest. The demagogues of our own day often get property confiscated in the law-courts in order to please the people. But those who have the welfare of the state at heart should counteract them, and make a law that the property of the condemned should not be public and go into the treasury but be sacred. Thus offenders will be as much afraid, for they will be punished all the same, and the people, having nothing to gain, will not be so ready to condemn the accused. Care should also be taken that state trials are as few as possible, and heavy penalties should be inflicted on those who bring groundless accusations; for it is the practice to indict, not members of the popular party, but the notables, although the citizens ought to be all attached to the constitution as well, or at any rate should not regard their rulers as enemies.

Now, since in the last and worst form of democracy the citizens are very numerous, and can hardly be made to assemble unless they are paid, and to pay them when there are no revenues presses hardly upon the notables (for the money must be obtained by a property tax and confiscations and corrupt practices of the courts, things which have before now overthrown many democracies); where, I say, there are no revenues, the government should hold few assemblies, and the law-courts should consist of many persons, but sit for a few days only. This system has two advantages: first, the rich do not fear the expense, even although they are unpaid themselves when the poor are paid; and secondly, causes are better tried, for wealthy persons, although they do not like to be long absent from their own affairs, do not mind going for a few days to the law-courts. Where there are revenues the demagogues should not be allowed after their manner to distribute the surplus; the poor are always receiving and always wanting more and more, for such help is like water poured into a leaky cask. Yet the true friend of the people should see that they be not too poor, for extreme poverty lowers the character of the democracy; measures therefore should be taken which will give them lasting prosperity; and as this is equally the interest of all classes, the proceeds of the public revenues should be accumulated and distributed among its poor, if possible, in such quantities as may enable them to purchase a little farm, or, at any rate, make a beginning in trade or husbandry. And if this benevolence cannot be extended to all, money should be distributed in turn according to tribes or other divisions, and in the meantime the rich should pay the fee for the attendance of the poor at the necessary assemblies; and should in return be excused from useless public services. By administering the state in this spirit the Carthaginians retain the affections of the people; their policy is from time to time to send some of them into their dependent towns, where they grow rich. It is also worthy of a generous and sensible nobility to divide the poor amongst them, and give them the means of going to work. The example of the people of Tarentum is also well deserving of imitation, for, by sharing the use of their own property with the poor, they gain their good will. Moreover, they divide all their offices into two classes, some of them being elected by vote, the others by lot; the latter, that the people may participate in them, and the former, that the state may be better administered. A like result may be gained by dividing the same offices, so as to have two classes of magistrates, one chosen by vote, the other by lot.

Enough has been said of the manner in which democracies ought to be constituted.

VI

From these considerations there will be no difficulty in seeing what should be the constitution of oligarchies. We have only to reason from opposites and compare each form of oligarchy with the corresponding form of democracy.

The first and best attempered of oligarchies is akin to a constitutional government. In this there ought to be two standards of qualification; the one high, the other low — the lower qualifying for the humbler yet indispensable offices and the higher for the superior ones. He who acquires the prescribed qualification should have the rights of citizenship. The number of those admitted should be such as will make the entire governing body stronger than those who are excluded, and the new citizen should be always taken out of the better class of the people. The principle, narrowed a little, gives another form of oligarchy; until at length we reach the most cliquish and tyrannical of them all, answering to the extreme democracy, which, being the worst, requires vigilance in proportion to its badness. For as healthy bodies and ships well provided with sailors may undergo many mishaps and survive them, whereas sickly constitutions and rotten ill-manned ships are ruined by the very least mistake, so do the worst forms of government require the greatest care. The populousness of democracies generally preserves them (for e state need not be much increased,since there is no necessity tha number is to democracy in the place of justice based on proportion); whereas the preservation of an oligarchy clearly depends on an opposite principle, viz., good order.

VII

As there are four chief divisions of the common people — husbandmen, mechanics, retail traders, laborers; so also there are four kinds of military forces — the cavalry, the heavy infantry, the light armed troops, the navy. When the country is adapted for cavalry, then a strong oligarchy is likely to be established. For the security of the inhabitants depends upon a force of this sort, and only rich men can afford to keep horses. The second form of oligarchy prevails when the country is adapted to heavy infantry; for this service is better suited to the rich than to the poor. But the light-armed and the naval element are wholly democratic; and nowadays, where they are numerous, if the two parties quarrel, the oligarchy are often worsted by them in the struggle. A remedy for this state of things may be found in the practice of generals who combine a proper contingent of light-armed troops with cavalry and heavy-armed. And this is the way in which the poor get the better of the rich in civil contests; being lightly armed, they fight with advantage against cavalry and heavy being lightly armed, they fight with advantage against cavalry and heavy infantry. An oligarchy which raises such a force out of the lower classes raises a power against itself. And therefore, since the ages of the citizens vary and some are older and some younger, the fathers should have their own sons, while they are still young, taught the agile movements of light-armed troops; and these, when they have been taken out of the ranks of the youth, should become light-armed warriors in reality. The oligarchy should also yield a share in the government to the people, either, as I said before, to those who have a property qualification, or, as in the case of Thebes, to those who have abstained for a certain number of years from mean employments, or, as at Massalia, to men of merit who are selected for their worthiness, whether previously citizens or not. The magistracies of the highest rank, which ought to be in the hands of the governing body, should have expensive duties attached to them, and then the people will not desire them and will take no offense at the privileges of their rulers when they see that they pay a heavy fine for their dignity. It is fitting also that the magistrates on entering office should offer magnificent sacrifices or erect some public edifice, and then the people who participate in the entertainments, and see the city decorated with votive offerings and buildings, will not desire an alteration in the government, and the notables will have memorials of their munificence. This, however, is anything but the fashion of our modern oligarchs, who are as covetous of gain as they are of honor; oligarchies like theirs may be well described as petty democracies. Enough of the manner in which democracies and oligarchies should be organized.

VIII

Next in order follows the right distribution of offices, their number, their nature, their duties, of which indeed we have already spoken. No state can exist not having the necessary offices, and no state can be well administered not having the offices which tend to preserve harmony and good order. In small states, as we have already remarked, there must not be many of them, but in larger there must be a larger number, and we should carefully consider which offices may properly be united and which separated.

First among necessary offices is that which has the care of the market; a magistrate should be appointed to inspect contracts and to maintain order. For in every state there must inevitably be buyers and sellers who will supply one another’s wants; this is the readiest way to make a state self-sufficing and so fulfill the purpose for which men come together into one state. A second office of a similar kind undertakes the supervision and embellishment of public and private buildings, the maintaining and repairing of houses and roads, the prevention of disputes about boundaries, and other concerns of a like nature. This is commonly called the office of City Warden, and has various departments, which, in more populous towns, are shared among different persons, one, for example, taking charge of the walls, another of the fountains, a third of harbors. There is another equally necessary office, and of a similar kind, having to do with the same matters without the walls and in the country — the magistrates who hold this office are called Wardens of the country, or Inspectors of the woods. Besides these three there is a fourth office of receivers of taxes, who have under their charge the revenue which is distributed among the various departments; these are called Receivers or Treasurers. Another officer registers all private contracts, and decisions of the courts, all public indictments, and also all preliminary proceedings. This office again is sometimes subdivided, in which case one officer is appointed over all the rest. These officers are called Recorders or Sacred Recorders, Presidents, and the like.

Next to these comes an office of which the duties are the most necessary and also the most difficult, viz., that to which is committed the execution of punishments, or the exaction of fines from those who are posted up according to the registers; and also the custody of prisoners. The difficulty of this office arises out of the odium which is attached to it; no one will undertake it unless great profits are to be made, and any one who does is loath to execute the law. Still the office is necessary; for judicial decisions are useless if they take no effect; and if society cannot exist without them, neither can it exist without the execution of them. It is an office which, being so unpopular, should not be entrusted to one person, but divided among several taken from different courts. In like manner an effort should be made to distribute among different persons the writing up of those who are on the register of public debtors. Some sentences should be executed by the magistrates also, and in particular penalties due to the outgoing magistrates should be exacted by the incoming ones; and as regards those due to magistrates already in office, when one court has given judgement, another should exact the penalty; for example, the wardens of the city should exact the fines imposed by the wardens of the agora, and others again should exact the fines imposed by them. For penalties are more likely to be exacted when less odium attaches to the exaction of them; but a double odium is incurred when the judges who have passed also execute the sentence, and if they are always the executioners, they will be the enemies of all.

In many places, while one magistracy executes the sentence, another has the custody of the prisoners, as, for example, ‘the Eleven’ at Athens. It is well to separate off the jailorship also, and try by some device to render the office less unpopular. For it is quite as necessary as that of the executioners; but good men do all they can to avoid it, and worthless persons cannot safely be trusted with it; for they themselves require a guard, and are not fit to guard others. There ought not therefore to be a single or permanent officer set apart for this duty; but it should be entrusted to the young, wherever they are organized into a band or guard, and different magistrates acting in turn should take charge of it.

These are the indispensable officers, and should be ranked first; next in order follow others, equally necessary, but of higher rank, and requiring great experience and fidelity. Such are the officers to which are committed the guard of the city, and other military functions. Not only in time of war but of peace their duty will be to defend the walls and gates, and to muster and marshal the citizens. In some states there are many such offices; in others there are a few only, while small states are content with one; these officers are called generals or commanders. Again, if a state has cavalry or light-armed troops or archers or a naval force, it will sometimes happen that each of these departments has separate officers, who are called admirals, or generals of cavalry or of light-armed troops. And there are subordinate officers called naval captains, and captains of light-armed troops and of horse; having others under them: all these are included in the department of war. Thus much of military command.

But since many, not to say all, of these offices handle the public money, there must of necessity be another office which examines and audits them, and has no other functions. Such officers are called by various names — Scrutineers, Auditors, Accountants, Controllers. Besides all these offices there is another which is supreme over them, and to this is often entrusted both the introduction and the ratification of measures, or at all events it presides, in a democracy, over the assembly. For there must be a body which convenes the supreme authority in the state. In some places they are called 'probuli,' because they hold previous deliberations, but in a democracy more commonly 'councillors.' These are the chief political offices.

Another set of officers is concerned with the maintenance of religion priests and guardians see to the preservation and repair of the temples of the Gods and to other matters of religion. One office of this sort may be enough in small places, but in larger ones there are a great many besides the priesthood; for example, superintendents of public worship, guardians of shrines, treasurers of the sacred revenues. Nearly connected with these there are also the officers appointed for the performance of the public sacrifices, except any which the law assigns to the priests; such sacrifices derive their dignity from the public hearth of the city. They are sometimes called archons, sometimes kings, and sometimes prytanes.

These, then, are the necessary offices, which may be summed up as follows: offices concerned with matters of religion, with war, with the revenue and expenditure, with the market, with the city, with the harbors, with the country; also with the courts of law, with the records of contracts, with execution of sentences, with custody of prisoners, with audits and scrutinies and accounts of magistrates; lastly, there are those which preside over the public deliberations of the state. There are likewise magistracies characteristic of states which are peaceful and prosperous, and at the same time have a regard to good order: such as the offices of guardians of women, guardians of the law, guardians of children, and directors of gymnastics; also superintendents of gymnastic and Dionysiac contests, and of other similar spectacles. Some of these are clearly not democratic offices; for example, the guardianships of women and children — the poor, not having any slaves, must employ both their women and children as servants.

Once more: there are three offices according to whose directions the highest magistrates are chosen in certain states — guardians of the law, probuli, councillors — of these, the guardians of the law are an aristocratical, the probuli an oligarchical, the council a democratical institution. Enough of the different kinds of offices.

Book Seven

I

HE who would duly inquire about the best form of a state ought first to determine which is the most eligible life; while this remains uncertain the best form of the state must also be uncertain; for, in the natural order of things, those may be expected to lead the best life who are governed in the best manner of which their circumstances admit. We ought therefore to ascertain, first of all, which is the most generally eligible life, and then whether the same life is or is not best for the state and for individuals.

Assuming that enough has been already said in discussions outside the school concerning the best life, we will now only repeat what is contained in them. Certainly no one will dispute the propriety of that partition of goods which separates them into three classes, viz., external goods, goods of the body, and goods of the soul, or deny that the happy man must have all three. For no one would maintain that he is happy who has not in him a particle of courage or temperance or justice or prudence, who is afraid of every insect which flutters past him, and will commit any crime, however great, in order to gratify his lust of meat or drink, who will sacrifice his dearest friend for the sake of half-a-farthing, and is as feeble and false in mind as a child or a madman. These propositions are almost universally acknowledged as soon as they are uttered, but men differ about the degree or relative superiority of this or that good. Some think that a very moderate amount of virtue is enough, but set no limit to their desires of wealth, property, power, reputation, and the like. To whom we reply by an appeal to facts, which easily prove that mankind do not acquire or preserve virtue by the help of external goods, but external goods by the help of virtue, and that happiness, whether consisting in pleasure or virtue, or both, is more often found with those who are most highly cultivated in their mind and in their character, and have only a moderate share of external goods, than among those who possess external goods to a useless extent but are deficient in higher qualities; and this is not only matter of experience, but, if reflected upon, will easily appear to be in accordance with reason. For, whereas external goods have a limit, like any other instrument, and all things useful are of such a nature that where there is too much of them they must either do harm, or at any rate be of no use, to their possessors, every good of the soul, the greater it is, is also of greater use, if the epithet useful as well as noble is appropriate to such subjects. No proof is required to show that the best state of one thing in relation to another corresponds in degree of excellence to the interval between the natures of which we say that these very states are states: so that, if the soul is more noble than our possessions or our bodies, both absolutely and in relation to us, it must be admitted that the best state of either has a similar ratio to the other. Again, it is for the sake of the soul that goods external and goods of the body are eligible at all, and all wise men ought to choose them for the sake of the soul, and not the soul for the sake of them.

Let us acknowledge then that each one has just so much of happiness as he has of virtue and wisdom, and of virtuous and wise action. God is a witness to us of this truth, for he is happy and blessed, not by reason of any external good, but in himself and by reason of his own nature. And herein of necessity lies the difference between good fortune and happiness; for external goods come of themselves, and chance is the author of them, but no one is just or temperate by or through chance. In like manner, and by a similar train of argument, the happy state may be shown to be that which is best and which acts rightly; and rightly it cannot act without doing right actions, and neither individual nor state can do right actions without virtue and wisdom. Thus the courage, justice, and wisdom of a state have the same form and nature as the qualities which give the individual who possesses them the name of just, wise, or temperate.

Thus much may suffice by way of preface: for I could not avoid touching upon these questions, neither could I go through all the arguments affecting them; these are the business of another science.

Let us assume then that the best life, both for individuals and states, is the life of virtue, when virtue has external goods enough for the performance of good actions. If there are any who controvert our assertion, we will in this treatise pass them over, and consider their objections hereafter.

II

There remains to be discussed the question whether the happiness of the individual is the same as that of the state, or different. Here again there can be no doubt — no one denies that they are the same. For those who hold that the well-being of the individual consists in his wealth, also think that riches make the happiness of the whole state, and those who value most highly the life of a tyrant deem that city the happiest which rules over the greatest number; while they who approve an individual for his virtue say that the more virtuous a city is, the happier it is. Two points here present themselves for consideration: first (1), which is the more eligible life, that of a citizen who is a member of a state, or that of an alien who has no political ties; and again (2), which is the best form of constitution or the best condition of a state, either on the supposition that political privileges are desirable for all, or for a majority only? Since the good of the state and not of the individual is the proper subject of political thought and speculation, and we are engaged in a political discussion, while the first of these two points has a secondary interest for us, the latter will be the main subject of our inquiry.

Now it is evident that the form of government is best in which every man, whoever he is, can act best and live happily. But even those who agree in thinking that the life of virtue is the most eligible raise a question, whether the life of business and politics is or is not more eligible than one which is wholly independent of external goods, I mean than a contemplative life, which by some is maintained to be the only one worthy of a philosopher. For these two lives — the life of the philosopher and the life of the statesman — appear to have been preferred by those who have been most keen in the pursuit of virtue, both in our own and in other ages. Which is the better is a question of no small moment; for the wise man, like the wise state, will necessarily regulate his life according to the best end. There are some who think that while a despotic rule over others is the greatest injustice, to exercise a constitutional rule over them, even though not unjust, is a great impediment to a man’s individual wellbeing. Others take an opposite view; they maintain that the true life of man is the practical and political, and that every virtue admits of being practiced, quite as much by statesmen and rulers as by private individuals. Others, again, are of opinion that arbitrary and tyrannical rule alone consists with happiness; indeed, in some states the entire aim both of the laws and of the constitution is to give men despotic power over their neighbors. And, therefore, although in most cities the laws may be said generally to be in a chaotic state, still, if they aim at anything, they aim at the maintenance of power: thus in Lacedaemon and Crete the system of education and the greater part of the of the laws are framed with a view to war. And in all nations which are able to gratify their ambition military power is held in esteem, for example among the Scythians and Persians and Thracians and Celts.

In some nations there are even laws tending to stimulate the warlike virtues, as at Carthage, where we are told that men obtain the honor of wearing as many armlets as they have served campaigns. There was once a law in Macedonia that he who had not killed an enemy should wear a halter, and among the Scythians no one who had not slain his man was allowed to drink out of the cup which was handed round at a certain feast. Among the Iberians, a warlike nation, the number of enemies whom a man has slain is indicated by the number of obelisks which are fixed in the earth round his tomb; and there are numerous practices among other nations of a like kind, some of them established by law and others by custom. Yet to a reflecting mind it must appear very strange that the statesman should be always considering how he can dominate and tyrannize over others, whether they will or not. How can that which is not even lawful be the business of the statesman or the legislator? Unlawful it certainly is to rule without regard to justice, for there may be might where there is no right. The other arts and sciences offer no parallel a physician is not expected to persuade or coerce his patients, nor a pilot the passengers in his ship. Yet most men appear to think that the art of despotic government is statesmanship, and what men affirm to be unjust and inexpedient in their own case they are not ashamed of practicing towards others; they demand just rule for themselves, but where other men are concerned they care nothing about it. Such behavior is irrational; unless the one party is, and the other is not, born to serve, in which case men have a right to command, not indeed all their fellows, but only those who are intended to be subjects; just as we ought not to hunt mankind, whether for food or sacrifice, but only the animals which may be hunted for food or sacrifice, this is to say, such wild animals as are eatable. And surely there may be a city happy in isolation, which we will assume to be well-governed (for it is quite possible that a city thus isolated might be well-administered and have good laws); but such a city would not be constituted with any view to war or the conquest of enemies — all that sort of thing must be excluded. Hence we see very plainly that warlike pursuits, although generally to be deemed honorable, are not the supreme end of all things, but only means. And the good lawgiver should inquire how states and races of men and communities may participate in a good life, and in the happiness which is attainable by them. His enactments will not be always the same; and where there are neighbors he will have to see what sort of studies should be practiced in relation to their several characters, or how the measures appropriate in relation to each are to be adopted. The end at which the best form of government should aim may be properly made a matter of future consideration.

III

Let us now address those who, while they agree that the life of virtue is the most eligible, differ about the manner of practicing it. For some renounce political power, and think that the life of the freeman is different from the life of the statesman and the best of all; but others think the life of the statesman best. The argument of the latter is that he who does nothing cannot do well, and that virtuous activity is identical with happiness. To both we say: ‘you are partly right and partly wrong.’ first class are right in affirming that the life of the freeman is better than the life of the despot; for there is nothing grand or noble in having the use of a slave, in so far as he is a slave; or in issuing commands about necessary things. But it is an error to suppose that every sort of rule is despotic like that of a master over slaves, for there is as great a difference between the rule over freemen and the rule over slaves as there is between slavery by nature and freedom by nature, about which I have said enough at the commencement of this treatise. And it is equally a mistake to place inactivity above action, for happiness is activity, and the actions of the just and wise are the realization of much that is noble.

But perhaps some one, accepting these premises, may still maintain that supreme power is the best of all things, because the possessors of it are able to perform the greatest number of noble actions. if so, the man who is able to rule, instead of giving up anything to his neighbor, ought rather to take away his power; and the father should make no account of his son, nor the son of his father, nor friend of friend; they should not bestow a thought on one another in comparison with this higher object, for the best is the most eligible and ‘doing eligible’ and ‘doing well’ is the best. There might be some truth in such a view if we assume that robbers and plunderers attain the chief good. But this can never be; their hypothesis is false. For the actions of a ruler cannot really be honorable, unless he is as much superior to other men as a husband is to a wife, or a father to his children, or a master to his slaves. And therefore he who violates the law can never recover by any success, however great, what he has already lost in departing from virtue. For equals the honorable and the just consist in sharing alike, as is just and equal. But that the unequal should be given to equals, and the unlike to those who are like, is contrary to nature, and nothing which is contrary to nature is good. If, therefore, there is any one superior in virtue and in the power of performing the best actions, him we ought to follow and obey, but he must have the capacity for action as well as virtue.

If we are right in our view, and happiness is assumed to be virtuous activity, the active life will be the best, both for every city collectively, and for individuals. Not that a life of action must necessarily have relation to others, as some persons think, nor are those ideas only to be regarded as practical which are pursued for the sake of practical results, but much more the thoughts and contemplations which are independent and complete in themselves; since virtuous activity, and therefore a certain kind of action, is an end, and even in the case of external actions the directing mind is most truly said to act. Neither, again, is it necessary that states which are cut off from others and choose to live alone should be inactive; for activity, as well as other things, may take place by sections; there are many ways in which the sections of a state act upon one another. The same thing is equally true of every individual. If this were otherwise, God and the universe, who have no external actions over and above their own energies, would be far enough from perfection. Hence it is evident that the same life is best for each individual, and for states and for mankind collectively

IV

Thus far by way of introduction. In what has preceded I have discussed other forms of government; in what remains the first point to be considered is what should be the conditions of the ideal or perfect state; for the perfect state cannot exist without a due supply of the means of life. And therefore we must presuppose many purely imaginary conditions, but nothing impossible. There will be a certain number of citizens, a country in which to place them, and the like. As the weaver or shipbuilder or any other artisan must have the material proper for his work (and in proportion as this is better prepared, so will the result of his art be nobler), so the statesman or legislator must also have the materials suited to him.

First among the materials required by the statesman is population: he will consider what should be the number and character of the citizens, and then what should be the size and character of the country. Most persons think that a state in order to be happy ought to be large; but even if they are right, they have no idea what is a large and what a small state. For they judge of the size of the city by the number of the inhabitants; whereas they ought to regard, not their number, but their power. A city too, like an individual, has a work to do; and that city which is best adapted to the fulfillment of its work is to be deemed greatest, in the same sense of the word great in which Hippocrates might be called greater, not as a man, but as a physician, than some one else who was taller And even if we reckon greatness by numbers, we ought not to include everybody, for there must always be in cities a multitude of slaves and sojourners and foreigners; but we should include those only who are members of the state, and who form an essential part of it. The number of the latter is a proof of the greatness of a city; but a city which produces numerous artisans and comparatively few soldiers cannot be great, for a great city is not to be confounded with a populous one. Moreover, experience shows that a very populous city can rarely, if ever, be well governed; since all cities which have a reputation for good government have a limit of population. We may argue on grounds of reason, and the same result will follow. For law is order, and good law is good order; but a very great multitude cannot be orderly: to introduce order into the unlimited is the work of a divine power — of such a power as holds together the universe. Beauty is realized in number and magnitude, and the state which combines magnitude with good order must necessarily be the most beautiful. To the size of states there is a limit, as there is to other things, plants, animals, implements; for none of these retain their natural power when they are too large or too small, but they either wholly lose their nature, or are spoiled. For example, a ship which is only a span long will not be a ship at all, nor a ship a quarter of a mile long; yet there may be a ship of a certain size, either too large or too small, which will still be a ship, but bad for sailing. In like manner a state when composed of too few is not, as a state ought to be, self-sufficing; when of too many, though self-sufficing in all mere necessaries, as a nation may be, it is not a state, being almost incapable of constitutional government. For who can be the general of such a vast multitude, or who the herald, unless he have the voice of a Stentor?

A state, then, only begins to exist when it has attained a population sufficient for a good life in the political community: it may indeed, if it somewhat exceed this number, be a greater state. But, as I was saying, there must be a limit. What should be the limit will be easily ascertained by experience. For both governors and governed have duties to perform; the special functions of a governor to command and to judge. But if the citizens of a state are to judge and to distribute offices according to merit, then they must know each other’s characters; where they do not possess this knowledge, both the election to offices and the decision of lawsuits will go wrong. When the population is very large they are manifestly settled at haphazard, which clearly ought not to be. Besides, in an over-populous state foreigners and metics will readily acquire the rights of citizens, for who will find them out? Clearly then the best limit of the population of a state is the largest number which suffices for the purposes of life, and can be taken in at a single view. Enough concerning the size of a state.

V

Much the same principle will apply to the territory of the state: every one would agree in praising the territory which is most entirely self-sufficing; and that must be the territory which is all-producing, for to have all things and to want nothing is sufficiency. In size and extent it should be such as may enable the inhabitants to live at once temperately and liberally in the enjoyment of leisure. Whether we are right or wrong in laying down this limit we will inquire more precisely hereafter, when we have occasion to consider what is the right use of property and wealth: a matter which is much disputed, because men are inclined to rush into one of two extremes, some into meanness, others into luxury.

It is not difficult to determine the general character of the territory which is required (there are, however, some points on which military authorities should be heard); it should be difficult of access to the enemy, and easy of egress to the inhabitants. Further, we require that the land as well as the inhabitants of whom we were just now speaking should be taken in at a single view, for a country which is easily seen can be easily protected. As to the position of the city, if we could have what we wish, it should be well situated in regard both to sea and land. This then is one principle, that it should be a convenient center for the protection of the whole country: the other is, that it should be suitable for receiving the fruits of the soil, and also for the bringing in of timber and any other products that are easily transported.

VI

Whether a communication with the sea is beneficial to a well-ordered state or not is a question which has often been asked. It is argued that the introduction of strangers brought up under other laws, and the increase of population, will be adverse to good order; the increase arises from their using the sea and having a crowd of merchants coming and going, and is inimical to good government. Apart from these considerations, it would be undoubtedly better, both with a view to safety and to the provision of necessaries, that the city and territory should be connected with the sea; the defenders of a country, if they are to maintain themselves against an enemy, should be easily relieved both by land and by sea; and even if they are not able to attack by sea and land at once, they will have less difficulty in doing mischief to their assailants on one element, if they themselves can use both. Moreover, it is necessary that they should import from abroad what is not found in their own country, and that they should export what they have in excess; for a city ought to be a market, not indeed for others, but for herself.

Those who make themselves a market for the world only do so for the sake of revenue, and if a state ought not to desire profit of this kind it ought not to have such an emporium. Nowadays we often see in countries and cities dockyards and harbors very conveniently placed outside the city, but not too far off; and they are kept in dependence by walls and similar fortifications. Cities thus situated manifestly reap the benefit of intercourse with their ports; and any harm which is likely to accrue may be easily guarded against by the laws, which will pronounce and determine who may hold communication with one another, and who may not.

There can be no doubt that the possession of a moderate naval force is advantageous to a city; the city should be formidable not only to its own citizens but to some of its neighbors, or, if necessary, able to assist them by sea as well as by land. The proper number or magnitude of this naval force is relative to the character of the state; for if her function is to take a leading part in politics, her naval power should be commensurate with the scale of her enterprises. The population of the state need not be much increased, since there is no necessity that the sailors should be citizens: the marines who have the control and command will be freemen, and belong also to the infantry; and wherever there is a dense population of Perioeci and husbandmen, there will always be sailors more than enough. Of this we see instances at the present day. The city of Heraclea, for example, although small in comparison with many others, can man a considerable fleet. Such are our conclusions respecting the territory of the state, its harbors, its towns, its relations to the sea, and its maritime power.

VII

Having spoken of the number of the citizens, we will proceed to speak of what should be their character. This is a subject which can be easily understood by any one who casts his eye on the more celebrated states of Hellas, and generally on the distribution of races in the habitable world. Those who live in a cold climate and in Europe are full of spirit, but wanting in intelligence and skill; and therefore they retain comparative freedom, but have no political organization, and are incapable of ruling over others. Whereas the natives of Asia are intelligent and inventive, but they are wanting in spirit, and therefore they are always in a state of subjection and slavery. But the Hellenic race, which is situated between them, is likewise intermediate in character, being high-spirited and also intelligent. Hence it continues free, and is the best-governed of any nation, and, if it could be formed into one state, would be able to rule the world. There are also similar differences in the different tribes of Hellas; for some of them are of a one-sided nature, and are intelligent or courageous only, while in others there is a happy combination of both qualities. And clearly those whom the legislator will most easily lead to virtue may be expected to be both intelligent and courageous. Some say that the guardians should be friendly towards those whom they know, fierce towards those whom they do not know. Now, passion is the quality of the soul which begets friendship and enables us to love; notably the spirit within us is more stirred against our friends and acquaintances than against those who are unknown to us, when we think that we are despised by them; for which reason Archilochus, complaining of his friends, very naturally addresses his soul in these words:

For surely thou art plagued on account of friends.

The power of command and the love of freedom are in all men based upon this quality, for passion is commanding and invincible. Nor is it right to say that the guardians should be fierce towards those whom they do not know, for we ought not to be out of temper with any one; and a lofty spirit is not fierce by nature, but only when excited against evil-doers. And this, as I was saying before, is a feeling which men show most strongly towards their friends if they think they have received a wrong at their hands: as indeed is reasonable; for, besides the actual injury, they seem to be deprived of a benefit by those who owe them one. Hence the saying:

Cruel is the strife of brethren,

and again:

They who love in excess also hate in excess.

Thus we have nearly determined the number and character of the citizens of our state, and also the size and nature of their territory. I say ‘nearly,’ for we ought not to require the same minuteness in theory as in the facts given by perception.

VIII

As in other natural compounds the conditions of a composite whole are not necessarily organic parts of it, so in a state or in any other combination forming a unity not everything is a part, which is a necessary condition. The members of an association have necessarily some one thing the same and common to all, in which they share equally or unequally for example, food or land or any other thing. But where there are two things of which one is a means and the other an end, they have nothing in common except that the one receives what the other produces. Such, for example, is the relation which workmen and tools stand to their work; the house and the builder have nothing in common, but the art of the builder is for the sake of the house.

And so states require property, but property, even though living beings are included in it, is no part of a state; for a state is not a community of living beings only, but a community of equals, aiming at the best life possible. Now, whereas happiness is the highest good, being a realization and perfect practice of virtue, which some can attain, while others have little or none of it, the various qualities of men are clearly the reason why there are various kinds of states and many forms of government; for different men seek after happiness in different ways and by different means, and so make for themselves different modes of life and forms of government. We must see also how many things are indispensable to the existence of a state, for what we call the parts of a state will be found among the indispensables. Let us then enumerate the functions of a state, and we shall easily elicit what we want:

First, there must be food; secondly, arts, for life requires many instruments; thirdly, there must be arms, for the members of a community have need of them, and in their own hands, too, in order to maintain authority both against disobedient subjects and against external assailants; fourthly, there must be a certain amount of revenue, both for internal needs, and for the purposes of war; fifthly, or rather first, there must be a care of religion which is commonly called worship; sixthly, and most necessary of all there must be a power of deciding what is for the public interest, and what is just in men's dealings with one another.

These are the services which every state may be said to need. For a state is not a mere aggregate of persons, but a union of them sufficing for the purposes of life; and if any of these things be wanting, it is as we maintain impossible that the community can be absolutely self-sufficing. A state then should be framed with a view to the fulfillment of these functions. There must be husbandmen to procure food, and artisans, and a warlike and a wealthy class, and priests, and judges to decide what is necessary and expedient.

IX

Having determined these points, we have in the next place to consider whether all ought to share in every sort of occupation. Shall every man be at once husbandman, artisan, councillor, judge, or shall we suppose the several occupations just mentioned assigned to different persons? or, thirdly, shall some employments be assigned to individuals and others common to all? The same arrangement, however, does not occur in every constitution; as we were saying, all may be shared by all, or not all by all, but only by some; and hence arise the differences of constitutions, for in democracies all share in all, in oligarchies the opposite practice prevails. Now, since we are here speaking of the best form of government, i.e., that under which the state will be most happy (and happiness, as has been already said, cannot exist without virtue), it clearly follows that in the state which is best governed and possesses men who are just absolutely, and not merely relatively to the principle of the constitution, the citizens must not lead the life of mechanics or tradesmen, for such a life is ignoble, and inimical to virtue. Neither must they be husbandmen, since leisure is necessary both for the development of virtue and the performance of political duties.

Again, there is in a state a class of warriors, and another of councillors, who advise about the expedient and determine matters of law, and these seem in an especial manner parts of a state. Now, should these two classes be distinguished, or are both functions to be assigned to the same persons? Here again there is no difficulty in seeing that both functions will in one way belong to the same, in another, to different persons. To different persons in so far as these i.e., the physical and the employments are suited to different primes of life, for the one requires mental wisdom and the other strength. But on the other hand, since it is an impossible thing that those who are able to use or to resist force should be willing to remain always in subjection, from this point of view the persons are the same; for those who carry arms can always determine the fate of the constitution. It remains therefore that both functions should be entrusted by the ideal constitution to the same persons, not, however, at the same time, but in the order prescribed by nature, who has given to young men strength and to older men wisdom. Such a distribution of duties will be expedient and also just, and is founded upon a principle of conformity to merit. Besides, the ruling class should be the owners of property, for they are citizens, and the citizens of a state should be in good circumstances; whereas mechanics or any other class which is not a producer of virtue have no share in the state. This follows from our first principle, for happiness cannot exist without virtue, and a city is not to be termed happy in regard to a portion of the citizens, but in regard to them all. And clearly property should be in their hands, since the husbandmen will of necessity be slaves or barbarian Perioeci.

Of the classes enumerated there remain only the priests, and the manner in which their office is to be regulated is obvious. No husbandman or mechanic should be appointed to it; for the Gods should receive honor from the citizens only. Now since the body of the citizen is divided into two classes, the warriors and the councillors and it is beseeming that the worship of the Gods should be duly performed, and also a rest provided in their service for those who from age have given up active life, to the old men of these two classes should be assigned the duties of the priesthood.

We have shown what are the necessary conditions, and what the parts of a state: husbandmen, craftsmen, and laborers of an kinds are necessary to the existence of states, but the parts of the state are the warriors and councillors. And these are distinguished severally from one another, the distinction being in some cases permanent, in others not.

X

It is not a new or recent discovery of political philosophers that the state ought to be divided into classes, and that the warriors should be separated from the husbandmen. The system has continued in Egypt and in Crete to this day, and was established, as tradition says, by a law of Sesostris in Egypt and of Minos in Crete. The institution of common tables also appears to be of ancient date, being in Crete as old as the reign of Minos, and in Italy far older. The Italian historians say that there was a certain Italus, king of Oenotria, from whom the Oenotrians were called Italians, and who gave the name of Italy to the promontory of Europe lying within the Scylletic and Lametic Gulfs, which are distant from one another only half a day’s journey. They say that this Italus converted the Oenotrians from shepherds into husbandmen, and besides other laws which he gave them, was the founder of their common meals; even in our day some who are derived from him retain this institution and certain other laws of his. On the side of Italy towards Tyrrhenia dwelt the Opici, who are now, as of old, called Ausones; and on the side towards Iapygia and the Ionian Gulf, in the district called Siritis, the Chones, who are likewise of Oenotrian race. From this part of the world originally came the institution of common tables; the separation into castes from Egypt, for the reign of Sesostris is of far greater antiquity than that of Minos. It is true indeed that these and many other things have been invented several times over in the course of ages, or rather times without number; for necessity may be supposed to have taught men the inventions which were absolutely required, and when these were provided, it was natural that other things which would adorn and enrich life should grow up by degrees. And we may infer that in political institutions the same rule holds. Egypt witnesses to the antiquity of all these things, for the Egyptians appear to be of all people the most ancient; and they have laws and a regular constitution existing from time immemorial. We should therefore make the best use of what has been already discovered, and try to supply defects.

I have already remarked that the land ought to belong to those who possess arms and have a share in the government, and that the husbandmen ought to be a class distinct from them; and I have determined what should be the extent and nature of the territory. Let me proceed to discuss the distribution of the land, and the character of the agricultural class; for I do not think that property ought to be common, as some maintain, but only that by friendly consent there should be a common use of it; and that no citizen should be in want of subsistence.

As to common meals, there is a general agreement that a well ordered city should have them; and we will hereafter explain what are our own reasons for taking this view. They ought, however, to be open to all the citizens. And yet it is not easy for the poor to contribute the requisite sum out of their private means, and to provide also for their household. The expense of religious worship should likewise be a public charge. The land must therefore be divided into two parts, one public and the other private, and each part should be subdivided, part of the public land being appropriated to the service of the Gods, and the other part used to defray the cost of the common meals; while of the private land, part should be near the border, and the other near the city, so that, each citizen having two lots, they may all of them have land in both places; there is justice and fairness in such a division, and it tends to inspire unanimity among the people in their border wars. Where there is not this arrangement some of them are too ready to come to blows with their neighbors, while others are so cautious that they quite lose the sense of honor. Wherefore there is a law in some places which forbids those who dwell near the border to take part in public deliberations about wars with neighbors, on the ground that their interests will pervert their judgment. For the reasons already mentioned, then, the land should be divided in the manner described. The very best thing of all would be that the husbandmen should be slaves taken from among men who are not all of the same race and not spirited, for if they have no spirit they will be better suited for their work, and there will be no danger of their making a revolution. The next best thing would be that they should be Perioeci of foreign race, and of a like inferior nature; some of them should be the slaves of individuals, and employed in the private estates of men of property, the remainder should be the property of the state and employed on the common land. I will hereafter explain what is the proper treatment of slaves, and why it is expedient that liberty should be always held out to them as the reward of their services.

XI

We have already said that the city should be open to the land and to the sea, and to the whole country as far as possible. In respect of the place itself our wish would be that its situation should be fortunate in four things. The first, health — this is a necessity: cities which lie towards the east, and are blown upon by winds coming from the east, are the healthiest; next in healthfulness are those which are sheltered from the north wind, for they have a milder winter. The site of the city should likewise be convenient both for political administration and for war. With a view to the latter it should afford easy egress to the citizens, and at the same time be inaccessible and difficult of capture to enemies. There should be a natural abundance of springs and fountains in the town, or, if there is a deficiency of them, great reservoirs may be established for the collection of rainwater, such as will not fail when the inhabitants are cut off from the country by by war. Special care should be taken of the health of the inhabitants, which will depend chiefly on the healthiness of the locality and of the quarter to which they are exposed, and secondly, on the use of pure water; this latter point is by no means a secondary consideration. For the elements which we use most and oftenest for the support of the body contribute most to health, and among these are water and air. Wherefore, in all wise states, if there is a want of pure water, and the supply is not all equally good, the drinking water ought to be separated from that which is used for other purposes.

As to strongholds, what is suitable to different forms of government varies: thus an acropolis is suited to an oligarchy or a monarchy, but a plain to a democracy; neither to an aristocracy, but rather a number of strong places. The arrangement of private houses is considered to be more agreeable and generally more convenient, if the streets are regularly laid out after the modern fashion which Hippodamus introduced, but for security in war the antiquated mode of building, which made it difficult for strangers to get out of a town and for assailants to find their way in, is preferable. A city should therefore adopt both plans of building: it is possible to arrange the houses irregularly, as husbandmen plant their vines in what are called 'clumps.' The whole town should not be laid out in straight lines, but only certain quarters and regions; thus security and beauty will be combined.

As to walls, those who say that cities making any pretension to military virtue should not have them, are quite out of date in their notions; and they may see the cities which prided themselves on this fancy confuted by facts. True, there is little courage shown in seeking for safety behind a rampart when an enemy is similar in character and not much superior in number; but the superiority of the besiegers may be and often is too much both for ordinary human valor and for that which is found only in a few; and if they are to be saved and to escape defeat and outrage, the strongest wall will be the truest soldierly precaution, more especially now that missiles and siege engines have been brought to such perfection. To have no walls would be as foolish as to choose a site for a town in an exposed country, and to level the heights; or as if an individual were to leave his house unwalled, lest the inmates should become cowards. Nor must we forget that those who have their cities surrounded by walls may either take advantage of them or not, but cities which are unwalled have no choice.

If our conclusions are just, not only should cities have walls, but care should be taken to make them ornamental, as well as useful for warlike purposes, and adapted to resist modern inventions. For as the assailants of a city do all they can to gain an advantage, so the defenders should make use of any means of defense which have been already discovered, and should devise and invent others, for when men are well prepared no enemy even thinks of attacking them.

XII

As the walls are to be divided by guardhouses and towers built at suitable intervals, and the body of citizens must be distributed at common tables, the idea will naturally occur that we should establish some of the common tables in the guardhouses. These might be arranged as has been suggested; while the principal common tables of the magistrates will occupy a suitable place, and there also will be the buildings appropriated to religious worship except in the case of those rites which the law or the Pythian oracle has restricted to a special locality. The site should be a spot seen far and wide, which gives due elevation to virtue and towers over the neighborhood. Below this spot should be established an agora, such as that which the Thessalians call the ‘freemen’s agora’; from this all trade should be excluded, and no mechanic, husbandman, or any such person allowed to enter, unless he be summoned by the magistrates. It would be a charming use of the place, if the gymnastic exercises of the elder men were performed there. For in this noble practice different ages should be separated, and some of the magistrates should stay with the boys, while the grown-up men remain with the magistrates; for the presence of the magistrates is the best mode of inspiring true modesty and ingenuous fear. There should also be a traders’ agora, distinct and apart from the other, in a situation which is convenient for the reception of goods both by sea and land.

But in speaking of the magistrates we must not forget another section of the citizens, viz., the priests, for whom public tables should likewise be provided in their proper place near the temples. The magistrates who deal with contracts, indictments, summonses, and the like, and those who have the care of the agora and of the city, respectively, ought to be established near an agora and some public place of meeting; the neighborhood of the traders’ agora will be a suitable spot; the upper agora we devote to the life of leisure, the other is intended for the necessities of trade.

The same order should prevail in the country, for there too the magistrates, called by some ‘Inspectors of Forests’ and by others ‘Wardens of the Country,’ must have guardhouses and common tables while they are on duty; temples should also be scattered throughout the country, dedicated, some to Gods, and some to heroes.

But it would be a waste of time for us to linger over details like these. The difficulty is not in imagining but in carrying them out. We may talk about them as much as we like, but the execution of them will depend upon fortune. Wherefore let us say no more about these matters for the present.

XIII

Returning to the constitution itself, let us seek to determine out of what and what sort of elements the state which is to be happy and well-governed should be composed. There are two things in which all which all well-being consists: one of them is the choice of a right end and aim of action, and the other the discovery of the actions which are means towards it; for the means and the end may agree or disagree. Sometimes the right end is set before men, but in practice they fail to attain it; in other cases they are successful in all the means, but they propose to themselves a bad end; and sometimes they fail in both. Take, for example, the art of medicine; physicians do not always understand the nature of health, and also the means which they use may not effect the desired end. In all arts and sciences both the end and the means should be equally within our control.

The happiness and well-being which all men manifestly desire, some have the power of attaining, but to others, from some accident or defect of nature, the attainment of them is not granted; for a good life requires a supply of external goods, in a less degree when men are in a good state, in a greater degree when they are in a lower state. Others again, who possess the conditions of happiness, go utterly wrong from the first in the pursuit of it. But since our object is to discover the best form of government, that, namely, under which a city will be best governed, and since the city is best governed which has the greatest opportunity of obtaining happiness, it is evident that we must clearly ascertain the nature of happiness.

We maintain, and have said in the Ethics, if the arguments there adduced are of any value, that happiness is the realization and perfect exercise of virtue, and this not conditional, but absolute. And I used the term ‘conditional’ to express that which is indispensable, and ‘absolute’ to express that which is good in itself. Take the case of just actions; just punishments and chastisements do indeed spring from a good principle, but they are good only because we cannot do without them — it would be better that neither individuals nor states should need anything of the sort — but actions which aim at honor and advantage are absolutely the best. The conditional action is only the choice of a lesser evil; whereas these are the foundation and creation of good. A good man may make the best even of poverty and disease, and the other ills of life; but he can only attain happiness under the opposite conditions (for this also has been determined in accordance with ethical arguments, that the good man is he for whom, because he is virtuous, the things that are absolutely good are good; it is also plain that his use of these goods must be virtuous and in the absolute sense good). This makes men fancy that external goods are the cause of happiness, yet we might as well say that a brilliant performance on the lyre was to be attributed to the instrument and not to the skill of the performer.

It follows then from what has been said that some things the legislator must find ready to his hand in a state, others he must provide. And therefore we can only say: May our state be constituted in such a manner as to be blessed with the goods of which fortune disposes (for we acknowledge her power): whereas virtue and goodness in the state are not a matter of chance but the result of knowledge and purpose. A city can be virtuous only when the citizens who have a share in the government are virtuous, and in our state all the citizens share in the government; let us then inquire how a man becomes virtuous. For even if we could suppose the citizen body to be virtuous, without each of them being so, yet the latter would be better, for in the virtue of each the virtue of all is involved.

There are three things which make men good and virtuous; these are nature, habit, rational principle. In the first place, every one must be born a man and not some other animal; so, too, he must have a certain character, both of body and soul. But some qualities there is no use in having at birth, for they are altered by habit, and there are some gifts which by nature are made to be turned by habit to good or bad. Animals lead for the most part a life of nature, although in lesser particulars some are influenced by habit as well. Man has rational principle, in addition, and man only. Wherefore nature, habit, rational principle must be in harmony with one another; for they do not always agree; men do many things against habit and nature, if rational principle persuades them that they ought. We have already determined what natures are likely to be most easily molded by the hands of the legislator. An else is the work of education; we learn some things by habit and some by instruction.

XIV

Since every political society is composed of rulers and subjects let us consider whether the relations of one to the other should interchange or be permanent. For the education of the citizens will necessarily vary with the answer given to this question. Now, if some men excelled others in the same degree in which gods and heroes are supposed to excel mankind in general (having in the first place a great advantage even in their bodies, and secondly in their minds), so that the superiority of the governors was undisputed and patent to their subjects, it would clearly be better that once for an the one class should rule and the other serve. But since this is unattainable, and kings have no marked superiority over their subjects, such as Scylax affirms to be found among the Indians, it is obviously necessary on many grounds that all the citizens alike should take their turn of governing and being governed. Equality consists in the same treatment of similar persons, and no government can stand which is not founded upon justice. For if the government be unjust every one in the country unites with the governed in the desire to have a revolution, and it is an impossibility that the members of the government can be so numerous as to be stronger than all their enemies put together. Yet that governors should excel their subjects is undeniable. How all this is to be effected, and in what way they will respectively share in the government, the legislator has to consider. The subject has been already mentioned. Nature herself has provided the distinction when she made a difference between old and young within the same species, of whom she fitted the one to govern and the other to be governed. No one takes offense at being governed when he is young, nor does he think himself better than his governors, especially if he will enjoy the same privilege when he reaches the required age.

We conclude that from one point of view governors and governed are identical, and from another different. And therefore their education must be the same and also different. For he who would learn to command well must, as men say, first of all learn to obey. As I observed in the first part of this treatise, there is one rule which is for the sake of the rulers and another rule which is for the sake of the ruled; the former is a despotic, the latter a free government. Some commands differ not in the thing commanded, but in the intention with which they are imposed. Wherefore, many apparently menial offices are an honor to the free youth by whom they are performed; for actions do not differ as honorable or dishonorable in themselves so much as in the end and intention of them. But since we say that the virtue of the citizen and ruler is the same as that of the good man, and that the same person must first be a subject and then a ruler, the legislator has to see that they become good men, and by what means this may be accomplished, and what is the end of the perfect life.

Now the soul of man is divided into two parts, one of which has a rational principle in itself, and the other, not having a rational principle in itself, is able to obey such a principle. And we call a man in any way good because he has the virtues of these two parts. In which of them the end is more likely to be found is no matter of doubt to those who adopt our division; for in the world both of nature and of art the inferior always exists for the sake of the better or superior, and the better or superior is that which has a rational principle. This principle, too, in our ordinary way of speaking, is divided into two kinds, for there is a practical and a speculative principle. This part, then, must evidently be similarly divided. And there must be a corresponding division of actions; the actions of the naturally better part are to be preferred by those who have it in their power to attain to two out of the three or to all, for that is always to every one the most eligible which is the highest attainable by him. The whole of life is further divided into two parts, business and leisure, war and peace, and of actions some aim at what is necessary and useful, and some at what is honorable. And the preference given to one or the other class of actions must necessarily be like the preference given to one or other part of the soul and its actions over the other; there must be war for the sake of peace, business for the sake of leisure, things useful and necessary for the sake of things honorable. All these points the statesman should keep in view when he frames his laws; he should consider the parts of the soul and their functions, and above all the better and the end; he should also remember the diversities of human lives and actions. For men must be able to engage in business and go to war, but leisure and peace are better; they must do what is necessary and indeed what is useful, but what is honorable is better. On such principles children and persons of every age which requires education should be trained. Whereas even the Hellenes of the present day who are reputed to be best governed, and the legislators who gave them their constitutions, do not appear to have framed their governments with a regard to the best end, or to have given them laws and education with a view to all the virtues, but in a vulgar spirit have fallen back on those which promised to be more useful and profitable. Many modern writers have taken a similar view: they commend the Lacedaemonian constitution, and praise the legislator for making conquest and war his sole aim, a doctrine which may be refuted by argument and has long ago been refuted by facts. For most men desire empire in the hope of accumulating the goods of fortune; and on this ground Thibron and all those who have written about the Lacedaemonian constitution have praised their legislator, because the Lacedaemonians, by being trained to meet dangers, gained great power. But surely they are not a happy people now that their empire has passed away, nor was their legislator right. How ridiculous is the result, if, when they are continuing in the observance of his laws and no one interferes with them, they have lost the better part of life! These writers further err about the sort of government which the legislator should approve, for the government of freemen is nobler and implies more virtue than despotic government. Neither is a city to be deemed happy or a legislator to be praised because he trains his citizens to conquer and obtain dominion over their neighbors, for there is great evil in this. On a similar principle any citizen who could, should obviously try to obtain the power in his own state — the crime which the Lacedaemonians accuse king Pausanias of attempting, although he had so great honor already. No such principle and no law having this object is either statesmanlike or useful or right. For the same things are best both for individuals and for states, and these are the things which the legislator ought to implant in the minds of his citizens.

Neither should men study war with a view to the enslavement of those who do not deserve to be enslaved; but first of all they should provide against their own enslavement, and in the second place obtain empire for the good of the governed, and not for the sake of exercising a general despotism, and in the third place they should seek to be masters only over those who deserve to be slaves. Facts, as well as arguments, prove that the legislator should direct all his military and other measures to the provision of leisure and the establishment of peace. For most of these military states are safe only while they are at war, but fall when they have acquired their empire; like unused iron they lose their temper in time of peace. And for this the legislator is to blame, he never having taught them how to lead the life of peace.

XV

Since the end of individuals and of states is the same, the end of the best man and of the best constitution must also be the same; it is therefore evident that there ought to exist in both of them the virtues of leisure; for peace, as has been often repeated, is the end of war, and leisure of toil. But leisure and cultivation may be promoted, not only by those virtues which are practiced in leisure, but also by some of those which are useful to business. For many necessaries of life have to be supplied before we can have leisure. Therefore a city must be temperate and brave, and able to endure: for truly, as the proverb says, 'There is no leisure for slaves,' and those who cannot face danger like men are the slaves of any invader. Courage and endurance are required for business and philosophy for leisure, temperance and justice for both, and more especially in times of peace and leisure, for war compels men to be just and temperate, whereas the enjoyment of good fortune and the leisure which comes with peace tend to make them insolent. Those then who seem to be the best-off and to be in the possession of every good, have special need of justice and temperance — for example, those (if such there be, as the poets say) who dwell in the Islands of the Blest; they above all will need philosophy and temperance and justice, and all the more the more leisure they have, living in the midst of abundance. There is no difficulty in seeing why the state that would be happy and good ought to have these virtues. If it be disgraceful in men not to be able to use the goods of life, it is peculiarly disgraceful not to be able to use them in time of leisure — to show excellent qualities in action and war, and when they have peace and leisure to be no better than slaves. Wherefore we should not practice virtue after the manner of the Lacedaemonians. For they, while agreeing with other men in their conception of the highest goods, differ from the rest of mankind in thinking that they are to be obtained by the practice of a single virtue. And since they think these goods and the enjoyment of them greater than the enjoyment derived from the virtues... and that it should be practiced for its own sake, is evident from what has been said; we must now consider how and by what means it is to be attained.

We have already determined that nature and habit and rational principle are required, and, of these, the proper nature of the citizens has also been defined by us. But we have still to consider whether the training of early life is to be that of rational principle or habit, for these two must accord, and when in accord they will then form the best of harmonies. The rational principle may be mistaken and fail in attaining the highest ideal of life, and there may be a like evil influence of habit. Thus much is clear in the first place, that, as in all other things, birth implies an antecedent beginning, and that there are beginnings whose end is relative to a further end. Now, in men rational principle and mind are the end towards which nature strives, so that the birth and moral discipline of the citizens ought to be ordered with a view to them. In the second place, as the soul and body are two, we see also that there are two parts of the soul, the rational and the irrational, and two corresponding states — reason and appetite. And as the body is prior in order of generation to the soul, so the irrational is prior to the rational. The proof is that anger and wishing and desire are implanted in children from their very birth, but reason and understanding are developed as they grow older. Wherefore, the care of the body ought to precede that of the soul, and the training of the appetitive part should follow: none the less our care of it must be for the sake of the reason, and our care of the body for the sake of the soul.

XVI

Since the legislator should begin by considering how the frames of the children whom he is rearing may be as good as possible, his first care will be about marriage — at what age should his citizens marry, and who are fit to marry? In legislating on this subject he ought to consider the persons and the length of their life, that their procreative life may terminate at the same period, and that they may not differ in their bodily powers, as will be the case if the man is still able to beget children while the woman is unable to bear them, or the woman able to bear while the man is unable to beget, for from these causes arise quarrels and differences between married persons. Secondly, he must consider the time at which the children will succeed to their parents; there ought not to be too great an interval of age, for then the parents will be too old to derive any pleasure from their affection, or to be of any use to them. Nor ought they to be too nearly of an age; to youthful marriages there are many objections — the children will be wanting in respect to the parents, who will seem to be their contemporaries, and disputes will arise in the management of the household. Thirdly, and this is the point from which we digressed, the legislator must mold to his will the frames of newly-born children. Almost all these objects may be secured by attention to one point. Since the time of generation is commonly limited within the age of seventy years in the case of a man, and of fifty in the case of a woman, the commencement of the union should conform to these periods. The union of male and female when too young is bad for the procreation of children; in all other animals the offspring of the young are small and in-developed, and with a tendency to produce female children, and therefore also in man, as is proved by the fact that in those cities in which men and women are accustomed to marry young, the people are small and weak; in childbirth also younger women suffer more, and more of them die; some persons say that this was the meaning of the response once given to the Troezenians — the oracle really meant that many died because they married too young; it had nothing to do with the ingathering of the harvest. It also conduces to temperance not to marry too soon; for women who marry early are apt to be wanton; and in men too the bodily frame is stunted if they marry while the seed is growing (for there is a time when the growth of the seed, also, ceases, or continues to but a slight extent). Women should marry when they are about eighteen years of age, and men at seven and thirty; then they are in the prime of life, and the decline in the powers of both will coincide. Further, the children, if their birth takes place soon, as may reasonably be expected, will succeed in the beginning of their prime, when the fathers are already in the decline of life, and have nearly reached their term of three-score years and ten.

Thus much of the age proper for marriage: the season of the year should also be considered; according to our present custom, people generally limit marriage to the season of winter, and they are right. The precepts of physicians and natural philosophers about generation should also be studied by the parents themselves; the physicians give good advice about the favorable conditions of the body, and the natural philosophers about the winds; of which they prefer the north to the south.

What constitution in the parent is most advantageous to the offspring is a subject which we will consider more carefully when we speak of the education of children, and we will only make a few general remarks at present. The constitution of an athlete is not suited to the life of a citizen, or to health, or to the procreation of children, any more than the valetudinarian or exhausted constitution, but one which is in a mean between them. A man’s constitution should be inured to labor, but not to labor which is excessive or of one sort only, such as is practiced by athletes; he should be capable of all the actions of a freeman. These remarks apply equally to both parents.

Women who are with child should be careful of themselves; they should take exercise and have a nourishing diet. The first of these prescriptions the legislator will easily carry into effect by requiring that they shall take a walk daily to some temple, where they can worship the gods who preside over birth. Their minds, however, unlike their bodies, they ought to keep quiet, for the offspring derive their natures from their mothers as plants do from the earth.

As to the exposure and rearing of children, let there be a law that no deformed child shall live, but that on the ground of an excess in the number of children, if the established customs of the state forbid this (for in our state population has a limit), no child is to be exposed, but when couples have children in excess, let abortion be procured before sense and life have begun; what may or may not be lawfully done in these cases depends on the question of life and sensation.

And now, having determined at what ages men and women are to begin their union, let us also determine how long they shall continue to beget and bear offspring for the state; men who are too old, like men who are too young, produce children who are defective in body and mind; the children of very old men are weakly. The limit then, should be the age which is the prime of their intelligence, and this in most persons, according to the notion of some poets who measure life by periods of seven years, is about fifty; at four or five years or later, they should cease from having families; and from that time forward only cohabit with one another for the sake of health; or for some similar reason.

As to adultery, let it be held disgraceful, in general, for any man or woman to be found in any way unfaithful when they are married, and called husband and wife. If during the time of bearing children anything of the sort occur, let the guilty person be punished with a loss of privileges in proportion to the offense.

XVII

After the children have been born, the manner of rearing them may be supposed to have a great effect on their bodily strength. It would appear from the example of animals, and of those nations who desire to create the military habit, that the food which has most milk in it is best suited to human beings; but the less wine the better, if they would escape diseases. Also all the motions to which children can be subjected at their early age are very useful. But in order to preserve their tender limbs from distortion, some nations have had recourse to mechanical appliances which straighten their bodies. To accustom children to the cold from their earliest years is also an excellent practice, which greatly conduces to health, and hardens them for military service. Hence many barbarians have a custom of plunging their children at birth into a cold stream; others, like the Celts, clothe them in a light wrapper only. For human nature should be early habituated to endure all which by habit it can be made to endure; but the process must be gradual. And children, from their natural warmth, may be easily trained to bear cold. Such care should attend them in the first stage of life.

The next period lasts to the age of five; during this no demand should be made upon the child for study or labor, lest its growth be impeded; and there should be sufficient motion to prevent the limbs from being inactive. This can be secured, among other ways, by amusement, but the amusement should not be vulgar or tiring or effeminate. The Directors of Education, as they are termed, should be careful what tales or stories the children hear, for all such things are designed to prepare the way for the business of later life, and should be for the most part imitations of the occupations which they will hereafter pursue in earnest. Those are wrong who in their laws attempt to check the loud crying and screaming of children, for these contribute towards their growth, and, in a manner, exercise their bodies. Straining the voice has a strengthening effect similar to that produced by the retention of the breath in violent exertions. The Directors of Education should have an eye to their bringing up, and in particular should take care that they are left as little as possible with slaves. For until they are seven years old they must five at home; and therefore, even at this early age, it is to be expected that they should acquire a taint of meanness from what they hear and see. Indeed, there is nothing which the legislator should be more careful to drive away than indecency of speech; for the light utterance of shameful words leads soon to shameful actions. The young especially should never be allowed to repeat or hear anything of the sort. A freeman who is found saying or doing what is forbidden, if he be too young as yet to have the privilege of reclining at the public tables, should be disgraced and beaten, and an elder person degraded as his slavish conduct deserves. And since we do not allow improper language, clearly we should also banish pictures or speeches from the stage which are indecent. Let the rulers take care that there be no image or picture representing unseemly actions, except in the temples of those Gods at whose festivals the law permits even ribaldry, and whom the law also permits to be worshipped by persons of mature age on behalf of themselves, their children, and their wives. But the legislator should not allow youth to be spectators of iambi or of comedy until they are of an age to sit at the public tables and to drink strong wine; by that time education will have armed them against the evil influences of such representations.

We have made these remarks in a cursory manner — they are enough for the present occasion; but hereafter we will return to the subject and after a fuller discussion determine whether such liberty should or should not be granted, and in what way granted, if at all. Theodorus, the tragic actor, was quite right in saying that he would not allow any other actor, not even if he were quite second-rate, to enter before himself, because the spectators grew fond of the voices which they first heard. And the same principle applies universally to association with things as well as with persons, for we always like best whatever comes first. And therefore youth should be kept strangers to all that is bad, and especially to things which suggest vice or hate. When the five years have passed away, during the two following years they must look on at the pursuits which they are hereafter to learn. There are two periods of life with reference to which education has to be divided, from seven to the age of puberty, and onwards to the age of one and twenty. The poets who divide ages by sevens are in the main right: but we should observe the divisions actually made by nature; for the deficiencies of nature are what art and education seek to fill up.

Let us then first inquire if any regulations are to be laid down about children, and secondly, whether the care of them should be the concern of the state or of private individuals, which latter is in our own day the common custom, and in the third place, what these regulations should be.

Book Eight

I

NO ONE will doubt that the legislator should direct his attention above all to the education of youth; for the neglect of education does harm to the constitution The citizen should be molded to suit the form of government under which he lives. For each government has a peculiar character which originally formed and which continues to preserve it. The character of democracy creates democracy, and the character of oligarchy creates oligarchy; and always the better the character, the better the government.

Again, for the exercise of any faculty or art a previous training and habituation are required; clearly therefore for the practice of virtue. And since the whole city has one end, it is manifest that education should be one and the same for all, and that it should be public, and not private — not as at present, when every one looks after his own children separately, and gives them separate instruction of the sort which he thinks best; the training in things which are of common interest should be the same for all. Neither must we suppose that any one of the citizens belongs to himself, for they all belong to the state, and are each of them a part of the state, and the care of each part is inseparable from the care of the whole. In this particular as in some others the Lacedaemonians are to be praised, for they take the greatest pains about their children, and make education the business of the state.

II

That education should be regulated by law and should be an affair of state is not to be denied, but what should be the character of this public education, and how young persons should be educated, are questions which remain to be considered. As things are, there is disagreement about the subjects. For mankind are by no means agreed about the things to be taught, whether we look to virtue or the best life. Neither is it clear whether education is more concerned with intellectual or with moral virtue. The existing practice is perplexing; no one knows on what principle we should proceed — should the useful in life, or should virtue, or should the higher knowledge, be the aim of our training; all three opinions have been entertained. Again, about the means there is no agreement; for different persons, starting with different ideas about the nature of virtue, naturally disagree about the practice of it. There can be no doubt that children should be taught those useful things which are really necessary, but not all useful things; for occupations are divided into liberal and illiberal; and to young children should be imparted only such kinds of knowledge as will be useful to them without vulgarizing them. And any occupation, art, or science, which makes the body or soul or mind of the freeman less fit for the practice or exercise of virtue, is vulgar; wherefore we call those arts vulgar which tend to deform the body, and likewise all paid employments, for they absorb and degrade the mind. There are also some liberal arts quite proper for a freeman to acquire, but only in a certain degree, and if he attend to them too closely, in order to attain perfection in them, the same evil effects will follow. The object also which a man sets before him makes a great difference; if he does or learns anything for his own sake or for the sake of his friends, or with a view to excellence the action will not appear illiberal; but if done for the sake of others, the very same action will be thought menial and servile. The received subjects of instruction, as I have already remarked, are partly of a liberal and party of an illiberal character.

III

The customary branches of education are in number four; they are — (1) reading and writing, (2) gymnastic exercises, (3) music, to which is sometimes added (4) drawing. Of these, reading and writing and drawing are regarded as useful for the purposes of life in a variety of ways, and gymnastic exercises are thought to infuse courage. concerning music a doubt may be raised — in our own day most men cultivate it for the sake of pleasure, but originally it was included in education, because nature herself, as has been often said, requires that we should be able, not only to work well, but to use leisure well; for, as I must repeat once again, the first principle of all action is leisure. Both are required, but leisure is better than occupation and is its end; and therefore the question must be asked, what ought we to do when at leisure? Clearly we ought not to be amusing ourselves, for then amusement would be the end of life. But if this is inconceivable, and amusement is needed more amid serious occupations than at other times (for he who is hard at work has need of relaxation, and amusement gives relaxation, whereas occupation is always accompanied with exertion and effort), we should introduce amusements only at suitable times, and they should be our medicines, for the emotion which they create in the soul is a relaxation, and from the pleasure we obtain rest. But leisure of itself gives pleasure and happiness and enjoyment of life, which are experienced, not by the busy man, but by those who have leisure. For he who is occupied has in view some end which he has not attained; but happiness is an end, since all men deem it to be accompanied with pleasure and not with pain. This pleasure, however, is regarded differently by different persons, and varies according to the habit of individuals; the pleasure of the best man is the best, and springs from the noblest sources. It is clear then that there are branches of learning and education which we must study merely with a view to leisure spent in intellectual activity, and these are to be valued for their own sake; whereas those kinds of knowledge which are useful in business are to be deemed necessary, and exist for the sake of other things. And therefore our fathers admitted music into education, not on the ground either of its necessity or utility, for it is not necessary, nor indeed useful in the same manner as reading and writing, which are useful in money-making, in the management of a household, in the acquisition of knowledge and in political life, nor like drawing, useful for a more correct judgment of the works of artists, nor again like gymnastic, which gives health and strength; for neither of these is to be gained from music. There remains, then, the use of music for intellectual enjoyment in leisure; which is in fact evidently the reason of its introduction, this being one of the ways in which it is thought that a freeman should pass his leisure; as Homer says,

But he who alone should be called to the pleasant feast,

and afterwards he speaks of others whom he describes as inviting

The bard who would delight them all.

And in another place Odysseus says there is no better way of passing life than when men’s hearts are merry and

The banqueters in the hall, sitting in order, hear the voice of the minstrel.

It is evident, then, that there is a sort of education in which parents should train their sons, not as being useful or necessary, but because it is liberal or noble. Whether this is of one kind only, or of more than one, and if so, what they are, and how they are to be imparted, must hereafter be determined. Thus much we are now in a position to say, that the ancients witness to us; for their opinion may be gathered from the fact that music is one of the received and traditional branches of education. Further, it is clear that children should be instructed in some useful things — for example, in reading and writing — not only for their usefulness, but also because many other sorts of knowledge are acquired through them. With a like view they may be taught drawing, not to prevent their making mistakes in their own purchases, or in order that they may not be imposed upon in the buying or selling of articles, but perhaps rather because it makes them judges of the beauty of the human form. To be always seeking after the useful does not become free and exalted souls. Now it is clear that in education practice must be used before theory, and the body be trained before the mind; and therefore boys should be handed over to the trainer, who creates in them the roper habit of body, and to the wrestling-master, who teaches them their exercises.

IV

Of those states which in our own day seem to take the greatest care of children, some aim at producing in them an athletic habit, but they only injure their forms and stunt their growth. Although the Lacedaemonians have not fallen into this mistake, yet they brutalize their children by laborious exercises which they think will make them courageous. But in truth, as we have often repeated, education should not be exclusively, or principally, directed to this end. And even if we suppose the Lacedaemonians to be right in their end, they do not attain it. For among barbarians and among animals courage is found associated, not with the greatest ferocity, but with a gentle and lion like temper. There are many races who are ready enough to kill and eat men, such as the Achaeans and Heniochi, who both live about the Black Sea; and there are other mainland tribes, as bad or worse, who all live by plunder, but have no courage. It is notorious that the Lacedaemonians themselves, while they alone were assiduous in their laborious drill, were superior to others, but now they are beaten both in war and gymnastic exercises. For their ancient superiority did not depend on their mode of training their youth, but only on the circumstance that they trained them when their only rivals did not. Hence we may infer that what is noble, not what is brutal, should have the first place; no wolf or other wild animal will face a really noble danger; such dangers are for the brave man. And parents who devote their children to gymnastics while they neglect their necessary education, in reality vulgarize them; for they make them useful to the art of statesmanship in one quality only, and even in this the argument proves them to be inferior to others. We should judge the Lacedaemonians not from what they have been, but from what they are; for now they have rivals who compete with their education; formerly they had none.

It is an admitted principle, that gymnastic exercises should be employed in education, and that for children they should be of a lighter kind, avoiding severe diet or painful toil, lest the growth of the body be impaired. The evil of excessive training in early years is strikingly proved by the example of the Olympic victors; for not more than two or three of them have gained a prize both as boys and as men; their early training and severe gymnastic exercises exhausted their constitutions. When boyhood is over, three years should be spent in other studies; the period of life which follows may then be devoted to hard exercise and strict diet. Men ought not to labor at the same time with their minds and with their bodies; for the two kinds of labor are opposed to one another; the labor of the body impedes the mind, and the labor of the mind the body.

V

Concerning music there are some questions which we have already raised; these we may now resume and carry further; and our remarks will serve as a prelude to this or any other discussion of the subject. It is not easy to determine the nature of music, or why any one should have a knowledge of it. Shall we say, for the sake of amusement and relaxation, like sleep or drinking, which are not good in themselves, but are pleasant, and at the same time ‘care to cease,’ as Euripides says? And for this end men also appoint music, and make use of all three alike — sleep, drinking, music — to which some add dancing. Or shall we argue that music conduces to virtue, on the ground that it can form our minds and habituate us to true pleasures as our bodies are made by gymnastic to be of a certain character? Or shall we say that it contributes to the enjoyment of leisure and mental cultivation, which is a third alternative? Now obviously youths are not to be instructed with a view to their amusement, for learning is no amusement, but is accompanied with pain. Neither is intellectual enjoyment suitable to boys of that age, for it is the end, and that which is imperfect cannot attain the perfect or end. But perhaps it may be said that boys learn music for the sake of the amusement which they will have when they are grown up. If so, why should they learn themselves, and not, like the Persian and Median kings, enjoy the pleasure and instruction which is derived from hearing others? (for surely persons who have made music the business and profession of their lives will be better performers than those who practice only long enough to learn). If they must learn music, on the same principle they should learn cookery, which is absurd. And even granting that music may form the character, the objection still holds: why should we learn ourselves? Why cannot we attain true pleasure and form a correct judgment from hearing others, like the Lacedaemonians? — for they, without learning music, nevertheless can correctly judge, as they say, of good and bad melodies. Or again, if music should be used to promote cheerfulness and refined intellectual enjoyment, the objection still remains — why should we learn ourselves instead of enjoying the performances of others? We may illustrate what we are saying by our conception of the Gods; for in the poets Zeus does not himself sing or play on the lyre. Nay, we call professional performers vulgar; no freeman would play or sing unless he were intoxicated or in jest. But these matters may be left for the present.

The first question is whether music is or is not to be a part of education. Of the three things mentioned in our discussion, which does it produce? — education or amusement or intellectual enjoyment, for it may be reckoned under all three, and seems to share in the nature of all of them. Amusement is for the sake of relaxation, and relaxation is of necessity sweet, for it is the remedy of pain caused by toil; and intellectual enjoyment is universally acknowledged to contain an element not only of the noble but of the pleasant, for happiness is made up of both. All men agree that music is one of the pleasantest things, whether with or without songs; as Musaeus says:

Song to mortals of all things the sweetest.

Hence and with good reason it is introduced into social gatherings and entertainments, because it makes the hearts of men glad: so that on this ground alone we may assume that the young ought to be trained in it. For innocent pleasures are not only in harmony with the perfect end of life, but they also provide relaxation. And whereas men rarely attain the end, but often rest by the way and amuse themselves, not only with a view to a further end, but also for the pleasure's sake, it may be well at times to let them find a refreshment in music. It sometimes happens that men make amusement the end, for the end probably contains some element of pleasure, though not any ordinary or lower pleasure; but they mistake the lower for the higher, and in seeking for the one find the other, since every pleasure has a likeness to the end of action. For the end is not eligible for the sake of any future good, nor do the pleasures which we have described exist for the sake of any future good but of the past, that is to say, they are the alleviation of past toils and pains. And we may infer this to be the reason why men seek happiness from these pleasures.

But music is pursued, not only as an alleviation of past toil, but also as providing recreation. And who can say whether, having this use, it may not also have a nobler one? In addition to this common pleasure, felt and shared in by all (for the pleasure given by music is natural, and therefore adapted to all ages and characters), may it not have also some influence over the character and the soul? It must have such an influence if characters are affected by it. And that they are so affected is proved in many ways, and not least by the power which the songs of Olympus exercise; for beyond question they inspire enthusiasm, and enthusiasm is an emotion of the ethical part of the soul. Besides, when men hear imitations, even apart from the rhythms and tunes themselves, their feelings move in sympathy. Since then music is a pleasure, and virtue consists in rejoicing and loving and hating aright, there is clearly nothing which we are so much concerned to acquire and to cultivate as the power of forming right judgments, and of taking delight in good dispositions and noble actions. Rhythm and melody supply imitations of anger and gentleness, and also of courage and temperance, and of all the qualities contrary to these, and of the other qualities of character, which hardly fall short of the actual affections, as we know from our own experience, for in listening to such strains our souls undergo a change. The habit of feeling pleasure or pain at mere representations is not far removed from the same feeling about realities; for example, if any one delights in the sight of a statue for its beauty only, it necessarily follows that the sight of the original will be pleasant to him. The objects of no other sense, such as taste or touch, have any resemblance to moral qualities; in visible objects there is only a little, for there are figures which are of a moral character, but only to a slight extent, and all do not participate in the feeling about them. Again, figures and colors are not imitations, but signs, of moral habits, indications which the body gives of states of feeling. The connection of them with morals is slight, but in so far as there is any, young men should be taught to look, not at the works of Pauson, but at those of Polygnotus, or any other painter or sculptor who expresses moral ideas. On the other hand, even in mere melodies there is an imitation of character, for the musical modes differ essentially from one another, and those who hear them are differently affected by each. Some of them make men sad and grave, like the so-called Mixolydian, others enfeeble the mind, like the relaxed modes, another, again, produces a moderate and settled temper, which appears to be the peculiar effect of the Dorian; the Phrygian inspires enthusiasm. The whole subject has been well treated by philosophical writers on this branch of education, and they confirm their arguments by facts. The same principles apply to rhythms; some have a character of rest, others of motion, and of these latter again, some have a more vulgar, others a nobler movement. Enough has been said to show that music has a power of forming the character, and should therefore be introduced into the education of the young. The study is suited to the stage of youth, for young persons will not, if they can help, endure anything which is not sweetened by pleasure, and music has a natural sweetness. There seems to be in us a sort of affinity to musical modes and rhythms, which makes some philosophers say that the soul is a tuning, others, that it possesses tuning.

VI

And now we have to determine the question which has been already raised, whether children should be themselves taught to sing and play or not. Clearly there is a considerable difference made in the character by the actual practice of the art. It is difficult, if not impossible, for those who do not perform to be good judges of the performance of others. Besides, children should have something to do, and the rattle of Archytas, which people give to their children in order to amuse them and prevent them from breaking anything in the house, was a capital invention, for a young thing cannot be quiet. The rattle is a toy suited to the infant mind, and education is a rattle or toy for children of a larger growth. We conclude then that they should be taught music in such a way as to become not only critics but performers.

The question what is or is not suitable for different ages may be easily answered; nor is there any difficulty in meeting the objection of those who say that the study of music is vulgar. We reply (1) in the first place, that they who are to be judges must also be performers, and that they should begin to practice early, although when they are older they may be spared the execution; they must have learned to appreciate what is good and to delight in it, thanks to the knowledge which they acquired in their youth. As to (2) the vulgarizing effect which music is supposed to exercise, this is a question which we shall have no difficulty in determining, when we have considered to what extent freemen who are being trained to political virtue should pursue the art, what melodies and what rhythms they should be allowed to use, and what instruments should be employed in teaching them to play; for even the instrument makes a difference. The answer to the objection turns upon these distinctions; for it is quite possible that certain methods of teaching and learning music do really have a degrading effect. It is evident then that the learning of music ought not to impede the business of riper years, or to degrade the body or render it unfit for civil or military training, whether for bodily exercises at the time or for later studies.

The right measure will be attained if students of music stop short of the arts which are practiced in professional contests, and do not seek to acquire those fantastic marvels of execution which are now the fashion in such contests, and from these have passed into education. Let the young practice even such music as we have prescribed, only until they are able to feel delight in noble melodies and rhythms, and not merely in that common part of music in which every slave or child and even some animals find pleasure.

From these principles we may also infer what instruments should be used. The flute, or any other instrument which requires great skill, as for example the harp, ought not to be admitted into education, but only such as will make intelligent students of music or of the other parts of education. Besides, the flute is not an instrument which is expressive of moral character; it is too exciting. The proper time for using it is when the performance aims not at instruction, but at the relief of the passions. And there is a further objection; the impediment which the flute presents to the use of the voice detracts from its educational value. The ancients therefore were right in forbidding the flute to youths and freemen, although they had once allowed it. For when their wealth gave them a greater inclination to leisure, and they had loftier notions of excellence, being also elated with their success, both before and after the Persian War, with more zeal than discernment they pursued every kind of knowledge, and so they introduced the flute into education. At Lacedaemon there was a choragus who led the chorus with a flute, and at Athens the instrument became so popular that most freemen could play upon it. The popularity is shown by the tablet which Thrasippus dedicated when he furnished the chorus to Ecphantides. Later experience enabled men to judge what was or was not really conducive to virtue, and they rejected both the flute and several other old-fashioned instruments, such as the Lydian harp, the many-stringed lyre, the 'heptagon,' 'triangle,' 'sambuca,' the like — which are intended only to give pleasure to the hearer, and require extraordinary skill of hand. There is a meaning also in the myth of the ancients, which tells how Athene invented the flute and then threw it away. It was not a bad idea of theirs, that the Goddess disliked the instrument because it made the face ugly; but with still more reason may we say that she rejected it because the acquirement of flute-playing contributes nothing to the mind, since to Athene we ascribe both knowledge and art.

Thus then we reject the professional instruments and also the professional mode of education in music (and by professional we mean that which is adopted in contests), for in this the performer practices the art, not for the sake of his own improvement, but in order to give pleasure, and that of a vulgar sort, to his hearers. For this reason the execution of such music is not the part of a freeman but of a paid performer, and the result is that the performers are vulgarized, for the end at which they aim is bad. The vulgarity of the spectator tends to lower the character of the music and therefore of the performers; they look to him — he makes them what they are, and fashions even their bodies by the movements which he expects them to exhibit.

VII

We have also to consider rhythms and modes, and their use in education. Shall we use them all or make a distinction? and shall the same distinction be made for those who practice music with a view to education, or shall it be some other? Now we see that music is produced by melody and rhythm, and we ought to know what influence these have respectively on education, and whether we should prefer excellence in melody or excellence in rhythm. But as the subject has been very well treated by many musicians of the present day, and also by philosophers who have had considerable experience of musical education, to these we would refer the more exact student of the subject; we shall only speak of it now after the manner of the legislator, stating the general principles.

We accept the division of melodies proposed by certain philosophers into ethical melodies, melodies of action, and passionate or inspiring melodies, each having, as they say, a mode corresponding to it. But we maintain further that music should be studied, not for the sake of one, but of many benefits, that is to say, with a view to (1) education, (2) purgation (the word 'purgation' we use at present without explanation, but when hereafter we speak of poetry, we will treat the subject with more precision); music may also serve (3) for for enjoyment, for relaxation, and for recreation after exertion. It is clear, therefore, that all the modes must be employed by us, but not all of them in the same manner. In education the most ethical modes are to be preferred, but in listening to the performances of others we may admit the modes of action and passion also. For feelings such as pity and fear, or, again, enthusiasm, exist very strongly in some souls, and have more or less influence over all. Some persons fall into a religious frenzy, whom we see as a result of the sacred melodies — when they have used the melodies that excite the soul to mystic frenzy — restored as though they had found healing and purgation. Those who are influenced by pity or fear, and every emotional nature, must have a like experience, and others in so far as each is susceptible to such emotions, and all are in a manner purged and their souls lightened and delighted. The purgative melodies likewise give an innocent pleasure to mankind. Such are the modes and the melodies in which those who perform music at the theater should be invited to compete. But since the spectators are of two kinds — the one free and educated, and the other a vulgar crowd composed of mechanics, laborers, and the like — there ought to be contests and exhibitions instituted for the relaxation of the second class also. And the music will correspond to their minds; for as their minds are perverted from the natural state, so there are perverted modes and highly strung and unnaturally colored melodies. A man receives pleasure from what is natural to him, and therefore professional musicians may be allowed to practice this lower sort of music before an audience of a lower type. But, for the purposes of education, as I have already said, those modes and melodies should be employed which are ethical, such as the Dorian, as we said before; though we may include any others which are approved by philosophers who have had a musical education. The Socrates of the Republic is wrong in retaining only the Phrygian mode along with the Dorian, and the more so because he rejects the flute; for the Phrygian is to the modes what the flute is to musical instruments — both of them are exciting and emotional. Poetry proves this, for Bacchic frenzy and all similar emotions are most suitably expressed by the flute, and are better set to the Phrygian than to any other mode. The dithyramb, for example, is acknowledged to be Phrygian, a fact of which the connoisseurs of music offer many proofs, saying, among other things, that Philoxenus, having attempted to compose his Mysians as a dithyramb in the Dorian mode, found it impossible, and fell back by the very nature of things into the more appropriate Phrygian. All men agree that the Dorian music is the gravest and manliest. And whereas we say that the extremes should be avoided and the mean followed, and whereas the Dorian is a mean between the other modes, it is evident that our youth should be taught the Dorian music.

Two principles have to be kept in view, what is possible, what is becoming: at these every man ought to aim. But even these are relative to age; the old, who have lost their powers, cannot very well sing the high-strung modes, and nature herself seems to suggest that their songs should be of the more relaxed kind. Wherefore the musicians likewise blame Socrates, and with justice, for rejecting the relaxed modes in education under the idea that they are intoxicating, not in the ordinary sense of intoxication (for wine rather tends to excite men), but because they have no strength in them. And so, with a view also to the time of life when men begin to grow old, they ought to practice the gentler modes and melodies as well as the others, and, further, any mode, such as the Lydian above all others appears to be, which is suited to children of tender age, and possesses the elements both of order and of education. Thus it is clear that education should be based upon three principles — the mean, the possible, the becoming, these three.

Economics (1343a)

Translated by G. C. Armstrong

The Οἰκονομικῶν has been ascribed to Aristotle, though in modern times it is usually attributed to a student of Aristotle or his successor, Theophrastus. The title, though it is the origin of the modern term ‘economics’, was originally derived from the Greek word *oikos* meaning household, referring to household management, and only by extension to political economics or what is called ‘economics’ in the modern understanding of the word.

The *Economics* consists of three short books, with the first being similar in theme to the *Oeconomicus* of Xenophon, a Socratic dialogue concerning how to be a good gentleman farmer and *kaloskagathos*. The second book contains anecdotes and is a theoretical exploration of economic types and their methods for generating revenue. The final book is only known from Latin versions, dealing with the relationship between husband and wife.

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BOOK I

Between Housecraft (the art of governing a Household or Home) and Statecraft (the art of governing a Nation) there are differences corresponding to those between the two kinds of community over which they severally preside. There is, however, this further difference: that whereas the government of a nation is in many hands, a household has but a single ruler.

Now some arts are divided into two separate branches, one concerned with the making of an object — for example a lyre or a flute — and the other with its use when made. Statecraft on the other hand shows us how to build up a nation from its beginning, as well as how to order rightly a nation that already exists; from which we infer that Housecraft also tells us first how to acquire a household and then how to conduct its affairs.

By a Nation we mean an assemblage of houses, lands, and property sufficient to enable the inhabitants to lead a civilized life. This is proved by the fact that when such a life is no longer possible for them, the tie itself which unites them is dissolved. Moreover, it is with such a life in view that the association is originally formed; and the object for which a thing exists and has come into being is in fact the very essence of that particular thing.

From this definition of a Nation, it is evident that the art of Housecraft is older than that of Statecraft, since the Household, which it creates, is older; being a component part of the Nation created by Statecraft.

Accordingly we must consider the nature of Housecraft, and what the Household, which it creates, actually is.

The component parts of a household are (1) human beings, and (2) goods and chattels. And as households are no exception to the rule that the nature of a thing is first studied in its barest and simplest form, we will follow Hesiod and begin by postulating “Homestead first, and a woman; a plough-ox hardy to furrow.” For the steading takes precedence among our physical necessities, and the woman among our free associates. It is, therefore, one of the tasks of Homecraft to set in order the relation between man and woman; in other words, to see that it is what it ought to be.

Of occupations attendant on our goods and chattels, those come first which are natural. Among these precedence is given to the one which cultivates the land; those like mining, which extract wealth from it, take the second place. Agriculture is the most honest of all such occupations; seeing that the wealth it brings is not derived from other men. Herein it is distinguished from trade and the wage-earning employments, which acquire wealth from others by their consent; and from war, which wrings it from them perforce. It is also a natural occupation; since by Nature's appointment all creatures receive sustenance from their mother, [1343b] 1 and mankind like the rest from their common mother the earth.

And besides all this, agriculture contributes notably to the making of a manly character; because, unlike the mechanical arts, it does not cripple and weaken the bodies of those engaged in it, but inures them to exposure and toil and invigorates them to face the perils of war. For the farmer's possessions, unlike those of other men, lie outside the city's defences.

When we turn our attention to the human part of the household, it is the woman who makes the first claim upon it; <for the natural comes first, as we have said,> and nothing is more natural than the tie between female and male. For we have elsewhere laid down the premiss that Nature is intent on multiplying severally her types; and this is true of every animal in particular. Neither the female, however, can effect this without the male, nor the male without the female; whence the union of the sexes has of necessity arisen.

Now among the lower animals, this union is irrational in character; it exists merely for the purpose of procreation, and lasts only so long as the parents are occupied in producing their brood. In tame animals, on the other hand, and those which possess a greater share of intelligence, it has assumed a more complex form; for in their case we see more examples of mutual help, goodwill, and co-operation. It is, however, in the human species that this complexity is most marked; since the co-operation between woman and man aims not merely at existence, but at a happy 20 existence. Nor do mankind beget children merely to pay the service they owe to Nature, but also that they may themselves receive a benefit; for the toil they undergo while they are strong and their offspring is still weak is repaid by that offspring when it in turn is grown strong and the parents by reason of age are weak.

At the same time Nature, by this cycle of changes, fulfills her purpose of perpetuating existence; preserving the type when she is unable to preserve the individual. And so with this purpose in view Divine Providence has fashioned the nature of man and of woman for their partnership. For they are distinguished from each other by the possession of faculties not adapted in every case to the same tasks, but in some cases for opposite ones, though contributing to the same end. For Providence made man stronger and woman weaker, [1344a] 1 so that he in virtue of his manly prowess may be more ready to defend the home, and she, by reason of her timid nature, more ready to keep watch over it; and while he brings in fresh supplies from without, she may keep safe what lies within. In handicrafts again, woman was given a sedentary patience, though denied stamina for endurance of exposure; while man, though inferior to her in quiet employments, is endowed with vigor for every active occupation. In the production of children both share alike; but each makes a different contribution to their upbringing. It is the mother who nurtures, and the father who educates.

We begin then with the rules that should govern a man's treatment of his wife. And the first of these forbids him to do her wrong; for if he observes this, he is not likely himself to suffer wrong at her hands. As the Pythagoreans declare, even the common rule or custom of mankind thus ordains, forbidding all wrong to a wife as stringently as though she were a suppliant whom one has raised from the hearthstone. And a man does wrong to his wife when he associates with other women.

As regards the intercourse of marriage, wives should neither importune their husbands, nor be restless in their absence; but a man should accustom his wife to be content whether he is at home or away. Good also is the advice of Hesiod:

" Take thee a maiden to wife, and teach her ways of discretion.
"

Hes. WD 699

For differences of ways and habits are little conducive to affection.

As regards adornment: it is not well 20 that souls should approach one another in borrowed plumes, nor is it well in the case of bodies. Intercourse which depends <for its charm> upon outward adornment differs in no respect from that of figures on the stage in their conventional attire.

Of property, the first and most indispensable kind is that which is also best and most amenable to Housecraft; and this is the human chattel. Our first step therefore must be to procure good slaves. Of slaves there are two kinds; those in positions of trust, and the laborers. And since it is matter of experience that the character of the young can be moulded by training, when we require to charge slaves with tasks befitting the free, we have not only to procure the slaves, but to bring them up <for the trust>.

In our intercourse with slaves we must neither suffer them to be insolent nor treat them with cruelty. A share of honor should be given to those who are doing more of a freeman's work, and abundance of food to those who are laboring with their hands. And whereas the use of wine renders even free men insolent, so that in many countries they too refrain from it — as, for instance, the Carthaginians do when they are on campaign — it follows that we must either deny wine to slaves altogether, or reserve it for rare occasions.

We may apportion to our slaves (1) work, (2) chastisement, and (3) food. If men are given food, but no chastisement nor any work, they become insolent. [1344b] 1 If they are made to work, and are chastised, but stinted of their food, such treatment is oppressive, and saps their strength. The remaining alternative, therefore, is to give them work, and a sufficiency of food. Unless we pay men, we cannot control them; and food is a slave's pay.

Slaves, again, are no exception to the rule that men become worse when better conduct is not followed by better treatment, but virtue and vice remain alike unrewarded. Accordingly we must keep watch over our workers, suiting our dispensations and indulgences to their desert; whether it be food or clothing, leisure or chastisement that we are apportioning. Both in theory and in practice we must take for our model a physician's freedom in prescribing his medicines; observing at the same time that food differs from medicine in that it requires to be constantly administered.

The best laborers will be furnished by those races of mankind which are neither wholly spiritless nor yet overbold. Each extreme has its vice; the spiritless cannot endure hard labor, and the high-spirited will not readily brook control.

Every slave should have before his eyes a definite goal or term of his labor. To set the prize of freedom before him is both just and expedient; since having a prize to work for, and a time defined for its attainment, he will put his heart into his labors. We should, moreover, take hostages <for our slaves'

fidelity> by allowing them to beget children; and avoid the practice of purchasing many slaves of the same nationality, as men avoid doing in towns. We should also keep festivals and give treats, more on the slaves account than on that of the freemen; 20 since the free have a fuller share in those enjoyments for the sake of which these institutions exist.

There are four qualities which the head of a household must possess in dealing with his property. Firstly, he must have the faculty of acquiring, and secondly that of preserving what he has acquired; otherwise there is no more benefit in acquiring than in baling with a colander, or in the proverbial wine-jar with a hole in the bottom. Thirdly and fourthly, he must know how to improve his property, and how to make use of it; since these are the ends for which the powers of acquisition and of preservation are sought.

Everything we possess should be duly classified ; and the amount of our productive property exceed that of the unproductive. Produce should be so employed that we do not risk all our possessions at once. For the safe keeping of our property, we shall do well to adopt the Persian and Laconian systems. Athenian housecraft has, however, some advantages. The Athenian buys immediately with the produce of his sales, and the smaller households keep no idle deposits in store.

Under the Persian system, the master himself undertook the entire disposition and supervision of the household, following the practice which Dion used to remark in Dionysius. No one, indeed, takes the same care of another's property as of his own; so that, as far as is possible, [1345a] 1 each man ought to attend to his affairs in person. We may commend also a pair of sayings, one attributed to a Persian and the other to a Libyan. The former on being asked what best conditions a horse, replied "His master's eye." The Libyan, when asked what kind of manure is best, answered "The master's footprints."

The master and mistress should, therefore, give personal supervision, each to his or her special department of the household work. In small households, an occasional inspection will suffice; in estates managed through stewards, inspections must be frequent. For in stewardship as in other matters there can be no good copy without a good example; and if the master and mistress do not attend diligently to their estate, their deputies will certainly not do so.

Moreover, as such habits are both commendable for moral reasons and also conducive to good management, the master and mistress will do well to rise earlier than their servants and to retire later; to treat their home as a city, and never leave it unguarded; nor ever, by night or by day, to postpone a task which ought to be done. Rising before daylight is also to be commended; it is a healthy habit, and gives more time for the management of the household as well as for liberal studies.

We have remarked that on small holdings the Athenian method of disposing of the produce is advantageous. 20 On large estates, after the amount for the year's or the month's outlay has been set apart, it should be handed to the overseers; and so also with implements, whether for daily or for occasional use. In addition, an inspection of implements and stores should be made periodically, so that remainders and deficiencies may alike be noted.

In constructing a homestead, we have to provide for the stock which it is to shelter, and for its health and well-being. Providing for the stock involves questions such as these: What type of building is best for the storage of crops and of clothing? How are we to store the dry crops, and how the moist ones? Of the other stock, how is the living to be housed, and how the dead? and what accommodation are we to make for slaves and free, for women and men, for foreigners and fellow-citizens? For well-being and health, again, the homestead should be airy in summer, and sunny in winter.

A homestead possessing these qualities would be longer than it is deep; and its main front would face the south. On large estates, moreover, it seems worth while to instal as porter a man incapable of other work, to keep his eye on what passes in and out. [1345b] 1 That implements may be ready for use, the Laconian practice should be followed. Each should be kept in its own place; thus it will always be to hand, and not require seeking.

BOOK II

1 Right administration of a household demands in the first place familiarity with the sphere of one's action; in the second Place, good natural endowments; and in the third, an uprights and industrious way of life. For the lack of any one of these qualifications will involve many a failure in the task one takes in hand.

Of such administrations there are four main types, under which all others may be classified. We have the administration of a king; of the governors under him; of a free state; and of a private citizen.

Of these, that of a king is the most extensive, yet at the same time the simplest. A governor's office is also very extensive, but divided into a great variety of departments. The administration of a free state is again very varied, but it is the easiest to conduct; while that, of a private individual presents the like variety, but within limits which are narrowest of all. For the most part, all four will of necessity cover the same ground; we will, however, take them in turn, and see what is especially characteristic of each.

Taking first the royal administration, we see that while theoretically its power is unlimited, 20 it is in practice concerned with four departments, namely currency, exports, imports, and expenditure.

Taking these severally, I assign to that of currency the seasonable regulation of prices; to imports and exports, the profitable disposition, at any given time, of the dues received from provincial governors; and to expenditure, the reduction of outgoings as occasion may serve, and the question of meeting expenses by currency or by commodities.

The second kind of administration, that of the governor, is concerned with six different classes of revenue; those, namely, arising from agriculture, from the special products of the country, from markets, from taxes, from cattle, and from other sources.

Taking these in turn, the first and most important of them is revenue from agriculture, which some call tithe and some produce-tax. The second is that from special products; in one place gold, in another silver, in another copper, and so on. Third in importance is revenue from markets, [1346a] 1 and fourth that which arises from taxes on land and on sales. In the fifth place we have revenue from cattle, called tithe or first-fruits; and in the sixth, revenue from other sources, which we term poll-tax, or tax on industry.

Of our third kind of administration, that of a free state, the most important revenue is that arising from the special products of the country. Next follows revenue from markets and occupations; and finally that from every-day transactions.

Fourthly and lastly, we must consider the administration of a private citizen. It is difficult to reduce this to rules owing to the necessary variety of its aims; yet it is the most limited of the four, because both revenues and expenses are <comparatively> small. Taking its revenues in turn, the chief are those from agriculture; next in importance, those from other every-day occupations; while third comes interest on money. Apart from all these, there is a matter common to all kinds of administration which is best considered at this particular point, and deserves more than cursory attention. This is the importance of keeping expenditure within the limits of revenue.

Having thus enumerated the divisions of our subject, we must next consider whether the province or the free state with which we are concerned is able to produce all the forms of revenue we have just detailed 20 or at least the chief of them; <and this being known> must make the best use of what we have. Next we must inquire what kinds of revenue, at present wholly lacking, are yet potentially existent; what kinds, though now small, may with care be increased, and how far certain items of present expenditure may without prejudice to the commonwealth be diminished.

Having spoken thus of administrations and their various departments, we have further proceeded to collect such instances as we deemed noteworthy of the means adopted by certain statesmen in times past for the replenishment of the treasury, and also of their skill in administration. These anecdotes <which follow>, seemed to us by no means lacking in utility; being capable from time to time of application by others to the business they themselves have in hand.

Cypselus of Corinth had made a vow that if he became master of the city, he would offer to Zeus the entire property of the Corinthians. Accordingly he commanded them to make a return of their possessions; [1346b] 1 which done, he took from each a tenth part, and told them to employ the remainder in trading. A year later, he repeated the process. And so in ten years' time it came to pass that Cypselus received the entire amount which he had dedicated; while the Corinthians on their part had replaced all that they had paid him.

Lygdamis of Naxos, after driving into exile a party of the inhabitants, found that no one would give him a fair price for their property. He therefore sold it to the exiled owners. The exiles had left behind them a number of works of art destined for temple offerings, which lay in certain workshops in an unfinished condition. These Lygdamis proceeded to sell to the exiles and whoso else would buy them; allowing each purchaser to have his name engraved on the offering.

The people of Byzantium, being in need of funds, sold such dedicated lands as belonged to the State; those under crops, for a term of years, and those uncultivated, in perpetuity. In like manner they sold lands appropriated to religious celebrations or ancestral cults, not excepting those that were on private estates; for the owners of the surrounding land were ready to give a high price for them. To the dispossessed celebrants <they assigned> such other public lands surrounding the gymnasium, the agora, or the harbor, 20 as belonged to the State. Moreover they claimed as public property all open spaces where anything was sold, together with the sea-fisheries, the traffic in salt, and the trade of professional conjurors, soothsayers, charm-sellers, and the like; exacting from all these one-third of their gains. The right of changing money they sold to a single bank, whose proprietor was given a monopoly of the sale and purchase of coin, protected under penalty of confiscation.

And whereas previously the rights of citizenship were by law confined to those whose parents were both citizens, lack of funds, induced them to offer citizenship to him who had one citizen parent on payment of the sum of thirty minae.

On another occasion, when food and funds were both scarce, they called home all vessels that were trading in the Pontus. On the merchants protesting, they were at length allowed to trade on payment of a tithe of their profits. This tax of 10 per cent was also extended to purchases of every kind. [1347a] 1

It happened that certain aliens residing in the city had lent money on the security of citizens' property. As these aliens did not possess the right of holding such property, the people offered to recognize the title of anyone who chose to pay into the treasury one third of the amount secured.

Hippias of Athens offered for sale upper stories that projected over the public streets, together with flights of steps, railings, and doors that opened outwards. The owners of the buildings bought them, and in this way a large sum of money was collected.

He also called in the existing currency, promising to pay the holders at a fixed rate. But when they came to receive the new mintage, he reissued the old coins.

Those who were expecting to equip a war-vessel or preside over a tribe or train a chorus or undertake the expense of some other public service of the kind, he allowed, if they chose, to commute the service for a moderate sum, and to be enrolled on the list of those who had performed it.

Moreover, whenever a citizen died, the priestess of the temple of Athena on the Acropolis was to receive one quart measure of barley, one of wheat, and a silver obolus. And when a child was born, the father paid the same dues.

The Athenian colonists at Potidaea, being in need of funds for the war, agreed that all should make a return of their property for assessment of tax. 20
But instead of each returning the entire amount to his own parish, properties were to be assessed separately, each in its own locality, so that the poor might propose a reduced assessment; while those without any <landed> property were assessed at two minae a head. On these assessments each man paid the State the full amount of the war-tax.

The city of Antissa had been accustomed to celebrate the festival of Dionysus with great magnificence. Year by year great provision was made for the occasion, and costly sacrifices were prepared. Now one year the city found itself in need of funds; and shortly before the festival, on the proposal of a citizen named Sosipolis, the people after vowing that they would next year offer to Dionysus a double amount, collected all that had been provided and sold it. In this way they realized a large sum of money to meet their necessity.

On one occasion the people of Lampsacus were expecting to be attacked by a large fleet of triremes. The price of barley meal being then four drachmae for a bushel and a half, they instructed the retailers to sell it at six drachmae. Oil, which was at three drachmae for six pints, was to be sold at four drachmae and a half, and wine and other commodities at a proportionate increase. In this way the retailer got the original price, [1347b] 1 while the State took the addition and filled its treasury.

The people of Heraclea, being about to dispatch a fleet of forty ships against the lords of Bosporus, were at a loss for the necessary funds. They therefore bought up all the merchants' stock of corn and oil and wine and other marketable commodities, agreeing to pay at a future date. The merchants were well satisfied that they had disposed of their cargoes without breaking bulk; and the people, advancing two months' pay to their armament, sent along with it a fleet of merchant-vessels laden with the commodities, every ship being in charge of a public official. When the expedition reached its goal, the men purchased from these officials all they needed. In this way, the money was collected before the leaders again paid their men; so that the same payment sufficed until the expedition returned home.

When the Samians entreated the Lacedaemonians for money to enable them to return to their country, the Lacedaemonians passed a resolution that they and their servants and their beasts of burden should go without food for one day; and that the expense each one thus saved should be given to the Samians. 20

The people of Chalcedon had a large number of mercenary troops in their city, to whom they could not pay the wages they owed. Accordingly they made proclamation that anyone, either citizen or alien, who had right of reprisal against any city or individual, and wished to exercise it, should have his name entered on a list. A large number of names was enrolled, and the people thus obtained a specious pretext for exercising reprisal upon ships that were passing on their way to the Pontus. They accordingly arrested the ships and fixed a period within which they would consider any claims that might be made in respect of them. Having now a large fund in hand, they paid off the mercenaries, and set up a tribunal to decide the claims; and those whose goods had been unjustly seized were compensated out of the revenues of the state.

At Cyzicus, civil strife broke out between the democratic and oligarchic parties. The former proved victorious, and the rich citizens were placed under arrest. But as the city owed money to its troops, a resolution was passed that the lives of those under arrest should be spared, and that they should be allowed to depart into exile on paying a sum of money to the state.

At Chios there was a law that all debts should be entered on a public register. Being in need of funds, [1348a] 1 the people resolved that debtors should pay their debts into the treasury, and that the state should meet the creditors’ interest out of its revenues until its former prosperity returned.

Mausolus lord of Caria received from the King of Persia a demand for tribute. Therefore he summoned the wealthiest men in his dominion, and told them that the King was asking for the tribute, and he had not the means of paying it. Men whom he had previously suborned at once came forward and declared what each was ready to contribute. With this example before them, they who were wealthier than these, partly in shame and partly in alarm, promised and paid much larger sums than the others.

Being again in lack of funds, Mausolus summoned a public meeting of the people of Mylassa and told them that the King of Persia was preparing to attack him; and that Mylassa his capital city was unfortified. He therefore bade the citizens contribute each as liberally as he could, saying that what they now paid in would afford security to the rest of their possessions. By these means he obtained large contributions. But though he kept the money, he declared that heaven, for the present, forbade the building of the walls.

Condalus, who was a lieutenant-governor under Mausolus, whenever on his progress through the country he was presented with a sheep, 20 a pig, or a calf, had a record made of the donor’s name and of the date. He then bade the man take the beast home and keep it until he should again pass that way. After what he considered a sufficient interval, he would demand the beast together with such profits as he reckoned it had produced. All trees, too, which projected over the king’s highway, or fell thereon, he sold as profits accruing to the State.

When one of his soldiers died, he charged a drachma for the right of passing the body through the gates. This was not only a source of revenue, but a check on the commanders, who were thus prevented from falsifying the date of the man’s death.

Noticing that the Lycians were fond of wearing their hair long, Condalus proclaimed that a dispatch had arrived from the King ordering him to send hair to make forelocks for his horses; and that Mausolus had therefore instructed him to shave their heads. However, if they would pay him a fixed sum per head, he would send to Greece for hair. They were glad to comply with his demand, and a large sum was collected, the number of those taxed being great.

Aristoteles of Rhodes, when governor of Phocaea, found himself in need of funds. Noticing that there were at Phocaea two opposing parties, he held a secret conference with one of them, [1348b] 1 at which he declared that the other party was offering him money if he would favor their pretensions; that he, however, preferred to receive from those now before him, and to entrust to them the administration of the city. On hearing this, they immediately contributed the money he asked, and gave it him. Thereupon he told the other party what he had received from them; and they in turn promised him at least an equal amount. Having thus taken the money of both factions, he effected a reconciliation between them.

He also observed that there were many law-suits pending between the citizens, and that they had grave and long-standing plaints against one another which had arisen in course of war. He therefore appointed a tribunal, and made proclamation that all who failed to appear before it within a stated period should lose the right to a legal decision of their outstanding claims. Then, by taking into his own hands the court-fees for a number of suits, and also those appeal-cases which involved penalties, and receiving [through others] money from both sides, he obtained altogether a very considerable sum.

The people of Clazomenae, suffering from dearth of grain and scarcity of funds, passed a resolution that any private citizens who had stores of oil should lend it to the State at interest; 20 this being a produce which their land bears in abundance. The loan arranged, they hired vessels and sent them to the depots whence they obtained their grain, <and bought a consignment> on security of the value of the oil.

The same people, owing their mercenaries twenty talents of pay and being unable to find it, were giving the leaders of the troop four talents of interest each year. But failing to reduce the capital debt, and committed to this fruitless drain on their revenue, they struck an iron coinage of twenty talents, bearing the face-value of the silver. This they distributed proportionately among the wealthiest citizens, and received from them silver to the same amount. Through this expedient, the private citizens possessed a currency which was good for their daily needs, and the state was relieved of its debt. Next, they proceeded to pay interest out of revenue to those who had advanced the silver; and little by little distributed repayment among them, recalling at the same time the currency of iron.

The people of Selybria had a law, passed in time of famine, which forbade the export of grain. On one occasion, however, they were in need of funds; and as they possessed large stores of grain, they passed a resolution that citizens should deliver up their corn to the state at the regular fixed price, [1349a] 1 each retaining for himself a year’s supply. They then granted right of export to any who desired it, fixing what they deemed a suitable price.

At Abydos civil strife had caused the land to remain uncultivated; while the resident aliens, to whom the city was already indebted, refused to make any further advances. A resolution was accordingly passed that anyone who would might lend money to enable the farmers to cultivate their land, on the understanding that the lender had the first claim on its produce; others taking from what was then left.

The people of Ephesus, being in need of funds, passed a law forbidding their women to wear gold, and ordering them to lend the State what gold they had in their possession.

They also offered to any citizen who was willing to pay a fixed sum the right of having his name inscribed on a certain pillar of their temple as the donor thereof.

Dionysius of Syracuse, being desirous of collecting funds, called a public assembly, and declared that Demeter had appeared to him, and bade him convey all the women’s ornaments into her temple. That he himself had done so with the ornaments of his own household; and the others must now follow his example, and thereby avoid any visitation of the goddess’s anger. Anyone who failed to comply would, he declared, be guilty of sacrilege. 20 Through fear of the goddess as well as of the despot, all the citizens brought in whatever they had. Then Dionysius, after sacrificing to the goddess, removed the ornaments to his own treasury as a loan which he had borrowed from her. As time went on, the women again appeared with precious ornaments. Dionysius thereupon issued a decree that any woman who desired to wear gold should make an offering of a fixed amount in the temple.

Intending to build a fleet of triremes, Dionysius knew that he should require funds for the purpose. He therefore called an assembly and declared that a certain city was offered to him by traitors, and he needed money to pay them. The citizens therefore must contribute two staters apiece. The money was paid; but after two or three days, Dionysius, pretending that the plot had failed, thanked the citizens and returned to each his contribution. In this way he won the confidence of the citizens; so that when he again asked for money, they contributed in the expectation that they would receive it back. But this time he kept it for building the fleet.

On another occasion being in straits for silver he minted a coinage of tin, and summoning a public assembly, spoke at length in its favor. The citizens perforce voted that everyone should regard as silver, and not as tin, whatever he received. [1349b] 1

Again being in need of funds, he requested the citizens to contribute. On their declaring that they had not the wherewithal, he brought out the furnishings of his palace and offered them for sale, pretending to be compelled through lack of money. At the sale, he had a list made of the articles and their purchasers; and when they had all paid, he commanded every one to bring back the article he had bought.

Finding that because of his imposts the citizens were ceasing to rear sheep and cattle, he made proclamation that he needed no more money until a certain <date>; so that those who now became possessed of any stock would not be liable to taxation. A large number of citizens lost no time in acquiring a quantity of sheep and cattle, on the understanding that they would be free of impost. But Dionysius, when he thought the fitting time was come, had them all valued and imposed a tax. The citizens were angry at being thus deceived, and proceeded to kill and sell their beasts. On Dionysius's making a decree that only such beasts should be slain as were needed each day, the owners retorted by offering their animals as sacrifices; whereupon the despot forbade the sacrifice of female beasts.

Once more funds were lacking, and Dionysius ordered a list to be made for him of all houses whose heirs were orphan. Having obtained a complete list, he made use of the orphans' property until each should come of age.

After the capture of Rhegium, he summoned a meeting of the citizens, and told them why he had a good right to sell them as slaves. 20 If, however, they would pay him the expenses of the war and three minae a head besides, he would release them. The people of Rhegium brought forth all their hoards; the poor borrowed from the wealthier and from the foreigners resident in the city; and so the amount demanded was paid. But though he received this money from them, none the less he sold them all for slaves, having succeeded <by his trick> in bringing to light the hoarded goods which they had previously concealed.

On another occasion he had borrowed money from the citizens, promising to repay it. On their demanding its return, he bade each bring him, under pain of death, whatever silver he possessed. This silver when brought he coined into drachmae each bearing the face value of two: with these he repaid the <previous> debt and also what had just been brought in.

He also made a raid on Tyrrhenia with a hundred ships, and rifled the temple of Leucothea of a large amount of gold and silver, besides a quantity of works of art. But being aware that his sailors too had taken much plunder, [1350a] 1 he made proclamation that each should bring him, under pain of death, one-half of what he had; the remainder of their takings they might keep. On the understanding that if they brought in half their plunder they would retain the rest in security, they obeyed. But when Dionysius had got the treasure into his hands, he commanded them to bring him the other half as well.

The people of Mende used to meet the expenses of administration from harbor and other duties, but refrained from collecting the imposts on land and on houses. They kept, however, a register of the owners, and when the state was in need of funds, they collected the arrears. Meanwhile the owners had the advantage of trafficking with their whole property undiminished by any payment of percentages.

The same city being at war with Olynthus and needing funds, passed a resolution that all the slaves they possessed, with the exception of one male and one female apiece, should be sold on behalf of the State, which was thus enabled to raise a loan from private citizens.

Callistratus, when in Macedonia, caused the harbor-dues, which were usually sold for twenty talents, to produce twice as much. For noticing that only the wealthier men were accustomed to buy them because the sureties for the twenty talents were obliged to show talent for talent, 20 he issued a proclamation that anyone might buy the dues on furnishing securities for one-third of the amount, or as much more as could be procured in each case.

Timotheus of Athens during his campaign against Olynthus was short of silver, and issued to his men a copper coinage instead. On their complaining, he told them that all the merchants and retailers would accept it in lieu of silver. But the merchants he instructed to buy in turn with the copper they received such produce of the land as was for sale, as well as any booty brought to them; such copper as remained on their hands he would exchange for silver.

During the campaign of Corcyra this same Timotheus was reduced to sore straits. His men demanded their pay; refused to obey his orders; and declared they would desert to the enemy. Accordingly he summoned a meeting and told them that the stormy weather was delaying the arrival of the silver he expected; meanwhile, as he had on hand such abundance of provisions, he would charge them nothing for the three months' ration of grain already advanced. [1350b] 1 The men, unable to believe that Timotheus would have sacrificed so large a sum to them unless he was in truth expecting the money, made no further claim for pay until he had completed his dispositions.

At the siege of Samos, Timotheus sold the crops and other country property to the besieged Samians themselves, and thus obtained plenty of money to pay his men. But finding the camp was short of provisions owing to the arrival of reinforcements, he forbade the sale of milled corn, or of any measure less than 1 1/2 bushels of corn or 8 1/2 gallons of wine or oil. Accordingly the officers bought supplies wholesale and issued them to their men; the reinforcements thenceforth brought their own provisions, and sold any surplus on their departure. In this way the needs of the soldiers were satisfactorily met.

Didales the Persian was able to provide for the daily needs of his mercenaries from the enemy's country; but had no coined money to give them. When their pay became due, and they demanded it, he had recourse to the following trick. 20 He called a meeting, and told the men that he had plenty of money, but that it was stored in a certain fortress, which he named. He then broke up his encampment and marched in that direction. On reaching the neighborhood of the fortress, he himself went on ahead, and entering the place seized all the silver vessels in the temples. He then loaded his mules in such a way that this plate was exposed, thus suggesting that silver formed the entire load; and so continued his march. The soldiers, beholding the plate and supposing that they convoyed a full load of silver, were cheered by the expectation of their pay. They were informed however by Didales that they would have to take it to Amisus to be coined — a journey of many days, and in the winter season. And during all this time, he continued to employ the army without giving it more than its necessary rations.

Moreover, all the craftsmen in the army, and the hucksters who traded with the soldiers by barter, were under his personal control, and enjoyed a complete monopoly.

When Taos, king of Egypt, needed funds for an expedition he was making, Chabrias of Athens advised him to inform the priests that to save expense it was necessary to suppress some of the temples together with the majority of the attendant priests. [1351a] 1 On hearing this, each priesthood, being anxious to retain their own temple, offered him money from their private possessions <as well as from the temple funds>. When the king had thus received money from them all, Chabrias bade him tell the priests to spend on the temple-service and on their own maintenance one-tenth of what they formerly spent, and lend him the remainder until he had made peace with the King <of Persia>.

Moreover, each inhabitant was to contribute a stated proportion of his household and personal possessions; and when grain was sold, buyer and seller were each to contribute, apart from the price, one obol per artabe; while a tax of one tenth was to be imposed on profits arising from ships and workshops and other sources of gain.

Again, when Taos was on the point of setting out from Egypt, Chabrias advised him to make requisition of all uncoined gold and silver in the possession of the inhabitants; and when most of them complied, he bade the king make use of the bullion, and refer the lenders to the governors of his provinces for compensation out of the taxes.

Iphicrates of Athens provided Cotys with money for a force which he had collected in the following manner. 20 He bade him order <each> of his subjects to sow for him a piece of land bearing 4 1/2 bushels. A large quantity of grain was thus gathered, from the price of which, when brought to the depots on the coast, the king obtained as much money as he wanted.

Cotys of Thrace asked the people of Peirinthus for a loan to enable him to raise an army. On their refusing, he begged them at any rate to let him have some of their citizens to garrison certain fortresses, and release for active service the men who were there on duty. They readily complied, thinking thus to obtain control of the fortresses. But Cotys placed in custody the men they sent, and told the citizens that they might have them back when they had sent him the amount of the loan he desired.

Mentor of Rhodes, after taking Hermias prisoner and seizing his fortresses, left in their various districts the officials appointed by him. By this means he restored their confidence, so that they all took again to themselves the property they had hidden or had sent secretly out of the country. Then Mentor arrested them and stripped them of all they had. [1351b] 1

Memnon of Rhodes, on making himself master of Lampsacus, found he was in need of funds. He therefore assessed upon the wealthiest inhabitants a quantity of silver, telling them that they should recover it from the other citizens. But when the other citizens made their contributions, Memnon said they must lend him this money also, fixing a certain date for its repayment.

Again being in need of funds, he asked for a contribution, to be recovered, as he said, from the city revenues. The citizens complied, thinking that they would speedily reimburse themselves. But when the revenue payments came in, he declared that he must have these also, and would repay the lenders subsequently with interest.

His mercenary troops he requested to forgo six days' pay and rations each year, on the plea that on those days they were neither on garrison duty nor on the march nor did they incur any expense. (He referred to the days omitted from alternate months.)

Moreover, being accustomed previously to issue his men's rations of corn on the second day of the month, in the first month he postponed the distribution for three days, and in the second month for five; proceeding in this fashion until at length it took place on the last day of the month.

Charidemus of Oreus, being in occupation of certain fortress-towns in Aeolis, 20 and threatened with an attack by Artabazus, was in need of money to pay his troops. After their first contributions, the inhabitants declared they had no more to give. Charidemus then issued a proclamation to the town he deemed wealthiest, bidding the inhabitants send away to another fortress all the coin and valuables they possessed, under convoy which he would provide. He himself openly set the example with his own goods, and prevailed on them to comply. But when he had conducted them a little way out of the town, he made an inventory of their goods, took all he wanted, and led them home again.

He had also issued a proclamation in the cities he governed forbidding anyone to keep arms in his house, under pain of a stated fine. At first, however, he took no care to enforce it, nor did he make any inquisition; so that the people treated his proclamation as nugatory, and made no attempt to get rid of what arms each possessed. Then Charidemus unexpectedly ordered a search to be made from house to house, and exacted the penalty from those who were found in possession of arms.

A Macedonian named Philoxenus, who was governor of Caria, being in need of funds proclaimed that he intended to celebrate the festival of Dionysus. [1352a] 1 The wealthiest inhabitants were selected to provide the choruses, and were informed what they were expected to furnish. Noticing their disinclination, Philoxenus sent to them privately and asked what they would give to be relieved of the duty. They told him they were prepared to pay a much larger sum than they expected to spend <on the choruses> in order to avoid the trouble and the interruption of their business. Philoxenus accepted their offers, and proceeded to enrol a second levy. These also paid; and at last he received what he desired from each company.

Euaises the Syrian, when governor of Egypt, received information that the local governors were meditating rebellion. He therefore summoned them to the palace and proceeded to hang them all, sending word to their relations that they were in prison. These accordingly made offers, each on behalf of his own kinsman, seeking by payment to secure their release. Euaises agreed to accept a certain sum for each, and when it had been paid returned to the relations the dead body.

While Cleomenes of Alexandria was governor of Egypt, at a time when there was some scarcity in the land, but elsewhere a grievous famine, he forbade the export of grain. On the local governors representing 20 that if there were no export of grain they would be unable to pay in their taxes, he allowed the export, but laid a heavy duty on the corn. By this means he obtained a large amount of duty from a small amount of export, and at the same time deprived the officials of their excuse.

When Cleomenes was making a progress by water through the province where the crocodile is worshipped, one of his servants was carried off. Accordingly, summoning the priests, he told them that he intended to retaliate on the crocodiles for this unprovoked aggression; and gave orders for a battue. The priests, to save the credit of their god, collected all the gold they could, and succeeded in putting an end to the pursuit.

King Alexander had given Cleomenes command to establish a town near the island of Pharus, and to transfer thither the market hitherto held at Canopus. Sailing therefore to Canopus he informed the priests and the men of property there that he was come to remove them. The priests and residents thereupon contributed money to induce him to leave their market where it was. He took what they offered, and departed; but afterwards returned, when all was ready to build the town, [1352b] 1 and proceeded to demand an excessive sum; which represented, he said, the difference the change of site would make to him. They however declared themselves unable to pay it, and were accordingly removed.

On another occasion he sent an agent to make a certain purchase for him. Learning that the agent had made a good bargain, but intended to charge him a high price, he proceeded to inform the man's associates that he had been told he had purchased the goods at an excessive price, and that therefore he did not intend to recognize the transaction; denouncing at the same time with feigned anger the fellow's stupidity. They on hearing this asked him not to believe what was said against the agent until he himself arrived and rendered his account. On the man's arrival, his associates told him what Cleomenes had said. He, desirous of winning their approval as well as that of Cleomenes, debited the latter with the actual price he had given.

At a time when the price of grain in Egypt was ten drachmae <a measure> , Cleomenes sent for the growers and asked them at what price they would contract to supply him with their produce. On their quoting a price lower than what they were charging the merchants, he offered them the full price they were accustomed to receive from others; and taking over the entire supply, 20 sold it at a fixed rate of thirty-two drachmae <for the same measure>.

He also sent for the priests, and told them that the expenditure on the temples was very unevenly distributed in the country; and that some of these, together with the majority of the attendant priests, must accordingly be suppressed. The priests, supposing him to be in earnest, and wishing each to secure the continuance of his own temple and office, gave him money individually from their private possessions as well as collectively from the temple funds.

Antimenes of Rhodes, who was appointed by Alexander superintendent of highways in the province of Babylon, adopted the following means of raising funds. An ancient law of the country imposed a tax of one-tenth on all imports; but this had fallen into total abeyance. Antimenes kept a watch for all governors and soldiers whose arrival was expected, and upon the many ambassadors and craftsmen who were invited to the city, but brought with them others who dwelt there unofficially; and also upon the multitude of presents that were brought <to these persons> , on which he exacted the legal tax of a tenth.

Another expedient was this. He invited the owners of any slaves in the camp to register them at whatever value they desired, undertaking at the same time to pay him eight drachmae a year. If the slave ran away, the owner was to recover the registered value. [1353a] 1 Many slaves were thus registered, and a large sum of money was paid <in premiums>. And when a slave ran away, Antimenes instructed the governor of the <province> where the camp lay either to recover the man or to pay his master his value.

Ophellas of Olynthus appointed an officer to superintend the revenues of the Province of Athribis. The local governors came to him, and told him they were willing to pay a much larger amount in taxes; but asked him to remove the present superintendent. Ophellas inquired if they were really able to pay what they promised; and on their assuring him that they were, left the superintendent in office and instructed him to demand from them the amount of tax which they themselves had assessed. And so, without being chargeable either with discountenancing the officer he had appointed, or with taxing the governors beyond their own estimate, he obtained from the latter many times his previous revenue.

Pythocles the Athenian recommended his fellow-countrymen that the State should take over from private citizens the lead obtained from the mines of Laurium at the price of two drachmae <per talent> which they were asking, and should itself sell it at the fixed price of six drachmae.

Chabrias had levied crews for 20 a hundred and twenty ships to serve King Taos. Finding that Taos needed only sixty ships, he gave the crews of the superfluous sixty their choice between providing those who were to serve with two months’ rations, and themselves taking their place. Desiring to remain at their business, they gave what he demanded.

Antimenes bade the governors of the provinces replenish, in accordance with the law of the country, the magazines along the royal highways. Whenever an army passed through the country or any other body of men unaccompanied by the king, he sent an officer to sell them the contents of the magazines. [1353b] 1

Cleomenes, as the beginning of the month approached when his soldiers’ allowance became due, deliberately sailed away down the river; and not till the month was advanced did he return and distribute the allowance. For the coming month, he omitted the distribution altogether until the following month began. Thus the men were quieted by the recent distribution, and Cleomenes, passing over a month each year, docked his troops of a month's pay.

Stabelbius, king of the Mysians, lacking pay to give his troops, summoned a meeting of the officers, and declared that he no longer needed the private soldiers, but only the officers. When he required troops, he would entrust a sum of money to each officer and send him to collect mercenaries; but that meanwhile he preferred to give the officers the pay he would otherwise have to give the men. Accordingly he bade each dismiss the men who were on his own muster-roll. The officers, scenting a source of gain for themselves, dismissed their men, as they were bidden. Shortly afterwards, Stabelbius called them together and informed them that a conductor without his chorus and an officer without his men were alike useless; wherefore let them depart from his country. 20

When Dionysius was making a tour of the temples, wherever he saw a gold or silver table set, he bade them fill a cup "in honor of the good spirit," and then had the table carried away. Wherever, again, he saw a precious bowl set before one of the images, he would order its removal, with the words" I accept it." He also stripped the images of their golden raiment and garlands, and declaring he would give them lighter and more fragrant wear, arrayed them in robes of white <linen> and garlands of white socks.

BOOK III

1 A good wife should be the mistress of her home, having under her care all that is within it, according to the rules we have laid down. She should allow none to enter without her husband's knowledge, dreading above all things the gossip of gadding women, which tends to poison the soul. She alone should have knowledge of what happens within, whilst if any harm is wrought by those from without, her husband will bear the blame. She must exercise control of the money spent on such festivities as her husband has approved, keeping, moreover, within the limit set by law upon expenditure, dress, and ornament; 10 and remembering that beauty depends not on costliness of raiment, nor does abundance of gold so conduce to the praise of a woman as self-control in all that she does, and her inclination towards an honorable and well-ordered life. For such adornment of the soul as this is in truth ever a thing to be envied, and a far surer warrant for the payment, to the woman herself in her old age and to her children after her, of the due meed of praise.

This, then, is the province over which a woman should be minded to bear an orderly rule; for it seems not fitting that a man should know all that passes within the house. But in all other matters, let it be her aim to obey her husband; giving no heed to public affairs, nor desiring any part in arranging the marriages of her children. 20 Rather, when the time shall come to give or receive in marriage sons or daughters, let her even then hearken to her husband in all respects, and agreeing with him obey his behest; considering that it is less unseemly for him to deal with a matter within the house than it is for her to pry into those outside its walls. Nay, it is fitting that a woman of well-ordered life should consider that her husband's uses are as laws appointed for her own life by divine will, along with the marriage state and the fortune she shares. If she endures them with patience and gentleness, she will rule her home with ease; otherwise, not so easily. Wherefore not only when her husband is in prosperity 30 and good report does it beseem her to be in modest agreement with him, and to render him the service he wills, but also in times of adversity. If, through sickness or fault of judgement, his good fortune fails, then must she show her quality, encouraging him ever with words of cheer and yielding him obedience in all fitting ways; only let her do nothing base or unworthy of herself, or remember any wrong her husband may have done her through distress of mind. Let her refrain from all complaint, nor charge him with the wrong, but rather attribute everything of this kind to sickness or ignorance or accidental errors. For the more sedulous her service herein, the fuller will be his gratitude 40 when he is restored, and freed from his trouble; and if she has failed to obey him when he commanded aught that is amiss, the deeper will be his recognition <of her loyalty> when health returns. Wherefore, whilst careful to avoid such <misplaced obedience>, in other respects she will serve him more assiduously than if she had been a bondwoman bought and taken home. For he has indeed bought her with a great price — with partnership in his life and in the procreation of children; than which things nought could be greater or more divine. And besides all this, the wife who had only lived in company with a fortunate husband would not have had the like opportunity to show her true quality. For though there be no small merit in a right and noble use of prosperity, still the right endurance of adversity justly receives an honor greater by far. 50 For only a great soul can live in the midst of trouble and wrong without itself committing any base act. And so, while praying that her husband may be spared adversity, if trouble should come it beseems the wife to consider that here a good woman wins her highest praise. Let her bethink herself how Alcestis would never have attained such renown nor Penelope have deserved all the high praises bestowed on her had not their husbands known adversity; whereas the troubles of Admetus and Ulysses have obtained for their wives a reputation that shall never die. For because in time of distress they proved themselves faithful and dutiful to their husbands, the gods have bestowed on them the honor they deserved. To find partners in prosperity is easy enough; 60 but only the best women are ready to share in adversity. For all these reasons it is fitting that a woman should <in time of adversity> pay her husband an honor greater by far, nor feel shame on his account even when, as Orpheus says,”Holy health of soul, and wealth, the child of a brave spirit, companion him no more.” 2

Such then is the pattern of the rules and ways of living which a good wife will observe. And the rules which a good husband will follow in treatment of his wife will be similar; seeing that she has entered his home like a suppliant from without, and is pledged to be the partner of his life and parenthood; and that the offspring she leaves behind her will bear the names of their parents, her name as well as his. And what could be more divine than this, or more desired by a man of sound mind, 70 than to beget by a noble and honored wife children who shall be the most loyal supporters and discreet guardians of their parents in old age, and the preservers of the whole house? Rightly reared by father and mother, children will grow up virtuous, as those who have treated them piously and righteously deserve that they should; but <parents> who observe not these precepts will be losers thereby. For unless parents have given their children an example how to live, the children in their turn will be able to offer a fair and specious excuse <for undutifulness>. Such parents will risk being rejected by their offspring for their evil lives, and thus bringing destruction upon their own heads.

Wherefore his wife's training should be the object of a man's unstinting care; 80 that so far as is possible their children may spring from the noblest of stock. For the tiller of the soil spares no pains to sow his seed in the most fertile and best cultivated land, looking thus to obtain the fairest fruits; and to save it from devastation is ready, if such be his lot, to fall in conflict with his foes; a death which men crown with the highest of praise. Seeing, then, that such care is lavished on the body's food, surely every care should be taken on behalf of our own children's mother and nurse, in whom is implanted the seed from which there springs a living soul. For it is only by this means that each mortal, successively produced, participates in immortality; and that petitions and prayers continue to be offered to ancestral gods. 90 So that he who thinks lightly of this would seem also to be slighting the gods. For their sake then, in whose presence he offered sacrifice and led his wife home, promising to honor her far above all others saving his parents, <a man must have care for wife and children>.

Now a virtuous wife is best honored when she sees that her husband is faithful to her, and has no preference for another woman; but before all others loves and trusts her and holds her as his own. And so much the more will the woman seek to be what he accounts her. If she perceives that her husband's affection for her is faithful and righteous, she too will be faithful and righteous towards him. 100 Wherefore a man of sound mind ought not to forget what honors are proper to his parents or what fittingly belong to his wife and children; so that rendering to each and all their own, he may obey the law of men and of gods. For the deprivation we feel most of all is that of the special honor which is our due; nor will abundant gifts of what belongs to others be welcome to him who is dispossessed of his own. Now to a wife nothing is of more value, nothing more rightfully her own, than honored and faithful partnership with her husband. Wherefore it befits not a man of sound mind to bestow his person promiscuously, or have random intercourse with women; for otherwise the base-born will share in the rights of his lawful children, 110 and his wife will be robbed of her honor due, and shame be attached to his sons. 3

To all these matters, therefore, a man should give heed. And it is fitting that he should approach his wife in honorable wise, full of self-restraint and awe; and in his conversation with her, should use only the words of a right-minded man, suggesting only such acts as are themselves lawful and honorable; treating her with much self-restraint and trust, and passing over any trivial or unintentional errors she has committed. And if through ignorance she has done wrong, he should advise her of it without threatening, in a courteous and modest manner. Indifference <to her faults> and harsh reproof <of them>, he must alike avoid. Between a courtesan and her lover, such tempers are allowed their course; 120 between a free woman and her lawful spouse there should be a reverent and modest mingling of love and fear. For of fear there are two kinds. The fear which virtuous and honorable sons feel towards their fathers, and loyal citizens towards right-minded rulers, has for its companions reverence and modesty; but the other kind, felt by slaves for masters and by subjects for despots who treat them with injustice and wrong, is associated with hostility and hatred.

By choosing the better of all these alternatives a husband should secure the agreement, loyalty, and devotion of his wife, so that whether he himself is present or not, there may be no difference in her attitude towards him, since she realizes that they are alike guardians of the common interests; and so when he is away she may feel that to her no man is kinder 130 or more virtuous or more truly hers than her own husband.And <a good wife> will make this manifest from the beginning by her unfailing regard for the common welfare, novice though she be in such matters. And if the husband learns first to master himself, he will thereby become his wife’s best guide in all the affairs of life, and will teach her to follow his example. For Homer pays no honor either to affection or to fear apart from the shame or modesty that shrinks from evil. Everywhere he bids affection be coupled with self-control and shame; whilst the fear he commends is such as Helen owns when she thus addresses Priam: “Beloved sire of my lord, it is fitting that I fear thee and dread thee and revere”; meaning that her love for him is mingled with fear and modest shame. And again, Ulysses speaks to Nausicaa in this manner: 140 “Thou, lady, dost fill me with wonder and with fear.” For Homer believes that this is the feeling of a <good> husband and wife for one another, and that if they so feel, it will be well with them both. For none ever loves or admires or fears in this shamefaced way one of baser character; but such are the feelings towards one another of nobler souls and those by nature good; or of the inferior toward those they know to be their betters. Feeling thus toward Penelope, Ulysses remained faithful to her in his wanderings; whereas Agamemnon did wrong to his wife for the sake of Chryseis, declaring in open assembly that a base captive woman, and of alien race besides, was in no wise inferior to Clytemnestra in womanly excellence. 150 This was ill spoken of the mother of his children; nor was his connection with the other a righteous one. How could it be, when he had but recently compelled her to be his concubine, and before he had any experience of her behavior to him? Ulysses on the other hand, when the daughter of Atlas besought him to share her bed and board, and promised him immortality and everlasting happiness, could not bring himself even for the sake of immortality to betray the kindness and love and loyalty of his wife, deeming immortality purchased by unrighteousness to be the worst of all punishments. For it was only to save his comrades that he yielded his person to Circe; and in answer to her he even declared that in his eyes nothing could be more lovely than his native isle, rugged though it were; 160 and prayed that he might die, if only he might look upon his mortal wife and son. So firmly did he keep troth with his wife; and received in return from her the like loyalty. 4

Once again, in the words addressed by Ulysses to Nausicaa the poet makes clear the great honor in which he holds the virtuous companionship of man and wife in marriage. There he prays the gods to grant her a husband and a home; and between herself and her husband, precious unity of mind; provided that such unity be for righteous ends. For, says he, there is no greater blessing on earth than when husband and wife rule their home in harmony of mind and will. Moreover it is evident from this that the unity which the poet commends 170 is no mutual subservience in each other’s vices, but one that is rightfully allied with wisdom and understanding; for this is the meaning of the words “rule the house in <harmony of> mind.” And he goes on to say that wherever such a love is found between man and wife, it is a cause of sore distress to those who hate them and of delight to those that love them; while the truth of his words is most of all acknowledged by the happy pair. For when wife and husband are agreed about the best things in life, of necessity the friends of each will also be mutually agreed; and the strength which the pair gain from their unity will make them formidable to their enemies and helpful to their own. But when discord reigns between them, their friends too will disagree and become in consequence enfeebled, while the pair themselves will suffer most of all. 180

In all these precepts it is clear that the poet is teaching husband and wife to dissuade one another from whatever is evil and dishonorable, while unselfishly furthering to the best of their power one another’s honorable and righteous aims. In the first place they will strive to perform all duty towards their parents, the husband towards those of his wife no less than towards his own, and she in her turn towards his. Their next duties are towards their children, their friends, their estate, and their entire household which they will treat as a common possession; each vying with the other in the effort to contribute most to the common welfare, and to excel in virtue and righteousness; laying aside arrogance, and ruling with justice in a kindly and unassuming spirit. 190 And so at length, when they reach old age, and are freed from the duty of providing for others and from preoccupation with the pleasures and desires of youth, they will be able to give answer also to their children, if question arise whether child or parent has contributed more good things to the common household store; and will be well assured that whatsoever of evil has befallen them is due to fortune, and whatsoever of good, to their own virtue. One who comes victorious through such question wins from heaven, as Pindar says, his chiefest reward; for “hope, and a soul filled with fair thoughts are supreme in the manifold mind of mortals” ; and next, from his children the good fortune of being sustained by them in his old age. And therefore it behoves us to preserve throughout our lives a righteous attitude towards all gods and mortal men, to each individually, and to all in common; 200 and not least towards our own wives and children and parents.

RHETORIC AND POETICS

The Pnyx, a hill in central Athens, where the Athenians gathered to host their popular assemblies, making it one of the earliest and most important sites in the creation of democracy.

Rhetoric (1354a)

Translated by W. Rhys Roberts

The Ῥητορική is a treatise on the art of persuasion. Aristotle is generally credited with developing the basics of a system of rhetoric that influenced the development of rhetorical theory from ancient to modern times. The *Rhetoric* is regarded by most rhetoricians as the most important work on persuasion ever written. Like other works of Aristotle, the extant text is a collection of students' notes in response to his lectures. The treatise shows the development of Aristotle's thought through two different periods when he was staying in Athens, illustrating Aristotle's expansion of the study of rhetoric beyond Plato's early criticism of the subject in the *Gorgias*.

The study of rhetoric was contested in classical Greece: on the one side were the Sophists, and on the other side were Socrates, Plato and Aristotle. The trio saw rhetoric and poetry as tools that were too often used to manipulate others by manipulating emotion and omitting facts. They particularly accused the sophists, including Gorgias and Isocrates, of this manipulation. Plato laid the blame for the arrest and the death of Socrates at the feet of sophistical rhetoric. In stark contrast to the emotional rhetoric and poetry of the sophists was a rhetoric grounded in philosophy and the pursuit of enlightenment. One of the most important contributions of Aristotle's approach was that he identified rhetoric as one of the three key elements — along with logic and dialectic — of philosophy. Indeed, the first line of the Rhetoric is "Rhetoric is a counterpart (antistrophe) of dialectic." According to Aristotle, logic is concerned with reasoning to reach scientific certainty while dialectic and rhetoric are concerned with probability and, thus, are the branches of philosophy that are best suited to human affairs. Dialectic is a tool for philosophical debate: a means for skilled audiences to test probable knowledge in order to learn. Conversely, rhetoric is a tool for practical debate; it is a means for persuading a general audience using probable knowledge to resolve practical issues. Dialectic and rhetoric create a partnership for a system of persuasion based on knowledge instead of upon manipulation and omission.

The *Rhetoric* consists of three books. Book I offers a general overview, presenting the purposes of rhetoric and a working definition. The first Book also offers a detailed discussion of the major contexts and types of rhetoric. Book II discusses in detail the three means of persuasion that an orator must rely on: those grounded in credibility (*ethos*), in the emotions and psychology of the audience (*pathos*), and in patterns of reasoning (*logos*). Book III introduces the elements of style (word choice, metaphor, and sentence structure) and arrangement (*organisation*). Some attention is paid to delivery of speech, but the *Poetics* offers more information on this aspect.

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Book I

1

RHETORIC the counterpart of Dialectic. Both alike are concerned with such things as come, more or less, within the general ken of all men and belong to no definite science. Accordingly all men make use, more or less, of both; for to a certain extent all men attempt to discuss statements and to maintain them, to defend themselves and to attack others. Ordinary people do this either at random or through practice and from acquired habit. Both ways being possible, the subject can plainly be handled systematically, for it is possible to inquire the reason why some speakers succeed through practice and others spontaneously; and every one will at once agree that such an inquiry is the function of an art.

Now, the framers of the current treatises on rhetoric have constructed but a small portion of that art. The modes of persuasion are the only true constituents of the art: everything else is merely accessory. These writers, however, say nothing about enthymemes, which are the substance of rhetorical persuasion, but deal mainly with non-essentials. The arousing of prejudice, pity, anger, and similar emotions has nothing to do with the essential facts, but is merely a personal appeal to the man who is judging the case. Consequently if the rules for trials which are now laid down some states-especially in well-governed states-were applied everywhere, such people would have nothing to say. All men, no doubt, think that the laws should prescribe such rules, but some, as in the court of Areopagus, give practical effect to their thoughts and forbid talk about non-essentials. This is sound law and custom. It is not right to pervert the judge by moving him to anger or envy or pity-one might as well warp a carpenter’s rule before using it. Again, a litigant has clearly nothing to do but to show that the alleged fact is so or is not so, that it has or has not happened. As to whether a thing is important or unimportant, just or unjust, the judge must surely refuse to take his instructions from the litigants: he must decide for himself all such points as the law-giver has not already defined for him.

Now, it is of great moment that well-drawn laws should themselves define all the points they possibly can and leave as few as may be to the decision of the judges; and this for several reasons. First, to find one man, or a few men, who are sensible persons and capable of legislating and administering justice is easier than to find a large number. Next, laws are made after long consideration, whereas decisions in the courts are given at short notice, which makes it hard for those who try the case to satisfy the claims of justice and expediency. The weightiest reason of all is that the decision of the lawgiver is not particular but prospective and general, whereas members of the assembly and the jury find it their duty to decide on definite cases brought before them. They will often have allowed themselves to be so much influenced by feelings of friendship or hatred or self-interest that they lose any clear vision of the truth and have their judgement obscured by considerations of personal pleasure or pain. In general, then, the judge should, we say, be allowed to decide as few things as possible. But questions as to whether something has happened or has not happened, will be or will not be, is or is not, must of necessity be left to the judge, since the lawgiver cannot foresee them. If this is so, it is evident that any one who lays down rules about other matters, such as what must be the contents of the 'introduction' or the 'narration' or any of the other divisions of a speech, is theorizing about non-essentials as if they belonged to the art. The only question with which these writers here deal is how to put the judge into a given frame of mind. About the orator's proper modes of persuasion they have nothing to tell us; nothing, that is, about how to gain skill in enthymemes.

Hence it comes that, although the same systematic principles apply to political as to forensic oratory, and although the former is a nobler business, and fitter for a citizen, than that which concerns the relations of private individuals, these authors say nothing about political oratory, but try, one and all, to write treatises on the way to plead in court. The reason for this is that in political oratory there is less inducement to talk about nonessentials. Political oratory is less given to unscrupulous practices than forensic, because it treats of wider issues. In a political debate the man who is forming a judgement is making a decision about his own vital interests. There is no need, therefore, to prove anything except that the facts are what the supporter of a measure maintains they are. In forensic oratory this is not enough; to conciliate the listener is what pays here. It is other people's affairs that are to be decided, so that the judges, intent on their own satisfaction and listening with partiality, surrender themselves to the disputants instead of judging between them. Hence in many places, as we have said already, irrelevant speaking is forbidden in the law-courts: in the public assembly those who have to form a judgement are themselves well able to guard against that.

It is clear, then, that rhetorical study, in its strict sense, is concerned with the modes of persuasion. Persuasion is clearly a sort of demonstration, since we are most fully persuaded when we consider a thing to have been demonstrated. The orator's demonstration is an enthymeme, and this is, in general, the most effective of the modes of persuasion. The enthymeme is a sort of syllogism, and the consideration of syllogisms of all kinds, without distinction, is the business of dialectic, either of dialectic as a whole or of one of its branches. It follows plainly, therefore, that he who is best able to see how and from what elements a syllogism is produced will also be best skilled in the enthymeme, when he has further learnt what its subject-matter is and in what respects it differs from the syllogism of strict logic. The true and the approximately true are apprehended by the same faculty; it may also be noted that men have a sufficient natural instinct for what is true, and usually do arrive at the truth. Hence the man who makes a good guess at truth is likely to make a good guess at probabilities.

It has now been shown that the ordinary writers on rhetoric treat of non-essentials; it has also been shown why they have inclined more towards the forensic branch of oratory.

Rhetoric is useful (1) because things that are true and things that are just have a natural tendency to prevail over their opposites, so that if the decisions of judges are not what they ought to be, the defeat must be due to the speakers themselves, and they must be blamed accordingly. Moreover, (2) before some audiences not even the possession of the exactest knowledge will make it easy for what we say to produce conviction. For argument based on knowledge implies instruction, and there are people whom one cannot instruct. Here, then, we must use, as our modes of persuasion and argument, notions possessed by everybody, as we observed in the Topics when dealing with the way to handle a popular audience. Further, (3) we must be able to employ persuasion, just as strict reasoning can be employed, on opposite sides of a question, not in order that we may in practice employ it in both ways (for we must not make people believe what is wrong), but in order that we may see clearly what the facts are, and that, if another man argues unfairly, we on our part may be able to confute him. No other of the arts draws opposite conclusions: dialectic and rhetoric alone do this. Both these arts draw opposite conclusions impartially. Nevertheless, the underlying facts do not lend themselves equally well to the contrary views. No; things that are true and things that are better are, by their nature, practically always easier to prove and easier to believe in. Again, (4) it is absurd to hold that a man ought to be ashamed of being unable to defend himself with his limbs, but not of being unable to defend himself with speech and reason, when the use of rational speech is more distinctive of a human being than the use of his limbs. And if it be objected that one who uses such power of speech unjustly might do great harm, that is a charge which may be made in common against all good things except virtue, and above all against the things that are most useful, as strength, health, wealth, generalship. A man can confer the greatest of benefits by a right use of these, and inflict the greatest of injuries by using them wrongly.

It is clear, then, that rhetoric is not bound up with a single definite class of subjects, but is as universal as dialectic; it is clear, also, that it is useful. It is clear, further, that its function is not simply to succeed in persuading, but rather to discover the means of coming as near such success as the circumstances of each particular case allow. In this it resembles all other arts. For example, it is not the function of medicine simply to make a man quite healthy, but to put him as far as may be on the road to health; it is possible to give excellent treatment even to those who can never enjoy sound health. Furthermore, it is plain that it is the function of one and the same art to discern the real and the apparent means of persuasion, just as it is the function of dialectic to discern the real and the apparent syllogism. What makes a man a ‘sophist’ is not his faculty, but his moral purpose. In rhetoric, however, the term ‘rhetorician’ may describe either the speaker’s knowledge of the art, or his moral purpose. In dialectic it is different: a man is a ‘sophist’ because he has a certain kind of moral purpose, a ‘dialectician’ in respect, not of his moral purpose, but of his faculty.

Let us now try to give some account of the systematic principles of Rhetoric itself-of the right method and means of succeeding in the object we set before us. We must make as it were a fresh start, and before going further define what rhetoric is.

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Rhetoric may be defined as the faculty of observing in any given case the available means of persuasion. This is not a function of any other art. Every other art can instruct or persuade about its own particular subject-matter; for instance, medicine about what is healthy and unhealthy, geometry about the properties of magnitudes, arithmetic about numbers, and the same is true of the other arts and sciences. But rhetoric we look upon as the power of observing the means of persuasion on almost any subject presented to us; and that is why we say that, in its technical character, it is not concerned with any special or definite class of subjects.

Of the modes of persuasion some belong strictly to the art of rhetoric and some do not. By the latter I mean such things as are not supplied by the speaker but are there at the outset-witnesses, evidence given under torture, written contracts, and so on. By the former I mean such as we can ourselves construct by means of the principles of rhetoric. The one kind has merely to be used, the other has to be invented.

Of the modes of persuasion furnished by the spoken word there are three kinds. The first kind depends on the personal character of the speaker; the second on putting the audience into a certain frame of mind; the third on the proof, or apparent proof, provided by the words of the speech itself. Persuasion is achieved by the speaker’s personal character when the speech is so spoken as to make us think him credible. We believe good men more fully and more readily than others: this is true generally whatever the question is, and absolutely true where exact certainty is impossible and opinions are divided. This kind of persuasion, like the others, should be achieved by what the speaker says, not by what people think of his character before he begins to speak. It is not true, as some writers assume in their treatises on rhetoric, that the personal goodness revealed by the speaker contributes nothing to his power of persuasion; on the contrary, his character may almost be called the most effective means of persuasion he possesses. Secondly, persuasion may come through the hearers, when the speech stirs their emotions. Our judgements when we are pleased and friendly are not the same as when we are pained and hostile. It is towards producing these effects, as we maintain, that present-day writers on rhetoric direct the whole of their efforts. This subject shall be treated in detail when we come to speak of the emotions. Thirdly, persuasion is effected through the speech itself when we have proved a truth or an apparent truth by means of the persuasive arguments suitable to the case in question.

There are, then, these three means of effecting persuasion. The man who is to be in command of them must, it is clear, be able (1) to reason logically, (2) to understand human character and goodness in their various forms, and (3) to understand the emotions-that is, to name them and describe them, to know their causes and the way in which they are excited. It thus appears that rhetoric is an offshoot of dialectic and also of ethical studies. Ethical studies may fairly be called political; and for this reason rhetoric masquerades as political science, and the professors of it as political experts-sometimes from want of education, sometimes from ostentation, sometimes owing to other human failings. As a matter of fact, it is a branch of dialectic and similar to it, as we said at the outset. Neither rhetoric nor dialectic is the scientific study of any one separate subject: both are faculties for providing arguments. This is perhaps a sufficient account of their scope and of how they are related to each other.

With regard to the persuasion achieved by proof or apparent proof: just as in dialectic there is induction on the one hand and syllogism or apparent syllogism on the other, so it is in rhetoric. The example is an induction, the enthymeme is a syllogism, and the apparent enthymeme is an apparent syllogism. I call the enthymeme a rhetorical syllogism, and the example a rhetorical induction. Every one who effects persuasion through proof does in fact use either enthymemes or examples: there is no other way. And since every one who proves anything at all is bound to use either syllogisms or inductions (and this is clear to us from the Analytics), it must follow that enthymemes are syllogisms and examples are inductions. The difference between example and enthymeme is made plain by the passages in the Topics where induction and syllogism have already been discussed. When we base the proof of a proposition on a number of similar cases, this is induction in dialectic, example in rhetoric; when it is shown that, certain propositions being true, a further and quite distinct proposition must also be true in consequence, whether invariably or usually, this is called syllogism in dialectic, enthymeme in rhetoric. It is plain also that each of these types of oratory has its advantages. Types of oratory, I say: for what has been said in the Methodics applies equally well here; in some oratorical styles examples prevail, in others enthymemes; and in like manner, some orators are better at the former and some at the latter. Speeches that rely on examples are as persuasive as the other kind, but those which rely on enthymemes excite the louder applause. The sources of examples and enthymemes, and their proper uses, we will discuss later. Our next step is to define the processes themselves more clearly.

A statement is persuasive and credible either because it is directly self-evident or because it appears to be proved from other statements that are so. In either case it is persuasive because there is somebody whom it persuades. But none of the arts theorize about individual cases. Medicine, for instance, does not theorize about what will help to cure Socrates or Callias, but only about what will help to cure any or all of a given class of patients: this alone is business: individual cases are so infinitely various that no systematic knowledge of them is possible. In the same way the theory of rhetoric is concerned not with what seems probable to a given individual like Socrates or Hippias, but with what seems probable to men of a given type; and this is true of dialectic also. Dialectic does not construct its syllogisms out of any haphazard materials, such as the fancies of crazy people, but out of materials that call for discussion; and rhetoric, too, draws upon the regular subjects of debate. The duty of rhetoric is to deal with such matters as we deliberate upon without arts or systems to guide us, in the hearing of persons who cannot take in at a glance a complicated argument, or follow a long chain of reasoning. The subjects of our deliberation are such as seem to present us with alternative possibilities: about things that could not have been, and cannot now or in the future be, other than they are, nobody who takes them to be of this nature wastes his time in deliberation.

It is possible to form syllogisms and draw conclusions from the results of previous syllogisms; or, on the other hand, from premisses which have not been thus proved, and at the same time are so little accepted that they call for proof. Reasonings of the former kind will necessarily be hard to follow owing to their length, for we assume an audience of untrained thinkers; those of the latter kind will fail to win assent, because they are based on premisses that are not generally admitted or believed.

The enthymeme and the example must, then, deal with what is in the main contingent, the example being an induction, and the enthymeme a syllogism, about such matters. The enthymeme must consist of few propositions, fewer often than those which make up the normal syllogism. For if any of these propositions is a familiar fact, there is no need even to mention it; the hearer adds it himself. Thus, to show that Dorieus has been victor in a contest for which the prize is a crown, it is enough to say ‘For he has been victor in the Olympic games’, without adding ‘And in the Olympic games the prize is a crown’, a fact which everybody knows.

There are few facts of the ‘necessary’ type that can form the basis of rhetorical syllogisms. Most of the things about which we make decisions, and into which therefore we inquire, present us with alternative possibilities. For it is about our actions that we deliberate and inquire, and all our actions have a contingent character; hardly any of them are determined by necessity. Again, conclusions that state what is merely usual or possible must be drawn from premisses that do the same, just as ‘necessary’ conclusions must be drawn from ‘necessary’ premisses; this too is clear to us from the Analytics. It is evident, therefore, that the propositions forming the basis of enthymemes, though some of them may be ‘necessary’, will most of them be only usually true. Now the materials of enthymemes are Probabilities and Signs, which we can see must correspond respectively with the propositions that are generally and those that are necessarily true. A Probability is a thing that usually happens; not, however, as some definitions would suggest, anything whatever that usually happens, but only if it belongs to the class of the ‘contingent’ or ‘variable’. It bears the same relation to that in respect of which it is probable as the universal bears to the particular. Of Signs, one kind bears the same relation to the statement it supports as the particular bears to the universal, the other the same as the universal bears to the particular. The infallible kind is a ‘complete proof’ (tekmerhiou); the fallible kind has no specific name. By infallible signs I mean those on which syllogisms proper may be based: and this shows us why this kind of Sign is called ‘complete proof’: when people think that what they have said cannot be refuted, they then think that they are bringing forward a ‘complete proof’, meaning that the matter has now been demonstrated and completed (peperhasmeuou); for the word ‘perhas’ has the same meaning (of ‘end’ or ‘boundary’) as the word ‘tekmarh’ in the ancient tongue. Now the one kind of Sign (that which bears to the proposition it supports the relation of particular to universal) may be illustrated thus. Suppose it were said, ‘The fact that

Socrates was wise and just is a sign that the wise are just'. Here we certainly have a Sign; but even though the proposition be true, the argument is refutable, since it does not form a syllogism. Suppose, on the other hand, it were said, 'The fact that he has a fever is a sign that he is ill', or, 'The fact that she is giving milk is a sign that she has lately borne a child'. Here we have the infallible kind of Sign, the only kind that constitutes a complete proof, since it is the only kind that, if the particular statement is true, is irrefutable. The other kind of Sign, that which bears to the proposition it supports the relation of universal to particular, might be illustrated by saying, 'The fact that he breathes fast is a sign that he has a fever'. This argument also is refutable, even if the statement about the fast breathing be true, since a man may breathe hard without having a fever.

It has, then, been stated above what is the nature of a Probability, of a Sign, and of a complete proof, and what are the differences between them. In the Analytics a more explicit description has been given of these points; it is there shown why some of these reasonings can be put into syllogisms and some cannot.

The 'example' has already been described as one kind of induction; and the special nature of the subject-matter that distinguishes it from the other kinds has also been stated above. Its relation to the proposition it supports is not that of part to whole, nor whole to part, nor whole to whole, but of part to part, or like to like. When two statements are of the same order, but one is more familiar than the other, the former is an 'example'. The argument may, for instance, be that Dionysius, in asking as he does for a bodyguard, is scheming to make himself a despot. For in the past Peisistratus kept asking for a bodyguard in order to carry out such a scheme, and did make himself a despot as soon as he got it; and so did Theagenes at Megara; and in the same way all other instances known to the speaker are made into examples, in order to show what is not yet known, that Dionysius has the same purpose in making the same request: all these being instances of the one general principle, that a man who asks for a bodyguard is scheming to make himself a despot. We have now described the sources of those means of persuasion which are popularly supposed to be demonstrative.

There is an important distinction between two sorts of enthymemes that has been wholly overlooked by almost everybody-one that also subsists between the syllogisms treated of in dialectic. One sort of enthymeme really belongs to rhetoric, as one sort of syllogism really belongs to dialectic; but the other sort really belongs to other arts and faculties, whether to those we already exercise or to those we have not yet acquired. Missing this distinction, people fail to notice that the more correctly they handle their particular subject the further they are getting away from pure rhetoric or dialectic. This statement will be clearer if expressed more fully. I mean that the proper subjects of dialectical and rhetorical syllogisms are the things with which we say the regular or universal Lines of Argument are concerned, that is to say those lines of argument that apply equally to questions of right conduct, natural science, politics, and many other things that have nothing to do with one another. Take, for instance, the line of argument concerned with 'the more or less'. On this line of argument it is equally easy to base a syllogism or enthymeme about any of what nevertheless are essentially disconnected subjects-right conduct, natural science, or anything else whatever. But there are also those special Lines of Argument which are based on such propositions as apply only to particular groups or classes of things. Thus there are propositions about natural science on which it is impossible to base any enthymeme or syllogism about ethics, and other propositions about ethics on which nothing can be based about natural science. The same principle applies throughout. The general Lines of Argument have no special subject-matter, and therefore will not increase our understanding of any particular class of things. On the other hand, the better the selection one makes of propositions suitable for special Lines of Argument, the nearer one comes, unconsciously, to setting up a science that is distinct from dialectic and rhetoric. One may succeed in stating the required principles, but one's science will be no longer dialectic or rhetoric, but the science to which the principles thus discovered belong. Most enthymemes are in fact based upon these particular or special Lines of Argument; comparatively few on the common or general kind. As in the therefore, so in this work, we must distinguish, in dealing with enthymemes, the special and the general Lines of Argument on which they are to be founded. By special Lines of Argument I mean the propositions peculiar to each several class of things, by general those common to all classes alike. We may begin with the special Lines of Argument. But, first of all, let us classify rhetoric into its varieties. Having distinguished these we may deal with them one by one, and try to discover the elements of which each is composed, and the propositions each must employ.

3

Rhetoric falls into three divisions, determined by the three classes of listeners to speeches. For of the three elements in speech-making — speaker, subject, and person addressed — it is the last one, the hearer, that determines the speech's end and object. The hearer must be either a judge, with a decision to make about things past or future, or an observer. A member of the assembly decides about future events, a juryman about past events: while those who merely decide on the orator's skill are observers. From this it follows that there are three divisions of oratory-(1) political, (2) forensic, and (3) the ceremonial oratory of display.

Political speaking urges us either to do or not to do something: one of these two courses is always taken by private counsellors, as well as by men who address public assemblies. Forensic speaking either attacks or defends somebody: one or other of these two things must always be done by the parties in a case. The ceremonial oratory of display either praises or censures somebody. These three kinds of rhetoric refer to three different kinds of time. The political orator is concerned with the future: it is about things to be done hereafter that he advises, for or against. The party in a case at law is concerned with the past; one man accuses the other, and the other defends himself, with reference to things already done. The ceremonial orator is, properly speaking, concerned with the present, since all men praise or blame in view of the state of things existing at the time, though they often find it useful also to recall the past and to make guesses at the future.

Rhetoric has three distinct ends in view, one for each of its three kinds. The political orator aims at establishing the expediency or the harmfulness of a proposed course of action; if he urges its acceptance, he does so on the ground that it will do good; if he urges its rejection, he does so on the ground that it will do harm; and all other points, such as whether the proposal is just or unjust, honourable or dishonourable, he brings in as subsidiary and relative to this main consideration. Parties in a law-case aim at establishing the justice or injustice of some action, and they too bring in all other points as subsidiary and relative to this one. Those who praise or attack a man aim at proving him worthy of honour or the reverse, and they too treat all other considerations with reference to this one.

That the three kinds of rhetoric do aim respectively at the three ends we have mentioned is shown by the fact that speakers will sometimes not try to establish anything else. Thus, the litigant will sometimes not deny that a thing has happened or that he has done harm. But that he is guilty of injustice he will never admit; otherwise there would be no need of a trial. So too, political orators often make any concession short of admitting that they are recommending their hearers to take an inexpedient course or not to take an expedient one. The question whether it is not unjust for a city to enslave its innocent neighbours often does not trouble them at all. In like manner those who praise or censure a man do not consider whether his acts have been expedient or not, but often make it a ground of actual praise that he has neglected his own interest to do what was honourable. Thus, they praise Achilles because he championed his fallen friend Patroclus, though he knew that this meant death, and that otherwise he need not die: yet while to die thus was the nobler thing for him to do, the expedient thing was to live on.

It is evident from what has been said that it is these three subjects, more than any others, about which the orator must be able to have propositions at his command. Now the propositions of Rhetoric are Complete Proofs, Probabilities, and Signs. Every kind of syllogism is composed of propositions, and the enthymeme is a particular kind of syllogism composed of the aforesaid propositions.

Since only possible actions, and not impossible ones, can ever have been done in the past or the present, and since things which have not occurred, or will not occur, also cannot have been done or be going to be done, it is necessary for the political, the forensic, and the ceremonial speaker alike to be able to have at their command propositions about the possible and the impossible, and about whether a thing has or has not occurred, will or will not occur. Further, all men, in giving praise or blame, in urging us to accept or reject proposals for action, in accusing others or defending themselves, attempt not only to prove the points mentioned but also to show that the good or the harm, the honour or disgrace, the justice or injustice, is great or small, either absolutely or relatively; and therefore it is plain that we must also have at our command propositions about greatness or smallness and the greater or the lesser-propositions both universal and particular. Thus, we must be able to say which is the greater or lesser good, the greater or lesser act of justice or injustice; and so on.

Such, then, are the subjects regarding which we are inevitably bound to master the propositions relevant to them. We must now discuss each particular class of these subjects in turn, namely those dealt with in political, in ceremonial, and lastly in legal, oratory.

4

First, then, we must ascertain what are the kinds of things, good or bad, about which the political orator offers counsel. For he does not deal with all things, but only with such as may or may not take place. Concerning things which exist or will exist inevitably, or which cannot possibly exist or take place, no counsel can be given. Nor, again, can counsel be given about the whole class of things which may or may not take place; for this class includes some good things that occur naturally, and some that occur by accident; and about these it is useless to offer counsel. Clearly counsel can only be given on matters about which people deliberate; matters, namely, that ultimately depend on ourselves, and which we have it in our power to set going. For we turn a thing over in our mind until we have reached the point of seeing whether we can do it or not.

Now to enumerate and classify accurately the usual subjects of public business, and further to frame, as far as possible, true definitions of them is a task which we must not attempt on the present occasion. For it does not belong to the art of rhetoric, but to a more instructive art and a more real branch of knowledge; and as it is, rhetoric has been given a far wider subject-matter than strictly belongs to it. The truth is, as indeed we have said already, that rhetoric is a combination of the science of logic and of the ethical branch of politics; and it is partly like dialectic, partly like sophistical reasoning. But the more we try to make either dialectic rhetoric not, what they really are, practical faculties, but sciences, the more we shall inadvertently be destroying their true nature; for we shall be re-fashioning them and shall be passing into the region of sciences dealing with definite subjects rather than simply with words and forms of reasoning. Even here, however, we will mention those points which it is of practical importance to distinguish, their fuller treatment falling naturally to political science.

The main matters on which all men deliberate and on which political speakers make speeches are some five in number: ways and means, war and peace, national defence, imports and exports, and legislation.

As to Ways and Means, then, the intending speaker will need to know the number and extent of the country's sources of revenue, so that, if any is being overlooked, it may be added, and, if any is defective, it may be increased. Further, he should know all the expenditure of the country, in order that, if any part of it is superfluous, it may be abolished, or, if any is too large, it may be reduced. For men become richer not only by increasing their existing wealth but also by reducing their expenditure. A comprehensive view of these questions cannot be gained solely from experience in home affairs; in order to advise on such matters a man must be keenly interested in the methods worked out in other lands.

As to Peace and War, he must know the extent of the military strength of his country, both actual and potential, and also the mature of that actual and potential strength; and further, what wars his country has waged, and how it has waged them. He must know these facts not only about his own country, but also about neighbouring countries; and also about countries with which war is likely, in order that peace may be maintained with those stronger than his own, and that his own may have power to make war or not against those that are weaker. He should know, too, whether the military power of another country is like or unlike that of his own; for this is a matter that may affect their relative strength. With the same end in view he must, besides, have studied the wars of other countries as well as those of his own, and the way they ended; similar causes are likely to have similar results.

With regard to National Defence: he ought to know all about the methods of defence in actual use, such as the strength and character of the defensive force and the positions of the forts-this last means that he must be well acquainted with the lie of the country-in order that a garrison may be increased if it is too small or removed if it is not wanted, and that the strategic points may be guarded with special care.

With regard to the Food Supply: he must know what outlay will meet the needs of his country; what kinds of food are produced at home and what imported; and what articles must be exported or imported. This last he must know in order that agreements and commercial treaties may be made with the countries concerned. There are, indeed, two sorts of state to which he must see that his countrymen give no cause for offence, states stronger than his own, and states with which it is advantageous to trade.

But while he must, for security's sake, be able to take all this into account, he must before all things understand the subject of legislation; for it is on a country's laws that its whole welfare depends. He must, therefore, know how many different forms of constitution there are; under what conditions each of these will prosper and by what internal developments or external attacks each of them tends to be destroyed. When I speak of destruction through internal developments I refer to the fact that all constitutions, except the best one of all, are destroyed both by not being pushed far enough and by being pushed too far. Thus, democracy loses its vigour, and finally passes into oligarchy, not only when it is not pushed far enough, but also when it is pushed a great deal too far; just as the aquiline and the snub nose not only turn into normal noses by not being aquiline or snub enough, but also by being too violently aquiline or snub arrive at a condition in which they no longer look like noses at all. It is useful, in framing laws, not only to study the past history of one's own country, in order to understand which constitution is desirable for it now, but also to have a knowledge of the constitutions of other nations, and so to learn for what kinds of nation the various kinds of constitution are suited. From this we can see that books of travel are useful aids to legislation, since from these we may learn the laws and customs of different races. The political speaker will also find the researches of historians useful. But all this is the business of political science and not of rhetoric.

These, then, are the most important kinds of information which the political speaker must possess. Let us now go back and state the premisses from which he will have to argue in favour of adopting or rejecting measures regarding these and other matters.

5

It may be said that every individual man and all men in common aim at a certain end which determines what they choose and what they avoid. This end, to sum it up briefly, is happiness and its constituents. Let us, then, by way of illustration only, ascertain what is in general the nature of happiness, and what are the elements of its constituent parts. For all advice to do things or not to do them is concerned with happiness and with the things that make for or against it; whatever creates or increases happiness or some part of happiness, we ought to do; whatever destroys or hampers happiness, or gives rise to its opposite, we ought not to do.

We may define happiness as prosperity combined with virtue; or as independence of life; or as the secure enjoyment of the maximum of pleasure; or as a good condition of property and body, together with the power of guarding one's property and body and making use of them. That happiness is one or more of these things, pretty well everybody agrees.

From this definition of happiness it follows that its constituent parts are:- good birth, plenty of friends, good friends, wealth, good children, plenty of children, a happy old age, also such bodily excellences as health, beauty, strength, large stature, athletic powers, together with fame, honour, good luck, and virtue. A man cannot fail to be completely independent if he possesses these internal and these external goods; for besides these there are no others to have. (Goods of the soul and of the body are internal. Good birth, friends, money, and honour are external.) Further, we think that he should possess resources and luck, in order to make his life really secure. As we have already ascertained what happiness in general is, so now let us try to ascertain what of these parts of it is.

Now good birth in a race or a state means that its members are indigenous or ancient: that its earliest leaders were distinguished men, and that from them have sprung many who were distinguished for qualities that we admire.

The good birth of an individual, which may come either from the male or the female side, implies that both parents are free citizens, and that, as in the case of the state, the founders of the line have been notable for virtue or wealth or something else which is highly prized, and that many distinguished persons belong to the family, men and women, young and old.

The phrases 'possession of good children' and 'of many children' bear a quite clear meaning. Applied to a community, they mean that its young men are numerous and of good a quality: good in regard to bodily excellences, such as stature, beauty, strength, athletic powers; and also in regard to the excellences of the soul, which in a young man are temperance and courage. Applied to an individual, they mean that his own children are numerous and have the good qualities we have described. Both male and female are here included; the excellences of the latter are, in body, beauty and stature; in soul, self-command and an industry that is not sordid. Communities as well as individuals should lack none of these perfections, in their women as well as in their men. Where, as among the Lacedaemonians, the state of women is bad, almost half of human life is spoilt.

The constituents of wealth are: plenty of coined money and territory; the ownership of numerous, large, and beautiful estates; also the ownership of numerous and beautiful implements, live stock, and slaves. All these kinds of property are our own, are secure, gentlemanly, and useful. The useful kinds are those that are productive, the gentlemanly kinds are those that provide enjoyment. By 'productive' I mean those from which we get our income; by 'enjoyable', those from which we get nothing worth mentioning except the use of them. The criterion of 'security' is the ownership of property in such places and under such Conditions that the use of it is in our power; and it is 'our own' if it is in our own power to dispose of it or keep it. By 'disposing of it' I mean giving it away or selling it. Wealth as a whole consists in using things rather than in owning them; it is really the activity-that is, the use-of property that constitutes wealth.

Fame means being respected by everybody, or having some quality that is desired by all men, or by most, or by the good, or by the wise.

Honour is the token of a man's being famous for doing good. it is chiefly and most properly paid to those who have already done good; but also to the man who can do good in future. Doing good refers either to the preservation of life and the means of life, or to wealth, or to some other of the good things which it is hard to get either always or at that particular place or time-for many gain honour for things which seem small, but the place and the occasion account for it. The constituents of honour are: sacrifices; commemoration, in verse or prose; privileges; grants of land; front seats at civic celebrations; state burial; statues; public maintenance; among foreigners, obeisances and giving place; and such presents as are among various bodies of men regarded as marks of honour. For a present is not only the bestowal of a piece of property, but also a token of honour; which explains why honour-loving as well as money-loving persons desire it. The present brings to both what they want; it is a piece of property, which is what the lovers of money desire; and it brings honour, which is what the lovers of honour desire.

The excellence of the body is health; that is, a condition which allows us, while keeping free from disease, to have the use of our bodies; for many people are 'healthy' as we are told Herodicus was; and these no one can congratulate on their ‘health’, for they have to abstain from everything or nearly everything that men do.-Beauty varies with the time of life. In a young man beauty is the possession of a body fit to endure the exertion of running and of contests of strength; which means that he is pleasant to look at; and therefore all-round athletes are the most beautiful, being naturally adapted both for contests of strength and for speed also. For a man in his prime, beauty is fitness for the exertion of warfare, together with a pleasant but at the same time formidable appearance. For an old man, it is to be strong enough for such exertion as is necessary, and to be free from all those deformities of old age which cause pain to others. Strength is the power of moving some one else at will; to do this, you must either pull, push, lift, pin, or grip him; thus you must be strong in all of those ways or at least in some. Excellence in size is to surpass ordinary people in height, thickness, and breadth by just as much as will not make one’s movements slower in consequence. Athletic excellence of the body consists in size, strength, and swiftness; swiftness implying strength. He who can fling forward his legs in a certain way, and move them fast and far, is good at running; he who can grip and hold down is good at wrestling; he who can drive an adversary from his ground with the right blow is a good boxer: he who can do both the last is a good pancratiast, while he who can do all is an ‘all-round’ athlete.

Happiness in old age is the coming of old age slowly and painlessly; for a man has not this happiness if he grows old either quickly, or tardily but painfully. It arises both from the excellences of the body and from good luck. If a man is not free from disease, or if he is strong, he will not be free from suffering; nor can he continue to live a long and painless life unless he has good luck. There is, indeed, a capacity for long life that is quite independent of health or strength; for many people live long who lack the excellences of the body; but for our present purpose there is no use in going into the details of this.

The terms ‘possession of many friends’ and ‘possession of good friends’ need no explanation; for we define a ‘friend’ as one who will always try, for your sake, to do what he takes to be good for you. The man towards whom many feel thus has many friends; if these are worthy men, he has good friends.

‘Good luck’ means the acquisition or possession of all or most, or the most important, of those good things which are due to luck. Some of the things that are due to luck may also be due to artificial contrivance; but many are independent of art, as for example those which are due to nature-though, to be sure, things due to luck may actually be contrary to nature. Thus health may be due to artificial contrivance, but beauty and stature are due to nature. All such good things as excite envy are, as a class, the outcome of good luck. Luck is also the cause of good things that happen contrary to reasonable expectation: as when, for instance, all your brothers are ugly, but you are handsome yourself; or when you find a treasure that everybody else has overlooked; or when a missile hits the next man and misses you; or when you are the only man not to go to a place you have gone to regularly, while the others go there for the first time and are killed. All such things are reckoned pieces of good luck.

As to virtue, it is most closely connected with the subject of Eulogy, and therefore we will wait to define it until we come to discuss that subject.

6

It is now plain what our aims, future or actual, should be in urging, and what in depreciating, a proposal; the latter being the opposite of the former. Now the political or deliberative orator's aim is utility: deliberation seeks to determine not ends but the means to ends, i.e. what it is most useful to do. Further, utility is a good thing. We ought therefore to assure ourselves of the main facts about Goodness and Utility in general.

We may define a good thing as that which ought to be chosen for its own sake; or as that for the sake of which we choose something else; or as that which is sought after by all things, or by all things that have sensation or reason, or which will be sought after by any things that acquire reason; or as that which must be prescribed for a given individual by reason generally, or is prescribed for him by his individual reason, this being his individual good; or as that whose presence brings anything into a satisfactory and self-sufficing condition; or as self-sufficiency; or as what produces, maintains, or entails characteristics of this kind, while preventing and destroying their opposites. One thing may entail another in either of two ways-(1) simultaneously, (2) subsequently. Thus learning entails knowledge subsequently, health entails life simultaneously. Things are productive of other things in three senses: first as being healthy produces health; secondly, as food produces health; and thirdly, as exercise does-i.e. it does so usually. All this being settled, we now see that both the acquisition of good things and the removal of bad things must be good; the latter entails freedom from the evil things simultaneously, while the former entails possession of the good things subsequently. The acquisition of a greater in place of a lesser good, or of a lesser in place of a greater evil, is also good, for in proportion as the greater exceeds the lesser there is acquisition of good or removal of evil. The virtues, too, must be something good; for it is by possessing these that we are in a good condition, and they tend to produce good works and good actions. They must be severally named and described elsewhere. Pleasure, again, must be a good thing, since it is the nature of all animals to aim at it. Consequently both pleasant and beautiful things must be good things, since the former are productive of pleasure, while of the beautiful things some are pleasant and some desirable in and for themselves.

The following is a more detailed list of things that must be good. Happiness, as being desirable in itself and sufficient by itself, and as being that for whose sake we choose many other things. Also justice, courage, temperance, magnanimity, magnificence, and all such qualities, as being excellences of the soul. Further, health, beauty, and the like, as being bodily excellences and productive of many other good things: for instance, health is productive both of pleasure and of life, and therefore is thought the greatest of goods, since these two things which it causes, pleasure and life, are two of the things most highly prized by ordinary people. Wealth, again: for it is the excellence of possession, and also productive of many other good things. Friends and friendship: for a friend is desirable in himself and also productive of many other good things. So, too, honour and reputation, as being pleasant, and productive of many other good things, and usually accompanied by the presence of the good things that cause them to be bestowed. The faculty of speech and action; since all such qualities are productive of what is good. Further-good parts, strong memory, receptiveness, quickness of intuition, and the like, for all such faculties are productive of what is good. Similarly, all the sciences and arts. And life: since, even if no other good were the result of life, it is desirable in itself. And justice, as the cause of good to the community.

The above are pretty well all the things admittedly good. In dealing with things whose goodness is disputed, we may argue in the following ways:-

That is good of which the contrary is bad. That is good the contrary of which is to the advantage of our enemies; for example, if it is to the particular advantage of our enemies that we should be cowards, clearly courage is of particular value to our countrymen. And generally, the contrary of that which our enemies desire, or of that at which they rejoice, is evidently valuable. Hence the passage beginning:

Surely would Priam exult.

This principle usually holds good, but not always, since it may well be that our interest is sometimes the same as that of our enemies. Hence it is said that 'evils draw men together'; that is, when the same thing is hurtful to them both.

Further: that which is not in excess is good, and that which is greater than it should be is bad. That also is good on which much labour or money has been spent; the mere fact of this makes it seem good, and such a good is assumed to be an end-an end reached through a long chain of means; and any end is a good. Hence the lines beginning:

And for Priam (and Troy-town's folk) should
they leave behind them a boast;

and

Oh, it were shame
To have tarried so long and return empty-handed
as erst we came;

and there is also the proverb about 'breaking the pitcher at the door'.

That which most people seek after, and which is obviously an object of contention, is also a good; for, as has been shown, that is good which is sought after by everybody, and 'most people' is taken to be equivalent to 'everybody'. That which is praised is good, since no one praises what is not good. So, again, that which is praised by our enemies [or by the worthless] for when even those who have a grievance think a thing good, it is at once felt that every one must agree with them; our enemies can admit the fact only because it is evident, just as those must be worthless whom their friends censure and their enemies do not. (For this reason the Corinthians conceived themselves to be insulted by Simonides when he wrote:

Against the Corinthians hath Ilium no complaint.)

Again, that is good which has been distinguished by the favour of a discerning or virtuous man or woman, as Odysseus was distinguished by

Athena, Helen by Theseus, Paris by the goddesses, and Achilles by Homer. And, generally speaking, all things are good which men deliberately choose to do; this will include the things already mentioned, and also whatever may be bad for their enemies or good for their friends, and at the same time practicable. Things are ‘practicable’ in two senses: (1) it is possible to do them, (2) it is easy to do them. Things are done ‘easily’ when they are done either without pain or quickly: the ‘difficulty’ of an act lies either in its painfulness or in the long time it takes. Again, a thing is good if it is as men wish; and they wish to have either no evil at an or at least a balance of good over evil. This last will happen where the penalty is either imperceptible or slight. Good, too, are things that are a man’s very own, possessed by no one else, exceptional; for this increases the credit of having them. So are things which befit the possessors, such as whatever is appropriate to their birth or capacity, and whatever they feel they ought to have but lack-such things may indeed be trifling, but none the less men deliberately make them the goal of their action. And things easily effected; for these are practicable (in the sense of being easy); such things are those in which every one, or most people, or one’s equals, or one’s inferiors have succeeded. Good also are the things by which we shall gratify our friends or annoy our enemies; and the things chosen by those whom we admire: and the things for which we are fitted by nature or experience, since we think we shall succeed more easily in these: and those in which no worthless man can succeed, for such things bring greater praise: and those which we do in fact desire, for what we desire is taken to be not only pleasant but also better. Further, a man of a given disposition makes chiefly for the corresponding things: lovers of victory make for victory, lovers of honour for honour, money-loving men for money, and so with the rest. These, then, are the sources from which we must derive our means of persuasion about Good and Utility.

7

Since, however, it often happens that people agree that two things are both useful but do not agree about which is the more so, the next step will be to treat of relative goodness and relative utility.

A thing which surpasses another may be regarded as being that other thing plus something more, and that other thing which is surpassed as being what is contained in the first thing. Now to call a thing ‘greater’ or ‘more’ always implies a comparison of it with one that is ‘smaller’ or ‘less’, while ‘great’ and ‘small’, ‘much’ and ‘little’, are terms used in comparison with normal magnitude. The ‘great’ is that which surpasses the normal, the ‘small’ is that which is surpassed by the normal; and so with ‘many’ and ‘few’.

Now we are applying the term ‘good’ to what is desirable for its own sake and not for the sake of something else; to that at which all things aim; to what they would choose if they could acquire understanding and practical wisdom; and to that which tends to produce or preserve such goods, or is always accompanied by them. Moreover, that for the sake of which things are done is the end (an end being that for the sake of which all else is done), and for each individual that thing is a good which fulfils these conditions in regard to himself. It follows, then, that a greater number of goods is a greater good than one or than a smaller number, if that one or that smaller number is included in the count; for then the larger number surpasses the smaller, and the smaller quantity is surpassed as being contained in the larger.

Again, if the largest member of one class surpasses the largest member of another, then the one class surpasses the other; and if one class surpasses another, then the largest member of the one surpasses the largest member of the other. Thus, if the tallest man is taller than the tallest woman, then men in general are taller than women. Conversely, if men in general are taller than women, then the tallest man is taller than the tallest woman. For the superiority of class over class is proportionate to the superiority possessed by their largest specimens. Again, where one good is always accompanied by another, but does not always accompany it, it is greater than the other, for the use of the second thing is implied in the use of the first. A thing may be accompanied by another in three ways, either simultaneously, subsequently, or potentially. Life accompanies health simultaneously (but not health life), knowledge accompanies the act of learning subsequently, cheating accompanies sacrilege potentially, since a man who has committed sacrilege is always capable of cheating. Again, when two things each surpass a third, that which does so by the greater amount is the greater of the two; for it must surpass the greater as well as the less of the other two. A thing productive of a greater good than another is productive of is itself a greater good than that other. For this conception of ‘productive of a greater’ has been implied in our argument. Likewise, that which is produced by a greater good is itself a greater good; thus, if what is wholesome is more desirable and a greater good than what gives pleasure, health too must be a greater good than pleasure. Again, a thing which is desirable in itself is a greater good than a thing which is not desirable in itself, as for example bodily strength than what is wholesome, since the latter is not pursued for its own sake, whereas the former is; and this was our definition of the good. Again, if one of two things is an end, and the other is not, the former is the greater good, as being chosen for its own sake and not for the sake of something else; as, for example, exercise is chosen for the sake of physical well-being. And of two things that which stands less in need of the other, or of other things, is the greater good, since it is more self-sufficing. (That which stands 'less' in need of others is that which needs either fewer or easier things.) So when one thing does not exist or cannot come into existence without a second, while the second can exist without the first, the second is the better. That which does not need something else is more self-sufficing than that which does, and presents itself as a greater good for that reason. Again, that which is a beginning of other things is a greater good than that which is not, and that which is a cause is a greater good than that which is not; the reason being the same in each case, namely that without a cause and a beginning nothing can exist or come into existence. Again, where there are two sets of consequences arising from two different beginnings or causes, the consequences of the more important beginning or cause are themselves the more important; and conversely, that beginning or cause is itself the more important which has the more important consequences. Now it is plain, from all that has been said, that one thing may be shown to be more important than another from two opposite points of view: it may appear the more important (1) because it is a beginning and the other thing is not, and also (2) because it is not a beginning and the other thing is-on the ground that the end is more important and is not a beginning. So Leodamas, when accusing Callistratus, said that the man who prompted the deed was more guilty than the doer, since it would not have been done if he had not planned it. On the other hand, when accusing Chabrias he said that the doer was worse than the prompter, since there would have been no deed without some one to do it; men, said he, plot a thing only in order to carry it out.

Further, what is rare is a greater good than what is plentiful. Thus, gold is a better thing than iron, though less useful: it is harder to get, and therefore better worth getting. Reversely, it may be argued that the plentiful is a better thing than the rare, because we can make more use of it. For what is often useful surpasses what is seldom useful, whence the saying:

The best of things is water.

More generally: the hard thing is better than the easy, because it is rarer: and reversely, the easy thing is better than the hard, for it is as we wish it to be. That is the greater good whose contrary is the greater evil, and whose loss affects us more. Positive goodness and badness are more important than the mere absence of goodness and badness: for positive goodness and badness are ends, which the mere absence of them cannot be. Further, in proportion as the functions of things are noble or base, the things themselves are good or bad: conversely, in proportion as the things themselves are good or bad, their functions also are good or bad; for the nature of results corresponds with that of their causes and beginnings, and conversely the nature of causes and beginnings corresponds with that of their results. Moreover, those things are greater goods, superiority in which is more desirable or more honourable. Thus, keenness of sight is more desirable than keenness of smell, sight generally being more desirable than smell generally; and similarly, unusually great love of friends being more honourable than unusually great love of money, ordinary love of friends is more honourable than ordinary love of money. Conversely, if one of two normal things is better or nobler than the other, an unusual degree of that thing is better or nobler than an unusual degree of the other. Again, one thing is more honourable or better than another if it is more honourable or better to desire it; the importance of the object of a given instinct corresponds to the importance of the instinct itself; and for the same reason, if one thing is more honourable or better than another, it is more honourable and better to desire it. Again, if one science is more honourable and valuable than another, the activity with which it deals is also more honourable and valuable; as is the science, so is the reality that is its object, each science being authoritative in its own sphere. So, also, the more valuable and honourable the object of a science, the more valuable and honourable the science itself is-in consequence. Again, that which would be judged, or which has been judged, a good thing, or a better thing than something else, by all or most people of understanding, or by the majority of men, or by the ablest, must be so; either without qualification, or in so far as they use their understanding to form their judgement. This is indeed a general principle, applicable to all other judgements also; not only the goodness of things, but their essence, magnitude, and general nature are in fact just what knowledge and understanding will declare them to be. Here the principle is applied to judgements of goodness, since one definition of 'good' was 'what beings that acquire understanding will choose in any given case': from which it clearly follows that that thing is better which understanding declares to be so. That, again, is a better thing which attaches to better men, either absolutely, or in virtue of their being better; as courage is better than strength. And that is a greater good which would be chosen by a better man, either absolutely, or in virtue of his being better: for instance, to suffer wrong rather than to do wrong, for that would be the choice of the juster man. Again, the pleasanter of two things is the better, since all things pursue pleasure, and things instinctively desire pleasurable sensation for its own sake; and these are two of the characteristics by which the 'good' and the 'end' have been defined. One pleasure is greater than another if it is more unmixed with pain, or more lasting. Again, the nobler thing is better than the less noble, since the noble is either what is pleasant or what is desirable in itself. And those things also are greater goods which men desire more earnestly to bring about for themselves or for their friends, whereas those things which they least desire to bring about are greater evils. And those things which are more lasting are better than those which are more fleeting, and the more secure than the less; the enjoyment of the lasting has the advantage of being longer, and that of the secure has the advantage of suiting our wishes, being there for us whenever we like. Further, in accordance with the rule of co-ordinate terms and inflexions of the same stem, what is true of one such related word is true of all. Thus if the action qualified by the term 'brave' is more noble and desirable than the action qualified by the term 'temperate', then 'bravery' is more desirable than 'temperance' and 'being brave' than 'being temperate'. That, again, which is chosen by all is a greater good than that which is not, and that chosen by the majority than that chosen by the minority. For that which all desire is good, as we have said;' and so, the more a thing is desired, the better it is. Further, that is the better thing which is considered so by competitors or enemies, or, again, by authorized judges or those whom they select to represent them. In the first two cases the decision is virtually that of every one, in the last two that of authorities and experts. And sometimes it may be argued that what all share is the better thing, since it is a dishonour not to share in it; at other times, that what none or few share is better, since it is rarer. The more praiseworthy things are, the nobler and therefore the better they are. So with the things that earn greater honours than others-honour is, as it were, a measure of value; and the things whose absence involves comparatively heavy penalties; and the things that are better than others admitted or believed to be good. Moreover, things look better merely by being divided into their parts, since they then seem to surpass a greater number of things than before. Hence Homer says that Meleager was roused to battle by the thought of

All horrors that light on a folk whose city
is ta'en of their foes,
When they slaughter the men, when the burg is
wasted with ravening flame,
When strangers are haling young children to thraldom,
(fair women to shame.)

The same effect is produced by piling up facts in a climax after the manner of Epicharmus. The reason is partly the same as in the case of division (for combination too makes the impression of great superiority), and partly that the original thing appears to be the cause and origin of important results. And since a thing is better when it is harder or rarer than other things, its superiority may be due to seasons, ages, places, times, or one's natural powers. When a man accomplishes something beyond his natural power, or beyond his years, or beyond the measure of people like him, or in a special way, or at a special place or time, his deed will have a high degree of nobleness, goodness, and justice, or of their opposites. Hence the epigram on the victor at the Olympic games:

In time past, heaving a Yoke on my shoulders,
of wood unshaven,
I carried my loads of fish from, Argos to Tegea town.

So Iphicrates used to extol himself by describing the low estate from which he had risen. Again, what is natural is better than what is acquired, since it is harder to come by. Hence the words of Homer:

I have learnt from none but mysell.

And the best part of a good thing is particularly good; as when Pericles in his funeral oration said that the country's loss of its young men in battle was 'as if the spring were taken out of the year'. So with those things which are of service when the need is pressing; for example, in old age and times of sickness. And of two things that which leads more directly to the end in view is the better. So too is that which is better for people generally as well as for a particular individual. Again, what can be got is better than what cannot, for it is good in a given case and the other thing is not. And what is at the end of life is better than what is not, since those things are ends in a greater degree which are nearer the end. What aims at reality is better than what aims at appearance. We may define what aims at appearance as what a man will not choose if nobody is to know of his having it. This would seem to show that to receive benefits is more desirable than to confer them, since a man will choose the former even if nobody is to know of it, but it is not the general view that he will choose the latter if nobody knows of it. What a man wants to be is better than what a man wants to seem, for in aiming at that he is aiming more at reality. Hence men say that justice is of small value, since it is more desirable to seem just than to be just, whereas with health it is not so. That is better than other things which is more useful than they are for a number of different purposes; for example, that which promotes life, good life, pleasure, and noble conduct. For this reason wealth and health are commonly thought to be of the highest value, as possessing all these advantages. Again, that is better than other things which is accompanied both with less pain and with actual pleasure; for here there is more than one advantage; and so here we have the good of feeling pleasure and also the good of not feeling pain. And of two good things that is the better whose addition to a third thing makes a better whole than the addition of the other to the same thing will make. Again, those things which we are seen to possess are better than those which we are not seen to possess, since the former have the air of reality. Hence wealth may be regarded as a greater good if its existence is known to others. That which is dearly prized is better than what is not-the sort of thing that some people have only one of, though others have more like it. Accordingly, blinding a one-eyed man inflicts worse injury than half-blinding a man with two eyes; for the one-eyed man has been robbed of what he dearly prized.

The grounds on which we must base our arguments, when we are speaking for or against a proposal, have now been set forth more or less completely.

The most important and effective qualification for success in persuading audiences and speaking well on public affairs is to understand all the forms of government and to discriminate their respective customs, institutions, and interests. For all men are persuaded by considerations of their interest, and their interest lies in the maintenance of the established order. Further, it rests with the supreme authority to give authoritative decisions, and this varies with each form of government; there are as many different supreme authorities as there are different forms of government. The forms of government are four-democracy, oligarchy, aristocracy, monarchy. The supreme right to judge and decide always rests, therefore, with either a part or the whole of one or other of these governing powers.

A Democracy is a form of government under which the citizens distribute the offices of state among themselves by lot, whereas under oligarchy there is a property qualification, under aristocracy one of education. By education I mean that education which is laid down by the law; for it is those who have been loyal to the national institutions that hold office under an aristocracy. These are bound to be looked upon as ‘the best men’, and it is from this fact that this form of government has derived its name (‘the rule of the best’). Monarchy, as the word implies, is the constitution a in which one man has authority over all. There are two forms of monarchy: kingship, which is limited by prescribed conditions, and ‘tyranny’, which is not limited by anything.

We must also notice the ends which the various forms of government pursue, since people choose in practice such actions as will lead to the realization of their ends. The end of democracy is freedom; of oligarchy, wealth; of aristocracy, the maintenance of education and national institutions; of tyranny, the protection of the tyrant. It is clear, then, that we must distinguish those particular customs, institutions, and interests which tend to realize the ideal of each constitution, since men choose their means with reference to their ends. But rhetorical persuasion is effected not only by demonstrative but by ethical argument; it helps a speaker to convince us, if we believe that he has certain qualities himself, namely, goodness, or goodwill towards us, or both together. Similarly, we should know the moral qualities characteristic of each form of government, for the special moral character of each is bound to provide us with our most effective means of persuasion in dealing with it. We shall learn the qualities of governments in the same way as we learn the qualities of individuals, since they are revealed in their deliberate acts of choice; and these are determined by the end that inspires them.

We have now considered the objects, immediate or distant, at which we are to aim when urging any proposal, and the grounds on which we are to base our arguments in favour of its utility. We have also briefly considered the means and methods by which we shall gain a good knowledge of the moral qualities and institutions peculiar to the various forms of government-only, however, to the extent demanded by the present occasion; a detailed account of the subject has been given in the Politics.

9

We have now to consider Virtue and Vice, the Noble and the Base, since these are the objects of praise and blame. In doing so, we shall at the same time be finding out how to make our hearers take the required view of our own characters-our second method of persuasion. The ways in which to make them trust the goodness of other people are also the ways in which to make them trust our own. Praise, again, may be serious or frivolous; nor is it always of a human or divine being but often of inanimate things, or of the humblest of the lower animals. Here too we must know on what grounds to argue, and must, therefore, now discuss the subject, though by way of illustration only.

The Noble is that which is both desirable for its own sake and also worthy of praise; or that which is both good and also pleasant because good. If this is a true definition of the Noble, it follows that virtue must be noble, since it is both a good thing and also praiseworthy. Virtue is, according to the usual view, a faculty of providing and preserving good things; or a faculty of conferring many great benefits, and benefits of all kinds on all occasions. The forms of Virtue are justice, courage, temperance, magnificence, magnanimity, liberality, gentleness, prudence, wisdom. If virtue is a faculty of beneficence, the highest kinds of it must be those which are most useful to others, and for this reason men honour most the just and the courageous, since courage is useful to others in war, justice both in war and in peace. Next comes liberality; liberal people let their money go instead of fighting for it, whereas other people care more for money than for anything else. Justice is the virtue through which everybody enjoys his own possessions in accordance with the law; its opposite is injustice, through which men enjoy the possessions of others in defiance of the law. Courage is the virtue that disposes men to do noble deeds in situations of danger, in accordance with the law and in obedience to its commands; cowardice is the opposite. Temperance is the virtue that disposes us to obey the law where physical pleasures are concerned; incontinence is the opposite. Liberality disposes us to spend money for others' good; illiberality is the opposite. Magnanimity is the virtue that disposes us to do good to others on a large scale; [its opposite is meanness of spirit]. Magnificence is a virtue productive of greatness in matters involving the spending of money. The opposites of these two are smallness of spirit and meanness respectively. Prudence is that virtue of the understanding which enables men to come to wise decisions about the relation to happiness of the goods and evils that have been previously mentioned.

The above is a sufficient account, for our present purpose, of virtue and vice in general, and of their various forms. As to further aspects of the subject, it is not difficult to discern the facts; it is evident that things productive of virtue are noble, as tending towards virtue; and also the effects of virtue, that is, the signs of its presence and the acts to which it leads. And since the signs of virtue, and such acts as it is the mark of a virtuous man to do or have done to him, are noble, it follows that all deeds or signs of courage, and everything done courageously, must be noble things; and so with what is just and actions done justly. (Not, however, actions justly done to us; here justice is unlike the other virtues; 'justly' does not always mean 'nobly'; when a man is punished, it is more shameful that this should be justly than unjustly done to him). The same is true of the other virtues. Again, those actions are noble for which the reward is simply honour, or honour more than money. So are those in which a man aims at something desirable for some one else's sake; actions good absolutely, such as those a man does for his country without thinking of himself; actions good in their own nature; actions that are not good simply for the individual, since individual interests are selfish. Noble also are those actions whose advantage may be enjoyed after death, as opposed to those whose advantage is enjoyed during one's lifetime: for the latter are more likely to be for one's own sake only. Also, all actions done for the sake of others, since less than other actions are done for one's own sake; and all successes which benefit others and not oneself; and services done to one's benefactors, for this is just; and good deeds generally, since they are not directed to one's own profit. And the opposites of those things of which men feel ashamed, for men are ashamed of saying, doing, or intending to do shameful things. So when Alcacus said

Something I fain would say to thee,
Only shame restraineth me,

Sappho wrote

If for things good and noble thou wert yearning,
If to speak baseness were thy tongue not burning,
No load of shame would on thine eyelids weigh;
What thou with honour wishest thou wouldst say.

Those things, also, are noble for which men strive anxiously, without feeling fear; for they feel thus about the good things which lead to fair fame. Again, one quality or action is nobler than another if it is that of a naturally finer being: thus a man's will be nobler than a woman's. And those qualities are noble which give more pleasure to other people than to their possessors; hence the nobleness of justice and just actions. It is noble to avenge oneself on one's enemies and not to come to terms with them; for requital is just, and the just is noble; and not to surrender is a sign of courage. Victory, too, and honour belong to the class of noble things, since they are desirable even when they yield no fruits, and they prove our superiority in good qualities. Things that deserve to be remembered are noble, and the more they deserve this, the nobler they are. So are the things that continue even after death; those which are always attended by honour; those which are exceptional; and those which are possessed by one person alone-these last are more readily remembered than others. So again are possessions that bring no profit, since they are more fitting than others for a gentleman. So are the distinctive qualities of a particular people, and the symbols of what it specially admires, like long hair in Sparta, where this is a mark of a free man, as it is not easy to perform any menial task when one's hair is long. Again, it is noble not to practise any sordid craft, since it is the mark of a free man not to live at another's beck and call. We are also to assume when we wish either to praise a man or blame him that qualities closely allied to those which he actually has are identical with them; for instance, that the cautious man is cold-blooded and treacherous, and that the stupid man is an honest fellow or the thick-skinned man a good-tempered one. We can always idealize any given man by drawing on the virtues akin to his actual qualities; thus we may say that the passionate and excitable man is ‘outspoken’; or that the arrogant man is ‘superb’ or ‘impressive’. Those who run to extremes will be said to possess the corresponding good qualities; rashness will be called courage, and extravagance generosity. That will be what most people think; and at the same time this method enables an advocate to draw a misleading inference from the motive, arguing that if a man runs into danger needlessly, much more will he do so in a noble cause; and if a man is open-handed to any one and every one, he will be so to his friends also, since it is the extreme form of goodness to be good to everybody.

We must also take into account the nature of our particular audience when making a speech of praise; for, as Socrates used to say, ‘it is not difficult to praise the Athenians to an Athenian audience.’ If the audience esteems a given quality, we must say that our hero has that quality, no matter whether we are addressing Scythians or Spartans or philosophers. Everything, in fact, that is esteemed we are to represent as noble. After all, people regard the two things as much the same.

All actions are noble that are appropriate to the man who does them: if, for instance, they are worthy of his ancestors or of his own past career. For it makes for happiness, and is a noble thing, that he should add to the honour he already has. Even inappropriate actions are noble if they are better and nobler than the appropriate ones would be; for instance, if one who was just an average person when all went well becomes a hero in adversity, or if he becomes better and easier to get on with the higher he rises. Compare the saying of lphicrates, ‘Think what I was and what I am’; and the epigram on the victor at the Olympic games,

In time past, bearing a yoke on my shoulders,
of wood unshaven,

and the encomium of Simonides,

A woman whose father, whose husband, whose
brethren were princes all.

Since we praise a man for what he has actually done, and fine actions are distinguished from others by being intentionally good, we must try to prove that our hero’s noble acts are intentional. This is all the easier if we can make out that he has often acted so before, and therefore we must assert coincidences and accidents to have been intended. Produce a number of good actions, all of the same kind, and people will think that they must have been intended, and that they prove the good qualities of the man who did them.

Praise is the expression in words of the eminence of a man's good qualities, and therefore we must display his actions as the product of such qualities. Encomium refers to what he has actually done; the mention of accessories, such as good birth and education, merely helps to make our story credible-good fathers are likely to have good sons, and good training is likely to produce good character. Hence it is only when a man has already done something that we bestow encomiums upon him. Yet the actual deeds are evidence of the doer's character: even if a man has not actually done a given good thing, we shall bestow praise on him, if we are sure that he is the sort of man who would do it. To call any one blest is, it may be added, the same thing as to call him happy; but these are not the same thing as to bestow praise and encomium upon him; the two latter are a part of 'calling happy', just as goodness is a part of happiness.

To praise a man is in one respect akin to urging a course of action. The suggestions which would be made in the latter case become encomiums when differently expressed. When we know what action or character is required, then, in order to express these facts as suggestions for action, we have to change and reverse our form of words. Thus the statement 'A man should be proud not of what he owes to fortune but of what he owes to himself', if put like this, amounts to a suggestion; to make it into praise we must put it thus, 'Since he is proud not of what he owes to fortune but of what he owes to himself.' Consequently, whenever you want to praise any one, think what you would urge people to do; and when you want to urge the doing of anything, think what you would praise a man for having done. Since suggestion may or may not forbid an action, the praise into which we convert it must have one or other of two opposite forms of expression accordingly.

There are, also, many useful ways of heightening the effect of praise. We must, for instance, point out that a man is the only one, or the first, or almost the only one who has done something, or that he has done it better than any one else; all these distinctions are honourable. And we must, further, make much of the particular season and occasion of an action, arguing that we could hardly have looked for it just then. If a man has often achieved the same success, we must mention this; that is a strong point; he himself, and not luck, will then be given the credit. So, too, if it is on his account that observances have been devised and instituted to encourage or honour such achievements as his own: thus we may praise Hippolochus because the first encomium ever made was for him, or Harmodius and Aristogeiton because their statues were the first to be put up in the market-place. And we may censure bad men for the opposite reason.

Again, if you cannot find enough to say of a man himself, you may pit him against others, which is what Isocrates used to do owing to his want of familiarity with forensic pleading. The comparison should be with famous men; that will strengthen your case; it is a noble thing to surpass men who are themselves great. It is only natural that methods of ‘heightening the effect’ should be attached particularly to speeches of praise; they aim at proving superiority over others, and any such superiority is a form of nobleness. Hence if you cannot compare your hero with famous men, you should at least compare him with other people generally, since any superiority is held to reveal excellence. And, in general, of the lines of argument which are common to all speeches, this ‘heightening of effect’ is most suitable for declamations, where we take our hero’s actions as admitted facts, and our business is simply to invest these with dignity and nobility. ‘Examples’ are most suitable to deliberative speeches; for we judge of future events by divination from past events. Enthymemes are most suitable to forensic speeches; it is our doubts about past events that most admit of arguments showing why a thing must have happened or proving that it did happen.

The above are the general lines on which all, or nearly all, speeches of praise or blame are constructed. We have seen the sort of thing we must bear in mind in making such speeches, and the materials out of which encomiums and censures are made. No special treatment of censure and vituperation is needed. Knowing the above facts, we know their contraries; and it is out of these that speeches of censure are made.

10

We have next to treat of Accusation and Defence, and to enumerate and describe the ingredients of the syllogisms used therein. There are three things we must ascertain first, the nature and number of the incentives to wrong-doing; second, the state of mind of wrongdoers; third, the kind of persons who are wronged, and their condition. We will deal with these questions in order. But before that let us define the act of ‘wrong-doing’.

We may describe ‘wrong-doing’ as injury voluntarily inflicted contrary to law. ‘Law’ is either special or general. By special law I mean that written law which regulates the life of a particular community; by general law, all those unwritten principles which are supposed to be acknowledged everywhere. We do things ‘voluntarily’ when we do them consciously and without constraint. (Not all voluntary acts are deliberate, but all deliberate acts are conscious-no one is ignorant of what he deliberately intends.) The causes of our deliberately intending harmful and wicked acts contrary to law are (1) vice, (2) lack of self-control. For the wrongs a man does to others will correspond to the bad quality or qualities that he himself possesses. Thus it is the mean man who will wrong others about money, the profligate in matters of physical pleasure, the effeminate in matters of comfort, and the coward where danger is concerned-his terror makes him abandon those who are involved in the same danger. The ambitious man does wrong for sake of honour, the quick-tempered from anger, the lover of victory for the sake of victory, the embittered man for the sake of revenge, the stupid man because he has misguided notions of right and wrong, the shameless man because he does not mind what people think of him; and so with the rest-any wrong that any one does to others corresponds to his particular faults of character.

However, this subject has already been cleared up in part in our discussion of the virtues and will be further explained later when we treat of the emotions. We have now to consider the motives and states of mind of wrongdoers, and to whom they do wrong.

Let us first decide what sort of things people are trying to get or avoid when they set about doing wrong to others. For it is plain that the prosecutor must consider, out of all the aims that can ever induce us to do wrong to our neighbours, how many, and which, affect his adversary; while the defendant must consider how many, and which, do not affect him. Now every action of every person either is or is not due to that person himself. Of those not due to himself some are due to chance, the others to necessity; of these latter, again, some are due to compulsion, the others to nature. Consequently all actions that are not due to a man himself are due either to chance or to nature or to compulsion. All actions that are due to a man himself and caused by himself are due either to habit or to rational or irrational craving. Rational craving is a craving for good, i.e. a wish-nobody wishes for anything unless he thinks it good. Irrational craving is twofold, viz. anger and appetite.

Thus every action must be due to one or other of seven causes: chance, nature, compulsion, habit, reasoning, anger, or appetite. It is superfluous further to distinguish actions according to the doers' ages, moral states, or the like; it is of course true that, for instance, young men do have hot tempers and strong appetites; still, it is not through youth that they act accordingly, but through anger or appetite. Nor, again, is action due to wealth or poverty; it is of course true that poor men, being short of money, do have an appetite for it, and that rich men, being able to command needless pleasures, do have an appetite for such pleasures: but here, again, their actions will be due not to wealth or poverty but to appetite. Similarly, with just men, and unjust men, and all others who are said to act in accordance with their moral qualities, their actions will really be due to one of the causes mentioned-either reasoning or emotion: due, indeed, sometimes to good dispositions and good emotions, and sometimes to bad; but that good qualities should be followed by good emotions, and bad by bad, is merely an accessory fact-it is no doubt true that the temperate man, for instance, because he is temperate, is always and at once attended by healthy opinions and appetites in regard to pleasant things, and the intemperate man by unhealthy ones. So we must ignore such distinctions. Still we must consider what kinds of actions and of people usually go together; for while there are no definite kinds of action associated with the fact that a man is fair or dark, tall or short, it does make a difference if he is young or old, just or unjust. And, generally speaking, all those accessory qualities that cause distinctions of human character are important: e.g. the sense of wealth or poverty, of being lucky or unlucky. This shall be dealt with later-let us now deal first with the rest of the subject before us.

The things that happen by chance are all those whose cause cannot be determined, that have no purpose, and that happen neither always nor usually nor in any fixed way. The definition of chance shows just what they are. Those things happen by nature which have a fixed and internal cause; they take place uniformly, either always or usually. There is no need to discuss in exact detail the things that happen contrary to nature, nor to ask whether they happen in some sense naturally or from some other cause; it would seem that chance is at least partly the cause of such events. Those things happen through compulsion which take place contrary to the desire or reason of the doer, yet through his own agency. Acts are done from habit which men do because they have often done them before. Actions are due to reasoning when, in view of any of the goods already mentioned, they appear useful either as ends or as means to an end, and are performed for that reason: ‘for that reason,’ since even licentious persons perform a certain number of useful actions, but because they are pleasant and not because they are useful. To passion and anger are due all acts of revenge. Revenge and punishment are different things. Punishment is inflicted for the sake of the person punished; revenge for that of the punisher, to satisfy his feelings. (What anger is will be made clear when we come to discuss the emotions.) Appetite is the cause of all actions that appear pleasant. Habit, whether acquired by mere familiarity or by effort, belongs to the class of pleasant things, for there are many actions not naturally pleasant which men perform with pleasure, once they have become used to them. To sum up then, all actions due to ourselves either are or seem to be either good or pleasant. Moreover, as all actions due to ourselves are done voluntarily and actions not due to ourselves are done involuntarily, it follows that all voluntary actions must either be or seem to be either good or pleasant; for I reckon among goods escape from evils or apparent evils and the exchange of a greater evil for a less (since these things are in a sense positively desirable), and likewise I count among pleasures escape from painful or apparently painful things and the exchange of a greater pain for a less. We must ascertain, then, the number and nature of the things that are useful and pleasant. The useful has been previously examined in connexion with political oratory; let us now proceed to examine the pleasant. Our various definitions must be regarded as adequate, even if they are not exact, provided they are clear.

11

We may lay it down that Pleasure is a movement, a movement by which the soul as a whole is consciously brought into its normal state of being; and that Pain is the opposite. If this is what pleasure is, it is clear that the pleasant is what tends to produce this condition, while that which tends to destroy it, or to cause the soul to be brought into the opposite state, is painful. It must therefore be pleasant as a rule to move towards a natural state of being, particularly when a natural process has achieved the complete recovery of that natural state. Habits also are pleasant; for as soon as a thing has become habitual, it is virtually natural; habit is a thing not unlike nature; what happens often is akin to what happens always, natural events happening always, habitual events often. Again, that is pleasant which is not forced on us; for force is unnatural, and that is why what is compulsory, painful, and it has been rightly said

All that is done on compulsion is bitterness unto the soul.

So all acts of concentration, strong effort, and strain are necessarily painful; they all involve compulsion and force, unless we are accustomed to them, in which case it is custom that makes them pleasant. The opposites to these are pleasant; and hence ease, freedom from toil, relaxation, amusement, rest, and sleep belong to the class of pleasant things; for these are all free from any element of compulsion. Everything, too, is pleasant for which we have the desire within us, since desire is the craving for pleasure. Of the desires some are irrational, some associated with reason. By irrational I mean those which do not arise from any opinion held by the mind. Of this kind are those known as ‘natural’; for instance, those originating in the body, such as the desire for nourishment, namely hunger and thirst, and a separate kind of desire answering to each kind of nourishment; and the desires connected with taste and sex and sensations of touch in general; and those of smell, hearing, and vision. Rational desires are those which we are induced to have; there are many things we desire to see or get because we have been told of them and induced to believe them good. Further, pleasure is the consciousness through the senses of a certain kind of emotion; but imagination is a feeble sort of sensation, and there will always be in the mind of a man who remembers or expects something an image or picture of what he remembers or expects. If this is so, it is clear that memory and expectation also, being accompanied by sensation, may be accompanied by pleasure. It follows that anything pleasant is either present and perceived, past and remembered, or future and expected, since we perceive present pleasures, remember past ones, and expect future ones. Now the things that are pleasant to remember are not only those that, when actually perceived as present, were pleasant, but also some things that were not, provided that their results have subsequently proved noble and good. Hence the words

Sweet ‘tis when rescued to remember pain, and

Even his griefs are a joy long after to one that remembers
All that he wrought and endured.

The reason of this is that it is pleasant even to be merely free from evil. The things it is pleasant to expect are those that when present are felt to afford us either great delight or great but not painful benefit. And in general, all the things that delight us when they are present also do so, as a rule, when we merely remember or expect them. Hence even being angry is pleasant-Homer said of wrath that

Sweeter it is by far than the honeycomb dripping with sweetness-

for no one grows angry with a person on whom there is no prospect of taking vengeance, and we feel comparatively little anger, or none at all, with those who are much our superiors in power. Some pleasant feeling is associated with most of our appetites we are enjoying either the memory of a past pleasure or the expectation of a future one, just as persons down with fever, during their attacks of thirst, enjoy remembering the drinks they have had and looking forward to having more. So also a lover enjoys talking or writing about his loved one, or doing any little thing connected with him; all these things recall him to memory and make him actually present to the eye of imagination. Indeed, it is always the first sign of love, that besides enjoying some one's presence, we remember him when he is gone, and feel pain as well as pleasure, because he is there no longer. Similarly there is an element of pleasure even in mourning and lamentation for the departed. There is grief, indeed, at his loss, but pleasure in remembering him and as it were seeing him before us in his deeds and in his life. We can well believe the poet when he says

He spake, and in each man's heart he awakened
the love of lament.

Revenge, too, is pleasant; it is pleasant to get anything that it is painful to fail to get, and angry people suffer extreme pain when they fail to get their revenge; but they enjoy the prospect of getting it. Victory also is pleasant, and not merely to 'bad losers', but to every one; the winner sees himself in the light of a champion, and everybody has a more or less keen appetite for being that. The pleasantness of victory implies of course that combative sports and intellectual contests are pleasant (since in these it often happens that some one wins) and also games like knuckle-bones, ball, dice, and draughts. And similarly with the serious sports; some of these become pleasant when one is accustomed to them; while others are pleasant from the first, like hunting with hounds, or indeed any kind of hunting. For where there is competition, there is victory. That is why forensic pleading and debating contests are pleasant to those who are accustomed to them and have the capacity for them. Honour and good repute are among the most pleasant things of all; they make a man see himself in the character of a fine fellow, especially when he is credited with it by people whom he thinks good judges. His neighbours are better judges than people at a distance; his associates and fellow-countrymen better than strangers; his contemporaries better than posterity; sensible persons better than foolish ones; a large number of people better than a small number: those of the former class, in each case, are the more likely to be good judges of him. Honour and credit bestowed by those whom you think much inferior to yourself-e.g. children or animals-you do not value: not for its own sake, anyhow: if you do value it, it is for some other reason. Friends belong to the class of pleasant things; it is pleasant to love-if you love wine, you certainly find it delightful: and it is pleasant to be loved, for this too makes a man see himself as the possessor of goodness, a thing that every being that has a feeling for it desires to possess: to be loved means to be valued for one's own personal qualities. To be admired is also pleasant, simply because of the honour implied. Flattery and flatterers are pleasant: the flatterer is a man who, you believe, admires and likes To do the same thing often is pleasant, since, as we saw, anything habitual is pleasant. And to change is also pleasant: change means an approach to nature, whereas invariable repetition of anything causes the excessive prolongation of a settled condition: therefore, says the poet,

Change is in all things sweet.

That is why what comes to us only at long intervals is pleasant, whether it be a person or a thing; for it is a change from what we had before, and, besides, what comes only at long intervals has the value of rarity. Learning things and wondering at things are also pleasant as a rule; wondering implies the desire of learning, so that the object of wonder is an object of desire; while in learning one is brought into one's natural condition. Conferring and receiving benefits belong to the class of pleasant things; to receive a benefit is to get what one desires; to confer a benefit implies both posses sion and superiority, both of which are things we try to attain. It is because beneficent acts are pleasant that people find it pleasant to put their neighbours straight again and to supply what they lack. Again, since learning and wondering are pleasant, it follows that such things as acts of imitation must be pleasant-for instance, painting, sculpture, poetry and every product of skilful imitation; this latter, even if the object imitated is not itself pleasant; for it is not the object itself which here gives delight; the spectator draws inferences ('That is a so-and-so') and thus learns something fresh. Dramatic turns of fortune and hairbreadth escapes from perils are pleasant, because we feel all such things are wonderful.

And since what is natural is pleasant, and things akin to each other seem natural to each other, therefore all kindred and similar things are usually pleasant to each other; for instance, one man, horse, or young person is pleasant to another man, horse, or young person. Hence the proverbs 'mate delights mate', 'like to like', 'beast knows beast', 'jackdaw to jackdaw', and the rest of them. But since everything like and akin to oneself is pleasant, and since every man is himself more like and akin to himself than any one else is, it follows that all of us must be more or less fond of ourselves. For all this resemblance and kinship is present particularly in the relation of an individual to himself. And because we are all fond of ourselves, it follows that what is our own is pleasant to all of us, as for instance our own deeds and words. That is why we are usually fond of our flatterers, [our lovers,] and honour; also of our children, for our children are our own work. It is also pleasant to complete what is defective, for the whole thing thereupon becomes our own work. And since power over others is very pleasant, it is pleasant to be thought wise, for practical wisdom secures us power over others. (Scientific wisdom is also pleasant, because it is the knowledge of many wonderful things.) Again, since most of us are ambitious, it must be pleasant to disparage our neighbours as well as to have power over them. It is pleasant for a man to spend his time over what he feels he can do best; just as the poet says,

To that he bends himself,
To that each day allots most time, wherein
He is indeed the best part of himself.

Similarly, since amusement and every kind of relaxation and laughter too belong to the class of pleasant things, it follows that ludicrous things are pleasant, whether men, words, or deeds. We have discussed the ludicrous separately in the treatise on the Art of Poetry.

So much for the subject of pleasant things: by considering their opposites we can easily see what things are unpleasant.

12

The above are the motives that make men do wrong to others; we are next to consider the states of mind in which they do it, and the persons to whom they do it.

They must themselves suppose that the thing can be done, and done by them: either that they can do it without being found out, or that if they are found out they can escape being punished, or that if they are punished the disadvantage will be less than the gain for themselves or those they care for. The general subject of apparent possibility and impossibility will be handled later on, since it is relevant not only to forensic but to all kinds of speaking. But it may here be said that people think that they can themselves most easily do wrong to others without being punished for it if they possess eloquence, or practical ability, or much legal experience, or a large body of friends, or a great deal of money. Their confidence is greatest if they personally possess the advantages mentioned: but even without them they are satisfied if they have friends or supporters or partners who do possess them: they can thus both commit their crimes and escape being found out and punished for committing them. They are also safe, they think, if they are on good terms with their victims or with the judges who try them. Their victims will in that case not be on their guard against being wronged, and will make some arrangement with them instead of prosecuting; while their judges will favour them because they like them, either letting them off altogether or imposing light sentences. They are not likely to be found out if their appearance contradicts the charges that might be brought against them: for instance, a weakling is unlikely to be charged with violent assault, or a poor and ugly man with adultery. Public and open injuries are the easiest to do, because nobody could at all suppose them possible, and therefore no precautions are taken. The same is true of crimes so great and terrible that no man living could be suspected of them: here too no precautions are taken. For all men guard against ordinary offences, just as they guard against ordinary diseases; but no one takes precautions against a disease that nobody has ever had. You feel safe, too, if you have either no enemies or a great many; if you have none, you expect not to be watched and therefore not to be detected; if you have a great many, you will be watched, and therefore people will think you can never risk an attempt on them, and you can defend your innocence by pointing out that you could never have taken such a risk. You may also trust to hide your crime by the way you do it or the place you do it in, or by some convenient means of disposal.

You may feel that even if you are found out you can stave off a trial, or have it postponed, or corrupt your judges: or that even if you are sentenced you can avoid paying damages, or can at least postpone doing so for a long time: or that you are so badly off that you will have nothing to lose. You may feel that the gain to be got by wrong-doing is great or certain or immediate, and that the penalty is small or uncertain or distant. It may be that the advantage to be gained is greater than any possible retribution: as in the case of despotic power, according to the popular view. You may consider your crimes as bringing you solid profit, while their punishment is nothing more than being called bad names. Or the opposite argument may appeal to you: your crimes may bring you some credit (thus you may, incidentally, be avenging your father or mother, like Zeno), whereas the punishment may amount to a fine, or banishment, or something of that sort. People may be led on to wrong others by either of these motives or feelings; but no man by both-they will affect people of quite opposite characters. You may be encouraged by having often escaped detection or punishment already; or by having often tried and failed; for in crime, as in war, there are men who will always refuse to give up the struggle. You may get your pleasure on the spot and the pain later, or the gain on the spot and the loss later. That is what appeals to weak-willed persons — and weakness of will may be shown with regard to all the objects of desire. It may on the contrary appeal to you as it does appeal to self-controlled and sensible people — that the pain and loss are immediate, while the pleasure and profit come later and last longer. You may feel able to make it appear that your crime was due to chance, or to necessity, or to natural causes, or to habit: in fact, to put it generally, as if you had failed to do right rather than actually done wrong. You may be able to trust other people to judge you equitably. You may be stimulated by being in want: which may mean that you want necessaries, as poor people do, or that you want luxuries, as rich people do. You may be encouraged by having a particularly good reputation, because that will save you from being suspected: or by having a particularly bad one, because nothing you are likely to do will make it worse.

The above, then, are the various states of mind in which a man sets about doing wrong to others. The kind of people to whom he does wrong, and the ways in which he does it, must be considered next. The people to whom he does it are those who have what he wants himself, whether this means necessities or luxuries and materials for enjoyment. His victims may be far off or near at hand. If they are near, he gets his profit quickly; if they are far off, vengeance is slow, as those think who plunder the Carthaginians. They may be those who are trustful instead of being cautious and watchful, since all such people are easy to elude. Or those who are too easy-going to have enough energy to prosecute an offender. Or sensitive people, who are not apt to show fight over questions of money. Or those who have been wronged already by many people, and yet have not prosecuted; such men must surely be the proverbial 'Mysian prey'. Or those who have either never or often been wronged before; in neither case will they take precautions; if they have never been wronged they think they never will, and if they have often been wronged they feel that surely it cannot happen again. Or those whose character has been attacked in the past, or is exposed to attack in the future: they will be too much frightened of the judges to make up their minds to prosecute, nor can they win their case if they do: this is true of those who are hated or unpopular. Another likely class of victim is those who their injurer can pretend have, themselves or through their ancestors or friends, treated badly, or intended to treat badly, the man himself, or his ancestors, or those he cares for; as the proverb says, 'wickedness needs but a pretext'. A man may wrong his enemies, because that is pleasant: he may equally wrong his friends, because that is easy. Then there are those who have no friends, and those who lack eloquence and practical capacity; these will either not attempt to prosecute, or they will come to terms, or failing that they will lose their case. There are those whom it does not pay to waste time in waiting for trial or damages, such as foreigners and small farmers; they will settle for a trifle, and always be ready to leave off. Also those who have themselves wronged others, either often, or in the same way as they are now being wronged themselves-for it is felt that next to no wrong is done to people when it is the same wrong as they have often themselves done to others: if, for instance, you assault a man who has been accustomed to behave with violence to others. So too with those who have done wrong to others, or have meant to, or mean to, or are likely to do so; there is something fine and pleasant in wronging such persons, it seems as though almost no wrong were done. Also those by doing wrong to whom we shall be gratifying our friends, or those we admire or love, or our masters, or in general the people by reference to whom we mould our lives. Also those whom we may wrong and yet be sure of equitable treatment. Also those against whom we have had any grievance, or any previous differences with them, as Callippus had when he behaved as he did to Dion: here too it seems as if almost no wrong were being done. Also those who are on the point of being wronged by others if we fail to wrong them ourselves, since here we feel we have no time left for thinking the matter over. So Aenesidemus is said to have sent the ‘cottabus’ prize to Gelon, who had just reduced a town to slavery, because Gelon had got there first and forestalled his own attempt. Also those by wronging whom we shall be able to do many righteous acts; for we feel that we can then easily cure the harm done. Thus Jason the Thessalian said that it is a duty to do some unjust acts in order to be able to do many just ones.

Among the kinds of wrong done to others are those that are done universally, or at least commonly: one expects to be forgiven for doing these. Also those that can easily be kept dark, as where things that can rapidly be consumed like eatables are concerned, or things that can easily be changed in shape, colour, or combination, or things that can easily be stowed away almost anywhere-portable objects that you can stow away in small corners, or things so like others of which you have plenty already that nobody can tell the difference. There are also wrongs of a kind that shame prevents the victim speaking about, such as outrages done to the women in his household or to himself or to his sons. Also those for which you would be thought very litigious to prosecute any one-trifling wrongs, or wrongs for which people are usually excused.

The above is a fairly complete account of the circumstances under which men do wrong to others, of the sort of wrongs they do, of the sort of persons to whom they do them, and of their reasons for doing them.

It will now be well to make a complete classification of just and unjust actions. We may begin by observing that they have been defined relatively to two kinds of law, and also relatively to two classes of persons. By the two kinds of law I mean particular law and universal law. Particular law is that which each community lays down and applies to its own members: this is partly written and partly unwritten. Universal law is the law of Nature. For there really is, as every one to some extent divines, a natural justice and injustice that is binding on all men, even on those who have no association or covenant with each other. It is this that Sophocles' Antigone clearly means when she says that the burial of Polyneices was a just act in spite of the prohibition: she means that it was just by nature.

Not of to-day or yesterday it is,
But lives eternal: none can date its birth.

And so Empedocles, when he bids us kill no living creature, says that doing this is not just for some people while unjust for others,

Nay, but, an all-embracing law, through the realms of the sky
Unbroken it stretcheth, and over the earth's immensity.

And as Alcidamas says in his Messeniac Oration....

The actions that we ought to do or not to do have also been divided into two classes as affecting either the whole community or some one of its members. From this point of view we can perform just or unjust acts in either of two ways-towards one definite person, or towards the community. The man who is guilty of adultery or assault is doing wrong to some definite person; the man who avoids service in the army is doing wrong to the community.

Thus the whole class of unjust actions may be divided into two classes, those affecting the community, and those affecting one or more other persons. We will next, before going further, remind ourselves of what 'being wronged' means. Since it has already been settled that 'doing a wrong' must be intentional, 'being wronged' must consist in having an injury done to you by some one who intends to do it. In order to be wronged, a man must (1) suffer actual harm, (2) suffer it against his will. The various possible forms of harm are clearly explained by our previous, separate discussion of goods and evils. We have also seen that a voluntary action is one where the doer knows what he is doing. We now see that every accusation must be of an action affecting either the community or some individual. The doer of the action must either understand and intend the action, or not understand and intend it. In the former case, he must be acting either from deliberate choice or from passion. (Anger will be discussed when we speak of the passions the motives for crime and the state of mind of the criminal have already been discussed.) Now it often happens that a man will admit an act, but will not admit the prosecutor's label for the act nor the facts which that label implies. He will admit that he took a thing but not that he 'stole' it; that he struck some one first, but not that he committed 'outrage'; that he had intercourse with a woman, but not that he committed 'adultery'; that he is guilty of theft, but not that he is guilty of 'sacrilege', the object stolen not being consecrated; that he has encroached, but not that he has 'encroached on State lands'; that he has been in communication with the enemy, but not that he has been guilty of 'treason'. Here therefore we must be able to distinguish what is theft, outrage, or adultery, from what is not, if we are to be able to make the justice of our case clear, no matter whether our aim is to establish a man's guilt or to establish his innocence. Wherever such charges are brought against a man, the question is whether he is or is not guilty of a criminal offence. It is deliberate purpose that constitutes wickedness and criminal guilt, and such names as 'outrage' or 'theft' imply deliberate purpose as well as the mere action. A blow does not always amount to 'outrage', but only if it is struck with some such purpose as to insult the man struck or gratify the striker himself. Nor does taking a thing without the owner's knowledge always amount to 'theft', but only if it is taken with the intention of keeping it and injuring the owner. And as with these charges, so with all the others.

We saw that there are two kinds of right and wrong conduct towards others, one provided for by written ordinances, the other by unwritten. We have now discussed the kind about which the laws have something to say. The other kind has itself two varieties. First, there is the conduct that springs from exceptional goodness or badness, and is visited accordingly with censure and loss of honour, or with praise and increase of honour and decorations: for instance, gratitude to, or requital of, our benefactors, readiness to help our friends, and the like. The second kind makes up for the defects of a community's written code of law. This is what we call equity; people regard it as just; it is, in fact, the sort of justice which goes beyond the written law. Its existence partly is and partly is not intended by legislators; not intended, where they have noticed no defect in the law; intended, where find themselves unable to define things exactly, and are obliged to legislate as if that held good always which in fact only holds good usually; or where it is not easy to be complete owing to the endless possible cases presented, such as the kinds and sizes of weapons that may be used to inflict wounds-a lifetime would be too short to make out a complete list of these. If, then, a precise statement is impossible and yet legislation is necessary, the law must be expressed in wide terms; and so, if a man has no more than a finger-ring on his hand when he lifts it to strike or actually strikes another man, he is guilty of a criminal act according to the unwritten words of the law; but he is innocent really, and it is equity that declares him to be so. From this definition of equity it is plain what sort of actions, and what sort of persons, are equitable or the reverse. Equity must be applied to forgivable actions; and it must make us distinguish between criminal acts on the one hand, and errors of judgement, or misfortunes, on the other. (A 'misfortune' is an act, not due to moral badness, that has unexpected results: an 'error of judgement' is an act, also not due to moral badness, that has results that might have been expected: a 'criminal act' has results that might have been expected, but is due to moral badness, for that is the source of all actions inspired by our appetites.) Equity bids us be merciful to the weakness of human nature; to think less about the laws than about the man who framed them, and less about what he said than about what he meant; not to consider the actions of the accused so much as his intentions, nor this or that detail so much as the whole story; to ask not what a man is now but what he has always or usually been. It bids us remember benefits rather than injuries, and benefits received rather than benefits conferred; to be patient when we are wronged; to settle a dispute by negotiation and not by force; to prefer arbitration to motion-for an arbitrator goes by the equity of a case, a judge by the strict law, and arbitration was invented with the express purpose of securing full power for equity.

The above may be taken as a sufficient account of the nature of equity.

The worse of two acts of wrong done to others is that which is prompted by the worse disposition. Hence the most trifling acts may be the worst ones; as when Callistratus charged Melanopus with having cheated the temple-builders of three consecrated half-obols. The converse is true of just acts. This is because the greater is here potentially contained in the less: there is no crime that a man who has stolen three consecrated half-obols would shrink from committing. Sometimes, however, the worse act is reckoned not in this way but by the greater harm that it does. Or it may be because no punishment for it is severe enough to be adequate; or the harm done may be incurable-a difficult and even hopeless crime to defend; or the sufferer may not be able to get his injurer legally punished, a fact that makes the harm incurable, since legal punishment and chastisement are the proper cure. Or again, the man who has suffered wrong may have inflicted some fearful punishment on himself; then the doer of the wrong ought in justice to receive a still more fearful punishment. Thus Sophocles, when pleading for retribution to Euctemon, who had cut his own throat because of the outrage done to him, said he would not fix a penalty less than the victim had fixed for himself. Again, a man's crime is worse if he has been the first man, or the only man, or almost the only man, to commit it: or if it is by no means the first time he has gone seriously wrong in the same way: or if his crime has led to the thinking-out and invention of measures to prevent and punish similar crimes-thus in Argos a penalty is inflicted on a man on whose account a law is passed, and also on those on whose account the prison was built: or if a crime is specially brutal, or specially deliberate: or if the report of it awakes more terror than pity. There are also such rhetorically effective ways of putting it as the following: That the accused has disregarded and broken not one but many solemn obligations like oaths, promises, pledges, or rights of intermarriage between states-here the crime is worse because it consists of many crimes; and that the crime was committed in the very place where criminals are punished, as for example perjurers do-it is argued that a man who will commit a crime in a law-court would commit it anywhere. Further, the worse deed is that which involves the doer in special shame; that whereby a man wrongs his benefactors-for he does more than one wrong, by not merely doing them harm but failing to do them good; that which breaks the unwritten laws of justice-the better sort of man will be just without being forced to be so, and the written laws depend on force while the unwritten ones do not. It may however be argued otherwise, that the crime is worse which breaks the written laws: for the man who commits crimes for which terrible penalties are provided will not hesitate over crimes for which no penalty is provided at all.-So much, then, for the comparative badness of criminal actions.

15

There are also the so-called ‘non-technical’ means of persuasion; and we must now take a cursory view of these, since they are specially characteristic of forensic oratory. They are five in number: laws, witnesses, contracts, tortures, oaths.

First, then, let us take laws and see how they are to be used in persuasion and dissuasion, in accusation and defence. If the written law tells against our case, clearly we must appeal to the universal law, and insist on its greater equity and justice. We must argue that the juror’s oath ‘I will give my verdict according to honest opinion’ means that one will not simply follow the letter of the written law. We must urge that the principles of equity are permanent and changeless, and that the universal law does not change either, for it is the law of nature, whereas written laws often do change. This is the bearing the lines in Sophocles’ Antigone, where Antigone pleads that in burying her brother she had broken Creon’s law, but not the unwritten law:

Not of to-day or yesterday they are,
But live eternal: (none can date their birth.)
Not I would fear the wrath of any man
(And brave God’s vengeance) for defying these.

We shall argue that justice indeed is true and profitable, but that sham justice is not, and that consequently the written law is not, because it does not fulfil the true purpose of law. Or that justice is like silver, and must be assayed by the judges, if the genuine is to be distinguished from the counterfeit. Or that the better a man is, the more he will follow and abide by the unwritten law in preference to the written. Or perhaps that the law in question contradicts some other highly-esteemed law, or even contradicts itself. Thus it may be that one law will enact that all contracts must be held binding, while another forbids us ever to make illegal contracts. Or if a law is ambiguous, we shall turn it about and consider which construction best fits the interests of justice or utility, and then follow that way of looking at it. Or if, though the law still exists, the situation to meet which it was passed exists no longer, we must do our best to prove this and to combat the law thereby. If however the written law supports our case, we must urge that the oath 'to give my verdict according to my honest opinion' not meant to make the judges give a verdict that is contrary to the law, but to save them from the guilt of perjury if they misunderstand what the law really means. Or that no one chooses what is absolutely good, but every one what is good for himself. Or that not to use the laws is as ahas to have no laws at all. Or that, as in the other arts, it does not pay to try to be cleverer than the doctor: for less harm comes from the doctor's mistakes than from the growing habit of disobeying authority. Or that trying to be cleverer than the laws is just what is forbidden by those codes of law that are accounted best.-So far as the laws are concerned, the above discussion is probably sufficient.

As to witnesses, they are of two kinds, the ancient and the recent; and these latter, again, either do or do not share in the risks of the trial. By 'ancient' witnesses I mean the poets and all other notable persons whose judgements are known to all. Thus the Athenians appealed to Homer as a witness about Salamis; and the men of Tenedos not long ago appealed to Periander of Corinth in their dispute with the people of Sigeum; and Cleophon supported his accusation of Critias by quoting the elegiac verse of Solon, maintaining that discipline had long been slack in the family of Critias, or Solon would never have written,

Pray thee, bid the red-haired Critias do what
his father commands him.

These witnesses are concerned with past events. As to future events we shall also appeal to soothsayers: thus Themistocles quoted the oracle about 'the wooden wall' as a reason for engaging the enemy's fleet. Further, proverbs are, as has been said, one form of evidence. Thus if you are urging somebody not to make a friend of an old man, you will appeal to the proverb,

Never show an old man kindness.

Or if you are urging that he who has made away with fathers should also make away with their sons, quote,

Fool, who slayeth the father and leaveth his sons to avenge him.

'Recent' witnesses are well-known people who have expressed their opinions about some disputed matter: such opinions will be useful support for subsequent disputants on the same oints: thus Eubulus used in the law-courts against the reply Plato had made to Archibius, ‘It has become the regular custom in this country to admit that one is a scoundrel’. There are also those witnesses who share the risk of punishment if their evidence is pronounced false. These are valid witnesses to the fact that an action was or was not done, that something is or is not the case; they are not valid witnesses to the quality of an action, to its being just or unjust, useful or harmful. On such questions of quality the opinion of detached persons is highly trustworthy. Most trustworthy of all are the ‘ancient’ witnesses, since they cannot be corrupted.

In dealing with the evidence of witnesses, the following are useful arguments. If you have no witnesses on your side, you will argue that the judges must decide from what is probable; that this is meant by ‘giving a verdict in accordance with one’s honest opinion’; that probabilities cannot be bribed to mislead the court; and that probabilities are never convicted of perjury. If you have witnesses, and the other man has not, you will argue that probabilities cannot be put on their trial, and that we could do without the evidence of witnesses altogether if we need do no more than balance the pleas advanced on either side.

The evidence of witnesses may refer either to ourselves or to our opponent; and either to questions of fact or to questions of personal character: so, clearly, we need never be at a loss for useful evidence. For if we have no evidence of fact supporting our own case or telling against that of our opponent, at least we can always find evidence to prove our own worth or our opponent’s worthlessness. Other arguments about a witness-that he is a friend or an enemy or neutral, or has a good, bad, or indifferent reputation, and any other such distinctions-we must construct upon the same general lines as we use for the regular rhetorical proofs.

Concerning contracts argument can be so far employed as to increase or diminish their importance and their credibility; we shall try to increase both if they tell in our favour, and to diminish both if they tell in favour of our opponent. Now for confirming or upsetting the credibility of contracts the procedure is just the same as for dealing with witnesses, for the credit to be attached to contracts depends upon the character of those who have signed them or have the custody of them. The contract being once admitted genuine, we must insist on its importance, if it supports our case. We may argue that a contract is a law, though of a special and limited kind; and that, while contracts do not of course make the law binding, the law does make any lawful contract binding, and that the law itself as a whole is a of contract, so that any one who disregards or repudiates any contract is repudiating the law itself. Further, most business relations-those, namely, that are voluntary-are regulated by contracts, and if these lose their binding force, human intercourse ceases to exist. We need not go very deep to discover the other appropriate arguments of this kind. If, however, the contract tells against us and for our opponents, in the first place those arguments are suitable which we can use to fight a law that tells against us. We do not regard ourselves as bound to observe a bad law which it was a mistake ever to pass: and it is ridiculous to suppose that we are bound to observe a bad and mistaken contract. Again, we may argue that the duty of the judge as umpire is to decide what is just, and therefore he must ask where justice lies, and not what this or that document means. And that it is impossible to pervert justice by fraud or by force, since it is founded on nature, but a party to a contract may be the victim of either fraud or force. Moreover, we must see if the contract contravenes either universal law or any written law of our own or another country; and also if it contradicts any other previous or subsequent contract; arguing that the subsequent is the binding contract, or else that the previous one was right and the subsequent one fraudulent-whichever way suits us. Further, we must consider the question of utility, noting whether the contract is against the interest of the judges or not; and so on-these arguments are as obvious as the others.

Examination by torture is one form of evidence, to which great weight is often attached because it is in a sense compulsory. Here again it is not hard to point out the available grounds for magnifying its value, if it happens to tell in our favour, and arguing that it is the only form of evidence that is infallible; or, on the other hand, for refuting it if it tells against us and for our opponent, when we may say what is true of torture of every kind alike, that people under its compulsion tell lies quite as often as they tell the truth, sometimes persistently refusing to tell the truth, sometimes recklessly making a false charge in order to be let off sooner. We ought to be able to quote cases, familiar to the judges, in which this sort of thing has actually happened. [We must say that evidence under torture is not trustworthy, the fact being that many men whether thick-witted, tough-skinned, or stout of heart endure their ordeal nobly, while cowards and timid men are full of boldness till they see the ordeal of these others: so that no trust can be placed in evidence under torture.]

In regard to oaths, a fourfold division can be made. A man may either both offer and accept an oath, or neither, or one without the other-that is, he may offer an oath but not accept one, or accept an oath but not offer one. There is also the situation that arises when an oath has already been sworn either by himself or by his opponent.

If you refuse to offer an oath, you may argue that men do not hesitate to perjure themselves; and that if your opponent does swear, you lose your money, whereas, if he does not, you think the judges will decide against him; and that the risk of an unfavourable verdict is prefer, able, since you trust the judges and do not trust him.

If you refuse to accept an oath, you may argue that an oath is always paid for; that you would of course have taken it if you had been a rascal, since if you are a rascal you had better make something by it, and you would in that case have to swear in order to succeed. Thus your refusal, you argue, must be due to high principle, not to fear of perjury: and you may aptly quote the saying of Xenophanes,

‘Tis not fair that he who fears not God
should challenge him who doth.

It is as if a strong man were to challenge a weakling to strike, or be struck by, him.

If you agree to accept an oath, you may argue that you trust yourself but not your opponent; and that (to invert the remark of Xenophanes) the fair thing is for the impious man to offer the oath and for the pious man to accept it; and that it would be monstrous if you yourself were unwilling to accept an oath in a case where you demand that the judges should do so before giving their verdict. If you wish to offer an oath, you may argue that piety disposes you to commit the issue to the gods; and that your opponent ought not to want other judges than himself, since you leave the decision with him; and that it is outrageous for your opponents to refuse to swear about this question, when they insist that others should do so.

Now that we see how we are to argue in each case separately, we see also how we are to argue when they occur in pairs, namely, when you are willing to accept the oath but not to offer it; to offer it but not to accept it; both to accept and to offer it; or to do neither. These are of course combinations of the cases already mentioned, and so your arguments also must be combinations of the arguments already mentioned.

If you have already sworn an oath that contradicts your present one, you must argue that it is not perjury, since perjury is a crime, and a crime must be a voluntary action, whereas actions due to the force or fraud of others are involuntary. You must further reason from this that perjury depends on the intention and not on the spoken words. But if it is your opponent who has already sworn an oath that contradicts his present one, you must say that if he does not abide by his oaths he is the enemy of society, and that this is the reason why men take an oath before administering the laws. ‘My opponents insist that you, the judges, must abide by the oath you have sworn, and yet they are not abiding by their own oaths.’ And there are other arguments which may be used to magnify the importance of the oath. [So much, then, for the ‘non-technical’ modes of persuasion.]

Book II

1

WE have now considered the materials to be used in supporting or opposing a political measure, in pronouncing eulogies or censures, and for prosecution and defence in the law courts. We have considered the received opinions on which we may best base our arguments so as to convince our hearers-those opinions with which our enthymemes deal, and out of which they are built, in each of the three kinds of oratory, according to what may be called the special needs of each.

But since rhetoric exists to affect the giving of decisions-the hearers decide between one political speaker and another, and a legal verdict is a decision-the orator must not only try to make the argument of his speech demonstrative and worthy of belief; he must also make his own character look right and put his hearers, who are to decide, into the right frame of mind. Particularly in political oratory, but also in lawsuits, it adds much to an orator's influence that his own character should look right and that he should be thought to entertain the right feelings towards his hearers; and also that his hearers themselves should be in just the right frame of mind. That the orator's own character should look right is particularly important in political speaking: that the audience should be in the right frame of mind, in lawsuits. When people are feeling friendly and placable, they think one sort of thing; when they are feeling angry or hostile, they think either something totally different or the same thing with a different intensity: when they feel friendly to the man who comes before them for judgement, they regard him as having done little wrong, if any; when they feel hostile, they take the opposite view. Again, if they are eager for, and have good hopes of, a thing that will be pleasant if it happens, they think that it certainly will happen and be good for them: whereas if they are indifferent or annoyed, they do not think so.

There are three things which inspire confidence in the orator's own character-the three, namely, that induce us to believe a thing apart from any proof of it: good sense, good moral character, and goodwill. False statements and bad advice are due to one or more of the following three causes. Men either form a false opinion through want of good sense; or they form a true opinion, but because of their moral badness do not say what they really think; or finally, they are both sensible and upright, but not well disposed to their hearers, and may fail in consequence to recommend what they know to be the best course. These are the only possible cases. It follows that any one who is thought to have all three of these good qualities will inspire trust in his audience. The way to make ourselves thought to be sensible and morally good must be gathered from the analysis of goodness already given: the way to establish your own goodness is the same as the way to establish that of others. Good will and friendliness of disposition will form part of our discussion of the emotions, to which we must now turn.

The Emotions are all those feelings that so change men as to affect their judgements, and that are also attended by pain or pleasure. Such are anger, pity, fear and the like, with their opposites. We must arrange what we have to say about each of them under three heads. Take, for instance, the emotion of anger: here we must discover (1) what the state of mind of angry people is, (2) who the people are with whom they usually get angry, and (3) on what grounds they get angry with them. It is not enough to know one or even two of these points; unless we know all three, we shall be unable to arouse anger in any one. The same is true of the other emotions. So just as earlier in this work we drew up a list of useful propositions for the orator, let us now proceed in the same way to analyse the subject before us.

2

Anger may be defined as an impulse, accompanied by pain, to a conspicuous revenge for a conspicuous slight directed without justification towards what concerns oneself or towards what concerns one’s friends. If this is a proper definition of anger, it must always be felt towards some particular individual, e.g. Cleon, and not ‘man’ in general. It must be felt because the other has done or intended to do something to him or one of his friends. It must always be attended by a certain pleasure-that which arises from the expectation of revenge. For since nobody aims at what he thinks he cannot attain, the angry man is aiming at what he can attain, and the belief that you will attain your aim is pleasant. Hence it has been well said about wrath,

Sweeter it is by far than the honeycomb
dripping with sweetness,
And spreads through the hearts of men.

It is also attended by a certain pleasure because the thoughts dwell upon the act of vengeance, and the images then called up cause pleasure, like the images called up in dreams.

Now slighting is the actively entertained opinion of something as obviously of no importance. We think bad things, as well as good ones, have serious importance; and we think the same of anything that tends to produce such things, while those which have little or no such tendency we consider unimportant. There are three kinds of slighting-contempt, spite, and insolence. (1) Contempt is one kind of slighting: you feel contempt for what you consider unimportant, and it is just such things that you slight. (2) Spite is another kind; it is a thwarting another man's wishes, not to get something yourself but to prevent his getting it. The slight arises just from the fact that you do not aim at something for yourself: clearly you do not think that he can do you harm, for then you would be afraid of him instead of slighting him, nor yet that he can do you any good worth mentioning, for then you would be anxious to make friends with him. (3) Insolence is also a form of slighting, since it consists in doing and saying things that cause shame to the victim, not in order that anything may happen to yourself, or because anything has happened to yourself, but simply for the pleasure involved. (Retaliation is not 'insolence', but vengeance.) The cause of the pleasure thus enjoyed by the insolent man is that he thinks himself greatly superior to others when ill-treating them. That is why youths and rich men are insolent; they think themselves superior when they show insolence. One sort of insolence is to rob people of the honour due to them; you certainly slight them thus; for it is the unimportant, for good or evil, that has no honour paid to it. So Achilles says in anger:

He hath taken my prize for himself
and hath done me dishonour,

and

Like an alien honoured by none,

meaning that this is why he is angry. A man expects to be specially respected by his inferiors in birth, in capacity, in goodness, and generally in anything in which he is much their superior: as where money is concerned a wealthy man looks for respect from a poor man; where speaking is concerned, the man with a turn for oratory looks for respect from one who cannot speak; the ruler demands the respect of the ruled, and the man who thinks he ought to be a ruler demands the respect of the man whom he thinks he ought to be ruling. Hence it has been said

Great is the wrath of kings, whose father is Zeus almighty,

and

Yea, but his rancour abideth long afterward also,

their great resentment being due to their great superiority. Then again a man looks for respect from those who he thinks owe him good treatment, and these are the people whom he has treated or is treating well, or means or has meant to treat well, either himself, or through his friends, or through others at his request.

It will be plain by now, from what has been said, (1) in what frame of mind, (2) with what persons, and (3) on what grounds people grow angry. (1) The frame of mind is that of one in which any pain is being felt. In that condition, a man is always aiming at something. Whether, then, another man opposes him either directly in any way, as by preventing him from drinking when he is thirsty, or indirectly, the act appears to him just the same; whether some one works against him, or fails to work with him, or otherwise vexes him while he is in this mood, he is equally angry in all these cases. Hence people who are afflicted by sickness or poverty or love or thirst or any other unsatisfied desires are prone to anger and easily roused: especially against those who slight their present distress. Thus a sick man is angered by disregard of his illness, a poor man by disregard of his poverty, a man aging war by disregard of the war he is waging, a lover by disregard of his love, and so throughout, any other sort of slight being enough if special slights are wanting. Each man is predisposed, by the emotion now controlling him, to his own particular anger. Further, we are angered if we happen to be expecting a contrary result: for a quite unexpected evil is specially painful, just as the quite unexpected fulfilment of our wishes is specially pleasant. Hence it is plain what seasons, times, conditions, and periods of life tend to stir men easily to anger, and where and when this will happen; and it is plain that the more we are under these conditions the more easily we are stirred.

These, then, are the frames of mind in which men are easily stirred to anger. The persons with whom we get angry are those who laugh, mock, or jeer at us, for such conduct is insolent. Also those who inflict injuries upon us that are marks of insolence. These injuries must be such as are neither retaliatory nor profitable to the doers: for only then will they be felt to be due to insolence. Also those who speak ill of us, and show contempt for us, in connexion with the things we ourselves most care about: thus those who are eager to win fame as philosophers get angry with those who show contempt for their philosophy; those who pride themselves upon their appearance get angry with those who show contempt for their appearance and so on in other cases. We feel particularly angry on this account if we suspect that we are in fact, or that people think we are, lacking completely or to any effective extent in the qualities in question. For when we are convinced that we excel in the qualities for which we are jeered at, we can ignore the jeering. Again, we are angrier with our friends than with other people, since we feel that our friends ought to treat us well and not badly. We are angry with those who have usually treated us with honour or regard, if a change comes and they behave to us otherwise: for we think that they feel contempt for us, or they would still be behaving as they did before. And with those who do not return our kindnesses or fail to return them adequately, and with those who oppose us though they are our inferiors: for all such persons seem to feel contempt for us; those who oppose us seem to think us inferior to themselves, and those who do not return our kindnesses seem to think that those kindnesses were conferred by inferiors. And we feel particularly angry with men of no account at all, if they slight us. For, by our hypothesis, the anger caused by the slight is felt towards people who are not justified in slighting us, and our inferiors are not thus justified. Again, we feel angry with friends if they do not speak well of us or treat us well; and still more, if they do the contrary; or if they do not perceive our needs, which is why Plexippus is angry with Meleager in Antiphon’s play; for this want of perception shows that they are slighting us-we do not fail to perceive the needs of those for whom we care. Again we are angry with those who rejoice at our misfortunes or simply keep cheerful in the midst of our misfortunes, since this shows that they either hate us or are slighting us. Also with those who are indifferent to the pain they give us: this is why we get angry with bringers of bad news. And with those who listen to stories about us or keep on looking at our weaknesses; this seems like either slighting us or hating us; for those who love us share in all our distresses and it must distress any one to keep on looking at his own weaknesses. Further, with those who slight us before five classes of people: namely, (1) our rivals, (2) those whom we admire, (3) those whom we wish to admire us, (4) those for whom we feel reverence, (5) those who feel reverence for us: if any one slights us before such persons, we feel particularly angry. Again, we feel angry with those who slight us in connexion with what we are as honourable men bound to champion-our parents, children, wives, or subjects. And with those who do not return a favour, since such a slight is unjustifiable. Also with those who reply with humorous levity when we are speaking seriously, for such behaviour indicates contempt. And with those who treat us less well than they treat everybody else; it is another mark of contempt that they should think we do not deserve what every one else deserves. Forgetfulness, too, causes anger, as when our own names are forgotten, trifling as this may be; since forgetfulness is felt to be another sign that we are being slighted; it is due to negligence, and to neglect us is to slight us.

The persons with whom we feel anger, the frame of mind in which we feel it, and the reasons why we feel it, have now all been set forth. Clearly the orator will have to speak so as to bring his hearers into a frame of mind that will dispose them to anger, and to represent his adversaries as open to such charges and possessed of such qualities as do make people angry.

3

Since growing calm is the opposite of growing angry, and calmness the opposite of anger, we must ascertain in what frames of mind men are calm, towards whom they feel calm, and by what means they are made so. Growing calm may be defined as a settling down or quieting of anger. Now we get angry with those who slight us; and since slighting is a voluntary act, it is plain that we feel calm towards those who do nothing of the kind, or who do or seem to do it involuntarily. Also towards those who intended to do the opposite of what they did do. Also towards those who treat themselves as they have treated us: since no one can be supposed to slight himself. Also towards those who admit their fault and are sorry: since we accept their grief at what they have done as satisfaction, and cease to be angry. The punishment of servants shows this: those who contradict us and deny their offence we punish all the more, but we cease to be incensed against those who agree that they deserved their punishment. The reason is that it is shameless to deny what is obvious, and those who are shameless towards us slight us and show contempt for us: anyhow, we do not feel shame before those of whom we are thoroughly contemptuous. Also we feel calm towards those who humble themselves before us and do not gainsay us; we feel that they thus admit themselves our inferiors, and inferiors feel fear, and nobody can slight any one so long as he feels afraid of him. That our anger ceases towards those who humble themselves before us is shown even by dogs, who do not bite people when they sit down. We also feel calm towards those who are serious when we are serious, because then we feel that we are treated seriously and not contemptuously. Also towards those who have done us more kindnesses than we have done them. Also towards those who pray to us and beg for mercy, since they humble themselves by doing so. Also towards those who do not insult or mock at or slight any one at all, or not any worthy person or any one like ourselves. In general, the things that make us calm may be inferred by seeing what the opposites are of those that make us angry. We are not angry with people we fear or respect, as long as we fear or respect them; you cannot be afraid of a person and also at the same time angry with him. Again, we feel no anger, or comparatively little, with those who have done what they did through anger: we do not feel that they have done it from a wish to slight us, for no one slights people when angry with them, since slighting is painless, and anger is painful. Nor do we grow angry with those who reverence us.

As to the frame of mind that makes people calm, it is plainly the opposite to that which makes them angry, as when they are amusing themselves or laughing or feasting; when they are feeling prosperous or successful or satisfied; when, in fine, they are enjoying freedom from pain, or inoffensive pleasure, or justifiable hope. Also when time has passed and their anger is no longer fresh, for time puts an end to anger. And vengeance previously taken on one person puts an end to even greater anger felt against another person. Hence Philocrates, being asked by some one, at a time when the public was angry with him, ‘Why don’t you defend yourself?’ did right to reply, ‘The time is not yet.’ ‘Why, when is the time?’ ‘When I see someone else calumniated.’ For men become calm when they have spent their anger on somebody else. This happened in the case of Ergophilus: though the people were more irritated against him than against Callisthenes, they acquitted him because they had condemned Callisthenes to death the day before. Again, men become calm if they have convicted the offender; or if he has already suffered worse things than they in their anger would have themselves inflicted upon him; for they feel as if they were already avenged. Or if they feel that they themselves are in the wrong and are suffering justly (for anger is not excited by what is just), since men no longer think then that they are suffering without justification; and anger, as we have seen, means this. Hence we ought always to inflict a preliminary punishment in words: if that is done, even slaves are less aggrieved by the actual punishment. We also feel calm if we think that the offender will not see that he is punished on our account and because of the way he has treated us. For anger has to do with individuals. This is plain from the definition. Hence the poet has well written:

Say that it was Odysseus, sacker of cities,

implying that Odysseus would not have considered himself avenged unless the Cyclops perceived both by whom and for what he had been blinded. Consequently we do not get angry with any one who cannot be aware of our anger, and in particular we cease to be angry with people once they are dead, for we feel that the worst has been done to them, and that they will neither feel pain nor anything else that we in our anger aim at making them feel. And therefore the poet has well made Apollo say, in order to put a stop to the anger of Achilles against the dead Hector,

For behold in his fury he doeth despite to the senseless clay.

It is now plain that when you wish to calm others you must draw upon these lines of argument; you must put your hearers into the corresponding frame of mind, and represent those with whom they are angry as formidable, or as worthy of reverence, or as benefactors, or as involuntary agents, or as much distressed at what they have done.

4

Let us now turn to Friendship and Enmity, and ask towards whom these feelings are entertained, and why. We will begin by defining and friendly feeling. We may describe friendly feeling towards any one as wishing for him what you believe to be good things, not for your own sake but for his, and being inclined, so far as you can, to bring these things about. A friend is one who feels thus and excites these feelings in return: those who think they feel thus towards each other think themselves friends. This being assumed, it follows that your friend is the sort of man who shares your pleasure in what is good and your pain in what is unpleasant, for your sake and for no other reason. This pleasure and pain of his will be the token of his good wishes for you, since we all feel glad at getting what we wish for, and pained at getting what we do not. Those, then, are friends to whom the same things are good and evil; and those who are, moreover, friendly or unfriendly to the same people; for in that case they must have the same wishes, and thus by wishing for each other what they wish for themselves, they show themselves each other's friends. Again, we feel friendly to those who have treated us well, either ourselves or those we care for, whether on a large scale, or readily, or at some particular crisis; provided it was for our own sake. And also to those who we think wish to treat us well. And also to our friends' friends, and to those who like, or are liked by, those whom we like ourselves. And also to those who are enemies to those whose enemies we are, and dislike, or are disliked by, those whom we dislike. For all such persons think the things good which we think good, so that they wish what is good for us; and this, as we saw, is what friends must do. And also to those who are willing to treat us well where money or our personal safety is concerned: and therefore we value those who are liberal, brave, or just. The just we consider to be those who do not live on others; which means those who work for their living, especially farmers and others who work with their own hands. We also like temperate men, because they are not unjust to others; and, for the same reason, those who mind their own business. And also those whose friends we wish to be, if it is plain that they wish to be our friends: such are the morally good, and those well thought of by every one, by the best men, or by those whom we admire or who admire us. And also those with whom it is pleasant to live and spend our days: such are the good-tempered, and those who are not too ready to show us our mistakes, and those who are not cantankerous or quarrelsome-such people are always wanting to fight us, and those who fight us we feel wish for the opposite of what we wish for ourselves-and those who have the tact to make and take a joke; here both parties have the same object in view, when they can stand being made fun of as well as do it prettily themselves. And we also feel friendly towards those who praise such good qualities as we possess, and especially if they praise the good qualities that we are not too sure we do possess. And towards those who are cleanly in their person, their dress, and all their way of life. And towards those who do not reproach us with what we have done amiss to them or they have done to help us, for both actions show a tendency to criticize us. And towards those who do not nurse grudges or store up grievances, but are always ready to make friends again; for we take it that they will behave to us just as we find them behaving to every one else. And towards those who are not evil speakers and who are aware of neither their neighbours' bad points nor our own, but of our good ones only, as a good man always will be. And towards those who do not try to thwart us when we are angry or in earnest, which would mean being ready to fight us. And towards those who have some serious feeling towards us, such as admiration for us, or belief in our goodness, or pleasure in our company; especially if they feel like this about qualities in us for which we especially wish to be admired, esteemed, or liked. And towards those who are like ourselves in character and occupation, provided they do not get in our way or gain their living from the same source as we do-for then it will be a case of 'potter against potter':

Potter to potter and builder to builder begrudge their reward.

And those who desire the same things as we desire, if it is possible for us both to share them together; otherwise the same trouble arises here too. And towards those with whom we are on such terms that, while we respect their opinions, we need not blush before them for doing what is conventionally wrong: as well as towards those before whom we should be ashamed to do anything really wrong. Again, our rivals, and those whom we should like to envy us — though without ill-feeling — either we like these people or at least we wish them to like us. And we feel friendly towards those whom we help to secure good for themselves, provided we are not likely to suffer heavily by it ourselves. And those who feel as friendly to us when we are not with them as when we are-which is why all men feel friendly towards those who are faithful to their dead friends. And, speaking generally, towards those who are really fond of their friends and do not desert them in trouble; of all good men, we feel most friendly to those who show their goodness as friends. Also towards those who are honest with us, including those who will tell us of their own weak points: it has just said that with our friends we are not ashamed of what is conventionally wrong, and if we do have this feeling, we do not love them; if therefore we do not have it, it looks as if we did love them. We also like those with whom we do not feel frightened or uncomfortable-nobody can like a man of whom he feels frightened.

Friendship has various forms-comradeship, intimacy, kinship, and so on.

Things that cause friendship are: doing kindnesses; doing them unasked; and not proclaiming the fact when they are done, which shows that they were done for our own sake and not for some other reason.

Enmity and Hatred should clearly be studied by reference to their opposites. Enmity may be produced by anger or spite or calumny. Now whereas anger arises from offences against oneself, enmity may arise even without that; we may hate people merely because of what we take to be their character. Anger is always concerned with individuals-a Callias or a Socrates-whereas hatred is directed also against classes: we all hate any thief and any informer. Moreover, anger can be cured by time; but hatred cannot. The one aims at giving pain to its object, the other at doing him harm; the angry man wants his victims to feel; the hater does not mind whether they feel or not. All painful things are felt; but the greatest evils, injustice and folly, are the least felt, since their presence causes no pain. And anger is accompanied by pain, hatred is not; the angry man feels pain, but the hater does not. Much may happen to make the angry man pity those who offend him, but the hater under no circumstances wishes to pity a man whom he has once hated: for the one would have the offenders suffer for what they have done; the other would have them cease to exist.

It is plain from all this that we can prove people to be friends or enemies; if they are not, we can make them out to be so; if they claim to be so, we can refute their claim; and if it is disputed whether an action was due to anger or to hatred, we can attribute it to whichever of these we prefer.

5

To turn next to Fear, what follows will show things and persons of which, and the states of mind in which, we feel afraid. Fear may be defined as a pain or disturbance due to a mental picture of some destructive or painful evil in the future. Of destructive or painful evils only; for there are some evils, e.g. wickedness or stupidity, the prospect of which does not frighten us: I mean only such as amount to great pains or losses. And even these only if they appear not remote but so near as to be imminent: we do not fear things that are a very long way off: for instance, we all know we shall die, but we are not troubled thereby, because death is not close at hand. From this definition it will follow that fear is caused by whatever we feel has great power of destroying or of harming us in ways that tend to cause us great pain. Hence the very indications of such things are terrible, making us feel that the terrible thing itself is close at hand; the approach of what is terrible is just what we mean by ‘danger’. Such indications are the enmity and anger of people who have power to do something to us; for it is plain that they have the will to do it, and so they are on the point of doing it. Also injustice in possession of power; for it is the unjust man’s will to do evil that makes him unjust. Also outraged virtue in possession of power; for it is plain that, when outraged, it always has the will to retaliate, and now it has the power to do so. Also fear felt by those who have the power to do something to us, since such persons are sure to be ready to do it. And since most men tend to be bad-slaves to greed, and cowards in danger-it is, as a rule, a terrible thing to be at another man’s mercy; and therefore, if we have done anything horrible, those in the secret terrify us with the thought that they may betray or desert us. And those who can do us wrong are terrible to us when we are liable to be wronged; for as a rule men do wrong to others whenever they have the power to do it. And those who have been wronged, or believe themselves to be wronged, are terrible; for they are always looking out for their opportunity. Also those who have done people wrong, if they possess power, since they stand in fear of retaliation: we have already said that wickedness possessing power is terrible. Again, our rivals for a thing cause us fear when we cannot both have it at once; for we are always at war with such men. We also fear those who are to be feared by stronger people than ourselves: if they can hurt those stronger people, still more can they hurt us; and, for the same reason, we fear those whom those stronger people are actually afraid of. Also those who have destroyed people stronger than we are. Also those who are attacking people weaker than we are: either they are already formidable, or they will be so when they have thus grown stronger. Of those we have wronged, and of our enemies or rivals, it is not the passionate and outspoken whom we have to fear, but the quiet, dissembling, unscrupulous; since we never know when they are upon us, we can never be sure they are at a safe distance. All terrible things are more terrible if they give us no chance of retrieving a blunder either no chance at all, or only one that depends on our enemies and not ourselves. Those things are also worse which we cannot, or cannot easily, help. Speaking generally, anything causes us to feel fear that when it happens to, or threatens, others cause us to feel pity.

The above are, roughly, the chief things that are terrible and are feared. Let us now describe the conditions under which we ourselves feel fear. If fear is associated with the expectation that something destructive will happen to us, plainly nobody will be afraid who believes nothing can happen to him; we shall not fear things that we believe cannot happen to us, nor people who we believe cannot inflict them upon us; nor shall we be afraid at times when we think ourselves safe from them. It follows therefore that fear is felt by those who believe something to be likely to happen to them, at the hands of particular persons, in a particular form, and at a particular time. People do not believe this when they are, or think they a are, in the midst of great prosperity, and are in consequence insolent, contemptuous, and reckless-the kind of character produced by wealth, physical strength, abundance of friends, power: nor yet when they feel they have experienced every kind of horror already and have grown callous about the future, like men who are being flogged and are already nearly dead-if they are to feel the anguish of uncertainty, there must be some faint expectation of escape. This appears from the fact that fear sets us thinking what can be done, which of course nobody does when things are hopeless. Consequently, when it is advisable that the audience should be frightened, the orator must make them feel that they really are in danger of something, pointing out that it has happened to others who were stronger than they are, and is happening, or has happened, to people like themselves, at the hands of unexpected people, in an unexpected form, and at an unexpected time.

Having now seen the nature of fear, and of the things that cause it, and the various states of mind in which it is felt, we can also see what Confidence is, about what things we feel it, and under what conditions. It is the opposite of fear, and what causes it is the opposite of what causes fear; it is, therefore, the expectation associated with a mental picture of the nearness of what keeps us safe and the absence or remoteness of what is terrible: it may be due either to the near presence of what inspires confidence or to the absence of what causes alarm. We feel it if we can take steps-many, or important, or both-to cure or prevent trouble; if we have neither wronged others nor been wronged by them; if we have either no rivals at all or no strong ones; if our rivals who are strong are our friends or have treated us well or been treated well by us; or if those whose interest is the same as ours are the more numerous party, or the stronger, or both.

As for our own state of mind, we feel confidence if we believe we have often succeeded and never suffered reverses, or have often met danger and escaped it safely. For there are two reasons why human beings face danger calmly: they may have no experience of it, or they may have means to deal with it: thus when in danger at sea people may feel confident about what will happen either because they have no experience of bad weather, or because their experience gives them the means of dealing with it. We also feel confident whenever there is nothing to terrify other people like ourselves, or people weaker than ourselves, or people than whom we believe ourselves to be stronger-and we believe this if we have conquered them, or conquered others who are as strong as they are, or stronger. Also if we believe ourselves superior to our rivals in the number and importance of the advantages that make men formidable-wealth, physical strength, strong bodies of supporters, extensive territory, and the possession of all, or the most important, appliances of war. Also if we have wronged no one, or not many, or not those of whom we are afraid; and generally, if our relations with the gods are satisfactory, as will be shown especially by signs and oracles. The fact is that anger makes us confident-that anger is excited by our knowledge that we are not the wrongers but the wronged, and that the divine power is always supposed to be on the side of the wronged. Also when, at the outset of an enterprise, we believe that we cannot and shall not fail, or that we shall succeed completely.-So much for the causes of fear and confidence.

6

We now turn to Shame and Shamelessness; what follows will explain the things that cause these feelings, and the persons before whom, and the states of mind under which, they are felt. Shame may be defined as pain or disturbance in regard to bad things, whether present, past, or future, which seem likely to involve us in discredit; and shamelessness as contempt or indifference in regard to these same bad things. If this definition be granted, it follows that we feel shame at such bad things as we think are disgraceful to ourselves or to those we care for. These evils are, in the first place, those due to moral badness. Such are throwing away one’s shield or taking to flight; for these bad things are due to cowardice. Also, withholding a deposit or otherwise wronging people about money; for these acts are due to injustice. Also, having carnal intercourse with forbidden persons, at wrong times, or in wrong places; for these things are due to licentiousness. Also, making profit in petty or disgraceful ways, or out of helpless persons, e.g. the poor, or the dead-whence the proverb ‘He would pick a corpse’s pocket’; for all this is due to low greed and meanness. Also, in money matters, giving less help than you might, or none at all, or accepting help from those worse off than yourself; so also borrowing when it will seem like begging; begging when it will seem like asking the return of a favour; asking such a return when it will seem like begging; praising a man in order that it may seem like begging; and going on begging in spite of failure: all such actions are tokens of meanness. Also, praising people to their face, and praising extravagantly a man’s good points and glozing over his weaknesses, and showing extravagant sympathy with his grief when you are in his presence, and all that sort of thing; all this shows the disposition of a flatterer. Also, refusing to endure hardships that are endured by people who are older, more delicately brought up, of higher rank, or generally less capable of endurance than ourselves: for all this shows effeminacy. Also, accepting benefits, especially accepting them often, from another man, and then abusing him for conferring them: all this shows a mean, ignoble disposition. Also, talking incessantly about yourself, making loud professions, and appropriating the merits of others; for this is due to boastfulness. The same is true of the actions due to any of the other forms of badness of moral character, of the tokens of such badness, &c.: they are all disgraceful and shameless. Another sort of bad thing at which we feel shame is, lacking a share in the honourable things shared by every one else, or by all or nearly all who are like ourselves. By ‘those like ourselves’ I mean those of our own race or country or age or family, and generally those who are on our own level. Once we are on a level with others, it is a disgrace to be, say, less well educated than they are; and so with other advantages: all the more so, in each case, if it is seen to be our own fault: wherever we are ourselves to blame for our present, past, or future circumstances, it follows at once that this is to a greater extent due to our moral badness. We are moreover ashamed of having done to us, having had done, or being about to have done to us acts that involve us in dishonour and reproach; as when we surrender our persons, or lend ourselves to vile deeds, e.g. when we submit to outrage. And acts of yielding to the lust of others are shameful whether willing or unwilling (yielding to force being an instance of unwillingness), since unresisting submission to them is due to unmanliness or cowardice.

These things, and others like them, are what cause the feeling of shame. Now since shame is a mental picture of disgrace, in which we shrink from the disgrace itself and not from its consequences, and we only care what opinion is held of us because of the people who form that opinion, it follows that the people before whom we feel shame are those whose opinion of us matters to us. Such persons are: those who admire us, those whom we admire, those by whom we wish to be admired, those with whom we are competing, and those whose opinion of us we respect. We admire those, and wish those to admire us, who possess any good thing that is highly esteemed; or from whom we are very anxious to get something that they are able to give us-as a lover feels. We compete with our equals. We respect, as true, the views of sensible people, such as our elders and those who have been well educated. And we feel more shame about a thing if it is done openly, before all men's eyes. Hence the proverb, 'shame dwells in the eyes'. For this reason we feel most shame before those who will always be with us and those who notice what we do, since in both cases eyes are upon us. We also feel it before those not open to the same imputation as ourselves: for it is plain that their opinions about it are the opposite of ours. Also before those who are hard on any one whose conduct they think wrong; for what a man does himself, he is said not to resent when his neighbours do it: so that of course he does resent their doing what he does not do himself. And before those who are likely to tell everybody about you; not telling others is as good as not be lieving you wrong. People are likely to tell others about you if you have wronged them, since they are on the look out to harm you; or if they speak evil of everybody, for those who attack the innocent will be still more ready to attack the guilty. And before those whose main occupation is with their neighbours' failings-people like satirists and writers of comedy; these are really a kind of evil-speakers and tell-tales. And before those who have never yet known us come to grief, since their attitude to us has amounted to admiration so far: that is why we feel ashamed to refuse those a favour who ask one for the first time-we have not as yet lost credit with them. Such are those who are just beginning to wish to be our friends; for they have seen our best side only (hence the appropriateness of Euripides' reply to the Syracusans): and such also are those among our old acquaintances who know nothing to our discredit. And we are ashamed not merely of the actual shameful conduct mentioned, but also of the evidences of it: not merely, for example, of actual sexual intercourse, but also of its evidences; and not merely of disgraceful acts but also of disgraceful talk. Similarly we feel shame not merely in presence of the persons mentioned but also of those who will tell them what we have done, such as their servants or friends. And, generally, we feel no shame before those upon whose opinions we quite look down as untrustworthy (no one feels shame before small children or animals); nor are we ashamed of the same things before intimates as before strangers, but before the former of what seem genuine faults, before the latter of what seem conventional ones.

The conditions under which we shall feel shame are these: first, having people related to us like those before whom, as has been said, we feel shame. These are, as was stated, persons whom we admire, or who admire us, or by whom we wish to be admired, or from whom we desire some service that we shall not obtain if we forfeit their good opinion. These persons may be actually looking on (as Cydias represented them in his speech on land assignments in Samos, when he told the Athenians to imagine the Greeks to be standing all around them, actually seeing the way they voted and not merely going to hear about it afterwards): or again they may be near at hand, or may be likely to find out about what we do. This is why in misfortune we do not wish to be seen by those who once wished themselves like us; for such a feeling implies admiration. And men feel shame when they have acts or exploits to their credit on which they are bringing dishonour, whether these are their own, or those of their ancestors, or those of other persons with whom they have some close connexion. Generally, we feel shame before those for whose own misconduct we should also feel it-those already mentioned; those who take us as their models; those whose teachers or advisers we have been; or other people, it may be, like ourselves, whose rivals we are. For there are many things that shame before such people makes us do or leave undone. And we feel more shame when we are likely to be continually seen by, and go about under the eyes of, those who know of our disgrace. Hence, when Antiphon the poet was to be cudgelled to death by order of Dionysius, and saw those who were to perish with him covering their faces as they went through the gates, he said, ‘Why do you cover your faces? Is it lest some of these spectators should see you to-morrow?’

So much for Shame; to understand Shamelessness, we need only consider the converse cases, and plainly we shall have all we need.

7

To take Kindness next: the definition of it will show us towards whom it is felt, why, and in what frames of mind. Kindness-under the influence of which a man is said to 'be kind' may be defined as helpfulness towards some one in need, not in return for anything, nor for the advantage of the helper himself, but for that of the person helped. Kindness is great if shown to one who is in great need, or who needs what is important and hard to get, or who needs it at an important and difficult crisis; or if the helper is the only, the first, or the chief person to give the help. Natural cravings constitute such needs; and in particular cravings, accompanied by pain, for what is not being attained. The appetites are cravings for this kind: sexual desire, for instance, and those which arise during bodily injuries and in dangers; for appetite is active both in danger and in pain. Hence those who stand by us in poverty or in banishment, even if they do not help us much, are yet really kind to us, because our need is great and the occasion pressing; for instance, the man who gave the mat in the Lyceum. The helpfulness must therefore meet, preferably, just this kind of need; and failing just this kind, some other kind as great or greater. We now see to whom, why, and under what conditions kindness is shown; and these facts must form the basis of our arguments. We must show that the persons helped are, or have been, in such pain and need as has been described, and that their helpers gave, or are giving, the kind of help described, in the kind of need described. We can also see how to eliminate the idea of kindness and make our opponents appear unkind: we may maintain that they are being or have been helpful simply to promote their own interest-this, as has been stated, is not kindness; or that their action was accidental, or was forced upon them; or that they were not doing a favour, but merely returning one, whether they know this or not-in either case the action is a mere return, and is therefore not a kindness even if the doer does not know how the case stands. In considering this subject we must look at all the categories: an act may be an act of kindness because (1) it is a particular thing, (2) it has a particular magnitude or (3) quality, or (4) is done at a particular time or (5) place. As evidence of the want of kindness, we may point out that a smaller service had been refused to the man in need; or that the same service, or an equal or greater one, has been given to his enemies; these facts show that the service in question was not done for the sake of the person helped. Or we may point out that the thing desired was worthless and that the helper knew it: no one will admit that he is in need of what is worthless.

8

So much for Kindness and Unkindness. Let us now consider Pity, asking ourselves what things excite pity, and for what persons, and in what states of our mind pity is felt. Pity may be defined as a feeling of pain caused by the sight of some evil, destructive or painful, which befalls one who does not deserve it, and which we might expect to befall ourselves or some friend of ours, and moreover to befall us soon. In order to feel pity, we must obviously be capable of supposing that some evil may happen to us or some friend of ours, and moreover some such evil as is stated in our definition or is more or less of that kind. It is therefore not felt by those completely ruined, who suppose that no further evil can befall them, since the worst has befallen them already; nor by those who imagine themselves immensely fortunate-their feeling is rather presumptuous insolence, for when they think they possess all the good things of life, it is clear that the impossibility of evil befalling them will be included, this being one of the good things in question. Those who think evil may befall them are such as have already had it befall them and have safely escaped from it; elderly men, owing to their good sense and their experience; weak men, especially men inclined to cowardice; and also educated people, since these can take long views. Also those who have parents living, or children, or wives; for these are our own, and the evils mentioned above may easily befall them. And those who neither moved by any courageous emotion such as anger or confidence (these emotions take no account of the future), nor by a disposition to presumptuous insolence (insolent men, too, take no account of the possibility that something evil will happen to them), nor yet by great fear (panic-stricken people do not feel pity, because they are taken up with what is happening to themselves); only those feel pity who are between these two extremes. In order to feel pity we must also believe in the goodness of at least some people; if you think nobody good, you will believe that everybody deserves evil fortune. And, generally, we feel pity whenever we are in the condition of remembering that similar misfortunes have happened to us or ours, or expecting them to happen in the future.

So much for the mental conditions under which we feel pity. What we pity is stated clearly in the definition. All unpleasant and painful things excite pity if they tend to destroy pain and annihilate; and all such evils as are due to chance, if they are serious. The painful and destructive evils are: death in its various forms, bodily injuries and afflictions, old age, diseases, lack of food. The evils due to chance are: friendlessness, scarcity of friends (it is a pitiful thing to be torn away from friends and companions), deformity, weakness, mutilation; evil coming from a source from which good ought to have come; and the frequent repetition of such misfortunes. Also the coming of good when the worst has happened: e.g. the arrival of the Great King's gifts for Diopeithes after his death. Also that either no good should have befallen a man at all, or that he should not be able to enjoy it when it has.

The grounds, then, on which we feel pity are these or like these. The people we pity are: those whom we know, if only they are not very closely related to us-in that case we feel about them as if we were in danger ourselves. For this reason Amasis did not weep, they say, at the sight of his son being led to death, but did weep when he saw his friend begging: the latter sight was pitiful, the former terrible, and the terrible is different from the pitiful; it tends to cast out pity, and often helps to produce the opposite of pity. Again, we feel pity when the danger is near ourselves. Also we pity those who are like us in age, character, disposition, social standing, or birth; for in all these cases it appears more likely that the same misfortune may befall us also. Here too we have to remember the general principle that what we fear for ourselves excites our pity when it happens to others. Further, since it is when the sufferings of others are close to us that they excite our pity (we cannot remember what disasters happened a hundred centuries ago, nor look forward to what will happen a hundred centuries hereafter, and therefore feel little pity, if any, for such things): it follows that those who heighten the effect of their words with suitable gestures, tones, dress, and dramatic action generally, are especially successful in exciting pity: they thus put the disasters before our eyes, and make them seem close to us, just coming or just past. Anything that has just happened, or is going to happen soon, is particularly piteous: so too therefore are the tokens and the actions of sufferers-the garments and the like of those who have already suffered; the words and the like of those actually suffering-of those, for instance, who are on the point of death. Most piteous of all is it when, in such times of trial, the victims are persons of noble character: whenever they are so, our pity is especially excited, because their innocence, as well as the setting of their misfortunes before our eyes, makes their misfortunes seem close to ourselves.

9

Most directly opposed to pity is the feeling called Indignation. Pain at unmerited good fortune is, in one sense, opposite to pain at unmerited bad fortune, and is due to the same moral qualities. Both feelings are associated with good moral character; it is our duty both to feel sympathy and pity for unmerited distress, and to feel indignation at unmerited prosperity; for whatever is undeserved is unjust, and that is why we ascribe indignation even to the gods. It might indeed be thought that envy is similarly opposed to pity, on the ground that envy it closely akin to indignation, or even the same thing. But it is not the same. It is true that it also is a disturbing pain excited by the prosperity of others. But it is excited not by the prosperity of the undeserving but by that of people who are like us or equal with us. The two feelings have this in common, that they must be due not to some untoward thing being likely to befall ourselves, but only to what is happening to our neighbour. The feeling ceases to be envy in the one case and indignation in the other, and becomes fear, if the pain and disturbance are due to the prospect of something bad for ourselves as the result of the other man’s good fortune. The feelings of pity and indignation will obviously be attended by the converse feelings of satisfaction. If you are pained by the unmerited distress of others, you will be pleased, or at least not pained, by their merited distress. Thus no good man can be pained by the punishment of parricides or murderers. These are things we are bound to rejoice at, as we must at the prosperity of the deserving; both these things are just, and both give pleasure to any honest man, since he cannot help expecting that what has happened to a man like him will happen to him too. All these feelings are associated with the same type of moral character. And their contraries are associated with the contrary type; the man who is delighted by others’ misfortunes is identical with the man who envies others' prosperity. For any one who is pained by the occurrence or existence of a given thing must be pleased by that thing's non-existence or destruction. We can now see that all these feelings tend to prevent pity (though they differ among themselves, for the reasons given), so that all are equally useful for neutralizing an appeal to pity.

We will first consider Indignation-reserving the other emotions for subsequent discussion-and ask with whom, on what grounds, and in what states of mind we may be indignant. These questions are really answered by what has been said already. Indignation is pain caused by the sight of undeserved good fortune. It is, then, plain to begin with that there are some forms of good the sight of which cannot cause it. Thus a man may be just or brave, or acquire moral goodness: but we shall not be indignant with him for that reason, any more than we shall pity him for the contrary reason. Indignation is roused by the sight of wealth, power, and the like-by all those things, roughly speaking, which are deserved by good men and by those who possess the goods of nature-noble birth, beauty, and so on. Again, what is long established seems akin to what exists by nature; and therefore we feel more indignation at those possessing a given good if they have as a matter of fact only just got it and the prosperity it brings with it. The newly rich give more offence than those whose wealth is of long standing and inherited. The same is true of those who have office or power, plenty of friends, a fine family, &c. We feel the same when these advantages of theirs secure them others. For here again, the newly rich give us more offence by obtaining office through their riches than do those whose wealth is of long standing; and so in all other cases. The reason is that what the latter have is felt to be really their own, but what the others have is not; what appears to have been always what it is is regarded as real, and so the possessions of the newly rich do not seem to be really their own. Further, it is not any and every man that deserves any given kind of good; there is a certain correspondence and appropriateness in such things; thus it is appropriate for brave men, not for just men, to have fine weapons, and for men of family, not for parvenus, to make distinguished marriages. Indignation may therefore properly be felt when any one gets what is not appropriate for him, though he may be a good man enough. It may also be felt when any one sets himself up against his superior, especially against his superior in some particular respect-whence the lines

Only from battle he shrank with Aias Telamon's son;
Zeus had been angered with him,
had he fought with a mightier one;

but also, even apart from that, when the inferior in any sense contends with his superior; a musician, for instance, with a just man, for justice is a finer thing than music.

Enough has been said to make clear the grounds on which, and the persons against whom, Indignation is felt-they are those mentioned, and others like him. As for the people who feel it; we feel it if we do ourselves deserve the greatest possible goods and moreover have them, for it is an injustice that those who are not our equals should have been held to deserve as much as we have. Or, secondly, we feel it if we are really good and honest people; our judgement is then sound, and we loathe any kind of injustice. Also if we are ambitious and eager to gain particular ends, especially if we are ambitious for what others are getting without deserving to get it. And, generally, if we think that we ourselves deserve a thing and that others do not, we are disposed to be indignant with those others so far as that thing is concerned. Hence servile, worthless, unambitious persons are not inclined to Indignation, since there is nothing they can believe themselves to deserve.

From all this it is plain what sort of men those are at whose misfortunes, distresses, or failures we ought to feel pleased, or at least not pained: by considering the facts described we see at once what their contraries are. If therefore our speech puts the judges in such a frame of mind as that indicated and shows that those who claim pity on certain definite grounds do not deserve to secure pity but do deserve not to secure it, it will be impossible for the judges to feel pity.

10

To take Envy next: we can see on what grounds, against what persons, and in what states of mind we feel it. Envy is pain at the sight of such good fortune as consists of the good things already mentioned; we feel it towards our equals; not with the idea of getting something for ourselves, but because the other people have it. We shall feel it if we have, or think we have, equals; and by 'equals' I mean equals in birth, relationship, age, disposition, distinction, or wealth. We feel envy also if we fall but a little short of having everything;

which is why people in high place and prosperity feel it-they think every one else is taking what belongs to themselves. Also if we are exceptionally distinguished for some particular thing, and especially if that thing is wisdom or good fortune. Ambitious men are more envious than those who are not. So also those who profess wisdom; they are ambitious to be thought wise. Indeed, generally, those who aim at a reputation for anything are envious on this particular point. And small-minded men are envious, for everything seems great to them. The good things which excite envy have already been mentioned. The deeds or possessions which arouse the love of reputation and honour and the desire for fame, and the various gifts of fortune, are almost all subject to envy; and particularly if we desire the thing ourselves, or think we are entitled to it, or if having it puts us a little above others, or not having it a little below them. It is clear also what kind of people we envy; that was included in what has been said already: we envy those who are near us in time, place, age, or reputation. Hence the line:

Ay, kin can even be jealous of their kin.

Also our fellow-competitors, who are indeed the people just mentioned-we do not compete with men who lived a hundred centuries ago, or those not yet born, or the dead, or those who dwell near the Pillars of Hercules, or those whom, in our opinion or that of others, we take to be far below us or far above us. So too we compete with those who follow the same ends as ourselves: we compete with our rivals in sport or in love, and generally with those who are after the same things; and it is therefore these whom we are bound to envy beyond all others. Hence the saying:

Potter against potter.

We also envy those whose possession of or success in a thing is a reproach to us: these are our neighbours and equals; for it is clear that it is our own fault we have missed the good thing in question; this annoys us, and excites envy in us. We also envy those who have what we ought to have, or have got what we did have once. Hence old men envy younger men, and those who have spent much envy those who have spent little on the same thing. And men who have not got a thing, or not got it yet, envy those who have got it quickly. We can also see what things and what persons give pleasure to envious people, and in what states of mind they feel it: the states of mind in which they feel pain are those under which they will feel pleasure in the contrary things. If therefore we ourselves with whom the decision rests are put into an envious state of mind, and those for whom our pity, or the award of something desirable, is claimed are such as have been described, it is obvious that they will win no pity from us.

11

We will next consider Emulation, showing in what follows its causes and objects, and the state of mind in which it is felt. Emulation is pain caused by seeing the presence, in persons whose nature is like our own, of good things that are highly valued and are possible for ourselves to acquire; but it is felt not because others have these goods, but because we have not got them ourselves. It is therefore a good feeling felt by good persons, whereas envy is a bad feeling felt by bad persons. Emulation makes us take steps to secure the good things in question, envy makes us take steps to stop our neighbour having them. Emulation must therefore tend to be felt by persons who believe themselves to deserve certain good things that they have not got, it being understood that no one aspires to things which appear impossible. It is accordingly felt by the young and by persons of lofty disposition. Also by those who possess such good things as are deserved by men held in honour-these are wealth, abundance of friends, public office, and the like; on the assumption that they ought to be good men, they are emulous to gain such goods because they ought, in their belief, to belong to men whose state of mind is good. Also by those whom all others think deserving. We also feel it about anything for which our ancestors, relatives, personal friends, race, or country are specially honoured, looking upon that thing as really our own, and therefore feeling that we deserve to have it. Further, since all good things that are highly honoured are objects of emulation, moral goodness in its various forms must be such an object, and also all those good things that are useful and serviceable to others: for men honour those who are morally good, and also those who do them service. So with those good things our possession of which can give enjoyment to our neighbours-wealth and beauty rather than health. We can see, too, what persons are the objects of the feeling. They are those who have these and similar things-those already mentioned, as courage, wisdom, public office. Holders of public office-generals, orators, and all who possess such powers-can do many people a good turn. Also those whom many people wish to be like; those who have many acquaintances or friends; those whom admire, or whom we ourselves admire; and those who have been praised and eulogized by poets or prose-writers. Persons of the contrary sort are objects of contempt: for the feeling and notion of contempt are opposite to those of emulation. Those who are such as to emulate or be emulated by others are inevitably disposed to be contemptuous of all such persons as are subject to those bad things which are contrary to the good things that are the objects of emulation: despising them for just that reason. Hence we often despise the fortunate, when luck comes to them without their having those good things which are held in honour.

This completes our discussion of the means by which the several emotions may be produced or dissipated, and upon which depend the persuasive arguments connected with the emotions.

12

Let us now consider the various types of human character, in relation to the emotions and moral qualities, showing how they correspond to our various ages and fortunes. By emotions I mean anger, desire, and the like; these we have discussed already. By moral qualities I mean virtues and vices; these also have been discussed already, as well as the various things that various types of men tend to will and to do. By ages I mean youth, the prime of life, and old age. By fortune I mean birth, wealth, power, and their opposites-in fact, good fortune and ill fortune.

To begin with the Youthful type of character. Young men have strong passions, and tend to gratify them indiscriminately. Of the bodily desires, it is the sexual by which they are most swayed and in which they show absence of self-control. They are changeable and fickle in their desires, which are violent while they last, but quickly over: their impulses are keen but not deep-rooted, and are like sick people's attacks of hunger and thirst. They are hot-tempered, and quick-tempered, and apt to give way to their anger; bad temper often gets the better of them, for owing to their love of honour they cannot bear being slighted, and are indignant if they imagine themselves unfairly treated. While they love honour, they love victory still more; for youth is eager for superiority over others, and victory is one form of this. They love both more than they love money, which indeed they love very little, not having yet learnt what it means to be without it-this is the point of Pittacus' remark about Amphiaraus. They look at the good side rather than the bad, not having yet witnessed many instances of wickedness. They trust others readily, because they have not yet often been cheated. They are sanguine; nature warms their blood as though with excess of wine; and besides that, they have as yet met with few disappointments. Their lives are mainly spent not in memory but in expectation; for expectation refers to the future, memory to the past, and youth has a long future before it and a short past behind it: on the first day of one's life one has nothing at all to remember, and can only look forward. They are easily cheated, owing to the sanguine disposition just mentioned. Their hot tempers and hopeful dispositions make them more courageous than older men are; the hot temper prevents fear, and the hopeful disposition creates confidence; we cannot feel fear so long as we are feeling angry, and any expectation of good makes us confident. They are shy, accepting the rules of society in which they have been trained, and not yet believing in any other standard of honour. They have exalted notions, because they have not yet been humbled by life or learnt its necessary limitations; moreover, their hopeful disposition makes them think themselves equal to great things-and that means having exalted notions. They would always rather do noble deeds than useful ones: their lives are regulated more by moral feeling than by reasoning; and whereas reasoning leads us to choose what is useful, moral goodness leads us to choose what is noble. They are fonder of their friends, intimates, and companions than older men are, because they like spending their days in the company of others, and have not yet come to value either their friends or anything else by their usefulness to themselves. All their mistakes are in the direction of doing things excessively and vehemently. They disobey Chilon's precept by overdoing everything, they love too much and hate too much, and the same thing with everything else. They think they know everything, and are always quite sure about it; this, in fact, is why they overdo everything. If they do wrong to others, it is because they mean to insult them, not to do them actual harm. They are ready to pity others, because they think every one an honest man, or anyhow better than he is: they judge their neighbour by their own harmless natures, and so cannot think he deserves to be treated in that way. They are fond of fun and therefore witty, wit being well-bred insolence.

Such, then is the character of the Young. The character of Elderly Men-men who are past their prime-may be said to be formed for the most part of elements that are the contrary of all these. They have lived many years; they have often been taken in, and often made mistakes; and life on the whole is a bad business. The result is that they are sure about nothing and under-do everything. They ‘think’, but they never ‘know’; and because of their hesitation they always add a ‘possibly’or a ‘perhaps’, putting everything this way and nothing positively. They are cynical; that is, they tend to put the worse construction on everything. Further, their experience makes them distrustful and therefore suspicious of evil. Consequently they neither love warmly nor hate bitterly, but following the hint of Bias they love as though they will some day hate and hate as though they will some day love. They are small-minded, because they have been humbled by life: their desires are set upon nothing more exalted or unusual than what will help them to keep alive. They are not generous, because money is one of the things they must have, and at the same time their experience has taught them how hard it is to get and how easy to lose. They are cowardly, and are always anticipating danger; unlike that of the young, who are warm-blooded, their temperament is chilly; old age has paved the way for cowardice; fear is, in fact, a form of chill. They love life; and all the more when their last day has come, because the object of all desire is something we have not got, and also because we desire most strongly that which we need most urgently. They are too fond of themselves; this is one form that small-mindedness takes. Because of this, they guide their lives too much by considerations of what is useful and too little by what is noble-for the useful is what is good for oneself, and the noble what is good absolutely. They are not shy, but shameless rather; caring less for what is noble than for what is useful, they feel contempt for what people may think of them. They lack confidence in the future; partly through experience-for most things go wrong, or anyhow turn out worse than one expects; and partly because of their cowardice. They live by memory rather than by hope; for what is left to them of life is but little as compared with the long past; and hope is of the future, memory of the past. This, again, is the cause of their loquacity; they are continually talking of the past, because they enjoy remembering it. Their fits of anger are sudden but feeble. Their sensual passions have either altogether gone or have lost their vigour: consequently they do not feel their passions much, and their actions are inspired less by what they do feel than by the love of gain. Hence men at this time of life are often supposed to have a self-controlled character; the fact is that their passions have slackened, and they are slaves to the love of gain. They guide their lives by reasoning more than by moral feeling; reasoning being directed to utility and moral feeling to moral goodness. If they wrong others, they mean to injure them, not to insult them. Old men may feel pity, as well as young men, but not for the same reason. Young men feel it out of kindness; old men out of weakness, imagining that anything that befalls any one else might easily happen to them, which, as we saw, is a thought that excites pity. Hence they are querulous, and not disposed to jesting or laughter-the love of laughter being the very opposite of querulousness.

Such are the characters of Young Men and Elderly Men. People always think well of speeches adapted to, and reflecting, their own character: and we can now see how to compose our speeches so as to adapt both them and ourselves to our audiences.

14

As for Men in their Prime, clearly we shall find that they have a character between that of the young and that of the old, free from the extremes of either. They have neither that excess of confidence which amounts to rashness, nor too much timidity, but the right amount of each. They neither trust everybody nor distrust everybody, but judge people correctly. Their lives will be guided not by the sole consideration either of what is noble or of what is useful, but by both; neither by parsimony nor by prodigality, but by what is fit and proper. So, too, in regard to anger and desire; they will be brave as well as temperate, and temperate as well as brave; these virtues are divided between the young and the old; the young are brave but intemperate, the old temperate but cowardly. To put it generally, all the valuable qualities that youth and age divide between them are united in the prime of life, while all their excesses or defects are replaced by moderation and fitness. The body is in its prime from thirty to five-and-thirty; the mind about forty-nine.

15

So much for the types of character that distinguish youth, old age, and the prime of life. We will now turn to those Gifts of Fortune by which human character is affected. First let us consider Good Birth. Its effect on character is to make those who have it more ambitious; it is the way of all men who have something to start with to add to the pile, and good birth implies ancestral distinction. The well-born man will look down even on those who are as good as his own ancestors, because any far-off distinction is greater than the same thing close to us, and better to boast about. Being well-born, which means coming of a fine stock, must be distinguished from nobility, which means being true to the family nature-a quality not usually found in the well-born, most of whom are poor creatures. In the generations of men as in the fruits of the earth, there is a varying yield; now and then, where the stock is good, exceptional men are produced for a while, and then decadence sets in. A clever stock will degenerate towards the insane type of character, like the descendants of Alcibiades or of the elder Dionysius; a steady stock towards the fatuous and torpid type, like the descendants of Cimon, Pericles, and Socrates.

16

The type of character produced by Wealth lies on the surface for all to see. Wealthy men are insolent and arrogant; their possession of wealth affects their understanding; they feel as if they had every good thing that exists; wealth becomes a sort of standard of value for everything else, and therefore they imagine there is nothing it cannot buy. They are luxurious and ostentatious; luxurious, because of the luxury in which they live and the prosperity which they display; ostentatious and vulgar, because, like other people's, their minds are regularly occupied with the object of their love and admiration, and also because they think that other people's idea of happiness is the same as their own. It is indeed quite natural that they should be affected thus; for if you have money, there are always plenty of people who come begging from you. Hence the saying of Simonides about wise men and rich men, in answer to Hiero's wife, who asked him whether it was better to grow rich or wise. 'Why, rich,' he said; 'for I see the wise men spending their days at the rich men's doors.' Rich men also consider themselves worthy to hold public office; for they consider they already have the things that give a claim to office. In a word, the type of character produced by wealth is that of a prosperous fool. There is indeed one difference between the type of the newly-enriched and those who have long been rich: the newly-enriched have all the bad qualities mentioned in an exaggerated and worse form — to be newly-enriched means, so to speak, no education in riches. The wrongs they do others are not meant to injure their victims, but spring from insolence or self-indulgence, e.g. those that end in assault or in adultery.

17

As to Power: here too it may fairly be said that the type of character it produces is mostly obvious enough. Some elements in this type it shares with the wealthy type, others are better. Those in power are more ambitious and more manly in character than the wealthy, because they aspire to do the great deeds that their power permits them to do. Responsibility makes them more serious: they have to keep paying attention to the duties their position involves. They are dignified rather than arrogant, for the respect in which they are held inspires them with dignity and therefore with moderation-dignity being a mild and becoming form of arrogance. If they wrong others, they wrong them not on a small but on a great scale.

Good fortune in certain of its branches produces the types of character belonging to the conditions just described, since these conditions are in fact more or less the kinds of good fortune that are regarded as most important. It may be added that good fortune leads us to gain all we can in the way of family happiness and bodily advantages. It does indeed make men more supercilious and more reckless; but there is one excellent quality that goes with it-piety, and respect for the divine power, in which they believe because of events which are really the result of chance.

This account of the types of character that correspond to differences of age or fortune may end here; for to arrive at the opposite types to those described, namely, those of the poor, the unfortunate, and the powerless, we have only to ask what the opposite qualities are.

18

The use of persuasive speech is to lead to decisions. (When we know a thing, and have decided about it, there is no further use in speaking about it.) This is so even if one is addressing a single person and urging him to do or not to do something, as when we scold a man for his conduct or try to change his views: the single person is as much your ‘judge’ as if he were one of many; we may say, without qualification, that any one is your judge whom you have to persuade. Nor does it matter whether we are arguing against an actual opponent or against a mere proposition; in the latter case we still have to use speech and overthrow the opposing arguments, and we attack these as we should attack an actual opponent. Our principle holds good of ceremonial speeches also; the ‘onlookers’ for whom such a speech is put together are treated as the judges of it. Broadly speaking, however, the only sort of person who can strictly be called a judge is the man who decides the issue in some matter of public controversy; that is, in law suits and in political debates, in both of which there are issues to be decided. In the section on political oratory an account has already been given of the types of character that mark the different constitutions.

The manner and means of investing speeches with moral character may now be regarded as fully set forth.

Each of the main divisions of oratory has, we have seen, its own distinct purpose. With regard to each division, we have noted the accepted views and propositions upon which we may base our arguments-for political, for ceremonial, and for forensic speaking. We have further determined completely by what means speeches may be invested with the required moral character. We are now to proceed to discuss the arguments common to all oratory. All orators, besides their special lines of argument, are bound to use, for instance, the topic of the Possible and Impossible; and to try to show that a thing has happened, or will happen in future. Again, the topic of Size is common to all oratory; all of us have to argue that things are bigger or smaller than they seem, whether we are making political speeches, speeches of eulogy or attack, or prosecuting or defending in the law-courts. Having analysed these subjects, we will try to say what we can about the general principles of arguing by ‘enthymeme’ and ‘example’, by the addition of which we may hope to complete the project with which we set out. Of the above-mentioned general lines of argument, that concerned with Amplification is-as has been already said-most appropriate to ceremonial speeches; that concerned with the Past, to forensic speeches, where the required decision is always about the past; that concerned with Possibility and the Future, to political speeches.

19

Let us first speak of the Possible and Impossible. It may plausibly be argued: That if it is possible for one of a pair of contraries to be or happen, then it is possible for the other: e.g. if a man can be cured, he can also fall ill; for any two contraries are equally possible, in so far as they are contraries. That if of two similar things one is possible, so is the other. That if the harder of two things is possible, so is the easier. That if a thing can come into existence in a good and beautiful form, then it can come into existence generally; thus a house can exist more easily than a beautiful house. That if the beginning of a thing can occur, so can the end; for nothing impossible occurs or begins to occur; thus the commensurability of the diagonal of a square with its side neither occurs nor can begin to occur. That if the end is possible, so is the beginning; for all things that occur have a beginning. That if that which is posterior in essence or in order of generation can come into being, so can that which is prior: thus if a man can come into being, so can a boy, since the boy comes first in order of generation; and if a boy can, so can a man, for the man also is first. That those things are possible of which the love or desire is natural; for no one, as a rule, loves or desires impossibilities. That things which are the object of any kind of science or art are possible and exist or come into existence. That anything is possible the first step in whose production depends on men or things which we can compel or persuade to produce it, by our greater strength, our control of them, or our friendship with them. That where the parts are possible, the whole is possible; and where the whole is possible, the parts are usually possible. For if the slit in front, the toe-piece, and the upper leather can be made, then shoes can be made; and if shoes, then also the front slit and toe-piece. That if a whole genus is a thing that can occur, so can the species; and if the species can occur, so can the genus: thus, if a sailing vessel can be made, so also can a trireme; and if a trireme, then a sailing vessel also. That if one of two things whose existence depends on each other is possible, so is the other; for instance, if ‘double’, then ‘half’, and if ‘half’, then ‘double’. That if a thing can be produced without art or preparation, it can be produced still more certainly by the careful application of art to it. Hence Agathon has said:

To some things we by art must needs attain,
Others by destiny or luck we gain.

That if anything is possible to inferior, weaker, and stupider people, it is more so for their opposites; thus Isocrates said that it would be a strange thing if he could not discover a thing that Euthynus had found out. As for Impossibility, we can clearly get what we want by taking the contraries of the arguments stated above.

Questions of Past Fact may be looked at in the following ways: First, that if the less likely of two things has occurred, the more likely must have occurred also. That if one thing that usually follows another has happened, then that other thing has happened; that, for instance, if a man has forgotten a thing, he has also once learnt it. That if a man had the power and the wish to do a thing, he has done it; for every one does do whatever he intends to do whenever he can do it, there being nothing to stop him. That, further, he has done the thing in question either if he intended it and nothing external prevented him; or if he had the power to do it and was angry at the time; or if he had the power to do it and his heart was set upon it-for people as a rule do what they long to do, if they can; bad people through lack of self-control; good people, because their hearts are set upon good things. Again, that if a thing was ‘going to happen’, it has happened; if a man was ‘going to do something’, he has done it, for it is likely that the intention was carried out. That if one thing has happened which naturally happens before another or with a view to it, the other has happened; for instance, if it has lightened, it has also thundered; and if an action has been attempted, it has been done. That if one thing has happened which naturally happens after another, or with a view to which that other happens, then that other (that which happens first, or happens with a view to this thing) has also happened; thus, if it has thundered it has lightened, and if an action has been done it has been attempted. Of all these sequences some are inevitable and some merely usual. The arguments for the non-occurrence of anything can obviously be found by considering the opposites of those that have been mentioned.

How questions of Future Fact should be argued is clear from the same considerations: That a thing will be done if there is both the power and the wish to do it; or if along with the power to do it there is a craving for the result, or anger, or calculation, prompting it. That the thing will be done, in these cases, if the man is actually setting about it, or even if he means to do it later-for usually what we mean to do happens rather than what we do not mean to do. That a thing will happen if another thing which naturally happens before it has already happened; thus, if it is clouding over, it is likely to rain. That if the means to an end have occurred, then the end is likely to occur; thus, if there is a foundation, there will be a house.

For arguments about the Greatness and Smallness of things, the greater and the lesser, and generally great things and small, what we have already said will show the line to take. In discussing deliberative oratory we have spoken about the relative greatness of various goods, and about the greater and lesser in general. Since therefore in each type oratory the object under discussion is some kind of good-whether it is utility, nobleness, or justice-it is clear that every orator must obtain the materials of amplification through these channels. To go further than this, and try to establish abstract laws of greatness and superiority, is to argue without an object; in practical life, particular facts count more than generalizations.

Enough has now been said about these questions of possibility and the reverse, of past or future fact, and of the relative greatness or smallness of things.

20

The special forms of oratorical argument having now been discussed, we have next to treat of those which are common to all kinds of oratory. These are of two main kinds, ‘Example’ and ‘Enthymeme’; for the ‘Maxim’ is part of an enthymeme.

We will first treat of argument by Example, for it has the nature of induction, which is the foundation of reasoning. This form of argument has two varieties; one consisting in the mention of actual past facts, the other in the invention of facts by the speaker. Of the latter, again, there are two varieties, the illustrative parallel and the fable (e.g. the fables of Aesop, those from Libya). As an instance of the mention of actual facts, take the following. The speaker may argue thus: ‘We must prepare for war against the king of Persia and not let him subdue Egypt. For Darius of old did not cross the Aegean until he had seized Egypt; but once he had seized it, he did cross. And Xerxes, again, did not attack us until he had seized Egypt; but once he had seized it, he did cross. If therefore the present king seizes Egypt, he also will cross, and therefore we must not let him.'

The illustrative parallel is the sort of argument Socrates used: e.g. 'Public officials ought not to be selected by lot. That is like using the lot to select athletes, instead of choosing those who are fit for the contest; or using the lot to select a steersman from among a ship's crew, as if we ought to take the man on whom the lot falls, and not the man who knows most about it.'

Instances of the fable are that of Stesichorus about Phalaris, and that of Aesop in defence of the popular leader. When the people of Himera had made Phalaris military dictator, and were going to give him a bodyguard, Stesichorus wound up a long talk by telling them the fable of the horse who had a field all to himself. Presently there came a stag and began to spoil his pasturage. The horse, wishing to revenge himself on the stag, asked a man if he could help him to do so. The man said, 'Yes, if you will let me bridle you and get on to your back with javelins in my hand'. The horse agreed, and the man mounted; but instead of getting his revenge on the stag, the horse found himself the slave of the man. 'You too', said Stesichorus, 'take care lest your desire for revenge on your enemies, you meet the same fate as the horse. By making Phalaris military dictator, you have already let yourselves be bridled. If you let him get on to your backs by giving him a bodyguard, from that moment you will be his slaves.'

Aesop, defending before the assembly at Samos a poular leader who was being tried for his life, told this story: A fox, in crossing a river, was swept into a hole in the rocks; and, not being able to get out, suffered miseries for a long time through the swarms of fleas that fastened on her. A hedgehog, while roaming around, noticed the fox; and feeling sorry for her asked if he might remove the fleas. But the fox declined the offer; and when the hedgehog asked why, she replied, 'These fleas are by this time full of me and not sucking much blood; if you take them away, others will come with fresh appetites and drink up all the blood I have left.' 'So, men of Samos', said Aesop, 'my client will do you no further harm; he is wealthy already. But if you put him to death, others will come along who are not rich, and their peculations will empty your treasury completely.'

Fables are suitable for addresses to popular assemblies; and they have one advantage-they are comparatively easy to invent, whereas it is hard to find parallels among actual past events. You will in fact frame them just as you frame illustrative parallels: all you require is the power of thinking out your analogy, a power developed by intellectual training. But while it is easier to supply parallels by inventing fables, it is more valuable for the political speaker to supply them by quoting what has actually happened, since in most respects the future will be like what the past has been.

Where we are unable to argue by Enthymeme, we must try to demonstrate our point by this method of Example, and to convince our hearers thereby. If we can argue by Enthymeme, we should use our Examples as subsequent supplementary evidence. They should not precede the Enthymemes: that will give the argument an inductive air, which only rarely suits the conditions of speech-making. If they follow the enthymemes, they have the effect of witnesses giving evidence, and this alway tells. For the same reason, if you put your examples first you must give a large number of them; if you put them last, a single one is sufficient; even a single witness will serve if he is a good one. It has now been stated how many varieties of argument by Example there are, and how and when they are to be employed.

21

We now turn to the use of Maxims, in order to see upon what subjects and occasions, and for what kind of speaker, they will appropriately form part of a speech. This will appear most clearly when we have defined a maxim. It is a statement; not a particular fact, such as the character of lphicrates, but of a general kind; nor is it about any and every subject — e.g. ‘straight is the contrary of curved’ is not a maxim — but only about questions of practical conduct, courses of conduct to be chosen or avoided. Now an Enthymeme is a syllogism dealing with such practical subjects. It is therefore roughly true that the premisses or conclusions of Enthymemes, considered apart from the rest of the argument, are Maxims: e.g.

Never should any man whose wits are sound
Have his sons taught more wisdom than their fellows.

Here we have a Maxim; add the reason or explanation, and the whole thing is an Enthymeme; thus —

It makes them idle; and therewith they earn
Ill-will and jealousy throughout the city.

Again,

There is no man in all things prosperous,

and

There is no man among us all is free,

are maxims; but the latter, taken with what follows it, is an Enthymeme —

For all are slaves of money or of chance.

From this definition of a maxim it follows that there are four kinds of maxims. In the first Place, the maxim may or may not have a supplement. Proof is needed where the statement is paradoxical or disputable; no supplement is wanted where the statement contains nothing paradoxical, either because the view expressed is already a known truth, e.g.

Chiefest of blessings is health for a man, as it seemeth to me,

this being the general opinion: or because, as soon as the view is stated, it is clear at a glance, e.g.

No love is true save that which loves for ever.

Of the Maxims that do have a supplement attached, some are part of an Enthymeme, e.g.

Never should any man whose wits are sound, &c.

Others have the essential character of Enthymemes, but are not stated as parts of Enthymemes; these latter are reckoned the best; they are those in which the reason for the view expressed is simply implied, e.g.

O mortal man, nurse not immortal wrath.

To say ‘it is not right to nurse immortal wrath’ is a maxim; the added words ‘mortal man’ give the reason. Similarly, with the words Mortal creatures ought to cherish mortal, not immortal thoughts.

What has been said has shown us how many kinds of Maxims there are, and to what subjects the various kinds are appropriate. They must not be given without supplement if they express disputed or paradoxical views: we must, in that case, either put the supplement first and make a maxim of the conclusion, e.g. you might say, ‘For my part, since both unpopularity and idleness are undesirable, I hold that it is better not to be educated’; or you may say this first, and then add the previous clause. Where a statement, without being paradoxical, is not obviously true, the reason should be added as concisely as possible. In such cases both laconic and enigmatic sayings are suitable: thus one might say what Stesichorus said to the Locrians, ‘Insolence is better avoided, lest the cicalas chirp on the ground’.

The use of Maxims is appropriate only to elderly men, and in handling subjects in which the speaker is experienced. For a young man to use them is-like telling stories-unbecoming; to use them in handling things in which one has no experience is silly and ill-bred: a fact sufficiently proved by the special fondness of country fellows for striking out maxims, and their readiness to air them.

To declare a thing to be universally true when it is not is most appropriate when working up feelings of horror and indignation in our hearers; especially by way of preface, or after the facts have been proved. Even hackneyed and commonplace maxims are to be used, if they suit one's purpose: just because they are commonplace, every one seems to agree with them, and therefore they are taken for truth. Thus, any one who is calling on his men to risk an engagement without obtaining favourable omens may quote

One omen of all is hest, that we fight for our fatherland.

Or, if he is calling on them to attack a stronger force —

The War-God showeth no favour.

Or, if he is urging people to destroy the innocent children of their enemies —

Fool, who slayeth the father and leaveth his sons to avenge him.

Some proverbs are also maxims, e.g. the proverb 'An Attic neighbour'. You are not to avoid uttering maxims that contradict such sayings as have become public property (I mean such sayings as 'know thyself' and 'nothing in excess') if doing so will raise your hearers' opinion of your character, or convey an effect of strong emotion — e.g. an angry speaker might well say, 'It is not true that we ought to know ourselves: anyhow, if this man had known himself, he would never have thought himself fit for an army command.' It will raise people's opinion of our character to say, for instance, 'We ought not to follow the saying that bids us treat our friends as future enemies: much better to treat our enemies as future friends.' The moral purpose should be implied partly by the very wording of our maxim. Failing this, we should add our reason: e.g. having said 'We should treat our friends, not as the saying advises, but as if they were going to be our friends always', we should add 'for the other behaviour is that of a traitor': or we might put it, I disapprove of that saying. A true friend will treat his friend as if he were going to be his friend for ever'; and again, 'Nor do I approve of the saying "nothing in excess": we are bound to hate bad men excessively.' One great advantage of Maxims to a speaker is due to the want of intelligence in his hearers, who love to hear him succeed in expressing as a universal truth the opinions which they hold themselves about particular cases. I will explain what I mean by this, indicating at the same time how we are to hunt down the maxims required. The maxim, as has been already said, a general statement and people love to hear stated in general terms what they already believe in some particular connexion: e.g. if a man happens to have bad neighbours or bad children, he will agree with any one who tells him, ‘Nothing is more annoying than having neighbours’, or, ‘Nothing is more foolish than to be the parent of children.’ The orator has therefore to guess the subjects on which his hearers really hold views already, and what those views are, and then must express, as general truths, these same views on these same subjects. This is one advantage of using maxims. There is another which is more important-it invests a speech with moral character. There is moral character in every speech in which the moral purpose is conspicuous: and maxims always produce this effect, because the utterance of them amounts to a general declaration of moral principles: so that, if the maxims are sound, they display the speaker as a man of sound moral character. So much for the Maxim-its nature, varieties, proper use, and advantages.

22

We now come to the Enthymemes, and will begin the subject with some general consideration of the proper way of looking for them, and then proceed to what is a distinct question, the lines of argument to be embodied in them. It has already been pointed out that the Enthymeme is a syllogism, and in what sense it is so. We have also noted the differences between it and the syllogism of dialectic. Thus we must not carry its reasoning too far back, or the length of our argument will cause obscurity: nor must we put in all the steps that lead to our conclusion, or we shall waste words in saying what is manifest. It is this simplicity that makes the uneducated more effective than the educated when addressing popular audiences-makes them, as the poets tell us, ‘charm the crowd’s ears more finely’. Educated men lay down broad general principles; uneducated men argue from common knowledge and draw obvious conclusions. We must not, therefore, start from any and every accepted opinion, but only from those we have defined-those accepted by our judges or by those whose authority they recognize: and there must, moreover, be no doubt in the minds of most, if not all, of our judges that the opinions put forward really are of this sort. We should also base our arguments upon probabilities as well as upon certainties.

The first thing we have to remember is this. Whether our argument concerns public affairs or some other subject, we must know some, if not all, of the facts about the subject on which we are to speak and argue. Otherwise we can have no materials out of which to construct arguments. I mean, for instance, how could we advise the Athenians whether they should go to war or not, if we did not know their strength, whether it was naval or military or both, and how great it is; what their revenues amount to; who their friends and enemies are; what wars, too, they have waged, and with what success; and so on? Or how could we eulogize them if we knew nothing about the sea-fight at Salamis, or the battle of Marathon, or what they did for the Heracleidae, or any other facts like that? All eulogy is based upon the noble deeds — real or imaginary — that stand to the credit of those eulogized. On the same principle, invectives are based on facts of the opposite kind: the orator looks to see what base deeds — real or imaginary — stand to the discredit of those he is attacking, such as treachery to the cause of Hellenic freedom, or the enslavement of their gallant allies against the barbarians (Aegina, Potidaea, &c.), or any other misdeeds of this kind that are recorded against them. So, too, in a court of law: whether we are prosecuting or defending, we must pay attention to the existing facts of the case. It makes no difference whether the subject is the Lacedaemonians or the Athenians, a man or a god; we must do the same thing. Suppose it to be Achilles whom we are to advise, to praise or blame, to accuse or defend; here too we must take the facts, real or imaginary; these must be our material, whether we are to praise or blame him for the noble or base deeds he has done, to accuse or defend him for his just or unjust treatment of others, or to advise him about what is or is not to his interest. The same thing applies to any subject whatever. Thus, in handling the question whether justice is or is not a good, we must start with the real facts about justice and goodness. We see, then, that this is the only way in which any one ever proves anything, whether his arguments are strictly cogent or not: not all facts can form his basis, but only those that bear on the matter in hand: nor, plainly, can proof be effected otherwise by means of the speech. Consequently, as appears in the Topics, we must first of all have by us a selection of arguments about questions that may arise and are suitable for us to handle; and then we must try to think out arguments of the same type for special needs as they emerge; not vaguely and indefinitely, but by keeping our eyes on the actual facts of the subject we have to speak on, and gathering in as many of them as we can that bear closely upon it: for the more actual facts we have at our command, the more easily we prove our case; and the more closely they bear on the subject, the more they will seem to belong to that speech only instead of being commonplaces. By 'commonplaces' I mean, for example, eulogy of Achilles because he is a human being or a demi-god, or because he joined the expedition against Troy: these things are true of many others, so that this kind of eulogy applies no better to Achilles than to Diomede. The special facts here needed are those that are true of Achilles alone; such facts as that he slew Hector, the bravest of the Trojans, and Cycnus the invulnerable, who prevented all the Greeks from landing, and again that he was the youngest man who joined the expedition, and was not bound by oath to join it, and so on.

Here, again, we have our first principle of selection of Enthymemes-that which refers to the lines of argument selected. We will now consider the various elementary classes of enthymemes. (By an 'elementary class' of enthymeme I mean the same thing as a 'line of argument'.) We will begin, as we must begin, by observing that there are two kinds of enthymemes. One kind proves some affirmative or negative proposition; the other kind disproves one. The difference between the two kinds is the same as that between syllogistic proof and disproof in dialectic. The demonstrative enthymeme is formed by the conjunction of compatible propositions; the refutative, by the conjunction of incompatible propositions.

We may now be said to have in our hands the lines of argument for the various special subjects that it is useful or necessary to handle, having selected the propositions suitable in various cases. We have, in fact, already ascertained the lines of argument applicable to enthymemes about good and evil, the noble and the base, justice and injustice, and also to those about types of character, emotions, and moral qualities. Let us now lay hold of certain facts about the whole subject, considered from a different and more general point of view. In the course of our discussion we will take note of the distinction between lines of proof and lines of disproof: and also of those lines of argument used in what seems to be enthymemes, but are not, since they do not represent valid syllogisms. Having made all this clear, we will proceed to classify Objections and Refutations, showing how they can be brought to bear upon enthymemes.

23

1. One line of positive proof is based upon consideration of the opposite of the thing in question. Observe whether that opposite has the opposite quality. If it has not, you refute the original proposition; if it has, you establish it. E.g. 'Temperance is beneficial; for licentiousness is hurtful'. Or, as in the Messenian speech, 'If war is the cause of our present troubles, peace is what we need to put things right again'. Or —

For if not even evil-doers should
Anger us if they meant not what they did,
Then can we owe no gratitude to such
As were constrained to do the good they did us.

Or —

Since in this world liars may win belief,
Be sure of the opposite likewise-that this world
Hears many a true word and believes it not.

2. Another line of proof is got by considering some modification of the key-word, and arguing that what can or cannot be said of the one, can or cannot be said of the other: e.g. 'just' does not always mean 'beneficial', or 'justly' would always mean 'beneficially', whereas it is not desirable to be justly put to death.

3. Another line of proof is based upon correlative ideas. If it is true that one man noble or just treatment to another, you argue that the other must have received noble or just treatment; or that where it is right to command obedience, it must have been right to obey the command. Thus Diomedon, the tax-farmer, said of the taxes: 'If it is no disgrace for you to sell them, it is no disgrace for us to buy them'. Further, if 'well' or 'justly' is true of the person to whom a thing is done, you argue that it is true of the doer. But it is possible to draw a false conclusion here. It may be just that A should be treated in a certain way, and yet not just that he should be so treated by B. Hence you must ask yourself two distinct questions: (1) Is it right that A should be thus treated? (2) Is it right that B should thus treat him? and apply your results properly, according as your answers are Yes or No. Sometimes

in such a case the two answers differ: you may quite easily have a position like that in the Alcmaeon of Theodectes:

And was there none to loathe thy mother's crime?

to which question Alcmaeon in reply says,

Why, there are two things to examine here.

And when Alphesiboea asks what he means, he rejoins:

They judged her fit to die, not me to slay her.

Again there is the lawsuit about Demosthenes and the men who killed Nicanor; as they were judged to have killed him justly, it was thought that he was killed justly. And in the case of the man who was killed at Thebes, the judges were requested to decide whether it was unjust that he should be killed, since if it was not, it was argued that it could not have been unjust to kill him.

4. Another line of proof is the 'a fortiori'. Thus it may be argued that if even the gods are not omniscient, certainly human beings are not. The principle here is that, if a quality does not in fact exist where it is more likely to exist, it clearly does not exist where it is less likely. Again, the argument that a man who strikes his father also strikes his neighbours follows from the principle that, if the less likely thing is true, the more likely thing is true also; for a man is less likely to strike his father than to strike his neighbours. The argument, then, may run thus. Or it may be urged that, if a thing is not true where it is more likely, it is not true where it is less likely; or that, if it is true where it is less likely, it is true where it is more likely: according as we have to show that a thing is or is not true. This argument might also be used in a case of parity, as in the lines:

Thou hast pity for thy sire, who has lost his sons:
Hast none for Oeneus, whose brave son is dead?

And, again, 'if Theseus did no wrong, neither did Paris'; or 'the sons of Tyndareus did no wrong, neither did Paris'; or 'if Hector did well to slay Patroclus, Paris did well to slay Achilles'. And 'if other followers of an art are not bad men, neither are philosophers'. And 'if generals are not bad men because it often happens that they are condemned to death, neither are sophists'. And the remark that 'if each individual among you ought to think of his own city's reputation, you ought all to think of the reputation of Greece as a whole'.

5. Another line of argument is based on considerations of time. Thus

Iphicrates, in the case against Harmodius, said, ‘if before doing the deed I had bargained that, if I did it, I should have a statue, you would have given me one. Will you not give me one now that I have done the deed? You must not make promises when you are expecting a thing to be done for you, and refuse to fulfil them when the thing has been done.’ And, again, to induce the Thebans to let Philip pass through their territory into Attica, it was argued that ‘if he had insisted on this before he helped them against the Phocians, they would have promised to do it. It is monstrous, therefore, that just because he threw away his advantage then, and trusted their honour, they should not let him pass through now’.

6. Another line is to apply to the other speaker what he has said against yourself. It is an excellent turn to give to a debate, as may be seen in the Teucer. It was employed by Iphicrates in his reply to Aristophon. ‘Would you’, he asked, ‘take a bribe to betray the fleet?’ ‘No’, said Aristophon; and Iphicrates replied, ‘Very good: if you, who are Aristophon, would not betray the fleet, would I, who am Iphicrates?’ Only, it must be recognized beforehand that the other man is more likely than you are to commit the crime in question. Otherwise you will make yourself ridiculous; it is Aristeides who is prosecuting, you cannot say that sort of thing to him. The purpose is to discredit the prosecutor, who as a rule would have it appear that his character is better than that of the defendant, a pretension which it is desirable to upset. But the use of such an argument is in all cases ridiculous if you are attacking others for what you do or would do yourself, or are urging others to do what you neither do nor would do yourself.

7. Another line of proof is secured by defining your terms. Thus, ‘What is the supernatural? Surely it is either a god or the work of a god. Well, any one who believes that the work of a god exists, cannot help also believing that gods exist.’ Or take the argument of Iphicrates, ‘Goodness is true nobility; neither Harmodius nor Aristogeiton had any nobility before they did a noble deed’. He also argued that he himself was more akin to Harmodius and Aristogeiton than his opponent was. ‘At any rate, my deeds are more akin to those of Harmodius and Aristogeiton than yours are’. Another example may be found in the Alexander. ‘Every one will agree that by incontinent people we mean those who are not satisfied with the enjoyment of one love.’ A further example is to be found in the reason given by Socrates for not going to the court of Archelaus. He said that ‘one is insulted by being unable to

requite benefits, as well as by being unable to requite injuries'. All the persons mentioned define their term and get at its essential meaning, and then use the result when reasoning on the point at issue.

8. Another line of argument is founded upon the various senses of a word. Such a word is 'rightly', as has been explained in the Topics. Another line is based upon logical division. Thus, 'All men do wrong from one of three motives, A, B, or C: in my case A and B are out of the question, and even the accusers do not allege C'.

10. Another line is based upon induction. Thus from the case of the woman of Peparethus it might be argued that women everywhere can settle correctly the facts about their children. Another example of this occurred at Athens in the case between the orator Mantias and his son, when the boy's mother revealed the true facts: and yet another at Thebes, in the case between Ismenias and Stilbon, when Dodonis proved that it was Ismenias who was the father of her son Thettaliscus, and he was in consequence always regarded as being so. A further instance of induction may be taken from the Law of Theodectes: 'If we do not hand over our horses to the care of men who have mishandled other people's horses, nor ships to those who have wrecked other people's ships, and if this is true of everything else alike, then men who have failed to secure other people's safety are not to be employed to secure our own.' Another instance is the argument of Alcidamas: 'Every one honours the wise'. Thus the Parians have honoured Archilochus, in spite of his bitter tongue; the Chians Homer, though he was not their countryman; the Mytilenaeans Sappho, though she was a woman; the Lacedaemonians actually made Chilon a member of their senate, though they are the least literary of men; the Italian Greeks honoured Pythagoras; the inhabitants of Lampsacus gave public burial to Anaxagoras, though he was an alien, and honour him even to this day. (It may be argued that peoples for whom philosophers legislate are always prosperous) on the ground that the Athenians became prosperous under Solon's laws and the Lacedaemonians under those of Lycurgus, while at Thebes no sooner did the leading men become philosophers than the country began to prosper.

11. Another line of argument is founded upon some decision already pronounced, whether on the same subject or on one like it or contrary to it. Such a proof is most effective if every one has always decided thus; but if not every one, then at any rate most people; or if all, or most, wise or good men

have thus decided, or the actual judges of the present question, or those whose authority they accept, or any one whose decision they cannot gainsay because he has complete control over them, or those whom it is not seemly to gainsay, as the gods, or one's father, or one's teachers. Thus Autocles said, when attacking Mixidemides, that it was a strange thing that the Dread Goddesses could without loss of dignity submit to the judgement of the Areopagus, and yet Mixidemides could not. Or as Sappho said, 'Death is an evil thing; the gods have so judged it, or they would die'. Or again as Aristippus said in reply to Plato when he spoke somewhat too dogmatically, as Aristippus thought: 'Well, anyhow, our friend', meaning Socrates, 'never spoke like that'. And Hegesippus, having previously consulted Zeus at Olympia, asked Apollo at Delphi 'whether his opinion was the same as his father's', implying that it would be shameful for him to contradict his father. Thus too Isocrates argued that Helen must have been a good woman, because Theseus decided that she was; and Paris a good man, because the goddesses chose him before all others; and Evagoras also, says Isocrates, was good, since when Conon met with his misfortune he betook himself to Evagoras without trying any one else on the way.

12. Another line of argument consists in taking separately the parts of a subject. Such is that given in the Topics: 'What sort of motion is the soul? for it must be this or that.' The Socrates of Theodectes provides an example: 'What temple has he profaned? What gods recognized by the state has he not honoured?'

13. Since it happens that any given thing usually has both good and bad consequences, another line of argument consists in using those consequences as a reason for urging that a thing should or should not be done, for prosecuting or defending any one, for eulogy or censure. E.g. education leads both to unpopularity, which is bad, and to wisdom, which is good. Hence you either argue, 'It is therefore not well to be educated, since it is not well to be unpopular': or you answer, 'No, it is well to be educated, since it is well to be wise'. The Art of Rhetoric of Callippus is made up of this line of argument, with the addition of those of Possibility and the others of that kind already described.

14. Another line of argument is used when we have to urge or discourage a course of action that may be done in either of two opposite ways, and have to apply the method just mentioned to both. The difference between this one and

the last is that, whereas in the last any two things are contrasted, here the things contrasted are opposites. For instance, the priestess enjoined upon her son not to take to public speaking: ‘For’, she said, ‘if you say what is right, men will hate you; if you say what is wrong, the gods will hate you.’ The reply might be, ‘On the contrary, you ought to take to public speaking: for if you say what is right the gods will love you; if you say what is wrong, men will love you.’ This amounts to the proverbial ‘buying the marsh with the salt’. It is just this situation, viz. when each of two opposites has both a good and a bad consequence opposite respectively to each other, that has been termed divarication.

15. Another line of argument is this: The things people approve of openly are not those which they approve of secretly: openly, their chief praise is given to justice and nobleness; but in their hearts they prefer their own advantage. Try, in face of this, to establish the point of view which your opponent has not adopted. This is the most effective of the forms of argument that contradict common opinion.

16. Another line is that of rational correspondence. E.g. Iphicrates, when they were trying to compel his son, a youth under the prescribed age, to perform one of the state duties because he was tall, said ‘If you count tall boys men, you will next be voting short men boys’. And Theodectes in his Law said, ‘You make citizens of such mercenaries as Strabax and Charidemus, as a reward of their merits; will you not make exiles of such citizens as those who have done irreparable harm among the mercenaries?’

17. Another line is the argument that if two results are the same their antecedents are also the same. For instance, it was a saying of Xenophanes that to assert that the gods had birth is as impious as to say that they die; the consequence of both statements is that there is a time when the gods do not exist. This line of proof assumes generally that the result of any given thing is always the same: e.g. ‘you are going to decide not about Isocrates, but about the value of the whole profession of philosophy.’ Or, ‘to give earth and water’ means slavery; or, ‘to share in the Common Peace’ means obeying orders. We are to make either such assumptions or their opposite, as suits us best.

18. Another line of argument is based on the fact that men do not always make the same choice on a later as on an earlier occasion, but reverse their previous choice. E.g. the following enthymeme: ‘When we were exiles, we

fought in order to return; now we have returned, it would be strange to choose exile in order not to have to fight.' one occasion, that is, they chose to be true to their homes at the cost of fighting, and on the other to avoid fighting at the cost of deserting their homes.

19. Another line of argument is the assertion that some possible motive for an event or state of things is the real one: e.g. that a gift was given in order to cause pain by its withdrawal. This notion underlies the lines:

God gives to many great prosperity,
Not of good God towards them, but to make
The ruin of them more conspicuous.

Or take the passage from the Meleager of Antiphon:

To slay no boar, but to be witnesses
Of Meleager's prowess unto Greece.

Or the argument in the Ajax of Theodectes, that Diomede chose out Odysseus not to do him honour, but in order that his companion might be a lesser man than himself-such a motive for doing so is quite possible.

20. Another line of argument is common to forensic and deliberative oratory, namely, to consider inducements and deterrents, and the motives people have for doing or avoiding the actions in question. These are the conditions which make us bound to act if they are for us, and to refrain from action if they are against us: that is, we are bound to act if the action is possible, easy, and useful to ourselves or our friends or hurtful to our enemies; this is true even if the action entails loss, provided the loss is outweighed by the solid advantage. A speaker will urge action by pointing to such conditions, and discourage it by pointing to the opposite. These same arguments also form the materials for accusation or defence-the deterrents being pointed out by the defence, and the inducements by the prosecution. As for the defence,...This topic forms the whole Art of Rhetoric both of Pamphilus and of Callippus.

21. Another line of argument refers to things which are supposed to happen and yet seem incredible. We may argue that people could not have believed them, if they had not been true or nearly true: even that they are the more likely to be true because they are incredible. For the things which men believe are either facts or probabilities: if, therefore, a thing that is believed is improbable and even incredible, it must be true, since it is certainly not believed because it is at all probable or credible. An example is what

Androcles of the deme Pitthus said in his well-known arraignment of the law. The audience tried to shout him down when he observed that the laws required a law to set them right. ‘Why’, he went on, ‘fish need salt, improbable and incredible as this might seem for creatures reared in salt water; and olive-cakes need oil, incredible as it is that what produces oil should need it.’

22. Another line of argument is to refute our opponent’s case by noting any contrasts or contradictions of dates, acts, or words that it anywhere displays; and this in any of the three following connexions. (1) Referring to our opponent’s conduct, e.g. ‘He says he is devoted to you, yet he conspired with the Thirty.’ (2) Referring to our own conduct, e.g. ‘He says I am litigious, and yet he cannot prove that I have been engaged in a single lawsuit.’ (3) Referring to both of us together, e.g. ‘He has never even lent any one a penny, but I have ransomed quite a number of you.’

23. Another line that is useful for men and causes that have been really or seemingly slandered, is to show why the facts are not as supposed; pointing out that there is a reason for the false impression given. Thus a woman, who had palmed off her son on another woman, was thought to be the lad’s mistress because she embraced him; but when her action was explained the charge was shown to be groundless. Another example is from the Ajax of Theodectes, where Odysseus tells Ajax the reason why, though he is really braver than Ajax, he is not thought so.

24. Another line of argument is to show that if the cause is present, the effect is present, and if absent, absent. For by proving the cause you at once prove the effect, and conversely nothing can exist without its cause. Thus Thrasybulus accused Leodamas of having had his name recorded as a criminal on the slab in the Acropolis, and of erasing the record in the time of the Thirty Tyrants: to which Leodamas replied, ‘Impossible: for the Thirty would have trusted me all the more if my quarrel with the commons had been inscribed on the slab.’

25. Another line is to consider whether the accused person can take or could have taken a better course than that which he is recommending or taking, or has taken. If he has not taken this better course, it is clear that he is not guilty, since no one deliberately and consciously chooses what is bad. This argument is, however, fallacious, for it often becomes clear after the event how the action could have been done better, though before the event

this was far from clear.

26. Another line is, when a contemplated action is inconsistent with any past action, to examine them both together. Thus, when the people of Elea asked Xenophanes if they should or should not sacrifice to Leucothea and mourn for her, he advised them not to mourn for her if they thought her a goddess, and not to sacrifice to her if they thought her a mortal woman.

27. Another line is to make previous mistakes the grounds of accusation or defence. Thus, in the Medea of Carcinus the accusers allege that Medea has slain her children; ‘at all events’, they say, ‘they are not to be seen’-Medea having made the mistake of sending her children away. In defence she argues that it is not her children, but Jason, whom she would have slain; for it would have been a mistake on her part not to do this if she had done the other. This special line of argument for enthymeme forms the whole of the Art of Rhetoric in use before Theodorus.

Another line is to draw meanings from names. Sophocles, for
instance, says,

O steel in heart as thou art steel in name.

This line of argument is common in praises of the gods. Thus, too, Conon called Thrasybulus rash in counsel. And Herodicus said of Thrasymachus, ‘You are always bold in battle’; of Polus, ‘you are always a colt’; and of the legislator Draco that his laws were those not of a human being but of a dragon, so savage were they. And, in Euripides, Hecuba says of Aphrodite,

Her name and Folly’s (aphrosuns) lightly begin alike,

and Chaeremon writes

Pentheus-a name foreshadowing grief (penthos) to come.

The Refutative Enthymeme has a greater reputation than the Demonstrative, because within a small space it works out two opposing arguments, and arguments put side by side are clearer to the audience. But of all syllogisms, whether refutative or demonstrative, those are most applauded of which we foresee the conclusions from the beginning, so long as they are not obvious at first sight-for part of the pleasure we feel is at our own intelligent anticipation; or those which we follow well enough to see the point of them as soon as the last word has been uttered.

24

Besides genuine syllogisms, there may be syllogisms that look genuine but are not; and since an enthymeme is merely a syllogism of a particular kind, it follows that, besides genuine enthymemes, there may be those that look genuine but are not.

1. Among the lines of argument that form the Spurious Enthymeme the first is that which arises from the particular words employed.

(a) One variety of this is when-as in dialectic, without having gone through any reasoning process, we make a final statement as if it were the conclusion of such a process, ‘Therefore so-and-so is not true’, ‘Therefore also so-and-so must be true’-so too in rhetoric a compact and antithetical utterance passes for an enthymeme, such language being the proper province of enthymeme, so that it is seemingly the form of wording here that causes the illusion mentioned. In order to produce the effect of genuine reasoning by our form of wording it is useful to summarize the results of a number of previous reasonings: as ‘some he saved-others he avenged-the Greeks he freed’. Each of these statements has been previously proved from other facts; but the mere collocation of them gives the impression of establishing some fresh conclusion.

(b) Another variety is based on the use of similar words for different things; e.g. the argument that the mouse must be a noble creature, since it gives its name to the most august of all religious rites-for such the Mysteries are. Or one may introduce, into a eulogy of the dog, the dog-star; or Pan, because Pindar said:

O thou blessed one!
Thou whom they of Olympus call

The hound of manifold shape
That follows the Mother of Heaven:

or we may argue that, because there is much disgrace in there not being a dog about, there is honour in being a dog. Or that Hermes is readier than any other god to go shares, since we never say ‘shares all round’ except of him. Or that speech is a very excellent thing, since good men are not said to be worth money but to be worthy of esteem-the phrase ‘worthy of esteem’ also having the meaning of ‘worth speech’.

2. Another line is to assert of the whole what is true of the parts, or of the parts what is true of the whole. A whole and its parts are supposed to be identical, though often they are not. You have therefore to adopt whichever of these two lines better suits your purpose. That is how Euthydemus argues: e.g. that any one knows that there is a trireme in the Peiraeus, since he knows the separate details that make up this statement. There is also the argument that one who knows the letters knows the whole word, since the word is the same thing as the letters which compose it; or that, if a double portion of a certain thing is harmful to health, then a single portion must not be called wholesome, since it is absurd that two good things should make one bad thing. Put thus, the enthymeme is refutative; put as follows; demonstrative: ‘For one good thing cannot be made up of two bad things.’ The whole line of argument is fallacious. Again, there is Polycrates’ saying that Thrasybulus put down thirty tyrants, where the speaker adds them up one by one. Or the argument in the Orestes of Theodectes, where the argument is from part to whole:

‘Tis right that she who slays her lord should die.

‘It is right, too, that the son should avenge his father. Very good: these two things are what Orestes has done.’ Still, perhaps the two things, once they are put together, do not form a right act. The fallacy might also be said to be due to omission, since the speaker fails to say by whose hand a husband-slayer should die.

3. Another line is the use of indignant language, whether to support your own case or to overthrow your opponent’s. We do this when we paint a highly-coloured picture of the situation without having proved the facts of it: if the defendant does so, he produces an impression of his innocence; and if the prosecutor goes into a passion, he produces an impression of the defendant’s guilt. Here there is no genuine enthymeme: the hearer infers guilt

or innocence, but no proof is given, and the inference is fallacious accordingly.

4. Another line is to use a ‘Sign’, or single instance, as certain evidence; which, again, yields no valid proof. Thus, it might be said that lovers are useful to their countries, since the love of Harmodius and Aristogeiton caused the downfall of the tyrant Hipparchus. Or, again, that Dionysius is a thief, since he is a vicious man-there is, of course, no valid proof here; not every vicious man is a thief, though every thief is a vicious man.

5. Another line represents the accidental as essential. An instance is what Polycrates says of the mice, that they ‘came to the rescue’ because they gnawed through the bowstrings. Or it might be maintained that an invitation to dinner is a great honour, for it was because he was not invited that Achilles was ‘angered’ with the Greeks at Tenedos? As a fact, what angered him was the insult involved; it was a mere accident that this was the particular form that the insult took.

6. Another is the argument from consequence. In the Alexander, for instance, it is argued that Paris must have had a lofty disposition, since he despised society and lived by himself on Mount Ida: because lofty people do this kind of thing, therefore Paris too, we are to suppose, had a lofty soul. Or, if a man dresses fashionably and roams around at night, he is a rake, since that is the way rakes behave. Another similar argument points out that beggars sing and dance in temples, and that exiles can live wherever they please, and that such privileges are at the disposal of those we account happy and therefore every one might be regarded as happy if only he has those privileges. What matters, however, is the circumstances under which the privileges are enjoyed. Hence this line too falls under the head of fallacies by omission.

7. Another line consists in representing as causes things which are not causes, on the ground that they happened along with or before the event in question. They assume that, because B happens after A, it happens because of A. Politicians are especially fond of taking this line. Thus Demades said that the policy of Demosthenes was the cause of all the mischief, ‘for after it the war occurred’.

8. Another line consists in leaving out any mention of time and circumstances. E.g. the argument that Paris was justified in taking Helen, since her father left her free to choose: here the freedom was presumably not

perpetual; it could only refer to her first choice, beyond which her father's authority could not go. Or again, one might say that to strike a free man is an act of wanton outrage; but it is not so in every case-only when it is unprovoked.

9. Again, a spurious syllogism may, as in 'eristical' discussions, be based on the confusion of the absolute with that which is not absolute but particular. As, in dialectic, for instance, it may be argued that what-is-not is, on the ground that what-is-not is what-is-not: or that the unknown can be known, on the ground that it can be known to he unknown: so also in rhetoric a spurious enthymeme may be based on the confusion of some particular probability with absolute probability. Now no particular probability is universally probable: as Agathon says,

One might perchance say that was probable-
That things improbable oft will hap to men.

For what is improbable does happen, and therefore it is probable that improbable things will happen. Granted this, one might argue that 'what is improbable is probable'. But this is not true absolutely. As, in eristic, the imposture comes from not adding any clause specifying relationship or reference or manner; so here it arises because the probability in question is not general but specific. It is of this line of argument that Corax's Art of Rhetoric is composed. If the accused is not open to the charge-for instance if a weakling be tried for violent assault-the defence is that he was not likely to do such a thing. But if he is open to the charge-i.e. if he is a strong man-the defence is still that he was not likely to do such a thing, since he could be sure that people would think he was likely to do it. And so with any other charge: the accused must be either open or not open to it: there is in either case an appearance of probable innocence, but whereas in the latter case the probability is genuine, in the former it can only be asserted in the special sense mentioned. This sort of argument illustrates what is meant by making the worse argument seem the better. Hence people were right in objecting to the training Protagoras undertook to give them. It was a fraud; the probability it handled was not genuine but spurious, and has a place in no art except Rhetoric and Eristic.

Enthymemes, genuine and apparent, have now been described; the next subject is their Refutation.

An argument may be refuted either by a counter-syllogism or by bringing an objection. It is clear that counter-syllogisms can be built up from the same lines of arguments as the original syllogisms: for the materials of syllogisms are the ordinary opinions of men, and such opinions often contradict each other. Objections, as appears in the Topics, may be raised in four ways-either by directly attacking your opponent's own statement, or by putting forward another statement like it, or by putting forward a statement contrary to it, or by quoting previous decisions.

1. By 'attacking your opponent's own statement' I mean, for instance, this: if his enthymeme should assert that love is always good, the objection can be brought in two ways, either by making the general statement that 'all want is an evil', or by making the particular one that there would be no talk of 'Caunian love' if there were not evil loves as well as good ones.

2. An objection 'from a contrary statement' is raised when, for instance, the opponent's enthymeme having concluded that a good man does good to all his friends, you object, 'That proves nothing, for a bad man does not do evil to all his friends'.

3. An example of an objection 'from a like statement' is, the enthymeme having shown that ill-used men always hate their ill-users, to reply, 'That proves nothing, for well-used men do not always love those who used them well'.

4. The 'decisions' mentioned are those proceeding from well-known men; for instance, if the enthymeme employed has concluded that 'that allowance ought to be made for drunken offenders, since they did not know what they were doing', the objection will be, 'Pittacus, then, deserves no approval, or he would not have prescribed specially severe penalties for offences due to drunkenness'.

Enthymemes are based upon one or other of four kinds of alleged fact: (1) Probabilities, (2) Examples, (3) Infallible Signs, (4) Ordinary Signs. (1) Enthymemes based upon Probabilities are those which argue from what is, or is supposed to be, usually true. (2) Enthymemes based upon Example are those which proceed by induction from one or more similar cases, arrive at a general proposition, and then argue deductively to a particular inference. (3) Enthymemes based upon Infallible Signs are those which argue from the inevitable and invariable. (4) Enthymemes based upon ordinary Signs are those which argue from some universal or particular proposition, true or false.

Now (1) as a Probability is that which happens usually but not always, Enthymemes founded upon Probabilities can, it is clear, always be refuted by raising some objection. The refutation is not always genuine: it may be spurious: for it consists in showing not that your opponent's premiss is not probable, but Only in showing that it is not inevitably true. Hence it is always in defence rather than in accusation that it is possible to gain an advantage by using this fallacy. For the accuser uses probabilities to prove his case: and to refute a conclusion as improbable is not the same thing as to refute it as not inevitable. Any argument based upon what usually happens is always open to objection: otherwise it would not be a probability but an invariable and necessary truth. But the judges think, if the refutation takes this form, either that the accuser's case is not probable or that they must not decide it; which, as we said, is a false piece of reasoning. For they ought to decide by considering not merely what must be true but also what is likely to be true: this is, indeed, the meaning of 'giving a verdict in accordance with one's honest opinion'. Therefore it is not enough for the defendant to refute the accusation by proving that the charge is not hound to be true: he must do so by showing that it is not likely to be true. For this purpose his objection must state what is more usually true than the statement attacked. It may do so in either of two ways: either in respect of frequency or in respect of exactness. It will be most convincing if it does so in both respects; for if the thing in question both happens oftener as we represent it and happens more as we represent it, the probability is particularly great.

(2) Fallible Signs, and Enthymemes based upon them, can be refuted even if the facts are correct, as was said at the outset. For we have shown in the Analytics that no Fallible Sign can form part of a valid logical proof.

(3) Enthymemes depending on examples may be refuted in the same way as probabilities. If we have a negative instance, the argument is refuted, in so far as it is proved not inevitable, even though the positive examples are more similar and more frequent. And if the positive examples are more numerous and more frequent, we must contend that the present case is dissimilar, or that its conditions are dissimilar, or that it is different in some way or other.

(4) It will be impossible to refute Infallible Signs, and Enthymemes resting

on them, by showing in any way that they do not form a valid logical proof: this, too, we see from the Analytics. All we can do is to show that the fact alleged does not exist. If there is no doubt that it does, and that it is an Infallible Sign, refutation now becomes impossible: for this is equivalent to a demonstration which is clear in every respect.

26

Amplification and Depreciation are not an element of enthymeme. By ‘an element of enthymeme’ I mean the same thing as a line of enthymematic argument-a general class embracing a large number of particular kinds of enthymeme. Amplification and Depreciation are one kind of enthymeme, viz. the kind used to show that a thing is great or small; just as there are other kinds used to show that a thing is good or bad, just or unjust, and anything else of the sort. All these things are the subject-matter of syllogisms and enthymemes; none of these is the line of argument of an enthymeme; no more, therefore, are Amplification and Depreciation. Nor are Refutative Enthymemes a different species from Constructive. For it is clear that refutation consists either in offering positive proof or in raising an objection. In the first case we prove the opposite of our adversary’s statements. Thus, if he shows that a thing has happened, we show that it has not; if he shows that it has not happened, we show that it has. This, then, could not be the distinction if there were one, since the same means are employed by both parties, enthymemes being adduced to show that the fact is or is not so-and-so. An objection, on the other hand, is not an enthymeme at all, as was said in the Topics, consists in stating some accepted opinion from which it will be clear that our opponent has not reasoned correctly or has made a false assumption.

Three points must be studied in making a speech; and we have now completed the account of (1) Examples, Maxims, Enthymemes, and in general the thought-element the way to invent and refute arguments. We have next to discuss (2) Style, and (3) Arrangement.

Book III

1

IN making a speech one must study three points: first, the means of producing persuasion; second, the style, or language, to be used; third, the proper arrangement of the various parts of the speech. We have already specified the sources of persuasion. We have shown that these are three in number; what they are; and why there are only these three: for we have shown that persuasion must in every case be effected either (1) by working on the emotions of the judges themselves, (2) by giving them the right impression of the speakers' character, or (3) by proving the truth of the statements made.

Enthymemes also have been described, and the sources from which they should be derived; there being both special and general lines of argument for enthymemes.

Our next subject will be the style of expression. For it is not enough to know what we ought to say; we must also say it as we ought; much help is thus afforded towards producing the right impression of a speech. The first question to receive attention was naturally the one that comes first naturally-how persuasion can be produced from the facts themselves. The second is how to set these facts out in language. A third would be the proper method of delivery; this is a thing that affects the success of a speech greatly; but hitherto the subject has been neglected. Indeed, it was long before it found a way into the arts of tragic drama and epic recitation: at first poets acted their tragedies themselves. It is plain that delivery has just as much to do with oratory as with poetry. (In connexion with poetry, it has been studied by Glaucon of Teos among others.) It is, essentially, a matter of the right management of the voice to express the various emotions-of speaking loudly, softly, or between the two; of high, low, or intermediate pitch; of the various rhythms that suit various subjects. These are the three things-volume of sound, modulation of pitch, and rhythm-that a speaker bears in mind. It is those who do bear them in mind who usually win prizes in the dramatic contests; and just as in drama the actors now count for more than the poets, so it is in the contests of public life, owing to the defects of our political institutions. No systematic treatise upon the rules of delivery has yet been composed; indeed, even the study of language made no progress till late in the day. Besides, delivery is-very properly-not regarded as an elevated subject of inquiry. Still, the whole business of rhetoric being concerned with appearances, we must pay attention to the subject of delivery, unworthy though it is, because we cannot do without it. The right thing in speaking really is that we should be satisfied not to annoy our hearers, without trying to delight them: we ought in fairness to fight our case with no help beyond the bare facts: nothing, therefore, should matter except the proof of those facts. Still, as has been already said, other things affect the result considerably, owing to the defects of our hearers. The arts of language cannot help having a small but real importance, whatever it is we have to expound to others: the way in which a thing is said does affect its intelligibility. Not, however, so much importance as people think. All such arts are fanciful and meant to charm the hearer. Nobody uses fine language when teaching geometry.

When the principles of delivery have been worked out, they will produce the same effect as on the stage. But only very slight attempts to deal with them have been made and by a few people, as by Thrasymachus in his ‘Appeals to Pity’. Dramatic ability is a natural gift, and can hardly be systematically taught. The principles of good diction can be so taught, and therefore we have men of ability in this direction too, who win prizes in their turn, as well as those speakers who excel in delivery-speeches of the written or literary kind owe more of their effect to their direction than to their thought.

It was naturally the poets who first set the movement going; for words represent things, and they had also the human voice at their disposal, which of all our organs can best represent other things. Thus the arts of recitation and acting were formed, and others as well. Now it was because poets seemed to win fame through their fine language when their thoughts were simple enough, that the language of oratorical prose at first took a poetical colour, e.g. that of Gorgias. Even now most uneducated people think that poetical language makes the finest discourses. That is not true: the language of prose is distinct from that of poetry. This is shown by the state of things to-day, when even the language of tragedy has altered its character. Just as iambics were adopted, instead of tetrameters, because they are the most prose-like of all metres, so tragedy has given up all those words, not used in ordinary talk, which decorated the early drama and are still used by the writers of hexameter poems. It is therefore ridiculous to imitate a poetical manner which the poets themselves have dropped; and it is now plain that we have not to treat in detail the whole question of style, but may confine ourselves to that part of it which concerns our present subject, rhetoric. The other — the poetical — part of it has been discussed in the treatise on the Art of Poetry.

2

We may, then, start from the observations there made, including the definition of style. Style to be good must be clear, as is proved by the fact that speech which fails to convey a plain meaning will fail to do just what speech has to do. It must also be appropriate, avoiding both meanness and undue elevation; poetical language is certainly free from meanness, but it is not appropriate to prose. Clearness is secured by using the words (nouns and verbs alike) that are current and ordinary. Freedom from meanness, and positive adornment too, are secured by using the other words mentioned in the Art of Poetry. Such variation from what is usual makes the language appear more stately. People do not feel towards strangers as they do towards their own countrymen, and the same thing is true of their feeling for language. It is therefore well to give to everyday speech an unfamiliar air: people like what strikes them, and are struck by what is out of the way. In verse such effects are common, and there they are fitting: the persons and things there spoken of are comparatively remote from ordinary life. In prose passages they are far less often fitting because the subject-matter is less exalted. Even in poetry, it is not quite appropriate that fine language should be used by a slave or a very young man, or about very trivial subjects: even in poetry the style, to be appropriate, must sometimes be toned down, though at other times heightened. We can now see that a writer must disguise his art and give the impression of speaking naturally and not artificially. Naturalness is persuasive, artificiality is the contrary; for our hearers are prejudiced and think we have some design against them, as if we were mixing their wines for them. It is like the difference between the quality of Theodorus' voice and the voices of all other actors: his really seems to be that of the character who is speaking, theirs do not. We can hide our purpose successfully by taking the single words of our composition from the speech of ordinary life. This is done in poetry by Euripides, who was the first to show the way to his successors.

Language is composed of nouns and verbs. Nouns are of the various kinds considered in the treatise on Poetry. Strange words, compound words, and invented words must be used sparingly and on few occasions: on what occasions we shall state later. The reason for this restriction has been already indicated: they depart from what is suitable, in the direction of excess. In the language of prose, besides the regular and proper terms for things, metaphorical terms only can be used with advantage. This we gather from the fact that these two classes of terms, the proper or regular and the metaphorical-these and no others-are used by everybody in conversation. We can now see that a good writer can produce a style that is distinguished without being obtrusive, and is at the same time clear, thus satisfying our definition of good oratorical prose. Words of ambiguous meaning are chiefly useful to enable the sophist to mislead his hearers. Synonyms are useful to the poet, by which I mean words whose ordinary meaning is the same, e.g. 'porheueseai' (advancing) and 'badizein' (proceeding); these two are ordinary words and have the same meaning.

In the Art of Poetry, as we have already said, will be found definitions of these kinds of words; a classification of Metaphors; and mention of the fact that metaphor is of great value both in poetry and in prose. Prose-writers must, however, pay specially careful attention to metaphor, because their other resources are scantier than those of poets. Metaphor, moreover, gives style clearness, charm, and distinction as nothing else can: and it is not a thing whose use can be taught by one man to another. Metaphors, like epithets, must be fitting, which means that they must fairly correspond to the thing signified: failing this, their inappropriateness will be conspicuous: the want of harmony between two things is emphasized by their being placed side by side. It is like having to ask ourselves what dress will suit an old man; certainly not the crimson cloak that suits a young man. And if you wish to pay a compliment, you must take your metaphor from something better in the same line; if to disparage, from something worse. To illustrate my meaning:

since opposites are in the same class, you do what I have suggested if you say that a man who begs 'prays', and a man who prays 'begs'; for praying and begging are both varieties of asking. So Iphicrates called Callias a 'mendicant priest' instead of a 'torch-bearer', and Callias replied that Iphicrates must be uninitiated or he would have called him not a 'mendicant priest' but a 'torch-bearer'. Both are religious titles, but one is honourable and the other is not. Again, somebody calls actors 'hangers-on of Dionysus', but they call themselves 'artists': each of these terms is a metaphor, the one intended to throw dirt at the actor, the other to dignify him. And pirates now call themselves 'purveyors'. We can thus call a crime a mistake, or a mistake a crime. We can say that a thief 'took' a thing, or that he 'plundered' his victim. An expression like that of Euripides' Telephus,

King of the oar, on Mysia's coast he landed,

is inappropriate; the word 'king' goes beyond the dignity of the subject, and so the art is not concealed. A metaphor may be amiss because the very syllables of the words conveying it fail to indicate sweetness of vocal utterance. Thus Dionysius the Brazen in his elegies calls poetry 'Calliope's screech'. Poetry and screeching are both, to be sure, vocal utterances. But the metaphor is bad, because the sounds of 'screeching', unlike those of poetry, are discordant and unmeaning. Further, in using metaphors to give names to nameless things, we must draw them not from remote but from kindred and similar things, so that the kinship is clearly perceived as soon as the words are said. Thus in the celebrated riddle

I marked how a man glued bronze with fire to another man's body,

the process is nameless; but both it and gluing are a kind of application, and that is why the application of the cupping-glass is here called a 'gluing'. Good riddles do, in general, provide us with satisfactory metaphors: for metaphors imply riddles, and therefore a good riddle can furnish a good metaphor. Further, the materials of metaphors must be beautiful; and the beauty, like the ugliness, of all words may, as Licymnius says, lie in their sound or in their meaning. Further, there is a third consideration-one that upsets the fallacious argument of the sophist Bryson, that there is no such thing as foul language, because in whatever words you put a given thing your meaning is the same. This is untrue. One term may describe a thing more truly than another, may be more like it, and set it more intimately before our eyes. Besides, two different words will represent a thing in two different lights; so on this ground also one term must be held fairer or fouler than another. For both of two terms will indicate what is fair, or what is foul, but not simply their fairness or their foulness, or if so, at any rate not in an equal degree. The materials of metaphor must be beautiful to the ear, to the understanding, to the eye or some other physical sense. It is better, for instance, to say ‘rosy-fingered morn’, than ‘crimson-fingered’ or, worse still, ‘red-fingered morn’. The epithets that we apply, too, may have a bad and ugly aspect, as when Orestes is called a ‘mother-slayer’; or a better one, as when he is called his ‘father’s avenger’. Simonides, when the victor in the mule-race offered him a small fee, refused to write him an ode, because, he said, it was so unpleasant to write odes to half-asses: but on receiving an adequate fee, he wrote

Hail to you, daughters of storm-footed steeds?

though of course they were daughters of asses too. The same effect is attained by the use of diminutives, which make a bad thing less bad and a good thing less good. Take, for instance, the banter of Aristophanes in the Babylonians where he uses ‘goldlet’ for ‘gold’, ‘cloaklet’ for ‘cloak’, ‘scoffiet’ for ‘scoff, and ‘plaguelet’. But alike in using epithets and in using diminutives we must be wary and must observe the mean.

3

Bad taste in language may take any of four forms:

(1) The misuse of compound words. Lycophron, for instance, talks of the ‘many visaged heaven’ above the ‘giant-crested earth’, and again the ‘strait-pathed shore’; and Gorgias of the ‘pauper-poet flatterer’ and ‘oath-breaking and over-oath-keeping’. Alcidamas uses such expressions as ‘the soul filling with rage and face becoming flame-flushed’, and ‘he thought their enthusiasm would be issue-fraught’ and ‘issue-fraught he made the persuasion of his words’, and ‘sombre-hued is the floor of the sea’.The way all these words are compounded makes them, we feel, fit for verse only. This, then, is one form in which bad taste is shown.

(2) Another is the employment of strange words. For instance, Lycophron talks of ‘the prodigious Xerxes’ and ‘spoliative Sciron’; Alcidamas of ‘a toy for poetry’ and ‘the witlessness of nature’, and says ‘whetted with the unmitigated temper of his spirit’.

(3) A third form is the use of long, unseasonable, or frequent epithets. It is appropriate enough for a poet to talk of ‘white milk’, in prose such epithets are sometimes lacking in appropriateness or, when spread too thickly, plainly reveal the author turning his prose into poetry. Of course we must use some epithets, since they lift our style above the usual level and give it an air of distinction. But we must aim at the due mean, or the result will be worse than if we took no trouble at all; we shall get something actually bad instead of something merely not good. That is why the epithets of Alcidamas seem so tasteless; he does not use them as the seasoning of the meat, but as the meat itself, so numerous and swollen and aggressive are they. For instance, he does not say ‘sweat’, but ‘the moist sweat’; not ‘to the Isthmian games’, but ‘to the world-concourse of the Isthmian games’; not ‘laws’, but ‘the laws that are monarchs of states’; not ‘at a run’, but ‘his heart impelling him to speed of foot’; not ‘a school of the Muses’, but ‘Nature’s school of the Muses had he inherited’; and so ‘frowning care of heart’, and ‘achiever’ not of ‘popularity’ but of ‘universal popularity’, and ‘dispenser of pleasure to his audience’, and ‘he concealed it’ not ‘with boughs’ but ‘with boughs of the forest trees’, and ‘he clothed’ not ‘his body’ but ‘his body’s nakedness’, and ‘his soul’s desire was counter imitative’ (this’s at one and the same time a compound and an epithet, so that it seems a poet’s effort), and ‘so extravagant the excess of his wickedness’. We thus see how the inappropriateness of such poetical language imports absurdity and tastelessness into speeches, as well as the obscurity that comes from all this verbosity-for when the sense is plain, you only obscure and spoil its clearness by piling up words.

The ordinary use of compound words is where there is no term for a thing and some compound can be easily formed, like ‘pastime’ (chronotribein); but if this is much done, the prose character disappears entirely. We now see why the language of compounds is just the thing for writers of dithyrambs, who love sonorous noises; strange words for writers of epic poetry, which is a proud and stately affair; and metaphor for iambic verse, the metre which (as has been already’ said) is widely used to-day.

(4) There remains the fourth region in which bad taste may be shown, metaphor. Metaphors like other things may be inappropriate. Some are so because they are ridiculous; they are indeed used by comic as well as tragic poets. Others are too grand and theatrical; and these, if they are far-fetched, may also be obscure. For instance, Gorgias talks of ‘events that are green and

full of sap', and says 'foul was the deed you sowed and evil the harvest you reaped'. That is too much like poetry. Alcidamas, again, called philosophy 'a fortress that threatens the power of law', and the Odyssey 'a goodly looking-glass of human life',' talked about 'offering no such toy to poetry': all these expressions fail, for the reasons given, to carry the hearer with them. The address of Gorgias to the swallow, when she had let her droppings fall on him as she flew overhead, is in the best tragic manner. He said, 'Nay, shame, O Philomela'. Considering her as a bird, you could not call her act shameful; considering her as a girl, you could; and so it was a good gibe to address her as what she was once and not as what she is.

4

The Simile also is a metaphor; the difference is but slight. When the poet says of Achilles that he

Leapt on the foe as a lion,

this is a simile; when he says of him 'the lion leapt', it is a metaphor-here, since both are courageous, he has transferred to Achilles the name of 'lion'. Similes are useful in prose as well as in verse; but not often, since they are of the nature of poetry. They are to be employed just as metaphors are employed, since they are really the same thing except for the difference mentioned.

The following are examples of similes. Androtion said of Idrieus that he was like a terrier let off the chain, that flies at you and bites you-Idrieus too was savage now that he was let out of his chains. Theodamas compared Archidamus to an Euxenus who could not do geometry-a proportional simile, implying that Euxenus is an Archidamus who can do geometry. In Plato's Republic those who strip the dead are compared to curs which bite the stones thrown at them but do not touch the thrower, and there is the simile about the Athenian people, who are compared to a ship's captain who is strong but a little deaf; and the one about poets' verses, which are likened to persons who lack beauty but possess youthful freshness-when the freshness has faded the charm perishes, and so with verses when broken up into prose. Pericles compared the Samians to children who take their pap but go on crying; and the Boeotians to holm-oaks, because they were ruining one another by civil wars just as one oak causes another oak's fall. Demosthenes said that the

Athenian people were like sea-sick men on board ship. Again, Demosthenes compared the political orators to nurses who swallow the bit of food themselves and then smear the children’s lips with the spittle. Antisthenes compared the lean Cephisodotus to frankincense, because it was his consumption that gave one pleasure. All these ideas may be expressed either as similes or as metaphors; those which succeed as metaphors will obviously do well also as similes, and similes, with the explanation omitted, will appear as metaphors. But the proportional metaphor must always apply reciprocally to either of its co-ordinate terms. For instance, if a drinking-bowl is the shield of Dionysus, a shield may fittingly be called the drinking-bowl of Ares.

5

Such, then, are the ingredients of which speech is composed. The foundation of good style is correctness of language, which falls under five heads. (1) First, the proper use of connecting words, and the arrangement of them in the natural sequence which some of them require. For instance, the connective ‘men’ (e.g. ego men) requires the correlative de (e.g. o de). The answering word must be brought in before the first has been forgotten, and not be widely separated from it; nor, except in the few cases where this is appropriate, is another connective to be introduced before the one required. Consider the sentence, ‘But as soon as he told me (for Cleon had come begging and praying), took them along and set out.’ In this sentence many connecting words are inserted in front of the one required to complete the sense; and if there is a long interval before ‘set out’, the result is obscurity. One merit, then, of good style lies in the right use of connecting words. (2) The second lies in calling things by their own special names and not by vague general ones. (3) The third is to avoid ambiguities; unless, indeed, you definitely desire to be ambiguous, as those do who have nothing to say but are pretending to mean something. Such people are apt to put that sort of thing into verse. Empedocles, for instance, by his long circumlocutions imposes on his hearers; these are affected in the same way as most people are when they listen to diviners, whose ambiguous utterances are received with nods of acquiescence —

Croesus by crossing the Halys will ruin a mighty realm.

Diviners use these vague generalities about the matter in hand because their predictions are thus, as a rule, less likely to be falsified. We are more likely to be right, in the game of ‘odd and even’, if we simply guess ‘even’ or ‘odd’ than if we guess at the actual number; and the oracle-monger is more likely to be right if he simply says that a thing will happen than if he says when it will happen, and therefore he refuses to add a definite date. All these ambiguities have the same sort of effect, and are to be avoided unless we have some such object as that mentioned. (4) A fourth rule is to observe Protagoras’ classification of nouns into male, female, and inanimate; for these distinctions also must be correctly given. ‘Upon her arrival she said her say and departed (e d elthousa kai dialechtheisa ocheto).’ (5) A fifth rule is to express plurality, fewness, and unity by the correct wording, e.g. ‘Having come, they struck me (oi d elthontes etupton me).’

It is a general rule that a written composition should be easy to read and therefore easy to deliver. This cannot be so where there are many connecting words or clauses, or where punctuation is hard, as in the writings of Heracleitus. To punctuate Heracleitus is no easy task, because we often cannot tell whether a particular word belongs to what precedes or what follows it. Thus, at the outset of his treatise he says, ‘Though this truth is always men understand it not’, where it is not clear with which of the two clauses the word ‘always’ should be joined by the punctuation. Further, the following fact leads to solecism, viz. that the sentence does not work out properly if you annex to two terms a third which does not suit them both. Thus either ‘sound’ or ‘colour’ will fail to work out properly with some verbs: ‘perceive’ will apply to both, ‘see’ will not. Obscurity is also caused if, when you intend to insert a number of details, you do not first make your meaning clear; for instance, if you say, ‘I meant, after telling him this, that and the other thing, to set out’, rather than something of this kind ‘I meant to set out after telling him; then this, that, and the other thing occurred.’

6

The following suggestions will help to give your language impressiveness. (1) Describe a thing instead of naming it: do not say ‘circle’, but ‘that surface which extends equally from the middle every way’. To achieve conciseness, do the opposite-put the name instead of the description. When mentioning anything ugly or unseemly, use its name if it is the description that is ugly, and describe it if it is the name that is ugly. (2) Represent things with the help of metaphors and epithets, being careful to avoid poetical effects. (3) Use plural for singular, as in poetry, where one finds

Unto havens Achaean,

though only one haven is meant, and

Here are my letter's many-leaved folds.

(4) Do not bracket two words under one article, but put one article with each; e.g. 'that wife of ours.' The reverse to secure conciseness; e.g. 'our wife.' Use plenty of connecting words; conversely, to secure conciseness, dispense with connectives, while still preserving connexion; e.g. 'having gone and spoken', and 'having gone, I spoke', respectively. (6) And the practice of Antimachus, too, is useful-to describe a thing by mentioning attributes it does not possess; as he does in talking of Teumessus

There is a little wind-swept knoll...

A subject can be developed indefinitely along these lines. You may apply this method of treatment by negation either to good or to bad qualities, according to which your subject requires. It is from this source that the poets draw expressions such as the 'stringless' or 'lyreless' melody, thus forming epithets out of negations. This device is popular in proportional metaphors, as when the trumpet's note is called 'a lyreless melody'.

7

Your language will be appropriate if it expresses emotion and character, and if it corresponds to its subject. 'Correspondence to subject' means that we must neither speak casually about weighty matters, nor solemnly about trivial ones; nor must we add ornamental epithets to commonplace nouns, or the effect will be comic, as in the works of Cleophon, who can use phrases as absurd as 'O queenly fig-tree'. To express emotion, you will employ the language of anger in speaking of outrage; the language of disgust and discreet reluctance to utter a word when speaking of impiety or foulness; the language of exultation for a tale of glory, and that of humiliation for a tale of and so in all other cases.

This aptness of language is one thing that makes people believe in the truth of your story: their minds draw the false conclusion that you are to be trusted from the fact that others behave as you do when things are as you describe them; and therefore they take your story to be true, whether it is so or not. Besides, an emotional speaker always makes his audience feel with him, even when there is nothing in his arguments; which is why many speakers try to overwhelm their audience by mere noise.

Furthermore, this way of proving your story by displaying these signs of its genuineness expresses your personal character. Each class of men, each type of disposition, will have its own appropriate way of letting the truth appear. Under 'class' I include differences of age, as boy, man, or old man; of sex, as man or woman; of nationality, as Spartan or Thessalian. By 'dispositions' I here mean those dispositions only which determine the character of a man's for it is not every disposition that does this. If, then, a speaker uses the very words which are in keeping with a particular disposition, he will reproduce the corresponding character; for a rustic and an educated man will not say the same things nor speak in the same way. Again, some impression is made upon an audience by a device which speech-writers employ to nauseous excess, when they say 'Who does not know this?' or 'It is known to everybody.' The hearer is ashamed of his ignorance, and agrees with the speaker, so as to have a share of the knowledge that everybody else possesses.

All the variations of oratorical style are capable of being used in season or out of season. The best way to counteract any exaggeration is the well-worn device by which the speaker puts in some criticism of himself; for then people feel it must be all right for him to talk thus, since he certainly knows what he is doing. Further, it is better not to have everything always just corresponding to everything else-your hearers will see through you less easily thus. I mean for instance, if your words are harsh, you should not extend this harshness to your voice and your countenance and have everything else in keeping. If you do, the artificial character of each detail becomes apparent; whereas if you adopt one device and not another, you are using art all the same and yet nobody notices it. (To be sure, if mild sentiments are expressed in harsh tones and harsh sentiments in mild tones, you become comparatively unconvincing.) Compound words, fairly plentiful epithets, and strange words best suit an emotional speech. We forgive an angry man for talking about a wrong as 'heaven-high' or 'colossal'; and we excuse such language when the speaker has his hearers already in his hands and has stirred them deeply either by praise or blame or anger or affection, as Isocrates, for instance, does at the end of his Panegyric, with his ‘name and fame’ and ‘in that they brooked’. Men do speak in this strain when they are deeply stirred, and so, once the audience is in a like state of feeling, approval of course follows. This is why such language is fitting in poetry, which is an inspired thing. This language, then, should be used either under stress of emotion, or ironically, after the manner of Gorgias and of the passages in the Phaedrus.

8

The form of a prose composition should be neither metrical nor destitute of rhythm. The metrical form destroys the hearer’s trust by its artificial appearance, and at the same time it diverts his attention, making him watch for metrical recurrences, just as children catch up the herald’s question, ‘Whom does the freedman choose as his advocate?’, with the answer ‘Cleon!’ On the other hand, unrhythmical language is too unlimited; we do not want the limitations of metre, but some limitation we must have, or the effect will be vague and unsatisfactory. Now it is number that limits all things; and it is the numerical limitation of the forms of a composition that constitutes rhythm, of which metres are definite sections. Prose, then, is to be rhythmical, but not metrical, or it will become not prose but verse. It should not even have too precise a prose rhythm, and therefore should only be rhythmical to a certain extent.

Of the various rhythms, the heroic has dignity, but lacks the tones of the spoken language. The iambic is the very language of ordinary people, so that in common talk iambic lines occur oftener than any others: but in a speech we need dignity and the power of taking the hearer out of his ordinary self. The trochee is too much akin to wild dancing: we can see this in tetrameter verse, which is one of the trochaic rhythms.

There remains the paean, which speakers began to use in the time of Thrasymachus, though they had then no name to give it. The paean is a third class of rhythm, closely akin to both the two already mentioned; it has in it the ratio of three to two, whereas the other two kinds have the ratio of one to one, and two to one respectively. Between the two last ratios comes the ratio of one-and-a-half to one, which is that of the paean.

Now the other two kinds of rhythm must be rejected in writing prose, partly for the reasons given, and partly because they are too metrical; and the paean must be adopted, since from this alone of the rhythms mentioned no definite metre arises, and therefore it is the least obtrusive of them. At present the same form of paean is employed at the beginning a at the end of sentences, whereas the end should differ from the beginning. There are two opposite kinds of paean, one of which is suitable to the beginning of a sentence, where it is indeed actually used; this is the kind that begins with a long syllable and ends with three short ones, as

Dalogenes | eite Luki | an,

and

Chruseokom | a Ekate | pai Dios.

The other paean begins, conversely, with three short syllables and ends with a long one, as

meta de lan | udata t ok | eanon e | oanise nux.

This kind of paean makes a real close: a short syllable can give no effect of finality, and therefore makes the rhythm appear truncated. A sentence should break off with the long syllable: the fact that it is over should be indicated not by the scribe, or by his period-mark in the margin, but by the rhythm itself.

We have now seen that our language must be rhythmical and not destitute of rhythm, and what rhythms, in what particular shape, make it so.

9

The language of prose must be either free-running, with its parts united by nothing except the connecting words, like the preludes in dithyrambs; or compact and antithetical, like the strophes of the old poets. The free-running style is the ancient one, e.g. ‘Herein is set forth the inquiry of Herodotus the Thurian.’ Every one used this method formerly; not many do so now. By ‘free-running’ style I mean the kind that has no natural stopping-places, and comes to a stop only because there is no more to say of that subject. This style is unsatisfying just because it goes on indefinitely-one always likes to sight a stopping-place in front of one: it is only at the goal that men in a race faint and collapse; while they see the end of the course before them, they can keep on going. Such, then, is the free-running kind of style; the compact is that which is in periods. By a period I mean a portion of speech that has in itself a beginning and an end, being at the same time not too big to be taken in at a glance. Language of this kind is satisfying and easy to follow. It is satisfying, because it is just the reverse of indefinite; and moreover, the hearer always feels that he is grasping something and has reached some definite conclusion; whereas it is unsatisfactory to see nothing in front of you and get nowhere. It is easy to follow, because it can easily be remembered; and this because language when in periodic form can be numbered, and number is the easiest of all things to remember. That is why verse, which is measured, is always more easily remembered than prose, which is not: the measures of verse can be numbered. The period must, further, not be completed until the sense is complete: it must not be capable of breaking off abruptly, as may happen with the following iambic lines of Sophocles —

Calydon's soil is this; of Pelops' land
(The smiling plains face us across the strait.)

By a wrong division of the words the hearer may take the meaning to be the reverse of what it is: for instance, in the passage quoted, one might imagine that Calydon is in the Peloponnesus.

A Period may be either divided into several members or simple. The period of several members is a portion of speech (1) complete in itself, (2) divided into parts, and (3) easily delivered at a single breath-as a whole, that is; not by fresh breath being taken at the division. A member is one of the two parts of such a period. By a 'simple' period, I mean that which has only one member. The members, and the whole periods, should be neither curt nor long. A member which is too short often makes the listener stumble; he is still expecting the rhythm to go on to the limit his mind has fixed for it; and if meanwhile he is pulled back by the speaker's stopping, the shock is bound to make him, so to speak, stumble. If, on the other hand, you go on too long, you make him feel left behind, just as people who when walking pass beyond the boundary before turning back leave their companions behind So too if a period is too long you turn it into a speech, or something like a dithyrambic prelude. The result is much like the preludes that Democritus of Chios jeered at Melanippides for writing instead of antistrophic stanzas —

He that sets traps for another man's feet
Is like to fall into them first;
And long-winded preludes do harm to us all,
But the preluder catches it worst.

Which applies likewise to long-membered orators. Periods whose members are altogether too short are not periods at all; and the result is to bring the hearer down with a crash.

The periodic style which is divided into members is of two kinds. It is either simply divided, as in ‘I have often wondered at the conveners of national gatherings and the founders of athletic contests’; or it is antithetical, where, in each of the two members, one of one pair of opposites is put along with one of another pair, or the same word is used to bracket two opposites, as ‘They aided both parties-not only those who stayed behind but those who accompanied them: for the latter they acquired new territory larger than that at home, and to the former they left territory at home that was large enough’. Here the contrasted words are ‘staying behind’ and ‘accompanying’, ‘enough’ and ‘larger’. So in the example, ‘Both to those who want to get property and to those who desire to enjoy it’ where ‘enjoyment’ is contrasted with ‘getting’. Again, ‘it often happens in such enterprises that the wise men fail and the fools succeed’; ‘they were awarded the prize of valour immediately, and won the command of the sea not long afterwards’; ‘to sail through the mainland and march through the sea, by bridging the Hellespont and cutting through Athos’; ‘nature gave them their country and law took it away again’; ‘of them perished in misery, others were saved in disgrace’; ‘Athenian citizens keep foreigners in their houses as servants, while the city of Athens allows her allies by thousands to live as the foreigner’s slaves’; and ‘to possess in life or to bequeath at death’. There is also what some one said about Peitholaus and Lycophron in a law-court, ‘These men used to sell you when they were at home, and now they have come to you here and bought you’. All these passages have the structure described above. Such a form of speech is satisfying, because the significance of contrasted ideas is easily felt, especially when they are thus put side by side, and also because it has the effect of a logical argument; it is by putting two opposing conclusions side by side that you prove one of them false.

Such, then, is the nature of antithesis. Parisosis is making the two members of a period equal in length. Paromoeosis is making the extreme words of both members like each other. This must happen either at the beginning or at the end of each member. If at the beginning, the resemblance must always be between whole words; at the end, between final syllables or inflexions of the same word or the same word repeated. Thus, at the beginning

agron gar elaben arlon par’ autou

and

dorhetoi t epelonto pararretoi t epeessin
At the end
ouk wethesan auton paidion tetokenai,
all autou aitlon lelonenai,
and
en pleiotals de opontisi kai en elachistais elpisin
An example of inflexions of the same word is
axios de staoenai chalkous ouk axios on chalkou;
Of the same word repeated,
su d’ auton kai zonta eleges kakos kai nun grafeis kakos.
Of one syllable,
ti d’ an epaoes deinon, ei andrh’ eides arhgon;

It is possible for the same sentence to have all these features together-antithesis, parison, and homoeoteleuton. (The possible beginnings of periods have been pretty fully enumerated in the Theodectea.) There are also spurious antitheses, like that of Epicharmus —

There one time I as their guest did stay,
And they were my hosts on another day.

10

We may now consider the above points settled, and pass on to say something about the way to devise lively and taking sayings. Their actual invention can only come through natural talent or long practice; but this treatise may indicate the way it is done. We may deal with them by enumerating the different kinds of them. We will begin by remarking that we all naturally find it agreeable to get hold of new ideas easily: words express ideas, and therefore those words are the most agreeable that enable us to get hold of new ideas. Now strange words simply puzzle us; ordinary words convey only what we know already; it is from metaphor that we can best get hold of something fresh. When the poet calls ‘old age a withered stalk’, he conveys a new idea, a new fact, to us by means of the general notion of bloom, which is common to both things. The similes of the poets do the same, and therefore, if they are good similes, give an effect of brilliance. The simile, as has been said before, is a metaphor, differing from it only in the way it is put; and just because it is longer it is less attractive. Besides, it does not say outright that ‘this’ is ‘that’, and therefore the hearer is less interested in the idea. We see, then, that both speech and reasoning are lively in proportion as they make us seize a new idea promptly. For this reason people are not much taken either by obvious arguments (using the word ‘obvious’ to mean what is plain to everybody and needs no investigation), nor by those which puzzle us when we hear them stated, but only by those which convey their information to us as soon as we hear them, provided we had not the information already; or which the mind only just fails to keep up with. These two kinds do convey to us a sort of information: but the obvious and the obscure kinds convey nothing, either at once or later on. It is these qualities, then, that, so far as the meaning of what is said is concerned, make an argument acceptable. So far as the style is concerned, it is the antithetical form that appeals to us, e.g. ‘judging that the peace common to all the rest was a war upon their own private interests’, where there is an antithesis between war and peace. It is also good to use metaphorical words; but the metaphors must not be far-fetched, or they will be difficult to grasp, nor obvious, or they will have no effect. The words, too, ought to set the scene before our eyes; for events ought to be seen in progress rather than in prospect. So we must aim at these three points: Antithesis, Metaphor, and Actuality.

Of the four kinds of Metaphor the most taking is the proportional kind. Thus Pericles, for instance, said that the vanishing from their country of the young men who had fallen in the war was ‘as if the spring were taken out of the year’. Leptines, speaking of the Lacedaemonians, said that he would not have the Athenians let Greece ‘lose one of her two eyes’. When Chares was pressing for leave to be examined upon his share in the Olynthiac war, Cephisodotus was indignant, saying that he wanted his examination to take place ‘while he had his fingers upon the people’s throat’. The same speaker once urged the Athenians to march to Euboea, ‘with Miltiades’ decree as their rations’. Iphicrates, indignant at the truce made by the Athenians with Epidaurus and the neighbouring sea-board, said that they had stripped themselves of their travelling money for the journey of war. Peitholaus called the state-galley ‘the people’s big stick’, and Sestos ‘the corn-bin of the Peiraeus’. Pericles bade his countrymen remove Aegina, ‘that eyesore of the Peiraeus.’ And Moerocles said he was no more a rascal than was a certain respectable citizen he named, ‘whose rascality was worth over thirty per cent per annum to him, instead of a mere ten like his own’.There is also the iambic line of Anaxandrides about the way his daughters put off marrying —

My daughters' marriage-bonds are overdue.

Polyeuctus said of a paralytic man named Speusippus that he could not keep quiet, 'though fortune had fastened him in the pillory of disease'. Cephisodotus called warships 'painted millstones'. Diogenes the Dog called taverns 'the mess-rooms of Attica'. Aesion said that the Athenians had 'emptied' their town into Sicily: this is a graphic metaphor. 'Till all Hellas shouted aloud' may be regarded as a metaphor, and a graphic one again. Cephisodotus bade the Athenians take care not to hold too many 'parades'. Isocrates used the same word of those who 'parade at the national festivals.' Another example occurs in the Funeral Speech: 'It is fitting that Greece should cut off her hair beside the tomb of those who fell at Salamis, since her freedom and their valour are buried in the same grave.' Even if the speaker here had only said that it was right to weep when valour was being buried in their grave, it would have been a metaphor, and a graphic one; but the coupling of 'their valour' and 'her freedom' presents a kind of antithesis as well. 'The course of my words', said Iphicrates, 'lies straight through the middle of Chares' deeds': this is a proportional metaphor, and the phrase 'straight through the middle' makes it graphic. The expression 'to call in one danger to rescue us from another' is a graphic metaphor. Lycoleon said, defending Chabrias, 'They did not respect even that bronze statue of his that intercedes for him yonder'.This was a metaphor for the moment, though it would not always apply; a vivid metaphor, however; Chabrias is in danger, and his statue intercedes for him-that lifeless yet living thing which records his services to his country. 'Practising in every way littleness of mind' is metaphorical, for practising a quality implies increasing it. So is 'God kindled our reason to be a lamp within our soul', for both reason and light reveal things. So is 'we are not putting an end to our wars, but only postponing them', for both literal postponement and the making of such a peace as this apply to future action. So is such a saying as 'This treaty is a far nobler trophy than those we set up on fields of battle; they celebrate small gains and single successes; it celebrates our triumph in the war as a whole'; for both trophy and treaty are signs of victory. So is 'A country pays a heavy reckoning in being condemned by the judgement of mankind', for a reckoning is damage deservedly incurred.

11

It has already been mentioned that liveliness is got by using the proportional type of metaphor and being making (ie. making your hearers see things). We have still to explain what we mean by their ‘seeing things’, and what must be done to effect this. By ‘making them see things’ I mean using expressions that represent things as in a state of activity. Thus, to say that a good man is ‘four-square’ is certainly a metaphor; both the good man and the square are perfect; but the metaphor does not suggest activity. On the other hand, in the expression ‘with his vigour in full bloom’ there is a notion of activity; and so in ‘But you must roam as free as a sacred victim’; and in

Thereas up sprang the Hellenes to their feet,

where ‘up sprang’ gives us activity as well as metaphor, for it at once suggests swiftness. So with Homer’s common practice of giving metaphorical life to lifeless things: all such passages are distinguished by the effect of activity they convey. Thus,

Downward anon to the valley rebounded the boulder remorseless;

and

The (bitter) arrow flew;

and

Flying on eagerly;

and

Stuck in the earth, still panting to feed on the flesh of the heroes;

and

And the point of the spear in its fury drove
full through his breastbone.

In all these examples the things have the effect of being active because they are made into living beings; shameless behaviour and fury and so on are all forms of activity. And the poet has attached these ideas to the things by means of proportional metaphors: as the stone is to Sisyphus, so is the shameless man to his victim. In his famous similes, too, he treats inanimate things in the same way:

Curving and crested with white, host following
host without ceasing.

Here he represents everything as moving and living; and activity is movement.

Metaphors must be drawn, as has been said already, from things that are related to the original thing, and yet not obviously so related-just as in philosophy also an acute mind will perceive resemblances even in things far apart. Thus Archytas said that an arbitrator and an altar were the same, since the injured fly to both for refuge. Or you might say that an anchor and an overhead hook were the same, since both are in a way the same, only the one secures things from below and the other from above. And to speak of states as ‘levelled’ is to identify two widely different things, the equality of a physical surface and the equality of political powers.

Liveliness is specially conveyed by metaphor, and by the further power of surprising the hearer; because the hearer expected something different, his acquisition of the new idea impresses him all the more. His mind seems to say, ‘Yes, to be sure; I never thought of that’. The liveliness of epigrammatic remarks is due to the meaning not being just what the words say: as in the saying of Stesichorus that ‘the cicalas will chirp to themselves on the ground’. Well-constructed riddles are attractive for the same reason; a new idea is conveyed, and there is metaphorical expression. So with the ‘novelties’ of Theodorus. In these the thought is startling, and, as Theodorus puts it, does not fit in with the ideas you already have. They are like the burlesque words that one finds in the comic writers. The effect is produced even by jokes depending upon changes of the letters of a word; this too is a surprise. You find this in verse as well as in prose. The word which comes is not what the hearer imagined: thus

Onward he came, and his feet were shod with his-chilblains,

where one imagined the word would be ‘sandals’. But the point should be clear the moment the words are uttered. Jokes made by altering the letters of a word consist in meaning, not just what you say, but something that gives a twist to the word used; e.g. the remark of Theodorus about Nicon the harpist Thratt’ ei su (‘you Thracian slavey’), where he pretends to mean Thratteis su (‘you harpplayer’), and surprises us when we find he means something else. So you enjoy the point when you see it, though the remark will fall flat unless you are aware that Nicon is Thracian. Or again: Boulei auton persai. In both these cases the saying must fit the facts. This is also true of such lively remarks as the one to the effect that to the Athenians their empire (arche) of the sea was not the beginning (arche) of their troubles, since they gained by it. Or the opposite one of Isocrates, that their empire (arche) was the beginning (arche) of their troubles. Either way, the speaker says something unexpected, the soundness of which is thereupon recognized. There would be nothing clever is saying ‘empire is empire’. Isocrates means more than that, and uses the word with a new meaning. So too with the former saying, which denies that arche in one sense was arche in another sense. In all these jokes, whether a word is used in a second sense or metaphorically, the joke is good if it fits the facts. For instance, Anaschetos (proper name) ouk anaschetos: where you say that what is so-and-so in one sense is not so-and-so in another; well, if the man is unpleasant, the joke fits the facts. Again, take —

Thou must not be a stranger stranger than Thou should’st.

Do not the words ‘thou must not be’, &c., amount to saying that the stranger must not always be strange? Here again is the use of one word in different senses. Of the same kind also is the much-praised verse of Anaxandrides:

Death is most fit before you do
Deeds that would make death fit for you.

This amounts to saying ‘it is a fit thing to die when you are not fit to die’, or ‘it is a fit thing to die when death is not fit for you’, i.e. when death is not the fit return for what you are doing. The type of language employed-is the same in all these examples; but the more briefly and antithetically such sayings can be expressed, the more taking they are, for antithesis impresses the new idea more firmly and brevity more quickly. They should always have either some personal application or some merit of expression, if they are to be true without being commonplace-two requirements not always satisfied simultaneously. Thus ‘a man should die having done no wrong’ is true but dull: ‘the right man should marry the right woman’ is also true but dull. No, there must be both good qualities together, as in ‘it is fitting to die when you are not fit for death’. The more a saying has these qualitis, the livelier it appears: if, for instance, its wording is metaphorical, metaphorical in the right way, antithetical, and balanced, and at the same time it gives an idea of activity.

Successful similes also, as has been said above, are in a sense metaphors, since they always involve two relations like the proportional metaphor. Thus: a shield, we say, is the ‘drinking-bowl of Ares’, and a bow is the ‘chordless lyre’. This way of putting a metaphor is not ‘simple’, as it would be if we called the bow a lyre or the shield a drinking-bowl. There are ‘simple’ similes also: we may say that a flute-player is like a monkey, or that a short-sighted man’s eyes are like a lamp-flame with water dropping on it, since both eyes and flame keep winking. A simile succeeds best when it is a converted metaphor, for it is possible to say that a shield is like the drinking-bowl of Ares, or that a ruin is like a house in rags, and to say that Niceratus is like a Philoctetes stung by Pratys-the simile made by Thrasyniachus when he saw Niceratus, who had been beaten by Pratys in a recitation competition, still going about unkempt and unwashed. It is in these respects that poets fail worst when they fail, and succeed best when they succeed, i.e. when they give the resemblance pat, as in

Those legs of his curl just like parsley leaves;

and

Just like Philammon struggling with his punchball.

These are all similes; and that similes are metaphors has been stated often already.

Proverbs, again, are metaphors from one species to another. Suppose, for instance, a man to start some undertaking in hope of gain and then to lose by it later on, ‘Here we have once more the man of Carpathus and his hare’, says he. For both alike went through the said experience.

It has now been explained fairly completely how liveliness is secured and why it has the effect it has. Successful hyperboles are also metaphors, e.g. the one about the man with a black eye, ‘you would have thought he was a basket of mulberries’; here the ‘black eye’ is compared to a mulberry because of its colour, the exaggeration lying in the quantity of mulberries suggested. The phrase ‘like so-and-so’ may introduce a hyperbole under the form of a simile. Thus

Just like Philammon struggling with his punchball

is equivalent to ‘you would have thought he was Philammon struggling with his punchball’; and

Those legs of his curl just like parsley leaves

is equivalent to ‘his legs are so curly that you would have thought they were not legs but parsley leaves’. Hyperboles are for young men to use; they show vehemence of character; and this is why angry people use them more than other people.

Not though he gave me as much as the dust
or the sands of the sea...

But her, the daughter of Atreus' son, I never will marry,
Nay, not though she were fairer than Aphrodite the Golden,
Defter of hand than Athene...

(The Attic orators are particularly fond of this method of speech.) Consequently it does not suit an elderly speaker.

12

It should be observed that each kind of rhetoric has its own appropriate style. The style of written prose is not that of spoken oratory, nor are those of political and forensic speaking the same. Both written and spoken have to be known. To know the latter is to know how to speak good Greek. To know the former means that you are not obliged, as otherwise you are, to hold your tongue when you wish to communicate something to the general public.

The written style is the more finished: the spoken better admits of dramatic delivery-like the kind of oratory that reflects character and the kind that reflects emotion. Hence actors look out for plays written in the latter style, and poets for actors competent to act in such plays. Yet poets whose plays are meant to be read are read and circulated: Chaeremon, for instance, who is as finished as a professional speech-writer; and Licymnius among the dithyrambic poets. Compared with those of others, the speeches of professional writers sound thin in actual contests. Those of the orators, on the other hand, are good to hear spoken, but look amateurish enough when they pass into the hands of a reader. This is just because they are so well suited for an actual tussle, and therefore contain many dramatic touches, which, being robbed of all dramatic rendering, fail to do their own proper work, and consequently look silly. Thus strings of unconnected words, and constant repetitions of words and phrases, are very properly condemned in written speeches: but not in spoken speeches-speakers use them freely, for they have a dramatic effect. In this repetition there must be variety of tone, paving the way, as it were, to dramatic effect; e.g. 'This is the villain among you who deceived you, who cheated you, who meant to betray you completely'. This is the sort of thing that Philemon the actor used to do in the Old Men's Madness of Anaxandrides whenever he spoke the words 'Rhadamanthus and Palamedes', and also in the prologue to the Saints whenever he pronounced the pronoun 'I'. If one does not deliver such things cleverly, it becomes a case of ‘the man who swallowed a poker’. So too with strings of unconnected words, e.g.’I came to him; I met him; I besought him’. Such passages must be acted, not delivered with the same quality and pitch of voice, as though they had only one idea in them. They have the further peculiarity of suggesting that a number of separate statements have been made in the time usually occupied by one. Just as the use of conjunctions makes many statements into a single one, so the omission of conjunctions acts in the reverse way and makes a single one into many. It thus makes everything more important: e.g. ‘I came to him; I talked to him; I entreated him’-what a lot of facts! the hearer thinks-’he paid no attention to anything I said’. This is the effect which Homer seeks when he writes,

Nireus likewise from Syme (three well-fashioned ships did bring),
Nireus, the son of Aglaia (and Charopus, bright-faced king),
Nireus, the comeliest man (of all that to Ilium’s strand).

If many things are said about a man, his name must be mentioned many times; and therefore people think that, if his name is mentioned many times, many things have been said about him. So that Homer, by means of this illusion, has made a great deal of though he has mentioned him only in this one passage, and has preserved his memory, though he nowhere says a word about him afterwards.

Now the style of oratory addressed to public assemblies is really just like scene-painting. The bigger the throng, the more distant is the point of view: so that, in the one and the other, high finish in detail is superfluous and seems better away. The forensic style is more highly finished; still more so is the style of language addressed to a single judge, with whom there is very little room for rhetorical artifices, since he can take the whole thing in better, and judge of what is to the point and what is not; the struggle is less intense and so the judgement is undisturbed. This is why the same speakers do not distinguish themselves in all these branches at once; high finish is wanted least where dramatic delivery is wanted most, and here the speaker must have a good voice, and above all, a strong one. It is ceremonial oratory that is most literary, for it is meant to be read; and next to it forensic oratory.

To analyse style still further, and add that it must be agreeable or magnificent, is useless; for why should it have these traits any more than ‘restraint’, ‘liberality’, or any other moral excellence? Obviously agreeableness will be produced by the qualities already mentioned, if our definition of excellence of style has been correct. For what other reason should style be ‘clear’, and ‘not mean’ but ‘appropriate’? If it is prolix, it is not clear; nor yet if it is curt. Plainly the middle way suits best. Again, style will be made agreeable by the elements mentioned, namely by a good blending of ordinary and unusual words, by the rhythm, and by-the persuasiveness that springs from appropriateness.

This concludes our discussion of style, both in its general aspects and in its special applications to the various branches of rhetoric. We have now to deal with Arrangement.

13

A speech has two parts. You must state your case, and you must prove it. You cannot either state your case and omit to prove it, or prove it without having first stated it; since any proof must be a proof of something, and the only use of a preliminary statement is the proof that follows it. Of these two parts the first part is called the Statement of the case, the second part the Argument, just as we distinguish between Enunciation and Demonstration. The current division is absurd. For ‘narration’ surely is part of a forensic speech only: how in a political speech or a speech of display can there be ‘narration’ in the technical sense? or a reply to a forensic opponent? or an epilogue in closely-reasoned speeches? Again, introduction, comparison of conflicting arguments, and recapitulation are only found in political speeches when there is a struggle between two policies. They may occur then; so may even accusation and defence, often enough; but they form no essential part of a political speech. Even forensic speeches do not always need epilogues; not, for instance, a short speech, nor one in which the facts are easy to remember, the effect of an epilogue being always a reduction in the apparent length. It follows, then, that the only necessary parts of a speech are the Statement and the Argument. These are the essential features of a speech; and it cannot in any case have more than Introduction, Statement, Argument, and Epilogue. ‘Refutation of the Opponent’ is part of the arguments: so is ‘Comparison’ of the opponent’s case with your own, for that process is a magnifying of your own case and therefore a part of the arguments, since one who does this proves something. The Introduction does nothing like this; nor does the Epilogue-it merely reminds us of what has been said already. If we make such distinctions we shall end, like Theodorus and his followers, by distinguishing ‘narration’ proper from ‘post-narration’ and ‘pre-narration’, and ‘refutation’ from ‘final refutation’. But we ought only to bring in a new name if it indicates a real species with distinct specific qualities; otherwise the practice is pointless and silly, like the way Licymnius invented names in his Art of Rhetoric-’Secundation’, ‘Divagation’, ‘Ramification’.

14

The Introduction is the beginning of a speech, corresponding to the prologue in poetry and the prelude in flute-music; they are all beginnings, paving the way, as it were, for what is to follow. The musical prelude resembles the introduction to speeches of display; as flute players play first some brilliant passage they know well and then fit it on to the opening notes of the piece itself, so in speeches of display the writer should proceed in the same way; he should begin with what best takes his fancy, and then strike up his theme and lead into it; which is indeed what is always done. (Take as an example the introduction to the Helen of Isocrates-there is nothing in common between the ‘eristics’ and Helen.) And here, even if you travel far from your subject, it is fitting, rather than that there should be sameness in the entire speech.

The usual subject for the introductions to speeches of display is some piece of praise or censure. Thus Gorgias writes in his Olympic Speech, ‘You deserve widespread admiration, men of Greece’, praising thus those who start,ed the festival gatherings.’ Isocrates, on the other hand, censures them for awarding distinctions to fine athletes but giving no prize for intellectual ability. Or one may begin with a piece of advice, thus: ‘We ought to honour good men and so I myself am praising Aristeides’ or ‘We ought to honour those who are unpopular but not bad men, men whose good qualities have never been noticed, like Alexander son of Priam.’ Here the orator gives advice. Or we may begin as speakers do in the law-courts; that is to say, with appeals to the audience to excuse us if our speech is about something paradoxical, difficult, or hackneyed; like Choerilus in the lines —

But now when allotment of all has been made...

Introductions to speeches of display, then, may be composed of some piece of praise or censure, of advice to do or not to do something, or of appeals to the audience; and you must choose between making these preliminary passages connected or disconnected with the speech itself.

Introductions to forensic speeches, it must be observed, have the same value as the prologues of dramas and the introductions to epic poems; the dithyrambic prelude resembling the introduction to a speech of display, as

For thee, and thy gilts, and thy battle-spoils....

In prologues, and in epic poetry, a foretaste of the theme is given, intended to inform the hearers of it in advance instead of keeping their minds in suspense. Anything vague puzzles them: so give them a grasp of the beginning, and they can hold fast to it and follow the argument. So we find —

Sing, O goddess of song, of the Wrath...
Tell me, O Muse, of the hero...
Lead me to tell a new tale, how there came great warfare to Europe
Out of the Asian land...

The tragic poets, too, let us know the pivot of their play; if not at the outset like Euripides, at least somewhere in the preface to a speech like Sophocles —

Polybus was my father...;

and so in Comedy. This, then, is the most essential function and distinctive property of the introduction, to show what the aim of the speech is; and therefore no introduction ought to be employed where the subject is not long or intricate.

The other kinds of introduction employed are remedial in purpose, and may be used in any type of speech. They are concerned with the speaker, the hearer, the subject, or the speaker's opponent. Those concerned with the speaker himself or with his opponent are directed to removing or exciting prejudice. But whereas the defendant will begin by dealing with this sort of thing, the prosecutor will take quite another line and deal with such matters in the closing part of his speech. The reason for this is not far to seek. The defendant, when he is going to bring himself on the stage, must clear away any obstacles, and therefore must begin by removing any prejudice felt against him. But if you are to excite prejudice, you must do so at the close, so that the judges may more easily remember what you have said.

The appeal to the hearer aims at securing his goodwill, or at arousing his resentment, or sometimes at gaining his serious attention to the case, or even at distracting it-for gaining it is not always an advantage, and speakers will often for that reason try to make him laugh.

You may use any means you choose to make your hearer receptive; among others, giving him a good impression of your character, which always helps to secure his attention. He will be ready to attend to anything that touches himself and to anything that is important, surprising, or agreeable; and you should accordingly convey to him the impression that what you have to say is of this nature. If you wish to distract his attention, you should imply that the subject does not affect him, or is trivial or disagreeable. But observe, all this has nothing to do with the speech itself. It merely has to do with the weak-minded tendency of the hearer to listen to what is beside the point. Where this tendency is absent, no introduction wanted beyond a summary statement of your subject, to put a sort of head on the main body of your speech. Moreover, calls for attention, when required, may come equally well in any part of a speech; in fact, the beginning of it is just where there is least slackness of interest; it is therefore ridiculous to put this kind of thing at the beginning, when every one is listening with most attention. Choose therefore any point in the speech where such an appeal is needed, and then say ‘Now I beg you to note this point-it concerns you quite as much as myself’; or

I will tell you that whose like you have never yet

heard for terror, or for wonder. This is what Prodicus called ‘slipping in a bit of the fifty-drachma show-lecture for the audience whenever they began to nod’. It is plain that such introductions are addressed not to ideal hearers, but to hearers as we find them. The use of introductions to excite prejudice or to dispel misgivings is universal —

My lord, I will not say that eagerly...

or

Why all this preface?

Introductions are popular with those whose case is weak, or looks weak; it pays them to dwell on anything rather than the actual facts of it. That is why slaves, instead of answering the questions put to them, make indirect replies with long preambles. The means of exciting in your hearers goodwill and various other feelings of the same kind have already been described. The poet finely says May I find in Phaeacian hearts, at my coming, goodwill and compassion; and these are the two things we should aim at. In speeches of display we must make the hearer feel that the eulogy includes either himself or his family or his way of life or something or other of the kind. For it is true, as Socrates says in the Funeral Speech, that ‘the difficulty is not to praise the Athenians at Athens but at Sparta’.

The introductions of political oratory will be made out of the same materials as those of the forensic kind, though the nature of political oratory makes them very rare. The subject is known already, and therefore the facts of the case need no introduction; but you may have to say something on account of yourself or to your opponents; or those present may be inclined to treat the matter either more or less seriously than you wish them to. You may accordingly have to excite or dispel some prejudice, or to make the matter under discussion seem more or less important than before: for either of which purposes you will want an introduction. You may also want one to add elegance to your remarks, feeling that otherwise they will have a casual air, like Gorgias’ eulogy of the Eleans, in which, without any preliminary sparring or fencing, he begins straight off with ‘Happy city of Elis!’

15

In dealing with prejudice, one class of argument is that whereby you can dispel objectionable suppositions about yourself. It makes no practical difference whether such a supposition has been put into words or not, so that this distinction may be ignored. Another way is to meet any of the issues directly: to deny the alleged fact; or to say that you have done no harm, or none to him, or not as much as he says; or that you have done him no injustice, or not much; or that you have done nothing disgraceful, or nothing disgraceful enough to matter: these are the sort of questions on which the dispute hinges. Thus Iphicrates replying to Nausicrates, admitted that he had done the deed alleged, and that he had done Nausicrates harm, but not that he had done him wrong. Or you may admit the wrong, but balance it with other facts, and say that, if the deed harmed him, at any rate it was honourable; or that, if it gave him pain, at least it did him good; or something else like that. Another way is to allege that your action was due to mistake, or bad luck, or necessity as Sophocles said he was not trembling, as his traducer maintained, in order to make people think him an old man, but because he could not help it; he would rather not be eighty years old. You may balance your motive against your actual deed; saying, for instance, that you did not mean to injure him but to do so-and-so; that you did not do what you are falsely charged with doing-the damage was accidental-'I should indeed be a detestable person if I had deliberately intended this result.' Another way is open when your calumniator, or any of his connexions, is or has been subject to the same grounds for suspicion. Yet another, when others are subject to the same grounds for suspicion but are admitted to be in fact innocent of the charge: e.g. 'Must I be a profligate because I am well-groomed? Then so-and-so must be one too.' Another, if other people have been calumniated by the same man or some one else, or, without being calumniated, have been suspected, like yourself now, and yet have been proved innocent. Another way is to return calumny for calumny and say, 'It is monstrous to trust the man's statements when you cannot trust the man himself.' Another is when the question has been already decided. So with Euripides' reply to Hygiaenon, who, in the action for an exchange of properties, accused him of impiety in having written a line encouraging perjury —

My tongue hath sworn: no oath is on my soul.

Euripides said that his opponent himself was guilty in bringing into the law-courts cases whose decision belonged to the Dionysiac contests. 'If I have not already answered for my words there, I am ready to do so if you choose to prosecute me there.' Another method is to denounce calumny, showing what an enormity it is, and in particular that it raises false issues, and that it means a lack of confidence in the merits of his case. The argument from evidential circumstances is available for both parties: thus in the Teucer Odysseus says that Teucer is closely bound to Priam, since his mother Hesione was Priam's sister. Teucer replies that Telamon his father was Priam's enemy, and that he himself did not betray the spies to Priam. Another method, suitable for the calumniator, is to praise some trifling merit at great length, and then attack some important failing concisely; or after mentioning a number of good qualities to attack one bad one that really bears on the question. This is the method of thoroughly skilful and unscrupulous prosecutors. By mixing up the man's merits with what is bad, they do their best to make use of them to damage him.

There is another method open to both calumniator and apologist. Since a given action can be done from many motives, the former must try to disparage it by selecting the worse motive of two, the latter to put the better construction on it. Thus one might argue that Diomedes chose Odysseus as his companion because he supposed Odysseus to be the best man for the purpose; and you might reply to this that it was, on the contrary, because he was the only hero so worthless that Diomedes need not fear his rivalry.

16

We may now pass from the subject of calumny to that of Narration.

Narration in ceremonial oratory is not continuous but intermittent. There must, of course, be some survey of the actions that form the subject-matter of the speech. The speech is a composition containing two parts. One of these is not provided by the orator's art, viz. the actions themselves, of which the orator is in no sense author. The other part is provided by his namely, the proof (where proof is needed) that the actions were done, the description of their quality or of their extent, or even all these three things together. Now the reason why sometimes it is not desirable to make the whole narrative continuous is that the case thus expounded is hard to keep in mind. Show, therefore, from one set of facts that your hero is, e.g. brave, and from other sets of facts that he is able, just, &c. A speech thus arranged is comparatively simple, instead of being complicated and elaborate. You will have to recall well-known deeds among others; and because they are well-known, the hearer usually needs no narration of them; none, for instance, if your object is the praise of Achilles; we all know the facts of his life-what you have to do is to apply those facts. But if your object is the praise of Critias, you must narrate his deeds, which not many people know of...

Nowadays it is said, absurdly enough, that the narration should be rapid. Remember what the man said to the baker who asked whether he was to make the cake hard or soft: 'What, can't you make it right?' Just so here. We are not to make long narrations, just as we are not to make long introductions or long arguments. Here, again, rightness does not consist either in rapidity or in conciseness, but in the happy mean; that is, in saying just so much as will make the facts plain, or will lead the hearer to believe that the thing has happened, or that the man has caused injury or wrong to some one, or that the facts are really as important as you wish them to be thought: or the opposite facts to establish the opposite arguments.

You may also narrate as you go anything that does credit to yourself, e.g. 'I kept telling him to do his duty and not abandon his children'; or discredit to your adversary, e.g. 'But he answered me that, wherever he might find himself, there he would find other children', the answer Herodotus' records of the Egyptian mutineers. Slip in anything else that the judges will enjoy.

The defendant will make less of the narration. He has to maintain that the thing has not happened, or did no harm, or was not unjust, or not so bad as is alleged. He must therefor snot waste time about what is admitted fact, unless this bears on his own contention; e.g. that the thing was done, but was not wrong. Further, we must speak of events as past and gone, except where they excite pity or indignation by being represented as present. The Story told to Alcinous is an example of a brief chronicle, when it is repeated to Penelope in sixty lines. Another instance is the Epic Cycle as treated by Phayllus, and the prologue to the Oeneus.

The narration should depict character; to which end you must know what makes it do so. One such thing is the indication of moral purpose; the quality of purpose indicated determines the quality of character depicted and is itself determined by the end pursued. Thus it is that mathematical discourses depict no character; they have nothing to do with moral purpose, for they represent nobody as pursuing any end. On the other hand, the Socratic dialogues do depict character, being concerned with moral questions. This end will also be gained by describing the manifestations of various types of character, e.g. 'he kept walking along as he talked', which shows the man's recklessness and rough manners. Do not let your words seem inspired so much by intelligence, in the manner now current, as by moral purpose: e.g. 'I willed this; aye, it was my moral purpose; true, I gained nothing by it, still it is better thus.' For the other way shows good sense, but this shows good character; good sense making us go after what is useful, and good character after what is noble. Where any detail may appear incredible, then add the cause of it; of this Sophocles provides an example in the Antigone, where Antigone says she had cared more for her brother than for husband or children, since if the latter perished they might be replaced,

But since my father and mother in their graves
Lie dead, no brother can be born to me.

If you have no such cause to suggest, just say that you are aware that no one will believe your words, but the fact remains that such is our nature, however hard the world may find it to believe that a man deliberately does anything except what pays him.

Again, you must make use of the emotions. Relate the familiar manifestations of them, and those that distinguish yourself and your opponent; for instance, ‘he went away scowling at me’. So Aeschines described Cratylus as ‘hissing with fury and shaking his fists’. These details carry conviction: the audience take the truth of what they know as so much evidence for the truth of what they do not. Plenty of such details may be found in Homer:

Thus did she say: but the old woman buried her face in her hands:
a true touch-people beginning to cry do put their hands over their eyes.

Bring yourself on the stage from the first in the right character, that people may regard you in that light; and the same with your adversary; but do not let them see what you are about. How easily such impressions may be conveyed we can see from the way in which we get some inkling of things we know nothing of by the mere look of the messenger bringing news of them. Have some narrative in many different parts of your speech; and sometimes let there be none at the beginning of it.

In political oratory there is very little opening for narration; nobody can ‘narrate’ what has not yet happened. If there is narration at all, it will be of past events, the recollection of which is to help the hearers to make better plans for the future. Or it may be employed to attack some one’s character, or to eulogize him-only then you will not be doing what the political speaker, as such, has to do.

If any statement you make is hard to believe, you must guarantee its truth, and at once offer an explanation, and then furnish it with such particulars as will be expected. Thus Carcinus’ Jocasta, in his Oedipus, keeps guaranteeing the truth of her answers to the inquiries of the man who is seeking her son; and so with Haemon in Sophocles.

17

The duty of the Arguments is to attempt demonstrative proofs. These proofs must bear directly upon the question in dispute, which must fall under one of four heads. (1) If you maintain that the act was not committed, your main task in court is to prove this. (2) If you maintain that the act did no harm, prove this. If you maintain that (3) the act was less than is alleged, or (4) justified, prove these facts, just as you would prove the act not to have been committed if you were maintaining that.

It should be noted that only where the question in dispute falls under the first of these heads can it be true that one of the two parties is necessarily a rogue. Here ignorance cannot be pleaded, as it might if the dispute were whether the act was justified or not. This argument must therefore be used in this case only, not in the others.

In ceremonial speeches you will develop your case mainly by arguing that what has been done is, e.g., noble and useful. The facts themselves are to be taken on trust; proof of them is only submitted on those rare occasions when they are not easily credible or when they have been set down to some one else.

In political speeches you may maintain that a proposal is impracticable; or that, though practicable, it is unjust, or will do no good, or is not so important as its proposer thinks. Note any falsehoods about irrelevant matters-they will look like proof that his other statements also are false. Argument by 'example' is highly suitable for political oratory, argument by 'enthymeme' better suits forensic. Political oratory deals with future events, of which it can do no more than quote past events as examples. Forensic oratory deals with what is or is not now true, which can better be demonstrated, because not contingent-there is no contingency in what has now already happened. Do not use a continuous succession of enthymemes: intersperse them with other matter, or they will spoil one another's effect. There are limits to their number —

Friend, you have spoken as much as a sensible man would have spoken.,as much' says Homer, not 'as well'. Nor should you try to make enthymemes on every point; if you do, you will be acting just like some students of philosophy, whose conclusions are more familiar and believable than the premisses from which they draw them. And avoid the enthymeme form when you are trying to rouse feeling; for it will either kill the feeling or will itself fall flat: all simultaneous motions tend to cancel each other either completely or partially. Nor should you go after the enthymeme form in a passage where you are depicting character-the process of demonstration can express neither moral character nor moral purpose. Maxims should be employed in the Arguments-and in the Narration too-since these do express character: 'I have given him this, though I am quite aware that one should "Trust no man".' Or if you are appealing to the emotions: 'I do not regret it, though I have been wronged; if he has the profit on his side, I have justice on mine.'

Political oratory is a more difficult task than forensic; and naturally so, since it deals with the future, whereas the pleader deals with the past, which, as Epimenides of Crete said, even the diviners already know. (Epimenides did not practise divination about the future; only about the obscurities of the past.) Besides, in forensic oratory you have a basis in the law; and once you have a starting-point, you can prove anything with comparative ease. Then again, political oratory affords few chances for those leisurely digressions in which you may attack your adversary, talk about yourself, or work on your hearers' emotions; fewer chances indeed, than any other affords, unless your set purpose is to divert your hearers' attention. Accordingly, if you find yourself in difficulties, follow the lead of the Athenian speakers, and that of Isocrates, who makes regular attacks upon people in the course of a political speech, e.g. upon the Lacedaemonians in the Panegyricus, and upon Chares in the speech about the allies. In ceremonial oratory, intersperse your speech with bits of episodic eulogy, like Isocrates, who is always bringing some one forward for this purpose. And this is what Gorgias meant by saying that he always found something to talk about. For if he speaks of Achilles, he praises Peleus, then Aeacus, then Zeus; and in like manner the virtue of valour, describing its good results, and saying what it is like.

Now if you have proofs to bring forward, bring them forward, and your moral discourse as well; if you have no enthymemes, then fall back upon moral discourse: after all, it is more fitting for a good man to display himself as an honest fellow than as a subtle reasoner. Refutative enthymemes are more popular than demonstrative ones: their logical cogency is more striking: the facts about two opposites always stand out clearly when the two are nut side by side.

The 'Reply to the Opponent' is not a separate division of the speech; it is part of the Arguments to break down the opponent's case, whether by objection or by counter-syllogism. Both in political speaking and when pleading in court, if you are the first speaker you should put your own arguments forward first, and then meet the arguments on the other side by refuting them and pulling them to pieces beforehand. If, however, the case for the other side contains a great variety of arguments, begin with these, like Callistratus in the Messenian assembly, when he demolished the arguments likely to be used against him before giving his own. If you speak later, you must first, by means of refutation and counter-syllogism, attempt some answer to your opponent's speech, especially if his arguments have been well received. For just as our minds refuse a favourable reception to a person against whom they are prejudiced, so they refuse it to a speech when they have been favourably impressed by the speech on the other side. You should, therefore, make room in the minds of the audience for your coming speech; and this will be done by getting your opponent's speech out of the way. So attack that first-either the whole of it, or the most important, successful, or vulnerable points in it, and thus inspire confidence in what you have to say yourself —

First, champion will I be of Goddesses...
Never, I ween, would Hera...

where the speaker has attacked the silliest argument first. So much for the Arguments.

With regard to the element of moral character: there are assertions which, if made about yourself, may excite dislike, appear tedious, or expose you to the risk of contradiction; and other things which you cannot say about your opponent without seeming abusive or ill-bred. Put such remarks, therefore, into the mouth of some third person. This is what Isocrates does in the Philippus and in the Antidosis, and Archilochus in his satires. The latter represents the father himself as attacking his daughter in the lampoon

Think nought impossible at all,
Nor swear that it shall not befall...

and puts into the mouth of Charon the carpenter the lampoon which begins

Not for the wealth of Gyes...

So too Sophocles makes Haemon appeal to his father on behalf of Antigone as if it were others who were speaking.

Again, sometimes you should restate your enthymemes in the form of maxims; e.g. 'Wise men will come to terms in the hour of success; for they will gain most if they do'. Expressed as an enthymeme, this would run, 'If we ought to come to terms when doing so will enable us to gain the greatest advantage, then we ought to come to terms in the hour of success.'

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Next as to Interrogation. The best moment to a employ this is when your opponent has so answered one question that the putting of just one more lands him in absurdity. Thus Pericles questioned Lampon about the way of celebrating the rites of the Saviour Goddess. Lampon declared that no uninitiated person could be told of them. Pericles then asked, ‘Do you know them yourself?’ ‘Yes’, answered Lampon. ‘Why,’ said Pericles, ‘how can that be, when you are uninitiated?’

Another good moment is when one premiss of an argument is obviously true, and you can see that your opponent must say ‘yes’ if you ask him whether the other is true. Having first got this answer about the other, do not go on to ask him about the obviously true one, but just state the conclusion yourself. Thus, when Meletus denied that Socrates believed in the existence of gods but admitted that he talked about a supernatural power, Socrates proceeded to to ask whether ‘supernatural beings were not either children of the gods or in some way divine?’ ‘Yes’, said Meletus. ‘Then’, replied Socrates, ‘is there any one who believes in the existence of children of the gods and yet not in the existence of the gods themselves?’ Another good occasion is when you expect to show that your opponent is contradicting either his own words or what every one believes. A fourth is when it is impossible for him to meet your question except by an evasive answer. If he answers ‘True, and yet not true’, or ‘Partly true and partly not true’, or ‘True in one sense but not in another’, the audience thinks he is in difficulties, and applauds his discomfiture. In other cases do not attempt interrogation; for if your opponent gets in an objection, you are felt to have been worsted. You cannot ask a series of questions owing to the incapacity of the audience to follow them; and for this reason you should also make your enthymemes as compact as possible.

In replying, you must meet ambiguous questions by drawing reasonable distinctions, not by a curt answer. In meeting questions that seem to involve you in a contradiction, offer the explanation at the outset of your answer, before your opponent asks the next question or draws his conclusion. For it is not difficult to see the drift of his argument in advance. This point, however, as well as the various means of refutation, may be regarded as known to us from the Topics.

When your opponent in drawing his conclusion puts it in the form of a question, you must justify your answer. Thus when Sophocles was asked by Peisander whether he had, like the other members of the Board of Safety, voted for setting up the Four Hundred, he said ‘Yes.’-’Why, did you not think it wicked?'-'Yes.'-'So you committed this wickedness?' 'Yes', said Sophocles, 'for there was nothing better to do.' Again, the Lacedaemonian, when he was being examined on his conduct as ephor, was asked whether he thought that the other ephors had been justly put to death. 'Yes', he said. 'Well then', asked his opponent, 'did not you propose the same measures as they?'-'Yes.'-'Well then, would not you too be justly put to death?'-'Not at all', said he; 'they were bribed to do it, and I did it from conviction'. Hence you should not ask any further questions after drawing the conclusion, nor put the conclusion itself in the form of a further question, unless there is a large balance of truth on your side.

As to jests. These are supposed to be of some service in controversy. Gorgias said that you should kill your opponents' earnestness with jesting and their jesting with earnestness; in which he was right. jests have been classified in the Poetics. Some are becoming to a gentleman, others are not; see that you choose such as become you. Irony better befits a gentleman than buffoonery; the ironical man jokes to amuse himself, the buffoon to amuse other people.

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The Epilogue has four parts. You must (1) make the audience well-disposed towards yourself and ill-disposed towards your opponent (2) magnify or minimize the leading facts, (3) excite the required state of emotion in your hearers, and (4) refresh their memories.

(1) Having shown your own truthfulness and the untruthfulness of your opponent, the natural thing is to commend yourself, censure him, and hammer in your points. You must aim at one of two objects-you must make yourself out a good man and him a bad one either in yourselves or in relation to your hearers. How this is to be managed-by what lines of argument you are to represent people as good or bad-this has been already explained.

(2) The facts having been proved, the natural thing to do next is to magnify or minimize their importance. The facts must be admitted before you can discuss how important they are; just as the body cannot grow except from something already present. The proper lines of argument to be used for this purpose of amplification and depreciation have already been set forth.

(3) Next, when the facts and their importance are clearly understood, you

must excite your hearers' emotions. These emotions are pity, indignation, anger, hatred, envy, emulation, pugnacity. The lines of argument to be used for these purposes also have been previously mentioned.

(4) Finally you have to review what you have already said. Here you may properly do what some wrongly recommend doing in the introduction-repeat your points frequently so as to make them easily understood. What you should do in your introduction is to state your subject, in order that the point to be judged may be quite plain; in the epilogue you should summarize the arguments by which your case has been proved. The first step in this reviewing process is to observe that you have done what you undertook to do. You must, then, state what you have said and why you have said it. Your method may be a comparison of your own case with that of your opponent; and you may compare either the ways you have both handled the same point or make your comparison less direct: 'My opponent said so-and-so on this point; I said so-and-so, and this is why I said it'. Or with modest irony, e.g. 'He certainly said so-and-so, but I said so-and-so'. Or 'How vain he would have been if he had proved all this instead of that!' Or put it in the form of a question. 'What has not been proved by me?' or 'What has my opponent proved?' You may proceed then, either in this way by setting point against point, or by following the natural order of the arguments as spoken, first giving your own, and then separately, if you wish, those of your opponent.

For the conclusion, the disconnected style of language is appropriate, and will mark the difference between the oration and the peroration. 'I have done. You have heard me. The facts are before you. I ask for your judgement.'

Rhetoric to Alexander (1420a)

Translated by E. S. Forster

The *Rhetorica ad Alexandrum* is a treatise traditionally attributed to Aristotle, though now generally believed to be the work of Anaximenes of Lampsacus, as the Roman Quintilian refers to the work under Anaximenes' name in *Institutio Oratoria*. As the sole complete manual on rhetoric still extant from the ancient Greek world, *Rhetoric to Alexander* provides an invaluable insight into the rhetorical discussions and arguments that Aristotle would have been accustomed to.

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PREFACE

THE text used for this translation is that of L. Spengel as revised by C. Hammer. Though the division of the chapters corresponds with that of Bekker, the numbering begins only after the Introductory Letter, which is Bekker’s first chapter.

Since the date of the Teubner Text fragments of a papyrus found at Hibeh were published in 1906 by Messrs. Grenfell and Hunt (*Hibeh Papyrus*, Pt. I, No. 26, pp. 114-38). The papyrus is dated by Messrs. Grenfell and Hunt in the first half of the third century B. c and is thus seventeen centuries older than any of our MSS., which belong to the fifteenth and sixteenth centuries. As might be expected, therefore, it exhibits a large number of divergences, but very few of these are such as to make any important differences of meaning; the readings of the papyrus have, therefore, only been noted where they materially affect the translation.

The authorship of the *Rhetorica ad Alexandrum* has been the subject of considerable discussion. The suggestion that it is to be attributed to Anaximenes of Lampsacus, a slightly older contemporary of Aristotle, was first made by Petrus Victorius on the strength of a statement of Quintilian (*Inst. Or at.,* iii. 4. 9). This view was adopted by Spengel, who, in an extremely arbitrary manner, altered the text at 1421b 7 and 1432b 8 in defiance of all the MSS., in order to reduce the number of genera of oratory from three to two, so as to harmonize with Quintilian’s account of Anaximenes. These emendations are not only unlikely in themselves, but are contradicted by the whole arrangement of Chapters 1-5 and 3-7, where the author clearly deals with three genera, each with two species, and ‘inquiry’ as an extra species. In view of these facts the MS. reading has been retained in these passages.

Now Aristotle in the *Rhetorica* (1358a36 ff.) recognizes the three genera and is stated by Quintilian *(Inst. Orat*., iii. 4. 1) to have been the first to do so; the question therefore arises whether the *Rhet ad Alex,* can be the work of Aristotle himself. Mr. T. Case (article on ‘Aristotle’ in *Encycl. Brit*., nth ed.) argues that it is a genuine work of Aristotle of a somewhat earlier date than the *Rhetorica.* Against this it may be urged that the doctrine of the *Rhet ad Alex,* shows a development as compared with the *Rhetorica* in the addition of a species which the latter does not recognize.1 Further, it is difficult to conceive that any one who reads the two treatises side by side can come to the conclusion that the writer of the *Rhet ad Alex,* is identical with the author of the vastly superior *Rhetorica.*

Amongst others who have discussed the question of the authorship of the *Rhet ad Alex.,* Mr. E. M. Cope (*Introduction to the Rhetoric of Aristotle,* pp. 413 ff.) is on the whole inclined to think that the treatise may possibly be the work of Anaximenes, but he thinks that the name of Anaximenes on the title-page of Spengel's edition 'should be replaced by the more modest "Anonymus "'. Heitz (O. Miiller-Heitz, *Gesch dergriech. Lit*., ii, p. 287) and Susemihl (*Gesch der griech. Lit in der Alexandrinerzeit*, ii, p. 451) agree in the opinion that the *Rhet ad Alex,* is the work of a writer of the early third century B. C. Hammer *(Rhet. Graec*., vol i, pp iv-v) considers the question undecided, but, while he implies that there is much to be said for the view of Heitz and Susemihl, states that he has retained the name of Anaximenes out of deference to Spengel. The editors of the Hibeh Papyrus are of opinion that 'the new discovery goes far to overthrow Susemihl's position and weaken his objections to the previously accepted conclusions of Spengel'. They do not, however, offer any proofs in favour of the Anaximenean authorship or make any allusion to Spengel's changes in the text, and unfortunately neither of the passages in which these occur is included in the fragments of the papyrus. They are of opinion that a fourth-century date for the treatise maybe regarded as established, though this, they say, does not prove that its author preceded Aristotle. It is to be noted that an exactly contemporary papyrus found at Hibeh (No. 16) is probably a fragment of Theophrastus 'peri udatos'.

We shall probably not be far wrong if, accepting a date slightly anterior to 300 B. c., we attribute the work to a Peripatetic writer contemporaneous with Theophrastus. The treatise has certainly many points of contact with the *Rhetorica* and assumes and supplements Aristotle's classification; it is written from a more practical and less philosophic standpoint and in the spirit of Socrates rather than of Aristotle.

My best thanks are due to the Editor of the series, Professor W. D. Ross, who has read through the translation both in MS. and in proof, to my colleague Professor W. C. Summers, who has read it in MS., and to Professor

W. Rhys Roberts, who has read it in proof; all of whom have made valuable suggestions and corrections.

E. S. F.

THE UNIVERSITY, SHEFFIELD.

Nov. 14, 1923.

SYNOPTIC CONTENTS

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DE RHETORICA AD ALEXANDRUM

[Aristotle to Alexander. Salutation.

1 You write that you have often sent persons to me to urge upon me the project of noting down for you the principles of public speaking. It is not through indifference that I have put off doing so all this time, but because I was seeking how to write on this subject with more exactitude than any one else who has concerned himself therewith. It was only natural that I should have such an intention; for just as you are desirous to have more splendid raiment than other men, so you ought to strive to attain to a more glorious skill in speech than other men possess. For it is far more honourable and kingly to have the mind well ordered than to see the bodily form well arrayed. For verily it is absurd that one who in deeds excels all men should in words manifestly fall short of ordinary mortals, especially when he knows full well that, whereas among those whose political constitution is democracy the final appeal on all matters is to the law, among those who are under kingly rule the appeal is to reason. Just as their public law always directs self-governing communities along the best path, so might reason, as embodied in you, guide along the path of their advantage those who are subject to your rule. For law can be simply described as reason defined by the common consent of the community, regulating action of every kind. Furthermore, I think that you are well aware that we praise as good men and true those who employ reason and prefer always to act under its guidance, while we abhor as savage and brutish those who act in any matter without reason. It is for this cause too that we punish wicked men when they show their wickedness and admire the good when they display their virtue. Thus we have discovered a means of preventing possible wickedness, while we enjoy the benefits of existing goodness. In this way we escape annoyances which threaten us and secure advantages which we did not previously possess. Just as a life free from pain is an object of desire, so is wise reason an object of contentment.

Again, you must realize that the model set before most men is either the law or else your life and the expression of your reason. In order therefore that you may excel all Greeks and barbarians, you must exert yourself to the utmost, so that those who spend their lives in these pursuits, using the elements of virtue in them to produce a beauteous copy of the model thus set before them, may not direct themselves towards ignoble ends but make it their desire to partake in the same virtue.

Moreover, deliberation is the most divine of human activities. Therefore you must not waste your energies on subordinate and worthless pursuits, but desire to drink at the very fountain-head of good counsel. For what man of sense could ever doubt that, while it is a sign of foolishness to act without deliberation, it is the mark of true culture to accomplish under the guidance of reason anything that reason commands? It is plain to see that all the greatest politicians of Greece resort to reason first and then to deeds, and further that those who have won the highest repute among the barbarians have employed reason before action, knowing full well that the consideration of expediency by the light of reason is a very citadel of salvation. Yea, it is reason which we must regard as an impregnable citadel, and not look on any fortress built by man as a sure safeguard.

But I hesitate to say another word, lest I should seem to be writing for effect, bringing forward proofs of facts which are fully known as though they were not generally admitted.

I will therefore say no more, after mentioning only one topic, in enlarging on which one might spend one’s whole life, namely, that reason is the one thing wherein we are superior to all other animals, we who have received the highest honour which heaven can bestow. For all animals display the appetites and desire and the like, but none save man possess reason. Now it would be most strange if, when it is by virtue of reason alone that we live happier lives than all other animals, we should through indifference despise and renounce that which is the cause of our well-being. Though you have long been exhorted thereto, I urge you to embrace with the utmost zeal the study of reasoned speech. For just as health preserves the body, so is education the recognized preserver of the mind. Under its guidance you will never take a false step in anything that you do, but you will keep safe practically all the advantages which you already possess. Moreover, if physical sight is a pleasure, to see clearly with the eyes of the soul is a thing to be admired. Again, as the general is the saviour of his army, so is reason, allied with education, the guide of life. These, then, and like sentiments I think I may well dismiss at the present moment.

In your letter you urge me not to let this book fall into other hands than yours, and this knowing full well that, just as parents love their own offspring more than supposititious children, so those who have invented something have more affection for it than those to whom the discovery is merely imparted. For men have died in defence of their words, as they would die for their offspring. For the so-called Parian Sophists, because what they teach is not of their own production, in their gross indifference feel no affection and barter it away for money. Wherefore I exhort you to watch over these precepts, the children of my brain, that while they are yet young they may be corrupted by no man, and, sharing in your well-ordered life, when they come to man's estate, may win unsullied glory.

Following the lesson taught by Nicanor, we have adopted from other authors anything on the same subjects which was particularly well expressed in their treatises. You will find two such books, one of which is my own, viz the Oratorical Art which I wrote for Theodectes, while the other is the treatise of Corax. The other points connected with public and forensic exhortations have all been dealt with specially in these treatises. So in these commentaries written expressly for you you will find material for amplifying these two treatises. Farewell.]

Public speeches fall into three classes, deliberative, epideictic, and forensic. They are of seven kinds, being employed in persuasion, dissuasion, eulogy, vituperation, accusation, defence, and inquiry either by itself or in relation to something else. Such are the different kinds of discourses and their number. We shall employ them in public harangues, in lawsuits about contracts, and in private conversation. We shall treat of them most conveniently if we take them each separately and enumerate their qualities, their uses, and their arrangement. And first let us discuss persuasion and dissuasion, since they are used most of all in private conversations and in public harangues. To speak generally, persuasion is an exhortation to some purpose or speech or action, while dissuasion is the prevention of some purpose or speech or action. Such being the definition of these words, he who persuades must show that those things to which he exhorts are just, lawful, expedient, honourable, pleasant, and easy of accomplishment. Failing that, when he is exhorting to that which is difficult, he must show that it is practicable and that its execution is necessary. He who dissuades, by pursuing the opposite course, must exert a hindering influence, showing that the proposed action is neither just nor lawful nor expedient nor honourable nor pleasant nor practicable; if he cannot do that, he must urge that it is toilsome and unnecessary. All actions can have both these sets of attributes applied to them, so that a man who can urge neither of these two sets of fundamental qualities is at a loss for anything to say. It is for these qualities therefore that those who seek to persuade or dissuade must look. I will now attempt to define them one by one and show whence we shall supply them for our discourses.

That which is just is the unwritten custom of all or the majority of men which draws a distinction between what is honourable and what is base. We may take as examples the honouring of parents, doing good to one's friends, and returning good to one's benefactors. These and similar duties are not enjoined upon mankind by written laws, but they are observed by unwritten custom and universal practice. So much for just actions.

Law is a common agreement made by the community, which ordains in writing how the citizens ought to act under every kind of circumstance.

Expediency is the safeguarding of existing advantages, or the acquisition of those not already possessed, or the riddance of existing disadvantages, or the prevention of harm which threatens to occur. For individuals you can divide up expediency according as it applies to the body or the mind or external possessions. For the body, strength, beauty, and health are expedient; for the mind, courage, wisdom, and justice. External possessions are friends, wealth, and property. The contraries of these are inexpedient. For a community such things as concord, strength for war, wealth, a plentiful supply of revenue, and excellence and abundance of allies are expedient. In a word we look upon anything of this kind as expedient and the contrary as inexpedient. Honourable things are those from which good repute and creditable distinction will accrue to the doers. Pleasant things are those which cause joy. Easy things are those which are accomplished with the least expenditure of time, trouble, and money. Practicable things are all those which admit of performance. Necessary things are those the execution of which does not depend upon us but takes place as it were by some necessity divine or human. Such, then, is the nature of things just, lawful, expedient, honourable, easy, practicable, and necessary.

It will be easy to speak about such subjects by the use of the arguments mentioned above and by arguments analogous to them and by arguments opposed to them and by employing judgements pronounced by the gods or by men by judges of repute or by our opponents.

We have already described the nature of that which is just. The following are cases where there is an analogy to that which is just: ‘As we consider it just to obey parents, on the same principle it behoves sons to imitate the actions of their fathers’; or again, ‘As it is just to do good in return to those who do good to us, so it is just to abstain from harming those who have done us no ill’. It is by this method that we must get analogies to justice. Then we ought to make the example itself clear by taking the contrary case: ‘As it is just to punish those who do us a wrong, so it behoves us to do good in return to our benefactors’.

You will discover what is just in the judgement of men of repute by a consideration such as the following: ‘Not only do we hate and do harm to our enemies, but the Athenians also and the Lacedaemonians judge that it is just to punish their enemies.’ By following this system you will often discover what is just.

We have already defined the nature of that which is lawful. When it serves our purpose we must introduce the legislator himself and his law and any case of analogy to the written law. For example, ‘As the lawgiver punishes thieves with very serious penalties, so we ought to inflict heavy chastisement on those who deceive, for they steal away the understanding’; or again, ‘Just as the lawgiver has made the nearest relatives the heirs of those who die childless, so I ought in the present case to have authority over the possessions of a freed man; for since those who set him free are dead and I am the nearest relative of the deceased persons, I am justified in assuming control over their freedmen. This is an example of the way in which an analogy to that which is ordained by law is obtained.

The following is an illustration of what is contrary to that which is lawful: ‘If the law prohibits the distribution of public property, it was clearly the judgement of the lawgiver that all who divide up such property are doing wrong; for if the laws ordain that those who govern the state well and justly should be honoured, they clearly regard those who make away with public property as deserving of punishment.’ The nature of the lawful is thus clearly shown by taking cases of the contrary. It can be demonstrated from previous judgements by a consideration such as this: ‘Not only do I — hold that the lawgiver made this law to cover such cases as these, but on a former occasion, when Lysithidas gave an explanation similar to that which I am now putting forward, the jury voted in favour of this interpretation of the law.’ By this method we shall often be able to demonstrate what is lawful.

The nature of the expedient itself has already been defined. We must, in addition to the subjects already mentioned, introduce the expedient, wherever it is available, into our arguments and often bring it to light, pursuing the same method which we employed for the lawful and the just. The following would be instances of analogies to the expedient: ‘As in war it is expedient to station the bravest men in the front rank, so in the state it is advantageous that the wisest and justest men should be the leaders of the people’; or again, ‘As it is expedient for the healthy to be on their guard against disease, so too in communities which live in harmony it is expedient to provide against possibilities of faction.’ By following this method you will be able to make many analogies to the expedient. The expedient will also be clear if you take contrary cases such as the following: ‘If it is advantageous to honour good citizens, it would be expedient also to punish the wicked’; or again, ‘If you think it inexpedient that we should make war unaided on the Thebans, it would be expedient to make the Lacedaemonians our allies and then make war on the Thebans.’ This is the method by which you will demonstrate the expedient by arguing from the contrary. You can discover what has been judged to be expedient by judges of repute by considerations such as the following:

‘The Lacedaemonians, when they had conquered the Athenians, thought it expedient not to enslave their city, and on another occasion the Athenians and Thebans, when it was within their power to depopulate Sparta, thought it expedient to allow the Lacedaemonians to survive.’

By pursuing this method you will have plenty to say about the just, the lawful, and the expedient. You must employ the same methods in the case of the honourable, the easy, the pleasant, the practicable, and the necessary. We shall thus have abundant material on these topics also.

Next let us determine the number, the character, and the names of the subjects which we discuss in the council-chamber and in the popular assembly. If we have a clear knowledge of these, the actual circumstances will provide us with something appropriate to say on each occasion when we are giving advice. If we have long been familiar with the characteristics common to each class of subject, we shall always be able to apply them readily in practice. We must therefore distinguish the various subjects about which all men hold public deliberation.

To sum the matter up, there are seven subjects on which we shall speak in public. For whether we are addressing the council or the people, we must necessarily deliberate and speak about either sacred rites or laws or the political constitution or alliances and contracts with other states or war or peace or the provision of resources. These, then, are the subjects about which we shall deliberate and address the people. Let us take each of them separately and see how they can be treated in a speech.

There are three ways in which we must deal with the subject of sacred rites; for we shall urge either that they ought to be retained in their existing form, or that they ought to be changed so as to be more magnificent or else less sumptuous. When we are maintaining that the existing form should be retained, we should derive material from the argument of justice, urging that it is regarded by all men as unjust to transgress the customs of our forefathers, and that all the oracles command men to make their sacrifices according to the usages of their forefathers, and that it is of the utmost importance that the religious observances should be continued which were prescribed by those who originally founded cities and set up temples to the gods. On the ground of expediency we shall urge that, if the sacrifices are offered according to ancestral usage, it will be expedient either for individuals or the community at large in view of the payments of money which will be involved, and that it will benefit the citizens by creating a feeling of self-confidence; for if heavy-armed troops, horsemen, and light-armed soldiers join in a religious procession, the citizens, priding themselves on such things, would feel greater confidence in themselves. It can be urged on the ground of what is honourable, if it results in the spectacle of splendid festivals; on the ground of pleasure, because a variety in the sacrifices to the gods is introduced into the spectacle; and on the ground of practicability, if neither defect nor excess has characterized the celebration. Thus when we are speaking in support of the existing state of affairs, we must pursue our inquiry by the above or similar methods and treat the question under discussion as the nature of the subject permits.

When we are advising a change to greater magnificence in the celebration of sacred rites, we shall have a plausible pretext for altering ancestral usages, if we urge that an addition to existing rites involves not their destruction but their extension; again, that it is reasonable to suppose that the gods are more favourably disposed to those who honour them more; again, that even our fathers used not to perform their sacrifices always in the same way, but regulated their service to the gods, both as a community and as private individuals, according to the occasion and their own prosperity; again, that this is a principle which we follow in all other matters in the government of our cities and our private establishments. You must also mention any advantage in brilliance or enjoyment which is likely to result to the city from the alteration, following the methods which we have described above.

When we are urging a reduction of the scale of our sacred rites, we must in the first place direct our remarks to the circumstances of the moment and show in what respect the citizens are less prosperous now than formerly. Next we must show that it is reasonable to suppose that the gods rejoice, not in the costliness of the sacrifices, but in the piety of those who offer them; again, that both gods and men deem those who do anything beyond their means to be guilty of great folly; next, that public expenditure is not merely a personal question but depends on prosperity and adversity. These and others of the same kind are the arguments which we shall offer on the subject of sacrifices.

But in order that we may know how to give some indications and offer rules as to the conditions of the ideal sacrifice, let us define it thus: the best sacrifice of all is one which is pious towards the gods, moderate in costliness, likely to bring advantage in war, and splendid from a spectacular point of view. It will be pious towards the gods, if ancestral usage is not violated; it will be moderate in costliness, if the accompaniments of the ceremony are not all wasted; it will be splendid from a spectacular point of view, if gold and such things as are not actually consumed arc used lavishly; and it will be advantageous for war, if horsemen and infantry in full panoply accompany the procession. By following these rules we shall best provide for the service of the gods. From what has been said above we shall know how to speak in public about the performance of sacred rites of every kind.

Let us next deal similarly with laws and the political constitution. Laws may be briefly described as common agreements made by the community which define and ordain in writing how the citizens should act under various circumstances.

In democratic states legislation ought to provide for appointment by lot to the less important and the majority of the offices (for thus faction will be avoided), while the most important magistrates should be elected by the votes of the multitude. In this way the people, having the power to bestow honours on whomsoever they like, will not be jealous of those who obtain them, while the more prominent men will be encouraged to practice virtue, knowing that it will be to their advantage to have a good repute among their fellow-citizens. Such are the laws which ought to be laid down regarding elections in a democratic state. It would be a lengthy task to go into detail about the rest of the administration. But, to put the matter briefly, care must be taken that the laws may prevent the multitude from entertaining designs against the possessors of property and may instil into the wealthy citizens an eagerness to spend money in undertaking public burdens. The laws will ensure this if certain distinctions are set aside by law for the owners of property in return for their expenditure in the service of the state, and if the laws show more consideration for the tillers of the soil and the sailors among the poorer classes than for the rabble of the city; so that the rich may willingly serve the state, and the people may prefer work to dishonest means of gain. In addition stringent laws must be laid down forbidding the distribution of public lands and the confiscation of the property of deceased persons, and heavy penalties must be imposed on those who commit these transgressions. Also public land in a good position in front of the city must be set apart for the burial of those who are killed in war, and their children must be supported at the public expense until they grow up. Such must be the character of legislation in a democratic state.

In oligarchical states the laws ought to distribute the magistracies impartially to all who possess the rights of citizenship; most of them should be bestowed by lot, but the most important should be assigned by secret vote under oath and with the strictest precautions. Under an oligarchy the penalties inflicted on those who offer affronts to any of the citizens ought to be very heavy, for the people are not so much annoyed at being debarred from holding office as they are angered at being affronted. Differences between citizens ought to be settled as quickly as possible and not be allowed to continue. Nor ought the lower classes to be allowed to collect from the country into the city; for the result of such assemblages is that the populace unites and overthrows the oligarchy. Speaking generally, in democratic states the laws ought to hinder the populace from entertaining designs on the property of the rich; in oligarchical states they ought to check the possessors of political rights from insulting those who are weaker than themselves and from imposing upon the citizens. From what I have said you will not fail to perceive what aims the laws and political constitution ought to keep in view.

Any one who wishes to speak in favour of a law must show that it affects all equally, that it harmonizes with the rest of the laws, and that it is bénéficiai to the city, particularly in promoting concord; failing this, he must show that it will conduce to virtue among the citizens, or that it will benefit the public revenue or the good repute of the city as a whole, or that it will strengthen the power of the state, or that it will confer some similar advantage. If you are speaking against a law, you must consider whether it does not apply equally to all the citizens; and next, whether, so far from agreeing with the other laws, it is actually opposed to them; and further, whether it will conduce to none of the benefits which we have mentioned, being on the contrary harmful. These considerations will provide us with abundant arguments for making proposals and speaking about laws and the political constitution.

We will now proceed to deal with alliances and contracts with other states. Contracts must necessarily be regulated by public arrangements and agreements. Alliances must be formed on occasions when one party is too weak by itself, or when a war is expected to break out; or else men must enter into an alliance with another state because they think they will thus prevent certain people from making war. These and a number of similar circumstances are the reasons which induce states to make allies.

When you wish to support the formation of an alliance, you must make it clear that the occasion for doing so exists, and show if possible, that the proposed allies are just men, and that they have previously conferred some benefit upon the state, and that they are possessed of considerable power, and that they are situated near at hand. If all these advantages are not present, you must collect in your speech any of them which do exist. When you are trying to prevent an alliance, it is open to you to show in the first place that it is unnecessary at the moment; or again, that the proposed allies are not just men, or that they have wronged us on a previous occasion. Failing that, you can object to them on the ground that they live too far away and are not in a position to help us at the proper moment. With these and similar arguments we shall have abundant material for speaking against and in support of the formation of alliances.

Again, on the subject of peace and war let us use a similar method to obtain our chief kinds of argument. The pretexts for making war on another state are as follows: when we have been the victims of aggression, we must take vengeance on those who have wronged us, now that a suitable opportunity has presented itself; or else, when we are actually being wronged, we must go to war on our own behalf or on behalf of our kindred or benefactors; or else we must help our allies when they are wronged; or else we must go to war to gain some advantage for the city, in respect either of glory, or of resources, or of strength, or of something similar.

When we are exhorting any one to go to war we must collect as many of these pretexts as possible, and afterwards show that those whom we are exhorting possess most of the advantages which bring success in warfare. Now men are always successful either by the favour of the gods, which we call good fortune, or through the number and strength of their troops, or through the abundance of their resources or the wisdom of their general or the excellence of their allies, or through their superiority of position. From these, then, and similar advantages we shall select and demonstrate those which are most applicable to the circumstances, when our advice is in favour of war, belittling the points of superiority possessed by the enemy and exaggerating those which we ourselves enjoy. If we are trying to prevent a war which is likely to take place, we must first of all find pretexts to show that the alleged grievances either do not exist at all or else are small and insignificant; next we must show that it is not expedient to go to war, dwelling on the disasters that befall men in warfare; and further, that the advantages which conduce to victory (which have just been enumerated) are possessed by the enemy rather than by us.

These are the means which we must employ to avert a war which is likely to occur. When we are trying to stop a war which has actually started, if those to whom our advice is offered are stronger than their foes, the first point on which we must insist is that sensible men ought not to wait until they have a fall, but should make peace while they are strong; also, that it is characteristic of war to ruin many even of those who are successful in it, but of peace to save the vanquished and to allow the victorious to enjoy the possessions which they have gained in warfare. We must also dwell upon the numerous and incalculable vicissitudes of warfare. Such are the methods by which we must exhort to peace those who are victorious in war.

Those who have already met with failure we must urge to make peace on the ground of actual events, and because they ought to learn from their misfortunes and not be exasperated by those who have already injured them, and because of the dangers which have already resulted from not making peace, and because it is better to sacrifice a part of their possessions to an enemy stronger than themselves than to be conquered and lose their lives as well as their property. And, to put the matter briefly, we must realize that it is the universal custom of mankind to abandon mutual warfare, either when they think that the demands of the enemy are just, or when they are at variance with their allies, or weary of war, or afraid of their enemy, or suffering from internal strife. If, therefore, you collect from amongst all these and similar arguments those which are most applicable to the circumstances, you will have no lack of material for speaking about peace and war.

Lastly, it remains for us to treat of the provision of resources. First, then, we must inquire whether any property belonging to the city is neglected, neither bringing in any revenue nor being dedicated to the gods: I mean, for example, any public lands which are neglected and might bring in revenue to the city if they were sold or leased to private persons; for this is a very common source of income.

If this expedient is lacking, we must impose taxes on rateable property, or order the poor to give their personal service in time of danger, the rich to pay money, and the craftsmen to provide arms. In a word, when we are treating of ways and means, we must say that they affect all the citizens equally and are permanent and ample, while the exact opposite is true of our adversaries' proposals.

From what has now been said we are acquainted with the subjects on which we shall speak in public, when we are seeking to persuade or dissuade, and their component parts, which will supply us with the material of our orations.

Next in order let us set forth and treat of the eulogistic and vituperative kinds of oratory.

To speak generally, the eulogistic kind is the amplification of creditable purposes, deeds, and words, and the attribution of qualities which do not exist; while the vituperative kind is the opposite of this and consists in the minimizing of creditable qualities and the amplification of those which are discreditable. Deeds worthy of praise are those which are just, lawful, expedient, honourable, pleasant, and easy of execution. The nature of these qualities and the sources from which we can obtain abundant material about them have already been stated. He who is eulogizing must show in his speech that one of these praiseworthy deeds is connected with a certain person or his acts, because it has either been brought about by his personal exertions, or has been produced through his agency, or has resulted from a certain action of his, or has been done for some object, or could not have come to pass except under certain circumstances which are due to him. Similarly he who is censuring must show that the contrary of this is true of the person whom he is censuring. The following are examples of the results of action; bodily health is the result of a fondness for gymnastics; a man falls into ill-health as the result of not caring for exercise, or becomes wiser as the result of studying philosophy, or lacks the necessities of life as the result of his own carelessness. The following are actions done with an object: men endure many toils and dangers with the object of being crowned by their fellow-citizens, or neglect everything else with the object of pleasing those whom they love. Instances of things which can only take place under certain circumstances are the following: victories at sea can only take place when there are sailors to win them, and drunkenness can only occur as the result of drinking. By pursuing this method on the lines already laid down you will have abundant material for eulogy and vituperation.

Generally speaking you will be able to amplify and minimize under all such circumstances by the following method: first, by showing, as I explained just now, that many good or bad results have been caused by a certain person’s actions. This is one kind of amplification. A second method is to introduce a judgement already passed — a favourable one, if you are eulogizing, and an unfavourable one, if you are censuring — and then set side by side with it what you have to say and compare the two together, making as much as possible of your own opinion and as little as possible of the other judgement; the result will be that your own opinion is magnified. A third plan is to compare that about which you are speaking with the least thing which falls under the same category; for the former will then appear magnified, just as persons of moderate height appear taller than they really are when they stand side by side with persons of unusually small stature. The following is another safe method of amplification: if a certain thing has been considered a great good, then its contrary, if you mention it, will appear to be a great evil, and similarly, if a thing is considered to be a great evil, its contrary, if you mention it, will appear to be a great good. You can also magnify good and bad actions by showing that the doer of them acted intentionally, proving that he had long premeditated doing them, that he purposed to do them often, that he did them over a long period, that no one else ever tried to do them, that he acted in company with others with whom no one else ever acted, or following those whom no one else ever followed, or that he acted wittingly or designedly, and that we should be fortunate, or unfortunate, if we all did as he did. You must also prove your point by drawing parallels and amplifying as follows, building them as it were, one on the top of another : ‘If a man cares for his friends, it is natural to suppose that he honours his parents, and he who honours his parents will also desire to benefit his fatherland.’ Generally speaking, if you can prove that a man is the cause of *many* good or bad things, these things will appear to be important. You must also examine the topic on which you are speaking and see whether it appears to have more weight when divided into parts or when treated as a whole, and you must treat it in the manner in which it appears to have more weight. By pursuing these methods you will be able to make the most frequent and effective amplifications.

You will minimize good and bad actions in your speeches by following the opposite method to that which we have prescribed for amplification. The best thing is to show that a man’s action has produced no ‘result at all, or, if that is impossible, only the smallest and most insignificant results. From these instructions we know how to amplify or minimize any point which we are bringing forward, when we are eulogizing or censuring. These materials for amplification are useful in other kinds of oratory, but they are most effective in eulogy and vituperation. We shall thus be provided with ample material on these topics.

— Let us next similarly define the kinds of oratory employed in accusation and defence, [which are concerned with forensic business,] and the elements of which they are composed and the uses to which they are to be put. The oratory of accusation is, to put the matter briefly, the exposition of errors and crimes; defensive oratory is the disproving of errors and crimes of which a man is accused or suspected.

Both styles, then, having these qualities, he who is accusing, when he charges his opponents with deliberate wickedness, must declare that their acts are unjust and illegal and detrimental to the interests of the mass of citizens; when he is accusing an adversary of folly, he must declare his acts to be both inexpedient for the actual doer of them and disgraceful and odious and impracticable. These and similar arguments are those which should be directed against the wicked and foolish. Accusers should also observe against what kinds of offences the punishments ordained by the laws are directed and for what offences juries impose penalties. Where the law has laid down a definite punishment, the accuser must make it his sole object to prove that the offence has been committed. When the jury has to assess the penalty, first the charges must be proved; then the errors committed by one's opponents must be amplified, and, if possible it must be shown that the offence was committed wittingly, and not with ordinary intent but after every possible preparation. If you cannot do this, and think that your opponent intends to show that he has somehow made a mistake or that he intended to act honourably in the matter but met with misfortune, you must deprive him of any claim to pardon by telling your hearers that evil-doers, instead of declaring that they have made a mistake after they have acted, ought to be careful before they act; and further that, even if he has made mistakes or met with misfortune, he is more deserving of punishment for his misfortunes and mistakes than one who has done neither of these things. Moreover the legislator has not let those who make mistakes go free, but has made them liable to punishment, in order to prevent any one else from making mistakes. You must also point out that if they listen to one who makes this kind of defence, they will have many persons doing wrong deliberately; for if they are successful, they will simply do what they like, while, if they are unsuccessful, they will declare that they have met with ill-fortune, and they then will be excused from punishment. By such arguments must accusers deprive their adversaries of any claim to pardon, and by means of the amplifications already described their acts must be shown to have caused many evils. These are the component parts of which the oratory of accusation is made up.

Defensive oratory consists of three methods. A man who is defending himself must either prove that he committed none of the acts of which he is accused; or if he is forced to admit them, he must try to show that what he has done is lawful and just and honourable and expedient for the state; if he cannot prove this, he must attribute his acts to an error or to misfortune and show that the harm which has resulted from them is small, and so try to gain pardon. You can define a crime, an error, and a misfortune thus: you must regard as a crime a wicked deed done deliberately, and you must urge that the heaviest penalty be exacted for such deeds; a harmful act done in ignorance must be called an error; while the failure to accomplish some good intention, not through one's own fault but owing to some one else or to luck, is to be accounted a misfortune. The commission of crime you must declare to be confined to wicked men, while error and misfortune in action are not peculiar to oneself but are common to all men, including those who are sitting in judgement upon you. You must ask for pardon if you are forced to admit that you have committed faults of this kind, pointing out that your hearers are as liable to error and misfortune as you are. A man who is making his defence must observe all the offences for which the laws have laid down punishment and juries assess penalties. When the law fixes a definite punishment, he must show that he has not committed the offence at all, or that he has acted legally and justly. But when the jury is empowered to assess the penalty, he must not follow the same course and deny that he has committed the offence, but rather he must try to prove that his action has caused little harm to his adversary and that it was done involuntarily.

If we follow these and similar methods, we shall have abundant material in cases of accusation and defence. It remains for us still to deal with the style of oratory employed in an inquiry.

Inquiry may be summarily described as the elucidation of intentions, acts, and words which are contradictory to one another or to the rest of a man's mode of life. He who is making an inquiry must try to discover whether either the statement which he is examining or the acts or intentions of the subject of his inquiry are in any respect contradictory to one another. The method to be pursued is as follows: he must consider whether in the past the person in question, after having been originally the friend of another man, next became his enemy and then again the friend of the same person, or whether he has done anything contradictory or of a discreditable tendency, or is likely in the future, if opportunities should occur, to act in a manner which contradicts his former acts. Similarly, you must observe whether, in making some statement now, he is speaking in contradiction of his former words, and likewise whether he has formed any intention which contradicts his former words, or would do so if opportunities should arise. By a similar process you must deal with the contradictions which occur in the mode of life of the person whom you are examining in respect of his other and highly esteemed habits of life. If you thus pursue this branch of oratory, there is no method of examination which you will leave untried.

All the various branches of oratory having now been distinguished, we must employ them, when it is fitting, either each separately or in common with one another by mingling their different qualities. For there are very great differences between them, but in actual practice they have much in common. In this respect they resemble the various classes of human beings, who are partly similar and partly dissimilar in their appearance and in their perceptions. Having thus distinguished the various kinds of oratory, let us next enumerate the requisites which are common to all kinds and explain how they must be used.

First, then, the just, the lawful, the expedient, the honourable, the pleasant, and similar topics are, as I stated at the beginning, common to all the various kinds of oratory, but are chiefly used in persuasive oratory. Secondly, amplification and minimization are necessarily useful in all kinds of oratory, but most use is made of them in eulogy and vituperation. Thirdly, there are the proofs, which must necessarily be employed in every department of oratory, but are particularly useful in accusation and defence, since these need most refutation. Further we must deal with anticipations of arguments, postulates, reiterations, prolixity of speech, and moderate length of speech, brevity, and method of statement. For these and similar expedients are useful in all the various branches of oratory.

The just, the lawful, and the like I have already defined and explained their application; I have also dealt with amplification and minimization. I will now explain the other terms, beginning with the proofs.

Proofs are of two kinds; some are derived directly from actual words, acts, and persons, others are supplementary to words and actions. Probabilities, examples, infallible signs, enthymemes, maxims, fallible signs, and refutations are proofs derived from actual words, persons, and actions.

Testimonies, oaths, and evidence given under torture are supplementary proofs. We must understand the nature of each of these kinds of proof, and whence we are to derive material for them, and how they differ from one another.

It is a Probability when one’s hearers have examples in their own minds of what is being said. For instance, if any one were to say that he desires the glorification of his country, the prosperity of his friends, and the misfortunes of his foes, and the like, his statements taken together would appear probable; for each one of his hearers is himself conscious that he entertains such wishes on these and similar subjects. We must, therefore, always carefully notice, when we are speaking, whether we are likely to find our audience in sympathy with us on the subject on which we are speaking; for in that case they are most likely to believe what we say. Such, then, is the nature of a probability.

We can divide probabilities into three kinds. One kind consists in the inclusion in one’s speech, when accusing or defending, of the feelings which are naturally found in mankind — if, for example, certain persons happen to despise or fear a certain other person, or have often done this very action, or, further, if they feel pleasure or pain or desire, or have ceased from desire, or if they act under the influence of wine, or have experienced in mind or body or one of the senses any of the feelings whereby we are all affected.

These and similar feelings, being common to all human nature, are well known to our hearers. Such, then, are the natural feelings which are wont to affect mankind, and for these we say that a place ought to be found in our speeches. Another division of probabilities falls under the heading of habit (which is what we do from custom), a third under that of love of gain. For we often for the sake of gain choose to act in a way which does violence to our nature and character.

With these definitions before us, when we are seeking to persuade or dissuade, we must show in regard to the subject in question that the action to which we are exhorting our hearers, or which we are opposing, has the effect which we declare that it has. Failing that, we must show that actions similar to that of which we are speaking either generally or invariably turn out as we say they do. Such must be our application of probabilities in relation to actions. As regards persons you must show, if you can, when you are accusing any one, that he has often committed the act in question on previous occasions; or, if that is impossible, that he has done similar acts. You must also try to prove that it was to his advantage to commit these acts; for most men, themselves preferring what is to their advantage, think that others too always act from this motive. If, therefore, you can derive an argument of probability directly from your adversaries, this is the method by which you must infer it. Failing that, you must take similar persons and adduce their customary procedure; for example, when the man whom you are accusing is young, argue that he has committed acts such as persons of that age are in the habit of committing; for your accusations against him will be believed on the ground of this resemblance. Similarly you will gain credence if you can show that his companions have the character which you declare him to have; for owing to his association with them it will appear likely that he has the same pursuits as his friends. Such must be the employment of the argument from probabilities by those who are accusing.

Those who are speaking in their own defence must make it their chief object to show that none of the acts of which they are accused has ever been committed either by themselves or by any of their friends or by any person who resembles them, and that it was of no advantage to them to commit such acts. But if you have manifestly done the same deed on a previous occasion, the fault must be attributed to your youth, or some other excuse must be introduced to provide a reasonable pretext for your having done wrong on that occasion. You must declare also that it was of no benefit to you to have acted thus at the time and that it would not have been of any advantage to you now. If no act of the kind alleged has ever been committed by you, but some of your friends happen to have done such deeds, you must plead that it is not just that you should be slandered because of them, and you must show that others of your associates are honest men; you will thus throw doubt on the crime of which you are accused. If they point out that other persons, who resemble you, have committed the same crimes as they allege against you you must declare that it is absurd if the fact that other people can be shown to have done wrong is to be regarded as a proof that you have committed any of the deeds of which you are accused. If, then, you deny that you have done the deed with which you are charged, you must thus make your defence by arguing from probabilities; for you will then make the charge appear improbable. If, however, you are obliged to admit the charge, you must point out the resemblance of your acts to the usual practice of mankind, by stating as emphatically as possible that the majority of men, nay all men, act under these and similar circumstances exactly as you have done.

If you cannot do this, you must take refuge in pleas of misfortune or error, and try to obtain pardon by citing the passions which are common to all mankind and make us lose our reason — love, anger, drunkenness, ambition, and the like. Such is the method by which we shall make the most skilful use of the argument from probability.

Examples are actions which have taken place in the past and are similar to, or the contrary of, those about which we are speaking. They must be used when your statement is not credible and you wish to establish its truth when it does not gain credence from the argument of probability; the object being that your hearers, learning that another action similar to that of which you are speaking has been carried out in the way in which you declare it to have been done, may be more ready to believe what you say.

Examples are of two kinds; for some things turn out according to our expectations, others contrary to them. The former cause credit, the latter discredit. For instance, if some one declares that the rich are juster than the poor and instances certain just actions on the part of rich men, such examples are in accordance with our expectation, for one can see that most men think that rich people are juster than poor people. If, on the other hand, some one shows that certain rich individuals have acted unjustly in order to get money, thus employing an example which is contrary to expectation, he would cause the rich to be distrusted. Similarly, if any one brings forward an example of what seems to be in accordance with our expectation — for instance, that on some occasion the Lacedaemonians or Athenians employing a large number of allies utterly defeated their enemies — he then disposes his hearers to take to themselves many allies.

Such examples are in accordance with our expectation, for every one is of opinion that large numbers are of no small importance for winning a victory. If, on the other hand, a speaker wishes to prove that numbers do not bring victory, he must give as examples occasions when the unexpected has happened, pointing out, for instance, that the Athenian exiles first seized Phyle with fifty men and then fought a battle against the far more numerous party in the city, who had the Lacedaemonians as their allies, and were thus restored to their own city; or again, that the Thebans, when the Lacedaemonians and practically all the Peloponnesians invaded Boeotia, confronted them alone at Leuctra and conquered the might of the Lacedaemonians: or again, that Dio the Syracusan sailed to Syracuse with three thousand hoplites and defeated Dionysius, whose forces were many times as great; and likewise the Corinthians, when they went to the assistance of the Syracusans with nine triremes, defeated the Carthaginians, although they were blockading the harbours of Syracuse with a hundred and fifty ships and held all the city except the acropolis. To sum the matter up, these and similar instances of unexpected successes often serve to discredit counsels which are based on ordinary probability. Such, then, is the nature of examples. Examples of both kinds must be employed, when we are urging what may be reasonably expected to happen, in order to show that the suggested course of action usually turns out in a particular way; and, when we are predicting some unexpected result, in order to give instances in which satisfactory results have accrued where they seemed to be least expected. If your adversaries use this device, you must show that their instances were the results of good luck, and declare that such things happen rarely, whereas your examples are of common occurrence. This, then, is the method of employing examples. If, on the other hand, we wish to cite instances where the unexpected has happened, we must collect as many of them as possible and show by enumeration that the unexpected happens quite as often as the expected. We must use not only examples derived in this way but also those based on contraries. For instance, you can show that a certain state has acted selfishly towards its allies and that their friendship has thus been dissolved, and then say, ‘We on the other hand, if we behave fairly and impartially towards our allies, shall keep their alliance for a long time’; or again, you can show that certain others have gone to war without due preparation and have consequently been defeated, and then say, ‘If we were to go to war properly prepared, we should have better hopes of success.’ You will be able to derive a number of examples from past and from present events; for actions are generally partly like and partly unlike one another. For this reason therefore we shall have no lack of examples and no difficulty in contradicting those brought forward by the other side. We now know the different kinds of examples and how we are to employ them and whence we are to derive them in abundance.

Infallible Signs exist where the direct contrary of that with which the speech is concerned has occurred, and where the speech is self-contradictory. For most listeners conclude from the contraries which occur in connexion with a speech or action that there is nothing sound in what is being said or done. You will often discover infallible signs by considering whether your adversary’s speech is self-contradictory or whether his action itself contradicts his words. Such is the nature of infallible signs and the method by which you will obtain the greatest number of them.

Enthymemes arise where contraries occur not only of the speech and action in question but of anything else as well. You will often discover them by pursuing the method prescribed for the oratory of inquiry and by considering whether the speech is self-contradictory in any respect, or whether what has been done is contrary to justice or law or expediency, or to what is honourable, practicable, easy, or probable, or to the character of the speaker or the nature of the circumstances. Such are the enthymemes which must be chosen for use against our adversaries. The contraries of these must be employed on our own behalf, and we must prove that our actions and words are the contrary of those which are unjust, unlawful, inexpedient, and of the habits of wicked men — in a word, of those things which are considered evil. We must speak in support of each of these pleas as briefly as possible and express ourselves in the fewest possible words. This then is the way in which we shall obtain a large number of enthymemes and the best method of employing them.

A Maxim is, briefly, the expression of an individual opinion on general matters. There are two kinds of maxims, those which agree with current opinion and those which are paradoxical. When you are using the former, there is no need to bring forward any reasons for your statement, for what you say is well known and does not excite incredulity. But when you are uttering a paradox, you must state your reasons briefly, so as to avoid prolixity and not arouse incredulity. The maxims which you quote must be applicable to the circumstances, in order that your words may not seem inept and far-fetched. We shall form a large number of maxims either from the peculiar nature of the circumstances or by means of hyperbole or by drawing parallels. The following are examples of maxims derived from the peculiar circumstances of a case: ‘ do not regard it as possible for a man to become a clever general if he is without experience in affairs’; or again, ‘It is characteristic of sensible men to profit by the examples of their predecessors and so try to avoid the errors of evil counsel.’ Such then are the maxims which we shall form from the peculiar circumstances of a case. Maxims such as the following are formed by hyperbole: ‘Thieves are in my opinion worse than plunderers; for the former carry off property secretly, the latter openly.’ By this method we shall form a number of maxims by hyperbole. The following are maxims based on parallels: ‘Those who appropriate money seem to me to act very like those who betray cities; for both are trusted and wrong those who have trusted them’; or again, ‘My opponents seem to me to act very like tyrants; for tyrants claim not to be punished for the wrongs which they have themselves inflicted, while they demand the fullest punishment for the wrongs of which they accuse others; and my adversaries, if they have themselves something which belongs to me, do not restore it, while, if I have received something which belongs to them, they think that they ought to have it restored to them and the interest on it as well.’ By following this method then we shall form a number of maxims.

One thing is a Sign of another thing, but one thing taken at random is not a sign of something else taken at random, nor is everything a sign of everything else; but the sign of a thing is that which usually occurs before, or simultaneously with, or after it. That which has happened is a sign not only of what has happened but also of what has not happened; and similarly what has not happened is a sign not only of what does not exist but also of what does exist. One sign causes belief, another knowledge; the latter is the best kind of sign, while that which produces the most plausible opinion is second best. To put the matter briefly, we shall obtain an abundance of signs from anything which has been done or is said or seen, taking each separately, and also from the greatness or smallness of the resultant disadvantages or advantages. We shall also derive them from testimonies and evidence and from our own supporters or those of our enemies, or from our enemies themselves; also from the challenges issued by the parties and from times and seasons and from many other things. From these sources then we shall have an abundance of signs.

A Refutation is that which cannot be otherwise than as we say it is. It is based on what is by nature necessary, or necessary as urged by us, and on what is impossible by nature or impossible as urged by our adversaries. An example of something which is naturally necessary is the statement that ‘living creatures require food’, and the like. What is necessary as urged by us is such a statement as that ‘those who are scourged confess what their tormentors tell them to confess’. Again, an instance of what is naturally impossible is the statement that ‘a small child stole a sum of money, which he could not possibly carry, and went off with it. It will be an impossibility as urged by an adversary, if, for example, he declares that on a certain date we made a contract at Athens, whereas we can prove to our hearers that at that time we were absent in some other city. It is from these and similar materials that we shall form our refutations. We have now briefly described all the proofs which are derived from actual words and from acts and from persons. Let us now consider how they differ from one another.

A probability differs from an example in this, that the hearers have themselves some notion of the probability, while examples (are supplied from our own experience. Examples differ from infallible signs because they) can be derived from contraries and from similars, while infallible signs can only be constructed from contrarieties of word and deed. Again, an enthymeme always has this distinction from an infallible sign, that an infallible sign is a contrariety which is concerned with a word or an action, while an enthymeme selects also contrarieties connected with other kinds of things; in other words, it is impossible for us to obtain an infallible sign unless there is some contrariety in respect of actions or words, whereas speakers can provide themselves with enthymemes from a variety of sources. Maxims differ from enthymemes in that enthymemes can be constructed only from contrarieties, whereas maxims can be enunciated both in connexion with contrarieties and also by themselves. Signs differ from maxims and all the other proofs already mentioned, because, while all the others engender an opinion in the minds of those who hear them, certain of the signs cause those who judge to have a clear knowledge; also because it is impossible for us ourselves to provide most of the other proofs, while it is easy to obtain a large number of signs. Further, a refutation differs from a sign, because some signs cause those who hear them merely to entertain an opinion, whereas every refutation teaches the truth to the judges. Thus from what has been said we know the nature of the proofs which concern words and actions, and the sources from which we are to derive them, and how they differ from one another.

Let us next deal with each of the supplementary proofs.

The opinion of a speaker is the declaration of his own belief about things. He ought to show himself to be experienced in the matters about which he is speaking, and point out that it is to his advantage to tell the truth concerning them.

One who is contradicting ought first and foremost to show that his adversary has no experience of the matters on which he is nevertheless giving his opinion; if however that is impossible, he ought to show that even persons of experience often make mistakes; and if this is inadmissible, he must say that it is contrary to the advantage of his opponents to tell the truth about these matters. Such is the use which we shall make of opinions expressed by speakers, both when we are ourselves expressing them and when we are contradicting others.

Testimony is a confession made voluntarily by one who knows. That which is testified must be either likely or unlikely or of doubtful credit: similarly the witness must be trustworthy or untrustworthy or of doubtful good faith. When therefore the evidence is likely and the witness truthful, the testimony needs no further support, unless you wish briefly to introduce a maxim or enthymeme for adornment's sake. But when the witness is under suspicion, you must prove that such a person would not give false evidence to show gratitude or from motives of revenge or gain. You must also make it clear that it is not to his advantage to bear false witness; for the benefits which he gains, you will urge, are small, while detection is a serious matter, and, if he is found out, the laws punish him not only by fining him but also by damaging his reputation and destroying his credit. By these methods then we shall cause witnesses to be believed.

When we are contradicting evidence, we must cast prejudice on the character of the witness, if he is a bad man, or inquire into the evidence, if it is improbable, or else contradict both the witness and the evidence by bringing together all that is most discreditable to our adversaries. We must also consider whether the witness is a friend to him for whom he is giving evidence, or whether he can in any way be associated with his deed, or whether he is an enemy of the man against whom he is bearing witness, or whether he is poor. For such men are under suspicion of bearing false witness either to show favour or from motives of revenge or for gain. We shall also say that the legislator laid down the law about false testimony to apply to persons of this kind and that it is absurd that, whereas the legislator did not trust witnesses, those should believe them who are sitting in judgement after having sworn to judge according to the laws. By these methods then we shall cause witnesses to be discredited.

It is possible also to disguise evidence by a proceeding such as the following: 'Bear witness', you say, 'in my favour, Callicles'—' By the gods, I will not,' he replies, 'for the accused committed these crimes, though I tried to prevent him. In this way, though he has given false evidence in his refusal, he will not be liable to punishment as a false witness. This then is the way in which we shall treat evidence, when it is to our advantage to disguise it.

If our opponents try to do anything of this kind, we shall expose their wickedness and order them to give their evidence in writing. With these instructions then before us we know how to deal with witnesses and evidence.

— Evidence given under torture is a confession on the part of one who knows but is unwilling to state what he knows. When therefore it is to our interest to strengthen such evidence, we must say that individuals take their proofs from evidence under torture in their most serious affairs, and cities in their most important business, and that evidence under torture is more trustworthy than ordinary testimony. For it is often to the interest of witnesses to lie; but those who are under torture gain by telling the truth, for doing so will bring them the speediest relief from their sufferings.

When you wish to discredit evidence given under torture, you must say in the first place that slaves who are being tortured become hostile to those who have delivered them up to be tortured and for this reason tell many lies against their masters. Secondly, you must say that they often make confessions to their torturers which are not the truth, in order to end their torments as quickly as possible. You must also point out that even free men have often before now lied against themselves under torture to escape the suffering of the moment; it is therefore much more likely that slaves should wish to avoid punishment by lying against their masters, rather than, when they are enduring great bodily and mental pain, deliberately refuse to utter a falsehood in order to save other people from suffering. By these and similar arguments we shall cause evidence given under torture to be believed or disbelieved.

An Oath is an affirmation without proof accompanied by an invocation of the gods. When we wish to amplify the power of an oath we must say that no one would desire to commit perjury, because he would fear punishment from heaven and disgrace in the eyes of men; we must also point out that, while it is possible to escape the notice of men, it is impossible to elude the gods. When our opponents take refuge in an oath and we wish to belittle it, we must point out that those who do evil deeds are the very men who do not scruple to commit perjury; for a man who thinks that the gods take no notice of him when he does wrong, also thinks that he will not be punished even if he forswears himself. By pursuing a method such as the above in the matter of oaths we shall have no lack of material about them.

— We have now briefly carried out our purpose of dealing with all the various kinds of proof and have shown not only the force of each of them, but also how they differ from one another and how they ought to be employed. We will now proceed to explain the other expedients which belong to all three kinds of oratory and are useful in speeches of every kind.

Anticipation is the method by which we shall counteract the ill-feeling which is felt against us by anticipating the adverse criticisms of our audience and the arguments of those who are going to speak against us. We shall anticipate the criticisms of our audience by such a statement as, ‘Perhaps some of you are astonished that, young as I am, I attempt thus to speak in public on important matters’; or again, ‘Let no one oppose me through resentment, because I am going to offer you advice on subjects about which certain other people hesitate to speak openly before you.’ In matters then which are likely to annoy your hearers you must by anticipations of this kind bring forward reasons, which will show that you are justified in offering advice, pointing out the dearth of public speakers or the greatness of the dangers or the public expediency, or giving some other such reason whereby you will remove the ill-feeling which threatens you. If your audience still cries out just as much against you, you must address them briefly in the form of a maxim or enthymeme, saying, for example, that it is absolutely absurd that they should have come together to take the best counsel about the political situation and then think that they can take good counsel without deigning to hear what the speakers have to say; or again, you may say that it is only fair that they should either themselves get up and offer some advice, or else listen to those who have advice to offer, and then vote in favour of any course that recommends itself to them. Such must be the method of employing anticipation in public speaking, and this is how outcries must be faced.

In forensic speeches we shall use similar methods of anticipation to the above. If an outcry is raised against us at an early stage of the proceedings, we shall meet it in this manner: ‘Is it not absurd that, while the legislator ordained that each party should be allowed to speak twice, you who are sitting in judgement upon us should have sworn to pass sentence according to the law, and then refuse even to listen to a single speech? And that, while he took such measures to secure that you should give your vote in accordance with your oath after hearing all that was to be said, you should be so indifferent to his injunctions that, without even listening to the beginnings of the speeches, you already think that you know all the facts perfectly?’ Or you can put the matter differently and say, ‘How absurd it is that the lawgiver should have ordained that, if the votes were equal, the defendant should win the case, whereas you hold so strongly to the contrary opinion that you do not even listen to the defence offered by those who have been slandered; and that, whereas he granted this advantage in the voting to defendants because they run greater risks, you, while you show no hostility towards the accusers who run no risks, alarm by these outcries those who in terror and danger are defending themselves from the charges brought against them.’ Such must be your method of meeting those who raise an outcry against you at the beginning of your speech. If they interrupt you when your speech is well advanced, then, if those who do so are few in number, you must rebuke them and tell them that it is only just that they should listen to you at the moment, in order that they may not prevent the rest from forming a correct judgement, and that, when they have heard you, then they can do what they please. If the majority raises an outcry against you, you should blame yourself and not your judges; for, if you find fault with them, you only make them angry, whereas, if you blame yourself and say that you are in the wrong, you will gain their pardon. You must also beg your judges to give a favourable ear to your speech and not at this early stage to show what view they take about the facts on which they are to give their secret vote. In general, we shall meet interruptions in a summary manner with maxims and enthymemes, pointing out that our interrupters are setting themselves in opposition to justice or the laws or the interests of the city or what is honourable; for such methods as these are best calculated to make one’s hearers stop interrupting. We now know from what has been said above how to employ anticipations in dealing with an audience and how to meet interruptions.

I will next show you how to anticipate what is likely to be said by one’s opponents. You can say: ‘Perhaps he will bewail his poverty, which is not my fault but has been caused by his own way of life’; or again, ‘I hear that he intends to say such and such a thing.’ If we are speaking first, we must thus anticipate what our opponents are likely to say and so destroy and invalidate their pleas. For even though the arguments which you forestall and discredit are quite forcible, they will appear much less weighty to those who have already heard them.

If we are speaking after our opponents and they have anticipated what we intend to say, it is necessary to counteract their anticipations and destroy them by speaking as follows, ‘My opponent has not only told you many lies to my discredit, but further, well knowing that I shall refute his charges, he has anticipated my plea and discredited it beforehand, in order that you may not give it the attention which you otherwise would, or else that I may not employ it at all, because it has already been torn to pieces by him.

I hold, however, that you ought to hear my arguments from my own lips, not from his, even if he has tried to tear my arguments to pieces by saying things which I declare to be a strong sign that he has no sound plea to offer.’ Euripides has made a clever use of this device in the following lines of his Philoctetes:

E’en though he thinks to have destroyed my pleas
Escaping charge of wrong, yet will I speak;
From mine own lips mine arguments shall come,
Let his words show what kind of man he is.

We know then from the above how to make use of anticipations in relation both to our judges and to our opponents.

— Postulates in oratory are the demands which speakers make from their hearers. Some of them are just, others unjust. It is just to ask that they should listen to what you are saying and lend a favourable ear. It is also a just demand that they should give one the assistance which the laws allow and never vote against the laws and that they should make allowances for misfortunes. Any demand which is contrary to the law is unjust, otherwise it is just. Such are the postulates. We have distinguished their different kinds in order that, knowing the just from the unjust, we may use them on the light occasion, and that it may not escape our notice if our adversaries make any unjust demand from the judges. From what has been said we shall have an adequate knowledge on this subject.

— Iteration is a means of briefly reminding one’s hearers.

It must be employed both at the conclusion of a division of a speech and at the final conclusion. In recapitulating we use iteration in the form either of a division or of the recommendation of a certain course or of asking questions or of an enumeration. I will show you of what nature each of these is. The following is an example of its use in the form of a division: ‘I cannot say what these men would have done, if they had not manifestly deserted us long ago and were not convicted of having served against our city and of having never fulfilled any of their promises.’ Such is the use of iteration in an argument. It can be used as follows in the form of an enumeration: I have shown that they were the first to break the treaty of alliance and the first to attack us when we were at war with the Lacedaemonians, and that they displayed the utmost eagerness to enslave our city.’ Such is the use of iteration in an enumeration. The following is an example of its use in reminding your audience under the form of recommending a certain course of action: ‘You must remember that ever since we entered into friendship with these men we have never suffered any reverse at the hands of our enemies. For they have often helped us and prevented the Lacedaemonians from devastating our territory, and they have continued to this day to contribute large sums of money.’ Thus shall we remind our hearers by recommending a certain course of action. The following is an instance of iteration in the form of a question: ‘I should like to hear from them, why it is that they do not pay us the tribute which they owe. For they cannot have the face to say that they are in need of money, when they can be shown to be receiving such large sums of money annually from their land, nor yet can they say that they spend much on the administration of their city; for they clearly spend less than all the other islanders.’ Such will be our use of iteration in the form of a question.

Irony is to say something and pretend that you are not saying it, or else to call things by the names of their contraries. It may take the following form in a brief reminder of what has already been said: ‘I think that I need hardly say that these men, who pretend that they have done the state many services, are shown to have done it much harm, whereas we, whom they declare to be ungrateful, are shown to have often helped them and never to have done any one any injury.’ Such is the way briefly to remind your hearers of something under the pretence of omitting it. Secondly, the following is an instance of calling things by contrary names: ‘These noble citizens have clearly done great harm to their allies, while we worthless mortals have obviously been the cause of many benefits to them.’ In this way we shall briefly remind our hearers and employ iteration at the end of the divisions of our speeches and at their final conclusion.

We will next explain how one can speak pleasingly and prolong a speech to the length which one desires.

We can speak pleasingly in the following manner, by introducing, for example, whole enthymemes or half of one in such a way that our audience can guess the other half; we must also include maxims. To some of these we must give a place in every division of the speech, but the actual words must be varied and a similar phrase must never be applied repeatedly in the same connexion. In this way your speech will have a pleasing effect.

When you wish to lengthen your speech, you must divide up your subject and in each division explain the nature of its contents and their particular and general application and state the grounds of your pleas. If we wish to make our discourse still longer, we must employ a number of words in dealing with each topic. In each division of the speech you must iterate and make your iteration brief; while at the conclusion of your speech you ought to recapitulate as a whole all that you have dealt with in detail, and treat the subject generally. In this way your speech will be of a sufficient length.

If you wish to speak briefly, you should include your whole subject in a single word and that word the shortest which is applicable to the subject. You must also employ few conjunctive particles and connect as many things as possible together. Such must be your choice of words; you must make your language serve a double purpose, and you must do away with the brief iterations in the separate divisions of the speech and only employ iteration in your final conclusion. This is the way in which we shall make our speeches brief.

If you wish to speak at moderate length, you must pick out the most important divisions of your speech and make them your subject. You must also use words of medium length and not the longest or the shortest, and not employ a large number on a single topic but observe moderation. You must neither on the one hand do away entirely with conclusions in the intermediate parts of your speech, nor on the other hand introduce them in every division; but you must make special iterations at the end of those parts to which you wish your audience to pay particular attention. On these principles, then, we shall regulate the length of our speeches, whenever we wish to do so.

If you wish to compose a speech which will be pleasing, you must take care as far as possible to adapt the character of your speech to that of your audience. You will achieve this, if you observe their character, whether noble or petty or ordinary.

On these points, then, you will have adequate knowledge from what has been said above. We will now treat of the putting together of words; for this too is essential.

In the first place, then, words are of three kinds, simple, composite, and metaphorical.

Similarly there are three ways in which words can be put together: firstly, you can end one syllable with a vowel and begin the next with a vowel; secondly, you can begin a word with a consonant and end the previous word with a consonant; thirdly, you can put consonants and vowels in juxtaposition.

There are four orders in which words can be arranged.

First, you can either put similar words side by side or else disperse them; or again, you can use the same words or else change them into others; thirdly, you can describe a thing in one or many words; fourthly, you can name in their proper order the subjects of which you have undertaken to treat, or else transpose them.

I will next show what is the best method of statement which you can employ.

— First of all, you must make your statement by means of a twofold division, and, secondly, you must discourse lucidly. The following are the various forms of this two-fold division. First, one can say that one can oneself do one thing and another; secondly, that this man cannot do a certain thing, but that man can; thirdly, that this man can do a certain thing and something else; fourthly, that neither can one do a certain thing oneself nor can any one else do it; fifthly, that one cannot do a certain thing oneself, but that some one else can; sixthly, that one can do one thing oneself, but the other person cannot do something else. You can see each of these cases in the following examples. An illustration of the case where one can oneself do one thing and another is: ‘I have not only achieved this for you, but also, when Timotheus intended to make an expedition against you, I prevented him.’ The following is an example of the case where one man cannot do a thing but another man can: ‘This man then is unable to go himself on an embassy for you, but here is a man who is a friend of the Spartan state and would be better able than any one else to carry out the negotiations which you wish carried out.’ The case where a man can do a certain thing and something else as well can be thus illustrated: ‘Not only has he proved himself a strong man in war, but he can also give as good advice as any other citizen.’ The following is a case where one cannot oneself do a thing and nobody else can: ‘Having but a small force I cannot myself conquer our adversaries, nor could any other citizen do so.’ The following is an instance in which another man can do a thing, but one — cannot do it oneself: ‘Yes, he is physically strong, but I am weak.’ The following is an illustration of the case where one can oneself do one thing, but some other person cannot do something else: ‘I can steer, but this man cannot even pull an oar.’ This then is how you will employ forms of twofold statement, following the same course in every subject. We must next consider how you are to treat your subject lucidly.

First, then, call anything of which you speak by its proper name, avoiding ambiguity. Take care not to put vowels next to one another. Be careful to put the so-called ‘articles’ in the proper place. Consider how you put words together, so that there may be neither confusion nor transposition; for if your discourse has these qualities it is obscure. When you use an introductory particle, employ the corresponding particle afterwards. The following is an example of the use of a corresponding particle: ‘I *indeed (men)* came to the place to which I said I would come, *but* (de) you, though you promised to come, did not do so’ ; or again, when the same particle follows: ‘You were *both (kai)* the cause of that *and (kai)* the cause of this.’ So much for particles; from these examples you must infer the use of others.

Words must be put together so as to avoid confusion or transposition. The following is an example of such confusion: ‘It is a terrible thing that this man should strike this man.’ Here it is not clear which man struck the other; but you will make it clear if you say:

‘It is a terrible thing that this man should be struck by this man.’ This is an example where there is a confusion in the arrangement of words. The following is an instance of care taken to put the article in the right place: ‘This man is wronging this man.’ In this case the insertion of the articles makes the diction clear, while their omission will make it obscure; the reverse is sometimes true. So much then for the articles.

Never put vowels in juxtaposition, unless it is impossible to make your meaning clear otherwise, or unless a breathing-space or some other division occurs.

The following is a case where ambiguity must be avoided: the same words are sometimes used in several senses, for example we speak of a threshold *(odos)* of a door and of a way (udos) along which people walk; in such cases we must always add that which gives the word its distinctive meaning.

If we follow these rules we shall be clear in our use of words, and we shall make statements by means of the twofold method of division already described.

— Let us new deal with 'antitheses', 'parisoses and 'similarities'; for we shall need these also.

An 'antithesis' occurs when both the wording and the sense, or one or other of them, are opposed in a contrast. The following would be an antithesis both of wording and sense: 'It is not fair that my opponent should become rich by possessing what belongs to me, while I sacrifice my property and become a mere beggar.' In the following sentence we have a merely verbal antithesis: 'Let the rich and prosperous give to the poor and needy;' and an antithesis of sense only in the following: 'I tended him when he was sick, but he has been the cause of very great misfortunes to me.' Here there is no verbal antithesis, but the two actions are contrasted. The double antithesis (that is, both of sense and of wording) would be the best to use: but the other two kinds are also true antitheses.

'Parisosis' (parallelism of structure) occurs when a sentence has two equal 'members'. The equality can be that of many small to few great things, and an equality of magnitude can be united with an equality of number.

'Parisosis' takes a form such as the following, 'either through lack of resources or through the magnitude of the war'. These things are neither like nor opposed to one another, but merely equal to one another.

'Paromoeosis' (parallelism of sound) goes further than 'parisosis'; for it makes the 'members' not only equal but also similar, being composed of similar words, in the following, for example: 'If you must imitate the wording, you should simulate the feeling.' Above all you should make the last words similar; for this gives the closest similarity. Words are similar which have similar syllables, in which most of the letters are the same; for example, 'in numbers deficient, in might sufficient'. For whatever lies outside the scope of art, the inspiration of the moment will be your guide.

Enough then of these topics. For we are acquainted with the nature of the just, the lawful, the honourable, the expedient and the other qualities, and the sources from which we can derive them in abundance. Similarly we know the nature of amplifications and minimizations, and how we can provide them for our discourses. In like manner we are acquainted with the methods of anticipation, the postulates which we demand from our hearers, iterations, methods of pleasing, the means of regulating the length of our speeches, and all the ways of putting words together for purposes of statement. And so knowing from what has been said the qualities which are common to every kind of oratory and their uses, if we accustom and practise ourselves according to the prescribed preparatory exercises, we shall attain to great facility both in writing and speaking.

It is by taking the component parts separately that you can most accurately distinguish the methods of speaking.

I will next treat of the manner in which the words must be organically arranged in the various kinds of oratory, and which parts must be put first and how they must be treated.

I deal therefore first with proems; for the proem is common to all seven kinds of oratory and it can be fittingly applied to all subjects.

— The Proem can be described in a general way as a preparation of one's audience and a declaration of the subject in a summary manner for the benefit of the ignorant, in order that they may know with what the speech is concerned and may follow the argument. It also exhorts them to pay attention and tries, as far as is possible in a speech, to influence their minds in our favour. Such is the preparation at which the proem must aim.

I will first show how the proem must be employed in public speaking and persuasive oratory. The following are examples of the way in which to lay your subject before your hearers and make it clear to them: 'I stand before you to advise that we should go to war on behalf of the Syracusans,' or, 'I stand before you to demonstrate the inadvisability of our helping the Syracusans.' This, then, is the way to summarize your subject.

We shall know how to exhort our hearers to pay attention, if we ourselves call to mind to what arguments and facts we pay most attention when deliberating. Do we not pay the closest attention when the subjects of deliberation are important or alarming or else nearly concern us; or when those who address us claim that they will show us that the measures which they are urging us to adopt are just and honourable and expedient and easy and honest; or when they beg us to listen with attention? Just as, therefore, we ourselves attend to others, so if we take those of the points above mentioned which are most applicable to the subjects of which we are treating and lay them before our hearers, we shall make them attend to what we are saying. These, then, are the ways in which we exhort our hearers to pay attention.

We shall secure their goodwill if we first consider what is in fact their attitude towards us, whether they are well or ill disposed or whether they are indifferent. If they are actually well disposed towards us, it is superfluous to talk about goodwill; if, however, we wish to talk about it at all, we must do so briefly, using ‘irony’ in the following way: ‘That I am well disposed towards the state, and that you have often acted expediently by following my advice, and that I observe a just attitude towards public affairs, preferring a personal sacrifice to reaping any advantage at the expense of the state, — these are, I think, statements which it is unnecessary for me to make to you who know well the truth of them. My efforts shall be directed rather to showing you that you will be well advised, if on this occasion too you follow my counsels.’ This then is the method by which in a public speech you must remind those who are well disposed towards you of their goodwill.

When your hearers are neither prejudiced against you nor well disposed, you must say that it is right and expedient that they should give a favourable ear to those citizens who have not yet given a proof of their quality as speakers. You must then flatter your audience by praising them, saying that it is their custom to judge the speeches which they hear with fairness and discrimination. Further, you must employ minimization and say, ‘I stand before you not through any confidence in my own cleverness, but because I think that the advice which I am about to offer is beneficial to the state.’ By such methods you must secure the goodwill of those who are neither well nor ill disposed towards you.

If you are the object of misrepresentation, the misrepresentation must be connected with yourself or the subject on which you are speaking or your actual words. Misrepresentations of this kind can date either from the present or from the past. If then one is under suspicion of wrongdoing in the past, one must employ anticipation in addressing one’s audience and say: ‘I am well aware that a prejudice exists against me, but I will prove that it is groundless.’

You must then make a brief defence in your proem, if you have anything to say on your own behalf, or raise objections to the judgements which have been passed upon you. For whether you have been publicly or privately misrepresented, judgement must either have been passed upon you or be impending in the immediate future, or else those who have laid the charge against you are unwilling to submit the matter to judgement; and you must say that the judgement passed upon you was unfair and that you have been the victim of party plots. If this is impossible, you must say that your previous misfortunes were sufficient, and that it is only fair, now that the matter has been judged and done with, that no further prejudice should be raised against you on the same grounds. If you are expecting to have judgement passed upon you, you must say that you are ready to submit the misrepresentations now to the judgement of your present audience; adding that, if you are proved to have wronged the state, you consider yourself worthy of death.

If your accusers do not press their charges against you, you must use this very fact as an indication that their misrepresentations of you are groundless; for it will seem hardly likely that those who are bringing true accusations against you can be unwilling to submit the matter to judgement. You must always denounce misrepresentation and declare it to be outrageous and universal and the cause of endless evil. You must also point out that many have before now been ruined through unjust misrepresentation. You must show moreover that it is foolish that men, when they are consulting about matters of public interest, should allow themselves to be disturbed by the misrepresentations of individuals instead of listening to the advice of all and then considering what true policy requires. You must also promise to prove that the advice which you have undertaken to give is just and expedient. Such then is the method which those who have been misrepresented in the past must adopt in public speaking in order to refute misrepresentation.

In reference to the present time the first thing which creates a prejudice against speakers is their age. If a man who is quite young or quite old is speaking in public, his hearers feel annoyance; for they think that the former ought not yet to have begun to speak, while the latter ought before now to have ceased speaking. Secondly, a prejudice is created against a man, if he is a frequent speaker, for it looks as if he were a busybody; or again, against a man who has never spoken before, for it looks as if he had some private motive in thus speaking in public contrary to his usual custom. Such, then, are the ways in which prejudices in reference to the present are likely to be created against a public speaker.

Excuses must be made by a young man by urging the dearth of advisers and the special suitability of the speaker; for instance, if the question concerns the superintendence of the torch-races or the gymnasium or arms or horses or war — in such matters a young man has no small interest. He must also urge that, if he has not yet the wisdom of years, he has at any rate that wisdom which comes from natural endowments and diligent application. He should also point out that, whereas unsuccessful advice reflects only upon its unhappy proposer, the benefit conferred when the policy succeeds is shared by the whole community. Such then are the excuses which must be urged by a young man. Excuses must be made when an old man is speaking by pointing out the dearth of advisers and his extensive knowledge of the subject. Furthermore he may urge the magnitude and unusual character of the crisis and the like. When a man is in the habit of speaking too frequently, he may point to his wide experience and urge that it would be wrong that one who was formerly in the habit of speaking should not express his opinion on this occasion. One who is not in the habit of speaking must urge the magnitude of the crisis and that it is essential that every one who has a stake in the community should express his opinion on the present situation. Such then are the means by which we shall attempt to break down the prejudices raised against the persons of public speakers.

Prejudice is created against the subject matter of a speech when the speaker advises the rupture of peaceful relations with those from whom we have received no injury or who are stronger than we, or when he advises a discreditable peace or urges a reduction of the expenditure on sacrifices or makes some other such proposal. On such subjects, first, one should employ anticipation in addressing one’s hearers; secondly, one ought to lay the blame upon necessity and fortune and the times and expediency, and say that it is not those who are giving advice but the circumstances which are to be blamed for such proposals.

Such are the methods by which we shall free political speakers from prejudices which are due to their subject matter.

The actual speech in a public harangue creates a prejudice when it is too lengthy or old-fashioned, or lacks probability. If it be long, this must be attributed to the abundance of material; if it be old-fashioned, it must be pointed out that such a style is opportune at the moment; if it is improbable, you must promise that you will prove it to be true in the course of your oration. These then are the considerations which will have a place in our public speeches.

Next, what arrangement shall we employ? If there be no prejudice against either ourselves personally or our speech or our subject, we shall lay down our proposition at the very beginning, and we shall afterwards exhort our hearers to pay attention and give our words a favourable hearing.

If any prejudice has been created against us in previous speeches, we shall anticipate the judgement of our audience and, after briefly defending and excusing ourselves from the prejudices thus caused, shall then state our proposition and exhort our hearers to give us their attention. This, then, is the way in which public speeches should be constituted.

Next we must either narrate events which have happened in the past or recall them to the minds of our hearers, or arrange under divisions and explain events which are occurring at the moment, or else predict what is likely to occur in the future. When therefore we are reporting the details of an embassy, we must make a lucid statement of everything that was said, in order that our speech may carry weight (for it will be a report and nothing else, and no other style will find its way in); next, if we have been unsuccessful, our object will be to make our hearers think that the failure of the negotiations was due to some other cause and not to our negligence; whereas, if we have met with success, they must be made to suppose that the result has been due not to chance but to our zealous efforts. This they are ready to believe, if, not having been present at the negotiations, they observe the zeal displayed in our speech in omitting nothing but accurately reporting every detail. So when we are describing the results of an embassy, we must for the reasons which I have stated report everything just as it happened.

When we are ourselves describing in a public speech some past event or explaining the events of the moment or predicting what will happen in the future, we must do each of these things briefly, clearly, and convincingly. We must be clear, in order that our hearers may grasp the events which we are describing, and concise, in order that they may remember what we have said; and we must speak convincingly, in order that they may not reject our statements before we have supported them with proofs and justifications.

The clearness of our explanations will be due to the words which we use or to our facts; to the latter, if we do not present them in an inverted order, but mention first those which have occurred or are occurring or are going to occur first, and arrange the subsequent events in their proper order, and do not desert the subject about which we have undertaken to speak, and deal with some other subject. Thus, then, we shall speak clearly as far as our facts are concerned. Our actual words will be clear, if we describe actions as far as possible in words which are appropriate to them, and if we employ usual words and do not put them in an inverted order but always arrange together those which naturally follow one another. If we observe these rules, our narrative will be clear.

We shall be concise if we omit all facts and words the mention of which is not essential, keeping only those the omission of which will render our speech obscure. Our narrative will then be concise.

We shall speak convincingly if, in support of facts which are improbable, we bring forward reasons which will make the events which we describe seem likely to have taken place. We must omit anything the occurrence of which seems too improbable. If you are obliged to mention such things, you must make it clear that you have definite knowledge of them, and you must pass lightly over them, weaving them into your speech by the figure of ‘pretended omission’, and promise to show their truth as your speech progresses, making the excuse that you wish first to demonstrate the truth or justice (or the like) of your previous statements. This is the way in which we shall remedy incredulity in our hearers.

In a word, by employing all the above-mentioned devices we shall make our reports, expositions, and predictions clear, brief, and convincing.

There are three different methods in which we shall arrange them. If the actions about which we are speaking are few in number and well known to our audience, we shall include the narration of them in our proem, in order that this part of our speech may not in itself be too short. If the actions which we are recounting are too numerous and not familiar to our audience, we shall present them in every case in a connected form and show that they are just, expedient, and honourable, in order that we may not only make our tale plain and unembellished by simply relating facts but may also win the attention of our hearers. If the facts which we are recounting are unimportant and unfamiliar, we ought to insert the report or exposition or prediction of them bodily in the proem. This we shall do by recounting them from beginning to end and including nothing extraneous but merely relating the bare facts. We shall thus know how to arrange narratives of facts in our proem.

Next comes confirmation, whereby we confirm that the facts which we have already mentioned are of the nature of which we have undertaken to prove them to be, by adducing proofs and by considerations of justice and expediency. When therefore you include them in your speech, the proofs which are best suited to public orations are those based on the customary course of events and examples and supplementary enthymemes and the opinion of the orator; but any other proofs which present themselves may also be employed. They must be arranged in the following way: first, the opinion of the orator must be mentioned, or, if that is not done, the customary course of events must be indicated, showing that what we are asserting, or something similar, is what usually occurs. Following on this we must cite examples, and any point of similarity must be introduced to support what we are saying. The examples which we take must be closely akin to our subject and the nearest in time or place to our hearers. In the absence of such examples we must employ the most striking and best known that we can find. Next we must cite maxims.

Also, in the parts where we introduce probabilities and examples we must end with enthymemes and maxims. This is the manner then in which we must introduce proofs where facts are concerned.

If our statements of facts are believed as soon as they are made, we must omit all proofs and confirm the facts which we have already stated by appeals to justice and lawfulness and expediency and considerations of what is honourable, pleasant, easy, possible, or necessary. Where an appeal to justice is possible, it must be given the first place, and we must explain our statements in relation to justice or a resemblance to justice or its contrary or what has been judged to be just. You must also cite examples similar to the cases of justice which you are instancing. You will also be able to produce numerous examples of what is regarded as just under special circumstances and in the actual city in which your speech is made, and in other states. When, following this method, we have Said what we have to say adding at the end maxims and brief enthymemes of different kinds, if this division of our speech is long and we wish it to be remembered by our hearers, we shall give a concise iteration; if, however, it is short and still fresh in their memory, we shall bring the division itself to a close and begin another one. The following is an example of what I mean: ‘In what I have already said I think that the justice of our helping the Syracusans has been sufficiently demonstrated; I will now attempt to show the expediency of our doing so.’ You will next treat the question of expediency by a similar method to that which we employed above in the case of justice, and at the end of that division add an iteration or definite conclusion, and then bring forward some other considerations with which you have to deal. This is the way in which you must connect one division with another and keep up the thread of your speech. When you have employed every possible means to enforce your advice, you must in addition to all this show in a summary manner with the help of enthymemes and maxims or figures that it is unjust and inexpedient and dishonourable and unpleasant not to adopt your suggestion, and in a summary way you must contrast with this the justice, expediency, honourableness, and pleasure of doing what you are recommending. When you have made a sufficient use of maxims, you must end your exhortations with a definite conclusion. This then is the way in which we shall confirm the proposals which we make. The next division of our treatise will be concerned with the anticipation of contrary arguments.

Anticipation is the method by which you anticipate and demolish the objections which can be brought against your speech. You must minimize the arguments of your opponents and amplify your own, as you have already learnt to do from the instructions about amplification. You must set a single argument against another when yours is the stronger, and several against several and one against many and many against one, using every possible kind of contrast, and magnify your own arguments and weaken and minimize those of your adversaries. This is the manner in which we shall employ anticipations. Having done this we shall conclude with an iteration using the forms of argument or enumeration or recommendation of a certain course or questioning or irony which we have already mentioned.

If we are urging that help should be given to some one, whether to private individuals or to states, it will be fitting briefly to mention any friendship cause for gratitude or pity which already exists between them and the assembly which you are addressing. For they are most willing to help those who stand in such relations to them. All men feel an affection for those from whom, or from whose friends, they think they themselves, or those for whom they care, have received or are receiving or are going to receive some deserved kindness. They feel gratitude towards those from whom, of from whose friends, they think they themselves or those for whom they care have received, are receiving, or will receive some undeserved benefit. If any feelings of this kind are present in their minds, we must briefly dwell upon them and so move our hearers to pity. We shall have no difficulty in arousing as much pity as we wish, if we realize that all men pity those whom they suppose to be closely connected with themselves or think to be unworthy to suffer misfortune. You must prove that this is the condition of those for whom you wish to excite pity, and show that they either have been or are in an evil plight, or will be so unless your hearers assist them. If this is not possible, you must show that those on whose behalf you are speaking have been deprived of advantages which all or most other people enjoy, or else have been or are without some advantage, or never will obtain it unless those whom you are addressing take pity on them now. These are the ways in which we shall incline our audience to pity.

In dissuasion we shall employ the contrary method, using the same kind of proem and narrating the facts and giving the proofs and showing our hearers that what they are attempting to do is unlawful, unjust, inexpedient, disgraceful, unpleasant, impracticable, burdensome, and unnecessary.

The arrangement of our speech will be similar to that used in persuasion. Such, then, is the way in which those who are employing dissuasion on their own account must arrange their speech.

Those who are opposing the advice given by others must in the first place state in their proem the views which they intend to oppose and then add one by one the other parts of the proem. After the proem the speaker must first bring forward separately each of the points in the previous speech and show that the recommendations of his adversary are not just or lawful or expedient or the like. This you will do by proving that what he says is unjust or inexpedient or bears a resemblance to injustice or inexpediency, or is the opposite of the just or expedient or what has been judged to be so. You must treat the other points in a similar manner. This, then, is the most effective method of dissuasion. If this course is impossible, you must try to dissuade your audience by taking some point which your adversary has omitted: for example, if he has shown that a certain course is just, you must attempt to prove that it is discreditable or inexpedient or toilsome or impracticable or whatever else you can; or if he has expediency on his side, you must show that his suggestion is unjust and whatever else you can as well. You must amplify your own contentions and minimize those of your adversary, employing the method already prescribed for persuasive oratory.

You must also introduce maxims and enthymemes, as in persuasion, and refute anticipations, and in conclusion employ iteration.

In addition to this we must show, when we are seeking to persuade our hearers, that friendship exists between them and those whom we are urging them to help, and that they owe a debt of gratitude to those who are asking for their assistance; but when we are trying to prevent help from being given, we must show that they are worthy objects of indignation or envy or hostility. We shall implant a sentiment of hostility in those whom we are seeking to dissuade by showing that either they themselves, or those for whom they care, have received undeserved ill-treatment at the hands of the other party or their friends. We shall arouse indignation, if we show that they, or those for whom they themselves care, have been wrongfully treated with contempt or injustice by the other party or their friends. We shall create a feeling of envy, to put the matter briefly, against those whom we show to have enjoyed unmerited prosperity, or to be now doing so, or to be likely to do so in the future; or never to have been without some advantage, or not to be so now, or to be never likely to be so; or never to have suffered some misfortune in the past, or not to be doing so now, or to be never likely to do so in future. This, then, is the method by which we shall implant envy or hostility or indignation; while we shall create feelings of friendship, gratitude, and pity by the methods which we indicated in treating of persuasion. We shall give these sentiments their place and arrangement according to the various methods already mentioned. We now know the nature of persuasive oratory and its component parts and how it must be employed.

Let us next set before ourselves the consideration of eulogistic and vituperative oratory. Here too we must first of all state our propositions in the proem, and refute misrepresentation by the same method as in persuasive oratory. We must also exhort our hearers to give us their attention by the methods already described under public speeches and in particular by saying things which will cause astonishment and attract remark, and showing that the subjects of our speech and those who usually incur praise or blame have acted in the same manner. Speeches of this kind are usually made not in order to fight a case but for display.

First, we shall arrange the proem on the same principle as in persuasive and dissuasive speeches. After the proem, we must distinguish those good qualities of our subject which are outside the sphere of virtue and those which fall within it, as follows: those which fall outside the sphere of virtue we shall divide into good birth, physical strength, personal beauty, and wealth, while we shall divide virtue into wisdom, justice, courage, and noteworthy habits of life. The qualities which pertain to virtue are proper subjects of eulogy; those which fall outside virtue must be disguised, for we ought to congratulate rather than praise those who are strong and handsome and well-born and wealthy. Having made these distinctions we shall give the genealogy of the subject of our speech the first place after the proem: for this is the first thing which brings credit or discredit upon men and also upon animals. We shall therefore be justified in giving the genealogy of a man or any other animal; and when we are praising any one’s feeling or action or speech or possession, we shall be justified in beginning our eulogy by mentioning the distinguished qualities which he possesses.

The following is the way to treat a man’s genealogy: if his ancestors were good men and true, you ought to mention them all from the earliest times down to the subject of your eulogy and give a brief account of some glorious achievement performed by each of his forefathers. If it is only his earliest ancestors that were good men while the rest failed to do anything remarkable, you must mention the former in the manner already described and omit the undistinguished members of the family, excusing yourself by saying that, his ancestors being so numerous, you do not wish to weary your audience by speaking of them, and that every one knows that men who are born of a good stock usually resemble their forefathers. If his early ancestors were undistinguished but those who come nearer his own time were men of repute, you must dwell upon his descent from the latter and say that it would be tedious to speak at length about his early forefathers, and you must show that the immediate ancestors of those whom you arc eulogizing were good men; adding that it is quite clear that *their* ancestors must have been good men and true, for it is hardly likely that such excellent and worthy persons can have been born of bad parents. If there is nothing distinguished in the ancestry of the subject of your eulogy, you must insist on his personal nobility and suggest that all those who have a natural predisposition for virtue are ‘well born’, and you must censure those other orators who dwell upon ancestral glories, pointing out that many men of distinguished ancestry have proved themselves unworthy of their forefathers. You must also insist that your task on the present occasion is to praise the man himself, not his ancestors. A similar use must be made of genealogies to discredit one whose ancestors were men of evil repute. Such then is the place which genealogy must occupy in eulogy and vituperation.

If the subject of your eulogy owes some distinction to good luck, (you must attribute his success rather to his own efforts than to fortune.

You must next describe his habits and way of life beginning from his earliest years), observing this one principle that you say what befits his various ages; and do not speak at too great length. For example, in children it is generally considered that orderliness and self-control are due not to themselves but to those who have charge of them, and so they must be dealt with briefly. When you have thus described his early years, after concluding with an enthymeme or maxim at the end of this division of your speech, you will, when you come to the early manhood of the subject of your eulogy, state your subject, viz his achievements or character or habits, and you must amplify them on the principle which we laid down at the beginning in treating of eulogistic oratory, explaining that it was at this age that such and such a glorious deed was done by him whom you are eulogizing, or through his agency or owing to some habit of his, or that he inspired it or supplied the motive. You must also compare the notable achievements of other young men and show that his actions far surpass theirs, relating the least important of their deeds and the most important of the achievements of the subject of your eulogy. You must set deeds of others which are notable but less important side by side with those which you are relating, and so exaggerate the importance of the latter. You must also always amplify his achievements by conjectures of the following kind: ‘Yet one who at this early age became so great a philosopher, if he had been older would have advanced yet further’; or again, ‘A man who so stoutly endures the toils of the gymnasium, will gladly welcome the love of toil which philosophy demands.’ By conjectures of this kind we shall amplify his good qualities.

When we have dealt with the events of his early manhood and put maxims and enthymemes at the end of this section, after either briefly iterating what we have said, or bringing it to a final conclusion, we shall next treat of the achievements of the subject of our eulogy after reaching full manhood, and after setting forth his justice first and amplifying this topic by the method already described we shall proceed to deal with his wisdom, if he possesses this quality; having similarly dealt with this we shall set forth his courage, if he possesses any, and after going through the process of amplifying this also, when we have reached the end of this section and described all his various qualities, we shall repeat and summarize what we have said and bring the whole speech to a conclusion with a maxim or an enthymeme. It will be suitable in eulogies to treat the various points at considerable length and to employ a dignified diction.

We shall use the same method to compose our accusations when we are dealing with wicked men. But we must not scoff at the man with whom we are finding fault, but we must describe his life; for statements have more effect than scoffs, bringing conviction to our hearers and causing annoyance to those with whom we are finding fault; for scoffing is directed against outward appearance and circumstance, while statements about a man are the picture, as it were, of his habits and character. Be on your guard against calling disgraceful actions by disgraceful names, so as not to violate conventional feeling, but express such things by indirect hints and explain the facts in words which are really applicable to different actions. In finding fault you must employ irony and laugh at the points on which your adversary prides himself; in private, and in the presence of a few listeners, you should seek to discredit him, but before the multitude you should abuse him by levelling only ordinary accusations against him. You must employ the same methods of amplification and minimization in finding fault as in eulogy. From what has been said we shall know how to practise these kinds of oratory.

It remains for us to deal with the oratory of accusation and inquiry. Let us next discuss how we shall compose and arrange these in the forensic type of oratory. We shall therefore first set forth in the proem, as in the other kinds, the action which is to be the subject of our accusation or defence. We shall exhort our hearers to attention by the same means in the defensive style as we employed in the persuasive style.

Again, as regards the goodwill of the audience, when they are well-disposed towards the subject of our speech and he is not the object of prejudice because they are irritated against him or his action or his speech, we must secure their goodwill by the method described in dealing with the other kinds of oratory. When they are neither well nor ill-disposed towards him in connexion with either the past or the present, or when his personality or his action or his words are the object of prejudice, we must bring forward reasons for goodwill towards him, sometimes blending them together and sometimes taking them separately. Such, then, is the method by which we must conciliate goodwill.

Those who are the objects neither of goodwill nor ill-will we must briefly eulogize, while we must dispraise their adversaries. We must praise them in connexion with the qualities which most nearly concern our hearers, calling them, for example, patriotic, true to their friends, grateful, compassionate; while we shall dispraise an adversary by applying to him epithets which will arouse the indignation of our audience, such as unpatriotic, untrue to his friends, thankless, pitiless, and the like. We must also conciliate the jury by praising their justice and the intelligence which they bring to their task. We must also mention any point in which our client is at a disadvantage compared with his opponents, whether in word or deed or anything else which concerns his suit; and we must further introduce the considerations of justice, legality, expediency, and the like. It is by these means that we must win goodwill in the minds of the jury for one who is the object of neither kindly nor unkindly feeling.

When our client is an object of prejudice, if the prejudice dates from the past and is concerned with what he has said, we know from what has already been remarked how to remove it. If it dates from the present time, it must necessarily be concerned with the man’s personality if he is represented as unfit to bring the case in question, or his character as contradicting the charges he brings or consistent with the accusation brought against him. It would be a case of unsuitability if too young or too old a man pleaded on behalf of another; of contradiction, if a strong man accused a weak man of assault, or if a violent man brought a charge of violence against a self-controlled man, or if a very poor man went to law against a very rich man, accusing him of defrauding him of money. These are cases where there is a contradiction between the accusations and those who bring them. There will be consistency with the charge where a strong man is prosecuted for assault by a weak man or one who has the reputation of being a thief is put on his trial for theft. In a word, there will seem to be consistency with the charge in the case of persons who cause an opinion to be formed about them which corresponds with their character. Such, then, will be the misrepresentations which arise at the moment against a man's personality. Prejudice will be raised against a man's action if he goes to law with his own friends or guests or relatives, or on petty or discreditable pleas; for these things bring disrepute upon the parties in a suit.

I will now show how we are to get rid of the above mentioned prejudices. I maintain that there are two principles which hold good in all cases. First, when you think your opponents are likely to impress the jury, anticipate them and make the impression yourself. Secondly, when it is a question of acts, you should, if possible, turn the blame upon your adversaries, or, failing that, upon some one else, urging as an excuse that you have been dragged into the suit against your will and under compulsion from your opponents. Against each particular prejudice you must urge such excuses as these: a young man, for example, should allege a lack of older friends to fight the case on his behalf, or the enormity or number of his opponent's misdeeds, or the short limit of time allowed, or some other such excuse. If you are speaking on some one else's behalf, you must say that you are pleading his cause from motives of friendship for him or hatred of his opponent, or because you were present at the events in question, or for the public good, or because your client stands in need of friends and is a victim of injustice. If his character agrees with the charge brought against him or is in contradiction to the accusation which he brings, you must make use of anticipation and say that it is not just or lawful or expedient to judge from an opinion or suspicion before listening to the facts. Such, then, is the way in which we shall get rid of prejudices against a man's personality; those which concern his action we shall repudiate by transferring the blame to his adversary, or by accusing the latter of libel or injustice or greed or contentiousness, or by alleging as an excuse the indignation of our client and showing that he could not possibly obtain justice in any other way. This is how we shall get rid of personal prejudices in the law courts; those which concern a man's public life we shall refute by the various methods prescribed for the kinds of oratory already dealt with.

We shall arrange the proems of forensic speeches in the same manner as those of public orations, and on the same principle we shall include the narration of facts in the proem and either show them to be trustworthy and just in detail or else insert them bodily by themselves.

Next will follow confirmation, by means of proofs if the facts are disputed by our opponents, or, if they are admitted, by considerations of justice, expediency, and the like. Of proofs we must put testimony first and admissions made under torture, if there are any. Next we must confirm our statements, if they are credible, by maxims and enthymemes, but, if they are not entirely credible, by considerations of probability, and afterwards by examples, signs, infallible and fallible, and refutations, and lastly by enthymemes and maxims. If the facts are admitted, we must leave proofs alone and make use of justification as already described. Such, then, is the method of confirmation which we shall employ.

After such confirmation we shall next state the arguments which we can urge against our opponents, and anticipate what they are likely to say. If they deny the facts, we must amplify the proofs which we have already stated and criticize and minimize those which they are likely to bring forward. If they admit the actions but intend to show that they are legal and just according to written laws, we must attempt to show that the laws which we bring forward, and laws similar to them, are just and right and to the common advantage of the state, and that this is the opinion generally held about them, while the contrary is true of the laws which our opponents are bringing forward. If it is impossible to say this, you must remind the jury that they have to give their verdict not on a point of law but on a point of fact, and that they have sworn to vote according to the established law, and you must tell them that they must not pass laws now but upon the proper days fixed for that purpose. If it so happens that what has been done contravenes laws which appear to be bad, we must say that here we have not law but the negation of law; for law is laid down for the public benefit, but this law is harmful to the state. We must say that they will not be acting illegally if they vote in contravention of this law, but will be legislating to prevent the use of bad and illegal ordinances. You can also point out that no law forbids the conferring of a public benefit and that it is a benefaction to the state to annul bad laws. Regarding laws, then, of which the meaning is clear, we shall easily be able, by such methods of anticipation, to speak against any of them with which we are concerned. When there is ambiguity, if the jury understand a law in a sense which favours you, you must give it that interpretation; but if they give it the construction which your opponent puts upon it, you must tell them that this is not what the lawgiver meant but that he interpreted it as you do, and that it is to the advantage of the jury to put the construction which you do upon it. If you cannot twist the law round, point out that it cannot mean anything but what you say it means. If you follow this method you will have no difficulty as to the way in which to deal with laws.

Generally speaking, if they admit the facts and intend to base their defence on pleas of justice and legality, you must employ these methods to anticipate what they are likely to say. But if they admit the facts but claim to be pardoned, you must deprive your opponents of such arguments in the following manner. First, you must say that their conduct is all the more reprehensible and that it is only when they have been found out that they admit their mistake in so acting, adding, ‘If, therefore, you pardon the defendant, you will absolve every one else from punishment.’ You can say, ‘If you acquit those who admit their mistakes, how will you be able to condemn those who do not do so?’

You must urge that ‘even if he has made a mistake, there is no reason why I should suffer through his mistake’. Furthermore, you must say that the lawgiver shows no pity for those who make mistakes, and so the jury in giving their verdict according to the laws should not do so either. Such theft, as we have stated at the beginning, are the means by which we shall refute their appeals for pardon, and, speaking generally, we shall anticipate by the method already mentioned anything which our opponents intend to say with a view either to proof or justification or pardon.

Next we must recount the charge, the whole story of the case being summarized, and, if possible, in a few words instil into the minds of the jury a feeling of hostility or indignation or envy towards our opponents and of goodwill or gratitude or pity for ourselves. How this is done we have already stated in dealing with public speaking and persuasion and dissuasion, and we shall again allude to it finally in treating of the defensive style of oratory. This, then, is the way in which we shall compose and arrange our speech when we are the first to speak and are the accusers in a forensic case.

When we are defending a case, we shall frame our proem in the same way as when accusing, and we shall make no mention of the accusations, of which our opponent has informed our hearers, but after the proem we shall set forth and refute the opinions which he has put into their minds and throw discredit on his witnesses and the testimony given under torture and the oaths, in the manner already described to you. If the facts are credible, we must put our defence against them into the form of a pretended omission, and, if the witnesses who have been examined under torture are trustworthy, we must have recourse to argument or statement of fact or any other strong point which we can bring against them. If your adversary accuses you by bringing a charge which accords with your advantage or habitual practice, you must defend yourself, if you can, by showing that the crime with which you are charged does not accord with your advantage; or, failing that, you must urge that it has not been the custom either of yourself or of persons like you to do such things, or to do them in such a manner. This is how you will refute the argument of probability. When he employs an example, you must first show, if you can, that it does not resemble the crime with which you are charged, or, failing that, yourself bring forward another example to the contrary which has occurred against probability. If he employs a sign, you must refute it by giving reasons why it implies the exact opposite, while you must show that his maxims and enthymemes are either paradoxical or ambiguous. His fallible signs you must prove to be signs of a number of other things and not only of the charge which he is bringing against you. This, then, is the way in which we shall cause our adversary's contentions to be discredited by either interpreting them in a contrary sense or reducing them to ambiguity.

If, on the other hand, we admit that we have done the acts with which we are charged, we shall base our plea on justice and legality and try to prove that our acts are juster and more legal. If this is impossible, we must resort to pleas of error or misfortune, and try to win pardon by showing that the harm which has resulted is small, pointing out that error is common to all men, while wrongdoing is peculiar to the wicked. You must urge that it is right and just and expedient to pardon errors; for no man knows whether it may not fall to his lot to commit such an error. You must also point out that your opponent claimed pardon when he committed an error.

Next will come the anticipations which your adversaries have made in their speeches. Anticipations of other kinds we shall easily be able to refute by an appeal to the facts; but if they misrepresent us by saying that we read our speeches or practise them beforehand, or that we are pleading for the sake of some reward, we must meet such accusations with irony and say with regard to the writing of speeches that the law does not forbid a man to read out a written speech any more than it forbids his opponent to speak without notes; for, while it prohibits the doing of certain actions, it allows a man to make a speech in any way he likes. You must also say: ‘My opponent considers that the wrongs which he has committed are so serious that he does not think I am doing justice to the accusation which I am bringing against him, unless I write out and take a long time to think over my speech.’ Such then is the way in which we must meet the misrepresentation of having written out our speech. If our opponents declare that we learn and rehearse our speeches, we shall admit it and say: ‘We who, according to you, learn what we are going to say, are not litigious, whereas you, who declare that you do not know how to speak, have been convicted of bringing vexatious suits in the past and are doing so now against us’; and we shall draw the conclusion that it would apparently therefore be better for the citizens, if our opponent also learned to be an orator, for then he would not be such a scoundrel and pettifogger. We shall meet the accusation that we are paid to plead in court by a similar argument — admitting it and speaking ironically and pointing out that our accuser and every one else does so. You must distinguish between the different kinds of pay and say that some men plead in court for money, others as a favour, others for vengeance, others for honours. You must show that you are yourself pleading as a favour, and say that your opponent pleads for no small payment; for he is going to law that he may make money by unrighteous means, not in order to avoid having to pay it. We must follow the same method if any one accuses us of teaching others how to plead and of composing speeches to be delivered in court. You must point out that every one else, as far as lies within his power, helps his friends by instruction and advice. Thus you will have an answer in such cases in accordance with the rules of rhetoric.

You must not be slow in any questions and answers which occur in cases of this kind; but you must make a clear distinction in your answers between admissions and denials. The following are examples of admissions: ‘Did you kill my son?’—’ Yes, I did kill him, when he, unprovoked, raised a sword against me; or again, ‘Did you thrash my son?’—’ Yes, but he first assaulted me’; or again, ‘Did you break my head?’—’Yes, when you were forcing your way into my house at night.’ Such admissions are made in reliance on the legality of your action. Denials, on the other hand, aim at diverting the course of law, for example: ‘Did you kill my son?’—’No, it was not I, but the law that killed him.’ This is the kind of answer which you must always make when one law enjoins, while another forbids, a certain course of action. Out of all these various methods you will gather the means to meet your adversaries.

Next will follow an iteration by way of brief reminder of what you have said. It is useful on all occasions and should therefore be employed in every part and in every kind of speech. It is very suitable in accusation and defence and also in persuasion and dissuasion. In my opinion we ought here not only to remind our audience, as in eulogistic and vituperative speeches, of what has been said, but we ought also to dispose our judges to be favourable towards ourselves and unfavourable to our opponents; we shall make this the last part of our speech. It is possible to refresh your hearer's memory in a summary manner either by enumerating the points which you have mentioned, or by making a division, or by asking additional questions which will bring the most credit on yourself and the most discredit on your opponents, or, if you like, you can use the form of a simple question. The nature of these methods we know from what has already been said.

We shall win a favourable hearing for ourselves and an unfavourable one for our opponents if, as in persuasion and dissuasion, we show briefly how we ourselves (or our friends) have benefited or are benefiting or intend to benefit those who are now seeking to wrong us (or those for whom they care), or else our judges (or those for whom they care); and point out to them that now is the opportunity to show us gratitude for our good services; and also, when it is possible, induce them to pity us. This we shall do by showing that a close tie binds us to our hearers and that we are suffering undeserved misfortune, having been unfairly treated in the past, or being so now, or being likely to be so in the future, unless they help us now. If such arguments are inapplicable, we must describe the advantages of which we have been, or are being, or are likely to be deprived, if our prayers are rejected by our judges; or show that we never have been, or are not now, or are never likely to be in enjoyment of some benefit, unless they help us. For it is by these means that we shall win pity and gain the goodwill of our audience.

We shall cause a prejudice and feelings of envy against our opponents by employing the opposite method and pointing out that our hearers, or those for whom they care, have received undeserved ill-treatment, or are receiving it, or are likely to receive it at the hands of our opponents or their friends; for by such arguments they will be induced to entertain feelings of hatred and indignation against them. Where this is impossible, we shall collect together all the arguments by which we can create in our hearers a feeling of envy against our opponents; for envy is very near to hatred. They will be objects of envy, to put the matter briefly, if we can show that they have met with undeserved prosperity and that no close ties bind them to our hearers, and point out that they have unjustly received, or are receiving, or are about to receive many benefits; or that they have never in the past been without some advantage, or are not without it now, or likely to be so in the future; or that they have never met with some misfortune, or are not now meeting with it, or likely to do so, unless the judges punish them now. By these means then we shall in the peroration of our speech win favour for ourselves and disfavour for our opponents, and by following all the instructions given above we shall be able to arrange speeches for accusation and defence according to the rules of rhetoric.

The inquisitive kind of oratory generally occurs, not separately, but in connexion with the other styles; it is especially useful in dealing with contradictions. However, in order that we may know the arrangement of this kind of speech also, when we have to inquire into the words or manner of life or deeds of men or the administration of a city, I will describe it also in a summary manner. When conducting an inquiry of this kind we must begin in the same way as when refuting a prejudice; and so, after first adducing plausible pretexts so as to make our action appear reasonable, we shall then proceed to conduct our inquiry. The following are suitable pretexts: in political assembles, that we are adopting such a course not from party-spirit but in order that it may not escape the attention of our hearers, or again, that our adversaries molested us first. In private suits our excuse will be a feeling of hatred or the bad character of the subjects of our inquiry or our friendship towards them or the object of making them realize what they are doing and not do it again. In public trials our pretexts will be legality, justice, and the general interest. After first treating of these and similar subjects we shall next in order set forth and inquire into each utterance or deed or intention of our opponents, showing that these are opposed to justice and legality and private and public expediency, and examining them all to see whether in any respect they contradict one another or the practice of good citizens or probability. But, not to be tedious by going into details, the more we can prove to our hearers that the conduct of the subjects of our inquiry is opposed to honourable pursuits, acts, words, or habits, the greater will be the discredit which attaches to them. We ought to conduct our inquiry not in a bitter but in a gentle spirit; for words if thus spoken will appear more persuasive to our hearers, and those who utter them will be less likely to bring prejudice upon themselves. When you have carefully inquired into everything and amplified the results, you must conclude with a brief iteration and remind your hearers of what you have said. By arranging them thus we shall be able to employ all the various kinds of oratory according to the rules of rhetoric.

Both in speaking and writing we must try as far as possible to make our words accord with the principles laid down above, and accustom ourselves to practice each principle readily, and we shall have many clever expedients to enable us to make speeches according to the rules of art in private and public suits and in conversation with others; but an orator ought to be careful not only about his words but also about his personal behaviour, regulating it according to the principles already laid down; for the manner of a man's life contributes to the persuasive influence which he exercises and to the establishment of a good reputation.

In the first place you must divide up your subject-matter according to the general system of division in which you have been instructed, and decide what you must treat of first, secondly, thirdly, and fourthly. Next you must prepare your hearers to receive you, as I have described in dealing with the attitude to be taken towards your audience in proems. You will dispose them well towards you, if you are true to your promises and if you keep the same friends all your life and show yourself unchanging in your other habits and always following the same course. They will listen attentively to you, if you treat of great and noble deeds and such as promote the public good.

Their goodwill having been won, when you come to practical suggestions they will accept as expedient to themselves those which procure the avoidance of evils and the provision of benefits, and reject those which involve the contrary results.

In order that your exposition may be quick and lucid and may command credit, you ought to make your practical suggestions as follows. You will perform your task quickly, if you do not try to do everything at once, but take the first point first and then the next. You will speak lucidly, if you do not suddenly leave your subject and go on to other points before you have finished it. You will command credit, if you do not act contrary to your usual character, and further if you do not pretend that the same persons are your enemies and your friends.

As regards proof, where we have sure knowledge, we shall prefer to follow its guidance in prescribing plans of action, but, where we lack knowledge, we shall take the ordinary course of events as our guide; for it is safest in such cases to act with a view to what usually happens.

When we have adversaries to contend with, if it is a question of words, we shall obtain confirmation in support of our case from the actual words uttered; in suits about contracts we shall do so by dealing with them in accordance with unwritten and written laws with the support of the best possible testimony and within definite limits of time.

As regards our peroration we shall remind our hearers of what has been said by a summary repetition of the facts; while we shall remind them of our past deeds by reference to our present deeds, when we are undertaking actions identical with, or similar to, former actions.

Our hearers will be well disposed to us, if we follow a course of action which will result in their thinking themselves well treated in the past, present, or future. We shall add weight to our actions, if we deal with transactions which are likely to produce great credit for the state.

Such then is the manner in which an orator must regulate his personal behaviour; while he must practice the art of oratory according to the principles already laid down.

[Sacrifices must be conducted on the principles already indicated; they must be reverent towards the gods, moderate in costliness, splendid from a spectacular point of view, and likely to bring advantage to the citizens. They will be reverent towards the gods, if we sacrifice according to ancestral custom; they will be moderate in costliness, if the accompaniments of the ceremony are not used up as well as the money actually expended; they will be splendid from a spectacular point of view, if they are magnificently appointed; they will be beneficial to the citizens, if horsemen and infantry in full panoply accompany the procession. Our dealings with the gods will be devoutly performed if carried out thus.

We shall establish friendly relations with those who are of like character to our own and have the same interests, and with whom we are obliged to co-operate in matters of great importance; for such friendship is most likely to be permanent. We must make those men our allies, who are most righteous and are possessed, of considerable power and live near at hand; those who are the contrary must be our enemies. We must undertake war against those who are trying to injure the state or her friends or her allies. The protection of the state must be secured either by personal service or by the help of allies or by mercenaries; the first method is preferable to the second, and the second to the third.

As regards the supply of resources, we must provide them first and foremost from our own revenues and possessions, secondly by taxes on rateable property, and thirdly by personal service on the part of the poor, and the provision of arms by the craftsmen, and of money by the wealthy.

As for political constitution, the best form of democracy is that under which the laws bestow the posts of dignity on the best citizens, and the people are not deprived of the rights of electing and voting; the worst form is that under which the laws deliver up the wealthy to the insolence of the mob. Oligarchies are of two kinds, being based either on political partisanship or on a property qualification.

Alliances must be formed when the citizens are unable by themselves to protect their own territory and strongholds or hold the enemy in check. An alliance must be dispensed with when it is unnecessary or when the proposed allies are too far distant and unable to arrive at the opportune moment.

A good citizen is one who provides the state with useful friends and few and feeble foes, and who procures for her the greatest revenue without confiscating the property of a single private citizen, and who, while conducting himself righteously, exposes those who attempt any injury to the state.

Men always bestow presents either in the hope of benefiting themselves or in grateful return for previous services. Service is always given either for gain or honour or pleasure or fear. All dealings are carried out either by choice or unwillingly: for all acts are done either under compulsion or through persuasion or fraud or on some pretext.

In war one side gains the upper hand either through luck, or superiority of numbers or strength or resources, or advantage of position, or excellence of allies, or skill on the part of a general. It is generally held that men should abandon their allies either because it is expedient to do so or because they have brought the war to a close.

To act justly is to follow the common customs of the state, to obey the laws, and to abide by one’s personal promises.

Physical advantages are good condition, beauty, strength, and health; mental advantages are wisdom, prudence, courage, self-control, and justice. Wealth and friends are advantages alike to mind and body. The opposites of these qualities and the lack of wealth and friends are disadvantageous. To a state a multitude of good citizens is an advantage.]

Poetics (1447a)

Translated by S. H. Butcher

Aristotle’s Περὶ ποιητικῆς is the earliest surviving work of dramatic theory and the first extant philosophical treatise to focus on literary theory. The text offers an account of what Aristotle calls “poetry”, a term which in Greek includes drama, lyric poetry, epic poetry and the dithyramb. Aristotle examines its “first principles” and identifies the genres and basic elements. The analysis of tragedy constitutes the core of the discussion. At some point, the original text was divided in two, with each “book” written on a separate roll of papyrus. Only the first part, which focuses on tragedy, survives. The lost second part addressed comedy.

Poetics is considered to have been less influential in its time compared with its more famous contemporary, *Rhetoric*. This is most likely because in Aristotle’s time rhetoric and poetics were classified as joint concepts in the pantheon of ideal things. Due to rhetoric’s direct importance for law and politics, it evolved to become distinct from poetics, in spite of both subjects being classified under aesthetics in the Aristotelian system of metaphysics.

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I

I propose to treat of Poetry in itself and of its various kinds, noting the essential quality of each, to inquire into the structure of the plot as requisite to a good poem; into the number and nature of the parts of which a poem is composed; and similarly into whatever else falls within the same inquiry. Following, then, the order of nature, let us begin with the principles which come first.

Epic poetry and Tragedy, Comedy also and Dithyrambic poetry, and the music of the flute and of the lyre in most of their forms, are all in their general conception modes of imitation. They differ, however, from one another in three respects — the medium, the objects, the manner or mode of imitation, being in each case distinct.

For as there are persons who, by conscious art or mere habit, imitate and represent various objects through the medium of color and form, or again by the voice; so in the arts above mentioned, taken as a whole, the imitation is produced by rhythm, language, or 'harmony,' either singly or combined.

Thus in the music of the flute and of the lyre, 'harmony' and rhythm alone are employed; also in other arts, such as that of the shepherd's pipe, which are essentially similar to these. In dancing, rhythm alone is used without 'harmony'; for even dancing imitates character, emotion, and action, by rhythmical movement.

There is another art which imitates by means of language alone, and that either in prose or verse — which verse, again, may either combine different meters or consist of but one kind — but this has hitherto been without a name. For there is no common term we could apply to the mimes of Sophron and Xenarchus and the Socratic dialogues on the one hand; and, on the other, to poetic imitations in iambic, elegiac, or any similar meter. People do, indeed, add the word 'maker' or 'poet' to the name of the meter, and speak of elegiac poets, or epic (that is, hexameter) poets, as if it were not the imitation that makes the poet, but the verse that entitles them all to the name. Even when a treatise on medicine or natural science is brought out in verse, the name of poet is by custom given to the author; and yet Homer and

Empedocles have nothing in common but the meter, so that it would be right to call the one poet, the other physicist rather than poet. On the same principle, even if a writer in his poetic imitation were to combine all meters, as Chaeremon did in his Centaur, which is a medley composed of meters of all kinds, we should bring him too under the general term poet.

So much then for these distinctions.

There are, again, some arts which employ all the means above mentioned — namely, rhythm, tune, and meter. Such are Dithyrambic and Nomic poetry, and also Tragedy and Comedy; but between them originally the difference is, that in the first two cases these means are all employed in combination, in the latter, now one means is employed, now another.

Such, then, are the differences of the arts with respect to the medium of imitation

II

Since the objects of imitation are men in action, and these men must be either of a higher or a lower type (for moral character mainly answers to these divisions, goodness and badness being the distinguishing marks of moral differences), it follows that we must represent men either as better than in real life, or as worse, or as they are. It is the same in painting. Polygnotus depicted men as nobler than they are, Pauson as less noble, Dionysius drew them true to life.

Now it is evident that each of the modes of imitation above mentioned will exhibit these differences, and become a distinct kind in imitating objects that are thus distinct. Such diversities may be found even in dancing, flute-playing, and lyre-playing. So again in language, whether prose or verse unaccompanied by music. Homer, for example, makes men better than they are; Cleophon as they are; Hegemon the Thasian, the inventor of parodies, and Nicochares, the author of the Deiliad, worse than they are. The same thing holds good of Dithyrambs and Nomes; here too one may portray different types, as Timotheus and Philoxenus differed in representing their Cyclopes. The same distinction marks off Tragedy from Comedy; for Comedy aims at representing men as worse, Tragedy as better than in actual life.

III

There is still a third difference — the manner in which each of these objects may be imitated. For the medium being the same, and the objects the same, the poet may imitate by narration — in which case he can either take another personality as Homer does, or speak in his own person, unchanged — or he may present all his characters as living and moving before us.

These, then, as we said at the beginning, are the three differences which distinguish artistic imitation — the medium, the objects, and the manner. So that from one point of view, Sophocles is an imitator of the same kind as Homer — for both imitate higher types of character; from another point of view, of the same kind as Aristophanes — for both imitate persons acting and doing. Hence, some say, the name of 'drama' is given to such poems, as representing action. For the same reason the Dorians claim the invention both of Tragedy and Comedy. The claim to Comedy is put forward by the Megarians — not only by those of Greece proper, who allege that it originated under their democracy, but also by the Megarians of Sicily, for the poet Epicharmus, who is much earlier than Chionides and Magnes, belonged to that country. Tragedy too is claimed by certain Dorians of the Peloponnese. In each case they appeal to the evidence of language. The outlying villages, they say, are by them called komai, by the Athenians demoi: and they assume that comedians were so named not from komazein, 'to revel,' but because they wandered from village to village (kata komas), being excluded contemptuously from the city. They add also that the Dorian word for 'doing' is dran, and the Athenian, prattein.

This may suffice as to the number and nature of the various modes of imitation.

IV

Poetry in general seems to have sprung from two causes, each of them lying deep in our nature. First, the instinct of imitation is implanted in man from childhood, one difference between him and other animals being that he is the most imitative of living creatures, and through imitation learns his earliest lessons; and no less universal is the pleasure felt in things imitated. We have evidence of this in the facts of experience. Objects which in themselves we view with pain, we delight to contemplate when reproduced with minute fidelity: such as the forms of the most ignoble animals and of dead bodies. The cause of this again is, that to learn gives the liveliest pleasure, not only to philosophers but to men in general; whose capacity, however, of learning is more limited. Thus the reason why men enjoy seeing a likeness is, that in contemplating it they find themselves learning or inferring, and saying perhaps, 'Ah, that is he.' For if you happen not to have seen the original, the pleasure will be due not to the imitation as such, but to the execution, the coloring, or some such other cause.

Imitation, then, is one instinct of our nature. Next, there is the instinct for 'harmony' and rhythm, meters being manifestly sections of rhythm. Persons, therefore, starting with this natural gift developed by degrees their special aptitudes, till their rude improvisations gave birth to Poetry.

Poetry now diverged in two directions, according to the individual character of the writers. The graver spirits imitated noble actions, and the actions of good men. The more trivial sort imitated the actions of meaner persons, at first composing satires, as the former did hymns to the gods and the praises of famous men. A poem of the satirical kind cannot indeed be put down to any author earlier than Homer; though many such writers probably there were. But from Homer onward, instances can be cited — his own Margites, for example, and other similar compositions. The appropriate meter was also here introduced; hence the measure is still called the iambic or lampooning measure, being that in which people lampooned one another. Thus the older poets were distinguished as writers of heroic or of lampooning verse.

As, in the serious style, Homer is pre-eminent among poets, for he alone combined dramatic form with excellence of imitation so he too first laid down the main lines of comedy, by dramatizing the ludicrous instead of writing personal satire. His Margites bears the same relation to comedy that the Iliad and Odyssey do to tragedy. But when Tragedy and Comedy came to light, the two classes of poets still followed their natural bent: the lampooners became writers of Comedy, and the Epic poets were succeeded by Tragedians, since the drama was a larger and higher form of art.

Whether Tragedy has as yet perfected its proper types or not; and whether it is to be judged in itself, or in relation also to the audience — this raises another question. Be that as it may, Tragedy — as also Comedy — was at first mere improvisation. The one originated with the authors of the Dithyramb, the other with those of the phallic songs, which are still in use in many of our cities. Tragedy advanced by slow degrees; each new element that showed itself was in turn developed. Having passed through many changes, it found its natural form, and there it stopped.

Aeschylus first introduced a second actor; he diminished the importance of the Chorus, and assigned the leading part to the dialogue. Sophocles raised the number of actors to three, and added scene-painting. Moreover, it was not till late that the short plot was discarded for one of greater compass, and the grotesque diction of the earlier satyric form for the stately manner of Tragedy. The iambic measure then replaced the trochaic tetrameter, which was originally employed when the poetry was of the satyric order, and had greater with dancing. Once dialogue had come in, Nature herself discovered the appropriate measure. For the iambic is, of all measures, the most colloquial we see it in the fact that conversational speech runs into iambic lines more frequently than into any other kind of verse; rarely into hexameters, and only when we drop the colloquial intonation. The additions to the number of ‘episodes’ or acts, and the other accessories of which tradition tells, must be taken as already described; for to discuss them in detail would, doubtless, be a large undertaking.

V

Comedy is, as we have said, an imitation of characters of a lower type — not, however, in the full sense of the word bad, the ludicrous being merely a subdivision of the ugly. It consists in some defect or ugliness which is not painful or destructive. To take an obvious example, the comic mask is ugly and distorted, but does not imply pain.

The successive changes through which Tragedy passed, and the authors of these changes, are well known, whereas Comedy has had no history, because it was not at first treated seriously. It was late before the Archon granted a comic chorus to a poet; the performers were till then voluntary. Comedy had already taken definite shape when comic poets, distinctively so called, are heard of. Who furnished it with masks, or prologues, or increased the number of actors — these and other similar details remain unknown. As for the plot, it came originally from Sicily; but of Athenian writers Crates was the first who abandoning the ‘iambic’ or lampooning form, generalized his themes and plots.

Epic poetry agrees with Tragedy in so far as it is an imitation in verse of characters of a higher type. They differ in that Epic poetry admits but one kind of meter and is narrative in form. They differ, again, in their length: for Tragedy endeavors, as far as possible, to confine itself to a single revolution of the sun, or but slightly to exceed this limit, whereas the Epic action has no limits of time. This, then, is a second point of difference; though at first the same freedom was admitted in Tragedy as in Epic poetry.

Of their constituent parts some are common to both, some peculiar to Tragedy: whoever, therefore knows what is good or bad Tragedy, knows also about Epic poetry. All the elements of an Epic poem are found in Tragedy, but the elements of a Tragedy are not all found in the Epic poem.

VI

Of the poetry which imitates in hexameter verse, and of Comedy, we will speak hereafter. Let us now discuss Tragedy, resuming its formal definition, as resulting from what has been already said.

Tragedy, then, is an imitation of an action that is serious, complete, and of a certain magnitude; in language embellished with each kind of artistic ornament, the several kinds being found in separate parts of the play; in the form of action, not of narrative; through pity and fear effecting the proper purgation of these emotions. By ‘language embellished,’ I mean language into which rhythm, ‘harmony’ and song enter. By ‘the several kinds in separate parts,’ I mean, that some parts are rendered through the medium of verse alone, others again with the aid of song.

Now as tragic imitation implies persons acting, it necessarily follows in the first place, that Spectacular equipment will be a part of Tragedy. Next, Song and Diction, for these are the media of imitation. By ‘Diction’ I mean the mere metrical arrangement of the words: as for ‘Song,’ it is a term whose sense every one understands.

Again, Tragedy is the imitation of an action; and an action implies personal agents, who necessarily possess certain distinctive qualities both of character and thought; for it is by these that we qualify actions themselves, and these — thought and character — are the two natural causes from which actions spring, and on actions again all success or failure depends. Hence, the Plot is the imitation of the action — for by plot I here mean the arrangement of the incidents. By Character I mean that in virtue of which we ascribe certain qualities to the agents. Thought is required wherever a statement is proved, or, it may be, a general truth enunciated. Every Tragedy, therefore, must have six parts, which parts determine its quality — namely, Plot, Character, Diction, Thought, Spectacle, Song. Two of the parts constitute the medium of imitation, one the manner, and three the objects of imitation. And these complete the fist. These elements have been employed, we may say, by the poets to a man; in fact, every play contains Spectacular elements as well as Character, Plot, Diction, Song, and Thought.

But most important of all is the structure of the incidents. For Tragedy is an imitation, not of men, but of an action and of life, and life consists in action, and its end is a mode of action, not a quality. Now character determines men's qualities, but it is by their actions that they are happy or the reverse. Dramatic action, therefore, is not with a view to the representation of character: character comes in as subsidiary to the actions. Hence the incidents and the plot are the end of a tragedy; and the end is the chief thing of all. Again, without action there cannot be a tragedy; there may be without character. The tragedies of most of our modern poets fail in the rendering of character; and of poets in general this is often true. It is the same in painting; and here lies the difference between Zeuxis and Polygnotus. Polygnotus delineates character well; the style of Zeuxis is devoid of ethical quality. Again, if you string together a set of speeches expressive of character, and well finished in point of diction and thought, you will not produce the essential tragic effect nearly so well as with a play which, however deficient in these respects, yet has a plot and artistically constructed incidents. Besides which, the most powerful elements of emotional interest in Tragedy — Peripeteia or Reversal of the Situation, and Recognition scenes — are parts of the plot. A further proof is, that novices in the art attain to finish of diction and precision of portraiture before they can construct the plot. It is the same with almost all the early poets.

The plot, then, is the first principle, and, as it were, the soul of a tragedy; Character holds the second place. A similar fact is seen in painting. The most beautiful colors, laid on confusedly, will not give as much pleasure as the chalk outline of a portrait. Thus Tragedy is the imitation of an action, and of the agents mainly with a view to the action.

Third in order is Thought — that is, the faculty of saying what is possible and pertinent in given circumstances. In the case of oratory, this is the function of the political art and of the art of rhetoric: and so indeed the older poets make their characters speak the language of civic life; the poets of our time, the language of the rhetoricians. Character is that which reveals moral purpose, showing what kind of things a man chooses or avoids. Speeches, therefore, which do not make this manifest, or in which the speaker does not choose or avoid anything whatever, are not expressive of character. Thought, on the other hand, is found where something is proved to be or not to be, or a general maxim is enunciated.

Fourth among the elements enumerated comes Diction; by which I mean, as has been already said, the expression of the meaning in words; and its essence is the same both in verse and prose.

Of the remaining elements Song holds the chief place among the embellishments

The Spectacle has, indeed, an emotional attraction of its own, but, of all the parts, it is the least artistic, and connected least with the art of poetry. For the power of Tragedy, we may be sure, is felt even apart from representation and actors. Besides, the production of spectacular effects depends more on the art of the stage machinist than on that of the poet.

VII

These principles being established, let us now discuss the proper structure of the Plot, since this is the first and most important thing in Tragedy.

Now, according to our definition Tragedy is an imitation of an action that is complete, and whole, and of a certain magnitude; for there may be a whole that is wanting in magnitude. A whole is that which has a beginning, a middle, and an end. A beginning is that which does not itself follow anything by causal necessity, but after which something naturally is or comes to be. An end, on the contrary, is that which itself naturally follows some other thing, either by necessity, or as a rule, but has nothing following it. A middle is that which follows something as some other thing follows it. A well constructed plot, therefore, must neither begin nor end at haphazard, but conform to these principles.

Again, a beautiful object, whether it be a living organism or any whole composed of parts, must not only have an orderly arrangement of parts, but must also be of a certain magnitude; for beauty depends on magnitude and order. Hence a very small animal organism cannot be beautiful; for the view of it is confused, the object being seen in an almost imperceptible moment of time. Nor, again, can one of vast size be beautiful; for as the eye cannot take it all in at once, the unity and sense of the whole is lost for the spectator; as for instance if there were one a thousand miles long. As, therefore, in the case of animate bodies and organisms a certain magnitude is necessary, and a magnitude which may be easily embraced in one view; so in the plot, a certain length is necessary, and a length which can be easily embraced by the memory. The limit of length in relation to dramatic competition and sensuous presentment is no part of artistic theory. For had it been the rule for a hundred tragedies to compete together, the performance would have been regulated by the water-clock — as indeed we are told was formerly done. But the limit as fixed by the nature of the drama itself is this: the greater the length, the more beautiful will the piece be by reason of its size, provided that the whole be perspicuous. And to define the matter roughly, we may say that the proper magnitude is comprised within such limits, that the sequence of events, according to the law of probability or necessity, will admit of a change from bad fortune to good, or from good fortune to bad.

VIII

Unity of plot does not, as some persons think, consist in the unity of the hero. For infinitely various are the incidents in one man's life which cannot be reduced to unity; and so, too, there are many actions of one man out of which we cannot make one action. Hence the error, as it appears, of all poets who have composed a Heracleid, a Theseid, or other poems of the kind. They imagine that as Heracles was one man, the story of Heracles must also be a unity. But Homer, as in all else he is of surpassing merit, here too — whether from art or natural genius — seems to have happily discerned the truth. In composing the Odyssey he did not include all the adventures of Odysseus — such as his wound on Parnassus, or his feigned madness at the mustering of the host — incidents between which there was no necessary or probable connection: but he made the Odyssey, and likewise the Iliad, to center round an action that in our sense of the word is one. As therefore, in the other imitative arts, the imitation is one when the object imitated is one, so the plot, being an imitation of an action, must imitate one action and that a whole, the structural union of the parts being such that, if any one of them is displaced or removed, the whole will be disjointed and disturbed. For a thing whose presence or absence makes no visible difference, is not an organic part of the whole.

IX

It is, moreover, evident from what has been said, that it is not the function of the poet to relate what has happened, but what may happen — what is possible according to the law of probability or necessity. The poet and the historian differ not by writing in verse or in prose. The work of Herodotus might be put into verse, and it would still be a species of history, with meter no less than without it. The true difference is that one relates what has happened, the other what may happen. Poetry, therefore, is a more philosophical and a higher thing than history: for poetry tends to express the universal, history the particular. By the universal I mean how a person of a certain type on occasion speak or act, according to the law of probability or necessity; and it is this universality at which poetry aims in the names she attaches to the personages. The particular is — for example — what Alcibiades did or suffered. In Comedy this is already apparent: for here the poet first constructs the plot on the lines of probability, and then inserts characteristic names — unlike the lampooners who write about particular individuals. But tragedians still keep to real names, the reason being that what is possible is credible: what has not happened we do not at once feel sure to be possible; but what has happened is manifestly possible: otherwise it would not have happened. Still there are even some tragedies in which there are only one or two well-known names, the rest being fictitious. In others, none are well known — as in Agathon’s Antheus, where incidents and names alike are fictitious, and yet they give none the less pleasure. We must not, therefore, at all costs keep to the received legends, which are the usual subjects of Tragedy. Indeed, it would be absurd to attempt it; for even subjects that are known are known only to a few, and yet give pleasure to all. It clearly follows that the poet or ‘maker’ should be the maker of plots rather than of verses; since he is a poet because he imitates, and what he imitates are actions. And even if he chances to take a historical subject, he is none the less a poet; for there is no reason why some events that have actually happened should not conform to the law of the probable and possible, and in virtue of that quality in them he is their poet or maker.

Of all plots and actions the episodic are the worst. I call a plot ‘episodic’ in which the episodes or acts succeed one another without probable or necessary sequence. Bad poets compose such pieces by their own fault, good poets, to please the players; for, as they write show pieces for competition, they stretch the plot beyond its capacity, and are often forced to break the natural continuity.

But again, Tragedy is an imitation not only of a complete action, but of events inspiring fear or pity. Such an effect is best produced when the events come on us by surprise; and the effect is heightened when, at the same time, they follows as cause and effect. The tragic wonder will then be greater than if they happened of themselves or by accident; for even coincidences are most striking when they have an air of design. We may instance the statue of Mitys at Argos, which fell upon his murderer while he was a spectator at a festival, and killed him. Such events seem not to be due to mere chance. Plots, therefore, constructed on these principles are necessarily the best.

X

Plots are either Simple or Complex, for the actions in real life, of which the plots are an imitation, obviously show a similar distinction. An action which is one and continuous in the sense above defined, I call Simple, when the change of fortune takes place without Reversal of the Situation and without Recognition

A Complex action is one in which the change is accompanied by such Reversal, or by Recognition, or by both. These last should arise from the internal structure of the plot, so that what follows should be the necessary or probable result of the preceding action. It makes all the difference whether any given event is a case of propter hoc or post hoc.

XI

Reversal of the Situation is a change by which the action veers round to its opposite, subject always to our rule of probability or necessity. Thus in the Oedipus, the messenger comes to cheer Oedipus and free him from his alarms about his mother, but by revealing who he is, he produces the opposite effect. Again in the Lynceus, Lynceus is being led away to his death, and Danaus goes with him, meaning to slay him; but the outcome of the preceding incidents is that Danaus is killed and Lynceus saved.

Recognition, as the name indicates, is a change from ignorance to knowledge, producing love or hate between the persons destined by the poet for good or bad fortune. The best form of recognition is coincident with a Reversal of the Situation, as in the Oedipus. There are indeed other forms. Even inanimate things of the most trivial kind may in a sense be objects of recognition. Again, we may recognize or discover whether a person has done a thing or not. But the recognition which is most intimately connected with the plot and action is, as we have said, the recognition of persons. This recognition, combined with Reversal, will produce either pity or fear; and actions producing these effects are those which, by our definition, Tragedy represents. Moreover, it is upon such situations that the issues of good or bad fortune will depend. Recognition, then, being between persons, it may happen that one person only is recognized by the other — when the latter is already known — or it may be necessary that the recognition should be on both sides. Thus Iphigenia is revealed to Orestes by the sending of the letter; but another act of recognition is required to make Orestes known to Iphigenia.

Two parts, then, of the Plot — Reversal of the Situation and Recognition — turn upon surprises. A third part is the Scene of Suffering. The Scene of Suffering is a destructive or painful action, such as death on the stage, bodily agony, wounds, and the like.

XII

The parts of Tragedy which must be treated as elements of the whole have been already mentioned. We now come to the quantitative parts — the separate parts into which Tragedy is divided — namely, Prologue, Episode, Exode, Choric song; this last being divided into Parode and Stasimon. These are common to all plays: peculiar to some are the songs of actors from the stage and the Commoi.

The Prologue is that entire part of a tragedy which precedes the Parode of the Chorus. The Episode is that entire part of a tragedy which is between complete choric songs. The Exode is that entire part of a tragedy which has no choric song after it. Of the Choric part the Parode is the first undivided utterance of the Chorus: the Stasimon is a Choric ode without anapaests or trochaic tetrameters: the Commos is a joint lamentation of Chorus and actors.

The parts of Tragedy which must be treated as elements of the whole have been already mentioned. The quantitative parts — the separate parts into which it is divided — are here enumerated.

XIII

As the sequel to what has already been said, we must proceed to consider what the poet should aim at, and what he should avoid, in constructing his plots; and by what means the specific effect of Tragedy will be produced.

A perfect tragedy should, as we have seen, be arranged not on the simple but on the complex plan. It should, moreover, imitate actions which excite pity and fear, this being the distinctive mark of tragic imitation. It follows plainly, in the first place, that the change of fortune presented must not be the spectacle of a virtuous man brought from prosperity to adversity: for this moves neither pity nor fear; it merely shocks us. Nor, again, that of a bad man passing from adversity to prosperity: for nothing can be more alien to the spirit of Tragedy; it possesses no single tragic quality; it neither satisfies the moral sense nor calls forth pity or fear. Nor, again, should the downfall of the utter villain be exhibited. A plot of this kind would, doubtless, satisfy the moral sense, but it would inspire neither pity nor fear; for pity is aroused by unmerited misfortune, fear by the misfortune of a man like ourselves. Such an event, therefore, will be neither pitiful nor terrible. There remains, then, the character between these two extremes — that of a man who is not eminently good and just, yet whose misfortune is brought about not by vice or depravity, but by some error or frailty. He must be one who is highly renowned and prosperous — a personage like Oedipus, Thyestes, or other illustrious men of such families.

A well-constructed plot should, therefore, be single in its issue, rather than double as some maintain. The change of fortune should be not from bad to good, but, reversely, from good to bad. It should come about as the result not of vice, but of some great error or frailty, in a character either such as we have described, or better rather than worse. The practice of the stage bears out our view. At first the poets recounted any legend that came in their way. Now, the best tragedies are founded on the story of a few houses — on the fortunes of Alcmaeon, Oedipus, Orestes, Meleager, Thyestes, Telephus, and those others who have done or suffered something terrible. A tragedy, then, to be perfect according to the rules of art should be of this construction.

Hence they are in error who censure Euripides just because he follows this principle in his plays, many of which end unhappily. It is, as we have said, the right ending. The best proof is that on the stage and in dramatic competition, such plays, if well worked out, are the most tragic in effect; and Euripides, faulty though he may be in the general management of his subject, yet is felt to be the most tragic of the poets.

In the second rank comes the kind of tragedy which some place first. Like the Odyssey, it has a double thread of plot, and also an opposite catastrophe for the good and for the bad. It is accounted the best because of the weakness of the spectators; for the poet is guided in what he writes by the wishes of his audience. The pleasure, however, thence derived is not the true tragic pleasure. It is proper rather to Comedy, where those who, in the piece, are the deadliest enemies — like Orestes and Aegisthus — quit the stage as friends at the close, and no one slays or is slain.

XIV

Fear and pity may be aroused by spectacular means; but they may also result from the inner structure of the piece, which is the better way, and indicates a superior poet. For the plot ought to be so constructed that, even without the aid of the eye, he who hears the tale told will thrill with horror and melt to pity at what takes Place. This is the impression we should receive from hearing the story of the Oedipus. But to produce this effect by the mere spectacle is a less artistic method, and dependent on extraneous aids. Those who employ spectacular means to create a sense not of the terrible but only of the monstrous, are strangers to the purpose of Tragedy; for we must not demand of Tragedy any and every kind of pleasure, but only that which is proper to it. And since the pleasure which the poet should afford is that which comes from pity and fear through imitation, it is evident that this quality must be impressed upon the incidents.

Let us then determine what are the circumstances which strike us as terrible or pitiful.

Actions capable of this effect must happen between persons who are either friends or enemies or indifferent to one another. If an enemy kills an enemy, there is nothing to excite pity either in the act or the intention — except so far as the suffering in itself is pitiful. So again with indifferent persons. But when the tragic incident occurs between those who are near or dear to one another — if, for example, a brother kills, or intends to kill, a brother, a son his father, a mother her son, a son his mother, or any other deed of the kind is done — these are the situations to be looked for by the poet. He may not indeed destroy the framework of the received legends — the fact, for instance, that Clytemnestra was slain by Orestes and Eriphyle by Alcmaeon — but he ought to show of his own, and skilfully handle the traditional. material. Let us explain more clearly what is meant by skilful handling.

The action may be done consciously and with knowledge of the persons, in the manner of the older poets. It is thus too that Euripides makes Medea slay her children. Or, again, the deed of horror may be done, but done in ignorance, and the tie of kinship or friendship be discovered afterwards. The

Oedipus of Sophocles is an example. Here, indeed, the incident is outside the drama proper; but cases occur where it falls within the action of the play: one may cite the Alcmaeon of Astydamas, or Telegonus in the Wounded Odysseus. Again, there is a third case — [to be about to act with knowledge of the persons and then not to act. The fourth case] is when some one is about to do an irreparable deed through ignorance, and makes the discovery before it is done. These are the only possible ways. For the deed must either be done or not done — and that wittingly or unwittingly. But of all these ways, to be about to act knowing the persons, and then not to act, is the worst. It is shocking without being tragic, for no disaster follows It is, therefore, never, or very rarely, found in poetry. One instance, however, is in the Antigone, where Haemon threatens to kill Creon. The next and better way is that the deed should be perpetrated. Still better, that it should be perpetrated in ignorance, and the discovery made afterwards. There is then nothing to shock us, while the discovery produces a startling effect. The last case is the best, as when in the Cresphontes Merope is about to slay her son, but, recognizing who he is, spares his life. So in the Iphigenia, the sister recognizes the brother just in time. Again in the Helle, the son recognizes the mother when on the point of giving her up. This, then, is why a few families only, as has been already observed, furnish the subjects of tragedy. It was not art, but happy chance, that led the poets in search of subjects to impress the tragic quality upon their plots. They are compelled, therefore, to have recourse to those houses whose history contains moving incidents like these.

Enough has now been said concerning the structure of the incidents, and the right kind of plot.

XV

In respect of Character there are four things to be aimed at. First, and most important, it must be good. Now any speech or action that manifests moral purpose of any kind will be expressive of character: the character will be good if the purpose is good. This rule is relative to each class. Even a woman may be good, and also a slave; though the woman may be said to be an inferior being, and the slave quite worthless. The second thing to aim at is propriety. There is a type of manly valor; but valor in a woman, or unscrupulous cleverness is inappropriate. Thirdly, character must be true to life: for this is a distinct thing from goodness and propriety, as here described. The fourth point is consistency: for though the subject of the imitation, who suggested the type, be inconsistent, still he must be consistently inconsistent. As an example of motiveless degradation of character, we have Menelaus in the Orestes; of character indecorous and inappropriate, the lament of Odysseus in the Scylla, and the speech of Melanippe; of inconsistency, the Iphigenia at Aulis — for Iphigenia the suppliant in no way resembles her later self.

As in the structure of the plot, so too in the portraiture of character, the poet should always aim either at the necessary or the probable. Thus a person of a given character should speak or act in a given way, by the rule either of necessity or of probability; just as this event should follow that by necessary or probable sequence. It is therefore evident that the unraveling of the plot, no less than the complication, must arise out of the plot itself, it must not be brought about by the Deus ex Machina — as in the Medea, or in the return of the Greeks in the Iliad. The Deus ex Machina should be employed only for events external to the drama — for antecedent or subsequent events, which lie beyond the range of human knowledge, and which require to be reported or foretold; for to the gods we ascribe the power of seeing all things. Within the action there must be nothing irrational. If the irrational cannot be excluded, it should be outside the scope of the tragedy. Such is the irrational element the Oedipus of Sophocles.

Again, since Tragedy is an imitation of persons who are above the common level, the example of good portrait painters should be followed. They, while reproducing the distinctive form of the original, make a likeness which is true to life and yet more beautiful. So too the poet, in representing men who are irascible or indolent, or have other defects of character, should preserve the type and yet ennoble it. In this way Achilles is portrayed by Agathon and Homer.

These then are rules the poet should observe. Nor should he neglect those appeals to the senses, which, though not among the essentials, are the concomitants of poetry; for here too there is much room for error. But of this enough has been said in our published treatises.

XVI

What Recognition is has been already explained. We will now enumerate its kinds.

First, the least artistic form, which, from poverty of wit, is most commonly employed — recognition by signs. Of these some are congenital — such as ‘the spear which the earth-born race bear on their bodies,’ or the stars introduced by Carcinus in his Thyestes. Others are acquired after birth; and of these some are bodily marks, as scars; some external tokens, as necklaces, or the little ark in the Tyro by which the discovery is effected. Even these admit of more or less skilful treatment. Thus in the recognition of Odysseus by his scar, the discovery is made in one way by the nurse, in another by the swineherds. The use of tokens for the express purpose of proof — and, indeed, any formal proof with or without tokens — is a less artistic mode of recognition. A better kind is that which comes about by a turn of incident, as in the Bath Scene in the Odyssey.

Next come the recognitions invented at will by the poet, and on that account wanting in art. For example, Orestes in the Iphigenia reveals the fact that he is Orestes. She, indeed, makes herself known by the letter; but he, by speaking himself, and saying what the poet, not what the plot requires. This, therefore, is nearly allied to the fault above mentioned — for Orestes might as well have brought tokens with him. Another similar instance is the ‘voice of the shuttle’ in the Tereus of Sophocles.

The third kind depends on memory when the sight of some object awakens a feeling: as in the Cyprians of Dicaeogenes, where the hero breaks into tears on seeing the picture; or again in the Lay of Alcinous, where Odysseus, hearing the minstrel play the lyre, recalls the past and weeps; and hence the recognition.

The fourth kind is by process of reasoning. Thus in the Choephori: ‘Some one resembling me has come: no one resembles me but Orestes: therefore Orestes has come.’ Such too is the discovery made by Iphigenia in the play of Polyidus the Sophist. It was a natural reflection for Orestes to make, ‘So I too must die at the altar like my sister.’ So, again, in the Tydeus of Theodectes, the father says, ‘I came to find my son, and I lose my own life.’ So too in the Phineidae: the women, on seeing the place, inferred their fate—’Here we are doomed to die, for here we were cast forth.’ Again, there is a composite kind of recognition involving false inference on the part of one of the characters, as in the Odysseus Disguised as a Messenger. A said [that no one else was able to bend the bow;... hence B (the disguised Odysseus) imagined that A would] recognize the bow which, in fact, he had not seen; and to bring about a recognition by this means — the expectation that A would recognize the bow — is false inference.

But, of all recognitions, the best is that which arises from the incidents themselves, where the startling discovery is made by natural means. Such is that in the Oedipus of Sophocles, and in the Iphigenia; for it was natural that Iphigenia should wish to dispatch a letter. These recognitions alone dispense with the artificial aid of tokens or amulets. Next come the recognitions by process of reasoning.

XVII

In constructing the plot and working it out with the proper diction, the poet should place the scene, as far as possible, before his eyes. In this way, seeing everything with the utmost vividness, as if he were a spectator of the action, he will discover what is in keeping with it, and be most unlikely to overlook inconsistencies. The need of such a rule is shown by the fault found in Carcinus. Amphiaraus was on his way from the temple. This fact escaped the observation of one who did not see the situation. On the stage, however, the Piece failed, the audience being offended at the oversight.

Again, the poet should work out his play, to the best of his power, with appropriate gestures; for those who feel emotion are most convincing through natural sympathy with the characters they represent; and one who is agitated storms, one who is angry rages, with the most lifelike reality. Hence poetry implies either a happy gift of nature or a strain of madness. In the one case a man can take the mould of any character; in the other, he is lifted out of his proper self.

As for the story, whether the poet takes it ready made or constructs it for himself, he should first sketch its general outline, and then fill in the episodes and amplify in detail. The general plan may be illustrated by the Iphigenia. A young girl is sacrificed; she disappears mysteriously from the eyes of those who sacrificed her; she is transported to another country, where the custom is to offer up an strangers to the goddess. To this ministry she is appointed. Some time later her own brother chances to arrive. The fact that the oracle for some reason ordered him to go there, is outside the general plan of the play. The purpose, again, of his coming is outside the action proper. However, he comes, he is seized, and, when on the point of being sacrificed, reveals who he is. The mode of recognition may be either that of Euripides or of Polyidus, in whose play he exclaims very naturally: ‘So it was not my sister only, but I too, who was doomed to be sacrificed’; and by that remark he is saved.

After this, the names being once given, it remains to fill in the episodes. We must see that they are relevant to the action. In the case of Orestes, for example, there is the madness which led to his capture, and his deliverance by means of the purificatory rite. In the drama, the episodes are short, but it is these that give extension to Epic poetry. Thus the story of the Odyssey can be stated briefly. A certain man is absent from home for many years; he is jealously watched by Poseidon, and left desolate. Meanwhile his home is in a wretched plight — suitors are wasting his substance and plotting against his son. At length, tempest-tost, he himself arrives; he makes certain persons acquainted with him; he attacks the suitors with his own hand, and is himself preserved while he destroys them. This is the essence of the plot; the rest is episode.

XVIII

Every tragedy falls into two parts — Complication and Unraveling or Denouement. Incidents extraneous to the action are frequently combined with a portion of the action proper, to form the Complication; the rest is the Unraveling. By the Complication I mean all that extends from the beginning of the action to the part which marks the turning-point to good or bad fortune. The Unraveling is that which extends from the beginning of the change to the end. Thus, in the Lynceus of Theodectes, the Complication consists of the incidents presupposed in the drama, the seizure of the child, and then again... [the Unraveling] extends from the accusation of murder to the end.

There are four kinds of Tragedy: the Complex, depending entirely on Reversal of the Situation and Recognition; the Pathetic (where the motive is passion) — such as the tragedies on Ajax and Ixion; the Ethical (where the motives are ethical) — such as the Phthiotides and the Peleus. The fourth kind is the Simple. [We here exclude the purely spectacular element], exemplified by the Phorcides, the Prometheus, and scenes laid in Hades. The poet should endeavor, if possible, to combine all poetic elements; or failing that, the greatest number and those the most important; the more so, in face of the caviling criticism of the day. For whereas there have hitherto been good poets, each in his own branch, the critics now expect one man to surpass all others in their several lines of excellence.

In speaking of a tragedy as the same or different, the best test to take is the plot. Identity exists where the Complication and Unraveling are the same. Many poets tie the knot well, but unravel it Both arts, however, should always be mastered.

Again, the poet should remember what has been often said, and not make an Epic structure into a tragedy — by an Epic structure I mean one with a multiplicity of plots — as if, for instance, you were to make a tragedy out of the entire story of the Iliad. In the Epic poem, owing to its length, each part assumes its proper magnitude. In the drama the result is far from answering to the poet’s expectation. The proof is that the poets who have dramatized the whole story of the Fall of Troy, instead of selecting portions, like Euripides;

or who have taken the whole tale of Niobe, and not a part of her story, like Aeschylus, either fail utterly or meet with poor success on the stage. Even Agathon has been known to fail from this one defect. In his Reversals of the Situation, however, he shows a marvelous skill in the effort to hit the popular taste — to produce a tragic effect that satisfies the moral sense. This effect is produced when the clever rogue, like Sisyphus, is outwitted, or the brave villain defeated. Such an event is probable in Agathon's sense of the word: 'is probable,' he says, 'that many things should happen contrary to probability.'

The Chorus too should be regarded as one of the actors; it should be an integral part of the whole, and share in the action, in the manner not of Euripides but of Sophocles. As for the later poets, their choral songs pertain as little to the subject of the piece as to that of any other tragedy. They are, therefore, sung as mere interludes — a practice first begun by Agathon. Yet what difference is there between introducing such choral interludes, and transferring a speech, or even a whole act, from one play to another.

XIX

It remains to speak of Diction and Thought, the other parts of Tragedy having been already discussed. concerning Thought, we may assume what is said in the Rhetoric, to which inquiry the subject more strictly belongs. Under Thought is included every effect which has to be produced by speech, the subdivisions being: proof and refutation; the excitation of the feelings, such as pity, fear, anger, and the like; the suggestion of importance or its opposite. Now, it is evident that the dramatic incidents must be treated from the same points of view as the dramatic speeches, when the object is to evoke the sense of pity, fear, importance, or probability. The only difference is that the incidents should speak for themselves without verbal exposition; while effects aimed at in should be produced by the speaker, and as a result of the speech. For what were the business of a speaker, if the Thought were revealed quite apart from what he says?

Next, as regards Diction. One branch of the inquiry treats of the Modes of Utterance. But this province of knowledge belongs to the art of Delivery and to the masters of that science. It includes, for instance — what is a command, a prayer, a statement, a threat, a question, an answer, and so forth. To know or not to know these things involves no serious censure upon the poet's art. For who can admit the fault imputed to Homer by Protagoras — that in the words, 'Sing, goddess, of the wrath, he gives a command under the idea that he utters a prayer? For to tell some one to do a thing or not to do it is, he says, a command. We may, therefore, pass this over as an inquiry that belongs to another art, not to poetry.

XX

Language in general includes the following parts: Letter, Syllable, Connecting Word, Noun, Verb, Inflection or Case, Sentence or Phrase.

A Letter is an indivisible sound, yet not every such sound, but only one which can form part of a group of sounds. For even brutes utter indivisible sounds, none of which I call a letter. The sound I mean may be either a vowel, a semivowel, or a mute. A vowel is that which without impact of tongue or lip has an audible sound. A semivowel that which with such impact has an audible sound, as S and R. A mute, that which with such impact has by itself no sound, but joined to a vowel sound becomes audible, as G and D. These are distinguished according to the form assumed by the mouth and the place where they are produced; according as they are aspirated or smooth, long or short; as they are acute, grave, or of an intermediate tone; which inquiry belongs in detail to the writers on meter.

A Syllable is a nonsignificant sound, composed of a mute and a vowel: for GR without A is a syllable, as also with A — GRA. But the investigation of these differences belongs also to metrical science.

A Connecting Word is a nonsignificant sound, which neither causes nor hinders the union of many sounds into one significant sound; it may be placed at either end or in the middle of a sentence. Or, a nonsignificant sound, which out of several sounds, each of them significant, is capable of forming one significant sound — as amphi, peri, and the like. Or, a nonsignificant sound, which marks the beginning, end, or division of a sentence; such, however, that it cannot correctly stand by itself at the beginning of a sentence — as men, etoi, de.

A Noun is a composite significant sound, not marking time, of which no part is in itself significant: for in double or compound words we do not employ the separate parts as if each were in itself significant. Thus in Theodorus, ‘god-given,’ the doron or ‘gift’ is not in itself significant.

A Verb is a composite significant sound, marking time, in which, as in the noun, no part is in itself significant. For ‘man’ or ‘white’ does not express the idea of ‘when’; but ‘he walks’ or ‘he has walked’ does connote time, present or past.

Inflection belongs both to the noun and verb, and expresses either the relation ‘of,’ ‘to,’ or the like; or that of number, whether one or many, as ‘man’ or ‘men’; or the modes or tones in actual delivery, e.g., a question or a command. ‘Did he go?’ and ‘go’ are verbal inflections of this kind.

A Sentence or Phrase is a composite significant sound, some at least of whose parts are in themselves significant; for not every such group of words consists of verbs and nouns—’the definition of man,’ for example — but it may dispense even with the verb. Still it will always have some significant part, as ‘in walking,’ or ‘Cleon son of Cleon.’ A sentence or phrase may form a unity in two ways — either as signifying one thing, or as consisting of several parts linked together. Thus the Iliad is one by the linking together of parts, the definition of man by the unity of the thing signified.

XXI

Words are of two kinds, simple and double. By simple I mean those composed of nonsignificant elements, such as ge, ‘earth.’ By double or compound, those composed either of a significant and nonsignificant element (though within the whole word no element is significant), or of elements that are both significant. A word may likewise be triple, quadruple, or multiple in form, like so many Massilian expressions, e.g., ‘Hermo-caico-xanthus [who prayed to Father Zeus].’

Every word is either current, or strange, or metaphorical, or ornamental, or newly-coined, or lengthened, or contracted, or altered.

By a current or proper word I mean one which is in general use among a people; by a strange word, one which is in use in another country. Plainly, therefore, the same word may be at once strange and current, but not in relation to the same people. The word sigynon, ‘lance,’ is to the Cyprians a current term but to us a strange one.

Metaphor is the application of an alien name by transference either from genus to species, or from species to genus, or from species to species, or by analogy, that is, proportion. Thus from genus to species, as: ‘There lies my ship’; for lying at anchor is a species of lying. From species to genus, as: ‘Verily ten thousand noble deeds hath Odysseus wrought’; for ten thousand is a species of large number, and is here used for a large number generally. From species to species, as: ‘With blade of bronze drew away the life,’ and ‘Cleft the water with the vessel of unyielding bronze.’ Here arusai, ‘to draw away’ is used for tamein, ‘to cleave,’ and tamein, again for arusai — each being a species of taking away. Analogy or proportion is when the second term is to the first as the fourth to the third. We may then use the fourth for the second, or the second for the fourth. Sometimes too we qualify the metaphor by adding the term to which the proper word is relative. Thus the cup is to Dionysus as the shield to Ares. The cup may, therefore, be called ‘the shield of Dionysus,’ and the shield ‘the cup of Ares.’ Or, again, as old age is to life, so is evening to day. Evening may therefore be called, ‘the old age of the day,’ and old age, ‘the evening of life,’ or, in the phrase of

Empedocles, ‘life’s setting sun.’ For some of the terms of the proportion there is at times no word in existence; still the metaphor may be used. For instance, to scatter seed is called sowing: but the action of the sun in scattering his rays is nameless. Still this process bears to the sun the same relation as sowing to the seed. Hence the expression of the poet ‘sowing the god-created light.’ There is another way in which this kind of metaphor may be employed. We may apply an alien term, and then deny of that term one of its proper attributes; as if we were to call the shield, not ‘the cup of Ares,’ but ‘the wineless cup’.

A newly-coined word is one which has never been even in local use, but is adopted by the poet himself. Some such words there appear to be: as ernyges, ‘sprouters,’ for kerata, ‘horns’; and areter, ‘supplicator’, for hiereus, ‘priest.’

A word is lengthened when its own vowel is exchanged for a longer one, or when a syllable is inserted. A word is contracted when some part of it is removed. Instances of lengthening are: poleos for poleos, Peleiadeo for Peleidou; of contraction: kri, do, and ops, as in mia ginetai amphoteron ops, ‘the appearance of both is one.’

An altered word is one in which part of the ordinary form is left unchanged, and part is recast: as in dexiteron kata mazon, ‘on the right breast,’ dexiteron is for dexion.

Nouns in themselves are either masculine, feminine, or neuter. Masculine are such as end in N, R, S, or in some letter compounded with S — these being two, PS and X. Feminine, such as end in vowels that are always long, namely E and O, and — of vowels that admit of lengthening — those in A. Thus the number of letters in which nouns masculine and feminine end is the same; for PS and X are equivalent to endings in S. No noun ends in a mute or a vowel short by nature. Three only end in I — meli, ‘honey’; kommi, ‘gum’; peperi, ‘pepper’; five end in U. Neuter nouns end in these two latter vowels; also in N and S.

XXII

The perfection of style is to be clear without being mean. The clearest style is that which uses only current or proper words; at the same time it is mean — witness the poetry of Cleophon and of Sthenelus. That diction, on the other hand, is lofty and raised above the commonplace which employs unusual words. By unusual, I mean strange (or rare) words, metaphorical, lengthened — anything, in short, that differs from the normal idiom. Yet a style wholly composed of such words is either a riddle or a jargon; a riddle, if it consists of metaphors; a jargon, if it consists of strange (or rare) words. For the essence of a riddle is to express true facts under impossible combinations. Now this cannot be done by any arrangement of ordinary words, but by the use of metaphor it can. Such is the riddle: 'A man I saw who on another man had glued the bronze by aid of fire,' and others of the same kind. A diction that is made up of strange (or rare) terms is a jargon. A certain infusion, therefore, of these elements is necessary to style; for the strange (or rare) word, the metaphorical, the ornamental, and the other kinds above mentioned, will raise it above the commonplace and mean, while the use of proper words will make it perspicuous. But nothing contributes more to produce a cleanness of diction that is remote from commonness than the lengthening, contraction, and alteration of words. For by deviating in exceptional cases from the normal idiom, the language will gain distinction; while, at the same time, the partial conformity with usage will give perspicuity. The critics, therefore, are in error who censure these licenses of speech, and hold the author up to ridicule. Thus Eucleides, the elder, declared that it would be an easy matter to be a poet if you might lengthen syllables at will. He caricatured the practice in the very form of his diction, as in the verse:

Epicharen eidon Marathonade badizonta,

I saw Epichares walking to Marathon,

or,

ouk an g'eramenos ton ekeinou elleboron.

Not if you desire his hellebore.

To employ such license at all obtrusively is, no doubt, grotesque; but in any mode of poetic diction there must be moderation. Even metaphors, strange (or rare) words, or any similar forms of speech, would produce the like effect if used without propriety and with the express purpose of being ludicrous. How great a difference is made by the appropriate use of lengthening, may be seen in Epic poetry by the insertion of ordinary forms in the verse. So, again, if we take a strange (or rare) word, a metaphor, or any similar mode of expression, and replace it by the current or proper term, the truth of our observation will be manifest. For example, Aeschylus and Euripides each composed the same iambic line. But the alteration of a single word by Euripides, who employed the rarer term instead of the ordinary one, makes one verse appear beautiful and the other trivial. Aeschylus in his Philoctetes says:

phagedaina d’he mou sarkas esthiei podos.
The tumor which is eating the flesh of my foot.

Euripides substitutes thoinatai, ‘feasts on,’ for esthiei, ‘feeds on.’ Again, in the line,

nun de m’eon oligos te kai outidanos kai aeikes,
Yet a small man, worthless and unseemly,

the difference will be felt if we substitute the common words,

nun de m’eon mikros te kai asthenikos kai aeides.
Yet a little fellow, weak and ugly.

Or, if for the line,

diphron aeikelion katatheis oligen te trapezan,
Setting an unseemly couch and a meager table,

we read,

diphron mochtheron katatheis mikran te trapezan.
Setting a wretched couch and a puny table.

Or, for eiones booosin, ‘the sea shores roar,’ eiones krazousin, ‘the sea shores screech.’

Again, Ariphrades ridiculed the tragedians for using phrases which no one would employ in ordinary speech: for example, domaton apo, ‘from the house away,’ instead of apo domaton, ‘away from the house;’ sethen, ego de nin, ‘to thee, and I to him;’ Achilleos peri, ‘Achilles about,’ instead of peri Achilleos, ‘about Achilles;’ and the like. It is precisely because such phrases are not part of the current idiom that they give distinction to the style. This, however, he failed to see.

It is a great matter to observe propriety in these several modes of expression, as also in compound words, strange (or rare) words, and so forth. But the greatest thing by far is to have a command of metaphor. This alone cannot be imparted by another; it is the mark of genius, for to make good metaphors implies an eye for resemblances.

Of the various kinds of words, the compound are best adapted to dithyrambs, rare words to heroic poetry, metaphors to iambic. In heroic poetry, indeed, all these varieties are serviceable. But in iambic verse, which reproduces, as far as may be, familiar speech, the most appropriate words are those which are found even in prose. These are the current or proper, the metaphorical, the ornamental.

Concerning Tragedy and imitation by means of action this may suffice.

XXIII

As to that poetic imitation which is narrative in form and employs a single meter, the plot manifestly ought, as in a tragedy, to be constructed on dramatic principles. It should have for its subject a single action, whole and complete, with a beginning, a middle, and an end. It will thus resemble a living organism in all its unity, and produce the pleasure proper to it. It will differ in structure from historical compositions, which of necessity present not a single action, but a single period, and all that happened within that period to one person or to many, little connected together as the events may be. For as the sea-fight at Salamis and the battle with the Carthaginians in Sicily took place at the same time, but did not tend to any one result, so in the sequence of events, one thing sometimes follows another, and yet no single result is thereby produced. Such is the practice, we may say, of most poets. Here again, then, as has been already observed, the transcendent excellence of Homer is manifest. He never attempts to make the whole war of Troy the subject of his poem, though that war had a beginning and an end. It would have been too vast a theme, and not easily embraced in a single view. If, again, he had kept it within moderate limits, it must have been over-complicated by the variety of the incidents. As it is, he detaches a single portion, and admits as episodes many events from the general story of the war — such as the Catalogue of the ships and others — thus diversifying the poem. All other poets take a single hero, a single period, or an action single indeed, but with a multiplicity of parts. Thus did the author of the Cypria and of the Little Iliad. For this reason the Iliad and the Odyssey each furnish the subject of one tragedy, or, at most, of two; while the Cypria supplies materials for many, and the Little Iliad for eight — the Award of the Arms, the Philoctetes, the Neoptolemus, the Eurypylus, the Mendicant Odysseus, the Laconian Women, the Fall of Ilium, the Departure of the Fleet.

XXIV

Again, Epic poetry must have as many kinds as Tragedy: it must be simple, or complex, or ‘ethical,’or ‘pathetic.’ The parts also, with the exception of song and spectacle, are the same; for it requires Reversals of the Situation, Recognitions, and Scenes of Suffering. Moreover, the thoughts and the diction must be artistic. In all these respects Homer is our earliest and sufficient model. Indeed each of his poems has a twofold character. The Iliad is at once simple and ‘pathetic,’ and the Odyssey complex (for Recognition scenes run through it), and at the same time ‘ethical.’ Moreover, in diction and thought they are supreme.

Epic poetry differs from Tragedy in the scale on which it is constructed, and in its meter. As regards scale or length, we have already laid down an adequate limit: the beginning and the end must be capable of being brought within a single view. This condition will be satisfied by poems on a smaller scale than the old epics, and answering in length to the group of tragedies presented at a single sitting.

Epic poetry has, however, a great — a special — capacity for enlarging its dimensions, and we can see the reason. In Tragedy we cannot imitate several lines of actions carried on at one and the same time; we must confine ourselves to the action on the stage and the part taken by the players. But in Epic poetry, owing to the narrative form, many events simultaneously transacted can be presented; and these, if relevant to the subject, add mass and dignity to the poem. The Epic has here an advantage, and one that conduces to grandeur of effect, to diverting the mind of the hearer, and relieving the story with varying episodes. For sameness of incident soon produces satiety, and makes tragedies fail on the stage.

As for the meter, the heroic measure has proved its fitness by hexameter test of experience. If a narrative poem in any other meter or in many meters were now composed, it would be found incongruous. For of all measures the heroic is the stateliest and the most massive; and hence it most readily admits rare words and metaphors, which is another point in which the narrative form of imitation stands alone. On the other hand, the iambic and the trochaic tetrameter are stirring measures, the latter being akin to dancing, the former expressive of action. Still more absurd would it be to mix together different meters, as was done by Chaeremon. Hence no one has ever composed a poem on a great scale in any other than heroic verse. Nature herself, as we have said, teaches the choice of the proper measure.

Homer, admirable in all respects, has the special merit of being the only poet who rightly appreciates the part he should take himself. The poet should speak as little as possible in his own person, for it is not this that makes him an imitator. Other poets appear themselves upon the scene throughout, and imitate but little and rarely. Homer, after a few prefatory words, at once brings in a man, or woman, or other personage; none of them wanting in characteristic qualities, but each with a character of his own.

The element of the wonderful is required in Tragedy. The irrational, on which the wonderful depends for its chief effects, has wider scope in Epic poetry, because there the person acting is not seen. Thus, the pursuit of Hector would be ludicrous if placed upon the stage — the Greeks standing still and not joining in the pursuit, and Achilles waving them back. But in the Epic poem the absurdity passes unnoticed. Now the wonderful is pleasing, as may be inferred from the fact that every one tells a story with some addition of his knowing that his hearers like it. It is Homer who has chiefly taught other poets the art of telling lies skilfully. The secret of it lies in a fallacy For, assuming that if one thing is or becomes, a second is or becomes, men imagine that, if the second is, the first likewise is or becomes. But this is a false inference. Hence, where the first thing is untrue, it is quite unnecessary, provided the second be true, to add that the first is or has become. For the mind, knowing the second to be true, falsely infers the truth of the first. There is an example of this in the Bath Scene of the Odyssey.

Accordingly, the poet should prefer probable impossibilities to improbable possibilities. The tragic plot must not be composed of irrational parts. Everything irrational should, if possible, be excluded; or, at all events, it should lie outside the action of the play (as, in the Oedipus, the hero's ignorance as to the manner of Laius' death); not within the drama — as in the Electra, the messenger's account of the Pythian games; or, as in the Mysians, the man who has come from Tegea to Mysia and is still speechless. The plea that otherwise the plot would have been ruined, is ridiculous; such a plot should not in the first instance be constructed. But once the irrational has been introduced and an air of likelihood imparted to it, we must accept it in spite of the absurdity. Take even the irrational incidents in the Odyssey, where Odysseus is left upon the shore of Ithaca. How intolerable even these might have been would be apparent if an inferior poet were to treat the subject. As it is, the absurdity is veiled by the poetic charm with which the poet invests it.

The diction should be elaborated in the pauses of the action, where there is no expression of character or thought. For, conversely, character and thought are merely obscured by a diction that is over-brilliant

XXV

With respect to critical difficulties and their solutions, the number and nature of the sources from which they may be drawn may be thus exhibited.

The poet being an imitator, like a painter or any other artist, must of necessity imitate one of three objects — things as they were or are, things as they are said or thought to be, or things as they ought to be. The vehicle of expression is language — either current terms or, it may be, rare words or metaphors. There are also many modifications of language, which we concede to the poets. Add to this, that the standard of correctness is not the same in poetry and politics, any more than in poetry and any other art. Within the art of poetry itself there are two kinds of faults — those which touch its essence, and those which are accidental. If a poet has chosen to imitate something, [but has imitated it incorrectly] through want of capacity, the error is inherent in the poetry. But if the failure is due to a wrong choice — if he has represented a horse as throwing out both his off legs at once, or introduced technical inaccuracies in medicine, for example, or in any other art — the error is not essential to the poetry. These are the points of view from which we should consider and answer the objections raised by the critics.

First as to matters which concern the poet's own art. If he describes the impossible, he is guilty of an error; but the error may be justified, if the end of the art be thereby attained (the end being that already mentioned) — if, that is, the effect of this or any other part of the poem is thus rendered more striking. A case in point is the pursuit of Hector. if, however, the end might have been as well, or better, attained without violating the special rules of the poetic art, the error is not justified: for every kind of error should, if possible, be avoided.

Again, does the error touch the essentials of the poetic art, or some accident of it? For example, not to know that a hind has no horns is a less serious matter than to paint it inartistically.

Further, if it be objected that the description is not true to fact, the poet may perhaps reply, 'But the objects are as they ought to be'; just as

Sophocles said that he drew men as they ought to be; Euripides, as they are. In this way the objection may be met. If, however, the representation be of neither kind, the poet may answer, ‘This is how men say the thing is.’ applies to tales about the gods. It may well be that these stories are not higher than fact nor yet true to fact: they are, very possibly, what Xenophanes says of them. But anyhow, ‘this is what is said.’ Again, a description may be no better than the fact: ‘Still, it was the fact’; as in the passage about the arms: ‘Upright upon their butt-ends stood the spears.’ This was the custom then, as it now is among the Illyrians.

Again, in examining whether what has been said or done by some one is poetically right or not, we must not look merely to the particular act or saying, and ask whether it is poetically good or bad. We must also consider by whom it is said or done, to whom, when, by what means, or for what end; whether, for instance, it be to secure a greater good, or avert a greater evil.

Other difficulties may be resolved by due regard to the usage of language. We may note a rare word, as in oureas men proton, ‘the mules first [he killed],’ where the poet perhaps employs oureas not in the sense of mules, but of sentinels. So, again, of Dolon: ‘ill-favored indeed he was to look upon.’ It is not meant that his body was ill-shaped but that his face was ugly; for the Cretans use the word eueides, ‘well-flavored’ to denote a fair face. Again, zoroteron de keraie, ‘mix the drink livelier’ does not mean ‘mix it stronger’ as for hard drinkers, but ‘mix it quicker.’

Sometimes an expression is metaphorical, as ‘Now all gods and men were sleeping through the night,’ while at the same time the poet says: ‘Often indeed as he turned his gaze to the Trojan plain, he marveled at the sound of flutes and pipes.’ ‘All’ is here used metaphorically for ‘many,’ all being a species of many. So in the verse, ‘alone she hath no part..., oie, ‘alone’ is metaphorical; for the best known may be called the only one.

Again, the solution may depend upon accent or breathing. Thus Hippias of Thasos solved the difficulties in the lines, didomen (didomen) de hoi, and to men hou (ou) kataputhetai ombro.

Or again, the question may be solved by punctuation, as in Empedocles: ‘Of a sudden things became mortal that before had learnt to be immortal, and things unmixed before mixed.’

Or again, by ambiguity of meaning, as parocheken de pleo nux, where the word pleo is ambiguous.

Or by the usage of language. Thus any mixed drink is called oinos, ‘wine’. Hence Ganymede is said ‘to pour the wine to Zeus,’ though the gods do not drink wine. So too workers in iron are called chalkeas, or ‘workers in bronze.’ This, however, may also be taken as a metaphor.

Again, when a word seems to involve some inconsistency of meaning, we should consider how many senses it may bear in the particular passage. For example: ‘there was stayed the spear of bronze’ — we should ask in how many ways we may take ‘being checked there.’ The true mode of interpretation is the precise opposite of what Glaucon mentions. Critics, he says, jump at certain groundless conclusions; they pass adverse judgement and then proceed to reason on it; and, assuming that the poet has said whatever they happen to think, find fault if a thing is inconsistent with their own fancy.

The question about Icarius has been treated in this fashion. The critics imagine he was a Lacedaemonian. They think it strange, therefore, that Telemachus should not have met him when he went to Lacedaemon. But the Cephallenian story may perhaps be the true one. They allege that Odysseus took a wife from among themselves, and that her father was Icadius, not Icarius. It is merely a mistake, then, that gives plausibility to the objection.

In general, the impossible must be justified by reference to artistic requirements, or to the higher reality, or to received opinion. With respect to the requirements of art, a probable impossibility is to be preferred to a thing improbable and yet possible. Again, it may be impossible that there should be men such as Zeuxis painted. ‘Yes,’ we say, ‘but the impossible is the higher thing; for the ideal type must surpass the realty.’ To justify the irrational, we appeal to what is commonly said to be. In addition to which, we urge that the irrational sometimes does not violate reason; just as ‘it is probable that a thing may happen contrary to probability.’

Things that sound contradictory should be examined by the same rules as in dialectical refutation — whether the same thing is meant, in the same relation, and in the same sense. We should therefore solve the question by reference to what the poet says himself, or to what is tacitly assumed by a person of intelligence.

The element of the irrational, and, similarly, depravity of character, are justly censured when there is no inner necessity for introducing them. Such is the irrational element in the introduction of Aegeus by Euripides and the badness of Menelaus in the Orestes.

Thus, there are five sources from which critical objections are drawn. Things are censured either as impossible, or irrational, or morally hurtful, or contradictory, or contrary to artistic correctness. The answers should be sought under the twelve heads above mentioned.

XXVI

The question may be raised whether the Epic or Tragic mode of imitation is the higher. If the more refined art is the higher, and the more refined in every case is that which appeals to the better sort of audience, the art which imitates anything and everything is manifestly most unrefined. The audience is supposed to be too dull to comprehend unless something of their own is thrown by the performers, who therefore indulge in restless movements. Bad flute-players twist and twirl, if they have to represent 'the quoit-throw,' or hustle the coryphaeus when they perform the Scylla. Tragedy, it is said, has this same defect. We may compare the opinion that the older actors entertained of their successors. Mynniscus used to call Callippides 'ape' on account of the extravagance of his action, and the same view was held of Pindarus. Tragic art, then, as a whole, stands to Epic in the same relation as the younger to the elder actors. So we are told that Epic poetry is addressed to a cultivated audience, who do not need gesture; Tragedy, to an inferior public. Being then unrefined, it is evidently the lower of the two.

Now, in the first place, this censure attaches not to the poetic but to the histrionic art; for gesticulation may be equally overdone in epic recitation, as by Sosistratus, or in lyrical competition, as by Mnasitheus the Opuntian. Next, all action is not to be condemned — any more than all dancing — but only that of bad performers. Such was the fault found in Callippides, as also in others of our own day, who are censured for representing degraded women. Again, Tragedy like Epic poetry produces its effect even without action; it reveals its power by mere reading. If, then, in all other respects it is superior, this fault, we say, is not inherent in it.

And superior it is, because it has an the epic elements — it may even use the epic meter — with the music and spectacular effects as important accessories; and these produce the most vivid of pleasures. Further, it has vividness of impression in reading as well as in representation. Moreover, the art attains its end within narrower limits for the concentrated effect is more pleasurable than one which is spread over a long time and so diluted. What, for example, would be the effect of the Oedipus of Sophocles, if it were cast into a form as long as the Iliad? Once more, the Epic imitation has less unity; as is shown by this, that any Epic poem will furnish subjects for several tragedies. Thus if the story adopted by the poet has a strict unity, it must either be concisely told and appear truncated; or, if it conforms to the Epic canon of length, it must seem weak and watery. [Such length implies some loss of unity,] if, I mean, the poem is constructed out of several actions, like the Iliad and the Odyssey, which have many such parts, each with a certain magnitude of its own. Yet these poems are as perfect as possible in structure; each is, in the highest degree attainable, an imitation of a single action.

If, then, tragedy is superior to epic poetry in all these respects, and, moreover, fulfills its specific function better as an art — for each art ought to produce, not any chance pleasure, but the pleasure proper to it, as already stated — it plainly follows that tragedy is the higher art, as attaining its end more perfectly.

Thus much may suffice concerning Tragic and Epic poetry in general; their several kinds and parts, with the number of each and their differences; the causes that make a poem good or bad; the objections of the critics and the answers to these objections....

Constitution of the Athenians

Translated by Frederic G. Kenyon

The Ἀθηναίων πολιτεία survives from two leaves of a papyrus codex discovered at Oxyrhynchus, Egypt, in 1879. Due to the wealth of historical information provided in the text, it was a monumental find. The *Constitution of the Athenians* was not included in Bekker's famous edition as it was first edited in 1891 from the rolls that were acquired by the British Museum. Therefore it is the only Aristotle work to be without a Bekker reference number.

Ancient sources claim that Aristotle devised 170 Constitutions for various different city states and it is widely assumed they provided him much needed research for the *Politics*, with many of them being written or drafted by his students. Athens, however, was a particularly important state, as it was where Aristotle was living at the time. Some scholars believe that this text was intended as a model for the rest and so was written by Aristotle himself, though some prominent scholars doubt this.

Interestingly, this was the only extant work by Aristotle that was actually intended for publication. Written between 330 and 322 BC, it describes the political system of ancient Athens. The work consists of two parts, with Chapter I to Chapter XLI dealing with the different iterations of the constitution, from the trial of the Alcmaeonidae till 403 BC. The second part describes the city's institutions, including the terms of access to citizenship, magistrates and the courts.

The archaeological site at Oxyrhynchus, where many valuable and lost texts were re-discovered

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The Athenian Constitution

1

...[They were tried] by a court empanelled from among the noble families, and sworn upon the sacrifices. The part of accuser was taken by Myron. They were found guilty of the sacrilege, and their bodies were cast out of their graves and their race banished for evermore. In view of this expiation, Epimenides the Cretan performed a purification of the city.

2

After this event there was contention for a long time between the upper classes and the populace. Not only was the constitution at this time oligarchical in every respect, but the poorer classes, men, women, and children, were the serfs of the rich. They were known as Pelatae and also as Hectemori, because they cultivated the lands of the rich at the rent thus indicated. The whole country was in the hands of a few persons, and if the tenants failed to pay their rent they were liable to be haled into slavery, and their children with them. All loans secured upon the debtor's person, a custom which prevailed until the time of Solon, who was the first to appear as the champion of the people. But the hardest and bitterest part of the constitution in the eyes of the masses was their state of serfdom. Not but what they were also discontented with every other feature of their lot; for, to speak generally, they had no part nor share in anything.

3

Now the ancient constitution, as it existed before the time of Draco, was organized as follows. The magistrates were elected according to qualifications of birth and wealth. At first they governed for life, but subsequently for terms of ten years. The first magistrates, both in date and in importance, were the King, the Polemarch, and the Archon. The earliest of these offices was that of the King, which existed from ancestral antiquity. To this was added, secondly, the office of Polemarch, on account of some of the kings proving feeble in war; for it was on this account that Ion was invited to accept the post on an occasion of pressing need. The last of the three offices was that of the Archon, which most authorities state to have come into existence in the time of Medon. Others assign it to the time of Acastus, and adduce as proof the fact that the nine Archons swear to execute their oaths 'as in the days of Acastus,' which seems to suggest that it was in his time that the descendants of Codrus retired from the kingship in return for the prerogatives conferred upon the Archon. Whichever way it may be, the difference in date is small; but that it was the last of these magistracies to be created is shown by the fact that the Archon has no part in the ancestral sacrifices, as the King and the Polemarch have, but exclusively in those of later origin. So it is only at a comparatively late date that the office of Archon has become of great importance, through the dignity conferred by these later additions. The Thesmothetae were many years afterwards, when these offices had already become annual, with the object that they might publicly record all legal decisions, and act as guardians of them with a view to determining the issues between litigants. Accordingly their office, alone of those which have been mentioned, was never of more than annual duration.

Such, then, is the relative chronological precedence of these offices. At that time the nine Archons did not all live together. The King occupied the building now known as the Boculium, near the Prytaneum, as may be seen from the fact that even to the present day the marriage of the King's wife to Dionysus takes place there. The Archon lived in the Prytaneum, the Polemarch in the Epilyceum. The latter building was formerly called the

Polemarcheum, but after Epilycus, during his term of office as Polemarch, had rebuilt it and fitted it up, it was called the Epilyceum. The Thesmothetae occupied the Thesmotheteum. In the time of Solon, however, they all came together into the Thesmotheteum. They had power to decide cases finally on their own authority, not, as now, merely to hold a preliminary hearing. Such then was the arrangement of the magistracies. The Council of Areopagus had as its constitutionally assigned duty the protection of the laws; but in point of fact it administered the greater and most important part of the government of the state, and inflicted personal punishments and fines summarily upon all who misbehaved themselves. This was the natural consequence of the facts that the Archons were elected under qualifications of birth and wealth, and that the Areopagus was composed of those who had served as Archons; for which latter reason the membership of the Areopagus is the only office which has continued to be a life-magistracy to the present day.

4

Such was, in outline, the first constitution, but not very long after the events above recorded, in the archonship of Aristaichmus, Draco enacted his ordinances. Now his constitution had the following form. The franchise was given to all who could furnish themselves with a military equipment. The nine Archons and the Treasurers were elected by this body from persons possessing an unencumbered property of not less than ten minas, the less important officials from those who could furnish themselves with a military equipment, and the generals [Strategi] and commanders of the cavalry [Hipparchi] from those who could show an unencumbered property of not less than a hundred minas, and had children born in lawful wedlock over ten years of age. These officers were required to hold to bail the Prytanes, the Strategi, and the Hipparchi of the preceding year until their accounts had been audited, taking four securities of the same class as that to which the Strategi and the Hipparchi belonged. There was also to be a Council, consisting of four hundred and one members, elected by lot from among those who possessed the franchise. Both for this and for the other magistracies the lot was cast among those who were over thirty years of age; and no one might hold office twice until every one else had had his turn, after which they were to cast the lot afresh. If any member of the Council failed to attend when there was a sitting of the Council or of the Assembly, he paid a fine, to the amount of three drachmas if he was a Pentacosiomedimnus, two if he was a Knight, and One if he was a Zeugites. The Council of Areopagus was guardian of the laws, and kept watch over the magistrates to see that they executed their offices in accordance with the laws. Any person who felt himself wronged might lay an information before the Council of Areopagus, on declaring what law was broken by the wrong done to him. But, as has been said before, loans were secured upon the persons of the debtors, and the land was in the hands of a few.

5

Since such, then, was the organization of the constitution, and the many were in slavery to the few, the people rose against the upper class. The strife was keen, and for a long time the two parties were ranged in hostile camps against one another, till at last, by common consent, they appointed Solon to be mediator and Archon, and committed the whole constitution to his hands. The immediate occasion of his appointment was his poem, which begins with the words:

I behold, and within my heart deep sadness has claimed its place,
As I mark the oldest home of the ancient Ionian race
Slain by the sword.

In this poem he fights and disputes on behalf of each party in turn against the other, and finally he advises them to come to terms and put an end to the quarrel existing between them. By birth and reputation Solon was one of the foremost men of the day, but in wealth and position he was of the middle class, as is generally agreed, and is, indeed, established by his own evidence in these poems, where he exhorts the wealthy not to be grasping.

But ye who have store of good, who are sated and overflow,
Restrain your swelling soul, and still it and keep it low:
Let the heart that is great within you he trained a lowlier way;
Ye shall not have all at your will, and we will not for ever obey.

Indeed, he constantly fastens the blame of the conflict on the rich; and accordingly at the beginning of the poem he says that he fears' the love of wealth and an overweening mind', evidently meaning that it was through these that the quarrel arose.

6

As soon as he was at the head of affairs, Solon liberated the people once and for all, by prohibiting all loans on the security of the debtor’s person: and in addition he made laws by which he cancelled all debts, public and private. This measure is commonly called the Seisachtheia [= removal of burdens], since thereby the people had their loads removed from them. In connexion with it some persons try to traduce the character of Solon. It so happened that, when he was about to enact the Seisachtheia, he communicated his intention to some members of the upper class, whereupon, as the partisans of the popular party say, his friends stole a march on him; while those who wish to attack his character maintain that he too had a share in the fraud himself. For these persons borrowed money and bought up a large amount of land, and so when, a short time afterwards, all debts were cancelled, they became wealthy; and this, they say, was the origin of the families which were afterwards looked on as having been wealthy from primeval times. However, the story of the popular party is by far the most probable. A man who was so moderate and public-spirited in all his other actions, that when it was within his power to put his fellow-citizens beneath his feet and establish himself as tyrant, he preferred instead to incur the hostility of both parties by placing his honour and the general welfare above his personal aggrandisement, is not likely to have consented to defile his hands by such a petty and palpable fraud. That he had this absolute power is, in the first place, indicated by the desperate condition the country; moreover, he mentions it himself repeatedly in his poems, and it is universally admitted. We are therefore bound to consider this accusation to be false.

7

Next Solon drew up a constitution and enacted new laws; and the ordinances of Draco ceased to be used, with the exception of those relating to murder. The laws were inscribed on the wooden stands, and set up in the King's Porch, and all swore to obey them; and the nine Archons made oath upon the stone, declaring that they would dedicate a golden statue if they should transgress any of them. This is the origin of the oath to that effect which they take to the present day. Solon ratified his laws for a hundred years; and the following was the fashion in which he organized the constitution. He divided the population according to property into four classes, just as it had been divided before, namely, Pentacosiomedimni, Knights, Zeugitae, and Thetes. The various magistracies, namely, the nine Archons, the Treasurers, the Commissioners for Public Contracts (Poletae), the Eleven, and Clerks (Colacretae), he assigned to the Pentacosiomedimni, the Knights, and the Zeugitae, giving offices to each class in proportion to the value of their rateable property. To who ranked among the Thetes he gave nothing but a place in the Assembly and in the juries. A man had to rank as a Pentacosiomedimnus if he made, from his own land, five hundred measures, whether liquid or solid. Those ranked as Knights who made three hundred measures, or, as some say, those who were able to maintain a horse. In support of the latter definition they adduce the name of the class, which may be supposed to be derived from this fact, and also some votive offerings of early times; for in the Acropolis there is a votive offering, a statue of Diphilus, bearing this inscription:

The son of Diphilus, Athenion hight,
Raised from the Thetes and become a knight,
Did to the gods this sculptured charger bring,
For his promotion a thank-offering.

And a horse stands in evidence beside the man, implying that this was what was meant by belonging to the rank of Knight. At the same time it seems reasonable to suppose that this class, like the Pentacosiomedimni, was defined by the possession of an income of a certain number of measures. Those ranked as Zeugitae who made two hundred measures, liquid or solid; and the rest ranked as Thetes, and were not eligible for any office. Hence it is that even at the present day, when a candidate for any office is asked to what class he belongs, no one would think of saying that he belonged to the Thetes.

8

The elections to the various offices Solon enacted should be by lot, out of candidates selected by each of the tribes. Each tribe selected ten candidates for the nine archonships, and among these the lot was cast. Hence it is still the custom for each tribe to choose ten candidates by lot, and then the lot is again cast among these. A proof that Solon regulated the elections to office according to the property classes may be found in the law still in force with regard to the Treasurers, which enacts that they shall be chosen from the Pentacosiomedimni. Such was Solon's legislation with respect to the nine Archons; whereas in early times the Council of Areopagus summoned suitable persons according to its own judgement and appointed them for the year to the several offices. There were four tribes, as before, and four tribe-kings. Each tribe was divided into three Trittyes [=Thirds], with twelve Naucraries in each; and the Naucraries had officers of their own, called Naucrari, whose duty it was to superintend the current receipts and expenditure. Hence, among the laws of Solon now obsolete, it is repeatedly written that the Naucrari are to receive and to spend out of the Naucraric fund. Solon also appointed a Council of four hundred, a hundred from each tribe; but he assigned to the Council of the Areopagus the duty of superintending the laws, acting as before as the guardian of the constitution in general. It kept watch over the affairs of the state in most of the more important matters, and corrected offenders, with full powers to inflict either fines or personal punishment. The money received in fines it brought up into the Acropolis, without assigning the reason for the mulct. It also tried those who conspired for the overthrow of the state, Solon having enacted a process of impeachment to deal with such offenders. Further, since he saw the state often engaged in internal disputes, while many of the citizens from sheer indifference accepted whatever might turn up, he made a law with express reference to such persons, enacting that any one who, in a time civil factions, did not take up arms with either party, should lose his rights as a citizen and cease to have any part in the state.

9

Such, then, was his legislation concerning the magistracies. There are three points in the constitution of Solon which appear to be its most democratic features: first and most important, the prohibition of loans on the security of the debtor’s person; secondly, the right of every person who so willed to claim redress on behalf of any one to whom wrong was being done; thirdly, the institution of the appeal to the jurycourts; and it is to this last, they say, that the masses have owed their strength most of all, since, when the democracy is master of the voting-power, it is master of the constitution. Moreover, since the laws were not drawn up in simple and explicit terms (but like the one concerning inheritances and wards of state), disputes inevitably occurred, and the courts had to decide in every matter, whether public or private. Some persons in fact believe that Solon deliberately made the laws indefinite, in order that the final decision might be in the hands of the people. This, however, is not probable, and the reason no doubt was that it is impossible to attain ideal perfection when framing a law in general terms; for we must judge of his intentions, not from the actual results in the present day, but from the general tenor of the rest of his legislation.

10

These seem to be the democratic features of his laws; but in addition, before the period of his legislation, he carried through his abolition of debts, and after it his increase in the standards of weights and measures, and of the currency. During his administration the measures were made larger than those of Pheidon, and the mina, which previously had a standard of seventy drachmas, was raised to the full hundred. The standard coin in earlier times was the two-drachma piece. He also made weights corresponding with the coinage, sixty-three minas going to the talent; and the odd three minas were distributed among the staters and the other values.

11

When he had completed his organization of the constitution in the manner that has been described, he found himself beset by people coming to him and harassing him concerning his laws, criticizing here and questioning there, till, as he wished neither to alter what he had decided on nor yet to be an object of ill will to every one by remaining in Athens, he set off on a journey to Egypt, with the combined objects of trade and travel, giving out that he should not return for ten years. He considered that there was no call for him to expound the laws personally, but that every one should obey them just as they were written. Moreover, his position at this time was unpleasant. Many members of the upper class had been estranged from him on account of his abolition of debts, and both parties were alienated through their disappointment at the condition of things which he had created. The mass of the people had expected him to make a complete redistribution of all property, and the upper class hoped he would restore everything to its former position, or, at any rate, make but a small change. Solon, however, had resisted both classes. He might have made himself a despot by attaching himself to whichever party he chose, but he preferred, though at the cost of incurring the enmity of both, to be the saviour of his country and the ideal lawgiver.

12

The truth of this view of Solon’s policy is established alike by common consent, and by the mention he has himself made of the matter in his poems. Thus:

I gave to the mass of the people such rank as befitted their need,
I took not away their honour, and I granted naught to their greed;
While those who were rich in power, who in wealth were glorious and great,
I bethought me that naught should befall them unworthy their splendour and state;
So I stood with my shield outstretched, and both were sale in its sight,
And I would not that either should triumph, when the triumph was not with right.

Again he declares how the mass of the people ought to be treated:

But thus will the people best the voice of their leaders obey,
When neither too slack is the rein, nor violence holdeth the sway;
For indulgence breedeth a child, the presumption that spurns control,
When riches too great are poured upon men of unbalanced soul.

And again elsewhere he speaks about the persons who wished to redistribute the land:

So they came in search of plunder, and their cravings knew no hound,
Every one among them deeming endless wealth would here be found.
And that I with glozing smoothness hid a cruel mind within.
Fondly then and vainly dreamt they; now they raise an angry din,
And they glare askance in anger, and the light within their eyes
Burns with hostile flames upon me. Yet therein no justice lies.
All I promised, fully wrought I with the gods at hand to cheer,
Naught beyond in folly ventured. Never to my soul was dear
With a tyrant’s force to govern, nor to see the good and base

Side by side in equal portion share the rich home of our race.

Once more he speaks of the abolition of debts and of those who before were in servitude, but were released owing to the Seisachtheia:

Of all the aims for which I summoned forth
The people, was there one I compassed not?
Thou, when slow time brings justice in its train,
O mighty mother of the Olympian gods,
Dark Earth, thou best canst witness, from whose breast
I swept the pillars broadcast planted there,
And made thee free, who hadst been slave of yore.
And many a man whom fraud or law had sold
For from his god-built land, an outcast slave,
I brought again to Athens; yea, and some,
Exiles from home through debt's oppressive load,
Speaking no more the dear ATHENIAN tongue,
But wandering far and wide, I brought again;
And those that here in vilest slavery
Crouched 'neath a master's frown, I set them free.
Thus might and right were yoked in harmony,
Since by the force of law I won my ends
And kept my promise. Equal laws I gave
To evil and to good, with even hand
Drawing straight justice for the lot of each.
But had another held the goad as
One in whose heart was guile and greediness,
He had not kept the people back from strife.
For had I granted, now what pleased the one,
Then what their foes devised in counterpoise,
Of many a man this state had been bereft.
Therefore I showed my might on every side,
Turning at bay like wolf among the hounds.

And again he reviles both parties for their grumblings in the times that followed:

Nay, if one must lay blame where blame is due,
Wer’t not for me, the people ne’er had set
Their eyes upon these blessings e’en in dreams:-
While greater men, the men of wealthier life,
Should praise me and should court me as their friend.

For had any other man, he says, received this exalted post,

He had not kept the people back, nor ceased
Til he had robbed the richness of the milk.
But I stood forth a landmark in the midst,
And barred the foes from battle.

13

Such then, were Solon’s reasons for his departure from the country. After his retirement the city was still torn by divisions. For four years, indeed, they lived in peace; but in the fifth year after Solon’s government they were unable to elect an Archon on account of their dissensions, and again four years later they elected no Archon for the same reason. Subsequently, after a similar period had elapsed, Damasias was elected Archon; and he governed for two years and two months, until he was forcibly expelled from his office. After this, it was agreed, as a compromise, to elect ten Archons, five from the Eupatridae, three from the Agroeci, and two from the Demiurgi, and they ruled for the year following Damasias. It is clear from this that the Archon was at the time the magistrate who possessed the greatest power, since it is always in connexion with this office that conflicts are seen to arise. But altogether they were in a continual state of internal disorder. Some found the cause and justification of their discontent in the abolition of debts, because thereby they had been reduced to poverty; others were dissatisfied with the political constitution, because it had undergone a revolutionary change; while with others the motive was found in personal rivalries among themselves. The parties at this time were three in number. First there was the party of the Shore, led by Megacles the son of Alcmeon, which was considered to aim at a moderate form of government; then there were the men of the Plain, who desired an oligarchy and were led by Lycurgus; and thirdly there were the men of the Highlands, at the head of whom was Pisistratus, who was looked on as an extreme democrat. This latter party was reinforced by those who had been deprived of the debts due to them, from motives of poverty, and by those who were not of pure descent, from motives of personal apprehension. A proof of this is seen in the fact that after the tyranny was overthrown a revision was made of the citizen-roll, on the ground that many persons were partaking in the franchise without having a right to it. The names given to the respective parties were derived from the districts in which they held their lands.

14

Pisistratus had the reputation of being an extreme democrat, and he also had distinguished himself greatly in the war with Megara. Taking advantage of this, he wounded himself, and by representing that his injuries had been inflicted on him by his political rivals, he persuaded the people, through a motion proposed by Aristion, to grant him a bodyguard. After he had got these ‘club-bearers’, as they were called, he made an attack with them on the people and seized the Acropolis. This happened in the archonship of Comeas, thirty-one years after the legislation of Solon. It is related that, when Pisistratus asked for his bodyguard, Solon opposed the request, and declared that in so doing he proved himself wiser than half the people and braver than the rest,-wiser than those who did not see that Pisistratus designed to make himself tyrant, and braver than those who saw it and kept silence. But when all his words availed nothing he carried forth his armour and set it up in front of his house, saying that he had helped his country so far as lay in his power (he was already a very old man), and that he called on all others to do the same. Solon’s exhortations, however, proved fruitless, and Pisistratus assumed the sovereignty. His administration was more like a constitutional government than the rule of a tyrant; but before his power was firmly established, the adherents of Megacles and Lycurgus made a coalition and drove him out. This took place in the archonship of Hegesias, five years after the first establishment of his rule. Eleven years later Megacles, being in difficulties in a party struggle, again opened-negotiations with Pisistratus, proposing that the latter should marry his daughter; and on these terms he brought him back to Athens, by a very primitive and simple-minded device. He first spread abroad a rumour that Athena was bringing back Pisistratus, and then, having found a woman of great stature and beauty, named Phye (according to Herodotus, of the deme of Paeania, but as others say a Thracian flower-seller of the deme of Collytus), he dressed her in a garb resembling that of the goddess and brought her into the city with Pisistratus. The latter drove in on a chariot with the woman beside him, and the inhabitants of the city, struck with awe, received him with adoration.

15

In this manner did his first return take place. He did not, however, hold his power long, for about six years after his return he was again expelled. He refused to treat the daughter of Megacles as his wife, and being afraid, in consequence, of a combination of the two opposing parties, he retired from the country. First he led a colony to a place called Rhaicelus, in the region of the Thermaic gulf; and thence he passed to the country in the neighbourhood of Mt. Pangaeus. Here he acquired wealth and hired mercenaries; and not till ten years had elapsed did he return to Eretria and make an attempt to recover the government by force. In this he had the assistance of many allies, notably the Thebans and Lygdamis of Naxos, and also the Knights who held the supreme power in the constitution of Eretria. After his victory in the battle at Pallene he captured Athens, and when he had disarmed the people he at last had his tyranny securely established, and was able to take Naxos and set up Lygdamis as ruler there. He effected the disarmament of the people in the following manner. He ordered a parade in full armour in the Theseum, and began to make a speech to the people. He spoke for a short time, until the people called out that they could not hear him, whereupon he bade them come up to the entrance of the Acropolis, in order that his voice might be better heard. Then, while he continued to speak to them at great length, men whom he had appointed for the purpose collected the arms and locked them up in the chambers of the Theseum hard by, and came and made a signal to him that it was done. Pisistratus accordingly, when he had finished the rest of what he had to say, told the people also what had happened to their arms; adding that they were not to be surprised or alarmed, but go home and attend to their private affairs, while he would himself for the future manage all the business of the state.

16

Such was the origin and such the vicissitudes of the tyranny of Pisistratus. His administration was temperate, as has been said before, and more like constitutional government than a tyranny. Not only was he in every respect humane and mild and ready to forgive those who offended, but, in addition, he advanced money to the poorer people to help them in their labours, so that they might make their living by agriculture. In this he had two objects, first that they might not spend their time in the city but might be scattered over all the face of the country, and secondly that, being moderately well off and occupied with their own business, they might have neither the wish nor the time to attend to public affairs. At the same time his revenues were increased by the thorough cultivation of the country, since he imposed a tax of one tenth on all the produce. For the same reasons he instituted the local justices,' and often made expeditions in person into the country to inspect it and to settle disputes between individuals, that they might not come into the city and neglect their farms. It was in one of these progresses that, as the story goes, Pisistratus had his adventure with the man of Hymettus, who was cultivating the spot afterwards known as 'Tax-free Farm'. He saw a man digging and working at a very stony piece of ground, and being surprised he sent his attendant to ask what he got out of this plot of land. 'Aches and pains', said the man; 'and that's what Pisistratus ought to have his tenth of'. The man spoke without knowing who his questioner was; but Pisistratus was so leased with his frank speech and his industry that he granted him exemption from all taxes. And so in matters in general he burdened the people as little as possible with his government, but always cultivated peace and kept them in all quietness. Hence the tyranny of Pisistratus was often spoken of proverbially as 'the age of gold'; for when his sons succeeded him the government became much harsher. But most important of all in this respect was his popular and kindly disposition. In all things he was accustomed to observe the laws, without giving himself any exceptional privileges. Once he was summoned on a charge of homicide before the Areopagus, and he appeared in person to make his defence; but the prosecutor was afraid to present himself and abandoned the case. For these reasons he held power long, and whenever he was expelled he regained his position easily. The majority alike of the upper class and of the people were in his favour; the former he won by his social intercourse with them, the latter by the assistance which he gave to their private purses, and his nature fitted him to win the hearts of both. Moreover, the laws in reference to tyrants at that time in force at Athens were very mild, especially the one which applies more particularly to the establishment of a tyranny. The law ran as follows: ‘These are the ancestral statutes of the ATHENIANs; if any persons shall make an attempt to establish a tyranny, or if any person shall join in setting up a tyranny, he shall lose his civic rights, both himself and his whole house.’

17

Thus did Pisistratus grow old in the possession of power, and he died a natural death in the archonship of Philoneos, three and thirty years from the time at which he first established himself as tyrant, during nineteen of which he was in possession of power; the rest he spent in exile. It is evident from this that the story is mere gossip which states that Pisistratus was the youthful favourite of Solon and commanded in the war against Megara for the recovery of Salamis. It will not harmonize with their respective ages, as any one may see who will reckon up the years of the life of each of them, and the dates at which they died. After the death of Pisistratus his sons took up the government, and conducted it on the same system. He had two sons by his first and legitimate wife, Hippias and Hipparchus, and two by his Argive consort, Iophon and Hegesistratus, who was surnamed Thessalus. For Pisistratus took a wife from Argos, Timonassa, the daughter of a man of Argos, named Gorgilus; she had previously been the wife of Archinus of Ambracia, one of the descendants of Cypselus. This was the origin of his friendship with the Argives, on account of which a thousand of them were brought over by Hegesistratus and fought on his side in the battle at Pallene. Some authorities say that this marriage took place after his first expulsion from Athens, others while he was in possession of the government.

18

Hippias and Hipparchus assumed the control of affairs on grounds alike of standing and of age; but Hippias, as being also naturally of a statesmanlike and shrewd disposition, was really the head of the government. Hipparchus was youthful in disposition, amorous, and fond of literature (it was he who invited to Athens Anacreon, Simonides, and the other poets), while Thessalus was much junior in age, and was violent and headstrong in his behaviour. It was from his character that all the evils arose which befell the house. He became enamoured of Harmodius, and, since he failed to win his affection, he lost all restraint upon his passion, and in addition to other exhibitions of rage he finally prevented the sister of Harmodius from taking the part of a basket-bearer in the Panathenaic procession, alleging as his reason that Harmodius was a person of loose life. Thereupon, in a frenzy of wrath, Harmodius and Aristogeiton did their celebrated deed, in conjunction with a number of confederates. But while they were lying in wait for Hippias in the Acropolis at the time of the Panathenaea (Hippias, at this moment, was awaiting the arrival of the procession, while Hipparchus was organizing its dispatch) they saw one of the persons privy to the plot talking familiarly with him. Thinking that he was betraying them, and desiring to do something before they were arrested, they rushed down and made their attempt without waiting for the rest of their confederates. They succeeded in killing Hipparchus near the Leocoreum while he was engaged in arranging the procession, but ruined the design as a whole; of the two leaders, Harmodius was killed on the spot by the guards, while Aristogeiton was arrested, and perished later after suffering long tortures. While under the torture he accused many persons who belonged by birth to the most distinguished families and were also personal friends of the tyrants. At first the government could find no clue to the conspiracy; for the current story, that Hippias made all who were taking part in the procession leave their arms, and then detected those who were carrying secret daggers, cannot be true, since at that time they did not bear arms in the processions, this being a custom instituted at a later period by the democracy. According to the story of the popular party, Aristogeiton accused the friends of the tyrants with the deliberate intention that the latter might commit an impious act, and at the same time weaken themselves, by putting to death innocent men who were their own friends; others say that he told no falsehood, but was betraying the actual accomplices. At last, when for all his efforts he could not obtain release by death, he promised to give further information against a number of other persons; and, having induced Hippias to give him his hand to confirm his word, as soon as he had hold of it he reviled him for giving his hand to the murderer of his brother, till Hippias, in a frenzy of rage, lost control of himself and snatched out his dagger and dispatched him.

19

After this event the tyranny became much harsher. In consequence of his vengeance for his brother, and of the execution and banishment of a large number of persons, Hippias became a distrusted and an embittered man. About three years after the death of Hipparchus, finding his position in the city insecure, he set about fortifying Munichia, with the intention of establishing himself there. While he was still engaged on this work, however, he was expelled by Cleomenes, king of Lacedaemon, in consequence of the Spartans being continually incited by oracles to overthrow the tyranny. These oracles were obtained in the following way. The Athenian exiles, headed by the Alcmeonidae, could not by their own power effect their return, but failed continually in their attempts. Among their other failures, they fortified a post in Attica, Lipsydrium, above Mt. Parnes, and were there joined by some partisans from the city; but they were besieged by the tyrants and reduced to surrender. After this disaster the following became a popular drinking song:

Ah! Lipsydrium, faithless friend!
Lo, what heroes to death didst send,
Nobly born and great in deed!
Well did they prove themselves at need
Of noble sires a noble seed.

Having failed, then, in very other method, they took the contract for rebuilding the temple at Delphi, thereby obtaining ample funds, which they employed to secure the help of the Lacedaemonians. All this time the Pythia kept continually enjoining on the Lacedaemonians who came to consult the oracle, that they must free Athens; till finally she succeeded in impelling the Spartans to that step, although the house of Pisistratus was connected with them by ties of hospitality. The resolution of the Lacedaemonians was, however, at least equally due to the friendship which had been formed between the house of Pisistratus and Argos. Accordingly they first sent Anchimolus by sea at the head of an army; but he was defeated and killed, through the arrival of Cineas of Thessaly to support the sons of Pisistratus with a force of a thousand horsemen. Then, being roused to anger by this disaster, they sent their king, Cleomenes, by land at the head of a larger force; and he, after defeating the Thessalian cavalry when they attempted to intercept his march into Attica, shut up Hippias within what was known as the Pelargic wall and blockaded him there with the assistance of the Athenians. While he was sitting down before the place, it so happened that the sons of the Pisistratidae were captured in an attempt to slip out; upon which the tyrants capitulated on condition of the safety of their children, and surrendered the Acropolis to the Athenians, five days being first allowed them to remove their effects. This took place in the archonship of Harpactides, after they had held the tyranny for about seventeen years since their father's death, or in all, including the period of their father's rule, for nine-and-forty years.

20

After the overthrow of the tyranny, the rival leaders in the state were Isagoras son of Tisander, a partisan of the tyrants, and Cleisthenes, who belonged to the family of the Alcmeonidae. Cleisthenes, being beaten in the political clubs, called in the people by giving the franchise to the masses. Thereupon Isagoras, finding himself left inferior in power, invited Cleomenes, who was united to him by ties of hospitality, to return to Athens, and persuaded him to ‘drive out the pollution’, a plea derived from the fact that the Alcmeonidae were suppposed to be under the curse of pollution. On this Cleisthenes retired from the country, and Cleomenes, entering Attica with a small force, expelled, as polluted, seven hundred Athenian families. Having effected this, he next attempted to dissolve the Council, and to set up Isagoras and three hundred of his partisans as the supreme power in the state. The Council, however, resisted, the populace flocked together, and Cleomenes and Isagoras, with their adherents, took refuge in the Acropolis. Here the people sat down and besieged them for two days; and on the third they agreed to let Cleomenes and all his followers de art, while they summoned Cleisthenes and the other exiles back to Athens. When the people had thus obtained the command of affairs, Cleisthenes was their chief and popular leader. And this was natural; for the Alcmeonidae were perhaps the chief cause of the expulsion of the tyrants, and for the greater part of their rule were at perpetual war with them. But even earlier than the attempts of the Alcmeonidae, one Cedon made an attack on the tyrants; when there came another popular drinking song, addressed to him:

Pour a health yet again, boy, to Cedon; forget not this duty to do,
If a health is an honour befitting the name of a good man and true.

21

The people, therefore, had good reason to place confidence in Cleisthenes. Accordingly, now that he was the popular leader, three years after the expulsion of the tyrants, in the archonship of Isagoras, his first step was to distribute the whole population into ten tribes in place of the existing four, with the object of intermixing the members of the different tribes, and so securing that more persons might have a share in the franchise. From this arose the saying ‘Do not look at the tribes’, addressed to those who wished to scrutinize the lists of the old families. Next he made the Council to consist of five hundred members instead of four hundred, each tribe now contributing fifty, whereas formerly each had sent a hundred. The reason why he did not organize the people into twelve tribes was that he might not have to use the existing division into trittyes; for the four tribes had twelve trittyes, so that he would not have achieved his object of redistributing the population in fresh combinations. Further, he divided the country into thirty groups of demes, ten from the districts about the city, ten from the coast, and ten from the interior. These he called trittyes; and he assigned three of them by lot to each tribe, in such a way that each should have one portion in each of these three localities. All who lived in any given deme he declared fellow-demesmen, to the end that the new citizens might not be exposed by the habitual use of family names, but that men might be officially described by the names of their demes; and accordingly it is by the names of their demes that the Athenians speak of one another. He also instituted Demarchs, who had the same duties as the previously existing Naucrari,-the demes being made to take the place of the naucraries. He gave names to the demes, some from the localities to which they belonged, some from the persons who founded them, since some of the areas no longer corresponded to localities possessing names. On the other hand he allowed every one to retain his family and clan and religious rites according to ancestral custom. The names given to the tribes were the ten which the Pythia appointed out of the hundred selected national heroes.

22

By these reforms the constitution became much more democratic than that of Solon. The laws of Solon had been obliterated by disuse during the period of the tyranny, while Cleisthenes substituted new ones with the object of securing the goodwill of the masses. Among these was the law concerning ostracism. Four year after the establishment of this system, in the archonship of Hermocreon, they first imposed upon the Council of Five Hundred the oath which they take to the present day. Next they began to elect the generals by tribes, one from each tribe, while the Polemarch was the commander of the whole army. Then, eleven years later, in the archonship of Phaenippus they won the battle of Marathon; and two years after this victory, when the people had now gained self-confidence, they for the first time made use of the law of ostracism. This had originally been passed as a precaution against men in high office, because Pisistratus took advantage of his position as a popular leader and general to make himself tyrant; and the first person ostracized was one of his relatives, Hipparchus son of Charmus, of the deme of Collytus, the very person on whose account especially Cleisthenes had enacted the law, as he wished to get rid of him. Hitherto, however, he had escaped; for the Athenians, with the usual leniency of the democracy, allowed all the partisans of the tyrants, who had not joined in their evil deeds in the time of the troubles to remain in the city; and the chief and leader of these was Hipparchus. Then in the very next year, in the archonship of Telesinus, they for the first time since the tyranny elected, tribe by tribe, the nine Archons by lot out of the five hundred candidates selected by the demes, all the earlier ones having been elected by vote; and in the same year Megacles son of Hippocrates, of the deme of Alopece, was ostracized.

Thus for three years they continued to ostracize the friends of the tyrants, on whose account the law had been passed; but in the following year they began to remove others as well, including any one who seemed to be more powerful than was expedient. The first person unconnected with the tyrants who was ostracized was Xanthippus son of Ariphron. Two years later, in the archonship of Nicodemus, the mines of Maroneia were discovered, and the state made a profit of a hundred talents from the working of them. Some persons advised the people to make a distribution of the money among themselves, but this was prevented by Themistocles. He refused to say on what he proposed to spend the money, but he bade them lend it to the hundred richest men in Athens, one talent to each, and then, if the manner in which it was employed pleased the people, the expenditure should be charged to the state, but otherwise the state should receive the sum back from those to whom it was lent. On these terms he received the money and with it he had a hundred triremes built, each of the hundred individuals building one; and it was with these ships that they fought the battle of Salamis against the barbarians. About this time Aristides the son of Lysimachus was ostracized. Three years later, however, in the archonship of Hypsichides, all the ostracized persons were recalled, on account of the advance of the army of Xerxes; and it was laid down for the future that persons under sentence of ostracism must live between Geraestus and Scyllaeum, on pain of losing their civic rights irrevocably.

23

So far, then, had the city progressed by this time, growing gradually with the growth of the democracy; but after the Persian wars the Council of Areopagus once more developed strength and assumed the control of the state. It did not acquire this supremacy by virtue of any formal decree, but because it had been the cause of the battle of Salamis being fought. When the generals were utterly at a loss how to meet the crisis and made proclamation that every one should see to his own safety, the Areopagus provided a donation of money, distributing eight drachmas to each member of the ships' crews, and so prevailed on them to go on board. On these grounds people bowed to its prestige; and during this period Athens was well administered. At this time they devoted themselves to the prosecution of the war and were in high repute among the Greeks, so that the command by sea was conferred upon them, in spite of the opposition of the Lacedaemonians. The leaders of the people during this period were Aristides, of Lysimachus, and Themistocles, son of Lysimachus, and Themistocles, son of Neocles, of whom the latter appeared to devote himself to the conduct of war, while the former had the reputation of being a clever statesman and the most upright man of his time. Accordingly the one was usually employed as general, the other as political adviser. The rebuilding of the fortifications they conducted in combination, although they were political opponents; but it was Aristides who, seizing the opportunity afforded by the discredit brought upon the Lacedaemonians by Pausanias, guided the public policy in the matter of the defection of the Ionian states from the alliance with Sparta. It follows that it was he who made the first assessment of tribute from the various allied states, two years after the battle of Salamis, in the archonship of Timosthenes; and it was he who took the oath of offensive and defensive alliance with the Ionians, on which occasion they cast the masses of iron into the sea.

24

After this, seeing the state growing in confidence and much wealth accumulated, he advised the people to lay hold of the leadership of the league, and to quit the country districts and settle in the city. He pointed out to them that all would be able to gain a living there, some by service in the army, others in the garrisons, others by taking a part in public affairs; and in this way they would secure the leadership. This advice was taken; and when the people had assumed the supreme control they proceeded to treat their allies in a more imperious fashion, with the exception of the Chians, Lesbians, and Samians. These they maintained to protect their empire, leaving their constitutions untouched, and allowing them to retain whatever dominion they then possessed. They also secured an ample maintenance for the mass of the population in the way which Aristides had pointed out to them. Out of the proceeds of the tributes and the taxes and the contributions of the allies more than twenty thousand persons were maintained. There were 6,000 jurymen, 1,600 bowmen, 1,200 Knights, 500 members of the Council, 500 guards of the dockyards, besides fifty guards in the Acropolis. There were some 700 magistrates at home, and some 700 abroad. Further, when they subsequently went to war, there were in addition 2,500 heavy-armed troops, twenty guard-ships, and other ships which collected the tributes, with crews amounting to 2,000 men, selected by lot; and besides these there were the persons maintained at the Prytaneum, and orphans, and gaolers, since all these were supported by the state.

25

Such was the way in which the people earned their livelihood. The supremacy of the Areopagus lasted for about seventeen years after the Persian wars, although gradually declining. But as the strength of the masses increased, Ephialtes, son of Sophonides, a man with a reputation for incorruptibility and public virtue, who had become the leader of the people, made an attack upon that Council. First of all he ruined many of its members by bringing actions against them with reference to their administration. Then, in the archonship of Conon, he stripped the Council of all the acquired prerogatives from which it derived its guardianship of the constitution, and assigned some of them to the Council of Five Hundred, and others to the Assembly and the law-courts. In this revolution he was assisted by Themistocles, who was himself a member of the Areopagus, but was expecting to be tried before it on a charge of treasonable dealings with Persia. This made him anxious that it should be overthrown, and accordingly he warned Ephialtes that the Council intended to arrest him, while at the same time he informed the Areopagites that he would reveal to them certain persons who were conspiring to subvert the constitution. He then conducted the representatives delegated by the Council to the residence of Ephialtes, promising to show them the conspirators who assembled there, and proceeded to converse with them in an earnest manner. Ephialtes, seeing this, was seized with alarm and took refuge in suppliant guise at the altar. Every one was astounded at the occurrence, and presently, when the Council of Five Hundred met, Ephialtes and Themistocles together proceeded to denounce the Areopagus to them. This they repeated in similar fashion in the Assembly, until they succeeded in depriving it of its power. Not long afterwards, however, Ephialtes was assassinated by Aristodicus of Tanagra. In this way was the Council of Areopagus deprived of its guardianship of the state.

26

After this revolution the administration of the state became more and more lax, in consequence of the eager rivalry of candidates for popular favour. During this period the moderate party, as it happened, had no real chief, their leader being Cimon son of Miltiades, who was a comparatively young man, and had been late in entering public life; and at the same time the general populace suffered great losses by war. The soldiers for active service were selected at that time from the roll of citizens, and as the generals were men of no military experience, who owed their position solely to their family standing, it continually happened that some two or three thousand of the troops perished on an expedition; and in this way the best men alike of the lower and the upper classes were exhausted. Consequently in most matters of administration less heed was paid to the laws than had formerly been the case. No alteration, however, was made in the method of election of the nine Archons, except that five years after the death of Ephialtes it was decided that the candidates to be submitted to the lot for that office might be selected from the Zeugitae as well as from the higher classes. The first Archon from that class was Mnesitheides. Up to this time all the Archons had been taken from the Pentacosiomedimni and Knights, while the Zeugitae were confined to the ordinary magistracies, save where an evasion of the law was overlooked. Four years later, in the archonship of Lysicrates, thirty ‘local justices’, as they as they were called, were re-established; and two years afterwards, in the archonship of Antidotus, consequence of the great increase in the number of citizens, it was resolved, on the motion of Pericles, that no one should admitted to the franchise who was not of citizen birth by both parents.

27

After this Pericles came forward as popular leader, having first distinguished himself while still a young man by prosecuting Cimon on the audit of his official accounts as general. Under his auspices the constitution became still more democratic. He took away some of the privileges of the Areopagus, and, above all, he turned the policy of the state in the direction of sea power, which caused the masses to acquire confidence in themselves and consequently to take the conduct of affairs more and more into their own hands. Moreover, forty-eight years after the battle of Salamis, in the archonship of Pythodorus, the Peloponnesian war broke out, during which the populace was shut up in the city and became accustomed to gain its livelihood by military service, and so, partly voluntarily and partly involuntarily, determined to assume the administration of the state itself. Pericles was also the first to institute pay for service in the law-courts, as a bid for popular favour to counterbalance the wealth of Cimon. The latter, having private possessions on a regal scale, not only performed the regular public services magnificently, but also maintained a large number of his fellow-demesmen. Any member of the deme of Laciadae could go every day to Cimon’s house and there receive a reasonable provision; while his estate was guarded by no fences, so that any one who liked might help himself to the fruit from it. Pericles’ private property was quite unequal to this magnificence and accordingly he took the advice of Damonides of Oia (who was commonly supposed to be the person who prompted Pericles in most of his measures, and was therefore subsequently ostracized), which was that, as he was beaten in the matter of private possessions, he should make gifts to the people from their own property; and accordingly he instituted pay for the members of the juries. Some critics accuse him of thereby causing a deterioration in the character of the juries, since it was always the common people who put themselves forward for selection as jurors, rather than the men of better position. Moreover, bribery came into existence after this, the first person to introduce it being Anytus, after his command at Pylos. He was prosecuted by certain individuals on account of his loss of Pylos, but escaped by bribing the jury.

28

So long, however, as Pericles was leader of the people, things went tolerably well with the state; but when he was dead there was a great change for the worse. Then for the first time did the people choose a leader who was of no reputation among men of good standing, whereas up to this time such men had always been found as leaders of the democracy. The first leader of the people, in the very beginning of things, was Solon, and the second was Pisistratus, both of them men of birth and position. After the overthrow of the tyrants there was Cleisthenes, a member of the house of the Alcmeonidae; and he had no rival opposed to him after the expulsion of the party of Isagoras. After this Xanthippus was the leader of the people, and Miltiades of the upper class. Then came Themistocles and Aristides, and after them Ephialtes as leader of the people, and Cimon son of Miltiades of the wealthier class. Pericles followed as leader of the people, and Thucydides, who was connected by marriage with Cimon, of the opposition. After the death of Pericles, Nicias, who subsequently fell in Sicily, appeared as leader of the aristocracy, and Cleon son of Cleaenetus of the people. The latter seems, more than any one else, to have been the cause of the corruption of the democracy by his wild undertakings; and he was the first to use unseemly shouting and coarse abuse on the Bema, and to harangue the people with his cloak girt up short about him, whereas all his predecessors had spoken decently and in order. These were succeeded by Theramenes son of Hagnon as leader of the one party, and the lyre-maker Cleophon of the people. It was Cleophon who first granted the twoobol donation for the theatrical performances, and for some time it continued to be given; but then Callicrates of Paeania ousted him by promising to add a third obol to the sum. Both of these persons were subsequently condemned to death; for the people, even if they are deceived for a time, in the end generally come to detest those who have beguiled them into any unworthy action. After Cleophon the popular leadership was occupied successively by the men who chose to talk the biggest and pander the most to the tastes of the majority, with their eyes fixed only on the interests of the moment. The best statesmen at Athens, after those of early times, seem to have been Nicias, Thucydides, and Theramenes. As to Nicias and Thucydides, nearly every one agrees that they were not merely men of birth and character, but also statesmen, and that they ruled the state with paternal care. On the merits of Theramenes opinion is divided, because it so happened that in his time public affairs were in a very stormy state. But those who give their opinion deliberately find him, not, as his critics falsely assert, overthrowing every kind of constitution, but supporting every kind so long as it did not transgress laws; thus showing that he was able, as every good citizen should be, to live under any form of constitution, while he refused to countenance illegality and was its constant enemy.

29

So long as the fortune of the war continued even, the Athenians preserved the democracy; but after the disaster in Sicily, when the Lacedaemonians had gained the upper hand through their alliance with the king of Persia, they were compelled to abolish the democracy and establish in its place the constitution of the Four Hundred. The speech recommending this course before the vote was made by Melobius, and the motion was proposed by Pythodorus of Anaphlystus; but the real argument which persuaded the majority was the belief that the king of Persia was more likely to form an alliance with them if the constitution were on an oligarchical basis. The motion of Pythodorus was to the following effect. The popular Assembly was to elect twenty persons, over forty years of age, who, in conjunction with the existing ten members of the Committee of Public Safety, after taking an oath that they would frame such measures as they thought best for the state, should then prepare proposals for the public. safety. In addition, any other person might make proposals, so that of all the schemes before them the people might choose the best. Cleitophon concurred with the motion of Pythodorus, but moved that the committee should also investigate the ancient laws enacted by Cleisthenes when he created the democracy, in order that they might have these too before them and so be in a position to decide wisely; his suggestion being that the constitution of Cleisthenes was not really democratic, but closely akin to that of Solon. When the committee was elected, their first proposal was that the Prytanes should be compelled to put to the vote any motion that was offered on behalf of the public safety. Next they abolished all indictments for illegal proposals, all impeachments and pubic prosecutions, in order that every Athenian should be free to give his counsel on the situation, if he chose; and they decreed that if any person imposed a fine on any other for his acts in this respect, or prosecuted him or summoned him before the courts, he should, on an information being laid against him, be summarily arrested and brought before the generals, who should deliver him to the Eleven to be put to death. After these preliminary measures, they drew up the constitution in the following manner. The revenues of the state were not to be spent on any purpose except the war. All magistrates should serve without remuneration for the period of the war, except the nine Archons and the Prytanes for the time being, who should each receive three obols a day. The whole of the rest of the administration was to be committed, for the period of the war, to those Athenians who were most capable of serving the state personally or pecuniarily, to the number of not less than five thousand. This body was to have full powers, to the extent even of making treaties with whomsoever they willed; and ten representatives, over forty years of age, were to be elected from each tribe to draw up the list of the Five Thousand, after taking an oath on a full and perfect sacrifice.

30

These were the recommendations of the committee; and when they had been ratified the Five Thousand elected from their own number a hundred commissioners to draw up the constitution. They, on their appointment, drew up and produced the following recommendations. There should be a Council, holding office for a year, consisting of men over thirty years of age, serving without pay. To this body should belong the Generals, the nine Archons, the Amphictyonic Registrar (Hieromnemon), the Taxiarchs, the Hipparchs, the Phylarch, the commanders of garrisons, the Treasurers of Athena and the other gods, ten in number, the Hellenic Treasurers (Hellenotamiae), the Treasurers of the other non-sacred moneys, to the number of twenty, the ten Commissioners of Sacrifices (Hieropoei), and the ten Superintendents of the mysteries. All these were to be appointed by the Council from a larger number of selected candidates, chosen from its members for the time being. The other offices were all to be filled by lot, and not from the members of the Council. The Hellenic Treasurers who actually administered the funds should not sit with the Council. As regards the future, four Councils were to be created, of men of the age already mentioned, and one of these was to be chosen by lot to take office at once, while the others were to receive it in turn, in the order decided by the lot. For this purpose the hundred commissioners were to distribute themselves and all the rest as equally as possible into four parts, and cast lots for precedence, and the selected body should hold office for a year. They were to administer that office as seemed to them best, both with reference to the safe custody and due expenditure of the finances, and generally with regard to all other matters to the best of their ability. If they desired to take a larger number of persons into counsel, each member might call in one assistant of his own choice, subject to the same qualification of age. The Council was to sit once every five days, unless there was any special need for more frequent sittings. The casting of the lot for the Council was to be held by the nine Archons; votes on divisions were to be counted by five tellers chosen by lot from the members of the Council, and of these one was to be selected by lot every day to act as president. These five persons were to cast lots for precedence between the parties wishing to appear before the Council, giving the first place to sacred matters, the second to heralds, the third to embassies, and the fourth to all other subjects; but matters concerning the war might be dealt with, on the motion of the generals, whenever there was need, without balloting. Any member of the Council who did not enter the Council-house at the time named should be fined a drachma for each day, unless he was away on leave of absence from the Council.

31

Such was the constitution which they drew up for the time to come, but for the immediate present they devised the following scheme. There should be a Council of Four Hundred, as in the ancient constitution, forty from each tribe, chosen out of candidates of more than thirty years of age, selected by the members of the tribes. This Council should appoint the magistrates and draw up the form of oath which they were to take; and in all that concerned the laws, in the examination of official accounts, and in other matters generally, they might act according to their discretion. They must, however, observe the laws that might be enacted with reference to the constitution of the state, and had no power to alter them nor to pass others. The generals should be provisionally elected from the whole body of the Five Thousand, but so soon as the Council came into existence it was to hold an examination of military equipments, and thereon elect ten persons, together with a secretary, and the persons thus elected should hold office during the coming year with full powers, and should have the right, whenever they desired it, of joining in the deliberations of the Council. The Five thousand was also to elect a single Hipparch and ten Phylarchs; but for the future the Council was to elect these officers according to the regulations above laid down. No office, except those of member of the Council and of general, might be held more than once, either by the first occupants or by their successors. With reference to the future distribution of the Four Hundred into the four successive sections, the hundred commissioners must divide them whenever the time comes for the citizens to join in the Council along with the rest.

32

The hundred commissioners appointed by the Five Thousand drew up the constitution as just stated; and after it had been ratified by the people, under the presidency of Aristomachus, the existing Council, that of the year of Callias, was dissolved before it had completed its term of office. It was dissolved on the fourteenth day of the month Thargelion, and the Four Hundred entered into office on the twenty-first; whereas the regular Council, elected by lot, ought to have entered into office on the fourteenth of Scirophorion. Thus was the oligarchy established, in the archonship of Callias, just about a hundred years after the expulsion of the tyrants. The chief promoters of the revolution were Pisander, Antiphon, and Theramenes, all of them men of good birth and with high reputations for ability and judgement. When, however, this constitution had been established, the Five Thousand were only nominally selected, and the Four Hundred, together with the ten officers on whom full powers had been conferred, occupied the Council-house and really administered the government. They began by sending ambassadors to the Lacedaemonians proposing a cessation of the war on the basis of the existing Position; but as the Lacedaemonians refused to listen to them unless they would also abandon the command of the sea, they broke off the negotiations.

33

For about four months the constitution of the Four Hundred lasted, and Mnasilochus held office as Archon of their nomination for two months of the year of Theopompus, who was Archon for the remaining ten. On the loss of the naval battle of Eretria, however, and the revolt of the whole of Euboea except Oreum, the indignation of the people was greater than at any of the earlier disasters, since they drew far more supplies at this time from Euboea than from Attica itself. Accordingly they deposed the Four Hundred and committed the management of affairs to the Five Thousand, consisting of persons Possessing a military equipment. At the same time they voted that pay should not be given for any public office. The persons chiefly responsible for the revolution were Aristocrates and Theramenes, who disapproved of the action of the Four Hundred in retaining the direction of affairs entirely in their own hands, and referring nothing to the Five Thousand. During this period the constitution of the state seems to have been admirable, since it was a time of war and the franchise was in the hands of those who possessed a military equipment.

34

The people, however, in a very short time deprived the Five Thousand of their monopoly of the government. Then, six years after the overthrow of the Four Hundred, in the archonship of Callias of Angele, battle of Arginusae took place, of which the results were, first, that the ten generals who had gained the victory were all condemned by a single decision, owing to the people being led astray by persons who aroused their indignation; though, as a matter of fact, some of the generals had actually taken no part in the battle, and others were themselves picked up by other vessels. Secondly, when the Lacedaemonians proposed to evacuate Decelea and make peace on the basis of the existing position, although some of the Athenians supported this proposal, the majority refused to listen to them. In this they were led astray by Cleophon, who appeared in the Assembly drunk and wearing his breastplate, and prevented peace being made, declaring that he would never accept peace unless the Lacedaemonians abandoned their claims on all the cities allied with them. They mismanaged their opportunity then, and in a very short time they learnt their mistake. The next year, in the archonship of Alexias, they suffered the disaster of Aegospotami, the consequence of which was that Lysander became master of the city, and set up the Thirty as its governors. He did so in the following manner. One of the terms of peace stipulated that the state should be governed according to ‘the ancient constitution’. Accordingly the popular party tried to preserve the democracy, while that part of the upper class which belonged to the political clubs, together with the exiles who had returned since the peace, aimed at an oligarchy, and those who were not members of any club, though in other respects they considered themselves as good as any other citizens, were anxious to restore the ancient constitution. The latter class included Archinus, Anytus, Cleitophon, Phormisius, and many others, but their most prominent leader was Theramenes. Lysander, however, threw his influence on the side of the oligarchical party, and the popular Assembly was compelled by sheer intimidation to pass a vote establishing the oligarchy. The motion to this effect was proposed by Dracontides of Aphidna.

35

In this way were the Thirty established in power, in the archonship of Pythodorus. As soon, however, as they were masters of the city, they ignored all the resolutions which had been passed relating to the organization of the constitution, but after appointing a Council of Five Hundred and the other magistrates out of a thousand selected candidates, and associating with themselves ten Archons in Piraeus, eleven superintendents of the prison, and three hundred ‘lash-bearers’ as attendants, with the help of these they kept the city under their own control. At first, indeed, they behaved with moderation towards the citizens and pretended to administer the state according to the ancient constitution. In pursuance of this policy they took down from the hill of Areopagus the laws of Ephialtes and Archestratus relating to the Areopagite Council; they also repealed such of the statutes of Solon as were obscure, and abolished the supreme power of the law-courts. In this they claimed to be restoring the constitution and freeing it from obscurities; as, for instance, by making the testator free once for all to leave his property as he pleased, and abolishing the existing limitations in cases of insanity, old age, and undue female influence, in order that no opening might be left for professional accusers. In other matters also their conduct was similar. At first, then, they acted on these lines, and they destroyed the professional accusers and those mischievous and evil-minded persons who, to the great detriment of the democracy, had attached themselves to it in order to curry favour with it. With all of this the city was much pleased, and thought that the Thirty were doing it with the best of motives. But so soon as they had got a firmer hold on the city, they spared no class of citizens, but put to death any persons who were eminent for wealth or birth or character. Herein they aimed at removing all whom they had reason to fear, while they also wished to lay hands on their possessions; and in a short time they put to death not less than fifteen hundred persons.

36

Theramenes, however, seeing the city thus falling into ruin, was displeased with their proceedings, and counselled them to cease such unprincipled conduct and let the better classes have a share in the government. At first they resisted his advice, but when his proposals came to be known abroad, and the masses began to associate themselves with him, they were seized with alarm lest he should make himself the leader of the people and destroy their despotic power. Accordingly they drew up a list of three thousand citizens, to whom they announced that they would give a share in the constitution. Theramenes, however, criticized this scheme also, first on the ground that, while proposing to give all respectable citizens a share in the constitution, they were actually giving it only to three thousand persons, as though all merit were confined within that number; and secondly because they were doing two inconsistent things, since they made the government rest on the basis of force, and yet made the governors inferior in strength to the governed. However, they took no notice of his criticisms, and for a long time put off the publication of the list of the Three Thousand and kept to themselves the names of those who had been placed upon it; and every time they did decide to publish it they proceeded to strike out some of those who had been included in it, and insert others who had been omitted.

37

Now when winter had set in, Thrasybulus and the exiles occupied Phyle, and the force which the Thirty led out to attack them met with a reverse. Thereupon the Thirty decided to disarm the bulk of the population and to get rid of Theramenes; which they did in the following way. They introduced two laws into the Council, which they commanded it to pass; the first of them gave the Thirty absolute power to put to death any citizen who was not included in the list of the Three Thousand, while the second disqualified all persons from participation in the franchise who should have assisted in the demolition of the fort of Eetioneia, or have acted in any way against the Four Hundred who had organized the previous oligarchy. Theramenes had done both, and accordingly, when these laws were ratified, he became excluded from the franchise and the Thirty had full power to put him to death. Theramenes having been thus removed, they disarmed all the people except the Three Thousand, and in every respect showed a great advance in cruelty and crime. They also sent ambassadors to Lacedaemonian to blacken the character of Theramenes and to ask for help; and the Lacedaemonians, in answer to their appeal, sent Callibius as military governor with about seven hundred troops, who came and occupied the Acropolis.

38

These events were followed by the occupation of Munichia by the exiles from Phyle, and their victory over the Thirty and their partisans. After the fight the party of the city retreated, and next day they held a meeting in the marketplace and deposed the Thirty, and elected ten citizens with full powers to bring the war to a termination. When, however, the Ten had taken over the government they did nothing towards the object for which they were elected, but sent envoys to Lacedaemonian to ask for help and to borrow money. Further, finding that the citizens who possessed the franchise were displeased at their proceedings, they were afraid lest they should be deposed, and consequently, in order to strike terror into them (in which design they succeeded), they arrested Demaretus, one of the most eminent citizens, and put him to death. This gave them a firm hold on the government, and they also had the support of Callibius and his Peloponnesians, together with several of the Knights; for some of the members of this class were the most zealous among the citizens to prevent the return of the exiles from Phyle. When, however, the party in Piraeus and Munichia began to gain the upper hand in the war, through the defection of the whole populace to them, the party in the city deposed the original Ten, and elected another Ten, consisting of men of the highest repute. Under their administration, and with their active and zealous cooperation, the treaty of reconciliation was made and the populace returned to the city. The most prominent members of this board were Rhinon of Paeania and Phayllus of Acherdus, who, even before the arrival of Pausanias, opened negotiations with the party in Piraeus, and after his arrival seconded his efforts to bring about the return of the exiles. For it was Pausanias, the king of the Lacedaemonians, who brought the peace and reconciliation to a fulfillment, in conjunction with the ten commissioners of arbitration who arrived later from Lacedaemonian, at his own earnest request. Rhinon and his colleagues received a vote of thanks for the goodwill shown by them to the people, and though they received their charge under an oligarchy and handed in their accounts under a democracy, no one, either of the party that had stayed in the city or of the exiles that had returned from the

Piraeus, brought any complaint against them. On the contrary, Rhinon was immediately elected general on account of his conduct in this office.

39

This reconciliation was effected in the archonship of Eucleides, on the following terms. All persons who, having remained in the city during the troubles, were now anxious to leave it, were to be free to settle at Eleusis, retaining their civil rights and possessing full and independent powers of self-government, and with the free enjoyment of their own personal property. The temple at Eleusis should be common ground for both parties, and should be under the superintendence of the Ceryces, and the Eumolpidae, according to primitive custom. The settlers at Eleusis should not be allowed to enter Athens, nor the people of Athens to enter Eleusis, except at the season of the mysteries, when both parties should be free from these restrictions. The secessionists should pay their share to the fund for the common defence out of their revenues, just like all the other Athenians. If any of the seceding party wished to take a house in Eleusis, the people would help them to obtain the consent of the owner; but if they could not come to terms, they should appoint three valuers on either side, and the owner should receive whatever price they should appoint. Of the inhabitants of Eleusis, those whom the secessionists wished to remain should be allowed to do so. The list of those who desired to secede should be made up within ten days after the taking of the oaths in the case of persons already in the country, and their actual departure should take place within twenty days; persons at present out of the country should have the same terms allowed to them after their return. No one who settled at Eleusis should be capable of holding any office in Athens until he should again register himself on the roll as a resident in the city. Trials for homicide, including all cases in which one party had either killed or wounded another, should be conducted according to ancestral practice. There should be a general amnesty concerning past events towards all persons except the Thirty, the Ten, the Eleven, and the magistrates in Piraeus; and these too should be included if they should submit their accounts in the usual way. Such accounts should be given by the magistrates in Piraeus before a court of citizens rated in Piraeus, and by the magistrates in the city before a court of those rated in the city. On these terms those who wished to do so might secede. Each party was to repay separately the money which it had borrowed for the war.

40

When the reconciliation had taken place on these terms, those who had fought on the side of the Thirty felt considerable apprehensions, and a large number intended to secede. But as they put off entering their names till the last moment, as people will do, Archinus, observing their numbers, and being anxious to retain them as citizens, cut off the remaining days during which the list should have remained open; and in this way many persons were compelled to remain, though they did so very unwillingly until they recovered confidence. This is one point in which Archinus appears to have acted in a most statesmanlike manner, and another was his subsequent prosecution of Thrasybulus on the charge of illegality, for a motion by which he proposed to confer the franchise on all who had taken part in the return from Piraeus, although some of them were notoriously slaves. And yet a third such action was when one of the returned exiles began to violate the amnesty, whereupon Archinus haled him to the Council and persuaded them to execute him without trial, telling them that now they would have to show whether they wished to preserve the democracy and abide by the oaths they had taken; for if they let this man escape they would encourage others to imitate him, while if they executed him they would make an example for all to learn by. And this was exactly what happened; for after this man had been put to death no one ever again broke the amnesty. On the contrary, the Athenians seem, both in public and in private, to have behaved in the most unprecedentedly admirable and public-spirited way with reference to the preceding troubles. Not only did they blot out all memory of former offences, but they even repaid to the Lacedaemonians out of the public purse the money which the Thirty had borrowed for the war, although the treaty required each party, the party of the city and the party of Piraeus, to pay its own debts separately. This they did because they thought it was a necessary first step in the direction of restoring harmony; but in other states, so far from the democratic parties making advances from their own possessions, they are rather in the habit of making a general redistribution of the land. A final reconciliation was made with the secessionists at Eleusis two years after the secession, in the archonship of Xenaenetus.

This, however, took place at a later date; at the time of which we are speaking the people, having secured the control of the state, established the constitution which exists at the present day. Pythodorus was Archon at the time, but the democracy seems to have assumed the supreme power with perfect justice, since it had effected its own return by its own exertions. This was the eleventh change which had taken place in the constitution of Athens. The first modification of the primaeval condition of things was when Ion and his companions brought the people together into a community, for then the people was first divided into the four tribes, and the tribe-kings were created. Next, and first after this, having now some semblance of a constitution, was that which took place in the reign of Theseus, consisting in a slight deviation from absolute monarchy. After this came the constitution formed under Draco, when the first code of laws was drawn up. The third was that which followed the civil war, in the time of Solon; from this the democracy took its rise. The fourth was the tyranny of Pisistratus; the fifth the constitution of Cleisthenes, after the overthrow of the tyrants, of a more democratic character than that of Solon. The sixth was that which followed on the Persian wars, when the Council of Areopagus had the direction of the state. The seventh, succeeding this, was the constitution which Aristides sketched out, and which Ephialtes brought to completion by overthrowing the Areopagite Council; under this the nation, misled by the demagogues, made the most serious mistakes in the interest of its maritime empire. The eighth was the establishment of the Four Hundred, followed by the ninth, the restored democracy. The tenth was the tyranny of the Thirty and the Ten. The eleventh was that which followed the return from Phyle and Piraeus; and this has continued from that day to this, with continual accretions of power to the masses. The democracy has made itself master of everything and administers everything by its votes in the Assembly and by the law-courts, in which it holds the supreme power. Even the jurisdiction of the Council has passed into the hands of the people at large; and this appears to be a judicious change, since small bodies are more open to corruption, whether by actual money or influence, than large ones. At first they refused to allow payment for attendance at the Assembly; but the result was that people did not attend. Consequently, after the Prytanes had tried many devices in vain in order to induce the populace to come and ratify the votes, Agyrrhius, in the first instance, made a provision of one obol a day, which Heracleides of Clazomenae, nicknamed ‘the king’, increased to two obols, and Agyrrhius again to three.

42

The present state of the constitution is as follows. The franchise is open to all who are of citizen birth by both parents. They are enrolled among the demesmen at the age of eighteen. On the occasion of their enrollment the demesmen give their votes on oath, first whether the candidates appear to be of the age prescribed by the law (if not, they are dismissed back into the ranks of the boys), and secondly whether the candidate is free born and of such parentage as the laws require. Then if they decide that he is not a free man, he appeals to the law-courts, and the demesmen appoint five of their own number to act as accusers; if the court decides that he has no right to be enrolled, he is sold by the state as a slave, but if he wins his case he has a right to be enrolled among the demesmen without further question. After this the Council examines those who have been enrolled, and if it comes to the conclusion that any of them is less than eighteen years of age, it fines the demesmen who enrolled him. When the youths (Ephebi) have passed this examination, their fathers meet by their tribes, and appoint on oath three of their fellow tribesmen, over forty years of age, who, in their opinion, are the best and most suitable persons to have charge of the youths; and of these the Assembly elects one from each tribe as guardian, together with a director, chosen from the general body of Athenians, to control the while. Under the charge of these persons the youths first of all make the circuit of the temples; then they proceed to Piraeus, and some of them garrison Munichia and some the south shore. The Assembly also elects two trainers, with subordinate instructors, who teach them to fight in heavy armour, to use the bow and javelin, and to discharge a catapult. The guardians receive from the state a drachma apiece for their keep, and the youths four obols apiece. Each guardian receives the allowance for all the members of his tribe and buys the necessary provisions for the common stock (they mess together by tribes), and generally superintends everything. In this way they spend the first year. The next year, after giving a public display of their military evolutions, on the occasion when the Assembly meets in the theatre, they receive a shield and spear from the state; after which they patrol the country and spend their time in the forts. For these two years they are on garrison duty, and wear the military cloak, and during this time they are exempt from all taxes. They also can neither bring an action at law, nor have one brought against them, in order that they may have no excuse for requiring leave of absence; though exception is made in cases of actions concerning inheritances and wards of state, or of any sacrificial ceremony connected with the family. When the two years have elapsed they thereupon take their position among the other citizens. Such is the manner of the enrollment of the citizens and the training of the youths.

43

All the magistrates that are concerned with the ordinary routine of administration are elected by lot, except the Military Treasurer, the Commissioners of the Theoric fund, and the Superintendent of Springs. These are elected by vote, and hold office from one Panathenaic festival to the next. All military officers are also elected by vote.

The Council of Five Hundred is elected by lot, fifty from each tribe. Each tribe holds the office of Prytanes in turn, the order being determined by lot; the first four serve for thirty-six days each, the last six for thirty-five, since the reckoning is by lunar years. The Prytanes for the time being, in the first place, mess together in the Tholus, and receive a sum of money from the state for their maintenance; and, secondly, they convene the meetings of the Council and the Assembly. The Council they convene every day, unless it is a holiday, the Assembly four times in each prytany. It is also their duty to draw up the programme of the business of the Council and to decide what subjects are to be dealt with on each particular da, and where the sitting is to be held. They also draw up the programme for the meetings of the Assembly. One of these in each prytany is called the ‘sovereign’ Assembly; in this the people have to ratify the continuance of the magistrates in office, if they are performing their duties properly, and to consider the supply of corn and the defence of the country. On this day, too, impeachments are introduced by those who wish to do so, the lists of property confiscated by the state are read, and also applications for inheritances and wards of state, so that nothing may pass unclaimed without the cognizance of any person concerned. In the sixth prytany, in addition to the business already stated, the question is put to the vote whether it is desirable to hold a vote of ostracism or not; and complaints against professional accusers, whether Athenian or aliens domiciled in Athens, are received, to the number of not more than three of either class, together with cases in which an individual has made some promise to the people and has not performed it. Another Assembly in each prytany is assigned to the hearing of petitions, and at this meeting any one is free, on depositing the petitioner’s olive-branch, to speak to the people concerning any matter, public or private. The two remaining meetings are devoted to all other subjects, and the laws require them to deal with three questions connected with religion, three connected with heralds and embassies, and three on secular subjects. Sometimes questions are brought forward without a preliminary vote of the Assembly to take them into consideration.

Heralds and envoys appear first before the Prytanes, and the bearers of dispatches also deliver them to the same officials.

There is a single President of the Prytanes, elected by lot, who presides for a night and a day; he may not hold the office for more than that time, nor may the same individual hold it twice. He keeps the keys of the sanctuaries in which the treasures and public records of the state are preserved, and also the public seal; and he is bound to remain in the Tholus, together with one-third of the Prytanes, named by himself. Whenever the Prytanes convene a meeting of the Council or Assembly, he appoints by lot nine Proedri, one from each tribe except that which holds the office of Prytanes for the time being; and out of these nine he similarly appoints one as President, and hands over the programme for the meeting to them. They take it and see to the preservation of order, put forward the various subjects which are to be considered, decide the results of the votings, and direct the proceedings generally. They also have power to dismiss the meeting. No one may act as President more than once in the year, but he may be a Proedrus once in each prytany.

Elections to the offices of General and Hipparch and all other military commands are held in the Assembly, in such manner as the people decide; they are held after the sixth prytany by the first board of Prytanes in whose term of office the omens are favourable. There has, however, to be a preliminary consideration by the Council in this case also.

45

In former times the Council had full powers to inflict fines and imprisonment and death; but when it had consigned Lysimachus to the executioner, and he was sitting in the immediate expectation of death, Eumelides of Alopece rescued him from its hands, maintaining that no citizen ought to be put to death except on the decision of a court of law. Accordingly a trial was held in a law-court, and Lysimachus was acquitted, receiving henceforth the nickname of ‘the man from the drum-head’; and the people deprived the Council thenceforward of the power to inflict death or imprisonment or fine, passing a law that if the Council condemn any person for an offence or inflict a fine, the Thesmothetae shall bring the sentence or fine before the law-court, and the decision of the jurors shall be the final judgement in the matter.

The Council passes judgement on nearly all magistrates, especially those who have the control of money; its judgement, however, is not final, but is subject to an appeal to the lawcourts. Private individuals, also, may lay an information against any magistrate they please for not obeying the laws, but here too there is an appeal to the law-courts if the Council declare the charge proved. The Council also examines those who are to be its members for the ensuing year, and likewise the nine Archons. Formerly the Council had full power to reject candidates for office as unsuitable, but now they have an appeal to the law-courts. In all these matters, therefore, the Council has no final jurisdiction. It takes, however, preliminary cognizance of all matters brought before the Assembly, and the Assembly cannot vote on any question unless it has first been considered by the Council and placed on the programme by the Prytanes; since a person who carries a motion in the Assembly is liable to an action for illegal proposal on these grounds.

46

The Council also superintends the triremes that are already in existence, with their tackle and sheds, and builds new triremes or quadriremes, whichever the Assembly votes, with tackle and sheds to match. The Assembly appoints master-builders for the ships by vote; and if they do not hand them over completed to the next Council, the old Council cannot receive the customary donation-that being normally given to it during its successor’s term of office. For the building of the triremes it appoints ten commissioners, chosen from its own members. The Council also inspects all public buildings, and if it is of opinion that the state is being defrauded, it reports the culprit to the Assembly, and on condemnation hands him over to the law-courts.

47

The Council also co-operates with other magistrates in most of their duties. First there are the treasurers of Athena, ten in number, elected by lot, one from each tribe. According to the law of Solon-which is still in force-they must be Pentacosiomedimni, but in point of fact the person on whom the lot falls holds the office even though he be quite a poor man. These officers take over charge of the statue of Athena, the figures of Victory, and all the other ornaments of the temple, together with the money, in the presence of the Council. Then there are the Commissioners for Public Contracts (Poletae), ten in number, one chosen by lot from each tribe, who farm out the public contracts. They lease the mines and taxes, in conjunction with the Military Treasurer and the Commissioners of the Theoric fund, in the presence of the Council, and grant, to the persons indicated by the vote of the Council, the mines which are let out by the state, including both the workable ones, which are let for three years, and those which are let under special agreements years. They also sell, in the presence of the Council, the property of those who have gone into exile from the court of the Areopagus, and of others whose goods have been confiscated, and the nine Archons ratify the contracts. They also hand over to the Council lists of the taxes which are farmed out for the year, entering on whitened tablets the name of the lessee and the amount paid. They make separate lists, first of those who have to pay their instalments in each prytany, on ten several tablets, next of those who pay thrice in the year, with a separate tablet for each instalment, and finally of those who pay in the ninth prytany. They also draw up a list of farms and dwellings which have been confiscated and sold by order of the courts; for these too come within their province. In the case of dwellings the value must be paid up in five years, and in that of farms, in ten. The instalments are paid in the ninth prytany. Further, the King-archon brings before the Council the leases of the sacred enclosures, written on whitened tablets. These too are leased for ten years, and the instalments are paid in the prytany; consequently it is in this prytany that the greatest amount of money is collected. The tablets containing the lists of the instalments are carried into the Council, and the public clerk takes charge of them. Whenever a payment of instalments is to be made he takes from the pigeon-holes the precise list of the sums which are to be paid and struck off on that day, and delivers it to the Receivers-General. The rest are kept apart, in order that no sum may be struck off before it is paid.

There are ten Receivers-General (Apodectae), elected by lot, one from each tribe. These officers receive the tablets, and strike off the instalments as they are paid, in the presence of the Council in the Council-chamber, and give the tablets back to the public clerk. If any one fails to pay his instalment, a note is made of it on the tablet; and he is bound to pay double the amount of the deficiency, or, in default, to be imprisoned. The Council has full power by the laws to exact these payments and to inflict this imprisonment. They receive all the instalments, therefore, on one day, and portion the money out among the magistrates; and on the next day they bring up the report of the apportionment, written on a wooden notice-board, and read it out in the Council-chamber, after which they ask publicly in the Council whether any one knows of any malpractice in reference to the apportionment, on the part of either a magistrate or a private individual, and if any one is charged with malpractice they take a vote on it.

The Council also elects ten Auditors (Logistae) by lot from its own members, to audit the accounts of the magistrates for each prytany. They also elect one Examiner of Accounts (Euthunus) by lot from each tribe, with two assessors (Paredri) for each examiner, whose duty it is to sit at the ordinary market hours, each opposite the statue of the eponymous hero of his tribe; and if any one wishes to prefer a charge, on either public or private grounds, against any magistrate who has passed his audit before the law-courts, within three days of his having so passed, he enters on a whitened tablet his own name and that of the magistrate prosecuted, together with the malpractice that is alleged against him. He also appends his claim for a penalty of such amount as seems to him fitting, and gives in the record to the Examiner. The latter takes it, and if after reading it he considers it proved he hands it over, if a private case, to the local justices who introduce cases for the tribe concerned, while if it is a public case he enters it on the register of the Thesmothetae. Then, if the Thesmothetae accept it, they bring the accounts of this magistrate once more before the law-court, and the decision of the jury stands as the final judgement.

The Council also inspects the horses belonging to the state. If a man who has a good horse is found to keep it in bad condition, he is mulcted in his allowance of corn; while those which cannot keep up or which shy and will not stand steady, it brands with a wheel on the jaw, and the horse so marked is disqualified for service. It also inspects those who appear to be fit for service as scouts, and any one whom it rejects is deprived of his horse. It also examines the infantry who serve among the cavalry, and any one whom it rejects ceases to receive his pay. The roll of the cavalry is drawn up by the Commissioners of Enrolment (Catalogeis), ten in number, elected by the Assembly by open vote. They hand over to the Hipparchs and Phylarchs the list of those whom they have enrolled, and these officers take it and bring it up before the Council, and there open the sealed tablet containing the names of the cavalry. If any of those who have been on the roll previously make affidavit that they are physically incapable of cavalry service, they strike them out; then they call up the persons newly enrolled, and if any one makes affidavit that he is either physically or pecuniarily incapable of cavalry service they dismiss him, but if no such affidavit is made the Council vote whether the individual in question is suitable for the purpose or not. If they vote in the affirmative his name is entered on the tablet; if not, he is dismissed with the others.

Formerly the Council used to decide on the plans for public buildings and the contract for making the robe of Athena; but now this work is done by a jury in the law-courts appointed by lot, since the Council was considered to have shown favouritism in its decisions. The Council also shares with the Military Treasurer the superintendence of the manufacture of the images of Victory and the prizes at the Panathenaic festival.

The Council also examines infirm paupers; for there is a law which provides that persons possessing less than three minas, who are so crippled as to be unable to do any work, are, after examination by the Council, to receive two obols a day from the state for their support. A treasurer is appointed by lot to attend to them.

The Council also, speaking broadly, cooperates in most of the duties of all the other magistrates; and this ends the list of the functions of that body.

50

There are ten Commissioners for Repairs of Temples, elected by lot, who receive a sum of thirty minas from the Receivers-General, and therewith carry out the most necessary repairs in the temples.

There are also ten City Commissioners (Astynomi), of whom five hold office in Piraeus and five in the city. Their duty is to see that female flute-and harp-and lute-players are not hired at more than two drachmas, and if more than one person is anxious to hire the same girl, they cast lots and hire her out to the person to whom the lot falls. They also provide that no collector of sewage shall shoot any of his sewage within ten stradia of the walls; they prevent people from blocking up the streets by building, or stretching barriers across them, or making drain-pipes in mid-air with a discharge into the street, or having doors which open outwards; they also remove the corpses of those who die in the streets, for which purpose they have a body of state slaves assigned to them.

Market Commissioners (Agoranomi) are elected by lot, five for Piraeus, five for the city. Their statutory duty is to see that all articles offered for sale in the market are pure and unadulterated.

Commissioners of Weights and Measures (Metronomi) are elected by lot, five for the city, and five for Piraeus. They see that sellers use fair weights and measures.

Formerly there were ten Corn Commissioners (Sitophylaces), elected by lot, five for Piraeus, and five for the city; but now there are twenty for the city and fifteen for Piraeus. Their duties are, first, to see that the unprepared corn in the market is offered for sale at reasonable prices, and secondly, to see that the millers sell barley meal at a price proportionate to that of barley, and that the bakers sell their loaves at a price proportionate to that of wheat, and of such weight as the Commissioners may appoint; for the law requires them to fix the standard weight.

There are ten Superintendents of the Mart, elected by lot, whose duty is to superintend the Mart, and to compel merchants to bring up into the city two-thirds of the corn which is brought by sea to the Corn Mart.

52

The Eleven also are appointed by lot to take care of the prisoners in the state gaol. Thieves, kidnappers, and pickpockets are brought to them, and if they plead guilty they are executed, but if they deny the charge the Eleven bring the case before the law-courts; if the prisoners are acquitted, they release them, but if not, they then execute them. They also bring up before the law-courts the list of farms and houses claimed as state-property; and if it is decided that they are so, they deliver them to the Commissioners for Public Contracts. The Eleven also bring up informations laid against magistrates alleged to be disqualified; this function comes within their province, but some such cases are brought up by the Thesmothetae.

There are also five Introducers of Cases (Eisagogeis), elected by lot, one for each pair of tribes, who bring up the ‘monthly’ cases to the law-courts. ‘Monthly’ cases are these: refusal to pay up a dowry where a party is bound to do so, refusal to pay interest on money borrowed at 12 per cent., or where a man desirous of setting up business in the market has borrowed from another man capital to start with; also cases of slander, cases arising out of friendly loans or partnerships, and cases concerned with slaves, cattle, and the office of trierarch, or with banks. These are brought up as ‘monthly’ cases and are introduced by these officers; but the Receivers-General perform the same function in cases for or against the farmers of taxes. Those in which the sum concerned is not more than ten drachmas they can decide summarily, but all above that amount they bring into the law-courts as ‘monthly’ cases.

53

The Forty are also elected by lot, four from each tribe, before whom suitors bring all other cases. Formerly they were thirty in number, and they went on circuit through the demes to hear causes; but after the oligarchy of the Thirty they were increased to forty. They have full powers to decide cases in which the amount at issue does not exceed ten drachmas, but anything beyond that value they hand over to the Arbitrators. The Arbitrators take up the case, and, if they cannot bring the parties to an agreement, they give a decision. If their decision satisfies both parties, and they abide by it, the case is at an end; but if either of the parties appeals to the law-courts, the Arbitrators enclose the evidence, the pleadings, and the laws quoted in the case in two urns, those of the plaintiff in the one, and those of the defendant in the other. These they seal up and, having attached to them the decision of the arbitrator, written out on a tablet, place them in the custody of the four justices whose function it is to introduce cases on behalf of the tribe of the defendant. These officers take them and bring up the case before the law-court, to a jury of two hundred and one members in cases up to the value of a thousand drachmas, or to one of four hundred and one in cases above that value. No laws or pleadings or evidence may be used except those which were adduced before the Arbitrator, and have been enclosed in the urns.

The Arbitrators are persons in the sixtieth year of their age; this appears from the schedule of the Archons and the Eponymi. There are two classes of Eponymi, the ten who give their names to the tribes, and the forty-two of the years of service. The youths, on being enrolled among the citizens, were formerly registered upon whitened tablets, and the names were appended of the Archon in whose year they were enrolled, and of the Eponymus who had been in course in the preceding year; at the present day they are written on a bronze pillar, which stands in front of the Council-chamber, near the Eponymi of the tribes. Then the Forty take the last of the Eponymi of the years of service, and assign the arbitrations to the persons belonging to that year, casting lots to determine which arbitrations each shall undertake; and every one is compelled to carry through the arbitrations which the lot assigns to him. The law enacts that any one who does not serve as Arbitrator when he has arrived at the necessary age shall lose his civil rights, unless he happens to be holding some other office during that year, or to be out of the country. These are the only persons who escape the duty. Any one who suffers injustice at the hands of the Arbitrator may appeal to the whole board of Arbitrators, and if they find the magistrate guilty, the law enacts that he shall lose his civil rights. The persons thus condemned have, however, in their turn an appeal. The Eponymi are also used in reference to military expeditions; when the men of military age are despatched on service, a notice is put up stating that the men from such-and such an Archon and Eponymus to such-and such another Archon and Eponymus are to go on the expedition.

54

The following magistrates also are elected by lot: Five Commissioners of Roads (Hodopoei), who, with an assigned body of public slaves, are required to keep the roads in order: and ten Auditors, with ten assistants, to whom all persons who have held any office must give in their accounts. These are the only officers who audit the accounts of those who are subject to examination, and who bring them up for examination before the law-courts. If they detect any magistrate in embezzlement, the jury condemn him for theft, and he is obliged to repay tenfold the sum he is declared to have misappropriated. If they charge a magistrate with accepting bribes and the jury convict him, they fine him for corruption, and this sum too is repaid tenfold. Or if they convict him of unfair dealing, he is fined on that charge, and the sum assessed is paid without increase, if payment is made before the ninth prytany, but otherwise it is doubled. A tenfold fine is not doubled.

The Clerk of the prytany, as he is called, is also elected by lot. He has the charge of all public documents, and keeps the resolutions which are passed by the Assembly, and checks the transcripts of all other official papers and attends at the sessions of the Council. Formerly he was elected by open vote, and the most distinguished and trustworthy persons were elected to the post, as is known from the fact that the name of this officer is appended on the pillars recording treaties of alliance and grants of consulship and citizenship. Now, however, he is elected by lot. There is, in addition, a Clerk of the Laws, elected by lot, who attends at the sessions of the Council; and he too checks the transcript of all the laws. The Assembly also elects by open vote a clerk to read documents to it and to the Council; but he has no other duty except that of reading aloud.

The Assembly also elects by lot the Commissioners of Public Worship (Hieropoei) known as the Commissioners for Sacrifices, who offer the sacrifices appointed by oracle, and, in conjunction with the seers, take the auspices whenever there is occasion. It also elects by lot ten others, known as Annual Commissioners, who offer certain sacrifices and administer all the quadrennial festivals except the Panathenaea. There are the following quadrennial festivals: first that of Delos (where there is also a sexennial festival), secondly the Brauronia, thirdly the Heracleia, fourthly the Eleusinia, and fifthly the Panathenaea; and no two of these are celebrated in the same place. To these the Hephaestia has now been added, in the archonship of Cephisophon.

An Archon is also elected by lot for Salamis, and a Demarch for Piraeus. These officers celebrate the Dionysia in these two places, and appoint Choregi. In Salamis, moreover, the name of the Archon is publicly recorded.

55

All the foregoing magistrates are elected by lot, and their powers are those which have been stated. To pass on to the nine Archons, as they are called, the manner of their appointment from the earliest times has been described already. At the present day six Thesmothetae are elected by lot, together with their clerk, and in addition to these an Archon, a King, and a Polemarch. One is elected from each tribe. They are examined first of all by the Council of Five Hundred, with the exception of the clerk. The latter is examined only in the lawcourt, like other magistrates (for all magistrates, whether elected by lot or by open vote, are examined before entering on their offices); but the nine Archons are examined both in the Council and again in the law-court. Formerly no one could hold the office if the Council rejected him, but now there is an appeal to the law-court, which is the final authority in the matter of the examination. When they are examined, they are asked, first, ‘Who is your father, and of what deme? who is your father’s father? who is your mother? who is your mother’s father, and of what deme?’ Then the candidate is asked whether he possesses an ancestral Apollo and a household Zeus, and where their sanctuaries are; next if he possesses a family tomb, and where; then if he treats his parents well, and pays his taxes, and has served on the required military expeditions. When the examiner has put these questions, he proceeds, ‘Call the witnesses to these facts’; and when the candidate has produced his witnesses, he next asks, ‘Does any one wish to make any accusation against this man?’ If an accuser appears, he gives the parties an opportunity of making their accusation and defence, and then puts it to the Council to pass the candidate or not, and to the law-court to give the final vote. If no one wishes to make an accusation, he proceeds at once to the vote. Formerly a single individual gave the vote, but now all the members are obliged to vote on the candidates, so that if any unprincipled candidate has managed to get rid of his accusers, it may still be possible for him to be disqualified before the law-court. When the examination has been thus completed, they proceed to the stone on which are the pieces of the victims, and on which the Arbitrators take oath before declaring their decisions, and witnesses swear to their testimony. On this stone the Archons stand, and swear to execute their office uprightly and according to the laws, and not to receive presents in respect of the performance of their duties, or, if they do, to dedicate a golden statue. When they have taken this oath they proceed to the Acropolis, and there they repeat it; after this they enter upon their office.

The Archon, the King, and the Polemarch have each two assessors, nominated by themselves. These officers are examined in the lawcourt before they begin to act, and give in accounts on each occasion of their acting.

As soon as the Archon enters office, he begins by issuing a proclamation that whatever any one possessed before he entered into office, that he shall possess and hold until the end of his term. Next he assigns Choregi to the tragic poets, choosing three of the richest persons out of the whole body of Athenians. Formerly he used also to assign five Choregi to the comic poets, but now the tribes provide the Choregi for them. Then he receives the Choregi who have been appointed by the tribes for the men's and boys' choruses and the comic poets at the Dionysia, and for the men's and boys' choruses at the Thargelia (at the Dionysia there is a chorus for each tribe, but at the Thargelia one between two tribes, each tribe bearing its share in providing it); he transacts the exchanges of properties for them, and reports any excuses that are tendered, if any one says that he has already borne this burden, or that he is exempt because he has borne a similar burden and the period of his exemption has not yet expired, or that he is not of the required age; since the Choregus of a boys' chorus must be over forty years of age. He also appoints Choregi for the festival at Delos, and a chief of the mission for the thirty-oar boat which conveys the youths thither. He also superintends sacred processions, both that in honour of Asclepius, when the initiated keep house, and that of the great Dionysia-the latter in conjunction with the Superintendents of that festival. These officers, ten in number, were formerly elected by open vote in the Assembly, and used to provide for the expenses of the procession out of their private means; but now one is elected by lot from each tribe, and the state contributes a hundred minas for the expenses. The Archon also superintends the procession at the Thargelia, and that in honour of Zeus the Saviour. He also manages the contests at the Dionysia and the Thargelia.

These, then, are the festivals which he superintends. The suits and indictments which come before him, and which he, after a preliminary inquiry, brings up before the lawcourts, are as follows. Injury to parents (for bringing these actions the prosecutor cannot suffer any penalty); injury to orphans (these actions lie against their guardians); injury to a ward of state (these lie against their guardians or their husbands), injury to an orphan's estate (these too lie against the guardians); mental derangement, where a party charges another with destroying his own property through unsoundness of mind; for appointment of liquidators, where a party refuses to divide property in which others have a share; for constituting a wardship; for determining between rival claims to a wardship; for granting inspection of property to which another party lays claim; for appointing oneself as guardian; and for determining disputes as to inheritances and wards of state. The Archon also has the care of orphans and wards of state, and of women who, on the death of their husbands, declare themselves to be with child; and he has power to inflict a fine on those who offend against the persons under his charge, or to bring the case before the law-courts. He also leases the houses of orphans and wards of state until they reach the age of fourteen, and takes mortgages on them; and if the guardians fail to provide the necessary food for the children under their charge, he exacts it from them. Such are the duties of the Archon.

57

The King in the first place superintends the mysteries, in conjunction with the Superintendents of Mysteries. The latter are elected in the Assembly by open vote, two from the general body of Athenians, one from the Eumolpidae, and one from the Ceryces. Next, he superintends the Lenaean Dionysia, which consists of a procession and a contest. The procession is ordered by the King and the Superintendents in conjunction; but the contest is managed by the King alone. He also manages all the contests of the torch-race; and to speak broadly, he administers all the ancestral sacrifices. Indictments for impiety come before him, or any disputes between parties concerning priestly rites; and he also determines all controversies concerning sacred rites for the ancient families and the priests. All actions for homicide come before him, and it is he that makes the proclamation requiring polluted persons to keep away from sacred ceremonies. Actions for homicide and wounding are heard, if the homicide or wounding be willful, in the Areopagus; so also in cases of killing by poison, and of arson. These are the only cases heard by that Council. Cases of unintentional homicide, or of intent to kill, or of killing a slave or a resident alien or a foreigner, are heard by the court of Palladium. When the homicide is acknowledged, but legal justification is pleaded, as when a man takes an adulterer in the act, or kills another by mistake in battle, or in an athletic contest, the prisoner is tried in the court of Delphinium. If a man who is in banishment for a homicide which admits of reconcilliation incurs a further charge of killing or wounding, he is tried in Phreatto, and he makes his defence from a boat moored near the shore. All these cases, except those which are heard in the Areopagus, are tried by the Ephetae on whom the lot falls. The King introduces them, and the hearing is held within sacred precincts and in the open air. Whenever the King hears a case he takes off his crown. The person who is charged with homicide is at all other times excluded from the temples, nor is it even lawful for him to enter the market-place; but on the occasion of his trial he enters the temple and makes his defence. If the actual offender is unknown, the writ runs against ‘the doer of the deed’. The King and the tribe-kings also hear the cases in which the guilt rests on inanimate objects and the lower animal.

58

The Polemarch performs the sacrifices to Artemis the huntress and to Enyalius, and arranges the contest at the funeral of those who have fallen in war, and makes offerings to the memory of Harmodius and Aristogeiton. Only private actions come before him, namely those in which resident aliens, both ordinary and privileged, and agents of foreign states are concerned. It is his duty to receive these cases and divide them into ten groups, and assign to each tribe the group which comes to it by lot; after which the magistrates who introduce cases for the tribe hand them over to the Arbitrators. The Polemarch, however, brings up in person cases in which an alien is charged with deserting his patron or neglecting to provide himself with one, and also of inheritances and wards of state where aliens are concerned; and in fact, generally, whatever the Archon does for citizens, the Polemarch does for aliens.

59

The Thesmothetae in the first place have the power of prescribing on what days the lawcourts are to sit, and next of assigning them to the several magistrates; for the latter must follow the arrangement which the Thesmothetae assign. Moreover they introduce impeachments before the Assembly, and bring up all votes for removal from office, challenges of a magistrate's conduct before the Assembly, indictments for illegal proposals, or for proposing a law which is contrary to the interests of the state, complaints against Proedri or their president for their conduct in office, and the accounts presented by the generals. All indictments also come before them in which a deposit has to be made by the prosecutor, namely, indictments for concealment of foreign origin, for corrupt evasion of foreign origin (when a man escapes the disqualification by bribery), for blackmailing accusations, bribery, false entry of another as a state debtor, false testimony to the service of a summons, conspiracy to enter a man as a state debtor, corrupt removal from the list of debtors, and adultery. They also bring up the examinations of all magistrates, and the rejections by the demes and the condemnations by the Council. Moreover they bring up certain private suits in cases of merchandise and mines, or where a slave has slandered a free man. It is they also who cast lots to assign the courts to the various magistrates, whether for private or public cases. They ratify commercial treaties, and bring up the cases which arise out of such treaties; and they also bring up cases of perjury from the Areopagus. The casting of lots for the jurors is conducted by all the nine Archons, with the clerk to the Thesmothetae as the tenth, each performing the duty for his own tribe. Such are the duties of the nine Archons.

There are also ten Commissioners of Games (Athlothetae), elected by lot, one from each tribe. These officers, after passing an examination, serve for four years; and they manage the Panathenaic procession, the contest in music and that in gymnastic, and the horse-race; they also provide the robe of Athena and, in conjunction with the Council, the vases, and they present the oil to the athletes. This oil is collected from the sacred olives. The Archon requisitions it from the owners of the farms on which the sacred olives grow, at the rate of three-quarters of a pint from each plant. Formerly the state used to sell the fruit itself, and if any one dug up or broke down one of the sacred olives, he was tried by the Council of Areopagus, and if he was condemned, the penalty was death. Since, however, the oil has been paid by the owner of the farm, the procedure has lapsed, though the law remains; and the oil is a state charge upon the property instead of being taken from the individual plants. When, then, the Archon has collected the oil for his year of office, he hands it over to the Treasurers to preserve in the Acropolis, and he may not take his seat in the Areopagus until he has paid over to the Treasurers the full amount. The Treasurers keep it in the Acropolis until the Panathenaea, when they measure it out to the Commissioners of Games, and they again to the victorious competitors. The prizes for the victors in the musical contest consist of silver and gold, for the victors in manly vigour, of shields, and for the victors in the gymnastic contest and the horse-race, of oil.

61

All officers connected with military service are elected by open vote. In the first place, ten Generals (Strategi), who were formerly elected one from each tribe, but now are chosen from the whole mass of citizens. Their duties are assigned to them by open vote; one is appointed to command the heavy infantry, and leads them if they go out to war; one to the defence of the country, who remains on the defensive, and fights if there is war within the borders of the country; two to Piraeus, one of whom is assigned to Munichia, and one to the south shore, and these have charge of the defence of the Piraeus; and one to superintend the symmories, who nominates the trierarchs arranges exchanges of properties for them, and brings up actions to decide on rival claims in connexion with them. The rest are dispatched to whatever business may be on hand at the moment. The appointment of these officers is submitted for confirmation in each prytany, when the question is put whether they are considered to be doing their duty. If any officer is rejected on this vote, he is tried in the lawcourt, and if he is found guilty the people decide what punishment or fine shall be inflicted on him; but if he is acquitted he resumes his office. The Generals have full power, when on active service, to arrest any one for insubordination, or to cashier him publicly, or to inflict a fine; the latter is, however, unusual.

There are also ten Taxiarchs, one from each tribe, elected by open vote; and each commands his own tribesmen and appoints captains of companies (Lochagi). There are also two Hipparchs, elected by open vote from the whole mass of the citizens, who command the cavalry, each taking five tribes. They have the same powers as the Generals have in respect of the infantry, and their appointments are also subject to confirmation. There are also ten Phylarchs, elected by open vote, one from each tribe, to command the cavalry, as the Taxiarchs do the infantry. There is also a Hipparch for Lemnos, elected by open vote, who has charge of the cavalry in Lemnos. There is also a treasurer of the Paralus, and another of the Ammonias, similarly elected.

Of the magistrates elected by lot, in former times some including the nine Archons, were elected out of the tribe as a whole, while others, namely those who are now elected in the Theseum, were apportioned among the demes; but since the demes used to sell the elections, these magistrates too are now elected from the whole tribe, except the members of the Council and the guards of the dockyards, who are still left to the demes.

Pay is received for the following services. First the members of the Assembly receive a drachma for the ordinary meetings, and nine obols for the 'sovereign' meeting. Then the jurors at the law-courts receive three obols; and the members of the Council five obols. They Prytanes receive an allowance of an obol for their maintenance. The nine Archons receive four obols apiece for maintenance, and also keep a herald and a flute-player; and the Archon for Salamis receives a drachma a day. The Commissioners for Games dine in the Prytaneum during the month of Hecatombaeon in which the Panathenaic festival takes place, from the fourteenth day onwards. The Amphictyonic deputies to Delos receive a drachma a day from the exchequer of Delos. Also all magistrates sent to Samos, Scyros, Lemnos, or Imbros receive an allowance for their maintenance. The military offices may be held any number of times, but none of the others more than once, except the membership of the Council, which may be held twice.

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The juries for the law-courts are chosen by lot by the nine Archons, each for their own tribe, and by the clerk to the Thesmothetae for the tenth. There are ten entrances into the courts, one for each tribe; twenty rooms in which the lots are drawn, two for each tribe; a hundred chests, ten for each tribe; other chests, in which are placed the tickets of the jurors on whom the lot falls; and two vases. Further, staves, equal in number to the jurors required, are placed by the side of each entrance; and counters are put into one vase, equal in number to the staves. These are inscribed with letters of the alphabet beginning with the eleventh (lambda), equal in number to the courts which require to be filled. All persons above thirty years of age are qualified to serve as jurors, provided they are not debtors to the state and have not lost their civil rights. If any unqualified person serves as juror, an information is laid against him, and he is brought before the court; and, if he is convicted, the jurors assess the punishment or fine which they consider him to deserve. If he is condemned to a money fine, he must be imprisoned until he has paid up both the original debt, on account of which the information was laid against him, and also the fine which the court as imposed upon him. Each juror has his ticket of boxwood, on which is inscribed his name, with the name of his father and his deme, and one of the letters of the alphabet up to kappa; for the jurors in their several tribes are divided into ten sections, with approximately an equal number in each letter. When the Thesmothetes has decided by lot which letters are required to attend at the courts, the servant puts up above each court the letter which has been assigned to it by the lot.

The ten chests above mentioned are placed in front of the entrance used by each tribe, and are inscribed with the letters of the alphabet from alpha to kappa. The jurors cast in their tickets, each into the chest on which is inscribed the letter which is on his ticket; then the servant shakes them all up, and the Archon draws one ticket from each chest. The individual so selected is called the Ticket-hanger (Empectes), and his function is to hang up the tickets out of his chest on the bar which bears the same letter as that on the chest. He is chosen by lot, lest, if the Ticket-hanger were always the same person, he might tamper with the results. There are five of these bars in each of the rooms assigned for the lot-drawing. Then the Archon casts in the dice and thereby chooses the jurors from each tribe, room by room. The dice are made of brass, coloured black or white; and according to the number of jurors required, so many white dice are put in, one for each five tickets, while the remainder are black, in the same proportion. As the Archon draws out the dice, the crier calls out the names of the individuals chosen. The Ticket-hanger is included among those selected. Each juror, as he is chosen and answers to his name, draws a counter from the vase, and holding it out with the letter uppermost shows it first to the presiding Archon; and he, when he has seen it, throws the ticket of the juror into the chest on which is inscribed the letter which is on the counter, so that the juror must go into the court assigned to him by lot, and not into one chosen by himself, and that it may be impossible for any one to collect the jurors of his choice into any particular court. For this purpose chests are placed near the Archon, as many in number as there are courts to be filled that day, bearing the letters of the courts on which the lot has fallen.

The juror thereupon, after showing his counter again to the attendant, passes through the barrier into the court. The attendant gives him a staff of the same colour as the court bearing the letter which is on his counter, so as to ensure his going into the court assigned to him by lot; since, if he were to go into any other, he would be betrayed by the colour of his staff. Each court has a certain colour painted on the lintel of the entrance. Accordingly the juror, bearing his staff, enters the court which has the same colour as his staff, and the same letter as his counter. As he enters, he receives a voucher from the official to whom this duty has been assigned by lot. So with their counters and their staves the selected jurors take their seats in the court, having thus completed the process of admission. The unsuccessful candidates receive back their tickets from the Ticket-hangers. The public servants carry the chests from each tribe, one to each court, containing the names of the members of the tribe who are in that court, and hand them over to the officials assigned to the duty of giving back their tickets to the jurors in each court, so that these officials may call them up by name and pay them their fee.

When all the courts are full, two ballot boxes are placed in the first court, and a number of brazen dice, bearing the colours of the several courts, and other dice inscribed with the names of the presiding magistrates. Then two of the Thesmothetae, selected by lot, severally throw the dice with the colours into one box, and those with the magistrates' names into the other. The magistrate whose name is first drawn is thereupon proclaimed by the crier as assigned for duty in the court which is first drawn, and the second in the second, and similarly with the rest. The object of this procedure is that no one may know which court he will have, but that each may take the court assigned to him by lot.

When the jurors have come in, and have been assigned to their respective courts, the presiding magistrate in each court draws one ticket out of each chest (making ten in all, one out of each tribe), and throws them into another empty chest. He then draws out five of them, and assigns one to the superintendence of the water-clock, and the other four to the telling of the votes. This is to prevent any tampering beforehand with either the superintendent of the clock or the tellers of the votes, and to secure that there is no malpractice in these respects. The five who have not been selected for these duties receive from them a statement of the order in which the jurors shall receive their fees, and of the places where the several tribes shall respectively gather in the court for this purpose when their duties are completed; the object being that the jurors may be broken up into small groups for the reception of their pay, and not all crowd together and impede one another.

These preliminaries being concluded, the cases are called on. If it is a day for private cases, the private litigants are called. Four cases are taken in each of the categories defined in the law, and the litigants swear to confine their speeches to the point at issue. If it is a day for public causes, the public litigants are called, and only one case is tried. Water-clocks are provided, having small supply-tubes, into which the water is poured by which the length of the pleadings is regulated. Ten gallons are allowed for a case in which an amount of more than five thousand drachmas is involved, and three for the second speech on each side. When the amount is between one and five thousand drachmas, seven gallons are allowed for the first speech and two for the second; when it is less than one thousand, five and two. Six gallons are allowed for arbitrations between rival claimants, in which there is no second speech. The official chosen by lot to superintend the water-clock places his hand on the supply tube whenever the clerk is about to read a resolution or law or affidavit or treaty. When, however, a case is conducted according to a set measurement of the day, he does not stop the supply, but each party receives an equal allowance of water. The standard of measurement is the length of the days in the month Poseideon.... The measured day is employed in cases when imprisonment, death, exile, loss of civil rights, or confiscation of goods is assigned as the penalty.

Most of the courts consist of 500 members...; and when it is necessary to bring public cases before a jury of 1,000 members, two courts combine for the purpose, the most important cases of all are brought 1,500 jurors, or three courts. The ballot balls are made of brass with stems running through the centre, half of them having the stem pierced and the other half solid. When the speeches are concluded, the officials assigned to the taking of the votes give each juror two ballot balls, one pierced and one solid. This is done in full view of the rival litigants, to secure that no one shall receive two pierced or two solid balls. Then the official designated for the purpose takes away the jurors staves, in return for which each one as he records his vote receives a brass voucher market with the numeral 3 (because he gets three obols when he gives it up). This is to ensure that all shall vote; since no one can get a voucher unless he votes. Two urns, one of brass and the other of wood, stand in the court, in distinct spots so that no one may surreptitiously insert ballot balls; in these the jurors record their votes. The brazen urn is for effective votes, the wooden for unused votes; and the brazen urn has a lid pierced so as to take only one ballot ball, in order that no one may put in two at a time.

When the jurors are about to vote, the crier demands first whether the litigants enter a protest against any of the evidence; for no protest can be received after the voting has begun. Then he proclaims again, ‘The pierced ballot for the plaintiff, the solid for the defendant’; and the juror, taking his two ballot balls from the stand, with his hand closed over the stem so as not to show either the pierced or the solid ballot to the litigants, casts the one which is to count into the brazen urn, and the other into the wooden urn.

When all the jurors have voted, the attendants take the urn containing the effective votes and discharge them on to a reckoning board having as many cavities as there are ballot balls, so that the effective votes, whether pierced or solid, may be plainly displayed and easily counted. Then the officials assigned to the taking of the votes tell them off on the board, the solid in one place and the pierced in another, and the crier announces the numbers of the votes, the pierced ballots being for the prosecutor and the solid for the defendant. Whichever has the majority is victorious; but if the votes are equal the verdict is for the defendant. Each juror receives two ballots, and uses one to record his vote, and throws the other away.

Then, if damages have to be awarded, they vote again in the same way, first returning their pay-vouchers and receiving back their staves. Half a gallon of water is allowed to each party for the discussion of the damages. Finally, when all has been completed in accordance with the law, the jurors receive their pay in the order assigned by the lot.

The Greek Texts

The ancient Agora, Athens

PRONOUNCING ANCIENT GREEK

This is a brief guide to pronouncing Ancient Greek, allowing readers to voice aloud Aristotle’s original text. You may wish to bookmark this page for future reference.

The Letters

Like the Roman alphabet, Greek has separate capital and lowercase letters, which are all provided here with their Roman equivalents.

Α, α	a
Β, β	b
Γ, γ	g
Δ, δ	d
Ε, ε	e
Ζ, ζ	z
Η, η	ê
Θ, θ	th
Ι, ι	i
Κ, κ	k
Λ, λ	l
Μ, μ	m
Ν, ν	n
Ξ, ξ	x
Ο, ο	o
Π, π	p
Ρ, ρ	r
Σ, σ, ς	s
Τ, τ	t
Υ, υ	y
Φ, φ	ph

Χ, χ	ch
Ψ, ψ	ps
Ω, ω	ô

Consonants

Most of the consonants are pronounced exactly as in English, except for:

The g is always hard as in ‘golf’, never soft.
z is pronounced zd.
x is pronounced with a ks sound.
r is rolled as in Spanish or Italian.
ps is always pronounced as two sounds
With aspirated consonants ph, th, ch and rh, ignore the h.
The ch should be pronounced the same as a k.

Diphthongs

ai as in aisle
ei as in vein
oi as in oil
au as ow in cow
eu as e of get followed by oo
ou as in soup

LIST OF GREEK TEXTS

In this section of the eBook, readers can view the original Greek texts of Aristotle's works, which are listed with their Greek name, their corrresponing Bekker number and an English translation of the title. You may wish to Bookmark this page for future reference.

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Κεφάλαιο 1

[1a] Ὁμώνυμα λέγεται ὧν ὄνομα μόνον κοινόν, ὁ δὲ κατὰ τοὔνομα λόγος τῆς οὐσίας ἕτερος, οἷον ζῷον ὅ τε ἄνθρωπος καὶ τὸ γεγραμμένον· τούτων γὰρ ὄνομα μόνον κοινόν, ὁ δὲ κατὰ τοὔνομα λόγος τῆς οὐσίας ἕτερος· ἐὰν γὰρ ἀποδιδῷ τις τί ἐστιν αὐτῶν ἑκατέρῳ τὸ ζῴῳ εἶναι, ἴδιον ἑκατέρου λόγον ἀποδώσει. συνώνυμα δὲ λέγεται ὧν τό τε ὄνομα κοινὸν καὶ ὁ κατὰ τοὔνομα λόγος τῆς οὐσίας ὁ αὐτός, οἷον ζῷον ὅ τε ἄνθρωπος καὶ ὁ βοῦς· τούτων γὰρ ἑκάτερον κοινῷ ὀνόματι προσαγορεύεται ζῷον, καὶ ὁ λόγος δὲ τῆς οὐσίας ὁ αὐτός· ἐὰν γὰρ ἀποδιδῷ τις τὸν ἑκατέρου λόγον τί ἐστιν αὐτῶν ἑκατέρῳ τὸ ζῴῳ εἶναι, τὸν αὐτὸν λόγον ἀποδώσει. παρώνυμα δὲ λέγεται ὅσα ἀπό τινος διαφέροντα τῇ πτώσει τὴν κατὰ τοὔνομα προσηγορίαν ἔχει, οἷον ἀπὸ τῆς γραμματικῆς ὁ γραμματικὸς καὶ ἀπὸ τῆς ἀνδρείας ὁ ἀνδρεῖος.

Τῶν λεγομένων τὰ μὲν κατὰ συμπλοκὴν λέγεται, τὰ δὲ ἄνευ συμπλοκῆς. τὰ μὲν οὖν κατὰ συμπλοκήν, οἷον ἄνθρωπος τρέχει, ἄνθρωπος νικᾷ· τὰ δὲ ἄνευ συμπλοκῆς, οἷον ἄνθρωπος, βοῦς, τρέχει, νικᾷ.

Κεφάλαιο 2

τῶν ὄντων τὰ μὲν καθ’ ὑποκειμένου τινὸς λέγεται, ἐν ὑποκειμένῳ δὲ οὐδενί ἐστιν, οἷον ἄνθρωπος καθ’ ὑποκειμένου μὲν λέγεται τοῦ τινὸς ἀνθρώπου, ἐν ὑποκειμένῳ δὲ οὐδενί ἐστιν· τὰ δὲ ἐν ὑποκειμένῳ μέν ἐστι, καθ’ ὑποκειμένου δὲ οὐδενὸς λέγεται, ἐν ὑποκειμένῳ δὲ λέγω ὃ ἔν τινι μὴ ὡς μέρος ὑπάρχον ἀδύνατον χωρὶς εἶναι τοῦ ἐν ᾧ ἐστίν, οἷον ἡ τὶς γραμματικὴ ἐν ὑποκειμένῳ μέν ἐστι τῇ ψυχῇ, καθ’ ὑποκειμένου δὲ οὐδενὸς λέγεται, καὶ τὸ τὶ λευκὸν ἐν ὑποκειμένῳ μέν ἐστι τῷ σώματι, ἅπαν γὰρ χρῶμα ἐν σώματι, καθ’ ὑποκειμένου δὲ οὐδενὸς λέγεται· τὰ δὲ καθ’ ὑποκειμένου τε λέγεται καὶ ἐν ὑποκειμένῳ ἐστίν, οἷον ἡ ἐπιστήμη ἐν ὑποκειμένῳ μέν ἐστι τῇ ψυχῇ, καθ’ ὑποκειμένου δὲ λέγεται τῆς γραμματικῆς· τὰ δὲ οὔτε ἐν ὑποκειμένῳ ἐστὶν οὔτε καθ’ ὑποκειμένου λέγεται, οἷον ὁ τὶς ἄνθρωπος ἢ ὁ τὶς ἵππος, οὐδὲν γὰρ τῶν τοιούτων οὔτε ἐν ὑποκειμένῳ ἐστὶν οὔτε καθ’ ὑποκειμένου λέγεται· ἁπλῶς δὲ τὰ ἄτομα καὶ ἓν ἀριθμῷ κατ’ οὐδενὸς ὑποκειμένου λέγεται, ἐν ὑποκειμένῳ δὲ ἔνια οὐδὲν κωλύει εἶναι· ἡ γὰρ τὶς γραμματικὴ τῶν ἐν ὑποκειμένῳ ἐστίν.

Κεφάλαιο 3

Ὅταν ἕτερον καθ’ ἑτέρου κατηγορῆται ὡς καθ’ ὑποκειμένου, ὅσα κατὰ τοῦ κατηγορουμένου λέγεται, πάντα καὶ κατὰ τοῦ ὑποκειμένου ῥηθήσεται· οἷον ἄνθρωπος κατὰ τοῦ τινὸς ἀνθρώπου κατηγορεῖται, τὸ δὲ ζῷον κατὰ τοῦ ἀνθρώπου· οὐκοῦν καὶ κατὰ τοῦ τινὸς ἀνθρώπου τὸ ζῷον κατηγορηθήσεται· ὁ γὰρ τὶς ἄνθρωπος καὶ ἄνθρωπός ἐστι καὶ ζῷον.

τῶν ἑτερογενῶν καὶ μὴ ὑπ’ ἄλληλα τεταγμένων ἕτεραι τῷ εἴδει καὶ αἱ διαφοραί, οἷον ζῴου καὶ ἐπιστήμης· ζῴου μὲν γὰρ διαφοραὶ τό τε πεζὸν καὶ τὸ πτηνὸν καὶ τὸ ἔνυδρον καὶ τὸ δίπουν, ἐπιστήμης δὲ οὐδεμία τούτων· οὐ γὰρ διαφέρει ἐπιστήμη ἐπιστήμης τῷ δίπους εἶναι. τῶν δέ γε ὑπ’ ἄλληλα γενῶν οὐδὲν κωλύει τὰς αὐτὰς διαφορὰς εἶναι· τὰ γὰρ ἐπάνω τῶν ὑπ’ αὐτὰ γενῶν κατηγορεῖται, ὥστε ὅσαι τοῦ κατηγορουμένου διαφοραί εἰσι τοσαῦται καὶ τοῦ ὑποκειμένου ἔσονται.

Κεφάλαιο 4

Τῶν κατὰ μηδεμίαν συμπλοκὴν λεγομένων ἕκαστον ἤτοι οὐσίαν σημαίνει ἢ ποσὸν ἢ ποιὸν ἢ πρός τι ἢ ποὺ ἢ ποτὲ ἢ κεῖσθαι ἢ ἔχειν ἢ ποιεῖν ἢ πάσχειν. ἔστι δὲ οὐσία μὲν ὡς τύπῳ εἰπεῖν οἶον ἄνθρωπος, ἵππος· ποσὸν δὲ οἶον δίπηχυ, τρίπηχυ· ποιὸν δὲ οἶον λευκόν, γραμματικόν· πρός τι δὲ [2a] οἶον διπλάσιον, ἥμισυ, μεῖζον· ποὺ δὲ οἶον ἐν Λυκείῳ, ἐν ἀγορᾷ· ποτὲ δὲ οἶον χθές, πέρυσιν· κεῖσθαι δὲ οἶον ἀνάκειται,κάθηται· ἔχειν δὲ οἶον ὑποδέδεται, ὥπλισται· ποιεῖν δὲ οἶον τέμνειν, καίειν· πάσχειν δὲ οἶον τέμνεσθαι, καίεσθαι. ἕκαστον δὲ τῶν εἰρημένων αὐτὸ μὲν καθ’ αὐτὸ ἐν οὐδεμιᾷ καταφάσει λέγεται, τῇ δὲ πρὸς ἄλληλα τούτων συμπλοκῇ κατάφασις γίγνεται· ἅπασα γὰρ δοκεῖ κατάφασις ἤτοι ἀληθὴς ἢ ψευδὴς εἶναι, τῶν δὲ κατὰ μηδεμίαν συμπλοκὴν λεγομένων οὐδὲν οὔτε ἀληθὲς οὔτε ψεῦδός ἐστιν, οἶον ἄνθρωπος, λευκόν, τρέχει, νικᾷ.

Κεφάλαιο 5

Οὐσία δέ ἐστιν ἡ κυριώτατά τε καὶ πρώτως καὶ μάλιστα λεγομένη, ἣ μήτε καθ’ ὑποκειμένου τινὸς λέγεται μήτε ἐν ὑποκειμένῳ τινί ἐστιν, οἷον ὁ τὶς ἄνθρωπος ἢ ὁ τὶς ἵππος. δεύτεραι δὲ οὐσίαι λέγονται, ἐν οἷς εἴδεσιν αἱ πρώτως οὐσίαι λεγόμεναι ὑπάρχουσιν, ταῦτά τε καὶ τὰ τῶν εἰδῶν τούτων γένη· οἷον ὁ τὶς ἄνθρωπος ἐν εἴδει μὲν ὑπάρχει τῷ ἀνθρώπῳ, γένος δὲ τοῦ εἴδους ἐστὶ τὸ ζῷον· δεύτεραι οὖν αὗται λέγονται οὐσίαι, οἷον ὅ τε ἄνθρωπος καὶ τὸ ζῷον. — φανερὸν δὲ ἐκ τῶν εἰρημένων ὅτι τῶν καθ’ ὑποκειμένου λεγομένων ἀναγκαῖον καὶ τοὔνομα καὶ τὸν λόγον κατηγορεῖσθαι τοῦ ὑποκειμένου· οἷον ἄνθρωπος καθ’ ὑποκειμένου λέγεται τοῦ τινὸς ἀνθρώπου, καὶ κατηγορεῖταί γε τοὔνομα, — τὸν γὰρ ἄνθρωπον κατὰ τοῦ τινὸς ἀνθρώπου κατηγορήσεις· — καὶ ὁ λόγος δὲ τοῦ ἀνθρώπου κατὰ τοῦ τινὸς ἀνθρώπου κατηγορηθήσεται, — ὁ γὰρ τὶς ἄνθρωπος καὶ ἄνθρωπός ἐστιν· — ὥστε καὶ τοὔνομα καὶ ὁ λόγος κατὰ τοῦ ὑποκειμένου κατηγορηθήσεται. τῶν δ’ ἐν ὑποκειμένῳ ὄντων ἐπὶ μὲν τῶν πλείστων οὔτε τοὔνομα οὔτε ὁ λόγος κατηγορεῖται τοῦ ὑποκειμένου· ἐπ’ ἐνίων δὲ τοὔνομα μὲν οὐδὲν κωλύει κατηγορεῖσθαι τοῦ ὑποκειμένου, τὸν δὲ λόγον ἀδύνατον· οἷον τὸ λευκὸν ἐν ὑποκειμένῳ ὂν τῷ σώματι κατηγορεῖται τοῦ ὑποκειμένου, — λευκὸν γὰρ σῶμα λέγεται, — ὁ δὲ λόγος τοῦ λευκοῦ οὐδέποτε κατὰ τοῦ σώματος κατηγορηθήσεται. — τὰ δ’ ἄλλα πάντα ἤτοι καθ’ ὑποκειμένων λέγεται τῶν πρώτων οὐσιῶν ἢ ἐν ὑποκειμέναις αὐταῖς ἐστίν. τοῦτο δὲ φανερὸν ἐκ τῶν καθ’ ἕκαστα προχειριζομένων· οἷον τὸ ζῷον κατὰ τοῦ ἀνθρώπου κατηγορεῖται, οὐκοῦν καὶ κατὰ τοῦ τινὸς ἀνθρώπου, — εἰ γὰρ κατὰ μηδενὸς τῶν τινῶν [2b] ἀνθρώπων, οὐδὲ κατὰ ἀνθρώπου ὅλως· — πάλιν τὸ χρῶμα ἐν σώματι, οὐκοῦν καὶ ἐν τινὶ σώματι· εἰ γὰρ μὴ ἐν τινὶ τῶν καθ’ ἕκαστα, οὐδὲ ἐν σώματι ὅλως· ὥστε τὰ ἄλλα πάντα ἤτοι καθ’ ὑποκειμένων τῶν πρώτων οὐσιῶν λέγεται ἢ ἐν ὑποκειμέναις αὐταῖς ἐστίν. μὴ οὐσῶν οὖν τῶν πρώτων οὐσιῶν ἀδύνατον τῶν ἄλλων τι εἶναι· πάντα γὰρ τὰ ἄλλα ἤτοι καθ’ ὑποκειμένων τούτων λέγεται ἢ ἐν ὑποκειμέναις αὐταῖς ἐστίν· ὥστε μὴ οὐσῶν τῶν πρώτων οὐσιῶν ἀδύνατον τῶν ἄλλων τι εἶναι.

Τῶν δὲ δευτέρων οὐσιῶν μᾶλλον οὐσία τὸ εἶδος τοῦ γένους· ἔγγιον γὰρ τῆς πρώτης οὐσίας ἐστίν. ἐὰν γὰρ ἀποδιδῷ τις τὴν πρώτην οὐσίαν τί ἐστι, γνωριμώτερον καὶ οἰκειότερον ἀποδώσει τὸ εἶδος ἀποδιδοὺς ἢ τὸ γένος· οἷον τὸν τινὰ ἄνθρωπον γνωριμώτερον ἂν ἀποδοίη ἄνθρωπον ἀποδιδοὺς ἢ ζῷον, — τὸ μὲν γὰρ ἴδιον μᾶλλον τοῦ τινὸς ἀνθρώπου, τὸ δὲ κοινότερον, — καὶ τὸ τὶ δένδρον ἀποδιδοὺς γνωριμώτερον ἀποδώσει δένδρον ἀποδιδοὺς ἢ φυτόν. ἔτι αἱ πρῶται οὐσίαι διὰ τὸ τοῖς ἄλλοις ἅπασιν ὑποκεῖσθαι καὶ πάντα τὰ ἄλλα κατὰ τούτων κατηγορεῖσθαι ἢ ἐν ταύταις εἶναι διὰ τοῦτο μάλιστα οὐσίαι λέγονται· ὡς δέ γε αἱ πρῶται οὐσίαι πρὸς τὰ ἄλλα ἔχουσιν, οὕτω καὶ τὸ εἶδος πρὸς τὸ γένος ἔχει· — ὑπόκειται γὰρ τὸ εἶδος τῷ γένει· τὰ μὲν γὰρ γένη κατὰ τῶν εἰδῶν κατηγορεῖται, τὰ δὲ εἴδη κατὰ τῶν γενῶν οὐκ ἀντιστρέφει· — ὥστε καὶ ἐκτούτων τὸ εἶδος τοῦ γένους μᾶλλον οὐσία. — αὐτῶν δὲ τῶν εἰδῶν ὅσα μή ἐστι γένη, οὐδὲν μᾶλλον ἕτερον ἑτέρου οὐσία ἐστίν· οὐδὲν γὰρ οἰκειότερον ἀποδώσει κατὰ τοῦ τινὸς ἀνθρώπου τὸν ἄνθρωπον ἀποδιδοὺς ἢ κατὰ τοῦ τινὸς ἵππου τὸν ἵππον. ὡσαύτως δὲ καὶ τῶν πρώτων οὐσιῶν οὐδὲν μᾶλλον ἕτερον ἑτέρου οὐσία ἐστίν· οὐδὲν γὰρ μᾶλλον ὁ τὶς ἄνθρωπος οὐσία ἢ ὁ τὶς βοῦς.

Εἰκότως δὲ μετὰ τὰς πρώτας οὐσίας μόνα τῶν ἄλλων τὰ εἴδη καὶ τὰ γένη δεύτεραι οὐσίαι λέγονται· μόνα γὰρ δηλοῖ τὴν πρώτην οὐσίαν τῶν κατηγορουμένων· τὸν γὰρ τινὰ ἄνθρωπον ἐὰν ἀποδιδῷ τις τί ἐστιν, τὸ μὲν εἶδος ἢ τὸ γένος ἀποδιδοὺς οἰκείως ἀποδώσει, — καὶ γνωριμώτερον ποιήσει ἄνθρωπον ἢ ζῷον ἀποδιδούς· — τῶν δ’ ἄλλων ὅ τι ἂν ἀποδιδῷ τις, ἀλλοτρίως ἔσται ἀποδεδωκώς, οἷον λευκὸν ἢ τρέχει ἢ ὁτιοῦν τῶν τοιούτων ἀποδιδούς· ὥστε εἰκότως ταῦτα μόνα τῶν ἄλλων οὐσίαι λέγονται. ἔτι αἱ πρῶται οὐσίαι διὰ τὸ τοῖς ἄλλοις ἅπασιν ὑποκεῖσθαι κυριώτατα οὐσίαι [3a] λέγονται· ὡς δέ γε αἱ πρῶται οὐσίαι πρὸς τὰ ἄλλα πάντα ἔχουσιν, οὕτω τὰ εἴδη καὶ τὰ γένη τῶν πρώτων οὐσιῶν πρὸς τὰ λοιπὰ πάντα ἔχει· κατὰ τούτων γὰρ πάντα τὰ λοιπὰ κατηγορεῖται· τὸν γὰρ τινὰ ἄνθρωπον ἐρεῖς γραμματικόν, οὐκοῦν καὶ ἄνθρωπον καὶ ζῷον γραμματικὸν ἐρεῖς· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων.

Κοινὸν δὲ κατὰ πάσης οὐσίας τὸ μὴ ἐν ὑποκειμένῳ εἶναι. ἡ μὲν γὰρ πρώτη οὐσία οὔτε καθ’ ὑποκειμένου λέγεται οὔτε ἐν ὑποκειμένῳ ἐστίν. τῶν δὲ δευτέρων οὐσιῶν φανερὸν μὲν καὶ οὕτως ὅτι οὐκ εἰσὶν ἐν ὑποκειμένῳ· ὁ γὰρ ἄνθρωπος καθ’ ὑποκειμένου μὲν τοῦ τινὸς ἀνθρώπου λέγεται, ἐν ὑποκειμένῳ δὲ οὐκ ἔστιν, — οὐ γὰρ ἐν τῷ τινὶ ἀνθρώπῳ ὁ ἄνθρωπός ἐστιν· — ὡσαύτως δὲ καὶ τὸ ζῷον καθ’ ὑποκειμένου μὲν λέγεται τοῦ τινὸς ἀνθρώπου, οὐκ ἔστι δὲ τὸ ζῷον ἐν τῷ τινὶ ἀνθρώπῳ. ἔτι δὲ τῶν ἐν ὑποκειμένῳ ὄντων τὸ μὲν ὄνομα οὐδὲν κωλύει κατηγορεῖσθαί ποτε τοῦ ὑποκειμένου, τὸν δὲ λόγον ἀδύνατον· τῶν δὲ δευτέρων οὐσιῶν κατηγορεῖται καὶ ὁ λόγος κατὰ τοῦ ὑποκειμένου καὶ τοὔνομα, — τὸν γὰρ τοῦ ἀνθρώπου λόγον κατὰ τοῦ τινὸς ἀνθρώπου κατηγορήσεις καὶ τὸν τοῦ ζῴου. — ὥστε οὐκ ἂν εἴη οὐσία τῶν ἐν ὑποκειμένῳ. — οὐκ ἴδιον δὲ οὐσίας τοῦτο, ἀλλὰ καὶ ἡ διαφορὰ τῶν μὴ ἐν ὑποκειμένῳ ἐστίν· τὸ γὰρ πεζὸν καὶ τὸ δίπουν καθ’ ὑποκειμένου μὲν λέγεται τοῦ ἀνθρώπου, ἐν ὑποκειμένῳ δὲ οὐκ ἔστιν, — οὐ γὰρ ἐν τῷ ἀνθρώπῳ ἐστὶ τὸ δίπουν οὐδὲ τὸ πεζόν. — καὶ ὁ λόγος δὲ κατηγορεῖται ὁ τῆς διαφορᾶς καθ’ οὗ ἂν λέγηται ἡ διαφορά· οἷον εἰ τὸ πεζὸν κατὰ ἀνθρώπου λέγεται, καὶ ὁ λόγος τοῦ πεζοῦ κατηγορηθήσεται τοῦ ἀνθρώπου, — πεζὸν γάρ ἐστιν ὁ ἄνθρωπος. — μὴ ταραττέτω δὲ ἡμᾶς τὰ μέρη τῶν οὐσιῶν ὡς ἐν ὑποκειμένοις ὄντα τοῖς ὅλοις, μή ποτε ἀναγκασθῶμεν οὐκ οὐσίας αὐτὰ φάσκειν εἶναι· οὐ γὰρ οὕτω τὰ ἐν ὑποκειμένῳ ἐλέγετο τὰ ὡς μέρη ὑπάρχοντα ἔν τινι.

Ὑπάρχει δὲ ταῖς οὐσίαις καὶ ταῖς διαφοραῖς τὸ πάντα συνωνύμως ἀπ’ αὐτῶν λέγεσθαι· πᾶσαι γὰρ αἱ ἀπὸ τούτων κατηγορίαι ἤτοι κατὰ τῶν ἀτόμων κατηγοροῦνται ἢ κατὰ τῶν εἰδῶν. ἀπὸ μὲν γὰρ τῆς πρώτης οὐσίας οὐδεμία ἐστὶ κατηγορία, — κατ’ οὐδενὸς γὰρ ὑποκειμένου λέγεται· — τῶν δὲ δευτέρων οὐσιῶν τὸ μὲν εἶδος κατὰ τοῦ ἀτόμου κατηγορεῖται, τὸ δὲ γένος καὶ κατὰ τοῦ εἴδους καὶ κατὰ τοῦ ἀτόμου· [3b] ὡσαύτως δὲ καὶ αἱ διαφοραὶ καὶ κατὰ τῶν εἰδῶν καὶ κατὰ τῶν ἀτόμων κατηγοροῦνται. καὶ τὸν λόγον δὲ ἐπιδέχονται αἱ πρῶται οὐσίαι τὸν τῶν εἰδῶν καὶ τὸν τῶν γενῶν, καὶ τὸ εἶδος δὲ τὸν τοῦ γένους. — ὅσα γὰρ κατὰ τοῦ κατηγορουμένου λέγεται, καὶ κατὰ τοῦ ὑποκειμένου ῥηθήσεται· — ὡσαύτως δὲ καὶ τὸν τῶν διαφορῶν λόγον ἐπιδέχεται τά τε εἴδη καὶ τὰ ἄτομα· συνώνυμα δέ γε ἦν ὧν καὶ τοὔνομα κοινὸν καὶ ὁ λόγος ὁ αὐτός. ὥστε πάντα τὰ ἀπὸ τῶν οὐσιῶν καὶ τῶν διαφορῶν συνωνύμως λέγεται.

Πᾶσα δὲ οὐσία δοκεῖ τόδε τι σημαίνειν. ἐπὶ μὲν οὖν τῶν πρώτων οὐσιῶν ἀναμφισβήτητον καὶ ἀληθές ἐστιν ὅτι τόδε τι σημαίνει· ἄτομον γὰρ καὶ ἓν ἀριθμῷ τὸ δηλούμενόν ἐστιν. ἐπὶ δὲ τῶν δευτέρων οὐσιῶν φαίνεται μὲν ὁμοίως τῷ σχήματι τῆς προσηγορίας τόδε τι σημαίνειν, ὅταν εἴπῃ ἄνθρωπον ἢ ζῷον· οὐ μὴν ἀληθές γε, ἀλλὰ μᾶλλον ποιόν τι σημαίνει, — οὐ γὰρ ἕν ἐστι τὸ ὑποκείμενον ὥσπερ ἡ πρώτη οὐσία, ἀλλὰ κατὰ πολλῶν ὁ ἄνθρωπος λέγεται καὶ τὸ ζῷον· — οὐχ ἁπλῶς δὲ ποιόν τι σημαίνει, ὥσπερ τὸ λευκόν· οὐδὲν γὰρ ἄλλο σημαίνει τὸ λευκὸν ἀλλ’ ἢ ποιόν, τὸ δὲ εἶδος καὶ τὸ γένος περὶ οὐσίαν τὸ ποιὸν ἀφορίζει, — ποιὰν γάρ τινα οὐσίαν σημαίνει. — ἐπὶ πλεῖον δὲ τῷ γένει ἢ τῷ εἴδει τὸν ἀφορισμὸν ποιεῖται· ὁ γὰρ ζῷον εἰπὼν ἐπὶ πλεῖον περιλαμβάνει ἢ ὁ τὸν ἄνθρωπον.

Ὑπάρχει δὲ ταῖς οὐσίαις καὶ τὸ μηδὲν αὐταῖς ἐναντίον εἶναι. τῇ γὰρ πρώτῃ οὐσίᾳ τί ἂν εἴη ἐναντίον; οἷον τῷ τινὶ ἀνθρώπῳ οὐδέν ἐστιν ἐναντίον, οὐδέ γε τῷ ἀνθρώπῳ ἢ τῷ ζῴῳ οὐδέν ἐστιν ἐναντίον. οὐκ ἴδιον δὲ τῆς οὐσίας τοῦτο, ἀλλὰ καὶ ἐπ’ ἄλλων πολλῶν οἷον ἐπὶ τοῦ ποσοῦ· τῷ γὰρ διπήχει οὐδέν ἐστιν ἐναντίον, οὐδὲ τοῖς δέκα, οὐδὲ τῶν τοιούτων οὐδενί, εἰ μή τις τὸ πολὺ τῷ ὀλίγῳ φαίη ἐναντίον εἶναι ἢ τὸ μέγα τῷ μικρῷ· τῶν δὲ ἀφωρισμένων ποσῶν οὐδὲν οὐδενὶ ἐναντίον ἐστίν.

Δοκεῖ δὲ ἡ οὐσία οὐκ ἐπιδέχεσθαι τὸ μᾶλλον καὶ τὸ ἧττον· λέγω δὲ οὐχ ὅτι οὐσία οὐσίας οὐκ ἔστι μᾶλλον οὐσία, — τοῦτο μὲν γὰρ εἴρηται ὅτι ἔστιν, — ἀλλ’ ὅτι ἑκάστη οὐσία τοῦθ’ ὅπερ ἐστὶν οὐ λέγεται μᾶλλον καὶ ἧττον· οἷον εἰ ἔστιν αὕτη ἡ οὐσία ἄνθρωπος, οὐκ ἔσται μᾶλλον καὶ ἧττον ἄνθρωπος, οὔτε αὐτὸς αὑτοῦ οὔτε ἕτερος ἑτέρου. οὐ γάρ ἐστιν ἕτερος ἑτέρου μᾶλλον ἄνθρωπος, ὥσπερ [4a] τὸ λευκόν ἐστιν ἕτερον ἑτέρου μᾶλλον λευκόν, καὶ καλὸν ἕτερον ἑτέρου μᾶλλον· καὶ αὐτὸ δὲ αὑτοῦ μᾶλλον καὶ ἧττον λέγεται, οἷον τὸ σῶμα λευκὸν ὂν μᾶλλον λευκὸν λέγεται νῦν ἢ πρότερον, καὶ θερμὸν ὂν μᾶλλον θερμὸν καὶ ἧττον λέγεται· ἡ δέ γε οὐσία οὐδὲν λέγεται, — οὐδὲ γὰρ ἄνθρωπος μᾶλλον νῦν ἄνθρωπος ἢ πρότερον λέγεται, οὐδὲ τῶν ἄλλων οὐδέν, ὅσα ἐστὶν οὐσία· — ὥστε οὐκ ἂν ἐπιδέχοιτο ἡ οὐσία τὸ μᾶλλον καὶ ἧττον.

Μάλιστα δὲ ἴδιον τῆς οὐσίας δοκεῖ εἶναι τὸ ταὐτὸν καὶ ἓν ἀριθμῷ ὂν τῶν ἐναντίων εἶναι δεκτικόν· οἷον ἐπὶ μὲν τῶν ἄλλων οὐδενὸς ἂν ἔχοι τις προενεγκεῖν [ὅσα μή ἐστιν οὐσία], ὃ ἓν ἀριθμῷ ὂν τῶν ἐναντίων δεκτικόν ἐστιν· οἷον τὸ χρῶμα, ὅ ἐστιν ἓν καὶ ταὐτὸν ἀριθμῷ, οὐκ ἔσται λευκὸν καὶ μέλαν, οὐδὲ ἡ αὐτὴ πρᾶξις καὶ μία τῷ ἀριθμῷ οὐκ ἔσται φαύλη καὶ σπουδαία, ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων, ὅσα μή ἐστιν οὐσία. ἡ δέ γε οὐσία ἓν καὶ ταὐτὸν ἀριθμῷ ὂν δεκτικὸν τῶν ἐναντίων ἐστίν· οἷον ὁ τὶς ἄνθρωπος, εἷς καὶ ὁ αὐτὸς ὤν, ὁτὲ μὲν λευκὸς ὁτὲ δὲ μέλας γίγνεται, καὶ θερμὸς καὶ ψυχρός, καὶ φαῦλος καὶ σπουδαῖος. ἐπὶ δὲ τῶν ἄλλων οὐδενὸς φαίνεται τὸ τοιοῦτον, εἰ μή τις ἐνίσταιτο τὸν λόγον καὶ τὴν δόξαν φάσκων τῶν τοιούτων εἶναι· ὁ γὰρ αὐτὸς λόγος ἀληθής τε καὶ ψευδὴς εἶναι δοκεῖ, οἷον εἰ ἀληθὴς εἴη ὁ λόγος τὸ καθῆσθαί τινα, ἀναστάντος αὐτοῦ ὁ αὐτὸς οὗτος ψευδὴς ἔσται· ὡσαύτως δὲ καὶ ἐπὶ τῆς δόξης· εἰ γάρ τις ἀληθῶςδοξάζοι τὸ καθῆσθαί τινα, ἀναστάντος αὐτοῦ ψευδῶς δοξάσει τὴν αὐτὴν ἔχων περὶ αὐτοῦ δόξαν. εἰ δέ τις καὶ τοῦτο παραδέχοιτο, ἀλλὰ τῷ γε τρόπῳ διαφέρει· τὰ μὲν γὰρ ἐπὶ τῶν οὐσιῶν αὐτὰ μεταβάλλοντα δεκτικὰ τῶν ἐναντίων ἐστίν, — ψυχρὸν γὰρ ἐκ θερμοῦ γενόμενον μετέβαλεν (ἠλλοίωται γάρ), καὶ μέλαν ἐκ λευκοῦ καὶ σπουδαῖον ἐκ φαύλου, ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων ἕκαστον αὐτὸ μεταβολὴν δεχόμενον τῶν ἐναντίων δεκτικόν ἐστιν· — ὁ δὲ λόγος καὶ ἡ δόξα αὐτὰ μὲν ἀκίνητα πάντῃ πάντως διαμένει, τοῦ δὲ πράγματος κινουμένου τὸ ἐναντίον περὶ αὐτὰ γίγνεται· ὁ μὲν γὰρ λόγος διαμένει ὁ αὐτὸς τὸ καθῆσθαί τινα, τοῦ δὲ [4b] πράγματος κινηθέντος ὁτὲ μὲν ἀληθὴς ὁτὲ δὲ ψευδὴς γίγνεται· ὡσαύτως δὲ καὶ ἐπὶ τῆς δόξης. ὥστε τῷ τρόπῳ γε ἴδιον ἂν εἴη τῆς οὐσίας τὸ κατὰ τὴν αὑτῆς μεταβολὴν δεκτικὴν τῶν ἐναντίων εἶναι, — εἰ δή τις καὶ ταῦτα παραδέχοιτο, τὴν δόξαν καὶ τὸν λόγον δεκτικὰ τῶν ἐναντίων εἶναι. οὐκ ἔστι δὲ ἀληθὲς τοῦτο· ὁ γὰρ λόγος καὶ ἡ δόξα οὐ τῷ αὐτὰ δέχεσθαί τι τῶν ἐναντίων εἶναι δεκτικὰ λέγεται, ἀλλὰ τῷ περὶ ἕτερόν τι τὸ πάθος γεγενῆσθαι· — τῷ γὰρ τὸ πρᾶγμα εἶναι ἢ μὴ εἶναι, τούτῳ καὶ ὁ λόγος ἀληθὴς ἢ ψευδὴς εἶναι λέγεται, οὐ τῷ αὐτὸν δεκτικὸν εἶναι τῶν ἐναντίων· ἁπλῶς γὰρ οὐδὲν ὑπ' οὐδενὸς οὔτε ὁ λόγος κινεῖται οὔτε ἡ δόξα, ὥστε οὐκ ἂν εἴη δεκτικὰ τῶν ἐναντίων μηδενὸς ἐν αὐτοῖς γιγνομένου· — ἡ δέ γε οὐσία τῷ αὐτὴν τὰ ἐναντία δέχεσθαι, τούτῳ δεκτικὴ τῶν ἐναντίων λέγεται· νόσον γὰρ καὶ ὑγίειαν δέχεται, καὶ λευκότητα καὶ μελανίαν, καὶ ἕκαστον τῶν τοιούτων αὐτὴ δεχομένη τῶν ἐναντίων εἶναι δεκτικὴ λέγεται. ὥστε ἴδιον ἂν οὐσίας εἴη τὸ ταὐτὸν καὶ ἓν ἀριθμῷ ὂν δεκτικὸν εἶναι τῶν ἐναντίων. περὶ μὲν οὖν οὐσίας τοσαῦτα εἰρήσθω.

Κεφάλαιο 6

Τοῦ δὲ ποσοῦ τὸ μέν ἐστι διωρισμένον, τὸ δὲ συνεχές· καὶ τὸ μὲν ἐκ θέσιν ἐχόντων πρὸς ἄλληλα τῶν ἐν αὐτοῖς μορίων συνέστηκε, τὸ δὲ οὐκ ἐξ ἐχόντων θέσιν. ἔστι δὲ διωρισμένον μὲν οἷον ἀριθμὸς καὶ λόγος, συνεχὲς δὲ γραμμή, ἐπιφάνεια, σῶμα, ἔτι δὲ παρὰ ταῦτα χρόνος καὶ τόπος. — τῶν μὲν γὰρ τοῦ ἀριθμοῦ μορίων οὐδείς ἐστι κοινὸς ὅρος, πρὸς ὃν συνάπτει τὰ μόρια αὐτοῦ· οἷον τὰ πέντε εἰ ἔστι τῶν δέκα μόριον, πρὸς οὐδένα κοινὸν ὅρον συνάπτει τὰ πέντε καὶ τὰ πέντε, ἀλλὰ διώρισται· καὶ τὰ τρία γε καὶ τὰ ἑπτὰ πρὸς οὐδένα κοινὸν ὅρον συνάπτει· οὐδ' ὅλως ἂν ἔχοις ἐπ' ἀριθμοῦ λαβεῖν κοινὸν ὅρον τῶν μορίων, ἀλλ' ἀεὶ διώρισται· ὥστε ὁ μὲν ἀριθμὸς τῶν διωρισμένων ἐστίν. ὡσαύτως δὲ καὶ ὁ λόγος τῶν διωρισμένων ἐστίν· (ὅτι μὲν γὰρ ποσόν ἐστιν ὁ λόγος φανερόν· καταμετρεῖται γὰρ συλλαβῇ μακρᾷ καὶ βραχείᾳ· λέγω δὲ αὐτὸν τὸν μετὰ φωνῆς λόγον γιγνόμενον)· πρὸς οὐδένα γὰρ κοινὸν ὅρον αὐτοῦ τὰ μόρια συνάπτει· οὐ γὰρ ἔστι κοινὸς ὅρος πρὸς ὃν αἱ συλλαβαὶ συνάπτουσιν, ἀλλ' ἑκάστη διώρισται αὐτὴ καθ' αὑτήν. [5a] — ἡ δὲ γραμμὴ συνεχές ἐστιν· ἔστι γὰρ λαβεῖν κοινὸν ὅρον πρὸς ὃν τὰ μόρια αὐτῆς συνάπτει, στιγμήν· καὶ τῆς ἐπιφανείας γραμμήν, — τὰ γὰρ τοῦ ἐπιπέδου μόρια πρός τινα κοινὸν ὅρον συνάπτει. — ὡσαύτως δὲ καὶ ἐπὶ τοῦ σώματος ἔχοις ἂν λαβεῖν κοινὸν ὅρον, γραμμὴν ἢ ἐπιφάνειαν, πρὸς ἣν τὰ τοῦ σώματος μόρια συνάπτει. ἔστι δὲ καὶ ὁ χρόνος καὶ ὁ τόπος τῶν τοιούτων· ὁ γὰρ νῦν χρόνος συνάπτει πρός τε τὸν παρεληλυθότα καὶ τὸν μέλλοντα. πάλιν ὁ τόπος τῶν συνεχῶν ἐστιν· τόπον γάρ τινα τὰ τοῦ σώματος μόρια κατέχει, ἃ πρός τινα κοινὸν ὅρον συνάπτει· οὐκοῦν καὶ τὰ τοῦ τόπου μόρια, ἃ κατέχει ἕκαστον τῶν τοῦ σώματος μορίων, πρὸς τὸν αὐτὸν ὅρον συνάπτει πρὸς ὃν καὶ τὰ τοῦ σώμα — τος μόρια· ὥστε συνεχὲς ἂν εἴη καὶ ὁ τόπος· πρὸς γὰρ ἕνα κοινὸν ὅρον αὐτοῦ τὰ μόρια συνάπτει.

Ἔτι τὰ μὲν ἐκ θέσιν ἐχόντων πρὸς ἄλληλα τῶν ἐν αὐτοῖς μορίων συνέστηκεν, τὰ δὲ οὐκ ἐξ ἐχόντων θέσιν· οἷον τὰ μὲν τῆς γραμμῆς μόρια θέσιν ἔχει πρὸς ἄλληλα, — ἕκαστον γὰρ αὐτῶν κεῖταί που, καὶ ἔχοις ἂν διαλαβεῖν καὶ ἀποδοῦναι οὗ ἕκαστον κεῖται ἐν τῷ ἐπιπέδῳ καὶ πρὸς ποῖον μόριον τῶν λοιπῶν συνάπτει· — ὡσαύτως δὲ καὶ τὰ τοῦ ἐπιπέδου μόρια θέσιν ἔχει τινά, — ὁμοίως γὰρ ἂν ἀποδοθείη ἕκαστον οὗ κεῖται, καὶ ποῖα συνάπτει πρὸς ἄλληλα. — καὶ τὰ τοῦ στερεοῦ δὲ ὡσαύτως καὶ τὰ τοῦ τόπου. ἐπὶ δέ γε τοῦ ἀριθμοῦ οὐκ ἂν ἔχοι τις ἐπιβλέψαι ὡς τὰ μόρια θέσιν τινὰ ἔχει πρὸς ἄλληλα ἢ κεῖταί που, ἢ ποῖά γε πρὸς ἄλληλα συνάπτει τῶν μορίων· οὐδὲ τὰ τοῦ χρόνου· ὑπομένει γὰρ οὐδὲν τῶν τοῦ χρόνου μορίων, ὃ δὲ μή ἐστιν ὑπομένον, πῶς ἂν τοῦτο θέσιν τινὰ ἔχοι; ἀλλὰ μᾶλλον τάξιν τινὰ εἴποις ἂν ἔχειν τῷ τὸ μὲν πρότερον εἶναι τοῦ χρόνου τὸ δ’ ὕστερον. καὶ ἐπὶ τοῦ ἀριθμοῦ δὲ ὡσαύτως, τῷ πρότερον ἀριθμεῖσθαι τὸ ἓν τῶν δύο καὶ τὰ δύο τῶν τριῶν· καὶ οὕτω τάξιν ἄν τινα ἔχοι, θέσιν δὲ οὐ πάνυ λάβοις ἄν. καὶ ὁ λόγος δὲ ὡσαύτως· οὐδὲν γὰρ ὑπομένει τῶν μορίων αὐτοῦ, ἀλλ’ εἴρηταί τε καὶ οὐκ ἔστιν ἔτι τοῦτο λαβεῖν, ὥστε οὐκ ἂν εἴη θέσις τῶν μορίων αὐτοῦ, εἴγε μηδὲν ὑπομένει. — τὰ μὲν οὖν ἐκ θέσιν ἐχόντων τῶν μορίων συνέστηκε, τὰ δὲ οὐκ ἐξ ἐχόντων θέσιν.

Κυρίως δὲ ποσὰ ταῦτα μόνα λέγεται τὰ εἰρημένα, τὰ δὲ ἄλλα πάντα κατὰ συμβεβηκός· εἰς ταῦτα γὰρ [5b] βλέποντες καὶ τἆλλα ποσὰ λέγομεν, οἷον πολὺ τὸ λευκὸν λέγεται τῷ τὴν ἐπιφάνειαν πολλὴν εἶναι, καὶ ἡ πρᾶξις μακρὰ τῷ γε τὸν χρόνον πολὺν εἶναι, καὶ ἡ κίνησις πολλή· οὐ γὰρκαθ’ αὑτὸ ἕκαστον τούτων ποσὸν λέγεται· οἷον ἐὰν ἀποδιδῷ τις πόση τις ἡ πρᾶξίς ἐστι, τῷ χρόνῳ ὁριεῖ ἐνιαυσίαν ἢ οὕτω πως ἀποδιδούς, καὶ τὸ λευκὸν ποσόν τι ἀποδιδοὺς τῇ ἐπιφανείᾳ ὁριεῖ, — ὅση γὰρ ἂν ἡ ἐπιφάνεια ᾖ, τοσοῦτον καὶ τὸ λευκὸν φήσει εἶναι· — ὥστε μόνα κυρίως καὶ καθ’ αὑτὰ ποσὰ λέγεται τὰ εἰρημένα, τῶν δὲ ἄλλων οὐδὲν αὐτὸ καθ’ αὑτό, ἀλλ’ εἰ ἄρα κατὰ συμβεβηκός.

Ἔτι τῷ ποσῷ οὐδέν ἐστιν ἐναντίον, (ἐπὶ μὲν γὰρ τῶν ἀφωρισμένων φανερὸν ὅτι οὐδέν ἐστιν ἐναντίον, οἷον τῷ διπήχει ἢ τριπήχει ἢ τῇ ἐπιφανείᾳ ἢ τῶν τοιούτων τινί, — οὐδὲν γάρ ἐστιν ἐναντίον), εἰ μὴ τὸ πολὺ τῷ ὀλίγῳ φαίη τις εἶναι ἐναντίον ἢ τὸ μέγα τῷ μικρῷ. τούτων δὲ οὐδέν ἐστι ποσὸν ἀλλὰ τῶν πρός τι· οὐδὲν γὰρ αὐτὸ καθ’ αὑτὸ μέγα λέγεται ἢ μικρόν, ἀλλὰ πρὸς ἕτερον ἀναφέρεται, οἷον ὄρος μὲν μικρὸν λέγεται, κέγχρος δὲ μεγάλη τῷ τὴν μὲν τῶν ὁμογενῶν μεῖζον εἶναι, τὸ δὲ ἔλαττον τῶν ὁμογενῶν· οὐκοῦν πρὸς ἕτερον ἡ ἀναφορά, ἐπεὶ εἴγε καθ’ αὑτὸ μικρὸν ἢ μέγα ἐλέγετο, οὐκ ἄν ποτε τὸ μὲν ὄρος μικρὸν ἐλέγετο, ἡ δὲ κέγχρος μεγάλη. πάλιν ἐν μὲν τῇ κώμῃ πολλούς φαμεν ἀνθρώπους εἶναι, ἐν Ἀθήναις δὲ ὀλίγους πολλαπλασίους αὐτῶν ὄντας, καὶ ἐν μὲν τῇ οἰκίᾳ πολλούς, ἐν δὲ τῷ θεάτρῳ ὀλίγους πολλῷ πλείους ὄντας. — ἔτι τὸ μὲν δίπηχυ καὶ τρίπηχυ καὶ ἕκαστον τῶν τοιούτων ποσὸν σημαίνει, τὸ δὲ μέγα ἢ μικρὸν οὐ σημαίνει ποσὸν ἀλλὰ μᾶλλον πρός τι· πρὸς γὰρ ἕτερον θεωρεῖται τὸ μέγα καὶ τὸ μικρόν· ὥστε φανερὸν ὅτι ταῦτα τῶν πρός τί ἐστιν. — ἔτι ἐάν τε τιθῇ τις αὐτὰ ποσὰ εἶναι ἐάν τε μὴ τιθῇ, οὐκ ἔστιν αὐτοῖς ἐναντίον οὐδέν· ὃ γὰρ μὴ ἔστιν αὐτὸ καθ’ αὑτὸ λαβεῖν ἀλλὰ πρὸς ἕτερον ἀναφέροντα, πῶς ἂν εἴη τούτῳ τι ἐναντίον; — ἔτι εἰ ἔσται τὸ μέγα καὶ τὸ μικρὸνἐναντία, συμβήσεται τὸ αὐτὸ ἅμα τὰ ἐναντία ἐπιδέχεσθαι καὶ αὐτὰ αὑτοῖς εἶναι ἐναντία. συμβαίνει γὰρ ἅμα τὸ αὐτὸ μέγα τε καὶ μικρὸν εἶναι, — ἔστι γὰρ πρὸς μὲν τοῦτο μικρόν, πρὸς ἕτερον δὲ τὸ αὐτὸ τοῦτο μέγα· — ὥστε τὸ αὐτὸ καὶ μέγα καὶ μικρὸν κατὰ τὸν αὐτὸν χρόνον εἶναι συμβαίνει, ὥστε ἅμα τὰ ἐναντία ἐπιδέχεσθαι· ἀλλ’ οὐδὲν δοκεῖ [6a] ἅμα τὰ ἐναντία ἐπιδέχεσθαι· οἷον ἐπὶ τῆς οὐσίας, δεκτικὴ μὲν τῶν ἐναντίων δοκεῖ εἶναι, ἀλλ’ οὔτι γε ἅμα νοσεῖ καὶ ὑγιαίνει, οὐδὲ λευκὸν καὶ μέλαν ἐστὶν ἅμα, οὐδὲ τῶν ἄλλων οὐδὲν ἅμα τὰ ἐναντία ἐπιδέχεται. καὶ αὐτὰ δ’ αὑτοῖς συμβαίνει ἐναντία εἶναι· εἰ γάρ ἐστι τὸ μέγα τῷ μικρῷ ἐναντίον, τὸ δ’ αὐτό ἐστιν ἅμα μέγα καὶ μικρόν, αὐτὸ αὑτῷ ἂν εἴη ἐναντίον· ἀλλὰ τῶν ἀδυνάτων ἐστὶν αὐτὸ αὑτῷ εἶναι ἐναντίον. — οὐκ ἔστιν ἄρα τὸ μέγα τῷ μικρῷ ἐναντίον, οὐδὲ τὸ πολὺ τῷ ὀλίγῳ, ὥστε κἂν μὴ τῶν πρός τι ταῦτά τις ἐρεῖ ἀλλὰ τοῦ ποσοῦ, οὐδὲν ἐναντίον ἕξει. — μάλιστα δὲ ἡ ἐναντιότης τοῦ ποσοῦ περὶ τὸν τόπον δοκεῖ ὑπάρχειν· τὸ γὰρ ἄνω τῷ κάτω ἐναντίον τιθέασι, τὴν πρὸς τὸ μέσον χώραν κάτω λέγοντες, διὰ τὸ πλείστην τῷ μέσῳ διάστασιν πρὸς τὰ πέρατα τοῦ κόσμου εἶναι. ἐοίκασι δὲ καὶ τὸν τῶν ἄλλων ἐναντίων ὁρισμὸν ἀπὸ τούτων ἐπιφέρειν· τὰ γὰρ πλεῖστον ἀλλήλων διεστηκότα τῶν ἐν τῷ αὐτῷ γένει ἐναντία ὁρίζονται.

Οὐ δοκεῖ δὲ τὸ ποσὸν ἐπιδέχεσθαι τὸ μᾶλλον καὶ τὸ ἧττον, οἷον τὸ δίπηχυ, — οὐ γάρ ἐστιν ἕτερον ἑτέρου μᾶλλον δίπηχυ· — οὐδ’ ἐπὶ τοῦ ἀριθμοῦ, οἷον τὰ τρία τῶν πέντε οὐδὲν μᾶλλον [πέντε ἢ] τρία λέγεται, οὐδὲ τὰ τρία τῶν τριῶν· οὐδέ γε ὁ χρόνος ἕτερος ἑτέρου μᾶλλον χρόνος λέγεται· οὐδ’ ἐπὶ τῶν εἰρημένων ὅλως οὐδενὸς τὸ μᾶλλον καὶ τὸ ἧττον λέγεται· ὥστε τὸ ποσὸν οὐκ ἐπιδέχεται τὸ μᾶλλον καὶ τὸ ἧττον.

Ἴδιον δὲ μάλιστα τοῦ ποσοῦ τὸ ἴσον τε καὶ ἄνισον λέγεσθαι. ἕκαστον γὰρ τῶν εἰρημένων ποσῶν καὶ ἴσον καὶ ἄνισον λέγεται, οἷον σῶμα καὶ ἴσον καὶ ἄνισον λέγεται, καὶ ἀριθμὸς καὶ ἴσος καὶ ἄνισος λέγεται, καὶ χρόνος καὶ ἴσος καὶ ἄνισος· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν ῥηθέντων ἕκαστον ἴσον τε καὶ ἄνισον λέγεται. τῶν δὲ λοιπῶν ὅσα μή ἐστι ποσόν, οὐ πάνυ ἂν δόξαι ἴσον τε καὶ ἄνισον λέγεσθαι, οἷον ἡ διάθεσις ἴση τε καὶ ἄνισος οὐ πάνυ λέγεται ἀλλὰ μᾶλλον ὁμοία, καὶ τὸ λευκὸν ἴσον τε καὶ ἄνισον οὐ πάνυ, ἀλλ’ ὅμοιον. ὥστε τοῦ ποσοῦ μάλιστα ἂν εἴη ἴδιον τὸ ἴσον τε καὶ ἄνισον λέγεσθαι.

Κεφάλαιο 7

Πρός τι δὲ τὰ τοιαῦτα λέγεται, ὅσα αὐτὰ ἅπερ ἐστὶν ἑτέρων εἶναι λέγεται ἢ ὁπωσοῦν ἄλλως πρὸς ἕτερον· οἷον τὸ μεῖζον τοῦθ’ ὅπερ ἐστὶν ἑτέρου λέγεται, — τινὸς γὰρ μεῖζον λέγεται, — καὶ τὸ διπλάσιον ἑτέρου λέγεται τοῦθ’ ὅπερ [6b] ἐστίν, — τινὸς γὰρ διπλάσιον λέγεται· — ὡσαύτως δὲ καὶ ὅσα ἄλλα τοιαῦτα. ἔστι δὲ καὶ τὰ τοιαῦτα τῶν πρός τι οἷον ἕξις, διάθεσις, αἴσθησις, ἐπιστήμη, θέσις· πάντα γὰρ τὰ εἰρημένα τοῦθ’ ὅπερ ἐστὶν ἑτέρων λέγεται καὶ οὐκ ἄλλο τι· ἡ γὰρ ἕξις τινὸς ἕξις λέγεται καὶ ἡ ἐπιστήμη τινὸς ἐπιστήμη καὶ ἡ θέσις τινὸς θέσις, καὶ τὰ ἄλλα δὲ ὡσαύτως. πρός τι οὖν ἐστὶν ὅσα αὐτὰ ἅπερ ἐστὶν ἑτέρων λέγεται, ἢ ὁπωσοῦν ἄλλως πρὸς ἕτερον· οἷον ὄρος μέγα λέγεται πρὸς ἕτερον, — πρός τι γὰρ μέγα λέγεται τὸ ὄρος, — καὶ τὸ ὅμοιον τινὶ ὅμοιον λέγεται, καὶ τὰ ἄλλα δὲ τὰ τοιαῦτα ὡσαύτως πρός τι λέγεται. ἔστι δὲ καὶ ἡ ἀνάκλισις καὶ ἡ στάσις καὶ ἡ καθέδρα θέσεις τινές, ἡ δὲ θέσις τῶν πρός τι· τὸ δὲ ἀνακε<κλ>ίσθαι ἢ ἑστάναι ἢ καθῆσθαι αὐτὰ μὲν οὐκ εἰσὶ θέσεις, παρωνύμως δὲ ἀπὸ τῶν εἰρημένων θέσεων λέγεται.

Ὑπάρχει δὲ καὶ ἐναντιότης ἐν τοῖς πρός τι, οἷον ἀρετὴ κακίᾳ ἐναντίον, ἑκάτερον αὐτῶν πρός τι ὄν, καὶ ἐπιστήμη ἀγνοίᾳ. οὐ πᾶσι δὲ τοῖς πρός τι ὑπάρχει ἐναντίον· τῷ γὰρ διπλασίῳ οὐδέν ἐστιν ἐναντίον οὐδὲ τῷ τριπλασίῳ οὐδὲ τῶν τοιούτων οὐδενί. — δοκεῖ δὲ καὶ τὸ μᾶλλον καὶ τὸ ἧττον ἐπιδέχεσθαι τὰ πρός τι· ὅμοιον γὰρ μᾶλλον καὶ ἧττον λέγεται, καὶ ἄνισον μᾶλλον καὶ ἧττον λέγεται, ἑκάτερον αὐτῶν πρός τι ὄν· τό τε γὰρ ὅμοιον τινὶ ὅμοιον λέγεται καὶ τὸ ἄνισον τινὶ ἄνισον. οὐ πάντα δὲ ἐπιδέχεται τὸ μᾶλλον καὶ ἧττον· τὸ γὰρ διπλάσιον οὐ λέγεται μᾶλλον καὶ ἧττον διπλάσιον οὐδὲ τῶν τοιούτων οὐδέν.

Πάντα δὲ τὰ πρός τι πρὸς ἀντιστρέφοντα λέγεται, οἷον ὁ δοῦλος δεσπότου λέγεται δοῦλος καὶ ὁ δεσπότης δούλου δεσπότης λέγεται, καὶ τὸ διπλάσιον ἡμίσεος διπλάσιον καὶ τὸ ἥμισυ διπλασίου ἥμισυ, καὶ τὸ μεῖζον ἐλάττονος μεῖζον καὶ τὸ ἔλαττον μείζονος ἔλαττον· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων· πλὴν τῇ πτώσει ἐνίοτε διοίσει κατὰ τὴν λέξιν, οἷον ἡ ἐπιστήμη ἐπιστητοῦ λέγεται ἐπιστήμη καὶ τὸ ἐπιστητὸν ἐπιστήμῃ ἐπιστητόν, καὶ ἡ αἴσθησις αἰσθητοῦ αἴσθησις καὶ τὸ αἰσθητὸν αἰσθήσει αἰσθητόν. οὐ μὴν ἀλλ’ ἐνίοτε οὐ δόξει ἀντιστρέφειν, ἐὰν μὴ οἰκείως πρὸς ὃ λέγεται ἀποδοθῇ ἀλλὰ διαμάρτῃ ὁ ἀποδιδούς· οἷον τὸ πτερὸν ἐὰν ἀποδοθῇ ὄρνιθος, οὐκ ἀντιστρέφει ὄρνις πτεροῦ· οὐ γὰρ οἰκείως τὸ [7a] πρῶτον ἀποδέδοται πτερὸν ὄρνιθος, — οὐ γὰρ ᾗ ὄρνις, ταύτῃ τὸ πτερὸν αὐτῆς λέγεται, ἀλλ’ ᾗ πτερωτόν ἐστιν· πολλῶν γὰρ καὶ ἄλλων πτερά ἐστιν ἃ οὐκ εἰσὶν ὄρνιθες· — ὥστε ἐὰν ἀποδοθῇ οἰκείως, καὶ ἀντιστρέφει, οἷον τὸ πτερὸν πτερωτοῦ πτερὸν καὶ τὸ πτερωτὸν πτερῷ πτερωτόν. — ἐνίοτε δὲ καὶ ὀνοματοποιεῖν ἴσως ἀναγκαῖον, ἐὰν μὴ κείμενον ᾖ ὄνομα πρὸς ὃ οἰκείως ἂν ἀποδοθείη· οἷον τὸ πηδάλιον πλοίου ἐὰν ἀπο — δοθῇ, οὐκ οἰκεία ἡ ἀπόδοσις, — οὐ γὰρ ᾗ πλοῖον ταύτῃ αὐτοῦ τὸ πηδάλιον λέγεται· ἔστι γὰρ πλοῖα ὧν οὐκ ἔστι πηδάλια· — διὸ οὐκ ἀντιστρέφει· τὸ γὰρ πλοῖον οὐ λέγεται πηδαλίου πλοῖον. ἀλλ’ ἴσως οἰκειοτέρα ἂν ἡ ἀπόδοσις εἴη, εἰ οὕτω πως ἀποδοθείη τὸ πηδάλιον πηδαλιωτοῦ πηδάλιον ἢ ὁπωσοῦν ἄλλως, — ὄνομα γὰρ οὐ κεῖται· — καὶ ἀντιστρέφει γε, ἐὰν οἰκείως ἀποδοθῇ· τὸ γὰρ πηδαλιωτὸν πηδαλίῳ πηδαλιωτόν. ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων, οἷον ἡ κεφαλὴ οἰκειοτέρως ἂν ἀποδοθείη κεφαλωτοῦ ἢ ζῴου ἀποδιδομένη· οὐ γὰρ ᾗ ζῷον κεφαλὴν ἔχει· πολλὰ γὰρ τῶν ζῴων κεφαλὴν οὐκ ἔχει. οὕτω δὲ ῥᾷστα ἂν ἴσως τις λαμβάνοι οἷς μὴ κεῖται ὀνόματα, εἰ ἀπὸ τῶν πρώτων καὶ τοῖς πρὸς αὐτὰ ἀντιστρέφουσι τιθείη τὰ ὀνόματα, ὥσπερ ἐπὶ τῶν προειρημένων ἀπὸ τοῦ πτεροῦ τὸ πτερωτὸν καὶ ἀπὸ τοῦ πηδαλίου τὸ πηδαλιωτόν. πάντα οὖν τὰ πρός τι, ἐάνπερ οἰκείως ἀποδιδῶται, πρὸς ἀντιστρέφοντα λέγεται· ἐπεί, ἐάν γε πρὸς τὸ τυχὸν ἀποδιδῶται καὶ μὴ πρὸς αὐτὸ ὃ λέγεται, οὐκ ἀντιστρέφει. — λέγω δὲ ὅτι οὐδὲ τῶν ὁμολογουμένως πρὸς ἀντιστρέφοντα λεγομένων καὶ ὀνομάτων αὐτοῖς κειμένων οὐδὲν ἀντιστρέφει, ἐὰν πρός τι τῶν συμβεβηκότων ἀποδιδῶται καὶ μὴ πρὸς αὐτὸ ὃ λέγεται· οἷον ὁ δοῦλος ἐὰν μὴ δεσπότου ἀποδοθῇ ἀλλ’ ἀνθρώπου ἢ δίποδος ἢ ὁτουοῦν τῶν τοιούτων, οὐκ ἀντιστρέφει· οὐ γὰρ οἰκεία ἡ ἀπόδοσις. — ἔτι ἐὰν μὲν οἰκείως ἀποδεδομένον ᾖ πρὸς ὃ λέγεται, πάντων περιαιρουμένων τῶν ἄλλων ὅσα συμβεβηκότα ἐστίν, καταλειπομένου δὲ τούτου μόνου πρὸς ὃ ἀπεδόθη οἰκείως, ἀεὶ πρὸς αὐτὸ ῥηθήσεται· οἷον εἰ ὁ δοῦλος πρὸς δεσπότην λέγεται, περιαιρουμένων ἁπάντων ὅσα συμβεβηκότα ἐστὶ τῷ δεσπότῃ, οἷον τὸ δίποδι εἶναι, τὸ ἐπιστήμης δεκτικῷ, τὸ ἀνθρώπῳ, καταλειπο — μένου δὲ μόνου τοῦ δεσπότην εἶναι, ἀεὶ ὁ δοῦλος πρὸς αὐτὸ ῥηθήσεται· ὁ γὰρ δοῦλος δεσπότου δοῦλος [7b] λέγεται. ἐὰν δέ γε μὴ οἰκείως ἀποδοθῇ πρὸς ὅ ποτε λέγεται, περιαιρουμένων μὲν τῶν ἄλλων καταλειπομένου δὲ μόνου τοῦ πρὸς ὃ ἀπεδόθη, οὐ ῥηθήσεται πρὸς αὐτό· ἀποδεδόσθω γὰρ ὁ δοῦλος ἀνθρώπου καὶ τὸ πτερὸν ὄρνιθος, καὶ περιῃρήσθω τοῦ ἀνθρώπου τὸ δεσπότῃ αὐτῷ εἶναι· οὐ γὰρ ἔτι ὁ δοῦλος πρὸς ἄνθρωπον ῥηθήσεται, — μὴ γὰρ ὄντος δεσπότου οὐδὲ δοῦλός ἐστιν· — ὡσαύτως δὲ καὶ τοῦ ὄρνιθος περιῃρήσθω τὸ πτερωτῷ εἶναι· οὐ γὰρ ἔτι ἔσται τὸ πτερὸν τῶν πρός τι· μὴ γὰρ ὄντος πτερωτοῦ οὐδὲ πτερὸν ἔσται τινός. — ὥστε δεῖ μὲν ἀποδιδόναι πρὸς ὅ ποτε οἰκείως λέγεται· κἂν μὲν ὄνομα ᾖ κείμενον ῥᾳδία ἡ ἀπόδοσις γίγνεται, μὴ ὄντος δὲ ἀναγκαῖον ἴσως ὀνοματοποιεῖν. οὕτω δὲ ἀποδιδομένων φανερὸν ὅτι πάντα τὰ πρός τι πρὸς ἀντιστρέφοντα ῥηθήσεται.

Δοκεῖ δὲ τὰ πρός τι ἅμα τῇ φύσει εἶναι. καὶ ἐπὶ μὲν τῶν πλείστων ἀληθές ἐστιν· ἅμα γὰρ διπλάσιόν τέ ἐστι καὶ ἥμισυ, καὶ ἡμίσεος ὄντος διπλάσιόν ἐστιν, καὶ δούλου ὄντος δεσπότης ἐστίν· ὁμοίως δὲ τούτοις καὶ τὰ ἄλλα. καὶ συναναιρεῖ δὲ ταῦτα ἄλληλα· μὴ γὰρ ὄντος διπλασίου οὐκ ἔστιν ἥμισυ, καὶ ἡμίσεος μὴ ὄντος οὐκ ἔστι διπλάσιον· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων ὅσα τοιαῦτα. — οὐκ ἐπὶ πάντων δὲ τῶν πρός τι ἀληθὲς δοκεῖ τὸ ἅμα τῇ φύσει εἶναι· τὸ γὰρ ἐπιστητὸν τῆς ἐπιστήμης πρότερον ἂν δόξειεν εἶναι· ὡς γὰρ ἐπὶ τὸ πολὺ προϋπαρχόντων τῶν πραγμάτων τὰς ἐπιστήμας λαμβάνομεν· ἐπ’ ὀλίγων γὰρ ἢ ἐπ’ οὐδενὸς ἴδοι τις ἂν ἅμα τῷ ἐπιστητῷ τὴν ἐπιστήμην γιγνομένην. ἔτι τὸ μὲν ἐπιστητὸν ἀναιρεθὲν συναναιρεῖ τὴν ἐπιστήμην, ἡ δὲ ἐπιστήμη τὸ ἐπιστητὸν οὐ συν — αναιρεῖ· ἐπιστητοῦ γὰρ μὴ ὄντος οὐκ ἔστιν ἐπιστήμη, — οὐδενὸς γὰρ ἔτι ἔσται ἐπιστήμη, — ἐπιστήμης δὲ μὴ οὔσης οὐδὲν κωλύει ἐπιστητὸν εἶναι· οἷον καὶ ὁ τοῦ κύκλου τετραγωνισμὸς εἴγε ἔστιν ἐπιστητόν, ἐπιστήμη μὲν αὐτοῦ οὐκ ἔστιν οὐδέπω, αὐτὸ δὲ τὸ ἐπιστητὸν ἔστιν. ἔτι ζῴου μὲν ἀναιρεθέντος οὐκ ἔστιν ἐπιστήμη, τῶν δ’ ἐπιστητῶν πολλὰ ἐνδέχεται εἶναι. — ὁμοίως δὲ τούτοις καὶ τὰ ἐπὶ τῆς αἰσθήσεως ἔχει· τὸ γὰρ αἰσθητὸν πρότερον τῆς αἰσθήσεως δοκεῖ εἶναι· τὸ μὲν γὰρ αἰσθητὸν ἀναιρεθὲν συναναιρεῖ τὴν αἴσθησιν, ἡ δὲ αἴσθησις τὸ αἰσθητὸν οὐ συναναιρεῖ. αἱ γὰρ αἰσθήσεις περὶ σῶμα καὶ ἐν σώματί εἰσιν, αἰσθητοῦ δὲ ἀναιρεθέντος [8a] ἀνῄρηται καὶ σῶμα, — τῶν γὰρ αἰσθητῶν καὶ τὸ σῶμα, — σώματος δὲ μὴ ὄντος ἀνῄρηται καὶ ἡ αἴσθησις, ὥστε συναναιρεῖ τὸ αἰσθητὸν τὴν αἴσθησιν. ἡ δέ γε αἴσθησις τὸ αἰσθητὸν οὔ· ζῴου γὰρ ἀναιρεθέντος αἴσθησις μὲν ἀνῄρηται, αἰσθητὸν δὲ ἔσται, οἷον σῶμα, θερμόν, γλυκύ, πικρόν, καὶ τὰ ἄλλα πάντα ὅσα ἐστὶν αἰσθητά. ἔτι ἡ μὲν αἴσθησις ἅμα τῷ αἰσθητικῷ γίγνεται, — ἅμα γὰρ ζῷόν τε γίγνεται καὶ αἴσθησις, — τὸ δέ γε αἰσθητὸν ἔστι καὶ πρὸ τοῦ αἴσθησιν εἶναι, — πῦρ γὰρ καὶ ὕδωρ καὶ τὰ τοιαῦτα, ἐξ ὧν καὶ τὸ ζῷον συνίσταται, ἔστι καὶ πρὸ τοῦ ζῷον ὅλως εἶναι ἢ αἴσθησιν, — ὥστε πρότερον ἂν τῆς αἰσθήσεως τὸ αἰσθητὸν εἶναι δόξειεν.

Ἔχει δὲ ἀπορίαν πότερον οὐδεμία οὐσία τῶν πρός τι λέγεται, καθάπερ δοκεῖ, ἢ τοῦτο ἐνδέχεται κατά τινας τῶν δευτέρων οὐσιῶν. ἐπὶ μὲν γὰρ τῶν πρώτων οὐσιῶν ἀληθές ἐστιν· οὔτε γὰρ τὰ ὅλα οὔτε τὰ μέρη πρός τι λέγεται· ὁ γὰρ τὶς ἄνθρωπος οὐ λέγεται τινός τις ἄνθρωπος, οὐδὲ ὁ τὶς βοῦς τινός τις βοῦς· ὡσαύτως δὲ καὶ τὰ μέρη· ἡ γὰρ τὶς χεὶρ οὐ λέγεται τινός τις χεὶρ ἀλλὰ τινὸς χείρ,καὶ ἡ τὶς κεφαλὴ οὐ λέγεται τινός τις κεφαλὴ ἀλλὰ τινὸς κεφαλή. ὡσαύτως δὲ καὶ ἐπὶ τῶν δευτέρων οὐσιῶν, ἐπί γε τῶν πλείστων· οἷον ὁ ἄνθρωπος οὐ λέγεται τινὸς ἄνθρωπος, οὐδὲ ὁ βοῦς τινὸς βοῦς, οὐδὲ τὸ ξύλον τινὸς ξύλον, ἀλλὰ τινὸς κτῆμα λέγεται. ἐπὶ μὲν οὖν τῶν τοιούτων φανερὸν ὅτι οὐκ ἔστι τῶν πρός τι, ἐπ’ ἐνίων δὲ τῶν δευτέρων οὐσιῶν ἔχει ἀμφισβήτησιν· οἷον ἡ κεφαλὴ τινὸς λέγεται κεφαλὴ καὶ ἡ χεὶρ τινὸς λέγεται χεὶρ καὶ ἕκαστον τῶν τοιούτων, ὥστε ταῦτα τῶν πρός τι δόξειεν ἂν εἶναι. — εἰ μὲν οὖν ἱκανῶς ὁ τῶν πρός τι ὁρισμὸς ἀποδέδοται, ἢ τῶν πάνυ χαλεπῶν ἢ τῶν ἀδυνάτων ἐστὶ τὸ λῦσαι ὡς οὐδεμία οὐσία τῶν πρός τι λέγεται· εἰ δὲ μὴ ἱκανῶς, ἀλλ’ ἔστι τὰ πρός τι οἷς τὸ εἶναι ταὐτόν ἐστι τῷ πρός τί πως ἔχειν, ἴσως ἂν ῥηθείη τι πρὸς αὐτά. ὁ δὲ πρότερος ὁρισμὸς παρακολουθεῖ μὲν πᾶσι τοῖς πρός τι, οὐ μὴν τοῦτό γέ ἐστι τὸ πρός τι αὐτοῖς εἶναι τὸ αὐτὰ ἅπερ ἐστὶν ἑτέρων λέγεσθαι. ἐκ δὲ τούτων δῆλόν ἐστιν ὅτι ἐάν τις εἰδῇ τι ὡρισμένως τῶν πρός τι, κἀκεῖνο πρὸς ὃ λέγεται ὡρισμένως εἴσεται. φανερὸν μὲν οὖν καὶ ἐξ αὐτοῦ ἐστίν· εἰ γὰρ οἶδέ τις τόδε τι ὅτι τῶν πρός τί ἐστιν, ἔστι δὲ τὸ εἶναι τοῖς πρός τι ταὐτὸ τῷ [8b] πρός τί πως ἔχειν, κἀκεῖνο οἶδε πρὸς ὃ τοῦτό πως ἔχει· εἰ γὰρ οὐκ οἶδεν ὅλως πρὸς ὃ τοῦτό πως ἔχει, οὐδ’ εἰ πρός τί πως ἔχει εἴσεται. καὶ ἐπὶ τῶν καθ’ ἕκαστα δὲ δῆλον τὸ τοιοῦτον· οἷον τόδε τι εἰ οἶδεν ἀφωρισμένως ὅτι ἔστι διπλάσιον, καὶ ὅτου διπλάσιόν ἐστιν εὐθὺς ἀφωρισμένως οἶδεν, — εἰ γὰρ μηδενὸς τῶν ἀφωρισμένων οἶδεν αὐτὸ διπλάσιον, οὐδ’ εἰ ἔστι διπλάσιον ὅλως οἶδεν· — ὡσαύτως δὲ καὶ τόδε τι εἰ οἶδεν ὅτι κάλλιόν ἐστι, καὶ ὅτου κάλλιόν ἐστιν ἀφωρισμένως ἀναγκαῖον εἰδέναι διὰ ταῦτα, (οὐκ ἀορίστως δὲ εἴσεται ὅτι τοῦτό ἐστι χείρονος κάλλιον· ὑπόληψις γὰρ τὸ τοιοῦτο γίγνεται, οὐκ ἐπιστήμη· οὐ γὰρ ἔτι εἴσεται ἀκριβῶς ὅτι ἐστὶ χείρονος κάλλιον· εἰ γὰρ οὕτως ἔτυχεν, οὐδέν ἐστι χεῖρον αὐτοῦ)· ὥστε φανερὸν ὅτι ἀναγκαῖόν ἐστιν, ὃ ἂν εἰδῇ τις τῶν πρός τι ὡρισμένως, κἀκεῖνο πρὸς ὃ λέγεται ὡρισμένως εἰδέναι. τὴν δέ γε κεφαλὴν καὶ τὴν χεῖρα καὶ ἕκαστον τῶν τοιούτων αἵ εἰσιν οὐσίαι αὐτὸ μὲν ὅπερ ἐστὶν ὡρισμένως ἔστιν εἰδέναι, πρὸς ὃ δὲ λέγεται οὐκ ἀναγκαῖον· τίνος γὰρ αὕτη ἡ κεφαλὴ ἢ τίνος ἡ χεὶρ οὐκ ἔστιν εἰδέναι ὡρισμένως· ὥστε οὐκ ἂν εἴη ταῦτα τῶν πρός τι· εἰ δὲ μή ἐστι τῶν πρός τι, ἀληθὲς ἂν εἴη λέγειν ὅτι οὐδεμία οὐσία τῶν πρός τί ἐστιν. ἴσως δὲ χαλεπὸν περὶ τῶν τοιούτων σφοδρῶς ἀποφαίνεσθαι μὴ πολλάκις ἐπεσκεμμένον, τὸ μέντοι διηπορηκέναι ἐφ’ ἕκαστον αὐτῶν οὐκ ἄχρηστόν ἐστιν.

Κεφάλαιο 8

Ποιότητα δὲ λέγω καθ’ ἣν ποιοί τινες λέγονται· ἔστι δὲ ἡ ποιότης τῶν πλεοναχῶς λεγομένων. ἓν μὲν οὖν εἶδος ποιότητος ἕξις καὶ διάθεσις λεγέσθωσαν. διαφέρει δὲ ἕξις διαθέσεως τῷ μονιμώτερον καὶ πολυχρονιώτερον εἶναι· τοιαῦται δὲ αἵ τε ἐπιστῆμαι καὶ αἱ ἀρεταί· ἥ τε γὰρ ἐπιστήμη δοκεῖ τῶν παραμονίμων εἶναι καὶ δυσκινήτων, ἐὰν καὶ μετρίως τις ἐπιστήμην λάβῃ, ἐάνπερ μὴ μεγάλη μεταβολὴ γένηται ὑπὸ νόσου ἢ ἄλλου τινὸς τοιούτου· ὡσαύτως δὲ καὶ ἡ ἀρετή· οἷον ἡ δικαιοσύνη καὶ ἡ σωφροσύνη καὶ ἕκαστον τῶν τοιούτων οὐκ εὐκίνητον δοκεῖ εἶναι οὐδ’ εὐμετάβολον. διαθέσεις δὲ λέγονται ἅ ἐστιν εὐκίνητα καὶ ταχὺ μεταβάλλοντα, οἷον θερμότης καὶ κατάψυξις καὶ νόσος καὶ ὑγίεια καὶ ὅσα ἄλλα τοιαῦτα· διάκειται μὲν γάρ πως κατὰ ταύτας ὁ ἄνθρωπος, ταχὺ δὲ μεταβάλλει ἐκ θερμοῦ ψυχρὸς γιγνόμενος καὶ ἐκ τοῦ ὑγιαίνειν εἰς τὸ νο[9a] σεῖν· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων, εἰ μή τις καὶ αὐ — τῶν τούτων τυγχάνοι διὰ χρόνου πλῆθος ἤδη πεφυσιωμένη καὶ ἀνίατος ἢ πάνυ δυσκίνητος οὖσα, ἣν ἄν τις ἴσως ἕξιν ἤδη προσαγορεύοι. φανερὸν δὲ ὅτι ταῦτα βούλονται ἕξεις λέγειν ἅ ἐστι πολυχρονιώτερα καὶ δυσκινητότερα· τοὺς γὰρ τῶν ἐπιστημῶν μὴ πάνυ κατέχοντας ἀλλ’ εὐκινήτους ὄντας οὔ φασιν ἕξιν ἔχειν, καίτοι διάκεινταί γέ πως κατὰ τὴν ἐπιστήμην ἢ χεῖρον ἢ βέλτιον. ὥστε διαφέρει ἕξις διαθέσεως τῷ τὸ μὲν εὐκίνητον εἶναι τὸ δὲ πολυχρονιώτερόν τε καὶ δυσκινητότερον. — εἰσὶ δὲ αἱ μὲν ἕξεις καὶ διαθέσεις, αἱ δὲ διαθέσεις οὐκ ἐξ ἀνάγκης ἕξεις· οἱ μὲν γὰρ ἕξεις ἔχοντες καὶ διάκεινταί πως κατὰ ταύτας, οἱ δὲ διακείμενοι οὐ πάντως καὶ ἕξιν ἔχουσιν.

Ἕτερον δὲ γένος ποιότητος καθ’ ὃ πυκτικοὺς ἢ δρομικοὺς ἢ ὑγιεινοὺς ἢ νοσώδεις λέγομεν, καὶ ἁπλῶς ὅσα κατὰ δύναμιν φυσικὴν ἢ ἀδυναμίαν λέγεται. οὐ γὰρ τῷ διακεῖσθαί πως ἕκαστον τῶν τοιούτων λέγεται, ἀλλὰ τῷ δύναμιν ἔχειν φυσικὴν τοῦ ποιῆσαί τι ῥᾳδίως ἢ μηδὲν πάσχειν· οἷον πυκτικοὶ ἢ δρομικοὶ λέγονται οὐ τῷ διακεῖσθαί πως ἀλλὰ τῷ δύναμιν ἔχειν φυσικὴν τοῦ ποιῆσαί τι ῥᾳδίως, ὑγιεινοὶ δὲ λέγονται τῷ δύναμιν ἔχειν φυσικὴν τοῦ μηδὲν πάσχειν ὑπὸ τῶν τυχόντων ῥᾳδίως, νοσώδεις δὲ τῷ ἀδυναμίαν ἔχειν τοῦ μηδὲν πάσχειν. ὁμοίως δὲ τούτοις καὶ τὸ σκληρὸν καὶ τὸ μαλακὸν ἔχει· τὸ μὲν γὰρ σκληρὸν λέγεται τῷ δύναμιν ἔχειν τοῦ μὴ ῥᾳδίως διαιρεῖσθαι, τὸ δὲ μαλακὸν τῷ ἀδυναμίαν ἔχειν τοῦ αὐτοῦ τούτου.

Τρίτον δὲ γένος ποιότητος παθητικαὶ ποιότητες καὶ πάθη· ἔστι δὲ τὰ τοιάδε οἷον γλυκύτης τε καὶ πικρότης καὶ στρυφνότης καὶ πάντα τὰ τούτοις συγγενῆ, ἔτι δὲ θερμότης καὶ ψυχρότης καὶ λευκότης καὶ μελανία. ὅτι μὲν οὖν αὗ — ται ποιότητές εἰσιν φανερόν· τὰ γὰρ δεδεγμένα ποιὰ λέγεται κατ’ αὐτάς· οἷον τὸ μέλι τῷ γλυκύτητα δεδέχθαι λέγεται γλυκύ, καὶ τὸ σῶμα λευκὸν τῷ λευκότητα δεδέχθαι· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων ἔχει. παθητικαὶ δὲ ποιότητες λέγονται οὐ τῷ αὐτὰ τὰ δεδεγμένα τὰς [9b] ποιότητας πεπονθέναι τι· οὔτε γὰρ τὸ μέλι τῷ πεπονθέναι τι λέγεται γλυκύ, οὔτε τῶν ἄλλων τῶν τοιούτων οὐδέν· ὁμοίως δὲ τούτοις καὶ ἡ θερμότης καὶ ἡ ψυχρότης παθητικαὶ ποιότητες λέγονται οὐ τῷ αὐτὰ τὰ δεδεγμένα πεπονθέναι τι, τῷ δὲ κατὰ τὰς αἰσθήσεις ἑκάστην τῶν εἰρημένων ποιοτήτων πάθους εἶναι ποιητικὴν παθητικαὶ ποιότητες λέγονται· ἥ τε γὰρ γλυκύτης πάθος τι κατὰ τὴν γεῦσιν ἐμποιεῖ καὶ ἡ θερμότης κατὰ τὴν ἁφήν, ὁμοίως δὲ καὶ αἱ ἄλλαι. λευκότης δὲ καὶ μελανία καὶ αἱ ἄλλαι χροιαὶ οὐ τὸν αὐτὸν τρόπον τοῖς εἰρημένοις παθητικαὶ ποιότητες λέγονται, ἀλλὰ τῷ αὐτὰς ἀπὸ πάθους γεγενῆσθαι. ὅτι μὲν οὖν γίγνονται διὰ πάθος πολλαὶ μεταβολαὶ χρωμάτων, δῆλον· αἰσχυνθεὶς γάρ τις ἐρυθρὸς ἐγένετο καὶ φοβηθεὶς ὠχρὸς καὶ ἕκαστον τῶν τοιούτων· ὥστε καὶ εἴ τις φύσει τῶν τοιούτων τι παθῶν πέπονθεν, τὴν ὁμοίαν χροιὰν εἰκός ἐστιν ἔχειν αὐτόν· ἥτις γὰρ νῦν ἐν τῷ αἰσχυνθῆναι διάθεσις τῶν περὶ τὸ σῶμα ἐγένετο, καὶ κατὰ φυσικὴν σύστασιν ἡ αὐτὴ γένοιτ’ ἂν διάθεσις, ὥστε φύσει καὶ τὴν χροιὰν ὁμοίαν γίγνεσθαι. — ὅσα μὲν οὖν τῶν τοιούτων συμπτωμάτων ἀπό τινων παθῶν δυσκινήτων καὶ παραμονίμων τὴν ἀρχὴν εἴληφε ποιότητες λέγονται· εἴτε γὰρ ἐν τῇ κατὰ φύσιν συστάσει ὠχρότης ἢ μελανία γεγένηται, ποιότης λέγεται, — ποιοὶ γὰρ κατὰ ταύτας λεγόμεθα, — εἴτε διὰ νόσον μακρὰν ἢ διὰ καῦμα [τὸ αὐτὸ] συμβέβηκεν ὠχρότης ἢ μελανία, καὶ μὴ ῥᾳδίως ἀποκαθ — ίστανται ἢ καὶ διὰ βίου παραμένουσι, ποιότητες καὶ αὐταὶ λέγονται, — ὁμοίως γὰρ ποιοὶ κατὰ ταύτας λεγόμεθα. — ὅσα δὲ ἀπὸ ῥᾳδίως διαλυομένων καὶ ταχὺ ἀποκαθισταμένων γίγνεται πάθη λέγεται· οὐ γὰρ λέγονται ποιοί τινες κατὰ ταῦτα· οὔτε γὰρ ὁ ἐρυθριῶν διὰ τὸ αἰσχυνθῆναι ἐρυθρίας λέγεται, οὔτε ὁ ὠχριῶν διὰ τὸ φοβεῖσθαι ὠχρίας, ἀλλὰ μᾶλλον πεπονθέναι τι· ὥστε πάθη μὲν τὰ τοιαῦτα λέγεται, ποιότητες δὲ οὔ. — ὁμοίως δὲ τούτοις καὶ κατὰ τὴν ψυχὴν παθητικαὶ ποιότητες καὶ πάθη λέγεται. ὅσα τε γὰρ ἐν τῇ γενέσει εὐθὺς ἀπό τινων παθῶν γεγένηται ποιότητες λέγονται, οἷον ἥ τε μανικὴ [10a] ἔκστασις καὶ ἡ ὀργὴ καὶ τὰ τοιαῦτα· ποιοὶ γὰρ κατὰ ταύτας λέγονται, ὀργίλοι τε καὶ μανικοί. ὁμοίως δὲ καὶ ὅσαι ἐκστάσεις μὴ φυσικαί, ἀλλ’ ἀπό τινων ἄλλων συμπτωμάτων γεγένηνται δυσαπάλλακτοι ἢ καὶ ὅλως ἀκίνητοι, ποιότητες καὶ τὰ τοιαῦτα· ποιοὶ γὰρ κατὰ ταύτας λέγονται. ὅσα δὲ ἀπὸ ταχὺ καθισταμένων γίγνεται πάθη λέγεται, οἷον εἰ λυπούμενος ὀργιλώτερός ἐστιν· οὐ γὰρ λέγεται ὀργίλος ὁ ἐν τῷ τοιούτῳ πάθει ὀργιλώτερος ὤν, ἀλλὰ μᾶλλον πεπονθέναι τι· ὥστε πάθη μὲν λέγεται τὰ τοιαῦτα, ποιότητες δὲ οὔ.

Τέταρτον δὲ γένος ποιότητος σχῆμά τε καὶ ἡ περὶ ἕκαστον ὑπάρχουσα μορφή, ἔτι δὲ πρὸς τούτοις εὐθύτης καὶ καμπυλότης καὶ εἴ τι τούτοις ὅμοιόν ἐστιν· καθ’ ἕκαστον γὰρ τούτων ποιόν τι λέγεται· τῷ γὰρ τρίγωνον ἢ τετράγωνον εἶναι ποιόν τι λέγεται, καὶ τῷ εὐθὺ ἢ καμπύλον. καὶ κατὰ τὴν μορφὴν δὲ ἕκαστον ποιόν τι λέγεται. τὸ δὲ μανὸν καὶ τὸ πυκνὸν καὶ τὸ τραχὺ καὶ τὸ λεῖον δόξειε μὲν ἂν ποιὸν σημαίνειν, ἔοικε δὲ ἀλλότρια τὰ τοιαῦτα εἶναι τῆς περὶ τὸ ποιὸν διαιρέσεως· θέσιν γάρ τινα μᾶλλον φαίνεται τῶν μορίων ἑκάτερον δηλοῦν· πυκνὸν μὲν γὰρ τῷ τὰ μόρια σύνεγγυς εἶναι ἀλλήλοις, μανὸν δὲ τῷ διεστάναι ἀπ’ ἀλλήλων· καὶ λεῖον μὲν τῷ ἐπ’ εὐθείας πως τὰ μόρια κεῖσθαι, τραχὺ δὲ τῷ τὸ μὲν ὑπερέχειν τὸ δὲ ἐλλείπειν. — ἴσως μὲν οὖν καὶ ἄλλος ἄν τις φανείη τρόπος ποιότητος, ἀλλ’ οἵ γε μάλιστα λεγόμενοι σχεδὸν τοσοῦτοί εἰσιν.

Ποιότητες μὲν οὖν εἰσὶν αἱ εἰρημέναι, ποιὰ δὲ τὰ κατὰ ταύτας παρωνύμως λεγόμενα ἢ ὁπωσοῦν ἄλλως ἀπ’ αὐτῶν. ἐπὶ μὲν οὖν τῶν πλείστων καὶ σχεδὸν ἐπὶ πάντων παρωνύμως λέγεται, οἷον ἀπὸ τῆς λευκότητος ὁ λευκὸς καὶ ἀπὸ τῆς γραμματικῆς ὁ γραμματικὸς καὶ ἀπὸ τῆς δικαιοσύνης ὁ δίκαιος, ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων. ἐπ’ ἐνίων δὲ διὰ τὸ μὴ κεῖσθαι ταῖς ποιότησιν ὀνόματα οὐκ ἐνδέχεται παρωνύμως ἀπ’ αὐτῶν λέγεσθαι· οἷον ὁ δρομικὸς ἢ ὁ πυκτικὸς ὁ κατὰ δύναμιν φυσικὴν λεγόμενος ἀπ’ οὐδεμιᾶς ποιότητος [10b] παρωνύμως λέγεται· οὐ γὰρ κεῖται ὀνόματα ταῖς δυνάμεσι καθ’ ἃς οὗτοι ποιοὶ λέγονται, ὥσπερ καὶ ταῖς ἐπιστήμαις καθ’ ἃς πυκτικοὶ ἢ παλαιστρικοὶ οἱ κατὰ διάθεσιν λέγονται, — πυκτικὴ γὰρ ἐπιστήμη λέγεται καὶ παλαιστρική, ποιοὶ δὲ ἀπὸ τούτων παρωνύμως οἱ διακείμενοι λέγονται. — ἐνίοτε δὲ καὶ ὀνόματος κειμένου οὐ λέγεται παρωνύμως τὸ κατ’ αὐτὴν ποιὸν λεγόμενον, οἷον ἀπὸ τῆς ἀρετῆς ὁ σπουδαῖος· τῷ γὰρ ἀρετὴν ἔχειν σπουδαῖος λέγεται, ἀλλ’ οὐ παρωνύμως ἀπὸ τῆς ἀρετῆς· οὐκ ἐπὶ πολλῶν δὲ τὸ τοιοῦτόν ἐστιν. ποιὰ οὖν λέγεται τὰ παρωνύμως ἀπὸ τῶν εἰρημένων ποιοτήτων λεγόμενα ἢ ὁπωσοῦν ἄλλως ἀπ’ αὐτῶν.

Ὑπάρχει δὲ καὶ ἐναντιότης κατὰ τὸ ποιόν, οἷον δικαιοσύνη ἀδικίᾳ ἐναντίον καὶ λευκότης μελανίᾳ καὶ τἆλλα ὡσαύτως, καὶ τὰ κατ’ αὐτὰς δὲ ποιὰ λεγόμενα, οἷον τὸ ἄδικον τῷ δικαίῳ καὶ τὸ λευκὸν τῷ μέλανι. οὐκ ἐπὶ πάν — των δὲ τὸ τοιοῦτον· τῷ γὰρ πυῤῥῷ ἢ ὠχρῷ ἢ ταῖς τοιαύταις χροιαῖς οὐδέν ἐστιν ἐναντίον ποιοῖς οὖσιν. — ἔτι ἐὰν τῶν ἐναντίων θάτερον ᾖ ποιόν, καὶ τὸ λοιπὸν ἔσται ποιόν. τοῦτο δὲ δῆλον προχειριζομένῳ τὰς ἄλλας κατηγορίας, οἷον εἰ ἔστιν ἡ δικαιοσύνη τῇ ἀδικίᾳ ἐναντίον, ποιὸν δὲ ἡ δικαιοσύνη, ποιὸν ἄρα καὶ ἡ ἀδικία· οὐδεμία γὰρ τῶν ἄλλων κατηγοριῶν ἐφαρμόζει τῇ ἀδικίᾳ, οὔτε ποσὸν οὔτε πρός τι οὔτε πού, οὐδ’ ὅλως τι τῶν τοιούτων οὐδὲν ἀλλ’ ἢ ποιόν· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων κατὰ τὸ ποιὸν ἐναντίων.

Ἐπιδέχεται δὲ καὶ τὸ μᾶλλον καὶ τὸ ἧττον τὰ ποιά· λευκὸν γὰρ μᾶλλον καὶ ἧττον ἕτερον ἑτέρου λέγεται, καὶ δίκαιον ἕτερον ἑτέρου μᾶλλον. καὶ αὐτὸ δὲ ἐπίδοσιν λαμβάνει, — λευκὸν γὰρ ὂν ἔτι ἐνδέχεται λευκότερον γενέσθαι· — οὐ πάντα δέ, ἀλλὰ τὰ πλεῖστα· δικαιοσύνη γὰρ δικαιοσύνης εἰ λέγεται μᾶλλον ἀπορήσειεν ἄν τις, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων διαθέσεων. ἔνιοι γὰρ διαμφισβητοῦσι περὶ τῶν τοιούτων· δικαιοσύνην μὲν γὰρ δικαιοσύνης οὐ πάνυ φασὶ μᾶλλον καὶ ἧττον λέγεσθαι, οὐδὲ ὑγίειαν ὑγιείας, ἧττον μέντοι ἔχειν ἕτερον ἑτέρου ὑγίειάν φασι, καὶ [11a] δικαιοσύνην ἧττον ἕτερον ἑτέρου, ὡσαύτως δὲ καὶ γραμματικὴν καὶ τὰς ἄλλας διαθέσεις. ἀλλ’ οὖν τά γε κατὰ ταύτας λεγόμενα ἀναμφισβητήτως ἐπιδέχεται τὸ μᾶλλον καὶ ἧττον· γραμματικώτερος γὰρ ἕτερος ἑτέρου λέγεται καὶ δικαιότερος καὶ ὑγιεινότερος, καὶ ἐπὶ τῶν ἄλλων ὡσαύτως. τρίγωνον δὲ καὶ τετράγωνον οὐ δοκεῖ τὸ μᾶλλον ἐπιδέχεσθαι, οὐδὲ τῶν ἄλλων σχημάτων οὐδέν· τὰ μὲν γὰρ ἐπιδεχόμενα τὸν τοῦ τριγώνου λόγον καὶ τὸν τοῦ κύκλου πάνθ’ ὁμοίως τρίγωνα ἢ κύκλοι εἰσίν, τῶν δὲ μὴ ἐπιδεχομένων οὐδὲν ἕτερον ἑτέρου μᾶλλον ῥηθήσεται· οὐδὲν γὰρ μᾶλλον τὸ τετράγωνον τοῦ ἑτε — ρομήκους κύκλος ἐστίν· οὐδέτερον γὰρ ἐπιδέχεται τὸν τοῦ κύκλου λόγον. ἁπλῶς δέ, ἐὰν μὴ ἐπιδέχηται ἀμφότερα τὸν τοῦ προκειμένου λόγον, οὐ ῥηθήσεται τὸ ἕτερον τοῦ ἑτέρου μᾶλλον. οὐ πάντα οὖν τὰ ποιὰ ἐπιδέχεται τὸ μᾶλλον καὶ τὸ ἧττον.

Τῶν μὲν οὖν εἰρημένων οὐδὲν ἴδιον ποιότητος, ὅμοια δὲ καὶ ἀνόμοια κατὰ μόνας τὰς ποιότητας λέγεται· ὅμοιον γὰρ ἕτερον ἑτέρῳ οὐκ ἔστι κατ’ ἄλλο οὐδὲν ἢ καθ’ ὃ ποιόν ἐστιν. ὥστε ἴδιον ἂν εἴη ποιότητος τὸ ὅμοιον ἢ ἀνόμοιον λέγεσθαι κατ’ αὐτήν.

Οὐ δεῖ δὲ ταράττεσθαι μή τις ἡμᾶς φήσῃ ὑπὲρ ποιότητος τὴν πρόθεσιν ποιησαμένους πολλὰ τῶν πρός τι συγκαταριθμεῖσθαι· τὰς γὰρ ἕξεις καὶ τὰς διαθέσεις τῶν πρός τι εἶναι. σχεδὸν γὰρ ἐπὶ πάντων τῶν τοιούτων τὰ γένη πρός τι λέγεται, τῶν δὲ καθ’ ἕκαστα οὐδέν· ἡ μὲν γὰρ ἐπιστήμη, γένος οὖσα, αὐτὸ ὅπερ ἐστὶν ἑτέρου λέγεται, — τινὸς γὰρ ἐπιστήμη λέγεται. — τῶν δὲ καθ’ ἕκαστα οὐδὲν αὐτὸ ὅπερ ἐστὶν ἑτέρου λέγεται, οἷον ἡ γραμματικὴ οὐ λέγεται τινὸς γραμματικὴ οὐδ’ ἡ μουσικὴ τινὸς μουσική, ἀλλ’ εἰ ἄρα κατὰ τὸ γένος καὶ αὗται πρός τι λέγεται· οἷον ἡ γραμματικὴ λέγεται τινὸς ἐπιστήμη, οὐ τινὸς γραμματική, καὶ ἡ μουσικὴ τινὸς ἐπιστήμη, οὐ τινὸς μουσική· ὥστε αἱ καθ’ ἕκαστα οὐκ εἰσὶ τῶν πρός τι. λεγόμεθα δὲ ποιοὶ ταῖς καθ’ ἕκαστα· ταύτας γὰρ καὶ ἔχομεν, — ἐπιστήμονες γὰρ λεγόμεθα τῷ ἔχειν τῶν καθ’ ἕκαστα ἐπιστημῶν τινά· — ὥστε αὗται ἂν καὶ ποιότητες εἴησαν αἱ καθ’ ἕκαστα, καθ’ ἅς ποτε καὶ ποιοὶ λεγόμεθα· αὗται δὲ οὐκ εἰσὶ τῶν πρός τι. — ἔτι εἰ τυγχάνει τὸ αὐτὸ ποιὸν καὶ πρός τι ὄν, οὐδὲν ἄτοπον ἐν ἀμφοτέροις τοῖς γένεσιν αὐτὸ καταριθμεῖσθαι. <.........>

Κεφάλαιο 9

Ἐπιδέχεται δὲ καὶ τὸ ποιεῖν καὶ πάσχειν ἐναντιό — τητα καὶ τὸ μᾶλλον καὶ τὸ ἧττον· τὸ γὰρ θερμαίνειν τῷ ψύχειν ἐναντίον καὶ τὸ θερμαίνεσθαι τῷ ψύχεσθαι καὶ τὸ ἥδεσθαι τῷ λυπεῖσθαι· ὥστε ἐπιδέχεται ἐναντιότητα. καὶ τὸ μᾶλλον δὲ καὶ τὸ ἧττον· θερμαίνειν γὰρ μᾶλλον καὶ ἧττον ἔστι, καὶ θερμαίνεσθαι μᾶλλον καὶ ἧττον, καὶ λυπεῖσθαι μᾶλλον καὶ ἧττον· ἐπιδέχεται οὖν τὸ μᾶλλον καὶ τὸ ἧττον τὸ ποιεῖν καὶ τὸ πάσχειν. <........>

[Ὑπὲρ μὲν οὖν τούτων τοσαῦτα λέγεται· εἴρηται δὲ καὶ ὑπὲρ τοῦ κεῖσθαι ἐν τοῖς πρός τι, ὅτι παρωνύμως ἀπὸ τῶν θέσεων λέγεται. ὑπὲρ δὲ τῶν λοιπῶν, τοῦ τε ποτὲ καὶ τοῦ ποὺ καὶ τοῦ ἔχειν, διὰ τὸ προφανῆ εἶναι οὐδὲν ὑπὲρ αὐτῶν ἄλλο λέγεται ἢ ὅσα ἐν ἀρχῇ ἐῤῥήθη, ὅτι τὸ ἔχειν μὲν σημαίνει τὸ ὑποδεδέσθαι, τὸ ὡπλίσθαι, τὸ δὲ ποὺ οἷον ἐν Λυκείῳ, καὶ τὰ ἄλλα δὲ ὅσα ὑπὲρ αὐτῶν ἐῤῥήθη. — ὑπὲρ μὲν οὖν τῶν προτεθέντων γενῶν ἱκανὰ τὰ εἰρημένα· περὶ δὲ τῶν ἀντικειμένων, ποσαχῶς εἴωθε ἀντιτίθεσθαι, ῥητέον.]

Κεφάλαιο 10

Λέγεται δὲ ἕτερον ἑτέρῳ ἀντικεῖσθαι τετραχῶς, ἢ ὡς τὰ πρός τι, ἢ ὡς τὰ ἐναντία, ἢ ὡς στέρησις καὶ ἕξις, ἢ ὡς κατάφασις καὶ ἀπόφασις. ἀντίκειται δὲ ἕκαστον τῶν τοιούτων, ὡς τύπῳ εἰπεῖν, ὡς μὲν τὰ πρός τι οἷον τὸ διπλάσιον τῷ ἡμίσει, ὡς δὲ τὰ ἐναντία οἷον τὸ κακὸν τῷ ἀγαθῷ, ὡς δὲ κατὰ στέρησιν καὶ ἕξιν οἷον τυφλότης καὶ ὄψις, ὡς δὲ κατάφασις καὶ ἀπόφασις οἷον κάθηται — οὐ κάθηται.

Ὅσα μὲν οὖν ὡς τὰ πρός τι ἀντίκειται αὐτὰ ἅπερ ἐστὶ τῶν ἀντικειμένων λέγεται ἢ ὁπωσοῦν ἄλλως πρὸς αὐτά· οἷον τὸ διπλάσιον τοῦ ἡμίσεος αὐτὸ ὅπερ ἐστὶ διπλάσιον λέγεται· καὶ ἡ ἐπιστήμη δὲ τῷ ἐπιστητῷ ὡς τὰ πρός τι ἀντίκειται, καὶ λέγεταί γε ἡ ἐπιστήμη αὐτὸ ὅπερ ἐστὶ τοῦ ἐπιστητοῦ· καὶ τὸ ἐπιστητὸν δὲ αὐτὸ ὅπερ ἐστὶ πρὸς τὸ ἀντικείμενον λέγεται τὴν ἐπιστήμην· τὸ γὰρ ἐπιστητὸν τινὶ λέγεται ἐπιστητὸν τῇ ἐπιστήμῃ.

Ὅσα οὖν ἀντίκειται ὡς τὰ πρός τι αὐτὰ ἅπερ ἐστὶ τῶν ἀντικειμένων ἢ ὁπωσδήποτε πρὸς ἄλληλα λέγεται· τὰ δὲ ὡς τὰ ἐναντία, αὐτὰ μὲν ἅπερ ἐστὶν οὐδαμῶς πρὸς ἄλληλα λέγεται, ἐναντία μέντοι ἀλλήλων λέγεται· οὔτε γὰρ τὸ ἀγαθὸν τοῦ κακοῦ λέγεται ἀγαθόν, ἀλλ' ἐναντίον, οὔτε τὸ λευκὸν τοῦ μέλανος λευκόν, ἀλλ' ἐναντίον. ὥστε διαφέρουσιν αὗται αἱ ἀντιθέσεις ἀλλήλων. — ὅσα δὲ τῶν ἐναντίων τοιαῦτά ἐστιν [12a] ὥστε ἐν οἷς πέφυκε γίγνεσθαι ἢ ὧν κατηγορεῖται ἀναγκαῖον αὐτῶν θάτερον ὑπάρχειν, τούτων οὐδέν ἐστιν ἀνὰ μέσον· [ὧν δέ γε μὴ ἀναγκαῖον θάτερον ὑπάρχειν, τούτων ἔστι τι ἀνὰ μέσον πάντως.] οἷον νόσος καὶ ὑγίεια ἐν σώματι ζῴου πέφυκε γίγνεσθαι, καὶ ἀναγκαῖόν γε θάτερον ὑπάρχειν τῷ τοῦ ζῴου σώματι ἢ νόσον ἢ ὑγίειαν· καὶ περιττὸν δὲ καὶ ἄρτιον ἀριθμοῦ κατηγορεῖται, καὶ ἀναγκαῖόν γε θάτερον τῷ ἀριθμῷ ὑπάρχειν ἢ περιττὸν ἢ ἄρτιον· καὶ οὐκ ἔστι γε τούτων οὐδὲν ἀνὰ μέσον, οὔτε νόσου καὶ ὑγιείας οὔτε περιττοῦ καὶ ἀρτίου. ὧν δέ γε μὴ ἀναγκαῖον θάτερον ὑπάρχειν, τούτων ἔστι τι ἀνὰ μέσον· οἷον μέλαν καὶ λευκὸν ἐν σώματι πέφυκε γίγνεσθαι, καὶ οὐκ ἀναγκαῖόν γε θάτερον αὐτῶν ὑπάρχειν τῷ σώματι, — οὐ γὰρ πᾶν ἤτοι λευκὸν ἢ μέλαν ἐστίν· — καὶ φαῦλον δὲ καὶ σπουδαῖον κατηγορεῖται μὲν καὶ κατ' ἀνθρώπου καὶ κατ' ἄλλων πολλῶν, οὐκ ἀναγκαῖον δὲ θάτερον αὐτῶν ὑπάρχειν ἐκείνοις ὧν κατηγορεῖται· οὐ γὰρ πάντα ἤτοι φαῦλα ἢ σπουδαῖά ἐστιν. καὶ ἔστι γέ τι τούτων ἀνὰ μέσον, οἷον τοῦ μὲν λευκοῦ καὶ τοῦ μέλανος τὸ φαιὸν καὶ ὠχρὸν καὶ ὅσα ἄλλα χρώματα, τοῦ δὲ φαύλου καὶ τοῦ σπουδαίου τὸ οὔτε φαῦλον οὔτε σπουδαῖον. ἐπ’ ἐνίων μὲν οὖν ὀνόματα κεῖται τοῖς ἀνὰ μέσον, οἷον λευκοῦ καὶ μέλανος τὸ φαιὸν καὶ ὠχρόν· ἐπ’ ἐνίων δὲ ὀνόματι μὲν οὐκ εὔπορον τὸ ἀνὰ μέσον ἀποδοῦναι, τῇ δὲ ἑκατέρου τῶν ἄκρων ἀποφάσει τὸ ἀνὰ μέσον ὁρίζεται,οἷον τὸ οὔτε ἀγαθὸν οὔτε κακὸν καὶ οὔτε δίκαιον οὔτε ἄδικον.

Στέρησις δὲ καὶ ἕξις λέγεται μὲν περὶ ταὐτόν τι, οἷον ἡ ὄψις καὶ ἡ τυφλότης περὶ ὀφθαλμόν· καθόλου δὲ εἰπεῖν, ἐν ᾧ πέφυκεν ἡ ἕξις γίγνεσθαι, περὶ τοῦτο λέγεται ἑκάτερον αὐτῶν. ἐστερῆσθαι δὲ τότε λέγομεν ἕκαστον τῶν τῆς ἕξεως δεκτικῶν, ὅταν ἐν ᾧ πέφυκεν ὑπάρχειν καὶ ὅτε πέφυκεν ἔχειν μηδαμῶς ὑπάρχῃ· νωδόν τε γὰρ λέγομεν οὐ τὸ μὴ ἔχον ὀδόντας, καὶ τυφλὸν οὐ τὸ μὴ ἔχον ὄψιν, ἀλλὰ τὸ μὴ ἔχον ὅτε πέφυκεν ἔχειν· τινὰ γὰρ ἐκ γενετῆς οὔτε ὄψιν οὔτε ὀδόντας ἔχει, ἀλλ’ οὐ λέγεται νωδὰ οὐδὲ τυφλά. τὸ δὲ ἐστερῆσθαι καὶ τὸ ἔχειν τὴν ἕξιν οὐκ ἔστι στέρησις καὶ ἕξις· ἕξις μὲν γάρ ἐστιν ἡ ὄψις, στέρησις δὲ ἡ τυφλότης, τὸ δὲ ἔχειν τὴν ὄψιν οὐκ ἔστιν ὄψις, οὐδὲ τὸ τυφλὸν εἶναι τυφλότης· στέρησις γάρ τις ἡ τυφλότης ἐστίν, τὸ δὲ τυφλὸν εἶναι ἐστερῆσθαι, οὐ στέρησίς ἐστιν. ἔτι εἰ ἦν ἡ τυφλότης ταὐτὸν τῷ τυφλὸν εἶναι, κατηγορεῖτο ἂν ἀμφότερα κατὰ τοῦ αὐτοῦ· ἀλλὰ τυφλὸς μὲν λέγεται ὁ ἄνθρωπος, τυφλότης [12b] δὲ ὁ ἄνθρωπος οὐδαμῶς λέγεται. ἀντικεῖσθαι δὲ καὶ ταῦτα δοκεῖ, τὸ ἐστερῆσθαι καὶ τὸ τὴν ἕξιν ἔχειν ὡς στέρησις καὶ ἕξις· ὁ γὰρ τρόπος τῆς ἀντιθέσεως ὁ αὐτός· ὡς γὰρ ἡ τυφλότης τῇ ὄψει ἀντίκειται, οὕτω καὶ τὸ τυφλὸν εἶναι τῷ ὄψιν ἔχειν ἀντίκειται. (οὐκ ἔστι δὲ οὐδὲ τὸ ὑπὸ τὴν κατάφασιν καὶ ἀπόφασιν κατάφασις καὶ ἀπόφασις· ἡ μὲν γὰρ κατάφασις λόγος ἐστὶ καταφατικὸς καὶ ἡ ἀπόφασις λόγος ἀποφατικός, τῶν δὲ ὑπὸ τὴν κατάφασιν ἢ ἀπόφασιν οὐδέν ἐστι λόγος. λέγεται δὲ καὶ ταῦτα ἀντικεῖσθαι ἀλλήλοις ὡς κατάφασις καὶ ἀπόφασις· καὶ γὰρ ἐπὶ τούτων ὁ τρόπος τῆς ἀντιθέσεως ὁ αὐτός· ὡς γάρ ποτε ἡ κατάφασις πρὸς τὴν ἀπόφασιν ἀντίκειται, οἷον τὸ κάθηται — οὐ κάθηται, οὕτω καὶ τὸ ὑφ’ ἑκάτερον πρᾶγμα ἀντίκειται, τὸ καθῆσθαι — μὴ καθῆσθαι.) — ὅτι δὲ ἡ στέρησις καὶ ἡ ἕξις οὐκ ἀντίκειται ὡς τὰ πρός τι, φανερόν· οὐ γὰρ λέγεται αὐτὸ ὅπερ ἐστὶ τοῦ ἀντικειμένου· ἡ γὰρ ὄψις οὐκ ἔστι τυφλότητος ὄψις, οὐδ’ ἄλλως οὐδαμῶς πρὸς αὐτὸ λέγεται· ὡσαύτως δὲ οὐδὲ ἡ τυφλότης λέγοιτ’ ἂν τυφλότης ὄψεως, ἀλλὰ στέρησις μὲν ὄψεως ἡ τυφλότης λέγεται, τυφλότης δὲ ὄψεως οὐ λέγεται. ἔτι τὰ πρός τι πάντα πρὸς ἀντιστρέφοντα λέγεται, ὥστε καὶ ἡ τυφλότης εἴπερ ἦν τῶν πρός τι, ἀντέστρεφεν ἂν κἀκεῖνο πρὸς ὃ λέγεται·

ἀλλ’ οὐκ ἀντιστρέφει· οὐ γὰρ λέγεται ἡ ὄψις τυφλότητος ὄψις.

Ὅτι δὲ οὐδ’ ὡς τὰ ἐναντία ἀντίκειται τὰ κατὰ στέρησιν λεγόμενα καὶ ἕξιν ἐκ τῶνδε δῆλον. τῶν μὲν γὰρ ἐναντίων, ὧν μηδέν ἐστιν ἀνὰ μέσον, ἀναγκαῖον, ἐν οἷς πέφυκε γίγνεσθαι ἢ ὧν κατηγορεῖται, θάτερον αὐτῶν ὑπάρχειν ἀεί· τούτων γὰρ οὐδὲν ἦν ἀνὰ μέσον, ὧν θάτερον ἀναγκαῖον ἦν τῷ δεκτικῷ ὑπάρχειν, οἷον ἐπὶ νόσου καὶ ὑγιείας καὶ περιττοῦ καὶ ἀρτίου· ὧν δὲ ἔστι τι ἀνὰ μέσον, οὐδέποτε ἀνάγκη παντὶ ὑπάρχειν θάτερον· οὔτε γὰρ λευκὸν ἢ μέλαν ἀνάγκη πᾶν εἶναι τὸ δεκτικόν, οὔτε θερμὸν ἢ ψυχρόν, — τούτων γὰρ ἀνὰ μέσον τι οὐδὲν κωλύει ὑπάρχειν· — ἔτι δὲ καὶ τούτων ἦν τι ἀνὰ μέσον ὧν μὴ ἀναγκαῖον ἦν θάτερον ὑπάρχειν τῷ δεκτικῷ, εἰ μὴ οἷς φύσει τὸ ἓν ὑπάρχει, οἷον τῷ πυρὶ τὸ θερμῷ εἶναι καὶ τῇ χιόνι τὸ λευκῇ· — ἐπὶ δὲ τούτων ἀφωρισμένως ἀναγκαῖον θάτερον ὑπάρχειν, καὶ οὐχ ὁπότερον ἔτυχεν· οὐ γὰρ ἐνδέχεται τὸ πῦρ ψυχρὸν εἶναι οὐδὲ τὴν χιόνα μέλαιναν· — ὥστε παντὶ μὲν οὐκ ἀνάγκη [13a] τῷ δεκτικῷ θάτερον αὐτῶν ὑπάρχειν, ἀλλὰ μόνον οἷς φύσει τὸ ἓν ὑπάρχει, καὶ τούτοις ἀφωρισμένως τὸ ἓν καὶ οὐχ ὁπότερον ἔτυχεν. ἐπὶ δὲ τῆς στερήσεως καὶ τῆς ἕξεως οὐδέ — τερον τῶν εἰρημένων ἀληθές· οὐδὲ γὰρ ἀεὶ τῷ δεκτικῷ ἀναγκαῖον θάτερον αὐτῶν ὑπάρχειν, — τὸ γὰρ μήπω πεφυκὸς ὄψιν ἔχειν οὔτε τυφλὸν οὔτε ὄψιν ἔχειν λέγεται, ὥστε οὐκ ἂν εἴη ταῦτα τῶν τοιούτων ἐναντίων ὧν οὐδέν ἐστιν ἀνὰ μέσον· — ἀλλ’ οὐδὲ ὧν τι ἔστιν ἀνὰ μέσον· ἀναγκαῖον γάρ ποτε παντὶ τῷ δεκτικῷ θάτερον αὐτῶν ὑπάρχειν· ὅταν γὰρ ἤδη πεφυκὸς ᾖ ἔχειν ὄψιν, τότε ἢ τυφλὸν ἢ ἔχον ὄψιν ῥηθήσεται, καὶ τούτων οὐκ ἀφωρισμένως θάτερον, ἀλλ’ ὁπότερον ἔτυχεν, — οὐ γὰρ ἀναγκαῖον ἢ τυφλὸν ἢ ὄψιν ἔχον εἶναι, ἀλλ’ ὁπότερον ἔτυχεν· — ἐπὶ δέ γε τῶν ἐναντίων, ὧν ἔστιν ἀνὰ μέσον τι, οὐδέποτε ἀναγκαῖον ἦν παντὶ θάτερον ὑπάρχειν, ἀλλὰ τισίν, καὶ τούτοις ἀφωρισμένως τὸ ἕν. ὥστε δῆλον ὅτι κατ’ οὐδέτερον τῶν τρόπων ὡς τὰ ἐναντία ἀντίκειται τὰ κατὰ στέρησιν καὶ ἕξιν ἀντικείμενα. — ἔτι ἐπὶ μὲν τῶν ἐναντίων ὑπάρχοντος τοῦ δεκτικοῦ δυνατὸν εἰς ἄλληλα μεταβολὴν γενέσθαι, εἰ μή τινι φύσει τὸ ἓν ὑπάρχει, οἷον τῷ πυρὶ τὸ θερμῷ εἶναι· καὶ γὰρ τὸ ὑγιαῖνον δυνατὸν νοσῆσαι καὶ τὸ λευκὸν μέλαν γενέσθαι καὶ τὸ ψυχρὸν θερμόν, καὶ ἐκ σπουδαίου γε φαῦλον καὶ ἐκ φαύλου σπουδαῖον δυνατὸν γενέσθαι· — ὁ γὰρ φαῦλος εἰς βελτίους διατριβὰς ἀγόμενος καὶ λόγους κἂν μικρόν γέ τι ἐπιδοίη εἰς τὸ βελτίω εἶναι· ἐὰν δὲ ἅπαξ κἂν μικρὰν ἐπίδοσιν λάβῃ, φανερὸν ὅτι ἢ τελείως ἂν μεταβάλοι ἢ πάνυ πολλὴν ἂν ἐπίδοσιν λάβοι· ἀεὶ γὰρ εὐκινητότερος πρὸς ἀρετὴν γίγνεται, κἂν ἡντινοῦν ἐπίδοσιν εἰληφὼς ἐξ ἀρχῆς ᾖ, ὥστε καὶ πλείω εἰκὸς ἐπίδοσιν λαμβάνειν· καὶ τοῦτο ἀεὶ γιγνόμενον τελείως εἰς τὴν ἐναντίαν ἕξιν ἀποκαθίστησιν, ἐάνπερ μὴ χρόνῳ ἐξείργηται· — ἐπὶ δέ γε τῆς στερήσεως καὶ τῆς ἕξεως ἀδύνατον εἰς ἄλληλα μεταβολὴν γενέσθαι· ἀπὸ μὲν γὰρ τῆς ἕξεως ἐπὶ τὴν στέρησιν γίγνεται μεταβολή, ἀπὸ δὲ τῆς στερήσεως ἐπὶ τὴν ἕξιν ἀδύνατον· οὔτε γὰρ τυφλὸς γενόμενός τις πάλιν ἔβλεψεν, οὔτε φαλακρὸς ὢν κομήτης ἐγένετο, οὔτε νωδὸς ὢν ὀδόντας ἔφυσεν.

Ὅσα δὲ ὡς κατάφασις καὶ ἀπόφασις ἀντίκειται, [13b] φανερὸν ὅτι κατ' οὐδένα τῶν εἰρημένων τρόπων ἀντίκειται· ἐπὶ μόνων γὰρ τούτων ἀναγκαῖον ἀεὶ τὸ μὲν ἀληθὲς τὸ δὲ ψεῦδος αὐτῶν εἶναι. οὔτε γὰρ ἐπὶ τῶν ἐναντίων ἀναγκαῖον ἀεὶ θάτερον μὲν ἀληθὲς εἶναι θάτερον δὲ ψεῦδος, οὔτε ἐπὶ τῶν πρός τι, οὔτε ἐπὶ τῆς ἕξεως καὶ στερήσεως· οἷον ὑγίεια καὶ νόσος ἐναντία, καὶ οὐδέτερόν γε οὔτε ἀληθὲς οὔτε ψεῦδός ἐστιν· ὡσαύτως δὲ καὶ τὸ διπλάσιον καὶ τὸ ἥμισυ ὡς τὰ πρός τι ἀντίκειται, καὶ οὐκ ἔστιν αὐτῶν οὐδέτερον οὔτε ἀληθὲς οὔτε ψεῦδος· οὐδέ γε τὰ κατὰ στέρησιν καὶ ἕξιν, οἷον ἡ ὄψις καὶ ἡ τυφλότης· ὅλως δὲ τῶν κατὰ μηδεμίαν συμπλοκὴν λεγομένων οὐδὲν οὔτε ἀληθὲς οὔτε ψεῦδός ἐστιν· πάντα δὲ τὰ εἰρημένα ἄνευ συμπλοκῆς λέγεται. οὐ μὴν ἀλλὰ μάλιστα δόξειεν ἂν τὸ τοιοῦτο συμβαίνειν ἐπὶ τῶν κατὰ συμπλοκὴν ἐναντίων λεγομένων, — τὸ γὰρ ὑγιαίνειν Σωκράτη τῷ νοσεῖν Σωκράτη ἐναντίον ἐστίν, — ἀλλ' οὐδ' ἐπὶ τούτων ἀναγκαῖον ἀεὶ θάτερον μὲν ἀληθὲς θάτερον δὲ ψεῦδος εἶναι· ὄντος μὲν γὰρ Σωκράτους ἔσται τὸ μὲν ἀληθὲς τὸ δὲ ψεῦδος, μὴ ὄντος δὲ ἀμφότερα ψευδῆ· οὔτε γὰρ τὸ νοσεῖν Σωκράτη οὔτε τὸ ὑγιαίνειν ἀληθὲς αὐτοῦ μὴ ὄντος ὅλως τοῦ Σωκράτους. ἐπὶ δὲ τῆς στερήσεως καὶ τῆς ἕξεως μὴ ὄντος γε ὅλως οὐδέτερον ἀληθές, ὄντος δὲ οὐκ ἀεὶ θάτερον ἀληθές· τὸ γὰρ ὄψιν ἔχειν Σωκράτη τῷ τυφλὸν εἶναι Σωκράτη ἀντίκειται ὡς στέρησις καὶ ἕξις, καὶ ὄντος γε οὐκ ἀναγκαῖον θάτερον ἀληθὲς εἶναι ἢ ψεῦδος, — ὅτε γὰρ μήπω πέφυκεν ἔχειν, ἀμφότερα ψευδῆ, — μὴ ὄντος δὲ ὅλως τοῦ Σωκράτους καὶ οὕτω ψευδῆ ἀμφότερα, καὶ τὸ ὄψιν αὐτὸν ἔχειν καὶ τὸ τυφλὸν εἶναι. ἐπὶ δέ γε τῆς καταφάσεως καὶ τῆς ἀποφάσεως ἀεί, ἐάν τε ᾖ ἐάν τε μὴ ᾖ, τὸ μὲν ἕτερον ἔσται ψεῦδος τὸ δὲ ἕτερον ἀληθές· τὸ γὰρ νοσεῖν Σωκράτη καὶ τὸ μὴ νοσεῖν Σωκράτη, ὄντος τε αὐτοῦ φανερὸν ὅτι τὸ ἕτερον αὐτῶν ἀληθὲς ἢ ψεῦδος, καὶ μὴ ὄντος ὁμοίως· τὸ μὲν γὰρ νοσεῖν μὴ ὄντος ψεῦδος, τὸ δὲ μὴ νοσεῖν ἀληθές· ὥστε ἐπὶ μόνων τούτων ἴδιον ἂν εἴη τὸ ἀεὶ θάτερον αὐτῶν ἀληθὲς ἢ ψεῦδος εἶναι, ὅσα ὡς κατάφασις καὶ ἀπόφασις ἀντίκειται.

Κεφάλαιο 11

Ἐναντίον δέ ἐστιν ἀγαθῷ μὲν ἐξ ἀνάγκης κακόν, — τοῦτο δὲ δῆλον τῇ καθ' ἕκαστον ἐπαγωγῇ, οἷον ὑγιείᾳ νόσος καὶ δικαιοσύνῃ [14a] ἀδικία καὶ ἀνδρείᾳ δειλία, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, — κακῷ δὲ ὁτὲ μὲν ἀγαθὸν ἐναντίον ἐστίν, ὁτὲ δὲ κακόν· τῇ γὰρ ἐνδείᾳ κακῷ ὄντι ἡ ὑπερβολὴ ἐναντίον κακὸν ὄν· ὁμοίως δὲ καὶ ἡ μεσότης ἐναντία ἑκατέρῳ οὖσα ἀγαθόν. ἐπ' ὀλίγων δ' ἂν τὸ τοιοῦτον ἴδοι τις, ἐπὶ δὲ τῶν πλείστων ἀεὶ τῷ κακῷ τὸ ἀγαθὸν ἐναντίον ἐστίν. — ἔτι τῶν ἐναντίων οὐκ ἀναγκαῖον, ἐὰν θάτερον ᾖ, καὶ τὸ λοιπὸν εἶναι· ὑγιαινόντων γὰρ ἁπάντων ὑγίεια μὲν ἔσται, νόσος δὲ οὔ· ὁμοίως δὲ καὶ λευκῶν ὄντων ἁπάντων λευκότης μὲν ἔσται, μελανία δὲ οὔ. ἔτι εἰ τὸ Σωκράτη ὑγιαίνειν τῷ Σωκράτη νοσεῖν ἐναντίον ἐστίν, μὴ ἐνδέχεται δὲ ἅμα ἀμφότερα τῷ αὐτῷ ὑπάρχειν, οὐκ ἂν ἐνδέχοιτο τοῦ ἑτέρου τῶν ἐναντίων ὄντος καὶ τὸ λοιπὸν εἶναι· ὄντος γὰρ τοῦ Σωκράτη ὑγιαίνειν οὐκ ἂν εἴη τὸ νοσεῖν Σωκράτη.

Δῆλον δὲ ὅτι καὶ περὶ ταὐτὸν ἢ εἴδει ἢ γένει πέφυκε γίγνεσθαι τὰ ἐναντία· νόσος μὲν γὰρ καὶ ὑγίεια ἐν σώματι ζῴου, λευκότης δὲ καὶ μελανία ἁπλῶς ἐν σώματι, δικαιοσύνη δὲ καὶ ἀδικία ἐν ψυχῇ. ἀνάγκη δὲ πάντα τὰ ἐναντία ἢ ἐν τῷ αὐτῷ γένει εἶναι ἢ ἐν τοῖς ἐναντίοις γένεσιν, ἢ αὐτὰ γένη εἶναι· λευκὸν μὲν γὰρ καὶ μέλαν ἐν τῷ αὐτῷ γένει, — χρῶμα γὰρ αὐτῶν τὸ γένος, — δικαιοσύνη δὲ καὶ ἀδικία ἐν τοῖς ἐναντίοιςγένεσιν, — τοῦ μὲν γὰρ ἀρετή, τοῦ δὲ κακία τὸ γένος, — ἀγαθὸν δὲ καὶ κακὸν οὐκ ἔστιν ἐν γένει, ἀλλ' αὐτὰ τυγχάνει γένη τινῶν ὄντα.

Κεφάλαιο 12

Πρότερον ἕτερον ἑτέρου λέγεται τετραχῶς· πρῶτον μὲν καὶ κυριώτατα κατὰ χρόνον, καθ’ ὃ πρεσβύτερον ἕτερον ἑτέρου καὶ παλαιότερον λέγεται, — τῷ γὰρ τὸν χρόνον πλείω εἶναι καὶ πρεσβύτερον καὶ παλαιότερον λέγεται· — δεύτερον δὲ τὸ μὴ ἀντιστρέφον κατὰ τὴν τοῦ εἶναι ἀκολούθησιν, οἷον τὸ ἓν τῶν δύο πρότερον· δυεῖν μὲν γὰρ ὄντων ἀκολουθεῖ εὐθὺς τὸ ἓν εἶναι, ἑνὸς δὲ ὄντος οὐκ ἀναγκαῖον δύο εἶναι, ὥστε οὐκ ἀντιστρέφει ἀπὸ τοῦ ἑνὸς ἡ ἀκολούθησις τοῦ εἶναι τὸ λοιπόν, πρότερον δὲ δοκεῖ τὸ τοιοῦτον εἶναι ἀφ’ οὗ μὴ ἀντιστρέφει ἡ τοῦ εἶναι ἀκολούθησις. τρίτον δὲ κατά τινα τάξιν πρότερον λέγεται, καθάπερ ἐπὶ τῶν ἐπιστημῶν καὶ τῶν λόγων· ἔν τε γὰρ ταῖς ἀποδεικτικαῖς ἐπιστήμαις ὑπάρχει τὸ πρότερον καὶ τὸ ὕστερον τῇ τάξει, — τὰ γὰρ στοιχεῖα πρότερα τῶν [14b] διαγραμμάτων τῇ τάξει, καὶ ἐπὶ τῆς γραμματικῆς τὰ στοιχεῖα πρότερα τῶν συλλαβῶν, — ἐπί τε τῶν λόγων ὁμοίως, — τὸ γὰρ προοίμιον τῆς διηγήσεως πρότερον τῇ τάξει ἐστίν. — ἔτι παρὰ τὰ εἰρημένα τὸ βέλτιον καὶ τὸ τιμιώτερον πρότερον εἶναι τῇ φύσει δοκεῖ· εἰώθασι δὲ καὶ οἱ πολλοὶ τοὺς ἐντιμοτέρους καὶ μᾶλλον ἀγαπωμένους ὑπ’ αὐτῶν προτέρους φάσκειν εἶναι· ἔστι μὲν δὴ σχεδὸν ἀλλοτριώτατος τῶν τρόπων οὗτος.

Οἱ μὲν οὖν λεγόμενοι τοῦ προτέρου τρόποι τοσοῦτοί εἰσιν. δόξειε δ’ ἂν καὶ παρὰ τοὺς εἰρημένους ἕτερος εἶναι προτέρου τρόπος· τῶν γὰρ ἀντιστρεφόντων κατὰ τὴν τοῦ εἶναι ἀκολούθησιν τὸ αἴτιον ὁπωσοῦν θατέρῳ τοῦ εἶναι πρότερον εἰκότως φύσει λέγοιτ’ ἄν. ὅτι δ’ ἔστι τινὰ τοιαῦτα, δῆλον· τὸ γὰρ εἶναι ἄνθρωπον ἀντιστρέφει κατὰ τὴν τοῦ εἶ — ναι ἀκολούθησιν πρὸς τὸν ἀληθῆ περὶ αὐτοῦ λόγον· εἰ γὰρ ἔστιν ἄνθρωπος, ἀληθὴς ὁ λόγος ᾧ λέγομεν ὅτι ἔστιν ἄνθρωπος· καὶ ἀντιστρέφει γε, — εἰ γὰρ ἀληθὴς ὁ λόγος ᾧ λέγομεν ὅτι ἔστιν ἄνθρωπος, ἔστιν ἄνθρωπος· — ἔστι δὲ ὁ μὲν ἀληθὴς λόγος οὐδαμῶς αἴτιος τοῦ εἶναι τὸ πρᾶγμα, τὸ μέντοι πρᾶγμα φαίνεταί πως αἴτιον τοῦ εἶναι ἀληθῆ τὸν λόγον· τῷ γὰρ εἶναι τὸ πρᾶγμα ἢ μὴ ἀληθὴς ὁ λόγος ἢ ψευδὴς λέγεται. ὥστε κατὰ πέντε τρόπους πρότερον ἕτερον ἑτέρου λέγοιτ’ ἄν.

Κεφάλαιο 13

Ἅμα δὲ λέγεται ἁπλῶς μὲν καὶ κυριώτατα ὧν ἡ γένεσις ἐν τῷ αὐτῷ χρόνῳ· οὐδέτερον γὰρ πρότερον οὐδὲ ὕστερόν ἐστιν· ἅμα δὲ κατὰ τὸν χρόνον ταῦτα λέγεται. φύσει δὲ ἅμα ὅσα ἀντιστρέφει μὲν κατὰ τὴν τοῦ εἶναι ἀκολούθησιν, μηδαμῶς δὲ αἴτιον θάτερον θατέρῳ τοῦ εἶναί ἐστιν, οἷον ἐπὶ τοῦ διπλασίου καὶ τοῦ ἡμίσεος· ἀντιστρέφει μὲν γὰρ ταῦτα, — διπλασίου γὰρ ὄντος ἐστὶν ἥμισυ, καὶ ἡμίσεος ὄντος διπλάσιόν ἐστιν, — οὐδέτερον δὲ οὐδετέρῳ αἴτιον τοῦ εἶναί ἐστιν. καὶ τὰ ἐκ τοῦ αὐτοῦ γένους ἀντιδιῃρημένα ἀλλήλοις ἅμα τῇ φύσει λέγεται. ἀντιδιῃρῆσθαι δὲ λέγεται ἀλλήλοις τὰ κατὰ τὴν αὐτὴν διαίρεσιν, οἷον τὸ πτηνὸν τῷ πεζῷ καὶ τῷ ἐνύδρῳ· ταῦτα γὰρ ἀλλήλοις ἀντιδιῄρηται ἐκ τοῦ αὐτοῦ γένους ὄντα· τὸ γὰρ ζῷον διαιρεῖται εἰς ταῦτα, εἴς τε τὸ πτηνὸν καὶ τὸ πεζὸν καὶ τὸ ἔνυδρον, καὶ οὐδέν γε τούτων πρότερον ἢ ὕστερόν ἐστιν, ἀλλ’ ἅμα τῇ φύσει τὰ [15a] τοιαῦτα δοκεῖ εἶναι· (διαιρεθείη δ’ ἂν καὶ ἕκαστον τούτων εἰς εἴδη πάλιν, οἷον τὸ πεζὸν καὶ τὸ πτηνὸν καὶ τὸ ἔνυδρον.) ἔσται οὖν κἀκεῖνα ἅμα τῇ φύσει, ὅσα ἐκ τοῦ αὐτοῦ γένους κατὰ τὴν αὐτὴν διαίρεσίν ἐστιν· τὰ δὲ γένη τῶν εἰδῶν ἀεὶ πρότερα· οὐ γὰρ ἀντιστρέφει κατὰ τὴν τοῦ εἶναι ἀκολούθησιν· οἷον ἐνύδρου μὲν ὄντος ἔστι ζῷον, ζῴου δὲ ὄντοςοὐκ ἀνάγκη ἔνυδρον εἶναι. — ἅμα οὖν τῇ φύσει λέγεται ὅσα ἀντιστρέφει μὲν κατὰ τὴν τοῦ εἶναι ἀκολούθησιν, μηδαμῶς δὲ αἴτιον τὸ ἕτερον τῷ ἑτέρῳ τοῦ εἶναί ἐστιν, καὶ τὰ ἐκ τοῦ αὐτοῦ γένους ἀντιδιῃρημένα ἀλλήλοις· ἁπλῶς δὲ ἅμα, ὧν ἡ γένεσις ἐν τῷ αὐτῷ χρόνῳ.

Κεφάλαιο 14

Κινήσεως δέ ἐστιν εἴδη ἕξ· γένεσις, φθορά, αὔξησις, μείωσις, ἀλλοίωσις, κατὰ τόπον μεταβολή. αἱ μὲν οὖν ἄλλαι κινήσεις φανερὸν ὅτι ἕτεραι ἀλλήλων εἰσίν· οὐ γάρ ἐστιν ἡ γένεσις φθορὰ οὐδέ γε ἡ αὔξησις μείωσις οὐδὲ ἡ κατὰ τόπον μεταβολή, ὡσαύτως δὲ καὶ αἱ ἄλλαι· ἐπὶ δὲ τῆς ἀλλοιώσεως ἔχει τινὰ ἀπορίαν, μήποτε ἀναγκαῖον ᾖ τὸ ἀλλοιούμενον κατά τινα τῶν λοιπῶν κινήσεων ἀλλοιοῦσθαι. τοῦτο δὲ οὐκ ἀληθές ἐστιν· σχεδὸν γὰρ κατὰ πάντα τὰ πάθη ἢ τὰ πλεῖστα ἀλλοιοῦσθαι συμβέβηκεν ἡμῖν οὐδεμιᾶς τῶν ἄλλων κινήσεων κοινωνοῦσιν· οὔτε γὰρ αὔξεσθαι ἀναγκαῖον τὸ κατὰ πάθος κινούμενον οὔτε μειοῦσθαι, ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων, ὥσθ’ ἑτέρα ἂν εἴη παρὰ τὰς ἄλλας κινήσεις ἡ ἀλλοίωσις· εἰ γὰρ ἦν ἡ αὐτή, ἔδει τὸ ἀλλοιούμενον εὐθὺς καὶ αὔξεσθαι ἢ μειοῦσθαι ἤ τινα τῶν ἄλλων ἀκολουθεῖν κινήσεων· ἀλλ’ οὐκ ἀνάγκη. ὡσαύτως δὲ καὶ τὸ αὐξόμενον ἤ τινα ἄλλην κίνησιν κινούμενον ἀλλοιοῦσθαι· ἀλλ’ ἔστι τινὰ αὐξανόμενα ἃ οὐκ ἀλλοιοῦται· οἷον τὸ τετράγωνον γνώμονος περιτεθέντος ηὔξηται μέν, ἀλλοιότερον δὲ οὐδὲν γεγένηται· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων. ὥσθ’ ἕτεραι ἂν εἴησαν αἱ κινήσεις ἀλλήλων. [15b]

Ἔστι δὲ ἁπλῶς μὲν κίνησις ἠρεμίᾳ ἐναντίον· ταῖς δὲ καθ’ ἕκαστα, γενέσει μὲν φθορά, αὐξήσει δὲ μείωσις· τῇ δὲ κατὰ τόπον μεταβολῇ ἡ κατὰ τόπον ἠρεμία μάλιστα ἔοικεν ἀντικεῖσθαι, καὶ εἰ ἄρα ἡ εἰς τὸν ἐναντίον τόπον μεταβολή, οἷον τῇ κάτωθεν ἡ ἄνω, τῇ ἄνωθεν ἡκάτω. τῇ δὲ λοιπῇ τῶν ἀποδοθεισῶν κινήσεων οὐ ῥᾴδιον ἀποδοῦναι τί ποτέ ἐστιν ἐναντίον, ἔοικε δὲ οὐδὲν εἶναι αὐτῇ ἐναντίον, εἰ μή τις καὶ ἐπὶ ταύτης τὴν κατὰ τὸ ποιὸν ἠρεμίαν ἀντιθείη <ἢ> τὴ<ν> εἰς τὸ ἐναντίον τοῦ ποιοῦ μεταβολή<ν>, καθάπερ καὶ ἐπὶ τῆς κατὰ τόπον μεταβολῆς τὴν κατὰ τόπον ἠρεμίαν ἢ τὴν εἰς τὸ ἐναντίον τόπον μεταβολήν, — ἔστι γὰρ ἡ ἀλλοίωσις μεταβολὴ κατὰ τὸ ποιόν· — ὥστε ἀντίκειται τῇ <κατὰ τὸ ποιὸν κινήσει ἡ> κατὰ τὸ ποιὸν ἠρεμία <ἢ> ἡ εἰς τὸ ἐναντίον τοῦ ποιοῦ μεταβολή, οἷον τὸ λευκὸν γίγνεσθαι τῷ μέλαν γίγνεσθαι· ἀλλοιοῦται γὰρ εἰς τὰ ἐναντία τοῦ ποιοῦ μεταβολῆς γιγνομένης.

Κεφάλαιο 15

Τὸ ἔχειν κατὰ πλείονας τρόπους λέγεται· ἢ γὰρ ὡς ἕξιν καὶ διάθεσιν ἢ ἄλλην τινὰ ποιότητα, — λεγόμεθα γὰρ ἐπιστήμην ἔχειν καὶ ἀρετήν· — ἢ ὡς ποσόν, οἷον ὃ τυγχάνει τις ἔχων μέγεθος, — λέγεται γὰρ τρίπηχυ μέγεθος ἔχειν ἢ τετράπηχυ· — ἢ ὡς τὰ περὶ τὸ σῶμα, οἷον ἱμάτιον ἢ χιτῶνα· ἢ ὡς ἐν μορίῳ, οἷον ἐν χειρὶ δακτύλιον· ἢ ὡς μέρος, οἷον χεῖρα ἢ πόδα· ἢ ὡς ἐν ἀγγείῳ, οἷον ὁ μέδιμνος τοὺς πυροὺς ἢ τὸ κεράμιον τὸν οἶνον, — οἶνον γὰρ ἔχειν τὸ κεράμιον λέγεται, καὶ ὁ μέδιμνος πυρούς· ταῦτ’ οὖν ἔχειν λέγεται ὡς ἐν ἀγγείῳ· — ἢ ὡς κτῆμα· ἔχειν γὰρ οἰκίαν καὶ ἀγρὸν λεγόμεθα. λεγόμεθα δὲ καὶ γυναῖκα ἔχειν καὶ ἡ γυνὴ ἄνδρα· ἔοικε δὲ ἀλλοτριώτατος ὁ νῦν ῥηθεὶς τρόπος τοῦ ἔχειν εἶναι· οὐδὲν γὰρ ἄλλο τῷ ἔχειν γυναῖκα σημαίνομεν ἢ ὅτι συνοικεῖ. ἴσως δ’ ἂν καὶ ἄλλοι τινὲς φανείησαν τοῦ ἔχειν τρόποι, οἱ δὲ εἰωθότες λέγεσθαι σχεδὸν ἅπαντες κατηρίθμηνται.

Περὶ ἑρμηνείας (16a) De Interpretatione

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Κεφάλαιο 1

[16a] Πρῶτον δεῖ θέσθαι τί ὄνομα καὶ τί ῥῆμα, ἔπειτα τί ἐστιν ἀπόφασις καὶ κατάφασις καὶ ἀπόφανσις καὶ λόγος.

Ἔστι μὲν οὖν τὰ ἐν τῇ φωνῇ τῶν ἐν τῇ ψυχῇ παθημάτων σύμβολα, καὶ τὰ γραφόμενα τῶν ἐν τῇ φωνῇ. καὶ ὥσπερ οὐδὲ γράμματα πᾶσι τὰ αὐτά, οὐδὲ φωναὶ αἱ αὐταί· ὧν μέντοι ταῦτα σημεῖα πρώτων, ταὐτὰ πᾶσι παθήματα τῆς ψυχῆς, καὶ ὧν ταῦτα ὁμοιώματα πράγματα ἤδη ταὐτά. περὶ μὲν οὖν τούτων εἴρηται ἐν τοῖς περὶ ψυχῆς, — ἄλλης γὰρ πραγματείας· — ἔστι δέ, ὥσπερ ἐν τῇ ψυχῇ ὁτὲ μὲν νόημα ἄνευ τοῦ ἀληθεύειν ἢ ψεύδεσθαι ὁτὲ δὲ ἤδη ᾧ ἀνάγκη τούτων ὑπάρχειν θάτερον, οὕτω καὶ ἐν τῇ φωνῇ· περὶ γὰρ σύνθεσιν καὶ διαίρεσίν ἐστι τὸ ψεῦδός τε καὶ τὸ ἀληθές. τὰ μὲν οὖν ὀνόματα αὐτὰ καὶ τὰ ῥήματα ἔοικε τῷ ἄνευ συνθέσεως καὶ διαιρέσεως νοήματι, οἷον τὸ ἄνθρωπος ἢ λευκόν, ὅταν μὴ προστεθῇ τι· οὔτε γὰρ ψεῦδος οὔτε ἀληθές πω. σημεῖον δ’ ἐστὶ τοῦδε· καὶ γὰρ ὁ τραγέλαφος σημαίνει μέν τι, οὔπω δὲ ἀληθὲς ἢ ψεῦδος, ἐὰν μὴ τὸ εἶναι ἢ μὴ εἶναι προστεθῇ ἢ ἁπλῶς ἢ κατὰ χρόνον.

Κεφάλαιο 2

Ὄνομα μὲν οὖν ἐστὶ φωνὴ σημαντικὴ κατὰ συνθήκην ἄνευ χρόνου, ἧς μηδὲν μέρος ἐστὶ σημαντικὸν κεχωρισμένον· ἐν γὰρ τῷ Κάλλιππος τὸ ιππος οὐδὲν καθ’ αὑτὸ σημαίνει, ὥσπερ ἐν τῷ λόγῳ τῷ καλὸς ἵππος. οὐ μὴν οὐδ’ ὥσπερ ἐν τοῖς ἁπλοῖς ὀνόμασιν, οὕτως ἔχει καὶ ἐν τοῖς πεπλεγμένοις· ἐν ἐκείνοις μὲν γὰρ οὐδαμῶς τὸ μέρος σημαντικόν, ἐν δὲ τούτοις βούλεται μέν, ἀλλ’ οὐδενὸς κεχωρισμένον, οἷον ἐν τῷ ἐπακτροκέλης τὸ κελης. τὸ δὲ κατὰ συνθήκην, ὅτι φύσει τῶν ὀνομάτων οὐδέν ἐστιν, ἀλλ’ ὅταν γένηται σύμβολον· ἐπεὶ δηλοῦσί γέ τι καὶ οἱ ἀγράμματοι ψόφοι, οἷον θηρίων, ὧν οὐδέν ἐστιν ὄνομα. — τὸ δ’ οὐκ ἄνθρωπος οὐκ ὄνομα· οὐ μὴν οὐδὲ κεῖται ὄνομα ὅ τι δεῖ καλεῖν αὐτό, — οὔτε γὰρ λόγος οὔτε ἀπόφασίς ἐστιν· — ἀλλ’ ἔστω ὄνομα ἀόριστον. τὸ δὲ Φίλωνος ἢ Φίλωνι καὶ ὅσα [16b] τοιαῦτα οὐκ ὀνόματα ἀλλὰ πτώσεις ὀνόματος. λόγος δέ ἐστιν αὐτοῦ τὰ μὲν ἄλλα κατὰ τὰ αὐτά, ὅτι δὲ μετὰ τοῦ ἔστιν ἢ ἦν ἢ ἔσται οὐκ ἀληθεύει ἢ ψεύδεται, — τὸ δ’ ὄνομα ἀεί, — οἷον Φίλωνός ἐστιν ἢ οὐκ ἔστιν· οὐδὲν γάρ πω οὔτε ἀληθεύει οὔτε ψεύδεται.

Κεφάλαιο 3

Ῥῆμα δέ ἐστι τὸ προσσημαῖνον χρόνον, οὗ μέρος οὐδὲν σημαίνει χωρίς· ἔστι δὲ τῶν καθ’ ἑτέρου λεγομένων σημεῖον. λέγω δ’ ὅτι προσσημαίνει χρόνον, οἷον ὑγίεια μὲν ὄνομα, τὸ δ’ ὑγιαίνει ῥῆμα· προσσημαίνει γὰρ τὸ νῦν ὑπάρχειν. καὶ ἀεὶ τῶν ὑπαρχόντων σημεῖόν ἐστιν, οἷον τῶν καθ’ ὑποκειμένου. — τὸ δὲ οὐχ ὑγιαίνει καὶ τὸ οὐ κάμνει οὐ ῥῆμα λέγω· προσσημαίνει μὲν γὰρ χρόνον καὶ ἀεὶ κατά τινος ὑπάρχει, τῇ διαφορᾷ δὲ ὄνομα οὐ κεῖται· ἀλλ’ ἔστω ἀόριστον ῥῆμα, ὅτι ὁμοίως ἐφ’ ὁτουοῦν ὑπάρχει καὶ ὄντος καὶ μὴ ὄντος. ὁμοίως δὲ καὶ τὸ ὑγίανεν ἢ τὸ ὑγιανεῖ οὐ ῥῆμα, ἀλλὰ πτῶσις ῥήματος· διαφέρει δὲ τοῦ ῥήματος, ὅτι τὸ μὲν τὸν παρόντα προσσημαίνει χρόνον, τὰ δὲ τὸν πέριξ. — αὐτὰ μὲν οὖν καθ’ αὑτὰ λεγόμενα τὰ ῥήματα ὀνόματά ἐστι καὶ σημαίνει τι, — ἵστησι γὰρ ὁ λέγων τὴν διάνοιαν, καὶ ὁ ἀκούσας ἠρέμησεν, — ἀλλ’ εἰ ἔστιν ἢ μή οὔπω σημαίνει· οὐ γὰρ τὸ εἶναι ἢ μὴ εἶναι σημεῖόν ἐστι τοῦ πράγματος, οὐδ’ ἐὰν τὸ ὂν εἴπῃς ψιλόν. αὐτὸ μὲν γὰρ οὐδέν ἐστιν, προσσημαίνει δὲ σύνθεσίν τινα, ἣν ἄνευ τῶν συγκειμένων οὐκ ἔστι νοῆσαι.

Κεφάλαιο 4

Λόγος δέ ἐστι φωνὴ σημαντική, ἧς τῶν μερῶν τι σημαντικόν ἐστι κεχωρισμένον, ὡς φάσις ἀλλ’ οὐχ ὡς κατάφασις. λέγω δέ, οἷον ἄνθρωπος σημαίνει τι, ἀλλ’ οὐχ ὅτι ἔστιν ἢ οὐκ ἔστιν (ἀλλ’ ἔσται κατάφασις ἢ ἀπόφασις ἐάν τι προστεθῇ)· ἀλλ’ οὐχ ἡ τοῦ ἀνθρώπου συλλαβὴ μία· οὐδὲ γὰρ ἐν τῷ μῦς τὸ υς σημαντικόν, ἀλλὰ φωνή ἐστι νῦν μόνον. ἐν δὲ τοῖς διπλοῖς σημαίνει μέν, ἀλλ’ οὐ καθ’ αὑτό, ὥσπερ εἴρηται. ἔστι δὲ λόγος ἅπας μὲν [17a] σημαντικός, οὐχ ὡς ὄργανον δέ, ἀλλ’ ὥσπερ εἴρηται κατὰ συνθήκην· ἀποφαντικὸς δὲ οὐ πᾶς, ἀλλ’ ἐν ᾧ τὸ ἀληθεύειν ἢ ψεύδεσθαι ὑπάρχει· οὐκ ἐν ἅπασι δὲ ὑπάρχει, οἷον ἡ εὐχὴ λόγος μέν, ἀλλ’ οὔτ’ ἀληθὴς οὔτε ψευδής. οἱ μὲν οὖν ἄλλοι ἀφείσθωσαν, — ῥητορικῆς γὰρ ἢ ποιητικῆς οἰκειοτέρα ἡ σκέψις, — ὁ δὲ ἀποφαντικὸς τῆς νῦν θεωρίας.

Κεφάλαιο 5

Ἔστι δὲ εἷς πρῶτος λόγος ἀποφαντικὸς κατάφασις, εἶτα ἀπόφασις· οἱ δὲ ἄλλοι συνδέσμῳ εἷς. ἀνάγκη δὲ πάντα λόγον ἀποφαντικὸν ἐκ ῥήματος εἶναι ἢ πτώσεως· καὶ γὰρ ὁ τοῦ ἀνθρώπου λόγος, ἐὰν μὴ τὸ ἔστιν ἢ ἔσται ἢ ἦν ἤ τι τοιοῦτο προστεθῇ, οὔπω λόγος ἀποφαντικός (διότι δὲ ἕν τί ἐστιν ἀλλ’ οὐ πολλὰ τὸ ζῷον πεζὸν δίπουν, — οὐ γὰρ δὴ τῷ σύνεγγυς εἰρῆσθαι εἷς ἔσται, — ἔστι δὲ ἄλλης τοῦτο πραγματείας εἰπεῖν). ἔστι δὲ εἷς λόγος ἀποφαντικὸς ἢ ὁ ἓν δηλῶν ἢ ὁ συνδέσμῳ εἷς, πολλοὶ δὲ οἱ πολλὰ καὶ μὴ ἓν ἢ οἱ ἀσύνδετοι. τὸ μὲν οὖν ὄνομα καὶ τὸ ῥῆμα φάσις ἔστω μόνον, ἐπεὶ οὐκ ἔστιν εἰπεῖν οὕτω δηλοῦντά τι τῇ φωνῇ ὥστ’ ἀποφαίνεσθαι, ἢ ἐρωτῶντός τινος, ἢ μὴ ἀλλ’ αὐτὸν προαιρούμενον. τούτων δ’ ἡ μὲν ἁπλῆ ἐστὶν ἀπόφανσις, οἷον τὶ κατὰ τινὸς ἢ τὶ ἀπὸ τινός, ἡ δ’ ἐκ τούτων συγκειμένη, οἷον λόγος τις ἤδη σύνθετος.

Κεφάλαιο 6

Ἔστι δ’ ἡ μὲν ἁπλῆ ἀπόφανσις φωνὴ σημαντικὴ περὶ τοῦ εἰ ὑπάρχει τι ἢ μὴ ὑπάρχει, ὡς οἱ χρόνοι διῄρηνται· κατάφασις δέ ἐστιν ἀπόφανσις τινὸς κατὰ τινός, ἀπόφασις δέ ἐστιν ἀπόφανσις τινὸς ἀπὸ τινός. ἐπεὶ δὲ ἔστι καὶ τὸ ὑπάρχον ἀποφαίνεσθαι ὡς μὴ ὑπάρχον καὶ τὸ μὴ ὑπάρχον ὡς ὑπάρχον καὶ τὸ ὑπάρχον ὡς ὑπάρχον καὶ τὸ μὴ ὑπάρχον ὡς μὴ ὑπάρχον, καὶ περὶ τοὺς ἐκτὸς δὲ τοῦ νῦν χρόνους ὡσαύτως, ἅπαν ἂν ἐνδέχοιτο καὶ ὃ κατέφησέ τις ἀποφῆσαι καὶ ὃ ἀπέφησε καταφῆσαι· ὥστε δῆλον ὅτι πάσῃ καταφάσει ἐστὶν ἀπόφασις ἀντικειμένη καὶ πάσῃ ἀποφάσει κατάφασις. καὶ ἔστω ἀντίφασις τοῦτο, κατάφασις καὶ ἀπόφασις αἱ ἀντικείμεναι· λέγω δὲ ἀντικεῖσθαι τὴν τοῦ αὐτοῦ κατὰ τοῦ αὐτοῦ, — μὴ ὁμωνύμως δέ, καὶ ὅσα ἄλλα τῶν τοιούτων προσδιοριζόμεθα πρὸς τὰς σοφιστικὰς ἐνοχλήσεις.

Κεφάλαιο 7

Ἐπεὶ δέ ἐστι τὰ μὲν καθόλου τῶν πραγμάτων τὰ δὲ καθ’ ἕκαστον, — λέγω δὲ καθόλου μὲν ὃ ἐπὶ πλειόνων πέφυκε κατηγορεῖσθαι, καθ’ ἕκαστον δὲ ὃ μή, οἷον ἄνθρωπος μὲν [17b] τῶν καθόλου Καλλίας δὲ τῶν καθ’ ἕκαστον, — ἀνάγκη δ’ ἀποφαίνεσθαι ὡς ὑπάρχει τι ἢ μή, ὁτὲ μὲν τῶν καθόλου τινί, ὁτὲ δὲ τῶν καθ’ ἕκαστον. ἐὰν μὲν οὖν καθόλου ἀποφαίνηται ἐπὶ τοῦ καθόλου ὅτι ὑπάρχει ἢ μή, ἔσονται ἐναντίαι ἀποφάνσεις, — λέγω δὲ ἐπὶ τοῦ καθόλου ἀποφαίνεσθαι καθόλου, οἷον πᾶς ἄνθρωπος λευκός, οὐδεὶς ἄνθρωπος λευκός· — ὅταν δὲ ἐπὶ τῶν καθόλου μέν, μὴ καθόλου δέ, οὐκ εἰσὶν ἐναντίαι, τὰ μέντοι δηλούμενα ἔστιν εἶναι ἐναντία, — λέγω δὲ τὸ μὴ καθόλου ἀποφαίνεσθαι ἐπὶ τῶν καθόλου, οἷον ἔστι λευκὸς ἄνθρωπος, οὐκ ἔστι λευκὸς ἄνθρωπος· καθόλου γὰρ ὄντος τοῦ ἄνθρωπος οὐχ ὡς καθόλου χρῆται τῇ ἀποφάνσει· τὸ γὰρ πᾶς οὐ τὸ καθόλου σημαίνει ἀλλ’ ὅτι καθόλου. — ἐπὶ δὲ τοῦ κατηγορουμένου τὸ καθόλου κατηγορεῖν καθόλου οὐκ ἔστιν ἀληθές· οὐδεμία γὰρ κατάφασις ἔσται, ἐν ᾗ τοῦ κατηγορουμένου καθόλου τὸ καθόλου κατηγορηθήσεται, οἷον ἔστι πᾶς ἄνθρωπος πᾶν ζῷον.

Ἀντικεῖσθαι μὲν οὖν κατάφασιν ἀποφάσει λέγω ἀντιφατικῶς τὴν τὸ καθόλου σημαίνουσαν τῷ αὐτῷ ὅτι οὐ καθόλου, οἷον πᾶς ἄνθρωπος λευκός — οὐ πᾶς ἄνθρωπος λευκός, οὐδεὶς ἄνθρωπος λευκός — ἔστι τις ἄνθρωπος λευκός· ἐναντίως δὲ τὴν τοῦ καθόλου κατάφασιν καὶ τὴν τοῦ καθόλου ἀπόφασιν, οἷον πᾶς ἄνθρωπος δίκαιος — οὐδεὶς ἄνθρωπος δίκαιος· διὸ ταύτας μὲν οὐχ οἷόν τε ἅμα ἀληθεῖς εἶναι, τὰς δὲ ἀντικειμένας αὐταῖς ἐνδέχεται ἐπὶ τοῦ αὐτοῦ, οἷον οὐ πᾶς ἄνθρωπος λευκός, καὶ ἔστι τις ἄνθρωπος λευκός. ὅσαι μὲν οὖν ἀντιφάσεις τῶν καθόλου εἰσὶ καθόλου, ἀνάγκη τὴν ἑτέραν ἀληθῆ εἶναι ἢ ψευδῆ, καὶ ὅσαι ἐπὶ τῶν καθ’ ἕκαστα, οἷον ἔστι Σωκράτης λευκός — οὐκ ἔστι Σωκράτης λευκός· ὅσαι δ’ ἐπὶ τῶν καθόλου μὴ καθόλου, οὐκ ἀεὶ ἡ μὲν ἀληθὴς ἡ δὲ ψευδής· — ἅμα γὰρ ἀληθές ἐστιν εἰπεῖν ὅτι ἔστιν ἄνθρωπος λευκὸς καὶ ὅτι οὐκ ἔστιν ἄνθρωπος λευκός, καὶ ἔστιν ἄνθρωπος καλὸς καὶ οὐκ ἔστιν ἄνθρωπος καλός· εἰ γὰρ αἰσχρός, καὶ οὐ καλός· καὶ εἰ γίγνεταί τι, καὶ οὐκ ἔστιν. — δόξειε δ’ ἂν ἐξαίφνης ἄτοπον εἶναι διὰ τὸ φαίνεσθαι σημαίνειν τὸ οὐκ ἔστιν ἄνθρωπος λευκός ἅμα καὶ ὅτι οὐδεὶς ἄνθρωπος λευκός· τὸ δὲ οὔτε ταὐτὸν σημαίνει οὔθ’ ἅμα ἐξ ἀνάγκης. — φανερὸν δ’ ὅτι καὶ μία ἀπόφασις μιᾶς καταφάσεως· τὸ γὰρ αὐτὸ δεῖ ἀποφῆσαι τὴν ἀπόφασιν ὅπερ κατέφησεν ἡ κατάφασις, καὶ ἀπὸ τοῦ αὐτοῦ, ἢ τῶν καθ’ ἕκαστά [18a] τινος ἢ ἀπὸ τῶν καθόλου τινός, ἢ ὡς καθόλου ἢ ὡς μὴ καθόλου· λέγω δὲ οἷον ἔστι Σωκράτης λευκός — οὐκ ἔστι Σωκράτης λευκός (ἐὰν δὲ ἄλλο τι ἢ ἀπ’ ἄλλου τὸ αὐτό, οὐχ ἡ ἀντικειμένη ἀλλ’ ἔσται ἐκείνης ἑτέρα), τῇ δὲ πᾶς ἄνθρωπος λευκός ἡ οὐ πᾶς ἄνθρωπος λευκός, τῇ δὲ τὶς ἄνθρωπος λευκός ἡ οὐδεὶς ἄνθρωπος λευκός, τῇ δὲ ἔστιν ἄνθρωπος λευκός ἡ οὐκ ἔστιν ἄνθρωπος λευκός.

Ὅτι μὲν οὖν μία κατάφασις μιᾷ ἀποφάσει ἀντίκειται ἀντιφατικῶς, καὶ τίνες εἰσὶν αὗται, εἴρηται, καὶ ὅτι αἱ ἐναντίαι ἄλλαι, καὶ τίνες εἰσὶν αὗται, καὶ ὅτι οὐ πᾶσα ἀληθὴς ἢ ψευδὴς ἀντίφασις, καὶ διὰ τί, καὶ πότε ἀληθὴς ἢ ψευδής.

Κεφάλαιο 8

μία δέ ἐστι κατάφασις καὶ ἀπόφασις ἡ ἓν καθ’ ἑνὸς σημαίνουσα, ἢ καθόλου ὄντος καθόλου ἢ μὴ ὁμοίως, οἷον πᾶς ἄνθρωπος λευκός ἐστιν — οὐκ ἔστι πᾶς ἄνθρωπος λευκός, ἔστιν ἄνθρωπος λευκός — οὐκ ἔστιν ἄνθρωπος λευκός, οὐδεὶς ἄνθρωπος λευκός — ἔστι τις ἄνθρωπος λευκός, εἰ τὸ λευκὸν ἓν σημαίνει. εἰ δὲ δυεῖν ἓν ὄνομα κεῖται, ἐξ ὧν μή ἐστιν ἕν, οὐ μία κατά φασις· οἷον εἴ τις θεῖτο ὄνομα ἱμάτιον ἵππῳ καὶ ἀνθρώπῳ, τὸ ἔστιν ἱμάτιον λευκόν, αὕτη οὐ μία κατάφασις [οὐδὲ ἀπόφασις μία]· οὐδὲν γὰρ διαφέρει τοῦτο εἰπεῖν ἢ ἔστιν ἵππος καὶ ἄνθρωπος λευκός, τοῦτο δ’ οὐδὲν διαφέρει τοῦ εἰπεῖν ἔστιν ἵππος λευκὸς καὶ ἔστιν ἄνθρωπος λευκός. εἰ οὖν αὗται πολλὰ σημαίνουσι καὶ εἰσὶ πολλαί, δῆλον ὅτι καὶ ἡ πρώτη ἤτοι πολλὰ ἢ οὐδὲν σημαίνει, — οὐ γάρ ἐστιν τὶς ἄνθρωπος ἵππος· — ὥστε οὐδ’ ἐν ταύταις ἀνάγκη τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ εἶναι ἀντίφασιν.

Κεφάλαιο 9

Ἐπὶ μὲν οὖν τῶν ὄντων καὶ γενομένων ἀνάγκη τὴν κατάφασιν ἢ τὴν ἀπόφασιν ἀληθῆ ἢ ψευδῆ εἶναι· καὶ ἐπὶ μὲν τῶν καθόλου ὡς καθόλου ἀεὶ τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ καὶ ἐπὶ τῶν καθ’ ἕκαστα, ὥσπερ εἴρηται· ἐπὶ δὲ τῶν καθόλου μὴ καθόλου λεχθέντων οὐκ ἀνάγκη· εἴρηται δὲ καὶ περὶ τούτων. — ἐπὶ δὲ τῶν καθ’ ἕκαστα καὶ μελλόντων οὐχ ὁμοίως. εἰ γὰρ πᾶσα κατάφασις ἢ ἀπόφασις ἀληθὴς ἢ ψευδής, καὶ ἅπαν ἀνάγκη ἢ ὑπάρχειν ἢ μὴ ὑπάρχειν· εἰ γὰρ ὁ μὲν φήσει ἔσεσθαί τι ὁ δὲ μὴ φήσει τὸ αὐτὸ τοῦτο, δῆλον ὅτι ἀνάγκη ἀληθεύειν τὸν ἕτερον αὐτῶν, εἰ πᾶσα κατάφασις ἀληθὴς ἢ ψευδής· ἄμφω γὰρ οὐχ ὑπάρξει ἅμα ἐπὶ τοῖςτοιούτοις. εἰ γὰρ ἀληθὲς εἰπεῖν ὅτι λευκὸν ἢ οὐ [18b] λευκόν ἐστιν, ἀνάγκη εἶναι λευκὸν ἢ οὐ λευκόν, καὶ εἰ ἔστι λευκὸν ἢ οὐ λευκόν, ἀληθὲς ἦν φάναι ἢ ἀποφάναι· καὶ εἰ μὴ ὑπάρχει, ψεύδεται, καὶ εἰ ψεύδεται, οὐχ ὑπάρχει· ὥστ’ ἀνάγκη τὴν κατάφασιν ἢ τὴν ἀπόφασιν ἀληθῆ εἶναι. οὐδὲν ἄρα οὔτε ἔστιν οὔτε γίγνεται οὔτε ἀπὸ τύχης οὔθ’ ὁπότερ’ ἔτυχεν, οὐδ’ ἔσται ἢ οὐκ ἔσται, ἀλλ’ ἐξ ἀνάγκης ἅπαντα καὶ οὐχ ὁπότερ’ ἔτυχεν (ἢ γὰρ ὁ φὰς ἀληθεύει ἢ ὁ ἀποφάς)· ὁμοίως γὰρ ἂν ἐγίγνετο ἢ οὐκ ἐγίγνετο· τὸ γὰρ ὁπότερ’ ἔτυχεν οὐδὲν μᾶλλον οὕτως ἢ μὴ οὕτως ἔχει ἢ ἕξει. — ἔτι εἰ ἔστι λευκὸν νῦν, ἀληθὲς ἦν εἰπεῖν πρότερον ὅτι ἔσται λευκόν, ὥστε ἀεὶ ἀληθὲς ἦν εἰπεῖν ὁτιοῦν τῶν γενομένων ὅτι ἔσται· εἰ δ’ ἀεὶ ἀληθὲς ἦν εἰπεῖν ὅτι ἔστιν ἢ ἔσται, οὐχ οἷόν τε τοῦτο μὴ εἶναι οὐδὲ μὴ ἔσεσθαι. ὃ δὲ μὴ οἷόν τε μὴ γενέσθαι, ἀδύνατον μὴ γενέσθαι· ὃ δὲ ἀδύνατον μὴ γενέσθαι, ἀνάγκη γενέσθαι· ἅπαντα οὖν τὰ ἐσόμενα ἀναγκαῖον γενέσθαι. οὐδὲν ἄρα ὁπότερ’ ἔτυχεν οὐδ’ ἀπὸ τύχης ἔσται· εἰ γὰρ ἀπὸ τύχης, οὐκ ἐξ ἀνάγκης. — ἀλλὰ μὴν οὐδ’ ὡς οὐδέτερόν γε ἀληθὲς ἐνδέχεται λέγειν, οἷον ὅτι οὔτ’ ἔσται οὔτε οὐκ ἔσται. πρῶτον μὲν γὰρ οὔσης τῆς καταφάσεως ψευδοῦς ἡ ἀπόφασις οὐκ ἀληθής, καὶ ταύτης ψευδοῦς οὔσης τὴν κατάφασιν συμβαίνει μὴ ἀληθῆ εἶναι. καὶ πρὸς τούτοις, εἰ ἀληθὲς εἰπεῖν ὅτι λευκὸν καὶ μέλαν, δεῖ ἄμφω ὑπάρχειν, εἰ δὲ ὑπάρξειν εἰς αὔριον, ὑπάρξει εἰς αὔριον· εἰ δὲ μήτ’ ἔσται μήτε μὴ ἔσται αὔριον, οὐκ ἂν εἴη τὸ ὁπότερ’ ἔτυχεν, οἷον ναυμαχία· δέοι γὰρ ἂν μήτε γενέσθαι ναυμαχίαν μήτε μὴ γενέσθαι.

Τὰ μὲν δὴ συμβαίνοντα ἄτοπα ταῦτα καὶ τοιαῦθ’ ἕτερα, εἴπερ πάσης καταφάσεως καὶ ἀποφάσεως, ἢ ἐπὶ τῶν καθόλου λεγομένων ὡς καθόλου ἢ ἐπὶ τῶν καθ’ ἕκαστα, ἀνάγκη τῶν ἀντικειμένων εἶναι τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ, μηδὲν δὲ ὁπότερ’ ἔτυχεν εἶναι ἐν τοῖς γιγνομένοις, ἀλλὰ πάντα εἶναι καὶ γίγνεσθαι ἐξ ἀνάγκης. ὥστε οὔτε βουλεύεσθαι δέοι ἂν οὔτε πραγματεύεσθαι, ὡς ἐὰν μὲν τοδὶ ποιήσωμεν, ἔσται τοδί, ἐὰν δὲ μὴ τοδί, οὐκ ἔσται. οὐδὲν γὰρ κωλύει εἰς μυριοστὸν ἔτος τὸν μὲν φάναι τοῦτ’ ἔσεσθαι τὸν δὲ μὴ φάναι, ὥστε ἐξ ἀνάγκης ἔσεσθαι ὁπότερον αὐτῶν ἀληθὲς ἦν εἰπεῖν τότε. ἀλλὰ μὴν οὐδὲ τοῦτο διαφέρει, εἴ τινες εἶπον τὴν ἀντίφασιν ἢ μὴ εἶπον· δῆλον γὰρ ὅτι οὕτως ἔχει τὰ πράγματα, κἂν μὴ ὁ μὲν καταφήσῃ ὁ δὲ ἀποφήσῃ· οὐ γὰρ διὰ τὸ καταφάναι ἢ ἀποφάναι ἔσται ἢ οὐκ ἔσται, οὐδ’ εἰς [19a] μυριοστὸν ἔτος μᾶλλον ἢ ἐν ὁποσῳοῦν χρόνῳ. ὥστ’ εἰ ἐν ἅπαντι τῷ χρόνῳ οὕτως εἶχεν ὥστε τὸ ἕτερον ἀληθεύεσθαι, ἀναγκαῖον ἦν τοῦτο γενέσθαι, καὶ ἕκαστον τῶν γενομένων ἀεὶ οὕτως ἔχειν ὥστε ἐξ ἀνάγκης γενέσθαι· ὅ τε γὰρ ἀληθῶς εἶπέ τις ὅτι ἔσται, οὐχ οἷόν τε μὴ γενέσθαι· καὶ τὸ γενόμενον ἀληθὲς ἦν εἰπεῖν ἀεὶ ὅτι ἔσται.

Εἰ δὴ ταῦτα ἀδύνατα, — ὁρῶμεν γὰρ ὅτι ἔστιν ἀρχὴ τῶν ἐσομένων καὶ ἀπὸ τοῦ βουλεύεσθαι καὶ ἀπὸ τοῦ πρᾶξαί τι, καὶ ὅτι ὅλως ἔστιν ἐν τοῖς μὴ ἀεὶ ἐνεργοῦσι τὸ δυνατὸν εἶναι καὶ μή, ἐν οἷς ἄμφω ἐνδέχεται καὶ τὸ εἶναι καὶ τὸ μὴ εἶναι, ὥστε καὶ τὸ γενέσθαι καὶ τὸ μὴ γενέσθαι· καὶ πολλὰ ἡμῖν δῆλά ἐστιν οὕτως ἔχοντα, οἷον ὅτι τουτὶ τὸ ἱμάτιον δυνατόν ἐστι διατμηθῆναι καὶ οὐ διατμηθήσεται, ἀλλ’ ἔμπροσθεν κατατριβήσεται· ὁμοίως δὲ καὶ τὸ μὴ διατμηθῆναι δυνατόν· οὐ γὰρ ἂν ὑπῆρχε τὸ ἔμπροσθεν αὐτὸ κατατριβῆναι, εἴγε μὴ δυνατὸν ἦν τὸ μὴ διατμηθῆναι· ὥστε καὶ ἐπὶ τῶν ἄλλων γενέσεων, ὅσαι κατὰ δύναμιν λέγονται τὴν τοιαύτην· — φανερὸν ἄρα ὅτι οὐχ ἅπαντα ἐξ ἀνάγκης οὔτ’ ἔστιν οὔτε γίγνεται, ἀλλὰ τὰ μὲν ὁπότερ’ ἔτυχε καὶ οὐδὲν μᾶλλον ἢ ἡ κατάφασις ἢ ἡ ἀπόφασις ἀληθής, τὰ δὲ μᾶλλον μὲν καὶ ὡς ἐπὶ τὸ πολὺ θάτερον, οὐ μὴν ἀλλ’ ἐνδέχεται γενέσθαι καὶ θάτερον, θάτερον δὲ μή.

Τὸ μὲν οὖν εἶναι τὸ ὂν ὅταν ᾖ, καὶ τὸ μὴ ὂν μὴ εἶναι ὅταν μὴ ᾖ, ἀνάγκη· οὐ μέντοι οὔτε τὸ ὂν ἅπαν ἀνάγκη εἶναι οὔτε τὸ μὴ ὂν μὴ εἶναι· — οὐ γὰρ ταὐτόν ἐστι τὸ ὂν ἅπαν εἶναι ἐξ ἀνάγκης ὅτε ἔστιν, καὶ τὸ ἁπλῶς εἶναι ἐξ ἀνάγκης· ὁμοίως δὲ καὶ ἐπὶ τοῦ μὴ ὄντος. — καὶ ἐπὶ τῆς ἀντιφάσεως ὁ αὐτὸς λόγος· εἶναι μὲν ἢ μὴ εἶναι ἅπαν ἀνάγκη, καὶ ἔσεσθαί γε ἢ μή· οὐ μέντοι διελόντα γε εἰπεῖν θάτερον ἀναγκαῖον. λέγω δὲ οἷον ἀνάγκη μὲν ἔσεσθαι ναυμαχίαν αὔριον ἢ μὴ ἔσεσθαι, οὐ μέντοι γενέσθαι αὔριον ναυμαχίαν ἀναγκαῖον οὐδὲ μὴ γενέσθαι· γενέσθαι μέντοι ἢ μὴ γενέσθαι ἀναγκαῖον. ὥστε, ἐπεὶ ὁμοίως οἱ λόγοι ἀληθεῖς ὥσπερ τὰ πράγματα, δῆλον ὅτι ὅσα οὕτως ἔχει ὥστε ὁπότερ’ ἔτυχε καὶ τὰ ἐναντία ἐνδέχεσθαι, ἀνάγκη ὁμοίως ἔχειν καὶ τὴν ἀντίφασιν· ὅπερ συμβαίνει ἐπὶ τοῖς μὴ ἀεὶ οὖσιν ἢ μὴ ἀεὶ μὴ οὖσιν· τούτων γὰρ ἀνάγκη μὲν θάτερον μόριον τῆς ἀντιφάσεως ἀληθὲς εἶναι ἢ ψεῦδος, οὐ μέντοι τόδε ἢ τόδε ἀλλ’ ὁπότερ’ ἔτυχεν, καὶ μᾶλλον μὲν ἀληθῆ τὴν ἑτέραν, οὐ μέντοι ἤδη ἀληθῆ ἢ ψευδῆ. ὥστε δῆλον [19b] ὅτι οὐκ ἀνάγκη πάσης καταφάσεως καὶ ἀποφάσεως τῶν ἀντικειμένων τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ εἶναι· οὐ γὰρ ὥσπερ ἐπὶ τῶν ὄντων οὕτως ἔχει καὶ ἐπὶ τῶν μὴ ὄντων, δυνατῶν δὲ εἶναι ἢ μὴ εἶναι, ἀλλ’ ὥσπερ εἴρηται.

Κεφάλαιο 10

Ἐπεὶ δέ ἐστι τὶ κατὰ τινὸς ἡ κατάφασις σημαίνουσα, τοῦτο δ’ ἐστὶν ἢ ὄνομα ἢ τὸ ἀνώνυμον, ἓν δὲ δεῖ εἶναι καὶ καθ’ ἑνὸς τὸ ἐν τῇ καταφάσει (τὸ δὲ ὄνομα εἴρηται καὶ τὸ ἀνώνυμον πρότερον· τὸ γὰρ οὐκ ἄνθρωπος ὄνομα μὲν οὐ λέγω ἀλλὰ ἀόριστον ὄνομα, — ἓν γάρ πως σημαίνει ἀόριστον, — ὥσπερ καὶ τὸ οὐχ ὑγιαίνει οὐ ῥῆμα), ἔσται πᾶσα κατάφασις ἢ ἐξ ὀνόματος καὶ ῥήματος ἢ ἐξ ἀορίστου ὀνόματος καὶ ῥήματος. ἄνευ δὲ ῥήματος οὐδεμία κατάφασις οὐδ’ ἀπόφασις·τὸ γὰρ ἔστιν ἢ ἔσται ἢ ἦν ἢ γίγνεται ἢ ὅσα ἄλλα τοιαῦτα, ῥήματα ἐκ τῶν κειμένων ἐστίν· προσσημαίνει γὰρ χρόνον. ὥστε πρώτη κατάφασις καὶ ἀπόφασις τὸ ἔστιν ἄνθρωπος — οὐκ ἔστιν ἄνθρωπος, εἶτα ἔστιν οὐκ ἄνθρωπος — οὐκ ἔστιν οὐκ ἄνθρωπος, πάλιν ἔστι πᾶς ἄνθρωπος — οὐκ ἔστι πᾶς ἄνθρωπος, ἔστι πᾶς οὐκ ἄνθρωπος — οὐκ ἔστι πᾶς οὐκ ἄνθρωπος· καὶ ἐπὶ τῶν ἐκτὸς δὲ χρόνων ὁ αὐτὸς λόγος.

Ὅταν δὲ τὸ ἔστι τρίτον προσκατηγορηθῇ, διχῶς λέγονται αἱ ἀντιθέσεις. λέγω δὲ οἷον ἔστι δίκαιος ἄνθρωπος, τὸ ἔστι τρίτον φημὶ συγκεῖσθαι ὄνομα ἢ ῥῆμα ἐν τῇ καταφάσει. ὥστε διὰ τοῦτο τέτταρα ἔσται ταῦτα, ὧν τὰ μὲν δύο πρὸς τὴν κατάφασιν καὶ ἀπόφασιν ἕξει κατὰ τὸ στοιχοῦν ὡς αἱ στερήσεις, τὰ δὲ δύο οὔ· λέγω δὲ ὅτι τὸ ἔστιν ἢ τῷ δικαίῳ προσκείσεται ἢ τῷ οὐ δικαίῳ, ὥστε καὶ ἡ ἀπόφασις. τέτταρα οὖν ἔσται. νοῶμεν δὲ τὸ λεγόμενον ἐκ τῶν ὑπογεγραμμένων· ἔστι δίκαιος ἄνθρωπος — ἀπόφασις τούτου, οὐκ ἔστι δίκαιος ἄνθρωπος· ἔστιν οὐ δίκαιος ἄνθρωπος — τούτου ἀπόφασις, οὐκ ἔστιν οὐ δίκαιος ἄνθρωπος. τὸ γὰρ ἔστιν ἐνταῦθα καὶ τὸ οὐκ ἔστιν τῷ δικαίῳ καὶ τῷ οὐ δικαίῳ πρόσκειται. ταῦτα μὲν οὖν, ὥσπερ ἐν τοῖς Ἀναλυτικοῖς λέγεται, οὕτω τέτακται. ὁμοίως δὲ ἔχει κἂν καθόλου τοῦ ὀνόματος ᾖ ἡ κατάφασις, οἷον πᾶς ἐστὶν ἄνθρωπος δίκαιος — [ἀπόφασις] οὐ πᾶς ἐστὶν ἄνθρωπος δίκαιος, πᾶς ἐστὶν ἄνθρωπος οὐ δίκαιος — οὐ πᾶς ἐστὶν ἄνθρωπος οὐ δίκαιος. πλὴν οὐχ ὁμοίως τὰς κατὰ διάμετρον ἐνδέχεται συναληθεύεσθαι, ἐνδέχεται δὲ ποτέ. αὗται μὲν οὖν δύο ἀντίκεινται, ἄλλαι δὲ πρὸς τὸ οὐκ ἄνθρωπος ὡς ὑποκείμενόν τι προστεθέντος· ἔστι δίκαιος οὐκ ἄνθρωπος — οὐκ ἔστι δίκαιος οὐκ ἄνθρωπος, ἔστιν οὐ δίκαιος οὐκ ἄνθρωπος — οὐκ ἔστιν οὐ δίκαιος [20a] οὐκ ἄνθρωπος. πλείους δὲ τούτων οὐκ ἔσονται ἀντιθέσεις· αὗται δὲ χωρὶς ἐκείνων αὐταὶ καθ’ αὑτάς εἰσιν, ὡς ὀνόματι τῷ οὐκ ἄνθρωπος χρώμεναι.

Ἐφ’ ὅσων δὲ τὸ ἔστι μὴ ἁρμόττει, οἷον ἐπὶ τοῦ ὑγιαίνειν καὶ βαδίζειν, ἐπὶ τούτων τὸ αὐτὸ ποιεῖ οὕτω τιθέμενα ὡς ἂν εἰ τὸ ἔστι προσήπτετο· οἷον ὑγιαίνει πᾶς ἄνθρωπος — οὐχ ὑγιαίνει πᾶς ἄνθρωπος, ὑγιαίνει πᾶς οὐκ ἄνθρωπος — οὐχ ὑγιαίνει πᾶς οὐκ ἄνθρωπος· οὐ γάρ ἐστι τὸ οὐ πᾶς ἄνθρωπος λεκτέον, ἀλλὰ τὸ οὔ, τὴν ἀπόφασιν, τῷ ἄνθρωπος προσθετέον· τὸ γὰρ πᾶς οὐ τὸ καθόλου σημαίνει, ἀλλ’ ὅτι καθόλου· δῆλον δὲ ἐκ τοῦδε, ὑγιαίνει ἄνθρωπος — οὐχ ὑγιαίνει ἄνθρωπος, ὑγιαίνει οὐκ ἄνθρωπος — οὐχ ὑγιαίνει οὐκ ἄνθρωπος· ταῦτα γὰρ ἐκείνων διαφέρει τῷ μὴ καθόλου· ὥστε τὸ πᾶς ἢ μηδείς οὐδὲν ἄλλο προσσημαίνει ἢ ὅτι καθόλου τοῦ ὀνόματος κατάφησιν ἢ ἀπόφησιν· τὰ οὖν ἄλλα τὰ αὐτὰ δεῖ προστιθέναι.

Ἐπεὶ δ’ ἐναντία ἀπόφασίς ἐστι τῇ ἅπαν ἐστὶ ζῷον δίκαιον ἡ σημαίνουσα ὅτι οὐδέν ἐστι ζῷον δίκαιον, αὗται μὲν φανερὸν ὅτι οὐδέποτε ἔσονται οὔτε ἀληθεῖς ἅμα οὔτε ἐπὶ τοῦ αὐτοῦ, αἱ δὲ ἀντικείμεναι ταύταις ἔσονταί ποτε· οἷον οὐ πᾶν ζῷον δίκαιον καὶ ἔστι τι ζῷον δίκαιον. ἀκολουθοῦσι δ’ αὗται, τῇ μὲν πᾶς ἐστὶν ἄνθρωπος οὐ δίκαιος ἡ οὐδείς ἐστιν ἄνθρωπος δίκαιος, τῇ δὲ ἔστι τις δίκαιος ἄνθρωπος ἡ ἀντικειμένη ὅτι οὐ πᾶς ἐστὶν ἄνθρωπος οὐ δίκαιος· ἀνάγκη γὰρ εἶναί τινα. φανερὸν δὲ ὅτι καὶ ἐπὶ μὲν τῶν καθ’ ἕκαστον, εἰ ἀληθὲς ἐρωτηθέντα ἀποφῆσαι, ὅτι καὶ καταφῆσαι ἀληθές, οἷον ἆρά γε Σωκράτης σοφός; οὔ· Σωκράτης ἄρα οὐ σοφός. ἐπὶ δὲ τῶν καθόλου οὐκ ἀληθὴς ἡ ὁμοίως λεγομένη, ἀληθὴς δὲ ἡ ἀπόφασις, οἷον· ἆρά γε πᾶς ἄνθρωπος σοφός; οὔ· πᾶς ἄρα ἄνθρωπος οὐ σοφός· τοῦτο γὰρ ψεῦδος, ἀλλὰ τὸ οὐ πᾶς ἄρα ἄνθρωπος σοφός ἀληθές· αὕτη δέ ἐστιν ἡ ἀντικειμένη, ἐκείνη δὲ ἡ ἐναντία.

Αἱ δὲ κατὰ τὰ ἀόριστα ἀντικείμεναι ὀνόματα καὶ ῥήματα, οἷον ἐπὶ τοῦ μὴ ἄνθρωπος καὶ μὴ δίκαιος, ὥσπερ ἀποφάσεις ἄνευ ὀνόματος καὶ ῥήματος δόξαιεν ἂν εἶναι· οὐκ εἰσὶ δέ· ἀεὶ γὰρ ἀληθεύειν ἀνάγκη ἢ ψεύδεσθαι τὴν ἀπόφασιν, ὁ δ’ εἰπὼν οὐκ ἄνθρωπος οὐδὲν μᾶλλον τοῦ ἄνθρωπος ἀλλὰ καὶ ἧττον ἠλήθευκέ τι ἢ ἔψευσται, ἐὰν μή τι προστεθῇ. σημαίνει δὲ τὸ ἔστι πᾶς οὐκ ἄνθρωπος δίκαιος οὐδεμιᾷ ἐκείνων ταὐτόν, οὐδ’ ἡ ἀντικειμένη ταύτῃ ἡ οὐκ ἔστι πᾶς οὐκ ἄνθρωπος δίκαιος· τὸ δὲ πᾶς οὐ δίκαιος οὐκ ἄνθρωπος τῷ οὐδεὶς δίκαιος οὐκ ἄνθρωπος ταὐτὸν σημαίνει. [20b]

Μετατιθέμενα δὲ τὰ ὀνόματα καὶ τὰ ῥήματα ταὐτὸν σημαίνει, οἷον ἔστι λευκὸς ἄνθρωπος — ἔστιν ἄνθρωπος λευκός· εἰ γὰρ μὴ τοῦτό ἐστιν, τοῦ αὐτοῦ πλείους ἔσονται ἀποφάσεις, ἀλλ’ ἐδέδεικτο ὅτι μία μιᾶς. τοῦ μὲν γὰρ ἔστι λευκὸς ἄνθρωπος ἀπόφασις τὸ οὐκ ἔστι λευκὸς ἄνθρωπος· τοῦ δὲ ἔστιν ἄνθρωπος λευκός, εἰ μὴ ἡ αὐτή ἐστι τῇ ἔστι λευκὸς ἄνθρωπος, ἔσται ἀπόφασις ἤτοι τὸ οὐκ ἔστιν οὐκ ἄνθρωπος λευκός ἢ τὸ οὐκ ἔστιν ἄνθρωπος λευκός. ἀλλ’ ἡ ἑτέρα μέν ἐστιν ἀπόφασις τοῦ ἔστιν οὐκ ἄνθρωπος λευκός, ἡ ἑτέρα δὲ τοῦ ἔστι λευκὸς ἄνθρωπος, ὥστε ἔσονται δύο μιᾶς. ὅτι μὲν οὖν μετατιθεμένου τοῦ ὀνόματος καὶ τοῦ ῥήματος ἡ αὐτὴ γίγνεται κατάφασις καὶ ἀπόφασις, δῆλον.

Κεφάλαιο 11

τὸ δὲ ἓν κατὰ πολλῶν ἢ πολλὰ καθ’ ἑνὸς καταφάναι ἢ ἀποφάναι, ἐὰν μὴ ἕν τι ᾖ τὸ ἐκ τῶν πολλῶν συγκείμενον, οὐκ ἔστι κατάφασις μία οὐδὲ ἀπόφασις. λέγω δὲ ἓν οὐκ ἐὰν ὄνομα ἓν ᾖ κείμενον, μὴ ᾖ δὲ ἕν τι ἐξ ἐκείνων, οἷον ὁ ἄνθρωπος ἴσως ἐστὶ καὶ ζῷον καὶ δίπουν καὶ ἥμερον, ἀλλὰ καὶ ἕν τι γίγνεται ἐκ τούτων· ἐκ δὲ τοῦ λευκοῦ καὶ τοῦ ἀνθρώπου καὶ τοῦ βαδίζειν οὐχ ἕν. ὥστε οὔτ’ ἐὰν ἕν τι κατὰ τούτων καταφήσῃ τις μία κατάφασις, ἀλλὰ φωνὴ μὲν μία καταφάσεις δὲ πολλαί, οὔτ’ ἐὰν καθ’ ἑνὸς ταῦτα, ἀλλ’ ὁμοίως πολλαί. εἰ οὖν ἡ ἐρώτησις ἡ διαλεκτικὴ ἀποκρίσεώς ἐστιν αἴτησις, ἢ τῆς προτάσεως ἢ θατέρου μορίου τῆς ἀντιφάσεως, ἡ δὲ πρότασις ἀντιφάσεως μιᾶς μόριον, οὐκ ἂν εἴη μία ἀπόκρισις πρὸς ταῦτα· οὐδὲ γὰρ ἡ ἐρώτησις μία, οὐδ’ ἂν ᾖ ἀληθής. εἴρηται δὲ ἐν τοῖς Τοπικοῖς περὶ αὐτῶν. ἅμα δὲ δῆλον ὅτι οὐδὲ τὸ τί ἐστιν ἐρώτησίς ἐστι διαλεκτική· δεῖ γὰρ δεδόσθαι ἐκ τῆς ἐρωτήσεως ἑλέσθαι ὁπότερον βούλεται τῆς ἀντιφάσεως μόριον ἀποφήνασθαι. ἀλλὰ δεῖ τὸν ἐρωτῶντα προσδιορίσαι πότερον τόδε ἐστὶν ὁ ἄνθρωπος ἢ οὐ τοῦτο.

Ἐπεὶ δὲ τὰ μὲν κατηγορεῖται συντιθέμενα, ὡς ἓν τὸ πᾶν κατηγόρημα τῶν χωρὶς κατηγορουμένων, τὰ δὲ οὔ, τίς ἡ διαφορά; κατὰ γὰρ τοῦ ἀνθρώπου ἀληθὲς εἰπεῖν καὶ χωρὶς ζῷον καὶ χωρὶς δίπουν, καὶ ὡς ἕν, καὶ ἄνθρωπον καὶ λευκόν, καὶ ταῦθ’ ὡς ἕν· ἀλλ’ οὐχί, εἰ σκυτεὺς καὶ ἀγαθός, καὶ σκυτεὺς ἀγαθός. εἰ γάρ, ὅτι ἑκάτερον, καὶ τὸ συνάμφω, πολλὰ καὶ ἄτοπα ἔσται. κατὰ γὰρ τοῦ ἀνθρώπου καὶ τὸ ἄνθρωπος ἀληθὲς καὶ τὸ λευκόν, ὥστε καὶ τὸ ἅπαν· πάλιν εἰ τὸ λευκόν, καὶ τὸ ἅπαν, ὥστε ἔσται ἄνθρωπος λευκὸς λευκός, καὶ τοῦτο εἰς ἄπειρον· καὶ πάλιν [21a] μουσικὸς λευκὸς βαδίζων, καὶ ταῦτα πολλάκις πεπλεγμένα. ἔτι εἰ ὁ Σωκράτης Σωκράτης καὶ ἄνθρωπος, καὶ Σωκράτης ἄνθρωπος, καὶ εἰ ἄνθρωπος καὶ δίπους, καὶ ἄνθρωπος δίπους.

Ὅτι μὲν οὖν, εἴ τις ἁπλῶς θήσει τὰς συμπλοκὰς γίγνεσθαι, πολλὰ συμβαίνει λέγειν ἄτοπα, δῆλον· ὅπως δὲ θετέον, λέγομεν νῦν. τῶν δὴ κατηγορουμένων, καὶ ἐφ’ οἷς κατηγορεῖσθαι συμβαίνει, ὅσα μὲν λέγεται κατὰ συμβεβηκὸς ἢ κατὰ τοῦ αὐτοῦ ἢ θάτερον κατὰ θατέρου, ταῦτα οὐκ ἔσται ἕν· οἷον ἄνθρωπος λευκός ἐστι καὶ μουσικός, ἀλλ’ οὐχ ἓν τὸ λευκὸν καὶ τὸ μουσικόν· συμβεβηκότα γὰρ ἄμφω τῷ αὐτῷ. οὐδ’ εἰ τὸ λευκὸν μουσικὸν ἀληθὲς εἰπεῖν, ὅμως οὐκ ἔσται τὸ μουσικὸν λευκὸν ἕν τι· κατὰ συμβεβηκὸς γὰρ τὸ μουσικὸν λευκόν, ὥστε οὐκ ἔσται τὸ λευκὸν μουσικόν. διὸ οὐδ’ ὁ σκυτεὺς ἁπλῶς ἀγαθός, ἀλλὰ ζῷον δίπουν· οὐ γὰρ κατὰ συμβεβηκός. ἔτι οὐδ’ ὅσα ἐνυπάρχει ἐν τῷ ἑτέρῳ· διὸ οὔτε τὸ λευκὸν πολλάκις οὔτε ὁ ἄνθρωπος ἄνθρωπος ζῷον ἢ δίπουν· ἐνυπάρχει γὰρ ἐν τῷ ἀνθρώπῳ τὸ δίπουν καὶ τὸ ζῷον. ἀληθὲς δ’ ἐστὶν εἰπεῖν κατὰ τοῦ τινὸς καὶ ἁπλῶς, οἷον τὸν τινὰ ἄνθρωπον ἄνθρωπον ἢ τὸν τινὰ λευκὸν ἄνθρωπον λευκόν· οὐκ ἀεὶ δέ, ἀλλ’ ὅταν μὲν ἐν τῷ προσκειμένῳ τῶν ἀντικειμένων τι ἐνυπάρχῃ οἷς ἕπεται ἀντίφασις, οὐκ ἀληθὲς ἀλλὰ ψεῦδος, — οἷον τὸν τεθνεῶτα ἄνθρωπον ἄνθρωπον εἰπεῖν, — ὅταν δὲ μὴ ἐνυπάρχῃ, ἀληθές. ἢ ὅταν μὲν ἐνυπάρχῃ, ἀεὶ οὐκ ἀληθές, ὅταν δὲ μὴ ἐνυπάρχῃ, οὐκ ἀεὶ ἀληθές· ὥσπερ Ὅμηρός ἐστί τι, οἷον ποιητής· ἆρ’ οὖν καὶ ἔστιν, ἢ οὔ; κατὰ συμβεβηκὸς γὰρ κατηγορεῖται τὸ ἔστιν τοῦ Ὁμήρου· ὅτι γὰρ ποιητής ἐστιν, ἀλλ’ οὐ καθ’ αὑτό, κατηγορεῖται κατὰ τοῦ Ὁμήρου τὸ ἔστιν. ὥστ’ ἐν ὅσαις κατηγορίαις μήτε ἐναντιότης ἔνεστιν, ἐὰν λόγοι ἀντ’ ὀνομάτων λέγωνται, καὶ καθ’ αὑτὰ κατηγορῆται καὶ μὴ κατὰ συμβεβηκός, ἐπὶ τούτων τὸ τὶ καὶ ἁπλῶς ἀληθὲς ἔσται εἰπεῖν. τὸ δὲ μὴ ὄν, ὅτι δοξαστόν, οὐκ ἀληθὲς εἰπεῖν ὄν τι· δόξα γὰρ αὐτοῦ οὐκ ἔστιν ὅτι ἔστιν, ἀλλ’ ὅτι οὐκ ἔστιν.

Κεφάλαιο 12

Τούτων δὲ διωρισμένων σκεπτέον ὅπως ἔχουσιν αἱ ἀποφάσεις καὶ καταφάσεις πρὸς ἀλλήλας αἱ τοῦ δυνατὸν εἶναι καὶ μὴ δυνατόν, καὶ ἐνδεχόμενον καὶ μὴ ἐνδεχόμενον, καὶ περὶ τοῦ ἀδυνάτου τε καὶ ἀναγκαίου· ἔχει γὰρ ἀπορίας τινάς. εἰ γὰρ τῶν συμπλεκομένων αὗται ἀλλήλαις ἀντίκεινται αἱ ἀντιφάσεις, ὅσαι κατὰ τὸ εἶναι καὶ μὴ εἶναι τάττονται, οἷον [21b] τοῦ εἶναι ἄνθρωπον ἀπόφασις τὸ μὴ εἶναι ἄνθρωπον, οὐ τὸ εἶναι μὴ ἄνθρωπον, καὶ τοῦ εἶναι λευκὸν ἄνθρωπον τὸ μὴ εἶναι λευκὸν ἄνθρωπον, ἀλλ’ οὐ τὸ εἶναι μὴ λευκὸν ἄνθρωπον, — εἰ γὰρκατὰ παντὸς ἡ κατάφασις ἢ ἡ ἀπόφασις, τὸ ξύλον ἔσται ἀληθὲς εἰπεῖν εἶναι μὴ λευκὸν ἄνθρωπον· εἰ δὲ οὕτως, καὶ ὅσοις τὸ εἶναι μὴ προστίθεται, τὸ αὐτὸ ποιήσει τὸ ἀντὶ τοῦ εἶναι λεγόμενον, οἷον τοῦ ἄνθρωπος βαδίζει οὐ τὸ οὐκ ἄνθρωπος βαδίζει ἀπόφασις, ἀλλὰ τὸ οὐ βαδίζει ἄνθρωπος· οὐδὲν γὰρ διαφέρει εἰπεῖν ἄνθρωπον βαδίζειν ἢ ἄνθρωπον βαδίζοντα εἶναι· — ὥστε εἰ οὕτω πανταχοῦ, καὶ τοῦ δυνατὸν εἶναι ἀπόφασις τὸ δυνατὸν μὴ εἶναι, ἀλλ’ οὐ τὸ μὴ δυνατὸν εἶναι. δοκεῖ δὲ τὸ αὐτὸ δύνασθαι καὶ εἶναι καὶ μὴ εἶναι· πᾶν γὰρ τὸ δυνατὸν τέμνεσθαι ἢ βαδίζειν καὶ μὴ βαδίζειν καὶ μὴ τέμνεσθαι δυνατόν· λόγος δ’ ὅτι ἅπαν τὸ οὕτω δυνατὸν οὐκ ἀεὶ ἐνεργεῖ, ὥστε ὑπάρξει αὐτῷ καὶ ἡ ἀπόφασις· δύναται γὰρ καὶ μὴ βαδίζειν τὸ βαδιστικὸν καὶ μὴ ὁρᾶσθαι τὸ ὁρατόν. ἀλλὰ μὴν ἀδύνατον κατὰ τοῦ αὐτοῦ ἀληθεύεσθαι τὰς ἀντικειμένας φάσεις· οὐκ ἄρα αὕτη ἀπόφασις· συμβαίνει γὰρ ἐκ τούτων ἢ τὸ αὐτὸ φάναι καὶ ἀποφάναι ἅμα κατὰ τοῦ αὐτοῦ, ἢ μὴ κατὰ τὸ εἶναι καὶ μὴ εἶναι τὰ προστιθέμενα γίγνεσθαι φάσεις καὶ ἀποφάσεις. εἰ οὖν ἐκεῖνο ἀδύνατον, τοῦτ’ ἂν εἴη αἱρετόν. ἔστιν ἄρα ἀπόφασις τοῦ δυνατὸν εἶναι τὸ μὴ δυνατὸν εἶναι. ὁ δ’ αὐτὸς λόγος καὶ περὶ τοῦ ἐνδεχόμενον εἶναι· καὶ γὰρ τούτου ἀπόφασις τὸ μὴ ἐνδεχόμενον εἶναι. καὶ ἐπὶ τῶν ἄλλων δὲ ὁμοιοτρόπως, οἷον ἀναγκαίου τε καὶ ἀδυνάτου. γίγνεται γάρ, ὥσπερ ἐπ’ ἐκείνων τὸ εἶναι καὶ μὴ εἶναι προσθέσεις, τὰ δ’ ὑποκείμενα πράγματα τὸ μὲν λευκὸν τὸ δὲ ἄνθρωπος, οὕτως ἐνταῦθα τὸ μὲν εἶναι ὡς ὑποκείμενον γίγνεται, τὸ δὲ δύνασθαι καὶ ἐνδέχεσθαι προσθέσεις διορίζουσαι, ὥσπερ ἐπ’ ἐκείνων τὸ εἶναι καὶ μὴ εἶναι τὸ ἀληθές, ὁμοίως αὗται ἐπὶ τοῦ εἶναι δυνατὸν καὶ εἶναι οὐ δυνατόν.

Τοῦ δὲ δυνατὸν μὴ εἶναι ἀπόφασις τὸ οὐ δυνατὸν μὴ εἶναι. διὸ καὶ ἀκολουθεῖν ἂν δόξαιεν ἀλλήλαις αἱ δυνατὸν εἶναι — δυνατὸν μὴ εἶναι· τὸ γὰρ αὐτὸ δυνατὸν εἶναι καὶ μὴ εἶναι· οὐ γὰρ ἀντιφάσεις ἀλλήλων αἱ τοιαῦται. ἀλλὰ τὸ δυνατὸν εἶναι καὶ [22a] μὴ δυνατὸν εἶναι οὐδέποτε ἅμα· ἀντίκεινται γάρ. οὐδέ γε τὸ δυνατὸν μὴ εἶναι καὶ οὐ δυνατὸν μὴ εἶναι οὐδέποτε ἅμα. ὁμοίως δὲ καὶ τοῦ ἀναγκαῖον εἶναι ἀπόφασις οὐ τὸ ἀναγκαῖον μὴ εἶναι, ἀλλὰ τὸ μὴ ἀναγκαῖον εἶναι· τοῦ δὲ ἀναγκαῖον μὴ εἶναι τὸ μὴ ἀναγκαῖον μὴ εἶναι. καὶ τοῦ ἀδύνατον εἶναι οὐ τὸ ἀδύνατον μὴ εἶναι, ἀλλὰ τὸ μὴ ἀδύνατον εἶναι· τοῦ δὲ ἀδύνατον μὴ εἶναι τὸ οὐκ ἀδύνατον μὴ εἶναι. — καὶ καθόλου δέ, ὥσπερ εἴρηται, τὸ μὲν εἶναι καὶ μὴ εἶναι δεῖ τιθέναι ὡς τὰ ὑποκείμενα, κατάφασιν δὲ καὶ ἀπόφασιν ταῦτα ποιοῦντα πρὸς τὸ εἶναι καὶ μὴ εἶναι συνάπτειν. καὶ ταύτας οἴεσθαι χρὴ εἶναι τὰς ἀντικειμένας φάσεις, δυνατόν — οὐ δυνατόν, ἐνδεχόμενον — οὐκ ἐνδεχόμενον, ἀδύνατον — οὐκ ἀδύνατον, ἀναγκαῖον — οὐκ ἀναγκαῖον, ἀληθές — οὐκ ἀληθές.

Κεφάλαιο 13

Καὶ αἱ ἀκολουθήσεις δὲ κατὰ λόγον γίγνονται οὕτω τιθεμένοις· τῷ μὲν γὰρ δυνατῷ εἶναι τὸ ἐνδέχεσθαι εἶναι, καὶ τοῦτο ἐκείνῳ ἀντιστρέφει, καὶ τὸ μὴ ἀδύνατον εἶναι καὶ τὸ μὴ ἀναγκαῖον εἶναι· τῷ δὲ δυνατῷ μὴ εἶναι καὶ ἐνδεχομένῳ μὴ εἶναι τό τε μὴ ἀναγκαῖον μὴ εἶναι καὶ οὐκ ἀδύνατον μὴ εἶναι, τῷ δὲ μὴ δυνατῷ εἶναι καὶ μὴ ἐνδεχομένῳ εἶναι τὸ ἀναγκαῖον μὴ εἶναι καὶ τὸ ἀδύνατον εἶναι, τῷ δὲ μὴ δυνατῷ μὴ εἶναι καὶ μὴ ἐνδεχομένῳ μὴ εἶναι τὸ ἀναγκαῖον εἶναι καὶ τὸ ἀδύνατον μὴ εἶναι. θεωρείσθω δὲ ἐκ τῆς ὑπογραφῆς ὡς λέγομεν·

δυνατὸν εἶναι	οὐ δυνατὸν εἶναι
ἐνδεχόμενον εἶναι	οὐκ ἐνδεχόμενον εἶναι
οὐκ ἀδύνατον εἶναι	ἀδύνατον εἶναι
οὐκ ἀναγκαῖον εἶναι	ἀναγκαῖον εἶναι
δυνατὸν μὴ εἶναι	οὐ δυνατὸν μὴ εἶναι
δυνατὸν μὴ εἶναι	οὐ δυνατὸν μὴ εἶναι
ἐνδεχόμενον μὴ εἶναι	οὐκ ἐνδεχόμενον μὴ εἶναι
οὐκ ἀδύνατον μὴ εἶναι	ἀδύνατον μὴ εἶναι
οὐκ ἀναγκαῖον μὴ εἶναι	ἀναγκαῖον εἶναι.

Τὸ μὲν οὖν ἀδύνατον καὶ οὐκ ἀδύνατον τῷ ἐνδεχομένῳ καὶ δυνατῷ καὶ οὐκ ἐνδεχομένῳ καὶ μὴ δυνατῷ ἀκολουθεῖ μὲν ἀντιφατικῶς, ἀντεστραμμένως δέ· τῷ μὲν γὰρ δυνατῷ εἶναι ἡ ἀπόφασις τοῦ ἀδυνάτου, τῇ δὲ ἀποφάσει ἡ κατάφασις· τῷ γὰρ οὐ δυνατῷ εἶναι τὸ ἀδύνατον εἶναι· κατάφασις γὰρ τὸ ἀδύνατον εἶναι, τὸ δὲ οὐκ ἀδύνατον ἀπόφασις.

Τὸ δ’ ἀναγκαῖον πῶς, ὀπτέον. φανερὸν δὴ ὅτι οὐχ οὕτως, ἀλλ’ αἱ ἐναντίαι ἕπονται, αἱ δ’ ἀντιφάσεις χωρίς. οὐ γάρ ἐστιν [22b] ἀπόφασις τοῦ ἀνάγκη μὴ εἶναι τὸ οὐκ ἀνάγκη εἶναι· ἐνδέχεται γὰρ ἀληθεύεσθαι ἐπὶ τοῦ αὐτοῦ ἀμφοτέρας· τὸ γὰρ ἀναγκαῖον μὴ εἶναι οὐκ ἀναγκαῖον εἶναι. αἴτιον δὲ τοῦ μὴ ἀκολουθεῖν ὁμοίως τοῖς ἑτέροις ὅτι ἐναντίως τὸ ἀδύνατον τῷ ἀναγκαίῳ ἀποδίδοται, τὸ αὐτὸ δυνάμενον· εἰ γὰρ ἀδύνατον εἶναι, ἀναγκαῖον τοῦτο οὐχὶ εἶναι ἀλλὰ μὴ εἶναι· εἰ δὲ ἀδύνατον μὴ εἶναι, τοῦτο ἀνάγκη εἶναι· ὥστ’ εἰ ἐκεῖνα ὁμοίως τῷ δυνατῷ καὶ μή, ταῦτα ἐξ ἐναντίας, ἐπεὶ σημαίνει γε ταὐτὸν τό τε ἀναγκαῖον καὶ τὸ ἀδύνατον, ἀλλ’ ὥσπερ εἴρηται, ἀντεστραμμένως. ἢ ἀδύνατον οὕτω κεῖσθαι τὰς τοῦ ἀναγκαίου ἀντιφάσεις; τὸ μὲν γὰρ ἀναγκαῖον εἶναι δυνατὸν εἶναι· εἰ γὰρ μή, ἡ ἀπόφασις ἀκολουθήσει· ἀνάγκη γὰρ ἢ φάναι ἢ ἀποφάναι· ὥστ’ εἰ μὴ δυνατὸν εἶναι, ἀδύνατον εἶναι· ἀδύνατον ἄρα εἶναι τὸ ἀναγκαῖον εἶναι, ὅπερ ἄτοπον. ἀλλὰ μὴν τῷ γε δυνατὸν εἶναι τὸ οὐκ ἀδύνατον εἶναι ἀκολουθεῖ, τούτῳ δὲ τὸ μὴ ἀναγκαῖον εἶναι· ὥστε συμβαίνει τὸ ἀναγκαῖον εἶναι μὴ ἀναγκαῖον εἶναι, ὅπερ ἄτοπον. ἀλλὰ μὴν οὐδὲ τὸ ἀναγκαῖον εἶναι ἀκολουθεῖ τῷ δυνατὸν εἶναι, οὐδὲ τὸ ἀναγκαῖον μὴ εἶναι· τῷ μὲν γὰρ ἄμφω ἐνδέχεται συμβαίνειν, τούτων δ’ ὁπότερον ἂν ἀληθὲς ᾖ, οὐκέτι ἔσται ἐκεῖνα ἀληθῆ· ἅμα γὰρ δυνατὸν εἶναι καὶ μὴ εἶναι· εἰ δ’ ἀνάγκη εἶναι ἢ μὴ εἶναι, οὐκ ἔσται δυνατὸν ἄμφω. λείπεται τοίνυν τὸ οὐκ ἀναγκαῖον μὴ εἶναι ἀκολουθεῖν τῷ δυνατὸν εἶναι· τοῦτο γὰρ ἀληθὲς καὶ κατὰ τοῦ ἀναγκαῖον εἶναι. καὶ γὰρ αὕτη γίγνεται ἀντίφασις τῇ ἑπομένῃ τῷ οὐ δυνατῷ εἶναι· ἐκείνῳ γὰρ ἀκολουθεῖ τὸ ἀδύνατον εἶναι καὶ ἀναγκαῖον μὴ εἶναι, οὗ ἀπόφασις τὸ οὐκ ἀναγκαῖον μὴ εἶναι. ἀκολουθοῦσιν ἄρα καὶ αὗται αἱ ἀντιφάσεις κατὰ τὸν εἰρημένον τρόπον, καὶ οὐδὲν ἀδύνατον συμβαίνει τιθεμένων οὕτως.

Ἀπορήσειε δ’ ἄν τις εἰ τῷ ἀναγκαῖον εἶναι τὸ δυνατὸν εἶναι ἕπεται. εἴ τε γὰρ μὴ ἕπεται, ἡ ἀντίφασις ἀκολουθήσει, τὸ μὴ δυνατὸν εἶναι· καὶ εἴ τις ταύτην μὴ φήσειεν εἶναι ἀντίφασιν, ἀνάγκη λέγειν τὸ δυνατὸν μὴ εἶναι· ἅπερ ἄμφω ψευδῆ κατὰ τοῦ ἀναγκαῖον εἶναι. ἀλλὰ μὴν πάλιν τὸ αὐτὸ εἶναι δοκεῖ δυνατὸν τέμνεσθαι καὶ μὴ τέμνεσθαι, καὶ εἶναι καὶ μὴ εἶναι, ὥστε ἔσται τὸ ἀναγκαῖον εἶναι ἐνδεχόμενον μὴ εἶναι· τοῦτο δὲ ψεῦδος. φανερὸν δὴ ὅτι οὐ πᾶν τὸ δυνατὸν ἢ εἶναι ἢ βαδίζειν καὶ τὰ ἀντικείμενα δύναται, ἀλλ’ ἔστιν ἐφ’ ὧν οὐκ ἀληθές· πρῶτον μὲν ἐπὶ τῶν μὴ κατὰ λόγον δυνατῶν, οἷον τὸ πῦρ θερμαντικὸν καὶ ἔχει δύναμιν ἄλογον, — αἱ μὲν οὖν μετὰ λόγου [23a] δυνάμεις αἱ αὐταὶ πλειόνων καὶ τῶν ἐναντίων, αἱ δ’ ἄλογοι οὐ πᾶσαι, ἀλλ’ ὥσπερ εἴρηται, τὸ πῦρ οὐ δυνατὸν θερμαίνειν καὶ μή, οὐδ’ ὅσα ἄλλα ἐνεργεῖ ἀεί· ἔνια μέντοι δύναται καὶ τῶν κατὰ τὰς ἀλόγους δυνάμεις ἅμα τὰ ἀντικείμενα· ἀλλὰ τοῦτο μὲν τούτου χάριν εἴρηται, ὅτι οὐ πᾶσα δύναμις τῶν ἀντικειμένων, οὐδ’ ὅσαι λέγονται κατὰ τὸ αὐτὸ εἶδος, — ἔνιαι δὲ δυνάμεις ὁμώνυμοί εἰσιν· τὸ γὰρ δυνατὸν οὐχ ἁπλῶς λέγεται, ἀλλὰ τὸ μὲν ὅτι ἀληθὲς ὡς ἐνεργείᾳ ὄν, οἷον δυνατὸν βαδίζειν ὅτι βαδίζει, καὶ ὅλως δυνατὸν εἶναι ὅτι ἤδη ἔστι κατ’ ἐνέργειαν ὃ λέγεται δυνατόν, τὸ δὲ ὅτι ἐνεργήσειεν ἄν, οἷον δυνατὸν βαδίζειν ὅτι βαδίσειεν ἄν. καὶ αὕτη μὲν ἐπὶ τοῖς κινητοῖς ἐστὶ μόνοις ἡ δύναμις, ἐκείνη δὲ καὶ ἐπὶ τοῖς ἀκινήτοις· ἄμφω δὲ ἀληθὲς εἰπεῖν τὸ μὴ ἀδύνατον εἶναι βαδίζειν ἢ εἶναι, καὶ τὸ βαδίζον ἤδη καὶ ἐνεργοῦν καὶ τὸ βαδιστικόν. τὸ μὲν οὖν οὕτω δυνατὸν οὐκ ἀληθὲς κατὰ τοῦ ἀναγκαίου ἁπλῶς εἰπεῖν, θάτερον δὲ ἀληθές. ὥστε, ἐπεὶ τῷ ἐν μέρει τὸ καθόλου ἕπεται, τῷ ἐξ ἀνάγκης ὄντι ἕπεται τὸ δύνασθαι εἶναι, οὐ μέντοι πᾶν. καὶ ἔστι δὴ ἀρχὴ ἴσως τὸ ἀναγκαῖον καὶ μὴ ἀναγκαῖον πάντων ἢ εἶναι ἢ μὴ εἶναι, καὶ τὰ ἄλλα ὡς τούτοις ἀκολουθοῦντα ἐπισκοπεῖν δεῖ. Φανερὸν δὴ ἐκ τῶν εἰρημένων ὅτι τὸ ἐξ ἀνάγκης ὂν κατ’ ἐνέργειάν ἐστιν, ὥστε εἰ πρότερα τὰ ἀίδια, καὶ ἐνέργεια δυνάμεως προτέρα. καὶ τὰ μὲν ἄνευ δυνάμεως ἐνέργειαί εἰσιν, οἷον αἱ πρῶται οὐσίαι, τὰ δὲ μετὰ δυνάμεως, ἃ τῇ μὲν φύσει πρότερα, τῷ χρόνῳ δὲ ὕστερα, τὰ δὲ οὐδέποτε ἐνέργειαί εἰσιν ἀλλὰ δυνάμεις μόνον.

Κεφάλαιο 14

Πότερον δὲ ἐναντία ἐστὶν ἡ κατάφασις τῇ ἀποφάσει ἢ ἡ κατάφασις τῇ καταφάσει, καὶ ὁ λόγος τῷ λόγῳ ὁ λέγων ὅτι πᾶς ἄνθρωπος δίκαιος τῷ οὐδεὶς ἄνθρωπος δίκαιος, ἢ τὸ πᾶς ἄνθρωπος δίκαιος τῷ πᾶς ἄνθρωπος ἄδικος; οἷον ἔστι Καλλίας δίκαιος — οὐκ ἔστι Καλλίας δίκαιος — Καλλίας ἄδικός ἐστιν, ποτέρα ἐναντία τούτων; — εἰ γὰρ τὰ μὲν ἐν τῇ φωνῇ ἀκολουθεῖ τοῖς ἐν τῇ διανοίᾳ, ἐκεῖ δ' ἐναντία δόξα ἡ τοῦ ἐναντίου, οἷον ὅτι πᾶς ἄνθρωπος δίκαιος τῇ πᾶς ἄνθρωπος ἄδικος, καὶ ἐπὶ τῶν ἐν τῇ φωνῇ καταφάσεων ἀνάγκη ὁμοίως ἔχειν. εἰ δὲ μηδὲ ἐκεῖ ἡ τοῦ ἐναντίου δόξα ἐναντία ἐστίν, οὐδ' ἡ κατάφασις τῇ καταφάσει ἔσται ἐναντία, ἀλλ' ἡ εἰρημένη ἀπόφασις. ὥστε σκεπτέον ποία δόξα ἀληθὴς ψευδεῖ δόξῃ ἐναντία, πότερον ἡ τῆς ἀποφάσεως ἢ ἡ τὸ ἐναντίον εἶναι δοξάζουσα. λέγω δὲ ὧδε· ἔστι τις δόξα ἀληθὴς τοῦ ἀγαθοῦ ὅτι ἀγαθόν, ἄλλη δὲ [23b] ὅτι οὐκ ἀγαθὸν ψευδής, ἑτέρα δὲ ὅτι κακόν· ποτέρα δὴ τούτων ἐναντία τῇ ἀληθεῖ; καὶ εἰ ἔστι μία, κατὰ ποτέραν ἐναντία; (τὸ μὲν δὴ τούτῳ οἴεσθαι τὰς ἐναντίας δόξας ὡρίσθαι, τῷ τῶν ἐναντίων εἶναι, ψεῦδος· τοῦ γὰρ ἀγαθοῦ ὅτι ἀγαθὸν καὶ τοῦ κακοῦ ὅτι κακὸν ἡ αὐτὴ ἴσως καὶ ἀληθής, εἴτε πλείους εἴτε μία ἐστίν· ἐναντία δὲ ταῦτα· ἀλλ' οὐ τῷ ἐναντίων εἶναι ἐναντίαι, ἀλλὰ μᾶλλον τῷ ἐναντίως.)

Εἰ δὴ ἔστι μὲν τοῦ ἀγαθοῦ ὅτι ἐστὶν ἀγαθὸν δόξα, ἔστι δ' ὅτι οὐκ ἀγαθόν, ἔστι δὲ ὅτι ἄλλο τι ὃ οὐχ ὑπάρχει οὐδ' οἷόν τε ὑπάρξαι (τῶν μὲν δὴ ἄλλων οὐδεμίαν θετέον, οὔθ' ὅσαι ὑπάρχειν τὸ μὴ ὑπάρχον δοξάζουσιν οὔθ' ὅσαι μὴ ὑπάρχειν τὸ ὑπάρχον, — ἄπειροι γὰρ ἀμφότεραι, καὶ ὅσαι ὑπάρχειν δοξάζουσι τὸ μὴ ὑπάρχον καὶ ὅσαι μὴ ὑπάρχειν τὸ ὑπάρχον, — ἀλλ' ἐν ὅσαις ἐστὶν ἡ ἀπάτη· αὗται δὲ ἐξ ὧν αἱ γενέσεις· ἐκ τῶν ἀντικειμένων δὲ αἱ γενέσεις, ὥστε καὶ αἱ ἀπάται), εἰ οὖν τὸ ἀγαθὸν καὶ ἀγαθὸν καὶ οὐ κακόν ἐστιν, καὶ τὸ μὲν καθ' αὑτὸ τὸ δὲ κατὰ συμβεβηκός (συμβέβηκε γὰρ αὐτῷ οὐ κακῷ εἶναι), μᾶλλον δ' ἑκάστου ἀληθὴς ἡ καθ' αὑτό, καὶ ψευδὴς εἴπερ καὶ ἀληθής. — ἡ μὲν οὖν ὅτι οὐκ ἀγαθὸν τὸ ἀγαθὸν τοῦ καθ' αὑτὸ ὑπάρχοντος ψευδής, ἡ δὲ τοῦ ὅτι κακὸν τοῦ κατὰ συμβεβηκός, ὥστε μᾶλλον ἂν εἴη ψευδὴς τοῦ ἀγαθοῦ ἡ τῆς ἀποφάσεως ἢ ἡ τοῦ ἐναντίου. διέψευσται δὲ μάλιστα περὶ ἕκαστον ὁ τὴν ἐναντίαν ἔχων δόξαν· τὰ γὰρ ἐναντία τῶν πλεῖστον διαφερόντων περὶ τὸ αὐτό. εἰ οὖν ἐναντία μὲν τούτων ἡ ἑτέρα, ἐναντιωτέρα δὲ ἡ τῆς ἀντιφάσεως, δῆλον ὅτι αὕτη ἂν εἴη ἡ ἐναντία. ἡ δὲ τοῦ ὅτι κακὸν τὸ ἀγαθὸν συμπεπλεγμένη ἐστίν· καὶ γὰρ ὅτι οὐκ ἀγαθὸν ἀνάγκη ἴσως ὑπολαμβάνειν τὸν αὐτόν.

Ἔτι δ' εἰ καὶ ἐπὶ τῶν ἄλλων ὁμοίως δεῖ ἔχειν, καὶ ταύτῃ ἂν δόξειε καλῶς εἰρῆσθαι· ἢ γὰρ παν — ταχοῦ τὸ τῆς ἀντιφάσεως ἢ οὐδαμοῦ· ὅσοις δὲ μή ἐστιν ἐναντία, περὶ τούτων ἔστι μὲν ψευδὴς ἡ τῇ ἀληθεῖ ἀντικειμένη, οἷον ὁ τὸν ἄνθρωπον μὴ ἄνθρωπον οἰόμενος διέψευσται. εἰ οὖν αὗται ἐναντίαι, καὶ αἱ ἄλλαι αἱ τῆς ἀντιφάσεως.

Ἔτι ὁμοίως ἔχει ἡ τοῦ ἀγαθοῦ ὅτι ἀγαθὸν καὶ ἡ τοῦ μὴ ἀγαθοῦ ὅτι οὐκ ἀγαθόν, καὶ πρὸς ταύταις ἡ τοῦ ἀγαθοῦ ὅτι οὐκ ἀγαθὸν καὶ ἡ τοῦ μὴ ἀγαθοῦ ὅτι ἀγαθόν. τῇ οὖν τοῦ μὴ ἀγαθοῦ ὅτι οὐκ ἀγαθὸν ἀληθεῖ οὔσῃ δόξῃ τίς ἐναντία; οὐ γὰρ δὴ ἡ λέγουσα ὅτι κακόν· ἅμα γὰρ ἄν ποτε εἴη ἀληθής, οὐδέποτε δὲ ἀληθὴς ἀληθεῖ ἐναντία· ἔστι γάρ τι μὴ ἀγαθὸν κακόν, ὥστε ἐνδέχεται ἅμα ἀληθεῖς εἶναι. οὐδ' αὖ ἡ ὅτι οὐ κακόν· [ἀληθὴς γὰρ καὶ αὕτη·] ἅμα γὰρ καὶ ταῦτα ἂν εἴη. λείπεται δὴ τῇ τοῦ μὴ ἀγαθοῦ [24a] ὅτι οὐκ ἀγαθὸν ἐναντία ἡ τοῦ μὴ ἀγαθοῦ ὅτι ἀγαθόν [ψευδής· ἀληθὴς γὰρ αὕτη]. ὥστε καὶ ἡ τοῦ ἀγαθοῦ ὅτι οὐκ ἀγαθὸν τῇ τοῦ ἀγαθοῦ ὅτι ἀγαθόν.

Φανερὸν δὲ ὅτι οὐδὲν διοίσει οὐδ' ἂν καθόλου τιθῶμεν τὴν κατάφασιν· ἡ γὰρ καθόλου ἀπόφασις ἐναντία ἔσται, οἷον τῇ δόξῃ τῇ δοξαζούσῃ ὅτι πᾶν ἀγαθὸν ἀγαθόν ἡ ὅτι οὐδὲν τῶν ἀγαθῶν ἀγαθόν. ἡ γὰρ τοῦ ἀγαθοῦ ὅτι ἀγαθόν, εἰ καθόλου τὸ ἀγαθόν, ἡ αὐτή ἐστι τῇ ὅ τι ἂν ᾖ ἀγαθὸν δοξαζούσῃ ὅτι ἀγαθόν· τοῦτο δὲ οὐδὲν διαφέρει τοῦ ὅτι πᾶν ὃ ἂν ᾖ ἀγαθὸν ἀγαθόν ἐστιν. ὁμοίως δὲ καὶ ἐπὶ τοῦ μὴ [24b] ἀγαθοῦ.

Ὥστ' εἴπερ ἐπὶ δόξης οὕτως ἔχει, εἰσὶ δὲ αἱ ἐν τῇ φωνῇ καταφάσεις καὶ ἀποφάσεις σύμβολα τῶν ἐν τῇ ψυχῇ, δῆλον ὅτι καὶ καταφάσει ἐναντία μὲν ἀπόφασις ἡ περὶ τοῦ αὐτοῦ καθόλου, οἷον <τῇ> ὅτι πᾶν ἀγαθὸν ἀγαθόν ἢ ὅτι πᾶς ἄνθρωπος ἀγαθός ἡ ὅτι οὐδὲν ἢ οὐδείς, ἀντιφατικῶς δὲ ὅτι ἢ οὐ πᾶν ἢ οὐ πᾶς. φανερὸν δὲ καὶ ὅτι ἀληθῆ ἀληθεῖ οὐκ ἐνδέχεται ἐναντίαν εἶναι οὔτε δόξαν οὔτε ἀντίφασιν· ἐναντίαι μὲν γὰρ αἱ περὶ τὰ ἀντικείμενα, περὶ ταῦτα δ' ἐνδέχεται ἀληθεύειν τὸν αὐτόν· ἅμα δὲ οὐκ ἐνδέχεται τὰ ἐναντία ὑπάρχειν τῷ αὐτῷ.

Ἀναλυτικῶν προτέρων (24a) Prior Analytics

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Βιβλίο 1

Κεφάλαιο 1

[24a] Πρῶτον εἰπεῖν περὶ τί καὶ τίνος ἐστὶν ἡ σκέψις, ὅτι περὶ ἀπόδειξιν καὶ ἐπιστήμης ἀποδεικτικῆς· εἶτα διορίσαι τί ἐστι πρότασις καὶ τί ὅρος καὶ τί συλλογισμός, καὶ ποῖος τέλειος καὶ ποῖος ἀτελής, μετὰ δὲ ταῦτα τί τὸ ἐν ὅλῳ εἶναι ἢ μὴ εἶναι τόδε τῷδε, καὶ τί λέγομεν τὸ κατὰ παντὸς ἢ μηδενὸς κατηγορεῖσθαι.

Πρότασις μὲν οὖν ἐστὶ λόγος καταφατικὸς ἢ ἀποφατικός τινος κατά τινος· οὗτος δὲ ἢ καθόλου ἢ ἐν μέρει ἢ ἀδιόριστος. λέγω δὲ καθόλου μὲν τὸ παντὶ ἢ μηδενὶ ὑπάρχειν, ἐν μέρει δὲ τὸ τινὶ ἢ μὴ τινὶ ἢ μὴ παντὶ ὑπάρχειν, ἀδιόριστον δὲ τὸ ὑπάρχειν ἢ μὴ ὑπάρχειν ἄνευ τοῦ καθόλου ἢ κατὰ μέρος, οἷον τὸ τῶν ἐναντίων εἶναι τὴν αὐτὴν ἐπιστήμην ἢ τὸ τὴν ἡδονὴν μὴ εἶναι ἀγαθόν. διαφέρει δὲ ἡ ἀποδεικτικὴ πρότασις τῆς διαλεκτικῆς, ὅτι ἡ μὲν ἀποδεικτικὴ λῆψις θατέρου μορίου τῆς ἀντιφάσεώς ἐστιν (οὐ γὰρ ἐρωτᾷ ἀλλὰ λαμβάνει ὁ ἀποδεικνύων), ἡ δὲ διαλεκτικὴ ἐρώτησις ἀντιφάσεώς ἐστιν. οὐδὲν δὲ διοίσει πρὸς τὸ γενέσθαι τὸν ἑκατέρου συλλογισμόν· καὶ γὰρ ὁ ἀποδεικνύων καὶ ὁ ἐρωτῶν συλλογίζεται λαβών τι κατά τινος ὑπάρχειν ἢ μὴ ὑπάρχειν. ὥστε ἔσται συλλογιστικὴ μὲν πρότασις ἁπλῶς κατάφασις ἢ ἀπόφασίς τινος κατά τινος τὸν εἰρημένον τρόπον, ἀποδεικτικὴ δέ, ἐὰν ἀληθὴς ᾖ καὶ διὰ τῶν ἐξ ἀρχῆς [24b] ὑποθέσεων εἰλημμένη, διαλεκτικὴ δὲ πυνθανομένῳ μὲν ἐρώτησις ἀντιφάσεως, συλλογιζομένῳ δὲ λῆψις τοῦ φαινομένου καὶ ἐνδόξου, καθάπερ ἐν τοῖς Τοπικοῖς εἴρηται. τί μὲν οὖν ἐστὶ πρότασις, καὶ τί διαφέρει συλλογιστικὴ καὶ ἀποδεικτικὴ καὶ διαλεκτική, δι’ ἀκριβείας μὲν ἐν τοῖς ἑπομένοις ῥηθήσεται, πρὸς δὲ τὴν παροῦσαν χρείαν ἱκανῶς ἡμῖν διωρίσθω τὰ νῦν.

Ὅρον δὲ καλῶ εἰς ὃν διαλύεται ἡ πρότασις, οἷον τό τε κατηγορούμενον καὶ τὸ καθ’ οὗ κατηγορεῖται, προστιθεμένου [ἢ διαιρουμένου] τοῦ εἶναι ἢ μὴ εἶναι. συλλογισμὸς δέ ἐστι λόγος ἐνῷ τεθέντων τινῶν ἕτερόν τι τῶν κειμένων ἐξ ἀνάγκης συμβαίνει τῷ ταῦτα εἶναι. λέγω δὲ τῷ ταῦτα εἶναι τὸ διὰ ταῦτα συμβαίνειν, τὸ δὲ διὰ ταῦτα συμβαίνειν τὸ μηδενὸς ἔξωθεν ὅρου προσδεῖν πρὸς τὸ γενέσθαι τὸ ἀναγκαῖον. τέλειον μὲν οὖν καλῶ συλλογισμὸν τὸν μηδενὸς ἄλλου προσδεόμενον παρὰ τὰ εἰλημμένα πρὸς τὸ φανῆναι τὸ ἀναγκαῖον, ἀτελῆ δὲ τὸν προσδεόμενον ἢ ἑνὸς ἢ πλειόνων, ἃ ἔστι μὲν ἀναγκαῖα διὰ τῶν ὑποκειμένων ὅρων, οὐ μὴν εἴληπται διὰ προτάσεων. τὸ δὲ ἐν ὅλῳ εἶναι ἕτερον ἑτέρῳ καὶ τὸ κατὰ παντὸς κατηγορεῖσθαι θατέρου θάτερον ταὐτόν ἐστιν. λέγομεν δὲ τὸ κατὰ παντὸς κατηγορεῖσθαι ὅταν μηδὲν ᾖ λαβεῖν [τοῦ ὑποκειμένου] καθ’ οὗ θάτερον οὐ λεχθήσεται· καὶ τὸ κατὰ μηδενὸς ὡσαύτως. [25a]

Κεφάλαιο 2

Ἐπεὶ δὲ πᾶσα πρότασίς ἐστιν ἢ τοῦ ὑπάρχειν ἢ τοῦ ἐξ ἀνάγκης ὑπάρχειν ἢ τοῦ ἐνδέχεσθαι ὑπάρχειν, τούτων δὲ αἱ μὲν καταφατικαὶ αἱ δὲ ἀποφατικαὶ καθ’ ἑκάστην πρόσρησιν, πάλιν δὲ τῶν καταφατικῶν καὶ ἀποφατικῶν αἱ μὲν καθόλου αἱ δὲ ἐν μέρει αἱ δὲ ἀδιόριστοι, τὴν μὲν ἐν τῷ ὑπάρχειν καθόλου στερητικὴν ἀνάγκη τοῖς ὅροις ἀντιστρέφειν, οἷον εἰ μηδεμία ἡδονὴ ἀγαθόν, οὐδ’ ἀγαθὸν οὐδὲν ἔσται ἡδονή· τὴν δὲ κατηγορικὴν ἀντιστρέφειν μὲν ἀναγκαῖον, οὐ μὴν καθόλου ἀλλ’ ἐν μέρει, οἷον εἰ πᾶσα ἡδονὴ ἀγαθόν, καὶ ἀγαθόν τι εἶναι ἡδονήν· τῶν δὲ ἐν μέρει τὴν μὲν καταφατικὴν ἀντιστρέφειν ἀνάγκη κατὰ μέρος (εἰ γὰρ ἡδονή τις ἀγαθόν, καὶ ἀγαθόν τι ἔσται ἡδονή), τὴν δὲ στερητικὴν οὐκ ἀναγκαῖον· (οὐ γὰρ εἰ ἄνθρωπος μὴ ὑπάρχει τινὶ ζῴῳ, καὶ ζῷον οὐχ ὑπάρχει τινὶ ἀνθρώπῳ).

Πρῶτον μὲν οὖν ἔστω στερητικὴ καθόλου ἡ Α Β πρότασις. εἰ οὖν μηδενὶ τῷ Β τὸ Α ὑπάρχει, οὐδὲ τῷ Α οὐδενὶ ὑπάρξει τὸ Β· εἰ γάρ τινι, οἷον τῷ Γ, οὐκ ἀληθὲς ἔσται τὸ μηδενὶ τῷ Β τὸ Α ὑπάρχειν· τὸ γὰρ Γ τῶν Β τί ἐστιν. εἰ δὲ παντὶ τὸ Α τῷ Β, καὶ τὸ Β τινὶ τῷ Α ὑπάρξει· εἰ γὰρ μηδενί, οὐδὲ τὸ Α οὐδενὶ τῷ Β ὑπάρξει· ἀλλ’ ὑπέκειτο παντὶ ὑπάρχειν. ὁμοίως δὲ καὶ εἰ κατὰ μέρος ἐστὶν ἡ πρότασις. εἰ γὰρ τὸ Α τινὶ τῷ Β, καὶ τὸ Β τινὶ τῷ Α ἀνάγκη ὑπάρχειν· εἰ γὰρ μηδενί, οὐδὲ τὸ Α οὐδενὶ τῷ Β. εἰ δέ γε τὸ Α τινὶ τῷ Β μὴ ὑπάρχει, οὐκ ἀνάγκη καὶ τὸ Β τινὶ τῷ Α μὴ ὑπάρχειν, οἷον εἰ τὸ μὲν Β ἐστὶ ζῷον, τὸ δὲ Α ἄνθρωπος· ἄνθρωπος μὲν γὰρ οὐ παντὶ ζῴῳ, ζῷον δὲ παντὶ ἀνθρώπῳ ὑπάρχει.

Κεφάλαιο 3

Τὸν αὐτὸν δὲ τρόπον ἕξει καὶ ἐπὶ τῶν ἀναγκαίων προτάσεων. ἡ μὲν γὰρ καθόλου στερητικὴ καθόλου ἀντιστρέφει, τῶν δὲ καταφατικῶν ἑκατέρα κατὰ μέρος. εἰ μὲν γὰρ ἀνάγκη τὸ Α τῷ Β μηδενὶ ὑπάρχειν, ἀνάγκη καὶ τὸ Β τῷ Α μηδενὶ ὑπάρχειν· εἰ γὰρ τινὶ ἐνδέχεται, καὶ τὸ Α τῷ Β τινὶ ἐνδέχοιτο ἄν. εἰ δὲ ἐξ ἀνάγκης τὸ Α παντὶ ἢ τινὶ τῷ Β ὑπάρχει, καὶ τὸ Β τινὶ τῷ Α ἀνάγκη ὑπάρχειν· εἰ γὰρ μὴ ἀνάγκη, οὐδ’ ἂν τὸ Α τινὶ τῷ Β ἐξ ἀνάγκης ὑπάρχοι. τὸ δ’ ἐν μέρει στερητικὸν οὐκ ἀντιστρέφει, διὰ τὴν αὐτὴν αἰτίαν δι’ ἣν καὶ πρότερον ἔφαμεν.

Ἐπὶ δὲ τῶν ἐνδεχομένων, ἐπειδὴ πολλαχῶς λέγεται τὸ ἐνδέχεσθαι (καὶ γὰρ τὸ ἀναγκαῖον καὶ τὸ μὴ ἀναγκαῖον καὶ τὸ δυνατὸν ἐνδέχεσθαι λέγομεν), ἐν μὲν τοῖς καταφατικοῖς ὁμοίως ἕξει κατὰ τὴν ἀντιστροφὴν ἐν ἅπασιν. εἰ γὰρ τὸ Α [25b] παντὶ ἢ τινὶ τῷ Β ἐνδέχεται, καὶ τὸ Β τινὶ τῷ Α ἐνδέχοιτο ἄν· εἰ γὰρ μηδενί, οὐδ’ ἂν τὸ Α οὐδενὶ τῷ Β· δέδεικται γὰρ τοῦτο πρότερον. ἐν δὲ τοῖς ἀποφατικοῖς οὐχ ὡσαύτως, ἀλλ’ ὅσα μὲν ἐνδέχεσθαι λέγεται τῷ ἐξ ἀνάγκης ὑπάρχειν ἢ τῷ μὴ ἐξ ἀνάγκης μὴ ὑπάρχειν, ὁμοίως, οἷον εἴ τις φαίη τὸν ἄνθρωπον ἐνδέχεσθαι μὴ εἶναι ἵππον ἢ τὸ λευκὸν μηδενὶ ἱματίῳ ὑπάρχειν (τούτων γὰρ τὸ μὲν ἐξ ἀνάγκης οὐχ ὑπάρχει, τὸ δὲ οὐκ ἀνάγκη ὑπάρχειν, καὶ ὁμοίως ἀντιστρέφει ἡ πρότασις· εἰ γὰρ ἐνδέχεται μηδενὶ ἀνθρώπῳ ἵππον, καὶ ἄνθρωπον ἐγχωρεῖ μηδενὶ ἵππῳ· καὶ εἰ τὸ λευκὸν ἐγχωρεῖ μηδενὶ ἱματίῳ, καὶ τὸ ἱμάτιον ἐγχωρεῖ μηδενὶ λευκῷ· εἰ γάρ τινι ἀνάγκη, καὶ τὸ λευκὸν ἱματίῳ τινὶ ἔσται ἐξ ἀνάγκης· τοῦτο γὰρ δέδεικται πρότερον), ὁμοίως δὲ καὶ ἐπὶ τῆς ἐν μέρει ἀποφατικῆς· ὅσα δὲ τῷ ὡς ἐπὶ τὸ πολὺ καὶ τῷ πεφυκέναι λέγεται ἐνδέχεσθαι, καθ’ ὃν τρόπον διορίζομεν τὸ ἐνδεχόμενον, οὐχ ὁμοίως ἕξει ἐν ταῖς στερητικαῖς ἀντιστροφαῖς, ἀλλ’ ἡ μὲν καθόλου στερητικὴ πρότασις οὐκ ἀντιστρέφει, ἡ δὲ ἐν μέρει ἀντιστρέφει. τοῦτο δὲ ἔσται φανερὸν ὅταν περὶ τοῦ ἐνδεχομένου λέγωμεν. νῦν δὲ τοσοῦτον ἡμῖν ἔστω πρὸς τοῖς εἰρημένοις δῆλον, ὅτι τὸ ἐνδέχεσθαι μηδενὶ ἢ τινὶ μὴ ὑπάρχειν καταφατικὸν ἔχει τὸ σχῆμα (τὸ γὰρ ἐνδέχεται τῷ ἔστιν ὁμοίως τάττεται, τὸ δὲ ἔστιν, οἷς ἂν προσκατηγορῆται, κατάφασιν ἀεὶ ποιεῖ καὶ πάντως, οἷον τὸ ἔστιν οὐκ ἀγαθόν ἢ ἔστιν οὐ λευκόν ἢ ἁπλῶς τὸ ἔστιν οὐ τοῦτο· δειχθήσεται δὲ καὶ τοῦτο διὰ τῶν ἑπομένων), κατὰ δὲ τὰς ἀντιστροφὰς ὁμοίως ἕξουσι ταῖς ἄλλαις.

Κεφάλαιο 4

Διωρισμένων δὲ τούτων λέγωμεν ἤδη διὰ τίνων καὶ πότε καὶ πῶς γίνεται πᾶς συλλογισμός· ὕστερον δὲ λεκτέον περὶ ἀποδείξεως. πρότερον δὲ περὶ συλλογισμοῦ λεκτέον ἢ περὶ ἀποδείξεως διὰ τὸ καθόλου μᾶλλον εἶναι τὸν συλλογισμόν· ἡ μὲν γὰρ ἀπόδειξις συλλογισμός τις, ὁ συλλογισμὸς δὲ οὐ πᾶς ἀπόδειξις.

Ὅταν οὖν ὅροι τρεῖς οὕτως ἔχωσι πρὸς ἀλλήλους ὥστε τὸν ἔσχατον ἐν ὅλῳ εἶναι τῷ μέσῳ καὶ τὸν μέσον ἐν ὅλῳ τῷ πρώτῳ ἢ εἶναι ἢ μὴ εἶναι, ἀνάγκη τῶν ἄκρων εἶναι συλλογισμὸν τέλειον. καλῶ δὲ μέσον μὲν ὃ καὶ αὐτὸ ἐν ἄλλῳ καὶ ἄλλο ἐν τούτῳ ἐστίν, ὃ καὶ τῇ θέσει γίνεται μέσον· ἄκρα δὲ τὸ αὐτό τε ἐν ἄλλῳ ὂν καὶ ἐν ᾧ ἄλλο ἐστίν. εἰ γὰρ τὸ Α κατὰ παντὸς τοῦ Β καὶ τὸ Β κατὰ παντὸς τοῦ Γ, ἀνάγκη τὸ Α κατὰ παντὸς τοῦ Γ κατηγορεῖσθαι· πρότερον γὰρ εἴρηται πῶς τὸ κατὰ παντὸς λέγομεν. ὁμοίως δὲ καὶ εἰ τὸ μὲν Α κατὰ μη[26a] δενὸς τοῦ Β, τὸ δὲ Β κατὰ παντὸς τοῦ Γ, ὅτι τὸ Α οὐδενὶ τῷ Γ ὑπάρξει. εἰ δὲ τὸ μὲν πρῶτον παντὶ τῷ μέσῳ ἀκολουθεῖ, τὸ δὲ μέσον μηδενὶ τῷ ἐσχάτῳ ὑπάρχει, οὐκ ἔσται συλλογισμὸς τῶν ἄκρων· οὐδὲν γὰρ ἀναγκαῖον συμβαίνει τῷ ταῦτα εἶναι· καὶ γὰρ παντὶ καὶ μηδενὶ ἐνδέχεται τὸ πρῶτον τῷ ἐσχάτῳ ὑπάρχειν, ὥστε οὔτε τὸ κατὰ μέρος οὔτε τὸ καθόλου γίνεται ἀναγκαῖον· μηδενὸς δὲ ὄντος ἀναγκαίου διὰ τούτων οὐκ ἔσται συλλογισμός. ὅροι τοῦ παντὶ ὑπάρχειν ζῷον — ἄνθρωπος — ἵππος, τοῦ μηδενὶ ζῷον — ἄνθρωπος — λίθος. οὐδ’ ὅταν μήτε τὸ πρῶτον τῷ μέσῳ μήτε τὸ μέσον τῷ ἐσχάτῳ μηδενὶ ὑπάρχῃ, οὐδ’ οὕτως ἔσται συλλογισμός. ὅροι τοῦ ὑπάρχειν ἐπιστήμη — γραμμή — ἰατρική, τοῦ μὴ ὑπάρχειν ἐπιστήμη — γραμμή — μονάς. καθόλου μὲν οὖν ὄντων τῶν ὅρων, δῆλον ἐν τούτῳ τῷ σχήματι πότε ἔσται καὶ πότε οὐκ ἔσται συλλογισμός, καὶ ὅτι ὄντος τε συλλογισμοῦ τοὺς ὅρους ἀναγκαῖον ἔχειν ὡς εἴπομεν, ἄν θ’ οὕτως ἔχωσιν, ὅτι ἔσται συλλογισμός.

Εἰ δ’ ὁ μὲν καθόλου τῶν ὅρων ὁ δ’ ἐν μέρει πρὸς τὸν ἕτερον, ὅταν μὲν τὸ καθόλου τεθῇ πρὸς τὸ μεῖζον ἄκρον ἢ κατηγορικὸν ἢ στερητικόν, τὸ δὲ ἐν μέρει πρὸς τὸ ἔλαττον κατηγορικόν, ἀνάγκη συλλογισμὸν εἶναι τέλειον, ὅταν δὲ πρὸς τὸ ἔλαττον ἢ καὶ ἄλλως πως ἔχωσιν οἱ ὅροι, ἀδύνατον. λέγω δὲ μεῖζον μὲν ἄκρον ἐν ᾧ τὸ μέσον ἐστίν, ἔλαττον δὲ τὸ ὑπὸ τὸ μέσον ὄν.

ὑπαρχέτω γὰρ τὸ μὲν Α παντὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ. οὐκοῦν εἰ ἔστι παντὸς κατηγορεῖσθαι τὸ ἐν ἀρχῇ λεχθέν, ἀνάγκη τὸ Α τινὶ τῷ Γ ὑπάρχειν. καὶ εἰ τὸ μὲν Α μηδενὶ τῷ Β ὑπάρχει, τὸ δὲ Β τινὶ τῷ Γ, ἀνάγκη τὸ Α τινὶ τῷ Γ μὴ ὑπάρχειν· ὥρισται γὰρ καὶ τὸ κατὰ μηδενὸς πῶς λέγομεν· ὥστε ἔσται συλλογισμὸς τέλειος. ὁμοίως δὲ καὶ εἰ ἀδιόριστον εἴη τὸ Β Γ, κατηγορικὸν ὄν· ὁ γὰρ αὐτὸς ἔσται συλλογισμὸς ἀδιορίστου τε καὶ ἐν μέρει ληφθέντος.

Ἐὰν δὲ πρὸς τὸ ἔλαττον ἄκρον τὸ καθόλου τεθῇ ἢ κατηγορικὸν ἢ στερητικόν, οὐκ ἔσται συλλογισμός, οὔτε καταφατικοῦ οὔτε ἀποφατικοῦ τοῦ ἀδιορίστου ἢ κατὰ μέρος ὄντος, οἷον εἰ τὸ μὲν Α τινὶ τῷ Β ὑπάρχει ἢ μὴ ὑπάρχει, τὸ δὲ Β παντὶ τῷ Γ ὑπάρχει· ὅροι τοῦ ὑπάρχειν ἀγαθόν — ἕξις — φρόνησις, τοῦ μὴ ὑπάρχειν ἀγαθόν — ἕξις — ἀμαθία. πάλιν εἰ τὸ μὲν Β μηδενὶ τῷ Γ, τὸ δὲ Α τινὶ τῷ Β ἢ ὑπάρχει ἢ μὴ ὑπάρχει ἢ μὴ παντὶ ὑπάρχει, οὐδ’ οὕτως ἔσται συλλογισμός. ὅροι λευκόν — ἵππος — κύκνος, λευκόν — ἵππος — κόραξ. οἱ αὐτοὶ δὲ καὶ εἰ τὸ Α Β ἀδιόριστον. Οὐδ’ ὅταν τὸ μὲν πρὸς [26b] τῷ μείζονι ἄκρῳ καθόλου γένηται ἢ κατηγορικὸν ἢ στερητικόν, τὸ δὲ πρὸς τῷ ἐλάττονι στερητικὸν κατὰ μέρος, οὐκ ἔσται συλλογισμός [ἀδιορίστου τε καὶ ἐν μέρει ληφθέντος], οἷον εἰ τὸ μὲν Α παντὶ τῷ Β ὑπάρχει, τὸ δὲ Β τινὶ τῷ Γ μή, ἢ εἰ μὴ παντὶ ὑπάρχει· ᾧ γὰρ ἄν τινι μὴ ὑπάρχῃ τὸ μέσον, τούτῳ καὶ παντὶ καὶ οὐδενὶ ἀκολουθήσει τὸ πρῶτον. ὑποκείσθωσαν γὰρ οἱ ὅροι ζῷον — ἄνθρωπος — λευκόν· εἶτα καὶ ὧν μὴ κατηγορεῖται λευκῶν ὁ ἄνθρωπος, εἰλήφθω κύκνος καὶ χιών· οὐκοῦν τὸ ζῷον τοῦ μὲν παντὸς κατηγορεῖται, τοῦ δὲ οὐδενός, ὥστε οὐκ ἔσται συλλογισμός. πάλιν τὸ μὲν Α μηδενὶ τῷ Β ὑπαρχέτω, τὸ δὲ Β τινὶ τῷ Γ μὴ ὑπαρχέτω· καὶ οἱ ὅροι ἔστωσαν ἄψυχον — ἄνθρωπος — λευκόν· εἶτα εἰλήφθωσαν, ὧν μὴ κατηγορεῖται λευκῶν ὁ ἄνθρωπος, κύκνος καὶ χιών· τὸ γὰρ ἄψυχον τοῦ μὲν παντὸς κατηγορεῖται, τοῦ δὲ οὐδενός. ἔτι ἐπεὶ ἀδιόριστον τὸ τινὶ τῷ Γ τὸ Β μὴ ὑπάρχειν, ἀληθεύεται δέ, καὶ εἰ μηδενὶ ὑπάρχει καὶ εἰ μὴ παντί, ὅτι τινὶ οὐχ ὑπάρχει, ληφθέντων δὲ τοιούτων ὅρων ὥστε μηδενὶ ὑπάρχειν οὐ γίνεται συλλογισμός (τοῦτο γὰρ εἴρηται πρότερον), φανερὸν οὖν ὅτι τῷ οὕτως ἔχειν τοὺς ὅρους οὐκ ἔσται συλλογισμός· ἦν γὰρ ἂν καὶ ἐπὶ τούτων. ὁμοίως δὲ δειχθήσεται καὶ εἰ τὸ καθόλου τεθείη στερητικόν. Οὐδὲ ἐὰν ἄμφω τὰ διαστήματα κατὰ μέρος ἢ κατηγορικῶς ἢ στερητικῶς, ἢ τὸ μὲν κατηγορικῶς τὸ δὲ στερητικῶς λέγηται, ἢ τὸ μὲν ἀδιόριστον τὸ δὲ διωρισμένον, ἢ ἄμφω ἀδιόριστα, οὐκ ἔσται συλλογισμὸς οὐδαμῶς. ὅροι δὲ κοινοὶ πάντων ζῷον — λευκόν — ἵππος, ζῷον — λευκόν — λίθος.

Φανερὸν οὖν ἐκ τῶν εἰρημένων ὡς ἐὰν ᾖ συλλογισμὸς ἐν τούτῳ τῷ σχήματι κατὰ μέρος, ὅτι ἀνάγκη τοὺς ὅρους οὕτως ἔχειν ὡς εἴπομεν· ἄλλως γὰρ ἐχόντων οὐδαμῶς γίνεται. δῆλον δὲ καὶ ὅτι πάντες οἱ ἐν αὐτῷ συλλογισμοὶ τέλειοί εἰσι· (πάντες γὰρ ἐπιτελοῦνται διὰ τῶν ἐξ ἀρχῆς ληφθέντων), καὶ ὅτι πάντα τὰ προβλήματα δείκνυται διὰ τούτου τοῦ σχήματος· καὶ γὰρ τὸ παντὶ καὶ τὸ μηδενὶ καὶ τὸ τινὶ καὶ τὸ μή τινι ὑπάρχειν. καλῶ δὲ τὸ τοιοῦτον σχῆμα πρῶτον.

Κεφάλαιο 5

Ὅταν δὲ τὸ αὐτὸ τῷ μὲν παντὶ τῷ δὲ μηδενὶ ὑπάρχῃ, ἢ ἑκατέρῳ παντὶ ἢ μηδενί, τὸ μὲν σχῆμα τὸ τοιοῦτον καλῶ δεύτερον, μέσον δὲ ἐν αὐτῷ λέγω τὸ κατηγορούμενον ἀμφοῖν, ἄκρα δὲ καθ’ ὧν λέγεται τοῦτο, μεῖζον δὲ ἄκρον τὸ πρὸς τῷ μέσῳ κείμενον· ἔλαττον δὲ τὸ πορρωτέρω τοῦ μέσου. τίθεται δὲ τὸ μέσον ἔξω μὲν τῶν ἄκρων, πρῶτον δὲ τῇ θέσει. [27a] τέλειος μὲν οὖν οὐκ ἔσται συλλογισμὸς οὐδαμῶς ἐν τούτῳ τῷ σχήματι, δυνατὸς δ’ ἔσται καὶ καθόλου καὶ μὴ καθόλου τῶν ὅρων ὄντων. καθόλου μὲν οὖν ὄντων ἔσται συλλογισμὸς ὅταν τὸ μέσον τῷ μὲν παντὶ τῷ δὲ μηδενὶ ὑπάρχῃ, ἂν πρὸς ὁποτερῳοῦν ᾖ τὸ στερητικόν· ἄλλως δ’ οὐδαμῶς. κατηγορείσθω γὰρ τὸ Μ τοῦ μὲν Ν μηδενός, τοῦ δὲ Ξ παντός. ἐπεὶ οὖν ἀντιστρέφει τὸ στερητικόν, οὐδενὶ τῷ Μ ὑπάρξει τὸ Ν· τὸ δέ γε Μ παντὶ τῷ Ξ ὑπέκειτο· ὥστε τὸ Ν οὐδενὶ τῷ Ξ· τοῦτο γὰρ δέδεικται πρότερον. πάλιν εἰ τὸ Μ τῷ μὲν Ν παντὶ τῷ δὲ Ξ μηδενί, οὐδὲ τὸ Ξ τῷ Ν οὐδενὶ ὑπάρξει (εἰ γὰρ τὸ Μ οὐδενὶ τῷ Ξ, οὐδὲ τὸ Ξ οὐδενὶ τῷ Μ· τὸ δέ γε Μ παντὶ τῷ Ν ὑπῆρχεν· τὸ ἄρα Ξ οὐδενὶ τῷ Ν ὑπάρξει· γεγένηται γὰρ πάλιν τὸ πρῶτον σχῆμα)· ἐπεὶ δὲ ἀντιστρέφει τὸ στερητικόν, οὐδὲ τὸ Ν οὐδενὶ τῷ Ξ ὑπάρξει, ὥστ’ ἔσται ὁ αὐτὸς συλλογισμός. ἔστι δὲ δεικνύναι ταῦτα καὶ εἰς τὸ ἀδύνατον ἄγοντας. ὅτι μὲν οὖν γίνεται συλλογισμὸς οὕτως ἐχόντων τῶν ὅρων, φανερόν, ἀλλ’ οὐ τέλειος· οὐ γὰρ μόνον ἐκ τῶν ἐξ ἀρχῆς ἀλλὰ καὶ ἐξ ἄλλων ἐπιτελεῖται τὸ ἀναγκαῖον. ἐὰν δὲ τὸ Μ παντὸς τοῦ Ν καὶ τοῦ Ξ κατηγορῆται, οὐκ ἔσται συλλογισμός. ὅροι τοῦ ὑπάρχειν οὐσία — ζῷον — ἄνθρωπος, τοῦ μὴ ὑπάρχειν οὐσία — ζῷον — ἀριθμός· μέσον οὐσία. οὐδ’ ὅταν μήτε τοῦ Ν μήτε τοῦ Ξ μηδενὸς κατηγορῆται τὸ Μ. ὅροι τοῦ ὑπάρχειν γραμμή — ζῷον — ἄνθρωπος, τοῦ μὴ ὑπάρχειν γραμμή — ζῷον — λίθος. φανερὸν οὖν ὅτι ἂν ᾖ συλλογισμὸς καθόλου τῶν ὅρων ὄντων, ἀνάγκη τοὺς ὅρους ἔχειν ὡς ἐν ἀρχῇ εἴπομεν· ἄλλως γὰρ ἐχόντων οὐ γίνεται τὸ ἀναγκαῖον.

Ἐὰν δὲ πρὸς τὸν ἕτερον ᾖ καθόλου τὸ μέσον, ὅταν μὲν πρὸς τὸν μείζω γένηται καθόλου ἢ κατηγορικῶς ἢ στερητικῶς, πρὸς δὲ τὸν ἐλάττω κατὰ μέρος καὶ ἀντικειμένως τῷ καθόλου (λέγω δὲ τὸ ἀντικειμένως, εἰ μὲν τὸ καθόλου στερητικόν, τὸ ἐν μέρει καταφατικόν· εἰ δὲ κατηγορικὸν τὸ καθόλου, τὸ ἐν μέρει στερητικόν), ἀνάγκη γίνεσθαι συλλογισμὸν στερητικὸν κατὰ μέρος. εἰ γὰρ τὸ Μ τῷ μὲν Ν μηδενὶ τῷ δὲ Ξ τινὶ ὑπάρχει, ἀνάγκη τὸ Ν τινὶ τῷ Ξ μὴ ὑπάρχειν. ἐπεὶ γὰρ ἀντιστρέφει τὸ στερητικόν, οὐδενὶ τῷ Μ ὑπάρξει τὸ Ν· τὸ δέ γε Μ ὑπέκειτο τινὶ τῷ Ξ ὑπάρχειν· ὥστε τὸ Ν τινὶ τῷ Ξ οὐχ ὑπάρξει· γίνεται γὰρ συλλογισμὸς διὰ τοῦ πρώτου σχήματος. πάλιν εἰ τῷ μὲν Ν παντὶ τὸ Μ, τῷ δὲ Ξ τινὶ μὴ ὑπάρχει, ἀνάγκη τὸ Ν τινὶ τῷ Ξ μὴ ὑπάρχειν· εἰ γὰρ παντὶ ὑπάρχει, κατηγορεῖται δὲ καὶ τὸ Μ παντὸς τοῦ Ν, ἀνάγκη τὸ Μ [27b] παντὶ τῷ Ξ ὑπάρχειν· ὑπέκειτο δὲ τινὶ μὴ ὑπάρχειν. καὶ εἰ τὸ Μ τῷ μὲν Ν παντὶ ὑπάρχει τῷ δὲ Ξ μὴ παντί, ἔσται συλλογισμὸς ὅτι οὐ παντὶ τῷ Ξ τὸ Ν· ἀπόδειξις δ’ ἡ αὐτή. ἐὰν δὲ τοῦ μὲν Ξ παντὸς τοῦ δὲ Ν μὴ παντὸς κατηγορῆται, οὐκ ἔσται συλλογισμός. ὅροι ζῷον — οὐσία — κόραξ, ζῷον — λευκόν — κόραξ. οὐδ’ ὅταν τοῦ μὲν Ξ μηδενός, τοῦ δὲ Ν τινός. ὅροι τοῦ ὑπάρχειν ζῷον — οὐσία — μονάς, τοῦ μὴ ὑπάρχειν ζῷον — οὐσία — ἐπιστήμη.

Ὅταν μὲν οὖν ἀντικείμενον ᾖ τὸ καθόλου τῷ κατὰ μέρος, εἴρηται πότ’ ἔσται καὶ πότ’ οὐκ ἔσται συλλογισμός· ὅταν δὲ ὁμοιοσχήμονες ὦσιν αἱ προτάσεις, οἷον ἀμφότεραι στερητικαὶ ἢ καταφατικαί, οὐδαμῶς ἔσται συλλογισμός. ἔστωσαν γὰρ πρῶτον στερητικαί, καὶ τὸ καθόλου κείσθω πρὸς τὸ μεῖζον ἄκρον, οἷον τὸ Μ τῷ μὲν Ν μηδενὶ τῷ δὲ Ξ τινὶ μὴ ὑπαρχέτω· ἐνδέχεται δὴ καὶ παντὶ καὶ μηδενὶ τῷ Ξ τὸ Ν ὑπάρχειν. ὅροι τοῦ μὲν μὴ ὑπάρχειν μέλαν — χιών — ζῷον· τοῦ δὲ παντὶ ὑπάρχειν οὐκ ἔστι λαβεῖν, εἰ τὸ Μ τῷ Ξ τινὶ μὲν ὑπάρχει τινὶ δὲ μή. εἰ γὰρ παντὶ τῷ Ξ τὸ Ν, τὸ δὲ Μ μηδενὶ τῷ Ν, τὸ Μ οὐδενὶ τῷ Ξ ὑπάρξει· ἀλλ’ ὑπέκειτο τινὶ ὑπάρχειν. οὕτω μὲν οὖν οὐκ ἐγχωρεῖ λαβεῖν ὅρους, ἐκ δὲ τοῦ ἀδιορίστου δεικτέον· ἐπεὶ γὰρ ἀληθεύεται τὸ τινὶ μὴ ὑπάρχειν τὸ Μ τῷ Ξ καὶ εἰ μηδενὶ ὑπάρχει, μηδενὶ δὲ ὑπάρχοντος οὐκ ἦν συλλογισμός, φανερὸν ὅτι οὐδὲ νῦν ἔσται. πάλιν ἔστωσαν κατηγορικαί, καὶ τὸ καθόλου κείσθω ὁμοίως, οἷον τὸ Μ τῷ μὲν Ν παντὶ τῷ δὲ Ξ τινὶ ὑπαρχέτω. ἐνδέχεται δὴ τὸ Ν τῷ Ξ καὶ παντὶ καὶ μηδενὶ ὑπάρχειν. ὅροι τοῦ μηδενὶ ὑπάρχειν λευκόν — κύκνος — λίθος τοῦ δὲ παντὶ οὐκ ἔσται λαβεῖν διὰ τὴν αὐτὴν αἰτίαν ἥνπερ πρότερον, ἀλλ’ ἐκ τοῦ ἀδιορίστου δεικτέον. εἰ δὲ τὸκαθόλου πρὸς τὸ ἔλαττον ἄκρον ἐστί, καὶ τὸ Μ τῷ μὲν Ξ μηδενὶ τῷ δὲ Ν τινὶ μὴ ὑπάρχει, ἐνδέχεται τὸ Ν τῷ Ξ καὶ παντὶ καὶ μηδενὶ ὑπάρχειν. ὅροι τοῦ ὑπάρχειν λευκόν — ζῷον — κόραξ, τοῦ μὴ ὑπάρχειν λευκόν — λίθος — κόραξ. εἰ δὲ κατηγορικαὶ αἱ προτάσεις, ὅροι τοῦ μὴ ὑπάρχειν λευκόν — ζῷον — χιών, τοῦ ὑπάρχειν λευκόν — ζῷον — κύκνος. φανερὸν οὖν, ὅταν ὁμοιοσχήμονες ὦσιν αἱ προτάσεις καὶ ἡ μὲν καθόλου ἡ δ’ ἐν μέρει, ὅτι οὐδαμῶς γίνεται συλλογισμός. ἀλλ’ οὐδ’ εἰ τινὶ ἑκατέρῳ ὑπάρχει ἢ μὴ ὑπάρχει, ἢ τῷ μὲν τῷ δὲ μή, ἢ μηδετέρῳ παντί, ἢ ἀδιορίστως. ὅροι δὲ κοινοὶ πάντων λευκόν — ζῷον — ἄνθρωπος, λευκόν — ζῷον — ἄψυχον. [28a]

Φανερὸν οὖν ἐκ τῶν εἰρημένων ὅτι ἐάν τε οὕτως ἔχωσιν οἱ ὅροι πρὸς ἀλλήλους ὡς ἐλέχθη, γίνεται συλλογισμὸς ἐξ ἀνάγκης, ἄν τ᾿ ᾖ συλλογισμός, ἀνάγκη τοὺς ὅρους οὕτως ἔχειν. δῆλον δὲ καὶ ὅτι πάντες ἀτελεῖς εἰσὶν οἱ ἐν τούτῳ τῷ σχήματι συλλογισμοί (πάντες γὰρ ἐπιτελοῦνται προσλαμβανομένων τινῶν, ἃ ἢ ἐνυπάρχει τοῖς ὅροις ἐξ ἀνάγκης ἢ τίθενται ὡς ὑποθέσεις, οἷον ὅταν διὰ τοῦ ἀδυνάτου δεικνύωμεν), καὶ ὅτι οὐ γίνεται καταφατικὸς συλλογισμὸς διὰ τούτου τοῦ σχήματος, ἀλλὰ πάντες στερητικοί, καὶ οἱ καθόλου καὶ οἱ κατὰ μέρος.

Κεφάλαιο 6

Ἐὰν δὲ τῷ αὐτῷ τὸ μὲν παντὶ τὸ δὲ μηδενὶ ὑπάρχῃ, ἢ ἄμφω παντὶ ἢ μηδενί, τὸ μὲν σχῆμα τὸ τοιοῦτον καλῶ τρίτον, μέσον δ’ ἐν αὐτῷ λέγω καθ’ οὗ ἄμφω τὰ κατηγορούμενα, ἄκρα δὲ τὰ κατηγορούμενα, μεῖζον δ’ ἄκρον τὸ πορρώτερον τοῦ μέσου, ἔλαττον δὲ τὸ ἐγγύτερον. τίθεται δὲ τὸ μέσον ἔξω μὲν τῶν ἄκρων, ἔσχατον δὲ τῇ θέσει. τέλειος μὲν οὖν οὐ γίνεται συλλογισμὸς οὐδ’ ἐν τούτῳ τῷ σχήματι, δυνατὸς δ’ ἔσται καὶ καθόλου καὶ μὴ καθόλου τῶν ὅρων ὄντων πρὸς τὸ μέσον.

Καθόλου μὲν οὖν ὄντων, ὅταν καὶ τὸ Π καὶ τὸ Ρ παντὶ τῷ Σ ὑπάρχῃ, ὅτι τινὶ τῷ Ρ τὸ Π ὑπάρξει ἐξ ἀνάγκης· ἐπεὶ γὰρ ἀντιστρέφει τὸ κατηγορικόν, ὑπάρξει τὸ Σ τινὶ τῷ Ρ, ὥστ’ ἐπεὶ τῷ μὲν Σ παντὶ τὸ Π, τῷ δὲ Ρ τινὶ τὸ Σ, ἀνάγκη τὸ Π τινὶ τῷ Ρ ὑπάρχειν· γίνεται γὰρ συλλογισμὸς διὰ τοῦ πρώτου σχήματος. ἔστι δὲ καὶ διὰ τοῦ ἀδυνάτου καὶ τῷ ἐκθέσθαι ποιεῖν τὴν ἀπόδειξιν· εἰ γὰρ ἄμφω παντὶ τῷ Σ ὑπάρχει, ἂν ληφθῇ τι τῶν Σ οἷον τὸ Ν, τούτῳ καὶ τὸ Π καὶ τὸ Ρ ὑπάρξει, ὥστε τινὶ τῷ Ρ τὸ Π ὑπάρξει. καὶ ἂν τὸ μὲν Ρ παντὶ τῷ Σ, τὸ δὲ Π μηδενὶ ὑπάρχῃ, ἔσται συλλογισμὸς ὅτι τὸ Π τινὶ τῷ Ρ οὐχ ὑπάρξει ἐξ ἀνάγκης· ὁ γὰρ αὐτὸς τρόπος τῆς ἀποδείξεως ἀντιστραφείσης τῆς Ρ Σ προτάσεως. δειχθείη δ’ ἂν καὶ διὰ τοῦ ἀδυνάτου, καθάπερ ἐπὶ τῶν πρότερον. ἐὰν δὲ τὸ μὲν Ρ μηδενὶ τὸ δὲ Π παντὶ ὑπάρχῃ τῷ Σ, οὐκ ἔσται συλλογισμός. ὅροι τοῦ ὑπάρχειν ζῷον — ἵππος — ἄνθρωπος, τοῦ μὴ ὑπάρχειν ζῷον — ἄψυχον — ἄνθρωπος. οὐδ’ ὅταν ἄμφω κατὰ μηδενὸς τοῦ Σ λέγηται, οὐκ ἔσται συλλογισμός. ὅροι τοῦ ὑπάρχειν ζῷον — ἵππος — ἄψυχον, τοῦ μὴ ὑπάρχειν ἄνθρωπος — ἵππος — ἄψυχον· μέσον ἄψυχον. φανερὸν οὖν καὶ ἐν τούτῳ τῷ σχήματι πότ’ ἔσται καὶ πότ’ οὐκ ἔσται συλλογισμὸς καθόλου τῶν ὅρων ὄντων. ὅταν μὲν γὰρ ἀμφότεροι οἱ ὅροι ὦσι κατηγορικοί, ἔσται συλλογισμὸς ὅτι τινὶ ὑπάρχει τὸ ἄκρον τῷ ἄκρῳ, ὅταν δὲ στερητικοί, οὐκ [28b] ἔσται. ὅταν δ’ ὁ μὲν ᾖ στερητικὸς ὁ δὲ καταφατικός, ἐὰν μὲν ὁ μείζων γένηται στερητικὸς ἅτερος δὲ καταφατικός, ἔσται συλλογισμὸς ὅτι τινὶ οὐχ ὑπάρχει τὸ ἄκρον τῷ ἄκρῳ, ἐὰν δ’ ἀνάπαλιν, οὐκ ἔσται.

Ἐὰν δ’ ὁ μὲν ᾖ καθόλου πρὸς τὸ μέσον ὁ δ’ ἐν μέρει, κατηγορικῶν μὲν ὄντων ἀμφοῖν ἀνάγκη γίνεσθαι συλλογισμόν, ἂν ὁποτεροσοῦν ᾖ καθόλου τῶν ὅρων. εἰ γὰρ τὸ μὲν Ρ παντὶ τῷ Σ τὸ δὲ Π τινί, ἀνάγκη τὸ Π τινὶ τῷ Ρ ὑπάρχειν. ἐπεὶ γὰρ ἀντιστρέφει τὸ καταφατικόν, ὑπάρξει τὸ Στινὶ τῷ Π, ὥστ' ἐπεὶ τὸ μὲν Ρ παντὶ τῷ Σ, τὸ δὲ Σ τινὶ τῷ Π, καὶ τὸ Ρ τινὶ τῷ Π ὑπάρξει· ὥστε τὸ Π τινὶ τῷ Ρ. πάλιν εἰ τὸ μὲν Ρ τινὶ τῷ Σ τὸ δὲ Π παντὶ ὑπάρχει, ἀνάγκη τὸ Π τινὶ τῷ Ρ ὑπάρχειν· ὁ γὰρ αὐτὸς τρόπος τῆς ἀποδείξεως. ἔστι δ' ἀποδεῖξαι καὶ διὰ τοῦ ἀδυνάτου καὶ τῇ ἐκθέσει, καθάπερ ἐπὶ τῶν πρότερον.

Ἐὰν δ' ὁ μὲν ᾖ κατηγορικὸς ὁ δὲ στερητικός, καθόλου δὲ ὁ κατηγορικός, ὅταν μὲν ὁ ἐλάττων ᾖ κατηγορικός, ἔσται συλλογισμός. εἰ γὰρ τὸ Ρ παντὶ τῷ Σ, τὸ δὲ Π τινὶ μὴ ὑπάρχει, ἀνάγκη τὸ Π τινὶ τῷ Ρ μὴ ὑπάρχειν. εἰ γὰρ παντί, καὶ τὸ Ρ παντὶ τῷ Σ, καὶ τὸ Π παντὶ τῷ Σ ὑπάρξει· ἀλλ' οὐχ ὑπῆρχεν. δείκνυται δὲ καὶ ἄνευ τῆς ἀπαγωγῆς, ἐὰν ληφθῇ τι τῶν Σ ᾧ τὸ Π μὴ ὑπάρχει. ὅταν δ' ὁ μείζων ᾖ κατηγορικός, οὐκ ἔσται συλλογισμός, οἷον εἰ τὸ μὲν Π παντὶ τῷ Σ, τὸ δὲ Ρ τινὶ τῷ Σ μὴ ὑπάρχει. ὅροι τοῦ παντὶ ὑπάρχειν ἔμψυχον — ἄνθρωπος — ζῷον. τοῦ δὲ μηδενὶ οὐκ ἔστι λαβεῖν ὅρους, εἰ τινὶ μὲν ὑπάρχει τῷ Σ τὸ Ρ, τινὶ δὲ μή· εἰ γὰρ παντὶ τὸ Π τῷ Σ ὑπάρχει, τὸ δὲ Ρ τινὶ τῷ Σ, καὶ τὸ Π τινὶ τῷ Ρ ὑπάρξει· ὑπέκειτο δὲ μηδενὶ ὑπάρχειν. ἀλλ' ὥσπερ ἐν τοῖς πρότερον ληπτέον· ἀδιορίστου γὰρ ὄντος τοῦ τινὶ μὴ ὑπάρχειν καὶ τὸ μηδενὶ ὑπάρχον ἀληθὲς εἰπεῖν τινὶ μὴ ὑπάρχειν· μηδενὶ δὲ ὑπάρχοντος οὐκ ἦν συλλογισμός. φανερὸν οὖν ὅτι οὐκ ἔσται συλλογισμός. ἐὰν δ' ὁ στερητικὸς ᾖ καθόλου τῶν ὅρων, ὅταν μὲν ὁ μείζων ᾖ στερητικὸς ὁ δὲ ἐλάττων κατηγορικός, ἔσται συλλογισμός. εἰ γὰρ τὸ Π μηδενὶ τῷ Σ, τὸ δὲ Ρ τινὶ ὑπάρχει τῷ Σ, τὸ Π τινὶ τῷ Ρ οὐχ ὑπάρξει· πάλιν γὰρ ἔσται τὸ πρῶτον σχῆμα τῆς Ρ Σ προτάσεως ἀντιστραφείσης. ὅταν δὲ ὁ ἐλάττων ᾖ στερητικός, οὐκ ἔσται συλλογισμός. ὅροι τοῦ ὑπάρχειν ζῷον — ἄνθρωπος — ἄγριον, τοῦ μὴ ὑπάρχειν ζῷον — ἐπιστήμη — ἄγριον· μέσον ἐν ἀμφοῖν τὸ ἄγριον. οὐδ' ὅταν ἀμφότεροι στερητικοὶ τεθῶσιν, ᾖ δ' ὁ μὲν καθόλου ὁ δ' ἐν μέρει. ὅροι [29a] ὅταν ὁ ἐλάττων ᾖ καθόλου πρὸς τὸ μέσον, ζῷον — ἐπιστήμη — ἄγριον, ζῷον — ἄνθρωπος — ἄγριον· ὅταν δ' ὁ μείζων, τοῦ μὲν μὴ ὑπάρχειν κόραξ — χιών — λευκόν. τοῦ δ' ὑπάρχειν οὐκ ἔστι λαβεῖν, εἰ τὸ Ρ τινὶ μὲν ὑπάρχει τῷ Σ, τινὶ δὲ μὴ ὑπάρχει. εἰ γὰρ τὸ Π παντὶ τῷ Ρ, τὸ δὲ Ρ τινὶ τῷ Σ, καὶ τὸ Π τινὶ τῷ Σ· ὑπέκειτο δὲ μηδενί. ἀλλ' ἐκ τοῦ ἀδιορίστου δεικτέον.

Οὐδ' ἂν ἑκάτερος τινὶ τῷ μέσῳ ὑπάρχῃ ἢ μὴ ὑπάρχῃ, ἢ ὁ μὲν ὑπάρχῃ ὁ δὲ μὴ ὑπάρχῃ, ἢ ὁ μὲν τινὶ ὁ δὲ μὴ παντί, ἢ ἀδιορίστως, οὐκ ἔσται συλλογισμὸς οὐδαμῶς. ὅροι δὲ κοινοὶ πάντων ζῷον — ἄνθρωπος — λευκόν, ζῷον — ἄψυχον — λευκόν.

Φανερὸν οὖν καὶ ἐν τούτῳ τῷ σχήματι πότ' ἔσται καὶ πότ' οὐκ ἔσται συλλογισμός, καὶ ὅτι ἐχόντων τε τῶν ὅρων ὡς ἐλέχθη γίνεται συλλογισμὸς ἐξ ἀνάγκης, ἄν τ’ ᾖ συλλογισμός, ἀνάγκη τοὺς ὅρους οὕτως ἔχειν. φανερὸν δὲ καὶ ὅτι πάντες ἀτελεῖς εἰσὶν οἱ ἐν τούτῳ τῷ σχήματι συλλογισμοί (πάντες γὰρ τελειοῦνται προσλαμβανομένων τινῶν) καὶ ὅτι συλλογίσασθαι τὸ καθόλου διὰ τούτου τοῦ σχήματος οὐκ ἔσται, οὔτε στερητικὸν οὔτε καταφατικόν.

Κεφάλαιο 7

Δῆλον δὲ καὶ ὅτι ἐν ἅπασι τοῖς σχήμασιν, ὅταν μὴ γίνηται συλλογισμός, κατηγορικῶν μὲν ἢ στερητικῶν ἀμφοτέρων ὄντων τῶν ὅρων οὐδὲν ὅλως γίνεται ἀναγκαῖον, κατηγορικοῦ δὲ καὶ στερητικοῦ, καθόλου ληφθέντος τοῦ στερητικοῦ ἀεὶ γίνεται συλλογισμὸς τοῦ ἐλάττονος ἄκρου πρὸς τὸ μεῖζον, οἷον εἰ τὸ μὲν Α παντὶ τῷ Β ἢ τινί, τὸ δὲ Β μηδενὶ τῷ Γ· ἀντιστρεφομένων γὰρ τῶν προτάσεων ἀνάγκη τὸ Γ τινὶ τῷ Α μὴ ὑπάρχειν. ὁμοίως δὲ κἀπὶ τῶν ἑτέρων σχημάτων· ἀεὶ γὰρ γίνεται διὰ τῆς ἀντιστροφῆς συλλογισμός. δῆλον δὲ καὶ ὅτι τὸ ἀδιόριστον ἀντὶ τοῦ κατηγορικοῦ τοῦ ἐν μέρει τιθέμενον τὸν αὐτὸν ποιήσει συλλογισμὸν ἐν ἅπασι τοῖς σχήμασιν.

Φανερὸν δὲ καὶ ὅτι πάντες οἱ ἀτελεῖς συλλογισμοὶ τελειοῦνται διὰ τοῦ πρώτου σχήματος. ἢ γὰρ δεικτικῶς ἢ διὰ τοῦ ἀδυνάτου περαίνονται πάντες· ἀμφοτέρως δὲ γίνεται τὸ πρῶτον σχῆμα, δεικτικῶς μὲν τελειουμένων, ὅτι διὰ τῆς ἀντιστροφῆς ἐπεραίνοντο πάντες, ἡ δ’ ἀντιστροφὴ τὸ πρῶτον ἐποίει σχῆμα, διὰ δὲ τοῦ ἀδυνάτου δεικνυμένων, ὅτι τεθέντος τοῦ ψεύδους ὁ συλλογισμὸς γίνεται διὰ τοῦ πρώτου σχήματος, οἷον ἐν τῷ τελευταίῳ σχήματι, εἰ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ὑπάρχει, ὅτι τὸ Α τινὶ τῷ Β ὑπάρχει· εἰ γὰρ μηδενί, τὸ δὲ Β παντὶ τῷ Γ, οὐδενὶ τῷ Γ τὸ Α· ἀλλ’ ἦν παντί. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. [29b]

Ἔστι δὲ καὶ ἀναγαγεῖν πάντας τοὺς συλλογισμοὺς εἰς τοὺς ἐν τῷ πρώτῳ σχήματι καθόλου συλλογισμούς. οἱ μὲν γὰρ ἐν τῷ δευτέρῳ φανερὸν ὅτι δι’ ἐκείνων τελειοῦνται, πλὴν οὐχ ὁμοίως πάντες, ἀλλ’ οἱ μὲν καθόλου τοῦ στερητικοῦ ἀντιστραφέντος, τῶν δ’ ἐν μέρει ἑκάτερος διὰ τῆς εἰς τὸ ἀδύνατον ἀπαγωγῆς. οἱ δ’ ἐν τῷ πρώτῳ, οἱ κατὰ μέρος, ἐπιτελοῦνται μὲν καὶ δι’ αὐτῶν, ἔστι δὲ καὶ διὰ τοῦ δευτέρου σχήματος δεικνύναι εἰς ἀδύνατον ἀπάγοντας, οἷον εἰ τὸ Α παντὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ, ὅτι τὸ Α τινὶ τῷ Γ· εἰ γὰρ μηδενί, τῷ δὲ Β παντί, οὐδενὶ τῷ Γ τὸ Β ὑπάρξει· τοῦτο γὰρ ἴσμεν διὰ τοῦ δευτέρου σχήματος. ὁμοίως δὲ καὶ ἐπὶ τοῦ στερητικοῦ ἔσται ἡ ἀπόδειξις. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ ὑπάρχει, τὸ Α τινὶ τῷ Γ οὐχ ὑπάρξει· εἰ γὰρ παντί, τῷ δὲ Β μηδενὶ ὑπάρχει, οὐδενὶ τῷ Γ τὸ Β ὑπάρξει· τοῦτο δ’ ἦν τὸ μέσον σχῆμα. ὥστ’ ἐπεὶ οἱ μὲν ἐν τῷ μέσῳ σχήματι συλλογισμοὶ πάντες ἀνάγονται εἰς τοὺς ἐν τῷ πρώτῳ καθόλου συλλογισμούς, οἱ δὲ κατὰ μέρος ἐν τῷ πρώτῳ εἰς τοὺς ἐν τῷ μέσῳ, φανερὸν ὅτι καὶ οἱ κατὰ μέρος ἀναχθήσονται εἰς τοὺς ἐν τῷ πρώτῳ σχήματι καθόλου συλλογισμούς. οἱ δ’ἐν τῷ τρίτῳ καθόλου μὲν ὄντων τῶν ὅρων εὐθὺς ἐπιτελοῦνται δι’ ἐκείνων τῶν συλλογισμῶν, ὅταν δ’ ἐν μέρει ληφθῶσι, διὰ τῶν ἐν μέρει συλλογισμῶν τῶν ἐν τῷ πρώτῳ σχήματι· οὗτοι δὲ ἀνήχθησαν εἰς ἐκείνους, ὥστε καὶ οἱ ἐν τῷ τρίτῳ σχήματι, οἱ κατὰ μέρος. φανερὸν οὖν ὅτι πάντες ἀναχθήσονται εἰς τοὺς ἐν τῷ πρώτῳ σχήματι καθόλου συλλογισμούς.

Οἱ μὲν οὖν τῶν συλλογισμῶν ὑπάρχειν ἢ μὴ ὑπάρχειν δεικνύντες εἴρηται πῶς ἔχουσι, καὶ καθ’ ἑαυτοὺς οἱ ἐκ τοῦ αὐτοῦ σχήματος καὶ πρὸς ἀλλήλους οἱ ἐκ τῶν ἑτέρων.

Κεφάλαιο 8

Ἐπεὶ δ’ ἕτερόν ἐστιν ὑπάρχειν τε καὶ ἐξ ἀνάγκης ὑπάρχειν καὶ ἐνδέχεσθαι ὑπάρχειν (πολλὰ γὰρ ὑπάρχει μέν, οὐ μέντοι ἐξ ἀνάγκης· τὰ δ’ οὔτ’ ἐξ ἀνάγκης οὔθ’ ὑπάρχει ὅλως, ἐνδέχεται δ’ ὑπάρχειν), δῆλον ὅτι καὶ συλλογισμὸς ἑκάστου τούτων ἕτερος ἔσται, καὶ οὐχ ὁμοίως ἐχόντων τῶν ὅρων, ἀλλ’ ὁ μὲν ἐξ ἀναγκαίων, ὁ δ’ ἐξ ὑπαρχόντων, ὁ δ’ ἐξ ἐνδεχομένων.

Ἐπὶ μὲν οὖν τῶν ἀναγκαίων σχεδὸν ὁμοίως ἔχει καὶ ἐπὶ τῶν ὑπαρχόντων· ὡσαύτως γὰρ τιθεμένων τῶν ὅρων ἔν τε τῷ ὑπάρχειν καὶ τῷ ἐξ ἀνάγκης ὑπάρχειν ἢ μὴ ὑπάρχειν ἔσται τε καὶ οὐκ ἔσται συλλογισμός, πλὴν διοίσει τῷ [30a] προσκεῖσθαι τοῖς ὅροις τὸ ἐξ ἀνάγκης ὑπάρχειν ἢ μὴ ὑπάρχειν. τό τε γὰρ στερητικὸν ὡσαύτως ἀντιστρέφει, καὶ τὸ ἐν ὅλῳ εἶναι καὶ τὸ κατὰ παντὸς ὁμοίως ἀποδώσομεν. ἐν μὲν οὖν τοῖς ἄλλοις τὸν αὐτὸν τρόπον δειχθήσεται διὰ τῆς ἀντιστροφῆς τὸ συμπέρασμα ἀναγκαῖον, ὥσπερ ἐπὶ τοῦ ὑπάρχειν· ἐν δὲ τῷ μέσῳ σχήματι, ὅταν ᾖ τὸ καθόλου καταφατικὸν τὸ δ’ ἐν μέρει στερητικόν, καὶ πάλιν ἐν τῷ τρίτῳ, ὅταν τὸ μὲν καθόλου κατηγορικὸν τὸ δ’ ἐν μέρει στερητικόν, οὐχ ὁμοίως ἔσται ἡ ἀπόδειξις, ἀλλ’ ἀνάγκη ἐκθεμένους ᾧ τινὶ ἑκάτερον μὴ ὑπάρχει, κατὰ τούτου ποιεῖν τὸν συλλογισμόν· ἔσται γὰρ ἀναγκαῖος ἐπὶ τούτων· εἰ δὲ κατὰ τοῦ ἐκτεθέντος ἐστὶν ἀναγκαῖος, καὶ κατ’ ἐκείνου τινός· τὸ γὰρ ἐκτεθὲν ὅπερ ἐκεῖνό τί ἐστιν. γίνεται δὲ τῶν συλλογισμῶν ἑκάτερος ἐν τῷ οἰκείῳ σχήματι.

Κεφάλαιο 9

Συμβαίνει δέ ποτε καὶ τῆς ἑτέρας προτάσεως ἀναγκαίας οὔσης ἀναγκαῖον γίνεσθαι τὸν συλλογισμόν, πλὴν οὐχ ὁποτέρας ἔτυχεν, ἀλλὰ τῆς πρὸς τὸ μεῖζον ἄκρον, οἷον εἰ τὸ μὲν Α τῷ Β ἐξ ἀνάγκης εἴληπται ὑπάρχον ἢ μὴ ὑπάρχον, τὸ δὲ Β τῷ Γ ὑπάρχον μόνον· οὕτως γὰρ εἰλημμένων τῶν προτάσεων ἐξ ἀνάγκης τὸ Α τῷ Γ ὑπάρξει ἢ οὐχ ὑπάρξει. ἐπεὶ γὰρ παντὶ τῷ Β ἐξ ἀνάγκης ὑπάρχει ἢ οὐχ ὑπάρχει τὸ Α, τὸ δὲ Γ τι τῶν Β ἐστί, φανερὸν ὅτι καὶ τῷ Γ ἐξ ἀνάγκης ἔσται θάτερον τούτων. εἰ δὲ τὸ μὲν Α Β μὴ ἔστιν ἀναγκαῖον, τὸ δὲ Β Γ ἀναγκαῖον, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον. εἰ γὰρ ἔστι, συμβήσεται τὸ Α τινὶ τῷ Β ὑπάρχειν ἐξ ἀνάγκης διά τε τοῦ πρώτου καὶ διὰ τοῦ τρίτου σχήματος. τοῦτο δὲ ψεῦδος· ἐνδέχεται γὰρ τοιοῦτον εἶναι τὸ Β ᾧ ἐγχωρεῖ τὸ Α μηδενὶ ὑπάρχειν. ἔτι καὶ ἐκ τῶν ὅρων φανερὸν ὅτι οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον, οἷον εἰ τὸ μὲν Α εἴη κίνησις, τὸ δὲ Β ζῷον, ἐφ’ ᾧ δὲ τὸ Γ ἄνθρωπος· ζῷον μὲν γὰρ ὁ ἄνθρωπος ἐξ ἀνάγκης ἐστί, κινεῖται δὲ τὸ ζῷον οὐκ ἐξ ἀνάγκης, οὐδ’ ὁ ἄνθρωπος. ὁμοίως δὲ καὶ εἰ στερητικὸν εἴη τὸ Α Β· ἡ γὰρ αὐτὴ ἀπόδειξις. ἐπὶ δὲ τῶν ἐν μέρει συλλογισμῶν, εἰ μὲν τὸ καθόλου ἐστὶν ἀναγκαῖον, καὶ τὸ συμπέρασμα ἔσται ἀναγκαῖον, εἰ δὲ τὸ κατὰ μέρος, οὐκ ἀναγκαῖον, οὔτε στερητικῆς οὔτε κατηγορικῆς οὔσης τῆς καθόλου προτάσεως. ἔστω δὴ πρῶτον τὸ καθόλου ἀναγκαῖον, καὶ τὸ μὲν Α παντὶ τῷ Β ὑπαρχέτω ἐξ ἀνάγκης, τὸ δὲ Β τινὶ τῷ Γ ὑπαρχέτω μόνον· ἀνάγκη δὴ τὸ Α τινὶ τῷ Γ ὑπάρχειν ἐξ ἀνάγκης· τὸ γὰρ Γ ὑπὸ τὸ Β ἐστί, τῷ δὲ Β παντὶ {{χ|40)[30b] ὑπῆρχεν ἐξ ἀνάγκης, ὁμοίως δὲ καὶ εἰ στερητικὸς εἴη ὁ συλλογισμός· ἡ γὰρ αὐτὴ ἔσται ἀπόδειξις. εἰ δὲ τὸ κατὰ μέρος ἐστὶν ἀναγκαῖον, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον (οὐδὲν γὰρ ἀδύνατον συμπίπτει), καθάπερ οὐδ’ ἐν τοῖς καθόλου συλλογισμοῖς. ὁμοίως δὲ κἀπὶ τῶν στερητικῶν. ὅροι κίνησις — ζῷον — λευκόν.

Κεφάλαιο 10

Ἐπὶ δὲ τοῦ δευτέρου σχήματος, εἰ μὲν ἡ στερητικὴ πρότασίς ἐστιν ἀναγκαία, καὶ τὸ συμπέρασμα ἔσται ἀναγκαῖον, εἰ δ’ ἡ κατηγορική, οὐκ ἀναγκαῖον. ἔστω γὰρ πρῶτον ἡ στερητικὴ ἀναγκαία, καὶ τὸ Α τῷ μὲν Β μηδενὶ ἐνδεχέσθω, τῷ δὲ Γ ὑπαρχέτω μόνον. ἐπεὶ οὖν ἀντιστρέφει τὸ στερητικόν, οὐδὲ τὸ Β τῷ Α οὐδενὶ ἐνδέχεται· τὸ δὲ Α παντὶ τῷ Γ ὑπάρχει, ὥστ’ οὐδενὶ τῷ Γ τὸ Β ἐνδέχεται· τὸ γὰρ Γ ὑπὸ τὸ Α ἐστίν. ὡσαύτως δὲ καὶ εἰ πρὸς τῷ Γ τεθείη τὸ στερητικόν· εἰ γὰρ τὸ Α μηδενὶ τῷ Γ ἐνδέχεται, οὐδὲ τὸ Γ οὐδενὶ τῷ Α ἐγχωρεῖ· τὸ δὲ Α παντὶ τῷ Β ὑπάρχει, ὥστ’ οὐδενὶ τῷ Β τὸ Γ ἐνδέχεται· γίνεται γὰρ τὸ πρῶτον σχῆμα πάλιν. οὐκ ἄρα οὐδὲ τὸ Β τῷ Γ· ἀντιστρέφει γὰρ ὁμοίως.

Εἰ δὲ ἡ κατηγορικὴ πρότασίς ἐστιν ἀναγκαία, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον. ὑπαρχέτω γὰρ τὸ Α παντὶ τῷ Β ἐξ ἀνάγκης, τῷ δὲ Γ μηδενὶ ὑπαρχέτω μόνον. ἀντιστραφέντος οὖν τοῦ στερητικοῦ τὸ πρῶτον γίνεται σχῆμα· δέδεικται δ’ ἐν τῷ πρώτῳ ὅτι μὴ ἀναγκαίας οὔσης τῆς πρὸς τὸ μεῖζον στερητικῆς οὐδὲ τὸ συμπέρασμα ἔσται ἀναγκαῖον, ὥστ’ οὐδ’ ἐπὶ τούτων ἔσται ἐξ ἀνάγκης. ἔτι δ’ εἰ τὸ συμπέρασμά ἐστιν ἀναγκαῖον, συμβαίνει τὸ Γ τινὶ τῷ Α μὴ ὑπάρχειν ἐξ ἀνάγκης. εἰ γὰρ τὸ Β τῷ Γ μηδενὶ ὑπάρχει ἐξ ἀνάγκης, οὐδὲ τὸ Γ τῷ Β οὐδενὶ ὑπάρξει ἐξ ἀνάγκης. τὸ δέ γε Β τινὶ τῷ Α ἀνάγκη ὑπάρχειν, εἴπερ καὶ τὸ Α παντὶ τῷ Β ἐξ ἀνάγκης ὑπῆρχεν. ὥστε τὸ Γ ἀνάγκη τινὶ τῷ Α μὴ ὑπάρχειν. ἀλλ’ οὐδὲν κωλύει τὸ Α τοιοῦτον ληφθῆναι ᾧ παντὶ τὸ Γ ἐνδέχεται ὑπάρχειν. ἔτι κἂν ὅρους ἐκθέμενον εἴη δεῖξαι ὅτι τὸ συμπέρασμα οὐκ ἔστιν ἀναγκαῖον ἁπλῶς, ἀλλὰ τούτων ὄντων ἀναγκαῖον. οἷον ἔστω τὸ Α ζῷον, τὸ δὲ Β ἄνθρωπος, τὸ δὲ Γ λευκόν, καὶ αἱ προτάσεις ὁμοίως εἰλήφθωσαν· ἐνδέχεται γὰρ τὸ ζῷον μηδενὶ λευκῷ ὑπάρχειν. οὐχ ὑπάρξει δὴ οὐδ’ ὁ ἄνθρωπος οὐδενὶ λευκῷ, ἀλλ’ οὐκ ἐξ ἀνάγκης· ἐνδέχεται γὰρ ἄνθρωπον γενέσθαι λευκόν, οὐ μέντοι ἕως ἂν ζῷον μηδενὶ λευκῷ ὑπάρχῃ. ὥστε τούτων μὲν ὄντων ἀναγκαῖον ἔσται τὸ συμπέρασμα, ἁπλῶς δ’ οὐκ ἀναγκαῖον. [31a]

Ὁμοίως δ’ ἕξει καὶ ἐπὶ τῶν ἐν μέρει συλλογισμῶν. ὅταν μὲν γὰρ ἡ στερητικὴ πρότασις καθόλου τ’ ᾖ καὶ ἀναγκαία, καὶ τὸ συμπέρασμα ἔσται ἀναγκαῖον· ὅταν δὲ ἡ κατηγορικὴ καθόλου, ἡ δὲ στερητικὴ κατὰ μέρος, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον. ἔστω δὴ πρῶτον ἡ στερητικὴ καθόλου τε καὶ ἀναγκαία, καὶ τὸ Α τῷ μὲν Β μηδενὶ ἐνδεχέσθω ὑπάρχειν, τῷ δὲ Γ τινὶ ὑπαρχέτω. ἐπεὶ οὖν ἀντιστρέφει τὸ στερητικόν, οὐδὲ τὸ Β τῷ Α οὐδενὶ ἐνδέχοιτ’ ἂν ὑπάρχειν· τὸ δέ γε Α τινὶ τῷ Γ ὑπάρχει, ὥστ’ ἐξ ἀνάγκης τινὶ τῷ Γ οὐχ ὑπάρξει τὸ Β. πάλιν ἔστω ἡ κατηγορικὴ καθόλου τε καὶ ἀναγκαία, καὶ κείσθω πρὸς τῷ Β τὸ κατηγορικόν. εἰ δὴ τὸ Α παντὶ τῷ Β ἐξ ἀνάγκης ὑπάρχει, τῷ δὲ Γ τινὶ μὴ ὑπάρχει, ὅτι μὲν οὐχ ὑπάρξει τὸ Β τινὶ τῷ Γ, φανερόν, ἀλλ’ οὐκ ἐξ ἀνάγκης· οἱ γὰρ αὐτοὶ ὅροι ἔσονται πρὸς τὴν ἀπόδειξιν οἵπερ ἐπὶ τῶν καθόλου συλλογισμῶν. ἀλλ’ οὐδ’ εἰ τὸ στερητικὸν ἀναγκαῖόν ἐστιν ἐν μέρει ληφθέν, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον· διὰ γὰρ τῶν αὐτῶν ὅρων ἡ ἀπόδειξις.

Κεφάλαιο 11

Ἐν δὲ τῷ τελευταίῳ σχήματι καθόλου μὲν ὄντων τῶν ὅρων πρὸς τὸ μέσον καὶ κατηγορικῶν ἀμφοτέρων τῶν προτάσεων, ἐὰν ὁποτερονοῦν ᾖ ἀναγκαῖον, καὶ τὸ συμπέρασμα ἔσται ἀναγκαῖον. ἐὰν δὲ τὸ μὲν ᾖ στερητικὸν τὸ δὲ κατηγορικόν, ὅταν μὲν τὸ στερητικὸν ἀναγκαῖον ᾖ, καὶ τὸ συμπέρασμα ἔσται ἀναγκαῖον, ὅταν δὲ τὸ κατηγορικόν, οὐκ ἔσται ἀναγκαῖον. ἔστωσαν γὰρ ἀμφότεραι κατηγορικαὶ πρῶτον αἱ προτάσεις, καὶ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ὑπαρχέτω, ἀναγκαῖον δ’ ἔστω τὸ Α Γ. ἐπεὶ οὖν τὸ Β παντὶ τῷ Γ ὑπάρχει, καὶ τὸ Γ τινὶ τῷ Β ὑπάρξει διὰ τὸ ἀντιστρέφειν τὸ καθόλου τῷ κατὰ μέρος, ὥστ’ εἰ παντὶ τῷ Γ τὸ Α ἐξ ἀνάγκης ὑπάρχει καὶ τὸ Γ τῷ Β τινί, καὶ τῷ Β τινὶ ἀναγκαῖον ὑπάρχειν τὸ Α· τὸ γὰρ Β ὑπὸ τὸ Γ ἐστίν. γίγνεται οὖν τὸ πρῶτον σχῆμα. ὁμοίως δὲ δειχθήσεται καὶ εἰ τὸ Β Γ ἐστὶν ἀναγκαῖον· ἀντιστρέφει γὰρ τὸ Γ τῷ Α τινί, ὥστ’ εἰ παντὶ τῷ Γ τὸ Β ἐξ ἀνάγκης ὑπάρχει, καὶ τῷ Α τινὶ ὑπάρξει ἐξ ἀνάγκης.

Πάλιν ἔστω τὸ μὲν Α Γ στερητικόν, τὸ δὲ Β Γ καταφατικόν, ἀναγκαῖον δὲ τὸ στερητικόν. ἐπεὶ οὖν ἀντιστρέφει τινὶ τῷ Β τὸ Γ, τὸ δὲ Α οὐδενὶ τῷ Γ ἐξ ἀνάγκης, οὐδὲ τῷ Β τινὶ ὑπάρξει ἐξ ἀνάγκης τὸ Α· τὸ γὰρ Β ὑπὸ τὸ Γ ἐστίν. εἰ δὲ τὸ κατηγορικὸν ἀναγκαῖον, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον. ἔστω γὰρ τὸ Β Γ κατηγορικὸν καὶ ἀναγκαῖον, τὸ δὲ Α Γ στερητικὸν καὶ μὴ ἀναγκαῖον. ἐπεὶ οὖν ἀντιστρέφει τὸ καταφατικόν, ὑπάρξει καὶ τὸ Γ τινὶ τῷ Β ἐξ ἀνάγκης, ὥστ’ εἰ τὸ μὲν Α μηδενὶ τῷ Γ τὸ [31b] δὲ Γ τινὶ τῷ Β, τὸ Α τινὶ τῷ Β οὐχ ὑπάρξει· ἀλλ’ οὐκ ἐξ ἀνάγκης· δέδεικται γὰρ ἐν τῷ πρώτῳ σχήματι ὅτι τῆς στερητικῆς προτάσεως μὴ ἀναγκαίας οὔσης οὐδὲ τὸ συμπέρασμα ἔσται ἀναγκαῖον. ἔτι κἂν διὰ τῶν ὅρων εἴη φανερόν. ἔστω γὰρ τὸ μὲν Α ἀγαθόν, τὸ δ’ ἐφ’ ᾧ Β ζῷον, τὸ δὲ Γ ἵππος. τὸ μὲν οὖν ἀγαθὸν ἐνδέχεται μηδενὶ ἵππῳ ὑπάρχειν, τὸ δὲ ζῷον ἀνάγκη παντὶ ὑπάρχειν· ἀλλ’ οὐκ ἀνάγκη ζῷόν τι μὴ εἶναιἀγαθόν, εἴπερ ἐνδέχεται πᾶν εἶναι ἀγαθόν. ἢ εἰ μὴ τοῦτο δυνατόν, ἀλλὰ τὸ ἐγρηγορέναι ἢ τὸ καθεύδειν ὅρον θετέον· ἅπαν γὰρ ζῷον δεκτικὸν τούτων.

Εἰ μὲν οὖν οἱ ὅροι καθόλου πρὸς τὸ μέσον εἰσίν, εἴρηται πότε ἔσται τὸ συμπέρασμα ἀναγκαῖον· εἰ δ’ ὁ μὲν καθόλου ὁ δ’ ἐν μέρει, κατηγορικῶν μὲν ὄντων ἀμφοτέρων, ὅταν τὸ καθόλου γένηται ἀναγκαῖον, καὶ τὸ συμπέρασμα ἔσται ἀναγκαῖον. ἀπόδειξις δ’ ἡ αὐτὴ ἣ καὶ πρότερον· ἀντιστρέφει γὰρ καὶ τὸ ἐν μέρει κατηγορικόν. εἰ οὖν ἀνάγκη τὸ Β παντὶ τῷ Γ ὑπάρχειν, τὸ δὲ Α ὑπὸ τὸ Γ ἐστίν, ἀνάγκη τὸ Β τινὶ τῷ Α ὑπάρχειν. εἰ δὲ τὸ Β τῷ Α τινί, καὶ τὸ Α τῷ Β τινὶ ὑπάρχειν ἀναγκαῖον· ἀντιστρέφει γάρ. ὁμοίως δὲ καὶ εἰ τὸ Α Γ εἴη ἀναγκαῖον καθόλου ὄν· τὸ γὰρ Β ὑπὸ τὸ Γ ἐστίν. εἰ δὲ τὸ ἐν μέρει ἐστὶν ἀναγκαῖον, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον. ἔστω γὰρ τὸ Β Γ ἐν μέρει τε καὶ ἀναγκαῖον, τὸ δὲ Α παντὶ τῷ Γ ὑπαρχέτω, μὴ μέντοι ἐξ ἀνάγκης. ἀντιστραφέντος οὖν τοῦ Β Γ τὸ πρῶτον γίγνεται σχῆμα, καὶ ἡ μὲν καθόλου πρότασις οὐκ ἀναγκαία, ἡ δ’ ἐν μέρει ἀναγκαία. ὅτε δ’ οὕτως ἔχοιεν αἱ προτάσεις, οὐκ ἦν τὸ συμπέρασμα ἀναγκαῖον, ὥστ’ οὐδ’ ἐπὶ τούτων. ἔτι δὲ καὶ ἐκ τῶν ὅρων φανερόν. ἔστω γὰρ τὸ μὲν Α ἐγρήγορσις, τὸ δὲ Β δίπουν, ἐφ’ ᾧ δὲ τὸ Γ ζῷον. τὸ μὲν οὖν Β τινὶ τῷ Γ ἀνάγκη ὑπάρχειν, τὸ δὲ Α τῷ Γ ἐνδέχεται, καὶ τὸ Α τῷ Β οὐκ ἀναγκαῖον· οὐ γὰρ ἀνάγκη δίπουν τι καθεύδειν ἢ ἐγρηγορέναι. ὁμοίως δὲ καὶ διὰ τῶν αὐτῶν ὅρων δειχθήσεται καὶ εἰ τὸ Α Γ εἴη ἐν μέρει τε καὶ ἀναγκαῖον.

Εἰ δ’ ὁ μὲν κατηγορικὸς ὁ δὲ στερητικὸς τῶν ὅρων, ὅταν μὲν ᾖ τὸ καθόλου στερητικόν τε καὶ ἀναγκαῖον, καὶ τὸ συμπέρασμα ἔσται ἀναγκαῖον· εἰ γὰρ τὸ Α τῷ Γ μηδενὶ ἐνδέχεται, τὸ δὲ Β τινὶ τῷ Γ ὑπάρχει, τὸ Α τινὶ τῷ Β ἀνάγκημὴ ὑπάρχειν. ὅταν δὲ τὸ καταφατικὸν ἀναγκαῖον τεθῇ, ἢ καθόλου ὂν ἢ ἐν μέρει, ἢ τὸ στερητικὸν κατὰ μέρος, οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον. τὰ μὲν γὰρ ἄλλα ταὐτὰ ἃ καὶ ἐπὶ τῶν πρότερον ἐροῦμεν, ὅροι δ’ ὅταν μὲν ᾖ καθόλου τὸ κατηγορικὸν ἀναγκαῖον, ἐγρήγορσις — ζῷον — ἄνθρωπος, μέσον [32a] ἄνθρωπος, ὅταν δ’ ἐν μέρει τὸ κατηγορικὸν ἀναγκαῖον, ἐγρήγορσις — ζῷον — λευκόν· ζῷον μὲν γὰρ ἀνάγκη τινὶ λευκῷ ὑπάρχειν, ἐγρήγορσις δ’ ἐνδέχεται μηδενί, καὶ οὐκ ἀνάγκη τινὶ ζῴῳ μὴ ὑπάρχειν ἐγρήγορσιν. ὅταν δὲ τὸ στερητικὸν ἐν μέρει ὂν ἀναγκαῖον ᾖ, δίπουν — κινούμενον — ζῷον, μέσον ζῷον.

Κεφάλαιο 12

Φανερὸν οὖν ὅτι τοῦ μὲν ὑπάρχειν οὐκ ἔστι συλλογισμός, ἐὰν μὴ ἀμφότεραι ὦσιν αἱ προτάσεις ἐν τῷ ὑπάρχειν, τοῦ δ’ ἀναγκαίου ἔστι καὶ τῆς ἑτέρας μόνον ἀναγκαίας οὔσης. ἐν ἀμφοτέροις δέ, καὶ καταφατικῶν καὶ στερητικῶν ὄντων τῶν συλλογισμῶν, ἀνάγκη τὴν ἑτέραν πρότασιν ὁμοίαν εἶναι τῷ συμπεράσματι. λέγω δὲ τὸ ὁμοίαν, εἰ μὲν ὑπάρχον, ὑπάρχουσαν, εἰ δ’ ἀναγκαῖον, ἀναγκαίαν. ὥστε καὶ τοῦτο δῆλον, ὅτι οὐκ ἔσται τὸ συμπέρασμα οὔτ’ ἀναγκαῖον οὔθ’ ὑπάρχον εἶναι μὴ ληφθείσης ἀναγκαίας ἢ ὑπαρχούσης προτάσεως.

Κεφάλαιο 13

Περὶ μὲν οὖν τοῦ ἀναγκαίου, πῶς γίγνεται καὶ τίνα διαφορὰν ἔχει πρὸς τὸ ὑπάρχον, εἴρηται σχεδὸν ἱκανῶς· περὶ δὲ τοῦ ἐνδεχομένου μετὰ ταῦτα λέγωμεν πότε καὶ πῶς καὶ διὰ τίνων ἔσται συλλογισμός. λέγω δ' ἐνδέχεσθαι καὶ τὸ ἐνδεχόμενον, οὗ μὴ ὄντος ἀναγκαίου, τεθέντος δ' ὑπάρχειν, οὐδὲν ἔσται διὰ τοῦτ' ἀδύνατον· τὸ γὰρ ἀναγκαῖον ὁμωνύμως ἐνδέχεσθαι λέγομεν. [ὅτι δὲ τοῦτ' ἔστι τὸ ἐνδεχόμενον, φανερὸν ἔκ τε τῶν ἀποφάσεων καὶ τῶν καταφάσεων τῶν ἀντικειμένων· τὸ γὰρ οὐκ ἐνδέχεται ὑπάρχειν καὶ ἀδύνατον ὑπάρχειν καὶ ἀνάγκη μὴ ὑπάρχειν ἤτοι ταὐτά ἐστιν ἢ ἀκολουθεῖ ἀλλήλοις, ὥστε καὶ τὰ ἀντικείμενα, τὸ ἐνδέχεται ὑπάρχειν καὶ οὐκ ἀδύνατον ὑπάρχειν καὶ οὐκ ἀνάγκη μὴ ὑπάρχειν, ἤτοι ταὐτὰ ἔσται ἢ ἀκολουθοῦντα ἀλλήλοις· κατὰ παντὸς γὰρ ἡ φάσις ἢ ἡ ἀπόφασις. ἔσται ἄρα τὸ ἐνδεχόμενον οὐκ ἀναγκαῖον καὶ τὸ μὴ ἀναγκαῖον ἐνδεχόμενον.] συμβαίνει δὲ πάσας τὰς κατὰ τὸ ἐνδέχεσθαι προτάσεις ἀντιστρέφειν ἀλλήλαις. λέγω δὲ οὐ τὰς καταφατικὰς ταῖς ἀποφατικαῖς, ἀλλ' ὅσαι καταφατικὸν ἔχουσι τὸ σχῆμα κατὰ τὴν ἀντίθεσιν, οἷον τὸ ἐνδέχεσθαι ὑπάρχειν τῷ ἐνδέχεσθαι μὴ ὑπάρχειν, καὶ τὸ παντὶ ἐνδέχεσθαι τῷ ἐνδέχεσθαι μηδενὶ καὶ μὴ παντί, καὶ τὸ τινὶ τῷ μὴ τινί. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. ἐπεὶ γὰρ τὸ ἐνδεχόμενον οὐκ ἔστιν ἀναγκαῖον, τὸ δὲ μὴ ἀναγκαῖον ἐγχωρεῖ μὴ ὑπάρχειν, φανερὸν ὅτι, εἰ ἐνδέχεται τὸ Α τῷ Β ὑπάρχειν, ἐνδέχεται καὶ μὴ ὑπάρχειν· καὶ εἰ παντὶ ἐνδέχεται ὑπάρχειν, καὶ παντὶ ἐνδέχεται μὴ ὑπάρχειν. ὁμοίως δὲ κἀπὶ τῶν ἐν μέρει καταφάσεων· ἡ γὰρ αὐτὴ [32b] ἀπόδειξις. εἰσὶ δ' αἱ τοιαῦται προτάσεις κατηγορικαὶ καὶ οὐ στερητικαί· τὸ γὰρ ἐνδέχεσθαι τῷ εἶναι ὁμοίως τάττεται, καθάπερ ἐλέχθη πρότερον.

Διωρισμένων δὲ τούτων πάλιν λέγωμεν ὅτι τὸ ἐνδέχεσθαι κατὰ δύο λέγεται τρόπους, ἕνα μὲν τὸ ὡς ἐπὶ τὸ πολὺ γίνεσθαι καὶ διαλείπειν τὸ ἀναγκαῖον, οἷον τὸ πολιοῦσθαι ἄνθρωπον ἢ τὸ αὐξάνεσθαι ἢ φθίνειν, ἢ ὅλως τὸ πεφυκὸς ὑπάρχειν (τοῦτο γὰρ οὐ συνεχὲς μὲν ἔχει τὸ ἀναγκαῖον διὰ τὸ μὴ ἀεὶ εἶναι ἄνθρωπον, ὄντος μέντοι ἀνθρώπου ἢ ἐξ ἀνάγκης ἢ ὡς ἐπὶ τὸ πολύ ἐστιν), ἄλλον δὲ τὸ ἀόριστον, ὃ καὶ οὕτως καὶ μὴ οὕτως δυνατόν, οἷον τὸ βαδίζειν ζῷον ἢ βαδίζοντος γενέσθαι σεισμόν, ἢ ὅλως τὸ ἀπὸ τύχης γινόμενον· οὐδὲν γὰρ μᾶλλον οὕτως πέφυκεν ἢ ἐναντίως. ἀντιστρέφει μὲν οὖν καὶ κατὰ τὰς ἀντικειμένας προτάσεις ἑκάτερον τῶν ἐνδεχομένων, οὐ μὴν τὸν αὐτόν γε τρόπον, ἀλλὰ τὸ μὲν πεφυκὸς εἶναι τῷ μὴ ἐξ ἀνάγκης ὑπάρχειν (οὕτω γὰρ ἐνδέχεται μὴ πολιοῦσθαι ἄνθρωπον), τὸ δ' ἀόριστον τῷ μηδὲν μᾶλλον οὕτως ἢ ἐκείνως. ἐπιστήμη δὲ καὶ συλλογισμὸς ἀποδεικτικὸς τῶν μὲν ἀορίστων οὐκ ἔστι διὰ τὸ ἄτακτον εἶναι τὸ μέσον, τῶν δὲ πεφυκότων ἔστι, καὶ σχεδὸν οἱ λόγοι καὶ αἱ σκέψεις γίνονται περὶ τῶν οὕτως ἐνδεχομένων· ἐκείνων δ' ἐγχωρεῖ μὲν γενέσθαι συλλογισμόν, οὐ μὴν εἴωθέ γε ζητεῖσθαι.

Ταῦτα μὲν οὖν διορισθήσεται μᾶλλον ἐν τοῖς ἑπομένοις· νῦν δὲ λέγωμεν πότε καὶ πῶς καὶ τίς ἔσται συλλογισμὸς ἐκ τῶν ἐνδεχομένων προτάσεων. ἐπεὶ δὲ τὸ ἐνδέχεσθαι τόδε τῷδε ὑπάρχειν διχῶς ἔστιν ἐκλαβεῖν· ἢ γὰρ ᾧ ὑπάρχει τόδε ἢ ᾧ ἐνδέχεται αὐτὸ ὑπάρχειν — τὸ γάρ, καθ' οὗ τὸ Β, τὸ Α ἐνδέχεσθαι τούτων σημαίνει θάτερον, ἢ καθ' οὗ λέγεται τὸ Β ἢ καθ' οὗ ἐνδέχεται λέγεσθαι· τὸ δέ, καθ' οὗ τὸ Β, τὸ Α ἐνδέχεσθαι ἢ παντὶ τῷ Β τὸ Α ἐγχωρεῖν οὐδὲν διαφέρει — φανερὸν ὅτι διχῶς ἂν λέγοιτο τὸ Α τῷ Β παντὶ ἐνδέχεσθαι ὑπάρχειν. πρῶτον οὖν εἴπωμεν, εἰ καθ' οὗ τὸ Γ τὸ Β ἐνδέχεται, καὶ καθ' οὗ τὸ Β τὸ Α, τίς ἔσται καὶ ποῖος συλλογισμός· οὕτω γὰρ αἱ προτάσεις ἀμφότεραι λαμβάνονται κατὰ τὸ ἐνδέχεσθαι, ὅταν δὲ καθ' οὗ τὸ Β ὑπάρχει τὸ Α ἐνδέχηται, ἡ μὲν ὑπάρχουσα ἡ δ' ἐνδεχομένη. ὥστ' ἀπὸ τῶν ὁμοιοσχημόνων ἀρκτέον, καθάπερ καὶ ἐν τοῖς ἄλλοις.

Κεφάλαιο 14

Ὅταν οὖν τὸ Α παντὶ τῷ Β ἐνδέχηται καὶ τὸ Β παντὶ τῷ Γ, συλλογισμὸς ἔσται τέλειος ὅτι τὸ Α παντὶ τῷ Γ ἐνδέχεται ὑπάρχειν. τοῦτο δὲ φανερὸν ἐκ τοῦ ὁρισμοῦ· τὸ γὰρ [33a] ἐνδέχεσθαι παντὶ ὑπάρχειν οὕτως ἐλέγομεν. ὁμοίως δὲ καὶ εἰ τὸ μὲν Α ἐνδέχεται μηδενὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ, ὅτι τὸ Α ἐνδέχεται μηδενὶ τῷ Γ· τὸ γὰρ καθ’ οὗ τὸ Β ἐνδέχεται, τὸ Α μὴ ἐνδέχεσθαι, τοῦτ’ ἦν τὸ μηδὲν ἀπολείπειν τῶν ὑπὸ τὸ Β ἐνδεχομένων. ὅταν δὲ τὸ Α παντὶ τῷ Β ἐνδέχηται, τὸ δὲ Β ἐνδέχηται μηδενὶ τῷ Γ, διὰ μὲν τῶν εἰλημμένων προτάσεων οὐδεὶς γίνεται συλλογισμός, ἀντιστραφείσης δὲ τῆς Β Γ κατὰ τὸ ἐνδέχεσθαι γίνεται ὁ αὐτὸς ὅσπερ πρότερον. ἐπεὶ γὰρ ἐνδέχεται τὸ Β μηδενὶ τῷ Γ ὑπάρχειν, ἐνδέχεται καὶ παντὶ ὑπάρχειν· τοῦτο δ’ εἴρηται πρότερον. ὥστ’ εἰ τὸ μὲν Β παντὶ τῷ Γ, τὸ δ’ Α παντὶ τῷ Β, πάλιν ὁ αὐτὸς γίνεται συλλογισμός. ὁμοίως δὲ καὶ εἰ πρὸς ἀμφοτέρας τὰς προτάσεις ἡ ἀπόφασις τεθείη μετὰ τοῦ ἐνδέχεσθαι. λέγω δ’ οἷον εἰ τὸ Α ἐνδέχεται μηδενὶ τῷ Β καὶ τὸ Β μηδενὶ τῷ Γ· διὰ μὲν γὰρ τῶν εἰλημμένων προτάσεων οὐδεὶς γίνεται συλλογισμός, ἀντιστρεφομένων δὲ πάλιν ὁ αὐτὸς ἔσται ὅσπερ καὶ πρότερον. φανερὸν οὖν ὅτι τῆς ἀποφάσεως τιθεμένης πρὸς τὸ ἔλαττον ἄκρον ἢ πρὸς ἀμφοτέρας τὰς προτάσεις ἢ οὐ γίνεται συλλογισμὸς ἢ γίνεται μὲν ἀλλ’ οὐ τέλειος· ἐκ γὰρ τῆς ἀντιστροφῆς περαίνεται τὸ ἀναγκαῖον.

Ἐὰν δ’ ἡ μὲν καθόλου τῶν προτάσεων ἡ δ’ ἐν μέρει ληφθῇ, πρὸς μὲν τὸ μεῖζον ἄκρον κειμένης τῆς καθόλου συλλογισμὸς ἔσται [τέλειος]. εἰ γὰρ τὸ Α παντὶ τῷ Β ἐνδέχεται, τὸ δὲ Β τινὶ τῷ Γ, τὸ Α τινὶ τῷ Γ ἐνδέχεται. τοῦτο δὲ φανερὸν ἐκ τοῦ ὁρισμοῦ τοῦ ἐνδέχεσθαι. πάλιν εἰ τὸ Α ἐνδέχεται μηδενὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ ἐνδέχεται ὑπάρχειν, ἀνάγκη τὸ Α ἐνδέχεσθαί τινι τῶν Γ μὴ ὑπάρχειν. ἀπόδειξις δ’ ἡ αὐτή. ἐὰν δὲ στερητικὴ ληφθῇ ἡ ἐν μέρει πρότασις, ἡ δὲ καθόλου καταφατική, τῇ δὲ θέσει ὁμοίως ἔχωσιν (οἷον τὸ μὲν Α παντὶ τῷ Β ἐνδέχεται, τὸ δὲ Β τινὶ τῷ Γ ἐνδέχεται μὴ ὑπάρχειν), διὰ μὲν τῶν εἰλημμένων προτάσεων οὐ γίνεται φανερὸς συλλογισμός, ἀντιστραφείσης δὲ τῆς ἐν μέρει καὶ τεθέντος τοῦ Β τινὶ τῷ Γ ἐνδέχεσθαι ὑπάρχειν τὸ αὐτὸ ἔσται συμπέρασμα ὃ καὶ πρότερον, καθάπερ ἐν τοῖς ἐξ ἀρχῆς.

Ἐὰν δ’ ἡ πρὸς τὸ μεῖζον ἄκρον ἐν μέρει ληφθῇ, ἡ δὲ πρὸς τὸ ἔλαττον καθόλου, ἐάν τ’ ἀμφότεραι καταφατικαὶ τεθῶσιν ἐάν τε στερητικαὶ ἐάν τε μὴ ὁμοιοσχήμονες, ἐάν τ’ ἀμφότεραι ἀδιόριστοι ἢ κατὰ μέρος, οὐδαμῶς ἔσται συλλογισμός· οὐδὲν γὰρ κωλύει τὸ Β ὑπερτείνειν τοῦ Α καὶ μὴ κατηγορεῖσθαι ἐπ’ ἴσων· ᾧ δ’ ὑπερτείνει τὸ Β τοῦ Α, εἰλήφθω τὸ Γ· τούτῳ γὰρ οὔτε παντὶ [33b] οὔτε μηδενὶ οὔτε τινὶ οὔτε μή τινι ἐνδέχεται τὸ Α ὑπάρχειν, εἴπερ ἀντιστρέφουσιν αἱ κατὰ τὸ ἐνδέχεσθαι προτάσεις καὶ τὸ Β πλείοσιν ἐνδέχεται ἢ τὸ Α ὑπάρχειν. ἔτι δὲ καὶ ἐκ τῶν ὅρων φανερόν· οὕτω γὰρ ἐχουσῶν τῶν προτάσεων τὸ πρῶτον τῷ ἐσχάτῳ καὶ οὐδενὶ ἐνδέχεται καὶ παντὶ ὑπάρχειν ἀναγκαῖον. ὅροι δὲ κοινοὶ πάντων τοῦ μὲν ὑπάρχειν ἐξ ἀνάγκης ζῷον — λευκόν — ἄνθρωπος, τοῦ δὲ μὴ ἐνδέχεσθαι ζῷον — λευκόν — ἱμάτιον. φανερὸν οὖν τοῦτον τὸν τρόπον ἐχόντων τῶν ὅρων ὅτι οὐδεὶς γίνεται συλλογισμός. ἢ γὰρ τοῦ ὑπάρχειν ἢ τοῦ ἐξ ἀνάγκης ἢ τοῦ ἐνδέχεσθαι πᾶς ἐστὶ συλλογισμός. τοῦ μὲν οὖν ὑπάρχειν καὶ τοῦ ἀναγκαίου φανερὸν ὅτι οὐκ ἔστιν· ὁ μὲν γὰρ καταφατικὸς ἀναιρεῖται τῷ στερητικῷ, ὁ δὲ στερητικὸς τῷ καταφατικῷ. λείπεται δὴ τοῦ ἐνδέχεσθαι εἶναι· τοῦτο δ’ ἀδύνατον· δέδεικται γὰρ ὅτι οὕτως ἐχόντων τῶν ὅρων καὶ παντὶ τῷ ἐσχάτῳ τὸ πρῶτον ἀνάγκη καὶ οὐδενὶ ἐνδέχεται ὑπάρχειν. ὥστ’ οὐκ ἂν εἴη τοῦ ἐνδέχεσθαι συλλογισμός· τὸ γὰρ ἀναγκαῖον οὐκ ἦν ἐνδεχόμενον.

Φανερὸν δὲ ὅτι καθόλου τῶν ὅρων ὄντων ἐν ταῖς ἐνδεχομέναις προτάσεσιν ἀεὶ γίνεται συλλογισμὸς ἐν τῷ πρώτῳ σχήματι, καὶ κατηγορικῶν καὶ στερητικῶν ὄντων, πλὴν κατηγορικῶν μὲν τέλειος, στερητικῶν δὲ ἀτελής. δεῖ δὲ τὸ ἐνδέχεσθαι λαμβάνειν μὴ ἐν τοῖς ἀναγκαίοις, ἀλλὰ κατὰ τὸν εἰρημένον διορισμόν. ἐνίοτε δὲ λανθάνει τὸ τοιοῦτον.

Κεφάλαιο 15

Ἐὰν δ’ ἡ μὲν ὑπάρχειν ἡ δ’ ἐνδέχεσθαι λαμβάνηται τῶν προτάσεων, ὅταν μὲν ἡ πρὸς τὸ μεῖζον ἄκρον ἐνδέχεσθαι σημαίνῃ, τέλειοί τ’ ἔσονται πάντες οἱ συλλογισμοὶ καὶ τοῦ ἐνδέχεσθαι κατὰ τὸν εἰρημένον διορισμόν, ὅταν δ’ ἡ πρὸς τὸ ἔλαττον, ἀτελεῖς τε πάντες, καὶ οἱ στερητικοὶ τῶν συλλογισμῶν οὐ τοῦ κατὰ τὸν διορισμὸν ἐνδεχομένου, ἀλλὰ τοῦ μηδενὶ ἢ μὴ παντὶ ἐξ ἀνάγκης ὑπάρχειν· εἰ γὰρ μηδενὶ ἢ μὴ παντὶ ἐξ ἀνάγκης, ἐνδέχεσθαί φαμεν καὶ μηδενὶ καὶ μὴ παντὶ ὑπάρχειν. ἐνδεχέσθω γὰρ τὸ Α παντὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ κείσθω ὑπάρχειν. ἐπεὶ οὖν ὑπὸ τὸ Β ἐστὶ τὸ Γ, τῷ δὲ Β παντὶ ἐνδέχεται τὸ Α, φανερὸν ὅτι καὶ τῷ Γ παντὶ ἐνδέχεται. γίνεται δὴ τέλειος συλλογισμός· ὁμοίως δὲ καὶ στερητικῆς οὔσης τῆς Α Β προτάσεως, τῆς δὲ Β Γ καταφατικῆς, καὶ τῆς μὲν ἐνδέχεσθαι τῆς δ’ ὑπάρχειν λαμβανομένης, τέλειος ἔσται συλλογισμὸς ὅτι τὸ Α ἐνδέχεται μηδενὶ τῷ Γ ὑπάρχειν. [34a]

Ὅτι μὲν οὖν τοῦ ὑπάρχειν τιθεμένου πρὸς τὸ ἔλαττον ἄκρον τέλειοι γίγνονται συλλογισμοί, φανερόν· ὅτι δ’ ἐναντίως ἔχοντος ἔσονται συλλογισμοί, διὰ τοῦ ἀδυνάτου δεικτέον. ἅμα δ’ ἔσται δῆλον καὶ ὅτι ἀτελεῖς· ἡ γὰρ δεῖξις οὐκ ἐκ τῶν εἰλημμένων προτάσεων. πρῶτον δὲ λεκτέον ὅτι εἰ τοῦ Α ὄντος ἀνάγκη τὸ Β εἶναι, καὶ δυνατοῦ ὄντος τοῦ Α δυνατὸν ἔσται καὶ τὸ Β ἐξ ἀνάγκης. ἔστω γὰρ οὕτως ἐχόντων τὸ μὲν ἐφ’ ᾧ τὸ Α δυνατόν, τὸ δ’ ἐφ’ ᾧ τὸ Β ἀδύνατον. εἰ οὖν τὸ μὲν δυνατόν, ὅτε δυνατὸν εἶναι, γένοιτ’ ἄν, τὸ δ’ ἀδύνατον, ὅτ’ ἀδύνατον, οὐκ ἂν γένοιτο, ἅμα δ’ εἴη τὸ Α δυνατὸν καὶ τὸ Β ἀδύνατον, ἐνδέχοιτ’ ἂν τὸ Α γενέσθαι ἄνευ τοῦ Β, εἰ δὲ γενέσθαι, καὶ εἶναι· τὸ γὰρ γεγονός, ὅτε γέγονεν, ἔστιν. δεῖ δὲ λαμβάνειν μὴ μόνον ἐν τῇ γενέσει τὸ ἀδύνατον καὶ δυνατόν, ἀλλὰ καὶ ἐν τῷ ἀληθεύεσθαι καὶ ἐν τῷ ὑπάρχειν, καὶ ὁσαχῶς ἄλλως λέγεται τὸ δυνατόν· ἐν ἅπασι γὰρ ὁμοίως ἕξει. ἔτι τὸ ὄντος τοῦ Α τὸ Β εἶναι, οὐχ ὡς ἑνός τινος ὄντος τοῦ Α τὸ Β ἔσται δεῖ ὑπολαβεῖν· οὐ γὰρ ἔστιν οὐδὲν ἐξ ἀνάγκης ἑνός τινος ὄντος, ἀλλὰ δυοῖν ἐλαχίστοιν, οἷον ὅταν αἱ προτάσεις οὕτως ἔχωσιν ὡς ἐλέχθη κατὰ τὸν συλλογισμόν. εἰ γὰρ τὸ Γ κατὰ τοῦ Δ, τὸ δὲ Δ κατὰ τοῦ Ζ, καὶ τὸ Γ κατὰ τοῦ Ζ ἐξ ἀνάγκης· καὶ εἰ δυνατὸν ἑκάτερον, καὶ τὸ συμπέρασμα δυνατόν. ὥσπερ οὖν εἴ τις θείη τὸ μὲν Α τὰς προτάσεις, τὸ δὲ Β τὸ συμπέρασμα, συμβαίνοι ἂν οὐ μόνον ἀναγκαίου τοῦ Α ὄντος ἅμα καὶ τὸ Β εἶναι ἀναγκαῖον, ἀλλὰ καὶ δυνατοῦ δυνατόν.

Τούτου δὲ δειχθέντος, φανερὸν ὅτι ψεύδους ὑποτεθέντος καὶ μὴ ἀδυνάτου καὶ τὸ συμβαῖνον διὰ τὴν ὑπόθεσιν ψεῦδος ἔσται καὶ οὐκ ἀδύνατον. οἷον εἰ τὸ Α ψεῦδος μέν ἐστι μὴ μέντοι ἀδύνατον, ὄντος δὲ τοῦ Α τὸ Β ἔστι, καὶ τὸ Β ἔσται ψεῦδος μὲν οὐ μέντοι ἀδύνατον. ἐπεὶ γὰρ δέδεικται ὅτι εἰ τοῦ Α ὄντος τὸ Β ἔστι, καὶ δυνατοῦ ὄντος τοῦ Α ἔσται τὸ Β δυνατόν, ὑπόκειται δὲ τὸ Α δυνατὸν εἶναι, καὶ τὸ Β ἔσται δυνατόν· εἰ γὰρ ἀδύνατον, ἅμα δυνατὸν ἔσται τὸ αὐτὸ καὶ ἀδύνατον. Διωρισμένων δὴ τούτων ὑπαρχέτω τὸ Α παντὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ ἐνδεχέσθω· ἀνάγκη οὖν τὸ Α παντὶ τῷ Γ ἐνδέχεσθαι ὑπάρχειν. μὴ γὰρ ἐνδεχέσθω, τὸ δὲ Β παντὶ τῷ Γ κείσθω ὡς ὑπάρχον· τοῦτο δὲ ψεῦδος μέν, οὐ μέντοι ἀδύνατον. εἰ οὖν τὸ μὲν Α μὴ ἐνδέχεται παντὶ τῷ Γ, τὸ δὲ Β παντὶ ὑπάρχει τῷ Γ, τὸ Α οὐ παντὶ τῷ Β ἐνδέχεται· γίνεται γὰρ συλλογισμὸς διὰ τοῦ τρίτου σχήματος. ἀλλ’ ὑπέκειτο παντὶ ἐνδέχεσθαι ὑπάρχειν. ἀνάγκη ἄρα τὸ Α παντὶ [34b] τῷ Γ ἐνδέχεσθαι· ψεύδους γὰρ τεθέντος καὶ οὐκ ἀδυνάτου τὸ συμβαῖνόν ἐστιν ἀδύνατον. [ἐγχωρεῖ δὲ καὶ διὰ τοῦ πρώτου σχήματος ποιῆσαι τὸ ἀδύνατον, θέντας τῷ Γ τὸ Β ὑπάρχειν. εἰ γὰρ τὸ Β παντὶ τῷ Γ ὑπάρχει, τὸ δὲ Α παντὶ τῷ Β ἐνδέχεται, κἂν τῷ Γ παντὶ ἐνδέχοιτο τὸ Α. ἀλλ’ ὑπέκειτο μὴ παντὶ ἐγχωρεῖν.]

Δεῖ δὲ λαμβάνειν τὸ παντὶ ὑπάρχον μὴ κατὰ χρόνον ὁρίσαντας, οἷον νῦν ἢ ἐν τῷδε τῷ χρόνῳ, ἀλλ’ ἁπλῶς· διὰ τοιούτων γὰρ προτάσεων καὶ τοὺς συλλογισμοὺς ποιοῦμεν, ἐπεὶ κατά γε τὸ νῦν λαμβανομένης τῆς προτάσεως οὐκ ἔσται συλλογισμός· οὐδὲν γὰρ ἴσως κωλύει ποτὲ καὶ παντὶ κινουμένῳ ἄνθρωπον ὑπάρχειν, οἷον εἰ μηδὲν ἄλλο κινοῖτο· τὸ δὲ κινούμενον ἐνδέχεται παντὶ ἵππῳ· ἀλλ’ ἄνθρωπον οὐδενὶ ἵππῳ ἐνδέχεται. ἔτι ἔστω τὸ μὲν πρῶτον ζῷον, τὸ δὲ μέσον κινούμενον, τὸ δ’ ἔσχατον ἄνθρωπος. αἱ μὲν οὖν προτάσεις ὁμοίως ἕξουσι, τὸ δὲ συμπέρασμα ἀναγκαῖον, οὐκ ἐνδεχόμενον· ἐξ ἀνάγκης γὰρ ὁ ἄνθρωπος ζῷον. φανερὸν οὖν ὅτι τὸ καθόλου ληπτέον ἁπλῶς, καὶ οὐ χρόνῳ διορίζοντας.

Πάλιν ἔστω στερητικὴ πρότασις καθόλου ἡ Α Β, καὶ εἰλήφθω τὸ μὲν Α μηδενὶ τῷ Β ὑπάρχειν, τὸ δὲ Β παντὶ ἐνδεχέσθω ὑπάρχειν τῷ Γ. τούτων οὖν τεθέντων ἀνάγκη τὸ Α ἐνδέχεσθαι μηδενὶ τῷ Γ ὑπάρχειν. μὴ γὰρ ἐνδεχέσθω, τὸ δὲ Β τῷ Γ κείσθω ὑπάρχον, καθάπερ πρότερον. ἀνάγκη δὴ τὸ Α τινὶ τῷ Β ὑπάρχειν· γίνεται γὰρ συλλογισμὸς διὰ τοῦ τρίτου σχήματος· τοῦτο δὲ ἀδύνατον. ὥστ’ ἐνδέχοιτ’ ἂν τὸ Α μηδενὶ τῷ Γ· ψεύδους γὰρ τεθέντος ἀδύνατον τὸ συμβαῖνον. οὗτος οὖν ὁ συλλογισμὸς οὐκ ἔστι τοῦ κατὰ τὸν διορισμὸν ἐνδεχομένου, ἀλλὰ τοῦ μηδενὶ ἐξ ἀνάγκης (αὕτη γάρ ἐστιν ἡ

ἀντίφασις τῆς γενομένης ὑποθέσεως· ἐτέθη γὰρ ἐξ ἀνάγκης τὸ Α τινὶ τῷ Γ ὑπάρχειν, ὁ δὲ διὰ τοῦ ἀδυνάτου συλλογισμὸς τῆς ἀντικειμένης ἐστὶν φάσεως). ἔτι δὲ καὶ ἐκ τῶν ὅρων φανερὸν ὅτι οὐκ ἔσται τὸ συμπέρασμα ἐνδεχόμενον. ἔστω γὰρ τὸ μὲν Α κόραξ, τὸ δ᾽ ἐφ᾽ ᾧ Β διανοούμενον, ἐφ'ᾧ δὲ Γ ἄνθρωπος. οὐδενὶ δὴ τῷ Β τὸ Α ὑπάρχει· οὐδὲν γὰρ διανοούμενον κόραξ. τὸ δὲ Β παντὶ ἐνδέχεται τῷ Γ· παντὶ γὰρ ἀνθρώπῳ τὸ διανοεῖσθαι. ἀλλὰ τὸ Α ἐξ ἀνάγκης οὐδενὶ τῷ Γ· οὐκ ἄρα τὸ συμπέρασμα ἐνδεχόμενον. ἀλλ᾽ οὐδ᾽ ἀναγκαῖον ἀεί. ἔστω γὰρ τὸ μὲν Α κινούμενον, τὸ δὲ Β ἐπιστήμη, τὸ δ᾽ ἐφ᾽ ᾧ Γ ἄνθρωπος. τὸ μὲν οὖν Α οὐδενὶ τῷ Β ὑπάρξει, τὸ δὲ Β παντὶ τῷ Γ ἐνδέχεται, καὶ οὐκ ἔσται τὸ συμπέρασμα ἀναγκαῖον· οὐ γὰρ ἀνάγκη μηδένα κινεῖσθαι ἄνθρωπον, ἀλλ᾽ [35a] οὐκ ἀνάγκη τινά. δῆλον οὖν ὅτι τὸ συμπέρασμά ἐστι τοῦ μηδενὶ ἐξ ἀνάγκης ὑπάρχειν. ληπτέον δὲ βέλτιον τοὺς ὅρους.

Ἐὰν δὲ τὸ στερητικὸν τεθῇ πρὸς τὸ ἔλαττον ἄκρον ἐνδέχεσθαι σημαῖνον, ἐξ αὐτῶν μὲν τῶν εἰλημμένων προτάσεων οὐδεὶς ἔσται συλλογισμός, ἀντιστραφείσης δὲ τῆς κατὰ τὸ ἐνδέχεσθαι προτάσεως ἔσται, καθάπερ ἐν τοῖς πρότερον. ὑπαρχέτω γὰρ τὸ Α παντὶ τῷ Β, τὸ δὲ Β ἐνδεχέσθω μηδενὶ τῷ Γ. οὕτω μὲν οὖν ἐχόντων τῶν ὅρων οὐδὲν ἔσται ἀναγκαῖον· ἐὰν δ᾽ ἀντιστραφῇ τὸ Β Γ καὶ ληφθῇ τὸ Β παντὶ τῷ Γ ἐνδέχεσθαι, γίνεται συλλογισμὸς ὥσπερ πρότερον· ὁμοίως γὰρ ἔχουσιν οἱ ὅροι τῇ θέσει. τὸν αὐτὸν δὲ τρόπον καὶ στερητικῶν ὄντων ἀμφοτέρων τῶν διαστημάτων, ἐὰν τὸ μὲν Α Β μὴ ὑπάρχειν, τὸ δὲ Β Γ μηδενὶ ἐνδέχεσθαι σημαίνῃ· δι᾽ αὐτῶν μὲν γὰρ τῶν εἰλημμένων οὐδαμῶς γίνεται τὸ ἀναγκαῖον, ἀντιστραφείσης δὲ τῆς κατὰ τὸ ἐνδέχεσθαι προτάσεως ἔσται συλλογισμός. εἰλήφθω γὰρ τὸ μὲν Α μηδενὶ τῷ Β ὑπάρχειν, τὸ δὲ Β ἐνδέχεσθαι μηδενὶ τῷ Γ. διὰ μὲν οὖν τούτων οὐδὲν ἀναγκαῖον· ἐὰν δὲ ληφθῇ τὸ Β παντὶ τῷ Γ ἐνδέχεσθαι, ὅπερ ἐστὶν ἀληθές, ἡ δὲ Α Β πρότασις ὁμοίως ἔχῃ, πάλιν ὁ αὐτὸς ἔσται συλλογισμός. ἐὰν δὲ μὴ ὑπάρχειν τεθῇ τὸ Β παντὶ τῷ Γ καὶ μὴ ἐνδέχεσθαι μὴ ὑπάρχειν, οὐκ ἔσται συλλογισμὸς οὐδαμῶς, οὔτε στερητικῆς οὔσης οὔτε καταφατικῆς τῆςΑ Β προτάσεως. ὅροι δὲ κοινοὶ τοῦ μὲν ἐξ ἀνάγκης ὑπάρχειν λευκόν — ζῷον — χιών, τοῦ δὲ μὴ ἐνδέχεσθαι λευκόν — ζῷον — πίττα. Φανερὸν οὖν ὅτι καθόλου τῶν ὅρων ὄντων, καὶ τῆς μὲν ὑπάρχειν τῆς δ᾽ ἐνδέχεσθαι λαμβανομένης τῶν προτάσεων, ὅταν ἡ πρὸς τὸ ἔλαττον ἄκρον ἐνδέχεσθαι λαμβάνηται πρότασις, ἀεὶ γίνεται συλλογισμός, πλὴν ὁτὲ μὲν ἐξ αὐτῶν ὁτὲ δ᾽ ἀντιστραφείσης τῆς προτάσεως. πότε δὲ τούτων ἑκάτερος καὶ διὰ τίν᾽ αἰτίαν, εἰρήκαμεν.

Ἐὰν δὲ τὸ μὲν καθόλου τὸ δ’ ἐν μέρει ληφθῇ τῶν διαστημάτων, ὅταν μὲν τὸ πρὸς τὸ μεῖζον ἄκρον καθόλου τεθῇ καὶ ἐνδεχόμενον, εἴτ’ ἀποφατικὸν εἴτε καταφατικόν, τὸ δ’ ἐν μέρει καταφατικὸν καὶ ὑπάρχον, ἔσται συλλογισμὸς τέλειος, καθάπερ καὶ καθόλου τῶν ὅρων ὄντων. ἀπόδειξις δ’ ἡ αὐτὴ ἣ καὶ πρότερον. ὅταν δὲ καθόλου μὲν ᾖ τὸ πρὸς τὸ μεῖζον ἄκρον, ὑπάρχον δὲ καὶ μὴ ἐνδεχόμενον, θάτερον δ’ ἐν μέρει καὶ ἐνδεχόμενον, ἐάν τ’ ἀποφατικαὶ ἐάν τε καταφατικαὶ τεθῶσιν ἀμφότεραι, ἐάν τε ἡ μὲν ἀποφατικὴ ἡ δὲ καταφατική, πάντως ἔσται συλλογισμὸς ἀτελής. πλὴν οἱ μὲν διὰ τοῦ ἀδυνάτου δειχθήσονται, [35b] οἱ δὲ καὶ διὰ τῆς ἀντιστροφῆς τῆς τοῦ ἐνδέχεσθαι, καθάπερ ἐν τοῖς πρότερον. ἔσται δὲ συλλογισμὸς διὰ τῆς ἀντιστροφῆς [καὶ] ὅταν ἡ μὲν καθόλου πρὸς τὸ μεῖζον ἄκρον τεθεῖσα σημαίνῃ τὸ ὑπάρχειν [ἢ μὴ ὑπάρχειν], ἡ δ’ ἐν μέρει στερητικὴ οὖσα τὸ ἐνδέχεσθαι λαμβάνῃ, οἷον εἰ τὸ μὲν Α παντὶ τῷ Β ὑπάρχει ἢ μὴ ὑπάρχει, τὸ δὲ Β τινὶ τῷ Γ ἐνδέχεται μὴ ὑπάρχειν· ἀντιστραφέντος γὰρ τοῦ Β Γ κατὰ τὸ ἐνδέχεσθαι γίνεται συλλογισμός. ὅταν δὲ τὸ μὴ ὑπάρχειν λαμβάνῃ ἡ κατὰ μέρος τεθεῖσα, οὐκ ἔσται συλλογισμός. ὅροι τοῦ μὲν ὑπάρχειν λευκόν — ζῷον — χιών, τοῦ δὲ μὴ ὑπάρχειν λευκόν — ζῷον — πίττα· διὰ γὰρ τοῦ ἀδιορίστου ληπτέον τὴν ἀπόδειξιν. ἐὰν δὲ τὸ καθόλου τεθῇ πρὸς τὸ ἔλαττον ἄκρον, τὸ δ’ ἐν μέρει πρὸς τὸ μεῖζον, ἐάν τε στερητικὸν ἐάν τε καταφατικόν, ἐάν τ’ ἐνδεχόμενον ἐάν θ’ ὑπάρχον ὁποτερονοῦν, οὐδαμῶς ἔσται συλλογισμός.

Οὐδ’ ὅταν ἐν μέρει ἢ ἀδιόριστοι τεθῶσιν αἱ προτάσεις, εἴτ’ ἐνδέχεσθαι λαμβάνουσαι εἴθ’ ὑπάρχειν εἴτ’ ἐναλλάξ, οὐδ’ οὕτως ἔσται συλλογισμός. ἀπόδειξις δ’ ἡ αὐτὴ ἥπερ κἀπὶ τῶν πρότερον. ὅροι δὲ κοινοὶ τοῦ μὲν ὑπάρχειν ἐξ ἀνάγκης ζῷον — λευκόν — ἄνθρωπος, τοῦ δὲ μὴ ἐνδέχεσθαι ζῷον — λευκόν — ἱμάτιον. φανερὸν οὖν ὅτι τοῦ μὲν πρὸς τὸ μεῖζον ἄκρον καθόλου τεθέντος ἀεὶ γίνεται συλλογισμός, τοῦ δὲ πρὸς τὸ ἔλαττον οὐδέποτ’ οὐδενός.

Κεφάλαιο 16

Ὅταν δ’ ἡ μὲν ἐξ ἀνάγκης ὑπάρχειν ἡ δ’ ἐνδέχεσθαι σημαίνῃ τῶν προτάσεων, ὁ μὲν συλλογισμὸς ἔσται τὸν αὐτὸν τρόπον ἐχόντων τῶν ὅρων, καὶ τέλειος ὅταν πρὸς τῷ ἐλάττονι ἄκρῳ τεθῇ τὸ ἀναγκαῖον· τὸ δὲ συμπέρασμα κατηγορικῶν μὲν ὄντων τῶν ὅρων τοῦ ἐνδέχεσθαι καὶ οὐ τοῦ ὑπάρχειν ἔσται, καὶ καθόλου καὶ μὴ καθόλου τιθεμένων, ἐὰν δ’ ᾖ τὸ μὲν καταφατικὸν τὸ δὲ στερητικόν, ὅταν μὲν ᾖ τὸ καταφατικὸν ἀναγκαῖον, τοῦ ἐνδέχεσθαι καὶ οὐ τοῦ μὴ ὑπάρχειν, ὅταν δὲ τὸ στερητικόν, καὶ τοῦ ἐνδέχεσθαι μὴ ὑπάρχειν καὶ τοῦ μὴ ὑπάρχειν, καὶ καθόλου καὶ μὴ καθόλου τῶν ὅρων ὄντων· τὸ δ’ ἐνδέχεσθαι ἐν τῷ συμπεράσματι τὸν αὐτὸν τρόπον ληπτέον ὅνπερ καὶ ἐν τοῖς πρότερον. τοῦ δ’ ἐξ ἀνάγκης μὴ ὑπάρχειν οὐκ ἔσται συλλογισμός· ἕτερον γὰρ τὸ μὴ ἐξ ἀνάγκης ὑπάρχειν καὶ τὸ ἐξ ἀνάγκης μὴ ὑπάρχειν.

Ὅτι μὲν οὖν καταφατικῶν ὄντων τῶν ὅρων οὐ γίνεται τὸ συμπέρασμα ἀναγκαῖον, φανερόν. ὑπαρχέτω γὰρ τὸ μὲν Α παντὶ τῷ Β ἐξ ἀνάγκης, τὸ δὲ Β ἐνδεχέσθω παντὶ τῷ Γ. ἔσται δὴ συλλογισμὸς ἀτελὴς ὅτι ἐνδέχεται τὸ Α παντὶ τῷ Γ [36a] ὑπάρχειν. ὅτι δ’ ἀτελής, ἐκ τῆς ἀποδείξεως δῆλον· τὸν αὐτὸν γὰρ τρόπον δειχθήσεται ὅνπερ κἀπὶ τῶν πρότερον. πάλιν τὸ μὲν Α ἐνδεχέσθω παντὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ ὑπαρχέτω ἐξ ἀνάγκης. ἔσται δὴ συλλογισμὸς ὅτι τὸ Α παντὶ τῷ Γ ἐνδέχεται ὑπάρχειν, ἀλλ’ οὐχ ὅτι ὑπάρχει, καὶ τέλειος, ἀλλ’ οὐκ ἀτελής· εὐθὺς γὰρ ἐπιτελεῖται διὰ τῶν ἐξ ἀρχῆς προτάσεων.

Εἰ δὲ μὴ ὁμοιοσχήμονες αἱ προτάσεις, ἔστω πρῶτον ἡ στερητικὴ ἀναγκαία, καὶ τὸ μὲν Α μηδενὶ ἐνδεχέσθω τῷ Β, τὸ δὲ Β παντὶ τῷ Γ ἐνδεχέσθω. ἀνάγκη δὴ τὸ Α μηδενὶ τῷ Γ ὑπάρχειν. κείσθω γὰρ ὑπάρχειν ἢ παντὶ ἢ τινί· τῷ δὲ Β ὑπέκειτο μηδενὶ ἐνδέχεσθαι. ἐπεὶ οὖν ἀντιστρέφει τὸ στερητικόν, οὐδὲ τὸ Β τῷ Α οὐδενὶ ἐνδέχεται· τὸ δὲ Α τῷ Γ ἢ παντὶ ἢ τινὶ κεῖται ὑπάρχειν· ὥστ’ οὐδενὶ ἢ οὐ παντὶ τῷ Γ τὸ Β ἐνδέχοιτ’ ἂν ὑπάρχειν· ὑπέκειτο δὲ παντὶ ἐξ ἀρχῆς. φανερὸν δ’ ὅτι καὶ τοῦ ἐνδέχεσθαι μὴ ὑπάρχειν γίγνεται συλλογισμός, εἴπερ καὶ τοῦ μὴ ὑπάρχειν. πάλιν ἔστω ἡ καταφατικὴ πρότασις ἀναγκαία, καὶ τὸ μὲν Α ἐνδεχέσθω μηδενὶ τῷ Β ὑπάρχειν, τὸ δὲ Β παντὶ τῷ Γ ὑπαρχέτω ἐξ ἀνάγκης. ὁ μὲν οὖν συλλογισμὸς ἔσται τέλειος, ἀλλ’ οὐ τοῦ μὴ ὑπάρχειν ἀλλὰ τοῦ ἐνδέχεσθαι μὴ ὑπάρχειν· ἥ τε γὰρ πρότασις οὕτως ἐλήφθη ἡ ἀπὸ τοῦ μείζονος ἄκρου, καὶ εἰς τὸ ἀδύνατον οὐκ ἔστιν ἀγαγεῖν· εἰ γὰρ ὑποτεθείη τὸ Α τῷ Γ τινὶ ὑπάρχειν, κεῖται δὲ καὶ τῷ Β ἐνδέχεσθαι μηδενὶ ὑπάρχειν, οὐδὲν συμβαίνει διὰ τούτων ἀδύνατον. ἐὰν δὲ πρὸς τῷ ἐλάττονι ἄκρῳ τεθῇ τὸ στερητικόν, ὅταν μὲν ἐνδέχεσθαι σημαίνῃ, συλλογισμὸς ἔσται διὰ τῆς ἀντιστροφῆς, καθάπερ ἐν τοῖς πρότερον, ὅταν δὲ μὴ ἐνδέχεσθαι, οὐκ ἔσται. οὐδ' ὅταν ἄμφω μὲν τεθῇ στερητικά, μὴ ᾖ δ' ἐνδεχόμενον τὸ πρὸς τὸ ἔλαττον. ὅροι δ' οἱ αὐτοί, τοῦ μὲνὑπάρχειν λευκόν — ζῷον — χιών, τοῦ δὲ μὴ ὑπάρχειν λευκόν — ζῷον — πίττα.

Τὸν αὐτὸν δὲ τρόπον ἕξει κἀπὶ τῶν ἐν μέρει συλλογισμῶν. ὅταν μὲν γὰρ ᾖ τὸ στερητικὸν ἀναγκαῖον, καὶ τὸ συμπέρασμα ἔσται τοῦ μὴ ὑπάρχειν. οἷον εἰ τὸ μὲν Α μηδενὶ τῷ Β ἐνδέχεται ὑπάρχειν, τὸ δὲ Β τινὶ τῷ Γ ἐνδέχεται ὑπάρχειν, ἀνάγκη τὸ Α τινὶ τῷ Γ μὴ ὑπάρχειν. εἰ γὰρ παντὶ ὑπάρχει, τῷ δὲ Β μηδενὶ ἐνδέχεται, οὐδὲ τὸ Β οὐδενὶ τῷ Α ἐνδέχεται ὑπάρχειν. ὥστ' εἰ τὸ Α παντὶ τῷ Γ ὑπάρχει, οὐδενὶ τῷ Γ τὸ Β ἐνδέχεται. ἀλλ' ὑπέκειτό τινι ἐνδέχεσθαι. ὅταν δὲ τὸ ἐν μέρει καταφατικὸν ἀναγκαῖον ᾖ, τὸ ἐν τῷ στερητικῷ συλλογισμῷ, οἷον τὸ Β Γ, ἢ τὸ [36b] καθόλου τὸ ἐν τῷ κατηγορικῷ, οἷον τὸ Α Β, οὐκ ἔσται τοῦ ὑπάρχειν συλλογισμός. ἀπόδειξις δ' ἡ αὐτὴ ἣ καὶ ἐπὶ τῶν πρότερον. ἐὰν δὲ τὸ μὲν καθόλου τεθῇ πρὸς τὸ ἔλαττον ἄκρον, ἢ καταφατικὸν ἢ στερητικόν, ἐνδεχόμενον, τὸ δ' ἐν μέρει ἀναγκαῖον [πρὸς τῷ μείζονι ἄκρῳ], οὐκ ἔσται συλλογισμός (ὅροι δὲ τοῦ μὲν ὑπάρχειν ἐξ ἀνάγκης ζῷον — λευκόν — ἄνθρωπος, τοῦ δὲ μὴ ἐνδέχεσθαι ζῷον — λευκόν — ἱμάτιον)· ὅταν δ' ἀναγκαῖον ᾖ τὸ καθόλου, τὸ δ' ἐν μέρει ἐνδεχόμενον, στερητικοῦ μὲν ὄντος τοῦ καθόλου τοῦ μὲν ὑπάρχειν ὅροι ζῷον — λευκόν — κόραξ, τοῦ δὲ μὴ ὑπάρχειν ζῷον — λευκόν — πίττα, καταφατικοῦ δὲ τοῦ μὲν ὑπάρχειν ζῷον — λευκόν — κύκνος, τοῦ δὲ μὴ ἐνδέχεσθαι ζῷον — λευκόν — χιών. οὐδ' ὅταν ἀδιόριστοι ληφθῶσιν αἱ προτάσεις ἢ ἀμφότεραι κατὰ μέρος, οὐδ' οὕτως ἔσται συλλογισμός. ὅροι δὲ κοινοὶ τοῦ μὲν ὑπάρχειν ζῷον — λευκόν — ἄνθρωπος, τοῦ δὲ μὴ ὑπάρχειν ζῷον — λευκόν — ἄψυχον. καὶ γὰρ τὸ ζῷον τινὶ λευκῷ καὶ τὸ λευκὸν ἀψύχῳ τινὶ καὶ ἀναγκαῖον ὑπάρχειν καὶ οὐκ ἐνδέχεται ὑπάρχειν. κἀπὶ τοῦ ἐνδέχεσθαι ὁμοίως, ὥστε πρὸς ἅπαντα χρήσιμοι οἱ ὅροι.

Φανερὸν οὖν ἐκ τῶν εἰρημένων ὅτι ὁμοίως ἐχόντων τῶνὅρων ἔν τε τῷ ὑπάρχειν καὶ ἐν τοῖς ἀναγκαίοις γίνεταί τε καὶ οὐ γίνεται συλλογισμός, πλὴν κατὰ μὲν τὸ ὑπάρχειν τιθεμένης τῆς στερητικῆς προτάσεως τοῦ ἐνδέχεσθαι ἦν ὁ συλλογισμός, κατὰ δὲ τὸ ἀναγκαῖον τῆς στερητικῆς καὶ τοῦ ἐνδέχεσθαι καὶ τοῦ μὴ ὑπάρχειν. [δῆλον δὲ καὶ ὅτι πάντες ἀτελεῖς οἱ συλλογισμοὶ καὶ ὅτι τελειοῦνται διὰ τῶν προειρημένων σχημάτων.]

Κεφάλαιο 17

Ἐν δὲ τῷ δευτέρῳ σχήματι ὅταν μὲν ἐνδέχεσθαι λαμβάνωσιν ἀμφότεραι αἱ προτάσεις, οὐδεὶς ἔσται συλλογισμός, οὔτε κατηγορικῶν οὔτε στερητικῶν τιθεμένων, οὔτε καθόλου οὔτε κατὰ μέρος· ὅταν δὲ ἡ μὲν ὑπάρχειν ἡ δ' ἐνδέχεσθαι σημαίνῃ, τῆς μὲν καταφατικῆς ὑπάρχειν σημαινούσης οὐδέποτ' ἔσται, τῆς δὲ στερητικῆς τῆς καθόλου ἀεί. τὸν αὐτὸν δὲ τρόπον καὶ ὅταν ἡ μὲν ἐξ ἀνάγκης ἡ δ' ἐνδέχεσθαι λαμβάνηται τῶν προτάσεων. δεῖ δὲ καὶ ἐν τούτοις λαμβάνειν τὸ ἐν τοῖς συμπεράσμασιν ἐνδεχόμενον ὥσπερ ἐν τοῖς πρότερον.

Πρῶτον οὖν δεικτέον ὅτι οὐκ ἀντιστρέφει τὸ ἐν τῷ ἐνδέχεσθαι στερητικόν, οἷον εἰ τὸ Α ἐνδέχεται μηδενὶ τῷ Β, οὐκ ἀνάγκη καὶ τὸ Β ἐνδέχεσθαι μηδενὶ τῷ Α. κείσθω γὰρ τοῦτο, καὶ ἐνδεχέσθω τὸ Β μηδενὶ τῷ Α ὑπάρχειν. οὐκοῦν ἐπεὶ ἀντιστρέφουσιν αἱ ἐν τῷ ἐνδέχεσθαι καταφάσεις ταῖς ἀποφάσεσι, καὶ αἱ ἐναντίαι καὶ αἱ ἀντικείμεναι, τὸ δὲ Β τῷ Α ἐνδέχεται μηδενὶ [37a] ὑπάρχειν, φανερὸν ὅτι καὶ παντὶ ἂν ἐνδέχοιτο τῷ Α ὑπάρχειν. τοῦτο δὲ ψεῦδος· οὐ γὰρ εἰ τόδε τῷδε παντὶ ἐνδέχεται, καὶ τόδε τῷδε ἀναγκαῖον· ὥστ' οὐκ ἀντιστρέφει τὸ στερητικόν. ἔτι δ' οὐδὲν κωλύει τὸ μὲν Α τῷ Β ἐνδέχεσθαι μηδενί, τὸ δὲ Β τινὶ τῶν Α ἐξ ἀνάγκης μὴ ὑπάρχειν, οἷον τὸ μὲν λευκὸν παντὶ ἀνθρώπῳ ἐνδέχεται μὴ ὑπάρχειν (καὶ γὰρ ὑπάρχειν), ἄνθρωπον δ' οὐκ ἀληθὲς εἰπεῖν ὡς ἐνδέχεται μηδενὶ λευκῷ· πολλοῖς γὰρ ἐξ ἀνάγκης οὐχ ὑπάρχει, τὸ δ' ἀναγκαῖον οὐκ ἦν ἐνδεχόμενον.

Ἀλλὰ μὴν οὐδ' ἐκ τοῦ ἀδυνάτου δειχθήσε ται ἀντιστρέφον, οἷον εἴ τις ἀξιώσειεν, ἐπεὶ ψεῦδος τὸ ἐνδέχεσθαι τὸ Β τῷ Α μηδενὶ ὑπάρχειν, ἀληθὲς τὸ μὴ ἐνδέχεσθαι μηδενί (φάσις γὰρ καὶ ἀπόφασις), εἰ δὲ τοῦτ', ἀληθὲς ἐξ ἀνάγκης τινὶ τῷ Α ὑπάρχειν· ὥστε καὶ τὸ Α τινὶ τῷ Β· τοῦτο δ' ἀδύνατον. οὐ γὰρ εἰ μὴ ἐνδέχεται μηδενὶ τὸ Β τῷ Α, ἀνάγκη τινὶ ὑπάρχειν. τὸ γὰρ μὴ ἐνδέχεσθαι μηδενὶ διχῶς λέγεται, τὸ μὲν εἰ ἐξ ἀνάγκης τινὶ ὑπάρχει, τὸ δ' εἰ ἐξ ἀνάγκης τινὶ μὴ ὑπάρχει· τὸ γὰρ ἐξ ἀνάγκης τινὶ τῶν Α μὴ ὑπάρχον οὐκ ἀληθὲς εἰπεῖν ὡς παντὶ ἐνδέχεται μὴ ὑπάρχειν, ὥσπερ οὐδὲ τὸ τινὶ ὑπάρχον ἐξ ἀνάγκης ὅτι παντὶ ἐνδέχεται ὑπάρχειν. εἰ οὖν τις ἀξιοίη, ἐπεὶ οὐκ ἐνδέχεται τὸ Γ τῷ Δ παντὶ ὑπάρχειν, ἐξ ἀνάγκης τινὶ μὴ ὑπάρχειν αὐτό, ψεῦδος ἂν λαμβάνοι· παντὶ γὰρ ὑπάρχει, ἀλλ' ὅτι ἐνίοις ἐξ ἀνάγκης ὑπάρχει, διὰ τοῦτό φαμεν οὐ παντὶ ἐνδέχεσθαι. ὥστε τῷ ἐνδέχεσθαι παντὶ ὑπάρχειν τό τ' ἐξ ἀνάγκης τινὶ ὑπάρχειν ἀντίκειται καὶ τὸ ἐξ ἀνάγκης τινὶ μὴ ὑπάρχειν. ὁμοίως δὲ καὶ τῷ ἐνδέχεσθαι μηδενί. δῆλον οὖν ὅτι πρὸς τὸ οὕτως ἐνδεχόμενον καὶ μὴ ἐνδεχόμενον ὡς ἐν ἀρχῇ διωρίσαμεν οὐ τὸ ἐξ ἀνάγκης τινὶ ὑπάρχειν ἀλλὰ τὸ ἐξ ἀνάγκης τινὶ μὴ ὑπάρχειν ληπτέον. τούτου δὲ ληφθέντος οὐδὲν συμβαίνει ἀδύνατον, ὥστ' οὐ γίνεται συλλογισμός. φανερὸν οὖν ἐκ τῶν εἰρημένων ὅτι οὐκ ἀντιστρέφει τὸ στερητικόν.

Τούτου δὲ δειχθέντος κείσθω τὸ Α τῷ μὲν Β ἐνδέχεσθαι μηδενί, τῷ δὲ Γ παντί. διὰ μὲν οὖν τῆς ἀντιστροφῆς οὐκ ἔσται συλλογισμός· εἴρηται γὰρ ὅτι οὐκ ἀντιστρέφει ἡ τοιαύτη πρότασις. ἀλλ' οὐδὲ διὰ τοῦ ἀδυνάτου· τεθέντος γὰρ τοῦ Β <μὴ> παντὶ τῷ Γ ἐνδέχεσθαι <μὴ> ὑπάρχειν οὐδὲν συμβαίνει ψεῦδος· ἐνδέχοιτο γὰρ ἂν τὸ Α τῷ Γ καὶ παντὶ καὶ μηδενὶ ὑπάρχειν. ὅλως δ' εἰ ἔστι συλλογισμός, δῆλον ὅτι τοῦ ἐνδέχεσθαι ἂνεἴη διὰ τὸ μηδετέραν τῶν προτάσεων εἰλῆφθαι ἐν τῷ ὑπάρχειν, καὶ οὗτος ἢ καταφατικὸς ἢ στερητικός· οὐδετέρως δ' [37b] ἐγχωρεῖ. καταφατικοῦ μὲν γὰρ τεθέντος δειχθήσεται διὰ τῶν ὅρων ὅτι οὐκ ἐνδέχεται ὑπάρχειν, στερητικοῦ δέ, ὅτι τὸ συμπέρασμα οὐκ ἐνδεχόμενον ἀλλ' ἀναγκαῖόν ἐστιν. ἔστω γὰρ τὸ μὲν Α λευκόν, τὸ δὲ Β ἄνθρωπος, ἐφ' ᾧ δὲ Γ ἵππος. τὸ δὴ Α, τὸ λευκόν, ἐνδέχεται τῷ μὲν παντὶ τῷ δὲ μηδενὶ ὑπάρχειν. ἀλλὰ τὸ Β τῷ Γ οὔτε ὑπάρχειν ἐνδέχεται οὔτε μὴ ὑπάρχειν. ὅτι μὲν οὖν ὑπάρχειν οὐκ ἐγχωρεῖ, φανερόν· οὐδεὶς γὰρ ἵππος ἄνθρωπος. ἀλλ' οὐδ' ἐνδέχεσθαι μὴ ὑπάρχειν· ἀνάγκη γὰρ μηδένα ἵππον ἄνθρωπον εἶναι, τὸ δ' ἀναγκαῖον οὐκ ἦν ἐνδεχόμενον. οὐκ ἄρα γίνεται συλλογισμός. ὁμοίως δὲ δειχθήσεται καὶ ἂν ἀνάπαλιν τεθῇ τὸ στερητικόν, κἂν ἀμφότεραι καταφατικαὶ ληφθῶσιν ἢ στερητικαί (διὰ γὰρ τῶν αὐτῶν ὅρων ἔσται ἡ ἀπόδειξις)· καὶ ὅταν ἡ μὲν καθόλου ἡ δ' ἐν μέρει, ἢ ἀμφότεραι κατὰ μέρος ἢ ἀδιόριστοι, ἢ ὁσαχῶς ἄλλως ἐνδέχεται μεταλαβεῖν τὰς προτάσεις· ἀεὶ γὰρ ἔσται διὰ τῶν αὐτῶν ὅρων ἡ ἀπόδειξις. φανερὸν οὖν ὅτι ἀμφοτέρων τῶν προτάσεων κατὰ τὸ ἐνδέχεσθαι τιθεμένων οὐδεὶς γίνεται συλλογισμός.

Κεφάλαιο 18

Εἰ δ’ ἡ μὲν ὑπάρχειν ἡ δ’ ἐνδέχεσθαι σημαίνει, τῆς μὲν κατηγορικῆς ὑπάρχειν τεθείσης τῆς δὲ στερητικῆς ἐνδέχεσθαι οὐδέποτ’ ἔσται συλλογισμός, οὔτε καθόλου τῶν ὅρων οὔτ’ ἐν μέρει λαμβανομένων (ἀπόδειξις δ’ ἡ αὐτὴ καὶ διὰ τῶν αὐτῶν ὅρων)· ὅταν δ’ ἡ μὲν καταφατικὴ ἐνδέχεσθαι ἡ δὲ στερητικὴ ὑπάρχειν, ἔσται συλλογισμός. εἰλήφθω γὰρ τὸ Α τῷ μὲν Β μηδενὶ ὑπάρχειν, τῷ δὲ Γ παντὶ ἐνδέχεσθαι. ἀντιστραφέντος οὖν τοῦ στερητικοῦ τὸ Β τῷ Α οὐδενὶ ὑπάρξει· τὸ δὲ Α παντὶ τῷ Γ ἐνεδέχετο· γίνεται δὴ συλλογισμὸς ὅτι ἐνδέχεται τὸ Β μηδενὶ τῷ Γ διὰ τοῦ πρώτου σχήματος.ὁμοίως δὲ καὶ εἰ πρὸς τῷ Γ τεθείη τὸ στερητικόν. ἐὰν δ’ ἀμφότεραι μὲν ὦσι στερητικαί, σημαίνῃ δ’ ἡ μὲν μὴ ὑπάρχειν ἡ δ’ ἐνδέχεσθαι, δι’ αὐτῶν μὲν τῶν εἰλημμένων οὐδὲν συμβαίνει ἀναγκαῖον, ἀντιστραφείσης δὲ τῆς κατὰ τὸ ἐνδέχεσθαι προτάσεως γίγνεται συλλογισμὸς ὅτι τὸ Β τῷ Γ ἐνδέχεται μηδενὶ ὑπάρχειν, καθάπερ ἐν τοῖς πρότερον· ἔσται γὰρ πάλιν τὸ πρῶτον σχῆμα. ἐὰν δ’ ἀμφότεραι τεθῶσι κατηγορικαί, οὐκ ἔσται συλλογισμός. ὅροι τοῦ μὲν ὑπάρχειν ὑγίεια — ζῷον — ἄνθρωπος, τοῦ δὲ μὴ ὑπάρχειν ὑγίεια — ἵππος — ἄνθρωπος.

Τὸν αὐτὸν δὲ τρόπον ἕξει κἀπὶ τῶν ἐν μέρει συλλογισμῶν. ὅταν μὲν γὰρ ᾖ τὸ καταφατικὸν ὑπάρχον, εἴτε [38a] καθόλου εἴτ’ ἐν μέρει ληφθέν, οὐδεὶς ἔσται συλλογισμός (τοῦτο δ’ ὁμοίως καὶ διὰ τῶν αὐτῶν ὅρων δείκνυται τοῖς πρότερον), ὅταν δὲ τὸ στερητικόν, ἔσται διὰ τῆς ἀντιστροφῆς, καθάπερ ἐν τοῖς πρότερον. πάλιν ἐὰν ἄμφω μὲν τὰ διαστήματα στερητικὰ ληφθῇ, καθόλου δὲ τὸ μὴ ὑπάρχειν, ἐξ αὐτῶν μὲν τῶν προτάσεων οὐκ ἔσται τὸ ἀναγκαῖον, ἀντιστραφέντος δὲ τοῦ ἐνδέχεσθαι καθάπερ ἐν τοῖς πρότερον ἔσται συλλογισμός. ἐὰν δὲ ὑπάρχον μὲν ᾖ τὸ στερητικόν, ἐν μέρει δὲ ληφθῇ, οὐκ ἔσται συλλογισμός, οὔτε καταφατικῆς οὔτε στερητικῆς οὔσης τῆς ἑτέρας προτάσεως. οὐδ’ ὅταν ἀμφότεραι ληφθῶσιν ἀδιόριστοι — ἢ καταφατικαὶ ἢ ἀποφατικαί — ἢ κατὰ μέρος. ἀπόδειξις δ’ ἡ αὐτὴ καὶ διὰ τῶν αὐτῶν ὅρων.

Κεφάλαιο 19

Ἐὰν δ’ ἡ μὲν ἐξ ἀνάγκης ἡ δ’ ἐνδέχεσθαι σημαίνῃ τῶν προτάσεων, τῆς μὲν στερητικῆς ἀναγκαίας οὔσης ἔσται συλλογισμός, οὐ μόνον ὅτι ἐνδέχεται μὴ ὑπάρχειν, ἀλλὰ καὶ ὅτι οὐχ ὑπάρχει, τῆς δὲ καταφατικῆς οὐκ ἔσται. κείσθω γὰρ τὸ Α τῷ μὲν Β ἐξ ἀνάγκης μηδενὶ ὑπάρχειν, τῷ δὲ Γ παντὶ ἐνδέχεσθαι. ἀντιστραφείσης οὖν τῆς στερητικῆς οὐδὲτὸ Β τῷ Α οὐδενὶ ὑπάρξει· τὸ δὲ Α παντὶ τῷ Γ ἐνεδέχετο· γίνεται δὴ πάλιν διὰ τοῦ πρώτου σχήματος ὁ συλλογισμὸς ὅτι τὸ Β τῷ Γ ἐνδέχεται μηδενὶ ὑπάρχειν. ἅμα δὲ δῆλον ὅτι οὐδ’ ὑπάρξει τὸ Β οὐδενὶ τῷ Γ. κείσθω γὰρ ὑπάρχειν· οὐκοῦν εἰ τὸ Α τῷ Β μηδενὶ ἐνδέχεται, τὸ δὲ Β ὑπάρχει τινὶ τῷ Γ, τὸ Α τῷ Γ τινὶ οὐκ ἐνδέχεται· ἀλλὰ παντὶ ὑπέκειτο ἐνδέχεσθαι. τὸν αὐτὸν δὲ τρόπον δειχθήσεται καὶ εἰ πρὸς τῷ Γ τεθείη τὸ στερητικόν.

Πάλιν ἔστω τὸ κατηγορικὸν ἀναγκαῖον, θάτερον δ’ ἐνδεχόμενον, καὶ τὸ Α τῷ μὲν Β ἐνδεχέσθω μηδενί, τῷ δὲ Γ παντὶ ὑπαρχέτω ἐξ ἀνάγκης. οὕτως οὖν ἐχόντων τῶν ὅρων οὐδεὶς ἔσται συλλογισμός. συμβαίνει γὰρ τὸ Β τῷ Γ ἐξ ἀνάγκης μὴ ὑπάρχειν. ἔστω γὰρ τὸ μὲν Α λευκόν, ἐφ’ ᾧ δὲ τὸ Β ἄνθρωπος, ἐφ’ ᾧ δὲ τὸ Γ κύκνος. τὸ δὴ λευκὸν κύκνῳ μὲν ἐξ ἀνάγκης ὑπάρχει, ἀνθρώπῳ δ’ ἐνδέχεται μηδενί· καὶ ἄνθρωπος οὐδενὶ κύκνῳ ἐξ ἀνάγκης. ὅτι μὲν οὖν τοῦ ἐνδέχεσθαι οὐκ ἔστι συλλογισμός, φανερόν· τὸ γὰρ ἐξ ἀνάγκης οὐκ ἦν ἐνδεχόμενον. ἀλλὰ μὴν οὐδὲ τοῦ ἀναγκαίου· τὸ γὰρ ἀναγκαῖον ἢ ἐξ ἀμφοτέρων ἀναγκαίων ἢ ἐκ τῆς στερητικῆς συνέβαινεν. ἔτι δὲ καὶ ἐγχωρεῖ τούτων κειμένων τὸ Β τῷ Γ ὑπάρχειν· οὐδὲν γὰρ κωλύει τὸ μὲν Γ ὑπὸ τὸ Β εἶναι, τὸ δὲ Α τῷ μὲν Β παντὶ ἐνδέχεσθαι, τῷ δὲ Γ ἐξ ἀνάγκης ὑπάρχειν, οἷον εἰ τὸ μὲν Γ εἴη ἐγρηγορός, τὸ δὲ Β ζῷον, τὸ δ’ ἐφ’ ᾧ τὸ Α κίνησις. τῷ μὲν γὰρ ἐγρηγορότι ἐξ [38b] ἀνάγκης κίνησις, ζῴῳ δὲ παντὶ ἐνδέχεται· καὶ πᾶν τὸ ἐγρηγορὸς ζῷον. φανερὸν οὖν ὅτι οὐδὲ τοῦ μὴ ὑπάρχειν, εἴπερ οὕτως ἐχόντων ἀνάγκη ὑπάρχειν. οὐδὲ δὴ τῶν ἀντικειμένων καταφάσεων, ὥστ’ οὐδεὶς ἔσται συλλογισμός. ὁμοίως δὲ δειχθήσεται καὶ ἀνάπαλιν τεθείσης τῆς καταφατικῆς.

Ἐὰν δ’ ὁμοιοσχήμονες ὦσιν αἱ προτάσεις, στερητικῶν μὲν οὐσῶν ἀεὶ γίνεται συλλογισμὸς ἀντιστραφείσης τῆς κατὰ τὸ ἐνδέχεσθαι προτάσεως καθάπερ ἐν τοῖς πρότερον. εἰλήφθω γὰρ τὸ Α τῷ μὲν Β ἐξ ἀνάγκης μὴ ὑπάρχειν, τῷ δὲ Γ ἐνδέχεσθαι μὴ ὑπάρχειν· ἀντιστραφεισῶν οὖν τῶν προτάσεων τὸ μὲν Β τῷ Α οὐδενὶ ὑπάρχει, τὸ δὲ Α παντὶ τῷ Γ ἐνδέχεται· γίνεται δὴ τὸ πρῶτον σχῆμα. κἂν εἰ πρὸς τῷ Γ τεθείη τὸ στερητικόν, ὡσαύτως. ἐὰν δὲ κατηγορικαὶ τεθῶσιν, οὐκ ἔσται συλλογισμός. τοῦ μὲν γὰρ μὴ ὑπάρχειν ἢ τοῦ ἐξ ἀνάγκης μὴ ὑπάρχειν φανερὸν ὅτι οὐκ ἔσται διὰ τὸ μὴ εἰλῆφθαι στερητικὴν πρότασιν μήτ' ἐν τῷ ὑπάρχειν μήτ' ἐν τῷ ἐξ ἀνάγκης ὑπάρχειν. ἀλλὰ μὴν οὐδὲ τοῦ ἐνδέχεσθαι μὴ ὑπάρχειν· ἐξ ἀνάγκης γὰρ οὕτως ἐχόντων τὸ Β τῷ Γ οὐχ ὑπάρξει, οἷον εἰ τὸ μὲν Α τεθείη λευκόν, ἐφ' ᾧ δὲ τὸ Β κύκνος, τὸ δὲ Γ ἄνθρωπος. οὐδέ γε τῶν ἀντικειμένων καταφάσεων, ἐπεὶ δέδεικται τὸ Β τῷ Γ ἐξ ἀνάγκης οὐχ ὑπάρχον. οὐκ ἄρα γίνεται συλλογισμὸς ὅλως.

Ὁμοίως δ' ἕξει κἀπὶ τῶν ἐν μέρει συλλογισμῶν· ὅταν μὲν γὰρ ᾖ τὸ στερητικὸν καθόλου τε καὶ ἀναγκαῖον, ἀεὶ συλλογισμὸς ἔσται καὶ τοῦ ἐνδέχεσθαι καὶ τοῦ μὴ ὑπάρχειν (ἀπόδειξις δὲ διὰ τῆς ἀντιστροφῆς), ὅταν δὲ τὸ καταφατικόν, οὐδέποτε· τὸν αὐτὸν γὰρ τρόπον δειχθήσεται ὃν καὶ ἐν τοῖς καθόλου, καὶ διὰ τῶν αὐτῶν ὅρων. οὐδ' ὅταν ἀμφότεραι ληφθῶσι καταφατικαί· καὶ γὰρ τούτου ἡ αὐτὴ ἀπόδειξις ἣ καὶ πρότερον. ὅταν δὲ ἀμφότεραι μὲν στερητικαί, καθόλου δὲ καὶ ἀναγκαία ἡ τὸ μὴ ὑπάρχειν σημαίνουσα, δι' αὐτῶν μὲν τῶν εἰλημμένων οὐκ ἔσται τὸ ἀναγκαῖον, ἀντιστραφείσης δὲ τῆς κατὰ τὸ ἐνδέχεσθαι προτάσεως ἔσται συλλογισμός, καθάπερ ἐν τοῖς πρότερον. ἐὰν δ' ἀμφότεραι ἀδιόριστοι ἢ ἐν μέρει τεθῶσιν, οὐκ ἔσται συλλογισμός. ἀπόδειξις δ' ἡ αὐτὴ καὶ διὰ τῶν αὐτῶν ὅρων.

Φανερὸν οὖν ἐκ τῶν εἰρημένων ὅτι τῆς μὲν στερητικῆς τῆς καθόλου τιθεμένης ἀναγκαίας ἀεὶ γίνεται συλλογισμὸς οὐ μόνον τοῦ ἐνδέχεσθαι μὴ ὑπάρχειν, ἀλλὰ καὶ τοῦ μὴ ὑπάρχειν, τῆς δὲ καταφατικῆς οὐδέποτε. καὶ ὅτι τὸν αὐτὸν τρόπον ἐχόντων ἔν τε τοῖς ἀναγκαίοις καὶ ἐν τοῖς [39a] ὑπάρχουσι γίνεταί τε καὶ οὐ γίνεται συλλογισμός. δῆλον δὲ καὶ ὅτι πάντες ἀτελεῖς οἱ συλλογισμοί, καὶ ὅτι τελειοῦνται διὰ τῶν προειρημένων σχημάτων.

Κεφάλαιο 20

Ἐν δὲ τῷ τελευταίῳ σχήματι καὶ ἀμφοτέρων ἐνδεχομένων καὶ τῆς ἑτέρας ἔσται συλλογισμός. ὅταν μὲν οὖν ἐνδέχεσθαι σημαίνωσιν αἱ προτάσεις, καὶ τὸ συμπέρασμα ἔσται ἐνδεχόμενον· καὶ ὅταν ἡ μὲν ἐνδέχεσθαι ἡ δ' ὑπάρχειν. ὅταν δ' ἡ ἑτέρα τεθῇ ἀναγκαία, ἐὰν μὲν ᾖ καταφατική, οὐκ ἔσται τὸ συμπέρασμα οὔτε ἀναγκαῖον οὔθ' ὑπάρχον, ἐὰν δ' ᾖ στερητική, τοῦ μὴ ὑπάρχειν ἔσται συλλογισμός, καθάπερ καὶ ἐν τοῖς πρότερον· ληπτέον δὲ καὶ ἐν τούτοις ὁμοίως τὸ ἐν τοῖς συμπεράσμασιν ἐνδεχόμενον.

Ἔστωσαν δὴ πρῶτον ἐνδεχόμεναι, καὶ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ἐνδεχέσθω ὑπάρχειν. ἐπεὶ οὖν ἀντιστρέφει τὸ καταφατικὸν ἐπὶ μέρους, τὸ δὲ Β παντὶ τῷ Γ ἐνδέχεται, καὶ τὸ Γ τινὶ τῷ Β ἐνδέχοιτ' ἄν. ὥστ' εἰ τὸ μὲν Α παντὶ τῷ Γ ἐνδέχεται, τὸ δὲ Γ τινὶ τῷ Β, ἀνάγκη καὶ τὸ Α τινὶ τῷ Β ἐνδέχεσθαι· γίγνεται γὰρ τὸ πρῶτον σχῆμα. καὶ εἰ τὸ μὲν Α ἐνδέχεται μηδενὶ τῷ Γ ὑπάρχειν, τὸ δὲ Β παντὶ τῷ Γ, ἀνάγκη τὸ Α τινὶ τῷ Β ἐνδέχεσθαι μὴ ὑπάρχειν· ἔσται γὰρ πάλιν τὸ πρῶτον σχῆμα διὰ τῆς ἀντιστροφῆς. εἰ δ' ἀμφότεραι στερητικαὶ τεθείησαν, ἐξ αὐτῶνμὲν τῶν εἰλημμένων οὐκ ἔσται τὸ ἀναγκαῖον, ἀντιστραφεισῶν δὲ τῶν προτάσεων ἔσται συλλογισμός, καθάπερ ἐν τοῖς πρότερον. εἰ γὰρ τὸ Α καὶ τὸ Β τῷ Γ ἐνδέχεται μὴ ὑπάρχειν, ἐὰν μεταληφθῇ τὸ ἐνδέχεσθαι ὑπάρχειν, πάλιν ἔσται τὸ πρῶτον σχῆμα διὰ τῆς ἀντιστροφῆς. εἰ δ' ὁ μέν ἐστι καθόλου τῶν ὅρων ὁ δ' ἐν μέρει, τὸν αὐτὸν τρόπον ἐχόντων τῶν ὅρων ὅνπερ ἐπὶ τοῦ ὑπάρχειν, ἔσται τε καὶ οὐκ ἔσται συλλογισμός. ἐνδεχέσθω γὰρ τὸ μὲν Α παντὶ τῷ Γ, τὸ δὲ Β τινὶ τῷ Γ ὑπάρχειν. ἔσται δὴ πάλιν τὸ πρῶτον σχῆμα τῆς ἐν μέρει προτάσεως ἀντιστραφείσης· εἰ γὰρ τὸ Α παντὶ τῷ Γ, τὸ δὲ Γ τινὶ τῷ Β, τὸ Α τινὶ τῷ Β ἐνδέχεται. καὶ εἰ πρὸς τῷ Β Γ τεθείη τὸ καθόλου, ὡσαύτως. ὁμοίως δὲ καὶ εἰ τὸ μὲν Α Γ στερητικὸν εἴη, τὸ δὲ Β Γ καταφατικόν· ἔσται γὰρ πάλιν τὸ πρῶτον σχῆμα διὰ τῆς ἀντιστροφῆς. εἰ δ' ἀμφότεραι στερητικαὶ τεθείησαν, ἡ μὲν καθόλου ἡ δ' ἐν μέρει, δι' αὐτῶν μὲν τῶν [39b] εἰλημμένων οὐκ ἔσται συλλογισμός, ἀντιστραφεισῶν δ' ἔσται, καθάπερ ἐν τοῖς πρότερον. ὅταν δὲ ἀμφότεραι ἀδιόριστοι ἢ ἐν μέρει ληφθῶσιν, οὐκ ἔσται συλλογισμός· καὶ γὰρ παντὶ ἀνάγκη τὸ Α τῷ Β καὶ μηδενὶ ὑπάρχειν. ὅροι τοῦ ὑπάρχειν ζῷον — ἄνθρωπος — λευκόν, τοῦ μὴ ὑπάρχειν ἵππος — ἄνθρωπος — λευκόν, μέσον

λευκόν.

Κεφάλαιο 21

Ἐὰν δὲ ἡ μὲν ὑπάρχειν ἡ δ’ ἐνδέχεσθαι σημαίνῃ τῶν προτάσεων, τὸ μὲν συμπέρασμα ἔσται ὅτι ἐνδέχεται καὶ οὐχ ὅτι ὑπάρχει, συλλογισμὸς δ’ ἔσται τὸν αὐτὸν τρόπον ἐχόντων τῶν ὅρων ὃν καὶ ἐν τοῖς πρότερον. ἔστωσαν γὰρ πρῶτον κατηγορικοί, καὶ τὸ μὲν Α παντὶ τῷ Γ ὑπαρχέτω, τὸ δὲ Β παντὶ ἐνδεχέσθω ὑπάρχειν. ἀντιστραφέντος οὖν τοῦ Β Γ τὸ πρῶτον ἔσται σχῆμα, καὶ τὸ συμπέρασμα ὅτι ἐνδέχεται τὸ Α τινὶ τῷ Β ὑπάρχειν· ὅτε γὰρ ἡ ἑτέρα τῶνπροτάσεων ἐν τῷ πρώτῳ σχήματι σημαίνοι ἐνδέχεσθαι, καὶ τὸ συμπέρασμα ἦν ἐνδεχόμενον. ὁμοίως δὲ καὶ εἰ τὸ μὲν Β Γ ὑπάρχειν τὸ δὲ Α Γ ἐνδέχεσθαι, καὶ εἰ τὸ μὲν Α Γ στερητικὸν τὸ δὲ Β Γ κατηγορικόν, ὑπάρχοι δ’ ὁποτερονοῦν, ἀμφοτέρως ἐνδεχόμενον ἔσται τὸ συμπέρασμα· γίνεται γὰρ πάλιν τὸ πρῶτον σχῆμα, δέδεικται δ’ ὅτι τῆς ἑτέρας προτάσεως ἐνδέχεσθαι σημαινούσης ἐν αὐτῷ καὶ τὸ συμπέρασμα ἔσται ἐνδεχόμενον. εἰ δὲ τὸ στερητικὸν τεθείη πρὸς τὸ ἔλαττον ἄκρον, ἢ καὶ ἄμφω ληφθείη στερητικά, δι’ αὐτῶν μὲν τῶν κειμένων οὐκ ἔσται συλλογισμός, ἀντιστραφέντων δ’ ἔσται, καθάπερ ἐν τοῖς πρότερον.

Εἰ δ’ ἡ μὲν καθόλου τῶν προτάσεων ἡ δ’ ἐν μέρει, κατηγορικῶν μὲν οὐσῶν ἀμφοτέρων, ἢ τῆς μὲν καθόλου στερητικῆς τῆς δ’ ἐν μέρει καταφατικῆς, ὁ αὐτὸς τρόπος ἔσται τῶν συλλογισμῶν· πάντες γὰρ περαίνονται διὰ τοῦ πρώτου σχήματος. ὥστε φανερὸν ὅτι τοῦ ἐνδέχεσθαι καὶ οὐ τοῦ ὑπάρχειν ἔσται ὁ συλλογισμός. εἰ δ’ ἡ μὲν καταφατικὴ καθόλου ἡ δὲ στερητικὴ ἐν μέρει, διὰ τοῦ ἀδυνάτου ἔσται ἡ ἀπόδειξις. ὑπαρχέτω γὰρ τὸ μὲν Β παντὶ τῷ Γ, τὸ δὲ Α ἐνδεχέσθω τινὶ τῷ Γ μὴ ὑπάρχειν· ἀνάγκη δὴ τὸ Α ἐνδέχεσθαι τινὶ τῷ Β μὴ ὑπάρχειν. εἰ γὰρ παντὶ τῷ Β τὸ Α ὑπάρχει ἐξ ἀνάγκης, τὸ δὲ Β παντὶ τῷ Γ κεῖται ὑπάρχειν, τὸ Α παντὶ τῷ Γ ἐξ ἀνάγκης ὑπάρξει· τοῦτο γὰρ δέδεικται πρότερον. ἀλλ’ ὑπέκειτο τινὶ ἐνδέχεσθαι μὴ ὑπάρχειν. [40a]

Ὅταν δ’ ἀδιόριστοι ἢ ἐν μέρει ληφθῶσιν ἀμφότεραι, οὐκ ἔσται συλλογισμός. ἀπόδειξις δ’ ἡ αὐτὴ ἣ καὶ ἐν τοῖς πρότερον, καὶ διὰ τῶν αὐτῶν ὅρων.

Κεφάλαιο 22

Εἰ δ’ ἐστὶν ἡ μὲν ἀναγκαία τῶν προτάσεων ἡ δ’ ἐνδεχομένη, κατηγορικῶν μὲν ὄντων τῶν ὅρων ἀεὶ τοῦ ἐνδέχεσθαι ἔσται συλλογισμός, ὅταν δ’ ᾖ τὸ μὲν κατηγορικὸν τὸ δὲ στερητικόν, ἐὰν μὲν ᾖ τὸ καταφατικὸν ἀναγκαῖον, τοῦ ἐνδέχεσθαι μὴ ὑπάρχειν, ἐὰν δὲ τὸ στερητικόν, καὶ τοῦ ἐνδέχεσθαι καὶ τοῦ μὴ ὑπάρχειν. τοῦ δ’ ἐξ ἀνάγκης μὴ ὑπάρχειν οὐκ ἔσται συλλογισμός, ὥσπερ οὐδ’ ἐν τοῖς ἑτέροις σχήμασιν.

Ἔστωσαν δὴ κατηγορικοὶ πρῶτον οἱ ὅροι, καὶ τὸ μὲν Α παντὶ τῷ Γ ὑπαρχέτω ἐξ ἀνάγκης, τὸ δὲ Β παντὶ ἐνδεχέσθω ὑπάρχειν. ἐπεὶ οὖν τὸ μὲν Α παντὶ τῷ Γ ἀνάγκη, τὸ δὲ Γ τινὶ τῷ Β ἐνδέχεται, καὶ τὸ Ατινὶ τῷ Β ἐνδεχόμενον ἔσται καὶ οὐχ ὑπάρχον· οὕτω γὰρ συνέπιπτεν ἐπὶ τοῦ πρώτου σχήματος. ὁμοίως δὲ δειχθήσεται καὶ εἰ τὸ μὲν Β Γ τεθείη ἀναγκαῖον, τὸ δὲ Α Γ ἐνδεχόμενον. πάλιν ἔστω τὸ μὲν κατηγορικὸν τὸ δὲ στερητικόν, ἀναγκαῖον δὲ τὸ κατηγορικόν· καὶ τὸ μὲν Α ἐνδεχέσθω μηδενὶ τῷ Γ ὑπάρχειν, τὸ δὲ Β παντὶ ὑπαρχέτω ἐξ ἀνάγκης. ἔσται δὴ πάλιν τὸ πρῶτον σχῆμα· καὶ γὰρ ἡ στερητικὴ πρότασις ἐνδέχεσθαι σημαίνει· φανερὸν οὖν ὅτι τὸ συμπέρασμα ἔσται ἐνδεχόμενον· ὅτε γὰρ οὕτως ἔχοιεν αἱ προτάσεις ἐν τῷ πρώτῳ σχήματι, καὶ τὸ συμπέρασμα ἦν ἐνδεχόμενον. εἰ δ’ ἡ στερητικὴ πρότασις ἀναγκαία, τὸ συμπέρασμα ἔσται καὶ ὅτι ἐνδέχεται τινὶ μὴ ὑπάρχειν καὶ ὅτι οὐχ ὑπάρχει. κείσθω γὰρ τὸ Α τῷ Γ μὴ ὑπάρχειν ἐξ ἀνάγκης, τὸ δὲ Β παντὶ ἐνδέχεσθαι. ἀντιστραφέντος οὖν τοῦ Β Γ καταφατικοῦ τὸ πρῶτον ἔσται σχῆμα, καὶ ἀναγκαία ἡ στερητικὴ πρότασις. ὅτε δ’ οὕτως ἔχοιεν αἱ προτάσεις, συνέβαινε τὸ Α τῷ Γ καὶ ἐνδέχεσθαι τινὶ μὴ ὑπάρχειν καὶ μὴ ὑπάρχειν, ὥστε καὶ τὸ Α τῷ Β ἀνάγκη τινὶ μὴ ὑπάρχειν. ὅταν δὲ τὸ στερητικὸν τεθῇ πρὸς τὸ ἔλαττον ἄκρον, ἐὰν μὲν ἐνδεχόμενον, ἔσται συλλογισμὸς μεταληφθείσης τῆς προτάσεως, καθάπερ ἐν τοῖς πρότερον, ἐὰν δ’ ἀναγκαῖον, οὐκ ἔσται· καὶ γὰρ παντὶ ἀνάγκη καὶ οὐδενὶ ἐνδέχεται ὑπάρχειν. ὅροι τοῦ παντὶ ὑπάρχειν ὕπνος — ἵππος καθεύδων — ἄνθρωπος, τοῦ μηδενὶ ὕπνος — ἵππος ἐγρηγορώς — ἄνθρωπος.

Ὁμοίως δ’ ἕξει καὶ εἰ ὁ μὲν καθόλου τῶν ὅρων ὁ δ’ ἐν μέρει πρὸς τὸ μέσον· κατηγορικῶν μὲν γὰρ ὄντων [40b] ἀμφοτέρων τοῦ ἐνδέχεσθαι καὶ οὐ τοῦ ὑπάρχειν ἔσται συλλογισμός, καὶ ὅταν τὸ μὲν στερητικὸν ληφθῇ τὸ δὲ καταφατικόν, ἀναγκαῖον δὲ τὸ καταφατικόν. ὅταν δὲ τὸ στερητικὸν ἀναγκαῖον, καὶ τὸ συμπέρασμα ἔσται τοῦ μὴ ὑπάρχειν· ὁ γὰραὐτὸς τρόπος ἔσται τῆς δείξεως καὶ καθόλου καὶ μὴ καθόλου τῶν ὅρων ὄντων. ἀνάγκη γὰρ διὰ τοῦ πρώτου σχήματος τελειοῦσθαι τοὺς συλλογισμούς, ὥστε καθάπερ ἐν ἐκείνοις, καὶ ἐπὶ τούτων ἀναγκαῖον συμπίπτειν. ὅταν δὲ τὸ στερητικὸν καθόλου ληφθὲν τεθῇ πρὸς τὸ ἔλαττον ἄκρον, ἐὰν μὲν ἐνδεχόμενον, ἔσται συλλογισμὸς διὰ τῆς ἀντιστροφῆς, ἐὰν δ’ ἀναγκαῖον, οὐκ ἔσται. δειχθήσεται δὲ τὸν αὐτὸν τρόπον ὃν καὶ ἐν τοῖς καθόλου, καὶ διὰ τῶν αὐτῶν ὅρων. φανερὸν οὖν καὶ ἐν τούτῳ τῷ σχήματι πότε καὶ πῶς ἔσται συλλογισμός, καὶ πότε τοῦ ἐνδέχεσθαι καὶ πότε τοῦ ὑπάρχειν. δῆλον δὲ καὶ ὅτι πάντες ἀτελεῖς, καὶ ὅτι τελειοῦνται διὰ τοῦ πρώτου σχήματος.

Κεφάλαιο 23

Ὅτι μὲν οὖν οἱ ἐν τούτοις τοῖς σχήμασι συλλογισμοὶ τελειοῦνταί τε διὰ τῶν ἐν τῷ πρώτῳ σχήματι καθόλου συλλογισμῶν καὶ εἰς τούτους ἀνάγονται, δῆλον ἐκ τῶν εἰρημένων· ὅτι δ' ἁπλῶς πᾶς συλλογισμὸς οὕτως ἕξει, νῦν ἔσται φανερόν, ὅταν δειχθῇ πᾶς γινόμενος διὰ τούτων τινὸς τῶν σχημάτων. Ἀνάγκη δὴ πᾶσαν ἀπόδειξεν καὶ πάντα συλλογισμὸν ἢ ὑπάρχον τι ἢ μὴ ὑπάρχον δεικνύναι, καὶ τοῦτο ἢ καθόλου ἢ κατὰ μέρος, ἔτι ἢ δεικτικῶς ἢ ἐξ ὑποθέσεως. τοῦ δ' ἐξ ὑποθέσεως μέρος τὸ διὰ τοῦ ἀδυνάτου. πρῶτον οὖν εἴπωμεν περὶ τῶν δεικτικῶν· τούτων γὰρ δειχθέντων φανερὸν ἔσται καὶ ἐπὶ τῶν εἰς τὸ ἀδύνατον καὶ ὅλως τῶν ἐξ ὑποθέσεως.

Εἰ δὴ δέοι τὸ Α κατὰ τοῦ Β συλλογίσασθαι ἢ ὑπάρχον ἢ μὴ ὑπάρχον, ἀνάγκη λαβεῖν τι κατά τινος. εἰ μὲν οὖν τὸ Α κατὰ τοῦ Β ληφθείη, τὸ ἐξ ἀρχῆς ἔσται εἰλημμένον. εἰ δὲ κατὰ τοῦ Γ, τὸ δὲ Γ κατὰ μηδενός, μηδ' ἄλλο κατ' ἐκείνου, μηδὲ κατὰ τοῦ Α ἕτερον, οὐδεὶς ἔσται συλλογισμός· τῷ γὰρ ἓν καθ' ἑνὸς ληφθῆναι οὐδὲν συμβαίνει ἐξ ἀνάγκης. ὥστε προσληπτέον καὶ ἑτέραν πρότασιν. ἐὰν μὲν οὖν ληφθῇ τὸ Α κατ' ἄλλου ἢ ἄλλο κατὰ τοῦ Α, ἢ κατὰ τοῦ Γ ἕτερον, εἶναι μὲν συλλογισμὸν οὐδὲν κωλύει, πρὸς μέντοι τὸ Β οὐκ ἔσται διὰ τῶν εἰλημμένων. οὐδ' ὅταν τὸ Γ ἑτέρῳ, κἀκεῖνο ἄλλῳ, καὶ τοῦτο ἑτέρῳ, μὴ [41a] συνάπτῃ δὲ πρὸς τὸ Β, οὐδ' οὕτως ἔσται πρὸς τὸ Β συλλογισμός. ὅλως γὰρ εἴπομεν ὅτι οὐδεὶς οὐδέποτε ἔσται συλλογισμὸς ἄλλου κατ' ἄλλου μὴ ληφθέντος τινὸς μέσου, ὃ πρὸς ἑκάτερον ἔχει πως ταῖς κατηγορίαις· ὁ μὲν γὰρ συλλογισμὸς ἁπλῶς ἐκ προτάσεών ἐστιν, ὁ δὲ πρὸς τόδε συλλογισμὸς ἐκ τῶν πρὸς τόδε προτάσεων, ὁ δὲ τοῦδε πρὸς τόδε διὰ τῶν τοῦδε πρὸς τόδε προτάσεων. ἀδύνατον δὲ πρὸς τὸ Β λαβεῖν πρότασιν μηδὲν μήτε κατηγοροῦντας αὐτοῦ μήτ' ἀπαρνουμένους, ἢ πάλιν τοῦ Α πρὸς τὸ Β μηδὲν κοινὸν λαμβάνοντας ἀλλ' ἑκατέρου ἴδια ἄττα κατηγοροῦντας ἢ ἀπαρνουμένους. ὥστε ληπτέον τι μέσον ἀμφοῖν, ὃ συνάψει τὰς κατηγορίας, εἴπερ ἔσται τοῦδε πρὸς τόδε συλλογισμός. εἰ οὖν ἀνάγκη μέν τι λαβεῖν πρὸς ἄμφω κοινόν, τοῦτο δ' ἐνδέχεται τριχῶς (ἢ γὰρ τὸ Α τοῦ Γ καὶ τὸ Γ τοῦ Β κατηγορήσαντας, ἢ τὸ Γ κατ' ἀμφοῖν, ἢ ἄμφω κατὰ τοῦ Γ), ταῦτα δ' ἐστὶ τὰ εἰρημένα σχήματα, φανερὸν ὅτι πάντα συλλογισμὸν ἀνάγκη γίνεσθαι διὰ τούτων τινὸς τῶν σχημάτων. ὁ γὰρ αὐτὸς λόγος καὶ εἰ διὰ πλειόνων συνάπτοι πρὸς τὸ Β· ταὐτὸ γὰρ ἔσται σχῆμα καὶ ἐπὶ τῶν πολλῶν.

Ὅτι μὲν οὖν οἱ δεικτικοὶ περαίνονται διὰ τῶν προειρημένων σχημάτων, φανερόν· ὅτι δὲ καὶ οἱ εἰς τὸ ἀδύνατον, δῆλον ἔσται διὰ τούτων. πάντες γὰρ οἱ διὰ τοῦ ἀδυνάτου περαίνοντες τὸ μὲν ψεῦδος συλλογίζονται, τὸ δ' ἐξ ἀρχῆς ἐξὑποθέσεως δεικνύουσιν, ὅταν ἀδύνατόν τι συμβαίνῃ τῆς ἀντιφάσεως τεθείσης, οἷον ὅτι ἀσύμμετρος ἡ διάμετρος διὰ τὸ γίνεσθαι τὰ περιττὰ ἴσα τοῖς ἀρτίοις συμμέτρου τεθείσης. τὸ μὲν οὖν ἴσα γίνεσθαι τὰ περιττὰ τοῖς ἀρτίοις συλλογίζεται, τὸ δ' ἀσύμμετρον εἶναι τὴν διάμετρον ἐξ ὑποθέσεως δείκνυσιν, ἐπεὶ ψεῦδος συμβαίνει διὰ τὴν ἀντίφασιν. τοῦτο γὰρ ἦν τὸ διὰ τοῦ ἀδυνάτου συλλογίσασθαι, τὸ δεῖξαί τι ἀδύνατον διὰ τὴν ἐξ ἀρχῆς ὑπόθεσιν. ὥστ' ἐπεὶ τοῦ ψεύδους γίνεται συλλογισμὸς δεικτικὸς ἐν τοῖς εἰς τὸ ἀδύνατον ἀπαγομένοις, τὸ δ' ἐξ ἀρχῆς ἐξ ὑποθέσεως δείκνυται, τοὺς δὲ δεικτικοὺς πρότερον εἴπομεν ὅτι διὰ τούτων περαίνονται τῶν σχημάτων, φανερὸν ὅτι καὶ οἱ διὰ τοῦ ἀδυνάτου συλλογισμοὶ διὰ τούτων ἔσονται τῶν σχημάτων. ὡσαύτως δὲ καὶ οἱ ἄλλοι πάντες οἱ ἐξ ὑποθέσεως· ἐν ἅπασι γὰρ ὁ μὲν συλλογισμὸς γίνεται πρὸς τὸ μεταλαμβανόμενον, τὸ δ' ἐξ ἀρχῆς περαίνεται δι' ὁμολογίας ἤ τινος ἄλλης [41b] ὑποθέσεως. εἰ δὲ τοῦτ' ἀληθές, πᾶσαν ἀπόδειξιν καὶ πάντα συλλογισμὸν ἀνάγκη γίνεσθαι διὰ τριῶν τῶν προειρημένων σχημάτων. τούτου δὲ δειχθέντος δῆλον ὡς ἅπας τε συλλογισμὸς ἐπιτελεῖται διὰ τοῦ πρώτου σχήματος καὶ ἀνάγεται εἰς τοὺς ἐν τούτῳ καθόλου συλλογισμούς.

Κεφάλαιο 24

Ἔτι τε ἐν ἅπαντι δεῖ κατηγορικόν τινα τῶν ὅρων εἶναι καὶ τὸ καθόλου ὑπάρχειν· ἄνευ γὰρ τοῦ καθόλου ἢ οὐκ ἔσται συλλογισμὸς ἢ οὐ πρὸς τὸ κείμενον, ἢ τὸ ἐξ ἀρχῆς αἰτήσεται. κείσθω γὰρ τὴν μουσικὴν ἡδονὴν εἶναι σπουδαίαν. εἰ μὲν οὖν ἀξιώσειεν ἡδονὴν εἶναι σπουδαίαν μὴ προσθεὶς τὸ πᾶσαν, οὐκ ἔσται συλλογισμός· εἰ δὲ τινὰ ἡδονήν, εἰ μὲν ἄλλην, οὐδὲν πρὸς τὸ κείμενον, εἰ δ' αὐτὴν ταύτην, τὸ ἐξ ἀρχῆς λαμβάνει. μᾶλλον δὲ γίνεται φανερὸν ἐν τοῖς διαγράμμασιν, οἷον ὅτι τοῦ ἰσοσκελοῦς ἴσαι αἱ πρὸς τῇ βάσει. ἔστωσαν εἰς τὸ κέντρον ἠγμέναι αἱ Α Β. εἰ οὖν ἴσην λαμβάνοι τὴν Α Γ γωνίαν τῇ Β Δ μὴ ὅλως ἀξιώσας ἴσας τὰς τῶν ἡμικυκλίων, καὶ πάλιν τὴν Γ τῇ Δ μὴ πᾶσαν προσλαβὼν τὴν τοῦ τμήματος, ἔτι δ' ἀπ' ἴσων οὐσῶν τῶν ὅλων γωνιῶν καὶ ἴσων ἀφῃρημένων ἴσας εἶναι τὰς λοιπὰς τὰς Ε Ζ, τὸ ἐξ ἀρχῆς αἰτήσεται, ἐὰν μὴ λάβῃ ἀπὸ τῶν ἴσων ἴσων ἀφαιρουμένων ἴσα λείπεσθαι. φανερὸν οὖν ὅτι ἐν ἅπαντι δεῖ τὸ καθόλου ὑπάρχειν, καὶ ὅτι τὸ μὲν καθόλου ἐξ ἁπάντων τῶν ὅρων καθόλου δείκνυται, τὸ δ' ἐν μέρει καὶ οὕτως κἀκείνως, ὥστ' ἐὰν μὲν ᾖ τὸ συμπέρασμα καθόλου, καὶ τοὺς ὅρους ἀνάγκη καθόλου εἶναι, ἐὰν δ' οἱ ὅροι καθόλου, ἐνδέχεται τὸ συμπέρασμα μὴ εἶναι καθόλου. δῆλον δὲ καὶ ὅτι ἐν ἅπαντι συλλογισμῷ ἢ ἀμφοτέρας ἢ τὴν ἑτέραν πρότασιν ὁμοίαν ἀνάγκη γίνεσθαι τῷ συμπεράσματι. λέγω δ' οὐ μόνον τῷ καταφατικὴν εἶναι ἢ στερητικήν, ἀλλὰ καὶ τῷ ἀναγκαίαν ἢ ὑπάρχουσαν ἢ ἐνδεχομένην. ἐπισκέψασθαι δὲ δεῖ καὶ τὰς ἄλλας κατηγορίας.

Φανερὸν δὲ καὶ ἁπλῶς πότ' ἔσται καὶ πότ' οὐκ ἔσται συλλογισμός, καὶ πότε δυνατὸς καὶ πότε τέλειος, καὶ ὅτι συλλογισμοῦ ὄντος ἀναγκαῖον ἔχειν τοὺς ὅρους κατά τινα τῶν εἰρημένων τρόπων.

Κεφάλαιο 25

Δῆλον δὲ καὶ ὅτι πᾶσα ἀπόδειξις ἔσται διὰ τριῶν ὅρων καὶ οὐ πλειόνων, ἐὰν μὴ δι’ ἄλλων καὶ ἄλλων τὸ αὐτὸ συμπέρασμα γίνηται, οἷον τὸ Ε διά τε τῶν Α Β καὶ διὰ τῶν Γ Δ, ἢ διὰ τῶν Α Β καὶ Α Γ Δ· πλείω γὰρ μέσα τῶν αὐτῶν οὐδὲν εἶναι κωλύει. τούτων δ’ ὄντων οὐχ εἷς ἀλλὰ [42a] πλείους εἰσὶν οἱ συλλογισμοί. ἢ πάλιν ὅταν ἑκάτερον τῶν Α Β διὰ συλλογισμοῦ ληφθῇ (οἷον τὸ Α διὰ τῶν Δ Ε καὶ πάλιν τὸ Β διὰ τῶν Ζ Θ), ἢ τὸ μὲν ἐπαγωγῇ, τὸ δὲ συλλογισμῷ. ἀλλὰ καὶ οὕτως πλείους οἱ συλλογισμοί· πλείω γὰρτὰ συμπεράσματα ἐστιν, οἷον τό τε Α καὶ τὸ Β καὶ τὸ Γ. Εἰ δ’ οὖν μὴ πλείους ἀλλ’ εἷς, οὕτω μὲν ἐνδέχεται γενέσθαι διὰ πλειόνων τὸ αὐτὸ συμπέρασμα, ὡς δὲ τὸ Γ διὰ τῶν Α Β, ἀδύνατον. ἔστω γὰρ τὸ Ε συμπεπερασμένον ἐκ τῶν Α Β Γ Δ. οὐκοῦν ἀνάγκη τι αὐτῶν ἄλλο πρὸς ἄλλο εἰλῆφθαι, τὸ μὲν ὡς ὅλον τὸ δ’ ὡς μέρος· τοῦτο γὰρ δέδεικται πρότερον, ὅτι ὄντος συλλογισμοῦ ἀναγκαῖον οὕτως τινὰς ἔχειν τῶν ὅρων. ἐχέτω οὖν τὸ Α οὕτως πρὸς τὸ Β. ἔστιν ἄρα τι ἐξ αὐτῶν συμπέρασμα. οὐκοῦν ἤτοι τὸ Ε ἢ τῶν Γ Δ θάτερον ἢ ἄλλο τι παρὰ ταῦτα. καὶ εἰ μὲν τὸ Ε, ἐκ τῶν Α Β μόνον ἂν εἴη ὁ συλλογισμός. τὰ δὲ Γ Δ εἰ μὲν ἔχει οὕτως ὥστ’ εἶναι τὸ μὲν ὡς ὅλον τὸ δ’ ὡς μέρος, ἔσται τι καὶ ἐξ ἐκείνων, καὶ ἤτοι τὸ Ε ἢ τῶν Α Β θάτερον ἢ ἄλλο τι παρὰ ταῦτα. καὶ εἰ μὲν τὸ Ε ἢ τῶν Α Β θάτερον, ἢ πλείους ἔσονται οἱ συλλογισμοί, ἢ ὡς ἐνεδέχετο ταὐτὸ διὰ πλειόνων ὅρων περαίνεσθαι συμβαίνει· εἰ δ’ ἄλλο τι παρὰ ταῦτα, πλείους ἔσονται καὶ ἀσύναπτοι οἱ συλλογισμοὶ πρὸς ἀλλήλους. εἰ δὲ μὴ οὕτως ἔχοι τὸ Γ πρὸς τὸ Δ ὥστε ποιεῖν συλλογισμόν, μάτην ἔσται εἰλημμένα, εἰ μὴ ἐπαγωγῆς ἢ κρύψεως ἤ τινος ἄλλου τῶν τοιούτων χάριν.

Εἰ δ’ ἐκ τῶν Α Β μὴ τὸ Ε ἀλλ’ ἄλλο τι γίγνεται συμπέρασμα, ἐκ δὲ τῶν Γ Δ ἢ τούτων θάτερον ἢ ἄλλο παρὰ ταῦτα, πλείους τε οἱ συλλογισμοὶ γίνονται καὶ οὐ τοῦ ὑποκειμένου· ὑπέκειτο γὰρ εἶναι τοῦ Ε τὸν συλλογισμόν. εἰ δὲ μὴ γίνεται ἐκ τῶν Γ Δ μηδὲν συμπέρασμα, μάτην τε εἰλῆφθαι αὐτὰ συμβαίνει καὶ μὴ τοῦ ἐξ ἀρχῆς εἶναι τὸν συλλογισμόν. ὥστε φανερὸν ὅτι πᾶσα ἀπόδειξις καὶ πᾶς συλλογισμὸς ἔσται διὰ τριῶν ὅρων μόνον.

Τούτου δ’ ὄντος φανεροῦ, δῆλον ὡς καὶ ἐκ δύο προτάσεων καὶ οὐ πλειόνων (οἱ γὰρ τρεῖς ὅροι δύο προτάσεις), εἰμὴ προσλαμβάνοιτό τι, καθάπερ ἐν τοῖς ἐξ ἀρχῆς ἐλέχθη, πρὸς τὴν τελείωσιν τῶν συλλογισμῶν.

φανερὸν οὖν ὡς ἐν ᾧ λόγῳ συλλογιστικῷ μὴ ἄρτιαί εἰσιν αἱ προτάσεις δι’ ὧν γίνεται τὸ συμπέρασμα τὸ κύριον (ἔνια γὰρ τῶν ἄνωθεν συμπερασμάτων ἀναγκαῖον εἶναι προτάσεις), οὗτος ὁ λόγος ἢ οὐ συλλελόγισται ἢ πλείω τῶν ἀναγκαίων ἠρώτηκε πρὸς τὴν θέσιν. [42b]

Κατὰ μὲν οὖν τὰς κυρίας προτάσεις λαμβανομένων τῶν συλλογισμῶν, ἅπας ἔσται συλλογισμὸς ἐκ προτάσεων μὲν ἀρτίων ἐξ ὅρων δὲ περιττῶν· ἑνὶ γὰρ πλείους οἱ ὅροι τῶν προτάσεων. ἔσται δὲ καὶ τὰ συμπεράσματα ἡμίση τῶν προτάσεων. ὅταν δὲ διὰ προσυλλογισμῶν περαίνηται ἢ διὰ πλειόνων μέσων συνεχῶν, οἷον τὸ Α Β διὰ τῶν Γ Δ, τὸ μὲν πλῆθος τῶν ὅρων ὡσαύτως ἑνὶ ὑπερέξει τὰς προτάσεις (ἢ γὰρ ἔξωθεν ἢ εἰς τὸ μέσον τεθήσεται ὁ παρεμπίπτων ὅρος· ἀμφοτέρως δὲ συμβαίνει ἑνὶ ἐλάττω εἶναι τὰ διαστήματα τῶν ὅρων), αἱ δὲ προτάσεις ἴσαι τοῖς διαστήμασιν· οὐ μέντοι αἰεὶ αἱ μὲν ἄρτιαι ἔσονται οἱ δὲ περιττοί, ἀλλ’ ἐναλλάξ, ὅταν μὲν αἱ προτάσεις ἄρτιαι, περιττοὶ οἱ ὅροι, ὅταν δ’ οἱ ὅροι ἄρτιοι, περιτταὶ αἱ προτάσεις· ἅμα γὰρ τῷ ὅρῳ μία προστίθεται πρότασις, ἂν ὁποθενοῦν προστεθῇ ὁ ὅρος, ὥστ’ ἐπεὶ αἱ μὲν ἄρτιαι οἱ δὲ περιττοὶ ἦσαν, ἀνάγκη παραλλάττειν τῆς αὐτῆς προσθέσεως γινομένης. τὰ δὲ συμπεράσματα οὐκέτι τὴν αὐτὴν ἕξει τάξιν οὔτε πρὸς τοὺς ὅρους οὔτε πρὸς τὰς προτάσεις· ἑνὸς γὰρ ὅρου προστιθεμένου συμπεράσματα προστεθήσεται ἑνὶ ἐλάττω τῶν προϋπαρχόντων ὅρων· πρὸς μόνον γὰρ τὸν ἔσχατον οὐ ποιεῖ συμπέρασμα, πρὸς δὲ τοὺς ἄλλους πάντας, οἷον εἰ τῷ Α Β Γ πρόσκειται τὸ Δ, εὐθὺς καὶ συμπεράσματα δύο πρόσκειται, τό τε πρὸς τὸ Α καὶ τὸ πρὸς τὸ Β. ὁμοίως δὲ κἀπὶ τῶν ἄλλων. κἂν εἰς τὸ μέσον δὲ παρεμπίπτῃ, τὸν αὐτὸν τρόπον· πρὸς ἕνα γὰρ μόνον οὐ ποιήσει συλλογισμόν. ὥστε πολὺ πλείω τὰ συμπεράσματα καὶ τῶν ὅρων ἔσται καὶ τῶν προτάσεων.

Κεφάλαιο 26

Ἐπεὶ δ’ ἔχομεν περὶ ὧν οἱ συλλογισμοί, καὶ ποῖον ἐν ἑκάστῳ σχήματι καὶ ποσαχῶς δείκνυται, φανερὸν ἡμῖν ἐστὶ καὶ ποῖον πρόβλημα χαλεπὸν καὶ ποῖον εὐεπιχείρητον· τὸ μὲν γὰρ ἐν πλείοσι σχήμασι καὶ διὰ πλειόνων πτώσεων περαινόμενον ῥᾷον, τὸ δ’ ἐν ἐλάττοσι καὶ δι’ ἐλαττόνων δυσεπιχειρητότερον. τὸ μὲν οὖν καταφατικὸν τὸ καθόλου διὰ τοῦ πρώτου σχήματος δείκνυται μόνου, καὶ διὰ τούτου μοναχῶς· τὸ δὲ στερητικὸν διά τε τοῦ πρώτου καὶ διὰ τοῦ μέσου, καὶ διὰ μὲν τοῦ πρώτου μοναχῶς, διὰ δὲ τοῦ μέσου διχῶς· τὸ δ’ ἐν μέρει καταφατικὸν διὰ τοῦ πρώτου καὶ διὰ τοῦ ἐσχάτου, μοναχῶς μὲν διὰ τοῦ πρώτου, τριχῶς δὲ διὰ τοῦ ἐσχάτου. τὸ δὲ στερητικὸν τὸ κατὰ μέρος ἐν ἅπασι τοῖς σχήμασι δείκνυται, πλὴν ἐν μὲν τῷ πρώτῳ μοναχῶς, ἐν δὲ τῷ μέσῳ καὶ τῷ ἐσχάτῳ ἐν τῷ μὲν διχῶς ἐν τῷ δὲ τριχῶς. [43a] φανερὸν οὖν ὅτι τὸ καθόλου κατηγορικὸν κατασκευάσαι μὲν χαλεπώτατον, ἀνασκευάσαι δὲ ῥᾶστον. ὅλως δ’ ἐστὶν ἀναιροῦντι μὲν τὰ καθόλου τῶν ἐν μέρει ῥᾴω· καὶ γὰρ ἢν μηδενὶ καὶ ἢν τινὶ μὴ ὑπάρχῃ, ἀνῄρηται· τούτων δὲ τὸ μὲν τινὶ μὴ ἐν ἅπασι τοῖς σχήμασι δείκνυται, τὸ δὲ μηδενὶ ἐν τοῖς δυσίν. τὸν αὐτὸν δὲ τρόπον κἀπὶ τῶν στερητικῶν· καὶ γὰρ εἰ παντὶ καὶ εἰ τινί, ἀνῄρηται τὸ ἐξ ἀρχῆς· τοῦτο δ’ ἦν ἐν δύο σχήμασιν. ἐπὶ δὲ τῶν ἐν μέρει μοναχῶς, ἢ παντὶ ἢ μηδενὶ δείξαντα ὑπάρχειν. κατασκευάζοντι δὲ ῥᾴω τὰ ἐν μέρει· καὶ γὰρ ἐν πλείοσι σχήμασι καὶ διὰ πλειόνων τρόπων. ὅλως τε οὐ δεῖ λανθάνειν ὅτι ἀνασκευάσαι μὲν δι’ ἀλλήλων ἔστι καὶ τὰ καθόλου διὰ τῶν ἐν μέρει καὶ ταῦτα διὰ τῶν καθόλου, κατασκευάσαι δ’ οὐκ ἔστι διὰ τῶν κατὰ μέρος τὰ καθόλου, δι’ ἐκείνων δὲ ταῦτ’ ἔστιν. ἅμα δὲ δῆλον ὅτι καὶ τὸ ἀνασκευάζειν ἐστὶ τοῦ κατασκευάζειν ῥᾷον.

Πῶς μὲν οὖν γίνεται πᾶς συλλογισμὸς καὶ διὰ πόσων ὅρων καὶ προτάσεων, καὶ πῶς ἐχουσῶν πρὸς ἀλλήλας, ἔτι δὲ ποῖον πρόβλημα ἐν ἑκάστῳ σχήματι καὶ ποῖον ἐν πλείοσι καὶ ποῖον ἐν ἐλάττοσι δείκνυται, δῆλον ἐκ τῶν εἰρημένων.

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πῶς δ’ εὐπορήσομεν αὐτοὶ πρὸς τὸ τιθέμενον ἀεὶ συλλογισμῶν, καὶ διὰ ποίας ὁδοῦ ληψόμεθα τὰς περὶ ἕκαστον ἀρχάς, νῦν ἤδη λεκτέον· οὐ γὰρ μόνον ἴσως δεῖ τὴν γένεσιν θεωρεῖν τῶν συλλογισμῶν, ἀλλὰ καὶ τὴν δύναμιν ἔχειν τοῦ ποιεῖν. Ἁπάντων δὴ τῶν ὄντων τὰ μέν ἐστι τοιαῦτα ὥστε κατὰ μηδενὸς ἄλλου κατηγορεῖσθαι ἀληθῶς καθόλου (οἷον Κλέων καὶ Καλλίας καὶ τὸ καθ’ ἕκαστον καὶ αἰσθητόν), κατὰ δὲ τούτων ἄλλα (καὶ γὰρ ἄνθρωπος καὶ ζῷον ἑκάτερος τούτων ἐστί)· τὰ δ’ αὐτὰ μὲν κατ’ ἄλλων κατηγορεῖται, κατὰ δὲ τούτων ἄλλα πρότερον οὐ κατηγορεῖται· τὰ δὲ καὶ αὐτὰ ἄλλων καὶ αὐτῶν ἕτερα, οἷον ἄνθρωπος Καλλίου καὶ ἀνθρώπου ζῷον. ὅτι μὲν οὖν ἔνια τῶν ὄντων κατ’ οὐδενὸς πέφυκε λέγεσθαι, δῆλον· τῶν γὰρ αἰσθητῶν σχεδὸν ἕκαστόν ἐστι τοιοῦτον ὥστε μὴ κατηγορεῖσθαι κατὰ μηδενός, πλὴν ὡς κατὰ συμβεβηκός· φαμὲν γάρ ποτε τὸ λευκὸν ἐκεῖνο Σωκράτην εἶναι καὶ τὸ προσιὸν Καλλίαν. ὅτι δὲ καὶ ἐπὶ τὸ ἄνω πορευομένοις ἵσταταί ποτε, πάλιν ἐροῦμεν· νῦν δ’ ἔστω τοῦτο κείμενον. κατὰ μὲν οὖν τούτων οὐκ ἔστιν ἀποδεῖξαι κατηγορούμενον ἕτερον, πλὴν εἰ μὴ κατὰ δόξαν, ἀλλὰ ταῦτα κατ’ ἄλλων· οὐδὲ τὰ καθ’ ἕκαστα κατ’ ἄλλων, ἀλλ’ ἕτερα κατ’ ἐκείνων. τὰ δὲ μεταξὺ δῆλον ὡς ἀμφοτέρως ἐνδέχεται (καὶ γὰρ αὐτὰ κατ’ ἄλλων καὶ ἄλλα κατὰ τούτων λεχθήσεται)· καὶ σχεδὸν οἱ λόγοι καὶ αἱ σκέψεις εἰσὶ μάλιστα περὶ τούτων.[43b] Δεῖ δὴ τὰς προτάσεις περὶ ἕκαστον οὕτως ἐκλαμβάνειν, ὑποθέμενον αὐτὸ πρῶτον καὶ τοὺς ὁρισμούς τε καὶ ὅσα ἴδια τοῦ πράγματός ἐστιν, εἶτα μετὰ τοῦτο ὅσα ἕπεται τῷ πράγματι, καὶ πάλιν οἷς τὸ πρᾶγμα ἀκολουθεῖ, καὶ ὅσα μὴ ἐνδέχεται αὐτῷ ὑπάρχειν. οἷς δ’ αὐτὸ μὴ ἐνδέχεται, οὐκ ἐκληπτέον διὰ τὸ ἀντιστρέφειν τὸ στερητικόν. διαιρετέον δὲ καὶ τῶν ἑπομένων ὅσα τε ἐν τῷ τί ἐστι καὶ ὅσα ἴδια καὶ ὅσα ὡς συμβεβηκότα κατηγορεῖται, καὶ τούτων ποῖα δοξαστικῶς καὶ ποῖα κατ’ ἀλήθειαν· ὅσῳ μὲν γὰρ ἂν πλειόνων τοιούτων εὐπορῇ τις, θᾶττον ἐντεύξεται συμπεράσματι, ὅσῳ δ’ ἂν ἀληθεστέρων, μᾶλλον ἀποδείξει.

Δεῖ δ’ ἐκλέγειν μὴ τὰ ἑπόμενα τινί, ἀλλ’ ὅσα ὅλῳ τῷ πράγματι ἕπεται, οἷον μὴ τί τινὶ ἀνθρώπῳ ἀλλὰ τί παντὶ ἀνθρώπῳ ἕπεται· διὰ γὰρ τῶν καθόλου προτάσεων ὁ συλλογισμός. ἀδιορίστου μὲν οὖν ὄντος ἄδηλον εἰ καθόλου ἡ πρότασις, διωρισμένου δὲ φανερόν. ὁμοίως δ’ ἐκλεκτέον καὶ οἷς αὐτὸ ἕπεται ὅλοις, διὰ τὴν εἰρημένην αἰτίαν. αὐτὸ δὲ τὸ ἑπόμενον οὐ ληπτέον ὅλον ἕπεσθαι, λέγω δ' οἷον ἀνθρώπῳ πᾶν ζῷον ἢ μουσικῇ πᾶσαν ἐπιστήμην, ἀλλὰ μόνον ἁπλῶς ἀκολουθεῖν, καθάπερ καὶ προτεινόμεθα· καὶ γὰρ ἄχρηστον θάτερον καὶ ἀδύνατον, οἷον πάντα ἄνθρωπον εἶναι πᾶν ζῷον ἢ δικαιοσύνην ἅπαν ἀγαθόν. ἀλλ' ᾧ ἕπεται, ἐπ' ἐκείνου τὸ παντὶ λέγεται. ὅταν δ' ὑπό τινος περιέχηται τὸ ὑποκείμενον ᾧ τὰ ἑπόμενα δεῖ λαβεῖν, τὰ μὲν τῷ καθόλου ἑπόμενα ἢ μὴ ἑπόμενα οὐκ ἐκλεκτέον ἐν τούτοις (εἴληπται γὰρ ἐν ἐκείνοις· ὅσα γὰρ ζῴῳ, καὶ ἀνθρώπῳ ἕπεται, καὶ ὅσα μὴ ὑπάρχει, ὡσαύτως), τὰ δὲ περὶ ἕκαστον ἴδια ληπτέον· ἔστι γὰρ ἄττα τῷ εἴδει ἴδια παρὰ τὸ γένος· ἀνάγκη γὰρ τοῖς ἑτέροις εἴδεσιν ἴδια ἄττα ὑπάρχειν. οὐδὲ δὴ τῷ καθόλου ἐκλεκτέον οἷς ἕπεται τὸ περιεχόμενον, οἷον ζῴῳ οἷς ἕπεται ἄνθρωπος· ἀνάγκη γάρ, εἰ ἀνθρώπῳ ἀκολουθεῖ τὸ ζῷον, καὶ τούτοις ἅπασιν ἀκολουθεῖν, οἰκειότερα δὲ ταῦτα τῆς τοῦ ἀνθρώπου ἐκλογῆς. ληπτέον δὲ καὶ τὰ ὡς ἐπὶ τὸ πολὺ ἑπόμενα καὶ οἷς ἕπεται· τῶν γὰρ ὡς ἐπὶ τὸ πολὺ προβλημάτων καὶ ὁ συλλογισμὸς ἐκ τῶν ὡς ἐπὶ τὸ πολὺ προτάσεων, ἢ πασῶν ἢ τινῶν· ὅμοιον γὰρ ἑκάστου τὸ συμπέρασμα ταῖς ἀρχαῖς. ἔτι τὰ πᾶσιν ἑπόμενα οὐκ ἐκλεκτέον· οὐ γὰρ ἔσται συλλογισμὸς ἐξ αὐτῶν. δι' ἣν δ' αἰτίαν, ἐν τοῖς ἑπομένοις ἔσται δῆλον.

Κεφάλαιο 28

Κατασκευάζειν μὲν οὖν βουλομένοις κατά τινος ὅλου τοῦ μὲν κατασκευαζομένου βλεπτέον εἰς τὰ ὑποκείμενα καθ’ ὧν αὐτὸ τυγχάνει λεγόμενον, οὗ δὲ δεῖ κατηγορεῖσθαι, ὅσα τούτῳ ἕπεται· ἂν γάρ τι τούτων ᾖ ταὐτόν, ἀνάγκη θάτερον θατέρῳ ὑπάρχειν. ἢν δὲ μὴ ὅτι παντὶ ἀλλ’ ὅτι τινί, οἷς [44a] ἕπεται ἑκάτερον· εἰ γάρ τι τούτων ταὐτόν, ἀνάγκη τινὶ ὑπάρχειν. ὅταν δὲ μηδενὶ δέῃ ὑπάρχειν, ᾧ μὲν οὐ δεῖ ὑπάρχειν, εἰς τὰ ἑπόμενα, ὃ δὲ δεῖ μὴ ὑπάρχειν, εἰς ἃ μὴ ἐνδέχεται αὐτῷ παρεῖναι· ἢ ἀνάπαλιν, ᾧ μὲν δεῖ μὴ ὑπάρχειν, εἰς ἃ μὴ ἐνδέχεται αὐτῷ παρεῖναι, ὃ δὲ μὴ ὑπάρχειν, εἰς τὰ ἑπόμενα. τούτων γὰρ ὄντων τῶν αὐτῶν ὁποτερωνοῦν, οὐδενὶ ἐνδέχεται θατέρῳ θάτερον ὑπάρχειν· γίνεται γὰρ ὁτὲ μὲν ὁ ἐν τῷ πρώτῳ σχήματι συλλογισμός, ὁτὲ δ’ ὁ ἐν τῷ μέσῳ. ἐὰν δὲ τινὶ μὴ ὑπάρχειν, ᾧ μὲν δεῖ μὴ ὑπάρχειν, οἷς ἕπεται, ὃ δὲ μὴ ὑπάρχειν, ἃ μὴ δυνατὸν αὐτῷ ὑπάρχειν· εἰ γάρ τι τούτων εἴη ταὐτόν, ἀνάγκη τινὶ μὴ ὑπάρχειν.

Μᾶλλον δ’ ἴσως ὧδ’ ἔσται τῶν λεγομένων ἕκαστον φανερόν. ἔστω γὰρ τὰ μὲν ἑπόμενα τῷ Α ἐφ’ ὧν Β, οἷς δ’ αὐτὸ ἕπεται, ἐφ’ ὧν Γ, ἃ δὲ μὴ ἐνδέχεται αὐτῷ ὑπάρχειν, ἐφ’ ὧν Δ· πάλιν δὲ τῷ Ε τὰ μὲν ὑπάρχοντα, ἐφ’ οἷς Ζ, οἷς δ’ αὐτὸ ἕπεται, ἐφ’ οἷς Η, ἃ δὲ μὴ ἐνδέχεται αὐτῷ ὑπάρχειν, ἐφ’ οἷς Θ. εἰ μὲν οὖν ταὐτό τί ἐστι τῶν Γ τινὶ τῶν Ζ, ἀνάγκη τὸ Α παντὶ τῷ Ε ὑπάρχειν· τὸ μὲν γὰρ Ζ παντὶ τῷ Ε, τῷ δὲ Γ παντὶ τὸ Α, ὥστε παντὶ τῷ Ε τὸ Α. εἰ δὲ τὸ Γ καὶ τὸ Η ταὐτόν, ἀνάγκη τινὶ τῷ Ε τὸ Α ὑπάρχειν· τῷ μὲν γὰρ Γ τὸ Α, τῷ δὲ Η τὸ Ε παντὶ ἀκολουθεῖ. εἰ δὲ τὸ Ζ καὶ τὸ Δ ταὐτόν, οὐδενὶ τῶν Ε τὸ Α ὑπάρξει ἐκ προσυλλογισμοῦ· ἐπεὶ γὰρ ἀντιστρέφει τὸ στερητικὸν καὶ τὸ Ζ τῷ Δ ταὐτόν, οὐδενὶ τῶν Ζ ὑπάρξει τὸ Α, τὸ δὲ Ζ παντὶ τῷ Ε. πάλιν εἰ τὸ Β καὶ τὸ Θ ταὐτόν, οὐδενὶ τῶν Ε τὸ Α ὑπάρξει· τὸ γὰρ Β τῷ μὲν Α παντί, τῷ δ’ ἐφ’ ᾧ τὸ Ε οὐδενὶ ὑπάρξει· ταὐτὸ γὰρ ἦν τῷ Θ, τὸ δὲ Θ οὐδενὶ τῶν Ε ὑπῆρχεν. εἰ δὲ τὸ Δ καὶ τὸ Η ταὐτόν, τὸ Α τινὶ τῷ Ε οὐχ ὑπάρξει· τῷ γὰρ Η οὐχ ὑπάρξει, ὅτι οὐδὲ τῷ Δ· τὸ δὲ Η ἐστὶν ὑπὸ τὸ Ε, ὥστε τινὶ τῶν Ε οὐχ ὑπάρξει. εἰ δὲ τῷ Η τὸ Β ταὐτόν, ἀντεστραμμένος ἔσται συλλογισμός· τὸ μὲν γὰρ Ε τῷ Α ὑπάρξει παντί — τὸ γὰρ Β τῷ Α, τὸ δὲ Ε τῷ Β (ταὐτὸ γὰρ ἦν τῷ Η) — τὸ δὲ Α τῷ Ε παντὶ μὲν οὐκ ἀνάγκη ὑπάρχειν, τινὶ δ’ ἀνάγκη διὰ τὸ ἀντιστρέφειν τὴν καθόλου κατηγορίαν τῇ κατὰ μέρος.

Φανερὸν οὖν ὅτι εἰς τὰ προειρημένα βλεπτέον ἑκατέρου καθ’ ἕκαστον πρόβλημα· διὰ τούτων γὰρ ἅπαντες οἱ συλλογισμοί. δεῖ δὲ καὶ τῶν ἑπομένων, καὶ οἷς ἕπεται ἕκαστον, εἰς τὰ πρῶτα καὶ τὰ καθόλου μάλιστα βλέπειν, οἷον τοῦ μὲν Ε μᾶλλον εἰς τὸ Κ Ζ ἢ εἰς τὸ Ζ μόνον, τοῦ δὲ Α εἰς [44b] τὸ Κ Γ ἢ εἰς τὸ Γ μόνον. εἰ μὲν γὰρ τῷ Κ Ζ ὑπάρχει τὸ Α, καὶ τῷ Ζ καὶ τῷ Ε ὑπάρχει· εἰ δὲ τούτῳ μὴ ἕπεται, ἐγχωρεῖ τῷ Ζ ἕπεσθαι. ὁμοίως δὲ καὶ ἐφ’ ὧν αὐτὸ ἀκολουθεῖ σκεπτέον· εἰ μὲν γὰρ τοῖς πρώτοις, καὶ τοῖς ὑπ’ ἐκεῖνα ἕπεται, εἰ δὲ μὴ τούτοις, ἀλλὰ τοῖς ὑπὸ ταῦτα ἐγχωρεῖ.

Δῆλον δὲ καὶ ὅτι διὰ τῶν τριῶν ὅρων καὶ τῶν δύο προτάσεων ἡ σκέψις, καὶ διὰ τῶν προειρημένων σχημάτων οἱ συλλογισμοὶ πάντες. δείκνυται γὰρ ὑπάρχειν μὲν παντὶ τῷ Ε τὸ Α, ὅταν τῶν Γ καὶ Ζ ταὐτόν τι ληφθῇ. τοῦτο δ’ ἔσται μέσον, ἄκρα δὲ τὸ Α καὶ Ε· γίνεται οὖν τὸ πρῶτον σχῆμα. τινὶ δέ, ὅταν τὸ Γ καὶ τὸ Η ληφθῇ ταὐτόν. τοῦτο δὲ τὸ ἔσχατον σχῆμα· μέσον γὰρ τὸ Η γίνεται. μηδενὶ δέ, ὅταν τὸ Δ καὶ Ζ ταὐτόν. οὕτω δὲ καὶ τὸ πρῶτον σχῆμα καὶ τὸ μέσον, τὸ μὲν πρῶτον ὅτι οὐδενὶ τῷ Ζ ὑπάρχει τὸ Α (εἴπερ ἀντιστρέφει τὸ στερητικόν), τὸ δὲ Ζ παντὶ τῷ Ε, τὸ δὲ μέσον ὅτι τὸ Δ τῷ μὲν Α οὐδενὶ τῷ δὲ Ε παντὶ ὑπάρχει. τινὶ δὲ μὴ ὑπάρχειν, ὅταν τὸ Δ καὶ Η ταὐτὸν ᾖ. τοῦτο δὲ τὸ ἔσχατον σχῆμα· τὸ μὲν γὰρ Α οὐδενὶ τῷ Η ὑπάρξει, τὸ δὲ Ε παντὶ τῷ Η. φανερὸν οὖν ὅτι διὰ τῶν προειρημένων σχημάτων οἱ συλλογισμοὶ πάντες, καὶ ὅτι οὐκ ἐκλεκτέον ὅσα πᾶσιν ἕπεται, διὰ τὸ μηδένα γίγνεσθαι συλλογισμὸν ἐξ αὐτῶν. κατασκευάζειν μὲν γὰρ ὅλως οὐκ ἦν ἐκ τῶν ἑπομένων, ἀποστερεῖν δ’ οὐκ ἐνδέχεται διὰ τοῦ πᾶσιν ἑπομένου· δεῖ γὰρ τῷ μὲν ὑπάρχειν τῷ δὲ μὴ ὑπάρχειν.

Φανερὸν δὲ καὶ ὅτι αἱ ἄλλαι σκέψεις τῶν κατὰ τὰς ἐκλογὰς ἄχρειοι πρὸς τὸ ποιεῖν συλλογισμόν, οἷον εἰ τὰ ἑπόμενα ἑκατέρῳ ταὐτά ἐστιν, ἢ εἰ οἷς ἕπεται τὸ Α καὶ ἃ μὴ ἐνδέχεται τῷ Ε, ἢ ὅσα πάλιν μὴ ἐγχωρεῖ ἑκατέρῳ ὑπάρχειν· οὐ γὰρ γίνεται συλλογισμὸς διὰ τούτων. εἰ μὲν γὰρ τὰ ἑπόμενα ταὐτά, οἷον τὸ Β καὶ τὸ Ζ, τὸ μέσον γίνεται σχῆμα κατηγορικὰς ἔχον τὰς προτάσεις· εἰ δ’ οἷς ἕπεται τὸ Α καὶ ἃ μὴ ἐνδέχεται τῷ Ε, οἷον τὸ Γ καὶ τὸ Θ, τὸ πρῶτον σχῆμα στερητικὴν ἔχον τὴν πρὸς τὸ ἔλαττον ἄκρον πρότασιν. εἰ δ’ ὅσα μὴ ἐνδέχεται ἑκατέρῳ, οἷον τὸ Δ καὶ τὸ Θ, στερητικαὶ ἀμφότεραι αἱ προτάσεις, ἢ ἐν τῷ πρώτῳ ἢ ἐν τῷ μέσῳ σχήματι. οὕτως δ’ οὐδαμῶς συλλογισμός.

Δῆλον δὲ καὶ ὅτι ὁποῖα ταὐτὰ ληπτέον τὰ κατὰ τὴν ἐπίσκεψιν, καὶ οὐχ ὁποῖα ἕτερα ἢ ἐναντία, πρῶτον μὲν ὅτι τοῦ μέσου χάριν ἡ ἐπίβλεψις, τὸ δὲ μέσον οὐχ ἕτερον [45a] ἀλλὰ ταὐτὸν δεῖ λαβεῖν. εἶτα ἐν ὅσοις καὶ συμβαίνει γίνεσθαι συλλογισμὸν τῷ ληφθῆναι ἐναντία ἢ μὴ ἐνδεχόμενα τῷ αὐτῷ ὑπάρχειν, εἰς τοὺς προειρημένους ἅπαντα ἀναχθήσεται τρόπους, οἷον εἰ τὸ B καὶ τὸ Z ἐναντία ἢ μὴ ἐνδέχεται τῷ αὐτῷ ὑπάρχειν· ἔσται μὲν γὰρ τούτων ληφθέντων συλλογισμὸς ὅτι οὐδενὶ τῶν E τὸ A ὑπάρχει, ἀλλ’ οὐκ ἐξ αὐτῶν ἀλλ’ ἐκ τοῦ προειρημένου τρόπου· τὸ γὰρ B τῷ μὲν A παντὶ τῷ δὲ E οὐδενὶ ὑπάρξει· ὥστ’ ἀνάγκη ταὐτὸ εἶναι τὸ B τινὶ τῷ Θ. [πάλιν εἰ τὸ B καὶ H μὴ ἐγχωρεῖ τῷ αὐτῷ παρεῖναι, ὅτι τινὶ τῷ E οὐχ ὑπάρξει τὸ A· καὶ γὰρ οὕτως τὸ μέσον ἔσται σχῆμα· τὸ γὰρ B τῷ μὲν A παντὶ τῷ δὲ E οὐδενὶ ὑπάρξει· ὥστ’ ἀνάγκη τὸ B ταὐτόν τινι εἶναι τῶν Θ. τὸ γὰρ μὴ ἐνδέχεσθαι τὸ B καὶ τὸ H τῷ αὐτῷ ὑπάρχειν οὐδὲν διαφέρει ἢ τὸ B τῶν Θ τινὶ ταὐτὸν εἶναι· πάντα γὰρ εἴληπται τὰ μὴ ἐνδεχόμενα τῷ E ὑπάρχειν.]

Φανερὸν οὖν ὅτι ἐξ αὐτῶν μὲν τούτων τῶν ἐπιβλέψεων οὐδεὶς γίνεται συλλογισμός, ἀνάγκη δ’ εἰ τὸ B καὶ τὸ Z ἐναντία, ταὐτόν τινι εἶναι τὸ B τῶν Θ καὶ τὸν συλλογισμὸν γίγνεσθαι διὰ τούτων. συμβαίνει δὴ τοῖς οὕτως ἐπισκοποῦσι προσεπιβλέπειν ἄλλην ὁδὸν τῆς ἀναγκαίας διὰ τὸ λανθάνειν τὴν ταὐτότητα τῶν B καὶ τῶν Θ.

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Τὸν αὐτὸν δὲ τρόπον ἔχουσι καὶ οἱ εἰς τὸ ἀδύνατον ἄγοντες συλλογισμοὶ τοῖς δεικτικοῖς· καὶ γὰρ οὗτοι γίνονται διὰ τῶν ἑπομένων καὶ οἷς ἕπεται ἑκάτερον. καὶ ἡ αὐτὴ ἐπίσκεψις ἐν ἀμφοῖν· ὃ γὰρ δείκνυται δεικτικῶς, καὶ διὰ τοῦ ἀδυνάτου ἔστι συλλογίσασθαι διὰ τῶν αὐτῶν ὅρων, καὶ ὃ διὰ τοῦ ἀδυνάτου, καὶ δεικτικῶς, οἷον ὅτι τὸ Α οὐδενὶ τῷ Ε ὑπάρχει. κείσθω γὰρ τινὶ ὑπάρχειν· οὐκοῦν ἐπεὶ τὸ Β παντὶ τῷ Α, τὸ δὲ Α τινὶ τῷ Ε, τὸ Β τινὶ τῶν Ε ὑπάρξει· ἀλλ’ οὐδενὶ ὑπῆρχεν. πάλιν ὅτι τινὶ ὑπάρχει· εἰ γὰρ μηδενὶ τῷ Ε τὸ Α, τὸ δὲ Ε παντὶ τῷ Η, οὐδενὶ τῶν Η ὑπάρξει τὸ Α· ἀλλὰ παντὶ ὑπῆρχεν. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων προβλημάτων· ἀεὶ γὰρ ἔσται καὶ ἐν ἅπασιν ἡ διὰ τοῦ ἀδυνάτου δεῖξις ἐκ τῶν ἑπομένων καὶ οἷς ἕπεται ἑκάτερον. καὶ καθ’ ἕκαστον πρόβλημα ἡ αὐτὴ σκέψις δεικτικῶς τε βουλομένῳ συλλογίσασθαι καὶ εἰς ἀδύνατον ἀγαγεῖν· ἐκ γὰρ τῶν αὐτῶν ὅρων ἀμφότεραι αἱ ἀποδείξεις, οἷον εἰ δέδεικται μηδενὶ ὑπάρχειν τῷ Ε τὸ Α, ὅτι συμβαίνει καὶ τὸ Β τινὶ τῷ Ε ὑπάρχειν, ὅπερ ἀδύνατον· ἐὰν ληφθῇ τῷ μὲν Ε μηδενὶ τῷ δὲ Α παντὶ ὑπάρχειν τὸ Β, φανερὸν [45b] ὅτι οὐδενὶ τῷ Ε τὸ Α ὑπάρξει. πάλιν εἰ δεικτικῶς συλλελόγισται τὸ Α τῷ Ε μηδενὶ ὑπάρχειν, ὑποθεμένοις ὑπάρχειν τινὶ διὰ τοῦ ἀδυνάτου δειχθήσεται οὐδενὶ ὑπάρχον. ὁμοίως δὲ κἀπὶ τῶν ἄλλων· ἐν ἅπασι γὰρ ἀνάγκη κοινόν τινα λαβεῖν ὅρον ἄλλον τῶν ὑποκειμένων, πρὸς ὃν ἔσται τοῦ ψεύδους ὁ συλλογισμός, ὥστ’ ἀντιστραφείσης ταύτης τῆς προτάσεως, τῆς δ’ ἑτέρας ὁμοίως ἐχούσης, δεικτικὸς ἔσται ὁ συλλογισμὸς διὰ τῶν αὐτῶν ὅρων. διαφέρει γὰρ ὁ δεικτικὸς τοῦ εἰς τὸ ἀδύνατον, ὅτι ἐν μὲν τῷ δεικτικῷ κατ’ ἀλήθειαν ἀμφότεραι τίθενται αἱ προτάσεις, ἐν δὲ τῷ εἰς τὸ ἀδύνατον ψευδῶς ἡ μία.

Ταῦτα μὲν οὖν ἔσται μᾶλλον φανερὰ διὰ τῶν ἑπομένων, ὅταν περὶ τοῦ ἀδυνάτου λέγωμεν· νῦν δὲ τοσοῦτον ἡμῖν ἔστω δῆλον, ὅτι εἰς ταὐτὰ βλεπτέον δεικτικῶς τε βουλομένῳ συλλογίζεσθαι καὶ εἰς τὸ ἀδύνατον ἄγειν. ἐν δὲ τοῖς ἄλλοις συλλογισμοῖς τοῖς ἐξ ὑποθέσεως, οἷον ὅσοι κατὰ μετάληψιν ἢ κατὰ ποιότητα, ἐν τοῖς ὑποκειμένοις, οὐκ ἐν τοῖς ἐξ ἀρχῆς ἀλλ’ ἐν τοῖς μεταλαμβανομένοις, ἔσται ἡ σκέψις, ὁ δὲ τρόπος ὁ αὐτὸς τῆς ἐπιβλέψεως. ἐπισκέψασθαι δὲ δεῖ καὶ διελεῖν ποσαχῶς οἱ ἐξ ὑποθέσεως.

Δείκνυται μὲν οὖν ἕκαστον τῶν προβλημάτων οὕτως, ἔστι δὲ καὶ ἄλλον τρόπον ἔνια συλλογίσασθαι τούτων, οἷον τὰ καθόλου διὰ τῆς κατὰ μέρος ἐπιβλέψεως ἐξ ὑποθέσεως. εἰ γὰρ τὸ Γ καὶ τὸ Η ταὐτὰ εἴη, μόνοις δὲ ληφθείη τοῖς Η τὸ Ε ὑπάρχειν, παντὶ ἂν τῷ Ε τὸ Α ὑπάρχοι· καὶ πάλιν εἰ τὸ Δ καὶ Η ταὐτά, μόνων δὲ τῶν Η τὸ Ε κατηγοροῖτο, ὅτι οὐδενὶ τῷ Ε τὸ Α ὑπάρξει. φανερὸν οὖν ὅτι καὶ οὕτως ἐπιβλεπτέον. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἀναγκαίων καὶ τῶν ἐνδεχομένων· ἡ γὰρ αὐτὴ σκέψις, καὶ διὰ τῶν αὐτῶν ὅρων ἔσται τῇ τάξει τοῦ τ' ἐνδέχεσθαι καὶ τοῦ ὑπάρχειν ὁ συλλογισμός. ληπτέον δ' ἐπὶ τῶν ἐνδεχομένων καὶ τὰ μὴ ὑπάρχοντα δυνατὰ δ' ὑπάρχειν· δέδεικται γὰρ ὅτι καὶ διὰ τούτων γίνεται ὁ τοῦ ἐνδέχεσθαι συλλογισμός. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων κατηγοριῶν.

Φανερὸν οὖν ἐκ τῶν εἰρημένων οὐ μόνον ὅτι ἐγχωρεῖ διὰ ταύτης τῆς ὁδοῦ γίνεσθαι πάντας τοὺς συλλογισμούς, ἀλλὰ καὶ ὅτι δι' ἄλλης ἀδύνατον. ἅπας μὲν γὰρ συλλογισμὸς δέδεικται διά τινος τῶν προειρημένων σχημάτων γινόμενος, ταῦτα δ' οὐκ ἐγχωρεῖ δι' ἄλλων συσταθῆναι πλὴν διὰ τῶν ἑπομένων καὶ οἷς ἕπεται ἕκαστον· ἐκ τούτων γὰρ [46a] αἱ προτάσεις καὶ ἡ τοῦ μέσου λῆψις, ὥστ' οὐδὲ συλλογισμὸν ἐγχωρεῖ γίνεσθαι δι' ἄλλων.

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Ἡ μὲν οὖν ὁδὸς κατὰ πάντων ἡ αὐτὴ καὶ περὶ φιλοσοφίαν καὶ περὶ τέχνην ὁποιανοῦν καὶ μάθημα· δεῖ γὰρ τὰ ὑπάρχοντα καὶ οἷς ὑπάρχει περὶ ἑκάτερον ἀθρεῖν, καὶ τούτων ὡς πλείστων εὐπορεῖν, καὶ ταῦτα διὰ τῶν τριῶν ὅρων σκοπεῖν, ἀνασκευάζοντα μὲν ὡδί, κατασκευάζοντα δὲ ὡδί, κατὰ μὲν ἀλήθειαν ἐκ τῶν κατ’ ἀλήθειαν διαγεγραμμένων ὑπάρχειν, εἰς δὲ τοὺς διαλεκτικοὺς συλλογισμοὺς ἐκ τῶν κατὰ δόξαν προτάσεων. αἱ δ’ ἀρχαὶ τῶν συλλογισμῶν καθόλου μὲν εἴρηνται, ὃν τρόπον τ’ ἔχουσι καὶ ὃν τρόπον δεῖ θηρεύειν αὐτάς, ὅπως μὴ βλέπωμεν εἰς ἅπαντα τὰ λεγόμενα, μηδ’ εἰς ταὐτὰ κατασκευάζοντες καὶ ἀνασκευάζοντες, μηδὲ κατασκευάζοντές τε κατὰ παντὸς ἢ τινὸς καὶ ἀνασκευάζοντες ἀπὸ πάντων ἢ τινῶν, ἀλλ’ εἰς ἐλάττω καὶ ὡρισμένα, καθ’ ἕκαστον δὲ ἐκλέγειν τῶν ὄντων, οἷον περὶ ἀγαθοῦ ἢ ἐπιστήμης. ἴδιαι δὲ καθ’ ἑκάστην αἱ πλεῖσται. διὸ τὰς μὲν ἀρχὰς τὰς περὶ ἕκαστον ἐμπειρίας ἐστὶ παραδοῦναι, λέγω δ’ οἷον τὴν ἀστρολογικὴν μὲν ἐμπειρίαν τῆς ἀστρολογικῆς ἐπιστήμης (ληφθέντων γὰρ ἱκανῶς τῶν φαινομένων οὕτως εὑρέθησαν αἱ ἀστρολογικαὶ ἀποδείξεις), ὁμοίως δὲ καὶ περὶ ἄλλην ὁποιανοῦν ἔχει τέχνην τε καὶ ἐπιστήμην· ὥστ’ ἐὰν ληφθῇ τὰ ὑπάρχοντα περὶ ἕκαστον, ἡμέτερον ἤδη τὰς ἀποδείξεις ἑτοίμως ἐμφανίζειν. εἰ γὰρ μηδὲν κατὰ τὴν ἱστορίαν παραλειφθείη τῶν ἀληθῶς ὑπαρχόντων τοῖς πράγμασιν, ἕξομεν περὶ ἅπαντος οὗ μὲν ἔστιν ἀπόδειξις, ταύτην εὑρεῖν καὶ ἀποδεικνύναι, οὗ δὲ μὴ πέφυκεν ἀπόδειξις, τοῦτο ποιεῖν φανερόν.

Καθόλου μὲν οὖν, ὃν δεῖ τρόπον τὰς προτάσεις ἐκλέγειν, εἴρηται σχεδόν· δι’ ἀκριβείας δὲ διεληλύθαμεν ἐν τῇ πραγματείᾳ τῇ περὶ τὴν διαλεκτικήν.

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Ὅτι δ’ ἡ διὰ τῶν γενῶν διαίρεσις μικρόν τι μόριόν ἐστι τῆς εἰρημένης μεθόδου, ῥᾴδιον ἰδεῖν· ἔστι γὰρ ἡ διαίρεσις οἷον ἀσθενὴς συλλογισμός· ὃ μὲν γὰρ δεῖ δεῖξαι αἰτεῖται, συλλογίζεται δ’ ἀεί τι τῶν ἄνωθεν. πρῶτον δ’ αὐτὸ τοῦτο ἐλελήθει τοὺς χρωμένους αὐτῇ πάντας, καὶ πείθειν ἐπεχείρουν ὡς ὄντος δυνατοῦ περὶ οὐσίας ἀπόδειξιν γενέσθαι καὶ τοῦ τί ἐστιν. ὥστ’ οὔτε ὅ τι ἐνδέχεται συλλογίσασθαι διαιρουμένοις ξυνίεσαν, οὔτε ὅτι οὕτως ἐνεδέχετο ὥσπερ εἰρήκαμεν. ἐν μὲν οὖν ταῖς ἀποδείξεσιν, ὅταν δέῃ τι συλλογίσασθαι ὑπάρχειν, δεῖ τὸ μέσον, δι’ οὗ γίνεται ὁ συλλο[46b] γισμός, καὶ ἧττον ἀεὶ εἶναι καὶ μὴ καθόλου τοῦ πρώτου τῶν ἄκρων· ἡ δὲ διαίρεσις τοὐναντίον βούλεται· τὸ γὰρ καθόλου λαμβάνει μέσον. ἔστω γὰρ ζῷον ἐφ’ οὗ Α, τὸ δὲ θνητὸν ἐφ’ οὗ Β, καὶ ἀθάνατον ἐφ’ οὗ Γ, ὁ δ’ ἄνθρωπος, οὗ τὸν λόγον δεῖ λαβεῖν, ἐφ’ οὗ τὸ Δ. ἅπαν δὴ ζῷον λαμβάνει ἢ θνητὸν ἢ ἀθάνατον· τοῦτο δ’ ἐστίν, ὃ ἂν ᾖ Α, ἅπαν εἶναι ἢ Β ἢ Γ. πάλιν τὸν ἄνθρωπον ἀεὶ διαιρούμενος τίθεται ζῷον εἶναι, ὥστε κατὰ τοῦ Δ τὸ Α λαμβάνει ὑπάρχειν. ὁ μὲν οὖν συλλογισμός ἐστιν ὅτι τὸ Δ ἢ Β ἢ Γ ἅπαν ἔσται, ὥστε τὸν ἄνθρωπον ἢ θνητὸν μὲν ἢ ἀθάνατον ἀναγκαῖον εἶναι, ζῷον θνητὸν δὲ οὐκ ἀναγκαῖον, ἀλλ’ αἰτεῖται· τοῦτο δ’ ἦν ὃ ἔδει συλλογίσασθαι. καὶ πάλιν θέμενος τὸ μὲν Α ζῷον θνητόν, ἐφ’ οὗ δὲ τὸ Β ὑπόπουν, ἐφ’ οὗ δὲ τὸ Γ ἄπουν, τὸν δ’ ἄνθρωπον τὸ Δ, ὡσαύτως λαμβάνει τὸ μὲν Α ἤτοι ἐν τῷ Β ἢ ἐν τῷ Γ εἶναι (ἅπαν γὰρ ζῷον θνητὸν ἢ ὑπόπουν ἢ ἄπουν ἐστί), κατὰ δὲ τοῦ Δ τὸ Α (τὸν γὰρ ἄνθρωπον ζῷον θνητὸν εἶναι ἔλαβεν)· ὥσθ’ ὑπόπουν μὲν ἢ ἄπουν εἶναι ζῷον ἀνάγκη τὸν ἄνθρωπον, ὑπόπουν δ’ οὐκ ἀνάγκη, ἀλλὰ λαμβάνει· τοῦτο δ’ ἦν ὃ ἔδει πάλιν δεῖξαι. καὶ τοῦτον δὴ τὸν τρόπον ἀεὶ διαιρουμένοις τὸ μὲν καθόλου συμβαίνει αὐτοῖς μέσον λαμβάνειν, καθ’ οὗ δ’ ἔδει δεῖξαι καὶ τὰς διαφορὰς ἄκρα. τέλος δέ, ὅτι τοῦτ’ ἔστιν ἄνθρωπος ἢ ὅ τι ποτ’ ἂν ᾖ τὸ ζητούμενον, οὐδὲν λέγουσι σαφὲς ὥστ’ ἀναγκαῖον εἶναι· καὶ γὰρ τὴν ἄλλην ὁδὸν ποιοῦνται πᾶσαν, οὐδὲ τὰς ἐνδεχομένας εὐπορίας ὑπολαμβάνοντες ὑπάρχειν.

Φανερὸν δ’ ὅτι οὔτ’ ἀνασκευάσαι ταύτῃ τῇ μεθόδῳ ἔστιν, οὔτε περὶ συμβεβηκότος ἢ ἰδίου συλλογίσασθαι, οὔτε περὶ γένους, οὔτ’ ἐν οἷς ἀγνοεῖται τὸ πότερον ὡδὶ ἢ ὡδὶ ἔχει, οἷον ἆρ’ ἡ διάμετρος ἀσύμμετρος ἢ σύμμετρος. ἐὰν γὰρ λάβῃ ὅτι ἅπαν μῆκος ἢ σύμμετρον ἢ ἀσύμμετρον, ἡ δὲ διάμετρος μῆκος, συλλελόγισται ὅτι ἀσύμμετρος ἢ σύμμετρος ἡ διάμετρος. εἰ δὲ λήψεται ἀσύμμετρον, ὃ ἔδει συλλογίσασθαι λήψεται. οὐκ ἄρα ἔστι δεῖξαι· ἡ μὲν γὰρ ὁδὸς αὕτη, διὰ ταύτης δ' οὐκ ἔστιν. τὸ ἀσύμμετρον ἢ σύμμετρον ἐφ' οὗ Α, μῆκος Β, διάμετρος Γ. φανερὸν οὖν ὅτι οὔτε πρὸς πᾶσαν σκέψιν ἁρμόζει τῆς ζητήσεως ὁ τρόπος, οὔτ' ἐν οἷς μάλιστα δοκεῖ πρέπειν, ἐν τούτοις ἐστὶ χρήσιμος.

Ἐκ τίνων μὲν οὖν αἱ ἀποδείξεις γίνονται καὶ πῶς, καὶ εἰς ὁποῖα βλεπτέον καθ' ἕκαστον πρόβλημα, φανερὸν ἐκ τῶν εἰρημένων·

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πῶς δ’ ἀνάξομεν τοὺς συλλογισμοὺς εἰς [47a] τὰ προειρημένα σχήματα, λεκτέον ἂν εἴη μετὰ ταῦτα· λοιπὸν γὰρ ἔτι τοῦτο τῆς σκέψεως. εἰ γὰρ τήν τε γένεσιν τῶν συλλογισμῶν θεωροῖμεν καὶ τοῦ εὑρίσκειν ἔχοιμεν δύναμιν, ἔτι δὲ τοὺς γεγενημένους ἀναλύοιμεν εἰς τὰ προειρημένα σχήματα, τέλος ἂν ἔχοι ἡ ἐξ ἀρχῆς πρόθεσις. συμβήσεται δ’ ἅμα καὶ τὰ πρότερον εἰρημένα ἐπιβεβαιοῦσθαι καὶ φανερώτερα εἶναι ὅτι οὕτως ἔχει, διὰ τῶν νῦν λεχθησομένων· δεῖ γὰρ πᾶν τὸ ἀληθὲς αὐτὸ ἑαυτῷ ὁμολογούμενον εἶναι πάντῃ.

Πρῶτον μὲν οὖν δεῖ πειρᾶσθαι τὰς δύο προτάσεις ἐκλαμβάνειν τοῦ συλλογισμοῦ (ῥᾷον γὰρ εἰς τὰ μείζω διελεῖν ἢ τὰ ἐλάττω, μείζω δὲ τὰ συγκείμενα ἢ ἐξ ὧν), εἶτα σκοπεῖν ποτέρα ἐν ὅλῳ καὶ ποτέρα ἐν μέρει, καί, εἰμὴ ἄμφω εἰλημμέναι εἶεν, αὐτὸν τιθέναι τὴν ἑτέραν. ἐνίοτε γὰρ τὴν καθόλου προτείναντες τὴν ἐν ταύτῃ οὐ λαμβάνουσιν, οὔτε γράφοντες οὔτ’ ἐρωτῶντες· ἢ ταύτας μὲν προτείνουσι, δι’ ὧν δ’ αὗται περαίνονται, παραλείπουσιν, ἄλλα δὲ μάτην ἐρωτῶσιν. σκεπτέον οὖν εἴ τι περίεργον εἴληπται καὶ εἴ τι τῶν ἀναγκαίων παραλέλειπται, καὶ τὸ μὲν θετέον τὸ δ’ ἀφαιρετέον, ἕως ἂν ἔλθῃ εἰς τὰς δύο προτάσεις· ἄνευ γὰρ τούτων οὐκ ἔστιν ἀναγαγεῖν τοὺς οὕτως ἠρωτημένους λόγους. ἐνίων μὲν οὖν ῥᾴδιον ἰδεῖν τὸ ἐνδεές, ἔνιοι δὲ λανθάνουσι καὶ δοκοῦσι συλλογίζεσθαι διὰ τὸ ἀναγκαῖόν τι συμβαίνειν ἐκ τῶν κειμένων, οἷον εἰ ληφθείη μὴ οὐσίας ἀναιρουμένης μὴ ἀναιρεῖσθαι οὐσίαν, ἐξ ὧν δ’ ἐστὶν ἀναιρουμένων, καὶ τὸ ἐκ τούτων φθείρεσθαι· τούτων γὰρ τεθέντων ἀναγκαῖον μὲν τὸ οὐσίας μέρος εἶναι οὐσίαν, οὐ μὴν συλλελόγισται διὰ τῶν εἰλημμένων, ἀλλ’ ἐλλείπουσι προτάσεις. πάλιν εἰ ἀνθρώπου ὄντος ἀνάγκη ζῷον εἶναι καὶ ζῴου οὐσίαν, ἀνθρώπου ὄντος ἀνάγκη οὐσίαν εἶναι· ἀλλ’ οὔπω συλλελόγισται· οὐ γὰρ ἔχουσιν αἱ προτάσεις ὡς εἴπομεν.

Ἀπατώμεθα δ’ ἐν τοῖς τοιούτοις διὰ τὸ ἀναγκαῖόν τι συμβαίνειν ἐκ τῶν κειμένων, ὅτι καὶ ὁ συλλογισμὸς ἀναγκαῖόν ἐστιν. ἐπὶ πλέον δὲ τὸ ἀναγκαῖον ἢ ὁ συλλογισμός· ὁ μὲν γὰρ συλλογισμὸς πᾶς ἀναγκαῖον, τὸ δ’ ἀναγκαῖον οὐ πᾶν συλλογισμός. ὥστ’ οὐκ εἴ τι συμβαίνει τεθέντων τινῶν, πειρατέον ἀνάγειν εὐθύς, ἀλλὰ πρῶτον ληπτέον τὰς δύο προτάσεις, εἶθ’ οὕτω διαιρετέον εἰς τοὺς ὅρους, μέσον δὲ θετέον τῶν ὅρων τὸν ἐν ἀμφοτέραις ταῖς προτάσεσι λεγόμενον· ἀνάγκη γὰρ τὸ μέσον ἐν ἀμφοτέραις ὑπάρχειν ἐν ἅπασι τοῖς σχήμασιν.

Ἐὰν μὲν οὖν [47b] κατηγορῇ καὶ κατηγορῆται τὸ μέσον, ἢ αὐτὸ μὲν κατηγορῇ, ἄλλο δ’ ἐκείνου ἀπαρνῆται, τὸ πρῶτον ἔσται σχῆμα· ἐὰν δὲ καὶ κατηγορῇ καὶ ἀπαρνῆται ἀπό τινος, τὸ μέσον· ἐὰν δ’ ἄλλα ἐκείνου κατηγορῆται, ἢ τὸ μὲν ἀπαρνῆται τὸ δὲ κατηγορῆται, τὸ ἔσχατον. οὕτω γὰρ εἶχεν ἐν ἑκάστῳ σχήματι τὸ μέσον. ὁμοίως δὲ καὶ ἐὰν μὴ καθόλου ὦσιν αἱ προτάσεις· ὁ γὰρ αὐτὸς διορισμὸς τοῦ μέσου. φανερὸν οὖν ὡς ἐν ᾧ λόγῳ μὴ λέγεται ταὐτὸ πλεονάκις, ὅτι οὐ γίνεται συλλογισμός· οὐ γὰρ εἴληπται μέσον. ἐπεὶ δ’ ἔχομεν ποῖον ἐν ἑκάστῳ σχήματι περαίνεται τῶν προβλημάτων, καὶ ἐν τίνι τὸ καθόλου καὶ ἐν ποίῳ τὸ ἐν μέρει, φανερὸν ὡς οὐκ εἰς ἅπαντα τὰ σχήματα βλεπτέον, ἀλλ’ ἑκάστου προβλήματος εἰς τὸ οἰκεῖον. ὅσα δ’ ἐν πλείοσι περαίνεται, τῇ τοῦ μέσου θέσει γνωριοῦμεν τὸ σχῆμα.

Κεφάλαιο 33

Πολλάκις μὲν οὖν ἀπατᾶσθαι συμβαίνει περὶ τοὺς συλλογισμοὺς διὰ τὸ ἀναγκαῖον, ὥσπερ εἴρηται πρότερον, ἐνίοτε δὲ παρὰ τὴν ὁμοιότητα τῆς τῶν ὅρων θέσεως· ὅπερ οὐ χρὴ λανθάνειν ἡμᾶς. οἷον εἰ τὸ Α κατὰ τοῦ Β λέγεται καὶ τὸ Β κατὰ τοῦ Γ· δόξειε γὰρ ἂν οὕτως ἐχόντων τῶν ὅρων εἶναι συλλογισμός, οὐ γίνεται δ’ οὔτ’ ἀναγκαῖον οὐδὲν οὔτε συλλογισμός. ἔστω γὰρ ἐφ’ ᾧ Α τὸ ἀεὶ εἶναι, ἐφ’ ᾧ δὲ Β διανοητὸς Ἀριστομένης, τὸ δ’ ἐφ’ ᾧ Γ Ἀριστομένης. ἀληθὲς δὴ τὸ Α τῷ Β ὑπάρχειν· ἀεὶ γάρ ἐστι διανοητὸς Ἀριστομένης. ἀλλὰ καὶ τὸ Β τῷ Γ· ὁ γὰρ Ἀριστομένης ἐστὶ διανοητὸς Ἀριστομένης. τὸ δ’ Α τῷ Γ οὐχ ὑπάρχει· φθαρτὸς γάρ ἐστιν ὁ Ἀριστομένης. οὐ γὰρ ἐγίνετο συλλογισμὸς οὕτως ἐχόντων τῶν ὅρων, ἀλλ’ ἔδει καθόλου τὴν Α Β ληφθῆναι πρότασιν. τοῦτο δὲ ψεῦδος, τὸ ἀξιοῦν πάντα τὸν διανοητὸν Ἀριστομένην ἀεὶ εἶναι, φθαρτοῦ ὄντος Ἀριστομένους. πάλιν ἔστω τὸ μὲν ἐφ’ ᾧ Γ Μίκκαλος, τὸ δ’ ἐφ’ ᾧ Β μουσικὸς Μίκκαλος, ἐφ’ ᾧ δὲ τὸ Α τὸ φθείρεσθαι αὔριον. ἀληθὲςδὴ τὸ Β τοῦ Γ κατηγορεῖν· ὁ γὰρ Μίκκαλός ἐστι μουσικὸς Μίκκαλος. ἀλλὰ καὶ τὸ Α τοῦ Β· φθείροιτο γὰρ ἂν αὔριον μουσικὸς Μίκκαλος. τὸ δέ γε Α τοῦ Γ ψεῦδος. τοῦτο δὴ ταὐτόν ἐστι τῷ πρότερον· οὐ γὰρ ἀληθὲς καθόλου, Μίκκαλος μουσικὸς ὅτι φθείρεται αὔριον· τούτου δὲ μὴ ληφθέντος οὐκ ἦν συλλογισμός.

Αὕτη μὲν οὖν ἡ ἀπάτη γίνεται ἐν τῷ παρὰ μικρόν· ὡς γὰρ οὐδὲν διαφέρον εἰπεῖν τόδε τῷδε ὑπάρχειν ἢ τόδε τῷδε παντὶ ὑπάρχειν, συγχωροῦμεν.

Κεφάλαιο 34

πολλάκις δὲ [48a] διαψεύδεσθαι συμπεσεῖται παρὰ τὸ μὴ καλῶς ἐκτίθεσθαι τοὺς κατὰ τὴν πρότασιν ὅρους, οἷον εἰ τὸ μὲν Α εἴη ὑγίεια, τὸ δ' ἐφ' ᾧ Β νόσος, ἐφ' ᾧ δὲ Γ ἄνθρωπος. ἀληθὲς γὰρ εἰπεῖν ὅτι τὸ Α οὐδενὶ τῷ Β ἐνδέχεται ὑπάρχειν (οὐδεμιᾷ γὰρ νόσῳ ὑγίεια ὑπάρχει), καὶ πάλιν ὅτι τὸ Β παντὶ τῷ Γ ὑπάρχει (πᾶς γὰρ ἄνθρωπος δεκτικὸς νόσου). δόξειεν ἂν οὖν συμβαίνειν μηδενὶ ἀνθρώπῳ ἐνδέχεσθαι ὑγίειαν ὑπάρχειν. τούτου δ' αἴτιον τὸ μὴ καλῶς ἐκκεῖσθαι τοὺς ὅρους κατὰ τὴν λέξιν, ἐπεὶ μεταληφθέντων τῶν κατὰ τὰς ἕξεις οὐκ ἔσται συλλογισμός, οἷον ἀντὶ μὲν τῆς ὑγιείας εἰ τεθείη τὸ ὑγιαῖνον, ἀντὶ δὲ τῆς νόσου τὸ νοσοῦν. οὐ γὰρ ἀληθὲς εἰπεῖν ὡς οὐκ ἐνδέχεται τῷ νοσοῦντι τὸ ὑγιαίνειν ὑπάρξαι. τούτου δὲ μὴ ληφθέντος οὐ γίνεται συλλογισμός, εἰ μὴ τοῦ ἐνδέχεσθαι· τοῦτο δ' οὐκ ἀδύνατον· ἐνδέχεται γὰρ μηδενὶ ἀνθρώπῳ ὑπάρχειν ὑγίειαν. πάλιν ἐπὶ τοῦ μέσου σχήματος ὁμοίως ἔσται τὸ ψεῦδος· τὴν γὰρ ὑγίειαν νόσῳ μὲν οὐδεμιᾷ ἀνθρώπῳ δὲ παντὶ ἐνδέχεται ὑπάρχειν, ὥστ' οὐδενὶ ἀνθρώπῳ νόσον. ἐν δὲ τῷ τρίτῳ σχήματι κατὰ τὸ ἐνδέχεσθαι συμβαίνει τὸ ψεῦδος, καὶ γὰρ ὑγίειαν καὶ νόσον καὶ ἐπιστήμην καὶ ἄγνοιαν καὶ ὅλως τὰ ἐναντία τῷ αὐτῷ ἐνδέχεται ὑπάρχειν, ἀλλήλοις δ' ἀδύνατον. τοῦτο δ' ἀνομολογούμενοντοῖς προειρημένοις· ὅτε γὰρ τῷ αὐτῷ πλείω ἐνεδέχετο ὑπάρχειν, ἐνεδέχετο καὶ ἀλλήλοις.

Φανερὸν οὖν ὅτι ἐν ἅπασι τούτοις ἡ ἀπάτη γίνεται παρὰ τὴν τῶν ὅρων ἔκθεσιν· μεταληφθέντων γὰρ τῶν κατὰ τὰς ἕξεις οὐδὲν γίνεται ψεῦδος. δῆλον οὖν ὅτι κατὰ τὰς τοιαύτας προτάσεις ἀεὶ τὸ κατὰ τὴν ἕξιν ἀντὶ τῆς ἕξεως μεταληπτέον καὶ θετέον ὅρον.

Κεφάλαιο 35

Οὐ δεῖ δὲ τοὺς ὅρους ἀεὶ ζητεῖν ὀνόματι ἐκτίθεσθαι· πολλάκις γὰρ ἔσονται λόγοι οἷς οὐ κεῖται ὄνομα· διὸ χαλεπὸν ἀνάγειν τοὺς τοιούτους συλλογισμούς. ἐνίοτε δὲ καὶ ἀπατᾶσθαι συμβήσεται διὰ τὴν τοιαύτην ζήτησιν, οἷον ὅτι τῶν ἀμέσων ἔστι συλλογισμός. ἔστω τὸ Α δύο ὀρθαί, τὸ ἐφ’ ᾧ Β τρίγωνον, ἐφ’ ᾧ δὲ Γ ἰσοσκελές. τῷ μὲν οὖν Γ ὑπάρχει τὸ Α διὰ τὸ Β, τῷ δὲ Β οὐκέτι δι’ ἄλλο (καθ’ αὑτὸ γὰρ τὸ τρίγωνον ἔχει δύο ὀρθάς), ὥστ’ οὐκ ἔσται μέσον τοῦ Α Β, ἀποδεικτοῦ ὄντος. φανερὸν γὰρ ὅτι τὸ μέσον οὐχ οὕτως ἀεὶ ληπτέον ὡς τόδε τι, ἀλλ’ ἐνίοτε λόγον, ὅπερ συμβαίνει κἀπὶ τοῦ λεχθέντος.

Κεφάλαιο 36

Τὸ δὲ ὑπάρχειν τὸ πρῶτον τῷ μέσῳ καὶ τοῦτο τῷ ἄκρῳ οὐ δεῖ λαμβάνειν ὡς αἰεὶ κατηγορηθησομένων [48b] ἀλλήλων ἢ ὁμοίως τό τε πρῶτον τοῦ μέσου καὶ τοῦτο τοῦ ἐσχάτου. καὶ ἐπὶ τοῦ μὴ ὑπάρχειν δ' ὡσαύτως. ἀλλ' ὁσαχῶς τὸ εἶναι λέγεται καὶ τὸ ἀληθὲς εἰπεῖν αὐτὸ τοῦτο, τοσαυταχῶς οἴεσθαι χρὴ σημαίνειν καὶ τὸ ὑπάρχειν. οἷον ὅτι τῶν ἐναντίων ἔστι μία ἐπιστήμη. ἔστω γὰρ τὸ Α τὸ μίαν εἶναι ἐπιστήμην, τὰ ἐναντία ἀλλήλοις ἐφ' οὗ Β. τὸ δὴ Α τῷ Β ὑπάρχει οὐχ ὥστε τὰ ἐναντία [τὸ] μίαν εἶναι [αὐτῶν] ἐπιστήμην, ἀλλ' ὅτι ἀληθὲς εἰπεῖν κατ' αὐτῶν μίαν εἶναι αὐτῶν ἐπιστήμην.

Συμβαίνει δ' ὁτὲ μὲν ἐπὶ τοῦ μέσου τὸ πρῶτον λέγεσθαι, τὸ δὲ μέσον ἐπὶ τοῦ τρίτου μὴ λέγεσθαι, οἷον εἰ ἡ σοφία ἐστὶν ἐπιστήμη, τοῦ δ' ἀγαθοῦ ἐστὶν ἡ σοφία, συμπέρασμα ὅτι τοῦ ἀγαθοῦ ἔστιν ἐπιστήμη· τὸ μὲν δὴ ἀγαθὸν οὐκ ἔστιν ἐπιστήμη, ἡ δὲ σοφία ἐστὶν ἐπιστήμη. ὁτὲ δὲ τὸ μὲν μέσον ἐπὶ τοῦ τρίτου λέγεται, τὸ δὲ πρῶτον ἐπὶ τοῦ μέσου οὐ λέγεται, οἷον εἰ τοῦ ποιοῦ παντὸς ἔστιν ἐπιστήμη ἢ ἐναντίου, τὸ δ' ἀγαθὸν καὶ ἐναντίον καὶ ποιόν, συμπέρασμα μὲν ὅτι τοῦ ἀγαθοῦ ἔστιν ἐπιστήμη, οὐκ ἔστι δὲ τὸ ἀγαθὸν ἐπιστήμη οὐδὲ τὸ ποιὸν οὐδὲ τὸ ἐναντίον, ἀλλὰ τὸ ἀγαθὸν ταῦτα. ἔστι δὲ μήτε τὸ πρῶτον κατὰ τοῦ μέσου μήτε τοῦτο κατὰ τοῦ τρίτου, τοῦ πρώτου κατὰ τοῦ τρίτου ὁτὲ μὲν λεγομένου ὁτὲ δὲ μὴ λεγομένου. οἷον εἰ οὗ ἐπιστήμη ἔστιν, ἔστι τούτου γένος, τοῦ δ' ἀγαθοῦ ἔστιν ἐπιστήμη, συμπέρασμα ὅτι τοῦ ἀγαθοῦ ἔστι γένος· κατηγορεῖται δ' οὐδὲν κατ' οὐδενός. εἰ δ' οὗ ἔστιν ἐπιστήμη, γένος ἐστὶ τοῦτο, τοῦ δ' ἀγαθοῦ ἔστιν ἐπιστήμη, συμπέρασμα ὅτι τἀγαθόν ἐστι γένος· κατὰ μὲν δὴ τοῦ ἄκρου κατηγορεῖται τὸ πρῶτον, κατ' ἀλλήλων δ' οὐ λέγεται.

Τὸν αὐτὸν δὴ {{χ|27) τρόπον καὶ ἐπὶ τοῦ μὴ ὑπάρχειν ληπτέον. οὐ γὰρ ἀεὶ σημαίνει τὸ μὴ ὑπάρχειν τόδε τῷδε μὴ εἶναι τόδε τόδε, ἀλλ' ἐνίοτε τὸ μὴ εἶναι τόδε τοῦδε ἢ τόδε τῷδε, οἷον ὅτι οὐκ ἔστι κινήσεως κίνησις ἢ γενέσεως γένεσις, ἡδονῆς δ' ἔστιν· οὐκ ἄρα ἡ ἡδονὴ γένεσις. ἢ πάλιν ὅτι γέλωτος μὲν ἔστι σημεῖον, σημείου δ' οὐκ ἔστι σημεῖον, ὥστ' οὐ σημεῖον ὁ γέλως. ὁμοίως δὲ κἀν τοῖς ἄλλοις ἐν ὅσοις ἀναιρεῖται τὸ πρόβλημα τῷ λέγεσθαί πως πρὸς αὐτὸ τὸ γένος. πάλιν ὅτι ὁ καιρὸς οὐκ ἔστι χρόνος δέων· θεῷ γὰρ καιρὸς μὲν ἔστι, χρόνος δ' οὐκ ἔστι δέων διὰ τὸ μηδὲν εἶναι θεῷ ὠφέλιμον. ὅρους μὲν γὰρ θετέον καιρὸν καὶ χρόνον δέοντα καὶ θεόν, τὴν δὲ πρότασιν ληπτέον κατὰ τὴν τοῦ ὀνόματος πτῶσιν. ἁπλῶς γὰρ τοῦτολέγομεν κατὰ πάντων, ὅτι τοὺς μὲν ὅρους ἀεὶ θετέον κατὰ τὰς κλήσεις τῶν ὀνομάτων, οἷον ἄνθρωπος ἢ ἀγαθόν ἢ [49a] ἐναντία, οὐκ ἀνθρώπου ἢ ἀγαθοῦ ἢ ἐναντίων, τὰς δὲ προτάσεις ληπτέον κατὰ τὰς ἑκάστου πτώσεις· ἢ γὰρ ὅτι τούτῳ, οἷον τὸ ἴσον, ἢ ὅτι τούτου, οἷον τὸ διπλάσιον, ἢ ὅτι τοῦτο, οἷον τὸ τύπτον ἢ ὁρῶν, ἢ ὅτι οὗτος, οἷον ὁ ἄνθρωπος ζῷον, ἢ εἴ πως ἄλλως πίπτει τοὔνομα κατὰ τὴν πρότασιν.

Κεφάλαιο 37

Τὸ δ’ ὑπάρχειν τόδε τῷδε καὶ τὸ ἀληθεύεσθαι τόδε κατὰ τοῦδε τοσαυταχῶς ληπτέον ὁσαχῶς αἱ κατηγορίαι διῄρηνται, καὶ ταύτας ἢ πῂ ἢ ἁπλῶς, ἔτι ἢ ἁπλᾶς ἢ συμπεπλεγμένας· ὁμοίως δὲ καὶ τὸ μὴ ὑπάρχειν. ἐπισκεπτέον δὲ ταῦτα καὶ διοριστέον βέλτιον.

Κεφάλαιο 38

Τὸ δ’ ἐπαναδιπλούμενον ἐν ταῖς προτάσεσι πρὸς τῷ πρώτῳ ἄκρῳ θετέον, οὐ πρὸς τῷ μέσῳ. λέγω δ’ οἷον εἰ γένοιτο συλλογισμὸς ὅτι τῆς δικαιοσύνης ἔστιν ἐπιστήμη ὅτι ἀγαθόν, τὸ ὅτι ἀγαθόν ἢ ᾗ ἀγαθόν πρὸς τῷ πρώτῳ θετέον. ἔστω γὰρ τὸ Α ἐπιστήμη ὅτι ἀγαθόν, ἐφ’ ᾧ δὲ Β ἀγαθόν, ἐφ’ ᾧ δὲ Γ δικαιοσύνη. τὸ δὴ Α ἀληθὲς τοῦ Β κατηγορῆσαι· τοῦ γὰρ ἀγαθοῦ ἔστιν ἐπιστήμη ὅτι ἀγαθόν. ἀλλὰ καὶ τὸ Β τοῦ Γ· ἡ γὰρ δικαιοσύνη ὅπερ ἀγαθόν. οὕτω μὲν οὖν γίνεται ἀνάλυσις. εἰ δὲ πρὸς τῷ Β τεθείη τὸ ὅτι ἀγαθόν, οὐκ ἔσται· τὸ μὲν γὰρ Α κατὰ τοῦ Β ἀληθὲς ἔσται, τὸ δὲ Β κατὰ τοῦ Γ οὐκ ἀληθὲς ἔσται· τὸ γὰρ ἀγαθὸν ὅτι ἀγαθὸν κατηγορεῖν τῆς δικαιοσύνης ψεῦδος καὶ οὐ συνετόν. ὁμοίως δὲ καὶ εἰ τὸ ὑγιεινὸν δειχθείη ὅτι ἔστιν ἐπιστητὸν ᾗ ἀγαθόν, ἢ τραγέλαφος ᾗ μὴ ὄν, ἢ ὁ ἄνθρωπος φθαρτὸν ᾗ αἰσθητόν· ἐν ἅπασι γὰρ τοῖς ἐπικατηγορουμένοις πρὸς τῷ ἄκρῳ τὴν ἐπαναδίπλωσιν θετέον.

Οὐχ ἡ αὐτὴ δὲ θέσις τῶν ὅρων ὅταν ἁπλῶς τι συλλογισθῇ καὶ ὅταν τόδε τι ἢ πῇ ἢ πώς, λέγω δ’ οἷον ὅταντἀγαθὸν ἐπιστητὸν δειχθῇ καὶ ὅταν ἐπιστητὸν ὅτι ἀγαθόν· ἀλλ’ εἰ μὲν ἁπλῶς ἐπιστητὸν δέδεικται, μέσον θετέον τὸ ὄν, εἰ δ’ ὅτι ἀγαθόν, τὸ τὶ ὄν. ἔστω γὰρ τὸ μὲν Α ἐπιστήμη ὅτι τὶ ὄν, ἐφ’ ᾧ δὲ Β ὄν τι, τὸ δ’ ἐφ’ ᾧ Γ ἀγαθόν. ἀληθὲς δὴ τὸ Α τοῦ Β κατηγορεῖν· ἦν γὰρ ἐπιστήμη τοῦ τινὸς ὄντος ὅτι τὶ ὄν. ἀλλὰ καὶ τὸ Β τοῦ Γ· τὸ γὰρ ἐφ’ ᾧ Γ ὄν τι. ὥστε καὶ τὸ Α τοῦ Γ· ἔσται ἄρα ἐπιστήμη τἀγαθοῦ ὅτι ἀγαθόν· ἦν γὰρ τὸ τὶ ὂν τῆς ἰδίου σημεῖον οὐσίας. εἰ δὲ τὸ ὂν μέσον ἐτέθη καὶ πρὸς τῷ ἄκρῳ τὸ ὂν ἁπλῶς καὶ μὴ τὸ τὶ ὂν ἐλέχθη, οὐκ ἂν ἦν συλλογισμὸς ὅτι ἔστιν ἐπιστήμη τἀγαθοῦ ὅτι ἀγαθόν, ἀλλ’ ὅτι ὄν, οἷον ἐφ’ ᾧ τὸ Α ἐπιστήμη [49b] ὅτι ὄν, ἐφ’ ᾧ Β ὄν, ἐφ’ ᾧ Γ ἀγαθόν. φανερὸν οὖν ὅτι ἐν τοῖς ἐν μέρει συλλογισμοῖς οὕτως ληπτέον τοὺς ὅρους.

Κεφάλαιο 39

Δεῖ δὲ καὶ μεταλαμβάνειν ἃ τὸ αὐτὸ δύναται, ὀνόματα ἀντ’ ὀνομάτων καὶ λόγους ἀντὶ λόγων καὶ ὄνομα καὶ λόγον, καὶ ἀεὶ ἀντὶ τοῦ λόγου τοὔνομα λαμβάνειν· ῥᾴων γὰρ ἡ τῶν ὅρων ἔκθεσις. οἷον εἰ μηδὲν διαφέρει εἰπεῖν τὸ ὑποληπτὸν τοῦ δοξαστοῦ μὴ εἶναι γένος ἢ μὴ εἶναι ὅπερ ὑποληπτόν τι τὸ δοξαστόν (ταὐτὸν γὰρ τὸ σημαινόμενον), ἀντὶ τοῦ λόγου τοῦ λεχθέντος τὸ ὑποληπτὸν καὶ τὸ δοξαστὸν ὅρους θετέον.

Κεφάλαιο 40

Ἐπεὶ δ’ οὐ ταὐτόν ἐστι τὸ εἶναι τὴν ἡδονὴν ἀγαθὸν καὶ τὸ εἶναι τὴν ἡδονὴν τὸ ἀγαθόν, οὐχ ὁμοίως θετέον τοὺς ὅρους, ἀλλ’ εἰ μέν ἐστιν ὁ συλλογισμὸς ὅτι ἡ ἡδονὴ τἀγαθόν, τἀγαθόν, εἰ δ’ ὅτι ἀγαθόν, ἀγαθόν. οὕτως κἀπὶ τῶν ἄλλων.

Κεφάλαιο 41

Οὐκ ἔστι δὲ ταὐτὸν οὔτ’ εἶναι οὔτ’ εἰπεῖν, ὅτι ᾧ τὸ Β ὑπάρχει, τούτῳ παντὶ τὸ Α ὑπάρχει, καὶ τὸ εἰπεῖν τὸ ᾧ παντὶ τὸ Β ὑπάρχει, καὶ τὸ Α παντὶ ὑπάρχει· οὐδὲν γὰρ κωλύει τὸ Β τῷ Γ ὑπάρχειν, μὴ παντὶ δέ. οἷον ἔστω τὸ Β καλόν, τὸ δὲ Γ λευκόν. εἰ δὴ λευκῷ τινὶ ὑπάρχει καλόν, ἀληθὲς εἰπεῖν ὅτι τῷ λευκῷ ὑπάρχει καλόν· ἀλλ’ οὐ παντὶ ἴσως. εἰ μὲν οὖν τὸ Α τῷ Β ὑπάρχει, μὴ παντὶ δὲ καθ’ οὗ τὸ Β, οὔτ’ εἰ παντὶ τῷ Γ τὸ Β, οὔτ’ εἰ μόνον ὑπάρχει, ἀνάγκη τὸ Α οὐχ ὅτι οὐ παντί, ἀλλ’ οὐδ’ ὑπάρχειν. εἰ δὲ καθ’ οὗ ἂν τὸ Β λέγηται ἀληθῶς, τούτῳ παντὶ ὑπάρχει, συμβήσεται τὸ Α, καθ’ οὗ παντὸς τὸ Β λέγεται, κατὰ τούτου παντὸς λέγεσθαι. εἰ μέντοι τὸ Α λέγεται καθ’ οὗ ἂν τὸ Β λέγηται κατὰ παντός, οὐδὲν κωλύει τῷ Γ ὑπάρχειν τὸ Β, μὴ παντὶ δὲ τὸ Α ἢ ὅλως μὴ ὑπάρχειν. ἐν δὴ τοῖς τρισὶν ὅροις δῆλον ὅτι τὸ καθ’ οὗ τὸ Β παντὸς τὸ Α λέγεσθαι τοῦτ’ ἔστι, καθ’ ὅσων τὸ Β λέγεται, κατὰ πάντων λέγεσθαι καὶ τὸ Α. καὶ εἰ μὲν κατὰ παντὸς τὸ Β, καὶ τὸ Α οὕτως· εἰ δὲ μὴ κατὰ παντός, οὐκ ἀνάγκη τὸ Α κατὰ παντός.

Οὐ δεῖ δ’ οἴεσθαι παρὰ τὸ ἐκτίθεσθαί τι συμβαίνειν ἄτοπον· οὐδὲν γὰρ προσχρώμεθα τῷ τόδε τι εἶναι, ἀλλ’ ὥσπερ ὁ γεωμέτρης τὴν ποδιαίαν καὶ εὐθεῖαν τήνδε καὶ ἀπλατῆ εἶναι λέγει οὐκ οὔσας, ἀλλ’ οὐχ οὕτως χρῆται ὡς ἐκ τούτων συλλογιζόμενος. ὅλως γὰρ ὃ μὴ ἔστιν ὡς ὅλον πρὸς μέρος καὶ ἄλλο πρὸς τοῦτο ὡς μέρος πρὸς ὅλον, ἐξ οὐδενὸς τῶν τοιούτων δείκνυσιν ὁ δεικνύων, ὥστε οὐδὲ γίνεται [50a] συλλογισμός. τῷ δ’ ἐκτίθεσθαι οὕτω χρώμεθα ὥσπερ καὶ τῷ αἰσθάνεσθαι, τὸν μανθάνοντ’ ἀλέγοντες· οὐ γὰρ οὕτως ὡς ἄνευ τούτων οὐχ οἷόν τ’ ἀποδειχθῆναι, ὥσπερ ἐξ ὧν ὁ συλλογισμός.

Κεφάλαιο 42

Μὴ λανθανέτω δ’ ἡμᾶς ὅτι ἐν τῷ αὐτῷ συλλογισμῷ οὐχ ἅπαντα τὰ συμπεράσματα δι’ ἑνὸς σχήματός ἐστιν, ἀλλὰ τὸ μὲν διὰ τούτου τὸ δὲ δι’ ἄλλου. δῆλον οὖν ὅτι καὶ τὰς ἀναλύσεις οὕτω ποιητέον. ἐπεὶ δ’ οὐ πᾶν πρόβλημα ἐν ἅπαντι σχήματι ἀλλ’ ἐν ἑκάστῳ τεταγμένα, φανερὸν ἐκ τοῦ συμπεράσματος ἐν ᾧ σχήματι ζητητέον.

Κεφάλαιο 43

Τούς τε πρὸς ὁρισμὸν τῶν λόγων, ὅσοι πρὸς ἕν τι τυγχάνουσι διειλεγμένοι τῶν ἐν τῷ ὅρῳ, πρὸς ὃ διείλεκται θετέον ὅρον, καὶ οὐ τὸν ἅπαντα λόγον· ἧττον γὰρ συμβήσεται ταράττεσθαι διὰ τὸ μῆκος, οἷον εἰ τὸ ὕδωρ ἔδειξεν ὅτι ὑγρὸν ποτόν, τὸ ποτὸν καὶ τὸ ὕδωρ ὅρους θετέον.

Κεφάλαιο 44

Ἔτι δὲ τοὺς ἐξ ὑποθέσεως συλλογισμοὺς οὐ πειρατέον ἀνάγειν· οὐ γὰρ ἔστιν ἐκ τῶν κειμένων ἀνάγειν. οὐ γὰρ διὰ συλλογισμοῦ δεδειγμένοι εἰσίν, ἀλλὰ διὰ συνθήκης ὡμολογημένοι πάντες. οἷον εἰ ὑποθέμενος, ἂν δύναμίς τις μία μὴ ᾖ τῶν ἐναντίων, μηδ’ ἐπιστήμην μίαν εἶναι, εἶτα διαλεχθείη ὅτι οὐκ ἔστι πᾶσα δύναμις τῶν ἐναντίων, οἱονεὶ τοῦ ὑγιεινοῦ καὶ τοῦ νοσώδους· ἅμα γὰρ ἔσται τὸ αὐτὸ ὑγιεινὸν καὶ νοσῶδες. ὅτι μὲν οὖν οὐκ ἔστι μία πάντων τῶν ἐναντίων δύναμις, ἐπιδέδεικται, ὅτι δ’ ἐπιστήμη οὐκ ἔστιν, οὐ δέδεικται. καίτοι ὁμολογεῖν ἀναγκαῖον· ἀλλ’ οὐκ ἐκ συλλογισμοῦ, ἀλλ’ ἐξ ὑποθέσεως. τοῦτον μὲν οὖν οὐκ ἔστιν ἀναγαγεῖν, ὅτι δ’ οὐ μία δύναμις, ἔστιν· οὗτος γὰρ ἴσως καὶ ἦν συλλογισμός, ἐκεῖνο δ’ ὑπόθεσις.

Ὁμοίως δὲ καὶ ἐπὶ τῶν διὰ τοῦ ἀδυνάτου περαινομένων· οὐδὲ γὰρ τούτους οὐκ ἔστιν ἀναλύειν, ἀλλὰ τὴν μὲν εἰς τὸ ἀδύνατον ἀπαγωγὴν ἔστι (συλλογισμῷ γὰρ δείκνυται), θάτερον δ’ οὐκ ἔστιν· ἐξ ὑποθέσεως γὰρ περαίνεται. διαφέρουσι δὲ τῶν προειρημένων ὅτι ἐν ἐκείνοις μὲν δεῖ προδιομολογήσασθαι, εἰ μέλλει συμφήσειν, οἷον ἂν δειχθῇ μία δύναμις τῶν ἐναντίων, καὶ ἐπιστήμην εἶναι τὴν αὐτήν· ἐνταῦθα δὲ καὶ μὴ προδιομολογησάμενοι συγχωροῦσι διὰ τὸ φανερὸν εἶναι τὸ ψεῦδος, οἷον τεθείσης τῆς διαμέτρου συμμέτρου τὸ τὰ περιττὰ ἴσα εἶναι τοῖς ἀρτίοις.

Πολλοὶ δὲ καὶ ἕτεροι περαίνονται ἐξ ὑποθέσεως, οὓς ἐπισκέψασθαι δεῖ καὶ διασημῆναι καθαρῶς. τίνες μὲν οὖν αἱ [50b] διαφοραὶ τούτων, καὶ ποσαχῶς γίνεται τὸ ἐξ ὑποθέσεως, ὕστερον ἐροῦμεν· νῦν δὲ τοσοῦτον ἡμῖν ἔστω φανερόν, ὅτι οὐκ ἔστιν ἀναλύειν εἰς τὰ σχήματα τοὺς τοιούτους συλλογισμούς. καὶ δι’ ἣν αἰτίαν, εἰρήκαμεν.

Κεφάλαιο 45

Ὅσα δ’ ἐν πλείοσι σχήμασι δείκνυται τῶν προβλημάτων, ἢν ἐν θατέρῳ συλλογισθῇ, ἔστιν ἀναγαγεῖν τὸν συλλογισμὸν εἰς θάτερον, οἷον τὸν ἐν τῷ πρώτῳ στερητικὸν εἰς τὸ δεύτερον, καὶ τὸν ἐν τῷ μέσῳ εἰς τὸ πρῶτον, οὐχ ἅπαντας δὲ ἀλλ’ ἐνίους. ἔσται δὲ φανερὸν ἐν τοῖς ἑπομένοις. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ, τὸ Α οὐδενὶ τῷ Γ. οὕτω μὲν οὖν τὸ πρῶτον σχῆμα, ἐὰν δ’ ἀντιστραφῇ τὸ στερητικόν, τὸ μέσον ἔσται· τὸ γὰρ Β τῷ μὲν Α οὐδενί, τῷ δὲ Γ παντὶ ὑπάρχει. ὁμοίως δὲ καὶ εἰ μὴ καθόλου ἀλλ’ ἐν μέρει ὁ συλλογισμός, οἷον εἰ τὸ μὲν Α μηδενὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ· ἀντιστραφέντος γὰρ τοῦ στερητικοῦ τὸ μέσον ἔσται σχῆμα.

Τῶν δ’ ἐν τῷ δευτέρῳ συλλογισμῶν οἱ μὲν καθόλου ἀναχθήσονται εἰς τὸ πρῶτον, τῶν δ’ ἐν μέρει ἅτερος μόνος. ἔστω γὰρ τὸ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ παντὶ ὑπάρχον. ἀντιστραφέντος οὖν τοῦ στερητικοῦ τὸ πρῶτον ἔσται σχῆμα· τὸ μὲν γὰρ Β οὐδενὶ τῷ Α, τὸ δὲ Α παντὶ τῷ Γ ὑπάρξει. ἐὰν δὲ τὸ κατηγορικὸν ᾖ πρὸς τῷ Β, τὸ δὲ στερητικὸν πρὸς τῷ Γ, πρῶτον ὅρον θετέον τὸ Γ· τοῦτο γὰρ οὐδενὶ τῷ Α, τὸ δὲ Α παντὶ τῷ Β· ὥστ’ οὐδενὶ τῷ Β τὸ Γ. οὐδ’ ἄρα τὸ Β τῷ Γ οὐδενί· ἀντιστρέφει γὰρ τὸ στερητικόν. ἐὰν δ’ ἐν μέρει ᾖ ὁ συλλογισμός, ὅταν μὲν ᾖ τὸ στερητικὸν πρὸς τῷ μείζονι ἄκρῳ, ἀναχθήσεται εἰς τὸ πρῶτον, οἷον εἰ τὸ Α μηδενὶ τῷ Β, τῷ δὲ Γ τινί· ἀντιστραφέντος γὰρ τοῦ στερητικοῦ τὸ πρῶτον ἔσται σχῆμα· τὸ μὲν γὰρ Β οὐδενὶ τῷ Α, τὸ δὲ Α τινὶ τῷ Γ. ὅταν δὲ τὸ κατηγορικόν, οὐκ ἀναλυθήσεται, οἷον εἰ τὸ Α τῷ μὲν Β παντί, τῷ δὲ Γ οὐ παντί· οὔτε γὰρ δέχεται ἀντιστροφὴν τὸ Α Β, οὔτε γενομένης ἔσται συλλογισμός.

Πάλιν οἱ μὲν ἐν τῷ τρίτῳ σχήματι οὐκ ἀναλυθήσονται πάντες εἰς τὸ πρῶτον, οἱ δ’ ἐν τῷ πρώτῳ πάντες εἰς τὸ τρίτον. ὑπαρχέτω γὰρ τὸ Α παντὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ. οὐκοῦν ἐπειδὴ ἀντιστρέφει τὸ ἐν μέρει κατηγορικόν, ὑπάρξει τὸ Γ τινὶ τῷ Β· τὸ δὲ Α παντὶ ὑπῆρχεν, ὥστε γίνεται τὸ τρίτον σχῆμα. καὶ εἰ στερητικὸς ὁ συλλογισμός, ὡσαύτως· ἀντιστρέφει γὰρ τὸ ἐν μέρει κατηγορικόν, ὥστε τὸ μὲν Α οὐδενὶ τῷ Β, τὸ δὲ Γ τινὶ ὑπάρξει. [51a]

Τῶν δ’ ἐν τῷ τελευταίῳ σχήματι συλλογισμῶν εἷς μόνος οὐκ ἀναλύεται εἰς τὸ πρῶτον, ὅταν μὴ καθόλου τεθῇ τὸ στερητικόν, οἱ δ’ ἄλλοι πάντες ἀναλύονται. κατηγορείσθω γὰρ παντὸς τοῦ Γ τὸ Α καὶ τὸ Β· οὐκοῦν ἀντιστρέψει τὸ Γ πρὸς ἑκάτερον ἐπὶ μέρους· ὑπάρχει ἄρα τινὶ τῷ Β. ὥστ' ἔσται τὸ πρῶτον σχῆμα, εἰ τὸ μὲν Α παντὶ τῷ Γ, τὸ δὲ Γ τινὶ τῷ Β. καὶ εἰ τὸ μὲν Α παντὶ τῷ Γ, τὸ δὲ Β τινί, ὁ αὐτὸς λόγος· ἀντιστρέφει γὰρ πρὸς τὸ Β τὸ Γ. ἐὰν δὲ τὸ μὲν Β παντὶ τῷ Γ, τὸ δὲ Α τινὶ τῷ Γ, πρῶτος ὅρος θετέος τὸ Β· τὸ γὰρ Β παντὶ τῷ Γ, τὸ δὲ Γ τινὶ τῷ Α, ὥστε τὸ Β τινὶ τῷ Α. ἐπεὶ δ' ἀντιστρέφει τὸ ἐν μέρει, καὶ τὸ Α τινὶ τῷ Β ὑπάρξει. καὶ εἰ στερητικὸς ὁ συλλογισμός, καθάλου τῶν ὅρων ὄντων, ὁμοίως ληπτέον. ὑπαρχέτω γὰρ τὸ Β παντὶ τῷ Γ, τὸ δὲ Α μηδενί· οὐκοῦν τινὶ τῷ Β ὑπάρξει τὸ Γ, τὸ δὲ Α οὐδενὶ τῷ Γ, ὥστ' ἔσται μέσον τὸ Γ. ὁμοίως δὲ καὶ εἰ τὸ μὲν στερητικὸν καθόλου, τὸ δὲ κατηγορικὸν ἐν μέρει· τὸ μὲν γὰρ Α οὐδενὶ τῷ Γ, τὸ δὲ Γ τινὶ τῶν Β ὑπάρξει. ἐὰν δ' ἐν μέρει ληφθῇ τὸ στερητικόν, οὐκ ἔσται ἀνάλυσις, οἷον εἰ τὸ μὲν Β παντὶ τῷ Γ, τὸ δὲ Α τινὶ μὴ ὑπάρχει· ἀντιστραφέντος γὰρ τοῦ Β Γ ἀμφότεραι αἱ προτάσεις ἔσονται κατὰ μέρος.

Φανερὸν δὲ καὶ ὅτι πρὸς τὸ ἀναλύειν εἰς ἄλληλα τὰ σχήματα ἡ πρὸς τῷ ἐλάττονι ἄκρῳ πρότασις ἀντιστρεπτέα ἐν ἀμφοτέροις τοῖς σχήμασι· ταύτης γὰρ μετατιθεμένης ἡ μετάβασις ἐγίνετο.

Τῶν δ' ἐν τῷ μέσῳ σχήματι ἅτερος μὲν ἀναλύεται, ἅτερος δ' οὐκ ἀναλύεται, εἰς τὸ τρίτον. ὅταν μὲν γὰρ ᾖ τὸ καθόλου στερητικόν, ἀναλύεται. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τῷ δὲ Γ τινί, ἀμφότερα ὁμοίως ἀντιστρέφει πρὸς τὸ Α, ὥστε τὸ μὲν Β οὐδενὶ τῷ Α, τὸ δὲ Γ τινί· μέσον ἄρα τὸ Α. ὅταν δὲ τὸ Α παντὶ τῷ Β, τῷ δὲ Γ τινὶ μὴ ὑπάρχῃ, οὐκ ἔσται ἀνάλυσις· οὐδετέρα γὰρ τῶν προτάσεων ἐκ τῆς ἀντιστροφῆς καθόλου. Καὶ οἱ ἐκ τοῦ τρίτου δὲ σχήματος ἀναλυθήσονται εἰς τὸ μέσον, ὅταν ᾖ καθόλου τὸ στερητικόν, οἷον εἰ τὸ Α μηδενὶ τῷ Γ, τὸ δὲ Β τινὶ ἢ παντί. καὶ γὰρ τὸ Γ τῷ μὲν Α οὐδενί, τῷ δὲ Β τινὶ ὑπάρξει. ἐὰν δ' ἐπὶ μέρους ᾖ τὸ στερητικόν, οὐκ ἀναλυθήσεται· οὐ γὰρ δέχεται ἀντιστροφὴν τὸ ἐν μέρει ἀποφατικόν.

Φανερὸν οὖν ὅτι οἱ αὐτοὶ συλλογισμοὶ οὐκ ἀναλύονται ἐν τούτοις τοῖς σχήμασιν οἵπερ οὐδ' εἰς τὸ πρῶτον ἀνελύοντο, [51b] καὶ ὅτι εἰς τὸ πρῶτον σχῆμα τῶν συλλογισμῶν ἀναγομένων οὗτοι μόνοι διὰ τοῦ ἀδυνάτου περαίνονται.

Πῶς μὲν οὖν δεῖ τοὺς συλλογισμοὺς ἀνάγειν, καὶ ὅτι ἀναλύεται τὰ σχήματα εἰς ἄλληλα, φανερὸν ἐκ τῶν εἰρημένων.

Κεφάλαιο 46

Διαφέρει δέ τι ἐν τῷ κατασκευάζειν ἢ ἀνασκευάζειν τὸ ὑπολαμβάνειν ἢ ταὐτὸν ἢ ἕτερον σημαίνειν τὸ μὴ εἶναι τοδὶ καὶ εἶναι μὴ τοῦτο, οἷον τὸ μὴ εἶναι λευκὸν τῷ εἶναι μὴ λευκόν. οὐ γὰρ ταὐτὸν σημαίνει, οὐδ' ἔστιν ἀπόφασις τοῦ εἶναι λευκὸν τὸ εἶναι μὴ λευκόν, ἀλλὰ τὸ μὴεἶναι λευκόν. λόγος δὲ τούτου ὅδε. ὁμοίως γὰρ ἔχει τὸ δύναται βαδίζειν πρὸς τὸ δύναται οὐ βαδίζειν τῷ ἔστι λευκόν πρὸς τὸ ἔστιν οὐ λευκόν, καὶ ἐπίσταται τἀγαθόν πρὸς τὸ ἐπίσταται τὸ οὐκ ἀγαθόν. τὸ γὰρ ἐπίσταται τἀγαθόν ἢ ἔστιν ἐπιστάμενος τἀγαθόν οὐδὲν διαφέρει, οὐδὲ τὸ δύναται βαδίζειν ἢ ἔστι δυνάμενος βαδίζειν· ὥστε καὶ τὰ ἀντικείμενα, οὐ δύναται βαδίζειν — οὐκ ἔστι δυνάμενος βαδίζειν. εἰ οὖν τὸ οὐκ ἔστι δυνάμενος βαδίζειν ταὐτὸ σημαίνει καὶ ἔστι δυνάμενος οὐ βαδίζειν ἢ μὴ βαδίζειν, ταῦτά γε ἅμα ὑπάρξει ταὐτῷ (ὁ γὰρ αὐτὸς δύναται καὶ βαδίζειν καὶ μὴ βαδίζειν, καὶ ἐπιστήμων τἀγαθοῦ καὶ τοῦ μὴ ἀγαθοῦ ἐστί), φάσις δὲ καὶ ἀπόφασις οὐχ ὑπάρχουσιν αἱ ἀντικείμεναι ἅμα τῷ αὐτῷ. ὥσπερ οὖν οὐ ταὐτό ἐστι τὸ μὴ ἐπίστασθαι τἀγαθὸν καὶ ἐπίστασθαι τὸ μὴ ἀγαθόν, οὐδ' εἶναι μὴ ἀγαθὸν καὶ μὴ εἶναι ἀγαθὸν ταὐτόν. τῶν γὰρ ἀνάλογον ἐὰν θάτερα ᾖ ἕτερα, καὶ θάτερα. οὐδὲ τὸ εἶναι μὴ ἴσον καὶ τὸ μὴ εἶναι ἴσον· τῷ μὲν γὰρ ὑπόκειταί τι, τῷ ὄντι μὴ ἴσῳ, καὶ τοῦτ' ἔστι τὸ ἄνισον, τῷ δ' οὐδέν. διόπερ ἴσον μὲν ἢ ἄνισον οὐ πᾶν, ἴσον δ' ἢ οὐκ ἴσον πᾶν. ἔτι τὸ ἔστιν οὐ λευκὸν ξύλον καὶ οὐκ ἔστι λευκὸν ξύλον οὐχ ἅμα ὑπάρχει. εἰ γάρ ἐστι ξύλον οὐ λευκόν, ἔσται ξύλον· τὸ δὲ μὴ ὂν λευκὸν ξύλον οὐκ ἀνάγκη ξύλον εἶναι. ὥστε φανερὸν ὅτι οὐκ ἔστι τοῦ ἔστιν ἀγαθόν τὸ ἔστιν οὐκ ἀγαθόν ἀπόφασις. εἰ οὖν κατὰ παντὸς ἑνὸς ἢ φάσις ἢ ἀπόφασις ἀληθής, εἰ μὴ ἔστιν ἀπόφασις, δῆλον ὡς κατάφασις ἄν πως εἴη. καταφάσεως δὲ πάσης ἀπόφασις ἔστιν· καὶ ταύτης ἄρα τὸ οὐκ ἔστιν οὐκ ἀγαθόν.

Ἔχει δὲ τάξιν τήνδε πρὸς ἄλληλα. ἔστω τὸ εἶναι ἀγαθὸν ἐφ' οὗ Α, τὸ δὲ μὴ εἶναι ἀγαθὸν ἐφ' οὗ Β, τὸ δὲ εἶναι μὴ ἀγαθὸν ἐφ' οὗ Γ, ὑπὸ τὸ Β, τὸ δὲ μὴ εἶναι μὴ ἀγαθὸν ἐφ' οὗ Δ, ὑπὸ τὸ Α. παντὶ δὴ ὑπάρξει ἢ τὸ Α ἢ τὸΒ, καὶ οὐδενὶ τῷ αὐτῷ· καὶ ἢ τὸ Γ ἢ τὸ Δ, καὶ οὐδενὶ τῷ αὐτῷ. καὶ ᾧ τὸ Γ, ἀνάγκη τὸ Β παντὶ ὑπάρχειν (εἰ [52a] γὰρ ἀληθὲς εἰπεῖν ὅτι ἐστὶν οὐ λευκόν, καὶ ὅτι οὐκ ἔστι λευκὸν ἀληθές· ἀδύνατον γὰρ ἅμα εἶναι λευκὸν καὶ εἶναι μὴ λευκόν, ἢ εἶναι ξύλον οὐ λευκὸν καὶ εἶναι ξύλον λευκόν, ὥστ’ εἰ μὴ ἡ κατάφασις, ἡ ἀπόφασις ὑπάρξει), τῷ δὲ Β τὸ Γ οὐκ ἀεί (ὃ γὰρ ὅλως μὴ ξύλον, οὐδὲ ξύλον ἔσται οὐ λευκόν). ἀνάπαλιν τοίνυν, ᾧ τὸ Α, τὸ Δ παντί (ἢ γὰρ τὸ Γ ἢ τὸ Δ· ἐπεὶ δ’ οὐχ οἷόν τε ἅμα εἶναι μὴ λευκὸν καὶ λευκόν, τὸ Δ ὑπάρξει· κατὰ γὰρ τοῦ ὄντος λευκοῦ ἀληθὲς εἰπεῖν ὅτι οὐκ ἔστιν οὐ λευκόν), κατὰ δὲ τοῦ Δ οὐ παντὸς τὸ Α (κατὰ γὰρ τοῦ ὅλως μὴ ὄντος ξύλου οὐκ ἀληθὲς τὸ Α εἰπεῖν, ὡς ἔστι ξύλον λευκόν, ὥστε τὸ Δ ἀληθές, τὸ δ’ Α οὐκ ἀληθές, ὅτι ξύλον λευκόν). δῆλον δ’ ὅτι καὶ τὸ Α Γ οὐδενὶ τῷ αὐτῷ καὶ τὸ Β καὶ τὸ Δ ἐνδέχεται τινὶ τῷ αὐτῷ ὑπάρξαι. Ὁμοίως δ’ ἔχουσι καὶ αἱ στερήσεις πρὸς τὰς κατηγορίας ταύτῃ τῇ θέσει. ἴσον ἐφ’ οὗ τὸ Α, οὐκ ἴσον ἐφ’ οὗ Β, ἄνισον ἐφ’ οὗ Γ, οὐκ ἄνισον ἐφ’ οὗ Δ.

Καὶ ἐπὶ πολλῶν δέ, ὧν τοῖς μὲν ὑπάρχει τοῖς δ’ οὐχ ὑπάρχει ταὐτόν, ἡ μὲν ἀπόφασις ὁμοίως ἀληθεύοιτ’ ἄν, ὅτι οὐκ ἔστι λευκὰ πάντα ἢ ὅτι οὐκ ἔστι λευκὸν ἕκαστον· ὅτι δ’ ἐστὶν οὐ λευκὸν ἕκαστον ἢ πάντα ἐστὶν οὐ λευκά, ψεῦδος. ὁμοίως δὲ καὶ τοῦ ἔστι πᾶν ζῷον λευκόν οὐ τὸ ἔστιν οὐ λευκὸν ἅπαν ζῷον ἀπόφασις (ἄμφω γὰρ ψευδεῖς), ἀλλὰ τὸ οὐκ ἔστι πᾶν ζῷον λευκόν.

Ἐπεὶ δὲ δῆλον ὅτι ἕτερον σημαίνει τὸ ἔστιν οὐ λευκόν καὶ οὐκ ἔστι λευκόν, καὶ τὸ μὲν κατάφασις τὸ δ’ ἀπόφασις, φανερὸν ὡς οὐχ ὁ αὐτὸς τρόπος τοῦ δεικνύναι ἑκάτερον, οἷον ὅτι ὃ ἂν ᾖ ζῷον οὐκ ἔστι λευκὸν ἢ ἐνδέχεται μὴ εἶναι λευκόν, καὶ ὅτι ἀληθὲς εἰπεῖν μὴ λευκόν· τοῦτο γάρ ἐστιν εἶναι μὴ λευκόν. ἀλλὰ τὸ μὲν ἀληθὲς εἰπεῖν ἔστι λευκόν εἴτε μὴ λευκόν ὁ αὐτὸς τρόπος· κατασκευαστικῶς γὰρ ἄμφω διὰ τοῦ πρώτου δείκνυται σχήματος· τὸ γὰρ ἀληθὲς τῷ ἔστιν ὁμοίως τάττεται· τοῦ γὰρ ἀληθὲς εἰπεῖν λευκὸν οὐ τὸ ἀληθὲς εἰπεῖν μὴ λευκὸν ἀπόφασις, ἀλλὰ τὸ μὴ ἀληθὲς εἰπεῖν λευκόν. εἰ δὴ ἔσται ἀληθὲς εἰπεῖν ὃ ἂν ᾖ ἄνθρωπος μουσικὸν εἶναι ἢ μὴ μουσικὸν εἶναι, ὃ ἂν ᾖ ζῷον ληπτέον ἢ εἶναι μουσικὸν ἢ εἶναι μὴ μουσικόν, καὶ δέδεικται. τὸ δὲ μὴ εἶναι μουσικὸν ὃ ἂν ᾖ ἄνθρωπος, ἀνασκευαστικῶς δείκνυται κατὰ τοὺς εἰρημένους τρόπους τρεῖς. Ἁπλῶς δ’ ὅταν οὕτως ἔχῃ τὸ Α καὶ τὸ Β ὥσθ’ ἅμα μὲν τῷ αὐτῷ μὴ ἐνδέχεσθαι, παντὶ δὲ ἐξ ἀνάγκης [52b] θάτερον, καὶ πάλιν τὸ Γ καὶ τὸ Δ ὡσαύτως, ἕπηται δὲ τῷ Γ τὸ Α καὶ μὴ ἀντιστρέφῃ, καὶ τῷ Β τὸ Δ ἀκολουθήσει καὶ οὐκ ἀντιστρέψει· καὶ τὸ μὲν Α καὶ Δ ἐνδέχεται τῷ αὐτῷ, τὸ δὲ Β καὶ Γ οὐκ ἐνδέχεται. πρῶτον μὲν οὖν ὅτι τῷ Β τὸ Δ ἕπεται, ἐνθένδε φανερόν. ἐπεὶ γὰρ παντὶ τῶν Γ Δ θάτερον ἐξ ἀνάγκης, ᾧ δὲ τὸ Β, οὐκ ἐνδέχεται τὸ Γ διὰ τὸ συνεπιφέρειν τὸ Α, τὸ δὲ Α καὶ Β μὴ ἐνδέχεσθαι τῷ αὐτῷ, φανερὸν ὅτι τὸ Δ ἀκολουθήσει. πάλιν ἐπεὶ τῷ Α τὸ Γ οὐκ ἀντιστρέφει, παντὶ δὲ τὸ Γ ἢ τὸ Δ, ἐνδέχεται τὸ Α καὶ τὸ Δ τῷ αὐτῷ ὑπάρχειν. τὸ δέ γε Β καὶ τὸ Γ οὐκ ἐνδέχεται διὰ τὸ συνακολουθεῖν τῷ Γ τὸ Α· συμβαίνει γάρ τι ἀδύνατον. φανερὸν οὖν ὅτι οὐδὲ τῷ Δ τὸ Β ἀντιστρέφει, ἐπείπερ ἐγχωρεῖ ἅμα τὸ Δ καὶ τὸ Α ὑπάρχειν.

Συμβαίνει δ’ ἐνίοτε καὶ ἐν τῇ τοιαύτῃ τάξει τῶν ὅρων ἀπατᾶσθαι διὰ τὸ μὴ τὰ ἀντικείμενα λαμβάνειν ὀρθῶς ὧν ἀνάγκη παντὶ θάτερον ὑπάρχειν· οἷον εἰ τὸ Α καὶ τὸ Β μὴ ἐνδέχεται ἅμα τῷ αὐτῷ, ἀνάγκη δ’ ὑπάρχειν, ᾧ μὴ θάτερον, θάτερον, καὶ πάλιν τὸ Γ καὶ τὸ Δ ὡσαύτως, ᾧ δὲ τὸ Γ, παντὶ ἕπεται τὸ Α. συμβήσεται γὰρ ᾧ τὸ Δ, τὸ Β ὑπάρχειν ἐξ ἀνάγκης, ὅπερ ἐστὶ ψεῦδος. εἰλήφθω γὰρ ἀπόφασις τῶν Α Β ἡ ἐφ’ ᾧ Ζ, καὶ πάλιν τῶν Γ Δ ἡ ἐφ’ ᾧ Θ. ἀνάγκη δὴ παντὶ ἢ τὸ Α ἢ τὸ Ζ· ἢ γὰρ τὴν φάσιν ἢ τὴν ἀπόφασιν. καὶ πάλιν ἢ τὸ Γ ἢ τὸ Θ· φάσις γὰρ καὶ ἀπόφασις. καὶ ᾧ τὸ Γ, παντὶ τὸ Α ὑπόκειται. ὥστε ᾧ τὸ Ζ, παντὶ τὸ Θ. πάλιν ἐπεὶ τῶν Ζ Β παντὶ θάτερον καὶ τῶν Θ Δ ὡσαύτως, ἀκολουθεῖ δὲ τῷ Ζ τὸ Θ, καὶ τῷ Δ ἀκολουθήσει τὸ Β· τοῦτο γὰρ ἴσμεν. εἰ ἄρα τῷ Γ τὸ Α, καὶ τῷ Δ τὸ Β. τοῦτο δὲ ψεῦδος· ἀνάπαλιν γὰρ ἦν ἐν τοῖς οὕτως ἔχουσιν ἡ ἀκολούθησις. οὐ γὰρ ἴσως ἀνάγκη παντὶ τὸ Α ἢ τὸ Ζ, οὐδὲ τὸ Ζ ἢ τὸ Β· οὐ γάρ ἐστιν ἀπόφασις τοῦ Α τὸ Ζ. τοῦ γὰρ ἀγαθοῦ τὸ οὐκ ἀγαθὸν ἀπόφασις· οὐ ταὐτὸ δ’ ἐστὶ τὸ οὐκ ἀγαθὸν τῷ οὔτ’ ἀγαθὸν οὔτ’ οὐκ ἀγαθόν. ὁμοίως δὲ καὶ ἐπὶ τῶν Γ Δ· αἱ γὰρ ἀποφάσεις αἱ εἰλημμέναι δύο εἰσίν.

Βιβλίο 2

Κεφάλαιο 1

Ἐν πόσοις μὲν οὖν σχήμασι καὶ διὰ ποίων καὶ πόσων προτάσεων καὶ πότε καὶ πῶς γίνεται συλλογισμός, ἔτι δ’ εἰς ποῖα βλεπτέον ἀνασκευάζοντι καὶ κατασκευά[53a] ζοντι, καὶ πῶς δεῖ ζητεῖν περὶ τοῦ προκειμένου καθ’ ὁποιανοῦν μέθοδον, ἔτι δὲ διὰ ποίας ὁδοῦ ληψόμεθα τὰς περὶ ἕκαστον ἀρχάς, ἤδη διεληλύθαμεν. ἐπεὶ δ’ οἱ μὲν καθόλου τῶν συλλογισμῶν εἰσὶν οἱ δὲ κατὰ μέρος, οἱ μὲν καθόλου πάντες αἰεὶ πλείω συλλογίζονται, τῶν δ’ ἐν μέρει οἱ μὲν κατηγορικοὶ πλείω, οἱ δ’ ἀποφατικοὶ τὸ συμπέρασμα μόνον. αἱ μὲν γὰρ ἄλλαι προτάσεις ἀντιστρέφουσιν, ἡ δὲ στερητικὴ οὐκ ἀντιστρέφει. τὸ δὲ συμπέρασμα τὶ κατά τινός ἐστιν, ὥσθ’ οἱ μὲν ἄλλοι συλλογισμοὶ πλείω συλλογίζονται, οἷον εἰ τὸ Α δέδεικται παντὶ τῷ Β ἢ τινί, καὶ τὸ Β τινὶ τῷ Α ἀναγκαῖον ὑπάρχειν, καὶ εἰ μηδενὶ τῷ Β τὸ Α, οὐδὲ τὸ Β οὐδενὶ τῷ Α, τοῦτο δ’ ἕτερον τοῦ ἔμπροσθεν· εἰ δὲ τινὶ μὴ ὑπάρχει, οὐκ ἀνάγκη καὶ τὸ Β τινὶ τῷ Α μὴ ὑπάρχειν· ἐνδέχεται γὰρ παντὶ ὑπάρχειν.

Αὕτη μὲν οὖν κοινὴ πάντων αἰτία, τῶν τε καθόλου καὶ τῶν κατὰ μέρος· ἔστι δὲ περὶ τῶν καθόλου καὶ ἄλλως εἰπεῖν. ὅσα γὰρ ἢ ὑπὸ τὸ μέσον ἢ ὑπὸ τὸ συμπέρασμά ἐστιν, ἁπάντων ἔσται ὁ αὐτὸς συλλογισμός, ἐὰν τὰ μὲν ἐν τῷ μέσῳ τὰ δ’ ἐν τῷ συμπεράσματι τεθῇ, οἷον εἰ τὸ Α Β συμπέρασμα διὰ τοῦ Γ, ὅσα ὑπὸ τὸ Β ἢ τὸ Γ ἐστίν, ἀνάγκη κατὰ πάντων λέγεσθαι τὸ Α· εἰ γὰρ τὸ Δ ἐν ὅλῳ τῷ Β, τὸ δὲ Β ἐν τῷ Α, καὶ τὸ Δ ἔσται ἐν τῷ Α· πάλιν εἰ τὸ Ε ἐν ὅλῳ τῷ Γ, τὸ δὲ Γ ἐν τῷ Α, καὶ τὸ Ε ἐν τῷ Α ἔσται. ὁμοίως δὲ καὶ εἰ στερητικὸς ὁ συλλογισμός. ἐπὶ δὲ τοῦ δευτέρου σχήματος τὸ ὑπὸ τὸ συμπέρασμα μόνον ἔσται συλλογίσασθαι, οἷον εἰ τὸ Α τῷ Β μηδενί, τῷ δὲ Γ παντί· συμπέρασμα ὅτι οὐδενὶ τῷ Γ τὸ Β. εἰ δὴ τὸ Δ ὑπὸ τὸ Γ ἐστί, φανερὸν ὅτι οὐχ ὑπάρχει αὐτῷ τὸ Β· τοῖς δ’ ὑπὸ τὸ Α ὅτι οὐχ ὑπάρχει, οὐ δῆλον διὰ τοῦ συλλογισμοῦ. καίτοι οὐχ ὑπάρχει τῷ Ε, εἰ ἔστιν ὑπὸ τὸ Α· ἀλλὰ τὸ μὲν τῷ Γ μηδενὶ ὑπάρχειν τὸ Β διὰ τοῦ συλλογισμοῦ δέδεικται, τὸ δὲ τῷ Α μὴ ὑπάρχειν ἀναπόδεικτον εἴληπται, ὥστ’ οὐ διὰ τὸν συλλογισμὸν συμβαίνει τὸ Β τῷ Ε μὴ ὑπάρχειν. ἐπὶ δὲ τῶν ἐν μέρει τῶν μὲν ὑπὸ τὸ συμπέρασμα οὐκ ἔσται τὸ ἀναγκαῖον (οὐ γὰρ γίνεται συλλογισμός, ὅταν αὕτη ληφθῇ ἐν μέρει), τῶν δ’ ὑπὸ τὸ μέσον ἔσται πάντων, πλὴν οὐ διὰ τὸν συλλογισμόν· οἷον εἰ τὸ Α παντὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ· τοῦ μὲν γὰρ ὑπὸ τὸ Γ τεθέντος οὐκ ἔσται συλλογισμός, τοῦ δ’ ὑπὸ τὸ Β ἔσται, ἀλλ’ οὐ διὰ τὸν προγεγενημένον. ὁμοίως δὲ κἀπὶ τῶν ἄλλων σχημάτων· τοῦ μὲν γὰρ ὑπὸ τὸ συμπέρασμα οὐκ ἔσται, [53b] θατέρου δ’ ἔσται, πλὴν οὐ διὰ τὸν συλλογισμόν, ᾗ καὶ ἐν τοῖς καθόλου ἐξ ἀναποδείκτου τῆς προτάσεως τὰ ὑπὸ τὸ μέσον ἐδείκνυτο· ὥστ’ ἢ οὐδ’ ἐκεῖ ἔσται ἢ καὶ ἐπὶ τούτων.

Κεφάλαιο 2

Ἔστι μὲν οὖν οὕτως ἔχειν ὥστ’ ἀληθεῖς εἶναι τὰς προτάσεις δι’ ὧν ὁ συλλογισμός, ἔστι δ’ ὥστε ψευδεῖς, ἔστι δ’ ὥστε τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ. τὸ δὲ συμπέρασμα ἢ ἀληθὲς ἢ ψεῦδος ἐξ ἀνάγκης. ἐξ ἀληθῶν μὲν οὖν οὐκ ἔστι ψεῦδος συλλογίσασθαι, ἐκ ψευδῶν δ’ ἔστιν ἀληθές, πλὴν οὐ διότι ἀλλ’ ὅτι· τοῦ γὰρ διότι οὐκ ἔστιν ἐκ ψευδῶν συλλογισμός· δι’ ἣν δ’ αἰτίαν, ἐν τοῖς ἑπομένοις λεχθήσεται.

Πρῶτον μὲν οὖν ὅτι ἐξ ἀληθῶν οὐχ οἷόν τε ψεῦδος συλλογίσασθαι, ἐντεῦθεν δῆλον. εἰ γὰρ τοῦ Α ὄντος ἀνάγκη τὸ Β εἶναι, τοῦ Β μὴ ὄντος ἀνάγκη τὸ Α μὴ εἶναι. εἰ οὖν ἀληθές ἐστι τὸ Α, ἀνάγκη τὸ Β ἀληθὲς εἶναι, ἢ συμβήσεται τὸ αὐτὸ ἅμα εἶναί τε καὶ οὐκ εἶναι· τοῦτο δ’ ἀδύνατον. μὴ ὅτι δὲ κεῖται τὸ Α εἷς ὅρος, ὑποληφθήτω ἐνδέχεσθαι ἑνός τινος ὄντος ἐξ ἀνάγκης τι συμβαίνειν· οὐ γὰρ οἷόν τε· τὸ μὲν γὰρ συμβαῖνον ἐξ ἀνάγκης τὸ συμπέρασμά ἐστι, δι’ ὧν δὲ τοῦτο γίνεται ἐλαχίστων, τρεῖς ὅροι, δύο δὲ διαστήματα καὶ προτάσεις. εἰ οὖν ἀληθές, ᾧ τὸ Β ὑπάρχει, τὸ Α παντί, ᾧ δὲ τὸ Γ, τὸ Β, ᾧ τὸ Γ, ἀνάγκη τὸ Α ὑπάρχειν καὶ οὐχ οἷόν τε τοῦτο ψεῦδος εἶναι· ἅμα γὰρ ὑπάρξει ταὐτὸ καὶ οὐχ ὑπάρξει. τὸ οὖν Α ὥσπερ ἓν κεῖται, δύο προτάσεις συλληφθεῖσαι. ὁμοίως δὲ καὶ ἐπὶ τῶν στερητικῶν ἔχει· οὐ γὰρ ἔστιν ἐξ ἀληθῶν δεῖξαι ψεῦδος.

Ἐκ ψευδῶν δ’ ἀληθὲς ἔστι συλλογίσασθαι καὶ ἀμφοτέρων τῶν προτάσεων ψευδῶν οὐσῶν καὶ τῆς μιᾶς, ταύτης δ’ οὐχ ὁποτέρας ἔτυχεν ἀλλὰ τῆς δευτέρας, ἐάνπερ ὅλην λαμβάνῃ ψευδῆ· μὴ ὅλης δὲ λαμβανομένης ἔστιν ὁποτερασοῦν. ἔστω γὰρ τὸ Α ὅλῳ τῷ Γ ὑπάρχον, τῷ δὲ Β μηδενί, μηδὲ τὸ Β τῷ Γ. ἐνδέχεται δὲ τοῦτο, οἷον λίθῳ οὐδενὶ ζῷον, οὐδὲ λίθος οὐδενὶ ἀνθρώπῳ. ἐὰν οὖν ληφθῇ τὸ Α παντὶ τῷ Β καὶ τὸ Β παντὶ τῷ Γ, τὸ Α παντὶ τῷ Γ ὑπάρξει, ὥστ’ ἐξ ἀμφοῖν ψευδῶν ἀληθὲς τὸ συμπέρασμα· πᾶς γὰρ ἄνθρωπος ζῷον. ὡσαύτως δὲ καὶ τὸ στερητικόν. ἔστι γὰρ τῷ Γ μήτε τὸ Α ὑπάρχειν μηδενὶ μήτε τὸ Β, τὸ μέντοι Α τῷ Β παντί, οἷον ἐὰν τῶν αὐτῶν ὅρων ληφθέντων μέσον τεθῇ ὁ ἄνθρωπος· λίθῳ γὰρ οὔτε ζῷον οὔτε ἄνθρωπος οὐδενὶ ὑπάρχει, ἀνθρώπῳ δὲ παντὶ ζῷον. ὥστ’ ἐὰν ᾧ μὲν ὑπάρχει, λάβῃ μηδενὶ ὑπάρχειν, ᾧ δὲ μὴ ὑπάρχει, παντὶ ὑπάρχειν, ἐκ ψευδῶν ἀμφοῖν ἀληθὲς ἔσται τὸ [54a] συμπέρασμα. ὁμοίως δὲ δειχθήσεται καὶ ἐὰν ἐπί τι

ψευδὴς ἑκατέρα ληφθῇ. Ἐὰν δ’ ἡ ἑτέρα τεθῇ ψευδής, τῆς μὲν πρώτης ὅλης ψευδοῦς οὔσης, οἷον τῆς Α Β, οὐκ ἔσται τὸ συμπέρασμα ἀληθές, τῆς δὲ Β Γ ἔσται. λέγω δ’ ὅλην ψευδῆ τὴν ἐναντίαν, οἷον εἰ μηδενὶ ὑπάρχον παντὶ εἴληπται ἢ εἰ παντὶ μηδενὶ ὑπάρχειν. ἔστω γὰρ τὸ Α τῷ Β μηδενὶ ὑπάρχον, τὸ δὲ Β τῷ Γ παντί. ἂν δὴ τὴν μὲν Β Γ πρότασιν λάβω ἀληθῆ, τὴν δὲ τὸ Α Β ψευδῆ ὅλην, καὶ παντὶ ὑπάρχειν τῷ Β τὸ Α, ἀδύνατον τὸ συμπέρασμα ἀληθὲς εἶναι· οὐδενὶ γὰρ ὑπῆρχε τῶν Γ, εἴπερ ᾧ τὸ Β, μηδενὶ τὸ Α, τὸ δὲ Β παντὶ τῷ Γ. ὁμοίως δ’ οὐδ’ εἰ τὸ Α τῷ Β παντὶ ὑπάρχει καὶ τὸ Β τῷ Γ, ἐλήφθη δ’ ἡ μὲν τὸ Β Γ ἀληθὴς πρότασις, ἡ δὲ τὸ Α Β ψευδὴς ὅλη, καὶ μηδενὶ ᾧ τὸ Β, τὸ Α — τὸ συμπέρασμα ψεῦδος ἔσται· παντὶ γὰρ ὑπάρξει τῷ Γ τὸ Α, εἴπερ ᾧ τὸ Β, παντὶ τὸ Α, τὸ δὲ Β παντὶ τῷ Γ. φανερὸν οὖν ὅτι τῆς πρώτης ὅλης λαμβανομένης ψευδοῦς, ἐάν τε καταφατικῆς ἐάν τε στερητικῆς, τῆς δ’ ἑτέρας ἀληθοῦς, οὐ γίνεται ἀληθὲς τὸ συμπέρασμα.

Μὴ ὅλης δὲ λαμβανομένης ψευδοῦς ἔσται. εἰ γὰρ τὸ Α τῷ μὲν Γ παντὶ ὑπάρχει τῷ δὲ Β τινί, τὸ δὲ Β παντὶ τῷ Γ, οἷον ζῷον κύκνῳ μὲν παντὶ λευκῷ δὲ τινί, τὸ δὲ λευκὸν παντὶ κύκνῳ, ἐὰν ληφθῇ τὸ Α παντὶ τῷ Β καὶ τὸ Β παντὶ τῷ Γ, τὸ Α παντὶ τῷ Γ ὑπάρξει ἀληθῶς· πᾶς γὰρ κύκνος ζῷον. ὁμοίως δὲ καὶ εἰ στερητικὸν εἴη τὸ Α Β· ἐγχωρεῖ γὰρ τὸ Α τῷ μὲν Β τινὶ ὑπάρχειν τῷ δὲ Γ μηδενί, τὸ δὲ Β παντὶ τῷ Γ, οἷον ζῷον τινὶ λευκῷ χίονι δ’ οὐδεμιᾷ, λευκὸν δὲ πάσῃ χιόνι. εἰ οὖν ληφθείη τὸ μὲν Α μηδενὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ, τὸ Α οὐδενὶ τῷ Γ ὑπάρξει. Ἐὰν δ’ ἡ μὲν Α Β πρότασις ὅλη ληφθῇ (28) ἀληθής, ἡ δὲ Β Γ ὅλη ψευδής, ἔσται συλλογισμὸς ἀληθής· οὐδὲν γὰρ κωλύει τὸ Α τῷ Β καὶ τῷ Γ παντὶ ὑπάρχειν, τὸ μέντοι Β μηδενὶ τῷ Γ, οἷον ὅσα τοῦ αὐτοῦ γένους εἴδη μὴ ὑπ’ ἄλληλα· τὸ γὰρ ζῷον καὶ ἵππῳ καὶ ἀνθρώπῳ ὑπάρχει, ἵππος δ’ οὐδενὶ ἀνθρώπῳ. ἐὰν οὖν ληφθῇ τὸ Α παντὶ τῷ Β καὶ τὸ Β παντὶ τῷ Γ, ἀληθὲς ἔσται τὸ συμπέρασμα, ψευδοῦς ὅλης οὔσης τῆς Β Γ προτάσεως. ὁμοίως δὲ καὶ στερητικῆς οὔσης τῆς Α Β προτάσεως. ἐνδέχεται γὰρ τὸ Α μήτε τῷ Β μήτε τῷ Γ μηδενὶ ὑπάρχειν, μηδὲ τὸ Β μηδενὶ τῷ Γ, οἷον τοῖς ἐξ ἄλλου γένους εἴδεσι τὸ γένος· τὸ γὰρ ζῷον οὔτε μουσικῇ οὔτ’ ἰατρικῇ ὑπάρχει, οὐδ’ [54b] ἡ μουσικὴ ἰατρικῇ. ληφθέντος οὖν τοῦ μὲν Α μηδενὶ τῷ Β, τοῦ δὲ Β παντὶ τῷ Γ, ἀληθὲς ἔσται τὸ συμπέρασμα. καὶ εἰ μὴ ὅλη ψευδὴς ἡ Β Γ ἀλλ’ ἐπί τι, καὶ οὕτως ἔσται τὸ συμπέρασμα ἀληθές. οὐδὲν γὰρ κωλύει τὸ Α καὶ τῷ Β καὶ τῷ Γ ὅλῳ ὑπάρχειν, τὸ μέντοι Β τινὶ τῷ Γ, οἷον τὸ γένος τῷ εἴδει καὶ τῇ διαφορᾷ· τὸ γὰρ ζῷον παντὶ ἀνθρώπῳ καὶ παντὶ πεζῷ, ὁ δ’ ἄνθρωπος τινὶ πεζῷ καὶ οὐ παντί. εἰ οὖν τὸ Α παντὶ τῷ Β καὶ τὸ Β παντὶ τῷ Γ ληφθείη, τὸ Α παντὶ τῷ Γ ὑπάρξει· ὅπερ ἦν ἀληθές. ὁμοίως δὲ καὶ στερητικῆς οὔσης τῆς Α Β προτάσεως. ἐνδέχεται γὰρ τὸ Α μήτε τῷ Β μήτε τῷ Γ μηδενὶ ὑπάρχειν, τὸ μέντοι Β τινὶ τῷ Γ, οἷον τὸ γένος τῷ ἐξ ἄλλου γένους εἴδει καὶ διαφορᾷ· τὸ γὰρ ζῷον οὔτε φρονήσει οὐδεμιᾷ ὑπάρχει οὔτε θεωρητικῇ, ἡ δὲ φρόνησις τινὶ θεωρητικῇ. εἰ οὖν ληφθείη τὸ μὲν Α μηδενὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ, οὐδενὶ τῷ Γ τὸ Α ὑπάρξει· τοῦτο δ' ἦν ἀληθές.

Ἐπὶ δὲ τῶν ἐν μέρει συλλογισμῶν ἐνδέχεται καὶ τῆς πρώτης προτάσεως ὅλης οὔσης ψευδοῦς τῆς δ' ἑτέρας ἀληθοῦς ἀληθὲς εἶναι τὸ συμπέρασμα, καὶ ἐπί τι ψευδοῦς οὔσης τῆς πρώτης τῆς δ' ἑτέρας ἀληθοῦς, καὶ τῆς μὲν ἀληθοῦς τῆς δ' ἐν μέρει ψευδοῦς, καὶ ἀμφοτέρων ψευδῶν. οὐδὲν γὰρ κωλύει τὸ Α τῷ μὲν Β μηδενὶ ὑπάρχειν τῷ δὲ Γ τινί, καὶ τὸ Β τῷ Γ τινί, οἷον ζῷον οὐδεμιᾷ χιόνι λευκῷ δὲ τινὶ ὑπάρχει, καὶ ἡ χιὼν λευκῷ τινί. εἰ οὖν μέσον τεθείη ἡ χιών, πρῶτον δὲ τὸ ζῷον, καὶ ληφθείη τὸ μὲν Α ὅλῳ τῷ Β ὑπάρχειν, τὸ δὲ Β τινὶ τῷ Γ, ἡ μὲν Α Β ὅλη ψευδής, ἡ δὲ Β Γ ἀληθής, καὶ τὸ συμπέρασμα ἀληθές. ὁμοίως δὲ καὶ στερητικῆς οὔσης τῆς Α Β προτάσεως· ἐγχωρεῖ γὰρ τὸ Α τῷ μὲν Β ὅλῳ ὑπάρχειν τῷ δὲ Γ τινὶ μὴ ὑπάρχειν, τὸ μέντοι Β τινὶ τῷ Γ ὑπάρχειν, οἷον τὸ ζῷον ἀνθρώπῳ μὲν παντὶ ὑπάρχει, λευκῷ δὲ τινὶ οὐχ ἕπεται, ὁ δ' ἄνθρωπος τινὶ λευκῷ ὑπάρχει, ὥστ' εἰ μέσου τεθέντος τοῦ ἀνθρώπου ληφθείη τὸ Α μηδενὶ τῷ Β ὑπάρχειν, τὸ δὲ Β τινὶ τῷ Γ ὑπάρχειν, ἀληθὲς ἔσται τὸ συμπέρασμα ψευδοῦς οὔσης ὅλης τῆς Α Β προτάσεως. καὶ εἰ ἐπί τι ψευδὴς ἡ Α Β πρότασις, ἔσται τὸ συμπέρασμα ἀληθές. οὐδὲν γὰρ κωλύει τὸ Α καὶ τῷ Β καὶ τῷ Γ τινὶ ὑπάρχειν, καὶ τὸ Β τῷ Γ τινὶ ὑπάρχειν, οἷον τὸ ζῷον τινὶ καλῷ καὶ τινὶ μεγάλῳ, καὶ τὸ καλὸν τινὶ μεγάλῳ ὑπάρχειν. ἐὰν οὖν ληφθῇ τὸ Α παντὶ τῷ Β καὶ τὸ Β τινὶ τῷ Γ, [55a] ἡ μὲν Α Β πρότασις ἐπί τι ψευδὴς ἔσται, ἡ δὲ Β Γ ἀληθής, καὶ τὸ συμπέρασμα ἀληθές. ὁμοίως δὲ καὶ στερητικῆς οὔσης τῆς Α Β προτάσεως· οἱ γὰρ αὐτοὶ ὅροι ἔσονται καὶ ὡσαύτως κείμενοι πρὸς τὴν ἀπόδειξιν.

Πάλιν εἰ ἡ μὲν Α Β ἀληθὴς ἡ δὲ Β Γ ψευδής, ἀληθὲς ἔσται τὸ συμπέρασμα. οὐδὲν γὰρ κωλύει τὸ Α τῷ μὲν Β ὅλῳ ὑπάρχειν τῷ δὲ Γ τινί, καὶ τὸ Β τῷ Γ μηδενὶ ὑπάρχειν, οἷον ζῷον κύκνῳ μὲν παντὶ μέλανι δὲ τινί, κύκνος δὲ οὐδενὶ μέλανι. ὥστ' εἰ ληφθείη παντὶ τῷ Β τὸ Α καὶ τὸ Β τινὶ τῷ Γ, ἀληθὲς ἔσται τὸ συμπέρασμα ψευδοῦς ὄντος τοῦ Β Γ. ὁμοίως δὲ καὶ στερητικῆς λαμβανομένης τῆς Α Β προτάσεως. ἐγχωρεῖ γὰρ τὸ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ τινὶ μὴ ὑπάρχειν, τὸ μέντοι Β μηδενὶ τῷ Γ, οἷον τὸ γένος τῷ ἐξ ἄλλου γένους εἴδει καὶ τῷ συμβεβηκότι τοῖς αὑτοῦ εἴδεσι· τὸ γὰρ ζῷον ἀριθμῷ μὲν οὐδενὶ ὑπάρχει λευκῷ δὲ τινί, ὁ δ' ἀριθμὸς οὐδενὶ λευκῷ· ἐὰν οὖν μέσον τεθῇ ὁ ἀριθμός, καὶ ληφθῇ τὸ μὲν Α μηδενὶ τῷ Β, τὸ δὲ Β τινὶ τῷ

Γ, τὸ Α τινὶ τῷ Γ οὐχ ὑπάρξει, ὅπερ ἦν ἀληθές· καὶ ἡ μὲν Α Β πρότασις ἀληθής, ἡ δὲ Β Γ ψευδής. καὶ εἰ ἐπί τι ψευδὴς ἡ Α Β, ψευδὴς δὲ καὶ ἡ Β Γ, ἔσται τὸ συμπέρασμα ἀληθές. οὐδὲν γὰρ κωλύει τὸ Α τῷ Β τινὶ καὶ τῷ Γ τινὶ ὑπάρχειν ἑκατέρῳ, τὸ δὲ Β μηδενὶ τῷ Γ, οἷον εἰ ἐναντίον τὸ Β τῷ Γ, ἄμφω δὲ συμβεβηκότα τῷ αὐτῷ γένει· τὸ γὰρ ζῷον τινὶ λευκῷ καὶ τινὶ μέλανι ὑπάρχει, λευκὸν δ’ οὐδενὶ μέλανι. ἐὰν οὖν ληφθῇ τὸ Α παντὶ τῷ Β καὶ τὸ Β τινὶ τῷ Γ, ἀληθὲς ἔσται τὸ συμπέρασμα. καὶ στερητικῆς δὲ λαμβανομένης τῆς Α Β ὡσαύτως· οἱ γὰρ αὐτοὶ ὅροι καὶ ὡσαύτως τεθήσονται πρὸς τὴν ἀπόδειξιν. καὶ ἀμφοτέρων δὲ ψευδῶν οὐσῶν ἔσται τὸ συμπέρασμα ἀληθές· ἐγχωρεῖ γὰρ τὸ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ τινὶ ὑπάρχειν, τὸ μέντοι Β μηδενὶ τῷ Γ, οἷον τὸ γένος τῷ ἐξ ἄλλου γένους εἴδει καὶ τῷ συμβεβηκότι τοῖς εἴδεσι τοῖς αὑτοῦ· ζῷον γὰρ ἀριθμῷ μὲν οὐδενὶ λευκῷ δὲ τινὶ ὑπάρχει, καὶ ὁ ἀριθμὸς οὐδενὶ λευκῷ. ἐὰν οὖν ληφθῇ τὸ Α παντὶ τῷ Β καὶ τὸ Β τινὶ τῷ Γ, τὸ μὲν συμπέρασμα ἀληθές, αἱ δὲ προτάσεις ἄμφω ψευδεῖς. ὁμοίως δὲ καὶ στερητικῆς οὔσης τῆς Α Β. οὐδὲν γὰρ κωλύει τὸ Α τῷ μὲν Β ὅλῳ ὑπάρχειν τῷ δὲ Γ τινὶ μὴ ὑπάρχειν, μηδὲ τὸ Β μηδενὶ τῷ Γ, οἷον ζῷον κύκνῳ μὲν παντὶ μέλανι δὲ τινὶ οὐχ ὑπάρχει, κύκνος δ’ οὐδενὶ μέλανι. ὥστ’ εἰ ληφθείη τὸ Α μηδενὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ, τὸ Α τινὶ [55b] τῷ Γ οὐχ ὑπάρξει. τὸ μὲν οὖν συμπέρασμα ἀληθές, αἱ δὲ προτάσεις ψευδεῖς.

Κεφάλαιο 3

Ἐν δὲ τῷ μέσῳ σχήματι πάντως ἐγχωρεῖ διὰ ψευδῶν ἀληθὲς συλλογίσασθαι, καὶ ἀμφοτέρων τῶν προτάσεων ὅλων ψευδῶν λαμβανομένων καὶ ἐπί τι ἑκατέρας, καὶ τῆς μὲν ἀληθοῦς τῆς δὲ ψευδοῦς οὔσης [ὅλης] ὁποτερασοῦν ψευδοῦς τιθεμένης, [καὶ εἰ ἀμφότεραι ἐπί τι ψευδεῖς, καὶ εἰ ἡ μὲν ἁπλῶς ἀληθὴς ἡ δ’ ἐπί τι ψευδής, καὶ εἰ ἡ μὲν ὅλη ψευδὴς ἡ δ’ ἐπί τι ἀληθής,] καὶ ἐν τοῖς καθόλου καὶ ἐπὶ τῶν ἐν μέρει συλλογισμῶν. εἰ γὰρ τὸ Α τῷ μὲν Β μηδενὶ ὑπάρχει τῷ δὲ Γ παντί, οἷον ζῷον λίθῳ μὲν οὐδενὶ ἵππῳ δὲ παντί, ἐὰν ἐναντίως τεθῶσιν αἱ προτάσεις καὶ ληφθῇ τὸ Α τῷ μὲν Β παντὶ τῷ δὲ Γ μηδενί, ἐκ ψευδῶν ὅλων τῶν προτάσεων ἀληθὲς ἔσται τὸ συμπέρασμα. ὁμοίως δὲ καὶ εἰ τῷ μὲν Β παντὶ τῷ δὲ Γ μηδενὶ ὑπάρχει τὸ Α· ὁ γὰρ αὐτὸς ἔσται συλλογισμός.

Πάλιν εἰ ἡ μὲν ἑτέρα ὅλη ψευδὴς ἡ δ’ ἑτέρα ὅλη ἀληθής· οὐδὲν γὰρ κωλύει τὸ Α καὶ τῷ Β καὶ τῷ Γ παντὶ ὑπάρχειν, τὸ μέντοι Β μηδενὶ τῷ Γ, οἷον τὸ γένος τοῖς μὴ ὑπ’ ἄλληλα εἴδεσιν. τὸ γὰρ ζῷον καὶ ἵππῳ παντὶ καὶ ἀνθρώπῳ, καὶ οὐδεὶς ἄνθρωπος ἵππος. ἐὰν οὖν ληφθῇ τῷ μὲν παντὶ τῷ δὲ μηδενὶ ὑπάρχειν, ἡ μὲν ὅλη ψευδὴς ἔσται ἡ δ’ ὅλη ἀληθής, καὶ τὸ συμπέρασμα ἀληθὲς πρὸς ὁποτερῳοῦν τεθέντος τοῦ στερητικοῦ. καὶ εἰ ἡ ἑτέρα ἐπί τι ψευδής, ἡ δ’ ἑτέρα ὅλη ἀληθής. ἐγχωρεῖ γὰρ τὸ Α τῷ μὲν Β τινὶ ὑπάρχειν τῷ δὲ Γ παντί, τὸ μέντοι Β μηδενὶ τῷ Γ, οἷον ζῷον λευκῷ μὲν τινὶ κόρακι δὲ παντί, καὶ τὸ λευκὸν οὐδενὶ κόρακι. ἐὰν οὖν ληφθῇ τὸ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ ὅλῳ ὑπάρχειν, ἡ μὲν Α Β πρότασις ἐπί τι ψευδής, ἡ δ’ Α Γ ὅλη ἀληθής, καὶ τὸ συμπέρασμα ἀληθές. καὶ μετατιθεμένου δὲ τοῦ στερητικοῦ ὡσαύτως· διὰ γὰρ τῶν αὐτῶν ὅρων ἡ ἀπόδειξις. καὶ εἰ ἡ καταφατικὴ πρότασις ἐπί τι ψευδής, ἡ δὲ στερητικὴ ὅλη ἀληθής. οὐδὲν γὰρ κωλύει τὸ Α τῷ μὲν Β τινὶ ὑπάρχειν τῷ δὲ Γ ὅλῳ μὴ ὑπάρχειν, καὶ τὸ Β μηδενὶ τῷ Γ, οἷον τὸ ζῷον λευκῷ μὲν τινὶ πίττῃ δ’ οὐδεμιᾷ, καὶ τὸ λευκὸν οὐδεμιᾷ πίττῃ. ὥστ’ ἐὰν ληφθῇ τὸ Α ὅλῳ τῷ Β ὑπάρχειν τῷ δὲ Γ μηδενί, ἡ μὲν Α Β ἐπί τι ψευδής, ἡ δ’ Α Γ ὅλη ἀληθής, καὶ τὸ συμπέρασμα ἀληθές. καὶ εἰ ἀμφότεραι αἱ προτάσεις ἐπί τι ψευδεῖς, ἔσται τὸ συμπέρασμα ἀληθές. ἐγχωρεῖ γὰρ τὸ Α καὶ τῷ Β καὶ τῷ Γ τινὶ ὑπάρχειν, τὸ δὲ Β μηδενὶ τῷ Γ, οἷον ζῷον καὶ [56a] λευκῷ τινὶ καὶ μέλανί τινι, τὸ δὲ λευκὸν οὐδενὶ μέλανι. ἐὰν οὖν ληφθῇ τὸ Α τῷ μὲν Β παντὶ τῷ δὲ Γ μηδενί, ἄμφω μὲν αἱ προτάσεις ἐπί τι ψευδεῖς, τὸ δὲ συμπέρασμα ἀληθές. ὁμοίως δὲ καὶ μετατεθείσης τῆς στερητικῆς διὰ τῶν αὐτῶν ὅρων.Φανερὸν δὲ καὶ ἐπὶ τῶν ἐν μέρει συλλογισμῶν· οὐδὲν γὰρ κωλύει τὸ Α τῷ μὲν Β παντὶ τῷ δὲ Γ τινὶ ὑπάρχειν, καὶ τὸ Β τῷ Γ τινὶ μὴ ὑπάρχειν, οἷον ζῷον παντὶ ἀνθρώπῳ λευκῷ δὲ τινί, ἄνθρωπος δὲ τινὶ λευκῷ οὐχ ὑπάρξει. ἐὰν οὖν τεθῇ τὸ Α τῷ μὲν Β μηδενὶ ὑπάρχειν τῷ δὲ Γ τινὶ ὑπάρχειν, ἡ μὲν καθόλου πρότασις ὅλη ψευδής, ἡ δ’ ἐν μέρει ἀληθής, καὶ τὸ συμπέρασμα ἀληθές. ὡσαύτως δὲ καὶ καταφατικῆς λαμβανομένης τῆς Α Β· ἐγχωρεῖ γὰρ τὸ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ τινὶ μὴ ὑπάρχειν, καὶ τὸ Β τῷ Γ τινὶ μὴ ὑπάρχειν, οἷον τὸ ζῷον οὐδενὶ ἀψύχῳ, λευκῷ δὲ τινί, καὶ τὸ ἄψυχον οὐχ ὑπάρξει τινὶ λευκῷ. ἐὰν οὖν τεθῇ τὸ Α τῷ μὲν Β παντὶ τῷ δὲ Γ τινὶ μὴ ὑπάρχειν, ἡ μὲν Α Β πρότασις, ἡ καθόλου, ὅλη ψευδής, ἡ δὲ Α Γ ἀληθής, καὶ τὸ συμπέρασμα ἀληθές. καὶ τῆς μὲν καθόλου ἀληθοῦς τεθείσης, τῆς δ’ ἐν μέρει ψευδοῦς. οὐδὲν γὰρ κωλύει τὸ Α μήτε τῷ Β μήτε τῷ Γ μηδενὶ ἕπεσθαι, τὸ μέντοι Β τινὶ τῷ Γ μὴ ὑπάρχειν, οἷον ζῷον οὐδενὶ ἀριθμῷ οὐδ’ ἀψύχῳ, καὶ ὁ ἀριθμὸς τινὶ ἀψύχῳ οὐχ ἕπεται. ἐὰν οὖν τεθῇ τὸ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ τινί, τὸ μὲν συμπέρασμα ἔσται ἀληθὲς καὶ ἡ καθόλου πρότασις, ἡ δ’ ἐν μέρει ψευδής. καὶ καταφατικῆς δὲ τῆς καθόλου τιθεμένης ὡσαύτως. ἐγχωρεῖ γὰρ τὸ Α καὶ τῷ Β καὶ τῷ Γ ὅλῳ ὑπάρχειν, τὸ μέντοι Β τινὶ τῷ Γ μὴ ἕπεσθαι, οἷον τὸ γένος τῷ εἴδει καὶ τῇ διαφορᾷ· τὸ γὰρ ζῷον παντὶ ἀνθρώπῳ καὶ ὅλῳ πεζῷ ἕπεται, ἄνθρωπος δ’ οὐ παντὶ πεζῷ. ὥστ’ ἂν ληφθῇ τὸ Α τῷ μὲν Β ὅλῳ ὑπάρχειν, τῷ δὲ Γ τινὶ μὴ ὑπάρχειν, ἡ μὲν καθόλου πρότασις ἀληθής, ἡ δ’ ἐν μέρει ψευδής, τὸ δὲ συμπέρασμα ἀληθές.

Φανερὸν δὲ καὶ ὅτι ἐξ ἀμφοτέρων ψευδῶν ἔσται τὸ συμπέρασμα ἀληθές, εἴπερ ἐνδέχεται τὸ Α καὶτῷ Β καὶ τῷ Γ ὅλῳ ὑπάρχειν, τὸ μέντοι Β τινὶ τῷ Γ μὴ ἕπεσθαι. ληφθέντος γὰρ τοῦ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ τινὶ ὑπάρχειν, αἱ μὲν προτάσεις ἀμφότεραι ψευδεῖς, τὸ δὲ συμπέρασμα ἀληθές. ὁμοίως δὲ καὶ κατηγορικῆς οὔσης τῆς καθόλου προτάσεως, τῆς δ’ ἐν μέρει στερητικῆς. ἐγχωρεῖ γὰρ τὸ Α τῷ μὲν Β μηδενὶ τῷ δὲ Γ παντὶ ἕπεσθαι, καὶ τὸ Β τινὶ τῷ Γ μὴ ὑπάρχειν, οἷον ζῷον ἐπιστήμῃ μὲν οὐδεμιᾷ ἀνθρώπῳ δὲ παντὶ ἕπεται, ἡ δ’ ἐπιστήμη οὐ παντὶ ἀνθρώπῳ. [56b] ἐὰν οὖν ληφθῇ τὸ Α τῷ μὲν Β ὅλῳ ὑπάρχειν, τῷ δὲ Γ τινὶ μὴ ἕπεσθαι, αἱ μὲν προτάσεις ψευδεῖς, τὸ δὲ συμπέρασμα ἀληθές.

Κεφάλαιο 4

Ἔσται δὲ καὶ ἐν τῷ ἐσχάτῳ σχήματι διὰ ψευδῶν ἀληθές, καὶ ἀμφοτέρων ψευδῶν οὐσῶν ὅλων καὶ ἐπί τι ἑκατέρας, καὶ τῆς μὲν ἑτέρας ἀληθοῦς ὅλης τῆς δ’ ἑτέρας ψευδοῦς, καὶ τῆς μὲν ἐπί τι ψευδοῦς τῆς δ’ ὅλης ἀληθοῦς, καὶ ἀνάπαλιν, καὶ ὁσαχῶς ἄλλως ἐγχωρεῖ μεταλαβεῖν τὰς προτάσεις. οὐδὲν γὰρ κωλύει μήτε τὸ Α μήτε τὸ Β μηδενὶ τῷ Γ ὑπάρχειν, τὸ μέντοι Α τινὶ τῷ Β ὑπάρχειν, οἷον οὔτ’ ἄνθρωπος οὔτε πεζὸν οὐδενὶ ἀψύχῳ ἕπεται, ἄνθρωπος μέντοι τινὶ πεζῷ ὑπάρχει. ἐὰν οὖν ληφθῇ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ὑπάρχειν, αἱ μὲν προτάσεις ὅλαι ψευδεῖς, τὸ δὲ συμπέρασμα ἀληθές. ὡσαύτως δὲ καὶ τῆς μὲν στερητικῆς τῆς δὲ καταφατικῆς οὔσης. ἐγχωρεῖ γὰρ τὸ μὲν Β μηδενὶ τῷ Γ ὑπάρχειν, τὸ δὲ Α παντί, καὶ τὸ Α τινὶ τῷ Β μὴ ὑπάρχειν, οἷον τὸ μέλαν οὐδενὶ κύκνῳ, ζῷον δὲ παντί, καὶ τὸ ζῷον οὐ παντὶ μέλανι. ὥστ’ ἂν ληφθῇ τὸ μὲν Β παντὶ τῷ Γ, τὸ δὲ Α μηδενί, τὸ Α τινὶ τῷ Β οὐχ ὑπάρξει· καὶ τὸ μὲν συμπέρασμα ἀληθές, αἱ δὲ προτάσεις ψευδεῖς. καὶ εἰ ἐπί τι ἑκατέρα ψευδής, ἔσται τὸ συμπέρασμα ἀληθές. οὐδὲν γὰρ κωλύει καὶ τὸ Α καὶ τὸ Β τινὶ τῷ Γ ὑπάρχειν, καὶ τὸΑ τινὶ τῷ Β, οἷον τὸ λευκὸν καὶ τὸ καλὸν τινὶ ζῴῳ ὑπάρχει, καὶ τὸ λευκὸν τινὶ καλῷ. ἐὰν οὖν τεθῇ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ὑπάρχειν, αἱ μὲν προτάσεις ἐπί τι ψευδεῖς, τὸ δὲ συμπέρασμα ἀληθές. καὶ στερητικῆς δὲ τῆς Α Γ τιθεμένης ὁμοίως. οὐδὲν γὰρ κωλύει τὸ μὲν Α τινὶ τῷ Γ μὴ ὑπάρχειν, τὸ δὲ Β τινὶ ὑπάρχειν, καὶ τὸ Α τῷ Β μὴ παντὶ ὑπάρχειν, οἷον τὸ λευκὸν τινὶ ζῴῳ οὐχ ὑπάρχει, τὸ δὲ καλὸν τινὶ ὑπάρχει, καὶ τὸ λευκὸν οὐ παντὶ καλῷ. ὥστ’ ἂν ληφθῇ τὸ μὲν Α μηδενὶ τῷ Γ, τὸ δὲ Β παντί, ἀμφότεραι μὲν αἱ προτάσεις ἐπί τι ψευδεῖς, τὸ δὲ συμπέρασμα ἀληθές.

Ὡσαύτως δὲ καὶ τῆς μὲν ὅλης ψευδοῦς τῆς δ’ ὅλης (33) ἀληθοῦς λαμβανομένης. ἐγχωρεῖ γὰρ καὶ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ἕπεσθαι, τὸ μέντοι Α τινὶ τῷ Β μὴ ὑπάρχειν, οἷον ζῷον καὶ λευκὸν παντὶ κύκνῳ ἕπεται, τὸ μέντοι ζῷον οὐ παντὶ ὑπάρχει λευκῷ. τεθέντων οὖν ὅρων τοιούτων, ἐὰν ληφθῇ τὸ μὲν Β ὅλῳ τῷ Γ ὑπάρχειν, τὸ δὲ Α ὅλῳ μὴ ὑπάρχειν, ἡ μὲν Β Γ ὅλη ἔσται ἀληθής, ἡ δὲ Α Γ ὅλη ψευδής, καὶ τὸ συμπέρασμα ἀληθές. ὁμοίως δὲ καὶ εἰ τὸ μὲν Β Γ ψεῦδος, τὸ δὲ Α Γ ἀληθές· οἱ γὰρ αὐτοὶ ὅροι πρὸς τὴν ἀπό[57a] δειξιν [μέλαν — κύκνος — ἄψυχον]. ἀλλὰ καὶ εἰ ἀμφότεραι λαμβάνοιντο καταφατικαί. οὐδὲν γὰρ κωλύει τὸ μὲν Β παντὶ τῷ Γ ἕπεσθαι, τὸ δὲ Α ὅλῳ μὴ ὑπάρχειν, καὶ τὸ Α τινὶ τῷ Β ὑπάρχειν, οἷον κύκνῳ παντὶ ζῷον, μέλαν δ’ οὐδενὶ κύκνῳ, καὶ τὸ μέλαν ὑπάρχει τινὶ ζῴῳ. ὥστ’ ἂν ληφθῇ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ὑπάρχειν, ἡ μὲν Β Γ ὅλη ἀληθής, ἡ δὲ Α Γ ὅλη ψευδής, καὶ τὸ συμπέρασμα ἀληθές. ὁμοίως δὲ καὶ τῆς Α Γ ληφθείσης ἀληθοῦς· διὰ γὰρ τῶν αὐτῶν ὅρων ἡ ἀπόδειξις.

Πάλιν τῆς μὲν ὅλης ἀλη(9)θοῦς οὔσης, τῆς δ’ ἐπί τι ψευδοῦς. ἐγχωρεῖ γὰρ τὸ μὲν Β παντὶ τῷ Γ ὑπάρχειν, τὸ δὲ Α τινί, καὶ τὸ Α τινὶ τῷ Β, οἷον δίπουν μὲν παντὶ ἀνθρώπῳ, καλὸν δ’ οὐ παντί, καὶ τὸ καλὸν τινὶ δίποδι ὑπάρχει. ἐὰν οὖν ληφθῇ καὶ τὸ Α καὶ τὸ Β ὅλῳ τῷ Γ ὑπάρχειν, ἡ μὲν Β Γ ὅλη ἀληθής, ἡ δὲ Α Γ ἐπί τι ψευδής, τὸ δὲ συμπέρασμα ἀληθές. ὁμοίως δὲ καὶ τῆς μὲν Α Γ ἀληθοῦς τῆς δὲ Β Γ ἐπί τι ψευδοῦς λαμβανομένης· μετατεθέντων γὰρ τῶν αὐτῶν ὅρων ἔσται ἡ ἀπόδειξις. καὶ τῆς μὲν στερητικῆς τῆς δὲ καταφατικῆς οὔσης. ἐπεὶ γὰρ ἐγχωρεῖ τὸ μὲν Β ὅλῳ τῷ Γ ὑπάρχειν, τὸ δὲ Α τινί, καὶ ὅταν οὕτως ἔχωσιν, οὐ παντὶ τῷ Β τὸ Α, ἐὰν οὖν ληφθῇ τὸ μὲν Β ὅλῳ τῷ Γ ὑπάρχειν, τὸ δὲ Α μηδενί, ἡ μὲν στερητικὴ ἐπί τι ψευδής, ἡ δ’ ἑτέρα ὅλη ἀληθὴς καὶ τὸ συμπέρασμα. πάλιν ἐπεὶ δέδεικται ὅτι τοῦ μὲν Α μηδενὶ ὑπάρχοντος τῷ Γ, τοῦ δὲ Β τινί, ἐγχωρεῖ τὸ Α τινὶ τῷ Β μὴ ὑπάρχειν, φανερὸν ὅτι καὶ τῆς μὲν Α Γ ὅλης ἀληθοῦς οὔσης, τῆς δὲ Β Γ ἐπί τι ψευδοῦς, ἐγχωρεῖ τὸ συμπέρασμα εἶναι ἀληθές. ἐὰν γὰρ ληφθῇ τὸ μὲν Α μηδενὶ τῷ Γ, τὸ δὲ Β παντί, ἡ μὲν Α Γ ὅλη ἀληθής, ἡ δὲ Β Γ ἐπί τι ψευδής.

Φανερὸν δὲ καὶ ἐπὶ τῶν ἐν μέρει συλλογισμῶν ὅτι πάντως ἔσται διὰ ψευδῶν ἀληθές. οἱ γὰρ αὐτοὶ ὅροι ληπτέοι καὶ ὅταν καθόλου ὦσιν αἱ προτάσεις, οἱ μὲν ἐν τοῖς κατηγορικοῖς κατηγορικοί, οἱ δ’ ἐν τοῖς στερητικοῖς στερητικοί. οὐδὲν γὰρ διαφέρει μηδενὶ ὑπάρχοντος παντὶ λαβεῖν ὑπάρχειν, καὶ τινὶ ὑπάρχοντος καθόλου λαβεῖν ὑπάρχειν, πρὸς τὴν τῶν ὅρων ἔκθεσιν· ὁμοίως δὲ καὶ ἐπὶ τῶν στερητικῶν.

Φανερὸν οὖν ὅτι ἂν μὲν ᾖ τὸ συμπέρασμα ψεῦδος, ἀνάγκη, ἐξ ὧν ὁ λόγος, ψευδῆ εἶναι ἢ πάντα ἢ ἔνια, ὅταν δ’ ἀληθές, οὐκ ἀνάγκη ἀληθὲς εἶναι οὔτε τὶ οὔτε πάντα, ἀλλ’ ἔστι μηδενὸς ὄντος ἀληθοῦς τῶν ἐν τῷ συλλογισμῷ τὸ συμπέρασμα ὁμοίως εἶναι ἀληθές· οὐ μὴν ἐξ ἀνάγκης. αἴτιον δ’ [57b] ὅτι ὅταν δύο ἔχῃ οὕτω πρὸς ἄλληλα ὥστε θατέρου ὄντος ἐξ ἀνάγκης εἶναι θάτερον, τούτου μὴ ὄντος μὲν οὐδὲ θάτερον ἔσται, ὄντος δ’ οὐκ ἀνάγκη εἶναι θάτερον· τοῦ δ’ αὐτοῦ ὄντος καὶ μὴ ὄντος ἀδύνατον ἐξ ἀνάγκης εἶναι τὸ αὐτό· λέγω δ’ οἷον τοῦ Α ὄντος λευκοῦ τὸ Β εἶναι μέγα ἐξ ἀνάγκης, καὶ μὴ ὄντος λευκοῦ τοῦ Α τὸ Β εἶναι μέγα ἐξ ἀνάγκης. ὅταν γὰρ τουδὶ ὄντος λευκοῦ, τοῦ Α, τοδὶ ἀνάγκη μέγα εἶναι, τὸ Β, μεγάλου δὲ τοῦ Β ὄντος τὸ Γ μὴ λευκόν, ἀνάγκη, εἰ τὸ Α λευκόν, τὸ Γ μὴ εἶναι λευκόν. καὶ ὅταν δύο ὄντων θατέρου ὄντος ἀνάγκη θάτερον εἶναι, τούτου μὴ ὄντος ἀνάγκη τὸ πρῶτον μὴ εἶναι. τοῦ δὴ Β μὴ ὄντος μεγάλου τὸ Α οὐχ οἷόν τε λευκὸν εἶναι. τοῦ δὲ Α μὴ ὄντος λευκοῦ εἰ ἀνάγκη τὸ Β μέγα εἶναι, συμβαίνει ἐξ ἀνάγκης τοῦ Β μεγάλου μὴ ὄντος αὐτὸ τὸ Β εἶναι μέγα· τοῦτο δ’ ἀδύνατον. εἰ γὰρ τὸ Β μὴ ἔστι μέγα, τὸ Α οὐκ ἔσται λευκὸν ἐξ ἀνάγκης. εἰ οὖν μὴ ὄντος τούτου λευκοῦ τὸ Β ἔσται μέγα, συμβαίνει, εἰ τὸ Β μὴ ἔστι μέγα, εἶναι μέγα, ὡς διὰ τριῶν.

Κεφάλαιο 5

Τὸ δὲ κύκλῳ καὶ ἐξ ἀλλήλων δείκνυσθαί ἐστι τὸ διὰ τοῦ συμπεράσματος καὶ τοῦ ἀνάπαλιν τῇ κατηγορίᾳ τὴν ἑτέραν λαβόντα πρότασιν συμπεράνασθαι τὴν λοιπήν, ἣν ἐλάμβανεν ἐν θατέρῳ συλλογισμῷ. οἷον εἰ ἔδει δεῖξαι ὅτι τὸ Α τῷ Γ παντὶ ὑπάρχει, ἔδειξε δὲ διὰ τοῦ Β, πάλιν εἰ δεικνύοι ὅτι τὸ Α τῷ Β ὑπάρχει, λαβὼν τὸ μὲν Α τῷ Γ ὑπάρχειν τὸ δὲ Γ τῷ Β [καὶ τὸ Α τῷ Β]· πρότερον δ’ ἀνάπαλιν ἔλαβε τὸ Β τῷ Γ ὑπάρχον. ἢ εἰ [ὅτι] τὸ Β τῷ Γ δεῖ δεῖξαι ὑπάρχον, εἰ λάβοι τὸ Α κατὰ τοῦ Γ, ὃ ἦν συμπέρασμα, τὸ δὲ Β κατὰ τοῦ Α ὑπάρχειν· πρότερον δ’ ἐλήφθη ἀνάπαλιν τὸ Α κατὰ τοῦ Β. ἄλλως δ’ οὐκ ἔστιν ἐξ ἀλλήλων δεῖξαι. εἴτε γὰρ ἄλλο μέσον λήψεται, οὐ κύκλῳ·οὐδὲν γὰρ λαμβάνεται τῶν αὐτῶν· εἴτε τούτων τι, ἀνάγκη θάτερον μόνον· εἰ γὰρ ἄμφω, ταὐτὸν ἔσται συμπέρασμα, δεῖ δ’ ἕτερον.

Ἐν μὲν οὖν τοῖς μὴ ἀντιστρέφουσιν ἐξ ἀναποδείκτου τῆς ἑτέρας προτάσεως γίνεται ὁ συλλογισμός· οὐ γὰρ ἔστιν ἀποδεῖξαι διὰ τούτων τῶν ὅρων ὅτι τῷ μέσῳ τὸ τρίτον ὑπάρχει ἢ τῷ πρώτῳ τὸ μέσον. ἐν δὲ τοῖς ἀντιστρέφουσιν ἔστι πάντα δεικνύναι δι’ ἀλλήλων, οἷον εἰ τὸ Α καὶ τὸ Β καὶ τὸ Γ ἀντιστρέφουσιν ἀλλήλοις. δεδείχθω γὰρ τὸ Α Γ διὰ μέσου τοῦ Β, καὶ πάλιν τὸ Α Β διά τε τοῦ συμπεράσματος καὶ διὰ τῆς Β Γ προτάσεως ἀντιστραφείσης, ὡσαύτως δὲ καὶ τὸ Β Γ διά τε τοῦ συμπεράσματος καὶ τῆς Α Β [58a] προτάσεως ἀντεστραμμένης. δεῖ δὲ τήν τε Γ Β καὶ τὴν Β Α πρότασιν ἀποδεῖξαι· ταύταις γὰρ ἀναποδείκτοις κεχρήμεθα μόναις. ἐὰν οὖν ληφθῇ τὸ Β παντὶ τῷ Γ ὑπάρχειν καὶ τὸ Γ παντὶ τῷ Α, συλλογισμὸς ἔσται τοῦ Β πρὸς τὸ Α. πάλιν ἐὰν ληφθῇ τὸ μὲν Γ παντὶ τῷ Α, τὸ δὲ Α παντὶ τῷ Β, παντὶ τῷ Β τὸ Γ ἀνάγκη ὑπάρχειν. ἐν ἀμφοτέροις δὴ τούτοις τοῖς συλλογισμοῖς ἡ Γ Α πρότασις εἴληπται ἀναπόδεικτος· αἱ γὰρ ἕτεραι δεδειγμέναι ἦσαν. ὥστ’ ἂν ταύτην ἀποδείξωμεν, ἅπασαι ἔσονται δεδειγμέναι δι’ ἀλλήλων. ἐὰν οὖν ληφθῇ τὸ Γ παντὶ τῷ Β καὶ τὸ Β παντὶ τῷ Α ὑπάρχειν, ἀμφότεραί τε αἱ προτάσεις ἀποδεδειγμέναι λαμβάνονται, καὶ τὸ Γ τῷ Α ἀνάγκη ὑπάρχειν. φανερὸν οὖν ὅτι ἐν μόνοις τοῖς ἀντιστρέφουσι κύκλῳ καὶ δι’ ἀλλήλων ἐνδέχεται γίνεσθαι τὰς ἀποδείξεις, ἐν δὲ τοῖς ἄλλοις ὡς πρότερον εἴπομεν. συμβαίνει δὲ καὶ ἐν τούτοις αὐτῷ τῷ δεικνυμένῳ χρῆσθαι πρὸς τὴν ἀπόδειξιν· τὸ μὲν γὰρ Γ κατὰ τοῦ Β καὶ τὸ Β κατὰ τοῦ Α δείκνυται ληφθέντος τοῦ Γ κατὰ τοῦ Α λέγεσθαι, τὸ δὲ Γ κατὰ τοῦ Α διὰ τούτων δείκνυται τῶν προτάσεων, ὥστε τῷ συμπεράσματι χρώμεθα πρὸς τὴν ἀπόδειξιν.

Ἐπὶ δὲ τῶν στερητικῶν συλλογισμῶν ὧδε δείκνυται ἐξ ἀλλήλων. ἔστω τὸ μὲν Β παντὶ τῷ Γ ὑπάρχειν, τὸ δὲ Α οὐδενὶ τῷ Β· συμπέρασμα ὅτι τὸ Α οὐδενὶ τῷ Γ. εἰ δὴ πάλιν δεῖ συμπεράνασθαι ὅτι τὸ Α οὐδενὶ τῷ Β, ὃ πάλαι ἔλαβεν, ἔστω τὸ μὲν Α μηδενὶ τῷ Γ, τὸ δὲ Γ παντὶ τῷ Β· οὕτω γὰρ ἀνάπαλιν ἡ πρότασις. εἰ δ’ ὅτι τὸ Β τῷ Γ δεῖ συμπεράνασθαι, οὐκέθ’ ὁμοίως ἀντιστρεπτέον τὸ Α Β (ἡ γὰρ αὐτὴ πρότασις, τὸ Β μηδενὶ τῷ Α καὶ τὸ Α μηδενὶ τῷ Β ὑπάρχειν), ἀλλὰ ληπτέον, ᾧ τὸ Α μηδενὶ ὑπάρχει, τὸ Β παντὶ ὑπάρχειν. ἔστω τὸ Α μηδενὶ τῷ Γ ὑπάρχειν, ὅπερ ἦν τὸ συμπέρασμα· ᾧ δὲ τὸ Α μηδενί, τὸ Β εἰλήφθω παντὶ ὑπάρχειν· ἀνάγκη οὖν τὸ Β παντὶ τῷ Γ ὑπάρχειν. ὥστε τριῶν ὄντων ἕκαστον συμπέρασμα γέγονε, καὶ τὸ κύκλῳ ἀποδεικνύναι τοῦτ’ ἔστι, τὸ τὸ συμπέρασμα λαμβάνοντα καὶ ἀνάπαλιν τὴν ἑτέραν πρότασιν τὴν λοιπὴν συλλογίζεσθαι.

Ἐπὶ δὲ τῶν ἐν μέρει συλλογισμῶν τὴν μὲν καθόλου πρότασιν οὐκ ἔστιν ἀποδεῖξαι διὰ τῶν ἑτέρων, τὴν δὲ κατὰ μέρος ἔστιν. ὅτι μὲν οὖν οὐκ ἔστιν ἀποδεῖξαι τὴν καθόλου, φανερόν· τὸ μὲν γὰρ καθόλου δείκνυται διὰ τῶν καθόλου, τὸ δὲ συμπέρασμα οὐκ ἔστι καθόλου, δεῖ δ’ ἐκ τοῦ συμπεράσματος δεῖξαι καὶ τῆς ἑτέρας προτάσεως. ἔτι ὅλως οὐδὲ γίνεται [58b] συλλογισμὸς ἀντιστραφείσης τῆς προτάσεως· ἐν μέρει γὰρ ἀμφότεραι γίνονται αἱ προτάσεις. τὴν δ’ ἐπὶ μέρους ἔστιν. δεδείχθω γὰρ τὸ Α κατὰ τινὸς τοῦ Γ διὰ τοῦ Β. ἐὰν οὖν ληφθῇ τὸ Β παντὶ τῷ Α καὶ τὸ συμπέρασμα μένῃ, τὸ Β τινὶ τῷ Γ ὑπάρξει· γίνεται γὰρ τὸ πρῶτον σχῆμα, καὶ τὸ Α μέσον. εἰ δὲ στερητικὸς ὁ συλλογισμός, τὴν μὲν καθόλου πρότασιν οὐκ ἔστι δεῖξαι, δι’ ὃ καὶ πρότερον ἐλέχθη· τὴν δ’ ἐν μέρει ἔστιν, ἐὰν ὁμοίως ἀντιστραφῇ τὸ Α Β ὥσπερ κἀπὶ τῶν καθόλου, [οὐκ ἔστι, διὰ προσλήψεως δ’ ἔστιν,] οἷον ᾧ τὸ Α τινὶ μὴ ὑπάρχει, τὸ Β τινὶ ὑπάρχειν· ἄλλως γὰρ οὐ γίνεται συλλογισμὸς διὰ τὸ ἀποφατικὴν εἶναι τὴν ἐν μέρει πρότασιν.

Κεφάλαιο 6

Ἐν δὲ τῷ δευτέρῳ σχήματι τὸ μὲν καταφατικὸν οὐκ ἔστι δεῖξαι διὰ τούτου τοῦ τρόπου, τὸ δὲ στερητικὸν ἔστιν. τὸ μὲν οὖν κατηγορικὸν οὐ δείκνυται διὰ τὸ μὴ ἀμφοτέρας εἶναι τὰς προτάσεις καταφατικάς· τὸ γὰρ συμπέρασμα στερητικόν ἐστι, τὸ δὲ κατηγορικὸν ἐξ ἀμφοτέρων ἐδείκνυτο καταφατικῶν. τὸ δὲ στερητικὸν ὧδε δείκνυται. ὑπαρχέτω τὸ Α παντὶ τῷ Β, τῷ δὲ Γ μηδενί· συμπέρασμα τὸ Β οὐδενὶ τῷ Γ. ἐὰν οὖν ληφθῇ τὸ Β παντὶ τῷ Α ὑπάρχον, [τῷ δὲ Γ μηδενί,] ἀνάγκη τὸ Α μηδενὶ τῷ Γ ὑπάρχειν· γίνεται γὰρ τὸ δεύτερον σχῆμα· μέσον τὸ Β. εἰ δὲ τὸ Α Β στερητικὸν ἐλήφθη, θάτερον δὲ κατηγορικόν, τὸ πρῶτον ἔσται σχῆμα. τὸ μὲν γὰρ Γ παντὶ τῷ Α, τὸ δὲ Β οὐδενὶ τῷ Γ, ὥστ’ οὐδενὶ τῷ Α τὸ Β· οὐδ’ ἄρα τὸ Α τῷ Β. διὰ μὲν οὖν τοῦ συμπεράσματος καὶ τῆς μιᾶς προτάσεως οὐ γίνεται συλλογισμός, προσληφθείσης δ’ ἑτέρας ἔσται. εἰ δὲ μὴ καθόλου ὁ συλλογισμός, ἡ μὲν ἐν ὅλῳ πρότασις οὐ δείκνυται διὰ τὴν αὐτὴν αἰτίαν ἥνπερ εἴπομεν καὶ πρότερον, ἡ δ’ ἐν μέρει δείκνυται, ὅταν ᾖ τὸ καθόλου κατηγορικόν· ὑπαρχέτω γὰρ τὸ Α παντὶ τῷ Β, τῷ δὲ Γ μὴ παντί· συμπέρασμα Β Γ. ἐὰν οὖν ληφθῇ τὸ Β παντὶ τῷ Α, τῷ δὲ Γ οὐ παντί, τὸ Α τινὶ τῷ Γ οὐχ ὑπάρξει· μέσον Β. εἰ δ’ ἐστὶν ἡ καθόλου στερητική, οὐ δειχθήσεται ἡ Α Γ πρότασις ἀντιστραφέντος τοῦ Α Β· συμβαίνει γὰρ ἢ ἀμφοτέρας ἢ τὴν ἑτέραν πρότασιν γίνεσθαι ἀποφατικήν, ὥστ’ οὐκ ἔσται συλλογισμός. ἀλλ’ ὁμοίως δειχθήσεται ὡς καὶ ἐπὶ τῶν καθόλου, ἐὰν ληφθῇ, ᾧ τὸ Βτινὶ μὴ ὑπάρχει, τὸ Α τινὶ ὑπάρχειν.

Κεφάλαιο 7

Ἐπὶ δὲ τοῦ τρίτου σχήματος ὅταν μὲν ἀμφότεραι αἱ προτάσεις καθόλου ληφθῶσιν, οὐκ ἐνδέχεται δεῖξαι δι’ ἀλλήλων· τὸ μὲν γὰρ καθόλου δείκνυται διὰ τῶν καθόλου, τὸ [59a] δ’ ἐν τούτῳ συμπέρασμα ἀεὶ κατὰ μέρος, ὥστε φανερὸν ὅτι ὅλως οὐκ ἐνδέχεται δεῖξαι διὰ τούτου τοῦ σχήματος τὴν καθόλου πρότασιν. Ἐὰν δ’ ἡ μὲν ᾖ καθόλου ἡ δ’ ἐν μέρει, (3) ποτὲ μὲν ἔσται ποτὲ δ’ οὐκ ἔσται. ὅταν μὲν οὖν ἀμφότεραι κατηγορικαὶ ληφθῶσι καὶ τὸ καθόλου γένηται πρὸς τῷ ἐλάττονι ἄκρῳ, ἔσται, ὅταν δὲ πρὸς θατέρῳ, οὐκ ἔσται. ὑπαρχέτω γὰρ τὸ Α παντὶ τῷ Γ, τὸ δὲ Β τινί· συμπέρασμα τὸ Α Β. ἐὰν οὖν ληφθῇ τὸ Γ παντὶ τῷ Α ὑπάρχειν, τὸ μὲν Γ δέδεικται τινὶ τῷ Β ὑπάρχον, τὸ δὲ Β τινὶ τῷ Γ οὐ δέδεικται. καίτοι ἀνάγκη, εἰ τὸ Γ τινὶ τῷ Β, καὶ τὸ Β τινὶ τῷ Γ ὑπάρχειν. ἀλλ’ οὐ ταὐτόν ἐστι τόδε τῷδε καὶ τόδε τῷδε ὑπάρχειν· ἀλλὰ προσληπτέον, εἰ τόδε τινὶ τῷδε, καὶ θάτερον τινὶ τῷδε. τούτου δὲ ληφθέντος οὐκέτι γίνεται ἐκ τοῦ συμπεράσματος καὶ τῆς ἑτέρας προτάσεως ὁ συλλογισμός. εἰ δὲ τὸ Β παντὶ τῷ Γ, τὸ δὲ Α τινὶ τῷ Γ, ἔσται δεῖξαι τὸ Α Γ, ὅταν ληφθῇ τὸ μὲν Γ παντὶ τῷ Β ὑπάρχειν, τὸ δὲ Α τινί. εἰ γὰρ τὸ Γ παντὶ τῷ Β, τὸ δὲ Α τινὶ τῷ Β, ἀνάγκη τὸ Α τινὶ τῷ Γ ὑπάρχειν· μέσον τὸ Β. καὶ ὅταν ᾖ ἡ μὲν κατηγορικὴ ἡ δὲ στερητική, καθόλου δ’ ἡ κατηγορική, δειχθήσεται ἡ ἑτέρα. ὑπαρχέτω γὰρ τὸ Β παντὶ τῷ Γ, τὸ δὲ Α τινὶ μὴ ὑπαρχέτω· συμπέρασμα ὅτι τὸ Α τινὶ τῷ Β οὐχ ὑπάρχει. ἐὰν οὖν προσληφθῇ τὸ Γ παντὶ τῷ Β ὑπάρχειν, ἀνάγκη τὸ Α τινὶ τῷ Γ μὴ ὑπάρχειν· μέσον τὸ Β. ὅταν δ’ ἡ στερητικὴ καθόλου γένηται, οὐ δείκνυται ἡ ἑτέρα, εἰ μὴ ὥσπερ ἐπὶ τῶν πρότερον, ἐὰν ληφθῇ, ᾧ τοῦτο τινὶ μὴ ὑπάρχει, θάτερον τινὶ ὑπάρχειν, οἷον εἰ τὸ μὲν Α μηδενὶ τῷ Γ, τὸ δὲ Β τινί· συμπέρασμα ὅτι τὸ Α τινὶ τῷ Β οὐχ ὑπάρχει. ἐὰν οὖν ληφθῇ, ᾧ τὸ Α τινὶ μὴ ὑπάρχει, τὸ Γ τινὶ ὑπάρχειν, ἀνάγκη τὸ Γ τινὶ τῷ Β ὑπάρχειν. ἄλλως δ’ οὐκ ἔστιν ἀντιστρέφοντα τὴν καθόλου πρότασιν δεῖξαι τὴν ἑτέραν· οὐδαμῶς γὰρ ἔσται συλλογισμός.

[Φανερὸν οὖν ὅτι ἐν μὲν τῷ πρώτῳ σχήματι ἡ δι’ ἀλλήλων δεῖξις διά τε τοῦ τρίτου καὶ διὰ τοῦ πρώτου γίνεται σχήματος. κατηγορικοῦ μὲν γὰρ ὄντος τοῦ συμπεράσματος διὰ τοῦ πρώτου, στερητικοῦ δὲ διὰ τοῦ ἐσχάτου· λαμβάνεται γάρ, ᾧ τοῦτο μηδενί, θάτερον παντὶ ὑπάρχειν. ἐν δὲ τῷ μέσῳ καθόλου μὲν ὄντος τοῦ συλλογισμοῦ δι’ αὐτοῦ τε καὶ διὰ τοῦ πρώτου

σχήματος, ὅταν δ’ ἐν μέρει, δι’ αὐτοῦ τε καὶ τοῦ ἐσχάτου. ἐν δὲ τῷ τρίτῳ δι’ αὐτοῦ πάντες. φανερὸν δὲ καὶ ὅτι ἐν τῷ τρίτῳ καὶ τῷ μέσῳ οἱ μὴ δι’ αὐτῶν γινόμενοι συλλογισμοὶ ἢ οὐκ εἰσὶ κατὰ τὴν κύκλῳ δεῖξιν ἢ ἀτελεῖς.] [59b]

Κεφάλαιο 8

Τὸ δ’ ἀντιστρέφειν ἐστὶ τὸ μετατιθέντα τὸ συμπέρασμα ποιεῖν τὸν συλλογισμὸν ὅτι ἢ τὸ ἄκρον τῷ μέσῳ οὐχ ὑπάρξει ἢ τοῦτο τῷ τελευταίῳ. ἀνάγκη γὰρ τοῦ συμπεράσματος ἀντιστραφέντος καὶ τῆς ἑτέρας μενούσης προτάσεως ἀναιρεῖσθαι τὴν λοιπήν· εἰ γὰρ ἔσται, καὶ τὸ συμπέρασμα ἔσται. διαφέρει δὲ τὸ ἀντικειμένως ἢ ἐναντίως ἀντιστρέφειν τὸ συμπέρασμα· οὐ γὰρ ὁ αὐτὸς γίνεται συλλογισμὸς ἑκατέρως ἀντιστραφέντος· δῆλον δὲ τοῦτ’ ἔσται διὰ τῶν ἑπομένων. λέγω δ’ ἀντικεῖσθαι μὲν τὸ παντὶ τῷ οὐ παντὶ καὶ τὸ τινὶ τῷ οὐδενί, ἐναντίως δὲ τὸ παντὶ τῷ οὐδενὶ καὶ τὸ τινὶ τῷ οὐ τινὶ ὑπάρχειν. ἔστω γὰρ δεδειγμένον τὸ Α κατὰ τοῦ Γ διὰ μέσου τοῦ Β. εἰ δὴ τὸ Α ληφθείη μηδενὶ τῷ Γ ὑπάρχειν, τῷ δὲ Β παντί, οὐδενὶ τῷ Γ ὑπάρξει τὸ Β. καὶ εἰ τὸ μὲν Α μηδενὶ τῷ Γ, τὸ δὲ Β παντὶ τῷ Γ, τὸ Α οὐ παντὶ τῷ Βκαὶ οὐχ ἁπλῶς οὐδενί· οὐ γὰρ ἐδείκνυτο τὸ καθόλου διὰ τοῦ ἐσχάτου σχήματος. ὅλως δὲ τὴν πρὸς τῷ μείζονι ἄκρῳ πρότασιν οὐκ ἔστιν ἀνασκευάσαι καθόλου διὰ τῆς ἀντιστροφῆς· ἀεὶ γὰρ ἀναιρεῖται διὰ τοῦ τρίτου σχήματος· ἀνάγκη γὰρ πρὸς τὸ ἔσχατον ἄκρον ἀμφοτέρας λαβεῖν τὰς προτάσεις. καὶ εἰ στερητικὸς ὁ συλλογισμός, ὡσαύτως. δεδείχθω γὰρ τὸ Α μηδενὶ τῷ Γ ὑπάρχον διὰ τοῦ Β. οὐκοῦν ἂν ληφθῇ τὸ Α τῷ Γ παντὶ ὑπάρχειν, τῷ δὲ Β μηδενί, οὐδενὶ τῷ Γ τὸ Β ὑπάρξει. καὶ εἰ τὸ Α καὶ τὸ Β παντὶ τῷ Γ, τὸ Α τινὶ τῷ Β· ἀλλ’ οὐδενὶ ὑπῆρχεν.

Ἐὰν δ’ ἀντικειμένως ἀντιστραφῇ τὸ συμπέρασμα, καὶ οἱ συλλογισμοὶ ἀντικείμενοι καὶ οὐ καθόλου ἔσονται. γίνεται γὰρ ἡ ἑτέρα πρότασις ἐν μέρει, ὥστε καὶ τὸ συμπέρασμα ἔσται κατὰ μέρος. ἔστω γὰρ κατηγορικὸς ὁ συλλογισμός, καὶ ἀντιστρεφέσθω οὕτως. οὐκοῦν εἰ τὸ Α οὐ παντὶ τῷ Γ, τῷ δὲ Β παντί, τὸ Β οὐ παντὶ τῷ Γ· καὶ εἰ τὸ μὲν Α μὴ παντὶ τῷ Γ, τὸ δὲ Β παντί, τὸ Α οὐ παντὶ τῷ Β. ὁμοίως δὲ καὶ εἰ στερητικὸς ὁ συλλογισμός. εἰ γὰρ τὸ Α τινὶ τῷ Γ ὑπάρχει, τῷ δὲ Β μηδενί, τὸ Β τινὶ τῷ Γ οὐχ ὑπάρξει, οὐχ ἁπλῶς οὐδενί· καὶ εἰ τὸ μὲν Α τῷ Γ τινί, τὸ δὲ Β παντί, ὥσπερ ἐν ἀρχῇ ἐλήφθη, τὸ Α τινὶ τῷ Β ὑπάρξει.

Ἐπὶ δὲ τῶν ἐν μέρει συλλογισμῶν ὅταν μὲν ἀντικειμένως ἀντιστρέφηται τὸ συμπέρασμα, ἀναιροῦνται ἀμφότεραι αἱ προτάσεις, ὅταν δ’ ἐναντίως, οὐδετέρα. οὐ γὰρ ἔτι συμβαίνει, καθάπερ ἐν τοῖς καθόλου, ἀναιρεῖν

ἐλλείποντος τοῦ συμπεράσματος κατὰ τὴν ἀντιστροφήν, ἀλλ’ οὐδ’ ὅλως [60a] ἀναιρεῖν. δεδείχθω γὰρ τὸ Α κατὰ τινὸς τοῦ Γ. οὐκοῦν ἂν ληφθῇ τὸ Α μηδενὶ τῷ Γ ὑπάρχειν, τὸ δὲ Β τινί, τὸ Α τῷ Β τινὶ οὐχ ὑπάρξει· καὶ εἰ τὸ Α μηδενὶ τῷ Γ, τῷ δὲ Β παντί, οὐδενὶ τῷ Γ τὸ Β. ὥστ’ ἀναιροῦνται ἀμφότεραι. ἐὰν δ’ ἐναντίως ἀντιστραφῇ, οὐδετέρα. εἰ γὰρ τὸ Α τινὶ τῷ Γ μὴ ὑπάρχει, τῷ δὲ Β παντί, τὸ Β τινὶ τῷ Γ οὐχ ὑπάρξει, ἀλλ’ οὔπω ἀναιρεῖται τὸ ἐξ ἀρχῆς· ἐνδέχεται γὰρ τινὶ ὑπάρχειν καὶ τινὶ μὴ ὑπάρχειν. τῆς δὲ καθόλου, τῆς Α Β, ὅλως οὐδὲ γίνεται συλλογισμός· εἰ γὰρ τὸ μὲν Α τινὶ τῷ Γ μὴ ὑπάρχει, τὸ δὲ Β τινὶ ὑπάρχει, οὐδετέρα καθόλου τῶν προτάσεων. ὁμοίως δὲ καὶ εἰ στερητικὸς ὁ συλλογισμός· εἰ μὲν γὰρ ληφθείη τὸ Α παντὶ τῷ Γ ὑπάρχειν, ἀναιροῦνται ἀμφότεραι, εἰ δὲ τινί, οὐδετέρα. ἀπόδειξις δ’ ἡ αὐτή.

Κεφάλαιο 9

Ἐν δὲ τῷ δευτέρῳ σχήματι τὴν μὲν πρὸς τῷ μείζονι ἄκρῳ πρότασιν οὐκ ἔστιν ἀνελεῖν ἐναντίως, ὁποτερωσοῦν τῆς ἀντιστροφῆς γινομένης· ἀεὶ γὰρ ἔσται τὸ συμπέρασμα ἐν τῷ τρίτῳ σχήματι, καθόλου δ’ οὐκ ἦν ἐν τούτῳ συλλογισμός. τὴν δ’ ἑτέραν ὁμοίως ἀναιρήσομεν τῇ ἀντιστροφῇ. λέγω δὲ τὸ ὁμοίως, εἰ μὲν ἐναντίως ἀντιστρέφεται, ἐναντίως, εἰ δ’ ἀντικειμένως, ἀντικειμένως. ὑπαρχέτω γὰρ τὸ Α παντὶ τῷ Β, τῷ δὲ Γ μηδενί· συμπέρασμα Β Γ. ἐὰν οὖν ληφθῇ τὸ Β παντὶ τῷ Γ ὑπάρχειν καὶ τὸ Α Β μένῃ, τὸ Α παντὶ τῷ Γ ὑπάρξει· γίνεται γὰρ τὸ πρῶτον σχῆμα. εἰ δὲ τὸ Β παντὶ τῷ Γ, τὸ δὲ Α μηδενὶ τῷ Γ, τὸ Α οὐ παντὶ τῷ Β· σχῆμα τὸ ἔσχατον. ἐὰν δ’ ἀντικειμένως ἀντιστραφῇ τὸ Β Γ, ἡ μὲν Α Β ὁμοίως δειχθήσεται, ἡ δὲ Α Γ ἀντικειμένως. εἰ γὰρ τὸ Β τινὶ τῷ Γ, τὸ δὲ Α μηδενὶ τῷ Γ, τὸ Α τινὶ τῷ Β οὐχ ὑπάρξει. πάλιν εἰ τὸ Β τινὶ τῷ Γ, τὸ δὲ Α παντὶ τῷ Β, τὸ Α τινὶ τῷ Γ, ὥστ’ ἀντικείμενος γίνεται ὁ συλλογισμός. ὁμοίως δὲ δειχθήσεται καὶ εἰ ἀνάπαλιν ἔχοιεν αἱ προτάσεις. εἰ δ’ ἐστὶν ἐπὶ μέρους ὁ συλλογισμός, ἐναντίως μὲν ἀντιστρεφομένου τοῦ συμπεράσματος οὐδετέρα τῶν προτάσεων ἀναιρεῖται, καθάπερ οὐδ’ ἐν τῷ πρώτῳ σχήματι, ἀντικειμένως δ’ ἀμφότεραι. κείσθω γὰρ τὸ Α τῷ μὲν Β μηδενὶ ὑπάρχειν, τῷ δὲ Γ τινί· συμπέρασμα Β Γ. ἐὰν οὖν τεθῇ τὸ Β τινὶ τῷ Γ ὑπάρχειν καὶ τὸ Α Β μένῃ, συμπέρασμα ἔσται ὅτι τὸ Α τινὶ τῷ Γ οὐχ ὑπάρχει, ἀλλ’ οὐκ ἀνῄρηται τὸ ἐξ ἀρχῆς· ἐνδέχεται γὰρ τινὶ ὑπάρχειν καὶ μὴ ὑπάρχειν. πάλιν εἰ τὸ Β τινὶ τῷ Γ καὶ τὸ Α τινὶ τῷ Γ, οὐκ ἔσται συλλογισμός· οὐδέτερον γὰρ καθόλου τῶν εἰλημμένων. [60b] ὥστ’ οὐκ ἀναιρεῖται τὸ Α Β. ἐὰν δ’ ἀντικειμένως ἀντιστρέφηται, ἀναιροῦνται ἀμφότεραι. εἰ γὰρ τὸ Β παντὶ τῷ Γ, τὸ δὲ Α μηδενὶ τῷ Β, οὐδενὶ τῷ Γ τὸ Α· ἦν δὲ τινί. πάλιν εἰ τὸ Β παντὶ τῷ Γ, τὸ δὲ Α τινὶ τῷ Γ, τινὶ τῷ Β τὸ Α. ἡ αὐτὴ δ’ ἀπόδειξις καὶ εἰ τὸ καθόλου κατηγορικόν.

Κεφάλαιο 10

Ἐπὶ δὲ τοῦ τρίτου σχήματος ὅταν μὲν ἐναντίως ἀντιστρέφηται τὸ συμπέρασμα, οὐδετέρα τῶν προτάσεων ἀναιρεῖται κατ’ οὐδένα τῶν συλλογισμῶν, ὅταν δ’ ἀντικειμένως, ἀμφότεραι καὶ ἐν ἅπασιν. δεδείχθω γὰρ τὸ Α τινὶ τῷ Β ὑπάρχον, μέσον δ’ εἰλήφθω τὸ Γ, ἔστωσαν δὲ καθόλου αἱ προτάσεις. οὐκοῦν ἐὰν ληφθῇ τὸ Α τινὶ τῷ Β μὴ ὑπάρχειν, τὸ δὲ Β παντὶ τῷ Γ, οὐ γίνεται συλλογισμὸς τοῦ Α καὶ τοῦ Γ. οὐδ’ εἰ τὸ Α τῷ μὲν Β τινὶ μὴ ὑπάρχει, τῷ δὲ Γ παντί, οὐκ ἔσται τοῦ Β καὶ τοῦ Γ συλλογισμός. ὁμοίως δὲ δειχθήσεται καὶ εἰ μὴ καθόλου αἱ προτάσεις. ἢ γὰρ ἀμφοτέρας ἀνάγκη κατὰ μέρος εἶναι διὰ τῆς ἀντιστροφῆς, ἢ τὸ καθόλου πρὸς τῷ ἐλάττονι ἄκρῳ γίνεσθαι· οὕτω δ’ οὐκ ἦν συλλογισμὸς οὔτ’ ἐν τῷ πρώτῳ σχήματι οὔτ’ ἐν τῷ μέσῳ. ἐὰν δ’ ἀντικειμένως ἀντιστρέφηται, αἱ προτάσεις ἀναιροῦνται ἀμφότεραι. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ, τὸ Α οὐδενὶ τῷ Γ· πάλιν εἰ τὸ Α τῷ μὲν Β μηδενί, τῷ δὲ Γ παντί, τὸ Β οὐδενὶ τῷ Γ. καὶ εἰ ἡ ἑτέραμὴ καθόλου, ὡσαύτως. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ, τὸ Α τινὶ τῷ Γ οὐχ ὑπάρξει· εἰ δὲ τὸ Α τῷ μὲν Β μηδενί, τῷ δὲ Γ παντί, οὐδενὶ τῷ Γ τὸ Β.

Ὁμοίως δὲ καὶ εἰ στερητικὸς ὁ συλλογισμός. δεδείχθω γὰρ τὸ Α τινὶ τῷ Β μὴ ὑπάρχον, ἔστω δὲ κατηγορικὸν μὲν τὸ Β Γ, ἀποφατικὸν δὲ τὸ Α Γ· οὕτω γὰρ ἐγίνετο ὁ συλλογισμός. ὅταν μὲν οὖν τὸ ἐναντίον ληφθῇ τῷ συμπεράσματι, οὐκ ἔσται συλλογισμός. εἰ γὰρ τὸ Α τινὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ, οὐκ ἦν συλλογισμὸς τοῦ Α καὶ τοῦ Γ. οὐδ’ εἰ τὸ Α τινὶ τῷ Β, τῷ δὲ Γ μηδενί, οὐκ ἦν τοῦ Β καὶ τοῦ Γ συλλογισμός. ὥστε οὐκ ἀναιροῦνται αἱ προτάσεις. ὅταν δὲ τὸ ἀντικείμενον, ἀναιροῦνται. εἰ γὰρ τὸ Α παντὶ τῷ Β καὶ τὸ Β τῷ Γ, τὸ Α παντὶ τῷ Γ· ἀλλ’ οὐδενὶ ὑπῆρχεν. πάλιν εἰ τὸ Α παντὶ τῷ Β, τῷ δὲ Γ μηδενί, τὸ Β οὐδενὶ τῷ Γ· ἀλλὰ παντὶ ὑπῆρχεν. ὁμοίως δὲ δείκνυται καὶ εἰ μὴ καθόλου εἰσὶν αἱ προτάσεις. γίνεται γὰρ τὸ Α Γ καθόλου τε καὶ στερητικόν, θάτερον δ’ ἐπὶ μέρους καὶ κατηγορικόν. εἰ μὲν οὖν τὸ Α παντὶ τῷ Β, τὸ δὲ Β τινὶ τῷ Γ, τὸ Α τινὶ τῷ Γ συμβαίνει· ἀλλ’ οὐδενὶ ὑπῆρχεν. πάλιν εἰ τὸ Α παντὶ τῷ Β, τῷ δὲ Γ [61a] μηδενί, τὸ Β οὐδενὶ τῷ Γ· ἔκειτο δὲ τινί. εἰ δὲ τὸ Α τινὶ τῷ Β καὶ τὸ Β τινὶ τῷ Γ, οὐ γίνεται συλλογισμός· οὐδ’ εἰ τὸ Α τινὶ τῷ Β, τῷ δὲ Γ μηδενί, οὐδ’ οὕτως. ὥστ’ ἐκείνως μὲν ἀναιροῦνται, οὕτω δ’ οὐκ ἀναιροῦνται αἱ προτάσεις.

Φανερὸν οὖν διὰ τῶν εἰρημένων πῶς ἀντιστρεφομένου τοῦ συμπεράσματος ἐν ἑκάστῳ σχήματι γίνεται συλλογισμός, καὶ πότ’ ἐναντίος τῇ προτάσει καὶ πότ’ ἀντικείμενος, καὶ ὅτι ἐν μὲν τῷ πρώτῳ σχήματι διὰ τοῦ μέσου καὶ τοῦ ἐσχάτου γίνονται οἱ συλλογισμοί, καὶ ἡ μὲν πρὸς τῷ ἐλάττονι ἄκρῳ ἀεὶ διὰ τοῦ μέσου ἀναιρεῖται, ἡ δὲ πρὸς τῷ μείζονι διὰ τοῦ ἐσχάτου· ἐν δὲ τῷ δευτέρῳ διὰ τοῦ πρώτου καὶ τοῦ ἐσχάτου, ἡ μὲν πρὸς τῷ ἐλάττονι ἄκρῳ ἀεὶ διὰ τοῦ πρώτου σχήματος, ἡ δὲ πρὸς τῷ μείζονι διὰ τοῦ ἐσχάτου· ἐν δὲ τῷ τρίτῳ διὰ τοῦ πρώτου καὶ διὰ τοῦ μέσου, καὶ ἡ μὲν πρὸς τῷ μείζονι διὰ τοῦ πρώτου ἀεί, ἡ δὲ πρὸς τῷ ἐλάττονι διὰ τοῦ μέσου.

Κεφάλαιο 11

Τί μὲν οὖν ἐστὶ τὸ ἀντιστρέφειν καὶ πῶς ἐν ἑκάστῳ σχήματι καὶ τίς γίνεται συλλογισμός, φανερόν. ὁ δὲ διὰ τοῦ ἀδυνάτου συλλογισμὸς δείκνυται μὲν ὅταν ἡ ἀντίφασις τεθῇ τοῦ συμπεράσματος καὶ προσληφθῇ ἄλλη πρότασις, γίνεται δ' ἐν ἅπασι τοῖς σχήμασιν· ὅμοιον γάρ ἐστι τῇ ἀντιστροφῇ, πλὴν διαφέρει τοσοῦτον ὅτι ἀντιστρέφεται μὲν γεγενημένου συλλογισμοῦ καὶ εἰλημμένων ἀμφοῖν τῶν προτάσεων, ἀπάγεται δ' εἰς ἀδύνατον οὐ προομολογηθέντος τοῦ ἀντικειμένου πρότερον, ἀλλὰ φανεροῦ ὄντος ὅτι ἀληθές. οἱ δ' ὅροι ὁμοίως ἔχουσιν ἐν ἀμφοῖν, καὶ ἡ αὐτὴ λῆψις ἀμφοτέρων. οἷον εἰ τὸ Α τῷ Β παντὶ ὑπάρχει, μέσον δὲ τὸ Γ, ἐὰν ὑποτεθῇ τὸ Α ἢ μὴ παντὶ ἢ μηδενὶ τῷ Β ὑπάρχειν, τῷ δὲ Γ παντί, ὅπερ ἦν ἀληθές, ἀνάγκη τὸ Γ τῷ Β ἢ μηδενὶ ἢ μὴ παντὶ ὑπάρχειν. τοῦτο δ' ἀδύνατον, ὥστε ψεῦδος τὸ ὑποτεθέν· ἀληθὲς ἄρα τὸ ἀντικείμενον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων σχημάτων· ὅσα γὰρ ἀντιστροφὴν δέχεται, καὶ τὸν διὰ τοῦ ἀδυνάτου συλλογισμόν.

Τὰ μὲν οὖν ἄλλα προβλήματα πάντα δείκνυται διὰ τοῦ ἀδυνάτου ἐν ἅπασι τοῖς σχήμασι, τὸ δὲ καθόλου κατηγορικὸν ἐν μὲν τῷ μέσῳ καὶ τῷ τρίτῳ δείκνυται, ἐν δὲ τῷ πρώτῳ οὐ δείκνυται. ὑποκείσθω γὰρ τὸ Α τῷ Β μὴ παντὶ ἢ μηδενὶ ὑπάρχειν, καὶ προσειλήφθω ἄλλη πρότασις ὁποτερωθενοῦν, εἴτε τῷ Α παντὶ ὑπάρχειν τὸ Γ εἴτε τὸ Β παντὶ τῷ Δ· οὕτω γὰρ ἂν εἴη τὸ πρῶτον σχῆμα. εἰ μὲν οὖν ὑπόκειται μὴ παντὶ ὑπάρχειν τὸ Α τῷ Β, οὐ γίνεται [61b] συλλογισμὸς ὁποτερωθενοῦν τῆς προτάσεως λαμβανομένης, εἰ δὲ μηδενί, ὅταν μὲν ἡ Β Δ προσληφθῇ, συλλογισμὸς μὲν ἔσται τοῦ ψεύδους, οὐ δείκνυται δὲ τὸ προκείμενον. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Δ, τὸ Α οὐδενὶ τῷ Δ. τοῦτο δ' ἔστω ἀδύνατον· ψεῦδος ἄρα τὸ μηδενὶ τῷ Β τὸ Α ὑπάρχειν. ἀλλ' οὐκ εἰ τὸ μηδενὶ ψεῦδος, τὸ παντὶ ἀληθές. ἐὰν δ' ἡ Γ Α προσληφθῇ, οὐ γίνεται συλλογισμός, οὐδ' ὅταν ὑποτεθῇ μὴ παντὶ τῷ Β τὸ Α ὑπάρχειν. ὥστε φανερὸν ὅτι τὸ παντὶ ὑπάρχειν οὐ δείκνυται ἐν τῷ πρώτῳ σχήματι διὰ τοῦ ἀδυνάτου. Τὸ δέ γε τινὶ καὶ τὸ μηδενὶ καὶ μὴ παντὶ δείκνυται. ὑποκείσθω γὰρ τὸ Α μηδενὶ τῷ Β ὑπάρχειν, τὸ δὲ Β εἰλήφθω παντὶ ἢ τινὶ τῷ Γ. οὐκοῦν ἀνάγκη τὸ Α μηδενὶ ἢ μὴ παντὶ τῷ Γ ὑπάρχειν. τοῦτο δ' ἀδύνατον — ἔστω γὰρ ἀληθὲς καὶ φανερὸν ὅτι παντὶ ὑπάρχει τῷ Γ τὸ Α — ὥστ' εἰ τοῦτο ψεῦδος, ἀνάγκη τὸ Α τινὶ τῷ Β ὑπάρχειν. ἐὰν δὲ πρὸς τῷ Α ληφθῇ ἡ ἑτέρα πρότασις, οὐκ ἔσται συλλογισμός. οὐδ’ ὅταν τὸ ἐναντίον τῷ συμπεράσματι ὑποτεθῇ, οἷον τὸ τινὶ μὴ ὑπάρχειν. φανερὸν οὖν ὅτι τὸ ἀντικείμενον ὑποθετέον.

Πάλιν ὑποκείσθω τὸ Α τινὶ τῷ Β ὑπάρχειν, εἰλήφθω δὲ τὸ Γ παντὶ τῷ Α. ἀνάγκη οὖν τὸ Γ τινὶ τῷ Β ὑπάρχειν. τοῦτο δ’ ἔστω ἀδύνατον, ὥστε ψεῦδος τὸ ὑποτεθέν. εἰ δ’ οὕτως, ἀληθὲς τὸ μηδενὶ ὑπάρχειν. ὁμοίως δὲ καὶ εἰ στερητικὸν ἐλήφθη τὸ Γ Α. εἰ δ’ ἡ πρὸς τῷ Β εἴληπται πρότασις, οὐκ ἔσται συλλογισμός. ἐὰν δὲ τὸ ἐναντίον ὑποτεθῇ, συλλογισμὸς μὲν ἔσται καὶ τὸ ἀδύνατον, οὐ δείκνυται δὲ τὸ προτεθέν. ὑποκείσθω γὰρ παντὶ τῷ Β τὸ Α ὑπάρχειν, καὶ τὸ Γ τῷ Α εἰλήφθω παντί. οὐκοῦν ἀνάγκη τὸ Γ παντὶ τῷΒ ὑπάρχειν. τοῦτο δ’ ἀδύνατον, ὥστε ψεῦδος τὸ παντὶ τῷ Β τὸ Α ὑπάρχειν. ἀλλ’ οὔπω γε ἀναγκαῖον, εἰ μὴ παντί, μηδενὶ ὑπάρχειν. ὁμοίως δὲ καὶ εἰ πρὸς τῷ Β ληφθείη ἡ ἑτέρα πρότασις· συλλογισμὸς μὲν γὰρ ἔσται καὶ τὸ ἀδύνατον, οὐκ ἀναιρεῖται δ’ ἡ ὑπόθεσις· ὥστε τὸ ἀντικείμενον ὑποθετέον.

Πρὸς δὲ τὸ μὴ παντὶ δεῖξαι ὑπάρχον τῷ Β τὸ Α, ὑποθετέον παντὶ ὑπάρχειν· εἰ γὰρ τὸ Α παντὶ τῷ Β καὶ τὸ Γ παντὶ τῷ Α, τὸ Γ παντὶ τῷ Β, ὥστ’ εἰ τοῦτο ἀδύνατον, ψεῦδος τὸ ὑποτεθέν. ὁμοίως δὲ καὶ εἰ πρὸς τῷ Β ἐλήφθη ἡ ἑτέρα πρότασις. καὶ εἰ στερητικὸν ἦν τὸ Γ Α, ὡσαύτως· καὶ γὰρ οὕτω γίνεται συλλογισμός. ἐὰν δὲ πρὸς τῷ Β ᾖ τὸ στερητικόν, οὐδὲν δείκνυται. ἐὰν δὲ μὴ παντὶ ἀλλὰ τινὶ ὑπάρχειν ὑποτεθῇ, οὐ δείκνυται ὅτι οὐ παντὶ ἀλλ’ ὅτι οὐδενί. εἰ γὰρ τὸ Α τινὶ τῷ Β, τὸ δὲ Γ παντὶ τῷ Α, τινὶ [62a] τῷ Β τὸ Γ ὑπάρξει. εἰ οὖν τοῦτ’ ἀδύνατον, ψεῦδος τὸ τινὶ ὑπάρχειν τῷ Β τὸ Α, ὥστ’ ἀληθὲς τὸ μηδενί. τούτου δὲ δειχθέντος προσαναιρεῖται τὸ ἀληθές· τὸ γὰρ Α τῷ Β τινὶ μὲν ὑπῆρχε, τινὶ δ’ οὐχ ὑπῆρχεν. ἔτι οὐδὲν παρὰ τὴν ὑπόθεσιν συμβαίνει [τὸ] ἀδύνατον· ψεῦδος γὰρ ἂν εἴη, εἴπερ ἐξ ἀληθῶν μὴ ἔστι ψεῦδος συλλογίσασθαι· νῦν δ’ ἐστὶν ἀληθές· ὑπάρχει γὰρ τὸ Α τινὶ τῷ Β. ὥστ’ οὐχ ὑποθετέον τινὶ ὑπάρχειν, ἀλλὰ παντί. ὁμοίως δὲ καὶ εἰ τινὶ μὴ ὑπάρχον τῷ Β τὸ Α δεικνύοιμεν· εἰ γὰρ ταὐτὸ τὸ τινὶ μὴ ὑπάρχειν καὶ μὴ παντὶ ὑπάρχειν, ἡ αὐτὴ ἀμφοῖν ἀπόδειξις.

Φανερὸν οὖν ὅτι οὐ τὸ ἐναντίον ἀλλὰ τὸ ἀντικείμενον ὑποθετέον ἐν ἅπασι τοῖς συλλογισμοῖς. οὕτω γὰρ τό τε ἀναγκαῖον ἔσται καὶ τὸ ἀξίωμα ἔνδοξον. εἰ γὰρ κατὰ παντὸς ἡ φάσις ἢ ἡ ἀπόφασις, δειχθέντος ὅτι οὐχ ἡ ἀπόφασις, ἀνάγκη τὴν κατάφασιν ἀληθεύεσθαι. πάλιν εἰ μὴ τίθησιν ἀληθεύεσθαι τὴν κατάφασιν, ἔνδοξον τὸ ἀξιῶσαι τὴν ἀπόφασιν. τὸ δ’ ἐναντίον οὐδετέρως ἁρμόττει ἀξιοῦν· οὔτε γὰρ ἀναγκαῖον, εἰ τὸ μηδενὶ ψεῦδος, τὸ παντὶ ἀληθές, οὔτ’ ἔνδοξον ὡς εἰ θάτερον ψεῦδος, ὅτι θάτερον ἀληθές.

Κεφάλαιο 12

Φανερὸν οὖν ὅτι ἐν τῷ πρώτῳ σχήματι τὰ μὲν ἄλλα προβλήματα πάντα δείκνυται διὰ τοῦ ἀδυνάτου, τὸ δὲ καθόλου καταφατικὸν οὐ δείκνυται. ἐν δὲ τῷ μέσῳ καὶ τῷ ἐσχάτῳ καὶ τοῦτο δείκνυται. κείσθω γὰρ τὸ Α μὴ παντὶ τῷ Β ὑπάρχειν, εἰλήφθω δὲ τῷ Γ παντὶ ὑπάρχειν τὸ Α. οὐκοῦν εἰ τῷ μὲν Β μὴ παντί, τῷ δὲ Γ παντί, οὐ παντὶ τῷ Β τὸ Γ. τοῦτο δ’ ἀδύνατον· ἔστω γὰρ φανερὸν ὅτι παντὶ τῷ Β ὑπάρχει τὸ Γ, ὥστε ψεῦδος τὸ ὑποκείμενον. ἀληθὲς ἄρα τὸ παντὶ ὑπάρχειν. ἐὰν δὲ τὸ ἐναντίον ὑποτεθῇ, συλλογισμὸς μὲν ἔσται καὶ τὸ ὀδύνατον, οὐ μὴν δείκνυται τὸ προτεθέν. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τῷ δὲ Γ παντί, οὐδενὶ τῷ Β τὸ Γ. τοῦτο δ’ ἀδύνατον, ὥστε ψεῦδος τὸ μηδενὶ ὑπάρχειν. ἀλλ’ οὐκ εἰ τοῦτο ψεῦδος, τὸ παντὶ ἀληθές. ὅτι δὲ τινὶ τῷ Β ὑπάρχει τὸ Α, ὑποκείσθω τὸ Α μηδενὶ τῷ Β ὑπάρχειν, τῷ δὲ Γ παντὶ ὑπαρχέτω. ἀνάγκη οὖν τὸ Γ μηδενὶ τῷ Β. ὥστ’ εἰ τοῦτ’ ἀδύνατον, ἀνάγκη τὸ Α τινὶ τῷ Β ὑπάρχειν. ἐὰν δ’ ὑποτεθῇ τινὶ μὴ ὑπάρχειν, ταὐτ’ ἔσται ἅπερ ἐπὶ τοῦ πρώτου σχήματος. πάλιν ὑποκείσθω τὸ Α τινὶ τῷ Β ὑπάρχειν, τῷ δὲ Γ μηδενὶ ὑπαρχέτω. ἀνάγκη οὖν τὸ Γ τινὶ τῷ Β μὴ ὑπάρχειν. ἀλλὰ παντὶ ὑπῆρχεν, ὥστε ψεῦδος τὸ ὑποτεθέν· οὐδενὶ ἄρα τῷ Β τὸ Α ὑπάρξει. ὅτι δ’ οὐ παντὶ τὸ Α τῷ Β, ὑποκείσθω παντὶ ὑπάρχειν, τῷ [62b] δὲ Γ μηδενί. ἀνάγκη οὖν τὸ Γ μηδενὶ τῷ Β ὑπάρχειν. τοῦτο δ’ ἀδύνατον, ὥστ’ ἀληθὲς τὸ μὴ παντὶ ὑπάρχειν. φανερὸν οὖν ὅτι πάντες οἱ συλλογισμοὶ γίνονται διὰ τοῦ μέσου σχήματος.

Κεφάλαιο 13

Ὁμοίως δὲ καὶ διὰ τοῦ ἐσχάτου. κείσθω γὰρ τὸ Α τινὶ τῷ Β μὴ ὑπάρχειν, τὸ δὲ Γ παντί· τὸ ἄρα Α τινὶ τῷ Γ οὐχ ὑπάρχει. εἰ οὖν τοῦτ’ ἀδύνατον, ψεῦδος τὸ τινὶ μὴ ὑπάρχειν, ὥστ’ ἀληθὲς τὸ παντί. ἐὰν δ’ ὑποτεθῇ μηδενὶ ὑπάρχειν, συλλογισμὸς μὲν ἔσται καὶ τὸ ἀδύνατον, οὐ δείκνυται δὲ τὸ προτεθέν· ἐὰν γὰρ τὸ ἐναντίον ὑποτεθῇ, ταὐτ’ ἔσται ἅπερ ἐπὶ τῶν πρότερον. ἀλλὰ πρὸς τὸ τινὶ ὑπάρχειν αὕτη ληπτέα ἡ ὑπόθεσις. εἰ γὰρ τὸ Α μηδενὶ τῷ Β, τὸ δὲ Γ τινὶ τῷ Β, τὸ Α οὐ παντὶ τῷ Γ. εἰ οὖν τοῦτο ψεῦδος, ἀληθὲς τὸ Α τινὶ τῷ Β ὑπάρχειν. ὅτι δ’ οὐδενὶ τῷ Β ὑπάρχει τὸ Α, ὑποκείσθω τινὶ ὑπάρχειν, εἰλήφθω δὲ καὶ τὸ Γ παντὶ τῷ Β ὑπάρχον. οὐκοῦν ἀνάγκη τῷ Γ τινὶ τὸ Α ὑπάρχειν. ἀλλ’ οὐδενὶ ὑπῆρχεν, ὥστε ψεῦδος τὸ τινὶ τῷ Β ὑπάρχειν τὸ Α. ἐὰν δ’ ὑποτεθῇ παντὶ τῷ Β ὑπάρχειν τὸ Α, οὐ δείκνυται τὸ προτεθέν, ἀλλὰ πρὸς τὸ μὴ παντὶ ὑπάρχειν αὕτη ληπτέα ἡ ὑπόθεσις. εἰ γὰρ τὸ Α παντὶ τῷ Β καὶ τὸ Γ παντὶ τῷ Β, τὸ Α ὑπάρχει τινὶ τῷ Γ. τοῦτο δὲ οὐκ ἦν, ὥστε ψεῦδος τὸ παντὶ ὑπάρχειν. εἰ δ’ οὕτως, ἀληθὲς τὸ μὴ παντί. ἐὰν δ’ ὑποτεθῇ τινὶ ὑπάρχειν, ταὐτ’ ἔσται ἃ καὶ ἐπὶ τῶν προειρημένων.

Φανερὸν οὖν ὅτι ἐν ἅπασι τοῖς διὰ τοῦ ἀδυνάτου συλλογισμοῖς τὸ ἀντικείμενον ὑποθετέον. δῆλον δὲ καὶ ὅτι ἐν τῷ μέσῳ σχήματι δείκνυταί πως τὸ καταφατικὸν καὶ ἐν τῷ ἐσχάτῳ τὸ καθόλου.

Κεφάλαιο 14

Διαφέρει δ’ ἡ εἰς τὸ ἀδύνατον ἀπόδειξις τῆς δεικτικῆς τῷ τιθέναι ὃ βούλεται ἀναιρεῖν ἀπάγουσα εἰς ὁμολογούμενον ψεῦδος· ἡ δὲ δεικτικὴ ἄρχεται ἐξ ὁμολογουμένων θέσεων. λαμβάνουσι μὲν οὖν ἀμφότεραι δύο προτάσεις ὁμολογουμένας· ἀλλ’ ἡ μὲν ἐξ ὧν ὁ συλλογισμός, ἡ δὲ μίαν μὲν τούτων, μίαν δὲ τὴν ἀντίφασιν τοῦ συμπεράσματος. καὶ ἔνθα μὲν οὐκ ἀνάγκη γνώριμον εἶναι τὸ συμπέρασμα, οὐδὲ προϋπολαμβάνειν ὡς ἔστιν ἢ οὔ· ἔνθα δὲ ἀνάγκη ὡς οὐκ ἔστιν. διαφέρει δ’ οὐδὲν φάσιν ἢ ἀπόφασιν εἶναι τὸ συμπέρασμα, ἀλλ’ ὁμοίως ἔχει περὶ ἀμφοῖν. Ἅπαν (38) δὲ τὸ δεικτικῶς περαινόμενον καὶ διὰ τοῦ ἀδυνάτου δειχθήσεται, καὶ τὸ διὰ τοῦ ἀδυνάτου δεικτικῶς διὰ τῶν αὐτῶν ὅρων [οὐκ ἐν τοῖς αὐτοῖς δὲ σχήμασιν]. ὅταν μὲν γὰρ ὁ [63a] συλλογισμὸς ἐν τῷ πρώτῳ σχήματι γένηται, τὸ ἀληθὲς ἔσται ἐν τῷ μέσῳ ἢ τῷ ἐσχάτῳ, τὸ μὲν στερητικὸν ἐν τῷ μέσῳ, τὸ δὲ κατηγορικὸν ἐν τῷ ἐσχάτῳ. ὅταν δ’ ἐν τῷ μέσῳ ὁ συλλογισμός, τὸ ἀληθὲς ἐν τῷ πρώτῳ ἐπὶ πάντων τῶν προβλημάτων. ὅταν δ’ ἐν τῷ ἐσχάτῳ ὁ συλλογισμός, τὸ ἀληθὲς ἐν τῷ πρώτῳ καὶ τῷ μέσῳ, τὰ μὲν καταφατικὰ ἐν τῷ πρώτῳ, τὰ δὲ στερητικὰ ἐν τῷ μέσῳ. ἔστω γὰρ δεδειγμένον τὸ Α μηδενὶ ἢ μὴ παντὶ τῷ Β διὰ τοῦ πρώτου σχήματος. οὐκοῦν ἡ μὲν ὑπόθεσις ἦν τινὶ τῷ Β ὑπάρχειν τὸ Α, τὸ δὲ Γ ἐλαμβάνετο τῷ μὲν Α παντὶ ὑπάρχειν, τῷ δὲ Β οὐδενί· οὕτω γὰρ ἐγίνετο ὁ συλλογισμὸς καὶ τὸ ἀδύνατον. τοῦτο δὲ τὸ μέσον σχῆμα, εἰ τὸ Γ τῷ μὲν Α παντὶ τῷ δὲ Β μηδενὶ ὑπάρχει. καὶ φανερὸν ἐκ τούτων ὅτι οὐδενὶ τῷ Β ὑπάρχει τὸ Α. ὁμοίως δὲ καὶ εἰ μὴ παντὶ δέδεικται ὑπάρχον. ἡ μὲν γὰρ ὑπόθεσίς ἐστι παντὶ ὑπάρχειν, τὸ δὲ Γ ἐλαμβάνετο τῷ μὲν Α παντί, τῷ δὲ Β οὐ παντί. καὶ εἰ στερητικὸν λαμβάνοιτο τὸ Γ Α, ὡσαύτως· καὶ γὰρ οὕτω γίνεται τὸ μέσον σχῆμα. πάλιν δεδείχθω τινὶ ὑπάρχον τῷ Β τὸ Α. ἡ μὲν οὖν ὑπόθεσις μηδενὶ ὑπάρχειν, τὸ δὲ Β ἐλαμβάνετο παντὶ τῷ Γ ὑπάρχειν καὶ τὸ Α ἢ παντὶ ἢ τινὶ τῷ Γ· οὕτω γὰρ ἔσται τὸ ἀδύνατον. τοῦτο δὲ τὸ ἔσχατον σχῆμα, εἰ τὸ Α καὶ τὸ Β παντὶ τῷ Γ. καὶ φανερὸν ἐκ τούτων ὅτι ἀνάγκη τὸ Α τινὶ τῷ Β ὑπάρχειν. ὁμοίως δὲ καὶ εἰ τινὶ τῷ Γ ληφθείη ὑπάρχον τὸ Β ἢ τὸ Α.

Πάλιν ἐν τῷ μέσῳ σχήματι δεδείχθω τὸ Α παντὶ τῷ Β ὑπάρχον. οὐκοῦν ἡ μὲν ὑπόθεσις ἦν μὴ παντὶ τῷ Β τὸ Α ὑπάρχειν, εἴληπται δὲ τὸ Α παντὶ τῷ Γ καὶ τὸ Γ παντὶ τῷ Β· οὕτω γὰρ ἔσται τὸ ἀδύνατον. τοῦτο δὲ τὸ πρῶτον σχῆμα, τὸ Α παντὶ τῷ Γ καὶ τὸ Γ παντὶ τῷ Β. ὁμοίως δὲ καὶ εἰ τινὶ δέδεικται ὑπάρχον· ἡ μὲν γὰρ ὑπόθεσις ἦν μηδενὶ τῷ Β τὸ Α ὑπάρχειν, εἴληπται δὲ τὸ Α παντὶ τῷ Γ καὶ τὸ Γ τινὶ τῷ Β. εἰ δὲ στερητικὸς ὁ συλλογισμός, ἡ μὲν ὑπόθεσις τὸ Α τινὶ τῷ Β ὑπάρχειν, εἴληπται δὲ τὸ Α μηδενὶ τῷ Γ καὶ τὸ Γ παντὶ τῷ Β, ὥστε γίνεται τὸ πρῶτον σχῆμα. καὶ εἰ μὴ καθόλου ὁ συλλογισμός, ἀλλὰ τὸ Α τινὶ τῷ Β δέδεικται μὴ ὑπάρχειν, ὡσαύτως. ὑπόθεσις μὲν γὰρ παντὶ τῷ Β τὸ Α ὑπάρχειν, εἴληπται δὲ τὸ Α μηδενὶ τῷ Γ καὶ τὸ Γ τινὶ τῷ Β· οὕτω γὰρ τὸ πρῶτον σχῆμα.

Πάλιν ἐν τῷ τρίτῳ σχήματι δεδείχθω τὸ Α παντὶ τῷ Β ὑπάρχειν. οὐκοῦν ἡ μὲν ὑπόθεσις ἦν μὴ παντὶ τῷ Β τὸ [63b] Α ὑπάρχειν, εἴληπται δὲ τὸ Γ παντὶ τῷ Β καὶ τὸ Α παντὶ τῷ Γ· οὕτω γὰρ ἔσται τὸ ἀδύνατον. τοῦτο δὲ τὸ πρῶτον σχῆμα. ὡσαύτως δὲ καὶ εἰ ἐπὶ τινὸς ἡ ἀπόδειξις· ἡ μὲν γὰρ ὑπόθεσις μηδενὶ τῷ Β τὸ Α ὑπάρχειν, εἴληπται δὲ τὸ Γ τινὶ τῷ Β καὶ τὸ Α παντὶ τῷ Γ. εἰ δὲ στερητικὸς ὁ συλλογισμός, ὑπόθεσις μὲν τὸ Α τινὶ τῷ Β ὑπάρχειν, εἴληπται δὲ τὸ Γ τῷ μὲν Α μηδενί, τῷ δὲ Β παντί· τοῦτο δὲ τὸ μέσον σχῆμα. ὁμοίως δὲ καὶ εἰ μὴ καθόλου ἡ ἀπόδειξις. ὑπόθεσις μὲν γὰρ ἔσται παντὶ τῷ Β τὸ Α ὑπάρχειν, εἴληπται δὲ τὸ Γ τῷ μὲν Α μηδενί, τῷ δὲ Β τινί· τοῦτο δὲ τὸ μέσον σχῆμα.Φανερὸν οὖν ὅτι διὰ τῶν αὐτῶν ὅρων καὶ δεικτικῶς ἔστι δεικνύναι τῶν προβλημάτων ἕκαστον [καὶ διὰ τοῦ ἀδυνάτου]. ὁμοίως δ’ ἔσται καὶ δεικτικῶν ὄντων τῶν συλλογισμῶν εἰς ἀδύνατον ἀπάγειν ἐν τοῖς εἰλημμένοις ὅροις, ὅταν ἡ ἀντικειμένη πρότασις τῷ συμπεράσματι ληφθῇ. γίνονται γὰρ οἱ αὐτοὶ συλλογισμοὶ τοῖς διὰ τῆς ἀντιστροφῆς, ὥστ’ εὐθὺς ἔχομεν καὶ τὰ σχήματα δι’ ὧν ἕκαστον ἔσται. δῆλον οὖν ὅτι πᾶν πρόβλημα δείκνυται κατ’ ἀμφοτέρους τοὺς τρόπους, διά τε τοῦ ἀδυνάτου καὶ δεικτικῶς, καὶ οὐκ ἐνδέχεται χωρίζεσθαι τὸν ἕτερον.

Κεφάλαιο 15

Ἐν ποίῳ δὲ σχήματι ἔστιν ἐξ ἀντικειμένων προτάσεων συλλογίσασθαι καὶ ἐν ποίῳ οὐκ ἔστιν, ὧδ' ἔσται φανερόν. λέγω δ' ἀντικειμένας εἶναι προτάσεις κατὰ μὲν τὴν λέξιν τέτταρας, οἷον τὸ παντὶ τῷ οὐδενί, καὶ τὸ παντὶ τῷ οὐ παντί, καὶ τὸ τινὶ τῷ οὐδενί, καὶ τὸ τινὶ τῷ οὐ τινί, κατ' ἀλήθειαν δὲ τρεῖς· τὸ γὰρ τινὶ τῷ οὐ τινὶ κατὰ τὴν λέξιν ἀντίκειται μόνον. τούτων δ' ἐναντίας μὲν τὰς καθόλου, τὸ παντὶ τῷ μηδενὶ ὑπάρχειν, οἷον τὸ πᾶσαν ἐπιστήμην εἶναι σπουδαίαν τῷ μηδεμίαν εἶναι σπουδαίαν, τὰς δ' ἄλλας ἀντικειμένας.

Ἐν μὲν οὖν τῷ πρώτῳ σχήματι οὐκ ἔστιν ἐξ ἀντικειμένων προτάσεων συλλογισμός, οὔτε καταφατικὸς οὔτε ἀποφατικός, καταφατικὸς μὲν ὅτι ἀμφοτέρας δεῖ καταφατικὰς εἶναι τὰς προτάσεις, αἱ δ' ἀντικείμεναι φάσις καὶ ἀπόφασις, στερητικὸς δὲ ὅτι αἱ μὲν ἀντικείμεναι τὸ αὐτὸ τοῦ αὐτοῦ κατηγοροῦσι καὶ ἀπαρνοῦνται, τὸ δ' ἐν τῷ πρώτῳ μέσον οὐ λέγεται κατ' ἀμφοῖν, ἀλλ' ἐκείνου μὲν ἄλλο ἀπαρνεῖται, αὐτὸ δὲ ἄλλου κατηγορεῖται· αὗται δ' οὐκ ἀντίκεινται.

Ἐν δὲ τῷ μέσῳ σχήματι καὶ ἐκ τῶν ἀντικειμένων καὶ ἐκ τῶν ἐναντίων ἐνδέχεται γίγνεσθαι συλλογισμόν. ἔστω γὰρ [64a] ἀγαθὸν μὲν ἐφ' οὗ Α, ἐπιστήμη δὲ ἐφ' οὗ Β καὶ Γ. εἰ δὴ πᾶσαν ἐπιστήμην σπουδαίαν ἔλαβε καὶ μηδεμίαν, τὸ Α τῷ Β παντὶ ὑπάρχει καὶ τῷ Γ οὐδενί, ὥστε τὸ Β τῷ Γ οὐδενί· οὐδεμία ἄρα ἐπιστήμη ἐπιστήμη ἐστίν. ὁμοίως δὲ καὶ εἰ πᾶσαν λαβὼν σπουδαίαν τὴν ἰατρικὴν μὴ σπουδαίαν ἔλαβε· τῷ μὲν γὰρ Β παντὶ τὸ Α, τῷ δὲ Γ οὐδενί, ὥστε ἡ τὶς ἐπιστήμη οὐκ ἔσται ἐπιστήμη. καὶ εἰ τῷ μὲν Γ παντὶ τὸ Α, τῷ δὲ Β μηδενί, ἔστι δὲ τὸ μὲν Β ἐπιστήμη, τὸ δὲ Γ ἰατρική, τὸ δὲ Α ὑπόληψις· οὐδεμίαν γὰρ ἐπιστήμην ὑπόληψιν λαβὼν εἴληφε τινὰ εἶναι ὑπόληψιν. διαφέρει δὲ τοῦ πάλαι τῷ ἐπὶ τῶν ὅρων ἀντιστρέφεσθαι· πρότερον μὲν γὰρ πρὸς τῷ Β, νῦν δὲ πρὸς τῷ Γ τὸ καταφατικόν. καὶ ἂν ᾖ δὲ μὴ καθόλου ἡ ἑτέρα πρότασις, ὡσαύτως· ἀεὶ γὰρ τὸ μέσον ἐστὶν ὃ ἀπὸ θατέρου μὲν ἀποφατικῶς λέγεται, κατὰ θατέρου δὲ καταφατικῶς. ὥστ' ἐνδέχεται τἀντικείμενα περαίνεσθαι, πλὴν οὐκ ἀεὶ οὐδὲ πάντως, ἀλλ' ἐὰν οὕτως ἔχῃ τὰ ὑπὸ τὸ μέσον ὥστ' ἢ ταὐτὰ εἶναι ἢ ὅλον πρὸς μέρος. ἄλλως δ' ἀδύνατον· οὐ γὰρ ἔσονται οὐδαμῶς αἱ προτάσεις οὔτ' ἐναντίαι οὔτ' ἀντικείμεναι.

Ἐν δὲ τῷ τρίτῳ σχήματι καταφατικὸς μὲν συλλογισμὸς οὐδέποτ' ἔσται ἐξ ἀντικειμένων προτάσεων διὰ τὴν εἰρημένην αἰτίαν καὶ ἐπὶ τοῦ πρώτου σχήματος, ἀποφατικὸς δ' ἔσται, καὶ καθόλου καὶ μὴ καθόλου τῶν ὅρων ὄντων. ἔστω γὰρ ἐπιστήμη ἐφ' οὗ τὸ Β καὶ Γ, ἰατρικὴ δ' ἐφ' οὗ Α. εἰ οὖν λάβοι πᾶσαν ἰατρικὴν ἐπιστήμην καὶ μηδεμίαν ἰατρικὴν ἐπιστήμην, τὸ Β παντὶ τῷ Α εἴληφε καὶ τὸ Γ οὐδενί, ὥστ' ἔσται τις ἐπιστήμη οὐκ ἐπιστήμη. ὁμοίως δὲ καὶ ἂν μὴ καθόλου ληφθῇ ἡ Β Α πρότασις· εἰ γάρ ἐστί τις ἰατρικὴ ἐπιστήμη καὶ πάλιν μηδεμία ἰατρικὴ ἐπιστήμη, συμβαίνει ἐπιστήμην τινὰ μὴ εἶναι ἐπιστήμην. εἰσὶ δὲ καθόλου μὲν τῶν ὅρων λαμβανομένων ἐναντίαι αἱ προτάσεις, ἐὰν δ' ἐν μέρει ἅτερος, ἀντικείμεναι. Δεῖ δὲ κατανοεῖν ὅτι ἐνδέχεται μὲν οὕτω τὰ ἀντικείμενα λαμβάνειν ὥσπερ εἴπομεν πᾶσαν ἐπιστήμην σπουδαίαν εἶναι καὶ πάλιν μηδεμίαν, ἢ τινὰ μὴ σπουδαίαν· ὅπερ οὐκ εἴωθε λανθάνειν. ἔστι δὲ δι' ἄλλων ἐρωτημάτων συλλογίσασθαι θάτερον, ἢ ὡς ἐν τοῖς Τοπικοῖς ἐλέχθη λαβεῖν. ἐπεὶ δὲ τῶν καταφάσεων αἱ ἀντιθέσεις τρεῖς, ἑξαχῶς συμβαίνει τὰ ἀντικείμενα λαμβάνειν, ἢ παντὶ καὶ μηδενί, ἢ παντὶ καὶ μὴ παντί, ἢ τινὶ καὶ μηδενί, καὶ τοῦτο ἀντιστρέψαι ἐπὶ [64b] τῶν ὅρων, οἷον τὸ Α παντὶ τῷ Β, τῷ δὲ Γ μηδενί, ἢ τῷ Γ παντί, τῷ δὲ Β μηδενί, ἢ τῷ μὲν παντί, τῷ δὲ μὴ παντί, καὶ πάλιν τοῦτο ἀντιστρέψαι κατὰ τοὺς ὅρους. ὁμοίως δὲ καὶ ἐπὶ τοῦ τρίτου σχήματος. ὥστε φανερὸν ὁσαχῶς τε καὶ ἐν ποίοις σχήμασιν ἐνδέχεται διὰ τῶν ἀντικειμένων προτάσεων γενέσθαι συλλογισμόν.

Φανερὸν δὲ καὶ ὅτι ἐκ ψευδῶν μὲν ἔστιν ἀληθὲς συλλογίσασθαι, καθάπερ εἴρηται πρότερον, ἐκ δὲ τῶν ἀντικειμένων οὐκ ἔστιν· ἀεὶ γὰρ ἐναντίος ὁ συλλογισμὸς γίνεται τῷ πράγματι, οἷον εἰ ἔστιν ἀγαθόν, μὴ εἶναι ἀγαθόν, ἢ εἰ ζῷον, μὴ ζῷον, διὰ τὸ ἐξ ἀντιφάσεως εἶναι τὸν συλλογισμὸν καὶ τοὺς ὑποκειμένους ὅρους ἢ τοὺς αὐτοὺς εἶναι ἢ τὸν μὲν ὅλον τὸν δὲ μέρος. δῆλον δὲ καὶ ὅτι ἐν τοῖς παραλογισμοῖς οὐδὲν κωλύει γίνεσθαι τῆς ὑποθέσεως ἀντίφασιν, οἷον εἰ ἔστι περιττόν, μὴ εἶναι περιττόν. ἐκ γὰρ τῶν ἀντικειμένων προτάσεων ἐναντίος ἦν ὁ συλλογισμός· ἐὰν οὖν λάβῃ τοιαύτας, ἔσται τῆς ὑποθέσεως ἀντίφασις, δεῖ δὲ κατανοεῖν ὅτι οὕτω μὲν οὐκ ἔστιν ἐναντία συμπεράνασθαι ἐξ ἑνὸς συλλογισμοῦ ὥστ' εἶναι τὸ συμπέρασμα τὸ μὴ ὂν ἀγαθὸν ἀγαθὸν ἢ ἄλλο τι τοιοῦτον, ἐὰν μὴ εὐθὺς ἡ πρότασις τοιαύτη ληφθῇ (οἷον πᾶν ζῷον λευκὸν εἶναι καὶ μὴ λευκόν, τὸν δ' ἄνθρωπον ζῷον), ἀλλ' ἢ προσλαβεῖν δεῖ τὴν ἀντίφασιν (οἷον ὅτι πᾶσα ἐπιστήμη ὑπόληψις [καὶ οὐχ ὑπόληψις], εἶτα λαβεῖν ὅτι ἡ ἰατρικὴ ἐπιστήμη μέν ἐστιν, οὐδεμία δ' ὑπόληψις, ὥσπερ οἱ ἔλεγχοι γίνονται), ἢ ἐκ δύο συλλογισμῶν. ὥστε δ' εἶναι ἐναντία κατ' ἀλήθειαν τὰ εἰλημμένα, οὐκ ἔστιν ἄλλον τρόπον ἢ τοῦτον, καθάπερ εἴρηται πρότερον.

Κεφάλαιο 16

Τὸ δ’ ἐν ἀρχῇ αἰτεῖσθαι καὶ λαμβάνειν ἐστὶ μέν, ὡς ἐν γένει λαβεῖν, ἐν τῷ μὴ ἀποδεικνύναι τὸ προκείμενον, τοῦτο δὲ συμβαίνει πολλαχῶς· καὶ γὰρ εἰ ὅλως μὴ συλλογίζεται, καὶ εἰ δι’ ἀγνωστοτέρων ἢ ὁμοίως ἀγνώστων, καὶ εἰ διὰ τῶν ὑστέρων τὸ πρότερον· ἡ γὰρ ἀπόδειξις ἐκ πιστοτέρων τε καὶ προτέρων ἐστίν. τούτων μὲν οὖν οὐδέν ἐστι τὸ αἰτεῖσθαι τὸ ἐξ ἀρχῆς· ἀλλ’ ἐπεὶ τὰ μὲν δι’ αὑτῶν πέφυκε γνωρίζεσθαι τὰ δὲ δι’ ἄλλων (αἱ μὲν γὰρ ἀρχαὶ δι’ αὑτῶν, τὰ δ’ ὑπὸ τὰς ἀρχὰς δι’ ἄλλων), ὅταν μὴ τὸ δι’ αὑτοῦ γνωστὸν δι’ αὑτοῦ τις ἐπιχειρῇ δεικνύναι, τότ’ αἰτεῖται τὸ ἐξ ἀρχῆς. τοῦτο δ’ ἔστι μὲν οὕτω ποιεῖν ὥστ’ εὐθὺς ἀξιῶσαι τὸ προκείμενον, ἐνδέχεται δὲ καὶ μεταβάντας ἐπ’ ἄλλα ἄττα τῶν πεφυκότων δι’ ἐκείνου δείκνυσθαι διὰ τούτων [65a] ἀποδεικνύναι τὸ ἐξ ἀρχῆς, οἷον εἰ τὸ Α δεικνύοιτο διὰ τοῦ Β, τὸ δὲ Β διὰ τοῦ Γ, τὸ δὲ Γ πεφυκὸς εἴη δείκνυσθαι διὰ τοῦ Α· συμβαίνει γὰρ αὐτὸ δι’ αὑτοῦ τὸ Α δεικνύναι τοὺς οὕτω συλλογιζομένους. ὅπερ ποιοῦσιν οἱ τὰς παραλλήλους οἰόμενοι γράφειν· λανθάνουσι γὰρ αὐτοὶ ἑαυτοὺς τοιαῦτα λαμβάνοντες ἃ οὐχ οἷόν τε ἀποδεῖξαι μὴ οὐσῶν τῶν παραλλήλων. ὥστε συμβαίνει τοῖς οὕτω συλλογιζομένοις ἕκαστον εἶναι λέγειν, εἰ ἔστιν ἕκαστον· οὕτω δ’ ἅπαν ἔσται δι’ αὑτοῦ γνωστόν· ὅπερ ἀδύνατον.

Εἰ οὖν τις ἀδήλου ὄντος ὅτι τὸ Α ὑπάρχει τῷ Γ, ὁμοίως δὲ καὶ ὅτι τῷ Β, αἰτοῖτο τῷ Β ὑπάρχειν τὸ Α, οὔπω δῆλον εἰ τὸ ἐν ἀρχῇ αἰτεῖται, ἀλλ’ ὅτι οὐκ ἀποδείκνυσι, δῆλον· οὐ γὰρ ἀρχὴ ἀποδείξεως τὸ ὁμοίως ἄδηλον. εἰ μέντοι τὸ Β πρὸς τὸ Γ οὕτως ἔχει ὥστε ταὐτὸν εἶναι, ἢ δῆλον ὅτι ἀντιστρέφουσιν, ἢ ἐνυπάρχει θάτερον θατέρῳ, τὸ ἐν ἀρχῇ αἰτεῖται. καὶ γὰρ ἂν ὅτι τῷ Β τὸ Α ὑπάρχει δι’ ἐκείνων δεικνύοι, εἰ ἀντιστρέφοι (νῦν δὲ τοῦτο κωλύει, ἀλλ’ οὐχ ὁ τρόπος). εἰ δὲ τοῦτο ποιοῖ, τὸ εἰρημένον ἂν ποιοῖ καὶ ἀντιστρέφοι διὰ τριῶν. ὡσαύτως δὲ κἂν εἰ τὸ Β τῷ Γ λαμβάνοι ὑπάρχειν, ὁμοίως ἄδηλον ὂν καὶ εἰ τὸ Α, οὔπω τὸ ἐξ ἀρχῆς, ἀλλ’ οὐκ ἀποδείκνυσιν. ἐὰν δὲ ταὐτὸν ᾖ τὸ Α καὶ Β ἢ τῷ ἀντιστρέφειν ἢ τῷ ἕπεσθαι τῷ Β τὸ Α, τὸ ἐξ ἀρχῆς αἰτεῖται διὰ τὴν αὐτὴν αἰτίαν· τὸ γὰρ ἐξ ἀρχῆς τί δύναται, εἴρηται ἡμῖν, ὅτι τὸ δι’ αὑτοῦ δεικνύναι τὸ μὴ δι’ αὑτοῦ δῆλον.

Εἰ οὖν ἐστι τὸ ἐν ἀρχῇ αἰτεῖσθαι τὸ δι’ αὑτοῦ δεικνύναι τὸ μὴ δι’ αὑτοῦ δῆλον, τοῦτο δ’ ἐστὶ τὸ μὴ δεικνύναι, ὅταν ὁμοίως ἀδήλων ὄντων τοῦ δεικνυμένου καὶ δι’ οὗ δείκνυσιν ἢ τῷ ταὐτὰ τῷ αὐτῷ ἢ τῷ ταὐτὸν τοῖς αὐτοῖς ὑπάρχειν, ἐν μὲν τῷ μέσῳ σχήματι καὶ τρίτῳ ἀμφοτέρως ἂν ἐνδέχοιτο τὸ ἐν ἀρχῇ αἰτεῖσθαι, ἐν δὲ κατηγορικῷ συλλογισμῷ ἔν τε τῷ τρίτῳ καὶ τῷ πρώτῳ. ὅταν δ’ ἀποφατικῶς, ὅταν τὰ αὐτὰ ἀπὸ τοῦ αὐτοῦ· καὶ οὐχ ὁμοίως ἀμφότεραι αἱ προτάσεις (ὡσαύτως δὲ καὶ ἐν τῷ μέσῳ), διὰ τὸ μὴ ἀντιστρέφειν τοὺς ὅρους κατὰ τοὺς ἀποφατικοὺς συλλογισμούς. ἔστι δὲ τὸ ἐν ἀρχῇ αἰτεῖσθαι ἐν μὲν ταῖς ἀποδείξεσι τὰ κατ’ ἀλήθειαν οὕτως ἔχοντα, ἐν δὲ τοῖς διαλεκτικοῖς τὰ κατὰ δόξαν.

Κεφάλαιο 17

Τὸ δὲ μὴ παρὰ τοῦτο συμβαίνειν τὸ ψεῦδος, ὃ πολλάκις ἐν τοῖς λόγοις εἰώθαμεν λέγειν, πρῶτον μέν ἐστιν ἐν τοῖς εἰς τὸ ἀδύνατον συλλογισμοῖς, ὅταν πρὸς ἀντίφασιν ᾖ [65b] τούτου ὃ ἐδείκνυτο τῇ εἰς τὸ ἀδύνατον. οὔτε γὰρ μὴ ἀντιφήσας ἐρεῖ τὸ οὐ παρὰ τοῦτο, ἀλλ’ ὅτι ψεῦδός τι ἐτέθη τῶν πρότερον, οὔτ’ ἐν τῇ δεικνυούσῃ· οὐ γὰρ τίθησι ὃ ἀντίφησιν. ἔτι δ’ ὅταν ἀναιρεθῇ τι δεικτικῶς διὰ τῶν Α Β Γ, οὐκ ἔστιν εἰπεῖν ὡς οὐ παρὰ τὸ κείμενον γεγένηται ὁ συλλογισμός. τὸ γὰρ μὴ παρὰ τοῦτο γίνεσθαι τότε λέγομεν, ὅταν ἀναιρεθέντος τούτου μηδὲν ἧττον περαίνηται ὁ συλλογισμός, ὅπερ οὐκ ἔστιν ἐν τοῖς δεικτικοῖς· ἀναιρεθείσης γὰρ τῆς θέσεως οὐδ’ ὁ πρὸς ταύτην ἔσται συλλογισμός. φανερὸν οὖν ὅτι ἐν τοῖς εἰς τὸ ἀδύνατον λέγεται τὸ μὴ παρὰ τοῦτο, καὶ ὅταν οὕτως ἔχῃ πρὸς τὸ ἀδύνατον ἡ ἐξ ἀρχῆς ὑπόθεσις ὥστε καὶ οὔσης καὶ μὴ οὔσης ταύτης οὐδὲν ἧττον συμβαίνειν τὸ ἀδύνατον.

Ὁ μὲν οὖν φανερώτατος τρόπος ἐστὶ τοῦ μὴ παρὰ τὴν θέσιν εἶναι τὸ ψεῦδος, ὅταν ἀπὸ τῆς ὑποθέσεως ἀσύναπτος ᾖ ἀπὸ τῶν μέσων πρὸς τὸ ἀδύνατον ὁ συλλογισμός, ὅπερ εἴρηται καὶ ἐν τοῖς Τοπικοῖς. τὸ γὰρ τὸ ἀναίτιον ὡς αἴτιον τιθέναι τοῦτό ἐστιν, οἷον εἰ βουλόμενος δεῖξαι ὅτι ἀσύμμετρος ἡ διάμετρος, ἐπιχειροίη τὸν Ζήνωνος λόγον, ὡς οὐκ ἔστι κινεῖσθαι, καὶ εἰς τοῦτο ἀπάγοι τὸ ἀδύνατον· οὐδαμῶς γὰρ οὐδαμῇ συνεχές ἐστι τὸ ψεῦδος τῇ φάσει τῇ ἐξ ἀρχῆς. ἄλλος δὲ τρόπος, εἰ συνεχὲς μὲν εἴη τὸ ἀδύνατον τῇ ὑποθέσει, μὴ μέντοι δι’ ἐκείνην συμβαίνοι. τοῦτο γὰρ ἐγχωρεῖ γενέσθαι καὶ ἐπὶ τὸ ἄνω καὶ ἐπὶ τὸ κάτω λαμβάνοντι τὸ συνεχές, οἷον εἰ τὸ Α τῷ Β κεῖται ὑπάρχον, τὸ δὲ Β τῷ Γ, τὸ δὲ Γ τῷ Δ, τοῦτο δ’ εἴη ψεῦδος, τὸ τὸ Β τῷ Δ ὑπάρχειν. εἰ γὰρ ἀφαιρεθέντος τοῦ Α μηδὲν ἧττον ὑπάρχοι τὸ Β τῷ Γ καὶ τὸ Γ τῷ Δ, οὐκ ἂν εἴη τὸ ψεῦδος διὰ τὴν ἐξ ἀρχῆς ὑπόθεσιν. ἢ πάλιν εἴ τις ἐπὶ τὸ ἄνω λαμβάνοι τὸ συνεχές, οἷον εἰ τὸ μὲν Α τῷ Β, τῷ δὲ Α τὸ Ε καὶ τῷ Ε τὸ Ζ, ψεῦδος δ’ εἴη τὸ ὑπάρχειν τῷ (30)Α τὸ Ζ· καὶ γὰρ οὕτως οὐδὲν ἂν ἧττον εἴη τὸ ἀδύνατον ἀναιρεθείσης τῆς ἐξ ἀρχῆς ὑποθέσεως. ἀλλὰ δεῖ πρὸς τοὺς ἐξ ἀρχῆς ὅρους συνάπτειν τὸ ἀδύνατον· οὕτω γὰρ ἔσται διὰ τὴν ὑπόθεσιν, οἷον ἐπὶ μὲν τὸ κάτω λαμβάνοντι τὸ συνεχὲς πρὸς τὸν κατηγορούμενον τῶν ὅρων (εἰ γὰρ ἀδύνατον τὸ Α τῷ Δ ὑπάρχειν, ἀφαιρεθέντος τοῦ Α οὐκέτι ἔσται τὸ ψεῦδος)· ἐπὶ δὲ τὸ ἄνω, καθ’ οὗ κατηγορεῖται (εἰ γὰρ τῷ Β μὴ ἐγχωρεῖ τὸ Ζ ὑπάρχειν, ἀφαιρεθέντος τοῦ Β οὐκέτι ἔσται τὸ ἀδύνατον). ὁμοίως δὲ καὶ στερητικῶν τῶν συλλογισμῶν ὄντων. [66a]

Φανερὸν οὖν ὅτι τοῦ ἀδυνάτου μὴ πρὸς τοὺς ἐξ ἀρχῆς ὅρους ὄντος οὐ παρὰ τὴν θέσιν συμβαίνει τὸ ψεῦδος. ἢ οὐδ’ οὕτως ἀεὶ διὰ τὴν ὑπόθεσιν ἔσται τὸ ψεῦδος; καὶ γὰρ εἰ μὴ τῷ Β ἀλλὰ τῷ Κ ἐτέθη τὸ Α ὑπάρχειν, τὸ δὲ Κ τῷ Γ καὶ τοῦτο τῷ Δ, καὶ οὕτω μένει τὸ ἀδύνατον (ὁμοίως δὲ καὶ ἐπὶ τὸ ἄνω λαμβάνοντι τοὺς ὅρους), ὥστ’ ἐπεὶ καὶ ὄντος καὶ μὴ ὄντος τούτου συμβαίνει τὸ ἀδύνατον, οὐκ ἂν εἴη παρὰ τὴν θέσιν. ἢ τὸ μὴ ὄντος τούτου μηδὲν ἧττον γίνεσθαι τὸ ψεῦδος οὐχ οὕτω ληπτέον ὥστ’ ἄλλου τιθεμένου συμβαίνειν τὸ ἀδύνατον, ἀλλ’ ὅταν ἀφαιρεθέντος τούτου διὰ τῶν λοιπῶν προτάσεων ταὐτὸ περαίνηται ἀδύνατον, ἐπεὶ ταὐτό γε ψεῦδος συμβαίνειν διὰ πλειόνων ὑποθέσεων οὐδὲν ἴσως ἄτοπον, οἷον τὰς παραλλήλους συμπίπτειν καὶ εἰ μείζων ἐστὶν ἡ ἐντὸς τῆς ἐκτὸς καὶ εἰ τὸ τρίγωνον ἔχει πλείους ὀρθὰς δυεῖν;

Κεφάλαιο 18

Ὁ δὲ ψευδὴς λόγος γίνεται παρὰ τὸ πρῶτον ψεῦδος. ἢ γὰρ ἐκ τῶν δύο προτάσεων ἢ ἐκ πλειόνων πᾶς ἐστι συλλογισμός. εἰ μὲν οὖν ἐκ τῶν δύο, τούτων ἀνάγκη τὴν ἑτέραν ἢ καὶ ἀμφοτέρας εἶναι ψευδεῖς· ἐξ ἀληθῶν γὰρ οὐκ ἦν ψευδὴς συλλογισμός. εἰ δ’ ἐκ πλειόνων, οἷον τὸ μὲν Γ διὰ τῶν (20)Α Β, ταῦτα δὲ διὰ τῶν Δ Ε Ζ Η, τούτων τι ἔσται τῶν ἐπάνω ψεῦδος, καὶ παρὰ τοῦτο ὁ λόγος· τὸ γὰρ Α καὶ Β δι’ ἐκείνων περαίνονται. ὥστε παρ’ ἐκείνων τι συμβαίνει τὸ συμπέρασμα καὶ τὸ ψεῦδος.

Κεφάλαιο 19

Πρὸς δὲ τὸ μὴ κατασυλλογίζεσθαι παρατηρητέον, ὅταν ἄνευ τῶν συμπερασμάτων ἐρωτᾷ τὸν λόγον, ὅπως μὴ δοθῇ δὶς ταὐτὸν ἐν ταῖς προτάσεσιν, ἐπειδήπερ ἴσμεν ὅτι ἄνευ μέσου συλλογισμὸς οὐ γίνεται, μέσον δ' ἐστὶ τὸ πλεονάκις λεγόμενον. ὡς δὲ δεῖ πρὸς ἕκαστον συμπέρασμα τηρεῖν τὸ μέσον, φανερὸν ἐκ τοῦ εἰδέναι ποῖον ἐν ἑκάστῳ σχήματι δείκνυται. τοῦτο δ' ἡμᾶς οὐ λήσεται διὰ τὸ εἰδέναι πῶς ὑπέχομεν τὸν λόγον.

Χρὴ δ' ὅπερ φυλάττεσθαι παραγγέλλομεν ἀποκρινομένους, αὐτοὺς ἐπιχειροῦντας πειρᾶσθαι λανθάνειν. τοῦτο δ' ἔσται πρῶτον, ἐὰν τὰ συμπεράσματα μὴ προσυλλογίζωνται ἀλλ' εἰλημμένων τῶν ἀναγκαίων ἄδηλα ᾖ, ἔτι δὲ ἂν μὴ τὰ σύνεγγυς ἐρωτᾷ, ἀλλ' ὅτι μάλιστα ἄμεσα. οἷον ἔστω δέον συμπεραίνεσθαι τὸ Α κατὰ τοῦ Ζ· μέσα Β Γ Δ Ε. δεῖ οὖν ἐρωτᾶν εἰ τὸ Α τῷ Β, καὶ πάλιν μὴ εἰ τὸ Β τῷ Γ, ἀλλ' εἰ τὸ Δ τῷ Ε, κἄπειτα εἰ τὸ Β τῷ Γ, καὶ οὕτω [66b] τὰ λοιπά. κἂν δι' ἑνὸς μέσου γίνηται ὁ συλλογισμός, ἀπὸ τοῦ μέσου ἄρχεσθαι· μάλιστα γὰρ ἂν οὕτω λανθάνοι τὸν ἀποκρινόμενον.

Κεφάλαιο 20

Ἐπεὶ δ’ ἔχομεν πότε καὶ πῶς ἐχόντων τῶν ὅρων γίνεται συλλογισμός, φανερὸν καὶ πότ’ ἔσται καὶ πότ’ οὐκ ἔσται ἔλεγχος. πάντων μὲν γὰρ συγχωρουμένων, ἢ ἐναλλὰξ τιθεμένων τῶν ἀποκρίσεων, οἷον τῆς μὲν ἀποφατικῆς τῆς δὲ καταφατικῆς, ἐγχωρεῖ γίνεσθαι ἔλεγχον. ἦν γὰρ συλλογισμὸς καὶ οὕτω καὶ ἐκείνως ἐχόντων τῶν ὅρων, ὥστ’ εἰ τὸ κείμενον ἐναντίον τῷ συμπεράσματι, ἀνάγκη γίνεσθαι ἔλεγχον· ὁ γὰρ ἔλεγχος ἀντιφάσεως συλλογισμός. εἰ δὲ μηδὲν συγχωροῖτο, ἀδύνατον γενέσθαι ἔλεγχον· οὐ γὰρ ἦν συλλογισμὸς πάντων τῶν ὅρων στερητικῶν ὄντων, ὥστ’ οὐδ’ ἔλεγχος· εἰ μὲν γὰρ ἔλεγχος, ἀνάγκη συλλογισμὸν εἶναι, συλλογισμοῦ δ’ ὄντος οὐκ ἀνάγκη ἔλεγχον. ὡσαύτως δὲ καὶ εἰ μηδὲν τεθείη κατὰ τὴν ἀπόκρισιν ἐν ὅλῳ· ὁ γὰρ αὐτὸς ἔσται διορισμὸς ἐλέγχου καὶ συλλογισμοῦ.

Κεφάλαιο 21

Συμβαίνει δ’ ἐνίοτε, καθάπερ ἐν τῇ θέσει τῶν ὅρων ἀπατώμεθα, καὶ κατὰ τὴν ὑπόληψιν γίνεσθαι τὴν ἀπάτην, οἷον εἰ ἐνδέχεται τὸ αὐτὸ πλείοσι πρώτοις ὑπάρχειν, καὶ τὸ μὲν λεληθέναι τινὰ καὶ οἴεσθαι μηδενὶ ὑπάρχειν, τὸ δὲ εἰδέναι. ἔστω τὸ Α τῷ Β καὶ τῷ Γ καθ’ αὑτὰ ὑπάρχον, καὶ ταῦτα παντὶ τῷ Δ ὡσαύτως. εἰ δὴ τῷ μὲν Β τὸ Α παντὶ οἴεται ὑπάρχειν, καὶ τοῦτο τῷ Δ, τῷ δὲ Γ τὸ Α μηδενί, καὶ τοῦτο τῷ Δ παντί, τοῦ αὐτοῦ κατὰ ταὐτὸν ἕξει ἐπιστήμην καὶ ἄγνοιαν. πάλιν εἴ τις ἀπατηθείη περὶ τὰ ἐκ τῆς αὐτῆς συστοιχίας, οἷον εἰ τὸ Α ὑπάρχει τῷ Β, τοῦτο δὲ τῷ Γ καὶ τὸ Γ τῷ Δ, ὑπολαμβάνοι δὲ τὸ Α παντὶ τῷ Β ὑπάρχειν καὶ πάλιν μηδενὶ τῷ Γ· ἅμα γὰρ εἴσεταί τε καὶ οὐχ ὑπολήψεται ὑπάρχειν. ἆρ’ οὖν οὐδὲν ἄλλο ἀξιοῖ ἐκ τούτων ἢ ὃ ἐπίσταται, τοῦτο μὴ ὑπολαμβάνειν; ἐπίσταται γάρ πως ὅτι τὸ Α τῷ Γ ὑπάρχει διὰ τοῦ Β, ὡς τῇ καθόλου τὸ κατὰ μέρος, ὥστε ὅ πως ἐπίσταται, τοῦτο ὅλως ἀξιοῖ μὴ ὑπολαμβάνειν· ὅπερ ἀδύνατον.

Ἐπὶ δὲ τοῦ πρότερον λεχθέντος, εἰ μὴ ἐκ τῆς αὐτῆς συστοιχίας τὸ μέσον, καθ’ ἑκάτερον μὲν τῶν μέσων ἀμφοτέρας τὰς προτάσεις οὐκ ἐγχωρεῖ ὑπολαμβάνειν, οἷον τὸ Α τῷ μὲν Β παντί, τῷ δὲ Γ μηδενί, ταῦτα δ’ ἀμφότερα παντὶ τῷ Δ. συμβαίνει γὰρ ἢ ἁπλῶς ἢ ἐπί τι ἐναντίαν λαμβάνεσθαι τὴν πρώτην πρότασιν. εἰ γὰρ ᾧ τὸ Β ὑπάρχει, παντὶ τὸ Α ὑπολαμβάνει [67a] ὑπάρχειν, τὸ δὲ Β τῷ Δ οἶδε, καὶ ὅτι τῷ Δ τὸ Α οἶδεν. ὥστ’ εἰ πάλιν, ᾧ τὸ Γ, μηδενὶ οἴεται τὸ Α ὑπάρχειν, ᾧ τὸ Β τινὶ ὑπάρχει, τούτῳ οὐκ οἴεται τὸ Α ὑπάρχειν. τὸ δὲ παντὶ οἰόμενον ᾧ τὸ Β, πάλιν τινὶ μὴ οἴεσθαι ᾧ τὸ Β, ἢ ἁπλῶς ἢ ἐπί τι ἐναντίον ἐστίν.

Οὕτω μὲν οὖν οὐκ ἐνδέχεται ὑπολαβεῖν, καθ’ ἑκάτερον δὲ τὴν μίαν ἢ κατὰ θάτερον ἀμφοτέρας οὐδὲν κωλύει, οἷον τὸ Α παντὶ τῷ Β καὶ τὸ Β τῷ Δ, καὶ πάλιν τὸ Α μηδενὶ τῷ Γ. ὁμοία γὰρ ἡ τοιαύτη ἀπάτη καὶ ὡς ἀπατώμεθα περὶ τὰς ἐν μέρει, οἷον εἰ ᾧ τὸ Β, παντὶ τὸ Α ὑπάρχει, τὸ δὲ Β τῷ Γ παντί, τὸ Α παντὶ τῷ Γ ὑπάρξει. εἰ οὖν τις οἶδεν ὅτι τὸ Α, ᾧ τὸ Β, ὑπάρχει παντί, οἶδε καὶ ὅτι τῷ Γ. ἀλλ’ οὐδὲν κωλύει ἀγνοεῖν τὸ Γ ὅτι ἔστιν, οἷον εἰ τὸ μὲν Α δύο ὀρθαί, τὸ δ’ ἐφ’ ᾧ Β τρίγωνον, τὸ δ’ ἐφ’ ᾧ Γ αἰσθητὸν τρίγωνον. ὑπολάβοι γὰρ ἄν τις μὴ εἶναι τὸ Γ, εἰδὼς ὅτι πᾶν τρίγωνον ἔχει δύο ὀρθάς, ὥσθ’ ἅμα εἴσεται καὶ ἀγνοήσει ταὐτόν. τὸ γὰρ εἰδέναι πᾶν τρίγωνον ὅτι δύο ὀρθαῖς οὐχ ἁπλοῦν ἐστιν, ἀλλὰ τὸ μὲν τῷ τὴν καθόλου ἔχειν ἐπιστήμην, τὸ δὲ τὴν καθ’ ἕκαστον. οὕτω μὲν οὖν ὡς τῇ καθόλου οἶδε τὸ Γ ὅτι δύο ὀρθαί, ὡς δὲ τῇ καθ’ ἕκαστον οὐκ οἶδεν, ὥστ’ οὐχ ἕξει τὰς ἐναντίας. ὁμοίως δὲ καὶ ὁ ἐν τῷ Μένωνι λόγος, ὅτι ἡ μάθησις ἀνάμνησις. οὐδαμοῦ γὰρ συμβαίνει προεπίστασθαι τὸ καθ’ ἕκαστον, ἀλλ’ ἅμα τῇ ἐπαγωγῇ λαμβάνειν τὴν τῶν κατὰ μέρος ἐπιστήμην ὥσπερ ἀναγνωρίζοντας. ἔνια γὰρ εὐθὺς ἴσμεν, οἷον ὅτι δύο ὀρθαῖς, ἐὰν ἴδωμεν ὅτι τρίγωνον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

Τῇ μὲν οὖν καθόλου θεωροῦμεν τὰ ἐν μέρει, τῇ δ’ οἰκείᾳ οὐκ ἴσμεν, ὥστ’ ἐνδέχεται καὶ ἀπατᾶσθαι περὶ αὐτά, πλὴν οὐκ ἐναντίως, ἀλλ’ ἔχειν μὲν τὴν καθόλου, ἀπατᾶσθαι δὲ τὴν κατὰ μέρος. ὁμοίως οὖν καὶ ἐπὶ τῶν προειρημένων· οὐ γὰρ ἐναντία ἡ κατὰ τὸ μέσον ἀπάτη τῇ κατὰ τὸν συλλογισμὸν ἐπιστήμῃ, οὐδ’ ἡ καθ’ ἑκάτερον τῶν μέσων ὑπόληψις. οὐδὲν δὲ κωλύει εἰδότα καὶ ὅτι τὸ Α ὅλῳ τῷ Β ὑπάρχει καὶ πάλιν τοῦτο τῷ Γ, οἰηθῆναι μὴ ὑπάρχειν τὸ Α τῷ Γ, οἷον ὅτι πᾶσα ἡμίονος ἄτοκος καὶ αὕτη ἡμίονος οἴεσθαι κύειν ταύτην· οὐ γὰρ ἐπίσταται ὅτι τὸ Α τῷ Γ, μὴ συνθεωρῶν τὸ καθ’ ἑκάτερον. ὥστε δῆλον ὅτι καὶ εἰ τὸ μὲν οἶδε τὸ δὲ μὴ οἶδεν, ἀπατηθήσεται· ὅπερ ἔχουσιν αἱ καθόλου πρὸς τὰς κατὰ μέρος ἐπιστήμας. οὐδὲν γὰρ τῶν [67b] αἰσθητῶν ἔξω τῆς αἰσθήσεως γενόμενον ἴσμεν, οὐδ’ ἂν ᾐσθημένοι τυγχάνωμεν, εἰ μὴ ὡς τῷ καθόλου καὶ τῷ ἔχειν τὴν οἰκείαν ἐπιστήμην, ἀλλ’ οὐχ ὡς τῷ ἐνεργεῖν. τὸ γὰρ ἐπίστασθαι λέγεται τριχῶς, ἢ ὡς τῇ καθόλου ἢ ὡς τῇ οἰκείᾳ ἢ ὡς τῷ ἐνεργεῖν, ὥστε καὶ τὸ ἠπατῆσθαι τοσαυταχῶς. οὐδὲν οὖν κωλύει καὶ εἰδέναι καὶ ἠπατῆσθαι περὶ ταὐτό, πλὴν οὐκ ἐναντίως. ὅπερ συμβαίνει καὶ τῷ καθ’ ἑκατέραν εἰδότι τὴν πρότασιν καὶ μὴ ἐπεσκεμμένῳ πρότερον. ὑπολαμβάνων γὰρ κύειν τὴν ἡμίονον οὐκ ἔχει τὴν κατὰ τὸ ἐνεργεῖν ἐπιστήμην, οὐδ’ αὖ διὰ τὴν ὑπόληψιν ἐναντίαν ἀπάτην τῇ ἐπιστήμῃ· συλλογισμὸς γὰρ ἡ ἐναντία ἀπάτη τῇ καθόλου.

Ὁ δ’ ὑπολαμβάνων τὸ ἀγαθῷ εἶναι κακῷ εἶναι, τὸ αὐτὸ ὑπολήψεται ἀγαθῷ εἶναι καὶ κακῷ. ἔστω γὰρ τὸ μὲν ἀγαθῷ εἶναι ἐφ’ οὗ Α, τὸ δὲ κακῷ εἶναι ἐφ’ οὗ Β, πάλιν δὲ τὸ ἀγαθῷ εἶναι ἐφ’ οὗ Γ. ἐπεὶ οὖν ταὐτὸν ὑπολαμβάνει τὸ Β καὶ τὸ Γ, καὶ εἶναι τὸ Γ τὸ Β ὑπολήψεται, καὶ πάλιν τὸ Β τὸ Α εἶναι ὡσαύτως, ὥστε καὶ τὸ Γ τὸ Α. ὥσπερ γὰρ εἰ ἦν ἀληθές, καθ’ οὗ τὸ Γ, τὸ Β, καὶ καθ’ οὗ τὸ Β, τὸ Α, καὶ κατὰ τοῦ Γ τὸ Α ἀληθὲς ἦν, οὕτω καὶἐπὶ τοῦ ὑπολαμβάνειν. ὁμοίως δὲ καὶ ἐπὶ τοῦ εἶναι· ταὐτοῦ γὰρ ὄντος τοῦ Γ καὶ Β, καὶ πάλιν τοῦ Β καὶ Α, καὶ τὸ Γ τῷ Α ταὐτὸν ἦν· ὥστε καὶ ἐπὶ τοῦ δοξάζειν ὁμοίως. ἆρ’ οὖν τοῦτο μὲν ἀναγκαῖον, εἴ τις δώσει τὸ πρῶτον; ἀλλ’ ἴσως ἐκεῖνο ψεῦδος, τὸ ὑπολαβεῖν τινὰ κακῷ εἶναι τὸ ἀγαθῷ εἶναι, εἰ μὴ κατὰ συμβεβηκός·

πολλαχῶς γὰρ ἐγχωρεῖ τοῦθ’ ὑπολαμβάνειν. ἐπισκεπτέον δὲ τοῦτο βέλτιον.

Κεφάλαιο 22

Ὅταν δ’ ἀντιστρέφῃ τὰ ἄκρα, ἀνάγκη καὶ τὸ μέσον ἀντιστρέφειν πρὸς ἄμφω. εἰ γὰρ τὸ Α κατὰ τοῦ Γ διὰ τοῦ Β ὑπάρχει, εἰ ἀντιστρέφει καὶ ὑπάρχει, ᾧ τὸ Α, παντὶ τὸ Γ, καὶ τὸ Β τῷ Α ἀντιστρέψει καὶ ὑπάρξει, ᾧ τὸ Α, παντὶ τὸ Β διὰ μέσου τοῦ Γ· καὶ τὸ Γ τῷ Β ἀντιστρέψει διὰ μέσου τοῦ Α. καὶ ἐπὶ τοῦ μὴ ὑπάρχειν ὡσαύτως, οἷον εἰ τὸ Β τῷ Γ ὑπάρχει, τῷ δὲ Β τὸ Α οὐχ ὑπάρχει, οὐδὲ τὸ Α τῷ Γ οὐχ ὑπάρξει. εἰ δὴ τὸ Β τῷ Α ἀντιστρέφει, καὶ τὸ Γ τῷ Α ἀντιστρέψει. ἔστω γὰρ τὸ Β μὴ ὑπάρχον τῷ Α· οὐδ’ ἄρα τὸ Γ· παντὶ γὰρ τῷ Γ τὸ Β ὑπῆρχεν. καὶ εἰ τῷ Β τὸ Γ ἀντιστρέφει, καὶ τὸ Α ἀντιστρέψει· καθ’ οὗ γὰρ ἅπαντος τὸ Β, καὶ τὸ Γ. καὶ εἰ τὸ Γ <καὶ> πρὸς τὸ Α ἀντιστρέφει, καὶ τὸ Β ἀντιστρέψει. ᾧ γὰρ τὸ Β, [68a] τὸ Γ· ᾧ δὲ τὸ Α, τὸ Γ οὐχ ὑπάρχει. καὶ μόνον τοῦτο ἀπὸ τοῦ συμπεράσματος ἄρχεται, τὰ δ’ ἄλλα οὐχ ὁμοίως καὶ ἐπὶ τοῦ κατηγορικοῦ συλλογισμοῦ. Πάλιν εἰ τὸ Α καὶ τὸ Β ἀντιστρέφει, καὶ τὸ Γ καὶ τὸ Δ ὡσαύτως, ἅπαντι δ’ ἀνάγκη τὸ Α ἢ τὸ Γ ὑπάρχειν, καὶ τὸ Β καὶ Δ οὕτως ἕξει ὥστε παντὶ θάτερον ὑπάρχειν. ἐπεὶ γὰρ ᾧ τὸ Α, τὸ Β, καὶ ᾧ τὸ Γ, τὸ Δ, παντὶ δὲ τὸ Α ἢ τὸ Γ καὶ οὐχ ἅμα, φανερὸν ὅτι καὶ τὸ Β ἢ τὸ Δ παντὶ καὶ οὐχ ἅμα [οἷον ... γεγονέναι]· δύο γὰρ συλλογισμοὶ σύγκεινται. πάλιν εἰ παντὶ (11)μὲν τὸ Α ἢ τὸ Β καὶ τὸ Γ ἢ τὸ Δ, ἅμα δὲ μὴ ὑπάρχει, εἰ ἀντιστρέφει τὸ Α καὶ τὸ Γ, καὶ τὸ Β καὶ τὸ Δ ἀντιστρέφει. εἰ γὰρ τινὶ μὴ ὑπάρχει τὸ Β, ᾧ τὸ Δ, δῆλον ὅτι τὸ Α ὑπάρχει. εἰ δὲ τὸ Α, καὶ τὸ Γ· ἀντιστρέφει γάρ. ὥστε ἅμα τὸ Γ καὶ τὸ Δ. τοῦτο δ’ ἀδύνατον. <οἷον εἰ τὸ ἀγένητον ἄφθαρτον καὶ τὸ ἄφθαρτον ἀγένητον, ἀνάγκη τὸ γενόμενον φθαρτὸν καὶ τὸ φθαρτὸν γεγονέναι>.

Ὅταν δὲ τὸ Α ὅλῳ τῷ Β καὶ τῷ Γ ὑπάρχῃ καὶ μηδενὸς ἄλλου κατηγορῆται, ὑπάρχῃ δὲ καὶ τὸ Β παντὶ τῷ Γ, ἀνάγκη τὸ Α καὶ Β ἀντιστρέφειν· ἐπεὶ γὰρ κατὰ μόνων τῶν Β Γ λέγεται τὸ Α, κατηγορεῖται δὲ τὸ Β καὶ αὐτὸ αὑτοῦ καὶ τοῦ Γ, φανερὸν ὅτι καθ’ ὧν τὸ Α, καὶ τὸ Β λεχθήσεται πάντων πλὴν αὐτοῦ τοῦ Α. πάλιν ὅταν τὸ Α καὶ τὸ Β ὅλῳ τῷ Γ ὑπάρχῃ, ἀντιστρέφῃ δὲ τὸ Γ τῷ Β, ἀνάγκη τὸ Α παντὶ τῷ Β ὑπάρχειν· ἐπεὶ γὰρ παντὶ τῷ Γ τὸ Α, τὸ δὲ Γ τῷ Β διὰ τὸ ἀντιστρέφειν, καὶ τὸ Α παντὶ τῷ Β.

Ὅταν δὲ δυοῖν ὄντοιν τὸ Α τοῦ Β αἱρετώτερον ᾖ, ὄντων ἀντικειμένων, καὶ τὸ Δ τοῦ Γ ὡσαύτως, εἰ αἱρετώτερα τὰ Α Γ τῶν Β Δ, τὸ Α τοῦ Δ αἱρετώτερον. ὁμοίως γὰρ διωκτὸν τὸ Α καὶ φευκτὸν τὸ Β (ἀντικείμενα γάρ), καὶ τὸ Γ τῷ Δ (καὶ γὰρ ταῦτα ἀντίκειται). εἰ οὖν τὸ Α τῷ Δ ὁμοίως αἱρετόν, καὶ τὸ Β τῷ Γ φευκτόν· ἑκάτερον γὰρ ἑκατέρῳ ὁμοίως, φευκτὸν διωκτῷ. ὥστε καὶ τὰ ἄμφω τὰ Α Γ τοῖς Β Δ. ἐπεὶ δὲ μᾶλλον, οὐχ οἷόν τε ὁμοίως· καὶ γὰρ ἂν τὰ Β Δ ὁμοίως ἦσαν. εἰ δὲ τὸ Δ τοῦ Α αἱρετώτερον, καὶ τὸ Β τοῦ Γ ἧττον φευκτόν· τὸ γὰρ ἔλαττον τῷ ἐλάττονι ἀντίκειται. αἱρετώτερον δὲ τὸ μεῖζον ἀγαθὸν καὶ ἔλαττον κακὸν ἢ τὸ ἔλαττον ἀγαθὸν καὶ μεῖζον κακόν· καὶ τὸ ἅπαν ἄρα, τὸ Β Δ, αἱρετώτερον τοῦ Α Γ.νῦν δ’ οὐκ ἔστιν. τὸ Α ἄρα αἱρετώτερον τοῦ Δ, καὶ τὸ Γ ἄρα τοῦ Β ἧττον φευκτόν. εἰ δὴ ἕλοιτο πᾶς ὁ ἐρῶν κατὰ τὸν ἔρωτα τὸ Α τὸ οὕτως ἔχειν ὥστε χαρίζεσθαι, καὶ τὸ μὴ χαρίζεσθαι τὸ ἐφ’ οὗ Γ, ἢ τὸ χαρίζεσθαι τὸ ἐφ’ οὗ Δ, καὶ [68b] τὸ μὴ τοιοῦτον εἶναι οἷον χαρίζεσθαι τὸ ἐφ’ οὗ Β, δῆλον ὅτι τὸ Α τὸ τοιοῦτον εἶναι αἱρετώτερόν ἐστιν ἢ τὸ χαρίζεσθαι. τὸ ἄρα φιλεῖσθαι τῆς συνουσίας αἱρετώτερον κατὰ τὸν ἔρωτα. μᾶλλον ἄρα ὁ ἔρως ἐστὶ τῆς φιλίας ἢ τοῦ συνεῖναι. εἰ δὲ μάλιστα τούτου, καὶ τέλος τοῦτο. τὸ ἄρα συνεῖναι ἢ οὐκ ἔστιν ὅλως ἢ τοῦ φιλεῖσθαι ἕνεκεν· καὶ γὰρ αἱ ἄλλαι ἐπιθυμίαι καὶ τέχναι οὕτως.

Κεφάλαιο 23

Πῶς μὲν οὖν ἔχουσιν οἱ ὅροι κατὰ τὰς ἀντιστροφὰς καὶ τὸ αἱρετώτεροι ἢ φευκτότεροι εἶναι, φανερόν· ὅτι δ’ οὐ μόνον οἱ διαλεκτικοὶ καὶ ἀποδεικτικοὶ συλλογισμοὶ διὰ τῶν προειρημένων γίνονται σχημάτων, ἀλλὰ καὶ οἱ ῥητορικοὶ καὶ ἁπλῶς ἡτισοῦν πίστις καὶ ἡ καθ’ ὁποιανοῦν μέθοδον, νῦν ἂν εἴη λεκτέον. ἅπαντα γὰρ πιστεύομεν ἢ διὰ συλλογισμοῦ ἢ ἐξ ἐπαγωγῆς.

Ἐπαγωγὴ μὲν οὖν ἐστι καὶ ὁ ἐξ ἐπαγωγῆς συλλογισμὸς τὸ διὰ τοῦ ἑτέρου θάτερον ἄκρον τῷ μέσῳ συλλογίσασθαι, οἷον εἰ τῶν Α Γ μέσον τὸ Β, διὰ τοῦ Γ δεῖξαι τὸ Α τῷ Β ὑπάρχον· οὕτω γὰρ ποιούμεθα τὰς ἐπαγωγάς. οἷον ἔστω τὸ Α μακρόβιον, τὸ δ’ ἐφ’ ᾧ Β τὸ χολὴν μὴ ἔχον, ἐφ’ ᾧ δὲ Γ τὸ καθ’ ἕκαστον μακρόβιον, οἷον ἄνθρωπος καὶ ἵππος καὶ ἡμίονος. τῷ δὴ Γ ὅλῳ ὑπάρχει τὸ Α (πᾶν γὰρ τὸ Γ μακρόβιον)· ἀλλὰ καὶ τὸ Β, τὸ μὴ ἔχειν χολήν, παντὶ ὑπάρχει τῷ Γ. εἰ οὖν ἀντιστρέφει τὸ Γ τῷ Β καὶ μὴ ὑπερτείνει τὸ μέσον, ἀνάγκη τὸ Α τῷ Β ὑπάρχειν. δέδεικται γὰρ πρότερον ὅτι ἂν δύο ἄττα τῷ αὐτῷ ὑπάρχῃ καὶ πρὸς θάτερον αὐτῶν ἀντιστρέφῃ τὸ ἄκρον, ὅτι τῷ ἀντιστρέφοντι καὶ θάτερον ὑπάρξει τῶν κατηγορουμένων. δεῖ δὲ νοεῖν τὸ Γ τὸ ἐξ ἁπάντων τῶν καθ’ ἕκαστον συγκείμενον· ἡ γὰρ ἐπαγωγὴ διὰ πάντων.

Ἔστι δ’ ὁ τοιοῦτος συλλογισμὸς τῆς πρώτης καὶ ἀμέσου προτάσεως· ὧν μὲν γὰρ ἔστι μέσον, διὰ τοῦ μέσου ὁ συλλογισμός, ὧν δὲ μὴ ἔστι, δι’ ἐπαγωγῆς. καὶ τρόπον τινὰ ἀντίκειται ἡ ἐπαγωγὴ τῷ συλλογισμῷ· ὁ μὲν γὰρ διὰ τοῦ μέσου τὸ ἄκρον τῷ τρίτῳ δείκνυσιν, ἡ δὲ διὰ τοῦ τρίτου τὸ ἄκρον τῷ μέσῳ. φύσει μὲν οὖν πρότερος καὶ γνωριμώτερος ὁ διὰ τοῦ μέσου συλλογισμός, ἡμῖν δ’ ἐναργέστερος ὁ διὰ τῆς ἐπαγωγῆς.

Κεφάλαιο 24

Παράδειγμα δ’ ἐστὶν ὅταν τῷ μέσῳ τὸ ἄκρον ὑπάρχον δειχθῇ διὰ τοῦ ὁμοίου τῷ τρίτῳ. δεῖ δὲ καὶ τὸ μέσον τῷ τρίτῳ καὶ τὸ πρῶτον τῷ ὁμοίῳ γνώριμον εἶναι ὑπάρχον. οἷον ἔστω τὸ Α κακόν, τὸ δὲ Β πρὸς ὁμόρους ἀναιρεῖσθαι [69a] πόλεμον, ἐφ’ ᾧ δὲ Γ τὸ Ἀθηναίους πρὸς Θηβαίους, τὸ δ’ ἐφ’ ᾧ Δ Θηβαίους πρὸς Φωκεῖς. ἐὰν οὖν βουλώμεθα δεῖξαι ὅτι τὸ Θηβαίοις πολεμεῖν κακόν ἐστι, ληπτέον ὅτι τὸ πρὸς τοὺς ὁμόρους πολεμεῖν κακόν. τούτου δὲ πίστις ἐκ τῶν ὁμοίων, οἷον ὅτι Θηβαίοις ὁ πρὸς Φωκεῖς. ἐπεὶ οὖν τὸ πρὸς τοὺς ὁμόρους κακόν, τὸ δὲ πρὸς Θηβαίους πρὸς ὁμόρους ἐστί, φανερὸν ὅτι τὸ πρὸς Θηβαίους πολεμεῖν κακόν. ὅτι μὲν οὖν τὸ Β τῷ Γ καὶ τῷ Δ ὑπάρχει, φανερόν (ἄμφω γάρ ἐστι πρὸς τοὺς ὁμόρους ἀναιρεῖσθαι πόλεμον), καὶ ὅτι τὸ Α τῷ Δ (Θηβαίοις γὰρ οὐ συνήνεγκεν ὁ πρὸς Φωκεῖς πόλεμος)· ὅτι δὲ τὸ Α τῷ Β ὑπάρχει, διὰ τοῦ Δ δειχθήσεται. τὸν αὐτὸν δὲ τρόπον κἂν εἰ διὰ πλειόνων τῶν ὁμοίων ἡ πίστις γένοιτο τοῦ μέσου πρὸς τὸ ἄκρον. φανερὸν οὖν ὅτι τὸ παράδειγμά ἐστιν οὔτε ὡς μέρος πρὸς ὅλον οὔτε ὡς ὅλον πρὸς μέρος, ἀλλ’ ὡς μέρος πρὸς μέρος, ὅταν ἄμφω μὲν ᾖ ὑπὸ ταὐτό, γνώριμον δὲ θάτερον. καὶ διαφέρει τῆς ἐπαγωγῆς, ὅτι ἡ μὲν ἐξ ἁπάντων τῶν ἀτόμων τὸ ἄκρον ἐδείκνυεν ὑπάρχειν τῷ μέσῳ καὶ πρὸς τὸ ἄκρον οὐ συνῆπτε τὸν συλλογισμόν, τὸ δὲ καὶ συνάπτει καὶ οὐκ ἐξ ἁπάντων δείκνυσιν.

Κεφάλαιο 25

Ἀπαγωγὴ δ’ ἐστὶν ὅταν τῷ μὲν μέσῳ τὸ πρῶτον δῆλον ᾖ ὑπάρχον, τῷ δ’ ἐσχάτῳ τὸ μέσον ἄδηλον μέν, ὁμοίως δὲ πιστὸν ἢ μᾶλλον τοῦ συμπεράσματος· ἔτι ἂν ὀλίγα ᾖ τὰ μέσα τοῦ ἐσχάτου καὶ τοῦ μέσου· πάντως γὰρ ἐγγύτερον εἶναι συμβαίνει τῆς ἐπιστήμης. οἷον ἔστω τὸ Α τὸ διδακτόν, ἐφ’ οὗ Β ἐπιστήμη, τὸ Γ δικαιοσύνη. ἡ μὲν οὖν ἐπιστήμη ὅτι διδακτόν, φανερόν· ἡ δ’ ἀρετὴ εἰ ἐπιστήμη, ἄδηλον. εἰ οὖν ὁμοίως ἢ μᾶλλον πιστὸν τὸ Β Γ τοῦ Α Γ, ἀπαγωγή ἐστιν· ἐγγύτερον γὰρ τοῦ ἐπίστασθαι διὰ τὸ προσειληφέναι τὴν Α Β ἐπιστήμην, πρότερον οὐκ ἔχοντας. ἢ πάλιν εἰ ὀλίγα τὰ μέσα τῶν Β Γ· καὶ γὰρ οὕτως ἐγγύτερον τοῦ εἰδέναι. οἷον εἰ τὸ Δ εἴη τετραγωνίζεσθαι, τὸ δ’ ἐφ’ ᾧ Ε εὐθύγραμμον, τὸ δ’ ἐφ’ ᾧ Ζ κύκλος· εἰ τοῦ Ε Ζ ἓν μόνον εἴη μέσον, τὸ μετὰ μηνίσκων ἴσον γίνεσθαι εὐθυγράμμῳ τὸν κύκλον, ἐγγὺς ἂν εἴη τοῦ εἰδέναι. ὅταν δὲ μήτε πιστότερον ᾖ τὸ Β Γ τοῦ Α Γ μήτ’ ὀλίγα τὰ μέσα, οὐ λέγω ἀπαγωγήν. οὐδ’ ὅταν ἄμεσον ᾖ τὸ Β Γ· ἐπιστήμη γὰρ τὸ τοιοῦτον.

Κεφάλαιο 26

Ἔνστασις δ' ἐστὶ πρότασις προτάσει ἐναντία. διαφέρει δὲ τῆς προτάσεως, ὅτι τὴν μὲν ἔνστασιν ἐνδέχεται εἶναι ἐπὶ μέρους, τὴν δὲ πρότασιν ἢ ὅλως οὐκ ἐνδέχεται ἢ οὐκ ἐν τοῖς [69b] καθόλου συλλογισμοῖς. φέρεται δὲ ἡ ἔνστασις διχῶς καὶ διὰ δύο σχημάτων, διχῶς μὲν ὅτι ἢ καθόλου ἢ ἐν μέρει πᾶσα ἔνστασις, ἐκ δύο δὲ σχημάτων ὅτι ἀντικείμεναι φέρονται τῇ προτάσει, τὰ δ' ἀντικείμενα ἐν τῷ πρώτῳ καὶ τῷ τρίτῳ σχήματι περαίνονται μόνοις. ὅταν γὰρ ἀξιώσῃ παντὶ ὑπάρχειν, ἐνιστάμεθα ἢ ὅτι οὐδενὶ ἢ ὅτι τινὶ οὐχ ὑπάρχει· τούτων δὲ τὸ μὲν μηδενὶ ἐκ τοῦ πρώτου σχήματος, τὸ δὲ τινὶ μὴ ἐκ τοῦ ἐσχάτου. οἷον ἔστω τὸ Α μίαν εἶναι ἐπιστήμην, ἐφ' ᾧ τὸ Β ἐναντία. προτείναντος δὴ μίαν εἶναι τῶν ἐναντίων ἐπιστήμην, ἢ ὅτι ὅλως οὐχ ἡ αὐτὴ τῶν ἀντικειμένων ἐνίσταται, τὰ δ' ἐναντία ἀντικείμενα, ὥστε γίνεται τὸ πρῶτον σχῆμα, ἢ ὅτι τοῦ γνωστοῦ καὶ ἀγνώστου οὐ μία· τοῦτο δὲ τὸ τρίτον· κατὰ γὰρ τοῦ Γ, τοῦ γνωστοῦ καὶ ἀγνώστου, τὸ μὲν ἐναντία εἶναι ἀληθές, τὸ δὲ μίαν αὐτῶν ἐπιστήμην εἶναι ψεῦδος. πάλιν ἐπὶ τῆς στερητικῆς προτάσεως ὡσαύτως. ἀξιοῦντος γὰρ μὴ εἶναι μίαν τῶν ἐναντίων, ἢ ὅτι πάντων τῶν ἀντικειμένων ἢ ὅτι τινῶν ἐναντίων ἡ αὐτὴ λέγομεν, οἷον ὑγιεινοῦ καὶ νοσώδους· τὸ μὲν οὖν πάντων ἐκ τοῦ πρώτου, τὸ δὲ τινῶν ἐκ τοῦ τρίτου σχήματος.

Ἁπλῶς γὰρ ἐν πᾶσι καθόλου μὲν ἐνιστάμενον ἀνάγκη πρὸς τὸ καθόλου τῶν προτεινομένων τὴν ἀντίφασιν εἰπεῖν, οἷον εἰ μὴ τὴν αὐτὴν ἀξιοῖ τῶν ἐναντίων, πάντων εἰπόντα τῶν ἀντικειμένων μίαν. οὕτω δ' ἀνάγκη τὸ πρῶτον εἶναι σχῆμα· μέσον γὰρ γίνεται τὸ καθόλου πρὸς τὸ ἐξ ἀρχῆς. ἐν μέρει δέ, πρὸς ὅ ἐστι καθόλου καθ' οὗ λέγεται ἡ πρότασις, οἷον γνωστοῦ καὶ ἀγνώστου μὴ τὴν αὐτήν· τὰ γὰρ ἐναντία καθόλου πρὸς ταῦτα. καὶ γίνεται τὸ τρίτον σχῆμα· μέσον γὰρ τὸ ἐν μέρει λαμβανόμενον, οἷον τὸ γνωστὸν καὶ τὸ ἄγνωστον. ἐξ ὧν γὰρ ἔστι συλλογίσασθαι τοὐναντίον, ἐκ τούτων καὶ τὰς ἐνστάσεις ἐπιχειροῦμεν λέγειν. διὸ καὶ ἐκ μόνων τούτων τῶν σχημάτων φέρομεν· ἐν μόνοις γὰρ οἱ ἀντικείμενοι συλλογισμοί· διὰ γὰρ τοῦ μέσου οὐκ ἦν καταφατικῶς. ἔτι δὲ κἂν λόγου δέοιτο πλείονος ἡ διὰ τοῦ μέσου σχήματος, οἷον εἰ μὴ δοίη τὸ Α τῷ Β ὑπάρχειν διὰ τὸ μὴ ἀκολουθεῖν αὐτῷ τὸ Γ. τοῦτο γὰρ δι' ἄλλων προτάσεων δῆλον· οὐ δεῖ δὲ εἰς ἄλλα ἐκτρέπεσθαι τὴν ἔνστασιν, ἀλλ’ εὐθὺς φανερὰν ἔχειν τὴν ἑτέραν πρότασιν. [διὸ καὶ τὸ σημεῖον ἐκ μόνου τούτου τοῦ σχήματος οὐκ ἔστιν.]

Ἐπισκεπτέον δὲ καὶ περὶ τῶν ἄλλων ἐνστάσεων, οἷον περὶ τῶν ἐκ τοῦ ἐναντίου καὶ τοῦ ὁμοίου καὶ τοῦ κατὰ δόξαν, καὶ [70a] εἰ τὴν ἐν μέρει ἐκ τοῦ πρώτου ἢ τὴν στερητικὴν ἐκ τοῦ μέσου δυνατὸν λαβεῖν.

Κεφάλαιο 27

<Ἐνθύμημα δὲ ἐστὶ συλλογισμὸς ἐξ εἰκότων ἢ σημείων,> εἰκὸς δὲ καὶ σημεῖον οὐ ταὐτόν ἐστιν, ἀλλὰ τὸ μὲν εἰκός ἐστι πρότασις (3) ἔνδοξος· ὃ γὰρ ὡς ἐπὶ τὸ πολὺ ἴσασιν οὕτω γινόμενον ἢ μὴ γινόμενον ἢ ὂν ἢ μὴ ὄν, τοῦτ’ ἐστὶν εἰκός, οἷον τὸ μισεῖν τοὺς φθονοῦντας ἢ τὸ φιλεῖν τοὺς ἐρωμένους. σημεῖον δὲ βούλεται εἶναι πρότασις ἀποδεικτικὴ ἢ ἀναγκαία ἢ ἔνδοξος· οὗ γὰρ ὄντος ἔστιν ἢ οὗ γενομένου πρότερον ἢ ὕστερον γέγονε τὸ πρᾶγμα, τοῦτο σημεῖόν ἐστι τοῦ γεγονέναι ἢ εἶναι. [ἐνθύμημα . . . σημείων] λαμβάνεται δὲ τὸ σημεῖον τριχῶς, ὁσαχῶς (11) καὶ τὸ μέσον ἐν τοῖς σχήμασιν· ἢ γὰρ ὡς ἐν τῷ πρώτῳ ἢ ὡς ἐν τῷ μέσῳ ἢ ὡς ἐν τῷ τρίτῳ, οἷον τὸ μὲν δεῖξαι κύουσαν διὰ τὸ γάλα ἔχειν ἐκ τοῦ πρώτου σχήματος· μέσον γὰρ τὸ γάλα ἔχειν. ἐφ’ ᾧ τὸ Α κύειν, τὸ Β γάλα ἔχειν, γυνὴ ἐφ’ ᾧ Γ. τὸ δ’ ὅτι οἱ σοφοὶ σπουδαῖοι, Πιττακὸς γὰρ σπουδαῖος, διὰ τοῦ ἐσχάτου. ἐφ’ ᾧ Α τὸ σπουδαῖον, ἐφ’ ᾧ Β οἱ σοφοί, ἐφ’ ᾧ Γ Πιττακός. ἀληθὲς δὴ καὶ τὸ Α καὶ τὸ Β τοῦ Γ κατηγορῆσαι· πλὴν τὸ μὲν οὐ λέγουσι διὰ τὸ εἰδέναι, τὸ δὲ λαμβάνουσιν. τὸ δὲ κύειν, ὅτι ὠχρά, διὰ τοῦ μέσου σχήματος βούλεται εἶναι· ἐπεὶ γὰρ ἕπεται ταῖς κυούσαις τὸ ὠχρόν, ἀκολουθεῖ δὲ καὶ ταύτῃ, δεδεῖχθαι οἴονται ὅτι κύει. τὸ ὠχρὸν ἐφ’ οὗ τὸ Α, τὸ κύειν ἐφ’ οὗ Β, γυνὴ ἐφ’ οὗ Γ.

Ἐὰν μὲν οὖν ἡ μία λεχθῇ πρότασις, σημεῖον γίνεται μόνον, ἐὰν δὲ καὶ ἡ ἑτέρα προσληφθῇ, συλλογισμός, οἷον ὅτι Πιττακὸς ἐλευθέριος· οἱ γὰρ φιλότιμοι ἐλευθέριοι, Πιττακὸς δὲ φιλότιμος. ἢ πάλιν ὅτι οἱ σοφοὶ ἀγαθοί· Πιττακὸς γὰρ ἀγαθός, ἀλλὰ καὶ σοφός. οὕτω μὲν οὖν γίνονται συλλογισμοί, πλὴν ὁ μὲν διὰ τοῦ πρώτου σχήματος ἄλυτος, ἂν ἀληθὴς ᾖ (καθόλου γάρ ἐστιν), ὁ δὲ διὰ τοῦ ἐσχάτου λύσιμος, κἂν ἀληθὲς ᾖ τὸ συμπέρασμα, διὰ τὸ μὴ εἶναι καθόλου μηδὲ πρὸς τὸ πρᾶγμα τὸν συλλογισμόν· οὐ γὰρ εἰ Πιττακὸς σπουδαῖος, διὰ τοῦτο καὶ τοὺς ἄλλους ἀνάγκη σοφούς. ὁ δὲ διὰ τοῦ μέσου σχήματος ἀεὶ καὶ πάντως λύσιμος· οὐδέποτε γὰρ γίνεται συλλογισμὸς οὕτως ἐχόντων τῶν ὅρων· οὐ γὰρ εἰ ἡ κύουσα ὠχρά, ὠχρὰ δὲ καὶ ἥδε, κύειν ἀνάγκη ταύτην. ἀληθὲς μὲν οὖν ἐν ἅπασιν ὑπάρξει τοῖς σημείοις, διαφορὰς δ’ ἔχουσι τὰς εἰρημένας. [70b]

Ἢ δὴ οὕτω διαιρετέον τὸ σημεῖον, τούτων δὲ τὸ μέσον τεκμήριον ληπτέον (τὸ γὰρ τεκμήριον τὸ εἰδέναι ποιοῦν φασὶν εἶναι, τοιοῦτο δὲ μάλιστα τὸ μέσον), ἢ τὰ μὲν ἐκ τῶν ἄκρων σημεῖον λεκτέον, τὰ δ’ ἐκ τοῦ μέσου τεκμήριον· ἐνδοξότατον γὰρ καὶ μάλιστα ἀληθὲς τὸ διὰ τοῦ πρώτου σχήματος.

Τὸ δὲ φυσιογνωμονεῖν δυνατόν ἐστιν, εἴ τις δίδωσιν ἅμα μεταβάλλειν τὸ σῶμα καὶ τὴν ψυχὴν ὅσα φυσικά ἐστι παθήματα· μαθὼν γὰρ ἴσως μουσικὴν μεταβέβληκέ τι τὴν ψυχήν, ἀλλ’ οὐ τῶν φύσει ἡμῖν ἐστὶ τοῦτο τὸ πάθος, ἀλλ’ οἷον ὀργαὶ καὶ ἐπιθυμίαι τῶν φύσει κινήσεων. εἰ δὴ τοῦτό τε δοθείη καὶ ἓν ἑνὸς σημεῖον εἶναι, καὶ δυναίμεθα λαμβάνειν τὸ ἴδιον ἑκάστου γένους πάθος καὶ σημεῖον, δυνησόμεθα φυσιογνωμονεῖν. εἰ γάρ ἐστιν ἰδίᾳ τινὶ γένει ὑπάρχον ἀτόμῳ πάθος, οἷον τοῖς λέουσιν ἀνδρεία, ἀνάγκη καὶ σημεῖον εἶναί τι· συμπάσχειν γὰρ ἀλλήλοις ὑπόκειται. καὶ ἔστω τοῦτο τὸ μεγάλα τὰ ἀκρωτήρια ἔχειν· ὃ καὶ ἄλλοις ὑπάρχειν γένεσι μὴ ὅλοις ἐνδέχεται. τὸ γὰρ σημεῖον οὕτως ἴδιόν ἐστιν, ὅτι ὅλου γένους ἴδιόν ἐστι [πάθος], καὶ οὐ μόνου ἴδιον, ὥσπερ εἰώθαμεν λέγειν. ὑπάρξει δὴ καὶ ἐν ἄλλῳ γένει τοῦτο, καὶ ἔσται ἀνδρεῖος [ὁ] ἄνθρωπος καὶ ἄλλο τι ζῷον. ἕξει ἄρα τὸ σημεῖον· ἓν γὰρ ἑνὸς ἦν. εἰ τοίνυν ταῦτ’ ἐστί, καὶ δυνησόμεθα τοιαῦτα σημεῖα συλλέξαι ἐπὶ τούτων τῶν ζῴων ἃ μόνον ἓν πάθος ἔχει τι ἴδιον, ἕκαστον δ’ ἔχει σημεῖον, ἐπείπερ ἓν ἔχειν ἀνάγκη, δυνησόμεθα φυσιογνωμονεῖν. εἰ δὲ δύο ἔχει ἴδια ὅλον τὸ γένος, οἷον ὁ λέων ἀνδρεῖον καὶ μεταδοτικόν, πῶς γνωσόμεθα πότερον ποτέρου σημεῖον τῶν ἰδίᾳ ἀκολουθούντων σημείων; ἢ εἰ ἄλλῳ τινὶ μὴ ὅλῳ ἄμφω, καὶ ἐν οἷς μὴ ὅλοις ἑκάτερον, ὅταν τὸ μὲν ἔχῃ τὸ δὲ μή· εἰ γὰρ ἀνδρεῖος μὲν ἐλευθέριος δὲ μή, ἔχει δὲ τῶν δύο τοδί, δῆλον ὅτι καὶ ἐπὶ τοῦ λέοντος τοῦτο σημεῖον τῆς ἀνδρείας.

Ἔστι δὴ τὸ φυσιογνωμονεῖν τῷ ἐν τῷ πρώτῳ σχήματι τὸ μέσον τῷ μὲν πρώτῳ ἄκρῳ ἀντιστρέφειν, τοῦ δὲ τρίτου ὑπερτείνειν καὶ μὴ ἀντιστρέφειν, οἷον ἀνδρεία τὸ Α, τὰ ἀκρωτήρια μεγάλα ἐφ’ οὗ Β, τὸ δὲ Γ λέων. ᾧ δὴ τὸ Γ, τὸ Β παντί, ἀλλὰ καὶ ἄλλοις. ᾧ δὲ τὸ Β, τὸ Α παντὶ καὶ οὐ πλείοσιν, ἀλλ’ ἀντιστρέφει· εἰ δὲ μή, οὐκ ἔσται ἓν ἑνὸς σημεῖον.

Ἀναλυτικῶν ὑστέρων (71a) Posterior Analytics

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Βιβλίο 1

Κεφάλαιο 1

(71a.) Πᾶσα διδασκαλία καὶ πᾶσα μάθησις διανοητικὴ ἐκ προϋπαρχούσης γίνεται γνώσεως. φανερὸν δὲ τοῦτο θεωροῦσιν ἐπὶ πασῶν· αἵ τε γὰρ μαθηματικαὶ τῶν ἐπιστημῶν διὰ τούτου τοῦ τρόπου παραγίνονται καὶ τῶν ἄλλων ἑκάστη τεχνῶν. ὁμοίως δὲ καὶ περὶ τοὺς λόγους οἵ τε διὰ συλλογισμῶν καὶ οἱ δι’ ἐπαγωγῆς· ἀμφότεροι γὰρ διὰ προγινωσκομένων ποιοῦνται τὴν διδασκαλίαν, οἱ μὲν λαμβάνοντες ὡς παρὰ ξυνιέντων, οἱ δὲ δεικνύντες τὸ καθόλου διὰ τοῦ δῆλον εἶναι τὸ καθ’ ἕκαστον. ὡς δ’ αὔτως καὶ οἱ ῥητορικοὶ συμπείθουσιν· ἢ γὰρ διὰ παραδειγμάτων, ὅ ἐστιν ἐπαγωγή, ἢ δι’ ἐνθυμημάτων, ὅπερ ἐστὶ συλλογισμός. διχῶς δ’ ἀναγκαῖον προγινώσκειν· τὰ μὲν γάρ, ὅτι ἔστι, προϋπολαμβάνειν ἀναγκαῖον, τὰ δέ, τί τὸ λεγόμενόν ἐστι, ξυνιέναι δεῖ, τὰ δ’ ἄμφω, οἷον ὅτι μὲν ἅπαν ἢ φῆσαι ἢ ἀποφῆσαι ἀληθές, ὅτι ἔστι, τὸ δὲ τρίγωνον, ὅτι τοδὶ σημαίνει, τὴν δὲ μονάδα ἄμφω, καὶ τί σημαίνει καὶ ὅτι ἔστιν· οὐ γὰρ ὁμοίως τούτων ἕκαστον δῆλον ἡμῖν.

Ἔστι δὲ γνωρίζειν τὰ μὲν πρότερον γνωρίσαντα, τῶν δὲ καὶ ἅμα λαμβάνοντα τὴν γνῶσιν, οἷον ὅσα τυγχάνει ὄντα ὑπὸ τὸ καθόλου οὗ ἔχει τὴν γνῶσιν. ὅτι μὲν γὰρ πᾶν τρίγωνον ἔχει δυσὶν ὀρθαῖς ἴσας, προῄδει· ὅτι δὲ τόδε τὸ ἐν τῷ ἡμικυκλίῳ τρίγωνόν ἐστιν, ἅμα ἐπαγόμενος ἐγνώρισεν. (ἐνίων γὰρ τοῦτον τὸν τρόπον ἡ μάθησίς ἐστι, καὶ οὐ διὰ τοῦ μέσου τὸ ἔσχατον γνωρίζεται, ὅσα ἤδη τῶν καθ’ ἕκαστα τυγχάνει ὄντα καὶ μὴ καθ’ ὑποκειμένου τινός.) πρὶν δ’ ἐπαχθῆναι ἢ λαβεῖν συλλογισμὸν τρόπον μέν τινα ἴσως φατέον ἐπίστασθαι, τρόπον δ’ ἄλλον οὔ. ὃ γὰρ μὴ ᾔδει εἰ ἔστιν ἁπλῶς, τοῦτο πῶς ᾔδει ὅτι δύο ὀρθὰς ἔχει ἁπλῶς; ἀλλὰ δῆλον ὡς ὡδὶ μὲν ἐπίσταται, ὅτι καθόλου ἐπίσταται, ἁπλῶς δ’ οὐκ ἐπίσταται. εἰ δὲ μή, τὸ ἐν τῷ Μένωνι ἀπόρημα συμβήσεται· ἢ γὰρ οὐδὲν μαθήσεται ἢ ἃ οἶδεν. οὐ γὰρ δή, ὥς γέ τινες ἐγχειροῦσι λύειν, λεκτέον. ἆρ’ οἶδας ἅπασαν δυάδα ὅτι ἀρτία ἢ οὔ; φήσαντος δὲ προήνεγκάν τινα δυάδα ἣν οὐκ ᾤετ’ εἶναι, ὥστ’ οὐδ’ ἀρτίαν. λύουσι γὰρ οὐ φάσκοντες εἰδέναι πᾶσαν δυάδα ἀρτίαν οὖσαν, ἀλλ’ ἣν ἴσασιν ὅτι δυάς. καίτοι (71b.) ἴσασι μὲν οὗπερ τὴν ἀπόδειξιν ἔχουσι καὶ οὗ ἔλαβον, ἔλαβον δ’ οὐχὶ παντὸς οὗ ἂν εἰδῶσιν ὅτι τρίγωνον ἢ ὅτι ἀριθμός, ἀλλ’ ἁπλῶς κατὰ παντὸς ἀριθμοῦ καὶ τριγώνου· οὐδεμία γὰρ πρότασις λαμβάνεται τοιαύτη, ὅτι ὃν σὺ οἶδας ἀριθμὸν ἢ ὃ σὺ οἶδας εὐθύγραμμον, ἀλλὰ κατὰ παντός. ἀλλ’ οὐδέν (οἶμαι) κωλύει, ὃ μανθάνει, ἔστιν ὡς ἐπίστασθαι, ἔστι δ’ ὡς ἀγνοεῖν· ἄτοπον γὰρ οὐκ εἰ οἶδέ πως ὃ μανθάνει, ἀλλ’ εἰ ὡδί, οἷον ᾗ μανθάνει καὶ ὥς.

Κεφάλαιο 2

Ἐπίστασθαι δὲ οἰόμεθ’ ἕκαστον ἁπλῶς, ἀλλὰ μὴ τὸν σοφιστικὸν τρόπον τὸν κατὰ συμβεβηκός, ὅταν τήν τ’ αἰτίαν οἰώμεθα γινώσκειν δι’ ἣν τὸ πρᾶγμά ἐστιν, ὅτι ἐκείνου αἰτία ἐστί, καὶ μὴ ἐνδέχεσθαι τοῦτ’ ἄλλως ἔχειν. δῆλον τοίνυν ὅτι τοιοῦτόν τι τὸ ἐπίστασθαί ἐστι· καὶ γὰρ οἱ μὴ ἐπιστάμενοι καὶ οἱ ἐπιστάμενοι οἱ μὲν οἴονται αὐτοὶ οὕτως ἔχειν, οἱ δ’ ἐπιστάμενοι καὶ ἔχουσιν, ὥστε οὗ ἁπλῶς ἔστιν ἐπιστήμη, τοῦτ’ ἀδύνατον ἄλλως ἔχειν.

Εἰ μὲν οὖν καὶ ἕτερος ἔστι τοῦ ἐπίστασθαι τρόπος, ὕστερον ἐροῦμεν, φαμὲν δὲ καὶ δι’ ἀποδείξεως εἰδέναι. ἀπόδειξιν δὲ λέγω συλλογισμὸν ἐπιστημονικόν· ἐπιστημονικὸν δὲ λέγω καθ’ ὃν τῷ ἔχειν αὐτὸν ἐπιστάμεθα. εἰ τοίνυν ἐστὶ τὸ ἐπίστασθαι οἷον ἔθεμεν, ἀνάγκη καὶ τὴν ἀποδεικτικὴν ἐπιστήμην ἐξ ἀληθῶν τ’ εἶναι καὶ πρώτων καὶ ἀμέσων καὶ γνωριμωτέρων καὶ προτέρων καὶ αἰτίων τοῦ συμπεράσματος· οὕτω γὰρ ἔσονται καὶ αἱ ἀρχαὶ οἰκεῖαι τοῦ δεικνυμένου. συλλογισμὸς μὲν γὰρ ἔσται καὶ ἄνευ τούτων, ἀπόδειξις δ’ οὐκ ἔσται· οὐ γὰρ ποιήσει ἐπιστήμην. ἀληθῆ μὲν οὖν δεῖ εἶναι, ὅτι οὐκ ἔστι τὸ μὴ ὂν ἐπίστασθαι, οἷον ὅτι ἡ διάμετρος σύμμετρος. ἐκ πρώτων δ’ ἀναποδείκτων, ὅτι οὐκ ἐπιστήσεται μὴ ἔχων ἀπόδειξιν αὐτῶν· τὸ γὰρ ἐπίστασθαι ὧν ἀπόδειξις ἔστι μὴ κατὰ συμβεβηκός, τὸ ἔχειν ἀπόδειξίν ἐστιν. αἴτιά τε καὶ γνωριμώτερα δεῖ εἶναι καὶ πρότερα, αἴτια μὲν ὅτι τότε ἐπιστάμεθα ὅταν τὴν αἰτίαν εἰδῶμεν, καὶ πρότερα, εἴπερ αἴτια, καὶ προγινωσκόμενα οὐ μόνον τὸν ἕτερον τρόπον τῷ ξυνιέναι, ἀλλὰ καὶ τῷ εἰδέναι ὅτι ἔστιν. πρότερα δ’ ἐστὶ καὶ γνωριμώτερα διχῶς· οὐ γὰρ ταὐτὸν πρότερον τῇ φύσει καὶ πρὸς ἡμᾶς πρότερον, (72a.) οὐδὲ γνωριμώτερον καὶ ἡμῖν γνωριμώτερον. λέγω δὲ πρὸς ἡμᾶς μὲν πρότερα καὶ γνωριμώτερα τὰ ἐγγύτερον τῆς αἰσθήσεως, ἁπλῶς δὲ πρότερα καὶ γνωριμώτερα τὰ πορρώτερον. ἔστι δὲ πορρωτάτω μὲν τὰ καθόλου μάλιστα, ἐγγυτάτω δὲ τὰ καθ’ ἕκαστα· καὶ ἀντίκειται ταῦτ’ ἀλλήλοις. ἐκ πρώτων δ’ ἐστὶ τὸ ἐξ ἀρχῶν οἰκείων· ταὐτὸ γὰρ λέγω πρῶτον καὶ ἀρχήν. ἀρχὴ δ’ ἐστὶν ἀποδείξεως πρότασις ἄμεσος, ἄμεσος δὲ ἧς μὴ ἔστιν ἄλλη προτέρα. πρότασις δ’ ἐστὶν ἀποφάνσεως τὸ ἕτερον μόριον, ἓν καθ’ ἑνός, διαλεκτικὴ μὲν ἡ ὁμοίως λαμβάνουσα ὁποτερονοῦν, ἀποδεικτικὴ δὲ ἡ ὡρισμένως θάτερον, ὅτι ἀληθές. ἀπόφανσις δὲ ἀντιφάσεως ὁποτερονοῦν μόριον, ἀντίφασις δὲ ἀντίθεσις ἧς οὐκ ἔστι μεταξὺ καθ’ αὑτήν, μόριον δ’ ἀντιφάσεως τὸ μὲν τὶ κατὰ τινὸς κατάφασις, τὸ δὲ τὶ ἀπὸ τινὸς ἀπόφασις.

Ἀμέσου δ’ ἀρχῆς συλλογιστικῆς θέσιν μὲν λέγω ἣν μὴ ἔστι δεῖξαι, μηδ’ ἀνάγκη ἔχειν τὸν μαθησόμενόν τι· ἣν δ’ ἀνάγκη ἔχειν τὸν ὁτιοῦν μαθησόμενον, ἀξίωμα· ἔστι γὰρ ἔνια τοιαῦτα· τοῦτο γὰρ μάλιστ’ ἐπὶ τοῖς τοιούτοις εἰώθαμεν ὄνομα λέγειν. θέσεως δ’ ἡ μὲν ὁποτερονοῦν τῶν μορίων τῆς ἀντιφάσεως λαμβάνουσα, οἷον λέγω τὸ εἶναί τι ἢ τὸ μὴ εἶναί τι, ὑπόθεσις, ἡ δ’ ἄνευ τούτου ὁρισμός. ὁ γὰρ ὁρισμὸς θέσις μέν ἐστι· τίθεται γὰρ ὁ ἀριθμητικὸς μονάδα τὸ ἀδιαίρετον εἶναι κατὰ τὸ ποσόν· ὑπόθεσις δ’ οὐκ ἔστι· τὸ γὰρ τί ἐστι μονὰς καὶ τὸ εἶναι μονάδα οὐ ταὐτόν.

Ἐπεὶ δὲ δεῖ πιστεύειν τε καὶ εἰδέναι τὸ πρᾶγμα τῷ τοιοῦτον ἔχειν συλλογισμὸν ὃν καλοῦμεν ἀπόδειξιν, ἔστι δ’ οὗτος τῷ ταδὶ εἶναι ἐξ ὧν ὁ συλλογισμός, ἀνάγκη μὴ μόνον προγινώσκειν τὰ πρῶτα, ἢ πάντα ἢ ἔνια, ἀλλὰ καὶ μᾶλλον· αἰεὶ γὰρ δι’ ὃ ὑπάρχει ἕκαστον, ἐκείνῳ μᾶλλον ὑπάρχει, οἷον δι’ ὃ φιλοῦμεν, ἐκεῖνο φίλον μᾶλλον. ὥστ’ εἴπερ ἴσμεν διὰ τὰ πρῶτα καὶ πιστεύομεν, κἀκεῖνα ἴσμεν τε καὶ πιστεύομεν μᾶλλον, ὅτι δι’ ἐκεῖνα καὶ τὰ ὕστερα. οὐχ οἷόν τε δὲ πιστεύειν μᾶλλον ὧν οἶδεν ἃ μὴ τυγχάνει μήτε εἰδὼς μήτε βέλτιον διακείμενος ἢ εἰ ἐτύγχανεν εἰδώς. συμβήσεταιδὲ τοῦτο, εἰ μή τις προγνώσεται τῶν δι’ ἀπόδειξιν πιστευόντων· μᾶλλον γὰρ ἀνάγκη πιστεύειν ταῖς ἀρχαῖς ἢ πάσαις ἢ τισὶ τοῦ συμπεράσματος. τὸν δὲ μέλλοντα ἕξειν τὴν ἐπιστήμην τὴν δι’ ἀποδείξεως οὐ μόνον δεῖ τὰς ἀρχὰς μᾶλλον γνωρίζειν καὶ μᾶλλον αὐταῖς πιστεύειν ἢ τῷ δεικνυμένῳ, (72b.) ἀλλὰ μηδ’ ἄλλο αὐτῷ πιστότερον εἶναι μηδὲ γνωριμώτερον τῶν ἀντικειμένων ταῖς ἀρχαῖς ἐξ ὧν ἔσται συλλογισμὸς ὁ τῆς ἐναντίας ἀπάτης, εἴπερ δεῖ τὸν ἐπιστάμενον ἁπλῶς ἀμετάπειστον εἶναι.

Κεφάλαιο 3

Ἐνίοις μὲν οὖν διὰ τὸ δεῖν τὰ πρῶτα ἐπίστασθαι οὐ δοκεῖ ἐπιστήμη εἶναι, τοῖς δ' εἶναι μέν, πάντων μέντοι ἀπόδειξις εἶναι· ὧν οὐδέτερον οὔτ' ἀληθὲς οὔτ' ἀναγκαῖον. οἱ μὲν γὰρ ὑποθέμενοι μὴ εἶναι ὅλως ἐπίστασθαι, οὗτοι εἰς ἄπειρον ἀξιοῦσιν ἀνάγεσθαι ὡς οὐκ ἂν ἐπισταμένους τὰ ὕστερα διὰ τὰ πρότερα, ὧν μὴ ἔστι πρῶτα, ὀρθῶς λέγοντες· ἀδύνατον γὰρ τὰ ἄπειρα διελθεῖν. εἴ τε ἵσταται καὶ εἰσὶν ἀρχαί, ταύτας ἀγνώστους εἶναι ἀποδείξεώς γε μὴ οὔσης αὐτῶν, ὅπερ φασὶν εἶναι τὸ ἐπίστασθαι μόνον· εἰ δὲ μὴ ἔστι τὰ πρῶτα εἰδέναι, οὐδὲ τὰ ἐκ τούτων εἶναι ἐπίστασθαι ἁπλῶς οὐδὲ κυρίως, ἀλλ' ἐξ ὑποθέσεως, εἰ ἐκεῖνα ἔστιν. οἱ δὲ περὶ μὲν τοῦ ἐπίστασθαι ὁμολογοῦσι· δι' ἀποδείξεως γὰρ εἶναι μόνον· ἀλλὰ πάντων εἶναι ἀπόδειξιν οὐδὲν κωλύειν· ἐνδέχεσθαι γὰρ κύκλῳ γίνεσθαι τὴν ἀπόδειξιν καὶ ἐξ ἀλλήλων.

Ἡμεῖς δέ φαμεν οὔτε πᾶσαν ἐπιστήμην ἀποδεικτικὴν εἶναι, ἀλλὰ τὴν τῶν ἀμέσων ἀναπόδεικτον (καὶ τοῦθ' ὅτι ἀναγκαῖον, φανερόν· εἰ γὰρ ἀνάγκη μὲν ἐπίστασθαι τὰ πρότερα καὶ ἐξ ὧν ἡ ἀπόδειξις, ἵσταται δέ ποτε τὰ ἄμεσα, ταῦτ' ἀναπόδεικτα ἀνάγκη εἶναι)- ταῦτά τ' οὖν οὕτω λέγομεν, καὶ οὐ μόνον ἐπιστήμην ἀλλὰ καὶ ἀρχὴν ἐπιστήμης εἶναί τινά φαμεν, ᾗ τοὺς ὅρους γνωρίζομεν. κύκλῳ τε ὅτι ἀδύνατον ἀποδείκνυσθαι ἁπλῶς, δῆλον, εἴπερ ἐκ προτέρων δεῖ τὴν ἀπόδειξιν εἶναι καὶ γνωριμωτέρων· ἀδύνατον γάρ ἐστι τὰ αὐτὰ τῶν αὐτῶν ἅμα πρότερα καὶ ὕστερα εἶναι, εἰ μὴ τὸν ἕτερον τρόπον, οἷον τὰ μὲν πρὸς ἡμᾶς τὰ δ' ἁπλῶς, ὅνπερ τρόπον ἡ ἐπαγωγὴ ποιεῖ γνώριμον. εἰ δ' οὕτως, οὐκ ἂν εἴη τὸ ἁπλῶς εἰδέναι καλῶς ὡριμένον, ἀλλὰ διττόν· ἢ οὐχ ἁπλῶς ἡ ἑτέρα ἀπόδειξις, γινομένη γ' ἐκ τῶν ἡμῖν γνωριμωτέρων.

συμβαίνει δὲ τοῖς λέγουσι κύκλῳ τὴν ἀπόδειξιν εἶναι οὐ μόνον τὸ νῦν εἰρημένον, ἀλλ' οὐδὲν ἄλλο λέγειν ἢ ὅτι τοῦτ' ἔστιν εἰ τοῦτ' ἔστιν· οὕτω δὲ πάντα ῥᾴδιον δεῖξαι. δῆλον δ' ὅτι τοῦτο συμβαίνει τριῶν ὅρων τεθέντων. τὸ μὲν γὰρ διὰ πολλῶν ἢ δι' ὀλίγων ἀνακάμπτειν φάναι οὐδὲν διαφέρει, δι' ὀλίγων δ' ἢ δυοῖν. ὅταν γὰρ τοῦ Α ὄντος ἐξ ἀνάγκης ᾖ τὸ Β, τούτου δὲ τὸ Γ, τοῦ Α ὄντος ἔσται τὸ Γ. εἰ δὴ τοῦ Α ὄντος ἀνάγκη τὸ Β εἶναι, τούτου δ' (73a.) ὄντος τὸ Α (τοῦτο γὰρ ἦν τὸ κύκλῳ), κείσθω τὸ Α ἐφ' οὗ τὸ Γ. τὸ οὖν τοῦ Β ὄντος τὸ Α εἶναι λέγειν ἐστὶ τὸ Γ εἶναι λέγειν, τοῦτο δ' ὅτι τοῦ Α ὄντος τὸ Γ ἔστι· τὸ δὲ Γ τῷ Α τὸ αὐτό. ὥστε συμβαίνει λέγειν τοὺς κύκλῳ φάσκοντας εἶναι τὴν ἀπόδειξιν οὐδὲν ἕτερον πλὴν ὅτι τοῦ Α ὄντος τὸ Α ἔστιν. οὕτω δὲ πάντα δεῖξαι ῥᾴδιον.

Οὐ μὴν ἀλλ’ οὐδὲ τοῦτο δυνατόν, πλὴν ἐπὶ τούτων ὅσα ἀλλήλοις ἕπεται, ὥσπερ τὰ ἴδια. ἑνὸς μὲν οὖν κειμένου δέδεικται ὅτι οὐδέποτ’ ἀνάγκη τι εἶναι ἕτερον (λέγω δ’ ἑνός, ὅτι οὔτε ὅρου ἑνὸς οὔτε θέσεως μιᾶς τεθείσης), ἐκ δύο δὲ θέσεων πρώτων καὶ ἐλαχίστων ἐνδέχεται, εἴπερ καὶ συλλογίσασθαι. ἐὰν μὲν οὖν τό τε Α τῷ Β καὶ τῷ Γ ἕπηται, καὶ ταῦτ’ ἀλλήλοις καὶ τῷ Α, οὕτω μὲν ἐνδέχεται ἐξ ἀλλήλων δεικνύναι πάντα τὰ αἰτηθέντα ἐν τῷ πρώτῳ σχήματι, ὡς δέδεικται ἐν τοῖς περὶ συλλογισμοῦ. δέδεικται δὲ καὶ ὅτι ἐν τοῖς ἄλλοις σχήμασιν ἢ οὐ γίνεται συλλογισμὸς ἢ οὐ περὶ τῶν ληφθέντων. τὰ δὲ μὴ ἀντικατηγορούμενα οὐδαμῶς ἔστι δεῖξαι κύκλῳ, ὥστ’ ἐπειδὴ ὀλίγα τοιαῦτα ἐν ταῖς ἀποδείξεσι, φανερὸν ὅτι κενόν τε καὶ ἀδύνατον τὸ λέγειν ἐξ ἀλλήλων εἶναι τὴν ἀπόδειξιν καὶ διὰ τοῦτο πάντων ἐνδέχεσθαι εἶναι ἀπόδειξιν.

Κεφάλαιο 4

Ἐπεὶ δ’ ἀδύνατον ἄλλως ἔχειν οὗ ἔστιν ἐπιστήμη ἁπλῶς, ἀναγκαῖον ἂν εἴη τὸ ἐπιστητὸν τὸ κατὰ τὴν ἀποδεικτικὴν ἐπιστήμην· ἀποδεικτικὴ δ’ ἐστὶν ἣν ἔχομεν τῷ ἔχειν ἀπόδειξιν. ἐξ ἀναγκαίων ἄρα συλλογισμός ἐστιν ἡ ἀπόδειξις. ληπτέον ἄρα ἐκ τίνων καὶ ποίων αἱ ἀποδείξεις εἰσίν. πρῶτον δὲ διορίσωμεν τί λέγομεν τὸ κατὰ παντὸς καὶ τί τὸ καθ’ αὑτὸ καὶ τί τὸ καθόλου.

Κατὰ παντὸς μὲν οὖν τοῦτο λέγω ὃ ἂν ᾖ μὴ ἐπὶ τινὸς μὲν τινὸς δὲ μή, μηδὲ ποτὲ μὲν ποτὲ δὲ μή, οἷον εἰ κατὰ παντὸς ἀνθρώπου ζῷον, εἰ ἀληθὲς τόνδ’ εἰπεῖν ἄνθρωπον, ἀληθὲς καὶ ζῷον, καὶ εἰ νῦν θάτερον, καὶ θάτερον, καὶ εἰ ἐν πάσῃ γραμμῇ στιγμή, ὡσαύτως. σημεῖον δέ· καὶ γὰρ τὰς ἐνστάσεις οὕτω φέρομεν ὡς κατὰ παντὸς ἐρωτώμενοι, ἢ εἰ ἐπί τινι μή, ἢ εἴ ποτε μή. Καθ’ αὑτὰ δ’ ὅσα ὑπάρχει τε ἐν τῷ τί ἐστιν, οἷον τριγώνῳ γραμμὴ καὶ γραμμῇ στιγμή (γὰρ οὐσία αὐτῶν ἐκ τούτων ἐστί, καὶ ἐν τῷ λόγῳ τῷ λέγοντι τί ἐστιν ἐνυπάρχει), καὶ ὅσοις τῶν ὑπαρχόντων αὐτοῖς αὐτὰ ἐν τῷ λόγῳ ἐνυπάρχουσι τῷ τί ἐστι δηλοῦντι, οἷον τὸ εὐθὺ ὑπάρχει γραμμῇ καὶ τὸ περιφερές, καὶ τὸ περιττὸν καὶ ἄρτιον ἀριθμῷ, καὶ τὸ πρῶτον καὶ σύνθετον, καὶ ἰσόπλερον (73b.) καὶ ἑτερόμηκες· καὶ πᾶσι τούτοις ἐνυπάρχουσιν ἐν τῷ λόγῳ τῷ τί ἐστι λέγοντι ἔνθα μὲν γραμμὴ ἔνθα δ’ ἀριθμός. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τὰ τοιαῦθ’ ἑκάστοις καθ’αὑτὰ λέγω, ὅσα δὲ μηδετέρως ὑπάρχει, συμβεβηκότα, οἷον τὸ μουσικὸν ἢ λευκὸν τῷ ζῴῳ.

ἔτι ὃ μὴ καθ’ ὑποκειμένου λέγεται ἄλλου τινός, οἷον τὸ βαδίζον ἕτερόν τι ὂν βαδίζον ἐστὶ καὶ τὸ λευκὸν, ἡ δ’ οὐσία, καὶ ὅσα τόδε τι σημαίνει, οὐχ ἕτερόν τι ὄντα ἐστὶν ὅπερ ἐστίν. τὰ μὲν δὴ μὴ καθ’ ὑποκειμένου καθ’ αὑτὰ λέγω, τὰ δὲ καθ’ ὑποκειμένου συμβεβηκότα. ἔτι δ’ ἄλλον τρόπον τὸ μὲν δι’ αὑτὸ ὑπάρχον ἑκάστῳ καθ’ αὑτό, τὸ δὲ μὴ δι’ αὑτὸ συμβεβηκός, οἷον εἰ βαδίζοντος ἤστραψε, συμβεβηκός· οὐ γὰρ διὰ τὸ βαδίζειν ἤστραψεν, ἀλλὰ συνέβη, φαμέν, τοῦτο. εἰ δὲ δι’ αὑτό, καθ’ αὑτό, οἷον εἴ τι σφαττόμενον ἀπέθανε, καὶ κατὰ τὴν σφαγήν, ὅτι διὰ τὸ σφάττεσθαι, ἀλλ’ οὐ συνέβη σφαττόμενον ἀποθανεῖν.

τὰ ἄρα λεγόμενα ἐπὶ τῶν ἁπλῶς ἐπιστητῶν καθ’ αὑτὰ οὕτως ὡς ἐνυπάρχειν τοῖς κατηγορουμένοις ἢ ἐνυπάρχεσθαι δι’ αὑτά τέ ἐστι καὶ ἐξ ἀνάγκης. οὐ γὰρ ἐνδέχεται μὴ ὑπάρχειν ἢ ἁπλῶς ἢ τὰ ἀντικείμενα, οἷον γραμμῇ τὸ εὐθὺ ἢ τὸ καμπύλον καὶ ἀριθμῷ τὸ περιττὸν ἢ τὸ ἄρτιον. ἔστι γὰρ τὸ ἐναντίον ἢ στέρησις ἢ ἀντίφασις ἐν τῷ αὐτῷ γένει, οἷον ἄρτιον τὸ μὴ περιττὸν ἐν ἀριθμοῖς ᾗ ἕπεται. ὥστ' εἰ ἀνάγκη φάναι ἢ ἀποφάναι, ἀνάγκη καὶ τὰ καθ' αὑτὰ ὑπάρχειν.

Τὸ μὲν οὖν κατὰ παντὸς καὶ καθ' αὑτὸ διωρίσθω τὸν τρόπον τοῦτον· καθόλου δὲ λέγω ὃ ἂν κατὰ παντός τε ὑπάρχῃ καὶ καθ' αὑτὸ καὶ ᾗ αὐτό. φανερὸν ἄρα ὅτι ὅσα καθόλου, ἐξ ἀνάγκης ὑπάρχει τοῖς πράγμασιν. τὸ καθ' αὑτὸ δὲ καὶ ᾗ αὐτὸ ταὐτόν, οἷον καθ' αὑτὴν τῇ γραμμῇ ὑπάρχει στιγμὴ καὶ τὸ εὐθύ (καὶ γὰρ ᾗ γραμμή), καὶ τῷ τριγώνῳ ᾗ τρίγωνον δύο ὀρθαί (καὶ γὰρ καθ' αὑτὸ τὸ τρίγωνον δύο ὀρθαῖς ἴσον). τὸ καθόλου δὲ ὑπάρχει τότε, ὅταν ἐπὶ τοῦ τυχόντος καὶ πρώτου δεικνύηται. οἷον τὸ δύο ὀρθὰς ἔχειν οὔτε τῷ σχήματί ἐστι καθόλου (καίτοι ἔστι δεῖξαι κατὰ σχήματος ὅτι δύο ὀρθὰς ἔχει, ἀλλ' οὐ τοῦ τυχόντος σχήματος, οὐδὲ χρῆται τῷ τυχόντι σχήματι δεικνύς· τὸ γὰρ τετράγωνον σχῆμα μέν, οὐκ ἔχει δὲ δύο ὀρθαῖς ἴσας)- τὸ δ' ἰσοσκελὲς ἔχει μὲν τὸ τυχὸν δύο ὀρθαῖς ἴσας, ἀλλ' οὐ πρῶτον, ἀλλὰ τὸ τρίγωνον πρότερον. ὃ τοίνυν τὸ τυχὸν πρῶτον δείκνυται δύο ὀρθὰς ἔχον ἢ ὁτιοῦν ἄλλο, τούτῳ πρώτῳ (74a.) ὑπάρχει καθόλου, καὶ ἡ ἀπόδειξις καθ' αὑτὸ τούτου καθόλου ἐστί, τῶν δ' ἄλλων τρόπον τινὰ οὐ καθ' αὑτό, οὐδὲ τοῦ ἰσοσκελοῦς οὐκ ἔστι καθόλου ἀλλ' ἐπὶ πλέον.

Κεφάλαιο 5

Δεῖ δὲ μὴ λανθάνειν ὅτι πολλάκις συμβαίνει διαμαρτάνειν καὶ μὴ ὑπάρχειν τὸ δεικνύμενον πρῶτον καθόλου, ᾗ δοκεῖ δείκνυσθαι καθόλου πρῶτον. ἀπατώμεθα δὲ ταύτην τὴν ἀπάτην, ὅταν ἢ μηδὲν ᾖ λαβεῖν ἀνώτερον παρὰ τὸ καθ’ ἕκαστον [ἢ τὰ καθ’ ἕκαστα], ἢ ᾖ μέν, ἀλλ’ ἀνώνυμον ᾖ ἐπὶ διαφόροις εἴδει πράγμασιν, ἢ τυγχάνῃ ὂν ὡς ἐν μέρει ὅλον ἐφ’ ᾧ δείκνυται· τοῖς γὰρ ἐν μέρει ὑπάρξει μὲν ἡ ἀπόδειξις, καὶ ἔσται κατὰ παντός, ἀλλ’ ὅμως οὐκ ἔσται τούτου πρώτου καθόλου ἡ ἀπόδειξις. λέγω δὲ τούτου πρώτου, ᾗ τοῦτο, ἀπόδειξιν, ὅταν ᾖ πρώτου καθόλου. εἰ οὖν τις δείξειεν ὅτι αἱ ὀρθαὶ οὐ συμπίπτουσι, δόξειεν ἂν τούτου εἶναι ἡ ἀπόδειξις διὰ τὸ ἐπὶ πασῶν εἶναι τῶν ὀρθῶν. οὐκ ἔστι δέ, εἴπερ μὴ ὅτι ὡδὶ ἴσαι γίνεται τοῦτο, ἀλλ’ ᾗ ὁπωσοῦν ἴσαι. καὶ εἰ τρίγωνον μὴ ἦν ἄλλο ἢ ἰσοσκελές, ᾗ ἰσοσκελὲς ἂν ἐδόκει ὑπάρχειν. καὶ τὸ ἀνάλογον ὅτι καὶ ἐναλλάξ, ᾗ ἀριθμοὶ καὶ ᾗ γραμμαὶ καὶ ᾗ στερεὰ καὶ ᾗ χρόνοι, ὥσπερ ἐδείκνυτό ποτε χωρίς, ἐνδεχόμενόν γε κατὰ πάντων μιᾷ ἀποδείξει δειχθῆναι· ἀλλὰ διὰ τὸ μὴ εἶναι ὠνομασμένον τι ταῦτα πάντα ἓν, ἀριθμοί μήκη χρόνοι στερεά, καὶ εἴδει διαφέρειν ἀλλήλων, χωρὶς ἐλαμβάνετο. νῦν δὲ καθόλου δείκνυται· οὐ γὰρ ᾗ γραμμαὶἢ ᾗ ἀριθμοὶ ὑπῆρχεν, ἀλλ’ ᾗ τοδί, ὃ καθόλου ὑποτίθενται ὑπάρχειν. διὰ τοῦτο οὐδ’ ἄν τις δείξῃ καθ’ ἕκαστον τὸ τρίγωνον ἀποδείξει ἢ μιᾷ ἢ ἑτέρᾳ ὅτι δύο ὀρθὰς ἔχει ἕκαστον, τὸ ἰσόπλευρον χωρὶς καὶ τὸ σκαληνὲς καὶ τὸ ἰσοσκελές, οὔπω οἶδε τὸ τρίγωνον ὅτι δύο ὀρθαῖς, εἰ μὴ τὸν σοφιστικὸν τρόπον, οὐδὲ καθ’ ὅλου τριγώνου, οὐδ’ εἰ μηδὲν ἔστι παρὰ ταῦτα τρίγωνον ἕτερον. οὐ γὰρ ᾗ τρίγωνον οἶδεν, οὐδὲ πᾶν τρίγωνον, ἀλλ’ ἢ κατ’ ἀριθμόν· κατ’ εἶδος δ’ οὐ πᾶν, καὶ εἰ μηδὲν ἔστιν ὃ οὐκ οἶδεν.

Πότ’ οὖν οὐκ οἶδε καθόλου, καὶ πότ’ οἶδεν ἁπλῶς; δῆλον δὴ ὅτι εἰ ταὐτὸν ἦν τριγώνῳ εἶναι καὶ ἰσοπλεύρῳ ἢ ἑκάστῳ ἢ πᾶσιν. εἰ δὲ μὴ ταὐτὸν ἀλλ’ ἕτερον, ὑπάρχει δ’ ᾗ τρίγωνον, οὐκ οἶδεν. πότερον δ’ ᾗ τρίγωνον ἢ ᾗ ἰσοσκελὲς ὑπάρχει; καὶ πότε κατὰ τοῦθ’ ὑπάρχει πρῶτον; καὶ καθόλου τίνος ἡ ἀπόδειξις; δῆλον ὅτι ὅταν ἀφαιρουμένων ὑπάρχῃ πρώτῳ. οἷον τῷ ἰσοσκελεῖ χαλκῷ τριγώνῳ ὑπάρξουσι δύο ὀρθαί, ἀλλὰ καὶ τοῦ χαλκοῦν εἶναι ἀφαιρεθέντος (74b.) καὶ τοῦ ἰσοσκελές. ἀλλ’ οὐ τοῦ σχήματος ἢ πέρατος. ἀλλ’ οὐ πρώτων. τίνος οὖν πρώτου; εἰ δὴ τριγώνου, κατὰ τοῦτο ὑπάρχει καὶ τοῖς ἄλλοις, καὶ τούτου καθόλου ἐστὶν ἡ ἀπόδειξις. Εἰ οὖν ἐστιν ἡ ἀποδεικτικὴ ἐπιστήμη ἐξ ἀναγκαίων ἀρχῶν (ὃ γὰρ ἐπίσταται, οὐ δυνατὸν ἄλλως ἔχειν), τὰ δὲ καθ’ αὑτὰ ὑπάρχοντα ἀναγκαῖα τοῖς πράγμασιν (τὰ μὲν γὰρ ἐν τῷ τί ἐστιν ὑπάρχει· τοῖς δ’ αὐτὰ ἐν τῷ τί ἐστιν ὑπάρχει κατηγορουμένοις αὐτῶν, ὧν θάτερον τῶν ἀντικειμένων ἀνάγκη ὑπάρχειν), φανερὸν ὅτι ἐκ τοιούτων τινῶν ἂν εἴη ὁ ἀποδεικτικὸς συλλογισμός· ἅπαν γὰρ ἢ οὕτως ὑπάρχει ἢ κατὰ συμβεβηκός, τὰ δὲ συμβεβηκότα οὐκ ἀναγκαῖα.

Κεφάλαιο 6

Ἢ δὴ οὕτω λεκτέον, ἢ ἀρχὴν θεμένοις ὅτι ἡ ἀπόδειξις ἀναγκαίων ἐστί, καὶ εἰ ἀποδέδεικται, οὐχ οἷόν τ' ἄλλως ἔχειν· ἐξ ἀναγκαίων ἄρα δεῖ εἶναι τὸν συλλογισμόν. ἐξ ἀληθῶν μὲν γὰρ ἔστι καὶ μὴ ἀποδεικνύντα συλλογίσασθαι, ἐξ ἀναγκαίων δ' οὐκ ἔστιν ἀλλ' ἢ ἀποδεικνύντα· τοῦτο γὰρ ἤδη ἀποδείξεώς ἐστιν. σημεῖον δ' ὅτι ἡ ἀπόδειξις ἐξ ἀναγκαίων, ὅτι καὶ τὰς ἐνστάσεις οὕτω φέρομεν πρὸς τοὺς οἰομένους ἀποδεικνύναι, ὅτι οὐκ ἀνάγκη, ἂν οἰώμεθα ἢ ὅλως ἐνδέχεσθαι ἄλλως ἢ ἕνεκά γε τοῦ λόγου. δῆλον δ' ἐκ τούτων καὶ ὅτι εὐήθεις οἱ λαμβάνειν οἰόμενοι καλῶς τὰς ἀρχάς, ἐὰν ἔνδοξος ᾖ ἡ πρότασις καὶ ἀληθής, οἷον οἱ σοφισταὶ ὅτι τὸ ἐπίστασθαι τὸ ἐπιστήμην ἔχειν. οὐ γὰρ τὸ ἔνδοξον ἡμῖν ἀρχή ἐστιν, ἀλλὰ τὸ πρῶτον τοῦ γένους περὶ ὃ δείκνυται· καὶ τἀληθὲς οὐ πᾶν οἰκεῖον. ὅτι δ' ἐξ ἀναγκαίων εἶναι δεῖ τὸν συλλογισμόν, φανερὸν καὶ ἐκ τῶνδε. εἰ γὰρ ὁ μὴ ἔχων λόγον τοῦ διὰ τί οὔσης ἀποδείξεως οὐκ ἐπιστήμων, εἴη δ' ἂν ὥστε τὸ Α κατὰ τοῦ Γ ἐξ ἀνάγκης ὑπάρχειν, τὸ δὲ Β τὸ μέσον, δι' οὗ ἀπεδείχθη, μὴ ἐξ ἀνάγκης, οὐκ οἶδε διότι. οὐ γάρ ἐστι τοῦτο διὰ τὸ μέσον· τὸ μὲν γὰρ ἐνδέχεται μὴ εἶναι, τὸ δὲ συμπέρασμα ἀναγκαῖον. ἔτι εἴ τις μὴ οἶδε νῦν ἔχων τὸν λόγον καὶ σῳζόμενος, σῳζομένου τοῦ πράγματος, μὴ ἐπιλελησμένος, οὐδὲ πρότερον ᾔδει. φθαρείη δ' ἂν τὸ μέσον, εἰ μὴ ἀναγκαῖον, ὥστε ἕξει μὲν τὸν λόγον σῳζόμενος σῳζομένου τοῦ πράγματος, οὐκ οἶδε δέ. οὐδ' ἄρα πρότερον ᾔδει. εἰ δὲ μὴ ἔφθαρται, ἐνδέχεται δὲ φθαρῆναι, τὸ συμβαῖνον ἂν εἴη δυνατὸν καὶ ἐνδεχόμενον. ἀλλ' ἔστιν ἀδύνατον οὕτως ἔχοντα εἰδέναι.

(75a.) Ὅταν μὲν οὖν τὸ συμπέρασμα ἐξ ἀνάγκης ᾖ, οὐδὲν κωλύει τὸ μέσον μὴ ἀναγκαῖον εἶναι δι' οὗ ἐδείχθη (ἔστι γὰρ τὸ ἀναγκαῖον καὶ μὴ ἐξ ἀναγκαίων συλλογίσασθαι, ὥσπερ καὶ ἀληθὲς μὴ ἐξ ἀληθῶν)· ὅταν δὲ τὸ μέσον ἐξ ἀνάγκης, καὶ τὸ συμπέρασμα ἐξ ἀνάγκης, ὥσπερ καὶ ἐξ ἀληθῶν ἀληθὲς ἀεί (ἔστω γὰρ τὸ Α κατὰ τοῦ Β ἐξ ἀνάγκης, καὶ τοῦτο κατὰ τοῦ Γ· ἀναγκαῖον τοίνυν καὶ τὸ Α τῷ Γ ὑπάρχειν)· ὅταν δὲ μὴ ἀναγκαῖον ᾖ τὸ συμπέρασμα, οὐδὲ τὸ μέσον ἀναγκαῖον οἷόν τ' εἶναι (ἔστω γὰρ τὸ Α τῷ Γ μὴ ἐξ ἀνάγκης ὑπάρχειν, τῷ δὲ Β, καὶ τοῦτο τῷ Γ ἐξ ἀνάγκης· καὶ τὸ Α ἄρα τῷ Γ ἐξ ἀνάγκης ὑπάρξει· ἀλλ' οὐχ ὑπέκειτο).

Ἐπεὶ τοίνυν εἰ ἐπίσταται ἀποδεικτικῶς, δεῖ ἐξ ἀνάγκης ὑπάρχειν, δῆλον ὅτι καὶ διὰ μέσου ἀναγκαίου δεῖ ἔχειν τὴν ἀπόδειξιν· ἢ οὐκ ἐπιστήσεται οὔτε διότι οὔτε ὅτι ἀνάγκη ἐκεῖνο εἶναι, ἀλλ' ἢ οἰήσεται οὐκ εἰδώς, ἐὰν ὑπολάβῃ ὡς ἀναγκαῖον τὸ μὴ ἀναγκαῖον, ἢ οὐδ' οἰήσεται, ὁμοίως ἐάν τε τὸ ὅτι εἰδῇ διὰ μέσων ἐάν τε τὸ διότι καὶ δι' ἀμέσων.

Τῶν δὲ συμβεβηκότων μὴ καθ' αὑτά, ὃν τρόπον διωρίσθη τὰ καθ' αὑτά, οὐκ ἔστιν ἐπιστήμη ἀποδεικτική. οὐ γὰρ ἔστιν ἐξ ἀνάγκης δεῖξαι τὸ συμπέρασμα· τὸ συμβεβηκὸς γὰρ ἐνδέχεται μὴ ὑπάρχειν· περὶ τοῦ τοιούτου γὰρ λέγω συμβεβηκότος. καίτοι ἀπορήσειεν ἄν τις ἴσως τίνος ἕνεκα ταῦτα δεῖ ἐρωτᾶν περὶ τούτων, εἰ μὴ ἀνάγκη τὸ συμπέρασμα εἶναι· οὐδὲν γὰρ διαφέρει εἴ τις ἐρόμενος τὰ τυχόντα εἶτα εἴπειεν τὸ συμπέρασμα. δεῖ δ' ἐρωτᾶν οὐχ ὡς ἀναγκαῖον εἶναι διὰ τὰ ἠρωτημένα, ἀλλ' ὅτι λέγειν ἀνάγκη τῷ ἐκεῖνα λέγοντι, καὶ ἀληθῶς λέγειν, ἐὰν ἀληθῶς ᾖ ὑπάρχοντα.

Ἐπεὶ δ' ἐξ ἀνάγκης ὑπάρχει περὶ ἕκαστον γένος ὅσα καθ' αὑτὰ ὑπάρχει καὶ ᾗ ἕκαστον, φανερὸν ὅτι περὶ τῶν καθ' αὑτὰ ὑπαρχόντων αἱ ἐπιστημονικαὶ ἀποδείξεις καὶ ἐκ τῶν τοιούτων εἰσίν. τὰ μὲν γὰρ συμβεβηκότα οὐκ ἀναγκαῖα, ὥστ' οὐκ ἀνάγκη τὸ συμπέρασμα εἰδέναι διότι ὑπάρχει, οὐδ' εἰ ἀεὶ εἴη, μὴ καθ' αὑτὸ δέ, οἷον οἱ διὰ σημείων συλλογισμοί. τὸ γὰρ καθ' αὑτὸ οὐ καθ' αὑτὸ ἐπιστήσεται, οὐδὲ διότι (τὸ δὲ διότι ἐπίστασθαί ἐστι τὸ διὰ τοῦ αἰτίου ἐπίστασθαι), δι' αὑτὸ ἄρα δεῖ καὶ τὸ μέσον τῷ τρίτῳ καὶ τὸ πρῶτον τῷ μέσῳ ὑπάρχειν.

Κεφάλαιο 7

Οὐκ ἄρα ἔστιν ἐξ ἄλλου γένους μεταβάντα δεῖξαι, οἷον τὸ γεωμετρικὸν ἀριθμητικῇ. τρία γάρ ἐστι τὰ ἐν ταῖς ἀποδείξεσιν, ἓν μὲν τὸ ἀποδεικνύμενον, τὸ συμπέρασμα (τοῦτο δ’ ἐστὶ τὸ ὑπάρχον γένει τινὶ καθ’ αὑτό), ἓν δὲ τὰ ἐξιώματα (ἀξιώματα δ’ ἐστὶν ἐξ ὧν)· τρίτον τὸ γένος τὸ ὑποκείμενον, (75b.) οὗ τὰ πάθη καὶ τὰ καθ’ αὑτὰ συμβεβηκότα δηλοῖ ἡ ἀπόδειξις. ἐξ ὧν μὲν οὖν ἡ ἀπόδειξις, ἐνδέχεται τὰ αὐτὰ εἶναι· ὧν δὲ τὸ γένος ἕτερον, ὥσπερ ἀριθμητικῆς καὶ γεωμετρίας, οὐκ ἔστι τὴν ἀριθμητικὴν ἀπόδειξιν ἐφαρμόσαι ἐπὶ τὰ τοῖς μεγέθεσι συμβεβηκότα, εἰ μὴ τὰ μεγέθη ἀριθμοί εἰσι· τοῦτο δ’ ὡς ἐνδέχεται ἐπί τινων, ὕστερον λεχθήσεται. ἡ δ’ ἀριθμητικὴ ἀπόδειξις ἀεὶ ἔχει τὸ γένος περὶ ὃ ἡ ἀπόδειξις, καὶ αἱ ἄλλαι ὁμοίως. ὥστ’ ἢ ἁπλῶς ἀνάγκη τὸ αὐτὸ εἶναι γένος ἢ πῇ, εἰ μέλλει ἡ ἀπόδειξις μεταβαίνειν. ἄλλως δ’ ὅτι ἀδύνατον, δῆλον· ἐκ γὰρ τοῦ αὐτοῦ γένους ἀνάγκη τὰ ἄκρα καὶ τὰ μέσα εἶναι. εἰ γὰρ μὴ καθ’ αὑτά, συμβεβηκότα ἔσται. διὰ τοῦτο τῇ γεωμετρίᾳ οὐκ ἔστι δεῖξαι ὅτι τῶν ἐναντίων μία ἐπιστήμη, ἀλλ’ οὐδ’ ὅτι οἱ δύο κύβοι κύβος· οὐδ’ ἄλλῃ ἐπιστήμῃ τὸ ἑτέρας, ἀλλ’ ἢ ὅσα οὕτως ἔχει πρὸς ἄλληλα ὥστ’ εἶναι θάτερον ὑπὸ θάτερον, οἷον τὰ ὀπτικὰ πρὸς γεωμετρίαν καὶ τὰ ἁρμονικὰ πρὸς ἀριθμητικήν. οὐδ’ εἴ τι ὑπάρχει ταῖς γραμμαῖς μὴ ᾗ γραμμαὶ καὶ ᾗ ἐκ τῶν ἀρχῶν τῶν ἰδίων, οἷον εἰ καλλίστη τῶν γραμμῶν ἡ εὐθεῖα ἢ εἰ ἐναντίως ἔχει τῇ περιφερεῖ· οὐ γὰρ ᾗ τὸ ἴδιον γένος αὐτῶν, ὑπάρχει, ἀλλ’ ᾗ κοινόν τι.

Κεφάλαιο 8

Φανερὸν δὲ καὶ ἐὰν ὦσιν αἱ προτάσεις καθόλου ἐξ ὧν ὁ συλλογισμός, ὅτι ἀνάγκη καὶ τὸ συμπέρασμα ἀΐδιον εἶναι τῆς τοιαύτης ἀποδείξεως καὶ τῆς ἁπλῶς εἰπεῖν ἀποδείξεως. οὐκ ἔστιν ἄρα ἀπόδειξις τῶν φθαρτῶν οὐδ' ἐπιστήμη ἁπλῶς, ἀλλ' οὕτως ὥσπερ κατὰ συμβεβηκός, ὅτι οὐ καθ' ὅλου αὐτοῦ ἐστιν ἀλλὰ ποτὲ καὶ πώς. ὅταν δ' ᾖ, ἀνάγκη τὴν ἑτέραν μὴ καθόλου εἶναι πρότασιν καὶ φθαρτήν-φθαρτὴν μὲν ὅτι ἔσται καὶ τὸ συμπέρασμα οὔσης, μὴ καθόλου δὲ ὅτι τῷ μὲν ἔσται τῷ δ' οὐκ ἔσται ἐφ' ὧν-ὥστ' οὐκ ἔστι συλλογίσασθαι καθόλου, ἀλλ' ὅτι νῦν. ὁμοίως δ' ἔχει καὶ περὶ ὁρισμούς, ἐπείπερ ἐστὶν ὁ ὁρισμὸς ἢ ἀρχὴ ἀποδείξεως ἢ ἀπόδειξις θέσει διαφέρουσα ἢ συμπέρασμά τι ἀποδείξεως. αἱ δὲ τῶν πολλάκις γινομένων ἀποδείξεις καὶ ἐπιστῆμαι, οἷον σελήνης ἐκλείψεως, δῆλον ὅτι ᾗ μὲν τοιοῦδ' εἰσίν, ἀεὶ εἰσίν, ᾗ δ' οὐκ ἀεί, κατὰ μέρος εἰσίν. ὥσπερ δ' ἡ ἔκλειψις, ὡσαύτως τοῖς ἄλλοις.

Κεφάλαιο 9

Ἐπεὶ δὲ φανερὸν ὅτι ἕκαστον ἀποδεῖξαι οὐκ ἔστιν ἀλλ’ ἢ ἐκ τῶν ἑκάστου ἀρχῶν, ἂν τὸ δεικνύμενον ὑπάρχῃ ᾗ ἐκεῖνο, οὐκ ἔστι τὸ ἐπίστασθαι τοῦτο, ἂν ἐξ ἀληθῶν καὶ ἀναποδείκτων δειχθῇ καὶ ἀμέσων. ἔστι γὰρ οὕτω δεῖξαι, ὥσπερ Βρύσων τὸν τετραγωνισμόν. κατὰ κοινόν τε γὰρ δεικνύουσιν οἱ τοιοῦτοι λόγοι, ὃ καὶ ἑτέρῳ ὑπάρξει· διὸ καὶ ἐπ’ ἄλλων ἐφαρμόττουσιν (76a.)οἱ λόγοι οὐ συγγενῶν. οὐκοῦν οὐχ ᾗ ἐκεῖνο ἐπίσταται, ἀλλὰ κατὰ συμβεβηκός· οὐ γὰρ ἂν ἐφήρμοττεν ἡ ἀπόδειξις καὶ ἐπ’ ἄλλο γένος.

Ἕκαστον δ’ ἐπιστάμεθα μὴ κατὰ συμβεβηκός, ὅταν κατ’ ἐκεῖνο γινώσκωμεν καθ’ ὃ ὑπάρχει, ἐκ τῶν ἀρχῶν τῶν ἐκείνου ᾗ ἐκεῖνο, οἷον τὸ δυσὶν ὀρθαῖς ἴσας ἔχειν, ᾧ ὑπάρχει καθ’ αὑτὸ τὸ εἰρημένον, ἐκ τῶν ἀρχῶν τῶν τούτου. ὥστ’ εἰ καθ’ αὑτὸ κἀκεῖνο ὑπάρχει ᾧ ὑπάρχει, ἀνάγκη τὸ μέσον ἐν τῇ αὐτῇ συγγενείᾳ εἶναι. εἰ δὲ μή, ἀλλ’ ὡς τὰ ἁρμονικὰ δι’ ἀριθμητικῆς. τὰ δὲ τοιαῦτα δείκνυται μὲν ὡσαύτως, διαφέρει δέ· τὸ μὲν γὰρ ὅτι ἑτέρας ἐπιστήμης (τὸ γὰρ ὑποκείμενον γένος ἕτερον), τὸ δὲ διότι τῆς ἄνω, ἧς καθ’ αὑτὰ τὰ πάθη ἐστίν. ὥστε καὶ ἐκ τούτων φανερὸν ὅτι οὐκ ἔστιν ἀποδεῖξαι ἕκαστον ἁπλῶς ἀλλ’ ἢ ἐκ τῶν ἑκάστου ἀρχῶν. ἀλλὰ τούτων αἱ ἀρχαὶ ἔχουσι τὸ κοινόν.

Εἰ δὲ φανερὸν τοῦτο, φανερὸν καὶ ὅτι οὐκ ἔστι τὰς ἑκάστου ἰδίας ἀρχὰς ἀποδεῖξαι· ἔσονται γὰρ ἐκεῖναι ἁπάντων ἀρχαί, καὶ ἐπιστήμη ἡ ἐκείνων κυρία πάντων. καὶ γὰρ ἐπίσταται μᾶλλον ὁ ἐκ τῶν ἀνώτερον αἰτίων εἰδώς· ἐκ τῶν προτέρων γὰρ οἶδεν, ὅταν ἐκ μὴ αἰτιατῶν εἰδῇ αἰτίων. ὥστ’ εἰ μᾶλλον οἶδε καὶ μάλιστα, κἂν ἐπιστήμη ἐκείνη εἴη καὶ μᾶλλον καὶ μάλιστα. ἡ δ’ ἀπόδειξις οὐκ ἐφαρμόττει ἐπ’ ἄλλο γένος, ἀλλ’ ἢ ὡς εἴρηται αἱ γεωμετρικαὶ ἐπὶ τὰς μηχανικὰς ἢ ὀπτικὰς καὶ αἱ ἀριθμητικαὶ ἐπὶ τὰς ἁρμονικάς.

Χαλεπὸν δ’ ἐστὶ τὸ γνῶναι εἰ οἶδεν ἢ μή. χαλεπὸν γὰρ τὸ γνῶναι εἰ ἐκ τῶν ἑκάστου ἀρχῶν ἴσμεν ἢ μή· ὅπερ ἐστὶ τὸ εἰδέναι. οἰόμεθα δ’, ἂν ἔχωμεν ἐξ ἀληθινῶν τινῶν συλλογισμὸν καὶ πρώτων, ἐπίστασθαι. τὸ δ’ οὐκ ἔστιν, ἀλλὰ συγγενῆ δεῖ εἶναι τοῖς πρώτοις.

Κεφάλαιο 10

Λέγω δ’ ἀρχὰς ἐν ἑκάστῳ γένει ταύτας ἃς ὅτι ἔστι μὴ ἐνδέχεται δεῖξαι. τί μὲν οὖν σημαίνει καὶ τὰ πρῶτα καὶ τὰ ἐκ τούτων, λαμβάνεται, ὅτι δ’ ἔστι, τὰς μὲν ἀρχὰς ἀνάγκη λαμβάνειν, τὰ δ’ ἄλλα δεικνύναι· οἷον τί μονὰς ἢ τί τὸ εὐθὺ καὶ τρίγωνον, εἶναι δὲ τὴν μονάδα λαβεῖν καὶ μέγεθος, τὰ δ’ ἕτερα δεικνύναι.

Ἔστι δ’ ὧν χρῶνται ἐν ταῖς ἀποδεικτικαῖς ἐπιστήμαις τὰ μὲν ἴδια ἑκάστης ἐπιστήμης τὰ δὲ κοινά, κοινὰ δὲ κατ’ ἀναλογίαν, ἐπεὶ χρήσιμόν γε ὅσον ἐν τῷ ὑπὸ τὴν ἐπιστήμην γένει· ἴδια μὲν οἷον γραμμὴν εἶναι τοιανδὶ καὶ τὸ εὐθύ, κοινὰ δὲ οἷον τὸ ἴσα ἀπὸ ἴσων ἂν ἀφέλῃ, ὅτι ἴσα τὰ λοιπά. ἱκανὸν δ’ ἕκαστον τούτων ὅσον ἐν τῷ γένει· ταὐτὸ γὰρ ποιήσει, (76b.) κἂν μὴ κατὰ πάντων λάβῃ ἀλλ’ ἐπὶ μεγεθῶν μόνον, τῷ δ’ ἀριθμητικῷ ἐπ’ ἀριθμῶν.

Ἔστι δ’ ἴδια μὲν καὶ ἃ λαμβάνεται εἶναι, περὶ ἃ ἡ ἐπιστήμη θεωρεῖ τὰ ὑπάρχοντα καθ’ αὑτά, οἷον μονάδας ἡ ἀριθμητική, ἡ δὲ γεωμετρία σημεῖα καὶ γραμμάς. ταῦτα γὰρ λαμβάνουσι τὸ εἶναι καὶ τοδὶ εἶναι. τὰ δὲ τούτων πάθη καθ’ αὑτά, τί μὲν σημαίνει ἕκαστον, λαμβάνουσιν, οἷον ἡ μὲν ἀριθμητικὴ τί περιττὸν ἢ ἄρτιον ἢ τετράγωνον ἢ κύβος, ἡ δὲ γεωμετρία τί τὸ ἄλογον ἢ τὸ κεκλάσθαι ἢ νεύειν, ὅτι δ’ ἔστι, δεικνύουσι διά τε τῶν κοινῶν καὶ ἐκ τῶν ἀποδεδειγμένων. καὶ ἡ ἀστρολογία ὡσαύτως. πᾶσα γὰρ ἀποδεικτικὴ ἐπιστήμη περὶ τρία ἐστίν, ὅσα τε εἶναι τίθεται (ταῦτα δ’ ἐστὶ τὸ γένος, οὗ τῶν καθ’ αὑτὰ παθημάτων ἐστὶ θεωρητική), καὶ τὰ κοινὰ λεγόμενα ἀξιώματα, ἐξ ὧν πρώτων ἀποδείκνυσι, καὶ τρίτον τὰ πάθη, ὧν τί σημαίνει ἕκαστον λαμβάνει. ἐνίας μέντοι ἐπιστήμας οὐδὲν κωλύει ἔνια τούτων παρορᾶν, οἷον τὸ γένος μὴ ὑποτίθεσθαι εἶναι, ἂν ᾖ φανερὸν ὅτι ἔστιν (οὐ γὰρ ὁμοίως δῆλον ὅτι ἀριθμὸς ἔστι καὶ ὅτι ψυχρὸν καὶ θερμόν), καὶ τὰ πάθη μὴ λαμβάνειν τί σημαίνει, ἂν ᾖ δῆλα· ὥσπερ οὐδὲ τὰ κοινὰ οὐ λαμβάνει τί σημαίνει τὸ ἴσα ἀπὸ ἴσων ἀφελεῖν, ὅτι γνώριμον. ἀλλ’ οὐδὲν ἧττον τῇ γε φύσει τρία ταῦτά ἐστι, περὶ ὅ τε δείκνυσι καὶ ἃ δείκνυσι καὶ ἐξ ὧν.

Οὐκ ἔστι δ’ ὑπόθεσις οὐδ’ αἴτημα, ὃ ἀνάγκη εἶναι δι’ αὑτὸ καὶ δοκεῖν ἀνάγκη. οὐ γὰρ πρὸς τὸν ἔξω λόγον ἡ ἀπόδειξις, ἀλλὰ πρὸς τὸν ἐν τῇ ψυχῇ, ἐπεὶ οὐδὲ συλλογισμός. ἀεὶ γὰρ ἔστιν ἐνστῆναι πρὸς τὸν ἔξω λόγον, ἀλλὰ πρὸς τὸν ἔσω λόγον οὐκ ἀεί. ὅσα μὲν οὖν δεικτὰ ὄντα λαμβάνει αὐτὸς μὴ δείξας, ταῦτ’, ἐὰν μὲν δοκοῦντα λαμβάνῃ τῷ μανθάνοντι, ὑποτίθεται, καὶ ἔστιν οὐχ ἁπλῶς ὑπόθεσις ἀλλὰ πρὸς ἐκεῖνον μόνον, ἂν δὲ ἢ μηδεμιᾶς ἐνούσης δόξης ἢ καὶ ἐναντίας ἐνούσης λαμβάνῃ τὸ αὐτό, αἰτεῖται. καὶ τούτῳ διαφέρει ὑπόθεσις καὶ αἴτημα· ἔστι γὰρ αἴτημα τὸ ὑπεναντίον τοῦ μανθάνοντος τῇ δόξῃ, ἢ ὃ ἄν τις ἀποδεικτὸν ὂν λαμβάνῃ καὶ χρῆται μὴ δείξας.

Οἱ μὲν οὖν ὅροι οὐκ εἰσὶν ὑποθέσεις (οὐδὲν γὰρ εἶναι ἢ μὴ λέγεται), ἀλλ’ ἐν ταῖς προτάσεσιν αἱ ὑποθέσεις, τοὺς δ’ ὅρους μόνον ξυνίεσθαι δεῖ· τοῦτο δ’ οὐχ ὑπόθεσις (εἰ μὴ καὶ τὸ ἀκούειν ὑπόθεσίν τις εἶναι φήσει), ἀλλ’ ὅσων ὄντων τῷ ἐκεῖνα εἶναι γίνεται τὸ συμπέρασμα. (οὐδ’ ὁ γεωμέτρης ψευδῆ ὑποτίθεται, ὥσπερ τινὲς ἔφασαν, λέγοντες ὡς οὐ δεῖ τῷ ψεύδει χρῆσθαι, τὸν δὲ γεωμέτρην ψεύδεσθαι λέγοντα ποδιαίαν τὴν οὐ ποδιαίαν ἢ εὐθεῖαν τὴν γεγραμμένην οὐκ εὐθεῖαν (77a.) οὖσαν. ὁ δὲ γεωμέτρης οὐδὲν συμπεραίνεται τῷ τήνδε εἶναι γραμμὴν ἣν αὐτὸς ἔφθεγκται, ἀλλὰ τὰ διὰ τούτων δηλούμενα.) ἔτι τὸ αἴτημα καὶ ὑπόθεσις πᾶσα ἢ ὡς ὅλον ἢ ὡς ἐν μέρει, οἱ δ’ ὅροι οὐδέτερον τούτων.

Κεφάλαιο 11

Εἴδη μὲν οὖν εἶναι ἢ ἕν τι παρὰ τὰ πολλὰ οὐκ ἀνάγκη, εἰ ἀπόδειξις ἔσται, εἶναι μέντοι ἓν κατὰ πολλῶν ἀληθὲς εἰπεῖν ἀνάγκη - οὐ γὰρ ἔσται τὸ καθόλου, ἂν μὴ τοῦτο ᾖ - ἐὰν δὲ τὸ καθόλου μὴ ᾖ, τὸ μέσον οὐκ ἔσται, ὥστ' οὐδ' ἀπόδειξις. δεῖ ἄρα τι ἓν καὶ τὸ αὐτὸ ἐπὶ πλειόνων εἶναι μὴ ὁμώνυμον. τὸ δὲ μὴ ἐνδέχεσθαι ἅμα φάναι καὶ ἀποφάναι οὐδεμία λαμβάνει ἀπόδειξις, ἀλλ' ἢ ἐὰν δέῃ δεῖξαι καὶ τὸ συμπέρασμα οὕτως. δείκνυται δὲ λαβοῦσι τὸ πρῶτον κατὰ τοῦ μέσου, ὅτι ἀληθές, ἀποφάναι δ' οὐκ ἀληθές. τὸ δὲ μέσον οὐδὲν διαφέρει εἶναι καὶ μὴ εἶναι λαβεῖν, ὡς δ' αὔτως καὶ τὸ τρίτον. εἰ γὰρ ἐδόθη, καθ' οὗ ἄνθρωπον ἀληθὲς εἰπεῖν, εἰ καὶ μὴ ἄνθρωπον ἀληθές, ἀλλ' εἰ μόνον ἄνθρωπον ζῷον εἶναι, μὴ ζῷον δὲ μή, ἔσται [γὰρ] ἀληθὲς εἰπεῖν Καλλίαν, εἰ καὶ μὴ Καλλίαν, ὅμως ζῷον, μὴ ζῷον δ' οὔ. αἴτιον δ' ὅτι τὸ πρῶτον οὐ μόνον κατὰ τοῦ μέσου λέγεται ἀλλὰ καὶ κατ' ἄλλου διὰ τὸ εἶναι ἐπὶ πλειόνων, ὥστ' οὐδ' εἰ τὸ μέσον καὶ αὐτό ἐστι καὶ μὴ αὐτό, πρὸς τὸ συμπέρασμα οὐδὲν διαφέρει. τὸ δ' ἅπαν φάναι ἢ ἀποφάναι ἡ εἰς τὸ ἀδύνατον ἀπόδειξις λαμβάνει, καὶ ταῦτα οὐδ' ἀεὶ καθόλου, ἀλλ' ὅσον ἱκανόν, ἱκανὸν δ' ἐπὶ τοῦ γένους. λέγω δ' ἐπὶ τοῦ γένους οἷον περὶ ὃ γένος τὰς ἀποδείξεις φέρει, ὥσπερ εἴρηται καὶ πρότερον.

Ἐπικοινωνοῦσι δὲ πᾶσαι αἱ ἐπιστῆμαι ἀλλήλαις κατὰ τὰ κοινά (κοινὰ δὲ λέγω οἷς χρῶνται ὡς ἐκ τούτων ἀποδεικνύντες, ἀλλ' οὐ περὶ ὧν δεικνύουσιν οὐδ' ὃ δεικνύουσιν), καὶ ἡ διαλεκτικὴ πάσαις, καὶ εἴ τις καθόλου πειρῷτο δεικνύναι τὰ κοινά, οἷον ὅτι ἅπαν φάναι ἢ ἀποφάναι, ἢ ὅτι ἴσα ἀπὸ ἴσων, ἢ τῶν τοιούτων ἄττα. ἡ δὲ διαλεκτικὴ οὐκ ἔστιν οὕτως ὡρισμένων τινῶν, οὐδὲ γένους τινὸς ἑνός. οὐ γὰρ ἂν ἠρώταο ἀποδεικνύντα γὰρ οὐκ ἔστιν ἐρωτᾶν διὰ τὸ τῶν ἀντικειμένων ὄντων μὴ δείκνυσθαι τὸ αὐτό. δέδεικται δὲ τοῦτο ἐν τοῖς περὶ συλλογισμοῦ.

Κεφάλαιο 12

Εἰ δὲ τὸ αὐτό ἐστιν ἐρώτημα συλλογιστικὸν καὶ πρότασις ἀντιφάσεως, προτάσεις δὲ καθ’ ἑκάστην ἐπιστήμην ἐξ ὧν ὁ συλλογισμὸς ὁ καθ’ ἑκάστην, εἴη ἄν τι ἐρώτημα ἐπιστημονικόν, ἐξ ὧν ὁ καθ’ ἑκάστην οἰκεῖος γίνεται συλλογισμός. δῆλον ἄρα ὅτι οὐ πᾶν ἐρώτημα γεωμετρικὸν ἂν εἴη οὐδ’ ἰατρικόν, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· ἀλλ’ ἐξ (77b.) ὧν δείκνυταί τι περὶ ὧν ἡ γεωμετρία ἐστίν, ἢ ἃ ἐκ τῶν αὐτῶν δείκνυται τῇ γεωμετρίᾳ, ὥσπερ τὰ ὀπτικά. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. καὶ περὶ μὲν τούτων καὶ λόγον ὑφεκτέον ἐκ τῶν γεωμετρικῶν ἀρχῶν καὶ συμπερασμάτων, περὶ δὲ τῶν ἀρχῶν λόγον οὐχ ὑφεκτέον τῷ γεωμέτρῃ ᾗ γεωμέτρης· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων ἐπιστημῶν. οὔτε πᾶν ἄρα ἕκαστον ἐπιστήμονα ἐρώτημα ἐρωτητέον, οὔθ’ ἅπαν τὸ ἐρωτώμενον ἀποκριτέον περὶ ἑκάστου, ἀλλὰ τὰ κατὰ τὴν ἐπιστήμην διορισθέντα. εἰ δὲ διαλέξεται γεωμέτρῃ ᾗ γεωμέτρης οὕτως, φανερὸν ὅτι καὶ καλῶς, ἐὰν ἐκ τούτων τι δεικνύῃ· εἰ δὲ μή, οὐ καλῶς. δῆλον δ’ ὅτι οὐδ’ ἐλέγχει γεωμέτρην ἀλλ’ ἢ κατὰ συμβεβηκός· ὥστ’ οὐκ ἂν εἴη ἐν ἀγεωμετρήτοις περὶ γεωμετρίας διαλεκτέον· λήσει γὰρ ὁ φαύλως διαλεγόμενος. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων ἔχει ἐπιστημῶν.

Ἐπεὶ δ’ ἔστι γεωμετρικὰ ἐρωτήματα, ἆρ’ ἔστι καὶ ἀγεωμέτρητα; καὶ παρ’ ἑκάστην ἐπιστήμην τὰ κατὰ τὴν ἄγνοιαν τὴν ποίαν γεωμετρικά ἐστιν; καὶ πότερον ὁ κατὰ τὴν ἄγνοιαν συλλογισμὸς ὁ ἐκ τῶν ἀντικειμένων συλλογισμός, ἢ ὁ παραλογισμός, κατὰ γεωμετρίαν δέ, ἢ <ὁ> ἐξ ἄλλης τέχνης, οἷον τὸ μουσικόν ἐστιν ἐρώτημα ἀγεωμέτρητον περὶ γεωμετρίας, τὸ δὲ τὰς παραλλήλους συμπίπτειν οἴεσθαι γεωμετρικόν πως καὶ ἀγεωμέτρητον ἄλλον τρόπον; διττὸν γὰρ τοῦτο, ὥσπερ τὸ ἄρρυθμον, καὶ τὸ μὲν ἕτερον ἀγεωμέτρητον τῷ μὴ ἔχειν [ὥσπερ τὸ ἄρρυθμον], τὸ δ’ ἕτερον τῷ φαύλως ἔχειν· καὶ ἡ ἄγνοια αὕτη καὶ ἡ ἐκ τῶν τοιούτων ἀρχῶν ἐναντία. ἐν δὲ τοῖς μαθήμασιν οὐκ ἔστιν ὁμοίως ὁ παραλογισμός, ὅτι τὸ μέσον ἐστὶν ἀεὶ τὸ διττόν· κατά τε γὰρ τούτου παντός, καὶ τοῦτο πάλιν κατ’ ἄλλου λέγεται παντός (τὸ δὲ κατηγορούμενον οὐ λέγεται πᾶν), ταῦτα δ’ ἔστιν οἷον ὁρᾶν τῇ νοήσει, ἐν δὲ τοῖς λόγοις λανθάνει. ἆρα πᾶς κύκλος σχῆμα; ἂν δὲ γράψῃ, δῆλον. τί δέ; τὰ ἔπη κύκλος; φανερὸν ὅτι οὐκ ἔστιν.

Οὐ δεῖ δ’ ἔνστασιν εἰς αὐτὸ φέρειν, ἂν ᾖ ἡ πρότασις ἐπακτική. ὥσπερ γὰρ οὐδὲ πρότασίς ἐστιν ἣ μὴ ἔστιν ἐπὶ πλειόνων (οὐ γὰρ ἔσται ἐπὶ πάντων, ἐκ τῶν καθόλου δ’ ὁ συλλογισμός), δῆλον ὅτι οὐδ’ ἔνστασις. αἱ αὐταὶ γὰρ προτάσεις καὶ ἐνστάσεις· ἣν γὰρ φέρει ἔνστασιν, αὕτη γένοιτ’ ἂν πρότασις ἢ ἀποδεικτικὴ ἢ διαλεκτική.

Συμβαίνει δ’ ἐνίους ἀσυλλογίστως λέγειν διὰ τὸ λαμβάνειν ἀμφοτέροις τὰ ἑπόμενα, οἷον καὶ ὁ Καινεὺς ποιεῖ, (78a.) ὅτι τὸ πῦρ ἐν τῇ πολλαπλασίᾳ ἀναλογίᾳ· καὶ γὰρ τὸ πῦρ ταχὺ γεννᾶται, ὥς φησι, καὶ αὕτη ἡ ἀναλογία. οὕτω δ’ οὐκ ἔστι συλλογισμός· ἀλλ’ εἰ τῇ ταχίστῃ ἀναλογίᾳ ἕπεται ἡ πολλαπλάσιος καὶ τῷ πυρὶ ἡ ταχίστη ἐν τῇ κινήσει ἀναλογία. ἐνίοτε μὲν οὖν οὐκ ἐνδέχεται συλλογίσασθαι ἐκ τῶν εἰλημμένων, ὁτὲ δ’ ἐνδέχεται, ἀλλ’ οὐχ ὁρᾶται.

Εἰ δ’ ἦν ἀδύνατον ἐκ ψεύδους ἀληθὲς δεῖξαι, ῥᾴδιον ἂν ἦν τὸ ἀναλύειν· ἀντέστρεφε γὰρ ἂν ἐξ ἀνάγκης. ἔστω γὰρ τὸ Α ὄν· τούτου δ’ ὄντος ταδὶ ἔστιν, ἃ οἶδα ὅτι ἔστιν, οἷον τὸ Β. ἐκ τούτων ἄρα δείξω ὅτι ἔστιν ἐκεῖνο. ἀντιστρέφει δὲ μᾶλλον τὰ ἐν τοῖς μαθήμασιν, ὅτι οὐδὲν συμβεβηκὸς λαμβάνουσιν (ἀλλὰ καὶ τούτῳ διαφέρουσι τῶν ἐν τοῖς διαλόγοις) ἀλλ’ ὁρισμούς. Αὔξεται δ’ οὐ διὰ τῶν μέσων, ἀλλὰ τῷ προσλαμβάνειν, οἷον τὸ Α τοῦ Β, τοῦτο δὲ τοῦ Γ, πάλιν τοῦτο τοῦ Δ, καὶ τοῦτ’ εἰς ἄπειρον· καὶ εἰς τὸ πλάγιον, οἷον τὸ Α καὶ κατὰ τοῦ Γ καὶ κατὰ τοῦ Ε, οἷον ἔστιν ἀριθμὸς ποσὸς ἢ καὶ ἄπειρος τοῦτο ἐφ’ ᾧ Α, ὁ περιττὸς ἀριθμὸς ποσὸς ἐφ’ οὗ Β, ἀριθμὸς περιττὸς ἐφ’ οὗ Γ· ἔστιν ἄρα τὸ Α κατὰ τοῦ Γ. καὶ ἔστιν ὁ ἄρτιος ποσὸς ἀριθμὸς ἐφ’ οὗ Δ, ὁ ἄρτιος ἀριθμὸς ἐφ’ οὗ Ε· ἔστιν ἄρα τὸ Α κατὰ τοῦ Ε.

Κεφάλαιο 13

Τὸ δ’ ὅτι διαφέρει καὶ τὸ διότι ἐπίστασθαι, πρῶτον μὲν ἐν τῇ αὐτῇ ἐπιστήμῃ, καὶ ἐν ταύτῃ διχῶς, ἕνα μὲν τρόπον ἐὰν μὴ δι’ ἀμέσων γίνηται ὁ συλλογισμός (οὐ γὰρ λαμβάνεται τὸ πρῶτον αἴτιον, ἡ δὲ τοῦ διότι ἐπιστήμη κατὰ τὸ πρῶτον αἴτιον), ἄλλον δὲ εἰ δι’ ἀμέσων μέν, ἀλλὰ μὴ διὰ τοῦ αἰτίου ἀλλὰ τῶν ἀντιστρεφόντων διὰ τοῦ γνωριμωτέρου. κωλύει γὰρ οὐδὲν τῶν ἀντικατηγορουμένων γνωριμώτερον εἶναι ἐνίοτε τὸ μὴ αἴτιον, ὥστ’ ἔσται διὰ τούτου ἡ ἀπόδειξις, οἷον ὅτι ἐγγὺς οἱ πλάνητες διὰ τοῦ μὴ στίλβειν. ἔστω ἐφ’ ᾧ Γ πλάνητες, ἐφ’ ᾧ Β τὸ μὴ στίλβειν, ἐφ’ ᾧ Α τὸ ἐγγὺς εἶναι. ἀληθὲς δὴ τὸ Β κατὰ τοῦ Γ εἰπεῖν· οἱ γὰρ πλάνητες οὐ στίλβουσιν. ἀλλὰ καὶ τὸ Α κατὰ τοῦ Β· τὸ γὰρ μὴ στίλβον ἐγγύς ἐστι· τοῦτο δ’ εἰλήφθω δι’ ἐπαγωγῆς ἢ δι’ αἰσθήσεως. ἀνάγκη οὖν τὸ Α τῷ Γ ὑπάρχειν, ὥστ’ ἀποδέδεικται ὅτι οἱ πλάνητες ἐγγύς εἰσιν. οὗτος οὖν ὁ συλλογισμὸς οὐ τοῦ διότι ἀλλὰ τοῦ ὅτι ἐστίν· οὐ γὰρ διὰ τὸ μὴ στίλβειν ἐγγύς εἰσιν, ἀλλὰ διὰ τὸ ἐγγὺς εἶναι οὐ στίλβουσιν. ἐγχωρεῖ δὲ καὶ διὰ θατέρου θάτερον δειχθῆναι, καὶ ἔσται τοῦ διότι ἡ ἀπόδειξις, οἷον ἔστω τὸ Γ πλάνητες, ἐφ’ ᾧ Β (78b.) τὸ ἐγγὺς εἶναι, τὸ Α τὸ μὴ στίλβειν· ὑπάρχει δὴ καὶ τὸ Β τῷ Γ καὶ τὸ Α τῷ Β, ὥστε καὶ τῷ Γ τὸ Α [τὸ μὴ στίλβειν]. καὶ ἔστι τοῦ διότι ὁ συλλογισμός· εἴληπται γὰρ τὸ πρῶτον αἴτιον. πάλιν ὡς τὴν σελήνην δεικνύουσιν ὅτι σφαιροειδής, διὰ τῶν αὐξήσεων-εἰ γὰρ τὸ αὐξανόμενον οὕτω σφαιροειδές, αὐξάνει δ’ ἡ σελήνη, φανερὸν ὅτι σφαιροειδής-οὕτω μὲν οὖν τοῦ ὅτι γέγονεν ὁ συλλογισμός, ἀνάπαλιν δὲ τεθέντος τοῦ μέσου τοῦ διότι· οὐ γὰρ διὰ τὰς αὐξήσεις σφαιροειδής ἐστιν, ἀλλὰ διὰ τὸ σφαιροειδὴς εἶναι λαμβάνει τὰς αὐξήσεις τοιαύτας. σελήνη ἐφ’ ᾧ Γ, σφαιροειδὴς ἐφ’ ᾧ Β, αὔξησις ἐφ’ ᾧ Α. ἐφ’ ὧν δὲ τὰ μέσα μὴ ἀντιστρέφει καὶ ἔστι γνωριμώτερον τὸ ἀναίτιον, τὸ ὅτι μὲν δείκνυται, τὸ διότι δ’ οὔ.

Ἔτι ἐφ’ ὧν τὸ μέσον ἔξω τίθεται. καὶ γὰρ ἐν τούτοις τοῦ ὅτι καὶ οὐ τοῦ διότι ἡ ἀπόδειξις· οὐ γὰρ λέγεται τὸ αἴτιον. οἷον διὰ τί οὐκ ἀναπνεῖ ὁ τοῖχος; ὅτι οὐ ζῷον. εἰ γὰρ τοῦτο τοῦ μὴ ἀναπνεῖν αἴτιον, ἔδει τὸ ζῷον εἶναι αἴτιον τοῦ ἀναπνεῖν, οἷον εἰ ἡ ἀπόφασις αἰτία τοῦ μὴ ὑπάρχειν, ἡ κατάφασις τοῦ ὑπάρχειν, ὥσπερ εἰ τὸ ἀσύμμετρα εἶναι τὰ θερμὰ καὶ τὰ ψυχρὰ τοῦ μὴ ὑγιαίνειν, τὸ σύμμετρα εἶναι τοῦ ὑγιαίνειν, -ὁμοίως δὲ καὶ εἰ ἡ κατάφασις τοῦ ὑπάρχειν, ἡ ἀπόφασις τοῦ μὴ ὑπάρχειν. ἐπὶ δὲ τῶν οὕτως ἀποδεδομένων οὐ συμβαίνει τὸ λεχθέν· οὐ γὰρ ἅπαν ἀναπνεῖ ζῷον. ὁ δὲ συλλογισμὸς γίνεται τῆς τοιαύτης αἰτίας ἐν τῷ μέσῳ σχήματι. οἷον ἔστω τὸ Α ζῷον, ἐφ’ ᾧ Β τὸ ἀναπνεῖν, ἐφ’ ᾧ Γ τοῖχος. τῷ μὲν οὖν Β παντὶ ὑπάρχει τὸ Α (πᾶν γὰρ τὸ ἀναπνέον ζῷον), τῷ δὲ Γ οὐθενί, ὥστε οὐδὲ τὸ Β τῷ Γ οὐθενί· οὐκ ἄρα ἀναπνεῖ ὁ τοῖχος. ἐοίκασι δ’ αἱ τοιαῦται τῶν αἰτιῶν τοῖς καθ’ ὑπερβολὴν εἰρημένοις· τοῦτο δ’ ἔστι τὸ πλέον ἀποστήσαντα τὸ μέσον εἰπεῖν, οἷον τὸ τοῦ Ἀναχάρσιος, ὅτι ἐν Σκύθαις οὐκ εἰσὶν αὐλητρίδες, οὐδὲ γὰρ ἄμπελοι.

Κατὰ μὲν δὴ τὴν αὐτὴν ἐπιστήμην καὶ κατὰ τὴν τῶν μέσων θέσιν αὗται διαφοραί εἰσι τοῦ ὅτι πρὸς τὸν τοῦ διότι συλλογισμόν· ἄλλον δὲ τρόπον διαφέρει τὸ διότι τοῦ ὅτι τῷ δι’ ἄλλης ἐπιστήμης ἑκάτερον θεωρεῖν. τοιαῦτα δ’ ἐστὶν ὅσα οὕτως ἔχει πρὸς ἄλληλα ὥστ’ εἶναι θάτερον ὑπὸ θάτερον, οἷον τὰ ὀπτικὰ πρὸς γεωμετρίαν καὶ τὰ μηχανικὰ πρὸς στερεομετρίαν καὶ τὰ ἁρμονικὰ πρὸς ἀριθμητικὴν καὶ τὰ φαινόμενα πρὸς ἀστρολογικήν. σχεδὸν δὲ συνώνυμοί εἰσιν ἔνιαι τούτων τῶν ἐπιστημῶν, οἷον ἀστρολογία ἥ τε μαθηματικὴ (79a.) καὶ ἡ ναυτική, καὶ ἁρμονικὴ ἥ τε μαθηματικὴ καὶ ἡ κατὰ τὴν ἀκοήν. ἐνταῦθα γὰρ τὸ μὲν ὅτι τῶν αἰσθητικῶν εἰδέναι, τὸ δὲ διότι τῶν μαθηματικῶν· οὗτοι γὰρ ἔχουσι τῶν αἰτίων τὰς ἀποδείξεις, καὶ πολλάκις οὐκ ἴσασι τὸ ὅτι, καθάπερ οἱ τὸ καθόλου θεωροῦντες πολλάκις ἔνια τῶν καθ’ ἕκαστον οὐκ ἴσασι δι’ ἀνεπισκεψίαν. ἔστι δὲ ταῦτα ὅσα ἕτερόν τι ὄντα τὴν οὐσίαν κέχρηται τοῖς εἴδεσιν. τὰ γὰρ μαθήματα περὶ εἴδη ἐστίν· οὐ γὰρ καθ’ ὑποκειμένου τινός· εἰ γὰρ καὶ καθ’ ὑποκειμένου τινὸς τὰ γεωμετρικά ἐστιν, ἀλλ’ οὐχ ᾗ γε καθ’ ὑποκειμένου. ἔχει δὲ καὶ πρὸς τὴν ὀπτικήν, ὡς αὕτη πρὸς τὴν γεωμετρίαν, ἄλλη πρὸς ταύτην, οἷον τὸ περὶ τῆς ἴριδος· τὸ μὲν γὰρ ὅτι φυσικοῦ εἰδέναι, τὸ δὲ διότι ὀπτικοῦ, ἢ ἁπλῶς ἢ τοῦ κατὰ τὸ μάθημα. πολλαὶ δὲ καὶ τῶν μὴ ὑπ’ ἀλλήλας ἐπιστημῶν ἔχουσιν οὕτως, οἷον ἰατρικὴ πρὸς γεωμετρίαν· ὅτι μὲν γὰρ τὰ ἕλκη τὰ περιφερῆ βραδύτερον ὑγιάζεται, τοῦ ἰατροῦ εἰδέναι, διότι δὲ τοῦ γεωμέτρου.

Κεφάλαιο 14

Τῶν δὲ σχημάτων ἐπιστημονικὸν μάλιστα τὸ πρῶτόν ἐστιν. αἵ τε γὰρ μαθηματικαὶ τῶν ἐπιστημῶν διὰ τούτου φέρουσι τὰς ἀποδείξεις, οἷον ἀριθμητικὴ καὶ γεωμετρία καὶ ὀπτική, καὶ σχεδὸν ὡς εἰπεῖν ὅσαι τοῦ διότι ποιοῦνται τὴν σκέψιν· ἢ γὰρ ὅλως ἢ ὡς ἐπὶ τὸ πολὺ καὶ ἐν τοῖς πλείστοις διὰ τούτου τοῦ σχήματος ὁ τοῦ διότι συλλογισμός. ὥστε κἂν διὰ τοῦτ’ εἴη μάλιστα ἐπιστημονικόν· κυριώτατον γὰρ τοῦ εἰδέναι τὸ διότι θεωρεῖν. εἶτα τὴν τοῦ τί ἐστιν ἐπιστήμην διὰ μόνου τούτου θηρεῦσαι δυνατόν. ἐν μὲν γὰρ τῷ μέσῳ σχήματι οὐ γίνεται κατηγορικὸς συλλογισμός, ἡ δὲ τοῦ τί ἐστιν ἐπιστήμη καταφάσεως· ἐν δὲ τῷ ἐσχάτῳ γίνεται μὲν ἀλλ’ οὐ καθόλου, τὸ δὲ τί ἐστι τῶν καθόλου ἐστίν· οὐ γὰρ πῇ ἐστι ζῷον δίπουν ὁ ἄνθρωπος. ἔτι τοῦτο μὲν ἐκείνων οὐδὲν προσδεῖται, ἐκεῖνα δὲ διὰ τούτου καταπυκνοῦται καὶ αὔξεται, ἕως ἂν εἰς τὰ ἄμεσα ἔλθῃ. φανερὸν οὖν ὅτι κυριώτατον τοῦ ἐπίστασθαι τὸ πρῶτον σχῆμα.

Κεφάλαιο 15

Ὥσπερ δὲ ὑπάρχειν τὸ Α τῷ Β ἐνεδέχετο ἀτόμως, οὕτω καὶ μὴ ὑπάρχειν ἐγχωρεῖ. λέγω δὲ τὸ ἀτόμως ὑπάρχειν ἢ μὴ ὑπάρχειν τὸ μὴ εἶναι αὐτῶν μέσον· οὕτω γὰρ οὐκέτι ἔσται κατ’ ἄλλο τὸ ὑπάρχειν ἢ μὴ ὑπάρχειν. ὅταν μὲν οὖν ἢ τὸ Α ἢ τὸ Β ἐν ὅλῳ τινὶ ᾖ, ἢ καὶ ἄμφω, οὐκ ἐνδέχεται τὸ Α τῷ Β πρώτως μὴ ὑπάρχειν. ἔστω γὰρ τὸ Α ἐν ὅλῳ τῷ Γ. οὐκοῦν εἰ τὸ Β μὴ ἔστιν ἐν ὅλῳ τῷ Γ (ἐγχωρεῖ γὰρ τὸ μὲν Α εἶναι ἔν τινι ὅλῳ, τὸ δὲ Β μὴ εἶναι ἐν τούτῳ), συλλογισμὸς ἔσται τοῦ μὴ ὑπάρχειν τὸ Α τῷ Β· εἰ γὰρ τῷ μὲν (79b.) Α παντὶ τὸ Γ, τῷ δὲ Β μηδενί, οὐδενὶ τῷ Β τὸ Α. ὁμοίως δὲ καὶ εἰ τὸ Β ἐν ὅλῳ τινί ἐστιν, οἷον ἐν τῷ Δ· τὸ μὲν γὰρ Δ παντὶ τῷ Β ὑπάρχει, τὸ δὲ Α οὐδενὶ τῷ Δ, ὥστε τὸ Α οὐδενὶ τῷ Β ὑπάρξει διὰ συλλογισμοῦ. τὸν αὐτὸν δὲ τρόπον δειχθήσεται καὶ εἰ ἄμφω ἐν ὅλῳ τινί ἐστιν. ὅτι δ’ ἐνδέχεται τὸ Β μὴ εἶναι ἐν ᾧ ὅλῳ ἐστὶ τὸ Α, ἢ πάλιν τὸ Α ἐν ᾧ τὸ Β, φανερὸν ἐκ τῶν συστοιχιῶν, ὅσαι μὴ ἐπαλλάττουσιν ἀλλήλαις. εἰ γὰρ μηδὲν τῶν ἐν τῇ Α Γ Δ συστοιχίᾳ κατὰ μηδενὸς κατηγορεῖται τῶν ἐν τῇ Β Ε Ζ, τὸ δ’ Α ἐν ὅλῳ ἐστὶ τῷ Θ συστοίχῳ ὄντι, φανερὸν ὅτι τὸ Β οὐκ ἔσται ἐν τῷ Θ· ἐπαλλάξουσι γὰρ αἱ συστοιχίαι. ὁμοίως δὲ καὶ εἰ τὸ Β ἐν ὅλῳ τινί ἐστιν. ἐὰν δὲ μηδέτερον ᾖ ἐν ὅλῳ μηδενί, μὴ ὑπάρχῃ δὲ τὸ Α τῷ Β, ἀνάγκη ἀτόμως μὴ ὑπάρχειν. εἰ γὰρ ἔσται τι μέσον, ἀνάγκη θάτερον αὐτῶν ἐν ὅλῳ τινὶ εἶναι. ἢ γὰρ ἐν τῷ πρώτῳ σχήματι ἢ ἐν τῷ μέσῳ ἔσται ὁ συλλογισμός. εἰ μὲν οὖν ἐν τῷ πρώτῳ, τὸ Β ἔσται ἐν ὅλῳ τινί (καταφατικὴν γὰρ δεῖ τὴν πρὸς τοῦτο γενέσθαι πρότασιν), εἰ δ’ ἐν τῷ μέσῳ, ὁπότερον ἔτυχεν (πρὸς ἀμφοτέροις γὰρ ληφθέντος τοῦ στερητικοῦ γίνεται συλλογισμός· ἀμφοτέρων δ’ ἀποφατικῶν οὐσῶν οὐκ ἔσται).

Φανερὸν οὖν ὅτι ἐνδέχεταί τε ἄλλο ἄλλῳ μὴ ὑπάρχειν ἀτόμως, καὶ πότ’ ἐνδέχεται καὶ πῶς, εἰρήκαμεν.

Κεφάλαιο 16

Ἄγνοια δ’ ἡ μὴ κατ’ ἀπόφασιν ἀλλὰ κατὰ διάθεσιν λεγομένη ἔστι μὲν ἡ διὰ συλλογισμοῦ γινομένη ἀπάτη, αὕτη δ’ ἐν μὲν τοῖς πρώτως ὑπάρχουσιν ἢ μὴ ὑπάρχουσι συμβαίνει διχῶς· ἢ γὰρ ὅταν ἁπλῶς ὑπολάβῃ ὑπάρχειν ἢ μὴ ὑπάρχειν, ἢ ὅταν διὰ συλλογισμοῦ λάβῃ τὴν ὑπόληψιν. τῆς μὲν οὖν ἁπλῆς ὑπολήψεως ἁπλῆ ἡ ἀπάτη, τῆς δὲ διὰ συλλογισμοῦ πλείους. μὴ ὑπαρχέτω γὰρ τὸ Α μηδενὶ τῷ Β ἀτόμως· οὐκοῦν ἐὰν συλλογίζηται ὑπάρχειν τὸ Α τῷ Β, μέσον λαβὼν τὸ Γ, ἠπατημένος ἔσται διὰ συλλογισμοῦ. ἐνδέχεται μὲν οὖν ἀμφοτέρας τὰς προτάσεις εἶναι ψευδεῖς, ἐνδέχεται δὲ τὴν ἑτέραν μόνον. εἰ γὰρ μήτε τὸ Α μηδενὶ τῶν Γ ὑπάρχει μήτε τὸ Γ μηδενὶ τῶν Β, εἴληπται δ’ ἑκατέρα ἀνάπαλιν, ἄμφω ψευδεῖς ἔσονται. ἐγχωρεῖ δ’ οὕτως ἔχειν τὸ Γ πρὸς τὸ Α καὶ Β ὥστε μήτε ὑπὸ τὸ Α εἶναι μήτε καθόλου τῷ Β. τὸ μὲν γὰρ Β ἀδύνατον εἶναι ἐν ὅλῳ τινί (πρώτως γὰρ ἐλέγετο αὐτῷ τὸ Α μὴ ὑπάρχειν), τὸ δὲ Α οὐκ ἀνάγκη πᾶσι τοῖς οὖσιν εἶναι καθόλου, ὥστ’ ἀμφότεραι ψευδεῖς. ἀλλὰ καὶ τὴν ἑτέραν ἐνδέχεται ἀληθῆ λαμβάνειν, οὐ μέντοι ὁποτέραν ἔτυχεν, ἀλλὰ τὴν (80a.) Α Γ· ἡ γὰρ Γ Β πρότασις ἀεὶ ψευδὴς ἔσται διὰ τὸ ἐν μηδενὶ εἶναι τὸ Β, τὴν δὲ Α Γ ἐγχωρεῖ, οἷον εἰ τὸ Α καὶ τῷ Γ καὶ τῷ Β ὑπάρχει ἀτόμως (ὅταν γὰρ πρώτως κατηγορῆται ταὐτὸ πλειόνων, οὐδέτερον ἐν οὐδετέρῳ ἔσται). διαφέρει δ’ οὐδέν, οὐδ’ εἰ μὴ ἀτόμως ὑπάρχει.

Ἡ μὲν οὖν τοῦ ὑπάρχειν ἀπάτη διὰ τούτων τε καὶ οὕτω γίνεται μόνως (οὐ γὰρ ἦν ἐν ἄλλῳ σχήματι τοῦ ὑπάρχειν συλλογισμός), ἡ δὲ τοῦ μὴ ὑπάρχειν ἔν τε τῷ πρώτῳ καὶ ἐν τῷ μέσῳ σχήματι. πρῶτον οὖν εἴπωμεν ποσαχῶς ἐν τῷ πρώτῳ γίνεται, καὶ πῶς ἐχουσῶν τῶν προτάσεων. ἐνδέχεται μὲν οὖν ἀμφοτέρων ψευδῶν οὐσῶν, οἷον εἰ τὸ Α καὶ τῷ Γ καὶ τῷ Β ὑπάρχει ἀτόμως· ἐὰν γὰρ ληφθῇ τὸ μὲν Α τῷ Γ μηδενί, τὸ δὲ Γ παντὶ τῷ Β, ψευδεῖς αἱ προτάσεις. ἐνδέχεται δὲ καὶ τῆς ἑτέρας ψευδοῦς οὔσης, καὶ ταύτης ὁποτέρας ἔτυχεν. ἐγχωρεῖ γὰρ τὴν μὲν Α Γ ἀληθῆ εἶναι, τὴν δὲ Γ Β ψευδῆ, τὴν μὲν Α Γ ἀληθῆ ὅτι οὐ πᾶσι τοῖς οὖσιν ὑπάρχει τὸ Α, τὴν δὲ Γ Β ψευδῆ ὅτι ἀδύνατον ὑπάρχειν τῷ Β τὸ Γ, ᾧ μηδενὶ ὑπάρχει τὸ Α· οὐ γὰρ ἔτι ἀληθὴς ἔσται ἡ Α Γ πρότασις· ἅμα δέ, εἰ καὶ εἰσὶν ἀμφότεραι ἀληθεῖς, καὶ τὸ συμπέρασμα ἔσται ἀληθές. ἀλλὰ καὶ τὴν Γ Β ἐνδέχεται ἀληθῆ εἶναι τῆς ἑτέρας οὔσης ψευδοῦς, οἷον εἰ τὸ Β καὶ ἐν τῷ Γ καὶ ἐν τῷ Α ἐστίν· ἀνάγκη γὰρ θάτερον ὑπὸ θάτερον εἶναι, ὥστ' ἂν λάβῃ τὸ Α μηδενὶ τῷ Γ ὑπάρχειν, ψευδὴς ἔσται ἡ πρότασις. φανερὸν οὖν ὅτι καὶ τῆς ἑτέρας ψευδοῦς οὔσης καὶ ἀμφοῖν ἔσται ψευδὴς ὁ συλλογισμός.

Ἐν δὲ τῷ μέσῳ σχήματι ὅλας μὲν εἶναι τὰς προτάσεις ἀμφοτέρας ψευδεῖς οὐκ ἐνδέχεται· ὅταν γὰρ τὸ Α παντὶ τῷ Β ὑπάρχῃ, οὐδὲν ἔσται λαβεῖν ὃ τῷ μὲν ἑτέρῳ παντὶ θατέρῳ δ' οὐδενὶ ὑπάρξει· δεῖ δ' οὕτω λαμβάνειν τὰς προτάσεις ὥστε τῷ μὲν ὑπάρχειν τῷ δὲ μὴ ὑπάρχειν, εἴπερ ἔσται συλλογισμός. εἰ οὖν οὕτω λαμβανόμεναι ψευδεῖς, δῆλον ὡς ἐναντίως ἀνάπαλιν ἕξουσι· τοῦτο δ' ἀδύνατον. ἐπί τι δ' ἑκατέραν οὐδὲν κωλύει ψευδῆ εἶναι, οἷον εἰ τὸ Γ καὶ τῷ Α καὶ τῷ Β τινὶ ὑπάρχοι· ἂν γὰρ τῷ μὲν Α παντὶ ληφθῇ ὑπάρχον, τῷ δὲ Β μηδενί, ψευδεῖς μὲν ἀμφότεραι αἱ προτάσεις, οὐ μέντοι ὅλαι ἀλλ' ἐπί τι. καὶ ἀνάπαλιν δὲ τεθέντος τοῦ στερητικοῦ ὡσαύτως. τὴν δ' ἑτέραν εἶναι ψευδῆ καὶ ὁποτερανοῦν ἐνδέχεται. ὃ γὰρ ὑπάρχει τῷ Α παντί, καὶ τῷ Β ὑπάρχει· ἐὰν οὖν ληφθῇ τῷ μὲν Α ὅλῳ ὑπάρχειν (80b.) τὸ Γ, τῷ δὲ Β ὅλῳ μὴ ὑπάρχειν, ἡ μὲν Γ Α ἀληθὴς ἔσται, ἡ δὲ Γ Β ψευδής. πάλιν ὃ τῷ Β μηδενὶ ὑπάρχει, οὐδὲ τῷ Α παντὶ ὑπάρξει· εἰ γὰρ τῷ Α, καὶ τῷ Β· ἀλλ' οὐχ ὑπῆρχεν. ἐὰν οὖν ληφθῇ τὸ Γ τῷ μὲν Α ὅλῳ ὑπάρχειν, τῷ δὲ Β μηδενί, ἡ μὲν Γ Β πρότασις ἀληθής, ἡ δ' ἑτέρα ψευδής. ὁμοίως δὲ καὶ μετατεθέντος τοῦ στερητικοῦ. ὃ γὰρ μηδενὶ ὑπάρχει τῷ Α, οὐδὲ τῷ Β οὐδενὶ ὑπάρξει· ἐὰν οὖν ληφθῇ τὸ Γ τῷ μὲν Α ὅλῳ μὴ ὑπάρχειν, τῷ δὲ Β ὅλῳ ὑπάρχειν, ἡ μὲν Γ Α πρότασις ἀληθὴς ἔσται, ἡ ἑτέρα δὲ ψευδής. καὶ πάλιν, ὃ παντὶ τῷ Β ὑπάρχει, μηδενὶ λαβεῖν τῷ Α ὑπάρχον ψεῦδος. ἀνάγκη γάρ, εἰ τῷ Β παντί, καὶ τῷ Α τινὶ ὑπάρχειν· ἐὰν οὖν ληφθῇ τῷ μὲν Β παντὶ ὑπάρχειν τὸ Γ, τῷ δὲ Α μηδενί, ἡ μὲν Γ Β ἀληθὴς ἔσται, ἡ δὲ Γ Α ψευδής. φανερὸν οὖν ὅτι καὶ ἀμφοτέρων οὐσῶν ψευδῶν καὶ τῆς ἑτέρας μόνον ἔσται συλλογισμὸς ἀπατητικὸς ἐν τοῖς ἀτόμοις.

Κεφάλαιο 17

Ἐν δὲ τοῖς μὴ ἀτόμως ὑπάρχουσιν [ἢ μὴ ὑπάρχουσιν], ὅταν μὲν διὰ τοῦ οἰκείου μέσου γίνηται τοῦ ψεύδους ὁ συλλογισμός, οὐχ οἷόν τε ἀμφοτέρας ψευδεῖς εἶναι τὰς προτάσεις, ἀλλὰ μόνον τὴν πρὸς τῷ μείζονι ἄκρῳ. (λέγω δ’ οἰκεῖον μέσον δι’ οὗ γίνεται τῆς ἀντιφάσεως ὁ συλλογισμός.) ὑπαρχέτω γὰρ τὸ Α τῷ Β διὰ μέσου τοῦ Γ. ἐπεὶ οὖν ἀνάγκη τὴν Γ Β καταφατικὴν λαμβάνεσθαι συλλογισμοῦ γινομένου, δῆλον ὅτι ἀεὶ αὕτη ἔσται ἀληθής· οὐ γὰρ ἀντιστρέφεται. ἡ δὲ Α Γ ψευδής· ταύτης γὰρ ἀντιστρεφομένης ἐναντίος γίνεται ὁ συλλογισμός. ὁμοίως δὲ καὶ εἰ ἐξ ἄλλης συστοιχίας ληφθείη τὸ μέσον, οἷον τὸ Δ εἰ καὶ ἐν τῷ Α ὅλῳ ἐστι καὶ κατὰ τοῦ Β κατηγορεῖται παντός· ἀνάγκη γὰρ τὴν μὲν Δ Β πρότασιν μένειν, τὴν δ’ ἑτέραν ἀντιστρέφεσθαι, ὥσθ’ ἡ μὲν ἀεὶ ἀληθής, ἡ δ’ ἀεὶ ψευδής. καὶ σχεδὸν ἥ γε τοιαύτη ἀπάτη ἡ αὐτή ἐστι τῇ διὰ τοῦ οἰκείου μέσου. ἐὰν δὲ μὴ διὰ τοῦ οἰκείου μέσου γίνηται ὁ συλλογισμός, ὅταν μὲν ὑπὸ τὸ Α ᾖ τὸ μέσον, τῷ δὲ Β μηδενὶ ὑπάρχῃ, ἀνάγκη ψευδεῖς εἶναι ἀμφοτέρας. ληπτέαι γὰρ ἐναντίως ἢ ὡς ἔχουσιν αἱ προτάσεις, εἰ μέλλει συλλογισμὸς ἔσεσθαι· οὕτω δὲ λαμβανομένων ἀμφότεραι γίνονται ψευδεῖς. οἷον εἰ τὸ μὲν Α ὅλῳ τῷ Δ ὑπάρχει, τὸ δὲ Δ μηδενὶ τῶν Β· ἀντιστραφέντων γὰρ τούτων συλλογισμός τ’ ἔσται καὶ αἱ προτάσεις ἀμφότεραι ψευδεῖς. ὅταν δὲ μὴ ᾖ ὑπὸ τὸ Α τὸ μέσον, οἷον τὸ Δ, ἡ (81a.) μὲν Α Δ ἀληθὴς ἔσται, ἡ δὲ Δ Β ψευδής. ἡ μὲν γὰρ Α Δ ἀληθής, ὅτι οὐκ ἦν ἐν τῷ Α τὸ Δ, ἡ δὲ Δ Β ψευδής, ὅτι εἰ ἦν ἀληθής, κἂν τὸ συμπέρασμα ἦν ἀληθές· ἀλλ’ ἦν ψεῦδος.

Διὰ δὲ τοῦ μέσου σχήματος γινομένης τῆς ἀπάτης, ἀμφοτέρας μὲν οὐκ ἐνδέχεται ψευδεῖς εἶναι τὰς προτάσεις ὅλας (ὅταν γὰρ ᾖ τὸ Β ὑπὸ τὸ Α, οὐδὲν ἐνδέχεται τῷ μὲν παντὶ τῷ δὲ μηδενὶ ὑπάρχειν, καθάπερ ἐλέχθη καὶ πρότερον), τὴν ἑτέραν δ’ ἐγχωρεῖ, καὶ ὁποτέραν ἔτυχεν. εἰ γὰρ τὸ Γ καὶ τῷ Α καὶ τῷ Β ὑπάρχει, ἐὰν ληφθῇ τῷ μὲν Α ὑπάρχειν τῷ δὲ Β μὴ ὑπάρχειν, ἡ μὲν Γ Α ἀληθὴς ἔσται, ἡ δ’ ἑτέρα ψευδής. πάλιν δ’ εἰ τῷ μὲν Β ληφθείη τὸ Γ ὑπάρχον, τῷ δὲ Α μηδενί, ἡ μὲν Γ Β ἀληθὴς ἔσται, ἡ δ’ ἑτέρα ψευδής.

Ἐὰν μὲν οὖν στερητικὸς ᾖ τῆς ἀπάτης ὁ συλλογισμός, εἴρηται πότε καὶ διὰ τίνων ἔσται ἡ ἀπάτη· ἐὰν δὲ καταφατικός, ὅταν μὲν διὰ τοῦ οἰκείου μέσου, ἀδύνατον ἀμφοτέρας εἶναι ψευδεῖς· ἀνάγκη γὰρ τὴν Γ Β μένειν, εἴπερ ἔσται συλλογισμός, καθάπερ ἐλέχθη καὶ πρότερον. ὥστε ἡ Α Γ ἀεὶ ἔσται ψευδής· αὕτη γάρ ἐστιν ἡ ἀντιστρεφομένη. ὁμοίως δὲ καὶ εἰ ἐξ ἄλλης συστοιχίας λαμβάνοιτο τὸ μέσον, ὥσπερ ἐλέχθη καὶ ἐπὶ τῆς στερητικῆς ἀπάτης· ἀνάγκη γὰρ τὴν μὲν Δ Β μένειν, τὴν δ' Α Δ ἀντιστρέφεσθαι, καὶ ἡ ἀπάτη ἡ αὐτὴ τῇ πρότερον. ὅταν δὲ μὴ διὰ τοῦ οἰκείου, ἐὰν μὲν ᾖ τὸ Δ ὑπὸ τὸ Α, αὕτη μὲν ἔσται ἀληθής, ἡ ἑτέρα δὲ ψευδής· ἐγχωρεῖ γὰρ τὸ Α πλείοσιν ὑπάρχειν ἃ οὐκ ἔστιν ὑπ' ἄλληλα. ἐὰν δὲ μὴ ᾖ τὸ Δ ὑπὸ τὸ Α, αὕτη μὲν ἀεὶ δῆλον ὅτι ἔσται ψευδής (καταφατικὴ γὰρ λαμβάνεται), τὴν δὲ Δ Β ἐνδέχεται καὶ ἀληθῆ εἶναι καὶ ψευδῆ· οὐδὲν γὰρ κωλύει τὸ μὲν Α τῷ Δ μηδενὶ ὑπάρχειν, τὸ δὲ Δ τῷ Β παντί, οἷον ζῷον ἐπιστήμῃ, ἐπιστήμη δὲ μουσικῇ. οὐδ' αὖ μήτε τὸ Α μηδενὶ τῶν Δ μήτε τὸ Δ μηδενὶ τῶν Β. [φανερὸν οὖν ὅτι μὴ ὄντος τοῦ μέσου ὑπὸ τὸ Α καὶ ἀμφοτέρας ἐγχωρεῖ ψευδεῖς εἶναι καὶ ὁποτέραν ἔτυχεν.]

Ποσαχῶς μὲν οὖν καὶ διὰ τίνων ἐγχωρεῖ γίνεσθαι τὰς κατὰ συλλογισμὸν ἀπάτας ἔν τε τοῖς ἀμέσοις καὶ ἐν τοῖς δι' ἀποδείξεως, φανερόν.

Κεφάλαιο 18

Φανερὸν δὲ καὶ ὅτι, εἴ τις αἴσθησις ἐκλέλοιπεν, ἀνάγκη καὶ ἐπιστήμην τινὰ ἐκλελοιπέναι, ἣν ἀδύνατον λαβεῖν, εἴπερ μανθάνομεν ἢ ἐπαγωγῇ ἢ ἀποδείξει, ἔστι δ’ ἡ μὲν ἀπόδειξις (81b.) ἐκ τῶν καθόλου, ἡ δ’ ἐπαγωγὴ ἐκ τῶν κατὰ μέρος, ἀδύνατον δὲ τὰ καθόλου θεωρῆσαι μὴ δι’ ἐπαγωγῆς (ἐπεὶ καὶ τὰ ἐξ ἀφαιρέσεως λεγόμενα ἔσται δι’ ἐπαγωγῆς γνώριμα ποιεῖν, ὅτι ὑπάρχει ἑκάστῳ γένει ἔνια, καὶ εἰ μὴ χωριστά ἐστιν, ᾗ τοιονδὶ ἕκαστον), ἐπαχθῆναι δὲ μὴ ἔχοντας αἴσθησιν ἀδύνατον. τῶν γὰρ καθ’ ἕκαστον ἡ αἴσθησις· οὐ γὰρ ἐνδέχεται λαβεῖν αὐτῶν τὴν ἐπιστήμην· οὔτε γὰρ ἐκ τῶν καθόλου ἄνευ ἐπαγωγῆς, οὔτε δι’ ἐπαγωγῆς ἄνευ τῆς αἰσθήσεως.

Κεφάλαιο 19

Ἔστι δὲ πᾶς συλλογισμὸς διὰ τριῶν ὅρων, καὶ ὁ μὲν δεικνύναι δυνάμενος ὅτι ὑπάρχει τὸ Α τῷ Γ διὰ τὸ ὑπάρχειν τῷ Β καὶ τοῦτο τῷ Γ, ὁ δὲ στερητικός, τὴν μὲν ἑτέραν πρότασιν ἔχων ὅτι ὑπάρχει τι ἄλλο ἄλλῳ, τὴν δ’ ἑτέραν ὅτι οὐχ ὑπάρχει. φανερὸν οὖν ὅτι αἱ μὲν ἀρχαὶ καὶ αἱ λεγόμεναι ὑποθέσεις αὗταί εἰσι· λαβόντα γὰρ ταῦτα οὕτως ἀνάγκη δεικνύναι, οἷον ὅτι τὸ Α τῷ Γ ὑπάρχει διὰ τοῦ Β, πάλιν δ’ ὅτι τὸ Α τῷ Β δι’ ἄλλου μέσου, καὶ ὅτι τὸ Β τῷ Γ ὡσαύτως. κατὰ μὲν οὖν δόξαν συλλογιζομένοις καὶ μόνον διαλεκτικῶς δῆλον ὅτι τοῦτο μόνον σκεπτέον, εἰ ἐξ ὧν ἐνδέχεται ἐνδοξοτάτων γίνεται ὁ συλλογισμός, ὥστ’ εἰ καὶ μὴ ἔστι τι τῇ ἀληθείᾳ τῶν Α Β μέσον, δοκεῖ δὲ εἶναι, ὁ διὰ τούτου συλλογιζόμενος συλλελόγισται διαλεκτικῶς· πρὸς δ’ ἀλήθειαν ἐκ τῶν ὑπαρχόντων δεῖ σκοπεῖν. ἔχει δ’ οὕτως· ἐπειδὴ ἔστιν ὃ αὐτὸ μὲν κατ’ ἄλλου κατηγορεῖται μὴ κατὰ συμβεβηκός-λέγω δὲ τὸ κατὰ συμβεβηκός, οἷον τὸ λευκόν ποτ’ ἐκεῖνό φαμεν εἶναι ἄνθρωπον, οὐχ ὁμοίως λέγοντες καὶ τὸν ἄνθρωπον λευκόν· ὁ μὲν γὰρ οὐχ ἕτερόν τι ὢν λευκός ἐστι, τὸ δὲ λευκόν, ὅτι συμβέβηκε τῷ ἀνθρώπῳ εἶναι λευκῷ-ἔστιν οὖν ἔνια τοιαῦτα ὥστε καθ’ αὑτὰ κατηγορεῖσθαι.

Ἔστω δὴ τὸ Γ τοιοῦτον ὃ αὐτὸ μὲν μηκέτι ὑπάρχει ἄλλῳ, τούτῳ δὲ τὸ Β πρώτῳ, καὶ οὐκ ἔστιν ἄλλο μεταξύ. καὶ πάλιν τὸ Ε τῷ Ζ ὡσαύτως, καὶ τοῦτο τῷ Β. ἆρ’ οὖν τοῦτο ἀνάγκη στῆναι, ἢ ἐνδέχεται εἰς ἄπειρον ἰέναι; καὶ πάλιν εἰ τοῦ μὲν Α μηδὲν κατηγορεῖται καθ’ αὑτό, τὸ δὲ Α τῷ Θ ὑπάρχει πρώτῳ, μεταξὺ δὲ μηδενὶ προτέρῳ, καὶ τὸ Θ τῷ Η, καὶ τοῦτο τῷ Β, ἆρα καὶ τοῦτο ἵστασθαι ἀνάγκη, ἢ καὶ τοῦτ’ ἐνδέχεται εἰς ἄπειρον ἰέναι; διαφέρει δὲ τοῦτο τοῦ πρότερον τοσοῦτον, ὅτι τὸ μέν ἐστιν, ἆρα ἐνδέχεται ἀρξαμένῳ ἀπὸ τοιούτου ὃ μηδενὶ ὑπάρχει ἑτέρῳ ἀλλ’ ἄλλο ἐκείνῳ, ἐπὶ τὸ ἄνω εἰς ἄπειρον ἰέναι, θάτερον δὲ ἀρξάμενον ἀπὸ τοιούτου (82a.) ὃ αὐτὸ μὲν ἄλλου, ἐκείνου δὲ μηδὲν κατηγορεῖται, ἐπὶ τὸ κάτω σκοπεῖν εἰ ἐνδέχεται εἰς ἄπειρον ἰέναι. Ἔτι τὰ μεταξὺ ἆρ’ ἐνδέχεται ἄπειρα εἶναι ὡρισμένων τῶν ἄκρων; λέγω δ’ οἷον εἰ τὸ Α τῷ Γ ὑπάρχει, μέσον δ’ αὐτῶν τὸ Β, τοῦ δὲ Β καὶ τοῦ Α ἕτερα, τούτων δ’ ἄλλα, ἆρα καὶ ταῦτα εἰς ἄπειρον ἐνδέχεται ἰέναι, ἢ ἀδύνατον; ἔστι δὲ τοῦτο σκοπεῖν ταὐτὸ καὶ εἰ αἱ ἀποδείξεις εἰς ἄπειρον ἔρχονται, καὶ εἰ ἔστιν ἀπόδειξις ἅπαντος, ἢ πρὸς ἄλληλα περαίνεται.

Ὁμοίως δὲ λέγω καὶ ἐπὶ τῶν στερητικῶν συλλογισμῶν καὶ προτάσεων, οἷον εἰ τὸ Α μὴ ὑπάρχει τῷ Β μηδενί, ἤτοι πρώτῳ, ἢ ἔσται τι μεταξὺ ᾧ προτέρῳ οὐχ ὑπάρχει (οἷον εἰ τῷ Η, ὃ τῷ Β ὑπάρχει παντί), καὶ πάλιν τούτου ἔτι ἄλλῳ προτέρῳ, οἷον εἰ τῷ Θ, ὃ τῷ Η παντὶ ὑπάρχει. καὶ γὰρ ἐπὶ τούτων ἢ ἄπειρα οἷς ὑπάρχει προτέροις, ἢ ἵσταται.

Ἐπὶ δὲ τῶν ἀντιστρεφόντων οὐχ ὁμοίως ἔχει. οὐ γὰρ ἔστιν ἐν τοῖς ἀντικατηγορουμένοις οὗ πρώτου κατηγορεῖται ἢ τελευταίου πάντα γὰρ πρὸς πάντα ταύτῃ γε ὁμοίως ἔχει, εἴτ' ἐστὶν ἄπειρα τὰ κατ' αὐτοῦ κατηγορούμενα, εἴτ' ἀμφότερά ἐστι τὰ ἀπορηθέντα ἄπειρα· πλὴν εἰ μὴ ὁμοίως ἐνδέχεται ἀντιστρέφειν, ἀλλὰ τὸ μὲν ὡς συμβεβηκός, τὸ δ' ὡς κατηγορίαν.

Κεφάλαιο 20

Ὅτι μὲν οὖν τὰ μεταξὺ οὐκ ἐνδέχεται ἄπειρα εἶναι, εἰ ἐπὶ τὸ κάτω καὶ τὸ ἄνω ἵστανται αἱ κατηγορίαι, δῆλον. λέγω δ’ ἄνω μὲν τὴν ἐπὶ τὸ καθόλου μᾶλλον, κάτω δὲ τὴν ἐπὶ τὸ κατὰ μέρος. εἰ γὰρ τοῦ Α κατηγορουμένου κατὰ τοῦ Ζ ἄπειρα τὰ μεταξύ, ἐφ’ ὧν Β, δῆλον ὅτι ἐνδέχοιτ’ ἂν ὥστε καὶ ἀπὸ τοῦ Α ἐπὶ τὸ κάτω ἕτερον ἑτέρου κατηγορεῖσθαι εἰς ἄπειρον (πρὶν γὰρ ἐπὶ τὸ Ζ ἐλθεῖν, ἄπειρα τὰ μεταξύ) καὶ ἀπὸ τοῦ Ζ ἐπὶ τὸ ἄνω ἄπειρα, πρὶν ἐπὶ τὸ Α ἐλθεῖν. ὥστ’ εἰ ταῦτα ἀδύνατα, καὶ τοῦ Α καὶ Ζ ἀδύνατονἄπειρα εἶναι μεταξύ. οὐδὲ γὰρ εἴ τις λέγοι ὅτι τὰ μέν ἐστι τῶν Α Β Ζ ἐχόμενα ἀλλήλων ὥστε μὴ εἶναι μεταξύ, τὰ δ’ οὐκ ἔστι λαβεῖν, οὐδὲν διαφέρει. ὃ γὰρ ἂν λάβω τῶν Β, ἔσται πρὸς τὸ Α ἢ πρὸς τὸ Ζ ἢ ἄπειρα τὰ μεταξὺ ἢ οὔ. ἀφ’ οὗ δὴ πρῶτον ἄπειρα, εἴτ’ εὐθὺς εἴτε μὴ εὐθύς, οὐδὲν διαφέρει· τὰ γὰρ μετὰ ταῦτα ἄπειρά ἐστιν.

Κεφάλαιο 21

Φανερὸν δὲ καὶ ἐπὶ τῆς στερητικῆς ἀποδείξεως ὅτι στήσεται, εἴπερ ἐπὶ τῆς κατηγορικῆς ἵσταται ἐπ’ ἀμφότερα. ἔστω γὰρ μὴ ἐνδεχόμενον μήτε ἐπὶ τὸ ἄνω ἀπὸ τοῦ ὑστάτου εἰς ἄπειρον ἰέναι (λέγω δ’ ὕστατον ὃ αὐτὸ μὲν ἄλλῳ (82b.) μηδενὶ ὑπάρχει, ἐκείνῳ δὲ ἄλλο, οἷον τὸ Ζ) μήτε ἀπὸ τοῦ πρώτου ἐπὶ τὸ ὕστατον (λέγω δὲ πρῶτον ὃ αὐτὸ μὲν κατ’ ἄλλου, κατ’ ἐκείνου δὲ μηδὲν ἄλλο). εἰ δὴ ταῦτ’ ἔστι, καὶ ἐπὶ τῆς ἀποφάσεως στήσεται. τριχῶς γὰρ δείκνυται μὴ ὑπάρχον. ἢ γὰρ ᾧ μὲν τὸ Γ, τὸ Β ὑπάρχει παντί, ᾧ δὲ τὸ Β, οὐδενὶ τὸ Α. τοῦ μὲν τοίνυν Β Γ, καὶ ἀεὶ τοῦ ἑτέρου διαστήματος, ἀνάγκη βαδίζειν εἰς ἄμεσα· κατηγορικὸν γὰρ τοῦτο τὸ διάστημα. τὸ δ’ ἕτερον δῆλον ὅτι εἰ ἄλλῳ οὐχ ὑπάρχει προτέρῳ, οἷον τῷ Δ, τοῦτο δεήσει τῷ Β παντὶ ὑπάρχειν. καὶ εἰ πάλιν ἄλλῳ τοῦ Δ προτέρῳ οὐχ ὑπάρχει, ἐκεῖνο δεήσει τῷ Δ παντὶ ὑπάρχειν. ὥστ’ ἐπεὶ ἡ ἐπὶ τὸ ἄνω ἵσταται ὁδός, καὶ ἡ ἐπὶ τὸ Α στήσεται, καὶ ἔσται τι πρῶτον ᾧ οὐχ ὑπάρχει.

Πάλιν εἰ τὸ μὲν Β παντὶ τῷ Α, τῷ δὲ Γ μηδενί, τὸ Α τῶν Γ οὐδενὶ ὑπάρχει. πάλιν τοῦτο εἰ δεῖ δεῖξαι, δῆλον ὅτι ἢ διὰ τοῦ ἄνω τρόπου δειχθήσεται ἢ διὰ τούτου ἢ τοῦ τρίτου. ὁ μὲν οὖν πρῶτος εἴρηται, ὁ δὲ δεύτερος δειχθήσεται. οὕτω δ’ ἂν δεικνύοι, οἷον τὸ Δ τῷ μὲν Β παντὶ ὑπάρχει, τῷ δὲ Γ οὐδενί, εἰ ἀνάγκη ὑπάρχειν τι τῷ Β. καὶ πάλιν εἰ τοῦτο τῷ Γ μὴ ὑπάρξει, ἄλλο τῷ Δ ὑπάρχει, ὃ τῷ Γ οὐχ ὑπάρχει. οὐκοῦν ἐπεὶ τὸ ὑπάρχειν ἀεὶ τῷ ἀνωτέρω ἵσταται, στήσεται καὶ τὸ μὴ ὑπάρχειν.

Ὁ δὲ τρίτος τρόπος ἦν· εἰ τὸ μὲν Α τῷ Β παντὶ ὑπάρχει, τὸ δὲ Γ μὴ ὑπάρχει, οὐ παντὶ ὑπάρχει τὸ Γ ᾧ τὸ Α. πάλιν δὲ τοῦτο ἢ διὰ τῶν ἄνω εἰρημένων ἢ ὁμοίως δειχθήσεται. ἐκείνως μὲν δὴ ἵσταται, εἰ δ’ οὕτω, πάλιν λήψεται τὸ Β τῷ Ε ὑπάρχειν, ᾧ τὸ Γ μὴ παντὶ ὑπάρχει. καὶ τοῦτο πάλιν ὁμοίως. ἐπεὶ δ’ ὑπόκειται ἵστασθαι καὶ ἐπὶ τὸ κάτω, δῆλον ὅτι στήσεται καὶ τὸ Γ οὐχ ὑπάρχον.

Φανερὸν δ’ ὅτι καὶ ἐὰν μὴ μιᾷ ὁδῷ δεικνύηται ἀλλὰ πάσαις, ὁτὲ μὲν ἐκ τοῦ πρώτου σχήματος, ὁτὲ δὲ ἐκ τοῦ δευτέρου ἢ τρίτου, ὅτι καὶ οὕτω στήσεται· πεπερασμέναι γάρ εἰσιν αἱ ὁδοί, τὰ δὲ πεπερασμένα πεπερασμενάκις ἀνάγκη πεπεράνθαι πάντα.

Ὅτι μὲν οὖν ἐπὶ τῆς στερήσεως, εἴπερ καὶ ἐπὶ τοῦ ὑπάρχειν, ἵσταται, δῆλον. ὅτι δ’ ἐπ’ ἐκείνων, λογικῶς μὲν θεωροῦσιν ὧδε φανερόν. Ἐπὶ μὲν οὖν τῶν ἐν τῷ τί ἐστι κατηγορουμένων δῆλον· εἰ γὰρ ἔστιν ὁρίσασθαι ἢ εἰ γνωστὸν τὸ τί ἦν εἶναι, τὰ δ’ ἄπειρα μὴ ἔστι διελθεῖν, ἀνάγκη πεπεράνθαι τὰ ἐν τῷ τί (83a.) ἐστι κατηγορούμενα. καθόλου δὲ ὧδε λέγομεν. ἔστι γὰρ εἰπεῖν ἀληθῶς τὸ λευκὸν βαδίζειν καὶ τὸ μέγα ἐκεῖνο ξύλον εἶναι, καὶ πάλιν τὸ ξύλον μέγα εἶναι καὶ τὸν ἄνθρωπον βαδίζειν. ἕτερον δή ἐστι τὸ οὕτως εἰπεῖν καὶ τὸ ἐκείνως. ὅταν μὲν γὰρ τὸ λευκὸν εἶναι φῶ ξύλον, τότε λέγω ὅτι ᾧ συμβέβηκε λευκῷ εἶναι ξύλον ἐστίν, ἀλλ’ οὐχ ὡς τὸ ὑποκείμενον τῷ ξύλῳ τὸ λευκόν ἐστι· καὶ γὰρ οὔτε λευκὸν ὂν οὔθ’ ὅπερ λευκόν τι ἐγένετο ξύλον, ὥστ’ οὐκ ἔστιν ἀλλ’ ἢ κατὰ συμβεβηκός. ὅταν δὲ τὸ ξύλον λευκὸν εἶναι φῶ, οὐχ ὅτι ἕτερόν τί ἐστι λευκόν, ἐκείνῳ δὲ συμβέβηκε ξύλῳ εἶναι, οἷον ὅταν τὸ μουσικὸν λευκὸν εἶναι φῶ (τότε γὰρ ὅτι ὁ ἄνθρωπος λευκός ἐστιν, ᾧ συμβέβηκεν εἶναι μουσικῷ, λέγω), ἀλλὰ τὸ ξύλον ἐστὶ τὸ ὑποκείμενον, ὅπερ καὶ ἐγένετο, οὐχ ἕτερόν τι ὂν ἢ ὅπερ ξύλον ἢ ξύλον τί. εἰ δὴ δεῖ νομοθετῆσαι, ἔστω τὸ οὕτω λέγειν κατηγορεῖν, τὸ δ’ ἐκείνως ἤτοι μηδαμῶς κατηγορεῖν, ἢ κατηγορεῖν μὲν μὴ ἁπλῶς, κατὰ συμβεβηκὸς δὲ κατηγορεῖν. ἔστι δ’ ὡς μὲν τὸ λευκὸν τὸ κατηγορούμενον, ὡς δὲ τὸ ξύλον τὸ οὗ κατηγορεῖται. ὑποκείσθω δὴ τὸ κατηγορούμενον κατηγορεῖσθαι ἀεί, οὗ κατηγορεῖται, ἁπλῶς, ἀλλὰ μὴ κατὰ συμβεβηκός· οὕτω γὰρ αἱ ἀποδείξεις ἀποδεικνύουσιν. ὥστε ἢ ἐν τῷ τί ἐστιν ἢ ὅτι ποιὸν ἢ ποσὸν ἢ πρός τι ἢ ποιοῦν τι ἢ πάσχον ἢ ποὺ ἢ ποτέ, ὅταν ἓν καθ’ ἑνὸς κατηγορηθῇ.

Κεφάλαιο 22

Ἔτι τὰ μὲν οὐσίαν σημαίνοντα ὅπερ ἐκεῖνο ἢ ὅπερ ἐκεῖνό τι σημαίνει καθ' οὗ κατηγορεῖται· ὅσα δὲ μὴ οὐσίαν σημαίνει, ἀλλὰ κατ' ἄλλου ὑποκειμένου λέγεται ὃ μὴ ἔστι μήτε ὅπερ ἐκεῖνο μήτε ὅπερ ἐκεῖνό τι, συμβεβηκότα, οἷον κατὰ τοῦ ἀνθρώπου τὸ λευκόν. οὐ γάρ ἐστιν ὁ ἄνθρωπος οὔτε ὅπερ λευκὸν οὔτε ὅπερ λευκόν τι, ἀλλὰ ζῷον ἴσως· ὅπερ γὰρ ζῷόν ἐστιν ὁ ἄνθρωπος. ὅσα δὲ μὴ οὐσίαν σημαίνει, δεῖ κατά τινος ὑποκειμένου κατηγορεῖσθαι, καὶ μὴ εἶναί τι λευκὸν ὃ οὐχ ἕτερόν τι ὂν λευκόν ἐστιν. τὰ γὰρ εἴδη χαιρέτω· τερετίσματά τε γάρ ἐστι, καὶ εἰ ἔστιν, οὐδὲν πρὸς τὸν λόγον ἐστίν· αἱ γὰρ ἀποδείξεις περὶ τῶν τοιούτων εἰσίν.

Ἔτι εἰ μὴ ἔστι τόδε τοῦδε ποιότης κἀκεῖνο τούτου, μηδὲ ποιότητος ποιότης, ἀδύνατον ἀντικατηγορεῖσθαι ἀλλήλων οὕτως, ἀλλ' ἀληθὲς μὲν ἐνδέχεται εἰπεῖν, ἀντικατηγορῆσαι δ' ἀληθῶς οὐκ ἐνδέχεται. ἢ γάρ τοι ὡς οὐσία κατηγορηθήσεται, (83b.) οἷον ἢ γένος ὂν ἢ διαφορὰ τοῦ κατηγορουμένου. ταῦτα δὲ δέδεικται ὅτι οὐκ ἔσται ἄπειρα, οὔτ' ἐπὶ τὸ κάτω οὔτ' ἐπὶ τὸ ἄνω (οἷον ἄνθρωπος δίπουν, τοῦτο ζῷον, τοῦτο δ' ἕτερον· οὐδὲ τὸ ζῷον κατ' ἀνθρώπου, τοῦτο δὲ κατὰ Καλλίου, τοῦτο δὲ κατ' ἄλλου ἐν τῷ τί ἐστιν), τὴν μὲν γὰρ οὐσίαν ἅπασαν ἔστιν ὁρίσασθαι τὴν τοιαύτην, τὰ δ' ἄπειρα οὐκ ἔστι διεξελθεῖν νοοῦντα. ὥστ' οὔτ' ἐπὶ τὸ ἄνω οὔτ' ἐπὶ τὸ κάτω ἄπειρα· ἐκείνην γὰρ οὐκ ἔστιν ὁρίσασθαι ἧς τὰ ἄπειρα κατηγορεῖται. ὡς μὲν δὴ γένη ἀλλήλων οὐκ ἀντικατηγορηθήσεται· ἔσται γὰρ αὐτὸ ὅπερ αὐτό τι. οὐδὲ μὴν τοῦ ποιοῦ ἢ τῶν ἄλλων οὐδέν, ἂν μὴ κατὰ συμβεβηκὸς κατηγορηθῇ· πάντα γὰρ ταῦτα συμβέβηκε καὶ κατὰ τῶν οὐσιῶν κατηγορεῖται. ἀλλὰ δὴ ὅτι οὐδ' εἰς τὸ ἄνω ἄπειρα ἔσται· ἑκάστου γὰρ κατηγορεῖται ὃ ἂν σημαίνῃ ἢ ποιόν τι ἢ ποσόν τι ἤ τι τῶν τοιούτων ἢ τὰ ἐν τῇ οὐσίᾳ· ταῦτα δὲ πεπέρανται, καὶ τὰ γένη τῶν κατηγοριῶν πεπέρανται· ἢ γὰρ ποιὸν ἢ ποσὸν ἢ πρός τι ἢ ποιοῦν ἢ πάσχον ἢ πού ἢ ποτέ. Ὑπόκειται δὴ ἓν καθ' ἑνὸς κατηγορεῖσθαι, αὐτὰ δὲ αὑτῶν, ὅσα μὴ τί ἐστι, μὴ κατηγορεῖσθαι. συμβεβηκότα γάρ ἐστι πάντα, ἀλλὰ τὰ μὲν καθ' αὑτά, τὰ δὲ καθ' ἕτερον τρόπον· ταῦτα δὲ πάντα καθ' ὑποκειμένου τινὸς κατηγορεῖσθαί φαμεν, τὸ δὲ συμβεβηκὸς οὐκ εἶναι ὑποκείμενόν τι· οὐδὲν γὰρ τῶν τοιούτων τίθεμεν εἶναι ὃ οὐχ ἕτερόν τι ὂν λέγεται ὃ λέγεται, ἀλλ' αὐτὸ ἄλλου καὶ τοῦτο καθ' ἑτέρου.

οὔτ᾽ εἰς τὸ ἄνω ἄρα ἓν καθ᾽ ἑνὸς οὔτ᾽ εἰς τὸ κάτω ὑπάρχειν λεχθήσεται. καθ᾽ ὧν μὲν γὰρ λέγεται τὰ συμβεβηκότα, ὅσα ἐν τῇ οὐσίᾳ ἑκάστου, ταῦτα δὲ οὐκ ἄπειρα· ἄνω δὲ ταῦτά τε καὶ τὰ συμβεβηκότα, ἀμφότερα οὐκ ἄπειρα. ἀνάγκη ἄρα εἶναί τι οὗ πρῶτόν τι κατηγορεῖται καὶ τούτου ἄλλο, καὶ τοῦτο ἵστασθαι καὶ εἶναί τι ὃ οὐκέτι οὔτε κατ᾽ ἄλλου προτέρου οὔτε κατ᾽ ἐκείνου ἄλλο πρότερον κατηγορεῖται.

Εἷς μὲν οὖν τρόπος λέγεται ἀποδείξεως οὗτος, ἔτι δ᾽ ἄλλος, εἰ ὧν πρότερα ἄττα κατηγορεῖται, ἔστι τούτων ἀπόδειξις, ὧν δ᾽ ἔστιν ἀπόδειξις, οὔτε βέλτιον ἔχειν ἐγχωρεῖ πρὸς αὐτὰ τοῦ εἰδέναι, οὔτ᾽ εἰδέναι ἄνευ ἀποδείξεως, εἰ δὲ τόδε διὰ τῶνδε γνώριμον, τάδε δὲ μὴ ἴσμεν μηδὲ βέλτιον ἔχομεν πρὸς αὐτὰ τοῦ εἰδέναι, οὐδὲ τὸ διὰ τούτων γνώριμον ἐπιστησόμεθα. εἰ οὖν ἔστι τι εἰδέναι δι᾽ ἀποδείξεως ἁπλῶς καὶ μὴ ἐκ τινῶν μηδ᾽ ἐξ ὑποθέσεως, ἀνάγκη ἵστασθαι τὰς (84a.) κατηγορίας τὰς μεταξύ. εἰ γὰρ μὴ ἵστανται, ἀλλ᾽ ἔστιν ἀεὶ τοῦ ληφθέντος ἐπάνω, ἁπάντων ἔσται ἀπόδειξις· ὥστ᾽ εἰ τὰ ἄπειρα μὴ ἐγχωρεῖ διελθεῖν, ὧν ἔστιν ἀπόδειξις, ταῦτ᾽ οὐκ εἰσόμεθα δι᾽ ἀποδείξεως. εἰ οὖν μηδὲ βέλτιον ἔχομεν πρὸς αὐτὰ τοῦ εἰδέναι, οὐκ ἔσται οὐδὲν ἐπίστασθαι δι᾽ ἀποδείξεως ἁπλῶς, ἀλλ᾽ ἐξ ὑποθέσεως.

Λογικῶς μὲν οὖν ἐκ τούτων ἄν τις πιστεύσειε περὶ τοῦ λεχθέντος, ἀναλυτικῶς δὲ διὰ τῶνδε φανερὸν συντομώτερον, ὅτι οὔτ᾽ ἐπὶ τὸ ἄνω οὔτ᾽ ἐπὶ τὸ κάτω ἄπειρα τὰ κατηγορούμενα ἐνδέχεται εἶναι ἐν ταῖς ἀποδεικτικαῖς ἐπιστήμαις, περὶ ὧν ἡ σκέψις ἐστίν. ἡ μὲν γὰρ ἀπόδειξίς ἐστι τῶν ὅσα ὑπάρχει καθ᾽ αὑτὰ τοῖς πράγμασιν. καθ᾽ αὑτὰ δὲ διττῶς· ὅσα τε γὰρ [ἐν] ἐκείνοις ἐνυπάρχει ἐν τῷ τί ἐστι, καὶ οἷς αὐτὰ ἐν τῷ τί ἐστιν ὑπάρχουσιν αὐτοῖς· οἷον τῷ ἀριθμῷ τὸ περιττόν, ὃ ὑπάρχει μὲν ἀριθμῷ, ἐνυπάρχει δ᾽ αὐτὸς ὁ ἀριθμὸς ἐν τῷ λόγῳ αὐτοῦ, καὶ πάλιν πλῆθος ἢ τὸ διαιρετὸν ἐν τῷ λόγῳ τῷ τοῦ ἀριθμοῦ ἐνυπάρχει. τούτων δ᾽ οὐδέτερα ἐνδέχεται ἄπειρα εἶναι, οὔθ᾽ ὡς τὸ περιττὸν τοῦ ἀριθμοῦ (πάλιν γὰρ ἂν τῷ περιττῷ ἄλλο εἴη ᾧ ἐνυπῆρχεν ὑπάρχοντι· τοῦτο δ᾽ εἰ ἔστι, πρῶτον ὁ ἀριθμὸς ἐνυπάρξει ὑπάρχουσιν αὐτῷ· εἰ οὖν μὴ ἐνδέχεται ἄπειρα τοιαῦτα ὑπάρχειν ἐν τῷ ἑνί, οὐδ᾽ ἐπὶ τὸ ἄνω ἔσται ἄπειρα· ἀλλὰ μὴν ἀνάγκη γε πάντα ὑπάρχειν τῷ πρώτῳ, οἷον τῷ ἀριθμῷ, κἀκείνοις τὸν ἀριθμόν, ὥστ᾽ ἀντιστρέφοντα ἔσται, ἀλλ᾽ οὐχ ὑπερτείνοντα)· οὐδὲ μὴν ὅσα ἐν τῷ τί ἐστιν ἐνυπάρχει, οὐδὲ ταῦτα ἄπειρα· οὐδὲ γὰρ ἂν εἴη ὁρίσασθαι. ὥστ᾽ εἰ τὰ μὲν κατηγορούμενα καθ᾽ αὑτὰ πάντα λέγεται, ταῦτα δὲ μὴ ἄπειρα, ἵσταιτο ἂν τὰ ἐπὶ τὸ ἄνω, ὥστε καὶ ἐπὶ τὸ κάτω.

Εἰ δ᾽ οὕτω, καὶ τὰ ἐν τῷ μεταξὺ δύο ὅρων ἀεὶ πεπερασμένα. εἰ δὲ τοῦτο, δῆλον ἤδη καὶ τῶν ἀποδείξεων ὅτι ἀνάγκη ἀρχάς τε εἶναι, καὶ μὴ πάντων εἶναι ἀπόδειξιν, ὅπερ ἔφαμέν τινας λέγειν κατ’ ἀρχάς. εἰ γὰρ εἰσὶν ἀρχαί, οὔτε πάντ’ ἀποδεικτὰ οὔτ’ εἰς ἄπειρον οἷόν τε βαδίζειν· τὸ γὰρ εἶναι τούτων ὁποτερονοῦν οὐδὲν ἄλλο ἐστὶν ἢ τὸ εἶναι μηδὲν διάστημα ἄμεσον καὶ ἀδιαίρετον, ἀλλὰ πάντα διαιρετά. τῷ γὰρ ἐντὸς ἐμβάλλεσθαι ὅρον, ἀλλ’ οὐ τῷ προσλαμβάνεσθαι ἀποδείκνυται τὸ ἀποδεικνύμενον, ὥστ’ εἰ τοῦτ’ εἰς ἄπειρον ἐνδέχεται ἰέναι, ἐνδέχοιτ’ ἂν δύο ὅρων ἄπειρα μεταξὺ εἶναι μέσα. ἀλλὰ τοῦτ’ ἀδύνατον, εἰ ἵστανται αἱ κατηγορίαι (84b.) ἐπὶ τὸ ἄνω καὶ τὸ κάτω. ὅτι δὲ ἵστανται, δέδεικται λογικῶς μὲν πρότερον, ἀναλυτικῶς δὲ νῦν.

Κεφάλαιο 23

Δεδειγμένων δὲ τούτων φανερὸν ὅτι, ἐάν τι τὸ αὐτὸ δυσὶν ὑπάρχῃ, οἷον τὸ Α τῷ τε Γ καὶ τῷ Δ, μὴ κατηγορουμένου θατέρου κατὰ θατέρου, ἢ μηδαμῶς ἢ μὴ κατὰ παντός, ὅτι οὐκ ἀεὶ κατὰ κοινόν τι ὑπάρξει. οἷον τῷ ἰσοσκελεῖ καὶ τῷ σκαληνεῖ τὸ δυσὶν ὀρθαῖς ἴσας ἔχειν κατὰ κοινόν τι ὑπάρχει (ᾗ γὰρ σχῆμά τι, ὑπάρχει, καὶ οὐχ ᾗ ἕτερον), τοῦτο δ' οὐκ ἀεὶ οὕτως ἔχει. ἔστω γὰρ τὸ Β καθ' ὃ τὸ Α τῷ Γ Δ ὑπάρχει. δῆλον τοίνυν ὅτι καὶ τὸ Β τῷ Γ καὶ Δ κατ' ἄλλο κοινόν, κἀκεῖνο καθ' ἕτερον, ὥστε δύο ὅρων μεταξὺ ἄπειροι ἂν ἐμπίπτοιεν ὅροι. ἀλλ' ἀδύνατον. κατὰ μὲν τοίνυν κοινόν τι ὑπάρχειν οὐκ ἀνάγκη ἀεὶ τὸ αὐτὸ πλείοσιν, εἴπερ ἔσται ἄμεσα διαστήματα. ἐν μέντοι τῷ αὐτῷ γένει καὶ ἐκ τῶν αὐτῶν ἀτόμων ἀνάγκη τοὺς ὅρους εἶναι, εἴπερ τῶν καθ' αὐτὸ ὑπαρχόντων ἔσται τὸ κοινόν· οὐ γὰρ ἦν ἐξ ἄλλου γένους εἰς ἄλλο διαβῆναι τὰ δεικνύμενα.

Φανερὸν δὲ καὶ ὅτι, ὅταν τὸ Α τῷ Β ὑπάρχῃ, εἰ μὲν ἔστι τι μέσον, ἔστι δεῖξαι ὅτι τὸ Α τῷ Β ὑπάρχει, καὶ στοιχεῖα τούτου ἔστι ταὐτὰ καὶ τοσαῦθ' ὅσα μέσα ἐστίν· αἱ γὰρ ἄμεσοι προτάσεις στοιχεῖα, ἢ πᾶσαι ἢ αἱ καθόλου. εἰ δὲ μὴ ἔστιν, οὐκέτι ἔστιν ἀπόδειξις, ἀλλ' ἡ ἐπὶ τὰς ἀρχὰς ὁδὸς αὕτη ἐστίν. ὁμοίως δὲ καὶ εἰ τὸ Α τῷ Β μὴ ὑπάρχει, εἰ μὲν ἔστιν ἢ μέσον ἢ πρότερον ᾧ οὐχ ὑπάρχει, ἔστιν ἀπόδειξις, εἰ δὲ μή, οὐκ ἔστιν, ἀλλ' ἀρχή, καὶ στοιχεῖα τοσαῦτ' ἔστιν ὅσοι ὅροι· αἱ γὰρ τούτων προτάσεις ἀρχαὶ τῆς ἀποδείξεώς εἰσιν. καὶ ὥσπερ ἔνιαι ἀρχαί εἰσιν ἀναπόδεικτοι, ὅτι ἐστὶ τόδε τοδὶ καὶ ὑπάρχει τόδε τῳδί, οὕτω καὶ ὅτι οὐκ ἔστι τόδε τοδὶ οὐδ' ὑπάρχει τόδε τῳδί, ὥσθ' αἱ μὲν εἶναί τι, αἱ δὲ μὴ εἶναί τι ἔσονται ἀρχαί.

Ὅταν δὲ δέῃ δεῖξαι, ληπτέον ὃ τοῦ Β πρῶτον κατηγορεῖται. ἔστω τὸ Γ, καὶ τούτου ὁμοίως τὸ Δ. καὶ οὕτως ἀεὶ βαδίζοντι οὐδέποτ' ἐξωτέρω πρότασις οὐδ' ὑπάρχον λαμβάνεται τοῦ Α ἐν τῷ δεικνύναι, ἀλλ' ἀεὶ τὸ μέσον πυκνοῦται, ἕως ἀδιαίρετα γένηται καὶ ἕν. ἔστι δ' ἓν ὅταν ἄμεσον γένηται, καὶ μία πρότασις ἁπλῶς ἡ ἄμεσος. καὶ ὥσπερ ἐν τοῖς ἄλλοις ἡ ἀρχὴ ἁπλοῦν, τοῦτο δ' οὐ ταὐτὸ πανταχοῦ, ἀλλ' ἐν βάρει μὲν μνᾶ, ἐν δὲ μέλει δίεσις, ἄλλο δ' ἐν ἄλλῳ, οὕτως ἐν συλλογισμῷ τὸ ἓν (85a.) πρότασις ἄμεσος, ἐν δ' ἀποδείξει καὶ ἐπιστήμῃ ὁ νοῦς. ἐν μὲν οὖν τοῖς δεικτικοῖς συλλογισμοῖς τοῦ ὑπάρχοντος οὐδὲν ἔξω πίπτει, ἐν δὲ τοῖς στερητικοῖς, ἔνθα μὲν ὃ δεῖ ὑπάρχειν, οὐδὲν τούτου ἔξω πίπτει, οἷον εἰ τὸ Α τῷ Β διὰ τοῦ Γ μή (εἰ γὰρ τῷ μὲν Β παντὶ τὸ Γ, τῷ δὲ Γ μηδενὶ τὸ Α)· πάλιν ἂν δέῃ ὅτι τῷ Γ τὸ Α οὐδενὶ ὑπάρχει, μέσον ληπτέον τοῦ Α καὶ Γ, καὶ οὕτως ἀεὶ πορεύσεται. ἐὰν δὲ δέῃ δεῖξαι ὅτι τὸ Δ τῷ Ε οὐχ ὑπάρχει τῷ τὸ Γ τῷ μὲν Δ παντὶ ὑπάρχειν, τῷ δὲ Ε μηδενί [ἢ μὴ παντί], τοῦ Ε οὐδέποτ’ ἔξω πεσεῖται· τοῦτο δ’ ἐστὶν ᾧ δεῖ ὑπάρχειν. ἐπὶ δὲ τοῦ τρίτου τρόπου, οὔτε ἀφ’ οὗ δεῖ οὔτε ὃ δεῖ στερῆσαι οὐδέποτ’ ἔξω βαδιεῖται.

Κεφάλαιο 24

Οὔσης δ’ ἀποδείξεως τῆς μὲν καθόλου τῆς δὲ κατὰ μέρος, καὶ τῆς μὲν κατηγορικῆς τῆς δὲ στερητικῆς, ἀμφισβητεῖται ποτέρα βελτίων· ὡς δ’ αὔτως καὶ περὶ τῆς ἀποδεικνύναι λεγομένης καὶ τῆς εἰς τὸ ἀδύνατον ἀγούσης ἀποδείξεως. πρῶτον μὲν οὖν ἐπισκεψώμεθα περὶ τῆς καθόλου καὶ τῆς κατὰ μέρος· δηλώσαντες δὲ τοῦτο, καὶ περὶ τῆς δεικνύναι λεγομένης καὶ τῆς εἰς τὸ ἀδύνατον εἴπωμεν. Δόξειε μὲν οὖν τάχ’ ἄν τισιν ὡδὶ σκοποῦσιν ἡ κατὰ μέρος εἶναι βελτίων. εἰ γὰρ καθ’ ἣν μᾶλλον ἐπιστάμεθα ἀπόδειξιν βελτίων ἀπόδειξις (αὕτη γὰρ ἀρετὴ ἀποδείξεως), μᾶλλον δ’ ἐπιστάμεθα ἕκαστον ὅταν αὐτὸ εἰδῶμεν καθ’ αὐτὸ ἢ ὅταν κατ’ ἄλλο (οἷον τὸν μουσικὸν Κορίσκον ὅταν ὅτι ὁ Κορίσκος μουσικὸς ἢ ὅταν ὅτι ἄνθρωπος μουσικός· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων), ἡ δὲ καθόλου ὅτι ἄλλο, οὐχ ὅτι αὐτὸ τετύχηκεν ἐπιδείκνυσιν (οἷον ὅτι τὸ ἰσοσκελὲς οὐχ ὅτι ἰσοσκελὲς ἀλλ’ ὅτι τρίγωνον), ἡ δὲ κατὰ μέρος ὅτι αὐτό· -εἰ δὴ βελτίων μὲν ἡ καθ’ αὑτό, τοιαύτη δ’ ἡ κατὰ μέρος τῆς καθόλου μᾶλλον, καὶ βελτίων ἂν ἡ κατὰ μέρος ἀπόδειξις εἴη. ἔτι εἰ τὸ μὲν καθόλου μὴ ἔστι τι παρὰ τὰ καθ’ ἕκαστα, ἡ δ’ ἀπόδειξις δόξαν ἐμποιεῖ εἶναί τι τοῦτο καθ’ ὃ ἀποδείκνυσι, καί τινα φύσιν ὑπάρχειν ἐν τοῖς οὖσι ταύτην, οἷον τριγώνου παρὰ τὰ τινὰ καὶ σχήματος παρὰ τὰ τινὰ καὶ ἀριθμοῦ παρὰ τοὺς τινὰς ἀριθμούς, βελτίων δ’ ἡ περὶ ὄντος ἢ μὴ ὄντος καὶ δι’ ἣν μὴ ἀπατηθήσεται ἢ δι’ ἥν, ἔστι δ’ ἡ μὲν καθόλου τοιαύτη (προϊόντες γὰρ δεικνύουσιν ὥσπερ περὶ τοῦ ἀνὰ λόγον, οἷον ὅτι ὃ ἂν ᾖ τι τοιοῦτον ἔσται ἀνὰ λόγον ὃ οὔτε γραμμὴ οὔτ’ ἀριθμὸς οὔτε στερεὸν οὔτ’ ἐπίπεδον, (85b.) ἀλλὰ παρὰ ταῦτά τι)· -εἰ οὖν καθόλου μὲν μᾶλλον αὕτη, περὶ ὄντος δ’ ἧττον τῆς κατὰ μέρος καὶ ἐμποιεῖ δόξαν ψευδῆ, χείρων ἂν εἴη ἡ καθόλου τῆς κατὰ μέρος.

Ἢ πρῶτον μὲν οὐδὲν μᾶλλον ἐπὶ τοῦ καθόλου ἢ τοῦ κατὰ μέρος ἅτερος λόγος ἐστίν; εἰ γὰρ τὸ δυσὶν ὀρθαῖς ὑπάρχει μὴ ᾗ ἰσοσκελὲς ἀλλ’ ᾗ τρίγωνον, ὁ εἰδὼς ὅτι ἰσοσκελὲς ἧττον οἶδεν ᾗ αὐτὸ ἢ ὁ εἰδὼς ὅτι τρίγωνον. ὅλως τε, εἰ μὲν μὴ ὄντος ᾗ τρίγωνον εἶτα δείκνυσιν, οὐκ ἂν εἴη ἀπόδειξις, εἰ δὲ ὄντος, ὁ εἰδὼς ἕκαστον ᾗ ἕκαστον ὑπάρχει μᾶλλον οἶδεν. εἰ δὴ τὸ τρίγωνον ἐπὶ πλέον ἐστί, καὶ ὁ αὐτὸς λόγος, καὶ μὴ καθ’ ὁμωνυμίαν τὸ τρίγωνον, καὶ ὑπάρχει παντὶ τριγώνῳ τὸ δύο, οὐκ ἂν τὸ τρίγωνον ᾗ ἰσοσκελές, ἀλλὰ τὸ ἰσοσκελὲς ᾗ τρίγωνον, ἔχοι τοιαύτας τὰς γωνίας. ὥστε ὁ καθόλου εἰδὼς μᾶλλον οἶδεν ᾗ ὑπάρχει ἢ ὁ κατὰ μέρος. βελτίων ἄρα ἡ καθόλου τῆς κατὰ μέρος. ἔτι εἰ μὲν εἴη τις λόγος εἷς καὶ μὴ ὁμωνυμία τὸ καθόλου, εἴη τ’ ἂν οὐδὲν ἧττον ἐνίων τῶν κατὰ μέρος, ἀλλὰ καὶ μᾶλλον, ὅσῳ τὰ ἄφθαρτα ἐν ἐκείνοις ἐστί, τὰ δὲ κατὰ μέρος φθαρτὰ μᾶλλον, ἔτι τε οὐδεμία ἀνάγκη ὑπολαμβάνειν τι εἶναι τοῦτο παρὰ ταῦτα, ὅτι ἓν δηλοῖ, οὐδὲν μᾶλλον ἢ ἐπὶ τῶν ἄλλων ὅσα μὴ τὶ σημαίνει ἀλλ’ ἢ ποιὸν ἢ πρός τι ἢ ποιεῖν. εἰ δὲ ἄρα, οὐχ ἡ ἀπόδειξις αἰτία ἀλλ’ ὁ ἀκούων.

Ἔτι εἰ ἡ ἀπόδειξις μέν ἐστι συλλογισμὸς δεικτικὸς αἰτίας καὶ τοῦ διὰ τί, τὸ καθόλου δ’ αἰτιώτερον (ᾧ γὰρ καθ’ αὑτὸ ὑπάρχει τι, τοῦτο αὐτὸ αὑτῷ αἴτιον· τὸ δὲ καθόλου πρῶτον· αἴτιον ἄρα τὸ καθόλου)· ὥστε καὶ ἡ ἀπόδειξις βελτίων· μᾶλλον γὰρ τοῦ αἰτίου καὶ τοῦ διὰ τί ἐστιν.

Ἔτι μέχρι τούτου ζητοῦμεν τὸ διὰ τί, καὶ τότε οἰόμεθα εἰδέναι, ὅταν μὴ ᾖ ὅτι τι ἄλλο τοῦτο ἢ γινόμενον ἢ ὄν· τέλος γὰρ καὶ πέρας τὸ ἔσχατον ἤδη οὕτως ἐστίν. οἷον τίνος ἕνεκα ἦλθεν; ὅπως λάβῃ τἀργύριον, τοῦτο δ’ ὅπως ἀποδῷ ὃ ὤφειλε, τοῦτο δ’ ὅπως μὴ ἀδικήσῃ· καὶ οὕτως ἰόντες, ὅταν μηκέτι δι’ ἄλλο μηδ’ ἄλλου ἕνεκα, διὰ τοῦτο ὡς τέλος φαμὲν ἐλθεῖν καὶ εἶναι καὶ γίνεσθαι, καὶ τότε εἰδέναι μάλιστα διὰ τί ἦλθεν. εἰ δὴ ὁμοίως ἔχει ἐπὶ πασῶν τῶν αἰτιῶν καὶ τῶν διὰ τί, ἐπὶ δὲ τῶν ὅσα αἴτια οὕτως ὡς οὗ ἕνεκα οὕτως ἴσμεν μάλιστα, καὶ ἐπὶ τῶν ἄλλων ἄρα τότε μάλιστα ἴσμεν, ὅταν μηκέτι ὑπάρχῃ τοῦτο ὅτι ἄλλο. ὅταν μὲν οὖν γινώσκωμεν ὅτι τέτταρσιν αἱ ἔξω ἴσαι ὅτι ἰσοσκελές, ἔτι λείπεται διὰ (86a.) τί τὸ ἰσοσκελές-ὅτι τρίγωνον, καὶ τοῦτο, ὅτι σχῆμα εὐθύγραμμον. εἰ δὲ τοῦτο μηκέτι διότι ἄλλο, τότε μάλιστα ἴσμεν. καὶ καθόλου δὲ τότε· ἡ καθόλου ἄρα βελτίων.

Ἔτι ὅσῳ ἂν μᾶλλον κατὰ μέρος ᾖ, εἰς τὰ ἄπειρα ἐμπίπτει, ἡ δὲ καθόλου εἰς τὸ ἁπλοῦν καὶ τὸ πέρας. ἔστι δ’, ᾗ μὲν ἄπειρα, οὐκ ἐπιστητά, ᾗ δὲ πεπέρανται, ἐπιστητά. ᾗ ἄρα καθόλου, μᾶλλον ἐπιστητὰ ἢ ᾗ κατὰ μέρος. ἀποδεικτὰ ἄρα μᾶλλον τὰ καθόλου. τῶν δ’ ἀποδεικτῶν μᾶλλον μᾶλλον ἀπόδειξις· ἅμα γὰρ μᾶλλον τὰ πρός τι. βελτίων ἄρα ἡ καθόλου, ἐπείπερ καὶ μᾶλλον ἀπόδειξις. Ἔτι εἰ αἱρετωτέρα καθ’ ἣν τοῦτο καὶ ἄλλο ἢ καθ’ ἣν τοῦτο μόνον οἶδεν· ὁ δὲ τὴν καθόλου ἔχων οἶδε καὶ τὸ κατὰ μέρος, οὗτος δὲ τὴν καθόλου οὐκ οἶδεν· ὥστε κἂν οὕτως αἱρετωτέρα εἴη. Ἔτι δὲ ὧδε. τὸ γὰρ καθόλου μᾶλλον δεικνύναι ἐστὶ τὸ διὰ μέσου δεικνύναι ἐγγυτέρω ὄντος τῆς ἀρχῆς. ἐγγυτάτω δὲ τὸ ἄμεσον· τοῦτο δ’ ἀρχή. εἰ οὖν ἡ ἐξ ἀρχῆς τῆς μὴ ἐξ ἀρχῆς, ἡ μᾶλλον ἐξ ἀρχῆς τῆς ἧττον ἀκριβεστέρα ἀπόδειξις. ἔστι δὲ τοιαύτη ἡ καθόλου μᾶλλον· κρείττων <ἄρ’ > ἂν εἴη ἡ καθόλου. οἷον εἰ ἔδει ἀποδεῖξαι τὸ Α κατὰ τοῦ Δ· μέσα τὰ ἐφ’ ὧν Β Γ· ἀνωτέρω δὴ τὸ Β, ὥστε ἡ διὰ τούτου καθόλου μᾶλλον.

Ἀλλὰ τῶν μὲν εἰρημένων ἔνια λογικά ἐστι· μάλιστα δὲ δῆλον ὅτι ἡ καθόλου κυριωτέρα, ὅτι τῶν προτάσεων τὴν μὲν προτέραν ἔχοντες ἴσμεν πως καὶ τὴν ὑστέραν καὶ ἔχομεν δυνάμει, οἷον εἴ τις οἶδεν ὅτι πᾶν τρίγωνον δυσὶν ὀρθαῖς, οἶδέ πως καὶ τὸ ἰσοσκελὲς ὅτι δύο ὀρθαῖς, δυνάμει, καὶ εἰ μὴ οἶδε τὸ ἰσοσκελὲς ὅτι τρίγωνον· ὁ δὲ ταύτην ἔχων τὴν πρότασιν τὸ καθόλου οὐδαμῶς οἶδεν, οὔτε δυνάμει οὔτ’ ἐνεργείᾳ. καὶ ἡ μὲν καθόλου νοητή, ἡ δὲ κατὰ μέρος εἰς αἴσθησιν τελευτᾷ.

Κεφάλαιο 25

Ὅτι μὲν οὖν ἡ καθόλου βελτίων τῆς κατὰ μέρος, τοσαῦθ’ ἡμῖν εἰρήσθω· ὅτι δ’ ἡ δεικτικὴ τῆς στερητικῆς, ἐντεῦθεν δῆλον. ἔστω γὰρ αὕτη ἡ ἀπόδειξις βελτίων τῶν ἄλλων τῶν αὐτῶν ὑπαρχόντων, ἡ ἐξ ἐλαττόνων αἰτημάτων ἢ ὑποθέσεων ἢ προτάσεων. εἰ γὰρ γνώριμοι ὁμοίως, τὸ θᾶττον γνῶναι διὰ τούτων ὑπάρξει· τοῦτο δ’ αἱρετώτερον. λόγος δὲ τῆς προτάσεως, ὅτι βελτίων ἡ ἐξ ἐλαττόνων, καθόλου ὅδε· εἰ γὰρ ὁμοίως εἴη τὸ γνώριμα εἶναι τὰ μέσα, τὰ δὲ πρότερα γνωριμώτερα, ἔστω ἡ μὲν διὰ μέσων ἀπόδειξις τῶν (86b.) Β Γ Δ ὅτι τὸ Α τῷ Ε ὑπάρχει, ἡ δὲ διὰ τῶν Ζ Η ὅτι τὸ Α τῷ Ε. ὁμοίως δὴ ἔχει τὸ ὅτι τὸ Α τῷ Δ ὑπάρχει καὶ τὸ Α τῷ Ε. τὸ δ’ ὅτι τὸ Α τῷ Δ πρότερον καὶ γνωριμώτερον ἢ ὅτι τὸ Α τῷ Ε· διὰ γὰρ τούτου ἐκεῖνο ἀποδείκνυται, πιστότερον δὲ τὸ δι’ οὗ. καὶ ἡ διὰ τῶν ἐλαττόνων ἄρα ἀπόδειξις βελτίων τῶν ἄλλων τῶν αὐτῶν ὑπαρχόντων. ἀμφότεραι μὲν οὖν διά τε ὅρων τριῶν καὶ προτάσεων δύο δείκνυνται, ἀλλ’ ἡ μὲν εἶναί τι λαμβάνει, ἡ δὲ καὶ εἶναι καὶ μὴ εἶναί τι· διὰ πλειόνων ἄρα, ὥστε χείρων.

Ἔτι ἐπειδὴ δέδεικται ὅτι ἀδύνατον ἀμφοτέρων οὐσῶν στερητικῶν τῶν προτάσεων γενέσθαι συλλογισμόν, ἀλλὰ τὴν μὲν δεῖ τοιαύτην εἶναι, τὴν δ’ ὅτι ὑπάρχει, ἔτι πρὸς τούτῳ δεῖ τόδε λαβεῖν. τὰς μὲν γὰρ κατηγορικὰς αὐξανομένης τῆς ἀποδείξεως ἀναγκαῖον γίνεσθαι πλείους, τὰς δὲ στερητικὰς ἀδύνατον πλείους εἶναι μιᾶς ἐν ἅπαντι συλλογισμῷ. ἔστω γὰρ μηδενὶ ὑπάρχον τὸ Α ἐφ’ ὅσων τὸ Β, τῷ δὲ Γ ὑπάρχον παντὶ τὸ Β. ἂν δὴ δέῃ πάλιν αὔξειν ἀμφοτέρας τὰς προτάσεις, μέσον ἐμβλητέον. τοῦ μὲν Α Β ἔστω τὸ Δ, τοῦ δὲ Β Γ τὸ Ε. τὸ μὲν δὴ Ε φανερὸν ὅτι κατηγορικόν, τὸ δὲ Δ τοῦ μὲν Β κατηγορικόν, πρὸς δὲ τὸ Α στερητικὸν κεῖται. τὸ μὲν γὰρ Δ παντὸς τοῦ Β, τὸ δὲ Α οὐδενὶ δεῖ τῶν Δ ὑπάρχειν. γίνεται οὖν μία στερητικὴ πρότασις ἡ τὸ Α Δ. ὁ δ’ αὐτὸς τρόπος καὶ ἐπὶ τῶν ἑτέρων συλλογισμῶν. ἀεὶ γὰρ τὸ μέσον τῶν κατηγορικῶν ὅρων κατηγορικὸν ἐπ’ ἀμφότερα· τοῦ δὲ στερητικοῦ ἐπὶ θάτερα στερητικὸν ἀναγκαῖον εἶναι, ὥστε αὕτη μία τοιαύτη γίνεται πρότασις, αἱ δ’ ἄλλαι κατηγορικαί. εἰ δὴ γνωριμώτερον δι’ οὗ δείκνυται καὶ πιστότερον, δείκνυται δ’ ἡ μὲν στερητικὴ διὰ τῆς κατηγορικῆς, αὕτη δὲ δι’ ἐκείνης οὐ δείκνυται, προτέρα καὶ γνωριμωτέρα οὖσα καὶ πιστοτέρα βελτίων ἂν εἴη. ἔτι εἰ ἀρχὴ συλλογισμοῦ ἡ καθόλου πρότασις ἄμεσος, ἔστι δ’ ἐν μὲν τῇ δεικτικῇ καταφατικὴ ἐν δὲ τῇ στερητικῇ ἀποφατικὴ ἡ καθόλου πρότασις, ἡ δὲ καταφατικὴ τῆς ἀποφατικῆς προτέρα καὶ γνωριμωτέρα (διὰ γὰρ τὴν κατάφασιν ἡ ἀπόφασις γνώριμος, καὶ προτέρα ἡ κατάφασις, ὥσπερ καὶ τὸ εἶναι τοῦ μὴ εἶναι)· ὥστε βελτίων ἡ ἀρχὴ τῆς δεικτικῆς ἢ τῆς στερητικῆς· ἡ δὲ βελτίοσιν ἀρχαῖς χρωμένη βελτίων. ἔτι ἀρχοειδεστέρα· ἄνευ γὰρ τῆς δεικνυούσης οὐκ ἔστιν ἡ στερητική.

Κεφάλαιο 26

(87a.) Ἐπεὶ δ’ ἡ κατηγορικὴ τῆς στερητικῆς βελτίων, δῆλον ὅτι καὶ τῆς εἰς τὸ ἀδύνατον ἀγούσης. δεῖ δ’ εἰδέναι τίς ἡ διαφορὰ αὐτῶν. ἔστω δὴ τὸ Α μηδενὶ ὑπάρχον τῷ Β, τῷ δὲ Γ τὸ Β παντί· ἀνάγκη δὴ τῷ Γ μηδενὶ ὑπάρχειν τὸ Α. οὕτω μὲν οὖν ληφθέντων δεικτικὴ ἡ στερητικὴ ἂν εἴη ἀπόδειξις ὅτι τὸ Α τῷ Γ οὐχ ὑπάρχει. ἡ δ’ εἰς τὸ ἀδύνατον ὧδ’ ἔχει. εἰ δέοι δεῖξαι ὅτι τὸ Α τῷ Β οὐχ ὑπάρχει, ληπτέον ὑπάρχειν, καὶ τὸ Β τῷ Γ, ὥστε συμβαίνει τὸ Α τῷ Γ ὑπάρχειν. τοῦτο δ’ ἔστω γνώριμον καὶ ὁμολογούμενον ὅτι ἀδύνατον. οὐκ ἄρα οἷόν τε τὸ Α τῷ Β ὑπάρχειν. εἰ οὖν τὸ Β τῷ Γ ὁμολογεῖται ὑπάρχειν, τὸ Α τῷ Β ἀδύνατον ὑπάρχειν. οἱ μὲν οὖν ὅροι ὁμοίως τάττονται, διαφέρει δὲ τὸ ὁποτέρα ἂν ᾖ γνωριμωτέρα ἡ πρότασις ἡ στερητική, πότερον ὅτι τὸ Α τῷ Β οὐχ ὑπάρχει ἢ ὅτι τὸ Α τῷ Γ. ὅταν μὲν οὖν ᾖ τὸ συμπέρασμα γνωριμώτερον ὅτι οὐκ ἔστιν, ἡ εἰς τὸ ἀδύνατον γίνεται ἀπόδειξις, ὅταν δ’ ἡ ἐν τῷ συλλογισμῷ, ἡ ἀποδεικτική. φύσει δὲ προτέρα ἡ ὅτι τὸ Α τῷ Β ἢ ὅτι τὸ Α τῷ Γ. πρότερα γάρ ἐστι τοῦ συμπεράσματος ἐξ ὧν τὸ συμπέρασμα· ἔστι δὲ τὸ μὲν Α τῷ Γ μὴ ὑπάρχειν συμπέρασμα, τὸ δὲ Α τῷ Β ἐξ οὗ τὸ συμπέρασμα. οὐ γὰρ εἰ συμβαίνει ἀναιρεῖσθαί τι, τοῦτο συμπέρασμά ἐστιν, ἐκεῖνα δὲ ἐξ ὧν, ἀλλὰ τὸ μὲν ἐξ οὗ συλλογισμός ἐστιν ὃ ἂν οὕτως ἔχῃ ὥστε ἢ ὅλον πρὸς μέρος ἢ μέρος πρὸς ὅλον ἔχειν, αἱ δὲ τὸ Α Γ καὶ Β Γ προτάσεις οὐκ ἔχουσιν οὕτω πρὸς ἀλλήλας. εἰ οὖν ἡ ἐκ γνωριμωτέρων καὶ προτέρων κρείττων, εἰσὶ δ’ ἀμφότεραι ἐκ τοῦ μὴ εἶναί τι πισταί, ἀλλ’ ἡ μὲν ἐκ προτέρου ἡ δ’ ἐξ ὑστέρου, βελτίων ἁπλῶς ἂν εἴη τῆς εἰς τὸ ἀδύνατον ἡ στερητικὴ ἀπόδειξις, ὥστε καὶ ἡ ταύτης βελτίων ἡ κατηγορικὴ δῆλον ὅτι καὶ τῆς εἰς τὸ ἀδύνατόν ἐστι βελτίων.

Κεφάλαιο 27

Ἀκριβεστέρα δ’ ἐπιστήμη ἐπιστήμης καὶ προτέρα ἥ τε τοῦ ὅτι καὶ διότι ἡ αὐτή, ἀλλὰ μὴ χωρὶς τοῦ ὅτι τῆς τοῦ διότι, καὶ ἡ μὴ καθ’ ὑποκειμένου τῆς καθ’ ὑποκειμένου, οἷον ἀριθμητικὴ ἁρμονικῆς, καὶ ἡ ἐξ ἐλαττόνων τῆς ἐκ προσθέσεως, οἷον γεωμετρίας ἀριθμητική. λέγω δ’ ἐκ προσθέσεως, οἷον μονὰς οὐσία ἄθετος, στιγμὴ δὲ οὐσία θετός· ταύτην ἐκ προσθέσεως.

Κεφάλαιο 28

Μία δ’ ἐπιστήμη ἐστὶν ἡ ἑνὸς γένους, ὅσα ἐκ τῶν πρώτων σύγκειται καὶ μέρη ἐστὶν ἢ πάθη τούτων καθ’ αὑτά. ἑτέρα δ’ ἐπιστήμη ἐστὶν ἑτέρας, ὅσων αἱ ἀρχαὶ μήτ’ ἐκ τῶν αὐτῶν (87b.) μήθ’ ἅτεραι ἐκ τῶν ἑτέρων. τούτου δὲ σημεῖον, ὅταν εἰς τὰ ἀναπόδεικτα ἔλθῃ· δεῖ γὰρ αὐτὰ ἐν τῷ αὐτῷ γένει εἶναι τοῖς ἀποδεδειγμένοις. σημεῖον δὲ καὶ τούτου, ὅταν τὰ δεικνύμενα δι’ αὐτῶν ἐν ταὐτῷ γένει ὦσι καὶ συγγενῆ.

Κεφάλαιο 29

Πλείους δ’ ἀποδείξεις εἶναι τοῦ αὐτοῦ ἐγχωρεῖ οὐ μόνον ἐκ τῆς αὐτῆς συστοιχίας λαμβάνοντι μὴ τὸ συνεχὲς μέσον, οἷον τῶν Α Β τὸ Γ καὶ Δ καὶ Ζ, ἀλλὰ καὶ ἐξ ἑτέρας. οἷον ἔστω τὸ Α μεταβάλλειν, τὸ δ’ ἐφ’ ᾧ Δ κινεῖσθαι, τὸ δὲ Β ἥδεσθαι, καὶ πάλιν τὸ Η ἠρεμίζεσθαι. ἀληθὲς οὖν καὶ τὸ Δ τοῦ Β καὶ τὸ Α τοῦ Δ κατηγορεῖν· ὁ γὰρ ἡδόμενος κινεῖται καὶ τὸ κινούμενον μεταβάλλει. πάλιν τὸ Α τοῦ Η καὶ τὸ Η τοῦ Β ἀληθὲς κατηγορεῖν· πᾶς γὰρ ὁ ἡδόμενος ἠρεμίζεται καὶ ὁ ἠρεμιζόμενος μεταβάλλει. ὥστε δι’ ἑτέρων μέσων καὶ οὐκ ἐκ τῆς αὐτῆς συστοιχίας ὁ συλλογισμός. οὐ μὴν ὥστε μηδέτερον κατὰ μηδετέρου λέγεσθαι τῶν μέσων· ἀνάγκη γὰρ τῷ αὐτῷ τινι ἄμφω ὑπάρχειν. ἐπισκέψασθαι δὲ καὶ διὰ τῶν ἄλλων σχημάτων ὁσαχῶς ἐνδέχεται τοῦ αὐτοῦ γενέσθαι συλλογισμόν.

Κεφάλαιο 30

Τοῦ δ’ ἀπὸ τύχης οὐκ ἔστιν ἐπιστήμη δι’ ἀποδείξεως. οὔτε γὰρ ὡς ἀναγκαῖον οὔθ’ ὡς ἐπὶ τὸ πολὺ τὸ ἀπὸ τύχης ἐστίν, ἀλλὰ τὸ παρὰ ταῦτα γινόμενον· ἡ δ’ ἀπόδειξις θατέρου τούτων. πᾶς γὰρ συλλογισμὸς ἢ δι’ ἀναγκαίων ἢ διὰ τῶν ὡς ἐπὶ τὸ πολὺ προτάσεων· καὶ εἰ μὲν αἱ προτάσεις ἀναγκαῖαι, καὶ τὸ συμπέρασμα ἀναγκαῖον, εἰ δ’ ὡς ἐπὶ τὸ πολύ, καὶ τὸ συμπέρασμα τοιοῦτον. ὥστ’ εἰ τὸ ἀπὸ τύχης μήθ’ ὡς ἐπὶ τὸ πολὺ μήτ’ ἀναγκαῖον, οὐκ ἂν εἴη αὐτοῦ ἀπόδειξις.

Κεφάλαιο 31

Οὐδὲ δι’ αἰσθήσεως ἔστιν ἐπίστασθαι. εἰ γὰρ καὶ ἔστιν ἡ αἴσθησις τοῦ τοιοῦδε καὶ μὴ τοῦδέ τινος, ἀλλ’ αἰσθάνεσθαί γε ἀναγκαῖον τόδε τι καὶ ποὺ καὶ νῦν. τὸ δὲ καθόλου καὶ ἐπὶ πᾶσιν ἀδύνατον αἰσθάνεσθαι· οὐ γὰρ τόδε οὐδὲ νῦν· οὐ γὰρ ἂν ἦν καθόλου· τὸ γὰρ ἀεὶ καὶ πανταχοῦ καθόλου φαμὲν εἶναι. ἐπεὶ οὖν αἱ μὲν ἀποδείξεις καθόλου, ταῦτα δ’ οὐκ ἔστιν αἰσθάνεσθαι, φανερὸν ὅτι οὐδ’ ἐπίστασθαι δι’ αἰσθήσεως ἔστιν, ἀλλὰ δῆλον ὅτι καὶ εἰ ἦν αἰσθάνεσθαι τὸ τρίγωνον ὅτι δυσὶν ὀρθαῖς ἴσας ἔχει τὰς γωνίας, ἐζητοῦμεν ἂν ἀπόδειξιν καὶ οὐχ ὥσπερ φασί τινες ἠπιστάμεθα· αἰσθάνεσθαι μὲν γὰρ ἀνάγκη καθ’ ἕκαστον, ἡ δ’ ἐπιστήμη τὸ τὸ καθόλου γνωρίζειν ἐστίν. διὸ καὶ εἰ ἐπὶ τῆς σελήνης ὄντες ἑωρῶμεν ἀντιφράττουσαν τὴν γῆν, οὐκ ἂν ᾔδειμεν τὴν αἰτίαν (88a.) τῆς ἐκλείψεως. ᾐσθανόμεθα γὰρ ἂν ὅτι νῦν ἐκλείπει, καὶ οὐ διότι ὅλως· οὐ γὰρ ἦν τοῦ καθόλου αἴσθησις. οὐ μὴν ἀλλ’ ἐκ τοῦ θεωρεῖν τοῦτο πολλάκις συμβαῖνον τὸ καθόλου ἂν θηρεύσαντες ἀπόδειξιν εἴχομεν· ἐκ γὰρ τῶν καθ’ ἕκαστα πλειόνων τὸ καθόλου δῆλον. τὸ δὲ καθόλου τίμιον, ὅτι δηλοῖ τὸ αἴτιον· ὥστε περὶ τῶν τοιούτων ἡ καθόλου τιμιωτέρα τῶν αἰσθήσεων καὶ τῆς νοήσεως, ὅσων ἕτερον τὸ αἴτιον· περὶ δὲ τῶν πρώτων ἄλλος λόγος.

Φανερὸν οὖν ὅτι ἀδύνατον τῷ αἰσθάνεσθαι ἐπίστασθαί τι τῶν ἀποδεικτῶν, εἰ μή τις τὸ αἰσθάνεσθαι τοῦτο λέγει, τὸ ἐπιστήμην ἔχειν δι’ ἀποδείξεως. ἔστι μέντοι ἔνια ἀναγόμενα εἰς αἰσθήσεως ἔκλειψιν ἐν τοῖς προβλήμασιν. ἔνια γὰρ εἰ ἑωρῶμεν οὐκ ἂν ἐζητοῦμεν, οὐχ ὡς εἰδότες τῷ ὁρᾶν, ἀλλ’ ὡς ἔχοντες τὸ καθόλου ἐκ τοῦ ὁρᾶν. οἷον εἰ τὴν ὕαλον τετρυπημένην ἑωρῶμεν καὶ τὸ φῶς διιόν, δῆλον ἂν ἦν καὶ διὰ τί καίει, τῷ ὁρᾶν μὲν χωρὶς ἐφ’ ἑκάστης, νοῆσαι δ’ ἅμα ὅτι ἐπὶ πασῶν οὕτως.

Κεφάλαιο 32

Τὰς δ’ αὐτὰς ἀρχὰς ἁπάντων εἶναι τῶν συλλογισμῶν ἀδύνατον, πρῶτον μὲν λογικῶς θεωροῦσιν. οἱ μὲν γὰρ ἀληθεῖς εἰσι τῶν συλλογισμῶν, οἱ δὲ ψευδεῖς. καὶ γὰρ εἰ ἔστιν ἀληθὲς ἐκ ψευδῶν συλλογίσασθαι, ἀλλ’ ἅπαξ τοῦτο γίνεται, οἷον εἰ τὸ Α κατὰ τοῦ Γ ἀληθές, τὸ δὲ μέσον τὸ Β ψεῦδος· οὔτε γὰρ τὸ Α τῷ Β ὑπάρχει οὔτε τὸ Β τῷ Γ. ἀλλ’ ἐὰν τούτων μέσα λαμβάνηται τῶν προτάσεων, ψευδεῖς ἔσονται διὰ τὸ πᾶν συμπέρασμα ψεῦδος ἐκ ψευδῶν εἶναι, τὰ δ’ ἀληθῆ ἐξ ἀληθῶν, ἕτερα δὲ τὰ ψευδῆ καὶ τἀληθῆ. εἶτα οὐδὲ τὰ ψευδῆ ἐκ τῶν αὐτῶν ἑαυτοῖς· ἔστι γὰρ ψευδῆ ἀλλήλοις καὶ ἐναντία καὶ ἀδύνατα ἅμα εἶναι, οἷον τὸ τὴν δικαιοσύνην εἶναι ἀδικίαν ἢ δειλίαν, καὶ τὸν ἄνθρωπον ἵππον ἢ βοῦν, ἢ τὸ ἴσον μεῖζον ἢ ἔλαττον.

Ἐκ δὲ τῶν κειμένων ὧδε· οὐδὲ γὰρ τῶν ἀληθῶν αἱ αὐταὶ ἀρχαὶ πάντων. ἕτεραι γὰρ πολλῶν τῷ γένει αἱ ἀρχαί, καὶ οὐδ’ ἐφαρμόττουσαι, οἷον αἱ μονάδες ταῖς στιγμαῖς οὐκ ἐφαρμόττουσιν· αἱ μὲν γὰρ οὐκ ἔχουσι θέσιν, αἱ δὲ ἔχουσιν. ἀνάγκη δέ γε ἢ εἰς μέσα ἁρμόττειν ἢ ἄνωθεν ἢ κάτωθεν, ἢ τοὺς μὲν εἴσω ἔχειν τοὺς δ’ ἔξω τῶν ὅρων. ἀλλ’ οὐδὲ τῶν κοινῶν ἀρχῶν οἷόν τ’ εἶναί τινας ἐξ ὧν ἅπαντα δειχθήσεται· λέγω δὲ κοινὰς (88b.) οἷον τὸ πᾶν φάναι ἢ ἀποφάναι. τὰ γὰρ γένη τῶν ὄντων ἕτερα, καὶ τὰ μὲν τοῖς ποσοῖς τὰ δὲ τοῖς ποιοῖς ὑπάρχει μόνοις, μεθ’ ὧν δείκνυται διὰ τῶν κοινῶν. ἔτι αἱ ἀρχαὶ οὐ πολλῷ ἐλάττους τῶν συμπερασμάτων· ἀρχαὶ μὲν γὰρ αἱ προτάσεις, αἱ δὲ προτάσεις ἢ προσλαμβανομένου ὅρου ἢ ἐμβαλλομένου εἰσίν. ἔτι τὰ συμπεράσματα ἄπειρα, οἱ δ’ ὅροι πεπερασμένοι. ἔτι αἱ ἀρχαὶ αἱ μὲν ἐξ ἀνάγκης, αἱ δ’ ἐνδεχόμεναι.

Οὕτω μὲν οὖν σκοπουμένοις ἀδύνατον τὰς αὐτὰς εἶναι πεπερασμένας, ἀπείρων ὄντων τῶν συμπερασμάτων. εἰ δ’ ἄλλως πως λέγοι τις, οἷον ὅτι αἱδὶ μὲν γεωμετρίας αἱδὶ δὲ λογισμῶν αἱδὶ δὲ ἰατρικῆς, τί ἂν εἴη τὸ λεγόμενον ἄλλο πλὴν ὅτι εἰσὶν ἀρχαὶ τῶν ἐπιστημῶν; τὸ δὲ τὰς αὐτὰς φάναι γελοῖον, ὅτι αὐταὶ αὑταῖς αἱ αὐταί· πάντα γὰρ οὕτω γίγνεται ταὐτά. ἀλλὰ μὴν οὐδὲ τὸ ἐξ ἁπάντων δείκνυσθαι ὁτιοῦν, τοῦτ’ ἐστὶ τὸ ζητεῖν ἁπάντων εἶναι τὰς αὐτὰς ἀρχάς· λίαν γὰρ εὔηθες. οὔτε γὰρ ἐν τοῖς φανεροῖς μαθήμασι τοῦτο γίνεται, οὔτ’ ἐν τῇ ἀναλύσει δυνατόν· αἱ γὰρ ἄμεσοι προτάσεις ἀρχαί, ἕτερον δὲ συμπέρασμα προσληφθείσης γίνεται προτάσεως ἀμέσου. εἰ δὲ λέγοι τις τὰς πρώτας ἀμέσους προτάσεις, ταύτας εἶναι ἀρχάς, μία ἐν ἑκάστῳ γένει ἐστίν. εἰ δὲ μήτ' ἐξ ἁπασῶν ὡς δέον δείκνυσθαι ὁτιοῦν μήθ' οὕτως ἑτέρας ὥσθ' ἑκάστης ἐπιστήμης εἶναι ἑτέρας, λείπεται εἰ συγγενεῖς αἱ ἀρχαὶ πάντων, ἀλλ' ἐκ τωνδὶ μὲν ταδί, ἐκ δὲ τωνδὶ ταδί. φανερὸν δὲ καὶ τοῦθ' ὅτι οὐκ ἐνδέχεται· δέδεικται γὰρ ὅτι ἄλλαι ἀρχαὶ τῷ γένει εἰσὶν αἱ τῶν διαφόρων τῷ γένει. αἱ γὰρ ἀρχαὶ διτταί, ἐξ ὧν τε καὶ περὶ ὅ· αἱ μὲν οὖν ἐξ ὧν κοιναί, αἱ δὲ περὶ ὃ ἴδιαι, οἷον ἀριθμός, μέγεθος.

Κεφάλαιο 33

Τὸ δ’ ἐπιστητὸν καὶ ἐπιστήμη διαφέρει τοῦ δοξαστοῦ καὶ δόξης, ὅτι ἡ μὲν ἐπιστήμη καθόλου καὶ δι’ ἀναγκαίων, τὸ δ’ ἀναγκαῖον οὐκ ἐνδέχεται ἄλλως ἔχειν. ἔστι δέ τινα ἀληθῆ μὲν καὶ ὄντα, ἐνδεχόμενα δὲ καὶ ἄλλως ἔχειν. δῆλον οὖν ὅτι περὶ μὲν ταῦτα ἐπιστήμη οὐκ ἔστιν· εἴη γὰρ ἂν ἀδύνατα ἄλλως ἔχειν τὰ δυνατὰ ἄλλως ἔχειν. ἀλλὰ μὴν οὐδὲ νοῦς (λέγω γὰρ νοῦν ἀρχὴν ἐπιστήμης) οὐδ’ ἐπιστήμη ἀναπόδεικτος· τοῦτο δ’ ἐστὶν ὑπόληψις τῆς ἀμέσου προτάσεως. ἀληθὴς δ’ (89a.) ἐστὶ νοῦς καὶ ἐπιστήμη καὶ δόξα καὶ τὸ διὰ τούτων λεγόμενον· ὥστε λείπεται δόξαν εἶναι περὶ τὸ ἀληθὲς μὲν ἢ ψεῦδος, ἐνδεχόμενον δὲ καὶ ἄλλως ἔχειν. τοῦτο δ’ ἐστὶν ὑπόληψις τῆς ἀμέσου προτάσεως καὶ μὴ ἀναγκαίας. καὶ ὁμολογούμενον δ’ οὕτω τοῖς φαινομένοις· ἥ τε γὰρ δόξα ἀβέβαιον, καὶ ἡ φύσις ἡ τοιαύτη. πρὸς δὲ τούτοις οὐδεὶς οἴεται δοξάζειν, ὅταν οἴηται ἀδύνατον ἄλλως ἔχειν, ἀλλ’ ἐπίστασθαι· ἀλλ’ ὅταν εἶναι μὲν οὕτως, οὐ μὴν ἀλλὰ καὶ ἄλλως οὐδὲν κωλύειν, τότε δοξάζειν, ὡς τοῦ μὲν τοιούτου δόξαν οὖσαν, τοῦ δ’ ἀναγκαίου ἐπιστήμην.

Πῶς οὖν ἔστι τὸ αὐτὸ δοξάσαι καὶ ἐπίστασθαι, καὶ διὰ τί οὐκ ἔσται ἡ δόξα ἐπιστήμη, εἴ τις θήσει ἅπαν ὃ οἶδεν ἐνδέχεσθαι δοξάζειν; ἀκολουθήσει γὰρ ὁ μὲν εἰδὼς ὁ δὲ δοξάζων διὰ τῶν μέσων, ἕως εἰς τὰ ἄμεσα ἔλθῃ, ὥστ’ εἴπερ ἐκεῖνος οἶδε, καὶ ὁ δοξάζων οἶδεν. ὥσπερ γὰρ καὶ τὸ ὅτι δοξάζειν ἔστι, καὶ τὸ διότι· τοῦτο δὲ τὸ μέσον. ἢ εἰ μὲν οὕτως ὑπολήψεται τὰ μὴ ἐνδεχόμενα ἄλλως ἔχειν ὥσπερ [ἔχει] τοὺς ὁρισμοὺς δι’ ὧν αἱ ἀποδείξεις, οὐ δοξάσει ἀλλ’ ἐπιστήσεται· εἰ δ’ ἀληθῆ μὲν εἶναι, οὐ μέντοι ταὐτά γε αὐτοῖς ὑπάρχειν κατ’ οὐσίαν καὶ κατὰ τὸ εἶδος, δοξάσει καὶ οὐκ ἐπιστήσεται ἀληθῶς, καὶ τὸ ὅτι καὶ τὸ διότι, ἐὰν μὲν διὰ τῶν ἀμέσων δοξάσῃ· ἐὰν δὲ μὴ διὰ τῶν ἀμέσων, τὸ ὅτι μόνον δοξάσει; τοῦ δ’ αὐτοῦ δόξα καὶ ἐπιστήμη οὐ πάντως ἐστίν, ἀλλ’ ὥσπερ καὶ ψευδὴς καὶ ἀληθὴς τοῦ αὐτοῦ τρόπον τινά, οὕτω καὶ ἐπιστήμη καὶ δόξα τοῦ αὐτοῦ. καὶ γὰρ δόξαν ἀληθῆ καὶ ψευδῆ ὡς μέν τινες λέγουσι τοῦ αὐτοῦ εἶναι, ἄτοπα συμβαίνει αἱρεῖσθαι ἄλλα τε καὶ μὴ δοξάζειν ὃ δοξάζει ψευδῶς· ἐπεὶ δὲ τὸ αὐτὸ πλεοναχῶς λέγεται, ἔστιν ὡς ἐνδέχεται, ἔστι δ’ ὡς οὔ. τὸ μὲν γὰρ σύμμετρον εἶναι τὴν διάμετρον ἀληθῶς δοξάζειν ἄτοπον· ἀλλ’ ὅτι ἡ διάμετρος, περὶ ἣν αἱ δόξαι, τὸ αὐτό, οὕτω τοῦ αὐτοῦ, τὸ δὲ τί ἦν εἶναι ἑκατέρῳ κατὰ τὸν λόγον οὐ τὸ αὐτό. ὁμοίως δὲ καὶ ἐπιστήμη καὶ δόξα τοῦ αὐτοῦ. ἡ μὲν γὰρ οὕτως τοῦ ζῴου ὥστε μὴ ἐνδέχεσθαι μὴ εἶναι ζῷον, ἡ δ’ ὥστ’ ἐνδέχεσθαι, οἷον εἰ ἡ μὲν ὅπερ ἀνθρώπου ἐστίν, ἡ δ’ ἀνθρώπου μέν, μὴ ὅπερ δ’ ἀνθρώπου. τὸ αὐτὸ γὰρ ὅτι ἄνθρωπος, τὸ δ’ ὡς οὐ τὸ αὐτό.

Φανερὸν δ’ ἐκ τούτων ὅτι οὐδὲ δοξάζειν ἅμα τὸ αὐτὸ καὶ ἐπίστασθαι ἐνδέχεται. ἅμα γὰρ ἂν ἔχοι ὑπόληψιν τοῦ (89b.) ἄλλως ἔχειν καὶ μὴ ἄλλως τὸ αὐτό· ὅπερ οὐκ ἐνδέχεται. ἐν ἄλλῳ μὲν γὰρ ἑκάτερον εἶναι ἐνδέχεται τοῦ αὐτοῦ ὡς εἴρηται, ἐν δὲ τῷ αὐτῷ οὐδ’ οὕτως οἷόν τε· ἕξει γὰρ ὑπόληψιν ἅμα, οἷον ὅτι ὁ ἄνθρωπος ὅπερ ζῷον (τοῦτο γὰρ ἦν τὸ μὴ ἐνδέχεσθαι εἶναι μὴ ζῷον) καὶ μὴ ὅπερ ζῷον· τοῦτο γὰρ ἔστω τὸ ἐνδέχεσθαι.

Τὰ δὲ λοιπὰ πῶς δεῖ διανεῖμαι ἐπί τε διανοίας καὶ νοῦ καὶ ἐπιστήμης καὶ τέχνης καὶ φρονήσεως καὶ σοφίας, τὰ μὲν φυσικῆς τὰ δὲ ἠθικῆς θεωρίας μᾶλλόν ἐστιν.

Κεφάλαιο 34

Ἡ δ’ ἀγχίνοιά ἐστιν εὐστοχία τις ἐν ἀσκέπτῳ χρόνῳ τοῦ μέσου, οἷον εἴ τις ἰδὼν ὅτι ἡ σελήνη τὸ λαμπρὸν ἀεὶ ἔχει πρὸς τὸν ἥλιον, ταχὺ ἐνενόησε διὰ τί τοῦτο, ὅτι διὰ τὸ λάμπειν ἀπὸ τοῦ ἡλίου· ἢ διαλεγόμενον πλουσίῳ ἔγνω διότι δανείζεται· ἢ διότι φίλοι, ὅτι ἐχθροὶ τοῦ αὐτοῦ. πάντα γὰρ τὰ αἴτια τὰ μέσα [ὁ] ἰδὼν τὰ ἄκρα ἐγνώρισεν. τὸ λαμπρὸν εἶναι τὸ πρὸς τὸν ἥλιον ἐφ’ οὗ Α, τὸ λάμπειν ἀπὸ τοῦ ἡλίου Β, σελήνη τὸ Γ. ὑπάρχει δὴ τῇ μὲν σελήνῃ τῷ Γ τὸ Β, τὸ λάμπειν ἀπὸ τοῦ ἡλίου· τῷ δὲ Β τὸ Α, τὸ πρὸς τοῦτ’ εἶναι τὸ λαμπρόν, ἀφ’ οὗ λάμπει· ὥστε καὶ τῷ Γ τὸ Α διὰ τοῦ Β.

Βιβλίο 2

Κεφάλαιο 1

Τὰ ζητούμενά ἐστιν ἴσα τὸν ἀριθμὸν ὅσαπερ ἐπιστάμεθα. ζητοῦμεν δὲ τέτταρα, τὸ ὅτι, τὸ διότι, εἰ ἔστι, τί ἐστιν. ὅταν μὲν γὰρ πότερον τόδε ἢ τόδε ζητῶμεν, εἰς ἀριθμὸν θέντες, οἷον πότερον ἐκλείπει ὁ ἥλιος ἢ οὔ, τὸ ὅτι ζητοῦμεν. σημεῖον δὲ τούτου· εὑρόντες γὰρ ὅτι ἐκλείπει πεπαύμεθα· καὶ ἐὰν ἐξ ἀρχῆς εἰδῶμεν ὅτι ἐκλείπει, οὐ ζητοῦμεν πότερον. ὅταν δὲ εἰδῶμεν τὸ ὅτι, τὸ διότι ζητοῦμεν, οἷον εἰδότες ὅτι ἐκλείπει καὶ ὅτι κινεῖται ἥ γῆ, τὸ διότι ἐκλείπει ἢ διότι κινεῖται ζητοῦμεν. ταῦτα μὲν οὗν οὕτως, ἔνια δ’ ἄλλον τρόπον ζητοῦμεν, οἷον εἰ ἔστιν ἢ μὴ ἔστι κένταυρος ἢ θεός· τὸ δ’ εἰ ἔστιν ἢ μὴ ἁπλῶς λέγω, ἀλλ’ οὐκ εἰ λευκὸς ἢ μή. γνόντες δὲ ὅτι ἔστι, τί ἐστι ζητοῦμεν, οἷον τί οὗν ἐστι θεός, ἢ τί ἐστιν ἄνθρωπος;

Κεφάλαιο 2

Ἃ μὲν οὖν ζητοῦμεν καὶ ἃ εὑρόντες ἴσμεν, ταῦτα καὶ τοσαῦτά ἐστιν. ζητοῦμεν δέ, ὅταν μὲν ζητῶμεν τὸ ὅτι ἢ τὸ εἰ ἔστιν ἁπλῶς, ἆρ' ἔστι μέσον αὐτοῦ ἢ οὐκ ἔστιν· ὅταν δὲ γνόντες ἢ τὸ ὅτι ἢ εἰ ἔστιν, ἢ τὸ ἐπὶ μέρους ἢ τὸ ἁπλῶς, πάλιν [90a] τὸ διὰ τί ζητῶμεν ἢ τὸ τί ἐστι, τότε ζητοῦμεν τί τὸ μέσον. λέγω δὲ τὸ ὅτι ἔστιν ἐπὶ μέρους καὶ ἁπλῶς, ἐπὶ μέρους μέν, ἆρ' ἐκλείπει ἡ σελήνη ἢ αὔξεται; εἰ γάρ ἐστι τὶ ἢ μὴ ἔστι τί, ἐν τοῖς τοιούτοις ζητοῦμεν· ἁπλῶς δ', εἰ ἔστιν ἢ μὴ σελήνη ἢ νύξ. συμβαίνει ἄρα ἐν ἁπάσαις ταῖς ζητήσεσι ζητεῖν ἢ εἰ ἔστι μέσον ἢ τί ἐστι τὸ μέσον. τὸ μὲν γὰρ αἴτιον τὸ μέσον, ἐν ἅπασι δὲ τοῦτο ζητεῖται. ἆρ' ἐκλείπει; ἆρ' ἔστι τι αἴτιον ἢ οὔ; μετὰ ταῦτα γνόντες ὅτι ἔστι τι, τί οὖν τοῦτ' ἔστι ζητοῦμεν. τὸ γὰρ αἴτιον τοῦ εἶναι μὴ τοδὶ ἢ τοδὶ ἀλλ' ἁπλῶς τὴν οὐσίαν, ἢ τοῦ μὴ ἁπλῶς ἀλλά τι τῶν καθ' αὑτὸ ἢ κατὰ συμβεβηκός, τὸ μέσον ἐστίν. λέγω δὲ τὸ μὲν ἁπλῶς τὸ ὑποκείμενον, οἷον σελήνην ἢ γῆν ἢ ἥλιον ἢ τρίγωνον, τὸ δὲ τὶ ἔκλειψιν, ἰσότητα ἀνισότητα, εἰ ἐν μέσῳ ἢ μή. ἐν ἅπασι γὰρ τούτοις φανερόν ἐστιν ὅτι τὸ αὐτό ἐστι τὸ τί ἐστι καὶ διὰ τί ἔστιν. τί ἐστιν ἔκλειψις; στέρησις φωτὸς ἀπὸ σελήνης ὑπὸ γῆς ἀντιφράξεως. διὰ τί ἔστιν ἔκλειψις, ἢ διὰ τί ἐκλείπει ἡ σελήνη; διὰ τὸ ἀπολείπειν τὸ φῶς ἀντιφραττούσης τῆς γῆς. τί ἐστι συμφωνία; λόγος ἀριθμῶν ἐν ὀξεῖ καὶ βαρεῖ. διὰ τί συμφωνεῖ τὸ ὀξὺ τῷ βαρεῖ; διὰ τὸ λόγον ἔχειν ἀριθμῶν τὸ ὀξὺ καὶ τὸ βαρύ. ἆρ' ἔστι συμφωνεῖν τὸ ὀξὺ καὶ τὸ βαρύ; ἆρ' ἐστὶν ἐν ἀριθμοῖς ὁ λόγος αὐτῶν; λαβόντες δ' ὅτι ἔστι, τίς οὖν ἐστιν ὁ λόγος;

Κεφάλαιο 3

Ὅτι δ’ ἐστὶ τοῦ μέσου ἡ ζήτησις, δηλοῖ ὅσων τὸ μέσον αἰσθητόν. ζητοῦμεν γὰρ μὴ ᾐσθημένοι, οἷον τῆς ἐκλείψεως, εἰ ἔστιν ἢ μή. εἰ δ’ ἦμεν ἐπὶ τῆς σελήνης, οὐκ ἂν ἐζητοῦμεν οὔτ’ εἰ γίνεται οὔτε διὰ τί, ἀλλ’ ἅμα δῆλον ἂν ἦν. ἐκ γὰρ τοῦ αἰσθέσθαι καὶ τὸ καθόλου ἐγένετο ἂν ἡμῖν εἰδέναι. ἡ μὲν γὰρ αἴσθησις ὅτι νῦν ἀντιφράττει (καὶ γὰρ δῆλον ὅτι νῦν ἐκλείπει)· ἐκ δὲ τούτου τὸ καθόλου ἂν ἐγένετο.

Ὥσπερ οὖν λέγομεν, τὸ τί ἐστιν εἰδέναι ταὐτό ἐστι καὶ διὰ τί ἔστιν, τοῦτο δ’ ἢ ἁπλῶς καὶ μὴ τῶν ὑπαρχόντων τι, ἢ τῶν ὑπαρχόντων, οἷον ὅτι δύο ὀρθαί, ἢ ὅτι μεῖζον ἢ ἔλαττον.

Ὅτι μὲν οὖν πάντα τὰ ζητούμενα μέσου ζήτησίς ἐστι, δῆλον· πῶς δὲ τὸ τί ἐστι δείκνυται, καὶ τίς ὁ τρόπος τῆς ἀναγωγῆς, καὶ τί ἐστιν ὁρισμὸς καὶ τίνων, εἴπωμεν, διαπορήσαντες πρῶτον περὶ αὐτῶν. ἀρχὴ δ’ ἔστω τῶν μελλόντων [90b] ἥπερ ἐστὶν οἰκειοτάτη τῶν ἐχομένων λόγων. ἀπορήσειε γὰρ ἄν τις, ἆρ’ ἔστι τὸ αὐτὸ καὶ κατὰ τὸ αὐτὸ ὁρισμῷ εἰδέναι καὶ ἀποδείξει, ἢ ἀδύνατον; ὁ μὲν γὰρ ὁρισμὸς τοῦ τί ἐστιν εἶναι δοκεῖ, τὸ δὲ τί ἐστιν ἅπαν καθόλου καὶ κατηγορικόν· συλλογισμοὶ δ’ εἰσὶν οἱ μὲν στερητικοί, οἱ δ’ οὐ καθόλου, οἷον οἱ μὲν ἐν τῷ δευτέρῳ σχήματι στερητικοὶ πάντες, οἱ δ’ ἐν τῷ τρίτῳ οὐ καθόλου. εἶτα οὐδὲ τῶν ἐν τῷ πρώτῳ σχήματι κατηγορικῶν ἁπάντων ἔστιν ὁρισμός, οἷον ὅτι πᾶν τρίγωνον δυσὶν ὀρθαῖς ἴσας ἔχει. τούτου δὲ λόγος, ὅτι τὸ ἐπίστασθαί ἐστι τὸ ἀποδεικτὸν τὸ ἀπόδειξιν ἔχειν, ὥστ’ ἐπεὶ τῶν τοιούτων ἀπόδειξις ἔστι, δῆλον ὅτι οὐκ ἂν εἴη αὐτῶν καὶ ὁρισμός· ἐπίσταιτο γὰρ ἄν τις καὶ κατὰ τὸν ὁρισμόν, οὐκ ἔχων τὴν ἀπόδειξιν· οὐδὲν γὰρ κωλύει μὴ ἅμα ἔχειν. ἱκανὴ δὲ πίστις καὶ ἐκ τῆς ἐπαγωγῆς· οὐδὲν γὰρ πώποτε ὁρισάμενοι ἔγνωμεν, οὔτε τῶν καθ’ αὑτὸ ὑπαρχόντων οὔτε τῶν συμβεβηκότων. ἔτι εἰ ὁ ὁρισμὸς οὐσίας τινὸς γνωρισμός, τά γε τοιαῦτα φανερὸν ὅτι οὐκ οὐσίαι.

Ὅτι μὲν οὖν οὐκ ἔστιν ὁρισμὸς ἅπαντος οὗπερ καὶ ἀπόδειξις, δῆλον. τί δαί, οὗ ὁρισμός, ἆρα παντὸς ἀπόδειξις ἔστιν ἢ οὔ; εἷς μὲν δὴ λόγος καὶ περὶ τούτου ὁ αὐτός. τοῦ γὰρ ἑνός, ᾗ ἕν, μία ἐπιστήμη. ὥστ’ εἴπερ τὸ ἐπίστασθαι τὸ ἀποδεικτόν ἐστι τὸ τὴν ἀπόδειξιν ἔχειν, συμβήσεταί τι ἀδύνατον· ὁ γὰρ τὸν ὁρισμὸν ἔχων ἄνευ τῆς ἀποδείξεως ἐπιστήσεται. ἔτι αἱ ἀρχαὶ τῶν ἀποδείξεων ὁρισμοί, ὧν ὅτι οὐκ ἔσονται ἀποδείξεις δέδεικται πρότερον-ἢ ἔσονται αἱ ἀρχαὶ ἀποδεικταὶ καὶ τῶν ἀρχῶν ἀρχαί, καὶ τοῦτ’ εἰς ἄπειρον βαδιεῖται, ἢ τὰ πρῶτα ὁρισμοὶ ἔσονται ἀναπόδεικτοι.

Ἀλλ’ ἆρα, εἰ μὴ παντὸς τοῦ αὐτοῦ, ἀλλὰ τινὸς τοῦ αὐτοῦ ἔστιν ὁρισμὸς καὶ ἀπόδειξις; ἢ ἀδύνατον; οὐ γὰρ ἔστιν ἀπόδειξις οὗ ὁρισμός. ὁρισμὸς μὲν γὰρ τοῦ τί ἐστι καὶ οὐσίας· αἱ δ’ ἀποδείξεις φαίνονται πᾶσαι ὑποτιθέμεναι καὶ λαμβάνουσαι τὸ τί ἐστιν, οἷον αἱ μαθηματικαὶ τί μονὰς καὶ τί τὸ περιττόν, καὶ αἱ ἄλλαι ὁμοίως. ἔτι πᾶσα ἀπόδειξις τὶ κατὰ τινὸς δείκνυσιν, οἷον ὅτι ἔστιν ἢ οὐκ ἔστιν· ἐν δὲ τῷ ὁρισμῷ οὐδὲν ἕτερον ἑτέρου κατηγορεῖται, οἷον οὔτε τὸ ζῷον κατὰ τοῦ δίποδος οὔτε τοῦτο κατὰ τοῦ ζῴου, οὐδὲ δὴ κατὰ τοῦ ἐπιπέδου τὸ σχῆμα· οὐ γάρ ἐστι τὸ ἐπίπεδον σχῆμα, οὐδὲ τὸ σχῆμα ἐπίπεδον. ἔτι ἕτερον τὸ τί ἐστι καὶ ὅτι ἔστι δεῖξαι. [91a] ὁ μὲν οὖν ὁρισμὸς τί ἐστι δηλοῖ, ἡ δὲ ἀπόδειξις ὅτι ἔστι τόδε κατὰ τοῦδε ἢ οὐκ ἔστιν. ἑτέρου δὲ ἑτέρα ἀπόδειξις, ἐὰν μὴ ὡς μέρος ᾖ τι τῆς ὅλης. τοῦτο δὲ λέγω, ὅτι δέδεικται τὸ ἰσοσκελὲς δύο ὀρθαί, εἰ πᾶν τρίγωνον δέδεικται· μέρος γάρ, τὸ δ’ ὅλον. ταῦτα δὲ πρὸς ἄλληλα οὐκ ἔχει οὕτως, τὸ ὅτι ἔστι καὶ τί ἐστιν· οὐ γάρ ἐστι θατέρου θάτερον μέρος.

Φανερὸν ἄρα ὅτι οὔτε οὗ ὁρισμός, τούτου παντὸς ἀπόδειξις, οὔτε οὗ ἀπόδειξις, τούτου παντὸς ὁρισμός, οὔτε ὅλως τοῦ αὐτοῦ οὐδενὸς ἐνδέχεται ἄμφω ἔχειν. ὥστε δῆλον ὡς οὐδὲ ὁρισμὸς καὶ ἀπόδειξις οὔτε τὸ αὐτὸ ἂν εἴη οὔτε θάτερον ἐν θατέρῳ· καὶ γὰρ ἂν τὰ ὑποκείμενα ὁμοίως εἶχεν.

Κεφάλαιο 4

Ταῦτα μὲν οὖν μέχρι τούτου διηπορήσθω· τοῦ δὲ τί ἐστι πότερον ἔστι συλλογισμὸς καὶ ἀπόδειξις ἢ οὐκ ἔστι, καθάπερ νῦν ὁ λόγος ὑπέθετο; ὁ μὲν γὰρ συλλογισμὸς τὶ κατὰ τινὸς δείκνυσι διὰ τοῦ μέσου· τὸ δὲ τί ἐστιν ἴδιόν τε, καὶ ἐν τῷ τί ἐστι κατηγορεῖται. ταῦτα δ' ἀνάγκη ἀντιστρέφειν. εἰ γὰρ τὸ Α τοῦ Γ ἴδιον, δῆλον ὅτι καὶ τοῦ Β καὶ τοῦτο τοῦ Γ, ὥστε πάντα ἀλλήλων. ἀλλὰ μὴν καὶ εἰ τὸ Α ἐν τῷ τί ἐστιν ὑπάρχει παντὶ τῷ Β, καὶ καθόλου τὸ Β παντὸς τοῦ Γ ἐν τῷ τί ἐστι λέγεται, ἀνάγκη καὶ τὸ Α ἐν τῷ τί ἐστι τοῦ Γ λέγεσθαι. εἰ δὲ μὴ οὕτω τις λήψεται διπλώσας, οὐκ ἀνάγκη ἔσται τὸ Α τοῦ Γ κατηγορεῖσθαι ἐν τῷ τί ἐστιν, εἰ τὸ μὲν Α τοῦ Β ἐν τῷ τί ἐστι, μὴ καθ' ὅσων δὲ τὸ Β, ἐν τῷ τί ἐστιν. τὸ δὲ τί ἐστιν ἄμφω ταῦτα ἕξει· ἔσται ἄρα καὶ τὸ Β κατὰ τοῦ Γ τὸ τί ἐστιν. εἰ δὴ τὸ τί ἐστι καὶ τὸ τί ἦν εἶναι ἄμφω ἔχει, ἐπὶ τοῦ μέσου ἔσται πρότερον τὸ τί ἦν εἶναι. ὅλως τε, εἰ ἔστι δεῖξαι τί ἐστιν ἄνθρωπος, ἔστω τὸ Γ ἄνθρωπος, τὸ δὲ Α τὸ τί ἐστιν, εἴτε ζῷον δίπουν εἴτ' ἄλλο τι. εἰ τοίνυν συλλογιεῖται, ἀνάγκη κατὰ τοῦ Β τὸ Α παντὸς κατηγορεῖσθαι. τοῦτο δ' ἔσται ἄλλος λόγος μέσος, ὥστε καὶ τοῦτο ἔσται τί ἐστιν ἄνθρωπος. λαμβάνει οὖν ὃ δεῖ δεῖξαι· καὶ γὰρ τὸ Β ἔσται τί ἐστιν ἄνθρωπος.

Δεῖ δ' ἐν ταῖς δυσὶ προτάσεσι καὶ τοῖς πρώτοις καὶ ἀμέσοις σκοπεῖν· μάλιστα γὰρ φανερὸν τὸ λεγόμενον γίνεται. οἱ μὲν οὖν διὰ τοῦ ἀντιστρέφειν δεικνύντες τί ἐστι ψυχή, ἢ τί ἐστιν ἄνθρωπος ἢ ἄλλο ὁτιοῦν τῶν ὄντων, τὸ ἐξ ἀρχῆς αἰτοῦνται, οἷον εἴ τις ἀξιώσειε ψυχὴν εἶναι τὸ αὐτὸ αὑτῷ αἴτιον τοῦ ζῆν, τοῦτο δ' ἀριθμὸν αὐτὸν αὑτὸν κινοῦντα· ἀνάγκη γὰρ αἰτῆσαι τὴν ψυχὴν ὅπερ ἀριθμὸν εἶναι αὐτὸν αὑτὸν κινοῦντα, οὕτως ὡς τὸ αὐτὸ ὄν. οὐ γὰρ εἰ ἀκολουθεῖ τὸ Α τῷ Β καὶ τοῦτο τῷ Γ, ἔσται τῷ Γ τὸ Α τὸ τί ἦν εἶναι, ἀλλ' ἀληθὲς εἰπεῖν ἔσται μόνον· οὐδ' εἰ ἔστι τὸ Α ὅπερ τι καὶ κατὰ τοῦ Β κατηγορεῖται παντός. καὶ γὰρ τὸ ζῴῳ εἶναι κατηγορεῖται κατὰ τοῦ ἀνθρώπῳ εἶναι (ἀληθὲς γὰρ πᾶν τὸ ἀνθρώπῳ εἶναι ζῴῳ εἶναι, ὥσπερ καὶ πάντα ἄνθρωπον ζῷον), ἀλλ' οὐχ οὕτως ὥστε ἓν εἶναι. ἐὰν μὲν οὖν μὴ οὕτω λάβῃ, οὐ συλλογιεῖται ὅτι τὸ Α ἐστὶ τῷ Γ τὸ τί ἦν εἶναι καὶ ἡ οὐσία· ἐὰν δὲ οὕτω λάβῃ, πρότερον ἔσται εἰληφὼς τῷ Γ τί ἐστι τὸ τί ἦν εἶναι [τὸ Β]. ὥστ' οὐκ ἀποδέδεικται· τὸ γὰρ ἐν ἀρχῇ εἴληφεν.

Κεφάλαιο 5

Ἀλλὰ μὴν οὐδ’ ἡ διὰ τῶν διαιρέσεων ὁδὸς συλλογίζεται, καθάπερ ἐν τῇ ἀναλύσει τῇ περὶ τὰ σχήματα εἴρηται. οὐδαμοῦ γὰρ ἀνάγκη γίνεται τὸ πρᾶγμα ἐκεῖνο εἶναι τωνδὶ ὄντων, ἀλλ’ ὥσπερ οὐδ’ ὁ ἐπάγων ἀποδείκνυσιν. οὐ γὰρ δεῖ τὸ συμπέρασμα ἐρωτᾶν, οὐδὲ τῷ δοῦναι εἶναι, ἀλλ’ ἀνάγκη εἶναι ἐκείνων ὄντων, κἂν μὴ φῇ ὁ ἀποκρινόμενος. ἆρ’ ὁ ἄνθρωπος ζῷον ἢ ἄψυχον; εἶτ’ ἔλαβε ζῷον, οὐ συλλελόγισται. πάλιν ἅπαν ζῷον ἢ πεζὸν ἢ ἔνυδρον· ἔλαβε πεζόν. καὶ τὸ εἶναι τὸν ἄνθρωπον τὸ ὅλον, ζῷον πεζόν, οὐκ ἀνάγκη ἐκ τῶν εἰρημένων, ἀλλὰ λαμβάνει καὶ τοῦτο. διαφέρει δ’ οὐδὲν ἐπὶ πολλῶν ἢ ὀλίγων οὕτω ποιεῖν· τὸ αὐτὸ γάρ ἐστιν. (ἀσυλλόγιστος μὲν οὖν καὶ ἡ χρῆσις γίνεται τοῖς οὕτω μετιοῦσι καὶ τῶν ἐνδεχομένων συλλογισθῆναι.) τί γὰρ κωλύει τοῦτο ἀληθὲς μὲν τὸ πᾶν εἶναι κατὰ τοῦ ἀνθρώπου, μὴ μέντοι τὸ τί ἐστι μηδὲ τὸ τί ἦν εἶναι δηλοῦν; ἔτι τί κωλύει ἢ προσθεῖναί τι ἢ ἀφελεῖν ἢ ὑπερβεβηκέναι τῆς οὐσίας; Ταῦτα μὲν οὖν παρίεται μέν, ἐνδέχεται δὲ λῦσαι τῷ λαμβάνειν ἐν τῷ τί ἐστι πάντα, καὶ τὸ ἐφεξῆς τῇ διαιρέσει ποιεῖν, αἰτούμενον τὸ πρῶτον, καὶ μηδὲν παραλείπειν. τοῦτο δ’ ἀναγκαῖον, εἰ ἅπαν εἰς τὴν διαίρεσιν ἐμπίπτει καὶ μηδὲν ἐλλείπει· [τοῦτο δ’ ἀναγκαῖον,] ἄτομον γὰρ ἤδη δεῖ εἶναι. ἀλλὰ συλλογισμὸς ὅμως οὐκ ἔστι, ἀλλ’ εἴπερ, ἄλλον τρόπον γνωρίζειν ποιεῖ. καὶ τοῦτο μὲν οὐδὲν ἄτοπον· οὐδὲ γὰρ ὁ ἐπάγων ἴσως ἀποδείκνυσιν, ἀλλ’ ὅμως δηλοῖ τι. συλλογισμὸν δ’ οὐ λέγει ὁ ἐκ τῆς διαιρέσεως λέγων τὸν ὁρισμόν. ὥσπερ γὰρ ἐν τοῖς συμπεράσμασι τοῖς ἄνευ τῶν μέσων, ἐάν τις εἴπῃ ὅτι τούτων ὄντων ἀνάγκη τοδὶ εἶναι, ἐνδέχεται ἐρωτῆσαι διὰ τί, οὕτως καὶ ἐν τοῖς διαιρετικοῖς ὅροις. τί ἐστιν [92a] ἄνθρωπος; ζῷον θνητόν, ὑπόπουν, δίπουν, ἄπτερον. διὰ τί, παρ’ ἑκάστην πρόσθεσιν; ἐρεῖ γάρ, καὶ δείξει τῇ διαιρέσει, ὡς οἴεται, ὅτι πᾶν ἢ θνητὸν ἢ ἀθάνατον. ὁ δὲ τοιοῦτος λόγος ἅπας οὐκ ἔστιν ὁρισμός, ὥστ’ εἰ καὶ ἀπεδείκνυτο τῇ διαιρέσει, ἀλλ’ ὅ γ’ ὁρισμὸς οὐ συλλογισμὸς γίνεται.

Κεφάλαιο 6

Ἀλλ’ ἆρα ἔστι καὶ ἀποδεῖξαι τὸ τί ἐστι κατ’ οὐσίαν, ἐξ ὑποθέσεως δέ, λαβόντα τὸ μὲν τί ἦν εἶναι τὸ ἐκ τῶν ἐν τῷ τί ἐστιν ἴδιον, ταδὶ δὲ ἐν τῷ τί ἐστι μόνα, καὶ ἴδιον τὸ πᾶν; τοῦτο γάρ ἐστι τὸ εἶναι ἐκείνῳ. ἢ πάλιν εἴληφε τὸ τί ἦν εἶναι καὶ ἐν τούτῳ; ἀνάγκη γὰρ διὰ τοῦ μέσου δεῖξαι. ἔτι ὥσπερ οὐδ’ ἐν συλλογισμῷ λαμβάνεται τί ἐστι τὸ συλλελογίσθαι (ἀεὶ γὰρ ὅλη ἢ μέρος ἡ πρότασις, ἐξ ὧν ὁ συλλογισμός), οὕτως οὐδὲ τὸ τί ἦν εἶναι δεῖ ἐνεῖναι ἐν τῷ συλλογισμῷ, ἀλλὰ χωρὶς τοῦτο τῶν κειμένων εἶναι, καὶ πρὸς τὸν ἀμφισβητοῦντα εἰ συλλελόγισται ἢ μή, τοῦτο ἀπαντᾶν ὅτι “τοῦτο γὰρ ἦν συλλογισμός”, καὶ πρὸς τὸν ὅτι οὐ τὸ τί ἦν εἶναι συλλελόγισται, ὅτι “ναί· τοῦτο γὰρ ἔκειτο ἡμῖν τὸ τί ἦν εἶναι”. ὥστε ἀνάγκη καὶ ἄνευ τοῦ τί συλλογισμὸς ἢ τὸ τί ἦν εἶναι συλλελογίσθαι τι.

Κἂν ἐξ ὑποθέσεως δὲ δεικνύῃ, οἷον εἰ τὸ κακῷ ἐστὶ τὸ διαιρετῷ εἶναι, τὸ δ’ ἐναντίῳ τὸ τῷ ἐναντίῳ <ἐναντίῳ > εἶναι, ὅσοις ἔστι τι ἐναντίον· τὸ δ’ ἀγαθὸν τῷ κακῷ ἐναντίον καὶ τὸ ἀδιαίρετον τῷ διαιρετῷ· ἔστιν ἄρα τὸ ἀγαθῷ εἶναι τὸ ἀδιαιρέτῳ εἶναι. καὶ γὰρ ἐνταῦθα λαβὼν τὸ τί ἦν εἶναι δείκνυσι· λαμβάνει δ’ εἰς τὸ δεῖξαι τὸ τί ἦν εἶναι. “ἕτερον μέντοι”. ἔστω· καὶ γὰρ ἐν ταῖς ἀποδείξεσιν, ὅτι ἐστὶ τόδε κατὰ τοῦδε· ἀλλὰ μὴ αὐτό, μηδὲ οὗ ὁ αὐτὸς λόγος, καὶ ἀντιστρέφει. πρὸς ἀμφοτέρους δέ, τόν τε κατὰ διαίρεσιν δεικνύντα καὶ πρὸς τὸν οὕτω συλλογισμόν, τὸ αὐτὸ ἀπόρημα· διὰ τί ἔσται ὁ ἄνθρωπος ζῷον πεζὸν δίπουν, ἀλλ’ οὐ ζῷον καὶ πεζόν <καὶ δίπουν >; ἐκ γὰρ τῶν λαμβανομένων οὐδεμία ἀνάγκη ἐστὶν ἓν γίνεσθαι τὸ κατηγορούμενον, ἀλλ’ ὥσπερ ἂν ἄνθρωπος ὁ αὐτὸς εἴη μουσικὸς καὶ γραμματικός.

Κεφάλαιο 7

>Πῶς οὖν δὴ ὁ ὁριζόμενος δείξει τὴν οὐσίαν ἢ τὸ τί ἐστιν; οὔτε γὰρ ὡς ἀποδεικνὺς ἐξ ὁμολογουμένων εἶναι δῆλον ποιήσει ὅτι ἀνάγκη ἐκείνων ὄντων ἕτερόν τι εἶναι (ἀπόδειξις γὰρ τοῦτο), οὔθ’ ὡς ὁ ἐπάγων διὰ τῶν καθ’ ἕκαστα δήλων ὄντων, ὅτι πᾶν οὕτως τῷ μηδὲν ἄλλως· οὐ γὰρ τί [92b] ἐστι δείκνυσιν, ἀλλ’ ὅτι ἢ ἔστιν ἢ οὐκ ἔστιν. τίς οὖν ἄλλος τρόπος λοιπός; οὐ γὰρ δὴ δείξει γε τῇ αἰσθήσει ἢ τῷ δακτύλῳ.

Ἔτι πῶς δείξει τὸ τί ἐστιν; ἀνάγκη γὰρ τὸν εἰδότα τὸ τί ἐστιν ἄνθρωπος ἢ ἄλλο ὁτιοῦν, εἰδέναι καὶ ὅτι ἔστιν (τὸ γὰρ μὴ ὂν οὐδεὶς οἶδεν ὅ τι ἐστίν, ἀλλὰ τί μὲν σημαίνει ὁ λόγος ἢ τὸ ὄνομα, ὅταν εἴπω τραγέλαφος, τί δ’ ἐστὶ τραγέλαφος ἀδύνατον εἰδέναι). ἀλλὰ μὴν εἰ δείξει τί ἐστι καὶ ὅτι ἔστι, πῶς τῷ αὐτῷ λόγῳ δείξει; ὅ τε γὰρ ὁρισμὸς ἕν τι δηλοῖ καὶ ἡ ἀπόδειξις· τὸ δὲ τί ἐστιν ἄνθρωπος καὶ τὸ εἶναι ἄνθρωπον ἄλλο.

Εἶτα καὶ δι’ ἀποδείξεώς φαμεν ἀναγκαῖον εἶναι δείκνυσθαι ἅπαν ὅ τι ἐστίν, εἰ μὴ οὐσία εἴη. τὸ δ’ εἶναι οὐκ οὐσία οὐδενί· οὐ γὰρ γένος τὸ ὄν. ἀπόδειξις ἄρ’ ἔσται ὅτι ἔστιν. ὅπερ καὶ νῦν ποιοῦσιν αἱ ἐπιστῆμαι. τί μὲν γὰρ σημαίνει τὸ τρίγωνον, ἔλαβεν ὁ γεωμέτρης, ὅτι δ’ ἔστι, δείκνυσιν. τί οὖν δείξει ὁ ὁριζόμενος ἢ τί ἐστι τὸ τρίγωνον; εἰδὼς ἄρα τις ὁρισμῷ τί ἐστιν, εἰ ἔστιν οὐκ εἴσεται. ἀλλ’ ἀδύνατον.

Φανερὸν δὲ καὶ κατὰ τοὺς νῦν τρόπους τῶν ὅρων ὡς οὐ δεικνύουσιν οἱ ὁριζόμενοι ὅτι ἔστιν. εἰ γὰρ καὶ ἔστιν ἐκ τοῦ μέσου τι ἴσον, ἀλλὰ διὰ τί ἔστι τὸ ὁρισθέν; καὶ διὰ τί τοῦτ’ ἔστι κύκλος; εἴη γὰρ ἂν καὶ ὀρειχάλκου φάναι εἶναι αὐτόν. οὔτε γὰρ ὅτι δυνατὸν εἶναι τὸ λεγόμενον προσδηλοῦσιν οἱ ὅροι, οὔτε ὅτι ἐκεῖνο οὗ φασὶν εἶναι ὁρισμοί, ἀλλ’ ἀεὶ ἔξεστι λέγειν τὸ διὰ τί.

Εἰ ἄρα ὁ ὁριζόμενος δείκνυσιν ἢ τί ἐστιν ἢ τί σημαίνει τοὔνομα, εἰ μὴ ἔστι μηδαμῶς τοῦ τί ἐστιν, εἴη ἂν ὁ ὁρισμὸς λόγος ὀνόματι τὸ αὐτὸ σημαίνων. ἀλλ’ ἄτοπον. πρῶτον μὲν γὰρ καὶ μὴ οὐσιῶν ἂν εἴη καὶ τῶν μὴ ὄντων· σημαίνειν γὰρ ἔστι καὶ τὰ μὴ ὄντα. ἔτι πάντες οἱ λόγοι ὁρισμοὶ ἂν εἶεν· εἴη γὰρ ἂν ὄνομα θέσθαι ὁποιῳοῦν λόγῳ, ὥστε ὅρους ἂν διαλεγοίμεθα πάντες καὶ ἡ Ἰλιὰς ὁρισμὸς ἂν εἴη. ἔτι οὐδεμία ἀπόδειξις ἀποδείξειεν ἂν ὅτι τοῦτο τοὔνομα τουτὶ δηλοῖ· οὐδ’ οἱ ὁρισμοὶ τοίνυν τοῦτο προσδηλοῦσιν.

Ἐκ μὲν τοίνυν τούτων οὔτε ὁρισμὸς καὶ συλλογισμὸς φαίνεται ταὐτὸν ὄν, οὔτε ταὐτοῦ συλλογισμὸς καὶ ὁρισμός· πρὸς δὲ τούτοις, ὅτι οὔτε ὁ ὁρισμὸς οὐδὲν οὔτε ἀποδείκνυσιν οὔτε δείκνυσιν, οὔτε τὸ τί ἐστιν οὔθ’ ὁρισμῷ οὔτ’ ἀποδείξει ἔστι γνῶναι.

Κεφάλαιο 8

[93a] Πάλιν δὲ σκεπτέον τί τούτων λέγεται καλῶς καὶ τί οὐ καλῶς, καὶ τί ἐστιν ὁ ὁρισμός, καὶ τοῦ τί ἐστιν ἆρά πως ἔστιν ἀπόδειξις καὶ ὁρισμὸς ἢ οὐδαμῶς. ἐπεὶ δ᾽ ἐστίν, ὡς ἔφαμεν, ταὐτὸν τὸ εἰδέναι τί ἐστι καὶ τὸ εἰδέναι τὸ αἴτιον τοῦ εἰ ἔστι (λόγος δὲ τούτου, ὅτι ἔστι τι τὸ αἴτιον, καὶ τοῦτο ἢ τὸ αὐτὸ ἢ ἄλλο, κἂν ᾖ ἄλλο, ἢ ἀποδεικτὸν ἢ ἀναπόδεικτον)-εἰ τοίνυν ἐστὶν ἄλλο καὶ ἐνδέχεται ἀποδεῖξαι, ἀνάγκη μέσον εἶναι τὸ αἴτιον καὶ ἐν τῷ σχήματι τῷ πρώτῳ δείκνυσθαι· καθόλου τε γὰρ καὶ κατηγορικὸν τὸ δεικνύμενον. εἷς μὲν δὴ τρόπος ἂν εἴη ὁ νῦν ἐξητασμένος, τὸ δι᾽ ἄλλου του τί ἐστι δείκνυσθαι. τῶν τε γὰρ τί ἐστιν ἀνάγκη τὸ μέσον εἶναι τί ἐστι, καὶ τῶν ἰδίων ἴδιον. ὥστε τὸ μὲν δείξει, τὸ δ᾽ οὐ δείξει τῶν τί ἦν εἶναι τῷ αὐτῷ πράγματι.

Οὗτος μὲν οὖν ὁ τρόπος ὅτι οὐκ ἂν εἴη ἀπόδειξις, εἴρηται πρότερον· ἀλλ᾽ ἔστι λογικὸς συλλογισμὸς τοῦ τί ἐστιν. ὃν δὲ τρόπον ἐνδέχεται, λέγωμεν, εἰπόντες πάλιν ἐξ ἀρχῆς. ὥσπερ γὰρ τὸ διότι ζητοῦμεν ἔχοντες τὸ ὅτι, ἐνίοτε δὲ καὶ ἅμα δῆλα γίνεται, ἀλλ᾽ οὔτι πρότερόν γε τὸ διότι δυνατὸν γνωρίσαι τοῦ ὅτι, δῆλον ὅτι ὁμοίως καὶ τὸ τί ἦν εἶναι οὐκ ἄνευ τοῦ ὅτι ἔστιν· ἀδύνατον γὰρ εἰδέναι τί ἐστιν, ἀγνοοῦντας εἰ ἔστιν. τὸ δ᾽ εἰ ἔστιν ὁτὲ μὲν κατὰ συμβεβηκὸς ἔχομεν, ὁτὲ δ᾽ ἔχοντές τι αὐτοῦ τοῦ πράγματος, οἷον βροντήν, ὅτι ψόφος τις νεφῶν, καὶ ἔκλειψιν, ὅτι στέρησίς τις φωτός, καὶ ἄνθρωπον, ὅτι ζῷόν τι, καὶ ψυχήν, ὅτι αὐτὸ αὑτὸ κινοῦν. ὅσα μὲν οὖν κατὰ συμβεβηκὸς οἴδαμεν ὅτι ἔστιν, ἀναγκαῖον μηδαμῶς ἔχειν πρὸς τὸ τί ἐστιν· οὐδὲ γὰρ ὅτι ἔστιν ἴσμεν· τὸ δὲ ζητεῖν τί ἐστι μὴ ἔχοντας ὅτι ἔστι, μηδὲν ζητεῖν ἐστιν. καθ᾽ ὅσων δ᾽ ἔχομέν τι, ῥᾷον. ὥστε ὡς ἔχομεν ὅτι ἔστιν, οὕτως ἔχομεν καὶ πρὸς τὸ τί ἐστιν. ὧν οὖν ἔχομέν τι τοῦ τί ἐστιν, ἔστω πρῶτον μὲν ὧδε· ἔκλειψις ἐφ᾽ οὗ τὸ Α, σελήνη ἐφ᾽ οὗ Γ, ἀντίφραξις γῆς ἐφ᾽ οὗ Β. τὸ μὲν οὖν πότερον ἐκλείπει ἢ οὔ, τὸ Β ζητεῖν ἔστιν, ἆρ᾽ ἔστιν ἢ οὔ. τοῦτο δ᾽ οὐδὲν διαφέρει ζητεῖν ἢ εἰ ἔστι λόγος αὐτοῦ· καὶ ἐὰν ᾖ τοῦτο, κἀκεῖνό φαμεν εἶναι. ἢ ποτέρας τῆς ἀντιφάσεώς ἐστιν ὁ λόγος, πότερον τοῦ ἔχειν δύο ὀρθὰς ἢ τοῦ μὴ ἔχειν. ὅταν δ᾽ εὕρωμεν, ἅμα τὸ ὅτι καὶ τὸ διότι ἴσμεν, ἂν δι᾽ ἀμέσων ᾖ· εἰ δὲ μή, τὸ ὅτι, τὸ διότι δ᾽ οὔ. σελήνη Γ, ἔκλειψις Α, τὸ πανσελήνου σκιὰν μὴ δύνασθαι ποιεῖν μηδενὸς ἡμῶν μεταξὺ ὄντος φανεροῦ, ἐφ᾽ οὗ Β. εἰ τοίνυν τῷ Γ ὑπάρχει τὸ Β τὸ μὴ δύνασθαι ποιεῖν [93b] σκιὰν μηδενὸς μεταξὺ ἡμῶν ὄντος, τούτῳ δὲ τὸ Α τὸ ἐκλελοιπέναι, ὅτι μὲν ἐκλείπει δῆλον, διότι δ’ οὔπω, καὶ ὅτι μὲν ἔστιν ἔκλειψις ἴσμεν, τί δ’ ἐστὶν οὐκ ἴσμεν. δήλου δ’ ὄντος ὅτι τὸ Α τῷ Γ ὑπάρχει, ἀλλὰ διὰ τί ὑπάρχει, τὸ ζητεῖν τὸ Β τί ἐστι, πότερον ἀντίφραξις ἢ στροφὴ τῆς σελήνης ἢ ἀπόσβεσις. τοῦτο δ’ ἐστὶν ὁ λόγος τοῦ ἑτέρου ἄκρου, οἷον ἐν τούτοις τοῦ Α· ἔστι γὰρ ἡ ἔκλειψις ἀντίφραξις ὑπὸ γῆς. τί ἐστι βροντή; πυρὸς ἀπόσβεσις ἐν νέφει. διὰ τί βροντᾷ; διὰ τὸ ἀποσβέννυσθαι τὸ πῦρ ἐν τῷ νέφει. νέφος Γ, βροντὴ Α, ἀπόσβεσις πυρὸς τὸ Β. τῷ δὴ Γ τῷ νέφει ὑπάρχει τὸ Β (ἀποσβέννυται γὰρ ἐν αὐτῷ τὸ πῦρ), τούτῳ δὲ τὸ Α, ψόφος· καὶ ἔστι γε λόγος τὸ Β τοῦ Α τοῦ πρώτου ἄκρου. ἂν δὲ πάλιν τούτου ἄλλο μέσον ᾖ, ἐκ τῶν παραλοίπων ἔσται λόγων.

Ὡς μὲν τοίνυν λαμβάνεται τὸ τί ἐστι καὶ γίνεται γνώριμον, εἴρηται, ὥστε συλλογισμὸς μὲν τοῦ τί ἐστιν οὐ γίνεται οὐδ’ ἀπόδειξις, δῆλον μέντοι διὰ συλλογισμοῦ καὶ δι’ ἀποδείξεως· ὥστ’ οὔτ’ ἄνευ ἀποδείξεως ἔστι γνῶναι τὸ τί ἐστιν, οὗ ἔστιν αἴτιον ἄλλο, οὔτ’ ἔστιν ἀπόδειξις αὐτοῦ, ὥσπερ καὶ ἐν τοῖς διαπορήμασιν εἴπομεν.

Κεφάλαιο 9

Ἔστι δὲ τῶν μὲν ἕτερόν τι αἴτιον, τῶν δ’ οὐκ ἔστιν. ὥστε δῆλον ὅτι καὶ τῶν τί ἐστι τὰ μὲν ἄμεσα καὶ ἀρχαί εἰσιν, ἃ καὶ εἶναι καὶ τί ἐστιν ὑποθέσθαι δεῖ ἢ ἄλλον τρόπον φανερὰ ποιῆσαι (ὅπερ ὁ ἀριθμητικὸς ποιεῖ· καὶ γὰρ τί ἐστι τὴν μονάδα ὑποτίθεται, καὶ ὅτι ἔστιν)· τῶν δ’ ἐχόντων μέσον, καὶ ὧν ἔστι τι ἕτερον αἴτιον τῆς οὐσίας, ἔστι δι’ ἀποδείξεως, ὥσπερ εἴπομεν, δηλῶσαι, μὴ τὸ τί ἐστιν ἀποδεικνύντας.

Κεφάλαιο 10

Ὁρισμὸς δ’ ἐπειδὴ λέγεται εἶναι λόγος τοῦ τί ἐστι, φανερὸν ὅτι ὁ μέν τις ἔσται λόγος τοῦ τί σημαίνει τὸ ὄνομα ἢ λόγος ἕτερος ὀνοματώδης, οἷον τί σημαίνει [τί ἐστι] τρίγωνον. ὅπερ ἔχοντες ὅτι ἔστι, ζητοῦμεν διὰ τί ἔστιν· χαλεπὸν δ’ οὕτως ἐστὶ λαβεῖν ἃ μὴ ἴσμεν ὅτι ἔστιν. ἡ δ’ αἰτία εἴρηται πρότερον τῆς χαλεπότητος, ὅτι οὐδ’ εἰ ἔστιν ἢ μὴ ἴσμεν, ἀλλ’ ἢ κατὰ συμβεβηκός. (λόγος δ’ εἷς ἐστὶ διχῶς, ὁ μὲν συνδέσμῳ, ὥσπερ ἡ Ἰλιάς, ὁ δὲ τῷ ἓν καθ’ ἑνὸς δηλοῦν μὴ κατὰ συμβεβηκός.)

Εἷς μὲν δὴ ὅρος ἐστὶν ὅρου ὁ εἰρημένος, ἄλλος δ’ ἐστὶν ὅρος λόγος ὁ δηλῶν διὰ τί ἔστιν. ὥστε ὁ μὲν πρότερος σημαί[94a] νει μέν, δείκνυσι δ’ οὔ, ὁ δ’ ὕστερος φανερὸν ὅτι ἔσται οἷον ἀπόδειξις τοῦ τί ἐστι, τῇ θέσει διαφέρων τῆς ἀποδείξεως. διαφέρει γὰρ εἰπεῖν διὰ τί βροντᾷ καὶ τί ἐστι βροντή· ἐρεῖ γὰρ οὕτω μὲν “διότι ἀποσβέννυται τὸ πῦρ ἐν τοῖς νέφεσι”· τί δ’ ἐστὶ βροντή; ψόφος ἀποσβεννυμένου πυρὸς ἐν νέφεσιν. ὥστε ὁ αὐτὸς λόγος ἄλλον τρόπον λέγεται, καὶ ὡδὶ μὲν ἀπόδειξις συνεχής, ὡδὶ δὲ ὁρισμός. (ἔτι ἐστὶν ὅρος βροντῆς ψόφος ἐν νέφεσι· τοῦτο δ’ ἐστὶ τῆς τοῦ τί ἐστιν ἀποδείξεως συμπέρασμα.) ὁ δὲ τῶν ἀμέσων ὁρισμὸς θέσις ἐστὶ τοῦ τί ἐστιν ἀναπόδεικτος.

Ἔστιν ἄρα ὁρισμὸς εἷς μὲν λόγος τοῦ τί ἐστιν ἀναπόδεικτος, εἷς δὲ συλλογισμὸς τοῦ τί ἐστι, πτώσει διαφέρων τῆς ἀποδείξεως, τρίτος δὲ τῆς τοῦ τί ἐστιν ἀποδείξεως συμπέρασμα. φανερὸν οὖν ἐκ τῶν εἰρημένων καὶ πῶς ἔστι τοῦ τί ἐστιν ἀπόδειξις καὶ πῶς οὐκ ἔστι, καὶ τίνων ἔστι καὶ τίνων οὐκ ἔστιν, ἔτι δ’ ὁρισμὸς ποσαχῶς τε λέγεται καὶ πῶς τὸ τί ἐστι δείκνυσι καὶ πῶς οὔ, καὶ τίνων ἔστι καὶ τίνων οὔ, ἔτι δὲ πρὸς ἀπόδειξιν πῶς ἔχει, καὶ πῶς ἐνδέχεται τοῦ αὐτοῦ εἶναι καὶ πῶς οὐκ ἐνδέχεται.

Κεφάλαιο 11

Ἐπεὶ δὲ ἐπίστασθαι οἰόμεθα ὅταν εἰδῶμεν τὴν αἰτίαν, αἰτίαι δὲ τέτταρες, μία μὲν τὸ τί ἦν εἶναι, μία δὲ τὸ τίνων ὄντων ἀνάγκη τοῦτ’ εἶναι, ἑτέρα δὲ ἡ τί πρῶτον ἐκίνησε, τετάρτη δὲ τὸ τίνος ἕνεκα, πᾶσαι αὗται διὰ τοῦ μέσου δείκνυνται. τό τε γὰρ οὗ ὄντος τοδὶ ἀνάγκη εἶναι μιᾶς μὲν προτάσεως ληφθείσης οὐκ ἔστι, δυοῖν δὲ τοὐλάχιστον· τοῦτο δ’ ἐστίν, ὅταν ἓν μέσον ἔχωσιν. τούτου οὖν ἑνὸς ληφθέντος τὸ συμπέρασμα ἀνάγκη εἶναι. δῆλον δὲ καὶ ὧδε. διὰ τί ὀρθὴ ἡ ἐν ἡμικυκλίῳ; τίνος ὄντος ὀρθή; ἔστω δὴ ὀρθὴ ἐφ’ ἧς Α, ἡμίσεια δυοῖν ὀρθαῖν ἐφ’ ἧς Β, ἡ ἐν ἡμικυκλίῳ ἐφ’ ἧς Γ. τοῦ δὴ τὸ Α τὴν ὀρθὴν ὑπάρχειν τῷ Γ τῇ ἐν τῷ ἡμικυκλίῳ αἴτιον τὸ Β. αὕτη μὲν γὰρ τῇ Α ἴση, ἡ δὲ τὸ Γ τῇ Β· δύο γὰρ ὀρθῶν ἡμίσεια. τοῦ Β οὖν ὄντος ἡμίσεος δύο ὀρθῶν τὸ Α τῷ Γ ὑπάρχει (τοῦτο δ’ ἦν τὸ ἐν ἡμικυκλίῳ ὀρθὴν εἶναι). τοῦτο δὲ ταὐτόν ἐστι τῷ τί ἦν εἶναι, τῷ τοῦτο σημαίνειν τὸν λόγον. ἀλλὰ μὴν καὶ τὸ τί ἦν εἶναι αἴτιον δέδεικται τὸ μέσον <ὄν>.

Τὸ δὲ διὰ τί ὁ Μηδικὸς πόλεμος ἐγένετο Ἀθηναίοις; τίς αἰτία τοῦ πολεμεῖσθαι Ἀθηναίους; ὅτι [94b] εἰς Σάρδεις μετ’ Ἐρετριέων ἐνέβαλον· τοῦτο γὰρ ἐκίνησε πρῶτον. πόλεμος ἐφ’ οὗ Α, προτέρους εἰσβαλεῖν Β, Ἀθηναῖοι τὸ Γ. ὑπάρχει δὴ τὸ Β τῷ Γ, τὸ προτέροις ἐμβαλεῖν τοῖς Ἀθηναίοις, τὸ δὲ Α τῷ Β· πολεμοῦσι γὰρ τοῖς πρότερον ἀδικήσασιν. ὑπάρχει ἄρα τῷ μὲν Β τὸ Α, τὸ πολεμεῖσθαι τοῖς προτέροις ἄρξασι· τοῦτο δὲ τὸ Β τοῖς Ἀθηναίοις· πρότεροι γὰρ ἦρξαν. μέσον ἄρα καὶ ἐνταῦθα τὸ αἴτιον, τὸ πρῶτον κινῆσαν.

Ὅσων δ’ αἴτιον τὸ ἕνεκα τίνος - οἷον διὰ τί περιπατεῖ; ὅπως ὑγιαίνῃ· διὰ τί οἰκία ἔστιν; ὅπως σῴζηται τὰ σκεύη-τὸ μὲν ἕνεκα τοῦ ὑγιαίνειν, τὸ δ’ ἕνεκα τοῦ σῴζεσθαι. διὰ τί δὲ ἀπὸ δείπνου δεῖ περιπατεῖν, καὶ ἕνεκα τίνος δεῖ, οὐδὲν διαφέρει. περίπατος ἀπὸ δείπνου Γ, τὸ μὴ ἐπιπολάζειν τὰ σιτία ἐφ’ οὗ Β, τὸ ὑγιαίνειν ἐφ’ οὗ Α. ἔστω δὴ τῷ ἀπὸ δείπνου περιπατεῖν ὑπάρχον τὸ ποιεῖν μὴ ἐπιπολάζειν τὰ σιτία πρὸς τῷ στόματι τῆς κοιλίας, καὶ τοῦτο ὑγιεινόν. δοκεῖ γὰρ ὑπάρχειν τῷ περιπατεῖν τῷ Γ τὸ Β τὸ μὴ ἐπιπολάζειν τὰ σιτία, τούτῳ δὲ τὸ Α τὸ ὑγιεινόν. τί οὖν αἴτιον τῷ Γ τοῦ τὸ Α ὑπάρχειν τὸ οὗ ἕνεκα; τὸ Β τὸ μὴ ἐπιπολάζειν. τοῦτο δ’ ἐστὶν ὥσπερ ἐκείνου λόγος· τὸ γὰρ Α οὕτως ἀποδοθήσεται. διὰ τί δὲ τὸ Β τῷ Γ ἔστιν; ὅτι τοῦτ’ ἔστι τὸ ὑγιαίνειν, τὸ οὕτως ἔχειν. δεῖ δὲ μεταλαμβάνειν τοὺς λόγους, καὶ οὕτως μᾶλλον ἕκαστα φανεῖται. αἱ δὲ γενέσεις ἀνάπαλιν ἐνταῦθα καὶ ἐπὶ τῶν κατὰ κίνησιν αἰτίων· ἐκεῖ μὲν γὰρ τὸ μέσον δεῖ γενέσθαι πρῶτον, ἐνταῦθα δὲ τὸ Γ, τὸ ἔσχατον, τελευταῖον δὲ τὸ οὗ ἕνεκα.

Ἐνδέχεται δὲ τὸ αὐτὸ καὶ ἕνεκά τινος εἶναι καὶ ἐξ ἀνάγκης, οἷον διὰ τοῦ λαμπτῆρος τὸ φῶς· καὶ γὰρ ἐξ ἀνάγκης διέρχεται τὸ μικρομερέστερον διὰ τῶν μειζόνων πόρων, εἴπερ φῶς γίνεται τῷ διιέναι, καὶ ἕνεκά τινος, ὅπως μὴ πταίωμεν. ἆρ’ οὖν εἰ εἶναι ἐνδέχεται, καὶ γίνεσθαι ἐνδέχεται· ὥσπερ εἰ βροντᾷ <ὅτι> ἀποσβεννυμένου τε τοῦ πυρὸς ἀνάγκη σίζειν καὶ ψοφεῖν καί, εἰ ὡς οἱ Πυθαγόρειοί φασιν, ἀπειλῆς ἕνεκα τοῖς ἐν τῷ ταρτάρῳ, ὅπως φοβῶνται; πλεῖστα δὲ τοιαῦτ’ ἔστι, καὶ μάλιστα ἐν τοῖς κατὰ φύσιν συνισταμένοις καὶ συνεστῶσιν· ἡ μὲν γὰρ ἕνεκά του ποιεῖ φύσις, ἡ δ’ ἐξ ἀνάγκης. ἡ δ’ ἀνάγκη διττή· ἡ μὲν γὰρ κατὰ φύσιν [95a] καὶ τὴν ὁρμήν, ἡ δὲ βίᾳ ἡ παρὰ τὴν ὁρμήν, ὥσπερ λίθος ἐξ ἀνάγκης καὶ ἄνω καὶ κάτω φέρεται, ἀλλ’ οὐ διὰ τὴν αὐτὴν ἀνάγκην. ἐν δὲ τοῖς ἀπὸ διανοίας τὰ μὲν οὐδέποτε ἀπὸ τοῦ αὐτομάτου ὑπάρχει, οἷον οἰκία ἢ ἀνδριάς, οὐδ’ ἐξ ἀνάγκης, ἀλλ’ ἕνεκά του, τὰ δὲ καὶ ἀπὸ τύχης, οἷον ὑγίεια καὶ σωτηρία. μάλιστα δὲ ἐν ὅσοις ἐνδέχεται καὶ ὧδε καὶ ἄλλως, ὅταν, μὴ ἀπὸ τύχης, ἡ γένεσις ᾖ ὥστε τὸ τέλος ἀγαθόν, ἕνεκά του γίνεται, καὶ ἢ φύσει ἢ τέχνῃ. ἀπὸ τύχης δ’ οὐδὲν ἕνεκά του γίνεται.

Κεφάλαιο 12

Τὸ δ' αὐτὸ αἴτιόν ἐστι τοῖς γινομένοις καὶ τοῖς γεγενημένοις καὶ τοῖς ἐσομένοις ὅπερ καὶ τοῖς οὖσι (τὸ γὰρ μέσον αἴτιον), πλὴν τοῖς μὲν οὖσιν ὄν, τοῖς δὲ γινομένοις γινόμενον, τοῖς δὲ γεγενημένοις γεγενημένον καὶ ἐσομένοις ἐσόμενον. οἷον διὰ τί γέγονεν ἔκλειψις; διότι ἐν μέσῳ γέγονεν ἡ γῆ· γίνεται δὲ διότι γίνεται, ἔσται δὲ διότι ἔσται ἐν μέσῳ, καὶ ἔστι διότι ἔστιν. τί ἐστι κρύσταλλος; εἰλήφθω δὴ ὅτι ὕδωρ πεπηγός. ὕδωρ ἐφ' οὗ Γ, πεπηγὸς ἐφ' οὗ Α, αἴτιον τὸ μέσον ἐφ' οὗ Β, ἔκλειψις θερμοῦ παντελής. ὑπάρχει δὴ τῷ Γ τὸ Β, τούτῳ δὲ τὸ πεπηγέναι τὸ ἐφ' οὗ Α. γίνεται δὲ κρύσταλλος γινομένου τοῦ Β, γεγένηται δὲ γεγενημένου, ἔσται δ' ἐσομένου.

Τὸ μὲν οὖν οὕτως αἴτιον καὶ οὗ αἴτιον ἅμα γίνεται, ὅταν γίνηται, καὶ ἔστιν, ὅταν ᾖ· καὶ ἐπὶ τοῦ γεγονέναι καὶ ἔσεσθαι ὡσαύτως. ἐπὶ δὲ τῶν μὴ ἅμα ἆρ' ἔστιν ἐν τῷ συνεχεῖ χρόνῳ, ὥσπερ δοκεῖ ἡμῖν, ἄλλα ἄλλων αἴτια εἶναι, τοῦ τόδε γενέσθαι ἕτερον γενόμενον, καὶ τοῦ ἔσεσθαι ἕτερον ἐσόμενον, καὶ τοῦ γίνεσθαι δέ, εἴ τι ἔμπροσθεν ἐγένετο; ἔστι δὴ ἀπὸ τοῦ ὕστερον γεγονότος ὁ συλλογισμός (ἀρχὴ δὲ καὶ τούτων τὰ γεγονότα)· διὸ καὶ ἐπὶ τῶν γινομένων ὡσαύτως. ἀπὸ δὲ τοῦ προτέρου οὐκ ἔστιν, οἷον ἐπεὶ τόδε γέγονεν, ὅτι τόδ' ὕστερον γέγονεν· καὶ ἐπὶ τοῦ ἔσεσθαι ὡσαύτως. οὔτε γὰρ ἀορίστου οὔθ' ὁρισθέντος ἔσται τοῦ χρόνου ὥστ' ἐπεὶ τοῦτ' ἀληθὲς εἰπεῖν γεγονέναι, τόδ' ἀληθὲς εἰπεῖν γεγονέναι τὸ ὕστερον. ἐν γὰρ τῷ μεταξὺ ψεῦδος ἔσται τὸ εἰπεῖν τοῦτο, ἤδη θατέρου γεγονότος. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τοῦ ἐσομένου, οὐδ' ἐπεὶ τόδε γέγονε, τόδ' ἔσται. τὸ γὰρ μέσον ὁμόγονον δεῖ εἶναι, τῶν γενομένων γενόμενον, τῶν ἐσομένων ἐσόμενον, τῶν γινομένων γινόμενον, τῶν ὄντων ὄν· τοῦ δὲ γέγονε καὶ τοῦ ἔσται οὐκ ἐνδέχεται εἶναι ὁμόγονον. ἔτι οὔτε ἀόριστον ἐνδέχεται εἶναι τὸν χρόνον τὸν μεταξὺ οὔθ' ὡρισμένον· [95b] ψεῦδος γὰρ ἔσται τὸ εἰπεῖν ἐν τῷ μεταξύ. ἐπισκεπτέον δὲ τί τὸ συνέχον ὥστε μετὰ τὸ γεγονέναι τὸ γίνεσθαι ὑπάρχειν ἐν τοῖς πράγμασιν. ἢ δῆλον ὅτι οὐκ ἔστιν ἐχόμενον γεγονότος γινόμενον; οὐδὲ γὰρ γενόμενον γενομένου· πέρατα γὰρ καὶ ἄτομα· ὥσπερ οὖν οὐδὲ στιγμαί εἰσιν ἀλλήλων ἐχόμεναι, οὐδὲ γενόμενα· ἄμφω γὰρ ἀδιαίρετα. οὐδὲ δὴ γινόμενον γεγενημένου διὰ τὸ αὐτό· τὸ μὲν γὰρ γινόμενον διαιρετόν, τὸ δὲ γεγονὸς ἀδιαίρετον. ὥσπερ οὖν γραμμὴ πρὸς στιγμὴν ἔχει, οὕτω τὸ γινόμενον πρὸς τὸ γεγονός· ἐνυπάρχει γὰρ ἄπειρα γεγονότα ἐν τῷ γινομένῳ. μᾶλλον δὲ φανερῶς ἐν τοῖς καθόλου περὶ κινήσεως δεῖ λεχθῆναι περὶ τούτων.

Περὶ μὲν οὖν τοῦ πῶς ἂν ἐφεξῆς γινομένης τῆς γενέσεως ἔχοι τὸ μέσον τὸ αἴτιον ἐπὶ τοσοῦτον εἰλήφθω. ἀνάγκη γὰρ καὶ ἐν τούτοις τὸ μέσον καὶ τὸ πρῶτον ἄμεσα εἶναι. οἷον τὸ Α γέγονεν, ἐπεὶ τὸ Γ γέγονεν (ὕστερον δὲ τὸ Γ γέγονεν, ἔμπροσθεν δὲ τὸ Α· ἀρχὴ δὲ τὸ Γ διὰ τὸ ἐγγύτερον τοῦ νῦν εἶναι, ὅ ἐστιν ἀρχὴ τοῦ χρόνου). τὸ δὲ Γ γέγονεν, εἰ τὸ Δ γέγονεν. τοῦ δὴ Δ γενομένου ἀνάγκη τὸ Α γεγονέναι. αἴτιον δὲ τὸ Γ· τοῦ γὰρ Δ γενομένου τὸ Γ ἀνάγκη γεγονέναι, τοῦ δὲ Γ γεγονότος ἀνάγκη πρότερον τὸ Α γεγονέναι. οὕτω δὲ λαμβάνοντι τὸ μέσον στήσεταί που εἰς ἄμεσον, ἢ ἀεὶ παρεμπεσεῖται διὰ τὸ ἄπειρον; οὐ γάρ ἐστιν ἐχόμενον γεγονὸς γεγονότος, ὥσπερ ἐλέχθη. ἀλλ’ ἄρξασθαί γε ὅμως ἀνάγκη ἀπ’ ἀμέσου καὶ ἀπὸ τοῦ νῦν πρώτου. ὁμοίως δὲ (25)καὶ ἐπὶ τοῦ ἔσται. εἰ γὰρ ἀληθὲς εἰπεῖν ὅτι ἔσται τὸ Δ, ἀνάγκη πρότερον ἀληθὲς εἰπεῖν ὅτι τὸ Α ἔσται. τούτου δ’ αἴτιον τὸ Γ· εἰ μὲν γὰρ τὸ Δ ἔσται, πρότερον τὸ Γ ἔσται· εἰ δὲ τὸ Γ ἔσται, πρότερον τὸ Α ἔσται. ὁμοίως δ’ ἄπειρος ἡ τομὴ καὶ ἐν τούτοις· οὐ γὰρ ἔστιν ἐσόμενα ἐχόμενα ἀλλήλων. ἀρχὴ δὲ καὶ ἐν τούτοις ἄμεσος ληπτέα. ἔχει δὲ οὕτως ἐπὶ τῶν ἔργων· εἰ γέγονεν οἰκία, ἀνάγκη τετμῆσθαι λίθους καὶ γεγονέναι. τοῦτο διὰ τί; ὅτι ἀνάγκη θεμέλιον γεγονέναι, εἴπερ καὶ οἰκία γέγονεν· εἰ δὲ θεμέλιον, πρότερον λίθους γεγονέναι ἀνάγκη. πάλιν εἰ ἔσται οἰκία, ὡσαύτως πρότερον ἔσονται λίθοι. δείκνυται δὲ διὰ τοῦ μέσου ὁμοίως· ἔσται γὰρ θεμέλιος πρότερον.

Ἐπεὶ δ’ ὁρῶμεν ἐν τοῖς γινομένοις κύκλῳ τινὰ γένεσιν οὖσαν, ἐνδέχεται τοῦτο εἶναι, εἴπερ ἕποιντο ἀλλήλοις τὸ μέσον καὶ οἱ ἄκροι· ἐν γὰρ τούτοις τὸ ἀντιστρέφειν ἐστίν.

Δέδεικται [96a] δὲ τοῦτο ἐν τοῖς πρώτοις, ὅτι ἀντιστρέφει τὰ συμπεράσματα· τὸ δὲ κύκλῳ τουτό ἐστιν. ἐπὶ δὲ τῶν ἔργων φαίνεται ὧδε· βεβρεγμένης τῆς γῆς ἀνάγκη ἀτμίδα γενέσθαι, τούτου δὲ γενομένου νέφος, τούτου δὲ γενομένου ὕδωρ· τούτου δὲ γενομένου ἀνάγκη βεβρέχθαι τὴν γῆν· τοῦτο δ’ ἦν τὸ ἐξ ἀρχῆς, ὥστε κύκλῳ περιελήλυθεν· ἑνὸς γὰρ αὐτῶν ὁτουοῦν ὄντος ἕτερον ἔστι, κἀκείνου ἄλλο, καὶ τούτου τὸ πρῶτον.

Ἔστι δ’ ἔνια μὲν γινόμενα καθόλου (ἀεί τε γὰρ καὶ ἐπὶ παντὸς οὕτως ἢ ἔχει ἢ γίνεται), τὰ δὲ ἀεὶ μὲν οὔ, ὡς ἐπὶ τὸ πολὺ δέ, οἷον οὐ πᾶς ἄνθρωπος ἄρρην τὸ γένειον τριχοῦται, ἀλλ’ ὡς ἐπὶ τὸ πολύ. τῶν δὴ τοιούτων ἀνάγκη καὶ τὸ μέσον ὡς ἐπὶ τὸ πολὺ εἶναι. εἰ γὰρ τὸ Α κατὰ τοῦ Β καθόλου κατηγορεῖται, καὶ τοῦτο κατὰ τοῦ Γ καθόλου, ἀνάγκη καὶ τὸ Α κατὰ τοῦ Γ ἀεὶ καὶ ἐπὶ παντὸς κατηγορεῖσθαι· τοῦτο γάρ ἐστι τὸ καθόλου, τὸ ἐπὶ παντὶ καὶ ἀεί. ἀλλ’ ὑπέκειτο ὡς ἐπὶ τὸ πολύ· ἀνάγκη ἄρα καὶ τὸ μέσον ὡς ἐπὶ τὸ πολὺ εἶναι τὸ ἐφ’ οὗ τὸ Β. ἔσονται τοίνυν καὶ τῶν ὡς ἐπὶ τὸ πολὺ ἀρχαὶ ἄμεσοι, ὅσα ὡς ἐπὶ τὸ πολὺ οὕτως ἔστιν ἢ γίνεται.

Κεφάλαιο 13

Πῶς μὲν οὖν τὸ τί ἐστιν εἰς τοὺς ὅρους ἀποδίδοται, καὶ τίνα τρόπον ἀπόδειξις ἢ ὁρισμὸς ἔστιν αὐτοῦ ἢ οὐκ ἔστιν, εἴρηται πρότερον· πῶς δὲ δεῖ θηρεύειν τὰ ἐν τῷ τί ἐστι κατηγορούμενα, νῦν λέγωμεν. Τῶν δὴ ὑπαρχόντων ἀεὶ ἑκάστῳ ἔνια ἐπεκτείνει ἐπὶ πλέον, οὐ μέντοι ἔξω τοῦ γένους. λέγω δὲ ἐπὶ πλέον ὑπάρχειν ὅσα ὑπάρχει μὲν ἑκάστῳ καθόλου, οὐ μὴν ἀλλὰ καὶ ἄλλῳ. οἷον ἔστι τι ὃ πάσῃ τριάδι ὑπάρχει, ἀλλὰ καὶ μὴ τριάδι, ὥσπερ τὸ ὂν ὑπάρχει τῇ τριάδι, ἀλλὰ καὶ μὴ ἀριθμῷ, ἀλλὰ καὶ τὸ περιττὸν ὑπάρχει τε πάσῃ τριάδι καὶ ἐπὶ πλέον ὑπάρχει (καὶ γὰρ τῇ πεντάδι ὑπάρχει), ἀλλ’ οὐκ ἔξω τοῦ γένους· ἡ μὲν γὰρ πεντὰς ἀριθμός, οὐδὲν δὲ ἔξω ἀριθμοῦ περιττόν. τὰ δὴ τοιαῦτα ληπτέον μέχρι τούτου, ἕως τοσαῦτα ληφθῇ πρῶτον ὧν ἕκαστον μὲν ἐπὶ πλέον ὑπάρξει, ἅπαντα δὲ μὴ ἐπὶ πλέον· ταύτην γὰρ ἀνάγκη οὐσίαν εἶναι τοῦ πράγματος. οἷον τριάδι ὑπάρχει πάσῃ ἀριθμός, τὸ περιττόν, τὸ πρῶτον ἀμφοτέρως, καὶ ὡς μὴ μετρεῖσθαι ἀριθμῷ καὶ ὡς μὴ συγκεῖσθαι ἐξ ἀριθμῶν. τοῦτο τοίνυν ἤδη ἐστὶν ἡ τριάς, ἀριθμὸς περιττὸς πρῶτος καὶ ὡδὶ πρῶτος. τούτων γὰρ ἕκαστον, τὰ μὲν καὶ τοῖς περιττοῖς πᾶσιν ὑπάρχει, [96b] τὸ δὲ τελευταῖον καὶ τῇ δυάδι, πάντα δὲ οὐδενί. ἐπεὶ δὲ δεδήλωται ἡμῖν ἐν τοῖς ἄνω ὅτι καθόλου μέν ἐστι τὰ ἐν τῷ τί ἐστι κατηγορούμενα (τὰ καθόλου δὲ ἀναγκαῖα), τῇ δὲ τριάδι, καὶ ἐφ’ οὗ ἄλλου οὕτω λαμβάνεται, ἐν τῷ τί ἐστι τὰ λαμβανόμενα, οὕτως ἐξ ἀνάγκης μὲν ἂν εἴη τριὰς ταῦτα. ὅτι δ’ οὐσία, ἐκ τῶνδε δῆλον. ἀνάγκη γάρ, εἰ μὴ τοῦτο ἦν τριάδι εἶναι, οἷον γένος τι εἶναι τοῦτο, ἢ ὠνομασμένον ἢ ἀνώνυμον. ἔσται τοίνυν ἐπὶ πλέον ἢ τῇ τριάδι ὑπάρχον. ὑποκείσθω γὰρ τοιοῦτον εἶναι τὸ γένος ὥστε ὑπάρχειν κατὰ δύναμιν ἐπὶ πλέον. εἰ τοίνυν μηδενὶ ὑπάρχει ἄλλῳ ἢ ταῖς ἀτόμοις τριάσι, τοῦτ’ ἂν εἴη τὸ τριάδι εἶναι (ὑποκείσθω γὰρ καὶ τοῦτο, ἡ οὐσία ἡ ἑκάστου εἶναι ἡ ἐπὶ τοῖς ἀτόμοις ἔσχατος τοιαύτη κατηγορία)· ὥστε ὁμοίως καὶ ἄλλῳ ὁτῳοῦν τῶν οὕτω δειχθέντων τὸ αὐτῷ εἶναι ἔσται.

Χρὴ δέ, ὅταν ὅλον τι πραγματεύηταί τις, διελεῖν τὸ γένος εἰς τὰ ἄτομα τῷ εἴδει τὰ πρῶτα, οἷον ἀριθμὸν εἰς τριάδα καὶ δυάδα, εἶθ’ οὕτως ἐκείνων ὁρισμοὺς πειρᾶσθαι λαμβάνειν, οἷον εὐθείας γραμμῆς καὶ κύκλου, καὶ ὀρθῆς γωνίας, μετὰ δὲ τοῦτο λαβόντα τί τὸ γένος, οἷον πότερον τῶν ποσῶν ἢ τῶν ποιῶν, τὰ ἴδια πάθη θεωρεῖν διὰ τῶν κοινῶν πρώτων. τοῖς γὰρ συντιθεμένοις ἐκ τῶν ἀτόμων τὰ συμβαίνοντα ἐκ τῶν ὁρισμῶν ἔσται δῆλα, διὰ τὸ ἀρχὴν εἶναι πάντων τὸν ὁρισμὸν καὶ τὸ ἁπλοῦν καὶ τοῖς ἁπλοῖς καθ' αὑτὰ ὑπάρχειν τὰ συμβαίνοντα μόνοις, τοῖς δ' ἄλλοις κατ' ἐκεῖνα. αἱ δὲ διαιρέσεις αἱ κατὰ τὰς διαφορὰς χρήσιμοί εἰσιν εἰς τὸ οὕτω μετιέναι· ὡς μέντοι δεικνύουσιν, εἴρηται ἐν τοῖς πρότερον. χρήσιμοι δ' ἂν εἶεν ὧδε μόνον πρὸς τὸ συλλογίζεσθαι τὸ τί ἐστιν. καίτοι δόξειέν γ' ἂν οὐδέν, ἀλλ' εὐθὺς λαμβάνειν ἅπαντα, ὥσπερ ἂν εἰ ἐξ ἀρχῆς ἐλάμβανέ τις ἄνευ τῆς διαιρέσεως. διαφέρει δέ τι τὸ πρῶτον καὶ ὕστερον τῶν κατηγορουμένων κατηγορεῖσθαι, οἷον εἰπεῖν ζῷον ἥμερον δίπουν ἢ δίπουν ζῷον ἥμερον. εἰ γὰρ ἅπαν ἐκ δύο ἐστί, καὶ ἕν τι τὸ ζῷον ἥμερον, καὶ πάλιν ἐκ τούτου καὶ τῆς διαφορᾶς ὁ ἄνθρωπος ἢ ὅ τι δήποτ' ἐστὶ τὸ ἓν γινόμενον, ἀναγκαῖον διελόμενον αἰτεῖσθαι.

Ἔτι πρὸς τὸ μηδὲν παραλιπεῖν ἐν τῷ τί ἐστιν οὕτω μόνως ἐνδέχεται. ὅταν γὰρ τὸ πρῶτον ληφθῇ γένος, ἂν μὲν τῶν κάτωθέν τινα διαιρέσεων λαμβάνῃ, οὐκ ἐμπεσεῖται ἅπαν εἰς τοῦτο, οἷον οὐ πᾶν ζῷον ἢ ὁλόπτερον ἢ σχιζόπτερον, ἀλλὰ πτηνὸν ζῷον ἅπαν· τούτου [97a] γὰρ διαφορὰ αὕτη. πρώτη δὲ διαφορά ἐστι ζῴου εἰς ἣν ἅπαν ζῷον ἐμπίπτει. ὁμοίως δὲ καὶ τῶν ἄλλων ἑκάστου, καὶ τῶν ἔξω γενῶν καὶ τῶν ὑπ' αὐτό, οἷον ὄρνιθος, εἰς ἣν ἅπας ὄρνις, καὶ ἰχθύος, εἰς ἣν ἅπας ἰχθύς. οὕτω μὲν οὖν βαδίζοντι ἔστιν εἰδέναι ὅτι οὐδὲν παραλέλειπται· ἄλλως δὲ καὶ παραλιπεῖν ἀναγκαῖον καὶ μὴ εἰδέναι. οὐδὲν δὲ δεῖ τὸν ὁριζόμενον καὶ διαιρούμενον ἅπαντα εἰδέναι τὰ ὄντα. καίτοι ἀδύνατόν φασί τινες εἶναι τὰς διαφορὰς εἰδέναι τὰς πρὸς ἕκαστον μὴ εἰδότα ἕκαστον· ἄνευ δὲ τῶν διαφορῶν οὐκ εἶναι ἕκαστον εἰδέναι· οὗ γὰρ μὴ διαφέρει, ταὐτὸν εἶναι τούτῳ, οὗ δὲ διαφέρει, ἕτερον τούτου. πρῶτον μὲν οὖν τοῦτο ψεῦδος· οὐ γὰρ κατὰ πᾶσαν διαφορὰν ἕτερον· πολλαὶ γὰρ διαφοραὶ ὑπάρχουσι τοῖς αὐτοῖς τῷ εἴδει, ἀλλ' οὐ κατ' οὐσίαν οὐδὲ καθ' αὑτά. εἶτα ὅταν λάβῃ τἀντικείμενα καὶ τὴν διαφορὰν καὶ ὅτι πᾶν ἐμπίπτει ἐνταῦθα ἢ ἐνταῦθα, καὶ λάβῃ ἐν θατέρῳ τὸ ζητούμενον εἶναι, καὶ τοῦτο γινώσκῃ, οὐδὲν διαφέρει εἰδέναι ἢ μὴ εἰδέναι ἐφ' ὅσων κατηγοροῦνται ἄλλων αἱ διαφοραί. φανερὸν γὰρ ὅτι ἂν οὕτω βαδίζων ἔλθῃ εἰς ταῦτα ὧν μηκέτι ἔστι διαφορά, ἕξει τὸν λόγον τῆς οὐσίας. τὸ δ' ἅπαν ἐμπίπτειν εἰς τὴν διαίρεσιν, ἂν ᾖ ἀντικείμενα ὧν μὴ ἔστι μεταξύ, οὐκ αἴτημα· ἀνάγκη γὰρ ἅπαν ἐν θατέρῳ αὐτῶν εἶναι, εἴπερ ἐκείνου διαφορά ἐστι.

Εἰς δὲ τὸ κατασκευάζειν ὅρον διὰ τῶν διαιρέσεων τριῶν δεῖ στοχάζεσθαι, τοῦ λαβεῖν τὰ κατηγορούμενα ἐν τῷ τί ἐστι, καὶ ταῦτα τάξαι τί πρῶτον ἢ δεύτερον, καὶ ὅτι ταῦτα πάντα. ἔστι δὲ τούτων ἓν πρῶτον διὰ τοῦ δύνασθαι, ὥσπερ πρὸς συμβεβηκὸς συλλογίσασθαι ὅτι ὑπάρχει, καὶ διὰ τοῦ γένους κατασκευάσαι. τὸ δὲ τάξαι ὡς δεῖ ἔσται, ἐὰν τὸ πρῶτον λάβῃ. τοῦτο δ’ ἔσται, ἐὰν ληφθῇ ὃ πᾶσιν ἀκολουθεῖ, ἐκείνῳ δὲ μὴ πάντα· ἀνάγκη γὰρ εἶναί τι τοιοῦτον. ληφθέντος δὲ τούτου ἤδη ἐπὶ τῶν κάτω ὁ αὐτὸς τρόπος· δεύτερον γὰρ τὸ τῶν ἄλλων πρῶτον ἔσται, καὶ τρίτον τὸ τῶν ἐχομένων· ἀφαιρεθέντος γὰρ τοῦ ἄνωθεν τὸ ἐχόμενον τῶν ἄλλων πρῶτον ἔσται. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ὅτι δ’ ἅπαντα ταῦτα, φανερὸν ἐκ τοῦ λαβεῖν τό τε πρῶτον κατὰ διαίρεσιν, ὅτι ἅπαν ἢ τόδε ἢ τόδε ζῷον, ὑπάρχει δὲ τόδε, καὶ πάλιν τούτου ὅλου τὴν διαφοράν, τοῦ δὲ τελευταίου μηκέτι εἶναι διαφοράν, ἢ καὶ εὐθὺς μετὰ τῆς τελευταίας διαφορᾶς τοῦ συνόλου μὴ διαφέρειν εἴδει ἔτι τοῦτο. [97b] δῆλον γὰρ ὅτι οὔτε πλεῖον πρόσκειται (πάντα γὰρ ἐν τῷ τί ἐστιν εἴληπται τούτων) οὔτε ἀπολείπει οὐδέν· ἢ γὰρ γένος ἢ διαφορὰ ἂν εἴη. γένος μὲν οὖν τό τε πρῶτον, καὶ μετὰ τῶν διαφορῶν τοῦτο προσλαμβανόμενον· αἱ διαφοραὶ δὲ πᾶσαι ἔχονται· οὐ γὰρ ἔτι ἔστιν ὑστέρα· εἴδει γὰρ ἂν διέφερε τὸ τελευταῖον, τοῦτο δ’ εἴρηται μὴ διαφέρειν.

Ζητεῖν δὲ δεῖ ἐπιβλέποντα ἐπὶ τὰ ὅμοια καὶ ἀδιάφορα, πρῶτον τί ἅπαντα ταὐτὸν ἔχουσιν, εἶτα πάλιν ἐφ’ ἑτέροις, ἃ ἐν ταὐτῷ μὲν γένει ἐκείνοις, εἰσὶ δὲ αὑτοῖς μὲν ταὐτὰ τῷ εἴδει, ἐκείνων δ’ ἕτερα. ὅταν δ’ ἐπὶ τούτων ληφθῇ τί πάντα ταὐτόν, καὶ ἐπὶ τῶν ἄλλων ὁμοίως, ἐπὶ τῶν εἰλημμένων πάλιν σκοπεῖν εἰ ταὐτόν, ἕως ἂν εἰς ἕνα ἔλθῃ λόγον· οὗτος γὰρ ἔσται τοῦ πράγματος ὁρισμός. ἐὰν δὲ μὴ βαδίζῃ εἰς ἕνα ἀλλ’ εἰς δύο ἢ πλείους, δῆλον ὅτι οὐκ ἂν εἴη ἕν τι εἶναι τὸ ζητούμενον, ἀλλὰ πλείω. οἷον λέγω, εἰ τί ἐστι μεγαλοψυχία ζητοῖμεν, σκεπτέον ἐπί τινων μεγαλοψύχων, οὓς ἴσμεν, τί ἔχουσιν ἓν πάντες ᾗ τοιοῦτοι. οἷον εἰ Ἀλκιβιάδης μεγαλόψυχος ἢ ὁ Ἀχιλλεὺς καὶ ὁ Αἴας, τί ἓν ἅπαντες; τὸ μὴ ἀνέχεσθαι ὑβριζόμενοι· ὁ μὲν γὰρ ἐπολέμησεν, ὁ δ’ ἐμήνισεν, ὁ δ’ ἀπέκτεινεν ἑαυτόν. πάλιν ἐφ’ ἑτέρων, οἷον Λυσάνδρου ἢ Σωκράτους. εἰ δὴ τὸ ἀδιάφοροι εἶναι εὐτυχοῦντες καὶ ἀτυχοῦντες, ταῦτα δύο λαβὼν σκοπῶ τί τὸ αὐτὸ ἔχουσιν ἥ τε ἀπάθεια ἡ περὶ τὰς τύχας καὶ ἡ μὴ ὑπομονὴ ἀτιμαζομένων. εἰ δὲ μηδέν, δύο εἴδη ἂν εἴη τῆς μεγαλοψυχίας. αἰεὶ δ’ ἐστὶ πᾶς ὅρος καθόλου· οὐ γάρ τινι ὀφθαλμῷ λέγει τὸ ὑγιεινὸν ὁ ἰατρός, ἀλλ’ ἢ παντὶ ἢ εἴδει ἀφορίσας. ῥᾷόν τε τὸ καθ’ ἕκαστον ὁρίσασθαι ἢ τὸ καθόλου, διὸ δεῖ ἀπὸ τῶν καθ’ ἕκαστα ἐπὶ τὰ καθόλου μεταβαίνειν· καὶ γὰρ αἱ ὁμωνυμίαι λανθάνουσι μᾶλλον ἐν τοῖς καθόλου ἢ ἐν τοῖς ἀδιαφόροις. ὥσπερ δὲ ἐν ταῖς ἀποδείξεσι δεῖ τό γε συλλελογίσθαι ὑπάρχειν, οὕτω καὶ ἐν τοῖς ὅροις τὸ σαφές. τοῦτο δ’ ἔσται, ἐὰν διὰ τῶν καθ’ ἕκαστον εἰλημμένων ᾖ τὸ ἐν ἑκάστῳ γένει ὁρίζεσθαι χωρίς, οἷον τὸ ὅμοιον μὴ πᾶν ἀλλὰ τὸ ἐν χρώμασι καὶ σχήμασι, καὶ ὀξὺ τὸ ἐν φωνῇ, καὶ οὕτως ἐπὶ τὸ κοινὸν βαδίζειν, εὐλαβούμενον μὴ ὁμωνυμίᾳ ἐντύχῃ. εἰ δὲ μὴ διαλέγεσθαι δεῖ μεταφοραῖς, δῆλον ὅτι οὐδ’ ὁρίζεσθαι οὔτε μεταφοραῖς οὔτε ὅσα λέγεται μεταφοραῖς· διαλέγεσθαι γὰρ ἀνάγκη ἔσται μεταφοραῖς.

Κεφάλαιο 14

[98a] Πρὸς δὲ τὸ ἔχειν τὰ προβλήματα ἐκλέγειν δεῖ τάς τε ἀνατομὰς καὶ τὰς διαιρέσεις, οὕτω δὲ ἐκλέγειν, ὑποθέμενον τὸ γένος τὸ κοινὸν ἁπάντων, οἷον εἰ ζῷα εἴη τὰ τεθεωρημένα, ποῖα παντὶ ζῴῳ ὑπάρχει, ληφθέντων δὲ τούτων, πάλιν τῶν λοιπῶν τῷ πρώτῳ ποῖα παντὶ ἕπεται, οἷον εἰ τοῦτο ὄρνις, ποῖα παντὶ ἕπεται ὄρνιθι, καὶ οὕτως αἰεὶ τῷ ἐγγύτατα· δῆλον γὰρ ὅτι ἕξομεν ἤδη λέγειν τὸ διὰ τί ὑπάρχει τὰ ἑπόμενα τοῖς ὑπὸ τὸ κοινόν, οἷον διὰ τί ἀνθρώπῳ ἢ ἵππῳ ὑπάρχει. ἔστω δὲ ζῷον ἐφ' οὗ Α, τὸ δὲ Β τὰ ἑπόμενα παντὶ ζῴῳ, ἐφ' ὧν δὲ Γ Δ Ε τὰ τινὰ ζῷα. δῆλον δὴ διὰ τί τὸ Β ὑπάρχει τῷ Δ· διὰ γὰρ τὸ Α. ὁμοίως δὲ καὶ τοῖς ἄλλοις· καὶ ἀεὶ ἐπὶ τῶν κάτω ὁ αὐτὸς λόγος.

Νῦν μὲν οὖν κατὰ τὰ παραδεδομένα κοινὰ ὀνόματα λέγομεν, δεῖ δὲ μὴ μόνον ἐπὶ τούτων σκοπεῖν, ἀλλὰ καὶ ἂν ἄλλο τι ὀφθῇ ὑπάρχον κοινόν, ἐκλαμβάνοντα, εἶτα τίσι τοῦτ' ἀκολουθεῖ καὶ ποῖα τούτῳ ἕπεται, οἷον τοῖς κέρατα ἔχουσι τὸ ἔχειν ἐχῖνον, τὸ μὴ ἀμφώδοντ' εἶναι· πάλιν τὸ κέρατ' ἔχειν τίσιν ἕπεται. δῆλον γὰρ διὰ τί ἐκείνοις ὑπάρξει τὸ εἰρημένον· διὰ γὰρ τὸ κέρατ' ἔχειν ὑπάρξει.

Ἔτι δ' ἄλλος τρόπος ἐστὶ κατὰ τὸ ἀνάλογον ἐκλέγειν. ἓν γὰρ λαβεῖν οὐκ ἔστι τὸ αὐτό, ὃ δεῖ καλέσαι σήπιον καὶ ἄκανθαν καὶ ὀστοῦν· ἔσται δ' ἑπόμενα καὶ τούτοις ὥσπερ μιᾶς τινος φύσεως τῆς τοιαύτης οὔσης.

Κεφάλαιο 15

Τὰ δ’ αὐτὰ προβλήματά ἐστι τὰ μὲν τῷ τὸ αὐτὸ μέσον ἔχειν, οἷον ὅτι πάντα ἀντιπερίστασις. τούτων δ’ ἔνια τῷ γένει ταὐτά, ὅσα ἔχει διαφορὰς τῷ ἄλλων ἢ ἄλλως εἶναι, οἷον διὰ τί ἠχεῖ, ἢ διὰ τί ἐμφαίνεται, καὶ διὰ τί ἶρις· ἅπαντα γὰρ ταῦτα τὸ αὐτὸ πρόβλημά ἐστι γένει (πάντα γὰρ ἀνάκλασις), ἀλλ’ εἴδει ἕτερα. τὰ δὲ τῷ τὸ μέσον ὑπὸ τὸ ἕτερον μέσον εἶναι διαφέρει τῶν προβλημάτων, οἷον διὰ τί ὁ Νεῖλος φθίνοντος τοῦ μηνὸς μᾶλλον ῥεῖ; διότι χειμεριώτερος φθίνων ὁ μείς. διὰ τί δὲ χειμεριώτερος φθίνων; διότι ἡ σελήνη ἀπολείπει. ταῦτα γὰρ οὕτως ἔχει πρὸς ἄλληλα.

Κεφάλαιο 16

Περὶ δ’ αἰτίου καὶ οὗ αἴτιον ἀπορήσειε μὲν ἄν τις, ἆρα ὅτε ὑπάρχει τὸ αἰτιατόν, καὶ τὸ αἴτιον ὑπάρχει (ὥσπερ εἰ φυλλορροεῖ ἢ ἐκλείπει, καὶ τὸ αἴτιον τοῦ ἐκλείπειν ἢ φυλλορροεῖν ἔσται· οἷον εἰ τοῦτ’ ἔστι τὸ πλατέα ἔχειν τὰ [98b] φύλλα, τοῦ δ’ ἐκλείπειν τὸ τὴν γῆν ἐν μέσῳ εἶναι· εἰ γὰρ μὴ ὑπάρχει, ἄλλο τι ἔσται τὸ αἴτιον αὐτῶν), εἴ τε τὸ αἴτιον ὑπάρχει, ἅμα καὶ τὸ αἰτιατόν (οἷον εἰ ἐν μέσῳ ἡ γῆ, ἐκλείπει, ἢ εἰ πλατύφυλλον, φυλλορροεῖ). εἰ δ’ οὕτως, ἅμ’ ἂν εἴη καὶ δεικνύοιτο δι’ ἀλλήλων. ἔστω γὰρ τὸ φυλλορροεῖν ἐφ’ οὗ Α, τὸ δὲ πλατύφυλλον ἐφ’ οὗ Β, ἄμπελος δὲ ἐφ’ οὗ Γ. εἰ δὴ τῷ Β ὑπάρχει τὸ Α (πᾶν γὰρ πλατύφυλλον φυλλορροεῖ), τῷ δὲ Γ ὑπάρχει τὸ Β (πᾶσα γὰρ ἄμπελος πλατύφυλλος), τῷ Γ ὑπάρχει τὸ Α, καὶ πᾶσα ἄμπελος φυλλορροεῖ. αἴτιον δὲ τὸ Β τὸ μέσον. ἀλλὰ καὶ ὅτι πλατύφυλλον ἡ ἄμπελος, ἔστι διὰ τοῦ φυλλορροεῖν ἀποδεῖξαι. ἔστω γὰρ τὸ μὲν Δ πλατύφυλλον, τὸ δὲ Ε τὸ φυλλορροεῖν, ἄμπελος δὲ ἐφ’ οὗ Ζ. τῷ δὴ Ζ ὑπάρχει τὸ Ε (φυλλορροεῖ γὰρ πᾶσα ἄμπελος), τῷ δὲ Ε τὸ Δ (ἅπαν γὰρ τὸ φυλλορροοῦν πλατύφυλλον)· πᾶσα ἄρα ἄμπελος πλατύφυλλον. αἴτιον δὲ τὸ φυλλορροεῖν. εἰ δὲ μὴ ἐνδέχεται αἴτια εἶναι ἀλλήλων (τὸ γὰρ αἴτιον πρότερον οὗ αἴτιον, καὶ τοῦ μὲν ἐκλείπειν αἴτιον τὸ ἐν μέσῳ τὴν γῆν εἶναι, τοῦ δ’ ἐν μέσῳ τὴν γῆν εἶναι οὐκ αἴτιον τὸ ἐκλείπειν)-εἰ οὖν ἡ μὲν διὰ τοῦ αἰτίου ἀπόδειξις τοῦ διὰ τί, ἡ δὲ μὴ διὰ τοῦ αἰτίου τοῦ ὅτι, ὅτι μὲν ἐν μέσῳ, οἶδε, διότι δ’ οὔ. ὅτι δ’ οὐ τὸ ἐκλείπειν αἴτιον τοῦ ἐν μέσῳ, ἀλλὰ τοῦτο τοῦ ἐκλείπειν, φανερόν· ἐν γὰρ τῷ λόγῳ τῷ τοῦ ἐκλείπειν ἐνυπάρχει τὸ ἐν μέσῳ, ὥστε δῆλον ὅτι διὰ τούτου ἐκεῖνο γνωρίζεται, ἀλλ’ οὐ τοῦτο δι’ ἐκείνου.

Ἢ ἐνδέχεται ἑνὸς πλείω αἴτια εἶναι; καὶ γὰρ εἰ ἔστι τὸ αὐτὸ πλειόνων πρώτων κατηγορεῖσθαι, ἔστω τὸ Α τῷ Β πρώτῳ ὑπάρχον, καὶ τῷ Γ ἄλλῳ πρώτῳ, καὶ ταῦτα τοῖς Δ Ε. ὑπάρξει ἄρα τὸ Α τοῖς Δ Ε· αἴτιον δὲ τῷ μὲν Δ τὸ Β, τῷ δὲ Ε τὸ Γ· ὥστε τοῦ μὲν αἰτίου ὑπάρχοντος ἀνάγκη τὸ πρᾶγμα ὑπάρχειν, τοῦ δὲ πράγματος ὑπάρχοντος οὐκ ἀνάγκη πᾶν ὃ ἂν ᾖ αἴτιον, ἀλλ’ αἴτιον μέν, οὐ μέντοι πᾶν. ἢ εἰ ἀεὶ καθόλου τὸ πρόβλημά ἐστι, καὶ τὸ αἴτιον ὅλον τι, καὶ οὗ αἴτιον, καθόλου; οἷον τὸ φυλλορροεῖν ὅλῳ τινὶ ἀφωρισμένον, κἂν εἴδη αὐτοῦ ᾖ, καὶ τοισδὶ καθόλου, ἢ φυτοῖς ἢ τοιοισδὶ φυτοῖς· ὥστε καὶ τὸ μέσον ἴσον δεῖ εἶναι ἐπὶ τούτων καὶ οὗ αἴτιον, καὶ ἀντιστρέφειν. οἷον διὰ τί τὰ δένδρα φυλλορροεῖ; εἰ δὴ διὰ πῆξιν τοῦ ὑγροῦ, εἴτε φυλλορροεῖ δένδρον, δεῖ ὑπάρχειν πῆξιν, εἴτε πῆξις ὑπάρχει, μὴ ὁτῳοῦν ἀλλὰ δένδρῳ, φυλλορροεῖν.

Κεφάλαιο 17

[99a] Πότερον δ’ ἐνδέχεται μὴ τὸ αὐτὸ αἴτιον εἶναι τοῦ αὐτοῦ πᾶσιν ἀλλ’ ἕτερον, ἢ οὔ; ἢ εἰ μὲν καθ’ αὑτὸ ἀποδέδεικται καὶ μὴ κατὰ σημεῖον ἢ συμβεβηκός, οὐχ οἷόν τε· ὁ γὰρ λόγος τοῦ ἄκρου τὸ μέσον ἐστίν· εἰ δὲ μὴ οὕτως, ἐνδέχεται. ἔστι δὲ καὶ οὗ αἴτιον καὶ ᾧ σκοπεῖν κατὰ συμβεβηκός· οὐ μὴν δοκεῖ προβλήματα εἶναι. εἰ δὲ μή, ὁμοίως ἕξει τὸ μέσον· εἰ μὲν ὁμώνυμα, ὁμώνυμον τὸ μέσον, εἰ δ’ ὡς ἐν γένει, ὁμοίως ἕξει. οἷον διὰ τί καὶ ἐναλλὰξ ἀνάλογον; ἄλλο γὰρ αἴτιον ἐν γραμμαῖς καὶ ἀριθμοῖς καὶ τὸ αὐτό γε, ᾗ μὲν γραμμή, ἄλλο, ᾗ δ’ ἔχον αὔξησιν τοιανδί, τὸ αὐτό. οὕτως ἐπὶ πάντων. τοῦ δ’ ὅμοιον εἶναι χρῶμα χρώματι καὶ σχῆμα σχήματι ἄλλο ἄλλῳ. ὁμώνυμον γὰρ τὸ ὅμοιον ἐπὶ τούτων· ἔνθα μὲν γὰρ ἴσως τὸ ἀνάλογον ἔχειν τὰς πλευρὰς καὶ ἴσας τὰς γωνίας, ἐπὶ δὲ χρωμάτων τὸ τὴν αἴσθησιν μίαν εἶναι ἤ τι ἄλλο τοιοῦτον. τὰ δὲ κατ’ ἀναλογίαν τὰ αὐτὰ καὶ τὸ μέσον ἕξει κατ’ ἀναλογίαν. Ἔχει δ’ οὕτω τὸ παρακολουθεῖν τὸ αἴτιον ἀλλήλοις καὶ οὗ αἴτιον καὶ ᾧ αἴτιον· καθ’ ἕκαστον μὲν λαμβάνοντι τὸ οὗ αἴτιον ἐπὶ πλέον, οἷον τὸ τέτταρσιν ἴσας τὰς ἔξω ἐπὶ πλέον ἢ τρίγωνον ἢ τετράγωνον, ἅπασι δὲ ἐπ’ ἴσον (ὅσα γὰρ τέτταρσιν ὀρθαῖς ἴσας τὰς ἔξω)· καὶ τὸ μέσον ὁμοίως. ἔστι δὲ τὸ μέσον λόγος τοῦ πρώτου ἄκρου, διὸ πᾶσαι αἱ ἐπιστῆμαι δι’ ὁρισμοῦ γίγνονται. οἷον τὸ φυλλορροεῖν ἅμα ἀκολουθεῖ τῇ ἀμπέλῳ καὶ ὑπερέχει, καὶ συκῇ, καὶ ὑπερέχει· ἀλλ’ οὐ πάντων, ἀλλ’ ἴσον. εἰ δὴ λάβοις τὸ πρῶτον μέσον, λόγος τοῦ φυλλορροεῖν ἐστιν. ἔσται γὰρ πρῶτον μὲν ἐπὶ θάτερα μέσον, ὅτι τοιαδὶ ἅπαντα· εἶτα τούτου μέσον, ὅτι ὀπὸς πήγνυται ἤ τι ἄλλο τοιοῦτον. τί δ’ ἐστὶ τὸ φυλλορροεῖν; τὸ πήγνυσθαι τὸν ἐν τῇ συνάψει τοῦ σπέρματος ὀπόν.

Ἐπὶ δὲ τῶν σχημάτων ὧδε ἀποδώσει ζητοῦσι τὴν παρακολούθησιν τοῦ αἰτίου καὶ οὗ αἴτιον. ἔστω τὸ Α τῷ Β ὑπάρχειν παντί, τὸ δὲ Β ἑκάστῳ τῶν Δ, ἐπὶ πλέον δέ. τὸ μὲν δὴ Β καθόλου ἂν εἴη τοῖς Δ· τοῦτο γὰρ λέγω καθόλου ᾧ μὴ ἀντιστρέφει, πρῶτον δὲ καθόλου ᾧ ἕκαστον μὲν μὴ ἀντιστρέφει, ἅπαντα δὲ ἀντιστρέφει καὶ παρεκτείνει. τοῖς δὴ Δ αἴτιον τοῦ Α τὸ Β. δεῖ ἄρα τὸ Α ἐπὶ πλέον τοῦ Β ἐπεκτείνειν· εἰ δὲ μή, τί μᾶλλον αἴτιον ἔσται τοῦτο ἐκείνου; εἰ δὴ πᾶσιν ὑπάρχει τοῖς Ε τὸ Α, ἔσται τι ἐκεῖνα ἓν ἅπαντα ἄλλο τοῦ Β. εἰ γὰρ μή, πῶς ἔσται εἰπεῖν ὅτι ᾧ τὸ Ε, τὸ [99b] Α παντί, ᾧ δὲ τὸ Α, οὐ παντὶ τὸ Ε;

διὰ τί γὰρ οὐκ ἔσται τι αἴτιον οἷον [τὸ Α] ὑπάρχει πᾶσι τοῖς Δ; ἀλλ’ ἆρα καὶ τὰ Ε ἔσται τι ἕν; ἐπισκέψασθαι δεῖ τοῦτο, καὶ ἔστω τὸ Γ. ἐνδέχεται δὴ τοῦ αὐτοῦ πλείω αἴτια εἶναι, ἀλλ’ οὐ τοῖς αὐτοῖς τῷ εἴδει, οἷον τοῦ μακρόβια εἶναι τὰ μὲν τετράποδα τὸ μὴ ἔχειν χολήν, τὰ δὲ πτηνὰ τὸ ξηρὰ εἶναι ἢ ἕτερόν τι.

Κεφάλαιο 18

Εἰ δὲ εἰς τὸ ἄτομον μὴ εὐθὺς ἔρχονται, καὶ μὴ μόνον ἓν τὸ μέσον ἀλλὰ πλείω, καὶ τὰ αἴτια πλείω. πότερον δ’ αἴτιον τῶν μέσων, τὸ πρὸς τὸ καθόλου πρῶ τον ἢ τὸ πρὸς τὸ καθ’ ἕκαστον, τοῖς καθ’ ἕκαστον; δῆλον δὴ ὅτι τὸ ἐγγύτατα ἑκάστῳ ᾧ αἴτιον. τοῦ γὰρ τὸ πρῶτον ὑπὸ τὸ καθόλου ὑπάρχειν τοῦτο αἴτιον, οἷον τῷ Δ τὸ Γ τοῦ τὸ Β ὑπάρχειν αἴτιον. τῷ μὲν οὖν Δ τὸ Γ αἴτιον τοῦ Α, τῷ δὲ Γ τὸ Β, τούτῳ δὲ αὐτό.

Κεφάλαιο 19

Περὶ μὲν οὖν συλλογισμοῦ καὶ ἀποδείξεως, τί τε ἑκάτερόν ἐστι καὶ πῶς γίνεται, φανερόν, ἅμα δὲ καὶ περὶ ἐπιστήμης ἀποδεικτικῆς· ταὐτὸν γάρ ἐστιν. περὶ δὲ τῶν ἀρχῶν, πῶς τε γίνονται γνώριμοι καὶ τίς ἡ γνωρίζουσα ἕξις, ἐντεῦθεν ἔσται δῆλον προαπορήσασι πρῶτον.

Ὅτι μὲν οὖν οὐκ ἐνδέχεται ἐπίστασθαι δι’ ἀποδείξεως μὴ γιγνώσκοντι τὰς πρώτας ἀρχὰς τὰς ἀμέσους, εἴρηται πρότερον. τῶν δ’ ἀμέσων τὴν γνῶσιν, καὶ πότερον ἡ αὐτή ἐστιν ἢ οὐχ ἡ αὐτή, διαπορήσειεν ἄν τις, καὶ πότερον ἐπιστήμη ἑκατέρου ἢ οὔ, ἢ τοῦ μὲν ἐπιστήμη τοῦ δ’ ἕτερόν τι γένος, καὶ πότερον οὐκ ἐνοῦσαι αἱ ἕξεις ἐγγίνονται ἢ ἐνοῦσαι λελήθασιν. εἰ μὲν δὴ ἔχομεν αὐτάς, ἄτοπον· συμβαίνει γὰρ ἀκριβεστέρας ἔχοντας γνώσεις ἀποδείξεως λανθάνειν. εἰ δὲ λαμβάνομεν μὴ ἔχοντες πρότερον, πῶς ἂν γνωρίζοιμεν καὶ μανθάνοιμεν ἐκ μὴ προϋπαρχούσης γνώσεως; ἀδύνατον γάρ, ὥσπερ καὶ ἐπὶ τῆς ἀποδείξεως ἐλέγομεν. φανερὸν τοίνυν ὅτι οὔτ’ ἔχειν οἷόν τε, οὔτ’ ἀγνοοῦσι καὶ μηδεμίαν ἔχουσιν ἕξιν ἐγγίγνεσθαι. ἀνάγκη ἄρα ἔχειν μέν τινα δύναμιν, μὴ τοιαύτην δ’ ἔχειν ἣ ἔσται τούτων τιμιωτέρα κατ’ ἀκρίβειαν. φαίνεται δὲ τοῦτό γε πᾶσιν ὑπάρχον τοῖς ζῴοις. ἔχει γὰρ δύναμιν σύμφυτον κριτικήν, ἣν καλοῦσιν αἴσθησιν· ἐνούσης δ’ αἰσθήσεως τοῖς μὲν τῶν ζῴων ἐγγίγνεται μονὴ τοῦ αἰσθήματος, τοῖς δ’ οὐκ ἐγγίγνεται. ὅσοις μὲν οὖν μὴ ἐγγίγνεται, ἢ ὅλως ἢ περὶ ἃ μὴ ἐγγίγνεται, οὐκ ἔστι τούτοις γνῶσις ἔξω τοῦ αἰσθάνεσθαι· ἐν οἷς δ’ ἔνεστιν αἰσθομένοις ἔχειν [100a] ἔτι ἐν τῇ ψυχῇ. πολλῶν δὲ τοιούτων γινομένων ἤδη διαφορά τις γίνεται, ὥστε τοῖς μὲν γίνεσθαι λόγον ἐκ τῆς τῶν τοιούτων μονῆς, τοῖς δὲ μή.

Ἐκ μὲν οὖν αἰσθήσεως γίνεται μνήμη, ὥσπερ λέγομεν, ἐκ δὲ μνήμης πολλάκις τοῦ αὐτοῦ γινομένης ἐμπειρία· αἱ γὰρ πολλαὶ μνῆμαι τῷ ἀριθμῷ ἐμπειρία μία ἐστίν. ἐκ δ’ ἐμπειρίας ἢ ἐκ παντὸς ἠρεμήσαντος τοῦ καθόλου ἐν τῇ ψυχῇ, τοῦ ἑνὸς παρὰ τὰ πολλά, ὃ ἂν ἐν ἅπασιν ἓν ἐνῇ ἐκείνοις τὸ αὐτό, τέχνης ἀρχὴ καὶ ἐπιστήμης, ἐὰν μὲν περὶ γένεσιν, τέχνης, ἐὰν δὲ περὶ τὸ ὄν, ἐπιστήμης. οὔτε δὴ ἐνυπάρχουσιν ἀφωρισμέναι αἱ ἕξεις, οὔτ’ ἀπ’ ἄλλων ἕξεων γίνονται γνωστικωτέρων, ἀλλ’ ἀπὸ αἰσθήσεως, οἷον ἐν μάχῃ τροπῆς γενομένης ἑνὸς στάντος ἕτερος ἔστη, εἶθ’ ἕτερος, ἕως ἐπὶ ἀρχὴν ἦλθεν. ἡ δὲ ψυχὴ ὑπάρχει τοιαύτη οὖσα οἵα δύνασθαι πάσχειν τοῦτο. ὃ δ’ ἐλέχθη μὲν πάλαι, οὐ σαφῶς δὲ ἐλέχθη, πάλιν εἴπωμεν. στάντος γὰρ τῶν ἀδιαφόρων ἑνός, πρῶτον μὲν ἐν τῇ ψυχῇ καθόλου (καὶ γὰρ αἰσθάνεται μὲν τὸ καθ' ἕκαστον, ἡ δ' αἴσθησις τοῦ καθόλου [100b] ἐστίν, οἷον ἀνθρώπου, ἀλλ' οὐ Καλλίου ἀνθρώπου)· πάλιν ἐν τούτοις ἵσταται, ἕως ἂν τὰ ἀμερῆ στῇ καὶ τὰ καθόλου, οἷον τοιονδὶ ζῷον, ἕως ζῷον, καὶ ἐν τούτῳ ὡσαύτως. δῆλον δὴ ὅτι ἡμῖν τὰ πρῶτα ἐπαγωγῇ γνωρίζειν ἀναγκαῖον· καὶ γὰρ ἡ αἴσθησις οὕτω τὸ καθόλου ἐμποιεῖ.

Ἐπεὶ δὲ τῶν περὶ τὴν διάνοιαν ἕξεων αἷς ἀληθεύομεν αἱ μὲν ἀεὶ ἀληθεῖς εἰσιν, αἱ δὲ ἐπιδέχονται τὸ ψεῦδος, οἷον δόξα καὶ λογισμός, ἀληθῆ δ' ἀεὶ ἐπιστήμη καὶ νοῦς, καὶ οὐδὲν ἐπιστήμης ἀκριβέστερον ἄλλο γένος ἢ νοῦς, αἱ δ' ἀρχαὶ τῶν ἀποδείξεων γνωριμώτεραι, ἐπιστήμη δ' ἅπασα μετὰ λόγου ἐστί, τῶν ἀρχῶν ἐπιστήμη μὲν οὐκ ἂν εἴη, ἐπεὶ δ' οὐδὲν ἀληθέστερον ἐνδέχεται εἶναι ἐπιστήμης ἢ νοῦν, νοῦς ἂν εἴη τῶν ἀρχῶν, ἔκ τε τούτων σκοποῦσι καὶ ὅτι ἀποδείξεως ἀρχὴ οὐκ ἀπόδειξις, ὥστ' οὐδ' ἐπιστήμης ἐπιστήμη. εἰ οὖν μηδὲν ἄλλο παρ' ἐπιστήμην γένος ἔχομεν ἀληθές, νοῦς ἂν εἴη ἐπιστήμης ἀρχή. καὶ ἡ μὲν ἀρχὴ τῆς ἀρχῆς εἴη ἄν, ἡ δὲ πᾶσα ὁμοίως ἔχει πρὸς τὸ πᾶν πρᾶγμα.

Τοπικοὶ (100a) Topics

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[100a] Ἡ μὲν πρόθεσις τῆς πραγματείας μέθοδον εὑρεῖν ἀφ' ἧς δυνησόμεθα συλλογίζεσθαι περὶ παντὸς τοῦ προτεθέντος προβλήματος ἐξ ἐνδόξων, καὶ αὐτοὶ λόγον ὑπέχοντες μηθὲν ἐροῦμεν ὑπεναντίον. πρῶτον οὖν ῥητέον τί ἐστι συλλογισμὸς καὶ τίνες αὐτοῦ διαφοραί, ὅπως ληφθῇ ὁ διαλεκτικὸς συλλογισμός· τοῦτον γὰρ ζητοῦμεν κατὰ τὴν προκειμένην πραγματείαν.

Ἔστι δὴ συλλογισμὸς λόγος ἐν ᾧ τεθέντων τινῶν ἕτερόν τι τῶν κειμένων ἐξ ἀνάγκης συμβαίνει διὰ τῶν κειμένων. ἀπόδειξις μὲν οὖν ἐστιν, ὅταν ἐξ ἀληθῶν καὶ πρώτων ὁ συλλογισμὸς ᾖ, ἢ ἐκ τοιούτων ἃ διά τινων πρώτων καὶ ἀληθῶν τῆς περὶ αὐτὰ γνώσεως τὴν ἀρχὴν εἴληφεν, διαλεκτικὸς δὲ συλλογισμὸς ὁ ἐξ ἐνδόξων συλλογιζόμενος. ἔστι [100b] δὲ ἀληθῆ μὲν καὶ πρῶτα τὰ μὴ δι' ἑτέρων ἀλλὰ δι' αὑτῶν ἔχοντα τὴν πίστιν (οὐ δεῖ γὰρ ἐν ταῖς ἐπιστημονικαῖς ἀρχαῖς ἐπιζητεῖσθαι τὸ διὰ τί, ἀλλ' ἑκάστην τῶν ἀρχῶν αὐτὴν καθ' ἑαυτὴν εἶναι πιστήν), ἔνδοξα δὲ τὰ δοκοῦντα πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς σοφοῖς, καὶ τούτοις ἢ πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς μάλιστα γνωρίμοις καὶ ἐνδόξοις. ἐριστικὸς δ' ἐστὶ συλλογισμὸς ὁ ἐκ φαινομένων ἐνδόξων μὴ ὄντων δέ, καὶ ὁ ἐξ ἐνδόξων ἢ φαινομένων ἐνδόξων φαινόμενος· οὐ γὰρ πᾶν τὸ φαινόμενον ἔνδοξον καὶ ἔστιν ἔνδοξον. οὐθὲν γὰρ τῶν λεγομένων ἐνδόξων ἐπιπόλαιον ἔχει παντελῶς τὴν φαντασίαν, καθάπερ περὶ τὰς τῶν ἐριστικῶν λόγων ἀρχὰς συμβέβηκεν ἔχειν· παραχρῆμα γὰρ καὶ ὡς ἐπὶ τὸ πολὺ τοῖς καὶ μικρὰ συνορᾶν δυναμένοις κατάδηλος ἐν αὐτοῖς ἡ τοῦ [101a] ψεύδους ἐστὶ φύσις. ὁ μὲν οὖν πρότερος τῶν ῥηθέντων ἐριστικῶν συλλογισμῶν καὶ συλλογισμὸς λεγέσθω, ὁ δὲ λοιπὸς ἐριστικὸς μὲν συλλογισμός, συλλογισμὸς δ' οὔ, ἐπειδὴ φαίνεται μὲν συλλογίζεσθαι, συλλογίζεται δ' οὔ.

Ἔτι δὲ παρὰ τοὺς εἰρημένους ἅπαντας συλλογισμοὺς οἱ ἐκ τῶν περί τινας ἐπιστήμας οἰκείων γινόμενοι παραλογισμοί, καθάπερ ἐπὶ τῆς γεωμετρίας καὶ τῶν ταύτῃ συγγενῶν συμβέβηκεν ἔχειν. ἔοικε γὰρ ὁ τρόπος οὗτος διαφέρειν τῶν εἰρημένων συλλογισμῶν· οὔτε γὰρ ἐξ ἀληθῶν καὶ πρώτων συλλογίζεται ὁ ψευδογραφῶν οὔτ' ἐξ ἐνδόξων. εἰς γὰρ τὸν ὅρον οὐκ ἐμπίπτει· οὔτε γὰρ τὰ πᾶσι δοκοῦντα λαμβάνει οὔτε τὰ τοῖς πλείστοις οὔτε τὰ τοῖς σοφοῖς, καὶ τούτοις οὔτε πᾶσιν οὔτε τοῖς πλείστοις οὔτε τοῖς ἐνδοξοτάτοις, ἀλλ’ ἐκ τῶν οἰκείων μὲν τῇ ἐπιστήμῃ λημμάτων οὐκ ἀληθῶν δὲ τὸν συλλογισμὸν ποιεῖται. τῷ γὰρ ἢ τὰ ἡμικύκλια περιγράφειν μὴ ὡς δεῖ ἢ γραμμάς τινας ἄγειν μὴ ὡς ἂν ἀχθείησαν τὸν παραλογισμὸν ποιεῖται.

Εἴδη μὲν οὖν τῶν συλλογισμῶν ὡς τύπῳ περιλαβεῖν ἔστω τὰ εἰρημένα. καθόλου δ’ εἰπεῖν περὶ πάντων τῶν εἰρημένων καὶ τῶν μετὰ ταῦτα ῥηθησομένων ἐπὶ τοσοῦτον ἡμῖν διωρίσθω, διότι περὶ οὐδενὸς αὐτῶν τὸν ἀκριβῆ λόγον ἀποδοῦναι προαιρούμεθα, ἀλλ’ ὅσον τύπῳ περὶ αὐτῶν βουλόμεθα διελθεῖν, παντελῶς ἱκανὸν ἡγούμενοι κατὰ τὴν προκειμένην μέθοδον τὸ δύνασθαι γνωρίζειν ὁπωσοῦν ἕκαστον αὐτῶν.

Ἑπόμενον δ’ ἂν εἴη τοῖς εἰρημένοις εἰπεῖν πρὸς πόσα τε καὶ τίνα χρήσιμος ἡ πραγματεία. ἔστι δὴ πρὸς τρία, πρὸς γυμνασίαν, πρὸς τὰς ἐντεύξεις, πρὸς τὰς κατὰ φιλοσοφίαν ἐπιστήμας. ὅτι μὲν οὖν πρὸς γυμνασίαν χρήσιμος, ἐξ αὐτῶν καταφανές ἐστι· μέθοδον γὰρ ἔχοντες ῥᾷον περὶ τοῦ προτεθέντος ἐπιχειρεῖν δυνησόμεθα· πρὸς δὲ τὰς ἐντεύξεις, διότι τὰς τῶν πολλῶν κατηριθμημένοι δόξας οὐκ ἐκ τῶν ἀλλοτρίων ἀλλ’ ἐκ τῶν οἰκείων δογμάτων ὁμιλήσομεν πρὸς αὐτούς, μεταβιβάζοντες ὅ τι ἂν μὴ καλῶς φαίνωνται λέγειν ἡμῖν· πρὸς δὲ τὰς κατὰ φιλοσοφίαν ἐπιστήμας, ὅτι δυνάμενοι πρὸς ἀμφότερα διαπορῆσαι ῥᾷον ἐν ἑκάστοις κατοψόμεθα τἀληθές τε καὶ τὸ ψεῦδος· ἔτι δὲ πρὸς τὰ πρῶτα τῶν περὶ ἑκάστην ἐπιστήμην. ἐκ μὲν γὰρ τῶν οἰκείων τῶν κατὰ τὴν προτεθεῖσαν ἐπιστήμην ἀρχῶν ἀδύνατον εἰπεῖν τι περὶ αὐτῶν, ἐπειδὴ πρῶται αἱ ἀρχαὶ ἁπάντων [101b] εἰσί, διὰ δὲ τῶν περὶ ἕκαστα ἐνδόξων ἀνάγκη περὶ αὐτῶν διελθεῖν. τοῦτο δ’ ἴδιον ἢ μάλιστα οἰκεῖον τῆς διαλεκτικῆς ἐστιν· ἐξεταστικὴ γὰρ οὖσα πρὸς τὰς ἁπασῶν τῶν μεθόδων ἀρχὰς ὁδὸν ἔχει.

Ἕξομεν δὲ τελέως τὴν μέθοδον ὅταν ὁμοίως ἔχωμεν ὥσπερ ἐπὶ ῥητορικῆς καὶ ἰατρικῆς καὶ τῶν τοιούτων δυνάμεων· τοῦτο δ’ ἐστὶ τὸ ἐκ τῶν ἐνδεχομένων ποιεῖν ἃ προαιρούμεθα. οὔτε γὰρ ὁ ῥητορικὸς ἐκ παντὸς τρόπου πείσει οὔθ’ ὁ ἰατρικὸς ὑγιάσει, ἀλλ’ ἐὰν τῶν ἐνδεχομένων μηδὲν παραλίπῃ, ἱκανῶς αὐτὸν ἔχειν τὴν ἐπιστήμην φήσομεν.

Πρῶτον οὖν θεωρητέον ἐκ τίνων ἡ μέθοδος. εἰ δὴ λάβοιμεν πρὸς πόσα καὶ ποῖα καὶ ἐκ τίνων οἱ λόγοι, καὶ πῶς τούτων εὐπορήσομεν, ἔχοιμεν ἂν ἱκανῶς τὸ προκείμενον. ἔστι δ’ ἀριθμῷ ἴσα καὶ τὰ αὐτὰ ἐξ ὧν τε οἱ λόγοι καὶ περὶ ὧν οἱ συλλογισμοί. γίνονται μὲν γὰρ οἱ λόγοι ἐκ τῶν προτάσεων· περὶ ὧν δὲ οἱ συλλογισμοί, τὰ προβλήματά ἐστι. πᾶσα δὲ πρότασις καὶ πᾶν πρόβλημα ἢ ἴδιον ἢ γένος ἢ συμβεβηκὸς δηλοῖ· καὶ γὰρ τὴν διαφορὰν ὡς οὖσαν γενικὴν ὁμοῦ τῷ γένει τακτέον. ἐπεὶ δὲ τοῦ ἰδίου τὸ μὲν τὸ τί ἦν εἶναι σημαίνει, τὸ δ’ οὐ σημαίνει, διῃρήσθω τὸ ἴδιον εἰς ἄμφω τὰ προειρημένα μέρη, καὶ καλείσθω τὸ μὲν τὸ τί ἦν εἶναι σημαῖνον ὅρος, τὸ δὲ λοιπὸν κατὰ τὴν κοινὴν περὶ αὐτῶν ἀποδοθεῖσαν ὀνομασίαν προσαγορευέσθω ἴδιον. δῆλον οὖν ἐκ τῶν εἰρημένων ὅτι κατὰ τὴν νῦν διαίρεσιν τέτταρα τὰ πάντα συμβαίνει γίνεσθαι, ἢ ὅρον ἢ ἴδιον ἢ γένος ἢ συμβεβηκός. μηδεὶς δ’ ἡμᾶς ὑπολάβῃ λέγειν ὡς ἕκαστον τούτων καθ’ αὑτὸ λεγόμενον πρότασις ἢ πρόβλημά ἐστιν, ἀλλ’ ὅτι ἀπὸ τούτων καὶ τὰ προβλήματα καὶ αἱ προτάσεις γίνονται. διαφέρει δὲ τὸ πρόβλημα καὶ ἡ πρότασις τῷ τρόπῳ. οὕτω μὲν γὰρ ῥηθέντος, “ἆρά γε τὸ ζῷον πεζὸν δίπουν ὁρισμός ἐστιν ἀνθρώπου;” καὶ “ἆρά γε τὸ ζῷον γένος τοῦ ἀνθρώπου;”, πρότασις γίνεται· ἐὰν δὲ “πότερον τὸ ζῷον πεζὸν δίπουν ὁρισμός ἐστιν ἀνθρώπου ἢ οὔ;”, πρόβλημα γίνεται· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ὥστ’ εἰκότως ἴσα τῷ ἀριθμῷ τὰ προβλήματα καὶ αἱ προτάσεις εἰσίν· ἀπὸ πάσης γὰρ προτάσεως πρόβλημα ποιήσεις μεταβάλλων τῷ τρόπῳ.

Λεκτέον δὲ τί ὅρος, τί ἴδιον, τί γένος, τί συμβεβηκός. ἔστι δ’ ὅρος μὲν λόγος ὁ τὸ τί ἦν εἶναι σημαίνων, ἀποδίδοται [102a] δὲ ἢ λόγος ἀντ’ ὀνόματος ἢ λόγος ἀντὶ λόγου· δυνατὸν γὰρ καὶ τῶν ὑπὸ λόγου τινὰ σημαινομένων ὁρίσασθαι. ὅσοι δ’ ὁπωσοῦν ὀνόματι τὴν ἀπόδοσιν ποιοῦνται, δῆλον ὡς οὐκ ἀποδιδόασιν οὗτοι τὸν τοῦ πράγματος ὁρισμόν, ἐπειδὴ πᾶς ὁρισμὸς λόγος τίς ἐστιν. ὁρικὸν μέντοι καὶ τὸ τοιοῦτον θετέον, οἷον ὅτι ‹τὸ› καλόν ἐστι τὸ πρέπον. ὁμοίως δὲ καὶ τὸ πότερον ταὐτὸν αἴσθησις καὶ ἐπιστήμη ἢ ἕτερον· καὶ γὰρ περὶ τοὺς ὁρισμοὺς πότερον ταὐτὸν ἢ ἕτερον ἡ πλείστη γίνεται διατριβή. ἁπλῶς δὲ ὁρικὰ πάντα λεγέσθω τὰ ὑπὸ τὴν αὐτὴν ὄντα μέθοδον τοῖς ὁρισμοῖς. ὅτι δὲ πάντα τὰ νῦν ῥηθέντα τοιαῦτ’ ἐστί, δῆλον ἐξ αὐτῶν. δυνάμενοι γὰρ ὅτι ταὐτὸν καὶ ὅτι ἕτερον διαλέγεσθαι, τῷ αὐτῷ τρόπῳ καὶ πρὸς τοὺς ὁρισμοὺς ἐπιχειρεῖν εὐπορήσομεν· δείξαντες γὰρ ὅτι οὐ ταὐτόν ἐστιν ἀνῃρηκότες ἐσόμεθα τὸν ὁρισμόν. οὐ μὴν ἀντιστρέφει γε τὸ νῦν ῥηθέν· οὐ γὰρ ἱκανὸν πρὸς τὸ κατασκευάσαι τὸν ὁρισμὸν τὸ δεῖξαι ταὐτὸν ὄν. πρὸς μέντοι τὸ ἀνασκευάσαι αὔταρκες τὸ δεῖξαι ὅτι οὐ ταὐτόν.

Ἴδιον δ’ ἐστὶν ὃ μὴ δηλοῖ μὲν τὸ τί ἦν εἶναι, μόνῳ δ’ ὑπάρχει καὶ ἀντικατηγορεῖται τοῦ πράγματος. οἷον ἴδιον ἀνθρώπου τὸ γραμματικῆς εἶναι δεκτικόν· εἰ γὰρ ἄνθρωπός ἐστι, γραμματικῆς δεκτικός ἐστι, καὶ εἰ γραμματικῆς δεκτικός ἐστιν, ἄνθρωπός ἐστιν. οὐθεὶς γὰρ ἴδιον λέγει τὸ ἐνδεχόμενον ἄλλῳ ὑπάρχειν, οἷον τὸ καθεύδειν ἀνθρώπῳ, οὐδ’ ἂν τύχῃ κατά τινα χρόνον μόνῳ ὑπάρχον. εἰ δ’ ἄρα τι καὶ λέγοιτο τῶν τοιούτων ἴδιον, οὐχ ἁπλῶς ἀλλὰ ποτὲ ἢ πρός τι ἴδιον ῥηθήσεται· τὸ μὲν γὰρ ἐκ δεξιῶν εἶναι ποτὲ ἴδιόν ἐστι, τὸ δὲ δίπουν πρός τι ἴδιον τυγχάνει λεγόμενον, οἷον τῷ ἀνθρώπῳ πρὸς ἵππον καὶ κύνα. ὅτι δὲ τῶν ἐνδεχομένων ἄλλῳ ὑπάρχειν οὐθὲν ἀντικατηγορεῖται, δῆλον· οὐ γὰρ ἀναγκαῖον, εἴ τι καθεύδει, ἄνθρωπον εἶναι.

Γένος δ’ ἐστὶ τὸ κατὰ πλειόνων καὶ διαφερόντων τῷ εἴδει ἐν τῷ τί ἐστι κατηγορούμενον. ἐν τῷ τί ἐστι δὲ κατηγορεῖσθαι τὰ τοιαῦτα λεγέσθω ὅσα ἁρμόττει ἀποδοῦναι ἐρωτηθέντα τί ἐστι τὸ προκείμενον· καθάπερ ἐπὶ τοῦ ἀνθρώπου ἁρμόττει, ἐρωτηθέντα τί ἐστιν, εἰπεῖν ὅτι ζῷον. γενικὸν δὲ καὶ τὸ πότερον ἐν τῷ αὐτῷ γένει ἄλλο ἄλλῳ ἢ ἐν ἑτέρῳ· καὶ γὰρ τὸ τοιοῦτον ὑπὸ τὴν αὐτὴν μέθοδον πίπτει τῷ γένει. διαλεχθέντες γὰρ ὅτι τὸ ζῷον γένος τοῦ ἀνθρώπου, ὁμοίως δὲ καὶ τοῦ βοός, διειλεγμένοι ἐσόμεθα ὅτι ἐν τῷ αὐτῷ [102b] γένει· ἐὰν δὲ τοῦ μὲν ἑτέρου δείξωμεν ὅτι γένος ἐστί, τοῦ δὲ ἑτέρου ὅτι οὐκ ἔστι, διειλεγμένοι ἐσόμεθα ὅτι οὐκ ἐν τῷ αὐτῷ γένει ταῦτ’ ἐστίν.

Συμβεβηκὸς δέ ἐστιν ὃ μηδὲν μὲν τούτων ἐστί, μήτε ὅρος μήτε ἴδιον μήτε γένος, ὑπάρχει δὲ τῷ πράγματι, καὶ ὃ ἐνδέχεται ὑπάρχειν ὁτῳοῦν ἑνὶ καὶ τῷ αὐτῷ καὶ μὴ ὑπάρχειν· οἷον τὸ καθῆσθαι ἐνδέχεται ὑπάρχειν τινὶ τῷ αὐτῷ καὶ μὴ ὑπάρχειν· ὁμοίως δὲ καὶ τὸ λευκόν· τὸ γὰρ αὐτὸ οὐθὲν κωλύει ὁτὲ μὲν λευκὸν ὁτὲ δὲ μὴ λευκὸν εἶναι. ἔστι δὲ τῶν τοῦ συμβεβηκότος ὁρισμῶν ὁ δεύτερος βελτίων· τοῦ μὲν γὰρ πρώτου ῥηθέντος ἀναγκαῖον, εἰ μέλλει τις συνήσειν, προειδέναι τί ἐστιν ὅρος καὶ ἴδιον καὶ γένος· ὁ δὲ δεύτερος αὐτοτελής ἐστι πρὸς τὸ γνωρίζειν τί ποτ’ ἐστὶ τὸ λεγόμενον καθ’ αὑτό. προσκείθωσαν δὲ τῷ συμβεβηκότι καὶ αἱ πρὸς ἄλληλα συγκρίσεις ὁπωσοῦν ἀπὸ τοῦ συμβεβηκότος λεγόμεναι, οἷον πότερον τὸ καλὸν ἢ τὸ συμφέρον αἱρετώτερον, καὶ πότερον ὁ κατ’ ἀρετὴν ἢ ὁ κατ’ ἀπόλαυσιν ἡδίων βίος, καὶ εἴ τι ἄλλο παραπλησίως τυγχάνει τούτοις λεγόμενον· ἐπὶ πάντων γὰρ τῶν τοιούτων ποτέρῳ μᾶλλον τὸ κατηγορούμενον συμβέβηκεν ἡ ζήτησις γίνεται. δῆλον δ’ ἐξ αὐτῶν ὅτι τὸ συμβεβηκὸς οὐθὲν κωλύει ποτὲ καὶ πρός τι ἴδιον γίνεσθαι· οἷον τὸ καθῆσθαι, συμβεβηκὸς ὄν, ὅταν τις μόνος καθῆται, τότε ἴδιον ἔσται, μὴ μόνου δὲ καθημένου πρὸς τοὺς μὴ καθημένους ἴδιον. ὥστε καὶ πρός τι καὶ ποτὲ οὐθὲν κωλύει τὸ συμβεβηκὸς ἴδιον γίνεσθαι. ἁπλῶς δ’ ἴδιον οὐκ ἔσται.

Μὴ λανθανέτω δ’ ἡμᾶς ὅτι τὰ πρὸς τὸ ἴδιον καὶ τὸ γένος καὶ τὸ συμβεβηκὸς πάντα καὶ πρὸς τοὺς ὁρισμοὺς ἁρμόσει λέγεσθαι. δείξαντες γὰρ ὅτι οὐ μόνῳ ὑπάρχει τῷ ὑπὸ τὸν ὁρισμόν, ὥσπερ καὶ ἐπὶ τοῦ ἰδίου, ἢ ὅτι οὐ γένος τὸ ἀποδοθὲν ἐν τῷ ὁρισμῷ, ἢ ὅτι οὐχ ὑπάρχει τι τῶν ἐν τῷ λόγῳ ῥηθέντων, ὅπερ καὶ ἐπὶ τοῦ συμβεβηκότος ἂν ῥηθείη, ἀνῃρηκότες ἐσόμεθα τὸν ὁρισμόν· ὥστε κατὰ τὸν ἔμπροσθεν ἀποδοθέντα λόγον ἅπαντ’ ἂν εἴη τρόπον τινὰ ὁρικὰ τὰ κατηριθμημένα. ἀλλ’ οὐ διὰ τοῦτο μίαν ἐπὶ πάντων καθόλου μέθοδον ζητητέον· οὔτε γὰρ ῥᾴδιον εὑρεῖν τοῦτ’ ἐστίν, εἴ θ’ εὑρεθείη, παντελῶς ἀσαφὴς καὶ δύσχρηστος ἂν εἴη πρὸς τὴν προκειμένην πραγματείαν. ἰδίας δὲ καθ’ ἕκαστον τῶν διορισθέντων γενῶν ἀποδοθείσης μεθόδου ῥᾷον ἐκ τῶν περὶ ἕκαστον [103a] οἰκείων ἡ διέξοδος τοῦ προκειμένου γίνοιτ’ ἄν. ὥστε τύπῳ μέν, καθάπερ εἴρηται πρότερον, διαιρετέον, τῶν δὲ λοιπῶν τὰ μάλισθ’ ἑκάστοις οἰκεῖα προσαπτέον, ὁρικά τε καὶ γενικὰ προσαγορεύοντας αὐτά. σχεδὸν δὲ προσῆπται τὰ ῥηθέντα πρὸς ἑκάστοις.

Πρῶτον δὲ πάντων περὶ ταὐτοῦ διοριστέον ποσαχῶς λέγεται. δόξειε δ’ ἂν τὸ ταὐτὸν ὡς τύπῳ λαβεῖν τριχῇ διαιρεῖσθαι. ἢ γὰρ ἀριθμῷ ἢ εἴδει ἢ γένει τὸ ταὐτὸν εἰώθαμεν προσαγορεύειν· ἀριθμῷ μὲν ὧν ὀνόματα πλείω τὸ δὲ πρᾶγμα ἕν, οἷον λώπιον καὶ ἱμάτιον· εἴδει δὲ ὅσα πλείω ὄντα ἀδιάφορα κατὰ τὸ εἶδός ἐστι, καθάπερ ἄνθρωπος ἀνθρώπῳ καὶ ἵππος ἵππῳ· τὰ γὰρ τοιαῦτα τῷ εἴδει λέγεται ταὐτὰ ὅσα ὑπὸ ταὐτὸ εἶδός ἐστιν· ὁμοίως δὲ καὶ γένει ταὐτὰ ὅσα ὑπὸ ταὐτὸ γένος ἐστίν, οἷον ἵππος ἀνθρώπῳ. δόξειε δ’ ἂν τὸ ἀπὸ τῆς αὐτῆς κρήνης ὕδωρ ταὐτὸν λεγόμενον ἔχειν τινὰ διαφορὰν παρὰ τοὺς εἰρημένους τρόπους. οὐ μὴν ἀλλὰ καὶ τὸ τοιοῦτόν γε ἐν τῷ αὐτῷ τετάχθω τοῖς καθ’ ἓν εἶδος ὁπωσοῦν λεγομένοις· ἅπαντα γὰρ τὰ τοιαῦτα συγγενῆ καὶ παραπλήσια ἀλλήλοις ἔοικεν εἶναι. πᾶν μὲν γὰρ ὕδωρ παντὶ ταὐτὸν τῷ εἴδει λέγεται διὰ τὸ ἔχειν τινὰ ὁμοιότητα· τὸ δ’ ἀπὸ τῆς αὐτῆς κρήνης ὕδωρ οὐδενὶ ἄλλῳ διαφέρει ἀλλ’ ἢ τῷ σφοδροτέραν εἶναι τὴν ὁμοιότητα, διὸ οὐ χωρίζομεν αὐτὸ τῶν καθ’ ἓν εἶδος ὁπωσοῦν λεγομένων. μάλιστα δ’ ὁμολογουμένως τὸ ἓν ἀριθμῷ ταὐτὸν παρὰ πᾶσι δοκεῖ λέγεσθαι. εἴωθε δὲ καὶ τοῦτο ἀποδίδοσθαι πλεοναχῶς· κυριώτατα μὲν καὶ πρώτως ὅταν ὀνόματι ἢ ὅρῳ τὸ ταὐτὸν ἀποδοθῇ, καθάπερ ἱμάτιον λωπίῳ καὶ ζῷον πεζὸν δίπουν ἀνθρώπῳ· δεύτερον δ’ ὅταν τῷ ἰδίῳ, καθάπερ τὸ ἐπιστήμης δεκτικὸν ἀνθρώπῳ καὶ τὸ τῇ φύσει ἄνω φερόμενον πυρί· τρίτον δ’ ὅταν ἀπὸ τοῦ συμβεβηκότος, οἷον τὸ καθήμενον ἢ τὸ μουσικὸν Σωκράτει· πάντα γὰρ ταῦτα τὸ ἓν ἀριθμῷ βούλεται σημαίνειν. ὅτι δ’ ἀληθὲς τὸ νῦν ῥηθέν ἐστιν, ἐκ τῶν μεταβαλλόντων τὰς προσηγορίας μάλιστ’ ἄν τις καταμάθοι· πολλάκις γάρ, ἐπιτάσσοντες ὀνόματι καλέσαι τινὰ τῶν καθημένων, μεταβάλλομεν ὅταν τύχῃ μὴ συνιεὶς ᾧ τὴν πρόσταξιν ποιούμεθα, ὡς ἀπὸ τοῦ συμβεβηκότος αὐτοῦ μᾶλλον συνήσοντος, καὶ κελεύομεν τὸν καθήμενον ἢ διαλεγόμενον καλέσαι πρὸς ἡμᾶς, δῆλον ὡς ταὐτὸν ὑπολαμβάνοντες κατά τε τοὔνομα καὶ κατὰ τὸ συμβεβηκὸς σημαίνειν.

[103b] Τὸ μὲν οὖν ταὐτόν, καθάπερ εἴρηται, τριχῇ διῃρήσθω. ὅτι δ᾽ ἐκ τῶν πρότερον εἰρημένων οἱ λόγοι καὶ διὰ τούτων καὶ πρὸς ταῦτα, μία μὲν πίστις ἡ διὰ τῆς ἐπαγωγῆς· εἰ γάρ τις ἐπισκοποίη ἑκάστην τῶν προτάσεων καὶ τῶν προβλημάτων, φαίνοιτ᾽ ἂν ἢ ἀπὸ τοῦ ὅρου ἢ ἀπὸ τοῦ ἰδίου ἢ ἀπὸ τοῦ γένους ἢ ἀπὸ τοῦ συμβεβηκότος γεγενημένη. ἄλλη δὲ πίστις ἡ διὰ συλλογισμοῦ. ἀνάγκη γὰρ πᾶν τὶ περί τινος κατηγορούμενον ἤτοι ἀντικατηγορεῖσθαι τοῦ πράγματος ἢ μή. καὶ εἰ μὲν ἀντικατηγορεῖται, ὅρος ἢ ἴδιον ἂν εἴη (εἰ μὲν γὰρ σημαίνει τὸ τί ἦν εἶναι, ὅρος, εἰ δὲ μὴ σημαίνει, ἴδιον· τοῦτο γὰρ ἦν ἴδιον, τὸ ἀντικατηγορούμενον μὲν μὴ σημαῖνον δὲ τὸ τί ἦν εἶναι). εἰ δὲ μὴ ἀντικατηγορεῖται τοῦ πράγματος, ἤτοι τῶν ἐν τῷ ὁρισμῷ τοῦ ὑποκειμένου λεγομένων ἐστὶν ἢ οὔ. καὶ εἰ μὲν τῶν ἐν τῷ ὁρισμῷ λεγομένων, γένος ἢ διαφορὰ ἂν εἴη, ἐπειδὴ ὁ ὁρισμὸς ἐκ γένους καὶ διαφορῶν ἐστιν· εἰ δὲ μὴ τῶν ἐν τῷ ὁρισμῷ λεγομένων ἐστί, δῆλον ὅτι συμβεβηκὸς ἂν εἴη· τὸ γὰρ συμβεβηκὸς ἐλέγετο ὃ μήτε ὅρος μήτε ἴδιον μήτε γένος ἐστίν, ὑπάρχει δὲ τῷ πράγματι.

Μετὰ τοίνυν ταῦτα δεῖ διορίσασθαι τὰ γένη τῶν κατηγοριῶν, ἐν οἷς ὑπάρχουσιν αἱ ῥηθεῖσαι τέτταρες. ἔστι δὲ ταῦτα τὸν ἀριθμὸν δέκα, τί ἐστι, ποσόν, ποιόν, πρός τι, ποῦ, ποτέ, κεῖσθαι, ἔχειν, ποιεῖν, πάσχειν. ἀεὶ γὰρ τὸ συμβεβηκὸς καὶ τὸ γένος καὶ τὸ ἴδιον καὶ ὁ ὁρισμὸς ἐν μιᾷ τούτων τῶν κατηγοριῶν ἔσται· πᾶσαι γὰρ αἱ διὰ τούτων προτάσεις ἢ τί ἐστιν ἢ ποσὸν ἢ ποιὸν ἢ τῶν ἄλλων τινὰ κατηγοριῶν σημαίνουσιν. δῆλον δ᾽ ἐξ αὐτῶν ὅτι ὁ τὸ τί ἐστι σημαίνων ὁτὲ μὲν οὐσίαν σημαίνει, ὁτὲ δὲ ποσόν, ὁτὲ δὲ ποιόν, ὁτὲ δὲ τῶν ἄλλων τινὰ κατηγοριῶν. ὅταν μὲν γὰρ ἐκκειμένου ἀνθρώπου φῇ τὸ ἐκκείμενον ἄνθρωπον εἶναι ἢ ζῷον, τί ἐστι λέγει καὶ οὐσίαν σημαίνει· ὅταν δὲ χρώματος λευκοῦ ἐκκειμένου φῇ τὸ ἐκκείμενον λευκὸν εἶναι ἢ χρῶμα, τί ἐστι λέγει καὶ ποιὸν σημαίνει. ὁμοίως δὲ καὶ ἐὰν πηχυαίου μεγέθους ἐκκειμένου φῇ τὸ ἐκκείμενον πηχυαῖον εἶναι μέγεθος, τί ἐστι λέγει καὶ ποσὸν σημαίνει. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· ἕκαστον γὰρ τῶν τοιούτων, ἐάν τε αὐτὸ περὶ αὑτοῦ λέγηται ἐάν τε τὸ γένος περὶ τούτου, τί ἐστι σημαίνει· ὅταν δὲ περὶ ἑτέρου, οὐ τί ἐστι σημαίνει ἀλλὰ ποσὸν ἢ ποιὸν ἤ τινα τῶν ἄλλων κατηγοριῶν. ὥστε περὶ ὧν μὲν οἱ λόγοι καὶ ἐξ ὧν, [104a] ταῦτα καὶ τοσαῦτά ἐστι· πῶς δὲ ληψόμεθα καὶ δι᾽ ὧν εὐπορήσομεν, μετὰ ταῦτα λεκτέον.

Πρῶτον τοίνυν διωρίσθω τί ἐστι πρότασις διαλεκτικὴ καὶ τί πρόβλημα διαλεκτικόν. οὐ γὰρ πᾶσαν πρότασιν οὐδὲ πᾶν πρόβλημα διαλεκτικὸν θετέον· οὐδεὶς γὰρ ἂν προτείνειε νοῦν ἔχων τὸ μηδενὶ δοκοῦν οὐδὲ προβάλοι τὸ πᾶσι φανερὸν ἢ τοῖς πλείστοις· τὰ μὲν γὰρ οὐκ ἔχει ἀπορίαν, τὰ δ᾽ οὐδεὶς ἂν θείη. ἔστι δὲ πρότασις διαλεκτικὴ ἐρώτησις ἔνδοξος ἢ πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς σοφοῖς, καὶ τούτοις ἢ πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς μάλιστα γνωρίμοις, μὴ παράδοξος· θείη γὰρ ἄν τις τὸ δοκοῦν τοῖς σοφοῖς, ἐὰν μὴ ἐναντίον ταῖς τῶν πολλῶν δόξαις ᾖ. εἰσὶ δὲ προτάσεις διαλεκτικαὶ καὶ τὰ τοῖς ἐνδόξοις ὅμοια, καὶ τἀναντία τοῖς δοκοῦσιν ἐνδόξοις εἶναι, κατ᾽ ἀντίφασιν προτεινόμενα, καὶ ὅσαι δόξαι κατὰ τέχνας εἰσὶ τὰς εὑρημένας. εἰ γὰρ ἔνδοξον τὸ τὴν αὐτὴν εἶναι τῶν ἐναντίων ἐπιστήμην, καὶ τὸ αἴσθησιν τὴν αὐτὴν εἶναι τῶν ἐναντίων ἔνδοξον ἂν φανείη· καὶ εἰ μίαν ἀριθμῷ γραμματικὴν εἶναι, καὶ αὐλητικὴν μίαν, εἰ δὲ πλείους γραμματικάς, καὶ αὐλητικὰς πλείους· πάντα γὰρ ὅμοια καὶ συγγενῆ ταῦτ᾽ ἔοικεν εἶναι. ὁμοίως δὲ καὶ τὰ τοῖς ἐνδόξοις ἐναντία, κατ᾽ ἀντίφασιν προτεινόμενα, ἔνδοξα φανεῖται· εἰ γὰρ ἔνδοξον ὅτι δεῖ τοὺς φίλους εὖ ποιεῖν, καὶ ὅτι οὐ δεῖ κακῶς ποιεῖν ἔνδοξον. ἔστι δ᾽ ἐναντίον μὲν ὅτι δεῖ κακῶς ποιεῖν τοὺς φίλους, κατ᾽ ἀντίφασιν δὲ ὅτι οὐ δεῖ κακῶς ποιεῖν. ὁμοίως δὲ καὶ εἰ δεῖ τοὺς φίλους εὖ ποιεῖν, τοὺς ἐχθροὺς οὐ δεῖ. ἔστι δὲ καὶ τοῦτο κατ᾽ ἀντίφασιν τῶν ἐναντίων· τὸ γὰρ ἐναντίον ἐστὶν ὅτι δεῖ τοὺς ἐχθροὺς εὖ ποιεῖν. ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων. ἔνδοξον δὲ ἐν παραβολῇ φανεῖται καὶ τὸ ἐναντίον περὶ τοῦ ἐναντίου· οἷον εἰ τοὺς φίλους δεῖ εὖ ποιεῖν, καὶ τοὺς ἐχθροὺς δεῖ κακῶς. φανείη δ᾽ ἂν καὶ ἐναντίον τὸ τοὺς φίλους εὖ ποιεῖν τῷ τοὺς ἐχθροὺς κακῶς· πότερον δὲ καὶ κατ᾽ ἀλήθειαν οὕτως ἔχει ἢ οὔ, ἐν τοῖς ὑπὲρ τῶν ἐναντίων λεγομένοις ῥηθήσεται. δῆλον δ᾽ ὅτι καὶ ὅσαι δόξαι κατὰ τέχνας εἰσί, διαλεκτικαὶ προτάσεις εἰσί· θείη γὰρ ἄν τις τὰ δοκοῦντα τοῖς ὑπὲρ τούτων ἐπεσκεμμένοις, οἷον περὶ μὲν τῶν ἐν ἰατρικῇ ὡς ὁ ἰατρός, περὶ δὲ τῶν ἐν γεωμετρίᾳ ὡς ὁ γεωμετρικός· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

[104b] Πρόβλημα δ᾽ ἐστὶ διαλεκτικὸν θεώρημα τὸ συντεῖνον ἢ πρὸς αἵρεσιν καὶ φυγὴν ἢ πρὸς ἀλήθειαν καὶ γνῶσιν, ἢ αὐτὸ ἢ ὡς συνεργὸν πρός τι ἕτερον τῶν τοιούτων, περὶ οὗ ἢ οὐδετέρως δοξάζουσιν ἢ ἐναντίως [οἱ πολλοὶ τοῖς σοφοῖς ἢ] οἱ σοφοὶ τοῖς πολλοῖς ἢ ἑκάτεροι αὐτοὶ ἑαυτοῖς. ἔνια μὲν γὰρ τῶν προβλημάτων χρήσιμον εἰδέναι πρὸς τὸ ἑλέσθαι ἢ φυγεῖν, οἷον πότερον ἡ ἡδονὴ αἱρετὸν ἢ οὔ· ἔνια δὲ πρὸς τὸ εἰδέναι μόνον, οἷον πότερον ὁ κόσμος ἀίδιος ἢ οὔ. ἔνια δὲ αὐτὰ μὲν καθ᾽ αὑτὰ πρὸς οὐδέτερον τούτων, συνεργὰ δέ ἐστι πρός τινα τῶν τοιούτων· πολλὰ γὰρ αὐτὰ μὲν καθ᾽ αὑτὰ οὐ βουλόμεθα γνωρίζειν, ἑτέρων δ᾽ ἕνεκα, ὅπως διὰ τούτων ἄλλο τι γνωρίσωμεν. ἔστι δὲ προβλήματα καὶ ὧν ἐναντίοι εἰσὶ συλλογισμοί (ἀπορίαν γὰρ ἔχει πότερον οὕτως ἔχει ἢ οὐχ οὕτως, διὰ τὸ περὶ ἀμφοτέρων εἶναι λόγους πιθανούς), καὶ περὶ ὧν λόγον μὴ ἔχομεν, ὄντων μεγάλων, χαλεπὸν οἰόμενοι εἶναι τὸ διὰ τί

ἀποδοῦναι, οἷον πότερον ὁ κόσμος ἀίδιος ἢ οὔ· καὶ γὰρ τὰ τοιαῦτα ζητήσειεν ἄν τις.

Τὰ μὲν οὖν προβλήματα καὶ αἱ προτάσεις καθάπερ εἴρηται διωρίσθω. θέσις δέ ἐστιν ὑπόληψις παράδοξος τῶν γνωρίμων τινὸς κατὰ φιλοσοφίαν, οἷον ὅτι οὐκ ἔστιν ἀντιλέγειν, καθάπερ ἔφη Ἀντισθένης, ἢ ὅτι πάντα κινεῖται, καθ' Ἡράκλειτον, ἢ ὅτι ἓν τὸ ὄν, καθάπερ Μέλισσός φησιν (τὸ γὰρ τοῦ τυχόντος ἐναντία ταῖς δόξαις ἀποφηναμένου φροντίζειν εὔηθες)· ἢ περὶ ὧν λόγον ἔχομεν ἐναντίον ταῖς δόξαις, οἷον ὅτι οὐ πᾶν τὸ ὂν ἤτοι γενόμενόν ἐστιν ἢ ἀίδιον, καθάπερ οἱ σοφισταί φασιν· μουσικὸν γὰρ ὄντα γραμματικὸν εἶναι οὔτε γενόμενον οὔτε ἀίδιον ὄντα· τοῦτο γάρ, εἰ καί τινι μὴ δοκεῖ, δόξειεν ἂν διὰ τὸ λόγον ἔχειν.

Ἔστι μὲν οὖν καὶ ἡ θέσις πρόβλημα· οὐ πᾶν δὲ πρόβλημα θέσις, ἐπειδὴ ἔνια τῶν προβλημάτων τοιαῦτ' ἐστὶ περὶ ὧν οὐδετέρως δοξάζομεν. ὅτι δέ ἐστι καὶ ἡ θέσις πρόβλημα, δῆλον· ἀνάγκη γὰρ ἐκ τῶν εἰρημένων ἢ τοὺς πολλοὺς τοῖς σοφοῖς περὶ τὴν θέσιν ἀμφισβητεῖν ἢ ὁποτερουσοῦν ἑαυτοῖς, ἐπειδὴ ὑπόληψίς τις παράδοξος ἡ θέσις ἐστίν. σχεδὸν δὲ νῦν πάντα τὰ διαλεκτικὰ προβλήματα θέσεις καλοῦνται. διαφερέτω δὲ μηδὲν ὁπωσοῦν λεγόμενον· οὐ γὰρ ὀνοματοποιῆσαι βουλόμενοι διείλομεν οὕτως αὐτά, ἀλλ' ἵνα [105a] μὴ λανθάνωσιν ἡμᾶς τίνες αὐτῶν τυγχάνουσιν οὖσαι διαφοραί.

Οὐ δεῖ δὲ πᾶν πρόβλημα οὐδὲ πᾶσαν θέσιν ἐπισκοπεῖν, ἀλλ' ἣν ἀπορήσειεν ἄν τις τῶν λόγου δεομένων καὶ μὴ κολάσεως ἢ αἰσθήσεως· οἱ μὲν γὰρ ἀποροῦντες "πότερον δεῖ τοὺς θεοὺς τιμᾶν καὶ τοὺς γονεῖς ἀγαπᾶν ἢ οὔ" κολάσεως δέονται, οἱ δὲ "πότερον ἡ χιὼν λευκὴ ἢ οὔ" αἰσθήσεως. οὐδὲ δὴ ὧν σύνεγγυς ἡ ἀπόδειξις, οὐδ' ὧν λίαν πόρρω· τὰ μὲν γὰρ οὐκ ἔχει ἀπορίαν, τὰ δὲ πλείω ἢ κατὰ γυμναστικήν.

Διωρισμένων δὲ τούτων χρὴ διελέσθαι πόσα τῶν λόγων εἴδη τῶν διαλεκτικῶν. ἔστι δὲ τὸ μὲν ἐπαγωγή, τὸ δὲ συλλογισμός. καὶ συλλογισμὸς μὲν τί ἐστιν, εἴρηται πρότερον. ἐπαγωγὴ δὲ ἡ ἀπὸ τῶν καθ' ἕκαστα ἐπὶ τὸ καθόλου ἔφοδος· οἷον εἰ ἔστι κυβερνήτης ὁ ἐπιστάμενος κράτιστος, καὶ ἡνίοχος, καὶ ὅλως ἐστὶν ὁ ἐπιστάμενος περὶ ἕκαστον ἄριστος. ἔστι δ' ἡ μὲν ἐπαγωγὴ πιθανώτερον καὶ σαφέστερον καὶ κατὰ τὴν αἴσθησιν γνωριμώτερον καὶ τοῖς πολλοῖς κοινόν, ὁ δὲ συλλογισμὸς βιαστικώτερον καὶ πρὸς τοὺς ἀντιλογικοὺς ἐνεργέστερον.

Τὰ μὲν οὖν γένη περὶ ὧν τε οἱ λόγοι καὶ ἐξ ὧν καθάπερ ἔμπροσθεν εἴρηται διωρίσθω. τὰ δ' ὄργανα δι' ὧν εὐπορήσομεν τῶν συλλογισμῶν ἐστὶ τέτταρα, ἓν μὲν τὸ προτάσεις λαβεῖν, δεύτερον δὲ τὸ ποσαχῶς ἕκαστον λέγεται δύνασθαι διελεῖν, τρίτον ‹δὲ› τὸ τὰς διαφορὰς εὑρεῖν, τέταρτον δὲ ἡ τοῦ ὁμοίου σκέψις. ἔστι δὲ τρόπον τινὰ καὶ τὰ τρία τούτων προτάσεις· ἔστι γὰρ καθ’ ἕκαστον αὐτῶν ποιῆσαι πρότασιν, οἷον ὅτι αἱρετόν ἐστι τὸ καλὸν ἢ τὸ ἡδὺ ἢ τὸ συμφέρον, καὶ ὅτι διαφέρει αἴσθησις ἐπιστήμης τῷ τὴν μὲν ἀποβαλόντα δυνατὸν εἶναι πάλιν λαβεῖν, τὴν δ’ ἀδύνατον, καὶ ὅτι ὁμοίως ἔχει τὸ ὑγιεινὸν πρὸς ὑγίειαν καὶ τὸ εὐεκτικὸν πρὸς εὐεξίαν. ἔστι δ’ ἡ μὲν πρώτη πρότασις ἀπὸ τοῦ πολλαχῶς λεγομένου, ἡ δὲ δευτέρα ἀπὸ τῶν διαφορῶν, ἡ δὲ τρίτη ἀπὸ τῶν ὁμοίων.

Τὰς μὲν οὖν προτάσεις ἐκλεκτέον ὁσαχῶς διωρίσθη περὶ προτάσεως, ἢ τὰς πάντων δόξας προχειριζόμενον ἢ τὰς τῶν πλείστων ἢ τὰς τῶν σοφῶν, καὶ τούτων ἢ πάντων ἢ τῶν πλείστων ἢ τῶν γνωριμωτάτων, ἢ τὰς ‹μὴ› ἐναντίας ταῖς [105b] φαινομέναις, καὶ ὅσαι δόξαι κατὰ τέχνας εἰσίν. δεῖ δὲ προτείνειν καὶ τὰς ἐναντίας ταῖς φαινομέναις ἐνδόξοις κατ’ ἀντίφασιν, καθάπερ εἴρηται πρότερον. χρήσιμον δὲ καὶ τὸ ποιεῖν αὐτὰς ἐν τῷ ἐκλέγειν μὴ μόνον τὰς οὔσας ἐνδόξους ἀλλὰ καὶ τὰς ὁμοίας ταύταις, οἷον ὅτι τῶν ἐναντίων ἡ αὐτὴ αἴσθησις (καὶ γὰρ ἡ ἐπιστήμη), καὶ ὅτι ὁρῶμεν εἰσδεχόμενοί τι, οὐκ ἐκπέμποντες· καὶ γὰρ ἐπὶ τῶν ἄλλων αἰσθήσεων οὕτως· ἀκούομέν τε γὰρ εἰσδεχόμενοί τι, οὐκ ἐκπέμποντες, καὶ γευόμεθα ὡσαύτως· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ἔτι ὅσα ἐπὶ πάντων ἢ τῶν πλείστων φαίνεται, ληπτέον ὡς ἀρχὴν καὶ δοκοῦσαν θέσιν· τιθέασι γὰρ οἱ μὴ συνορῶντες ἐπὶ τίνος οὐχ οὕτως. ἐκλέγειν δὲ χρὴ καὶ ἐκ τῶν γεγραμμένων λόγων, τὰς δὲ διαγραφὰς ποιεῖσθαι περὶ ἑκάστου γένους ὑποτιθέντας χωρίς, οἷον περὶ ἀγαθοῦ ἢ περὶ ζῴου, καὶ περὶ ἀγαθοῦ παντός, ἀρξάμενον ἀπὸ τοῦ τί ἐστιν. παρασημαίνεσθαι δὲ καὶ τὰς ἑκάστων δόξας, οἷον ὅτι Ἐμπεδοκλῆς τέτταρα ἔφησε τῶν σωμάτων στοιχεῖα εἶναι· θείη γὰρ ἄν τις τὸ ὑπό τινος εἰρημένον ἐνδόξου.

Ἔστι δ’ ὡς τύπῳ περιλαβεῖν τῶν προτάσεων καὶ τῶν προβλημάτων μέρη τρία· αἱ μὲν γὰρ ἠθικαὶ προτάσεις εἰσίν, αἱ δὲ φυσικαί, αἱ δὲ λογικαί. ἠθικαὶ μὲν οὖν αἱ τοιαῦται, οἷον πότερον δεῖ τοῖς γονεῦσι μᾶλλον ἢ τοῖς νόμοις πειθαρχεῖν, ἐὰν διαφωνῶσιν· λογικαὶ δὲ οἷον πότερον τῶν ἐναντίων ἡ αὐτὴ ἐπιστήμη ἢ οὔ· φυσικαὶ δὲ οἷον πότερον ὁ κόσμος ἀΐδιος ἢ οὔ. ὁμοίως δὲ καὶ τὰ προβλήματα. ποῖαι δ’ ἕκασται τῶν προειρημένων, ὁρισμῷ μὲν οὐκ εὐπετὲς ἀποδοῦναι περὶ αὐτῶν· τῇ δὲ διὰ τῆς ἐπαγωγῆς συνηθείᾳ πειρατέον γνωρίζειν ἑκάστην αὐτῶν, κατὰ τὰ προειρημένα παραδείγματα ἐπισκοποῦντα.

Πρὸς μὲν οὖν φιλοσοφίαν κατ’ ἀλήθειαν περὶ αὐτῶν πραγματευτέον, διαλεκτικῶς δὲ πρὸς δόξαν. ληπτέον δ’ ὅτι μάλιστα καθόλου πάσας τὰς προτάσεις, καὶ τὴν μίαν πολλὰς ποιητέον, οἷον ὅτι τῶν ἀντικειμένων ἡ αὐτὴ ἐπιστήμη, εἶθ’ ὅτι τῶν ἐναντίων καὶ ὅτι τῶν πρός τι. τὸν αὐτὸν δὲ τρόπον καὶ ταύτας πάλιν διαιρετέον, ἕως ἂν ἐνδέχηται διαιρεῖν, οἷον ὅτι ἀγαθοῦ καὶ κακοῦ, καὶ λευκοῦ καὶ μέλανος, καὶ ψυχροῦ καὶ θερμοῦ. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

[106a] Περὶ μὲν οὖν προτάσεως ἱκανὰ τὰ προειρημένα. τὸ δὲ ποσαχῶς, πραγματευτέον μὴ μόνον ὅσα λέγεται καθ’ ἕτερον τρόπον, ἀλλὰ καὶ τοὺς λόγους αὐτῶν πειρατέον ἀποδιδόναι, οἷον μὴ μόνον ὅτι ἀγαθὸν καθ’ ἕτερον μὲν τρόπον λέγεται δικαιοσύνη καὶ ἀνδρεία, εὐεκτικὸν δὲ καὶ ὑγιεινὸν καθ’ ἕτερον, ἀλλ’ ὅτι καὶ τὰ μὲν τῷ αὐτὰ ποιά τινα εἶναι, τὰ δὲ τῷ ποιητικά τινος καὶ οὐ τῷ αὐτὰ ποιά τινα εἶναι. ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων.

Πότερον δὲ πολλαχῶς ἢ μοναχῶς τῷ εἴδει λέγεται, διὰ τῶνδε θεωρητέον. πρῶτον μὲν ἐπὶ τοῦ ἐναντίου σκοπεῖν εἰ πολλαχῶς λέγεται, ἐάν τε τῷ εἴδει ἐάν τε τῷ ὀνόματι διαφωνῇ. ἔνια γὰρ εὐθὺς καὶ τοῖς ὀνόμασιν ἕτερά ἐστιν· οἷον τῷ ὀξεῖ ἐν φωνῇ μὲν ἐναντίον τὸ βαρύ, ἐν ὄγκῳ δὲ τὸ ἀμβλύ. δῆλον οὖν ὅτι τὸ ἐναντίον τῷ ὀξεῖ πολλαχῶς λέγεται. εἰ δὲ τοῦτο, καὶ τὸ ὀξύ· καθ’ ἑκάτερον γὰρ ἐκείνων ἕτερον ἔσται τὸ ἐναντίον. οὐ γὰρ τὸ αὐτὸ ὀξὺ τῷ ἀμβλεῖ καὶ τῷ βαρεῖ ἔσται ἐναντίον· ἑκατέρῳ δὲ τὸ ὀξὺ ἐναντίον. πάλιν τῷ βαρεῖ ἐν φωνῇ μὲν τὸ ὀξὺ ἐναντίον, ἐν ὄγκῳ δὲ τὸ κοῦφον· ὥστε πολλαχῶς τὸ βαρὺ λέγεται, ἐπειδὴ καὶ τὸ ἐναντίον. ὁμοίως δὲ καὶ τῷ καλῷ τῷ μὲν ἐπὶ τοῦ ζῴου τὸ αἰσχρόν, τῷ δ’ ἐπὶ τῆς οἰκίας τὸ μοχθηρόν, ὥστε ὁμώνυμον τὸ καλόν.

Ἐπ’ ἐνίων δὲ τοῖς μὲν ὀνόμασιν οὐδαμῶς διαφωνεῖ, τῷ δ’ εἴδει κατάδηλος ἐν αὐτοῖς εὐθέως ἡ διαφορά ἐστιν, οἷον ἐπὶ τοῦ λευκοῦ καὶ μέλανος. φωνὴ γὰρ λευκὴ καὶ μέλαινα λέγεται, ὁμοίως δὲ καὶ χρῶμα. τοῖς μὲν οὖν ὀνόμασιν οὐδὲν διαφωνεῖ· τῷ δ’ εἴδει κατάδηλος ἐν αὐτοῖς εὐθέως ἡ διαφορά· οὐ γὰρ ὁμοίως τό τε χρῶμα λευκὸν λέγεται καὶ ἡ φωνή. δῆλον δὲ τοῦτο καὶ διὰ τῆς αἰσθήσεως· τῶν γὰρ αὐτῶν τῷ εἴδει ἡ αὐτὴ αἴσθησις· τὸ δὲ λευκὸν τὸ ἐπὶ τῆς φωνῆς καὶ τοῦ χρώματος οὐ τῇ αὐτῇ αἰσθήσει κρίνομεν, ἀλλὰ τὸ μὲν ὄψει τὸ δ’ ἀκοῇ. ὁμοίως δὲ καὶ τὸ ὀξὺ καὶ τὸ ἀμβλὺ ἐν χυμοῖς καὶ ἐν ὄγκοις, ἀλλὰ τὸ μὲν ἁφῇ, τὸ δὲ γεύσει. οὐδὲ γὰρ ταῦτα διαφωνεῖ τοῖς ὀνόμασιν, οὔτ’ ἐπ’ αὐτῶν οὔτ’ ἐπὶ τῶν ἐναντίων· ἀμβλὺ γὰρ καὶ τὸ ἐναντίον ἑκατέρῳ.

Ἔτι εἰ τῷ μὲν ἔστι τι ἐναντίον τῷ δ’ ἁπλῶς μηδέν· οἷον τῇ μὲν ἀπὸ τοῦ πίνειν ἡδονῇ ἡ ἀπὸ τοῦ διψῆν λύπη ἐναντίον, τῇ δ’ ἀπὸ τοῦ θεωρεῖν ὅτι ἡ διάμετρος τῇ πλευρᾷ [106b] ἀσύμμετρος οὐδέν, ὥστε πλεοναχῶς ἡ ἡδονὴ λέγεται. καὶ τῷ μὲν κατὰ τὴν διάνοιαν φιλεῖν τὸ μισεῖν ἐναντίον, τῷ δὲ κατὰ τὴν σωματικὴν ἐνέργειαν οὐδέν· δῆλον οὖν ὅτι τὸ φιλεῖν ὁμώνυμον. ἔτι ἐπὶ τῶν ἀνὰ μέσον, εἰ τῶν μὲν ἔστι τι ἀνὰ μέσον τῶν δὲ μηδέν, ἢ εἰ ἀμφοῖν μὲν ἔστι ‹τι›, μὴ ταὐτὸν δέ· οἷον λευκοῦ καὶ μέλανος ἐν χρώμασι μὲν τὸ φαιόν, ἐν φωνῇ δ’ οὐδέν, ἢ εἰ ἄρα, τὸ σομφόν, καθάπερ τινές φασι σομφὴν φωνὴν ἀνὰ μέσον εἶναι· ὥσθ’ ὁμώνυμον τὸ λευκόν, ὁμοίως δὲ καὶ τὸ μέλαν. ἔτι εἰ τῶν μὲν πλείω τὰ ἀνὰ μέσον, τῶν δὲ ἕν, καθάπερ ἐπὶ τοῦ λευκοῦ καὶ μέλανος· ἐπὶ μὲν γὰρ τῶν χρωμάτων πολλὰ τὰ ἀνὰ μέσον, ἐπὶ δὲ τῆς φωνῆς ἕν, τὸ σομφόν.

Πάλιν ἐπὶ τοῦ κατ’ ἀντίφασιν ἀντικειμένου σκοπεῖν εἰ πλεοναχῶς λέγεται· εἰ γὰρ τοῦτο πλεοναχῶς λέγεται, καὶ τὸ τούτῳ ἀντικείμενον πλεοναχῶς ῥηθήσεται. οἷον τὸ μὴ βλέπειν πλεοναχῶς λέγεται, ἓν μὲν τὸ μὴ ἔχειν ὄψιν, ἓν δὲ τὸ μὴ ἐνεργεῖν τῇ ὄψει· εἰ δὲ τοῦτο πλεοναχῶς, ἀναγκαῖον καὶ τὸ βλέπειν πλεοναχῶς λέγεσθαι· ἑκατέρῳ γὰρ τῷ μὴ βλέπειν ἀντικείσεταί τι, οἷον τῷ μὲν μὴ ἔχειν ὄψιν τὸ ἔχειν, τῷ δὲ μὴ ἐνεργεῖν τῇ ὄψει τὸ ἐνεργεῖν.

Ἔτι ἐπὶ τῶν κατὰ στέρησιν καὶ ἕξιν λεγομένων ἐπισκοπεῖν· εἰ γὰρ θάτερον πλεοναχῶς λέγεται, καὶ τὸ λοιπόν. οἷον εἰ τὸ αἰσθάνεσθαι πλεοναχῶς λέγεται, κατά τε τὴν ψυχὴν καὶ τὸ σῶμα, καὶ τὸ ἀναίσθητον εἶναι πλεοναχῶς ῥηθήσεται, κατά τε τὴν ψυχὴν καὶ τὸ σῶμα. ὅτι δὲ κατὰ στέρησιν καὶ ἕξιν ἀντίκειται τὰ νῦν λεγόμενα, δῆλον, ἐπειδὴ πέφυκεν ἑκατέραν τῶν αἰσθήσεων ἔχειν τὰ ζῷα, καὶ κατὰ τὴν ψυχὴν καὶ κατὰ τὸ σῶμα.

Ἔτι δ’ ἐπὶ τῶν πτώσεων ἐπισκεπτέον. εἰ γὰρ τὸ δικαίως πλεοναχῶς λέγεται, καὶ τὸ δίκαιον πλεοναχῶς ῥηθήσεται· καθ’ ἑκάτερον γὰρ τῶν δικαίως ἔστι δίκαιον· οἷον εἰ τὸ δικαίως λέγεται τό τε κατὰ τὴν ἑαυτοῦ γνώμην κρῖναι καὶ τὸ ὡς δεῖ, ὁμοίως καὶ τὸ δίκαιον. ὡσαύτως δὲ καὶ εἰ τὸ ὑγιεινὸν πλεοναχῶς, καὶ τὸ ὑγιεινῶς πλεοναχῶς ῥηθήσεται· οἷον εἰ ὑγιεινὸν τὸ μὲν ὑγιείας ποιητικὸν τὸ δὲ φυλακτικὸν τὸ δὲ σημαντικόν, καὶ τὸ ὑγιεινῶς ἢ ποιητικῶς ἢ φυλακτικῶς ἢ σημαντικῶς ῥηθήσεται. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, ὅταν αὐτὸ πλεοναχῶς λέγηται, καὶ [107a] ἡ πτῶσις ἡ ἀπ’ αὐτοῦ πλεοναχῶς ῥηθήσεται, καὶ εἰ ἡ πτῶσις, καὶ αὐτό.

Σκοπεῖν δὲ καὶ τὰ γένη τῶν κατὰ τοὔνομα κατηγοριῶν, εἰ ταὐτά ἐστιν ἐπὶ πάντων· εἰ γὰρ μὴ ταὐτά, δῆλον ὅτι ὁμώνυμον τὸ λεγόμενον. οἷον τὸ ἀγαθὸν ἐν ἐδέσματι μὲν τὸ ποιητικὸν ἡδονῆς, ἐν ἰατρικῇ δὲ τὸ ποιητικὸν ὑγιείας, ἐπὶ δὲ ψυχῆς τὸ ποιὰν εἶναι, οἷον σώφρονα ἢ ἀνδρείαν ἢ δικαίαν· ὁμοίως δὲ καὶ ἐπὶ ἀνθρώπου. ἐνιαχοῦ δὲ τὸ ποτέ, οἷον τὸ ἐν τῷ καιρῷ ἀγαθόν· ἀγαθὸν γὰρ λέγεται τὸ ἐν τῷ καιρῷ. πολλάκις δὲ τὸ ποσόν, οἷον ἐπὶ τοῦ μετρίου· λέγεται γὰρ καὶ τὸ μέτριον ἀγαθόν. ὥστε ὁμώνυμον τὸ ἀγαθόν.

ὡσαύτως δὲ καὶ τὸ λευκὸν ἐπὶ σώματος μὲν χρῶμα, ἐπὶ δὲ φωνῆς τὸ εὐήκοον. παραπλησίως δὲ καὶ τὸ ὀξύ· οὐ γὰρ ὡσαύτως ἐπὶ πάντων τὸ αὐτὸ λέγεται· φωνὴ μὲν γὰρ ὀξεῖα ἡ ταχεῖα, καθάπερ φασὶν οἱ κατὰ τοὺς ἀριθμοὺς ἁρμονικοί, γωνία δ’ ὀξεῖα ἡ ἐλάσσων ὀρθῆς, μάχαιρα δὲ ἡ ὀξυγώνιος.

Σκοπεῖν δὲ καὶ τὰ γένη τῶν ὑπὸ τὸ αὐτὸ ὄνομα, εἰ ἕτερα καὶ μὴ ὑπ’ ἄλληλα. οἷον ὄνος τό τε ζῷον καὶ τὸ σκεῦος· ἕτερος γὰρ ὁ κατὰ τοὔνομα λόγος αὐτῶν· τὸ μὲν γὰρ ζῷον ποιόν τι ῥηθήσεται, τὸ δὲ σκεῦος ποιόν τι. ἐὰν δὲ ὑπ’ ἄλληλα τὰ γένη ᾖ, οὐκ ἀναγκαῖον ἑτέρους τοὺς λόγους εἶναι. οἷον τοῦ κόρακος τὸ ζῷον καὶ τὸ ὄρνεον γένος ἐστίν· ὅταν οὖν λέγωμεν τὸν κόρακα ὄρνεον εἶναι, καὶ ζῷον ποιόν τί φαμεν αὐτὸν εἶναι, ὥστ’ ἀμφότερα τὰ γένη περὶ αὐτοῦ κατηγορεῖται. ὁμοίως δὲ καὶ ὅταν ζῷον πτηνὸν δίπουν τὸν κόρακα λέγωμεν, ὄρνεόν φαμεν αὐτὸν εἶναι· καὶ οὕτως οὖν ἀμφότερα τὰ γένη κατηγορεῖται κατὰ τοῦ κόρακος, καὶ ὁ λόγος αὐτῶν. ἐπὶ δὲ τῶν μὴ ὑπ’ ἄλληλα γενῶν οὐ συμβαίνει τοῦτο· οὔτε γὰρ ὅταν σκεῦος λέγωμεν, ζῷον λέγομεν, οὔθ’ ὅταν ζῷον, σκεῦος.

Σκοπεῖν δὲ μὴ μόνον ἐπὶ τοῦ προκειμένου εἰ ἕτερα τὰ γένη καὶ μὴ ὑπ’ ἄλληλα, ἀλλὰ καὶ ἐπὶ τοῦ ἐναντίου· εἰ γὰρ τὸ ἐναντίον πολλαχῶς λέγεται, δῆλον ὅτι καὶ τὸ προκείμενον.

Χρήσιμον δὲ καὶ τὸ ἐπὶ τὸν ὁρισμὸν ἐπιβλέπειν τὸν τοῦ συντιθεμένου γιγνόμενον, οἷον λευκοῦ σώματος καὶ λευκῆς φωνῆς· ἀφαιρουμένου γὰρ τοῦ ἰδίου τὸν αὐτὸν λόγον δεῖ λείπεσθαι. τοῦτο δ’ οὐ συμβαίνει ἐπὶ τῶν ὁμωνύμων, οἷον [107b] ἐπὶ τῶν νῦν εἰρημένων· τὸ μὲν γὰρ ἔσται σῶμα τοιόνδε χρῶμα ἔχον, τὸ δὲ φωνὴ εὐήκοος. ἀφαιρεθέντος οὖν τοῦ σώματος καὶ τῆς φωνῆς οὐ ταὐτὸν ἐν ἑκατέρῳ τὸ λειπόμενον· ἔδει δέ γε, εἴπερ συνώνυμον ἦν τὸ λευκὸν τὸ ἐφ’ ἑκατέρου λεγόμενον.

Πολλάκις δὲ καὶ ἐν αὐτοῖς τοῖς λόγοις λανθάνει παρακολουθοῦν τὸ ὁμώνυμον· διὸ καὶ ἐπὶ τῶν λόγων σκεπτέον. οἷον ἐάν τις τὸ σημαντικὸν καὶ τὸ ποιητικὸν ὑγιείας τὸ συμμέτρως ἔχον πρὸς ὑγίειαν φῇ εἶναι, οὐκ ἀποστατέον ἀλλ’ ἐπισκεπτέον τί τὸ συμμέτρως καθ’ ἑκατέρου εἴρηκεν, οἷον εἰ τὸ μὲν τὸ τοιοῦτον εἶναι ὥστε ποιεῖν ὑγίειαν, τὸ δὲ τὸ τοιοῦτον οἷον σημαίνειν ποία τις ἡ ἕξις.

Ἔτι εἰ μὴ συμβλητὰ κατὰ τὸ μᾶλλον ἢ ὁμοίως, οἷον λευκὴ φωνὴ καὶ λευκὸν ἱμάτιον, καὶ ὀξὺς χυμὸς καὶ ὀξεῖα φωνή· ταῦτα γὰρ οὔθ’ ὁμοίως λέγεται λευκὰ ἢ ὀξέα, οὔτε μᾶλλον θάτερον. ὥσθ’ ὁμώνυμον τὸ λευκὸν καὶ τὸ ὀξύ. τὸ γὰρ συνώνυμον πᾶν συμβλητόν· ἢ γὰρ ὁμοίως ῥηθήσεται ἢ μᾶλλον θάτερον.

Ἐπεὶ δὲ τῶν ἑτέρων γενῶν καὶ μὴ ὑπ’ ἄλληλα ἕτεραι τῷ εἴδει καὶ αἱ διαφοραί, οἷον ζῴου καὶ ἐπιστήμης (ἕτεραι γὰρ τούτων αἱ διαφοραί), σκοπεῖν εἰ τὰ ὑπὸ τὸ αὐτὸ ὄνομα ἑτέρων γενῶν καὶ μὴ ὑπ’ ἄλληλα διαφοραί εἰσιν, οἷον τὸ ὀξὺ φωνῆς καὶ ὄγκου· διαφέρει γὰρ φωνὴ φωνῆς τῷ ὀξεῖα εἶναι, ὁμοίως δὲ καὶ ὄγκος ὄγκου. ὥστε ὁμώνυμον τὸ ὀξύ· ἑτέρων γὰρ γενῶν καὶ οὐχ ὑπ’ ἄλληλα διαφοραί εἰσιν.

Πάλιν εἰ αὐτῶν τῶν ὑπὸ τὸ αὐτὸ ὄνομα ἕτεραι αἱ διαφοραί, οἷον χρώματος τοῦ τε ἐπὶ τῶν σωμάτων καὶ τοῦ ἐν τοῖς μέλεσιν· τοῦ μὲν γὰρ ἐπὶ τῶν σωμάτων διακριτικὸν καὶ συγκριτικὸν ὄψεως, τοῦ δ’ ἐπὶ τῶν μελῶν οὐχ αἱ αὐταὶ διαφοραί. ὥστε ὁμώνυμον τὸ χρῶμα· τῶν γὰρ αὐτῶν αἱ αὐταὶ διαφοραί.

Ἔτι ἐπεὶ τὸ εἶδος οὐδενός ἐστι διαφορά, σκοπεῖν τῶν ὑπὸ τὸ αὐτὸ ὄνομα εἰ τὸ μὲν εἶδός ἐστι τὸ δὲ διαφορά· οἷον τὸ λευκὸν τὸ μὲν ἐπὶ τοῦ σώματος εἶδος χρώματος, τὸ δ’ ἐπὶ τῆς φωνῆς διαφορά· διαφέρει γὰρ φωνὴ φωνῆς τῷ λευκὴ εἶναι.

Περὶ μὲν οὖν τοῦ πολλαχῶς διὰ τούτων καὶ τῶν τοιούτων σκεπτέον. τὰς δὲ διαφορὰς ἐν αὐτοῖς τε τοῖς γένεσι [108a] πρὸς ἄλληλα θεωρητέον, οἷον τίνι διαφέρει δικαιοσύνη ἀνδρείας καὶ φρόνησις σωφροσύνης (ταῦτα γὰρ ἅπαντα ἐκ τοῦ αὐτοῦ γένους ἐστίν), καὶ ἐξ ἄλλου πρὸς ἄλλο τῶν μὴ πολὺ λίαν διεστηκότων, οἷον τίνι αἴσθησις ἐπιστήμης· ἐπὶ μὲν γὰρ τῶν πολὺ διεστηκότων κατάδηλοι παντελῶς αἱ διαφοραί.

Τὴν δὲ ὁμοιότητα σκεπτέον ἐπί τε τῶν ἐν ἑτέροις γένεσιν, ὡς ἕτερον πρὸς ἕτερόν τι, οὕτως ἄλλο πρὸς ἄλλο (οἷον ὡς ἐπιστήμη πρὸς ἐπιστητόν, οὕτως αἴσθησις πρὸς αἰσθητόν), καὶ ὡς ἕτερον ἐν ἑτέρῳ τινί, οὕτως ἄλλο ἐν ἄλλῳ (οἷον ὡς ὄψις ἐν ὀφθαλμῷ, νοῦς ἐν ψυχῇ, καὶ ὡς γαλήνη ἐν θαλάσσῃ, νηνεμία ἐν ἀέρι). μάλιστα δ’ ἐν τοῖς πολὺ διεστῶσι γυμνάζεσθαι δεῖ· ῥᾷον γὰρ ἐπὶ τῶν λοιπῶν δυνησόμεθα τὰ ὅμοια συνορᾶν. σκεπτέον δὲ καὶ τὰ ἐν τῷ αὐτῷ γένει ὄντα, εἴ τι ἅπασιν ὑπάρχει ταὐτόν, οἷον ἀνθρώπῳ καὶ ἵππῳ καὶ κυνί· ᾗ γὰρ ὑπάρχει τι αὐτοῖς ταὐτόν, ταύτῃ ὅμοιά ἐστιν.

Χρήσιμον δὲ τὸ μὲν ποσαχῶς λέγεται ἐπεσκέφθαι πρός τε τὸ σαφές (μᾶλλον γὰρ ἄν τις εἰδείη τί τίθησιν, ἐμφανισθέντος ποσαχῶς λέγεται) καὶ πρὸς τὸ γίνεσθαι κατ’ αὐτὸ τὸ πρᾶγμα καὶ μὴ πρὸς τὸ ὄνομα τοὺς συλλογισμούς· ἀδήλου γὰρ ὄντος ποσαχῶς λέγεται, ἐνδέχεται μὴ ἐπὶ ταὐτὸν τόν τε ἀποκρινόμενον καὶ τὸν ἐρωτῶντα φέρειν τὴν διάνοιαν· ἐμφανισθέντος δὲ ποσαχῶς λέγεται καὶ ἐπὶ τί φέρων τίθησι, γελοῖος ἂν φαίνοιτο ὁ ἐρωτῶν, εἰ μὴ πρὸς τουτο τὸν λόγον ποιοῖτο. χρήσιμον δὲ καὶ πρὸς τὸ μὴ παραλογισθῆναι καὶ πρὸς τὸ παραλογίσασθαι. εἰδότες γὰρ ποσαχῶς λέγεται οὐ μὴ παραλογισθῶμεν, ἀλλ’ εἰδήσομεν ἐὰν μὴ πρὸς τὸ αὐτὸ τὸν λόγον ποιῆται ὁ ἐρωτῶν· αὐτοί τε ἐρωτῶντες δυνησόμεθα παραλογίσασθαι, ἐὰν μὴ τυγχάνῃ εἰδὼς ὁ ἀποκρινόμενος ποσαχῶς λέγεται. τοῦτο δ’ οὐκ ἐπὶ πάντων δυνατόν, ἀλλ’ ὅταν ᾖ τῶν πολλαχῶς λεγομένων τὰ μὲν ἀληθῆ τὰ δὲ ψευδῆ. ἔστι δὲ οὐκ οἰκεῖος ὁ τρόπος οὗτος τῆς διαλεκτικῆς· διὸ παντελῶς εὐλαβητέον τοῖς διαλεκτικοῖς τὸ τοιοῦτον, τὸ πρὸς τοὔνομα διαλέγεσθαι, ἐὰν μή τις ἄλλως ἐξαδυνατῇ περὶ τοῦ προκειμένου διαλέγεσθαι.

Τὸ δὲ τὰς διαφορὰς εὑρεῖν χρήσιμον πρός τε τοὺς συλλογισμοὺς τοὺς περὶ ταὐτοῦ καὶ ἑτέρου καὶ πρὸς τὸ γνωρίζειν τί ἕκαστόν ἐστιν. ὅτι μὲν οὖν πρὸς τοὺς συλλογισμοὺς τοὺς περὶ ταὐτοῦ καὶ ἑτέρου χρήσιμον, δῆλον (εὑρόντες γὰρ διαφορὰν τῶν προκειμένων ὁποιανοῦν δεδειχότες ἐσόμεθα ὅτι οὐ ταὐτόν)· πρὸς δὲ τὸ γνωρίζειν τί ἐστι, διότι τὸν ἴδιον τῆς οὐσίας ἑκάστου λόγον ταῖς περὶ ἕκαστον οἰκείαις διαφοραῖς χωρίζειν εἰώθαμεν.

Ἡ δὲ τοῦ ὁμοίου θεωρία χρήσιμος πρός τε τοὺς ἐπακτικοὺς λόγους καὶ πρὸς τοὺς ἐξ ὑποθέσεως συλλογισμοὺς καὶ πρὸς τὴν ἀπόδοσιν τῶν ὁρισμῶν. πρὸς μὲν οὖν τοὺς ἐπακτικοὺς λόγους, διότι τῇ καθ’ ἕκαστα ἐπὶ τῶν ὁμοίων ἐπαγωγῇ τὸ καθόλου ἀξιοῦμεν ἐπάγειν· οὐ γὰρ ῥᾴδιόν ἐστιν ἐπάγειν μὴ εἰδότας τὰ ὅμοια. πρὸς δὲ τοὺς ἐξ ὑποθέσεως συλλογισμούς, διότι ἔνδοξόν ἐστιν, ὥς ποτε ἐφ’ ἑνὸς τῶν ὁμοίων ἔχει, οὕτως καὶ ἐπὶ τῶν λοιπῶν. ὥστε πρὸς ὅ τι ἂν αὐτῶν εὐπορῶμεν διαλέγεσθαι, προδιομολογησόμεθα, ὥς ποτε ἐπὶ τούτων ἔχει, οὕτω καὶ ἐπὶ τοῦ προκειμένου ἔχειν, δείξαντες δὲ ἐκεῖνο καὶ τὸ προκείμενον ἐξ ὑποθέσεως δεδειχότες ἐσόμεθα· ὑποθέμενοι γάρ, ὥς ποτε ἐπὶ τούτων ἔχει, οὕτω καὶ ἐπὶ τοῦ προκειμένου ἔχειν, τὴν ἀπόδειξιν πεποιήμεθα. πρὸς δὲ τὴν τῶν ὁρισμῶν ἀπόδοσιν, διότι δυνάμενοι συνορᾶν τί ἐν ἑκάστῳ ταὐτόν οὐκ ἀπορήσομεν εἰς τί δεῖ γένος ὁριζομένους τὸ προκείμενον τιθέναι· τῶν γὰρ κοινῶν τὸ μάλιστα ἐν τῷ τί ἐστι κατηγορούμενον γένος ἂν εἴη. ὁμοίως δὲ καὶ ἐν τοῖς πολὺ διεστῶσι χρήσιμος πρὸς τοὺς ὁρισμοὺς ἡ τοῦ ὁμοίου θεωρία, οἷον ὅτι ταὐτὸν γαλήνη μὲν ἐν θαλάσσῃ, νηνεμία δ’ ἐν ἀέρι (ἑκάτερον γὰρ ἡσυχία), καὶ στιγμὴ ἐν γραμμῇ καὶ μονὰς ἐν ἀριθμῷ (ἑκάτερον γὰρ ἀρχή). ὥστε τὸ κοινὸν ἐπὶ πάντων γένος ἀποδιδόντες δόξομεν οὐκ ἀλλοτρίως ὁρίζεσθαι. σχεδὸν δὲ καὶ οἱ ὁριζόμενοι οὕτως εἰώθασιν ἀποδιδόναι· τήν τε γὰρ μονάδα ἀρχὴν ἀριθμοῦ φασιν εἶναι καὶ τὴν στιγμὴν ἀρχὴν γραμμῆς. δῆλον οὖν ὅτι εἰς τὸ κοινὸν ἀμφοτέρων γένος τιθέασιν.

Τὰ μὲν οὖν ὄργανα δι’ ὧν οἱ συλλογισμοὶ ταῦτ’ ἐστίν· οἱ δὲ τόποι πρὸς οὓς χρήσιμα τὰ λεχθέντα οἵδε εἰσίν.

B

Ἔστι δὲ τῶν προβλημάτων τὰ μὲν καθόλου τὰ δ’ ἐπὶ μέρους. καθόλου μὲν οὖν οἷον ὅτι πᾶσα ἡδονὴ ἀγαθὸν καὶ ὅτι οὐδεμία ἡδονὴ ἀγαθόν· ἐπὶ μέρους δὲ οἷον ὅτι ἔστι τις ἡδονὴ [109a] ἀγαθὸν καὶ ὅτι ἔστι τις ἡδονὴ οὐκ ἀγαθόν. ἔστι δὲ πρὸς ἀμφότερα τὰ γένη τῶν προβλημάτων κοινὰ τὰ καθόλου κατασκευαστικὰ καὶ ἀνασκευαστικά· δείξαντες γὰρ ὅτι παντὶ ὑπάρχει, καὶ ὅτι τινὶ ὑπάρχει δεδειχότες ἐσόμεθα· ὁμοίως δὲ κἂν ὅτι οὐδενὶ ὑπάρχει δείξωμεν, καὶ ὅτι οὐ παντὶ ὑπάρχει δεδειχότες ἐσόμεθα. πρῶτον οὖν περὶ τῶν καθόλου ἀνασκευαστικῶν ῥητέον διά τε τὸ κοινὰ εἶναι τὰ τοιαῦτα πρὸς τὰ καθόλου καὶ τὰ ἐπὶ μέρους, καὶ διὰ τὸ μᾶλλον τὰς θέσεις κομίζειν ἐν τῷ ὑπάρχειν ἢ μή, τοὺς δὲ διαλεγομένους ἀνασκευάζειν. ἔστι δὲ χαλεπώτατον τὸ ἀντιστρέφειν τὴν ἀπὸ τοῦ συμβεβηκότος οἰκείαν ὀνομασίαν· τὸ γὰρ πῇ καὶ μὴ καθόλου ἐπὶ μόνων ἐνδέχεται τῶν συμβεβηκότων. ἀπὸ μὲν γὰρ τοῦ ὅρου καὶ τοῦ ἰδίου καὶ τοῦ γένους ἀναγκαῖον ἀντιστρέφειν. οἷον εἰ ὑπάρχει τινὶ ζῴῳ πεζῷ δίποδι εἶναι, ἀντιστρέψαντι ἀληθὲς ἔσται λέγειν ὅτι ζῷον πεζὸν δίπουν ἐστίν. ὁμοίως δὲ καὶ ἀπὸ τοῦ γένους· εἰ γὰρ ζῴῳ ὑπάρχει τινὶ εἶναι, ζῷόν ἐστιν. τὰ δ’ αὐτὰ καὶ ἐπὶ τοῦ ἰδίου· εἰ γὰρ ὑπάρχει τινὶ γραμματικῆς δεκτικῷ εἶναι, γραμματικῆς δεκτικὸν ἔσται. οὐδὲν γὰρ τούτων ἐνδέχεται κατά τι ὑπάρχειν ἢ μὴ ὑπάρχειν, ἀλλ’ ἁπλῶς ὑπάρχειν ἢ μὴ ὑπάρχειν. ἐπὶ δὲ τῶν συμβεβηκότων οὐδὲν κωλύει κατά τι ὑπάρχειν, οἷον λευκότητα ἢ δικαιοσύνην, ὥστε οὐκ ἀπόχρη τὸ δεῖξαι ὅτι ὑπάρχει λευκότης ἢ δικαιοσύνη πρὸς τὸ δεῖξαι ὅτι λευκὸς ἢ δίκαιός ἐστιν· ἔχει γὰρ ἀμφισβήτησιν ὅτι κατά τι λευκὸς ἢ δίκαιός ἐστιν. ὥστ’ οὐκ ἀναγκαῖον ἐπὶ τῶν συμβεβηκότων τὸ ἀντιστρέφειν.

Διορίσασθαι δὲ δεῖ καὶ τὰς ἁμαρτίας τὰς ἐν τοῖς προβλήμασιν, ὅτι εἰσὶ διτταί, ἢ τῷ ψεύδεσθαι ἢ τῷ παραβαίνειν τὴν κειμένην λέξιν· οἵ τε γὰρ ψευδόμενοι καὶ τὸ μὴ ὑπάρχον ὑπάρχειν τινὶ λέγοντες ἁμαρτάνουσι, καὶ οἵ, τοῖς ἀλλοτρίοις ὀνόμασι τὰ πράγματα προσαγορεύοντες, οἷον τὴν πλάτανον ἄνθρωπον, παραβαίνουσι τὴν κειμένην ὀνομασίαν.

Εἷς μὲν δὴ τόπος τὸ ἐπιβλέπειν εἰ τὸ κατ’ ἄλλον τινὰ τρόπον ὑπάρχον ὡς συμβεβηκὸς ἀποδέδωκεν. ἁμαρτάνεται δὲ μάλιστα τοῦτο περὶ τὰ γένη, οἷον εἴ τις τῷ λευκῷ φαίη συμβεβηκέναι χρώματι εἶναι· οὐ γὰρ συμβέβηκε τῷ λευκῷ χρώματι εἶναι, ἀλλὰ γένος αὐτοῦ τὸ χρῶμά ἐστιν. ἐνδέχεται μὲν οὖν καὶ κατὰ τὴν ὀνομασίαν διορίσαι τὸν τιθέμενον, [109b] οἷον ὅτι συμβέβηκε τῇ δικαιοσύνῃ ἀρετῇ εἶναι· πολλάκις δὲ καὶ μὴ διορίσαντος κατάδηλον ὅτι τὸ γένος ὡς συμβεβηκὸς ἀποδέδωκεν, οἷον εἴ τις τὴν λευκότητα κεχρῶσθαι φήσειεν ἢ τὴν βάδισιν κινεῖσθαι. ἀπ' οὐδενὸς γὰρ γένους παρωνύμως ἡ κατηγορία κατὰ τοῦ εἴδους λέγεται, ἀλλὰ πάντα συνωνύμως τὰ γένη τῶν εἰδῶν κατηγορεῖται· καὶ γὰρ τοὔνομα καὶ τὸν λόγον ἐπιδέχεται τὸν τῶν γενῶν τὰ εἴδη. ὁ οὖν κεχρωσμένον εἴπας τὸ λευκὸν οὔτε ὡς γένος ἀποδέδωκεν, ἐπειδὴ παρωνύμως εἴρηκεν, οὔθ' ὡς ἴδιον ἢ ὡς ὁρισμόν· ὁ γὰρ ὁρισμὸς καὶ τὸ ἴδιον οὐδενὶ ἄλλῳ ὑπάρχει, κέχρωσται δὲ πολλὰ καὶ τῶν ἄλλων, οἷον ξύλον λίθος ἄνθρωπος ἵππος. δῆλον οὖν ὅτι ὡς συμβεβηκὸς ἀποδέδωκεν.

Ἄλλος τὸ ἐπιβλέπειν οἷς ὑπάρχειν ἢ πᾶσιν ἢ μηδενὶ εἴρηται. σκοπεῖν δὲ κατ' εἴδη καὶ μὴ ἐν τοῖς ἀπείροις· ὁδῷ γὰρ μᾶλλον καὶ ἐν ἐλάττοσιν ἡ σκέψις. δεῖ δὲ σκοπεῖν καὶ ἄρχεσθαι ἀπὸ τῶν πρώτων, εἶτ' ἐφεξῆς ἕως τῶν ἀτόμων. οἷον εἰ τῶν ἀντικειμένων τὴν αὐτὴν ἐπιστήμην ἔφησεν εἶναι, σκεπτέον εἰ τῶν πρός τι καὶ τῶν ἐναντίων καὶ τῶν κατὰ στέρησιν καὶ ἕξιν καὶ τῶν κατ' ἀντίφασιν λεγομένων ἡ αὐτὴ ἐπιστήμη. κἂν ἐπὶ τούτων μήπω φανερὸν ᾖ, πάλιν ταῦτα διαιρετέον μέχρι τῶν ἀτόμων· οἷον εἰ τῶν δικαίων καὶ ἀδίκων, ἢ τοῦ διπλασίου καὶ ἡμίσεος, ἢ τυφλότητος καὶ ὄψεως, ἢ τοῦ εἶναι καὶ μὴ εἶναι. ἐὰν γὰρ ἐπί τινος δειχθῇ ὅτι οὐχ ἡ αὐτή, ἀνῃρηκότες ἐσόμεθα τὸ πρόβλημα· ὁμοίως δὲ καὶ ἐὰν μηδενὶ ὑπάρχῃ. οὗτος δ' ὁ τόπος ἀντιστρέφει πρὸς τὸ κατασκευάζειν καὶ ἀνασκευάζειν. ἐὰν γὰρ ἐπὶ πάντων φαίνηται διαίρεσιν προενέγκασιν ἢ ἐπὶ πολλῶν, ἀξιωτέον καὶ καθόλου τιθέναι ἢ ἔνστασιν φέρειν ἐπὶ τίνος οὐχ οὕτως· ἐὰν γὰρ μηδέτερον τούτων ποιῇ, ἄτοπος φανεῖται μὴ τιθείς.

Ἄλλος τὸ λόγους ποιεῖν τοῦ τε συμβεβηκότος καὶ ᾧ συμβέβηκεν, ἢ ἀμφοτέρων καθ' ἑκάτερον ἢ τοῦ ἑτέρου, εἶτα σκοπεῖν εἴ τι μὴ ἀληθὲς ἐν τοῖς λόγοις ὡς ἀληθὲς εἴληπται. οἷον εἰ ἔστι θεὸν ἀδικεῖν, τί τὸ ἀδικεῖν; εἰ γὰρ τὸ βλάπτειν ἑκουσίως, δῆλον ὡς οὐκ ἔστι θεὸν ἀδικεῖσθαι· οὐ γὰρ ἐνδέχεται βλάπτεσθαι τὸν θεόν. καὶ εἰ φθονερὸς ὁ σπουδαῖος, τίς ὁ φθονερὸς καὶ τί ὁ φθόνος; εἰ γὰρ ὁ φθόνος ἐστὶ λύπη ἐπὶ φαινομένῃ εὐπραγίᾳ τῶν ἐπιεικῶν τινος, δῆλον ὅτι ὁ σπουδαῖος οὐ φθονερός· φαῦλος γὰρ ἂν εἴη. καὶ εἰ ὁ νεμεσητικὸς φθονερός, τίς ἑκάτερος αὐτῶν; οὕτω γὰρ καταφανὲς [110a] ἔσται πότερον ἀληθὲς ἢ ψεῦδος τὸ ῥηθέν· οἷον εἰ φθονερὸς μὲν ὁ λυπούμενος ἐπὶ ταῖς τῶν ἀγαθῶν εὐπραγίαις, νεμεσητικὸς δ' ὁ λυπούμενος ἐπὶ ταῖς τῶν κακῶν εὐπραγίαις, δῆλον ὅτι οὐκ ἂν εἴη φθονερὸς ὁ νεμεσητικός. λαμβάνειν δὲ καὶ ἀντὶ τῶν ἐν τοῖς λόγοις ὀνομάτων λόγους, καὶ μὴ προαφίστασθαι ἕως ἂν εἴς τι γνώριμον ἔλθῃ· πολλάκις γὰρ ὅλου μὲν τοῦ λόγου ἀποδοθέντος οὔπω δῆλον τὸ ζητούμενον, ἀντὶ δέ τινος τῶν ἐν τῷ λόγῳ ὀνομάτων λόγου ῥηθέντος κατάδηλον γίνεται.

Ἔτι τὸ πρόβλημα πρότασιν ἑαυτῷ ποιούμενον ἐνίστασθαι· ἡ γὰρ ἔνστασις ἔσται ἐπιχείρημα πρὸς τὴν θέσιν. ἔστι δ’ ὁ τόπος οὗτος σχεδὸν ὁ αὐτὸς τῷ ἐπιβλέπειν οἷς ὑπάρχειν ἢ πᾶσιν ἢ μηδενὶ εἴρηται· διαφέρει δὲ τῷ τρόπῳ.

Ἔτι διορίζεσθαι ποῖα δεῖ καλεῖν ὡς οἱ πολλοὶ καὶ ποῖα οὔ· χρήσιμον γὰρ καὶ πρὸς τὸ κατασκευάζειν καὶ πρὸς τὸ ἀνασκευάζειν· οἷον ὅτι ταῖς μὲν ὀνομασίαις τὰ πράγματα προσαγορευτέον καθάπερ οἱ πολλοί, ποῖα δὲ τῶν πραγμάτων ἐστὶ τοιαῦτα ἢ οὐ τοιαῦτα, οὐκέτι προσεκτέον τοῖς πολλοῖς. οἷον ὑγιεινὸν μὲν ῥητέον τὸ ποιητικὸν ὑγιείας, ὡς οἱ πολλοὶ λέγουσιν· πότερον δὲ τὸ προκείμενον ποιητικὸν ὑγιείας ἢ οὔ, οὐκέτι ὡς οἱ πολλοὶ κλητέον ἀλλ’ ὡς ὁ ἰατρός.

Ἔτι ἐὰν πολλαχῶς λέγηται, κείμενον δὲ ᾖ ὡς ὑπάρχει ἢ ὡς οὐχ ὑπάρχει, θάτερον δεικνύναι τῶν πλεοναχῶς λεγομένων, ἐὰν μὴ ἄμφω ἐνδέχηται. χρηστέον δ’ ἐπὶ τῶν λανθανόντων· ἐὰν γὰρ μὴ λανθάνῃ πολλαχῶς λεγόμενον, ἐνστήσεται ὅτι οὐ διείλεκται ὅπερ αὐτὸς ἠπόρει ἀλλὰ θάτερον. οὗτος δ’ ὁ τόπος ἀντιστρέφει καὶ πρὸς τὸ κατασκευάσαι καὶ πρὸς τὸ ἀνασκευάσαι. κατασκευάζειν μὲν γὰρ βουλόμενοι δείξομεν ὅτι θάτερον ὑπάρχει, ἐὰν μὴ ἄμφω δυνώμεθα· ἀνασκευάζοντες δὲ ὅτι οὐχ ὑπάρχει θάτερον δείξομεν, ἐὰν μὴ ἄμφω δυνώμεθα. πλὴν ἀνασκευάζοντι μὲν οὐδὲν δεῖ ἐξ ὁμολογίας διαλέγεσθαι, οὔτ’ εἰ παντὶ οὔτ’ εἰ μηδενὶ ὑπάρχειν εἴρηται· ἐὰν γὰρ δείξωμεν ὅτι οὐχ ὑπάρχει ὁτῳοῦν, ἀνῃρηκότες ἐσόμεθα τὸ παντὶ ὑπάρχειν· ὁμοίως δὲ κἂν ἑνὶ δείξωμεν ὑπάρχον, ἀναιρήσομεν τὸ μηδενὶ ὑπάρχειν. κατασκευάζουσι δὲ προδιομολογητέον ὅτι, εἰ ὁτῳοῦν ὑπάρχει, παντὶ ὑπάρχει, ἂν πιθανὸν ᾖ τὸ ἀξίωμα. οὐ γὰρ [110b] ἀπόχρη πρὸς τὸ δεῖξαι ὅτι παντὶ ὑπάρχει τὸ ἐφ’ ἑνὸς διαλεχθῆναι, οἷον εἰ ἡ τοῦ ἀνθρώπου ψυχὴ ἀθάνατος, ὅτι ψυχὴ πᾶσα ἀθάνατος· ὥστε προομολογητέον ὅτι, εἰ ἡτισοῦν ψυχὴ ἀθάνατος, πᾶσα ἀθάνατος. τοῦτο δ’ οὐκ ἀεὶ ποιητέον, ἀλλ’ ὅταν μὴ εὐπορῶμεν κοινὸν ἐπὶ πάντων ἕνα λόγον εἰπεῖν, καθάπερ ὁ γεωμέτρης ὅτι τὸ τρίγωνον δυσὶν ὀρθαῖς ἴσας ἔχει.

Ἐὰν δὲ μὴ λανθάνῃ πολλαχῶς λεγόμενον, διελόμενον ὁσαχῶς λέγεται καὶ ἀναιρεῖν καὶ κατασκευάζειν. οἷον εἰ τὸ δέον ἐστὶ τὸ συμφέρον ἢ τὸ καλόν, πειρατέον ἄμφω κατασκευάζειν ἢ ἀναιρεῖν περὶ τοῦ προκειμένου, οἷον ὅτι καλὸν καὶ συμφέρον, ἢ ὅτι οὔτε καλὸν οὔτε συμφέρον. ἐὰν δὲ μὴ ἐνδέχηται ἀμφότερα, θάτερον δεικτέον, ἐπισημαινόμενον ὅτι τὸ μὲν τὸ δ' οὔ. ὁ δ' αὐτὸς λόγος κἂν πλείω ᾖ εἰς ἃ διαιρεῖται.

Πάλιν ὅσα μὴ καθ' ὁμωνυμίαν λέγεται πολλαχῶς ἀλλὰ κατ' ἄλλον τρόπον, οἷον ἐπιστήμη μία πλειόνων ἢ ὡς τοῦ τέλους καὶ τῶν πρὸς τὸ τέλος, οἷον ἰατρικὴ τοῦ ὑγίειαν ποιῆσαι καὶ τοῦ διαιτῆσαι, ἢ ὡς ἀμφοτέρων τελῶν, καθάπερ τῶν ἐναντίων ἡ αὐτὴ λέγεται ἐπιστήμη (οὐδὲν γὰρ μᾶλλον τέλος τὸ ἕτερον τοῦ ἑτέρου), ἢ ὡς τοῦ καθ' αὑτὸ καὶ τοῦ κατὰ συμβεβηκός, οἷον καθ' αὑτὸ μὲν ὅτι τὸ τρίγωνον δυσὶν ὀρθαῖς ἴσας ἔχει, κατὰ συμβεβηκὸς δὲ ὅτι τὸ ἰσόπλευρον· ὅτι γὰρ συμβέβηκε τῷ ἰσοπλεύρῳ τριγώνῳ εἶναι, κατὰ τοῦτο γνωρίζομεν ὅτι δυσὶν ὀρθαῖς ἴσας ἔχει. εἰ οὖν μηδαμῶς ἐνδέχεται τὴν αὐτὴν εἶναι πλειόνων ἐπιστήμην, δῆλον ὅτι ὅλως οὐκ ἐνδέχεται εἶναι, ἢ εἴ πως ἐνδέχεται, δῆλον ὅτι ἐνδέχεται. διαιρεῖσθαι δὲ ὁσαχῶς χρήσιμον. οἷον ἐὰν βουλώμεθα κατασκευάσαι, τὰ τοιαῦτα προοιστέον ὅσα ἐνδέχεται, καὶ διαιρετέον εἰς ταῦτα μόνον ὅσα καὶ χρήσιμα πρὸς τὸ κατασκευάσαι· ἂν δ' ἀνασκευάσαι, ὅσα μὴ ἐνδέχεται, τὰ δὲ λοιπὰ παραλειπτέον. ποιητέον δὲ καὶ ἐπὶ τούτων, ὅταν λανθάνῃ ποσαχῶς λέγεται. καὶ εἶναι δὲ τόδε τοῦδε ἢ μὴ εἶναι ἐκ τῶν αὐτῶν τόπων κατασκευαστέον, οἷον ἐπιστήμην τήνδε τοῦδε ἢ ὡς τέλους ἢ ὡς τῶν πρὸς τὸ τέλος ἢ ὡς τῶν κατὰ συμβεβηκός, ἢ πάλιν μὴ εἶναι κατὰ μηδένα τῶν ῥηθέντων τρόπων. ὁ δ' αὐτὸς λόγος καὶ περὶ ἐπιθυμίας καὶ ὅσα ἄλλα λέγεται πλειόνων· ἔστι γὰρ ἡ [111a] ἐπιθυμία τούτου ἢ ὡς τέλους, οἷον ὑγιείας, ἢ ὡς τῶν πρὸς τὸ τέλος, οἷον τοῦ φαρμακευθῆναι, ἢ ὡς τοῦ κατὰ συμβεβηκός, καθάπερ ἐπὶ τοῦ οἴνου ὁ φιλόγλυκυς, οὐχ ὅτι οἶνος ἀλλ' ὅτι γλυκύς ἐστιν. καθ' αὑτὸ μὲν γὰρ τοῦ γλυκέος ἐπιθυμεῖ, τοῦ δ' οἴνου κατὰ συμβεβηκός· ἐὰν γὰρ αὐστηρὸς ᾖ, οὐκέτι ἐπιθυμεῖ. κατὰ συμβεβηκὸς οὖν ἐπιθυμεῖ. χρήσιμος δ' ὁ τόπος οὗτος ἐν τοῖς πρός τι· σχεδὸν γὰρ τὰ τοιαῦτα τῶν πρός τί ἐστιν.

Ἔτι τὸ μεταλαμβάνειν εἰς τὸ γνωριμώτερον ὄνομα, οἷον ἀντὶ τοῦ ἀκριβοῦς ἐν ὑπολήψει τὸ σαφὲς καὶ ἀντὶ τῆς πολυπραγμοσύνης τὴν φιλοπραγμοσύνην· γνωριμωτέρου γὰρ γενομένου τοῦ ῥηθέντος εὐεπιχειρητοτέρα ἡ θέσις. ἔστι δὲ καὶ οὗτος ὁ τόπος πρὸς ἄμφω κοινός, καὶ πρὸς τὸ κατασκευάζειν καὶ πρὸς τὸ ἀνασκευάζειν.

Πρὸς δὲ τὸ δεῖξαι τὰ ἐναντία τῷ αὐτῷ ὑπάρχοντα σκοπεῖν ἐπὶ τοῦ γένους, οἷον, ἐὰν βουλώμεθα δεῖξαι ὅτι ἔστι περὶ αἴσθησιν ὀρθότης καὶ ἁμαρτία, "ἐπεὶ τὸ αἰσθάνεσθαι κρίνειν ἐστί, κρίνειν δ' ἔστιν ὀρθῶς καὶ μὴ ὀρθῶς, καὶ περὶ αἴσθησιν ἂν εἴη ὀρθότης καὶ ἁμαρτία”. νῦν μὲν οὖν ἐκ τοῦ γένους περὶ τὸ εἶδος ἡ ἀπόδειξις· τὸ γὰρ κρίνειν γένος τοῦ αἰσθάνεσθαι· ὁ γὰρ αἰσθανόμενος κρίνει πως. πάλιν δ’ ἐκ τοῦ εἴδους τῷ γένει· ὅσα γὰρ τῷ εἴδει ὑπάρχει, καὶ τῷ γένει· οἷον εἰ ἔστιν ἐπιστήμη φαύλη καὶ σπουδαία, καὶ διάθεσις φαύλη καὶ σπουδαία· ἡ γὰρ διάθεσις τῆς ἐπιστήμης γένος. ὁ μὲν οὖν πρότερος τόπος ψευδής ἐστι πρὸς τὸ κατασκευάσαι, ὁ δὲ δεύτερος ἀληθής. οὐ γὰρ ἀναγκαῖον, ὅσα τῷ γένει ὑπάρχει, καὶ τῷ εἴδει ὑπάρχειν· ζῷον μὲν γὰρ ἔστι πτηνὸν καὶ τετράπουν, ἄνθρωπος δ’ οὔ. ὅσα δὲ τῷ εἴδει ὑπάρχει, ἀναγκαῖον καὶ τῷ γένει· εἰ γὰρ ἔστιν ἄνθρωπος σπουδαῖος, καὶ ζῷον ἔστι σπουδαῖον. πρὸς δὲ τὸ ἀνασκευάζειν ὁ μὲν πρότερος ἀληθής, ὁ δὲ ὕστερος ψευδής· ὅσα γὰρ τῷ γένει οὐχ ὑπάρχει, οὐδὲ τῷ εἴδει· ὅσα δὲ τῷ εἴδει μὴ ὑπάρχει, οὐκ ἀνάγκη τῷ γένει μὴ ὑπάρχειν.

Ἐπεὶ δ’ ἀναγκαῖον, ὧν τὸ γένος κατηγορεῖται, καὶ τῶν εἰδῶν τι κατηγορεῖσθαι, καὶ ὅσα ἔχει τὸ γένος ἢ παρωνύμως ἀπὸ τοῦ γένους λέγεται, καὶ τῶν εἰδῶν τι ἀναγκαῖον ἔχειν ἢ παρωνύμως ἀπό τινος τῶν εἰδῶν λέγεσθαι (οἷον εἴ τινος ἐπιστήμη κατηγορεῖται, καὶ γραμματικὴ ἢ μουσικὴ ἢ τῶν ἄλλων τις ἐπιστημῶν κατηγορηθήσεται, καὶ εἴ τις ἔχει [111b] ἐπιστήμην ἢ παρωνύμως ἀπὸ τῆς ἐπιστήμης λέγεται, καὶ γραμματικὴν ἕξει ἢ μουσικὴν ἤ τινα τῶν ἄλλων ἐπιστημῶν ἢ παρωνύμως ἀπό τινος αὐτῶν ῥηθήσεται, οἷον γραμματικὸς ἢ μουσικός)· ἐὰν οὖν τι τεθῇ λεγόμενον ἀπὸ τοῦ γένους ὁπωσοῦν, οἷον τὴν ψυχὴν κινεῖσθαι, σκοπεῖν εἰ κατά τι τῶν εἰδῶν τῶν τῆς κινήσεως ἐνδέχεται τὴν ψυχὴν κινεῖσθαι, οἷον αὔξεσθαι ἢ φθείρεσθαι ἢ γίγνεσθαι ἢ ὅσα ἄλλα κινήσεως εἴδη· εἰ γὰρ κατὰ μηδέν, δῆλον ὅτι οὐ κινεῖται. οὗτος δ’ ὁ τόπος κοινὸς πρὸς ἄμφω, πρός τε τὸ ἀνασκευάζειν καὶ κατασκευάζειν· εἰ γὰρ κατά τι τῶν εἰδῶν κινεῖται, δῆλον ὅτι κινεῖται, καὶ εἰ κατὰ μηδὲν τῶν εἰδῶν κινεῖται, δῆλον ὅτι οὐ κινεῖται. Μὴ εὐποροῦντι δὲ ἐπιχειρήματος πρὸς τὴν θέσιν σκοπεῖν ἐκ τῶν ὁρισμῶν, ἢ τῶν ὄντων τοῦ προκειμένου πράγματος ἢ τῶν δοκούντων, καὶ εἰ μὴ ἀφ’ ἑνός, ἀλλ’ ἀπὸ πλειόνων. ῥᾷον γὰρ ὁρισαμένοις ἐπιχειρεῖν ἔσται· πρὸς γὰρ τοὺς ὁρισμοὺς ῥᾴων ἡ ἐπιχείρησις.

Σκοπεῖν δὲ ἐπὶ τοῦ προκειμένου, τίνος ὄντος τὸ προκείμενον ἔστιν, ἢ τί ἔστιν ἐξ ἀνάγκης εἰ τὸ προκείμενον ἔστι - κατασκευάζειν μὲν βουλομένῳ, τίνος ὄντος τὸ προκείμενον ἔσται (ἐὰν γὰρ ἐκεῖνο δειχθῇ ὑπάρχον, καὶ τὸ προκείμενον δεδειγμένον ἔσται), ἀνασκευάζειν δὲ βουλομένῳ, τί ἔστιν εἰ τὸ προκείμενον ἔστιν· ἐὰν γὰρ δείξωμεν τὸ ἀκόλουθον τῷ προκειμένῳ μὴ ὄν, ἀνῃρηκότες ἐσόμεθα τὸ προκείμενον.

Ἔτι ἐπὶ τὸν χρόνον ἐπιβλέπειν, εἴ που διαφωνεῖ, οἷον εἰ τὸ τρεφόμενον ἔφησεν ἐξ ἀνάγκης αὔξεσθαι· τρέφεται μὲν γὰρ ἀεὶ τὰ ζῷα, αὔξεται δ’ οὐκ ἀεί. ὁμοίως δὲ καὶ εἰ τὸ ἐπίστασθαι ἔφησε μεμνῆσθαι· τὸ μὲν γὰρ τοῦ παρεληλυθότος χρόνου ἐστί, τὸ δὲ καὶ τοῦ παρόντος καὶ τοῦ μέλλοντος. ἐπίστασθαι μὲν γὰρ λεγόμεθα τὰ παρόντα καὶ τὰ μέλλοντα, οἷον ὅτι ἔσται ἔκλειψις· μνημονεύειν δ’ οὐκ ἐνδέχεται ἄλλο ἢ τὸ παρεληλυθός.

Ἔτι ὁ σοφιστικὸς τρόπος, τὸ ἄγειν εἰς τοιοῦτον πρὸς ὃ εὐπορήσομεν ἐπιχειρημάτων· τοῦτο δ’ ἔσται ὁτὲ μὲν ἀναγκαῖον, ὁτὲ δὲ φαινόμενον ἀναγκαῖον, ὁτὲ δ’ οὔτε φαινόμενον οὔτ’ ἀναγκαῖον. ἀναγκαῖον μὲν οὖν ὅταν, ἀρνησαμένου τοῦ ἀποκρινομένου τῶν πρὸς τὴν θέσιν τι χρησίμων, πρὸς τοῦτο τοὺς λόγους ποιῆται, τυγχάνῃ δὲ τοῦτο τῶν τοιούτων ὂν πρὸς ἃ εὐπορεῖν ἐστιν ἐπιχειρημάτων. ὁμοίως δὲ καὶ ὅταν, ἐπαγωγὴν [112a] πρός τι διὰ τοῦ κειμένου ποιησαμένου, ἀναιρεῖν ἐπιχειρῇ· τούτου γὰρ ἀναιρεθέντος καὶ τὸ προκείμενον ἀναιρεῖται. φαινόμενον δ’ ἀναγκαῖον, ὅταν φαίνηται μὲν χρήσιμον καὶ οἰκεῖον τῆς θέσεως, μὴ ᾖ δέ, πρὸς ὃ γίγνονται οἱ λόγοι, εἴτε ἀρνησαμένου τοῦ τὸν λόγον ὑπέχοντος, εἴτε ἐπαγωγῆς ἐνδόξου διὰ τῆς θέσεως πρὸς αὐτὸ γενομένης, ἀναιρεῖν ἐπιχειροίη αὐτό. τὸ δὲ λοιπόν, ὅταν μήτ’ ἀναγκαῖον ᾖ μήτε φαινόμενον πρὸς ὃ γίγνονται οἱ λόγοι, ἄλλως δὲ παρεξελέγχεσθαι συμβαίνῃ τῷ ἀποκρινομένῳ. δεῖ δ’ εὐλαβεῖσθαι τὸν ἔσχατον τῶν ῥηθέντων τρόπων· παντελῶς γὰρ ἀπηρτημένος καὶ ἀλλότριος ἔοικεν εἶναι τῆς διαλεκτικῆς. διὸ δεῖ καὶ τὸν ἀποκρινόμενον μὴ δυσκολαίνειν, ἀλλὰ τιθέναι τὰ μὴ χρήσιμα πρὸς τὴν θέσιν, ἐπισημαινόμενον ὅσα μὴ δοκεῖ μὲν τίθησι δέ. μᾶλλον γὰρ ἀπορεῖν ὡς ἐπὶ τὸ πολὺ συμβαίνει τοῖς ἐρωτῶσι πάντων τιθεμένων αὐτοῖς τῶν τοιούτων, ἐὰν μὴ περαίνωσιν.

Ἔτι πᾶς ὁ εἰρηκὼς ὁτιοῦν τρόπον τινὰ πολλὰ εἴρηκεν, ἐπειδὴ πλείω ἑκάστῳ ἐξ ἀνάγκης ἀκόλουθά ἐστιν· οἷον ὁ εἰρηκὼς ἄνθρωπον εἶναι καὶ ὅτι ζῷόν ἐστιν εἴρηκε καὶ ὅτι ἔμψυχον καὶ ὅτι δίπουν καὶ ὅτι νοῦ καὶ ἐπιστήμης δεκτικόν, ὥστε ὁποιουοῦν ἑνὸς τῶν ἀκολούθων ἀναιρεθέντος ἀναιρεῖται καὶ τὸ ἐν ἀρχῇ. εὐλαβεῖσθαι δὲ χρὴ εἰς τὸ χαλεπώτερον τὴν μετάληψιν ποιεῖσθαι· ἐνίοτε μὲν γὰρ ῥᾶον τὸ ἀκόλουθον ἀνελεῖν, ἐνίοτε δ’ αὐτὸ τὸ προκείμενον.

Ὅσοις δ’ ἀνάγκη θάτερον μόνον ὑπάρχειν, οἷον τῷ ἀνθρώπῳ τὴν νόσον ἢ τὴν ὑγίειαν, ἐὰν πρὸς θάτερον εὐπορῶμεν διαλέγεσθαι ὅτι ὑπάρχει ἢ οὐχ ὑπάρχει, καὶ πρὸς τὸ λοιπὸν εὐπορήσομεν. τοῦτο δ’ ἀντιστρέφει πρὸς ἄμφω· δείξαντες μὲν γὰρ ὅτι ὑπάρχει θάτερον, ὅτι οὐχ ὑπάρχει τὸ λοιπὸν δεδειχότες ἐσόμεθα· ἐὰν δ’ ὅτι οὐχ ὑπάρχει δείξωμεν, τὸ λοιπὸν ὅτι ὑπάρχει δεδειχότες ἐσόμεθα. δῆλον οὖν ὅτι πρὸς ἄμφω χρήσιμος ὁ τόπος.

Ἔτι τὸ ἐπιχειρεῖν, μεταφέροντα τοὔνομα κατὰ τὸν λόγον, ὡς μᾶλλον προσῆκον ἐκλαμβάνειν ἢ ὡς κεῖται τοὔνομα, οἷον εὔψυχον μὴ τὸν ἀνδρεῖον, καθάπερ νῦν κεῖται, ἀλλὰ τὸν εὖ τὴν ψυχὴν ἔχοντα, καθάπερ καὶ εὔελπιν τὸν ἀγαθὰ ἐλπίζοντα· ὁμοίως δὲ καὶ εὐδαίμονα οὗ ἂν ὁ δαίμων ᾖ σπουδαῖος, καθάπερ Ξενοκράτης φησὶν εὐδαίμονα εἶναι τὸν τὴν ψυχὴν ἔχοντα σπουδαίαν· ταύτην γὰρ ἑκάστου εἶναι δαίμονα.

[112b] Ἐπεὶ δὲ τῶν πραγμάτων τὰ μὲν ἐξ ἀνάγκης ἐστί, τὰ δ’ ὡς ἐπὶ τὸ πολύ, τὰ δ’ ὁπότερ’ ἔτυχεν, ἐὰν τὸ ἐξ ἀνάγκης ὡς ἐπὶ τὸ πολὺ τεθῇ ἢ τὸ ὡς ἐπὶ τὸ πολὺ ἐξ ἀνάγκης (ἢ αὐτὸ ἢ τὸ ἐναντίον τῷ ὡς ἐπὶ τὸ πολύ), ἀεὶ δίδωσι τόπον ἐπιχειρήματος. ἐὰν γὰρ τὸ ἐξ ἀνάγκης ὡς ἐπὶ τὸ πολὺ τεθῇ, δῆλον ὅτι οὐ παντί φησιν ὑπάρχειν, ὑπάρχοντος παντί, ὥστε ἡμάρτηκεν· εἴ τε τὸ ὡς ἐπὶ τὸ πολὺ λεγόμενον ἐξ ἀνάγκης ἔφησε· παντὶ γάρ φησιν ὑπάρχειν, οὐχ ὑπάρχοντος παντί. ὁμοίως δὲ καὶ εἰ τὸ ἐναντίον τῷ ὡς ἐπὶ τὸ πολὺ ἐξ ἀνάγκης εἴρηκεν· ἀεὶ γὰρ ἐπ’ ἔλαττον λέγεται τὸ ἐναντίον τῷ ὡς ἐπὶ τὸ πολύ· οἷον εἰ ὡς ἐπὶ τὸ πολὺ φαῦλοι οἱ ἄνθρωποι, ἀγαθοὶ ἐπ’ ἔλαττον, ὥστ’ ἔτι μᾶλλον ἡμάρτηκεν, εἰ ἀγαθοὺς ἐξ ἀνάγκης εἴρηκεν. ὡσαύτως δὲ καὶ εἰ τὸ ὁπότερ’ ἔτυχεν ἐξ ἀνάγκης ἔφησεν ἢ ὡς ἐπὶ τὸ πολύ· οὔτε γὰρ ἐξ ἀνάγκης τὸ ὁπότερ’ ἔτυχεν οὔθ’ ὡς ἐπὶ τὸ πολύ. ἐνδέχεται δέ, κἂν μὴ διορίσας εἴπῃ πότερον ὡς ἐπὶ τὸ πολὺ ἢ ἐξ ἀνάγκης εἴρηκεν, ᾖ δὲ τὸ πρᾶγμα ὡς ἐπὶ τὸ πολύ, διαλέγεσθαι ὡς ἐξ ἀνάγκης εἰρηκότος αὐτοῦ, οἷον, εἰ φαύλους τοὺς ἀποκλήρους ἔφησεν εἶναι μὴ διορίσας, ὡς ἐξ ἀνάγκης εἰρηκότος αὐτοῦ διαλέγεσθαι.

Ἔτι καὶ εἰ αὐτὸ αὑτῷ συμβεβηκὸς ἔθηκεν ὡς ἕτερον διὰ τὸ ἕτερον εἶναι ὄνομα, καθάπερ Πρόδικος διῃρεῖτο τὰς ἡδονὰς εἰς χαρὰν καὶ τέρψιν καὶ εὐφροσύνην· ταῦτα γὰρ πάντα τοῦ αὐτοῦ, τῆς ἡδονῆς, ὀνόματά ἐστιν. εἰ οὖν τις τὸ χαίρειν τῷ εὐφραίνεσθαι φήσει συμβεβηκέναι, αὐτὸ ἂν αὑτῷ φαίη συμβεβηκέναι.

Ἐπεὶ δὲ τὰ ἐναντία συμπλέκεται μὲν ἀλλήλοις ἑξαχῶς, ἐναντίωσιν δὲ ποιεῖ τετραχῶς συμπλεκόμενα, δεῖ λαμβάνειν τὰ ἐναντία ὅπως ἂν χρήσιμον ᾖ καὶ ἀναιροῦντι καὶ κατασκευάζοντι. ὅτι μὲν οὖν ἑξαχῶς συμπλέκεται, δῆλον. ἢ γὰρ ἑκάτερον τῶν ἐναντίων ἑκατέρῳ τῶν ἐναντίων συμπλακήσεται (τοῦτο δὲ διχῶς, οἷον τὸ τοὺς φίλους εὖ ποιεῖν καὶ τὸ τοὺς ἐχθροὺς κακῶς, ἢ ἀνάπαλιν τὸ τοὺς φίλους κακῶς καὶ τὸ τοὺς ἐχθροὺς εὖ), ἢ ἀμφότερα περὶ τοῦ ἑνός (διχῶς δὲ καὶ τοῦτο, οἷον τὸ τοὺς φίλους εὖ καὶ τὸ τοὺς φίλους κακῶς, ἢ τὸ τοὺς ἐχθροὺς εὖ καὶ τὸ τοὺς ἐχθροὺς κακῶς), ἢ τὸ ἓν περὶ ἀμφοτέρων (διχῶς δὲ καὶ τοῦτο, οἷον τὸ τοὺς φίλους εὖ καὶ τὸ τοὺς ἐχθροὺς εὖ, ἢ τοὺς φίλους κακῶς καὶ τοὺς ἐχθροὺς κακῶς).

[113a] Αἱ μὲν οὖν πρῶται δύο ῥηθεῖσαι συμπλοκαὶ οὐ ποιοῦσιν ἐναντίωσιν. τὸ γὰρ τοὺς φίλους εὖ ποιεῖν τῷ τοὺς ἐχθροὺς κακῶς οὐκ ἔστιν ἐναντίον· ἀμφότερα γὰρ αἱρετὰ καὶ τοῦ αὐτοῦ ἤθους· οὐδὲ τὸ τοὺς φίλους κακῶς τῷ τοὺς ἐχθροὺς εὖ· καὶ γὰρ ταῦτα ἀμφότερα φευκτὰ καὶ τοῦ αὐτοῦ ἤθους. οὐ δοκεῖ δὲ φευκτὸν φευκτῷ ἐναντίον εἶναι, ἐὰν μὴ ᾖ τὸ μὲν καθ' ὑπερβολὴν τὸ δὲ κατ' ἔνδειαν λεγόμενον· ἥ τε γὰρ ὑπερβολὴ τῶν φευκτῶν δοκεῖ εἶναι, ὁμοίως δὲ καὶ ἡ ἔνδεια. τὰ δὲ λοιπὰ πάντα τέτταρα ποιεῖ ἐναντίωσιν. τὸ γὰρ τοὺς φίλους εὖ ποιεῖν τῷ τοὺς φίλους κακῶς ἐναντίον· ἀπό τε γὰρ ἐναντίου ἤθους ἐστί, καὶ τὸ μὲν αἱρετὸν τὸ δὲ φευκτόν. ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων· καθ' ἑκάστην γὰρ συζυγίαν τὸ μὲν αἱρετὸν τὸ δὲ φευκτόν, καὶ τὸ μὲν ἐπιεικοῦς ἤθους τὸ δὲ φαύλου. δῆλον οὖν ἐκ τῶν εἰρημένων ὅτι τῷ αὐτῷ πλείονα ἐναντία συμβαίνει γίνεσθαι· τῷ γὰρ τοὺς φίλους εὖ ποιεῖν καὶ τὸ τοὺς ἐχθροὺς εὖ ποιεῖν ἐναντίον καὶ τὸ τοὺς φίλους κακῶς, ὁμοίως δὲ καὶ τῶν ἄλλων ἑκάστῳ τὸν αὐτὸν τρόπον ἐπισκοποῦσι δύο τὰ ἐναντία φανήσεται. λαμβάνειν οὖν τῶν ἐναντίων ὁπότερον ἂν ᾖ πρὸς τὴν θέσιν χρήσιμον.

Ἔτι εἰ ἔστι τι ἐναντίον τῷ συμβεβηκότι, σκοπεῖν εἰ ὑπάρχει ᾧπερ τὸ συμβεβηκὸς εἴρηται ὑπάρχειν· εἰ γὰρ τοῦτο ὑπάρχει, ἐκεῖνο οὐκ ἂν ὑπάρχοι· ἀδύνατον γὰρ τὰ ἐναντία ἅμα τῷ αὐτῷ ὑπάρχειν.

Ἢ εἴ τι τοιοῦτον εἴρηται κατά τινος, οὗ ὄντος ἀνάγκη τὰ ἐναντία ὑπάρχειν· οἷον εἰ τὰς ἰδέας ἐν ἡμῖν ἔφησεν εἶναι· κινεῖσθαί τε γὰρ καὶ ἠρεμεῖν αὐτὰς συμβήσεται, ἔτι δὲ αἰσθητὰς καὶ νοητὰς εἶναι. δοκοῦσι γὰρ αἱ ἰδέαι ἠρεμεῖν καὶ νοηταὶ εἶναι τοῖς τιθεμένοις ἰδέας εἶναι· ἐν ἡμῖν δὲ οὔσας ἀδύνατον ἀκινήτους εἶναι· κινουμένων γὰρ ἡμῶν ἀναγκαῖον καὶ τὰ ἐν ἡμῖν πάντα συγκινεῖσθαι. δῆλον δ' ὅτι καὶ αἰσθηταί, εἴπερ ἐν ἡμῖν εἰσι· διὰ γὰρ τῆς περὶ τὴν ὄψιν αἰσθήσεως τὴν ἐν ἑκάστῳ μορφὴν γνωρίζομεν.

Πάλιν εἰ κεῖται συμβεβηκὸς ᾧ ἔστι τι ἐναντίον, σκοπεῖν εἰ καὶ τοῦ ἐναντίου δεκτικὸν ὅπερ καὶ τοῦ συμβεβηκότος· τὸ γὰρ αὐτὸ τῶν ἐναντίων δεκτικόν. οἷον εἰ τὸ μῖσος ἕπεσθαι ὀργῇ ἔφησεν, εἴη ἂν τὸ μῖσος ἐν τῷ θυμοειδεῖ· ἐκεῖ γὰρ [113b] ἡ ὀργή. σκεπτέον οὖν εἰ καὶ τὸ ἐναντίον ἐν τῷ θυμοειδεῖ· εἰ γὰρ μή, ἀλλ' ἐν τῷ ἐπιθυμητικῷ ἐστιν ἡ φιλία, οὐκ ἂν ἕποιτο τὸ μῖσος ὀργῇ. ὁμοίως δὲ καὶ εἰ τὸ ἐπιθυμητικὸν ἀγνοεῖν ἔφησεν· εἴη γὰρ ἂν καὶ ἐπιστήμης δεκτικόν, εἴπερ καὶ ἀγνοίας· ὅπερ οὐ δοκεῖ, τὸ ἐπιθυμητικὸν δεκτικὸν εἶναι ἐπιστήμης. ἀνασκευάζοντι μὲν οὖν καθάπερ εἴρηται χρηστέον. κατασκευάζοντι δέ, ὅτι μὲν ὑπάρχει τὸ συμβεβηκός, οὐ χρήσιμος ὁ τόπος· ὅτι δ’ ἐνδέχεται ὑπάρχειν, χρήσιμος. δείξαντες μὲν γὰρ ὅτι οὐ δεκτικὸν τοῦ ἐναντίου, δεδειχότες ἐσόμεθα ὅτι οὔτε ὑπάρχει τὸ συμβεβηκὸς οὔτ’ ἐνδέχεται ὑπάρξαι· ἐὰν δὲ δείξωμεν ὅτι ὑπάρχει τὸ ἐναντίον ἢ ὅτι δεκτικὸν τοῦ ἐναντίου ἐστίν, οὐδέπω δεδειχότες ἐσόμεθα ὅτι καὶ τὸ συμβεβηκὸς ὑπάρχει, ἀλλ’ ὅτι ἐνδέχεται ὑπάρχειν, ἐπὶ τοσοῦτον μόνον δεδειγμένον ἔσται.

Ἐπεὶ δ’ αἱ ἀντιθέσεις τέτταρες, σκοπεῖν ἐπὶ μὲν τῶν ἀντιφάσεων ἀνάπαλιν ἐκ τῆς ἀκολουθήσεως, καὶ ἀναιροῦντα καὶ κατασκευάζοντα, λαμβάνειν δ’ ἐξ ἐπαγωγῆς. οἷον εἰ ὁ ἄνθρωπος ζῷον, τὸ μὴ ζῷον οὐκ ἄνθρωπος· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ἐνταῦθα γὰρ ἀνάπαλιν ἡ ἀκολούθησις· τῷ μὲν γὰρ ἀνθρώπῳ τὸ ζῷον ἕπεται, τῷ δὲ μὴ ἀνθρώπῳ τὸ μὴ ζῷον οὔ, ἀλλ’ ἀνάπαλιν τῷ μὴ ζῴῳ τὸ οὐκ ἄνθρωπος. ἐπὶ πάντων οὖν τὸ τοιοῦτον ἀξιωτέον· οἷον εἰ τὸ καλὸν ἡδύ, καὶ τὸ μὴ ἡδὺ οὐ καλόν· εἰ δὲ τοῦτο μή, οὐδ’ ἐκεῖνο· ὁμοίως δὲ καὶ εἰ τὸ μὴ ἡδὺ οὐ καλόν, τὸ καλὸν ἡδύ. δῆλον οὖν ὅτι πρὸς ἄμφω ἀντιστρέφει ἡ κατὰ τὴν ἀντίφασιν ἀκολούθησις ἀνάπαλιν γινομένη.

Ἐπὶ δὲ τῶν ἐναντίων σκοπεῖν εἰ τῷ ἐναντίῳ τὸ ἐναντίον ἕπεται, ἢ ἐπὶ ταὐτὰ ἢ ἀνάπαλιν, καὶ ἀναιροῦντι καὶ κατασκευάζοντι· λαμβάνειν δὲ καὶ τὰ τοιαῦτα ἐξ ἐπαγωγῆς ἐφ’ ὅσον χρήσιμον. ἐπὶ ταὐτὰ μὲν οὖν ἡ ἀκολούθησις, οἷον τῇ ἀνδρείᾳ καὶ τῇ δειλίᾳ· τῇ μὲν γὰρ ἀρετὴ ἀκολουθεῖ, τῇ δὲ κακία, καὶ τῇ μὲν ἀκολουθεῖ τὸ αἱρετόν, τῇ δὲ τὸ φευκτόν. ἐπὶ ταὐτὰ οὖν καὶ ἡ τούτων ἀκολούθησις· ἐναντίον γὰρ τὸ αἱρετὸν τῷ φευκτῷ. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ἀνάπαλιν δὲ ἡ ἀκολούθησις, οἷον εὐεξίᾳ μὲν ὑγίεια ἀκολουθεῖ, καχεξίᾳ δὲ νόσος οὔ, ἀλλὰ νόσῳ καχεξία. δῆλον οὖν ὅτι [114a] ἀνάπαλιν ἐπὶ τούτων ἡ ἀκολούθησις. σπάνιον δὲ τὸ ἀνάπαλιν ἐπὶ τῶν ἐναντίων συμβαίνει, ἀλλὰ τοῖς πλείστοις ἐπὶ ταὐτὰ ἡ ἀκολούθησις. εἰ οὖν μήτ’ ἐπὶ ταὐτὰ τῷ ἐναντίῳ τὸ ἐναντίον ἀκολουθεῖ μήτε ἀνάπαλιν, δῆλον ὅτι οὐδ’ ἐπὶ τῶν ῥηθέντων ἀκολουθεῖ τὸ ἕτερον τῷ ἑτέρῳ. εἰ δ’ ἐπὶ τῶν ἐναντίων, καὶ ἐπὶ τῶν ῥηθέντων ἀναγκαῖον τὸ ἕτερον τῷ ἑτέρῳ ἀκολουθεῖν.

Ὁμοίως δὲ τοῖς ἐναντίοις καὶ ἐπὶ τῶν στερήσεων καὶ ἕξεων σκεπτέον· πλὴν οὐκ ἔστιν ἐπὶ τῶν στερήσεων τὸ ἀνάπαλιν, ἀλλ’ ἐπὶ ταὐτὰ τὴν ἀκολούθησιν ἀναγκαῖον ἀεὶ γίγνεσθαι, καθάπερ ὄψει μὲν αἴσθησιν, τυφλότητι δ’ ἀναισθησίαν. ἀντίκειται γὰρ ἡ αἴσθησις τῇ ἀναισθησίᾳ ὡς ἕξις καὶ στέρησις· τὸ μὲν γὰρ ἕξις αὐτῶν, τὸ δὲ στέρησίς ἐστιν.

Ὁμοίως δὲ τῇ ἕξει καὶ τῇ στερήσει καὶ ἐπὶ τῶν πρός τι χρηστέον· ἐπὶ ταὐτὰ γὰρ καὶ τούτων ἡ ἀκολούθησις. οἷον εἰ τὸ τριπλάσιον πολλαπλάσιον, καὶ τὸ τριτημόριον πολλοστημόριον· λέγεται γὰρ τὸ μὲν τριπλάσιον πρὸς τὸ τριτημόριον, τὸ δὲ πολλαπλάσιον πρὸς τὸ πολλοστημόριον. πάλιν εἰ ἡ ἐπιστήμη ὑπόληψις, καὶ τὸ ἐπιστητὸν ὑποληπτόν· καὶ εἰ ἡ ὅρασις αἴσθησις, καὶ τὸ ὁρατὸν αἰσθητόν. (ἔνστασις ὅτι οὐκ ἀνάγκη ἐπὶ τῶν πρός τι τὴν ἀκολούθησιν γίνεσθαι καθάπερ εἴρηται· τὸ γὰρ αἰσθητὸν ἐπιστητόν ἐστιν, ἡ δ’ αἴσθησις οὐκ ἐπιστήμη. οὐ μὴν ἀληθής γε ἡ ἔνστασις δοκεῖ εἶναι· πολλοὶ γὰρ οὔ φασι τῶν αἰσθητῶν ἐπιστήμην εἶναι.) ἔτι πρὸς τοὐναντίον οὐχ ἧττον χρήσιμον τὸ ῥηθέν, οἷον ὅτι τὸ αἰσθητὸν οὐκ ἔστιν ἐπιστητόν· οὐδὲ γὰρ ἡ αἴσθησις ἐπιστήμη.

Πάλιν ἐπὶ τῶν συστοίχων καὶ ἐπὶ τῶν πτώσεων, καὶ ἀναιροῦντα καὶ κατασκευάζοντα. λέγεται δὲ σύστοιχα μὲν τὰ τοιάδε οἷον τὰ δίκαια καὶ ὁ δίκαιος τῇ δικαιοσύνῃ, καὶ τὰ ἀνδρεῖα καὶ ὁ ἀνδρεῖος τῇ ἀνδρείᾳ. ὁμοίως δὲ καὶ τὰ ποιητικὰ ἢ φυλακτικὰ σύστοιχα ἐκείνῳ οὗ ἐστι ποιητικὰ ἢ φυλακτικά, οἷον τὰ ὑγιεινὰ ὑγιείας καὶ τὰ εὐεκτικὰ εὐεξίας· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. σύστοιχα μὲν οὖν τὰ τοιαῦτα εἴωθε λέγεσθαι, πτώσεις δὲ οἷον τὸ δικαίως καὶ ἀνδρείως καὶ ὑγιεινῶς καὶ ὅσα τοῦτον τὸν τρόπον λέγεται. δοκεῖ δὲ καὶ τὰ κατὰ τὰς πτώσεις σύστοιχα εἶναι, οἷον τὸ μὲν δικαίως τῇ δικαιοσύνῃ, τὸ δὲ ἀνδρείως τῇ ἀνδρείᾳ. σύστοιχα δὴ λέγεται τὰ κατὰ τὴν αὐτὴν συστοιχίαν ἅπαντα, οἷον δικαιοσύνη, δίκαιος, δίκαιον, δικαίως. δῆλον οὖν ὅτι ἑνὸς ὁποιουοῦν δειχθέντος τῶν κατὰ τὴν αὐτὴν συστοιχίαν ἀγαθοῦ ἢ [114b] ἐπαινετοῦ καὶ τὰ λοιπὰ πάντα δεδειγμένα γίνεται· οἷον εἰ ἡ δικαιοσύνη τῶν ἐπαινετῶν, καὶ ὁ δίκαιος καὶ τὸ δίκαιον καὶ τὸ δικαίως τῶν ἐπαινετῶν. ῥηθήσεται δὲ τὸ [δικαίως καὶ] ἐπαινετῶς κατὰ τὴν αὐτὴν πτῶσιν ἀπὸ τοῦ ἐπαινετοῦ καθάπερ τὸ δικαίως ἀπὸ τῆς δικαιοσύνης.

Σκοπεῖν δὲ μὴ μόνον ἐπ’ αὐτοῦ τοῦ εἰρημένου, ἀλλὰ καὶ ἐπὶ τοῦ ἐναντίου τὸ ἐναντίον, οἷον ὅτι τὸ ἀγαθὸν οὐκ ἐξ ἀνάγκης ἡδύ· οὐδὲ γὰρ τὸ κακὸν λυπηρόν· ἢ εἰ τοῦτο, κἀκεῖνο. καὶ εἰ ἡ δικαιοσύνη ἐπιστήμη, καὶ ἡ ἀδικία ἄγνοια· καὶ εἰ τὸ δικαίως ἐπιστημονικῶς καὶ ἐμπείρως, τὸ ἀδίκως ἀγνοούντως καὶ ἀπείρως. εἰ δὲ ταῦτα μή, οὐδ’ ἐκεῖνα, καθάπερ ἐπὶ τοῦ νῦν ῥηθέντος· μᾶλλον γὰρ ἂν φανείη τὸ ἀδίκως ἐμπείρως ἢ ἀπείρως. οὗτος δ’ ὁ τόπος εἴρηται πρότερον ἐν ταῖς τῶν ἐναντίων ἀκολουθήσεσιν· οὐδὲν γὰρ ἄλλο νῦν ἀξιοῦμεν ἢ τὸ ἐναντίον τῷ ἐναντίῳ ἀκολουθεῖν.

Ἔτι ἐπὶ τῶν γενέσεων καὶ φθορῶν καὶ ποιητικῶν καὶ φθαρτικῶν, καὶ ἀναιροῦντι καὶ κατασκευάζοντι. ὧν γὰρ αἱ γενέσεις τῶν ἀγαθῶν, καὶ αὐτὰ ἀγαθά, καὶ εἰ αὐτὰ ἀγαθά, καὶ αἱ γενέσεις· εἰ δὲ αἱ γενέσεις τῶν κακῶν, καὶ αὐτὰ τῶν κακῶν, ‹καὶ εἰ αὐτὰ τῶν κακῶν, καὶ αἱ γενέσεις τῶν κακῶν›. ἐπὶ δὲ τῶν φθορῶν ἀνάπαλιν· εἰ γὰρ αἱ φθοραὶ τῶν ἀγαθῶν, αὐτὰ τῶν κακῶν, εἰ δ’ αἱ φθοραὶ τῶν κακῶν, αὐτὰ τῶν ἀγαθῶν. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ ποιητικῶν καὶ φθαρτικῶν· ὧν μὲν γὰρ τὰ ποιητικὰ ἀγαθά, καὶ αὐτὰ τῶν ἀγαθῶν, ὧν δὲ τὰ φθαρτικὰ ἀγαθά, αὐτὰ τῶν κακῶν.

Πάλιν ἐπὶ τῶν ὁμοίων εἰ ὁμοίως ἔχει· οἷον εἰ ἐπιστήμη μία πλειόνων, καὶ δόξα, καὶ εἰ τὸ ὄψιν ἔχειν ὁρᾶν, καὶ τὸ ἀκοὴν ἔχειν ἀκούειν. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, καὶ τῶν ὄντων καὶ τῶν δοκούντων. χρήσιμος δ' ὁ τόπος πρὸς ἄμφω· εἰ μὲν γὰρ ἐπί τινος τῶν ὁμοίων οὕτως ἔχει, καὶ ἐπὶ τῶν ἄλλων τῶν ὁμοίων, εἰ δὲ ἐπί τινος μή, οὐδ' ἐπὶ τῶν ἄλλων. σκοπεῖν δὲ καὶ εἰ ἐφ' ἑνὸς καὶ ἐπὶ πολλῶν ὁμοίως ἔχει· ἐνιαχοῦ γὰρ διαφωνεῖ. οἷον εἰ τὸ ἐπίστασθαι διανοεῖσθαι, καὶ τὸ πολλὰ ἐπίστασθαι πολλὰ διανοεῖσθαι· τοῦτο δ' οὐκ ἀληθές· ἐπίστασθαι μὲν γὰρ ἐνδέχεται πολλά, διανοεῖσθαι δ' οὔ. εἰ οὖν τοῦτο μή, οὐδ' ἐκεῖνο τὸ ἐφ' ἑνός, ὅτι τὸ ἐπίστασθαι διανοεῖσθαί ἐστιν.

Ἔτι ἐκ τοῦ μᾶλλον καὶ ἧττον. εἰσὶ δὲ τόποι τοῦ μᾶλλον καὶ ἧττον τέσσαρες· εἷς μὲν εἰ ἀκολουθεῖ τὸ μᾶλλον τῷ μᾶλλον, οἷον εἰ ἡδονὴ ἀγαθόν, καὶ ἡ μᾶλλον ἡδονὴ μᾶλλον [115a] ἀγαθόν, καὶ εἰ τὸ ἀδικεῖν κακόν, καὶ τὸ μᾶλλον ἀδικεῖν μᾶλλον κακόν. χρήσιμος δὲ πρὸς ἄμφω ὁ τόπος· εἰ μὲν γὰρ ἀκολουθεῖ τῇ τοῦ ὑποκειμένου ἐπιδόσει ἡ τοῦ συμβεβηκότος ἐπίδοσις, καθάπερ εἴρηται, δῆλον ὅτι συμβέβηκεν· εἰ δὲ μὴ ἀκολουθεῖ, οὐ συμβέβηκεν. τοῦτο δ' ἐπαγωγῇ ληπτέον. ἄλλος ἑνὸς περὶ δύο λεγομένου, εἰ ᾧ μᾶλλον εἰκὸς ὑπάρχειν μὴ ὑπάρχει, οὐδ' ᾧ ἧττον, καὶ εἰ ᾧ ἧττον εἰκὸς ὑπάρχειν ὑπάρχει, καὶ ᾧ μᾶλλον. πάλιν δυοῖν περὶ ἑνὸς λεγομένων, εἰ τὸ μᾶλλον ὑπάρχειν δοκοῦν μὴ ὑπάρχει, οὐδὲ τὸ ἧττον, εἰ δὲ τὸ ἧττον δοκοῦν ὑπάρχειν ὑπάρχει, καὶ τὸ μᾶλλον. ἔτι δυοῖν περὶ δύο λεγομένων, εἰ τὸ θατέρῳ μᾶλλον ὑπάρχειν δοκοῦν μὴ ὑπάρχει, οὐδὲ τὸ λοιπὸν τῷ λοιπῷ, εἰ δὲ τὸ ἧττον δοκοῦν τῷ ἑτέρῳ ὑπάρχειν ὑπάρχει, καὶ τὸ λοιπὸν τῷ λοιπῷ.

Ἔτι ἐκ τοῦ ὁμοίως ὑπάρχειν ἢ δοκεῖν ὑπάρχειν τριχῶς, καθάπερ ἐκ τοῦ μᾶλλον ἐπὶ τῶν ὕστερον ῥηθέντων τριῶν τόπων ἐλέγετο. εἴτε γὰρ ἕν τι δυσὶν ὁμοίως ὑπάρχει ἢ δοκεῖ ὑπάρχειν, εἰ τῷ ἑτέρῳ μὴ ὑπάρχει, οὐδὲ τῷ ἑτέρῳ, εἰ δὲ θατέρῳ ὑπάρχει, καὶ τῷ λοιπῷ· εἴτε δύο τῷ αὐτῷ ὁμοίως, εἰ τὸ ἕτερον μὴ ὑπάρχει, οὐδὲ τὸ λοιπόν, εἰ δὲ θάτερον, καὶ τὸ λοιπόν. τὸν αὐτὸν δὲ τρόπον καὶ εἰ δύο δυσὶν ὁμοίως ὑπάρχει· εἰ γὰρ τὸ ἕτερον τῷ ἑτέρῳ μὴ ὑπάρχει, οὐδὲ τὸ λοιπὸν τῷ λοιπῷ· εἰ δὲ ὑπάρχει τὸ ἕτερον τῷ ἑτέρῳ, καὶ τὸ λοιπὸν τῷ λοιπῷ.

Ἐκ μὲν οὖν τοῦ μᾶλλον καὶ ἧττον καὶ τοῦ ὁμοίως τοσαυταχῶς ἐνδέχεται ἐπιχειρεῖν. ἔτι δ' ἐκ τῆς προσθέσεως, ἐὰν ἕτερον πρὸς ἕτερον προστεθὲν ποιῇ ἀγαθὸν ἢ λευκὸν μὴ ὂν πρότερον ἀγαθὸν ἢ λευκόν, τὸ προστεθὲν ἔσται ἀγαθὸν ἢ λευκόν, οἷόνπερ καὶ τὸ ὅλον ποιεῖ. ἔτι εἰ πρὸς τὸ ὑπάρχον προστεθέν τι μᾶλλον ποιεῖ τοιοῦτον οἷον ὑπῆρχε, καὶ αὐτὸ ἔσται τοιοῦτον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. χρήσιμος δὲ οὐκ ἐν ἅπασιν ὁ τόπος, ἀλλ’ ἐν οἷς τὴν τοῦ μᾶλλον ὑπεροχὴν συμβαίνει γίνεσθαι. οὗτος δὲ ὁ τόπος οὐκ ἀντιστρέφει πρὸς τὸ ἀνασκευάζειν. εἰ γὰρ μὴ ποιεῖ τὸ προστιθέμενον ἀγαθόν, οὐδέπω δῆλον εἰ αὐτὸ μὴ ἀγαθόν· τὸ γὰρ [115b] ἀγαθὸν κακῷ προστιθέμενον οὐκ ἐξ ἀνάγκης ἀγαθὸν τὸ ὅλον ποιεῖ, οὐδὲ λευκὸν τὸ λευκὸν μέλανι.

Πάλιν εἴ τι μᾶλλον καὶ ἧττον λέγεται, καὶ ἁπλῶς ὑπάρχει· τὸ γὰρ μὴ ὂν ἀγαθὸν ἢ λευκὸν οὐδὲ μᾶλλον ἢ ἧττον ἀγαθὸν ἢ λευκὸν ῥηθήσεται· τὸ γὰρ κακὸν οὐδενὸς μᾶλλον ἢ ἧττον ἀγαθὸν ἀλλὰ μᾶλλον κακὸν ἢ ἧττον ῥηθήσεται. οὐκ ἀντιστρέφει δ’ οὐδ’ οὗτος ὁ τόπος πρὸς τὸ ἀνασκευάσαι· πολλὰ γὰρ τῶν μὴ λεγομένων μᾶλλον καὶ ἧττον ἁπλῶς ὑπάρχει· ἄνθρωπος γὰρ οὐ λέγεται μᾶλλον καὶ ἧττον, ἀλλ’ οὐ διὰ τοῦτο οὐκ ἔστιν ἄνθρωπος.

Τὸν αὐτὸν δὲ τρόπον σκεπτέον καὶ ἐπὶ τοῦ κατά τι καὶ ποτὲ καὶ πού· εἰ γὰρ κατά τι ἐνδέχεται, καὶ ἁπλῶς ἐνδέχεται· ὁμοίως δὲ καὶ τὸ ποτὲ ἢ πού· τὸ γὰρ ἁπλῶς ἀδύνατον οὔτε κατά τι οὔτε ποτὲ οὔτε ποὺ ἐνδέχεται. (ἔνστασις ὅτι κατά τι μέν εἰσι φύσει σπουδαῖοι, οἷον ἐλευθέριοι ἢ σωφρονικοί, ἁπλῶς δὲ οὐκ εἰσὶ φύσει σπουδαῖοι. ὁμοίως δὲ καὶ ποτὲ μὲν ἐνδέχεται τῶν φθαρτῶν τι μὴ φθαρῆναι, ἁπλῶς δ’ οὐκ ἐνδέχεται μὴ φθαρῆναι. τὸν αὐτὸν δὲ τρόπον καὶ ποὺ μὲν συμφέρει τοιαύτῃ διαίτῃ χρῆσθαι, οἷον ἐν τοῖς νοσώδεσι τόποις, ἁπλῶς δ’ οὐ συμφέρει. ἔτι δὲ ποὺ μὲν ἕνα μόνον δυνατὸν εἶναι, ἁπλῶς δὲ οὐ δυνατὸν ἕνα μόνον εἶναι. τὸν αὐτὸν δὲ τρόπον καὶ ποὺ μὲν καλὸν τὸν πατέρα θύειν, οἷον ἐν Τριβαλλοῖς, ἁπλῶς δ’ οὐ καλόν. ἢ τοῦτο μὲν οὐ ποὺ σημαίνει ἀλλὰ τισίν· οὐδὲν γὰρ διαφέρει ὅπου ἂν ὦσιν· πανταχοῦ γὰρ αὐτοῖς ἔσται καλόν, οὖσι Τριβαλλοῖς. πάλιν ποτὲ μὲν συμφέρει φαρμακεύεσθαι, οἷον ὅταν νοσῇ, ἁπλῶς δ’ οὔ. ἢ οὐδὲ τοῦτο ποτὲ σημαίνει ἀλλὰ τῷ διακειμένῳ πως· οὐδὲν γὰρ διαφέρει ὁποτεοῦν, ἐὰν οὕτω μόνον διακείμενος ᾖ.) τὸ δ’ ἁπλῶς ἐστιν ὃ μηδενὸς προστεθέντος ἐρεῖς ὅτι καλόν ἐστιν ἢ τὸ ἐναντίον· οἷον τὸ τὸν πατέρα θύειν οὐκ ἐρεῖς καλὸν εἶναι ἀλλὰ τισὶ καλὸν εἶναι· οὐκ ἄρα ἁπλῶς καλόν· ἀλλὰ τὸ τοὺς θεοὺς τιμᾶν ἐρεῖς καλὸν οὐδὲν προσθείς· ἁπλῶς γὰρ καλόν ἐστιν. ὥστε ὃ ἂν μηδενὸς προστιθεμένου δοκῇ εἶναι καλὸν ἢ αἰσχρὸν ἢ ἄλλο τι τῶν τοιούτων, ἁπλῶς ῥηθήσεται.

Γ

[116a] Πότερον δ’ αἱρετώτερον ἢ βέλτιον δυεῖν ἢ πλειόνων, ἐκ τῶνδε σκεπτέον. πρῶτον δὲ διωρίσθω ὅτι τὴν σκέψιν ποιούμεθα οὐχ ὑπὲρ τῶν πολὺ διεστώτων καὶ μεγάλην πρὸς ἄλληλα διαφορὰν ἐχόντων (οὐδεὶς γὰρ ἀπορεῖ πότερον ἡ εὐδαιμονία ἢ ὁ πλοῦτος αἱρετώτερον), ἀλλ’ ὑπὲρ τῶν σύνεγγυς, καὶ περὶ ὧν ἀμφισβητοῦμεν ποτέρῳ δεῖ προσθέσθαι μᾶλλον, διὰ τὸ μηδεμίαν ὁρᾶν τοῦ ἑτέρου πρὸς τὸ ἕτερον ὑπεροχήν. δῆλον οὖν ἐπὶ τῶν τοιούτων ὅτι δειχθείσης ὑπεροχῆς ἢ μιᾶς ἢ πλειόνων συγκαταθήσεται ἡ διάνοια ὅτι τοῦτ’ ἐστὶν αἱρετώτερον, ὁπότερον τυγχάνει αὐτῶν ὑπερέχον.

Πρῶτον μὲν οὖν τὸ πολυχρονιώτερον ἢ βεβαιότερον αἱρετώτερον τοῦ ἧττον τοιούτου. καὶ ὃ μᾶλλον ἂν ἕλοιτο ὁ φρόνιμος ἢ ὁ ἀγαθὸς ἀνὴρ ἢ ὁ νόμος ὁ ὀρθὸς ἢ οἱ σπουδαῖοι περὶ ἕκαστα αἱρούμενοι ᾗ τοιοῦτοί εἰσιν ἢ οἱ ἐν ἑκάστῳ γένει ἐπιστήμονες, ἢ οἱ πλείους ἢ πάντες, οἷον ἐν ἰατρικῇ ἢ τεκτονικῇ ἃ οἱ πλείους τῶν ἰατρῶν ἢ πάντες, ἢ ὅσα ὅλως οἱ πλείους ἢ πάντες ἢ πάντα, οἷον τἀγαθόν· πάντα γὰρ τἀγαθοῦ ἐφίεται. δεῖ δ’ ἄγειν πρὸς ὅ τι ἂν ᾖ χρήσιμον τὸ ῥηθησόμενον. ἔστι δ’ ἁπλῶς μὲν βέλτιον καὶ αἱρετώτερον τὸ κατὰ τὴν βελτίω ἐπιστήμην, τινὶ δὲ τὸ κατὰ τὴν οἰκείαν.

Ἔπειτα δὲ τὸ ὅπερ τόδε τι τοῦ μὴ ἐν γένει, οἷον ἡ δικαιοσύνη τοῦ δικαίου· τὸ μὲν γὰρ ἐν γένει τῷ ἀγαθῷ, τὸ δ’ οὔ, καὶ τὸ μὲν ὅπερ ἀγαθόν, τὸ δ’ οὔ. οὐδὲν γὰρ λέγεται ὅπερ τὸ γένος ὃ μὴ τυγχάνει ἐν τῷ γένει ὄν· οἷον ὁ λευκὸς ἄνθρωπος οὐκ ἔστιν ὅπερ χρῶμα. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

Καὶ τὸ δι’ αὑτὸ αἱρετὸν τοῦ δι’ ἕτερον αἱρετοῦ αἱρετώτερον, οἷον τὸ ὑγιαίνειν τοῦ γυμνάζεσθαι· τὸ μὲν γὰρ δι’ αὑτὸ αἱρετόν, τὸ δὲ δι’ ἕτερον. καὶ τὸ καθ’ αὑτὸ τοῦ κατὰ συμβεβηκός, οἷον τὸ τοὺς φίλους δικαίους εἶναι τοῦ τοὺς ἐχθρούς. τὸ μὲν γὰρ καθ’ αὑτὸ αἱρετόν, τὸ δὲ κατὰ συμβεβηκός· τὸ γὰρ τοὺς ἐχθροὺς δικαίους εἶναι κατὰ συμβεβηκὸς αἱρούμεθα, ὅπως μηδὲν ἡμᾶς βλάπτωσιν. ἔστι δὲ τοῦτο ταὐτὸ τῷ πρὸ αὐτοῦ, διαφέρει δὲ τῷ τρόπῳ· τὸ μὲν γὰρ τοὺς φίλους δικαίους εἶναι δι’ αὑτὸ αἱρούμεθα, καὶ εἰ μηδὲν ἡμῖν μέλλει ἔσεσθαι, κἂν ἐν Ἰνδοῖς ὦσιν· τὸ δὲ τοὺς ἐχθροὺς δι’ ἕτερον, ὅπως μηθὲν ἡμᾶς βλάπτωσιν.

[116b] Καὶ τὸ αἴτιον ἀγαθοῦ καθ’ αὑτὸ τοῦ κατὰ συμβεβηκὸς αἰτίου, καθάπερ ἡ ἀρετὴ τῆς τύχης (ἡ μὲν γὰρ καθ’ αὑτήν, ἡ δὲ κατὰ συμβεβηκός,

αἰτία τῶν ἀγαθῶν) καὶ εἴ τι ἄλλο τοιοῦτον. ὁμοίως δὲ καὶ ἐπὶ τοῦ ἐναντίου· τὸ γὰρ καθ’ αὑτὸ κακοῦ αἴτιον φευκτότερον τοῦ κατὰ συμβεβηκός, οἷον ἡ κακία καὶ ἡ τύχη· τὸ μὲν γὰρ καθ’ αὑτὸ κακόν, ἡ δὲ τύχη κατὰ συμβεβηκός.

Καὶ τὸ ἁπλῶς ἀγαθὸν τοῦ τινὶ αἱρετώτερον, οἷον τὸ ὑγιάζεσθαι τοῦ τέμνεσθαι· τὸ μὲν γὰρ ἁπλῶς ἀγαθόν, τὸ δὲ τινί, τῷ δεομένῳ τομῆς. καὶ τὸ φύσει τοῦ μὴ φύσει, οἷον ἡ δικαιοσύνη τοῦ δικαίου· τὸ μὲν γὰρ φύσει, τὸ δ’ ἐπίκτητον. καὶ τὸ τῷ βελτίονι καὶ τιμιωτέρῳ ὑπάρχον αἱρετώτερον, οἷον θεῷ ἢ ἀνθρώπῳ, καὶ ψυχῇ ἢ σώματι. καὶ τὸ τοῦ βελτίονος ἴδιον βέλτιον ἢ τὸ τοῦ χείρονος, οἷον τὸ τοῦ θεοῦ ἢ τὸ τοῦ ἀνθρώπου· κατὰ μὲν γὰρ τὰ κοινὰ ἐν ἀμφοτέροις οὐδὲν διαφέρει ἀλλήλων, τοῖς δ’ ἰδίοις τὸ ἕτερον τοῦ ἑτέρου ὑπερέχει. καὶ τὸ ἐν βελτίοσιν ἢ προτέροις ἢ τιμιωτέροις βέλτιον, οἷον ὑγίεια ἰσχύος καὶ κάλλους· ἡ μὲν γὰρ ἐν ὑγροῖς καὶ ξηροῖς καὶ θερμοῖς καὶ ψυχροῖς, ἁπλῶς δ’ εἰπεῖν ἐξ ὧν πρώτων συνέστηκε τὸ ζῷον, τὰ δ’ ἐν τοῖς ὑστέροις. ἡ μὲν γὰρ ἰσχὺς ἐν τοῖς νεύροις καὶ ὀστοῖς, τὸ δὲ κάλλος τῶν μελῶν τις συμμετρία δοκεῖ εἶναι. καὶ τὸ τέλος τῶν πρὸς τὸ τέλος αἱρετώτερον δοκεῖ εἶναι, καὶ δυοῖν τὸ ἔγγιον τοῦ τέλους. καὶ ὅλως τὸ πρὸς τὸ τοῦ βίου τέλος αἱρετώτερον μᾶλλον ἢ τὸ πρὸς ἄλλο τι, οἷον τὸ πρὸς εὐδαιμονίαν συντεῖνον ἢ τὸ πρὸς φρόνησιν. καὶ τὸ δυνατὸν τοῦ ἀδυνάτου. ἔτι δύο ποιητικῶν οὗ τὸ τέλος βέλτιον· ποιητικοῦ δὲ καὶ τέλους ἐκ τοῦ ἀνάλογον, ὅταν πλείονι ὑπερέχῃ τὸ τέλος τοῦ τέλους ἢ ἐκεῖνο τοῦ οἰκείου ποιητικοῦ, οἷον εἰ ἡ εὐδαιμονία πλείονι ὑπερέχει ὑγιείας ἢ ὑγίεια ὑγιεινοῦ, τὸ ποιητικὸν εὐδαιμονίας βέλτιον ὑγιείας. ὅσῳ γὰρ ἡ εὐδαιμονία ὑγιείας ὑπερέχει, τοσούτῳ καὶ τὸ ποιητικὸν τὸ τῆς εὐδαιμονίας τοῦ ὑγιεινοῦ ὑπερέχει· ἡ δὲ ὑγίεια τοῦ ὑγιεινοῦ ἐλάττονι ὑπερεῖχεν· ὥστε πλείονι ὑπερέχει τὸ ποιητικὸν εὐδαιμονίας τοῦ ὑγιεινοῦ ἢ ἡ ὑγίεια τοῦ ὑγιεινοῦ. δῆλον ἄρα ὅτι αἱρετώτερον τὸ ποιητικὸν εὐδαιμονίας τῆς ὑγιείας· τοῦ γὰρ αὐτοῦ πλείονι ὑπερέχει.

Ἔτι τὸ κάλλιον καθ’ αὑτὸ καὶ τιμιώτερον καὶ ἐπαινετώτερον, οἷον φιλία πλούτου καὶ δικαιοσύνη ἰσχύος· τὰ μὲν γὰρ καθ’ αὑτὰ τῶν τιμίων καὶ ἐπαινετῶν, τὰ δ’ [117a] οὐ καθ’ αὑτὰ ἀλλὰ δι’ ἕτερον. οὐδεὶς γὰρ τιμᾷ τὸν πλοῦτον δι’ ἑαυτόν, ἀλλὰ δι’ ἕτερον· τὴν δὲ φιλίαν καθ’ αὑτό, καὶ εἰ μηδὲν μέλλει ἡμῖν ἕτερον ἀπ’ αὐτῆς ἔσεσθαι.

Ἔτι ὅταν δύο τινὰ ᾖ σφόδρα αὐτοῖς παραπλήσια καὶ μὴ δυνώμεθα ὑπεροχὴν μηδεμίαν συνιδεῖν τοῦ ἑτέρου πρὸς τὸ ἕτερον, ὁρᾶν ἀπὸ τῶν παρεπομένων. ᾧ γὰρ ἕπεται μεῖζον ἀγαθόν, τοῦθ’ αἱρετώτερον· ἂν δ’ ᾖ τὰ ἑπόμενα κακά, ᾧ τὸ ἔλαττον ἀκολουθεῖ κακόν, τοῦθ’ αἱρετώτερον· ὄντων γὰρ ἀμφοτέρων αἱρετῶν οὐδὲν κωλύει δυσχερές τι παρέπεσθαι. διχῶς δ’ ἀπὸ τοῦ ἕπεσθαι ἡ σκέψις· καὶ γὰρ πρότερον καὶ ὕστερον ἕπεται, οἷον τῷ μανθάνοντι τὸ μὲν ἀγνοεῖν πρότερον, τὸ δ' ἐπίστασθαι ὕστερον. βέλτιον δ' ὡς ἐπὶ πολὺ τὸ ὕστερον ἑπόμενον. λαμβάνειν οὖν τῶν ἑπομένων ὁπότερον ἂν ᾖ χρήσιμον.

Ἔτι τὰ πλείω ἀγαθὰ τῶν ἐλαττόνων, ἢ ἁπλῶς ἢ ὅταν τὰ ἕτερα ἐν τοῖς ἑτέροις ἐνυπάρχῃ, τὰ ἐλάττω ἐν τοῖς πλείοσιν. (ἔνστασις, εἴ που θάτερον θατέρου χάριν· οὐδὲν γὰρ αἱρετώτερα τὰ ἄμφω τοῦ ἑνός, οἷον τὸ ὑγιάζεσθαι καὶ ἡ ὑγίεια τῆς ὑγιείας, ἐπειδὴ τὸ ὑγιάζεσθαι τῆς ὑγιείας ἕνεκεν αἱρούμεθα.) καὶ μὴ ἀγαθὰ δὲ ἀγαθῶν οὐδὲν κωλύει εἶναι αἱρετώτερα, οἷον εὐδαιμονίαν καὶ ἄλλο τι ὃ μὴ ἔστιν ἀγαθὸν δικαιοσύνης καὶ ἀνδρείας. καὶ ταὐτὰ μεθ' ἡδονῆς μᾶλλον ἢ ἄνευ ἡδονῆς. καὶ ταὐτὰ μετ' ἀλυπίας ἢ μετὰ λύπης.

Καὶ ἕκαστον ἐν ᾧ καιρῷ μεῖζον δύναται, ἐν τούτῳ καὶ αἱρετώτερον, οἷον τὸ ἀλύπως ἐν τῷ γήρᾳ μᾶλλον ἢ ἐν τῇ νεότητι· μεῖζον γὰρ ἐν τῷ γήρᾳ δύναται. κατὰ ταῦτα δὲ καὶ ἡ φρόνησις ἐν τῷ γήρᾳ αἱρετώτερον· οὐδεὶς γὰρ τοὺς νέους αἱρεῖται ἡγεμόνας, διὰ τὸ μὴ ἀξιοῦν φρονίμους εἶναι. ἡ δ' ἀνδρεία ἀνάπαλιν· ἐν τῇ νεότητι γὰρ ἀναγκαιοτέρα ἡ κατὰ τὴν ἀνδρείαν ἐνέργεια. ὁμοίως δὲ καὶ ἡ σωφροσύνη· μᾶλλον γὰρ οἱ νέοι τῶν πρεσβυτέρων ὑπὸ τῶν ἐπιθυμιῶν ἐνοχλοῦνται.

Καὶ ὃ ἐν παντὶ καιρῷ ἢ ἐν τοῖς πλείστοις χρησιμώτερον, οἷον δικαιοσύνη καὶ σωφροσύνη ἀνδρείας· αἱ μὲν γὰρ ἀεί, ἡ δὲ ποτὲ χρησίμη. καὶ ὃ πάντων ἐχόντων μηδὲν θατέρου δεόμεθα ἢ ὃ ἐχόντων προσδεόμεθα τοῦ λοιποῦ, καθάπερ ἐπὶ δικαιοσύνης καὶ ἀνδρείας· δικαίων μὲν γὰρ πάντων [117b] ὄντων οὐδὲν χρήσιμος ἡ ἀνδρεία, ἀνδρείων δὲ πάντων ὄντων χρήσιμος ἡ δικαιοσύνη.

Ἔτι ἐκ τῶν φθορῶν καὶ τῶν ἀποβολῶν, καὶ τῶν γενέσεων καὶ τῶν λήψεων, καὶ τῶν ἐναντίων. ὧν γὰρ αἱ φθοραὶ φευκτότεραι, αὐτὰ αἱρετώτερα. ὁμοίως δὲ καὶ ἐπὶ τῶν ἀποβολῶν καὶ τῶν ἐναντίων· εἰ γὰρ ἡ ἀποβολὴ ἢ τὸ ἐναντίον φευκτότερον, αὐτὸ αἱρετώτερον. ἐπὶ δὲ τῶν γενέσεων καὶ τῶν λήψεων ἀνάπαλιν· ὧν γὰρ αἱ λήψεις καὶ αἱ γενέσεις αἱρετώτεραι, καὶ αὐτὰ αἱρετώτερα.

Ἄλλος τόπος, τὸ ἐγγύτερον τἀγαθοῦ βέλτιον καὶ αἱρετώτερον, καὶ τὸ ὁμοιότερον τἀγαθῷ, οἷον ἡ δικαιοσύνη δικαίου. καὶ τὸ τῷ βελτίονι αὐτοῦ ὁμοιότερον, καθάπερ τὸν Αἴαντα τοῦ Ὀδυσσέως φασὶ βελτίω τινὲς εἶναι, διότι ὁμοιότερος τῷ Ἀχιλλεῖ. (ἔνστασις τούτου ὅτι οὐκ ἀληθές· οὐδὲν γὰρ κωλύει μὴ ᾗ βέλτιστος ὁ Ἀχιλλεύς, ταύτῃ ὁμοιότερον εἶναι τὸν Αἴαντα, τοῦ ἑτέρου ὄντος μὲν ἀγαθοῦ μὴ ὁμοίου δέ.) σκοπεῖν δὲ καὶ εἰ ἐπὶ τὰ γελοιότερα εἴη ὅμοιον, καθάπερ ὁ πίθηκος τῷ ἀνθρώπῳ, τοῦ ἵππου μὴ ὄντος ὁμοίου· οὐ γὰρ κάλλιον ὁ πίθηκος, ὁμοιότερον δὲ τῷ ἀνθρώπῳ. πάλιν ἐπὶ δυοῖν, εἰ τὸ μὲν τῷ βελτίονι τὸ δὲ τῷ χείρονι ὁμοιότερον, εἴη ἂν βέλτιον τὸ τῷ βελτίονι ὁμοιότερον. (ἔχει δὲ καὶ τοῦτο ἔνστασιν· οὐδὲν γὰρ κωλύει τὸ μὲν τῷ βελτίονι ἠρέμα ὅμοιον εἶναι, τὸ δὲ τῷ χείρονι σφόδρα, οἷον εἰ ὁ μὲν Αἴας τῷ Ἀχιλλεῖ ἠρέμα, ὁ δ’ Ὀδυσσεὺς τῷ Νέστορι σφόδρα. καὶ εἰ τὸ μὲν τῷ βελτίονι ἐπὶ τὰ χείρω ὅμοιον εἴη, τὸ δὲ τῷ χείρονι ἐπὶ τὰ βελτίω, καθάπερ ἵππος ὄνῳ καὶ πίθηκος ἀνθρώπῳ.)

Ἄλλος, τὸ ἐπιφανέστερον τοῦ ἧττον τοιούτου, καὶ τὸ χαλεπώτερον· μᾶλλον γὰρ ἀγαπῶμεν ἔχοντες ἃ μὴ ἔστι ῥᾳδίως λαβεῖν. καὶ τὸ ἰδιαίτερον τοῦ κοινοτέρου. καὶ τὸ τοῖς κακοῖς ἀκοινωνητότερον· αἱρετώτερον γὰρ ᾧ μηδεμία δυσχέρεια ἀκολουθεῖ ἢ ᾧ ἀκολουθεῖ.

Ἔτι εἰ ἁπλῶς τοῦτο τούτου βέλτιον, καὶ τὸ βέλτιστον τῶν ἐν τούτῳ βέλτιον τοῦ ἐν τῷ ἑτέρῳ βελτίστου· οἷον εἰ βέλτιον ἄνθρωπος ἵππου, καὶ ὁ βέλτιστος ἄνθρωπος τοῦ βελτίστου ἵππου βελτίων. καὶ εἰ τὸ βέλτιστον τοῦ βελτίστου βέλτιον, καὶ ἁπλῶς τοῦτο τούτου βέλτιον· οἷον εἰ ὁ βέλτιστος ἄνθρωπος τοῦ βελτίστου ἵππου βελτίων, καὶ ἁπλῶς ἄνθρωπος ἵππου βελτίων.

[118a] Ἔτι ὧν ἔστι τοὺς φίλους μετασχεῖν, αἱρετώτερα ἢ ὧν μή. καὶ ἃ πρὸς τὸν φίλον πρᾶξαι μᾶλλον βουλόμεθα ἢ ἃ πρὸς τὸν τυχόντα, ταῦτα αἱρετώτερα, οἷον τὸ δικαιοπραγεῖν καὶ εὖ ποιεῖν μᾶλλον ἢ τὸ δοκεῖν· τοὺς γὰρ φίλους εὖ ποιεῖν βουλόμεθα μᾶλλον ἢ δοκεῖν, τοὺς δὲ τυχόντας ἀνάπαλιν.

Καὶ τὰ ἐκ περιουσίας τῶν ἀναγκαίων βελτίω, ἐνίοτε δὲ καὶ αἱρετώτερα· βέλτιον γὰρ τοῦ ζῆν τὸ εὖ ζῆν, τὸ δὲ εὖ ζῆν ἐστιν ἐκ περιουσίας, αὐτὸ δὲ τὸ ζῆν ἀναγκαῖον. ἐνίοτε δὲ τὰ βελτίω οὐχὶ καὶ αἱρετώτερα· οὐ γὰρ εἰ βελτίω, ἀναγκαῖον καὶ αἱρετώτερα· τὸ γοῦν φιλοσοφεῖν βέλτιον τοῦ χρηματίζεσθαι, ἀλλ’ οὐχ αἱρετώτερον τῷ ἐνδεεῖ τῶν ἀναγκαίων. τὸ δ’ ἐκ περιουσίας ἐστὶν ὅταν ὑπαρχόντων τῶν ἀναγκαίων ἄλλα τινὰ προσκατασκευάζηταί τις τῶν καλῶν. σχεδὸν δὲ ἴσως αἱρετώτερόν ἐστι τὸ ἀναγκαῖον, βέλτιον δὲ τὸ ἐκ περιουσίας.

Καὶ ὃ μὴ ἔστι παρ’ ἄλλου πορίσασθαι ἢ ὃ ἔστι καὶ παρ’ ἄλλου, οἷον πέπονθεν ἡ δικαιοσύνη πρὸς τὴν ἀνδρείαν. καὶ εἰ τόδε μὲν ἄνευ τοῦδε αἱρετόν, τόδε δὲ ἄνευ τοῦδε μή· οἷον δύναμις ἄνευ φρονήσεως οὐχ αἱρετόν, φρόνησις δ’ ἄνευ δυνάμεως αἱρετόν. καὶ δυοῖν εἰ θάτερον ἀρνούμεθα, ἵνα τὸ λοιπὸν δόξῃ ἡμῖν ὑπάρχειν, ἐκεῖνο αἱρετώτερον ὃ βουλόμεθα δοκεῖν ὑπάρχειν· οἷον φιλοπονεῖν ἀρνούμεθα, ἵν’ εὐφυεῖς εἶναι δόξωμεν.

Ἔτι οὗ τῇ ἀπουσίᾳ ἧττον ἐπιτιμητέον δυσφοροῦσι, τοῦτο αἱρετώτερον. καὶ οὗ τῇ ἀπουσίᾳ μὴ δυσφοροῦσι μᾶλλον ἐπιτιμητέον, τοῦτο αἱρετώτερον.

Ἔτι τῶν ὑπὸ τὸ εἶδος τὸ ἔχον τὴν οἰκείαν ἀρετὴν τοῦ μὴ ἔχοντος· ἄμφω δ' ἐχόντων τὸ μᾶλλον ἔχον.

Ἔτι εἰ τὸ μὲν ποιεῖ ἀγαθὸν ἐκεῖνο ᾧ ἂν παρῇ, τὸ δὲ μὴ ποιεῖ, τὸ ποιοῦν αἱρετώτερον, καθάπερ καὶ θερμότερον τὸ θερμαῖνον τοῦ μή. εἰ δ' ἄμφω ποιεῖ, τὸ μᾶλλον ποιοῦν· ἢ εἰ τὸ βέλτιον καὶ κυριώτερον ποιεῖ ἀγαθόν, οἷον εἰ τὸ μὲν τὴν ψυχὴν τὸ δὲ τὸ σῶμα.

Ἔτι ἀπὸ τῶν πτώσεων καὶ τῶν χρήσεων καὶ τῶν πράξεων καὶ τῶν ἔργων. καὶ ταῦτα δὲ ἀπ' ἐκείνων· ἀκολουθεῖ γὰρ ἀλλήλοις. οἷον εἰ τὸ δικαίως αἱρετώτερον τοῦ ἀνδρείως, καὶ ἡ δικαιοσύνη τῆς ἀνδρείας αἱρετώτερον· καὶ εἰ ἡ δικαιοσύνη τῆς ἀνδρείας αἱρετώτερον, καὶ τὸ δικαίως τοῦ ἀνδρείως. παραπλησίως δὲ καὶ ἐπὶ τῶν ἄλλων.

[118b] Ἔτι εἴ τινος τοῦ αὐτοῦ τὸ μὲν μεῖζον ἀγαθόν ἐστι τὸ δὲ ἔλαττον, αἱρετώτερον τὸ μεῖζον. ἢ εἰ μείζονος μεῖζον θάτερον. ἀλλὰ καὶ εἰ δύο τινὰ ἑνός τινος εἴη αἱρετώτερα, τὸ μᾶλλον αἱρετώτερον τοῦ ἧττον αἱρετωτέρου αἱρετώτερον. ἔτι οὗ ἡ ὑπερβολὴ τῆς ὑπερβολῆς αἱρετωτέρα, καὶ αὐτὸ αἱρετώτερον· οἷον φιλία χρημάτων· αἱρετωτέρα γὰρ ἡ τῆς φιλίας ὑπερβολὴ τῆς τῶν χρημάτων. καὶ οὗ μᾶλλον ἂν ἕλοιτο αὐτὸς αὑτῷ αἴτιος εἶναι ἢ οὗ ἕτερον, οἷον τοὺς φίλους τῶν χρημάτων.

Ἔτι ἐκ τῆς προσθέσεως, εἰ τῷ αὐτῷ προστιθέμενόν τι τὸ ὅλον αἱρετώτερον ποιεῖ. εὐλαβεῖσθαι δὲ δεῖ προτείνειν ἐφ' ὧν τῷ μὲν ἑτέρῳ τῶν προστιθεμένων χρῆται τὸ κοινὸν ἢ ἄλλως πως συνεργόν ἐστι, τῷ δὲ λοιπῷ μὴ χρῆται μηδὲ συνεργόν ἐστιν, οἷον πρίονα καὶ δρέπανον μετὰ τεκτονικῆς· αἱρετώτερον γὰρ ὁ πρίων συνδυαζομένοιν, ἁπλῶς δὲ οὐχ αἱρετώτερον. πάλιν εἰ ἐλάττονι προστεθέν τι τὸ ὅλον μεῖζον ποιεῖ. ὁμοίως δὲ καὶ ἐκ τῆς ἀφαιρέσεως· οὗ γὰρ ἀφαιρεθέντος ἀπὸ τοῦ αὐτοῦ τὸ λειπόμενον ἔλαττον, ἐκεῖνο μεῖζον ἂν εἴη, ὅ ποτε ἀφαιρεθὲν τὸ λειπόμενον ἔλαττον ποιεῖ.

Καὶ εἰ τὸ μὲν δι' αὑτὸ τὸ δὲ διὰ τὴν δόξαν αἱρετόν, οἷον ὑγίεια κάλλους. ὅρος δὲ τοῦ πρὸς δόξαν τὸ μηδενὸς συνειδότος μὴ ἂν σπουδάσαι ὑπάρχειν. καὶ εἰ τὸ μὲν δι' αὑτὸ καὶ διὰ τὴν δόξαν αἱρετόν, τὸ δὲ διὰ θάτερον μόνον. καὶ ὁπότερον μᾶλλον δι' αὑτὸ τίμιον, τοῦτο καὶ βέλτιον καὶ αἱρετώτερον. τιμιώτερον δ' ἂν εἴη καθ' αὑτὸ ὃ μηδενὸς ἄλλου μέλλοντος ὑπάρξειν δι' αὑτὸ αἱρούμεθα μᾶλλον.

Ἔτι διελέσθαι ποσαχῶς τὸ αἱρετὸν λέγεται καὶ τίνων χάριν, οἷον τοῦ συμφέροντος ἢ τοῦ καλοῦ ἢ τοῦ ἡδέος· τὸ γὰρ πρὸς ἅπαντα ἢ πρὸς τὰ πλείω χρήσιμον αἱρετώτερον ἂν ὑπάρχοι τοῦ μὴ ὁμοίως. τῶν δ' αὐτῶν ἀμφοτέροις ὑπαρχόντων, ὁποτέρῳ μᾶλλον ὑπάρχει σκεπτέον, οἷον πότερον ἥδιον ἢ κάλλιον ἢ συμφορώτερον. πάλιν τὸ τοῦ βελτίονος ἕνεκεν αἱρετώτερον, οἷον τὸ ἀρετῆς ἕνεκεν ἢ ἡδονῆς. ὁμοίως δὲ καὶ ἐπὶ τῶν φευκτῶν· φευκτότερον γὰρ τὸ μᾶλλον ἐμποδιστικὸν τῶν αἱρετῶν, οἷον νόσος αἴσχους· καὶ γὰρ ἡδονῆς καὶ τοῦ σπουδαῖον εἶναι κωλυτικώτερον ἡ νόσος.

Ἔτι ἐκ τοῦ ὁμοίως δεικνύναι φευκτὸν καὶ αἱρετὸν τὸ προκείμενον· ἧττον γὰρ αἱρετὸν τὸ τοιοῦτον ὃ καὶ ἕλοιτ' ἄν τις ὁμοίως καὶ φύγοι, τοῦ ἑτέρου ὄντος αἱρετοῦ μόνον.

[119a] Τὰς μὲν οὖν πρὸς ἄλληλα συγκρίσεις καθάπερ εἴρηται ποιητέον. οἱ αὐτοὶ δὲ τόποι χρήσιμοι καὶ πρὸς τὸ δεικνύναι ὁτιοῦν αἱρετὸν ἢ φευκτόν· ἀφαιρεῖν γὰρ μόνον δεῖ τὴν πρὸς ἕτερον ὑπεροχήν. εἰ γὰρ τὸ τιμιώτερον αἱρετώτερον, καὶ τὸ τίμιον αἱρετόν, καὶ εἰ τὸ χρησιμώτερον αἱρετώτερον, καὶ τὸ χρήσιμον αἱρετόν. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, ὅσα τοιαύτην ἔχει τὴν σύγκρισιν. ἐπ' ἐνίων γὰρ εὐθέως κατὰ τὴν πρὸς ἕτερον σύγκρισιν καὶ ὅτι αἱρετὸν ἑκάτερον ἢ τὸ ἕτερον λέγομεν, οἷον ὅταν τὸ μὲν φύσει ἀγαθὸν τὸ δὲ μὴ φύσει λέγωμεν· τὸ γὰρ φύσει ἀγαθὸν δῆλον ὅτι αἱρετόν ἐστιν.

Ληπτέον δ' ὅτι μάλιστα καθόλου τοὺς τόπους περὶ τοῦ μᾶλλον καὶ τοῦ μείζονος· ληφθέντες γὰρ οὕτως πρὸς πλείω χρήσιμοι ἂν εἴησαν. ἔστι δ' αὐτῶν τῶν εἰρημένων ἐνίους καθόλου μᾶλλον ποιεῖν μικρὸν παραλλάσσοντα τῇ προσηγορίᾳ, οἷον τὸ φύσει τοιοῦτο τοῦ μὴ φύσει τοιούτου μᾶλλον τοιοῦτο. καὶ εἰ τὸ μὲν ποιεῖ τὸ δὲ μὴ ποιεῖ τὸ ἔχον τοιόνδε ᾧ ἂν ὑπάρχῃ, μᾶλλον τοιοῦτο ὅ ποτε ποιεῖ ἢ ὃ μὴ ποιεῖ, εἰ δ' ἄμφω ποιεῖ, τὸ μᾶλλον ποιοῦν τοιοῦτο.

Ἔτι εἰ τοῦ αὐτοῦ τινος τὸ μὲν μᾶλλον τὸ δὲ ἧττον τοιοῦτο· καὶ εἰ τὸ μὲν τοιούτου μᾶλλον τοιοῦτο, τὸ δὲ μὴ τοιούτου, δῆλον ὅτι τὸ πρῶτον μᾶλλον τοιοῦτο. ἔτι ἐκ τῆς προσθέσεως, εἰ τῷ αὐτῷ προστιθέμενον τὸ ὅλον μᾶλλον ποιεῖ τοιοῦτο, ἢ εἰ τῷ ἧττον τοιούτῳ προστιθέμενον τὸ ὅλον μᾶλλον ποιεῖ τοιοῦτο. ὁμοίως δὲ καὶ ἐκ τῆς ἀφαιρέσεως· οὗ γὰρ ἀφαιρεθέντος τὸ λειπόμενον ἧττον τοιοῦτο, αὐτὸ μᾶλλον τοιοῦτο. καὶ τὰ τοῖς ἐναντίοις ἀμιγέστερα μᾶλλον τοιαῦτα, οἷον λευκότερον τὸ τῷ μέλανι ἀμιγέστερον. ἔτι παρὰ τὰ εἰρημένα πρότερον τὸ μᾶλλον ἐπιδεχόμενον τὸν οἰκεῖον τοῦ προκειμένου λόγον· οἷον εἰ τοῦ λευκοῦ ἐστι λόγος χρῶμα διακριτικὸν ὄψεως, λευκότερον ὅ ἐστι μᾶλλον χρῶμα διακριτικὸν ὄψεως.

Ἂν δ' ἐπὶ μέρους καὶ μὴ καθόλου τὸ πρόβλημα τεθῇ, πρῶτον μὲν οἱ εἰρημένοι καθόλου κατασκευαστικοὶ ἢ ἀνασκευαστικοὶ τόποι πάντες χρήσιμοι. καθόλου γὰρ ἀναιροῦντες ἢ κατασκευάζοντες καὶ ἐπὶ μέρους δείκνυμεν· εἰ γὰρ παντὶ ὑπάρχει, καὶ τινί, καὶ εἰ μηδενί, οὐδὲ τινί. μάλιστα δ' ἐπίκαιροι καὶ κοινοὶ τῶν τόπων οἵ τ' ἐκ τῶν ἀντικειμένων καὶ τῶν συστοίχων καὶ τῶν πτώσεων. ὁμοίως γὰρ ἔνδοξον τὸ ἀξιῶσαι, εἰ πᾶσα ἡδονὴ ἀγαθόν, καὶ λύπην πᾶσαν εἶναι κακόν, [119b] τῷ εἴ τις ἡδονὴ ἀγαθόν, καὶ λύπην εἶναί τινα κακόν. ἔτι εἴ τις αἴσθησις μὴ ἔστι δύναμις, καὶ ἀναισθησία τις οὐκ ἔστιν ἀδυναμία. καὶ εἴ τι ὑποληπτὸν ἐπιστητόν, καὶ ὑπόληψίς τις ἐπιστήμη. πάλιν εἴ τι τῶν ἀδίκων ἀγαθόν, καὶ τῶν δικαίων τι κακόν· πάλιν εἴ τι τῶν δικαίως κακόν, καὶ τῶν ἀδίκως τι ἀγαθόν. καὶ εἴ τι τῶν ἡδέων φευκτόν, ἡδονή τις φευκτόν. κατὰ ταὐτὰ δὲ καὶ εἴ τι τῶν ἡδέων ὠφέλιμον, ἡδονή τις ὠφέλιμον. καὶ ἐπὶ τῶν φθαρτικῶν δὲ καὶ τῶν γενέσεων καὶ φθορῶν ὡσαύτως. εἰ γάρ τι φθαρτικὸν ἡδονῆς ἢ ἐπιστήμης ὂν ἀγαθόν ἐστιν, εἴη ἄν τις ἡδονὴ ἢ ἐπιστήμη τῶν κακῶν. ὁμοίως δὲ καὶ εἰ φθορά τις ἐπιστήμης τῶν ἀγαθῶν ἢ γένεσις τῶν κακῶν, ἔσται τις ἐπιστήμη τῶν κακῶν· οἷον εἰ τὸ ἐπιλανθάνεσθαι ἅ τις αἰσχρὰ ἔπραξε τῶν ἀγαθῶν, ἢ τὸ ἀναμιμνήσκεσθαι τῶν κακῶν, εἴη ἂν τὸ ἐπίστασθαι ἅ τις αἰσχρὰ ἔπραξε τῶν κακῶν. ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων· ἐν ἅπασι γὰρ ὁμοίως τὸ ἔνδοξον.

Ἔτι ἐκ τοῦ μᾶλλον καὶ ἧττον καὶ ὁμοίως. εἰ γὰρ μᾶλλον μὲν τῶν ἐξ ἄλλου γένους τι τοιοῦτο, ἐκείνων δὲ μηδέν ἐστιν, οὐδ' ἂν τὸ εἰρημένον εἴη τοιοῦτον· οἷον εἰ μᾶλλον μὲν ἐπιστήμη τις ἀγαθὸν ἢ ἡδονή, μηδεμία δ' ἐπιστήμη ἀγαθόν, οὐδ' ἂν ἡδονὴ εἴη. καὶ ἐκ τοῦ ὁμοίως δὲ καὶ ἧττον ὡσαύτως· ἔσται γὰρ καὶ ἀναιρεῖν καὶ κατασκευάζειν, πλὴν ἐκ μὲν τοῦ ὁμοίως ἀμφότερα, ἐκ δὲ τοῦ ἧττον κατασκευάζειν μόνον, ἀνασκευάζειν δὲ οὔ. εἰ γὰρ ὁμοίως δύναμίς τις ἀγαθὸν καὶ ἐπιστήμη, ἔστι δέ τις δύναμις ἀγαθόν, καὶ ἐπιστήμη ἐστίν· εἰ δὲ μηδεμία δύναμις, οὐδ' ἐπιστήμη. εἰ δ' ἧττον δύναμίς τις ἀγαθὸν ἢ ἐπιστήμη, ἔστι δέ τις δύναμις ἀγαθόν, καὶ ἐπιστήμη. εἰ δὲ μηδεμία δύναμις ἀγαθόν, οὐκ ἀνάγκη καὶ ἐπιστήμην μηδεμίαν εἶναι ἀγαθόν. δῆλον οὖν ὅτι κατασκευάζειν μόνον ἐκ τοῦ ἧττον ἔστιν.

Οὐ μόνον δ' ἐξ ἄλλου γένους ἔστιν ἀνασκευάζειν, ἀλλὰ καὶ ἐκ τοῦ αὐτοῦ, λαμβάνοντα τὸ μάλιστα τοιοῦτον· οἷον εἰ κεῖται ἐπιστήμη τις ἀγαθόν, δειχθείη δ' ὅτι φρόνησις οὐκ ἀγαθόν, οὐδ' ἄλλη οὐδεμία ἔσται, ἐπεὶ οὐδ' ἡ μάλιστα δοκοῦσα. ἔτι ἐξ ὑποθέσεως, ὁμοίως ἀξιώσαντα, εἰ ἑνί, καὶ πᾶσιν ὑπάρχειν ἢ μὴ ὑπάρχειν, οἷον εἰ ἡ τοῦ ἀνθρώπου ψυχὴ ἀθάνατος, καὶ τὰς ἄλλας, εἰ δ' αὕτη μή, μηδὲ τὰς ἄλλας. εἰ μὲν οὖν ὑπάρχειν τινὶ κεῖται, δεικτέον ὅτι οὐχ ὑπάρχει τινί· ἀκολουθήσει γὰρ διὰ τὴν ὑπόθεσιν τὸ μηδενὶ ὑπάρχειν. εἰ δὲ [120a] τινὶ μὴ ὑπάρχειν κεῖται, δεικτέον ὅτι ὑπάρχει τινί· καὶ γὰρ οὕτως ἀκολουθήσει τὸ πᾶσιν ὑπάρχειν. δῆλον δ᾽ ἐστὶν ὅτι ὁ ὑποτιθέμενος ποιεῖ τὸ πρόβλημα καθόλου, ἐπὶ μέρους τεθέντος· τὸν γὰρ ἐπὶ μέρους ὁμολογοῦντα καθόλου ἀξιοῖ ὁμολογεῖν, ἐπειδή, εἰ ἑνί, καὶ πᾶσιν ὁμοίως ἀξιοῖ ὑπάρχειν.

Ἀδιορίστου μὲν οὖν ὄντος τοῦ προβλήματος μοναχῶς ἀνασκευάζειν ἐνδέχεται, οἷον εἰ ἔφησεν ἡδονὴν ἀγαθὸν εἶναι ἢ μὴ ἀγαθὸν καὶ μηδὲν ἄλλο προσδιώρισεν. εἰ μὲν γὰρ τινὰ ἔφησεν ἡδονὴν ἀγαθὸν εἶναι, δεικτέον καθόλου ὅτι οὐδεμία, εἰ μέλλει ἀναιρεῖσθαι τὸ προκείμενον· ὁμοίως δὲ καὶ εἰ τινὰ ἔφησεν ἡδονὴν μὴ εἶναι ἀγαθόν, δεικτέον καθόλου ὅτι πᾶσα. ἄλλως δ᾽ οὐκ ἐνδέχεται ἀναιρεῖν· ἐὰν γὰρ δείξωμεν ὅτι ἐστὶ τὶς ἡδονὴ οὐκ ἀγαθὸν ἢ ἀγαθόν, οὔπω ἀναιρεῖται τὸ προκείμενον. δῆλον οὖν ὅτι ἀναιρεῖν μὲν μοναχῶς ἐνδέχεται, κατασκευάζειν δὲ διχῶς· ἄν τε γὰρ καθόλου δείξωμεν ὅτι πᾶσα ἡδονὴ ἀγαθόν, ἄν τε ὅτι ἐστὶ τὶς ἡδονὴ ἀγαθόν, δεδειγμένον ἔσται τὸ προκείμενον. ὁμοίως δὲ κἂν δέῃ διαλεχθῆναι ὅτι ἐστὶ τὶς ἡδονὴ οὐκ ἀγαθόν, ἐὰν δείξωμεν ὅτι οὐδεμία ἀγαθὸν ἢ ὅτι τὶς οὐκ ἀγαθόν, διειλεγμένοι ἐσόμεθα ἀμφοτέρως, καὶ καθόλου καὶ ἐπὶ μέρους, ὅτι ἐστὶ τὶς ἡδονὴ οὐκ ἀγαθόν. διωρισμένης δὲ τῆς θέσεως οὔσης, διχῶς ἀναιρεῖν ἔσται, οἷον εἰ τεθείη τινὶ μὲν ὑπάρχειν ἡδονῇ ἀγαθῷ εἶναι, τινὶ δ᾽ οὐχ ὑπάρχειν· εἴτε γὰρ πᾶσα δειχθείη ἡδονὴ ἀγαθὸν εἴτε μηδεμία, ἀνῃρημένον ἔσται τὸ προκείμενον. εἰ δὲ μίαν ἡδονὴν μόνην ἀγαθὸν ἔθηκεν εἶναι, τριχῶς ἐνδέχεται ἀναιρεῖν· δείξαντες γὰρ ὅτι πᾶσα ἢ ὅτι οὐδεμία ἢ ὅτι πλείους μιᾶς ἀγαθόν, ἀνῃρηκότες ἐσόμεθα τὸ προκείμενον. ἐπὶ πλεῖον δὲ τῆς θέσεως διορισθείσης, οἷον ὅτι ἡ φρόνησις μόνη τῶν ἀρετῶν ἐπιστήμη, τετραχῶς ἔστιν ἀναιρεῖν· δειχθέντος γὰρ ὅτι πᾶσα ἀρετὴ ἐπιστήμη ἢ ὅτι οὐδεμία ἢ ὅτι καὶ ἄλλη τις, οἷον ἡ δικαιοσύνη, ἢ ὅτι αὐτὴ ἡ φρόνησις οὐκ ἐπιστήμη, ἀνῃρημένον ἔσται τὸ προκείμενον.

Χρήσιμον δὲ καὶ τὸ ἐπιβλέπειν ἐπὶ τὰ καθ᾽ ἕκαστα, ἐν οἷς ὑπάρχειν τι ἢ μὴ εἴρηται, καθάπερ ἐν τοῖς καθόλου προβλήμασιν. ἔτι δ᾽ ἐν τοῖς γένεσιν ἐπιβλεπτέον διαιροῦντα κατ᾽ εἴδη μέχρι τῶν ἀτόμων, καθάπερ εἴρηται πρότερον· ἄν τε γὰρ παντὶ φαίνηται ὑπάρχον ἄν τε μηδενί, πολλὰ προενέγκαντι ἀξιωτέον καθόλου ὁμολογεῖν ἢ φέρειν ἔνστασιν ἐπὶ τίνος οὐχ οὕτως. ἔτι ἐφ᾽ ὧν ἔστιν ἢ εἴδει ἢ ἀριθμῷ διορίσαι τὸ συμβεβηκός, σκεπτέον εἰ μηδὲν τούτων ὑπάρχει, οἷον ὅτι ὁ χρόνος [120b] οὐ κινεῖται οὐδ᾽ ἐστὶ κίνησις, καταριθμησάμενον πόσα εἴδη κινήσεως· εἰ γὰρ μηδὲν τούτων ὑπάρχει τῷ χρόνῳ, δῆλον ὅτι οὐ κινεῖται οὐδ᾽ ἐστὶ κίνησις. ὁμοίως δὲ καὶ ὅτι ἡ ψυχὴ οὐκ ἀριθμός, διελόμενον ὅτι πᾶς ἀριθμὸς ἢ περιττὸς ἢ ἄρτιος· εἰ γὰρ ἡ ψυχὴ μήτε περιττὸν μήτε ἄρτιον, δῆλον ὅτι οὐκ ἀριθμός.

Πρὸς μὲν οὖν τὸ συμβεβηκὸς διὰ τῶν τοιούτων καὶ οὕτως ἐπιχειρητέον.

Δ

Μετὰ δὲ ταῦτα περὶ τῶν πρὸς τὸ γένος καὶ τὸ ἴδιον ἐπισκεπτέον. ἔστι δὲ ταῦτα στοιχεῖα τῶν πρὸς τοὺς ὅρους· περὶ αὐτῶν δὲ τούτων ὀλιγάκις αἱ σκέψεις γίνονται τοῖς διαλεγομένοις. ἂν δὴ τεθῇ γένος τινὸς τῶν ὄντων, πρῶτον μὲν ἐπιβλέπειν ἐπὶ πάντα τὰ συγγενῆ τῷ λεχθέντι, εἴ τινος μὴ κατηγορεῖται, καθάπερ ἐπὶ τοῦ συμβεβηκότος, οἷον, εἰ τῆς ἡδονῆς τἀγαθὸν γένος κεῖται, εἴ τις ἡδονὴ μὴ ἀγαθόν· εἰ γὰρ τοῦτο, δῆλον ὅτι οὐ γένος τἀγαθὸν τῆς ἡδονῆς· τὸ γὰρ γένος κατὰ πάντων τῶν ὑπὸ τὸ αὐτὸ εἶδος κατηγορεῖται. εἶτα εἰ μὴ ἐν τῷ τί ἐστι κατηγορεῖται ἀλλ’ ὡς συμβεβηκός, καθάπερ τὸ λευκὸν τῆς χιόνος, ἢ ψυχῆς τὸ κινούμενον ὑφ’ αὑτοῦ· οὔτε γὰρ ἡ χιὼν ὅπερ λευκόν, διόπερ οὐ γένος τὸ λευκὸν τῆς χιόνος, οὔθ’ ἡ ψυχὴ ὅπερ κινούμενον, συμβέβηκε δ’ αὐτῇ κινεῖσθαι, καθάπερ καὶ τῷ ζῴῳ πολλάκις βαδίζειν τε καὶ βαδίζοντι εἶναι. ἔτι τὸ κινούμενον οὐ τί ἐστιν ἀλλά τι ποιοῦν ἢ πάσχον σημαίνειν ἔοικεν. ὁμοίως δὲ καὶ τὸ λευκόν· οὐ γὰρ τί ἐστιν ἡ χιών, ἀλλὰ ποῖόν τι, δηλοῖ. ὥστ’ οὐδέτερον αὐτῶν ἐν τῷ τί ἐστι κατηγορεῖται, τὸ δὲ γένος ἐν τῷ τί ἐστι κατηγορεῖται.

Μάλιστα δ’ ἐπὶ τὸν τοῦ συμβεβηκότος ὁρισμὸν ἐπιβλέπειν, εἰ ἐφαρμόττει ἐπὶ τὸ ῥηθὲν γένος, οἷον καὶ τὰ νῦν εἰρημένα· ἐνδέχεται γὰρ κινεῖν τι αὐτὸ ἑαυτὸ καὶ μή, ὁμοίως δὲ καὶ λευκὸν εἶναι καὶ μή, ὥστ’ οὐδέτερον αὐτῶν γένος ἀλλὰ συμβεβηκός, ἐπειδὴ συμβεβηκὸς ἐλέγομεν ὃ ἐνδέχεται ὑπάρχειν τινὶ καὶ μή.

Ἔτι εἰ μὴ ἐν τῇ αὐτῇ διαιρέσει τὸ γένος καὶ τὸ εἶδος, ἀλλὰ τὸ μὲν οὐσία τὸ δὲ ποιόν, ἢ τὸ μὲν πρός τι τὸ δὲ ποιόν· οἷον ἡ μὲν χιὼν καὶ ὁ κύκνος οὐσία, τὸ δὲ λευκὸν οὐκ οὐσία ἀλλὰ ποιόν, ὥστ’ οὐ γένος τὸ λευκὸν τῆς χιόνος οὐδὲ τοῦ κύκνου.

[121a] πάλιν ἡ μὲν ἐπιστήμη τῶν πρός τι, τὸ δ’ ἀγαθὸν καὶ τὸ καλὸν ποιόν, ὥστ’ οὐ γένος τὸ ἀγαθὸν ἢ τὸ καλὸν τῆς ἐπιστήμης· τὰ γὰρ τῶν πρός τι γένη καὶ αὐτὰ τῶν πρός τι δεῖ εἶναι, καθάπερ ἐπὶ τοῦ διπλασίου· καὶ γὰρ τὸ πολλαπλάσιον, γένος ὂν τοῦ διπλασίου, καὶ αὐτὸ τῶν πρὸς τί ἐστιν. καθόλου δ’ εἰπεῖν ὑπὸ τὴν αὐτὴν διαίρεσιν δεῖ τὸ γένος τῷ εἴδει εἶναι· εἰ γὰρ τὸ εἶδος οὐσία, καὶ τὸ γένος, καὶ εἰ ποιόν τι τὸ εἶδος, καὶ τὸ γένος ποιόν τι· οἷον εἰ τὸ λευκὸν ποιόν τι, καὶ τὸ χρῶμα. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

Πάλιν εἰ ἀνάγκη ἢ ἐνδέχεται τοῦ τεθέντος ἐν τῷ γένει μετέχειν τὸ γένος. ὅρος δὲ τοῦ μετέχειν τὸ ἐπιδέχεσθαι τὸν τοῦ μετεχομένου λόγον. δῆλον οὖν ὅτι τὰ μὲν εἴδη μετέχει τῶν γενῶν, τὰ δὲ γένη τῶν εἰδῶν οὔ· τὸ μὲν γὰρ εἶδος ἐπιδέχεται τὸν τοῦ γένους λόγον, τὸ δὲ γένος τὸν τοῦ εἴδους οὔ. σκεπτέον οὖν εἰ μετέχει ἢ ἐνδέχεται μετέχειν τοῦ εἴδους τὸ ἀποδοθὲν γένος, οἷον εἴ τις τοῦ ὄντος ἢ τοῦ ἑνὸς γένος τι ἀποδοίη· συμβήσεται γὰρ μετέχειν τὸ γένος τοῦ εἴδους· κατὰ πάντων γὰρ τῶν ὄντων τὸ ὂν καὶ τὸ ἓν κατηγορεῖται, ὥστε καὶ ὁ λόγος αὐτῶν.

Ἔτι εἰ κατά τινος τὸ ἀποδοθὲν εἶδος ἀληθεύεται, τὸ δὲ γένος μή, οἷον εἰ τὸ ὂν ἢ τὸ ἐπιστητὸν τοῦ δοξαστοῦ γένος τεθείη. κατὰ γὰρ τοῦ μὴ ὄντος τὸ δοξαστὸν κατηγορηθήσεται (πολλὰ γὰρ τῶν μὴ ὄντων δοξαστά), ὅτι δὲ τὸ ὂν ἢ τὸ ἐπιστητὸν οὐ κατηγορεῖται κατὰ τοῦ μὴ ὄντος, δῆλον. ὥστ' οὐ γένος τὸ ὂν οὐδὲ τὸ ἐπιστητὸν τοῦ δοξαστοῦ· καθ' ὧν γὰρ τὸ εἶδος κατηγορεῖται, καὶ τὸ γένος δεῖ κατηγορεῖσθαι.

Πάλιν εἰ μηδενὸς τῶν εἰδῶν ἐνδέχεται μετέχειν τὸ τεθὲν ἐν τῷ γένει· ἀδύνατον γὰρ τοῦ γένους μετέχειν μηδενὸς τῶν εἰδῶν μετέχον, ἂν μή τι τῶν κατὰ τὴν πρώτην διαίρεσιν εἰδῶν ᾖ· ταῦτα δὲ τοῦ γένους μόνον μετέχει. ἂν οὖν ἡ κίνησις γένος τῆς ἡδονῆς τεθῇ, σκεπτέον εἰ μήτε φορὰ μήτ' ἀλλοίωσις ἡ ἡδονὴ μήτε τῶν λοιπῶν τῶν ἀποδοθεισῶν κινήσεων μηδεμία. δῆλον γὰρ ὅτι οὐδενὸς ἂν τῶν εἰδῶν μετέχοι· ὥστ' οὐδὲ τοῦ γένους, ἐπειδὴ ἀναγκαῖόν ἐστι τὸ τοῦ γένους μετέχον καὶ τῶν εἰδῶν τινος μετέχειν. ὥστ' οὐκ ἂν εἴη εἶδος ἡ ἡδονὴ τῆς κινήσεως, οὐδὲ τῶν ἀτόμων οὐδὲν τῶν ὑπό τι εἶδος τῆς κινήσεως ὄντων· καὶ γὰρ τὰ ἄτομα μετέχει τοῦ γένους καὶ τοῦ εἴδους, οἷον ὁ τὶς ἄνθρωπος καὶ ἀνθρώπου μετέχει καὶ ζῴου.

[121b] Ἔτι εἰ ἐπὶ πλέον λέγεται τοῦ γένους τὸ ἐν τῷ γένει τεθέν, οἷον τὸ δοξαστὸν τοῦ ὄντος· καὶ γὰρ τὸ ὂν καὶ τὸ μὴ ὂν δοξαστόν, ὥστ' οὐκ ἂν εἴη τὸ δοξαστὸν εἶδος τοῦ ὄντος· ἐπὶ πλέον γὰρ ἀεὶ τὸ γένος τοῦ εἴδους λέγεται. πάλιν εἰ ἐπ' ἴσων τὸ εἶδος καὶ τὸ γένος λέγεται, οἷον εἰ τῶν πᾶσιν ἑπομένων τὸ μὲν εἶδος τὸ δὲ γένος τεθείη, καθάπερ τὸ ὂν καὶ τὸ ἕν· παντὶ γὰρ τὸ ὂν καὶ τὸ ἕν· ὥστ' οὐδέτερον οὐδετέρου γένος, ἐπειδὴ ἐπ' ἴσων λέγεται. ὁμοίως δὲ καὶ εἰ τὸ πρῶτον καὶ ἡ ἀρχὴ εἰς ἄλληλα τεθείη· ἥ τε γὰρ ἀρχὴ πρῶτον καὶ τὸ πρῶτον ἀρχή, ὥστ' ἢ ἀμφότερα τὰ εἰρημένα ταὐτόν ἐστιν ἢ οὐδέτερον οὐδετέρου γένος. στοιχεῖον δὲ πρὸς ἅπαντα τὰ τοιαῦτα τὸ ἐπὶ πλέον τὸ γένος ἢ τὸ εἶδος καὶ τὴν διαφορὰν λέγεσθαι· ἐπ' ἔλαττον γὰρ καὶ ἡ διαφορὰ τοῦ γένους λέγεται.

Ὁρᾶν δὲ καὶ εἴ τινος τῶν ἀδιαφόρων εἴδει μὴ ἔστι τὸ εἰρημένον γένος ἢ μὴ δόξαι ἄν, κατασκευάζοντι δέ, εἰ ἔστι τινός. ταὐτὸν γὰρ πάντων τῶν ἀδιαφόρων εἴδει γένος· ἂν οὖν ἑνὸς δειχθῇ, δῆλον ὅτι πάντων, κἂν ἑνὸς μή, δῆλον ὅτι οὐδενός. οἷον εἴ τις ἀτόμους τιθέμενος γραμμὰς τὸ ἀδιαίρετον γένος αὐτῶν φήσειεν εἶναι· τῶν γὰρ διαίρεσιν ἐχουσῶν γραμμῶν οὐκ ἔστι τὸ εἰρημένον γένος, ἀδιαφόρων οὐσῶν κατὰ τὸ εἶδος· ἀδιάφοροι γὰρ ἀλλήλαις κατὰ τὸ εἶδος αἱ εὐθεῖαι γραμμαὶ πᾶσαι.

Σκοπεῖν δὲ καὶ εἴ τι ἄλλο γένος ἐστὶ τοῦ ἀποδοθέντος εἴδους, ὃ μήτε περιέχει τὸ ἀποδοθὲν γένος μήθ’ ὑπ’ ἐκεῖνό ἐστιν. οἷον εἴ τις τῆς δικαιοσύνης τὴν ἐπιστήμην θείη γένος· ἔστι γὰρ καὶ ἡ ἀρετὴ γένος, καὶ οὐδέτερον τῶν γενῶν τὸ λοιπὸν περιέχει. ὥστ’ οὐκ ἂν εἴη ἡ ἐπιστήμη γένος τῆς δικαιοσύνης· δοκεῖ γάρ, ὅταν ἓν εἶδος ὑπὸ δύο γένη ᾖ, τὸ ἕτερον ὑπὸ τοῦ ἑτέρου περιέχεσθαι. ἔχει δ’ ἀπορίαν ἐπ’ ἐνίων τὸ τοιοῦτο· δοκεῖ γὰρ ἐνίοις ἡ φρόνησις ἀρετή τε καὶ ἐπιστήμη εἶναι καὶ οὐδέτερον τῶν γενῶν ὑπ’ οὐδετέρου περιέχεσθαι. οὐ μὴν ὑπὸ πάντων γε συγχωρεῖται τὴν φρόνησιν ἐπιστήμην εἶναι. εἰ δ’ οὖν τις συγχωροίη τὸ λεγόμενον ἀληθὲς εἶναι, ἀλλὰ τό γε ὑπ’ ἄλληλα ἢ ὑπὸ ταὐτὸ ἄμφω γίγνεσθαι τὰ τοῦ αὐτοῦ γένη τῶν ἀναγκαίων δόξειεν ἂν εἶναι, καθάπερ καὶ ἐπὶ τῆς ἀρετῆς καὶ τῆς ἐπιστήμης συμβαίνει· ἄμφω γὰρ ὑπὸ τὸ αὐτὸ γένος ἐστίν· ἑκάτερον γὰρ αὐτῶν ἕξις καὶ διάθεσίς ἐστιν. σκεπτέον οὖν εἰ μηδέτερον ὑπάρχει τῷ ἀποδοθέντι γένει. εἰ [122a] γὰρ μήθ’ ὑπ’ ἄλληλά ἐστι τὰ γένη μήθ’ ὑπὸ ταὐτὸν ἄμφω, οὐκ ἂν εἴη τὸ ἀποδοθὲν γένος.

Σκοπεῖν δὲ καὶ τὸ γένος τοῦ ἀποδοθέντος γένους καὶ οὕτως ἀεὶ τὸ ἐπάνω γένος, εἰ πάντα κατηγορεῖται τοῦ εἴδους, καὶ εἰ ἐν τῷ τί ἐστι κατηγορεῖται· πάντα γὰρ τὰ ἐπάνω γένη κατηγορεῖσθαι δεῖ τοῦ εἴδους ἐν τῷ τί ἐστιν. εἰ οὖν που διαφωνεῖ, δῆλον ὅτι οὐ γένος τὸ ἀποδοθέν. πάλιν εἰ μετέχει τὸ γένος τοῦ εἴδους, ἢ αὐτὸ ἢ τῶν ἐπάνω τι γενῶν· οὐδενὸς γὰρ τῶν ὑποκάτω τὸ ἐπάνω μετέχει. ἀνασκευάζοντι μὲν οὖν καθάπερ εἴρηται χρηστέον. κατασκευάζοντι δέ, ὁμολογουμένου μὲν ὑπάρχειν τῷ εἴδει τοῦ ῥηθέντος γένους, ὅτι δ’ ὡς γένος ὑπάρχει ἀμφισβητουμένου, ἀπόχρη τὸ δεῖξαί τι τῶν ἐπάνω γενῶν ἐν τῷ τί ἐστι τοῦ εἴδους κατηγορούμενον. ἑνὸς γὰρ ἐν τῷ τί ἐστι κατηγορουμένου πάντα καὶ τὰ ἐπάνω τούτου καὶ τὰ ὑποκάτω, ἄνπερ κατηγορῆται τοῦ εἴδους, ἐν τῷ τί ἐστι κατηγορηθήσεται· ὥστε καὶ τὸ ἀποδοθὲν γένος ἐν τῷ τί ἐστι κατηγορεῖται. ὅτι δ’ ἑνὸς ἐν τῷ τί ἐστι κατηγορουμένου πάντα τὰ λοιπά, ἄνπερ κατηγορῆται, ἐν τῷ τί ἐστι κατηγορηθήσεται, δι’ ἐπαγωγῆς ληπτέον. εἰ δ’ ἁπλῶς ὑπάρχειν ἀμφισβητεῖται τὸ ἀποδοθὲν γένος, οὐκ ἀπόχρη τὸ δεῖξαι τῶν ἐπάνω τι γενῶν ἐν τῷ τί ἐστι τοῦ εἴδους κατηγορούμενον. οἷον εἴ τις τῆς βαδίσεως γένος ἀποδέδωκε τὴν φοράν, οὐκ ἀπόχρη τὸ δεῖξαι ὅτι κίνησίς ἐστιν ἡ βάδισις πρὸς τὸ δεῖξαι ὅτι φορά ἐστιν, ἐπειδὴ καὶ ἄλλαι κινήσεις εἰσίν, ἀλλὰ προσδεικτέον ὅτι οὐδενὸς μετέχει ἡ βάδισις τῶν κατὰ τὴν αὐτὴν διαίρεσιν εἰ μὴ τῆς φορᾶς· ἀνάγκη γὰρ τὸ τοῦ γένους μετέχον καὶ τῶν εἰδῶν τινος μετέχειν τῶν κατὰ τὴν πρώτην διαίρεσιν. εἰ οὖν ἡ βάδισις μήτ' αὐξήσεως μήτε μειώσεως μήτε τῶν ἄλλων κινήσεων μετέχει, δῆλον ὅτι τῆς φορᾶς ἂν μετέχοι· ὥστ' εἴη ἂν γένος ἡ φορὰ τῆς βαδίσεως.

Πάλιν ἐφ' ὧν τὸ εἶδος τὸ τεθὲν ὡς γένος κατηγορεῖται, σκοπεῖν εἰ καὶ τὸ ἀποδοθὲν γένος ἐν τῷ τί ἐστιν αὐτῶν τούτων κατηγορεῖται ὧνπερ καὶ τὸ εἶδος, ὁμοίως δὲ καὶ εἰ τὰ ἐπάνω τοῦ γένους πάντα. εἰ γάρ που διαφωνεῖ, δῆλον ὅτι οὐ γένος τὸ ἀποδοθέν· εἰ γὰρ ἦν γένος, ἅπαντ' ἂν καὶ τὰ ἐπάνω τούτου καὶ αὐτὸ ἐν τῷ τί ἐστι κατηγορεῖτο, ὧνπερ καὶ τὸ εἶδος ἐν τῷ τί ἐστι κατηγορεῖται. ἀνασκευάζοντι μὲν οὖν χρήσιμον, εἰ μὴ κατηγορεῖται τὸ γένος ἐν τῷ τί ἐστιν ὧνπερ καὶ τὸ εἶδος κατηγορεῖται· κατασκευάζοντι δ', εἰ [122b] κατηγορεῖται ἐν τῷ τί ἐστι, χρήσιμον. συμβήσεται γὰρ τὸ γένος καὶ τὸ εἶδος τοῦ αὐτοῦ ἐν τῷ τί ἐστι κατηγορεῖσθαι, ὥστε τὸ αὐτὸ ὑπὸ δύο γένη γίνεται. ἀναγκαῖον οὖν ὑπ' ἄλληλα τὰ γένη εἶναι. ἂν οὖν δειχθῇ ὃ βουλόμεθα ὡς γένος κατασκευάσαι μὴ ὂν ὑπὸ τὸ εἶδος, δῆλον ὅτι τὸ εἶδος ὑπὸ τοῦτ' ἂν εἴη, ὥστε δεδειγμένον ἂν εἴη ὅτι γένος τοῦτο.

Σκοπεῖν δὲ καὶ τοὺς λόγους τῶν γενῶν, εἰ ἐφαρμόττουσιν ἐπί τε τὸ ἀποδοθὲν εἶδος καὶ ἐπὶ τὰ μετέχοντα τοῦ εἴδους· ἀνάγκη γὰρ τοὺς τῶν γενῶν λόγους κατηγορεῖσθαι τοῦ εἴδους καὶ τῶν μετεχόντων τοῦ εἴδους. εἰ οὖν που διαφωνεῖ, δῆλον ὅτι οὐ γένος τὸ ἀποδοθέν.

Πάλιν εἰ τὴν διαφορὰν ὡς γένος ἀποδέδωκεν, οἷον εἰ τὸ ἀθάνατον γένος θεοῦ· διαφορὰ γάρ ἐστι ζῴου τὸ ἀθάνατον, ἐπειδὴ τῶν ζῴων τὰ μὲν θνητὰ τὰ δ' ἀθάνατα. δῆλον οὖν ὅτι διημάρτηται· οὐδενὸς γὰρ ἡ διαφορὰ γένος ἐστίν. ὅτι δὲ τοῦτ' ἀληθές, δῆλον· οὐδεμία γὰρ διαφορὰ σημαίνει τί ἐστιν ἀλλὰ μᾶλλον ποιόν τι, καθάπερ τὸ πεζὸν καὶ τὸ δίπουν.

Καὶ εἰ τὴν διαφορὰν ὡς εἶδος εἰς τὸ γένος ἔθηκεν, οἷον τὸ περιττὸν ὅπερ ἀριθμόν· διαφορὰ γὰρ ἀριθμοῦ τὸ περιττόν, οὐκ εἶδός ἐστιν. οὐ δοκεῖ δὲ μετέχειν ἡ διαφορὰ τοῦ γένους· πᾶν γὰρ τὸ μετέχον τοῦ γένους ἢ εἶδος ἢ ἄτομόν ἐστιν, ἡ δὲ διαφορὰ οὔτε εἶδος οὔτε ἄτομόν ἐστιν. δῆλον οὖν ὅτι οὐ μετέχει τοῦ γένους ἡ διαφορά· ὥστ' οὐδὲ τὸ περιττὸν εἶδος ἂν εἴη ἀλλὰ διαφορά, ἐπειδὴ οὐ μετέχει τοῦ γένους.

Ἔτι εἰ τὸ γένος εἰς τὸ εἶδος ἔθηκεν, οἷον τὴν ἅψιν ὅπερ συνοχὴν ἢ τὴν μεῖξιν ὅπερ κρᾶσιν, ἢ ὡς Πλάτων ὁρίζεται φορὰν τὴν κατὰ τόπον κίνησιν. οὐ γὰρ ἀναγκαῖον τὴν ἅψιν συνοχὴν εἶναι, ἀλλ’ ἀνάπαλιν τὴν συνοχὴν ἅψιν· οὐ γὰρ πᾶν τὸ ἁπτόμενον συνέχεται, ἀλλὰ τὸ συνεχόμενον ἅπτεται. ὁμοίως δὲ καὶ ἐπὶ τῶν λοιπῶν· οὔτε γὰρ ἡ μεῖξις ἅπασα κρᾶσις (ἡ γὰρ τῶν ξηρῶν μεῖξις οὔκ ἐστι κρᾶσις) οὔθ’ ἡ κατὰ τόπον μεταβολὴ πᾶσα φορά· ἡ γὰρ βάδισις οὐ δοκεῖ φορὰ εἶναι· σχεδὸν γὰρ ἡ φορὰ ἐπὶ τῶν ἀκουσίως τόπον ἐκ τόπου μεταβαλλόντων λέγεται, καθάπερ ἐπὶ τῶν ἀψύχων συμβαίνει. δῆλον δ’ ὅτι καὶ ἐπὶ πλέον λέγεται τὸ εἶδος τοῦ γένους ἐν τοῖς ἀποδοθεῖσι, δέον ἀνάπαλιν γίνεσθαι.

Πάλιν εἰ τὴν διαφορὰν εἰς τὸ εἶδος ἔθηκεν, οἷον τὸ ἀθάνατον ὅπερ θεόν. συμβήσεται γὰρ ἐπ’ ἴσης ἢ ἐπὶ πλεῖον τὸ εἶδος λέγεσθαι· ἀεὶ δ’ ἡ διαφορὰ ἐπ’ ἴσης ἢ ἐπὶ [123a] πλεῖον τοῦ εἴδους λέγεται. ἔτι εἰ τὸ γένος εἰς τὴν διαφοράν, οἷον τὸ χρῶμα ὅπερ συγκριτικὸν ἢ τὸν ἀριθμὸν ὅπερ περιττόν. καὶ εἰ τὸ γένος ὡς διαφορὰν εἶπεν· ἐγχωρεῖ γάρ τινα καὶ τοιαύτην κομίσαι θέσιν, οἷον κράσεως τὴν μεῖξιν διαφορὰν ἢ φορᾶς τὴν κατὰ τόπον μεταβολήν. σκεπτέον δὲ πάντα τὰ τοιαῦτα διὰ τῶν αὐτῶν· ἐπικοινωνοῦσι γὰρ οἱ τόποι· ἐπὶ πλέον τε γὰρ τὸ γένος τῆς διαφορᾶς δεῖ λέγεσθαι καὶ μὴ μετέχειν τῆς διαφορᾶς, οὕτω δ’ ἀποδοθέντος οὐδέτερον τῶν εἰρημένων δυνατὸν συμβαίνειν· ἐπ’ ἔλαττόν τε γὰρ ῥηθήσεται καὶ μεθέξει τὸ γένος τῆς διαφορᾶς.

Πάλιν εἰ μηδεμία διαφορὰ κατηγορεῖται τῶν τοῦ γένους κατὰ τοῦ ἀποδοθέντος εἴδους, οὐδὲ τὸ γένος κατηγορηθήσεται· οἷον ψυχῆς οὔτε τὸ περιττὸν οὔτε τὸ ἄρτιον κατηγορεῖται, ὥστ’ οὐδ’ ἀριθμός. ἔτι εἰ πρότερον φύσει τὸ εἶδος καὶ συναναιρεῖ τὸ γένος· δοκεῖ γὰρ τὸ ἐναντίον. ἔτι εἰ ἐνδέχεται ἀπολιπεῖν τὸ εἰρημένον γένος ἢ τὴν διαφοράν, οἷον ψυχὴν τὸ κινεῖσθαι ἢ δόξαν τὸ ἀληθὲς καὶ ψεῦδος, οὐκ ἂν εἴη τῶν εἰρημένων οὐδέτερον γένος οὐδὲ διαφορά· δοκεῖ γὰρ τὸ γένος καὶ ἡ διαφορὰ παρακολουθεῖν, ἕως ἂν ᾖ τὸ εἶδος.

Σκοπεῖν δὲ καὶ εἰ τὸ ἐν τῷ γένει κείμενον μετέχει τινὸς ἐναντίου τῷ γένει ἢ ἐνδέχεται μετέχειν· τὸ γὰρ αὐτὸ τῶν ἐναντίων ἅμα μεθέξει, ἐπειδὴ τὸ μὲν γένος οὐδέποτ’ ἀπολείπει, μετέχει δὲ καὶ τοῦ ἐναντίου ἢ ἐνδέχεται μετέχειν. ἔτι εἴ τινος κοινωνεῖ τὸ εἶδος ὃ ἀδύνατον ὅλως ὑπάρχειν τοῖς ὑπὸ τὸ γένος· οἷον εἰ ἡ ψυχὴ τῆς ζωῆς κοινωνεῖ, τῶν δ’ ἀριθμῶν μηδένα δυνατὸν ζῆν, οὐκ ἂν εἴη εἶδος ἀριθμοῦ ἡ ψυχή.

Σκεπτέον δὲ καὶ εἰ ὁμώνυμον τὸ εἶδος τῷ γένει, στοιχείοις χρώμενον τοῖς εἰρημένοις πρὸς τὸ ὁμώνυμον· συνώνυμον γὰρ τὸ γένος καὶ τὸ εἶδος.

Ἐπεὶ δὲ παντὸς γένους εἴδη πλείω, σκοπεῖν εἰ μὴ ἐνδέχεται ἕτερον εἶδος εἶναι τοῦ εἰρημένου γένους· εἰ γὰρ μὴ ἔστι, δῆλον ὅτι οὐκ ἂν εἴη ὅλως γένος τὸ εἰρημένον.

Σκοπεῖν δὲ καὶ εἰ τὸ μεταφορᾷ λεγόμενον ὡς γένος ἀποδέδωκεν, οἷον τὴν σωφροσύνην συμφωνίαν· πᾶν γὰρ γένος κυρίως κατὰ τῶν εἰδῶν κατηγορεῖται, ἡ δὲ συμφωνία κατὰ τῆς σωφροσύνης οὐ κυρίως ἀλλὰ μεταφορᾷ· πᾶσα γὰρ συμφωνία ἐν φθόγγοις.

[123b] Ἔτι ἂν ᾖ ἐναντίον τι τῷ εἴδει, σκοπεῖν. ἔστι δὲ πλεοναχῶς ἡ σκέψις· πρῶτον μὲν εἰ ἐν τῷ αὐτῷ γένει καὶ τὸ ἐναντίον, μὴ ὄντος ἐναντίου τῷ γένει· δεῖ γὰρ τὰ ἐναντία ἐν τῷ αὐτῷ γένει εἶναι, ἂν μηδὲν ἐναντίον τῷ γένει ᾖ. ὄντος δ’ ἐναντίου τῷ γένει, σκοπεῖν εἰ τὸ ἐναντίον ἐν τῷ ἐναντίῳ· ἀνάγκη γὰρ τὸ ἐναντίον ἐν τῷ ἐναντίῳ εἶναι, ἄνπερ ᾖ ἐναντίον τι τῷ γένει. φανερὸν δὲ τούτων ἕκαστον διὰ τῆς ἐπαγωγῆς. πάλιν εἰ ὅλως ἐν μηδενὶ γένει τὸ τῷ εἴδει ἐναντίον ἀλλ’ αὐτὸ γένος, οἷον τἀγαθόν· εἰ γὰρ τοῦτο μὴ ἐν γένει, οὐδὲ τὸ ἐναντίον τούτου ἐν γένει ἔσται ἀλλ’ αὐτὸ γένος, καθάπερ ἐπὶ τοῦ ἀγαθοῦ καὶ τοῦ κακοῦ συμβαίνει· οὐδέτερον γὰρ τούτων ἐν γένει, ἀλλ’ ἑκάτερον αὐτὸ γένος. ἔτι εἰ ἐναντίον τινὶ καὶ τὸ γένος καὶ τὸ εἶδος, καὶ τῶν μὲν ἔστι τι μεταξύ, τῶν δὲ μή. εἰ γὰρ τῶν γενῶν ἔστι τι μεταξύ, καὶ τῶν εἰδῶν, καὶ εἰ τῶν εἰδῶν, καὶ τῶν γενῶν, καθάπερ ἐπ’ ἀρετῆς καὶ κακίας καὶ δικαιοσύνης καὶ ἀδικίας· ἑκατέρων γὰρ ἔστι τι μεταξύ. (ἔνστασις τούτου ὅτι ὑγιείας καὶ νόσου οὐδὲν μεταξύ, κακοῦ δὲ καὶ ἀγαθοῦ.) ἢ εἰ ἔστι μέν τι ἀμφοῖν ἀνὰ μέσον, καὶ τῶν εἰδῶν καὶ τῶν γενῶν, μὴ ὁμοίως δέ, ἀλλὰ τῶν μὲν κατὰ ἀπόφασιν τῶν δ’ ὡς ὑποκείμενον. ἔνδοξον γὰρ τὸ ὁμοίως ἀμφοῖν, καθάπερ ἐπ’ ἀρετῆς καὶ κακίας, καὶ δικαιοσύνης καὶ ἀδικίας· ἀμφοῖν γὰρ κατὰ ἀπόφασιν τὰ ἀνὰ μέσον. ἔτι ὅταν μὴ ᾖ ἐναντίον τῷ γένει, σκοπεῖν μὴ μόνον εἰ τὸ ἐναντίον ἐν τῷ αὐτῷ γένει, ἀλλὰ καὶ τὸ ἀνὰ μέσον· ἐν ᾧ γὰρ τὰ ἄκρα, καὶ τὸ ἀνὰ μέσον, οἷον ἐπὶ λευκοῦ καὶ μέλανος· τὸ γὰρ χρῶμα γένος τούτων τε καὶ τῶν ἀνὰ μέσον χρωμάτων ἁπάντων. (ἔνστασις ὅτι ἡ μὲν ἔνδεια καὶ ἡ ὑπερβολὴ ἐν τῷ αὐτῷ γένει - ἐν τῷ κακῷ γὰρ ἄμφω - τὸ δὲ μέτριον ἀνὰ μέσον ὂν τούτων οὐκ ἐν τῷ κακῷ ἀλλ’ ἐν τῷ ἀγαθῷ.) σκοπεῖν δὲ καὶ εἰ τὸ μὲν γένος ἐναντίον τινί, τὸ δὲ εἶδος μηδενί. εἰ γὰρ τὸ γένος ἐναντίον τινί, καὶ τὸ εἶδος, καθάπερ ἀρετὴ κακίᾳ καὶ δικαιοσύνη ἀδικίᾳ. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων σκοποῦντι φανερὸν ἂν δόξειεν εἶναι τὸ τοιοῦτον. (ἔνστασις ἐπὶ τῆς ὑγιείας καὶ νόσου· ἁπλῶς μὲν γὰρ ὑγίεια νόσῳ ἐναντίον, ἡ δὲ τὶς νόσος εἶδος οὖσα νόσου οὐδενὶ ἐναντίον, οἷον ὁ πυρετὸς καὶ ἡ ὀφθαλμία καὶ τῶν ἄλλων ἕκαστον.)

[124a] Ἀναιροῦντι μὲν οὖν τοσαυταχῶς ἐπισκεπτέον· εἰ γὰρ μὴ ὑπάρχει τὰ

εἰρημένα, δῆλον ὅτι οὐ γένος τὸ ἀποδοθέν. κατασκευάζοντι δὲ τριχῶς· πρῶτον μὲν εἰ τὸ ἐναντίον τῷ εἴδει ἐν τῷ εἰρημένῳ γένει, μὴ ὄντος ἐναντίου τῷ γένει· εἰ γὰρ τὸ ἐναντίον ἐν τούτῳ, δῆλον ὅτι καὶ τὸ προκείμενον. ἔτι εἰ τὸ ἀνὰ μέσον ἐν τῷ εἰρημένῳ γένει· ἐν ᾧ γὰρ τὸ ἀνὰ μέσον, καὶ τὰ ἄκρα. πάλιν ἂν ᾖ ἐναντίον τι τῷ γένει, σκοπεῖν εἰ καὶ τὸ ἐναντίον ἐν τῷ ἐναντίῳ· ἂν γὰρ ᾖ, δῆλον ὅτι καὶ τὸ προκείμενον ἐν τῷ προκειμένῳ.

Πάλιν ἐπὶ τῶν πτώσεων καὶ ἐπὶ τῶν συστοίχων, εἰ ὁμοίως ἀκολουθοῦσι, καὶ ἀναιροῦντι καὶ κατασκευάζοντι· ἅμα γὰρ ἑνὶ καὶ πᾶσιν ὑπάρχει ἢ οὐχ ὑπάρχει. οἷον εἰ ἡ δικαιοσύνη ἐπιστήμη τις, καὶ τὸ δικαίως ἐπιστημόνως καὶ ὁ δίκαιος ἐπιστήμων· εἰ δὲ τούτων τι μή, οὐδὲ τῶν λοιπῶν οὐδέν.

Πάλιν ἐπὶ τῶν ὁμοίως ἐχόντων πρὸς ἄλληλα· οἷον τὸ ἡδὺ ὁμοίως ἔχει πρὸς τὴν ἡδονὴν καὶ τὸ ὠφέλιμον πρὸς τὸ ἀγαθόν· ἑκάτερον γὰρ ἑκατέρου ποιητικόν. εἰ οὖν ἐστιν ἡ ἡδονὴ ὅπερ ἀγαθόν, καὶ τὸ ἡδὺ ὅπερ ὠφέλιμον ἔσται· δῆλον γὰρ ὅτι ἀγαθοῦ ἂν εἴη ποιητικόν, ἐπειδὴ ἡ ἡδονὴ ἀγαθόν. ὡσαύτως δὲ καὶ ἐπὶ τῶν γενέσεων καὶ φθορῶν· οἷον εἰ τὸ οἰκοδομεῖν ἐνεργεῖν, τὸ ᾠκοδομηκέναι ἐνηργηκέναι, καὶ εἰ τὸ μανθάνειν ἀναμιμνήσκεσθαι, καὶ τὸ μεμαθηκέναι ἀναμεμνῆσθαι, καὶ εἰ τὸ διαλύεσθαι φθείρεσθαι, καὶ τὸ διαλελύσθαι ἐφθάρθαι καὶ ἡ διάλυσις φθορά τις. καὶ ἐπὶ τῶν γεννητικῶν δὲ καὶ φθαρτικῶν ὡσαύτως, καὶ ἐπὶ τῶν δυνάμεων καὶ χρήσεων, καὶ ὅλως καθ’ ὁποιανοῦν ὁμοιότητα καὶ ἀναιροῦντι καὶ κατασκευάζοντι σκεπτέον καθάπερ ἐπὶ τῆς γενέσεως καὶ φθορᾶς ἐλέγομεν. εἰ γὰρ τὸ φθαρτικὸν διαλυτικόν, καὶ τὸ φθείρεσθαι διαλύεσθαι· καὶ εἰ τὸ γεννητικὸν ποιητικόν, καὶ τὸ γίγνεσθαι ποιεῖσθαι καὶ ἡ γένεσις ποίησις. ὁμοίως δὲ καὶ ἐπὶ τῶν δυνάμεων καὶ χρήσεων· εἰ γὰρ ἡ δύναμις διάθεσις, καὶ τὸ δύνασθαι διακεῖσθαι, καὶ εἴ τινος ἡ χρῆσις ἐνέργεια, τὸ χρῆσθαι ἐνεργεῖν καὶ τὸ κεχρῆσθαι ἐνηργηκέναι.

Ἂν δὲ στέρησις ᾖ τὸ ἀντικείμενον τῷ εἴδει, διχῶς ἔστιν ἀνελεῖν. πρῶτον μέν, εἰ ἐν τῷ ἀποδοθέντι γένει τὸ ἀντικείμενον· ἢ γὰρ ἁπλῶς ἐν οὐδενὶ γένει τῷ αὐτῷ ἡ στέρησις ἢ οὐκ ἐν τῷ ἐσχάτῳ· οἷον εἰ ἡ ὄψις ἐν ἐσχάτῳ γένει τῇ αἰσθήσει, ἡ τυφλότης οὐκ ἔσται αἴσθησις. δεύτερον δ’, εἰ καὶ τῷ γένει [124b] καὶ τῷ εἴδει ἀντίκειται στέρησις, μὴ ἔστι δὲ τὸ ἀντικείμενον ἐν τῷ ἀντικειμένῳ, οὐδ’ ἂν τὸ ἀποδοθὲν ἐν τῷ ἀποδοθέντι εἴη. ἀναιροῦντι μὲν οὖν καθάπερ εἴρηται χρηστέον, κατασκευάζοντι δὲ μοναχῶς· εἰ γὰρ τὸ ἀντικείμενον ἐν τῷ ἀντικειμένῳ, καὶ τὸ προκείμενον ἐν τῷ προκειμένῳ ἂν εἴη· οἷον εἰ ἡ τυφλότης ἀναισθησία τις, ἡ ὄψις αἴσθησίς τις.

Πάλιν ἐπὶ τῶν ἀποφάσεων σκοπεῖν ἀνάπαλιν, καθάπερ ἐπὶ τοῦ συμβεβηκότος ἐλέγετο· οἷον εἰ τὸ ἡδὺ ὅπερ ἀγαθόν, τὸ μὴ ἀγαθὸν οὐχ ἡδύ. εἰ γὰρ μὴ οὕτως ἔχοι, εἴη ἄν τι καὶ οὐκ ἀγαθὸν ἡδύ, ἀδύνατον δέ, εἴπερ τὸ ἀγαθὸν γένος τοῦ ἡδέος, εἶναί τι μὴ ἀγαθὸν ἡδύ· ὧν γὰρ τὸ γένος μὴ κατηγορεῖται, οὐδὲ τῶν εἰδῶν οὐδέν. καὶ κατασκευάζοντι δὲ ὡσαύτως σκεπτέον· εἰ γὰρ τὸ μὴ ἀγαθὸν οὐχ ἡδύ, τὸ ἡδὺ ἀγαθόν, ὥστε γένος τὸ ἀγαθὸν τοῦ ἡδέος.

Ἐὰν δ’ ᾖ πρός τι τὸ εἶδος, σκοπεῖν εἰ καὶ τὸ γένος πρός τι· εἰ γὰρ τὸ εἶδος τῶν πρός τι, καὶ τὸ γένος, καθάπερ ἐπὶ τοῦ διπλασίου καὶ πολλαπλασίου· ἑκάτερον γὰρ τῶν πρός τι. εἰ δὲ τὸ γένος τῶν πρός τι, οὐκ ἀνάγκη καὶ τὸ εἶδος· ἡ μὲν γὰρ ἐπιστήμη τῶν πρός τι, ἡ δὲ γραμματικὴ οὔ. (ἢ οὐδὲ τὸ πρότερον ῥηθὲν ἀληθὲς ἂν δόξειεν εἶναι· ἡ γὰρ ἀρετὴ ὅπερ καλὸν καὶ ὅπερ ἀγαθόν, καὶ ἡ μὲν ἀρετὴ τῶν πρός τι, τὸ δ’ ἀγαθὸν καὶ τὸ καλὸν οὐ τῶν πρός τι ἀλλὰ ποιά.)

Πάλιν εἰ μὴ πρὸς ταὐτὸ λέγεται τὸ εἶδος καθ’ αὑτό τε καὶ κατὰ τὸ γένος· οἷον εἰ τὸ διπλάσιον ἡμίσεος λέγεται διπλάσιον, καὶ τὸ πολλαπλάσιον ἡμίσεος δεῖ λέγεσθαι. εἰ δὲ μή, οὐκ ἂν εἴη τὸ πολλαπλάσιον γένος τοῦ διπλασίου.

Ἔτι εἰ μὴ πρὸς τὸ αὐτὸ κατά τε τὸ γένος λέγεται καὶ κατὰ πάντα τὰ τοῦ γένους γένη. εἰ γὰρ τὸ διπλάσιον ἡμίσεος πολλαπλάσιόν ἐστι, καὶ ὑπερέχον ἡμίσεος ῥηθήσεται, καὶ ἁπλῶς κατὰ πάντα τὰ ἐπάνω γένη πρὸς τὸ ἥμισυ ῥηθήσεται. (ἔνστασις ὅτι οὐκ ἀνάγκη καθ’ αὑτὸ καὶ κατὰ τὸ γένος πρὸς ταὐτὸ λέγεσθαι· ἡ γὰρ ἐπιστήμη ἐπιστητοῦ λέγεται, ἕξις δὲ καὶ διάθεσις οὐκ ἐπιστητοῦ ἀλλὰ ψυχῆς.)

Πάλιν εἰ ὡσαύτως λέγεται τὸ γένος καὶ τὸ εἶδος κατὰ τὰς πτώσεις, οἷον εἰ τινὶ ἢ τινὸς ἢ ὁσαχῶς ἄλλως. ὡς γὰρ τὸ εἶδος, καὶ τὸ γένος, καθάπερ ἐπὶ τοῦ διπλασίου καὶ τῶν ἐπάνω· τινὸς γὰρ καὶ τὸ διπλάσιον καὶ τὸ πολλαπλάσιον. ὁμοίως δὲ καὶ ἐπὶ τῆς ἐπιστήμης· τινὸς γὰρ [125a] καὶ αὐτὴ καὶ τὰ γένη, οἷον ἥ τε διάθεσις καὶ ἡ ἕξις. (ἔνστασις ὅτι ἐνιαχοῦ οὐχ οὕτως· τὸ μὲν γὰρ διάφορον καὶ τὸ ἐναντίον τινί, τὸ δ’ ἕτερον, γένος ὂν τούτων, οὐ τινὶ ἀλλὰ τινός· ἕτερον γάρ τινος λέγεται.)

Πάλιν εἰ ὁμοίως τὰ πρός τι κατὰ τὰς πτώσεις λεγόμενα μὴ ὁμοίως ἀντιστρέφει, καθάπερ ἐπὶ τοῦ διπλασίου καὶ τοῦ πολλαπλασίου. ἑκάτερον γὰρ τούτων τινὸς καὶ αὐτὸ καὶ κατὰ τὴν ἀντιστροφὴν λέγεται· τινὸς γὰρ καὶ τὸ ἥμισυ καὶ τὸ πολλοστημόριον. ὡσαύτως δὲ καὶ ἐπὶ τῆς ἐπιστήμης καὶ τῆς ὑπολήψεως· αὐταί τε γὰρ τινὸς καὶ ἀντιστρέφει ὁμοίως τό τε ἐπιστητὸν καὶ τὸ ὑποληπτὸν τινί. εἰ οὖν ἐπί τινων μὴ ὁμοίως ἀντιστρέφει, δῆλον ὅτι οὐ γένος θάτερον θατέρου.

Πάλιν εἰ μὴ πρὸς ἴσα τὸ εἶδος καὶ τὸ γένος λέγεται. ὁμοίως γὰρ καὶ ἰσαχῶς ἑκάτερον δοκεῖ λέγεσθαι, καθάπερ ἐπὶ τῆς δωρεᾶς καὶ τῆς δόσεως· ἥ τε γὰρ δωρεὰ τινὸς καὶ τινὶ λέγεται, καὶ ἡ δόσις τινὸς καὶ τινί. ἔστι δὲ ἡ δόσις γένος τῆς δωρεᾶς· ἡ γὰρ δωρεὰ δόσις ἐστὶν ἀναπόδοτος. ἐπ' ἐνίων δ' οὐ συμβαίνει πρὸς ἴσα λέγεσθαι· τὸ μὲν γὰρ διπλάσιον τινὸς διπλάσιον, τὸ δ' ὑπερέχον καὶ τὸ μεῖζον τινὸς καὶ τινί· πᾶν γὰρ τὸ ὑπερέχον καὶ τὸ μεῖζον τινὶ ὑπερέχει καὶ τινὸς ὑπερέχει. ὥστ' οὐ γένη τὰ εἰρημένα τοῦ διπλασίου, ἐπειδὴ οὐ πρὸς ἴσα τῷ εἴδει λέγεται. (ἢ οὐ καθόλου ἀληθὲς τὸ πρὸς ἴσα τὸ εἶδος καὶ τὸ γένος λέγεσθαι.)

Ὁρᾶν δὲ καὶ εἰ τοῦ ἀντικειμένου τὸ ἀντικείμενον γένος· οἷον εἰ τοῦ διπλασίου τὸ πολλαπλάσιον, καὶ τοῦ ἡμίσεος τὸ πολλοστημόριον· δεῖ γὰρ τὸ ἀντικείμενον τοῦ ἀντικειμένου γένος εἶναι. εἰ οὖν τις θείη τὴν ἐπιστήμην ὅπερ αἴσθησιν, δεήσει καὶ τὸ ἐπιστητὸν ὅπερ αἰσθητὸν εἶναι. οὐκ ἔστι δέ· οὐ γὰρ πᾶν τὸ ἐπιστητὸν αἰσθητόν· καὶ γὰρ τῶν νοητῶν ἔνια ἐπιστητά. ὥστ' οὐ γένος τὸ αἰσθητὸν τοῦ ἐπιστητοῦ. εἰ δὲ τοῦτο μή, οὐδ' αἴσθησις ἐπιστήμης.

Ἐπεὶ δὲ τῶν πρός τι λεγομένων τὰ μὲν ἐξ ἀνάγκης ἐν ἐκείνοις ἢ περὶ ἐκεῖνά ἐστι πρὸς ἅ ποτε τυγχάνει λεγόμενα (οἷον ἡ διάθεσις καὶ ἡ ἕξις καὶ ἡ συμμετρία· ἐν ἄλλῳ γὰρ οὐδενὶ δυνατὸν ὑπάρχειν τὰ εἰρημένα ἢ ἐν ἐκείνοις πρὸς ἃ λέγεται), τὰ δ' οὐκ ἀνάγκη μὲν ἐν ἐκείνοις ὑπάρχειν πρὸς ἅ ποτε λέγεται, ἐνδέχεται δέ (οἷον εἰ ἐπιστητὸν ἡ ψυχή· οὐδὲν γὰρ κωλύει τὴν αὑτῆς ἐπιστήμην ἔχειν τὴν ψυχήν, οὐκ ἀναγκαῖον δέ· δυνατὸν γὰρ καὶ ἐν ἄλλῳ [125b] ὑπάρχειν τὴν αὐτὴν ταύτην), τὰ δ' ἁπλῶς οὐκ ἐνδέχεται ἐν ἐκείνοις ὑπάρχειν πρὸς ἅ ποτε τυγχάνει λεγόμενα (οἷον τὸ ἐναντίον ἐν τῷ ἐναντίῳ οὐδὲ τὴν ἐπιστήμην ἐν τῷ ἐπιστητῷ, ἐὰν μὴ τυγχάνῃ τὸ ἐπιστητὸν ψυχὴ ἢ ἄνθρωπος ὄν), σκοπεῖν οὖν χρὴ ἐάν τις εἰς γένος θῇ τὸ τοιοῦτον εἰς τὸ μὴ τοιοῦτον. οἷον εἰ τὴν μνήμην μονὴν ἐπιστήμης εἶπεν· πᾶσα γὰρ μονὴ ἐν τῷ μένοντι καὶ περὶ ἐκεῖνο, ὥστε καὶ ἡ τῆς ἐπιστήμης μονὴ ἐν τῇ ἐπιστήμῃ. ἡ μνήμη ἄρα ἐν τῇ ἐπιστήμῃ, ἐπειδὴ μονὴ τῆς ἐπιστήμης ἐστίν. τοῦτο δ' οὐκ ἐνδέχεται· μνήμη γὰρ πᾶσα ἐν ψυχῇ. ἔστι δ' ὁ εἰρημένος τόπος καὶ πρὸς τὸ συμβεβηκὸς κοινός· οὐδὲν γὰρ διαφέρει τῆς μνήμης γένος τὴν μονὴν εἰπεῖν ἢ συμβεβηκέναι φάσκειν αὐτῇ τοῦτο· εἰ γὰρ ὁπωσοῦν ἐστιν ἡ μνήμη μονὴ ἐπιστήμης, ὁ αὐτὸς ἁρμόσει περὶ αὐτῆς λόγος.

Πάλιν εἰ τὴν ἕξιν εἰς τὴν ἐνέργειαν ἔθηκεν ἢ τὴν ἐνέργειαν εἰς τὴν ἕξιν, οἷον τὴν αἴσθησιν κίνησιν διὰ σώματος· ἡ μὲν γὰρ αἴσθησις ἕξις, ἡ δὲ κίνησις ἐνέργεια. ὁμοίως δὲ καὶ εἰ τὴν μνήμην ἕξιν καθεκτικὴν ὑπολήψεως εἶπεν·

οὐδεμία γὰρ μνήμη ἕξις, ἀλλὰ μᾶλλον ἐνέργεια.

Διαμαρτάνουσι δὲ καὶ οἱ τὴν ἕξιν εἰς τὴν ἀκολουθοῦσαν δύναμιν τάττοντες, οἷον τὴν πραότητα ἐγκράτειαν ὀργῆς καὶ τὴν ἀνδρείαν καὶ τὴν δικαιοσύνην φόβων καὶ κερδῶν· ἀνδρεῖος μὲν γὰρ καὶ πρᾶος ὁ ἀπαθὴς λέγεται, ἐγκρατὴς δ’ ὁ πάσχων καὶ μὴ ἀγόμενος. ἴσως μὲν οὖν ἀκολουθεῖ δύναμις ἑκατέρῳ τοιαύτη ὥστ’, εἰ πάθοι, μὴ ἄγεσθαι ἀλλὰ κρατεῖν· οὐ μὴν τοῦτό γ’ ἐστὶ τῷ μὲν ‹τὸ› ἀνδρείῳ τῷ δὲ ‹τὸ› πράῳ εἶναι, ἀλλὰ τὸ ὅλως μὴ πάσχειν ὑπὸ τῶν τοιούτων μηδέν.

Ἐνίοτε δὲ καὶ τὸ παρακολουθοῦν ὁπωσοῦν ὡς γένος τιθέασιν, οἷον τὴν λύπην τῆς ὀργῆς καὶ τὴν ὑπόληψιν τῆς πίστεως· ἄμφω γὰρ τὰ εἰρημένα παρακολουθεῖ μὲν τρόπον τινὰ τοῖς ἀποδοθεῖσιν εἴδεσιν, οὐδέτερον δ’ αὐτῶν γένος ἐστίν. ὁ μὲν γὰρ ὀργιζόμενος λυπεῖται προτέρας ἐν αὐτῷ τῆς λύπης γενομένης· οὐ γὰρ ἡ ὀργὴ τῆς λύπης ἀλλ’ ἡ λύπη τῆς ὀργῆς αἰτία, ὥσθ’ ἁπλῶς ἡ ὀργὴ οὐκ ἔστι λύπη. κατὰ ταὐτὰ δ’ οὐδ’ ἡ πίστις ὑπόληψις· ἐνδέχεται γὰρ τὴν αὐτὴν ὑπόληψιν καὶ μὴ πιστεύοντα ἔχειν, οὐκ ἐνδέχεται δ’, εἴπερ εἶδος ἡ πίστις ὑπολήψεως· οὐ γὰρ ἐνδέχεται τὸ αὐτὸ ἔτι διαμένειν, ἄνπερ ἐκ τοῦ εἴδους ὅλως μεταβάλῃ, καθάπερ οὐδὲ τὸ αὐτὸ ζῷον ὁτὲ μὲν ἄνθρωπον εἶναι ὁτὲ δὲ μή. ἂν δέ τις φῇ ἐξ ἀνάγκης τὸν ὑπολαμβάνοντα καὶ πιστεύειν, [126a] ἐπ’ ἴσον ἡ ὑπόληψις καὶ ἡ πίστις ῥηθήσεται, ὥστ’ οὐδ’ ἂν οὕτως εἴη γένος· ἐπὶ πλέον γὰρ δεῖ λέγεσθαι τὸ γένος.

Ὁρᾶν δὲ καὶ εἰ ἔν τινι τῷ αὐτῷ πέφυκεν ἄμφω γίνεσθαι· ἐν ᾧ γὰρ τὸ εἶδος, καὶ τὸ γένος, οἷον ἐν ᾧ τὸ λευκόν, καὶ τὸ χρῶμα, καὶ ἐν ᾧ γραμματική, καὶ ἐπιστήμη. ἐὰν οὖν τις τὴν αἰσχύνην φόβον εἴπῃ ἢ τὴν ὀργὴν λύπην, οὐ συμβήσεται ἐν τῷ αὐτῷ τὸ εἶδος καὶ τὸ γένος ὑπάρχειν· ἡ μὲν γὰρ αἰσχύνη ἐν τῷ λογιστικῷ, ὁ δὲ φόβος ἐν τῷ θυμοειδεῖ· καὶ ἡ μὲν λύπη ἐν τῷ ἐπιθυμητικῷ (ἐν τούτῳ γὰρ καὶ ἡ ἡδονή), ἡ δὲ ὀργὴ ἐν τῷ θυμοειδεῖ. ὥστ’ οὐ γένη τὰ ἀποδοθέντα, ἐπειδὴ οὐκ ἐν τῷ αὐτῷ τοῖς εἴδεσι πέφυκε γίνεσθαι. ὁμοίως δὲ καὶ εἰ ἡ φιλία ἐν τῷ ἐπιθυμητικῷ, οὐκ ἂν εἴη βούλησίς τις· πᾶσα γὰρ βούλησις ἐν τῷ λογιστικῷ. χρήσιμος δ’ ὁ τόπος καὶ πρὸς τὸ συμβεβηκός· ἐν τῷ αὐτῷ γὰρ τὸ συμβεβηκὸς καὶ ᾧ συμβέβηκεν, ὥστ’ ἂν μὴ ἐν τῷ αὐτῷ φαίνηται, δῆλον ὅτι οὐ συμβέβηκεν.

Πάλιν εἰ κατά τι τὸ εἶδος τοῦ εἰρημένου γένους μετέχει· οὐ δοκεῖ γὰρ κατά τι μετέχεσθαι τὸ γένος. οὐ γάρ ἐστιν ὁ ἄνθρωπος κατά τι ζῷον, οὐδ’ ἡ γραμματικὴ κατά τι ἐπιστήμη· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. σκοπεῖν οὖν εἰ ἐπί τινων κατά τι μετέχεται τὸ γένος, οἷον εἰ τὸ ζῷον ὅπερ αἰσθητὸν ἢ ὁρατὸν εἴρηται. κατά τι γὰρ αἰσθητὸν ἢ ὁρατὸν τὸ ζῷον· κατὰ τὸ σῶμα γὰρ αἰσθητὸν καὶ ὁρατόν, κατὰ δὲ τὴν ψυχὴν οὔ. ὥστ’ οὐκ ἂν εἴη γένος τὸ ὁρατὸν καὶ τὸ αἰσθητὸν τοῦ ζῴου.

Λανθάνουσι δ’ ἐνίοτε καὶ τὸ ὅλον εἰς τὸ μέρος τιθέντες, οἷον τὸ ζῷον σῶμα ἔμψυχον. οὐδαμῶς δὲ τὸ μέρος τοῦ ὅλου κατηγορεῖται· ὥστ’ οὐκ ἂν εἴη τὸ σῶμα γένος τοῦ ζῴου, ἐπειδὴ μέρος ἐστίν.

Ὁρᾶν δὲ καὶ εἴ τι τῶν ψεκτῶν ἢ φευκτῶν εἰς δύναμιν ἢ τὸ δυνατὸν ἔθηκεν, οἷον τὸν σοφιστὴν ἢ διάβολον ἢ κλέπτην τὸν δυνάμενον λάθρᾳ τὰ ἀλλότρια κλέπτειν· οὐδεὶς γὰρ τῶν εἰρημένων τῷ δυνατὸς εἶναί τι τούτων τοιοῦτος λέγεται. δύναται μὲν γὰρ καὶ ὁ θεὸς καὶ ὁ σπουδαῖος τὰ φαῦλα δρᾶν, ἀλλ’ οὐκ εἰσὶ τοιοῦτοι· πάντες γὰρ οἱ φαῦλοι κατὰ προαίρεσιν λέγονται. ἔτι πᾶσα δύναμις τῶν αἱρετῶν· καὶ γὰρ αἱ τῶν φαύλων δυνάμεις αἱρεταί, διὸ καὶ τὸν θεὸν καὶ τὸν σπουδαῖον ἔχειν φαμὲν αὐτάς· δυνατοὺς γάρ φαμεν εἶναι [126b] τὰ φαῦλα πράσσειν. ὥστ’ οὐδενὸς ἂν εἴη ψεκτοῦ γένος ἡ δύναμις. εἰ δὲ μή, συμβήσεται τῶν ψεκτῶν τι αἱρετὸν εἶναι· ἔσται γάρ τις δύναμις ψεκτή.

Καὶ εἴ τι τῶν δι’ αὑτὰ τιμίων ἢ αἱρετῶν εἰς δύναμιν ἢ τὸ δυνατὸν ἢ τὸ ποιητικὸν ἔθηκεν· πᾶσα γὰρ δύναμις καὶ πᾶν τὸ δυνατὸν ἢ τὸ ποιητικὸν δι’ ἄλλο αἱρετόν.

Ἢ εἴ τι τῶν ἐν δύο γένεσιν ἢ πλείοσιν εἰς θάτερον ἔθηκεν. ἔνια γὰρ οὐκ ἔστιν εἰς ἓν γένος θεῖναι, οἷον τὸν φένακα καὶ τὸν διάβολον· οὔτε γὰρ ὁ προαιρούμενος ἀδυνατῶν δέ, οὔθ’ ὁ δυνάμενος μὴ προαιρούμενος δέ, διάβολος ἢ φέναξ, ἀλλ’ ὁ ἄμφω ταῦτα ἔχων. ὥστ’ οὐ θετέον εἰς ἓν γένος ἀλλ’ εἰς ἀμφότερα τὰ εἰρημένα.

Ἔτι ἐνίοτε ἀνάπαλιν τὸ μὲν γένος ὡς διαφορὰν τὴν δὲ διαφορὰν ὡς γένος ἀποδιδόασιν, οἷον τὴν ἔκπληξιν ὑπερβολὴν θαυμασιότητος καὶ τὴν πίστιν σφοδρότητα ὑπολήψεως. οὔτε γὰρ ἡ ὑπερβολὴ οὔθ’ ἡ σφοδρότης γένος, ἀλλὰ διαφορά· δοκεῖ γὰρ ἡ ἔκπληξις θαυμασιότης εἶναι ὑπερβάλλουσα καὶ ἡ πίστις ὑπόληψις σφοδρά, ὥστε γένος ἡ θαυμασιότης καὶ ἡ ὑπόληψις, ἡ δ’ ὑπερβολὴ καὶ ἡ σφοδρότης διαφορά. ἔτι εἴ τις τὴν ὑπερβολὴν καὶ τὴν σφοδρότητα ὡς γένη ἀποδώσει, τὰ ἄψυχα πιστεύσει καὶ ἐκπλαγήσεται. ἡ γὰρ ἑκάστου σφοδρότης καὶ ὑπερβολὴ πάρεστιν ἐκείνῳ οὗ ἐστι σφοδρότης καὶ ὑπερβολή. εἰ οὖν ἡ ἔκπληξις ὑπερβολή ἐστι θαυμασιότητος, παρέσται τῇ θαυμασιότητι ἡ ἔκπληξις, ὥσθ’ ἡ θαυμασιότης ἐκπλαγήσεται. ὁμοίως δὲ καὶ ἡ πίστις παρέσται τῇ ὑπολήψει, εἴπερ σφοδρότης ὑπολήψεώς ἐστιν, ὥστε ἡ ὑπόληψις πιστεύσει. ἔτι συμβήσεται τῷ οὕτως ἀποδιδόντι σφοδρότητα σφοδρὰν λέγειν καὶ ὑπερβολὴν ὑπερβάλλουσαν. ἔστι γὰρ πίστις σφοδρά [καὶ ἔκπληξις ὑπερβάλλουσα]· εἰ οὖν ἡ πίστις σφοδρότης ἐστί, σφοδρότης ἂν εἴη σφοδρά. ὁμοίως δὲ καὶ ἔκπληξις ἔστιν ὑπερβάλλουσα· εἰ οὖν ἡ ἔκπληξις ὑπερβολή ἐστιν, ὑπερβολὴ ἂν εἴη ὑπερβάλλουσα. οὐ δοκεῖ δ' οὐδέτερον τούτων, ὥσπερ οὐδὲ ἡ ἐπιστήμη ἐπιστῆμον οὐδ' ἡ κίνησις κινούμενον.

Ἐνίοτε δὲ διαμαρτάνουσι καὶ τὸ πάθος εἰς γένος τὸ πεπονθὸς τιθέντες, οἷον ὅσοι τὴν ἀθανασίαν ζωὴν ἀίδιόν φασιν εἶναι· πάθος γάρ τι ζωῆς ἢ σύμπτωμα ἡ ἀθανασία ἔοικεν εἶναι. ὅτι δ' ἀληθὲς τὸ λεγόμενον, δῆλον ἂν γένοιτο εἴ τις συγχωρήσειεν ἐκ θνητοῦ τινα ἀθάνατον γίνεσθαι· οὐδεὶς γὰρ φήσει ἑτέραν αὐτὸν ζωὴν λαμβάνειν, ἀλλὰ σύμπτωμά τι [127a] ἢ πάθος αὐτῇ ταύτῃ παραγίνεσθαι. ὥστ' οὐ γένος ἡ ζωὴ τῆς ἀθανασίας.

Πάλιν εἰ τοῦ πάθους, οὗ ἐστι πάθος, ἐκεῖνο γένος φασὶν εἶναι, οἷον τὸ πνεῦμα ἀέρα κινούμενον. μᾶλλον γὰρ κίνησις ἀέρος τὸ πνεῦμα· ὁ γὰρ αὐτὸς ἀὴρ διαμένει, ὅταν τε κινῆται καὶ ὅταν μένῃ. ὥστ' οὐκ ἔστιν ὅλως ἀὴρ τὸ πνεῦμα· ἦν γὰρ ἂν καὶ μὴ κινουμένου τοῦ ἀέρος πνεῦμα, εἴπερ ὁ αὐτὸς ἀὴρ διαμένει ὅσπερ ἦν πνεῦμα. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων. εἰ δ' ἄρα καὶ ἐπὶ τούτου δεῖ συγχωρῆσαι ὅτι ἀήρ ἐστι κινούμενος τὸ πνεῦμα, ἀλλ' οὔτε γε ἐπὶ πάντων τὸ τοιοῦτον ἀποδεκτέον καθ' ὧν μὴ ἀληθεύεται τὸ γένος, ἀλλ' ἐφ' ὅσων ἀληθῶς κατηγορεῖται τὸ ἀποδοθὲν γένος. ἐπ' ἐνίων γὰρ οὐ δοκεῖ ἀληθεύεσθαι, οἷον ἐπὶ τοῦ πηλοῦ καὶ τῆς χιόνος. τὴν μὲν γὰρ χιόνα φασὶν ὕδωρ εἶναι πεπηγός, τὸν δὲ πηλὸν γῆν ὑγρῷ πεφυραμένην· ἔστι δ' οὔθ' ἡ χιὼν ὕδωρ οὔθ' ὁ πηλὸς γῆ. ὥστ' οὐκ ἂν εἴη γένος οὐδέτερον τῶν ἀποδοθέντων· δεῖ γὰρ τὸ γένος ἀληθεύεσθαι ἀεὶ κατὰ τῶν εἰδῶν. ὁμοίως δ' οὐδ' ὁ οἶνός ἐστιν ὕδωρ σεσηπός, καθάπερ Ἐμπεδοκλῆς φησι “σαπὲν ἐν ξύλῳ ὕδωρ”· ἁπλῶς γὰρ οὐκ ἔστιν ὕδωρ.

Ἔτι εἰ ὅλως τὸ ἀποδοθὲν μηδενός ἐστι γένος· δῆλον γὰρ ὡς οὐδὲ τοῦ λεχθέντος. σκοπεῖν δ' ἐκ τοῦ μηδὲν διαφέρειν εἴδει τὰ μετέχοντα τοῦ ἀποδοθέντος γένους, οἷον τὰ λευκά· οὐδὲν γὰρ διαφέρει τῷ εἴδει ταῦτ' ἀλλήλων, παντὸς δὲ γένους ἔστιν εἴδη διάφορα· ὥστ' οὐκ ἂν εἴη τὸ λευκὸν γένος οὐδενός.

Πάλιν εἰ τὸ πᾶσιν ἀκολουθοῦν γένος ἢ διαφορὰν εἶπεν· πλείω γὰρ τὰ πᾶσιν ἑπόμενα, οἷον τὸ ὂν καὶ τὸ ἓν τῶν πᾶσιν ἑπομένων ἐστίν. εἰ οὖν τὸ ὂν γένος ἀποδέδωκε, δῆλον ὅτι πάντων ἂν εἴη γένος, ἐπειδὴ κατηγορεῖται αὐτῶν· κατ' οὐδενὸς γὰρ τὸ γένος ἀλλ' ἢ κατὰ τῶν εἰδῶν κατηγορεῖται. ὥστε καὶ τὸ ἓν εἶδος ἂν εἴη τοῦ ὄντος. συμβαίνει οὖν κατὰ πάντων ὧν τὸ γένος κατηγορεῖται καὶ τὸ εἶδος κατηγορεῖσθαι, ἐπειδὴ τὸ ὂν καὶ τὸ ἓν κατὰ πάντων ἁπλῶς κατηγορεῖται, δέον ἐπ’ ἔλαττον τὸ εἶδος κατηγορεῖσθαι. εἰ δὲ τὸ πᾶσιν ἑπόμενον διαφορὰν εἶπε, δῆλον ὅτι ἐπ’ ἴσον ἢ ἐπὶ πλέον ἡ διαφορὰ τοῦ γένους ῥηθήσεται· εἰ μὲν γὰρ καὶ τὸ γένος τῶν πᾶσιν ἑπομένων, ἐπ’ ἴσον· εἰ δὲ μὴ πᾶσιν ἕπεται τὸ γένος, ἐπὶ πλέον ἡ διαφορὰ λέγοιτ’ ἂν αὐτοῦ.

[127b] Ἔτι εἰ ἐν ὑποκειμένῳ τῷ εἴδει τὸ ἀποδοθὲν γένος λέγεται, καθάπερ τὸ λευκὸν ἐπὶ τῆς χιόνος, ὥστε δῆλον ὅτι οὐκ ἂν εἴη γένος· καθ’ ὑποκειμένου γὰρ τοῦ εἴδους μόνον τὸ γένος λέγεται.

Σκοπεῖν δὲ καὶ εἰ μὴ συνώνυμον τὸ γένος τῷ εἴδει· κατὰ πάντων γὰρ τῶν εἰδῶν συνωνύμως τὸ γένος κατηγορεῖται.

Ἔτι ὅταν ὄντος καὶ τῷ εἴδει καὶ τῷ γένει ἐναντίου τὸ βέλτιον τῶν ἐναντίων εἰς τὸ χεῖρον γένος θῇ· συμβήσεται γὰρ τὸ λοιπὸν ἐν τῷ λοιπῷ εἶναι, ἐπειδὴ τὰ ἐναντία ἐν τοῖς ἐναντίοις γένεσιν, ὥστε τὸ βέλτιον ἐν τῷ χείρονι ἔσται καὶ τὸ χεῖρον ἐν τῷ βελτίονι· δοκεῖ δὲ τοῦ βελτίονος καὶ τὸ γένος βέλτιον εἶναι. καὶ εἰ τοῦ αὐτοῦ εἴδους ὁμοίως πρὸς ἄμφω ἔχοντος εἰς τὸ χεῖρον καὶ μὴ εἰς τὸ βέλτιον γένος ἔθηκεν, οἷον τὴν ψυχὴν ὅπερ κίνησιν ἢ κινούμενον. ὁμοίως γὰρ αὕτη στατικὴ καὶ κινητικὴ δοκεῖ εἶναι· ὥστ’ εἰ βέλτιον ἡ στάσις, εἰς τοῦτο ἔδει τὸ γένος θεῖναι.

Ἔτι ἐκ τοῦ μᾶλλον καὶ ἧττον, ἀνασκευάζοντι μέν, εἰ τὸ γένος δέχεται τὸ μᾶλλον, τὸ δ’ εἶδος μὴ δέχεται, μήτ’ αὐτὸ μήτε τὸ κατ’ ἐκεῖνο λεγόμενον. οἷον εἰ ἡ ἀρετὴ δέχεται τὸ μᾶλλον, καὶ ἡ δικαιοσύνη καὶ ὁ δίκαιος· λέγεται γὰρ δικαιότερος ἕτερος ἑτέρου. εἰ οὖν τὸ μὲν ἀποδοθὲν γένος τὸ μᾶλλον δέχεται, τὸ δ’ εἶδος μὴ δέχεται, μήτ’ αὐτὸ μήτε τὸ κατ’ ἐκεῖνο λεγόμενον, οὐκ ἂν εἴη γένος τὸ ἀποδοθέν.

Πάλιν εἰ τὸ μᾶλλον δοκοῦν ἢ ὁμοίως μὴ ἔστι γένος, δῆλον ὅτι οὐδὲ τὸ ἀποδοθέν. χρήσιμος δ’ ὁ τόπος ἐπὶ τῶν τοιούτων μάλιστα, ἐφ’ ὧν πλείω φαίνεται τοῦ εἴδους ἐν τῷ τί ἐστι κατηγορούμενα καὶ μὴ διώρισται μηδ’ ἔχομεν εἰπεῖν ποῖον αὐτῶν γένος. οἷον τῆς ὀργῆς καὶ ἡ λύπη καὶ ἡ ὑπόληψις ὀλιγωρίας ἐν τῷ τί ἐστι κατηγορεῖσθαι δοκεῖ· λυπεῖταί τε γὰρ ὁ ὀργιζόμενος καὶ ὑπολαμβάνει ὀλιγωρεῖσθαι. ἡ αὐτὴ δὲ σκέψις καὶ ἐπὶ τοῦ εἴδους πρὸς ἄλλο τι συγκρίνοντι· εἰ γὰρ τὸ μᾶλλον ἢ τὸ ὁμοίως δοκοῦν εἶναι ἐν τῷ ἀποδοθέντι γένει μὴ ἔστιν ἐν τῷ γένει, δῆλον ὅτι οὐδὲ τὸ ἀποδοθὲν εἶδος εἴη ἂν ἐν τῷ γένει.

Ἀναιροῦντι μὲν οὖν καθάπερ εἴρηται χρηστέον. κατασκευάζοντι δέ, εἰ μὲν ἐπιδέχεται τὸ μᾶλλον τό τε ἀποδοθὲν [128a] γένος καὶ τὸ εἶδος, οὐ χρήσιμος ὁ τόπος· οὐδὲν γὰρ κωλύει ἀμφοτέρων ἐπιδεχομένων μὴ εἶναι θάτερον θατέρου γένος· τό τε γὰρ καλὸν καὶ τὸ λευκὸν ἐπιδέχεται τὸ μᾶλλον, καὶ οὐδέτερον οὐδετέρου γένος. ἡ δὲ τῶν γενῶν καὶ τῶν εἰδῶν πρὸς ἄλληλα σύγκρισις χρήσιμος· οἷον εἰ ὁμοίως τόδε καὶ τόδε γένος, εἰ θάτερον γένος, καὶ θάτερον. ὁμοίως δὲ καὶ εἰ τὸ ἧττον, καὶ τὸ μᾶλλον· οἷον εἰ τῆς ἐγκρατείας μᾶλλον ἡ δύναμις ἢ ἡ ἀρετὴ γένος, ἡ δ’ ἀρετὴ γένος, καὶ ἡ δύναμις. τὰ δ’ αὐτὰ καὶ ἐπὶ τοῦ εἴδους ἁρμόσει λέγεσθαι· εἰ γὰρ ὁμοίως τόδε καὶ τόδε τοῦ προκειμένου εἶδος, εἰ θάτερον εἶδος, καὶ τὸ λοιπόν· καὶ εἰ τὸ ἧττον δοκοῦν εἶδός ἐστι, καὶ τὸ μᾶλλον.

Ἔτι πρὸς τὸ κατασκευάζειν σκεπτέον εἰ καθ’ ὧν ἀπεδόθη τὸ γένος, ἐν τῷ τί ἐστι κατηγορεῖται, μὴ ὄντος ἑνὸς τοῦ ἀποδοθέντος εἴδους ἀλλὰ πλειόνων καὶ διαφόρων· δῆλον γὰρ ὅτι γένος ἔσται. εἰ δ’ ἓν τὸ ἀποδοθὲν εἶδός ἐστι, σκοπεῖν εἰ καὶ κατ’ ἄλλων εἰδῶν τὸ γένος ἐν τῷ τί ἐστι κατηγορεῖται· πάλιν γὰρ συμβήσεται κατὰ πλειόνων καὶ διαφόρων αὐτὸ κατηγορεῖσθαι.

Ἐπεὶ δὲ δοκεῖ τισι καὶ ἡ διαφορὰ ἐν τῷ τί ἐστι τῶν εἰδῶν κατηγορεῖσθαι, χωριστέον τὸ γένος ἀπὸ τῆς διαφορᾶς χρώμενον τοῖς εἰρημένοις στοιχείοις, πρῶτον μὲν ὅτι τὸ γένος ἐπὶ πλέον λέγεται τῆς διαφορᾶς, εἶθ’ ὅτι κατὰ τὴν τοῦ τί ἐστιν ἀπόδοσιν μᾶλλον ἁρμόττει τὸ γένος ἢ τὴν διαφορὰν εἰπεῖν (ὁ γὰρ ζῷον εἴπας τὸν ἄνθρωπον μᾶλλον δηλοῖ τί ἐστιν ὁ ἄνθρωπος ἢ ὁ πεζόν), καὶ ὅτι ἡ μὲν διαφορὰ ποιότητα τοῦ γένους ἀεὶ σημαίνει, τὸ δὲ γένος τῆς διαφορᾶς οὔ· ὁ μὲν γὰρ εἴπας πεζὸν ποιόν τι ζῷον λέγει, ὁ δὲ ζῷον εἴπας οὐ λέγει ποιόν τι πεζόν.

Τὴν μὲν οὖν διαφορὰν ἀπὸ τοῦ γένους οὕτω χωριστέον. ἐπεὶ δὲ δοκεῖ, ‹εἰ› τὸ μουσικόν, ᾗ μουσικόν ἐστιν, ἐπιστῆμόν τί ἐστι, καὶ ἡ μουσικὴ ἐπιστήμη τις εἶναι, καὶ εἰ τὸ βαδίζον τῷ βαδίζειν κινεῖται, ἡ βάδισις κίνησίς τις εἶναι, σκοπεῖν, ἐν ᾧ ἂν γένει βούλῃ τι κατασκευάσαι, τὸν εἰρημένον τρόπον, οἷον εἰ τὴν ἐπιστήμην ὅπερ πίστιν, εἰ ὁ ἐπιστάμενος ᾗ ἐπίσταται πιστεύει· δῆλον γὰρ ὅτι ἡ ἐπιστήμη πίστις ἄν τις εἴη. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων.

Ἔτι ἐπεὶ τὸ παρεπόμενόν τινι ἀεὶ καὶ μὴ ἀντιστρέφον χαλεπὸν χωρίσαι τοῦ μὴ γένος εἶναι, ἂν τόδε μὲν τῷδ’ ἕπηται [128b] παντί, τόδε δὲ τῷδε μὴ παντί, οἷον τῇ νηνεμίᾳ ἡ ἠρεμία καὶ τῷ ἀριθμῷ τὸ διαιρετόν, ἀνάπαλιν δ’ οὔ (τὸ γὰρ διαιρετὸν οὐ πᾶν ἀριθμός, οὐδ’ ἡ ἠρεμία νηνεμία), αὐτὸν μὲν χρῆσθαι ὡς γένους ὄντος τοῦ ἀεὶ ἀκολουθοῦντος, ὅταν μὴ ἀντιστρέφῃ θάτερον, ἄλλου δὲ προτείνοντος μὴ ἐπὶ πάντων ὑπακούειν. ἔνστασις δ’ αὐτοῦ ὅτι τὸ μὴ ὂν ἕπεται παντὶ τῷ γινομένῳ (τὸ γὰρ γινόμενον οὐκ ἔστι) καὶ οὐκ ἀντιστρέφει (οὐ γὰρ πᾶν τὸ μὴ ὂν γίνεται), ἀλλ’ ὅμως οὐκ ἔστι γένος τὸ μὴ ὂν τοῦ γινομένου· ἁπλῶς γὰρ οὐκ ἔστι τοῦ μὴ ὄντος εἴδη.

Περὶ μὲν οὖν τοῦ γένους καθάπερ εἴρηται μετιτέον.

E

Πότερον δ’ ἴδιον ἢ οὐκ ἴδιόν ἐστι τὸ εἰρημένον, διὰ τῶνδε σκεπτέον.

Ἀποδίδοται [δὲ] τὸ ἴδιον ἢ καθ’ αὑτὸ καὶ ἀεί, ἢ πρὸς ἕτερον καὶ ποτέ, οἷον καθ’ αὑτὸ μὲν ἀνθρώπου τὸ ζῷον ἥμερον φύσει, πρὸς ἕτερον δὲ οἷον ψυχῆς πρὸς σῶμα, ὅτι τὸ μὲν προστακτικὸν τὸ δ’ ὑπηρετικόν ἐστιν, ἀεὶ δὲ οἷον θεοῦ τὸ ζῷον ἀθάνατον, ποτὲ δ’ οἷον τοῦ τινὸς ἀνθρώπου τὸ περιπατεῖν ἐν τῷ γυμνασίῳ.

Ἔστι δὲ τοῦ πρὸς ἕτερον ἰδίου ἀποδιδομένου ἢ δύο προβλήματα ἢ τέτταρα. ἐὰν μὲν γὰρ τοῦ μὲν ἀποδῷ τοῦ δ’ ἀρνήσηται ταὐτὸ τοῦτο, δύο μόνον προβλήματα γίνονται, καθάπερ τὸ ἀνθρώπου πρὸς ἵππον ἴδιον ὅτι δίπουν ἐστίν. καὶ γὰρ ὅτι ἄνθρωπος οὐ δίπουν ἐστὶν ἐπιχειροίη τις ἄν, καὶ ὅτι ὁ ἵππος δίπουν· ἀμφοτέρως δ’ ἂν κινοῖτο τὸ ἴδιον. ἐὰν δ’ ἑκατέρου ἑκάτερον ἀποδῷ καὶ ἑκατέρου ἀπαρνηθῇ, τέτταρα προβλήματα ἔσται, καθάπερ τὸ ἀνθρώπου ἴδιον πρὸς ἵππον, ὅτι τὸ μὲν δίπουν τὸ δὲ τετράπουν ἐστίν. καὶ γὰρ ὅτι ἄνθρωπος οὐ δίπουν καὶ ὅτι τετράπουν πέφυκεν ἔστιν ἐπιχειρεῖν, καὶ ὅτι ὁ ἵππος δίπουν καὶ ὅτι οὐ τετράπουν οἷόν τ’ ἐπιχειρεῖν. ὅπως δ’ οὖν δειχθέντος ἀναιρεῖται τὸ κείμενον.

Ἔστι δὲ τὸ μὲν καθ’ αὑτὸ ἴδιον ὃ πρὸς ἅπαντα ἀποδίδοται καὶ παντὸς χωρίζει, καθάπερ ἀνθρώπου τὸ ζῷον θνητὸν ἐπιστήμης δεκτικόν· τὸ δὲ πρὸς ἕτερον ὃ μὴ ἀπὸ παντὸς ἀλλ’ ἀπό τινος τακτοῦ διορίζει, καθάπερ ἀρετῆς πρὸς ἐπιστήμην, ὅτι τὸ μὲν ἐν πλείοσι, τὸ δ’ ἐν λογιστικῷ μόνον καὶ τοῖς ἔχουσι λογιστικὸν πέφυκε γίνεσθαι. τὸ δ’ ἀεὶ ὃ [129a] κατὰ πάντα χρόνον ἀληθεύεται καὶ μηδέποτ’ ἀπολείπεται, καθάπερ τοῦ ζῴου τὸ ἐκ ψυχῆς καὶ σώματος συγκείμενον, τὸ δὲ ποτὲ ὃ κατά τινα χρόνον ἀληθεύεται καὶ μὴ ἐξ ἀνάγκης ἀεὶ παρέπεται, καθάπερ τοῦ τινὸς ἀνθρώπου τὸ περιπατεῖν ἐν ἀγορᾷ.

Ἔστι δὲ τὸ πρὸς ἄλλο ἴδιον ἀποδοῦναι τὸ διαφορὰν εἰπεῖν ἢ ἐν ἅπασι καὶ ἀεί, ἢ ὡς ἐπὶ τὸ πολὺ καὶ ἐν τοῖς πλείστοις. οἷον ἐν ἅπασι μὲν καὶ ἀεὶ καθάπερ τὸ ἀνθρώπου ἴδιον πρὸς ἵππον ὅτι δίπουν· ἄνθρωπος μὲν γὰρ καὶ ἀεὶ καὶ πᾶς ἐστι δίπους, ἵππος δ’ οὐδείς ἐστι δίπους οὐδέποτε. ὡς ἐπὶ τὸ πολὺ δὲ καὶ ἐν τοῖς πλείστοις καθάπερ τὸ λογιστικοῦ ἴδιον πρὸς ἐπιθυμητικὸν καὶ θυμικὸν τὸ τὸ μὲν προστάττειν τὸ δ’ ὑπηρετεῖν· οὔτε γὰρ τὸ λογιστικὸν πάντοτε προστάττει, ἀλλ’ ἐνίοτε καὶ προστάττεται, οὔτε τὸ ἐπιθυμητικὸν καὶ θυμικὸν ἀεὶ προστάττεται, ἀλλὰ καὶ προστάττει ποτέ, ὅταν ᾖ μοχθηρὰ ἡ ψυχὴ τοῦ ἀνθρώπου.

Τῶν δ' ἰδίων ἐστὶ λογικὰ μάλιστα τά τε καθ' αὑτὰ καὶ ἀεὶ καὶ τὰ πρὸς ἕτερον. τοῦ μὲν γὰρ πρὸς ἕτερον ἰδίου πλείω προβλήματά ἐστι, καθάπερ εἴπομεν καὶ πρότερον· ἢ γὰρ δύο ἢ τέτταρα ἐξ ἀνάγκης γίνονται τὰ προβλήματα. πλείους οὖν οἱ λόγοι γίνονται πρὸς ταῦτα. τὸ δὲ καθ' αὑτὸ καὶ τὸ ἀεὶ πρὸς πολλὰ ἔστιν ἐπιχειρεῖν ἢ πρὸς πλείους χρόνους παρατηρεῖν, τὸ μὲν καθ' αὑτὸ πρὸς πολλά (πρὸς ἕκαστον γὰρ τῶν ὄντων δεῖ ὑπάρχειν αὐτῷ τὸ ἴδιον, ὥστ' εἰ μὴ πρὸς ἅπαντα χωρίζεται, οὐκ ἂν εἴη καλῶς ἀποδεδομένον τὸ ἴδιον), τὸ δ' ἀεὶ πρὸς πολλοὺς χρόνους παρατηρεῖν· κἂν εἰ γὰρ μὴ ὑπάρχει κἂν εἰ μὴ ὑπῆρξε κἂν εἰ μὴ ὑπάρξει, οὐκ ἔσται ἴδιον. τὸ δὲ ποτὲ πρὸς τὸν νῦν μόνον χρόνον ἐπισκοποῦμεν· οὔκουν εἰσὶ λόγοι πρὸς αὐτὸ πολλοί· λογικὸν δὲ τοῦτ' ἔστι πρόβλημα πρὸς ὃ λόγοι γένοιντ' ἂν καὶ συχνοὶ καὶ καλοί.

Τὸ μὲν οὖν πρὸς ἕτερον ἴδιον ῥηθὲν ἐκ τῶν περὶ τὸ συμβεβηκὸς τόπων ἐπισκεπτέον ἐστίν, εἰ τῷ μὲν συμβέβηκε τῷ δὲ μὴ συμβέβηκεν. περὶ δὲ τῶν ἀεὶ καὶ τῶν καθ' αὑτὸ διὰ τῶνδε θεωρητέον.

[129b] Πρῶτον μὲν εἰ μὴ καλῶς ἀποδέδοται τὸ ἴδιον ἢ καλῶς. τοῦ δὲ μὴ καλῶς ἢ καλῶς ἐστιν ἓν μέν, εἰ μὴ διὰ γνωριμωτέρων ἢ διὰ γνωριμωτέρων κεῖται τὸ ἴδιον, ἀνασκευάζοντα μὲν εἰ μὴ διὰ γνωριμωτέρων, κατασκευάζοντα δὲ εἰ διὰ γνωριμωτέρων. τοῦ δὲ μὴ διὰ γνωριμωτέρων ἐστὶ τὸ μὲν εἰ ὅλως ἀγνωστότερόν ἐστι τὸ ἴδιον ὃ ἀποδίδωσι τούτου οὗ τὸ ἴδιον εἴρηκεν· οὐ γὰρ ἔσται καλῶς κείμενον τὸ ἴδιον. γνώσεως γὰρ ἕνεκα τὸ ἴδιον ποιούμεθα· διὰ γνωριμωτέρων οὖν ἀποδοτέον· οὕτω γὰρ ἔσται κατανοεῖν ἱκανῶς μᾶλλον. οἷον ἐπεὶ ὁ θεὶς πυρὸς ἴδιον εἶναι τὸ ὁμοιότατον ψυχῇ ἀγνωστοτέρῳ κέχρηται τοῦ πυρὸς τῇ ψυχῇ (μᾶλλον γὰρ ἴσμεν τί ἐστι πῦρ ἢ ψυχή), οὐκ ἂν εἴη καλῶς κείμενον ἴδιον πυρὸς τὸ ὁμοιότατον ψυχῇ. τὸ δ' εἰ μὴ γνωριμώτερόν ἐστι τόδε τῷδ' ὑπάρχον. δεῖ γὰρ μὴ μόνον εἶναι γνωριμώτερον τοῦ πράγματος, ἀλλὰ καὶ ὅτι τῷδ' ὑπάρχει γνωριμώτερον· ὁ μὴ γὰρ εἰδὼς εἰ τῷδ' ὑπάρχει οὐδ' εἰ τῷδε ὑπάρχει μόνῳ γνωριεῖ, ὥσθ' ὁποτέρου τούτων συμβάντος ἀσαφὲς γίνεται τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς πυρὸς ἴδιον τὸ ἐν ᾧ πρώτῳ ψυχὴ πέφυκεν εἶναι ἀγνωστοτέρῳ κέχρηται τοῦ πυρὸς τῷ εἰ ἐν τούτῳ ὑπάρχει ψυχὴ καὶ εἰ ἐν πρώτῳ ὑπάρχει, οὐκ ἂν εἴη καλῶς κείμενον ἴδιον πυρὸς τὸ ἐν ᾧ πρώτῳ ψυχὴ πέφυκεν εἶναι. κατασκευάζοντα δὲ εἰ διὰ γνωριμωτέρων κεῖται τὸ ἴδιον, καὶ εἰ διὰ γνωριμωτέρων καθ' ἑκάτερον τῶν τρόπων. ἔσται γὰρ καλῶς κατὰ τοῦτο κείμενον τὸ ἴδιον· τῶν γὰρ κατασκευαστικῶν τόπων τοῦ καλῶς οἱ μὲν κατὰ τοῦτο μόνον, οἱ δ' ἁπλῶς

δείξουσιν ὅτι καλῶς. οἷον ἐπεὶ ὁ εἴπας ζῴου ἴδιον τὸ αἴσθησιν ἔχειν διὰ γνωριμωτέρων καὶ γνωριμώτερον ἀποδέδωκε τὸ ἴδιον καθ’ ἑκάτερον τῶν τρόπων, εἴη ἂν καλῶς ἀποδεδομένον κατὰ τοῦτο τοῦ ζῴου ἴδιον τὸ αἴσθησιν ἔχειν.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἴ τι τῶν ὀνομάτων τῶν ἐν τῷ ἰδίῳ ἀποδεδομένων πλεοναχῶς λέγεται, ἢ καὶ ὅλος ὁ λόγος πλείω σημαίνει· οὐ γὰρ ἔσται καλῶς κείμενον τὸ ἴδιον. οἷον ἐπεὶ τὸ αἰσθάνεσθαι πλείω σημαίνει, ἓν μὲν τὸ αἴσθησιν ἔχειν ἓν δὲ τὸ αἰσθήσει χρῆσθαι, οὐκ ἂν εἴη τοῦ ζῴου ἴδιον καλῶς κείμενον τὸ αἰσθάνεσθαι πεφυκός. διὰ τοῦτο [130a] δ’ οὐ χρηστέον ἐστὶν οὔτ’ ὀνόματι πλεοναχῶς λεγομένῳ οὔτε λόγῳ τῷ τὸ ἴδιον σημαίνοντι, διότι τὸ πλεοναχῶς λεγόμενον ἀσαφὲς ποιεῖ τὸ ῥηθέν, ἀποροῦντος τοῦ μέλλοντος ἐπιχειρεῖν πότερον λέγει τῶν πλεοναχῶς λεγομένων· τὸ γὰρ ἴδιον τοῦ μαθεῖν χάριν ἀποδίδοται. ἔτι δὲ πρὸς τούτοις ἀναγκαῖόν ἐστιν ἔλεγχόν τινα γίνεσθαι τοῖς οὕτως ἀποδιδοῦσι τὸ ἴδιον, ὅταν ἐπὶ τοῦ διαφωνοῦντός τις ποιῇ τὸν συλλογισμὸν τοῦ πλεοναχῶς λεγομένου. κατασκευάζοντα δὲ εἰ μὴ πλείω σημαίνει μήτε τῶν ὀνομάτων μηδὲν μήθ’ ὅλος ὁ λόγος· ἔσται γὰρ καλῶς κατὰ τοῦτο κείμενον τὸ ἴδιον. οἷον ἐπεὶ οὔτε τὸ σῶμα πολλὰ δηλοῖ οὔτε τὸ εὐκινητότατον εἰς τὸν ἄνω τόπον οὔτε τὸ σύνολον τὸ ἐκ τούτων συντιθέμενον, εἴη ἂν καλῶς κείμενον κατὰ τοῦτο πυρὸς ἴδιον σῶμα τὸ εὐκινητότατον εἰς τὸν ἄνω τόπον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ πλεοναχῶς λέγεται τοῦτο οὗ τὸ ἴδιον ἀποδίδωσι, μὴ διώρισται δὲ τὸ τίνος αὐτῶν ἴδιον τίθησιν· οὐ γὰρ ἔσται καλῶς ἀποδεδομένον τὸ ἴδιον. δι’ ἃς δ’ αἰτίας, οὐκ ἄδηλόν ἐστιν ἐκ τῶν πρότερον εἰρημένων· τὰ γὰρ αὐτὰ συμβαίνειν ἀναγκαῖόν ἐστιν. οἷον ἐπεὶ τὸ ἐπίστασθαι τοῦτο πολλὰ σημαίνει (τὸ μὲν γὰρ ἐπιστήμην ἔχειν αὐτό, τὸ δ’ ἐπιστήμῃ χρῆσθαι αὐτό, τὸ δ’ ἐπιστήμην ἔχειν αὐτοῦ, τὸ δ’ ἐπιστήμῃ χρῆσθαι αὐτοῦ), οὐκ ἂν εἴη τοῦ ἐπίστασθαι τοῦτο καλῶς ἴδιον ἀποδεδομένον, μὴ διορισθέντος τοῦ τίνος τίθησιν αὐτῶν τὸ ἴδιον. κατασκευάζοντα δὲ εἰ μὴ λέγεται πολλαχῶς τοῦτο οὗ τὸ ἴδιον τίθησιν, ἀλλ’ ἔστιν ἓν καὶ ἁπλοῦν· ἔσται γὰρ καλῶς κατὰ τοῦτο κείμενον τὸ ἴδιον. οἷον ἐπεὶ ὁ ἄνθρωπος μοναχῶς λέγεται ἕν, εἴη ἂν καλῶς κείμενον κατὰ τοῦτο ἀνθρώπου ἴδιον τὸ ζῷον ἥμερον φύσει.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ πλεονάκις εἴρηται τὸ αὐτὸ ἐν τῷ ἰδίῳ· πολλάκις γὰρ λανθάνουσι τοῦτο ποιοῦντες καὶ ἐν τοῖς ἰδίοις, καθάπερ καὶ ἐν τοῖς ὅροις. οὐκ ἔσται δὲ καλῶς κείμενον τὸ τοῦτο πεπονθὸς ἴδιον· ταράττει γὰρ τὸν ἀκούοντα πλεονάκις λεχθέν. ἀσαφὲς οὖν ἀναγκαῖόν ἐστι γίνεσθαι, καὶ πρὸς τούτοις ἀδολεσχεῖν δοκοῦσιν. ἔσται δὲ συμπῖπτον τὸ πλεονάκις εἰπεῖν τὸ αὐτὸ κατὰ δύο τρόπους· καθ’ ἕνα μέν, ὅταν ὀνομάσῃ πλεονάκις τὸ αὐτό, καθάπερ εἴ τις ἴδιον ἀποδοίη πυρὸς σῶμα τὸ λεπτότατον τῶν σωμάτων (οὗτος γὰρ πλεονάκις εἴρηκε τὸ “σῶμα”)· δεύτερον δ’, ἄν τις μεταλαμβάνῃ τοὺς λόγους ἀντὶ τῶν ὀνομάτων, καθάπερ εἴ [130b] τις ἀποδοίη γῆς ἴδιον “οὐσία ἡ μάλιστα κατὰ φύσιν φερομένη τῶν σωμάτων εἰς τὸν κάτω τόπον”, ἔπειτα μεταλάβοι ἀντὶ τῶν “σωμάτων” τὸ “οὐσιῶν τοιωνδί”· ἓν γὰρ καὶ ταὐτόν ἐστι σῶμα καὶ οὐσία τοιαδί· ἔσται γὰρ οὗτος τὸ “οὐσία” πλεονάκις εἰρηκώς. ὥστ’ οὐδέτερον ἂν εἴη καλῶς κείμενον τῶν ἰδίων. κατασκευάζοντα δὲ εἰ μηδενὶ χρῆται πλεονάκις ὀνόματι τῷ αὐτῷ· ἔσται γὰρ κατὰ τοῦτο καλῶς ἀποδεδομένον τὸ ἴδιον. οἷον ἐπεὶ ὁ εἴπας ἀνθρώπου ἴδιον ζῷον ἐπιστήμης δεκτικὸν οὐ κέχρηται τῷ αὐτῷ πλεονάκις ὀνόματι, εἴη ἂν κατὰ τοῦτο καλῶς ἀποδεδομένον τοῦ ἀνθρώπου τὸ ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ τοιοῦτόν τι ἀποδέδωκεν ἐν τῷ ἰδίῳ ὃ πᾶσιν ὑπάρχει. ἀχρεῖον γὰρ ἔσται τὸ μὴ χωρίζον ἀπό τινων· τὸ δ’ ἐν τοῖς ἰδίοις λεγόμενον χωρίζειν δεῖ, καθάπερ καὶ τὸ ἐν τοῖς ὅροις. οὔκουν ἔσται καλῶς κείμενον τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ἐπιστήμης ἴδιον ὑπόληψιν ἀμετάπειστον ὑπὸ λόγου ἓν οὖσαν τοιούτῳ τινὶ κέχρηται ἐν τῷ ἰδίῳ, τῷ ἑνί, ὃ πᾶσιν ὑπάρχει, οὐκ ἂν εἴη καλῶς κείμενον τὸ τῆς ἐπιστήμης ἴδιον. κατασκευάζοντα δὲ εἰ μηδενὶ κέχρηται κοινῷ ἀλλ’ ἀπό τινος χωρίζοντι· ἔσται γὰρ καλῶς κείμενον κατὰ τοῦτο τὸ ἴδιον. οἷον ἐπεὶ ὁ εἴπας ζῴου ἴδιον τὸ ψυχὴν ἔχειν οὐδενὶ κέχρηται κοινῷ, εἴη ἂν κατὰ τοῦτο καλῶς κείμενον ζῴου ἴδιον τὸ ψυχὴν ἔχειν.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ πλείω ἴδια ἀποδίδωσι τοῦ αὐτοῦ, μὴ διορίσας ὅτι πλείω τίθησιν· οὐ γὰρ ἔσται καλῶς κείμενον τὸ ἴδιον. καθάπερ γὰρ οὐδ’ ἐν τοῖς ὅροις δεῖ παρὰ τὸν δηλοῦντα λόγον τὴν οὐσίαν προσκεῖσθαί τι πλέον, οὕτως οὐδ’ ἐν τοῖς ἰδίοις παρὰ τὸν ποιοῦντα λόγον ἴδιον τὸ ῥηθὲν οὐδὲν προσαποδοτέον· ἀχρεῖον γὰρ γίνεται τὸ τοιοῦτον. οἷον ἐπεὶ ὁ εἴπας ἴδιον πυρὸς σῶμα τὸ λεπτότατον καὶ κουφότατον πλείω ἀποδέδωκεν ἴδια (ἑκάτερον γὰρ κατὰ μόνου τοῦ πυρὸς ἀληθές ἐστιν εἰπεῖν), οὐκ ἂν εἴη καλῶς κείμενον ἴδιον πυρὸς σῶμα τὸ λεπτότατον καὶ κουφότατον. κατασκευάζοντα δ’ εἰ μὴ πλείω τοῦ αὐτοῦ τὰ ἴδια ἀποδέδωκεν ἀλλ’ ἕν· ἔσται γὰρ κατὰ τοῦτο καλῶς κείμενον τὸ ἴδιον. οἷον ἐπεὶ ὁ εἴπας ὑγροῦ ἴδιον σῶμα τὸ εἰς ἅπαν σχῆμα ἀγόμενον ἓν ἀποδέδωκε τὸ ἴδιον ἀλλ’ οὐ πλείω, εἴη ἂν κατὰ τοῦτο καλῶς κείμενον τὸ τοῦ ὑγροῦ ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ αὐτῷ προσκέχρηται οὗ τὸ ἴδιον ἀποδίδωσιν ἢ τῶν αὐτοῦ τινι· οὐ γὰρ ἔσται καλῶς [131a] κείμενον τὸ ἴδιον.

τοῦ γὰρ μαθεῖν χάριν ἀποδίδοται τὸ ἴδιον· αὐτὸ μὲν οὖν αὑτῷ ὁμοίως ἄγνωστόν ἐστι, τὸ δέ τι τῶν αὐτοῦ ὕστερον· οὔκουν ἐστὶ γνωριμώτερον. ὥστ’ οὐ γίνεται διὰ τούτων μᾶλλόν τι μαθεῖν, οἷον· ἐπεὶ ὁ εἴπας ζῴου ἴδιον οὐσίαν ἧς εἶδός ἐστιν ἄνθρωπος τινὶ προσκέχρηται τῶν τούτου, οὐκ ἂν εἴη καλῶς κείμενον τὸ ἴδιον. κατασκευάζοντα δὲ εἰ μήτε αὐτῷ μήτε τῶν αὐτοῦ μηδενὶ κέχρηται· ἔσται γὰρ καλῶς κατὰ τοῦτο κείμενον τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ζῴου ἴδιον τὸ ἐκ ψυχῆς καὶ σώματος συγκείμενον οὔτε αὐτῷ οὔτε τῶν αὐτοῦ οὐδενὶ προσκέχρηται, εἴη ἂν καλῶς κατὰ τοῦτο ἀποδεδομένον τὸ τοῦ ζῴου ἴδιον.

Τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων σκεπτέον ἐστὶ τῶν μὴ ποιούντων ἢ ποιούντων γνωριμώτερον, ἀνασκευάζοντα μὲν εἴ τινι προσκέχρηται ἢ ἀντικειμένῳ ἢ ὅλως ἅμα τῇ φύσει ἢ ὑστέρῳ τινί· οὐ γὰρ ἔσται καλῶς κείμενον τὸ ἴδιον. τὸ μὲν γὰρ ἀντικείμενον ἅμα τῇ φύσει· τὸ δ’ ἅμα τῇ φύσει καὶ τὸ ὕστερον οὐ ποιεῖ γνωριμώτερον. οἷον ἐπεὶ ὁ εἴπας ἀγαθοῦ ἴδιον “ὃ κακῷ μάλιστ’ ἀντίκειται” τῷ ἀντικειμένῳ προσκέχρηται τοῦ ἀγαθοῦ, οὐκ ἂν εἴη τοῦ ἀγαθοῦ καλῶς ἀποδεδομένον τὸ ἴδιον. κατασκευάζοντα δὲ εἰ μηδενὶ προσκέχρηται μήτ’ ἀντικειμένῳ μήτε ὅλως ἅμα τῇ φύσει μήθ’ ὑστέρῳ· ἔσται γὰρ κατὰ τοῦτο καλῶς ἀποδεδομένον τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ἐπιστήμης ἴδιον ὑπόληψιν τὴν πιστοτάτην οὐδενὶ προσκέχρηται οὔτ’ ἀντικειμένῳ οὔθ’ ἅμα τῇ φύσει οὔθ’ ὑστέρῳ, εἴη ἂν κατὰ τοῦτο καλῶς κείμενον τὸ τῆς ἐπιστήμης ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ μὴ τὸ ἀεὶ παρεπόμενον ἴδιον ἀποδέδωκεν, ἀλλὰ τοῦτο ὃ γίνεταί ποτε μὴ ἴδιον· οὐ γὰρ ἔσται καλῶς εἰρημένον τὸ ἴδιον. οὔτε γὰρ ἐφ’ ᾧ καταλαμβάνομεν ὑπάρχον αὐτό, κατὰ τούτου καὶ τοὔνομα ἐξ ἀνάγκης ἀληθεύεται, οὔτ’ ἐφ’ ᾧ καταλαμβάνεται μὴ ὑπάρχον, κατὰ τούτου ἐξ ἀνάγκης οὐ ῥηθήσεται τοὔνομα, ὥστ’ οὐκ ἂν εἴη καλῶς κείμενον τὸ ἴδιον. ἔτι δὲ πρὸς τούτοις οὐδ’ ὅτε ἀποδέδωκε τὸ ἴδιον ἔσται φανερὸν εἰ ὑπάρχει, εἴπερ τοιοῦτόν ἐστιν οἷον ἀπολείπειν. οὔκουν ἔσται σαφὲς τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ζῴου ἴδιον τὸ κινεῖσθαί ποτε καὶ ἑστάναι τοιοῦτον ἀποδέδωκε τὸ ἴδιον ὃ οὐ γίνεταί ποτε ἴδιον, οὐκ ἂν εἴη καλῶς κείμενον τὸ ἴδιον. κατασκευάζοντα δὲ εἰ τὸ ἐξ ἀνάγκης ἀεὶ ὂν ἴδιον ἀποδέδωκεν· ἔσται γὰρ [131b] καλῶς κείμενον κατὰ τοῦτο τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ἀρετῆς ἴδιον “ὃ τὸν ἔχοντα ποιεῖ σπουδαῖον” τὸ ἀεὶ παρεπόμενον ἴδιον ἀποδέδωκεν, εἴη ἂν κατὰ τοῦτο καλῶς ἀποδεδομένον τὸ τῆς ἀρετῆς ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ τὸ νῦν ἴδιον ἀποδιδοὺς μὴ διωρίσατο ὅτι τὸ νῦν ἴδιον ἀποδίδωσιν· οὐ γὰρ ἔσται καλῶς κείμενον τὸ ἴδιον. πρῶτον μὲν γὰρ τὸ παρὰ τὸ ἔθος γινόμενον ἅπαν διορισμοῦ προσδεῖται· εἰώθασι δ’ ὡς ἐπὶ τὸ πολὺ πάντες τὸ ἀεὶ παρακολουθοῦν ἴδιον ἀποδιδόναι. δεύτερον δὲ ἄδηλός ἐστιν ὁ μὴ διορισάμενος εἰ τὸ νῦν ἴδιον ἐβούλετο θεῖναι· οὔκουν δοτέον ἐστὶν ἐπιτιμήσεως σκῆψιν. οἷον ἐπεὶ ὁ θέμενος τοῦ τινὸς ἀνθρώπου ἴδιον τὸ καθῆσθαι μετά τινος τὸ νῦν ἴδιον τίθησιν, οὐκ ἂν εἴη καλῶς τὸ ἴδιον ἀποδεδωκώς, εἴπερ μὴ διορισάμενος εἶπεν. κατασκευάζοντα δ’ εἰ τὸ νῦν ἴδιον ἀποδιδοὺς διορισάμενος ἔθηκεν ὅτι τὸ νῦν ἴδιον τίθησιν· ἔσται γὰρ καλῶς κείμενον κατὰ τοῦτο τὸ ἴδιον. οἷον ἐπεὶ ὁ εἴπας τοῦ τινὸς ἀνθρώπου ἴδιον τὸ περιπατεῖν νῦν διαστειλάμενος ἔθηκε τοῦτο, καλῶς ἂν εἴη κείμενον τὸ ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ τοιοῦτο ἀποδέδωκε τὸ ἴδιον, ὃ φανερὸν μὴ ἔστιν ἄλλως ὑπάρχον ἢ αἰσθήσει· οὐ γὰρ ἔσται καλῶς κείμενον τὸ ἴδιον. ἅπαν γὰρ τὸ αἰσθητὸν ἔξω γινόμενον τῆς αἰσθήσεως ἄδηλον γίνεται· ἀφανὲς γάρ ἐστιν εἰ ἔτι ὑπάρχει, διὰ τὸ τῇ αἰσθήσει μόνον γνωρίζεσθαι. ἔσται δ’ ἀληθὲς τοῦτο ἐπὶ τῶν μὴ ἐξ ἀνάγκης ἀεὶ παρακολουθούντων. οἷον ἐπεὶ ὁ θέμενος ἡλίου ἴδιον ἄστρον φερόμενον ὑπὲρ γῆς τὸ λαμπρότατον τοιούτῳ κέχρηται ἐν τῷ ἰδίῳ, τῷ ὑπὲρ γῆς φέρεσθαι, ὃ τῇ αἰσθήσει γνωρίζεται, οὐκ ἂν εἴη καλῶς τὸ τοῦ ἡλίου ἀποδεδομένον ἴδιον· ἄδηλον γὰρ ἔσται, ὅταν δύῃ ὁ ἥλιος, εἰ φέρεται ὑπὲρ γῆς, διὰ τὸ τὴν αἴσθησιν τότε ἀπολείπειν ἡμᾶς. κατασκευάζοντα δ’ εἰ τοιοῦτον ἀποδέδωκε τὸ ἴδιον ὃ μὴ τῇ αἰσθήσει φανερόν ἐστιν ἢ ὃ αἰσθητὸν ὂν ἐξ ἀνάγκης ὑπάρχον δῆλόν ἐστιν· ἔσται γὰρ κατὰ τοῦτο καλῶς κείμενον τὸ ἴδιον. οἷον ἐπεὶ ὁ θέμενος ἐπιφανείας ἴδιον “ὃ πρῶτον κέχρωσται” αἰσθητῷ μέν τινι προσκέχρηται τῷ κεχρῶσθαι, τοιούτῳ δ’ ὃ φανερόν ἐστιν ὑπάρχον ἀεί, εἴη ἂν κατὰ τοῦτο καλῶς ἀποδεδομένον τὸ τῆς ἐπιφανείας ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ τὸν ὅρον ὡς ἴδιον ἀποδέδωκεν· οὐ γὰρ ἔσται καλῶς κείμενον τὸ ἴδιον· οὐ γὰρ δεῖ [132a] δηλοῦν τὸ τί ἦν εἶναι τὸ ἴδιον. οἷον ἐπεὶ ὁ εἴπας ἀνθρώπου ἴδιον ζῷον πεζὸν δίπουν τὸ τί ἦν εἶναι σημαῖνον ἀποδέδωκε τοῦ ἀνθρώπου ἴδιον, οὐκ ἂν εἴη τὸ τοῦ ἀνθρώπου ἴδιον καλῶς ἀποδεδομένον. κατασκευάζοντα δὲ εἰ ἀντικατηγορούμενον μὲν ἀποδέδωκε τὸ ἴδιον, μὴ τὸ τί ἦν εἶναι δὲ δηλοῦν· ἔσται γὰρ κατὰ τοῦτο καλῶς ἀποδεδομένον τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ἀνθρώπου ἴδιον ζῷον ἥμερον φύσει ἀντικατηγορούμενον μὲν ἀποδέδωκε τὸ ἴδιον, οὐ τὸ τί ἦν εἶναι δὲ δηλοῦν, εἴη ἂν κατὰ τοῦτο καλῶς ἀποδεδομένον τὸ ἴδιον τοῦ ἀνθρώπου.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ μὴ εἰς τὸ τί ἐστιν θεὶς ἀποδέδωκε τὸ ἴδιον. δεῖ γὰρ τῶν ἰδίων, καθάπερ καὶ τῶν ὅρων, τὸ πρῶτον ἀποδίδοσθαι γένος, ἔπειθ’ οὕτως ἤδη προσάπτεσθαι τὰ λοιπὰ καὶ χωρίζειν. ὥστε τὸ μὴ τοῦτον τὸν τρόπον κείμενον ἴδιον οὐκ ἂν εἴη καλῶς ἀποδεδομένον. οἷον ἐπεὶ ὁ εἴπας ζῴου ἴδιον τὸ ψυχὴν ἔχειν οὐκ ἔθηκεν εἰς τὸ τί ἐστι τὸ ζῷον, οὐκ ἂν εἴη καλῶς κείμενον τὸ τοῦ ζῴου ἴδιον. κατασκευάζοντα δὲ εἴ τις εἰς τὸ τί ἐστι θεὶς οὗ τὸ ἴδιον ἀποδίδωσι τὰ λοιπὰ προσάπτει· ἔσται γὰρ κατὰ τοῦτο καλῶς ἀποδεδομένον τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ἀνθρώπου ἴδιον ζῷον ἐπιστήμης δεκτικὸν εἰς τὸ τί ἐστι θεὶς ἀποδέδωκε τὸ ἴδιον, εἴη ἂν κατὰ τοῦτο καλῶς κείμενον τὸ ἴδιον τοῦ ἀνθρώπου.

Πότερον μὲν οὖν καλῶς ἢ οὐ καλῶς ἀποδέδοται τὸ ἴδιον, διὰ τῶνδε σκεπτέον. πότερον δ' ἴδιόν ἐστιν ὅλως τὸ εἰρημένον ἢ οὐκ ἴδιον, ἐκ τῶνδε θεωρητέον. οἱ γὰρ ἁπλῶς κατασκευάζοντες τὸ ἴδιον ὅτι καλῶς κεῖται τόποι οἱ αὐτοὶ ἔσονται τοῖς ἴδιον ὅλως ποιοῦσιν· ἐν ἐκείνοις οὖν ῥηθήσονται.

Πρῶτον μὲν οὖν ἀνασκευάζοντα ἐπιβλέπειν ἐφ' ἕκαστον οὗ τὸ ἴδιον ἀποδέδωκεν, οἷον εἰ μηδενὶ ὑπάρχει, ἢ εἰ μὴ κατὰ τοῦτο ἀληθεύεται, ἢ εἰ μή ἐστιν ἴδιον ἑκάστου αὐτῶν κατ' ἐκεῖνο οὗ τὸ ἴδιον ἀποδέδωκεν· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον. οἷον ἐπεὶ κατὰ τοῦ γεωμετρικοῦ οὐκ ἀληθεύεται τὸ ἀνεξαπάτητον εἶναι ὑπὸ λόγου (ἀπατᾶται γὰρ ὁ γεωμετρικὸς ἐν τῷ ψευδογραφεῖσθαι), οὐκ ἂν εἴη τοῦ ἐπιστήμονος ἴδιον τὸ μὴ ἀπατᾶσθαι ὑπὸ λόγου. κατασκευάζοντα δ' εἰ κατὰ παντὸς ἀληθεύεται καὶ κατὰ τοῦτ' ἀληθεύεται ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ τὸ [132b] ζῷον ἐπιστήμης δεκτικὸν κατὰ παντὸς ἀνθρώπου ἀληθεύεται καὶ ᾗ ἄνθρωπος, εἴη ἂν ἀνθρώπου ἴδιον τὸ ζῷον ἐπιστήμης δεκτικόν. [ἔστι δ' ὁ τόπος οὗτος ἀνασκευάζοντι μέν, εἰ μὴ καθ' οὗ τοὔνομα, καὶ ὁ λόγος ἀληθεύεται, καὶ εἰ μὴ καθ' οὗ ὁ λόγος, καὶ τοὔνομα ἀληθεύεται· κατασκευάζοντι δέ, εἰ καθ' οὗ τοὔνομα, καὶ ὁ λόγος, καὶ εἰ καθ' οὗ ὁ λόγος, καὶ τοὔνομα κατηγορεῖται.]

Ἔπειτ' ἀνασκευάζοντα μὲν εἰ μὴ καθ' οὗ τοὔνομα, καὶ ὁ λόγος, καὶ εἰ μὴ καθ' οὗ ὁ λόγος, καὶ τοὔνομα λέγεται· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον ἴδιον εἶναι. οἷον ἐπεὶ τὸ μὲν ζῷον ἐπιστήμης μετέχον ἀληθεύεται κατὰ τοῦ θεοῦ, ὁ δ' ἄνθρωπος οὐ κατηγορεῖται, οὐκ ἂν εἴη τοῦ ἀνθρώπου ἴδιον ζῷον ἐπιστήμης μετέχον. κατασκευάζοντα δὲ εἰ καθ' οὗ ὁ λόγος, καὶ τοὔνομα κατηγορεῖται, καὶ καθ' οὗ τοὔνομα, καὶ ὁ λόγος κατηγορεῖται· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ καθ' οὗ τὸ ψυχὴν ἔχειν, τὸ ζῷον ἀληθεύεται, καὶ καθ' οὗ τὸ ζῷον, τὸ ψυχὴν ἔχειν, εἴη ἂν τὸ ψυχὴν ἔχειν τοῦ ζῴου ἴδιον.

Ἔπειτ' ἀνασκευάζοντα μὲν εἰ τὸ ὑποκείμενον ἴδιον ἀποδέδωκε τοῦ ἐν τῷ ὑποκειμένῳ λεγομένου· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον ἴδιον. οἷον ἐπεὶ ὁ ἀποδοὺς ἴδιον τοῦ λεπτομερεστάτου σώματος τὸ πῦρ τὸ ὑποκείμενον ἀποδέδωκε τοῦ κατηγορουμένου ἴδιον, οὐκ ἂν εἴη τὸ πῦρ σώματος τοῦ λεπτομερεστάτου ἴδιον. διὰ τοῦτο δ’ οὐκ ἔσται τὸ ὑποκείμενον τοῦ ἐν τῷ ὑποκειμένῳ ἴδιον, ὅτι τὸ αὐτὸ πλειόνων ἔσται καὶ διαφόρων τῷ εἴδει ἴδιον. τῷ γὰρ αὐτῷ πλείω τινὰ διάφορα τῷ εἴδει ὑπάρχει κατὰ μόνου λεγόμενα, ὧν ἔσται πάντων ἴδιον τὸ ὑποκείμενον, ἐάν τις οὕτω τιθῆται τὸ ἴδιον. κατασκευάζοντα δ’ εἰ τὸ τῷ ὑποκειμένῳ ἀποδέδωκεν ἴδιον τοῦ ὑποκειμένου· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον, ἐάνπερ κατὰ μόνων κατηγορῆται ὧν εἴρηται [τὸ] ἴδιον. οἷον ἐπεὶ ὁ εἴπας γῆς ἴδιον σῶμα τὸ βαρύτατον τῷ εἴδει τοῦ ὑποκειμένου ἀπέδωκε τὸ ἴδιον κατὰ μόνου λεγόμενον τοῦ πράγματος καὶ ὡς τὸ ἴδιον κατηγορεῖται, εἴη ἂν τὸ τῆς γῆς ἴδιον ὀρθῶς κείμενον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ κατὰ μέθεξιν ἀποδέδωκε τὸ ἴδιον· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον. τὸ γὰρ [133a] κατὰ μέθεξιν ὑπάρχον εἰς τὸ τί ἦν εἶναι συμβάλλεται· εἴη δ’ ἂν τὸ τοιοῦτο διαφορά τις κατά τινος ἑνὸς εἴδους λεγομένη. οἷον ἐπεὶ ὁ εἴπας ἀνθρώπου ἴδιον τὸ πεζὸν δίπουν κατὰ μέθεξιν ἀποδέδωκε τὸ ἴδιον, οὐκ ἂν εἴη ἀνθρώπου ἴδιον τὸ πεζὸν δίπουν. κατασκευάζοντα δὲ εἰ μὴ κατὰ μέθεξιν ἀποδέδωκε τὸ ἴδιον μηδὲ τὸ τί ἦν εἶναι δηλοῦν, ἀντικατηγορουμένου τοῦ πράγματος· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ ὁ θεὶς ζῴου ἴδιον τὸ αἰσθάνεσθαι πεφυκὸς οὔτε κατὰ μέθεξιν ἀποδέδωκεν ἴδιον οὔτε τὸ τί ἦν εἶναι δηλοῦν, ἀντικατηγορουμένου τοῦ πράγματος, εἴη ἂν ζῴου ἴδιον τὸ αἰσθάνεσθαι πεφυκός.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ ἐνδέχεται μὴ ἅμα ὑπάρχειν τὸ ἴδιον, ἀλλ’ ἢ ὕστερον ἢ πρότερον ἢ [οὗ] τοὔνομα· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον, ἢ οὐδέποτε ἢ οὐκ ἀεί. οἷον ἐπεὶ ἐνδέχεται καὶ πρότερόν τινι ὑπάρξαι καὶ ὕστερον τοῦ βαδίζειν διὰ τῆς ἀγορᾶς τὸ ἄνθρωπος, οὐκ ἂν εἴη τὸ βαδίζειν διὰ τῆς ἀγορᾶς τοῦ ἀνθρώπου ἴδιον, ἢ οὐδέποτ’ ἢ οὐκ ἀεί. κατασκευάζοντα δὲ εἰ ἅμα ἐξ ἀνάγκης ἀεὶ ὑπάρχει, μήτε ὅρος ὂν μήτε διαφορά· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ τὸ ζῷον ἐπιστήμης δεκτικὸν ἅμα ἐξ ἀνάγκης ἀεὶ ὑπάρχει καὶ τὸ ἄνθρωπος, οὔτε διαφορὰ ὂν οὔθ’ ὅρος, εἴη ἂν τὸ ζῷον ἐπιστήμης δεκτικὸν τοῦ ἀνθρώπου ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ τῶν αὐτῶν, ᾗ ταὐτά ἐστι, μὴ ἔστι τὸ αὐτὸ ἴδιον· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον. οἷον ἐπεὶ οὐκ ἔστι διωκτοῦ τὸ φαίνεσθαί τισιν ἀγαθὸν ἴδιον, οὐδ’ ἂν αἱρετοῦ εἴη ἴδιον τὸ φαίνεσθαί τισιν ἀγαθόν· ταὐτὸν γάρ ἐστι τὸ διωκτὸν καὶ τὸ αἱρετόν. κατασκευάζοντα δ’ εἰ τοῦ αὐτοῦ, ᾗ ταὐτό ἐστι, ταὐτὸ ἴδιον· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ ἀνθρώπου, ᾗ ἄνθρωπός ἐστι, λέγεται ἴδιον τὸ τριμερῆ ψυχὴν ἔχειν, καὶ βροτοῦ, ᾗ βροτός ἐστιν, εἴη ἂν ἴδιον τὸ τριμερῆ ψυχὴν ἔχειν. χρήσιμος δ’ ὁ τόπος οὗτος καὶ ἐπὶ τοῦ συμβεβηκότος· τοῖς γὰρ αὐτοῖς, ᾗ ταὐτά ἐστι, ταὐτὰ δεῖ ὑπάρχειν ἢ μὴ ὑπάρχειν.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ τῶν αὐτῶν τῷ εἴδει μὴ ταὐτὸν ἀεὶ τῷ εἴδει [τὸ] ἴδιόν ἐστιν· οὐδὲ γὰρ τοῦ εἰρημένου ἔσται [133b] ἴδιον τὸ κείμενον εἶναι ἴδιον. οἷον ἐπεὶ ταὐτόν ἐστι τῷ εἴδει ἄνθρωπος καὶ ἵππος, οὐκ ἀεὶ δὲ τοῦ ἵππου ἐστὶν ἴδιον τὸ ἑστάναι ὑφ’ αὑτοῦ, οὐκ ἂν εἴη τοῦ ἀνθρώπου ἴδιον τὸ κινεῖσθαι ὑφ’ αὑτοῦ· ταὐτὸν γάρ ἐστι τῷ εἴδει τὸ κινεῖσθαι καὶ τὸ ἑστάναι ὑφ’ αὑτοῦ, ᾗ ζῴον ‹δ’› ἐστὶν ἑκατέρῳ αὐτῶν συμβέβηκεν. κατασκευάζοντα δ’ εἰ τῶν αὐτῶν τῷ εἴδει ταὐτὸν ἀεὶ τῷ εἴδει τὸ ἴδιον· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ ἀνθρώπου ἐστὶν ἴδιον τὸ εἶναι πεζὸν δίπουν, καὶ ὄρνιθος ἂν εἴη ἴδιον τὸ εἶναι πτηνὸν δίπουν· ἑκάτερον γὰρ τούτων ἐστὶ ταὐτὸν τῷ εἴδει, ᾗ τὰ μὲν ὡς ὑπὸ τὸ αὐτὸ γένος ἐστὶν εἴδη, ὑπὸ τὸ ζῷον ὄντα, τὰ δὲ ὡς γένους διαφοραί, τοῦ ζῴου. οὗτος δ’ ὁ τόπος ψευδής ἐστιν ὅταν τὸ μὲν ἕτερον τῶν λεχθέντων ἑνί τινι μόνῳ ὑπάρχῃ εἴδει, τὸ δ’ ἕτερον πολλοῖς, καθάπερ τὸ πεζὸν τετράπουν.

Ἐπεὶ δὲ τὸ ταὐτὸν καὶ τὸ ἕτερον πολλαχῶς λέγεται, ἔργον ἐστὶ σοφιστικῶς λαμβάνοντι ἑνὸς ἀποδοῦναι καὶ μόνου τινὸς τὸ ἴδιον· τὸ γὰρ ὑπάρχον τινὶ ᾧ συμβέβηκέ τι καὶ τῷ συμβεβηκότι ὑπάρξει λαμβανομένῳ μετὰ τοῦ ᾧ συμβέβηκεν. οἷον τὸ ὑπάρχον ἀνθρώπῳ καὶ λευκῷ ἀνθρώπῳ ὑπάρξει, ἂν ᾖ λευκὸς ἄνθρωπος· καὶ τὸ λευκῷ δὲ ἀνθρώπῳ ὑπάρχον καὶ ἀνθρώπῳ ὑπάρξει. διαβάλλοι δ’ ἄν τις τὰ πολλὰ τῶν ἰδίων τὸ ὑποκείμενον ἄλλο μὲν καθ’ αὑτὸ ποιῶν ἄλλο δὲ μετὰ τοῦ συμβεβηκότος, οἷον ἄλλο μὲν ἄνθρωπον εἶναι λέγων ἄλλο δὲ λευκὸν ἄνθρωπον, ἔτι δὲ ἕτερον ποιῶν τὴν ἕξιν καὶ τὸ κατὰ τὴν ἕξιν λεγόμενον. τὸ γὰρ τῇ ἕξει ὑπάρχον καὶ τῷ κατὰ τὴν ἕξιν λεγομένῳ ὑπάρξει, καὶ τὸ τῷ κατὰ τὴν ἕξιν λεγομένῳ ὑπάρχον καὶ τῇ ἕξει ὑπάρξει. οἷον ἐπεὶ ὁ ἐπιστήμων κατὰ τὴν ἐπιστήμην λέγεται διακεῖσθαι, οὐκ ἂν εἴη τῆς ἐπιστήμης ἴδιον τὸ ἀμετάπειστον ὑπὸ λόγου· καὶ γὰρ ὁ ἐπιστήμων ἔσται ἀμετάπειστος ὑπὸ λόγου. κατασκευάζοντα δὲ ῥητέον ὅτι οὐκ ἔστιν ἕτερον ἁπλῶς τὸ ᾧ συμβέβηκε καὶ τὸ συμβεβηκὸς μετὰ τοῦ ᾧ συμβέβηκε λαμβανόμενον, ἀλλ’ ἄλλο λέγεται τῷ ἕτερον εἶναι αὐτοῖς τὸ εἶναι· οὐ ταὐτὸν γάρ ἐστιν ἀνθρώπῳ τε τὸ εἶναι ἀνθρώπῳ καὶ λευκῷ ἀνθρώπῳ τὸ εἶναι ἀνθρώπῳ λευκῷ. ἔτι δὲ θεωρητέον ἐστὶ παρὰ τὰς πτώσεις, λέγοντα ὅτι [134a] οὔθ’ ὁ ἐπιστήμων ἐστὶ τὸ ἀμετάπειστον ὑπὸ λόγου ἀλλ’ ὁ ἀμετάπειστος ὑπὸ λόγου, οὔθ’ ἡ ἐπιστήμη τὸ ἀμετάπειστον ὑπὸ λόγου ἀλλ’ ἡ ἀμετάπειστος ὑπὸ λόγου· πρὸς γὰρ τὸν πάντα ἐνιστάμενον πάντως ἀντιτακτέον ἐστίν.

Ἔπειτ' ἀνασκευάζοντα μὲν εἰ τὸ φύσει ὑπάρχον βουλόμενος ἀποδοῦναι τοῦτον τὸν τρόπον τίθησι τῇ λέξει ὥστε τὸ ἀεὶ ὑπάρχον σημαίνειν· δόξειε γὰρ ἂν κινεῖσθαι τὸ κείμενον εἶναι ἴδιον. οἷον ἐπεὶ ὁ εἴπας ἀνθρώπου ἴδιον τὸ δίπουν βούλεται μὲν τὸ φύσει ὑπάρχον ἀποδιδόναι, σημαίνει δὲ τῇ λέξει τὸ ἀεὶ ὑπάρχον, οὐκ ἂν εἴη ἀνθρώπου ἴδιον τὸ δίπουν· οὐ γὰρ πᾶς ἄνθρωπός ἐστι δύο πόδας ἔχων. κατασκευάζοντα δ' εἰ βούλεται τὸ φύσει ὑπάρχον ἴδιον ἀποδιδόναι καὶ τῇ λέξει τοῦτον τὸν τρόπον σημαίνει· οὐ γὰρ κινήσεται κατὰ τοῦτο τὸ ἴδιον. οἷον ἐπεὶ ὁ ἀνθρώπου ἴδιον ἀποδιδοὺς τὸ ζῷον ἐπιστήμης δεκτικὸν καὶ βούλεται καὶ τῇ λέξει σημαίνει τὸ φύσει ὑπάρχον ἴδιον, οὐκ ἂν κινοῖτο κατὰ τοῦτο ὡς οὐκ ὂν ἀνθρώπου ἴδιον τὸ ζῷον ἐπιστήμης δεκτικόν.

Ἔτι ὅσα λέγεται ὡς κατ' ἄλλο τι πρῶτον ἢ ὡς πρῶτον αὐτό, ἔργον ἐστὶν ἀποδοῦναι τῶν τοιούτων τὸ ἴδιον· ἐὰν μὲν γὰρ τοῦ κατ' ἄλλο τι ἴδιον ἀποδῷς, καὶ κατὰ τοῦ πρώτου ἀληθεύσεται· ἐὰν δὲ τοῦ πρώτου θῇς, καὶ τοῦ κατ' ἄλλο κατηγορηθήσεται. οἷον ἐὰν μέν τις ἐπιφανείας ἴδιον ἀποδῷ τὸ κεχρῶσθαι, καὶ κατὰ σώματος ἀληθεύσεται τὸ κεχρῶσθαι· ἐὰν δὲ σώματος, καὶ κατ' ἐπιφανείας κατηγορηθήσεται. ὥστε οὐ καθ' οὗ ὁ λόγος, καὶ τοὔνομα ἀληθεύσεται.

Συμβαίνει δ' ἐν ἐνίοις τῶν ἰδίων ὡς ἐπὶ τὸ πολὺ γίνεσθαί τινα ἁμαρτίαν παρὰ τὸ μὴ διορίζεσθαι πῶς καὶ τίνων τίθησι τὸ ἴδιον. ἅπνατες γὰρ ἐπιχειροῦσιν ἀποδιδόναι [τὸ] ἴδιον ἢ τὸ φύσει ὑπάρχον, καθάπερ ἀνθρώπου τὸ δίπουν, ἢ τὸ ὑπάρχον, καθάπερ ἀνθρώπου τινὸς τὸ τέτταρας δακτύλους ἔχειν, ἢ εἴδει, καθάπερ πυρὸς τὸ λεπτομερέστατον, ἢ ἁπλῶς, καθάπερ ζῴου τὸ ζῆν, ἢ κατ' ἄλλο, καθάπερ ψυχῆς τὸ φρόνιμον, ἢ ὡς τὸ πρῶτον, καθάπερ λογιστικοῦ τὸ φρόνιμον, ἢ ὡς τῷ ἔχειν, καθάπερ ἐπιστήμονος τὸ ἀμετάπειστον ὑπὸ λόγου (οὐδὲν γὰρ ἕτερον ἢ τῷ ἔχειν τι ἔσται ἀμετάπειστος ὑπὸ λόγου), ἢ τῷ ἔχεσθαι, [134b] καθάπερ ἐπιστήμης τὸ ἀμετάπειστον ὑπὸ λόγου, ἢ τῷ μετέχεσθαι, καθάπερ ζῴου τὸ αἰσθάνεσθαι (αἰσθάνεται μὲν γὰρ καὶ ἄλλο τι, οἷον ἄνθρωπος, ἀλλ' ‹ὡς› μετέχον ἤδη τοῦτο αἰσθάνεται), ἢ τῷ μετέχειν, καθάπερ τοῦ τινὸς ζῴου τὸ ζῆν. μὴ προσθεὶς μὲν οὖν τὸ φύσει ἁμαρτάνει, διότι ἐνδέχεται τὸ φύσει ὑπάρχον μὴ ὑπάρχειν ἐκείνῳ ᾧ φύσει ὑπάρχει, καθάπερ ἀνθρώπῳ τὸ δύο πόδας ἔχειν. μὴ διορίσας δ' ὅτι τὸ ὑπάρχον ἀποδίδωσιν, διότι οὐκ ἔστι τοιοῦτον οἷον ὑπάρχειν ἐκείνῳ, καθάπερ τὸ τέτταρας δακτύλους ἔχειν τὸν ἄνθρωπον. μὴ δηλώσας δὲ ὅτι ὡς πρῶτον ἢ ὡς κατ' ἄλλο τίθησιν, διότι οὐ καθ' οὗ ὁ λόγος, καὶ τοὔνομα ἀληθεύσεται, καθάπερ τὸ κεχρῶσθαι, εἴτε τῆς ἐπιφανείας εἴτε τοῦ σώματος ἀποδοθὲν ἴδιον. μὴ προείπας δὲ ὅτι ἢ τῷ ἔχειν ἢ τῷ ἔχεσθαι τὸ ἴδιον ἀποδέδωκε, διότι οὐκ ἔστιν ἴδιον· ὑπάρξει γάρ, ἐὰν μὲν τῷ ἔχεσθαι ἀποδιδῷ τὸ ἴδιον, τῷ ἔχοντι, ἐὰν δὲ τῷ ἔχειν, τῷ ἐχομένῳ, καθάπερ τὸ ἀμετάπειστον ὑπὸ λόγου τῆς ἐπιστήμης ἢ τοῦ ἐπιστήμονος τεθὲν ἴδιον. μὴ προσσημήνας δὲ τῷ μετέχειν ἢ τῷ μετέχεσθαι, διότι καὶ ἄλλοις τισὶν ὑπάρξει τὸ ἴδιον· ἐὰν μὲν γὰρ τῷ μετέχεσθαι ἀποδῷ, τοῖς μετέχουσιν, ἐὰν δὲ τῷ μετέχειν, τοῖς μετεχομένοις, καθάπερ εἰ τοῦ τινὸς ζῴου ἢ τοῦ ζῴου τιθείη τὸ ζῆν ἴδιον. μὴ διαστείλας δὲ τὸ τῷ εἴδει, διότι ἑνὶ μόνῳ ὑπάρξει τῶν ὑπὸ τοῦτο ὄντων οὗ τὸ ἴδιον τίθησι· τὸ γὰρ καθ’ ὑπερβολὴν ἑνὶ μόνῳ ὑπάρχει, καθάπερ τοῦ πυρὸς τὸ κουφότατον. ἐνίοτε δὲ καὶ τὸ τῷ εἴδει προσθεὶς διήμαρτεν. δεήσει γὰρ ἓν εἶδος εἶναι τῶν λεχθέντων, ὅταν τὸ τῷ εἴδει προστεθῇ· τοῦτο δ’ ἐπ’ ἐνίων οὐ συμπίπτει, καθάπερ οὐδ’ ἐπὶ τοῦ πυρός. οὐ γὰρ ἔστιν ἓν εἶδος τοῦ πυρός· ἕτερον γάρ ἐστι τῷ εἴδει ἄνθραξ καὶ φλὸξ καὶ φῶς, ἕκαστον αὐτῶν πῦρ ὄν. διὰ τοῦτο δ’ οὐ δεῖ, ὅταν τὸ τῷ εἴδει προστεθῇ, ἕτερον εἶναι εἶδος τοῦ λεχθέντος, ὅτι τοῖς μὲν μᾶλλον τοῖς δ’ ἧττον ὑπάρξει τὸ λεχθὲν ἴδιον, καθάπερ ἐπὶ τοῦ πυρὸς τὸ λεπτομερέστατον· λεπτομερέστερον γάρ ἐστι τὸ φῶς τοῦ ἄνθρακος καὶ τῆς φλογός. τοῦτο δ’ οὐ δεῖ γίνεσθαι ὅταν μὴ καὶ τὸ ὄνομα μᾶλλον κατηγορῆται καθ’ οὗ ὁ λόγος μᾶλλον ἀληθεύεται· εἰ δὲ μή, οὐκ ἔσται, καθ’ οὗ ὁ λόγος μᾶλλον, καὶ [135a] τοὔνομα μᾶλλον. ἔτι δὲ πρὸς τούτοις ταὐτὸν εἶναι συμβήσεται τὸ ἴδιον τοῦ τε ἁπλῶς καὶ τοῦ μάλιστα ὄντος ἐν τῷ ἁπλῶς τοιούτῳ, καθάπερ ἐπὶ τοῦ πυρὸς ἔχει τὸ λεπτομερέστατον· καὶ γὰρ τοῦ φωτὸς ἔσται ταὐτὸ τοῦτο ἴδιον· λεπτομερέστατον γάρ ἐστι τὸ φῶς. ἄλλου μὲν οὖν οὕτως ἀποδιδόντος τὸ ἴδιον ἐπιχειρητέον· αὐτῷ δ’ οὐ δοτέον ἐστὶ ταύτην τὴν ἔνστασιν, ἀλλ’ εὐθὺς τιθεμένῳ τὸ ἴδιον διοριστέον ὃν τρόπον τίθησι τὸ ἴδιον.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ αὐτὸ αὑτοῦ ἴδιον ἔθηκεν· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον. αὐτὸ γὰρ αὑτῷ πᾶν τὸ εἶναι δηλοῖ· τὸ δὲ τὸ εἶναι δηλοῦν οὐκ ἴδιον ἀλλ’ ὅρος ἐστίν. οἷον ἐπεὶ ὁ εἴπας καλοῦ τὸ πρέπον ἴδιον εἶναι αὐτὸ ἑαυτοῦ ἴδιον ἀποδέδωκε (ταὐτὸν γάρ ἐστι τὸ καλὸν καὶ τὸ πρέπον), οὐκ ἂν εἴη τὸ πρέπον τοῦ καλοῦ ἴδιον. κατασκευάζοντα δὲ εἰ μὴ αὐτὸ μὲν αὑτοῦ ἴδιον ἀποδέδωκεν, ἀντικατηγορούμενον δ’ ἔθηκεν· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ ὁ θεὶς ζῴου ἴδιον τὸ οὐσία ἔμψυχος οὐκ αὐτὸ μὲν αὑτοῦ ἴδιον ἔθηκεν, ἀντικατηγορούμενον δ’ ἀποδέδωκεν, εἴη ἂν ἴδιον τοῦ ζῴου τὸ οὐσία ἔμψυχος.

Ἔπειτ’ ἐπὶ τῶν ὁμοιομερῶν σκεπτέον ἐστίν, ἀνασκευάζοντα μὲν εἰ τὸ τοῦ συνόλου ἴδιον μὴ ἀληθεύεται κατὰ τοῦ μέρους, ἢ εἰ τὸ τοῦ μέρους μὴ λέγεται κατὰ τοῦ σύμπαντος· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον ἴδιον εἶναι. συμβαίνει δ’ ἐπ’ ἐνίων τοῦτο γίνεσθαι· ἀποδοίη γὰρ ἄν τις ἐπὶ τῶν ὁμοιομερῶν ἴδιον ἐνίοτε μὲν ἐπὶ τὸ σύμπαν βλέψας, ἐνίοτε δ’ ἐπὶ τὸ κατὰ μέρος λεγόμενον αὐτὸς αὐτὸν ἐπιστήσας. ἔσται δ’ οὐδέτερον ὀρθῶς ἀποδεδομένον. οἷον ἐπὶ μὲν τοῦ σύμπαντος, ἐπεὶ ὁ εἴπας θαλάττης ἴδιον τὸ πλεῖστον ὕδωρ ἁλμυρὸν ὁμοιομεροῦς μέν τινος ἔθηκε τὸ ἴδιον, τοιοῦτον δ’ ἀποδέδωκε ὃ οὐκ ἀληθεύεται κατὰ τοῦ μέρους (οὐ γάρ ἐστιν ἡ τὶς θάλαττα τὸ πλεῖστον ὕδωρ ἁλμυρόν), οὐκ ἂν εἴη τῆς θαλάττης ἴδιον τὸ πλεῖστον ὕδωρ ἁλμυρόν. ἐπὶ δὲ τοῦ μέρους, οἷον ἐπεὶ ὁ θεὶς ἀέρος ἴδιον τὸ ἀναπνευστὸν ὁμοιομεροῦς μέν τινος εἴρηκε τὸ ἴδιον, τοιοῦτον δ’ ἀποδέδωκεν ὃ κατὰ τοῦ τινὸς ἀέρος ἀληθεύεται, κατὰ δὲ τοῦ σύμπαντος οὐ λέγεται (οὐ γάρ ἐστιν ὁ σύμπας ἀναπνευστός), οὐκ ἂν εἴη τοῦ ἀέρος ἴδιον τὸ ἀναπνευστόν.

[135b] κατασκευάζοντα δὲ εἰ ἀληθεύεται μὲν καθ’ ἑκάστου τῶν ὁμοιομερῶν, ἔστι δ’ ἴδιον αὐτῶν κατὰ τὸ σύμπαν· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ ἀληθεύεται κατὰ πάσης γῆς τὸ κάτω φέρεσθαι κατὰ φύσιν, ἔστι δὲ τοῦτο ἴδιον καὶ τῆς τινὸς γῆς κατὰ τὸ γῆν εἶναι, εἴη ἂν τῆς γῆς ἴδιον τὸ κάτω φέρεσθαι κατὰ φύσιν.

Ἔπειτ’ ἐκ τῶν ἀντικειμένων σκεπτέον ἐστί, πρῶτον μὲν ἐκ τῶν ἐναντίων, ἀνασκευάζοντα μὲν εἰ τοῦ ἐναντίου μὴ ἔστι τὸ ἐναντίον ἴδιον· οὐδὲ γὰρ τοῦ ἐναντίου ἔσται τὸ ἐναντίον ἴδιον. οἷον ἐπεὶ ἐναντίον ἐστὶ δικαιοσύνῃ μὲν ἀδικία, τῷ βελτίστῳ δὲ τὸ χείριστον, οὐκ ἔστι δὲ τῆς δικαιοσύνης ἴδιον τὸ βέλτιστον, οὐκ ἂν εἴη τῆς ἀδικίας ἴδιον τὸ χείριστον. κατασκευάζοντα δὲ εἰ τοῦ ἐναντίου τὸ ἐναντίον ἴδιόν ἐστιν· καὶ γὰρ τοῦ ἐναντίου τὸ ἐναντίον ἴδιον ἔσται. οἷον ἐπεὶ ἐναντίον ἐστὶν ἀγαθῷ μὲν κακόν, αἱρετῷ δὲ φευκτόν, ἔστι δὲ τοῦ ἀγαθοῦ ἴδιον τὸ αἱρετόν, εἴη ἂν κακοῦ ἴδιον τὸ φευκτόν.

Δεύτερον δ’ ἐκ τῶν πρός τι, ἀνασκευάζοντα μὲν εἰ τὸ πρός τι τοῦ πρός τι μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τὸ πρός τι τοῦ πρός τι ἔσται ἴδιον. οἷον ἐπεὶ λέγεται διπλάσιον μὲν πρὸς ἥμισυ, ὑπερέχον δὲ πρὸς ὑπερεχόμενον, οὐκ ἔστι δὲ τοῦ διπλασίου τὸ ὑπερέχον ἴδιον, οὐκ ἂν εἴη τοῦ ἡμίσεος τὸ ὑπερεχόμενον ἴδιον. κατασκευάζοντα δὲ εἰ τοῦ πρός τι τὸ πρὸς τί ἐστιν ἴδιον· καὶ γὰρ τοῦ πρός τι τὸ πρός τι ἔσται ἴδιον. οἷον ἐπεὶ λέγεται τὸ μὲν διπλάσιον πρὸς τὸ ἥμισυ, τὸ δὲ δύο πρὸς ἓν πρὸς τὸ ἓν πρὸς δύο, ἔστι δὲ τοῦ διπλασίου ἴδιον τὸ ὡς δύο πρὸς ἕν, εἴη ἂν τοῦ ἡμίσεος ἴδιον τὸ ὡς ἓν πρὸς δύο.

Τρίτον δ’ ἀνασκευάζοντα μὲν εἰ τῆς ἕξεως τὸ καθ’ ἕξιν λεγόμενον μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τῆς στερήσεως τὸ κατὰ στέρησιν λεγόμενον ἔσται ἴδιον. κἂν εἰ δὲ τῆς στερήσεως τὸ κατὰ στέρησιν λεγόμενον μὴ ἔστιν ἴδιον, οὐδὲ τῆς ἕξεως τὸ κατὰ τὴν ἕξιν λεγόμενον ἴδιον ἔσται· οἷον ἐπεὶ οὐ λέγεται τῆς κωφότητος ἴδιον τὸ ἀναισθησίαν εἶναι, οὐδ’ ἂν τῆς ἀκούσεως εἴη ἴδιον τὸ αἴσθησιν εἶναι. κατασκευάζοντα δὲ εἰ τὸ καθ’ ἕξιν λεγόμενόν ἐστι τῆς ἕξεως ἴδιον· καὶ γὰρ τῆς στερήσεως τὸ κατὰ στέρησιν λεγόμενον ἔσται ἴδιον. κἂν εἰ τῆς στερήσεως τὸ κατὰ στέρησιν λεγόμενόν ἐστιν ἴδιον, καὶ τῆς ἕξεως [136a] τὸ καθ’ ἕξιν λεγόμενον ἔσται ἴδιον. οἷον ἐπεὶ τῆς ὄψεώς ἐστιν ἴδιον τὸ βλέπειν, καθὸ ἔχομεν ὄψιν, εἴη ἂν τῆς τυφλότητος ἴδιον τὸ μὴ βλέπειν, καθὸ οὐκ ἔχομεν ὄψιν πεφυκότες ἔχειν.

Ἔπειτα ἐκ τῶν φάσεων καὶ τῶν ἀποφάσεων, πρῶτον μὲν ἐξ αὐτῶν τῶν κατηγορουμένων. ἔστι δ’ ὁ τόπος οὗτος χρήσιμος ἀνασκευάζοντι μόνον. οἷον εἰ ἡ φάσις ἢ τὸ κατὰ τὴν φάσιν λεγόμενον αὐτοῦ ἴδιόν ἐστιν· οὐ γὰρ ἔσται αὐτοῦ ἡ ἀπόφασις οὐδὲ τὸ κατὰ τὴν ἀπόφασιν λεγόμενον ἴδιον. κἂν εἰ δ’ ἡ ἀπόφασις ἢ τὸ κατὰ τὴν ἀπόφασιν λεγόμενόν ἐστιν αὐτοῦ ἴδιον, οὐκ ἔσται ἡ φάσις οὐδὲ τὸ κατὰ τὴν φάσιν λεγόμενον ἴδιον. οἷον ἐπεὶ τοῦ ζῴου ἐστὶν ἴδιον τὸ ἔμψυχον, οὐκ ἂν εἴη τοῦ ζῴου ἴδιον τὸ οὐκ ἔμψυχον.

Δεύτερον δ’ ἐκ τῶν κατηγορουμένων ἢ μὴ κατηγορουμένων καὶ ἐξ ὧν κατηγορεῖται ἢ μὴ κατηγορεῖται, ἀνασκευάζοντα μὲν εἰ ἡ φάσις τῆς φάσεως μὴ ἔστιν ἴδιον· οὐδὲ γὰρ ἡ ἀπόφασις τῆς ἀποφάσεως ἔσται ἴδιον. κἂν εἰ δ’ ἡ ἀπόφασις τῆς ἀποφάσεως μὴ ἔστιν ἴδιον, οὐδ’ ἡ φάσις τῆς φάσεως ἔσται ἴδιον. οἷον ἐπεὶ οὐκ ἔστι τοῦ ἀνθρώπου ἴδιον τὸ ζῷον, οὐδ’ ἂν τοῦ μὴ ἀνθρώπου εἴη ἴδιον τὸ μὴ ζῷον· κἂν εἰ δὲ τοῦ μὴ ἀνθρώπου φαίνεται μὴ ἴδιον τὸ μὴ ζῷον, οὐδὲ τοῦ ἀνθρώπου ἔσται ἴδιον τὸ ζῷον. κατασκευάζοντα δ’ εἰ τῆς φάσεως ἡ φάσις ἐστὶν ἴδιον· καὶ γὰρ τῆς ἀποφάσεως ἡ ἀπόφασις ἔσται ἴδιον. κἂν εἰ δὲ τῆς ἀποφάσεως ἡ ἀπόφασίς ἐστιν ἴδιον, καὶ ἡ φάσις τῆς φάσεως ἔσται ἴδιον. οἷον ἐπεὶ τοῦ μὴ ζῴου ἴδιόν ἐστι τὸ μὴ ζῆν, εἴη ἂν τοῦ ζῴου ἴδιον τὸ ζῆν· κἂν εἰ δὲ τοῦ ζῴου φαίνεται ἴδιον τὸ ζῆν, καὶ τοῦ μὴ ζῴου φανεῖται ἴδιον τὸ μὴ ζῆν.

Τρίτον δὲ ἐξ αὐτῶν τῶν ὑποκειμένων, ἀνασκευάζοντα μὲν εἰ τὸ ἀποδεδομένον ἴδιον τῆς φάσεώς ἐστιν ἴδιον· οὐ γὰρ ἔσται τὸ αὐτὸ καὶ τῆς ἀποφάσεως ἴδιον. κἂν εἰ δὲ τῆς ἀποφάσεώς ἐστιν ἴδιον τὸ ἀποδοθέν, οὐκ ἔσται τῆς φάσεως ἴδιον. οἷον ἐπεὶ τοῦ ζῴου ἴδιον τὸ ἔμψυχον, οὐκ ἂν εἴη τοῦ μὴ ζῴου ἴδιον τὸ ἔμψυχον. κατασκευάζοντα δέ, εἰ τὸ ἀποδοθὲν μὴ ἔστι τῆς φάσεως ἴδιον, εἴη ἂν τῆς ἀποφάσεως. οὗτος δ’ ὁ τόπος ψευδής ἐστιν· φάσις γὰρ ἀποφάσεως καὶ ἀπόφασις φάσεως οὐκ ἔστιν ἴδιον. φάσις μὲν γὰρ ἀποφάσει οὐδ’ ὅλως ὑπάρχει, [136b] ἀπόφασις δὲ φάσει ὑπάρχει μέν, οὐχ ὡς ἴδιον δὲ ὑπάρχει.

Ἔπειτα δ’ ἐκ τῶν ἀντιδιῃρημένων, ἀνασκευάζοντα μὲν εἰ τῶν ἀντιδιῃρημένων μηδὲν μηδενὸς τῶν λοιπῶν ἀντιδιῃρημένων ἐστὶν ἴδιον· οὐδὲ γὰρ τὸ κείμενον ἔσται ἴδιον τούτου οὗ κεῖται ἴδιον. οἷον ἐπεὶ ζῷον αἰσθητὸν οὐδενὸς τῶν ἄλλων ζῴων ἐστὶν ἴδιον, οὐκ ἂν εἴη τὸ ζῷον νοητὸν τοῦ θεοῦ ἴδιον. κατασκευάζοντα δ’ εἰ τῶν λοιπῶν τῶν ἀντιδιῃρημένων ὁτιοῦν ἐστιν ἴδιον τούτων ἑκάστου τῶν ἀντιδιῃρημένων· καὶ γὰρ τὸ λοιπὸν ἔσται τούτου ἴδιον οὗ κεῖται μὴ εἶναι ἴδιον. οἷον ἐπεὶ φρονήσεώς ἐστιν ἴδιον τὸ καθ’ αὑτὸ πεφυκέναι λογιστικοῦ ἀρετὴν εἶναι, καὶ τῶν ἄλλων ἀρετῶν οὕτως ἑκάστης λαμβανομένης, εἴη ἂν σωφροσύνης ἴδιον τὸ καθ’ αὑτὸ πεφυκέναι ἐπιθυμητικοῦ ἀρετὴν εἶναι.

Ἔπειτ’ ἐκ τῶν πτώσεων, ἀνασκευάζοντα μὲν εἰ ἡ πτῶσις τῆς πτώσεως μὴ ἔστιν ἴδιον· οὐδὲ γὰρ ἡ πτῶσις τῆς πτώσεως ἔσται ἴδιον. οἷον ἐπεὶ οὐκ ἔστι τοῦ δικαίως ἴδιον τὸ καλῶς, οὐδ’ ἂν τοῦ δικαίου εἴη ἴδιον τὸ καλόν. κατασκευάζοντα δὲ εἰ ἡ πτῶσις τῆς πτώσεώς ἐστιν ἴδιον· καὶ γὰρ ἡ πτῶσις τῆς πτώσεως ἔσται ἴδιον. οἷον ἐπεὶ τοῦ ἀνθρώπου ἐστὶν ἴδιον τὸ πεζὸν δίπουν, καὶ τοῦ ἀνθρώπῳ εἴη ἂν ἴδιον τὸ πεζῷ δίποδι λέγεσθαι. οὐ μόνον δ’ ἐπ’ αὐτοῦ τοῦ εἰρημένου κατὰ τὰς πτώσεις ἐστὶ σκεπτέον ἀλλὰ καὶ ἐπὶ τῶν ἀντικειμένων, καθάπερ καὶ ἐπὶ τῶν προτέρων τόπων εἴρηται, ἀνασκευάζοντα μὲν εἰ ἡ τοῦ ἀντικειμένου πτῶσις μὴ ἔστιν ἴδιον τῆς τοῦ ἀντικειμένου πτώσεως· οὐδὲ γὰρ ἡ τοῦ ἀντικειμένου πτῶσις ἔσται ἴδιον τῆς τοῦ ἀντικειμένου πτώσεως. οἷον ἐπεὶ οὐκ ἔστι τοῦ δικαίως ἴδιον τὸ ἀγαθῶς, οὐδ’ ἂν τοῦ ἀδίκως εἴη ἴδιον τὸ κακῶς. κατασκευάζοντα δὲ εἰ ἡ τοῦ ἀντικειμένου πτῶσίς ἐστιν ἴδιον τῆς τοῦ ἀντικειμένου πτώσεως· καὶ γὰρ ἡ τοῦ ἀντικειμένου πτῶσις ἔσται ἴδιον τῆς τοῦ ἀντικειμένου πτώσεως. οἷον ἐπεὶ τοῦ ἀγαθοῦ ἐστιν ἴδιον τὸ βέλτιστον, καὶ τοῦ κακοῦ ἂν εἴη ἴδιον τὸ χείριστον.

Ἔπειτ’ ἐκ τῶν ὁμοίως ἐχόντων, ἀνασκευάζοντα μὲν εἰ τὸ ὁμοίως ἔχον τοῦ ὁμοίως ἔχοντος μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τὸ ὁμοίως ἔχον τοῦ ὁμοίως ἔχοντος ἔσται ἴδιον. οἷον ἐπεὶ ὁμοίως ἔχει ὁ οἰκοδόμος πρὸς τὸ ποιεῖν οἰκίαν καὶ ὁ ἰατρὸς πρὸς τὸ ποιεῖν ὑγίειαν, οὐκ ἔστι δὲ ἰατροῦ ἴδιον τὸ ποιεῖν ὑγίειαν, [137a] οὐκ ἂν εἴη οἰκοδόμου ἴδιον τὸ ποιεῖν οἰκίαν. κατασκευάζοντα δὲ εἰ τὸ ὁμοίως ἔχον τοῦ ὁμοίως ἔχοντός ἐστιν ἴδιον· καὶ γὰρ τὸ ὁμοίως ἔχον τοῦ ὁμοίως ἔχοντος ἔσται ἴδιον. οἷον ἐπεὶ ὁμοίως ἔχει ἰατρός τε πρὸς τὸ ποιητικὸς ὑγιείας εἶναι καὶ γυμναστὴς πρὸς τὸ ποιητικὸς εὐεξίας, ἔστι δ’ ἴδιον γυμναστοῦ τὸ ποιητικὸν εἶναι εὐεξίας, εἴη ἂν ἴδιον ἰατροῦ τὸ ποιητικὸν εἶναι ὑγιείας.

Ἔπειτ’ ἐκ τῶν ὡσαύτως ἐχόντων, ἀνασκευάζοντα μὲν εἰ τὸ ὡσαύτως ἔχον τοῦ ὡσαύτως ἔχοντος μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τὸ ὡσαύτως ἔχον τοῦ ὡσαύτως ἔχοντος ἔσται ἴδιον. εἰ δ’ ἐστὶ τοῦ ὡσαύτως ἔχοντος τὸ ὡσαύτως ἔχον ἴδιον, τούτου οὐκ ἔσται ἴδιον οὗ κεῖται εἶναι ἴδιον. οἷον ἐπεὶ ὡσαύτως ἔχει φρόνησις πρὸς τὸ καλὸν καὶ τὸ αἰσχρόν, τῷ ἐπιστήμη ἑκατέρου αὐτῶν εἶναι, οὐκ ἔστι δ’ ἴδιον φρονήσεως τὸ ἐπιστήμην εἶναι καλοῦ, οὐκ ἂν εἴη ἴδιον φρονήσεως τὸ ἐπιστήμην εἶναι αἰσχροῦ. [εἰ δ’ ἐστὶν ἴδιον φρονήσεως τὸ ἐπιστήμην εἶναι καλοῦ, οὐκ ἂν εἴη ἴδιον αὐτῆς τὸ ἐπιστήμην εἶναι αἰσχροῦ· ἀδύνατον γὰρ εἶναι τὸ αὐτὸ πλειόνων ἴδιον.] κατασκευάζοντι δὲ οὐδὲν οὗτος ὁ τόπος ἐστὶ χρήσιμος· τὸ γὰρ ὡσαύτως ἔχον ἓν πρὸς πλείω συγκρίνεται.

Ἔπειτ’ ἀνασκευάζοντα μὲν εἰ τὸ κατὰ τὸ εἶναι λεγόμενον μὴ ἔστι τοῦ κατὰ τὸ εἶναι λεγομένου ἴδιον· οὐδὲ γὰρ τὸ φθείρεσθαι τοῦ κατὰ τὸ φθείρεσθαι, οὐδὲ τὸ γίνεσθαι τοῦ κατὰ τὸ γίνεσθαι λεγομένου, ἔσται ἴδιον. οἷον ἐπεὶ οὐκ ἔστιν ἀνθρώπου ἴδιον τὸ εἶναι ζῷον, οὐδ’ ἂν τοῦ ἄνθρωπον γίνεσθαι εἴη ἴδιον τὸ γίνεσθαι ζῷον, οὐδ’ ἂν τοῦ ἄνθρωπον φθείρεσθαι εἴη ἴδιον τὸ φθείρεσθαι ζῷον. τὸν αὐτὸν δὲ τρόπον ληπτέον ἐστὶ καὶ ἐκ τοῦ γίνεσθαι πρὸς τὸ εἶναι καὶ φθείρεσθαι, καὶ ἐκ τοῦ φθείρεσθαι πρὸς τὸ εἶναι καὶ πρὸς τὸ γίνεσθαι, καθάπερ εἴρηται νῦν ἐκ τοῦ εἶναι πρὸς τὸ γίνεσθαι καὶ φθείρεσθαι. κατασκευάζοντα δὲ εἰ τοῦ κατὰ τὸ εἶναι τεταγμένου ἐστὶ τὸ κατ’ αὐτὸ τεταγμένον ἴδιον· καὶ γὰρ τοῦ κατὰ τὸ γίνεσθαι λεγομένου ἔσται τὸ κατὰ τὸ γίνεσθαι λεγόμενον ἴδιον, καὶ τοῦ κατὰ τὸ φθείρεσθαι τὸ κατὰ τοῦτο ἀποδιδόμενον. οἷον ἐπεὶ τοῦ ἀνθρώπου ἐστὶν ἴδιον τὸ εἶναι βροτόν, καὶ τοῦ γίνεσθαι ἄνθρωπον εἴη ἂν ἴδιον τὸ γίνεσθαι βροτόν, καὶ τοῦ φθείρεσθαι ἄνθρωπον τὸ φθείρεσθαι βροτόν. τὸν αὐτὸν δὲ τρόπον ληπτέον [137b] ἐστὶ καὶ ἐκ τοῦ γίνεσθαι καὶ φθείρεσθαι πρὸς τὸ εἶναι καὶ πρὸς τὰ ἐξ αὐτῶν, καθάπερ καὶ ἀνασκευάζοντι εἴρηται.

Ἔπειτ’ ἐπιβλέπειν ἐπὶ τὴν ἰδέαν τοῦ κειμένου, ἀνασκευάζοντα μὲν εἰ τῇ ἰδέᾳ μὴ ὑπάρχει, ἢ εἰ μὴ κατὰ τοῦτο καθ’ ὃ λέγεται τοῦτο οὗ τὸ ἴδιον ἀπεδόθη· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον· οἷον ἐπεὶ αὐτοανθρώπῳ οὐχ ὑπάρχει τὸ ἠρεμεῖν ᾗ ἄνθρωπός ἐστιν, ἀλλ’ ᾗ ἰδέα, οὐκ ἂν εἴη ἀνθρώπου ἴδιον τὸ ἠρεμεῖν. κατασκευάζοντα δὲ εἰ τῇ ἰδέᾳ ὑπάρχει καὶ κατὰ τοῦτο ὑπάρχει ᾗ λέγεται κατ’ αὐτοῦ ἐκεῖνο οὗ κεῖται μὴ εἶναι ἴδιον· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ ὑπάρχει τῷ αὐτοζῴῳ τὸ ἐκ ψυχῆς καὶ σώματος συγκεῖσθαι, καὶ ᾗ ζῷον αὐτῷ ὑπάρχει τοῦτο, εἴη ἂν ζῴου ἴδιον τὸ ἐκ ψυχῆς καὶ σώματος συγκεῖσθαι.

Ἔπειτα ἐκ τοῦ μᾶλλον καὶ ἧττον, πρῶτον μὲν ἀνασκευάζοντα εἰ τὸ μᾶλλον τοῦ μᾶλλον μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τὸ ἧττον τοῦ ἧττον ἔσται ἴδιον, οὐδὲ τὸ ἥκιστα τοῦ ἥκιστα, οὐδὲ τὸ μάλιστα τοῦ μάλιστα, οὐδὲ τὸ ἁπλῶς τοῦ ἁπλῶς. οἷον ἐπεὶ οὐκ ἔστι τὸ μᾶλλον κεχρῶσθαι τοῦ μᾶλλον σώματος ἴδιον, οὐδὲ τὸ ἧττον κεχρῶσθαι τοῦ ἧττον σώματος εἴη ἂν ἴδιον, οὐδὲ τὸ κεχρῶσθαι σώματος ὅλως. κατασκευάζοντα δὲ εἰ τὸ μᾶλλον τοῦ μᾶλλόν ἐστιν ἴδιον· καὶ γὰρ τὸ ἧττον τοῦ ἧττον ἔσται ἴδιον, καὶ τὸ ἥκιστα τοῦ ἥκιστα, καὶ τὸ μάλιστα τοῦ μάλιστα, καὶ τὸ ἁπλῶς τοῦ ἁπλῶς. οἷον ἐπεὶ τοῦ μᾶλλον ζῶντος τὸ μᾶλλον αἰσθάνεσθαί ἐστιν ἴδιον, καὶ τοῦ ἧττον ζῶντος τὸ ἧττον αἰσθάνεσθαι εἴη ἂν ἴδιον, καὶ τοῦ μάλιστα δὴ τὸ μάλιστα, καὶ τοῦ ἥκιστα τὸ ἥκιστα, καὶ τοῦ ἁπλῶς τὸ ἁπλῶς.

Καὶ ἐκ τοῦ ἁπλῶς δὲ πρὸς ταῦτα σκεπτέον ἐστίν, ἀνασκευάζοντα μὲν εἰ τὸ ἁπλῶς τοῦ ἁπλῶς μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τὸ μᾶλλον τοῦ μᾶλλον, οὐδὲ τὸ ἧττον τοῦ ἧττον, οὐδὲ τὸ μάλιστα τοῦ μάλιστα, οὐδὲ τὸ ἥκιστα τοῦ ἥκιστα ἔσται ἴδιον. οἷον ἐπεὶ οὐκ ἔστι τοῦ ἀνθρώπου τὸ σπουδαῖον ἴδιον, οὐδ’ ἂν τοῦ μᾶλλον ἀνθρώπου τὸ μᾶλλον σπουδαῖον ἴδιον εἴη. κατασκευάζοντα δὲ εἰ τὸ ἁπλῶς τοῦ ἁπλῶς ἐστιν ἴδιον· καὶ γὰρ τὸ μᾶλλον τοῦ μᾶλλον καὶ τὸ ἧττον τοῦ ἧττον καὶ τὸ ἥκιστα τοῦ ἥκιστα καὶ τὸ μάλιστα τοῦ μάλιστα ἔσται ἴδιον. οἷον ἐπεὶ τοῦ πυρός ἐστιν ἴδιον τὸ ἄνω φέρεσθαι κατὰ φύσιν, καὶ τοῦ μᾶλλον [138a] πυρὸς εἴη ἂν ἴδιον τὸ μᾶλλον ἄνω φέρεσθαι κατὰ φύσιν. τὸν αὐτὸν δὲ τρόπον σκεπτέον ἐστὶ καὶ ἐκ τῶν ἄλλων πρὸς ἅπαντα ταῦτα.

Δεύτερον δ’ ἀνασκευάζοντα μὲν εἰ τὸ μᾶλλον οὗ μᾶλλον μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τὸ ἧττον οὗ ἧττον ἔσται ἴδιον. οἷον ἐπεὶ μᾶλλόν ἐστιν ἴδιον ζῴου τὸ αἰσθάνεσθαι ἢ ἀνθρώπου τὸ ἐπίστασθαι, οὐκ ἔστι δὲ ζῴου ἴδιον τὸ αἰσθάνεσθαι, οὐκ ἂν εἴη ἀνθρώπου ἴδιον τὸ ἐπίστασθαι. κατασκευάζοντα δ’ εἰ τὸ ἧττον οὗ ἧττόν ἐστιν ἴδιον· καὶ γὰρ τὸ μᾶλλον οὗ μᾶλλον ἔσται ἴδιον. οἷον ἐπεὶ ἧττόν ἐστιν ἴδιον ἀνθρώπου τὸ ἥμερον φύσει ἢ ζῴου τὸ ζῆν, ἔστι δ’ ἀνθρώπου ἴδιον τὸ ἥμερον φύσει, εἴη ἂν ζῴου ἴδιον τὸ ζῆν.

Τρίτον δ’ ἀνασκευάζοντα μὲν εἰ οὗ μᾶλλόν ἐστιν ἴδιον μὴ ἔστιν ἴδιον· οὐδὲ γὰρ οὗ ἧττόν ἐστιν ἴδιον, ἔσται τούτου ἴδιον. εἰ δ’ ἐκείνου ἐστὶν ἴδιον, οὐκ ἔσται τούτου ἴδιον. οἷον ἐπεὶ τὸ κεχρῶσθαι μᾶλλον τῆς ἐπιφανείας ἢ τοῦ σώματός ἐστιν ἴδιον, οὐκ ἔστι δὲ τῆς ἐπιφανείας ἴδιον, οὐκ ἂν εἴη τοῦ σώματος ἴδιον τὸ κεχρῶσθαι. εἰ δ’ ἐστὶ τῆς ἐπιφανείας ἴδιον, οὐκ ἂν εἴη τοῦ σώματος ἴδιον. κατασκευάζοντι δὲ ὁ τόπος οὗτος οὐκ ἔστι χρήσιμος· ἀδύνατον γάρ ἐστι ταὐτὸ πλειόνων ἴδιον εἶναι.

Τέταρτον δ’ ἀνασκευάζοντα μὲν εἰ τὸ μᾶλλον αὐτοῦ ἴδιον μὴ ἔστιν ἴδιον· οὐδὲ γὰρ τὸ ἧττον αὐτοῦ ἴδιον ἔσται ἴδιον. οἷον ἐπεὶ μᾶλλόν ἐστι τοῦ ζῴου ἴδιον τὸ αἰσθητὸν ἢ τὸ μεριστόν, οὐκ ἔστι δὲ τοῦ ζῴου τὸ αἰσθητὸν ἴδιον, οὐκ ἂν εἴη τοῦ ζῴου τὸ μεριστὸν ἴδιον. κατασκευάζοντα δὲ εἰ τὸ ἧττον αὐτοῦ ὂν ἴδιόν ἐστιν ἴδιον· καὶ γὰρ τὸ μᾶλλον αὐτοῦ ὂν ἴδιον ἔσται ἴδιον. οἷον ἐπεὶ ἧττόν ἐστιν ἴδιον ζῴου τὸ αἰσθάνεσθαι ἢ τὸ ζῆν, ἔστι δὲ τοῦ ζῴου τὸ αἰσθάνεσθαι ἴδιον, εἴη ἂν τοῦ ζῴου τὸ ζῆν ἴδιον.

Ἔπειτ᾽ ἐκ τῶν ὁμοίως ὑπαρχόντων, πρῶτον μὲν ἀνασκευάζοντα εἰ τὸ ὁμοίως ὂν ἴδιον μὴ ἔστιν ἴδιον τούτου οὗ ὁμοίως ἐστὶν ἴδιον· οὐδὲ γὰρ τὸ ὁμοίως ὂν ἴδιον ἔσται ἴδιον τούτου οὗ ὁμοίως ἐστὶν ἴδιον. οἷον ἐπεὶ ὁμοίως ἐστὶν ἴδιον ἐπιθυμητικοῦ τὸ ἐπιθυμεῖν καὶ λογιστικοῦ τὸ λογίζεσθαι, οὐκ ἔστι δ᾽ ἴδιον ἐπιθυμητικοῦ τὸ ἐπιθυμεῖν, οὐκ ἂν εἴη ἴδιον λογιστικοῦ τὸ λογίζεσθαι. κατασκευάζοντα δὲ εἰ τὸ ὁμοίως ὂν ἴδιόν ἐστι τούτου ἴδιον οὗ ὁμοίως ἐστὶν ἴδιον· ἔσται γὰρ καὶ τὸ ὁμοίως ὂν [138b] ἴδιον τούτου ἴδιον οὗ ὁμοίως ἐστὶν ἴδιον. οἷον ἐπεὶ ὁμοίως ἐστὶν ἴδιον λογιστικοῦ τὸ πρῶτον φρόνιμον καὶ ἐπιθυμητικοῦ τὸ πρῶτον σῶφρον, ἔστι δὲ [τοῦ] λογιστικοῦ ἴδιον τὸ πρῶτον φρόνιμον, εἴη ἂν ἐπιθυμητικοῦ ἴδιον τὸ πρῶτον σῶφρον.

Δεύτερον δ᾽ ἀνασκευάζοντα μὲν εἰ τὸ ὁμοίως ὂν ἴδιον μὴ ἔστιν ἴδιον αὐτοῦ· οὐδὲ γὰρ τὸ ὁμοίως ὂν ἴδιον ἔσται ἴδιον αὐτοῦ. οἷον ἐπεὶ ὁμοίως ἐστὶν ἴδιον ἀνθρώπου τὸ ὁρᾶν καὶ τὸ ἀκούειν, οὐκ ἔστι δ᾽ ἀνθρώπου ἴδιον τὸ ὁρᾶν, οὐκ ἂν εἴη ἀνθρώπου ἴδιον τὸ ἀκούειν. κατασκευάζοντα δὲ εἰ τὸ ὁμοίως αὐτοῦ ὂν ἴδιόν ἐστιν ἴδιον· καὶ γὰρ τὸ ὁμοίως αὐτοῦ ὂν ἴδιον ἔσται ἴδιον. οἷον ἐπεὶ ὁμοίως ἐστὶν ἴδιον ψυχῆς τὸ μέρος αὐτῆς ἐπιθυμητικὸν εἶναι πρῶτον καὶ λογιστικὸν πρῶτον, ἔστι δὲ ψυχῆς ἴδιον τὸ μέρος αὐτῆς εἶναι ἐπιθυμητικὸν πρῶτον, εἴη ἂν ἴδιον ψυχῆς τὸ μέρος αὐτῆς εἶναι λογιστικὸν πρῶτον.

Τρίτον δ᾽ ἀνασκευάζοντα μὲν εἰ οὗ ὁμοίως ἐστὶν ἴδιον μὴ ἔστιν ἴδιον· οὐδὲ γὰρ οὗ ὁμοίως ἐστὶν ἴδιον ἔσται ἴδιον. εἰ δ᾽ ἐκείνου ἐστὶν ἴδιον, οὐκ ἔσται θατέρου ἴδιον. οἷον ἐπεὶ ὁμοίως ἐστὶν ἴδιον τὸ καίειν φλογὸς καὶ ἄνθρακος, οὐκ ἔστι δ᾽ ἴδιον φλογὸς τὸ καίειν, οὐκ ἂν εἴη ἴδιον ἄνθρακος τὸ καίειν. εἰ δ᾽ ἐστὶ φλογὸς ἴδιον, οὐκ ἂν εἴη ἄνθρακος ἴδιον. κατασκευάζοντι δὲ οὐδὲν οὗτος ὁ τόπος ἐστὶ χρήσιμος.

Διαφέρει δ᾽ ὁ ἐκ τῶν ὁμοίως ἐχόντων τοῦ ἐκ τῶν ὁμοίως ὑπαρχόντων, ὅτι τὸ μὲν κατ᾽ ἀναλογίαν λαμβάνεται, οὐκ ἐπὶ τοῦ ὑπάρχειν τι θεωρούμενον, τὸ δ᾽ ἐκ τοῦ ὑπάρχειν τι συγκρίνεται.

Ἔπειτ᾽ ἀνασκευάζοντα μὲν εἰ, δυνάμει τὸ ἴδιον ἀποδιδούς, καὶ πρὸς μὴ ὂν ἀποδέδωκε τὸ ἴδιον τῇ δυνάμει, μὴ ἐνδεχομένης τῆς δυνάμεως ὑπάρχειν τῷ μὴ ὄντι· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον. οἷον ἐπεὶ ὁ εἴπας ἀέρος ἴδιον τὸ ἀναπνευστὸν τῇ δυνάμει μὲν ἀποδέδωκε τὸ ἴδιον (τὸ γὰρ τοιοῦτον οἷον ἀναπνεῖσθαι ἀναπνευστόν ἐστιν), ἀποδέδωκε δὲ καὶ πρὸς τὸ μὴ ὂν τὸ ἴδιον (καὶ γὰρ μὴ ὄντος ζῴου οἷον ἀναπνεῖν πέφυκε τὸν ἀέρα ἐνδέχεται ἀέρα εἶναι· οὐ μέντοι μὴ ὄντος ζῴου δυνατόν ἐστιν ἀναπνεῖν· ὥστ' οὐδ' ἀέρος ἔσται ἴδιον τὸ τοιοῦτον οἷον ἀναπνεῖσθαι τότε ὅτε ζῷον οὐκ ἔσται τοιοῦτον οἷον ἀναπνεῖν), οὐκ ἂν οὖν εἴη ἀέρος ἴδιον τὸ ἀναπνευστόν.

[139a] κατασκευάζοντα δὲ εἰ τῇ δυνάμει ἀποδιδοὺς τὸ ἴδιον ἢ πρὸς ὂν ἀποδίδωσι τὸ ἴδιον ἢ πρὸς μὴ ὄν, ἐνδεχομένης τῆς δυνάμεως τῷ μὴ ὄντι ὑπάρχειν· ἔσται γὰρ ἴδιον τὸ κείμενον μὴ εἶναι ἴδιον. οἷον ἐπεὶ ὁ ἀποδιδοὺς ἴδιον τοῦ ὄντος τὸ δυνατὸν παθεῖν ἢ ποιῆσαι, δυνάμει ἀποδιδοὺς τὸ ἴδιον, πρὸς ὂν ἀποδέδωκε τὸ ἴδιον (ὅτε γὰρ ὄν ἐστι, καὶ δυνατὸν παθεῖν τι ἢ ποιῆσαι ἔσται) - ὥστε εἴη ἂν ἴδιον τοῦ ὄντος τὸ δυνατὸν παθεῖν ἢ ποιῆσαι.

Ἔπειτ' ἀνασκευάζοντα μὲν εἰ ὑπερβολὴν τέθεικε τὸ ἴδιον· οὐ γὰρ ἔσται ἴδιον τὸ κείμενον εἶναι ἴδιον. συμβαίνει γὰρ τοῖς οὕτως ἀποδιδοῦσι τὸ ἴδιον μή, καθ' οὗ ὁ λόγος, τοὔνομα ἀληθεύεσθαι· φθαρέντος γὰρ τοῦ πράγματος οὐδὲν ἧττον ἔσται ὁ λόγος· τῶν γὰρ ὄντων τινὶ μάλιστα ὑπάρξει. οἷον εἴ τις ἀποδοίη τοῦ πυρὸς ἴδιον σῶμα τὸ κουφότατον· φθαρέντος γὰρ τοῦ πυρὸς ἔσται τι τῶν σωμάτων ὃ κουφότατον ἔσται. ὥστ' οὐκ ἂν εἴη τοῦ πυρὸς ἴδιον σῶμα τὸ κουφότατον. κατασκευάζοντα δὲ εἰ μὴ ὑπερβολὴν τέθεικε τὸ ἴδιον· ἔσται γὰρ κατὰ τοῦτο καλῶς κείμενον τὸ ἴδιον. οἷον ἐπεὶ ὁ θεὶς ἀνθρώπου ἴδιον ζῷον ἥμερον φύσει οὐχ ὑπερβολῇ ἀποδέδωκε τὸ ἴδιον, εἴη ἂν κατὰ τοῦτο καλῶς κείμενον τὸ ἴδιον.

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Τῆς δὲ περὶ τοὺς ὅρους πραγματείας μέρη πέντε ἔστιν· ἢ γὰρ ὅτι ὅλως οὐκ ἀληθὲς εἰπεῖν, καθ’ οὗ τοὔνομα, καὶ τὸν λόγον (δεῖ γὰρ τὸν τοῦ ἀνθρώπου ὁρισμὸν κατὰ παντὸς ἀνθρώπου ἀληθεύεσθαι), ἢ ὅτι ὄντος γένους οὐκ ἔθηκεν εἰς τὸ γένος, ἢ οὐκ εἰς τὸ οἰκεῖον γένος ἔθηκεν (δεῖ γὰρ τὸν ὁριζόμενον εἰς τὸ γένος θέντα τὰς διαφορὰς προσάπτειν· μάλιστα γὰρ τῶν ἐν τῷ ὁρισμῷ τὸ γένος δοκεῖ τὴν τοῦ ὁριζομένου οὐσίαν σημαίνειν), ἢ ὅτι οὐκ ἴδιος ὁ λόγος (δεῖ γὰρ τὸν ὁρισμὸν ἴδιον εἶναι, καθάπερ καὶ πρότερον εἴρηται), ἢ εἰ πάντα τὰ εἰρημένα πεποιηκὼς μὴ ὥρισται μηδ’ εἴρηκε τὸ τί ἦν εἶναι τῷ ὁριζομένῳ. λοιπὸν δὲ παρὰ τὰ εἰρημένα, εἰ ὥρισται μέν, μὴ καλῶς δ’ ὥρισται.

Εἰ μὲν οὖν μὴ ἀληθεύεται, καθ’ οὗ τοὔνομα, καὶ ὁ λόγος, ἐκ τῶν πρὸς τὸ συμβεβηκὸς τόπων ἐπισκεπτέον· καὶ γὰρ ἐκεῖ· πότερον ἀληθὲς ἢ οὐκ ἀληθὲς πᾶσα ἡ σκέψις [139b] γίνεται. ὅταν μὲν γὰρ ὅτι ὑπάρχει τὸ συμβεβηκὸς διαλεγώμεθα, ὅτι ἀληθὲς λέγομεν· ὅταν δ’ ὅτι οὐχ ὑπάρχει, ὅτι οὐκ ἀληθές. εἰ δὲ μὴ ἐν τῷ οἰκείῳ γένει ἔθηκεν, ἢ εἰ μὴ ἴδιος ὁ ἀποδοθεὶς λόγος, ἐκ τῶν πρὸς τὸ γένος καὶ τὸ ἴδιον ῥηθέντων τόπων ἐπισκεπτέον.

Λοιπὸν δ’, εἰ μὴ ὥρισται ἢ εἰ μὴ καλῶς ὥρισται, πῶς μετιτέον εἰπεῖν. πρῶτον μὲν οὖν ἐπισκεπτέον εἰ μὴ καλῶς ὥρισται. ῥᾷον γὰρ ὁτιοῦν ποιῆσαι ἢ καλῶς ποιῆσαι· δῆλον οὖν ὅτι ἡ ἁμαρτία περὶ τοῦτο πλείων, ἐπειδὴ ἐργωδέστερον· ὥσθ’ ἡ ἐπιχείρησις ῥᾴων ἡ περὶ τοῦτο ἢ ἡ περὶ ἐκεῖνο γίνεται.

Ἔστι δὲ τοῦ μὴ καλῶς μέρη δύο· ἓν μὲν τὸ ἀσαφεῖ τῇ ἑρμηνείᾳ κεχρῆσθαι (δεῖ γὰρ τὸν ὁριζόμενον ὡς ἐνδέχεται σαφεστάτῃ τῇ ἑρμηνείᾳ κεχρῆσθαι, ἐπειδὴ τοῦ γνωρίσαι χάριν ἀποδίδοται ὁ ὁρισμός), δεύτερον δ’ εἰ ἐπὶ πλεῖον εἴρηκε τὸν λόγον τοῦ δέοντος· πᾶν γὰρ τὸ προσκείμενον ἐν τῷ ὁρισμῷ περίεργον. πάλιν δ’ ἑκάτερον τῶν εἰρημένων εἰς πλείω μέρη διείληπται.

Εἷς μὲν οὖν τόπος τοῦ ἀσαφῶς, εἰ ὁμώνυμόν ἐστί τινι τὸ εἰρημένον, οἷον ὅτι ἡ γένεσις ἀγωγὴ εἰς οὐσίαν καὶ ὅτι ἡ ὑγίεια συμμετρία θερμῶν καὶ ψυχρῶν· ὁμώνυμος γὰρ ἡ ἀγωγὴ καὶ ἡ συμμετρία. ἄδηλον οὖν ὁπότερον βούλεται λέγειν τῶν δηλουμένων ὑπὸ τοῦ πλεοναχῶς λεγομένου. ὁμοίως δὲ καὶ εἰ τοῦ ὁριζομένου πλεοναχῶς λεγομένου μὴ διελὼν εἶπεν· ἄδηλον γὰρ ὁποτέρου τὸν ὅρον ἀποδέδωκεν, ἐνδέχεταί τε συκοφαντεῖν ὡς οὐκ ἐφαρμόττοντος τοῦ λόγου ἐπὶ πάντα ὧν τὸν ὁρισμὸν ἀποδέδωκεν. μάλιστα δ’ ἐνδέχεται τὸ τοιοῦτον ποιεῖν λανθανούσης τῆς ὁμωνυμίας. ἐνδέχεται δὲ καί, διελόμενον αὐτὸν ποσαχῶς λέγεται τὸ ἐν τῷ ὁρισμῷ ἀποδοθέν, συλλογισμὸν ποιῆσαι· εἰ γὰρ κατὰ μηδένα τῶν τρόπων ἱκανῶς εἴρηται, δῆλον ὅτι οὐκ ἂν ὡρισμένος εἴη κατὰ τρόπον.

Ἄλλος, εἰ κατὰ μεταφορὰν εἴρηκεν, οἷον εἰ τὴν ἐπιστήμην ἀμετάπτωτον ἢ τὴν γῆν τιθήνην ἢ τὴν σωφροσύνην συμφωνίαν· πᾶν γὰρ ἀσαφὲς τὸ κατὰ μεταφορὰν λεγόμενον. ἐνδέχεται δὲ καὶ τὸν μεταφορὰν εἰπόντα συκοφαντεῖν ὡς κυρίως εἰρηκότα· οὐ γὰρ ἐφαρμόσει ὁ λεχθεὶς ὅρος, οἷον ἐπὶ σωφροσύνης· πᾶσα γὰρ συμφωνία ἐν φθόγγοις. ἔτι εἰ γένος ἡ συμφωνία τῆς σωφροσύνης, ἐν δύο γένεσιν [140a] ἔσται ταὐτὸν οὐ περιέχουσιν ἄλληλα· οὔτε γὰρ ἡ συμφωνία τὴν ἀρετὴν οὔθ’ ἡ ἀρετὴ τὴν συμφωνίαν περιέχει.

Ἔτι εἰ μὴ κειμένοις ὀνόμασι χρῆται, οἷον Πλάτων ὀφρυόσκιον τὸν ὀφθαλμόν, ἢ τὸ φαλάγγιον σηψιδακές, ἢ τὸν μυελὸν ὀστεογενές· πᾶν γὰρ ἀσαφὲς τὸ μὴ εἰωθός.

Ἔνια δ’ οὔτε καθ’ ὁμωνυμίαν οὔτε κατὰ μεταφορὰν οὔτε κυρίως εἴρηται, οἷον ὁ νόμος μέτρον ἢ εἰκὼν τῶν φύσει δικαίων. ἔστι δὲ τὰ τοιαῦτα χείρω τῆς μεταφορᾶς. ἡ μὲν γὰρ μεταφορὰ ποιεῖ πως γνώριμον τὸ σημαινόμενον διὰ τὴν ὁμοιότητα (πάντες γὰρ οἱ μεταφέροντες κατά τινα ὁμοιότητα μεταφέρουσιν), τὸ δὲ τοιοῦτον οὐ ποιεῖ γνώριμον· οὔτε γὰρ ὁμοιότης ὑπάρχει καθ’ ἣν μέτρον ἢ εἰκὼν ὁ νόμος ἐστίν, οὔτε εἴωθε λέγεσθαι. ὥστε εἰ μὲν κυρίως μέτρον ἢ εἰκόνα τὸν νόμον φησὶν εἶναι, ψεύδεται (εἰκὼν γάρ ἐστιν οὗ ἡ γένεσις διὰ μιμήσεως· τοῦτο δ’ οὐχ ὑπάρχει τῷ νόμῳ)· εἰ δὲ μὴ κυρίως, δῆλον ὅτι ἀσαφῶς εἴρηκε καὶ χεῖρον ὁτουοῦν τῶν κατὰ μεταφορὰν λεγομένων.

Ἔτι εἰ μὴ δῆλος ὁ τοῦ ἐναντίου λόγος ἐκ τοῦ λεχθέντος· οἱ γὰρ καλῶς ἀποδιδόμενοι καὶ τοὺς ἐναντίους προσσημαίνουσιν. ἢ εἰ καθ’ αὑτὸν λεχθεὶς μὴ φανερὸς εἴη τίνος ἐστὶν ὁρισμός, ἀλλὰ καθάπερ τὰ τῶν ἀρχαίων γραφέων, εἰ μή τις ἐπέγραψεν, οὐκ ἐγνωρίζετο τί ἐστιν ἕκαστον.

Εἰ μὲν οὖν μὴ σαφῶς, ἐκ τῶν τοιούτων ἐστὶν ἐπισκεπτέον. εἰ δ’ ἐπὶ πλεῖον εἴρηκε τὸν ὅρον, πρῶτον μὲν σκοπεῖν εἴ τινι κέχρηται ὃ πᾶσιν ὑπάρχει, ἢ ὅλως τοῖς οὖσιν ἢ τοῖς ὑπὸ ταὐτὸ γένος τῷ ὁριζομένῳ· ἐπὶ πλεῖον γὰρ εἰρῆσθαι ἀναγκαῖον τοῦτο. δεῖ γὰρ τὸ μὲν γένος ἀπὸ τῶν ἄλλων χωρίζειν, τὴν δὲ διαφορὰν ἀπὸ τῶν ἐν τῷ αὐτῷ γένει. τὸ μὲν οὖν πᾶσιν ὑπάρχον ἁπλῶς ἀπ’ οὐδενὸς χωρίζει· τὸ δὲ τοῖς ὑπὸ ταὐτὸ γένος πᾶσιν ὑπάρχον οὐ χωρίζει ἀπὸ τῶν ἐν ταὐτῷ γένει, ὥστε μάταιον τὸ τοιοῦτον προσκείμενον.

Ἢ εἰ ἔστι μὲν ἴδιον τὸ προσκείμενον, ἀφαιρεθέντος δὲ τούτου καὶ ὁ λοιπὸς λόγος ἴδιός ἐστι καὶ δηλοῖ τὴν οὐσίαν. οἷον ἐν τῷ τοῦ ἀνθρώπου λόγῳ τὸ ἐπιστήμης δεκτικὸν προστεθὲν περίεργον· καὶ γὰρ ἀφαιρεθέντος τούτου ὁ λοιπὸς λόγος ἴδιος καὶ δηλοῖ τὴν οὐσίαν. ἁπλῶς δ’ εἰπεῖν ἅπαν [140b] περίεργον οὗ ἀφαιρεθέντος τὸ λοιπὸν δῆλον ποιεῖ τὸ ὁριζόμενον. τοιοῦτος δὲ καὶ ὁ τῆς ψυχῆς ὅρος, εἴπερ “ἀριθμὸς αὐτὸς αὑτὸν κινῶν” ἐστιν· καὶ γὰρ τὸ αὐτὸ αὑτὸ κινοῦν ψυχή, καθάπερ Πλάτων ὥρισται. ἢ ἴδιον μέν ἐστι τὸ εἰρημένον, οὐ δηλοῖ δὲ τὴν οὐσίαν ἀφαιρεθέντος τοῦ ἀριθμοῦ. ποτέρως μὲν οὖν ἔχει, χαλεπὸν διασαφῆσαι· χρηστέον δ’ ἐπὶ πάντων τῶν τοιούτων πρὸς τὸ συμφέρον· οἷον ὅτι ὁ τοῦ φλέγματος ὅρος “ὑγρὸν πρῶτον ἀπὸ τροφῆς ἄπεπτον”. ἓν γὰρ τὸ πρῶτον, οὐ πολλά, ὥστε περίεργον τὸ ἄπεπτον προσκείμενον· καὶ γὰρ τούτου ἀφαιρεθέντος ὁ λοιπὸς ἔσται ἴδιος λόγος· οὐ γὰρ ἐνδέχεται ἀπὸ τῆς τροφῆς καὶ τοῦτο καὶ ἄλλο τι πρῶτον εἶναι. ἢ οὐχ ἁπλῶς πρῶτον ἀπὸ τροφῆς τὸ φλέγμα ἀλλὰ τῶν ἀπέπτων πρῶτον, ὥστε προσθετέον τὸ “ἄπεπτον” (ἐκείνως μὲν γὰρ ῥηθέντος οὐκ ἀληθὴς ὁ λόγος, εἴπερ μὴ πάντων πρῶτόν ἐστιν);

Ἔτι εἴ τι τῶν ἐν τῷ λόγῳ μὴ πᾶσιν ὑπάρχει τοῖς ὑπὸ ταὐτὸ εἶδος· ὁ γὰρ τοιοῦτος χεῖρον ὥρισται τῶν χρωμένων ὃ πᾶσιν ὑπάρχει τοῖς οὖσιν. ἐκείνως μὲν γάρ, ἂν ὁ λοιπὸς ἴδιος ᾖ λόγος, καὶ ὁ πᾶς ἴδιος ἔσται· ἁπλῶς γὰρ πρὸς τὸ ἴδιον ὁτουοῦν προστεθέντος ἀληθοῦς ὅλος ὁ λόγος ἴδιος γίνεται. εἰ δέ τι τῶν ἐν τῷ λόγῳ μὴ πᾶσιν ὑπάρχει τοῖς ὑπὸ ταὐτὸ εἶδος, ἀδύνατον ὅλον τὸν λόγον ἴδιον εἶναι· οὐ γὰρ ἀντικατηγορηθήσεται τοῦ πράγματος. οἷον “ζῷον πεζὸν δίπουν τετράπηχυ”· ὁ γὰρ τοιοῦτος λόγος οὐκ ἀντικατηγορεῖται τοῦ πράγματος διὰ τὸ μὴ πᾶσιν ὑπάρχειν τοῖς ὑπὸ ταὐτὸν εἶδος τὸ τετράπηχυ.

Πάλιν εἰ ταὐτὸν πλεονάκις εἴρηκεν, οἷον τὴν ἐπιθυμίαν ὄρεξιν ἡδέος εἰπών· πᾶσα γὰρ ἐπιθυμία ἡδέος ἐστίν, ὥστε καὶ τὸ ταὐτὸν τῇ ἐπιθυμίᾳ ἡδέος ἔσται. γίνεται οὖν ὅρος τῆς ἐπιθυμίας ὄρεξις ἡδέος ἡδέος· οὐδὲν γὰρ διαφέρει ἐπιθυμίαν εἰπεῖν ἢ ὄρεξιν ἡδέος, ὥσθ’ ἑκάτερον αὐτῶν ἡδέος ἔσται. ἢ τοῦτο μὲν οὐδὲν ἄτοπον· καὶ γὰρ ὁ ἄνθρωπος δίπουν ἐστίν, ὥστε καὶ τὸ ταὐτὸν τῷ ἀνθρώπῳ δίπουν ἔσται, ἔστι δὲ ταὐτὸν τῷ ἀνθρώπῳ ζῷον πεζὸν δίπουν, ὥστε ζῷον πεζὸν δίπουν δίπουν ἔσται, ἀλλ’ οὐ διὰ τοῦτο ἄτοπόν τι συμβαίνει· οὐ γὰρ κατὰ ζῴου πεζοῦ τὸ δίπουν κατηγορεῖται (οὕτω μὲν γὰρ δὶς ἂν περὶ τοῦ αὐτοῦ τὸ δίπουν κατηγοροῖτο), ἀλλὰ περὶ ζῴου πεζοῦ δίποδος [141a] τὸ δίπουν λέγεται, ὥστε ἅπαξ μόνον τὸ δίπουν κατηγορεῖται. ὁμοίως δὲ καὶ ἐπὶ τῆς ἐπιθυμίας· οὐ γὰρ κατὰ τῆς ὀρέξεως τὸ ἡδέος εἶναι κατηγορεῖται ἀλλὰ κατὰ τοῦ σύμπαντος, ὥστε ἅπαξ καὶ ἐνταῦθα ἡ κατηγορία γίνεται. οὐκ ἔστι δὲ τὸ δὶς φθέγξασθαι ταὐτὸν ὄνομα τῶν ἀτόπων, ἀλλὰ τὸ πλεονάκις περί τινος τὸ αὐτὸ κατηγορῆσαι, ὡς Ξενοκράτης τὴν φρόνησιν ὁριστικὴν καὶ θεωρητικὴν τῶν ὄντων φησὶν εἶναι· ἡ γὰρ ὁριστικὴ θεωρητική τίς ἐστιν, ὥστε δὶς τὸ αὐτὸ λέγει, προσθεὶς πάλιν καὶ θεωρητικήν. ὁμοίως δὲ καὶ ὅσοι τὴν κατάψυξιν στέρησιν τοῦ κατὰ φύσιν θερμοῦ φασιν εἶναι· πᾶσα γὰρ στέρησίς ἐστι τοῦ κατὰ φύσιν ὑπάρχοντος, ὥστε περίεργον τὸ προσθεῖναι τοῦ κατὰ φύσιν, ἀλλ’ ἱκανὸν ἦν εἰπεῖν στέρησιν θερμοῦ, ἐπειδὴ αὐτὴ ἡ στέρησις γνώριμον ποιεῖ ὅτι τοῦ κατὰ φύσιν λέγεται.

Πάλιν εἰ τοῦ καθόλου εἰρημένου προσθείη καὶ ἐπὶ μέρους, οἷον εἰ τὴν ἐπιείκειαν ἐλάττωσιν τῶν συμφερόντων καὶ δικαίων· τὸ γὰρ δίκαιον συμφέρον τι, ὥστε περιέχεται ἐν τῷ συμφέροντι. περιττὸν οὖν τὸ δίκαιον· καθόλου γὰρ εἴπας ἐπὶ μέρους προσέθηκεν. καὶ εἰ τὴν ἰατρικὴν ἐπιστήμην τῶν ὑγιεινῶν ζῴῳ καὶ ἀνθρώπῳ, ἢ τὸν νόμον εἰκόνα τῶν φύσει καλῶν καὶ δικαίων· τὸ γὰρ δίκαιον καλόν τι, ὥστε πλεονάκις τὸ αὐτὸ λέγει.

Πότερον μὲν οὖν καλῶς ἢ οὐ καλῶς, διὰ τούτων καὶ τῶν τοιούτων ἐπισκεπτέον· πότερον δ’ ὥρισται καὶ εἴρηκε τὸ τί ἦν εἶναι ἢ οὐχί, ἐκ τῶνδε.

Πρῶτον μὲν εἰ μὴ διὰ προτέρων καὶ γνωριμωτέρων πεποίηται τὸν ὁρισμόν. ἐπεὶ γὰρ ὁ ὅρος ἀποδίδοται τοῦ γνωρίσαι χάριν τὸ λεχθέν, γνωρίζομεν δ’ οὐκ ἐκ τῶν τυχόντων ἀλλ’ ἐκ τῶν προτέρων καὶ γνωριμωτέρων, καθάπερ ἐν ταῖς ἀποδείξεσιν (οὕτω γὰρ πᾶσα διδασκαλία καὶ μάθησις ἔχει), φανερὸν ὅτι ὁ μὴ διὰ τοιούτων ὁριζόμενος οὐχ ὥρισται. εἰ δὲ μή, πλείους ἔσονται τοῦ αὐτοῦ ὁρισμοί· δῆλον γὰρ ὅτι καὶ ὁ διὰ προτέρων καὶ γνωριμωτέρων βέλτιον ὥρισται, ὥστε ἀμφότεροι ἂν εἴησαν ὅροι τοῦ αὐτοῦ. τὸ δὲ τοιοῦτον οὐ δοκεῖ· ἑκάστῳ γὰρ τῶν ὄντων ἕν ἐστι τὸ εἶναι ὅπερ ἐστίν. ὥστ’ εἰ πλείους ἔσονται τοῦ αὐτοῦ ὁρισμοί, ταὐτὸν ἔσται τῷ ὁριζομένῳ τὸ εἶναι ὅπερ καθ’ ἑκάτερον τῶν ὁρισμῶν δηλοῦται. ταῦτα δ’ [141b] οὐ ταὐτά ἐστιν, ἐπειδὴ οἱ ὁρισμοὶ ἕτεροι. δῆλον οὖν ὅτι οὐχ ὥρισται ὁ μὴ διὰ προτέρων καὶ γνωριμωτέρων ὁρισάμενος.

Τὸ μὲν οὖν μὴ διὰ γνωριμωτέρων εἰρῆσθαι τὸν ὅρον διχῶς ἔστιν ἐκλαβεῖν· ἢ γὰρ εἰ ἁπλῶς ἐξ ἀγνωστοτέρων ἢ ἡμῖν ἀγνωστοτέρων· ἐνδέχεται γὰρ ἀμφοτέρως. ἁπλῶς μὲν οὖν γνωριμώτερον τὸ πρότερον τοῦ ὑστέρου, οἷον στιγμὴ γραμμῆς καὶ γραμμὴ ἐπιπέδου καὶ ἐπίπεδον στερεοῦ, καθάπερ καὶ μονὰς ἀριθμοῦ· πρότερον γὰρ καὶ ἀρχὴ παντὸς ἀριθμοῦ. ὁμοίως δὲ καὶ στοιχεῖον συλλαβῆς. ἡμῖν δ’ ἀνάπαλιν ἐνίοτε συμβαίνει· μάλιστα γὰρ τὸ στερεὸν ὑπὸ τὴν αἴσθησιν πίπτει, τὸ δ’ ἐπίπεδον μᾶλλον τῆς γραμμῆς, γραμμὴ δὲ σημείου μᾶλλον. οἱ πολλοὶ γὰρ τὰ τοιαῦτα προγνωρίζουσιν· τὰ μὲν γὰρ τῆς τυχούσης, τὰ δ’ ἀκριβοῦς καὶ περιττῆς διανοίας καταμαθεῖν ἐστιν.

Ἁπλῶς μὲν οὖν βέλτιον τὸ διὰ τῶν προτέρων τὰ ὕστερα πειρᾶσθαι γνωρίζειν· ἐπιστημονικώτερον γὰρ τὸ τοιοῦτόν ἐστιν. οὐ μὴν ἀλλὰ πρὸς τοὺς ἀδυνατοῦντας γνωρίζειν διὰ τῶν τοιούτων ἀναγκαῖον ἴσως διὰ τῶν ἐκείνοις γνωρίμων ποιεῖσθαι τὸν λόγον. εἰσὶ δὲ τῶν τοιούτων ὁρισμῶν ὅ τε τῆς στιγμῆς καὶ ὁ τῆς γραμμῆς καὶ ὁ τοῦ ἐπιπέδου· πάντες γὰρ διὰ τῶν ὑστέρων τὰ πρότερα δηλοῦσιν· τὸ μὲν γὰρ γραμμῆς, τὸ δ’ ἐπιπέδου, τὸ δὲ στερεοῦ φασι πέρας εἶναι. οὐ δεῖ δὲ λανθάνειν ὅτι τοὺς οὕτως ὁριζομένους οὐκ ἐνδέχεται τὸ τί ἦν εἶναι τῷ ὁριζομένῳ δηλοῦν, ἐὰν μὴ τυγχάνῃ ταὐτὸν ἡμῖν τε γνωριμώτερον ὂν καὶ ἁπλῶς γνωριμώτερον, εἴπερ δεῖ μὲν διὰ τοῦ γένους καὶ τῶν διαφορῶν ὁρίζεσθαι τὸν καλῶς ὁριζόμενον, ταῦτα δὲ τῶν ἁπλῶς γνωριμωτέρων καὶ προτέρων τοῦ εἴδους ἐστίν. συναναιρεῖ γὰρ τὸ γένος καὶ ἡ διαφορὰ τὸ εἶδος, ὥστε πρότερα ταῦτα τοῦ εἴδους. ἔστι δὲ καὶ γνωριμώτερα· τοῦ μὲν γὰρ εἴδους γνωριζομένου ἀνάγκη καὶ τὸ γένος καὶ τὴν διαφορὰν γνωρίζεσθαι (ὁ γὰρ ἄνθρωπον γνωρίζων καὶ ζῷον καὶ πεζὸν γνωρίζει), τοῦ δὲ γένους ἢ τῆς διαφορᾶς γνωριζομένης οὐκ ἀνάγκη καὶ τὸ εἶδος γνωρίζεσθαι, ὥστε ἀγνωστότερον τὸ εἶδος. ἔτι τοῖς κατ’ ἀλήθειαν τοὺς τοιούτους ὁρισμοὺς φάσκουσιν εἶναι, τοὺς ἐκ τῶν ἑκάστῳ γνωρίμων, πολλοὺς τοῦ αὐτοῦ συμβήσεται λέγειν ὁρισμοὺς εἶναι· ἕτερα γὰρ ἑτέροις καὶ οὐ ταὐτὰ πᾶσι τυγχάνει γνωριμώτερα ὄντα, ὥστε πρὸς ἕκαστον [142a] ἕτερος ἂν εἴη ὁρισμὸς ἀποδοτέος, εἴπερ ἐκ τῶν ἑκάστῳ γνωριμωτέρων τὸν ὁρισμὸν ποιεῖσθαι χρή. ἔτι τοῖς αὐτοῖς ἄλλοτ’ ἄλλα μᾶλλον γνώριμα, ἐξ ἀρχῆς μὲν τὰ αἰσθητά, ἀκριβεστέροις δὲ γενομένοις ἀνάπαλιν, ὥστ’ οὐδὲ πρὸς τὸν αὐτὸν ἀεὶ ὁ αὐτὸς ὁρισμὸς ἀποδοτέος τοῖς διὰ τῶν ἑκάστοις γνωριμωτέρων τὸν ὁρισμὸν φάσκουσιν ἀποδοτέον εἶναι. δῆλον οὖν ὅτι οὐχ ὁριστέον διὰ τῶν τοιούτων ἀλλὰ διὰ τῶν ἁπλῶς γνωριμωτέρων· μόνως γὰρ ἂν οὕτως εἷς καὶ ὁ αὐτὸς ὁρισμὸς ἀεὶ γίνοιτο. ἴσως δὲ καὶ τὸ ἁπλῶς γνώριμον οὐ τὸ πᾶσι γνώριμόν ἐστιν ἀλλὰ τὸ τοῖς εὖ διακειμένοις τὴν διάνοιαν, καθάπερ καὶ τὸ ἁπλῶς ὑγιεινὸν τὸ τοῖς εὖ ἔχουσι τὸ σῶμα. δεῖ μὲν οὖν ἕκαστα τῶν τοιούτων ἐξακριβοῦν, χρῆσθαι δὲ διαλεγομένους πρὸς τὸ συμφέρον. μάλιστα δ’ ὁμολογουμένως ἀναιρεῖν ἐνδέχεται τὸν ὁρισμόν, ἐὰν μήτ’ ἐκ τῶν ἁπλῶς γνωριμωτέρων μήτ’ ἐκ τῶν ἡμῖν τυγχάνῃ τὸν λόγον πεποιημένος.

Εἷς μὲν οὖν τρόπος τοῦ μὴ διὰ γνωριμωτέρων ἐστὶ τὸ διὰ τῶν ὑστέρων τὰ πρότερα δηλοῦν, καθάπερ πρότερον εἴπαμεν· ἄλλος δὲ εἰ τοῦ ἐν ἠρεμίᾳ καὶ τοῦ ὡρισμένου διὰ τοῦ ἀορίστου καὶ τοῦ ἐν κινήσει ἀποδέδοται ὁ λόγος ἡμῖν· πρότερον γὰρ τὸ μένον καὶ τὸ ὡρισμένον τοῦ ἀορίστου καὶ ἐν κινήσει ὄντος.

Τοῦ δὲ μὴ ἐκ προτέρων τρεῖς εἰσι τρόποι· πρῶτος μέν, εἰ διὰ τοῦ ἀντικειμένου τὸ ἀντικείμενον ὥρισται, οἷον διὰ τοῦ κακοῦ τὸ ἀγαθόν· ἅμα γὰρ τῇ φύσει τὰ ἀντικείμενα. ἐνίοις δὲ καὶ ἡ αὐτὴ ἐπιστήμη ἀμφοτέρων δοκεῖ εἶναι, ὥστ' οὐδὲ γνωριμώτερον τὸ ἕτερον τοῦ ἑτέρου. δεῖ δὲ μὴ λανθάνειν ὅτι ἔνια ἴσως οὐκ ἔστιν ὁρίσασθαι ἄλλως, οἷον τὸ διπλάσιον ἄνευ τοῦ ἡμίσεος, καὶ ὅσα καθ' αὑτὰ πρός τι λέγεται. πᾶσι γὰρ τοῖς τοιούτοις ταὐτὸν τὸ εἶναι τῷ πρός τί πως ἔχειν, ὥστ' ἀδύνατον ἄνευ θατέρου θάτερον γνωρίζειν· διόπερ ἀναγκαῖον ἐν τῷ τοῦ ἑτέρου λόγῳ συμπεριειλῆφθαι καὶ θάτερον. γνωρίζειν μὲν οὖν δεῖ τὰ τοιαῦτα πάντα, χρῆσθαι δ' αὐτοῖς ὡς ἂν δοκῇ συμφέρειν.

Ἄλλος, εἰ αὐτῷ κέχρηται τῷ ὁριζομένῳ. λανθάνει δ' ὅταν μὴ αὐτῷ τῷ τοῦ ὁριζομένου ὀνόματι χρήσηται, οἷον εἰ [142b] τὸν ἥλιον ἄστρον ἡμεροφανὲς ὡρίσατο· ὁ γὰρ ἡμέρᾳ χρώμενος ἡλίῳ χρῆται. δεῖ δ', ὅπως φωραθῇ τὰ τοιαῦτα, μεταλαμβάνειν ἀντὶ τοῦ ὀνόματος τὸν λόγον, οἷον ὅτι ἡμέρα ἡλίου φορὰ ὑπὲρ γῆς ἐστιν· δῆλον γὰρ ὅτι ὁ τὴν φορὰν ἡλίου ὑπὲρ γῆς εἰρηκὼς τὸν ἥλιον εἴρηκεν, ὥστε χρῆται τῷ ἡλίῳ ὁ τῇ ἡμέρᾳ χρησάμενος.

Πάλιν εἰ τῷ ἀντιδιῃρημένῳ τὸ ἀντιδιῃρημένον ὥρισται, οἷον περιττὸν τὸ μονάδι μεῖζον ἀρτίου. ἅμα γὰρ τῇ φύσει τὰ ἐκ τοῦ αὐτοῦ γένους ἀντιδιῃρημένα· τὸ δὲ περιττὸν καὶ τὸ ἄρτιον ἀντιδιῄρηται· ἄμφω γὰρ ἀριθμοῦ διαφοραί.

Ὁμοίως δὲ καὶ εἰ διὰ τῶν ὑποκάτω τὸ ἐπάνω ὥρισται, οἷον ἄρτιον ἀριθμὸν τὸν δίχα διαιρούμενον ἢ τὸ ἀγαθὸν ἕξιν ἀρετῆς· τό τε γὰρ δίχα ἀπὸ τῶν δύο εἴληπται, ἀρτίων ὄντων, καὶ ἡ ἀρετὴ ἀγαθόν τί ἐστιν, ὥσθ' ὑποκάτω ταῦτα ἐκείνων ἐστίν. ἔτι δ' ἀνάγκη τὸν τῷ ὑποκάτω χρώμενον καὶ αὐτῷ χρῆσθαι. ὅ τε γὰρ τῇ ἀρετῇ χρώμενος χρῆται τῷ ἀγαθῷ, ἐπειδὴ ἀγαθόν τι ἡ ἀρετή, ὁμοίως δὲ καὶ ὁ τῷ δίχα χρώμενος τῷ ἀρτίῳ χρῆται, ἐπειδὴ εἰς δύο διῃρῆσθαι σημαίνει τὸ δίχα διῃρῆσθαι, τὰ δὲ δύο ἄρτιά ἐστιν.

Καθόλου μὲν οὖν εἰπεῖν εἷς ἐστι τόπος τὸ μὴ διὰ προτέρων καὶ γνωριμωτέρων πεποιῆσθαι τὸν λόγον, μέρη δ' αὐτοῦ τὰ εἰρημένα. δεύτερος δὲ εἰ ἐν γένει τοῦ πράγματος ὄντος μὴ κεῖται ἐν γένει. ἐν ἅπασι δὲ τὸ τοιοῦτον ἁμάρτημα ἔστιν ἐν οἷς οὐ πρόκειται τοῦ λόγου τὸ τί ἐστιν, οἷον ὁ τοῦ σώματος ὁρισμὸς "τὸ ἔχον τρεῖς διαστάσεις", ἢ εἴ τις τὸν ἄνθρωπον ὁρίσαιτο τὸ ἐπιστάμενον ἀριθμεῖν. οὐ γὰρ εἴρηται τί ὂν τρεῖς ἔχει διαστάσεις, ἢ τί ὂν ἐπίσταται ἀριθμεῖν· τὸ δὲ γένος βούλεται τὸ τί ἐστι σημαίνειν, καὶ πρῶτον ὑποτίθεται τῶν ἐν τῷ ὁρισμῷ λεγομένων.

Ἔτι εἰ πρὸς πλείω λεγομένου τοῦ ὁριζομένου μὴ πρὸς πάντα ἀποδέδωκεν, οἷον εἰ τὴν γραμματικὴν ἐπιστήμην τοῦ γράψαι τὸ ὑπαγορευθέν· προσδεῖται γὰρ ὅτι καὶ τοῦ ἀναγνῶναι. οὐδὲν γὰρ μᾶλλον ‹ὁ› τοῦ γράψαι ἢ ‹ὁ› τοῦ ἀναγνῶναι ἀποδοὺς ὥρισται, ὥστ' οὐδέτερος, ἀλλ' ὁ ἄμφω ταῦτ' εἰπών, ἐπειδὴ πλείους οὐκ ἐνδέχεται ταὐτοῦ ὁρισμοὺς εἶναι. ἐπ' ἐνίων [143a] μὲν οὖν κατ' ἀλήθειαν ἔχει καθάπερ εἴρηται, ἐπ' ἐνίων δ' οὔ, οἷον ἐφ' ὅσων μὴ καθ' αὑτὸ πρὸς ἄμφω λέγεται, καθάπερ ἡ ἰατρικὴ τοῦ ὑγίειαν καὶ νόσον ποιῆσαι· τοῦ μὲν γὰρ καθ' αὑτὴν λέγεται, τοῦ δὲ κατὰ συμβεβηκός· ἁπλῶς γὰρ ἀλλότριον τῆς ἰατρικῆς τὸ νόσον ποιεῖν. ὥστ' οὐδὲν μᾶλλον ὥρισται ὁ πρὸς ἄμφω ἀποδοὺς τοῦ πρὸς θάτερον, ἀλλ' ἴσως καὶ χεῖρον, ἐπειδὴ καὶ τῶν λοιπῶν ὁστισοῦν δυνατός ἐστι νόσον ποιῆσαι.

Ἔτι εἰ μὴ πρὸς τὸ βέλτιον ἀλλὰ πρὸς τὸ χεῖρον ἀποδέδωκε, πλειόνων ὄντων πρὸς ἃ λέγεται τὸ ὁριζόμενον· πᾶσα γὰρ ἐπιστήμη καὶ δύναμις τοῦ βελτίστου δοκεῖ εἶναι.

Πάλιν εἰ μὴ κεῖται ἐν τῷ οἰκείῳ γένει τὸ λεχθέν, σκοπεῖν ἐκ τῶν περὶ τὰ γένη στοιχείων, καθάπερ πρότερον εἴρηται.

Ἔτι εἰ ὑπερβαίνων λέγει τὰ γένη, οἷον τὴν δικαιοσύνην ἕξιν ἰσότητος ποιητικὴν ἢ διανεμητικὴν τοῦ ἴσου· ὑπερβαίνει γὰρ ὁ οὕτως ὁριζόμενος τὴν ἀρετήν. ἀπολιπὼν οὖν τὸ τῆς δικαιοσύνης γένος οὐ λέγει τὸ τί ἦν εἶναι· ἡ γὰρ οὐσία ἑκάστῳ μετὰ τοῦ γένους. ἔστι δὲ τοῦτο ταὐτὸν τῷ μὴ εἰς τὸ ἐγγυτάτω γένος θεῖναι· ὁ γὰρ εἰς τὸ ἐγγυτάτω θεὶς πάντα τὰ ἐπάνω εἴρηκεν, ἐπειδὴ πάντα τὰ ἐπάνω γένη τῶν ὑποκάτω κατηγορεῖται. ὥστ' ἢ εἰς τὸ ἐγγυτάτω γένος θετέον, ἢ πάσας τὰς διαφορὰς τῷ ἐπάνω γένει προσαπτέον δι' ὧν ὁρίζεται τὸ ἐγγυτάτω γένος· οὕτω γὰρ οὐδὲν ἂν εἴη παραλελοιπώς, ἀλλ' ἀντ' ὀνόματος λόγῳ εἰρηκὼς ἂν εἴη τὸ ὑποκάτω γένος. ὁ δ' αὐτὸ μόνον τὸ ἐπάνω γένος εἴπας οὐ λέγει καὶ τὸ ὑποκάτω γένος· ὁ γὰρ φυτὸν εἴπας οὐ λέγει δένδρον.

Πάλιν ἐπὶ τῶν διαφορῶν ὁμοίως σκεπτέον εἰ καὶ τὰς διαφορὰς εἶπε τὰς τοῦ γένους. εἰ γὰρ μὴ ταῖς τοῦ πράγματος ἰδίαις ὥρισται διαφοραῖς, ἢ καὶ παντελῶς τι τοιοῦτον εἴρηκεν ὃ μηδενὸς ἐνδέχεται διαφορὰν εἶναι, οἷον τὸ ζῷον ἢ τὴν οὐσίαν, δῆλον ὅτι οὐχ ὥρισται· οὐδενὸς γὰρ διαφοραὶ τὰ εἰρημένα. ὁρᾶν δὲ καὶ εἰ ἔστιν ἀντιδιῃρημένον τι τῇ εἰρημένῃ διαφορᾷ. εἰ γὰρ μὴ ἔστι, δῆλον ὅτι οὐκ ἂν εἴη ἡ εἰρημένη τοῦ γένους διαφορά· πᾶν γὰρ γένος ταῖς ἀντιδιῃρημέναις διαφοραῖς [143b] διαιρεῖται, καθάπερ τὸ ζῷον τῷ πεζῷ καὶ τῷ πτηνῷ καὶ ‹τῷ› ἐνύδρῳ [καὶ τῷ δίποδι]. ἢ εἰ ἔστι μὲν ἀντιδιῃρημένη διαφορά, μὴ ἀληθεύεται δὲ κατὰ τοῦ γένους. δῆλον γὰρ ὅτι οὐδετέρα ἂν εἴη τοῦ γένους διαφορά· πᾶσαι γὰρ αἱ ἀντιδιῃρημέναι διαφοραὶ ἀληθεύονται κατὰ τοῦ οἰκείου γένους. ὁμοίως δὲ καὶ εἰ ἀληθεύεται μέν, μὴ ποιεῖ δὲ προστιθεμένη τῷ γένει εἶδος. δῆλον γὰρ ὅτι οὐκ ἂν εἴη αὕτη εἰδοποιὸς διαφορὰ τοῦ γένους· πᾶσα γὰρ εἰδοποιὸς διαφορὰ μετὰ τοῦ γένους εἶδος ποιεῖ. εἰ δ’ αὕτη μὴ ἔστι διαφορά, οὐδ’ ἡ λεχθεῖσα, ἐπεὶ ταύτῃ ἀντιδιῄρηται.

Ἔτι ἐὰν ἀποφάσει διαιρῇ τὸ γένος, καθάπερ οἱ τὴν γραμμὴν ὁριζόμενοι μῆκος ἀπλατὲς εἶναι· οὐδὲν γὰρ ἄλλο σημαίνει ἢ ὅτι οὐκ ἔχει πλάτος. συμβήσεται οὖν τὸ γένος μετέχειν τοῦ εἴδους· πᾶν γὰρ μῆκος ἢ ἀπλατὲς ἢ πλάτος ἔχον ἐστίν, ἐπεὶ κατὰ παντὸς ἢ ἡ κατάφασις ἢ ἡ ἀπόφασις ἀληθεύεται, ὥστε καὶ τὸ γένος τῆς γραμμῆς, μῆκος ὄν, ἢ ἀπλατὲς ἢ πλάτος ἔχον ἔσται. μῆκος δ’ ἀπλατὲς εἴδους ἐστὶ λόγος· ὁμοίως δὲ καὶ μῆκος πλάτος ἔχον. τὸ γὰρ ἀπλατὲς καὶ τὸ πλάτος ἔχον διαφοραί εἰσιν· ἐκ δὲ τῆς διαφορᾶς καὶ τοῦ γένους ὁ τοῦ εἴδους ἐστὶ λόγος, ὥστε τὸ γένος ἐπιδέχοιτ’ ἂν τὸν τοῦ εἴδους λόγον. ὁμοίως δὲ καὶ τὸν τῆς διαφορᾶς, ἐπειδὴ ἡ ἑτέρα τῶν εἰρημένων διαφορῶν ἐξ ἀνάγκης κατηγορεῖται τοῦ γένους. ἔστι δ’ ὁ εἰρημένος τόπος χρήσιμος πρὸς τοὺς τιθεμένους ἰδέας εἶναι. εἰ γὰρ ἔστιν αὐτὸ μῆκος, πῶς κατηγορηθήσεται κατὰ τοῦ γένους ὅτι πλάτος ἔχον ἐστὶν ἢ ἀπλατές ἐστιν; δεῖ γὰρ κατὰ παντὸς μήκους τὸ ἕτερον αὐτῶν ἀληθεύεσθαι, εἴπερ κατὰ τοῦ γένους ἀληθεύεσθαι μέλλει. τοῦτο δ’ οὐ συμβαίνει· ἔστι γὰρ καὶ ἀπλατῆ καὶ πλάτος ἔχοντα μήκη. ὥστε πρὸς ἐκείνους μόνους χρήσιμος ὁ τόπος οἳ πᾶν γένος ἓν ἀριθμῷ φασιν εἶναι. τοῦτο δὲ ποιοῦσιν οἱ τὰς ἰδέας τιθέμενοι· αὐτὸ γὰρ μῆκος καὶ αὐτὸ ζῷον γένος φασὶν εἶναι.

Ἴσως δ’ ἐπ’ ἐνίων ἀναγκαῖον καὶ ἀποφάσει χρῆσθαι τὸν ὁριζόμενον, οἷον ἐπὶ τῶν στερήσεων· τυφλὸν γάρ ἐστι τὸ μὴ ἔχον ὄψιν, ὅτε πέφυκεν ἔχειν. διαφέρει δ’ οὐδὲν ἀποφάσει διελεῖν τὸ γένος ἢ τοιαύτῃ καταφάσει ᾗ ἀπόφασιν [144a] ἀναγκαῖον ἀντιδιαιρεῖσθαι, οἷον εἰ μῆκος πλάτος ἔχον ὥρισται· τῷ γὰρ πλάτος ἔχοντι τὸ μὴ ἔχον πλάτος ἀντιδιῄρηται, ἄλλο δ’ οὐδέν, ὥστε ἀποφάσει πάλιν διαιρεῖται τὸ γένος.

Πάλιν εἰ τὸ εἶδος ὡς διαφορὰν ἀποδέδωκε, καθάπερ οἱ τὸν προπηλακισμὸν ὕβριν μετὰ χλευασίας ὁριζόμενοι· ἡ γὰρ χλευασία ὕβρις τις, ὥστ’ οὐ διαφορὰ ἀλλ’ εἶδος ἡ χλευασία.

Ἔτι εἰ τὸ γένος ὡς διαφορὰν εἴρηκεν, οἷον τὴν ἀρετὴν ἕξιν ἀγαθὴν ἢ σπουδαίαν· γένος γὰρ τἀγαθὸν τῆς ἀρετῆς ἐστιν. ἢ οὐ γένος τἀγαθὸν ἀλλὰ διαφορά, εἴπερ ἀληθὲς ὅτι οὐκ ἐνδέχεται ταὐτὸν ἐν δύο γένεσιν εἶναι μὴ περιέχουσιν ἄλληλα. οὔτε γὰρ τἀγαθὸν τὴν ἕξιν περιέχει οὔθ’ ἡ ἕξις τἀγαθόν·

οὐ γὰρ πᾶσα ἕξις ἀγαθόν, οὐδὲ πᾶν ἀγαθὸν ἕξις, ὥστ' οὐκ ἂν εἴη γένη ἀμφότερα. εἰ οὖν ἡ ἕξις τῆς ἀρετῆς γένος, δῆλον ὅτι τἀγαθὸν οὐ γένος ἀλλὰ μᾶλλον διαφορά. ἔτι ἡ μὲν ἕξις τί ἐστι σημαίνει ἡ ἀρετή, τὸ δ' ἀγαθὸν οὐ τί ἐστιν ἀλλὰ ποῖον· δοκεῖ δ' ἡ διαφορὰ ποιόν τι σημαίνειν.

Ὁρᾶν δὲ καὶ εἰ μὴ ποιόν τι ἀλλὰ τόδε τι σημαίνει ἡ ἀποδοθεῖσα διαφορά· δοκεῖ γὰρ ποιόν τι πᾶσα διαφορὰ δηλοῦν.

Σκοπεῖν δὲ καὶ εἰ κατὰ συμβεβηκὸς ὑπάρχει τῷ ὁριζομένῳ ἡ διαφορά. οὐδεμία γὰρ διαφορὰ τῶν κατὰ συμβεβηκὸς ὑπαρχόντων ἐστί, καθάπερ οὐδὲ τὸ γένος· οὐ γὰρ ἐνδέχεται τὴν διαφορὰν ὑπάρχειν τινὶ καὶ μὴ ὑπάρχειν.

Ἔτι εἰ κατηγορεῖται τοῦ γένους ἡ διαφορὰ ἢ τὸ εἶδος ἢ τῶν κάτωθέν τι τοῦ εἴδους, οὐκ ἂν εἴη ὡρισμένος· οὐδὲν γὰρ τῶν εἰρημένων ἐνδέχεται τοῦ γένους κατηγορεῖσθαι, ἐπειδὴ τὸ γένος ἐπὶ πλεῖστον πάντων λέγεται. πάλιν εἰ κατηγορεῖται τὸ γένος τῆς διαφορᾶς· οὐ γὰρ κατὰ τῆς διαφορᾶς, ἀλλὰ καθ' ὧν ἡ διαφορά, τὸ γένος δοκεῖ κατηγορεῖσθαι, οἷον τὸ ζῷον κατὰ τοῦ ἀνθρώπου καὶ τοῦ βοὸς καὶ τῶν ἄλλων πεζῶν ζῴων, οὐ κατ' αὐτῆς τῆς διαφορᾶς τῆς κατὰ τοῦ εἴδους λεγομένης. εἰ γὰρ καθ' ἑκάστης τῶν διαφορῶν τὸ ζῷον κατηγορηθήσεται, πολλὰ ζῷα τοῦ εἴδους ἂν κατηγοροῖτο· αἱ [144b] γὰρ διαφοραὶ τοῦ εἴδους κατηγοροῦνται. ἔτι αἱ διαφοραὶ πᾶσαι ἢ εἴδη ἢ ἄτομα ἔσονται, εἴπερ ζῷα· ἕκαστον γὰρ τῶν ζῴων ἢ εἶδός ἐστιν ἢ ἄτομον.

Ὁμοίως δὲ σκεπτέον καὶ εἰ τὸ εἶδος ἢ τῶν ὑποκάτω τι τοῦ εἴδους τῆς διαφορᾶς κατηγορεῖται· ἀδύνατον γάρ, ἐπειδὴ ἐπὶ πλέον ἡ διαφορὰ τῶν εἰδῶν λέγεται. ἔτι συμβήσεται τὴν διαφορὰν εἶδος εἶναι, εἴπερ κατηγορεῖταί τι αὐτῆς τῶν εἰδῶν· εἰ γὰρ κατηγορηθήσεται ἄνθρωπος, δῆλον ὅτι ἡ διαφορὰ ἄνθρωπός ἐστιν. πάλιν εἰ μὴ πρότερον ἡ διαφορὰ τοῦ εἴδους· τοῦ μὲν γὰρ γένους ὕστερον, τοῦ δ' εἴδους πρότερον τὴν διαφορὰν δεῖ εἶναι.

Σκοπεῖν δὲ καὶ εἰ ἑτέρου γένους ἡ ῥηθεῖσα διαφορὰ μὴ περιεχομένου μηδὲ περιέχοντος· οὐ δοκεῖ γὰρ ἡ αὐτὴ διαφορὰ δύο γενῶν εἶναι μὴ περιεχόντων ἄλληλα. εἰ δὲ μή, συμβήσεται καὶ εἶδος τὸ αὐτὸ ἐν δύο γένεσιν εἶναι μὴ περιέχουσιν ἄλληλα. ἐπιφέρει γὰρ ἑκάστη τῶν διαφορῶν τὸ οἰκεῖον γένος, καθάπερ τὸ πεζὸν καὶ τὸ δίπουν τὸ ζῷον συνεπιφέρει. ὥστε καθ' οὗ ἡ διαφορά, καὶ τῶν γενῶν ἑκάτερον· δῆλον οὖν ὅτι τὸ εἶδος ἐν δύο γένεσιν οὐ περιέχουσιν ἄλληλα. ἢ οὐκ ἀδύνατον τὴν αὐτὴν διαφορὰν δύο γενῶν εἶναι μὴ περιεχόντων ἄλληλα, ἀλλὰ προσθετέον "μηδ' ἄμφω ὑπὸ ταὐτὸν ὄντων". τὸ γὰρ πεζὸν ζῷον καὶ τὸ πτηνὸν ζῷον γένη ἐστὶν οὐ περιέχοντα ἄλληλα, καὶ ἀμφοτέρων αὐτῶν ἐστι τὸ δίπουν διαφορά. ὥστε προσθετέον ὅτι μηδ' ὑπὸ ταὐτὸν ὄντων ἄμφω· ταῦτα γὰρ ἄμφω ὑπὸ τὸ ζῷόν ἐστιν. δῆλον δὲ καὶ ὅτι οὐκ ἀνάγκη τὴν διαφορὰν πᾶν οἰκεῖον ἐπιφέρειν γένος, ἐπειδὴ ἐνδέχεται τὴν αὐτὴν δύο γενῶν εἶναι μὴ περιεχόντων ἄλληλα, ἀλλὰ τὸ ἕτερον μόνον ἀνάγκη συνεπιφέρειν καὶ τὰ ἐπάνω τούτου πάντα, καθάπερ τὸ δίπουν τὸ πτηνὸν ἢ τὸ πεζὸν συνεπιφέρει ζῷον.

Ὁρᾶν δὲ καὶ εἰ τὸ ἔν τινι διαφορὰν ἀποδέδωκεν οὐσίας· οὐ δοκεῖ γὰρ διαφέρειν οὐσία οὐσίας τῷ πoὺ εἶναι. διὸ καὶ τοῖς τῷ πεζῷ καὶ τῷ ἐνύδρῳ διαιροῦσι τὸ ζῷον ἐπιτιμῶσιν ὡς τὸ πεζὸν καὶ τὸ ἔνυδρον ποὺ σημαῖνον. ἢ ἐπὶ μὲν τούτων οὐκ ὀρθῶς ἐπιτιμῶσιν· οὐ γὰρ ἔν τινι οὐδὲ ποὺ σημαίνει τὸ ἔνυδρον, ἀλλὰ ποιόν τι. καὶ γὰρ ἂν ᾖ ἐν τῷ ξηρῷ, ὁμοίως ἔνυδρον· ὁμοίως δὲ τὸ χερσαῖον, κἂν ἐν ὑγρῷ, χερσαῖον [145a] ἀλλ’ οὐκ ἔνυδρον ἔσται. ἀλλ’ ὅμως ἐάν ποτε σημαίνῃ τὸ ἔν τινι ἡ διαφορά, δῆλον ὅτι διημαρτηκὼς ἔσται.

Πάλιν εἰ τὸ πάθος διαφορὰν ἀποδέδωκεν· πᾶν γὰρ πάθος μᾶλλον γινόμενον ἐξίστησι τῆς οὐσίας, ἡ δὲ διαφορὰ οὐ τοιοῦτον· μᾶλλον γὰρ σῴζειν δοκεῖ ἡ διαφορὰ οὗ ἐστι διαφορά, καὶ ἁπλῶς ἀδύνατον εἶναι ἄνευ τῆς οἰκείας διαφορᾶς ἕκαστον· πεζοῦ γὰρ μὴ ὄντος οὐκ ἔσται ἄνθρωπος. ἁπλῶς δ’ εἰπεῖν, καθ’ ὅσα ἀλλοιοῦται τὸ ἔχον, οὐδὲν τούτων διαφορὰ ἐκείνου· ἅπαντα γὰρ τὰ τοιαῦτα μᾶλλον γινόμενα ἐξίστησι τῆς οὐσίας. ὥστ’ εἴ τινα τοιαύτην διαφορὰν ἀποδέδωκεν, ἡμάρτηκεν· ἁπλῶς γὰρ οὐκ ἀλλοιούμεθα κατὰ τὰς διαφοράς.

Καὶ εἴ τινος τῶν πρός τι μὴ πρὸς ἄλλο τὴν διαφορὰν ἀποδέδωκεν· τῶν γὰρ πρός τι καὶ αἱ διαφοραὶ πρός τι, καθάπερ καὶ τῆς ἐπιστήμης. θεωρητικὴ γὰρ καὶ πρακτικὴ καὶ ποιητικὴ λέγεται· ἕκαστον δὲ τούτων πρός τι σημαίνει· θεωρητικὴ γὰρ τινὸς καὶ ποιητικὴ τινὸς καὶ πρακτικὴ τινός.

Σκοπεῖν δὲ καὶ εἰ πρὸς ὃ πέφυκεν ἕκαστον τῶν πρός τι ἀποδίδωσιν ὁ ὁριζόμενος. ἐνίοις μὲν γὰρ πρὸς ὃ πέφυκεν [ἕκαστον τῶν πρός τι] μόνον ἔστι χρῆσθαι, πρὸς ἄλλο δ’ οὐδέν, ἐνίοις δὲ καὶ πρὸς ἄλλο, οἷον τῇ ὄψει πρὸς τὸ ἰδεῖν μόνον, τῇ δὲ στλεγγίδι κἂν ἀρύσειέ τις. ἀλλ’ ὅμως εἴ τις ὁρίσαιτο τὴν στλεγγίδα ὄργανον πρὸς τὸ ἀρύειν, ἡμάρτηκεν· οὐ γὰρ πρὸς τοῦτο πέφυκεν. ὅρος δὲ τοῦ πρὸς ὃ πέφυκεν “ἐφ’ ὃ ἂν χρήσαιτο ὁ φρόνιμος ᾗ φρόνιμος καὶ ἡ περὶ ἕκαστον οἰκεία ἐπιστήμη”.

Ἢ εἰ μὴ τοῦ πρώτου ἀποδέδωκεν, ὅταν τυγχάνῃ πρὸς πλείω λεγόμενον, οἷον τὴν φρόνησιν ἀρετὴν ἀνθρώπου ἢ ψυχῆς καὶ μὴ τοῦ λογιστικοῦ. πρώτου γὰρ τοῦ λογιστικοῦ ἀρετὴ ἡ φρόνησις· κατὰ γὰρ τοῦτο καὶ ἡ ψυχὴ καὶ ὁ ἄνθρωπος φρονεῖν λέγεται.

Ἔτι εἰ μὴ δεκτικόν ἐστιν οὗ εἴρηται τὸ ὡρισμένον πάθος ἢ [ἡ] διάθεσις ἢ ὁτιοῦν ἄλλο, ἡμάρτηκεν· πᾶσα γὰρ διάθεσις καὶ πᾶν πάθος ἐν ἐκείνῳ πέφυκε γίνεσθαι οὗ ἐστι διάθεσις ἢ πάθος, καθάπερ καὶ ἡ ἐπιστήμη ἐν ψυχῇ, διάθεσις οὖσα ψυχῆς. ἐνίοτε δὲ διαμαρτάνουσιν ἐν τοῖς τοιούτοις, οἷον ὅσοι [145b] λέγουσιν ὅτι ὁ ὕπνος ἐστὶν ἀδυναμία αἰσθήσεως, καὶ ἡ ἀπορία ἰσότης ἐναντίων λογισμῶν, καὶ ἡ ἀλγηδὼν διάστασις τῶν συμφύτων μερῶν μετὰ βίας. οὔτε γὰρ ὁ ὕπνος ὑπάρχει τῇ αἰσθήσει (ἔδει δ’, εἴπερ ἀδυναμία αἰσθήσεώς ἐστιν)· ὁμοίως δ’ οὐδ’ ἡ ἀπορία ὑπάρχει τοῖς ἐναντίοις λογισμοῖς, οὐδ’ ἡ ἀλγηδὼν τοῖς συμφύτοις μέρεσιν· ἀλγήσει γὰρ τὰ ἄψυχα, εἴπερ ἀλγηδὼν αὐτοῖς παρέσται. τοιοῦτος δὲ καὶ ὁ τῆς ὑγιείας ὁρισμός, εἴπερ “συμμετρία θερμῶν καὶ ψυχρῶν” ἐστιν· ἀνάγκη γὰρ ὑγιαίνειν τὰ θερμὰ καὶ ψυχρά. ἡ γὰρ ἑκάστου συμμετρία ἐν ἐκείνοις ὑπάρχει ὧν ἐστι συμμετρία, ὥσθ’ ἡ ὑγίεια ὑπάρχοι ἂν αὐτοῖς. ἔτι τὸ ποιούμενον εἰς τὸ ποιητικὸν ἢ ἀνάπαλιν συμβαίνει τιθέναι τοῖς οὕτως ὁριζομένοις. οὐ γάρ ἐστιν ἀλγηδὼν ἡ διάστασις τῶν συμφύτων μερῶν, ἀλλὰ ποιητικὸν ἀλγηδόνος· οὐδ’ ἡ ἀδυναμία τῆς αἰσθήσεως ὕπνος, ἀλλὰ ποιητικὸν θάτερον θατέρου· ἤτοι γὰρ διὰ τὴν ἀδυναμίαν ὑπνώσσομεν ἢ διὰ τὸν ὕπνον ἀδυνατοῦμεν. ὁμοίως δὲ καὶ τῆς ἀπορίας δόξειεν ἂν ποιητικὸν εἶναι ἡ τῶν ἐναντίων ἰσότης λογισμῶν· ὅταν γὰρ ἐπ’ ἀμφότερα λογιζομένοις ἡμῖν ὁμοίως ἅπαντα φαίνηται καθ’ ἑκάτερον γίνεσθαι, ἀποροῦμεν ὁπότερον πράξωμεν.

Ἔτι κατὰ τοὺς χρόνους πάντας ἐπισκοπεῖν εἴ που διαφωνεῖ, οἷον εἰ τὸ ἀθάνατον ὡρίσατο ζῷον ἄφθαρτον νῦν εἶναι· τὸ γὰρ νῦν ἄφθαρτον ζῷον νῦν ἀθάνατον ἔσται. ἢ ἐπὶ μὲν τούτου οὐ συμβαίνει· ἀμφίβολον γὰρ τὸ νῦν ἄφθαρτον εἶναι· ἢ γὰρ ὅτι οὐκ ἔφθαρται νῦν σημαίνει, ἢ ὅτι οὐ δύναται φθαρῆναι νῦν, ἢ ὅτι τοιοῦτόν ἐστι νῦν οἷον μηδέποτε φθαρῆναι. ὅταν οὖν λέγωμεν ὅτι ἄφθαρτον νῦν ἐστι ζῷον, τοῦτο λέγομεν, ὅτι νῦν τοιοῦτόν ἐστι ζῷον οἷον μηδέποτε φθαρῆναι· τοῦτο δὲ τῷ ἀθανάτῳ τὸ αὐτὸ ἦν, ὥστ’ οὐ συμβαίνει νῦν αὐτὸ ἀθάνατον εἶναι. ἀλλ’ ὅμως, ἂν συμβαίνῃ τὸ μὲν κατὰ τὸν λόγον ἀποδοθὲν ὑπάρχειν νῦν ἢ πρότερον, τὸ δὲ κατὰ τοὔνομα μὴ ὑπάρχειν, οὐκ ἂν εἴη ταὐτόν. χρηστέον οὖν τῷ τόπῳ καθάπερ εἴρηται.

Σκεπτέον δὲ καὶ εἰ καθ’ ἕτερόν τι μᾶλλον λέγεται τὸ ὁρισθὲν ἢ κατὰ τὸν ἀποδοθέντα λόγον, οἷον εἰ ἡ δικαιοσύνη δύναμις τοῦ ἴσου διανεμητική. δίκαιος γὰρ μᾶλλον ὁ προαιρούμενος τὸ ἴσον διανεῖμαι τοῦ δυναμένου, ὥστ’ οὐκ ἂν εἴη [146a] ἡ δικαιοσύνη δύναμις τοῦ ἴσου διανεμητική· καὶ γὰρ δίκαιος εἴη ἂν μάλιστα ὁ δυνάμενος μάλιστα τὸ ἴσον διανεῖμαι.

Ἔτι εἰ τὸ μὲν πρᾶγμα δέχεται τὸ μᾶλλον, τὸ δὲ κατὰ τὸν λόγον ἀποδοθὲν μὴ δέχεται, ἢ ἀνάπαλιν τὸ μὲν κατὰ τὸν λόγον ἀποδοθὲν δέχεται, τὸ δὲ πρᾶγμα μή· δεῖ γὰρ ἢ ἀμφότερα δέχεσθαι ἢ μηδέτερον, εἴπερ δὴ ταὐτόν ἐστι τὸ κατὰ τὸν λόγον ἀποδοθὲν τῷ πράγματι. ἔτι εἰ δέχεται μὲν ἀμφότερα τὸ μᾶλλον, μὴ ἅμα δὲ τὴν ἐπίδοσιν ἀμφότερα λαμβάνει, οἷον εἰ ὁ ἔρως ἐπιθυμία συνουσίας ἐστίν· ὁ γὰρ μᾶλλον ἐρῶν οὐ μᾶλλον ἐπιθυμεῖ τῆς συνουσίας, ὥστ' οὐχ ἅμα ἀμφότερα τὸ μᾶλλον ἐπιδέχεται· ἔδει δέ γε, εἴπερ ταὐτὸν ἦν.

Ἔτι εἰ, δύο τινῶν προτεθέντων, καθ' οὗ τὸ πρᾶγμα μᾶλλον λέγεται τὸ κατὰ τὸν λόγον ἧττον λέγεται, οἷον εἰ τὸ πῦρ ἐστι σῶμα τὸ λεπτομερέστατον. πῦρ μὲν γὰρ μᾶλλον ἡ φλόξ ἐστι τοῦ φωτός, σῶμα δὲ τὸ λεπτομερέστατον ἧττον ἡ φλὸξ τοῦ φωτός· ἔδει δ' ἀμφότερα μᾶλλον τῷ αὐτῷ ὑπάρχειν, εἴπερ ταὐτὰ ἦν. πάλιν εἰ τὸ μὲν ὁμοίως ἀμφοτέροις ὑπάρχει τοῖς προτεθεῖσι, τὸ δ' ἕτερον μὴ ὁμοίως ἀμφοτέροις ἀλλὰ τῷ ἑτέρῳ μᾶλλον.

Ἔτι ἐὰν πρὸς δύο τὸν ὁρισμὸν ἀποδῷ καθ' ἑκάτερον, οἷον τὸ καλὸν τὸ δι' ὄψεως ἢ δι' ἀκοῆς ἡδύ, καὶ τὸ ὂν τὸ δυνατὸν παθεῖν ἢ ποιῆσαι· ἅμα γὰρ ταὐτὸν καλόν τε καὶ οὐ καλὸν ἔσται, ὁμοίως δὲ καὶ ὄν τε καὶ οὐκ ὄν. τὸ γὰρ δι' ἀκοῆς ἡδὺ ταὐτὸν τῷ καλῷ ἔσται, ὥστε τὸ μὴ ἡδὺ δι' ἀκοῆς τῷ μὴ καλῷ ταὐτόν· τοῖς γὰρ αὐτοῖς καὶ τὰ ἀντικείμενα τὰ αὐτά· ἀντίκειται δὲ τῷ μὲν καλῷ τὸ οὐ καλόν, τῷ δὲ δι' ἀκοῆς ἡδεῖ τὸ δι' ἀκοῆς οὐχ ἡδύ. δῆλον οὖν ὅτι ταὐτὸν τὸ οὐχ ἡδὺ δι' ἀκοῆς τῷ οὐ καλῷ. εἰ οὖν τί ἐστι δι' ὄψεως μὲν ἡδὺ δι' ἀκοῆς δὲ μή, καλόν τε καὶ οὐ καλὸν ἔσται. ὁμοίως δὲ δείξομεν καὶ ὅτι ταὐτὸν ὄν τε καὶ οὐκ ὄν ἐστιν.

Ἔτι τῶν γενῶν καὶ τῶν διαφορῶν καὶ τῶν ἄλλων ἁπάντων τῶν ἐν τοῖς ὁρισμοῖς ἀποδιδομένων λόγους ἀντὶ τῶν ὀνομάτων ποιοῦντα σκοπεῖν εἴ τι διαφωνεῖ.

Ἐὰν δ' ᾖ πρός τι τὸ ὁριζόμενον ἢ καθ' αὑτὸ ἢ κατὰ τὸ γένος, σκοπεῖν εἰ μὴ εἴρηται ἐν τῷ ὁρισμῷ πρὸς ὃ λέγεται [146b] ἢ αὐτὸ ἢ κατὰ τὸ γένος, οἷον εἰ τὴν ἐπιστήμην ὡρίσατο ὑπόληψιν ἀμετάπειστον, ἢ τὴν βούλησιν ὄρεξιν ἄλυπον· παντὸς γὰρ τοῦ πρός τι ἡ οὐσία πρὸς ἕτερον, ἐπειδὴ ταὐτὸν ἦν ἑκάστῳ τῶν πρός τι τὸ εἶναι ὅπερ τὸ πρός τί πως ἔχειν. ἔδει οὖν τὴν ἐπιστήμην εἰπεῖν ὑπόληψιν ἐπιστητοῦ καὶ τὴν βούλησιν ὄρεξιν ἀγαθοῦ. ὁμοίως δὲ καὶ εἰ τὴν γραμματικὴν ὡρίσατο ἐπιστήμην γραμμάτων· ἔδει γὰρ ἢ πρὸς ὃ αὐτὸ λέγεται, ἢ πρὸς ὃ τὸ γένος, ἐν τῷ ὁρισμῷ ἀποδίδοσθαι. ἢ εἰ πρός τι εἰρημένον μὴ πρὸς τὸ τέλος ἀποδέδοται· τέλος δ' ἐν ἑκάστῳ τὸ βέλτιστον ἢ οὗ χάριν τἆλλα. ῥητέον δὴ ἢ τὸ βέλτιστον ἢ τὸ ἔσχατον, οἷον τὴν ἐπιθυμίαν οὐχ ἡδέος ἀλλ' ἡδονῆς· ταύτης γὰρ χάριν καὶ τὸ ἡδὺ αἱρούμεθα.

Σκοπεῖν δὲ καὶ εἰ γένεσίς ἐστι πρὸς ὃ ἀποδέδωκεν, ἢ ἐνέργεια· οὐδὲν γὰρ τῶν τοιούτων τέλος· μᾶλλον γὰρ τὸ ἐνηργηκέναι καὶ γεγενῆσθαι τέλος ἢ τὸ γίνεσθαι καὶ ἐνεργεῖν. (ἢ οὐκ ἐπὶ πάντων ἀληθὲς τὸ τοιοῦτον· σχεδὸν γὰρ οἱ πλεῖστοι ἥδεσθαι μᾶλλον βούλονται ἢ πεπαῦσθαι ἡδόμενοι, ὥστε τὸ ἐνεργεῖν μᾶλλον τέλος ἂν ποιοῖντο τοῦ ἐνηργηκέναι.)

Πάλιν ἐπ' ἐνίων εἰ μὴ διώρικε τὸ πόσου ἢ ποίου ἢ ποῦ ἢ κατὰ τὰς ἄλλας διαφοράς, οἷον φιλότιμος ὁ ποίας καὶ ὁ πόσης ὀρεγόμενος τιμῆς· πάντες γὰρ ὀρέγονται τιμῆς, ὥστ' οὐκ ἀπόχρη φιλότιμον εἰπεῖν τὸν ὀρεγόμενον τιμῆς, ἀλλὰ προσθετέον τὰς εἰρημένας διαφοράς. ὁμοίως δὲ καὶ φιλοχρήματος ὁ πόσων ὀρεγόμενος χρημάτων, ἢ ἀκρατὴς ὁ περὶ ποίας ἡδονάς· οὐ γὰρ ὁ ὑφ' οἱασποτοῦν ἡδονῆς κρατούμενος ἀκρατὴς λέγεται, ἀλλ' ὁ ὑπὸ τινός. ἢ πάλιν, ὡς ὁρίζονται τὴν νύκτα σκιὰν γῆς, ἢ τὸν σεισμὸν κίνησιν γῆς, ἢ τὸ νέφος πύκνωσιν ἀέρος, ἢ τὸ πνεῦμα κίνησιν ἀέρος· προσθετέον γὰρ πόσου καὶ ποίου καὶ ποῦ καὶ ὑπὸ τίνος. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων· ἀπολείπων γὰρ διαφορὰν ἡντινοῦν οὐ λέγει τὸ τί ἦν εἶναι. δεῖ δ' ἀεὶ πρὸς τὸ ἐνδεὲς ἐπιχειρεῖν· οὐ γὰρ ὁπωσοῦν γῆς κινηθείσης οὐδ' ὁποσησοῦν σεισμὸς ἔσται, ὁμοίως δ' οὐδ' ἀέρος ὁπωσοῦν οὐδ' ὁποσουοῦν κινηθέντος πνεῦμα.

Ἔτι ἐπὶ τῶν ὀρέξεων εἰ μὴ πρόσκειται τὸ φαινόμενον, καὶ ἐφ' ὅσων ἄλλων ἁρμόττει, οἷον ὅτι ἡ βούλησις [147a] ὄρεξις ἀγαθοῦ, ἡ δ' ἐπιθυμία ὄρεξις ἡδέος, ἀλλὰ μὴ φαινομένου ἀγαθοῦ ἢ ἡδέος. πολλάκις γὰρ λανθάνει τοὺς ὀρεγομένους ὅ τι ἀγαθὸν ἢ ἡδύ ἐστιν, ὥστ' οὐκ ἀναγκαῖον ἀγαθὸν ἢ ἡδὺ εἶναι ἀλλὰ φαινόμενον μόνον. ἔδει οὖν οὕτω καὶ τὴν ἀπόδοσιν ποιήσασθαι. ἐὰν δὲ καὶ προσαποδῷ τὸ εἰρημένον, ἐπὶ τὰ εἴδη ἀκτέον τὸν τιθέμενον ἰδέας εἶναι. οὐ γὰρ ἔστιν ἰδέα φαινομένου οὐδενός, τὸ δ' εἶδος πρὸς τὸ εἶδος δοκεῖ λέγεσθαι, οἷον αὐτὴ ἐπιθυμία αὐτοῦ ἡδέος καὶ αὐτὴ βούλησις αὐτοῦ ἀγαθοῦ. οὐκ ἔσται οὖν φαινομένου ἀγαθοῦ οὐδὲ φαινομένου ἡδέος· ἄτοπον γὰρ τὸ εἶναι αὐτὸ φαινόμενον ἀγαθὸν ἢ ἡδύ.

Ἔτι ἐὰν μὲν ᾖ τῆς ἕξεως ὁ ὁρισμός, σκοπεῖν ἐπὶ τοῦ ἔχοντος, ἐὰν δὲ τοῦ ἔχοντος, ἐπὶ τῆς ἕξεως· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων· οἷον εἰ τὸ ἡδὺ ὅπερ ὠφέλιμον, καὶ ὁ ἡδόμενος ὠφελούμενος. καθόλου δ' εἰπεῖν ἐν τοῖς τοιούτοις ὁρισμοῖς τρόπον τινὰ πλείω ἑνὸς συμβαίνει τὸν ὁριζόμενον ὁρίζεσθαι. ὁ γὰρ τὴν ἐπιστήμην ὁριζόμενος τρόπον τινὰ καὶ τὴν ἄγνοιαν ὁρίζεται, ὁμοίως δὲ καὶ τὸ ἐπιστῆμον καὶ τὸ ἀνεπιστῆμον, καὶ τὸ ἐπίστασθαι καὶ τὸ ἀγνοεῖν· τοῦ γὰρ πρώτου δήλου γενομένου τρόπον τινὰ καὶ τὰ λοιπὰ δῆλα γίνεται. σκεπτέον οὖν ἐπὶ πάντων τῶν τοιούτων μή τι διαφωνῇ, στοιχείοις χρώμενον τοῖς ἐκ τῶν ἐναντίων καὶ τῶν συστοίχων.

Ἔτι ἐπὶ τῶν πρός τι σκοπεῖν εἰ πρὸς ὃ τὸ γένος ἀποδίδοται, τὸ εἶδος πρὸς ἐκεῖνό τι ἀποδίδοται. οἷον εἰ ἡ ὑπόληψις πρὸς τὸ ὑποληπτόν, ἡ τὶς ὑπόληψις πρὸς τὸ τὶ ὑποληπτόν, καὶ εἰ τὸ πολλαπλάσιον πρὸς τὸ πολλοστημόριον, τὸ τὶ πολλαπλάσιον πρὸς τὸ τὶ πολλοστημόριον· εἰ γὰρ μὴ οὕτως ἀποδέδοται, δῆλον ὅτι ἡμάρτηται.

Ὁρᾶν δὲ καὶ εἰ τοῦ ἀντικειμένου ὁ ἀντικείμενος λόγος, οἷον τοῦ ἡμίσεος ὁ ἀντικείμενος τῷ τοῦ διπλασίου· εἰ γὰρ διπλάσιον τὸ ἴσῳ ὑπερέχον, ἥμισυ τὸ ἴσῳ ὑπερεχόμενον. καὶ ἐπὶ τῶν ἐναντίων δ’ ὡσαύτως· ὁ γὰρ ἐναντίος τοῦ ἐναντίου λόγος ἔσται κατὰ μίαν τινὰ συμπλοκὴν τῶν ἐναντίων. οἷον εἰ ὠφέλιμον τὸ ποιητικὸν ἀγαθοῦ, βλαβερὸν τὸ ποιητικὸν κακοῦ ἢ τὸ φθαρτικὸν ἀγαθοῦ· θάτερον γὰρ τούτων ἀναγκαῖον ἐναντίον [147b] εἶναι τῷ ἐξ ἀρχῆς ῥηθέντι. εἰ οὖν μηδέτερον ἐναντίον τῷ ἐξ ἀρχῆς ῥηθέντι, δῆλον ὅτι οὐδέτερος ἂν εἴη τῶν ὕστερον ἀποδοθέντων τοῦ ἐναντίου λόγος, ὥστ’ οὐδ’ ὁ ἐξ ἀρχῆς ἀποδοθεὶς ὀρθῶς ἀποδέδοται. ἐπεὶ δ’ ἔνια τῶν ἐναντίων στερήσει θατέρου λέγεται, οἷον ἡ ἀνισότης στέρησις ἰσότητος δοκεῖ εἶναι (ἄνισα γὰρ τὰ μὴ ἴσα λέγεται), δῆλον οὖν ὅτι τὸ μὲν κατὰ στέρησιν λεγόμενον ἐναντίον ἀναγκαῖον ὁρίζεσθαι διὰ θατέρου, τὸ δὲ λοιπὸν οὐκέτι διὰ τοῦ κατὰ στέρησιν λεγομένου· συμβαίνοι γὰρ ἂν ἑκάτερον δι’ ἑκατέρου γνωρίζεσθαι. ἐπισκεπτέον οὖν ἐν τοῖς ἐναντίοις τὴν τοιαύτην ἁμαρτίαν, οἷον εἴ τις ὁρίσαιτο τὴν ἰσότητα τὸ ἐναντίον ἀνισότητι· διὰ γὰρ τοῦ κατὰ στέρησιν λεγομένου ὁρίζεται. ἔτι τὸν οὕτως ὁριζόμενον ἀναγκαῖον αὐτῷ τῷ ὁριζομένῳ χρῆσθαι. δῆλον δὲ τοῦτο, ἐὰν μεταληφθῇ ἀντὶ τοῦ ὀνόματος ὁ λόγος· εἰπεῖν γὰρ ἢ ἀνισότητα οὐδὲν διαφέρει ἢ στέρησιν ἰσότητος. ἔσται οὖν ἡ ἰσότης τὸ ἐναντίον στερήσει ἰσότητος, ὥστ’ αὐτῷ ἂν εἴη κεχρημένος. ἂν δὲ μηδέτερον τῶν ἐναντίων κατὰ στέρησιν λέγηται, ἀποδοθῇ δ’ ὁ λόγος ὁμοίως, οἷον ἀγαθὸν τὸ ἐναντίον κακῷ, δῆλον ὅτι κακὸν τὸ ἐναντίον ἀγαθῷ ἔσται· τῶν γὰρ οὕτως ἐναντίων ὁμοίως ὁ λόγος ἀποδοτέος. ὥστε πάλιν αὐτῷ τῷ ὁριζομένῳ συμβαίνει χρῆσθαι· ἐνυπάρχει γὰρ ἐν τῷ τοῦ κακοῦ λόγῳ τὸ ἀγαθόν. ὥστ’ εἰ ἀγαθόν ἐστι τὸ κακῷ ἐναντίον, τὸ δὲ κακὸν οὐδὲν διαφέρει ἢ τὸ τῷ ἀγαθῷ ἐναντίον, ἔσται ἀγαθὸν τὸ ἐναντίον τῷ τοῦ ἀγαθοῦ ἐναντίῳ. δῆλον οὖν ὅτι αὐτῷ κέχρηται.

Ἔτι εἰ τὸ κατὰ στέρησιν λεγόμενον ἀποδιδοὺς μὴ ἀποδέδωκεν οὗ ἐστι στέρησις, οἷον τῆς ἕξεως ἢ τοῦ ἐναντίου ἢ ὁτουοῦν ἐστιν ἡ στέρησις. καὶ εἰ μὴ ἐν ᾧ πέφυκε γίνεσθαι προσέθηκεν, ἢ ἁπλῶς ἢ ἐν ᾧ πρώτῳ πέφυκε γίνεσθαι. οἷον εἰ τὴν ἄγνοιαν εἰπὼν στέρησιν μὴ ἐπιστήμης στέρησιν εἶπεν, ἢ μὴ προσέθηκεν ἐν ᾧ πέφυκε γίνεσθαι, ἢ προσθεὶς μὴ ἐν ᾧ πρώτῳ ἀπέδωκεν, οἷον ὅτι οὐκ ἐν τῷ λογιστικῷ ἀλλ’ ἐν ἀνθρώπῳ ἢ ψυχῇ· ἐὰν γὰρ ὁτιοῦν τούτων μὴ ποιήσῃ, ἡμάρτηκεν. ὁμοίως δὲ καὶ εἰ τὴν τυφλότητα μὴ ὄψεως στέρησιν ἐν ὀφθαλμῷ εἶπεν· δεῖ γὰρ τὸν καλῶς ἀποδιδόντα τὸ [148a] τί ἐστι καὶ τίνος ἐστὶν ἡ στέρησις ἀποδιδόναι καὶ τί ἐστι τὸ ἐστερημένον.

Ὁρᾶν δὲ καὶ εἰ μὴ λεγομένου κατὰ στέρησιν στερήσει ὡρίσατο, οἷον καὶ ἐπὶ τῆς ἀγνοίας δόξειεν ἂν ὑπάρχειν ἡ τοιαύτη ἁμαρτία τοῖς μὴ κατ' ἀπόφασιν τὴν ἄγνοιαν λέγουσιν. τὸ γὰρ μὴ ἔχον ἐπιστήμην οὐ δοκεῖ ἀγνοεῖν, ἀλλὰ μᾶλλον τὸ διηπατημένον· διὸ οὔτε τὰ ἄψυχα οὔτε τὰ παιδία φαμὲν ἀγνοεῖν. ὥστ' οὐ κατὰ στέρησιν ἐπιστήμης ἡ ἄγνοια λέγεται.

Ἔτι ἐπὶ τῶν ὁμοίων τοῦ ὀνόματος πτώσεων αἱ ὅμοιαι τοῦ λόγου πτώσεις ἐφαρμόττουσιν· οἷον εἰ ὠφέλιμον τὸ ποιητικὸν ὑγιείας, ὠφελίμως τὸ ποιητικῶς ὑγιείας καὶ ὠφεληκὸς τὸ πεποιηκὸς ὑγίειαν.

Σκοπεῖν δὲ καὶ ἐπὶ τὴν ἰδέαν εἰ ἐφαρμόσει ὁ λεχθεὶς ὅρος. ἐπ' ἐνίων γὰρ οὐ συμβαίνει, οἷον ὡς Πλάτων ὁρίζεται, τὸ θνητὸν προσάπτων ἐν τοῖς τῶν ζῴων ὁρισμοῖς· ἡ γὰρ ἰδέα οὐκ ἔσται θνητή, οἷον αὐτοάνθρωπος, ὥστ' οὐκ ἐφαρμόσει ὁ λόγος ἐπὶ τὴν ἰδέαν. ἁπλῶς δ' ἐν οἷς πρόσκειται τὸ ποιητικὸν ἢ παθητικόν, ἀνάγκη διαφωνεῖν ἐπὶ τῆς ἰδέας τὸν ὅρον· ἀπαθεῖς γὰρ καὶ ἀκίνητοι δοκοῦσιν εἶναι αἱ ἰδέαι τοῖς λέγουσιν ἰδέας εἶναι, πρὸς δὲ τούτους καὶ οἱ τοιοῦτοι λόγοι χρήσιμοι.

Ἔτι εἰ τῶν καθ' ὁμωνυμίαν λεγομένων ἕνα λόγον ἁπάντων κοινὸν ἀποδέδωκεν· συνώνυμα γὰρ ὧν εἷς ὁ κατὰ τοὔνομα λόγος· ὥστ' οὐδενὸς τῶν ὑπὸ τοὔνομα ὁ ἀποδοθεὶς ὅρος, εἰ δὴ ὁμοίως ἐπὶ πᾶν τὸ ὁμώνυμον ἐφαρμόττει. πέπονθε δὲ τοῦτο καὶ ὁ Διονυσίου τῆς ζωῆς ὅρος, εἴπερ ἐστὶ "κίνησις γένους θρεπτοῦ σύμφυτος παρακολουθοῦσα"· οὐδὲν γὰρ μᾶλλον τοῦτο τοῖς ζῴοις ἢ τοῖς φυτοῖς ὑπάρχει. ἡ δὲ ζωὴ οὐ καθ' ἓν εἶδος δοκεῖ λέγεσθαι, ἀλλ' ἑτέρα μὲν τοῖς ζῴοις ἑτέρα δὲ τοῖς φυτοῖς ὑπάρχειν. ἐνδέχεται μὲν οὖν καὶ κατὰ προαίρεσιν οὕτως ἀποδοῦναι τὸν ὅρον ὡς συνωνύμου καὶ καθ' ἓν εἶδος πάσης τῆς ζωῆς λεγομένης. οὐδὲν δὲ κωλύει καὶ συνορῶντα τὴν ὁμωνυμίαν καὶ θατέρου βουλόμενον τὸν ὁρισμὸν ἀποδοῦναι λαθεῖν μὴ ἴδιον ἀλλὰ κοινὸν ἀμφοῖν λόγον ἀποδόντα. ἀλλ' οὐδὲν ἧττον, εἰ ὁποτερωσοῦν πεποίηκεν, ἡμάρτηκεν. ἐπεὶ δ' ἔνια λανθάνει τῶν ὁμωνύμων, ἐρωτῶντι [148b] μὲν ὡς συνωνύμοις χρηστέον (οὐ γὰρ ἐφαρμόσει ὁ θατέρου ὅρος ἐπὶ θάτερον, ὥστε δόξει οὐχ ὡρίσθαι κατὰ τρόπον· δεῖ γὰρ ἐπὶ πᾶν τὸ συνώνυμον ἐφαρμόττειν), αὐτῷ δ' ἀποκρινομένῳ διαιρετέον. ἐπεὶ δ' ἔνιοι τῶν ἀποκρινομένων τὸ μὲν συνώνυμον ὁμώνυμόν φασιν εἶναι ὅταν μὴ ἐφαρμόττῃ ἐπὶ πᾶν ὁ ἀποδοθεὶς λόγος, τὸ δ' ὁμώνυμον συνώνυμον ἐὰν ἐπ' ἄμφω ἐφαρμόττῃ, προδιομολογητέον ὑπὲρ τῶν τοιούτων ἢ προσυλλογιστέον ὅτι ὁμώνυμον ἢ συνώνυμον, ὁπότερον ἂν ᾖ· μᾶλλον γὰρ συγχωροῦσιν οὐ προορῶντες τὸ συμβησόμενον. ἂν δὲ μὴ γενομένης ὁμολογίας φῇ τις τὸ συνώνυμον ὁμώνυμον εἶναι διὰ τὸ μὴ ἐφαρμόττειν καὶ ἐπὶ τοῦτο τὸν ἀποδοθέντα λόγον, σκοπεῖν εἰ ὁ τούτου λόγος ἐφαρμόττει καὶ ἐπὶ τὰ λοιπά· δῆλον γὰρ ὅτι συνώνυμον ἂν εἴη τοῖς λοιποῖς. εἰ δὲ μή, πλείους ἔσονται ὁρισμοὶ τῶν λοιπῶν· δύο γὰρ [οἱ] κατὰ τοὔνομα λόγοι ἐφαρμόττουσιν ἐπ' αὐτά, ὅ τε πρότερον ἀποδοθεὶς καὶ ὁ ὕστερον. πάλιν εἴ τις, ὁρισάμενός τι τῶν πολλαχῶς λεγομένων, καὶ τοῦ λόγου μὴ ἐφαρμόττοντος ἐπὶ πάντα, ὅτι μὲν ὁμώνυμον μὴ λέγοι, τὸ δ' ὄνομα μὴ φαίη ἐπὶ πάντα ἐφαρμόττειν, ὅτι οὐδ' ὁ λόγος, ῥητέον πρὸς τὸν τοιοῦτον ὅτι τῇ μὲν ὀνομασίᾳ δεῖ χρῆσθαι τῇ παραδεδομένῃ καὶ παρεπομένῃ καὶ μὴ κινεῖν τὰ τοιαῦτα, ἔνια δ' οὐ λεκτέον ὁμοίως τοῖς πολλοῖς.

Ἐὰν δὲ τῶν συμπεπλεγμένων τινὸς ἀποδοθῇ ὅρος, σκοπεῖν, ἀφαιροῦντα τὸν θατέρου τῶν συμπεπλεγμένων λόγον, εἰ καὶ ὁ λοιπὸς τοῦ λοιποῦ· εἰ γὰρ μή, δῆλον ὅτι οὐδ' ὁ ὅλος τοῦ ὅλου. οἷον εἰ ὁρίσαιτο γραμμὴν πεπερασμένην εὐθεῖαν "πέρας ἐπιπέδου ἔχοντος πέρατα, οὗ τὸ μέσον ἐπιπροσθεῖ τοῖς πέρασιν", εἰ τῆς πεπερασμένης γραμμῆς ὁ λόγος ἐστὶ "πέρας ἐπιπέδου ἔχοντος πέρατα", τοῦ εὐθέος δεῖ εἶναι τὸ λοιπόν, "οὗ τὸ μέσον ἐπιπροσθεῖ τοῖς πέρασιν". ἀλλ' ἡ ἄπειρος οὔτε μέσον οὔτε πέρατα ἔχει, εὐθεῖα δ' ἐστίν, ὥστ' οὐκ ἔστιν ὁ λοιπὸς τοῦ λοιποῦ λόγος.

Ἔτι εἰ συνθέτου ὄντος τοῦ ὁριζομένου ἰσόκωλος ὁ λόγος ἀπεδόθη τῷ ὁριζομένῳ. ἰσόκωλος δὲ λέγεται ὁ λόγος εἶναι, ὅταν ὅσαπερ ἂν ᾖ τὰ συγκείμενα, τοσαῦτα καὶ ἐν τῷ λόγῳ ὀνόματα καὶ ῥήματα ᾖ. ἀνάγκη γὰρ αὐτῶν τῶν ὀνομάτων ἐν τοῖς τοιούτοις μεταλλαγὴν γίνεσθαι, ἢ πάντων ἢ τινῶν, ἐπειδὴ [149a] οὐδὲν πλείω νῦν ἢ πρότερον ὀνόματα εἴρηται. δεῖ δὲ τὸν ὁριζόμενον λόγον ἀντὶ τῶν ὀνομάτων ἀποδοῦναι, μάλιστα μὲν πάντων, εἰ δὲ μή, τῶν πλείστων. οὕτω γὰρ καὶ ἐπὶ τῶν ἁπλῶν ὁ τοὔνομα μεταλαβὼν ὡρισμένος ἂν εἴη, οἷον ἀντὶ λωπίου ἱμάτιον.

Ἔτι δὲ μείζων ἁμαρτία, εἰ καὶ ἀγνωστοτέρων ὀνομάτων τὴν μετάληψιν ἐποιήσατο, οἷον ἀντὶ ἀνθρώπου λευκοῦ βροτὸν ἀργόν· οὔτε γὰρ ὥρισται ἧττόν τε σαφὲς οὕτω ῥηθέν.

Σκοπεῖν δὲ καὶ ἐν τῇ μεταλλαγῇ τῶν ὀνομάτων εἰ οὐ ταὐτὸν ἔτι σημαίνει, οἷον ὁ τὴν θεωρητικὴν ἐπιστήμην ὑπόληψιν θεωρητικὴν εἰπών. ἡ γὰρ ὑπόληψις τῇ ἐπιστήμῃ οὐ ταὐτόν· ἔδει δέ γε, εἴπερ μέλλει καὶ τὸ ὅλον ταὐτὸν εἶναι. τὸ μὲν γὰρ θεωρητικὸν κοινὸν ἐν ἀμφοτέροις τοῖς λόγοις ἐστί, τὸ δὲ λοιπὸν διάφορον.

Ἔτι εἰ θατέρου τῶν ὀνομάτων τὴν μετάληψιν ποιούμενος μὴ τῆς διαφορᾶς ἀλλὰ τοῦ γένους τὴν μεταλλαγὴν ἐποιήσατο, καθάπερ ἐπὶ τοῦ ἀρτίως ῥηθέντος. ἀγνωστότερον γὰρ ἡ θεωρητικὴ τῆς ἐπιστήμης· τὸ μὲν γὰρ γένος, τὸ δὲ διαφορά, πάντων δὲ γνωριμώτατον τὸ γένος. ὥστ᾽ οὐ τοῦ γένους ἀλλὰ τῆς διαφορᾶς ἔδει τὴν μετάληψιν ποιήσασθαι, ἐπειδὴ ἀγνωστότερόν ἐστιν. (ἢ τοῦτο μὲν γελοῖον τὸ ἐπιτίμημα· οὐδὲν γὰρ κωλύει τὴν μὲν διαφορὰν τῷ γνωριμωτάτῳ ὀνόματι εἰρῆσθαι, τὸ δὲ γένος μή. οὕτω δ᾽ ἐχόντων δῆλον ὅτι τοῦ γένους καὶ οὐ τῆς διαφορᾶς κατὰ τοὔνομα τὴν μετάληψιν ποιητέον.) εἰ δὲ μὴ ὄνομα ἀντ᾽ ὀνόματος ἀλλὰ λόγον ἀντ᾽ ὀνόματος μεταλαμβάνει, δῆλον ὅτι τῆς διαφορᾶς μᾶλλον ἢ τοῦ γένους ὁρισμὸν ἀποδοτέον, ἐπειδὴ τοῦ γνωρίσαι χάριν ὁ ὁρισμὸς ἀποδίδοται· ἧττον γὰρ ἡ διαφορὰ τοῦ γένους γνώριμον.

Εἰ δὲ τῆς διαφορᾶς τὸν ὅρον ἀποδέδωκε, σκοπεῖν εἰ καὶ ἄλλου τινὸς κοινὸς ὁ ἀποδοθεὶς ὁρισμός. οἷον ὅταν τὸν περιττὸν ἀριθμὸν ἀριθμὸν μέσον ἔχοντα εἴπῃ, ἐπιδιοριστέον τὸ πῶς μέσον ἔχοντα. ὁ μὲν γὰρ ἀριθμὸς κοινὸς ἐν ἀμφοτέροις τοῖς λόγοις ὑπάρχει, τοῦ δὲ περιττοῦ μετείληπται ὁ λόγος· ἔχει δὲ καὶ γραμμὴ καὶ σῶμα μέσον, οὐ περιττὰ ὄντα. ὥστ᾽ οὐκ ἂν εἴη ὁρισμὸς οὗτος τοῦ περιττοῦ. εἰ δὲ πολλαχῶς λέγεται τὸ μέσον ἔχον, διοριστέον τὸ πῶς μέσον ἔχον. ὥστ᾽ ἢ ἐπιτίμησις ἔσται, ἢ συλλογισμὸς ὅτι οὐχ ὥρισται.

Πάλιν εἰ οὗ μὲν τὸν λόγον ἀποδίδωσι τῶν ὄντων ἐστί, τὸ δ᾽ ὑπὸ τὸν λόγον μὴ τῶν ὄντων, οἷον εἰ τὸ λευκὸν ὡρίσατο [149b] χρῶμα πυρὶ μεμειγμένον· ἀδύνατον γὰρ τὸ ἀσώματον σώματι μεμεῖχθαι, ὥστ᾽ οὐκ ἂν εἴη χρῶμα πυρὶ μεμειγμένον· λευκὸν δ᾽ ἔστιν.

Ἔτι ὅσοι μὴ διαιροῦσιν ἐν τοῖς πρός τι πρὸς ὃ λέγεται, ἀλλ᾽ ἐν πλείοσι περιλαβόντες εἶπαν, ἢ ὅλως ἢ ἐπί τι ψεύδονται, οἷον εἴ τις ἰατρικὴν ἐπιστήμην ὄντος εἶπεν. εἰ μὲν γὰρ μηδενὸς τῶν ὄντων ἡ ἰατρικὴ ἐπιστήμη, δῆλον ὅτι ὅλως ἔψευσται, εἰ δὲ τινὸς μὲν τινὸς δὲ μή, ἐπί τι ἔψευσται· δεῖ γὰρ παντός, εἴπερ καθ᾽ αὑτὸ καὶ μὴ κατὰ συμβεβηκὸς ὄντος εἶναι λέγεται, καθάπερ ἐπὶ τῶν ἄλλων ἔχει τῶν πρός τι· πᾶν γὰρ ἐπιστητὸν πρὸς ἐπιστήμην λέγεται. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, ἐπειδὴ ἀντιστρέφει πάντα τὰ πρός τι. ἔτι εἴπερ ὁ μὴ καθ᾽ αὑτὸ ἀλλὰ κατὰ συμβεβηκὸς τὴν ἀπόδοσιν ποιούμενος ὀρθῶς ἀποδίδωσιν, οὐ πρὸς ἓν ἀλλὰ πρὸς πλείω ἕκαστον ἂν τῶν πρός τι λέγοιτο. οὐδὲν γὰρ κωλύει τὸ αὐτὸ καὶ ὂν καὶ λευκὸν καὶ ἀγαθὸν εἶναι, ὥστε πρὸς ὁποιονοῦν τούτων ἀποδοὺς ὀρθῶς ἂν εἴη ἀποδούς, εἴπερ ὁ κατὰ συμβεβηκὸς ἀποδιδοὺς ὀρθῶς ἀποδίδωσιν. ἔτι δ᾽ ἀδύνατον τὸν τοιοῦτον λόγον ἴδιον τοῦ ἀποδοθέντος εἶναι· οὐ γὰρ μόνον ἡ ἰατρικὴ ἀλλὰ καὶ τῶν ἄλλων ἐπιστημῶν αἱ πολλαὶ πρὸς ὃν λέγονται, ὥσθ' ἑκάστη ὄντος ἐπιστήμη ἔσται. δῆλον οὖν ὅτι ὁ τοιοῦτος οὐδεμιᾶς ἐστιν ἐπιστήμης ὁρισμός· ἴδιον γὰρ καὶ οὐ κοινὸν δεῖ τὸν ὁρισμὸν εἶναι.

Ἐνίοτε δ' ὁρίζονται οὐ τὸ πρᾶγμα ἀλλὰ τὸ πρᾶγμα εὖ ἔχον ἢ τετελεσμένον. τοιοῦτος δ' ὁ τοῦ ῥήτορος καὶ ὁ τοῦ κλέπτου ὅρος, εἴπερ ἐστὶ ῥήτωρ μὲν ὁ δυνάμενος τὸ ἐν ἑκάστῳ πιθανὸν θεωρεῖν καὶ μηδὲν παραλείπων, κλέπτης δ' ὁ λάθρᾳ λαμβάνων· δῆλον γὰρ ὅτι τοιοῦτος ὢν ἑκάτερος ὁ μὲν ἀγαθὸς ῥήτωρ ὁ δ' ἀγαθὸς κλέπτης ἔσται. οὐ γὰρ ὁ λάθρᾳ λαμβάνων ἀλλ' ὁ βουλόμενος λάθρᾳ λαμβάνειν κλέπτης ἐστίν.

Πάλιν εἰ τὸ δι' αὑτὸ αἱρετὸν ὡς ποιητικὸν ἢ πρακτικὸν ἢ ὁπωσοῦν δι' ἄλλο αἱρετὸν ἀποδέδωκεν, οἷον τὴν δικαιοσύνην νόμων σῳστικὴν εἰπὼν ἢ τὴν σοφίαν ποιητικὴν εὐδαιμονίας· τὸ γὰρ ποιητικὸν ἢ σῳστικὸν τῶν δι' ἄλλο αἱρετῶν. ἢ οὐδὲν μὲν κωλύει τὸ δι' αὑτὸ αἱρετὸν καὶ δι' ἄλλο εἶναι αἱρετόν, οὐ μὴν ἀλλ' οὐδὲν ἧττον ἡμάρτηκεν ὁ οὕτως ὁρισάμενος τὸ δι' αὑτὸ αἱρετόν· ἑκάστου γὰρ τὸ βέλτιστον ἐν τῇ οὐσίᾳ μάλιστα, βέλτιον δὲ τὸ δι' αὑτὸ αἱρετὸν εἶναι τοῦ δι' ἕτερον, ὥστε τοῦτο καὶ τὸν ὁρισμὸν ἔδει μᾶλλον σημαίνειν.

[150a] Σκοπεῖν δὲ καὶ εἴ τινος ὁρισμὸν ἀποδιδοὺς τάδε ἢ τὸ ἐκ τούτων ἢ τόδε μετὰ τοῦδε ὡρίσατο. εἰ μὲν γὰρ τάδε, συμβήσεται ἀμφοῖν καὶ μηδετέρῳ ὑπάρχειν, οἷον εἰ τὴν δικαιοσύνην σωφροσύνην καὶ ἀνδρείαν ὡρίσατο· δύο γὰρ ὄντων ἐὰν ἑκάτερος θάτερον ἔχῃ, ἀμφότεροι δίκαιοι ἔσονται καὶ οὐδέτερος, ἐπεὶ ἀμφότεροι μὲν ἔχουσι δικαιοσύνην, ἑκάτερος δ' οὐκ ἔχει. εἰ δὲ μήπω τὸ εἰρημένον σφόδρα ἄτοπον διὰ τὸ καὶ ἐπ' ἄλλων συμβαίνειν τὸ τοιοῦτον (οὐδὲν γὰρ κωλύει ἀμφοτέρους ἔχειν μνᾶν μηδετέρου ἔχοντος), ἀλλ' οὖν τό γε τἀναντία ὑπάρχειν αὐτοῖς παντελῶς ἄτοπον ἂν δόξειεν εἶναι. συμβήσεται δὲ τοῦτο, ἐὰν ὁ μὲν αὐτῶν σωφροσύνην καὶ δειλίαν ἔχῃ, ὁ δὲ ἀνδρείαν καὶ ἀκολασίαν· ἄμφω γὰρ δικαιοσύνην καὶ ἀδικίαν ἕξουσιν· εἰ γὰρ ἡ δικαιοσύνη σωφροσύνη καὶ ἀνδρεία ἐστίν, ἡ ἀδικία δειλία καὶ ἀκολασία ἔσται. ὅλως τε ὅσα ἔστιν ἐπιχειρεῖν ὅτι οὐ ταὐτόν ἐστι τὰ μέρη καὶ τὸ ὅλον, πάντα χρήσιμα πρὸς τὸ νῦν εἰρημένον· ἔοικε γὰρ ὁ οὕτως ὁριζόμενος τὰ μέρη τῷ ὅλῳ ταὐτὰ φάσκειν εἶναι. μάλιστα δ' οἰκεῖοι γίνονται οἱ λόγοι ἐφ' ὅσων κατάδηλός ἐστιν ἡ τῶν μερῶν σύνθεσις, καθάπερ ἐπ' οἰκίας καὶ τῶν ἄλλων τῶν τοιούτων· δῆλον γὰρ ὅτι τῶν μερῶν ὄντων οὐδὲν κωλύει τὸ ὅλον μὴ εἶναι, ὥστ' οὐ ταὐτὸν τὰ μέρη τῷ ὅλῳ.

Εἰ δὲ μὴ ταῦτα ἀλλὰ τὸ ἐκ τούτων ἔφησεν εἶναι τὸ ὁριζόμενον, πρῶτον μὲν ἐπισκοπεῖν εἰ μὴ πέφυκεν ἓν γίνεσθαι ἐκ τῶν εἰρημένων· ἔνια γὰρ οὕτως ἔχει πρὸς ἄλληλα ὥστε μηδὲν ἓν ἐξ αὐτῶν γίνεσθαι, οἷον γραμμὴ καὶ ἀριθμός. ἔτι εἰ τὸ μὲν ὡρισμένον ἐν ἑνί τινι πέφυκε τῷ πρώτῳ γίνεσθαι, ἐξ ὧν δ’ ἔφησεν αὐτὸ εἶναι μὴ ἐν ἑνὶ τῷ πρώτῳ ἀλλ’ ἑκάτερον ἐν ἑκατέρῳ. δῆλον γὰρ ὅτι οὐκ ἂν εἴη ἐκ τούτων ἐκεῖνο· ἐν οἷς γὰρ τὰ μέρη, καὶ τὸ ὅλον ἀνάγκη ὑπάρχειν, ὥστ’ οὐκ ἐν ἑνὶ τὸ ὅλον πρώτῳ ἀλλ’ ἐν πλείοσιν. εἰ δὲ καὶ τὰ μέρη καὶ τὸ ὅλον ἐν ἑνί τινι πρώτῳ, σκοπεῖν εἰ μὴ ἐν τῷ αὐτῷ, ἀλλ’ ἐν ἑτέρῳ τὸ ὅλον καὶ ἐν ἑτέρῳ τὰ μέρη. πάλιν εἰ τῷ ὅλῳ συμφθείρεται τὰ μέρη· ἀνάπαλιν γὰρ δεῖ συμβαίνειν, τῶν μερῶν φθαρέντων φθείρεσθαι τὸ ὅλον, τοῦ δ’ ὅλου φθαρέντος οὐκ ἀναγκαῖον καὶ τὰ μέρη ἐφθάρθαι. ἢ εἰ τὸ μὲν ὅλον ἀγαθὸν ἢ καλόν, τὰ δὲ μηδέτερα, ἢ ἀνάπαλιν τὰ μὲν ἀγαθὰ ἢ κακά, τὸ δ’ ὅλον μηδέτερον· οὔτε γὰρ ἐκ μηδετέρων δυνατὸν ἢ ἀγαθόν τι ἢ κακὸν [150b] γενέσθαι, οὔτ’ ἐκ κακῶν ἢ ἀγαθῶν μηδέτερον. ἢ εἰ μᾶλλον μὲν θάτερον ἀγαθὸν ἢ θάτερον κακόν, τὸ δ’ ἐκ τούτων μὴ μᾶλλον ἀγαθὸν ἢ κακόν, οἷον εἰ ἡ ἀναίδεια ἐξ ἀνδρείας καὶ ψευδοῦς δόξης· μᾶλλον γὰρ ἀγαθὸν ἡ ἀνδρεία ἢ κακὸν ἡ ψευδὴς δόξα. ἔδει οὖν καὶ τὸ ἐκ τούτων ἀκολουθεῖν τῷ μᾶλλον, καὶ εἶναι ἢ ἁπλῶς ἀγαθόν, ἢ μᾶλλον ἀγαθὸν ἢ κακόν. ἢ τοῦτο μὲν οὐκ ἀναγκαῖον, ἐὰν μὴ ἑκάτερον ᾖ καθ’ αὑτὸ ἀγαθὸν ἢ κακόν· πολλὰ γὰρ τῶν ποιητικῶν καθ’ αὑτὰ μὲν οὐκ ἔστιν ἀγαθά, μειχθέντα δέ, ἢ ἀνάπαλιν ἑκάτερον μὲν ἀγαθόν, μειχθέντα δὲ κακὸν ἢ οὐδέτερον. μάλιστα δὲ καταφανὲς τὸ νῦν ῥηθὲν ἐπὶ τῶν ὑγιεινῶν καὶ νοσωδῶν· ἔνια γὰρ τῶν φαρμάκων οὕτως ἔχει ὥσθ’ ἑκάτερον μὲν εἶναι ἀγαθόν, ἐὰν δ’ ἄμφω δοθῇ μειχθέντα, κακόν.

Πάλιν εἰ ἐκ βελτίονος καὶ χείρονος ὂν μὴ ἔστι τὸ ὅλον τοῦ μὲν βελτίονος χεῖρον, τοῦ δὲ χείρονος βέλτιον. (ἢ οὐδὲ τοῦτ’ ἀναγκαῖον, ἐὰν μὴ καθ’ αὑτὰ ᾖ τὰ ἐξ ὧν σύγκειται ἀγαθά, ἀλλ’ οὐδὲν κωλύει τὸ ὅλον μὴ γίνεσθαι ἀγαθόν, καθάπερ ἐπὶ τῶν ἀρτίως ῥηθέντων.)

Ἔτι εἰ συνώνυμον τὸ ὅλον θατέρῳ· οὐ δεῖ γάρ, καθάπερ οὐδ’ ἐπὶ τῶν συλλαβῶν· οὐδενὶ γὰρ τῶν στοιχείων ἐξ ὧν σύγκειται ἡ συλλαβὴ συνώνυμός ἐστιν.

Ἔτι εἰ μὴ εἴρηκε τὸν τρόπον τῆς συνθέσεως· οὐ γὰρ αὔταρκες πρὸς τὸ γνωρίσαι τὸ εἰπεῖν ἐκ τούτων. οὐ γὰρ τὸ ἐκ τούτων ἀλλὰ τὸ οὕτως ἐκ τούτων ἑκάστου τῶν συνθέτων ἡ οὐσία, καθάπερ ἐπ’ οἰκίας· οὐ γάρ, ἂν ὁπωσοῦν συντεθῇ ταῦτα, οἰκία ἐστίν.

Εἰ δὲ τόδε μετὰ τοῦδε ἀποδέδωκε, πρῶτον μὲν ῥητέον ὅτι τόδε μετὰ τοῦδε ἢ τοῖσδε ταὐτὸν ἢ τῷ ἐκ τῶνδε· ὁ γὰρ λέγων μέλι μεθ’ ὕδατος ἤτοι μέλι καὶ ὕδωρ λέγει ἢ τὸ ἐκ μέλιτος καὶ ὕδατος. ὥστ’ ἐὰν ὁποτερῳοῦν τῶν εἰρημένων ταὐτὸν ὁμολογήσῃ εἶναι τὸ τόδε μετὰ τοῦδε, ταὐτὰ ἁρμόσει λέγειν ἅπερ πρὸς ἑκάτερον τούτων ἔμπροσθεν εἴρηται. ἔτι διελόμενον ὁσαχῶς λέγεται ἕτερον μεθ’ ἑτέρου σκοπεῖν εἰ μηδαμῶς τόδε μετὰ τοῦδε. οἷον εἰ λέγεται ἕτερον μεθ’ ἑτέρου ἢ ὡς ἔν τινι ταὐτῷ δεκτικῷ, καθάπερ ἡ δικαιοσύνη καὶ ἡ ἀνδρεία ἐν ψυχῇ, ἢ ἐν τόπῳ τῷ αὐτῷ ἢ ἐν χρόνῳ τῷ αὐτῷ, μηδαμῶς δ’ ἀληθὲς τὸ εἰρημένον ἐπὶ τούτων, δῆλον ὅτι οὐδενὸς ἂν εἴη ὁ ἀποδοθεὶς ὁρισμός, ἐπειδὴ οὐδαμῶς τόδε μετὰ [151a] τοῦδέ ἐστιν. εἰ δὲ τῶν διαιρεθέντων ἀληθὲς τὸ ἐν ταὐτῷ χρόνῳ ἑκάτερον ὑπάρχειν, σκοπεῖν εἰ ἐνδέχεται μὴ πρὸς ταὐτὸν λέγεσθαι ἑκάτερον. οἷον εἰ τὴν ἀνδρείαν ὡρίσατο τόλμαν μετὰ διανοίας ὀρθῆς· ἐνδέχεται γὰρ τόλμαν μὲν ἔχειν τοῦ ἀποστερεῖν, ὀρθὴν δὲ διάνοιαν περὶ τὰ ὑγιεινά, ἀλλ’ οὔπω ἀνδρεῖος ὁ ἐν τῷ αὐτῷ χρόνῳ τόδε μετὰ τοῦδε ἔχων. ἔτι εἰ καὶ πρὸς ταὐτὸν ἄμφω λέγεται, οἷον πρὸς τὰ ἰατρικά· οὐδὲν γὰρ κωλύει καὶ τόλμαν καὶ ὀρθὴν διάνοιαν ἔχειν πρὸς τὰ ἰατρικά· ἀλλ’ ὅμως οὐδ’ οὕτως ἀνδρεῖος ὁ τόδε μετὰ τοῦδε ἔχων. οὔτε γὰρ πρὸς ἕτερον αὐτῶν ἑκάτερον δεῖ λέγεσθαι οὔτε πρὸς ταὐτὸν τὸ τυχόν, ἀλλὰ πρὸς τὸ τῆς ἀνδρείας τέλος, οἷον πρὸς τοὺς πολεμικοὺς κινδύνους ἢ εἴ τι μᾶλλον τούτου τέλος.

Ἔνια δὲ τῶν οὕτως ἀποδιδομένων οὐδαμῶς ὑπὸ τὴν εἰρημένην πίπτει διαίρεσιν, οἷον εἰ ἡ ὀργὴ λύπη μεθ’ ὑπολήψεως τοῦ ὀλιγωρεῖσθαι. ὅτι γὰρ διὰ τὴν ὑπόληψιν τὴν τοιαύτην ἡ λύπη γίνεται, τοῦτο βούλεται δηλοῦν· τὸ δὲ διὰ τόδε γίνεσθαί τι οὐκ ἔστι ταὐτὸ τῷ μετὰ τούτου τόδ’ εἶναι κατ’ οὐδένα τῶν εἰρημένων τρόπων.

Πάλιν εἰ τὴν τούτων σύνθεσιν εἴρηκε τὸ ὅλον, οἷον τῆς ψυχῆς καὶ τοῦ σώματος σύνθεσιν ζῷον, πρῶτον μὲν σκοπεῖν εἰ μὴ εἴρηκε ποία σύνθεσις, καθάπερ εἰ σάρκα ὁριζόμενος ἢ ὀστοῦν τὴν πυρὸς καὶ γῆς καὶ ἀέρος εἶπε σύνθεσιν. οὐ γὰρ ἀπόχρη τὸ σύνθεσιν εἰπεῖν, ἀλλὰ καὶ ποία τις προσδιοριστέον· οὐ γὰρ ὁπωσοῦν συντεθέντων τούτων σὰρξ γίνεται, ἀλλ’ οὑτωσὶ μὲν συντεθέντων σάρξ, οὑτωσὶ δ’ ὀστοῦν. ἔοικε δ’ οὐδ’ εἶναι τὸ παράπαν συνθέσει ταὐτὸν οὐδέτερον τῶν εἰρημένων· συνθέσει μὲν γὰρ πάσῃ διάλυσις ἐναντίον, τῶν δ’ εἰρημένων οὐδετέρῳ οὐδέν. ἔτι εἰ ὁμοίως πιθανὸν πᾶν τὸ σύνθετον σύνθεσιν εἶναι ἢ μηδέν, τῶν δὲ ζῴων ἕκαστον σύνθετον ὂν μὴ ἔστι σύνθεσις, οὐδὲ τῶν ἄλλων οὐδὲν τῶν συνθέτων σύνθεσις ἂν εἴη.

Πάλιν εἰ ὁμοίως ἔν τινι πέφυκεν ὑπάρχειν τἀναντία, ὥρισται δὲ διὰ θατέρου, δῆλον ὅτι οὐχ ὥρισται. εἰ δὲ μή, πλείους τοῦ αὐτοῦ συμβήσεται ὁρισμοὺς εἶναι· τί γὰρ μᾶλλον ὁ διὰ τούτου ἢ ὁ διὰ τοῦ ἑτέρου ὁρισάμενος εἴρηκεν, ἐπεὶ ὁμοίως ἀμφότερα πέφυκε γίνεσθαι ἐν αὐτῷ; τοιοῦτος δ’ ὁ

[151b] τῆς ψυχῆς ὅρος, εἰ ἔστιν “οὐσία ἐπιστήμης δεκτική”· ὁμοίως γὰρ καὶ ἀγνοίας ἐστὶ δεκτική.

Δεῖ δὲ καὶ ἐὰν μὴ πρὸς ὅλον ἔχῃ τις ἐπιχειρεῖν τὸν ὁρισμὸν διὰ τὸ μὴ γνώριμον εἶναι τὸ ὅλον, πρὸς τῶν μερῶν τι ἐπιχειρεῖν, ἐὰν ᾖ γνώριμον καὶ μὴ καλῶς ἀποδεδομένον φαίνηται· τοῦ γὰρ μέρους ἀναιρεθέντος καὶ ὁ πᾶς ὁρισμὸς ἀναιρεῖται. ὅσοι τ’ ἀσαφεῖς τῶν ὁρισμῶν, συνδιορθώσαντα καὶ συσχηματίσαντα πρὸς τὸ δηλοῦν τι καὶ ἔχειν ἐπιχείρημα οὕτως ἐπισκοπεῖν· ἀναγκαῖον γὰρ τῷ ἀποκρινομένῳ ἢ δέχεσθαι τὸ ἐκλαμβανόμενον ὑπὸ τοῦ ἐρωτῶντος ἢ αὐτὸν διασαφῆσαι τί ποτε τυγχάνει τὸ δηλούμενον ὑπὸ τοῦ λόγου. ἔτι καθάπερ ἐν ταῖς ἐκκλησίαις νόμον εἰώθασιν ἐπεισφέρειν, κἂν ᾖ βελτίων ὁ ἐπεισφερόμενος, ἀναιροῦσι τὸν ἔμπροσθεν, οὕτω καὶ ἐπὶ τῶν ὁρισμῶν ποιητέον καὶ αὐτὸν ὁρισμὸν ἕτερον οἰστέον· ἐὰν γὰρ φαίνηται βελτίων καὶ μᾶλλον δηλῶν τὸ ὁριζόμενον, δῆλον ὅτι ἀνῃρημένος ἔσται ὁ κείμενος, ἐπειδὴ οὐκ εἰσὶ πλείους τοῦ αὐτοῦ ὁρισμοί.

Πρὸς ἅπαντας δὲ τοὺς ὁρισμοὺς οὐκ ἐλάχιστον στοιχεῖον τὸ πρὸς ἑαυτὸν εὐστόχως ὁρίσασθαι τὸ προκείμενον ἢ καλῶς εἰρημένον ὅρον ἀναλαβεῖν· ἀνάγκη γὰρ ὥσπερ πρὸς παράδειγμα θεώμενον τό τ’ ἐλλεῖπον ὧν προσῆκεν ἔχειν τὸν ὁρισμὸν καὶ τὸ προσκείμενον περιέργως καθορᾶν ὥστε μᾶλλον ἐπιχειρημάτων εὐπορεῖν.

Τὰ μὲν οὖν περὶ τοὺς ὁρισμοὺς ἐπὶ τοσοῦτον εἰρήσθω.

Η

Πότερον δὲ ταὐτὸν ἢ ἕτερον κατὰ τὸν κυριώτατον τῶν ῥηθέντων περὶ ταὐτοῦ τρόπων (ἐλέγετο δὲ κυριώτατα ταὐτὸν τὸ τῷ ἀριθμῷ ἕν) σκοπεῖν ἔκ τε τῶν πτώσεων καὶ τῶν συστοίχων καὶ τῶν ἀντικειμένων. εἰ γὰρ ἡ δικαιοσύνη ταὐτὸν τῇ ἀνδρείᾳ, καὶ ὁ δίκαιος τῷ ἀνδρείῳ καὶ τὸ δικαίως τῷ ἀνδρείως. ὁμοίως δὲ καὶ ἐπὶ τῶν ἀντικειμένων· εἰ γὰρ τάδε ταὐτά, καὶ τὰ ἀντικείμενα τούτοις ταὐτὰ καθ’ ὁποιανοῦν τῶν λεγομένων ἀντιθέσεων· οὐδὲν γὰρ διαφέρει τὸ τούτῳ ἢ τούτῳ ἀντικείμενον λαβεῖν, ἐπειδὴ ταὐτόν ἐστιν. πάλιν ἐκ τῶν ποιητικῶν [152a] καὶ φθαρτικῶν καὶ γενέσεων καὶ φθορῶν καὶ ὅλως τῶν ὁμοίως ἐχόντων πρὸς ἑκάτερον· ὅσα γὰρ ἁπλῶς ταὐτά, καὶ αἱ γενέσεις αὐτῶν καὶ αἱ φθοραὶ αἱ αὐταὶ καὶ τὰ ποιητικὰ καὶ τὰ φθαρτικά.

Σκοπεῖν δὲ καὶ ὧν θάτερον μάλιστα λέγεται ὁτιοῦν, εἰ καὶ θάτερον τῶν αὐτῶν τούτων κατὰ τὸ αὐτὸ μάλιστα λέγεται, καθάπερ Ξενοκράτης τὸν εὐδαίμονα βίον καὶ τὸν σπουδαῖον ἀποδείκνυσι τὸν αὐτόν, ἐπειδὴ πάντων τῶν βίων αἱρετώτατος ὁ σπουδαῖος καὶ ὁ εὐδαίμων· ἓν γὰρ τὸ αἱρετώτατον καὶ μέγιστον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων. δεῖ δ’ ἑκάτερον ἓν ἀριθμῷ εἶναι τὸ λεγόμενον μέγιστον ἢ αἱρετώτατον· εἰ δὲ μή, οὐκ ἔσται δεδειγμένον ὅτι ταὐτόν. οὐ γὰρ ἀναγκαῖον, εἰ ἀνδρειότατοι τῶν Ἑλλήνων Πελοποννήσιοι καὶ Λακεδαιμόνιοι, τοὺς αὐτοὺς εἶναι Πελοποννησίους Λακεδαιμονίοις, ἐπειδὴ οὐχ εἷς ἀριθμῷ Πελοποννήσιος καὶ Λακεδαιμόνιος, ἀλλὰ περιέχεσθαι μὲν τὸν ἕτερον ὑπὸ τοῦ ἑτέρου ἀναγκαῖον, καθάπερ οἱ Λακεδαιμόνιοι ὑπὸ τῶν Πελοποννησίων, εἰ δὲ μή, συμβήσεται ἀλλήλων εἶναι βελτίους, ἐὰν μὴ περιέχωνται οἱ ἕτεροι ὑπὸ τῶν ἑτέρων. ἀναγκαῖον γὰρ τοὺς Πελοποννησίους βελτίους εἶναι τῶν Λακεδαιμονίων, εἴπερ μὴ περιέχονται οἱ ἕτεροι ὑπὸ τῶν ἑτέρων· πάντων γὰρ τῶν λοιπῶν εἰσι βελτίους. ὁμοίως δὲ καὶ τοὺς Λακεδαιμονίους ἀνάγκη βελτίους εἶναι τῶν Πελοποννησίων· καὶ γὰρ οὗτοι πάντων τῶν λοιπῶν εἰσι βελτίους. ὥστε ἀλλήλων βελτίους γίνονται. δῆλον οὖν ὅτι ἓν ἀριθμῷ δεῖ εἶναι τὸ βέλτιστον καὶ μέγιστον λεγόμενον, εἰ μέλλει ὅτι ταὐτὸν ἀποδείκνυσθαι. διὸ καὶ Ξενοκράτης οὐκ ἀποδείκνυσιν· οὐ γὰρ εἷς ἀριθμῷ ὁ εὐδαίμων καὶ ὁ σπουδαῖος βίος, ὥστ’ οὐκ ἀναγκαῖον τὸν αὐτὸν εἶναι, διότι ἄμφω αἱρετώτατοι, ἀλλὰ τὸν ἕτερον ὑπὸ τὸν ἕτερον.

Πάλιν σκοπεῖν εἰ ᾧ θάτερον ταὐτόν, καὶ θάτερον· εἰ γὰρ μὴ ἀμφότερα τῷ αὐτῷ ταὐτά, δῆλον ὅτι οὐδ᾽ ἀλλήλοις.

Ἔτι ἐκ τῶν τούτοις συμβεβηκότων καὶ οἷς ταῦτα συμβέβηκεν ἐπισκοπεῖν· ὅσα γὰρ θατέρῳ συμβέβηκε, καὶ θατέρῳ δεῖ συμβεβηκέναι, καὶ οἷς θάτερον αὐτῶν συμβέβηκε, καὶ θάτερον δεῖ συμβεβηκέναι. εἰ δέ τι τούτων διαφωνεῖ, δῆλον ὅτι οὐ ταὐτά.

Ὁρᾶν δὲ καὶ εἰ μὴ ἐν ἑνὶ γένει κατηγορίας ἀμφότερα, ἀλλὰ τὸ μὲν ποιὸν τὸ δὲ ποσὸν ἢ πρός τι δηλοῖ. πάλιν εἰ [152b] τὸ γένος ἑκατέρου μὴ ταὐτόν, ἀλλὰ τὸ μὲν ἀγαθὸν τὸ δὲ κακόν, ἢ τὸ μὲν ἀρετὴ τὸ δ᾽ ἐπιστήμη. ἢ εἰ τὸ μὲν γένος ταὐτόν, αἱ δὲ διαφοραὶ μὴ αἱ αὐταὶ ἑκατέρου κατηγοροῦνται, ἀλλὰ τοῦ μὲν ὅτι θεωρητικὴ ἐπιστήμη, τοῦ δ᾽ ὅτι πρακτική. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

Ἔτι ἐκ τοῦ μᾶλλον, εἰ τὸ μὲν δέχεται τὸ μᾶλλον τὸ δὲ μή, ἢ εἰ ἄμφω μὲν δέχεται μὴ ἅμα δέ· καθάπερ ὁ μᾶλλον ἐρῶν οὐ μᾶλλον ἐπιθυμεῖ τῆς συνουσίας, ὥστ᾽ οὐ ταὐτὸν ἔρως καὶ ἐπιθυμία συνουσίας.

Ἔτι ἐκ τῆς προσθέσεως, εἰ τῷ αὐτῷ ἑκάτερον προστιθέμενον μὴ ποιεῖ τὸ ὅλον ταὐτόν. ἢ εἰ τοῦ αὐτοῦ ἀφ᾽ ἑκατέρου ἀφαιρεθέντος τὸ λοιπὸν ἕτερον, οἷον εἰ διπλάσιον ἡμίσεος καὶ πολλαπλάσιον ἡμίσεος ταὐτὸν ἔφησεν εἶναι. ἀφαιρεθέντος γὰρ ἀφ᾽ ἑκατέρου τοῦ ἡμίσεος τὰ λοιπὰ ταὐτὸν ἔδει δηλοῦν· οὐ δηλοῖ δέ· τὸ γὰρ διπλάσιον καὶ πολλαπλάσιον οὐ ταὐτὸν δηλοῖ.

Σκοπεῖν δὲ μὴ μόνον εἰ ἤδη τι συμβαίνει ἀδύνατον διὰ τῆς θέσεως, ἀλλὰ καὶ εἰ δυνατὸν ἐξ ὑποθέσεως ὑπάρξαι, καθάπερ τοῖς τὸ κενὸν καὶ τὸ πλῆρες ἀέρος ταὐτὸν φάσκουσιν· δῆλον γὰρ ὅτι ἐὰν ἐξέλθῃ ὁ ἀήρ, κενὸν μὲν οὐχ ἧττον ἀλλὰ μᾶλλον ἔσται, πλῆρες δ᾽ ἀέρος οὐκέτι ἔσται. ὥστε ὑποτεθέντος τινὸς εἴτε ψευδοῦς εἴτ᾽ ἀληθοῦς (οὐδὲν γὰρ διαφέρει) τὸ μὲν ἕτερον ἀναιρεῖται αὐτῶν, τὸ δ᾽ ἕτερον οὔ. ὥστ᾽ οὐ ταὐτόν.

Καθόλου δ᾽ εἰπεῖν ἐκ τῶν ὁπωσοῦν ἑκατέρου κατηγορουμένων καὶ ὧν ταῦτα κατηγορεῖται σκοπεῖν εἴ που διαφωνεῖ· ὅσα γὰρ θατέρου κατηγορεῖται, καὶ θατέρου κατηγορεῖσθαι δεῖ, καὶ ὧν θάτερον κατηγορεῖται, καὶ θάτερον κατηγορεῖσθαι δεῖ.

Ἔτι ἐπεὶ πολλαχῶς τὸ ταὐτὸν λέγεται, σκοπεῖν εἰ καθ᾽ ἕτερόν τινα τρόπον ταὐτά ἐστιν· τὰ γὰρ εἴδει ἢ γένει ταὐτὰ ἢ οὐκ ἀνάγκη ἢ οὐκ ἐνδέχεται ἀριθμῷ ταὐτὰ εἶναι· ἐπισκοποῦμεν δὲ πότερον οὕτω ταὐτὰ ἢ οὐχ οὕτως.

Ἔτι εἰ δυνατὸν θάτερον ἄνευ θατέρου εἶναι· οὐ γὰρ ἂν εἴη ταὐτόν.

Οἱ μὲν οὖν πρὸς τὸ ταὐτὸν τόποι τοσοῦτοι λέγονται. δῆλον δ᾽ ἐκ τῶν εἰρημένων ὅτι ἅπαντες οἱ πρὸς τὸ ταὐτὸν ἀνασκευαστικοὶ τόποι καὶ πρὸς ὅρον χρήσιμοι, καθάπερ ἔμπροσθεν εἴρηται· εἰ γὰρ μὴ ταὐτὸν δηλοῖ τό τ’ ὄνομα καὶ ὁ λόγος, [153a] δῆλον ὅτι οὐκ ἂν εἴη ὁρισμὸς ὁ ἀποδοθεὶς λόγος. τῶν δὲ κατασκευαστικῶν τόπων οὐδεὶς χρήσιμος πρὸς ὅρον· οὐ γὰρ ἀπόχρη δεῖξαι ταὐτὸν τὸ ὑπὸ τὸν λόγον καὶ τοὔνομα πρὸς τὸ κατασκευάσαι ὅτι ὁρισμός, ἀλλὰ καὶ τὰ ἄλλα πάντα δεῖ ἔχειν τὰ παρηγγελμένα τὸν ὁρισμόν.

Ἀναιρεῖν μὲν οὖν ὅρον οὕτως καὶ διὰ τούτων ἀεὶ πειρατέον. ἐὰν δὲ κατασκευάζειν βουλώμεθα, πρῶτον μὲν εἰδέναι δεῖ ὅτι οὐδεὶς ἢ ὀλίγοι τῶν διαλεγομένων ὅρον συλλογίζονται, ἀλλὰ πάντες ἀρχὴν τὸ τοιοῦτον λαμβάνουσιν, οἷον οἵ τε περὶ γεωμετρίαν καὶ ἀριθμοὺς καὶ τὰς ἄλλας τὰς τοιαύτας μαθήσεις. εἶθ’ ὅτι δι’ ἀκριβείας μὲν ἄλλης ἐστὶ πραγματείας ἀποδοῦναι καὶ τί ἐστιν ὅρος καὶ πῶς ὁρίζεσθαι δεῖ, νῦν δ’ ὅσον ἱκανὸν πρὸς τὴν παροῦσαν χρείαν, ὥστε τοσοῦτον μόνον λεκτέον ὅτι δυνατὸν γενέσθαι ὁρισμοῦ καὶ τοῦ τί ἦν εἶναι συλλογισμόν. εἰ γάρ ἐστιν ὅρος λόγος ὁ τὸ τί ἦν εἶναι τῷ πράγματι δηλῶν, καὶ δεῖ τὰ ἐν τῷ ὅρῳ κατηγορούμενα ἐν τῷ τί ἐστι τοῦ πράγματος μόνα κατηγορεῖσθαι, κατηγορεῖται δ’ ἐν τῷ τί ἐστι τὰ γένη καὶ αἱ διαφοραί, φανερὸν ὡς εἴ τις λάβοι ταῦτα ἃ μόνα ἐν τῷ τί ἐστι τοῦ πράγματος κατηγορεῖται, ὅτι ὁ ταῦτα ἔχων λόγος ὅρος ἐξ ἀνάγκης ἂν εἴη· οὐ γὰρ ἐνδέχεται ἕτερον εἶναι ὅρον, ἐπειδὴ οὐδὲν ἕτερον ἐν τῷ τί ἐστι τοῦ πράγματος κατηγορεῖται.

Ὅτι μὲν οὖν ἐγχωρεῖ συλλογισμὸν ὅρου γενέσθαι, φανερόν. ἐκ τίνων δὲ δεῖ κατασκευάζειν, διώρισται μὲν ἐν ἑτέροις ἀκριβέστερον, πρὸς δὲ τὴν προκειμένην μέθοδον οἱ αὐτοὶ τόποι χρήσιμοι. σκεπτέον γὰρ ἐπὶ τῶν ἐναντίων καὶ τῶν ἄλλων τῶν ἀντικειμένων, καὶ ὅλους τοὺς λόγους καὶ κατὰ μέρος ἐπισκοποῦντα· εἰ γὰρ ὁ ἀντικείμενος τοῦ ἀντικειμένου, καὶ τὸν εἰρημένον τοῦ προκειμένου ἀνάγκη εἶναι. ἐπεὶ δὲ τῶν ἐναντίων πλείους συμπλοκαί, ληπτέον τῶν ἐναντίων ὁποίου ἂν μάλιστα φανερὸς ᾖ ὁ ἐναντίος ὁρισμός. ὅλους μὲν οὖν τοὺς λόγους καθάπερ εἴρηται σκεπτέον, κατὰ μέρος δ’ ὧδε. πρῶτον μὲν οὖν ὅτι τὸ ἀποδοθὲν γένος ὀρθῶς ἀποδέδοται. εἰ γὰρ τὸ ἐναντίον ἐν τῷ ἐναντίῳ, τὸ δὲ προκείμενον μὴ ἔστιν ἐν τῷ αὐτῷ, δῆλον ὅτι ἐν τῷ ἐναντίῳ ἂν εἴη, ἐπειδὴ ἀνάγκη τὰ ἐναντία ἐν τῷ αὐτῷ ἢ ἐν τοῖς ἐναντίοις γένεσιν εἶναι. καὶ τὰς διαφορὰς δὲ τὰς ἐναντίας τῶν ἐναντίων ἀξιοῦμεν κατηγορεῖσθαι, καθάπερ λευκοῦ καὶ μέλανος· τὸ μὲν γὰρ διακριτικὸν τὸ [153b] δὲ συγκριτικὸν ὄψεως. ὥστ’ εἰ τοῦ ἐναντίου αἱ ἐναντίαι κατηγοροῦνται, τοῦ προκειμένου αἱ ἀποδοθεῖσαι κατηγοροῖντ’ ἄν, ὥστ’ ἐπεὶ καὶ τὸ γένος καὶ αἱ διαφοραὶ ὀρθῶς ἀποδέδονται, δῆλον ὅτι ὁρισμὸς ἂν εἴη ὁ ἀποδοθείς. ἢ οὐκ ἀναγκαῖον τῶν ἐναντίων τὰς ἐναντίας διαφορὰς κατηγορεῖσθαι, ἂν μὴ ἐν τῷ αὐτῷ γένει ᾖ τὰ ἐναντία, ὧν δὲ τὰ γένη ἐναντία, οὐδὲν κωλύει τὴν αὐτὴν διαφορὰν κατ' ἀμφοῖν λέγεσθαι, οἷον κατὰ δικαιοσύνης καὶ ἀδικίας· τὸ μὲν γὰρ ἀρετὴ τὸ δὲ κακία ψυχῆς, ὥστε τὸ ψυχῆς διαφορὰ ἐν ἀμφοῖν λέγεται, ἐπειδὴ καὶ σώματος ἔστιν ἀρετὴ καὶ κακία. ἀλλ' οὖν τοῦτό γ' ἀληθές, ὅτι τῶν ἐναντίων ἢ ἐναντίαι ἢ αἱ αὐταὶ διαφοραί εἰσιν. εἰ οὖν τοῦ ἐναντίου ἡ ἐναντία κατηγορεῖται, τούτου δὲ μή, δῆλον ὅτι ἡ εἰρημένη τούτου ἂν κατηγοροῖτο. καθόλου δ' εἰπεῖν, ἐπεὶ ὁ ὁρισμός ἐστιν ἐκ γένους καὶ διαφορῶν, ἂν ὁ τοῦ ἐναντίου ὁρισμὸς φανερὸς ᾖ, καὶ ὁ τοῦ προκειμένου ὁρισμὸς φανερὸς ἔσται. ἐπεὶ γὰρ τὸ ἐναντίον ἢ ἐν τῷ αὐτῷ γένει ἢ ἐν τῷ ἐναντίῳ, ὁμοίως δὲ καὶ αἱ διαφοραὶ ἢ αἱ ἐναντίαι τῶν ἐναντίων ἢ αἱ αὐταὶ κατηγοροῦνται, δῆλον ὅτι τοῦ προκειμένου ἤτοι τὸ αὐτὸ γένος ἂν κατηγοροῖτο ὅπερ καὶ τοῦ ἐναντίου, αἱ δὲ διαφοραὶ ἐναντίαι, ἢ ἅπασαι ἢ τινές, αἱ δὲ λοιπαὶ αἱ αὐταί· ἢ ἀνάπαλιν αἱ μὲν διαφοραὶ αἱ αὐταὶ τὰ δὲ γένη ἐναντία· ἢ ἄμφω ἐναντία, καὶ τὰ γένη καὶ αἱ διαφοραί. ἀμφότερα γὰρ ταὐτὰ εἶναι οὐκ ἐνδέχεται· εἰ δὲ μή, ὁ αὐτὸς ὁρισμὸς τῶν ἐναντίων ἔσται.

Ἔτι ἐκ τῶν πτώσεων καὶ τῶν συστοίχων· ἀνάγκη γὰρ ἀκολουθεῖν τὰ γένη τοῖς γένεσι καὶ τοὺς ὅρους τοῖς ὅροις. οἷον εἰ ἡ λήθη ἐστὶν ἀποβολὴ ἐπιστήμης, καὶ τὸ ἐπιλανθάνεσθαι ἀποβάλλειν ἐπιστήμην ἔσται καὶ τὸ ἐπιλελῆσθαι ἀποβεβληκέναι ἐπιστήμην. ἑνὸς οὖν ὁποιουοῦν τῶν εἰρημένων ὁμολογηθέντος ἀνάγκη καὶ τὰ λοιπὰ ὁμολογεῖσθαι. ὁμοίως δὲ καὶ εἰ ἡ φθορὰ διάλυσις οὐσίας, καὶ τὸ φθείρεσθαι διαλύεσθαι οὐσίαν καὶ τὸ φθαρτικῶς διαλυτικῶς, εἴ τε τὸ φθαρτικὸν διαλυτικὸν οὐσίας, καὶ ἡ φθορὰ διάλυσις οὐσίας. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ὥσθ' ἑνὸς ὁποιουοῦν ληφθέντος καὶ τὰ λοιπὰ πάντα ὁμολογεῖται.

Καὶ ἐκ τῶν ὁμοίως δ' ἐχόντων πρὸς ἄλληλα. εἰ γὰρ τὸ ὑγιεινὸν ποιητικὸν ὑγιείας, καὶ τὸ εὐεκτικὸν ποιητικὸν εὐεξίας ἔσται καὶ τὸ ὠφέλιμον ποιητικὸν ἀγαθοῦ. ὁμοίως [154a] γὰρ ἕκαστον τῶν εἰρημένων πρὸς τὸ οἰκεῖον τέλος ἔχει, ὥστ' εἰ ἑνὸς αὐτῶν ὁρισμός ἐστι τὸ ποιητικὸν εἶναι τοῦ τέλους, καὶ τῶν λοιπῶν ἑκάστου οὗτος ἂν εἴη ὁρισμός.

Ἔτι ἐκ τοῦ μᾶλλον καὶ τοῦ ὁμοίως, ὁσαχῶς ἐνδέχεται κατασκευάσαι δύο πρὸς δύο συγκρίνοντα. οἷον εἰ μᾶλλον ὅδε τοῦδε ἢ ὅδε τοῦδε ὁρισμός, ὁ δὲ ἧττον ὁρισμός, καὶ ὁ μᾶλλον. καὶ εἰ ὁμοίως ὅδε τοῦδε καὶ ὅδε τοῦδε, εἰ ὁ ἕτερος τοῦ ἑτέρου, καὶ ὁ λοιπὸς τοῦ λοιποῦ. ἑνὸς δ' ὁρισμοῦ πρὸς δύο συγκρινομένου ἢ δύο ὁρισμῶν πρὸς ἕν, οὐδὲν χρήσιμος ἡ ἐκ τοῦ μᾶλλον ἐπίσκεψις· οὔτε γὰρ ἕνα δυοῖν οὔτε δύο τοῦ αὐτοῦ ὅρους δυνατόν ἐστιν εἶναι.

Εἰσὶ δὲ [καὶ] ἐπικαιρότατοι τῶν τόπων οἵ τε νῦν εἰρημένοι καὶ οἱ ἐκ τῶν συστοίχων καὶ τῶν πτώσεων. διὸ καὶ δεῖ μάλιστα κατέχειν καὶ προχείρους ἔχειν τούτους· χρησιμώτατοι γὰρ πρὸς πλεῖστα. καὶ τῶν ἄλλων δὲ τοὺς μάλιστα κοινούς· οὗτοι γὰρ ἐνεργότατοι τῶν λοιπῶν, οἷον τό τ' ἐπιβλέπειν ἐπὶ τὰ καθ' ἕκαστα καὶ τὸ ἐπὶ τῶν εἰδῶν σκοπεῖν εἰ ἐφαρμόττει ὁ λόγος, ἐπειδὴ συνώνυμον τὸ εἶδός ἐστιν. ἔστι δὲ χρήσιμον τὸ τοιοῦτον πρὸς τοὺς τιθεμένους ἰδέας εἶναι, καθάπερ πρότερον εἴρηται. ἔτι εἰ μεταφέρων εἴρηκε τοὔνομα ἢ αὐτὸ αὑτοῦ κατηγόρηκεν ὡς ἕτερον. καὶ εἴ τις ἄλλος κοινὸς καὶ ἐνεργὸς τῶν τόπων ἐστί, τούτῳ χρηστέον.

Ὅτι δὲ χαλεπώτερον κατασκευάζειν ἢ ἀνασκευάζειν ὅρον, ἐκ τῶν μετὰ ταῦτα ῥηθησομένων φανερόν. καὶ γὰρ ἰδεῖν αὐτὸν καὶ λαβεῖν παρὰ τῶν ἐρωτωμένων τὰς τοιαύτας προτάσεις οὐκ εὐπετές, οἷον ὅτι τῶν ἐν τῷ ἀποδοθέντι λόγῳ τὸ μὲν γένος τὸ δὲ διαφορά, καὶ ὅτι ἐν τῷ τί ἐστι τὸ γένος καὶ αἱ διαφοραὶ κατηγοροῦνται· ἄνευ δὲ τούτων ἀδύνατον ὁρισμοῦ γενέσθαι συλλογισμόν. εἰ γάρ τινα καὶ ἄλλα ἐν τῷ τί ἐστι τοῦ πράγματος κατηγορεῖται, ἄδηλον πότερον ὁ ῥηθεὶς ἢ ἕτερος αὐτοῦ ὁρισμός ἐστιν, ἐπειδὴ ὁρισμός ἐστι λόγος ὁ τὸ τί ἦν εἶναι σημαίνων. δῆλον δὲ καὶ ἐκ τῶνδε. ῥᾷον γὰρ ἓν συμπεράνασθαι ἢ πολλά. ἀναιροῦντι μὲν οὖν ἀπόχρη πρὸς ἓν διαλεγῆναι· ἓν γὰρ ὁποιονοῦν ἀνασκευάσαντες ἀνῃρηκότες ἐσόμεθα τὸν ὅρον· κατασκευάζοντι δὲ πάντα ἀνάγκη συμβιβάζειν ὅτι ὑπάρχει τὰ ἐν τῷ ὅρῳ. ἔτι κατασκευάζοντι μὲν καθόλου οἰστέον συλλογισμόν· δεῖ γὰρ κατὰ [154b] παντὸς οὗ τοὔνομα ‹κατηγορεῖται› κατηγορεῖσθαι τὸν ὅρον, καὶ ἔτι πρὸς τούτοις ἀντιστρέφειν, εἰ μέλλει ἴδιος εἶναι ὁ ἀποδοθεὶς ὅρος. ἀνασκευάζοντα δ' οὐκέτι ἀνάγκη δεῖξαι τὸ καθόλου· ἀπόχρη γὰρ τὸ δεῖξαι ὅτι οὐκ ἀληθεύεται περί τινος τῶν ὑπὸ τοὔνομα ὁ λόγος. εἴ τε καὶ καθόλου δέοι ἀνασκευάσαι, οὐδ' ὧς τὸ ἀντιστρέφειν ἀναγκαῖον ἐπὶ τοῦ ἀνασκευάζειν· ἀπόχρη γὰρ ἀνασκευάζοντι καθόλου τὸ δεῖξαι ὅτι κατ' οὐδενὸς ὧν τοὔνομα κατηγορεῖται καὶ ὁ λόγος κατηγορεῖται. τὸ δ' ἀνάπαλιν οὐκ ἀναγκαῖον προσδεῖξαι, ὅτι καθ' ὧν ὁ λόγος μὴ κατηγορεῖται τοὔνομα κατηγορεῖται. ἔτι εἰ καὶ παντὶ ὑπάρχει τῷ ὑπὸ τοὔνομα μὴ μόνῳ δέ, ἀνῃρημένος γίνεται ὁ ὁρισμός.

Ὁμοίως δὲ καὶ περὶ τὸ ἴδιον καὶ τὸ γένος ἔχει· ἐν ἀμφοτέροις γὰρ ἀνασκευάζειν ἢ κατασκευάζειν ῥᾷον. περὶ μὲν οὖν τοῦ ἰδίου φανερὸν ἐκ τῶν εἰρημένων· ὡς γὰρ ἐπὶ τὸ πολὺ ἐν συμπλοκῇ τὸ ἴδιον ἀποδίδοται, ὥστ' ἀνασκευάζειν μὲν ἔστιν ἓν ἀνελόντα, κατασκευάζοντι δὲ ἀνάγκη πάντα συλλογίζεσθαι, σχεδὸν δὲ καὶ τὰ λοιπὰ πάντα, ὅσα πρὸς τὸν ὁρισμόν, καὶ πρὸς τὸ ἴδιον ἁρμόσει λέγεσθαι (παντί τε γὰρ δεῖ τῷ ὑπὸ τοὔνομα τὸν κατασκευάζοντα δεικνύναι ὅτι ὑπάρχει, ἀνασκευάζοντι δ’ ἀπόχρη ἑνὶ δεῖξαι μὴ ὑπάρχον· εἴ τε καὶ παντὶ ὑπάρχει μὴ μόνῳ δέ, καὶ οὕτως ἀνεσκευασμένον γίνεται, καθάπερ ἐπὶ τοῦ ὁρισμοῦ ἐλέγετο)· περὶ δὲ τοῦ γένους, ὅτι κατασκευάζειν μὲν ἀνάγκη μοναχῶς παντὶ δείξαντα ὑπάρχον, ἀνασκευάζεται δὲ διχῶς· καὶ γὰρ εἰ μηδενὶ καὶ εἰ τινὶ δέδεικται μὴ ὑπάρχον, ἀνῄρηται τὸ ἐν ἀρχῇ. ἔτι κατασκευάζοντι μὲν οὐκ ἀπόχρη ὅτι ὑπάρχει δεῖξαι, ἀλλὰ καὶ ὅτι ὡς γένος ὑπάρχει δεικτέον· ἀνασκευάζοντι δ’ ἱκανὸν τὸ δεῖξαι μὴ ὑπάρχον ἢ τινὶ ἢ παντί. ἔοικε δ’, ὥσπερ καὶ ἐν τοῖς ἄλλοις τὸ διαφθεῖραι τοῦ ποιῆσαι ῥᾷον, οὕτω καὶ ἐπὶ τούτων τὸ ἀνασκευάσαι τοῦ κατασκευάσαι.

Ἐπὶ δὲ τοῦ συμβεβηκότος τὸ μὲν καθόλου ῥᾷον ἀνασκευάζειν ἢ κατασκευάζειν· κατασκευάζοντι μὲν γὰρ δεικτέον ὅτι παντί, ἀνασκευάζοντι δ’ ἀπόχρη ἑνὶ δεῖξαι μὴ ὑπάρχον. τὸ δ’ ἐπὶ μέρους ἀνάπαλιν ῥᾷον κατασκευάσαι ἢ ἀνασκευάσαι· κατασκευάζοντι μὲν γὰρ ἀπόχρη δεῖξαι [155a] τινὶ ὑπάρχον, ἀνασκευάζοντι δὲ δεικτέον ὅτι οὐδενὶ ὑπάρχει.

Φανερὸν δὲ καὶ ὅτι πάντων ῥᾷστον ὅρον ἀνασκευάσαι· πλεῖστα γὰρ ἐν αὐτῷ τὰ δεδομένα πολλῶν εἰρημένων, ἐκ δὲ τῶν πλειόνων θᾶττον γίνεται συλλογισμός· εἰκὸς γὰρ ἐν τοῖς πολλοῖς μᾶλλον ἢ ἐν τοῖς ὀλίγοις ἁμάρτημα γίνεσθαι. ἔτι πρὸς μὲν ὅρον ἐνδέχεται καὶ διὰ τῶν ἄλλων ἐπιχειρεῖν· εἴτε γὰρ μὴ ἴδιος ὁ λόγος, εἴτε μὴ γένος τὸ ἀποδοθέν, εἴτε μὴ ὑπάρχει τι τῶν ἐν τῷ λόγῳ, ἀνῃρημένος γίνεται ὁ ὁρισμός. πρὸς δὲ τὰ ἄλλα οὔτε τὰ ἐκ τῶν ὅρων οὔτε τἆλλα ἐνδέχεται πάντ’ ἐπιχειρεῖν· μόνα γὰρ τὰ πρὸς τὸ συμβεβηκὸς κοινὰ πάντων τῶν εἰρημένων ἐστίν. ὑπάρχειν μὲν γὰρ δεῖ ἕκαστον τῶν εἰρημένων· εἰ δὲ μὴ ὡς ἴδιον ὑπάρχει τὸ γένος, οὐδέπω ἀνῄρηται τὸ γένος· ὁμοίως δὲ καὶ τὸ ἴδιον οὐκ ἀναγκαῖον ὡς γένος, οὐδὲ τὸ συμβεβηκὸς ὡς γένος ἢ ἴδιον, ἀλλ’ ὑπάρχειν μόνον. ὥστ’ οὐ δυνατὸν ἐκ τῶν ἑτέρων πρὸς τὰ ἕτερα ἐπιχειρεῖν ἀλλ’ ἢ ἐπὶ τοῦ ὁρισμοῦ. δῆλον οὖν ὅτι ῥᾷστον πάντων ὅρον ἀναιρεῖν, κατασκευάζειν δὲ χαλεπώτατον· ἐκεῖνά τε γὰρ δεῖ πάντα συλλογίσασθαι (καὶ γὰρ ὅτι ὑπάρχει τὰ εἰρημένα καὶ ὅτι γένος τὸ ἀποδοθὲν καὶ ὅτι ἴδιος ὁ λόγος), καὶ ἔτι παρὰ ταῦτα ὅτι δηλοῖ τὸ τί ἦν εἶναι ὁ λόγος, καὶ τοῦτο καλῶς δεῖ πεποιηκέναι.

Τῶν δ’ ἄλλων τὸ ἴδιον μάλιστα τοιοῦτον· ἀναιρεῖν μὲν γὰρ ῥᾷον διὰ τὸ ἐκ πολλῶν ὡς ἐπὶ τὸ πολύ· κατασκευάζειν δὲ χαλεπώτατον, ὅτι τε πολλὰ δεῖ συμβιβάσαι, καὶ πρὸς τούτῳ ὅτι μόνῳ ὑπάρχει καὶ ἀντικατηγορεῖται τοῦ πράγματος.

Ῥᾷστον δὲ πάντων κατασκευάσαι τὸ συμβεβηκός· ἐν μὲν γὰρ τοῖς ἄλλοις οὐ μόνον ὑπάρχον, ἀλλὰ καὶ ὅτι οὕτως ὑπάρχει, δεικτέον· ἐπὶ δὲ τοῦ συμβεβηκότος ὅτι ὑπάρχει μόνον ἱκανὸν δεῖξαι. ἀνασκευάζειν δὲ χαλεπώτατον τὸ συμβεβηκός, ὅτι ἐλάχιστα ἐν αὐτῷ δέδοται· οὐ γὰρ προσσημαίνεται ἐν τῷ συμβεβηκότι πῶς ὑπάρχει. ὥστ᾽ ἐπὶ μὲν τῶν ἄλλων διχῶς ἔστιν ἀνελεῖν, ἢ δείξαντα ὅτι οὐχ ὑπάρχει ἢ ὅτι οὐχ οὕτως ὑπάρχει· ἐπὶ δὲ τοῦ συμβεβηκότος οὐκ ἔστιν ἀνελεῖν ἀλλ᾽ ἢ δείξαντα ὅτι οὐχ ὑπάρχει.

Οἱ μὲν οὖν τόποι δι᾽ ὧν εὐπορήσομεν πρὸς ἕκαστα τῶν προβλημάτων ἐπιχειρεῖν σχεδὸν ἱκανῶς ἐξηρίθμηνται.

Θ

[155b] Μετὰ δὲ ταῦτα περὶ τάξεως καὶ πῶς δεῖ ἐρωτᾶν λεκτέον. δεῖ δὲ πρῶτον μὲν ἐρωτηματίζειν μέλλοντα τὸν τόπον εὑρεῖν ὅθεν ἐπιχειρητέον, δεύτερον δὲ ἐρωτηματίσαι καὶ τάξαι καθ' ἕκαστα πρὸς ἑαυτόν, τὸ δὲ λοιπὸν καὶ τρίτον εἰπεῖν ἤδη ταῦτα πρὸς ἕτερον. μέχρι μὲν οὖν τοῦ εὑρεῖν τὸν τόπον ὁμοίως τοῦ φιλοσόφου καὶ τοῦ διαλεκτικοῦ ἡ σκέψις, τὸ δ' ἤδη ταῦτα τάττειν καὶ ἐρωτηματίζειν ἴδιον τοῦ διαλεκτικοῦ· πρὸς ἕτερον γὰρ πᾶν τὸ τοιοῦτον. τῷ δὲ φιλοσόφῳ καὶ ζητοῦντι καθ' ἑαυτὸν οὐδὲν μέλει, ἐὰν ἀληθῆ μὲν ᾖ καὶ γνώριμα δι' ὧν ὁ συλλογισμός, μὴ θῇ δ' αὐτὰ ὁ ἀποκρινόμενος διὰ τὸ σύνεγγυς εἶναι τοῦ ἐξ ἀρχῆς καὶ προορᾶν τὸ συμβησόμενον, ἀλλ' ἴσως κἂν σπουδάσειεν ὅτι μάλιστα γνώριμα καὶ σύνεγγυς εἶναι τὰ ἀξιώματα· ἐκ τούτων γὰρ οἱ ἐπιστημονικοὶ συλλογισμοί.

Τοὺς μὲν οὖν τόπους ὅθεν δεῖ λαμβάνειν, εἴρηται πρότερον. περὶ τάξεως δὲ καὶ τοῦ ἐρωτηματίσαι λεκτέον διελόμενον τὰς προτάσεις, ὅσαι ληπτέαι παρὰ τὰς ἀναγκαίας· ἀναγκαῖαι δὲ λέγονται δι' ὧν ὁ συλλογισμὸς γίνεται. αἱ δὲ παρὰ ταύτας λαμβανόμεναι τέτταρές εἰσιν· ἢ γὰρ ἐπαγωγῆς χάριν ‹καὶ› τοῦ δοθῆναι τὸ καθόλου, ἢ εἰς ὄγκον τοῦ λόγου, ἢ πρὸς κρύψιν τοῦ συμπεράσματος, ἢ πρὸς τὸ σαφέστερον εἶναι τὸν λόγον. παρὰ δὲ ταύτας οὐδεμίαν ληπτέον πρότασιν, ἀλλὰ διὰ τούτων αὔξειν καὶ ἐρωτηματίζειν πειρατέον. εἰσὶ δ' αἱ πρὸς κρύψιν ἀγῶνος χάριν· ἀλλ' ἐπειδὴ πᾶσα ἡ τοιαύτη πραγματεία πρὸς ἕτερόν ἐστιν, ἀνάγκη καὶ ταύταις χρῆσθαι.

Τὰς μὲν οὖν ἀναγκαίας, δι' ὧν ὁ συλλογισμός, οὐκ εὐθὺς αὐτὰς προτατέον, ἀλλ' ἀποστατέον ὅτι ἀνωτάτω, οἷον μὴ τῶν ἐναντίων ἀξιοῦντα τὴν αὐτὴν ἐπιστήμην, ἂν τοῦτο βούληται λαβεῖν, ἀλλὰ τῶν ἀντικειμένων· τεθέντος γὰρ τούτου καὶ ὅτι τῶν ἐναντίων ἡ αὐτὴ συλλογιεῖται, ἐπειδὴ ἀντικείμενα τὰ ἐναντία. ἂν δὲ μὴ τιθῇ, δι' ἐπαγωγῆς ληπτέον προτείνοντα ἐπὶ τῶν κατὰ μέρος ἐναντίων. ἢ γὰρ διὰ συλλογισμοῦ ἢ δι' ἐπαγωγῆς τὰς ἀναγκαίας ληπτέον, ἢ τὰς μὲν ἐπαγωγῇ τὰς δὲ συλλογισμῷ, ὅσαι δὲ λίαν προφανεῖς εἰσι, καὶ αὐτὰς προτείνοντα· ἀδηλότερόν τε γὰρ ἀεὶ ἐν τῇ ἀποστάσει [156a] καὶ τῇ ἐπαγωγῇ τὸ συμβησόμενον, καὶ ἅμα τὸ αὐτὰς τὰς χρησίμους προτεῖναι μὴ δυνάμενον ἐκείνως λαβεῖν ἕτοιμον. τὰς δὲ παρὰ ταύτας εἰρημένας ληπτέον μὲν τούτων χάριν, ἑκάστῃ δ' ὧδε χρηστέον, ἐπάγοντα μὲν ἀπὸ τῶν καθ' ἕκαστον ἐπὶ τὸ καθόλου καὶ ἀπὸ τῶν γνωρίμων ἐπὶ τὰ ἄγνωστα· γνώριμα δὲ μᾶλλον τὰ κατὰ τὴν αἴσθησιν, ἢ ἁπλῶς ἢ τοῖς πολλοῖς. κρύπτοντα δὲ προσυλλογίζεσθαι δι' ὧν ὁ συλλογισμὸς τοῦ ἐξ ἀρχῆς μέλλει γίνεσθαι, καὶ ταῦτα ὡς πλεῖστα. εἴη δ' ἂν τοῦτο, εἴ τις μὴ μόνον τὰς ἀναγκαίας ἀλλὰ καὶ τῶν πρὸς ταύτας χρησίμων τινὰ συλλογίζοιτο. ἔτι τὰ συμπεράσματα μὴ λέγειν ἀλλ' ὕστερον ἀθρόα συλλογίζεσθαι· οὕτω γὰρ ἂν πορρωτάτω ἀποστήσειε τῆς ἐξ ἀρχῆς θέσεως. καθόλου δ' εἰπεῖν οὕτω δεῖ ἐρωτᾶν τὸν κρυπτικῶς πυνθανόμενον, ὥστ' ἠρωτημένου τοῦ παντὸς λόγου καὶ εἰπόντος τὸ συμπέρασμα ζητεῖσθαι τὸ διὰ τί. τοῦτο δ' ἔσται μάλιστα διὰ τοῦ λεχθέντος ἔμπροσθεν τρόπου· μόνου γὰρ τοῦ ἐσχάτου ῥηθέντος συμπεράσματος ἄδηλον πῶς συμβαίνει, διὰ τὸ μὴ προορᾶν τὸν ἀποκρινόμενον ἐκ τίνων συμβαίνει, μὴ διαρθρωθέντων τῶν προτέρων συλλογισμῶν. ἥκιστα δ' ἂν διαρθροῖτο ὁ συλλογισμὸς τοῦ συμπεράσματος μὴ τὰ τούτου λήμματα ἡμῶν τιθέντων, ἀλλ' ἐκεῖνα ὑφ' ὧν ὁ συλλογισμὸς γίνεται.

Χρήσιμον δὲ καὶ τὸ μὴ συνεχῆ τὰ ἀξιώματα λαμβάνειν ἐξ ὧν οἱ συλλογισμοί, ἀλλ' ἐναλλὰξ τὸ πρὸς ἕτερον καὶ ἕτερον συμπέρασμα· τιθεμένων γὰρ τῶν οἰκείων παρ' ἄλληλα μᾶλλον τὸ συμβησόμενον ἐξ αὐτῶν προφανές.

Χρὴ δὲ καὶ ὁρισμῷ λαμβάνειν, ἐφ' ὧν ἐνδέχεται, τὴν καθόλου πρότασιν μὴ ἐπ' αὐτῶν ἀλλ' ἐπὶ τῶν συστοίχων. παραλογίζονται γὰρ ἑαυτούς, ὅταν ἐπὶ τοῦ συστοίχου ληφθῇ ὁ ὁρισμός, ὡς οὐ τὸ καθόλου συγχωροῦντες, οἷον εἰ δέοι λαβεῖν ὅτι ὁ ὀργιζόμενος ὀρέγεται τιμωρίας διὰ φαινομένην ὀλιγωρίαν, ληφθείη δ' ἡ ὀργὴ ὄρεξις εἶναι τιμωρίας διὰ φαινομένην ὀλιγωρίαν· δῆλον γὰρ ὅτι τούτου ληφθέντος ἔχοιμεν ἂν καθόλου ὃ προαιρούμεθα. τοῖς δ' ἐπ' αὐτῶν προτείνουσι πολλάκις ἀνανεύειν συμβαίνει τὸν ἀποκρινόμενον διὰ τὸ μᾶλλον ἔχειν ἐπ' αὐτοῦ τὴν ἔνστασιν, οἷον ὅτι ὁ ὀργιζόμενος οὐκ ὀρέγεται τιμωρίας· τοῖς γὰρ γονεῦσιν ὀργιζόμεθα μέν, οὐκ ὀρεγόμεθα δὲ τιμωρίας. ἴσως μὲν οὖν οὐκ ἀληθὴς ἡ ἔνστασις· παρ' ἐνίων γὰρ ἱκανὴ τιμωρία τὸ λυπῆσαι μόνον καὶ [156b] ποιῆσαι μεταμέλεσθαι· οὐ μὴν ἀλλ' ἔχει τι πιθανὸν πρὸς τὸ μὴ δοκεῖν ἀλόγως ἀρνεῖσθαι τὸ προτεινόμενον. ἐπὶ δὲ τοῦ τῆς ὀργῆς ὁρισμοῦ οὐχ ὁμοίως ῥᾴδιόν ἐστιν εὑρεῖν ἔνστασιν.

Ἔτι τὸ προτείνειν μὴ ὡς δι' αὐτὸ ἀλλ' ἄλλου χάριν προτείνοντα· εὐλαβοῦνται γὰρ τὰ πρὸς τὴν θέσιν χρήσιμα. ἁπλῶς δ' εἰπεῖν ὅτι μάλιστα ποιεῖν ἄδηλον πότερον τὸ προτεινόμενον ἢ τὸ ἀντικείμενον βούλεται λαβεῖν· ἀδήλου γὰρ ὄντος τοῦ πρὸς τὸν λόγον χρησίμου μᾶλλον τὸ δοκοῦν αὐτοῖς τιθέασιν.

Ἔτι διὰ τῆς ὁμοιότητος πυνθάνεσθαι· καὶ γὰρ πιθανὸν καὶ λανθάνει μᾶλλον τὸ καθόλου. οἷον ὅτι ὥσπερ ἐπιστήμη καὶ ἄγνοια τῶν ἐναντίων ἡ αὐτή, οὕτω καὶ αἴσθησις τῶν ἐναντίων ἡ αὐτή· ἢ ἀνάπαλιν, ἐπειδὴ αἴσθησις ἡ αὐτή, καὶ ἐπιστήμη. τοῦτο δ᾽ ἐστὶν ὅμοιον ἐπαγωγῇ, οὐ μὴν ταὐτόν γε· ἐκεῖ μὲν γὰρ ἀπὸ τῶν καθ᾽ ἕκαστα τὸ καθόλου λαμβάνεται, ἐπὶ δὲ τῶν ὁμοίων οὐκ ἔστι τὸ λαμβανόμενον τὸ καθόλου ὑφ᾽ ὃ πάντα τὰ ὅμοιά ἐστιν.

Δεῖ δὲ καὶ αὐτόν ποτε ἑαυτῷ ἔνστασιν φέρειν· ἀνυπόπτως γὰρ ἔχουσιν οἱ ἀποκρινόμενοι πρὸς τοὺς δοκοῦντας δικαίως ἐπιχειρεῖν. χρήσιμον δὲ καὶ τὸ ἐπιλέγειν ὅτι σύνηθες καὶ λεγόμενον τὸ τοιοῦτον· ὀκνοῦσι γὰρ κινεῖν τὸ εἰωθὸς ἔνστασιν μὴ ἔχοντες, ἅμα δὲ καὶ διὰ τὸ χρῆσθαι καὶ αὐτοὶ τοῖς τοιούτοις φυλάττονται κινεῖν αὐτά. ἔτι τὸ μὴ σπουδάζειν, κἂν ὅλως χρήσιμον ᾖ· πρὸς γὰρ τοὺς σπουδάζοντας μᾶλλον ἀντιτείνουσιν. καὶ τὸ ὡς ἐν παραβολῇ προτείνειν· τὸ γὰρ δι᾽ ἄλλο προτεινόμενον καὶ μὴ δι᾽ αὑτὸ χρήσιμον τιθέασι μᾶλλον. ἔτι μὴ αὐτὸ προτείνειν ὃ δεῖ ληφθῆναι, ἀλλ᾽ ᾧ τοῦτο ἕπεται ἐξ ἀνάγκης· μᾶλλόν τε γὰρ συγχωροῦσι διὰ τὸ μὴ ὁμοίως ἐκ τούτου φανερὸν εἶναι τὸ συμβησόμενον, καὶ ληφθέντος τούτου εἴληπται κἀκεῖνο. καὶ τὸ ἐπ᾽ ἐσχάτῳ ἐρωτᾶν ὃ μάλιστα βούλεται λαβεῖν· μάλιστα γὰρ τὰ πρῶτα ἀνανεύουσι διὰ τὸ τοὺς πλείστους τῶν ἐρωτώντων πρῶτα λέγειν περὶ ἃ μάλιστα σπουδάζουσιν. πρὸς ἐνίους δὲ πρῶτα τὰ τοιαῦτα προτείνειν· οἱ γὰρ δύσκολοι τὰ πρῶτα μάλιστα συγχωροῦσιν, ἂν μὴ παντελῶς φανερὸν ᾖ τὸ συμβησόμενον, ἐπὶ τελευτῆς δὲ δυσκολαίνουσιν. ὁμοίως δὲ καὶ ὅσοι οἴονται δριμεῖς εἶναι ἐν τῷ ἀποκρίνεσθαι· θέντες γὰρ τὰ πρῶτα ἐπὶ τέλους τερθρεύονται ὡς οὐ συμβαίνοντος ἐκ τῶν κειμένων· τιθέασι δὲ προχείρως, πιστεύοντες τῇ ἕξει καὶ ὑπολαμβάνοντες [157a] οὐδὲν πείσεσθαι. ἔτι τὸ μηκύνειν καὶ παρεμβάλλειν τὰ μηδὲν χρήσιμα πρὸς τὸν λόγον, καθάπερ οἱ ψευδογραφοῦντες· πολλῶν γὰρ ὄντων ἄδηλον ἐν ὁποίῳ τὸ ψεῦδος. διὸ καὶ λανθάνουσιν ἐνίοτε οἱ ἐρωτῶντες ἐν παραβύστῳ προστιθέντες ἃ καθ᾽ αὑτὰ προτεινόμενα οὐκ ἂν τεθείη.

Εἰς μὲν οὖν κρύψιν τοῖς εἰρημένοις χρηστέον, εἰς δὲ κόσμον ἐπαγωγῇ καὶ διαιρέσει τῶν συγγενῶν. ἡ μὲν οὖν ἐπαγωγὴ ὁποῖόν τί ἐστι, δῆλον. τὸ δὲ διαιρεῖσθαι τοιοῦτον, οἷον ὅτι ἐπιστήμη ἐπιστήμης βελτίων ἢ τῷ ἀκριβεστέρα εἶναι ἢ τῷ βελτιόνων, καὶ ὅτι τῶν ἐπιστημῶν αἱ μὲν θεωρητικαὶ αἱ δὲ πρακτικαὶ αἱ δὲ ποιητικαί. τῶν γὰρ τοιούτων ἕκαστον συνεπικοσμεῖ μὲν τὸν λόγον, οὐκ ἀναγκαῖα δὲ ῥηθῆναι πρὸς τὸ συμπέρασμα.

Εἰς δὲ σαφήνειαν παραδείγματα καὶ παραβολὰς οἰστέον, παραδείγματα δὲ οἰκεῖα καὶ ἐξ ὧν ἴσμεν, οἷα Ὅμηρος, μὴ οἷα Χοιρίλος· οὕτω γὰρ ἂν σαφέστερον εἴη τὸ προτεινόμενον.

Χρηστέον δ' ἐν τῷ διαλέγεσθαι τῷ μὲν συλλογισμῷ πρὸς τοὺς διαλεκτικοὺς μᾶλλον ἢ πρὸς τοὺς πολλούς, τῇ δ' ἐπαγωγῇ τοὐναντίον πρὸς τοὺς πολλοὺς μᾶλλον· εἴρηται δ' ὑπὲρ τούτου καὶ πρότερον. ἔστι δὲ ἐπ' ἐνίων μὲν ἐπάγοντα δυνατὸν ἐρωτῆσαι τὸ καθόλου, ἐπ' ἐνίων δ' οὐ ῥᾴδιον διὰ τὸ μὴ κεῖσθαι ταῖς ὁμοιότησιν ὄνομα πάσαις κοινόν, ἀλλ' ὅταν δέῃ τὸ καθόλου λαβεῖν, "οὕτως ἐπὶ πάντων τῶν τοιούτων" φασίν· τοῦτο δὲ διορίσαι τῶν χαλεπωτάτων ἐστίν, ὁποῖα τῶν προφερομένων τοιαῦτα καὶ ὁποῖα οὔ. καὶ παρὰ τοῦτο πολλάκις ἀλλήλους παρακρούονται κατὰ τοὺς λόγους, οἱ μὲν φάσκοντες ὅμοια εἶναι τὰ μὴ ὄντα ὅμοια, οἱ δ' ἀμφισβητοῦντες τὰ ὅμοια μὴ εἶναι ὅμοια. διὸ πειρατέον ἐπὶ πάντων τῶν τοιούτων ὀνοματοποιεῖν αὐτόν, ὅπως μήτε τῷ ἀποκρινομένῳ ἐξῇ ἀμφισβητεῖν ὡς οὐχ ὁμοίως τὸ ἐπιφερόμενον λέγεται, μήτε τῷ ἐρωτῶντι συκοφαντεῖν ὡς ὁμοίως λεγομένου, ἐπειδὴ πολλὰ τῶν οὐχ ὁμοίως λεγομένων ὁμοίως φαίνεται λέγεσθαι.

Ὅταν δ' ἐπάγοντος ἐπὶ πολλῶν μὴ διδῷ τὸ καθόλου, τότε δίκαιον ἀπαιτεῖν ἔνστασιν. μὴ εἰπόντα δ' αὐτὸν ἐπὶ τίνων οὕτως, οὐ δίκαιον ἀπαιτεῖν ἐπὶ τίνων οὐχ οὕτως· δεῖ γὰρ ἐπαγαγόντα πρότερον οὕτω τὴν ἔνστασιν ἀπαιτεῖν. ἀξιωτέον τε τὰς ἐνστάσεις μὴ ἐπ' αὐτοῦ τοῦ προτεινομένου φέρειν, ἐὰν μὴ ἓν μόνον ᾖ τὸ τοιοῦτον, καθάπερ ἡ δυὰς τῶν ἀρτίων μόνος [157b] ἀριθμὸς πρῶτος· δεῖ γὰρ τὸν ἐνιστάμενον ἐφ' ἑτέρου τὴν ἔνστασιν φέρειν, ἢ λέγειν ὅτι τοῦτο μόνον τοιοῦτο. πρὸς δὲ τοὺς ἐνισταμένους τῷ καθόλου, μὴ ἐν αὐτῷ δὲ τὴν ἔνστασιν φέροντας ἀλλ' ἐν τῷ ὁμωνύμῳ, οἷον ὅτι ἔχοι ἄν τις τὸ μὴ αὐτοῦ χρῶμα ἢ πόδα ἢ χεῖρα (ἔχοι γὰρ ἂν ὁ ζωγράφος χρῶμα καὶ ὁ μάγειρος πόδα τὸν μὴ αὐτοῦ) - διελόμενον οὖν ἐπὶ τῶν τοιούτων ἐρωτητέον· λανθανούσης γὰρ τῆς ὁμωνυμίας εὖ δόξει ἐνστῆναι τῇ προτάσει. ἐὰν δὲ μὴ ἐν τῷ ὁμωνύμῳ ἀλλ' ἐν αὐτῷ ἐνιστάμενος κωλύῃ τὴν ἐρώτησιν, ἀφαιροῦντα δεῖ ἐν ᾧ ἡ ἔνστασις προτείνειν τὸ λοιπὸν καθόλου ποιοῦντα, ἕως ἂν λάβῃ τὸ χρήσιμον. οἷον ἐπὶ τῆς λήθης καὶ τοῦ ἐπιλελῆσθαι· οὐ γὰρ συγχωροῦσι τὸν ἀποβεβληκότα ἐπιστήμην ἐπιλελῆσθαι, διότι μεταπεσόντος τοῦ πράγματος ἀποβέβληκε μὲν τὴν ἐπιστήμην, ἐπιλέλησται δ' οὔ. ῥητέον οὖν, ἀφελόντα ἐν ᾧ ἡ ἔνστασις, τὸ λοιπόν, οἷον εἰ διαμένοντος τοῦ πράγματος ἀποβέβληκε τὴν ἐπιστήμην, ὅτι ἐπιλέλησται. ὁμοίως δὲ καὶ πρὸς τοὺς ἐνισταμένους ὅτι τῷ μείζονι ἀγαθῷ ‹οὐ› μεῖζον ἀντίκειται κακόν· προφέρουσι γὰρ ὅτι τῇ ὑγιείᾳ ἐλάττονι ὄντι ἀγαθῷ τῆς εὐεξίας μεῖζον κακὸν ἀντίκειται· τὴν γὰρ νόσον μεῖζον κακὸν εἶναι τῆς καχεξίας. ἀφαιρετέον οὖν καὶ ἐπὶ τούτου ἐν ᾧ ἡ ἔνστασις· ἀφαιρεθέντος γὰρ μᾶλλον ἂν θείη, οἷον ὅτι τῷ μείζονι ἀγαθῷ μεῖζον κακὸν ἀντίκειται, ἐὰν μὴ συνεπιφέρῃ θάτερον θάτερον, καθάπερ ἡ εὐεξία τὴν ὑγίειαν. οὐ μόνον δ’ ἐνισταμένου τοῦτο ποιητέον, ἀλλὰ κἂν ἄνευ ἐνστάσεως ἀρνῆται διὰ τὸ προορᾶν τι τῶν τοιούτων. ἀφαιρεθέντος γὰρ ἐν ᾧ ἡ ἔνστασις, ἀναγκασθήσεται τιθέναι διὰ τὸ μὴ προορᾶν ἐν τῷ λοιπῷ ἐπὶ τίνος οὐχ οὕτως· ἐὰν δὲ μὴ τιθῇ, ἀπαιτούμενος ἔνστασιν οὐ μὴ ἔχῃ ἀποδοῦναι. εἰσὶ δὲ τοιαῦται τῶν προτάσεων αἱ ἐπὶ τὶ μὲν ψευδεῖς ἐπὶ τὶ δ’ ἀληθεῖς· ἐπὶ τούτων γὰρ ἔστι ‹τι› ἀφελόντα τὸ λοιπὸν ἀληθὲς καταλιπεῖν. ἐὰν δ’ ἐπὶ πολλῶν προτείνοντος μὴ φέρῃ ἔνστασιν, ἀξιωτέον τιθέναι· διαλεκτικὴ γάρ ἐστι πρότασις πρὸς ἣν οὕτως ἐπὶ πολλῶν ἔχουσαν μὴ ἔστιν ἔνστασις.

Ὅταν δ’ ἐνδέχηται τὸ αὐτὸ ἄνευ τε τοῦ ἀδυνάτου καὶ διὰ τοῦ ἀδυνάτου συλλογίσασθαι, ἀποδεικνύντι μὲν καὶ μὴ διαλεγομένῳ οὐδὲν διαφέρει οὕτως ἢ ἐκείνως συλλογίσασθαι, διαλεγομένῳ δὲ πρὸς ἄλλον οὐ χρηστέον τῷ διὰ τοῦ ἀδυνάτου συλλογισμῷ. ἄνευ μὲν γὰρ τοῦ ἀδυνάτου συλλογισαμένῳ οὐκ ἔστιν ἀμφισβητεῖν· ὅταν δὲ τὸ ἀδύνατον συλλογίσηται, [158a] ἂν μὴ λίαν ᾖ περιφανὲς ψεῦδος ὄν, οὐκ ἀδύνατόν φασιν εἶναι, ὥστ’ οὐ γίνεται τοῖς ἐρωτῶσιν ὃ βούλονται.

Δεῖ δὲ προτείνειν ὅσα ἐπὶ πολλῶν μὲν οὕτως ἔχει, ἔνστασις δὲ ἢ ὅλως μὴ ἔστιν ἢ μὴ ἐπιπολῆς τὸ συνιδεῖν· μὴ δυνάμενοι γὰρ συνορᾶν ἐφ’ ὧν οὐχ οὕτως, ὡς ἀληθὲς ὂν τιθέασιν.

Οὐ δεῖ δὲ τὸ συμπέρασμα ἐρώτημα ποιεῖν· εἰ δὲ μή, ἀνανεύσαντος οὐ δοκεῖ γεγονέναι συλλογισμός. πολλάκις γὰρ καὶ μὴ ἐρωτῶντος ἀλλ’ ὡς συμβαῖνον ἐπιφέροντος ἀρνοῦνται, καὶ τοῦτο ποιοῦντες οὐ δοκοῦσιν ἐλέγχεσθαι τοῖς μὴ συνορῶσιν ὅ τι συμβαίνει ἐκ τῶν τεθέντων. ὅταν οὖν μηδὲ φήσας συμβαίνειν ἐρωτήσῃ, ὁ δ’ ἀρνηθῇ, παντελῶς οὐ δοκεῖ γεγονέναι συλλογισμός.

Οὐ δοκεῖ δὲ πᾶν τὸ καθόλου διαλεκτικὴ πρότασις εἶναι, οἷον “τί ἐστιν ἄνθρωπος;” ἢ “ποσαχῶς λέγεται τἀγαθόν;” ἔστι γὰρ πρότασις διαλεκτικὴ πρὸς ἣν ἔστιν ἀποκρίνασθαι “ναί” ἢ “οὔ”· πρὸς δὲ τὰς εἰρημένας οὐκ ἔστιν. διὸ οὐ διαλεκτικά ἐστι τὰ τοιαῦτα τῶν ἐρωτημάτων, ἂν μὴ αὐτὸς διορίσας ἢ διελόμενος εἴπῃ, οἷον “ἆρά γε τὸ ἀγαθὸν οὕτως ἢ οὕτως λέγεται;” πρὸς γὰρ τὰ τοιαῦτα ῥᾳδία ἡ ἀπόκρισις ἢ καταφήσαντι ἢ ἀποφήσαντι. διὸ πειρατέον οὕτω προτείνειν τὰς τοιαύτας τῶν προτάσεων. ἅμα δὲ καὶ δίκαιον ἴσως παρ’ ἐκείνου ζητεῖν ποσαχῶς λέγεται τὸ ἀγαθόν, ὅταν αὐτοῦ διαιρουμένου καὶ προτείνοντος μηδαμῶς συγχωρῇ.

Ὅστις δ’ ἕνα λόγον πολὺν χρόνον ἐρωτᾷ, κακῶς πυνθάνεται. εἰ μὲν γὰρ ἀποκρινομένου τοῦ ἐρωτωμένου τὸ ἐρωτώμενον, δῆλον ὅτι πολλὰ ἐρωτήματα ἐρωτᾷ ἢ πολλάκις ταὐτά, ὥστε ἢ ἀδολεσχεῖ ἢ οὐκ ἔχει συλλογισμόν (ἐξ ὀλίγων γὰρ πᾶς συλλογισμός)· εἰ δὲ μὴ ἀποκρινομένου, ὅτι οὐκ ἐπιτιμᾷ, ἢ ἀφίσταται.

Ἔστι δ' ἐπιχειρεῖν τε χαλεπὸν καὶ ὑπέχειν ῥᾴδιον τὰς αὐτὰς ὑποθέσεις. ἔστι δὲ τοιαῦτα τά τε φύσει πρῶτα καὶ τὰ ἔσχατα. τὰ μὲν γὰρ πρῶτα ὅρου δεῖται, τὰ δ' ἔσχατα διὰ πολλῶν περαίνεται βουλομένῳ τὸ συνεχὲς λαμβάνειν ἀπὸ τῶν πρώτων, ἢ σοφισματώδη φαίνεται τὰ ἐπιχειρήματα· ἀδύνατον γὰρ ἀποδεῖξαί τι μὴ ἀρξάμενον ἀπὸ τῶν οἰκείων ἀρχῶν καὶ συνείραντα μέχρι τῶν ἐσχάτων. ὁρίζεσθαι μὲν οὖν οὔτ' ἀξιοῦσιν οἱ ἀποκρινόμενοι οὔτ', ἂν ὁ ἐρωτῶν ὁρίζηται, προσέχουσιν· μὴ γενομένου δὲ φανεροῦ τί ποτ' ἐστὶ τὸ [158b] προκείμενον, οὐ ῥᾴδιον ἐπιχειρεῖν. μάλιστα δὲ τὸ τοιοῦτον περὶ τὰς ἀρχὰς συμβαίνει· τὰ μὲν γὰρ ἄλλα διὰ τούτων δείκνυται, ταῦτα δ' οὐκ ἐνδέχεται δι' ἑτέρων, ἀλλ' ἀναγκαῖον ὁρισμῷ τῶν τοιούτων ἕκαστον γνωρίζειν.

Ἔστι δὲ δυσεπιχείρητα καὶ τὰ λίαν ἐγγὺς τῆς ἀρχῆς· οὐ γὰρ ἐνδέχεται πολλοὺς πρὸς αὐτὰ λόγους πορίσασθαι, ὀλίγων ὄντων τῶν ἀνὰ μέσον αὐτῶν τε καὶ τῆς ἀρχῆς, δι' ὧν ἀνάγκη δείκνυσθαι τὰ μετὰ ταῦτα. τῶν δὲ ὅρων δυσεπιχειρητότατοι πάντων εἰσὶν ὅσοι κέχρηνται τοιούτοις ὀνόμασιν ἃ πρῶτον μὲν ἄδηλά ἐστιν εἴτε ἁπλῶς εἴτε πολλαχῶς λέγεται, πρὸς δὲ τούτοις μηδὲ γνώριμα πότερον κυρίως ἢ κατὰ μεταφορὰν ὑπὸ τοῦ ὁρισαμένου λέγεται. διὰ μὲν γὰρ τὸ ἀσαφῆ εἶναι οὐκ ἔχει ἐπιχειρήματα· διὰ δὲ τὸ ἀγνοεῖσθαι εἰ παρὰ τὸ κατὰ μεταφορὰν λέγεσθαι τοιαῦτ' ἐστίν, οὐκ ἔχει ἐπιτίμησιν.

Ὅλως δὲ πᾶν πρόβλημα, ὅταν ᾖ δυσεπιχείρητον, ἢ ὅρου δεῖσθαι ὑποληπτέον ἢ τῶν πολλαχῶς ἢ τῶν κατὰ μεταφορὰν εἶναι λεγομένων ἢ οὐ πόρρω τῶν ἀρχῶν, διὰ τὸ μὴ φανερὸν εἶναι πρῶτον ἡμῖν τοῦτ' αὐτό, κατὰ τίνα ποτὲ τῶν εἰρημένων τρόπων ἐστὶν ὃ τὴν ἀπορίαν παρέχεται· φανεροῦ γὰρ ὄντος τοῦ τρόπου δῆλον ὅτι ἢ ὁρίζεσθαι ἂν δέοι ἢ διαιρεῖσθαι ἢ τὰς ἀνὰ μέσον προτάσεις πορίζεσθαι· διὰ τούτων γὰρ δείκνυται τὰ ἔσχατα.

Πολλαῖς τε τῶν θέσεων μὴ καλῶς ἀποδιδομένου τοῦ ὁρισμοῦ οὐ ῥᾴδιον διαλέγεσθαι καὶ ἐπιχειρεῖν, οἷον πότερον ἓν ἑνὶ ἐναντίον ἢ πλείω· ὁρισθέντων δὲ τῶν ἐναντίων κατὰ τρόπον ῥᾴδιον συμβιβάσαι πότερον ἐνδέχεται πλείω τῷ αὐτῷ εἶναι ἐναντία ἢ οὔ. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων τῶν ὁρισμοῦ δεομένων. ἔοικε δὲ καὶ ἐν τοῖς μαθήμασιν ἔνια δι' ὁρισμοῦ ἔλλειψιν οὐ ῥᾳδίως γράφεσθαι, οἷον ὅτι ἡ παρὰ τὴν πλευρὰν τέμνουσα τὸ ἐπίπεδον ὁμοίως διαιρεῖ τήν τε γραμμὴν καὶ τὸ χωρίον. τοῦ δὲ ὁρισμοῦ ῥηθέντος εὐθέως φανερὸν τὸ λεγόμενον· τὴν γὰρ αὐτὴν ἀνταναίρεσιν ἔχει τὰ χωρία καὶ αἱ γραμμαί· ἔστι δ’ ὁρισμὸς τοῦ αὐτοῦ λόγου οὗτος. ἁπλῶς δὲ τὰ πρῶτα τῶν στοιχείων τιθεμένων μὲν τῶν ὁρισμῶν, οἷον τί γραμμὴ καὶ τί κύκλος, ῥᾷστα δεῖξαι (πλὴν οὐ πολλά γε πρὸς ἕκαστον ἔστι τούτων ἐπιχειρεῖν διὰ τὸ μὴ πολλὰ τὰ ἀνὰ μέσον εἶναι)· ἂν δὲ μὴ τιθῶνται οἱ τῶν ἀρχῶν ὁρισμοί, χαλεπόν, τάχα δ’ ὅλως [159a] ἀδύνατον. ὁμοίως δὲ τούτοις καὶ ἐπὶ τῶν κατὰ τοὺς λόγους ἔχει.

Οὔκουν δεῖ λανθάνειν, ὅταν δυσεπιχείρητος ᾖ ἡ θέσις, ὅτι πέπονθέ τι τῶν εἰρημένων. ὅταν δ’ ᾖ πρὸς τὸ ἀξίωμα καὶ τὴν πρότασιν μεῖζον ἔργον διαλεγῆναι ἢ τὴν θέσιν, διαπορήσειεν ἄν τις πότερον θετέον τὰ τοιαῦτα ἢ οὔ. εἰ γὰρ μὴ θήσει ἀλλ’ ἀξιώσει καὶ πρὸς τοῦτο διαλέγεσθαι, μεῖζον προστάξει τοῦ ἐν ἀρχῇ κειμένου· εἰ δὲ θήσει, πιστεύσει ἐξ ἧττον πιστῶν. εἰ μὲν οὖν δεῖ μὴ χαλεπώτερον τὸ πρόβλημα ποιεῖν, θετέον· εἰ δὲ διὰ γνωριμωτέρων συλλογίζεσθαι, οὐ θετέον. ἢ τῷ μὲν μανθάνοντι οὐ θετέον, ἂν μὴ γνωριμώτερον ᾖ· τῷ δὲ γυμναζομένῳ θετέον, ἂν ἀληθὲς μόνον φαίνηται. ὥστε φανερὸν ὅτι οὐχ ὁμοίως ἐρωτῶντί τε καὶ διδάσκοντι ἀξιωτέον τιθέναι.

Πῶς μὲν οὖν ἐρωτηματίζειν καὶ τάττειν δεῖ, σχεδὸν ἱκανὰ τὰ εἰρημένα. περὶ δ’ ἀποκρίσεως πρῶτον μὲν διοριστέον τί ἐστιν ἔργον τοῦ καλῶς ἀποκρινομένου, καθάπερ τοῦ καλῶς ἐρωτῶντος. ἔστι δὲ τοῦ μὲν ἐρωτῶντος τὸ οὕτως ἐπαγαγεῖν τὸν λόγον ὥστε ποιῆσαι τὸν ἀποκρινόμενον τὰ ἀδοξότατα λέγειν τῶν διὰ τὴν θέσιν ἀναγκαίων, τοῦ δ’ ἀποκρινομένου τὸ μὴ δι’ αὐτὸν φαίνεσθαι συμβαίνειν τὸ ἀδύνατον ἢ τὸ παράδοξον, ἀλλὰ διὰ τὴν θέσιν· ἑτέρα γὰρ ἴσως ἁμαρτία τὸ θέσθαι πρῶτον ὃ μὴ δεῖ καὶ τὸ θέμενον μὴ φυλάξαι κατὰ τρόπον.

Ἐπεὶ δ’ ἔστιν ἀδιόριστα τοῖς γυμνασίας καὶ πείρας ἕνεκα τοὺς λόγους ποιουμένοις (οὐ γὰρ οἱ αὐτοὶ σκοποὶ τοῖς διδάσκουσιν ἢ μανθάνουσι καὶ τοῖς ἀγωνιζομένοις, οὐδὲ τούτοις τε καὶ τοῖς διατρίβουσι μετ’ ἀλλήλων σκέψεως χάριν· τῷ μὲν γὰρ μανθάνοντι θετέον ἀεὶ τὰ δοκοῦντα· καὶ γὰρ οὐδ’ ἐπιχειρεῖ ψεῦδος οὐδεὶς διδάσκειν· τῶν δ’ ἀγωνιζομένων τὸν μὲν ἐρωτῶντα φαίνεσθαί τι δεῖ ποιεῖν πάντως, τὸν δ’ ἀποκρινόμενον μηδὲν φαίνεσθαι πάσχειν· ἐν δὲ ταῖς διαλεκτικαῖς συνόδοις τοῖς μὴ ἀγῶνος χάριν ἀλλὰ πείρας καὶ σκέψεως τοὺς λόγους ποιουμένοις οὐ διήρθρωταί πω τίνος δεῖ στοχάζεσθαι τὸν ἀποκρινόμενον καὶ ποῖα διδόναι καὶ ποῖα μή, πρὸς τὸ καλῶς ἢ μὴ καλῶς φυλάττειν τὴν θέσιν)· ἐπεὶ οὖν οὐδὲν ἔχομεν παραδεδομένον ὑπ’ ἄλλων, αὐτοί τι πειραθῶμεν εἰπεῖν.

Ἀνάγκη δὴ τὸν ἀποκρινόμενον ὑπέχειν λόγον θέμενον ἤτοι ἔνδοξον ἢ ἄδοξον θέσιν ἢ μηδέτερον, καὶ ἤτοι ἁπλῶς [159b] ἔνδοξον ἢ ἄδοξον ἢ ὡρισμένως, οἷον τῳδί τινι, ἢ αὑτῷ ἢ ἄλλῳ. διαφέρει δ' οὐδὲν ὁπωσοῦν ἐνδόξου ἢ ἀδόξου οὔσης· ὁ γὰρ αὐτὸς τρόπος ἔσται τοῦ καλῶς ἀποκρίνασθαι καὶ δοῦναι ἢ μὴ δοῦναι τὸ ἐρωτηθέν. ἀδόξου μὲν οὖν οὔσης τῆς θέσεως ἔνδοξον ἀνάγκη τὸ συμπέρασμα γίνεσθαι, ἐνδόξου δ' ἄδοξον· τὸ γὰρ ἀντικείμενον ἀεὶ τῇ θέσει ὁ ἐρωτῶν συμπεραίνεται. εἰ δὲ μήτ' ἄδοξον μήτ' ἔνδοξον τὸ κείμενον, καὶ τὸ συμπέρασμα ἔσται τοιοῦτον. ἐπεὶ δ' ὁ καλῶς συλλογιζόμενος ἐξ ἐνδοξοτέρων καὶ γνωριμωτέρων τὸ προβληθὲν ἀποδείκνυσι, φανερὸν ὡς ἀδόξου μὲν ὄντος ἁπλῶς τοῦ κειμένου οὐ δοτέον τῷ ἀποκρινομένῳ οὔθ' ὃ μὴ δοκεῖ ἁπλῶς, οὔθ' ὃ δοκεῖ μὲν ἧττον δὲ τοῦ συμπεράσματος δοκεῖ. ἀδόξου γὰρ οὔσης τῆς θέσεως ἔνδοξον τὸ συμπέρασμα, ὥστε δεῖ τὰ λαμβανόμενα ἔνδοξα πάντ' εἶναι καὶ μᾶλλον ἔνδοξα τοῦ προκειμένου, εἰ μέλλει διὰ τῶν γνωριμωτέρων τὸ ἧττον γνώριμον περαίνεσθαι. ὥστ' εἴ τι μὴ τοιοῦτόν ἐστι τῶν ἐρωτωμένων, οὐ θετέον τῷ ἀποκρινομένῳ. εἰ δ' ἔνδοξος ἁπλῶς ἡ θέσις, δῆλον ὅτι τὸ συμπέρασμα ἁπλῶς ἄδοξον. θετέον οὖν τά τε δοκοῦντα πάντα καὶ τῶν μὴ δοκούντων ὅσα ἧττόν ἐστιν ἄδοξα τοῦ συμπεράσματος· ἱκανῶς γὰρ ἂν δόξειε διειλέχθαι. ὁμοίως δέ, εἰ μήτ' ἄδοξος μήτ' ἔνδοξός ἐστιν ἡ θέσις· καὶ γὰρ οὕτως τά τε φαινόμενα πάντα δοτέον καὶ τῶν μὴ δοκούντων ὅσα μᾶλλον ἔνδοξα τοῦ συμπεράσματος· οὕτω γὰρ ἐνδοξοτέρους συμβήσεται τοὺς λόγους γίνεσθαι. εἰ μὲν οὖν ἁπλῶς ἔνδοξον ἢ ἄδοξον τὸ κείμενον, πρὸς τὰ δοκοῦντα ἁπλῶς τὴν σύγκρισιν ποιητέον. εἰ δὲ μὴ ἁπλῶς ἔνδοξον ἢ ἄδοξον τὸ κείμενον ἀλλὰ τῷ ἀποκρινομένῳ, πρὸς αὑτὸν τὸ δοκοῦν καὶ τὸ μὴ δοκοῦν κρίνοντα θετέον ἢ οὐ θετέον. ἂν δ' ἑτέρου δόξαν διαφυλάττῃ ὁ ἀποκρινόμενος, δῆλον ὅτι πρὸς τὴν ἐκείνου διάνοιαν ἀποβλέποντα θετέον ἕκαστα καὶ ἀρνητέον. διὸ καὶ οἱ κομίζοντες ἀλλοτρίας δόξας, οἷον ἀγαθὸν καὶ κακὸν εἶναι ταὐτόν, καθάπερ Ἡράκλειτός φησιν, οὐ διδόασι μὴ παρεῖναι ἅμα τῷ αὐτῷ τἀναντία, οὐχ ὡς οὐ δοκοῦν αὐτοῖς τουτο, ἀλλ' ὅτι καθ' Ἡράκλειτον οὕτω λεκτέον. ποιοῦσι δὲ τοῦτο καὶ οἱ παρ' ἀλλήλων δεχόμενοι τὰς θέσεις· στοχάζονται γὰρ ὡς ἂν εἴπειεν ὁ θέμενος.

Φανερὸν οὖν τίνων στοχαστέον τῷ ἀποκρινομένῳ, εἴτε ἁπλῶς ἔνδοξον εἴτε τινὶ τὸ κείμενόν ἐστιν. ἐπεὶ δ' ἀνάγκη πᾶν τὸ ἐρωτώμενον ἢ ἔνδοξον εἶναι ἢ ἄδοξον ἢ μηδέτερον, καὶ ἢ πρὸς τὸν λόγον ἢ μὴ πρὸς τὸν λόγον εἶναι τὸ ἐρωτώμενον, [160a] ἐὰν μὲν ᾖ δοκοῦν καὶ μὴ πρὸς τὸν λόγον, δοτέον φήσαντα δοκεῖν, ἐὰν δὲ μὴ δοκοῦν καὶ μὴ πρὸς τὸν λόγον, δοτέον μέν, ἐπισημαντέον δὲ τὸ μὴ δοκεῖν, πρὸς εὐλάβειαν εὐηθείας. ὄντος δὲ πρὸς τὸν λόγον καὶ δοκοῦντος λεκτέον ὅτι δοκεῖ μέν, ἀλλὰ λίαν σύνεγγυς τοῦ ἐν ἀρχῇ ἐστι καὶ ἀναιρεῖται τούτου τεθέντος τὸ κείμενον. εἰ δὲ πρὸς τὸν λόγον, λίαν δ’ ἄδοξον τὸ ἀξίωμα, συμβαίνειν μὲν φατέον τούτου τεθέντος, ἀλλὰ λίαν εὔηθες εἶναι τὸ προτεινόμενον. εἰ δὲ μήτ’ ἄδοξον μήτ’ ἔνδοξον, εἰ μὲν μηδὲν πρὸς τὸν λόγον, δοτέον μηδὲν διορίσαντι, εἰ δὲ πρὸς τὸν λόγον, ἐπισημαντέον ὅτι ἀναιρεῖται τεθέντος τὸ ἐν ἀρχῇ. οὕτω γὰρ ὅ τ’ ἀποκρινόμενος οὐδὲν δόξει δι’ αὐτὸν πάσχειν, ἐὰν προορῶν ἕκαστα τιθῇ, ὅ τ’ ἐρωτῶν τεύξεται συλλογισμοῦ τιθεμένων αὐτῷ πάντων τῶν ἐνδοξοτέρων τοῦ συμπεράσματος. ὅσοι δ’ ἐξ ἀδοξοτέρων τοῦ συμπεράσματος ἐπιχειροῦσι συλλογίζεσθαι, δῆλον ὡς οὐ καλῶς συλλογίζονται· διὸ τοῖς ἐρωτῶσιν οὐ θετέον.

Ὁμοίως δὲ καὶ ἐπὶ τῶν ἀσαφῶς καὶ πλεοναχῶς λεγομένων ἀπαντητέον. ἐπεὶ γὰρ δέδοται τῷ ἀποκρινομένῳ μὴ μανθάνοντι εἰπεῖν ὅτι “οὐ μανθάνω”, καὶ πλεοναχῶς λεγομένου μὴ ἐξ ἀνάγκης ὁμολογῆσαι ἢ ἀρνήσασθαι, δῆλον ὡς πρῶτον μέν, ἂν μὴ σαφὲς ᾖ τὸ ῥηθέν, οὐκ ἀποκνητέον τὸ φάναι μὴ συνιέναι· πολλάκις γὰρ ἐκ τοῦ μὴ σαφῶς ἐρωτηθέντας διδόναι ἀπαντᾷ τι δυσχερές. ἂν δὲ γνώριμον μὲν ᾖ πλεοναχῶς δὲ λεγόμενον, ἐὰν μὲν ἐπὶ πάντων ἀληθὲς ἢ ψεῦδος ᾖ τὸ λεγόμενον, δοτέον ἁπλῶς ἢ ἀρνητέον, ἐὰν δ’ ἐπὶ τὶ μὲν ψεῦδος ᾖ ἐπὶ τὶ δ’ ἀληθές, ἐπισημαντέον ὅτι πλεοναχῶς λέγεται καὶ ὅτι τὸ μὲν ψεῦδος τὸ δ’ ἀληθές· ὕστερον γὰρ διαιρουμένου ἄδηλον εἰ καὶ ἐν ἀρχῇ συνεώρα τὸ ἀμφίβολον. ἐὰν δὲ μὴ προΐδῃ τὸ ἀμφίβολον ἀλλ’ εἰς θάτερον βλέψας θῇ, ῥητέον πρὸς τὸν ἐπὶ θάτερον ἄγοντα ὅτι “οὐκ εἰς τοῦτο βλέπων ἔδωκα ἀλλ’ εἰς θάτερον αὐτῶν”· πλειόνων γὰρ ὄντων τῶν ὑπὸ ταὐτὸν ὄνομα ἢ λόγον ῥᾳδία ἡ ἀμφισβήτησις. ἐὰν δὲ καὶ σαφὲς ᾖ καὶ ἁπλοῦν τὸ ἐρωτώμενον, ἢ “ναί” ἢ “οὔ” ἀποκριτέον.

Ἐπεὶ δὲ πᾶσα πρότασις συλλογιστικὴ ἢ τούτων τίς ἐστιν ἐξ ὧν ὁ συλλογισμὸς ἤ τινος τούτων ἕνεκα (δῆλον δ’ ὅταν ἑτέρου χάριν λαμβάνηται τῷ πλείω τὰ ὅμοια ἐρωτᾶν· ἢ γὰρ δι’ ἐπαγωγῆς ἢ δι’ ὁμοιότητος ὡς ἐπὶ τὸ πολὺ τὸ καθόλου λαμβάνουσιν), τὰ μὲν οὖν καθ’ ἕκαστα πάντα θετέον, ἂν [160b] ᾖ ἀληθῆ καὶ ἔνδοξα, πρὸς δὲ τὸ καθόλου πειρατέον ἔνστασιν φέρειν· τὸ γὰρ ἄνευ ἐνστάσεως ἢ οὔσης ἢ δοκούσης κωλύειν τὸν λόγον δυσκολαίνειν ἐστίν. εἰ οὖν ἐπὶ πολλῶν φαινομένου μὴ δίδωσι τὸ καθόλου, μὴ ἔχων ἔνστασιν, φανερὸν ὅτι δυσκολαίνει. ἔτι εἰ μηδ’ ἀντεπιχειρεῖν ἔχει ὅτι οὐκ ἀληθές, πολλῷ μᾶλλον ἂν δόξειε δυσκολαίνειν. (καίτοι οὐδὲ τοῦθ’ ἱκανόν· πολλοὺς γὰρ λόγους ἔχομεν ἐναντίους ταῖς δόξαις, οὓς χαλεπὸν λύειν, καθάπερ τὸν Ζήνωνος ὅτι οὐκ ἐνδέχεται κινεῖσθαι οὐδὲ τὸ στάδιον διελθεῖν, ἀλλ’ οὐ διὰ τοῦτο τἀντικείμενα τούτοις οὐ θετέον.) εἰ οὖν μήτ’ ἀντεπιχειρεῖν ἔχων μήτ’ ἐνίστασθαι μὴ τίθησι, δῆλον ὅτι δυσκολαίνει· ἔστι γὰρ ἡ ἐν λόγοις δυσκολία ἀπόκρισις παρὰ τοὺς εἰρημένους τρόπους, συλλογισμοῦ φθαρτική.

Ὑπέχειν δὲ καὶ θέσιν καὶ ὁρισμὸν αὐτὸν αὑτῷ δεῖ προεπιχειρήσαντα· ἐξ ὧν γὰρ ἀναιροῦσιν οἱ πυνθανόμενοι τὸ κείμενον, δῆλον ὅτι τούτοις ἐναντιωτέον.

Ἄδοξον δ’ ὑπόθεσιν εὐλαβητέον ὑπέχειν. εἴη δ’ ἂν ἄδοξος διχῶς· καὶ γὰρ ἐξ ἧς ἄτοπα συμβαίνει λέγειν, οἷον εἰ πάντα φαίη τις κινεῖσθαι ἢ μηδέν, καὶ ὅσα χείρονος ἤθους ἑλέσθαι καὶ ὑπεναντία ταῖς βουλήσεσιν, οἷον ὅτι ἡδονὴ τἀγαθόν, καὶ τὸ ἀδικεῖν βέλτιον τοῦ ἀδικεῖσθαι· οὐ γὰρ ὡς λόγου χάριν ὑπέχοντα ἀλλ’ ὡς τὰ δοκοῦντα λέγοντα μισοῦσιν.

Ὅσοι δὲ τῶν λόγων ψεῦδος συλλογίζονται, λυτέον ἀναιροῦντα παρ’ ὃ γίνεται τὸ ψεῦδος· οὐ γὰρ ὁ ὁτιοῦν ἀνελὼν λέλυκεν, οὐδ’ εἰ ψεῦδός ἐστι τὸ ἀναιρούμενον. ἔχοι γὰρ ἂν πλείω ψεύδη ὁ λόγος, οἷον ἐάν τις λάβῃ τὸν καθήμενον γράφειν, Σωκράτη δὲ καθῆσθαι· συμβαίνει γὰρ ἐκ τούτων Σωκράτη γράφειν. ἀναιρεθέντος οὖν τοῦ Σωκράτη καθῆσθαι οὐδὲν μᾶλλον λέλυται ὁ λόγος· καίτοι ψεῦδος τὸ ἀξίωμα. ἀλλ’ οὐ παρὰ τοῦτο ὁ λόγος ψευδής· ἂν γάρ τις τύχῃ καθήμενος μὲν μὴ γράφων δέ, οὐκέτι ἐπὶ τοῦ τοιούτου ἡ αὐτὴ λύσις ἁρμόσει. ὥστε οὐ τοῦτο ἀναιρετέον, ἀλλὰ τὸ τὸν καθήμενον γράφειν· οὐ γὰρ πᾶς ὁ καθήμενος γράφει. λέλυκε μὲν οὖν πάντως ὁ ἀνελὼν παρ’ ὃ γίνεται τὸ ψεῦδος, οἶδε δὲ τὴν λύσιν ὁ εἰδὼς ὅτι παρὰ τοῦτο ὁ λόγος, καθάπερ ἐπὶ τῶν ψευδογραφουμένων. οὐ γὰρ ἀπόχρη τὸ ἐνστῆναι, οὐδ’ ἂν ψεῦδος ᾖ τὸ ἀναιρούμενον, ἀλλὰ καὶ διότι ψεῦδος ἀποδεικτέον· οὕτω γὰρ ἂν εἴη φανερὸν πότερον προορῶν τι ἢ οὔ ποιεῖται τὴν ἔνστασιν.

[161a] Ἔστι δὲ λόγον κωλῦσαι συμπεράνασθαι τετραχῶς. ἢ γὰρ ἀνελόντα παρ’ ὃ γίνεται τὸ ψεῦδος, ἢ πρὸς τὸν ἐρωτῶντα ἔνστασιν εἰπόντα· πολλάκις γὰρ οὐ λέλυκε μέν, ὁ μέντοι πυνθανόμενος οὐ δύναται πορρωτέρω προαγαγεῖν. τρίτον δὲ πρὸς τὰ ἠρωτημένα· συμβαίη γὰρ ἂν ἐκ μὲν τῶν ἠρωτημένων μὴ γίνεσθαι ὃ βούλεται διὰ τὸ κακῶς ἠρωτῆσθαι, προστεθέντος δέ τινος γίνεσθαι τὸ συμπέρασμα. εἰ μὲν οὖν μηκέτι δύναται προάγειν ὁ ἐρωτῶν, πρὸς τὸν ἐρωτῶντα εἴη ἂν ἡ ἔνστασις, εἰ δὲ δύναται, πρὸς τὰ ἠρωτημένα. τετάρτη δὲ καὶ χειρίστη τῶν ἐνστάσεων ἡ πρὸς τὸν χρόνον· ἔνιοι γὰρ τοιαῦτα ἐνίστανται πρὸς ἃ διαλεχθῆναι πλείονός ἐστι χρόνου [ἢ] τῆς παρούσης διατριβῆς.

Αἱ μὲν οὖν ἐνστάσεις, καθάπερ εἴπαμεν, τετραχῶς γίνονται· λύσις δ’ ἐστὶ τῶν εἰρημένων ἡ πρώτη μόνον, αἱ δὲ λοιπαὶ κωλύσεις τινὲς καὶ ἐμποδισμοὶ τῶν συμπερασμάτων.

Ἐπιτίμησις δὲ λόγου κατ᾽ αὐτόν τε τὸν λόγον καὶ ὅταν ἐρωτᾶται οὐχ ἡ αὐτή. πολλάκις γὰρ τοῦ μὴ καλῶς διειλέχθαι τὸν λόγον ὁ ἐρωτώμενος αἴτιος διὰ τὸ μὴ συγχωρεῖν ἐξ ὧν ἦν διαλεχθῆναι καλῶς πρὸς τὴν θέσιν· οὐ γὰρ ἔστιν ἐπὶ θατέρῳ μόνον τὸ καλῶς ἐπιτελεσθῆναι τὸ κοινὸν ἔργον. ἀναγκαῖον οὖν ἐνίοτε πρὸς τὸν λέγοντα καὶ μὴ πρὸς τὴν θέσιν ἐπιχειρεῖν, ὅταν ὁ ἀποκρινόμενος τἀναντία τῷ ἐρωτῶντι παρατηρῇ προσεπηρεάζων. δυσκολαίνοντες οὖν ἀγωνιστικὰς καὶ οὐ διαλεκτικὰς ποιοῦνται τὰς διατριβάς. ἔτι δ᾽ ἐπεὶ γυμνασίας καὶ πείρας χάριν ἀλλ᾽ οὐ διδασκαλίας οἱ τοιοῦτοι τῶν λόγων, δῆλον ὡς οὐ μόνον τἀληθῆ συλλογιστέον ἀλλὰ καὶ ψεῦδος, οὐδὲ δι᾽ ἀληθῶν ἀεὶ ἀλλ᾽ ἐνίοτε καὶ ψευδῶν· πολλάκις γὰρ ἀληθοῦς τεθέντος ἀναιρεῖν ἀνάγκη τὸν διαλεγόμενον, ὥστε προτατέον τὰ ψευδῆ. ἐνίοτε δὲ καὶ ψεύδους τεθέντος ἀναιρετέον διὰ ψευδῶν· οὐδὲν γὰρ κωλύει τινὶ δοκεῖν τὰ μὴ ὄντα μᾶλλον τῶν ἀληθῶν, ὥστ᾽ ἐκ τῶν ἐκείνῳ δοκούντων τοῦ λόγου γινομένου μᾶλλον ἔσται πεπεισμένος ἢ ὠφελημένος. δεῖ δὲ τὸν καλῶς μεταβιβάζοντα διαλεκτικῶς καὶ μὴ ἐριστικῶς μεταβιβάζειν, καθάπερ τὸν γεωμέτρην γεωμετρικῶς, ἄν τε ψεῦδος ἄν τ᾽ ἀληθὲς ᾖ τὸ συμπεραινόμενον· ποῖοι δὲ διαλεκτικοὶ συλλογισμοί, πρότερον εἴρηται. ἐπεὶ δὲ φαῦλος κοινωνὸς ὁ ἐμποδίζων τὸ κοινὸν ἔργον, δῆλον ὅτι καὶ ἐν λόγῳ. κοινὸν γάρ τι καὶ ἐν τούτοις προκείμενόν ἐστι, πλὴν τῶν ἀγωνιζομένων. τούτοις δ᾽ οὐκ ἔστιν ἀμφοτέροις τυχεῖν τοῦ αὐτοῦ τέλους· πλείους γὰρ ἑνὸς ἀδύνατον [161b] νικᾶν. διαφέρει δ᾽ οὐδέν, ἄν τε διὰ τοῦ ἀποκρίνεσθαι ἄν τε διὰ τοῦ ἐρωτᾶν ποιῇ τοῦτο· ὅ τε γὰρ ἐριστικῶς ἐρωτῶν φαύλως διαλέγεται, ὅ τ᾽ ἐν τῷ ἀποκρίνεσθαι μὴ διδοὺς τὸ φαινόμενον μηδ᾽ ἐκδεχόμενος ὅ τί ποτε βούλεται ὁ ἐρωτῶν πυθέσθαι. δῆλον οὖν ἐκ τῶν εἰρημένων ὅτι οὐχ ὁμοίως ἐπιτιμητέον καθ᾽ αὑτόν τε τῷ λόγῳ καὶ τῷ ἐρωτῶντι· οὐδὲν γὰρ κωλύει τὸν μὲν λόγον φαῦλον εἶναι, τὸν δ᾽ ἐρωτῶντα ὡς ἐνδέχεται βέλτιστα πρὸς τὸν ἀποκρινόμενον διειλέχθαι. πρὸς γὰρ τοὺς δυσκολαίνοντας οὐ δυνατὸν ἴσως εὐθὺς οἵους τις βούλεται ἀλλ᾽ οἵους ἐνδέχεται ποιεῖσθαι τοὺς συλλογισμούς.

Ἐπεὶ δ᾽ ἐστὶν ἀδιόριστον πότε τἀναντία καὶ πότε τὰ ἐν ἀρχῇ λαμβάνουσιν οἱ ἄνθρωποι (πολλάκις γὰρ καθ᾽ αὑτοὺς λέγοντες τὰ ἐναντία λέγουσι, καὶ ἀνανεύσαντες πρότερον διδόασιν ὕστερον· διόπερ ἐρωτώμενοι τἀναντία καὶ τὸ ἐν ἀρχῇ πολλάκις ὑπακούουσιν), ἀνάγκη φαύλους γίνεσθαι τοὺς λόγους. αἴτιος δ᾽ ὁ ἀποκρινόμενος, τὰ μὲν οὐ διδούς, τὰ δὲ τοιαῦτα διδούς. φανερὸν οὖν ὡς οὐχ ὁμοίως ἐπιτιμητέον τοῖς ἐρωτῶσι καὶ τοῖς λόγοις.

Καθ’ αὑτὸν δὲ τῷ λόγῳ πέντ’ εἰσὶν ἐπιτιμήσεις· πρώτη μὲν ὅταν ἐκ τῶν ἐρωτωμένων μὴ συμπεραίνηται μήτε τὸ προτεθὲν μήτε ὅλως μηδέν, ὄντων ψευδῶν ἢ ἀδόξων, ἢ ἁπάντων ἢ τῶν πλείστων, ἐν οἷς τὸ συμπέρασμα, καὶ μήτ’ ἀφαιρεθέντων τινῶν μήτε προστεθέντων μήτε τῶν μὲν ἀφαιρεθέντων τῶν δὲ προστεθέντων γίνηται τὸ συμπέρασμα. δευτέρα δὲ εἰ πρὸς τὴν θέσιν μὴ γίνοιτο ὁ συλλογισμὸς ἐκ τοιούτων τε καὶ οὕτως ὡς εἴρηται πρότερον. τρίτη δ’ εἰ προστεθέντων τινῶν γίνοιτο συλλογισμός, ταῦτα δ’ εἴη χείρω τῶν ἐρωτηθέντων καὶ ἧττον ἔνδοξα τοῦ συμπεράσματος. πάλιν εἰ ἀφαιρεθέντων τινῶν· ἐνίοτε γὰρ πλείω λαμβάνουσι τῶν ἀναγκαίων, ὥστε οὐ τῷ ταῦτ’ εἶναι γίνεται ὁ συλλογισμός. ἔτι εἰ ἐξ ἀδοξοτέρων καὶ ἧττον πιστῶν τοῦ συμπεράσματος, ἢ εἰ ἐξ ἀληθῶν ἀλλὰ πλείονος ἔργου δεομένων ἀποδεῖξαι τοῦ προβλήματος.

Οὐ δεῖ δὲ πάντων τῶν προβλημάτων ὁμοίως ἀξιοῦν τοὺς συλλογισμοὺς ἐνδόξους εἶναι καὶ πιθανούς· φύσει γὰρ εὐθὺς ὑπάρχει τὰ μὲν ῥᾴω τὰ δὲ χαλεπώτερα τῶν ζητουμένων, ὥστ’ ἐὰν ἐξ ὧν ἐνδέχεται μάλιστα ἐνδόξων συμβιβάσῃ, διείλεκται καλῶς. φανερὸν οὖν ὅτι οὐδὲ λόγῳ ἡ αὐτὴ ἐπιτίμησις πρός τε τὸ προβληθὲν καὶ καθ’ αὑτόν· οὐδὲν γὰρ κωλύει καθ’ αὑτὸν μὲν εἶναι τὸν λόγον ψεκτόν, πρὸς δὲ τὸ [162a] πρόβλημα ἐπαινετόν, καὶ πάλιν ἀντεστραμμένως καθ’ αὑτὸν μὲν ἐπαινετόν, πρὸς δὲ τὸ πρόβλημα ψεκτόν, ὅταν ἐκ πολλῶν ᾖ ῥᾴδιον ἐνδόξων συμπεράνασθαι καὶ ἀληθῶν. εἴη δ’ ἄν ποτε λόγος καὶ συμπεπερασμένος μὴ συμπεπερασμένου χείρων, ὅταν ὁ μὲν ἐξ εὐήθων συμπεραίνηται μὴ τοιούτου τοῦ προβλήματος ὄντος, ὁ δὲ προσδέηται τοιούτων ἅ ἐστιν ἔνδοξα καὶ ἀληθῆ, καὶ μὴ ἐν τοῖς προσλαμβανομένοις ᾖ ὁ λόγος. τοῖς δὲ διὰ ψευδῶν ἀληθὲς συμπεραινομένοις οὐ δίκαιον ἐπιτιμᾶν· ψεῦδος μὲν γὰρ ἀεὶ ἀνάγκη διὰ ψευδῶν συλλογίζεσθαι, τὸ δ’ ἀληθὲς ἔστι καὶ διὰ ψευδῶν ποτε συλλογίζεσθαι. φανερὸν δ’ ἐκ τῶν Ἀναλυτικῶν.

Ὅταν δ’ ἀπόδειξις ᾖ τινος ὁ εἰρημένος λόγος, εἴ τί ἐστιν ἄλλο πρὸς τὸ συμπέρασμα μηδαμῶς ἔχον, οὐκ ἔσται περὶ ἐκείνου συλλογισμός· ἂν δὲ φαίνηται, σόφισμα ἔσται, οὐκ ἀπόδειξις. ἔστι δὲ φιλοσόφημα μὲν συλλογισμὸς ἀποδεικτικός, ἐπιχείρημα δὲ συλλογισμὸς διαλεκτικός, σόφισμα δὲ συλλογισμὸς ἐριστικός, ἀπόρημα δὲ συλλογισμὸς διαλεκτικὸς ἀντιφάσεως.

Εἰ δ’ ἐξ ἀμφοτέρων τι δοκούντων δειχθείη, μὴ ὁμοίως δὲ δοκούντων, οὐδὲν κωλύει τὸ δειχθὲν μᾶλλον ἑκατέρου δοκεῖν. ἀλλ’ εἰ τὸ μὲν δοκοίη τὸ δὲ μηδετέρως, ἢ εἰ τὸ μὲν δοκοίη τὸ δὲ μὴ δοκοίη, εἰ μὲν ὁμοίως, ὁμοίως ἂν εἴη καὶ ‹δοκοῦν καὶ› μή, εἰ δὲ μᾶλλον θάτερον, ἀκολουθήσει τῷ μᾶλλον.

Ἔστι δέ τις ἁμαρτία καὶ αὕτη περὶ τοὺς συλλογισμούς, ὅταν δείξῃ διὰ μακροτέρων, ἐνὸν δι᾽ ἐλαττόνων καὶ ἐν τῷ λόγῳ ὑπαρχόντων, οἷον ὅτι ἔστι δόξα μᾶλλον ἑτέρα ἑτέρας, εἴ τις αἰτήσαιτο αὐτοέκαστον μάλιστ᾽ εἶναι, εἶναι δὲ δοξαστὸν ἀληθῶς αὐτό, ὥστε τῶν τινῶν μᾶλλον εἶναι αὐτό· πρὸς δὲ τὸ μᾶλλον μᾶλλον τὸ λεγόμενον εἶναι· εἶναι δὲ καὶ αὐτοδόξαν ἀληθῆ, ἣ ἔσται μᾶλλον ἀκριβὴς τῶν τινῶν· ᾔτηται δὲ καὶ αὐτοδόξαν ἀληθῆ εἶναι καὶ αὐτοέκαστον μάλιστ᾽ εἶναι· ὥστε αὕτη δόξα ἀκριβεστέρα ἐστίν. τίς δὲ ἡ μοχθηρία; ἦ ὅτι ποιεῖ, παρ᾽ ὃ ὁ λόγος, λανθάνειν τὸ αἴτιον;

Λόγος δ᾽ ἐστὶ δῆλος ἕνα μὲν τρόπον καὶ δημοσιώτατον, ἐὰν ᾖ συμπεπερασμένος οὕτως ὥστε μηδὲν δεῖν ἐπερωτῆσαι· ἕνα δὲ καὶ ὃς μάλιστα λέγεται, ὅταν εἰλημμένα [162b] μὲν ᾖ ἐξ ὧν ἀναγκαῖον εἶναι, ᾖ δὲ διὰ συμπερασμάτων συμπεραινόμενος· ἔτι εἰ ἐλλείπει τι σφόδρα ἔνδοξον.

Ψευδὴς δὲ λόγος καλεῖται τετραχῶς· ἕνα μὲν τρόπον ὅταν φαίνηται συμπεραίνεσθαι μὴ συμπεραινόμενος, ὃ καλεῖται ἐριστικὸς συλλογισμός. ἄλλον δὲ ὅταν συμπεραίνηται μέν, μὴ μέντοι πρὸς τὸ προκείμενον (ὅπερ συμβαίνει μάλιστα τοῖς εἰς ἀδύνατον ἄγουσιν), ἢ πρὸς τὸ προκείμενον μὲν συμπεραίνηται, μὴ μέντοι κατὰ τὴν οἰκείαν μέθοδον. τοῦτο δ᾽ ἐστίν, ὅταν μὴ ὢν ἰατρικὸς δοκῇ ἰατρικὸς εἶναι, ἢ γεωμετρικὸς μὴ ὢν γεωμετρικός, ἢ διαλεκτικὸς μὴ ὢν διαλεκτικός, ἄν τε ψεῦδος ἄν τ᾽ ἀληθὲς ᾖ τὸ συμβαῖνον. ἄλλον δὲ τρόπον ἐὰν διὰ ψευδῶν συμπεραίνηται. τούτου δ᾽ ἔσται ποτὲ μὲν τὸ συμπέρασμα ψεῦδος, ποτὲ δ᾽ ἀληθές· τὸ μὲν γὰρ ψεῦδος ἀεὶ διὰ ψευδῶν περαίνεται, τὸ δ᾽ ἀληθὲς ἐγχωρεῖ καὶ μὴ ἐξ ἀληθῶν, ὥσπερ εἴρηται καὶ πρότερον.

Τὸ μὲν οὖν ψευδῆ τὸν λόγον εἶναι τοῦ λέγοντος ἁμάρτημα μᾶλλον ἢ τοῦ λόγου, καὶ οὐδὲ τοῦ λέγοντος ἀεί, ἀλλ᾽ ὅταν λανθάνῃ αὐτόν· ἐπεὶ καθ᾽ αὑτόν γε πολλῶν ἀληθῶν ἀποδεχόμεθα μᾶλλον, ἂν ἐξ ὅτι μάλιστα δοκούντων ἀναιρῇ τι τῶν ἀληθῶν. τοιοῦτος γὰρ ὢν ἑτέρων ἀληθῶν ἀπόδειξίς ἐστιν· δεῖ γὰρ τῶν κειμένων τι μὴ εἶναι παντελῶς, ὥστ᾽ ἔσται τούτου ἀπόδειξις. εἰ δ᾽ ἀληθὲς συμπεραίνοιτο διὰ ψευδῶν καὶ λίαν εὐήθων, πολλῶν ἂν εἴη χείρων ψεῦδος συλλογιζομένων· εἴη δ᾽ ἂν τοιοῦτος καὶ ψεῦδος συμπεραινόμενος· ὥστε δῆλον ὅτι πρώτη μὲν ἐπίσκεψις λόγου καθ᾽ αὑτὸν εἰ συμπεραίνεται, δευτέρα δὲ πότερον ἀληθὲς ἢ ψεῦδος, τρίτη δ᾽ ἐκ ποίων τινῶν. εἰ μὲν γὰρ ἐκ ψευδῶν ἐνδόξων δέ, λογικός· εἰ δ᾽ ἐξ ὄντων μὲν ἀδόξων δέ, φαῦλος· εἰ δὲ καὶ ψευδῆ καὶ λίαν ἄδοξα, δῆλον ὅτι φαῦλος ἢ ἁπλῶς ἢ τοῦ πράγματος.

Τὸ δὲ ἐν ἀρχῇ καὶ τὰ ἐναντία πῶς αἰτεῖται ὁ ἐρωτῶν, κατ' ἀλήθειαν μὲν ἐν τοῖς Ἀναλυτικοῖς εἴρηται, κατὰ δόξαν δὲ νῦν λεκτέον.

Αἰτεῖσθαι δὲ φαίνονται τὸ ἐν ἀρχῇ πενταχῶς. φανερώτατα μὲν καὶ πρῶτον, εἴ τις αὐτὸ τὸ δείκνυσθαι δέον αἰτήσειεν. τοῦτο δ' ἐπ' αὐτοῦ μὲν οὐ ῥᾴδιον λανθάνειν, ἐν δὲ τοῖς συνωνύμοις καὶ ἐν ὅσοις τὸ ὄνομα καὶ ὁ λόγος τὸ αὐτὸ [163a] σημαίνει, μᾶλλον. δεύτερον δέ, ὅταν κατὰ μέρος δέον ἀποδεῖξαι καθόλου τις αἰτήσῃ, οἷον ‹εἰ›, ἐπιχειρῶν ὅτι τῶν ἐναντίων μία ἐπιστήμη, ὅλως τῶν ἀντικειμένων ἀξιώσειε μίαν εἶναι· δοκεῖ γὰρ ὃ ἔδει καθ' αὑτὸ δεῖξαι μετ' ἄλλων αἰτεῖσθαι πλειόνων. τρίτον εἴ τις καθόλου δεῖξαι προκειμένου κατὰ μέρος αἰτήσειεν, οἷον εἰ πάντων τῶν ἐναντίων προκειμένου τῶνδέ τινων ἀξιώσειε· δοκεῖ γὰρ καὶ οὗτος, ὃ μετὰ πλειόνων ἔδει δεῖξαι, καθ' αὑτὸ χωρὶς αἰτεῖσθαι. πάλιν εἴ τις διελὼν αἰτεῖται τὸ πρόβλημα, οἷον εἰ, δέον δεῖξαι τὴν ἰατρικὴν ὑγιεινοῦ καὶ νοσώδους, χωρὶς ἑκάτερον ἀξιώσειεν, ἢ εἴ τις τῶν ἑπομένων ἀλλήλοις ἐξ ἀνάγκης θάτερον αἰτήσειεν, οἷον τὴν πλευρὰν ἀσύμμετρον εἶναι τῇ διαμέτρῳ, δέον ἀποδεῖξαι ὅτι ἡ διάμετρος τῇ πλευρᾷ.

Ἰσαχῶς δὲ καὶ τἀναντία αἰτοῦνται τῷ ἐξ ἀρχῆς. πρῶτον μὲν γὰρ εἴ τις τὰ ἀντικείμενα αἰτήσαιτο, φάσιν καὶ ἀπόφασιν, δεύτερον δὲ τἀναντία κατὰ τὴν ἀντίθεσιν, οἷον ἀγαθὸν καὶ κακὸν ταὐτόν. τρίτον εἴ τις τὸ καθόλου ἀξιώσας ἐπὶ μέρους αἰτοῖτο τὴν ἀντίφασιν, οἷον εἰ, λαβὼν τῶν ἐναντίων μίαν ἐπιστήμην, ὑγιεινοῦ καὶ νοσώδους ἑτέραν ἀξιώσειεν, ἤ, τοῦτο αἰτησάμενος, ἐπὶ τοῦ καθόλου τὴν ἀντίφασιν πειρῷτο λαμβάνειν. πάλιν ἐάν τις αἰτήσῃ τὸ ἐναντίον τῷ ἐξ ἀνάγκης συμβαίνοντι διὰ τῶν κειμένων, κἂν εἴ τις αὐτὰ μὲν μὴ λάβοι τὰ ἀντικείμενα, τοιαῦτα δ' αἰτήσαιτο δύο ἐξ ὧν ἔσται ἡ ἀντικειμένη ἀντίφασις. διαφέρει δὲ τὸ τἀναντία λαμβάνειν τοῦ ‹τὸ› ἐν ἀρχῇ, ὅτι τοῦ μὲν ἐστιν ἡ ἁμαρτία πρὸς τὸ συμπέρασμα (πρὸς γὰρ ἐκεῖνο βλέποντες τὸ ἐν ἀρχῇ λέγομεν αἰτεῖσθαι), τὰ δ' ἐναντία ἐστὶν ἐν ταῖς προτάσεσι τῷ ἔχειν πως ταύτας πρὸς ἀλλήλας.

Πρὸς δὲ γυμνασίαν καὶ μελέτην τῶν τοιούτων λόγων πρῶτον μὲν ἀντιστρέφειν ἐθίζεσθαι χρὴ τοὺς λόγους· οὕτως γὰρ πρός τε τὸ λεγόμενον εὐπορώτερον ἕξομεν καὶ ἐν ὀλίγοις πολλοὺς ἐξεπιστησόμεθα λόγους. τὸ γὰρ ἀντιστρέφειν ἐστὶ τὸ μεταλαβόντα τὸ συμπέρασμα μετὰ τῶν λοιπῶν ἐρωτημάτων ἀνελεῖν ἓν τῶν δοθέντων· ἀνάγκη γάρ, εἰ τὸ συμπέρασμα μὴ ἔστι, μίαν τινὰ ἀναιρεῖσθαι τῶν προτάσεων, εἴπερ πασῶν τεθεισῶν ἀνάγκη ἦν τὸ συμπέρασμα εἶναι. πρὸς ἅπασάν τε θέσιν, καὶ ὅτι οὕτως καὶ ὅτι οὐχ οὕτως, τὸ ἐπιχείρημα [163b] σκεπτέον, καὶ εὑρόντα τὴν λύσιν εὐθὺς ζητητέον· οὕτω γὰρ ἅμα συμβήσεται πρός τε τὸ ἐρωτᾶν καὶ πρὸς τὸ ἀποκρίνεσθαι γεγυμνάσθαι, κἂν πρὸς μηδένα ἄλλον ἔχωμεν, πρὸς αὑτούς. παράλληλά τε παραβάλλειν ἐκλέγοντα πρὸς τὴν αὐτὴν θέσιν ἐπιχειρήματα· τοῦτο γὰρ πρός τε τὸ βιάζεσθαι πολλὴν εὐπορίαν ποιεῖ καὶ πρὸς τὸ ἐλέγχειν μεγάλην ἔχει βοήθειαν, ὅταν εὐπορῇ τις καὶ ὅτι οὕτως καὶ ὅτι οὐχ οὕτως (πρὸς τὰ ἐναντία γὰρ συμβαίνει ποιεῖσθαι τὴν φυλακήν)· πρός τε γνῶσιν καὶ τὴν κατὰ φιλοσοφίαν φρόνησιν τὸ δύνασθαι συνορᾶν καὶ συνεωρακέναι τὰ ἀφ' ἑκατέρας συμβαίνοντα τῆς ὑποθέσεως οὐ μικρὸν ὄργανον· λοιπὸν γὰρ τούτων ὀρθῶς ἑλέσθαι θάτερον. δεῖ δὲ πρὸς τὸ τοιοῦτον ὑπάρχειν εὐφυᾶ, καὶ τοῦτ' ἔστιν ἡ κατ' ἀλήθειαν εὐφυΐα, τὸ δύνασθαι καλῶς ἑλέσθαι τἀληθὲς καὶ φυγεῖν τὸ ψεῦδος· ὅπερ οἱ πεφυκότες εὖ δύνανται ποιεῖν· εὖ γὰρ φιλοῦντες καὶ μισοῦντες τὸ προσφερόμενον εὖ κρίνουσι τὸ βέλτιστον.

Πρός τε τὰ πλειστάκις ἐμπίπτοντα τῶν προβλημάτων ἐξεπίστασθαι δεῖ λόγους, καὶ μάλιστα περὶ τῶν πρώτων θέσεων· ἐν τούτοις γὰρ ἀποδυσπετοῦσιν οἱ ἀποκρινόμενοι πολλάκις. ἔτι τε ὅρων εὐπορεῖν δεῖ καὶ τῶν ἐνδόξων τε καὶ τῶν πρώτων ἔχειν προχείρους· διὰ γὰρ τούτων οἱ συλλογισμοὶ γίνονται. πειρατέον δὲ καὶ εἰς ἃ πλειστάκις ἐμπίπτουσιν οἱ λόγοι κατέχειν. ὥσπερ γὰρ ἐν γεωμετρίᾳ πρὸ ἔργου τὸ περὶ τὰ στοιχεῖα γεγυμνάσθαι, καὶ ἐν ἀριθμοῖς τὸ περὶ τοὺς κεφαλισμοὺς προχείρως ἔχειν μέγα διαφέρει πρὸς τὸ καὶ τὸν ἄλλον ἀριθμὸν γινώσκειν πολλαπλασιούμενον, ὁμοίως καὶ ἐν τοῖς λόγοις τὸ πρόχειρον εἶναι περὶ τὰς ἀρχάς, καὶ τὰς προτάσεις ἀπὸ στόματος ἐξεπίστασθαι. καθάπερ γὰρ ἐν τῷ μνημονικῷ μόνον οἱ τόποι τεθέντες εὐθὺς ποιοῦσιν αὐτὰ μνημονεύειν, καὶ ταῦτα ποιήσει συλλογιστικώτερον διὰ τὸ πρὸς ὡρισμένας αὐτὰς βλέπειν κατ' ἀριθμόν. πρότασίν τε κοινὴν μᾶλλον ἢ λόγον εἰς μνήμην θετέον· ἀρχῆς γὰρ καὶ ὑποθέσεως εὐπορῆσαι μετρίως χαλεπόν.

Ἔτι τὸν ἕνα λόγον πολλοὺς ποιεῖν ἐθιστέον, ὡς ἀδηλότατα κρύπτοντας. εἴη δ' ἂν τὸ τοιοῦτον εἴ τις ὅτι πλεῖστον ἀφισταίη τῆς συγγενείας περὶ ὧν ὁ λόγος. ἔσονται δὲ δυνατοὶ τῶν λόγων οἱ μάλιστα καθόλου τοῦτο πάσχειν, οἷον ὅτι [164a] οὐκ ἔστι μία πλειόνων ἐπιστήμη· οὕτω γὰρ καὶ ἐπὶ τῶν πρός τι καὶ ἐπὶ τῶν ἐναντίων καὶ συστοίχων ἐστίν.

Δεῖ δὲ καὶ τὰς ἀπομνημονεύσεις καθόλου ποιεῖσθαι τῶν λόγων, κἂν ᾖ διειλεγμένος ἐπὶ μέρους· οὕτω γὰρ καὶ πολλοὺς ἐξέσται τὸν ἕνα ποιεῖν. ὁμοίως δὲ καὶ ἐν ῥητορικοῖς ἐπὶ τῶν ἐνθυμημάτων. αὐτὸν δ' ὅτι μάλιστα φεύγειν ἐπὶ τὸ καθόλου φέρειν τοὺς συλλογισμούς. ἀεί τε δεῖ σκοπεῖν τοὺς λόγους, εἰ ἐπὶ κοινῶν διαλέγονται· πάντες γὰρ οἱ ἐν μέρει καὶ καθόλου διειλεγμένοι εἰσί, καὶ ἔνεστιν ἐν τῇ κατὰ μέρος ἡ τοῦ καθόλου ἀπόδειξις διὰ τὸ μὴ εἶναι συλλογίσασθαι μηδὲν ἄνευ τῶν καθόλου.

Τὴν δὲ γυμνασίαν ἀποδοτέον τῶν μὲν ἐπακτικῶν πρὸς νέον, τῶν δὲ συλλογιστικῶν πρὸς ἔμπειρον. πειρατέον δὲ λαμβάνειν παρὰ μὲν τῶν συλλογιστικῶν τὰς προτάσεις, παρὰ δὲ τῶν ἐπακτικῶν τὰς παραβολάς· ἐν τούτῳ γὰρ ἑκάτεροι γεγυμνασμένοι εἰσίν. ὅλως δ’ ἐκ τοῦ γυμνάζεσθαι διαλεγόμενον πειρατέον ἀποφέρεσθαι ἢ συλλογισμὸν περί τινος ἢ λύσιν ἢ πρότασιν ἢ ἔνστασιν, ἢ εἰ ὀρθῶς τις ἤρετο ἢ εἰ μὴ ὀρθῶς, ἢ αὐτὸς ἢ ἕτερος, καὶ παρὰ τί ἑκάτερον.

[164b] ἐκ τούτων γὰρ ἡ δύναμις, τὸ δὲ γυμνάζεσθαι δυνάμεως χάριν, καὶ μάλιστα περὶ τὰς προτάσεις καὶ ἐνστάσεις· ἔστι γὰρ ὡς ἁπλῶς εἰπεῖν διαλεκτικὸς ὁ προτατικὸς καὶ ἐνστατικός. ἔστι δὲ τὸ μὲν προτείνεσθαι ἓν ποιεῖν τὰ πλείω (δεῖ γὰρ ἓν ὅλως ληφθῆναι πρὸς ὃ ὁ λόγος), τὸ δ’ ἐνίστασθαι τὸ ἓν πολλά· ἢ γὰρ διαιρεῖ ἢ ἀναιρεῖ, τὸ μὲν διδοὺς τὸ δ’ οὒ τῶν προτεινομένων.

Οὐχ ἅπαντι δὲ διαλεκτέον, οὐδὲ πρὸς τὸν τυχόντα γυμναστέον. ἀνάγκη γὰρ πρὸς ἐνίους φαύλους γίνεσθαι τοὺς λόγους· πρὸς γὰρ τὸν πάντως πειρώμενον φαίνεσθαι διαφεύγειν δίκαιον μὲν πάντως πειρᾶσθαι συλλογίσασθαι, οὐκ εὔσχημον δέ. διόπερ οὐ δεῖ συνεστάναι εὐχερῶς πρὸς τοὺς τυχόντας· ἀνάγκη γὰρ πονηρολογίαν συμβαίνειν· καὶ γὰρ οἱ γυμναζόμενοι ἀδυνατοῦσιν ἀπέχεσθαι τοῦ διαλέγεσθαι ἀγωνιστικῶς.

Δεῖ δὲ καὶ πεποιημένους ἔχειν λόγους πρὸς τὰ τοιαῦτα τῶν προβλημάτων ἐν οἷς ἐλαχίστων εὐπορήσαντες πρὸς πλεῖστα χρησίμους ἕξομεν· οὗτοι δ’ εἰσὶν οἱ καθόλου καὶ οὓς προσπορίζεσθαι χαλεπώτερον ἐκ τῶν παρὰ πόδας.

Περι των Σοφιστικων Ελεγχων (164a) Sophistical Refutations

Περὶ δὲ τῶν σοφιστικῶν ἐλέγχων καὶ τῶν φαινομένων μὲν ἐλέγχων, ὄντων δὲ παραλογισμῶν ἀλλ’ οὐκ ἐλέγχων, λέγωμεν ἀρξάμενοι κατὰ φύσιν ἀπὸ τῶν πρώτων.

Ὅτι μὲν οὖν οἱ μὲν εἰσὶ συλλογισμοί, οἱ δ’ οὐκ ὄντες δοκοῦσι, φανερόν. ὥσπερ γὰρ καὶ ἐπὶ τῶν ἄλλων τοῦτο γίνεται διά τινος ὁμοιότητος, καὶ ἐπὶ τῶν λόγων ὡσαύτως ἔχει. καὶ γὰρ τὴν ἕξιν οἱ μὲν ἔχουσιν εὖ, οἱ δὲ φαίνονται, φυλετικῶς φυσήσαντες καὶ ἐπισκευάσαντες αὐτούς, καὶ καλοὶ οἱ μὲν διὰ κάλλος, οἱ δὲ φαίνονται, κομμώσαντες αὑτούς. ἐπί τε τῶν ἀψύχων ὡσαύτως· καὶ γὰρ τούτων τὰ μὲν ἄργυρος τὰ δὲ χρυσός ἐστιν ἀληθῶς, τὰ δ’ ἔστι μὲν οὔ, φαίνεται δὲ κατὰ τὴν αἴσθησιν, οἷον τὰ μὲν λιθαργύρινα καὶ τὰ καττιτέρινα ἀργυρᾶ, τὰ δὲ χολοβάφινα χρυσᾶ. τὸν αὐτὸν δὲ τρόπον καὶ συλλογισμὸς καὶ ἔλεγχος ὁ μὲν ἔστιν, ὁ δ’ οὐκ ἔστι μέν, φαίνεται δὲ διὰ τὴν ἀπειρίαν· οἱ γὰρ ἄπειροι ὥσπερ ἂν ἀπέχοντες πόρρωθεν θεωροῦσιν. ὁ μὲν γὰρ συλλογισμὸς ἐκ τινῶν ἐστι τεθέντων ὥστε λέγειν ἕτερον ἐξ ἀνάγκης τι τῶν κειμένων διὰ τῶν κειμένων, ἔλεγχος δὲ συλλογισμὸς μετ’ ἀντιφάσεως τοῦ συμπεράσματος. οἱ δὲ τοῦτο ποιοῦσι μὲν οὔ, δοκοῦσι δὲ διὰ πολλὰς αἰτίας· ὧν εἷς τόπος εὐφυέστατός ἐστι καὶ δημοσιώτατος, ὁ διὰ τῶν ὀνομάτων. ἐπεὶ γὰρ οὐκ ἔστιν αὐτὰ τὰ πράγματα διαλέγεσθαι φέροντας, ἀλλὰ τοῖς ὀνόμασιν ἀντὶ τῶν πραγμάτων χρώμεθα ὡς συμβόλοις, τὸ συμβαῖνον ἐπὶ τῶν ὀνομάτων καὶ ἐπὶ τῶν πραγμάτων ἡγούμεθα συμβαίνειν, καθάπερ ἐπὶ τῶν ψήφων τοῖς λογιζομένοις. τὸ δ’ οὐκ ἔστιν ὅμοιον· τὰ μὲν γὰρ ὀνόματα πεπέρανται καὶ τὸ τῶν λόγων πλῆθος, τὰ δὲ πράγματα τὸν ἀριθμὸν ἄπειρά ἐστιν. ἀναγκαῖον οὖν πλείω τὸν αὐτὸν λόγον καὶ τοὔνομα τὸ ἓν σημαίνειν. ὥσπερ οὖν κἀκεῖ οἱ μὴ δεινοὶ τὰς ψήφους φέρειν ὑπὸ τῶν ἐπιστημόνων παρακρούονται, τὸν αὐτὸν τρόπον καὶ ἐπὶ τῶν λόγων οἱ τῶν ὀνομάτων τῆς δυνάμεως ἄπειροι παραλογίζονται καὶ αὐτοὶ διαλεγόμενοι καὶ ἄλλων ἀκούοντες. διὰ μὲν οὖν ταύτην τὴν αἰτίαν καὶ τὰς λεχθησομένας ἔστι καὶ συλλογισμὸς καὶ ἔλεγχος φαινόμενος οὐκ ὢν δέ. ἐπεὶ δ' ἐστί τισι μᾶλλον πρὸ ἔργου τὸ δοκεῖν εἶναι σοφοῖς ἢ τὸ εἶναι καὶ μὴ δοκεῖν (ἔστι γὰρ ἡ σοφιστικὴ φαινομένη σοφία οὖσα δ' οὔ, καὶ ὁ σοφιστὴς χρηματιστὴς ἀπὸ φαινομένης σοφίας ἀλλ' οὐκ οὔσης), δῆλον ὅτι ἀναγκαῖον τούτοις καὶ τοῦ σοφοῦ ἔργον δοκεῖν ποιεῖν, μᾶλλον ἢ ποιεῖν καὶ μὴ δοκεῖν. ἔστι δ' ὡς ἓν πρὸς ἓν εἰπεῖν ἔργον περὶ ἕκαστον τοῦ εἰδότος ἀψευδεῖν μὲν αὐτὸν περὶ ὧν οἶδε, τὸν δὲ ψευδόμενον ἐμφανίζειν δύνασθαι. ταῦτα δ' ἐστὶ τὸ μὲν ἐν τῷ δύνασθαι δοῦναι λόγον, τὸ δ' ἐν τῷ λαβεῖν. ἀνάγκη οὖν τοὺς βουλομένους σοφιστεύειν τὸ τῶν εἰρημένων λόγων γένος ζητεῖν· πρὸ ἔργου γάρ ἐστιν· ἡ γὰρ τοιαύτη δύναμις ποιήσει φαίνεσθαι σοφόν, οὗ τυγχάνουσι τὴν προαίρεσιν ἔχοντες.

Ὅτι μὲν οὖν ἔστι τι τοιοῦτον λόγων γένος, καὶ ὅτι τοιαύτης ἐφίενται δυνάμεως οὓς καλοῦμεν σοφιστάς, δῆλον. πόσα δ' ἔστιν εἴδη τῶν λόγων τῶν σοφιστικῶν, καὶ ἐκ πόσων τὸν ἀριθμὸν ἡ δύναμις αὕτη συνέστηκε, καὶ πόσα μέρη τυγχάνει τῆς πραγματείας ὄντα, καὶ περὶ τῶν ἄλλων τῶν συντελούντων εἰς τὴν τέχνην ταύτην ἤδη λέγωμεν.

Ἔστι δὴ τῶν ἐν τῷ διαλέγεσθαι λόγων τέτταρα γένη, διδασκαλικοὶ καὶ διαλεκτικοὶ καὶ πειραστικοὶ καὶ ἐριστικοί· διδασκαλικοὶ μὲν οἱ ἐκ τῶν οἰκείων ἀρχῶν ἑκάστου μαθήματος καὶ οὐκ ἐκ τῶν τοῦ ἀποκρινομένου δοξῶν συλλογιζόμενοι (δεῖ γὰρ πιστεύειν τὸν μανθάνοντα), διαλεκτικοὶ δ' οἱ ἐκ τῶν ἐνδόξων συλλογιστικοὶ ἀντιφάσεως, πειραστικοὶ δ' οἱ ἐκ τῶν δοκούντων τῷ ἀποκρινομένῳ καὶ ἀναγκαίων εἰδέναι τῷ προσποιουμένῳ ἔχειν τὴν ἐπιστήμην (ὃν τρόπον δέ, διώρισται ἐν ἑτέροις), ἐριστικοὶ δ' οἱ ἐκ τῶν φαινομένων ἐνδόξων, μὴ ὄντων δέ, συλλογιστικοὶ ἢ φαινόμενοι συλλογιστικοί. περὶ μὲν οὖν τῶν ἀποδεικτικῶν ἐν τοῖς Ἀναλυτικοῖς εἴρηται, περὶ δὲ τῶν διαλεκτικῶν καὶ πειραστικῶν ἐν ἄλλοις· περὶ δὲ τῶν ἀγωνιστικῶν καὶ ἐριστικῶν νῦν λέγωμεν.

Πρῶτον δὴ ληπτέον πόσων στοχάζονται οἱ ἐν τοῖς λόγοις ἀγωνιζόμενοι καὶ διαφιλονεικοῦντες. ἔστι δὲ πέντε ταῦτα τὸν ἀριθμόν, ἔλεγχος καὶ ψεῦδος καὶ παράδοξον καὶ σολοικισμὸς καὶ πέμπτον τὸ ποιῆσαι ἀδολεσχῆσαι τὸν προσδιαλεγόμενον (τοῦτο δ' ἐστὶ τὸ πολλάκις ἀναγκάζεσθαι ταὐτὸ λέγειν), ἢ τὸ μὴ ὂν ἀλλὰ [τὸ] φαινόμενον ἕκαστον εἶναι τούτων. μάλιστα μὲν γὰρ προαιροῦνται φαίνεσθαι ἐλέγχοντες, δεύτερον δὲ ψευδόμενόν τι δεικνύναι, τρίτον εἰς παράδοξον ἄγειν, τέταρτον δὲ σολοικίζειν ποιεῖν (τοῦτο δ' ἐστὶ τὸ ποιῆσαι τῇ λέξει βαρβαρίζειν ἐκ τοῦ λόγου τὸν ἀποκρινόμενον)· τελευταῖον δὲ τὸ πλεονάκις ταὐτὸ λέγειν.

Τρόποι δ' εἰσὶ τοῦ μὲν ἐλέγχειν δύο· οἱ μὲν γάρ εἰσι παρὰ τὴν λέξιν, οἱ δ’ ἔξω τῆς λέξεως. ἔστι δὲ τὰ μὲν παρὰ τὴν λέξιν ἐμποιοῦντα τὴν φαντασίαν ἓξ τὸν ἀριθμόν· ταῦτα δ’ ἐστὶν ὁμωνυμία, ἀμφιβολία, σύνθεσις, διαίρεσις, προσῳδία, σχῆμα λέξεως. τούτου δὲ πίστις ἥ τε διὰ τῆς ἐπαγωγῆς καὶ συλλογισμός, ἄν τε ληφθῇ τις ἄλλος καὶ ὅτι τοσαυταχῶς ἂν τοῖς αὐτοῖς ὀνόμασι καὶ λόγοις μὴ ταὐτὸ δηλώσαιμεν. εἰσὶ δὲ παρὰ μὲν τὴν ὁμωνυμίαν οἱ τοιοίδε τῶν λόγων, οἷον ὅτι μανθάνουσιν οἱ ἐπιστάμενοι, τὰ γὰρ ἀποστοματιζόμενα μανθάνουσιν οἱ γραμματικοί· τὸ γὰρ μανθάνειν ὁμώνυμον, τό τε ξυνιέναι χρώμενον τῇ ἐπιστήμῃ καὶ τὸ λαμβάνειν ἐπιστήμην. καὶ πάλιν ὅτι τὰ κακὰ ἀγαθά· τὰ γὰρ δέοντα ἀγαθά, τὰ δὲ κακὰ δέοντα· διττὸν γὰρ τὸ δέον, τό τ’ ἀναγκαῖον, ὃ συμβαίνει πολλάκις καὶ ἐπὶ τῶν κακῶν (ἔστι γὰρ κακόν τι ἀναγκαῖον) - καὶ τἀγαθὰ δὲ δέοντά φαμεν εἶναι. ἔτι ‹τὸ› τὸν αὐτὸν καθῆσθαι καὶ ἑστάναι, καὶ κάμνειν καὶ ὑγιαίνειν. ὅσπερ γὰρ ἀνίστατο, ἕστηκεν, καὶ ὅσπερ ὑγιάζετο, ὑγιαίνει· ἀνίστατο δ’ ὁ καθήμενος καὶ ὑγιάζετο ὁ κάμνων. τὸ γὰρ τὸν κάμνοντα ὁτιοῦν ποιεῖν ἢ πάσχειν οὐχ ἓν σημαίνει, ἀλλ’ ὁτὲ μὲν ὅτι ὁ νῦν κάμνων [ἢ καθήμενος], ὁτὲ δ’ ὃς ἔκαμνε πρότερον. πλὴν ὑγιάζετο μὲν καὶ κάμνων καὶ ὁ κάμνων· ὑγιαίνει δ’ οὐ κάμνων ἀλλ’ ὁ κάμνων, οὐ νῦν, ἀλλ’ ὁ πρότερον. παρὰ δὲ τὴν ἀμφιβολίαν οἱ τοιοίδε· τὸ βούλεσθαι λαβεῖν με τοὺς πολεμίους. καὶ “ἆρ’ ὅ τις γινώσκει, τοῦτο γινώσκει;” καὶ γὰρ τὸν γινώσκοντα καὶ τὸ γινωσκόμενον ἐνδέχεται ὡς γινώσκοντα σημῆναι τούτῳ τῷ λόγῳ. καὶ “ἆρα ὃ ὁρᾷ τις, τοῦτο ὁρᾷ; ὁρᾷ δὲ τὸν κίονα, ὥστε ὁρᾷ ὁ κίων”. καὶ “ἆρα ὃ σὺ φῂς εἶναι, τοῦτο σὺ φῂς εἶναι; φῂς δὲ λίθον εἶναι· σὺ ἄρα φῂς λίθος εἶναι”. καὶ “ἆρ’ ἔστι σιγῶντα λέγειν;” διττὸν γὰρ καὶ τὸ σιγῶντα λέγειν, τό τε τὸν λέγοντα σιγᾶν καὶ τὸ τὰ λεγόμενα. εἰσὶ δὲ τρεῖς τρόποι τῶν παρὰ τὴν ὁμωνυμίαν καὶ τὴν ἀμφιβολίαν· εἷς μὲν ὅταν ἢ ὁ λόγος ἢ τοὔνομα κυρίως σημαίνῃ πλείω, οἷον ἀετὸς καὶ κύων· εἷς δὲ ὅταν εἰωθότες ὦμεν οὕτω λέγειν· τρίτος δὲ ὅταν τὸ συντεθὲν πλείω σημαίνῃ, κεχωρισμένον δὲ ἁπλῶς. οἷον τὸ “ἐπίσταται γράμματα”· ἑκάτερον μὲν γάρ, εἰ ἔτυχεν, ἕν τι σημαίνει, τὸ “ἐπίσταται” καὶ τὸ “γράμματα”· ἄμφω δὲ πλείω, ἢ τὸ τὰ γράμματα αὐτὰ ἐπιστήμην ἔχειν ἢ τῶν γραμμάτων ἄλλον.

Ἡ μὲν οὖν ἀμφιβολία καὶ ὁμωνυμία παρὰ τούτους τοὺς τρόπους ἐστίν. παρὰ δὲ τὴν σύνθεσιν τὰ τοιάδε, οἷον τὸ δύνασθαι καθήμενον βαδίζειν καὶ μὴ γράφοντα γράφειν (οὐ γὰρ ταὐτὸ σημαίνει ἂν διελών τις εἴπῃ καὶ συνθεὶς ὡς δυνατὸν τὸ “καθήμενον βαδίζειν” [καὶ “μὴ γράφοντα γράφειν”]· καὶ τοῦθ’ ὡσαύτως, ἄν τις συνθῇ τὸ “μὴ γράφοντα γράφειν”· σημαίνει γὰρ ὡς ἔχει δύναμιν τοῦ μὴ γράφων γράφειν· ἐὰν δὲ μὴ συνθῇ, ὅτι ἔχει δύναμιν, ὅτε οὐ γράφει, τοῦ γράφειν), καὶ “μανθάνει νῦν γράμματα, εἴπερ μανθάνει ἃ ἐπίσταται”. ἔτι τὸ ἓν μόνον δυνάμενον φέρειν πολλὰ δύνασθαι φέρειν.

Παρὰ δὲ τὴν διαίρεσιν ὅτι τὰ πέντ’ ἐστὶ δύο καὶ τρία, καὶ περιττὰ καὶ ἄρτια, καὶ τὸ μεῖζον ἴσον· τοσοῦτον γὰρ καὶ ἔτι πρός. ὁ γὰρ αὐτὸς λόγος διῃρημένος καὶ συγκείμενος οὐκ ἀεὶ ταὐτὸ σημαίνειν ἂν δόξειεν, οἷον “ἐγώ σ’ ἔθηκα δοῦλον ὄντ’ ἐλεύθερον” καὶ τὸ “πεντήκοντ’ ἀνδρῶν ἑκατὸν λίπε δῖος Ἀχιλλεύς”.

Παρὰ δὲ τὴν προσῳδίαν ἐν μὲν τοῖς ἄνευ γραφῆς διαλεκτικοῖς οὐ ῥᾴδιον ποιῆσαι λόγον, ἐν δὲ τοῖς γεγραμμένοις καὶ ποιήμασι μᾶλλον. οἷον καὶ τὸν Ὅμηρον ἔνιοι διορθοῦνται πρὸς τοὺς ἐλέγχοντας ὡς ἄτοπον εἰρηκότα “τὸ μὲν οὐ καταπύθεται ὄμβρῳ”· λύουσι γὰρ αὐτὸ τῇ προσῳδίᾳ, λέγοντες τὸ “ου” ὀξύτερον. καὶ τὸ περὶ τὸ ἐνύπνιον τοῦ Ἀγαμέμνονος, ὅτι οὐκ αὐτὸς ὁ Ζεὺς εἶπεν “δίδομεν δέ οἱ εὖχος ἀρέσθαι”, ἀλλὰ τῷ ἐνυπνίῳ ἐνετέλλετο διδόναι. τὰ μὲν οὖν τοιαῦτα παρὰ τὴν προσῳδίαν ἐστίν.

Οἱ δὲ παρὰ τὸ σχῆμα τῆς λέξεως συμβαίνουσιν ὅταν τὸ μὴ ταὐτὸ ὡσαύτως ἑρμηνεύηται, οἷον τὸ ἄρρεν θῆλυ ἢ τὸ θῆλυ ἄρρεν ἢ τὸ μεταξὺ θάτερον τούτων, ἢ πάλιν τὸ ποιὸν ποσὸν ἢ τὸ ποσὸν ποιόν, ἢ τὸ ποιοῦν πάσχον ἢ τὸ διακείμενον ποιοῦν, καὶ τἆλλα δ’ ὡς διῄρηται πρότερον· ἔστι γὰρ τὸ μὴ τῶν ποιεῖν ὂν ὡς τῶν ποιεῖν τι τῇ λέξει σημαίνειν. οἷον τὸ ὑγιαίνειν ὁμοίως τῷ σχήματι τῆς λέξεως λέγεται τῷ τέμνειν ἢ οἰκοδομεῖν· καίτοι τὸ μὲν ποιόν τι καὶ διακείμενόν πως δηλοῖ, τὸ δὲ ποιεῖν τι. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων.

Οἱ μὲν οὖν παρὰ τὴν λέξιν ἔλεγχοι ἐκ τούτων τῶν τόπων εἰσίν. τῶν δ’ ἔξω τῆς λέξεως παραλογισμῶν εἴδη ἔστιν ἑπτά, ἓν μὲν παρὰ τὸ συμβεβηκός, δεύτερον δὲ τὸ ἁπλῶς ἢ μὴ ἁπλῶς ἀλλὰ πῂ ἢ ποὺ ἢ ποτὲ ἢ πρός τι λέγεσθαι, τρίτον δὲ τὸ παρὰ τὴν τοῦ ἐλέγχου ἄγνοιαν, τέταρτον δὲ τὸ παρὰ τὸ ἑπόμενον, πέμπτον δὲ τὸ παρὰ τὸ ‹τὸ› ἐν ἀρχῇ λαμβάνειν, ἕκτον δὲ τὸ ‹τὸ› μὴ αἴτιον ὡς αἴτιον τιθέναι, ἕβδομον δὲ τὸ τὰ πλείω ἐρωτήματα ἓν ποιεῖν.

Οἱ μὲν οὖν παρὰ τὸ συμβεβηκὸς παραλογισμοί εἰσιν ὅταν ὁμοίως ὁτιοῦν ἀξιωθῇ τῷ πράγματι καὶ τῷ συμβεβηκότι ὑπάρχειν. ἐπεὶ γὰρ τῷ αὐτῷ πολλὰ συμβέβηκεν, οὐκ ἀνάγκη πᾶσι τοῖς κατηγορουμένοις καὶ καθ’ οὗ κατηγορεῖται ταὐτὰ πάντα ὑπάρχειν. οἷον “εἰ ὁ Κορίσκος ἕτερον ἀνθρώπου, αὐτὸς αὑτοῦ ἕτερος· ἔστι γὰρ ἄνθρωπος”. ἢ εἰ Σωκράτους ἕτερος, ὁ δὲ Σωκράτης ἄνθρωπος, ἕτερον ἀνθρώπου φασὶν ὡμολογηκέναι διὰ τὸ συμβεβηκέναι οὗ ἔφησεν ἕτερον εἶναι, τοῦτον εἶναι ἄνθρωπον.

Οἱ δὲ παρὰ τὸ ἁπλῶς τόδε ἢ πῇ λέγεσθαι καὶ μὴ κυρίως, ὅταν τὸ ἐν μέρει λεγόμενον ὡς ἁπλῶς εἰρημένον ληφθῇ, οἷον, εἰ τὸ μὴ ὄν ἐστι δοξαστόν, ὅτι τὸ μὴ ὂν ἔστιν· οὐ γὰρ ταὐτὸ τὸ εἶναί τέ τι καὶ εἶναι ἁπλῶς. ἢ πάλιν ὅτι τὸ ὂν οὐκ ἔστιν ὄν, εἰ τῶν ὄντων τι μὴ ἔστιν, οἷον εἰ μὴ ἄνθρωπος· οὐ γὰρ ταὐτὸ τὸ μὴ εἶναί τι καὶ ἁπλῶς μὴ εἶναι. φαίνεται δὲ διὰ τὸ πάρεγγυς τῆς λέξεως καὶ μικρὸν διαφέρειν τὸ εἶναί τι τοῦ εἶναι, καὶ τὸ μὴ εἶναί τι τοῦ μὴ εἶναι. ὁμοίως δὲ καὶ τὸ παρὰ τὸ πῃ καὶ τὸ ἁπλῶς· οἷον ὁ Ἰνδός, ὅλος μέλας ὤν, λευκός ἐστι τοὺς ὀδόντας· λευκὸς ἄρα καὶ οὐ λευκός ἐστιν. ἢ εἰ ἄμφω πῄ, ὅτι ἅμα τὰ ἐναντία ὑπάρχει. τὸ δὲ τοιοῦτον ἐπ’ ἐνίων μὲν παντὶ θεωρῆσαι ῥᾴδιον, οἷον εἰ, λαβὼν τὸν Αἰθίοπα εἶναι μέλανα, τοὺς ὀδόντας ἔροιτ’ εἰ λευκός· εἰ οὖν ταύτῃ λευκός, ὅτι μέλας καὶ οὐ μέλας οἴοιτ’ ‹ἂν› διειλέχθαι, συλλογιστικῶς τελειώσας τὴν ἐρώτησιν. ἐπ’ ἐνίων δὲ λανθάνει πολλάκις, ἐφ’ ὅσων, ὅταν πῃ λέγηται, κἂν τὸ ἁπλῶς δόξειεν ἀκολουθεῖν, καὶ ἐν ὅσοις μὴ ῥᾴδιον θεωρῆσαι πότερον αὐτῶν κυρίως ἀποδοτέον. γίνεται δὲ τὸ τοιοῦτον ἐν οἷς ὁμοίως ὑπάρχει τὰ ἀντικείμενα· δοκεῖ γὰρ ἢ ἄμφω ἢ μηδέτερον δοτέον ἁπλῶς εἶναι [κατηγορεῖν]· οἷον, εἰ τὸ μὲν ἥμισυ λευκὸν τὸ δ’ ἥμισυ μέλαν, πότερον λευκὸν ἢ μέλαν;

Οἱ δὲ παρὰ τὸ μὴ διωρίσθαι τί ἐστι συλλογισμὸς ἢ τί ἔλεγχος ἄλλως παρὰ τὴν ἔλλειψιν γίνονται τοῦ λόγου· ἔλεγχος μὲν γάρ ἐστιν ἀντίφασις τοῦ αὐτοῦ καὶ ἑνός, μὴ ὀνόματος ἀλλὰ πράγματος, καὶ ὀνόματος μὴ συνωνύμου ἀλλὰ τοῦ αὐτοῦ, ἐκ τῶν δοθέντων ἐξ ἀνάγκης (μὴ συναριθμουμένου τοῦ ἐν ἀρχῇ), κατὰ ταὐτὸ καὶ πρὸς ταὐτὸ καὶ ὡσαύτως καὶ ἐν τῷ αὐτῷ χρόνῳ. τὸν αὐτὸν δὲ τρόπον καὶ τὸ ψεύσασθαι περί τινος. ἔνιοι δὲ ἀπολιπόντες τι τῶν λεχθέντων φαίνονται ἐλέγχειν, οἷον ὅτι ταὐτὸ διπλάσιον καὶ οὐ διπλάσιον· τὰ γὰρ δύο τοῦ μὲν ἑνὸς διπλάσια, τῶν δὲ τριῶν οὐ διπλάσια. ἢ εἰ τὸ αὐτὸ τοῦ αὐτοῦ διπλάσιον καὶ οὐ διπλάσιον, ἀλλ’ οὐ κατὰ ταὐτό· κατὰ μὲν γὰρ τὸ μῆκος διπλάσιον, κατὰ δὲ τὸ πλάτος οὐ διπλάσιον. ἢ εἰ τοῦ αὐτοῦ καὶ κατὰ ταὐτὸ καὶ ὡσαύτως, ἀλλ’ οὐχ ἅμα· διόπερ ἐστὶ φαινόμενος ἔλεγχος. ἕλκοι δ’ ἄν τις τοῦτον καὶ εἰς τοὺς παρὰ τὴν λέξιν.

Οἱ δὲ παρὰ τὸ τὸ ἐν ἀρχῇ λαμβάνειν γίνονται μὲν οὕτως καὶ τοσαυταχῶς ὁσαχῶς ἐνδέχεται τὸ ἐξ ἀρχῆς αἰτεῖσθαι, φαίνονται δ’ ἐλέγχειν διὰ τὸ μὴ δύνασθαι συνορᾶν τὸ ταὐτὸν καὶ τὸ ἕτερον.

Ὁ δὲ παρὰ τὸ ἑπόμενον ἔλεγχος διὰ τὸ οἴεσθαι ἀντιστρέφειν τὴν ἀκολούθησιν· ὅταν γὰρ τοῦδε ὄντος ἐξ ἀνάγκης τόδε ᾖ, καὶ τοῦδε ὄντος οἴονται καὶ θάτερον εἶναι ἐξ ἀνάγκης. ὅθεν καὶ αἱ περὶ τὴν δόξαν ἐκ τῆς αἰσθήσεως ἀπάται γίνονται· πολλάκις γὰρ τὴν χολὴν μέλι ὑπέλαβον διὰ τὸ ἕπεσθαι τὸ ξανθὸν χρῶμα τῷ μέλιτι· καὶ ἐπεὶ συμβαίνει τὴν γῆν ὕσαντος γίνεσθαι διάβροχον, κἂν ᾖ διάβροχος, ὑπολαμβάνομεν ὗσαι. τὸ δ’ οὐκ ἀναγκαῖον. ἔν τε τοῖς ῥητορικοῖς αἱ κατὰ τὸ σημεῖον ἀποδείξεις ἐκ τῶν ἑπομένων εἰσίν· βουλόμενοι γὰρ δεῖξαι ὅτι μοιχός, τὸ ἑπόμενον ἔλαβον, ὅτι καλλωπιστὴς ἢ ὅτι νύκτωρ ὁρᾶται πλανώμενος. πολλοῖς δὲ ταῦτα μὲν ὑπάρχει, τὸ δὲ κατηγορούμενον οὐχ ὑπάρχει. ὁμοίως δὲ καὶ ἐν τοῖς συλλογιστικοῖς, οἷον ὁ Μελίσσου λόγος ὅτι ἄπειρον τὸ ἅπαν, λαβὼν τὸ μὲν ἅπαν ἀγένητον (ἐκ γὰρ μὴ ὄντος οὐδὲν ἂν γενέσθαι), τὸ δὲ γενόμενον ἐξ ἀρχῆς γενέσθαι· εἰ μὴ οὖν γέγονεν, ἀρχὴν οὐκ ἔχειν τὸ πᾶν, ὥστ’ ἄπειρον. οὐκ ἀνάγκη δὲ τοῦτο συμβαίνειν· οὐ γὰρ εἰ τὸ γενόμενον ἅπαν ἀρχὴν ἔχει, καὶ εἴ τι ἀρχὴν ἔχει, γέγονεν, ὥσπερ οὐδ’ εἰ ὁ πυρέττων θερμός, καὶ τὸν θερμὸν ἀνάγκη πυρέττειν.

Ὁ δὲ παρὰ τὸ ‹τὸ› μὴ αἴτιον ὡς αἴτιον, ὅταν προσληφθῇ τὸ ἀναίτιον ὡς παρ’ ἐκεῖνο γινομένου τοῦ ἐλέγχου. συμβαίνει δὲ τὸ τοιοῦτον ἐν τοῖς εἰς τὸ ἀδύνατον συλλογισμοῖς· ἐν τούτοις γὰρ ἀναγκαῖον ἀναιρεῖν τι τῶν κειμένων. ἐὰν οὖν ἐγκαταριθμηθῇ ‹τι› ἐν τοῖς ἀναγκαίοις ἐρωτήμασι πρὸς τὸ συμβαῖνον ἀδύνατον, δόξει παρὰ τοῦτο γίνεσθαι πολλάκις ὁ ἔλεγχος, οἷον ὅτι οὐκ ἔστι ψυχὴ καὶ ζωὴ ταὐτόν. εἰ γὰρ φθορᾷ γένεσις ἐναντίον, καὶ τῇ τινὶ φθορᾷ ἔσται τὶς γένεσις· ὁ δὲ θάνατος φθορά τις καὶ ἐναντίον ζωῇ, ὥστε γένεσις ἡ ζωὴ καὶ τὸ ζῆν γίνεσθαι· τοῦτο δ’ ἀδύνατον· οὐκ ἄρα ταὐτὸν ἡ ψυχὴ καὶ ἡ ζωή. οὐ δὴ συλλελόγισται· συμβαίνει γάρ, κἂν μή τις ταὐτὸ φῇ τὴν ζωὴν τῇ ψυχῇ, τὸ ἀδύνατον, ἀλλὰ μόνον ἐναντίον ζωὴν μὲν θανάτῳ, ὄντι φθορᾷ, φθορᾷ δὲ γένεσιν. ἀσυλλόγιστοι μὲν οὖν ἁπλῶς οὐκ εἰσὶν οἱ τοιοῦτοι λόγοι, πρὸς δὲ τὸ προκείμενον ἀσυλλόγιστοι. καὶ λανθάνει πολλάκις οὐχ ἧττον αὐτοὺς τοὺς ἐρωτῶντας τὸ τοιοῦτον.

Οἱ μὲν οὖν παρὰ τὸ ἑπόμενον καὶ παρὰ τὸ μὴ αἴτιον λόγοι τοιοῦτοί εἰσιν· οἱ δὲ παρὰ τὸ τὰ δύο ἐρωτήματα ἓν ποιεῖν, ὅταν λανθάνῃ πλείω ὄντα καὶ ὡς ἑνὸς ὄντος ἀποδοθῇ ἀπόκρισις μία. ἐπ’ ἐνίων μὲν οὖν ῥᾴδιον ἰδεῖν ὅτι πλείω καὶ ὅτι οὐ δοτέον μίαν ἀπόκρισιν, οἷον “πότερον ἡ γῆ θάλαττά ἐστιν ἢ ὁ οὐρανός;” ἐπ’ ἐνίων δ’ ἧττον, καὶ ὡς ἑνὸς ὄντος ἢ ὁμολογοῦσι τῷ μὴ ἀποκρίνεσθαι τὸ ἐρωτώμενον ἢ ἐλέγχεσθαι φαίνονται. οἷον ἆρ’ οὗτος καὶ οὗτός ἐστιν ἄνθρωπος; ὥστ’ ἄν τις τύπτῃ τοῦτον καὶ τοῦτον, ἄνθρωπον ἀλλ’ οὐκ ἀνθρώπους τυπτήσει. ἢ πάλιν, ὧν τὰ μέν ἐστιν ἀγαθὰ τὰ δ’ οὐκ ἀγαθά, πάντα ἀγαθὰ ἢ οὐκ ἀγαθά; ὁπότερον γὰρ ἂν φῇ, ἔστι μὲν ὡς ἔλεγχον ἢ ψεῦδος φαινόμενον δόξειεν ἂν ποιεῖν· τὸ γὰρ φάναι τῶν μὴ ἀγαθῶν τι εἶναι ἀγαθὸν ἢ τῶν ἀγαθῶν μὴ ἀγαθὸν ψεῦδος. ὁτὲ δὲ προσληφθέντων τινῶν κἂν ἔλεγχος γίνοιτο ἀληθινός, οἷον εἴ τις δοίη ὁμοίως ἓν καὶ πολλὰ λέγεσθαι λευκὰ καὶ γυμνὰ καὶ τυφλά. εἰ γὰρ τυφλὸν τὸ μὴ ἔχον ὄψιν πεφυκὸς δ’ ἔχειν, καὶ τυφλὰ ἔσται τὰ μὴ ἔχοντα ὄψιν πεφυκότα δ’ ἔχειν. ὅταν οὖν τὸ μὲν ἔχῃ τὸ δὲ μὴ ἔχῃ, τὰ ἄμφω ἔσται ἢ ὁρῶντα ἢ τυφλά· ὅπερ ἀδύνατον.

Ἢ δὴ οὕτως διαιρετέον τοὺς φαινομένους συλλογισμοὺς καὶ ἐλέγχους, ἢ πάντας ἀνακτέον εἰς τὴν τοῦ ἐλέγχου ἄγνοιαν, ἀρχὴν ταύτην ποιησαμένους· ἔστι γὰρ ἅπαντας ἀναλῦσαι τοὺς λεχθέντας τρόπους εἰς τὸν τοῦ ἐλέγχου διορισμόν. πρῶτον μὲν εἰ ἀσυλλόγιστοι· δεῖ γὰρ ἐκ τῶν κειμένων συμβαίνειν τὸ συμπέρασμα ὥστε λέγειν ἐξ ἀνάγκης ἀλλὰ μὴ φαίνεσθαι. ἔπειτα καὶ κατὰ τὰ μέρη τοῦ διορισμοῦ. τῶν μὲν γὰρ ἐν τῇ λέξει οἱ μέν εἰσι παρὰ τὸ διττόν, οἷον ἥ τε ὁμωνυμία καὶ ὁ λόγος καὶ ἡ ὁμοιοσχημοσύνη (σύνηθες γὰρ τὸ πάντα ὡς τόδε τι σημαίνειν), ἡ δὲ σύνθεσις καὶ διαίρεσις καὶ προσῳδία τῷ μὴ τὸν αὐτὸν εἶναι τὸν λόγον ἢ τὸ ὄνομα τὸ διαφέρον. ἔδει δὲ καὶ τοῦτο, καθάπερ καὶ τὸ πρᾶγμα ταὐτόν, εἰ μέλλει ἔλεγχος ἢ συλλογισμὸς ἔσεσθαι, οἷον εἰ λώπιον, μὴ ἱμάτιον συλλογίσασθαι ἀλλὰ λώπιον. ἀληθὲς μὲν γὰρ κἀκεῖνο, ἀλλ’ οὐ συλλελόγισται, ἀλλ’ ἔτι ἐρωτήματος δεῖ εἰ ταὐτὸν σημαίνει, πρὸς τὸν ζητοῦντα τὸ διὰ τί.

Οἱ δὲ παρὰ τὸ συμβεβηκὸς ὁρισθέντος τοῦ συλλογισμοῦ φανεροὶ γίνονται. τὸν αὐτὸν γὰρ ὁρισμὸν δεῖ καὶ τοῦ ἐλέγχου γίνεσθαι, πλὴν προσκεῖσθαι τὴν ἀντίφασιν· ὁ γὰρ ἔλεγχος συλλογισμὸς ἀντιφάσεως. εἰ οὖν μὴ ἔστι συλλογισμὸς τοῦ συμβεβηκότος, οὐ γίνεται ἔλεγχος. οὐ γὰρ εἰ τούτων ὄντων ἀνάγκη τόδ’ εἶναι (τοῦτο δ’ ἐστὶ λευκόν), ἀνάγκη λευκὸν εἶναι διὰ τὸν συλλογισμόν. οὐδ’ εἰ τὸ τρίγωνον δυοῖν ὀρθαῖν ἴσας ἔχει, συμβέβηκε δ’ αὐτῷ σχήματι εἶναι ἢ πρώτῳ ἢ ἀρχῇ, ὅτι σχῆμα ἢ ἀρχὴ ἢ πρῶτον τοῦτό ἐστιν· οὐ γὰρ ᾗ σχῆμα οὐδ’ ᾗ πρῶτον ἀλλ’ ᾗ τρίγωνον ἡ ἀπόδειξις. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ὥστ’ εἰ ὁ ἔλεγχος συλλογισμός τις, οὐκ ἂν εἴη ὁ κατὰ συμβεβηκὸς ἔλεγχος. ἀλλὰ παρὰ τοῦτο καὶ οἱ τεχνῖται καὶ ὅλως οἱ ἐπιστήμονες ὑπὸ τῶν ἀνεπιστημόνων ἐλέγχονται· κατὰ συμβεβηκὸς γὰρ ποιοῦνται τοὺς συλλογισμοὺς πρὸς τοὺς εἰδότας· οἱ δ’ οὐ δυνάμενοι διαιρεῖν ἢ ἐρωτώμενοι διδόασιν ἢ οὐ δόντες οἴονται δεδωκέναι.

Οἱ δὲ παρὰ τὸ πῇ καὶ ἁπλῶς, ὅτι οὐ τοῦ αὐτοῦ ἡ κατάφασις καὶ ἡ ἀπόφασις. τοῦ γὰρ πῇ λευκοῦ τὸ πῇ οὐ λευκόν, τοῦ δ’ ἁπλῶς λευκοῦ τὸ ἁπλῶς οὐ λευκὸν ἀπόφασις· εἰ οὖν δόντος πῇ εἶναι λευκὸν ὡς ἁπλῶς εἰρημένου λαμβάνει, οὐ ποιεῖ ἔλεγχον, φαίνεται δὲ διὰ τὴν ἄγνοιαν τοῦ τί ἐστιν ἔλεγχος.

Φανερώτατοι δὲ πάντων οἱ πρότερον λεχθέντες παρὰ τὸν τοῦ ἐλέγχου διορισμόν· διὸ καὶ προσηγορεύθησαν οὕτως· παρὰ γὰρ τοῦ λόγου τὴν ἔλλειψιν ἡ φαντασία γίνεται, καὶ διαιρουμένοις οὕτως κοινὸν ἐπὶ πᾶσι τούτοις θετέον τὴν τοῦ λόγου ἔλλειψιν.

Οἱ δὲ παρὰ τὸ λαμβάνειν τὸ ἐν ἀρχῇ καὶ τὸ ἀναίτιον ὡς αἴτιον τιθέναι δῆλοι διὰ τοῦ ὁρισμοῦ. δεῖ γὰρ τὸ συμπέρασμα "τῷ ταῦτ' εἶναι" συμβαίνειν, ὅπερ οὐκ ἦν ἐν τοῖς ἀναιτίοις· καὶ πάλιν "μὴ ἐναριθμουμένου τοῦ ἐξ ἀρχῆς", ὅπερ οὐκ ἔχουσιν οἱ παρὰ τὴν αἴτησιν τοῦ ἐν ἀρχῇ.

Οἱ δὲ παρὰ τὸ ἑπόμενον μέρος εἰσὶ τοῦ συμβεβηκότος· τὸ γὰρ ἑπόμενον συμβέβηκε. διαφέρει δὲ τοῦ συμβεβηκότος, ὅτι τὸ μὲν συμβεβηκὸς ἔστιν ἐφ' ἑνὸς μόνου λαβεῖν, οἷον ταὐτὸ εἶναι τὸ ξανθὸν καὶ μέλι, καὶ τὸ λευκὸν καὶ κύκνον, τὸ δὲ παρὰ τὸ ἑπόμενον ἀεὶ ἐν πλείοσιν· τὰ γὰρ ἑνὶ καὶ ταὐτῷ ταὐτὰ καὶ ἀλλήλοις ἀξιοῦμεν εἶναι ταὐτά· διὸ γίνεται παρὰ τὸ ἑπόμενον ἔλεγχος. ἔστι δ' οὐ πάντως ἀληθές, οἷον ἂν ᾖ κατὰ συμβεβηκός· καὶ γὰρ ἡ χιὼν καὶ ὁ κύκνος τῷ λευκῷ ταὐτόν. ἢ πάλιν, ὡς ἐν τῷ Μελίσσου λόγῳ, τὸ αὐτὸ εἶναι λαμβάνει τὸ γεγονέναι καὶ ἀρχὴν ἔχειν, ἢ τὸ ἴσοις γίνεσθαι καὶ ταὐτὸ μέγεθος λαμβάνειν. ὅτι γὰρ τὸ γεγονὸς ἔχει ἀρχήν, καὶ τὸ ἔχον ἀρχὴν γεγονέναι ἀξιοῖ, ὡς ἄμφω ταὐτὰ ὄντα τῷ ἀρχὴν ἔχειν, τό τε γεγονὸς καὶ τὸ πεπερασμένον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἴσων γινομένων, εἰ τὰ τὸ αὐτὸ μέγεθος καὶ ἓν λαμβάνοντα ἴσα γίνεται, καὶ τὰ ἴσα γινόμενα ἓν μέγεθος λαμβάνειν. ὥστε τὸ ἑπόμενον λαμβάνει. ἐπεὶ οὖν ὁ παρὰ τὸ συμβεβηκὸς ἔλεγχος ἐν τῇ ἀγνοίᾳ τοῦ ἐλέγχου, φανερὸν ὅτι καὶ ὁ παρὰ τὸ ἑπόμενον. ἐπισκεπτέον δὲ τοῦτο καὶ ἄλλως.

Οἱ δὲ παρὰ τὸ τὰ πλείω ἐρωτήματα ἓν ποιεῖν ἐν τῷ μὴ διαρθροῦν ἡμᾶς τὸν τῆς προτάσεως λόγον. ἡ γὰρ πρότασίς ἐστιν ἓν καθ' ἑνός· ὁ γὰρ αὐτὸς ὅρος ἑνὸς μόνου καὶ ἁπλῶς τοῦ πράγματος, οἷον ἀνθρώπου καὶ ἑνὸς μόνου ἀνθρώπου· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ οὖν μία πρότασις ἡ ἓν καθ' ἑνὸς ἀξιοῦσα, καὶ ἁπλῶς ἔσται πρότασις ἡ τοιαύτη ἐρώτησις. ἐπεὶ δ' ὁ συλλογισμὸς ἐκ προτάσεων, ὁ δ' ἔλεγχος συλλογισμός, καὶ ὁ ἔλεγχος ἔσται ἐκ προτάσεων. εἰ οὖν ἡ πρότασις ἓν καθ' ἑνός, φανερὸν ὅτι καὶ οὗτος ἐν τῇ τοῦ ἐλέγχου ἀγνοίᾳ· φαίνεται γὰρ εἶναι πρότασις ἡ οὐκ οὖσα πρότασις. εἰ μὲν οὖν δέδωκεν ἀπόκρισιν ὡς πρὸς μίαν ἐρώτησιν, ἔσται ἔλεγχος· εἰ δὲ μὴ δέδωκεν ἀλλὰ φαίνεται, φαινόμενος ἔλεγχος. ὥστε πάντες οἱ τόποι πίπτουσιν εἰς τὴν τοῦ ἐλέγχου ἄγνοιαν, οἱ μὲν οὖν παρὰ τὴν λέξιν, ὅτι φαινομένη ‹ἡ› ἀντίφασις, ὅπερ ἦν ἴδιον τοῦ ἐλέγχου, οἱ δ' ἄλλοι παρὰ τὸν τοῦ συλλογισμοῦ ὅρον.

Ἡ δ' ἀπάτη γίνεται τῶν μὲν παρὰ τὴν ὁμωνυμίαν καὶ τὸν λόγον τῷ μὴ δύνασθαι διαιρεῖν τὸ πολλαχῶς λεγόμενον (ἔνια γὰρ οὐκ εὔπορον διελεῖν, οἷον τὸ ἓν καὶ τὸ ὂν καὶ τὸ ταὐτόν), τῶν δὲ παρὰ σύνθεσιν καὶ διαίρεσιν τῷ μηδὲν οἴεσθαι διαφέρειν συντιθέμενον ἢ διαιρούμενον τὸν λόγον, καθάπερ ἐπὶ τῶν πλείστων. ὁμοίως δὲ καὶ τῶν παρὰ τὴν προσῳδίαν· οὐ γὰρ ἄλλο δοκεῖ σημαίνειν ἀνιέμενος καὶ ἐπιτεινόμενος ὁ λόγος, ἐπ’ οὐδενὸς ἢ οὐκ ἐπὶ πολλῶν. τῶν δὲ παρὰ τὸ σχῆμα διὰ τὴν ὁμοιότητα τῆς λέξεως. χαλεπὸν γὰρ διελεῖν ποῖα ὡσαύτως καὶ ποῖα ὡς ἑτέρως λέγεται (σχεδὸν γὰρ ὁ τοῦτο δυνάμενος ποιεῖν ἐγγύς ἐστι τοῦ θεωρεῖν τἀληθές, μάλιστα δ’ ἐπίσταται συνεπινεύειν), ὅτι πᾶν τὸ κατηγορούμενόν τινος ὑπολαμβάνομεν τόδε τι, καὶ ὡς ἓν ὑπακούομεν· τῷ γὰρ ἑνὶ καὶ τῇ οὐσίᾳ μάλιστα δοκεῖ παρέπεσθαι τὸ τόδε τι καὶ τὸ ὄν. διὸ καὶ τῶν παρὰ τὴν λέξιν οὗτος ὁ τρόπος θετέος, πρῶτον μὲν ὅτι μᾶλλον ἡ ἀπάτη γίνεται μετ’ ἄλλων σκοπουμένοις ἢ καθ’ αὑτούς (ἡ μὲν γὰρ μετ’ ἄλλου σκέψις διὰ λόγων, ἡ δὲ καθ’ αὑτὸν οὐχ ἧττον δι’ αὐτοῦ τοῦ πράγματος)· εἶτα καὶ καθ’ αὑτὸν ἀπατᾶσθαι συμβαίνει, ὅταν ἐπὶ τοῦ λόγου ποιῆται τὴν σκέψιν· ἔτι ἡ μὲν ἀπάτη ἐκ τῆς ὁμοιότητος, ἡ δ’ ὁμοιότης ἐκ τῆς λέξεως. τῶν δὲ παρὰ τὸ συμβεβηκὸς διὰ τὸ μὴ δύνασθαι διακρίνειν τὸ ταὐτὸν καὶ τὸ ἕτερον, καὶ ἓν καὶ πολλά, μηδὲ τοῖς ποίοις τῶν κατηγορημάτων πάντα ταὐτὰ καὶ τῷ πράγματι συμβέβηκεν. ὁμοίως δὲ καὶ τῶν παρὰ τὸ ἑπόμενον· μέρος γάρ τι τοῦ συμβεβηκότος τὸ ἑπόμενον. ἔτι καὶ ἐπὶ πολλῶν φαίνεται καὶ ἀξιοῦται οὕτως, εἰ τόδε ἀπὸ τοῦδε μὴ χωρίζεται, μηδ’ ἀπὸ θατέρου χωρίζεσθαι θάτερον. τῶν δὲ παρὰ τὴν ἔλλειψιν τοῦ λόγου καὶ τῶν παρὰ τὸ πῇ καὶ ἁπλῶς ἐν τῷ παρὰ μικρὸν ἡ ἀπάτη· ὡς γὰρ οὐδὲν προσσημαῖνον τὸ τὶ ἢ πῇ ἢ τὸ πὼς ἢ τὸ νῦν καθόλου συγχωροῦμεν. ὁμοίως δὲ καὶ ἐπὶ τῶν τὸ ἐν ἀρχῇ λαμβανόντων καὶ τῶν ἀναιτίων καὶ ὅσοι τὰ πλείω ἐρωτήματα ὡς ἓν ποιοῦσιν· ἐν ἅπασι γὰρ ἡ ἀπάτη διὰ τὸ παρὰ μικρόν· οὐ γὰρ διακριβοῦμεν οὔτε τῆς προτάσεως οὔτε τοῦ συλλογισμοῦ τὸν ὅρον διὰ τὴν εἰρημένην αἰτίαν.

Ἐπεὶ δ’ ἔχομεν παρ’ ὁπόσα γίνονται οἱ φαινόμενοι συλλογισμοί, ἔχομεν καὶ παρ’ ὁπόσα οἱ σοφιστικοὶ γένοιντ’ ἂν συλλογισμοὶ καὶ ἔλεγχοι. λέγω δὲ σοφιστικὸν ἔλεγχον καὶ συλλογισμὸν οὐ μόνον τὸν φαινόμενον συλλογισμὸν ἢ ἔλεγχον μὴ ὄντα δέ, ἀλλὰ καὶ τὸν ὄντα μὲν φαινόμενον δὲ οἰκεῖον τοῦ πράγματος. εἰσὶ δ’ οὗτοι οἱ μὴ κατὰ τὸ πρᾶγμα ἐλέγχοντες καὶ δεικνύντες ἀγνοοῦντας, ὅπερ ἦν τῆς πειραστικῆς. ἔστι δ’ ἡ πειραστικὴ μέρος τῆς διαλεκτικῆς· αὕτη δὲ δύναται συλλογίζεσθαι ψεῦδος δι’ ἄγνοιαν τοῦ διδόντος τὸν λόγον. οἱ δὲ σοφιστικοὶ ἔλεγχοι, ἂν καὶ συλλογίζωνται τὴν ἀντίφασιν, οὐ ποιοῦσι δῆλον εἰ ἀγνοεῖ· καὶ γὰρ τὸν εἰδότα ἐμποδίζουσι τούτοις τοῖς λόγοις.

Ὅτι δ’ ἔχομεν αὐτοὺς τῇ αὐτῇ μεθόδῳ, δῆλον· παρ’ ὅσα γὰρ φαίνεται τοῖς ἀκούουσιν ὡς ἠρωτημένα συλλελογίσθαι, παρὰ τοσαῦτα κἂν τῷ ἀποκρινομένῳ δόξειεν, ὥστ’ ἔσονται συλλογισμοὶ ψευδεῖς διὰ τούτων ἢ πάντων ἢ ἐνίων· ὃ γὰρ μὴ ἐρωτηθεὶς οἴεται δεδωκέναι, κἂν ἐρωτηθεὶς θείη. πλὴν ἐπί γέ τινων ἅμα συμβαίνει προσερωτᾶν τὸ ἐνδεὲς καὶ τὸ ψεῦδος ἐμφανίζειν, οἷον ἐν τοῖς παρὰ τὴν λέξιν καὶ τὸν σολοικισμόν. εἰ οὖν οἱ παραλογισμοὶ τῆς ἀντιφάσεως παρὰ τὸν φαινόμενον ἔλεγχόν εἰσι, δῆλον ὅτι παρὰ τοσαῦτα ἂν καὶ τῶν ψευδῶν εἴησαν συλλογισμοὶ παρ’ ὅσα καὶ ὁ φαινόμενος ἔλεγχος. ὁ δὲ φαινόμενος παρὰ τὰ μόρια τοῦ ἀληθινοῦ· ἑκάστου γὰρ ἐκλείποντος φανείη ἂν ἔλεγχος, οἷον ὁ παρὰ τὸ μὴ συμβαῖνον διὰ τὸν λόγον (ὁ εἰς τὸ ἀδύνατον), καὶ ὁ τὰς δύο ἐρωτήσεις μίαν ποιῶν παρὰ τὴν πρότασιν, καὶ ἀντὶ τοῦ καθ’ αὑτὸ ὁ παρὰ τὸ συμβεβηκός, καὶ τὸ τούτου μόριον, ὁ παρὰ τὸ ἑπόμενον· ἔτι τὸ μὴ ἐπὶ τοῦ πράγματος ἀλλ’ ἐπὶ τοῦ λόγου συμβαίνειν· εἶτ’, ἀντὶ τοῦ καθόλου τὴν ἀντίφασιν καὶ κατὰ ταὐτὸ καὶ πρὸς ταὐτὸ καὶ ὡσαύτως, παρὰ τὸ ἐπί τι, ἢ παρ’ ἕκαστον τούτων· ἔτι παρὰ τὸ “μὴ ἐναριθμουμένου τοῦ ἐν ἀρχῇ” ‹τὸ› τὸ ἐν ἀρχῇ λαμβάνειν. ὥστ’ ἔχοιμεν ἂν παρ’ ὅσα γίνονται οἱ παραλογισμοί· παρὰ πλείω μὲν γὰρ οὐκ ἂν εἶεν, παρὰ δὲ τὰ εἰρημένα ἔσονται πάντες.

Ἔστι δ’ ὁ σοφιστικὸς ἔλεγχος οὐχ ἁπλῶς ἔλεγχος ἀλλὰ πρός τινα· καὶ ὁ συλλογισμὸς ὡσαύτως. ἂν μὲν γὰρ μὴ λάβῃ ὅ τε παρὰ τὸ ὁμώνυμον ἓν σημαίνειν καὶ ὁ παρὰ τὴν ὁμοιοσχημοσύνην τὸ μόνον τόδε, καὶ οἱ ἄλλοι ὡσαύτως, οὔτ’ ἔλεγχοι οὔτε συλλογισμοὶ ἔσονται, οὔθ’ ἁπλῶς οὔτε πρὸς τὸν ἐρωτώμενον. ἐὰν δὲ λάβωσι, πρὸς μὲν τὸν ἐρωτώμενον ἔσονται, ἁπλῶς δ’ οὐκ ἔσονται· οὐ γὰρ ἓν σημαῖνον εἰλήφασιν ἀλλὰ φαινόμενον, καὶ παρὰ τοῦδε.

Παρὰ πόσα δ’ ἐλέγχονται οἱ ἐλεγχόμενοι, οὐ δεῖ πειρᾶσθαι λαμβάνειν ἄνευ τῆς τῶν ὄντων ἐπιστήμης ἁπάντων. τοῦτο δ’ οὐ μιᾶς ἔστι τέχνης· ἄπειροι γὰρ ἴσως αἱ ἐπιστῆμαι, ὥστε δῆλον ὅτι καὶ αἱ ἀποδείξεις. ἔλεγχοι δ’ εἰσὶ καὶ ἀληθεῖς· ὅσα γὰρ ἔστιν ἀποδεῖξαι, ἔστι καὶ ἐλέγξαι τὸν θέμενον τὴν ἀντίφασιν τοῦ ἀληθοῦς· οἷον εἰ σύμμετρον τὴν διάμετρον ἔθηκεν, ἐλέγξειεν ἄν τις τῇ ἀποδείξει ὅτι ἀσύμμετρος. ὥστε πάντων δεήσει ἐπιστήμονας εἶναι· οἱ μὲν γὰρ ἔσονται παρὰ τὰς ἐν γεωμετρίᾳ ἀρχὰς καὶ τὰ τούτων συμπεράσματα, οἱ δὲ παρὰ τὰς ἐν ἰατρικῇ, οἱ δὲ παρὰ τὰς τῶν ἄλλων ἐπιστημῶν. ἀλλὰ μὴν καὶ οἱ ψευδεῖς ἔλεγχοι ὁμοίως ἂν εἶεν ἐν ἀπείροις· καθ’ ἑκάστην γὰρ τέχνην ἔστι ψευδὴς συλλογισμός, οἷον κατὰ γεωμετρίαν ὁ γεωμετρικὸς καὶ κατὰ ἰατρικὴν ὁ ἰατρικός· λέγω δὲ τὸ κατὰ τὴν τέχνην τὸ κατὰ τὰς ἐκείνης ἀρχάς. δῆλον οὖν ὅτι οὐ πάντων τῶν ἐλέγχων ἀλλὰ τῶν παρὰ τὴν διαλεκτικὴν ληπτέον τοὺς τόπους· οὗτοι γὰρ κοινοὶ πρὸς ἅπασαν τέχνην καὶ δύναμιν. καὶ τὸν μὲν καθ’ ἑκάστην ἐπιστήμην ἔλεγχον τοῦ ἐπιστήμονός ἐστι θεωρεῖν, εἴ τε μὴ ὢν φαίνεται, εἴ τ’ ἔστι, διὰ τί ἔστι· τὸν δ’ ἐκ τῶν κοινῶν καὶ ὑπὸ μηδεμίαν τέχνην τῶν διαλεκτικῶν. εἰ γὰρ ἔχομεν ἐξ ὧν οἱ ἔνδοξοι συλλογισμοὶ περὶ ὁτιοῦν, ἔχομεν ἐξ ὧν οἱ ἔλεγχοι· ὁ γὰρ ἔλεγχός ἐστιν ἀντιφάσεως συλλογισμός, ὥστ’ ἢ εἷς ἢ δύο συλλογισμοὶ ἀντιφάσεως ἔλεγχός ἐστιν. ἔχομεν ἄρα παρ’ ὁπόσα πάντες εἰσὶν οἱ τοιοῦτοι. εἰ δὲ τοῦτ’ ἔχομεν, καὶ τὰς λύσεις ἔχομεν· αἱ γὰρ τούτων ἐνστάσεις λύσεις εἰσίν. ἔχομεν δέ, παρ’ ὁπόσα γίνονται, καὶ τοὺς φαινομένους, φαινομένους δὲ οὐχ ὁτῳοῦν ἀλλὰ τοῖς τοιοῖσδε· ἀόριστα γάρ ἐστιν ἐάν τις σκοπῇ παρ’ ὁπόσα φαίνονται τοῖς τυχοῦσιν. ὥστε φανερὸν ὅτι τοῦ διαλεκτικοῦ ἐστι τὸ δύνασθαι λαβεῖν παρ’ ὅσα γίνεται διὰ τῶν κοινῶν ἢ ὢν ἔλεγχος ἢ φαινόμενος ἔλεγχος, καὶ ἢ διαλεκτικὸς ἢ φαινόμενος διαλεκτικὸς ἢ πειραστικός.

Οὐκ ἔστι δὲ διαφορὰ τῶν λόγων ἣν λέγουσί τινες, τὸ εἶναι τοὺς μὲν πρὸς τοὔνομα λόγους, ἑτέρους δὲ πρὸς τὴν διάνοιαν· ἄτοπον γὰρ τὸ ὑπολαμβάνειν ἄλλους μὲν εἶναι πρὸς τοὔνομα λόγους, ἑτέρους δὲ πρὸς τὴν διάνοιαν, ἀλλ’ οὐ τοὺς αὐτούς. τί γάρ ἐστι τὸ μὴ πρὸς τὴν διάνοιαν ἀλλ’ ἢ ὅταν μὴ χρῆται τῷ ὀνόματι ἐφ’ ᾧ οἰόμενος ἐρωτᾶσθαι ὁ ἐρωτώμενος ἔδωκεν; τὸ δ’ αὐτὸ τοῦτό ἐστι καὶ πρὸς τοὔνομα· τὸ δὲ πρὸς τὴν διάνοιαν, ὅταν ἐφ’ ᾧ ἔδωκεν διανοηθείς. εἰ δή τινες πλείω σημαίνοντος τοῦ ὀνόματος οἴοιντο ἓν σημαίνειν - καὶ ὁ ἐρωτῶν καὶ ὁ ἐρωτώμενος (οἷον ἴσως τὸ ὂν ἢ τὸ ἓν πολλὰ σημαίνει, ἀλλὰ καὶ ὁ ἀποκρινόμενος καὶ ὁ ἐρωτῶν [Ζήνων] ἓν οἰόμενοι εἶναι εἰρήκασι, καὶ ἔστιν ὁ λόγος ὅτι ἓν πάντα), ‹ἆρ’› οὗτος πρὸς τοὔνομα ἔσται ἢ πρὸς τὴν διάνοιαν τοῦ ἐρωτωμένου διειλεγμένος; εἰ δέ γέ τις πολλὰ οἴεται σημαίνειν, δῆλον ὅτι οὐ πρὸς τὴν διάνοιαν. πρῶτον μὲν γὰρ περὶ τοὺς τοιούτους ἐστὶ λόγους τὸ πρὸς τοὔνομα καὶ πρὸς τὴν διάνοιαν ὅσοι πλείω σημαίνουσιν, εἶτα περὶ ὁντινοῦν ἐστιν· οὐ γὰρ ἐν τῷ λόγῳ ἐστὶ τὸ πρὸς τὴν διάνοιαν εἶναι, ἀλλ’ ἐν τῷ τὸν ἀποκρινόμενον ἔχειν πως πρὸς τὰ δεδομένα. εἶτα πρὸς τοὔνομα πάντας ἐνδέχεται αὐτοὺς εἶναι· τὸ γὰρ πρὸς τοὔνομα τὸ μὴ πρὸς τὴν διάνοιαν εἶναί ἐστιν ἐνταῦθα. εἰ γὰρ μὴ πάντες, ἔσονταί τινες ἕτεροι οὔτε πρὸς τοὔνομα οὔτε πρὸς τὴν διάνοιαν· οἱ δέ φασι πάντας, καὶ διαιροῦνται ἢ πρὸς τοὔνομα ἢ πρὸς τὴν διάνοιαν εἶναι πάντας, ἄλλους δ’ οὔ. ἀλλὰ μὴν ὅσοι συλλογισμοί εἰσι παρὰ τὸ πλεοναχῶς, τούτων εἰσί τινες οἱ παρὰ τοὔνομα. ἀτόπως μὲν γὰρ καὶ εἴρηται τὸ παρὰ τοὔνομα φάναι πάντας τοὺς παρὰ τὴν λέξιν· ἀλλ’ οὖν εἰσί τινες παραλογισμοὶ οὐ τῷ τὸν ἀποκρινόμενον πρὸς τούτους ἔχειν πως, ἀλλὰ τῷ τοιονδὶ ἐρώτημα τὸν λόγον αὐτὸν ἔχειν ὃ πλείω σημαίνει.

Ὅλως τε ἄτοπον τὸ περὶ ἐλέγχου διαλέγεσθαι ἀλλὰ μὴ πρότερον περὶ συλλογισμοῦ· ὁ γὰρ ἔλεγχος συλλογισμός ἐστιν, ὥστε χρὴ καὶ περὶ συλλογισμοῦ πρότερον ἢ περὶ ψευδοῦς ἐλέγχου· ἔστι γὰρ ὁ τοιοῦτος ἔλεγχος φαινόμενος συλλογισμὸς ἀντιφάσεως. διὸ ἢ ἐν τῷ συλλογισμῷ ἔσται τὸ αἴτιον ἢ ἐν τῇ ἀντιφάσει (προσκεῖσθαι γὰρ δεῖ τὴν ἀντίφασιν), ὁτὲ δ' ἐν ἀμφοῖν, ἂν ᾖ φαινόμενος ἔλεγχος. ἔστι δὲ ὁ μὲν τοῦ "σιγῶντα λέγειν" ἐν τῇ ἀντιφάσει, οὐκ ἐν τῷ συλλογισμῷ, ὁ δὲ "ἃ μὴ ἔχοι τις, δοίη ἄν" ἐν ἀμφοῖν, ὁ δὲ ὅτι ἡ Ὁμήρου ποίησις σχῆμα διὰ τοῦ "κύκλος" ἐν τῷ συλλογισμῷ. ὁ δ' ἐν μηδετέρῳ ἀληθὴς συλλογισμός.

Ἀλλὰ δή, ὅθεν ὁ λόγος ἦλθε, πότερον οἱ ἐν τοῖς μαθήμασι λόγοι πρὸς τὴν διάνοιάν εἰσιν ἢ οὔ; καὶ εἴ τινι δοκεῖ πολλὰ σημαίνειν τὸ τρίγωνον, καὶ ἔδωκε μὴ ὡς τοῦτο τὸ σχῆμα ἐφ' οὗ συνεπεράνατο ὅτι δύο ὀρθαί, πότερον πρὸς τὴν διάνοιαν οὗτος διείλεκται τὴν ἐκείνου ἢ οὔ;

Ἔτι εἰ πολλὰ μὲν σημαίνει τοὔνομα, ὁ δὲ μὴ νοεῖ μηδ' οἴεται, πῶς οὗτος οὐ πρὸς τὴν διάνοιαν διείλεκται; ἢ πῶς δεῖ ἐρωτᾶν πλὴν διδόντα διαίρεσιν, εἴ τ' ἐρωτήσειέ τις εἰ ἔστι σιγῶντα λέγειν ἢ οὔ, ἢ ἔστι μὲν ὡς οὔ, ἔστι δ' ὡς ναί, εἰ δή τις δοίη μηδαμῶς, ὁ δὲ διαλεχθείη, ἆρ' οὐ πρὸς τὴν διάνοιαν διείλεκται; καίτοι ὁ λόγος δοκεῖ τῶν παρὰ τὸ ὄνομα εἶναι. οὐκ ἄρα ἐστὶ γένος τι λόγων τὸ πρὸς τὴν διάνοιαν. ἀλλ' οἱ μὲν πρὸς τοὔνομά εἰσι· καίτοι οὗτοι οὐ πάντες, οὐχ ὅτι οἱ ἔλεγχοι ἀλλ' οὐδ' οἱ φαινόμενοι ἔλεγχοι. εἰσὶ γὰρ καὶ μὴ παρὰ τὴν λέξιν φαινόμενοι ἔλεγχοι, οἷον οἱ παρὰ τὸ συμβεβηκὸς καὶ ἕτεροι.

Εἰ δέ τις ἀξιοῖ διαιρεῖν, ὅτι "λέγω δὲ σιγῶντα λέγειν τὰ μὲν ὡδὶ τὰ δ' ὡδί", ἀλλὰ τοῦτό γ' ἐστὶ πρῶτον μὲν ἄτοπον, τὸ ἀξιοῦν· ἐνίοτε γὰρ οὐ δοκεῖ τὸ ἐρωτώμενον πολλαχῶς ἔχειν, ἀδύνατον δὲ διαιρεῖν ὃ μὴ οἴεται. ἔπειτα τὸ διδάσκειν τί ἄλλο ἔσται; φανερὸν γὰρ ποιήσει ὡς ἔχει τῷ μήτ' ἐσκεμμένῳ μήτ' εἰδότι μήθ' ὑπολαμβάνοντι ὅτι ἄλλως λέγεται· ἐπεὶ καὶ ἐν τοῖς διπλοῖς τί κωλύει τοῦτο παθεῖν; "ἆρα ἴσαι αἱ μονάδες ταῖς δυάσιν ἐν τοῖς τέτταρσιν; εἰσὶ δὲ [δυάδες] αἱ μὲν ὡδὶ ἐνοῦσαι αἱ δὲ ὡδί." καὶ "ἆρα τῶν ἐναντίων μία ἐπιστήμη ἢ οὔ; ἔστι δ' ἐναντία τὰ μὲν γνωστὰ τὰ δ' ἄγνωστα". ὥστ' ἔοικεν ἀγνοεῖν ὁ τοῦτο ἀξιῶν ὅτι ἕτερον τὸ διδάσκειν τοῦ διαλέγεσθαι, καὶ ὅτι δεῖ τὸν μὲν διδάσκοντα μὴ ἐρωτᾶν ἀλλ' αὐτὸν δῆλα ποιεῖν, τὸν δ' ἐρωτᾶν.

Ἔτι τὸ φάναι ἢ ἀποφάναι ἀξιοῦν οὐ δεικνύντος ἐστὶν ἀλλὰ πεῖραν λαμβάνοντος· ἡ γὰρ πειραστική ἐστι διαλεκτική τις καὶ θεωρεῖ οὐ τὸν εἰδότα ἀλλὰ τὸν ἀγνοοῦντα καὶ προσποιούμενον. ὁ μὲν οὖν κατὰ τὸ πρᾶγμα θεωρῶν τὰ κοινὰ διαλεκτικός, ὁ δὲ τοῦτο φαινομένως ποιῶν σοφιστικός, καὶ συλλογισμὸς ἐριστικὸς καὶ σοφιστικός ἐστιν εἷς μὲν ὁ φαινόμενος συλλογιστικὸς περὶ ὧν ἡ διαλεκτικὴ πειραστική ἐστι, κἂν ἀληθὲς τὸ συμπέρασμα ᾖ (τοῦ γὰρ διὰ τί ἀπατητικός ἐστι), καὶ ὅσοι μὴ ὄντες κατὰ τὴν ἑκάστου μέθοδον παραλογισμοὶ δοκοῦσιν εἶναι κατὰ τὴν τέχνην. τὰ γὰρ ψευδογραφήματα οὐκ ἐριστικά (κατὰ γὰρ τὰ ὑπὸ τὴν τέχνην οἱ παραλογισμοί), οὐδέ γ' εἴ τί ἐστι ψευδογράφημα περὶ ἀληθές, οἷον τὸ Ἱπποκράτους ἢ ὁ τετραγωνισμὸς ὁ διὰ τῶν μηνίσκων. ἀλλ' ὡς Βρύσων ἐτετραγώνιζε τὸν κύκλον, εἰ καὶ τετραγωνίζεται ὁ κύκλος, ἀλλ' ὅτι οὐ κατὰ τὸ πρᾶγμα, διὰ τοῦτο σοφιστικός. ὥστε ὅ τε περὶ τῶνδε φαινόμενος συλλογισμὸς ἐριστικὸς λόγος, καὶ ὁ κατὰ τὸ πρᾶγμα φαινόμενος συλλογισμός, κἂν ᾖ συλλογισμός, ἐριστικὸς λόγος· φαινόμενος γάρ ἐστι κατὰ τὸ πρᾶγμα, ὥστ' ἀπατητικὸς καὶ ἄδικος. ὥσπερ γὰρ ἡ ἐν ἀγῶνι ἀδικία εἶδός τι ἔχει καὶ ἔστιν ἀδικομαχία τις, οὕτως ἐν ἀντιλογίᾳ ἀδικομαχία ἡ ἐριστική ἐστιν· ἐκεῖ τε γὰρ οἱ πάντως νικᾶν προαιρούμενοι πάντων ἅπτονται, καὶ ἐνταῦθα οἱ ἐριστικοί. οἱ μὲν οὖν τῆς νίκης αὐτῆς χάριν τοιοῦτοι ἐριστικοὶ ἄνθρωποι καὶ φιλέριδες δοκοῦσιν εἶναι, οἱ δὲ δόξης χάριν τῆς εἰς χρηματισμὸν σοφιστικοί· ἡ γὰρ σοφιστική ἐστιν, ὥσπερ εἴπομεν, χρηματιστική τις ἀπὸ σοφίας φαινομένης· διὸ φαινομένης ἀποδείξεως ἐφίενται, καὶ τῶν λόγων τῶν αὐτῶν μὲν [εἴσιν] οἱ φιλέριδες καὶ οἱ σοφισταί, ἀλλ' οὐ τῶν αὐτῶν ἕνεκεν, καὶ λόγος ὁ αὐτὸς μὲν ἔσται σοφιστικὸς καὶ ἐριστικός, ἀλλ' οὐ κατὰ ταὐτόν, ἀλλ' ᾗ μὲν νίκης φαινομένης ‹ἕνεκα›, ἐριστικός, ᾗ δὲ σοφίας, σοφιστικός· καὶ γὰρ ἡ σοφιστική ἐστι φαινομένη σοφία τις ἀλλ' οὐκ οὖσα. ὁ δ' ἐριστικός ἐστί πως οὕτως ἔχων πρὸς τὸν διαλεκτικὸν ὡς ὁ ψευδογράφος πρὸς τὸν γεωμετρικόν· ἐκ γὰρ τῶν αὐτῶν τῷ διαλεκτικῷ παραλογίζεται, καὶ ὁ ψευδογράφος τῷ γεωμέτρῃ. ἀλλ' ὁ μὲν οὐκ ἐριστικός, ὅτι ἐκ τῶν ἀρχῶν καὶ συμπερασμάτων τῶν ὑπὸ τὴν τέχνην ψευδογραφεῖ· ὁ δ' ὑπὸ τὴν διαλεκτικὴν περὶ τἆλλα ὅτι ἐριστικὸς ἔσται δῆλον. οἷον ὁ τετραγωνισμὸς ὁ μὲν διὰ τῶν μηνίσκων οὐκ ἐριστικός, ὁ δὲ Βρύσωνος ἐριστικός· καὶ τὸν μὲν οὐκ ἔστι μετενεγκεῖν ἀλλ' ἢ πρὸς γεωμετρίαν μόνον, διὰ τὸ ἐκ τῶν ἰδίων εἶναι ἀρχῶν, τὸν δὲ πρὸς πολλούς, ὅσοι μὴ ἴσασι τὸ δυνατὸν ἐν ἑκάστῳ καὶ τὸ ἀδύνατον· ἁρμόσει γάρ. ἢ ὡς Ἀντιφῶν ἐτετραγώνιζεν. ἢ εἴ τις μὴ φαίη βέλτιον εἶναι ἀπὸ δείπνου περιπατεῖν διὰ τὸν Ζήνωνος λόγον, οὐκ ἰατρικός· κοινὸς γάρ. εἰ μὲν οὖν πάντῃ ὁμοίως εἶχεν ὁ ἐριστικὸς πρὸς τὸν διαλεκτικὸν τῷ ψευδογράφῳ πρὸς τὸν γεωμέτρην, οὐκ ἂν ἦν περὶ ἐκείνων ἐριστικός· νῦν δ' οὐκ ἔστιν ὁ διαλεκτικὸς περὶ γένος τι ὡρισμένον, οὐδὲ δεικτικὸς οὐδενός, οὐδὲ τοιοῦτος οἷος ὁ καθόλου. οὔτε γάρ ἐστιν ἅπαντα ἐν ἑνί τινι γένει, οὔτε, εἰ εἴη, οἷόν τε ὑπὸ τὰς αὐτὰς ἀρχὰς εἶναι τὰ ὄντα. ὥστ’ οὐδεμία τέχνη τῶν δεικνυουσῶν τινα φύσιν ἐρωτητική ἐστιν· οὐ γὰρ ἔξεστιν ὁποτερονοῦν τῶν μορίων δοῦναι· συλλογισμὸς γὰρ οὐ γίνεται ἐξ ἀμφοῖν. ἡ δὲ διαλεκτικὴ ἐρωτητική ἐστιν, εἰ δ’ ἐδείκνυεν, εἰ καὶ μὴ πάντα, ἀλλὰ τά γε πρῶτα καὶ τὰς οἰκείας ἀρχὰς οὐκ ἂν ἠρώτα· μὴ διδόντος γὰρ οὐκ ἂν ἔτι εἶχεν ἐξ ὧν ἔτι διαλέξεται πρὸς τὴν ἔνστασιν. ἡ δ’ αὐτὴ καὶ πειραστική· οὐδὲ γὰρ ἡ πειραστικὴ τοιαύτη ἐστὶν οἵα ἡ γεωμετρία, ἀλλ’ ἣν ἂν ἔχοι καὶ μὴ εἰδώς τις. ἔξεστι γὰρ πεῖραν λαβεῖν καὶ τὸν μὴ εἰδότα τὸ πρᾶγμα τοῦ μὴ εἰδότος, εἴπερ καὶ δίδωσιν, οὐκ ἐξ ὧν οἶδεν οὐδ’ ἐκ τῶν ἰδίων ἀλλ’ ἐκ τῶν ἑπομένων, ὅσα τοιαῦτά ἐστιν ἃ εἰδότα μὲν οὐδὲν κωλύει μὴ εἰδέναι τὴν τέχνην, μὴ εἰδότα δ’ ἀνάγκη ἀγνοεῖν. (ὥστε φανερὸν ὅτι οὐδενὸς ὡρισμένου ἡ πειραστικὴ ἐπιστήμη ἐστίν. διὸ καὶ περὶ πάντων ἐστί· πᾶσαι γὰρ αἱ τέχναι χρῶνται καὶ κοινοῖς τισιν. διὸ πάντες καὶ οἱ ἰδιῶται τρόπον τινὰ χρῶνται τῇ διαλεκτικῇ καὶ πειραστικῇ· πάντες γὰρ μέχρι τινὸς ἐπιχειροῦσιν ἀνακρίνειν τοὺς ἐπαγγελλομένους.) ταῦτα δ’ ἐστὶ τὰ κοινά· ταῦτα γὰρ οὐδὲν ἧττον ἴσασιν αὐτοί, κἂν δοκῶσι λίαν ἔξω λέγειν. ἐλέγχουσιν οὖν ἅπαντες· ἀτέχνως γὰρ μετέχουσι τούτου οὗ ἐντέχνως ἡ διαλεκτική ἐστι, καὶ ὁ τέχνῃ συλλογιστικῇ πειραστικὸς διαλεκτικός. ἐπεὶ δ’ ἐστὶ πολλὰ μὲν ταὐτὰ κατὰ πάντων, οὐ τοιαῦτα δ’ ὥστε φύσιν τινὰ εἶναι καὶ γένος ἀλλ’ οἷα αἱ ἀποφάσεις, τὰ δ’ οὐ τοιαῦτα ἀλλὰ ἴδια, ἔστιν ἐκ τούτων περὶ ἁπάντων πεῖραν λαμβάνειν καὶ εἶναι τέχνην τινά, καὶ μὴ τοιαύτην εἶναι οἷαι αἱ δεικνύουσαι. διόπερ ὁ ἐριστικὸς οὐκ ἔστιν οὕτως ἔχων πάντῃ ὡς ὁ ψευδογράφος· οὐ γὰρ ἔσται παραλογιστικὸς ἐξ ὡρισμένου τινὸς γένους ἀρχῶν, ἀλλὰ περὶ πᾶν γένος ἔσται ὁ ἐριστικός.

Τρόποι μὲν οὖν εἰσιν οὗτοι τῶν σοφιστικῶν ἐλέγχων. ὅτι δ’ ἐστὶ τοῦ διαλεκτικοῦ τὸ θεωρῆσαι περὶ τούτων καὶ δύνασθαι ταῦτα ποιεῖν, οὐ χαλεπὸν ἰδεῖν· ἡ γὰρ περὶ τὰς προτάσεις μέθοδος ἅπασαν ἔχει ταύτην τὴν θεωρίαν.

Καὶ περὶ μὲν τῶν ἐλέγχων εἴρηται τῶν φαινομένων. περὶ δὲ τοῦ ψευδόμενόν τι δεῖξαι καὶ τὸν λόγον εἰς ἄδοξόν τι ἀγαγεῖν (τοῦτο γὰρ ἦν δεύτερον τῆς σοφιστικῆς προαιρέσεως) - πρῶτον μὲν οὖν ἐκ τοῦ πυνθάνεσθαί πως καὶ διὰ τῆς ἐρωτήσεως συμβαίνει μάλιστα. τὸ γὰρ [πρὸς] μηδὲν ὁρίσαντα κείμενον ἐρωτᾶν θηρευτικόν ἐστι τούτων· εἰκῇ γὰρ λέγοντες ἁμαρτάνουσι μᾶλλον· εἰκῇ δὲ λέγουσιν ὅταν μηδὲν ἔχωσι προκείμενον. τό τε ἐρωτᾶν πολλά, κἂν ὡρισμένον ᾖ πρὸς ὃ διαλέγεται, καὶ τὸ τὰ δοκοῦντα λέγειν ἀξιοῦν, ποιεῖ τιν’ εὐπορίαν τοῦ εἰς ἄδοξον ἀγαγεῖν ἢ ψεῦδος, ἐάν τε ἐρωτώμενος φῇ ἢ ἀποφῇ τούτων τι, ἄγει πρὸς ἃ ἐπιχειρήματος εὐπορεῖ. δύνανται δὲ νῦν ἧττον κακουργεῖν διὰ τούτων ἢ πρότερον· ἀπαιτοῦνται γὰρ τί τοῦτο πρὸς τὸ ἐν ἀρχῇ. στοιχεῖον δὲ τοῦ τυχεῖν ἢ ψεύδους τινὸς ἢ ἀδόξου τὸ μηδεμίαν εὐθὺς ἐρωτᾶν θέσιν, ἀλλὰ φάσκειν ἐρωτᾶν μαθεῖν βουλόμενον· χώραν γὰρ ἐπιχειρήματος ἡ σκῆψις ποιεῖ.

Πρὸς δὲ τὸ ψευδόμενον δεῖξαι ἴδιος τόπος ὁ σοφιστικός, τὸ ἄγειν πρὸς τοιαῦτα πρὸς ἃ εὐπορεῖ λόγων. ἔστι δὲ καὶ καλῶς καὶ μὴ καλῶς τοῦτο ποιεῖν, καθάπερ ἐλέχθη πρότερον.

Πάλιν πρὸς τὸ παράδοξα λέγειν σκοπεῖν ἐκ τίνος γένους ὁ διαλεγόμενος, εἶτ’ ἐπερωτᾶν ὃ τοῖς πολλοῖς οὗτοι λέγουσι παράδοξον· ἔστι γὰρ ἑκάστοις τι τοιοῦτον. στοιχεῖον δὲ τούτων τὸ τὰς ἑκάστων εἰληφέναι θέσεις ἐν ταῖς προτάσεσιν. λύσις δὲ καὶ τούτων ἡ προσήκουσα φέρεται τῷ ἐμφανίζειν ὅτι οὐ διὰ τὸν λόγον συμβαίνει τὸ ἄδοξον· ἀεὶ δὲ τοῦτο καὶ βούλεται ὁ ἀγωνιζόμενος.

Ἔτι δ’ ἐκ τῶν βουλήσεων καὶ τῶν φανερῶν δοξῶν. οὐ γὰρ ταὐτὰ βούλονταί τε καὶ φασίν, ἀλλὰ λέγουσι μὲν τοὺς εὐσχημονεστάτους τῶν λόγων, βούλονται δὲ τὰ φαινόμενα λυσιτελεῖν· οἷον τεθνάναι καλῶς μᾶλλον ἢ ζῆν ἡδέως φασὶ δεῖν, καὶ πένεσθαι δικαίως μᾶλλον ἢ πλουτεῖν αἰσχρῶς, βούλονται δὲ τἀναντία. τὸν μὲν οὖν λέγοντα κατὰ τὰς βουλήσεις εἰς τὰς φανερὰς δόξας ἀκτέον, τὸν δὲ κατὰ ταύτας εἰς τὰς ἀποκεκρυμμένας· ἀμφοτέρως γὰρ ἀναγκαῖον παράδοξα λέγειν· ἢ γὰρ πρὸς τὰς φανερὰς ἢ πρὸς τὰς ἀφανεῖς δόξας ἐροῦσιν ἐναντία.

Πλεῖστος δὲ τόπος ἐστὶ τοῦ ποιεῖν παράδοξα λέγειν, ὥσπερ καὶ ὁ Καλλικλῆς ἐν τῷ Γοργίᾳ γέγραπται λέγων, καὶ οἱ ἀρχαῖοι δὲ πάντες ᾤοντο συμβαίνειν, παρὰ τὸ κατὰ φύσιν καὶ κατὰ τὸν νόμον· ἐναντία γὰρ εἶναι φύσιν καὶ νόμον, καὶ τὴν δικαιοσύνην κατὰ νόμον μὲν εἶναι καλόν, κατὰ φύσιν δ’ οὐ καλόν. δεῖ οὖν πρὸς μὲν τὸν εἰπόντα κατὰ φύσιν κατὰ νόμον ἀπαντᾶν, πρὸς δὲ τὸν κατὰ νόμον ἐπὶ τὴν φύσιν ἄγειν· ἀμφοτέρως γὰρ συμβαίνει λέγειν παράδοξα. ἦν δὲ τὸ μὲν κατὰ φύσιν αὐτοῖς τὸ ἀληθές, τὸ δὲ κατὰ νόμον τὸ τοῖς πολλοῖς δοκοῦν. ὥστε δῆλον ὅτι κἀκεῖνοι, καθάπερ καὶ οἱ νῦν, ἢ ἐλέγξαι ἢ παράδοξα λέγειν τὸν ἀποκρινόμενον ἐπεχείρουν ποιεῖν.

Ἔνια δὲ τῶν ἐρωτημάτων ἔχει τὸ ἀμφοτέρως ἄδοξον εἶναι τὴν ἀπόκρισιν, οἷον πότερον τοῖς σοφοῖς ἢ τῷ πατρὶ δεῖ πείθεσθαι, καὶ τὰ συμφέροντα πράττειν ἢ τὰ δίκαια, καὶ ἀδικεῖσθαι αἱρετώτερον ἢ βλάπτειν. δεῖ δ’ ἄγειν εἰς τὰ τοῖς πολλοῖς καὶ ‹τὰ› τοῖς σοφοῖς ἐναντία - ἐὰν μὲν λέγῃ τις ὡς οἱ περὶ τοὺς λόγους, εἰς τὰ τοῖς πολλοῖς, ἐὰν δ’ ὡς οἱ πολλοί, ἐπὶ τὰ τοῖς σοφοῖς. φασὶ γὰρ οἱ μὲν ἐξ ἀνάγκης τὸν εὐδαίμονα δίκαιον εἶναι· τοῖς δὲ πολλοῖς ἄδοξον τὸ βασιλέα μὴ εὐδαιμονεῖν. ἔστι δὲ τὸ εἰς τὰ οὕτως ἄδοξα ἄγειν τὸ αὐτὸ τῷ εἰς τὴν κατὰ φύσιν καὶ κατὰ νόμον ὑπεναντίωσιν ἄγειν· ὁ μὲν γὰρ νόμος δόξα τῶν πολλῶν, οἱ δὲ σοφοὶ κατὰ φύσιν καὶ κατ’ ἀλήθειαν λέγουσιν.

Καὶ τὰ μὲν παράδοξα ἐκ τούτων δεῖ ζητεῖν τῶν τόπων· περὶ δὲ τοῦ ποιῆσαι ἀδολεσχεῖν, ὃ μὲν λέγομεν τὸ ἀδολεσχεῖν εἰρήκαμεν ἤδη· πάντες δὲ οἱ τοιοίδε λόγοι τοῦτο βούλονται ποιεῖν· εἰ μηδὲν διαφέρει τὸ ὄνομα ἢ τὸν λόγον εἰπεῖν, διπλάσιον δὴ καὶ διπλάσιον ἡμίσεος ταὐτό· εἰ ἄρα ἐστὶ διπλάσιον ἡμίσεος διπλάσιον, ἔσται ἡμίσεος ἡμίσεος διπλάσιον. καὶ πάλιν ἂν ἀντὶ τοῦ “διπλάσιον” “διπλάσιον ἡμίσεος” τεθῇ, τρὶς ἔσται εἰρημένον, ἡμίσεος ἡμίσεος ἡμίσεος διπλάσιον. καὶ ἆρά ἐστιν ἡ ἐπιθυμία ἡδέος; τοῦτο δ’ ἐστὶν ὄρεξις ἡδέος· ἔστιν ἄρα ἡ ἐπιθυμία ὄρεξις ἡδέος ἡδέος.

Εἰσὶ δὲ πάντες οἱ τοιοῦτοι τῶν λόγων ἔν τε τοῖς πρός τι, ὅσα μὴ μόνον τὰ γένη ἀλλὰ καὶ αὐτὰ πρός τι λέγεται καὶ πρὸς τὸ αὐτὸ καὶ ἓν ἀποδίδοται (οἷον ἥ τε ὄρεξις τινὸς ὄρεξις καὶ ἡ ἐπιθυμία τινὸς ἐπιθυμία, καὶ τὸ διπλάσιον τινὸς διπλάσιον, καὶ διπλάσιον ἡμίσεος), καὶ ὅσων ἡ οὐσία, οὐκ ὄντων πρός τι ὅλως ὧν εἰσιν ἕξεις ἢ πάθη ἤ τι τοιοῦτον ἐν τῷ λόγῳ αὐτῶν προσδηλοῦται, κατηγορουμένων†ἐπὶ τούτοις. οἷον τὸ περιττὸν ἀριθμὸς μέσον ἔχων· ἔστι δ’ ἀριθμὸς περιττός· ἔστιν ἄρα ἀριθμὸς ἀριθμὸς μέσον ἔχων. καὶ εἰ τὸ σιμὸν κοιλότης ῥινός ἐστιν, ἔστι δὲ ῥὶς σιμή, ἔστιν ἄρα ῥὶς ῥὶς κοίλη.

Φαίνονται δὲ ποιεῖν οὐ ποιοῦντες ἐνίοτε διὰ τὸ μὴ προσπυνθάνεσθαι εἰ σημαίνει τι καθ’ αὑτὸ λεχθὲν τὸ διπλάσιον ἢ οὐδέν, καὶ εἴ τι σημαίνει, πότερον τὸ αὐτὸ ἢ ἕτερον, ἀλλὰ τὸ συμπέρασμα λέγειν εὐθύς. ἀλλὰ φαίνεται, διὰ τὸ τὸ ὄνομα ταὐτὸ εἶναι, ταὐτὸ καὶ σημαίνειν.

Σολοικισμὸς δ’ οἷον μέν ἐστιν εἴρηται πρότερον· ἔστι δὲ τοῦτο καὶ ποιεῖν καὶ μὴ ποιοῦντα φαίνεσθαι καὶ ποιοῦντα μὴ δοκεῖν, καθάπερ, ὃ Πρωταγόρας ἔλεγεν, εἰ “ὁ μῆνις” καὶ “ὁ πήληξ” ἄρρενά ἐστιν· ὁ μὲν γὰρ λέγων “οὐλομένην” σολοικίζει μὲν κατ’ ἐκεῖνον, οὐ φαίνεται δὲ τοῖς ἄλλοις, ὁ δὲ “οὐλόμενον” φαίνεται μέν, ἀλλ’ οὐ σολοικίζει. δῆλον οὖν ὅτι κἂν τέχνῃ τις τοῦτο δύναιτο ποιεῖν· διὸ πολλοὶ τῶν λόγων οὐ συλλογιζόμενοι σολοικισμὸν φαίνονται συλλογίζεσθαι, καθάπερ ἐν τοῖς ἐλέγχοις.

Εἰσὶ δὲ πάντες σχεδὸν οἱ φαινόμενοι σολοικισμοὶ παρὰ τόδε, [καὶ] ὅταν ἡ πτῶσις μήτε ἄρρεν μήτε θῆλυ δηλοῖ ἀλλὰ τὸ μεταξύ. τὸ μὲν γὰρ “οὗτος” ἄρρεν σημαίνει, τὸ δ’ “αὕτη” θῆλυ· τὸ δὲ “τοῦτο” θέλει μὲν τὸ μεταξὺ σημαίνειν, πολλάκις δὲ σημαίνει κἀκείνων ἑκάτερον, οἷον “τί τοῦτο;”

“Καλλιόπη, ξύλον, Κορίσκος”. τοῦ μὲν οὖν ἄρρενος καὶ τοῦ θήλεος διαφέρουσιν αἱ πτώσεις ἅπασαι, τοῦ δὲ μεταξὺ αἱ μὲν αἱ δ’ οὔ. δοθέντος δὴ πολλάκις “τοῦτο”, συλλογίζονται ὡς εἰρημένου “τοῦτον”· ὁμοίως δὲ καὶ ἄλλην πτῶσιν ἀντ’ ἄλλης. ὁ δὲ παραλογισμὸς γίνεται διὰ τὸ κοινὸν εἶναι τὸ “τοῦτο” πλειόνων πτώσεων· τὸ γὰρ “τοῦτο” σημαίνει ὁτὲ μὲν “οὗτος” ὁτὲ δὲ “τοῦτον”. δεῖ δ’ ἐναλλὰξ σημαίνειν μετὰ μὲν τοῦ “ἔστι” τὸ “οὗτος”, μετὰ δὲ τοῦ “εἶναι” τὸ “τοῦτον”, οἷον “ἔστι Κορίσκος”, “εἶναι Κορίσκον”. καὶ ἐπὶ τῶν θήλεων ὀνομάτων ὡσαύτως, καὶ ἐπὶ τῶν λεγομένων μὲν σκευῶν, ἐχόντων δὲ θηλείας ἢ ἄρρενος κλῆσιν. ὅσα γὰρ εἰς τὸ ο καὶ τὸ ν τελευτᾷ, ταῦτα μόνα σκεύους ἔχει κλῆσιν, οἷον ξύλον, σχοινίον· τὰ δὲ μὴ οὕτως ἄρρενος ἢ θήλεος, ὧν ἔνια φέρομεν ἐπὶ τὰ σκεύη, οἷον ἀσκὸς μὲν ἄρρεν τοὔνομα, κλίνη δὲ θῆλυ. διόπερ καὶ ἐπὶ τῶν τοιούτων ὡσαύτως τὸ “ἔστι” καὶ τὸ “εἶναι” διοίσει. καὶ τρόπον τινὰ ὅμοιός ἐστιν ὁ σολοικισμὸς τοῖς “παρὰ τὸ τὰ μὴ ὅμοια ὁμοίως” λεγομένοις ἐλέγχοις. ὥσπερ γὰρ ἐκείνοις ἐπὶ τῶν πραγμάτων, τούτοις ἐπὶ τῶν ὀνομάτων συμπίπτει σολοικίζειν· ἄνθρωπος γὰρ καὶ λευκὸν καὶ πρᾶγμα καὶ ὄνομά ἐστιν.

Φανερὸν οὖν ὅτι τὸν σολοικισμὸν πειρατέον ἐκ τῶν εἰρημένων πτώσεων συλλογίζεσθαι.

Εἴδη μὲν οὖν ταῦτα τῶν ἀγωνιστικῶν λόγων καὶ μέρη τῶν εἰδῶν καὶ τρόποι οἱ εἰρημένοι· διαφέρει δ’ οὐ μικρὸν ἐὰν ταχθῇ πως τὰ περὶ τὴν ἐρώτησιν πρὸς τὸ λανθάνειν, ὥσπερ ἐν τοῖς διαλεκτικοῖς. ἐφεξῆς οὖν τοῖς εἰρημένοις ταῦτα πρῶτον λεκτέον.

Ἔστι δὴ πρὸς τὸ ἐλέγχειν ἓν μὲν μῆκος· χαλεπὸν γὰρ ἅμα πολλὰ συνορᾶν· εἰς δὲ τὸ μῆκος τοῖς προειρημένοις στοιχείοις χρηστέον. ἓν δὲ τάχος· ὑστερίζοντες γὰρ ἧττον προορῶσιν. ἔτι δ’ ὀργὴ καὶ φιλονεικία· ταραττόμενοι γὰρ ἧττον δύνανται φυλάττεσθαι πάντες· στοιχεῖα δὲ τῆς ὀργῆς τό τε φανερὸν ἑαυτὸν ποιεῖν βουλόμενον ἀδικεῖν καὶ τὸ παράπαν ἀναισχυντεῖν. ἔτι τὸ ἐναλλὰξ τὰ ἐρωτήματα τιθέναι, ἐάν τε πρὸς ταὐτὸ πλείους τις ἔχῃ λόγους, ἐάν τε καὶ ὅτι οὕτως καὶ ὅτι οὐχ οὕτως· ἅμα γὰρ συμβαίνει ἢ πρὸς πλείω ἢ πρὸς τὰ ἐναντία ποιεῖσθαι τὴν φυλακήν. ὅλως δὲ πάντα τὰ πρὸς τὴν κρύψιν λεχθέντα πρότερον χρήσιμα καὶ πρὸς τοὺς ἀγωνιστικοὺς λόγους· ἡ γὰρ κρύψις ἐστὶ τοῦ λαθεῖν χάριν, τὸ δὲ λαθεῖν τῆς ἀπάτης.

Πρὸς δὲ τοὺς ἀνανεύοντας ἅττ’ ἂν οἰηθῶσιν εἶναι πρὸς τὸν λόγον, ἐξ ἀποφάσεως ἐρωτητέον ὡς τοὐναντίον βουλόμενον, ἢ καὶ ἐξ ἴσου ποιοῦντα τὴν ἐρώτησιν· ἀδήλου γὰρ ὄντος τοῦ τί βούλεται λαβεῖν ἧττον δυσκολαίνουσιν. ὅταν τ’ ἐπὶ τῶν μερῶν διδῷ τις τὸ καθ’ ἕκαστον, ἐπάγοντα τὸ καθόλου πολλάκις οὐκ ἐρωτητέον ἀλλ’ ὡς δεδομένῳ χρηστέον· ἐνίοτε γὰρ καὶ αὐτοὶ οἴονται δεδωκέναι καὶ τοῖς ἀκούουσι φαίνονται διὰ τὴν τῆς ἐπαγωγῆς μνείαν, ὡς οὐκ ἂν ἠρωτημένα μάτην. ἐν οἷς τε μὴ ὀνόματι σημαίνεται τὸ καθόλου ἀλλὰ τῇ ὁμοιότητι, χρηστέον πρὸς τὸ συμφέρον· λανθάνει γὰρ ἡ ὁμοιότης πολλάκις. πρός τε τὸ λαβεῖν τὴν πρότασιν τοὐναντίον παραβάλλοντα χρὴ πυνθάνεσθαι· οἷον, εἰ δέοι λαβεῖν ὅτι δεῖ πάντα τῷ πατρὶ πείθεσθαι, “πότερον ἅπαντα δεῖ πείθεσθαι τοῖς γονεῦσιν ἢ πάντ’ ἀπειθεῖν;” καὶ “τὸ πολλάκις πολλά, πότερον πολλὰ συγχωρητέον ἢ ὀλίγα;” μᾶλλον γάρ, εἴπερ ἀνάγκη, δόξειεν ἂν εἶναι πολλά· παρατιθεμένων γὰρ ἐγγὺς τῶν ἐναντίων καὶ μείω καὶ μείζω φαίνεται καὶ χείρω καὶ βελτίω τοῖς ἀνθρώποις.

Σφόδρα δὲ καὶ πολλάκις ποιεῖ δοκεῖν ἐληλέγχθαι τὸ μάλιστα σοφιστικὸν συκοφάντημα τῶν ἐρωτώντων, τὸ μηδὲν συλλογισαμένους μὴ ἐρώτημα ποιεῖν τὸ τελευταῖον ἀλλὰ συμπεραντικῶς εἰπεῖν, ὡς συλλελογισμένους, “οὐκ ἄρα τὸ καὶ τό”.

Σοφιστικὸν δὲ καὶ τὸ κειμένου παραδόξου τὸ φαινόμενον ἀξιοῦν ἀποκρίνεσθαι, προκειμένου τοῦ δοκοῦντος ἐξ ἀρχῆς, καὶ τὴν ἐρώτησιν τῶν τοιούτων οὕτω ποιεῖσθαι, “πότερόν σοι δοκεῖ;” ἀνάγκη γάρ, ἂν ᾖ τὸ ἐρώτημα ἐξ ὧν ὁ συλλογισμός, ἢ ἔλεγχον ἢ παράδοξον γίνεσθαι, δόντος μὲν ἔλεγχον, μὴ δόντος δὲ μηδὲ δοκεῖν φάσκοντος ἄδοξον, μὴ δόντος δέ, δοκεῖν δ’ ὁμολογοῦντος, ἐλεγχοειδές.

Ἔτι καθάπερ καὶ ἐν τοῖς ῥητορικοῖς, καὶ ἐν τοῖς ἐλεγκτικοῖς ὁμοίως τὰ ἐναντιώματα θεωρητέον ἢ πρὸς τὰ ὑφ’ ἑαυτοῦ λεγόμενα ἢ πρὸς οὓς ὁμολογεῖ καλῶς λέγειν ἢ πράττειν, ἔτι πρὸς τοὺς δοκοῦντας τοιούτους ἢ πρὸς τοὺς ὁμοίους, ἢ πρὸς τοὺς πλείστους ἢ πρὸς πάντας. ὥσπερ τε καὶ ἀποκρινόμενοι πολλάκις, ὅταν ἐλέγχωνται, ποιοῦσι διττόν, ἂν μέλλῃ συμβαίνειν ἐλεγχθήσεσθαι, καὶ ἐρωτῶντας χρηστέον ποτὲ τούτῳ πρὸς τοὺς ἐνισταμένους - ἂν ὡδὶ μὲν συμβαίνῃ ὡδὶ δὲ μή, ὅτι οὕτως εἴληφεν, οἷον ὁ Κλεοφῶν ποιεῖ ἐν τῷ Μανδροβούλῳ. δεῖ δὲ καὶ ἀφισταμένους τοῦ λόγου τὰ λοιπὰ τῶν ἐπιχειρημάτων ἐπιτέμνειν, καὶ ἀποκρινόμενον, ἂν προαισθάνηται, προενίστασθαι καὶ προαγορεύειν. ἐπιχειρητέον δ’ ἐνίοτε καὶ πρὸς ἄλλα τοῦ εἰρημένου, ἐκεῖνο ἐκλαβόντας, ἐὰν μὴ πρὸς τὸ κείμενον ἔχῃ τις ἐπιχειρεῖν· ὅπερ ὁ Λυκόφρων ἐποίησε προβληθέντος λύραν ἐγκωμιάζειν. πρὸς δὲ τοὺς ἀπαιτοῦντας πρὸς τί ἐπιχειρεῖ, ἐπειδὴ δοκεῖ δεῖν ἀποδιδόναι τὴν αἰτίαν, λεχθέντων δ’ ἐνίων εὐφυλακτότερον (τὸ καθόλου συμβαῖνον ἐν τοῖς ἐλέγχοις), λέγειν τὴν ἀντίφασιν, ὅτι ὃ ἔφησεν ἀπόφησι, ἢ ὃ ἀπέφησε φησί, ἀλλὰ μὴ ὅτι τῶν ἐναντίων ἡ αὐτὴ ἐπιστήμη ἢ οὐχ ἡ αὐτή. οὐ δεῖ δὲ τὸ συμπέρασμα προτατικῶς ἐρωτᾶν. ἔνια δ’ οὐδ’ ἐρωτητέον ἀλλ’ ὡς ὁμολογουμένοις χρηστέον.

Ἐξ ὧν μὲν οὖν αἱ ἐρωτήσεις καὶ πῶς ἐρωτητέον ἐν ταῖς ἀγωνιστικαῖς διατριβαῖς, εἴρηται. περὶ δὲ ἀποκρίσεως καὶ πῶς χρὴ λύειν καὶ τί, καὶ πρὸς τίνα χρῆσιν οἱ τοιοῦτοι τῶν λόγων ὠφέλιμοι, μετὰ ταῦτα λεκτέον.

Χρήσιμοι μὲν οὖν εἰσι πρὸς μὲν φιλοσοφίαν διὰ δύο. πρῶτον μὲν γὰρ ὡς ἐπὶ τὸ πολὺ γινόμενοι παρὰ τὴν λέξιν ἄμεινον ἔχειν ποιοῦσι πρὸς τὸ ποσαχῶς ἕκαστον λέγεται καὶ ποῖα ὁμοίως καὶ ποῖα ἑτέρως ἐπί τε τῶν πραγμάτων συμβαίνει καὶ ἐπὶ τῶν ὀνομάτων. δεύτερον δὲ πρὸς τὰς καθ’ αὑτὸν ζητήσεις· ὁ γὰρ ὑφ’ ἑτέρου ῥᾳδίως παραλογιζόμενος καὶ τοῦτο μὴ διαισθανόμενος κἂν αὐτὸς ὑφ’ αὑτοῦ τοῦτο πάθοι πολλάκις. τρίτον δὲ καὶ τὸ λοιπὸν ἔτι πρὸς δόξαν, τὸ περὶ πάντα γεγυμνάσθαι δοκεῖν καὶ μηδενὸς ἀπείρως ἔχειν· τὸ γὰρ κοινωνοῦντα λόγων ψέγειν λόγους, μηδὲν ἔχοντα διορίζειν περὶ τῆς φαυλότητος αὐτῶν, ὑποψίαν δίδωσι τοῦ δοκεῖν δυσχεραίνειν οὐ διὰ τἀληθὲς ἀλλὰ δι’ ἀπειρίαν.

Ἀποκρινομένοις δὲ πῶς ἀπαντητέον πρὸς τοὺς τοιούτους λόγους, φανερόν, εἴπερ ὀρθῶς εἰρήκαμεν πρότερον ἐξ ὧν εἰσιν οἱ παραλογισμοί, καὶ τὰς ἐν τῷ πυνθάνεσθαι πλεονεξίας ἱκανῶς διείλομεν. οὐ ταὐτὸ δ’ ἐστὶ λαβόντα τε τὸν λόγον ἰδεῖν καὶ λῦσαι τὴν μοχθηρίαν, καὶ ἐρωτώμενον ἀπαντᾶν δύνασθαι ταχέως· ὃ γὰρ ἴσμεν, πολλάκις μετατιθέμενον ἀγνοοῦμεν. ἔτι δ’, ὥσπερ ἐν τοῖς ἄλλοις τὸ θᾶττον καὶ τὸ βραδύτερον ἐκ τοῦ γεγυμνάσθαι γίνεται μᾶλλον, οὕτω καὶ ἐπὶ τῶν λόγων ἔχει, ὥστε, ἂν δῆλον μὲν ἡμῖν ᾖ, ἀμελέτητοι δ’ ὦμεν, ὑστεροῦμεν τῶν καιρῶν πολλάκις. συμβαίνει δέ ποτε καθάπερ ἐν τοῖς διαγράμμασιν· καὶ γὰρ ἐκεῖ ἀναλύσαντες ἐνίοτε συνθεῖναι πάλιν ἀδυνατοῦμεν· οὕτω καὶ ἐν τοῖς ἐλέγχοις, εἰδότες παρ’ ὃ ὁ λόγος συμβαίνει συνεῖραι, διαλῦσαι τὸν λόγον ἀποροῦμεν.

Πρῶτον μὲν οὖν, ὥσπερ συλλογίζεσθαί φαμεν ἐνδόξως ποτὲ μᾶλλον ἢ ἀληθῶς προαιρεῖσθαι δεῖν, οὕτω καὶ λυτέον ποτὲ μᾶλλον ἐνδόξως ἢ κατὰ τἀληθές. ὅλως γὰρ πρὸς τοὺς ἐριστικοὺς μαχετέον οὐχ ὡς ἐλέγχοντας ἀλλ’ ὡς φαινομένους· οὐ γάρ φαμεν συλλογίζεσθαί γε αὐτούς, ὥστε πρὸς τὸ μὴ δοκεῖν διορθωτέον. εἰ γάρ ἐστιν ὁ ἔλεγχος ἀντίφασις μὴ ὁμώνυμος ἔκ τινων, οὐδὲν ἂν δέοι διαιρεῖσθαι πρὸς ἀμφίβολα καὶ τὴν ὁμωνυμίαν (οὐ γὰρ ποιεῖ συλλογισμόν), ἀλλ’ οὐδενὸς ἄλλου χάριν προσδιαιρετέον ἀλλ’ ἢ ὅτι τὸ συμπέρασμα φαίνεται ἐλεγχοειδές. οὔκουν τὸ ἐλεγχθῆναι ἀλλὰ τὸ δοκεῖν εὐλαβητέον, ἐπεὶ τό γ’ ἐρωτᾶν ἀμφίβολα καὶ τὰ παρὰ τὴν ὁμωνυμίαν ὅσαι τ’ ἄλλαι τοιαῦται παρακρούσεις καὶ τὸν ἀληθινὸν ἔλεγχον ἀφανίζει καὶ τὸν ἐλεγχόμενον καὶ μὴ ἐλεγχόμενον ἄδηλον ποιεῖ. ἐπεὶ γὰρ ἔξεστιν ἐπὶ τέλει συμπεραναμένου μὴ ὅπερ ἔφησεν ἀποφῆσαι λέγειν, ἀλλ’ ‹ἢ› ὁμωνύμως, εἰ καὶ ὅτι μάλιστ’ ἔτυχεν ἐπὶ ταὐτὸ φέρων, ἄδηλον εἰ ἐλήλεγκται· ἄδηλον γὰρ εἰ ἀληθῆ λέγει νῦν. εἰ δὲ διελὼν ἤρετο τὸ ὁμώνυμον ἢ τὸ ἀμφίβολον, οὐκ ἂν ἄδηλος ἦν ὁ ἔλεγχος, ὅ τ’ ἐπιζητοῦσι νῦν μὲν ἧττον πρότερον δὲ μᾶλλον οἱ ἐριστικοί, τὸ ἢ “ναί” ἢ “οὔ” ἀποκρίνεσθαι τὸν ἐρωτώμενον, ἐγίνετ’ ἄν. νῦν δὲ διὰ τὸ μὴ καλῶς ἐρωτᾶν τοὺς πυνθανομένους ἀνάγκη προσαποκρίνεσθαί τι τὸν ἐρωτώμενον, διορθοῦντα τὴν μοχθηρίαν τῆς προτάσεως· ἐπεὶ διελομένου γε ἱκανῶς ἢ “ναί” ἢ “οὔ” ἀνάγκη λέγειν τὸν ἀποκρινόμενον.

Εἰ δέ τις ὑπολήψεται τὸν κατὰ ὁμωνυμίαν ἔλεγχον ‹ἔλεγχον› εἶναι, τρόπον τινὰ οὐκ ἔσται διαφυγεῖν τὸ ἐλέγχεσθαι τὸν ἀποκρινόμενον· ἐπὶ γὰρ τῶν ὁρατῶν ἀναγκαῖον ὃ ἔφησεν ἀποφῆσαι ὄνομα καὶ ὃ ἀπέφησε φῆσαι. ὡς γὰρ διορθοῦνταί τινες, οὐδὲν ὄφελος. οὐ γὰρ Κορίσκον φασὶν εἶναι μουσικὸν καὶ ἄμουσον, ἀλλὰ τοῦτον τὸν Κορίσκον μουσικὸν καὶ τοῦτον τὸν Κορίσκον ἄμουσον. ὁ γὰρ αὐτὸς ἔσται λόγος τὸ τοῦτον τὸν Κορίσκον τῷ τοῦτον τὸν Κορίσκον ἄμουσον εἶναι (ἢ μουσικόν), ὅπερ ἅμα φησί τε καὶ ἀπόφησιν. ἀλλ’ ἴσως οὐ ταὐτὸ σημαίνει (οὐδὲ γὰρ ἐκεῖ τοὔνομα), ὥστε τί διαφέρει; εἰ δὲ τῷ μὲν τὸ ἁπλῶς λέγειν Κορίσκον ἀποδώσει, τῷ δὲ προσθήσει τὸ τινὰ ἢ τόνδε, ἄτοπον· οὐδὲν γὰρ μᾶλλον θατέρῳ· ὁποτέρῳ γὰρ ἂν οὐδὲν διαφέρει.

Οὐ μὴν ἀλλ’ ἐπειδὴ ἄδηλος μέν ἐστιν ὁ μὴ διορισάμενος τὴν ἀμφιβολίαν πότερον ἐλήλεγκται ἢ οὐκ ἐλήλεγκται, δέδοται δ’ ἐν τοῖς λόγοις τὸ διελεῖν, φανερὸν ὅτι τὸ μὴ διορίσαντα δοῦναι τὴν ἐρώτησιν, ἀλλ’ ἁπλῶς, ἁμάρτημά ἐστιν, ὥστε κἂν εἰ μὴ αὐτός, ἀλλ’ ὅ γε λόγος ἐληλεγμένῳ ὅμοιός ἐστιν. συμβαίνει μέντοι πολλάκις ὁρῶντας τὴν ἀμφιβολίαν ὀκνεῖν διαιρεῖσθαι διὰ τὴν πυκνότητα τῶν τὰ τοιαῦτα προτεινόντων, ὅπως μὴ πρὸς ἅπαν δοκῶσι δυσκολαίνειν· εἶτ’ οὐκ ἂν οἰηθέντων παρὰ τοῦτο γενέσθαι τὸν λόγον, πολλάκις ἀπήντησε παράδοξον. ὥστ’ ἐπειδὴ δέδοται διαιρεῖν, οὐκ ὀκνητέον, καθάπερ ἐλέχθη πρότερον.

Εἰ δὲ τὰ δύο ἐρωτήματα μὴ ἓν ἐποίει τις ἐρώτημα, οὐδ’ ἂν ὁ παρὰ τὴν ὁμωνυμίαν καὶ τὴν ἀμφιβολίαν ἐγίνετο παραλογισμός, ἀλλ’ ἢ ἔλεγχος ἢ οὔ. τί γὰρ διαφέρει ἐρωτῆσαι εἰ Καλλίας καὶ Θεμιστοκλῆς μουσικοί εἰσιν ἢ εἰ ἀμφοτέροις ἓν ὄνομα ἦν ἑτέροις οὖσιν; εἰ γὰρ πλείω δηλοῖ ἑνός, πλείω ἠρώτησεν. εἰ οὖν μὴ ὀρθὸν πρὸς δύο ἐρωτήσεις μίαν ἀπόκρισιν ἀξιοῦν λαμβάνειν ἁπλῶς, φανερὸν ὅτι οὐδενὶ προσήκει τῶν ὁμωνύμων ἀποκρίνεσθαι ἁπλῶς, οὐδ᾽ εἰ κατὰ πάντων ἀληθές, ὥσπερ ἀξιοῦσί τινες. οὐδὲν γὰρ τοῦτο διαφέρει ἢ εἰ ἤρετο, Κορίσκος καὶ Καλλίας πότερον οἴκοι εἰσὶν ἢ οὐκ οἴκοι, εἴτε παρόντων ἀμφοῖν εἴτε μὴ παρόντων· ἀμφοτέρως γὰρ πλείους αἱ προτάσεις· οὐ γὰρ εἰ ἀληθὲς εἰπεῖν, διὰ τοῦτο μία ἡ ἐρώτησις. ἐγχωρεῖ γὰρ καὶ μυρία ἕτερα ἐρωτηθέντα ἐρωτήματα ἁπλῶς ἢ "ναί" ἢ "οὔ" ἀληθὲς εἶναι λέγειν· ἀλλ᾽ ὅμως οὐκ ἀποκριτέον μιᾷ ἀποκρίσει· ἀναιρεῖται γὰρ τὸ διαλέγεσθαι. τοῦτο δ᾽ ὅμοιον ὡς εἰ καὶ τὸ αὐτὸ ὄνομα τεθείη τοῖς ἑτέροις. εἰ οὖν μὴ δεῖ πρὸς δύο ἐρωτήσεις μίαν ἀπόκρισιν διδόναι, φανερὸν ὅτι οὐδ᾽ ἐπὶ τῶν ὁμωνύμων τὸ "ναί" ἢ "οὔ" λεκτέον· οὐδὲ γὰρ ὁ εἰπὼν ἀποκέκριται, ἀλλ᾽ εἴρηκεν. ἀλλ᾽ ἀξιοῦταί πως ἐν τοῖς διαλεγομένοις διὰ τὸ λανθάνειν τὸ συμβαῖνον.

Ὥσπερ οὖν εἴπομεν, ἐπειδήπερ οὐδ᾽ ἔλεγχοί τινες ὄντες δοκοῦσιν εἶναι, κατὰ τὸν αὐτὸν τρόπον καὶ λύσεις δόξουσιν εἶναί τινες οὐκ οὖσαι λύσεις· ἃς δή φαμεν ἐνίοτε μᾶλλον δεῖν φέρειν ἢ τὰς ἀληθεῖς ἐν τοῖς ἀγωνιστικοῖς λόγοις καὶ τῇ πρὸς τὸ διττὸν ἀπαντήσει. ἀποκριτέον δ᾽ ἐπὶ μὲν τῶν δοκούντων τὸ "ἔστω" λέγοντα· καὶ γὰρ οὕτως ἥκιστα γίνοιτ᾽ ἂν παρεξέλεγχος. ἂν δέ τι παράδοξον ἀναγκάζηται λέγειν, ἐνταῦθα μάλιστα προσθετέον τὸ δοκεῖν· οὕτω γὰρ ἂν οὔτ᾽ ἔλεγχος οὔτε παράδοξον γίνεσθαι δόξειεν. ἐπεὶ δὲ πῶς αἰτεῖται τὸ ἐν ἀρχῇ δῆλον, οἴονται δὲ πάντως ἂν ᾖ σύνεγγυς ἀναιρετέον, καὶ μὴ συγχωρητέον εἶναι ἔνια, ὡς τὸ ἐν ἀρχῇ αἰτοῦντος, ὅταν τι τοιοῦτον ἀξιοῖ τις ὃ ἀναγκαῖον μὲν συμβαίνειν ἐκ τῆς θέσεως, ᾖ δὲ ψεῦδος ἢ ἄδοξον, ταὐτὸ λεκτέον· τὰ γὰρ ἐξ ἀνάγκης συμβαίνοντα τῆς αὐτῆς εἶναι δοκεῖ θέσεως. ἔτι ὅταν τὸ καθόλου μὴ ὀνόματι ληφθῇ ἀλλὰ παραβολῇ, λεκτέον ὅτι οὐχ ὡς ἐδόθη οὐδ᾽ ὡς προὔτεινε λαμβάνει· καὶ γὰρ παρὰ τοῦτο γίνεται πολλάκις ἔλεγχος.

Ἐξειργόμενον δὲ τούτων ἐπὶ τὸ μὴ καλῶς δεδεῖχθαι πορευτέον, ἀπαντῶντα κατὰ τὸν εἰρημένον διορισμόν.

Ἐν μὲν οὖν τοῖς κυρίως λεγομένοις ὀνόμασιν ἀνάγκη ἀποκρίνεσθαι ἢ ἁπλῶς ἢ διαιρούμενον. ἃ δὲ συνυπονοοῦντες τίθεμεν, οἷον ὅσα μὴ σαφῶς ἀλλὰ κολοβῶς ἐρωτᾶται, παρὰ τοῦτο συμβαίνει ὁ ἔλεγχος. οἷον "ἆρ᾽ ὃ ἂν ᾖ Ἀθηναίων κτῆμά ἐστιν Ἀθηναίων;" "ναί." "ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· ἀλλὰ μὴν ὁ ἄνθρωπός ἐστι τῶν ζῴων;" "ναί." "κτῆμα ἄρα ὁ ἄνθρωπος τῶν ζῴων." τὸν γὰρ ἄνθρωπον τῶν ζῴων λέγομεν ὅτι ζῷόν ἐστι, καὶ Λύσανδρον τῶν Λακώνων ὅτι Λάκων. δῆλον οὖν ὡς ἐν οἷς ἀσαφὲς τὸ προτεινόμενον οὐ συγχωρητέον ἁπλῶς.

Ὅταν δὲ δυοῖν ὄντοιν θατέρου μὲν ὄντος ἐξ ἀνάγκης θάτερον εἶναι δοκῇ, θατέρου δὲ τοῦτο μὴ ἐξ ἀνάγκης, ἐρωτώμενον πότερον, δεῖ τὸ ἔλαττον διδόναι (χαλεπώτερον γὰρ συλλογίσασθαι ἐκ πλειόνων)· ἐὰν δ᾽ ἐπιχειρῇ ὅτι τῷ μὲν ἔστιν ἐναντίον τῷ δ᾽ οὐκ ἔστιν, ἂν ὁ λόγος ἀληθὴς ᾖ, ἐναντίον ‹εἶναι› φάναι, ὄνομα δὲ μὴ κεῖσθαι τοῦ ἑτέρου.

Ἐπεὶ δ᾽ ἔνια μὲν ὧν λέγουσιν οἱ πολλοὶ τὸν μὴ συγχωροῦντα ψεύδεσθαι ἂν φαῖεν ἔνια δ᾽ οὔ, οἷον ὅσα ἀμφιδοξοῦσιν (πότερον γὰρ φθαρτὴ ἢ ἀθάνατος ἡ ψυχὴ τῶν ζῴων, οὐ διώρισται τοῖς πολλοῖς) - ἐν οἷς οὖν ἄδηλον ποτέρως εἴωθε λέγεσθαι τὸ προτεινόμενον, πότερον ὡς αἱ γνῶμαι (καλοῦσι γὰρ γνώμας καὶ τὰς ἀληθεῖς δόξας καὶ τὰς ὅλας ἀποφάνσεις) ἢ ὡς "ἡ διάμετρος ἀσύμμετρός ἐστι", οὗ τὸ ἀληθὲς ἀμφιδοξεῖται, μάλιστα μεταφέρων ἄν τις λανθάνοι τὰ ὀνόματα περὶ τούτων. διὰ μὲν γὰρ τὸ ἄδηλον εἶναι ποτέρως ἔχει τἀληθές, οὐ δόξει σοφίζεσθαι, διὰ δὲ τὸ ἀμφιδοξεῖν οὐ δόξει ψεύδεσθαι· ἡ γὰρ μεταφορὰ ποιήσει τὸν λόγον ἀνεξέλεγκτον.

Ἔτι ὅσα ἄν τις προαισθάνηται τῶν ἐρωτημάτων, προενστατέον καὶ προαγορευτέον· οὕτω γὰρ ἂν μάλιστα τὸν πυνθανόμενον κωλύσειεν.

Ἐπεὶ δ᾽ ἐστὶν ἡ μὲν ὀρθὴ λύσις ἐμφάνισις ψευδοῦς συλλογισμοῦ, παρ᾽ ὁποίαν ἐρώτησιν συμβαίνει τὸ ψεῦδος, ὁ δὲ ψευδὴς συλλογισμὸς λέγεται διχῶς (ἢ γὰρ εἰ συλλελόγισται ψεῦδος, ἢ εἰ μὴ ὢν συλλογισμὸς δοκεῖ εἶναι συλλογισμός), εἴη ἂν ἥ τε εἰρημένη νῦν λύσις καὶ ἡ τοῦ φαινομένου συλλογισμοῦ παρ᾽ ὅ τι φαίνεται τῶν ἐρωτημάτων διόρθωσις, ὥστε συμβαίνει τῶν λόγων τοὺς μὲν συλλελογισμένους ἀνελόντα, τοὺς δὲ φαινομένους διελόντα λύειν. πάλιν δ᾽ ἐπεὶ τῶν συλλελογισμένων λόγων οἱ μὲν ἀληθὲς οἱ δὲ ψεῦδος ἔχουσι τὸ συμπέρασμα, τοὺς μὲν κατὰ τὸ συμπέρασμα ψευδεῖς διχῶς ἐνδέχεται λύειν· καὶ γὰρ τῷ ἀνελεῖν τι τῶν ἠρωτημένων καὶ τῷ δεῖξαι τὸ συμπέρασμα ἔχον οὐχ οὕτως· τοὺς δὲ κατὰ τὰς προτάσεις τῷ ἀνελεῖν τι μόνον· τὸ γὰρ συμπέρασμα ἀληθές. ὥστε τοῖς βουλομένοις λύειν λόγον πρῶτον μὲν σκεπτέον εἰ συλλελόγισται ἢ ἀσυλλόγιστος, εἶτα πότερον ἀληθὲς τὸ συμπέρασμα ἢ ψεῦδος, ὅπως ἢ διαιροῦντες ἢ ἀναιροῦντες λύωμεν, καὶ ἀναιροῦντες ἢ ὧδε ἢ ὧδε, καθάπερ ἐλέχθη πρότερον. διαφέρει δὲ πλεῖστον ἐρωτώμενόν τε καὶ μὴ λύειν λόγον· τὸ μὲν γὰρ προϊδεῖν χαλεπόν, τὸ δὲ κατὰ σχολὴν ἰδεῖν ῥᾷον.

Τῶν μὲν οὖν παρὰ τὴν ὁμωνυμίαν καὶ τὴν ἀμφιβολίαν ἐλέγχων οἱ μὲν ἔχουσι τῶν ἐρωτημάτων τι πλείω σημαῖνον, οἱ δὲ τὸ συμπέρασμα πολλαχῶς λεγόμενον· οἷον ἐν μὲν τῷ "σιγῶντα λέγειν" τὸ συμπέρασμα διττόν, ἐν δὲ τῷ "μὴ συνεπίστασθαι τὸν ἐπιστάμενον" ἓν τῶν ἐρωτημάτων ἀμφίβολον. καὶ τὸ διττὸν ὁτὲ μὲν ἔστιν ὁτὲ δ᾽ οὐκ ἔστιν, ἀλλὰ σημαίνει τὸ διττὸν τὸ μὲν ὂν τὸ δ᾽

οὐκ ὄν.

Ὅσοις μὲν οὖν ἐν τῷ τέλει τὸ πολλαχῶς, ἂν μὴ προσλάβῃ τὴν ἀντίφασιν οὐ γίνεται ἔλεγχος, οἷον ἐν τῷ τὸν τυφλὸν ὁρᾶν· ἄνευ γὰρ ἀντιφάσεως οὐκ ἦν ἔλεγχος. ὅσοις δ’ ἐν τοῖς ἐρωτήμασιν, οὐκ ἀνάγκη προαποφῆσαι τὸ διττόν· οὐ γὰρ πρὸς τοῦτο ἀλλὰ διὰ τοῦτο ὁ λόγος. ἐν ἀρχῇ μὲν οὖν πρὸς τὸ διπλοῦν καὶ ὄνομα καὶ λόγον οὕτως ἀποκριτέον, ὅτι ἔστιν ὡς, ἔστι δ’ ὡς οὔ, ὥσπερ τῷ “σιγῶντα λέγειν” ὅτι ἔστιν ὡς, ἔστι δ’ ὡς οὔ, καὶ τὰ δέοντα πρακτέον ἔστιν ἅ, ἔστι δ’ ἃ οὔ· τὰ γὰρ δέοντα λέγεται πολλαχῶς· ἐὰν δὲ λάθῃ, ἐπὶ τέλει προστιθέντα τῇ ἐρωτήσει διορθωτέον· “ἆρ’ ἔστι σιγῶντα λέγειν;”, “οὔ, ἀλλὰ τόνδε σιγῶντα”. καὶ ἐν τοῖς ἔχουσι δὲ τὸ πλεοναχῶς ἐν ταῖς προτάσεσιν ὁμοίως· “οὐκ ἄρα συνεπίστανται ὅ τι ἐπίστανται;”, “ναί, ἀλλ’ οὐχ οἱ οὕτως ἐπιστάμενοι”. οὐ γὰρ ταὐτόν ἐστιν ὅτι οὐκ ἔστι συνεπίστασθαι καὶ ὅτι τοὺς ὡδὶ ἐπισταμένους οὐκ ἔστιν. ὅλως τε μαχετέον, ἂν καὶ ἁπλῶς συλλογίζηται, ὅτι οὐχ ὃ ἔφησεν ἀπέφησε πρᾶγμα ἀλλ’ ὄνομα, ὥστ’ οὐκ ἔλεγχος.

Φανερὸν δὲ καὶ τοὺς παρὰ τὴν διαίρεσιν καὶ σύνθεσιν πῶς λυτέον· ἂν γὰρ διαιρούμενος καὶ συντιθέμενος ὁ λόγος ἕτερον σημαίνῃ, συμπεραινομένου τοὐναντίον λεκτέον. εἰσὶ δὲ πάντες οἱ τοιοῦτοι λόγοι παρὰ τὴν σύνθεσιν ἢ διαίρεσιν· “ἆρ’ ᾧ εἶδες σὺ τοῦτον τυπτόμενον, τούτῳ ἐτύπτετο οὗτος; καὶ ᾧ ἐτύπτετο, τούτῳ σὺ εἶδες;”. ἔχει μὲν οὖν τι κἀκ τῶν ἀμφιβόλων ἐρωτημάτων, ἀλλ’ ἔστι παρὰ σύνθεσιν. οὐ γάρ ἐστι διττὸν τὸ παρὰ τὴν διαίρεσιν· οὐ γὰρ ὁ αὐτὸς λόγος γίνεται, διαιρούμενος, εἴπερ μὴ ‹ὡς› καὶ τὸ “ὄρος”, [καὶ] “ὅρος” τῇ προσῳδίᾳ λεχθέν, σημαίνει ἕτερον. ἀλλ’ ἐν μὲν τοῖς γεγραμμένοις τὸ αὐτὸ ‹τὸ› ὄνομα, ὅταν ἐκ τῶν αὐτῶν στοιχείων γεγραμμένον ᾖ καὶ ὡσαύτως (κἀκεῖ δ’ ἤδη παράσημα ποιοῦνται), τὰ δὲ φθεγγόμενα οὐ ταὐτά. ὥστ’ οὐ διττὸν τὸ παρὰ διαίρεσιν. φανερὸν δὲ καὶ ὅτι οὐ πάντες οἱ ἔλεγχοι παρὰ τὸ διττόν, καθάπερ τινές φασιν.

Διαιρετέον οὖν τῷ ἀποκρινομένῳ· οὐ γὰρ ταὐτὸ ‹τὸ› ἰδεῖν “τοῖς ὀφθαλμοῖς τυπτόμενον” καὶ τὸ φάναι “ἰδεῖν τοῖς ὀφθαλμοῖς” τυπτόμενον. καὶ ὁ Εὐθυδήμου δὲ λόγος “ἆρ’ οἶδας σὺ νῦν οὔσας ἐν Πειραιεῖ τριήρεις ἐν Σικελίᾳ ὤν;” καὶ πάλιν “ἆρ’ ἔστιν ἀγαθὸν ὄντα σκυτέα μοχθηρὸν εἶναι; εἴη δ’ ἄν τις ἀγαθὸς ὢν σκυτεὺς μοχθηρός· ὥστ’ ἔσται ἀγαθὸς σκυτεὺς μοχθηρός”. “ἆρ’ ὧν αἱ ἐπιστῆμαι σπουδαῖαι, σπουδαῖα τὰ μαθήματα; τοῦ δὲ κακοῦ σπουδαία ἡ ἐπιστήμη· σπουδαῖον ἄρα μάθημα τὸ κακόν. ἀλλὰ μὴν καὶ κακὸν καὶ μάθημα τὸ κακόν, ὥστε κακὸν μάθημα τὸ κακόν. ἀλλ’ ἔστι κακῶν σπουδαία ἡ ἐπιστήμη.” “ἆρ’ ἀληθὲς εἰπεῖν νῦν ὅτι σὺ γέγονας; γέγονας ἄρα νῦν.” ἢ ἄλλο σημαίνει διαιρεθέν; ἀληθὲς γὰρ εἰπεῖν νῦν ὅτι σὺ γέγονας, ἀλλ’ οὐ “νῦν γέγονας”. “ἆρ’ ὡς δύνασαι καὶ ἃ δύνασαι, οὕτως καὶ ταῦτα ποιήσαις ἄν; οὐ κιθαρίζων δ’ ἔχεις δύναμιν τοῦ κιθαρίζειν· κιθαρίσαις ἂν ἄρα οὐ κιθαρίζων.” ἢ οὐ τούτου ἔχει τὴν δύναμιν, τοῦ οὐ κιθαρίζων κιθαρίζειν, ἀλλ’, ὅτε οὐ ποιεῖ, τοῦ ποιεῖν.

Λύουσι δέ τινες τοῦτον καὶ ἄλλως. εἰ γὰρ ἔδωκεν ὡς δύναται ποιεῖν, οὔ φασι συμβαίνειν μὴ κιθαρίζοντα κιθαρίζειν· οὐ γὰρ πάντως ὡς δύναται ποιεῖν δεδόσθαι ποιήσειν· οὐ ταὐτὸ δ’ εἶναι ὡς δύναται καὶ πάντως ὡς δύναται ποιεῖν. ἀλλὰ φανερὸν ὅτι οὐ καλῶς λύουσιν· τῶν γὰρ παρὰ ταὐτὸν λόγων ἡ αὐτὴ λύσις, αὕτη δ’ οὐχ ἁρμόσει ἐπὶ πάντας οὐδὲ πάντως ἐρωτωμένοις, ἀλλ’ ἔστι πρὸς τὸν ἐρωτῶντα, οὐ πρὸς τὸν λόγον. Παρὰ δὲ τὴν προσῳδίαν λόγοι μὲν οὐκ εἰσίν, οὔτε τῶν γεγραμμένων οὔτε τῶν λεγομένων, πλὴν εἴ τινες ὀλίγοι γένοιντ’ ἄν, οἷον οὗτος ὁ λόγος· “ἆρά γ’ ἐστὶ τὸ οὗ καταλύεις οἰκία;” “ναί.” “οὐκοῦν τὸ ‘οὐ καταλύεις’ τοῦ ‘καταλύεις’ ἀπόφασις;” “ναί.” “ἔφησας δ’ εἶναι τὸ οὗ καταλύεις οἰκίαν· ἡ οἰκία ἄρα ἀπόφασις.” ὡς δὴ λυτέον, δῆλον· οὐ γὰρ τὸ αὐτὸ σημαίνει ὀξύτερον τὸ δὲ βαρύτερον ῥηθέν.

Δῆλον δὲ καὶ τοῖς παρὰ τὸ ὡσαύτως λέγεσθαι τὰ μὴ ταὐτὰ πῶς ἀπαντητέον, ἐπείπερ ἔχομεν τὰ γένη τῶν κατηγοριῶν. ὁ μὲν γὰρ ἔδωκεν ἐρωτηθεὶς μὴ ὑπάρχειν τι τούτων ὅσα τί ἐστι σημαίνει· ὁ δ’ ἔδειξεν ὑπάρχον τι τῶν πρός τι ἢ ποσῶν, δοκούντων δὲ τί ἐστι σημαίνειν διὰ τὴν λέξιν· οἷον ἐν τῷδε τῷ λόγῳ· “ἆρ’ ἐνδέχεται τὸ αὐτὸ ἅμα ποιεῖν τε καὶ πεποιηκέναι;” “οὔ.” “ἀλλὰ μὴν ὁρᾶν γέ τι ἅμα καὶ ἑωρακέναι τὸ αὐτὸ καὶ κατὰ ταὐτὸ ἐνδέχεται.” “ἆρ’ ἔστι τι τῶν πάσχειν ποιεῖν τι;” “οὔ.” “οὐκοῦν τὸ τέμνεται καίεται αἰσθάνεται ὁμοίως λέγεται καὶ πάντα πάσχειν τι σημαίνει; πάλιν δὲ τὸ λέγειν τρέχειν ὁρᾶν ὁμοίως ἀλλήλοις λέγεται· ἀλλὰ μὴν τό γ’ ὁρᾶν αἰσθάνεσθαί τί ἐστιν, ὥστε καὶ πάσχειν τι ἅμα καὶ ποιεῖν.” εἰ δή τις ἐκεῖ, δοὺς μὴ ἐνδέχεσθαι ἅμα ταὐτὸ ποιεῖν καὶ πεποιηκέναι, τὸ ὁρᾶν καὶ ἑωρακέναι φαίη ἐγχωρεῖν, οὔπω ἐλήλεγκται, εἰ μὴ λέγοι τὸ ὁρᾶν ποιεῖν τι ἀλλὰ πάσχειν· προσδεῖται γὰρ τούτου τοῦ ἐρωτήματος. ἀλλ’ ὑπὸ τοῦ ἀκούοντος ὑπολαμβάνεται δεδωκέναι, ὅτε τὸ τέμνειν ποιεῖν τι καὶ τὸ τετμηκέναι πεποιηκέναι ἔδωκε καὶ ὅσα ἄλλα ὁμοίως λέγεται· τὸ γὰρ λοιπὸν αὐτὸς προστίθησιν ὁ ἀκούων ὡς ὁμοίως λεγόμενον. τὸ δὲ λέγεται μὲν οὐχ ὁμοίως, φαίνεται δὲ διὰ τὴν λέξιν. τὸ αὐτὸ δὲ συμβαίνει ὅπερ ἐν ταῖς ὁμωνυμίαις· οἴεται γὰρ ἐν τοῖς ὁμωνύμοις ὁ ἀγνὼς τῶν λόγων ὃ ἔφησεν ἀποφῆσαι πρᾶγμα, οὐκ ὄνομα. τῷ δὲ ἔτι προσδεῖ ἐρωτήματος εἰ ἐφ’ ἓν βλέπων λέγει τὸ ὁμώνυμον· οὕτως γὰρ δόντος ἔσται ἔλεγχος.

Ὅμοιοι δὲ καὶ οἵδε οἱ λόγοι τούτοις, “εἰ ὅ τις ἔχων ὕστερον μὴ ἔχει, ἀπέβαλεν· ὁ γὰρ ἕνα μόνον ἀποβαλὼν ἀστράγαλον οὐχ ἕξει δέκα ἀστραγάλους”. ἢ ὃ μὲν μὴ ἔχει πρότερον ἔχων, ἀποβέβληκεν, ὅσα δὲ μὴ ἔχει ᾗ ὅσα, οὐκ ἀνάγκη τοσαῦτα ἀποβαλεῖν; ἐρωτήσας οὖν ὃ ἔχει, συνάγει ἐπὶ τοῦ ὅσα· τὰ γὰρ δέκα ποσά. εἰ οὖν ἤρετο ἐξ ἀρχῆς, [εἰ] “ὅσα τις μὴ ἔχει πρότερον ἔχων, ἆρά γε ἀποβέβληκε τοσαῦτα;”, οὐδεὶς ἂν ἔδωκεν, ἀλλ’ ἢ τοσαῦτα ἢ τούτων τι. καὶ ὅτι δοίη ἄν τις ὃ μὴ ἔχει· οὐ γὰρ ἔχει ἕνα μόνον ἀστράγαλον. ἢ οὐ δέδωκεν ὃ οὐκ εἶχεν, ἀλλ’ ὡς οὐκ εἶχε, τὸν ἕνα· τὸ γὰρ μόνον οὐ τόδε σημαίνει οὐδὲ τοιόνδε οὐδὲ τοσόνδε, ἀλλ’ ὡς ἔχει πρός τι, οἷον ὅτι οὐ μετ’ ἄλλου, ὥσπερ ἂν εἰ ἤρετο “ἆρ’ ὃ μή τις ἔχει δοίη ἄν;”, μὴ φάντος δὲ ἔροιτο εἰ δοίη ἄν τίς τι ταχέως μὴ ἔχων ταχέως, φήσαντος δὲ συλλογίζοιτο ὅτι δοίη ἄν τις ὃ μὴ ἔχει. καὶ φανερὸν ὅτι οὐ συλλελόγισται· τὸ γὰρ ταχέως οὐ τόδε διδόναι ἀλλ’ ὧδε διδόναι ἐστίν· ὡς δὲ μὴ ἔχει τις, δοίη ἄν, οἷον ἡδέως ἔχων δοίη ἂν λυπηρῶς.

Ὅμοιοι δὲ καὶ οἱ τοιοίδε πάντες· “ἆρ’ ᾗ μὴ ἔχει χειρὶ τύπτοι ἄν”, ἢ “ᾧ μὴ ἔχει ὀφθαλμῷ ἴδοι ἄν;” οὐ γὰρ ἔχει ἕνα μόνον. λύουσι μὲν οὖν τινες λέγοντες ὡς καὶ ἔχει ἕνα μόνον καὶ ὀφθαλμὸν καὶ ἄλλ’ ὁτιοῦν ὁ πλείω ἔχων· οἱ δὲ ὡς καὶ ὃ ἔχει ἔλαβεν· ἐδίδου γὰρ μίαν μόνον οὗτος ψῆφον· “καὶ οὗτός γ’ ἔχει”, φασί, “μίαν μόνον παρὰ τούτου ψῆφον”· οἱ δέ, εὐθὺς τὴν ἐρώτησιν ἀναιροῦντες, ὅτι ἐνδέχεται ὃ μὴ ἔλαβεν ἔχειν, οἷον οἶνον λαβόντα ἡδύν, διαφθαρέντος ἐν τῇ λήψει ἔχειν ὀξύν. ἀλλ’ ὅπερ ἐλέχθη καὶ πρότερον, οὗτοι πάντες οὐ πρὸς τὸν λόγον ἀλλὰ πρὸς τὸν ἄνθρωπον λύουσιν. εἰ γὰρ ἦν αὕτη λύσις, δόντα τὸ ἀντικείμενον οὐχ οἷόν τε λύειν, καθάπερ ἐπὶ τῶν ἄλλων. οἷον εἰ “ἔστι μὲν ὅ, ἔστι δ’ ὃ οὔ” ἡ λύσις, ἂν ἁπλῶς δῷ λέγεσθαι, συμπεραίνεται· ἐὰν δὲ μὴ συμπεραίνηται, οὐκ ἂν εἴη ‹ἡ› λύσις. ἐν δὲ τοῖς προειρημένοις οὐδὲ πάντων διδομένων φαμὲν γίνεσθαι συλλογισμόν.

Ἔτι δὲ καὶ οἵδ’ εἰσὶ τούτων τῶν λόγων· “ἆρ’ ὃ γέγραπται, γέγραφέ τις; γέγραπται δὲ νῦν ὅτι σὺ κάθησαι, ψευδὴς λόγος· ἦν δ’ ἀληθής, ὅτ’ ἐγράφετο· ἅμα ἄρα ἐγράφετο ψευδὴς καὶ ἀληθής.” τὸ γὰρ ψευδῆ ἢ ἀληθῆ λόγον ἢ δόξαν εἶναι οὐ τόδε ἀλλὰ τοιόνδε σημαίνει· ὁ γὰρ αὐτὸς λόγος καὶ ἐπὶ τῆς δόξης. καὶ “ἆρ’ ὃ μανθάνει ὁ μανθάνων, τοῦτ’ ἔστιν ὃ μανθάνει; μανθάνει δέ τις τὸ βραδὺ ταχύ.” οὐ τοίνυν ὃ μανθάνει ἀλλ’ ὡς μανθάνει εἴρηκεν. καὶ “ἆρ’ ὃ βαδίζει τις πατεῖ; βαδίζει δὲ τὴν ἡμέραν ὅλην.” ἢ οὐχ ὃ βαδίζει ἀλλ’ ὅτε βαδίζει εἴρηκεν, οὐδὲ τὸ τὴν κύλικα πίνειν ὃ πίνει ἀλλ’ ἐξ οὗ. καὶ “ἆρ’ ὅ τις οἶδεν, ἢ μαθὼν ἢ εὑρὼν οἶδεν; ὧν δὲ τὸ μὲν εὗρε τὸ δ’ ἔμαθε, τὰ ἄμφω οὐδέτερον.” ἢ ὃ μὲν ἅπαν, ἃ δ’ οὐχ ἅπαντα; καὶ ὅτι ἔστι τις τρίτος ἄνθρωπος παρ’ αὐτὸν καὶ τοὺς καθ’ ἕκαστον· τὸ γὰρ ἄνθρωπος καὶ ἅπαν τὸ κοινὸν οὐ τόδε τι ἀλλὰ τοιόνδε τι ἢ ποσὸν ἢ πρός τι ἢ τῶν τοιούτων τι σημαίνει. ὁμοίως δὲ καὶ ἐπὶ τοῦ Κορίσκος καὶ Κορίσκος μουσικός, πότερον ταὐτὸν ἢ ἕτερον; τὸ μὲν γὰρ τόδε τι, τὸ δὲ τοιόνδε σημαίνει, ὥστ’ οὐκ ἔστιν αὐτὸ ἐκθέσθαι. οὐ τὸ ἐκτίθεσθαι δὲ ποιεῖ τὸν τρίτον ἄνθρωπον, ἀλλὰ τὸ ὅπερ τόδε τι εἶναι συγχωρεῖν· οὐ γὰρ ἔστι τόδε τι εἶναι, ὥσπερ Καλλίας, καὶ ὅπερ ἄνθρωπός ἐστιν. οὐδ’ εἴ τις τὸ ἐκτιθέμενον μὴ ὅπερ τόδε τι εἶναι λέγοι ἀλλ’ ὅπερ ποιόν, οὐδὲν διοίσει· ἔσται γὰρ τὸ παρὰ τοὺς πολλοὺς ἕν τι, οἷον τὸ ἄνθρωπος. φανερὸν οὖν ὅτι οὐ δοτέον τόδε τι εἶναι τὸ κοινῇ κατηγορούμενον ἐπὶ πᾶσιν, ἀλλ’ ἤτοι ποιὸν ἢ πρός τι ἢ ποσὸν ἢ τῶν τοιούτων τι σημαίνειν.

Ὅλως δ’ ἐν τοῖς παρὰ τὴν λέξιν λόγοις ἀεὶ κατὰ τὸ ἀντικείμενον ἔσται ἡ λύσις ἢ παρ’ ὅ ἐστιν ὁ λόγος. οἷον εἰ παρὰ σύνθεσιν ὁ λόγος, ἡ λύσις διελόντι, εἰ δὲ παρὰ διαίρεσιν, συνθέντι. πάλιν εἰ παρὰ προσῳδίαν ὀξεῖαν, ἡ βαρεῖα προσῳδία λύσις, εἰ δὲ παρὰ βαρεῖαν, ἡ ὀξεῖα. εἰ δὲ παρ’ ὁμωνυμίαν, ἔστι τὸ ἀντικείμενον ὄνομα εἰπόντα λύειν· οἷον, εἰ ἄψυχον συμβαίνει λέγειν, ἀποφήσαντα μὴ εἶναι δηλοῦν ὡς ἔστιν ἔμψυχον· εἰ δ’ ἄψυχον ἔφησεν, ὁ δ’ ἔμψυχον συνελογίσατο, [λέγειν] ὡς ἔστιν ἄψυχον. ὁμοίως δὲ καὶ ἐπὶ τῆς ἀμφιβολίας. εἰ δὲ παρ’ ὁμοιότητα λέξεως, τὸ ἀντικείμενον ἔσται λύσις. “ἆρ’ ὃ μὴ ἔχει, δοίη ἄν τις;” ἢ οὐχ ὃ μὴ ἔχει, ἀλλ’ ὡς οὐκ ἔχει, οἷον ἕνα μόνον ἀστράγαλον. “ἆρ’ ὃ ἐπίσταται, μαθὼν ἢ εὑρὼν ἐπίσταται;” ἀλλ’ οὐχ ἃ ἐπίσταται. καὶ εἰ ὃ βαδίζει πατεῖ, ἀλλ’ οὐχ ὅτε. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

Πρὸς δὲ τοὺς παρὰ τὸ συμβεβηκὸς μία μὲν ἡ αὐτὴ λύσις πρὸς ἅπαντας. ἐπεὶ γὰρ ἀδιόριστόν ἐστι τὸ πότε λεκτέον ἐπὶ τοῦ πράγματος ὅταν ἐπὶ τοῦ συμβεβηκότος ὑπάρχῃ, καὶ ἐπ’ ἐνίων μὲν δοκεῖ καὶ φασίν, ἐπ’ ἐνίων δ’ οὔ φασιν ἀναγκαῖον εἶναι, ῥητέον οὖν συμβιβασθέντος ὁμοίως πρὸς ἅπαντας ὅτι οὐκ ἀναγκαῖον, ἔχειν δὲ δεῖ προφέρειν τὸ “οἷον”. εἰσὶ δὲ πάντες οἱ τοιοίδε τῶν λόγων παρὰ τὸ συμβεβηκός· “ἆρ’ οἶδας ὃ μέλλω σε ἐρωτᾶν;” “ἆρ’ οἶδας τὸν προσιόντα, ἢ τὸν ἐγκεκαλυμμένον;” “ἆρ’ ὁ ἀνδριὰς σόν ἐστιν ἔργον, ἢ σὸς ὁ κύων πατήρ;” “ἆρα τὰ ὀλιγάκις ὀλίγα ὀλίγα;” φανερὸν γὰρ ἐν ἅπασι τούτοις ὅτι οὐκ ἀνάγκη τὸ κατὰ τοῦ συμβεβηκότος καὶ κατὰ τοῦ πράγματος ἀληθεύεσθαι· μόνοις γὰρ τοῖς κατὰ τὴν οὐσίαν ἀδιαφόροις καὶ ἓν οὖσιν ἅπαντα δοκεῖ ταὐτὰ ὑπάρχειν. τῷ δ’ ἀγαθῷ οὐ ταὐτόν ἐστιν ἀγαθῷ τ’ εἶναι καὶ μέλλοντι ἐρωτᾶσθαι, οὐδὲ τῷ προσιόντι ἢ ἐγκεκαλυμμένῳ προσιόντι τε εἶναι καὶ Κορίσκῳ· ὥστ’ οὐκ εἰ οἶδα τὸν Κορίσκον, ἀγνοῶ δὲ τὸν προσιόντα, τὸν αὐτὸν οἶδα καὶ ἀγνοῶ· οὐδ’ εἰ τοῦτ’ ἔστιν ἐμόν, ἔστι δ’ ἔργον, ἐμόν ἐστιν ἔργον, ἀλλ’ ἢ κτῆμα ἢ πρᾶγμα ἢ ἄλλο τι. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων.

Λύουσι δέ τινες διαιροῦντες τὴν ἐρώτησιν. φασὶ γὰρ ἐνδέχεσθαι ταὐτὸ πρᾶγμα εἰδέναι καὶ ἀγνοεῖν, ἀλλὰ μὴ κατὰ ταὐτό· τὸν οὖν προσιόντα οὐκ εἰδότες, τὸν δὲ Κορίσκον εἰδότες, ταὐτὸ μὲν εἰδέναι καὶ ἀγνοεῖν φασιν, ἀλλ' οὐ κατὰ ταὐτό. καίτοι πρῶτον μέν, καθάπερ ἤδη εἴπομεν, δεῖ τῶν παρὰ ταὐτὸ λόγων τὴν αὐτὴν εἶναι διόρθωσιν. αὕτη δ' οὐκ ἔσται, ἄν τις μὴ ἐπὶ τοῦ εἰδέναι ἀλλ' ἐπὶ τοῦ εἶναι ἤ πως ἔχειν τὸ αὐτὸ ἀξίωμα λαμβάνῃ, οἷον "εἰ ὅδε ἐστὶ πατήρ, ἔστι δὲ σός"· εἰ γὰρ ἐπ' ἐνίων τοῦτ' ἔστιν ἀληθὲς καὶ ἐνδέχεται τὸ αὐτὸ εἰδέναι καὶ ἀγνοεῖν, ἀλλ' ἐνταῦθα οὐδὲν κοινωνεῖ τὸ λεχθέν. οὐδὲν δὲ κωλύει τὸν αὐτὸν λόγον πλείους μοχθηρίας ἔχειν, ἀλλ' οὐχ ἡ πάσης μοχθηρίας ἐμφάνισις λύσις ἐστίν· ἐγχωρεῖ γὰρ ὅτι μὲν ψεῦδος συλλελόγισται δεῖξαί τινα, παρ' ὃ δὲ μὴ δεῖξαι, οἷον τὸν Ζήνωνος λόγον, ὅτι οὐκ ἔστι κινηθῆναι. ὥστε καὶ εἴ τις ἐπιχειρεῖ συνάγειν ὡς δυνατόν, ἁμαρτάνει, κἂν [εἰ] μυριάκις ᾖ συλλελογισμένος· οὐ γάρ ἐστιν αὕτη λύσις· ἦν γὰρ ἡ λύσις ἐμφάνισις ψευδοῦς συλλογισμοῦ παρ' ὃ ψευδής. εἰ οὖν μὴ συλλελόγισται, εἰ καὶ ἀληθὲς ἢ ψεῦδος†ἐπιχειρεῖ συνάγειν, ἡ ἐκείνου δήλωσις λύσις ἐστίν. ἴσως δὲ καὶ τοῦτ' ἐπ' ἐνίων οὐδὲν κωλύει συμβαίνειν· πλὴν ἐπί γε τούτων οὐδὲ τοῦτο δόξειεν ἄν· καὶ γὰρ τὸν Κορίσκον ὅτι Κορίσκος οἶδε καὶ τὸ προσιὸν ὅτι προσιόν. ἐνδέχεσθαι δὲ δοκεῖ τὸ αὐτὸ εἰδέναι καὶ μή, οἷον ὅτι μὲν λευκὸν εἰδέναι, ὅτι δὲ μουσικὸν μὴ γνωρίζειν· οὕτω γὰρ τὸ αὐτὸ οἶδε καὶ οὐκ οἶδεν, ἀλλ' οὐ κατὰ ταὐτόν. τὸ δὲ προσιὸν καὶ Κορίσκον ‹ὄν›, καὶ ὅτι προσιὸν καὶ ὅτι Κορίσκος, οἶδεν.

Ὁμοίως δ' ἁμαρτάνουσι καὶ οἱ λύοντες ὅτι ἅπας ἀριθμὸς ὀλίγος, ὥσπερ οὓς εἴπομεν· εἰ γάρ, μὴ συμπεραινομένου, τοῦτο παραλιπόντες ἀληθὲς συμπεπεράνθαι φασί (πάντα γὰρ εἶναι καὶ πολὺν καὶ ὀλίγον), ἁμαρτάνουσιν.

Ἔνιοι δὲ καὶ τῷ διττῷ λύουσι τοὺς συλλογισμούς, οἷον ὅτι σός ἐστι πατὴρ ἢ υἱὸς ἢ δοῦλος. καίτοι φανερὸν ὡς εἰ παρὰ τὸ πολλαχῶς λέγεσθαι φαίνεται ὁ ἔλεγχος, δεῖ τοὔνομα ἢ τὸν λόγον κυρίως εἶναι πλειόνων. τὸ δὲ τόνδ' εἶναι τοῦδε τέκνον οὐδεὶς λέγει κυρίως, εἰ δεσπότης ἐστὶ τέκνου, ἀλλὰ παρὰ τὸ συμβεβηκὸς ἡ σύνθεσίς ἐστιν· "ἆρ' ἐστὶ τοῦτο σόν;" "ναί." "ἔστι δὲ τοῦτο τέκνον· σὸν ἄρα τοῦτο τέκνον." ἀλλ' οὐ σὸν τέκνον ὅτι συμβέβηκεν εἶναι καὶ σὸν καὶ τέκνον.

Καὶ τὸ εἶναι τῶν κακῶν τι ἀγαθόν· "ἡ γὰρ φρόνησίς ἐστιν ἐπιστήμη τῶν κακῶν". τὸ δὲ τοῦτο τούτων εἶναι οὐ λέγεται πολλαχῶς, ἀλλὰ κτῆμα. εἰ δ' ἄρα πολλαχῶς (καὶ γὰρ τὸν ἄνθρωπον τῶν ζῴων φαμὲν εἶναι, ἀλλ' οὔ τι κτῆμα· καὶ ἐάν τι πρὸς τὰ κακὰ λέγηται ὡς τινός, διὰ τοῦτο τῶν κακῶν ἐστιν, ἀλλ’ οὐ τοῦτο τῶν κακῶν), παρὰ τὸ πῇ οὖν καὶ ἁπλῶς φαίνεται. καίτοι ἐνδέχεται ἴσως ἀγαθὸν εἶναί τι τῶν κακῶν διττῶς, ἀλλ’ οὐκ ἐπὶ τοῦ λόγου τούτου, ἀλλ’ εἴ τι δοῦλον εἴη ἀγαθὸν μοχθηροῦ, μᾶλλον. ἴσως δ’ οὐδ’ οὕτως· οὐ γὰρ εἰ ἀγαθὸν καὶ τούτου, ἀγαθὸν τούτου ἅμα. οὐδὲ τὸ τὸν ἄνθρωπον φάναι τῶν ζῴων εἶναι [οὐ] λέγεται πολλαχῶς· οὐ γὰρ εἴ ποτέ τι σημαίνομεν ἀφελόντες, τοῦτο λέγεται πολλαχῶς· καὶ γὰρ τὸ ἥμισυ εἰπόντες τοῦ ἔπους “δός μοι Ἰλιάδα” σημαίνομεν, οἷον τὸ “μῆνιν ἄειδε, θεά”.

Τοὺς δὲ παρὰ τὸ κυρίως τόδε ἢ πῇ ἢ ποὺ ἢ πὼς ἢ πρός τι λέγεσθαι, καὶ μὴ ἁπλῶς, λυτέον σκοποῦντι τὸ συμπέρασμα πρὸς τὴν ἀντίφασιν, εἰ ἐνδέχεται τούτων τι πεπονθέναι. τὰ γὰρ ἐναντία καὶ τὰ ἀντικείμενα καὶ φάσιν καὶ ἀπόφασιν ἁπλῶς μὲν ἀδύνατον ὑπάρχειν τῷ αὐτῷ, πῇ μέντοι ἑκάτερον ἢ πρός τι ἢ πώς, ἢ τὸ μὲν πῇ τὸ δ’ ἁπλῶς, οὐδὲν κωλύει. ὥστ’ εἰ τόδε μὲν ἁπλῶς τόδε δὲ πῄ, οὔπω ἔλεγχος, τοῦτο δ’ ἐν τῷ συμπεράσματι θεωρητέον πρὸς τὴν ἀντίφασιν.

Εἰσὶ δὲ πάντες οἱ τοιοῦτοι λόγοι τοῦτ’ ἔχοντες· “ἆρ’ ἐνδέχεται τὸ μὴ ὂν εἶναι; ἀλλὰ μὴν ἔστι γέ τι μὴ ὄν.” ὁμοίως δὲ καὶ τὸ ὂν οὐκ ἔσται· οὐ γὰρ ἔσται τι τῶν ὄντων. “ἆρ’ ἐνδέχεται τὸν αὐτὸν ἅμα εὐορκεῖν καὶ ἐπιορκεῖν;” “ἆρ’ ἐγχωρεῖ τὸν αὐτὸν ἅμα τῷ αὐτῷ πείθεσθαι καὶ ἀπειθεῖν;” ἢ οὔτε τὸ εἶναί τι καὶ εἶναι ταὐτόν (τὸ γὰρ μὴ ὂν οὐκ εἰ ἔστι τι, καὶ ἔστιν ἁπλῶς), οὔτ’ εἰ εὐορκεῖ τόδε ἢ τῇδε, ἀνάγκη καὶ εὐορκεῖν (ὁ γὰρ ὀμόσας ἐπιορκήσειν εὐορκεῖ ἐπιορκῶν τοῦτο μόνον, εὐορκεῖ δὲ οὔ)· οὐδ’ ὁ ἀπειθῶν πείθεται, ἀλλὰ τὶ πείθεται. ὅμοιος δ’ ὁ λόγος καὶ περὶ τοῦ ψεύδεσθαι τὸν αὐτὸν ἅμα καὶ ἀληθεύειν, ἀλλὰ διὰ τὸ μὴ εἶναι εὐθεώρητον πότερον ἄν τις ἀποδοίη, τὸ ἁπλῶς ἀληθεύειν ἢ ψεύδεσθαι, δύσκολον φαίνεται. κωλύει δ’ αὐτὸν οὐδὲν ἁπλῶς μὲν εἶναι ψευδῆ πῇ δ’ ἀληθῆ ἤ τινος, καὶ εἶναι ἀληθῆ τινά, ἀληθῆ δὲ αὐτὸν μή. ὁμοίως δὲ καὶ ἐπὶ τῶν πρός τι καὶ ποὺ καὶ ποτέ· πάντες γὰρ οἱ τοιοῦτοι λόγοι παρὰ τοῦτο συμβαίνουσιν. “ἆρ’ ἡ ὑγίεια ἢ ὁ πλοῦτος ἀγαθόν; ἀλλὰ τῷ ἄφρονι καὶ μὴ ὀρθῶς χρωμένῳ οὐκ ἀγαθόν· ἀγαθὸν ἄρα καὶ οὐκ ἀγαθόν.” “ἆρα τὸ ὑγιαίνειν ἢ δύνασθαι ἐν πόλει βέλτιον; ἀλλ’ ἔστιν ὅτε οὐ βέλτιον· ταὐτὸν ἄρα τῷ αὐτῷ ἀγαθὸν καὶ οὐκ ἀγαθόν.” ἢ οὐδὲν κωλύει ἁπλῶς ὂν ἀγαθὸν τῷδε μὴ εἶναι ἀγαθόν, ἢ τῷδε μὲν ἀγαθόν, ἀλλ’ οὐ νῦν ἢ οὐκ ἐνταῦθ’ ἀγαθόν; “ἆρ’ ὃ μὴ βούλοιτ’ ἂν ὁ φρόνιμος, κακόν; ἀποβαλεῖν δ’ οὐ βούλεται τἀγαθόν· κακὸν ἄρα τἀγαθόν.” οὐ γὰρ ταὐτὸν εἰπεῖν τἀγαθὸν εἶναι κακὸν καὶ τὸ ἀποβαλεῖν τἀγαθόν. ὁμοίως δὲ καὶ ὁ τοῦ κλέπτου λόγος· οὐ γάρ, εἰ κακόν ἐστιν ὁ κλέπτης, καὶ τὸ λαβεῖν ἐστι κακόν. οὔκουν τὸ κακὸν βούλεται, ἀλλὰ τἀγαθόν· τὸ γὰρ λαβεῖν ἀγαθόν. καὶ ἡ νόσος κακόν ἐστιν,

ἀλλ’ οὐ τὸ ἀποβαλεῖν νόσον. “ἆρα τὸ δίκαιον τοῦ ἀδίκου καὶ τὸ δικαίως τοῦ ἀδίκως αἱρετώτερον; ἀλλ’ ἀποθανεῖν ἀδίκως αἱρετώτερον.” “ἆρα δίκαιόν ἐστι τὰ αὑτοῦ ἔχειν ἕκαστον; ἃ δ’ ἄν τις κρίνῃ κατὰ δόξαν τὴν αὑτοῦ, κἂν ᾖ ψευδής, κύριά ἐστιν ἐκ τοῦ νόμου· τὸ αὐτὸ ἄρα δίκαιον καὶ οὐ δίκαιον”· καὶ “πότερον δεῖ κρίνειν, τὸν τὰ δίκαια λέγοντα ἢ τὸν τὰ ἄδικα; ἀλλὰ μὴν καὶ τὸν ἀδικούμενον δίκαιόν ἐστιν ἱκανῶς λέγειν ἃ ἔπαθεν· ταῦτα δ’ ἦν ἄδικα.” οὐ γάρ, εἰ παθεῖν τι ἀδίκως αἱρετόν, τὸ ἀδίκως αἱρετώτερον τοῦ δικαίως, ἀλλ’ ἁπλῶς μὲν τὸ δικαίως, τοδὶ μέντοι οὐδὲν κωλύει ἀδίκως ἢ δικαίως. καὶ τὸ ἔχειν τὰ αὑτοῦ δίκαιον, τὸ δὲ τἀλλότρια οὐ δίκαιον· κρίσιν μέντοι ταύτην δικαίαν εἶναι οὐδὲν κωλύει, οἷον ἂν ᾖ κατὰ δόξαν τοῦ κρίναντος· οὐ γάρ, εἰ δίκαιον τῳδὶ ἢ ὡδί, καὶ ἁπλῶς δίκαιον. ὁμοίως δὲ καὶ ἄδικα ὄντα οὐδὲν κωλύει λέγειν γε αὐτὰ δίκαιον εἶναι· οὐ γάρ, εἰ λέγειν δίκαιον, ἀνάγκη δίκαια εἶναι, ὥσπερ οὐδ’ εἰ ὠφέλιμον λέγειν, ὠφέλιμα. ὁμοίως δὲ καὶ ἐπὶ τῶν δικαίων. ὥστ’ οὐκ εἰ τὰ λεγόμενα ἄδικα, ὁ λέγων ἄδικα νικᾶται· λέγει γὰρ ἃ λέγειν ἐστὶ δίκαια, ἁπλῶς δὲ καὶ παθεῖν ἄδικα.

Τοῖς δὲ παρὰ τὸν ὁρισμὸν γινομένοις τοῦ ἐλέγχου, καθάπερ ὑπεγράφη πρότερον, ἀπαντητέον σκοποῦσι τὸ συμπέρασμα πρὸς τὴν ἀντίφασιν, ὅπως ἔσται τὸ αὐτὸ καὶ κατὰ τὸ αὐτὸ καὶ πρὸς τὸ αὐτὸ καὶ ὡσαύτως καὶ ἐν τῷ αὐτῷ χρόνῳ. ἐὰν δ’ ἐν ἀρχῇ προσέρηται, οὐχ ὁμολογητέον ὡς ἀδύνατον τὸ αὐτὸ εἶναι διπλάσιον καὶ μὴ διπλάσιον, ἀλλὰ φατέον, μὴ μέντοι ὡδὶ ὥς ποτ’ ἦν τὸ ἐλέγχεσθαι διωμολογημένον. εἰσὶ δὲ πάντες οἵδ’ οἱ λόγοι παρὰ τὸ τοιοῦτο. “ἆρ’ ὁ εἰδὼς ἕκαστον ὅτι ἕκαστον οἶδε τὸ πρᾶγμα; καὶ ὁ ἀγνοῶν ὡσαύτως; εἰδὼς δέ τις τὸν Κορίσκον ὅτι Κορίσκος ἀγνοοίη ἂν ὅτι μουσικός, ὥστε ταὐτὸ ἐπίσταται καὶ ἀγνοεῖ.” “ἆρα τὸ τετράπηχυ τοῦ τριπήχεος μεῖζον; γένοιτο δ’ ἂν ἐκ τριπήχεος τετράπηχυ κατὰ τὸ μῆκος· τὸ δὲ μεῖζον ἐλάττονος μεῖζον· αὐτὸ ἄρα αὑτοῦ κατὰ ταὐτὸ μεῖζον καὶ ἔλαττον.”

Τοὺς δὲ παρὰ τὸ αἰτεῖσθαι καὶ λαμβάνειν τὸ ἐν ἀρχῇ πυνθανομένῳ, ἂν ᾖ δῆλον, οὐ δοτέον, οὐδ’ ἂν ἔνδοξον ᾖ λέγοντι τἀληθές. ἂν δὲ λάθῃ, τὴν ἄγνοιαν διὰ τὴν μοχθηρίαν τῶν τοιούτων λόγων εἰς τὸν ἐρωτῶντα μεταστρεπτέον ὡς οὐ διειλεγμένον· ὁ γὰρ ἔλεγχος ἄνευ τοῦ ἐξ ἀρχῆς. εἶθ’ ὅτι ἐδόθη οὐχ ὡς τούτῳ χρησομένου, ἀλλ’ ὡς πρὸς τοῦτο συλλογιουμένου, τοὐναντίον ἢ ἐπὶ τῶν παρεξελέγχων.

Καὶ τοὺς διὰ τοῦ παρεπομένου συμβιβάζοντας ἐπ’ αὐτοῦ τοῦ λόγου δεικτέον. ἔστι δὲ διττὴ ἡ τῶν ἑπομένων ἀκολούθησις· ἢ γὰρ ὡς τῷ ἐν μέρει τὸ καθόλου, οἷον ἀνθρώπῳ ζῷον (ἀξιοῦται γάρ, εἰ τόδε μετὰ τοῦδε, καὶ τόδ’ εἶναι μετὰ τοῦδε), ἢ κατὰ τὰς ἀντιθέσεις (εἰ γὰρ τόδε τῷδε ἀκολουθεῖ, τῷ

ἀντικειμένῳ τὸ ἀντικείμενον)· παρ’ ὃ καὶ ὁ τοῦ Μελίσσου λόγος· εἰ γὰρ τὸ γεγονὸς ἔχει ἀρχήν, τὸ ἀγένητον ἀξιοῖ μὴ ἔχειν, ὥστ’ εἰ ἀγένητος ὁ οὐρανός, καὶ ἄπειρος. τὸ δ’ οὐκ ἔστιν· ἀνάπαλιν γὰρ ἡ ἀκολούθησις.

Ὅσοι τε παρὰ τὸ προστιθέναι τι συλλογίζονται, σκοπεῖν εἰ ἀφαιρουμένου συμβαίνει μηδὲν ἧττον τὸ ἀδύνατον. κἄπειτα τοῦτο ἐμφανιστέον, καὶ λεκτέον ὡς ἔδωκεν οὐχ ὡς δοκοῦν ἀλλ’ ὡς πρὸς τὸν λόγον, ὁ δὲ κέχρηται οὐδὲν πρὸς τὸν λόγον.

Πρὸς δὲ τοὺς τὰ πλείω ἐρωτήματα ἓν ποιοῦντας εὐθὺς ἐν ἀρχῇ διοριστέον· ἐρώτησις γὰρ μία πρὸς ἣν μία ἀπόκρισίς ἐστιν, ὥστ’ οὔτε πλείω καθ’ ἑνὸς οὔτε ἓν κατὰ πολλῶν, ἀλλ’ ἓν καθ’ ἑνὸς φατέον ἢ ἀποφατέον. ὥσπερ δὲ ἐπὶ τῶν ὁμωνύμων ὁτὲ μὲν ἀμφοῖν ὁτὲ δ’ οὐδετέρῳ ὑπάρχει, ὥστε μὴ ἁπλοῦ ὄντος τοῦ ἐρωτήματος ἁπλῶς ἀποκρινομένοις οὐδὲν συμβαίνει πάσχειν, ὁμοίως καὶ ἐπὶ τούτων. ὅταν μὲν οὖν τὰ πλείω τῷ ἑνὶ ἢ τὸ ἓν τοῖς πολλοῖς ὑπάρχῃ, τῷ ἁπλῶς δόντι καὶ ἁμαρτόντι ταύτην τὴν ἁμαρτίαν οὐδὲν ὑπεναντίωμα συμβαίνει, ὅταν δὲ τῷ μὲν τῷ δὲ μή, ἢ πλείω κατὰ πλειόνων. καὶ ἔστιν ὡς ὑπάρχει ἀμφότερα ἀμφοτέροις, ἔστι δ’ ὡς οὐχ ὑπάρχει πάλιν, ὥστε τοῦτ’ εὐλαβητέον· οἷον ἐν τοῖσδε τοῖς λόγοις· “εἰ τὸ μέν ἐστιν ἀγαθὸν τὸ δὲ κακόν, ὅτι ταῦτα ἀληθὲς εἰπεῖν ἀγαθὸν καὶ κακόν, καὶ πάλιν μήτ’ ἀγαθὸν μήτε κακόν (οὐκ ἔστι γὰρ ἑκάτερον ἑκάτερον), ὥστε ταὐτὸ ἀγαθὸν καὶ κακὸν καὶ οὔτ’ ἀγαθὸν οὔτε κακόν”, καὶ “εἰ ἕκαστον αὐτὸ αὑτῷ ταὐτὸ καὶ ἄλλου ἕτερον, ἐπειδὴ οὐκ ἄλλοις ταὐτὰ ἀλλ’ αὑτοῖς καὶ ἕτερα αὑτῶν, τὰ αὐτὰ ἑαυτοῖς ἕτερα καὶ τὰ αὐτά”. ἔτι “εἰ τὸ μὲν ἀγαθὸν κακὸν γίνεται, τὸ δὲ κακὸν ἀγαθόν, δύο γένοιντ’ ἄν· δυοῖν δὲ καὶ ἀνίσων ἑκάτερον αὐτὸ αὑτῷ ἴσον· ὥστε ἴσα καὶ ἄνισα αὐτὰ αὑτοῖς”.

Ἐμπίπτουσι μὲν οὖν οὗτοι καὶ εἰς ἄλλας λύσεις· καὶ γὰρ τὸ ἄμφω καὶ τὸ ἅπαντα πλείω σημαίνει· οὔκουν ταὐτόν, πλὴν ὄνομα, συμβαίνει φῆσαι καὶ ἀποφῆσαι. τοῦτο δ’ οὐκ ἦν ἔλεγχος, ἀλλὰ φανερὸν ὅτι μὴ μιᾶς ἐρωτήσεως τῶν πλειόνων γινομένης, ἀλλ’ ἓν καθ’ ἑνὸς φάντος ἢ ἀποφάντος, οὐκ ἔσται τὸ ἀδύνατον.

Περὶ δὲ τῶν ἀπαγόντων εἰς ‹τὸ› τὸ αὐτὸ πολλάκις εἰπεῖν φανερὸν ὡς οὐ δοτέον τῶν πρός τι λεγομένων σημαίνειν τι χωριζομένας καθ’ αὑτὰς τὰς κατηγορίας, οἷον “διπλάσιον” ἀντὶ τοῦ “διπλάσιον ἡμίσεος”, ὅτι ἐμφαίνεται. καὶ γὰρ τὸ δέκα ἐν τοῖς ἑνὸς δέουσι δέκα καὶ τὸ ποιῆσαι ἐν τῷ μὴ ποιῆσαι καὶ ὅλως ἐν τῇ ἀποφάσει ἡ φάσις· ἀλλ’ ὅμως οὐκ εἴ τις λέγει τοδὶ μὴ εἶναι λευκόν, λέγει αὐτὸ λευκὸν εἶναι. τὸ δὲ “διπλάσιον” οὐδὲ σημαίνει οὐδὲν ἴσως, ὥσπερ οὐδὲ τὸ “ἥμισυ”· εἰ δ’ ἄρα καὶ σημαίνει, ἀλλ’ οὐ ταὐτὸ καὶ συνῃρημένον. οὐδ' ἡ ἐπιστήμη ἐν τῷ εἴδει (οἷον εἰ ἔστιν ἡ ἰατρικὴ ἐπιστήμη), ὅπερ τὸ κοινόν· ἐκεῖνο δ' ἦν ἐπιστήμη ἐπιστητοῦ. ἐν δὲ τοῖς ‹τούτων› δι' ὧν δηλοῦται κατηγορουμένοις τοῦτο λεκτέον, ὡς οὐ τὸ αὐτὸ χωρὶς καὶ ἐν τῷ λόγῳ τὸ δηλούμενον. τὸ γὰρ κοῖλον κοινῇ μὲν τὸ αὐτὸ δηλοῖ ἐπὶ τοῦ σιμοῦ καὶ τοῦ ῥοικοῦ, προστιθέμενον δὲ οὐδὲν κωλύει ἄλλα, τὸ μὲν τῇ ῥινὶ τὸ δὲ τῷ σκέλει, σημαίνειν· ἔνθα μὲν γὰρ τὸ σιμόν, ἔνθα δὲ τὸ ῥοικὸν σημαίνει, καὶ οὐδὲν διαφέρει εἰπεῖν ῥὶς σιμὴ ἢ ῥὶς κοίλη. ἔτι οὐ δοτέον τὴν λέξιν κατ' εὐθύ· ψεῦδος γάρ ἐστιν. οὐ γάρ ἐστι τὸ σιμὸν ῥὶς κοίλη ἀλλὰ ῥινὸς τοδί, οἷον πάθος, ὥστ' οὐδὲν ἄτοπον εἰ ἡ ῥὶς ἡ σιμὴ ῥίς ἐστιν ἔχουσα κοιλότητα ῥινός.

Περὶ δὲ τῶν σολοικισμῶν, παρ' ὅ τι μὲν φαίνονται συμβαίνειν εἴπομεν πρότερον. ὡς δὲ λυτέον, ἐπ' αὐτῶν τῶν λόγων ἔσται φανερόν· ἅπαντες γὰρ οἱ τοιοίδε τοῦτο βούλονται κατασκευάζειν. "ἆρ' ὃ λέγεις ἀληθῶς, καὶ ἔστι τοῦτο ἀληθῶς; φῄς δ' εἶναί τι λίθον· ἔστιν ἄρα τι λίθον." ἢ τὸ λέγειν λίθον οὐκ ἔστι λέγειν ὃ ἀλλ' ὅν, οὐδὲ τοῦτο ἀλλὰ τοῦτον. εἰ οὖν ἔροιτό τις, "ἆρ' ὃν ἀληθῶς λέγεις, ἔστι τοῦτον;", οὐκ ἂν δοκοίη ἑλληνίζειν, ὥσπερ οὐδ' εἰ ἔροιτο, "ἆρ' ἣν λέγεις εἶναι, ἔστιν οὗτος;". ξύλον δ' εἰπεῖν οὕτος, ἢ ὅσα μήτε θῆλυ μήτ' ἄρρεν σημαίνει, οὐδὲν διαφέρει· διὸ καὶ οὐ γίνεται σολοικισμός· "εἰ ὃ λέγεις εἶναι, ἔστι τοῦτο, ξύλον δὲ λέγεις εἶναι, ἔστιν ἄρα ξύλον". τὸ δὲ "λίθος" καὶ τὸ "οὗτος" ἄρρενος ἔχει κλίσιν. εἰ δή τις ἔροιτο "ἆρ' οὗτός ἐστιν αὕτη;", εἶτα πάλιν "τί δ'; οὐχ οὗτός ἐστι Κορίσκος;", εἶτ' εἴπειεν "ἔστιν ἄρα οὗτος αὕτη", οὐ συλλελόγισται τὸν σολοικισμόν, οὐδ' εἰ τὸ "Κορίσκος" σημαίνει ὅπερ αὕτη, μὴ δίδωσι δὲ ὁ ἀποκρινόμενος, ἀλλὰ δεῖ τοῦτο προσερωτηθῆναι. εἰ δὲ μήτ' ἔστιν μήτε δίδωσιν, οὐ συλλελόγισται οὔτε τῷ ὄντι οὔτε πρὸς τὸν ἠρωτημένον. ὁμοίως οὖν δεῖ κἀκεῖ τὸν λίθον σημαίνειν "οὗτος". εἰ δὲ μήτε ἔστι μήτε δέδοται, οὐ λεκτέον τὸ συμπέρασμα· φαίνεται δὲ παρὰ τὸ τὴν ἀνόμοιον πτῶσιν τοῦ ὀνόματος ὁμοίαν φαίνεσθαι. "ἆρ' ἀληθές ἐστιν εἰπεῖν ὅτι ἔστιν αὕτη ὅπερ εἶναι φῄς αὐτήν; εἶναι δὲ φῄς ἀσπίδα· ἔστιν ἄρα αὕτη ἀσπίδα." ἢ οὐκ ἀνάγκη, εἰ μὴ τὸ "αὕτη" ἀσπίδα σημαίνει ἀλλ' ἀσπίς, τὸ δὲ "ταύτην" ἀσπίδα. οὐδ' εἰ ὃ φῄς εἶναι τοῦτον, ἔστιν οὗτος, φῄς δ' εἶναι Κλέωνα, ἔστιν ἄρα οὗτος Κλέωνα· οὐ γὰρ ἔστιν οὗτος Κλέωνα· εἴρηται γὰρ ὅτι ὅ φημι εἶναι τοῦτον, ἔστιν οὗτος, οὐ τοῦτον· οὐδὲ γὰρ ἂν ἑλληνίζοι οὕτως τὸ ἐρώτημα λεχθέν, "ἆρ' ἐπίστασαι τοῦτο; τοῦτο δ' ἐστὶ λίθος· ἐπίστασαι ἄρα λίθος". ἢ οὐ ταὐτὸ σημαίνει τὸ "τοῦτο" ἐν τῷ "ἆρ' ἐπίστασαι τοῦτο;" καὶ ἐν τῷ "τοῦτο δὲ λίθος", ἀλλ' ἐν μὲν τῷ πρώτῳ τοῦτον, ἐν δὲ τῷ ὑστέρῳ οὗτος. "ἆρ' οὗ ἐπιστήμην ἔχεις, ἐπίστασαι τοῦτο; ἐπιστήμην δ' ἔχεις λίθου· ἐπίστασαι ἄρα λίθου." ἢ τὸ μὲν "οὗ" λίθου λέγει, τὸ δὲ “τοῦτο” λίθον· ἐδόθη δ’, οὗ ἐπιστήμην ἔχεις, ἐπίστασθαι οὐ τούτου ἀλλὰ τοῦτο, ὥστ’ οὐ τοῦ λίθου ἀλλὰ τὸν λίθον.

Ὅτι μὲν οὖν οἱ τοιοῦτοι τῶν λόγων οὐ συλλογίζονται σολοικισμὸν ἀλλὰ φαίνονται, καὶ διὰ τί τε φαίνονται καὶ πῶς ἀπαντητέον πρὸς αὐτούς, φανερὸν ἐκ τῶν εἰρημένων.

Δεῖ δὲ καὶ κατανοεῖν ὅτι πάντων τῶν λόγων οἱ μέν εἰσι ῥᾴους κατιδεῖν, οἱ δὲ χαλεπώτεροι, παρὰ τί καὶ ἐν τίνι παραλογίζονται τὸν ἀκούοντα, πολλάκις οἱ αὐτοὶ ἐκείνοις ὄντες· τὸν αὐτὸν γὰρ λόγον δεῖ καλεῖν τὸν παρὰ ταὐτὸ γινόμενον. ὁ αὐτὸς δὲ λόγος τοῖς μὲν παρὰ τὴν λέξιν τοῖς δὲ παρὰ τὸ συμβεβηκὸς τοῖς δὲ παρ’ ἕτερον δόξειεν ἂν εἶναι διὰ τὸ μεταφερόμενον ἕκαστον μὴ ὁμοίως εἶναι δῆλον. ὥσπερ οὖν ἐν τοῖς παρὰ τὴν ὁμωνυμίαν, ὅσπερ δοκεῖ τρόπος εὐηθέστατος εἶναι τῶν παραλογισμῶν, τὰ μὲν καὶ τοῖς τυχοῦσίν ἐστι δῆλα (καὶ γὰρ οἱ λόγοι σχεδὸν οἱ γελοῖοι πάντες εἰσὶ παρὰ τὴν λέξιν, οἷον “ἀνὴρ ἐφέρετο κατὰ κλίμακος δίφρον”, καὶ “ποῖ στέλλεσθε;” “πρὸς τὴν κεραίαν”, καὶ “ποτέρα τῶν βοῶν ἔμπροσθεν τέξεται;” “οὐδετέρα, ἀλλ’ ὄπισθεν ἄμφω”, καὶ “καθαρὸς ὁ βορέας;” “οὐ δῆτα· ἀπεκτόνηκε γὰρ τὸν πτωχὸν κατῳνωμένον”. “ἆρ’ Εὔαρχος;” “οὐ δῆτα, ἀλλ’ Ἀπολλωνίδης”· τὸν αὐτὸν δὲ τρόπον καὶ τῶν ἄλλων σχεδὸν οἱ πλεῖστοι)· τὰ δὲ καὶ τοὺς ἐμπειροτάτους φαίνεται λανθάνειν (σημεῖον δὲ τούτου ὅτι μάχονται πολλάκις περὶ τῶν ὀνομάτων, οἷον πότερον ταὐτὸ σημαίνει κατὰ πάντων τὸ ὂν καὶ τὸ ἕν, ἢ ἕτερον· τοῖς μὲν γὰρ δοκεῖ ταὐτὸ σημαίνειν τὸ ὂν καὶ τὸ ἕν, οἱ δὲ τὸν Ζήνωνος λόγον καὶ Παρμενίδου λύουσι διὰ τὸ πολλαχῶς φάναι τὸ ἓν λέγεσθαι καὶ τὸ ὄν). ὁμοίως δὲ καὶ ‹τῶν› παρὰ τὸ συμβεβηκὸς καὶ παρὰ τῶν ἄλλων ἕκαστον οἱ μὲν ἔσονται ῥᾴους ἰδεῖν οἱ δὲ χαλεπώτεροι τῶν λόγων, καὶ λαβεῖν ἐν τίνι γένει, καὶ πότερον ἔλεγχος ἢ οὐκ ἔλεγχος, οὐ ῥᾴδιον ὁμοίως περὶ πάντων.

Ἔστι δὲ δριμὺς λόγος ὅστις ἀπορεῖν ποιεῖ μάλιστα· δάκνει γὰρ οὗτος μάλιστα. ἀπορία δ’ ἐστὶ διττή, ἡ μὲν ἐν τοῖς συλλελογισμένοις, ὅ τι ἀνέλῃ τις τῶν ἐρωτημάτων, ἡ δ’ ἐν τοῖς ἐριστικοῖς, πῶς εἴπῃ τις τὸ προταθέν. διόπερ ἐν τοῖς συλλογιστικοῖς οἱ δριμύτεροι λόγοι ζητεῖν μᾶλλον ποιοῦσιν. ἔστι δὲ συλλογιστικὸς μὲν λόγος δριμύτατος ἂν ἐξ ὅτι μάλιστα δοκούντων ὅτι μάλιστα ἔνδοξον ἀναιρῇ. εἷς γὰρ ὢν ὁ λόγος μετατιθεμένης τῆς ἀντιφάσεως ἅπαντας ὁμοίους ἕξει τοὺς συλλογισμούς· ἀεὶ γὰρ ἐξ ἐνδόξων ὁμοίως ἔνδοξον ἀναιρήσει [ἢ κατασκευάσει], διόπερ ἀπορεῖν ἀναγκαῖον. μάλιστα μὲν οὖν ὁ τοιοῦτος δριμύς, ὁ ἐξ ἴσου τὸ συμπέρασμα ποιῶν τοῖς ἐρωτήμασι, δεύτερος δ’ ὁ ἐξ ἁπάντων ὁμοίων· οὗτος γὰρ ὁμοίως ποιήσει ἀπορεῖν ὁποῖον τῶν ἐρωτημάτων ἀναιρετέον. τοῦτο δὲ χαλεπόν· ἀναιρετέον μὲν γάρ, ὅ τι δ' ἀναιρετέον ἄδηλον. τῶν δ' ἐριστικῶν δριμύτατος μὲν ὁ πρῶτον εὐθὺς ἄδηλος πότερον συλλελόγισται ἢ οὔ, καὶ πότερον παρὰ ψεῦδος ἢ διαίρεσίν ἐστιν ἡ λύσις· δεύτερος δὲ τῶν ἄλλων ὁ δῆλος μὲν ὅτι παρὰ διαίρεσιν ἢ ἀναίρεσίν ἐστι, μὴ φανερὸς δ' ὢν διὰ τίνος τῶν ἠρωτημένων ἀναίρεσιν ἢ διαίρεσιν λυτέος ἐστίν, ἢ πότερον αὕτη παρὰ τὸ συμπέρασμα ἢ παρά τι τῶν ἐρωτημάτων ἐστίν.

Ἐνίοτε μὲν οὖν ὁ μὴ συλλογισθεὶς λόγος εὐήθης ἐστίν, ἐὰν ᾖ λίαν ἄδοξα ἢ ψευδῆ τὰ λήμματα· ἐνίοτε δ' οὐκ ἄξιος καταφρονεῖσθαι. ὅταν μὲν γὰρ ἐλλείπῃ τι τῶν τοιούτων ἐρωτημάτων περὶ ἃ ὁ λόγος καὶ δι' ἅ, [καὶ] μὴ προσλαβὼν τοῦτο καὶ μὴ συλλογισάμενος εὐήθης ὁ συλλογισμός· ὅταν δὲ τῶν ἔξωθεν, οὐκ εὐκαταφρόνητος οὐδαμῶς, ἀλλ' ὁ μὲν λόγος ἐπιεικής, ὁ δ' ἐρωτῶν ἠρώτηκεν οὐ καλῶς.

Ἔστι δέ, ὥσπερ λύειν ὁτὲ μὲν πρὸς τὸν λόγον ὁτὲ δὲ πρὸς τὸν ἐρωτῶντα καὶ τὴν ἐρώτησιν ὁτὲ δὲ πρὸς οὐδέτερον τούτων - ὁμοίως καὶ ἐρωτᾶν ἔστι καὶ συλλογίζεσθαι καὶ πρὸς τὴν θέσιν καὶ πρὸς τὸν ἀποκρινόμενον καὶ πρὸς τὸν χρόνον, ὅταν ᾖ πλείονος χρόνου δεομένη ἡ λύσις [ἢ] τοῦ παρόντος καιροῦ τοῦ διαλεχθῆναι πρὸς τὴν λύσιν.

Ἐκ πόσων μὲν οὖν καὶ ποίων γίνονται τοῖς διαλεγομένοις οἱ παραλογισμοί, καὶ πῶς δείξομέν τε ψευδόμενον καὶ παράδοξα λέγειν ποιήσομεν, ἔτι δ' ἐκ τίνων συμβαίνει ὁ συλλογισμός, καὶ πῶς ἐρωτητέον καὶ τίς ἡ τάξις τῶν ἐρωτημάτων, ἔτι δὲ πρὸς τί χρήσιμοι πάντες εἰσὶν οἱ τοιοῦτοι λόγοι, καὶ περὶ ἀποκρίσεως ἁπλῶς τε πάσης καὶ πῶς λυτέον τοὺς λόγους καὶ τοὺς συλλογισμούς, εἰρήσθω περὶ ἁπάντων ἡμῖν ταῦτα. λοιπὸν δὲ περὶ τῆς ἐξ ἀρχῆς προθέσεως ἀναμνήσασιν εἰπεῖν τι βραχὺ περὶ αὐτῆς καὶ τέλος ἐπιθεῖναι τοῖς εἰρημένοις.

Προειλόμεθα μὲν οὖν εὑρεῖν δύναμίν τινα συλλογιστικὴν περὶ τοῦ προβληθέντος ἐκ τῶν ὑπαρχόντων ὡς ἐνδοξοτάτων· τοῦτο γὰρ ἔργον ἐστὶ τῆς διαλεκτικῆς καθ' αὑτὴν καὶ τῆς πειραστικῆς. ἐπεὶ δὲ προκατασκευαστέον πρὸς αὐτὴν διὰ τὴν τῆς σοφιστικῆς γειτνίασιν, ὥστ' οὐ μόνον πεῖραν δύνασθαι λαβεῖν διαλεκτικῶς ἀλλὰ καὶ ὡς εἰδώς, διὰ τοῦτο οὐ μόνον τὸ λεχθὲν ἔργον ὑπεθέμεθα τῆς πραγματείας, τὸ λόγον δύνασθαι λαβεῖν, ἀλλὰ καὶ ὅπως λόγον ὑπέχοντες φυλάξομεν τὴν θέσιν ὡς δι' ἐνδοξοτάτων ὁμοτρόπως. τὴν δ' αἰτίαν εἰρήκαμεν τούτου, ἐπεὶ καὶ διὰ τοῦτο Σωκράτης ἠρώτα ἀλλ' οὐκ ἀπεκρίνετο· ὡμολόγει γὰρ οὐκ εἰδέναι. δεδήλωται δ' ἐν τοῖς πρότερον καὶ πρὸς πόσα καὶ ἐκ πόσων τοῦτο ἔσται, καὶ πόθεν εὐπορήσομεν τούτων, ἔτι δὲ πῶς ἐρωτητέον καὶ τακτέον τὴν ἐρώτησιν πᾶσαν, καὶ περί τε ἀποκρίσεων καὶ λύσεων τῶν πρὸς τοὺς συλλογισμούς. δεδήλωται δὲ καὶ περὶ τῶν ἄλλων ὅσα τῆς αὐτῆς μεθόδου τῶν λόγων ἐστίν. πρὸς δὲ τούτοις περὶ τῶν παραλογισμῶν διεληλύθαμεν, ὥσπερ εἰρήκαμεν ἤδη πρότερον. ὅτι μὲν οὖν ἔχει τέλος ἱκανῶς ἃ προειλόμεθα, φανερόν· δεῖ δ’ ἡμᾶς μὴ λεληθέναι τὸ συμβεβηκὸς περὶ ταύτην τὴν πραγματείαν. τῶν γὰρ εὑρισκομένων ἁπάντων τὰ μὲν παρ’ ἑτέρων ληφθέντα πρότερον πεπονημένα κατὰ μέρος ἐπιδέδωκεν ὑπὸ τῶν παραλαβόντων ὕστερον, τὰ δ’ ἐξ ὑπαρχῆς εὑρισκόμενα μικρὰν τὸ πρῶτον ἐπίδοσιν λαμβάνειν εἴωθε, χρησιμωτέραν μέντοι πολλῷ τῆς ὕστερον ἐκ τούτων αὐξήσεως· μέγιστον γὰρ ἴσως ἀρχὴ παντός, ὥσπερ λέγεται. διὸ καὶ χαλεπώτατον· ὅσῳ γὰρ κράτιστον τῇ δυνάμει, τοσούτῳ μικρότατον ὂν τῷ μεγέθει χαλεπώτατόν ἐστιν ὀφθῆναι. ταύτης δ’ εὑρημένης ῥᾷον τὸ προστιθέναι καὶ συναύξειν τὸ λοιπόν ἐστιν· ὅπερ καὶ περὶ τοὺς ῥητορικοὺς λόγους συμβέβηκε, σχεδὸν δὲ καὶ περὶ τὰς ἄλλας ἁπάσας τέχνας. οἱ μὲν γὰρ τὰς ἀρχὰς εὑρόντες παντελῶς ἐπὶ μικρόν τι προήγαγον· οἱ δὲ νῦν εὐδοκιμοῦντες, παραλαβόντες παρὰ πολλῶν οἷον ἐκ διαδοχῆς κατὰ μέρος προαγαγόντων, οὕτως ηὐξήκασι, Τεισίας μὲν μετὰ τοὺς πρώτους, Θρασύμαχος δὲ μετὰ Τεισίαν, Θεόδωρος δὲ μετὰ τοῦτον, καὶ πολλοὶ πολλὰ συνενηνόχασι μέρη· διόπερ οὐδὲν θαυμαστὸν ἔχειν τι πλῆθος τὴν τέχνην. ταύτης δὲ τῆς πραγματείας οὐ τὸ μὲν ἦν τὸ δ’ οὐκ ἦν προεξειργασμένον, ἀλλ’ οὐδὲν παντελῶς ὑπῆρχεν. καὶ γὰρ τῶν περὶ τοὺς ἐριστικοὺς λόγους μισθαρνούντων ὁμοία τις ἦν ἡ παίδευσις τῇ Γοργίου πραγματείᾳ· λόγους γὰρ οἱ μὲν ῥητορικοὺς οἱ δὲ ἐρωτητικοὺς ἐδίδοσαν ἐκμανθάνειν, εἰς οὓς πλειστάκις ἐμπίπτειν ᾠήθησαν ἑκάτεροι τοὺς ἀλλήλων λόγους. διόπερ ταχεῖα μὲν ἄτεχνος δ’ ἦν ἡ διδασκαλία τοῖς μανθάνουσι παρ’ αὐτῶν· οὐ γὰρ τέχνην ἀλλὰ τὰ ἀπὸ τῆς τέχνης διδόντες παιδεύειν ὑπελάμβανον, ὥσπερ ἂν εἴ τις, ἐπιστήμην φάσκων παραδώσειν ἐπὶ τὸ μηδὲν πονεῖν τοὺς πόδας, εἶτα σκυτοτομικὴν μὲν μὴ διδάσκοι μηδ’ ὅθεν δυνήσεται πορίζεσθαι τὰ τοιαῦτα, δοίη δὲ πολλὰ γένη παντοδαπῶν ὑποδημάτων· οὗτος γὰρ βεβοήθηκε μὲν πρὸς τὴν χρείαν, τέχνην δ’ οὐ παρέδωκεν. καὶ περὶ μὲν τῶν ῥητορικῶν ὑπῆρχε πολλὰ καὶ παλαιὰ τὰ λεγόμενα, περὶ δὲ τοῦ συλλογίζεσθαι παντελῶς οὐδὲν εἴχομεν πρότερον λέγειν ἢ τριβῇ ζητοῦντες πολὺν χρόνον ἐπονοῦμεν. εἰ δὲ φαίνεται θεασαμένοις ὑμῖν, ὡς ἐκ τοιούτων ἐξ ἀρχῆς ὑπαρχόντων, ἔχειν ἡ μέθοδος ἱκανῶς παρὰ τὰς ἄλλας πραγματείας τὰς ἐκ παραδόσεως ηὐξημένας, λοιπὸν ἂν εἴη πάντων ὑμῶν [ἢ] τῶν ἠκροαμένων ἔργον τοῖς μὲν παραλελειμμένοις τῆς μεθόδου συγγνώμην τοῖς δ’ εὑρημένοις πολλὴν ἔχειν

χάριν.

Φυσικά - Physics

Φυσικῆς ἀκροάσεως (184a) Physics

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Βιβλίο 1

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[184a] Ἐπειδὴ τὸ εἰδέναι καὶ τὸ ἐπίστασθαι συμβαίνει περὶ πάσας τὰς μεθόδους, ὧν εἰσὶν ἀρχαὶ ἢ αἴτια ἢ στοιχεῖα, ἐκ τοῦ ταῦτα γνωρίζειν (τότε γὰρ οἰόμεθα γιγνώσκειν ἕκαστον, ὅταν τὰ αἴτια γνωρίσωμεν τὰ πρῶτα καὶ τὰς ἀρχὰς τὰς πρώτας καὶ μέχρι τῶν στοιχείων), δῆλον ὅτι καὶ τῆς περὶ φύσεως ἐπιστήμης πειρατέον διορίσασθαι πρῶτον τὰ περὶ τὰς ἀρχάς.

πέφυκε δὲ ἐκ τῶν γνωριμωτέρων ἡμῖν ἡ ὁδὸς καὶ σαφεστέρων ἐπὶ τὰ σαφέστερα τῇ φύσει καὶ γνωριμώτερα· οὐ γὰρ ταὐτὰ ἡμῖν τε γνώριμα καὶ ἁπλῶς. διόπερ ἀνάγκη τὸν τρόπον τοῦτον προάγειν ἐκ τῶν ἀσαφεστέρων μὲν τῇ φύσει ἡμῖν δὲ σαφεστέρων ἐπὶ τὰ σαφέστερα τῇ φύσει καὶ γνωριμώτερα.

ἔστι δ’ ἡμῖν τὸ πρῶτον δῆλα καὶ σαφῆ τὰ συγκεχυμένα μᾶλλον· ὕστερον δ’ ἐκ τούτων γίγνεται γνώριμα τὰ στοιχεῖα καὶ αἱ ἀρχαὶ διαιροῦσι ταῦτα. διὸ ἐκ τῶν καθόλου ἐπὶ τὰ καθ’ ἕκαστα δεῖ προϊέναι· τὸ γὰρ ὅλον κατὰ τὴν αἴσθησιν γνωριμώτερον, τὸ δὲ καθόλου ὅλον τί ἐστι· πολλὰ γὰρ περιλαμβάνει ὡς μέρη τὸ καθόλου. πέπονθε δὲ [184b] ταὐτὸ τοῦτο τρόπον τινὰ καὶ τὰ ὀνόματα πρὸς τὸν λόγον· ὅλον γάρ τι καὶ ἀδιορίστως σημαίνει, οἷον ὁ κύκλος, ὁ δὲ ὁρισμὸς αὐτοῦ διαιρεῖ εἰς τὰ καθ’ ἕκαστα. καὶ τὰ παιδία τὸ μὲν πρῶτον προσαγορεύει πάντας τοὺς ἄνδρας πατέρας καὶ μητέρας τὰς γυναῖκας, ὕστερον δὲ διορίζει τούτων ἑκάτερον.

Κεφάλαιο 2

Ἀνάγκη δ’ ἤτοι μίαν εἶναι τὴν ἀρχὴν ἢ πλείους, καὶ εἰ μίαν, ἤτοι ἀκίνητον, ὥς φησι Παρμενίδης καὶ Μέλισσος, ἢ κινουμένην, ὥσπερ οἱ φυσικοί, οἱ μὲν ἀέρα φάσκοντες εἶναι οἱ δ’ ὕδωρ τὴν πρώτην ἀρχήν· εἰ δὲ πλείους, ἢ πεπερασμένας ἢ ἀπείρους, καὶ εἰ πεπερασμένας πλείους δὲ μιᾶς, ἢ δύο ἢ τρεῖς ἢ τέτταρας ἢ ἄλλον τινὰ ἀριθμόν, καὶ εἰ ἀπείρους, ἢ οὕτως ὥσπερ Δημόκριτος, τὸ γένος ἕν, σχήματι δὲ <διαφερούσας>, ἢ εἴδει διαφερούσας ἢ καὶ ἐναντίας.

ὁμοίως δὲ ζητοῦσι καὶ οἱ τὰ ὄντα ζητοῦντες πόσα· ἐξ ὧν γὰρ τὰ ὄντα ἐστὶ πρώτων, ζητοῦσι ταῦτα πότερον ἓν ἢ πολλά, καὶ εἰ πολλά, πεπερασμένα ἢ ἄπειρα, ὥστε τὴν ἀρχὴν καὶ τὸ στοιχεῖον ζητοῦσι πότερον ἓν ἢ πολλά. τὸ μὲν οὖν εἰ ἓν καὶ ἀκίνητον τὸ ὂν σκοπεῖν οὐ περὶ φύσεώς ἐστι σκο[185a] πεῖν· ὥσπερ γὰρ καὶ τῷ γεωμέτρῃ οὐκέτι λόγος ἔστι πρὸς τὸν ἀνελόντα τὰς ἀρχάς, ἀλλ’ ἤτοι ἑτέρας ἐπιστήμης ἢ πασῶν κοινῆς, οὕτως οὐδὲ τῷ περὶ ἀρχῶν· οὐ γὰρ ἔτι ἀρχὴ ἔστιν, εἰ ἓν μόνον καὶ οὕτως ἓν ἔστιν. ἡ γὰρ ἀρχὴ τινὸς ἢ τινῶν.

ὅμοιον δὴ τὸ σκοπεῖν εἰ οὕτως ἓν καὶ πρὸς ἄλλην θέσιν ὁποιανοῦν διαλέγεσθαι τῶν λόγου ἕνεκα λεγομένων (οἷον τὴν Ἡρακλείτειον, ἢ εἴ τις φαίη ἄνθρωπον ἕνα τὸ ὂν εἶναι), ἢ λύειν λόγον ἐριστικόν, ὅπερ ἀμφότεροι μὲν ἔχουσιν οἱ λόγοι, καὶ ὁ Μελίσσου καὶ ὁ Παρμενίδου· καὶ γὰρ ψευδῆ λαμβάνουσι καὶ ἀσυλλόγιστοί εἰσιν· μᾶλλον δ’ ὁ Μελίσσου φορτικὸς καὶ οὐκ ἔχων ἀπορίαν, ἀλλ’ ἑνὸς ἀτόπου δοθέντος τὰ ἄλλα συμβαίνει· τοῦτο δὲ οὐδὲν χαλεπόν.

ἡμῖν δ’ ὑποκείσθω τὰ φύσει ἢ πάντα ἢ ἔνια κινούμενα εἶναι· δῆλον δ’ ἐκ τῆς ἐπαγωγῆς. ἅμα δ’ οὐδὲ λύειν ἅπαντα προσήκει, ἀλλ’ ἢ ὅσα ἐκ τῶν ἀρχῶν τις ἐπιδεικνὺς ψεύδεται, ὅσα δὲ μή, οὔ, οἷον τὸν τετραγωνισμὸν τὸν μὲν διὰ τῶν τμημάτων γεωμετρικοῦ διαλῦσαι, τὸν δὲ Ἀντιφῶντος οὐ γεωμετρικοῦ· οὐ μὴν ἀλλ’ ἐπειδὴ περὶ φύσεως μὲν οὔ, φυσικὰς δὲ ἀπορίας συμβαίνει λέγειν αὐτοῖς, ἴσως ἔχει καλῶς ἐπὶ μικρὸν διαλεχθῆναι περὶ αὐτῶν· ἔχει γὰρ φιλοσοφίαν ἡ σκέψις.

ἀρχὴ δὲ οἰκειοτάτη πασῶν, ἐπειδὴ πολλαχῶς λέγεται τὸ ὄν, πῶς λέγουσιν οἱ λέγοντες εἶναι ἓν τὰ πάντα, πότερον οὐσίαν τὰ πάντα ἢ ποσὰ ἢ ποιά, καὶ πάλιν πότερον οὐσίαν μίαν τὰ πάντα, οἷον ἄνθρωπον ἕνα ἢ ἵππον ἕνα ἢ ψυχὴν μίαν, ἢ ποιὸν ἓν δὲ τοῦτο, οἷον λευκὸν ἢ θερμὸν ἢ τῶν ἄλλων τι τῶν τοιούτων. ταῦτα γὰρ πάντα διαφέρει τε πολὺ καὶ ἀδύνατα λέγειν.

εἰ μὲν γὰρ ἔσται καὶ οὐσία καὶ ποιὸν καὶ ποσόν, καὶ ταῦτα εἴτ' ἀπολελυμένα ἀπ' ἀλλήλων εἴτε μή, πολλὰ τὰ ὄντα·

εἰ δὲ πάντα ποιὸν ἢ ποσόν, εἴτ' οὔσης οὐσίας εἴτε μὴ οὔσης, ἄτοπον, εἰ δεῖ ἄτοπον λέγειν τὸ ἀδύνατον. οὐθὲν γὰρ τῶν ἄλλων χωριστόν ἐστι παρὰ τὴν οὐσίαν· πάντα γὰρ καθ' ὑποκειμένου λέγεται τῆς οὐσίας.

Μέλισσος δὲ τὸ ὂν ἄπειρον εἶναί φησιν. ποσὸν ἄρα τι τὸ ὄν· τὸ γὰρ ἄπειρον ἐν τῷ ποσῷ, οὐσίαν δὲ ἄπειρον εἶναι ἢ ποιότητα ἢ [185b] πάθος οὐκ ἐνδέχεται εἰ μὴ κατὰ συμβεβηκός, εἰ ἅμα καὶ ποσὰ ἄττα εἶεν· ὁ γὰρ τοῦ ἀπείρου λόγος τῷ ποσῷ προσχρῆται, ἀλλ' οὐκ οὐσίᾳ οὐδὲ τῷ ποιῷ. εἰ μὲν τοίνυν καὶ οὐσία ἔστι καὶ ποσόν, δύο καὶ οὐχ ἓν τὸ ὄν· εἰ δ' οὐσία μόνον, οὐκ ἄπειρον, οὐδὲ μέγεθος ἕξει οὐδέν· ποσὸν γάρ τι ἔσται.

ἔτι ἐπεὶ καὶ αὐτὸ τὸ ἓν πολλαχῶς λέγεται ὥσπερ καὶ τὸ ὄν, σκεπτέον τίνα τρόπον λέγουσιν εἶναι ἓν τὸ πᾶν. λέγεται δ' ἓν ἢ τὸ συνεχὲς ἢ τὸ ἀδιαίρετον ἢ ὧν ὁ λόγος ὁ αὐτὸς καὶ εἷς ὁ τοῦ τί ἦν εἶναι, ὥσπερ μέθυ καὶ οἶνος.

εἰ μὲν τοίνυν συνεχές, πολλὰ τὸ ἕν· εἰς ἄπειρον γὰρ διαιρετὸν τὸ συνεχές.

(ἔχει δ' ἀπορίαν περὶ τοῦ μέρους καὶ τοῦ ὅλου, ἴσως δὲ οὐ πρὸς τὸν λόγον ἀλλ' αὐτὴν καθ' αὑτήν, πότερον ἓν ἢ πλείω τὸ μέρος καὶ τὸ ὅλον, καὶ πῶς ἓν ἢ πλείω, καὶ εἰ πλείω, πῶς πλείω, καὶ περὶ τῶν μερῶν τῶν μὴ συνεχῶν· καὶ εἰ τῷ ὅλῳ ἓν ἑκάτερον ὡς ἀδιαίρετον, ὅτι καὶ αὐτὰ αὑτοῖς.)

ἀλλὰ μὴν εἰ ὡς ἀδιαίρετον, οὐθὲν ἔσται ποσὸν οὐδὲ ποιόν, οὐδὲ δὴ ἄπειρον τὸ ὄν, ὥσπερ Μέλισσός φησιν, οὐδὲ πεπερασμένον, ὥσπερ Παρμενίδης· τὸ γὰρ πέρας ἀδιαίρετον, οὐ τὸ πεπερασμένον.

ἀλλὰ μὴν εἰ τῷ λόγῳ ἓν τὰ ὄντα πάντα ὡς λώπιον καὶ ἱμάτιον, τὸν Ἡρακλείτου λόγον συμβαίνει λέγειν αὐτοῖς· ταὐτὸν γὰρ ἔσται ἀγαθῷ καὶ κακῷ εἶναι, καὶ ἀγαθῷ καὶ μὴ ἀγαθῷ εἶναι-ὥστε ταὐτὸν ἔσται ἀγαθὸν καὶ οὐκ ἀγαθόν, καὶ ἄνθρωπος καὶ ἵππος, καὶ οὐ περὶ τοῦ ἓν εἶναι τὰ ὄντα ὁ λόγος ἔσται ἀλλὰ περὶ τοῦ μηδέν-καὶ τὸ τοιῳδὶ εἶναι καὶ τοσῳδὶ ταὐτόν.

ἐθορυβοῦντο δὲ καὶ οἱ ὕστεροι τῶν ἀρχαίων ὅπως μὴ ἅμα γένηται αὐτοῖς τὸ αὐτὸ ἓν καὶ πολλά. διὸ οἱ μὲν τὸ ἐστὶν ἀφεῖλον, ὥσπερ Λυκόφρων, οἱ δὲ τὴν λέξιν μετερρύθμιζον, ὅτι ὁ ἄνθρωπος οὐ λευκός ἐστιν ἀλλὰ λελεύκωται, οὐδὲ βαδίζων ἐστὶν ἀλλὰ βαδίζει, ἵνα μή ποτε τὸ ἐστὶ προσάπτοντες πολλὰ εἶναι ποιῶσι τὸ ἕν, ὡς μοναχῶς λεγομένου τοῦ ἑνὸς ἢ τοῦ ὄντος. πολλὰ δὲ τὰ ὄντα ἢ λόγῳ (οἷον ἄλλο τὸ λευκῷ εἶναι καὶ μουσικῷ, τὸ δ' αὐτὸ ἄμφω· πολλὰ ἄρα τὸ ἕν) ἢ διαιρέσει, ὥσπερ τὸ ὅλον καὶ τὰ μέρη. ἐνταῦθα [186a] δὲ ἤδη ἠπόρουν, καὶ ὡμολόγουν τὸ ἓν πολλὰ εἶναι-ὥσπερ οὐκ ἐνδεχόμενον ταὐτὸν ἕν τε καὶ πολλὰ εἶναι, μὴ τἀντικείμενα δέ· ἔστι γὰρ τὸ ἓν καὶ δυνάμει καὶ ἐντελεχείᾳ.

Κεφάλαιο 3

Τόν τε δὴ τρόπον τοῦτον ἐπιοῦσιν ἀδύνατον φαίνεται τὰ ὄντα ἓν εἶναι, καὶ ἐξ ὧν ἐπιδεικνύουσι, λύειν οὐ χαλεπόν. ἀμφότεροι γὰρ ἐριστικῶς συλλογίζονται, καὶ Μέλισσος καὶ Παρμενίδης [καὶ γὰρ ψευδῆ λαμβάνουσι καὶ ἀσυλλόγιστοί εἰσιν αὐτῶν οἱ λόγοι· μᾶλλον δ’ ὁ Μελίσσου φορτικὸς καὶ οὐκ ἔχων ἀπορίαν, ἀλλ’ ἑνὸς ἀτόπου δοθέντος τἆλλα συμβαίνει· τοῦτο δ’ οὐθὲν χαλεπόν]. ὅτι μὲν οὖν παραλογίζεται Μέλισσος, δῆλον· οἴεται γὰρ εἰληφέναι, εἰ τὸ γενόμενον ἔχει ἀρχὴν ἅπαν, ὅτι καὶ τὸ μὴ γενόμενον οὐκ ἔχει. εἶτα καὶ τοῦτο ἄτοπον, τὸ παντὸς εἶναι ἀρχήντοῦ πράγματος καὶ μὴ τοῦ χρόνου, καὶ γενέσεως μὴ τῆς ἁπλῆς ἀλλὰ καὶ ἀλλοιώσεως, ὥσπερ οὐκ ἀθρόας γιγνομένης μεταβολῆς. ἔπειτα διὰ τί ἀκίνητον, εἰ ἕν; ὥσπερ γὰρ καὶ τὸ μέρος ἓν ὄν, τοδὶ τὸ ὕδωρ, κινεῖται ἐν ἑαυτῷ, διὰ τί οὐ καὶ τὸ πᾶν; ἔπειτα ἀλλοίωσις διὰ τί οὐκ ἂν εἴη; ἀλλὰ μὴν οὐδὲ τῷ εἴδει οἷόν τε ἓν εἶναι, πλὴν τῷ ἐξ οὗ (οὕτως δὲ ἓν καὶ τῶν φυσικῶν τινες λέγουσιν, ἐκείνως δ’ οὔ)· ἄνθρωπος γὰρ ἵππου ἕτερον τῷ εἴδει καὶ τἀναντία ἀλλήλων.

καὶ πρὸς Παρμενίδην δὲ ὁ αὐτὸς τρόπος τῶν λόγων, καὶ εἴ τινες ἄλλοι εἰσὶν ἴδιοι· καὶ ἡ λύσις τῇ μὲν ὅτι ψευδὴς τῇ δὲ ὅτι οὐ συμπεραίνεται, ψευδὴς μὲν ᾗ ἁπλῶς λαμβάνει τὸ ὂν λέγεσθαι, λεγομένου πολλαχῶς, ἀσυμπέραντος δὲ ὅτι, εἰ μόνα τὰ λευκὰ ληφθείη, σημαίνοντος ἓν τοῦ λευκοῦ, οὐθὲν ἧττον πολλὰ τὰ λευκὰ καὶ οὐχ ἕν· οὔτε γὰρ τῇ συνεχείᾳ ἓν ἔσται τὸ λευκὸν οὔτε τῷ λόγῳ. ἄλλο γὰρ ἔσται τὸ εἶναι λευκῷ καὶ τῷ δεδεγμένῳ. καὶ οὐκ ἔσται παρὰ τὸ λευκὸν οὐθὲν χωριστόν· οὐ γὰρ ᾗ χωριστὸν ἀλλὰ τῷ εἶναι ἕτερον τὸ λευκὸν καὶ ᾧ ὑπάρχει. ἀλλὰ τοῦτο Παρμενίδης οὔπω συνεώρα.

ἀνάγκη δὴ λαβεῖν μὴ μόνον ἓν σημαίνειν τὸ ὄν, καθ’ οὗ ἂν κατηγορηθῇ, ἀλλὰ καὶ ὅπερ ὂν καὶ ὅπερ ἕν. τὸ γὰρ συμβεβηκὸς καθ’ ὑποκειμένου τινὸς λέγεται, ὥστε ᾧ συμβέβηκε τὸ ὄν, οὐκ ἔσται (ἕτερον γὰρ [186b] τοῦ ὄντος)· ἔσται τι ἄρα οὐκ ὄν. οὐ δὴ ἔσται ἄλλῳ ὑπάρχον τὸ ὅπερ ὄν. οὐ γὰρ ἔσται ὄν τι αὐτὸ εἶναι, εἰ μὴ πολλὰ τὸ ὂν σημαίνει οὕτως ὥστε εἶναί τι ἕκαστον. ἀλλ’ ὑπόκειται τὸ ὂν σημαίνειν ἕν.

εἰ οὖν τὸ ὅπερ ὂν μηδενὶ συμβέβηκεν ἀλλὰ <τὰ ἄλλα> ἐκείνῳ, τί μᾶλλον τὸ ὅπερ ὂν σημαίνει τὸ ὂν ἢ μὴ ὄν; εἰ γὰρ ἔσται τὸ ὅπερ ὂν [ταὐτὸ] καὶ λευκόν, τὸ λευκῷ δ’ εἶναι μὴ ἔστιν ὅπερ ὄν (οὐδὲ γὰρ συμβεβηκέναι αὐτῷ οἷόν τε τὸ ὄν· οὐδὲν γὰρ ὂν ὃ οὐχ ὅπερ ὄν), οὐκ ἄρα ὂν τὸ λευκόν· οὐχ οὕτω δὲ ὥσπερ τι μὴ ὄν, ἀλλ’ ὅλως μὴ ὄν. τὸ ἄρα ὅπερ ὂν οὐκ ὄν· ἀληθὲς γὰρ εἰπεῖν ὅτι λευκόν, τοῦτο δὲ οὐκ ὂν ἐσήμαινεν. ὥστε καὶ τὸ λευκὸν σημαίνει ὅπερ ὄν· πλείω ἄρα σημαίνει τὸ ὄν.

οὐ τοίνυν οὐδὲ μέγεθος ἕξει τὸ ὄν, εἴπερ ὅπερ ὂν τὸ ὄν· ἑκατέρῳ γὰρ ἕτερον τὸ εἶναι τῶν μορίων.

ὅτι δὲ διαιρεῖται τὸ ὅπερ ὂν εἰς ὅπερ ὄν τι ἄλλο, καὶ τῷ λόγῳ φανερόν, οἷον ὁ ἄνθρωπος εἰ ἔστιν ὅπερ ὄν τι, ἀνάγκη καὶ τὸ ζῷον ὅπερ ὄν τι εἶναι καὶ τὸ δίπουν. εἰ γὰρ μὴ ὅπερ ὄν τι, συμβεβηκότα ἔσται. ἢ οὖν τῷ ἀνθρώπῳ ἢ ἄλλῳ τινὶ ὑποκειμένῳ. ἀλλ’ ἀδύνατον·

συμβεβηκός τε γὰρ λέγεται τοῦτο, ἢ ὃ ἐνδέχεται ὑπάρχειν καὶ μὴ ὑπάρχειν, ἢ οὗ ἐν τῷ λόγῳ ὑπάρχει τὸ ᾧ συμβέβηκεν [ἢ ἐν ᾧ ὁ λόγος ὑπάρχει ᾧ συμβέβηκεν] (οἷον τὸ μὲν καθῆσθαι ὡς χωριζόμενον, ἐν δὲ τῷ σιμῷ ὑπάρχει ὁ λόγος ὁ τῆς ῥινὸς ᾗ φαμὲν συμβεβηκέναι τὸ σιμόν)· ἔτι ὅσα ἐν τῷ ὁριστικῷ λόγῳ ἔνεστιν ἢ ἐξ ὧν ἐστιν, ἐν τῷ λόγῳ τῷ τούτων οὐκ ἐνυπάρχει ὁ λόγος ὁ τοῦ ὅλου, οἷον ἐν τῷ δίποδι ὁ τοῦ ἀνθρώ που ἢ ἐν τῷ λευκῷ ὁ τοῦ λευκοῦ ἀνθρώπου. εἰ τοίνυν ταῦτα τοῦτον ἔχει τὸν τρόπον καὶ τῷ ἀνθρώπῳ συμβέβηκε τὸ δίπουν, ἀνάγκη χωριστὸν εἶναι αὐτό, ὥστε ἐνδέχοιτο ἂν μὴ δίπουν εἶναι τὸν ἄνθρωπον, ἢ ἐν τῷ λόγῳ τῷ τοῦ δίποδος ἐνέσται ὁ τοῦ ἀνθρώπου λόγος. ἀλλ’ ἀδύνατον· ἐκεῖνο γὰρ ἐν τῷ ἐκείνου λόγῳ ἔνεστιν.

εἰ δ’ ἄλλῳ συμβέβηκε τὸ δίπουν καὶ τὸ ζῷον, καὶ μὴ ἔστιν ἑκάτερον ὅπερ ὄν τι, καὶ ὁ ἄνθρωπος ἂν εἴη τῶν συμβεβηκότων ἑτέρῳ. ἀλλὰ τὸ ὅπερ ὂν ἔστω μηδενὶ συμβεβηκός, καὶ καθ’ οὗ ἄμφω [καὶ ἑκατέρον], καὶ τὸ ἐκ τούτων λεγέσθω·

ἐξ ἀδιαιρέτων ἄρα τὸ πᾶν; [187a] ἔνιοι δ’ ἐνέδοσαν τοῖς λόγοις ἀμφοτέροις, τῷ μὲν ὅτι πάντα ἕν, εἰ τὸ ὂν ἓν σημαίνει, ὅτι ἔστι τὸ μὴ ὄν, τῷ δὲ ἐκ τῆς διχοτομίας, ἄτομα ποιήσαντες μεγέθη. φανερὸν δὲ καὶ ὅτι οὐκ ἀληθὲς ὡς, εἰ ἓν σημαίνει τὸ ὂν καὶ μὴ οἷόν τε ἅμα τὴν ἀντίφασιν, οὐκ ἔσται οὐθὲν μὴ ὄν· οὐθὲν γὰρ κωλύει, μὴ ἁπλῶς εἶναι, ἀλλὰ μὴ ὄν τι εἶναι τὸ μὴ ὄν. τὸ δὲ δὴ φάναι, παρ’ αὐτὸ τὸ ὂν εἰ μή τι ἔσται ἄλλο, ἓν πάντα ἔσεσθαι, ἄτοπον. τίς γὰρ μανθάνει αὐτὸ τὸ ὂν εἰ μὴ τὸ ὅπερ ὄν τι εἶναι; εἰ δὲ τοῦτο, οὐδὲν ὅμως κωλύει πολλὰ εἶναι τὰ ὄντα, ὥσπερ εἴρηται.

ὅτι μὲν οὖν οὕτως ἓν εἶναι τὸ ὂν ἀδύνα τον, δῆλον.

Κεφάλαιο 4

Ὡς δ’ οἱ φυσικοὶ λέγουσι, δύο τρόποι εἰσίν.

οἱ μὲν γὰρ ἓν ποιήσαντες τὸ [ὂν] σῶμα τὸ ὑποκείμενον, ἢ τῶν τριῶν τι ἢ ἄλλο ὅ ἐστι πυρὸς μὲν πυκνότερον ἀέρος δὲ λεπτότερον, τἆλλα γεννῶσι πυκνότητι καὶ μανότητι πολλὰ ποιοῦντες (ταῦτα δ’ ἐστὶν ἐναντία, καθόλου δ’ ὑπεροχὴ καὶ ἔλλειψις, ὥσπερ τὸ μέγα φησὶ Πλάτων καὶ τὸ μικρόν, πλὴν ὅτι ὁ μὲν ταῦτα ποιεῖ ὕλην τὸ δὲ ἓν τὸ εἶδος, οἱ δὲ τὸ μὲν ἓν τὸ ὑποκείμενον ὕλην, τὰ δ’ ἐναντία διαφορὰς καὶ εἴδη)·

οἱ δ’ ἐκ τοῦ ἑνὸς ἐνούσας τὰς ἐναντιότητας ἐκ κρίνεσθαι, ὥσπερ Ἀναξίμανδρός φησι, καὶ ὅσοι δ’ ἓν καὶ πολλά φασιν εἶναι, ὥσπερ Ἐμπεδοκλῆς καὶ Ἀναξαγόρας· ἐκ τοῦ μίγματος γὰρ καὶ οὗτοι ἐκκρίνουσι τἆλλα. διαφέρουσι δὲ ἀλλήλων τῷ τὸν μὲν περίοδον ποιεῖν τούτων, τὸν δ’ ἅπαξ, καὶ τὸν μὲν ἄπειρα, τά τε ὁμοιομερῆ καὶ τἀναντία, τὸν δὲ τὰ καλούμενα στοιχεῖα μόνον.

ἔοικε δὲ Ἀναξαγόρας ἄπειρα οὕτως οἰηθῆναι διὰ τὸ ὑπολαμβάνειν τὴν κοινὴν δόξαν τῶν φυσικῶν εἶναι ἀληθῆ, ὡς οὐ γιγνομένου οὐδε νὸς ἐκ τοῦ μὴ ὄντος (διὰ τοῦτο γὰρ οὕτω λέγουσιν, ἦν ὁμοῦ πάντα, καὶ τὸ γίγνεσθαι τοιόνδε καθέστηκεν ἀλλοιοῦσθαι, οἱ δὲ σύγκρισιν καὶ διάκρισιν)· ἔτι δ’ ἐκ τοῦ γίγνεσθαι ἐξ ἀλλήλων τἀναντία· ἐνυπῆρχεν ἄρα· εἰ γὰρ πᾶν μὲν τὸ γιγνόμενον ἀνάγκη γίγνεσθαι ἢ ἐξ ὄντων ἢ ἐκ μὴ ὄντων, τούτων δὲ τὸ μὲν ἐκ μὴ ὄντων γίγνεσθαι ἀδύνατον (περὶ γὰρ ταύτης ὁμογνωμονοῦσι τῆς δόξης ἅπαντες οἱ περὶ φύσεως), τὸ λοιπὸν ἤδη συμβαίνειν ἐξ ἀνάγκης ἐνόμισαν, ἐξ ὄντων μὲν καὶ ἐνυπαρχόντων γίγνεσθαι, διὰ μικρότητα δὲ τῶν ὄγκων ἐξ [187b] ἀναισθήτων ἡμῖν. διό φασι πᾶν ἐν παντὶ μεμῖχθαι, διότι πᾶν ἐκ παντὸς ἑώρων γιγνόμενον· φαίνεσθαι δὲ διαφέροντα καὶ προσαγορεύεσθαι ἕτερα ἀλλήλων ἐκ τοῦ μάλισθ’ ὑπερέχοντος διὰ πλῆθος ἐν τῇ μίξει τῶν ἀπείρων· εἰλικρινῶς μὲν γὰρ ὅλον λευκὸν ἢ μέλαν ἢ γλυκὺ ἢ σάρκα ἢ ὀστοῦν οὐκ εἶναι, ὅτου δὲ πλεῖστον ἕκαστον ἔχει, τοῦτο δοκεῖν εἶναι τὴν φύσιν τοῦ πράγματος.

εἰ δὴ τὸ μὲν ἄπειρον ᾗ ἄπειρον ἄγνωστον, τὸ μὲν κατὰ πλῆθος ἢ κατὰ μέγεθος ἄπειρον ἄγνωστον πόσον τι, τὸ δὲ κατ’ εἶδος ἄπειρον ἄγνωστον ποῖόν τι. τῶν δ’ ἀρχῶν ἀπείρων οὐσῶν καὶ κατὰ πλῆθος καὶ κατ’ εἶδος, ἀδύνατον εἰδέναι τὰ ἐκ τούτων. οὕτω γὰρ εἰδέναι τὸ σύνθετον ὑπολαμβάνομεν, ὅταν εἰδῶμεν ἐκ τίνων καὶ πόσων ἐστίν. ἔτι δ' εἰ ἀνάγκη, οὗ τὸ μόριον ἐνδέχεται ὁπηλικονοῦν εἶναι κατὰ μέγεθος καὶ μικρότητα, καὶ αὐτὸ ἐνδέχεσθαι (λέγω δὲ τῶν τοιούτων τι μορίων, εἰς ὃ ἐνυπάρχον διαιρεῖται τὸ ὅλον), εἰ δὴ ἀδύνατον ζῷον ἢ φυτὸν ὁπηλικονοῦν εἶναι κατὰ μέγεθος καὶ μικρότητα, φανερὸν ὅτι οὐδὲ τῶν μορίων ὁτιοῦν· ἔσται γὰρ καὶ τὸ ὅλον ὁμοίως. σὰρξ δὲ καὶ ὀστοῦν καὶ τὰ τοιαῦτα μόρια ζῴου, καὶ οἱ καρποὶ τῶν φυτῶν. δῆλον τοίνυν ὅτι ἀδύνατον σάρκα ἢ ὀστοῦν ἢ ἄλλο τι ὁπηλι κονοῦν εἶναι τὸ μέγεθος ἢ ἐπὶ τὸ μεῖζον ἢ ἐπὶ τὸ ἔλαττον.

ἔτι εἰ πάντα μὲν ἐνυπάρχει τὰ τοιαῦτα ἐν ἀλλήλοις, καὶ μὴ γίγνεται ἀλλ' ἐκκρίνεται ἐνόντα, λέγεται δὲ ἀπὸ τοῦ πλείονος, γίγνεται δὲ ἐξ ὁτουοῦν ὁτιοῦν (οἷον ἐκ σαρκὸς ὕδωρ ἐκκρινόμενον καὶ σὰρξ ἐξ ὕδατος), ἅπαν δὲ σῶμα πεπερασμένον ἀναιρεῖται ὑπὸ σώματος πεπερασμένου, φανερὸν ὅτι οὐκ ἐνδέχεται ἐν ἑκάστῳ ἕκαστον ὑπάρχειν. ἀφαιρεθείσης γὰρ ἐκ τοῦ ὕδατος σαρκός, καὶ πάλιν ἄλλης γενομένης ἐκ τοῦ λοιποῦ ἀποκρίσει, εἰ καὶ ἀεὶ ἐλάττων ἔσται ἡ ἐκκρινομένη, ἀλλ' ὅμως οὐχ ὑπερβαλεῖ μέγεθός τι τῇ μικρότητι. ὥστ' εἰ μὲν στήσεται ἡ ἔκκρισις, οὐχ ἅπαν ἐν παντὶ ἐνέσται (ἐν γὰρ τῷ λοιπῷ ὕδατι οὐκ ἐνυπάρξει σάρξ), εἰ δὲ μὴ στήσεται ἀλλ' ἀεὶ ἕξει ἀφαίρεσιν, ἐν πεπερασμένῳ μεγέθει ἴσα πεπερασμένα ἐνέσται ἄπειρα τὸ πλῆθος· τοῦτο δ' ἀδύνατον. πρὸς δὲ τούτοις, εἰ ἅπαν μὲν σῶμα ἀφαιρεθέντος τινὸς ἔλαττον ἀνάγκη γίγνεσθαι, τῆς δὲ σαρκὸς ὥρισται τὸ ποσὸν καὶ μεγέθει καὶ μικρότητι, φανερὸν ὅτι ἐκ τῆς ἐλαχίστης [188a] σαρκὸς οὐθὲν ἐκκριθήσεται σῶμα· ἔσται γὰρ ἐλάττων τῆς ἐλαχίστης.

ἔτι δ' ἐν τοῖς ἀπείροις σώμασιν ἐνυπάρχοι ἂν ἤδη σὰρξ ἄπειρος καὶ αἷμα καὶ ἐγκέφαλος, κεχωρισμένα μέντοι ἀπ' ἀλλήλων <οὔ>, οὐθὲν δ' ἧττον ὄντα, καὶ ἄπειρον ἕκαστον· τοῦτο δ' ἄλογον.

τὸ δὲ μηδέποτε διακριθήσεσθαι οὐκ εἰδότως μὲν λέγεται, ὀρθῶς δὲ λέγεται· τὰ γὰρ πάθη ἀχώριστα· εἰ οὖν μέμικται τὰ χρώματα καὶ αἱ ἕξεις, ἐὰν διακριθῶσιν, ἔσται τι λευκὸν καὶ ὑγιεινὸν οὐχ ἕτερόν τι ὂν οὐδὲ καθ' ὑποκειμένου. ὥστε ἄτοπος τὰ ἀδύνατα ζητῶν ὁ νοῦς, εἴπερ βούλεται μὲν διακρῖναι, τοῦτο δὲ ποιῆσαι ἀδύνατον καὶ κατὰ τὸ ποσὸν καὶ κατὰ τὸ ποιόν, κατὰ μὲν τὸ ποσὸν ὅτι οὐκ ἔστιν ἐλάχιστον μέγεθος, κατὰ δὲ τὸ ποιὸν ὅτι ἀχώριστα τὰ πάθη.

οὐκ ὀρθῶς δὲ οὐδὲ τὴν γένεσιν λαμβάνει τῶν ὁμοειδῶν. ἔστι μὲν γὰρ ὡς ὁ πηλὸς εἰς πηλοὺς διαιρεῖται, ἔστι δ' ὡς οὔ. καὶ οὐχ ὁ αὐτὸς τρόπος, ὡς πλίνθοι ἐξ οἰκίας καὶ οἰκία ἐκ πλίνθων, οὕτω [δὲ] καὶ ὕδωρ καὶ ἀὴρ ἐξ ἀλλήλων καὶ εἰσὶ καὶ γίγνονται. βέλτιόν τε ἐλάττω καὶ πεπερασμένα λαβεῖν, ὅπερ ποιεῖ Ἐμπεδοκλῆς.

Κεφάλαιο 5

Πάντες δὴ τἀναντία ἀρχὰς ποιοῦσιν οἵ τε λέγοντες ὅτι ἓν τὸ πᾶν καὶ μὴ κινούμενον (καὶ γὰρ Παρμενίδης θερμὸν καὶ ψυχρὸν ἀρχὰς ποιεῖ, ταῦτα δὲ προσαγορεύει πῦρ καὶ γῆν) καὶ οἱ μανὸν καὶ πυκνόν, καὶ Δημόκριτος τὸ πλῆρες καὶ κενόν, ὧν τὸ μὲν ὡς ὂν τὸ δὲ ὡς οὐκ ὂν εἶναί φησιν· ἔτι θέσει, σχήματι, τάξει. ταῦτα δὲ γένη ἐναντίων· θέσεως ἄνω κάτω, πρόσθεν ὄπισθεν, σχήματος γεγωνιωμένον ἀγώνιον, εὐθὺ περιφερές.

ὅτι μὲν οὖν τἀναντία πως πάντες ποιοῦσι τὰς ἀρχάς, δῆλον. καὶ τοῦτο εὐλόγως· δεῖ γὰρ τὰς ἀρχὰς μήτε ἐξ ἀλλήλων εἶναι μήτε ἐξ ἄλλων, καὶ ἐκ τούτων πάντα· τοῖς δὲ ἐναντίοις τοῖς πρώτοις ὑπάρχει ταῦτα, διὰ μὲν τὸ πρῶτα εἶναι μὴ ἐξ ἄλλων, διὰ δὲ τὸ ἐναντία μὴ ἐξ ἀλλήλων.

ἀλλὰ δεῖ τοῦτο καὶ ἐπὶ τοῦ λόγου σκέψασθαι πῶς συμβαίνει.

ληπτέον δὴ πρῶτον ὅτι πάντων τῶν ὄντων οὐθὲν οὔτε ποιεῖν πέφυκεν οὔτε πάσχειν τὸ τυχὸν ὑπὸ τοῦ τυχόντος, οὐδὲ γίγνεται ὁτιοῦν ἐξ ὁτουοῦν, ἂν μή τις λαμβάνῃ κατὰ συμβεβηκός· πῶς γὰρ ἂν γένοιτο λευκὸν ἐκ μουσικοῦ, πλὴν εἰ μὴ συμβεβηκὸς εἴη τῷ μὴ λευκῷ ἢ τῷ μέλανι τὸ μουσικόν; ἀλλὰ λευκὸν μὲν γίγνεται ἐξ οὐ λευκοῦ, καὶ τούτου οὐκ ἐκ παντὸς [188b] ἀλλ’ ἐκ μέλανος ἢ τῶν μεταξύ, καὶ μουσικὸν οὐκ ἐκ μουσικοῦ, πλὴν οὐκ ἐκ παντὸς ἀλλ’ ἐξ ἀμούσου ἢ εἴ τι αὐτῶν ἐστι μεταξύ.

οὐδὲ δὴ φθείρεται εἰς τὸ τυχὸν πρῶτον, οἷον τὸ λευκὸν οὐκ εἰς τὸ μουσικόν, πλὴν εἰ μή ποτε κατὰ συμβεβηκός, ἀλλ’ εἰς τὸ μὴ λευκόν, καὶ οὐκ εἰς τὸ τυχὸν ἀλλ’ εἰς τὸ μέλαν ἢ τὸ μεταξύ· ὡς δ’ αὕτως καὶ τὸ μουσικὸν εἰς τὸ μὴ μουσικόν, καὶ τοῦτο οὐκ εἰς τὸ τυχὸν ἀλλ’ εἰς τὸ ἄμουσον ἢ εἴ τι αὐτῶν ἐστι μεταξύ.

ὁμοίως δὲ τοῦτο καὶ ἐπὶ τῶν ἄλλων, ἐπεὶ καὶ τὰ μὴ ἁπλᾶ τῶν ὄντων ἀλλὰ σύνθετα κατὰ τὸν αὐτὸν ἔχει λόγον· ἀλλὰ διὰ τὸ μὴ τὰς ἀντικειμένας διαθέσεις ὠνομάσθαι λανθάνει τοῦτο συμβαῖνον. ἀνάγκη γὰρ πᾶν τὸ ἡρμοσμένον ἐξ ἀναρμόστου γίγνεσθαι καὶ τὸ ἀνάρμοστον ἐξ ἡρμοσμένου, καὶ φθείρεσθαι τὸ ἡρμοσμένον εἰς ἀναρμοστίαν, καὶ ταύτην οὐ τὴν τυχοῦσαν ἀλλὰ τὴν ἀντικειμένην. διαφέρει δ’ οὐθὲν ἐπὶ ἁρμονίας εἰπεῖν ἢ τάξεως ἢ συνθέσεως· φανερὸν γὰρ ὅτι ὁ αὐτὸς λόγος. ἀλλὰ μὴν καὶ οἰκία καὶ ἀνδριὰς καὶ ὁτιοῦν ἄλλο γίγνεται ὁμοίως· ἥ τε γὰρ οἰκία γίγνεται ἐκ τοῦ μὴ συγκεῖσθαι ἀλλὰ διῃρῆσθαι ταδὶ ὡδί, καὶ ὁ ἀνδριὰς καὶ τῶν ἐσχηματισμένων τι ἐξ ἀσχημοσύνης· καὶ ἕκαστον τούτων τὰ μὲν τάξις, τὰ δὲ σύνθεσίς τίς ἐστιν.

εἰ τοίνυν τοῦτ᾽ ἔστιν ἀληθές, ἅπαν ἂν γίγνοιτο τὸ γιγνόμενον καὶ φθείροιτο τὸ φθειρόμενον ἢ ἐξ ἐναντίων ἢ εἰς ἐναντία καὶ τὰ τούτων μεταξύ. τὰ δὲ μεταξὺ ἐκ τῶν ἐναντίων ἐστίν, οἷον χρώματα ἐκ λευκοῦ καὶ μέλανος· ὥστε πάντ᾽ ἂν εἴη τὰ φύσει γιγνόμενα ἢ ἐναντία ἢ ἐξ ἐναντίων.

μέχρι μὲν οὖν ἐπὶ τοσοῦτον σχεδὸν συνηκολουθήκασι καὶ τῶν ἄλλων οἱ πλεῖστοι, καθάπερ εἴπομεν πρότερον· πάντες γὰρ τὰ στοιχεῖα καὶ τὰς ὑπ᾽ αὐτῶν καλουμένας ἀρχάς, καίπερ ἄνευ λόγου τιθέντες, ὅμως τἀναντία λέγουσιν, ὥσπερ ὑπ᾽ αὐτῆς τῆς ἀληθείας ἀναγκασθέντες. διαφέρουσι δ᾽ ἀλλήλων τῷ τοὺς μὲν πρότερα τοὺς δ᾽ ὕστερα λαμβάνειν, καὶ τοὺς μὲν γνωριμώτερα κατὰ τὸν λόγον τοὺς δὲ κατὰ τὴν αἴσθησιν (οἱ μὲν γὰρ θερμὸν καὶ ψυχρόν, οἱ δ᾽ ὑγρὸν καὶ ξηρόν, ἕτεροι δὲ περιττὸν καὶ ἄρτιον ἢ νεῖκος καὶ φιλίαν αἰ τίας τίθενται τῆς γενέσεως· ταῦτα δ᾽ ἀλλήλων διαφέρει κατὰ τὸν εἰρημένον τρόπον),

ὥστε ταὐτὰ λέγειν πως καὶ ἕτερα ἀλλήλων, ἕτερα μὲν ὥσπερ καὶ δοκεῖ τοῖς πλείστοις, ταὐτὰ [189a] δὲ ᾗ ἀνάλογον· λαμβάνουσι γὰρ ἐκ τῆς αὐτῆς συστοιχίας· τὰ μὲν γὰρ περιέχει, τὰ δὲ περιέχεται τῶν ἐναντίων. ταύτῃ τε δὴ ὡσαύτως λέγουσι καὶ ἑτέρως, καὶ χεῖρον καὶ βέλτιον, καὶ οἱ μὲν γνωριμώτερα κατὰ τὸν λόγον, ὥσπερ εἴρηται πρότερον, οἱ δὲ κατὰ τὴν αἴσθησιν (τὸ μὲν γὰρ καθόλου κατὰ τὸν λόγον γνώριμον, τὸ δὲ καθ᾽ ἕκαστον κατὰ τὴν αἴσθησιν· ὁ μὲν γὰρ λόγος τοῦ καθόλου, ἡ δ᾽ αἴσθησις τοῦ κατὰ μέρος), οἷον τὸ μὲν μέγα καὶ τὸ μικρὸν κατὰ τὸν λόγον, τὸ δὲ μανὸν καὶ τὸ πυκνὸν κατὰ τὴν αἴσθησιν.

ὅτι μὲν οὖν ἐναντίας δεῖ τὰς ἀρχὰς εἶναι, φανερόν.

Κεφάλαιο 6

Ἐχόμενον δ' ἂν εἴη λέγειν πότερον δύο ἢ τρεῖς ἢ πλείους εἰσίν.

μίαν μὲν γὰρ οὐχ οἷόν τε, ὅτι οὐχ ἓν τὰ ἐναντία, ἀπείρους δ', ὅτι οὐκ ἐπιστητὸν τὸ ὂν ἔσται, μία τε ἐναντίωσις ἐν παντὶ γένει ἑνί, ἡ δ' οὐσία ἕν τι γένος, καὶ ὅτι ἐνδέχεται ἐκ πεπερασμένων, βέλτιον δ' ἐκ πεπερασμένων, ὥσπερ Ἐμπεδοκλῆς, ἢ ἐξ ἀπείρων· πάντα γὰρ ἀποδιδόναι οἴεται ὅσαπερ Ἀναξαγόρας ἐκ τῶν ἀπείρων. ἔτι δὲ ἔστιν ἄλλα ἄλλων πρότερα ἐναντία, καὶ γίγνεται ἕτερα ἐξ ἀλλήλων, οἷον γλυκὺ καὶ πικρὸν καὶ λευκὸν καὶ μέλαν, τὰς δὲ ἀρχὰς ἀεὶ δεῖ μένειν.

ὅτι μὲν οὖν οὔτε μία οὔτε ἄπειροι, δῆλον ἐκ τούτων·

ἐπεὶ δὲ πεπερασμέναι, τὸ μὴ ποιεῖν δύο μόνον ἔχει τινὰ λόγον· ἀπορήσειε γὰρ ἄν τις πῶς ἢ ἡ πυκνότης τὴν μανότητα ποιεῖν τι πέφυκεν ἢ αὕτη τὴν πυκνότητα. ὁμοίως δὲ καὶ ἄλλη ὁποιαοῦν ἐναντιότης· οὐ γὰρ ἡ φιλία τὸ νεῖκος συνάγει καὶ ποιεῖ τι ἐξ αὐτοῦ, οὐδὲ τὸ νεῖκος ἐξ ἐκείνης, ἀλλ' ἄμφω ἕτερόν τι τρίτον. ἔνιοι δὲ καὶ πλείω λαμβάνουσιν ἐξ ὧν κατα σκευάζουσι τὴν τῶν ὄντων φύσιν.

πρὸς δὲ τούτοις ἔτι κἂν τόδε τις ἀπορήσειεν, εἰ μή τις ἑτέραν ὑποθήσει τοῖς ἐναντίοις φύσιν· οὐθενὸς γὰρ ὁρῶμεν τῶν ὄντων οὐσίαν τἀναντία, τὴν δ' ἀρχὴν οὐ καθ' ὑποκειμένου δεῖ λέγεσθαί τινος. ἔσται γὰρ ἀρχὴ τῆς ἀρχῆς· τὸ γὰρ ὑποκείμενον ἀρχή, καὶ πρότερον δοκεῖ τοῦ κατηγορουμένου εἶναι. ἔτι οὐκ εἶναί φαμεν οὐσίαν ἐναντίαν οὐσίᾳ· πῶς οὖν ἐκ μὴ οὐσιῶν οὐσία ἂν εἴη; ἢ πῶς ἂν πρότερον μὴ οὐσία οὐσίας εἴη;

διόπερ εἴ τις τόν τε πρότερον ἀληθῆ νομίσειεν εἶναι λόγον καὶ τοῦτον, ἀναγκαῖον, [189b] εἰ μέλλει διασώσειν ἀμφοτέρους αὐτούς, ὑποτιθέναι τι τρίτον, ὥσπερ φασὶν οἱ μίαν τινὰ φύσιν εἶναι λέγοντες τὸ πᾶν, οἷον ὕδωρ ἢ πῦρ ἢ τὸ μεταξὺ τούτων. δοκεῖ δὲ τὸ μεταξὺ μᾶλλον· πῦρ γὰρ ἤδη καὶ γῆ καὶ ἀὴρ καὶ ὕδωρ μετ' ἐναντιοτήτων συμπεπλεγμένα ἐστίν. διὸ καὶ οὐκ ἀλόγως ποιοῦσιν οἱ τὸ ὑποκείμενον ἕτερον τούτων ποιοῦντες, τῶν δ' ἄλλων οἱ ἀέρα· καὶ γὰρ ὁ ἀὴρ ἥκιστα ἔχει τῶν ἄλλων διαφορὰς αἰσθητάς· ἐχόμενον δὲ τὸ ὕδωρ. ἀλλὰ πάντες γε τὸ ἓν τοῦτο τοῖς ἐναντίοις σχηματίζουσιν, πυκνότητι καὶ μανότητι καὶ τῷ μᾶλλον καὶ ἧττον. ταῦτα δ' ἐστὶν ὅλως ὑπεροχὴ δηλονότι καὶ ἔλλειψις, ὥσπερ εἴρηται πρότερον. καὶ ἔοικε παλαιὰ εἶναι καὶ αὕτη ἡ δόξα, ὅτι τὸ ἓν καὶ ὑπεροχὴ καὶ ἔλλειψις ἀρχαὶ τῶν ὄντων εἰσί, πλὴν οὐ τὸν αὐτὸν τρόπον, ἀλλ’ οἱ μὲν ἀρχαῖοι τὰ δύο μὲν ποιεῖν τὸ δὲ ἓν πάσχειν, τῶν δ’ ὑστέρων τινὲς τοὐναντίον τὸ μὲν ἓν ποιεῖν τὰ δὲ δύο πάσχειν φασὶ μᾶλλον.

τὸ μὲν οὖν τρία φάσκειν τὰ στοιχεῖα εἶναι ἔκ τε τούτων καὶ ἐκ τοιούτων ἄλλων ἐπισκοποῦσι δόξειεν ἂν ἔχειν τινὰ λόγον, ὥσπερ εἴπομεν, τὸ δὲ πλείω τριῶν οὐκέτι·

πρὸς μὲν γὰρ τὸ πάσχειν ἱκανὸν τὸ ἕν, εἰ δὲ τεττάρων ὄντων δύο ἔσονται ἐναντιώσεις, δεήσει χωρὶς ἑκατέρᾳ ὑπάρχειν ἑτέραν τινὰ μεταξὺ φύσιν· εἰ δ’ ἐξ ἀλλήλων δύνανται γεννᾶν δύο οὖσαι, περίεργος ἂν ἡ ἑτέρα τῶν ἐναντιώσεων εἴη. ἅμα δὲ καὶ ἀδύνατον πλείους εἶναι ἐναντιώσεις τὰς πρώτας. ἡ γὰρ οὐσία ἕν τι γένος ἐστὶ τοῦ ὄντος, ὥστε τῷ πρότερον καὶ ὕστερον διοίσουσιν ἀλλήλων αἱ ἀρχαὶ μόνον, ἀλλ’ οὐ τῷ γένει· ἀεὶ γὰρ ἐν ἑνὶ γένει μία ἐναντίωσις ἔστιν, πᾶσαί τε αἱ ἐναντιώσεις ἀνάγεσθαι δοκοῦσιν εἰς μίαν.

ὅτι μὲν οὖν οὔτε ἓν τὸ στοιχεῖον οὔτε πλείω δυοῖν ἢ τριῶν, φανερόν· τούτων δὲ πότερον, καθάπερ εἴπομεν, ἀπορίαν ἔχει πολλήν.

Κεφάλαιο 7

Ὧδ’ οὖν ἡμεῖς λέγωμεν πρῶτον περὶ πάσης γενέσεως ἐπελθόντες· ἔστι γὰρ κατὰ φύσιν τὰ κοινὰ πρῶτον εἰπόντας οὕτω τὰ περὶ ἕκαστον ἴδια θεωρεῖν.

φαμὲν γὰρ γίγνεσθαι ἐξ ἄλλου ἄλλο καὶ ἐξ ἑτέρου ἕτερον ἢ τὰ ἁπλᾶ λέγοντες ἢ τὰ συγκείμενα. λέγω δὲ τοῦτο ὡδί. ἔστι γὰρ γίγνεσθαι ἄνθρωπον μουσικόν, ἔστι δὲ τὸ μὴ μουσικὸν γίγνεσθαι μουσικὸν ἢ τὸν [190a] μὴ μουσικὸν ἄνθρωπον ἄνθρωπον μουσικόν. ἁπλοῦν μὲν οὖν λέγω τὸ γιγνόμενον τὸν ἄνθρωπον καὶ τὸ μὴ μουσικόν, καὶ ὃ γίγνεται ἁπλοῦν, τὸ μουσικόν· συγκείμενον δὲ καὶ ὃ γίγνεται καὶ τὸ γιγνόμενον, ὅταν τὸν μὴ μουσικὸν ἄνθρωπον φῶμεν γίγνεσθαι μουσικὸν ἄνθρωπον.

τούτων δὲ τὸ μὲν οὐ μόνον λέγεται τόδε γίγνεσθαι ἀλλὰ καὶ ἐκ τοῦδε, οἷον ἐκ μὴ μουσικοῦ μουσικός, τὸ δ’ οὐ λέγεται ἐπὶ πάντων· οὐ γὰρ ἐξ ἀνθρώπου ἐγένετο μουσικός, ἀλλ’ ἄνθρωπος ἐγένετο μουσικός.

τῶν δὲ γιγνομένων ὡς τὰ ἁπλᾶ λέγομεν γίγνεσθαι, τὸ μὲν ὑπομένον γίγνεται τὸ δ’ οὐχ ὑπομένον· ὁ μὲν γὰρ ἄνθρωπος ὑπομένει μουσικὸς γιγνόμενος ἄνθρωπος καὶ ἔστι, τὸ δὲ μὴ μουσικὸν καὶ τὸ ἄμουσον οὔτε ἁπλῶς οὔτε συντεθειμένον ὑπομένει.

διωρισμένων δὲ τούτων, ἐξ ἁπάντων τῶν γιγνομένων τοῦτο ἔστι λαβεῖν, ἐάν τις ἐπιβλέψῃ ὥσπερ λέγομεν, ὅτι δεῖ τι ἀεὶ ὑποκεῖσθαι τὸ γιγνόμενον, καὶ τοῦτο εἰ καὶ ἀριθμῷ ἐστιν ἕν, ἀλλ’ εἴδει γε οὐχ ἕν· τὸ γὰρ εἴδει λέγω καὶ λόγῳ ταὐτόν· οὐ γὰρ ταὐτὸν τὸ ἀνθρώπῳ καὶ τὸ ἀμούσῳ εἶναι. καὶ τὸ μὲν ὑπομένει, τὸ δ’ οὐχ ὑπομένει· τὸ μὲν μὴ ἀντικείμενον ὑπομένει (ὁ γὰρ ἄνθρωπος ὑπομένει), τὸ μὴ μουσικὸν δὲ καὶ τὸ ἄμουσον οὐχ ὑπομένει, οὐδὲ τὸ ἐξ ἀμφοῖν συγκείμενον, οἷον ὁ ἄμουσος ἄνθρωπος.

τὸ δ’ ἔκ τινος γίγνεσθαί τι, καὶ μὴ τόδε γίγνεσθαί τι, μᾶλλον μὲν λέγεται ἐπὶ τῶν μὴ ὑπομενόντων, οἷον ἐξ ἀμούσου μουσικὸν γίγνεσθαι, ἐξ ἀνθρώπου δὲ οὔ· οὐ μὴν ἀλλὰ καὶ ἐπὶ τῶν ὑπομενόντων ἐνίοτε λέγεται ὡσαύτως· ἐκ γὰρ χαλκοῦ ἀνδριάντα γίγνεσθαί φαμεν, οὐ τὸν χαλκὸν ἀνδριάντα. τὸ μέντοι ἐκ τοῦ ἀντικειμένου καὶ μὴ ὑπομένοντος ἀμφοτέρως λέγεται, καὶ ἐκ τοῦδε τόδε καὶ τόδε τόδε· καὶ γὰρ ἐξ ἀμούσου καὶ ὁ ἄμουσος γίγνεται μουσικός. διὸ καὶ ἐπὶ τοῦ συγκειμένου ὡσαύτως· καὶ γὰρ ἐξ ἀμούσου ἀνθρώπου καὶ ὁ ἄμουσος ἄνθρωπος γίγνεσθαι λέγεται μουσικός.

πολλαχῶς δὲ λεγομένου τοῦ γίγνεσθαι, καὶ τῶν μὲν οὐ γίγνεσθαι ἀλλὰ τόδε τι γίγνεσθαι, ἁπλῶς δὲ γίγνεσθαι τῶν οὐσιῶν μόνον,

κατὰ μὲν τἆλλα φανερὸν ὅτι ἀνάγκη ὑποκεῖσθαί τι τὸ γιγνόμενον (καὶ γὰρ ποσὸν καὶ ποιὸν καὶ πρὸς ἕτερον [καὶ ποτὲ] καὶ ποὺ γίγνεται ὑποκειμένου τινὸς διὰ τὸ μόνην τὴν οὐσίαν μηθενὸς κατ’ ἄλλου λέγεσθαι ὑποκειμένου, [190b] τὰ δ’ ἄλλα πάντα κατὰ τῆς οὐσίας)·

ὅτι δὲ καὶ αἱ οὐσίαι καὶ ὅσα [ἄλλα] ἁπλῶς ὄντα ἐξ ὑποκειμένου τινὸς γίγνεται, ἐπισκοποῦντι γένοιτο ἂν φανερόν. ἀεὶ γὰρ ἔστι ὃ ὑπόκειται, ἐξ οὗ τὸ γιγνόμενον, οἷον τὰ φυτὰ καὶ τὰ ζῷα ἐκ σπέρματος.

γίγνεται δὲ τὰ γιγνόμενα ἁπλῶς τὰ μὲν μετασχηματίσει, οἷον ἀνδριάς, τὰ δὲ προσθέσει, οἷον τὰ αὐξανόμενα, τὰ δ’ ἀφαιρέσει, οἷον ἐκ τοῦ λίθου ὁ Ἑρμῆς, τὰ δὲ συνθέσει, οἷον οἰκία, τὰ δ’ ἀλλοιώσει, οἷον τὰ τρεπόμενα κατὰ τὴν ὕλην.

πάντα δὲ τὰ οὕτω γιγνόμενα φανερὸν ὅτι ἐξ ὑποκειμένων γίγνεται.

ὥστε δῆλον ἐκ τῶν εἰ ρημένων ὅτι τὸ γιγνόμενον ἅπαν ἀεὶ συνθετόν ἐστι, καὶ ἔστι μέν τι γιγνόμενον, ἔστι δέ τι ὃ τοῦτο γίγνεται, καὶ τοῦτο διττόν· ἢ γὰρ τὸ ὑποκείμενον ἢ τὸ ἀντικείμενον. λέγω δὲ ἀντικεῖσθαι μὲν τὸ ἄμουσον, ὑποκεῖσθαι δὲ τὸν ἄνθρωπον, καὶ τὴν μὲν ἀσχημοσύνην καὶ τὴν ἀμορφίαν καὶ τὴν ἀταξίαν τὸ ἀντικείμενον, τὸν δὲ χαλκὸν ἢ τὸν λίθον ἢ τὸν χρυσὸν τὸ ὑποκείμενον.

φανερὸν οὖν ὡς, εἴπερ εἰσὶν αἰτίαι καὶ ἀρχαὶ τῶν φύσει ὄντων, ἐξ ὧν πρώτων εἰσὶ καὶ γεγόνασι μὴ κατὰ συμβεβηκὸς ἀλλ’ ἕκαστον ὃ λέγεται κατὰ τὴν οὐσίαν, ὅτι γίγνεται πᾶν ἔκ τε τοῦ ὑποκειμένου καὶ τῆς μορφῆς· σύγκειται γὰρ ὁ μουσικὸς ἄνθρωπος ἐξ ἀνθρώπου καὶ μουσικοῦ τρόπον τινά· διαλύσεις γὰρ [τοὺς λόγους] εἰς τοὺς λόγους τοὺς ἐκείνων. δῆλον οὖν ὡς γίγνοιτ’ ἂν τὰ γιγνόμενα ἐκ τούτων.

ἔστι δὲ τὸ μὲν ὑποκείμενον ἀριθμῷ μὲν ἕν, εἴδει δὲ δύο (ὁ μὲν γὰρ ἄνθρωπος καὶ ὁ χρυσὸς καὶ ὅλως ἡ ὕλη ἀριθμητή· τόδε γάρ τι μᾶλλον, καὶ οὐ κατὰ συμβεβηκὸς ἐξ αὐτοῦ γίγνεται τὸ γιγνόμενον· ἡ δὲ στέρησις καὶ ἡ ἐναντίωσις συμβεβηκός)· ἓν δὲ τὸ εἶδος, οἷον ἡ τάξις ἢ ἡ μουσικὴ ἢ τῶν ἄλλων τι τῶν οὕτω κατηγορουμένων. διὸ ἔστι μὲν ὡς δύο λεκτέον εἶναι τὰς ἀρχάς, ἔστι δ’ ὡς τρεῖς· καὶ ἔστι μὲν ὡς τἀναντία, οἷον εἴ τις λέγοι τὸ μουσικὸν καὶ τὸ ἄμουσον ἢ τὸ θερμὸν καὶ τὸ ψυχρὸν ἢ τὸ ἡρμοσμένον καὶ τὸ ἀνάρμοστον, ἔστι δ’ ὡς οὔ· ὑπ’ ἀλλήλων γὰρ πάσχειν τἀναντία ἀδύνατον. λύεται δὲ καὶ τοῦτο διὰ τὸ ἄλλο εἶναι τὸ ὑποκείμενον· τοῦτο γὰρ οὐκ ἐναντίον. ὥστε οὔτε πλείους τῶν ἐναντίων αἱ ἀρχαὶ τρόπον τινά, ἀλλὰ δύο ὡς εἰπεῖν τῷ ἀριθμῷ, οὔτ’ αὖ παντελῶς δύο διὰ [191a] τὸ ἕτερον ὑπάρχειν τὸ εἶναι αὐτοῖς, ἀλλὰ τρεῖς· ἕτερον γὰρ τὸ ἀνθρώπῳ καὶ τὸ ἀμούσῳ εἶναι, καὶ τὸ ἀσχηματίστῳ καὶ χαλκῷ.

πόσαι μὲν οὖν αἱ ἀρχαὶ τῶν περὶ γένεσιν φυσικῶν, καὶ πῶς ποσαί, εἴρηται· καὶ δῆλόν ἐστιν ὅτι δεῖ ὑποκεῖσθαί τι τοῖς ἐναντίοις καὶ τἀναντία δύο εἶναι. τρόπον δέ τινα ἄλλον οὐκ ἀναγκαῖον· ἱκανὸν γὰρ ἔσται τὸ ἕτερον τῶν ἐναντίων ποιεῖν τῇ ἀπουσίᾳ καὶ παρουσίᾳ τὴν μεταβολήν.

ἡ δὲ ὑποκειμένη φύσις ἐπιστητὴ κατ’ ἀναλογίαν. ὡς γὰρ πρὸς ἀνδριάντα χαλκὸς ἢ πρὸς κλίνην ξύλον ἢ πρὸς τῶν ἄλλων τι τῶν ἐχόντων μορφὴν [ἡ ὕλη καὶ] τὸ ἄμορφον ἔχει πρὶν λαβεῖν τὴν μορφήν, οὕτως αὕτη πρὸς οὐσίαν ἔχει καὶ τὸ τόδε τι καὶ τὸ ὄν.

μία μὲν οὖν ἀρχὴ αὕτη, οὐχ οὕτω μία οὖσα οὐδὲ οὕτως ὂν ὡς τὸ τόδε τι, μία δὲ ἧς ὁ λόγος, ἔτι δὲ τὸ ἐναντίον τούτῳ, ἡ στέρησις. ταῦτα δὲ πῶς δύο καὶ πῶς πλείω, εἴρηται ἐν τοῖς ἄνω. πρῶτον μὲν οὖν ἐλέχθη ὅτι ἀρ χαὶ τἀναντία μόνον, ὕστερον δ’ ὅτι ἀνάγκη καὶ ἄλλο τι ὑποκεῖσθαι καὶ εἶναι τρία· ἐκ δὲ τῶν νῦν φανερὸν τίς ἡ διαφορὰ τῶν ἐναντίων, καὶ πῶς ἔχουσιν αἱ ἀρχαὶ πρὸς ἀλλήλας, καὶ τί τὸ ὑποκείμενον. πότερον δὲ οὐσία τὸ εἶδος ἢ τὸ ὑποκείμενον, οὔπω δῆλον. ἀλλ’ ὅτι αἱ ἀρχαὶ τρεῖς καὶ πῶς τρεῖς, καὶ τίς ὁ τρόπος αὐτῶν, δῆλον. πόσαι μὲν οὖν καὶ τίνες εἰσὶν αἱ ἀρχαί, ἐκ τούτων θεωρείσθωσαν.

Κεφάλαιο 8

Ὅτι δὲ μοναχῶς οὕτω λύεται καὶ ἡ τῶν ἀρχαίων ἀπορία, λέγωμεν μετὰ ταῦτα.

ζητοῦντες γὰρ οἱ κατὰ φιλοσοφίαν πρῶτοι τὴν ἀλήθειαν καὶ τὴν φύσιν τῶν ὄντων ἐξετράπησαν οἷον ὁδόν τινα ἄλλην ἀπωσθέντες ὑπὸ ἀπειρίας, καί φασιν οὔτε γίγνεσθαι τῶν ὄντων οὐδὲν οὔτε φθείρεσθαι διὰ τὸ ἀναγκαῖον μὲν εἶναι γίγνεσθαι τὸ γιγνόμενον ἢ ἐξ ὄντος ἢ ἐκ μὴ ὄντος, ἐκ δὲ τούτων ἀμφοτέρων ἀδύνατον εἶναι· οὔτε γὰρ τὸ ὂν γίγνεσθαι (εἶναι γὰρ ἤδη) ἔκ τε μὴ ὄντος οὐδὲν ἂν γενέσθαι· ὑποκεῖσθαι γάρ τι δεῖν. καὶ οὕτω δὴ τὸ ἐφεξῆς συμβαῖνον αὔξοντες οὐδ’ εἶναι πολλά φασιν ἀλλὰ μόνον αὐτὸ τὸ ὄν. ἐκεῖνοι μὲν οὖν ταύτην ἔλαβον τὴν δόξαν διὰ τὰ εἰρημένα·

ἡμεῖς δὲ λέγομεν ὅτι τὸ ἐξ ὄντος ἢ μὴ ὄντος γίγνεσθαι, ἢ τὸ μὴ ὂν ἢ τὸ ὂν ποιεῖν τι ἢ πάσχειν ἢ ὁτιοῦν τόδε γίγνεσθαι, ἕνα μὲν τρόπον οὐθὲν [191b]διαφέρει ἢ τὸ τὸν ἰατρὸν ποιεῖν τι ἢ πάσχειν ἢ ἐξ ἰατροῦ εἶναί τι ἢ γίγνεσθαι, ὥστ’ ἐπειδὴ τοῦτο διχῶς λέγεται, δῆλον ὅτι καὶ τὸ ἐξ ὄντος καὶ τὸ ὂν ἢ ποιεῖν ἢ πάσχειν. οἰκοδομεῖ μὲν οὖν ὁ ἰατρὸς οὐχ ᾗ ἰατρὸς ἀλλ’ ᾗ οἰκοδόμος, καὶ λευκὸς γίγνεται οὐχ ᾗ ἰατρὸς ἀλλ’ ᾗ μέλας· ἰατρεύει δὲ καὶ ἀνίατρος γίγνεται ᾗ ἰατρός. ἐπεὶ δὲ μάλιστα λέγομεν κυρίως τὸν ἰατρὸν ποιεῖν τι ἢ πάσχειν ἢ γίγνεσθαι ἐξ ἰατροῦ, ἐὰν ᾗ ἰατρὸς ταῦτα πάσχῃ ἢ ποιῇ ἢ γίγνηται, δῆλον ὅτι καὶ τὸ ἐκ μὴ ὄντος γίγνεσθαι τοῦτο σημαίνει, τὸ ᾗ μὴ ὄν.

ὅπερ ἐκεῖνοι μὲν οὐ διελόντες ἀπέστησαν, καὶ διὰ ταύτην τὴν ἄγνοιαν τοσοῦτον προσηγνόησαν, ὥστε μηθὲν οἴεσθαι γίγνεσθαι μηδ’ εἶναι τῶν ἄλλων, ἀλλ’ ἀνελεῖν πᾶσαν τὴν γένεσιν·

ἡμεῖς δὲ καὶ αὐτοί φαμεν γίγνεσθαι μὲν μηθὲν ἁπλῶς ἐκ μὴ ὄντος, πὼς μέντοι γίγνεσθαι ἐκ μὴ ὄντος, οἷον κατὰ συμβεβηκός (ἐκ γὰρ τῆς στερήσεως, ὅ ἐστι καθ’ αὑτὸ μὴ ὄν, οὐκ ἐνυπάρχοντος γίγνεταί τι· θαυμάζεται δὲ τοῦτο καὶ ἀδύνατον οὕτω δοκεῖ γίγνεσθαί τι, ἐκ μὴ ὄντος)·

ὡσαύτως δὲ οὐδ’ ἐξ ὄντος οὐδὲ τὸ ὂν γίγνεσθαι, πλὴν κατὰ συμβεβηκός· οὕτω δὲ καὶ τοῦτο γίγνεσθαι, τὸν αὐτὸν τρόπον οἷον εἰ ἐκ ζῴου ζῷον γίγνοιτο καὶ ἐκ τινὸς ζῴου τι ζῷον· οἷον εἰ κύων <ἐκ κυνὸς ἢ ἵππος> ἐξ ἵππου γίγνοιτο. γίγνοιτο μὲν γὰρ ἂν οὐ μόνον ἐκ τινὸς ζῴου ὁ κύων, ἀλλὰ καὶ ἐκ ζῴου, ἀλλ’ οὐχ ᾗ ζῷον· ὑπάρχει γὰρ ἤδη τοῦτο· εἰ δέ τι μέλλει γίγνεσθαι ζῷον μὴ κατὰ συμβεβηκός, οὐκ ἐκ ζῴου ἔσται, καὶ εἴ τι ὄν, οὐκ ἐξ ὄντος· οὐδ’ ἐκ μὴ ὄντος· τὸ γὰρ ἐκ μὴ ὄντος εἴρηται ἡμῖν τί σημαίνει, ὅτι ᾗ μὴ ὄν.

ἔτι δὲ καὶ τὸ εἶναι ἅπαν ἢ μὴ εἶναι οὐκ ἀναιροῦμεν.

εἷς μὲν δὴ τρόπος οὗτος, ἄλλος δ’ ὅτι ἐνδέχεται ταὐτὰ λέγειν κατὰ τὴν δύναμιν καὶ τὴν ἐνέργειαν· τοῦτο δ’ ἐν ἄλλοις διώρισται δι’ ἀκριβείας μᾶλλον. ὥσθ’ (ὅπερ ἐλέγομεν) αἱ ἀπορίαι λύονται δι’ ἃς ἀναγκα ζόμενοι ἀναιροῦσι τῶν εἰρημένων ἔνια· διὰ γὰρ τοῦτο τοσοῦτον καὶ οἱ πρότερον ἐξετράπησαν τῆς ὁδοῦ τῆς ἐπὶ τὴν γένεσιν καὶ φθορὰν καὶ ὅλως μεταβολήν· αὕτη γὰρ ἂν ὀφθεῖσα ἡ φύσις ἅπασαν ἔλυσεν αὐτῶν τὴν ἄγνοιαν.

Κεφάλαιο 9

Ἡμμένοι μὲν οὖν καὶ ἕτεροί τινές εἰσιν αὐτῆς, ἀλλ’ οὐχ ἱκανῶς.

πρῶτον μὲν γὰρ ὁμολογοῦσιν ἁπλῶς γίγνεσθαί τι ἐκ μὴ [192a] ὄντος, ᾗ Παρμενίδην ὀρθῶς λέγειν· εἶτα φαίνεται αὐτοῖς, εἴπερ ἐστὶν ἀριθμῷ μία, καὶ δυνάμει μία μόνον εἶναι. τοῦτο δὲ διαφέρει πλεῖστον.

ἡμεῖς μὲν γὰρ ὕλην καὶ στέρησιν ἕτερόν φαμεν εἶναι, καὶ τούτων τὸ μὲν οὐκ ὂν εἶναι κατὰ συμβεβηκός, τὴν ὕλην, τὴν δὲ στέρησιν καθ’ αὑτήν, καὶ τὴν μὲν ἐγγὺς καὶ οὐσίαν πως, τὴν ὕλην, τὴν δὲ οὐδαμῶς· οἱ δὲ τὸ μὴ ὂν τὸ μέγα καὶ τὸ μικρὸν ὁμοίως, ἢ τὸ συναμφότερον ἢ τὸ χωρὶς ἑκάτερον. ὥστε παντελῶς ἕτερος ὁ τρόπος οὗτος τῆς τριάδος κἀκεῖνος. μέχρι μὲν γὰρ δεῦρο προῆλθον, ὅτι δεῖ τινὰ ὑποκεῖσθαι φύσιν, ταύτην μέντοι μίαν ποιοῦσιν· καὶ γὰρ εἴ τις δυάδα ποιεῖ, λέγων μέγα καὶ μικρὸν αὐτήν, οὐθὲν ἧττον ταὐτὸ ποιεῖ· τὴν γὰρ ἑτέραν παρεῖδεν. ἡ μὲν γὰρ ὑπομένουσα συναιτία τῇ μορφῇ τῶν γιγνομένων ἐστίν, ὥσπερ μήτηρ· ἡ δ’ ἑτέρα μοῖρα τῆς ἐναντιώσεως πολλάκις ἂν φαντασθείη τῷ πρὸς τὸ κακοποιὸν αὐτῆς ἀτενίζοντι τὴν διάνοιαν οὐδ’ εἶναι τὸ παράπαν. ὄντος γάρ τινος θείου καὶ ἀγαθοῦ καὶ ἐφετοῦ, τὸ μὲν ἐναντίον αὐτῷ φαμεν εἶναι, τὸ δὲ ὃ πέφυκεν ἐφίεσθαι καὶ ὀρέγεσθαι αὐτοῦ κατὰ τὴν αὑτοῦ φύσιν. τοῖς δὲ συμβαίνει τὸ ἐναντίον ὀρέγεσθαι τῆς αὑτοῦ φθορᾶς. καίτοι οὔτε αὐτὸ αὑτοῦ οἷόν τε ἐφίεσθαι τὸ εἶδος διὰ τὸ μὴ εἶναι ἐνδεές, οὔτε τὸ ἐναντίον (φθαρτικὰ γὰρ ἀλλήλων τὰ ἐναντία), ἀλλὰ τοῦτ’ ἔστιν ἡ ὕλη, ὥσπερ ἂν εἰ θῆλυ ἄρρενος καὶ αἰσχρὸν καλοῦ· πλὴν οὐ καθ’ αὑτὸ αἰσχρόν, ἀλλὰ κατὰ συμβεβηκός, οὐδὲ θῆλυ, ἀλλὰ κατὰ συμβεβηκός.

φθείρεται δὲ καὶ γίγνεται ἔστι μὲν ὥς, ἔστι δ’ ὡς οὔ. ὡς μὲν γὰρ τὸ ἐν ᾧ, καθ’ αὑτὸ φθείρεται (τὸ γὰρ φθειρόμενον ἐν τούτῳ ἐστίν, ἡ στέρησις)· ὡς δὲ κατὰ δύναμιν, οὐ καθ’ αὑτό, ἀλλ’ ἄφθαρτον καὶ ἀγένητον ἀνάγκη αὐτὴν εἶναι. εἴτε γὰρ ἐγίγνετο, ὑποκεῖσθαί τι δεῖ πρῶτον ἐξ οὗ ἐνυπάρχοντος· τοῦτο δ’ ἐστὶν αὐτὴ ἡ φύσις, ὥστ’ ἔσται πρὶν γενέσθαι (λέγω γὰρ ὕλην τὸ πρῶτον ὑποκείμενον ἑκάστῳ, ἐξ οὗ γίγνεταί τι ἐνυπάρχοντος μὴ κατὰ συμβεβηκός)· εἴτε φθείρεται, εἰς τοῦτο ἀφίξεται ἔσχατον, ὥστε ἐφθαρμένη ἔσται πρὶν φθαρῆναι.

περὶ δὲ τῆς κατὰ τὸ εἶδος ἀρχῆς, πότερον μία ἢ πολλαὶ καὶ τίς ἢ τίνες εἰσίν,

δι’ ἀκριβείας τῆς πρώτης φιλοσοφίας ἔργον ἐστὶν διορίσαι, ὥστ’ εἰς ἐκεῖνον τὸν και[192b] ρὸν ἀποκείσθω. περὶ δὲ τῶν φυσικῶν καὶ φθαρτῶν εἰδῶν ἐν τοῖς ὕστερον δεικνυμένοις ἐροῦμεν.

ὅτι μὲν οὖν εἰσὶν ἀρχαί, καὶ τίνες, καὶ πόσαι τὸν ἀριθμόν, διωρίσθω ἡμῖν οὕτως· πάλιν δ’ ἄλλην ἀρχὴν ἀρξάμενοι λέγωμεν.

Βιβλίο 2

Κεφάλαιο 1

Τῶν ὄντων τὰ μέν ἐστι φύσει, τὰ δὲ δι’ ἄλλας αἰτίας,

φύσει μὲν τά τε ζῷα καὶ τὰ μέρη αὐτῶν καὶ τὰ φυτὰ καὶ τὰ ἁπλᾶ τῶν σωμάτων, οἷον γῆ καὶ πῦρ καὶ ἀὴρ καὶ ὕδωρ (ταῦτα γὰρ εἶναι καὶ τὰ τοιαῦτα φύσει φαμέν), πάντα δὲ ταῦτα φαίνεται διαφέροντα πρὸς τὰ μὴ φύσει συνεστῶτα. τούτων μὲν γὰρ ἕκαστον ἐν ἑαυτῷ ἀρχὴν ἔχει κινήσεως καὶ στάσεως, τὰ μὲν κατὰ τόπον, τὰ δὲ κατ’ αὔξησιν καὶ φθίσιν, τὰ δὲ κατ’ ἀλλοίωσιν· κλίνη δὲ καὶ ἱμάτιον, καὶ εἴ τι τοιοῦτον ἄλλο γένος ἐστίν, ᾗ μὲν τετύχηκε τῆς κατηγορίας ἑκάστης καὶ καθ’ ὅσον ἐστὶν ἀπὸ τέχνης, οὐδεμίαν ὁρμὴν ἔχει μεταβολῆς ἔμφυτον, ᾗ δὲ συμβέβηκεν αὐτοῖς εἶναι λιθίνοις ἢ γηΐνοις ἢ μικτοῖς ἐκ τούτων, ἔχει, καὶ κατὰ τοσοῦτον, ὡς οὔσης τῆς φύσεως ἀρχῆς τινὸς καὶ αἰτίας τοῦ κινεῖσθαι καὶ ἠρεμεῖν ἐν ᾧ ὑπάρχει πρώτως καθ’ αὑτὸ καὶ μὴ κατὰ συμβεβηκός

(λέγω δὲ τὸ μὴ κατὰ συμβεβηκός, ὅτι γένοιτ’ ἂν αὐτὸς αὑτῷ τις αἴτιος ὑγιείας ὢν ἰατρός· ἀλλ’ ὅμως οὐ καθὸ ὑγιάζεται τὴν ἰατρικὴν ἔχει, ἀλλὰ συμβέβηκεν τὸν αὐτὸν ἰατρὸν εἶναι καὶ ὑγιαζόμενον· διὸ καὶ χωρίζεταί ποτ’ ἀπ’ ἀλλήλων). ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστον τῶν ποιουμένων· οὐδὲν γὰρ αὐτῶν ἔχει τὴν ἀρχὴν ἐν ἑαυτῷ τῆς ποιήσεως, ἀλλὰ τὰ μὲν ἐν ἄλλοις καὶ ἔξωθεν, οἷον οἰκία καὶ τῶν ἄλλων τῶν χειροκμήτων ἕκαστον, τὰ δ’ ἐν αὑτοῖς μὲν ἀλλ’ οὐ καθ’ αὑτά, ὅσα κατὰ συμβεβηκὸς αἴτια γένοιτ’ ἂν αὑτοῖς.

φύσις μὲν οὖν ἐστὶ τὸ ῥηθέν· φύσιν δὲ ἔχει ὅσα τοιαύτην ἔχει ἀρχήν. καὶ ἔστιν πάντα ταῦτα οὐσία· ὑποκείμενον γάρ τι, καὶ ἐν ὑποκειμένῳ ἐστὶν ἡ φύσις ἀεί.

κατὰ φύσιν δὲ ταῦτά τε καὶ ὅσα τούτοις ὑπάρχει καθ’ αὑτά, οἷον τῷ πυρὶ φέρεσθαι ἄνω· τοῦτο γὰρ φύσις μὲν οὐκ [193a] ἔστιν οὐδ’ ἔχει φύσιν, φύσει δὲ καὶ κατὰ φύσιν ἐστίν.

τί μὲν οὖν ἐστιν ἡ φύσις, εἴρηται, καὶ τί τὸ φύσει καὶ κατὰ φύσιν. ὡς δ’ ἔστιν ἡ φύσις, πειρᾶσθαι δεικνύναι γελοῖον· φανερὸν γὰρ ὅτι τοιαῦτα τῶν ὄντων ἐστὶν πολλά. τὸ δὲ δεικνύναι τὰ φανερὰ διὰ τῶν ἀφανῶν οὐ δυναμένου κρίνειν ἐστὶ τὸ δι’ αὑτὸ καὶ μὴ δι’ αὑτὸ γνώριμον (ὅτι δ’ ἐνδέχεται τοῦτο πάσχειν, οὐκ ἄδηλον· συλλογίσαιτο γὰρ ἄν τις ἐκ γενετῆς ὢν τυφλὸς περὶ χρωμάτων), ὥστε ἀνάγκη τοῖς τοιούτοις περὶ τῶν ὀνομάτων εἶναι τὸν λόγον, νοεῖν δὲ μηδέν.

δοκεῖ δ’ ἡ φύσις καὶ ἡ οὐσία τῶν φύσει ὄντων ἐνίοις εἶναι τὸ πρῶτον ἐνυπάρχον ἑκάστῳ, ἀρρύθμιστον <ὂν>καθ’ ἑαυτό, οἷον κλίνης φύσις τὸ ξύλον, ἀνδριάντος δ’ ὁ χαλκός.

σημεῖον δέ φησιν Ἀντιφῶν ὅτι, εἴ τις κατορύξειε κλίνην καὶ λάβοι δύναμιν ἡ σηπεδὼν ὥστε ἀνεῖναι βλαστόν, οὐκ ἂν γενέσθαι κλίνην ἀλλὰ ξύλον, ὡς τὸ μὲν κατὰ συμβεβηκὸς ὑπάρχον, τὴν κατὰ νόμον διάθεσιν καὶ τὴν τέχνην, τὴν δ’ οὐσίαν οὖσαν ἐκείνην ἣ καὶ διαμένει ταῦτα πάσχουσα συνεχῶς.

εἰ δὲ καὶ τούτων ἕκαστον πρὸς ἕτερόν τι ταὐτὸ τοῦτο πέπονθεν (οἷον ὁ μὲν χαλκὸς καὶ ὁ χρυσὸς πρὸς ὕδωρ, τὰ δ’ ὀστᾶ καὶ ξύλα πρὸς γῆν, ὁμοίως δὲ καὶ τῶν ἄλλων ὁτιοῦν), ἐκεῖνο τὴν φύσιν εἶναι καὶ τὴν οὐσίαν αὐτῶν. διόπερ οἱ μὲν πῦρ, οἱ δὲ γῆν, οἱ δ’ ἀέρα φασίν, οἱ δὲ ὕδωρ, οἱ δ’ ἔνια τούτων, οἱ δὲ πάντα ταῦτα τὴν φύσιν εἶναι τὴν τῶν ὄντων. ὃ γάρ τις αὐτῶν ὑπέλαβε τοιοῦτον, εἴτε ἓν εἴτε πλείω, τοῦτο καὶ τοσαῦτά φησιν εἶναι τὴν ἅπασαν οὐσίαν, τὰ δὲ ἄλλα πάντα πάθη τούτων καὶ ἕξεις καὶ διαθέσεις, καὶ τούτων μὲν ὁτιοῦν ἀΐδιον (οὐ γὰρ εἶναι μεταβολὴν αὐτοῖς ἐξ αὐτῶν), τὰ δ’ ἄλλα γίγνεσθαι καὶ φθείρεσθαι ἀπειράκις.

ἕνα μὲν οὖν τρόπον οὕτως ἡ φύσις λέγεται, ἡ πρώτη ἑκάστῳ ὑποκειμένη ὕλη τῶν ἐχόντων ἐν αὑτοῖς ἀρχὴν κινήσεως καὶ μεταβολῆς,

ἄλλον δὲ τρόπον ἡ μορφὴ καὶ τὸ εἶδος τὸ κατὰ τὸν λόγον.

ὥσπερ γὰρ τέχνη λέγεται τὸ κατὰ τέχνην καὶ τὸ τεχνικόν, οὕτω καὶ φύσις τὸ κατὰ φύσιν [λέγεται] καὶ τὸ φυσικόν, οὔτε δὲ ἐκεῖ πω φαῖμεν ἂν ἔχειν κατὰ τὴν τέχνην οὐδέν, εἰ δυνάμει μόνον ἐστὶ κλίνη, μή πω δ’ ἔχει τὸ εἶδος τῆς κλίνης, οὐδ’ εἶναι τέχνην, οὔτ’ ἐν τοῖς φύσει συνισταμένοις· τὸ γὰρ δυνάμει σὰρξ ἢ ὀστοῦν οὔτ’ [193b] ἔχει πω τὴν ἑαυτοῦ φύσιν, πρὶν ἂν λάβῃ τὸ εἶδος τὸ κατὰ τὸν λόγον, ᾧ ὁριζόμενοι λέγομεν τί ἐστι σὰρξ ἢ ὀστοῦν, οὔτε φύσει ἐστίν. ὥστε ἄλλον τρόπον ἡ φύσις ἂν εἴη τῶν ἐχόντων ἐν αὑτοῖς κινήσεως ἀρχὴν ἡ μορφὴ καὶ τὸ εἶδος, οὐ χωριστὸν ὂν ἀλλ’ ἢ κατὰ τὸν λόγον. (τὸ δ’ ἐκ τούτων φύσις μὲν οὐκ ἔστιν, φύσει δέ, οἷον ἄνθρωπος.)

καὶ μᾶλλον αὕτη φύσις τῆς ὕλης· ἕκαστον γὰρ τότε λέγεται ὅταν ἐντελεχείᾳ ᾖ, μᾶλλον ἢ ὅταν δυνάμει. ἔτι γίγνεται ἄνθρωπος ἐξ ἀνθρώπου, ἀλλ’ οὐ κλίνη ἐκ κλίνης· διὸ καί φασιν οὐ τὸ σχῆμα εἶναι τὴν φύσιν ἀλλὰ τὸ ξύλον, ὅτι γένοιτ’ ἄν, εἰ βλαστάνοι, οὐ κλίνη ἀλλὰ ξύλον. εἰ δ’ ἄρα τοῦτο φύσις, καὶ ἡ μορφὴ φύσις· γίγνεται γὰρ ἐξ ἀνθρώπου ἄνθρωπος.

ἔτι δ’ ἡ φύσις ἡ λεγομένη ὡς γένεσις ὁδός ἐστιν εἰς φύσιν. οὐ γὰρ ὥσπερ ἡ ἰάτρευσις λέγεται οὐκ εἰς ἰατρικὴν ὁδὸς ἀλλ’ εἰς ὑγίειαν· ἀνάγκη μὲν γὰρ ἀπὸ ἰατρικῆς οὐκ εἰς ἰατρικὴν εἶναι τὴν ἰάτρευσιν, οὐχ οὕτω δ’ ἡ φύσις ἔχει πρὸς τὴν φύσιν, ἀλλὰ τὸ φυόμενον ἐκ τινὸς εἰς τὶ ἔρχεται ᾗ φύεται. τί οὖν φύεται; οὐχὶ ἐξ οὗ, ἀλλ’ εἰς ὅ. ἡ ἄρα μορφὴ φύσις.

ἡ δὲ μορφὴ καὶ ἡ φύσις διχῶς λέγεται· καὶ γὰρ ἡ στέρησις εἶδός πώς ἐστιν. εἰ δ’ ἔστιν στέρησις καὶ ἐναντίον τι περὶ τὴν ἁπλῆν γένεσιν ἢ μὴ ἔστιν, ὕστερον ἐπισκεπτέον.

Κεφάλαιο 2

Ἐπεὶ δὲ διώρισται ποσαχῶς ἡ φύσις, μετὰ τοῦτο θεωρητέον τίνι διαφέρει ὁ μαθηματικὸς τοῦ φυσικοῦ (καὶ γὰρ ἐπίπεδα καὶ στερεὰ ἔχει τὰ φυσικὰ σώματα καὶ μήκη καὶ στιγμάς, περὶ ὧν σκοπεῖ ὁ μαθηματικός)·

ἔτι εἰ ἡ ἀστρολογία ἑτέρα ἢ μέρος τῆς φυσικῆς· εἰ γὰρ τοῦ φυσικοῦ τὸ τί ἐστιν ἥλιος ἢ σελήνη εἰδέναι, τῶν δὲ συμβεβηκότων καθ' αὑτὰ μηδέν, ἄτοπον, ἄλλως τε καὶ ὅτι φαίνονται λέγοντες οἱ περὶ φύσεως καὶ περὶ σχήματος σελήνης καὶ ἡλίου, καὶ δὴ καὶ πότερον σφαιροειδὴς ἡ γῆ καὶ ὁ κόσμος ἢ οὔ.

περὶ τούτων μὲν οὖν πραγματεύεται καὶ ὁ μαθηματικός, ἀλλ' οὐχ ᾗ φυσικοῦ σώματος πέρας ἕκαστον· οὐδὲ τὰ συμβεβηκότα θεωρεῖ ᾗ τοιούτοις οὖσι συμβέβηκεν· διὸ καὶ χωρίζει· χωριστὰ γὰρ τῇ νοήσει κινήσεώς ἐστι, καὶ οὐδὲν διαφέρει, οὐδὲ γίγνεται ψεῦδος χωριζόντων. λανθάνουσι δὲ τοῦτο ποιοῦντες καὶ οἱ τὰς ἰδέας λέγοντες· τὰ γὰρ φυσικὰ [194a] χωρίζουσιν ἧττον ὄντα χωριστὰ τῶν μαθηματικῶν. γίγνοιτο δ' ἂν τοῦτο δῆλον, εἴ τις ἑκατέρων πειρῷτο λέγειν τοὺς ὅρους, καὶ αὐτῶν καὶ τῶν συμβεβηκότων. τὸ μὲν γὰρ περιττὸν ἔσται καὶ τὸ ἄρτιον καὶ τὸ εὐθὺ καὶ τὸ καμπύλον, ἔτι δὲ ἀριθμὸς καὶ γραμμὴ καὶ σχῆμα, ἄνευ κινήσεως, σὰρξ δὲ καὶ ὀστοῦν καὶ ἄνθρωπος οὐκέτι, ἀλλὰ ταῦτα ὥσπερ ῥὶς σιμὴ ἀλλ' οὐχ ὡς τὸ καμπύλον λέγεται.

δηλοῖ δὲ καὶ τὰ φυσικώτερα τῶν μαθημάτων, οἷον ὀπτικὴ καὶ ἁρμονικὴ καὶ ἀστρολογία· ἀνάπαλιν γὰρ τρόπον τιν' ἔχουσιν τῇ γεωμετρίᾳ. ἡ μὲν γὰρ γεωμετρία περὶ γραμμῆς φυσικῆς σκοπεῖ, ἀλλ' οὐχ ᾗ φυσική, ἡ δ' ὀπτικὴ μαθηματικὴν μὲν γραμμήν, ἀλλ' οὐχ ᾗ μαθηματικὴ ἀλλ' ᾗ φυσική.

ἐπεὶ δ' ἡ φύσις διχῶς, τό τε εἶδος καὶ ἡ ὕλη, ὡς ἂν εἰ περὶ σιμότητος σκοποῖμεν τί ἐστιν, οὕτω θεωρητέον· ὥστ' οὔτ' ἄνευ ὕλης τὰ τοιαῦτα οὔτε κατὰ τὴν ὕλην. καὶ γὰρ δὴ καὶ περὶ τούτου ἀπορήσειεν ἄν τις, ἐπεὶ δύο αἱ φύσεις, περὶ ποτέρας τοῦ φυσικοῦ. ἢ περὶ τοῦ ἐξ ἀμφοῖν; ἀλλ' εἰ περὶ τοῦ ἐξ ἀμφοῖν, καὶ περὶ ἑκατέρας. πότερον οὖν τῆς αὐτῆς ἢ ἄλλης ἑκατέραν γνωρίζειν;

εἰς μὲν γὰρ τοὺς ἀρχαίους ἀποβλέψαντι δόξειεν ἂν εἶναι τῆς ὕλης (ἐπὶ μικρὸν γάρ τι μέρος Ἐμπεδοκλῆς καὶ Δημόκριτος τοῦ εἴδους καὶ τοῦ τί ἦν εἶναι ἥψαντο)·

εἰ δὲ ἡ τέχνη μιμεῖται τὴν φύσιν, τῆς δὲ αὐτῆς ἐπιστήμης εἰδέναι τὸ εἶδος καὶ τὴν ὕλην μέχρι του (οἷον ἰατροῦ ὑγίειαν καὶ χολὴν καὶ φλέγμα, ἐν οἷς ἡ ὑγίεια, ὁμοίως δὲ καὶ οἰκοδόμου τό τε εἶδος τῆς οἰκίας καὶ τὴν ὕλην, ὅτι πλίνθοι καὶ ξύλα· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων), καὶ τῆς φυσικῆς ἂν εἴη τὸ γνωρίζειν ἀμφοτέρας τὰς φύσεις.

ἔτι τὸ οὗ ἕνεκα καὶ τὸ τέλος τῆς αὐτῆς, καὶ ὅσα τούτων ἕνεκα. ἡ δὲ φύσις τέλος καὶ οὗ ἕνεκα (ὧν γὰρ συνεχοῦς τῆς κινήσεως οὔσης ἔστι τι τέλος, τοῦτο <τὸ> ἔσχατον καὶ τὸ οὗ ἕνεκα· διὸ καὶ ὁ ποιητὴς γελοίως προήχθη εἰπεῖν "ἔχει τελευτήν, ἧσπερ οὕνεκ' ἐγένετο"· βούλεται γὰρ οὐ πᾶν εἶναι τὸ ἔσχατον τέλος, ἀλλὰ τὸ βέλτιστον)· ἐπεὶ καὶ ποιοῦσιν αἱ τέχναι τὴν ὕλην αἱ μὲν ἁπλῶς αἱ δὲ εὐεργόν, καὶ χρώμεθα ὡς ἡμῶν ἕνεκα πάντων ὑπαρχόντων (ἐσμὲν γάρ πως καὶ ἡμεῖς τέλος· διχῶς γὰρ τὸ οὗ ἕνεκα· εἴρηται δ' ἐν τοῖς περὶ φιλοσοφίας). δύο [194b] δὲ αἱ ἄρχουσαι τῆς ὕλης καὶ γνωρίζουσαι τέχναι, ἥ τε χρωμένη καὶ τῆς ποιητικῆς ἡ ἀρχιτεκτονική. διὸ καὶ ἡ χρωμένη ἀρχιτεκτονική πως, διαφέρει δὲ ᾗ ἡ μὲν τοῦ εἴδους γνωριστική, ἡ ἀρχιτεκτονική, ἡ δὲ ὡς ποιητική, τῆς ὕλης· ὁ μὲν γὰρ κυβερνήτης ποῖόν τι τὸ εἶδος τοῦ πηδαλίου γνωρίζει καὶ ἐπιτάττει, ὁ δ' ἐκ ποίου ξύλου καὶ ποίων κινήσεων ἔσται. ἐν μὲν οὖν τοῖς κατὰ τέχνην ἡμεῖς ποιοῦμεν τὴν ὕλην τοῦ ἔργου ἕνεκα, ἐν δὲ τοῖς φυσικοῖς ὑπάρχει οὖσα.

ἔτι τῶν πρός τι ἡ ὕλη· ἄλλῳ γὰρ εἴδει ἄλλη ὕλη. μέχρι δὴ πόσου τὸν φυσικὸν δεῖ εἰδέναι τὸ εἶδος καὶ τὸ τί ἐστιν; ἢ ὥσπερ ἰατρὸν νεῦρον ἢ χαλκέα χαλκόν, μέχρι τοῦ τίνος [γὰρ] ἕνεκα ἕκαστον, καὶ περὶ ταῦτα ἅ ἐστι χωριστὰ μὲν εἴδει, ἐν ὕλῃ δέ; ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ καὶ ἥλιος. πῶς δ' ἔχει τὸ χωριστὸν καὶ τί ἐστι, φιλοσοφίας ἔργον διορίσαι τῆς πρώτης.

Κεφάλαιο 3

Διωρισμένων δὲ τούτων ἐπισκεπτέον περὶ τῶν αἰτίων, ποῖά τε καὶ πόσα τὸν ἀριθμόν ἐστιν. ἐπεὶ γὰρ τοῦ εἰδέναι χάριν ἡ πραγματεία, εἰδέναι δὲ οὐ πρότερον οἰόμεθα ἕκαστον πρὶν ἂν λάβωμεν τὸ διὰ τί περὶ ἕκαστον (τοῦτο δ' ἐστὶ τὸ λαβεῖν τὴν πρώτην αἰτίαν), δῆλον ὅτι καὶ ἡμῖν τοῦτο ποιητέον καὶ περὶ γενέσεως καὶ φθορᾶς καὶ πάσης τῆς φυσικῆς μεταβολῆς, ὅπως εἰδότες αὐτῶν τὰς ἀρχὰς ἀνάγειν εἰς αὐτὰς πειρώμεθα τῶν ζητουμένων ἕκαστον. ἕνα μὲν οὖν τρόπον αἴτιον λέγεται τὸ ἐξ οὗ γίγνεταί τι ἐνυπάρχοντος, οἷον ὁ χαλκὸς τοῦ ἀνδριάντος καὶ ὁ ἄργυρος τῆς φιάλης καὶ τὰ τούτων γένη·

ἄλλον δὲ τὸ εἶδος καὶ τὸ παράδειγμα, τοῦτο δ' ἐστὶν ὁ λόγος ὁ τοῦ τί ἦν εἶναι καὶ τὰ τούτου γένη (οἷον τοῦ διὰ πασῶν τὰ δύο πρὸς ἕν, καὶ ὅλως ὁ ἀριθμός) καὶ τὰ μέρη τὰ ἐν τῷ λόγῳ.

ἔτι ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἡ πρώτη ἢ τῆς ἠρεμήσεως, οἷον ὁ βουλεύσας αἴτιος, καὶ ὁ πα τὴρ τοῦ τέκνου, καὶ ὅλως τὸ ποιοῦν τοῦ ποιουμένου καὶ τὸ μεταβάλλον τοῦ μεταβαλλομένου.

ἔτι ὡς τὸ τέλος· τοῦτο δ' ἐστὶν τὸ οὗ ἕνεκα, οἷον τοῦ περιπατεῖν ἡ ὑγίεια· διὰ τί γὰρ περιπατεῖ; φαμέν "ἵνα ὑγιαίνῃ", καὶ εἰπόντες οὕτως οἰόμεθα ἀποδεδωκέναι τὸ αἴτιον. καὶ ὅσα δὴ κινήσαντος ἄλλου μεταξὺ γίγνεται τοῦ τέλους, οἷον τῆς ὑγιείας ἡ ἰσχνασία ἢ ἡ [195a] κάθαρσις ἢ τὰ φάρμακα ἢ τὰ ὄργανα· πάντα γὰρ ταῦτα τοῦ τέλους ἕνεκά ἐστιν, διαφέρει δὲ ἀλλήλων ὡς ὄντα τὰ μὲν ἔργα τὰ δ' ὄργανα.

τὰ μὲν οὖν αἴτια σχεδὸν τοσαυταχῶς λέγεται,

συμβαίνει δὲ πολλαχῶς λεγομένων τῶν αἰτίων καὶ πολλὰ τοῦ αὐτοῦ αἴτια εἶναι, οὐ κατὰ συμβεβηκός, οἷον τοῦ ἀνδριάντος καὶ ἡ ἀνδριαντοποιικὴ καὶ ὁ χαλκός, οὐ καθ' ἕτερόν τι ἀλλ' ᾗ ἀνδριάς, ἀλλ' οὐ τὸν αὐτὸν τρόπον, ἀλλὰ τὸ μὲν ὡς ὕλη τὸ δ' ὡς ὅθεν ἡ κίνησις. ἔστιν δέ τινα καὶ ἀλλήλων αἴτια, οἷον τὸ πονεῖν τῆς εὐεξίας καὶ αὕτη τοῦ πονεῖν· ἀλλ' οὐ τὸν αὐτὸν τρόπον, ἀλλὰ τὸ μὲν ὡς τέλος τὸ δ' ὡς ἀρχὴ κινήσεως. ἔτι δὲ τὸ αὐτὸ τῶν ἐναντίων ἐστίν· ὃ γὰρ παρὸν αἴτιον τοῦδε, τοῦτο καὶ ἀπὸν αἰτιώμεθα ἐνίοτε τοῦ ἐναντίου, οἷον τὴν ἀπουσίαν τοῦ κυβερνήτου τῆς τοῦ πλοίου ἀνατροπῆς, οὗ ἦν ἡ παρουσία αἰτία τῆς σωτηρίας.

ἅπαντα δὲ τὰ νῦν εἰρημένα αἴτια εἰς τέτταρας πίπτει τρόπους τοὺς φανερωτάτους. τὰ μὲν γὰρ στοιχεῖα τῶν συλλαβῶν καὶ ἡ ὕλη τῶν σκευαστῶν καὶ τὸ πῦρ καὶ τὰ τοιαῦτα τῶν σωμάτων καὶ τὰ μέρη τοῦ ὅλου καὶ αἱ ὑποθέσεις τοῦ συμπεράσματος ὡς τὸ ἐξ οὗ αἴτιά ἐστιν, τούτων δὲ τὰ μὲν ὡς τὸ ὑποκείμενον, οἷον τὰ μέρη, τὰ δὲ ὡς τὸ τί ἦν εἶναι, τό τε ὅλον καὶ ἡ σύνθεσις καὶ τὸ εἶδος· τὸ δὲ σπέρμα καὶ ὁ ἰατρὸς καὶ ὁ βουλεύσας καὶ ὅλως τὸ ποιοῦν, πάντα ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἢ στάσεως [ἢ κινήσεως]· τὰ δ' ὡς τὸ τέλος καὶ τἀγαθὸν τῶν ἄλλων· τὸ γὰρ οὗ ἕνεκα βέλτιστον καὶ τέλος τῶν ἄλλων ἐθέλει εἶναι· διαφερέτω δὲ μηδὲν εἰπεῖν αὐτὸ ἀγαθὸν ἢ φαινόμενον ἀγαθόν.

τὰ μὲν οὖν αἴτια ταῦτα καὶ τοσαῦτά ἐστι τῷ εἴδει·

τρόποι δὲ τῶν αἰτίων ἀριθμῷ μὲν εἰσὶ πολλοί, κεφαλαιούμενοι δὲ καὶ οὗτοι ἐλάττους. λέγεται γὰρ αἴτια πολλαχῶς, καὶ αὐτῶν τῶν ὁμοειδῶν προτέρως καὶ ὑστέρως ἄλλο ἄλλου, οἷον ὑγιείας ἰατρὸς καὶ τεχνίτης, καὶ τοῦ διὰ πασῶν τὸ διπλάσιον καὶ ἀριθμός, καὶ ἀεὶ τὰ περιέχοντα πρὸς τὰ καθ' ἕκαστον. ἔτι δ' ὡς τὸ συμβεβηκὸς καὶ τὰ τούτων γένη, οἷον ἀνδριάντος ἄλλως Πολύκλειτος καὶ ἄλλως ἀνδριαντοποιός, ὅτι συμβέβηκε τῷ ἀνδριαντοποιῷ τὸ Πολυκλείτῳ εἶναι. καὶ τὰ περιέχοντα δὲ τὸ συμβεβηκός, οἷον εἰ ὁ ἄνθρωπος αἴτιος εἴη ἀνδριάντος ἢ [195b] ὅλως ζῷον. ἔστι δὲ καὶ τῶν συμβεβηκότων ἄλλα ἄλλων πορρώτερον καὶ ἐγγύτερον, οἷον εἰ ὁ λευκὸς καὶ ὁ μουσικὸς αἴτιος λέγοιτο τοῦ ἀνδριάντος.

πάντα δὲ καὶ τὰ οἰκείως λεγόμενα καὶ τὰ κατὰ συμβεβηκὸς τὰ μὲν ὡς δυνάμενα λέγεται τὰ δ' ὡς ἐνεργοῦντα, οἷον τοῦ οἰκοδομεῖσθαι οἰκίαν οἰκοδόμος ἢ οἰκοδομῶν οἰκοδόμος.

ὁμοίως δὲ λεχθήσεται καὶ ἐφ' ὧν αἴτια τὰ αἴτια τοῖς εἰρημένοις, οἷον τουδὶ τοῦ ἀνδριάντος ἢ ἀνδριάντος ἢ ὅλως εἰκόνος, καὶ χαλκοῦ τοῦδε ἢ χαλκοῦ ἢ ὅλως ὕλης· καὶ ἐπὶ τῶν συμβεβηκότων ὡσαύτως. ἔτι δὲ συμπλεκόμενα καὶ ταῦτα κἀκεῖνα λεχθήσεται, οἷον οὐ Πολύκλειτος οὐδὲ ἀνδριαντοποιός, ἀλλὰ Πολύκλειτος ἀνδριαντοποιός. ἀλλ' ὅμως ἅπαντα ταῦτά ἐστι τὸ μὲν πλῆθος ἕξ, λεγόμενα δὲ διχῶς· ἢ γὰρ ὡς τὸ καθ' ἕκαστον, ἢ ὡς τὸ γένος, ἢ ὡς τὸ συμβεβηκός, ἢ ὡς τὸ γένος τοῦ συμβεβηκότος, ἢ ὡς συμπλεκόμενα ταῦτα ἢ ὡς ἁπλῶς λεγόμενα· πάντα δὲ ἢ ἐνεργοῦντα ἢ κατὰ δύναμιν. διαφέρει δὲ τοσοῦτον, ὅτι τὰ μὲν ἐνεργοῦντα καὶ τὰ καθ' ἕκαστον ἅμα ἔστι καὶ οὐκ ἔστι καὶ ὧν αἴτια, οἷον ὅδ' ὁ ἰατρεύων τῷδε τῷ ὑγιαζομένῳ καὶ ὅδε ὁ οἰκοδομῶν τῷδε τῷ οἰκοδομουμένῳ, τὰ δὲ κατὰ δύναμιν οὐκ ἀεί. φθείρεται γὰρ οὐχ ἅμα ἡ οἰκία καὶ ὁ οἰκοδόμος.

δεῖ δ' ἀεὶ τὸ αἴτιον ἑκάστου τὸ ἀκρότατον ζητεῖν, ὥσπερ καὶ ἐπὶ τῶν ἄλλων (οἷον ἄνθρωπος οἰκοδομεῖ ὅτι οἰκοδόμος, ὁ δ’ οἰκοδόμος κατὰ τὴν οἰκοδομικήν· τοῦτο τοίνυν πρότερον τὸ αἴτιον, καὶ οὕτως ἐπὶ πάντων)· ἔτι τὰ μὲν γένη τῶν γενῶν, τὰ δὲ καθ’ ἕκαστον τῶν καθ’ ἕκαστον (οἷον ἀνδριαντοποιὸς μὲν ἀνδριάντος, ὁδὶ δὲ τουδί)· καὶ τὰς μὲν δυνάμεις τῶν δυνατῶν, τὰ δ’ ἐνεργοῦντα πρὸς τὰ ἐνεργούμενα.

ὅσα μὲν οὖν τὰ αἴτια καὶ ὃν τρόπον αἴτια, ἔστω ἡμῖν διωρισμένα ἱκανῶς.

Κεφάλαιο 4

Λέγεται δὲ καὶ ἡ τύχη καὶ τὸ αὐτόματον τῶν αἰτίων, καὶ πολλὰ καὶ εἶναι καὶ γίγνεσθαι διὰ τύχην καὶ διὰ τὸ αὐτόματον· τίνα οὖν τρόπον ἐν τούτοις ἐστὶ τοῖς αἰτίοις ἡ τύχη καὶ τὸ αὐτόματον, καὶ πότερον τὸ αὐτὸ ἡ τύχη καὶ τὸ αὐτόματον ἢ ἕτερον, καὶ ὅλως τί ἐστιν ἡ τύχη καὶ τὸ αὐτόματον, ἐπισκεπτέον.

ἔνιοι γὰρ καὶ εἰ ἔστιν ἢ μὴ ἀποροῦσιν· [196a] οὐδὲν γὰρ δὴ γίγνεσθαι ἀπὸ τύχης φασίν, ἀλλὰ πάντων εἶναί τι αἴτιον ὡρισμένον ὅσα λέγομεν ἀπὸ ταὐτομάτου γίγνεσθαι ἢ τύχης, οἷον τοῦ ἐλθεῖν ἀπὸ τύχης εἰς τὴν ἀγοράν, καὶ καταλαβεῖν ὃν ἐβούλετο μὲν οὐκ ᾤετο δέ, αἴτιον τὸ βούλεσθαι ἀγοράσαι ἐλθόντα· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν ἀπὸ τύχης λεγομένων ἀεί τι εἶναι λαβεῖν τὸ αἴτιον, ἀλλ’ οὐ τύχην, ἐπεὶ εἴ γέ τι ἦν ἡ τύχη, ἄτοπον ἂν φανείη ὡς ἀληθῶς, καὶ ἀπορήσειεν ἄν τις διὰ τί ποτ’ οὐδεὶς τῶν ἀρχαίων σοφῶν τὰ αἴτια περὶ γενέσεως καὶ φθορᾶς λέγων περὶ τύχης οὐδὲν διώρισεν, ἀλλ’ ὡς ἔοικεν, οὐδὲν ᾤοντο οὐδ’ ἐκεῖνοι εἶναι ἀπὸ τύχης. ἀλλὰ καὶ τοῦτο θαυμαστόν· πολλὰ γὰρ καὶ γίγνεται καὶ ἔστιν ἀπὸ τύχης καὶ ἀπὸ ταὐτομάτου, ἃ οὐκ ἀγνοοῦντες ὅτι ἔστιν ἐπανενεγκεῖν ἕκαστον ἐπί τι αἴτιον τῶν γιγνομένων, καθάπερ ὁ παλαιὸς λόγος εἶπεν ὁ ἀναιρῶν τὴν τύχην, ὅμως τούτων τὰ μὲν εἶναί φασι πάντες ἀπὸ τύχης τὰ δ’ οὐκ ἀπὸ τύχης· διὸ καὶ ἁμῶς γέ πως ἦν ποιητέον αὐτοῖς μνείαν. ἀλλὰ μὴν οὐδ’ ἐκείνων γέ τι ᾤοντο εἶναι τὴν τύχην, οἷον φιλίαν ἢ νεῖκος ἢ νοῦν ἢ πῦρ ἢ ἄλλο γέ τι τῶν τοιούτων. ἄτοπον οὖν εἴτε μὴ ὑπελάμβανον εἶναι εἴτε οἰόμενοι παρέλειπον, καὶ ταῦτ’ ἐνίοτε χρώμενοι, ὥσπερ Ἐμπεδοκλῆς οὐκ ἀεὶ τὸν ἀέρα ἀνωτάτω ἀποκρίνεσθαί φησιν, ἀλλ’ ὅπως ἂν τύχῃ. λέγει γοῦν ἐν τῇ κοσμοποιίᾳ ὡς “οὕτω συνέκυρσε θέων τοτέ, πολλάκι δ’ ἄλλως”· καὶ τὰ μόρια τῶν ζῴων ἀπὸ τύχης γενέσθαι τὰ πλεῖστά φησιν. εἰσὶ δέ τινες οἳ καὶ τοὐρανοῦ τοῦδε καὶ τῶν κόσμων πάντων αἰτιῶνται τὸ αὐτόματον· ἀπὸ ταὐτομάτου γὰρ γενέσθαι τὴν δίνην καὶ τὴν κίνησιν τὴν διακρίνασαν καὶ καταστήσασαν εἰς ταύτην τὴν τάξιν τὸ πᾶν. καὶ μάλα τοῦτό γε αὐτὸ θαυμάσαι ἄξιον· λέγοντες γὰρ τὰ μὲν ζῷα καὶ τὰ φυτὰ ἀπὸ τύχης μήτε εἶναι μήτε γίγνεσθαι, ἀλλ’ ἤτοι φύσιν ἢ νοῦν ἤ τι τοιοῦτον ἕτερον εἶναι τὸ αἴτιον (οὐ γὰρ ὅ τι ἔτυχεν ἐκ τοῦ σπέρματος ἑκάστου γίγνεται, ἀλλ’ ἐκ μὲν τοῦ τοιουδὶ ἐλαία ἐκ δὲ τοῦ τοιουδὶ ἄνθρωπος), τὸν δ’ οὐρανὸν καὶ τὰ θειότατα τῶν φανερῶν ἀπὸ τοῦ αὐτομάτου γενέσθαι, τοιαύτην δ’ αἰτίαν μηδεμίαν εἶναι οἵαν τῶν ζῴων καὶ τῶν φυτῶν. καίτοι εἰ οὕτως ἔχει, τοῦτ’ αὐτὸ ἄξιον ἐπιστάσεως, καὶ καλῶς ἔχει λεχ[196b]θῆναί τι περὶ αὐτοῦ. πρὸς γὰρ τῷ καὶ ἄλλως ἄτοπον εἶναι τὸ λεγόμενον, ἔτι ἀτοπώτερον τὸ λέγειν ταῦτα ὁρῶντας ἐν μὲν τῷ οὐρανῷ οὐδὲν ἀπὸ ταὐτομάτου γιγνόμενον, ἐν δὲ τοῖς οὐκ ἀπὸ τύχης πολλὰ συμβαίνοντα ἀπὸ τύχης· καίτοι εἰκός γε ἦν τοὐναντίον γίγνεσθαι.

εἰσὶ δέ τινες οἷς δοκεῖ εἶναι μὲν αἰτία ἡ τύχη, ἄδηλος δὲ ἀνθρωπίνῃ διανοίᾳ ὡς θεῖόν τι οὖσα καὶ δαιμονιώτερον.

ὥστε σκεπτέον καὶ τί ἑκάτερον, καὶ εἰ ταὐτὸν ἢ ἕτερον τό τε αὐτόματον καὶ ἡ τύχη, καὶ πῶς εἰς τὰ διωρισμένα αἴτια ἐμπίπτουσιν.

Κεφάλαιο 5

Πρῶτον μὲν οὖν, ἐπειδὴ ὁρῶμεν τὰ μὲν ἀεὶ ὡσαύτως γιγνόμενα τὰ δὲ ὡς ἐπὶ τὸ πολύ, φανερὸν ὅτι οὐδετέρου τούτων αἰτία ἡ τύχη λέγεται οὐδὲ τὸ ἀπὸ τύχης, οὔτε τοῦ ἐξ ἀνάγκης καὶ αἰεὶ οὔτε τοῦ ὡς ἐπὶ τὸ πολύ. ἀλλ’ ἐπειδὴ ἔστιν ἃ γίγνεται καὶ παρὰ ταῦτα, καὶ ταῦτα πάντες φασὶν εἶναι ἀπὸ τύχης, φανερὸν ὅτι ἔστι τι ἡ τύχη καὶ τὸ αὐτόματον· τά τε γὰρ τοιαῦτα ἀπὸ τύχης καὶ τὰ ἀπὸ τύχης τοιαῦτα ὄντα ἴσμεν.

τῶν δὲ γιγνομένων τὰ μὲν ἕνεκά του γίγνεται τὰ δ’ οὔ (τούτων δὲ τὰ μὲν κατὰ προαίρεσιν, τὰ δ’ οὐ κατὰ προαίρεσιν, ἄμφω δ’ ἐν τοῖς ἕνεκά του), ὥστε δῆλον ὅτι καὶ ἐν τοῖς παρὰ τὸ ἀναγκαῖον καὶ τὸ ὡς ἐπὶ τὸ πολὺ ἔστιν ἔνια περὶ ἃ ἐνδέχεται ὑπάρχειν τὸ ἕνεκά του. ἔστι δ’ ἕνεκά του ὅσα τε ἀπὸ διανοίας ἂν πραχθείη καὶ ὅσα ἀπὸ φύσεως. τὰ δὴ τοιαῦτα ὅταν κατὰ συμβεβηκὸς γένηται, ἀπὸ τύχης φαμὲν εἶναι (ὥσπερ γὰρ καὶ ὄν ἐστι τὸ μὲν καθ’ αὑτὸ τὸ δὲ κατὰ συμβεβηκός, οὕτω καὶ αἴτιον ἐνδέχεται εἶναι, οἷον οἰκίας καθ’ αὑτὸ μὲν αἴτιον τὸ οἰκοδομικόν, κατὰ συμβεβηκὸς δὲ τὸ λευκὸν ἢ τὸ μουσικόν· τὸ μὲν οὖν καθ’ αὑτὸ αἴτιον ὡρισμένον, τὸ δὲ κατὰ συμβεβηκὸς ἀόριστον· ἄπειρα γὰρ ἂν τῷ ἑνὶ συμβαίη). καθάπερ οὖν ἐλέχθη, ὅταν ἐν τοῖς ἕνεκά του γιγνομένοις τοῦτο γένηται, τότε λέγεται ἀπὸ ταὐτομάτου καὶ ἀπὸ τύχης (αὐτῶν δὲ πρὸς ἄλληλα τὴν διαφορὰν τούτων ὕστερον διοριστέον· νῦν δὲ τοῦτο ἔστω φανερόν, ὅτι ἄμφω ἐν τοῖς ἕνεκά τού ἐστιν)·

οἷον ἕνεκα τοῦ ἀπολαβεῖν τὸ ἀργύριον ἦλθεν ἂν κομιζομένου τὸν ἔρανον, εἰ ᾔδει· ἦλθε δ’ οὐ τούτου ἕνεκα, ἀλλὰ συνέβη αὐτῷ ἐλθεῖν, καὶ ποιῆσαι τοῦτο τοῦ κομίσασθαι ἕνεκα· τοῦτο δὲ οὔθ’ ὡς ἐπὶ τὸ πολὺ φοιτῶν εἰς τὸ [197a] χωρίον οὔτ’ ἐξ ἀνάγκης· ἔστι δὲ τὸ τέλος, ἡ κομιδή, οὐ τῶν ἐν αὐτῷ αἰτίων, ἀλλὰ τῶν προαιρετῶν καὶ ἀπὸ διανοίας· καὶ λέγεταί γε τότε ἀπὸ τύχης ἐλθεῖν, εἰ δὲ προελόμενος καὶ τούτου ἕνεκα ἢ ἀεὶ φοιτῶν ἢ ὡς ἐπὶ τὸ πολύ [κομιζόμενος], οὐκ ἀπὸ τύχης.

δῆλον ἄρα ὅτι ἡ τύχη αἰτία κατὰ συμβεβηκὸς ἐν τοῖς κατὰ προαίρεσιν τῶν ἕνεκά του. διὸ περὶ τὸ αὐτὸ διάνοια καὶ τύχη· ἡ γὰρ προαίρεσις οὐκ ἄνευ διανοίας.

ἀόριστα μὲν οὖν τὰ αἴτια ἀνάγκη εἶναι ἀφ’ ὧν ἂν γένοιτο τὸ ἀπὸ τύχης.

ὅθεν καὶ ἡ τύχη τοῦ ἀορίστου εἶναι δοκεῖ καὶ ἄδηλος ἀνθρώπῳ, καὶ ἔστιν ὡς οὐδὲν ἀπὸ τύχης δόξειεν ἂν γίγνεσθαι. πάντα γὰρ ταῦτα ὀρθῶς λέγεται, εὐλόγως. ἔστιν μὲν γὰρ ὡς γίγνεται ἀπὸ τύχης· κατὰ συμβεβηκὸς γὰρ γίγνεται, καὶ ἔστιν αἴτιον ὡς συμβεβηκὸς ἡ τύχη· ὡς δ' ἁπλῶς οὐδενός· οἷον οἰκίας οἰκοδόμος μὲν αἴτιος, κατὰ συμβεβηκὸς δὲ αὐλητής,

καὶ τοῦ ἐλθόντα κομίσασθαι τὸ ἀργύριον, μὴ τούτου ἕνεκα ἐλθόντα, ἄπειρα τὸ πλῆθος· καὶ γὰρ ἰδεῖν τινὰ βουλόμενος καὶ διώκων καὶ φεύγων καὶ θεασόμενος. καὶ τὸ φάναι εἶναί τι παράλογον τὴν τύχην ὀρθῶς· ὁ γὰρ λόγος ἢ τῶν ἀεὶ ὄντων ἢ τῶν ὡς ἐπὶ τὸ πολύ, ἡ δὲ τύχη ἐν τοῖς γιγνομένοις παρὰ ταῦτα. ὥστ' ἐπεὶ ἀόριστα τὰ οὕτως αἴτια, καὶ ἡ τύχη ἀόριστον. ὅμως δ' ἐπ' ἐνίων ἀπορήσειεν ἄν τις, ἆρ' οὖν τὰ τυχόντα αἴτι' ἂν γένοιτο τῆς τύχης· οἷον ὑγιείας ἢ πνεῦμα ἢ εἵλησις, ἀλλ' οὐ τὸ ἀποκεκάρθαι· ἔστιν γὰρ ἄλλα ἄλλων ἐγγύτερα τῶν κατὰ συμβεβηκὸς αἰτίων.

τύχη δὲ ἀγαθὴ μὲν λέγεται ὅταν ἀγαθόν τι ἀποβῇ, φαύλη δὲ ὅταν φαῦλόν τι, εὐτυχία δὲ καὶ δυστυχία ὅταν μέγεθος ἔχοντα ταῦτα· διὸ καὶ τὸ παρὰ μικρὸν κακὸν ἢ ἀγαθὸν λαβεῖν μέγα ἢ εὐτυχεῖν ἢ ἀτυχεῖν ἐστίν, ὅτι ὡς ὑπάρχον λέγει ἡ διάνοια· τὸ γὰρ παρὰ μικρὸν ὥσπερ οὐδὲν ἀπέχειν δοκεῖ. ἔτι ἀβέβαιον ἡ εὐτυχία εὐλόγως· ἡ γὰρ τύχη ἀβέβαιος· οὔτε γὰρ ἀεὶ οὔθ' ὡς ἐπὶ τὸ πολὺ οἷόν τ' εἶναι τῶν ἀπὸ τύχης οὐθέν.

ἔστι μὲν οὖν ἄμφω αἴτια, καθάπερ εἴρηται, κατὰ συμβεβηκός-καὶ ἡ τύχη καὶ τὸ αὐτόματον-ἐν τοῖς ἐνδεχομένοις γίγνεσθαι μὴ ἁπλῶς μηδ' ὡς ἐπὶ τὸ πολύ, καὶ τούτων ὅσ' ἂν γένοιτο ἕνεκά του.

Κεφάλαιο 6

Διαφέρει δ’ ὅτι τὸ αὐτόματον ἐπὶ πλεῖόν ἐστι· τὸ μὲν γὰρ ἀπὸ τύχης πᾶν ἀπὸ ταὐτομάτου, τοῦτο δ’ οὐ πᾶν [197b] ἀπὸ τύχης.

ἡ μὲν γὰρ τύχη καὶ τὸ ἀπὸ τύχης ἐστὶν ὅσοις καὶ τὸ εὐτυχῆσαι ἂν ὑπάρξειεν καὶ ὅλως πρᾶξις. διὸ καὶ ἀνάγκη περὶ τὰ πρακτὰ εἶναι τὴν τύχην (σημεῖον δ’ ὅτι δοκεῖ ἤτοι ταὐτὸν εἶναι τῇ εὐδαιμονίᾳ ἡ εὐτυχία ἢ ἐγγύς, ἡ δ’ εὐδαιμονία πρᾶξίς τις· εὐπραξία γάρ), ὥσθ’ ὁπόσοις μὴ ἐνδέχεται πρᾶξαι, οὐδὲ τὸ ἀπὸ τύχης τι ποιῆσαι. καὶ διὰ τοῦτο οὔτε ἄψυχον οὐδὲν οὔτε θηρίον οὔτε παιδίον οὐδὲν ποιεῖ ἀπὸ τύχης, ὅτι οὐκ ἔχει προαίρεσιν· οὐδ’ εὐτυχία οὐδ’ ἀτυχία ὑπάρχει τούτοις, εἰ μὴ καθ’ ὁμοιότητα, ὥσπερ ἔφη Πρώταρχος εὐτυχεῖς εἶναι τοὺς λίθους ἐξ ὧν οἱ βωμοί, ὅτι τιμῶνται, οἱ δὲ ὁμόζυγες αὐτῶν καταπατοῦνται. τὸ δὲ πάσχειν ἀπὸ τύχης ὑπάρξει πως καὶ τούτοις, ὅταν ὁ πράττων τι περὶ αὐτὰ πράξῃ ἀπὸ τύχης, ἄλλως δὲ οὐκ ἔστιν·

τὸ δ’ αὐτόματον καὶ τοῖς ἄλλοις ζῴοις καὶ πολλοῖς τῶν ἀψύχων, οἷον ὁ ἵππος αὐτόματος, φαμέν, ἦλθεν, ὅτι ἐσώθη μὲν ἐλθών, οὐ τοῦ σωθῆναι δὲ ἕνεκα ἦλθε· καὶ ὁ τρίπους αὐτόματος κατέπεσεν· ἔστη μὲν γὰρ τοῦ καθῆσθαι ἕνεκα, ἀλλ’ οὐ τοῦ καθῆσθαι ἕνεκα κατέπεσεν.

ὥστε φανερὸν ὅτι ἐν τοῖς ἁπλῶς ἕνεκά του γιγνομένοις, ὅταν μὴ τοῦ συμβάντος ἕνεκα γένηται ὧν ἔξω τὸ αἴτιον, τότε ἀπὸ τοῦ αὐτομάτου λέγομεν· ἀπὸ τύχης δέ, τούτων ὅσα ἀπὸ τοῦ αὐτομάτου γίγνεται τῶν προαιρετῶν τοῖς ἔχουσι προαίρεσιν. σημεῖον δὲ τὸ μάτην, ὅτι λέγεται ὅταν μὴ γένηται τὸ ἕνεκα ἄλλου ἐκείνου ἕνεκα, οἷον εἰ τὸ βαδίσαι λαπάξεως ἕνεκά ἐστιν, εἰ δὲ μὴ ἐγένετο βαδίσαντι, μάτην φαμὲν βαδίσαι καὶ ἡ βάδισις ματαία, ὡς τοῦτο ὂν τὸ μάτην, τὸ πεφυκὸς ἄλλου ἕνεκα, ὅταν μὴ περαίνῃ ἐκεῖνο οὗ ἕνεκα ἦν καὶ ἐπεφύκει, ἐπεὶ εἴ τις λούσασθαι φαίη μάτην ὅτι οὐκ ἐξέλιπεν ὁ ἥλιος, γελοῖος ἂν εἴη· οὐ γὰρ ἦν τοῦτο ἐκείνου ἕνεκα. οὕτω δὴ τὸ αὐτόματον καὶ κατὰ τὸ ὄνομα ὅταν αὐτὸ μάτην γένηται· κατέπεσεν γὰρ οὐ τοῦ πατάξαι ἕνεκεν ὁ λίθος· ἀπὸ τοῦ αὐτομάτου ἄρα κατέπεσεν ὁ λίθος, ὅτι πέσοι ἂν ὑπὸ τινὸς καὶ τοῦ πατάξαι ἕνεκα. μάλιστα δ’ ἐστὶ χωριζόμενον τοῦ ἀπὸ τύχης ἐν τοῖς φύσει γιγνομένοις· ὅταν γὰρ γένηταί τι παρὰ φύσιν, τότε οὐκ ἀπὸ τύχης ἀλλὰ μᾶλλον ἀπὸ ταὐτομάτου γεγονέναι φαμέν. ἔστι δὲ καὶ τοῦτο ἕτερον· τοῦ μὲν γὰρ ἔξω τὸ αἴτιον, τοῦ δ’ ἐντός. [198a]

τί μὲν οὖν ἐστιν τὸ αὐτόματον καὶ τί ἡ τύχη, εἴρηται, καὶ τί διαφέρουσιν ἀλλήλων. τῶν δὲ τρόπων τῆς αἰτίας ἐν τοῖς ὅθεν ἡ ἀρχὴ τῆς κινήσεως ἑκάτερον αὐτῶν· ἢ γὰρ τῶν φύσει τι ἢ τῶν ἀπὸ διανοίας αἰτίων ἀεί ἐστιν· ἀλλὰ τούτων τὸ πλῆθος ἀόριστον.

ἐπεὶ δ' ἐστὶ τὸ αὐτόματον καὶ ἡ τύχη αἴτια ὧν ἂν ἢ νοῦς γένοιτο αἴτιος ἢ φύσις, ὅταν κατὰ συμβεβηκὸς αἴτιόν τι γένηται τούτων αὐτῶν, οὐδὲν δὲ κατὰ συμβεβηκός ἐστι πρότερον τῶν καθ' αὑτό, δῆλον ὅτι οὐδὲ τὸ κατὰ συμβεβηκὸς αἴτιον πρότερον τοῦ καθ' αὑτό. ὕστερον ἄρα τὸ αὐτόματον καὶ ἡ τύχη καὶ νοῦ καὶ φύσεως· ὥστ' εἰ ὅτι μάλιστα τοῦ οὐρανοῦ αἴτιον τὸ αὐτόματον, ἀνάγκη πρότερον νοῦν αἴτιον καὶ φύσιν εἶναι καὶ ἄλλων πολλῶν καὶ τοῦδε τοῦ παντός.

Κεφάλαιο 7

Ὅτι δὲ ἔστιν αἴτια, καὶ ὅτι τοσαῦτα τὸν ἀριθμὸν ὅσα φαμέν, δῆλον· τοσαῦτα γὰρ τὸν ἀριθμὸν τὸ διὰ τί περιείληφεν· ἢ γὰρ εἰς τὸ τί ἐστιν ἀνάγεται τὸ διὰ τί ἔσχατον, ἐν τοῖς ἀκινήτοις (οἷον ἐν τοῖς μαθήμασιν· εἰς ὁρισμὸν γὰρ τοῦ εὐθέος ἢ συμμέτρου ἢ ἄλλου τινὸς ἀνάγεται ἔσχατον), ἢ εἰς τὸ κινῆσαν πρῶτον (οἷον διὰ τί ἐπολέμησαν; ὅτι ἐσύλησαν), ἢ τίνος ἕνεκα (ἵνα ἄρξωσιν), ἢ ἐν τοῖς γιγνομένοις ἡ ὕλη. ὅτι μὲν οὖν τὰ αἴτια ταῦτα καὶ τοσαῦτα, φανερόν·

ἐπεὶ δ’ αἱ αἰτίαι τέτταρες, περὶ πασῶν τοῦ φυσικοῦ εἰδέναι, καὶ εἰς πάσας ἀνάγων τὸ διὰ τί ἀποδώσει φυσικῶς, τὴν ὕλην, τὸ εἶδος, τὸ κινῆσαν, τὸ οὗ ἕνεκα. ἔρχεται δὲ τὰ τρία εἰς [τὸ] ἓν πολλάκις· τὸ μὲν γὰρ τί ἐστι καὶ τὸ οὗ ἕνεκα ἕν ἐστι, τὸ δ’ ὅθεν ἡ κίνησις πρῶτον τῷ εἴδει ταὐτὸ τούτοις· ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ-καὶ ὅλως ὅσα κινούμενα κινεῖ (ὅσα δὲ μή, οὐκέτι φυσικῆς· οὐ γὰρ ἐν αὑτοῖς ἔχοντα κίνησιν οὐδ’ ἀρχὴν κινήσεως κινεῖ, ἀλλ’ ἀκίνητα ὄντα· διὸ τρεῖς αἱ πραγματεῖαι, ἡ μὲν περὶ ἀκινήτων, ἡ δὲ περὶ κινουμένων μὲν ἀφθάρτων δέ, ἡ δὲ περὶ τὰ φθαρτά).

ὥστε τὸ διὰ τί καὶ εἰς τὴν ὕλην ἀνάγοντι ἀποδίδοται, καὶ εἰς τὸ τί ἐστιν, καὶ εἰς τὸ πρῶτον κινῆσαν. περὶ γενέσεως γὰρ μάλιστα τοῦτον τὸν τρόπον τὰς αἰτίας σκοποῦσι, τί μετὰ τί γίγνεται, καὶ τί πρῶτον ἐποίησεν ἢ τί ἔπαθεν, καὶ οὕτως αἰεὶ τὸ ἐφεξῆς.

διτταὶ δὲ αἱ ἀρχαὶ αἱ κινοῦσαι φυσικῶς, ὧν ἡ ἑτέρα οὐ φυσική· οὐ [198b] γὰρ ἔχει κινήσεως ἀρχὴν ἐν αὑτῇ. τοιοῦτον δ’ ἐστὶν εἴ τι κινεῖ μὴ κινούμενον, ὥσπερ τό τε παντελῶς ἀκίνητον καὶ [τὸ] πάντων πρῶτον καὶ τὸ τί ἐστιν καὶ ἡ μορφή· τέλος γὰρ καὶ οὗ ἕνεκα· ὥστε ἐπεὶ ἡ φύσις ἕνεκά του, καὶ ταύτην εἰδέναι δεῖ, καὶ πάντως ἀποδοτέον τὸ διὰ τί, οἷον ὅτι ἐκ τοῦδε ἀνάγκη τόδε (τὸ δὲ ἐκ τοῦδε ἢ ἁπλῶς ἢ ὡς ἐπὶ τὸ πολύ), καὶ εἰ μέλλει τοδὶ ἔσεσθαι (ὥσπερ ἐκ τῶν προτάσεων τὸ συμπέρασμα), καὶ ὅτι τοῦτ’ ἦν τὸ τί ἦν εἶναι, καὶ διότι βέλτιον οὕτως, οὐχ ἁπλῶς, ἀλλὰ τὸ πρὸς τὴν ἑκάστου οὐσίαν.

Κεφάλαιο 8

Λεκτέον δὴ πρῶτον μὲν διότι ἡ φύσις τῶν ἕνεκά του αἰτίων, ἔπειτα περὶ τοῦ ἀναγκαίου, πῶς ἔχει ἐν τοῖς φυσικοῖς· εἰς γὰρ ταύτην τὴν αἰτίαν ἀνάγουσι πάντες, ὅτι ἐπειδὴ τὸ θερμὸν τοιονδὶ πέφυκεν καὶ τὸ ψυχρὸν καὶ ἕκαστον δὴ τῶν τοιούτων, ταδὶ ἐξ ἀνάγκης ἐστὶ καὶ γίγνεται· καὶ γὰρ ἐὰν ἄλλην αἰτίαν εἴπωσιν, ὅσον ἁψάμενοι χαίρειν ἐῶσιν, ὁ μὲν τὴν φιλίαν καὶ τὸ νεῖκος, ὁ δὲ τὸν νοῦν·

ἔχει δ' ἀπορίαν τί κωλύει τὴν φύσιν μὴ ἕνεκά του ποιεῖν μηδ' ὅτι βέλτιον, ἀλλ' ὥσπερ ὕει ὁ Ζεὺς οὐχ ὅπως τὸν σῖτον αὐξήσῃ, ἀλλ' ἐξ ἀνάγκης (τὸ γὰρ ἀναχθὲν ψυχθῆναι δεῖ, καὶ τὸ ψυχθὲν ὕδωρ γενόμενον κατελθεῖν· τὸ δ' αὐξάνεσθαι τούτου γενομένου τὸν σῖτον συμβαίνει), ὁμοίως δὲ καὶ εἴ τῳ ἀπόλλυται ὁ σῖτος ἐν τῇ ἅλῳ, οὐ τούτου ἕνεκα ὕει ὅπως ἀπόληται, ἀλλὰ τοῦτο συμβέβηκεν-ὥστε τί κωλύει οὕτω καὶ τὰ μέρη ἔχειν ἐν τῇ φύσει, οἷον τοὺς ὀδόντας ἐξ ἀνάγκης ἀνατεῖλαι τοὺς μὲν ἐμπροσθίους ὀξεῖς, ἐπιτηδείους πρὸς τὸ διαιρεῖν, τοὺς δὲ γομφίους πλατεῖς καὶ χρησίμους πρὸς τὸ λεαίνειν τὴν τροφήν, ἐπεὶ οὐ τούτου ἕνεκα γενέσθαι, ἀλλὰ συμπεσεῖν· ὁμοίως δὲ καὶ περὶ τῶν ἄλλων μερῶν, ἐν ὅσοις δοκεῖ ὑπάρχειν τὸ ἕνεκά του. ὅπου μὲν οὖν ἅπαντα συνέβη ὥσπερ κἂν εἰ ἕνεκά του ἐγίγνετο, ταῦτα μὲν ἐσώθη ἀπὸ τοῦ αὐτομάτου συστάντα ἐπιτηδείως· ὅσα δὲ μὴ οὕτως, ἀπώλετο καὶ ἀπόλλυται, καθάπερ Ἐμπεδοκλῆς λέγει τὰ βουγενῆ ἀνδρόπρῳρα.

ὁ μὲν οὖν λόγος, ᾧ ἄν τις ἀπορήσειεν, οὗτος, καὶ εἴ τις ἄλλος τοιοῦτός ἐστιν· ἀδύνατον δὲ τοῦτον ἔχειν τὸν τρόπον. ταῦτα μὲν γὰρ καὶ πάντα τὰ φύσει ἢ αἰεὶ οὕτω γίγνεται ἢ ὡς ἐπὶ τὸ πολύ, τῶν δ' ἀπὸ τύχης καὶ τοῦ αὐτομάτου οὐδέν. οὐ [199a] γὰρ ἀπὸ τύχης οὐδ' ἀπὸ συμπτώματος δοκεῖ ὕειν πολλάκις τοῦ χειμῶνος, ἀλλ' ἐὰν ὑπὸ κύνα· οὐδὲ καύματα ὑπὸ κύνα, ἀλλ' ἂν χειμῶνος. εἰ οὖν ἢ ἀπὸ συμπτώματος δοκεῖ ἢ ἕνεκά του εἶναι, εἰ μὴ οἷόν τε ταῦτ' εἶναι μήτε ἀπὸ συμπτώματος μήτ' ἀπὸ ταὐτομάτου, ἕνεκά του ἂν εἴη. ἀλλὰ μὴν φύσει γ' ἐστὶ τὰ τοιαῦτα πάντα, ὡς κἂν αὐτοὶ φαῖεν οἱ ταῦτα λέγοντες. ἔστιν ἄρα τὸ ἕνεκά του ἐν τοῖς φύσει γιγνομένοις καὶ οὖσιν.

ἔτι ἐν ὅσοις τέλος ἔστι τι, τούτου ἕνεκα πράττεται τὸ πρότερον καὶ τὸ ἐφεξῆς. οὐκοῦν ὡς πράττεται, οὕτω πέφυκε, καὶ ὡς πέφυκεν, οὕτω πράττεται ἕκαστον, ἂν μή τι ἐμποδίζῃ. πράττεται δ' ἕνεκά του· καὶ πέφυκεν ἄρα ἕνεκά του. οἷον εἰ οἰκία τῶν φύσει γιγνομένων ἦν, οὕτως ἂν ἐγίγνετο ὡς νῦν ὑπὸ τῆς τέχνης· εἰ δὲ τὰ φύσει μὴ μόνον φύσει ἀλλὰ καὶ τέχνῃ γίγνοιτο, ὡσαύτως ἂν γίγνοιτο ᾗ πέφυκεν. ἕνεκα ἄρα θατέρου θάτερον. ὅλως δὲ ἡ τέχνη τὰ μὲν ἐπιτελεῖ ἃ ἡ φύσις ἀδυνατεῖ ἀπεργάσασθαι, τὰ δὲ μιμεῖται. εἰ οὖν τὰ κατὰ τέχνην ἕνεκά του, δῆλον ὅτι καὶ τὰ κατὰ φύσιν· ὁμοίως γὰρ ἔχει πρὸς ἄλληλα ἐν τοῖς κατὰ τέχνην καὶ ἐν τοῖς κατὰ φύσιν τὰ ὕστερα πρὸς τὰ πρότερα. μάλιστα δὲ φανερὸν ἐπὶ τῶν ζῴων τῶν ἄλλων, ἃ οὔτε τέχνῃ οὔτε ζητήσαντα οὔτε βουλευσάμενα ποιεῖ· ὅθεν διαποροῦσί τινες πότερον νῷ ἤ τινι ἄλλῳ ἐργάζονται οἵ τ’ ἀράχναι καὶ οἱ μύρμηκες καὶ τὰ τοιαῦτα. κατὰ μικρὸν δ’ οὕτω προϊόντι καὶ ἐν τοῖς φυτοῖς φαίνεται τὰ συμφέροντα γιγνόμενα πρὸς τὸ τέλος, οἷον τὰ φύλλα τῆς τοῦ καρποῦ ἕνεκα σκέπης. ὥστ’ εἰ φύσει τε ποιεῖ καὶ ἕνεκά του ἡ χελιδὼν τὴν νεοττιὰν καὶ ὁ ἀράχνης τὸ ἀράχνιον, καὶ τὰ φυτὰ τὰ φύλλα ἕνεκα τῶν καρπῶν καὶ τὰς ῥίζας οὐκ ἄνω ἀλλὰ κάτω τῆς τροφῆς, φανερὸν ὅτι ἔστιν ἡ αἰτία ἡ τοιαύτη ἐν τοῖς φύσει γιγνομένοις καὶ οὖσιν. καὶ ἐπεὶ ἡ φύσις διττή, ἡ μὲν ὡς ὕλη ἡ δ’ ὡς μορφή, τέλος δ’ αὕτη, τοῦ τέλους δὲ ἕνεκα τἆλλα, αὕτη ἂν εἴη ἡ αἰτία, ἡ οὗ ἕνεκα. ἁμαρτία δὲ γίγνεται καὶ ἐν τοῖς κατὰ τέχνην (ἔγραψε γὰρ οὐκ ὀρθῶς ὁ γραμματικός, καὶ ἐπότισεν [οὐκ ὀρθῶς] ὁ ἰατρὸς τὸ φάρμακον), ὥστε δῆλον ὅτι ἐνδέχεται καὶ ἐν τοῖς κατὰ [199b] φύσιν. εἰ δὴ ἔστιν ἔνια κατὰ τέχνην ἐν οἷς τὸ ὀρθῶς ἕνεκά του, ἐν δὲ τοῖς ἁμαρτανομένοις ἕνεκα μέν τινος ἐπιχειρεῖται ἀλλ’ ἀποτυγχάνεται, ὁμοίως ἂν ἔχοι καὶ ἐν τοῖς φυσικοῖς, καὶ τὰ τέρατα ἁμαρτήματα ἐκείνου τοῦ ἕνεκά του. καὶ ἐν ταῖς ἐξ ἀρχῆς ἄρα συστάσεσι τὰ βουγενῆ, εἰ μὴ πρός τινα ὅρον καὶ τέλος δυνατὰ ἦν ἐλθεῖν, διαφθειρομένης ἂν ἀρχῆς τινὸς ἐγίγνετο, ὥσπερ νῦν τοῦ σπέρματος.

ἔτι ἀνάγκη σπέρμα γενέσθαι πρῶτον, ἀλλὰ μὴ εὐθὺς τὰ ζῷα· καὶ τὸ “οὐλοφυὲς μὲν πρῶτα” σπέρμα ἦν.

ἔτι καὶ ἐν τοῖς φυτοῖς ἔνεστι τὸ ἕνεκά του, ἧττον δὲ διήρθρωται· πότερον οὖν καὶ ἐν τοῖς φυτοῖς ἐγίγνετο, ὥσπερ τὰ βουγενῆ ἀνδρόπρῳρα, οὕτω καὶ ἀμπελογενῆ ἐλαιόπρῳρα, ἢ οὔ; ἄτοπον γάρ· ἀλλὰ μὴν ἔδει γε, εἴπερ καὶ ἐν τοῖς ζῴοις.

ἔτι ἔδει καὶ ἐν τοῖς σπέρμασι γίγνεσθαι ὅπως ἔτυχεν· ὅλως δ’ ἀναιρεῖ ὁ οὕτως λέγων τὰ φύσει τε καὶ φύσιν· φύσει γάρ, ὅσα ἀπό τινος ἐν αὑτοῖς ἀρχῆς συνεχῶς κινούμενα ἀφικνεῖται εἴς τι τέλος· ἀφ’ ἑκάστης δὲ οὐ τὸ αὐτὸ ἑκάστοις οὐδὲ τὸ τυχόν, ἀεὶ μέντοι ἐπὶ τὸ αὐτό, ἂν μή τι ἐμποδίσῃ.

τὸ δὲ οὗ ἕνεκα, καὶ ὃ τούτου ἕνεκα, γένοιτο ἂν καὶ ἀπὸ τύχης, οἷον λέγομεν ὅτι ἀπὸ τύχης ἦλθεν ὁ ξένος καὶ λυ σάμενος ἀπῆλθεν, ὅταν ὥσπερ ἕνεκα τούτου ἐλθὼν πράξῃ, μὴ ἕνεκα δὲ τούτου ἔλθῃ. καὶ τοῦτο κατὰ συμβεβηκός (ἡ γὰρ τύχη τῶν κατὰ συμβεβηκὸς αἰτίων, καθάπερ καὶ πρότερον εἴπομεν), ἀλλ’ ὅταν τοῦτο αἰεὶ ἢ ὡς ἐπὶ τὸ πολὺ γένηται, οὐ συμβεβηκὸς οὐδ’ ἀπὸ τύχης· ἐν δὲ τοῖς φυσικοῖς ἀεὶ οὕτως, ἂν μή τι ἐμποδίσῃ.

ἄτοπον δὲ τὸ μὴ οἴεσθαι ἕνεκά του γίγνεσθαι, ἐὰν μὴ ἴδωσι τὸ κινοῦν βουλευσάμενον. καίτοι καὶ ἡ τέχνη οὐ βουλεύεται· καὶ εἰ ἐνῆν ἐν τῷ ξύλῳ ἡ ναυπηγική, ὁμοίως ἂν τῇ φύσει ἐποίει· ὥστ’ εἰ ἐν τῇ τέχνῃ ἔνεστι τὸ ἕνεκά του, καὶ ἐν τῇ φύσει. μάλιστα δὲ δῆλον, ὅταν τις ἰατρεύῃ αὐτὸς ἑαυτόν· τούτῳ γὰρ ἔοικεν ἡ φύσις. ὅτι μὲν οὖν αἰτία ἡ φύσις, καὶ οὕτως ὡς ἕνεκά του, φανερόν.

Κεφάλαιο 9

Τὸ δ’ ἐξ ἀνάγκης πότερον ἐξ ὑποθέσεως ὑπάρχει ἢ καὶ ἁπλῶς; νῦν μὲν γὰρ οἴονται τὸ ἐξ ἀνάγκης εἶναι [200a] ἐν τῇ γενέσει ὥσπερ ἂν εἴ τις τὸν τοῖχον ἐξ ἀνάγκης γεγενῆσθαι νομίζοι, ὅτι τὰ μὲν βαρέα κάτω πέφυκε φέρεσθαι τὰ δὲ κοῦφα ἐπιπολῆς, διὸ οἱ λίθοι μὲν κάτω καὶ τὰ θεμέλια, ἡ δὲ γῆ ἄνω διὰ κουφότητα, ἐπιπολῆς δὲ μάλιστα τὰ ξύλα· κουφότατα γάρ. ἀλλ’ ὅμως οὐκ ἄνευ μὲν τούτων γέγονεν, οὐ μέντοι διὰ ταῦτα πλὴν ὡς δι’ ὕλην, ἀλλ’ ἕνεκα τοῦ κρύπτειν ἄττα καὶ σώζειν. ὁμοίως δὲ καὶ ἐν τοῖς ἄλλοις πᾶσιν, ἐν ὅσοις τὸ ἕνεκά του ἔστιν, οὐκ ἄνευ μὲν τῶν ἀναγκαίαν ἐχόντων τὴν φύσιν, οὐ μέντοι γε διὰ ταῦτα ἀλλ’ ἢ ὡς ὕλην, ἀλλ’ ἕνεκά του, οἷον διὰ τί ὁ πρίων τοιοσδί; ὅπως τοδὶ καὶ ἕνεκα τουδί. τοῦτο μέντοι τὸ οὗ ἕνεκα ἀδύνατον γενέσθαι, ἂν μὴ σιδηροῦς ᾖ· ἀνάγκη ἄρα σιδηροῦν εἶναι, εἰ πρίων ἔσται καὶ τὸ ἔργον αὐτοῦ. ἐξ ὑποθέσεως δὴ τὸ ἀναγκαῖον, ἀλλ’ οὐχ ὡς τέλος· ἐν γὰρ τῇ ὕλῃ τὸ ἀναγκαῖον, τὸ δ’ οὗ ἕνεκα ἐν τῷ λόγῳ.

ἔστι δὲ τὸ ἀναγκαῖον ἔν τε τοῖς μαθήμασι καὶ ἐν τοῖς κατὰ φύσιν γιγνομένοις τρόπον τινὰ παραπλησίως· ἐπεὶ γὰρ τὸ εὐθὺ τοδί ἐστιν, ἀνάγκη τὸ τρίγωνον δύο ὀρθαῖς ἴσας ἔχειν· ἀλλ’ οὐκ ἐπεὶ τοῦτο, ἐκεῖνο· ἀλλ’ εἴ γε τοῦτο μὴ ἔστιν, οὐδὲ τὸ εὐθὺ ἔστιν. ἐν δὲ τοῖς γιγνομένοις ἕνεκά του ἀνάπαλιν, εἰ τὸ τέλος ἔσται ἢ ἔστι, καὶ τὸ ἔμπροσθεν ἔσται ἢ ἔστιν· εἰ δὲ μή, ὥσπερ ἐκεῖ μὴ ὄντος τοῦ συμπεράσματος ἡ ἀρχὴ οὐκ ἔσται, καὶ ἐνταῦθα τὸ τέλος καὶ τὸ οὗ ἕνεκα. ἀρχὴ γὰρ καὶ αὕτη, οὐ τῆς πράξεως ἀλλὰ τοῦ λογισμοῦ (ἐκεῖ δὲ τοῦ λογισμοῦ· πράξεις γὰρ οὐκ εἰσίν). ὥστ’ εἰ ἔσται οἰκία, ἀνάγκη ταῦτα γενέσθαι ἢ ὑπάρχειν, ἢ εἶναι [ἢ] ὅλως τὴν ὕλην τὴν ἕνεκά του, οἷον πλίνθους καὶ λίθους, εἰ οἰκία· οὐ μέντοι διὰ ταῦτά ἐστι τὸ τέλος ἀλλ’ ἢ ὡς ὕλην, οὐδ’ ἔσται διὰ ταῦτα. ὅλως μέντοι μὴ ὄντων οὐκ ἔσται οὔθ’ ἡ οἰκία οὔθ’ ὁ πρίων, ἡ μὲν εἰ μὴ οἱ λίθοι, ὁ δ’ εἰ μὴ ὁ σίδηρος· οὐδὲ γὰρ ἐκεῖ αἱ ἀρχαί, εἰ μὴ τὸ τρίγωνον δύο ὀρθαί.

φανερὸν δὴ ὅτι τὸ ἀναγκαῖον ἐν τοῖς φυσικοῖς τὸ ὡς ὕλη λεγόμενον καὶ αἱ κινήσεις αἱ ταύτης. καὶ ἄμφω μὲν τῷ φυσικῷ λεκτέαι αἱ αἰτίαι, μᾶλλον δὲ ἡ τίνος ἕνεκα· αἴτιον γὰρ τοῦτο τῆς ὕλης, ἀλλ’ οὐχ αὕτη τοῦ τέλους· καὶ τὸ τέλος τὸ οὗ ἕνεκα, καὶ ἡ ἀρχὴ ἀπὸ τοῦ ὁρισμοῦ καὶ τοῦ λόγου, ὥσπερ ἐν τοῖς κατὰ [200b] τέχνην, ἐπεὶ ἡ οἰκία τοιόνδε, τάδε δεῖ γενέσθαι καὶ ὑπάρχειν ἐξ ἀνάγκης, καὶ ἐπεὶ ἡ ὑγίεια τοδί, τάδε δεῖ γενέσθαι ἐξ ἀνάγκης καὶ ὑπάρχειν- οὕτως καὶ εἰ ἄνθρωπος τοδί, ταδί· εἰ δὲ ταδί, ταδί. ἴσως δὲ καὶ ἐν τῷ λόγῳ ἔστιν τὸ ἀναγκαῖον. ὁρισαμένῳ γὰρ τὸ ἔργον τοῦ πρίειν ὅτι διαίρεσις τοιαδί, αὕτη γ’ οὐκ ἔσται, εἰ μὴ ἕξει ὀδόντας τοιουσδί· οὗτοι δ’ οὔ, εἰ μὴ σιδηροῦς. ἔστι γὰρ καὶ ἐν τῷ λόγῳ ἔνια μόρια ὡς ὕλη τοῦ λόγου.

Βιβλίο 3

Κεφάλαιο 1

Ἐπεὶ δ’ ἡ φύσις μέν ἐστιν ἀρχὴ κινήσεως καὶ μετα βολῆς, ἡ δὲ μέθοδος ἡμῖν περὶ φύσεώς ἐστι, δεῖ μὴ λανθάνειν τί ἐστι κίνησις· ἀναγκαῖον γὰρ ἀγνοουμένης αὐτῆς ἀγνοεῖσθαι καὶ τὴν φύσιν.

διορισαμένοις δὲ περὶ κινήσεως πειρατέον τὸν αὐτὸν ἐπελθεῖν τρόπον περὶ τῶν ἐφεξῆς. δοκεῖ δ’ ἡ κίνησις εἶναι τῶν συνεχῶν, τὸ δ’ ἄπειρον ἐμφαίνεται πρῶτον ἐν τῷ συνεχεῖ· διὸ καὶ τοῖς ὁριζομένοις τὸ συνεχὲς συμβαίνει προσχρήσασθαι πολλάκις τῷ λόγῳ τῷ τοῦ ἀπείρου, ὡς τὸ εἰς ἄπειρον διαιρετὸν συνεχὲς ὄν. πρὸς δὲ τούτοις ἄνευ τόπου καὶ κενοῦ καὶ χρόνου κίνησιν ἀδύνατον εἶναι.

δῆλον οὖν ὡς διά τε ταῦτα, καὶ διὰ τὸ πάντων εἶναι κοινὰ καὶ καθόλου ταῦτα, σκεπτέον προχειρισαμένοις περὶ ἑκάστου τούτων (ὑστέρα γὰρ ἡ περὶ τῶν ἰδίων θεωρία τῆς περὶ τῶν κοινῶν ἐστιν)·

καὶ πρῶτον, καθάπερ εἴπαμεν, περὶ κινήσεως. ἔστι δὴ [τι] τὸ μὲν ἐντελεχείᾳ μόνον, τὸ δὲ δυνάμει καὶ ἐντελεχείᾳ, τὸ μὲν τόδε τι, τὸ δὲ τοσόνδε, τὸ δὲ τοιόνδε, καὶ τῶν ἄλλων τῶν τοῦ ὄντος κατηγοριῶν ὁμοίως. τοῦ δὲ πρός τι τὸ μὲν καθ’ ὑπεροχὴν λέγεται καὶ κατ’ ἔλλειψιν, τὸ δὲ κατὰ τὸ ποιητικὸν καὶ παθητικόν, καὶ ὅλως κινητικόν τε καὶ κινητόν· τὸ γὰρ κινητικὸν κινητικὸν τοῦ κινητοῦ καὶ τὸ κινητὸν κινητὸν ὑπὸ τοῦ κινητικοῦ.

οὐκ ἔστι δὲ κίνησις παρὰ τὰ πράγματα· μεταβάλλει γὰρ ἀεὶ τὸ μεταβάλλον ἢ κατ’ οὐσίαν ἢ κατὰ ποσὸν ἢ κατὰ ποιὸν ἢ κατὰ τόπον, κοινὸν δ’ ἐπὶ τούτων οὐδὲν ἔστι λαβεῖν, ὡς φαμέν, ὃ οὔτε τόδε οὔτε πο [201a] σὸν οὔτε ποιὸν οὔτε τῶν ἄλλων κατηγορημάτων οὐθέν· ὥστ’ οὐδὲ κίνησις οὐδὲ μεταβολὴ οὐθενὸς ἔσται παρὰ τὰ εἰρημένα, μηθενός γε ὄντος παρὰ τὰ εἰρημένα.

ἕκαστον δὲ διχῶς ὑπάρχει πᾶσιν, οἷον τὸ τόδε (τὸ μὲν γὰρ μορφὴ αὐτοῦ, τὸ δὲ στέρησις), καὶ κατὰ τὸ ποιόν (τὸ μὲν γὰρ λευκὸν τὸ δὲ μέλαν), καὶ κατὰ τὸ ποσὸν τὸ μὲν τέλειον τὸ δ’ ἀτελές. ὁμοίως δὲ καὶ κατὰ τὴν φορὰν τὸ μὲν ἄνω τὸ δὲ κάτω, ἢ τὸ μὲν κοῦφον τὸ δὲ βαρύ.

ὥστε κινήσεως καὶ μεταβολῆς ἔστιν εἴδη τοσαῦτα ὅσα τοῦ ὄντος.

διῃρημένου δὲ καθ’ ἕκαστον γένος τοῦ μὲν ἐντελεχείᾳ τοῦ δὲ δυνάμει, ἡ τοῦ δυνάμει ὄντος ἐντελέχεια, ᾗ τοιοῦτον, κίνησίς ἐστιν, οἷον τοῦ μὲν ἀλλοιωτοῦ, ᾗ ἀλλοιωτόν, ἀλλοίωσις, τοῦ δὲ αὐξητοῦ καὶ τοῦ ἀντικειμένου φθιτοῦ (οὐδὲν γὰρ ὄνομα κοινὸν ἐπ’ ἀμφοῖν) αὔξησις καὶ φθίσις, τοῦ δὲ γενητοῦ καὶ φθαρτοῦ γένεσις καὶ φθορά, τοῦ δὲ φορητοῦ φορά.

ὅτι δὲ τοῦτο ἔστιν ἡ κίνησις, ἐντεῦθεν δῆλον. ὅταν γὰρ τὸ οἰκοδομητόν, ᾗ τοιοῦτον αὐτὸ λέγομεν εἶναι, ἐντελεχείᾳ ᾖ, οἰκοδομεῖται, καὶ ἔστιν τοῦτο οἰκοδόμησις· ὁμοίως δὲ καὶ μάθησις καὶ ἰάτρευσις καὶ κύλισις καὶ ἅλσις καὶ ἅδρυνσις καὶ γήρανσις.

ἐπεὶ δ’ ἔνια ταὐτὰ καὶ δυνάμει καὶ ἐντελεχείᾳ ἐστίν, οὐχ ἅμα δὲ ἢ οὐ κατὰ τὸ αὐτό, ἀλλ’ οἷον θερμὸν μὲν ἐντελεχείᾳ ψυχρὸν δὲ δυνάμει, πολλὰ ἤδη ποιήσει καὶ πείσεται ὑπ’ ἀλλήλων· ἅπαν γὰρ ἔσται ἅμα ποιητικὸν καὶ παθητικόν. ὥστε καὶ τὸ κινοῦν φυσικῶς κινητόν· πᾶν γὰρ τὸ τοιοῦτον κινεῖ κινούμενον καὶ αὐτό. δοκεῖ μὲν οὖν τισιν ἅπαν κινεῖσθαι τὸ κινοῦν, οὐ μὴν ἀλλὰ περὶ τούτου μὲν ἐξ ἄλλων ἔσται δῆλον ὅπως ἔχει (ἔστι γάρ τι κινοῦν καὶ ἀκίνητον),

ἡ δὲ τοῦ δυνάμει ὄντος <ἐντελέχεια>, ὅταν ἐντελεχείᾳ ὂν ἐνεργῇ οὐχ ᾗ αὐτὸ ἀλλ’ ᾗ κινητόν, κίνησίς ἐστιν. λέγω δὲ τὸ ᾗ ὡδί. ἔστι γὰρ ὁ χαλκὸς δυνάμει ἀνδριάς, ἀλλ’ ὅμως οὐχ ἡ τοῦ χαλκοῦ ἐντελέχεια, ᾗ χαλκός, κίνησίς ἐστιν·

οὐ γὰρ τὸ αὐτὸ τὸ χαλκῷ εἶναι καὶ δυνάμει τινί [κινητῷ], ἐπεὶ εἰ ταὐτὸν ἦν ἁπλῶς καὶ κατὰ τὸν λόγον, ἦν ἂν ἡ τοῦ χαλκοῦ, ᾗ χαλκός, ἐντελέχεια κίνησις· οὐκ ἔστιν δὲ ταὐτόν, ὡς εἴρηται (δῆλον δ’ ἐπὶ τῶν ἐναντίων· τὸ μὲν γὰρ δύνασθαι ὑγιαίνειν [201b] καὶ δύνασθαι κάμνειν ἕτερον-καὶ γὰρ ἂν τὸ κάμνειν καὶ τὸ ὑγιαίνειν ταὐτὸν ἦν-τὸ δὲ ὑποκείμενον καὶ τὸ ὑγιαῖνον καὶ τὸ νοσοῦν, εἴθ’ ὑγρότης εἴθ’ αἷμα, ταὐτὸν καὶ ἕν).

ἐπεὶ δ’ οὐ ταὐτόν, ὥσπερ οὐδὲ χρῶμα ταὐτὸν καὶ ὁρατόν, ἡ τοῦ δυνατοῦ, ᾗ δυνατόν, ἐντελέχεια φανερὸν ὅτι κίνησίς ἐστιν.

ὅτι μὲν οὖν ἐστιν αὕτη, καὶ ὅτι συμβαίνει τότε κινεῖσθαι ὅταν ἡ ἐντελέχεια ᾖ αὐτή, καὶ οὔτε πρότερον οὔτε ὕστερον, δῆλον· ἐνδέχεται γὰρ ἕκαστον ὁτὲ μὲν ἐνεργεῖν ὁτὲ δὲ μή, οἷον τὸ οἰκοδομητόν, καὶ ἡ τοῦ οἰκοδομητοῦ ἐνέργεια, ᾗ οἰκοδομητόν, οἰκοδόμησίς ἐστιν (ἢ γὰρ οἰκοδόμησις ἡ ἐνέργεια [τοῦ οἰκοδομητοῦ] ἢ ἡ οἰκία· ἀλλ’ ὅταν οἰκία ᾖ, οὐκέτ’ οἰκοδομητὸν ἔστιν· οἰκοδομεῖται δὲ τὸ οἰκοδομητόν· ἀνάγκη οὖν οἰκοδόμησιν τὴν ἐνέργειαν εἶναι)· ἡ δ’ οἰκοδόμησις κίνησίς τις. ἀλλὰ μὴν ὁ αὐτὸς ἐφαρμόσει λόγος καὶ ἐπὶ τῶν ἄλλων κινήσεων.

Κεφάλαιο 2

Ὅτι δὲ καλῶς εἴρηται, δῆλον καὶ ἐξ ὧν οἱ ἄλλοι περὶ αὐτῆς λέγουσιν, καὶ ἐκ τοῦ μὴ ῥᾴδιον εἶναι διορίσαι ἄλλως αὐτήν.

οὔτε γὰρ τὴν κίνησιν καὶ τὴν μεταβολὴν ἐν ἄλλῳ γένει θεῖναι δύναιτ’ ἄν τις, δῆλόν τε σκοποῦσιν ὡς τιθέασιν αὐτὴν ἔνιοι, ἑτερότητα καὶ ἀνισότητα καὶ τὸ μὴ ὂν φάσκοντες εἶναι τὴν κίνησιν· ὧν οὐδὲν ἀναγκαῖον κινεῖσθαι, οὔτ’ ἂν ἕτερα ᾖ οὔτ’ ἂν ἄνισα οὔτ’ ἂν οὐκ ὄντα· ἀλλ’ οὐδ’ ἡ μεταβολὴ οὔτ’ εἰς ταῦτα οὔτ’ ἐκ τούτων μᾶλλόν ἐστιν ἢ ἐκ τῶν ἀντικειμένων.

αἴτιον δὲ τοῦ εἰς ταῦτα τιθέναι ὅτι ἀόριστόν τι δοκεῖ εἶναι ἡ κίνησις, τῆς δὲ ἑτέρας συστοιχίας αἱ ἀρχαὶ διὰ τὸ στερητικαὶ εἶναι ἀόριστοι· οὔτε γὰρ τόδε οὔτε τοιόνδε οὐδεμία αὐτῶν ἐστιν, [ὅτι] οὐδὲ τῶν ἄλλων κατηγοριῶν. τοῦ δὲ δοκεῖν ἀόριστον εἶναι τὴν κίνησιν αἴτιον ὅτι οὔτε εἰς δύναμιν τῶν ὄντων οὔτε εἰς ἐνέργειαν ἔστιν θεῖναι αὐτήν· οὔτε γὰρ τὸ δυνατὸν ποσὸν εἶναι κινεῖται ἐξ ἀνάγκης οὔτε τὸ ἐνεργείᾳ ποσόν, ἥ τε κίνησις ἐνέργεια μὲν εἶναί τις δοκεῖ, ἀτελὴς δέ· αἴτιον δ’ ὅτι ἀτελὲς τὸ δυνατόν, οὗ ἐστιν ἐνέργεια. καὶ διὰ τοῦτο δὴ χαλεπὸν αὐτὴν λαβεῖν τί ἐστιν· ἢ γὰρ εἰς στέρησιν ἀναγκαῖον θεῖναι ἢ εἰς δύναμιν ἢ εἰς ἐνέργειαν ἁπλῆν, τούτων δ’ οὐδὲν φαίνεται ἐνδεχόμενον. λείπεται [202a] τοίνυν ὁ εἰρημένος τρόπος, ἐνέργειαν μέν τινα εἶναι, τοιαύτην δ’ ἐνέργειαν οἵαν εἴπαμεν, χαλεπὴν μὲν ἰδεῖν, ἐνδεχομένην δ’ εἶναι.

κινεῖται δὲ καὶ τὸ κινοῦν ὥσπερ εἴρηται πᾶν, τὸ δυνάμει ὂν κινητόν, καὶ οὗ ἡ ἀκινησία ἠρεμία ἐστίν (ᾧ γὰρ ἡ κίνησις ὑπάρχει, τούτου ἡ ἀκινησία ἠρεμία). τὸ γὰρ πρὸς τοῦτο ἐνεργεῖν, ᾗ τοιοῦτον, αὐτὸ τὸ κινεῖν ἐστι· τοῦτο δὲ ποιεῖ θίξει, ὥστε ἅμα καὶ πάσχει· διὸ ἡ κίνησις ἐντελέχεια τοῦ κινητοῦ, ᾗ κινητόν, συμβαίνει δὲ τοῦτο θίξει τοῦ κινητικοῦ, ὥσθ’ ἅμα καὶ πάσχει. εἶδος δὲ ἀεὶ οἴσεταί τι τὸ κινοῦν, ἤτοι τόδε ἢ τοιόνδε ἢ τοσόνδε, ὃ ἔσται ἀρχὴ καὶ αἴτιον τῆς κινή σεως, ὅταν κινῇ, οἷον ὁ ἐντελεχείᾳ ἄνθρωπος ποιεῖ ἐκ τοῦ δυνάμει ὄντος ἀνθρώπου ἄνθρωπον.

Κεφάλαιο 3

Καὶ τὸ ἀπορούμενον δὲ φανερόν, ὅτι ἐστὶν ἡ κίνησις ἐν τῷ κινητῷ· ἐντελέχεια γάρ ἐστι τούτου [καὶ] ὑπὸ τοῦ κινητικοῦ. καὶ ἡ τοῦ κινητικοῦ δὲ ἐνέργεια οὐκ ἄλλη ἐστίν· δεῖ μὲν γὰρ εἶναι ἐντελέχειαν ἀμφοῖν· κινητικὸν μὲν γάρ ἐστιν τῷ δύνασθαι, κινοῦν δὲ τῷ ἐνεργεῖν, ἀλλ' ἔστιν ἐνεργητικὸν τοῦ κινητοῦ, ὥστε ὁμοίως μία ἡ ἀμφοῖν ἐνέργεια ὥσπερ τὸ αὐτὸ διάστημα ἓν πρὸς δύο καὶ δύο πρὸς ἕν, καὶ τὸ ἄναντες καὶ τὸ κάταντες· ταῦτα γὰρ ἓν μέν ἐστιν, ὁ μέντοι λόγος οὐχ εἷς· ὁμοίως δὲ καὶ ἐπὶ τοῦ κινοῦντος καὶ κινουμένου.

ἔχει δ' ἀπορίαν λογικήν· ἀναγκαῖον γὰρ ἴσως εἶναί τινα ἐνέργειαν τοῦ ποιητικοῦ καὶ τοῦ παθητικοῦ· τὸ μὲν δὴ ποίησις, τὸ δὲ πάθησις, ἔργον δὲ καὶ τέλος τοῦ μὲν ποίημα, τοῦ δὲ πάθος. ἐπεὶ οὖν ἄμφω κινήσεις, εἰ μὲν ἕτεραι, ἐν τίνι; ἢ γὰρ ἄμφω ἐν τῷ πάσχοντι καὶ κινουμένῳ, ἢ ἡ μὲν ποίησις ἐν τῷ ποιοῦντι, ἡ δὲ πάθησις ἐν τῷ πάσχοντι (εἰ δὲ δεῖ καὶ ταύτην ποίησιν καλεῖν, ὁμώνυμος ἂν εἴη).

ἀλλὰ μὴν εἰ τοῦτο, ἡ κίνησις ἐν τῷ κινοῦντι ἔσται (ὁ γὰρ αὐτὸς λόγος ἐπὶ κινοῦντος καὶ κινουμένου), ὥστ' ἢ πᾶν τὸ κινοῦν κινήσεται, ἢ ἔχον κίνησιν οὐ κινήσεται.

εἰ δ' ἄμφω ἐν τῷ κινουμένῳ καὶ πάσχοντι, καὶ ἡ ποίησις καὶ ἡ πάθησις, καὶ ἡ δίδαξις καὶ ἡ μάθησις δύο οὖσαι ἐν τῷ μανθάνοντι, πρῶτον μὲν ἡ ἐνέργεια ἡ ἑκάστου οὐκ ἐν ἑκάστῳ ὑπάρξει, εἶτα ἄτοπον δύο κινήσεις ἅμα κινεῖσθαι· τίνες γὰρ ἔσονται ἀλλοιώσεις δύο τοῦ ἑνὸς καὶ εἰς ἓν εἶδος; ἀλλ' ἀδύνατον. ἀλλὰ μία ἔσται ἡ ἐνέργεια.

ἀλλ' [202b] ἄλογον δύο ἑτέρων τῷ εἴδει τὴν αὐτὴν καὶ μίαν εἶναι ἐνέργειαν· καὶ ἔσται, εἴπερ ἡ δίδαξις καὶ ἡ μάθησις τὸ αὐτὸ καὶ ἡ ποίησις καὶ ἡ πάθησις, καὶ τὸ διδάσκειν τῷ μανθάνειν τὸ αὐτὸ καὶ τὸ ποιεῖν τῷ πάσχειν, ὥστε τὸν διδάσκοντα ἀνάγκη ἔσται πάντα μανθάνειν καὶ τὸν ποιοῦντα πάσχειν.

ἢ οὔτε τὸ τὴν ἄλλου ἐνέργειαν ἐν ἑτέρῳ εἶναι ἄτοπον (ἔστι γὰρ ἡ δίδαξις ἐνέργεια τοῦ διδασκαλικοῦ, ἔν τινι μέντοι, καὶ οὐκ ἀποτετμημένη, ἀλλὰ τοῦδε ἐν τῷδε),

οὔτε μίαν δυοῖν κωλύει οὐθὲν τὴν αὐτὴν εἶναι (μὴ ὡς τῷ εἶναι τὸ αὐτό, ἀλλ’ ὡς ὑπάρχει τὸ δυνάμει ὂν πρὸς τὸ ἐνεργοῦν),

οὔτ’ ἀνάγκη τὸν διδά σκοντα μανθάνειν, οὐδ’ εἰ τὸ ποιεῖν καὶ πάσχειν τὸ αὐτό ἐστιν, μὴ μέντοι ὥστε τὸν λόγον εἶναι ἕνα τὸν <τὸ> τί ἦν εἶναι λέγοντα, οἷον ὡς λώπιον καὶ ἱμάτιον, ἀλλ’ ὡς ἡ ὁδὸς ἡ Θήβηθεν Ἀθήναζε καὶ ἡ Ἀθήνηθεν εἰς Θήβας, ὥσπερ εἴρηται καὶ πρότερον; οὐ γὰρ ταὐτὰ πάντα ὑπάρχει τοῖς ὁπωσοῦν τοῖς αὐτοῖς, ἀλλὰ μόνον οἷς τὸ εἶναι τὸ αὐτό. οὐ μὴν ἀλλ’ οὐδ’ εἰ ἡ δίδαξις τῇ μαθήσει τὸ αὐτό, καὶ τὸ μανθάνειν τῷ διδάσκειν, ὥσπερ οὐδ’ εἰ ἡ διάστασις μία τῶν διεστηκότων, καὶ τὸ διίστασθαι ἐνθένθε ἐκεῖσε κἀκεῖθεν δεῦρο ἓν καὶ τὸ αὐτό. ὅλως δ’ εἰπεῖν οὐδ’ ἡ δίδαξις τῇ μαθήσει οὐδ’ ἡ ποίησις τῇ παθήσει τὸ αὐτὸ κυρίως, ἀλλ’ ᾧ ὑπάρχει ταῦτα, ἡ κίνησις· τὸ γὰρ τοῦδε ἐν τῷδε καὶ τὸ τοῦδε ὑπὸ τοῦδε ἐνέργειαν εἶναι ἕτερον τῷ λόγῳ.

τί μὲν οὖν ἐστιν κίνησις εἴρηται καὶ καθόλου καὶ κατὰ μέρος· οὐ γὰρ ἄδηλον πῶς ὁρισθήσεται τῶν εἰδῶν ἕκαστον αὐτῆς· ἀλλοίωσις μὲν γὰρ ἡ τοῦ ἀλλοιωτοῦ, ᾗ ἀλλοιωτόν, ἐντελέχεια. ἔτι δὲ γνωριμώτερον, ἡ τοῦ δυνάμει ποιητικοῦ καὶ παθητικοῦ, ᾗ τοιοῦτον, ἁπλῶς τε καὶ πάλιν καθ’ ἕκαστον, ἢ οἰκοδόμησις ἢ ἰάτρευσις. τὸν αὐτὸν δὲ λεχθήσεται τρόπον καὶ περὶ τῶν ἄλλων κινήσεων ἑκάστης.

Κεφάλαιο 4

Ἐπεὶ δ’ ἐστὶν ἡ περὶ φύσεως ἐπιστήμη περὶ μεγέθη καὶ κίνησιν καὶ χρόνον, ὧν ἕκαστον ἀναγκαῖον ἢ ἄπειρον ἢ πεπερασμένον εἶναι, εἰ καὶ μὴ πᾶν ἐστιν ἄπειρον ἢ πεπερασμένον, οἷον πάθος ἢ στιγμή (τῶν γὰρ τοιούτων ἴσως οὐδὲν ἀναγκαῖον ἐν θατέρῳ τούτων εἶναι), προσῆκον ἂν εἴη τὸν περὶ φύσεως πραγματευόμενον θεωρῆσαι περὶ ἀπείρου, εἰ ἔστιν ἢ μή, καὶ εἰ ἔστιν, τί ἐστιν.

σημεῖον δ’ ὅτι ταύτης τῆς [203a] ἐπιστήμης οἰκεία ἡ θεωρία ἡ περὶ αὐτοῦ· πάντες γὰρ οἱ δοκοῦντες ἀξιολόγως ἧφθαι τῆς τοιαύτης φιλοσοφίας πεποίηνται λόγον περὶ τοῦ ἀπείρου, καὶ πάντες ὡς ἀρχήν τινα τιθέασι τῶν ὄντων, οἱ μέν, ὥσπερ οἱ Πυθαγόρειοι καὶ Πλάτων, καθ’ αὑτό, οὐχ ὡς συμβεβηκός τινι ἑτέρῳ ἀλλ’ οὐσίαν αὐτὸ ὂν τὸ ἄπειρον. πλὴν οἱ μὲν Πυθαγόρειοι ἐν τοῖς αἰσθητοῖς (οὐ γὰρ χωριστὸν ποιοῦσιν τὸν ἀριθμόν), καὶ εἶναι τὸ ἔξω τοῦ οὐρανοῦ ἄπειρον, Πλάτων δὲ ἔξω μὲν οὐδὲν εἶναι σῶμα, οὐδὲ τὰς ἰδέας, διὰ τὸ μηδὲ πού εἶναι αὐτάς, τὸ μέντοι ἄπειρον καὶ ἐν τοῖς αἰσθητοῖς καὶ ἐν ἐκείναις εἶναι·

καὶ οἱ μὲν τὸ ἄπειρον εἶναι τὸ ἄρτιον (τοῦτο γὰρ ἐναπολαμβανόμενον καὶ ὑπὸ τοῦ περιττοῦ περαινόμενον παρέχειν τοῖς οὖσι τὴν ἀπειρίαν· σημεῖον δ’ εἶναι τούτου τὸ συμβαῖνον ἐπὶ τῶν ἀριθμῶν· περιτιθεμένων γὰρ τῶν γνωμόνων περὶ τὸ ἓν καὶ χωρὶς ὁτὲ μὲν ἄλλο ἀεὶ γίγνεσθαι τὸ εἶδος, ὁτὲ δὲ ἕν), Πλάτων δὲ δύο τὰ ἄπειρα, τὸ μέγα καὶ τὸ μικρόν.

οἱ δὲ περὶ φύσεως πάντες [ἀεὶ] ὑποτιθέασιν ἑτέραν τινὰ φύσιν τῷ ἀπείρῳ τῶν λεγομένων στοιχείων, οἷον ὕδωρ ἢ ἀέρα ἢ τὸ μεταξὺ τούτων. τῶν δὲ πεπερασμένα ποιούντων στοιχεῖα οὐθεὶς ἄπειρα ποιεῖ· ὅσοι δ’ ἄπειρα ποιοῦσι τὰ στοιχεῖα, καθάπερ Ἀναξαγόρας καὶ Δημόκριτος, ὁ μὲν ἐκ τῶν ὁμοιομερῶν, ὁ δ’ ἐκ τῆς πανσπερμίας τῶν σχημάτων, τῇ ἁφῇ συνεχὲς τὸ ἄπειρον εἶναι φασίν·

καὶ ὁ μὲν ὁτιοῦν τῶν μορίων εἶναι μίγμα ὁμοίως τῷ παντὶ διὰ τὸ ὁρᾶν ὁτιοῦν ἐξ ὁτουοῦν γιγνόμενον· ἐντεῦθεν γὰρ ἔοικε καὶ ὁμοῦ ποτε πάντα χρήματα φάναι εἶναι, οἷον ἥδε ἡ σὰρξ καὶ τόδε τὸ ὀστοῦν, καὶ οὕτως ὁτιοῦν· καὶ πάντα ἄρα· καὶ ἅμα τοίνυν· ἀρχὴ γὰρ οὐ μόνον ἐν ἑκάστῳ ἔστι τῆς διακρίσεως, ἀλλὰ καὶ πάντων. ἐπεὶ γὰρ τὸ γιγνόμενον ἐκ τοῦ τοιούτου γίγνεται σώματος, πάντων δ’ ἔστι γένεσις πλὴν οὐχ ἅμα, καί τινα ἀρχὴν δεῖ εἶναι τῆς γενέσεως, αὕτη δ’ ἐστὶν μία, οἷον ἐκεῖνος καλεῖ νοῦν, ὁ δὲ νοῦς ἀπ’ ἀρχῆς τινος ἐργάζεται νοήσας· ὥστε ἀνάγκη ὁμοῦ ποτε πάντα εἶναι καὶ ἄρξασθαί ποτε κινούμενα.

Δημόκριτος δ’ οὐδὲν ἕτερον ἐξ ἑτέρου γίγνεσθαι τῶν πρώτων φησίν· ἀλλ’ ὅμως γε αὐτῷ τὸ κοινὸν [203b] σῶμα πάντων ἐστὶν ἀρχή. μεγέθει κατὰ μόρια καὶ σχήματι διαφέρον.

ὅτι μὲν οὖν προσήκουσα τοῖς φυσικοῖς ἡ θεωρία, δῆλον ἐκ τούτων. εὐλόγως δὲ καὶ ἀρχὴν αὐτὸ τιθέασι πάντες· οὔτε γὰρ μάτην οἷόν τε αὐτὸ εἶναι, οὔτε ἄλλην ὑπάρχειν αὐτῷ δύναμιν πλὴν ὡς ἀρχήν· ἅπαντα γὰρ ἢ ἀρχὴ ἢ ἐξ ἀρχῆς, τοῦ δὲ ἀπείρου οὐκ ἔστιν ἀρχή· εἴη γὰρ ἂν αὐτοῦ πέρας. ἔτι δὲ καὶ ἀγένητον καὶ ἄφθαρτον ὡς ἀρχή τις οὖσα· τό τε γὰρ γενόμενον ἀνάγκη τέλος λαβεῖν, καὶ τελευτὴ πάσης ἔστιν φθορᾶς. διό, καθάπερ λέγομεν, οὐ ταύτης ἀρχή, ἀλλ’ αὕτη τῶν ἄλλων εἶναι δοκεῖ καὶ περιέχειν ἅπαντα καὶ πάντα κυβερνᾶν, ὥς φασιν ὅσοι μὴ ποιοῦσι παρὰ τὸ ἄπειρον ἄλλας αἰτίας, οἷον νοῦν ἢ φιλίαν· καὶ τοῦτ’ εἶναι τὸ θεῖον· ἀθάνατον γὰρ καὶ ἀνώλεθρον, ὥσπερ φησὶν Ἀναξίμανδρος καὶ οἱ πλεῖστοι τῶν φυσιολόγων.

τοῦ δ’ εἶναί τι ἄπειρον ἡ πίστις ἐκ πέντε μάλιστ’ ἂν συμβαίνοι σκοποῦσιν,

1. ἔκ τε τοῦ χρόνου (οὗτος γὰρ ἄπειρος)

2. καὶ ἐκ τῆς ἐν τοῖς μεγέθεσι διαιρέσεως (χρῶνται γὰρ καὶ οἱ μαθηματικοὶ τῷ ἀπείρῳ)·
3. ἔτι τῷ οὕτως ἂν μόνως μὴ ὑπολείπειν γένεσιν καὶ φθοράν, εἰ ἄπειρον εἴη ὅθεν ἀφαιρεῖται τὸ γιγνόμενον·
4. ἔτι τῷ τὸ πεπερασμένον ἀεὶ πρός τι περαίνειν, ὥστε ἀνάγκη μηδὲν εἶναι πέρας, εἰ ἀεὶ περαίνειν ἀνάγκη ἕτερον πρὸς ἕτερον.
5. μάλιστα δὲ καὶ κυριώτατον, ὃ τὴν κοινὴν ποιεῖ ἀπορίαν πᾶσι· διὰ γὰρ τὸ ἐν τῇ νοήσει μὴ ὑπολείπειν καὶ ὁ ἀριθμὸς δοκεῖ ἄπειρος εἶναι καὶ τὰ μαθηματικὰ μεγέθη καὶ τὸ ἔξω τοῦ οὐρανοῦ.

ἀπείρου δ’ ὄντος τοῦ ἔξω, καὶ σῶμα ἄπειρον εἶναι δοκεῖ καὶ κόσμοι· τί γὰρ μᾶλλον τοῦ κενοῦ ἐνταῦθα ἢ ἐνταῦθα; ὥστ’ εἴπερ μοναχοῦ, καὶ πανταχοῦ εἶναι τὸν ὄγκον. ἅμα δ’ εἰ καὶ ἔστι κενὸν καὶ τόπος ἄπειρος, καὶ σῶμα εἶναι ἀναγκαῖον· ἐνδέχεσθαι γὰρ ἢ εἶναι οὐδὲν διαφέρει ἐν τοῖς ἀϊδίοις. ἔχει δ’ ἀπορίαν ἡ περὶ τοῦ ἀπείρου θεωρία· καὶ γὰρ μὴ εἶναι τιθεμένοις πόλλ’ ἀδύνατα συμβαίνει καὶ εἶναι. ἔτι δὲ ποτέρως ἔστιν, πότερον ὡς οὐσία ἢ ὡς συμβεβηκὸς καθ’ αὑτὸ φύσει τινί; ἢ οὐδετέρως, ἀλλ’ οὐδὲν ἧττον ἔστιν ἄπειρον ἢ ἄπειρα [204a] τῷ πλήθει;

μάλιστα δὲ φυσικοῦ ἐστιν σκέψασθαι εἰ ἔστι μέγεθος αἰσθητὸν ἄπειρον.
πρῶτον οὖν διοριστέον ποσαχῶς λέγεται τὸ ἄπειρον.

1. ἕνα μὲν δὴ τρόπον τὸ ἀδύνατον διελθεῖν τῷ μὴ πεφυκέναι διιέναι, ὥσπερ ἡ φωνὴ ἀόρατος·

2. ἄλλως δὲ τὸ διέξοδον ἔχον ἀτελεύτητον, ἢ ὃ μόγις,
3. ἢ ὃ πεφυκὸς ἔχειν μὴ ἔχει διέξοδον ἢ πέρας.

ἔτι ἄπειρον ἅπαν ἢ κατὰ πρόσθεσιν ἢ κατὰ διαίρεσιν ἢ ἀμφοτέρως.

Κεφάλαιο 5

Χωριστὸν μὲν οὖν εἶναι τὸ ἄπειρον τῶν αἰσθητῶν, αὐτό τι ὂν ἄπειρον, οὐχ οἷόν τε. εἰ γὰρ μήτε μέγεθός ἐστιν μήτε πλῆθος, ἀλλ’ οὐσία αὐτό ἐστι τὸ ἄπειρον καὶ μὴ συμβεβη κός, ἀδιαίρετον ἔσται (τὸ γὰρ διαιρετὸν ἢ μέγεθος ἔσται ἢ πλῆθος)· εἰ δὲ τοιοῦτον, οὐκ ἄπειρον, εἰ μὴ ὡς ἡ φωνὴ ἀόρατος. ἀλλ’ οὐχ οὕτως οὔτε φασὶν εἶναι οἱ φάσκοντες εἶναι τὸ ἄπειρον οὔτε ἡμεῖς ζητοῦμεν, ἀλλ’ ὡς ἀδιεξίτητον. εἰ δὲ κατὰ συμβεβηκὸς ἔστιν τὸ ἄπειρον, οὐκ ἂν εἴη στοιχεῖον τῶν ὄντων, ᾗ ἄπειρον, ὥσπερ οὐδὲ τὸ ἀόρατον τῆς διαλέκτου, καίτοι ἡ φωνή ἐστιν ἀόρατος.

ἔτι πῶς ἐνδέχεται εἶναί τι αὐτὸ ἄπειρον, εἴπερ μὴ καὶ ἀριθμὸν καὶ μέγεθος, ὧν ἐστι καθ’ αὑτὸ πάθος τι τὸ ἄπειρον; ἔτι γὰρ ἧττον ἀνάγκη ἢ τὸν ἀριθμὸν ἢ τὸ μέγεθος.

φανερὸν δὲ καὶ ὅτι οὐκ ἐνδέχεται εἶναι τὸ ἄπειρον ὡς ἐνεργείᾳ ὂν καὶ ὡς οὐσίαν καὶ ἀρχήν· ἔσται γὰρ ὁτιοῦν αὐτοῦ ἄπειρον τὸ λαμβανόμενον, εἰ μεριστόν (τὸ γὰρ ἀπείρῳ εἶναι καὶ ἄπειρον τὸ αὐτό, εἴπερ οὐσία τὸ ἄπειρον καὶ μὴ καθ’ ὑποκειμένου), ὥστ’ ἢ ἀδιαίρετον ἢ εἰς ἄπειρα διαιρετόν· πολλὰ δ’ ἄπειρα εἶναι τὸ αὐτὸ ἀδύνατον (ἀλλὰ μὴν ὥσπερ ἀέρος ἀὴρ μέρος, οὕτω καὶ ἄπειρον ἀπείρου, εἴ γε οὐσία ἐστὶ καὶ ἀρχή)· ἀμέριστον ἄρα καὶ ἀδιαίρετον. ἀλλ’ ἀδύνατον τὸ ἐντελεχείᾳ ὂν ἄπειρον· ποσὸν γάρ τι εἶναι ἀναγκαῖον.

κατὰ συμβεβηκὸς ἄρα ὑπάρχει τὸ ἄπειρον. ἀλλ’ εἰ οὕτως, εἴρηται ὅτι οὐκ ἐνδέχεται αὐτὸ λέγειν ἀρχήν, ἀλλ’ ᾧ συμβέβηκε, τὸν ἀέρα ἢ τὸ ἄρτιον.

ὥστε ἀτόπως ἂν ἀποφαίνοιντο οἱ λέγοντες οὕτως ὥσπερ οἱ Πυθαγόρειοί φασιν· ἅμα γὰρ οὐσίαν ποιοῦσι τὸ ἄπειρον καὶ μερίζουσιν.

ἀλλ’ ἴσως αὕτη μὲν [ἐστι] καθόλου ἡ ζήτησις, εἰ ἐνδέχεται ἄπειρον καὶ ἐν τοῖς μαθηματικοῖς [204b] εἶναι καὶ ἐν τοῖς νοητοῖς καὶ μηδὲν ἔχουσι μέγεθος· ἡμεῖς δ’ ἐπισκοποῦμεν περὶ τῶν αἰσθητῶν καὶ περὶ ὧν ποιούμεθα τὴν μέθοδον, ἆρ’ ἔστιν ἐν αὐτοῖς ἢ οὐκ ἔστι σῶμα ἄπειρον ἐπὶ τὴν αὔξησιν.

λογικῶς μὲν οὖν σκοπουμένοις ἐκ τῶν τοιῶνδε δόξειεν ἂν οὐκ εἶναι· εἰ γάρ ἐστι σώματος λόγος τὸ ἐπιπέδῳ ὡρισμένον, οὐκ ἂν εἴη σῶμα ἄπειρον, οὔτε νοητὸν οὔτε αἰσθητόν (ἀλλὰ μὴν οὐδ’ ἀριθμὸς οὕτως ὡς κεχωρισμένος καὶ ἄπειρος· ἀριθμητὸν γὰρ ἀριθμὸς ἢ τὸ ἔχον ἀριθμόν· εἰ οὖν τὸ ἀριθμητὸν ἐνδέχεται ἀριθμῆσαι, καὶ διεξελθεῖν ἂν εἴη δυνατὸν τὸ ἄπειρον)·

φυσικῶς δὲ μᾶλλον θεωροῦσιν ἐκ τῶνδε.

οὔτε γὰρ σύνθετον οἷόν τε εἶναι οὔτε ἁπλοῦν.

σύνθετον μὲν οὖν οὐκ ἔσται τὸ ἄπειρον σῶμα, εἰ πεπερασμένα τῷ πλήθει τὰ στοιχεῖα. ἀνάγκη γὰρ πλείω εἶναι, καὶ ἰσάζειν ἀεὶ τἀναντία, καὶ μὴ εἶναι ἓν αὐτῶν ἄπειρον (εἰ γὰρ ὁποσῳοῦν λείπεται ἡ ἐν ἑνὶ σώματι δύναμις θατέρου, οἷον εἰ τὸ πῦρ πεπέρανται, ὁ δ᾽ ἀὴρ ἄπειρος, ἔστιν δὲ τὸ ἴσον πῦρ τοῦ ἴσου ἀέρος τῇ δυνάμει ὁποσαπλασιονοῦν, μόνον δὲ ἀριθμόν τινα ἔχον, ὅμως φανερὸν ὅτι τὸ ἄπειρον ὑπερβαλεῖ καὶ φθερεῖ τὸ πεπερασμένον)· ἕκαστον δ᾽ ἄπειρον εἶναι ἀδύνατον· σῶμα μὲν γάρ ἐστιν τὸ πάντῃ ἔχον διάστασιν, ἄπειρον δὲ τὸ ἀπεράντως διεστηκός, ὥστε τὸ ἄπειρον σῶμα πανταχῇ ἔσται διεστηκὸς εἰς ἄπειρον.

ἀλλὰ μὴν οὐδὲ ἓν καὶ ἁπλοῦν εἶναι σῶμα ἄπειρον ἐνδέχεται, οὔτε ὡς λέγουσί τινες τὸ παρὰ τὰ στοιχεῖα, ἐξ οὗ ταῦτα γεννῶσιν, οὔθ᾽ ἁπλῶς.

εἰσὶν γάρ τινες οἳ τοῦτο ποιοῦσι τὸ ἄπειρον, ἀλλ᾽ οὐκ ἀέρα ἢ ὕδωρ, ὅπως μὴ τἆλλα φθείρηται ὑπὸ τοῦ ἀπείρου αὐτῶν· ἔχουσι γὰρ πρὸς ἄλληλα ἐναντίωσιν, οἷον ὁ μὲν ἀὴρ ψυχρός, τὸ δ᾽ ὕδωρ ὑγρόν, τὸ δὲ πῦρ θερμόν· ὧν εἰ ἦν ἓν ἄπειρον, ἔφθαρτο ἂν ἤδη τἆλλα· νῦν δ᾽ ἕτερον εἶναί φασιν ἐξ οὗ ταῦτα.

ἀδύνατον δ᾽ εἶναι τοιοῦτον, οὐχ ὅτι ἄπειρον (περὶ τούτου μὲν γὰρ κοινόν τι λεκτέον ἐπὶ παντὸς ὁμοίως, καὶ ἀέρος καὶ ὕδατος καὶ ὁτουοῦν), ἀλλ᾽ ὅτι οὐκ ἔστιν τοιοῦτον σῶμα αἰσθητὸν παρὰ τὰ καλούμενα στοιχεῖα· ἅπαντα γὰρ ἐξ οὗ ἐστι, καὶ διαλύεται εἰς τοῦτο, ὥστε ἦν ἂν ἐνταῦθα παρὰ ἀέρα καὶ πῦρ καὶ γῆν καὶ ὕδωρ· φαίνεται δ᾽ οὐδέν.

οὐδὲ δὴ πῦρ οὐδ᾽ ἄλλο τι [205a] τῶν στοιχείων οὐδὲν ἄπειρον ἐνδέχεται εἶναι. ὅλως γὰρ καὶ χωρὶς τοῦ ἄπειρον εἶναί τι αὐτῶν, ἀδύνατον τὸ πᾶν, κἂν ᾖ πεπερασμένον, ἢ εἶναι ἢ γίγνεσθαι ἕν τι αὐτῶν, ὥσπερ Ἡράκλειτός φησιν ἅπαντα γίγνεσθαί ποτε πῦρ (ὁ δ᾽ αὐτὸς λόγος καὶ ἐπὶ τοῦ ἑνός, οἷον ποιοῦσι παρὰ τὰ στοιχεῖα οἱ φυσικοί)· πάντα γὰρ μεταβάλλει ἐξ ἐναντίου εἰς ἐναντίον, οἷον ἐκ θερμοῦ εἰς ψυχρόν.

δεῖ δὲ κατὰ παντὸς ἐκ τῶνδε σκοπεῖν, εἰ ἐνδέχεται ἢ οὐκ ἐνδέχεται εἶναι [σῶμα ἄπειρον αἰσθητόν]. ὅτι δὲ ὅλως ἀδύνατον εἶναι σῶμα ἄπειρον αἰσθητόν, ἐκ τῶνδε δῆλον.

πέφυκε γὰρ πᾶν τὸ αἰσθητόν που εἶναι, καὶ ἔστιν τόπος τις ἑκάστου, καὶ ὁ αὐτὸς τοῦ μορίου καὶ παντός, οἷον ὅλης τε τῆς γῆς καὶ βώλου μιᾶς, καὶ πυρὸς καὶ σπινθῆρος.

ὥστε εἰ μὲν ὁμοειδές, ἀκίνητον ἔσται ἢ ἀεὶ οἰσθήσεται· καίτοι ἀδύνατον (τί γὰρ μᾶλλον κάτω ἢ ἄνω ἢ ὁπουοῦν; λέγω δὲ οἷον, εἰ βῶλος εἴη, ποῦ αὕτη κινηθήσεται ἢ ποῦ μενεῖ; ὁ γὰρ τόπος ἄπειρος τοῦ συγγενοῦς αὐτῇ σώματος. πότερον οὖν καθέξει τὸν ὅλον τόπον; καὶ πῶς; τίς οὖν ἢ ποῦ ἡ μονὴ καὶ ἡ κίνησις αὐτῆς; ἢ πανταχοῦ μενεῖ; οὐ κινηθήσεται ἄρα. ἢ πανταχοῦ κινηθήσεται; οὐκ ἄρα στήσεται)·

εἰ δ’ ἀνόμοιον τὸ πᾶν, ἀνόμοιοι καὶ οἱ τόποι· καὶ πρῶτον μὲν οὐχ ἓν τὸ σῶμα τοῦ παντὸς ἀλλ’ ἢ τῷ ἅπτεσθαι· ἔπειτα ἤτοι πεπερασμένα ταῦτ’ ἔσται ἢ ἄπειρα τῷ εἴδει. πεπερασμένα μὲν οὖν οὐχ οἷόν τε (ἔσται γὰρ τὰ μὲν ἄπειρα τὰ δ’ οὔ, εἰ τὸ πᾶν ἄπειρον, οἷον τὸ πῦρ ἢ τὸ ὕδωρ· φθορὰ δὲ τὸ τοιοῦτον τοῖς ἐναντίοις [καθάπερ εἴρηται πρότερον · (καὶ διὰ τοῦτ’ οὐθεὶς τὸ ἓν καὶ ἄπειρον πῦρ ἐποίησεν οὐδὲ γῆν τῶν φυσιολόγων, ἀλλ’ ἢ ὕδωρ ἢ ἀέρα ἢ τὸ μέσον αὐτῶν, ὅτι τόπος ἑκατέρου δῆλος ἦν διωρισμένος, ταῦτα δ’ ἐπαμφοτερίζει τῷ ἄνω καὶ κάτω.) εἰ δ’ ἄπειρα καὶ ἁπλᾶ, καὶ οἱ τόποι ἄπειροι, καὶ ἔσται ἄπειρα τὰ στοιχεῖα· εἰ δὲ τοῦτ’ ἀδύνατον καὶ πεπερασμένοι οἱ τόποι, καὶ τὸ ὅλον [πεπεράνθαι ἀναγκαῖον]· ἀδύνατον γὰρ μὴ ἀπαρτίζειν τὸν τόπον καὶ τὸ σῶμα· οὔτε γὰρ ὁ τόπος ὁ πᾶς μείζων ἢ ὅσον ἐνδέχεται τὸ σῶμα εἶναι (ἅμα δ’ οὐδ’ ἄπειρον ἔσται τὸ σῶμα ἔτι), οὔτε τὸ σῶμα μεῖζον ἢ ὁ τόπος· ἢ γὰρ κενὸν [205b] ἔσται τι ἢ σῶμα οὐδαμοῦ πεφυκὸς εἶναι.

Ἀναξαγόρας δ’ ἀτόπως λέγει περὶ τῆς τοῦ ἀπείρου μονῆς· στηρίζειν γὰρ αὐτὸ αὐτό φησιν τὸ ἄπειρον· τοῦτο δέ, ὅτι ἐν αὐτῷ (ἄλλο γὰρ οὐδὲν περιέχειν), ὡς ὅπου ἄν τι ᾖ, πεφυκὸς ἐνταῦθα εἶναι. τοῦτο δ’ οὐκ ἀληθές· εἴη γὰρ ἄν τί που βίᾳ καὶ οὐχ οὗ πέφυκεν.

εἰ οὖν ὅτι μάλιστα μὴ κινεῖται τὸ ὅλον (τὸ γὰρ αὐτῷ στηριζόμενον καὶ ἐν αὐτῷ ὂν ἀκίνητον εἶναι ἀνάγκη), ἀλλὰ διὰ τί οὐ πέφυκε κινεῖσθαι, λεκτέον. οὐ γὰρ ἱκανὸν τὸ οὕτως εἰπόντα ἀπηλλάχθαι· εἴη γὰρ ἂν καὶ ὅτι οὐκ ἔχει ἀλλαχῇ κινεῖσθαι οὐ κινούμενον, ἀλλὰ πεφυκέναι οὐδὲν κωλύει· ἐπεὶ καὶ ἡ γῆ οὐ φέρεται, οὐδ’ εἰ ἄπειρος ἦν, εἰργμένη μέντοι ὑπὸ τοῦ μέσου· ἀλλ’ οὐχ ὅτι οὐκ ἔστιν ἄλλο οὗ ἐνεχθήσεται, μείνειεν ἂν [ἐπὶ τοῦ μέσου], ἀλλ’ ὅτι πέφυκεν οὕτω. καίτοι ἐξείη ἂν λέγειν ὅτι στηρίζει αὐτήν. εἰ οὖν μηδ’ ἐπὶ τῆς γῆς τοῦτο αἴτιον ἀπείρου οὔσης, ἀλλ’ ὅτι βάρος ἔχει, τὸ δὲ βαρὺ μένει ἐπὶ τοῦ μέσου, ἡ δὲ γῆ ἐπὶ τοῦ μέσου, ὁμοίως ἂν καὶ τὸ ἄπειρον μένοι ἐν αὐτῷ διά τιν’ ἄλλην αἰτίαν, καὶ οὐχ ὅτι ἄπειρον καὶ στηρίζει αὐτὸ ἑαυτό.

ἅμα δὲ δῆλον ὅτι κἂν ὁτιοῦν μέρος δέοι μένειν· ὡς γὰρ τὸ ἄπειρον ἐν ἑαυτῷ μένει στηρίζον, οὕτως κἂν ὁτιοῦν ληφθῇ μέρος ἐν ἑαυτῷ μενεῖ· τοῦ γὰρ ὅλου καὶ τοῦ μέρους ὁμοειδεῖς οἱ τόποι, οἷον ὅλης γῆς καὶ βώλου κάτω καὶ παντὸς πυρὸς καὶ σπινθῆρος ἄνω. ὥστε εἰ τοῦ ἀπείρου τόπος τὸ ἐν αὑτῷ, καὶ τοῦ μέρους ὁ αὐτός. μενεῖ ἄρα ἐν ἑαυτῷ.

ὅλως δὲ φανερὸν ὅτι ἀδύνατον ἄπειρον ἅμα λέγειν σῶμα καὶ τόπον τινὰ εἶναι τοῖς σώμασιν, εἰ πᾶν σῶμα αἰσθητὸν ἢ βάρος ἔχει ἢ κουφότητα, καὶ εἰ μὲν βαρύ, ἐπὶ τὸ μέσον ἔχει τὴν φορὰν φύσει, εἰ δὲ κοῦφον, ἄνω· ἀνάγκη γὰρ καὶ τὸ ἄπειρον, ἀδύνατον δὲ ἢ ἅπαν ὁποτερονοῦν ἢ τὸ ἥμισυ ἑκάτερον πεπονθέναι· πῶς γὰρ διελεῖς; ἢ πῶς τοῦ ἀπείρου ἔσται τὸ μὲν ἄνω τὸ δὲ κάτω, ἢ ἔσχατον καὶ μέσον;

ἔτι πᾶν σῶμα αἰσθητὸν ἐν τόπῳ, τόπου δὲ εἴδη καὶ διαφοραὶ τἄνω καὶ κάτω καὶ ἔμπροσθεν καὶ ὄπισθεν καὶ δεξιὸν καὶ ἀριστερόν· καὶ ταῦτα οὐ μόνον πρὸς ἡμᾶς καὶ θέσει, ἀλλὰ καὶ ἐν αὐτῷ τῷ ὅλῳ διώρισται. ἀδύνατον δ’ ἐν τῷ ἀπείρῳ εἶναι ταῦτα. ἁπλῶς δ’ εἰ ἀδύνατον [206a] τόπον ἄπειρον εἶναι, ἐν τόπῳ δὲ πᾶν σῶμα, ἀδύνατον ἄπειρον [τι] εἶναι σῶμα.

ἀλλὰ μὴν τό γε ποὺ ἐν τόπῳ, καὶ τὸ ἐν τόπῳ πού. εἰ οὖν μηδὲ ποσὸν οἷόν τ’ εἶναι τὸ ἄπειρον-ποσὸν γὰρ τὶ ἔσται, οἷον δίπηχυ ἢ τρίπηχυ· ταῦτα γὰρ σημαίνει τὸ ποσόν-οὕτω καὶ τὸ ἐν τόπῳ ὅτι πού, τοῦτο δὲ ἢ ἄνω ἢ κάτω ἢ ἐν ἄλλῃ τινὶ διαστάσει τῶν ἕξ, τούτων δ’ ἕκαστον πέρας τί ἐστιν.

ὅτι μὲν οὖν ἐνεργείᾳ οὐκ ἔστι σῶμα ἄπειρον, φανερὸν ἐκ τούτων.

Κεφάλαιο 6

Ὅτι δ’ εἰ μὴ ἔστιν ἄπειρον ἁπλῶς, πολλὰ ἀδύνατα συμβαίνει, δῆλον. τοῦ τε γὰρ χρόνου ἔσται τις ἀρχὴ καὶ τελευτή, καὶ τὰ μεγέθη οὐ διαιρετὰ εἰς μεγέθη, καὶ ἀριθμὸς οὐκ ἔσται ἄπειρος. ὅταν δὲ διωρισμένων οὕτως μηδετέρως φαίνηται ἐνδέχεσθαι, διαιτητοῦ δεῖ, καὶ δῆλον ὅτι πὼς μὲν ἔστιν πὼς δ’ οὔ.

λέγεται δὴ τὸ εἶναι τὸ μὲν δυνάμει τὸ δὲ ἐντελεχείᾳ, καὶ τὸ ἄπειρον ἔστι μὲν προσθέσει ἔστι δὲ καὶ διαι ρέσει.

τὸ δὲ μέγεθος ὅτι μὲν κατ’ ἐνέργειαν οὐκ ἔστιν ἄπειρον, εἴρηται, διαιρέσει δ’ ἐστίν· οὐ γὰρ χαλεπὸν ἀνελεῖν τὰς ἀτόμους γραμμάς· λείπεται οὖν δυνάμει εἶναι τὸ ἄπειρον.

οὐ δεῖ δὲ τὸ δυνάμει ὂν λαμβάνειν, ὥσπερ εἰ δυνατὸν τοῦτ’ ἀνδριάντα εἶναι, ὡς καὶ ἔσται τοῦτ’ ἀνδριάς, οὕτω καὶ ἄπειρον ὃ ἔσται ἐνεργείᾳ· ἀλλ’ ἐπεὶ πολλαχῶς τὸ εἶναι, ὥσπερ ἡ ἡμέρα ἔστι καὶ ὁ ἀγὼν τῷ ἀεὶ ἄλλο καὶ ἄλλο γίγνεσθαι, οὕτω καὶ τὸ ἄπειρον (καὶ γὰρ ἐπὶ τούτων ἔστι καὶ δυνάμει καὶ ἐνεργείᾳ· Ὀλύμπια γὰρ ἔστι καὶ τῷ δύνασθαι τὸν ἀγῶνα γίγνεσθαι καὶ τῷ γίγνεσθαι)·

ἄλλως δ’ ἔν τε τῷ χρόνῳ δῆλον [τὸ ἄπειρον] καὶ ἐπὶ τῶν ἀνθρώπων, καὶ ἐπὶ τῆς διαιρέσεως τῶν μεγεθῶν. ὅλως μὲν γὰρ οὕτως ἔστιν τὸ ἄπειρον, τῷ ἀεὶ ἄλλο καὶ ἄλλο λαμβάνεσθαι, καὶ τὸ λαμβανόμενον μὲν ἀεὶ εἶναι πεπερασμένον, ἀλλ’ ἀεί γε ἕτερον καὶ ἕτερον· [ἔτι τὸ εἶναι πλεοναχῶς λέγεται, ὥστε τὸ ἄπειρον οὐ δεῖ λαμβάνειν ὡς τόδε τι, οἷον ἄνθρωπον ἢ οἰκίαν, ἀλλ’ ὡς ἡ ἡμέρα λέγεται καὶ ὁ ἀγών, οἷς τὸ εἶναι οὐχ ὡς οὐσία τις γέγονεν, ἀλλ’ ἀεὶ ἐν γενέσει ἢ φθορᾷ, πεπερασμένον, ἀλλ’ ἀεί γε ἕτερον καὶ ἕτερον·]

ἀλλ’ ἐν [206b] τοῖς μεγέθεσιν ὑπομένοντος τοῦ ληφθέντος [τοῦτο συμβαίνει], ἐπὶ δὲ τοῦ χρόνου καὶ τῶν ἀνθρώπων φθειρομένων οὕτως ὥστε μὴ ἐπιλείπειν.

τὸ δὲ κατὰ πρόσθεσιν τὸ αὐτό ἐστί πως καὶ τὸ κατὰ διαίρεσιν· ἐν γὰρ τῷ πεπερασμένῳ κατὰ πρόσθεσιν γίγνεται ἀντεστραμμένως· ᾗ γὰρ διαιρούμενον ὁρᾶται εἰς ἄπειρον, ταύτῃ προστιθέμενον φανεῖται πρὸς τὸ ὡρισμένον. ἐν γὰρ τῷ πεπερασμένῳ μεγέθει ἂν λαβών τις ὡρισμένον προσλαμβάνῃ τῷ αὐτῷ

λόγῳ, μὴ τὸ αὐτό τι τοῦ ὅλου μέγεθος περιλαμβάνων, οὐ διέξεισι τὸ πεπερασμένον· ἐὰν δ’ οὕτως αὔξῃ τὸν λόγον ὥστε ἀεί τι τὸ αὐτὸ περιλαμβάνειν μέγεθος, διέξεισι, διὰ τὸ πᾶν πεπερασμένον ἀναιρεῖσθαι ὁτῳοῦν ὡρισμένῳ.

ἄλλως μὲν οὖν οὐκ ἔστιν, οὕτως δ’ ἔστι τὸ ἄπειρον, δυνάμει τε καὶ ἐπὶ καθαιρέσει (καὶ ἐντελεχείᾳ δὲ ἔστιν, ὡς τὴν ἡμέραν εἶναι λέγομεν καὶ τὸν ἀγῶνα)· καὶ δυνάμει οὕτως ὡς ἡ ὕλη, καὶ οὐ καθ’ αὑτό, ὡς τὸ πεπερασμένον. καὶ κατὰ πρόσθεσιν δὴ οὕτως ἄπειρον δυνάμει ἔστιν, ὃ ταὐτὸ λέγομεν τρόπον τινὰ εἶναι τῷ κατὰ διαίρεσιν· ἀεὶ μὲν γάρ τι ἔξω ἔσται λαμβάνειν, οὐ μέντοι ὑπερβαλεῖ παντὸς μεγέθους, ὥσπερ ἐπὶ τὴν διαίρεσιν ὑπερβάλλει παντὸς ὡρισμένου καὶ ἀεὶ ἔσται ἔλαττον.

ὥστε δὲ παντὸς ὑπερβάλλειν κατὰ τὴν πρόσθεσιν, οὐδὲ δυνάμει οἷόν τε εἶναι, εἴπερ μὴ ἔστι κατὰ συμβεβηκὸς ἐντελεχείᾳ ἄπειρον, ὥσπερ φασὶν οἱ φυσιολόγοι τὸ ἔξω σῶμα τοῦ κόσμου, οὗ ἡ οὐσία ἢ ἀὴρ ἢ ἄλλο τι τοιοῦτον, ἄπειρον εἶναι. ἀλλ’ εἰ μὴ οἷόν τε εἶναι ἄπειρον ἐντελεχείᾳ σῶμα αἰσθητὸν οὕτω, φανερὸν ὅτι οὐδὲ δυνάμει ἂν εἴη κατὰ πρόσθεσιν, ἀλλ’ ἢ ὥσπερ εἴρηται ἀντεστραμμένως τῇ διαιρέσει, ἐπεὶ καὶ Πλάτων διὰ τοῦτο δύο τὰ ἄπειρα ἐποίησεν, ὅτι καὶ ἐπὶ τὴν αὔξην δοκεῖ ὑπερβάλλειν καὶ εἰς ἄπειρον ἰέναι καὶ ἐπὶ τὴν καθαίρεσιν. ποιήσας μέντοι δύο οὐ χρῆται· οὔτε γὰρ ἐν τοῖς ἀριθμοῖς τὸ ἐπὶ τὴν καθαίρεσιν ἄπειρον ὑπάρχει (ἡ γὰρ μονὰς ἐλάχιστον), οὔτε <τὸ> ἐπὶ τὴν αὔξην (μέχρι γὰρ δεκάδος ποιεῖ τὸν ἀριθμόν).

συμβαίνει δὲ τοὐναντίον εἶναι ἄπειρον ἢ ὡς λέγουσιν. [207a] οὐ γὰρ οὗ μηδὲν ἔξω, ἀλλ’ οὗ ἀεί τι ἔξω ἐστί, τοῦτο ἄπειρόν ἐστιν. σημεῖον δέ· καὶ γὰρ τοὺς δακτυλίους ἀπείρους λέγουσι τοὺς μὴ ἔχοντας σφενδόνην, ὅτι αἰεί τι ἔξω ἔστι λαμβάνειν, καθ’ ὁμοιότητα μέν τινα λέγοντες, οὐ μέντοι κυρίως· δεῖ γὰρ τοῦτό τε ὑπάρχειν καὶ μηδέ ποτε τὸ αὐτὸ λαμβά νεσθαι· ἐν δὲ τῷ κύκλῳ οὐ γίγνεται οὕτως, ἀλλ’ αἰεὶ τὸ ἐφεξῆς μόνον ἕτερον. ἄπειρον μὲν οὖν ἐστιν οὗ κατὰ τὸ ποσὸν λαμβάνουσιν αἰεί τι λαμβάνειν ἔστιν ἔξω. οὗ δὲ μηδὲν ἔξω, τοῦτ’ ἔστι τέλειον καὶ ὅλον· οὕτω γὰρ ὁριζόμεθα τὸ ὅλον, οὗ μηδὲν ἄπεστιν, οἷον ἄνθρωπον ὅλον ἢ κιβώτιον. ὥσπερ δὲ τὸ καθ’ ἕκαστον, οὕτω καὶ τὸ κυρίως, οἷον τὸ ὅλον οὗ μηδέν ἐστιν ἔξω· οὗ δ’ ἔστιν ἀπουσία ἔξω, οὐ πᾶν, ὅ τι ἂν ἀπῇ. ὅλον δὲ καὶ τέλειον ἢ τὸ αὐτὸ πάμπαν ἢ σύνεγγυς τὴν φύσιν. τέλειον δ’ οὐδὲν μὴ ἔχον τέλος· τὸ δὲ τέλος πέρας.

διὸ βέλτιον οἰητέον Παρμενίδην Μελίσσου εἰρηκέναι· ὁ μὲν γὰρ τὸ ἄπειρον ὅλον φησίν, ὁ δὲ τὸ ὅλον πεπεράνθαι, “μεσσόθεν ἰσοπαλές”. οὐ γὰρ λίνον λίνῳ συνάπτειν ἐστὶν τῷ ἅπαντι καὶ ὅλῳ τὸ ἄπειρον, ἐπεὶ ἐντεῦθέν γε

λαμβάνουσι τὴν σεμνότητα κατὰ τοῦ ἀπείρου, τὸ πάντα περιέχειν καὶ τὸ πᾶν ἐν ἑαυτῷ ἔχειν, διὰ τὸ ἔχειν τινὰ ὁμοιότητα τῷ ὅλῳ. ἔστι γὰρ τὸ ἄπειρον τῆς τοῦ μεγέθους τελειότητος ὕλη καὶ τὸ δυνάμει ὅλον, ἐντελεχείᾳ δ’ οὔ, διαιρετὸν δ’ ἐπί τε τὴν καθαίρεσιν καὶ τὴν ἀντεστραμμένην πρόσθεσιν, ὅλον δὲ καὶ πεπερασμένον οὐ καθ’ αὑτὸ ἀλλὰ κατ’ ἄλλο· καὶ οὐ περιέχει ἀλλὰ περιέχεται, ᾗ ἄπειρον. διὸ καὶ ἄγνωστον ᾗ ἄπειρον· εἶδος γὰρ οὐκ ἔχει ἡ ὕλη. ὥστε φανερὸν ὅτι μᾶλλον ἐν μορίου λόγῳ τὸ ἄπειρον ἢ ἐν ὅλου· μόριον γὰρ ἡ ὕλη τοῦ ὅλου ὥσπερ ὁ χαλκὸς τοῦ χαλκοῦ ἀνδριάντος, ἐπεὶ εἴ γε περιέχει ἐν τοῖς αἰσθητοῖς, καὶ ἐν τοῖς νοητοῖς τὸ μέγα καὶ τὸ μικρὸν ἔδει περιέχειν τὰ νοητά. ἄτοπον δὲ καὶ ἀδύνατον τὸ ἄγνωστον καὶ ἀόριστον περιέχειν καὶ ὁρίζειν.

Κεφάλαιο 7

Κατὰ λόγον δὲ συμβαίνει καὶ τὸ κατὰ πρόσθεσιν μὲν μὴ εἶναι δοκεῖν ἄπειρον οὕτως ὥστε παντὸς ὑπερβάλλειν μεγέθους, ἐπὶ τὴν διαίρεσιν δὲ εἶναι (περιέχεται γὰρ ἡ ὕλη [207b] ἐντὸς καὶ τὸ ἄπειρον, περιέχει δὲ τὸ εἶδος)· εὐλόγως δὲ καὶ τὸ ἐν μὲν τῷ ἀριθμῷ εἶναι ἐπὶ μὲν τὸ ἐλάχιστον πέρας ἐπὶ δὲ τὸ πλεῖον ἀεὶ παντὸς ὑπερβάλλειν πλήθους, ἐπὶ δὲ τῶν μεγεθῶν τοὐναντίον ἐπὶ μὲν τὸ ἔλαττον παντὸς ὑπερβάλλειν μεγέθους ἐπὶ δὲ τὸ μεῖζον μὴ εἶναι μέγεθος ἄπειρον. αἴτιον δ’ ὅτι τὸ ἕν ἐστιν ἀδιαίρετον, ὅ τι περ ἂν ἓν ᾖ (οἷον ἄνθρωπος εἷς ἄνθρωπος καὶ οὐ πολλοί), ὁ δ’ ἀριθμός ἐστιν ἕνα πλείω καὶ πόσ’ ἄττα, ὥστ’ ἀνάγκη στῆναι ἐπὶ τὸ ἀδιαίρετον (τὸ γὰρ τρία καὶ δύο παρώνυμα ὀνόματά ἐστιν, ὁμοίως δὲ καὶ τῶν ἄλλων ἀριθμῶν ἕκαστος), ἐπὶ δὲ τὸ πλεῖον ἀεὶ ἔστι νοῆσαι· ἄπειροι γὰρ αἱ διχοτομίαι τοῦ μεγέθους. ὥστε δυνάμει μὲν ἔστιν, ἐνεργείᾳ δ’ οὔ· ἀλλ’ ἀεὶ ὑπερβάλλει τὸ λαμβανόμενον παντὸς ὡρισμένου πλήθους. ἀλλ’ οὐ χωριστὸς ὁ ἀριθμὸς οὗτος [τῆς διχοτομίας], οὐδὲ μένει ἡ ἀπειρία ἀλλὰ γίγνεται, ὥσπερ καὶ ὁ χρόνος καὶ ὁ ἀριθμὸς τοῦ χρόνου.

ἐπὶ δὲ τῶν μεγεθῶν τοὐναντίον ἐστί· διαιρεῖται μὲν γὰρ εἰς ἄπειρα τὸ συνεχές, ἐπὶ δὲ τὸ μεῖζον οὐκ ἔστιν ἄπειρον. ὅσον γὰρ ἐνδέχεται δυνάμει εἶναι, καὶ ἐνεργείᾳ ἐνδέχεται τοσοῦτον εἶναι. ὥστε ἐπεὶ ἄπειρον οὐδέν ἐστι μέγεθος αἰσθητόν, οὐκ ἐνδέχεται παντὸς ὑπερβολὴν εἶναι ὡρισμένου μεγέθους· εἴη γὰρ ἄν τι τοῦ οὐρανοῦ μεῖζον.

τὸ δ’ ἄπειρον οὐ ταὐτὸν ἐν μεγέθει καὶ κινήσει καὶ χρόνῳ, ὡς μία τις φύσις, ἀλλὰ τὸ ὕστερον λέγεται κατὰ τὸ πρότερον, οἷον κίνησις μὲν ὅτι τὸ μέγεθος ἐφ’ οὗ κινεῖται ἢ ἀλλοιοῦται ἢ αὐξάνεται, ὁ χρόνος δὲ διὰ τὴν κίνησιν. νῦν μὲν οὖν χρώμεθα τούτοις, ὕστερον δὲ ἐροῦμεν καὶ τί ἐστιν ἕκαστον, καὶ διότι πᾶν μέγεθος εἰς μεγέθη διαιρετόν.

οὐκ ἀφαιρεῖται δ’ ὁ λόγος οὐδὲ τοὺς μαθηματικοὺς τὴν θεωρίαν, ἀναιρῶν οὕτως εἶναι ἄπειρον ὥστε ἐνεργείᾳ εἶναι ἐπὶ τὴν αὔξησιν ἀδιεξίτητον· οὐδὲ γὰρ νῦν δέονται τοῦ ἀπείρου (οὐ γὰρ χρῶνται), ἀλλὰ μόνον εἶναι ὅσην ἂν βούλωνται πεπερασμένην· τῷ δὲ μεγίστῳ μεγέθει τὸν αὐτὸν ἔστι τετμῆσθαι λόγον ὁπηλικονοῦν μέγεθος ἕτερον. ὥστε πρὸς μὲν τὸ δεῖξαι ἐκείνοις οὐδὲν διοίσει τὸ [δ’] εἶναι ἐν τοῖς οὖσιν μεγέθεσιν.

ἐπεὶ δὲ τὰ αἴτια διῄρηται τετραχῶς, φανερὸν ὅτι ὡς ὕλη τὸ ἄπειρον αἴτιόν ἐστι, καὶ ὅτι [208a] τὸ μὲν εἶναι αὐτῷ στέρησις, τὸ δὲ καθ’ αὑτὸ ὑποκείμενον τὸ συνεχὲς καὶ αἰσθητόν. φαίνονται δὲ πάντες καὶ οἱ ἄλλοι ὡς ὕλῃ χρώμενοι τῷ ἀπείρῳ· διὸ καὶ ἄτοπον τὸ περιέχον ποιεῖν αὐτὸ ἀλλὰ μὴ περιεχόμενον.

Κεφάλαιο 8

Λοιπὸν δ’ ἐπελθεῖν καθ’ οὓς λόγους τὸ ἄπειρον εἶναι δοκεῖ οὐ μόνον δυνάμει ἀλλ’ ὡς ἀφωρισμένον· τὰ μὲν γάρ ἐστιν αὐτῶν οὐκ ἀναγκαῖα, τὰ δ’ ἔχει τινὰς ἑτέρας ἀληθεῖς ἀπαντήσεις.

οὔτε γὰρ ἵνα ἡ γένεσις μὴ ἐπιλείπῃ, ἀναγκαῖον ἐνεργείᾳ ἄπειρον εἶναι σῶμα αἰσθητόν· ἐνδέχεται γὰρ τὴν θατέρου φθορὰν θατέρου εἶναι γένεσιν, πεπερασμένου ὄντος τοῦ παντός.

ἔτι τὸ ἅπτεσθαι καὶ τὸ πεπεράνθαι ἕτερον. τὸ μὲν γὰρ πρός τι καὶ τινός (ἅπτεται γὰρ πᾶν τινός), καὶ τῶν πεπερασμένων τινὶ συμβέβηκεν, τὸ δὲ πεπερασμένον οὐ πρός τι· οὐδ’ ἅψασθαι τῷ τυχόντι τοῦ τυχόντος ἔστιν. τὸ δὲ τῇ νοήσει πιστεύειν ἄτοπον· οὐ γὰρ ἐπὶ τοῦ πράγματος ἡ ὑπεροχὴ καὶ ἡ ἔλλειψις, ἀλλ’ ἐπὶ τῆς νοήσεως. ἕκαστον γὰρ ἡμῶν νοήσειεν ἄν τις πολλαπλάσιον ἑαυτοῦ αὔξων εἰς ἄπειρον· ἀλλ’ οὐ διὰ τοῦτο ἔξω [τοῦ ἄστεός] τίς ἐστιν [ἢ] τοῦ τηλικούτου μεγέθους ὃ ἔχομεν, ὅτι νοεῖ τις, ἀλλ’ ὅτι ἔστι· τοῦτο δὲ συμβέβηκεν. ὁ δὲ χρόνος καὶ ἡ κίνησις ἄπειρά ἐστι καὶ ἡ νόησις οὐχ ὑπομένοντος τοῦ λαμβανομένου.

μέγεθος δὲ οὔτε τῇ καθαιρέσει οὔτε τῇ νοητικῇ αὐξήσει ἔστιν ἄπειρον.

ἀλλὰ περὶ μὲν τοῦ ἀπείρου, πῶς ἔστι καὶ πῶς οὐκ ἔστι καὶ τί ἐστιν, εἴρηται.

Βιβλίο 4

Κεφάλαιο 1

Ὁμοίως δ’ ἀνάγκη καὶ περὶ τόπου τὸν φυσικὸν ὥσπερ καὶ περὶ ἀπείρου γνωρίζειν, εἰ ἔστιν ἢ μή, καὶ πῶς ἔστι, καὶ τί ἐστιν. τά τε γὰρ ὄντα πάντες ὑπολαμβάνουσιν εἶναί που (τὸ γὰρ μὴ ὂν οὐδαμοῦ εἶναι· ποῦ γάρ ἐστι τραγέλαφος ἢ σφίγξ;) καὶ τῆς κινήσεως ἡ κοινὴ μάλιστα καὶ κυριωτάτη κατὰ τόπον ἐστίν, ἣν καλοῦμεν φοράν. ἔχει δὲ πολλὰς ἀπορίας τί ποτ’ ἐστὶν ὁ τόπος· οὐ γὰρ ταὐτὸν φαίνεται θεωροῦσιν ἐξ ἁπάντων τῶν ὑπαρχόντων. ἔτι δ’ οὐδ’ ἔχομεν οὐδὲν παρὰ τῶν ἄλλων οὔτε προηπορημένον οὔτε προηυπορημένον περὶ [208b] αὐτοῦ. ὅτι μὲν οὖν ἔστιν ὁ τόπος, δοκεῖ δῆλον εἶναι ἐκ τῆς ἀντιμεταστάσεως· ὅπου γὰρ ἔστι νῦν ὕδωρ, ἐνταῦθα ἐξελθόντος ὥσπερ ἐξ ἀγγείου πάλιν ἀὴρ ἔνεστιν, ὁτὲ δὲ τὸν αὐτὸν τόπον τοῦτον ἄλλο τι τῶν σωμάτων κατέχει· τοῦτο δὴ τῶν ἐγγιγνομένων καὶ μεταβαλλόντων ἕτερον πάντων εἶναι δοκεῖ· ἐν ᾧ γὰρ ἀὴρ ἔστι νῦν, ὕδωρ ἐν τούτῳ πρότερον ἦν, ὥστε δῆλον ὡς ἦν ὁ τόπος τι καὶ ἡ χώρα ἕτερον ἀμφοῖν, εἰς ἣν καὶ ἐξ ἧς μετέβαλον.

ἔτι δὲ αἱ φοραὶ τῶν φυσικῶν σωμάτων καὶ ἁπλῶν, οἷον πυρὸς καὶ γῆς καὶ τῶν τοιούτων, οὐ μόνον δηλοῦσιν ὅτι ἐστί τι ὁ τόπος, ἀλλ’ ὅτι καὶ ἔχει τινὰ δύναμιν. φέρεται γὰρ ἕκαστον εἰς τὸν αὑτοῦ τόπον μὴ κωλυόμενον, τὸ μὲν ἄνω τὸ δὲ κάτω· ταῦτα δ’ ἐστὶ τόπου μέρη καὶ εἴδη, τό τε ἄνω καὶ τὸ κάτω καὶ αἱ λοιπαὶ τῶν ἓξ διαστάσεων. ἔστι δὲ τὰ τοιαῦτα οὐ μόνον πρὸς ἡμᾶς, τὸ ἄνω καὶ κάτω καὶ δεξιὸν καὶ ἀριστερόν· ἡμῖν μὲν γὰρ οὐκ ἀεὶ τὸ αὐτό, ἀλλὰ κατὰ τὴν θέσιν, ὅπως ἂν στραφῶμεν, γίγνεται (διὸ καὶ ταὐτὸ πολλάκις δεξιὸν καὶ ἀριστερὸν καὶ ἄνω καὶ κάτω καὶ πρόσθεν καὶ ὄπισθεν), ἐν δὲ τῇ φύσει διώρισται χωρὶς ἕκαστον. οὐ γὰρ ὅ τι ἔτυχέν ἐστι τὸ ἄνω, ἀλλ’ ὅπου φέρεται τὸ πῦρ καὶ τὸ κοῦφον· ὁμοίως δὲ καὶ τὸ κάτω οὐχ ὅ τι ἔτυχεν, ἀλλ’ ὅπου τὰ ἔχοντα βάρος καὶ τὰ γεηρά, ὡς οὐ τῇ θέσει διαφέροντα μόνον ἀλλὰ καὶ τῇ δυνάμει. δηλοῖ δὲ καὶ τὰ μαθηματικά· οὐκ ὄντα γὰρ ἐν τόπῳ ὅμως κατὰ τὴν θέσιν τὴν πρὸς ἡμᾶς ἔχει δεξιὰ καὶ ἀριστερὰ ὡς τὰ μόνον λεγόμενα διὰ θέσιν, οὐκ ἔχοντα φύσει τούτων ἕκαστον. ἔτι οἱ τὸ κενὸν φάσκοντες εἶναι τόπον λέγουσιν· τὸ γὰρ κενὸν τόπος ἂν εἴη ἐστερημένος σώματος.

ὅτι μὲν οὖν ἐστί τι ὁ τόπος παρὰ τὰ σώματα, καὶ πᾶν σῶμα αἰσθητὸν ἐν τόπῳ, διὰ τούτων ἄν τις ὑπολάβοι· δόξειε δ’ ἂν καὶ Ἡσίοδος ὀρθῶς λέγειν ποιήσας πρῶτον τὸ χάος. λέγει γοῦν

“πάντων μὲν πρώτιστα χάος γένετ’, αὐτὰρ ἔπειτα γαῖ’ εὐρύστερνος,” ὡς δέον πρῶτον ὑπάρξαι χώραν τοῖς οὖσι, διὰ τὸ νομίζειν, ὥσπερ οἱ πολλοί, πάντα εἶναί που καὶ ἐν τόπῳ. εἰ δ’ ἐστὶ τοιοῦτο, θαυμαστή τις ἂν εἴη ἡ τοῦ τόπου δύναμις καὶ προτέρα πάντων· οὗ γὰρ ἄνευ τῶν ἄλλων οὐδὲν ἔστιν, ἐκεῖνο δ’ [209a] ἄνευ τῶν ἄλλων, ἀνάγκη πρῶτον εἶναι· οὐ γὰρ ἀπόλλυται ὁ τόπος τῶν ἐν αὐτῷ φθειρομένων.

οὐ μὴν ἀλλ’ ἔχει γε ἀπορίαν, εἰ ἔστι, τί ἐστι, πότερον ὄγκος τις σώματος ἤ τις ἑτέρα φύσις· ζητητέον γὰρ τὸ γένος αὐτοῦ πρῶτον.

διαστήματα μὲν οὖν ἔχει τρία, μῆκος καὶ πλάτος καὶ βάθος, οἷς ὁρίζεται σῶμα πᾶν. ἀδύνατον δὲ σῶμα εἶναι τὸν τόπον· ἐν ταὐτῷ γὰρ ἂν εἴη δύο σώματα.

ἔτι εἴπερ ἔστι σώματος τόπος καὶ χώρα, δῆλον ὅτι καὶ ἐπιφανείας καὶ τῶν λοιπῶν περάτων· ὁ γὰρ αὐτὸς ἁρμόσει λόγος· ὅπου γὰρ ἦν πρότερον τὰ τοῦ ὕδατος ἐπίπεδα, ἔσται πάλιν τὰ τοῦ ἀέρος. ἀλλὰ μὴν οὐδεμίαν διαφορὰν ἔχομεν στιγμῆς καὶ τόπου στιγμῆς, ὥστ’ εἰ μηδὲ ταύτης ἕτερόν ἐστιν ὁ τόπος, οὐδὲ τῶν ἄλλων οὐδενός, οὐδ’ ἐστί τι παρ’ ἕκαστον τούτων ὁ τόπος.

τί γὰρ ἄν ποτε καὶ θείημεν εἶναι τὸν τόπον; οὔτε γὰρ στοιχεῖον οὔτ’ ἐκ στοιχείων οἷόν τε εἶναι τοιαύτην ἔχοντα φύσιν, οὔτε τῶν σω ματικῶν οὔτε τῶν ἀσωμάτων· μέγεθος μὲν γὰρ ἔχει, σῶμα δ’ οὐδέν· ἔστι δὲ τὰ μὲν τῶν αἰσθητῶν στοιχεῖα σώματα, ἐκ δὲ τῶν νοητῶν οὐδὲν γίγνεται μέγεθος.

ἔτι δὲ καὶ τίνος ἄν τις θείη τοῖς οὖσιν αἴτιον εἶναι τὸν τόπον; οὐδεμία γὰρ αὐτῷ ὑπάρχει αἰτία τῶν τεττάρων· οὔτε γὰρ ὡς ὕλη τῶν ὄντων (οὐδὲν γὰρ ἐξ αὐτοῦ συνέστηκεν) οὔτε ὡς εἶδος καὶ λόγος τῶν πραγμάτων οὔθ’ ὡς τέλος, οὔτε κινεῖ τὰ ὄντα.

ἔτι δὲ καὶ αὐτὸς εἰ ἔστι τι τῶν ὄντων, ποὺ ἔσται. ἡ γὰρ Ζήνωνος ἀπορία ζητεῖ τινὰ λόγον· εἰ γὰρ πᾶν τὸ ὂν ἐν τόπῳ, δῆλον ὅτι καὶ τοῦ τόπου τόπος ἔσται, καὶ τοῦτο εἰς ἄπειρον.

ἔτι ὥσπερ ἅπαν σῶμα ἐν τόπῳ, οὕτω καὶ ἐν τόπῳ ἅπαντι σῶμα· πῶς οὖν ἐροῦμεν περὶ τῶν αὐξανομένων; ἀνάγκη γὰρ ἐκ τούτων συναύξεσθαι αὐτοῖς τὸν τόπον, εἰ μήτ’ ἐλάττων μήτε μείζων ὁ τόπος ἑκάστου.

διὰ μὲν οὖν τούτων οὐ μόνον τί ἐστιν, ἀλλὰ καὶ εἰ ἔστιν, ἀπορεῖν ἀναγκαῖον.

Κεφάλαιο 2

Ἐπεὶ δὲ τὸ μὲν καθ’ αὑτὸ τὸ δὲ κατ’ ἄλλο λέγεται, καὶ τόπος ὁ μὲν κοινός, ἐν ᾧ ἅπαντα τὰ σώματά ἐστιν, ὁ δ’ ἴδιος, ἐν ᾧ πρώτῳ (λέγω δὲ οἷον σὺ νῦν ἐν τῷ οὐρανῷ ὅτι ἐν τῷ ἀέρι οὗτος δ’ ἐν τῷ οὐρανῷ, καὶ ἐν τῷ ἀέρι δὲ ὅτι ἐν τῇ γῇ, ὁμοίως δὲ καὶ ἐν ταύτῃ ὅτι ἐν τῷδε τῷ τόπῳ, [209b] ὃς περιέχει οὐδὲν πλέον ἢ σέ), εἰ δή ἐστιν ὁ τόπος τὸ πρῶτον περιέχον ἕκαστον τῶν σωμάτων, πέρας τι ἂν εἴη, ὥστε δόξειεν ἂν τὸ εἶδος καὶ ἡ μορφὴ ἑκάστου ὁ τόπος εἶναι, ᾧ ὁρίζεται τὸ μέγεθος καὶ ἡ ὕλη ἡ τοῦ μεγέθους· τοῦτο γὰρ ἑκάστου πέρας. οὕτω μὲν οὖν σκοποῦσιν ὁ τόπος τὸ ἑκάστου εἶδός ἐστιν· ᾗ δὲ δοκεῖ ὁ τόπος εἶναι τὸ διάστημα τοῦ μεγέθους, ἡ ὕλη· τοῦτο γὰρ ἕτερον τοῦ μεγέθους, τοῦτο δ’ ἐστὶ τὸ περιεχόμενον ὑπὸ τοῦ εἴδους καὶ ὡρισμένον, οἷον ὑπὸ ἐπιπέδου καὶ πέρατος, ἔστι δὲ τοιοῦτον ἡ ὕλη καὶ τὸ ἀόριστον· ὅταν γὰρ ἀφαιρεθῇ τὸ πέρας καὶ τὰ πάθη τῆς σφαίρας, λείπεται οὐδὲν παρὰ τὴν ὕλην.

διὸ καὶ Πλάτων τὴν ὕλην καὶ τὴν χώραν ταὐτό φησιν εἶναι ἐν τῷ Τιμαίῳ· τὸ γὰρ μεταληπτικὸν καὶ τὴν χώραν ἓν καὶ ταὐτόν. ἄλλον δὲ τρόπον ἐκεῖ τε λέγων τὸ μεταληπτικὸν καὶ ἐν τοῖς λεγομένοις ἀγράφοις δόγμασιν, ὅμως τὸν τόπον καὶ τὴν χώραν τὸ αὐτὸ ἀπεφήνατο. λέγουσι μὲν γὰρ πάντες εἶναί τι τὸν τόπον, τί δ’ ἐστίν, οὗτος μόνος ἐπεχείρησεν εἰπεῖν.

εἰκότως δ’ ἐκ τούτων σκοπουμένοις δόξειεν ἂν εἶναι χαλεπὸν γνωρίσαι τί ἐστιν ὁ τόπος, εἴπερ τούτων ὁποτερονοῦν ἐστίν, εἴτε ἡ ὕλη εἴτε τὸ εἶδος· ἄλλως τε γὰρ τὴν ἀκροτάτην ἔχει θέαν, καὶ χωρὶς ἀλλήλων οὐ ῥᾴδιον γνωρίζειν.

ἀλλὰ μὴν ὅτι γε ἀδύνατον ὁποτερονοῦν τούτων εἶναι τὸν τόπον, οὐ χαλεπὸν ἰδεῖν. τὸ μὲν γὰρ εἶδος καὶ ἡ ὕλη οὐ χωρίζεται τοῦ πράγματος, τὸν δὲ τόπον ἐνδέχεται· ἐν ᾧ γὰρ ἀὴρ ἦν, ἐν τούτῳ πάλιν ὕδωρ, ὥσπερ ἔφαμεν, γίγνεται, ἀντιμεθισταμένων ἀλλήλοις τοῦ τε ὕδατος καὶ τοῦ ἀέρος, καὶ τῶν ἄλλων σωμάτων ὁμοίως, ὥστε οὔτε μόριον οὔθ’ ἕξις ἀλλὰ χωριστὸς ὁ τόπος ἑκάστου ἐστί. καὶ γὰρ δοκεῖ τοιοῦτό τι εἶναι ὁ τόπος οἷον τὸ ἀγγεῖον (ἔστι γὰρ τὸ ἀγγεῖον τόπος μεταφορητός)· τὸ δ’ ἀγγεῖον οὐδὲν τοῦ πράγματός ἐστιν.

ᾗ μὲν οὖν χωριστὸς [ἐστι] τοῦ πράγματος, ταύτῃ μὲν οὐκ ἔστι τὸ εἶδος· ᾗ δὲ περιέχει, ταύτῃ δ’ ἕτερος τῆς ὕλης.

δοκεῖ δὲ ἀεὶ τὸ ὄν που αὐτό τε εἶναί τι καὶ ἕτερόν τι ἐκτὸς αὐτοῦ. (Πλάτωνι μέντοι λεκτέον, εἰ δεῖ παρεκβάντας εἰπεῖν, διὰ τί οὐκ ἐν τόπῳ τὰ εἴδη καὶ οἱ ἀριθμοί, εἴπερ τὸ μεθεκτικὸν ὁ τόπος, εἴτε τοῦ μεγάλου [210a] καὶ τοῦ μικροῦ ὄντος τοῦ μεθεκτικοῦ εἴτε τῆς ὕλης, ὥσπερ ἐν τῷ Τιμαίῳ γέγραφεν.)

ἔτι πῶς ἂν φέροιτο εἰς τὸν αὑτοῦ τόπον, εἰ ὁ τόπος ἡ ὕλη ἢ τὸ εἶδος; ἀδύνατον γὰρ οὗ μὴ κίνησις μηδὲ τὸ ἄνω ἢ κάτω ἐστί, τόπον εἶναι. ὥστε ζητητέος ἐν τοῖς τοιούτοις ὁ τόπος.

εἰ δ’ ἐν αὐτῷ ὁ τόπος (δεῖ γάρ, εἴπερ ἢ μορφὴ ἢ ὕλη), ἔσται ὁ τόπος ἐν τόπῳ· μεταβάλλει γὰρ ἅμα τῷ πράγματι καὶ κινεῖται καὶ τὸ εἶδος καὶ τὸ ἀόριστον, οὐκ ἀεὶ ἐν τῷ αὐτῷ ἀλλ’ οὗπερ καὶ τὸ πρᾶγμα· ὥστε τοῦ τόπου ἔσται τόπος.

ἔτι ὅταν ἐξ ἀέρος ὕδωρ γένηται, ἀπόλωλεν ὁ τόπος· οὐ γὰρ ἐν τῷ αὐτῷ τόπῳ τὸ γενόμενον σῶμα· τίς οὖν ἡ φθορά; ἐξ ὧν μὲν τοίνυν ἀναγκαῖον εἶναί τι τὸν τόπον, καὶ πάλιν ἐξ ὧν ἀπορήσειεν ἄν τις αὐτοῦ περὶ τῆς οὐσίας, εἴρηται.

Κεφάλαιο 3

Μετὰ δὲ ταῦτα ληπτέον ποσαχῶς ἄλλο ἐν ἄλλῳ λέγεται.

ἕνα μὲν δὴ τρόπον ὡς ὁ δάκτυλος ἐν τῇ χειρὶ καὶ ὅλως τὸ μέρος ἐν τῷ ὅλῳ.

ἄλλον δὲ ὡς τὸ ὅλον ἐν τοῖς μέρεσιν· οὐ γάρ ἐστι παρὰ τὰ μέρη τὸ ὅλον.

ἄλλον δὲ τρόπον ὡς ὁ ἄνθρωπος ἐν ζῴῳ καὶ ὅλως εἶδος ἐν γένει.

ἄλλον δὲ ὡς τὸ γένος ἐν τῷ εἴδει καὶ ὅλως τὸ μέρος τοῦ εἴδους ἐν τῷ λόγῳ.

ἔτι ὡς ἡ ὑγίεια ἐν θερμοῖς καὶ ψυχροῖς καὶ ὅλως τὸ εἶδος ἐν τῇ ὕλῃ.

ἔτι ὡς ἐν βασιλεῖ τὰ τῶν Ἑλλήνων καὶ ὅλως ἐν τῷ πρώτῳ κινητικῷ.

ἔτι ὡς ἐν τῷ ἀγαθῷ καὶ ὅλως ἐν τῷ τέλει· τοῦτο δ’ ἐστὶ τὸ οὗ ἕνεκα.

πάντων δὲ κυριώτατον τὸ ὡς ἐν ἀγγείῳ καὶ ὅλως ἐν τόπῳ.

ἀπορήσειε δ’ ἄν τις, ἆρα καὶ αὐτό τι ἐν ἑαυτῷ ἐνδέχεται εἶναι, ἢ οὐδέν, ἀλλὰ πᾶν ἢ οὐδαμοῦ ἢ ἐν ἄλλῳ. διχῶς δὲ τοῦτ’ ἔστιν, ἤτοι καθ’ αὑτὸ ἢ καθ’ ἕτερον.

ὅταν μὲν γὰρ ᾖ μόρια τοῦ ὅλου τὸ ἐν ᾧ καὶ τὸ ἐν τούτῳ, λεχθήσεται τὸ ὅλον ἐν αὑτῷ· λέγεται γὰρ καὶ κατὰ τὰ μέρη, οἷον λευκὸς ὅτι ἡ ἐπιφάνεια λευκή, καὶ ἐπιστήμων ὅτι τὸ λογιστικόν. ὁ μὲν οὖν ἀμφορεὺς οὐκ ἔσται ἐν αὑτῷ, οὐδ’ ὁ οἶνος· ὁ δὲ τοῦ οἴνου ἀμφορεὺς ἔσται· ὅ τε γὰρ καὶ ἐν ᾧ, ἀμφότερα τοῦ αὐτοῦ μόρια.

οὕτω μὲν οὖν ἐνδέχεται αὐτό τι ἐν αὑτῷ εἶναι, πρώτως δ’ οὐκ ἐνδέχεται.

οἷον τὸ λευκὸν ἐν σώματι (ἡ [210b] ἐπιφάνεια γὰρ ἐν σώματι), ἡ δ’ ἐπιστήμη ἐν ψυχῇ· κατὰ ταῦτα δὲ αἱ προσηγορίαι μέρη ὄντα, ὥς γε ἐν ἀνθρώπῳ (ὁ δὲ ἀμφορεὺς καὶ ὁ οἶνος χωρὶς μὲν ὄντα οὐ μέρη, ἅμα δέ· διὸ ὅταν ᾖ μέρη, ἔσται αὐτὸ ἐν αὑτῷ)· οἷον τὸ λευκὸν ἐν ἀνθρώπῳ ὅτι ἐν σώματι, καὶ ἐν τούτῳ ὅτι ἐν ἐπιφανείᾳ· ἐν δὲ ταύτῃ οὐκέτι κατ’ ἄλλο. καὶ ἕτερά γε τῷ εἴδει ταῦτα, καὶ ἄλλην φύσιν ἔχει ἑκάτερον καὶ δύναμιν, ἥ τ’ ἐπιφάνεια καὶ τὸ λευκόν.

οὔτε δὴ ἐπακτικῶς σκοποῦσιν οὐδὲν ὁρῶμεν ἐν ἑαυτῷ κατ’ οὐδένα τῶν διορισμῶν, τῷ τε λόγῳ δῆλον ὅτι ἀδύνατον· δεήσει γὰρ ἀμφότερα ἑκάτερον ὑπάρ χειν, οἷον τὸν ἀμφορέα ἀγγεῖόν τε καὶ οἶνον εἶναι καὶ τὸν οἶνον οἶνόν τε καὶ ἀμφορέα, εἴπερ ἐνδέχεται αὐτό τι ἐν αὑτῷ εἶναι. ὥστ’ εἰ ὅτι μάλιστα ἐν ἀλλήλοις εἶεν, ὁ μὲν ἀμφορεὺς δέξεται τὸν οἶνον οὐχ ᾗ αὐτὸς οἶνος ἀλλ’ ᾗ ἐκεῖνος, ὁ δ’ οἶνος ἐνέσται ἐν τῷ ἀμφορεῖ οὐχ ᾗ αὐτὸς ἀμφορεὺς ἀλλ’ ᾗ ἐκεῖνος. κατὰ μὲν οὖν τὸ εἶναι ὅτι ἕτερον, δῆλον· ἄλλος γὰρ ὁ λόγος τοῦ ἐν ᾧ καὶ τοῦ ἐν τούτῳ. ἀλλὰ μὴν οὐδὲ κατὰ συμβεβηκὸς ἐνδέχεται· ἅμα γὰρ δύο ἐν ταὐτῷ ἔσται· αὐτός τε γὰρ ἐν αὑτῷ ὁ ἀμφορεὺς ἔσται, εἰ οὗ ἡ φύσις δεκτική, τοῦτ᾽ ἐνδέχεται ἐν αὑτῷ εἶναι, καὶ ἔτι ἐκεῖνο οὗ δεκτικόν, οἷον, εἰ οἴνου, ὁ οἶνος. ὅτι μὲν οὖν ἀδύνατον ἐν αὑτῷ τι εἶναι πρώτως, δῆλον· ὃ δὲ Ζήνων ἠπόρει, ὅτι εἰ ὁ τόπος ἐστί τι, ἔν τινι ἔσται, λύειν οὐ χαλεπόν· οὐδὲ γὰρ κωλύει ἐν ἄλλῳ εἶναι τὸν πρῶτον τόπον, μὴ μέντοι ὡς ἐν τόπῳ ἐκείνῳ, ἀλλ᾽ ὥσπερ ἡ μὲν ὑγίεια ἐν τοῖς θερμοῖς ὡς ἕξις, τὸ δὲ θερμὸν ἐν σώματι ὡς πάθος. ὥστε οὐκ ἀνάγκη εἰς ἄπειρον ἰέναι.

ἐκεῖνο δὲ φανερόν, ὅτι ἐπεὶ οὐδὲν τὸ ἀγγεῖον τοῦ ἐν αὐτῷ (ἕτερον γὰρ τὸ πρώτως ὅ τε καὶ ἐν ᾧ), οὐκ ἂν εἴη οὔτε ἡ ὕλη οὔτε τὸ εἶδος ὁ τόπος, ἀλλ᾽ ἕτερον. ἐκείνου γάρ τι ταῦτα τοῦ ἐνόντος, καὶ ἡ ὕλη καὶ ἡ μορφή. ταῦτα μὲν οὖν ἔστω διηπορημένα.

Κεφάλαιο 4

Τί δέ ποτ’ ἐστὶν ὁ τόπος, ὧδ’ ἂν γένοιτο φανερόν.
λάβωμεν δὲ περὶ αὐτοῦ ὅσα δοκεῖ ἀληθῶς καθ’ αὑτὸ ὑπάρχειν αὐτῷ.
ἀξιοῦμεν δὴ τὸν τόπον εἶναι

1. πρῶτον μὲν [211a] περιέχον ἐκεῖνο οὗ τόπος ἐστί,

2. καὶ μηδὲν τοῦ πράγματος, ἔτι τὸν πρῶτον μήτ’ ἐλάττω μήτε μείζω,
3. ἔτι ἀπολείπεσθαι ἑκάστου καὶ χωριστὸν εἶναι,
4. πρὸς δὲ τούτοις πάντα τόπον ἔχειν τὸ ἄνω καὶ κάτω, καὶ φέρεσθαι φύσει καὶ μένειν ἐν τοῖς οἰκείοις τόποις ἕκαστον τῶν σωμάτων, τοῦτο δὲ ποιεῖν ἢ ἄνω ἢ κάτω.

ὑποκειμένων δὲ τούτων τὰ λοιπὰ θεωρητέον. δεῖ δὲ πειρᾶσθαι τὴν σκέψιν οὕτω ποιεῖσθαι ὅπως τὸ τί ἐστιν ἀποδοθήσεται, ὥστε τά τε ἀπορούμενα λύεσθαι, καὶ τὰ δοκοῦντα ὑπάρχειν τῷ τόπῳ ὑπάρχοντα ἔσται, καὶ ἔτι τὸ τῆς δυσκολίας αἴτιον καὶ τῶν περὶ αὐτὸν ἀπορημά των ἔσται φανερόν· οὕτω γὰρ ἂν κάλλιστα δεικνύοιτο ἕκαστον. πρῶτον μὲν οὖν δεῖ κατανοῆσαι ὅτι οὐκ ἂν ἐζητεῖτο ὁ τόπος, εἰ μὴ κίνησις ἦν ἡ κατὰ τόπον· διὰ γὰρ τοῦτο καὶ τὸν οὐρανὸν μάλιστ’ οἰόμεθα ἐν τόπῳ, ὅτι ἀεὶ ἐν κινήσει. ταύτης δὲ τὸ μὲν φορά, τὸ δὲ αὔξησις καὶ φθίσις· καὶ γὰρ ἐν τῇ αὐξήσει καὶ φθίσει μεταβάλλει, καὶ ὃ πρότερον ἦν ἐνταῦθα, πάλιν μεθέστηκεν εἰς ἔλαττον ἢ μεῖζον.

ἔστι δὲ κινούμενον τὸ μὲν καθ’ αὑτὸ ἐνεργείᾳ, τὸ δὲ κατὰ συμβεβηκός· κατὰ συμβεβηκὸς δὲ τὸ μὲν ἐνδεχόμενον κινεῖσθαι καθ’ αὑτό, οἷον τὰ μόρια τοῦ σώματος καὶ ὁ ἐν τῷ πλοίῳ ἧλος, τὰ δ’ οὐκ ἐνδεχόμενα ἀλλ’ αἰεὶ κατὰ συμβεβηκός, οἷον ἡ λευκότης καὶ ἡ ἐπιστήμη· ταῦτα γὰρ οὕτω μεταβέβληκε τὸν τόπον, ὅτι ἐν ᾧ ὑπάρχουσι μεταβάλλει.

ἐπεὶ δὲ λέγομεν εἶναι ὡς ἐν τόπῳ ἐν τῷ οὐρανῷ, διότι ἐν τῷ ἀέρι οὗτος δὲ ἐν τῷ οὐρανῷ· καὶ ἐν τῷ ἀέρι δὲ οὐκ ἐν παντί, ἀλλὰ διὰ τὸ ἔσχατον αὐτοῦ καὶ περιέχον ἐν τῷ ἀέρι φαμὲν εἶναι (εἰ γὰρ πᾶς ὁ ἀὴρ τόπος, οὐκ ἂν ἴσος εἴη ἑκάστου ὁ τόπος καὶ ἕκαστον, δοκεῖ δέ γε ἴσος εἶναι, τοιοῦτος δ’ ὁ πρῶτος ἐν ᾧ ἐστιν)·

ὅταν μὲν οὖν μὴ διῃρημένον ᾖ τὸ περιέχον ἀλλὰ συνεχές, οὐχ ὡς ἐν τόπῳ λέγεται εἶναι ἐν ἐκείνῳ, ἀλλ' ὡς μέρος ἐν ὅλῳ· ὅταν δὲ διῃρημένον ᾖ καὶ ἁπτόμενον, ἐν πρώτῳ ἐστὶ τῷ ἐσχάτῳ τοῦ περιέχοντος, ὃ οὔτε ἐστὶ μέρος τοῦ ἐν αὐτῷ οὔτε μεῖζον τοῦ διαστήματος ἀλλ' ἴσον· ἐν γὰρ τῷ αὐτῷ τὰ ἔσχατα τῶν ἁπτομένων.

καὶ συνεχὲς μὲν ὂν οὐκ ἐν ἐκείνῳ κινεῖται ἀλλὰ μετ' ἐκείνου, διῃρημένον δὲ ἐν ἐκείνῳ· καὶ ἐάν τε κινῆται τὸ περιέχον ἐάν τε μή, [211b] οὐδὲν ἧττον.

[ἔτι ὅταν μὴ διῃρημένον ᾖ, ὡς μέρος ἐν ὅλῳ λέγεται, οἷον ἐν τῷ ὀφθαλμῷ ἡ ὄψις ἢ ἐν τῷ σώματι ἡ χείρ, ὅταν δὲ διῃρημένον, οἷον ἐν τῷ κάδῳ τὸ ὕδωρ ἢ ἐν τῷ κεραμίῳ ὁ οἶνος· ἡ μὲν γὰρ χεὶρ μετὰ τοῦ σώματος κινεῖται, τὸ δὲ ὕδωρ ἐν τῷ κάδῳ.]

ἤδη τοίνυν φανερὸν ἐκ τούτων τί ἐστιν ὁ τόπος. σχεδὸν γὰρ τέτταρά ἐστιν ὧν ἀνάγκη τὸν τόπον ἕν τι εἶναι· ἢ γὰρ μορφὴ ἢ ὕλη ἢ διάστημά τι τὸ μεταξὺ τῶν ἐσχάτων, ἢ τὰ ἔσχατα εἰ μὴ ἔστι μηδὲν διάστημα παρὰ τὸ τοῦ ἐγγιγνομένου σώματος μέγεθος.

τούτων δ' ὅτι οὐκ ἐνδέχεται τὰ τρία εἶναι, φανερόν· ἀλλὰ διὰ μὲν τὸ περιέχειν δοκεῖ ἡ μορφὴ εἶναι· ἐν ταὐτῷ γὰρ τὰ ἔσχατα τοῦ περιέχοντος καὶ τοῦ περιεχομένου. ἔστι μὲν οὖν ἄμφω πέρατα, ἀλλ' οὐ τοῦ αὐτοῦ, ἀλλὰ τὸ μὲν εἶδος τοῦ πράγματος, ὁ δὲ τόπος τοῦ περιέχοντος σώματος.

διὰ δὲ τὸ μεταβάλλειν πολλάκις μένοντος τοῦ περιέχοντος τὸ περιεχόμενον καὶ διῃρημένον, οἷον ἐξ ἀγγείου ὕδωρ, τὸ μεταξὺ εἶναί τι δοκεῖ διάστημα, ὡς ὄν τι παρὰ τὸ σῶμα τὸ μεθιστάμενον. τὸ δ' οὐκ ἔστιν, ἀλλὰ τὸ τυχὸν ἐμπίπτει σῶμα τῶν μεθισταμένων καὶ ἅπτεσθαι πεφυκότων.

εἰ δ' ἦν τι [τὸ] διάστημα <καθ' αὑ>τὸ πεφυκὸς <εἶναι> καὶ μένον, ἐν τῷ αὐτῷ ἄπειροι ἂν ἦσαν τόποι (μεθισταμένου γὰρ τοῦ ὕδατος καὶ τοῦ ἀέρος ταὐτὸ ποιήσει τὰ μόρια πάντα ἐν τῷ ὅλῳ ὅπερ ἅπαν τὸ ὕδωρ ἐν τῷ ἀγγείῳ)· ἅμα δὲ καὶ ὁ τόπος ἔσται μεταβάλλων· ὥστ' ἔσται τοῦ τόπου τ' ἄλλος τόπος, καὶ πολλοὶ τόποι ἅμα ἔσονται. οὐκ ἔστι δὲ ἄλλος ὁ τόπος τοῦ μορίου, ἐν ᾧ κινεῖται, ὅταν ὅλον τὸ ἀγγεῖον μεθίστηται, ἀλλ' ὁ αὐτός· ἐν ᾧ γὰρ ἔστιν, ἀντιμεθίσταται ὁ ἀὴρ καὶ τὸ ὕδωρ ἢ τὰ μόρια τοῦ ὕδατος, ἀλλ' οὐκ ἐν ᾧ γίγνονται τόπῳ, ὃς μέρος ἐστὶ τοῦ τόπου ὅς ἐστι τόπος ὅλου τοῦ οὐρανοῦ.

καὶ ἡ ὕλη δὲ δόξειεν ἂν εἶναι τόπος, εἴ γε ἐν ἠρεμοῦντί τις σκοποίη καὶ μὴ κεχωρισμένῳ ἀλλὰ συνεχεῖ. ὥσπερ γὰρ εἰ ἀλλοιοῦται, ἔστι τι ὃ νῦν μὲν λευκὸν πάλαι δὲ μέλαν, καὶ νῦν μὲν σκληρὸν πάλαι δὲ μαλακόν (διό φαμεν εἶναί τι τὴν ὕλην), οὕτω καὶ ὁ τόπος διὰ τοιαύτης τινὸς εἶναι δοκεῖ φαντασίας, πλὴν ἐκεῖνο μὲν διότι ὃ ἦν ἀήρ, τοῦτο νῦν ὕδωρ, ὁ δὲ τόπος ὅτι οὗ ἦν ἀήρ, ἐνταῦθ’ ἔστι νῦν ὕδωρ. ἀλλ’ ἡ μὲν ὕλη, [212a] ὥσπερ ἐλέχθη ἐν τοῖς πρότερον, οὔτε χωριστὴ τοῦ πράγματος οὔτε περιέχει, ὁ δὲ τόπος ἄμφω.

εἰ τοίνυν μηδὲν τῶν τριῶν ὁ τόπος ἐστίν, μήτε τὸ εἶδος μήτε ἡ ὕλη μήτε διάστημά τι ἀεὶ ὑπάρχον ἕτερον παρὰ τὸ τοῦ πράγματος τοῦ μεθισταμένου, ἀνάγκη τὸν τόπον εἶναι τὸ λοιπὸν τῶν τεττάρων, τὸ πέρας τοῦ περιέχοντος σώματος <καθ’ ὃ συνάπτει τῷ περιεχομένῳ>. λέγω δὲ τὸ περιεχόμενον σῶμα τὸ κινητὸν κατὰ φοράν.

δοκεῖ δὲ μέγα τι εἶναι καὶ χαλεπὸν ληφθῆναι ὁ τόπος διά τε τὸ παρεμφαίνεσθαι τὴν ὕλην καὶ τὴν μορφήν, καὶ διὰ τὸ ἐν ἠρεμοῦντι τῷ περιέχοντι γίγνεσθαι τὴν μετάστασιν τοῦ φερομένου· ἐνδέχεσθαι γὰρ φαίνεται εἶναι διάστημα μεταξὺ ἄλλο τι τῶν κινουμένων μεγεθῶν. συμβάλλεται δέ τι καὶ ὁ ἀὴρ δοκῶν ἀσώματος εἶναι· φαίνεται γὰρ οὐ μόνον τὰ πέρατα τοῦ ἀγγείου εἶναι ὁ τόπος, ἀλλὰ καὶ τὸ μεταξὺ ὡς κενὸν <ὄν>. ἔστι δ’ ὥσπερ τὸ ἀγγεῖον τόπος μεταφορητός, οὕτως καὶ ὁ τόπος ἀγγεῖον ἀμετακίνητον. διὸ ὅταν μὲν ἐν κινουμένῳ κινῆται καὶ μεταβάλλῃ τὸ ἐντός, οἷον ἐν ποταμῷ πλοῖον, ὡς ἀγγείῳ χρῆται μᾶλλον ἢ τόπῳ τῷ περιέχοντι. βούλεται δ’ ἀκίνητος εἶναι ὁ τόπος· διὸ ὁ πᾶς μᾶλλον ποταμὸς τόπος, ὅτι ἀκίνητος ὁ πᾶς.

ὥστε τὸ τοῦ περιέχοντος πέρας ἀκίνητον πρῶτον, τοῦτ’ ἔστιν ὁ τόπος.

καὶ διὰ τοῦτο τὸ μέσον τοῦ οὐρανοῦ καὶ τὸ ἔσχατον τὸ πρὸς ἡμᾶς τῆς κύκλῳ φορᾶς δοκεῖ εἶναι τὸ μὲν ἄνω τὸ δὲ κάτω μάλιστα πᾶσι κυρίως, ὅτι τὸ μὲν αἰεὶ μένει, τοῦ δὲ κύκλῳ τὸ ἔσχατον ὡσαύτως ἔχον μένει. ὥστ’ ἐπεὶ τὸ μὲν κοῦφον τὸ ἄνω φερόμενόν ἐστι φύσει, τὸ δὲ βαρὺ τὸ κάτω, τὸ μὲν πρὸς τὸ μέσον περιέχον πέρας κάτω ἐστίν, καὶ αὐτὸ τὸ μέσον, τὸ δὲ πρὸς τὸ ἔσχατον ἄνω, καὶ αὐτὸ τὸ ἔσχατον·

καὶ διὰ τοῦτο δοκεῖ ἐπίπεδόν τι εἶναι καὶ οἷον ἀγγεῖον ὁ τόπος καὶ περιέχον.

ἔτι ἅμα τῷ πράγματι ὁ τόπος· ἅμα γὰρ τῷ πεπερασμένῳ τὰ πέρατα.

Κεφάλαιο 5

Ὧι μὲν οὖν σώματι ἔστι τι ἐκτὸς σῶμα περιέχον αὐτό, τοῦτο ἔστιν ἐν τόπῳ, ᾧ δὲ μή, οὔ. διὸ κἂν ὕδωρ γένηται τοιοῦτο, τὰ μὲν μόρια κινήσεται αὐτοῦ (περιέχεται γὰρ ὑπ’ ἀλλήλων), τὸ δὲ πᾶν ἔστι μὲν ὡς κινήσεται ἔστι δ’ ὡς οὔ. ὡς μὲν γὰρ ὅλον, ἅμα τὸν τόπον οὐ μεταβάλλει, κύκλῳ [212b] δὲ κινεῖται-τῶν μορίων γὰρ οὗτος ὁ τόπος-καὶ ἄνω μὲν καὶ κάτω οὔ, κύκλῳ δ’ ἔνια· τὰ δὲ καὶ ἄνω καὶ κάτω, ὅσα ἔχει πύκνωσιν καὶ μάνωσιν.

ὥσπερ δ’ ἐλέχθη, τὰ μέν ἐστιν ἐν τόπῳ κατὰ δύναμιν, τὰ δὲ κατ’ ἐνέργειαν. διὸ ὅταν μὲν συνεχὲς ᾖ τὸ ὁμοιομερές, κατὰ δύναμιν ἐν τόπῳ τὰ μέρη, ὅταν δὲ χωρισθῇ μὲν ἅπτηται δ’ ὥσπερ σωρός, κατ’ ἐνέργειαν. καὶ τὰ μὲν καθ’ αὑτά (οἷον πᾶν σῶμα ἢ κατὰ φορὰν ἢ κατ’ αὔξησιν κινητὸν καθ’ αὑτό που, ὁ δ’ οὐρανός, ὥσπερ εἴρηται, οὔ που ὅλος οὐδ’ ἔν τινι τόπῳ ἐστίν, εἴ γε μηδὲν αὐτὸν περιέχει σῶμα· ἐφ’ ᾧ δὲ κινεῖται, ταύτῃ καὶ τόπος ἔστι τοῖς μορίοις· ἕτερον γὰρ ἑτέρου ἐχόμενον τῶν μορίων ἐστίν)·

τὰ δὲ κατὰ συμβεβηκός, οἷον ἡ ψυχὴ καὶ ὁ οὐρανός· τὰ γὰρ μόρια ἐν τόπῳ πως πάντα· ἐπὶ τῷ κύκλῳ γὰρ περιέχει ἄλλο ἄλλο. διὸ κινεῖται μὲν κύκλῳ τὸ ἄνω, τὸ δὲ πᾶν οὔ που. τὸ γάρ που αὐτό τέ ἐστί τι, καὶ ἔτι ἄλλο τι δεῖ εἶναι παρὰ τοῦτο ἐν ᾧ, ὃ περιέχει· παρὰ δὲ τὸ πᾶν καὶ ὅλον οὐδέν ἐστιν ἔξω τοῦ παντός, καὶ διὰ τοῦτο ἐν τῷ οὐρανῷ πάντα· ὁ γὰρ οὐρανὸς τὸ πᾶν ἴσως. ἔστι δ’ ὁ τόπος οὐχ ὁ οὐρανός, ἀλλὰ τοῦ οὐρανοῦ τι τὸ ἔσχατον καὶ ἁπτόμενον τοῦ κινητοῦ σώματος [πέρας ἠρεμοῦν]. καὶ διὰ τοῦτο ἡ μὲν γῆ ἐν τῷ ὕδατι, τοῦτο δ’ ἐν τῷ ἀέρι, οὗτος δ’ ἐν τῷ αἰθέρι, ὁ δ’ αἰθὴρ ἐν τῷ οὐρανῷ, ὁ δ’ οὐρανὸς οὐκέτι ἐν ἄλλῳ.

φανερὸν δ’ ἐκ τούτων ὅτι καὶ αἱ ἀπορίαι πᾶσαι λύοιντ’ ἂν οὕτω λεγομένου τοῦ τόπου.

1. οὔτε γὰρ συναύξεσθαι ἀνάγκη τὸν τόπον,

2. οὔτε στιγμῆς εἶναι τόπον, οὔτε δύο σώματα ἐν τῷ αὐτῷ τόπῳ,

3. οὔτε διάστημά τι εἶναι σωματικόν (σῶμα γὰρ τὸ μεταξὺ τοῦ τόπου τὸ τυχόν, ἀλλ’ οὐ διάστημα σώματος).

4. καὶ ἔστιν ὁ τόπος καὶ πού, οὐχ ὡς ἐν τόπῳ δέ, ἀλλ’ ὡς τὸ πέρας ἐν τῷ πεπερασμένῳ. οὐ γὰρ πᾶν τὸ ὂν ἐν τόπῳ, ἀλλὰ τὸ κινητὸν σῶμα.

5. καὶ φέρεται δὴ εἰς τὸν αὑτοῦ τόπον ἕκαστον εὐλόγως (ὃ γὰρ ἐφεξῆς καὶ ἁπτόμενον μὴ βίᾳ, συγγενές· καὶ συμπεφυκότα μὲν ἀπαθῆ, ἁπτόμενα δὲ παθητικὰ καὶ ποιητικὰ ἀλλήλων)· καὶ μένει δὴ φύσει πᾶν ἐν τῷ οἰκείῳ τόπῳ οὐκ ἀλόγως· καὶ γὰρ τὸ μέρος, τὸ δὲ ἐν [τῷ] τόπῳ ὡς διαιρετὸν μέρος πρὸς ὅλον ἐστίν, οἷον ὅταν ὕδατος κινήσῃ τις [213a] μόριον ἢ ἀέρος. οὕτω δὲ καὶ ἀὴρ ἔχει πρὸς ὕδωρ· οἷον ὕλη γάρ, τὸ δὲ εἶδος, τὸ μὲν ὕδωρ ὕλη ἀέρος, ὁ δ’ ἀὴρ οἷον ἐνέργειά τις ἐκείνου· τὸ γὰρ ὕδωρ δυνάμει ἀήρ ἐστιν, ὁ δ’ ἀὴρ δυνάμει ὕδωρ ἄλλον τρόπον.

διοριστέον δὲ περὶ τούτων ὕστερον· ἀλλὰ διὰ τὸν καιρὸν ἀνάγκη μὲν εἰπεῖν, ἀσαφῶς δὲ νῦν ῥηθὲν τότ’ ἔσται σαφέστερον. εἰ οὖν τὸ αὐτὸ [ἡ] ὕλη καὶ ἐντελέχεια (ὕδωρ γὰρ ἄμφω, ἀλλὰ τὸ μὲν δυνάμει τὸ δ’ ἐντελεχείᾳ), ἔχοι ἂν ὡς μόριόν πως πρὸς ὅλον. διὸ καὶ τούτοις ἁφὴ ἔστιν· σύμφυσις δέ, ὅταν ἄμφω ἐνεργείᾳ ἓν γένωνται. καὶ περὶ μὲν τόπου, καὶ ὅτι ἔστι καὶ τί ἐστιν, εἴρηται.

Κεφάλαιο 6

Τὸν αὐτὸν δὲ τρόπον ὑποληπτέον εἶναι τοῦ φυσικοῦ θεωρῆσαι καὶ περὶ κενοῦ, εἰ ἔστιν ἢ μή, καὶ πῶς ἔστι, καὶ τί ἐστιν, ὥσπερ καὶ περὶ τόπου· καὶ γὰρ παραπλησίαν ἔχει τήν τε ἀπιστίαν καὶ τὴν πίστιν διὰ τῶν ὑπολαμβανομένων· οἷον γὰρ τόπον τινὰ καὶ ἀγγεῖον τὸ κενὸν τιθέασιν οἱ λέγοντες, δοκεῖ δὲ πλῆρες μὲν εἶναι, ὅταν ἔχῃ τὸν ὄγκον οὗ δεκτικόν ἐστιν, ὅταν δὲ στερηθῇ, κενόν, ὡς τὸ αὐτὸ μὲν ὂν κενὸν καὶ πλῆρες καὶ τόπον, τὸ δ' εἶναι αὐτοῖς οὐ ταὐτὸ ὄν.

ἄρξασθαι δὲ δεῖ τῆς σκέψεως λαβοῦσιν ἅ τε λέγουσιν οἱ φάσκοντες εἶναι καὶ πάλιν ἃ λέγουσιν οἱ μὴ φάσκοντες, καὶ τρίτον τὰς κοινὰς περὶ αὐτῶν δόξας.

οἱ μὲν οὖν δεικνύναι πειρώμενοι ὅτι οὐκ ἔστιν, οὐχ ὃ βούλονται λέγειν οἱ ἄνθρωποι κενόν, τοῦτ' ἐξελέγχουσιν, ἀλλ' <ὃ> ἁμαρτάνοντες λέγουσιν. ὥσπερ Ἀναξαγόρας καὶ οἱ τοῦτον τὸν τρόπον ἐλέγχοντες. ἐπιδεικνύουσι γὰρ ὅτι ἐστίν τι ὁ ἀήρ, στρεβλοῦντες τοὺς ἀσκοὺς καὶ δεικνύντες ὡς ἰσχυρὸς ὁ ἀήρ, καὶ ἐναπολαμβάνοντες ἐν ταῖς κλεψύδραις. οἱ δὲ ἄνθρωποι βούλονται κενὸν εἶναι διάστημα ἐν ᾧ μηδέν ἐστι σῶμα αἰσθητόν· οἰόμενοι δὲ τὸ ὂν ἅπαν εἶναι σῶμα φασίν, ἐν ᾧ ὅλως μηδέν ἐστι, τοῦτ' εἶναι κενόν, διὸ τὸ πλῆρες ἀέρος κενὸν εἶναι. οὔκουν τοῦτο δεῖ δεικνύναι, ὅτι ἐστί τι ὁ ἀήρ, ἀλλ' ὅτι οὐκ ἔστι διάστημα ἕτερον τῶν σωμάτων, οὔτε χωριστὸν οὔτε ἐνεργείᾳ ὄν, ὃ διαλαμβάνει τὸ πᾶν σῶμα ὥστε εἶναι μὴ συνεχές, καθάπερ λέγουσιν Δημόκριτος καὶ Λεύκιππος καὶ [213b] ἕτεροι πολλοὶ τῶν φυσιολόγων, ἢ καὶ εἴ τι ἔξω τοῦ παντὸς σώματός ἐστιν ὄντος συνεχοῦς.

οὗτοι μὲν οὖν οὐ κατὰ θύρας πρὸς τὸ πρόβλημα ἀπαντῶσιν, ἀλλ' οἱ φάσκοντες εἶναι μᾶλλον.

λέγουσιν δ' ἓν μὲν ὅτι κίνησις ἡ κατὰ τόπον οὐκ ἂν εἴη (αὕτη δ' ἐστὶ φορὰ καὶ αὔξησις)· οὐ γὰρ ἂν δοκεῖν εἶναι κίνησιν, εἰ μὴ εἴη κενόν· τὸ γὰρ πλῆρες ἀδύνατον εἶναι δέξασθαί τι. εἰ δὲ δέξεται καὶ ἔσται δύο ἐν ταὐτῷ, ἐνδέχοιτ' ἂν καὶ ὁποσαοῦν εἶναι ἅμα σώματα· τὴν γὰρ διαφοράν, δι' ἣν οὐκ ἂν εἴη τὸ λεχθέν, οὐκ ἔστιν εἰπεῖν. εἰ δὲ τοῦτο ἐνδέχεται, καὶ τὸ μικρότατον δέξεται τὸ μέγιστον· πολλὰ γὰρ μικρὰ τὸ μέγα ἐστίν· ὥστε εἰ πολλὰ ἴσα ἐνδέχεται ἐν ταὐτῷ εἶναι, καὶ πολλὰ ἄνισα.

Μέλισσος μὲν οὖν καὶ δείκνυσιν ὅτι τὸ πᾶν ἀκίνητον ἐκ τούτων· εἰ γὰρ κινήσεται, ἀνάγκη εἶναι (φησί) κενόν, τὸ δὲ κενὸν οὐ τῶν ὄντων.

ἕνα μὲν οὖν τρόπον ἐκ τούτων δεικνύουσιν ὅτι ἔστιν τι κενόν,

ἄλλον δ' ὅτι φαίνεται ἔνια συνιόντα καὶ πιλούμενα, οἷον καὶ τὸν οἶνόν φασι δέχεσθαι μετὰ τῶν ἀσκῶν τοὺς πίθους, ὡς εἰς τὰ ἐνόντα κενὰ συνιόντος τοῦ πυκνουμένου σώματος.

ἔτι δὲ καὶ ἡ αὔξησις δοκεῖ πᾶσι γίγνεσθαι διὰ κενοῦ· τὴν μὲν γὰρ τροφὴν σῶμα εἶναι, δύο δὲ σώματα ἀδύνατον ἅμα εἶναι. μαρτύριον δὲ καὶ τὸ περὶ τῆς τέφρας ποιοῦνται, ἣ δέχεται ἴσον ὕδωρ ὅσον τὸ ἀγγεῖον τὸ κενόν. εἶναι δ' ἔφασαν καὶ οἱ Πυθαγόρειοι κενόν, καὶ ἐπεισιέναι αὐτὸ τῷ οὐρανῷ ἐκ τοῦ ἀπείρου πνεύματος ὡς ἀναπνέοντι καὶ τὸ κενόν, ὃ διορίζει τὰς φύσεις, ὡς ὄντος τοῦ κενοῦ χωρισμοῦ τινὸς τῶν ἐφεξῆς καὶ [τῆς] διορίσεως· καὶ τοῦτ' εἶναι πρῶτον ἐν τοῖς ἀριθμοῖς· τὸ γὰρ κενὸν διορίζειν τὴν φύσιν αὐτῶν.

ἐξ ὧν μὲν οὖν οἱ μέν φασιν εἶναι οἱ δ' οὔ φασι, σχεδὸν τοιαῦτα καὶ τοσαῦτά ἐστιν.

Κεφάλαιο 7

Πρὸς δὲ τὸ ποτέρως ἔχει δεῖ λαβεῖν τί σημαίνει τοὔνομα.

δοκεῖ δὴ τὸ κενὸν τόπος εἶναι ἐν ᾧ μηδέν ἐστι. τούτου δ’ αἴτιον ὅτι τὸ ὂν σῶμα οἴονται εἶναι, πᾶν δὲ σῶμα ἐν τόπῳ, κενὸν δὲ ἐν ᾧ τόπῳ μηδέν ἐστι σῶμα, ὥστ’ εἴ που μὴ ἔστι σῶμα, οὐδὲν εἶναι ἐνταῦθα.

σῶμα δὲ πάλιν ἅπαν [214a] οἴονται εἶναι ἁπτόν· τοιοῦτο δὲ ὃ ἂν ἔχῃ βάρος ἢ κουφότητα.

συμβαίνει οὖν ἐκ συλλογισμοῦ τοῦτο εἶναι κενόν, ἐν ᾧ μηδέν ἐστι βαρὺ ἢ κοῦφον.

ταῦτα μὲν οὖν, ὥσπερ εἴπομεν καὶ πρότερον, ἐκ συλλογισμοῦ συμβαίνει. ἄτοπον δὲ εἰ ἡ στιγμὴ κενόν· δεῖ γὰρ τόπον εἶναι ἐν ᾧ σώματος ἔστι διάστημα ἁπτοῦ.

ἀλλ’ οὖν φαίνεται λέγεσθαι τὸ κενὸν ἕνα μὲν τρόπον τὸ μὴ πλῆρες αἰσθητοῦ σώματος κατὰ τὴν ἁφήν· αἰσθητὸν δ’ ἐστὶ κατὰ τὴν ἁφὴν τὸ βάρος ἔχον ἢ κουφότητα (διὸ κἂν ἀπορήσειέ τις, τί ἂν φαῖεν, εἰ ἔχοι τὸ διάστημα χρῶμα ἢ ψόφον, πότερον κενὸν ἢ οὔ; ἢ δῆλον ὅτι εἰ μὲν δέχοιτο σῶμα ἁπτόν, κενόν, εἰ δὲ μή, οὔ)·

ἄλλον δὲ τρόπον, ἐν ᾧ μὴ τόδε τι μηδ’ οὐσία τις σωματική. διό φασίν τινες εἶναι τὸ κενὸν τὴν τοῦ σώματος ὕλην (οἵπερ καὶ τὸν τόπον τὸ αὐτὸ τοῦτο), λέγοντες οὐ καλῶς· ἡ μὲν γὰρ ὕλη οὐ χωριστὴ τῶν πραγμάτων, τὸ δὲ κενὸν ζητοῦσιν ὡς χωριστόν.

ἐπεὶ δὲ περὶ τόπου διώρισται, καὶ τὸ κενὸν ἀνάγκη τόπον εἶναι, εἰ ἔστιν, ἐστερημένον σώματος, τόπος δὲ καὶ πῶς ἔστι καὶ πῶς οὐκ ἔστιν εἴρηται, φανερὸν ὅτι οὕτω μὲν κενὸν οὐκ ἔστιν, οὔτε κεχωρισμένον οὔτε ἀχώριστον. τὸ γὰρ κενὸν οὐ σῶμα ἀλλὰ σώματος διάστημα βούλεται εἶναι· διὸ καὶ τὸ κενὸν δοκεῖ τι εἶναι, ὅτι καὶ ὁ τόπος, καὶ διὰ ταὐτά. ἥκει γὰρ δὴ ἡ κίνησις ἡ κατὰ τόπον καὶ τοῖς τὸν τόπον φάσκουσιν εἶναί τι παρὰ τὰ σώματα τὰ ἐμπίπτοντα καὶ τοῖς τὸ κενόν. αἴτιον δὲ κινήσεως οἴονται εἶναι τὸ κενὸν οὕτως ὡς ἐν ᾧ κινεῖται· τοῦτο δ’ ἂν εἴη οἷον τὸν τόπον φασί τινες εἶναι.

οὐδεμία δ’ ἀνάγκη, εἰ κίνησις ἔστιν, εἶναι κενόν. ὅλως μὲν οὖν πάσης κινήσεως οὐδαμῶς, δι’ ὃ καὶ Μέλισσον ἔλαθεν· ἀλλοιοῦσθαι γὰρ τὸ πλῆρες ἐνδέχεται.

ἀλλὰ δὴ οὐδὲ τὴν κατὰ τόπον κίνησιν· ἅμα γὰρ ἐνδέχεται ὑπεξιέναι ἀλλήλοις, οὐδενὸς ὄντος διαστήματος χωριστοῦ παρὰ τὰ σώματα τὰ κινούμενα. καὶ τοῦτο δῆλον καὶ ἐν ταῖς τῶν συνεχῶν δίναις, ὥσπερ καὶ ἐν ταῖς τῶν ὑγρῶν.

ἐνδέχεται δὲ καὶ πυκνοῦσθαι μὴ εἰς τὸ κενὸν ἀλλὰ διὰ τὸ τὰ ἐνόντα [214b] ἐκπυρηνίζειν (οἷον ὕδατος συνθλιβομένου τὸν ἐνόντα ἀέρα), καὶ αὐξάνεσθαι οὐ μόνον εἰσιόντος τινὸς ἀλλὰ καὶ ἀλλοιώσει, οἷον εἰ ἐξ ὕδατος γίγνοιτο ἀήρ.

ὅλως δὲ ὅ τε περὶ τῆς αὐξήσεως λόγος καὶ τοῦ εἰς τὴν τέφραν ἐγχεομένου ὕδατος αὐτὸς αὑτὸν ἐμποδίζει. ἢ γὰρ οὐκ αὐξάνεται ὁτιοῦν, ἢ οὐ σώματι, ἢ ἐνδέχεται δύο σώματα ἐν ταὐτῷ εἶναι (ἀπορίαν οὖν κοινὴν ἀξιοῦσι λύειν, ἀλλ' οὐ κενὸν δεικνύουσιν ὡς ἔστιν), ἢ πᾶν εἶναι ἀναγκαῖον τὸ σῶμα κενόν, εἰ πάντῃ αὐξάνεται καὶ αὐξάνεται διὰ κενοῦ. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῆς τέφρας.

ὅτι μὲν οὖν ἐξ ὧν δεικνύουσιν εἶναι τὸ κενὸν λύειν ῥᾴδιον, φανερόν.

Κεφάλαιο 8

Ὅτι δ’ οὐκ ἔστιν κενὸν οὕτω κεχωρισμένον, ὡς ἔνιοί φασι, λέγωμεν πάλιν. εἰ γὰρ ἔστιν ἑκάστου φορά τις τῶν ἁπλῶν σωμάτων φύσει, οἷον τῷ πυρὶ μὲν ἄνω τῇ δὲ γῇ κάτω καὶ πρὸς τὸ μέσον, δῆλον ὅτι οὐκ ἂν τὸ κενὸν αἴτιον εἴη τῆς φορᾶς. τίνος οὖν αἴτιον ἔσται τὸ κενόν; δοκεῖ γὰρ αἴτιον εἶναι κινήσεως τῆς κατὰ τόπον, ταύτης δ’ οὐκ ἔστιν.

ἔτι εἰ ἔστιν τι οἷον τόπος ἐστερημένος σώματος, ὅταν ᾖ κενόν, ποῦ οἰσθήσεται τὸ εἰστεθὲν εἰς αὐτὸ σῶμα; οὐ γὰρ δὴ εἰς ἅπαν. ὁ δ’ αὐτὸς λόγος καὶ πρὸς τοὺς τὸν τόπον οἰομένους εἶναί τι κεχωρισμένον, εἰς ὃν φέρεται· πῶς γὰρ οἰσθήσεται τὸ ἐντεθὲν ἢ μενεῖ; καὶ περὶ τοῦ ἄνω καὶ κάτω καὶ περὶ τοῦ κενοῦ ὁ αὐτὸς ἁρμόσει λόγος εἰκότως· τὸ γὰρ κενὸν τόπον ποιοῦσιν οἱ εἶναι φάσκοντες·

καὶ πῶς δὴ ἐνέσται ἢ ἐν [τῷ] τόπῳ ἢ ἐν τῷ κενῷ; οὐ γὰρ συμβαίνει, ὅταν ὅλον τεθῇ ὡς ἐν κεχωρισμένῳ τόπῳ καὶ ὑπομένοντι σῶμά τι· τὸ γὰρ μέρος, ἂν μὴ χωρὶς τιθῆται, οὐκ ἔσται ἐν τόπῳ ἀλλ’ ἐν τῷ ὅλῳ. ἔτι εἰ μὴ τόπος, οὐδὲ κενὸν ἔσται.

συμβαίνει δὲ τοῖς λέγουσιν εἶναι κενὸν ὡς ἀναγκαῖον, εἴπερ ἔσται κίνησις, τοὐναντίον μᾶλλον, ἄν τις ἐπισκοπῇ, μὴ ἐνδέχεσθαι μηδὲ ἓν κινεῖσθαι, ἐὰν ᾖ κενόν· ὥσπερ γὰρ οἱ διὰ τὸ ὅμοιον φάμενοι τὴν γῆν ἠρεμεῖν, οὕτω καὶ ἐν τῷ κενῷ ἀνάγκη ἠρεμεῖν· οὐ γὰρ ἔστιν οὗ μᾶλλον ἢ ἧττον κινηθήσεται· ᾗ γὰρ κενόν, οὐκ [215a] ἔχει διαφοράν.

ἔπειθ’ ὅτι πᾶσα κίνησις ἢ βίᾳ ἢ κατὰ φύσιν. ἀνάγκη δὲ ἄν περ ᾖ <ἡ> βίαιος, εἶναι καὶ τὴν κατὰ φύσιν (ἡ μὲν γὰρ βίαιος παρὰ φύσιν, ἡ δὲ παρὰ φύσιν ὑστέρα τῆς κατὰ φύσιν)· ὥστ’ εἰ μὴ κατὰ φύσιν ἔστιν ἑκάστῳ τῶν φυσικῶν σωμάτων κίνησις, οὐδὲ τῶν ἄλλων ἔσται κινήσεων οὐδεμία. ἀλλὰ μὴν φύσει γε πῶς ἔσται μηδεμιᾶς οὔσης διαφορᾶς κατὰ τὸ κενὸν καὶ τὸ ἄπειρον; ᾗ μὲν γὰρ ἄπειρον, οὐδὲν ἔσται ἄνω οὐδὲ κάτω οὐδὲ μέσον, ᾗ δὲ κενόν, οὐδὲν διάφορον τὸ ἄνω τοῦ κάτω (ὥσπερ γὰρ τοῦ μηδενὸς οὐδεμία ἔστι διαφορά, οὕτω καὶ τοῦ κενοῦ· τὸ γὰρ κενὸν μὴ ὄν τι καὶ στέρησις δοκεῖ εἶναι). ἡ δὲ φύσει φορὰ διάφορος, ὥστε ἔσται φύσει διάφορα. ἢ οὖν οὐκ ἔστι φύσει οὐδαμοῦ οὐδενὶ φορά, ἢ εἰ τοῦτ’ ἔστιν, οὐκ ἔστι κενόν.

ἔτι νῦν μὲν κινεῖται τὰ ῥιπτούμενα τοῦ ὤσαντος οὐχ ἁπτομένου, ἢ δι’ ἀντιπερίστασιν, ὥσπερ ἔνιοί φασιν, ἢ διὰ τὸ ὠθεῖν τὸν ὠσθέντα ἀέρα θάττω κίνησιν τῆς τοῦ ὠσθέντος φορᾶς ἣν φέρεται εἰς τὸν οἰκεῖον τόπον· ἐν δὲ τῷ κενῷ οὐδὲν τούτων ὑπάρχει, οὐδ' ἔσται φέρεσθαι ἀλλ' ἢ ὡς τὸ ὀχούμενον.

ἔτι οὐδεὶς ἂν ἔχοι εἰπεῖν διὰ τί κινηθὲν στήσεταί που· τί γὰρ μᾶλλον ἐνταῦθα ἢ ἐνταῦθα; ὥστε ἢ ἠρεμήσει ἢ εἰς ἄπειρον ἀνάγκη φέρεσθαι, ἐὰν μή τι ἐμποδίσῃ κρεῖττον.

ἔτι νῦν μὲν εἰς τὸ κενὸν διὰ τὸ ὑπείκειν φέ ρεσθαι δοκεῖ· ἐν δὲ τῷ κενῷ πάντῃ ὁμοίως τὸ τοιοῦτον, ὥστε πάντῃ οἰσθήσεται. ἔτι δὲ καὶ ἐκ τῶνδε φανερὸν τὸ λεγόμενον. ὁρῶμεν γὰρ τὸ αὐτὸ βάρος καὶ σῶμα θᾶττον φερόμενον διὰ δύο αἰτίας, ἢ τῷ διαφέρειν τὸ δι' οὗ, οἷον δι' ὕδατος ἢ γῆς ἢ δι' ὕδατος ἢ ἀέρος, ἢ τῷ διαφέρειν τὸ φερόμενον, ἐὰν τἆλλα ταὐτὰ ὑπάρχῃ, διὰ τὴν ὑπεροχὴν τοῦ βάρους ἢ τῆς κουφότητος.

τὸ μὲν οὖν δι' οὗ φέρεται αἴτιον, ὅτι ἐμποδίζει μάλιστα μὲν ἀντιφερόμενον, ἔπειτα καὶ μένον· μᾶλλον δὲ τὸ μὴ εὐδιαίρετον· τοιοῦτο δὲ τὸ παχύτερον. τὸ δὴ ἐφ' οὗ [215b] Α οἰσθήσεται διὰ τοῦ Β τὸν ἐφ' ᾧ Γ χρόνον, διὰ δὲ τοῦ Δ λεπτοτέρου ὄντος τὸν ἐφ' ᾧ Ε, εἰ ἴσον τὸ μῆκος τὸ τοῦ Β τῷ Δ, κατὰ τὴν ἀναλογίαν τοῦ ἐμποδίζοντος σώματος. ἔστω γὰρ τὸ μὲν Β ὕδωρ, τὸ δὲ Δ ἀήρ· ὅσῳ δὴ λεπτότερον ἀὴρ ὕδατος καὶ ἀσωματώτερον, τοσούτῳ θᾶττον τὸ Α διὰ τοῦ Δ οἰσθήσεται ἢ διὰ τοῦ Β. ἐχέτω δὴ τὸν αὐτὸν λόγον ὅνπερ διέστηκεν ἀὴρ πρὸς ὕδωρ, τὸ τάχος πρὸς τὸ τάχος. ὥστε εἰ διπλασίως λεπτόν, ἐν διπλασίῳ χρόνῳ τὴν τὸ Β δίεισιν ἢ τὴν τὸ Δ, καὶ ἔσται ὁ ἐφ' ᾧ Γ χρόνος διπλάσιος τοῦ ἐφ' ᾧ Ε. καὶ ἀεὶ δὴ ὅσῳ ἂν ᾖ ἀσωματώτερον καὶ ἧττον ἐμποδιστικὸν καὶ εὐδιαιρετώτερον δι' οὗ φέρεται, θᾶττον οἰσθήσεται.

τὸ δὲ κενὸν οὐδένα ἔχει λόγον ᾧ ὑπερέχεται ὑπὸ τοῦ σώματος, ὥσπερ οὐδὲ τὸ μηδὲν πρὸς ἀριθμόν. εἰ γὰρ τὰ τέτταρα τῶν τριῶν ὑπερέχει ἑνί, πλείονι δὲ τοῖν δυοῖν, καὶ ἔτι πλείονι τοῦ ἑνὸς ἢ τοῖν δυοῖν, τοῦ δὲ μηδενὸς οὐκέτι ἔχει λόγον ᾧ ὑπερέχει· ἀνάγκη γὰρ τὸ ὑπερέχον διαιρεῖσθαι εἴς τε τὴν ὑπεροχὴν καὶ τὸ ὑπερεχόμενον, ὥστε ἔσται τὰ τέτταρα ὅσῳ τε ὑπερέχει καὶ οὐδέν. διὸ οὐδὲ γραμμὴ στιγμῆς ὑπερέχει, εἰ μὴ σύγκειται ἐκ στιγμῶν. ὁμοίως δὲ καὶ τὸ κενὸν πρὸς τὸ πλῆρες οὐδένα οἷόν τε ἔχειν λόγον, ὥστε οὐδὲ τὴν κίνησιν, ἀλλ' εἰ διὰ τοῦ λεπτοτάτου ἐν τοσῳδὶ τὴν τοσήνδε φέρεται, διὰ τοῦ κενοῦ παντὸς ὑπερβάλλει λόγου. ἔστω γὰρ τὸ Ζ κενόν, ἴσον δὲ [τῷ μεγέθει] τοῖς Β καὶ Δ. τὸ δὴ Α εἰ δίεισι καὶ κινηθήσεται ἐν τινὶ μὲν χρόνῳ, τῷ ἐφ' οὗ Η, ἐν ἐλάττονι δὲ τοῦ ἐφ' οὗ Ε, τοῦτον ἕξει τὸν λόγον τὸ κενὸν πρὸς τὸ πλῆρες. ἀλλ' ἐν τοσούτῳ χρόνῳ ὅσος ἐφ' οὗ τὸ Η, τοῦ Δ τὸ Α δίεισι τὴν τὸ Θ. δίεισι δέ γε κἂν ᾖ τι λεπτότητι διαφέρον τοῦ ἀέρος ἐφ’ ᾧ τὸ Ζ ταύτην τὴν ἀναλογίαν ἣν ἔχει ὁ χρόνος ἐφ’ ᾧ Ε πρὸς τὸν ἐφ’ ᾧ Η. ἂν γὰρ ᾖ τοσούτῳ λεπτότερον τὸ ἐφ’ ᾧ Ζ σῶμα τοῦ Δ, ὅσῳ ὑπερέχει τὸ Ε τοῦ Η, ἀντεστραμμένως δίεισι τῷ [216a] τάχει ἐν τῷ τοσούτῳ ὅσον τὸ Η, τὴν τὸ Ζ τὸ ἐφ’ οὗ Α, ἐὰν φέρηται. ἐὰν τοίνυν μηδὲν ᾖ σῶμα ἐν τῷ Ζ, ἔτι θᾶττον. ἀλλ’ ἦν ἐν τῷ Η. ὥστ’ ἐν ἴσῳ χρόνῳ δίεισι πλῆρές τε ὂν καὶ κενόν. ἀλλ’ ἀδύνατον. φανερὸν τοίνυν ὅτι, εἰ ἔστι χρόνος ἐν ᾧ τοῦ κενοῦ ὁτιοῦν οἰσθήσεται, συμβήσεται τοῦτο τὸ ἀδύνατον· ἐν ἴσῳ γὰρ ληφθήσεται πλῆρές τε ὂν διεξιέναι τι καὶ κενόν· ἔσται γάρ τι ἀνάλογον σῶμα ἕτερον πρὸς ἕτερον ὡς χρόνος πρὸς χρόνον.

ὡς δ’ ἐν κεφαλαίῳ εἰπεῖν, δῆλον τὸ τοῦ συμβαίνοντος αἴτιον, ὅτι κινήσεως μὲν πρὸς κίνησιν πάσης ἔστι λόγος (ἐν χρόνῳ γάρ ἐστι, χρόνου δὲ παντὸς ἔστι πρὸς χρόνον, πεπερασμένων ἀμφοῖν), κενοῦ δὲ πρὸς πλῆρες οὐκ ἔστιν. ᾗ μὲν οὖν διαφέρουσι δι’ ὧν φέρονται, ταῦτα συμβαίνει, κατὰ δὲ τὴν τῶν φερομένων ὑπεροχὴν τάδε· ὁρῶμεν γὰρ τὰ μείζω ῥοπὴν ἔχοντα ἢ βάρους ἢ κουφότητος, ἐὰν τἆλλα ὁμοίως ἔχῃ [τοῖς σχήμασι], θᾶττον φερόμενα τὸ ἴσον χωρίον, καὶ κατὰ λόγον ὃν ἔχουσι τὰ μεγέθη πρὸς ἄλληλα. ὥστε καὶ διὰ τοῦ κενοῦ. ἀλλ’ ἀδύνατον· διὰ τίνα γὰρ αἰτίαν οἰσθήσεται θᾶττον; ἐν μὲν γὰρ τοῖς πλήρεσιν ἐξ ἀνάγκης· θᾶττον γὰρ διαιρεῖ τῇ ἰσχύϊ τὸ μεῖζον· ἢ γὰρ σχήματι διαιρεῖ, ἢ ῥοπῇ ἣν ἔχει τὸ φερόμενον ἢ τὸ ἀφεθέν. ἰσοταχῆ ἄρα πάντ’ ἔσται. ἀλλ’ ἀδύνατον. ὅτι μὲν οὖν εἰ ἔστι κενόν, συμβαίνει τοὐναντίον ἢ δι’ ὃ κατασκευάζουσιν οἱ φάσκοντες εἶναι κενόν, φανερὸν ἐκ τῶν εἰρημένων. οἱ μὲν οὖν οἴονται τὸ κενὸν εἶναι, εἴπερ ἔσται ἡ κατὰ τόπον κίνησις, ἀποκεκριμένον καθ’ αὑτό· τοῦτο δὲ ταὐτόν ἐστι τῷ τὸν τόπον φάναι εἶναί τι κεχωρισμένον· τοῦτο δ’ ὅτι ἀδύνατον, εἴρηται πρότερον. καὶ καθ’ αὑτὸ δὲ σκοποῦσιν φανείη ἂν τὸ λεγόμενον κενὸν ὡς ἀληθῶς κενόν. ὥσπερ γὰρ ἐὰν ἐν ὕδατι τιθῇ τις κύβον, ἐκστήσεται τοσοῦτον ὕδωρ ὅσος ὁ κύβος, οὕτω καὶ ἐν ἀέρι· ἀλλὰ τῇ αἰσθήσει ἄδηλον. καὶ αἰεὶ δὴ ἐν παντὶ σώματι ἔχοντι μετάστασιν, ἐφ’ ὃ πέφυκε μεθίστασθαι, ἀνάγκη, ἂν μὴ συμπιλῆται, μεθίστασθαι ἢ κάτω αἰεί, εἰ κάτω ἡ φορὰ ὥσπερ γῆς, ἢ ἄνω, εἰ πῦρ, ἢ ἐπ’ ἄμφω, [ἢ] ὁποῖον ἄν τι ᾖ τὸ ἐντιθέμενον· ἐν δὲ δὴ τῷ κενῷ τοῦτο μὲν ἀδύνατον (οὐδὲν γὰρ σῶμα), διὰ δὲ τοῦ κύβου τὸ ἴσον διάστημα διεληλυθέναι, ὅπερ ἦν καὶ πρότερον [216b] ἐν τῷ κενῷ, ὥσπερ ἂν εἰ τὸ ὕδωρ μὴ μεθίστατο τῷ ξυλίνῳ κύβῳ μηδ’ ὁ ἀήρ, ἀλλὰ πάντῃ διῄεσαν δι’ αὐτοῦ. ἀλλὰ μὴν καὶ ὁ κύβος γε ἔχει τοσοῦτον μέγεθος, ὅσον κατέχει κενόν· ὃ εἰ καὶ θερμὸν ἢ ψυχρόν ἐστιν ἢ βαρὺ ἢ κοῦφον, οὐδὲν ἧττον ἕτερον τῷ εἶναι πάντων τῶν παθημάτων ἐστί, καὶ εἰ μὴ χωριστόν· λέγω δὲ τὸν ὄγκον τοῦ ξυλίνου κύβου. ὥστ’ εἰ καὶ χωρισθείη τῶν ἄλλων πάντων καὶ μήτε βαρὺ μήτε κοῦφον εἴη, καθέξει τὸ ἴσον κενὸν καὶ ἐν τῷ αὐτῷ ἔσται τῷ τοῦ τόπου καὶ τῷ τοῦ κενοῦ μέρει ἴσῳ ἑαυτῷ. τί οὖν διοίσει τὸ τοῦ κύβου σῶμα τοῦ ἴσου κενοῦ καὶ τόπου; καὶ εἰ δύο τοιαῦτα, διὰ τί οὐ καὶ ὁποσαοῦν ἐν τῷ αὐτῷ ἔσται;

ἓν μὲν δὴ τοῦτο ἄτοπον καὶ ἀδύνατον. ἔτι δὲ φανερὸν ὅτι τοῦτο ὁ κύβος ἕξει καὶ μεθιστάμενος, ὃ καὶ τὰ ἄλλα σώματα πάντ’ ἔχει. ὥστ’ εἰ τοῦ τόπου μηδὲν διαφέρει, τί δεῖ ποιεῖν τόπον τοῖς σώμασιν παρὰ τὸν ἑκάστου ὄγκον, εἰ ἀπαθὲς ὁ ὄγκος; οὐδὲν γὰρ συμ βάλλεται, εἰ ἕτερον περὶ αὐτὸν ἴσον διάστημα τοιοῦτον εἴη. [ἔτι δεῖ δῆλον εἶναι οἷον κενὸν ἐν τοῖς κινουμένοις. νῦν δ’ οὐδαμοῦ ἐντὸς τοῦ κόσμου· ὁ γὰρ ἀὴρ ἔστιν τι, οὐ δοκεῖ δέ γε-οὐδὲ τὸ ὕδωρ, εἰ ἦσαν οἱ ἰχθύες σιδηροῖ· τῇ ἁφῇ γὰρ ἡ κρίσις τοῦ ἁπτοῦ.]

ὅτι μὲν τοίνυν οὐκ ἔστι κεχωρισμένον κενόν, ἐκ τούτων ἐστὶ δῆλον.

Κεφάλαιο 9

Εἰσὶν δέ τινες οἳ διὰ τοῦ μανοῦ καὶ πυκνοῦ οἴονται φανερὸν εἶναι ὅτι ἔστι κενόν. εἰ μὲν γὰρ μὴ ἔστι μανὸν καὶ πυκνόν, οὐδὲ συνιέναι καὶ πιλεῖσθαι οἷόν τε· εἰ δὲ τοῦτο μὴ εἴη, ἢ ὅλως κίνησις οὐκ ἔσται, ἢ κυμανεῖ τὸ ὅλον, ὥσπερ ἔφη Ξοῦθος, ἢ εἰς ἴσον ἀεὶ <δεῖ> μεταβάλλειν ἀέρα καὶ ὕδωρ (λέγω δὲ οἷον εἰ ἐξ ὕδατος κυάθου γέγονεν ἀήρ, ἅμα ἐξ ἴσου ἀέρος ὕδωρ τοσοῦτον γεγενῆσθαι), ἢ κενὸν εἶναι ἐξ ἀνάγκης· συμπιλεῖσθαι γὰρ καὶ ἐπεκτείνεσθαι οὐκ ἐνδέχεται ἄλλως.

εἰ μὲν οὖν τὸ μανὸν λέγουσι τὸ πολλὰ κενὰ κεχωρισμένα ἔχον, φανερὸν ὡς εἰ μηδὲ κενὸν ἐνδέχεται εἶναι χωριστὸν ὥσπερ μηδὲ τόπον ἔχοντα διάστημα αὑτοῦ, οὐδὲ μανὸν οὕτως· εἰ δὲ μὴ χωριστόν, ἀλλ' ὅμως ἐνεῖναί τι κενόν, ἧττον μὲν ἀδύνατον, συμβαίνει δὲ πρῶτον μὲν οὐ πάσης κινήσεως αἴτιον τὸ κενόν, ἀλλὰ τῆς ἄνω (τὸ γὰρ μανὸν κοῦφον, διὸ [217a] καὶ τὸ πῦρ μανὸν εἶναί φασιν), ἔπειτα κινήσεως αἴτιον οὐχ οὕτω τὸ κενὸν ὡς ἐν ᾧ, ἀλλ' ὥσπερ οἱ ἀσκοὶ τῷ φέρεσθαι αὐτοὶ ἄνω φέρουσι τὸ συνεχές, οὕτω τὸ κενὸν ἄνω φέρει. καίτοι πῶς οἷόν τε φορὰν εἶναι κενοῦ ἢ τόπον κενοῦ; κενοῦ γὰρ γίγνεται κενόν, εἰς ὃ φέρεται.

ἔτι δὲ πῶς ἐπὶ τοῦ βαρέος ἀποδώσουσιν τὸ φέρεσθαι κάτω; καὶ δῆλον ὅτι εἰ ὅσῳ ἂν μανότερον καὶ κενώτερον ᾖ ἄνω οἰσθήσεται, εἰ ὅλως εἴη κενόν, τάχιστ' ἂν φέροιτο. ἴσως δὲ καὶ τοῦτ' ἀδύνατον κινηθῆναι· λόγος δ' ὁ αὐτός, ὥσπερ ὅτι ἐν τῷ κενῷ ἀκίνητα πάντα, οὕτω καὶ τὸ κενὸν ὅτι ἀκίνητον· ἀσύμβλητα γὰρ τὰ τάχη. ἐπεὶ δὲ κενὸν μὲν οὔ φαμεν εἶναι, τὰ ἄλλα δ' ἠπόρηται ἀληθῶς, ὅτι ἢ κίνησις οὐκ ἔσται, εἰ μὴ ἔσται πύκνωσις καὶ μάνωσις, ἢ κυμανεῖ ὁ οὐρανός, ἢ αἰεὶ ἴσον ὕδωρ ἐξ ἀέρος ἔσται καὶ ἀὴρ ἐξ ὕδατος (δῆλον γὰρ ὅτι πλείων ἀὴρ ἐξ ὕδατος γίγνεται· ἀνάγκη τοίνυν, εἰ μὴ ἔστι πίλησις, ἢ ἐξωθούμενον τὸ ἐχόμενον τὸ ἔσχατον κυμαίνειν ποιεῖν, ἢ ἄλλοθί που ἴσον μεταβάλλειν ἐξ ἀέρος ὕδωρ, ἵνα ὁ πᾶς ὄγκος τοῦ ὅλου ἴσος ᾖ, ἢ μηδὲν κινεῖσθαι· ἀεὶ γὰρ μεθισταμένου τοῦτο συμβήσεται, ἂν μὴ κύκλῳ περιίστηται· οὐκ ἀεὶ δ' εἰς τὸ κύκλῳ ἡ φορά, ἀλλὰ καὶ εἰς εὐθύ)·

οἱ μὲν δὴ διὰ ταῦτα κενόν τι φαῖεν ἂν εἶναι, ἡμεῖς δὲ λέγομεν ἐκ τῶν ὑποκειμένων ὅτι ἔστιν ὕλη μία τῶν ἐναντίων, θερμοῦ καὶ ψυχροῦ καὶ τῶν ἄλλων τῶν φυσικῶν ἐναντιώσεων, καὶ ἐκ δυνάμει ὄντος ἐνεργείᾳ ὂν γίγνεται, καὶ οὐ χωριστὴ μὲν ἡ ὕλη, τὸ δ' εἶναι ἕτερον, καὶ μία τῷ ἀριθμῷ, εἰ ἔτυχε, χροιᾶς καὶ θερμοῦ καὶ ψυχροῦ.

ἔστι δὲ καὶ σώματος ὕλη καὶ μεγάλου καὶ μικροῦ ἡ αὐτή. δῆλον δέ· ὅταν γὰρ ἐξ ὕδατος ἀὴρ γένηται, ἡ αὐτὴ ὕλη οὐ προσλαβοῦσά τι ἄλλο ἐγένετο, ἀλλ' ὃ ἦν δυνάμει, ἐνεργείᾳ ἐγένετο, καὶ πάλιν ὕδωρ ἐξ ἀέρος ὡσαύτως, ὁτὲ μὲν εἰς μέγεθος ἐκ μικρότητος, ὁτὲ δ' εἰς μικρό τητα ἐκ μεγέθους. ὁμοίως τοίνυν κἂν ὁ ἀὴρ πολὺς ὢν ἐν ἐλάττονι γίγνηται ὄγκῳ καὶ ἐξ ἐλάττονος μείζων, ἡ δυνάμει οὖσα ὕλη γίγνεται ἄμφω.

ὥσπερ γὰρ καὶ ἐκ ψυχροῦ θερμὸν καὶ ἐκ θερμοῦ ψυχρὸν ἡ αὐτή, ὅτι ἦν δυνάμει, οὕτω καὶ ἐκ θερμοῦ [217b] μᾶλλον θερμόν, οὐδενὸς γενομένου ἐν τῇ ὕλῃ θερμοῦ ὃ οὐκ ἦν θερμὸν ὅτε ἧττον ἦν θερμόν, ὥσπερ γε οὐδ' ἡ τοῦ μείζονος κύκλου περιφέρεια καὶ κυρτότης ἐὰν γίγνηται ἐλάττονος κύκλου, <ἢ> ἡ αὐτὴ οὖσα ἢ ἄλλη, ἐν οὐθενὶ ἐγγέγονε τὸ κυρτὸν ὃ ἦν οὐ κυρτὸν ἀλλ' εὐθύ (οὐ γὰρ τῷ διαλείπειν τὸ ἧττον ἢ τὸ μᾶλλον ἔστιν)· οὐδ' ἔστι τῆς φλογὸς λαβεῖν τι μέγεθος ἐν ᾧ οὐ καὶ θερμότης καὶ λευκότης ἔνεστιν. οὕτω τοίνυν καὶ ἡ πρότερον θερμότης <πρὸς> τὴν ὕστερον. ὥστε καὶ τὸ μέγεθος καὶ ἡ μικρότης τοῦ αἰσθητοῦ ὄγκου οὐ προσλαβούσης τι τῆς ὕλης ἐπεκτείνεται, ἀλλ' ὅτι δυνάμει ἐστὶν ὕλη ἀμφοῖν· ὥστ' ἐστὶ τὸ αὐτὸ πυκνὸν καὶ μανόν, καὶ μία ὕλη αὐτῶν. ἔστι δὲ τὸ μὲν πυκνὸν βαρύ, τὸ δὲ μανὸν κοῦφον. [ἔτι ὥσπερ ἡ τοῦ κύκλου περιφέρεια συναγομένη εἰς ἔλαττον οὐκ ἄλλο τι λαμβάνει τὸ κοῖλον, ἀλλ' ὃ ἦν συνήχθη, καὶ τοῦ πυρὸς ὅ τι ἄν τις λάβῃ πᾶν ἔσται θερμόν, οὕτω καὶ τὸ πᾶν συναγωγὴ καὶ διαστολὴ τῆς αὐτῆς ὕλης.] δύο γὰρ ἔστιν ἐφ' ἑκατέρου, τοῦ τε πυκνοῦ καὶ τοῦ μανοῦ· τό τε γὰρ βαρὺ καὶ τὸ σκληρὸν πυκνὰ δοκεῖ εἶναι, καὶ τἀναντία μανὰ τό τε κοῦφον καὶ τὸ μαλακόν· διαφωνεῖ δὲ τὸ βαρὺ καὶ τὸ σκληρὸν ἐπὶ μολίβδου καὶ σιδήρου.

ἐκ δὴ τῶν εἰρημένων φανερὸν ὡς οὔτ' ἀποκεκριμένον κενὸν ἔστιν, οὔθ' ἁπλῶς οὔτ' ἐν τῷ μανῷ, οὔτε δυνάμει, εἰ μή τις βούλεται πάντως καλεῖν κενὸν τὸ αἴτιον τοῦ φέρεσθαι. οὕτω δ' ἡ τοῦ βαρέος καὶ κούφου ὕλη, ᾗ τοιαύτη, εἴη ἂν τὸ κενόν· τὸ γὰρ πυκνὸν καὶ τὸ μανὸν κατὰ ταύτην τὴν ἐναντίωσιν φορᾶς ποιητικά, κατὰ δὲ τὸ σκληρὸν καὶ μαλακὸν πάθους καὶ ἀπαθείας, καὶ οὐ φορᾶς ἀλλ' ἑτεροιώσεως μᾶλλον.

καὶ περὶ μὲν κενοῦ, πῶς ἔστι καὶ πῶς οὐκ ἔστι, διωρίσθω τὸν τρόπον τοῦτον.

Κεφάλαιο 10

Ἐχόμενον δὲ τῶν εἰρημένων ἐστὶν ἐπελθεῖν περὶ χρόνου· πρῶτον δὲ καλῶς ἔχει διαπορῆσαι περὶ αὐτοῦ καὶ διὰ τῶν ἐξωτερικῶν λόγων, πότερον τῶν ὄντων ἐστὶν ἢ τῶν μὴ ὄντων, εἶτα τίς ἡ φύσις αὐτοῦ. ὅτι μὲν οὖν ἢ ὅλως οὐκ ἔστιν ἢ μόλις καὶ ἀμυδρῶς, ἐκ τῶνδέ τις ἂν ὑποπτεύσειεν. τὸ μὲν γὰρ αὐτοῦ γέγονε καὶ οὐκ ἔστιν, τὸ δὲ μέλλει καὶ οὔπω ἔστιν. [218a] ἐκ δὲ τούτων καὶ ὁ ἄπειρος καὶ ὁ ἀεὶ λαμβανόμενος χρόνος σύγκειται. τὸ δ' ἐκ μὴ ὄντων συγκείμενον ἀδύνατον ἂν εἶναι δόξειε μετέχειν οὐσίας.

πρὸς δὲ τούτοις παντὸς μεριστοῦ, ἄνπερ ᾖ, ἀνάγκη, ὅτε ἔστιν, ἤτοι πάντα τὰ μέρη εἶναι ἢ ἔνια· τοῦ δὲ χρόνου τὰ μὲν γέγονε τὰ δὲ μέλλει, ἔστι δ' οὐδέν, ὄντος μεριστοῦ. τὸ δὲ νῦν οὐ μέρος· μετρεῖ τε γὰρ τὸ μέρος, καὶ συγκεῖσθαι δεῖ τὸ ὅλον ἐκ τῶν μερῶν· ὁ δὲ χρόνος οὐ δοκεῖ συγκεῖσθαι ἐκ τῶν νῦν.

ἔτι δὲ τὸ νῦν, ὃ φαίνεται διορίζειν τὸ παρελθὸν καὶ τὸ μέλλον, πότερον ἓν καὶ ταὐτὸν ἀεὶ διαμένει ἢ ἄλλο καὶ ἄλλο, οὐ ῥᾴδιον ἰδεῖν.

εἰ μὲν γὰρ αἰεὶ ἕτερον καὶ ἕτερον, μηδὲν δ' ἐστὶ τῶν ἐν τῷ χρόνῳ ἄλλο καὶ ἄλλο μέρος ἅμα (ὃ μὴ περιέχει, τὸ δὲ περιέχεται, ὥσπερ ὁ ἐλάττων χρόνος ὑπὸ τοῦ πλείονος), τὸ δὲ νῦν μὴ ὂν πρότερον δὲ ὂν ἀνάγκη ἐφθάρθαι ποτέ, καὶ τὰ νῦν ἅμα μὲν ἀλλήλοις οὐκ ἔσται, ἐφθάρθαι δὲ ἀνάγκη ἀεὶ τὸ πρότερον. ἐν αὑτῷ μὲν οὖν ἐφθάρθαι οὐχ οἷόν τε διὰ τὸ εἶναι τότε, ἐν ἄλλῳ δὲ νῦν ἐφθάρθαι τὸ πρότερον νῦν οὐκ ἐνδέχεται. ἔστω γὰρ ἀδύνατον ἐχόμενα εἶναι ἀλλήλων τὰ νῦν, ὥσπερ στιγμὴν στιγμῆς. εἴπερ οὖν ἐν τῷ ἐφεξῆς οὐκ ἔφθαρται ἀλλ' ἐν ἄλλῳ, ἐν τοῖς μεταξὺ [τοῖς] νῦν ἀπείροις οὖσιν ἅμα ἂν εἴη· τοῦτο δὲ ἀδύνατον.

ἀλλὰ μὴν οὐδ' αἰεὶ τὸ αὐτὸ διαμένειν δυνατόν· οὐδενὸς γὰρ διαιρετοῦ πεπερασμένου ἓν πέρας ἔστιν, οὔτε ἂν ἐφ' ἓν ᾖ συνεχὲς οὔτε ἂν ἐπὶ πλείω· τὸ δὲ νῦν πέρας ἐστίν, καὶ χρόνον ἔστι λαβεῖν πεπερασμένον. ἔτι εἰ τὸ ἅμα εἶναι κατὰ χρόνον καὶ μήτε πρότερον μήτε ὕστερον τὸ ἐν τῷ αὐτῷ εἶναι καὶ ἑνὶ [τῷ] νῦν ἐστιν, εἰ τά τε πρότερον καὶ τὰ ὕστερον ἐν τῷ νῦν τῳδί ἐστιν, ἅμα ἂν εἴη τὰ ἔτος γενόμενα μυριοστὸν τοῖς γε νομένοις τήμερον, καὶ οὔτε πρότερον οὔτε ὕστερον οὐδὲν ἄλλο ἄλλου.

περὶ μὲν οὖν τῶν ὑπαρχόντων αὐτῷ τοσαῦτ' ἔστω δι η πορημένα·

τί δ’ ἐστὶν ὁ χρόνος καὶ τίς αὐτοῦ ἡ φύσις, ὁμοίως ἔκ τε τῶν παραδεδομένων ἄδηλόν ἐστιν, καὶ περὶ ὧν τυγχάνομεν διεληλυθότες πρότερον.

οἱ μὲν γὰρ τὴν τοῦ ὅλου [218b] κίνησιν εἶναί φασιν, οἱ δὲ τὴν σφαῖραν αὐτήν.

καίτοι τῆς περιφορᾶς καὶ τὸ μέρος χρόνος τίς ἐστι, περιφορὰ δέ γε οὔ· μέρος γὰρ περιφορᾶς τὸ ληφθέν, ἀλλ’ οὐ περιφορά. ἔτι δ’ εἰ πλείους ἦσαν οἱ οὐρανοί, ὁμοίως ἂν ἦν ὁ χρόνος ἡ ὁτουοῦν αὐτῶν κίνησις, ὥστε πολλοὶ χρόνοι ἅμα.

ἡ δὲ τοῦ ὅλου σφαῖρα ἔδοξε μὲν τοῖς εἰποῦσιν εἶναι ὁ χρόνος, ὅτι ἔν τε τῷ χρόνῳ πάντα ἐστὶν καὶ ἐν τῇ τοῦ ὅλου σφαίρᾳ· ἔστιν δ’ εὐηθικώτερον τὸ εἰρημένον ἢ ὥστε περὶ αὐτοῦ τὰ ἀδύνατα ἐπισκοπεῖν.

ἐπεὶ δὲ δοκεῖ μάλιστα κίνησις εἶναι καὶ μεταβολή τις ὁ χρόνος, τοῦτ’ ἂν εἴη σκεπτέον.

ἡ μὲν οὖν ἑκάστου μεταβολὴ καὶ κίνησις ἐν αὐτῷ τῷ μεταβάλλοντι μόνον ἐστίν, ἢ οὗ ἂν τύχῃ ὂν αὐτὸ τὸ κινούμενον καὶ μεταβάλλον· ὁ δὲ χρόνος ὁμοίως καὶ πανταχοῦ καὶ παρὰ πᾶσιν.

ἔτι δὲ μεταβολὴ μέν ἐστι θάττων καὶ βραδυτέρα, χρόνος δ’ οὐκ ἔστιν· τὸ γὰρ βραδὺ καὶ ταχὺ χρόνῳ ὥρισται, ταχὺ μὲν τὸ ἐν ὀλίγῳ πολὺ κινούμενον, βραδὺ δὲ τὸ ἐν πολλῷ ὀλίγον· ὁ δὲ χρόνος οὐχ ὥρισται χρόνῳ, οὔτε τῷ ποσός τις εἶναι οὔτε τῷ ποιός.

ὅτι μὲν τοίνυν οὐκ ἔστιν κίνησις, φανερόν· μηδὲν δὲ διαφερέτω λέγειν ἡμῖν ἐν τῷ παρόντι κίνησιν ἢ μεταβολήν.

Κεφάλαιο 11

Ἀλλὰ μὴν οὐδ’ ἄνευ γε μεταβολῆς· ὅταν γὰρ μηδὲν αὐτοὶ μεταβάλλωμεν τὴν διάνοιαν ἢ λάθωμεν μεταβάλλοντες, οὐ δοκεῖ ἡμῖν γεγονέναι χρόνος, καθάπερ οὐδὲ τοῖς ἐν Σαρδοῖ μυθολογουμένοις καθεύδειν παρὰ τοῖς ἥρωσιν, ὅταν ἐγερθῶσι· συνάπτουσι γὰρ τῷ πρότερον νῦν τὸ ὕστερον νῦν καὶ ἓν ποιοῦσιν, ἐξαιροῦντες διὰ τὴν ἀναισθησίαν τὸ μεταξύ. ὥσπερ οὖν εἰ μὴ ἦν ἕτερον τὸ νῦν ἀλλὰ ταὐτὸ καὶ ἕν, οὐκ ἂν ἦν χρόνος, οὕτως καὶ ἐπεὶ λανθάνει ἕτερον ὄν, οὐ δοκεῖ εἶναι τὸ μεταξὺ χρόνος. εἰ δὴ τὸ μὴ οἴεσθαι εἶναι χρόνον τότε συμβαίνει ἡμῖν, ὅταν μὴ ὁρίσωμεν μηδεμίαν μεταβολήν, ἀλλ’ ἐν ἑνὶ καὶ ἀδιαιρέτῳ φαίνηται ἡ ψυχὴ μένειν, ὅταν δ’ αἰσθώμεθα καὶ ὁρίσωμεν, τότε φαμὲν γεγονέναι χρόνον, φανερὸν ὅτι οὐκ ἔστιν ἄνευ κινήσεως καὶ μεταβολῆς [219a] χρόνος. ὅτι μὲν οὖν οὔτε κίνησις οὔτ’ ἄνευ κινήσεως ὁ χρόνος ἐστί, φανερόν·

ληπτέον δέ, ἐπεὶ ζητοῦμεν τί ἐστιν ὁ χρόνος, ἐντεῦθεν ἀρχομένοις, τί τῆς κινήσεώς ἐστιν.

ἅμα γὰρ κινήσεως αἰσθανόμεθα καὶ χρόνου· καὶ γὰρ ἐὰν ᾖ σκότος καὶ μηδὲν διὰ τοῦ σώματος πάσχωμεν, κίνησις δέ τις ἐν τῇ ψυχῇ ἐνῇ, εὐθὺς ἅμα δοκεῖ τις γεγονέναι καὶ χρόνος. ἀλλὰ μὴν καὶ ὅταν γε χρόνος δοκῇ γεγονέναι τις, ἅμα καὶ κίνησίς τις δοκεῖ γεγονέναι. ὥστε ἤτοι κίνησις ἢ τῆς κινήσεώς τί ἐστιν ὁ χρόνος. ἐπεὶ οὖν οὐ κίνησις, ἀνάγκη τῆς κινήσεώς τι εἶναι αὐτόν.

ἐπεὶ δὲ τὸ κινούμενον κινεῖται ἔκ τινος εἴς τι καὶ πᾶν μέγεθος συνεχές, ἀκολουθεῖ τῷ μεγέθει ἡ κίνησις· διὰ γὰρ τὸ τὸ μέγεθος εἶναι συνεχὲς καὶ ἡ κίνησίς ἐστιν συνεχής, διὰ δὲ τὴν κίνησιν ὁ χρόνος· ὅση γὰρ ἡ κίνησις, τοσοῦτος καὶ ὁ χρόνος αἰεὶ δοκεῖ γεγονέναι.

τὸ δὴ πρότερον καὶ ὕστερον ἐν τόπῳ πρῶτόν ἐστιν. ἐνταῦθα μὲν δὴ τῇ θέσει· ἐπεὶ δ’ ἐν τῷ μεγέθει ἔστι τὸ πρότερον καὶ ὕστερον, ἀνάγκη καὶ ἐν κινήσει εἶναι τὸ πρότερον καὶ ὕστερον, ἀνάλογον τοῖς ἐκεῖ. ἀλλὰ μὴν καὶ ἐν χρόνῳ ἔστιν τὸ πρότερον καὶ ὕστερον διὰ τὸ ἀκολουθεῖν ἀεὶ θατέρῳ θάτερον αὐτῶν. ἔστι δὲ τὸ πρότερον καὶ ὕστερον ἐν τῇ κινήσει ὃ μέν ποτε ὂν κίνησις [ἐστιν]· τὸ μέντοι εἶναι αὐτῷ ἕτερον καὶ οὐ κίνησις. ἀλλὰ μὴν καὶ τὸν χρόνον γε γνωρίζομεν ὅταν ὁρίσωμεν τὴν κίνησιν, τῷ πρότερον καὶ ὕστερον ὁρίζοντες· καὶ τότε φαμὲν γεγονέναι χρόνον, ὅταν τοῦ προτέρου καὶ ὑστέρου ἐν τῇ κινήσει αἴσθησιν λάβωμεν. ὁρίζομεν δὲ τῷ ἄλλο καὶ ἄλλο ὑπολαβεῖν αὐτά, καὶ μεταξύ τι αὐτῶν ἕτερον· ὅταν γὰρ ἕτερα τὰ ἄκρα τοῦ μέσου νοήσωμεν, καὶ δύο εἴπῃ ἡ ψυχὴ τὰ νῦν, τὸ μὲν πρότερον τὸ δ' ὕστερον, τότε καὶ τοῦτό φαμεν εἶναι χρόνον· τὸ γὰρ ὁριζόμενον τῷ νῦν χρόνος εἶναι δοκεῖ· καὶ ὑποκείσθω.

ὅταν μὲν οὖν ὡς ἓν τὸ νῦν αἰσθανώμεθα, καὶ μὴ ἤτοι ὡς πρότερον καὶ ὕστερον ἐν τῇ κινήσει ἢ ὡς τὸ αὐτὸ μὲν προτέρου δὲ καὶ ὑστέρου τινός, οὐ δοκεῖ χρόνος γεγονέναι οὐδείς, ὅτι οὐδὲ κίνησις. ὅταν δὲ τὸ πρότερον [219b] καὶ ὕστερον, τότε λέγομεν χρόνον· τοῦτο γάρ ἐστιν ὁ χρόνος, ἀριθμὸς κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον.

οὐκ ἄρα κί νησις ὁ χρόνος ἀλλ' ᾗ ἀριθμὸν ἔχει ἡ κίνησις. σημεῖον δέ· τὸ μὲν γὰρ πλεῖον καὶ ἔλαττον κρίνομεν ἀριθμῷ, κίνησιν δὲ πλείω καὶ ἐλάττω χρόνῳ· ἀριθμὸς ἄρα τις ὁ χρόνος. ἐπεὶ δ' ἀριθμός ἐστι διχῶς (καὶ γὰρ τὸ ἀριθμούμενον καὶ τὸ ἀριθμητὸν ἀριθμὸν λέγομεν, καὶ ᾧ ἀριθμοῦμεν), ὁ δὴ χρόνος ἐστὶν τὸ ἀριθμούμενον καὶ οὐχ ᾧ ἀριθμοῦμεν. ἔστι δ' ἕτερον ᾧ ἀριθμοῦμεν καὶ τὸ ἀριθμούμενον. καὶ ὥσπερ ἡ κίνησις αἰεὶ ἄλλη καὶ ἄλλη, καὶ ὁ χρόνος (ὁ δ' ἅμα πᾶς χρόνος ὁ αὐτός· τὸ γὰρ νῦν τὸ αὐτὸ ὅ ποτ' ἦν-τὸ δ' εἶναι αὐτῷ ἕτερον-τὸ δὲ νῦν τὸν χρόνον ὁρίζει, ᾗ πρότερον καὶ ὕστερον).

τὸ δὲ νῦν ἔστι μὲν ὡς τὸ αὐτό, ἔστι δ' ὡς οὐ τὸ αὐτό· ᾗ μὲν γὰρ ἐν ἄλλῳ καὶ ἄλλῳ, ἕτερον (τοῦτο δ' ἦν αὐτῷ τὸ νῦν <εἶναι>, ὃ δέ ποτε ὂν ἐστι τὸ νῦν, τὸ αὐτό. ἀκολουθεῖ γάρ, ὡς ἐλέχθη, τῷ μὲν μεγέθει ἡ κίνησις, ταύτῃ δ' ὁ χρόνος, ὥς φαμεν· καὶ ὁμοίως δὴ τῇ στιγμῇ τὸ φερόμενον, ᾧ τὴν κίνησιν γνωρίζομεν καὶ τὸ πρότερον ἐν αὐτῇ καὶ τὸ ὕστερον. τοῦτο δὲ ὃ μέν ποτε ὂν τὸ αὐτό (ἢ στιγμὴ γὰρ ἢ λίθος ἤ τι ἄλλο τοιοῦτόν ἐστι), τῷ λόγῳ δὲ ἄλλο, ὥσπερ οἱ σοφισταὶ λαμβάνουσιν ἕτερον τὸ Κορίσκον ἐν Λυκείῳ εἶναι καὶ τὸ Κορίσκον ἐν ἀγορᾷ. καὶ τοῦτο δὴ τῷ ἄλλοθι καὶ ἄλλοθι εἶναι ἕτερον· τῷ δὲ φερομένῳ ἀκολουθεῖ τὸ νῦν, ὥσπερ ὁ χρόνος τῇ κινήσει (τῷ γὰρ φερομένῳ γνωρίζομεν τὸ πρότερον καὶ ὕστερον ἐν κινήσει, ᾗ δ' ἀριθμητὸν τὸ πρότερον καὶ ὕστερον, τὸ νῦν ἔστιν)· ὥστε καὶ ἐν τούτοις ὃ μέν ποτε ὂν νῦν ἐστι, τὸ αὐτό (τὸ πρότερον γὰρ καὶ ὕστερόν ἐστι τὸ ἐν κινήσει), τὸ δ' εἶναι ἕτερον (ᾗ ἀριθμητὸν γὰρ τὸ πρότερον καὶ ὕστερον, τὸ νῦν ἔστιν). καὶ γνώριμον δὲ μάλιστα τοῦτ' ἔστιν· καὶ γὰρ ἡ κίνησις διὰ τὸ κινούμενον καὶ ἡ φορὰ διὰ τὸ φερόμενον· τόδε γάρ τι τὸ φερόμενον, ἡ δὲ κίνησις οὔ. ἔστι μὲν οὖν ὡς τὸ αὐτὸ τὸ νῦν αἰεί, ἔστι δ' ὡς οὐ τὸ αὐτό· καὶ γὰρ τὸ φερόμενον. φανερὸν δὲ καὶ ὅτι εἴτε χρόνος μὴ εἴη, τὸ νῦν οὐκ ἂν [220a] εἴη, εἴτε τὸ νῦν μὴ εἴη, χρόνος οὐκ ἂν εἴη· ἅμα γὰρ ὥσπερ τὸ φερόμενον καὶ ἡ φορά, οὕτως καὶ ὁ ἀριθμὸς ὁ τοῦ φερομένου καὶ ὁ τῆς φορᾶς.

χρόνος μὲν γὰρ ὁ τῆς φορᾶς ἀριθμός, τὸ νῦν δὲ ὡς τὸ φερόμενον, οἷον μονὰς ἀριθμοῦ. καὶ συνεχής τε δὴ ὁ χρόνος τῷ νῦν, καὶ διῄρηται κατὰ τὸ νῦν· ἀκολουθεῖ γὰρ καὶ τοῦτο τῇ φορᾷ καὶ τῷ φερομένῳ. καὶ γὰρ ἡ κίνησις καὶ ἡ φορὰ μία τῷ φερομένῳ, ὅτι ἕν (καὶ οὐχ ὅ ποτε ὄν-καὶ γὰρ ἂν διαλίποι-ἀλλὰ τῷ λόγῳ)· καὶ ὁρίζει δὲ τὴν πρότερον καὶ ὕστερον κίνησιν τοῦτο. ἀκολουθεῖ δὲ καὶ τοῦτό πως τῇ στιγμῇ· καὶ γὰρ ἡ στιγμὴ καὶ συνέχει τὸ μῆκος καὶ ὁρίζει· ἔστι γὰρ τοῦ μὲν ἀρχὴ τοῦ δὲ τελευτή. ἀλλ’ ὅταν μὲν οὕτω λαμβάνῃ τις ὡς δυσὶ χρώμενος τῇ μιᾷ, ἀνάγκη ἵστασθαι, εἰ ἔσται ἀρχὴ καὶ τελευτὴ ἡ αὐτὴ στιγμή· τὸ δὲ νῦν διὰ τὸ κινεῖσθαι τὸ φερόμενον αἰεὶ ἕτερον.

ὥσθ’ ὁ χρόνος ἀριθμὸς οὐχ ὡς τῆς αὐτῆς στιγμῆς, ὅτι ἀρχὴ καὶ τελευτή, ἀλλ’ ὡς τὰ ἔσχατα τῆς γραμμῆς μᾶλλον-καὶ οὐχ ὡς τὰ μέρη, διά τε τὸ εἰρημένον (τῇ γὰρ μέσῃ στιγμῇ ὡς δυσὶ χρήσεται, ὥστε ἠρεμεῖν συμβήσεται), καὶ ἔτι φανερὸν ὅτι οὐδὲν μόριον τὸ νῦν τοῦ χρόνου, οὐδ’ ἡ διαίρεσις τῆς κινήσεως, ὥσπερ οὐδ’ ἡ στιγμὴ τῆς γραμμῆς· αἱ δὲ γραμμαὶ αἱ δύο τῆς μιᾶς μόρια.

ᾗ μὲν οὖν πέρας τὸ νῦν, οὐ χρόνος, ἀλλὰ συμβέβηκεν· ᾗ δ’ ἀριθμεῖ, ἀριθμός · τὰ μὲν γὰρ πέρατα ἐκείνου μόνον ἐστὶν οὗ ἐστιν πέρατα, ὁ δ’ ἀριθμὸς ὁ τῶνδε τῶν ἵππων, ἡ δεκάς, καὶ ἄλλοθι.

ὅτι μὲν τοίνυν ὁ χρόνος ἀριθμός ἐστιν κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον, καὶ συνεχής (συνεχοῦς γάρ), φανερόν.

Κεφάλαιο 12

Ἐλάχιστος δὲ ἀριθμὸς ὁ μὲν ἁπλῶς ἐστὶν ἡ δυάς· τὶς δὲ ἀριθμὸς ἔστι μὲν ὡς ἔστιν, ἔστι δ’ ὡς οὐκ ἔστιν, οἷον γραμμῆς ἐλάχιστος πλήθει μέν ἐστιν αἱ δύο ἢ ἡ μία, μεγέθει δ’ οὐκ ἔστιν ἐλάχιστος· ἀεὶ γὰρ διαιρεῖται πᾶσα γραμμή. ὥστε ὁμοίως καὶ χρόνος· ἐλάχιστος γὰρ κατὰ μὲν ἀριθμόν ἐστιν ὁ εἷς ἢ οἱ δύο, κατὰ μέγεθος δ’ οὐκ ἔστιν.

φανερὸν [220b] δὲ καὶ ὅτι ταχὺς μὲν καὶ βραδὺς οὐ λέγεται, πολὺς δὲ καὶ ὀλίγος καὶ μακρὸς καὶ βραχύς. ᾗ μὲν γὰρ συνεχής, μακρὸς καὶ βραχύς, ᾗ δὲ ἀριθμός, πολὺς καὶ ὀλίγος.

ταχὺς δὲ καὶ βραδὺς οὐκ ἔστιν· οὐδὲ γὰρ ἀριθμὸς ᾗ ἀριθμοῦμεν ταχὺς καὶ βραδὺς οὐδείς. καὶ ὁ αὐτὸς δὲ πανταχοῦ ἅμα· πρότερον δὲ καὶ ὕστερον οὐχ ὁ αὐτός, ὅτι καὶ ἡ μεταβολὴ ἡ μὲν παροῦσα μία, ἡ δὲ γεγενημένη καὶ ἡ μέλλουσα ἑτέρα, ὁ δὲ χρόνος ἀριθμός ἐστιν οὐχ ᾧ ἀριθμοῦμεν ἀλλ’ ὁ ἀριθμούμενος, οὗτος δὲ συμβαίνει πρότερον καὶ ὕστερον ἀεὶ ἕτερος· τὰ γὰρ νῦν ἕτερα. ἔστι δὲ ὁ ἀριθμὸς εἷς μὲν καὶ ὁ αὐτὸς ὁ τῶν ἑκατὸν ἵππων καὶ ὁ τῶν ἑκατὸν ἀνθρώπων, ὧν δ’ ἀριθμός, ἕτερα, οἱ ἵπποι τῶν ἀνθρώπων. ἔτι ὡς ἐνδέχεται κίνησιν εἶναι τὴν αὐτὴν καὶ μίαν πάλιν καὶ πάλιν, οὕτω καὶ χρόνον, οἷον ἐνιαυτὸν ἢ ἔαρ ἢ μετόπωρον.

οὐ μόνον δὲ τὴν κίνησιν τῷ χρόνῳ μετροῦμεν, ἀλλὰ καὶ τῇ κινήσει τὸν χρόνον διὰ τὸ ὁρίζεσθαι ὑπ’ ἀλλήλων· ὁ μὲν γὰρ χρόνος ὁρίζει τὴν κίνησιν ἀριθμὸς ὢν αὐτῆς, ἡ δὲ κίνησις τὸν χρόνον. καὶ λέγομεν πολὺν καὶ ὀλίγον χρόνον τῇ κινήσει μετροῦντες, καθάπερ καὶ τῷ ἀριθμητῷ τὸν ἀριθμόν, οἷον τῷ ἑνὶ ἵππῳ τὸν τῶν ἵππων ἀριθμόν. τῷ μὲν γὰρ ἀριθμῷ τὸ τῶν ἵππων πλῆθος γνωρίζομεν, πάλιν δὲ τῷ ἑνὶ ἵππῳ τὸν τῶν ἵππων ἀριθμὸν αὐτόν. ὁμοίως δὲ καὶ ἐπὶ τοῦ χρόνου καὶ τῆς κινήσεως· τῷ μὲν γὰρ χρόνῳ τὴν κίνησιν, τῇ δὲ κινήσει τὸν χρόνον μετροῦμεν. καὶ τοῦτ’ εὐλόγως συμβέβηκεν· ἀκολουθεῖ γὰρ τῷ μὲν μεγέθει ἡ κίνησις, τῇ δὲ κινήσει ὁ χρό νος, τῷ καὶ ποσὰ καὶ συνεχῆ καὶ διαιρετὰ εἶναι· διὰ μὲν γὰρ τὸ τὸ μέγεθος εἶναι τοιοῦτον ἡ κίνησις ταῦτα πέπονθεν, διὰ δὲ τὴν κίνησιν ὁ χρόνος. καὶ μετροῦμεν καὶ τὸ μέγεθος τῇ. κινήσει καὶ τὴν κίνησιν τῷ μεγέθει· πολλὴν γὰρ εἶναί φαμεν τὴν ὁδόν, ἂν ἡ πορεία πολλή, καὶ ταύτην πολλήν, ἂν ἡ ὁδὸς [ᾖ] πολλή· καὶ τὸν χρόνον, ἂν ἡ κίνησις, καὶ τὴν κίνησιν, ἂν ὁ χρόνος.

ἐπεὶ δ’ ἐστὶν ὁ χρόνος μέτρον [221a] κινήσεως καὶ τοῦ κινεῖσθαι, μετρεῖ δ’ οὗτος τὴν κίνησιν τῷ ὁρίσαι τινὰ κίνησιν ἣ καταμετρήσει τὴν ὅλην (ὥσπερ καὶ τὸ μῆκος ὁ πῆχυς τῷ ὁρίσαι τι μέγεθος ὃ ἀναμετρήσει τὸ ὅλον), καὶ ἔστιν τῇ κινήσει τὸ ἐν χρόνῳ εἶναι τὸ μετρεῖσθαι τῷ χρόνῳ καὶ αὐτὴν καὶ τὸ εἶναι αὐτῆς (ἅμα γὰρ τὴν κίνησιν καὶ τὸ εἶναι τῆς κινήσεως μετρεῖ, καὶ τοῦτ’ ἔστιν αὐτῇ τὸ ἐν χρόνῳ εἶναι, τὸ μετρεῖσθαι αὐτῆς τὸ εἶναι), δῆλον ὅτι καὶ τοῖς ἄλλοις τοῦτ’ ἔστι τὸ ἐν χρόνῳ εἶναι, τὸ μετρεῖσθαι αὐτῶν τὸ εἶναι ὑπὸ τοῦ χρόνου. τὸ γὰρ ἐν χρόνῳ εἶναι δυοῖν ἐστιν θάτερον, ἓν μὲν τὸ εἶναι τότε ὅτε ὁ χρόνος ἔστιν, ἓν δὲ ὥσπερ ἔνια λέγομεν ὅτι ἐν ἀριθμῷ ἐστιν. τοῦτο δὲ σημαίνει ἤτοι ὡς μέρος ἀριθμοῦ καὶ πάθος, καὶ ὅλως ὅτι τοῦ ἀριθμοῦ τι, ἢ ὅτι ἔστιν αὐτοῦ ἀριθμός.

ἐπεὶ δ’ ἀριθμὸς ὁ χρόνος, τὸ μὲν νῦν καὶ τὸ πρότερον καὶ ὅσα τοιαῦτα οὕτως ἐν χρόνῳ ὡς ἐν ἀριθμῷ μονὰς καὶ τὸ περιττὸν καὶ ἄρτιον (τὰ μὲν γὰρ τοῦ ἀριθμοῦ τι, τὰ δὲ τοῦ χρόνου τί ἐστιν)· τὰ δὲ πράγματα ὡς ἐν ἀριθμῷ τῷ χρόνῳ ἐστίν. εἰ δὲ τοῦτο, περιέχεται ὑπὸ χρόνου ὥσπερ <καὶ τὰ ἐν ἀριθμῷ ὑπ’ ἀριθμοῦ> καὶ τὰ ἐν τόπῳ ὑπὸ τόπου.

φανερὸν δὲ καὶ ὅτι οὐκ ἔστιν τὸ ἐν χρόνῳ εἶναι τὸ εἶναι ὅτε ὁ χρόνος ἔστιν, ὥσπερ οὐδὲ τὸ ἐν κινήσει εἶναι οὐδὲ τὸ ἐν τόπῳ ὅτε ἡ κίνησις καὶ ὁ τόπος ἔστιν. εἰ γὰρ ἔσται τὸ ἔν τινι οὕτω, πάντα τὰ πράγματα ἐν ὁτῳοῦν ἔσται, καὶ ὁ οὐρανὸς ἐν τῇ κέγχρῳ· ὅτε γὰρ ἡ κέγχρος ἔστιν, ἔστι καὶ ὁ οὐρανός. ἀλλὰ τοῦτο μὲν συμβέβηκεν, ἐκεῖνο δ’ ἀνάγκη παρακολουθεῖν, καὶ τῷ ὄντι ἐν χρόνῳ εἶναί τινα χρόνον ὅτε κἀκεῖνο ἔστιν, καὶ τῷ ἐν κινήσει ὄντι εἶναι τότε κίνησιν.

ἐπεὶ δέ ἐστιν ὡς ἐν ἀριθμῷ τὸ ἐν χρόνῳ, ληφθήσεταί τις πλείων χρόνος παντὸς τοῦ ἐν χρόνῳ ὄντος· διὸ ἀνάγκη πάντα τὰ ἐν χρόνῳ ὄντα περιέχεσθαι ὑπὸ χρόνου, ὥσπερ καὶ τἆλλα ὅσα ἔν τινί ἐστιν, οἷον τὰ ἐν τόπῳ ὑπὸ τοῦ τόπου.

καὶ πάσχει δή τι ὑπὸ τοῦ χρόνου, καθάπερ καὶ λέγειν εἰώθαμεν ὅτι κατατήκει ὁ χρόνος, καὶ γηράσκει πάνθ’ ὑπὸ τοῦ χρόνου, καὶ ἐπιλανθάνεται διὰ τὸν χρόνον, ἀλλ’ [221b] οὐ μεμάθηκεν, οὐδὲ νέον γέγονεν οὐδὲ καλόν· φθορᾶς γὰρ αἴτιος καθ’ ἑαυτὸν μᾶλλον ὁ χρόνος· ἀριθμὸς γὰρ κινήσεως, ἡ δὲ κίνησις ἐξίστησιν τὸ ὑπάρχον· ὥστε φανερὸν ὅτι τὰ αἰεὶ ὄντα, ᾗ αἰεὶ ὄντα, οὐκ ἔστιν ἐν χρόνῳ· οὐ γὰρ περιέχεται ὑπὸ χρόνου, οὐδὲ μετρεῖται τὸ εἶναι αὐτῶν ὑπὸ τοῦ χρόνου· σημεῖον δὲ τούτου ὅτι οὐδὲ πάσχει οὐδὲν ὑπὸ τοῦ χρόνου ὡς οὐκ ὄντα ἐν χρόνῳ. ἐπεὶ δ’ ἐστὶν ὁ χρόνος μέτρον κινήσεως, ἔσται καὶ ἠρεμίας μέτρον [κατὰ συμβεβηκός]· πᾶσα γὰρ ἠρεμία ἐν χρόνῳ. οὐ γὰρ ὥσπερ τὸ ἐν κινήσει ὂν ἀνάγκη κινεῖσθαι, οὕτω καὶ τὸ ἐν χρόνῳ· οὐ γὰρ κίνησις ὁ χρόνος, ἀλλ’ ἀριθμὸς κινήσεως, ἐν ἀριθμῷ δὲ κινήσεως ἐνδέχεται εἶναι καὶ τὸ ἠρεμοῦν. οὐ γὰρ πᾶν τὸ ἀκίνητον ἠρεμεῖ, ἀλλὰ τὸ ἐστερημένον κινήσεως πεφυκὸς δὲ κινεῖσθαι, καθάπερ εἴρηται ἐν τοῖς πρότερον.

τὸ δ’ εἶναι ἐν ἀριθμῷ ἐστιν τὸ εἶναί τινα ἀριθμὸν τοῦ πράγματος, καὶ μετρεῖσθαι τὸ εἶναι αὐτοῦ τῷ ἀριθμῷ ἐν ᾧ ἐστιν, ὥστ’ εἰ ἐν χρόνῳ, ὑπὸ χρόνου. μετρήσει δ’ ὁ χρόνος τὸ κινούμενον καὶ τὸ ἠρεμοῦν, ᾗ τὸ μὲν κινούμενον τὸ δὲ ἠρεμοῦν· τὴν γὰρ κίνησιν αὐτῶν μετρήσει καὶ τὴν ἠρεμίαν, πόση τις.

ὥστε τὸ κινούμενον οὐχ ἁπλῶς ἔσται μετρητὸν ὑπὸ χρόνου, ᾗ ποσόν τί ἐστιν, ἀλλ’ ᾗ ἡ κίνησις αὐτοῦ ποσή. ὥστε ὅσα μήτε κινεῖται μήτ’ ἠρεμεῖ, οὐκ ἔστιν ἐν χρόνῳ· τὸ μὲν γὰρ ἐν χρόνῳ εἶναι τὸ μετρεῖσθαί ἐστι χρόνῳ, ὁ δὲ χρόνος κινήσεως καὶ ἠρεμίας μέτρον.

φανερὸν οὖν ὅτι οὐδὲ τὸ μὴ ὂν ἔσται πᾶν ἐν χρόνῳ, οἷον ὅσα μὴ ἐνδέχεται ἄλλως, ὥσπερ τὸ τὴν διάμετρον εἶναι τῇ πλευρᾷ σύμμετρον.

ὅλως γάρ, εἰ μέτρον μέν ἐστι κινήσεως ὁ χρόνος καθ’ αὑτό, τῶν δ’ ἄλλων κατὰ συμβεβηκός, δῆλον ὅτι ὧν τὸ εἶναι μετρεῖ, τούτοις ἅπασιν ἔσται τὸ εἶναι ἐν τῷ ἠρεμεῖν ἢ κινεῖσθαι. ὅσα μὲν οὖν φθαρτὰ καὶ γενητὰ καὶ ὅλως ὁτὲ μὲν ὄντα ὁτὲ δὲ μή, ἀνάγκη ἐν χρόνῳ εἶναι (ἔστιν γὰρ χρόνος τις πλείων, ὃς ὑπερέξει τοῦ τε εἶναι αὐτῶν καὶ τοῦ μετροῦντος τὴν οὐσίαν αὐτῶν)· τῶν δὲ μὴ ὄντων ὅσα μὲν περιέχει ὁ χρόνος, τὰ μὲν ἦν, οἷον Ὅμηρός ποτε [222a] ἦν, τὰ δὲ ἔσται, οἷον τῶν μελλόντων τι, ἐφ’ ὁπότερα περιέχει· καὶ εἰ ἐπ’ ἄμφω, ἀμφότερα [καὶ ἦν καὶ ἔσται]· ὅσα δὲ μὴ περιέχει μηδαμῇ, οὔτε ἦν οὔτε ἔστιν οὔτε ἔσται. ἔστι δὲ τὰ τοιαῦτα τῶν μὴ ὄντων, ὅσων τἀντικείμενα αἰεὶ ἔστιν, οἷον τὸ ἀσύμμετρον εἶναι τὴν διάμετρον ἀεὶ ἔστι, καὶ οὐκ ἔσται τοῦτ’ ἐν χρόνῳ. οὐ τοίνυν οὐδὲ τὸ σύμμετρον· διὸ αἰεὶ οὐκ ἔστιν, ὅτι ἐναντίον τῷ αἰεὶ ὄντι. ὅσων δὲ τὸ ἐναντίον μὴ αἰεί, ταῦτα δὲ δύναται καὶ εἶναι καὶ μή, καὶ ἔστιν γένεσις καὶ φθορὰ αὐτῶν.

Κεφάλαιο 13

Τὸ δὲ νῦν ἐστιν συνέχεια χρόνου, ὥσπερ ἐλέχθη· συνέχει γὰρ τὸν χρόνον τὸν παρεληλυθότα καὶ ἐσόμενον, καὶ πέρας χρόνου ἐστίν· ἔστι γὰρ τοῦ μὲν ἀρχή, τοῦ δὲ τελευτή. ἀλλὰ τοῦτ' οὐχ ὥσπερ ἐπὶ τῆς στιγμῆς μενούσης φανερόν. διαιρεῖ δὲ δυνάμει. καὶ ᾗ μὲν τοιοῦτο, αἰεὶ ἕτερον τὸ νῦν, ᾗ δὲ συνδεῖ, αἰεὶ τὸ αὐτό, ὥσπερ ἐπὶ τῶν μαθηματικῶν γραμμῶν (οὐ γὰρ ἡ αὐτὴ αἰεὶ στιγμὴ τῇ νοήσει· διαιρούντων γὰρ ἄλλη καὶ ἄλλη· ᾗ δὲ μία, ἡ αὐτὴ πάντῃ)

-οὕτω καὶ τὸ νῦν τὸ μὲν τοῦ χρόνου διαίρεσις κατὰ δύναμιν, τὸ δὲ πέρας ἀμφοῖν καὶ ἑνότης· ἔστι δὲ ταὐτὸ καὶ κατὰ ταὐτὸ ἡ διαίρεσις καὶ ἡ ἕνωσις, τὸ δ' εἶναι οὐ ταὐτό.

τὸ μὲν οὖν οὕτω λέγεται τῶν νῦν, ἄλλο δ' ὅταν ὁ χρόνος ὁ τούτου ἐγγὺς ᾖ. ἥξει νῦν, ὅτι τήμερον ἥξει· ἥκει νῦν, ὅτι ἦλθε τήμερον. τὰ δ' ἐν Ἰλίῳ γέγονεν οὐ νῦν, οὐδ' ὁ κατακλυσμὸς [γέγονε] νῦν· καίτοι συνεχὴς ὁ χρόνος εἰς αὐτά, ἀλλ' ὅτι οὐκ ἐγγύς.

τὸ δὲ ποτέ χρόνος ὡρισμένος πρὸς τὸ πρότερον νῦν, οἷον ποτὲ ἐλήφθη Τροία, καὶ ποτὲ ἔσται κατακλυσμός· δεῖ γὰρ πεπεράνθαι πρὸς τὸ νῦν. ἔσται ἄρα ποσός τις ἀπὸ τοῦδε χρόνος εἰς ἐκεῖνο, καὶ ἦν εἰς τὸ παρελθόν. εἰ δὲ μηδεὶς χρόνος ὃς οὔ ποτε, πᾶς ἂν εἴη χρόνος πεπερασμένος.

ἆρ' οὖν ὑπολείψει; ἢ οὔ, εἴπερ αἰεὶ ἔστι κίνησις; ἄλλος οὖν ἢ ὁ αὐτὸς πολλάκις; δῆλον ὅτι ὡς ἂν ἡ κίνησις, οὕτω καὶ ὁ χρόνος· εἰ μὲν γὰρ ἡ αὐτὴ καὶ μία γίγνεταί ποτε, ἔσται καὶ χρόνος εἷς καὶ ὁ αὐτός, εἰ δὲ μή, οὐκ ἔσται.

ἐπεὶ δὲ τὸ νῦν τελευτὴ [222b] καὶ ἀρχὴ χρόνου, ἀλλ' οὐ τοῦ αὐτοῦ, ἀλλὰ τοῦ μὲν παρήκοντος τελευτή, ἀρχὴ δὲ τοῦ μέλλοντος, ἔχοι ἂν ὥσπερ ὁ κύκλος ἐν τῷ αὐτῷ πως τὸ κυρτὸν καὶ τὸ κοῖλον, οὕτως καὶ ὁ χρόνος ἀεὶ ἐν ἀρχῇ καὶ τελευτῇ. καὶ διὰ τοῦτο δοκεῖ ἀεὶ ἕτερος· οὐ γὰρ τοῦ αὐτοῦ ἀρχὴ καὶ τελευτὴ τὸ νῦν· ἅμα γὰρ ἂν καὶ κατὰ τὸ αὐτὸ τἀναντία ἂν εἴη. καὶ οὐχ ὑπολείψει δή· αἰεὶ γὰρ ἐν ἀρχῇ.

τὸ δ' ἤδη τὸ ἐγγύς ἐστι τοῦ παρόντος νῦν ἀτόμου μέρος τοῦ μέλλοντος χρόνου (πότε βαδίζεις; ἤδη, ὅτι ἐγγὺς ὁ χρόνος ἐν ᾧ μέλλει), καὶ τοῦ παρεληλυθότος χρόνου τὸ μὴ πόρρω τοῦ νῦν (πότε βαδίζεις; ἤδη βεβάδικα). τὸ δὲ Ἴλιον φάναι ἤδη ἑαλωκέναι οὐ λέγομεν, ὅτι λίαν πόρρω τοῦ νῦν. καὶ τὸ ἄρτι τὸ ἐγγὺς τοῦ παρόντος νῦν [τὸ] μόριον τοῦ παρελθόντος. πότε ἦλθες; ἄρτι, ἐὰν ᾖ ὁ χρόνος ἐγγὺς τοῦ ἐνεστῶτος νῦν. πάλαι δὲ τὸ πόρρω. τὸ δ' ἐξαίφνης τὸ ἐν ἀναισθήτῳ χρόνῳ διὰ μικρότητα ἐκστάν· μεταβολὴ δὲ πᾶσα φύσει ἐκστατικόν. ἐν δὲ τῷ χρόνῳ πάντα γίγνεται καὶ φθείρεται· διὸ καὶ οἱ μὲν σοφώτατον ἔλεγον, ὁ δὲ Πυθαγόρειος Πάρων ἀμαθέστατον, ὅτι καὶ ἐπιλανθάνονται ἐν τούτῳ, λέγων ὀρθότερον. δῆλον οὖν ὅτι φθορᾶς μᾶλλον ἔσται καθ' αὑτὸν αἴτιος ἢ γενέσεως, καθάπερ ἐλέχθη καὶ πρότερον (ἐκστατικὸν γὰρ ἡ μεταβολὴ καθ' αὑτήν), γενέσεως δὲ καὶ τοῦ εἶναι κατὰ συμβεβηκός. σημεῖον δὲ ἱκανὸν ὅτι γίγνεται μὲν οὐδὲν ἄνευ τοῦ κινεῖσθαί πως αὐτὸ καὶ πράττειν, φθείρεται δὲ καὶ μηδὲν κινούμενον. καὶ ταύτην μάλιστα λέγειν εἰώθαμεν ὑπὸ τοῦ χρόνου φθοράν. οὐ μὴν ἀλλ' οὐδὲ ταύτην ὁ χρόνος ποιεῖ, ἀλλὰ συμβαίνει ἐν χρόνῳ γίγνεσθαι καὶ ταύτην τὴν μεταβολήν.

ὅτι μὲν οὖν ἔστιν ὁ χρόνος καὶ τί, καὶ ποσαχῶς λέγεται τὸ νῦν, καὶ τί τὸ ποτὲ καὶ τὸ ἄρτι καὶ τὸ ἤδη καὶ τὸ πάλαι καὶ τὸ ἐξαίφνης, εἴρηται.

Κεφάλαιο 14

Τούτων δ’ ἡμῖν οὕτω διωρισμένων φανερὸν ὅτι πᾶσα μεταβολὴ καὶ ἅπαν τὸ κινούμενον ἐν χρόνῳ. τὸ γὰρ θᾶττον καὶ βραδύτερον κατὰ πᾶσάν ἐστιν μεταβολήν (ἐν πᾶσι γὰρ οὕτω φαίνεται)· λέγω δὲ θᾶττον κινεῖσθαι τὸ πρότερον [223a] μεταβάλλον εἰς τὸ ὑποκείμενον κατὰ τὸ αὐτὸ διάστημα καὶ ὁμαλὴν κίνησιν κινούμενον (οἷον ἐπὶ τῆς φορᾶς, εἰ ἄμφω κατὰ τὴν περιφερῆ κινεῖται ἢ ἄμφω κατὰ τὴν εὐθεῖαν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων). ἀλλὰ μὴν τό γε πρότερον ἐν χρόνῳ ἐστί· πρότερον γὰρ καὶ ὕστερον λέγομεν κατὰ τὴν πρὸς τὸ νῦν ἀπόστασιν, τὸ δὲ νῦν ὅρος τοῦ παρήκοντος καὶ τοῦ μέλλοντος· ὥστ’ ἐπεὶ τὰ νῦν ἐν χρόνῳ, καὶ τὸ πρότερον καὶ ὕστερον ἐν χρόνῳ ἔσται· ἐν ᾧ γὰρ τὸ νῦν, καὶ ἡ τοῦ νῦν ἀπόστασις. (ἐναντίως δὲ λέγεται τὸ πρότερον κατά τε τὸν παρεληλυθότα χρόνον καὶ τὸν μέλλοντα· ἐν μὲν γὰρ τῷ παρεληλυθότι πρότερον λέγομεν τὸ πορρώτερον τοῦ νῦν, ὕστερον δὲ τὸ ἐγγύτερον, ἐν δὲ τῷ μέλλοντι πρότερον μὲν τὸ ἐγγύτερον, ὕστερον δὲ τὸ πορρώτερον.) ὥστε ἐπεὶ τὸ μὲν πρότερον ἐν χρόνῳ, πάσῃ δ’ ἀκολουθεῖ κινήσει τὸ πρότερον, φανερὸν ὅτι πᾶσα μεταβολὴ καὶ πᾶσα κίνησις ἐν χρόνῳ ἐστίν. ἄξιον δ’ ἐπισκέψεως καὶ πῶς ποτε ἔχει ὁ χρόνος πρὸς τὴν ψυχήν, καὶ διὰ τί ἐν παντὶ δοκεῖ εἶναι ὁ χρόνος, καὶ ἐν γῇ καὶ ἐν θαλάττῃ καὶ ἐν οὐρανῷ. ἢ ὅτι κινήσεώς τι πάθος ἢ ἕξις, ἀριθμός γε ὤν, ταῦτα δὲ κινητὰ πάντα (ἐν τόπῳ γὰρ πάντα), ὁ δὲ χρόνος καὶ ἡ κίνησις ἅμα κατά τε δύναμιν καὶ κατ’ ἐνέργειαν;

πότερον δὲ μὴ οὔσης ψυχῆς εἴη ἂν ὁ χρόνος ἢ οὔ, ἀπορήσειεν ἄν τις. ἀδυνάτου γὰρ ὄντος εἶναι τοῦ ἀριθμήσοντος ἀδύνατον καὶ ἀριθμητόν τι εἶναι, ὥστε δῆλον ὅτι οὐδ’ ἀριθμός. ἀριθμὸς γὰρ ἢ τὸ ἠριθμημένον ἢ τὸ ἀριθμητόν. εἰ δὲ μηδὲν ἄλλο πέφυκεν ἀριθμεῖν ἢ ψυχὴ καὶ ψυχῆς νοῦς, ἀδύνατον εἶναι χρόνον ψυχῆς μὴ οὔσης, ἀλλ’ ἢ τοῦτο ὅ ποτε ὂν ἔστιν ὁ χρόνος, οἷον εἰ ἐνδέχεται κίνησιν εἶναι ἄνευ ψυχῆς. τὸ δὲ πρότερον καὶ ὕστερον ἐν κινήσει ἐστίν· χρόνος δὲ ταῦτ’ ἐστὶν ᾗ ἀριθμητά ἐστιν.

ἀπορήσειε δ’ ἄν τις καὶ ποίας κινήσεως ὁ χρόνος ἀριθμός. ἢ ὁποιασοῦν; καὶ γὰρ γίγνεται ἐν χρόνῳ καὶ φθείρεται καὶ αὐξάνεται καὶ ἀλλοιοῦται καὶ φέρεται· ᾗ οὖν κίνησίς ἐστι, ταύτῃ ἐστὶν ἑκάστης κινήσεως ἀριθμός. διὸ κινήσεώς ἐστιν ἁπλῶς ἀριθμὸς [223b] συνεχοῦς, ἀλλ’ οὐ τινός.

ἀλλ’ ἔστι νῦν κεκινῆσθαι καὶ ἄλλο· ὧν ἑκατέρας τῆς κινήσεως εἴη ἂν ἀριθμός. ἕτερος οὖν χρόνος ἔστιν, καὶ ἅμα δύο ἴσοι χρόνοι ἂν εἶεν· ἢ οὔ; ὁ αὐτὸς γὰρ χρόνος καὶ εἷς ὁ ἴσος καὶ ἅμα· εἴδει δὲ καὶ οἱ μὴ ἅμα· εἰ γὰρ εἶεν κύνες, οἱ δ’ ἵπποι, ἑκάτεροι δ’ ἑπτά, ὁ αὐτὸς ἀριθμός. οὕτω δὲ καὶ τῶν κινήσεων τῶν ἅμα περαινομένων ὁ αὐτὸς χρόνος, ἀλλ’ ἡ μὲν ταχεῖα ἴσως ἡ δ’ οὔ, καὶ ἡ μὲν φορὰ ἡ δ’ ἀλλοίωσις· ὁ μέντοι χρόνος ὁ αὐτός, εἴπερ καὶ [ὁ ἀριθμὸς] ἴσος καὶ ἅμα, τῆς τε ἀλλοιώσεως καὶ τῆς φορᾶς. καὶ διὰ τοῦτο αἱ μὲν κινήσεις ἕτεραι καὶ χωρίς, ὁ δὲ χρόνος πανταχοῦ ὁ αὐτός, ὅτι καὶ ὁ ἀριθμὸς εἷς καὶ ὁ αὐτὸς πανταχοῦ ὁ τῶν ἴσων καὶ ἅμα. ἐπεὶ δ’ ἔστι φορὰ καὶ ταύτης ἡ κύκλῳ, ἀριθμεῖται δ’ ἕκαστον ἑνί τινι συγγενεῖ, μονάδες μονάδι, ἵπποι δ’ ἵππῳ, οὕτω <δὲ> καὶ ὁ χρόνος χρόνῳ τινὶ ὡρισμένῳ, μετρεῖται δ’, ὥσπερ εἴπομεν, ὅ τε χρόνος κινήσει καὶ ἡ κίνησις χρόνῳ (τοῦτο δ’ ἐστίν, ὅτι ὑπὸ τῆς ὡρισμένης κινήσεως χρόνῳ μετρεῖται τῆς τε κινήσεως τὸ ποσὸν καὶ τοῦ χρόνου)-εἰ οὖν τὸ πρῶτον μέτρον πάντων τῶν συγγενῶν, ἡ κυκλοφορία ἡ ὁμαλὴς μέτρον μάλιστα, ὅτι ὁ ἀριθμὸς ὁ ταύτης γνωριμώτατος. ἀλλοίωσις μὲν οὖν οὐδὲ αὔξησις οὐδὲ γένεσις οὐκ εἰσὶν ὁμαλεῖς, φορὰ δ’ ἔστιν. διὸ καὶ δοκεῖ ὁ χρόνος εἶναι ἡ τῆς σφαίρας κίνησις, ὅτι ταύτῃ μετροῦνται αἱ ἄλλαι κινήσεις καὶ ὁ χρόνος ταύτῃ τῇ κινήσει.

διὰ δὲ τοῦτο καὶ τὸ εἰωθὸς λέγεσθαι συμβαίνει· φασὶν γὰρ κύκλον εἶναι τὰ ἀνθρώπινα πράγματα, καὶ τῶν ἄλλων τῶν κίνησιν ἐχόντων φυσικὴν καὶ γένεσιν καὶ φθοράν. τοῦτο δέ, ὅτι ταῦτα πάντα τῷ χρόνῳ κρίνεται, καὶ λαμβάνει τελευτὴν καὶ ἀρχὴν ὥσπερ ἂν εἰ κατά τινα περίοδον. καὶ γὰρ ὁ χρόνος αὐτὸς εἶναι δοκεῖ κύκλος τις· τοῦτο δὲ πάλιν δοκεῖ, διότι τοιαύτης ἐστὶ φορᾶς μέτρον καὶ μετρεῖται αὐτὸς ὑπὸ τοιαύτης. ὥστε τὸ λέγειν εἶναι τὰ γιγνόμενα τῶν πραγμάτων κύκλον τὸ λέγειν ἐστὶν τοῦ χρόνου εἶναί τινα κύκλον· τοῦτο δέ, ὅτι μετρεῖται τῇ κυκλοφορίᾳ· παρὰ γὰρ τὸ μέτρον οὐδὲν [224a] ἄλλο παρεμφαίνεται τῷ μετρουμένῳ, ἀλλ’ ἢ πλείω μέτρα τὸ ὅλον.

λέγεται δὲ ὀρθῶς καὶ ὅτι ἀριθμὸς μὲν ὁ αὐτὸς ὁ τῶν προβάτων καὶ τῶν κυνῶν, εἰ ἴσος ἑκάτερος, δεκὰς δὲ οὐχ ἡ αὐτὴ οὐδὲ δέκα τὰ αὐτά, ὥσπερ οὐδὲ τρίγωνα τὰ αὐτὰ τὸ ἰσόπλευρον καὶ τὸ σκαληνές, καίτοι σχῆμά γε ταὐτό, ὅτι τρίγωνα ἄμφω· ταὐτὸ γὰρ λέγεται οὗ μὴ διαφέρει διαφορᾷ, ἀλλ’ οὐχὶ οὗ διαφέρει, οἷον τρίγωνον τριγώνου <τριγώνου> διαφορᾷ διαφέρει· τοιγαροῦν ἕτερα τρίγωνα· σχήματος δὲ οὔ, ἀλλ’ ἐν τῇ αὐτῇ διαιρέσει καὶ μιᾷ. σχῆμα γὰρ τὸ μὲν τοιόνδε κύκλος, τὸ δὲ τοιόνδε τρίγωνον, τούτου δὲ τὸ μὲν τοι όνδε ἰσόπλευρον, τὸ δὲ τοιόνδε σκαληνές. σχῆμα μὲν οὖν τὸ αὐτό, καὶ τοῦτο τρίγωνον, τρίγωνον δ’ οὐ τὸ αὐτό. καὶ ἀριθμὸς δὴ ὁ αὐτός (οὐ γὰρ διαφέρει ἀριθμοῦ διαφορᾷ ὁ ἀριθμὸς αὐτῶν), δεκὰς δ’ οὐχ ἡ αὐτή· ἐφ’ ὧν γὰρ λέγεται, διαφέρει· τὰ μὲν γὰρ κύνες, τὰ δ’ ἵπποι.

καὶ περὶ μὲν χρόνου καὶ αὐτοῦ καὶ τῶν περὶ αὐτὸν οἰκείων τῇ σκέψει εἴρηται.

Βιβλίο 5

Κεφάλαιο 1

Μεταβάλλει δὲ τὸ μεταβάλλον πᾶν τὸ μὲν κατὰ συμβεβηκός, οἷον ὅταν λέγωμεν τὸ μουσικὸν βαδίζειν, ὅτι ᾧ συμβέβηκεν μουσικῷ εἶναι, τοῦτο βαδίζει· τὸ δὲ τῷ τούτου τι μεταβάλλειν ἁπλῶς λέγεται μεταβάλλειν, οἷον ὅσα λέγεται κατὰ μέρη (ὑγιάζεται γὰρ τὸ σῶμα, ὅτι ὁ ὀφθαλμὸς ἢ ὁ θώραξ, ταῦτα δὲ μέρη τοῦ ὅλου σώματος)· ἔστι δέ τι ὃ οὔτε κατὰ συμβεβηκὸς κινεῖται οὔτε τῷ ἄλλο τι τῶν αὐτοῦ, ἀλλὰ τῷ αὐτὸ κινεῖσθαι πρῶτον. καὶ τοῦτ' ἔστι τὸ καθ' αὑτὸ κινητόν, κατ' ἄλλην δὲ κίνησιν ἕτερον, οἷον ἀλλοιωτόν, καὶ ἀλλοιώσεως ὑγιαντὸν ἢ θερμαντὸν ἕτερον. ἔστι δὲ καὶ ἐπὶ τοῦ κινοῦντος ὡσαύτως· τὸ μὲν γὰρ κατὰ συμβεβηκὸς κινεῖ, τὸ δὲ κατὰ μέρος τῷ τῶν τούτου τι, τὸ δὲ καθ' αὑτὸ πρῶτον, οἷον ὁ μὲν ἰατρὸς ἰᾶται, ἡ δὲ χεὶρ πλήττει. ἐπεὶ δ' ἔστι μέν τι τὸ κινοῦν πρῶτον, ἔστι δέ τι τὸ κινούμενον, ἔτι ἐν ᾧ, ὁ χρόνος, καὶ παρὰ ταῦτα ἐξ οὗ καὶ εἰς (224b.) ὅ — πᾶσα γὰρ κίνησις ἔκ τινος καὶ εἴς τι· ἕτερον γὰρ τὸ πρῶτον κινούμενον καὶ εἰς ὃ κινεῖται καὶ ἐξ οὗ, οἷον τὸ ξύλον καὶ τὸ θερμὸν καὶ τὸ ψυχρόν· τούτων δὲ τὸ μὲν ὅ, τὸ δ' εἰς ὅ, τὸ δ' ἐξ οὗ — ἡ δὴ κίνησις δῆλον ὅτι ἐν τῷ ξύλῳ, οὐκ ἐν τῷ εἴδει· οὔτε γὰρ κινεῖ οὔτε κινεῖται τὸ εἶδος ἢ ὁ τόπος ἢ τὸ τοσόνδε, ἀλλ' ἔστι κινοῦν καὶ κινούμενον καὶ εἰς ὃ κινεῖται. μᾶλλον γὰρ εἰς ὃ ἢ ἐξ οὗ κινεῖται ὀνομάζεται ἡ μεταβολή. διὸ καὶ ἡ φθορὰ εἰς τὸ μὴ ὂν μεταβολή ἐστιν· καίτοι καὶ ἐξ ὄντος μεταβάλλει τὸ φθειρόμενον· καὶ ἡ γένεσις εἰς ὄν, καίτοι καὶ ἐκ μὴ ὄντος. τί μὲν οὖν ἐστιν ἡ κίνησις, εἴρηται πρότερον· τὰ δὲ εἴδη καὶ τὰ πάθη καὶ ὁ τόπος, εἰς ἃ κινοῦνται τὰ κινούμενα, ἀκίνητά ἐστιν, οἷον ἡ ἐπιστήμη καὶ ἡ θερμότης. καίτοι ἀπορήσειεν ἄν τις, εἰ τὰ πάθη κινήσεις, ἡ δὲ λευκότης πάθος· ἔσται γὰρ εἰς κίνησιν μεταβολή. ἀλλ' ἴσως οὐχ ἡ λευκότης κίνησις, ἀλλ' ἡ λεύκαν σις. ἔστιν δὲ καὶ ἐν ἐκείνοις καὶ τὸ κατὰ συμβεβηκὸς καὶ τὸ κατὰ μέρος καὶ [τὸ] κατ' ἄλλο καὶ τὸ πρώτως καὶ μὴ κατ' ἄλλο, οἷον τὸ λευκαινόμενον εἰς μὲν τὸ νοούμενον μεταβάλλει κατὰ συμβεβηκός (τῷ γὰρ χρώματι συμβέβηκε νοεῖσθαι), εἰς δὲ χρῶμα ὅτι μέρος τὸ λευκὸν τοῦ χρώμα τος (καὶ εἰς τὴν Εὐρώπην ὅτι μέρος αἱ Ἀθῆναι τῆς Εὐρώπης), εἰς δὲ τὸ λευκὸν χρῶμα καθ' αὑτό. πῶς μὲν οὖν καθ' αὑτὸ κινεῖται καὶ πῶς κατὰ συμβεβηκός, καὶ πῶς κατ' ἄλλο τι καὶ πῶς τῷ αὐτὸ πρῶτον, καὶ ἐπὶ κινοῦντος καὶ ἐπὶ κινουμένου, δῆλον, καὶ ὅτι ἡ κίνησις οὐκ ἐν τῷ εἴδει ἀλλ' ἐν τῷ κινουμένῳ καὶ κινητῷ κατ’ ἐνέργειαν. ἡ μὲν οὖν κατὰ συμβεβηκὸς μεταβολὴ ἀφείσθω· ἐν ἅπασί τε γάρ ἐστι καὶ αἰεὶ καὶ πάντων· ἡ δὲ μὴ κατὰ συμβεβηκὸς οὐκ ἐν ἅπασιν, ἀλλ’ ἐν τοῖς ἐναντίοις καὶ τοῖς μεταξὺ καὶ ἐν ἀντιφάσει· τούτου δὲ πίστις ἐκ τῆς ἐπαγωγῆς. ἐκ δὲ τοῦ μεταξὺ μετα βάλλει· χρῆται γὰρ αὐτῷ ὡς ἐναντίῳ ὄντι πρὸς ἑκάτερον· ἔστι γάρ πως τὸ μεταξὺ τὰ ἄκρα. διὸ καὶ τοῦτο πρὸς ἐκεῖνα κἀκεῖνα πρὸς τοῦτο λέγεταί πως ἐναντία, οἷον ἡ μέση ὀξεῖα πρὸς τὴν ὑπάτην καὶ βαρεῖα πρὸς τὴν νητήν, καὶ τὸ φαιὸν λευκὸν πρὸς τὸ μέλαν καὶ μέλαν πρὸς τὸ λευκόν.

ἐπεὶ δὲ (225a.) πᾶσα μεταβολή ἐστιν ἔκ τινος εἴς τι (δηλοῖ δὲ καὶ τοὔνομα· μετ’ ἄλλο γάρ τι καὶ τὸ μὲν πρότερον δηλοῖ, τὸ δ’ ὕστερον), μεταβάλλοι ἂν τὸ μεταβάλλον τετραχῶς· ἢ γὰρ ἐξ ὑποκειμένου εἰς ὑποκείμενον, ἢ ἐξ ὑποκειμένου εἰς μὴ ὑποκείμενον, ἢ οὐκ ἐξ ὑποκειμένου εἰς ὑποκείμενον, ἢ οὐκ ἐξ ὑποκειμένου εἰς μὴ ὑποκείμενον· λέγω δὲ ὑποκείμενον τὸ καταφάσει δηλούμενον. ὥστε ἀνάγκη ἐκ τῶν εἰρημένων τρεῖς εἶναι μεταβολάς, τήν τε ἐξ ὑποκειμένου εἰς ὑποκείμενον, καὶ τὴν ἐξ ὑποκειμένου εἰς μὴ ὑποκείμενον, καὶ τὴν ἐκ μὴ ὑποκειμένου εἰς ὑποκείμενον. ἡ γὰρ οὐκ ἐξ ὑποκειμένου εἰς μὴ ὑποκείμενον οὐκ ἔστιν μεταβολὴ διὰ τὸ μὴ εἶναι κατ’ ἀντίθεσιν· οὔτε γὰρ ἐναντία οὔτε ἀντίφασίς ἐστιν.

ἡ μὲν οὖν οὐκ ἐξ ὑποκειμένου εἰς ὑποκείμενον μεταβολὴ κατ’ ἀντίφασιν γένεσίς ἐστιν, ἡ μὲν ἁπλῶς ἁπλῆ, ἡ δὲ τὶς τινός (οἷον ἡ μὲν ἐκ μὴ λευκοῦ εἰς λευκὸν γένεσις τούτου, ἡ δ’ ἐκ τοῦ μὴ ὄντος ἁπλῶς εἰς οὐσίαν γένεσις ἁπλῶς, καθ’ ἣν ἁπλῶς γίγνεσθαι καὶ οὐ τὶ γίγνεσθαι λέγομεν)· ἡ δ’ ἐξ ὑποκειμένου εἰς οὐχ ὑποκεί μενον φθορά, ἁπλῶς μὲν ἡ ἐκ τῆς οὐσίας εἰς τὸ μὴ εἶναι, τὶς δὲ ἡ εἰς τὴν ἀντικειμένην ἀπόφασιν, καθάπερ ἐλέχθη καὶ ἐπὶ τῆς γενέσεως.

εἰ δὴ τὸ μὴ ὂν λέγεται πλεοναχῶς, καὶ μήτε τὸ κατὰ σύνθεσιν ἢ διαίρεσιν ἐνδέχεται κινεῖσθαι μήτε τὸ κατὰ δύναμιν, τὸ τῷ ἁπλῶς κατ’ ἐνέργειαν ὄντι ἀντικείμενον (τὸ μὲν γὰρ μὴ λευκὸν ἢ μὴ ἀγαθὸν ὅμως ἐνδέχεται κινεῖσθαι κατὰ συμβεβηκός, εἴη γὰρ <ἂν> ἄνθρωπος τὸ μὴ λευκόν· τὸ δ’ ἁπλῶς μὴ τόδε οὐδαμῶς), ἀδύνατον [γὰρ] τὸ μὴ ὂν κινεῖσθαι (εἰ δὲ τοῦτο, καὶ τὴν γένεσιν κίνησιν εἶναι· γίγνεται γὰρ τὸ μὴ ὄν· εἰ γὰρ καὶ ὅτι μάλιστα κατὰ συμβεβηκὸς γίγνεται, ἀλλ’ ὅμως ἀληθὲς εἰπεῖν ὅτι ὑπάρχει τὸ μὴ ὂν κατὰ τοῦ γιγνομένου ἁπλῶς)-ὁμοίως δὲ καὶ τὸ ἠρεμεῖν.

ταῦτά τε δὴ συμβαίνει δυσχερῆ [τῷ κινεῖσθαι τὸ μὴ ὄν] καὶ εἰ πᾶν τὸ κινούμενον ἐν τόπῳ, τὸ δὲ μὴ ὂν οὐκ ἔστιν ἐν τόπῳ· εἴη γὰρ ἄν που.

οὐδὲ δὴ ἡ φθορὰ κίνησις· ἐναντίον μὲν γὰρ κινήσει ἢ κίνησις ἢ ἠρεμία, ἡ δὲ φθορὰ γενέσει ἐναντίον. ἐπεὶ δὲ πᾶσα κίνησις μεταβολή τις, μεταβολαὶ δὲ τρεῖς αἱ εἰρημέναι, τούτων δὲ αἱ κατὰ γένεσιν καὶ φθορὰν (225b.) οὐ κινήσεις, αὗται δ’ εἰσὶν αἱ κατ’ ἀντίφασιν, ἀνάγκη τὴν ἐξ ὑποκειμένου εἰς ὑποκείμενον μεταβολὴν κίνησιν εἶναι μόνην. τὰ δ’ ὑποκείμενα ἢ ἐναντία ἢ μεταξύ (καὶ γὰρ ἡ στέρησις κείσθω ἐναντίον), καὶ δηλοῦται καταφάσει, τὸ γυμνὸν καὶ νωδὸν καὶ μέλαν. εἰ οὖν αἱ κατηγορίαι διῄρηνται οὐσίᾳ καὶ ποιότητι καὶ τῷ ποὺ [καὶ τῷ ποτὲ] καὶ τῷ πρός τι καὶ τῷ ποσῷ καὶ τῷ ποιεῖν ἢ πάσχειν, ἀνάγκη τρεῖς εἶναι κινήσεις, τήν τε τοῦ ποιοῦ καὶ τὴν τοῦ ποσοῦ καὶ τὴν κατὰ τόπον.

Κεφάλαιο 2

Κατ’ οὐσίαν δ’ οὐκ ἔστιν κίνησις διὰ τὸ μηδὲν εἶναι οὐσίᾳ τῶν ὄντων ἐναντίον. οὐδὲ δὴ τοῦ πρός τι· ἐνδέχεται γὰρ θατέρου μεταβάλλοντος <ἀληθεύεσθαι καὶ μὴ> ἀληθεύεσθαι θάτερον μηδὲν μεταβάλλον, ὥστε κατὰ συμβεβηκὸς ἡ κίνησις αὐτῶν. οὐδὲ δὴ ποιοῦντος καὶ πάσχοντος, ἢ κινουμένου καὶ κινοῦντος, ὅτι οὐκ ἔστι κινήσεως κίνησις οὐδὲ γενέσεως γένεσις, οὐδ’ ὅλως μεταβολῆς μεταβολή.

πρῶτον μὲν γὰρ διχῶς ἐνδέχεται κινήσεως εἶναι κίνησιν, ἢ ὡς ὑποκειμένου (οἷον ἄνθρωπος κινεῖται ὅτι ἐκ λευκοῦ εἰς μέλαν μεταβάλλει· ἆρά γε οὕτω καὶ ἡ κίνησις ἢ θερμαίνεται ἢ ψύχεται ἢ τόπον ἀλλάττει ἢ αὐξάνεται ἢ φθίνει; τοῦτο δὲ ἀδύνατον· οὐ γὰρ τῶν ὑποκειμένων τι ἡ μεταβολή), ἢ τῷ ἕτερόν τι ὑποκείμενον ἐκ μεταβολῆς μεταβάλλειν εἰς ἕτερον εἶδος [οἷον ἄνθρωπος ἐκ νόσου εἰς ὑγίειαν]. ἀλλ’ οὐδὲ τοῦτο δυνατὸν πλὴν κατὰ συμβεβηκός· αὐτὴ γὰρ ἡ κίνησις ἐξ ἄλλου εἴδους εἰς ἄλλο ἐστὶ μεταβολή <οἷον ἀνθρώπου ἐκ νόσου εἰς ὑγίειαν>· καὶ ἡ γένεσις δὲ καὶ ἡ φθορὰ ὡσαύτως, πλὴν αἱ μὲν εἰς ἀντικείμενα ὡδί, ἡ δὲ ὡδί, ἡ κίνησις. ἅμα οὖν μεταβάλλει ἐξ ὑγιείας εἰς νόσον καὶ ἐξ αὐτῆς ταύτης τῆς μεταβολῆς εἰς ἄλλην. δῆλον δὴ ὅτι ὅταν νοσήσῃ, μεταβεβληκὸς ἔσται εἰς ὁποιανοῦν (ἐνδέχεται γὰρ ἠρεμεῖν), καὶ ἔτι εἰς μὴ τὴν τυχοῦσαν αἰεί, κἀκείνη ἔκ τινος εἴς τι ἕτερον ἔσται, ὥστε καὶ ἡ ἀντι κειμένη ἔσται ὑγίανσις· ἀλλὰ τῷ συμβεβηκέναι, οἷον ἐξ ἀναμνήσεως εἰς λήθην μεταβάλλει, ὅτι ᾧ ὑπάρχει, ἐκεῖνο μεταβάλλει ὁτὲ μὲν εἰς ἐπιστήμην ὁτὲ δ’ εἰς ἄγνοιαν.

ἔτι εἰς ἄπειρον βαδιεῖται, εἰ ἔσται μεταβολῆς μεταβολὴ καὶ γενέσεως γένεσις. ἀνάγκη δὴ καὶ τὴν προτέραν, εἰ ἡ ὑστέρα (226a.) ἔσται, οἷον εἰ ἡ ἁπλῆ γένεσις ἐγίγνετό ποτε, καὶ τὸ γιγνόμενον ἐγίγνετο, ὥστε οὔπω ἦν τὸ γιγνόμενον ἁπλῶς, ἀλλά τι γιγνόμενον γιγνόμενον ἤδη, καὶ πάλιν τοῦτ’ ἐγίγνετό ποτε, ὥστ’ οὐκ ἦν πω τότε γιγνόμενον γιγνόμενον. ἐπεὶ δὲ τῶν ἀπείρων οὐκ ἔστιν τι πρῶτον, οὐκ ἔσται τὸ πρῶτον, ὥστ’ οὐδὲ τὸ ἐχόμενον· οὔτε γί γνεσθαι οὖν οὔτε κινεῖσθαι οἷόν τε οὔτε μεταβάλλειν οὐδέν.

ἔτι τοῦ αὐτοῦ κίνησις ἡ ἐναντία (καὶ ἔτι ἠρέμησις), καὶ γένεσις καὶ φθορά, ὥστε τὸ γιγνόμενον γιγνόμενον ὅταν γένηται γιγνόμενον, τότε φθείρεται· οὔτε γὰρ εὐθὺς γιγνόμενον οὔθ’ ὕστερον· εἶναι γὰρ δεῖ τὸ φθειρόμενον.

ἔτι ὕλην δεῖ ὑπεῖναι καὶ τῷ γιγνομένῳ καὶ τῷ μεταβάλλοντι. τίς οὖν ἔσται — ὥσπερ τὸ ἀλλοιωτὸν σῶμα ἢ ψυχή, οὕτω τί τὸ γιγνόμενον κίνησις ἢ γένεσις; καὶ πάλιν τί εἰς ὃ κινοῦνται; δεῖ γὰρ εἶναι [τι] τὴν τοῦδε ἐκ τοῦδε εἰς τόδε κίνησιν [καὶ μὴ κίνησιν] ἢ γένεσιν. ἅμα δὲ πῶς καὶ ἔσται; οὐ γὰρ ἔσται μάθησις ἡ τῆς μαθήσεως γένεσις, ὥστ’ οὐδὲ γενέσεως γένεσις, οὐδέ τις τινός.

ἔτι εἰ τρία εἴδη κινήσεώς ἐστιν, τούτων τινὰ ἀνάγκη εἶναι καὶ τὴν ὑποκειμένην φύσιν καὶ εἰς ἃ κινοῦνται, οἷον τὴν φορὰν ἀλλοιοῦσθαι ἢ φέρεσθαι.

ὅλως δὲ ἐπεὶ κινεῖται [τὸ κινούμενον] πᾶν τριχῶς, ἢ κατὰ συμβεβηκὸς ἢ τῷ μέρος τι ἢ [τῷ] καθ’ αὐτό, κατὰ συμβεβηκὸς μόνον ἂν ἐνδέχοιτο μεταβάλλειν τὴν μεταβολήν, οἷον εἰ ὁ ὑγιαζόμενος τρέχοι ἢ μανθάνοι· τὴν δὲ κατὰ συμβεβηκὸς ἀφεῖμεν πάλαι.

ἐπεὶ δὲ οὔτε οὐσίας οὔτε τοῦ πρός τι οὔτε τοῦ ποιεῖν καὶ πάσχειν, λείπεται κατὰ τὸ ποιὸν καὶ τὸ ποσὸν καὶ τὸ ποὺ κίνησιν εἶναι μόνον· ἐν ἑκάστῳ γὰρ ἔστι τούτων ἐναντίωσις. ἡ μὲν οὖν κατὰ τὸ ποιὸν κίνησις ἀλλοίωσις ἔστω· τοῦτο γὰρ ἐπέζευκται κοινὸν ὄνομα. λέγω δὲ τὸ ποιὸν οὐ τὸ ἐν τῇ οὐσίᾳ (καὶ γὰρ ἡ διαφορὰ ποιότης) ἀλλὰ τὸ παθητικόν, καθ’ ὃ λέγεται πάσχειν ἢ ἀπαθὲς εἶναι. ἡ δὲ κατὰ τὸ ποσὸν τὸ μὲν κοινὸν ἀνώνυμος, καθ’ ἑκάτερον δ’ αὔξησις καὶ φθίσις, ἡ μὲν εἰς τὸ τέλειον μέγεθος αὔξησις, ἡ δ’ ἐκ τούτου φθίσις. ἡ δὲ κατὰ τόπον καὶ τὸ κοινὸν καὶ τὸ ἴδιον ἀνώνυμος, ἔστω δὲ φορὰ καλουμένη τὸ κοινόν· καίτοι λέγεταί γε ταῦτα φέρεσθαι μόνα κυρίως, ὅταν μὴ ἐφ’ αὐτοῖς ᾖ τὸ στῆναι τοῖς μεταβάλλουσι τὸν τόπον, καὶ ὅσα (226b.) μὴ αὐτὰ ἑαυτὰ κινεῖ κατὰ τόπον.

ἡ δ’ ἐν τῷ αὐτῷ εἴδει μεταβολὴ ἐπὶ τὸ μᾶλλον καὶ ἧττον ἀλλοίωσίς ἐστιν· ἢ γὰρ ἐξ ἐναντίου ἢ εἰς ἐναντίον κίνησίς ἐστιν, ἢ ἁπλῶς ἢ πῄ· ἐπὶ μὲν γὰρ τὸ ἧττον ἰοῦσα εἰς τοὐναντίον λεχθήσεται μεταβάλλειν, ἐπὶ δὲ τὸ μᾶλλον ὡς ἐκ τοὐναντίου εἰς αὐτό. διαφέρει γὰρ οὐδὲν πῄ μεταβάλλειν ἢ ἁπλῶς, πλὴν πῄ δεήσει τἀναντία ὑπάρχειν· τὸ δὲ μᾶλλον καὶ ἧττόν ἐστι τὸ πλέον ἢ ἔλαττον ἐνυπάρχειν τοῦ ἐναντίου καὶ μή. ὅτι μὲν οὖν αὗται τρεῖς μόναι κινήσεις εἰσίν, ἐκ τούτων δῆλον·

ἀκίνητον δ’ ἐστὶ τό τε ὅλως ἀδύνατον κινηθῆναι, ὥσπερ ὁ ψόφος ἀόρατος, καὶ τὸ ἐν πολλῷ χρόνῳ μόλις κινούμενον ἢ τὸ βραδέως ἀρχόμενον, ὃ λέγεται δυσκίνητον, καὶ τὸ πεφυκὸς μὲν κινεῖσθαι καὶ δυνάμενον, μὴ κινούμενον δὲ τότε ὅτε πέφυκε καὶ οὗ καὶ ὥς, ὅπερ ἠρεμεῖν καλῶ τῶν ἀκινήτων μόνον· ἐναντίον γὰρ ἠρεμία κινήσει, ὥστε στέρησις ἂν εἴη τοῦ δεκτικοῦ.

τί μὲν οὖν ἐστι κίνησις καὶ τί ἠρεμία, καὶ πόσαι μεταβολαὶ καὶ ποῖαι κινήσεις, φανερὸν ἐκ τῶν εἰρημένων.

Κεφάλαιο 3

Μετὰ δὲ ταῦτα λέγωμεν τί ἐστιν τὸ ἅμα καὶ χωρίς, καὶ τί τὸ ἅπτεσθαι, καὶ τί τὸ μεταξὺ καὶ τί τὸ ἐφεξῆς καὶ τί τὸ ἐχόμενον καὶ συνεχές, καὶ τοῖς ποίοις ἕκαστον τούτων ὑπάρχειν πέφυκεν.

ἅμα μὲν οὖν λέγω ταῦτ᾽ εἶναι κατὰ τόπον, ὅσα ἐν ἑνὶ τόπῳ ἐστὶ πρώτῳ, χωρὶς δὲ ὅσα ἐν ἑτέρῳ,

ἅπτεσθαι δὲ ὧν τὰ ἄκρα ἅμα.

μεταξὺ δὲ εἰς ὃ πέφυκε πρότερον ἀφικνεῖσθαι τὸ μεταβάλλον ἢ εἰς ὃ ἔσχατον μεταβάλλει κατὰ φύσιν συνεχῶς μεταβάλλον. [ἐν ἐλαχίστοις δ᾽ ἐστι τὸ μεταξὺ τρισίν· ἔσχατον μὲν γάρ ἐστι τῆς μεταβολῆς τὸ εναντιον.] συνεχῶς δὲ κινεῖται τὸ μηθὲν ἢ ὅτι ὀλίγιστον διαλεῖπον τοῦ πράγματος — μὴ τοῦ χρόνου (οὐδὲν γὰρ κωλύει διαλείποντα, καὶ εὐθὺς δὲ μετὰ τὴν ὑπάτην φθέγξασθαι τὴν νεάτην) ἀλλὰ τοῦ πράγματος ἐν ᾧ κινεῖται. [<ἐπεὶ δὲ πᾶσα μεταβολὴ ἐν τοῖς ἀντικειμένοις, τὰ δ᾽ ἀντικείμενα τά τε ἐναντία καὶ τὰ κατὰ ἀντίφασιν, ἀντιφάσεως δ᾽ οὐδὲν ἀνὰ μέσον, φανερὸν ὅτι ἐν τοῖς ἐναντίοις ἔσται τὸ μεταξύ. (226b.) ἐν ἐλαχίστοις δ᾽ ἐστὶ τὸ μεταξὺ τρισίν· ἔσχατον μὲν γάρ ἐστι τῆς μεταβολῆς τὸ ἐναντίον,>] τοῦτο δὲ ἔν τε ταῖς κατὰ τόπον καὶ ἐν ταῖς ἄλλαις μεταβολαῖς φανερόν. ἐναντίον δὲ κατὰ τόπον τὸ κατ᾽ εὐθεῖαν ἀπέχον πλεῖστον· ἡ γὰρ ἐλαχίστη πεπέρανται, μέτρον δὲ τὸ πεπερασμένον.

ἐφεξῆς δὲ οὗ μετὰ τὴν ἀρχὴν ὄντος ἢ θέσει ἢ εἴδει ἢ ἄλλῳ τινὶ οὕτως ἀφορισθέντος (227a.) μηδὲν μεταξύ ἐστι τῶν ἐν ταὐτῷ γένει καὶ οὗ ἐφεξῆς ἐστιν (λέγω δ᾽ οἷον γραμμὴ γραμμῆς ἢ γραμμαί, ἢ μονάδος μονὰς ἢ μονάδες, ἢ οἰκίας οἰκία· ἄλλο δ᾽ οὐδὲν κωλύει μεταξὺ εἶναι). τὸ γὰρ ἐφεξῆς τινὶ ἐφεξῆς καὶ ὕστερόν τι· οὐ γὰρ τὸ ἓν ἐφεξῆς τοῖν δυοῖν, οὐδ᾽ ἡ νουμηνία τῇ δευτέρᾳ ἐφεξῆς, ἀλλὰ ταῦτ᾽ ἐκείνοις.

ἐχόμενον δὲ ὃ ἂν ἐφεξῆς ὂν ἅπτηται. τὸ δὲ συνεχὲς ἔστι μὲν ὅπερ ἐχόμενόν τι, λέγω δ᾽ εἶναι συνεχὲς ὅταν ταὐτὸ γένηται καὶ ἓν τὸ ἑκατέρου πέρας οἷς ἅπτονται, καὶ ὥσπερ σημαίνει τοὔνομα, συνέχηται. τοῦτο δ᾽ οὐχ οἷόν τε δυοῖν ὄντοιν εἶναι τοῖν ἐσχάτοιν. τούτου δὲ διωρισμένου φανερὸν ὅτι ἐν τούτοις ἐστὶ τὸ συνεχές, ἐξ ὧν ἕν τι πέφυκε γίγνεσθαι κατὰ τὴν σύναψιν. καὶ ὥς ποτε γίγνεται τὸ συνέχον ἕν, οὕτω καὶ τὸ ὅλον ἔσται ἕν, οἷον ἢ γόμφῳ ἢ κόλλῃ ἢ ἁφῇ ἢ προσφύσει.

φανερὸν δὲ καὶ ὅτι πρῶτον τὸ ἐφεξῆς ἐστι· τὸ μὲν γὰρ ἁπτόμενον ἐφεξῆς ἀνάγκη εἶναι, τὸ δ’ ἐφεξῆς οὐ πᾶν ἅπτεσθαι (διὸ καὶ ἐν προτέροις τῷ λόγῳ τὸ ἐφεξῆς ἔστιν, οἷον ἐν ἀριθμοῖς, ἁφὴ δ’ οὐκ ἔστιν), καὶ εἰ μὲν συνεχές, ἀνάγκη ἅπτεσθαι, εἰ δ’ ἅπτεται, οὔπω συνεχές· οὐ γὰρ ἀνάγκη ἓν εἶναι αὐτῶν τὰ ἄκρα, εἰ ἅμα εἶεν· ἀλλ’ εἰ ἕν, ἀνάγκη καὶ ἅμα. ὥστε ἡ σύμφυσις ὑστάτη κατὰ τὴν γένεσιν· ἀνάγκη γὰρ ἅψασθαι εἰ συμφύσεται τὰ ἄκρα, τὰ δὲ ἁπτόμενα οὐ πάντα συμπέφυκεν· ἐν οἷς δὲ μὴ ἔστιν ἁφή, δῆλον ὅτι οὐκ ἔστιν οὐδὲ σύμφυσις ἐν τούτοις. ὥστ’ εἰ ἔστι στιγμὴ καὶ μονὰς οἵας λέγουσι κεχωρισμένας, οὐχ οἷόν τε εἶναι μονάδα καὶ στιγμὴν τὸ αὐτό· ταῖς μὲν γὰρ ὑπάρχει τὸ ἅπτεσθαι, ταῖς δὲ μονάσιν τὸ ἐφεξῆς, καὶ τῶν μὲν ἐνδέχεται εἶναί τι μεταξύ (πᾶσα γὰρ γραμμὴ μεταξὺ στιγμῶν), τῶν δ’ οὐκ ἀνάγκη· οὐδὲ γὰρ μεταξὺ δυάδος καὶ μονάδος.

τί μὲν οὖν ἐστι τὸ ἅμα καὶ χωρίς, καὶ τί τὸ ἅπτεσθαι, καὶ τί τὸ μεταξὺ (227b.) καὶ τὸ ἐφεξῆς, καὶ τί τὸ ἐχόμενον καὶ τὸ συνεχές, καὶ τοῖς ποίοις ἕκαστον τούτων ὑπάρχει, εἴρηται. Μία δὲ κίνησις λέγεται πολλαχῶς· τὸ γὰρ ἓν πολλαχῶς λέγομεν.

Κεφάλαιο 4

γένει μὲν οὖν μία κατὰ τὰ σχήματα τῆς κατηγορίας ἐστί

(φορὰ μὲν γὰρ πάσῃ φορᾷ τῷ γένει μία, ἀλλοίωσις δὲ φορᾶς ἑτέρα τῷ γένει),

εἴδει δὲ μία, ὅταν τῷ γένει μία οὖσα καὶ ἐν ἀτόμῳ εἴδει ᾖ. οἷον χρώματος μὲν εἰσὶ διαφοραί — τοιγαροῦν ἄλλη τῷ εἴδει μέλανσις καὶ λεύκανσις [πᾶσα οὖν λεύκανσις πάσῃ λευκάνσει ἡ αὐτὴ κατ' εἶδος ἔσται καὶ πᾶσα μέλανσις μελάνσει] — λευκότητος δ' οὐκέτι· διὸ τῷ εἴδει μία λεύκανσις λευκάνσει πάσῃ. εἰ δ' ἔστιν ἅτθ' ἃ καὶ γένη ἅμα καὶ εἴδη ἐστίν, δῆλον ὡς ἔστιν ὡς εἴδει μία ἔσται, ἁπλῶς δὲ μία εἴδει οὔ, οἷον ἡ μάθησις, εἰ ἡ ἐπιστήμη εἶδος μὲν ὑπολήψεως, γένος δὲ τῶν ἐπιστημῶν. ἀπορήσειε δ' ἄν τις εἰ εἴδει μία <ἡ> κίνησις, ὅταν ἐκ τοῦ αὐτοῦ τὸ αὐτὸ εἰς τὸ αὐτὸ μεταβάλλῃ, οἷον ἡ μία στιγμὴ ἐκ τοῦδε τοῦ τόπου εἰς τόνδε τὸν τόπον πάλιν καὶ πάλιν. εἰ δὲ τοῦτ', ἔσται ἡ κυκλοφορία τῇ εὐθυφορίᾳ ἡ αὐτὴ καὶ ἡ κύλισις τῇ βαδίσει. ἢ διώρισται, τὸ ἐν ᾧ ἂν ἕτερον ᾖ τῷ εἴδει, ὅτι ἑτέρα ἡ κίνησις, τὸ δὲ περιφερὲς τοῦ εὐθέος ἕτερον τῷ εἴδει; γένει μὲν οὖν καὶ εἴδει κίνησις μία οὕτως,

ἁπλῶς δὲ μία κίνησις ἡ τῇ οὐσίᾳ μία καὶ τῷ ἀριθμῷ· τίς δ' ἡ τοιαύτη, δῆλον διελομένοις. τρία γάρ ἐστι τὸν ἀριθμὸν περὶ ἃ λέγομεν τὴν κίνησιν, ὃ καὶ ἐν ᾧ καὶ ὅτε. λέγω δ' ὅτι ἀνάγκη εἶναί τι τὸ κινούμενον, οἷον ἄνθρωπον ἢ χρυσόν, καὶ ἔν τινι τοῦτο κινεῖσθαι, οἷον ἐν τόπῳ ἢ ἐν πάθει, καὶ ποτέ· ἐν χρόνῳ γὰρ πᾶν κινεῖται. τούτων δὲ τὸ μὲν εἶναι τῷ γένει ἢ τῷ εἴδει μίαν ἐστὶν ἐν τῷ πράγματι ἐν ᾧ κινεῖται, τὸ δ' ἐχομένην ἐν τῷ χρόνῳ, τὸ δ' ἁπλῶς μίαν ἐν ἅπασι τούτοις· καὶ ἐν ᾧ γὰρ ἓν δεῖ εἶναι καὶ ἄτομον, οἷον τὸ εἶδος, καὶ τὸ ὅτε, οἷον τὸν χρόνον ἕνα καὶ μὴ διαλείπειν, καὶ τὸ κινούμενον ἓν εἶναι μὴ κατὰ συμβεβηκός, ὥσπερ τὸ λευκὸν μελαίνεσθαι καὶ Κορίσκον βαδίζειν (ἓν δὲ Κορίσκος καὶ λευκόν, ἀλλὰ κατὰ συμβεβηκός), (228a.) μηδὲ κοινόν· εἴη γὰρ ἂν ἅμα δύο ἀνθρώπους ὑγιάζεσθαι τὴν αὐτὴν ὑγίανσιν, οἷον ὀφθαλμίας· ἀλλ' οὐ μία αὕτη, ἀλλ' εἴδει μία. τὸ δὲ Σωκράτη τὴν αὐτὴν μὲν ἀλλοίωσιν ἀλλοιοῦσθαι τῷ εἴδει, ἐν ἄλλῳ δὲ χρόνῳ καὶ πάλιν ἐν ἄλλῳ, εἰ μὲν ἐνδέχεται τὸ φθαρὲν πάλιν ἓν γίγνεσθαι τῷ ἀριθμῷ, εἴη ἂν καὶ αὕτη μία, εἰ δὲ μή, ἡ αὐτὴ μέν, μία δ' οὔ. ἔχει δ' ἀπορίαν ταύτῃ παραπλησίαν καὶ πότερον μία ἡ ὑγίεια καὶ ὅλως αἱ ἕξεις καὶ τὰ πάθη τῇ οὐσίᾳ εἰσὶν ἐν τοῖς σώμασιν·

κινούμενα γὰρ φαίνεται τὰ ἔχοντα καὶ ῥέοντα. εἰ δὴ ἡ αὐτὴ καὶ μία ἡ ἕωθεν καὶ νῦν ὑγίεια, διὰ τί οὐκ ἂν καὶ ὅταν διαλιπὼν λάβῃ πάλιν τὴν ὑγίειαν, καὶ αὕτη κἀκείνη μία τῷ ἀριθμῷ ἂν εἴη; ὁ γὰρ αὐτὸς λόγος· πλὴν τοσοῦτον διαφέρει, ὅτι εἰ μὲν δύο, δι' αὐτὸ τοῦτο, ὡς τῷ ἀριθμῷ, καὶ τὰς ἐνεργείας ἀνάγκη (μία γὰρ ἀριθμῷ ἐνέργεια ἑνὸς ἀριθμῷ)· εἰ δ' ἡ ἕξις μία, ἴσως οὐκ ἄν τῳ δόξειέ πω μία καὶ ἡ ἐνέργεια εἶναι (ὅταν γὰρ παύσηται βαδίζων, οὐκέτι ἔστιν ἡ βάδισις, πάλιν δὲ βαδίζοντος ἔσται). εἰ δ' οὖν μία καὶ ἡ αὐτή, ἐνδέχοιτ' ἂν τὸ αὐτὸ καὶ ἓν καὶ φθείρεσθαι καὶ εἶναι πολλάκις. αὗται μὲν οὖν εἰσιν αἱ ἀπορίαι ἔξω τῆς νῦν σκέψεως·

ἐπεὶ δὲ συνεχὴς πᾶσα κίνησις, τήν τε ἁπλῶς μίαν ἀνάγκη καὶ συνεχῆ εἶναι, εἴπερ πᾶσα διαιρετή, καὶ εἰ συνεχής, μίαν. οὐ γὰρ πᾶσα γένοιτ' ἂν συνεχὴς πάσῃ, ὥσπερ οὐδ' ἄλλο οὐδὲν τῷ τυχόντι τὸ τυχόν, ἀλλ' ὅσων ἓν τὰ ἔσχατα. ἔσχατα δὲ τῶν μὲν οὐκ ἔστι, τῶν δ' ἔστιν ἄλλα τῷ εἴδει καὶ ὁμώνυμα· πῶς γὰρ ἂν ἅψαιτο ἢ ἓν γένοιτο τὸ ἔσχατον γραμμῆς καὶ βαδίσεως; ἐχόμεναι μὲν οὖν εἶεν ἂν καὶ αἱ μὴ αἱ αὐταὶ τῷ εἴδει μηδὲ τῷ γένει (δραμὼν γὰρ ἄν τις πυρέξειεν εὐθύς), καὶ οἷον ἡ λαμπὰς <ἡ> ἐκ διαδοχῆς φορὰ ἐχομένη, συνεχὴς δ' οὔ. κεῖται γὰρ τὸ συνεχές, ὧν τὰ ἔσχατα ἕν. ὥστ' ἐχόμεναι καὶ ἐφεξῆς εἰσὶ τῷ τὸν χρό νον εἶναι συνεχῆ, συνεχὴς δὲ τῷ τὰς κινήσεις· τοῦτο δ', (228b.) ὅταν ἓν τὸ ἔσχατον γένηται ἀμφοῖν. διὸ ἀνάγκη τὴν αὐτὴν εἶναι τῷ εἴδει καὶ ἑνὸς καὶ ἐν ἑνὶ χρόνῳ τὴν ἁπλῶς συνεχῆ κίνησιν καὶ μίαν, τῷ χρόνῳ μέν, ὅπως μὴ ἀκινησία μεταξὺ ᾖ (ἐν τῷ διαλείποντι γὰρ ἠρεμεῖν ἀνάγκη· πολλαὶ οὖν καὶ οὐ μία ἡ κίνησις, ὧν ἐστὶν ἠρεμία μεταξύ, ὥστε εἴ τις κίνησις στάσει διαλαμβάνεται, οὐ μία οὐδὲ συνεχής· διαλαμβάνεται δέ, εἰ μεταξὺ χρόνος)· τῆς δὲ τῷ εἴδει μὴ μιᾶς, καὶ εἰ μὴ διαλείπεται [ὁ χρόνος], ὁ μὲν [γὰρ] χρόνος εἷς, τῷ εἴδει δ' ἡ κίνησις ἄλλη· τὴν μὲν γὰρ μίαν ἀνάγκη καὶ τῷ εἴδει μίαν εἶναι, ταύτην δ' ἁπλῶς μίαν οὐκ ἀνάγκη. τίς μὲν οὖν κίνησις ἁπλῶς μία, εἴρηται· ἔτι δὲ λέγεται μία καὶ ἡ τέλειος, ἐάν τε κατὰ γένος ἐάν τε κατ' εἶδος ᾖ ἐάν τε κατ' οὐσίαν, ὥσπερ καὶ ἐπὶ τῶν ἄλλων τὸ τέλειον καὶ ὅλον τοῦ ἑνός. ἔστι δ' ὅτε κἂν ἀτελὴς ᾖ μία λέγεται, ἐὰν μόνον ᾖ συνεχής. ἔτι δ' ἄλλως παρὰ τὰς εἰρημένας λέγεται μία κίνησις ἡ ὁμαλής. ἡ γὰρ ἀνώμαλος ἔστιν ὡς οὐ δοκεῖ μία, ἀλλὰ μᾶλλον ἡ ὁμαλής, ὥσπερ ἡ εὐθεῖα· ἡ γὰρ ἀνώμαλος διαιρετή. ἔοικε δὲ διαφέρειν ὡς τὸ μᾶλλον καὶ ἧττον. ἔστιν δὲ ἐν ἁπάσῃ κινήσει τὸ ὁμαλῶς ἢ μή· καὶ γὰρ ἂν ἀλλοιοῖτο ὁμαλῶς, καὶ φέροιτο ἐφ' ὁμαλοῦ οἷον κύκλου ἢ εὐθείας, καὶ περὶ αὔξησιν ὡσαύτως καὶ φθίσιν. ἀνωμαλία δ' ἐστὶν διαφορὰ ὁτὲ μὲν ἐφ' ᾧ κινεῖται (ἀδύνατον γὰρ ὁμαλὴν εἶναι τὴν κίνησιν μὴ ἐπὶ ὁμαλῷ μεγέθει, οἷον ἡ τῆς κεκλασμένης κίνησις ἢ ἡ

τῆς ἕλικος ἢ ἄλλου μεγέθους, ὧν μὴ ἐφαρμόττει τὸ τυχὸν ἐπὶ τὸ τυχὸν μέρος)· ἡ δὲ οὔτε ἐν τῷ ὃ οὔτ᾽ ἐν τῷ πότε οὔτε ἐν τῷ εἰς ὅ, ἀλλ᾽ ἐν τῷ ὥς. ταχυτῆτι γὰρ καὶ βραδυτῆτι ἐνίοτε διώρισται· ἧς μὲν γὰρ τὸ αὐτὸ τάχος, ὁμαλής, ἧς δὲ μή, ἀνώμαλος. διὸ οὐκ εἴδη κινήσεως οὐδὲ διαφοραὶ τάχος καὶ βραδυτής, ὅτι πάσαις ἀκολουθεῖ ταῖς διαφόροις κατ᾽ εἶδος. ὥστε οὐδὲ βαρύτης καὶ κουφότης ἡ εἰς τὸ αὐτό, οἷον γῆς πρὸς αὑτὴν ἢ πυρὸς πρὸς (229a.) αὑτό. μία μὲν οὖν ἡ ἀνώμαλος τῷ συνεχὴς <εἶναι>, ἧττον δέ, ὅπερ τῇ κεκλασμένῃ συμβαίνει φορᾷ· τὸ δ᾽ ἧττον μίξις αἰεὶ τοῦ ἐναντίου. εἰ δὲ πᾶσαν τὴν μίαν ἐνδέχεται καὶ ὁμαλὴν εἶναι καὶ μή, οὐκ ἂν εἴησαν αἱ ἐχόμεναι αἱ μὴ κατ᾽ εἶδος αἱ αὐταὶ μία καὶ συνεχής· πῶς γὰρ ἂν εἴη ὁμαλὴς ἡ ἐξ ἀλλοιώσεως συγκειμένη καὶ φορᾶς; δέοι γὰρ ἂν ἐφαρμόττειν.

Κεφάλαιο 5

Ἔτι δὲ διοριστέον ποία κίνησις ἐναντία κινήσει, καὶ περὶ μονῆς δὲ τὸν αὐτὸν τρόπον. διαιρετέον δὲ πρῶτον πότερον ἐναντία κίνησις ἡ ἐκ τοῦ αὐτοῦ τῇ εἰς τὸ αὐτό (οἷον ἡ ἐξ ὑγιείας τῇ εἰς ὑγίειαν), οἷον καὶ γένεσις καὶ φθορὰ δοκεῖ, ἢ ἡ ἐξ ἐναντίων (οἷον ἡ ἐξ ὑγιείας τῇ ἐκ νόσου), ἢ ἡ εἰς ἐναντία (οἷον ἡ εἰς ὑγίειαν τῇ εἰς νόσον), ἢ ἡ ἐξ ἐναντίου τῇ εἰς ἐναντίον (οἷον ἡ ἐξ ὑγιείας τῇ εἰς νόσον), ἢ ἡ ἐξ ἐναντίου εἰς ἐναντίον τῇ ἐξ ἐναντίου εἰς ἐναντίον (οἷον ἡ ἐξ ὑγιείας εἰς νόσον τῇ ἐκ νόσου εἰς ὑγίειαν). ἀνάγκη γὰρ ἢ ἕνα τινὰ τούτων εἶναι τῶν τρόπων ἢ πλείους· οὐ γὰρ ἔστιν ἄλλως ἀντιτιθέναι.

ἔστι δ’ ἡ μὲν ἐξ ἐναντίου τῇ εἰς ἐναντίον οὐκ ἐναντία, οἷον ἡ ἐξ ὑγιείας τῇ εἰς νόσον· ἡ αὐτὴ γὰρ καὶ μία. τὸ μέντοι γ’ εἶναι οὐ ταὐτὸ αὐταῖς, ὥσπερ οὐ ταὐτὸ τὸ ἐξ ὑγιείας μεταβάλλειν καὶ τὸ εἰς νόσον. οὐδ’ ἡ ἐξ ἐναντίου τῇ ἐξ ἐναντίου· ἅμα μὲν γὰρ συμβαίνει ἐξ ἐναντίου καὶ εἰς ἐναντίον ἢ μεταξύ — ἀλλὰ περὶ τούτου μὲν ὕστερον ἐροῦμεν, ἀλλὰ μᾶλλον τὸ εἰς ἐναντίον μεταβάλλειν δόξειεν ἂν εἶναι αἴτιον τῆς ἐναντιώσεως ἢ τὸ ἐξ ἐναντίου· ἡ μὲν γὰρ ἀπαλλαγὴ ἐναντιότητος, ἡ δὲ λῆψις. καὶ λέγεται δ’ ἑκάστη εἰς ὃ μεταβάλ λει μᾶλλον ἢ ἐξ οὗ, οἷον ὑγίανσις ἡ εἰς ὑγίειαν, νόσανσις δ’ ἡ εἰς νόσον. λείπεται δὴ ἡ εἰς ἐναντία καὶ ἡ εἰς ἐναντία ἐξ ἐναντίων. τάχα μὲν οὖν συμβαίνει τὰς εἰς ἐναντία καὶ ἐξ ἐναντίων εἶναι, ἀλλὰ τὸ εἶναι ἴσως οὐ ταὐτό, λέγω δὲ τὸ εἰς ὑγίειαν τῷ ἐκ νόσου καὶ τὸ ἐξ ὑγιείας τῷ εἰς νόσον.

ἐπεὶ δὲ διαφέρει μεταβολὴ κινήσεως (ἡ ἔκ τινος γὰρ ὑποκειμένου εἴς τι ὑποκείμενον μεταβολὴ κίνησίς ἐστιν), ἡ ἐξ ἐναντίου (229b.) εἰς ἐναντίον τῇ ἐξ ἐναντίου εἰς ἐναντίον κίνησις ἐναντία, οἷον ἡ ἐξ ὑγιείας εἰς νόσον τῇ ἐκ νόσου εἰς ὑγίειαν. δῆλον δὲ καὶ ἐκ τῆς ἐπαγωγῆς ὁποῖα δοκεῖ τὰ ἐναντία εἶναι· τὸ νοσάζεσθαι γὰρ τῷ ὑγιάζεσθαι καὶ τὸ μανθάνειν τῷ ἀπατᾶσθαι μὴ δι’ αὐτοῦ (εἰς ἐναντία γάρ· ὥσπερ γὰρ ἐπιστήμην, ἔστι καὶ ἀπάτην καὶ δι’ αὑτοῦ κτᾶσθαι καὶ δι’ ἄλλου), καὶ ἡ ἄνω φορὰ τῇ κάτω (ἐναντία γὰρ ταῦτα ἐν μήκει), καὶ ἡ εἰς δεξιὰ τῇ εἰς ἀριστερά (ἐναντία γὰρ ταῦτα ἐν πλάτει), καὶ ἡ εἰς τὸ ἔμπροσθεν τῇ εἰς τὸ ὄπισθεν (ἐναντία γὰρ καὶ ταῦτα). ἡ δ’ εἰς ἐναντίον μόνον οὐ κίνησις ἀλλὰ μεταβολή, οἷον τὸ γίγνεσθαι λευκὸν μὴ ἔκ τινος. καὶ ὅσοις δὲ μὴ ἔστιν ἐναντία, ἡ ἐξ αὑτοῦ τῇ εἰς αὐτὸ μεταβολῇ ἐναντία· διὸ γένεσις φθορᾷ ἐναντία καὶ ἀποβολὴ λήψει· αὗται δὲ μεταβολαὶ μέν, κινήσεις δ’ οὔ. τὰς δ’ εἰς τὸ μεταξὺ κινήσεις, ὅσοις τῶν ἐναντίων ἔστι μεταξύ, ὡς εἰς ἐναντία πως θετέον· ὡς ἐναντίῳ γὰρ χρῆται τῷ μεταξὺ ἡ κίνησις, ἐφ’ ὁπότερα ἂν μεταβάλλῃ, οἷον ἐκ φαιοῦ μὲν εἰς τὸ λευκὸν ὡς ἐκ μέλανος, καὶ ἐκ λευκοῦ εἰς φαιὸν ὡς εἰς μέλαν, ἐκ δὲ μέλανος εἰς φαιὸν ὡς εἰς λευκὸν τὸ φαιόν· τὸ γὰρ μέσον πρὸς ἑκάτερον λέγεταί πως ἑκάτερον τῶν ἄκρων, καθάπερ εἴρηται καὶ πρότερον. κίνησις μὲν δὴ κινήσει ἐναντία οὕτως ἡ ἐξ ἐναντίου εἰς ἐναντίον τῇ ἐξ ἐναντίου εἰς ἐναντίον.

Κεφάλαιο 6

Ἐπεὶ δὲ κινήσει οὐ μόνον δοκεῖ κίνησις εἶναι ἐναντία ἀλλὰ καὶ ἠρεμία, τοῦτο διοριστέον. ἁπλῶς μὲν γὰρ ἐναντίον κίνησις κινήσει, ἀντίκειται δὲ καὶ ἠρεμία (στέρησις γάρ, ἔστι δ' ὡς καὶ ἡ στέρησις ἐναντία λέγεται), ποιᾷ δὲ ποιά, οἷον τῇ κατὰ τόπον ἡ κατὰ τόπον. ἀλλὰ τοῦτο νῦν λέγεται ἁπλῶς· πότερον γὰρ τῇ ἐνταῦθα μονῇ ἡ ἐκ τούτου ἢ ἡ εἰς τοῦτο κίνησις ἀντίκειται; δῆλον δὴ ὅτι, ἐπεὶ ἐν δυσὶν ἡ κίνησις ὑποκειμένοις, τῇ μὲν ἐκ τούτου εἰς τὸ ἐναντίον ἡ ἐν τούτῳ μονή, τῇ δ' ἐκ τοῦ ἐναντίου εἰς τοῦτο ἡ ἐν τῷ ἐναντίῳ. ἅμα δὲ καὶ ἀλλήλαις ἐναντίαι αὗται· καὶ γὰρ ἄτοπον, εἰ κινήσεις (230a.) μὲν ἐναντίαι εἰσίν, ἠρεμίαι δ' ἀντικείμεναι οὐκ εἰσίν. εἰσὶν δὲ αἱ ἐν τοῖς ἐναντίοις, οἷον ἡ ἐν ὑγιείᾳ τῇ ἐν νόσῳ ἠρεμίᾳ (κινήσει δὲ τῇ ἐξ ὑγιείας εἰς νόσον· τῇ γὰρ ἐκ νόσου εἰς ὑγίειαν ἄλογον — ἡ γὰρ εἰς αὐτὸ κίνησις ἐν ᾧ ἕστηκεν, ἠρέμησις μᾶλλόν ἐστιν, ἣ συμβαίνει γε ἅμα γίγνεσθαι τῇ κινήσει ἀνάγκη δὲ ἢ ταύτην ἢ ἐκείνην εἶναι)· οὐ γὰρ ἥ γ' ἐν λευκότητι ἠρεμία ἐναντία τῇ ἐν ὑγιείᾳ.

ὅσοις δὲ μὴ ἔστιν ἐναντία, τούτων μεταβολὴ μέν ἐστιν ἀντικειμένη ἡ ἐξ αὐτοῦ τῇ εἰς αὐτό, κίνησις δ' οὐκ ἔστιν, οἷον ἡ ἐξ ὄντος τῇ εἰς ὄν, καὶ μονὴ μὲν τούτων οὐκ ἔστιν, ἀμεταβλησία δέ. καὶ εἰ μέν τι εἴη ὑποκείμενον, ἡ ἐν τῷ ὄντι ἀμεταβλησία τῇ ἐν τῷ μὴ ὄντι ἐναντία. εἰ δὲ μὴ ἔστι τι τὸ μὴ ὄν, ἀπορήσειεν ἄν τις τίνι ἐναντία ἡ ἐν τῷ ὄντι ἀμεταβλησία, καὶ εἰ ἠρεμία ἐστίν. εἰ δὲ τοῦτο, ἢ οὐ πᾶσα ἠρεμία κινήσει ἐναντία, ἢ ἡ γένεσις καὶ φθορὰ κίνησις. δῆλον τοίνυν ὅτι ἠρεμία μὲν οὐ λεκτέα, εἰ μὴ καὶ αὗται κινήσεις, ὅμοιον δέ τι καὶ ἀμεταβλησία· ἐναντία δὲ ἢ οὐδενὶ ἢ τῇ ἐν τῷ μὴ ὄντι ἢ τῇ φθορᾷ· αὕτη γὰρ ἐξ αὐτῆς, ἡ δὲ γένεσις εἰς ἐκείνην.

ἀπορήσειε δ' ἄν τις διὰ τί ἐν μὲν τῇ κατὰ τόπον μεταβολῇ εἰσὶ καὶ κατὰ φύσιν καὶ παρὰ φύσιν καὶ μοναὶ καὶ κινήσεις, ἐν δὲ ταῖς ἄλλαις οὔ, οἷον ἀλλοίωσις ἡ μὲν κατὰ φύσιν ἡ δὲ παρὰ φύσιν (οὐδὲν γὰρ μᾶλλον ἡ ὑγίανσις ἢ ἡ νόσανσις κατὰ φύσιν ἢ παρὰ φύσιν, οὐδὲ λεύκανσις ἢ μέλανσις)· ὁμοίως δὲ καὶ ἐπ' αὐξήσεως καὶ φθίσεως (οὔτε γὰρ αὗται ἀλλήλαις ἐναντίαι ὡς φύσει ἡ δὲ παρὰ φύσιν, οὔτ' αὔξησις αὐξή σει)· καὶ ἐπὶ γενέσεως δὲ καὶ φθορᾶς ὁ αὐτὸς λόγος· οὔτε γὰρ ἡ μὲν γένεσις κατὰ φύσιν ἡ δὲ φθορὰ παρὰ φύσιν (τὸ γὰρ γηρᾶν κατὰ φύσιν), οὔτε γένεσιν ὁρῶμεν τὴν μὲν κατὰ φύσιν τὴν δὲ παρὰ φύσιν. ἢ εἰ ἔστιν τὸ βίᾳ παρὰ φύσιν, καὶ φθορὰ ἂν εἴη φθορᾷ ἐναντία ἡ βίαιος ὡς παρὰ φύσιν οὖσα τῇ κατὰ φύσιν; ἆρ’ οὖν καὶ γενέσεις εἰσὶν ἔνιαι βίαιοι καὶ οὐχ εἱμαρμέναι, αἷς ἐναντίαι αἱ κατὰ φύσιν, (230b.) καὶ αὐξήσεις βίαιοι καὶ φθίσεις, οἷον αὐξήσεις αἱ τῶν ταχὺ διὰ τρυφὴν ἡβώντων, καὶ οἱ σῖτοι οἱ ταχὺ ἁδρυνόμενοι καὶ μὴ πιληθέντες; ἐπὶ δ’ ἀλλοιώσεως πῶς; ἢ ὡσαύτως; εἶεν γὰρ ἄν τινες βίαιοι, αἱ δὲ φυσικαί, οἷον οἱ ἀφιέμενοι μὴ ἐν κρισίμοις ἡμέραις, οἱ δ’ ἐν κρισίμοις· οἱ μὲν οὖν παρὰ φύσιν ἠλλοίωνται, οἱ δὲ κατὰ φύσιν. ἔσονται δὴ καὶ φθοραὶ ἐναντίαι ἀλλήλαις, οὐ γενέσεσι. καὶ τί γε κωλύει ἔστιν ὡς; καὶ γὰρ εἰ ἡ μὲν ἡδεῖα ἡ δὲ λυπηρὰ εἴη· ὥστε οὐχ ἁπλῶς φθορὰ φθορᾷ ἐναντία, ἀλλ’ ᾗ ἡ μὲν τοιαδὶ ἡ δὲ τοιαδὶ αὐτῶν ἐστιν.

ὅλως μὲν οὖν ἐναντίαι κινήσεις καὶ ἠρεμίαι τὸν εἰρημένον τρόπον εἰσίν, οἷον ἡ ἄνω τῇ κάτω· τόπου γὰρ ἐναντιώσεις αὗται. φέρεται δὲ τὴν μὲν ἄνω φορὰν φύσει τὸ πῦρ, τὴν δὲ κάτω ἡ γῆ· καὶ ἐναντίαι γ’ αὐτῶν αἱ φοραί. τὸ δὲ πῦρ ἄνω μὲν φύσει, κάτω δὲ παρὰ φύσιν· καὶ ἐναντία γε ἡ κατὰ φύσιν αὐτοῦ τῇ παρὰ φύσιν. καὶ μοναὶ δ’ ὡσαύτως· ἡ γὰρ ἄνω μονὴ τῇ ἄνωθεν κάτω κινήσει ἐναντία. γίγνεται δὲ τῇ γῇ ἡ μὲν μονὴ ἐκείνη παρὰ φύσιν, ἡ δὲ κίνησις αὕτη κατὰ φύσιν. ὥστε κινήσει μονὴ ἐναντία ἡ παρὰ φύσιν τῇ κατὰ φύσιν τοῦ αὐτοῦ· καὶ γὰρ ἡ κίνησις ἡ τοῦ αὐτοῦ ἐναντία οὕτως· ἡ μὲν γὰρ κατὰ φύσιν [ἔσται] αὐτῶν, ἡ ἄνω ἢ ἡ κάτω, ἡ δὲ παρὰ φύσιν. ἔχει δ’ ἀπορίαν εἰ ἔστιν πάσης ἠρεμίας τῆς μὴ αἰεὶ γένεσις, καὶ αὕτη τὸ ἵστασθαι. τοῦ δὴ παρὰ φύσιν μένοντος, οἷον τῆς γῆς ἄνω, εἴη ἂν γένεσις. ὅτε ἄρα ἐφέρετο ἄνω βίᾳ, ἵστατο. ἀλλὰ τὸ ἱστάμενον ἀεὶ δοκεῖ φέρεσθαι θᾶττον, τὸ δὲ βίᾳ τοὐναντίον. οὐ γενόμενον ἄρα ἠρεμοῦν ἔσται ἠρεμοῦν. ἔτι δοκεῖ τὸ ἵστασθαι ἢ ὅλως εἶναι τὸ εἰς τὸν αὐτοῦ τόπον φέρεσθαι ἢ συμβαίνειν ἅμα.

ἔχει δ’ ἀπορίαν εἰ ἐναντία ἡ μονὴ ἡ ἐνταῦθα τῇ ἐντεῦθεν κινήσει· ὅταν γὰρ κινῆται ἐκ τουδὶ καὶ ἀποβάλλῃ, ἔτι δοκεῖ ἔχειν τὸ ἀποβαλλόμενον, ὥστ’ εἰ αὕτη ἡ ἠρεμία ἐναντία τῇ ἐντεῦθεν εἰς τοὐναντίον κινήσει, ἅμα ὑπάρξει τἀναντία. ἢ πῃ ἠρεμεῖ, εἰ ἔτι μένει, ὅλως δὲ τοῦ κινουμένου τὸ μὲν (231a.) ἐκεῖ, τὸ δ’ εἰς ὃ μεταβάλλει; διὸ καὶ μᾶλλον κίνησις κινήσει ἐναντίον ἢ ἠρέμησις.

καὶ περὶ μὲν κινήσεως καὶ ἠρεμίας, πῶς ἑκατέρα μία, καὶ τίνες ἐναντίαι τίσιν, εἴρηται.

[ἀπορήσειε δ’ ἄν τις καὶ περὶ τοῦ ἵστασθαι, εἰ καὶ ὅσαι παρὰ φύσιν κινήσεις, ταύταις ἔστιν ἠρεμία ἀντικειμένη. εἰ μὲν οὖν μὴ ἔσται, ἄτοπον· μένει γάρ, βίᾳ δέ. ὥστε ἠρεμοῦν τι ἔσται οὐκ ἀεὶ ἄνευ τοῦ γενέσθαι. ἀλλὰ δῆλον ὅτι ἔσται· ὥσπερ γὰρ κινεῖται παρὰ φύσιν, καὶ ἠρεμοίη ἄν τι παρὰ φύσιν. ἐπεὶ δ’ ἔστιν ἐνίοις κίνησις κατὰ φύσιν καὶ παρὰ φύσιν, οἷον πυρὶ ἡ ἄνω κατὰ φύσιν ἡ δὲ κάτω παρὰ φύσιν, πότερον αὕτη ἐναντία ἢ ἡ τῆς γῆς; αὕτη γὰρ φέρεται κατὰ φύσιν κάτω. ἢ δῆλον ὅτι ἄμφω, ἀλλ’ οὐχ ὡσαύτως, ἀλλ’ ἡ μὲν κατὰ φύσιν ὡς κατὰ φύσιν οὔσης τῆς αὐτοῦ· ἡ δ’ ἄνω τοῦ πυρὸς τῇ κάτω, ὡς ἡ κατὰ φύσιν οὖσα τῇ παρὰ φύσιν οὔσῃ. ὁμοίως δὲ καὶ ταῖς μοναῖς. ἴσως δ’ ἠρεμίᾳ κίνησίς πῃ ἀντίκειται.]

Βιβλίο 6

Κεφάλαιο 1

Εἰ δ’ ἐστὶ συνεχὲς καὶ ἁπτόμενον καὶ ἐφεξῆς, ὡς διώρισται πρότερον, συνεχῆ μὲν ὧν τὰ ἔσχατα ἕν, ἁπτόμενα δ’ ὧν ἅμα, ἐφεξῆς δ’ ὧν μηδὲν μεταξὺ συγγενές, ἀδύνατον ἐξ ἀδιαιρέτων εἶναί τι συνεχές, οἷον γραμμὴν ἐκ στιγμῶν, εἴπερ ἡ γραμμὴ μὲν συνεχές, ἡ στιγμὴ δὲ ἀδιαίρετον. οὔτε γὰρ ἓν τὰ ἔσχατα τῶν στιγμῶν (οὐ γάρ ἐστι τὸ μὲν ἔσχατον τὸ δ’ ἄλλο τι μόριον τοῦ ἀδιαιρέτου), οὔθ’ ἅμα τὰ ἔσχατα (οὐ γάρ ἐστιν ἔσχατον τοῦ ἀμεροῦς οὐδέν· ἕτερον γὰρ τὸ ἔσχατον καὶ οὗ ἔσχατον).

ἔτι δ’ ἀνάγκη ἤτοι συνεχεῖς εἶναι τὰς στιγμὰς ἢ ἁπτομένας ἀλλήλων, ἐξ ὧν ἐστι τὸ συνεχές· ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ πάντων τῶν (231b.) ἀδιαιρέτων. συνεχεῖς μὲν δὴ οὐκ ἂν εἶεν διὰ τὸν εἰρημένον λόγον· ἅπτεται δ’ ἅπαν ἢ ὅλον ὅλου ἢ μέρος μέρους ἢ ὅλου μέρος. ἐπεὶ δ’ ἀμερὲς τὸ ἀδιαίρετον, ἀνάγκη ὅλον ὅλου ἅπτεσθαι. ὅλον δ’ ὅλου ἁπτόμενον οὐκ ἔσται συνεχές. τὸ γὰρ συνεχὲς ἔχει τὸ μὲν ἄλλο τὸ δ’ ἄλλο μέρος, καὶ διαιρεῖται εἰς οὕτως ἕτερα καὶ τόπῳ κεχωρισμένα.

ἀλλὰ μὴν οὐδὲ ἐφεξῆς ἔσται στιγμὴ στιγμῇ ἢ τὸ νῦν τῷ νῦν, ὥστ’ ἐκ τούτων εἶναι τὸ μῆκος ἢ τὸν χρόνον· ἐφεξῆς μὲν γάρ ἐστιν ὧν μηθέν ἐστι μεταξὺ συγγενές, στιγμῶν δ’ αἰεὶ [τὸ] μεταξὺ γραμμὴ καὶ τῶν νῦν χρόνος. ἔτι διαιροῖτ’ ἂν εἰς ἀδιαίρετα, εἴπερ ἐξ ὧν ἐστιν ἑκάτερον, εἰς ταῦτα διαιρεῖται· ἀλλ’ οὐθὲν ἦν τῶν συνεχῶν εἰς ἀμερῆ διαιρετόν. ἄλλο δὲ γένος οὐχ οἷόν τ’ εἶναι μεταξὺ [τῶν στιγμῶν καὶ τῶν νῦν οὐθέν]. ἢ γὰρ [ἔσται, δῆλον ὡς ἤτοι] ἀδιαίρετον ἔσται ἢ διαιρετόν, καὶ εἰ διαιρετόν, ἢ εἰς ἀδιαίρετα ἢ εἰς ἀεὶ διαιρετά· τοῦτο δὲ συνεχές.

φανερὸν δὲ καὶ ὅτι πᾶν συνεχὲς διαιρετὸν εἰς αἰεὶ διαιρετά· εἰ γὰρ εἰς ἀδιαίρετα, ἔσται ἀδιαίρετον ἀδιαιρέτου ἁπτόμενον· ἓν γὰρ τὸ ἔσχατον καὶ ἅπτεται τῶν συνεχῶν.

τοῦ δ’ αὐτοῦ λόγου μέγεθος καὶ χρόνον καὶ κίνησιν ἐξ ἀδιαιρέτων συγκεῖσθαι, καὶ διαιρεῖσθαι εἰς ἀδιαίρετα, ἢ μηθέν. δῆλον δ’ ἐκ τῶνδε. εἰ γὰρ τὸ μέγεθος ἐξ ἀδιαιρέτων σύγκειται, καὶ ἡ κίνησις ἡ τούτου ἐξ ἴσων κινήσεων ἔσται ἀδιαιρέτων, οἷον εἰ τὸ ΑΒΓ ἐκ τῶν Α Β Γ ἐστὶν ἀδιαιρέτων, ἡ κίνησις ἐφ’ ἧς ΔΕΖ, ἣν ἐκινήθη τὸ Ω ἐπὶ τῆς ΑΒΓ, ἕκαστον τὸ μέρος ἔχει ἀδιαίρετον. εἰ δὴ παρούσης κινήσεως ἀνάγκη κινεῖσθαί τι, καὶ εἰ κινεῖταί τι, παρεῖναι κίνησιν, καὶ τὸ κινεῖσθαι ἔσται ἐξ ἀδιαιρέτων. τὸ μὲν δὴ Α ἐκινήθη τὸ Ω τὴν τὸ Δ κινούμενον κίνησιν, τὸ δὲ Β τὴν τὸ Ε, καὶ τὸ Γ ὡσαύτως τὴν τὸ Ζ. εἰ δὴ ἀνάγκη τὸ κινούμενον ποθέν ποι μὴ ἅμα κινεῖσθαι καὶ κεκινῆσθαι οὗ ἐκινεῖτο ὅτε ἐκινεῖτο (οἷον εἰ Θήβαζέ τι βαδίζει, ἀδύνατον ἅμα βαδίζειν Θήβαζε καὶ βεβαδικέναι (232a.) Θήβαζε), τὴν δὲ τὸ Α τὴν ἀμερῆ ἐκινεῖτο τὸ Ω, ᾗ ἡ τὸ Δ κίνησις παρῆν· ὥστ' εἰ μὲν ὕστερον διεληλύθει ἢ διῄει, διαιρετὴ ἂν εἴη (ὅτε γὰρ διῄει, οὔτε ἠρέμει οὔτε διεληλύθει, ἀλλὰ μεταξὺ ἦν), εἰ δ' ἅμα διέρχεται καὶ διελήλυθε, τὸ βαδίζον, ὅτε βαδίζει, βεβαδικὸς ἐκεῖ ἔσται καὶ κεκινημένον οὗ κινεῖται. εἰ δὲ τὴν μὲν ὅλην τὴν ΑΒΓ κινεῖταί τι, καὶ ἡ κίνησις ἣν κινεῖται τὰ Δ Ε Ζ ἐστι, τὴν δ' ἀμερῆ τὴν Α οὐθὲν κινεῖται ἀλλὰ κεκίνηται, εἴη ἂν ἡ κίνησις οὐκ ἐκ κινήσεων ἀλλ' ἐκ κινημάτων καὶ τῷ κεκινῆσθαί τι μὴ κινούμενον· τὴν γὰρ Α διελήλυθεν οὐ διεξιόν. ὥστε ἔσται τι βεβαδικέναι μη δέποτε βαδίζον· ταύτην γὰρ βεβάδικεν οὐ βαδίζον ταύτην. εἰ οὖν ἀνάγκη ἢ ἠρεμεῖν ἢ κινεῖσθαι πᾶν, ἠρεμεῖ καθ' ἕκαστον τῶν Α Β Γ, ὥστ' ἔσται τι συνεχῶς ἠρεμοῦν ἅμα καὶ κινούμενον. τὴν γὰρ ΑΒΓ ὅλην ἐκινεῖτο καὶ ἠρέμει ὁτιοῦν μέρος, ὥστε καὶ πᾶσαν. καὶ εἰ μὲν τὰ ἀδιαίρετα τῆς ΔΕΖ κινήσεις, κινήσεως παρούσης ἐνδέχοιτ' ἂν μὴ κινεῖσθαι ἀλλ' ἠρεμεῖν· εἰ δὲ μὴ κινήσεις, τὴν κίνησιν μὴ ἐκ κινήσεων εἶναι. ὁμοίως δ' ἀνάγκη τῷ μήκει καὶ τῇ κινήσει ἀδιαίρετον εἶναι τὸν χρόνον, καὶ συγκεῖσθαι ἐκ τῶν νῦν ὄντων ἀδιαιρέτων· εἰ γὰρ πᾶσα διαιρετός, ἐν τῷ ἐλάττονι δὲ τὸ ἰσοταχὲς δίεισιν ἔλαττον, διαιρετὸς ἔσται καὶ ὁ χρόνος. εἰ δ' ὁ χρόνος διαιρετὸς ἐν ᾧ φέρεταί τι τὴν Α, καὶ ἡ τὸ Α ἔσται διαιρετή.

Κεφάλαιο 2

Ἐπεὶ δὲ πᾶν μέγεθος εἰς μεγέθη διαιρετόν (δέδεικται γὰρ ὅτι ἀδύνατον ἐξ ἀτόμων εἶναί τι συνεχές, μέγεθος δ' ἐστὶν ἅπαν συνεχές), ἀνάγκη τὸ θᾶττον ἐν τῷ ἴσῳ χρόνῳ μεῖζον καὶ ἐν τῷ ἐλάττονι ἴσον καὶ ἐν τῷ ἐλάττονι πλεῖον κινεῖσθαι, καθάπερ ὁρίζονταί τινες τὸ θᾶττον. ἔστω γὰρ τὸ ἐφ' ᾧ Α τοῦ ἐφ' ᾧ Β θᾶττον. ἐπεὶ τοίνυν θᾶττόν ἐστιν τὸ πρότερον μεταβάλλον, ἐν ᾧ χρόνῳ τὸ Α μεταβέβληκεν ἀπὸ τοῦ Γ εἰς τὸ Δ, οἷον τῷ ΖΗ, ἐν τούτῳ τὸ Β οὔπω ἔσται πρὸς τῷ Δ, ἀλλ' ἀπολείψει, ὥστε ἐν τῷ ἴσῳ χρόνῳ πλεῖον δίεισιν τὸ θᾶττον. ἀλλὰ μὴν καὶ ἐν τῷ ἐλάττονι πλεῖον· ἐν ᾧ γὰρ τὸ Α γεγένηται πρὸς τῷ Δ, τὸ Β ἔστω πρὸς τῷ Ε τὸ βραδύτερον ὄν. οὐκοῦν ἐπεὶ (232b.) τὸ Α πρὸς τῷ Δ γεγένηται ἐν ἅπαντι τῷ ΖΗ χρόνῳ, πρὸς τῷ Θ ἔσται ἐν ἐλάττονι τούτου· καὶ ἔστω ἐν τῷ ΖΚ. τὸ μὲν οὖν ΓΘ, ὃ διελήλυθε τὸ Α, μεῖζόν ἐστι τοῦ ΓΕ, ὁ δὲ χρόνος ὁ ΖΚ ἐλάττων τοῦ παντὸς τοῦ ΖΗ, ὥστε ἐν ἐλάττονι μεῖζον δίεισιν. φανερὸν δὲ ἐκ τούτων καὶ ὅτι τὸ θᾶττον ἐν ἐλάττονι χρόνῳ δίεισιν τὸ ἴσον. ἐπεὶ γὰρ τὴν μείζω ἐν ἐλάττονι διέρχεται τοῦ βραδυτέρου, αὐτὸ δὲ καθ' αὑτὸ λαμβανόμενον ἐν πλείονι χρόνῳ τὴν μείζω τῆς ἐλάττονος, οἷον τὴν ΛΜ τῆς ΛΞ, πλείων ἂν εἴη ὁ χρόνος ὁ ΠΡ, ἐν ᾧ τὴν ΛΜ διέρχεται, ἢ ὁ ΠΣ, ἐν ᾧ τὴν ΛΞ. ὥστε εἰ ὁ ΠΡ χρόνος ἐλάττων ἐστὶν τοῦ Χ, ἐν ᾧ τὸ βραδύτερον διέρχεται τὴν ΛΞ, καὶ ὁ ΠΣ ἐλάττων ἔσται τοῦ ἐφ' ᾧ Χ· τοῦ γὰρ ΠΡ ἐλάττων, τὸ δὲ τοῦ ἐλάττονος ἔλαττον καὶ αὐτὸ ἔλαττον. ὥστε ἐν ἐλάττονι κινήσεται τὸ ἴσον. ἔτι δ' εἰ πᾶν ἀνάγκη ἢ ἐν ἴσῳ ἢ ἐν ἐλάττονι ἢ ἐν πλείονι κινεῖ σθαι, καὶ τὸ μὲν ἐν πλείονι βραδύτερον, τὸ δ' ἐν ἴσῳ ἰσοταχές, τὸ δὲ θᾶττον οὔτε ἰσοταχὲς οὔτε βραδύτερον, οὔτ' ἂν ἐν ἴσῳ οὔτ' ἐν πλείονι κινοῖτο τὸ θᾶττον. λείπεται οὖν ἐν ἐλάττονι, ὥστ' ἀνάγκη καὶ τὸ ἴσον μέγεθος ἐν ἐλάττονι χρόνῳ διιέναι τὸ θᾶττον. ἐπεὶ δὲ πᾶσα μὲν κίνησις ἐν χρόνῳ καὶ ἐν ἅπαντι χρόνῳ δυνατὸν κινηθῆναι, πᾶν δὲ τὸ κινούμενον ἐνδέχεται καὶ θᾶττον κινεῖσθαι καὶ βραδύτερον, ἐν ἅπαντι χρόνῳ ἔσται τὸ θᾶττον κινεῖσθαι καὶ βραδύτερον. τούτων δ' ὄντων ἀνάγκη καὶ τὸν χρόνον συνεχῆ εἶναι. λέγω δὲ συνεχὲς τὸ διαιρετὸν εἰς αἰεὶ διαιρετά· τούτου γὰρ ὑποκειμένου τοῦ συνε χοῦς, ἀνάγκη συνεχῆ εἶναι τὸν χρόνον. ἐπεὶ γὰρ δέδεικται ὅτι τὸ θᾶττον ἐν ἐλάττονι χρόνῳ δίεισιν τὸ ἴσον, ἔστω τὸ μὲν ἐφ' ᾧ Α θᾶττον, τὸ δ' ἐφ' ᾧ Β βραδύτερον, καὶ κεκινήσθω τὸ βραδύτερον τὸ ἐφ' ᾧ ΓΔ μέγεθος ἐν τῷ ΖΗ χρόνῳ. δῆλον τοίνυν ὅτι τὸ θᾶττον ἐν ἐλάττονι τούτου κινήσεται τὸ αὐτὸ μέγεθος· καὶ κεκινήσθω ἐν τῷ ΖΘ. πάλιν δ’ ἐπεὶ τὸ θᾶττον ἐν τῷ ΖΘ διελήλυθεν τὴν ὅλην τὴν ΓΔ, τὸ βραδύτερον ἐν τῷ αὐτῷ χρόνῳ τὴν ἐλάττω δίεισιν· ἔστω οὖν ἐφ’ (233a.) ἧς ΓΚ. ἐπεὶ δὲ τὸ βραδύτερον τὸ Β ἐν τῷ ΖΘ χρόνῳ τὴν ΓΚ διελήλυθεν, τὸ θᾶττον ἐν ἐλάττονι δίεισιν, ὥστε πάλιν διαιρεθήσεται ὁ ΖΘ χρόνος. τούτου δὲ διαιρουμένου καὶ τὸ ΓΚ μέγεθος διαιρεθήσεται κατὰ τὸν αὐτὸν λόγον. εἰ δὲ τὸ μέγεθος, καὶ ὁ χρόνος. καὶ ἀεὶ τοῦτ’ ἔσται μεταλαμβάνουσιν ἀπὸ τοῦ θάττονος τὸ βραδύτερον καὶ ἀπὸ τοῦ βραδυτέρου τὸ θᾶττον, καὶ τῷ ἀποδεδειγμένῳ χρωμένοις· διαιρήσει γὰρ τὸ μὲν θᾶττον τὸν χρόνον, τὸ δὲ βραδύτερον τὸ μῆκος. εἰ οὖν αἰεὶ μὲν ἀντιστρέφειν ἀληθές, ἀντιστρεφομένου δὲ αἰεὶ γίγνεται διαίρεσις, φανερὸν ὅτι πᾶς χρόνος ἔσται συνεχής.

ἅμα δὲ δῆλον καὶ ὅτι μέγεθος ἅπαν ἐστὶ συνεχές· τὰς αὐτὰς γὰρ καὶ τὰς ἴσας διαιρέσεις ὁ χρόνος διαιρεῖται καὶ τὸ μέγεθος. ἔτι δὲ καὶ ἐκ τῶν εἰωθότων λόγων λέγεσθαι φανερὸν ὡς εἴπερ ὁ χρόνος ἐστὶ συνεχής, ὅτι καὶ τὸ μέγεθος, εἴπερ ἐν τῷ ἡμίσει χρόνῳ ἥμισυ διέρχεται καὶ ἁπλῶς ἐν τῷ ἐλάττονι ἔλαττον· αἱ γὰρ αὐταὶ διαιρέσεις ἔσονται τοῦ χρόνου καὶ τοῦ μεγέθους. καὶ εἰ ὁποτερονοῦν ἄπειρον, καὶ θάτερον, καὶ ὡς θάτερον, καὶ θάτερον, οἷον εἰ μὲν τοῖς ἐσχάτοις ἄπειρος ὁ χρόνος, καὶ τὸ μῆκος τοῖς ἐσχάτοις, εἰ δὲ τῇ διαιρέσει, τῇ διαιρέσει καὶ τὸ μῆκος, εἰ δὲ ἀμφοῖν, ἀμφοῖν καὶ τὸ μέγεθος.

διὸ καὶ ὁ Ζήνωνος λόγος ψεῦδος λαμβάνει τὸ μὴ ἐνδέχεσθαι τὰ ἄπειρα διελθεῖν ἢ ἅψασθαι τῶν ἀπείρων καθ’ ἕκαστον ἐν πεπερασμένῳ χρόνῳ. διχῶς γὰρ λέγεται καὶ τὸ μῆκος καὶ ὁ χρόνος ἄπειρον, καὶ ὅλως πᾶν τὸ συνεχές, ἤτοι κατὰ διαίρεσιν ἢ τοῖς ἐσχάτοις. τῶν μὲν οὖν κατὰ τὸ ποσὸν ἀπείρων οὐκ ἐνδέχεται ἅψασθαι ἐν πεπερασμένῳ χρόνῳ, τῶν δὲ κατὰ διαίρεσιν ἐνδέχεται· καὶ γὰρ αὐτὸς ὁ χρόνος οὕτως ἄπειρος. ὥστε ἐν τῷ ἀπείρῳ καὶ οὐκ ἐν τῷ πεπερασμένῳ συμβαίνει διιέναι τὸ ἄπειρον, καὶ ἅπτεσθαι τῶν ἀπείρων τοῖς ἀπείροις, οὐ τοῖς πεπερασμένοις. οὔτε δὴ τὸ ἄπειρον οἷόν τε ἐν πεπερασμένῳ χρόνῳ διελθεῖν, οὔτ’ ἐν ἀπείρῳ τὸ πεπερασμένον· ἀλλ’ ἐάν τε ὁ χρόνος ἄπειρος ᾖ, καὶ τὸ μέγεθος ἔσται ἄπειρον, ἐάν τε τὸ μέγεθος, καὶ ὁ χρόνος. ἔστω γὰρ πεπερασμένον μέγεθος ἐφ’ οὗ ΑΒ, χρόνος δὲ ἄπειρος ἐφ’ ᾧ Γ· εἰλήφθω δέ τι τοῦ (233b.) χρόνου πεπερασμένον, ἐφ’ ᾧ ΓΔ. ἐν τούτῳ οὖν δίεισί τι τοῦ μεγέθους, καὶ ἔστω διεληλυθὸς ἐφ’ ᾧ ΒΕ. τοῦτο δὲ ἢ καταμετρήσει τὸ ἐφ’ ᾧ ΑΒ, ἢ ἐλλείψει, ἢ ὑπερβαλεῖ· διαφέρει γὰρ οὐθέν· εἰ γὰρ ἀεὶ τὸ ἴσον τῷ ΒΕ μέγεθος ἐν ἴσῳ χρόνῳ δίεισιν, τοῦτο δὲ καταμετρεῖ τὸ ὅλον, πεπερασμένος ἔσται ὁ πᾶς χρόνος ἐν ᾧ διῆλθεν· εἰς ἴσα γὰρ διαιρεθήσεται καὶ τὸ μέγεθος. ἔτι δ’ εἰ μὴ πᾶν μέγεθος ἐν ἀπείρῳ χρόνῳ δίεισιν, ἀλλ’ ἐνδέχεταί τι καὶ ἐν πεπερασμένῳ διελθεῖν, οἷον τὸ ΒΕ, τοῦτο δὲ καταμετρήσει τὸ πᾶν, καὶ τὸ ἴσον ἐν ἴσῳ δίεισιν, ὥστε πεπερασμένος ἔσται καὶ ὁ χρόνος. ὅτι δ’ οὐκ ἐν ἀπείρῳ δίεισιν τὸ ΒΕ, φανερόν, εἰ ληφθείη ἐπὶ θάτερα πεπερασμένος ὁ χρόνος· εἰ γὰρ ἐν ἐλάττονι τὸ μέρος δίεισιν, τοῦτο ἀνάγκη πεπεράνθαι, θατέρου γε πέρατος ὑπάρχοντος. ἡ αὐτὴ δὲ ἀπόδειξις καὶ εἰ τὸ μὲν μῆκος ἄπειρον ὁ δὲ χρόνος πεπερασμένος. φανερὸν οὖν ἐκ τῶν εἰρημένων ὡς οὔτε γραμμὴ οὔτε ἐπίπεδον οὔτε ὅλως τῶν συνεχῶν οὐθὲν ἔσται ἄτομον,

οὐ μόνον διὰ τὸ νῦν λεχθέν, ἀλλὰ καὶ ὅτι συμβήσεται διαιρεῖσθαι τὸ ἄτομον. ἐπεὶ γὰρ ἐν ἅπαντι χρόνῳ τὸ θᾶττον καὶ βραδύτερον ἔστι, τὸ δὲ θᾶττον πλεῖον διέρχεται ἐν τῷ ἴσῳ χρόνῳ, ἐνδέχεται δὲ καὶ διπλάσιον καὶ ἡμιόλιον διιέναι μῆκος (εἴη γὰρ ἂν οὗτος ὁ λόγος τοῦ τάχους), ἐνηνέχθω οὖν τὸ θᾶττον ἡμιόλιον ἐν τῷ αὐτῷ χρόνῳ, καὶ διῃρήσθω τὰ μεγέθη τὸ μὲν τοῦ θάττονος εἰς τρία ἄτομα, ἐφ’ ὧν ΑΒ ΒΓ ΓΔ, τὸ δὲ τοῦ βραδυτέρου εἰς δύο, ἐφ’ ὧν ΕΖ ΖΗ. οὐκοῦν καὶ ὁ χρόνος διαιρεθήσεται εἰς τρία ἄτομα· τὸ γὰρ ἴσον ἐν τῷ ἴσῳ χρόνω δίεισιν. διῃρήσθω οὖν ὁ χρόνος εἰς τὰ ΚΛ ΛΜ ΜΝ. πάλιν δ’ ἐπεὶ τὸ βραδύτερον ἐνήνεκται τὴν ΕΖΗ, καὶ ὁ χρόνος τμηθήσεται δίχα. διαιρεθήσεται ἄρα τὸ ἄτομον, καὶ τὸ ἀμερὲς οὐκ ἐν ἀτόμῳ δίεισιν ἀλλ’ ἐν πλείονι. φανερὸν οὖν ὅτι οὐδέν ἐστι τῶν συνεχῶν ἀμερές.

Κεφάλαιο 3

Ἀνάγκη δὲ καὶ τὸ νῦν τὸ μὴ καθ’ ἕτερον ἀλλὰ καθ’ αὑτὸ καὶ πρῶτον λεγόμενον ἀδιαίρετον εἶναι, καὶ ἐν ἅπαντι τὸ τοιοῦτο χρόνῳ ἐνυπάρχειν. ἔστιν γὰρ ἔσχατόν τι τοῦ (234a.) γεγονότος, οὗ ἐπὶ τάδε οὐθέν ἐστι τοῦ μέλλοντος, καὶ πάλιν τοῦ μέλλοντος, οὗ ἐπὶ τάδε οὐθέν ἐστι τοῦ γεγονότος· ὃ δή φαμεν ἀμφοῖν εἶναι πέρας. τοῦτο δὲ ἐὰν δειχθῇ ὅτι τοιοῦτόν ἐστιν [καθ’ αὑτὸ] καὶ ταὐτόν, ἅμα φανερὸν ἔσται καὶ ὅτι ἀδιαίρετον. ἀνάγκη δὴ τὸ αὐτὸ εἶναι τὸ νῦν τὸ ἔσχατον ἀμφοτέ ρων τῶν χρόνων· εἰ γὰρ ἕτερον, ἐφεξῆς μὲν οὐκ ἂν εἴη θάτερον θατέρῳ διὰ τὸ μὴ εἶναι συνεχὲς ἐξ ἀμερῶν, εἰ δὲ χωρὶς ἑκάτερον, μεταξὺ ἔσται χρόνος· πᾶν γὰρ τὸ συνεχὲς τοιοῦτον ὥστ’ εἶναί τι συνώνυμον μεταξὺ τῶν περάτων. ἀλλὰ μὴν εἰ χρόνος τὸ μεταξύ, διαιρετὸν ἔσται· πᾶς γὰρ χρόνος δέδεικται ὅτι διαιρετός. ὥστε διαιρετὸν τὸ νῦν. εἰ δὲ διαιρετὸν τὸ νῦν, ἔσται τι τοῦ γεγονότος ἐν τῷ μέλλοντι καὶ τοῦ μέλλοντος ἐν τῷ γεγονότι· καθ’ ὃ γὰρ ἂν διαιρεθῇ, τοῦτο διοριεῖ τὸν παρήκοντα καὶ τὸν μέλλοντα χρόνον. ἅμα δὲ καὶ οὐκ ἂν καθ’ αὑτὸ εἴη τὸ νῦν, ἀλλὰ καθ’ ἕτερον· ἡ γὰρ διαίρεσις οὐ καθ’ αὑτό. πρὸς δὲ τούτοις τοῦ νῦν τὸ μέν τι γεγονὸς ἔσται τὸ δὲ μέλλον, καὶ οὐκ ἀεὶ τὸ αὐτὸ γεγονὸς ἢ μέλλον. οὐδὲ δὴ τὸ νῦν τὸ αὐτό· πολλαχῇ γὰρ διαιρετὸς ὁ χρόνος. ὥστ’ εἰ ταῦτα ἀδύνατον ὑπάρχειν, ἀνάγκη τὸ αὐτὸ εἶναι τὸ ἐν ἑκατέρῳ νῦν. ἀλλὰ μὴν εἰ ταὐτό, φανερὸν ὅτι καὶ ἀδιαίρετον· εἰ γὰρ διαιρετόν, πάλιν ταὐτὰ συμβήσεται ἃ καὶ ἐν τῷ πρότερον. ὅτι μὲν τοίνυν ἔστιν τι ἐν τῷ χρόνῳ ἀδιαίρετον, ὅ φαμεν εἶναι τὸ νῦν, δῆλόν ἐστιν ἐκ τῶν εἰρημένων·

ὅτι δ’ οὐθὲν ἐν τῷ νῦν κινεῖται, ἐκ τῶνδε φανερόν ἐστιν. εἰ γάρ, ἐνδέχεται καὶ θᾶττον κινεῖσθαι καὶ βραδύτερον. ἔστω δὴ τὸ νῦν ἐφ’ ᾧ Ν, κεκινήσθω δ’ ἐν αὐτῷ τὸ θᾶττον τὴν ΑΒ. οὐκοῦν τὸ βραδύτερον ἐν τῷ αὐτῷ ἐλάττω τῆς ΑΒ κινηθήσεται, οἷον τὴν ΑΓ. ἐπεὶ δὲ τὸ βραδύτερον ἐν ὅλῳ τῷ νῦν κεκίνηται τὴν ΑΓ, τὸ θᾶττον ἐν ἐλάττονι τούτου κινηθήσεται, ὥστε διαιρεθήσεται τὸ νῦν. ἀλλ’ ἦν ἀδιαίρετον. οὐκ ἄρα ἔστιν κινεῖσθαι ἐν τῷ νῦν.

ἀλλὰ μὴν οὐδ’ ἠρεμεῖν· ἠρεμεῖν γὰρ λέγομεν τὸ πεφυκὸς κινεῖσθαι μὴ κινούμενον ὅτε πέφυκεν καὶ οὗ καὶ ὥς, ὥστ’ ἐπεὶ ἐν τῷ νῦν οὐθὲν πέφυκε κινεῖσθαι, δῆλον ὡς οὐδ’ ἠρεμεῖν.

ἔτι δ’ εἰ τὸ αὐτὸ μέν ἐστι τὸ νῦν ἐν ἀμφοῖν τοῖν χρόνοιν, (234b.) ἐνδέχεται δὲ τὸν μὲν κινεῖσθαι τὸν δ’ ἠρεμεῖν ὅλον, τὸ δ’ ὅλον κινούμενον τὸν χρόνον ἐν ὁτῳοῦν κινηθήσεται τῶν τούτου καθ’ ὃ πέφυκε κινεῖσθαι, καὶ τὸ ἠρεμοῦν ὡσαύτως ἠρεμήσει, συμβήσεται τὸ αὐτὸ ἅμα ἠρεμεῖν καὶ κινεῖσθαι· τὸ γὰρ αὐτὸ ἔσχατον τῶν χρόνων ἀμφοτέρων, τὸ νῦν.

ἔτι δ’ ἠρεμεῖν μὲν λέγομεν τὸ ὁμοίως ἔχον καὶ αὐτὸ καὶ τὰ μέρη νῦν καὶ πρότερον· ἐν δὲ τῷ νῦν οὐκ ἔστι τὸ πρότερον, ὥστ’ οὐδ’ ἠρεμεῖν.

ἀνάγκη ἄρα καὶ κινεῖσθαι τὸ κινούμενον ἐν χρόνῳ καὶ ἠρεμεῖν τὸ ἠρεμοῦν.

Κεφάλαιο 4

Τὸ δὲ μεταβάλλον ἅπαν ἀνάγκη διαιρετὸν εἶναι. ἐπεὶ γὰρ ἔκ τινος εἴς τι πᾶσα μεταβολή, καὶ ὅταν μὲν ᾖ ἐν τούτῳ εἰς ὃ μετέβαλλεν, οὐκέτι μεταβάλλει, ὅταν δὲ ἐξ οὗ μετέβαλλεν, καὶ αὐτὸ καὶ τὰ μέρη πάντα, οὔπω μεταβάλλει (τὸ γὰρ ὡσαύτως ἔχον καὶ αὐτὸ καὶ τὰ μέρη οὐ μεταβάλλει), ἀνάγκη οὖν τὸ μέν τι ἐν τούτῳ εἶναι, τὸ δ’ ἐν θατέρῳ τοῦ μεταβάλλοντος· οὔτε γὰρ ἐν ἀμφοτέροις οὔτ’ ἐν μηδετέρῳ δυνατόν. λέγω δ’ εἰς ὃ μεταβάλλει τὸ πρῶτον κατὰ τὴν μεταβολήν, οἷον ἐκ τοῦ λευκοῦ τὸ φαιόν, οὐ τὸ μέλαν· οὐ γὰρ ἀνάγκη τὸ μεταβάλλον ἐν ὁποτερῳοῦν εἶναι τῶν ἄκρων. φανερὸν οὖν ὅτι πᾶν τὸ μεταβάλλον ἔσται διαιρετόν.

κίνησις δ’ ἐστὶν διαιρετὴ διχῶς, ἕνα μὲν τρόπον τῷ χρόνῳ, ἄλλον δὲ κατὰ τὰς τῶν μερῶν τοῦ κινουμένου κινήσεις, οἷον εἰ τὸ ΑΓ κινεῖται ὅλον, καὶ τὸ ΑΒ κινήσεται καὶ τὸ ΒΓ. ἔστω δὴ τοῦ μὲν ΑΒ ἡ ΔΕ, τοῦ δὲ ΒΓ ἡ ΕΖ κίνησις τῶν μερῶν. ἀνάγκη δὴ τὴν ὅλην, ἐφ’ ἧς ΔΖ, τοῦ ΑΓ εἶναι κίνησιν. κινήσεται γὰρ κατὰ ταύτην, ἐπείπερ ἑκάτερον τῶν μερῶν κινεῖται καθ’ ἑκατέραν· οὐθὲν δὲ κινεῖται κατὰ τὴν ἄλλου κίνησιν· ὥστε ἡ ὅλη κίνησις τοῦ ὅλου ἐστὶν μεγέθους κίνησις.

ἔτι δ’ εἰ πᾶσα μὲν κίνησις τινός, ἡ δ’ ὅλη κίνησις ἡ ἐφ’ ἧς ΔΖ μήτε τῶν μερῶν ἐστιν μηδετέρου (μέρους γὰρ ἑκατέρα) μήτ’ ἄλλου μηδενός (οὗ γὰρ ὅλη ὅλου, καὶ τὰ μέρη τῶν μερῶν· τὰ δὲ μέρη τῶν ΑΒ ΒΓ καὶ οὐδένων ἄλλων· πλειόνων γὰρ οὐκ ἦν μία κίνησις), κἂν ἡ ὅλη κίνησις εἴη τοῦ ΑΒΓ μεγέθους.

ἔτι δ’ εἰ ἔστιν ἄλλη τοῦ ὅλου κίνησις, οἷον ἐφ’ ἧς ΘΙ, ἀφαιρεθήσεται ἀπ’ αὐτῆς (235a.) ἡ ἑκατέρων τῶν μερῶν κίνησις· αὗται δ’ ἴσαι ἔσονται ταῖς ΔΕ ΕΖ· μία γὰρ ἑνὸς κίνησις. ὥστ’ εἰ μὲν ὅλη διαιρεθήσεται ἡ ΘΙ εἰς τὰς τῶν μερῶν κινήσεις, ἴση ἔσται ἡ ΘΙ τῇ ΔΖ· εἰ δ’ ἀπολείπει τι, οἷον τὸ ΚΙ, αὕτη οὐδενὸς ἔσται κίνησις (οὔτε γὰρ τοῦ ὅλου οὔτε τῶν μερῶν διὰ τὸ μίαν εἶναι ἑνός, οὔτε ἄλλου οὐθενός· ἡ γὰρ συνεχὴς κίνησίς ἐστι συνεχῶν τινῶν), ὡσαύτως δὲ καὶ εἰ ὑπερβάλλει κατὰ τὴν διαίρεσιν· ὥστ’ εἰ τοῦτο ἀδύνατον, ἀνάγκη τὴν αὐτὴν εἶναι καὶ ἴσην.

αὕτη μὲν οὖν ἡ διαίρεσις κατὰ τὰς τῶν μερῶν κινήσεις ἐστίν, καὶ ἀνάγκη παντὸς εἶναι τοῦ μεριστοῦ αὐτήν· ἄλλη δὲ κατὰ τὸν χρόνον· ἐπεὶ γὰρ ἅπασα κίνησις ἐν χρόνῳ, χρόνος δὲ πᾶς διαιρετός, ἐν δὲ τῷ ἐλάττονι ἐλάττων ἡ κίνησις, ἀνάγκη πᾶσαν κίνησιν διαιρεῖσθαι κατὰ τὸν χρόνον. ἐπεὶ δὲ πᾶν τὸ (13) κινούμενον ἔν τινι κινεῖται καὶ χρόνον τινά, καὶ παντὸς ἔστι κίνησις, ἀνάγκη τὰς αὐτὰς εἶναι διαιρέσεις τοῦ τε χρόνου καὶ τῆς κινήσεως καὶ τοῦ κινεῖσθαι καὶ τοῦ κινουμένου καὶ ἐν ᾧ ἡ κίνησις (πλὴν οὐ πάντων ὁμοίως ἐν οἷς ἡ κίνησις, ἀλλὰ τοῦ μὲν τόπου καθ’ αὑτό, τοῦ δὲ ποιοῦ κατὰ συμβεβηκός). εἰλήφθω γὰρ ὁ χρόνος ἐν ᾧ κινεῖται ἐφ’ ᾧ Α, καὶ ἡ κίνησις ἐφ’ ᾧ Β. εἰ οὖν τὴν ὅλην ἐν τῷ παντὶ χρόνῳ κεκίνηται, ἐν τῷ ἡμίσει ἐλάττω, καὶ πάλιν τούτου διαιρεθέντος ἐλάττω ταύτης, καὶ ἀεὶ οὕτως.

ὁμοίως δὲ καί, εἰ ἡ κίνησις διαιρετή, καὶ ὁ χρόνος διαιρετός· εἰ γὰρ τὴν ὅλην ἐν τῷ παντί, τὴν ἡμίσειαν ἐν τῷ ἡμίσει, καὶ πάλιν τὴν ἐλάττω ἐν τῷ ἐλάττονι. τὸν αὐτὸν δὲ τρόπον καὶ τὸ κινεῖσθαι διαιρεθήσεται. ἔστω γὰρ ἐφ’ ᾧ Γ τὸ κινεῖσθαι. κατὰ δὴ τὴν ἡμίσειαν κίνησιν ἔλαττον ἔσται τοῦ ὅλου, καὶ πάλιν κατὰ τὴν τῆς ἡμισείας ἡμίσειαν, καὶ αἰεὶ οὕτως. ἔστι δὲ καὶ ἐκθέμενον τὸ καθ’ ἑκατέραν τῶν κινήσεων κινεῖσθαι, οἷον κατά τε τὴν ΔΓ καὶ τὴν ΓΕ, λέγειν ὅτι τὸ ὅλον ἔσται κατὰ τὴν ὅλην (εἰ γὰρ ἄλλο, πλείω ἔσται κινεῖσθαι κατὰ τὴν αὐτὴν κίνησιν), ὥσπερ ἐδείξαμεν καὶ τὴν κίνησιν διαιρετὴν εἰς τὰς τῶν μερῶν κινήσεις οὖσαν· ληφθέντος γὰρ τοῦ κινεῖσθαι καθ’ ἑκατέραν συνεχὲς ἔσται τὸ ὅλον.

ὡσαύτως δὲ δειχθήσεται καὶ τὸ μῆκος διαιρετόν, καὶ ὅλως πᾶν ἐν ᾧ ἐστιν ἡ μεταβολή (πλὴν ἔνια κατὰ συμβεβηκός, ὅτι τὸ μεταβάλλον ἐστὶν διαιρετόν)· ἑνὸς γὰρ διαιρουμένου πάντα διαιρεθήσεται. καὶ ἐπὶ τοῦ (235b.) πεπερασμένα εἶναι ἢ ἄπειρα ὁμοίως ἕξει κατὰ πάντων. ἠκολούθηκεν δὲ μάλιστα τὸ διαιρεῖσθαι πάντα καὶ ἄπειρα εἶναι ἀπὸ τοῦ μεταβάλλοντος· εὐθὺς γὰρ ἐνυπάρχει τῷ μεταβάλλοντι τὸ διαιρετὸν καὶ τὸ ἄπειρον. τὸ μὲν οὖν διαιρετὸν δέδεικται πρότερον, τὸ δ’ ἄπειρον ἐν τοῖς ἑπομένοις ἔσται δῆλον.

Κεφάλαιο 5

Ἐπεὶ δὲ πᾶν τὸ μεταβάλλον ἔκ τινος εἴς τι μεταβάλλει, ἀνάγκη τὸ μεταβεβληκός, ὅτε πρῶτον μεταβέβληκεν, εἶναι ἐν ᾧ μεταβέβληκεν. τὸ γὰρ μεταβάλλον, ἐξ οὗ μεταβάλλει, ἐξίσταται ἢ ἀπολείπει αὐτό, καὶ ἤτοι ταὐτόν ἐστι τὸ μεταβάλλειν καὶ τὸ ἀπολείπειν, ἢ ἀκολουθεῖ τῷ μετα βάλλειν τὸ ἀπολείπειν. εἰ δὲ τῷ μεταβάλλειν τὸ ἀπολείπειν, τῷ μεταβεβληκέναι τὸ ἀπολελοιπέναι· ὁμοίως γὰρ ἑκάτερον ἔχει πρὸς ἑκάτερον.

ἐπεὶ οὖν μία τῶν μεταβολῶν ἡ κατ' ἀντίφασιν, ὅτε μεταβέβληκεν ἐκ τοῦ μὴ ὄντος εἰς τὸ ὄν, ἀπολέλοιπεν τὸ μὴ ὄν. ἔσται ἄρα ἐν τῷ ὄντι· πᾶν γὰρ ἀνάγκη ἢ εἶναι ἢ μὴ εἶναι. φανερὸν οὖν ὅτι ἐν τῇ κατ' ἀντίφασιν μεταβολῇ τὸ μεταβεβληκὸς ἔσται ἐν ᾧ μεταβέβληκεν. εἰ δ' ἐν ταύτῃ, καὶ ἐν ταῖς ἄλλαις· ὁμοίως γὰρ ἐπὶ μιᾶς καὶ τῶν ἄλλων.

ἔτι δὲ καὶ καθ' ἑκάστην λαμβάνουσι φανερόν, εἴπερ ἀνάγκη τὸ μεταβεβληκὸς εἶναί που ἤ ἔν τινι. ἐπεὶ γὰρ ἐξ οὗ μεταβέβληκεν ἀπολέλοιπεν, ἀνάγκη δ' εἶναί που, ἢ ἐν τούτῳ ἢ ἐν ἄλλῳ ἔσται. εἰ μὲν οὖν ἐν ἄλλῳ, οἷον ἐν τῷ Γ, τὸ εἰς τὸ Β μεταβεβληκός, πάλιν ἐκ τοῦ Γ μεταβάλλει εἰς τὸ Β· οὐ γὰρ ἦν ἐχόμενον τὸ Β, ἡ δὲ μεταβολὴ συνεχής. ὥστε τὸ μεταβεβληκός, ὅτε μεταβέβληκεν, μεταβάλλει εἰς ὃ μεταβέβληκεν. τοῦτο δ' ἀδύνατον· ἀνάγκη ἄρα τὸ μεταβεβληκὸς εἶναι ἐν τούτῳ εἰς ὃ μεταβέβληκεν. φανερὸν οὖν ὅτι καὶ τὸ γεγονός, ὅτε γέγονεν, ἔσται, καὶ τὸ ἐφθαρμένον οὐκ ἔσται· καθόλου τε γὰρ εἴρηται περὶ πάσης μεταβολῆς, καὶ μάλιστα δῆλον ἐν τῇ κατ' ἀντίφασιν. ὅτι μὲν τοίνυν τὸ μεταβεβληκός, ὅτε μεταβέβληκε πρῶτον, ἐν ἐκείνῳ ἐστίν, δῆλον·

ἐν ᾧ δὲ πρώτῳ μεταβέβληκεν τὸ μεταβεβληκός, ἀνάγκη ἄτομον εἶναι. λέγω δὲ πρῶτον ὃ μὴ τῷ ἕτερόν τι αὐτοῦ εἶναι τοιοῦτόν ἐστιν. ἔστω γὰρ διαιρετὸν τὸ ΑΓ, καὶ διῃρήσθω κατὰ τὸ Β. εἰ μὲν οὖν ἐν τῷ ΑΒ μετα βέβληκεν ἢ πάλιν ἐν τῷ ΒΓ, οὐκ ἂν ἐν πρώτῳ τῷ ΑΓ με ταβεβληκὸς εἴη. εἰ δ' ἐν ἑκατέρῳ μετέβαλλεν (ἀνάγκη γὰρ (236a.) ἢ μεταβεβληκέναι ἢ μεταβάλλειν ἐν ἑκατέρῳ), κἂν ἐν τῷ ὅλῳ μεταβάλλοι· ἀλλ' ἦν μεταβεβληκός. ὁ αὐτὸς δὲ λόγος καὶ εἰ ἐν τῷ μὲν μεταβάλλει, ἐν δὲ τῷ μεταβέβληκεν· ἔσται γάρ τι τοῦ πρώτου πρότερον· ὥστ' οὐκ ἂν εἴη διαιρετὸν ἐν ᾧ μεταβέβληκεν. φανερὸν οὖν ὅτι καὶ τὸ ἐφθαρμένον καὶ τὸ γεγονὸς ἐν ἀτόμῳ τὸ μὲν ἔφθαρται τὸ δὲ γέγονεν.

λέγεται δὲ τὸ ἐν ᾧ πρώτῳ μεταβέβληκε διχῶς, τὸ μὲν ἐν ᾧ πρώτῳ ἐπετελέσθη ἡ μεταβολή (τότε γὰρ ἀληθὲς εἰπεῖν ὅτι μεταβέβληκεν), τὸ δ' ἐν ᾧ πρώτῳ ἤρξατο μεταβάλλειν. τὸ μὲν οὖν κατὰ τὸ τέλος τῆς μεταβολῆς πρῶτον λεγόμενον ὑπάρχει τε καὶ ἔστιν (ἐνδέχεται γὰρ ἐπιτελεσθῆναι μεταβολὴν καὶ ἔστι μεταβολῆς τέλος, ὃ δὴ καὶ δέδεικται ἀδιαίρετον ὂν διὰ τὸ πέρας εἶναι)· τὸ δὲ κατὰ τὴν ἀρχὴν ὅλως οὐκ ἔστιν· οὐ γὰρ ἔστιν ἀρχὴ μεταβολῆς, οὐδ' ἐν ᾧ πρώτῳ τοῦ χρόνου μετέβαλλεν. ἔστω γὰρ πρῶτον ἐφ' ᾧ τὸ ΑΔ. τοῦτο δὴ ἀδιαίρετον μὲν οὐκ ἔστιν· συμβήσεται γὰρ ἐχόμενα εἶναι τὰ νῦν. ἔτι δ' εἰ ἐν τῷ ΓΑ χρόνῳ παντὶ ἠρεμεῖ (κείσθω γὰρ ἠρεμοῦν), καὶ ἐν τῷ Α ἠρεμεῖ, ὥστ' εἰ ἀμερές ἐστι τὸ ΑΔ, ἅμα ἠρεμήσει καὶ μεταβεβληκὸς ἔσται· ἐν μὲν γὰρ τῷ Α ἠρεμεῖ, ἐν δὲ τῷ Δ μεταβέβληκεν. ἐπεὶ δ' οὐκ ἔστιν ἀμερές, ἀνάγκη διαιρετὸν εἶναι καὶ ἐν ὁτῳοῦν τῶν τούτου μεταβεβληκέναι· διαιρεθέντος γὰρ τοῦ ΑΔ, εἰ μὲν ἐν μηδετέρῳ μεταβέβληκεν, οὐδ' ἐν τῷ ὅλῳ· εἰ δ' ἐν ἀμφοῖν μεταβάλλει καὶ ἐν τῷ παντί, εἴτ' ἐν θατέρῳ μεταβέβληκεν, οὐκ ἐν τῷ ὅλῳ πρώτῳ. ὥστε ἀνάγκη ἐν ὁτῳοῦν μεταβεβλη κέναι. φανερὸν τοίνυν ὅτι οὐκ ἔστιν ἐν ᾧ πρώτῳ μεταβέβληκεν· ἄπειροι γὰρ αἱ διαιρέσεις. οὐδὲ δὴ τοῦ μεταβεβληκότος ἔστιν τι πρῶτον ὃ μεταβέβληκεν. ἔστω γὰρ τὸ ΔΖ πρῶτον μεταβεβληκὸς τοῦ ΔΕ· πᾶν γὰρ δέδεικται διαιρετὸν τὸ μεταβάλλον. ὁ δὲ χρόνος ἐν ᾧ τὸ ΔΖ μεταβέβληκεν ἔστω ἐφ' ᾧ ΘΙ. εἰ οὖν ἐν τῷ παντὶ τὸ ΔΖ μεταβέβληκεν, ἐν τῷ ἡμίσει ἔλαττον ἔσται τι μεταβεβληκὸς καὶ πρότερον τοῦ ΔΖ, καὶ πάλιν τούτου ἄλλο, κἀκείνου ἕτερον, καὶ αἰεὶ οὕτως. ὥστ' οὐθὲν ἔσται πρῶτον τοῦ μεταβάλλοντος ὃ μεταβέβληκεν. ὅτι μὲν οὖν οὔτε τοῦ μεταβάλλοντος οὔτ' ἐν ᾧ μεταβάλλει χρόνῳ πρῶτον οὐθέν ἐστιν, φανερὸν ἐκ τῶν εἰρημένων·

(236b.) αὐτὸ δὲ ὃ μεταβάλλει ἢ καθ' ὃ μεταβάλλει, οὐκέθ' ὁμοίως ἕξει. τρία γάρ ἐστιν ἃ λέγεται κατὰ τὴν μεταβολήν, τό τε μεταβάλλον καὶ ἐν ᾧ καὶ εἰς ὃ μεταβάλλει, οἷον ὁ ἄνθρωπος καὶ ὁ χρόνος καὶ τὸ λευκόν. ὁ μὲν οὖν ἄνθρωπος καὶ ὁ χρόνος διαιρετοί, περὶ δὲ τοῦ λευκοῦ ἄλλος λόγος. πλὴν κατὰ συμβεβηκός γε πάντα διαιρετά· ᾧ γὰρ συμβέβηκεν τὸ λευκὸν ἢ τὸ ποιόν, ἐκεῖνο διαιρετόν ἐστιν· ἐπεὶ ὅσα γε καθ' αὑτὰ λέγεται διαιρετὰ καὶ μὴ κατὰ συμβεβηκός, οὐδ' ἐν τούτοις ἔσται τὸ πρῶτον, οἷον ἐν τοῖς μεγέθεσιν. ἔστω γὰρ τὸ ἐφ' ᾧ ΑΒ μέγεθος, κεκινήσθω δ' ἐκ τοῦ Β εἰς τὸ Γ πρῶτον. οὐκοῦν εἰ μὲν ἀδιαίρετον ἔσται τὸ ΒΓ, ἀμερὲς ἀμεροῦς ἔσται ἐχόμενον· εἰ δὲ διαιρετόν, ἔσται τι τοῦ Γ πρότερον, εἰς ὃ μεταβέβληκεν, κἀκείνου πάλιν ἄλλο, καὶ ἀεὶ οὕτως διὰ τὸ μηδέποτε ὑπολείπειν τὴν διαίρεσιν. ὥστ' οὐκ ἔσται πρῶτον εἰς ὃ μεταβέβλη κεν. ὁμοίως δὲ καὶ ἐπὶ τῆς τοῦ ποσοῦ μεταβολῆς· καὶ γὰρ αὕτη ἐν συνεχεῖ ἐστιν. φανερὸν οὖν ὅτι ἐν μόνῃ τῶν κινήσεων τῇ κατὰ τὸ ποιὸν ἐνδέχεται ἀδιαίρετον καθ’ αὑτὸ εἶναι.

Κεφάλαιο 6

Ἐπεὶ δὲ τὸ μεταβάλλον ἅπαν ἐν χρόνῳ μεταβάλλει, λέγεται δ’ ἐν χρόνῳ μεταβάλλειν καὶ ὡς ἐν πρώτῳ καὶ ὡς καθ’ ἕτερον, οἷον ἐν τῷ ἐνιαυτῷ ὅτι ἐν τῇ ἡμέρᾳ μεταβάλλει, ἐν ᾧ πρώτῳ χρόνῳ μεταβάλλει τὸ μεταβάλλον, ἐν ὁτῳοῦν ἀνάγκη τούτου μεταβάλλειν. δῆλον μὲν οὖν καὶ ἐκ τοῦ ὁρισμοῦ (τὸ γὰρ πρῶτον οὕτως ἐλέγομεν), οὐ μὴν ἀλλὰ καὶ ἐκ τῶνδε φανερόν. ἔστω γὰρ ἐν ᾧ πρώτῳ κινεῖται τὸ κινούμενον ἐφ’ ᾧ ΧΡ, καὶ διῃρήσθω κατὰ τὸ Κ· πᾶς γὰρ χρόνος διαιρετός. ἐν δὴ τῷ ΧΚ χρόνῳ ἤτοι κινεῖται ἢ οὐ κινεῖται, καὶ πάλιν ἐν τῷ ΚΡ ὡσαύτως. εἰ μὲν οὖν ἐν μηδετέρῳ κινεῖται, ἠρεμοίη ἂν ἐν τῷ παντί (κινεῖσθαι γὰρ ἐν μηθενὶ τῶν τούτου κινούμενον ἀδύνατον)· εἰ δ’ ἐν θατέρῳ μόνῳ κινεῖται, οὐκ ἂν ἐν πρώτῳ κινοῖτο τῷ ΧΡ· καθ’ ἕτερον γὰρ ἡ κίνησις. ἀνάγκη ἄρα ἐν ὁτῳοῦν τοῦ ΧΡ κινεῖσθαι.

δεδειγμένου δὲ τούτου φανερὸν ὅτι πᾶν τὸ κινούμενον ἀνάγκη κεκινῆσθαι πρότερον. εἰ γὰρ ἐν τῷ ΧΡ πρώτῳ χρόνῳ τὸ ΚΛ κεκίνηται μέγεθος, ἐν τῷ ἡμίσει τὸ ὁμοταχῶς κινούμενον καὶ ἅμα ἀρξάμενον τὸ ἥμισυ ἔσται κεκινημένον. εἰ δὲ τὸ (237a.) ὁμοταχὲς ἐν τῷ αὐτῷ χρόνῳ κεκίνηταί τι, καὶ θάτερον ἀνάγκη ταὐτὸ κεκινῆσθαι μέγεθος, ὥστε κεκινημένον ἔσται τὸ κινούμενον.

ἔτι δὲ εἰ ἐν τῷ παντὶ χρόνῳ τῷ ΧΡ κεκινῆσθαι λέγομεν, ἢ ὅλως ἐν ὁτῳοῦν χρόνῳ, τῷ λαβεῖν τὸ ἔσχατον αὐτοῦ νῦν (τοῦτο γάρ ἐστι τὸ ὁρίζον, καὶ τὸ μεταξὺ τῶν νῦν χρόνος), κἂν ἐν τοῖς ἄλλοις ὁμοίως λέγοιτο κεκινῆσθαι. τοῦ δ’ ἡμίσεος ἔσχατον ἡ διαίρεσις. ὥστε καὶ ἐν τῷ ἡμίσει κεκινημένον ἔσται καὶ ὅλως ἐν ὁτῳοῦν τῶν μερῶν· ἀεὶ γὰρ ἅμα τῇ τομῇ χρόνος ἔστιν ὡρισμένος ὑπὸ τῶν νῦν. εἰ οὖν ἅπας μὲν χρόνος διαιρετός, τὸ δὲ μεταξὺ τῶν νῦν χρόνος, ἅπαν τὸ μεταβάλλον ἄπειρα ἔσται μεταβεβληκός.

ἔτι δ’ εἰ τὸ συνεχῶς μεταβάλλον καὶ μὴ φθαρὲν μηδὲ πεπαυμένον τῆς μεταβολῆς ἢ μεταβάλλειν ἢ μεταβεβληκέναι ἀναγκαῖον ἐν ὁτῳοῦν, ἐν δὲ τῷ νῦν οὐκ ἔστιν μεταβάλλειν, ἀνάγκη μεταβεβληκέναι καθ’ ἕκαστον τῶν νῦν· ὥστ’ εἰ τὰ νῦν ἄπειρα, πᾶν τὸ μεταβάλλον ἄπειρα ἔσται μεταβεβληκός.

οὐ μόνον δὲ τὸ μεταβάλλον ἀνάγκη μεταβεβληκέναι, ἀλλὰ καὶ τὸ μεταβεβληκὸς ἀνάγκη μεταβάλλειν πρότερον· ἅπαν γὰρ τὸ ἔκ τινος εἴς τι μεταβεβληκὸς ἐν χρόνῳ μεταβέβληκεν. ἔστω γὰρ ἐν τῷ νῦν ἐκ τοῦ Α εἰς τὸ Β μεταβεβληκός. οὐκοῦν ἐν μὲν τῷ αὐτῷ νῦν ἐν ᾧ ἐστιν ἐν τῷ Α, οὐ μεταβέβληκεν (ἅμα γὰρ ἂν εἴη ἐν τῷ Α καὶ ἐν τῷ Β)· τὸ γὰρ μεταβεβληκός, ὅτε μεταβέβληκεν, ὅτι οὐκ ἔστιν ἐν τούτῳ, δέδεικται πρότερον· εἰ δ’ ἐν ἄλλῳ, μεταξὺ ἔσται χρόνος· οὐ γὰρ ἦν ἐχόμενα τὰ νῦν. ἐπεὶ οὖν ἐν χρόνῳ μεταβέβληκεν, χρόνος δ’ ἅπας διαιρετός, ἐν τῷ ἡμίσει ἄλλο ἔσται μεταβεβληκός, καὶ πάλιν ἐν τῷ ἐκείνου ἡμίσει ἄλλο, καὶ αἰεὶ οὕτως· ὥστε μεταβάλλοι ἂν πρότερον.

ἔτι δ’ ἐπὶ τοῦ μεγέθους φανερώτερον τὸ λεχθὲν διὰ τὸ συνεχὲς εἶναι τὸ μέγεθος ἐν ᾧ μεταβάλλει τὸ μεταβάλλον. ἔστω γάρ τι μεταβεβληκὸς ἐκ τοῦ Γ εἰς τὸ Δ. οὐκοῦν εἰ μὲν ἀδιαίρετόν ἐστι τὸ ΓΔ, ἀμερὲς ἀμεροῦς ἔσται ἐχόμενον· ἐπεὶ δὲ τοῦτο ἀδύνατον, ἀνάγκη μέγεθος εἶναι τὸ μεταξὺ καὶ εἰς ἄπειρα διαιρετόν· ὥστ’ εἰς ἐκεῖνα μεταβάλλει πρότερον. ἀνάγκη ἄρα πᾶν τὸ μεταβεβληκὸς μεταβάλλειν πρότερον. ἡ γὰρ αὐτὴ ἀπόδειξις (237b.) καὶ ἐν τοῖς μὴ συνεχέσιν, οἷον ἔν τε τοῖς ἐναντίοις καὶ ἐν ἀντιφάσει· ληψόμεθα γὰρ τὸν χρόνον ἐν ᾧ μεταβέβληκεν, καὶ πάλιν ταὐτὰ ἐροῦμεν. ὥστε ἀνάγκη τὸ μεταβεβληκὸς μεταβάλλειν καὶ τὸ μεταβάλλον μεταβεβληκέναι, καὶ ἔσται τοῦ μὲν μεταβάλλειν τὸ μεταβεβληκέναι πρότερον, τοῦ δὲ μεταβεβληκέναι τὸ μεταβάλλειν, καὶ οὐδέποτε ληφθήσεται τὸ πρῶτον. αἴτιον δὲ τούτου τὸ μὴ εἶναι ἀμερὲς ἀμεροῦς ἐχόμενον· ἄπειρος γὰρ ἡ διαίρεσις, καθάπερ ἐπὶ τῶν αὐξανομένων καὶ καθαιρουμένων γραμμῶν.

φανερὸν οὖν ὅτι καὶ τὸ γεγονὸς ἀνάγκη γίγνεσθαι πρότερον καὶ τὸ γιγνόμενον γεγονέναι, ὅσα διαιρετὰ καὶ συνεχῆ, οὐ μέντοι αἰεὶ ὃ γίγνεται, ἀλλ’ ἄλλο ἐνίοτε, οἷον τῶν ἐκείνου τι, ὥσπερ τῆς οἰκίας τὸν θεμέλιον. ὁμοίως δὲ καὶ ἐπὶ τοῦ φθειρομένου καὶ ἐφθαρμένου· εὐθὺς γὰρ ἐνυπάρχει τῷ γιγνομένῳ καὶ τῷ φθειρομένῳ ἄπειρόν τι συνεχεῖ γε ὄντι, καὶ οὐκ ἔστιν οὔτε γί γνεσθαι μὴ γεγονός τι οὔτε γεγονέναι μὴ γιγνόμενόν τι, ὁμοίως δὲ καὶ ἐπὶ τοῦ φθείρεσθαι καὶ ἐπὶ τοῦ ἐφθάρθαι· αἰεὶ γὰρ ἔσται τοῦ μὲν φθείρεσθαι τὸ ἐφθάρθαι πρότερον, τοῦ δ’ ἐφθάρθαι τὸ φθείρεσθαι. φανερὸν οὖν ὅτι καὶ τὸ γεγονὸς ἀνάγκη γίγνεσθαι πρότερον καὶ τὸ γιγνόμενον γεγονέναι· πᾶν γὰρ μέγεθος καὶ πᾶς χρόνος ἀεὶ διαιρετά.

ὥστ’ ἐν ᾧ ἂν ᾖ, οὐκ ἂν εἴη ὡς πρώτῳ.

Κεφάλαιο 7

Ἐπεὶ δὲ πᾶν τὸ κινούμενον ἐν χρόνῳ κινεῖται, καὶ ἐν τῷ πλείονι μεῖζον μέγεθος, ἐν τῷ ἀπείρῳ χρόνῳ ἀδύνατόν ἐστιν πεπερασμένην κινεῖσθαι, μὴ τὴν αὐτὴν αἰεὶ καὶ τῶν ἐκείνης τι κινούμενον, ἀλλ’ ἐν ἅπαντι ἅπασαν. ὅτι μὲν οὖν εἴ τι ἰσοταχῶς κινοῖτο, ἀνάγκη τὸ πεπερασμένον ἐν πεπερασμένῳ κινεῖσθαι, δῆλον (ληφθέντος γὰρ μορίου ὃ καταμετρήσει τὴν ὅλην, ἐν ἴσοις χρόνοις τοσούτοις ὅσα τὰ μόριά ἐστιν, τὴν ὅλην κεκίνηται, ὥστ’ ἐπεὶ ταῦτα πεπέρανται καὶ τῷ πόσον ἕκαστον καὶ τῷ ποσάκις ἅπαντα, καὶ ὁ χρόνος ἂν εἴη πεπερασμένος· τοσαυτάκις γὰρ ἔσται τοσοῦτος, ὅσος ὁ τοῦ μορίου χρόνος πολλαπλασιασθεὶς τῷ πλήθει τῶν μορίων)·

ἀλλὰ δὴ κἂν μὴ ἰσοταχῶς, διαφέρει οὐθέν. ἔστω γὰρ ἐφ’ ἧς τὸ ΑΒ διάστημα πεπερασμένον, ὃ κεκίνηται (238a.) ἐν τῷ ἀπείρῳ, καὶ ὁ χρόνος ἄπειρος ἐφ’ οὗ τὸ ΓΔ. εἰ δὴ ἀνάγκη πρότερον ἕτερον ἑτέρου κεκινῆσθαι (τοῦτο δὲ δῆλον, ὅτι τοῦ χρόνου ἐν τῷ προτέρῳ καὶ ὑστέρῳ ἕτερον κεκίνηται· ἀεὶ γὰρ ἐν τῷ πλείονι ἕτερον ἔσται κεκινημένον, ἐάν τε ἰσοταχῶς ἐάν τε μὴ ἰσοταχῶς μεταβάλλῃ, καὶ ἐάν τε ἐπιτείνῃ ἡ κίνησις ἐάν τε ἀνιῇ ἐάν τε μένῃ, οὐθὲν ἧττον), εἰλήφθω δή τι τοῦ ΑΒ διαστήματος, τὸ ΑΕ, ὃ καταμετρήσει τὴν ΑΒ. τοῦτο δὴ τοῦ ἀπείρου ἔν τινι ἐγένετο χρόνῳ· ἐν ἀπείρῳ γὰρ οὐχ οἷόν τε· τὸ γὰρ ἅπαν ἐν ἀπείρῳ. καὶ πάλιν ἕτερον δὴ ἐὰν λάβω ὅσον τὸ ΑΕ, ἀνάγκη ἐν πεπερασμένῳ χρόνῳ· τὸ γὰρ ἅπαν ἐν ἀπείρῳ. καὶ οὕτω δὴ λαμβάνων, ἐπειδὴ τοῦ μὲν ἀπείρου οὐθὲν ἔστι μόριον ὃ καταμετρήσει (ἀδύνατον γὰρ τὸ ἄπειρον εἶναι ἐκ πεπερασμένων καὶ ἴσων καὶ ἀνίσων, διὰ τὸ καταμετρηθήσεσθαι τὰ πεπερασμένα πλήθει καὶ μεγέθει ὑπό τινος ἑνός, ἐάν τε ἴσα ᾖ ἐάν τε ἄνισα, ὡρισμένα δὲ τῷ μεγέθει, οὐθὲν ἧττον), τὸ δὲ διάστημα τὸ πεπερασμένον ποσοῖς τοῖς ΑΕ μετρεῖται, ἐν πεπερασμένῳ ἂν χρόνῳ τὸ ΑΒ κινοῖτο (ὡσαύτως δὲ καὶ ἐπὶ ἠρεμήσεως)· ὥστε οὔτε γίγνεσθαι οὔτε φθείρεσθαι οἷόν τε ἀεί τι τὸ αὐτὸ καὶ ἕν. ὁ αὐτὸς δὲ λόγος καὶ ὅτι οὐδ’ ἐν πεπερασμένῳ χρόνῳ ἄπειρον οἷόν τε κινεῖσθαι οὐδ’ ἠρεμίζεσθαι, οὔθ’ ὁμαλῶς κινούμενον οὔτ’ ἀνωμάλως. ληφθέντος γάρ τινος μέρους ὃ ἀναμετρήσει τὸν ὅλον χρόνον, ἐν τούτῳ ποσόν τι διέξεισιν τοῦ μεγέθους καὶ οὐχ ὅλον (ἐν γὰρ τῷ παντὶ τὸ ὅλον), καὶ πάλιν ἐν τῷ ἴσῳ ἄλλο, καὶ ἐν ἑκάστῳ ὁμοίως, εἴτε ἴσον εἴτε ἄνισον τῷ ἐξ ἀρχῆς· διαφέρει γὰρ οὐδέν, εἰ μόνον πεπερασμένον ἕκαστον· δῆλον γὰρ ὡς ἀναιρουμένου τοῦ χρόνου τὸ ἄπειρον οὐκ ἀναιρεθήσεται, πεπερασμένης τῆς ἀφαιρέσεως γιγνομένης καὶ τῷ ποσῷ καὶ τῷ ποσάκις· ὥστ' οὐ δίεισιν ἐν πεπερασμένῳ χρόνῳ τὸ ἄπειρον. οὐδέν τε διαφέρει τὸ μέγεθος ἐπὶ θάτερα ἢ ἐπ' ἀμφότερα εἶναι ἄπειρον· ὁ γὰρ αὐτὸς ἔσται λόγος.

ἀποδεδειγμένων δὲ τούτων φανερὸν ὅτι οὐδὲ τὸ πεπερασμένον μέγεθος τὸ ἄπειρον ἐνδέχεται διελθεῖν ἐν πεπερασμένῳ διὰ τὴν αὐτὴν αἰτίαν· ἐν γὰρ τῷ μορίῳ τοῦ χρόνου πεπερασμένον δίεισι, καὶ ἐν ἑκάστῳ ὡσαύτως, ὥστ' ἐν τῷ παντὶ πεπερασμένον.

ἐπεὶ δὲ τὸ πεπερασμένον οὐ δίεισι τὸ ἄπειρον (238b.) ἐν πεπερασμένῳ χρόνῳ, δῆλον ὡς οὐδὲ τὸ ἄπειρον τὸ πεπερασμένον· εἰ γὰρ τὸ ἄπειρον τὸ πεπερασμένον, ἀνάγκη καὶ τὸ πεπερασμένον διιέναι τὸ ἄπειρον. οὐδὲν γὰρ διαφέρει ὁποτερονοῦν εἶναι τὸ κινούμενον· ἀμφοτέρως γὰρ τὸ πεπερασμένον δίεισι τὸ ἄπειρον. ὅταν γὰρ κινῆται τὸ ἄπειρον ἐφ' ᾧ τὸ Α, ἔσται τι αὐτοῦ κατὰ τὸ Β τὸ πεπερασμένον, οἷον τὸ ΓΔ, καὶ πάλιν ἄλλο καὶ ἄλλο, καὶ αἰεὶ οὕτως. ὥσθ' ἅμα συμβήσεται τὸ ἄπειρον κεκινῆσθαι τὸ πεπερασμένον καὶ τὸ πεπερασμένον διεληλυθέναι τὸ ἄπειρον· οὐδὲ γὰρ ἴσως δυνατὸν ἄλλως τὸ ἄπειρον κινηθῆναι τὸ πεπερασμένον ἢ τῷ τὸ πεπερασμένον διιέναι τὸ ἄπειρον, ἢ φερόμενον ἢ ἀναμετροῦν. ὥστ' ἐπεὶ τοῦτ' ἀδύνατον, οὐκ ἂν διίοι τὸ ἄπειρον τὸ πεπερασμένον. ἀλλὰ μὴν οὐδὲ τὸ ἄπειρον ἐν πεπερασμένῳ χρόνῳ τὸ ἄπειρον· δίεισιν· εἰ γὰρ τὸ ἄπειρον, καὶ τὸ πεπερασμένον· ἐνυπάρχει γὰρ τῷ ἀπείρῳ τὸ πεπερασμένον. ἔτι δὲ καὶ τοῦ χρόνου ληφθέντος ἡ αὐτὴ ἔσται ἀπόδειξις. ἐπεὶ δ' οὔτε τὸ πεπερασμένον τὸ ἄπειρον οὔτε τὸ ἄπειρον τὸ πεπερασμένον οὔτε τὸ ἄπειρον τὸ ἄπειρον ἐν πεπερασμένῳ χρόνῳ κινεῖται, φανερὸν ὅτι οὐδὲ κίνησις ἔσται ἄπειρος ἐν πεπερασμένῳ χρόνῳ· τί γὰρ διαφέρει τὴν κίνησιν ἢ τὸ μέγεθος ποιεῖν ἄπειρον; ἀνάγκη γάρ, εἰ ὁποτερονοῦν, καὶ θάτερον εἶναι ἄπειρον· πᾶσα γὰρ φορὰ ἐν τόπῳ.

Κεφάλαιο 8

Ἐπεὶ δὲ πᾶν ἢ κινεῖται ἢ ἠρεμεῖ τὸ πεφυκὸς ὅτε πέφυκε καὶ οὗ καὶ ὥς, ἀνάγκη τὸ ἱστάμενον ὅτε ἵσταται κινεῖσθαι· εἰ γὰρ μὴ κινεῖται, ἠρεμήσει, ἀλλ' οὐκ ἐνδέχεται ἠρεμίζεσθαι τὸ ἠρεμοῦν. τούτου δ' ἀποδεδειγμένου φανερὸν ὅτι καὶ ἐν χρόνῳ ἵστασθαι ἀνάγκη (τὸ γὰρ κινούμενον ἐν χρόνῳ κινεῖται, τὸ δ' ἱστάμενον δέδεικται κινούμενον, ὥστε ἀνάγκη ἐν χρόνῳ ἵστασθαι)·

ἔτι δ' εἰ τὸ μὲν θᾶττον καὶ βραδύτερον ἐν χρόνῳ λέγομεν, ἵστασθαι δ' ἔστιν θᾶττον καὶ βραδύτερον. ἐν ᾧ δὲ χρόνῳ πρώτῳ τὸ ἱστάμενον ἵσταται, ἐν ὁτῳοῦν ἀνάγκη τούτου ἵστασθαι. διαιρεθέντος γὰρ τοῦ χρόνου εἰ μὲν ἐν μηδετέρῳ τῶν μερῶν ἵσταται, οὐδ' ἐν τῷ ὅλῳ, ὥστ' οὐκ ἂν ἵσταιτο τὸ ἱστάμενον· εἰ δ' ἐν θατέρῳ, οὐκ ἂν ἐν πρώτῳ τῷ ὅλῳ ἵσταιτο· καθ' ἕτερον γὰρ ἐν τούτῳ ἵσταται, καθάπερ ἐλέχθη καὶ ἐπὶ τοῦ κινουμένου πρότερον. ὥσπερ δὲ τὸ κινούμενον οὐκ ἔστιν (239a.) ἐν ᾧ πρώτῳ κινεῖται, οὕτως οὐδ' ἐν ᾧ ἵσταται τὸ ἱστάμενον· οὔτε γὰρ τοῦ κινεῖσθαι οὔτε τοῦ ἵστασθαί ἐστίν τι πρῶτον. ἔστω γὰρ ἐν ᾧ πρώτῳ ἵσταται ἐφ' ᾧ τὸ ΑΒ. τοῦτο δὴ ἀμερὲς μὲν οὐκ ἐνδέχεται εἶναι (κίνησις γὰρ οὐκ ἔστιν ἐν τῷ ἀμερεῖ διὰ τὸ κεκινῆσθαί τι ἂν αὐτοῦ, τὸ δ' ἱστάμενον δέδεικται κινούμε νον)· ἀλλὰ μὴν εἰ διαιρετόν ἐστιν, ἐν ὁτῳοῦν αὐτοῦ τῶν μερῶν ἵσταται· τοῦτο γὰρ δέδεικται πρότερον, ὅτι ἐν ᾧ πρώτῳ ἵσταται, ἐν ὁτῳοῦν τῶν ἐκείνου ἵσταται. ἐπεὶ οὖν χρόνος ἐστὶν ἐν ᾧ πρώτῳ ἵσταται, καὶ οὐκ ἄτομον, ἅπας δὲ χρόνος εἰς ἄπειρα μεριστός, οὐκ ἔσται ἐν ᾧ πρώτῳ ἵσταται.

οὐδὲ δὴ τὸ ἠρεμοῦν ὅτε πρῶτον ἠρέμησεν ἔστιν. ἐν ἀμερεῖ μὲν γὰρ οὐκ ἠρέμησεν διὰ τὸ μὴ εἶναι κίνησιν ἐν ἀτόμῳ, ἐν ᾧ δὲ τὸ ἠρεμεῖν, καὶ τὸ κινεῖσθαι (τότε γὰρ ἔφαμεν ἠρεμεῖν, ὅτε καὶ ἐν ᾧ πεφυκὸς κινεῖσθαι μὴ κινεῖται τὸ πεφυκός)· ἔτι δὲ καὶ τότε λέγομεν ἠρεμεῖν, ὅταν ὁμοίως ἔχῃ νῦν καὶ πρότερον, ὡς οὐχ ἑνί τινι κρίνοντες ἀλλὰ δυοῖν τοῖν ἐλαχίστοιν· ὥστ' οὐκ ἔσται ἐν ᾧ ἠρεμεῖ ἀμερές. εἰ δὲ μεριστόν, χρόνος ἂν εἴη, καὶ ἐν ὁτῳοῦν αὐτοῦ τῶν μερῶν ἠρεμήσει. τὸν αὐτὸν γὰρ τρόπον δειχθήσεται ὃν καὶ ἐπὶ τῶν πρότερον·

ὥστ' οὐθὲν ἔσται πρῶτον. τούτου δ' αἴτιον ὅτι ἠρεμεῖ μὲν καὶ κινεῖται πᾶν ἐν χρόνῳ, χρόνος δ' οὐκ ἔστι πρῶτος οὐδὲ μέγεθος οὐδ' ὅλως συνεχὲς οὐδέν·

ἅπαν γὰρ εἰς ἄπειρα μεριστόν.

ἐπεὶ δὲ πᾶν τὸ κινούμενον ἐν χρόνῳ κινεῖται καὶ ἔκ τινος εἴς τι μεταβάλλει, ἐν ᾧ χρόνῳ κινεῖται καθ’ αὑτὸν καὶ μὴ τῷ ἐν ἐκείνου τινί, ἀδύνατον τότε κατά τι εἶναι πρῶτον τὸ κινού μενον. τὸ γὰρ ἠρεμεῖν ἐστιν τὸ ἐν τῷ αὐτῷ εἶναι χρόνον τινὰ καὶ αὐτὸ καὶ τῶν μερῶν ἕκαστον. οὕτως γὰρ λέγομεν ἠρεμεῖν, ὅταν ἐν ἄλλῳ καὶ ἄλλῳ τῶν νῦν ἀληθὲς ᾖ εἰπεῖν ὅτι ἐν τῷ αὐτῷ καὶ αὐτὸ καὶ τὰ μέρη. εἰ δὲ τοῦτ’ ἔστι τὸ ἠρεμεῖν, οὐκ ἐνδέχεται τὸ μεταβάλλον κατά τι εἶναι ὅλον κατὰ τὸν πρῶτον χρόνον· ὁ γὰρ χρόνος διαιρετὸς ἅπας, ὥστε ἐν ἄλλῳ καὶ ἄλλῳ αὐτοῦ μέρει ἀληθὲς ἔσται εἰπεῖν ὅτι ἐν ταὐτῷ ἐστιν καὶ αὐτὸ καὶ τὰ μέρη. εἰ γὰρ μὴ οὕτως ἀλλ’ ἐν ἑνὶ μόνῳ τῶν νῦν, οὐκ ἔσται χρόνον οὐδένα κατά τι, ἀλλὰ κατὰ τὸ πέρας τοῦ χρόνου. ἐν δὲ τῷ νῦν ἔστιν μὲν ἀεὶ κατά τι μὲν (239b.) ὄν, οὐ μέντοι ἠρεμεῖ· οὔτε γὰρ κινεῖσθαι οὔτ’ ἠρεμεῖν ἔστιν ἐν τῷ νῦν, ἀλλὰ μὴ κινεῖσθαι μὲν ἀληθὲς ἐν τῷ νῦν καὶ εἶναι κατά τι, ἐν χρόνῳ δ’ οὐκ ἐνδέχεται εἶναι κατά τι ἠρεμοῦν· συμβαίνει γὰρ τὸ φερόμενον ἠρεμεῖν.

Κεφάλαιο 9

Ζήνων δὲ παραλογίζεται· εἰ γὰρ αἰεί, φησίν, ἠρεμεῖ πᾶν [ἢ κινεῖται] ὅταν ᾖ κατὰ τὸ ἴσον, ἔστιν δ᾽ αἰεὶ τὸ φερόμενον ἐν τῷ νῦν, ἀκίνητον τὴν φερομένην εἶναι ὀϊστόν. τοῦτο δ᾽ ἐστὶ ψεῦδος· οὐ γὰρ σύγκειται ὁ χρόνος ἐκ τῶν νῦν τῶν ἀδιαιρέτων, ὥσπερ οὐδ᾽ ἄλλο μέγεθος οὐδέν.

τέτταρες δ᾽ εἰσὶν οἱ λόγοι περὶ κινήσεως Ζήνωνος οἱ παρέχοντες τὰς δυσκολίας τοῖς λύουσιν, πρῶτος μὲν ὁ περὶ τοῦ μὴ κινεῖσθαι διὰ τὸ πρότερον εἰς τὸ ἥμισυ δεῖν ἀφικέσθαι τὸ φερόμενον ἢ πρὸς τὸ τέλος, περὶ οὗ διείλομεν ἐν τοῖς πρότερον λόγοις.

δεύτερος δ᾽ ὁ καλούμενος Ἀχιλλεύς· ἔστι δ᾽ οὗτος, ὅτι τὸ βραδύτατον οὐδέποτε καταληφθήσεται θέον ὑπὸ τοῦ ταχίστου· ἔμπροσθεν γὰρ ἀναγκαῖον ἐλθεῖν τὸ διῶκον ὅθεν ὥρμησεν τὸ φεῦγον, ὥστε ἀεί τι προέχειν ἀναγκαῖον τὸ βραδύτερον. ἔστιν δὲ καὶ οὗτος ὁ αὐτὸς λόγος τῷ διχοτομεῖν, διαφέρει δ᾽ ἐν τῷ διαιρεῖν μὴ δίχα τὸ προσλαμβανόμενον μέγεθος. τὸ μὲν οὖν μὴ καταλαμβάνε σθαι τὸ βραδύτερον συμβέβηκεν ἐκ τοῦ λόγου, γίγνεται δὲ παρὰ ταὐτὸ τῇ διχοτομίᾳ (ἐν ἀμφοτέροις γὰρ συμβαίνει μὴ ἀφικνεῖσθαι πρὸς τὸ πέρας διαιρουμένου πως τοῦ μεγέθους· ἀλλὰ πρόσκειται ἐν τούτῳ ὅτι οὐδὲ τὸ τάχιστον τετραγῳδημένον ἐν τῷ διώκειν τὸ βραδύτατον), ὥστ᾽ ἀνάγκη καὶ τὴν λύσιν εἶναι τὴν αὐτήν. τὸ δ᾽ ἀξιοῦν ὅτι τὸ προέχον οὐ καταλαμβάνεται, ψεῦδος· ὅτε γὰρ προέχει, οὐ καταλαμβάνεται· ἀλλ᾽ ὅμως καταλαμβάνεται, εἴπερ δώσει διεξιέναι τὴν πεπερασμένην. οὗτοι μὲν οὖν οἱ δύο λόγοι,

τρίτος δ᾽ ὁ νῦν ῥηθείς, ὅτι ἡ ὀϊστὸς φερομένη ἕστηκεν. συμβαίνει δὲ παρὰ τὸ λαμβάνειν τὸν χρόνον συγκεῖσθαι ἐκ τῶν νῦν· μὴ διδομένου γὰρ τούτου οὐκ ἔσται ὁ συλλογισμός.

τέταρτος δ᾽ ὁ περὶ τῶν ἐν τῷ σταδίῳ κινουμένων ἐξ ἐναντίας ἴσων ὄγκων παρ᾽ ἴσους, τῶν μὲν ἀπὸ τέλους τοῦ σταδίου τῶν δ᾽ ἀπὸ μέσου, ἴσῳ τάχει, ἐν ᾧ συμβαίνειν (240a.) οἴεται ἴσον εἶναι χρόνον τῷ διπλασίῳ τὸν ἥμισυν. ἔστι δ᾽ ὁ παραλογισμὸς ἐν τῷ τὸ μὲν παρὰ κινούμενον τὸ δὲ παρ᾽ ἠρεμοῦν τὸ ἴσον μέγεθος ἀξιοῦν τῷ ἴσῳ τάχει τὸν ἴσον φέρεσθαι χρόνον· τοῦτο δ᾽ ἐστὶ ψεῦδος. οἷον ἔστωσαν οἱ ἑστῶτες ἴσοι ὄγκοι ἐφ᾽ ὧν τὰ ΑΑ, οἱ δ᾽ ἐφ᾽ ὧν τὰ ΒΒ ἀρχόμενοι ἀπὸ τοῦ μέσου, ἴσοι τὸν ἀριθμὸν τούτοις ὄντες καὶ τὸ μέγεθος,

οἱ δ’ ἐφ’ ὧν τὰ ΓΓ ἀπὸ τοῦ ἐσχάτου, ἴσοι τὸν ἀριθμὸν ὄντες τούτοις καὶ τὸ μέγεθος, καὶ ἰσοταχεῖς τοῖς Β. συμβαίνει δὴ τὸ πρῶτον Β ἅμα ἐπὶ τῷ ἐσχάτῳ εἶναι καὶ τὸ πρῶτον Γ, παρ’ ἄλληλα κινουμένων.

συμβαίνει δὲ τὸ Γ παρὰ πάντα [τὰ Β] διεξεληλυθέναι, τὸ δὲ Β παρὰ τὰ ἡμίση· ὥστε ἥμισυν εἶναι τὸν χρόνον· ἴσον γὰρ ἑκάτερόν ἐστιν παρ’ ἕκαστον. ἅμα δὲ συμβαίνει τὸ πρῶτον Β παρὰ πάντα τὰ Γ παρεληλυθέναι· ἅμα γὰρ ἔσται τὸ πρῶτον Γ καὶ τὸ πρῶτον Β ἐπὶ τοῖς ἐναντίοις ἐσχάτοις, [ἴσον χρόνον παρ’ ἕκαστον γιγνόμενον τῶν Β ὅσον περ τῶν Α, ὥς φησιν,] διὰ τὸ ἀμφότερα ἴσον χρόνον παρὰ τὰ Α γίγνεσθαι. ὁ μὲν οὖν λόγος οὗτός ἐστιν, συμβαίνει δὲ παρὰ τὸ εἰρημένον ψεῦδος.

οὐδὲ δὴ κατὰ τὴν ἐν τῇ ἀντιφάσει μεταβολὴν οὐθὲν ἡμῖν ἔσται ἀδύνατον, οἷον εἰ ἐκ τοῦ μὴ λευκοῦ εἰς τὸ λευκὸν μετα βάλλει καὶ ἐν μηδετέρῳ ἐστίν, ὡς ἄρα οὔτε λευκὸν ἔσται οὔτε οὐ λευκόν· οὐ γὰρ εἰ μὴ ὅλον ἐν ὁποτερῳοῦν ἐστιν, οὐ λεχθήσεται λευκὸν ἢ οὐ λευκόν· λευκὸν γὰρ λέγομεν ἢ οὐ λευκὸν οὐ τῷ ὅλον εἶναι τοιοῦτον, ἀλλὰ τῷ τὰ πλεῖστα ἢ τὰ κυριώτατα μέρη· οὐ ταὐτὸ δ’ ἐστὶν μὴ εἶναί τε ἐν τούτῳ καὶ μὴ εἶναι ἐν τούτῳ ὅλον. ὁμοίως δὲ καὶ ἐπὶ τοῦ ὄντος καὶ ἐπὶ τοῦ μὴ ὄντος καὶ τῶν ἄλλων τῶν κατ’ ἀντίφασιν· ἔσται μὲν γὰρ ἐξ ἀνάγκης ἐν θατέρῳ τῶν ἀντικειμένων, ἐν οὐδετέρῳ δ’ ὅλον αἰεί.

πάλιν δ’ ἐπὶ τοῦ κύκλου καὶ ἐπὶ τῆς σφαίρας καὶ ὅλως τῶν ἐν αὑτοῖς κινουμένων, ὅτι συμβήσεται αὐτὰ ἠρεμεῖν· ἐν γὰρ τῷ αὐτῷ τόπῳ χρόνον τινὰ ἔσται καὶ αὐτὰ καὶ τὰ μέρη, ὥστε ἠρεμήσει ἅμα καὶ κινήσεται. πρῶτον μὲν γὰρ τὰ μέρη οὐκ ἔστιν ἐν τῷ αὐτῷ οὐθένα χρό (240b.) νον, εἶτα καὶ τὸ ὅλον μεταβάλλει αἰεὶ εἰς ἕτερον· οὐ γὰρ ἡ αὐτή ἐστιν ἡ ἀπὸ τοῦ Α λαμβανομένη περιφέρεια καὶ ἡ ἀπὸ τοῦ Β καὶ τοῦ Γ καὶ τῶν ἄλλων ἑκάστου σημείων, πλὴν ὡς ὁ μουσικὸς ἄνθρωπος καὶ ἄνθρωπος, ὅτι συμβέβηκεν. ὥστε μεταβάλλει αἰεὶ ἡ ἑτέρα εἰς τὴν ἑτέραν, καὶ οὐδέποτε ἠρεμήσει. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῆς σφαίρας καὶ ἐπὶ τῶν ἄλλων τῶν ἐν αὑτοῖς κινουμένων.

Κεφάλαιο 10

Ἀποδεδειγμένων δὲ τούτων λέγομεν ὅτι τὸ ἀμερὲς οὐκ ἐνδέχεται κινεῖσθαι πλὴν κατὰ συμβεβηκός, οἷον κινουμένου τοῦ σώματος ἢ τοῦ μεγέθους τῷ ἐνυπάρχειν, καθάπερ ἂν εἰ τὸ ἐν τῷ πλοίῳ κινοῖτο ὑπὸ τῆς τοῦ πλοίου φορᾶς ἢ τὸ μέρος τῇ τοῦ ὅλου κινήσει. (ἀμερὲς δὲ λέγω τὸ κατὰ ποσὸν ἀδιαίρετον.) καὶ γὰρ αἱ τῶν μερῶν κινήσεις ἕτεραί εἰσι κατ’ αὐτά τε τὰ μέρη καὶ κατὰ τὴν τοῦ ὅλου κίνησιν. ἴδοι δ’ ἄν τις ἐπὶ τῆς σφαίρας μάλιστα τὴν διαφοράν· οὐ γὰρ ταὐτὸν τάχος ἐστὶ τῶν τε πρὸς τῷ κέντρῳ καὶ τῶν ἐκτὸς καὶ τῆς ὅλης, ὡς οὐ μιᾶς οὔσης κινήσεως. καθάπερ οὖν εἴπομεν, οὕτω μὲν ἐνδέχεται κινεῖσθαι τὸ ἀμερὲς ὡς ὁ ἐν τῷ πλοίῳ καθήμενος τοῦ πλοίου θέοντος, καθ’ αὑτὸ δ’ οὐκ ἐνδέχεται. μεταβαλλέτω γὰρ ἐκ τοῦ ΑΒ εἰς τὸ ΒΓ, εἴτ’ ἐκ μεγέθους εἰς μέγεθος εἴτ’ ἐξ εἴδους εἰς εἶδος εἴτε κατ’ ἀντίφασιν· ὁ δὲ χρόνος ἔστω ἐν ᾧ πρώτῳ μεταβάλλει ἐφ’ οὗ Δ. οὐκοῦν ἀνάγκη αὐτὸ καθ’ ὃν μεταβάλλει χρόνον ἢ ἐν τῷ ΑΒ εἶναι ἢ ἐν τῷ ΒΓ, ἢ τὸ μέν τι αὐτοῦ ἐν τούτῳ τὸ δ’ ἐν θατέρῳ· πᾶν γὰρ τὸ μεταβάλλον οὕτως εἶχεν. ἐν ἑκατέρῳ μὲν οὖν οὐκ ἔσται τι αὐτοῦ· μεριστὸν γὰρ ἂν εἴη. ἀλλὰ μὴν οὐδ’ ἐν τῷ ΒΓ· μεταβεβληκὸς γὰρ ἔσται, ὑπόκειται δὲ μεταβάλλειν. λείπεται δὴ αὐτὸ ἐν τῷ ΑΒ εἶναι, καθ’ ὃν μεταβάλλει χρόνον. ἠρεμήσει ἄρα· τὸ γὰρ ἐν τῷ αὐτῷ εἶναι χρόνον τινὰ ἠρεμεῖν ἦν. ὥστ’ οὐκ ἐνδέχεται τὸ ἀμερὲς κινεῖσθαι οὐδ’ ὅλως μεταβάλλειν· μοναχῶς γὰρ ἂν οὕτως ἦν αὐτοῦ κίνησις, εἰ ὁ χρόνος ἦν ἐκ τῶν νῦν· αἰεὶ γὰρ ἐν τῷ νῦν κεκινημένον ἂν ἦν καὶ μετα(241a.) βεβληκός, ὥστε κινεῖσθαι μὲν μηδέποτε, κεκινῆσθαι δ’ ἀεί. τοῦτο δ’ ὅτι ἀδύνατον, δέδεικται καὶ πρότερον· οὔτε γὰρ ὁ χρόνος ἐκ τῶν νῦν οὔθ’ ἡ γραμμὴ ἐκ στιγμῶν οὔθ’ ἡ κίνησις ἐκ κινημάτων· οὐθὲν γὰρ ἄλλο ποιεῖ ὁ τοῦτο λέγων ἢ τὴν κίνησιν ἐξ ἀμερῶν, καθάπερ ἂν εἰ τὸν χρόνον ἐκ τῶν νυν ἢ τὸ μῆκος ἐκ στιγμῶν.

ἔτι δὲ καὶ ἐκ τῶνδε φανερὸν ὅτι οὔτε στιγμὴν οὔτ’ ἄλλο ἀδιαίρετον οὐθὲν ἐνδέχεται κινεῖσθαι. ἅπαν γὰρ τὸ κινούμενον ἀδύνατον πρότερον μεῖζον κινηθῆναι αὑτοῦ, πρὶν ἢ ἴσον ἢ ἔλαττον. εἰ δὴ τοῦτο, φανερὸν ὅτι καὶ ἡ στιγμὴ ἔλαττον ἢ ἴσον κινηθήσεται πρῶτον. ἐπεὶ δὲ ἀδιαίρετος, ἀδύνατον ἔλαττον κινηθῆναι πρότερον· ἴσην ἄρα αὑτῇ. ὥστε ἔσται ἡ γραμμὴ ἐκ στιγμῶν· αἰεὶ γὰρ ἴσην κινουμένη τὴν πᾶσαν γραμμὴν στιγμὴ καταμετρήσει. εἰ δὲ τοῦτο ἀδύνατον, καὶ τὸ κινεῖσθαι τὸ ἀδιαίρετον ἀδύνατον.

ἔτι δ’ εἰ ἅπαν ἐν χρόνῳ κινεῖται, ἐν δὲ τῷ νῦν μηθέν, ἅπας δὲ χρόνος διαιρετός, εἴη ἄν τις χρόνος ἐλάττων ὁτῳοῦν τῶν κινουμένων ἢ ἐν ᾧ κινεῖται ὅσον αὐτό. οὗτος μὲν γὰρ ἔσται χρόνος ἐν ᾧ κινεῖται διὰ τὸ πᾶν ἐν χρόνῳ κινεῖσθαι, χρόνος δὲ πᾶς διαιρετὸς δέδεικται πρότερον. εἰ δ’ ἄρα στιγμὴ κινεῖται, ἔσται τις χρόνος ἐλάττων ἢ ἐν ᾧ αὐτὴν ἐκινήθη. ἀλλὰ ἀδύνατον· ἐν γὰρ τῷ ἐλάττονι ἔλαττον ἀνάγκη κινεῖσθαι. ὥστε ἔσται διαιρετὸν τὸ ἀδιαίρετον εἰς τὸ ἔλαττον, ὥσπερ καὶ ὁ χρόνος εἰς τὸν χρόνον. μοναχῶς γὰρ ἂν κινοῖτο τὸ ἀμερὲς καὶ ἀδιαίρετον, εἰ ἦν ἐν τῷ νῦν κινεῖσθαι δυνατὸν τῷ ἀτόμῳ· τοῦ γὰρ αὐτοῦ λόγου ἐν τῷ νῦν κινεῖσθαι καὶ ἀδιαίρετόν τι κινεῖσθαι.

μεταβολὴ δ’ οὐκ ἔστιν οὐδεμία ἄπειρος· ἅπασα γὰρ ἦν ἔκ τινος εἴς τι, καὶ ἡ ἐν ἀντιφάσει καὶ ἡ ἐν ἐναντίοις. ὥστε τῶν μὲν κατ’ ἀντίφασιν ἡ φάσις καὶ ἡ ἀπόφασις πέρας (οἷον γενέσεως μὲν τὸ ὄν, φθορᾶς δὲ τὸ μὴ ὄν), τῶν δ’ ἐν τοῖς ἐναντίοις τὰ ἐναντία· ταῦτα γὰρ ἄκρα τῆς μεταβολῆς, ὥστε καὶ ἀλλοιώσεως πάσης (ἐξ ἐναντίων γάρ τινων ἡ ἀλλοίωσις), ὁμοίως δὲ καὶ αὐξήσεως καὶ φθίσεως· αὐξήσεως μὲν γὰρ τὸ πέρας τοῦ (241b.) κατὰ τὴν οἰκείαν φύσιν τελείου μεγέθους, φθίσεως δὲ ἡ τούτου ἔκστασις. ἡ δὲ φορὰ οὕτω μὲν οὐκ ἔσται πεπερασμένη· οὐ γὰρ πᾶσα ἐν ἐναντίοις· ἀλλ’ ἐπειδὴ τὸ ἀδύνατον τμηθῆναι οὕτω, τῷ μὴ ἐνδέχεσθαι τμηθῆναι (πλεοναχῶς γὰρ λέγεται τὸ ἀδύνατον), οὐκ ἐνδέχεται τὸ οὕτως ἀδύνατον τέμνεσθαι, οὐδὲ ὅλως τὸ ἀδύνατον γενέσθαι γίγνεσθαι, οὐδὲ τὸ μεταβαλεῖν ἀδύνατον ἐνδέχοιτ’ ἂν μεταβάλλειν εἰς ὃ ἀδύνατον μεταβαλεῖν. εἰ οὖν τὸ φερόμενον μεταβάλλοι εἴς τι, καὶ δυνατὸν ἔσται μεταβαλεῖν.

ὥστ’ οὐκ ἄπειρος ἡ κίνησις, οὐδ’ οἰσθήσεται τὴν ἄπειρον· ἀδύνα τον γὰρ διελθεῖν αὐτήν. ὅτι μὲν οὖν οὕτως οὐκ ἔστιν ἄπειρος μεταβολὴ ὥστε μὴ ὡρίσθαι πέρασι, φανερόν. ἀλλ’ εἰ οὕτως ἐνδέχεται ὥστε τῷ χρόνῳ εἶναι ἄπειρον τὴν αὐτὴν οὖσαν καὶ μίαν, σκεπτέον. μὴ μιᾶς μὲν γὰρ γιγνομένης οὐθὲν ἴσως κωλύει, οἷον εἰ μετὰ τὴν φορὰν ἀλλοίωσις εἴη καὶ μετὰ τὴν ἀλλοίωσιν αὔξησις καὶ πάλιν γένεσις· οὕτω γὰρ αἰεὶ μὲν ἔσται τῷ χρόνῳ κίνησις, ἀλλ’ οὐ μία διὰ τὸ μὴ εἶναι μίαν ἐξ ἁπασῶν. ὥστε δὲ γίγνεσθαι μίαν, οὐκ ἐνδέχεται ἄπειρον εἶναι τῷ χρόνῳ πλὴν μιᾶς· αὕτη δ’ ἐστὶν ἡ κύκλῳ φορά.

Βιβλίο 7

Κεφάλαιο 1

Ἅπαν τὸ κινούμενον ὑπό τινος ἀνάγκη κινεῖσθαι· εἰ μὲν γὰρ ἐν ἑαυτῷ μὴ ἔχει τὴν ἀρχὴν τῆς κινήσεως, φανερὸν ὅτι ὑφ’ ἑτέρου κινεῖται (ἄλλο γὰρ ἔσται τὸ κινοῦν)· εἰ δ’ ἐν αὐτῷ, ἔστω [τὸ] εἰλημμένον ἐφ’ οὗ τὸ ΑΒ ὃ κινεῖται καθ’ αὑτό, ἀλλὰ μὴ <τῷ τῶν> τούτου τι κινεῖσθαι. πρῶτον μὲν οὖν τὸ ὑπολαμβάνειν τὸ ΑΒ ὑφ’ ἑαυτοῦ κινεῖσθαι διὰ τὸ ὅλον τε κινεῖσθαι καὶ ὑπ’ οὐδενὸς τῶν ἔξωθεν ὅμοιόν ἐστιν ὥσπερ εἰ τοῦ ΚΛ κινοῦντος τὸ ΛΜ καὶ αὐτοῦ κινουμένου εἰ μὴ φάσκοι τις τὸ ΚΜ κινεῖσθαι ὑπό τινος, διὰ τὸ μὴ φανερὸν εἶναι πότερον τὸ κινοῦν καὶ πότερον τὸ κινούμενον· εἶτα τὸ μὴ ὑπό τινος κινούμενον (242a.) οὐκ ἀνάγκη παύσασθαι κινούμενον τῷ ἄλλο ἠρεμεῖν, ἀλλ’ εἴ τι ἠρεμεῖ τῷ ἄλλο πεπαῦσθαι κινούμενον, ἀνάγκη ὑπό τινος αὐτὸ κινεῖσθαι. τούτου δ’ εἰλημμένου πᾶν τὸ κινούμενον κινήσεται ὑπό τινος. ἐπεὶ γὰρ εἴληπται [τὸ] κινούμενον ἐφ’ ᾧ τὸ ΑΒ, ἀνάγκη διαιρετὸν αὐτὸ εἶναι· πᾶν γὰρ τὸ κινούμενον διαιρετόν. διῃρήσθω δὴ κατὰ τὸ Γ. τοῦ δὴ ΓΒ μὴ κινουμένου οὐ κινηθήσεται τὸ ΑΒ. εἰ γὰρ κινήσεται, δῆλον ὅτι τὸ ΑΓ κινοῖτ’ ἂν τοῦ ΓΒ ἠρεμοῦντος, ὥστε οὐ καθ’ αὑτὸ κινηθήσεται καὶ πρῶτον. ἀλλ’ ὑπέκειτο καθ’ αὑτὸ κινεῖσθαι καὶ πρῶτον. ἀνάγκη ἄρα τοῦ ΓΒ μὴ κινουμένου ἠρεμεῖν τὸ ΑΒ. ὃ δὲ ἠρεμεῖ (45) μὴ κινουμένου τινός, ὡμολόγηται ὑπό τινος κινεῖσθαι, ὥστε πᾶν ἀνάγκη τὸ κινούμενον ὑπό τινος κινεῖσθαι· ἀεὶ γὰρ ἔσται τὸ κινούμενον διαιρετόν, τοῦ δὲ μέρους μὴ κινουμένου ἀνάγκη καὶ τὸ ὅλον ἠρεμεῖν.

ἐπεὶ δὲ πᾶν τὸ κινούμενον ἀνάγκη κινεῖσθαι ὑπό τινος, ἐάν γέ τι κινῆται τὴν ἐν τόπῳ κίνησιν ὑπ’ ἄλλου κινουμένου, καὶ πάλιν τὸ κινοῦν ὑπ’ ἄλλου κινουμένου κινῆται κἀκεῖνο ὑφ’ ἑτέρου καὶ ἀεὶ οὕτως, ἀνάγκη εἶναί τι τὸ πρῶτον κινοῦν, καὶ μὴ βαδίζειν εἰς ἄπειρον· μὴ γὰρ ἔστω, ἀλλὰ γενέσθω ἄπειρον. κινείσθω δὴ τὸ μὲν Α ὑπὸ τοῦ Β, τὸ δὲ Β ὑπὸ τοῦ Γ, τὸ δὲ Γ ὑπὸ τοῦ Δ, καὶ ἀεὶ τὸ ἐχόμενον ὑπὸ τοῦ ἐχομένου. ἐπεὶ οὖν ὑπόκειται τὸ κινοῦν κινούμενον κινεῖν, ἀνάγκη ἅμα γίγνεσθαι τὴν τοῦ κινουμένου καὶ τὴν τοῦ κινοῦντος κίνησιν (ἅμα γὰρ κινεῖ τὸ κινοῦν καὶ κινεῖται τὸ κινούμενον)· φανερὸν <οὖν> ὅτι ἅμα ἔσται τοῦ Α καὶ τοῦ Β καὶ τοῦ Γ καὶ ἑκάστου τῶν κινούντων καὶ κινουμένων ἡ κίνησις. εἰλήφθω οὖν ἡ ἑκάστου κίνησις, καὶ ἔστω τοῦ μὲν Α ἐφ’ ἧς Ε, τοῦ δὲ Β ἐφ’ ἧς Ζ, τῶν <δὲ> Γ Δ ἐφ’ ὧν Η Θ. εἰ γὰρ ἀεὶ κινεῖται ἕκαστον ὑφ’ ἑκάστου, ὅμως ἔσται λαβεῖν μίαν ἑκάστου κίνησιν τῷ ἀριθμῷ· πᾶσα γὰρ κίνησις ἔκ τινος εἴς τι, καὶ οὐκ ἄπειρος τοῖς ἐσχάτοις· λέγω δὴ ἀριθμῷ μίαν κίνησιν τὴν ἐκ τοῦ αὐτοῦ εἰς τὸ αὐτὸ τῷ ἀριθμῷ ἐν τῷ αὐτῷ χρόνῳ τῷ ἀριθμῷ γιγνομένην. ἔστι γὰρ κίνησις καὶ γένει καὶ εἴδει καὶ ἀριθμῷ ἡ αὐτή, (242b.) γένει μὲν ἡ τῆς αὐτῆς κατηγορίας, οἷον οὐσίας ἢ ποιότητος, εἴδει δὲ <ἡ> ἐκ τοῦ αὐτοῦ τῷ εἴδει εἰς τὸ αὐτὸ τῷ εἴδει, οἷον ἐκ λευκοῦ εἰς μέλαν ἢ ἐξ ἀγαθοῦ εἰς κακὸν ἀδιάφορον τῷ εἴδει· ἀριθμῷ δὲ ἡ ἐξ ἑνὸς τῷ ἀριθμῷ <εἰς ἓν τῷ ἀριθμῷ> ἐν τῷ αὐτῷ χρόνῳ, οἷον ἐκ τοῦδε τοῦ λευκοῦ εἰς τόδε τὸ μέλαν, ἢ ἐκ τοῦδε τοῦ τόπου εἰς τόνδε, ἐν τῷδε τῷ χρόνῳ· εἰ γὰρ ἐν ἄλλῳ, οὐκέτι ἔσται ἀριθμῷ μία κίνησις, ἀλλ’ εἴδει.

εἴρηται δὲ περὶ τούτων ἐν τοῖς πρότερον. εἰλήφθω δὲ καὶ ὁ χρόνος ἐν ᾧ κεκίνηται τὴν αὑτοῦ κίνησιν τὸ Α, καὶ ἔστω ἐφ’ ᾧ Κ. πεπερασμένης δ’ οὔσης τῆς τοῦ Α κινήσεως καὶ ὁ χρόνος ἔσται πεπερασμένος. ἐπεὶ δὴ ἄπειρα τὰ κινοῦντα καὶ τὰ κινούμενα, καὶ ἡ κίνησις ἡ ΕΖΗΘ ἡ ἐξ ἁπασῶν ἄπειρος ἔσται· ἐνδέχεται μὲν γὰρ ἴσην εἶναι τὴν τοῦ Α καὶ τοῦ Β καὶ τὴν τῶν ἄλλων, ἐνδέχεται δὲ μείζους τὰς τῶν ἄλλων, ὥστε εἴ τε ἴσαι εἴ τε μείζους, ἀμφοτέρως ἄπειρος ἡ ὅλη· λαμβάνομεν γὰρ τὸ ἐνδεχόμενον. ἐπεὶ δ’ ἅμα κινεῖται καὶ τὸ Α καὶ τῶν ἄλλων ἕκαστον, ἡ ὅλη κίνησις ἐν τῷ αὐτῷ χρόνῳ ἔσται καὶ ἡ τοῦ Α· ἡ δὲ τοῦ Α ἐν πεπερασμένῳ· ὥστε εἴη ἂν ἄπειρος ἐν πεπερασμένῳ, τοῦτο δ’ ἀδύνατον.

οὕτω μὲν οὖν δόξειεν ἂν δεδεῖχθαι τὸ ἐξ ἀρχῆς, οὐ μὴν ἀποδείκνυται διὰ τὸ μηδὲν δείκνυσθαι ἀδύνατον· ἐνδέχεται γὰρ ἐν πεπερασμένῳ χρόνῳ ἄπειρον εἶναι κίνησιν, μὴ ἑνὸς ἀλλὰ πολλῶν. ὅπερ συμβαίνει καὶ ἐπὶ τούτων· ἕκαστον γὰρ κινεῖται τὴν ἑαυτοῦ κίνησιν, ἅμα δὲ πολλὰ κινεῖσθαι οὐκ ἀδύνατον. ἀλλ’ εἰ τὸ κινοῦν πρώτως κατὰ τόπον καὶ σωματικὴν κίνησιν ἀνάγκη ἢ ἅπτεσθαι ἢ συνεχὲς εἶναι τῷ κινουμένῳ, καθάπερ ὁρῶμεν ἐπὶ πάντων, ἀνάγκη τὰ κινούμενα καὶ τὰ κινοῦντα συνεχῆ εἶναι ἢ ἅπτεσθαι ἀλλήλων, ὥστ’ εἶναί τι ἐξ ἁπάντων ἕν. τοῦτο δὲ εἴτε πεπερασμένον εἴτε ἄπειρον, οὐδὲν διαφέρει πρὸς τὰ νῦν· πάντως γὰρ ἡ κίνησις ἔσται ἄπειρος ἀπείρων ὄντων, εἴπερ ἐνδέχεται καὶ ἴσας εἶναι καὶ μείζους ἀλλήλων· ὃ γὰρ ἐνδέχεται, ληψόμεθα ὡς ὑπάρχον. εἰ οὖν τὸ μὲν ἐκ τῶν Α Β Γ Δ <ἢ πεπερασμένον ἢ> ἄπειρόν τί ἐστιν, κινεῖται δὲ τὴν ΕΖΗΘ κίνησιν ἐν τῷ χρόνῳ τῷ Κ, οὗτος δὲ πεπέρανται, συμβαίνει ἐν πεπερασμένῳ χρόνῳ ἄπειρον διιέναι ἢ τὸ πεπερασμένον ἢ τὸ ἄπειρον. ἀμφοτέρως δὲ ἀδύνατον· ὥστε ἀνάγκη ἵστασθαι καὶ εἶναί τι πρῶτον κινοῦν καὶ κινούμενον. οὐδὲν γὰρ διαφέρει τὸ συμβαίνειν ἐξ ὑποθέσεως τὸ ἀδύνατον· (243a.) ἡ γὰρ ὑπόθεσις εἴληπται ἐνδεχομένη, τοῦ δ’ ἐνδεχομένου τεθέντος οὐδὲν προσήκει γίγνεσθαι διὰ τοῦτο ἀδύνατον.

Κεφάλαιο 2

Τὸ δὲ πρῶτον κινοῦν, μὴ ὡς τὸ οὗ ἕνεκεν, ἀλλ’ ὅθεν ἡ ἀρχὴ τῆς κινήσεως, ἅμα τῷ κινουμένῳ ἐστί (λέγω δὲ τὸ ἅμα, ὅτι οὐδέν ἐστιν αὐτῶν μεταξύ)· τοῦτο γὰρ κοινὸν ἐπὶ παντὸς κινουμένου καὶ κινοῦντός ἐστιν. ἐπεὶ δὲ τρεῖς αἱ κινήσεις, ἥ τε κατὰ τόπον καὶ ἡ κατὰ τὸ ποιὸν καὶ ἡ κατὰ τὸ ποσόν, ἀνάγκη καὶ τὰ κινοῦντα τρία εἶναι, τό τε φέρον καὶ τὸ ἀλλοιοῦν καὶ τὸ αὖξον ἢ φθῖνον.

πρῶτον οὖν εἴπωμεν περὶ τῆς φορᾶς· πρώτη γὰρ αὕτη τῶν κινήσεων. ἅπαν δὴ τὸ φερόμενον ἢ ὑφ’ ἑαυτοῦ κινεῖται ἢ ὑπ’ ἄλλου. ὅσα μὲν οὖν αὐτὰ ὑφ’ αὑτῶν κινεῖται, φανερὸν ἐν τούτοις ὅτι ἅμα τὸ κινούμενον καὶ τὸ κινοῦν ἐστιν· ἐνυπάρχει γὰρ αὐτοῖς τὸ πρῶτον κινοῦν, ὥστ’ οὐδέν ἐστιν ἀναμεταξύ· ὅσα δ’ ὑπ’ ἄλλου κινεῖται, τετραχῶς ἀνάγκη γίγνεσθαι· τέτταρα γὰρ εἴδη τῆς ὑπ’ ἄλλου φορᾶς, ἕλξις, ὦσις, ὄχησις, δίνησις. ἅπασαι γὰρ αἱ κατὰ τόπον κινήσεις ἀνάγονται εἰς ταύτας· ἡ μὲν γὰρ ἔπωσις ὦσίς τίς ἐστιν, ὅταν τὸ ἀφ’ αὑτοῦ κινοῦν ἐπακολουθοῦν ὠθῇ, ἡ δ’ ἄπωσις, ὅταν μὴ ἐπακολουθῇ κινῆσαν, ἡ δὲ ῥῖψις, ὅταν σφο (243b.) δροτέραν ποιήσῃ τὴν ἀφ’ αὑτοῦ κίνησιν τῆς κατὰ φύσιν φορᾶς, καὶ μέχρι τοσούτου φέρηται ἕως ἂν κρατῇ ἡ κίνησις. πάλιν ἡ δίωσις καὶ σύνωσις ἄπωσις καὶ ἕλξις εἰσίν· ἡ μὲν γὰρ δίωσις ἄπωσις (ἢ γὰρ ἀφ’ αὑτοῦ ἢ ἀπ’ ἄλλου ἐστὶν ἡ ἄπωσις), ἡ δὲ σύνωσις ἕλξις (καὶ γὰρ πρὸς αὑτὸ καὶ πρὸς ἄλλο ἡ ἕλξις). ὥστε καὶ ὅσα τούτων εἴδη, οἷον σπάθησις καὶ κέρκισις· ἡ μὲν γὰρ σύνωσις, ἡ δὲ δίωσις. ὁμοίως δὲ καὶ αἱ ἄλλαι συγκρίσεις καὶ διακρίσεις — ἅπασαι γὰρ ἔσονται διώσεις ἢ συνώσεις — πλὴν ὅσαι ἐν γενέσει καὶ φθορᾷ εἰσιν. ἅμα δὲ φανερὸν ὅτι οὐδ’ ἔστιν ἄλλο τι γένος κινήσεως ἡ σύγκρισις καὶ διάκρισις· ἅπασαι γὰρ διανέμονται εἴς τινας τῶν εἰρημένων. ἔτι δ’ ἡ μὲν εἰσπνοὴ ἕλξις, ἡ δ’ ἐκπνοὴ ὦσις. ὁμοίως δὲ καὶ ἡ πτύσις, καὶ ὅσαι ἄλλαι διὰ τοῦ σώματος ἢ ἐκκριτικαὶ ἢ ληπτικαὶ κινήσεις· αἱ μὲν γὰρ ἕλξεις εἰσίν, αἱ δ’ ἀπώσεις. δεῖ δὲ καὶ τὰς ἄλλας τὰς κατὰ τόπον ἀνάγειν· ἅπασαι γὰρ πίπτουσιν εἰς τέσσαρας ταύτας. τούτων δὲ πάλιν ἡ ὄχησις καὶ ἡ δίνησις εἰς ἕλξιν καὶ ὦσιν. ἡ μὲν γὰρ ὄχησις κατὰ τούτων τινὰ τῶν τριῶν τρόπων ἐστίν (τὸ μὲν γὰρ ὀχούμενον κινεῖται κατὰ συμβεβηκός, ὅτι ἐν κινουμένῳ ἐστὶν ἢ ἐπὶ κινουμένου τινός, τὸ δ’ ὀχοῦν ὀχεῖ ἢ ἑλκόμενον ἢ (244a.) ὠθούμενον ἢ δινούμενον, ὥστε κοινή ἐστιν ἁπασῶν τῶν τριῶν ἡ ὄχησις)· ἡ δὲ δίνησις σύγκειται ἐξ ἕλξεώς τε καὶ ὤσεως· ἀνάγκη γὰρ τὸ δινοῦν τὸ μὲν ἕλκειν τὸ δ' ὠθεῖν· τὸ μὲν γὰρ ἀφ' αὑτοῦ τὸ δὲ πρὸς αὑτὸ ἄγει. ὥστ' εἰ τὸ ὠθοῦν καὶ τὸ ἕλκον ἅμα τῷ ὠθουμένῳ καὶ τῷ ἑλκομένῳ, φανερὸν ὅτι τοῦ κατὰ τόπον κινουμένου καὶ κινοῦντος οὐδέν ἐστι μεταξύ. ἀλλὰ μὴν τοῦτο δῆλον καὶ ἐκ τῶν ὁρισμῶν· ὦσις μὲν γάρ ἐστιν ἡ ἀφ' αὑτοῦ ἢ ἀπ' ἄλλου πρὸς ἄλλο κίνησις, ἕλξις δὲ ἡ ἀπ' ἄλλου πρὸς αὑτὸ ἢ πρὸς ἄλλο, ὅταν θάττων ἡ κίνησις ᾖ [τοῦ ἕλκοντος] τῆς χωριζούσης ἀπ' ἀλλήλων τὰ συνεχῆ· οὕτω γὰρ συνεφέλκεται θάτερον. (τάχα δὲ δόξειεν ἂν εἶναί τις ἕλξις καὶ ἄλλως· τὸ γὰρ ξύλον ἕλκει τὸ πῦρ οὐχ οὕτως. τὸ δ' οὐθὲν διαφέρει κινουμένου τοῦ ἕλκοντος ἢ μένοντος ἕλκειν· ὁτὲ μὲν γὰρ ἕλκει οὗ ἔστιν, ὁτὲ δὲ οὗ ἦν.) ἀδύνατον δὲ ἢ ἀφ' αὑτοῦ πρὸς ἄλλο ἢ ἀπ' ἄλλου πρὸς αὑτὸ κινεῖν (244b.) μὴ ἁπτόμενον, ὥστε φανερὸν ὅτι τοῦ κατὰ τόπον κινουμένου καὶ κινοῦντος οὐδέν ἐστι μεταξύ.

ἀλλὰ μὴν οὐδὲ τοῦ ἀλλοιουμένου καὶ τοῦ ἀλλοιοῦντος. τοῦτο δὲ δῆλον ἐξ ἐπαγωγῆς· ἐν ἅπασι γὰρ συμβαίνει ἅμα εἶναι τὸ ἔσχατον ἀλλοιοῦν καὶ τὸ πρῶτον ἀλλοιούμενον· <ὑπόκειται γὰρ ἡμῖν τὸ τὰ ἀλλοιούμενα κατὰ τὰς παθητικὰς καλουμένας ποιότητας πάσχοντα ἀλλοιοῦσθαι>. ἅπαν γὰρ σῶμα σώματος διαφέρει τοῖς αἰσθητοῖς ἢ πλείοσιν ἢ ἐλάττοσιν ἢ τῷ μᾶλλον καὶ ἧττον τοῖς αὐτοῖς· ἀλλὰ μὴν καὶ ἀλλοιοῦται τὸ ἀλλοιούμενον ὑπὸ τῶν εἰρημένων. ταῦτα γάρ ἐστι πάθη τῆς ὑποκειμένης ποιότητος· ἢ γὰρ θερμαινόμενον ἢ γλυκαινόμενον ἢ πυκνούμενον ἢ ξηραινόμενον ἢ λευκαινόμενον ἀλλοιοῦσθαί φαμεν, ὁμοίως τό τε ἄψυχον καὶ τὸ ἔμψυχον λέγοντες, καὶ πάλιν τῶν ἐμψύχων τά τε μὴ αἰσθητικὰ τῶν μερῶν καὶ αὐτὰς τὰς αἰσθήσεις. ἀλλοιοῦνται γάρ πως καὶ αἱ αἰσθήσεις· ἡ γὰρ αἴσθησις ἡ κατ' ἐνέργειαν κίνησίς ἐστι διὰ τοῦ σώματος, πασχούσης τι τῆς αἰσθήσεως. καθ' ὅσα μὲν οὖν τὸ ἄψυχον ἀλλοιοῦται, καὶ τὸ ἔμψυχον, καθ' ὅσα δὲ τὸ ἔμψυχον, οὐ κατὰ ταῦτα πάντα τὸ ἄψυχον (οὐ γὰρ ἀλλοιοῦται κατὰ τὰς αἰσθήσεις)· καὶ τὸ μὲν λανθάνει, τὸ δ' οὐ (245a.) λανθάνει πάσχον. οὐδὲν δὲ κωλύει καὶ τὸ ἔμψυχον λανθάνειν, ὅταν μὴ κατὰ τὰς αἰσθήσεις γίγνηται ἡ ἀλλοίωσις. εἴπερ οὖν ἀλλοιοῦται τὸ ἀλλοιούμενον ὑπὸ τῶν αἰσθητῶν, ἐν ἅπασί γε τούτοις φανερὸν ὅτι ἅμα ἐστὶ τὸ ἔσχατον ἀλλοιοῦν καὶ τὸ πρῶτον ἀλλοιούμενον· τῷ μὲν γὰρ συνεχὴς ὁ ἀήρ, τῷ δ' ἀέρι τὸ σῶμα. πάλιν δὲ τὸ μὲν χρῶμα τῷ φωτί, τὸ δὲ φῶς τῇ ὄψει. τὸν αὐτὸν δὲ τρόπον καὶ ἡ ἀκοὴ καὶ ἡ ὄσφρησις· πρῶτον γὰρ κινοῦν πρὸς τὸ κινούμενον ὁ ἀήρ. καὶ ἐπὶ τῆς γεύσεως ὁμοίως· ἅμα γὰρ τῇ γεύσει ὁ χυμός. ὡσαύτως δὲ καὶ ἐπὶ τῶν ἀψύχων καὶ ἀναισθήτων. ὥστ' οὐδὲν ἔσται μεταξὺ τοῦ ἀλλοιουμένου καὶ τοῦ ἀλλοιοῦντος.

οὐδὲ μὴν τοῦ αὐξανομένου τε καὶ αὔξοντος· αὐξάνει γὰρ τὸ πρῶτον αὖξον προσγιγνόμενον, ὥστε ἓν γίγνεσθαι τὸ ὅλον. καὶ πάλιν φθίνει τὸ φθῖνον ἀπογιγνομένου τινὸς τῶν τοῦ φθίνοντος. ἀνάγκη οὖν συνεχὲς εἶναι καὶ τὸ αὖξον καὶ τὸ φθῖνον, τῶν δὲ συνεχῶν οὐδὲν μεταξύ.

φανερὸν οὖν ὅτι τοῦ κινουμένου καὶ (245b.) τοῦ κινοῦντος πρώτου καὶ ἐσχάτου πρὸς τὸ κινούμενον οὐδέν ἐστιν ἀνὰ μέσον.

Κεφάλαιο 3

Ὅτι δὲ τὸ ἀλλοιούμενον ἅπαν ἀλλοιοῦται ὑπὸ τῶν αἰσθητῶν, καὶ ἐν μόνοις ὑπάρχει τούτοις ἀλλοίωσις ὅσα καθ’ αὑτὰ λέγεται πάσχειν ὑπὸ τῶν αἰσθητῶν, ἐκ τῶνδε θεωρητέον. τῶν γὰρ ἄλλων μάλιστ’ ἄν τις ὑπολάβοι ἔν τε τοῖς σχήμασι καὶ ταῖς μορφαῖς καὶ ἐν ταῖς ἕξεσι καὶ ταῖς τούτων λήψεσι καὶ ἀποβολαῖς ἀλλοίωσιν ὑπάρχειν· ἐν οὐδετέροις δ’ ἔστιν.

τὸ μὲν γὰρ σχηματιζόμενον καὶ ῥυθμιζόμενον ὅταν ἐπιτελεσθῇ, οὐ λέγομεν ἐκεῖνο ἐξ οὗ ἐστιν, οἷον τὸν ἀνδριάντα χαλκὸν ἢ τὴν πυραμίδα κηρὸν ἢ τὴν κλίνην ξύλον, ἀλλὰ παρωνυμιάζοντες τὸ μὲν χαλκοῦν, τὸ δὲ κήρινον, τὸ δὲ ξύλινον. τὸ δὲ πεπονθὸς καὶ ἠλλοιωμένον προσαγορεύομεν· ὑγρὸν γὰρ καὶ θερμὸν καὶ σκληρὸν τὸν χαλκὸν λέγομεν καὶ τὸν κηρόν

(καὶ οὐ μόνον οὕτως, ἀλλὰ καὶ τὸ ὑγρὸν καὶ τὸ θερμὸν χαλκὸν λέγομεν), ὁμωνύμως τῷ πάθει προσαγορεύοντες τὴν (246a.) ὕλην.

ὥστ’ εἰ κατὰ μὲν τὸ σχῆμα καὶ τὴν μορφὴν οὐ λέγεται τὸ γεγονὸς ἐν ᾧ ἐστι τὸ σχῆμα, κατὰ δὲ τὰ πάθη καὶ τὰς ἀλλοιώσεις λέγεται, φανερὸν ὅτι οὐκ ἂν εἶεν αἱ γενέσεις ἀλλοιώσεις.

ἔτι δὲ καὶ εἰπεῖν οὕτως ἄτοπον ἂν δόξειεν, ἠλλοιῶσθαι τὸν ἄνθρωπον ἢ τὴν οἰκίαν ἢ ἄλλο ὁτιοῦν τῶν γεγενημένων· ἀλλὰ γίγνεσθαι μὲν ἴσως ἕκαστον ἀναγκαῖον ἀλλοιουμένου τινός, οἷον τῆς ὕλης πυκνουμένης ἢ μανουμένης ἢ θερμαινομένης ἢ ψυχομένης, οὐ μέντοι τὰ γιγνόμενά γε ἀλλοιοῦται, οὐδ’ ἡ γένεσις αὐτῶν ἀλλοίωσίς ἐστιν.

ἀλλὰ μὴν οὐδ’ αἱ ἕξεις οὔθ’ αἱ τοῦ σώματος οὔθ’ αἱ τῆς ψυχῆς ἀλλοιώσεις. αἱ μὲν γὰρ ἀρεταὶ αἱ δὲ κακίαι τῶν ἕξεων· οὐκ ἔστι δὲ οὔτε ἡ ἀρετὴ οὔτε ἡ κακία ἀλλοίωσις, ἀλλ’ ἡ μὲν ἀρετὴ τελείωσίς τις (ὅταν γὰρ λάβῃ τὴν αὑτοῦ ἀρετήν, τότε λέγεται τέλειον ἕκαστον — τότε γὰρ ἔστι μάλιστα [τὸ] κατὰ φύσιν — ὥσπερ κύκλος τέλειος, ὅταν μάλιστα γένηται κύκλος καὶ ὅταν βέλτιστος), ἡ δὲ κακία φθορὰ τούτου καὶ ἔκστασις· ὥσπερ οὖν οὐδὲ τὸ τῆς οἰκίας τελείωμα λέγομεν ἀλλοίωσιν (ἄτοπον γὰρ εἰ ὁ θριγκὸς καὶ ὁ κέραμος ἀλλοίωσις, ἢ εἰ θριγκουμένη καὶ κεραμουμένη ἀλλοιοῦται ἀλλὰ μὴ τελειοῦται ἡ οἰκία), τὸν αὐτὸν τρόπον καὶ ἐπὶ τῶν ἀρε(246b.) τῶν καὶ τῶν κακιῶν καὶ τῶν ἐχόντων ἢ λαμβανόντων· αἱ μὲν γὰρ τελειώσεις αἱ δὲ ἐκστάσεις εἰσίν, ὥστ’ οὐκ ἀλλοιώσεις. ἔτι δὲ καί φαμεν ἁπάσας εἶναι τὰς ἀρετὰς ἐν τῷ πρός τι πὼς ἔχειν. τὰς μὲν γὰρ τοῦ σώματος, οἷον ὑγίειαν καὶ εὐεξίαν, ἐν κράσει καὶ συμμετρίᾳ θερμῶν καὶ ψυχρῶν τίθεμεν, ἢ αὐτῶν πρὸς αὑτὰ τῶν ἐντὸς ἢ πρὸς τὸ περιέχον· ὁμοίως δὲ καὶ τὸ κάλλος καὶ τὴν ἰσχὺν καὶ τὰς ἄλλας ἀρετὰς καὶ κακίας. ἑκάστη γάρ ἐστι τῷ πρός τι πὼς ἔχειν, καὶ περὶ τὰ οἰκεῖα πάθη εὖ ἢ κακῶς διατίθησι τὸ ἔχον· οἰκεῖα δ' ὑφ' ὧν γίγνεσθαι καὶ φθείρεσθαι πέφυκεν. ἐπεὶ οὖν τὰ πρός τι οὔτε αὐτά ἐστιν ἀλλοιώσεις, οὔτε ἔστιν αὐτῶν ἀλλοίωσις οὐδὲ γένεσις οὐδ' ὅλως μεταβολὴ οὐδεμία, φανερὸν ὅτι οὔθ' αἱ ἕξεις οὔθ' αἱ τῶν ἕξεων ἀποβολαὶ καὶ λήψεις ἀλλοιώσεις εἰσίν, ἀλλὰ γίγνεσθαι μὲν ἴσως αὐτὰς καὶ φθείρεσθαι ἀλλοιουμένων τινῶν ἀνάγκη, καθάπερ καὶ τὸ εἶδος καὶ τὴν μορφήν, οἷον θερμῶν καὶ ψυχρῶν ἢ ξηρῶν καὶ ὑγρῶν, ἢ ἐν οἷς τυγχάνουσιν οὖσαι πρώτοις. περὶ ταῦτα γὰρ ἑκάστη λέγεται κακία καὶ ἀρετή, ὑφ' ὧν ἀλλοιοῦσθαι πέφυκε τὸ ἔχον· ἡ μὲν γὰρ ἀρετὴ ποιεῖ ἢ ἀπαθὲς ἢ ὡδὶ παθητικόν, ἡ δὲ κακία παθητικὸν ἢ ἐναντίως ἀπαθές.

ὁμοίως (247a.) δὲ καὶ ἐπὶ τῶν τῆς ψυχῆς ἕξεων· ἅπασαι γὰρ καὶ αὗται τῷ πρός τι πὼς ἔχειν, καὶ αἱ μὲν ἀρεταὶ τελειώσεις, αἱ δὲ κακίαι ἐκστάσεις. ἔτι δὲ ἡ μὲν ἀρετὴ εὖ διατίθησι πρὸς τὰ οἰκεῖα πάθη, ἡ δὲ κακία κακῶς. ὥστ' οὐδ' αὗται ἔσονται ἀλλοιώσεις· οὐδὲ δὴ αἱ ἀποβολαὶ καὶ αἱ λήψεις αὐτῶν. γίγνεσθαι δ' αὐτὰς ἀναγκαῖον ἀλλοιουμένου τοῦ αἰσθητικοῦ μέρους. ἀλλοιωθήσεται δ' ὑπὸ τῶν αἰσθητῶν· ἅπασα γὰρ ἡ ἠθικὴ ἀρετὴ περὶ ἡδονὰς καὶ λύπας τὰς σωματικάς, αὗται δὲ ἢ ἐν τῷ πράττειν ἢ ἐν τῷ μεμνῆσθαι ἢ ἐν τῷ ἐλπίζειν. αἱ μὲν οὖν ἐν τῇ πράξει κατὰ τὴν αἴσθησίν εἰσιν, ὥσθ' ὑπ' αἰσθητοῦ τινὸς κινεῖσθαι, αἱ δ' ἐν τῇ μνήμῃ καὶ ἐν τῇ ἐλπίδι ἀπὸ ταύτης εἰσίν· ἢ γὰρ οἷα ἔπαθον μεμνημένοι ἥδονται, ἢ ἐλπίζοντες οἷα μέλλουσιν. ὥστ' ἀνάγκη πᾶσαν τὴν τοιαύτην ἡδονὴν ὑπὸ τῶν αἰσθητῶν γίγνεσθαι. ἐπεὶ δ' ἡδονῆς καὶ λύπης ἐγγιγνομένης καὶ ἡ κακία καὶ ἡ ἀρετὴ ἐγγίγνεται (περὶ ταύτας γάρ εἰσιν), αἱ δ' ἡδοναὶ καὶ αἱ λῦπαι ἀλλοιώσεις τοῦ αἰσθητικοῦ, φανερὸν ὅτι ἀλλοιουμένου τινὸς ἀνάγκη καὶ ταύτας ἀποβάλλειν καὶ λαμβάνειν. ὥσθ' ἡ μὲν γένεσις αὐτῶν μετ' ἀλλοιώσεως, αὐταὶ δ' οὐκ εἰσὶν ἀλλοιώσεις.

(247b.) ἀλλὰ μὴν οὐδ' αἱ τοῦ νοητικοῦ μέρους ἕξεις ἀλλοιώσεις, οὐδ' ἔστιν αὐτῶν γένεσις. πολὺ γὰρ μάλιστα τὸ ἐπιστῆμον ἐν τῷ πρός τι πὼς ἔχειν λέγομεν. ἔτι δὲ καὶ φανερὸν ὅτι οὐκ ἔστιν αὐτῶν γένεσις· τὸ γὰρ κατὰ δύναμιν ἐπιστῆμον οὐδὲν αὐτὸ κινηθὲν ἀλλὰ τῷ ἄλλο ὑπάρξαι γίγνεται ἐπιστῆμον. ὅταν γὰρ γένηται τὸ κατὰ μέρος, ἐπίσταταί πως τὰ καθόλου τῷ ἐν μέρει. πάλιν δὲ τῆς χρήσεως καὶ τῆς ἐνεργείας οὐκ ἔστι γένεσις, εἰ μή τις καὶ τῆς ἀναβλέψεως καὶ τῆς ἁφῆς οἴεται γένεσιν εἶναι· τὸ γὰρ χρῆσθαι καὶ τὸ ἐνεργεῖν ὅμοιον τούτοις. ἡ δ’ ἐξ ἀρχῆς λῆψις τῆς ἐπιστήμης γένεσις οὐκ ἔστιν οὐδ’ ἀλλοίωσις· τῷ γὰρ ἠρεμῆσαι καὶ στῆναι τὴν διάνοιαν ἐπίστασθαι καὶ φρονεῖν λεγόμεθα, εἰς δὲ τὸ ἠρεμεῖν οὐκ ἔστι γένεσις· ὅλως γὰρ οὐδεμιᾶς μεταβολῆς, καθάπερ εἴρηται πρότερον. ἔτι δ’ ὥσπερ ὅταν ἐκ τοῦ μεθύειν ἢ καθεύδειν ἢ νοσεῖν εἰς τἀναντία μεταστῇ τις, οὔ φαμεν ἐπιστήμονα γεγονέναι πάλιν (καίτοι ἀδύνατος ἦν τῇ ἐπιστήμῃ χρῆσθαι πρότερον), οὕτως οὐδ’ ὅταν ἐξ ἀρχῆς λαμβάνῃ τὴν ἕξιν· τῷ γὰρ καθίστασθαι τὴν ψυχὴν ἐκ τῆς φυσικῆς ταραχῆς φρόνιμόν τι γίγνεται καὶ ἐπιστῆμον. διὸ καὶ τὰ παιδία οὔτε μανθάνειν δύνανται οὔτε κατὰ τὰς αἰσθήσεις (248a.) ὁμοίως κρίνειν τοῖς πρεσβυτέροις· πολλὴ γὰρ ἡ ταραχὴ καὶ ἡ κίνησις. καθίσταται δὲ καὶ ἠρεμίζεται πρὸς ἔνια μὲν ὑπὸ τῆς φύσεως αὐτῆς, πρὸς ἔνια δ’ ὑπ’ ἄλλων, ἐν ἀμφοτέροις δὲ ἀλλοιουμένων τινῶν τῶν ἐν τῷ σώματι, καθάπερ ἐπὶ τῆς χρήσεως καὶ τῆς ἐνεργείας, ὅταν νήφων γένηται καὶ ἐγερθῇ. φανερὸν οὖν ἐκ τῶν εἰρημένων ὅτι τὸ ἀλλοιοῦσθαι καὶ ἡ ἀλλοίωσις ἔν τε τοῖς αἰσθητοῖς γίγνεται καὶ ἐν τῷ αἰσθητικῷ μορίῳ τῆς ψυχῆς, ἐν ἄλλῳ δ’ οὐδενὶ πλὴν κατὰ συμβεβηκός.

Κεφάλαιο 4

Ἀπορήσειε δ’ ἄν τις πότερόν ἐστι κίνησις πᾶσα πάσῃ συμβλητὴ ἢ οὔ. εἰ δή ἐστιν πᾶσα συμβλητή, καὶ ὁμοταχὲς τὸ ἐν ἴσῳ χρόνῳ ἴσον κινούμενον, ἔσται περιφερής τις ἴση εὐθείᾳ, καὶ μείζων δὴ καὶ ἐλάττων. ἔτι ἀλλοίωσις καὶ φορά τις ἴση, ὅταν ἐν ἴσῳ χρόνῳ τὸ μὲν ἀλλοιωθῇ τὸ δ’ ἐνεχθῇ. ἔσται ἄρα ἴσον πάθος μήκει. ἀλλ’ ἀδύνατον. ἀλλ’ ἆρα ὅταν ἐν ἴσῳ ἴσον κινηθῇ, τότε ἰσοταχές, ἴσον δ’ οὐκ ἔστιν πάθος μήκει, ὥστε οὐκ ἔστιν ἀλλοίωσις φορᾷ ἴση οὐδ’ ἐλάττων, ὥστ’ οὐ πᾶσα συμβλητή;

ἐπὶ δὲ τοῦ κύκλου καὶ τῆς εὐθείας πῶς συμβήσεται; ἄτοπόν τε γὰρ εἰ μὴ ἔστιν κύκλῳ ὁμοίως τουτὶ κινεῖσθαι καὶ τουτὶ ἐπὶ τῆς εὐθείας, ἀλλ’ εὐθὺς ἀνάγκη ἢ θᾶττον ἢ βραδύτερον, ὥσπερ ἂν εἰ κάταντες, τὸ δ’ ἄναντες· οὐδὲ διαφέρει οὐδὲν τῷ λόγῳ, εἴ τίς φησιν ἀνάγκην εἶναι θᾶττον εὐθὺς ἢ βραδύτερον κινεῖσθαι· ἔσται γὰρ μείζων καὶ ἐλάττων ἡ περιφερὴς τῆς εὐθείας, ὥστε καὶ ἴση. εἰ γὰρ ἐν τῷ Α χρόνῳ (248b.) τὴν Β διελήλυθε τὸ δὲ τὴν Γ, μείζων ἂν εἴη ἡ Β τῆς Γ· οὕτω γὰρ τὸ θᾶττον ἐλέγετο. οὐκοῦν καὶ εἰ ἐν ἐλάττονι ἴσον, θᾶττον· ὥστ’ ἔσται τι μέρος τοῦ Α ἐν ᾧ τὸ Β τοῦ κύκλου τὸ ἴσον δίεισι καὶ τὸ Γ ἐν ὅλῳ τῷ Α [τὴν Γ]. ἀλλὰ μὴν εἰ ἔστιν συμβλητά, συμβαίνει τὸ ἄρτι ῥηθέν, ἴσην εὐθεῖαν εἶναι κύκλῳ. ἀλλ’ οὐ συμβλητά· οὐδ’ ἄρα αἱ κινήσεις, ἀλλ’ ὅσα μὴ συνώνυμα, πάντ’ ἀσύμβλητα.

οἷον διὰ τί οὐ συμβλητὸν πότερον ὀξύτερον τὸ γραφεῖον ἢ ὁ οἶνος ἢ ἡ νήτη; ὅτι ὁμώνυμα, οὐ συμβλητά· ἀλλ’ ἡ νήτη τῇ παρανήτῃ συμβλητή, ὅτι τὸ αὐτὸ σημαίνει τὸ ὀξὺ ἐπ’ ἀμφοῖν. ἆρ’ οὖν οὐ ταὐτὸν τὸ ταχὺ ἐνταῦθα κἀκεῖ, πολὺ δ’ ἔτι ἧττον ἐν ἀλλοιώσει καὶ φορᾷ;

ἢ πρῶτον μὲν τοῦτο οὐκ ἀληθές, ὡς εἰ μὴ ὁμώνυμα συμβλητά; τὸ γὰρ πολὺ τὸ αὐτὸ σημαίνει ἐν ὕδατι καὶ ἀέρι, καὶ οὐ συμβλητά. εἰ δὲ μή, τό γε διπλάσιον ταὐτό (δύο γὰρ πρὸς ἕν), καὶ οὐ συμβλητά. ἢ καὶ ἐπὶ τούτων ὁ αὐτὸς λόγος; καὶ γὰρ τὸ πολὺ ὁμώνυμον. ἀλλ’ ἐνίων καὶ οἱ λόγοι ὁμώνυμοι, οἷον εἰ λέγοι τις ὅτι τὸ πολὺ τὸ τοσοῦτον καὶ ἔτι, ἄλλο τὸ τοσοῦτον· καὶ τὸ ἴσον ὁμώνυμον, καὶ τὸ ἓν δέ, εἰ ἔτυχεν, εὐθὺς ὁμώνυμον. εἰ δὲ τοῦτο, καὶ τὰ δύο, ἐπεὶ διὰ τί τὰ μὲν συμβλητὰ τὰ δ’ οὔ, εἴπερ ἦν μία φύσις; ἢ ὅτι ἐν ἄλλῳ πρώτῳ δεκτικῷ; ὁ μὲν οὖν ἵππος καὶ ὁ κύων συμβλητά, πότερον λευκότερον (ἐν ᾧ γὰρ πρώτῳ, τὸ αὐτό, ἡ ἐπιφάνεια), καὶ κατὰ μέγεθος ὡσαύτως· ὕδωρ δὲ καὶ φωνὴ οὔ· ἐν ἄλλῳ γάρ. ἢ δῆλον ὅτι ἔσται οὕτω γε πάντα ἓν ποιεῖν, ἐν ἄλλῳ (249a.) δὲ ἕκαστον φάσκειν εἶναι, καὶ ἔσται ταὐτὸ <τὸ> ἴσον καὶ γλυκὺ καὶ λευκόν, ἀλλ’ ἄλλο ἐν ἄλλῳ; ἔτι δεκτικὸν οὐ τὸ τυχὸν <τοῦ τυχόντος> ἐστίν, ἀλλ’ ἓν ἑνὸς τὸ πρῶτον.

ἀλλ’ ἆρα οὐ μόνον δεῖ τὰ συμβλητὰ μὴ ὁμώνυμα εἶναι ἀλλὰ καὶ μὴ ἔχειν διαφοράν, μήτε ὃ μήτε ἐν ᾧ; λέγω δὲ οἷον χρῶμα ἔχει διαί ρεσιν· τοιγαροῦν οὐ συμβλητὸν κατὰ τοῦτο (οἷον πότερον κεχρωμάτισται μᾶλλον, μὴ κατὰ τὶ χρῶμα, ἀλλ’ ᾗ χρῶμα), ἀλλὰ κατὰ τὸ λευκόν.

οὕτω καὶ περὶ κίνησιν ὁμοταχὲς τῷ ἐν ἴσῳ χρόνῳ κινεῖσθαι ἴσον τοσονδί· εἰ δὴ τοῦ μήκους ἐν τῳδὶ τὸ μὲν ἠλλοιώθη τὸ δ’ ἠνέχθη, ἴση ἄρα αὕτη ἡ ἀλλοίωσις καὶ ὁμοταχὴς τῇ φορᾷ; ἀλλ’ ἄτοπον. αἴτιον δ’ ὅτι ἡ κίνησις ἔχει εἴδη, ὥστ’ εἰ τὰ ἐν ἴσῳ χρόνῳ ἐνεχθέντα ἴσον μῆκος ἰσοταχῆ ἔσται, ἴση ἡ εὐθεῖα καὶ ἡ περιφερής. πότερον οὖν αἴτιον, ὅτι ἡ φορὰ γένος ἢ ὅτι ἡ γραμμὴ γένος; ὁ μὲν γὰρ χρόνος ὁ αὐτός, ἂν δὲ τῷ εἴδει ᾖ ἄλλα, καὶ ἐκεῖνα εἴδει διαφέρει. καὶ γὰρ ἡ φορὰ εἴδη ἔχει, ἂν ἐκεῖνο ἔχῃ εἴδη ἐφ’ οὗ κινεῖται (ὁτὲ δὲ ἐὰν ᾧ, οἷον εἰ πόδες, βάδισις, εἰ δὲ πτέρυγες, πτῆσις. ἢ οὔ, ἀλλὰ τοῖς σχήμασιν ἡ φορὰ ἄλλη;). ὥστε τὰ ἐν ἴσῳ ταὐτὸ μέγεθος κινούμενα ἰσοταχῆ, τὸ αὐτὸ δὲ καὶ ἀδιάφορον εἴδει καὶ κινήσει ἀδιάφορον· ὥστε τοῦτο σκεπτέον, τίς διαφορὰ κινήσεως. καὶ σημαίνει ὁ λόγος οὗτος ὅτι τὸ γένος οὐχ ἕν τι, ἀλλὰ παρὰ τοῦτο λανθάνει πολλά, εἰσίν τε τῶν ὁμωνυμιῶν αἱ μὲν πολὺ ἀπέχουσαι, αἱ δὲ ἔχουσαί τινα ὁμοιότητα, αἱ δ’ ἐγγὺς ἢ γένει ἢ ἀναλογίᾳ, διὸ οὐ δοκοῦσιν ὁμωνυμίαι εἶναι οὖσαι.

πότε οὖν ἕτερον τὸ εἶδος, ἐὰν ταὐτὸ ἐν ἄλλῳ, ἢ ἂν ἄλλο ἐν ἄλλῳ; καὶ τίς ὅρος; ἢ τῷ κρινοῦμεν ὅτι ταὐτὸν τὸ λευκὸν καὶ τὸ γλυκὺ ἢ ἄλλο — ὅτι ἐν ἄλλῳ φαίνεται ἕτερον, ἢ ὅτι ὅλως οὐ ταὐτό; περὶ δὲ δὴ ἀλλοιώσεως, πῶς ἔσται ἰσοταχὴς ἑτέρᾳ ἑτέρα; εἰ δή ἐστι τὸ ὑγιάζεσθαι ἀλλοιοῦσθαι, ἔστι τὸν μὲν ταχὺ τὸν δὲ βραδέως ἰαθῆναι, καὶ ἅμα τινάς, ὥστ’ (249b.) ἔσται ἀλλοίωσις ἰσοταχής· ἐν ἴσῳ γὰρ χρόνῳ ἠλλοιώθη. ἀλλὰ τί ἠλλοιώθη; τὸ γὰρ ἴσον οὐκ ἔστιν ἐνταῦθα λεγόμενον, ἀλλ’ ὡς ἐν τῷ ποσῷ ἰσότης, ἐνταῦθα ὁμοιότης. ἀλλ’ ἔστω ἰσοταχὲς τὸ ἐν ἴσῳ χρόνῳ τὸ αὐτὸ μεταβάλλον. πότερον οὖν ἐν ᾧ τὸ πάθος ἢ τὸ πάθος δεῖ συμβάλλειν; ἐνταῦθα μὲν δὴ ὅτι ὑγίεια ἡ αὐτή, ἔστιν λαβεῖν ὅτι οὔτε μᾶλλον οὔτε ἧττον ἀλλ’ ὁμοίως ὑπάρχει. ἐὰν δὲ τὸ πάθος ἄλλο ᾖ, οἷον ἀλλοιοῦται τὸ λευκαινόμενον καὶ τὸ ὑγιαζόμενον, τούτοις οὐδὲν τὸ αὐτὸ οὐδ’ ἴσον οὐδ’ ὅμοιον, ᾗ ἤδη ταῦτα εἴδη ποιεῖ ἀλλοιώσεως, καὶ οὐκ ἔστι μία ὥσπερ οὐδ’ αἱ φοραί. ὥστε ληπτέον πόσα εἴδη ἀλλοιώσεως καὶ πόσα φορᾶς. εἰ μὲν οὖν τὰ κινούμενα εἴδει διαφέρει, ὧν εἰσὶν αἱ κινήσεις καθ’ αὑτὰ καὶ μὴ κατὰ συμβεβηκός, καὶ αἱ κινήσεις εἴδει διοίσουσιν· εἰ δὲ γένει, γένει, εἰ δ’ ἀριθμῷ, ἀριθμῷ. ἀλλὰ δὴ πότερον εἰς τὸ πάθος δεῖ βλέψαι, ἐὰν ᾖ τὸ αὐτὸ ἢ ὅμοιον, εἰ ἰσοταχεῖς αἱ ἀλλοιώσεις, ἢ εἰς τὸ ἀλλοιούμενον, οἷον εἰ τοῦ μὲν τοσονδὶ λελεύκανται τοῦ δὲ τοσονδί; ἢ εἰς ἄμφω, καὶ ἡ αὐτὴ μὲν ἢ ἄλλη τῷ πάθει, εἰ τὸ αὐτὸ <ἢ μὴ τὸ> αὐτό, ἴση δ’ ἢ ἄνισος, εἰ ἐκεῖνο <ἴσον ἢ> ἄνισον;

καὶ ἐπὶ γενέσεως δὲ καὶ φθορᾶς τὸ αὐτὸ σκεπτέον. πῶς ἰσοταχὴς ἡ γένεσις; εἰ ἐν ἴσῳ χρόνῳ τὸ αὐτὸ καὶ ἄτομον, οἷον ἄνθρωπος ἀλλὰ μὴ ζῷον· θάττων δ’, εἰ ἐν ἴσῳ ἕτερον (οὐ γὰρ ἔχομέν τινα δύο ἐν οἷς ἡ ἑτερότης ὡς ἡ ἀνομοιότης), ἤ, εἰ ἔστιν ἀριθμὸς ἡ οὐσία, πλείων καὶ ἐλάττων ἀριθμὸς ὁμοειδής· ἀλλ’ ἀνώνυμον τὸ κοινόν, καὶ τὸ ἑκάτερον [ποιόν· τὸ μὲν ποιόν,] ὥσπερ τὸ πλεῖον πάθος ἢ τὸ ὑπερέχον μᾶλλον, τὸ δὲ ποσὸν μεῖζον.

Κεφάλαιο 5

Ἐπεὶ δὲ τὸ κινοῦν κινεῖ τι ἀεὶ καὶ ἔν τινι καὶ μέχρι του (λέγω δὲ τὸ μὲν ἔν τινι, ὅτι ἐν χρόνῳ, τὸ δὲ μέχρι του, ὅτι ποσόν τι μῆκος· ἀεὶ γὰρ ἅμα κινεῖ καὶ κεκίνηκεν, ὥστε ποσόν τι ἔσται ὃ ἐκινήθη, καὶ ἐν ποσῷ), εἰ δὴ τὸ μὲν Α τὸ κινοῦν, τὸ δὲ Β τὸ κινούμενον, ὅσον δὲ κεκίνηται μῆ(250a.) κος τὸ Γ, ἐν ὅσῳ δέ, ὁ χρόνος, ἐφ’ οὗ τὸ Δ, ἐν δὴ τῷ ἴσῳ χρόνῳ ἡ ἴση δύναμις ἡ ἐφ’ οὗ τὸ Α τὸ ἥμισυ τοῦ Β διπλασίαν τῆς Γ κινήσει, τὴν δὲ τὸ Γ ἐν τῷ ἡμίσει τοῦ Δ· οὕτω γὰρ ἀνάλογον ἔσται. καὶ εἰ ἡ αὐτὴ δύναμις τὸ αὐτὸ ἐν τῳδὶ τῷ χρόνῳ τοσήνδε κινεῖ καὶ τὴν ἡμίσειαν ἐν τῷ ἡμίσει, καὶ ἡ ἡμίσεια ἰσχὺς τὸ ἥμισυ κινήσει ἐν τῷ ἴσῳ χρόνῳ τὸ ἴσον. οἷον τῆς Α δυνάμεως ἔστω ἡμίσεια ἡ τὸ Ε καὶ τοῦ Β τὸ Ζ ἥμισυ· ὁμοίως δὴ ἔχουσι καὶ ἀνάλογον ἡ ἰσχὺς πρὸς τὸ βάρος, ὥστε ἴσον ἐν ἴσῳ χρόνῳ κινήσουσιν. καὶ εἰ τὸ Ε τὸ Ζ κινεῖ ἐν τῷ Δ τὴν Γ, οὐκ ἀνάγκη ἐν τῷ ἴσῳ χρόνῳ τὸ ἐφ’ οὗ Ε τὸ διπλάσιον τοῦ Ζ κινεῖν τὴν ἡμίσειαν τῆς Γ· εἰ δὴ τὸ Α τὴν τὸ Β κινεῖ ἐν τῷ Δ ὅσην ἡ τὸ Γ, τὸ ἥμισυ τοῦ Α τὸ ἐφ’ ᾧ Ε τὴν τὸ Β οὐ κινήσει ἐν τῷ χρόνῳ ἐφ’ ᾧ τὸ Δ οὐδ’ ἔν τινι τοῦ Δ τι τῆς Γ ἀνάλογον πρὸς τὴν ὅλην τὴν Γ ὡς τὸ Α πρὸς τὸ Ε· ὅλως γὰρ εἰ ἔτυχεν οὐ κινήσει οὐδέν· οὐ γὰρ εἰ ἡ ὅλη ἰσχὺς τοσήνδε ἐκίνησεν, ἡ ἡμίσεια οὐ κινήσει οὔτε ποσὴν οὔτ’ ἐν ὁποσῳοῦν· εἷς γὰρ ἂν κινοίη τὸ πλοῖον, εἴπερ ἥ τε τῶν νεωλκῶν τέμνεται ἰσχὺς εἰς τὸν ἀριθμὸν καὶ τὸ μῆκος ὃ πάντες ἐκίνησαν. διὰ τοῦτο ὁ Ζήνωνος λόγος οὐκ ἀληθής, ὡς ψοφεῖ τῆς κέγχρου ὁτιοῦν μέρος· οὐδὲν γὰρ κωλύει μὴ κινεῖν τὸν ἀέρα ἐν μηδενὶ χρόνῳ τοῦτον ὃν ἐκίνησεν πεσὼν ὁ ὅλος μέδιμνος. οὐδὲ δὴ τοσοῦτον μόριον, ὅσον ἂν κινήσειεν τοῦ ὅλου εἰ εἴη καθ’ αὑτὸ τοῦτο, οὐ κινεῖ. οὐδὲ γὰρ οὐδὲν ἔστιν ἀλλ’ ἢ δυνάμει ἐν τῷ ὅλῳ.

εἰ δὲ τὰ <κινοῦντα> δύο, καὶ ἑκάτερον τῶνδε ἑκάτερον κινεῖ τὸ τοσόνδε ἐν τοσῷδε, καὶ συντιθέμεναι αἱ δυνάμεις τὸ σύνθετον ἐκ τῶν βαρῶν τὸ ἴσον κινήσουσιν μῆκος καὶ ἐν ἴσῳ χρόνῳ· ἀνάλογον γάρ.

ἆρ’ οὖν οὕτω καὶ ἐπ’ ἀλλοιώσεως καὶ ἐπ’ αὐξήσεως; τὶ μὲν γὰρ τὸ αὖξον, τὶ δὲ τὸ αὐξανόμενον, ἐν ποσῷ δὲ χρόνῳ καὶ ποσὸν τὸ μὲν αὔξει τὸ δὲ αὐξάνεται. καὶ τὸ ἀλλοιοῦν καὶ τὸ ἀλλοιούμενον ὡσαύτως — τὶ καὶ ποσὸν (250b.) κατὰ τὸ μᾶλλον καὶ ἧττον ἠλλοίωται, καὶ ἐν ποσῷ χρόνῳ, ἐν διπλασίῳ διπλάσιον, καὶ τὸ διπλάσιον ἐν διπλασίῳ· τὸ δ’ ἥμισυ ἐν ἡμίσει χρόνῳ (ἢ ἐν ἡμίσει ἥμισυ), ἢ ἐν ἴσῳ διπλάσιον.

εἰ δὲ τὸ ἀλλοιοῦν ἢ αὖξον τὸ τοσόνδε ἐν τῷ τοσῷδε αὔξει ἢ ἀλλοιοῖ, οὐκ ἀνάγκη καὶ τὸ ἥμισυ ἐν ἡμίσει καὶ ἐν ἡμίσει ἥμισυ, ἀλλ’ οὐδέν, εἰ ἔτυχεν, ἀλλοιώσει ἢ αὐξήσει, ὥσπερ καὶ ἐπὶ τοῦ βάρους.

Βιβλίο 8

Κεφάλαιο 1

Πότερον γέγονέ ποτε κίνησις οὐκ οὖσα πρότερον, καὶ φθείρεται πάλιν οὕτως ὥστε κινεῖσθαι μηδέν, ἢ οὔτ’ ἐγένετο οὔτε φθείρεται, ἀλλ’ ἀεὶ ἦν καὶ ἀεὶ ἔσται, καὶ τοῦτ’ ἀθάνατον καὶ ἄπαυστον ὑπάρχει τοῖς οὖσιν, οἷον ζωή τις οὖσα τοῖς φύσει συνεστῶσι πᾶσιν;

εἶναι μὲν οὖν κίνησιν πάντες φασὶν οἱ περὶ φύσεώς τι λέγοντες διὰ τὸ κοσμοποιεῖν καὶ περὶ γενέσεως καὶ φθορᾶς εἶναι τὴν θεωρίαν πᾶσαν αὐτοῖς, ἣν ἀδύνατον ὑπάρχειν μὴ κινήσεως οὔσης· ἀλλ’ ὅσοι μὲν ἀπείρους τε κόσμους εἶναί φασιν, καὶ τοὺς μὲν γίγνεσθαι τοὺς δὲ φθείρεσθαι τῶν κόσμων, ἀεί φασιν εἶναι κίνησιν (ἀναγκαῖον γὰρ τὰς γενέσεις καὶ τὰς φθορὰς εἶναι μετὰ κινήσεως αὐτῶν)· ὅσοι δ’ ἕνα <ἢ ἀεὶ> ἢ μὴ ἀεί, καὶ περὶ τῆς κινήσεως ὑποτίθενται κατὰ λόγον. εἰ δὴ ἐνδέχεταί ποτε μηδὲν κινεῖσθαι, διχῶς ἀνάγκη τοῦτο συμβαίνειν· ἢ γὰρ ὡς Ἀναξαγόρας λέγει (φησὶν γὰρ ἐκεῖνος, ὁμοῦ πάντων ὄντων καὶ ἠρεμούντων τὸν ἄπειρον χρόνον, κίνησιν ἐμποιῆσαι τὸν νοῦν καὶ διακρῖναι), ἢ ὡς Ἐμπεδοκλῆς ἐν μέρει κινεῖσθαι καὶ πάλιν ἠρεμεῖν, κινεῖσθαι μὲν ὅταν ἡ φιλία ἐκ πολλῶν ποιῇ τὸ ἓν ἢ τὸ νεῖκος πολλὰ ἐξ ἑνός, ἠρεμεῖν δ’ ἐν τοῖς μεταξὺ χρόνοις, λέγων οὕτως ᾗ μὲν ἓν ἐκ πλεόνων μεμάθηκε φύεσθαι, ἠδὲ πάλιν διαφύντος ἑνὸς πλέον’ ἐκτελέθουσιν, (251a.) τῇ μὲν γίγνονταί τε καὶ οὔ σφισιν ἔμπεδος αἰών· ᾗ δὲ τάδ’ ἀλλάσσοντα διαμπερὲς οὐδαμὰ λήγει, ταύτῃ δ’ αἰὲν ἔασιν ἀκίνητοι κατὰ κύκλον. τὸ γὰρ “ᾗ δὲ τάδ’ ἀλλάσσοντα” ἐνθένδε ἐκεῖσε λέγειν αὐτὸν ὑποληπτέον. σκεπτέον δὴ περὶ τούτων πῶς ἔχει·

πρὸ ἔργου γὰρ οὐ μόνον πρὸς τὴν περὶ φύσεως θεωρίαν ἰδεῖν τὴν ἀλήθειαν, ἀλλὰ καὶ πρὸς τὴν μέθοδον τὴν περὶ τῆς ἀρχῆς τῆς πρώτης. ἀρξώμεθα δὲ πρῶτον ἐκ τῶν διωρισμένων ἡμῖν ἐν τοῖς φυσικοῖς πρότερον. φαμὲν δὴ τὴν κίνησιν εἶναι ἐνέργειαν τοῦ κινητοῦ ᾗ κινητόν. ἀναγκαῖον ἄρα ὑπάρχειν τὰ πράγματα τὰ δυνάμενα κινεῖσθαι καθ’ ἑκάστην κίνησιν. καὶ χωρὶς δὲ τοῦ τῆς κινήσεως ὁρισμοῦ, πᾶς ἂν ὁμολογήσειεν ἀναγκαῖον εἶναι κινεῖσθαι τὸ δυνατὸν κινεῖσθαι καθ’ ἑκάστην κίνησιν, οἷον ἀλλοιοῦσθαι μὲν τὸ ἀλλοιωτόν, φέρεσθαι δὲ τὸ κατὰ τόπον μεταβλητόν, ὥστε δεῖ πρότερον καυστὸν εἶναι πρὶν κάεσθαι καὶ καυστικὸν πρὶν κάειν. οὐκοῦν καὶ ταῦτα ἀναγκαῖον ἢ γενέσθαι ποτὲ οὐκ ὄντα ἢ ἀΐδια εἶναι. εἰ μὲν τοίνυν ἐγένετο τῶν κινητῶν ἕκαστον, ἀναγκαῖον πρότερον τῆς ληφθείσης ἄλλην γενέσθαι μεταβολὴν καὶ κίνησιν, καθ’ ἣν ἐγένετο τὸ δυνατὸν κινηθῆναι ἢ κινῆσαι· εἰ δ’ ὄντα προϋπῆρχεν ἀεὶ κινήσεως μὴ οὔσης, ἄλογον μὲν φαίνεται καὶ αὐτόθεν ἐπιστήσασιν, οὐ μὴν ἀλλὰ μᾶλλον ἔτι προάγουσι τοῦτο συμβαίνειν ἀναγκαῖον. εἰ γὰρ τῶν μὲν κινητῶν ὄντων τῶν δὲ κινητικῶν ὁτὲ μὲν ἔσται τι πρῶτον κινοῦν, τὸ δὲ κινούμενον, ὁτὲ δ’ οὐθέν, ἀλλ’ ἠρεμεῖ, ἀναγκαῖον τοῦτο μεταβάλ λειν πρότερον· ἦν γάρ τι αἴτιον τῆς ἠρεμίας· ἡ γὰρ ἠρέμησις στέρησις κινήσεως. ὥστε πρὸ τῆς πρώτης μεταβολῆς ἔσται μεταβολὴ προτέρα. τὰ μὲν γὰρ κινεῖ μοναχῶς, τὰ δὲ καὶ τὰς ἐναντίας κινήσεις, οἷον τὸ μὲν πῦρ θερμαίνει, ψύχει δ’ οὔ, ἡ δ’ ἐπιστήμη δοκεῖ τῶν ἐναντίων εἶναι μία. φαίνεται μὲν οὖν κἀκεῖ τι εἶναι ὁμοιότροπον· τὸ γὰρ ψυχρὸν θερμαίνει στραφέν πως καὶ ἀπελθόν, ὥσπερ καὶ ἁμαρτάνει ἑκὼν ὁ ἐπιστήμων, ὅταν ἀνάπαλιν χρήσηται τῇ ἐπι(251b.) στήμῃ. ἀλλ’ οὖν ὅσα γε δυνατὰ ποιεῖν καὶ πάσχειν ἢ κινεῖν, τὰ δὲ κινεῖσθαι, οὐ πάντως δυνατά ἐστιν, ἀλλ’ ὡδὶ ἔχοντα καὶ πλησιάζοντα ἀλλήλοις. ὥσθ’ ὅταν πλησιάσῃ, κινεῖ, τὸ δὲ κινεῖται, καὶ ὅταν ὑπάρξῃ ὡς ἦν τὸ μὲν κινητικὸν τὸ δὲ κινητόν. εἰ τοίνυν μὴ ἀεὶ ἐκινεῖτο, δῆλον ὡς οὐχ οὕτως εἶχον ὡς ἦν δυνάμενα τὸ μὲν κινεῖσθαι τὸ δὲ κινεῖν, ἀλλ’ ἔδει μεταβάλλειν θάτερον αὐτῶν· ἀνάγκη γὰρ ἐν τοῖς πρός τι τοῦτο συμβαίνειν, οἷον εἰ μὴ ὂν διπλάσιον νῦν διπλάσιον, μεταβάλλειν, εἰ μὴ ἀμφότερα, θάτερον. ἔσται ἄρα τις προτέρα μεταβολὴ τῆς πρώτης. πρὸς δὲ τούτοις τὸ πρότερον καὶ ὕστερον πῶς ἔσται χρόνου μὴ ὄντος; ἢ χρόνος μὴ οὔσης κινήσεως; εἰ δή ἐστιν ὁ χρόνος κινήσεως ἀριθμὸς ἢ κίνησίς τις, εἴπερ ἀεὶ χρόνος ἔστιν, ἀνάγκη καὶ κίνησιν ἀΐδιον εἶναι. ἀλλὰ μὴν περί γε χρόνου ἔξω ἑνὸς ὁμονοητικῶς ἔχοντες φαίνονται πάντες· ἀγένητον γὰρ εἶναι λέγουσιν. καὶ διὰ τούτου Δημόκριτός γε δείκνυσιν ὡς ἀδύνατον ἅπαντα γεγονέναι· τὸν γὰρ χρόνον ἀγένητον εἶναι. Πλάτων δὲ γεννᾷ μόνος· ἅμα μὲν γὰρ αὐτὸν τῷ οὐρανῷ [γεγονέναι], τὸν δ’ οὐρανὸν γεγονέναι φησίν. εἰ οὖν ἀδύνατόν ἐστιν καὶ εἶναι καὶ νοῆσαι χρόνον ἄνευ τοῦ νῦν, τὸ δὲ νῦν ἐστι μεσότης τις, καὶ ἀρχὴν καὶ τελευτὴν ἔχον ἅμα, ἀρχὴν μὲν τοῦ ἐσομένου χρόνου, τελευτὴν δὲ τοῦ παρελθόντος, ἀνάγκη ἀεὶ εἶναι χρόνον. τὸ γὰρ ἔσχατον τοῦ τελευταίου ληφθέντος χρόνου ἔν τινι τῶν νῦν ἔσται (οὐδὲν γὰρ ἔστι λαβεῖν ἐν τῷ χρόνῳ παρὰ τὸ νῦν), ὥστ’ ἐπεί ἐστιν ἀρχή τε καὶ τελευτὴ τὸ νῦν, ἀνάγκη αὐτοῦ ἐπ’ ἀμφότερα εἶναι ἀεὶ χρόνον. ἀλλὰ μὴν εἴ γε χρόνον, φανερὸν ὅτι ἀνάγκη εἶναι καὶ κίνησιν, εἴπερ ὁ χρόνος πάθος τι κινήσεως.

ὁ δ’ αὐτὸς λόγος καὶ περὶ τοῦ ἄφθαρτον εἶναι τὴν κίνησιν· καθάπερ γὰρ ἐπὶ τοῦ γενέσθαι κίνησιν συνέβαινεν προτέραν εἶναί τινα μεταβολὴν τῆς πρώ της, οὕτως ἐνταῦθα ὑστέραν τῆς τελευταίας· οὐ γὰρ ἅμα παύεται κινούμενον καὶ κινητὸν ὄν, οἷον καιόμενον καὶ καυστὸν ὄν (ἐνδέχεται γὰρ καυστὸν εἶναι μὴ καιόμενον), οὐδὲ (252a.) κινητικὸν καὶ κινοῦν. καὶ τὸ φθαρτικὸν δὴ δεήσει φθαρῆναι ὅταν φθείρῃ· καὶ τὸ τούτου φθαρτικὸν πάλιν ὕστερον· καὶ γὰρ ἡ φθορὰ μεταβολή τίς ἐστιν. εἰ δὴ ταῦτ' ἀδύνατα, δῆλον ὡς ἔστιν ἀΐδιος κίνησις, ἀλλ' οὐχ ὁτὲ μὲν ἦν ὁτὲ δ' οὔ· καὶ γὰρ ἔοικε τὸ οὕτω λέγειν πλάσματι μᾶλλον.

ὁμοίως δὲ καὶ τὸ λέγειν ὅτι πέφυκεν οὕτως καὶ ταύτην δεῖ νομίζειν εἶναι ἀρχήν, ὅπερ ἔοικεν Ἐμπεδοκλῆς ἂν εἰπεῖν, ὡς τὸ κρατεῖν καὶ κινεῖν ἐν μέρει τὴν φιλίαν καὶ τὸ νεῖκος ὑπάρχει τοῖς πράγμασιν ἐξ ἀνάγκης, ἠρεμεῖν δὲ τὸν μεταξὺ χρόνον. τάχα δὲ καὶ οἱ μίαν ἀρχὴν ποιοῦντες, ὥσπερ Ἀναξαγόρας, οὕτως ἂν εἴποιεν. ἀλλὰ μὴν οὐδέν γε ἄτακτον τῶν φύσει καὶ κατὰ φύσιν· ἡ γὰρ φύσις αἰτία πᾶσιν τάξεως. τὸ δ' ἄπειρον πρὸς τὸ ἄπειρον οὐδένα λόγον ἔχει· τάξις δὲ πᾶσα λόγος. τὸ δ' ἄπειρον χρόνον ἠρεμεῖν, εἶτα κινηθῆναί ποτε, τούτου δὲ μηδεμίαν εἶναι διαφοράν, ὅτι νῦν μᾶλλον ἢ πρότερον, μηδ' αὖ τινὰ τάξιν ἔχειν, οὐκέτι φύσεως ἔργον. ἢ γὰρ ἁπλῶς ἔχει τὸ φύσει, καὶ οὐχ ὁτὲ μὲν οὕτως ὁτὲ δ' ἄλλως, οἷον τὸ πῦρ ἄνω φύσει φέρεται καὶ οὐχ ὁτὲ μὲν ὁτὲ δ' οὔ· ἢ λόγον ἔχει τὸ μὴ ἁπλοῦν. διόπερ βέλτιον ὡς Ἐμπεδοκλῆς, κἂν εἴ τις ἕτερος εἴρηκεν οὕτως ἔχειν, ἐν μέρει τὸ πᾶν ἠρεμεῖν καὶ κινεῖσθαι πάλιν· τάξιν γὰρ ἤδη τιν' ἔχει τὸ τοιοῦτον. ἀλλὰ καὶ τοῦτο δεῖ τὸν λέγοντα μὴ φάναι μόνον, ἀλλὰ καὶ τὴν αἰτίαν αὐτοῦ λέγειν, καὶ μὴ τίθεσθαι μηδὲν μηδ' ἀξιοῦν ἀξίωμ' ἄλογον, ἀλλ' ἢ ἐπαγωγὴν ἢ ἀπόδειξιν φέρειν· αὐτὰ μὲν γὰρ οὐκ αἴτια τὰ ὑποτεθέντα, οὐδὲ τοῦτ' ἦν τὸ φιλότητι ἢ νείκει εἶναι, ἀλλὰ τῆς μὲν τὸ συνάγειν, τοῦ δὲ τὸ διακρίνειν. εἰ δὲ προσοριεῖται τὸ ἐν μέρει, λεκτέον ἐφ' ὧν οὕτως, ὥσπερ ὅτι ἔστιν τι ὃ συνάγει τοὺς ἀνθρώπους, ἡ φιλία, καὶ φεύγουσιν οἱ ἐχθροὶ ἀλλήλους· τοῦτο γὰρ ὑποτίθεται καὶ ἐν τῷ ὅλῳ εἶναι· φαίνεται γὰρ ἐπί τινων οὕτως. τὸ δὲ καὶ δι' ἴσων χρόνων δεῖται λόγου τινός. ὅλως δὲ τὸ νομίζειν ἀρχὴν εἶναι ταύτην ἱκανήν, εἴ τι αἰεὶ ἢ ἔστιν οὕτως ἢ γίγνεται, οὐκ ὀρθῶς ἔχει ὑπολαβεῖν, ἐφ' ὃ Δημόκριτος ἀνάγει τὰς περὶ φύσεως αἰτίας, ὡς οὕτω καὶ τὸ πρότερον ἐγίγνετο· τοῦ δὲ ἀεὶ οὐκ (252b.) ἀξιοῖ ἀρχὴν ζητεῖν, λέγων ἐπί τινων ὀρθῶς, ὅτι δ' ἐπὶ πάντων, οὐκ ὀρθῶς. καὶ γὰρ τὸ τρίγωνον ἔχει δυσὶν ὀρθαῖς ἀεὶ τὰς γωνίας ἴσας, ἀλλ' ὅμως ἐστίν τι τῆς ἀϊδιότητος ταύτης ἕτερον αἴτιον· τῶν μέντοι ἀρχῶν οὐκ ἔστιν ἕτερον αἴτιον ἀϊδίων οὐσῶν. ὅτι μὲν οὖν οὐδεὶς ἦν χρόνος οὐδ' ἔσται ὅτε κίνησις οὐκ ἦν ἢ οὐκ ἔσται, εἰρήσθω τοσαῦτα.

Κεφάλαιο 2

Τὰ δὲ ἐναντία τούτοις οὐ χαλεπὸν λύειν. δόξειε δ’ ἂν ἐκ τῶν τοιῶνδε σκοποῦσιν ἐνδέχεσθαι μάλιστα κίνησιν εἶναί ποτε μὴ οὖσαν ὅλως,

πρῶτον μὲν ὅτι οὐδεμία ἀΐδιος μεταβολή· μεταβολὴ γὰρ ἅπασα πέφυκεν ἔκ τινος εἴς τι, ὥστε ἀνάγκη πάσης μεταβολῆς εἶναι πέρας τὰ ἐναντία ἐν οἷς γίγνεται, εἰς ἄπειρον δὲ κινεῖσθαι μηδέν.

ἔτι ὁρῶμεν ὅτι δυνατὸν κινηθῆναι μήτε κινούμενον μήτ’ ἔχον ἐν ἑαυτῷ μηδεμίαν κίνησιν, οἷον ἐπὶ τῶν ἀψύχων, ὧν οὔτε μέρος οὐδὲν οὔτε τὸ ὅλον κινούμενον ἀλλ’ ἠρεμοῦν κινεῖταί ποτε· προσῆκεν δὲ ἢ ἀεὶ κινεῖσθαι ἢ μηδέποτε, εἴπερ μὴ γίγνεται οὐκ οὖσα.

πολὺ δὲ μάλιστα τὸ τοιοῦτον ἐπὶ τῶν ἐμψύχων εἶναι φανερόν· οὐδεμιᾶς γὰρ ἐν ἡμῖν ἐνούσης κινήσεως ἐνίοτε, ἀλλ’ ἡσυχάζοντες ὅμως κινούμεθά ποτε, καὶ ἐγγίγνεται ἐν ἡμῖν ἐξ ἡμῶν αὐτῶν ἀρχὴ κινήσεως, κἂν μηθὲν ἔξωθεν κινήσῃ. τοῦτο γὰρ ἐπὶ τῶν ἀψύχων οὐχ ὁρῶμεν ὁμοίως, ἀλλ’ ἀεὶ κινεῖ τι αὐτὰ τῶν ἔξωθεν ἕτερον· τὸ δὲ ζῷον αὑτό φαμεν ἑαυτὸ κινεῖν. ὥστ’ εἴπερ ἠρεμεῖ ποτὲ πάμπαν, ἐν ἀκινήτῳ κίνησις ἂν γίγνοιτο ἐξ αὐτοῦ καὶ οὐκ ἔξωθεν. εἰ δ’ ἐν ζῴῳ τοῦτο δυνατὸν γενέσθαι, τί κωλύει τὸ αὐτὸ συμβῆναι καὶ κατὰ τὸ πᾶν; εἰ γὰρ ἐν μικρῷ κόσμῳ γίγνεται, καὶ ἐν μεγάλῳ· καὶ εἰ ἐν τῷ κόσμῳ, κἀν τῷ ἀπείρῳ, εἴπερ ἐνδέχεται κινεῖσθαι τὸ ἄπειρον καὶ ἠρεμεῖν ὅλον.

τούτων δὴ τὸ μὲν πρῶτον λεχθέν, τὸ μὴ τὴν αὐτὴν ἀεὶ καὶ μίαν τῷ ἀριθμῷ εἶναι τὴν κίνησιν τὴν εἰς τὰ ἀντικείμενα, ὀρθῶς λέγεται. τοῦτο μὲν γὰρ ἴσως ἀναγκαῖον, εἴπερ μὴ ἀεὶ μίαν καὶ τὴν αὐτὴν εἶναι δυνατὸν τὴν τοῦ αὐτοῦ καὶ ἑνὸς κίνησιν· λέγω δ’ οἷον πότερον τῆς μιᾶς χορδῆς εἷς καὶ ὁ αὐτὸς φθόγγος, ἢ ἀεὶ ἕτερος, ὁμοίως ἐχούσης καὶ κινουμένης. ἀλλ’ ὅμως ὁποτέρως ποτ’ ἔχει, οὐδὲν κωλύει τὴν αὐ(253a.) τὴν εἶναί τινα τῷ συνεχῆ εἶναι καὶ ἀΐδιον· δῆλον δ’ ἔσται μᾶλλον ἐκ τῶν ὕστερον.

τὸ δὲ κινεῖσθαι μὴ κινούμενον οὐδὲν ἄτοπον, ἂν ὁτὲ μὲν ᾖ τὸ κινῆσον ἔξωθεν, ὁτὲ δὲ μή. τοῦτο μέντοι πῶς ἂν εἴη, ζητητέον, λέγω δὲ ὥστε τὸ αὐτὸ ὑπὸ τοῦ αὐτοῦ κινητικοῦ ὄντος ὁτὲ μὲν κινεῖσθαι ὁτὲ δὲ μή· οὐδὲν γὰρ ἄλλ’ ἀπορεῖ ὁ τοῦτο λέγων ἢ διὰ τί οὐκ ἀεὶ τὰ μὲν ἠρεμεῖ τῶν ὄντων τὰ δὲ κινεῖται.

μάλιστα δ’ ἂν δόξειεν τὸ τρίτον ἔχειν ἀπορίαν, ὡς ἐγγιγνομένης οὐκ ἐνούσης πρότερον κινήσεως, τὸ συμβαῖνον ἐπὶ τῶν ἐμψύχων· ἠρεμοῦν γὰρ πρότερον μετὰ ταῦτα βαδίζει, κινήσαντος τῶν ἔξωθεν οὐδενός, ὡς δοκεῖ. τοῦτο δ’ ἐστὶ ψεῦδος. ὁρῶμεν γὰρ ἀεί τι κινούμενον ἐν τῷ ζῴῳ τῶν συμφύτων· τούτου δὲ τῆς κινήσεως οὐκ αὐτὸ τὸ ζῷον αἴτιον, ἀλλὰ τὸ περιέχον ἴσως. αὐτὸ δέ φαμεν αὐτὸ κινεῖν οὐ πᾶσαν κίνησιν, ἀλλὰ τὴν κατὰ τόπον. οὐδὲν οὖν κωλύει, μᾶλλον δ’ ἴσως ἀναγκαῖον, ἐν μὲν τῷ σώματι πολλὰς ἐγγίγνεσθαι κινήσεις ὑπὸ τοῦ περιέχοντος, τούτων δ’ ἐνίας τὴν διάνοιαν ἢ τὴν ὄρεξιν κινεῖν, ἐκείνην δὲ τὸ ὅλον ἤδη ζῷον κινεῖν, οἷον συμβαίνει περὶ τοὺς ὕπνους· αἰσθητικῆς μὲν γὰρ οὐδεμιᾶς ἐνούσης κινήσεως, ἐνούσης μέντοι τινός, ἐγείρεται τὰ ζῷα πάλιν. ἀλλὰ γὰρ φανερὸν ἔσται καὶ περὶ τούτων ἐκ τῶν ἑπομένων.

Κεφάλαιο 3

Ἀρχὴ δὲ τῆς σκέψεως ἥπερ καὶ περὶ τῆς λεχθείσης ἀπορίας, διὰ τί ποτε ἔνια τῶν ὄντων ὁτὲ μὲν κινεῖται ὁτὲ δὲ ἠρεμεῖ πάλιν. ἀνάγκη δὴ ἤτοι πάντα ἠρεμεῖν ἀεί, ἢ πάντα ἀεὶ κινεῖσθαι, ἢ τὰ μὲν κινεῖσθαι τὰ δ’ ἠρεμεῖν, καὶ πάλιν τούτων ἤτοι τὰ μὲν κινούμενα κινεῖσθαι ἀεὶ τὰ δ’ ἠρεμοῦντα ἠρεμεῖν, ἢ πάντα πεφυκέναι ὁμοίως κινεῖσθαι καὶ ἠρεμεῖν, ἢ τὸ λοιπὸν ἔτι καὶ τρίτον. ἐνδέχεται γὰρ τὰ μὲν ἀεὶ τῶν ὄντων ἀκίνητα εἶναι, τὰ δ’ ἀεὶ κινούμενα, τὰ δ’ ἀμφοτέρων μεταλαμβάνειν· ὅπερ ἡμῖν λεκτέον ἐστίν· τοῦτο γὰρ ἔχει λύσιν τε πάντων τῶν ἀπορουμένων, καὶ τέλος ἡμῖν ταύτης τῆς πραγματείας ἐστίν.

τὸ μὲν οὖν πάντ’ ἠρεμεῖν, καὶ τούτου ζητεῖν λόγον ἀφέντας τὴν αἴσθησιν, ἀρρωστία τίς ἐστιν διανοίας, καὶ περὶ ὅλου τινὸς ἀλλ’ οὐ περὶ μέρους ἀμφισβήτησις· οὐδὲ μόνον πρὸς τὸν φυσικόν, ἀλλὰ πρὸς πάσας τὰς (253b.) ἐπιστήμας ὡς εἰπεῖν καὶ πάσας τὰς δόξας διὰ τὸ κινήσει χρῆσθαι πάσας. ἔτι δ’ αἱ περὶ τῶν ἀρχῶν ἐνστάσεις, ὥσπερ ἐν τοῖς περὶ τὰ μαθήματα λόγοις οὐδέν εἰσιν πρὸς τὸν μαθηματικόν, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, οὕτως οὐδὲ περὶ τοῦ νῦν ῥηθέντος πρὸς τὸν φυσικόν· ὑπόθεσις γὰρ ὅτι ἡ φύσις ἀρχὴ τῆς κινήσεως.

σχεδὸν δὲ καὶ τὸ φάναι κινεῖσθαι πάντα ψεῦδος μέν, ἧττον δὲ τούτου παρὰ τὴν μέθοδον· ἐτέθη μὲν γὰρ ἡ φύσις ἐν τοῖς φυσικοῖς ἀρχή, καθάπερ κινήσεως, καὶ ἠρεμίας, ὅμως δὲ φυσικὸν ἡ κίνησις· καί φασί τινες κινεῖσθαι τῶν ὄντων οὐ τὰ μὲν τὰ δ’ οὔ, ἀλλὰ πάντα καὶ ἀεί, ἀλλὰ λανθάνειν τοῦτο τὴν ἡμετέραν αἴσθησιν· πρὸς οὓς καίπερ οὐ διορίζοντας ποίαν κίνησιν λέγουσιν, ἢ πάσας, οὐ χαλεπὸν ἀπαντῆσαι. οὔτε γὰρ αὐξάνεσθαι οὔτε φθίνειν οἷόν τε συνεχῶς, ἀλλ’ ἔστι καὶ τὸ μέσον. ἔστι δ’ ὅμοιος ὁ λόγος τῷ περὶ τοῦ τὸν σταλαγμὸν κατατρίβειν καὶ τὰ ἐκφυόμενα τοὺς λίθους διαιρεῖν· οὐ γὰρ εἰ τοσόνδε ἐξέωσεν ἢ ἀφεῖλεν ὁ σταλαγμός, καὶ τὸ ἥμισυ ἐν ἡμίσει χρόνῳ πρότερον· ἀλλ’ ὥσπερ ἡ νεωλκία, καὶ οἱ σταλαγμοὶ οἱ τοσοιδὶ τοσονδὶ κινοῦσιν, τὸ δὲ μέρος αὐτῶν ἐν οὐδενὶ χρόνῳ τοσοῦτον. διαιρεῖται μὲν οὖν τὸ ἀφαιρεθὲν εἰς πλείω, ἀλλ’ οὐδὲν αὐτῶν ἐκινήθη χωρίς, ἀλλ’ ἅμα. φανερὸν οὖν ὡς οὐκ ἀναγκαῖον ἀεί τι ἀπιέναι, ὅτι διαιρεῖται ἡ φθίσις εἰς ἄπειρα, ἀλλ’ ὅλον ποτὲ ἀπιέναι. ὁμοίως δὲ καὶ ἐπ’ ἀλλοιώσεως ὁποιασοῦν· οὐ γὰρ εἰ μεριστὸν εἰς ἄπειρα τὸ ἀλλοιούμενον, διὰ τοῦτο καὶ ἡ ἀλλοίωσις, ἀλλ’ ἀθρόα γίγνεται πολλάκις, ὥσπερ ἡ πῆξις. ἔτι ὅταν τι νοσήσῃ, ἀνάγκη χρόνον γενέσθαι ἐν ᾧ ὑγιασθήσεται, καὶ μὴ ἐν πέρατι χρόνου μεταβάλλειν· ἀνάγκη δὲ εἰς ὑγίειαν μεταβάλλειν καὶ μὴ εἰς ἄλλο μηθέν. ὥστε τὸ φάναι συνεχῶς ἀλλοιοῦσθαι λίαν ἐστὶ τοῖς φανεροῖς ἀμφισβητεῖν. εἰς τοὐναντίον γὰρ ἡ ἀλλοίωσις· ὁ δὲ λίθος οὔτε σκληρότερος γίγνεται οὔτε μαλακώτερος. κατά τε τὸ φέρεσθαι θαυμαστὸν εἰ λέληθεν ὁ λίθος κάτω φερόμενος ἢ μένων ἐπὶ τῆς γῆς. ἔτι δ’ ἡ γῆ καὶ τῶν ἄλλων ἕκαστον ἐξ ἀνάγκης μένουσι μὲν ἐν τοῖς οἰκείοις τόποις, κινοῦνται δὲ βιαίως ἐκ τούτων· εἴπερ οὖν ἔνι’ αὐτῶν ἐστιν ἐν τοῖς οἰκείοις τόποις, (254a.) ἀνάγκη μηδὲ κατὰ τόπον πάντα κινεῖσθαι. ὅτι μὲν οὖν ἀδύνατον ἢ ἀεὶ πάντα κινεῖσθαι ἢ ἀεὶ πάντα ἠρεμεῖν, ἐκ τούτων καὶ ἄλλων τοιούτων πιστεύσειεν ἄν τις.

ἀλλὰ μὴν οὐδὲ τὰ μὲν ἀεὶ ἐνδέχεται ἠρεμεῖν, τὰ δ’ ἀεὶ κινεῖσθαι, ποτὲ δ’ ἠρεμεῖν καὶ ποτὲ κινεῖσθαι μηδέν. λεκτέον δ’ ὅτι ἀδύνατον, ὥσπερ ἐπὶ τῶν εἰρημένων πρότερον, καὶ ἐπὶ τούτων (ὁρῶμεν γὰρ ἐπὶ τῶν αὐτῶν γιγνομένας τὰς εἰρημένας μεταβολάς), καὶ πρὸς τούτοις ὅτι μάχεται τοῖς φανεροῖς ὁ ἀμφισβητῶν· οὔτε γὰρ αὔξησις οὔθ’ ἡ βίαιος ἔσται κίνησις, εἰ μὴ κινήσεται παρὰ φύσιν ἠρεμοῦν πρότερον. γένεσιν οὖν ἀναιρεῖ καὶ φθορὰν οὗτος ὁ λόγος. σχεδὸν δὲ καὶ τὸ κινεῖσθαι γίγνεσθαί τι καὶ φθείρεσθαι δοκεῖ πᾶσιν· εἰς ὃ μὲν γὰρ μεταβάλλει, γίγνεται τοῦτο ἢ ἐν τούτῳ, ἐξ οὗ δὲ μεταβάλλει, φθείρεται τοῦτο ἢ ἐντεῦθεν. ὥστε δῆλον ὅτι τὰ μὲν κινεῖται, τὰ δ’ ἠρεμεῖ ἐνίοτε.

τὸ δὲ πάντα ἀξιοῦν ὁτὲ μὲν ἠρεμεῖν ὁτὲ δὲ κινεῖσθαι, τοῦτ’ ἤδη συναπτέον πρὸς τοὺς πάλαι λόγους. ἀρχὴν δὲ πάλιν ποιητέον ἀπὸ τῶν νῦν διορισθέντων, τὴν αὐτὴν ἥνπερ ἠρξάμεθα πρότερον. ἢ γάρ τοι πάντα ἠρεμεῖ, ἢ πάντα κινεῖται, ἢ τὰ μὲν ἠρεμεῖ τὰ δὲ κινεῖται τῶν ὄντων. καὶ εἰ τὰ μὲν ἠρεμεῖ τὰ δὲ κινεῖται, ἀνάγκη ἤτοι πάντα ὁτὲ μὲν ἠρεμεῖν ὁτὲ δὲ κινεῖσθαι, <ἢ τὰ μὲν ἀεὶ ἠρεμεῖν τὰ δὲ ἀεὶ κινεῖσθαι>, ἢ τὰ μὲν ἀεὶ ἠρεμεῖν τὰ δὲ ἀεὶ κινεῖσθαι αὐτῶν, τὰ δ’ ὁτὲ μὲν ἠρεμεῖν ὁτὲ δὲ κινεῖσθαι. ὅτι μὲν τοίνυν οὐχ οἷόν τε πάντ’ ἠρεμεῖν, εἴρηται μὲν καὶ πρότερον, εἴπωμεν δὲ καὶ νῦν. εἰ γὰρ καὶ κατ’ ἀλήθειαν οὕτως ἔχει καθάπερ φασί τινες, εἶναι τὸ ὂν ἄπειρον καὶ ἀκίνητον, ἀλλ’ οὔτι φαίνεταί γε κατὰ τὴν αἴσθησιν, ἀλλὰ κινεῖσθαι πολλὰ τῶν ὄντων. εἴπερ οὖν ἔστιν δόξα ψευδὴς ἢ ὅλως δόξα, καὶ κίνησις ἔστιν, κἂν εἰ φαντασία, κἂν εἰ ὁτὲ μὲν οὕτως δοκεῖ ὁτὲ δ’ ἑτέρως· ἡ γὰρ φαντασία καὶ ἡ δόξα κινήσεις τινὲς εἶναι δοκοῦσιν. ἀλλὰ τὸ μὲν περὶ τούτου σκοπεῖν, καὶ ζητεῖν λόγον ὧν βέλτιον ἔχομεν ἢ λόγου δεῖσθαι, κακῶς κρίνειν ἐστὶν τὸ βέλτιον καὶ τὸ χεῖρον, καὶ τὸ πιστὸν καὶ τὸ μὴ πιστόν, καὶ ἀρχὴν καὶ μὴ ἀρχήν. ὁμοίως δὲ ἀδύνατον καὶ τὸ πάντα κινεῖσθαι, ἢ τὰ μὲν ἀεὶ κινεῖσθαι τὰ δ’ ἀεὶ ἠρεμεῖν. πρὸς ἅπαντα γὰρ ταῦτα ἱκανὴ μία πίστις· (254b.) ὁρῶμεν γὰρ ἔνια ὁτὲ μὲν κινούμενα ὁτὲ δ’ ἠρεμοῦντα. ὥστε φανερὸν ὅτι ἀδύνατον ὁμοίως τὸ πάντα ἠρεμεῖν καὶ τὸ πάντα κινεῖσθαι συνεχῶς τῷ τὰ μὲν ἀεὶ κινεῖσθαι τὰ δ’ ἠρεμεῖν ἀεί. λοιπὸν οὖν θεωρῆσαι πότερον πάντα τοιαῦτα οἷα κινεῖσθαι καὶ ἠρεμεῖν, ἢ ἔνια μὲν οὕτως, ἔνια δ’ ἀεὶ ἠρεμεῖ, ἔνια δ’ ἀεὶ κινεῖται· τοῦτο γὰρ δεικτέον ἡμῖν.

Κεφάλαιο 4

Τῶν δὴ κινούντων καὶ κινουμένων τὰ μὲν κατὰ συμβεβηκὸς κινεῖ καὶ κινεῖται, τὰ δὲ καθ’ αὑτά, κατὰ συμβεβηκὸς μὲν οἷον ὅσα τε τῷ ὑπάρχειν τοῖς κινοῦσιν ἢ κινουμένοις καὶ τὰ κατὰ μόριον, τὰ δὲ καθ’ αὑτά, ὅσα μὴ τῷ ὑπάρχειν τῷ κινοῦντι ἢ τῷ κινουμένῳ, μηδὲ τῷ μόριόν τι αὐτῶν κινεῖν ἢ κινεῖσθαι.

τῶν δὲ καθ’ αὑτὰ τὰ μὲν ὑφ’ ἑαυτοῦ τὰ δ’ ὑπ’ ἄλλου, καὶ τὰ μὲν φύσει τὰ δὲ βίᾳ καὶ παρὰ φύσιν. τό τε γὰρ αὐτὸ ὑφ’ αὑτοῦ κινούμενον φύσει κινεῖται, οἷον ἕκαστον τῶν ζῴων (κινεῖται γὰρ τὸ ζῷον αὐτὸ ὑφ’ αὑτοῦ, ὅσων δ’ ἡ ἀρχὴ ἐν αὐτοῖς τῆς κινήσεως, ταῦτα φύσει φαμὲν κινεῖσθαι· διὸ τὸ μὲν ζῷον ὅλον φύσει αὐτὸ ἑαυτὸ κινεῖ, τὸ μέντοι σῶμα ἐνδέχεται καὶ φύσει καὶ παρὰ φύσιν κινεῖσθαι· διαφέρει γὰρ ὁποίαν τε ἂν κίνησιν κινούμενον τύχῃ καὶ ἐκ ποίου στοιχείου συνεστηκός), καὶ τῶν ὑπ’ ἄλλου κινουμένων τὰ μὲν φύσει κινεῖται τὰ δὲ παρὰ φύσιν, παρὰ φύσιν μὲν οἷον τὰ γεηρὰ ἄνω καὶ τὸ πῦρ κάτω, ἔτι δὲ τὰ μόρια τῶν ζῴων πολλάκις κινεῖται παρὰ φύσιν, παρὰ τὰς θέσεις καὶ τοὺς τρόπους τῆς κινήσεως. καὶ μάλιστα τὸ ὑπό τινος κινεῖσθαι τὸ κινούμενον ἐν τοῖς παρὰ φύσιν κινουμένοις ἐστὶ φανερὸν διὰ τὸ δῆλον εἶναι ὑπ’ ἄλλου κινούμενον. μετὰ δὲ τὰ παρὰ φύσιν τῶν κατὰ φύσιν τὰ αὐτὰ ὑφ’ αὑτῶν, οἷον τὰ ζῷα· οὐ γὰρ τοῦτ’ ἄδηλον, εἰ ὑπό τινος κινεῖται, ἀλλὰ πῶς δεῖ διαλαβεῖν αὐτοῦ τὸ κινοῦν καὶ τὸ κινούμενον· ἔοικεν γὰρ ὥσπερ ἐν τοῖς πλοίοις καὶ τοῖς μὴ φύσει συνισταμένοις, οὕτω καὶ ἐν τοῖς ζῴοις εἶναι διῃρημένον τὸ κινοῦν καὶ τὸ κινούμενον, καὶ οὕτω τὸ ἅπαν αὐτὸ αὑτὸ κινεῖν.

μάλιστα δ’ ἀπορεῖται τὸ λοιπὸν τῆς εἰρημένης τελευταίας διαιρέσεως· τῶν γὰρ ὑπ’ ἄλλου κινουμένων τὰ μὲν παρὰ φύσιν ἐθήκαμεν κινεῖσθαι, τὰ δὲ λείπεται ἀντιθεῖναι (255a.) ὅτι φύσει. ταῦτα δ’ ἐστὶν ἃ τὴν ἀπορίαν παράσχοι ἂν ὑπὸ τίνος κινεῖται, οἷον τὰ κοῦφα καὶ τὰ βαρέα. ταῦτα γὰρ εἰς μὲν τοὺς ἀντικειμένους τόπους βίᾳ κινεῖται, εἰς δὲ τοὺς οἰκείους, τὸ μὲν κοῦφον ἄνω τὸ δὲ βαρὺ κάτω, φύσει· τὸ δ’ ὑπὸ τίνος οὐκέτι φανερόν, ὥσπερ ὅταν κινῶνται παρὰ φύσιν. τό τε γὰρ αὐτὰ ὑφ’ αὑτῶν φάναι ἀδύνατον· ζωτικόν τε γὰρ τοῦτο καὶ τῶν ἐμψύχων ἴδιον, καὶ ἱστάναι ἂν ἐδύνατο αὐτὰ αὑτά (λέγω δ’ οἷον, εἰ τοῦ βαδίζειν αἴτιον αὑτῷ, καὶ τοῦ μὴ βαδίζειν), ὥστ’ εἰ ἐπ’ αὐτῷ τὸ ἄνω φέρεσθαι τῷ πυρί, δῆλον ὅτι ἐπ’ αὐτῷ καὶ τὸ κάτω. ἄλογον δὲ καὶ τὸ

μίαν κίνησιν κινεῖσθαι μόνην ὑφ’ αὑτῶν, εἴγε αὐτὰ ἑαυτὰ κινοῦσιν. ἔτι πῶς ἐνδέχεται συνεχές τι καὶ συμφυὲς αὐτὸ ἑαυτὸ κινεῖν; ᾗ γὰρ ἓν καὶ συνεχὲς μὴ ἁφῇ, ταύτῃ ἀπαθές· ἀλλ’ ᾗ κεχώρισται, ταύτῃ τὸ μὲν πέφυκε ποιεῖν τὸ δὲ πάσχειν. οὔτ’ ἄρα τούτων οὐθὲν αὐτὸ ἑαυτὸ κινεῖ (συμφυῆ γάρ), οὔτ’ ἄλλο συνεχὲς οὐδέν, ἀλλ’ ἀνάγκη διῃρῆσθαι τὸ κινοῦν ἐν ἑκάστῳ πρὸς τὸ κινούμενον, οἷον ἐπὶ τῶν ἀψύχων ὁρῶμεν, ὅταν κινῇ τι τῶν ἐμψύχων. ἀλλὰ συμβαίνει καὶ ταῦτα ὑπό τινος ἀεὶ κινεῖσθαι· γένοιτο δ’ ἂν φανερὸν διαιροῦσι τὰς αἰτίας.

ἔστιν δὲ καὶ ἐπὶ τῶν κινούντων λαβεῖν τὰ εἰρημένα· τὰ μὲν γὰρ παρὰ φύσιν αὐτῶν κινητικά ἐστιν, οἷον ὁ μοχλὸς οὐ φύσει τοῦ βάρους κινητικός, τὰ δὲ φύσει, οἷον τὸ ἐνεργείᾳ θερμὸν κινητικὸν τοῦ δυνάμει θερμοῦ. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων.

καὶ κινητὸν δ’ ὡσαύτως φύσει τὸ δυνάμει ποιὸν ἢ ποσὸν ἢ πού, ὅταν ἔχῃ τὴν ἀρχὴν τὴν τοιαύτην ἐν αὑτῷ καὶ μὴ κατὰ συμβεβηκός (εἴη γὰρ ἂν τὸ αὐτὸ καὶ ποιὸν καὶ ποσόν, ἀλλὰ θατέρῳ θάτερον συμβέβηκεν καὶ οὐ καθ’ αὑτὸ ὑπάρχει). τὸ δὴ πῦρ καὶ ἡ γῆ κινοῦνται ὑπό τινος βίᾳ μὲν ὅταν παρὰ φύσιν, φύσει δ’ ὅταν εἰς τὰς αὐτῶν ἐνεργείας δυνάμει ὄντα. ἐπεὶ δὲ τὸ δυνάμει πλεοναχῶς λέγεται, τοῦτ’ αἴτιον τοῦ μὴ φανερὸν εἶναι ὑπὸ τίνος τὰ τοιαῦτα κινεῖται, οἷον τὸ πῦρ ἄνω καὶ ἡ γῆ κάτω. ἔστι δὲ δυνάμει ἄλλως ὁ μανθάνων ἐπιστήμων καὶ ὁ ἔχων ἤδη καὶ μὴ ἐνεργῶν. ἀεὶ δ’, ὅταν ἅμα τὸ ποιητικὸν καὶ τὸ παθητικὸν ὦσιν, γίγνεται ἐνεργείᾳ τὸ δυ(255b.) νατόν, οἷον τὸ μανθάνον ἐκ δυνάμει ὄντος ἕτερον γίγνεται δυνάμει (ὁ γὰρ ἔχων ἐπιστήμην μὴ θεωρῶν δὲ δυνάμει ἐστὶν ἐπιστήμων πως, ἀλλ’ οὐχ ὡς καὶ πρὶν μαθεῖν), ὅταν δ’ οὕτως ἔχῃ, ἐάν τι μὴ κωλύῃ, ἐνεργεῖ καὶ θεωρεῖ, ἢ ἔσται ἐν τῇ ἀντιφάσει καὶ ἐν ἀγνοίᾳ. ὁμοίως δὲ ταῦτ’ ἔχει καὶ ἐπὶ τῶν φυσικῶν· τὸ γὰρ ψυχρὸν δυνάμει θερμόν, ὅταν δὲ μεταβάλῃ, ἤδη πῦρ, καίει δέ, ἂν μή τι κωλύῃ καὶ ἐμποδίζῃ. ὁμοίως δ’ ἔχει καὶ περὶ τὸ βαρὺ καὶ κοῦφον· τὸ γὰρ κοῦφον γίγνεται ἐκ βαρέος, οἷον ἐξ ὕδατος ἀήρ (τοῦτο γὰρ δυνάμει πρῶτον), καὶ ἤδη κοῦφον, καὶ ἐνεργήσει γ’ εὐθύς, ἂν μή τι κωλύῃ. ἐνέργεια δὲ τοῦ κούφου τὸ ποὺ εἶναι καὶ ἄνω, κωλύεται δ’, ὅταν ἐν τῷ ἐναντίῳ τόπῳ ᾖ. καὶ τοῦθ’ ὁμοίως ἔχει καὶ ἐπὶ τοῦ ποσοῦ καὶ ἐπὶ τοῦ ποιοῦ. καίτοι τοῦτο ζητεῖται, διὰ τί ποτε κινεῖται εἰς τὸν αὑτῶν τόπον τὰ κοῦφα καὶ τὰ βαρέα. αἴτιον δ’ ὅτι πέφυκέν ποι, καὶ τοῦτ’ ἔστιν τὸ κούφῳ καὶ βαρεῖ εἶναι, τὸ μὲν τῷ ἄνω τὸ δὲ τῷ κάτω διωρισμένον. δυνάμει δ’ ἐστὶν κοῦφον καὶ βαρὺ πολλαχῶς, ὥσπερ εἴρηται· ὅταν τε γὰρ ᾖ ὕδωρ, δυνάμει γέ πώς ἐστι κοῦφον, καὶ ὅταν ἀήρ, ἔστιν ὡς ἔτι δυνάμει (ἐνδέχεται γὰρ ἐμποδιζόμενον μὴ ἄνω εἶναι)· ἀλλ’ ἐὰν ἀφαιρεθῇ τὸ ἐμποδίζον, ἐνεργεῖ καὶ ἀεὶ ἀνωτέρω γίγνεται. ὁμοίως δὲ καὶ τὸ ποιὸν εἰς τὸ ἐνεργείᾳ εἶναι μεταβάλλει· εὐθὺς γὰρ θεωρεῖ τὸ ἐπιστῆμον, ἐὰν μή τι κωλύῃ· καὶ τὸ ποσὸν ἐκτείνεται, ἐὰν μή τι κωλύῃ. ὁ δὲ τὸ ὑφιστάμενον καὶ κωλῦον κινήσας ἔστιν ὡς κινεῖ ἔστι δ’ ὡς οὔ, οἷον ὁ τὸν κίονα ὑποσπάσας ἢ ὁ τὸν λίθον ἀφελὼν ἀπὸ τοῦ ἀσκοῦ ἐν τῷ ὕδατι· κατὰ συμβεβηκὸς γὰρ κινεῖ, ὥσπερ καὶ ἡ ἀνακλασθεῖσα σφαῖρα οὐχ ὑπὸ τοῦ τοίχου ἐκινήθη ἀλλ’ ὑπὸ τοῦ βάλλοντος. ὅτι μὲν τοίνυν οὐδὲν τούτων αὐτὸ κινεῖ ἑαυτό, δῆλον· ἀλλὰ κινήσεως ἀρχὴν ἔχει, οὐ τοῦ κινεῖν οὐδὲ τοῦ ποιεῖν, ἀλλὰ τοῦ πάσχειν.

εἰ δὴ πάντα τὰ κινούμενα ἢ φύσει κινεῖται ἢ παρὰ φύσιν καὶ βίᾳ, καὶ τά τε βίᾳ καὶ παρὰ φύσιν πάντα ὑπό τινος καὶ ὑπ’ ἄλλου, τῶν δὲ φύσει πάλιν τά θ’ ὑφ’ αὑτῶν κινούμενα ὑπό τινος κινεῖται καὶ τὰ μὴ ὑφ’ αὑτῶν, οἷον τὰ κοῦφα καὶ τὰ βαρέα (256a.) (ἢ γὰρ ὑπὸ τοῦ γεννήσαντος καὶ ποιήσαντος κοῦφον ἢ βαρύ, ἢ ὑπὸ τοῦ τὰ ἐμποδίζοντα καὶ κωλύοντα λύσαντος), ἅπαντα ἂν τὰ κινούμενα ὑπό τινος κινοῖτο.

Κεφάλαιο 5

Τοῦτο δὲ διχῶς· ἢ γὰρ οὐ δι’ αὐτὸ τὸ κινοῦν, ἀλλὰ δι’ ἕτερον ὃ κινεῖ τὸ κινοῦν, ἢ δι’ αὑτό, καὶ τοῦτο ἢ πρῶτον μετὰ τὸ ἔσχατον ἢ διὰ πλειόνων, οἷον ἡ βακτηρία κινεῖ τὸν λίθον καὶ κινεῖται ὑπὸ τῆς χειρὸς κινουμένης ὑπὸ τοῦ ἀνθρώπου, οὗτος δ’ οὐκέτι τῷ ὑπ’ ἄλλου κινεῖσθαι. ἄμφω δὴ κινεῖν φαμέν, καὶ τὸ τελευταῖον καὶ τὸ πρῶτον τῶν κινούντων, ἀλλὰ μᾶλλον τὸ πρῶτον· ἐκεῖνο γὰρ κινεῖ τὸ τελευταῖον, ἀλλ’ οὐ τοῦτο τὸ πρῶτον, καὶ ἄνευ μὲν τοῦ πρώτου τὸ τελευταῖον οὐ κινήσει, ἐκεῖνο δ’ ἄνευ τούτου, οἷον ἡ βακτηρία οὐ κινήσει μὴ κινοῦντος τοῦ ἀνθρώπου. εἰ δὴ ἀνάγκη πᾶν τὸ κινούμενον ὑπό τινός τε κινεῖσθαι, καὶ ἢ ὑπὸ κινουμένου ὑπ’ ἄλλου ἢ μή, καὶ εἰ μὲν ὑπ’ ἄλλου [κινουμένου], ἀνάγκη τι εἶναι κινοῦν ὃ οὐχ ὑπ’ ἄλλου πρῶτον, εἰ δὲ τοιοῦτο τὸ πρῶτον, οὐκ ἀνάγκη θάτερον (ἀδύνατον γὰρ εἰς ἄπειρον ἰέναι τὸ κινοῦν καὶ κινούμενον ὑπ’ ἄλλου αὐτό· τῶν γὰρ ἀπείρων οὐκ ἔστιν οὐδὲν πρῶτον) — εἰ οὖν ἅπαν μὲν τὸ κινούμενον ὑπό τινος κινεῖται, τὸ δὲ πρῶτον κινοῦν κινεῖται μέν, οὐχ ὑπ’ ἄλλου δέ, ἀνάγκη αὐτὸ ὑφ’ αὑτοῦ κινεῖσθαι.

ἔτι δὲ καὶ ὧδε τὸν αὐτὸν τοῦτον λόγον ἔστιν ἐπελθεῖν. πᾶν γὰρ τὸ κινοῦν τί τε κινεῖ καὶ τινί. ἢ γὰρ αὑτῷ κινεῖ τὸ κινοῦν ἢ ἄλλῳ, οἷον ἄνθρωπος ἢ αὐτὸς ἢ τῇ βακτηρίᾳ, καὶ ὁ ἄνεμος κατέβαλεν ἢ αὐτὸς ἢ ὁ λίθος ὃν ἔωσεν. ἀδύνατον δὲ κινεῖν ἄνευ τοῦ αὐτὸ αὑτῷ κινοῦντος τὸ ᾧ κινεῖ· ἀλλ’ εἰ μὲν αὐτὸ αὑτῷ κινεῖ, οὐκ ἀνάγκη ἄλλο εἶναι ᾧ κινεῖ, ἂν δὲ ᾖ ἕτερον τὸ ᾧ κινεῖ, ἔστιν τι ὃ κινήσει οὐ τινὶ ἀλλ’ αὑτῷ, ἢ εἰς ἄπειρον εἶσιν. εἰ οὖν κινούμενόν τι κινεῖ, ἀνάγκη στῆναι καὶ μὴ εἰς ἄπειρον ἰέναι· εἰ γὰρ ἡ βακτηρία κινεῖ τῷ κινεῖσθαι ὑπὸ τῆς χειρός, ἡ χεὶρ κινεῖ τὴν βακτηρίαν· εἰ δὲ καὶ ταύτῃ ἄλλο κινεῖ, καὶ ταύτην ἕτερόν τι τὸ κινοῦν. ὅταν δή τινι κινῇ ἀεὶ ἕτερον, ἀνάγκη εἶναι πρότερον τὸ αὐτὸ αὑτῷ κινοῦν. εἰ οὖν κινεῖται μὲν τοῦτο, μὴ ἄλλο δὲ τὸ κινοῦν αὐτό, ἀνάγκη αὐτὸ αὑτὸ (256b.) κινεῖν· ὥστε καὶ κατὰ τοῦτον τὸν λόγον ἤτοι εὐθὺς τὸ κινούμενον ὑπὸ τοῦ αὐτὸ κινοῦντος κινεῖται, ἢ ἔρχεταί ποτε εἰς τὸ τοιοῦτον.

πρὸς δὲ τοῖς εἰρημένοις καὶ ὧδε σκοποῦσι ταὐτὰ συμβήσεται ταῦτα. εἰ γὰρ ὑπὸ κινουμένου κινεῖται τὸ κινούμενον πᾶν, ἤτοι τοῦτο ὑπάρχει τοῖς πράγμασιν κατὰ συμβεβηκός, ὥστε κινεῖν μὲν κινούμενον, οὐ μέντοι διὰ τὸ κινεῖσθαι αὐτό, ἢ οὔ, ἀλλὰ καθ’ αὑτό. πρῶτον μὲν οὖν εἰ κατὰ συμβεβηκός,

οὐκ ἀνάγκη κινεῖσθαι τὸ κινοῦν. εἰ δὲ τοῦτο, δῆλον ὡς ἐνδέχεταί ποτε μηδὲν κινεῖσθαι τῶν ὄντων· οὐ γὰρ ἀναγκαῖον τὸ συμβεβηκός, ἀλλ’ ἐνδεχόμενον μὴ εἶναι. ἐὰν οὖν θῶμεν τὸ δυνατὸν εἶναι, οὐδὲν ἀδύνατον συμβήσεται, ψεῦδος δ’ ἴσως. ἀλλὰ τὸ κίνησιν μὴ εἶναι ἀδύνατον· δέδεικται γὰρ πρότερον ὅτι ἀνάγκη κίνησιν ἀεὶ εἶναι.

καὶ εὐλόγως δὲ τοῦτο συμβέβηκεν. τρία γὰρ ἀνάγκη εἶναι, τό τε κινούμενον καὶ τὸ κινοῦν καὶ τὸ ᾧ κινεῖ. τὸ μὲν οὖν κινούμενον ἀνάγκη κινεῖσθαι, κινεῖν δ’ οὐκ ἀνάγκη· τὸ δ’ ᾧ κινεῖ, καὶ κινεῖν καὶ κινεῖσθαι (συμμεταβάλλει γὰρ τοῦτο ἅμα καὶ κατὰ τὸ αὐτὸ τῷ κινουμένῳ ὄν· δῆλον δ’ ἐπὶ τῶν κατὰ τόπον κινούντων· ἅπτεσθαι γὰρ ἀλλήλων ἀνάγκη μέχρι τινός)· τὸ δὲ κινοῦν οὕτως ὥστ’ εἶναι μὴ ᾧ κινεῖ, ἀκίνητον. ἐπεὶ δ’ ὁρῶμεν τὸ ἔσχατον, ὃ κινεῖσθαι μὲν δύναται, κινήσεως δ’ ἀρχὴν οὐκ ἔχει, καὶ ὃ κινεῖται μέν, οὐχ ὑπ’ ἄλλου δὲ ἀλλ’ ὑφ’ αὑτοῦ, εὔλογον, ἵνα μὴ ἀναγκαῖον εἴπωμεν, καὶ τὸ τρίτον εἶναι ὃ κινεῖ ἀκίνητον ὄν. διὸ καὶ Ἀναξαγόρας ὀρθῶς λέγει, τὸν νοῦν ἀπαθῆ φάσκων καὶ ἀμιγῆ εἶναι, ἐπειδή γε κινήσεως ἀρχὴν αὐτὸν εἶναι ποιεῖ· οὕτω γὰρ μόνως ἂν κινοίη ἀκίνητος ὢν καὶ κρατοίη ἀμιγὴς ὤν.

ἀλλὰ μὴν εἰ μὴ κατὰ συμβεβηκὸς ἀλλ’ ἐξ ἀνάγκης κινεῖται τὸ κινοῦν, εἰ δὲ μὴ κινοῖτο, οὐκ ἂν κινοίη, ἀνάγκη τὸ κινοῦν, ᾗ κινεῖται, ἤτοι οὕτω κινεῖσθαι ὥς γε κατὰ τὸ αὐτὸ εἶδος τῆς κινήσεως, ἢ καθ’ ἕτερον. λέγω δ’ ἤτοι τὸ θερμαῖνον καὶ αὐτὸ θερμαίνεσθαι καὶ τὸ ὑγιάζον ὑγιάζεσθαι καὶ τὸ φέρον φέρεσθαι, ἢ τὸ ὑγιάζον φέρεσθαι, τὸ δὲ φέρον αὐξάνεσθαι. ἀλλὰ φανερὸν ὅτι ἀδύνατον· δεῖ γὰρ μέχρι (257a.) τῶν ἀτόμων διαιροῦντα λέγειν, οἷον εἴ τι διδάσκει γεωμετρεῖν, τοῦτο διδάσκεσθαι γεωμετρεῖν τὸ αὐτό, ἢ εἰ ῥιπτεῖ, ῥιπτεῖσθαι τὸν αὐτὸν τρόπον τῆς ῥίψεως· ἢ οὕτως μὲν μή, ἄλλο δ’ ἐξ ἄλλου γένους, οἷον τὸ φέρον μὲν αὐξάνεσθαι, τὸ δὲ τοῦτο αὖξον ἀλλοιοῦσθαι ὑπ’ ἄλλου, τὸ δὲ τοῦτο ἀλλοιοῦν ἑτέραν τινὰ κινεῖσθαι κίνησιν. ἀλλ’ ἀνάγκη στῆναι· πεπερασμέναι γὰρ αἱ κινήσεις. τὸ δὲ πάλιν ἀνακάμπτειν καὶ τὸ ἀλλοιοῦν φάναι φέρεσθαι τὸ αὐτὸ ποιεῖν ἐστὶ κἂν εἰ εὐθὺς ἔφη τὸ φέρον φέρεσθαι καὶ διδάσκεσθαι τὸ διδάσκον (δῆλον γὰρ ὅτι κινεῖται καὶ ὑπὸ τοῦ ἀνωτέρω κινοῦντος τὸ κινούμενον πᾶν, καὶ μᾶλλον ὑπὸ τοῦ προτέρου τῶν κινούντων). ἀλλὰ μὴν τοῦτό γε ἀδύνατον· τὸ διδάσκον γὰρ συμβαίνει μανθάνειν, ὧν τὸ μὲν μὴ ἔχειν τὸ δὲ ἔχειν ἐπιστήμην ἀναγκαῖον. ἔτι δὲ μᾶλλον τούτων ἄλογον, ὅτι συμβαίνει πᾶν τὸ κινητικὸν κινητόν, εἴπερ ἅπαν ὑπὸ κινουμένου κινεῖται τὸ κινούμενον· ἔσται γὰρ κινητόν, ὥσπερ εἴ τις λέγοι πᾶν τὸ ὑγιαστικὸν [καὶ ὑγιάζον] ὑγιαστὸν εἶναι, καὶ τὸ οἰκοδομητικὸν οἰκοδομητόν, ἢ εὐθὺς ἢ διὰ πλειόνων· λέγω δ’ οἷον εἰ κινητὸν μὲν ὑπ’ ἄλλου πᾶν τὸ κινητικόν, ἀλλ’ οὐ ταύτην τὴν κίνησιν κινητὸν ἣν κινεῖ τὸ πλησίον, ἀλλ’ ἑτέραν, οἷον τὸ ὑγιαστικὸν μαθητικόν, ἀλλὰ τοῦτο ἐπαναβαῖνον ἥξει ποτὲ εἰς τὸ αὐτὸ εἶδος, ὥσπερ εἴπομεν πρότερον. τὸ μὲν οὖν τούτων ἀδύνατον, τὸ δὲ πλασματῶδες· ἄτοπον γὰρ τὸ ἐξ ἀνάγκης τὸ ἀλλοιωτικὸν αὐξητὸν εἶναι. οὐκ ἄρα ἀνάγκη ἀεὶ κινεῖσθαι τὸ κινούμενον ὑπ’ ἄλλου, καὶ τούτου κινουμένου· στήσεται ἄρα. ὥστε ἤτοι ὑπὸ ἠρεμοῦντος κινήσεται τὸ κινούμενον πρῶτον, ἢ αὐτὸ ἑαυτὸ κινήσει. ἀλλὰ μὴν καὶ εἴ γε δέοι σκοπεῖν πότερον αἴτιον κινήσεως καὶ ἀρχὴ τὸ αὐτὸ αὑτὸ κινοῦν ἢ τὸ ὑπ’ ἄλλου κινούμενον, ἐκεῖνο πᾶς ἂν θείη· τὸ γὰρ αὐτὸ καθ’ αὑτὸ ὂν ἀεὶ πρότερον αἴτιον τοῦ καθ’ ἕτερον καὶ αὐτοῦ ὄντος. ὥστε τοῦτο σκεπτέον λαβοῦσιν ἄλλην ἀρχήν, εἴ τι κινεῖ αὐτὸ αὑτό, πῶς κινεῖ καὶ τίνα τρόπον. ἀναγκαῖον δὴ τὸ κινούμενον ἅπαν εἶναι διαιρετὸν εἰς ἀεὶ διαιρετά· τοῦτο γὰρ δέδεικται πρότερον ἐν τοῖς (257b.) καθόλου τοῖς περὶ φύσεως, ὅτι πᾶν τὸ καθ’ αὑτὸ κινούμενον συνεχές. ἀδύνατον δὴ τὸ αὐτὸ αὑτὸ κινοῦν πάντῃ κινεῖν αὐτὸ αὑτό· φέροιτο γὰρ ἂν ὅλον καὶ φέροι τὴν αὐτὴν φοράν, ἓν ὂν καὶ ἄτομον τῷ εἴδει, καὶ ἀλλοιοῖτο καὶ ἀλλοιοῖ, ὥστε διδάσκοι ἂν καὶ μανθάνοι ἅμα, καὶ ὑγιάζοι καὶ ὑγιάζοιτο τὴν αὐτὴν ὑγίειαν. ἔτι διώρισται ὅτι κινεῖται τὸ κινητόν· τοῦτο δ’ ἐστὶν δυνάμει κινούμενον, οὐκ ἐντελεχείᾳ, τὸ δὲ δυνάμει εἰς ἐντελέχειαν βαδίζει, ἔστιν δ’ ἡ κίνησις ἐντελέχεια κινητοῦ ἀτελής. τὸ δὲ κινοῦν ἤδη ἐνεργείᾳ ἔστιν, οἷον θερμαίνει τὸ θερμὸν καὶ ὅλως γεννᾷ τὸ ἔχον τὸ εἶδος. ὥσθ’ ἅμα τὸ αὐτὸ κατὰ τὸ αὐτὸ θερμὸν ἔσται καὶ οὐ θερμόν. ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστον, ὅσων τὸ κινοῦν ἀνάγκη ἔχειν τὸ συνώνυμον. τὸ μὲν ἄρα κινεῖ τὸ δὲ κινεῖται τοῦ αὐτὸ αὑτὸ κινοῦντος. ὅτι δ’ οὐκ ἔστιν αὐτὸ αὑτὸ κινοῦν οὕτως ὥσθ’ ἑκάτερον ὑφ’ ἑκατέρου κινεῖσθαι, ἐκ τῶνδε φανερόν. οὔτε γὰρ ἔσται πρῶτον κινοῦν οὐδέν, εἴ γε αὐτὸ ἑαυτὸ κινήσει ἑκάτερον (τὸ γὰρ πρότερον αἰτιώτερον τοῦ κινεῖσθαι τοῦ ἐχομένου καὶ κινήσει μᾶλλον· διχῶς γὰρ κινεῖν ἦν, τὸ μὲν τὸ ὑπ’ ἄλλου κινούμενον αὐτό, τὸ δ’ αὑτῷ· ἐγγύτερον δὲ τὸ πορρώτερον τοῦ κινουμένου τῆς ἀρχῆς ἢ τὸ μεταξύ)· ἔτι οὐκ ἀνάγκη τὸ κινοῦν κινεῖσθαι εἰ μὴ ὑφ’ αὑτοῦ· κατὰ συμβεβηκὸς ἄρα ἀντικινεῖ θάτερον. ἔλαβον τοίνυν ἐνδέχεσθαι μὴ κινεῖν· ἔστιν ἄρα τὸ μὲν κινούμενον τὸ δὲ κινοῦν ἀκίνητον. ἔτι οὐκ ἀνάγκη τὸ κινοῦν ἀντικινεῖσθαι, ἀλλ’ ἢ ἀκίνητόν γέ τι κινεῖν ἀνάγκη ἢ αὐτὸ ὑφ’ αὑτοῦ κινούμενον, εἴπερ ἀνάγκη ἀεὶ κίνησιν εἶναι. ἔτι ἣν κινεῖ κίνησιν, κινοῖτ’ ἄν, ὥστε τὸ θερμαῖνον θερμαίνεται. ἀλλὰ μὴν οὐδὲ τοῦ πρώτως αὐτὸ αὑτὸ κινοῦντος οὔτε ἓν μόριον οὔτε πλείω κινήσει αὐτὸ αὑτὸ ἕκαστον. τὸ γὰρ ὅλον εἰ κινεῖται αὐτὸ ὑφ’ αὑτοῦ, ἤτοι ὑπὸ τῶν αὑτοῦ τινὸς κινήσεται ἢ ἣ ὅλον ὑφ’ ὅλου. εἰ μὲν οὖν τῷ κινεῖσθαί τι μόριον αὐτὸ ὑφ’ αὑτοῦ, τοῦτ’ ἂν εἴη τὸ πρῶτον αὐτὸ αὑτὸ κινοῦν (χωρισθὲν γὰρ τοῦτο μὲν κινήσει αὐτὸ αὑτό, τὸ δὲ ὅλον οὐκέτι)· εἰ δὲ ὅλον ὑφ’ ὅλου κινεῖται, κατὰ συμβεβηκὸς ἂν ταῦτα κινοῖ αὐτὰ ἑαυτά. ὥστε εἰ μὴ ἀναγκαῖον, εἰλήφθω μὴ κινούμενα (258a.) ὑφ’ αὑτῶν. τῆς ὅλης ἄρα τὸ μὲν κινήσει ἀκίνητον ὂν τὸ δὲ κινηθήσεται· μόνως γὰρ οὕτως οἷόν τέ τι αὐτοκίνητον εἶναι. ἔτι εἴπερ ἡ ὅλη αὐτὴ αὑτὴν κινεῖ, τὸ μὲν κινήσει αὑτῆς, τὸ δὲ κινήσεται. ἡ ἄρα ΑΒ ὑφ’ αὑτῆς τε κινηθήσεται καὶ ὑπὸ τῆς Α. ἐπεὶ δὲ κινεῖ τὸ μὲν κινούμενον ὑπ’ ἄλλου τὸ δ’ ἀκίνη τον ὄν, καὶ κινεῖται τὸ μὲν κινοῦν τὸ δὲ οὐδὲν κινοῦν, τὸ αὐτὸ αὑτὸ κινοῦν ἀνάγκη ἐξ ἀκινήτου εἶναι κινοῦντος δέ, καὶ ἔτι ἐκ κινουμένου μὴ κινοῦντος δ’ ἐξ ἀνάγκης, ἀλλ’ ὁπότερ’ ἔτυχεν. ἔστω γὰρ τὸ Α κινοῦν μὲν ἀκίνητον δέ, τὸ δὲ Β κινούμενόν τε ὑπὸ τοῦ Α καὶ κινοῦν τὸ ἐφ’ ᾧ Γ, τοῦτο δὲ κινούμενον μὲν ὑπὸ τοῦ Β, μὴ κινοῦν δὲ μηδέν· εἴπερ γὰρ καὶ διὰ πλειόνων ἥξει ποτὲ εἰς τὸ Γ, ἔστω δι’ ἑνὸς μόνου. τὸ δὴ ἅπαν ΑΒΓ αὐτὸ ἑαυτὸ κινεῖ. ἀλλ’ ἐὰν ἀφέλω τὸ Γ, τὸ μὲν ΑΒ κινήσει αὐτὸ ἑαυτό, τὸ μὲν Α κινοῦν τὸ δὲ Β κινούμενον, τὸ δὲ Γ οὐ κινήσει αὐτὸ ἑαυτό, οὐδ’ ὅλως κινήσεται. ἀλλὰ μὴν οὐδ’ ἡ ΒΓ κινήσει αὐτὴ ἑαυτὴν ἄνευ τοῦ Α· τὸ γὰρ Β κινεῖ τῷ κινεῖσθαι ὑπ’ ἄλλου, οὐ τῷ ὑφ’ αὑτοῦ τινὸς μέρους. τὸ ἄρα ΑΒ μόνον αὐτὸ ἑαυτὸ κινεῖ. ἀνάγκη ἄρα τὸ αὐτὸ ἑαυτὸ κινοῦν ἔχειν τὸ κινοῦν ἀκίνητον δέ, καὶ τὸ κινούμενον μηδὲν δὲ κινοῦν ἐξ ἀνάγκης, ἁπτόμενα ἤτοι ἄμφω ἀλλήλων ἢ θατέρου θάτερον. εἰ μὲν οὖν συνεχές ἐστι τὸ κινοῦν (τὸ μὲν γὰρ κινούμενον ἀναγκαῖον εἶναι συνεχές), ἅψεται ἑκάτερον ἑκατέρου. δῆλον δὴ ὅτι τὸ πᾶν αὐτὸ ἑαυτὸ κινεῖ οὐ τῷ αὑτοῦ τι εἶναι τοιοῦτον οἷον αὐτὸ αὑτὸ κινεῖν, ἀλλ’ ὅλον κινεῖ αὐτὸ ἑαυτό, κινούμενόν τε καὶ κινοῦν τῷ αὑτοῦ τι εἶναι τὸ κινοῦν καὶ τὸ κινούμενον. οὐ γὰρ ὅλον κι νεῖ οὐδ’ ὅλον κινεῖται, ἀλλὰ κινεῖ μὲν ἡ τὸ Α, κινεῖται δὲ ἡ τὸ Β μόνον [τὸ δὲ Γ ὑπὸ τοῦ Α οὐκέτι· ἀδύνατον γάρ].

ἀπορίαν δ’ ἔχει, ἐὰν ἀφέλῃ τις ἢ τῆς Α, εἰ συνεχὲς τὸ κινοῦν μὲν ἀκίνητον δέ, ἢ τῆς Β τῆς κινουμένης· ἡ λοιπὴ ἆρα κινήσει τῆς Α ἢ τῆς Β κινηθήσεται; εἰ γὰρ τοῦτο, οὐκ ἂν εἴη πρώ τως κινουμένη ὑφ’ αὑτῆς ἡ τὸ ΑΒ· ἀφαιρεθείσης γὰρ ἀπὸ τῆς ΑΒ, ἔτι κινήσει αὑτὴν ἡ λοιπὴ ΑΒ. ἢ δυνάμει μὲν (258b.) ἑκάτερον οὐδὲν κωλύει ἢ θάτερον, τὸ κινούμενον, διαιρετὸν εἶναι, ἐντελεχείᾳ δ’ ἀδιαίρετον· ἐὰν δὲ διαιρεθῇ, μηκέτι εἶναι ἔχον τὴν αὐτὴν φύσιν· ὥστ’ οὐδὲν κωλύει ἐν διαιρετοῖς δυνάμει πρώτως ἐνεῖναι.

φανερὸν τοίνυν ἐκ τούτων ὅτι ἔστιν τὸ πρώτως κινοῦν ἀκίνητον· εἴτε γὰρ εὐθὺς ἵσταται τὸ κινούμενον, ὑπό τι νος δὲ κινούμενον, εἰς ἀκίνητον τὸ πρῶτον, εἴτε εἰς κινούμενον μέν, αὐτὸ δ’ αὑτὸ κινοῦν καὶ ἱστάν, ἀμφοτέρως συμβαίνει τὸ πρώτως κινοῦν ἅπασιν εἶναι τοῖς κινουμένοις ἀκίνητον.

Κεφάλαιο 6

Ἐπεὶ δὲ δεῖ κίνησιν ἀεὶ εἶναι καὶ μὴ διαλείπειν, ἀνάγκη εἶναί τι ἀΐδιον ὃ πρῶτον κινεῖ, εἴτε ἓν εἴτε πλείω· καὶ τὸ πρῶτον κινοῦν ἀκίνητον. ἕκαστον μὲν οὖν ἀΐδιον εἶναι τῶν ἀκινήτων μὲν κινούντων δὲ οὐδὲν πρὸς τὸν νῦν λόγον· ὅτι δ’ ἀναγκαῖον εἶναί τι τὸ ἀκίνητον μὲν αὐτὸ πάσης ἐκτὸς μεταβολῆς, καὶ ἁπλῶς καὶ κατὰ συμβεβηκός, κινητικὸν δ’ ἑτέρου, δῆλον ὧδε σκοποῦσιν. ἔστω δή, εἴ τις βούλεται, ἐπί τινων ἐνδεχόμενον ὥστε εἶναί ποτε καὶ μὴ εἶναι ἄνευ γενέσεως καὶ φθορᾶς (τάχα γὰρ ἀναγκαῖον, εἴ τι ἀμερὲς ὁτὲ μὲν ἔστιν ὁτὲ δὲ μὴ ἔστιν, ἄνευ τοῦ μεταβάλλειν ὁτὲ μὲν εἶναι ὁτὲ δὲ μὴ εἶναι πᾶν τὸ τοιοῦτον). καὶ τῶν ἀρχῶν τῶν ἀκινήτων μὲν κινητικῶν δ’ ἐνίας ὁτὲ μὲν εἶναι ὁτὲ δὲ μὴ εἶναι, ἐνδεχέσθω καὶ τοῦτο. ἀλλ’ οὔ τί γε πάσας δυνατόν· δῆλον γὰρ ὡς αἴτιον τοῖς αὐτὰ ἑαυτὰ κινοῦσίν ἐστί τι τοῦ ὁτὲ μὲν εἶναι ὁτὲ δὲ μή. τὸ μὲν γὰρ αὐτὸ ἑαυτὸ κινοῦν ἅπαν ἔχειν ἀνάγκη μέγεθος, εἰ μηδὲν κινεῖται ἀμερές, τὸ δὲ κινοῦν οὐδεμία ἀνάγκη ἐκ τῶν εἰρημένων. τοῦ δὴ τὰ μὲν γίγνεσθαι τὰ δὲ φθείρεσθαι, καὶ τοῦτ’ εἶναι συνεχῶς, οὐδὲν αἴτιον τῶν ἀκινήτων μὲν μὴ ἀεὶ δ’ ὄντων, οὐδ’ αὖ τωνδὶ μὲν ταδί [κινούντων], τούτων δ’ ἕτερα. τοῦ γὰρ ἀεὶ καὶ συνεχοῦς οὔτε ἕκαστον αὐτῶν οὔτε πάντα αἴτια· τὸ μὲν γὰρ οὕτως ἔχειν ἀΐδιον καὶ ἐξ ἀνάγκης, τὰ δὲ πάντα ἄπειρα, καὶ οὐχ ἅμα πάντα ὄντα. δῆλον τοίνυν ὅτι, εἰ καὶ μυριάκις ἔνια [ἀρχαὶ] (259a.) τῶν ἀκινήτων μὲν κινούντων δέ, καὶ πολλὰ τῶν αὐτὰ ἑαυτὰ κινούντων, φθείρεται, τὰ δ’ ἐπιγίγνεται, καὶ τόδε μὲν ἀκίνητον ὂν τόδε κινεῖ, ἕτερον δὲ τοδί, ἀλλ’ οὐδὲν ἧττον ἔστιν τι ὃ περιέχει, καὶ τοῦτο παρ’ ἕκαστον, ὅ ἐστιν αἴτιον τοῦ τὰ μὲν εἶναι τὰ δὲ μὴ καὶ τῆς συνεχοῦς μεταβολῆς· καὶ τοῦτο μὲν τούτοις, ταῦτα δὲ τοῖς ἄλλοις αἴτια κινήσεως. εἴπερ οὖν ἀΐδιος ἡ κίνησις, ἀΐδιον καὶ τὸ κινοῦν ἔσται πρῶτον, εἰ ἕν· εἰ δὲ πλείω, πλείω τὰ ἀΐδια. ἓν δὲ μᾶλλον ἢ πολλά, καὶ πεπερασμένα ἢ ἄπειρα, δεῖ νομίζειν. τῶν αὐτῶν γὰρ συμβαινόντων αἰεὶ τὰ πεπερασμένα μᾶλλον ληπτέον· ἐν γὰρ τοῖς φύσει δεῖ τὸ πεπερασμένον καὶ τὸ βέλτιον, ἂν ἐνδέχηται, ὑπάρχειν μᾶλλον. ἱκανὸν δὲ καὶ ἕν, ὃ πρῶτον τῶν ἀκινήτων ἀΐδιον ὂν ἔσται ἀρχὴ τοῖς ἄλλοις κινήσεως.

φανερὸν δὲ καὶ ἐκ τοῦδε ὅτι ἀνάγκη εἶναί τι ἓν καὶ ἀΐδιον τὸ πρῶτον κινοῦν. δέδεικται γὰρ ὅτι ἀνάγκη ἀεὶ κίνησιν εἶναι. εἰ δὲ ἀεί, ἀνάγκη συνεχῆ εἶναι· καὶ γὰρ τὸ ἀεὶ συνεχές, τὸ δ’ ἐφεξῆς οὐ συνεχές. ἀλλὰ μὴν εἴ γε συνεχής, μία. μία δ’ ἡ ὑφ’ ἑνός τε τοῦ κινοῦντος καὶ ἑνὸς τοῦ κινουμένου· εἰ γὰρ ἄλλο καὶ ἄλλο κινήσει, οὐ συνεχὴς ἡ ὅλη κίνησις, ἀλλ’ ἐφεξῆς.

ἔκ τε δὴ τούτων πιστεύσειεν ἄν τις εἶναί τι πρῶτον ἀκίνητον, καὶ πάλιν ἐπιβλέψας ἐπὶ τὰς ἀρχάς [τῶν κινούντων]. τὸ μὲν δὴ εἶναι ἄττα τῶν ὄντων ἃ ὁτὲ μὲν κινεῖται ὁτὲ δὲ ἠρεμεῖ φανερόν. καὶ διὰ τούτου γέγονε δῆλον ὅτι οὔτε πάντα κινεῖται οὔτε πάντα ἠρεμεῖ οὔτε τὰ μὲν ἀεὶ ἠρεμεῖ τὰ δὲ ἀεὶ κινεῖται· τὰ γὰρ ἐπαμφοτερί ζοντα καὶ δύναμιν ἔχοντα τοῦ κινεῖσθαι καὶ ἠρεμεῖν δείκνυσιν περὶ αὐτῶν. ἐπεὶ δὲ τὰ μὲν τοιαῦτα δῆλα πᾶσι, βουλόμεθα δὲ δεῖξαι καὶ τοῖν δυοῖν ἑκατέρου τὴν φύσιν, ὅτι ἔστιν τὰ μὲν ἀεὶ ἀκίνητα τὰ δὲ ἀεὶ κινούμενα, προϊόντες δ’ ἐπὶ τοῦτο καὶ θέντες ἅπαν τὸ κινούμενον ὑπό τινος κινεῖ σθαι, καὶ τοῦτ’ εἶναι ἢ ἀκίνητον ἢ κινούμενον, καὶ κινούμενον ἢ ὑφ’ αὑτοῦ ἢ ὑπ’ ἄλλου ἀεί, προήλθομεν ἐπὶ τὸ λαβεῖν ὅτι τῶν κινουμένων ἐστὶν ἀρχὴ κινουμένων μὲν ὃ αὐτὸ ἑαυτὸ (259b.) κινεῖ, πάντων δὲ τὸ ἀκίνητον, ὁρῶμεν δὲ καὶ φανερῶς ὄντα τοιαῦτα ἃ κινεῖ αὐτὰ ἑαυτά, οἷον τὸ τῶν ἐμψύχων καὶ τὸ τῶν ζῴων γένος, ταῦτα δὲ καὶ δόξαν παρεῖχε μή ποτε ἐνδέχεται κίνησιν ἐγγίγνεσθαι μὴ οὖσαν ὅλως, διὰ τὸ ἐν τούτοις ὁρᾶν ἡμᾶς τοῦτο συμβαῖνον (ἀκίνητα γάρ ποτε ὄντα κινεῖ ται πάλιν, ὡς δοκεῖ), τοῦτο δὴ δεῖ λαβεῖν, ὅτι μίαν κίνησιν αὑτὰ κινεῖ, καὶ ὅτι ταύτην οὐ κυρίως· οὐ γὰρ ἐξ αὐτοῦ τὸ αἴτιον, ἀλλ’ ἔνεισιν ἄλλαι κινήσεις φυσικαὶ τοῖς ζῴοις, ἃς οὐ κινοῦνται δι’ αὑτῶν, οἷον αὔξησις φθίσις ἀναπνοή, ἃς κινεῖται τῶν ζῴων ἕκαστον ἠρεμοῦν καὶ οὐ κινούμενον τὴν ὑφ’ αὑτοῦ κίνησιν. τούτου δ’ αἴτιον τὸ περιέχον καὶ πολλὰ τῶν εἰσιόντων, οἷον ἐνίων ἡ τροφή· πεττομένης μὲν γὰρ καθεύδουσιν, διακρινομένης δ’ ἐγείρονται καὶ κινοῦσιν ἑαυτούς, τῆς πρώτης ἀρχῆς ἔξωθεν οὔσης, διὸ οὐκ ἀεὶ κινοῦνται συνεχῶς ὑφ’ αὑτῶν· ἄλλο γὰρ τὸ κινοῦν, αὐτὸ κινούμενον καὶ μεταβάλλον πρὸς ἕκαστον τῶν κινούντων ἑαυτά. ἐν πᾶσι δὲ τούτοις κινεῖται τὸ κινοῦν πρῶτον καὶ τὸ αἴτιον τοῦ αὐτὸ ἑαυτὸ κινεῖν ὑφ’ αὑτοῦ, κατὰ συμβεβηκὸς μέντοι· μεταβάλλει γὰρ τὸν τόπον τὸ σῶμα, ὥστε καὶ τὸ ἐν τῷ σώματι ὂν καὶ τῇ μοχλείᾳ κινοῦν ἑαυτό. ἐξ ὧν ἔστιν πιστεῦσαι ὅτι εἴ τί ἐστι τῶν ἀκινήτων μὲν κινούντων δὲ καὶ αὑτὰ κατὰ συμβεβηκός, ἀδύνατον συνεχῆ κίνησιν κινεῖν. ὥστ’ εἴπερ ἀνάγκη συνεχῶς εἶναι κίνησιν, εἶναί τι δεῖ τὸ πρῶτον κινοῦν ἀκίνητον καὶ κατὰ συμβεβηκός, εἰ μέλλει, καθάπερ εἴπομεν, ἔσεσθαι ἐν τοῖς οὖσιν ἄπαυστός τις καὶ ἀθάνατος κίνησις, καὶ μενεῖν τὸ ὂν αὐτὸ ἐν αὑτῷ καὶ ἐν τῷ αὐτῷ· τῆς γὰρ ἀρχῆς μενούσης ἀνάγκη καὶ τὸ πᾶν μένειν συνεχὲς ὂν πρὸς τὴν ἀρχήν. οὐκ ἔστιν δὲ τὸ αὐτὸ τὸ κινεῖσθαι κατὰ συμβεβηκὸς ὑφ’ αὑτοῦ καὶ ὑφ’ ἑτέρου· τὸ μὲν γὰρ ὑφ’ ἑτέρου ὑπάρχει καὶ τῶν ἐν τῷ οὐρανῷ ἐνίαις ἀρχαῖς, ὅσα πλείους φέρεται φοράς, θάτερον δὲ τοῖς φθαρτοῖς μόνον. ἀλλὰ μὴν εἴ γε ἔστιν τι ἀεὶ τοιοῦτον, κινοῦν μέν τι ἀκίνητον δὲ αὐτὸ καὶ ἀΐδιον, ἀνάγκη καὶ τὸ πρῶτον ὑπὸ τούτου (260a.) κινούμενον ἀΐδιον εἶναι. ἔστιν δὲ τοῦτο δῆλον μὲν καὶ ἐκ τοῦ μὴ ἂν ἄλλως εἶναι γένεσιν καὶ φθορὰν καὶ μεταβολὴν τοῖς ἄλλοις, εἰ μή τι κινήσει κινούμενον· τὸ μὲν γὰρ ἀκίνητον [τὴν αὐτὴν] ἀεὶ τὸν αὐτὸν κινήσει τρόπον καὶ μίαν κίνησιν, ἅτε οὐδὲν αὐτὸ μεταβάλλον πρὸς τὸ κινούμενον. τὸ δὲ κινούμενον ὑπὸ τοῦ κινουμένου μέν, ὑπὸ τοῦ ἀκινήτου δὲ κινουμένου ἤδη, διὰ τὸ ἄλλως καὶ ἄλλως ἔχειν πρὸς τὰ πράγματα, οὐ τῆς αὐτῆς ἔσται κινήσεως αἴτιον, ἀλλὰ διὰ τὸ ἐν ἐναντίοις εἶναι τόποις ἢ εἴδεσιν ἐναντίως παρέξεται κινούμενον ἕκαστον τῶν ἄλλων, καὶ ὁτὲ μὲν ἠρεμοῦν ὁτὲ δὲ κινούμενον.

φανερὸν δὴ γέγονεν ἐκ τῶν εἰρημένων καὶ ὃ κατ’ ἀρχὰς ἠποροῦμεν, τί δή ποτε οὐ πάντα ἢ κινεῖται ἢ ἠρεμεῖ, ἢ τὰ μὲν κινεῖται ἀεὶ τὰ δ’ ἀεὶ ἠρεμεῖ, ἀλλ’ ἔνια ὁτὲ μὲν ὁτὲ δ’ οὔ. τούτου γὰρ τὸ αἴτιον δῆλόν ἐστι νῦν, ὅτι τὰ μὲν ὑπὸ ἀκινήτου κινεῖται ἀϊδίου, διὸ ἀεὶ κινεῖται, τὰ δ’ ὑπὸ κινουμένου καὶ μεταβάλλοντος, ὥστε καὶ αὐτὰ ἀναγκαῖον μεταβάλλειν. τὸ δ’ ἀκίνητον, ὥσπερ εἴρηται, ἅτε ἁπλῶς καὶ ὡσαύτως καὶ ἐν τῷ αὐτῷ διαμένον, μίαν καὶ ἁπλῆν κινήσει κίνησιν.

Κεφάλαιο 7

Οὐ μὴν ἀλλὰ καὶ ἄλλην ποιησαμένοις ἀρχὴν μᾶλλον ἔσται περὶ τούτων φανερόν. σκεπτέον γὰρ πότερον ἐνδέχεταί τινα κίνησιν εἶναι συνεχῆ ἢ οὔ, καὶ εἰ ἐνδέχεται, τίς αὕτη, καὶ τίς πρώτη τῶν κινήσεων· δῆλον γὰρ ὡς εἴπερ ἀναγκαῖον μὲν ἀεὶ κίνησιν εἶναι, πρώτη δὲ ἥδε καὶ συνεχής, ὅτι τὸ πρῶτον κινοῦν κινεῖ ταύτην τὴν κίνησιν, ἣν ἀναγκαῖον μίαν καὶ τὴν αὐτὴν εἶναι καὶ συνεχῆ καὶ πρώτην.

τριῶν δ' οὐσῶν κινήσεων, τῆς τε κατὰ μέγεθος καὶ τῆς κατὰ πάθος καὶ τῆς κατὰ τόπον, ἣν καλοῦμεν φοράν, ταύτην ἀναγκαῖον εἶναι πρώτην. ἀδύνατον γὰρ αὔξησιν εἶναι ἀλλοιώσεως μὴ προϋπαρχούσης· τὸ γὰρ αὐξανόμενον ἔστιν μὲν ὡς ὁμοίῳ αὐξάνεται, ἔστιν δ' ὡς ἀνομοίῳ· τροφὴ γὰρ λέγεται τῷ ἐναντίῳ τὸ ἐναντίον. προσγίγνεται δὲ πᾶν γιγνόμενον ὅμοιον ὁμοίῳ. ἀνάγκη οὖν ἀλλοίωσιν εἶναι τὴν εἰς τἀναντία μεταβολήν. (260b.) ἀλλὰ μὴν εἴ γε ἀλλοιοῦται, δεῖ τι εἶναι τὸ ἀλλοιοῦν καὶ ποιοῦν ἐκ τοῦ δυνάμει θερμοῦ ἐνεργείᾳ θερμόν. δῆλον οὖν ὅτι τὸ κινοῦν οὐχ ὁμοίως ἔχει, ἀλλ' ὁτὲ μὲν ἐγγύτερον ὁτὲ δὲ πορρώτερον τοῦ ἀλλοιουμένου ἐστίν. ταῦτα δ' ἄνευ φορᾶς οὐκ ἐνδέχεται ὑπάρχειν. εἰ ἄρα ἀνάγκη ἀεὶ κίνησιν εἶναι, ἀνάγκη καὶ φορὰν ἀεὶ εἶναι πρώτην τῶν κινήσεων, καὶ φορᾶς, εἰ ἔστιν ἡ μὲν πρώτη ἡ δ' ὑστέρα, τὴν πρώτην. ἔτι δὲ πάντων τῶν παθημάτων ἀρχὴ πύκνωσις καὶ μάνωσις· καὶ γὰρ βαρὺ καὶ κοῦφον καὶ μαλακὸν καὶ σκληρὸν καὶ θερμὸν καὶ ψυχρὸν πυκνότητες δοκοῦσιν καὶ ἀραιότητες εἶναί τινες. πύκνωσις δὲ καὶ μάνωσις σύγκρισις καὶ διάκρισις, καθ' ἃς γένεσις καὶ φθορὰ λέγεται τῶν οὐσιῶν. συγκρινόμενα δὲ καὶ διακρινόμενα ἀνάγκη κατὰ τόπον μεταβάλλειν. ἀλλὰ μὴν καὶ τοῦ αὐξανομένου καὶ φθίνοντος μεταβάλλει κατὰ τόπον τὸ μέγεθος.

ἔτι καὶ ἐντεῦθεν ἐπισκοποῦσιν ἔσται φανερὸν ὅτι ἡ φορὰ πρώτη. τὸ γὰρ πρῶτον, ὥσπερ ἐφ' ἑτέρων, οὕτω καὶ ἐπὶ κινήσεως ἂν λέγοιτο πλεοναχῶς. λέγεται δὲ πρότερον οὗ τε μὴ ὄντος οὐκ ἔσται τἆλλα, ἐκεῖνο δὲ ἄνευ τῶν ἄλλων, καὶ τὸ τῷ χρόνῳ, καὶ τὸ κατ' οὐσίαν. ὥστ' ἐπεὶ κίνησιν μὲν ἀναγκαῖον εἶναι συνεχῶς, εἴη δ' ἂν συνεχῶς ἢ συνεχὴς οὖσα ἢ ἐφεξῆς, μᾶλλον δ' ἡ συνεχής, καὶ βέλτιον συνεχῆ ἢ ἐφεξῆς εἶναι, τὸ δὲ βέλτιον ἀεὶ ὑπολαμβάνομεν ἐν τῇ φύσει ὑπάρχειν, ἂν ᾖ δυνατόν, δυνατὸν δὲ συνεχῆ εἶναι (δειχθήσεται δ' ὕστερον· νῦν δὲ τοῦτο ὑποκείσθω), καὶ ταύτην οὐδεμίαν ἄλλην οἷόν τε εἶναι ἀλλ’ ἢ φοράν, ἀνάγκη τὴν φορὰν εἶναι πρώτην. οὐδεμία γὰρ ἀνάγκη οὔτε αὔξεσθαι οὔτε ἀλλοιοῦσθαι τὸ φερόμενον, οὐδὲ δὴ γίγνεσθαι ἢ φθείρεσθαι· τούτων δὲ οὐδεμίαν ἐνδέχεται τῆς συνεχοῦς μὴ οὔσης, ἣν κινεῖ τὸ πρῶτον κινοῦν.

ἔτι χρόνῳ πρώτην· τοῖς γὰρ ἀϊδίοις μόνον ἐνδέχεται κινεῖσθαι ταύτην. ἀλλ’ ἐφ’ ἑνὸς μὲν ὁτουοῦν τῶν ἐχόντων γένεσιν τὴν φορὰν ἀναγκαῖον ὑστάτην εἶναι τῶν κινήσεων· μετὰ γὰρ τὸ γενέσθαι πρῶτον ἀλλοίωσις καὶ αὔξησις, φορὰ δ’ ἤδη τετελειωμένων κίνησίς ἐστιν. (261a.) ἀλλ’ ἕτερον ἀνάγκη κινούμενον εἶναι κατὰ φορὰν πρότερον, ὃ καὶ τῆς γενέσεως αἴτιον ἔσται τοῖς γιγνομένοις, οὐ γιγνόμενον, οἷον τὸ γεννῆσαν τοῦ γεννηθέντος, ἐπεὶ δόξειέ γ’ ἂν ἡ γένεσις εἶναι πρώτη τῶν κινήσεων διὰ τοῦτο, ὅτι γενέσθαι δεῖ τὸ πρᾶγμα πρῶτον. τὸ δ’ ἐφ’ ἑνὸς μὲν ὁτουοῦν τῶν γιγνομένων οὕτως ἔχει, ἀλλ’ ἕτερον ἀναγκαῖον πρότερόν τι κινεῖσθαι τῶν γιγνομένων ὂν αὐτὸ καὶ μὴ γιγνόμενον, καὶ τούτου ἕτερον πρότερον. ἐπεὶ δὲ γένεσιν ἀδύνατον εἶναι πρώτην (πάντα γὰρ ἂν εἴη τὰ κινούμενα φθαρτά), δῆλον ὡς οὐδὲ τῶν ἐφεξῆς κινήσεων οὐδεμία προτέρα· λέγω δ’ ἐφεξῆς αὔξησιν, εἶτ’ ἀλλοίωσιν καὶ φθί σιν καὶ φθοράν· πᾶσαι γὰρ ὕστεραι γενέσεως, ὥστ’ εἰ μηδὲ γένεσις προτέρα φορᾶς, οὐδὲ τῶν ἄλλων οὐδεμία μεταβολῶν.

ὅλως τε φαίνεται τὸ γιγνόμενον ἀτελὲς καὶ ἐπ’ ἀρχὴν ἰόν, ὥστε τὸ τῇ γενέσει ὕστερον τῇ φύσει πρότερον εἶναι. τελευταῖον δὲ φορὰ πᾶσιν ὑπάρχει τοῖς ἐν γενέσει. διὸ τὰ μὲν ὅλως ἀκίνητα τῶν ζώντων δι’ ἔνδειαν [τοῦ ὀργάνου], οἷον τὰ φυτὰ καὶ πολλὰ γένη τῶν ζῴων, τοῖς δὲ τελειουμένοις ὑπάρχει. ὥστ’ εἰ μᾶλλον ὑπάρχει φορὰ τοῖς μᾶλλον ἀπειληφόσιν τὴν φύσιν, καὶ ἡ κίνησις αὕτη πρώτη τῶν ἄλλων ἂν εἴη κατ’ οὐσίαν, διά τε ταῦτα καὶ διότι ἥκιστα τῆς οὐσίας ἐξίσταται τὸ κινούμενον τῶν κινήσεων ἐν τῷ φέρεσθαι· κατὰ μόνην γὰρ οὐδὲν μεταβάλλει τοῦ εἶναι, ὥσπερ ἀλλοιουμένου μὲν τὸ ποιόν, αὐξανομένου δὲ καὶ φθίνοντος τὸ ποσόν. μάλιστα δὲ δῆλον ὅτι τὸ κινοῦν αὐτὸ αὑτὸ μάλιστα ταύτην κινεῖ κυρίως, τὴν κατὰ τόπον· καίτοι φαμὲν τοῦτο εἶναι τῶν κινουμένων καὶ κινούντων ἀρχὴν καὶ πρῶτον τοῖς κινουμένοις, τὸ αὐτὸ αὑτὸ κινοῦν.

ὅτι μὲν τοίνυν τῶν κινήσεων ἡ φορὰ πρώτη, φανερὸν ἐκ τούτων· τίς δὲ φορὰ πρώτη, νῦν δεικτέον. ἅμα δὲ καὶ τὸ νῦν καὶ πρότερον ὑποτεθέν, ὅτι ἐνδέχεταί τινα κίνησιν εἶναι συνεχῆ καὶ ἀΐδιον, φανερὸν ἔσται τῇ αὐτῇ μεθόδῳ. ὅτι μὲν οὖν τῶν ἄλλων κινήσεων οὐδεμίαν ἐνδέχεται συνεχῆ εἶναι, ἐκ τῶνδε φανερόν. ἅπασαι γὰρ ἐξ ἀντικειμένων εἰς ἀντικείμενά εἰσιν αἱ κινήσεις καὶ μεταβολαί, οἷον γενέσει μὲν καὶ φθορᾷ τὸ ὂν καὶ τὸ μὴ ὂν ὅροι, ἀλλοιώσει δὲ τὰ ἐναντία πάθη, αὐξήσει δὲ καὶ φθίσει ἢ μέγεθος καὶ μικρότης ἢ τελειότης μεγέθους καὶ ἀτέλεια· ἐναντίαι δ’ αἱ (261b.) εἰς τὰ ἐναντία. τὸ δὲ μὴ αἰεὶ κινούμενον τήνδε τὴν κίνησιν, ὂν δὲ πρότερον, ἀνάγκη πρότερον ἠρεμεῖν. φανερὸν οὖν ὅτι ἠρεμήσει ἐν τῷ ἐναντίῳ τὸ μεταβάλλον. ὁμοίως δὲ καὶ ἐπὶ τῶν μεταβολῶν· ἀντίκειται γὰρ φθορὰ καὶ γένεσις ἁπλῶς καὶ ἡ καθ’ ἕκαστον τῇ καθ’ ἕκαστον. ὥστ’ εἰ ἀδύνατον ἅμα μεταβάλλειν τὰς ἀντικειμένας, οὐκ ἔσται συνεχὴς ἡ μεταβολή, ἀλλὰ μεταξὺ ἔσται αὐτῶν χρόνος. οὐδὲν γὰρ διαφέρει ἐναντίας ἢ μὴ ἐναντίας εἶναι τὰς κατ’ ἀντίφασιν μεταβολάς, εἰ μόνον ἀδύνατον ἅμα τῷ αὐτῷ παρεῖναι (τοῦτο γὰρ τῷ λόγῳ οὐδὲν χρήσιμον), οὐδ’ εἰ μὴ ἀνάγκη ἠρεμῆσαι ἐν τῇ ἀντιφάσει, μηδ’ ἐστὶν μεταβολὴ ἠρεμίᾳ ἐναντίον (οὐ γὰρ ἴσως ἠρεμεῖ τὸ μὴ ὄν, ἡ δὲ φθορὰ εἰς τὸ μὴ ὄν), ἀλλ’ εἰ μόνον μεταξὺ γίγνεται χρόνος· οὕτω γὰρ οὐκ ἔστιν ἡ μεταβολὴ συνεχής· οὐδὲ γὰρ ἐν τοῖς πρότερον ἡ ἐναντίωσις χρήσιμον, ἀλλὰ τὸ μὴ ἐνδέχεσθαι ἅμα ὑπάρχειν. οὐ δεῖ δὲ ταράττεσθαι ὅτι τὸ αὐτὸ πλείοσιν ἔσται ἐναντίον, οἷον ἡ κίνησις καὶ στάσει καὶ κινήσει τῇ εἰς τοὐναντίον, ἀλλὰ μόνον τοῦτο λαμβάνειν, ὅτι ἀντίκειταί πως καὶ τῇ κινήσει καὶ τῇ ἠρεμίᾳ ἡ κίνησις ἡ ἐναντία, καθάπερ τὸ ἴσον καὶ τὸ μέτριον τῷ ὑπερέχοντι καὶ τῷ ὑπερεχομένῳ, καὶ ὅτι οὐκ ἐνδέχεται ἅμα τὰς ἀντικειμένας οὔτε κινήσεις οὔτε μεταβολὰς ὑπάρχειν. ἔτι δ’ ἐπί τε τῆς γενέσεως καὶ τῆς φθορᾶς καὶ παντελῶς ἄτοπον ἂν εἶναι δόξειεν, εἰ γενόμενον εὐθὺς ἀνάγκη φθαρῆναι καὶ μηδένα χρόνον διαμεῖναι. ὥστε ἐκ τούτων ἂν ἡ πίστις γένοιτο ταῖς ἄλλαις· φυσικὸν γὰρ τὸ ὁμοίως ἔχειν ἐν ἁπάσαις.

Κεφάλαιο 8

Ὅτι δ’ ἐνδέχεται εἶναί τινα ἄπειρον, μίαν οὖσαν καὶ συνεχῆ, καὶ αὕτη ἐστὶν ἡ κύκλῳ, λέγωμεν νῦν. πᾶν μὲν γὰρ κινεῖται τὸ φερόμενον ἢ κύκλῳ ἢ εὐθεῖαν ἢ μικτήν, ὥστ’ εἰ μηδ’ ἐκείνων ἡ ἑτέρα συνεχής, οὐδὲ τὴν ἐξ ἀμφοῖν οἷόν τ’ εἶναι συγκειμένην· ὅτι δὲ τὸ φερόμενον τὴν εὐθεῖαν καὶ πεπερασμένην οὐ φέρεται συνεχῶς, δῆλον· ἀνακάμπτει γάρ, τὸ δ’ ἀνακάμπτον τὴν εὐθεῖαν τὰς ἐναντίας κινεῖται κινήσεις· ἐναντία γὰρ κατὰ τόπον ἡ ἄνω τῇ κάτω καὶ ἡ εἰς τὸ πρόσθεν τῇ εἰς τοὔπισθεν καὶ ἡ εἰς ἀριστερὰ τῇ εἰς δεξιά· τόπου γὰρ ἐναντιώσεις αὗται. τίς δ’ ἐστὶν ἡ μία καὶ (262a.) συνεχὴς κίνησις, διώρισται πρότερον, ὅτι ἡ τοῦ ἑνὸς καὶ ἐν ἑνὶ χρόνῳ καὶ ἐν ἀδιαφόρῳ κατ’ εἶδος (τρία γὰρ ἦν, τό τε κινούμενον, οἷον ἄνθρωπος ἢ θεός, καὶ ὅτε, οἷον χρόνος, καὶ τρίτον τὸ ἐν ᾧ· τοῦτο δ’ ἐστὶν τόπος ἢ πάθος ἢ εἶδος ἢ μέγεθος). τὰ δ’ ἐναντία διαφέρει τῷ εἴδει, καὶ οὐχ ἕν· τόπου δ’ αἱ εἰρημέναι διαφοραί. σημεῖον δ’ ὅτι ἐναντία ἡ κίνησις ἡ ἀπὸ τοῦ Α πρὸς τὸ Β τῇ ἀπὸ τοῦ Β πρὸς τὸ Α, ὅτι ἱστᾶσιν καὶ παύουσιν ἀλλήλας, ἐὰν ἅμα γίγνωνται. καὶ ἐπὶ κύκλου ὡσαύτως, οἷον ἡ ἀπὸ τοῦ Α ἐπὶ τὸ Β τῇ ἀπὸ τοῦ Α ἐπὶ τὸ Γ (ἱστᾶσι γάρ, κἂν συνεχεῖς ὦσιν καὶ μὴ γίγνηται ἀνάκαμψις, διὰ τὸ τἀναντία φθείρειν καὶ κωλύειν ἄλληλα)· ἀλλ’ οὐχ ἡ εἰς τὸ πλάγιον τῇ ἄνω. μάλιστα δὲ φανερὸν ὅτι ἀδύνατον εἶναι συνεχῆ τὴν ἐπὶ τῆς εὐθείας κίνησιν, ὅτι ἀνακάμπτον ἀναγκαῖον στῆναι, οὐ μόνον ἐπ’ εὐθείας, ἀλλὰ κἂν κύκλον φέρηται. οὐ γὰρ ταὐτὸν κύκλῳ φέρεσθαι καὶ κύκλον· ἔστιν γὰρ ὁτὲ μὲν συνείρειν κινούμενον, ὁτὲ δ’ ἐπὶ τὸ αὐτὸ ἐλθὸν ὅθεν ὡρμήθη ἀνακάμψαι πάλιν. ὅτι δ’ ἀνάγκη ἵστασθαι, ἡ πίστις οὐ μόνον ἐπὶ τῆς αἰσθήσεως ἀλλὰ καὶ ἐπὶ τοῦ λόγου. ἀρχὴ δὲ ἥδε. τριῶν γὰρ ὄντων, ἀρχῆς μέσου τελευτῆς, τὸ μέσον πρὸς ἑκάτερον ἄμφω ἐστίν, καὶ τῷ μὲν ἀριθμῷ ἕν, τῷ λόγῳ δὲ δύο. ἔτι δὲ ἄλλο ἐστὶν τὸ δυνάμει καὶ τὸ ἐνεργείᾳ, ὥστε τῆς εὐθείας τῶν ἐντὸς τῶν ἄκρων ὁτιοῦν σημεῖον δυνάμει μέν ἐστι μέσον, ἐνεργείᾳ δ’ οὐκ ἔστιν, ἐὰν μὴ διέλῃ ταύτῃ καὶ ἐπιστὰν πάλιν ἄρξηται κινεῖσθαι· οὕτω δὲ τὸ μέσον ἀρχὴ γίγνεται καὶ τελευτή, ἀρχὴ μὲν τῆς ὕστερον, τελευτὴ δὲ τῆς πρώτης (λέγω δ’ οἷον ἐὰν φερόμενον τὸ Α στῇ ἐπὶ τοῦ Β καὶ πάλιν φέρηται ἐπὶ τὸ Γ). ὅταν δὲ συνεχῶς φέρηται, οὔτε γεγονέναι οὔτε ἀπογεγονέναι οἷόν τε τὸ Α κατὰ τὸ Β σημεῖον, ἀλλὰ μόνον εἶναι ἐν τῷ νῦν, ἐν χρόνῳ δ’ οὐδενὶ πλὴν οὗ τὸ νῦν ἐστιν διαί ρεσις, ἐν τῷ ὅλῳ [τῷ ΑΒΓ]. (εἰ δὲ γεγονέναι τις θήσει καὶ ἀπογεγονέναι, ἀεὶ στήσεται τὸ Α φερόμενον· ἀδύνατον (262b.) γὰρ τὸ Α ἅμα γεγονέναι τε ἐπὶ τοῦ Β καὶ ἀπογεγονέναι. ἐν ἄλλῳ ἄρα καὶ ἄλλῳ σημείῳ χρόνου. χρόνος ἄρα ἔσται ὁ ἐν μέσῳ. ὥστε ἠρεμήσει τὸ Α ἐπὶ τοῦ Β. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων σημείων· ὁ γὰρ αὐτὸς λόγος ἐπὶ πάντων. ὅταν δὴ χρήσηται τὸ φερόμενον Α τῷ Β μέσῳ καὶ τελευτῇ καὶ ἀρχῇ, ἀνάγκη στῆναι διὰ τὸ δύο ποιεῖν, ὥσπερ ἂν εἰ καὶ νοήσειεν.) ἀλλ’ ἀπὸ μὲν τοῦ Α σημείου ἀπογέγονε τῆς ἀρχῆς, ἐπὶ δὲ τοῦ Γ γέγονεν, ὅταν τελευτήσῃ καὶ στῇ. διὸ καὶ πρὸς τὴν ἀπορίαν τοῦτο λεκτέον· ἔχει γὰρ ἀπορίαν τήνδε. εἰ γὰρ εἴη ἡ τὸ Ε τῇ Ζ ἴση καὶ τὸ Α φέροιτο συνεχῶς ἀπὸ τοῦ ἄκρου πρὸς τὸ Γ, ἅμα δ’ εἴη τὸ Α ἐπὶ τῷ Β σημείῳ, καὶ τὸ Δ φέροιτο ἀπὸ τῆς Ζ ἄκρας πρὸς τὸ Η ὁμαλῶς καὶ τῷ αὐτῷ τάχει τῷ Α, τὸ Δ ἔμπροσθεν ἥξει ἐπὶ τὸ Η ἢ τὸ Α ἐπὶ τὸ Γ· τὸ γὰρ πρότερον ὁρμῆσαν καὶ ἀπελθὸν πρότερον ἐλθεῖν ἀνάγκη. οὐ γὰρ ἅμα γέγονε τὸ Α ἐπὶ τῷ Β καὶ ἀπογέγονεν ἀπ’ αὐτοῦ, διὸ ὑστερίζει. εἰ γὰρ ἅμα, οὐχ ὑστεριεῖ, ἀλλ’ ἀνάγκη ἔσται ἵστασθαι. οὐκ ἄρα θετέον, ὅτε τὸ Α ἐγένετο κατὰ τὸ Β, τὸ Δ ἅμα κινεῖσθαι ἀπὸ τοῦ Ζ ἄκρου (εἰ γὰρ ἔσται γεγονὸς τὸ Α ἐπὶ τοῦ Β, ἔσται καὶ τὸ ἀπογενέσθαι, καὶ οὐχ ἅμα), ἀλλ’ ἦν ἐν τομῇ χρόνου καὶ οὐκ ἐν χρόνῳ. ἐνταῦθα μὲν οὖν ἀδύνατον οὕτως λέγειν ἐπὶ τῆς συνεχοῦς· ἐπὶ δὲ τοῦ ἀνακάμπτοντος ἀνάγκη λέγειν οὕτως. εἰ γὰρ ἡ τὸ Η φέροιτο πρὸς τὸ Δ καὶ πάλιν ἀνακάμψασα κάτω φέροιτο, τῷ ἄκρῳ ἐφ’ οὗ Δ τελευτῇ καὶ ἀρχῇ κέχρηται, τῷ ἑνὶ σημείῳ ὡς δύο· διὸ στῆναι ἀνάγκη· καὶ οὐχ ἅμα γέγονεν ἐπὶ τῷ Δ καὶ ἀπελήλυθεν ἀπὸ τοῦ Δ· ἐκεῖ γὰρ ἂν ἅμα εἴη καὶ οὐκ εἴη ἐν τῷ αὐτῷ νῦν. ἀλλὰ μὴν τήν γε πάλαι λύσιν οὐ λεκτέον· οὐ γὰρ ἐνδέχεται λέγειν ὅτι ἐστὶν κατὰ τὸ Δ ἡ τὸ Η ἐν τομῇ, οὐ γέγονε δὲ οὐδ’ ἀπογέγονεν. ἀνάγκη γὰρ ἐπὶ τέλος ἐλθεῖν τὸ ἐνεργείᾳ ὄν, μὴ δυνάμει. τὰ μὲν οὖν ἐν μέσῳ δυνάμει ἔστι, τοῦτο δ’ ἐνεργείᾳ, καὶ τελευτὴ μὲν κάτωθεν, (263a.) ἀρχὴ δὲ ἄνωθεν· καὶ τῶν κινήσεων ἄρα ὡσαύτως. ἀνάγκη ἄρα στῆναι τὸ ἀνακάμπτον ἐπὶ τῆς εὐθείας. οὐκ ἄρα ἐνδέχεται συνεχῆ κίνησιν εἶναι ἐπὶ τῆς εὐθείας ἀΐδιον.

τὸν αὐτὸν δὲ τρόπον ἀπαντητέον καὶ πρὸς τοὺς ἐρωτῶντας τὸν Ζήνωνος λόγον, [καὶ ἀξιοῦντας,] εἰ ἀεὶ τὸ ἥμισυ διιέναι δεῖ, ταῦτα δ’ ἄπειρα, τὰ δ’ ἄπειρα ἀδύνατον διεξελθεῖν, ἢ ὡς τὸν αὐτὸν τοῦτον λόγον τινὲς ἄλλως ἐρωτῶσιν, ἀξιοῦντες ἅμα τῷ κινεῖσθαι τὴν ἡμίσειαν πρότερον ἀριθμεῖν καθ’ ἕκαστον γιγνόμενον τὸ ἥμισυ, ὥστε διελθόντος τὴν ὅλην ἄπειρον συμβαίνει ἠριθμηκέναι ἀριθμόν· τοῦτο δ’ ὁμολογουμένως ἐστὶν ἀδύνατον. ἐν μὲν οὖν τοῖς πρώτοις λόγοις τοῖς περὶ κινήσεως ἐλύομεν διὰ τοῦ τὸν χρόνον ἄπειρα ἔχειν ἐν αὑτῷ· οὐδὲν γὰρ ἄτοπον εἰ ἐν ἀπείρῳ χρόνῳ ἄπειρα διέρχεταί τις· ὁμοίως δὲ τὸ ἄπειρον ἔν τε τῷ μήκει ὑπάρχει καὶ ἐν τῷ χρόνῳ. ἀλλ’ αὕτη ἡ λύσις πρὸς μὲν τὸν ἐρωτῶντα ἱκανῶς ἔχει (ἠρωτᾶτο γὰρ εἰ ἐν πεπερασμένῳ ἄπειρα ἐνδέχεται διεξελθεῖν ἢ ἀριθμῆσαι), πρὸς δὲ τὸ πρᾶγμα καὶ τὴν ἀλήθειαν οὐχ ἱκανῶς· ἂν γάρ τις ἀφέμενος τοῦ μήκους καὶ τοῦ ἐρωτᾶν εἰ ἐν πεπερασμένῳ χρόνῳ ἐνδέχεται ἄπειρα διεξελθεῖν, πυνθάνηται επ’ αὐτοῦ τοῦ χρόνου ταῦτα (ἔχει γὰρ ὁ χρόνος ἀπείρους διαιρέσεις), οὐκέτι ἱκανὴ ἔσται αὕτη ἡ λύσις, ἀλλὰ τὸ ἀληθὲς λεκτέον, ὅπερ εἴπομεν ἐν τοῖς ἄρτι λόγοις. ἐὰν γάρ τις τὴν συνεχῆ διαιρῇ εἰς δύο ἡμίση, οὗτος τῷ ἑνὶ σημείῳ ὡς δυσὶ χρῆται· ποιεῖ γὰρ αὐτὸ ἀρχὴν καὶ τελευτήν. οὕτω δὲ ποιεῖ ὅ τε ἀριθμῶν καὶ ὁ εἰς τὰ ἡμίση διαιρῶν. οὕτω δὲ διαιροῦντος οὐκ ἔσται συνεχὴς οὔθ’ ἡ γραμμὴ οὔθ’ ἡ κίνησις· ἡ γὰρ συνεχὴς κίνησις συνεχοῦς ἐστιν, ἐν δὲ τῷ συνεχεῖ ἔνεστι μὲν ἄπειρα ἡμίση, ἀλλ’ οὐκ ἐντελεχείᾳ ἀλλὰ δυνάμει. ἂν δὲ ποιῇ ἐντελεχείᾳ, οὐ ποιήσει συνεχῆ, ἀλλὰ στήσει, ὅπερ ἐπὶ τοῦ ἀριθμοῦντος τὰ ἡμίσεα φανερόν ἐστιν ὅτι συμβαίνει· τὸ γὰρ ἓν σημεῖον ἀνάγκη (263b.) αὐτῷ ἀριθμεῖν δύο· τοῦ μὲν γὰρ ἑτέρου τελευτὴ ἡμίσεος τοῦ δ’ ἑτέρου ἀρχὴ ἔσται, ἂν μὴ μίαν ἀριθμῇ τὴν συνεχῆ, ἀλλὰ δύο ἡμισείας. ὥστε λεκτέον πρὸς τὸν ἐρωτῶντα εἰ ἐνδέχεται ἄπειρα διεξελθεῖν ἢ ἐν χρόνῳ ἢ ἐν μήκει, ὅτι ἔστιν ὡς, ἔστιν δ’ ὡς οὔ. ἐντελεχείᾳ μὲν γὰρ ὄντα οὐκ ἐνδέχεται, δυνάμει δὲ ἐνδέχεται· ὁ γὰρ συνεχῶς κινούμενος κατὰ συμβεβηκὸς ἄπειρα διελήλυθεν, ἁπλῶς δ’ οὔ· συμβέβηκε γὰρ τῇ γραμμῇ ἄπειρα ἡμίσεα εἶναι, ἡ δ’ οὐσία ἐστὶν ἑτέρα καὶ τὸ εἶναι. δῆλον δὲ καὶ ὅτι ἐὰν μή τις ποιῇ τοῦ χρόνου τὸ διαιροῦν σημεῖον τὸ πρότερον καὶ ὕστερον ἀεὶ τοῦ ὑστέρου τῷ πράγματι, ἔσται ἅμα τὸ αὐτὸ ὂν καὶ οὐκ ὄν, καὶ ὅτε γέγονεν οὐκ ὄν. τὸ σημεῖον μὲν οὖν ἀμφοῖν κοινόν, καὶ τοῦ προτέρου καὶ τοῦ ὑστέρου, καὶ ταὐτὸν καὶ ἓν ἀριθμῷ, λόγῳ δ’ οὐ ταὐτόν (τοῦ μὲν γὰρ τελευτή, τοῦ δ’ ἀρχή)· τῷ δὲ πράγματι ἀεὶ τοῦ ὑστέρου πάθους ἐστίν. χρόνος ἐφ’ ᾧ ΑΓΒ, πρᾶγμα ἐφ’ ᾧ Δ. τοῦτο ἐν μὲν τῷ Α χρόνῳ λευκόν, ἐν δὲ τῷ Β οὐ λευκόν· ἐν τῷ ἄρα Γ λευκὸν καὶ οὐ λευκόν. ἐν ὁτῳοῦν γὰρ τοῦ Α λευκὸν ἀληθὲς εἰπεῖν, εἰ πάντα τὸν χρόνον τοῦτον ἦν λευκόν, καὶ ἐν τῷ Β οὐ λευκόν· τὸ δὲ Γ ἐν ἀμφοῖν. οὐκ ἄρα δοτέον ἐν παντί, ἀλλὰ πλὴν τοῦ τελευταίου νῦν ἐφ’ οὗ τὸ Γ· τοῦτο δ’ ἤδη τοῦ ὑστέρου. καὶ εἰ ἐγίγνετο οὐ λευκὸν καὶ ἐφθείρετο <τὸ> λευκὸν ἐν τῷ Α παντί, γέγονεν ἢ ἔφθαρται ἐν τῷ Γ. ὥστε λευκὸν ἢ μὴ λευκὸν ἐν ἐκείνῳ πρῶτον ἀληθὲς εἰπεῖν, ἢ ὅτε γέγονεν οὐκ ἔσται, καὶ ὅτε ἔφθαρται ἔσται, ἢ ἅμα λευκὸν καὶ οὐ λευκὸν καὶ ὅλως ὂν καὶ μὴ ὂν ἀνάγκη εἶναι. εἰ δ’ ὃ ἂν ᾖ πρότερον μὴ ὄν, ἀνάγκη γίγνεσθαι ὄν, καὶ ὅτε γίγνεται μὴ ἔστιν, οὐχ οἷόν τε εἰς ἀτόμους χρόνους διαιρεῖσθαι τὸν χρόνον. εἰ γὰρ ἐν τῷ Α τὸ Δ ἐγίγνετο λευκόν, γέγονε δ’ ἅμα καὶ ἔστιν ἐν ἑτέρῳ ἀτόμῳ χρόνῳ ἐχομένῳ δ’, ἐν τῷ Β-εἰ ἐν τῷ Α ἐγίγνετο, οὐκ ἦν, ἐν δὲ τῷ Β ἐστί-, γένεσιν δεῖ τινὰ εἶναι μεταξύ, ὥστε καὶ (264a.) χρόνον ἐν ᾧ ἐγίγνετο. οὐ γὰρ ὁ αὐτὸς ἔσται λόγος καὶ τοῖς μὴ ἄτομα λέγουσιν, ἀλλ’ αὐτοῦ τοῦ χρόνου, ἐν ᾧ ἐγίγνετο, γέγονε καὶ ἔστιν ἐν τῷ ἐσχάτῳ σημείῳ, οὗ οὐδὲν ἐχόμενόν ἐστιν οὐδ’ ἐφεξῆς· οἱ δὲ ἄτομοι χρόνοι ἐφεξῆς. φανερὸν δ’ ὅτι εἰ ἐν τῷ Α ὅλῳ χρόνῳ ἐγίγνετο, οὐκ ἔστιν πλείων χρόνος ἐν ᾧ γέγονεν καὶ ἐγίγνετο ἢ ἐν ᾧ ἐγίγνετο μόνον παντί.

οἷς μὲν οὖν ἄν τις ὡς οἰκείοις πιστεύσειε λόγοις, οὗτοι καὶ τοιοῦτοί τινές εἰσιν· λογικῶς δ’ ἐπισκοποῦσι κἂν ἐκ τῶνδε δόξειέ τῳ ταὐτὸ τοῦτο συμβαίνειν. ἅπαν γὰρ τὸ κινούμενον συνεχῶς, ἂν ὑπὸ μηδενὸς ἐκκρούηται, εἰς ὅπερ ἦλθεν κατὰ τὴν φοράν, εἰς τοῦτο καὶ ἐφέρετο πρότερον, οἷον εἰ ἐπὶ τὸ Β ἦλθε, καὶ ἐφέρετο ἐπὶ τὸ Β, καὶ οὐχ ὅτε πλησίον ἦν, ἀλλ’ εὐθὺς ὡς ἤρξατο κινεῖσθαι· τί γὰρ μᾶλλον νῦν ἢ πρότερον; ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. τὸ δὴ ἀπὸ τοῦ Α [ἐπὶ τὸ Γ] φερόμενον, ὅταν ἐπὶ τὸ Γ ἔλθῃ, πάλιν ἥξει ἐπὶ τὸ Α συν εχῶς κινούμενον. ὅτε ἄρα ἀπὸ τοῦ Α φέρεται πρὸς τὸ Γ, τότε καὶ εἰς τὸ Α φέρεται τὴν ἀπὸ τοῦ Γ κίνησιν, ὥσθ’ ἅμα τὰς ἐναντίας· ἐναντίαι γὰρ αἱ κατ’ εὐθεῖαν. ἅμα δὲ καὶ ἐκ τούτου μεταβάλλει ἐν ᾧ οὐκ ἔστιν. εἰ οὖν τοῦτ’ ἀδύνατον, ἀνάγκη ἵστασθαι ἐπὶ τοῦ Γ. οὐκ ἄρα μία ἡ κίνησις· ἡ γὰρ διαλαμ βανομένη στάσει οὐ μία.

ἔτι καὶ ἐκ τῶνδε φανερὸν καθόλου μᾶλλον περὶ πάσης κινήσεως. εἰ γὰρ ἅπαν τὸ κινούμενον τῶν εἰρημένων τινὰ κινεῖται κινήσεων καὶ ἠρεμεῖ τῶν ἀντικειμένων ἠρεμιῶν (οὐ γὰρ ἦν ἄλλη παρὰ ταύτας), τὸ δὲ μὴ αἰεὶ κινούμενον τήνδε τὴν κίνησιν (λέγω δ’ ὅσαι ἕτεραι τῷ εἴδει, καὶ μὴ εἴ τι μόριόν ἐστιν τῆς ὅλης) ἀνάγκη πρότερον ἠρεμεῖν τὴν ἀντικειμένην ἠρεμίαν (ἡ γὰρ ἠρεμία στέρησις κινήσεως)· εἰ οὖν ἐναντίαι μὲν κινήσεις αἱ κατ’ εὐθεῖαν, ἅμα δὲ μὴ ἐνδέχεται κινεῖσθαι τὰς ἐναντίας, τὸ ἀπὸ τοῦ Α πρὸς τὸ Γ φερόμενον οὐκ ἂν φέροιτο ἅμα καὶ ἀπὸ τοῦ Γ πρὸς τὸ Α· ἐπεὶ δ’ οὐχ ἅμα φέρεται, κινήσεται δὲ ταύτην τὴν κίνησιν, ἀνάγκη πρότερον ἠρεμῆσαι πρὸς τῷ Γ· αὕτη γὰρ ἦν ἡ ἀντικειμένη ἠρεμία τῇ ἀπὸ τοῦ Γ κινήσει. δῆλον τοίνυν (264b.) ἐκ τῶν εἰρημένων ὅτι οὐκ ἔσται συνεχὴς ἡ κίνησις.

ἔτι δὲ καὶ ὅδε ὁ λόγος μᾶλλον οἰκεῖος τῶν εἰρημένων. ἅμα γὰρ ἔφθαρται τὸ οὐ λευκὸν καὶ γέγονε λευκόν. εἰ οὖν συνεχὴς ἡ ἀλλοίωσις εἰς λευκὸν καὶ ἐκ λευκοῦ καὶ μὴ μένει τινὰ χρόνον, ἅμα ἔφθαρται τὸ οὐ λευκὸν καὶ γέγονε λευκὸν καὶ γέγονεν οὐ λευκόν· τριῶν γὰρ ἔσται ὁ αὐτὸς χρόνος.

ἔτι οὐκ εἰ συνεχὴς ὁ χρόνος, καὶ ἡ κίνησις, ἀλλ’ ἐφεξῆς. πῶς δ’ ἂν εἴη τὸ ἔσχατον τὸ αὐτὸ τῶν ἐναντίων, οἷον λευκότητος καὶ μελανίας;

ἡ δ' ἐπὶ τῆς περιφεροῦς ἔσται μία καὶ συνεχής· οὐθὲν γὰρ ἀδύνατον συμβαίνει· τὸ γὰρ ἐκ τοῦ Α κινούμενον ἅμα κινήσεται εἰς τὸ Α κατὰ τὴν αὐτὴν πρόθεσιν (εἰς ὃ γὰρ ἥξει, καὶ κινεῖται εἰς τοῦτο), ἀλλ' οὐχ ἅμα κινήσεται τὰς ἐναντίας οὐδὲ τὰς ἀντικειμένας· οὐ γὰρ ἅπασα ἡ εἰς τοῦτο τῇ ἐκ τούτου ἐναντία οὐδ' ἀντικειμένη, ἀλλ' ἐναντία μὲν ἡ κατ' εὐθεῖαν (ταύτῃ γάρ ἔστιν ἐναντία κατὰ τόπον, οἷον τὰ κατὰ διάμε τρον· ἀπέχει γὰρ πλεῖστον), ἀντικειμένη δὲ ἡ κατὰ τὸ αὐτὸ μῆκος. ὥστ' οὐδὲν κωλύει συνεχῶς κινεῖσθαι καὶ μηδένα χρόνον διαλείπειν· ἡ μὲν γὰρ κύκλῳ κίνησίς ἐστιν ἀφ' αὑτοῦ εἰς αὑτό, ἡ δὲ κατ' εὐθεῖαν ἀφ' αὑτοῦ εἰς ἄλλο· καὶ ἡ μὲν ἐν τῷ κύκλῳ οὐδέποτε ἐν τοῖς αὐτοῖς, ἡ δὲ κατ' εὐθεῖαν πολλάκις ἐν τοῖς αὐτοῖς. τὴν μὲν οὖν ἀεὶ ἐν ἄλλῳ καὶ ἄλλῳ γιγνομένην ἐνδέχεται κινεῖσθαι συνεχῶς, τὴν δ' ἐν τοῖς αὐτοῖς πολλάκις οὐκ ἐνδέχεται· ἀνάγκη γὰρ ἅμα κινεῖσθαι τὰς ἀντικειμένας. ὥστ' οὐδ' ἐν τῷ ἡμικυκλίῳ οὐδ' ἐν ἄλλῃ περιφερείᾳ οὐδεμιᾷ ἐνδέχεται συνεχῶς κινεῖσθαι· πολλάκις γὰρ ἀνάγκη ταὐτὰ κινεῖσθαι καὶ τὰς ἐναντίας μεταβάλλειν μεταβολάς· οὐ γὰρ συνάπτει τῇ ἀρχῇ τὸ πέρας. ἡ δὲ τοῦ κύκλου συνάπτει, καὶ ἔστι μόνη τέλειος.

φανερὸν δὲ ἐκ ταύτης τῆς διαιρέσεως ὅτι οὐδὲ τὰς ἄλλας ἐνδέχεται κινήσεις εἶναι συνεχεῖς· ἐν ἁπάσαις γὰρ ταὐτὰ συμβαίνει κινεῖσθαι πολλάκις, οἷον ἐν ἀλλοιώσει τὰ μεταξύ, καὶ ἐν τῇ τοῦ ποσοῦ τὰ ἀνὰ μέσον μεγέθη, καὶ ἐν γενέσει καὶ φθορᾷ ὡσαύτως· οὐδὲν γὰρ διαφέρει ὀλίγα ἢ πολλὰ ποιῆσαι, ἐν (265a.) οἷς ἐστὶν ἡ μεταβολή, οὐδὲ μεταξὺ θεῖναί τι ἢ ἀφελεῖν· ἀμφοτέρως γὰρ συμβαίνει ταὐτὰ κινεῖσθαι πολλάκις. δῆλον οὖν ἐκ τούτων ὅτι οὐδ' οἱ φυσιολόγοι καλῶς λέγουσιν οἱ πάντα τὰ αἰσθητὰ κινεῖσθαι φάσκοντες ἀεί· κινεῖσθαι γὰρ ἀνάγκη τούτων τινὰ τῶν κινήσεων, καὶ μάλιστα κατ' ἐκείνους [ἐστὶν] ἀλλοιοῦσθαι· ῥεῖν γάρ φασιν ἀεὶ καὶ φθίνειν, ἔτι δὲ καὶ τὴν γένεσιν καὶ τὴν φθορὰν ἀλλοίωσιν λέγουσιν. ὁ δὲ λόγος νῦν εἴρηκε καθόλου περὶ πάσης κινήσεως ὅτι κατ' οὐδεμίαν κίνησιν ἐνδέχεται κινεῖσθαι συνεχῶς ἔξω τῆς κύκλῳ, ὥστε οὔτε κατ' ἀλλοίωσιν οὔτε κατ' αὔξησιν. ὅτι μὲν οὖν οὔτ' ἄπειρός ἐστι μεταβολὴ οὐδεμία οὔτε συνεχὴς ἔξω τῆς κύκλῳ φορᾶς ἔστω τοσαῦθ' ἡμῖν εἰρημένα.

Κεφάλαιο 9

Ὅτι δὲ τῶν φορῶν ἡ κυκλοφορία πρώτη, δῆλον. πᾶσα γὰρ φορά, ὥσπερ καὶ πρότερον εἴπομεν, ἢ κύκλῳ ἢ ἐπ’ εὐθείας ἢ μικτή. ταύτης δὲ ἀνάγκη προτέρας εἶναι ἐκείνας· ἐξ ἐκείνων γὰρ συνέστηκεν. τῆς δ’ εὐθείας ἡ κύκλῳ· ἁπλῆ γὰρ καὶ τέλειος μᾶλλον. ἄπειρον μὲν γὰρ οὐκ ἔστιν εὐθεῖαν φέρεσθαι (τὸ γὰρ οὕτως ἄπειρον οὐκ ἔστιν· ἅμα δ’ οὐδ’ εἰ ἦν, ἐκινεῖτ’ ἂν οὐδέν· οὐ γὰρ γίγνεται τὸ ἀδύνατον, διελθεῖν δὲ τὴν ἄπειρον ἀδύνατον)· ἡ δ’ ἐπὶ τῆς πεπερασμένης ἀνακάμπτουσα μὲν συνθετὴ καὶ δύο κινήσεις, μὴ ἀνακάμπτουσα δὲ ἀτελὴς καὶ φθαρτή. πρότερον δὲ καὶ φύσει καὶ λόγῳ καὶ χρόνῳ τὸ τέλειον μὲν τοῦ ἀτελοῦς, τοῦ φθαρτοῦ δὲ τὸ ἄφθαρτον. ἔτι προτέρα ἣν ἐνδέχεται ἀΐδιον εἶναι τῆς μὴ ἐνδεχομένης· τὴν μὲν οὖν κύκλῳ ἐνδέχεται ἀΐδιον εἶναι, τῶν δὲ ἄλλων οὔτε φορὰν οὔτε ἄλλην οὐδεμίαν· στάσιν γὰρ δεῖ γενέσθαι, εἰ δὲ στάσις, ἔφθαρται ἡ κίνησις. εὐλόγως δὲ συμβέβηκε τὸ τὴν κύκλῳ μίαν εἶναι καὶ συνεχῆ, καὶ μὴ τὴν ἐπ’ εὐθείας· τῆς μὲν γὰρ ἐπ’ εὐθείας ὥρισται καὶ ἀρχὴ καὶ τέλος καὶ μέσον, καὶ πάντ’ ἔχει ἐν αὑτῇ, ὥστ’ ἔστιν ὅθεν ἄρξεται τὸ κινούμενον καὶ οὗ τελευτήσει (πρὸς γὰρ τοῖς πέρασιν ἠρεμεῖ πᾶν, ἢ ὅθεν ἢ οὗ), τῆς δὲ περιφεροῦς ἀόριστα· τί γὰρ μᾶλλον ὁποιονοῦν πέρας τῶν ἐπὶ τῆς γραμμῆς; ὁμοίως γὰρ ἕκαστον καὶ ἀρχὴ καὶ μέσον καὶ τέλος, ὥστ’ ἀεί τε (265b.) εἶναι ἐν ἀρχῇ καὶ ἐν τέλει καὶ μηδέποτε. διὸ κινεῖταί τε καὶ ἠρεμεῖ πως ἡ σφαῖρα· τὸν αὐτὸν γὰρ κατέχει τόπον. αἴτιον δ’ ὅτι πάντα συμβέβηκε ταῦτα τῷ κέντρῳ· καὶ γὰρ ἀρχὴ καὶ μέσον τοῦ μεγέθους καὶ τέλος ἐστίν, ὥστε διὰ τὸ ἔξω εἶναι τοῦτο τῆς περιφερείας οὐκ ἔστιν ὅπου τὸ φερόμενον ἠρεμήσει ὡς διεληλυθός (ἀεὶ γὰρ φέρεται περὶ τὸ μέσον, ἀλλ’ οὐ πρὸς τὸ ἔσχατον), διὰ δὲ τὸ τοῦτο μένειν ἀεί τε ἠρεμεῖ πως τὸ ὅλον καὶ κινεῖται συνεχῶς. συμβαίνει δ’ ἀντιστρόφως· καὶ γὰρ ὅτι μέτρον τῶν κινήσεων ἡ περιφορά, πρώτην ἀναγκαῖον αὐτὴν εἶναι (ἅπαντα γὰρ μετρεῖται τῷ πρώτῳ), καὶ διότι πρώτη, μέτρον ἐστὶν τῶν ἄλλων. ἔτι δὲ καὶ ὁμαλῆ ἐνδέχεται εἶναι τὴν κύκλῳ μόνην· τὰ γὰρ ἐπ’ εὐθείας ἀνωμαλῶς ἀπὸ τῆς ἀρχῆς φέρεται καὶ πρὸς τὸ τέλος· πάντα γὰρ ὅσῳπερ ἂν ἀφίστηται [πλεῖον] τοῦ ἠρεμοῦντος, φέρεται θᾶττον· τῆς δὲ κύκλῳ μόνης οὔτ’ ἀρχὴ οὔτε τέλος ἐν αὐτῇ πέφυκεν, ἀλλ’ ἐκτός. ὅτι δ’ ἡ κατὰ τόπον φορὰ πρώτη τῶν κινήσεων, μαρτυροῦσι πάντες ὅσοι περὶ κινήσεως πεποίηνται μνείαν·

τὰς γὰρ ἀρχὰς αὐτῆς ἀποδιδόασιν τοῖς κινοῦσι τοιαύτην κίνησιν. διάκρισις γὰρ καὶ σύγκρισις κινήσεις κατὰ τόπον εἰσίν, οὕτω δὲ κινοῦσιν ἡ φιλία καὶ τὸ νεῖκος· τὸ μὲν γὰρ διακρίνει, τὸ δὲ συγκρίνει αὐτῶν. καὶ τὸν νοῦν δέ φησιν Ἀναξαγόρας διακρίνειν τὸν κινήσαντα πρῶτον. ὁμοίως δὲ καὶ ὅσοι τοιαύτην μὲν οὐδεμίαν αἰτίαν λέγουσιν, διὰ δὲ τὸ κενὸν κινεῖσθαί φασιν· καὶ γὰρ οὗτοι τὴν κατὰ τόπον κίνησιν κινεῖσθαι τὴν φύσιν λέγουσιν (ἡ γὰρ διὰ τὸ κενὸν κίνησις φορά ἐστιν καὶ ὡς ἐν τόπῳ), τῶν δ’ ἄλλων οὐδεμίαν ὑπάρχειν τοῖς πρώτοις ἀλλὰ τοῖς ἐκ τούτων οἴονται· αὐξάνεσθαι γὰρ καὶ φθίνειν καὶ ἀλλοιοῦσθαι συγκρινομένων καὶ διακρινομένων τῶν ἀτόμων σωμάτων φασίν. τὸν αὐτὸν δὲ τρόπον καὶ ὅσοι διὰ πυκνότητα ἢ μανότητα κατασκευάζουσι γένεσιν καὶ φθοράν· συγκρίσει γὰρ καὶ διακρίσει ταῦτα διακοσμοῦσιν. ἔτι δὲ παρὰ τούτους οἱ τὴν ψυχὴν αἰτίαν ποιοῦντες κινήσεως· τὸ γὰρ αὐτὸ αὑτὸ κινοῦν ἀρχὴν εἶναί φασιν τῶν κινουμένων, κινεῖ δὲ τὸ ζῷον καὶ πᾶν τὸ ἔμ(266a.) ψυχον τὴν κατὰ τόπον αὑτὸ κίνησιν. καὶ κυρίως δὲ κινεῖσθαί φαμεν μόνον τὸ κινούμενον [τὴν] κατὰ τόπον [κίνησιν]· ἂν δ’ ἠρεμῇ μὲν ἐν τῷ αὐτῷ, αὐξάνηται δ’ ἢ φθίνῃ ἢ ἀλλοιούμενον τυγχάνῃ, πῂ κινεῖσθαι, ἁπλῶς δὲ κινεῖσθαι οὔ φαμεν. ὅτι μὲν οὖν ἀεί τε κίνησις ἦν καὶ ἔσται τὸν ἅπαντα χρόνον, καὶ τίς ἀρχὴ τῆς ἀϊδίου κινήσεως, ἔτι δὲ τίς πρώτη κίνησις, καὶ τίνα κίνησιν ἀΐδιον ἐνδέχεται μόνην εἶναι, καὶ τὸ κινοῦν πρῶτον ὅτι ἀκίνητον, εἴρηται.

Κεφάλαιο 10

Ὅτι δὲ τοῦτ' ἀμερὲς ἀναγκαῖον εἶναι καὶ μηδὲν ἔχειν μέγεθος, νῦν λέγωμεν, πρῶτον περὶ τῶν προτέρων αὐτοῦ διορίσαντες.

τούτων δ' ἓν μέν ἐστιν ὅτι οὐχ οἷόν τε οὐδὲν πεπερασμένον κινεῖν ἄπειρον χρόνον. τρία γὰρ ἔστιν, τὸ κινοῦν, τὸ κινούμενον, τὸ ἐν ᾧ τρίτον, ὁ χρόνος. ταῦτα δὲ ἢ πάντα ἄπειρα ἢ πάντα πεπερασμένα ἢ ἔνια, οἷον τὰ δύο ἢ τὸ ἕν. ἔστω δὴ τὸ Α τὸ κινοῦν, τὸ δὲ κινούμενον Β, χρόνος ἄπειρος ἐφ' οὗ Γ. τὸ δὴ Δ τῆς Β κινείτω τι μέρος, τὸ ἐφ' οὗ Ε. οὐ δὴ ἐν ἴσῳ τῷ Γ· ἐν πλείονι γὰρ τὸ μεῖζον. ὥστ' οὐκ ἄπειρος ὁ χρόνος ὁ τὸ Ζ. οὕτω δὴ τῇ Δ προστιθεὶς καταναλώσω τὸ Α καὶ τῇ Ε τὸ Β· τὸν δὲ χρόνον οὐ καταναλώσω ἀεὶ ἀφαιρῶν ἴσον· ἄπειρος γάρ· ὥστε ἡ πᾶσα Α τὴν ὅλην Β κινήσει ἐν πεπερασμένῳ χρόνῳ τοῦ Γ. οὐκ ἄρα οἷόν τε ὑπὸ πεπερασμένου κινεῖσθαι οὐδὲν ἄπειρον κίνησιν.

ὅτι μὲν οὖν οὐκ ἐνδέχεται τὸ πεπερασμένον ἄπειρον κινεῖν χρόνον, φανερόν· ὅτι δ' ὅλως οὐκ ἐνδέχεται ἐν πεπερασμένῳ μεγέθει ἄπειρον εἶναι δύναμιν, ἐκ τῶνδε δῆλον. ἔστω γὰρ ἡ πλείων δύναμις ἀεὶ ἡ τὸ ἴσον ἐν ἐλάττονι χρόνῳ ποιοῦσα, οἷον θερμαίνουσα ἢ γλυκαίνουσα ἢ ῥιπτοῦσα καὶ ὅλως κινοῦσα. ἀνάγκη ἄρα καὶ ὑπὸ τοῦ πεπερασμένου μὲν ἄπειρον δ' ἔχοντος δύναμιν πάσχειν τι τὸ πάσχον, καὶ πλεῖον ἢ ὑπ' ἄλλου· πλείων γὰρ ἡ ἄπειρος. ἀλλὰ μὴν χρόνον γε οὐκ ἐνδέχεται εἶναι οὐδένα. εἰ γάρ ἐστιν ὁ ἐφ' οὗ Α χρόνος ἐν ᾧ ἡ ἄπειρος ἰσχὺς ἐθέρμανεν ἢ ἔωσεν, ἐν τῷ δὲ ΑΒ πεπερασμένη τις, πρὸς ταύτην (266b.) μείζω λαμβάνων ἀεὶ πεπερασμένην ἥξω ποτὲ εἰς τὸ ἐν τῷ Α χρόνῳ κεκινηκέναι· πρὸς πεπερασμένον γὰρ ἀεὶ προστιθεὶς ὑπερβαλῶ παντὸς ὡρισμένου, καὶ ἀφαιρῶν ἐλλείψω ὡσαύτως. ἐν ἴσῳ ἄρα χρόνῳ κινήσει τῇ ἀπείρῳ ἡ πεπερασμένη. τοῦτο δὲ ἀδύνατον· οὐδὲν ἄρα πεπερασμένον ἐνδέχε ται ἄπειρον δύναμιν ἔχειν. οὐ τοίνυν οὐδ' ἐν ἀπείρῳ πεπε(6) ρασμένην· καίτοι ἐνδέχεται ἐν ἐλάττονι μεγέθει πλείω δύναμιν εἶναι· ἀλλ' ἔτι μᾶλλον ἐν μείζονι πλείω. ἔστω δὴ τὸ ἐφ' οὗ ΑΒ ἄπειρον. τὸ δὴ ΒΓ ἔχει δύναμίν τινα, ἣ ἔν τινι χρόνῳ ἐκίνησεν τὴν Δ, ἐν τῷ χρόνῳ ἐφ' οὗ ΕΖ. ἂν δὴ τῆς ΒΓ διπλασίαν λαμβάνω, ἐν ἡμίσει χρόνῳ τοῦ ΕΖ (ἔστω γὰρ αὕτη ἡ ἀναλογία), ὥστε ἐν τῷ ΖΘ κινήσει. οὐκοῦν οὕτω λαμβάνων ἀεὶ τὴν μὲν ΑΒ οὐδέποτε διέξειμι, τοῦ χρόνου δὲ τοῦ δοθέντος αἰεὶ ἐλάττω λήψομαι. ἄπειρος ἄρα ἡ δύναμις ἔσται· πάσης γὰρ πεπερασμένης ὑπερβάλλει δυνάμεως, εἴ γε πάσης πεπερασμένης δυνάμεως ἀνάγκη πεπερασμένον εἶναι καὶ τὸν χρόνον (εἰ γὰρ ἔν τινι ἡ τοσηδί, ἡ μείζων ἐν ἐλάττονι μὲν ὡρισμένῳ δὲ χρόνῳ κινήσει, κατὰ τὴν ἀντιστροφὴν τῆς ἀναλογίας)· ἄπειρος δὲ πᾶσα δύναμις, ὥσπερ καὶ πλῆθος καὶ μέγεθος τὸ ὑπερβάλλον παντὸς ὡρισμένου. ἔστιν δὲ καὶ ὧδε δεῖξαι τοῦτο· ληψόμεθα γάρ τινα δύναμιν τὴν αὐτὴν τῷ γένει τῇ ἐν τῷ ἀπείρῳ μεγέθει, ἐν πεπερασμένῳ μεγέθει οὖσαν, ἣ καταμετρήσει τὴν ἐν τῷ ἀπείρῳ πεπερασμένην δύναμιν.

ὅτι μὲν οὖν οὐκ ἐνδέχεται ἄπειρον εἶναι δύναμιν ἐν πεπερασμένῳ μεγέθει, οὐδ’ ἐν ἀπείρῳ πεπερασμένην, ἐκ τούτων δῆλον. περὶ δὲ τῶν φερομένων ἔχει καλῶς διαπορῆσαί τινα ἀπορίαν πρῶτον. εἰ γὰρ πᾶν τὸ κινούμενον κινεῖται ὑπὸ τινός, ὅσα μὴ αὐτὰ ἑαυτὰ κινεῖ, πῶς κινεῖται ἔνια συνεχῶς μὴ ἁπτομένου τοῦ κινήσαντος, οἷον τὰ ῥιπτούμενα; εἰ δ’ ἅμα κινεῖ καὶ ἄλλο τι ὁ κινήσας, οἷον τὸν ἀέρα, ὃς κινούμενος κινεῖ, ὁμοίως ἀδύνατον τοῦ πρώτου μὴ ἁπτομένου μηδὲ κινοῦντος κινεῖσθαι, ἀλλ’ ἅμα πάντα <καὶ> κινεῖσθαι καὶ (267a.) πεπαῦσθαι ὅταν τὸ πρῶτον κινοῦν παύσηται, καὶ εἰ ποιεῖ, ὥσπερ ἡ λίθος, οἷόν τε κινεῖν ὃ ἐκίνησεν. ἀνάγκη δὴ τοῦτο μὲν λέγειν, ὅτι τὸ πρῶτον κινῆσαν ποιεῖ οἷόν τε κινεῖν ἢ τὸν ἀέρα [τοιοῦτον] ἢ τὸ ὕδωρ ἤ τι ἄλλο τοιοῦτον ὃ πέφυκε κινεῖν καὶ κινεῖσθαι· ἀλλ’ οὐχ ἅμα παύεται κινοῦν καὶ κινούμενον, ἀλλὰ κινούμενον μὲν ἅμα ὅταν ὁ κινῶν παύσηται κινῶν, κινοῦν δὲ ἔτι ἐστίν. διὸ καὶ κινεῖ τι ἄλλο ἐχόμενον· καὶ ἐπὶ τούτου ὁ αὐτὸς λόγος. παύεται δέ, ὅταν ἀεὶ ἐλάττων ἡ δύναμις τοῦ κινεῖν ἐγγίγνηται τῷ ἐχομένῳ. τέλος δὲ παύεται, ὅταν μηκέτι ποιήσῃ τὸ πρότερον κινοῦν, ἀλλὰ κινούμενον μόνον. ταῦτα δ’ ἀνάγκη ἅμα παύεσθαι, τὸ μὲν κινοῦν τὸ δὲ κινούμενον, καὶ τὴν ὅλην κίνησιν. αὕτη μὲν οὖν ἐν τοῖς ἐνδεχομένοις ὁτὲ μὲν κινεῖσθαι ὁτὲ δ’ ἠρεμεῖν ἐγγίγνεται ἡ κίνησις, καὶ οὐ συνεχής, ἀλλὰ φαίνεται· ἢ γὰρ ἐφεξῆς ὄντων ἢ ἁπτομένων ἐστίν· οὐ γὰρ ἓν τὸ κινοῦν, ἀλλ’ ἐχόμενα ἀλλήλων. διὸ ἐν ἀέρι καὶ ὕδατι γίγνεται ἡ τοιαύτη κίνησις, ἣν λέγουσί τινες ἀντιπερίστασιν εἶναι. ἀδύνατον δὲ ἄλλως τὰ ἀπορηθέντα λύειν, εἰ μὴ τὸν εἰρημένον τρόπον. ἡ δ’ ἀντιπερίστασις ἅμα πάντα κινεῖσθαι ποιεῖ καὶ κινεῖν, ὥστε καὶ παύεσθαι· νῦν δὲ φαίνεταί τι ἓν κινούμενον συνεχῶς· ὑπὸ τίνος οὖν; οὐ γὰρ ὑπὸ τοῦ αὐτοῦ. ἐπεὶ δ’ ἐν τοῖς οὖσιν ἀνάγκη κίνησιν εἶναι συνεχῆ, αὕτη δὲ μία ἐστίν, ἀνάγκη δὲ τὴν μίαν μεγέθους τέ τινος εἶναι (οὐ γὰρ κινεῖται τὸ ἀμέγεθες) καὶ ἑνὸς καὶ ὑφ’ ἑνός (οὐ γὰρ ἔσται συνεχής, ἀλλ’ ἐχομένη ἑτέρα ἑτέρας καὶ διῃρημένη), τὸ δὴ κινοῦν εἰ ἕν, ἢ κινούμενον κινεῖ ἢ ἀκίνητον ὄν. εἰ μὲν δὴ κινού μενον, συνακολουθεῖν δεήσει καὶ μεταβάλλειν αὐτό, ἅμα δὲ (267b.)

κινεῖσθαι ὑπό τινος, ὥστε στήσεται καὶ ἥξει εἰς τὸ κινεῖσθαι ὑπὸ ἀκινήτου. τοῦτο γὰρ οὐκ ἀνάγκη συμμεταβάλλειν, ἀλλ' ἀεί τε δυνήσεται κινεῖν (ἄπονον γὰρ τὸ οὕτω κινεῖν) καὶ ὁμαλὴς αὕτη ἡ κίνησις ἢ μόνη ἢ μάλιστα· οὐ γὰρ ἔχει μεταβολὴν τὸ κινοῦν οὐδεμίαν. δεῖ δὲ οὐδὲ τὸ κινούμενον πρὸς ἐκεῖνο ἔχειν μεταβολήν, ἵνα ὁμοία ᾖ ἡ κίνησις. ἀνάγκη δὴ ἢ ἐν μέσῳ ἢ ἐν κύκλῳ εἶναι· αὗται γὰρ αἱ ἀρχαί. ἀλλὰ τάχιστα κινεῖται τὰ ἐγγύτατα τοῦ κινοῦντος. τοιαύτη δ' ἡ τοῦ κύκλου κίνησις· ἐκεῖ ἄρα τὸ κινοῦν. ἔχει δ' ἀπορίαν εἰ ἐνδέχεταί τι κινούμενον κινεῖν συνεχῶς, ἀλλὰ μὴ ὥσπερ τὸ ὠθοῦν πάλιν καὶ πάλιν, τῷ ἐφεξῆς εἶναι συνεχῶς· ἢ γὰρ αὐτὸ δεῖ ἀεὶ ὠθεῖν ἢ ἕλκειν ἢ ἄμφω, ἢ ἕτερόν τι ἐκδεχόμενον ἄλλο παρ' ἄλλου, ὥσπερ πάλαι ἐλέχθη ἐπὶ τῶν ῥιπτουμένων, εἰ διαιρετὸς ὢν ὁ ἀὴρ [ἢ τὸ ὕδωρ] κινεῖ ἄλλος ἀεὶ κινούμενος. ἀμφοτέρως δ' οὐχ οἷόν τε μίαν εἶναι, ἀλλ' ἐχομένην. μόνη ἄρα συνεχὴς ἣν κινεῖ τὸ ἀκίνητον· ἀεὶ γὰρ ὁμοίως ἔχον καὶ πρὸς τὸ κινούμενον ὁμοίως ἕξει καὶ συνεχῶς.

διωρισμένων δὲ τούτων φανερὸν ὅτι ἀδύνατον τὸ πρῶτον κινοῦν καὶ ἀκίνητον ἔχειν τι μέγεθος. εἰ γὰρ μέγεθος ἔχει, ἀνάγκη ἤτοι πεπερασμένον αὐτὸ εἶναι ἢ ἄπειρον. ἄπειρον μὲν οὖν ὅτι οὐκ ἐνδέχεται μέγεθος εἶναι, δέδεικται πρότερον ἐν τοῖς φυσικοῖς· ὅτι δὲ τὸ πεπερασμένον ἀδύνατον ἔχειν δύναμιν ἄπειρον, καὶ ὅτι ἀδύνατον ὑπὸ πεπερασμένου κινεῖσθαί τι ἄπειρον χρόνον, δέδεικται νῦν. τὸ δέ γε πρῶτον κινοῦν ἀΐδιον κινεῖ κίνησιν καὶ ἄπειρον χρόνον. φανερὸν τοίνυν ὅτι ἀδιαίρετόν ἐστι καὶ ἀμερὲς καὶ οὐδὲν ἔχον μέγεθος.

Περὶ οὐρανοῦ (268a) On the Heavens

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Βιβλίο 1

Κεφάλαιο 1

(268a.) Ἡ περὶ φύσεως ἐπιστήμη σχεδὸν ἡ πλείστη φαίνεται περί τε σώματα καὶ μεγέθη καὶ τὰ τούτων οὖσα πάθη καὶ τὰς κινήσεις, ἔτι δὲ περὶ τὰς ἀρχάς, ὅσαι τῆς τοιαύτης οὐσίας εἰσίν· τῶν γὰρ φύσει συνεστώτων τὰ μέν ἐστι σώματα καὶ μεγέθη, τὰ δ’ ἔχει σῶμα καὶ μέγεθος, τὰ δ’ ἀρχαὶ τῶν ἐχόντων εἰσίν.

Συνεχὲς μὲν οὖν ἐστι τὸ διαιρετὸν εἰς ἀεὶ διαιρετά, σῶμα δὲ τὸ πάντῃ διαιρετόν. Μεγέθους δὲ τὸ μὲν ἐφ’ ἓν γραμμή, τὸ δ’ ἐπὶ δύο ἐπίπεδον, τὸ δ’ ἐπὶ τρία σῶμα· καὶ παρὰ ταῦτα οὐκ ἔστιν ἄλλο μέγεθος διὰ τὸ τὰ τρία πάντα εἶναι καὶ τὸ τρὶς πάντῃ. Καθάπερ γάρ φασι καὶ οἱ Πυθαγόρειοι, τὸ πᾶν καὶ τὰ πάντα τοῖς τρισὶν ὥρισται· τελευτὴ γὰρ καὶ μέσον καὶ ἀρχὴ τὸν ἀριθμὸν ἔχει τὸν τοῦ παντός, ταῦτα δὲ τὸν τῆς τριάδος. Διὸ παρὰ τῆς φύσεως εἰληφότες ὥσπερ νόμους ἐκείνης, καὶ πρὸς τὰς ἁγιστείας χρώμεθα τῶν θεῶν τῷ ἀριθμῷ τούτῳ. Ἀποδίδομεν δὲ καὶ τὰς προσηγορίας τὸν τρόπον τοῦτον· τὰ γὰρ δύο ἄμφω μὲν λέγομεν καὶ τοὺς δύο ἀμφοτέρους, πάντας δ’ οὐ λέγομεν, ἀλλὰ κατὰ τῶν τριῶν ταύτην τὴν κατηγορίαν κατάφαμεν πρῶτον. Ταῦτα δ’, ὥσπερ εἴρηται, διὰ τὸ τὴν φύσιν αὐτὴν οὕτως ἐπάγειν ἀκολουθοῦμεν.

Ὥστ’ ἐπεὶ τὰ πάντα καὶ τὸ πᾶνκαὶ τὸ τέλειον οὐ κατὰ τὴν ἰδέαν διαφέρουσιν ἀλλήλων, ἀλλ’ εἴπερ, ἐν τῇ ὕλῃ καὶ ἐφ’ ὧν λέγονται, τὸ σῶμα μόνον ἂν εἴη τῶν μεγεθῶν τέλειον· μόνον γὰρ ὥρισται τοῖς τρισίν, τοῦτο δ’ ἐστὶ πᾶν. Τριχῇ δὲ ὂν διαιρετὸν πάντῃ διαιρετόν ἐστιν· τῶν δ’ ἄλλων τὸ μὲν ἐφ’ ἓν τὸ δ’ ἐπὶ δύο· ὡς γὰρ τοῦ ἀριθμοῦ τετυχήκασιν, οὕτω καὶ τῆς διαιρέσεωςκαὶ τοῦ συνεχοῦς· τὸ μὲν γὰρ ἐφ’ ἓν συνεχές, τὸ δ’ ἐπὶ δύο, τὸ δὲ πάντῃ τοιοῦτον. Ὅσα μὲν οὖν διαιρετὰ τῶν μεγεθῶν, καὶ συνεχῆ ταῦτα· εἰ δὲ καὶ τὰ συνεχῆ πάντα διαιρετά, οὔπω δῆλον ἐκ τῶν νῦν.

Ἀλλ’ ἐκεῖνο μὲν δῆλον, ὡς οὐκ (268b.) ἔστιν εἰς ἄλλο γένος μετάβασις, ὥσπερ ἐκ μήκους εἰς ἐπιφάνειαν, εἰς δὲ σῶμα ἐξ ἐπιφανείας· οὐ γὰρ ἂν ἔτι τὸ τοιοῦτον τέλειον εἴη μέγεθος· ἀνάγκη γὰρ γίγνεσθαι τὴν ἔκβασιν κατὰ τὴν ἔλλειψιν, οὐχ οἷόν τε δὲ τὸ τέλειον ἐλλείπειν· πάντῃ γάρ ἐστιν.

Τῶν μὲν οὖν ἐν μορίου εἴδει σωμάτων κατὰ τὸν λόγον ἕκαστον τοιοῦτόν ἐστιν· πάσας γὰρ ἔχει τὰς διαστάσεις· ἀλλ’ ὥρισται πρὸς τὸ πλησίον ἁφῇ· διὸ τρόπον τινὰ πολλὰ τῶν σωμάτων ἕκαστόν ἐστιν. Τὸ δὲ πᾶν οὗ ταῦτα μόρια, τέλειον ἀναγκαῖον εἶναι καὶ καθάπερ τοὔνομα ημαίνει πάντῃ, καὶ μὴ τῇ μὲν τῇ δὲ μή.

Κεφάλαιο 2

Περὶ μὲν οὖν τῆς τοῦ παντὸς φύσεως, εἴτ’ ἄπειρός ἐστι κατὰ τὸ μέγεθος εἴτε πεπέρανται τὸν σύνολον ὄγκον, ὕστερον ἐπισκεπτέον· περὶ δὲ τῶν κατ’ εἶδος αὐτοῦ μορίων νῦν λέγωμεν ἀρχὴν ποιησάμενοι τήνδε.

Πάντα γὰρ τὰ φυσικὰ σώματα καὶ μεγέθη καθ’ αὑτὰ κινητὰ λέγομεν εἶναι κατὰ τόπον· τὴν γὰρ φύσιν κινήσεως ἀρχὴν εἶναί φαμεν αὐτοῖς.

Πᾶσα δὲ κίνησις ὅση κατὰ τόπον, ἣν καλοῦμεν φοράν, ἢ εὐθεῖα ἢ κύκλῳ ἢ ἐκ τούτων μικτή· ἁπλαῖ γὰρ αὗται δύο μόναι. Αἴτιον δ’ ὅτι καὶ τὰ μεγέθη ταῦτα ἁπλᾶ μόνον, ἥ τ’ εὐθεῖα καὶ ἡ περιφερής. Κύκλῳ μὲν οὖν ἐστιν ἡ περὶ τὸ μέσον, εὐθεῖα δ’ ἡ ἄνω καὶ κάτω. Λέγω δ’ ἄνω μὲν τὴν ἀπὸ τοῦ μέσου, κάτω δὲ τὴν ἐπὶ τὸ μέσον. Ὥστ’ ἀνάγκη πᾶσαν εἶναι τὴν ἁπλῆν φορὰν τὴν μὲν ἀπὸ τοῦ μέσου, τὴν δ’ ἐπὶ τὸ μέσον, τὴν δὲ περὶ τὸ μέσον. Καὶ ἔοικεν ἠκολουθηκέναι κατὰ λόγον τοῦτο τοῖς ἐξ ἀρχῆς· τό τε γὰρ σῶμα ἀπετελέσθη ἐν τρισὶ καὶ ἡ κίνησις αὐτοῦ. Ἐπεὶ δὲ τῶν σωμάτων τὰ μέν ἐστιν ἁπλᾶ τὰ δὲ σύνθετα ἐκ τούτων (λέγω δ’ ἁπλᾶ μὲν ὅσα κινήσεως ἀρχὴν ἔχει κατὰ φύσιν, οἷον πῦρ καὶ γῆν καὶ τὰ τούτων εἴδη καὶ τὰ συγγενῆ τούτοις), ἀνάγκη καὶ τὰς κινήσεις εἶναι τὰς μὲν ἁπλᾶς τὰς δὲ μικτάς πως, (269a.) καὶ τῶν μὲν ἁπλῶν ἁπλᾶς, μικτὰς δὲ τῶν συνθέτων, κινεῖσθαι δὲ κατὰ τὸ ἐπικρατοῦν.

Εἴπερ οὖν ἐστιν ἁπλῆ κίνησις, ἁπλῆ δ’ ἡ κύκλῳ κίνησις, καὶ τοῦ τε ἁπλοῦ σώματος ἁπλῆ ἡ κίνησις καὶ ἡ ἁπλῆ κίνησις ἁπλοῦ σώματος (καὶ γὰρ ἂν συνθέτου ᾖ, κατὰ τὸ ἐπικρατοῦν ἔσται), ἀναγκαῖον εἶναί τι σῶμα ἁπλοῦν ὃ πέφυκε φέρεσθαι τὴν κύκλῳ κίνησιν κατὰ τὴν ἑαυτοῦ φύσιν· βίᾳ μὲν γὰρ ἐνδέχεται τὴν ἄλλου καὶ ἑτέρου, κατὰ φύσιν δὲ ἀδύνατον, εἴπερ μία ἑκάστου κίνησις ἡ κατὰ φύσιν τῶν ἁπλῶν.

Ἔτι εἰ ἡ παρὰ φύσιν ἐναντία τῇ κατὰ φύσιν καὶ ἓν ἑνὶ ἐναντίον, ἀνάγκη, ἐπεὶ ἁπλῆ ἡ κύκλῳ, εἰ μὴ ἔσται κατὰ φύσιν τοῦ φερομένου σώματος, παρὰ φύσιν αὐτοῦ εἶναι. Εἰ οὖν πῦρ ἢ ἄλλο τι τῶν τοιούτων ἐστὶ τὸ κύκλῳ φερόμενον, ἐναντία ἡ κατὰ φύσιν αὐτοῦ φορὰ ἔσται τῇ κύκλῳ. Ἀλλ’ ἓν ἑνὶ ἐναντίον· ἡ δ’ ἄνω καὶ κάτω ἀλλήλαις ἐναντίαι. Εἰ δ’ ἕτερόν τί ἐστι σῶμα τὸ φερόμενον κύκλῳ παρὰ φύσιν, ἔσται τις αὐτοῦ ἄλλη κίνησις κατὰ φύσιν. Ἀλλὰ τοῦτ’ ἀδύνατον· εἰ μὲν γὰρ ἡ ἄνω, πῦρ ἔσται ἢ ἀήρ, εἰ δ’ ἡ κάτω, ὕδωρ ἢ γῆ.

Ἀλλὰ μὴν καὶ πρώτην γε ἀναγκαῖον εἶναι τὴν τοιαύτην φοράν. Τὸ γὰρ τέλειον πρότερον τῇ φύσει τοῦ ἀτελοῦς, ὁ δὲ κύκλος τῶν τελείων, εὐθεῖα δὲ γραμμὴ οὐδεμία· οὔτε γὰρ ἡ ἄπειρος (ἔχοι γὰρ ἂν πέρας καὶ τέλος) οὔτε τῶν πεπερασμένων οὐδεμία (πασῶν γάρ ἐστί τι ἐκτός· αὐξῆσαι γὰρ ἐνδέχεται ὁποιανοῦν). Ὥστ' εἴπερ ἡ μὲν προτέρα κίνησις προτέρου τῇ φύσει σώματος, ἡ δὲ κύκλῳ προτέρα τῆς εὐθείας, ἡ δ' ἐπ' εὐθείας τῶν ἁπλῶν σωμάτων ἐστί (τό τε γὰρ πῦρ ἐπ' εὐθείας ἄνω φέρεται καὶ τὰ γεηρὰ κάτω πρὸς τὸ μέσον), ἀνάγκη καὶ τὴν κύκλῳ κίνησιν τῶν ἁπλῶν τινος εἶναι σωμάτων· τῶν γὰρ μικτῶν τὴν φορὰν ἔφαμεν εἶναι κατὰ τὸ ἐπικρατοῦν ἐν τῇ μίξει τῶν ἁπλῶν. Ἔκ τε δὴ τούτων φανερὸν ὅτι πέφυκέ τις οὐσία σώματος ἄλλη παρὰ τὰς ἐνταῦθα συστάσεις, θειοτέρα καὶ προτέρα τούτων ἁπάντων, κἂν εἴ τις ἔτι λάβοι πᾶσαν εἶναι κίνησιν ἢ κατὰ φύσιν ἢ παρὰ φύσιν, καὶ τὴν ἄλλῳ παρὰ φύσιν ἑτέρῳ κατὰ φύσιν, οἷον ἡ ἄνω καὶ ἡ κάτω πέπονθεν· ἡ μὲν γὰρ τῷ πυρί, ἡ δὲ τῇ γῇ παρὰ φύσιν καὶ κατὰ φύσιν· (269b.) ὥστ' ἀναγκαῖον καὶ τὴν κύκλῳ κίνησιν, ἐπειδὴ τούτοις παρὰ φύσιν, ἑτέρου τινὸς εἶναι κατὰ φύσιν. Πρὸς δὲ τούτοις εἰ μέν ἐστιν ἡ κύκλῳ τινὶ φορὰ κατὰ φύσιν, δῆλον ὡς εἴη ἄν τι σῶμα τῶν ἁπλῶν καὶ πρώτων, ὃ πέφυκεν, ὥσπερ τὸ πῦρ ἄνω καὶ ἡ γῆ κάτω, ἐκεῖνο κύκλῳ φέρεσθαι κατὰ φύσιν. Εἰ δὲ παρὰ φύσιν φέρεται τὰ φερόμενα κύκλῳ τὴν πέριξ φοράν, θαυμαστὸν καὶ παντελῶς ἄλογον τὸ μόνην εἶναι συνεχῆ ταύτην τὴν κίνησιν καὶ ἀΐδιον, οὖσαν παρὰ φύσιν· φαίνεται γὰρ ἔν γε τοῖς ἄλλοις τάχιστα φθειρόμενα τὰ παρὰ φύσιν.

Ὥστ' εἴπερ ἐστὶ πῦρ τὸ φερόμενον, καθάπερ φασί τινες, οὐδὲν ἧττον αὐτῷ παρὰ φύσιν ἡ κίνησίς ἐστιν αὕτη ἢ ἡ κάτω· πυρὸς γὰρ κίνησιν ὁρῶμεν τὴν ἀπὸ τοῦ μέσου κατ' εὐθεῖαν.

Διόπερ ἐξ ἁπάντων ἄν τις τούτων συλλογιζόμενος πιστεύσειεν ὡς ἔστι τι παρὰ τὰ σώματα τὰ δεῦρο καὶ περὶ ἡμᾶς ἕτερον κεχωρισμένον, τοσούτῳ τιμιωτέραν ἔχον τὴν φύσιν ὅσῳπερ ἀφέστηκε τῶν ἐνταῦθα πλεῖον.

Κεφάλαιο 3

Ἐπεὶ δὲ τὰ μὲν ὑπόκειται τὰ δ’ ἀποδέδεικται τῶν εἰρημένων, φανερὸν ὅτι οὔτε κουφότητα οὔτε βάρος ἔχει σῶμα ἅπαν, δεῖ δὲ ὑποθέσθαι τί λέγομεν τὸ βαρὺ καὶ τὸ κοῦφον, νῦν μὲν ἱκανῶς ὡς πρὸς τὴν παροῦσαν χρείαν, ἀκριβέστερον δὲ πάλιν, ὅταν ἐπισκοπῶμεν περὶ τῆς οὐσίας αὐτῶν. Βαρὺ μὲν οὖν ἔστω τὸ φέρεσθαι πεφυκὸς ἐπὶ τὸ μέσον, κοῦφον δὲ τὸ ἀπὸ τοῦ μέσου, βαρύτατον δὲ τὸ πᾶσιν ὑφιστάμενον τοῖς κάτω φερομένοις, κουφότατον δὲ τὸ πᾶσιν ἐπιπολάζον τοῖς ἄνω φερομένοις.

Ἀνάγκη δὴ πᾶν τὸ φερόμενον ἢ κάτω ἢ ἄνω ἢ κουφότητ’ ἔχειν ἢ βάρος ἢ ἄμφω, μὴ πρὸς τὸ αὐτὸ δέ· πρὸς ἄλληλα γάρ ἐστι βαρέα καὶ κοῦφα, οἷον ἀὴρ πρὸς ὕδωρ, καὶ πρὸς γῆν ὕδωρ. Τὸ δὲ κύκλῳ σῶμα φερόμενον ἀδύνατον ἔχειν βάρος ἢ κουφότητα· οὔτε γὰρ κατὰ φύσιν οὔτε παρὰ φύσιν ἐνδέχεται αὐτῷ κινηθῆναι ἐπὶ τὸ μέσον ἢ ἀπὸ τοῦ μέσου. Κατὰ φύσιν μὲν γὰρ οὐκ ἔστιν αὐτῷ ἡ ἐπ’ εὐθείας φορά· μία γὰρ ἦν ἑκάστου τῶν ἁπλῶν, ὥστ’ ἔσται τὸ αὐτὸ τῶν οὕτω τινὶ φερομένων. Παρὰ φύσιν δ’ ἐνεχθέντος, εἰ μὲν ἡ κάτω (270a.) παρὰ φύσιν, ἡ ἄνω ἔσται κατὰ φύσιν, εἰ δ’ ἡ ἄνω παρὰ φύσιν, ἡ κάτω κατὰ φύσιν· ἔθεμεν γὰρ τῶν ἐναντίων ᾧ ἡ ἑτέρα παρὰ φύσιν, τὴν ἑτέραν εἶναι κατὰ φύσιν.

Ἐπεὶ δ’ εἰς τὸ αὐτὸ φέρεται τὸ ὅλον καὶ τὸ μόριον κατὰ φύσιν, οἷον πᾶσα γῆ καὶ μικρὰ βῶλος, συμβαίνει πρῶτον μὲν μήτε κουφότητ’ ἔχειν αὐτὸ μηδεμίαν μήτε βάρος (ἢ γὰρ ἂν πρὸς τὸ μέσον ἢ ἀπὸ τοῦ μέσου ἠδύνατο φέρεσθαι κατὰ τὴν ἑαυτοῦ φύσιν), ἔπειθ’ ὅτι ἀδύνατον κινηθῆναι τὴν κατὰ τόπον κίνησιν ἢ ἄνω ἢ κάτω κατασπώμενον· οὔτε γὰρ κατὰ φύσιν ἐνδέχεται κινηθῆναι κίνησιν αὐτῷ ἄλλην οὔτε παρὰ φύσιν, οὔτ’ αὐτῷ οὔτε τῶν μορίων οὐδενί· ὁ γὰρ αὐτὸς λόγος περὶ ὅλου καὶ μέρους.

Ὁμοίως δ’ εὔλογον ὑπολαβεῖν περὶ αὐτοῦ καὶ ὅτι ἀγένητον καὶ ἄφθαρτον καὶ ἀναυξὲς καὶ ἀναλλοίωτον, διὰ τὸ γίγνεσθαι μὲν ἅπαν τὸ γιγνόμενον ἐξ ἐναντίου τε καὶ ὑποκειμένου τινός, καὶ φθείρεσθαι ὡσαύτως ὑποκειμένου τέ τινος καὶ ὑπ’ ἐναντίου καὶ εἰς ἐναντίον, καθάπερ ἐν τοῖς πρώτοις εἴρηται λόγοις· τῶν δ’ ἐναντίων καὶ αἱ φοραὶ ἐναντίαι. Εἰ δὴ τούτῳ μηδὲν ἐναντίον ἐνδέχεται εἶναι διὰ τὸ καὶ τῇ φορᾷ τῇ κύκλῳ μὴ εἶναι ἄν τιν’ ἐναντίαν κίνησιν, ὀρθῶς ἔοικεν ἡ φύσις τὸ μέλλον ἔσεσθαι ἀγένητον καὶ ἄφθαρτον ἐξελέσθαι ἐκ τῶν ἐναντίων· ἐν τοῖς ἐναντίοις γὰρ ἡ γένεσις καὶ ἡ φθορά.

Ἀλλὰ μὴν καὶ τὸ αὐξανόμενον ἅπαν αὐξάνεται [καὶ τὸ φθῖνον φθίνει] ὑπὸ συγγενοῦς προσιόντος καὶ ἀναλυομένου εἰς τὴν ὕλην· τούτῳ δ᾽ οὐκ ἔστιν ἐξ οὗ γέγονεν.

Εἰ δ᾽ ἐστὶ καὶ ἀναύξητον καὶ ἄφθαρτον, τῆς αὐτῆς διανοίας ἐστὶν ὑπολαβεῖν καὶ ἀναλλοίωτον εἶναι. Ἔστι μὲν γὰρ ἡ ἀλλοίωσις κίνησις κατὰ τὸ ποιόν, τοῦ δὲ ποιοῦ αἱ μὲν ἕξεις καὶ διαθέσεις οὐκ ἄνευ τῶν κατὰ τὰ πάθη γίγνονται μεταβολῶν, οἷον ὑγίεια καὶ νόσος. Κατὰ δὲ πάθος ὅσα μεταβάλλει τῶν φυσικῶν σωμάτων, ἔχονθ᾽ ὁρῶμεν πάντα καὶ αὔξησιν καὶ φθίσιν, οἷον τά τε τῶν ζῴων σώματα καὶ τὰ μόρια αὐτῶν καὶ τὰ τῶν φυτῶν, ὁμοίως δὲ καὶ τὰ τῶν στοιχείων· ὥστ᾽ εἴπερ τὸ κύκλῳ σῶμα μήτ᾽ αὔξησιν ἔχειν ἐνδέχεται μήτε φθίσιν, εὔλογον καὶ ἀναλλοίωτον εἶναι.

(270b.) Διότι μὲν οὖν ἀΐδιον καὶ οὔτ᾽ αὔξησιν ἔχον οὔτε φθίσιν, ἀλλ᾽ ἀγήρατον καὶ ἀναλλοίωτον καὶ ἀπαθές ἐστι τὸ πρῶτον τῶν σωμάτων, εἴ τις τοῖς ὑποκειμένοις πιστεύει, φανερὸν ἐκ τῶν εἰρημένων ἐστίν.

Ἔοικε δ᾽ ὅ τε λόγος τοῖς φαινομένοις μαρτυρεῖν καὶ τὰ φαινόμενα τῷ λόγῳ· πάντες γὰρ ἄνθρωποι περὶ θεῶν ἔχουσιν ὑπόληψιν, καὶ πάντες τὸν ἀνωτάτω τῷ θείῳ τόπον ἀποδιδόασι, καὶ βάρβαροι καὶ Ἕλληνες, ὅσοι περ εἶναι νομίζουσι θεούς, δῆλον ὅτι ὡς τῷ ἀθανάτῳ τὸ ἀθάνατον συνηρτημένον· ἀδύνατον γὰρ ἄλλως.

Εἴπερ οὖν ἔστι τι θεῖον, ὥσπερ ἔστι, καὶ τὰ νῦν εἰρημένα περὶ τῆς πρώτης οὐσίας τῶν σωμάτων εἴρηται καλῶς. Συμβαίνει δὲ τοῦτο καὶ διὰ τῆς αἰσθήσεως ἱκανῶς, ὥς γε πρὸς ἀνθρωπίνην εἰπεῖν πίστιν· ἐν ἅπαντι γὰρ τῷ παρεληλυθότι χρόνῳ κατὰ τὴν παραδεδομένην ἀλλήλοις μνήμην οὐθὲν φαίνεται μεταβεβληκὸς οὔτε καθ᾽ ὅλον τὸν ἔσχατον οὐρανὸν οὔτε κατὰ μόριον αὐτοῦ τῶν οἰκείων οὐθέν.

Ἔοικε δὲ καὶ τοὔνομα παρὰ τῶν ἀρχαίων παραδεδόσθαι μέχρι καὶ τοῦ νῦν χρόνου, τοῦτον τὸν τρόπον ὑπολαμβανόντων ὅνπερ καὶ ἡμεῖς λέγομεν· οὐ γὰρ ἅπαξ οὐδὲ δὶς ἀλλ᾽ ἀπειράκις δεῖ νομίζειν τὰς αὐτὰς ἀφικνεῖσθαι δόξας εἰς ἡμᾶς. Διόπερ ὡς ἑτέρου τινὸς ὄντος τοῦ πρώτου σώματος παρὰ γῆν καὶ πῦρ καὶ ἀέρα καὶ ὕδωρ, αἰθέρα προσωνόμασαν τὸν ἀνωτάτω τόπον, ἀπὸ τοῦ θεῖν ἀεὶ τὸν ἀΐδιον χρόνον θέμενοι τὴν ἐπωνυμίαν αὐτῷ. Ἀναξαγόρας δὲ καταχρῆται τῷ ὀνόματι τούτῳ οὐ καλῶς· ὀνομάζει γὰρ αἰθέρα ἀντὶ πυρός.

Φανερὸν δ᾽ ἐκ τῶν εἰρημένων καὶ διότι τὸν ἀριθμὸν ἀδύνατον εἶναι πλείω τὸν τῶν λεγομένων σωμάτων ἁπλῶν· τοῦ μὲν γὰρ ἁπλοῦ σώματος ἀνάγκη τὴν κίνησιν ἁπλῆν εἶναι, μόνας δὲ ταύτας εἶναί φαμεν ἁπλᾶς, τήν τε κύκλῳ καὶ τὴν ἐπ’ εὐθείας, καὶ ταύτης τὰ δύο μόρια, τὴν μὲν ἀπὸ τοῦ μέσου, τὴν δ’ ἐπὶ τὸ μέσον.

Κεφάλαιο 4

Ὅτι δ’ οὐκ ἔστι τῇ κύκλῳ φορᾷ ἐναντία ἄλλη φορά, πλεοναχόθεν ἄν τις λάβοι τὴν πίστιν· πρῶτον μὲν ὅτι τῇ περιφερεῖ τὴν εὐθεῖαν ἀντικεῖσθαι μάλιστα τίθεμεν· τὸ γὰρ κοῖλον καὶ τὸ κυρτὸν οὐ μόνον ἀλλήλοις ἀντικεῖσθαι δοκεῖ (271a.) ἀλλὰ καὶ τῷ εὐθεῖ, συνδυαζόμενα καὶ λαβόντα σύνθεσιν· ὥστ’ εἴπερ ἐναντία τίς ἐστι, τὴν ἐπὶ τῆς εὐθείας μάλιστα ἀναγκαῖον ἐναντίαν εἶναι πρὸς τὴν κύκλῳ κίνησιν. Αἱ δ’ ἐπὶ τῆς εὐθείας ἀλλήλαις ἀντίκεινται διὰ τοὺς τόπους· τὸ γὰρ ἄνω κάτω τόπου τέ ἐστι διαφορὰ καὶ ἐναντίωσις.

Ἔπειτ’ εἴ τις ὑπολαμβάνει τὸν αὐτὸν εἶναι λόγον ὅνπερ ἐπὶ τῆς εὐθείας καὶ ἐπὶ τῆς περιφεροῦς (τὴν γὰρ ἀπὸ τοῦ Α πρὸς τὸ Β φορὰν ἐναντίαν εἶναι τῇ ἀπὸ τοῦ Β πρὸς τὸ Α), τὴν ἐπὶ τῆς εὐθείας λέγει· αὕτη γὰρ πεπέρανται, περιφερεῖς δ’ ἄπειροι ἂν εἶεν περὶ τὰ αὐτὰ σημεῖα.

Ὁμοίως δὲ καὶ ἐπὶ τοῦ ἡμικυκλίου τοῦ ἑνός, οἷον ἀπὸ τοῦ Γ ἐπὶ τὸ Δ καὶ ἀπὸ τοῦ Δ ἐπὶ τὸ Γ· ἡ γὰρ αὐτὴ τῇ ἐπὶ τῆς διαμέτρου ἐστίν· ἀεὶ γὰρ ἕκαστον ἀπέχειν τὴν εὐθεῖαν τίθεμεν.

Ὁμοίως δὲ κἂν εἴ τις κύκλον ποιήσας τὴν ἐπὶ θατέρου ἡμικυκλίου φορὰν ἐναντίαν θείη τῇ ἐπὶ θατέρου, οἷον ἐν τῷ ὅλῳ κύκλῳ τὴν ἀπὸ τοῦ Ε πρὸς τὸ Ζ τοῦ Η ἡμικυκλίου τῇ ἀπὸ τοῦ Ζ πρὸς τὸ Ε ἐν τῷ Θ ἡμικυκλίῳ.

Εἰ δὲ καὶ αὗται ἐναντίαι, ἀλλ’ οὔτι γε αἱ ἐπὶ τοῦ ὅλου κύκλου φοραὶ ἀλλήλαις διὰ τοῦτο ἐναντίαι. *-* Ἀλλὰ μὴν οὐδ’ ἡ ἀπὸ τοῦ Α ἐπὶ τὸ Β κύκλῳ φορὰ ἐναντία τῇ ἀπὸ τοῦ Α ἐπὶ τὸ Γ· ἐκ ταὐτοῦ γὰρ εἰς ταὐτὸ ἡ κίνησις, ἡ δ’ ἐναντία διωρίσθη φορὰ ἐκ τοῦ ἐναντίου εἰς τὸ ἐναντίον.

Εἰ δὲ καὶ ἦν ἡ κύκλῳ τῇ κύκλῳ ἐναντία, μάτην ἂν ἦν ἡ ἑτέρα· *ἐπὶ τὸ αὐτὸ γάρ, ὅτι ἀνάγκη τὸ κύκλῳ φερόμενον ὁποθενοῦν ἀρξάμενον εἰς πάντας ὁμοίως ἀφικνεῖσθαι τοὺς ἐναντίους τόπους (εἰσὶ δὲ τόπου ἐναντιότητες τὸ ἄνω καὶ κάτω καὶ τὸ πρόσθιον καὶ ὀπίσθιον καὶ τὸ δεξιὸν καὶ ἀριστερόν), αἱ δὲ τῆς φορᾶς ἐναντιώσεις κατὰ τὰς τῶν τόπων εἰσὶν ἐναντιώσεις·* εἰ μὲν γὰρ ἴσαι ἦσαν, οὐκ ἂν ἦν κίνησις αὐτῶν, εἰ δ’ ἡ ἑτέρα κίνησις ἐκράτει, ἡ ἑτέρα οὐκ ἂν ἦν. Ὥστ’ εἰ ἀμφότερα ἦν, μάτην ἂν θάτερον ἦν σῶμα μὴ κινούμενον τὴν αὑτοῦ κίνησιν· μάτην γὰρ ὑπόδημα τοῦτο λέγομεν, οὗ μή ἐστιν ὑπόδεσις. Ὁ δὲ θεὸς καὶ ἡ φύσις οὐδὲν μάτην ποιοῦσιν.

Κεφάλαιο 5

(271b.) Ἀλλ’ ἐπεὶ δῆλον περὶ τούτων, περὶ τῶν λοιπῶν σκεπτέον, καὶ πρῶτον πότερον ἔστι τι σῶμα ἄπειρον, ὥσπερ οἱ πλεῖστοι τῶν ἀρχαίων φιλοσόφων ᾠήθησαν, ἢ τοῦτ’ ἔστιν ἕν τι τῶν ἀδυνάτων· τὸ γὰρ οὕτως ἢ ἐκείνως ἔχειν οὔ τι μικρὸν ἀλλ’ ὅλον διαφέρει καὶ πᾶν πρὸς τὴν περὶ τῆς ἀληθείας θεωρίαν· σχεδὸν γὰρ αὕτη πασῶν ἀρχὴ τῶν ἐναντιώσεων τοῖς ἀποφηναμένοις τι περὶ τῆς ὅλης φύσεως καὶ γέγονε καὶ γένοιτ’ ἄν, εἴπερ καὶ τὸ μικρὸν παραβῆναι τῆς ἀληθείας ἀφισταμένοις γίνεται πόρρω μυριοπλάσιον. Οἷον εἴ τις ἐλάχιστον εἶναί τι φαίη μέγεθος· οὗτος γὰρ τοὐλάχιστον εἰσαγαγὼν τὰ μέγιστ’ ἂν κινήσειε τῶν μαθηματικῶν. Τούτου δ’ αἴτιον ὅτι ἡ ἀρχὴ δυνάμει μείζων ἢ μεγέθει, διόπερ τὸ ἐν ἀρχῇ μικρὸν ἐν τῇ τελευτῇ γίνεται παμμέγεθες. Τὸ δ’ ἄπειρον καὶ ἀρχῆς ἔχει δύναμιν καὶ τοῦ ποσοῦ τὴν μεγίστην, ὥστ’ οὐδὲν ἄτοπον οὐδ’ ἄλογον τὸ θαυμαστὴν εἶναι τὴν διαφορὰν ἐκ τοῦ λαβεῖν ὡς ἔστι τι σῶμα ἄπειρον. Διὸ περὶ αὐτοῦ λεκτέον ἐξ ἀρχῆς ἀναλαβοῦσιν.

Ἀνάγκη δὴ πᾶν σῶμα ἤτοι τῶν ἁπλῶν εἶναι ἢ τῶν συνθέτων, ὥστε καὶ τὸ ἄπειρον ἢ ἁπλοῦν ἔσται ἢ σύνθετον. Ἀλλὰ μὴν καὶ ὅτι γε πεπερασμένων τῶν ἁπλῶν ἀνάγκη πεπερασμένον εἶναι τὸ σύνθετον, δῆλον· τὸ γὰρ ἐκ πεπερασμένων καὶ πλήθει καὶ μεγέθει συγκείμενον πεπέρανται καὶ πλήθει καὶ μεγέθει· τοσοῦτον γάρ ἐστιν ἐξ ὅσων ἐστὶ συγκείμενον.

Λοιπὸν τοίνυν ἰδεῖν πότερον ἐνδέχεταί τι τῶν ἁπλῶν ἄπειρον εἶναι τὸ μέγεθος, ἢ τοῦτ’ ἀδύνατον. Προχειρισάμενοι δὴ περὶ τοῦ πρώτου τῶν σωμάτων, οὕτω σκοπῶμεν καὶ περὶ τῶν λοιπῶν.

Ὅτι μὲν τοίνυν ἀνάγκη τὸ σῶμα τὸ κύκλῳ φερόμενον πεπεράνθαι πᾶν, ἐκ τῶνδε δῆλον.

Εἰ γὰρ ἄπειρον τὸ κύκλῳ φερόμενον σῶμα, ἄπειροι ἔσονται αἱ ἀπὸ τοῦ μέσου ἐκβαλλόμεναι. Τῶν δ’ ἀπείρων τὸ διάστημα ἄπειρον· διάστημα δὲ λέγω τῶν γραμμῶν, οὗ μηδὲν ἔστιν ἔξω λαβεῖν μέγεθος ἁπτόμενον τῶν γραμμῶν. Τοῦτ’ οὖν ἀνάγκη ἄπειρον εἶναι· τῶν γὰρ πεπερασμένων ἀεὶ ἔσται πεπερασμένον. Ἔτι δ’ ἀεὶ ἔστι τοῦ (272a.) δοθέντος μεῖζον λαβεῖν, ὥστε καθάπερ ἀριθμὸν λέγομεν ἄπειρον, ὅτι μέγιστος οὐκ ἔστιν, ὁ αὐτὸς λόγος καὶ περὶ τοῦ διαστήματος· εἰ οὖν τὸ μὲν ἄπειρον μὴ ἔστι διελθεῖν, ἀπείρου δ’ ὄντος ἀνάγκη τὸ διάστημα ἄπειρον εἶναι, οὐκ ἂν ἐνδέχοιτο κινηθῆναι κύκλῳ· τὸν δ’ οὐρανὸν ὁρῶμεν κύκλῳ στρεφόμενον, καὶ τῷ λόγῳ δὲ διωρίσαμεν ὅτι ἐστί τινος ἡ κύκλῳ κίνησις.

Ἔτι ἀπὸ πεπερασμένου χρόνου ἐὰν ἀφέλῃς πεπερασμένον, ἀνάγκη καὶ τὸν λοιπὸν εἶναι πεπερασμένον καὶ ἔχειν ἀρχήν. Εἰ δ’ ὁ χρόνος ὁ τῆς βαδίσεως ἔχει ἀρχήν, ἔστιν ἀρχὴ καὶ τῆς κινήσεως, ὥστε καὶ τοῦ μεγέθους ὃ βεβάδικεν. Ὁμοίως δὲ τοῦτο καὶ ἐπὶ τῶν ἄλλων.

Ἔστω δὴ γραμμὴ ἄπειρος, ἐφ’ ᾗ ΑΓΕ, ἐπὶ θάτερα, ᾗ τὸ Ε· ἡ δ’ ἐφ’ ᾗ τὰ ΒΒ, ἐπ’ ἀμφότερα ἄπειρος. Εἰ δὴ γράψει κύκλον ἡ τὸ ΑΓΕ ἀπὸ τοῦ Γ κέντρου, τέμνουσά ποτε οἰσθήσεται κύκλῳ τὴν τὰ ΒΒ ἡ τὸ ΑΓΕ πεπερασμένον χρόνον· ὁ γὰρ πᾶς χρόνος, ἐν ὅσῳ κύκλῳ ἠνέχθη ὁ οὐρανός, πεπερασμένος. Καὶ ὁ ἀφῃρημένος ἄρα, ὃν ἡ τέμνουσα ἐφέρετο. Ἔσται ἄρα τις ἀρχὴ ᾗ πρῶτον ἡ τὸ ΑΓΕ τὴν τὰ ΒΒ ἔτεμεν. Ἀλλ’ ἀδύνατον. Οὐκ ἄρα ἔστι κύκλῳ στραφῆναι τὸ ἄπειρον. Ὥστ’ οὐδὲ τὸν κόσμον, εἰ ἦν ἄπειρος.

Ἔτι δὲ καὶ ἐκ τῶνδε φανερόν, ὅτι τὸ ἄπειρον ἀδύνατον κινηθῆναι. Ἔστω γὰρ ἡ τὸ Α φερομένη παρὰ τὴν Β, πεπερασμένη παρὰ πεπερασμένην. Ἀνάγκη δὴ ἅμα τήν τε Α τῆς Β ἀπολελύσθαι καὶ τὴν Β τῆς Α· ὅσον γὰρ ἡ ἑτέρα ἐπιβάλλει τῆς ἑτέρας, καὶ ἡ ἑτέρα ἐκείνης τοσοῦτον. Εἰ μὲν οὖν ἄμφω κινοῖντο εἰς τοὐναντίον, θᾶττον ἂν ἀπολύοιντο, εἰ δὲ παρὰ μένουσαν φέροιτο, βραδύτερον, τῷ αὐτῷ τάχει κινουμένου τοῦ παραφερομένου. Ἀλλ’ ἐκεῖνό γε φανερόν, ὅτι ἀδύνατον τὴν ἄπειρον διελθεῖν ἐν πεπερασμένῳ χρόνῳ. Ἐν ἀπείρῳ ἄρα· δέδεικται γὰρ τοῦτο πρότερον ἐν τοῖς περὶ κινήσεως. Διαφέρει δέ γε οὐθὲν ἢ τὴν πεπερασμένην φέρεσθαι παρὰ τὴν ἄπειρον ἢ τὴν ἄπειρον παρ’ ἐκείνην· ὅταν γὰρ (272b.) ἐκείνη παρ’ ἐκείνην, κἀκείνη παραλλάττει ἐκείνην, ὁμοίως κινουμένη καὶ ἀκίνητος· πλὴν θᾶττον, ἐὰν κινῶνται ἀμφότεραι, ἀπολυθήσονται. Καίτοι γ’ ἐνίοτ’ οὐθὲν κωλύει τὴν κινουμένην παρ’ ἠρεμοῦσαν θᾶττον παρελθεῖν ἢ τὴν ἀντικινουμένην, ἐάν τις ποιήσῃ τὰς μὲν ἀντικινουμένας ἀμφοτέρας φερομένας βραδέως, τὴν δὲ παρὰ τὴν ἠρεμοῦσαν πολλῷ ἐκείνων θᾶττον φερομένην.

Οὐδὲν οὖν πρὸς τὸν λόγον ἐμπόδιον ὅτι παρ’ ἠρεμοῦσαν, ἐπείπερ κινουμένην ἐνδέχεται τὴν Α παρὰ κινουμένην τὴν Β βραδύτερον παρελθεῖν. Εἰ οὖν ἄπειρος ὁ χρόνος ὃν ἡ πεπερασμένη ἀπολύεται κινουμένη, καὶ ἐν ᾧ ἡ ἄπειρος τὴν πεπερασμένην ἐκινήθη ἀνάγκη ἄπειρον εἶναι.

Ἀδύνατον ἄρα τὸ ἄπειρον κινεῖσθαι ὅλον· ἐὰν γὰρ καὶ τοὐλάχιστον κινηθῇ, ἀνάγκη ἄπειρον γίγνεσθαι χρόνον. Ἀλλὰ μὴν ὅ γ’ οὐρανὸς περιέρχεται καὶ στρέφεται ὅλος κύκλῳ ἐν πεπερασμένῳ χρόνῳ, ὥστε περίεισιν ἅπασαν τὴν ἐντός, οἷον τὴν ΑΒ πεπερασμένην. Ἀδύνατον ἄρα ἄπειρον εἶναι τὸ κύκλῳ.

Ἔτι ὥσπερ γραμμὴν ᾗ πέρας ἐστὶν ἀδύνατον εἶναι ἄπειρον, ἀλλ’ εἴπερ, ἐπὶ μῆκος, καὶ ἐπίπεδον ὡσαύτως ᾗ πέρας οὐκ ἐνδέχεται· ὅταν δ’ ὁρισθῇ, οὐθαμῇ, οἷον τετράγωνον ἄπειρον ἢ κύκλον ἢ σφαῖραν, ὥσπερ οὐδὲ ποδιαίαν ἄπειρον. Εἰ οὖν μήτε σφαῖρα [μήτε τετράγωνον] μήτε κύκλος ἐστὶν ἄπειρος, μὴ ὄντος δὲ κύκλου οὐδ’ ἂν ἡ κύκλῳ εἴη φορά, ὁμοίως δὲ μηδ’ ἀπείρου ὄντος οὐκ ἂν εἴη ἄπειρος, εἰ μηδ’ ὁ κύκλος ἄπειρός ἐστιν, οὐκ ἂν κινοῖτο κυκλικῶς ἄπειρον σῶμα.

Ἔτι εἰ τὸ Γ κέντρον, ἡ δὲ τὸ ΑΒ ἄπειρος καὶ ἡ τὸ Ε πρὸς ὀρθὴν ἄπειρος καὶ ἡ τὸ ΓΔ κινουμένη, οὐδέποτ’ ἀπολυθήσεται τῆς Ε, ἀλλ’ ἀεὶ ἕξει ὥσπερ ἡ ΓΕ· τέμνει γὰρ ᾗ τὸ Ζ. Οὐκ ἄρα περίεισι κύκλῳ ἡ ἄπειρος. Ἔτι εἴπερ ἄπειρος ὁ οὐρανός, κινεῖται δὲ κύκλῳ, ἐν πεπερασμένῳ χρόνῳ ἄπειρον ἔσται διεληλυθώς. Ἔστω γὰρ ὁ μὲν μένων οὐρανὸς ἄπειρος,ὁ δ’ ἐν τούτῳ κινούμενος ἴσος. Ὥστ’ εἴπερ περιελήλυθε κύκλῳ ἄπειρος ὤν, ἄπειρον τὸν ἴσον αὐτῷ διελήλυθεν ἐν πεπερασμέ- (273a.) νῳ χρόνῳ. Ἀλλὰ τοῦτ’ ἦν ἀδύνατον.

Ἔστι δὲ καὶ ἀντεστραμμένως εἰπεῖν, ὅτι εἰ πεπερασμένος ὁ χρόνος ἐν ᾧ περιεστράφη, καὶ τὸ μέγεθος ὃ διελήλυθεν ἀναγκαῖον εἶναι πεπερασμένον· ἴσον δ’ αὐτῷ διελήλυθεν· πεπέρανται ἄρα καὶ αὐτός.

Ὅτι μὲν οὖν τὸ κύκλῳ κινούμενον οὐκ ἔστιν ἀτελεύτητον οὐδ’ ἄπειρον, ἀλλ’ ἔχει τέλος, φανερόν.

Κεφάλαιο 6

Ἀλλὰ μὴν οὐδὲ τὸ ἐπὶ τὸ μέσον οὐδὲ τὸ ἀπὸ τοῦ μέσου φερόμενον ἄπειρον ἔσται· ἐναντίαι γὰρ αἱ φοραὶ ἡ ἄνω καὶ ἡ κάτω, αἱ δ' ἐναντίαι εἰς ἐναντίους τόπους. Τῶν δ' ἐναντίων εἰ θάτερον ὥρισται, καὶ θάτερον ὡρισμένον ἔσται. Τὸ δὲ μέσον ὥρισται· εἰ γὰρ ὁποθενοῦν φέροιτο κάτω τὸ ὑφιστάμενον, οὐκ ἐνδέχεται πορρωτέρω διελθεῖν τοῦ μέσου. Ὡρισμένου οὖν τοῦ μέσου, καὶ τὸν ἄνω τόπον ἀνάγκη ὡρίσθαι. Εἰ δ' οἱ τόποι ὡρισμένοι καὶ πεπερασμένοι, καὶ τὰ σώματα ἔσται πεπερασμένα. Ἔτι εἰ τὸ ἄνω καὶ τὸ κάτω ὥρισται, καὶ τὸ μεταξὺ ἀνάγκη ὡρίσθαι. Εἰ γὰρ μὴ ὥρισται, ἄπειρος ἂν εἴη ἡ κίνησις· τοῦτο δ' ὅτι ἀδύνατον, δέδεικται πρότερον. Ὥρισται ἄρα τὸ μέσον, ὥστε καὶ τὸ ἐν τούτῳ σῶμα ἢ ὂν ἢ γενέσθαι δυνατόν. Ἀλλὰ μὴν τὸ ἄνω καὶ κάτω φερόμενον σῶμα δύναται ἐν τούτῳ γενέσθαι· πέφυκε γὰρ τὸ μὲν ἀπὸ τοῦ μέσου κινεῖσθαι, τὸ δ' ἐπὶ τὸ μέσον.

Ἔκ τε δὴ τούτων φανερὸν ὅτι οὐκ ἐνδέχεται σῶμα εἶναι ἄπειρον, καὶ πρὸς τούτοις εἰ βάρος μή ἐστιν ἄπειρον, οὐδ' ἂν τούτων τῶν σωμάτων οὐθὲν εἴη ἄπειρον· ἀνάγκη γὰρ τοῦ ἀπείρου σώματος ἄπειρον εἶναι καὶ τὸ βάρος. (Ὁ δ' αὐτὸς λόγος ἔσται καὶ ἐπὶ τοῦ κούφου· εἰ γάρ ἐστιν ἄπειρος βαρύτης, ἔστι καὶ κουφότης, ἐὰν ἄπειρον ᾖ τὸ ἐπιπολάζον). Δῆλον δ' ἐκ τῶνδε.

Ἔστω γὰρ πεπερασμένον, καὶ εἰλήφθω τὸ μὲν ἄπειρον σῶμα ἐφ' ᾧ τὸ ΑΒ, τὸ δὲ βάρος αὐτοῦ ἐφ' ᾧ τὸ Γ. Ἀφῃρήσθω οὖν ἀπὸ τοῦ ἀπείρου πεπερασμένον μέγεθος ἐφ' ᾧ τὸ ΒΔ· καὶ τὸ βάρος αὐτοῦ ἔστω ἐφ' ᾧ τὸ Ε. Τὸ δὴ Ε τοῦ Γ ἔλαττον ἔσται· τὸ γὰρ τοῦ ἐλάττονος βάρος ἔλαττον. Καταμετρείτω δὴ τὸ ἔλαττον ὁποσακισοῦν, (273b.) καὶ ὡς τὸ βάρος τοὔλαττον πρὸς τὸ μεῖζον, τὸ ΒΔ πρὸς τὸ ΒΖ γεγενήσθω· ἐνδέχεται γὰρ ἀφελεῖν τοῦ ἀπείρου ὁποσονοῦν. Εἰ τοίνυν ἀνάλογον τὰ μεγέθη τοῖς βάρεσι, τὸ δ' ἔλαττον βάρος τοῦ ἐλάττονός ἐστι μεγέθους, καὶ τὸ μεῖζον ἂν εἴη τοῦ μείζονος. Ἴσον ἄρα ἔσται τὸ τοῦ πεπερασμένου καὶ τὸ τοῦ ἀπείρου βάρος.

Ἔτι δ' εἰ τοῦ μείζονος σώματος μεῖζον τὸ βάρος, τὸ τοῦ ΗΒ μεῖζον ἔσται βάρος ἢ τὸ τοῦ ΖΒ, ὥστε τὸ τοῦ πεπερασμένου ἢ τὸ τοῦ ἀπείρου [μεῖζον ἔσται βάρος]. Καὶ τὸ τῶν ἀνίσων δὲ μεγεθῶν ταὐτὸν ἔσται βάρος· ἄνισον γὰρ τῷ πεπερασμένῳ τὸ ἄπειρον.

Οὐθὲν δὲ διαφέρει τὰ βάρη σύμμετρα εἶναι ἢ ἀσύμμετρα· καὶ γὰρ ἀσυμμέτρων ὄντων ὁ αὐτὸς ἔσται λόγος· οἷον εἰ [τὸ Ε] τρίτον ὑπερβάλλει μετροῦν τὸ βάρος· τῶν γὰρ ΒΔ μεγεθῶν τριῶν ὅλων ληφθέντων μεῖζον ἔσται τὸ βάρος ἢ τὸ ἐφ’ ᾧ τὸ Γ. Ὥστε τὸ αὐτὸ ἔσται ἀδύνατον. Ἔτι δὲ καὶ ἐγχωρεῖ σύμμετρα λαβεῖν· οὐδὲν γὰρ διαφέρει ἄρχεσθαι ἀπὸ τοῦ βάρους ἢ ἀπὸ τοῦ μεγέθους· οἷον ἐὰν ληφθῇ σύμμετρον βάρος τῷ Γ τὸ ἐφ’ ᾧ τὸ Ε, καὶ ἀπὸ τοῦ ἀπείρου ἀφαιρεθῇ τὸ ἔχον τὸ ἐφ’ ᾧ Ε βάρος, οἷον τὸ ΒΔ, εἶτα ὡς τὸ βάρος πρὸς τὸ βάρος, τὸ ΒΔ πρὸς ἄλλο γένηται μέγεθος, οἷον πρὸς τὸ ΒΖ· ἐνδέχεται γὰρ ἀπείρου ὄντος τοῦ μεγέθους ὁποσονοῦν ἀφαιρεθῆναι· τούτων γὰρ ληφθέντων σύμμετρα ἔσται καὶ τὰ μεγέθη καὶ τὰ βάρη ἀλλήλοις.

Οὐδὲ δὴ τὸ μέγεθος ὁμοιοβαρὲς εἶναι ἢ ἀνομοιοβαρὲς οὐδὲν διοίσει πρὸς τὴν ἀπόδειξιν· ἀεὶ γὰρ ἔσται λαβεῖν ἰσοβαρῆ σώματα τῷ ΒΔ, ἀπὸ τοῦ ἀπείρου ὁποσαοῦν ἢ ἀφαιροῦντας ἢ προστιθέντας.

Ὥστε δῆλον ἐκ τῶν εἰρημένων ὅτι οὐκ ἔσται τοῦ ἀπείρου σώματος πεπερασμένον τὸ βάρος. Ἄπειρον ἄρα. Εἰ τοίνυν τοῦτ’ ἀδύνατον, καὶ τὸ ἄπειρόν τι εἶναι σῶμα ἀδύνατον.

Ἀλλὰ μὴν ὅτι ἄπειρόν τι εἶναι βάρος ἀδύνατον, ἐκ τῶνδε φανερόν. Εἰ γὰρ τοσόνδε βάρος τὴν τοσήνδε ἐν τῷδε τῷ χρόνῳ κινεῖται, τὸ τοσοῦτον καὶ ἔτι ἐν ἐλάττονι, καὶ τὴν ἀναλογίαν ἣν τὰ βάρη ἔχει, οἱ χρόνοι ἀνάπαλιν ἕξου(274a.) σιν, οἷον εἰ τὸ ἥμισυ βάρος ἐν τῷδε, τὸ διπλάσιον ἐν ἡμίσει τούτου. Ἔτι τὸ πεπερασμένον βάρος ἅπασαν πεπερασμένην δίεισιν ἔν τινι χρόνῳ πεπερασμένῳ. Ἀνάγκη ἄρα ἐκ τούτων, εἴ τι ἔστιν ἄπειρον βάρος, κινεῖσθαι μὲν ᾗ τοσόνδε ὅσον τὸ πεπερασμένον καὶ ἔτι, μὴ κινεῖσθαι δέ, ᾗ ἀνάλογον μὲν δεῖ κατὰ τὰς ὑπεροχὰς κινεῖσθαι, ἐναντίως δὲ τὸ μεῖζον ἐν τῷ ἐλάττονι. Λόγος δ’ οὐθείς ἐστι τοῦ ἀπείρου πρὸς τὸ πεπερασμένον, τοῦ δ’ ἐλάττονος χρόνου πρὸς τὸν μείζω πεπερασμένον· ἀλλ’ ἀεὶ ἐν ἐλάττονι. Ἐλάχιστος δ’ οὐκ ἔστιν.

Οὐδ’ εἰ ἦν, ὄφελός τι ἂν ἦν· ἄλλο γὰρ ἄν τι πεπερασμένον ἐλήφθη ἐν τῷ αὐτῷ λόγῳ, ἐν ᾧ τὸ ἄπειρον πρὸς ἕτερον, μεῖζον, ὥστ’ ἐν ἴσῳ χρόνῳ τὴν ἴσην ἂν ἐκινεῖτο τὸ ἄπειρον τῷ πεπερασμένῳ. Ἀλλ’ ἀδύνατον. Ἀλλὰ μὴν ἀνάγκη γε, εἴπερ ἐν ὁπηλικῳοῦν χρόνῳ πεπερασμένῳ δὲ κινεῖται τὸ ἄπειρον, καὶ ἄλλο ἐν τῷ αὐτῷ τούτῳ πεπερασμένον βάρος κινεῖσθαί τινα πεπερασμένην.

Ἀδύνατον ἄρα ἄπειρον εἶναι βάρος, ὁμοίως δὲ καὶ κουφότητα. Καὶ σώματα ἄρ’ ἄπειρον βάρος ἔχοντα καὶ κουφότητα ἀδύνατον. Ὅτι μὲν οὖν οὐκ ἔστιν ἄπειρον σῶμα, δῆλον διά τε τῶν κατὰ μέρος θεωροῦσι τοῦτον τὸν τρόπον, καὶ καθόλου σκοπουμένοις μὴ μόνον κατὰ τοὺς λόγους τοὺς ἐν τοῖς περὶ τὰς ἀρχὰς εἰρημένους ἡμῖν (διωρίσθη γὰρ κἀκεῖ καθόλου πρότερον περὶ ἀπείρου πῶς ἔστι καὶ πῶς οὐκ ἔστιν) ἀλλὰ καὶ νῦν ἄλλον τρόπον.

Μετὰ δὲ ταῦτ’ ἐπισκεπτέον κἂν εἰ μὴ ἄπειρον μὲν τὸ σῶμα τὸ πᾶν, οὐ μὴν ἀλλὰ τοσοῦτόν γε ὥστ’ εἶναι πλείους οὐρανούς· τάχα γὰρ ἄν τις τοῦτ’ ἀπορήσειεν, ὅτι καθάπερ ὁ περὶ ἡμᾶς κόσμος συνέστηκεν, οὐδὲν κωλύει καὶ ἑτέρους εἶναι πλείους μὲν ἑνός, μὴ μέντοι γε ἀπείρους. Πρῶτον δ’ εἴπωμεν καθόλου περὶ τοῦ ἀπείρου.

Κεφάλαιο 7

Ἀνάγκη δὴ σῶμα πᾶν ἤτοι ἄπειρον εἶναι ἢ πεπερασμένον, καὶ εἰ ἄπειρον, ἤτοι ἀνομοιομερὲς ἅπαν ἢ ὁμοιομερές, κἂν εἰ ἀνομοιομερές, ἤτοι ἐκ πεπερασμένων εἰδῶν ἢ ἐξ ἀπείρων. Ὅτι μὲν τοίνυν οὐχ οἷόν τε ἐξ ἀπείρων, φανερόν, εἴ τις ἡμῖν ἐάσει μένειν τὰς πρώτας ὑποθέσεις· πεπερασ(274b.) μένων γὰρ τῶν πρώτων κινήσεων οὐσῶν, ἀνάγκη καὶ τὰς ἰδέας τῶν ἁπλῶν σωμάτων εἶναι πεπερασμένας. Ἁπλῆ μὲν γὰρ ἡ τοῦ ἁπλοῦ σώματος κίνησις, αἱ δ’ ἁπλαῖ πεπερασμέναι κινήσεις εἰσίν· ἀνάγκη δὲ κίνησιν ἔχειν σῶμα πᾶν φυσικόν.

Ἀλλὰ μὴν εἴ γε ἐκ πεπερασμένων ἔσται τὸ ἄπειρον, ἀνάγκη καὶ τῶν μορίων ἕκαστον εἶναι ἄπειρον, λέγω δ’ οἷον τὸ ὕδωρ ἢ τὸ πῦρ. Ἀλλ’ ἀδύνατον· δέδεικται γὰρ ὅτι οὔτε βάρος οὔτε κουφότης ἐστὶν ἄπειρος.

Ἔτι ἀναγκαῖον ἀπείρους τῷ μεγέθει εἶναι καὶ τοὺς τόπους αὐτῶν, ὥστε καὶ τὰς κινήσεις ἀπείρους εἶναι πάντων. Τοῦτο δ’ ἀδύνατον, εἰ θήσομεν ἀληθεῖς εἶναι τὰς πρώτας ὑποθέσεις, καὶ μήτε τὸ κάτω φερόμενον εἰς ἄπειρον ἐνδέχεσθαι φέρεσθαι μήτε τὸ ἄνω κατὰ τὸν αὐτὸν λόγον. Ἀδύνατον γὰρ γίνεσθαι ὃ μὴ ἐνδέχεται γενέσθαι, ὁμοίως ἐπὶ τοῦ τοιόνδε καὶ τοσόνδε καὶ τοῦ ποῦ. Λέγω δ’, εἰ ἀδύνατον γενέσθαι λευκὸν ἢ πηχυαῖον ἢ ἐν Αἰγύπτῳ, καὶ γίνεσθαί τι τούτων ἀδύνατον. Ἀδύνατον ἄρα καὶ φέρεσθαι ἐκεῖ οὗ μηθὲν δυνατὸν ἀφικέσθαι φερόμενον. Ἔτι εἰ καὶ διεσπασμένα ἐστίν, οὐδὲν ἧττον ἐνδέχοιτ’ ἂν τὸ ἐξ ἁπάντων [πῦρ] ἄπειρον εἶναι. Ἀλλὰ σῶμα ἦν τὸ πάντῃ διάστασιν ἔχον· ὥστε πῶς οἷόν τε πλείω μὲν ἀνόμοια, ἕκαστον δ’ αὐτῶν ἄπειρον εἶναι; πάντῃ γὰρ ἕκαστον δεῖ ἄπειρον εἶναι.

Ἀλλὰ μὴν οὐδὲ πᾶν ὁμοιομερὲς ἐνδέχεται τὸ ἄπειρον εἶναι. Πρῶτον μὲν γὰρ οὐκ ἔστιν ἄλλη παρὰ ταύτας κίνησις. Ἕξει οὖν μίαν τούτων. Εἰ δὲ τοῦτο, συμβήσεται ἢ βάρος ἄπειρον ἢ κουφότητα εἶναι ἄπειρον.

Ἀλλὰ μὴν οὐδ’ οἷόν τε τὸ κύκλῳ σῶμα φερόμενον [εἶναι ἄπειρον]. Ἀδύνατον γὰρ τὸ ἄπειρον φέρεσθαι κύκλῳ· οὐθὲν γὰρ διαφέρει τοῦτο λέγειν ἢ τὸ τὸν οὐρανὸν φάναι ἄπειρον εἶναι, τοῦτο δὲ δέδεικται ὅτι ἀδύνατον. Ἀλλὰ μὴν οὐδ’ ὅλως γε τὸ ἄπειρον ἐνδέχεται κινεῖσθαι. Ἢ γὰρ κατὰ φύσιν κινηθήσεται ἢ βίᾳ· καὶ εἰ βίᾳ, ἔστιν αὐτῷ καὶ ἡ κατὰ φύσιν, ὥστε καὶ τόπος ἄλλος ἴσος εἰς ὃν οἰσθήσεται. Τοῦτο δ’ ἀδύνατον.

Ὅτι δ’ ὅλως ἀδύνατον ἄπειρον ὑπὸ πεπερασμένου παθεῖν τι ἢ ποιῆσαι τὸ πεπερασμένον, ἐκ τῶνδε φανερόν. Ἔστω (275a.) γὰρ ἄπειρον ἐφ’ οὗ Α, πεπερασμένον ἐφ’ οὗ Β, χρόνος ἐν ᾧ ἐκίνησέ τι ἢ ἐκινήθη Γ. Εἰ δὴ ὑπὸ τοῦ Β τὸ Α ἐθερμάνθη ἢ ὤσθη ἢ ἄλλο τι ἔπαθεν ἢ καὶ ὁτιοῦν ἐκινήθη ἐν τῷ χρόνῳ ἐφ’ οὗ Γ, ἔστω τὸ Δ τοῦ Β ἔλαττον, καὶ τὸ ἔλαττον ἐν τῷ ἴσῳ χρόνῳ ἔλαττον κινείτω· ἔστω δὲ τὸ ἐφ’ ᾧ Ε ὑπὸ τοῦ Δ ἠλλοιωμένον. Ὃ δή ἐστι τὸ Δ πρὸς τὸ Β, τὸ Ε ἔσται πρὸς πεπερασμένον τι. Ἔστω δὴ τὸ μὲν ἴσον ἐν ἴσῳ χρόνῳ ἴσον ἀλλοιοῦν, τὸ δ’ ἔλαττον ἐν τῷ ἴσῳ ἔλαττον, τὸ δὲ μεῖζον μεῖζον, τοσοῦτον δὲ ὅσον ἀνάλογον ἔσται ὅπερ τὸ μεῖζον πρὸς τὸ ἔλαττον. Οὐκ ἄρα τὸ ἄπειρον ὑπ’ οὐδενὸς πεπερασμένου κινηθήσεται ἐν οὐθενὶ χρόνῳ· ἔλαττον γὰρ ἄλλο ἐν τῷ ἴσῳ χρόνῳ ὑπὸ ἐλάττονος κινηθήσεται, πρὸς ὃ τὸ ἀνάλογον πεπερασμένον ἔσται· τὸ γὰρ ἄπειρον πρὸς τὸ πεπερασμένον ἐν οὐθενὶ λόγῳ ἐστίν. Ἀλλὰ μὴν οὐδὲ τὸ ἄπειρον ἐν οὐθενὶ χρόνῳ κινήσει τὸ πεπερασμένον. Ἔστω γὰρ ἐφ’ ᾧ τὸ Α ἄπειρον, τὸ δὲ Β πεπερασμένον, χρόνος ἐν ᾧ τὸ Γ. Οὐκοῦν τὸ Δ ἐν τῷ Γ ἔλαττον τοῦ Β κινήσει· ἔστω τὸ Ζ. Ὃ δή ἐστι τὸ ΒΖ ὅλον πρὸς τὸ Ζ, τὸ Ε ἔχον τὸν λόγον τοῦτον ἔστω πρὸς τὸ Δ. Κινήσει ἄρα τὸ Ε τὸ ΒΖ ἐν τῷ Γ. Τὸ πεπερασμένον τοίνυν καὶ τὸ ἄπειρον ἐν τῷ ἴσῳ χρόνῳ ἀλλοιώσει. Ἀλλ’ ἀδύνατον· ἐν ἐλάττονι γὰρ τὸ μεῖζον ὑπέκειτο. Ἀλλ’ ἀεὶ ὁ ληφθεὶς χρόνος ταὐτὸ ποιήσει, ὥστ’ οὐκ ἔσται χρόνος οὐθεὶς ἐν ᾧ κινήσει. Ἀλλὰ μὴν ἐν ἀπείρῳ γε οὐκ ἔστι κινῆσαι οὐδὲ κινηθῆναι· πέρας γὰρ οὐκ ἔχει, ἡ δὲ ποίησις καὶ τὸ πάθος ἔχει.

Οὐδ’ ἄπειρον δὴ ὑπ’ ἀπείρου ἐνδέχεται οὐθὲν παθεῖν. Ἔστω γὰρ τὸ Α ἄπειρον καὶ τὸ Β, χρόνος δ’ ἐν ᾧ ἔπαθε τὸ Β ὑπὸ τοῦ Α, ἐφ’ ᾧ ΓΔ. Τὸ δὴ ἐφ’ ᾧ τὸ Ε τοῦ ἀπείρου μέρος, ἐπεὶ ὅλον πέπονθε τὸ Β, οὐκ ἐν ἴσῳ χρόνῳ τὸ αὐτό· ὑποκείσθω γὰρ ἐν ἐλάττονι κινεῖσθαι τὸ ἔλαττον χρόνῳ. Ἔστω τὸ Ε κεκινημένον ὑπὸ τοῦ Α ἐν τῷ Δ.

Ὃ δὴ τὸ Δ πρὸς τὸ ΓΔ, τὸ Ε ἐστὶ πρός τι τοῦ Β πεπερασμένον. Τοῦτο τοίνυν ἀνάγκη ὑπὸ τοῦ Α κινηθῆναι ἐν τῷ ΓΔ χρόνῳ· ὑπὸ γὰρ τοῦ αὐτοῦ ὑποκείσθω ἐν τῷ πλείονι καὶ ἐλάττονι (275b.) χρόνῳ τὸ μεῖζον καὶ τὸ ἔλαττον πάσχειν, ὅσα ἀνάλογον τῷ χρόνῳ διῄρηται. Ἐν οὐδενὶ ἄρα χρόνῳ δυνατὸν πεπερασμένῳ ἄπειρον ὑπ’ ἀπείρου κινηθῆναι· ἐν ἀπείρῳ ἄρα. Ἀλλ’ ὁ μὲν ἄπειρος χρόνος οὐκ ἔχει τέλος, τὸ δὲ κεκινημένον ἔχει.

Εἰ τοίνυν πᾶν σῶμα αἰσθητὸν ἔχει δύναμιν ποιητικὴν ἢ παθητικὴν ἢ ἄμφω, ἀδύνατον σῶμα ἄπειρον αἰσθητὸν εἶναι. Ἀλλὰ μὴν καὶ ὅσα γε σώματα ἐν τόπῳ, πάντα αἰσθητά. Οὐκ ἔστιν ἄρα σῶμα ἄπειρον ἔξω τοῦ οὐρανοῦ οὐθέν. Ἀλλὰ μὴν οὐδὲ μέχρι τινός. Οὐθὲν ἄρα ὅλως σῶμα ἔξω τοῦ οὐρανοῦ. Εἰ μὲν γὰρ νοητόν, ἔσται ἐν τόπῳ· τὸ γὰρ ἔξω καὶ ἔσω τόπον σημαίνει. Ὥστ’ ἔσται αἰσθητόν. Αἰσθητὸν δ’ οὐθὲν μὴ ἐν τόπῳ.

Λογικώτερον δ’ ἔστιν ἐπιχειρεῖν καὶ ὧδε. Οὔτε γὰρ κύκλῳ οἷόν τε κινεῖσθαι τὸ ἄπειρον ὁμοιομερὲς ὄν· μέσον μὲν γὰρ τοῦ ἀπείρου οὐκ ἔστι, τὸ δὲ κύκλῳ περὶ τὸ μέσον κινεῖται. Ἀλλὰ μὴν οὐδ’ ἐπ’ εὐθείας οἷόν τε φέρεσθαι τὸ ἄπειρον· δεήσει γὰρ ἕτερον εἶναι τοσοῦτον τόπον ἄπειρον εἰς ὃν οἰσθήσεται κατὰ φύσιν, καὶ ἄλλον τοσοῦτον εἰς ὃν παρὰ φύσιν.

Ἔτι εἴτε φύσει ἔχει κίνησιν τοῦ εἰς εὐθὺ εἴτε βίᾳ κινεῖται, ἀμφοτέρως δεήσει ἄπειρον εἶναι τὴν κινοῦσαν ἰσχύν· ἥ τε γὰρ ἄπειρος ἀπείρου καὶ τοῦ ἀπείρου ἄπειρος ἡ ἰσχύς· ὥστ’ ἔσται καὶ τὸ κινοῦν ἄπειρον (λόγος δ’ ἐν τοῖς περὶ κινήσεως ὅτι οὐθὲν ἔχει ἄπειρον δύναμιν τῶν πεπερασμένων, οὐδὲ τῶν ἀπείρων πεπερασμένην). Εἰ οὖν τὸ κατὰ φύσιν καὶ παρὰ φύσιν ἐνδέχεται κινηθῆναι, ἔσται δύο ἄπειρα, τό τε κινοῦν οὕτω καὶ τὸ κινούμενον. Ἔτι τὸ κινοῦν τὸ ἄπειρον τί ἐστιν; εἰ μὲν γὰρ αὐτὸ ἑαυτό, ἔμψυχον ἔσται. Τοῦτο δὲ πῶς δυνατόν, ἄπειρον εἶναι ζῷον; εἰ δ’ ἄλλο [τι] τὸ κινοῦν, δύο ἔσται ἄπειρα, τό τε κινοῦν καὶ τὸ κινούμενον, διαφέροντα τὴν μορφὴν καὶ τὴν δύναμιν.

Εἰ δὲ μὴ συνεχὲς τὸ πᾶν, ἀλλ’ ὥσπερ λέγει Δημόκριτος καὶ Λεύκιππος, διωρισμένα τῷ κενῷ, μίαν ἀναγκαῖον εἶναι πάντων τὴν κίνησιν. Διώρισται μὲν γὰρ τοῖς σχήμασιν· τὴν δὲ φύσιν φασὶν αὐτῶν εἶναι μίαν, ὥσ(276a.) περ ἂν εἰ χρυσὸς ἕκαστον εἴη κεχωρισμένος. Τούτων δέ, καθάπερ λέγομεν, ἀναγκαῖον εἶναι τὴν αὐτὴν κίνησιν· ὅπου γὰρ μία βῶλος, καὶ ἡ σύμπασα γῆ φέρεται, καὶ τό τε πᾶν πῦρ καὶ σπινθὴρ εἰς τὸν αὐτὸν τόπον. Ὥστ’ οὔτε κοῦφον ἁπλῶς οὐθὲν ἔσται τῶν σωμάτων, εἰ πάντ’ ἔχει βάρος· εἰ δὲ κουφότητα, βαρὺ οὐδέν.

Ἔτι εἰ βάρος ἔχει ἢ κουφότητα, ἔσται ἢ ἔσχατόν τι τοῦ παντὸς ἢ μέσον. Τοῦτο δ’ ἀδύνατον ἀπείρου γ’ ὄντος. Ὅλως δ’, οὗ μή ἐστι μέσον μηδ’ ἔσχατον, μηδὲ τὸ μὲν ἄνω τὸ δὲ κάτω, τόπος οὐθεὶς ἔσται τοῖς σώμασι τῆς φορᾶς. Τούτου δὲ μὴ ὄντος κίνησις οὐκ ἔσται· ἀνάγκη γὰρ κινεῖσθαι ἤτοι κατὰ φύσιν ἢ παρὰ φύσιν, ταῦτα δ’ ὥρισται τοῖς τόποις τοῖς τ’ οἰκείοις καὶ τοῖς ἀλλοτρίοις.

Ἔτι εἰ οὗ παρὰ φύσιν τι μένει ἢ φέρεται, ἀνάγκη ἄλλου τινὸς εἶναι τοῦτον τὸν τόπον κατὰ φύσιν (τοῦτο δὲ πιστὸν ἐκ τῆς ἐπαγωγῆς), ἀνάγκη δὴ μὴ πάντα ἢ βάρος ἔχειν ἢ κουφότητα, ἀλλὰ τὰ μὲν τὰ δὲ μή. Ὅτι μὲν τοίνυν οὐκ ἔστι τὸ σῶμα τοῦ παντὸς ἄπειρον, ἐκ τούτων φανερόν.

Κεφάλαιο 8

Διότι δ’ οὐδὲ πλείους οἷόν τ’ οὐρανοὺς εἶναι, λέγωμεν· τοῦτο γὰρ ἔφαμεν ἐπισκεπτέον, εἴ τις μὴ νομίζει καθόλου δεδεῖχθαι περὶ τῶν σωμάτων ὅτι ἀδύνατον ἐκτὸς εἶναι τοῦ κόσμου τοῦδε ὁτιοῦν αὐτῶν, ἀλλὰ μόνον ἐπὶ τῶν ἀορίστως κειμένων εἰρῆσθαι τὸν λόγον.

Ἅπαντα γὰρ καὶ μένει καὶ κινεῖται καὶ κατὰ φύσιν καὶ βίᾳ, καὶ κατὰ φύσιν μέν, ἐν ᾧ μένει μὴ βίᾳ, καὶ φέρεται, καὶ εἰς ὃν φέρεται, καὶ μένει· ἐν ᾧ δὲ βίᾳ, καὶ φέρεται βίᾳ, καὶ εἰς ὃν βίᾳ φέρεται, βίᾳ καὶ μένει. Ἔτι εἰ βίᾳ ἥδε ἡ φορά, ἡ ἐναντία κατὰ φύσιν. Ἐπὶ δὴ τὸ μέσον τὸ ἐνταῦθα εἰ βίᾳ οἰσθήσεται ἡ γῆ ἐκεῖθεν, ἐντεῦθεν οἰσθήσεται ἐκεῖ κατὰ φύσιν· καὶ εἰ μένει ἐνταῦθα ἡ ἐκεῖθεν μὴ βίᾳ, καὶ οἰσθήσεται δεῦρο κατὰ φύσιν. Μία γὰρ ἡ κατὰ φύσιν.

Ἔτι ἀνάγκη πάντας τοὺς κόσμους ἐκ τῶν αὐτῶν εἶναι σωμάτων, ὁμοίους γ’ ὄντας τὴν φύσιν.

Ἀλλὰ μὴν καὶ τῶν σωμάτων ἕκαστον ἀναγκαῖον τὴν αὐτὴν (276b.) ἔχειν δύναμιν, οἷον λέγω πῦρ καὶ γῆν καὶ τὰ μεταξὺ τούτων· εἰ γὰρ ὁμώνυμα ταῦτα καὶ μὴ κατὰ τὴν αὐτὴν ἰδέαν λέγονται τἀκεῖ τοῖς παρ’ ἡμῖν, καὶ τὸ πᾶν ὁμωνύμως ἂν λέγοιτο κόσμος. Δῆλον τοίνυν ὅτι τὸ μὲν ἀπὸ τοῦ μέσου φέρεσθαι πέφυκε, τὸ δ’ ἐπὶ τὸ μέσον αὐτῶν, εἴπερ πᾶν ὁμοειδὲς τὸ πῦρ τῷ πυρὶ καὶ τῶν ἄλλων ἕκαστον, ὥσπερ καὶ τὰ ἐν τούτῳ μόρια τοῦ πυρός.

Ὅτι δ’ ἀναγκαῖον οὕτως ἔχειν, ἐκ τῶν περὶ τὰς κινήσεις ὑποθέσεων φανερόν· αἵ τε γὰρ κινήσεις πεπερασμέναι, ἕκαστόν τε τῶν στοιχείων λέγεται καθ’ ἑκάστην τῶν κινήσεων. Ὥστ’ εἴπερ καὶ αἱ κινήσεις αἱ αὐταί, καὶ τὰ στοιχεῖα ἀναγκαῖον εἶναι πανταχοῦ ταὐτά.

Πέφυκεν ἄρα φέρεσθαι καὶ ἐπὶ τόδε τὸ μέσον τὰ ἐν ἄλλῳ κόσμῳ τῆς γῆς μόρια, καὶ πρὸς τόδε τὸ ἔσχατον τὸ ἐκεῖ πῦρ. Ἀλλ’ ἀδύνατον· τούτου γὰρ συμβαίνοντος ἀνάγκη φέρεσθαι ἄνω μὲν τὴν γῆν ἐν τῷ οἰκείῳ κόσμῳ, τὸ δὲ πῦρ ἐπὶ τὸ μέσον, ὁμοίως δὲ καὶ τὴν ἐντεῦθεν γῆν ἀπὸ τοῦ μέσου φέρεσθαι κατὰ φύσιν πρὸς τὸ ἐκεῖ φερομένην μέσον, διὰ τὸ τοὺς κόσμους οὕτω κεῖσθαι πρὸς ἀλλήλους. Ἢ γὰρ οὐ θετέον τὴν αὐτὴν εἶναι φύσιν τῶν ἁπλῶν σωμάτων ἐν τοῖς πλείοσιν οὐρανοῖς, ἢ λέγοντας οὕτως τὸ μέσον ἓν ποιεῖν ἀνάγκη καὶ τὸ ἔσχατον· τούτου δ’ ὄντος ἀδύνατον εἶναι κόσμους πλείους ἑνός.

Τὸ δ’ ἀξιοῦν ἄλλην εἶναι φύσιν τῶν ἁπλῶν σωμάτων, ἂν ἀποσχῶσιν ἔλαττον ἢ πλεῖον τῶν οἰκείων τόπων, ἄλογον· τί γὰρ διαφέρει τὸ τοσονδὶ φάναι μῆκος ἀπέχειν ἢ τοσονδί; Διοίσει γὰρ κατὰ λόγον, ὅσῳ πλεῖον μᾶλλον, τὸ δ’ εἶδος τὸ αὐτό.

Ἀλλὰ μὴν ἀνάγκη γ’ εἶναί τινα κίνησιν αὐτῶν· ὅτι μὲν γὰρ κινοῦνται, φανερόν. Πότερον οὖν βίᾳ πάσας ἐροῦμεν κινεῖσθαι καὶ τὰς ἐναντίας; ἀλλ’ ὃ μὴ πέφυκεν ὅλως κινεῖσθαι, ἀδύνατον τοῦτο κινεῖσθαι βίᾳ. Εἰ τοίνυν ἐστί τις κίνησις αὐτῶν κατὰ φύσιν, ἀνάγκη τῶν ὁμοειδῶν καὶ τῶν καθ’ ἕκαστον πρὸς ἕνα ἀριθμῷ τόπον ὑπάρχειν τὴν κίνησιν, οἷον πρὸς τόδε τι μέσον καὶ πρὸς τόδε τι ἔσχατον. Εἰ δὲ πρὸς εἴδει ταὐτά, (277a.) πλείω δέ, διότι καὶ τὰ καθ’ ἕκαστα πλείω μέν, εἴδει δ’ ἕκαστον ἀδιάφορον, οὐ τῷ μὲν τῷ δ’ οὐ τοιοῦτον ἔσται τῶν μορίων, ἀλλ’ ὁμοίως πᾶσιν· ὁμοίως γὰρ ἅπαντα κατ’ εἶδος ἀδιάφορα ἀλλήλων, ἀριθμῷ δ’ ἕτερον ὁτιοῦν ὁτουοῦν. Λέγω δὲ τοῦτο, ὅτι εἰ τὰ ἐνταῦθα μόρια πρὸς ἄλληλα καὶ τὰ ἐν ἑτέρῳ κόσμῳ ὁμοίως ἔχει, καὶ τὸ ληφθὲν ἐντεῦθεν οὐδὲν διαφερόντως πρὸς τῶν ἐν ἄλλῳ τινὶ κόσμῳ μορίων καὶ πρὸς τῶν ἐν τῷ αὐτῷ, ἀλλ’ ὡσαύτως· διαφέρουσι γὰρ οὐθὲν εἴδει ἀλλήλων. Ὥστ’ ἀναγκαῖον ἢ κινεῖν ταύτας τὰς ὑποθέσεις, ἢ τὸ μέσον ἓν εἶναι καὶ τὸ ἔσχατον. Τούτου δ’ ὄντος ἀνάγκη καὶ τὸν οὐρανὸν ἕνα μόνον εἶναι καὶ μὴ πλείους, τοῖς αὐτοῖς τεκμηρίοις τούτοις καὶ ταῖς αὐταῖς ἀνάγκαις.

Ὅτι δ’ ἔστι τι οὗ πέφυκεν ἡ γῆ φέρεσθαι καὶ τὸ πῦρ, δῆλον καὶ ἐκ τῶν ἄλλων. Ὅλως γὰρ τὸ κινούμενον ἔκ τινος εἴς τι μεταβάλλει, καὶ ταῦτα ἐξ οὗ καὶ εἰς ὃ εἴδει διαφέρει· πᾶσα δὲ πεπερασμένη μεταβολή· οἷον τὸ ὑγιαζόμενον ἐκ νόσου εἰς ὑγίειαν καὶ τὸ αὐξανόμενον ἐκ μικρότητος εἰς μέγεθος. Καὶ τὸ φερόμενον ἄρα· καὶ γὰρ τοῦτο γίνεταί ποθέν ποι. Δεῖ ἄρα εἴδει διαφέρειν ἐξ οὗ καὶ εἰς ὃ πέφυκε φέρεσθαι, ὥσπερ τὸ ὑγιαζόμενον οὐχ οὗ ἔτυχεν, οὐδ’ οὗ βούλεται ὁ κινῶν.

Καὶ τὸ πῦρ ἄρα καὶ ἡ γῆ οὐκ εἰς ἄπειρον φέρονται, ἀλλ’ εἰς ἀντικείμενα· ἀντίκειται δὲ κατὰ τόπον τὸ ἄνω τῷ κάτω, ὥστε ταῦτα ἔσται πέρατα τῆς φορᾶς. Ἐπεὶ καὶ ἡ κύκλῳ ἔχει πως ἀντικείμενα τὰ κατὰ διάμετρον, τῇ δ’ ὅλῃ οὐκ ἔστιν ἐναντίον οὐδέν, ὥστε καὶ τούτοις τρόπον τινὰ ἡ κίνησις εἰς ἀντικείμενα καὶ πεπερασμένα. Ἀνάγκη ἄρα εἶναί τι τέλος καὶ μὴ εἰς ἄπειρον φέρεσθαι.

Τεκμήριον δὲ τοῦ μὴ εἰς ἄπειρον φέρεσθαι καὶ τὸ τὴν γῆν μέν, ὅσῳ ἂν ἐγγυτέρω ᾖ τοῦ μέσου, θᾶττον φέρεσθαι, τὸ δὲ πῦρ, ὅσῳ ἂν τοῦ ἄνω. Εἰ δ’ ἄπειρον ἦν, ἄπειρος ἂν ἦν καὶ ἡ ταχυτής, εἰ δ’ ἡ ταχυτής, καὶ τὸ βάρος καὶ ἡ κουφότης· ὡς γὰρ <εἰ> τῷ κατωτέρω ταχὺ ἦν τι, ἕτερον τῷ βάρει ἂν ἦν ταχύ, οὕτως εἰ ἄπειρος ἦν ἡ τούτου ἐπίδοσις, καὶ ἡ τῆς ταχυτῆτος ἐπίδοσις ἄπειρος ἂν ἦν.

Ἀλλὰ (277b.) μὴν οὐδ’ ὑπ’ ἄλλου φέρεται αὐτῶν τὸ μὲν ἄνω τὸ δὲ κάτω· οὐδὲ βίᾳ, ὥσπερ τινές φασι τῇ ἐκθλίψει. Βραδύτερον γὰρ ἂν ἐκινεῖτο τὸ πλεῖον πῦρ ἄνω καὶ ἡ πλείων γῆ κάτω· νῦν δὲ τοὐναντίον ἀεὶ τὸ πλεῖον πῦρ θᾶττον φέρεται καὶ ἡ πλείων γῆ εἰς τὸν αὑτῶν τόπον. Οὐδὲ θᾶττον ἂν πρὸς τῷ τέλει ἐφέρετο, εἰ βίᾳ καὶ ἐκθλίψει· πάντα γὰρ τοῦ βιασαμένου πορρωτέρω γιγνόμενα βραδύτερον φέρεται, καὶ ὅθεν βίᾳ, ἐκεῖ φέρεται οὐ βίᾳ. Ὥστ’ ἐκ τούτων θεωροῦσιν ἔστι λαβεῖν τὴν πίστιν περὶ τῶν λεγομένων ἱκανῶς.

Ἔτι δὲ καὶ διὰ τῶν ἐκ τῆς πρώτης φιλοσοφίας λόγων δειχθείη ἄν, καὶ ἐκ τῆς κύκλῳ κινήσεως, ἣν ἀναγκαῖον ἀΐδιον ὁμοίως ἐνταῦθά τ’ εἶναι καὶ ἐν τοῖς ἄλλοις κόσμοις.

Δῆλον δὲ κἂν ὧδε γένοιτο σκοπουμένοις ὅτι ἀνάγκη ἕνα εἶναι τὸν οὐρανόν. Τριῶν γὰρ ὄντων τῶν σωματικῶν στοιχείων, τρεῖς ἔσονται καὶ οἱ τόποι τῶν στοιχείων, εἷς μὲν ὁ τοῦ ὑφισταμένου σώματος ὁ περὶ τὸ μέσον, ἄλλος δὲ ὁ τοῦ κύκλῳ φερομένου, ὅσπερ ἐστὶν ἔσχατος, τρίτος δ’ ὁ μεταξὺ τούτων ὁ τοῦ μέσου σώματος. Ἀνάγκη γὰρ ἐν τούτῳ εἶναι τὸ ἐπιπολάζον. Εἰ γὰρ μὴ ἐν τούτῳ, ἔξω ἔσται· ἀλλ’ ἀδύνατον ἔξω. Τὸ μὲν γὰρ ἀβαρὲς τὸ δ’ ἔχον βάρος, κατωτέρω δὲ ὁ τοῦ βάρος ἔχοντος σώματος τόπος, εἴπερ ὁ πρὸς τῷ μέσῳ τοῦ βαρέος. Ἀλλὰ μὴν οὐδὲ παρὰ φύσιν· ἄλλῳ γὰρ ἔσται κατὰ φύσιν, ἄλλο δ’ οὐκ ἦν. Ἀνάγκη ἄρα ἐν τῷ μεταξὺ εἶναι. Τούτου δ’ αὐτοῦ τίνες εἰσὶ διαφοραί, ὕστερον ἐροῦμεν.

Περὶ μὲν οὖν τῶν σωματικῶν στοιχείων, ποῖά τ’ ἐστὶ καὶ πόσα, καὶ τίς ἑκάστου τόπος, ἔτι δ’ ὅλως πόσοι τὸ πλῆθος οἱ τόποι, δῆλον ἡμῖν ἐκ τῶν εἰρημένων.

Κεφάλαιο 9

Ὅτι δ’ οὐ μόνον εἷς ἐστίν, ἀλλὰ καὶ ἀδύνατον γενέσθαι πλείους, ἔτι δ’ ὡς ἀΐδιος ἄφθαρτος ὢν καὶ ἀγένητος, λέγωμεν, πρῶτον διαπορήσαντες περὶ αὐτοῦ.

Δόξειε γὰρ ἂν ὡδὶ σκοπουμένοις ἀδύνατον ἕνα καὶ μόνον εἶναι αὐτόν· ἐν ἅπασι γὰρ καὶ τοῖς φύσει καὶ τοῖς ἀπὸ τέχνης συνεστῶσι καὶ γεγενημένοις ἕτερόν ἐστιν αὐτή τε καθ’ αὑτὴν ἡ μορφὴ καὶ μεμιγμένη μετὰ τῆς ὕλης· οἷον τῆς σφαίρας ἕτερον τὸ εἶδος (278a.) καὶ ἡ χρυσῆ καὶ ἡ χαλκῆ σφαῖρα, καὶ πάλιν τοῦ κύκλου ἑτέρα ἡ μορφὴ καὶ ὁ χαλκοῦς καὶ ὁ ξύλινος κύκλος· τὸ γὰρ τί ἦν εἶναι λέγοντες σφαίρᾳ ἢ κύκλῳ οὐκ ἐροῦμεν ἐν τῷ λόγῳ χρυσὸν ἢ χαλκόν, ὡς οὐκ ὄντα ταῦτα τῆς οὐσίας· ἂν δὲ τὴν χαλκῆν ἢ χρυσῆν, ἐροῦμεν, καὶ ἐὰν μὴ δυνώμεθα νοῆσαι μηδὲ λαβεῖν ἄλλο τι παρὰ τὸ καθ’ ἕκαστον. Ἐνίοτε γὰρ οὐθὲν κωλύει τοῦτο συμβαίνειν, οἷον εἰ μόνος εἷς ληφθείη κύκλος· οὐθὲν γὰρ ἧττον ἄλλο ἔσται τὸ κύκλῳ εἶναι καὶ τῷδε τῷ κύκλῳ, καὶ τὸ μὲν εἶδος, τὸ δ’ εἶδος ἐν τῇ ὕλῃ καὶ τῶν καθ’ ἕκαστον.

Ἐπεὶ οὖν ἐστὶν ὁ οὐρανὸς αἰσθητός, τῶν καθ’ ἕκαστον ἂν εἴη· τὸ γὰρ αἰσθητὸν ἅπαν ἐν τῇ ὕλῃ ὑπῆρχεν. Εἰ δὲ τῶν καθ’ ἕκαστον, ἕτερον ἂν εἴη τῷδε τῷ οὐρανῷ εἶναι καὶ οὐρανῷ ἁπλῶς. Ἕτερον ἄρα ὅδε ὁ οὐρανὸς καὶ οὐρανὸς ἁπλῶς, καὶ τὸ μὲν ὡς εἶδος καὶ μορφή, τὸ δ’ ὡς τῇ ὕλῃ μεμιγμένον. Ὧν δ’ ἐστὶ μορφή τις καὶ εἶδος, ἤτοι ἔστιν ἢ ἐνδέχεται πλείω γενέσθαι τὰ καθ’ ἕκαστα. Εἴτε γὰρ ἔστιν εἴδη, καθάπερ φασί τινες, ἀνάγκη τοῦτο συμβαίνειν, εἴτε καὶ χωριστὸν μηθὲν τῶν τοιούτων, οὐθὲν ἧττον· ἐπὶ πάντων γὰρ οὕτως ὁρῶμεν, ὅσων ἡ οὐσία ἐν ὕλῃ ἐστίν, πλείω καὶ ἄπειρα ὄντα τὰ ὁμοειδῆ. Ὥστε ἤτοι εἰσὶ πλείους οὐρανοὶ ἢ ἐνδέχεται πλείους εἶναι. Ἐκ μὲν δὴ τούτων ὑπολάβοι τις ἂν καὶ εἶναι καὶ ἐνδέχεσθαι πλείους εἶναι οὐρανούς· σκεπτέον δὲ πάλιν τί τούτων λέγεται καλῶς καὶ τί οὐ καλῶς.

Τὸ μὲν οὖν ἕτερον εἶναι τὸν λόγον τὸν ἄνευ τῆς ὕλης καὶ τὸν ἐν τῇ ὕλῃ τῆς μορφῆς καλῶς τε λέγεται, καὶ ἔστω τοῦτ’ ἀληθές. Ἀλλ’ οὐδὲν ἧττον οὐδεμία ἀνάγκη διὰ τοῦτο πλείους εἶναι κόσμους, οὐδ’ ἐνδέχεται γενέσθαι πλείους, εἴπερ οὗτος ἐξ ἁπάσης ἐστὶ τῆς ὕλης, ὥσπερ ἔστιν.

Ὡδὶ δὲ μᾶλλον ἴσως τὸ λεγόμενον ἔσται δῆλον. Εἰ γάρ ἐστιν ἡ γρυπότης καμπυλότης ἐν ῥινὶ ἢ σαρκί, καὶ ἔστιν ὕλη τῇ γρυπότητι ἡ σάρξ, εἰ ἐξ ἁπασῶν τῶν σαρκῶν μία γένοιτο σὰρξ καὶ ὑπάρξειεν ταύτῃ τὸ γρυπόν, οὐθὲν ἂν ἄλλ᾽ οὔτ᾽ εἴη γρυπὸν οὔτ᾽ ἐνδέχοιτο γενέσθαι. Ὁμοίως δὲ καὶ εἰ τῷ ἀνθρώπῳ ἐστὶν ὕλη σάρκες καὶ ὀστᾶ, εἰ ἐκ πάσης τῆς σαρκὸς καὶ πάντων τῶν ὀστῶν ἄνθρωπος γένοιτο ἀδυνάτων ὄντων διαλυθῆναι, οὐκ ἂν ἐνδέχοιτο εἶναι ἄλλον ἄνθρωπον. Ὡσαύ(278b.) τως δὲ καὶ ἐπὶ τῶν ἄλλων· ὅλως γὰρ ὅσων ἐστὶν ἡ οὐσία ἐν ὑποκειμένῃ τινὶ ὕλῃ, τούτων οὐδὲν ἐνδέχεται γίγνεσθαι μὴ ὑπαρχούσης τινὸς ὕλης.

Ὁ δ᾽ οὐρανὸς ἔστι μὲν τῶν καθ᾽ ἕκαστα καὶ τῶν ἐκ τῆς ὕλης· ἀλλ᾽ εἰ μὴ ἐκ μορίου αὐτῆς συνέστηκεν ἀλλ᾽ ἐξ ἁπάσης, τὸ μὲν εἶναι αὐτῷ οὐρανῷ καὶ τῷδε τῷ οὐρανῷ ἕτερόν ἐστιν, οὐ μέντοι οὔτ᾽ ἂν εἴη ἄλλος οὔτ᾽ ἂν ἐνδέχοιτο γενέσθαι πλείους, διὰ τὸ πᾶσαν τὴν ὕλην περιειληφέναι τοῦτον. Λείπεται ἄρα αὐτὸ τοῦτο δεῖξαι, ὅτι ἐξ ἅπαντος τοῦ φυσικοῦ καὶ τοῦ αἰσθητοῦ συνέστηκε σώματος.

Εἴπωμεν δὲ πρῶτον τί λέγομεν εἶναι τὸν οὐρανὸν καὶ ποσαχῶς, ἵνα μᾶλλον ἡμῖν δῆλον γένηται τὸ ζητούμενον. Ἕνα μὲν οὖν τρόπον οὐρανὸν λέγομεν τὴν οὐσίαν τὴν τῆς ἐσχάτης τοῦ παντὸς περιφορᾶς, ἢ σῶμα φυσικὸν τὸ ἐν τῇ ἐσχάτῃ περιφορᾷ τοῦ παντός· εἰώθαμεν γὰρ τὸ ἔσχατον καὶ τὸ ἄνω μάλιστα καλεῖν οὐρανόν, ἐν ᾧ καὶ τὸ θεῖον πᾶν ἱδρῦσθαί φαμεν.

Ἄλλον δ᾽ αὖ τρόπον τὸ συνεχὲς σῶμα τῇ ἐσχάτῃ περιφορᾷ τοῦ παντός, ἐν ᾧ σελήνη καὶ ἥλιος καὶ ἔνια τῶν ἄστρων· καὶ γὰρ ταῦτα ἐν τῷ οὐρανῷ εἶναί φαμεν.

Ἔτι δ᾽ ἄλλως λέγομεν οὐρανὸν τὸ περιεχόμενον σῶμα ὑπὸ τῆς ἐσχάτης περιφορᾶς· τὸ γὰρ ὅλον καὶ τὸ πᾶν εἰώθαμεν λέγειν οὐρανόν.

Τριχῶς δὴ λεγομένου τοῦ οὐρανοῦ, τὸ ὅλον τὸ ὑπὸ τῆς ἐσχάτης περιεχόμενον περιφορᾶς ἐξ ἅπαντος ἀνάγκη συνεστάναι τοῦ φυσικοῦ καὶ τοῦ αἰσθητοῦ σώματος διὰ τὸ μήτ᾽ εἶναι μηδὲν ἔξω σῶμα τοῦ οὐρανοῦ μήτ᾽ ἐνδέχεσθαι γενέσθαι.

Εἰ γὰρ ἔστιν ἔξω τῆς ἐσχάτης περιφορᾶς σῶμα φυσικόν, ἀνάγκη αὐτὸ ἤτοι τῶν ἁπλῶν εἶναι σωμάτων ἢ τῶν συνθέτων, καὶ ἢ κατὰ φύσιν ἢ παρὰ φύσιν ἔχειν. Τῶν μὲν οὖν ἁπλῶν οὐθὲν ἂν εἴη. Τὸ μὲν γὰρ κύκλῳ φερόμενον δέδεικται ὅτι οὐκ ἐνδέχεται μεταλλάξαι τὸν αὑτοῦ τόπον. Ἀλλὰ μὴν οὐδὲ τὸ ἀπὸ τοῦ μέσου δυνατόν, οὐδὲ τὸ ὑφιστάμενον. Κατὰ φύσιν μὲν γὰρ οὐκ ἂν εἴησαν (ἄλλοι γὰρ αὐτῶν οἰκεῖοι τόποι), παρὰ φύσιν δ᾽ εἴπερ εἰσίν, ἄλλῳ τινὶ ἔσται κατὰ φύσιν ὁ ἔξω τόπος· τὸν γὰρ τούτῳ παρὰ φύσιν ἀναγκαῖον ἄλλῳ εἶναι κατὰ φύσιν. Ἀλλ᾽ οὐκ ἦν ἄλλο σῶμα παρὰ ταῦτα. Οὐκ ἄρ᾽ ἐστὶ δυνατὸν οὐθὲν τῶν ἁπλῶν ἔξω εἶναι τοῦ (279a.) οὐρανοῦ σῶμα. Εἰ δὲ μὴ τῶν ἁπλῶν, οὐδὲ τῶν μικτῶν· ἀνάγκη γὰρ εἶναι καὶ τὰ ἁπλᾶ τοῦ μικτοῦ ὄντος.

Ἀλλὰ μὴν οὐδὲ γενέσθαι δυνατόν· ἤτοι γὰρ κατὰ φύσιν ἔσται ἢ παρὰ φύσιν, καὶ ἢ ἁπλοῦν ἢ μικτόν. Ὥστε πάλιν ὁ αὐτὸς ἥξει λόγος· οὐδὲν γὰρ διαφέρει σκοπεῖν εἰ ἔστιν ἢ εἰ γενέσθαι δυνατόν.

Φανερὸν τοίνυν ἐκ τῶν εἰρημένων ὅτι οὔτ' ἔστιν ἔξω οὔτ' ἐγχωρεῖ γενέσθαι σώματος ὄγκον οὐθενός· ἐξ ἁπάσης ἄρ' ἐστὶ τῆς οἰκείας ὕλης ὁ πᾶς κόσμος· ὕλη γὰρ ἦν αὐτῷ τὸ φυσικὸν σῶμα καὶ αἰσθητόν. Ὥστ' οὔτε νῦν εἰσὶ πλείους οὐρανοὶ οὔτ' ἐγένοντο, οὔτ' ἐνδέχεται γενέσθαι πλείους· ἀλλ' εἷς καὶ μόνος καὶ τέλειος οὗτος οὐρανός ἐστιν.

Ἅμα δὲ δῆλον ὅτι οὐδὲ τόπος οὐδὲ κενὸν οὐδὲ χρόνος ἐστὶν ἔξω τοῦ οὐρανοῦ. Ἐν ἅπαντι γὰρ τόπῳ δυνατὸν ὑπάρξαι σῶμα· κενὸν δ' εἶναί φασιν ἐν ᾧ μὴ ἐνυπάρχει σῶμα, δυνατὸν δ' ἐστὶ γενέσθαι· χρόνος δὲ ἀριθμὸς κινήσεως· κίνησις δ' ἄνευ φυσικοῦ σώματος οὐκ ἔστιν. Ἔξω δὲ τοῦ οὐρανοῦ δέδεικται ὅτι οὔτ' ἔστιν οὔτ' ἐνδέχεται γενέσθαι σῶμα. Φανερὸν ἄρα ὅτι οὔτε τόπος οὔτε κενὸν οὔτε χρόνος ἐστὶν ἔξω.

Διόπερ οὔτ' ἐν τόπῳ τἀκεῖ πέφυκεν, οὔτε χρόνος αὐτὰ ποιεῖ γηράσκειν, οὐδ' ἐστὶν οὐδενὸς οὐδεμία μεταβολὴ τῶν ὑπὲρ τὴν ἐξωτάτω τεταγμένων φοράν, ἀλλ' ἀναλλοίωτα καὶ ἀπαθῆ τὴν ἀρίστην ἔχοντα ζωὴν καὶ τὴν αὐταρκεστάτην διατελεῖ τὸν ἅπαντα αἰῶνα. (Καὶ γὰρ τοῦτο τοὔνομα θείως ἔφθεγκται παρὰ τῶν ἀρχαίων. Τὸ γὰρ τέλος τὸ περιέχον τὸν τῆς ἑκάστου ζωῆς χρόνον, οὗ μηθὲν ἔξω κατὰ φύσιν, αἰὼν ἑκάστου κέκληται. Κατὰ τὸν αὐτὸν δὲ λόγον καὶ τὸ τοῦ παντὸς οὐρανοῦ τέλος καὶ τὸ τὸν πάντα χρόνον καὶ τὴν ἀπειρίαν περιέχον τέλος αἰών ἐστιν, ἀπὸ τοῦ αἰεὶ εἶναι τὴν ἐπωνυμίαν εἰληφώς, ἀθάνατος καὶ θεῖος). Ὅθεν καὶ τοῖς ἄλλοις ἐξήρτηται, τοῖς μὲν ἀκριβέστερον τοῖς δ' ἀμαυρῶς, τὸ εἶναί τε καὶ ζῆν.

Καὶ γάρ, καθάπερ ἐν τοῖς ἐγκυκλίοις φιλοσοφήμασι περὶ τὰ θεῖα, πολλάκις προφαίνεται τοῖς λόγοις ὅτι τὸ θεῖον ἀμετάβλητον ἀναγκαῖον εἶναι πᾶν τὸ πρῶτον καὶ ἀκρότατον· ὃ οὕτως ἔχον μαρτυρεῖ τοῖς εἰρημένοις. Οὔτε γὰρ ἄλλο κρεῖττόν ἐστιν ὅ τι κινήσει (ἐκεῖνο γὰρ ἂν εἴη θειότερον) οὔτ' ἔχει φαῦλον οὐδέν, οὔτ' ἐνδεὲς τῶν αὑτοῦ καλῶν οὐδενός ἐστιν.

(279b.) Καὶ ἄπαυστον δὴ κίνησιν κινεῖται εὐλόγως· πάντα γὰρ παύεται κινούμενα ὅταν ἔλθῃ εἰς τὸν οἰκεῖον τόπον, τοῦ δὲ κύκλῳ σώματος ὁ αὐτὸς τόπος ὅθεν ἤρξατο καὶ εἰς ὃν τελευτᾷ.

Κεφάλαιο 10

Τούτων δὲ διωρισμένων λέγωμεν μετὰ ταῦτα πότερον ἀγένητος ἢ γενητὸς καὶ ἄφθαρτος ἢ φθαρτός, διεξελθόντες πρότερον τὰς τῶν ἄλλων ὑπολήψεις· αἱ γὰρ τῶν ἐναντίων ἀποδείξεις ἀπορίαι περὶ τῶν ἐναντίων εἰσίν. Ἅμα δὲ καὶ μᾶλλον ἂν εἴη πιστὰ τὰ μέλλοντα λεχθήσεσθαι προακηκοόσι τὰ τῶν ἀμφισβητούντων λόγων δικαιώματα. Τὸ γὰρ ἐρήμην καταδικάζεσθαι δοκεῖν ἧττον ἂν ἡμῖν ὑπάρχοι· καὶ γὰρ δεῖ διαιτητὰς ἀλλ' οὐκ ἀντιδίκους εἶναι τοὺς μέλλοντας τἀληθὲς κρίνειν ἱκανῶς.

Γενόμενον μὲν οὖν ἅπαντες εἶναί φασιν, ἀλλὰ γενόμενον οἱ μὲν ἀΐδιον, οἱ δὲ φθαρτὸν ὥσπερ ὁτιοῦν ἄλλο τῶν συνισταμένων, οἱ δ' ἐναλλὰξ ὁτὲ μὲν οὕτως ὁτὲ δὲ ἄλλως ἔχειν [φθειρόμενον], καὶ τοῦτο αἰεὶ διατελεῖν οὕτως, ὥσπερ Ἐμπεδοκλῆς ὁ Ἀκραγαντῖνος καὶ Ἡράκλειτος ὁ Ἐφέσιος.

Τὸ μὲν οὖν γενέσθαι μὲν ἀΐδιον δ' ὅμως εἶναι φάναι τῶν ἀδυνάτων. Μόνα γὰρ ταῦτα θετέον ὑλόγως ὅσα ἐπὶ πολλῶν ἢ πάντων ὁρῶμεν ὑπάρχοντα, περὶ δὲ τούτου συμβαίνει τοὐναντίον· ἅπαντα γὰρ τὰ γινόμενα καὶ φθειρόμενα φαίνεται.

Ἔτι δὲ τὸ μὴ ἔχον ἀρχὴν τοῦ ὡδὶ ἔχειν, ἀλλ' ἀδύνατον ἄλλως ἔχειν πρότερον τὸν ἅπαντα αἰῶνα, ἀδύνατον καὶ μεταβάλλειν· ἔσται γάρ τι αἴτιον, ὃ εἰ ὑπῆρχε πρότερον, δυνατὸν ἂν ἦν ἄλλως ἔχειν τὸ ἀδύνατον ἄλλως ἔχειν. Εἰ δὲ πρότερον ἐξ ἄλλως ἐχόντων συνέστη ὁ κόσμος, εἰ μὲν ἀεὶ οὕτως ἐχόντων καὶ ἀδυνάτων ἄλλως ἔχειν, οὐκ ἂν ἐγένετο· εἰ δὲ γέγονεν, ἀνάγκη δηλονότι κἀκεῖνα δυνατὰ εἶναι ἄλλως ἔχειν καὶ μὴ ἀεὶ οὕτως ἔχειν, ὥστε καὶ συνεστῶτα διαλυθήσεται καὶ διαλελυμένα συνέστη ἔμπροσθεν, καὶ τοῦτ' ἀπειράκις ἢ οὕτως εἶχεν ἢ δυνατὸν ἦν. Εἰ δὲ τοῦτ', οὐκ ἂν εἴη ἄφθαρτος, οὔτ' εἰ ἄλλως εἶχέ ποτε οὔτ' εἰ δυνατὸν ἄλλως ἔχειν.

Ἣν δέ τινες βοήθειαν ἐπιχειροῦσι φέρειν ἑαυτοῖς τῶν λεγόντων ἄφθαρτον μὲν εἶναι γενόμενον δέ, οὐκ ἔστιν ἀληθής· ὁμοίως γάρ φασι τοῖς τὰ διαγράμματα γράφουσι καὶ σφᾶς εἰρηκέναι περὶ τῆς γενέσεως, οὐχ ὡς γενομένου ποτέ, ἀλλὰ (280a.) διδασκαλίας χάριν ὡς μᾶλλον γνωριζόντων, ὥσπερ τὸ διάγραμμα γιγνόμενον θεασαμένους. Τοῦτο δ' ἐστίν, ὥσπερ λέγομεν, οὐ τὸ αὐτό· ἐν μὲν γὰρ τῇ ποιήσει τῶν διαγραμμάτων πάντων τεθέντων εἶναι ἅμα τὸ αὐτὸ συμβαίνει, ἐν δὲ ταῖς τούτων ἀποδείξεσιν οὐ ταὐτόν, ἀλλ’ ἀδύνατον· τὰ γὰρ λαμβανόμενα πρότερον καὶ ὕστερον ὑπεναντία ἐστίν· ἐξ ἀτάκτων γὰρ τεταγμένα γενέσθαι φασίν, ἅμα δὲ ἄτακτον εἶναι καὶ τεταγμένον ἀδύνατον, ἀλλ’ ἀνάγκη γένεσιν εἶναι τὴν χωρίζουσαν καὶ χρόνον· ἐν δὲ τοῖς διαγράμμασιν οὐδὲν τῷ χρόνῳ κεχώρισται. Ὅτι μὲν οὖν ἀδύνατον ἅμ’ ἀΐδιον αὐτὸν εἶναι καὶ γενέσθαι, φανερόν.

Τὸ δ’ ἐναλλὰξ συνιστάναι καὶ διαλύειν οὐδὲν ἀλλοιότερον ποιεῖν ἐστὶν ἢ τὸ κατασκευάζειν αὐτὸν ἀΐδιον μέν, ἀλλὰ μεταβάλλοντα τὴν μορφήν, ὥσπερ εἴ τις ἐκ παιδὸς ἄνδρα γινόμενον καὶ ἐξ ἀνδρὸς παῖδα ὁτὲ μὲν φθείρεσθαι ὁτὲ δ’ εἶναι οἴοιτο· δῆλον γὰρ ὅτι καὶ εἰς ἄλληλα τῶν στοιχείων συνιόντων οὐχ ἡ τυχοῦσα τάξις γίγνεται καὶ σύστασις, ἀλλ’ ἡ αὐτή, ἄλλως τε καὶ κατὰ τοὺς τοῦτον τὸν λόγον εἰρηκότας, οἳ τῆς διαθέσεως ἑκατέρας αἰτιῶνται τὸ ἐναντίον. Ὥστ’ εἰ τὸ ὅλον σῶμα συνεχὲς ὂν ὁτὲ μὲν οὕτως ὁτὲ δ’ ἐκείνως διατίθεται καὶ διακεκόσμηται, ἡ δὲ τοῦ ὅλου σύστασίς ἐστι κόσμος καὶ οὐρανός, οὐκ ἂν ὁ κόσμος γίγνοιτο καὶ φθείροιτο, ἀλλ’ αἱ διαθέσεις αὐτοῦ.

Τὸ δ’ ὅλως γενόμενον φθαρῆναι καὶ μὴ ἀνακάμπτειν ὄντος μὲν ἑνὸς ἀδύνατόν ἐστιν· πρὶν γὰρ γενέσθαι ἀεὶ ὑπῆρχεν ἡ πρὸ αὐτοῦ σύστασις, ἣν μὴ γενομένην οὐχ οἷόν τ’ εἶναί φαμεν μεταβάλλειν· ἀπείρων δ’ ὄντων ἐνδέχεται μᾶλλον.

Οὐ μὴν ἀλλὰ καὶ τοῦτο πότερον ἀδύνατον ἢ δυνατόν, ἔσται δῆλον ἐκ τῶν ὕστερον· εἰσὶ γάρ τινες οἷς ἐνδέχεσθαι δοκεῖ καὶ ἀγένητόν τι ὂν φθαρῆναι καὶ γενόμενον ἄφθαρτον διατελεῖν, ὥσπερ ἐν τῷ Τιμαίῳ· ἐκεῖ γάρ φησι τὸν οὐρανὸν γενέσθαι μέν, οὐ μὴν ἀλλ’ ἔσεσθαί γε τὸν λοιπὸν ἀεὶ χρόνον. Πρὸς οὓς φυσικῶς μὲν περὶ οὐρανοῦ μόνον εἴρηται, καθόλου δὲ περὶ ἅπαντος σκεψαμένοις ἔσται καὶ περὶ τούτου δῆλον.

Κεφάλαιο 11

(280b.) Πρῶτον δὲ διαιρετέον πῶς ἀγένητα καὶ γενητά φαμεν καὶ φθαρτὰ καὶ ἄφθαρτα· πολλαχῶς γὰρ λεγομένων, κἂν μηδὲν διαφέρῃ πρὸς τὸν λόγον, ἀνάγκη τὴν διάνοιαν ἀορίστως ἔχειν, ἄν τις τῷ διαιρουμένῳ πολλαχῶς ὡς ἀδιαιρέτῳ χρῆται· ἄδηλον γὰρ κατὰ ποίαν φύσιν αὐτῶν συμβαίνει τὸ λεχθέν.

Λέγεται δ' ἀγένητον ἕνα μὲν τρόπον ἐὰν ᾖ τι νῦν πρότερον μὴ ὂν ἄνευ γενέσεως καὶ μεταβολῆς, καθάπερ ἔνιοι τὸ ἅπτεσθαι καὶ τὸ κινεῖσθαι λέγουσιν· οὐ γὰρ εἶναι γενέσθαι φασὶν ἁπτόμενον, οὐδὲ κινούμενον. Ἕνα δ' εἴ τι ἐνδεχόμενον γίνεσθαι ἢ γενέσθαι μή ἐστιν· ὁμοίως γὰρ καὶ τοῦτο ἀγένητον, ὅτι ἐνδέχεται γενέσθαι. Ἕνα δ' εἴ τι ὅλως ἀδύνατον γενέσθαι, ὥσθ' ὁτὲ μὲν εἶναι ὁτὲ δὲ μή. (Τὸ δ' ἀδύνατον λέγεται διχῶς. Ἢ γὰρ τῷ μὴ ἀληθὲς εἶναι εἰπεῖν ὅτι γένοιτ' ἄν, ἢ τῷ μὴ ῥᾳδίως μηδὲ ταχὺ ἢ καλῶς.)

Τὸν αὐτὸν δὲ τρόπον καὶ τὸ γενητὸν ἕνα μὲν εἰ μὴ ὂν πρότερον ὕστερον ἔστιν, εἴτε γινόμενον εἴτ' ἄνευ τοῦ γίνεσθαι, ὁτὲ μὲν μὴ ὄν, πάλιν δ' ὄν. Ἕνα δ' εἰ δυνατόν, εἴτε τῷ ἀληθεῖ διορισθέντος τοῦ δυνατοῦ εἴτε τῷ ῥᾳδίως. Ἕνα δ' ἐὰν ἡ γένεσις αὐτοῦ ἐκ τοῦ μὴ ὄντος εἰς τὸ ὄν, εἴτ' ἤδη ὄντος, διὰ τοῦ γίνεσθαι δ' ὄντος, εἴτε καὶ μήπω ὄντος, ἀλλ' ἐνδεχομένου.

Καὶ φθαρτὸν δὲ καὶ ἄφθαρτον ὡσαύτως· εἴτε γὰρ πρότερόν τι ὂν ὕστερον ἢ μή ἐστιν ἢ ἐνδέχεται μὴ εἶναι, φθαρτὸν εἶναί φαμεν, εἴτε φθειρόμενόν ποτε καὶ μεταβάλλον, εἴτε μή. Ἔστι δ' ὅτε καὶ τὸ διὰ τοῦ φθείρεσθαι ἐνδεχόμενον μὴ εἶναι φθαρτὸν εἶναί φαμεν, καὶ ἔτι ἄλλως τὸ ῥᾳδίως φθειρόμενον, ὃ εἴποι ἄν τις εὔφθαρτον. Καὶ περὶ τοῦ ἀφθάρτου ὁ αὐτὸς λόγος· Ἢ γὰρ τὸ ἄνευ φθορᾶς ὁτὲ μὲν ὂν ὁτὲ δὲ μὴ ὄν, οἷον τὰς ἁφάς, ὅτι ἄνευ τοῦ φθείρεσθαι πρότερον οὖσαι ὕστερον οὐκ εἰσίν. Ἢ τὸ ὂν μέν, δυνατὸν δὲ μὴ εἶναι, ἢ καὶ οὐκ ἐσόμενόν ποτε, νῦν δ' ὄν· σὺ γὰρ εἶ, καὶ ἡ ἁφὴ νῦν· ἀλλ' ὅμως φθαρτόν, ὅτι ἔσται ποτὲ ὅτε οὐκ ἀληθὲς εἰπεῖν ὅτι εἶ, οὐδὲ ταῦτα ἅπτεσθαι. Τὸ δὲ μάλιστα κυρίως, τὸ ὂν μέν, ἀδύνατον δὲ φθαρῆναι οὕτως ὥστε νῦν ὂν ὕστερον μὴ εἶναι ἢ ἐνδέχεσθαι μὴ εἶναι. Ἢ καὶ τὸ μήπω ἐφθαρμένον, ἐνδεχόμενον δ' ὕστερον μὴ εἶναι. Λέγεται δ' (281a.) ἄφθαρτον καὶ τὸ μὴ ῥᾳδίως φθειρόμενον.

Εἰ δὴ ταῦθ' οὕτως ἔχει, σκεπτέον πῶς λέγομεν τὸ δυνατὸν καὶ ἀδύνατον· τό τε γὰρ κυριώτατα λεγόμενον ἄφθαρτον τῷ μὴ δύνασθαι ἂν φθαρῆναι, μηδ' ὁτὲ μὲν εἶναι ὁτὲ δὲ μή· λέγεται δὲ καὶ τὸ ἀγένητον τὸ ἀδύνατον καὶ μὴ δυνάμενον γενέσθαι οὕτως ὥστε πρότερον μὲν μὴ εἶναι ὕστερον δὲ εἶναι, οἷον τὴν διάμετρον σύμμετρον. Εἰ δή τι δύναται κινηθῆναι [στάδια ἑκατὸν] ἢ ἆραι βάρος, ἀεὶ πρὸς τὸ πλεῖστον λέγομεν, οἷον τάλαντα ἆραι ἑκατὸν ἢ στάδια βαδίσαι ἑκατόν (καίτοι καὶ τὰ μόρια δύναται τὰ ἐντός, εἴπερ καὶ τὴν ὑπεροχήν), ὡς δέον ὁρίζεσθαι πρὸς τὸ τέλος καὶ τὴν ὑπεροχὴν τὴν δύναμιν. Ἀνάγκη μὲν οὖν τὸ δυνατὸν καθ' ὑπεροχὴν τοσαδὶ καὶ τὰ ἐντὸς δύνασθαι, οἷον εἰ τάλαντα ἑκατὸν ἆραι, καὶ δύο, κἂν εἰ στάδια ἑκατόν, καὶ δύο δύνασθαι βαδίσαι. Ἡ δὲ δύναμις τῆς ὑπεροχῆς ἐστίν· κἂν εἴ τι ἀδύνατον τοσονδὶ καθ' ὑπερβολὴν εἰπόντων, καὶ τὰ πλείω ἀδύνατον, οἷον ὁ χίλια βαδίσαι στάδια μὴ δυνάμενος δῆλον ὅτι καὶ χίλια καὶ ἕν.

Μηδὲν δ' ἡμᾶς παρενοχλείτω· διωρίσθω γὰρ κατὰ τῆς ὑπεροχῆς τὸ τέλος λεγόμενον τὸ κυρίως δυνατόν. Τάχα γὰρ ἐνσταίη τις ἂν ὡς οὐκ ἀνάγκη τὸ λεχθέν· ὁ γὰρ ὁρῶν στάδιον οὐ καὶ τὰ ἐντὸς ὄψεται μεγέθη, ἀλλὰ τοὐναντίον μᾶλλον ὁ δυνάμενος ἰδεῖν στιγμὴν ἢ ἀκοῦσαι μικροῦ ψόφου καὶ τῶν μειζόνων ἕξει αἴσθησιν. Ἀλλ' οὐδὲν διαφέρει πρὸς τὸν λόγον· διωρίσθω γὰρ ἤτοι ἐπὶ τῆς δυνάμεως ἢ ἐπὶ τοῦ πράγματος ἡ ὑπερβολή. Τὸ γὰρ λεγόμενον δῆλον· ἡ μὲν γὰρ ὄψις ἡ τοῦ ἐλάττονος ὑπερέχει, ἡ δὲ ταχυτὴς ἡ τοῦ πλείονος.

Κεφάλαιο 12

Διωρισμένων δὲ τούτων λεκτέον τὸ ἐφεξῆς. Εἰ δή ἐστιν ἔνια δυνατὰ καὶ εἶναι καὶ μή, ἀνάγκη χρόνον τινὰ ὡρίσθαι τὸν πλεῖστον καὶ τοῦ εἶναι καὶ τοῦ μή, λέγω δ᾽ ὃν δυνατὸν τὸ πρᾶγμα εἶναι καὶ ὃν δυνατὸν μὴ εἶναι καθ᾽ ὁποιανοῦν κατηγορίαν, οἷον ἄνθρωπον ἢ λευκὸν ἢ τρίπηχυ ἢ ἄλλ᾽ ὁτιοῦν τῶν τοιούτων. Εἰ γὰρ μὴ ἔσται ποσός τις, ἀλλ᾽ ἀεὶ πλείων τοῦ προτεθέντος καὶ οὐκ ἔστιν οὗ ἐλάττων, ἄπειρον (281b.) ἔσται χρόνον δυνατὸν εἶναι, καὶ μὴ εἶναι ἄλλον ἄπειρον· ἀλλὰ τοῦτ᾽ ἀδύνατον.

Ἀρχὴ δ᾽ ἔστω ἐντεῦθεν· τὸ γὰρ ἀδύνατον καὶ τὸ ψεῦδος οὐ ταὐτὸ σημαίνει. Ἔστι δὲ τὸ ἀδύνατον καὶ δυνατὸν καὶ ψεῦδος καὶ ἀληθὲς τὸ μὲν ἐξ ὑποθέσεως (λέγω δ᾽, οἷον τὸ τρίγωνον ἀδύνατον δύο ὀρθὰς ἔχειν, εἰ τάδε, καὶ ἡ διάμετρος σύμμετρος). Ἔστι δ᾽ ἁπλῶς καὶ δυνατὰ καὶ ἀδύνατα καὶ ψευδῆ καὶ ἀληθῆ. Οὐ δὴ ταὐτό ἐστι ψεῦδός τέ τι εἶναι ἁπλῶς καὶ ἀδύνατον ἁπλῶς. Τὸ γάρ σε μὴ ἑστῶτα φάναι ἑστάναι ψεῦδος μέν, οὐκ ἀδύνατον δέ. Ὁμοίως δὲ τὸν κιθαρίζοντα, μὴ ᾄδοντα δέ, ᾄδειν φάναι ψεῦδος, ἀλλ᾽ οὐκ ἀδύνατον. Τὸ δ᾽ ἅμα ἑστάναι καὶ καθῆσθαι, καὶ τὴν διάμετρον σύμμετρον εἶναι, οὐ μόνον ψεῦδος, ἀλλὰ καὶ ἀδύνατον. Οὐ δὴ ταὐτόν ἐστιν ὑποθέσθαι ψεῦδος καὶ ἀδύνατον. Συμβαίνει δ᾽ ἀδύνατον ἐξ ἀδυνάτου.

Τοῦ μὲν οὖν καθῆσθαι καὶ ἑστάναι ἅμα ἔχει τὴν δύναμιν, ὅτι ὅτε ἔχει ἐκείνην, καὶ τὴν ἑτέραν· ἀλλ᾽ οὐχ ὥστε ἅμα καθῆσθαι καὶ ἑστάναι, ἀλλ᾽ ἐν ἄλλῳ χρόνῳ. Εἰ δέ τι ἄπειρον χρόνον ἔχει πλειόνων δύναμιν, οὐκ ἔστιν ἐν ἄλλῳ χρόνῳ, ἀλλὰ τοῦθ᾽ ἅμα.

Ὥστ᾽ εἴ τι ἄπειρον χρόνον ὂν φθαρτόν ἐστι, δύναμιν ἔχοι ἂν τοῦ μὴ εἶναι. Εἰ δὴ ἄπειρον χρόνον, ἔστω ὑπάρχον ὃ δύναται. Ἅμα ἄρ᾽ ἔσται τε καὶ οὐκ ἔσται κατ᾽ ἐνέργειαν. Ψεῦδος μὲν οὖν συμβαίνοι ἄν, ὅτι ψεῦδος ἐτέθη. Ἀλλ᾽ εἰ μὴ ἀδύνατον ἦν, οὐκ ἂν καὶ ἀδύνατον ἦν τὸ συμβαῖνον. Ἅπαν ἄρα τὸ ἀεὶ ὂν ἁπλῶς ἄφθαρτον.

Ὁμοίως δὲ καὶ ἀγένητον· εἰ γὰρ γενητόν, ἔσται δυνατὸν χρόνον τινὰ μὴ εἶναι-φθαρτὸν μὲν γάρ ἐστι τὸ πρότερον μὲν ὄν, νῦν δὲ μὴ ὂν ἢ ἐνδεχόμενόν ποτε ὕστερον μὴ εἶναι· γενητὸν δὲ ὃ ἐνδέχεται πρότερον μὴ εἶναι-ἀλλ᾽ οὐκ ἔστιν ἐν ᾧ χρόνῳ δυνατὸν τὸ ἀεὶ ὂν ὥστε μὴ εἶναι, οὔτ᾽ ἄπειρον οὔτε πεπερασμένον· καὶ γὰρ τὸν πεπερασμένον χρόνον δύναται εἶναι, εἴπερ καὶ τὸν ἄπειρον. Οὐκ ἄρα ἐνδέχεται τὸ αὐτὸ καὶ ἓν ἀεί τε δύνασθαι εἶναι καὶ ἀεὶ μὴ εἶναι. Ἀλλὰ μὴν οὐδὲ τὴν ἀπόφασιν, οἷον λέγω μὴ ἀεὶ εἶναι. Ἀδύνατον ἄρα καὶ ἀεὶ μέν τι εἶναι, φθαρτὸν (282a.) δ’ εἶναι. Ὁμοίως δ’ οὐδὲ γενητόν· δυοῖν γὰρ ὅροιν εἰ ἀδύνατον τὸ ὕστερον ἄνευ τοῦ προτέρου ὑπάρξαι, ἐκεῖνο δ’ ἀδύνατον ὑπάρχειν, καὶ τὸ ὕστερον. Ὥστ’ εἰ τὸ ἀεὶ ὂν μὴ ἐνδέχεταί ποτε μὴ εἶναι, ἀδύνατον καὶ γενητὸν εἶναι.

Ἐπεὶ δ’ ἀπόφασις τοῦ μὲν ἀεὶ δυναμένου εἶναι τὸ μὴ ἀεὶ δυνάμενον εἶναι, τὸ δ’ ἀεὶ δυνατὸν μὴ εἶναι ἐναντίον, οὗ ἀπόφασις τὸ μὴ ἀεὶ δυνάμενον μὴ εἶναι, ἀνάγκη τὰς ἀποφάσεις ἀμφοῖν τῷ αὐτῷ ὑπάρχειν, καὶ εἶναι μέσον τοῦ ἀεὶ ὄντος καὶ τοῦ ἀεὶ μὴ ὄντος τὸ δυνάμενον εἶναι καὶ μὴ εἶναι· ἡ γὰρ ἑκατέρου ἀπόφασίς ποτε ὑπάρξει, εἰ μὴ ἀεί. Ὥστ’ εἰ τὸ μὴ ἀεὶ μὴ ὂν ἔσται ποτὲ καὶ οὐκ ἔσται, καὶ τὸ μὴ ἀεὶ δυνάμενον εἶναι δηλονότι, ἀλλά ποτε ὄν, ὥστε καὶ μὴ εἶναι. Τὸ αὐτὸ ἄρ’ ἔσται δυνατὸν εἶναι καὶ μή, καὶ τοῦτ’ ἔστιν ἀμφοῖν μέσον. Λόγος δὲ καθόλου ὅδε. Ἔστω γὰρ τὸ A καὶ τὸ B μηδενὶ τῷ αὐτῷ δυνάμενα ὑπάρχειν, ἅπαντι δὲ τὸ A ἢ τὸ Γ καὶ τὸ B ἢ τὸ Δ. Ἀνάγκη δὴ ᾧ μήτε τὸ A ὑπάρχει μήτε τὸ B, παντὶ ὑπάρχειν τὰ ΓΔ. Ἔστω δὴ τὸ E τὸ μεταξὺ τῶν AB· ἐναντίων γὰρ τὸ μηθέτερον μέσον. Τούτῳ δὴ ἀνάγκη ἄμφω ὑπάρχειν τό τε Γ καὶ τὸ Δ. Παντὶ γὰρ ἢ τὸ A ἢ τὸ Γ, ὥστε καὶ τῷ E· ἐπεὶ οὖν τὸ A ἀδύνατον, τὸ Γ ὑπάρξει. Ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τοῦ Δ. Οὔτε δὴ τὸ ἀεὶ ὂν γενητὸν οὐδὲ φθαρτόν, οὔτε τὸ ἀεὶ μὴ ὄν. Δῆλον δ’ ὅτι καὶ εἰ γενητὸν ἢ φθαρτόν, οὐκ ἀΐδιον. Ἅμα γὰρ ἔσται δυνάμενον ἀεὶ εἶναι καὶ δυνάμενον μὴ ἀεὶ εἶναι· τοῦτο δ’ ὅτι ἀδύνατον, δέδεικται πρότερον.

ἀεὶ ὄν ἀεὶ μὴ ὄν

A B

γενητόν

E

μὴ ἀεὶ ὄν μὴ ἀεὶ μὴ ὄν

Γ Δ

Ἆρ’ οὖν εἰ καὶ ἀγένητον, ὂν δέ, τοῦτ’ ἀνάγκη ἀΐδιον εἶναι, ὁμοίως δὲ καὶ εἰ ἄφθαρτον, ὂν δέ; (Λέγω δὲ τὸ ἀγένητον καὶ ἄφθαρτον τὰ κυρίως λεγόμενα, ἀγένητον μὲν ὃ ἔστι νῦν, καὶ πρότερον οὐκ ἀληθὲς ἦν εἰπεῖν τὸ μὴ εἶναι, ἄφθαρτον δὲ ὃ νῦν ὂν ὕστερον μὴ ἀληθὲς ἔσται εἰπεῖν μὴ εἶναι). Ἢ εἰ μὲν ταῦτα ἀλλήλοις ἀκολουθεῖ καὶ τό τε ἀγένητον ἄφθαρτον καὶ τὸ ἄφθαρτον ἀγένητον, ἀνάγκη καὶ τὸ ἀΐδιον ἑκατέρῳ ἀκολουθεῖν, καὶ εἴτε ἀγένη (282b.) τον, ἀΐδιον, εἴτε ἄφθαρτον, ἀΐδιον. Δῆλον δὲ καὶ ἐκ τοῦ ὁρισμοῦ αὐτῶν· καὶ γὰρ ἀνάγκη, εἰ φθαρτόν, γενητόν. Ἢ γὰρ ἀγένητον ἢ γενητόν· εἰς δὲ ἀγένητον, ἄφθαρτον ὑπόκειται.

Καὶ εἰ γενητὸν δή, φθαρτὸν ἀνάγκη· ἢ γὰρ φθαρτὸν ἢ ἄφθαρτον· ἀλλ’ εἰ ἄφθαρτον, ἀγένητον ὑπέκειτο. Εἰ δὲ μὴ ἀκολουθοῦσιν ἀλλήλοις τὸ ἄφθαρτον καὶ τὸ ἀγένητον, οὐκ ἀνάγκη οὔτε τὸ ἀγένητον οὔτε τὸ ἄφθαρτον ἀΐδιον εἶναι. Ὅτι δ’ ἀνάγκη ἀκολουθεῖν, ἐκ τῶνδε φανερόν. Τὸ γὰρ γενητὸν καὶ τὸ φθαρτὸν ἀκολουθοῦσιν ἀλλήλοις. Δῆλον δὲ καὶ τοῦτο ἐκ τῶν πρότερον· τοῦ γὰρ ἀεὶ ὄντος καὶ τοῦ ἀεὶ μὴ ὄντος ἐστὶ μεταξὺ ᾧ μηδέτερον ἀκολουθεῖ, τοῦτο δ’ ἐστὶ τὸ γενητὸν καὶ φθαρτόν. Δυνατὸν γὰρ καὶ εἶναι καὶ μὴ εἶναι ὡρισμένον χρόνον ἑκάτερον· λέγω δ’ ἑκάτερον καὶ εἶναι ποσόν τινα χρόνον καὶ μὴ εἶναι.

Εἰ τοίνυν ἐστί τι γενητὸν ἢ φθαρτόν, ἀνάγκη τοῦτο μεταξὺ εἶναι. Ἔστω γὰρ τὸ Α τὸ ἀεὶ ὄν, τὸ δὲ Β τὸ ἀεὶ μὴ ὄν, τὸ δὲ Γ γενητόν, τὸ δὲ Δ φθαρτόν. Ἀνάγκη δὴ τὸ Γ μεταξὺ εἶναι τοῦ Α καὶ τοῦ Β. Τῶν μὲν γὰρ οὐκ ἔστι χρόνος ἐπ’ οὐδέτερον τὸ πέρας ἐν ᾧ ἢ τὸ Α οὐκ ἦν ἢ τὸ Β ἦν· τῷ δὲ γενητῷ ἀνάγκη ἢ ἐνεργείᾳ εἶναι ἢ δυνάμει, τοῖς δὲ ΑΒ οὐδετέρως. Ποσὸν ἄρα τινὰ καὶ ὡρισμένον χρόνον καὶ ἔσται καὶ πάλιν οὐκ ἔσται. Ὁμοίως δὲ καὶ ἐπὶ τοῦ Δ. Γενητὸν ἄρα καὶ φθαρτὸν ἑκάτερον.

Ἀκολουθοῦσιν ἄρα ἀλλήλοις τὸ γενητὸν καὶ τὸ φθαρτόν.

ἀεὶ ὄν γενητόν

Α Γ

φθαρτόν ἀεὶ μὴ ὄν

Δ Β

Ἔστω δὴ τὸ ἐφ’ ᾧ Ε ἀγένητον, τὸ δ’ ἐφ’ ᾧ Ζ γενητόν, τὸ δ’ ἐφ’ ᾧ Η ἄφθαρτον, τὸ δ’ ἐφ’ ᾧ Θ φθαρτόν. Τὰ δὴ ΖΘ δέ) δεικται ὅτι ἀκολουθεῖ ἀλλήλοις. Ὅταν δ’ ᾖ οὕτω κείμενα ὡς ταῦτα, οἷον τὸ μὲν Ζ καὶ τὸ Θ ἀκολουθοῦντα, τὸ δὲ Ε καὶ τὸ Ζ μηθενὶ τῷ αὐτῷ, ἅπαντι δὲ θάτερον, ὁμοίως δὲ καὶ τὰ ΗΘ, ἀνάγκη καὶ τὰ ΕΗ ἀκολουθεῖν ἀλλήλοις. Ἔστω γὰρ τῷ Η τὸ Ε μὴ ἀκολουθοῦν. Τὸ ἄρα Ζ ἀκολουθήσει· παντὶ γὰρ τὸ Ε ἢ τὸ Ζ. Ἀλλὰ μὴν ᾧ τὸ Ζ, καὶ τὸ Θ. Τῷ ἄρα Η τὸ Θ ἀκολουθήσει. Ἀλλ’ ὑπέκειτο ἀδύνατον (283a.) εἶναι. Ὁ δ’ αὐτὸς λόγος καὶ ὅτι τὸ Η τῷ Ε. Ἀλλὰ μὴν οὕτως ἔχει τὸ ἀγένητον, ἐφ’ ᾧ Ε, πρὸς τὸ γενητόν, ἐφ’ ᾧ Ζ, καὶ τὸ ἄφθαρτον, ἐφ’ ᾧ Η, πρὸς τὸ φθαρτόν, ἐφ’ ᾧ Θ.

ἀγένητον γενητόν

Ε Ζ

ἄφθαρτον φθαρτόν

Η Θ

Τὸ δὲ φάναι μηδὲν κωλύειν γινόμενόν τι ἄφθαρτον εἶναι καὶ ἀγένητον ὂν φθαρῆναι, ἅπαξ ὑπαρχούσης τῷ μὲν τῆς γενέσεως τῷ δὲ τῆς φθορᾶς, ἀναιρεῖν ἐστι τῶν δεδομένων τι. Ἢ γὰρ ἄπειρον ἢ ποσόν τινα ὡρισμένον χρόνον δύναται ἅπαντα ἢ ποιεῖν ἢ πάσχειν, ἢ εἶναι ἢ μὴ εἶναι * * καὶ τὸν ἄπειρον διὰ τοῦτο, ὅτι ὥρισταί πως ὁ ἄπειρος, οὗ οὐκ ἔστι πλείων. Τὸ δὴ πῇ ἄπειρον οὔτ’ ἄπειρον οὔθ’ ὡρισμένον.

Ἔτι τί μᾶλλον ἐπὶ τῷδε τῷ σημείῳ ἀεὶ ὂν πρότερον ἐφθάρη ἢ μὴ ὂν ἄπειρον ἐγένετο; εἰ γὰρ μηθὲν μᾶλλον, ἄπειρα δὲ τὰ σημεῖα, δῆλον ὅτι ἄπειρον χρόνον ἦν τι γενητὸν καὶ φθαρτόν. Δύναται ἄρα μὴ εἶναι ἄπειρον χρόνον· ἅμα γὰρ ἕξει δύναμιν τοῦ μὴ εἶναι καὶ εἶναι, τὸ μὲν πρότερον, εἰ φθαρτόν, τὸ δ’ ὕστερον, εἰ γενητόν. Ὥστ’ ἐὰν ὑπάρχειν θῶμεν ἃ δύναται, τὰ ἀντικείμενα ἅμα ὑπάρξει.

Ἔτι δὲ καὶ τοῦθ’ ὁμοίως ἐν ἅπαντι σημείῳ ὑπάρξει, ὥστ’ ἄπειρον χρόνον τοῦ μὴ εἶναι καὶ τοῦ εἶναι ἕξει δύναμιν· ἀλλὰ δέδεικται ὅτι ἀδύνατον τοῦτο.

Ἔτι εἰ πρότερον ἡ δύναμις ὑπάρχει τῆς ἐνεργείας, ἅπανθ’ ὑπάρξει τὸν χρόνον, καὶ ὂν ἀγένητον ἦν καὶ μὴ ὄν [τὸν ἄπειρον χρόνον], γίγνεσθαι δὲ δυνάμενον. Ἅμα δὴ οὐκ ἦν καὶ τοῦ εἶναι δύναμιν εἶχε, καὶ τοῦ τότε εἶναι καὶ ὕστερον· ἄπειρον ἄρα χρόνον.

Φανερὸν δὲ καὶ ἄλλως ὅτι ἀδύνατον φθαρτὸν ὂν μὴ φθαρῆναί ποτε. Ἀεὶ γὰρ ἔσται ἅμα καὶ φθαρτὸν καὶ ἄφθαρτον ἐντελεχείᾳ, ὥστε ἅμα ἔσται δυνατὸν ἀεί τε εἶναι καὶ μὴ ἀεί· φθείρεται ἄρα ποτὲ τὸ φθαρτόν. Καὶ εἰ γενητόν, γέγονεν· δυνατὸν γὰρ γεγονέναι, καὶ μὴ ἀεὶ ἄρα εἶναι.

Ἔστι δὲ καὶ ὧδε θεωρῆσαι ὅτι ἀδύνατον ἢ γενόμενόν ποτε ἄφθαρτον διατελεῖν, ἢ ἀγένητον ὂν καὶ ἀεὶ πρότερον ὂν φθαρῆναι. Οὐδὲν γὰρ ἀπὸ τοῦ αὐτομάτου οὔτ' ἄφθαρτον οὔτ' ἀγένητον οἷόν τ' εἶναι. Τὸ μὲν γὰρ αὐτόματόν ἐστι καὶ τὸ ἀπὸ τύχης παρὰ τὸ ἀεὶ καὶ τὸ ὡς ἐπὶ (283b.) τὸ πολὺ ἢ ὂν ἢ γινόμενον· τὸ δ' ἄπειρον χρόνον ἢ ἁπλῶς ἢ ἀπό τινος, ἢ ἀεὶ ἢ ὡς ἐπὶ τὸ πολὺ ὑπάρχει ὄν. Ἀνάγκη τοίνυν φύσει τὰ τοιαῦτα ὁτὲ μὲν εἶναι ὁτὲ δὲ μή. Τῶν δὲ τοιούτων ἡ αὐτὴ δύναμις τῆς ἀντιφάσεως, καὶ ἡ ὕλη αἰτία τοῦ εἶναι καὶ μή. Ὥστ' ἀνάγκη ἅμα ὑπάρχειν ἐνεργείᾳ τὰ ἀντικείμενα. Ἀλλὰ μὴν οὐδέν γ' ἀληθὲς εἰπεῖν νῦν ὅτι ἔστι πέρυσιν, οὐδὲ πέρυσιν ὅτι νῦν ἔστιν. Ἀδύνατον ἄρα μὴ ὄν ποτε ὕστερον ἀΐδιον εἶναι· ἕξει γὰρ ὕστερον καὶ τὴν τοῦ μὴ εἶναι δύναμιν, πλὴν οὐ τοῦ τότε μὴ εἶναι ὅτε ἔστιν (ὑπάρχει γὰρ ἐνεργείᾳ ὄν), ἀλλὰ τοῦ πέρυσιν καὶ ἐν τῷ παρελθόντι χρόνῳ. Ἔστω δὴ οὗ ἔχει τὴν δύναμιν ὑπάρχον ἐνεργείᾳ· ἔσται ἄρα ἀληθὲς εἰπεῖν νῦν ὅτι οὐκ ἔστι πέρυσιν. Ἀλλ' ἀδύνατον· οὐδεμία γὰρ δύναμις τοῦ γεγονέναι ἐστίν, ἀλλὰ τοῦ εἶναι ἢ ἔσεσθαι. Ὁμοίως δὲ καὶ εἰ πρότερον ὂν ἀΐδιον ὕστερον μὴ ἔσται· ἕξει γὰρ δύναμιν οὗ ἐνεργείᾳ οὐκ ἔστιν. Ὥστ' ἂν θῶμεν τὸ δυνατόν, ἀληθὲς ἔσται εἰπεῖν νῦν ὅτι τοῦτ' ἔστι πέρυσιν καὶ ὅλως ἐν τῷ παρελθόντι χρόνῳ.

Καὶ φυσικῶς δὲ καὶ μὴ καθόλου σκοποῦσιν ἀδύνατον ἢ ἀΐδιον ὂν πρότερον φθαρῆναι ὕστερον, ἢ πρότερον μὴ ὂν ὕστερον ἀΐδιον εἶναι. Τὰ γὰρ φθαρτὰ καὶ γενητὰ καὶ ἀλλοιωτὰ πάντα· ἀλλοιοῦται δὲ τοῖς ἐναντίοις, καὶ ἐξ ὧν συνίσταται τὰ φύσει ὄντα, καὶ ὑπὸ τῶν αὐτῶν τούτων φθείρεται.

Βιβλίο 2

Κεφάλαιο 1

Ὅτι μὲν οὖν οὔτε γέγονεν ὁ πᾶς οὐρανὸς οὔτ’ ἐνδέχεται φθαρῆναι, καθάπερ τινές φασιν αὐτόν, ἀλλ’ ἔστιν εἷς καὶ ἀΐδιος, ἀρχὴν μὲν καὶ τελευτὴν οὐκ ἔχων τοῦ παντὸς αἰῶνος, ἔχων δὲ καὶ περιέχων ἐν αὑτῷ τὸν ἄπειρον χρόνον, ἔκ τε τῶν εἰρημένων ἔξεστι λαμβάνειν τὴν πίστιν, καὶ διὰ τῆς δόξης τῆς παρὰ τῶν ἄλλως λεγόντων καὶ γεννώντων αὐτόν· εἰ γὰρ οὕτως μὲν ἔχειν ἐνδέχεται, καθ’ ὃν δὲ τρόπον ἐκεῖνοι γενέσθαι λέγουσιν οὐκ ἐνδέχεται, μεγάλην ἂν ἔχοι καὶ τοῦτο (284a.) ῥοπὴν εἰς πίστιν περὶ τῆς ἀθανασίας αὐτοῦ καὶ τῆς ἀϊδιότητος. Διόπερ καλῶς ἔχει συμπείθειν ἑαυτὸν τοὺς ἀρχαίους καὶ μάλιστα πατρίους ἡμῶν ἀληθεῖς εἶναι λόγους, ὡς ἔστιν ἀθάνατόν τι καὶ θεῖον τῶν ἐχόντων μὲν κίνησιν, ἐχόντων δὲ τοιαύτην ὥστε μηθὲν εἶναι πέρας αὐτῆς, ἀλλὰ μᾶλλον ταύτην τῶν ἄλλων πέρας· τό τε γὰρ πέρας τῶν περιεχόντων ἐστί, καὶ αὕτη τέλειος οὖσα περιέχει τὰς ἀτελεῖς καὶ τὰς ἐχούσας πέρας καὶ παῦλαν, αὐτὴ μὲν οὐδεμίαν οὔτ’ ἀρχὴν ἔχουσα οὔτε τελευτήν, ἀλλ’ ἄπαυστος οὖσα τὸν ἄπειρον χρόνον, τῶν δ’ ἄλλων τῶν μὲν αἰτία τῆς ἀρχῆς, τῶν δὲ δεχομένη τὴν παῦλαν.

Τὸν δ’ οὐρανὸν καὶ τὸν ἄνω τόπον οἱ μὲν ἀρχαῖοι τοῖς θεοῖς ἀπένειμαν ὡς ὄντα μόνον ἀθάνατον· ὁ δὲ νῦν μαρτυρεῖ λόγος ὡς ἄφθαρτος καὶ ἀγένητος, ἔτι δ’ ἀπαθὴς πάσης θνητῆς δυσχερείας ἐστίν, πρὸς δὲ τούτοις ἄπονος διὰ τὸ μηδεμιᾶς προσδεῖσθαι βιαίας ἀνάγκης, ἣ κατέχει κωλύουσα φέρεσθαι πεφυκότα αὐτὸν ἄλλως· πᾶν γὰρ τὸ τοιοῦτον ἐπίπονον, ὅσῳπερ ἂν ἀϊδιώτερον ᾖ, καὶ διαθέσεως τῆς ἀρίστης ἄμοιρον.

Διόπερ οὔτε κατὰ τὸν τῶν παλαιῶν μῦθον ὑποληπτέον ἔχειν, οἵ φασιν Ἄτλαντός τινος αὐτῷ προσδεῖσθαι τὴν σωτηρίαν· ἐοίκασι γὰρ καὶ τοῦτον οἱ συστήσαντες τὸν λόγον τὴν αὐτὴν ἔχειν ὑπόληψιν τοῖς ὕστερον· ὡς γὰρ περὶ βάρος ἐχόντων καὶ γεηρῶν ἁπάντων τῶν ἄνω σωμάτων ὑπέστησαν αὐτῷ μυθικῶς ἀνάγκην ἔμψυχον.

Οὔτε δὴ τοῦτον τὸν τρόπον ὑποληπτέον, οὔτε διὰ τὴν δίνησιν θάττονος τυγχάνοντα φορᾶς τῆς οἰκείας ῥοπῆς ἔτι σώζεσθαι τοσοῦτον χρόνον, καθάπερ Ἐμπεδοκλῆς φησιν.

Ἀλλὰ μὴν οὐδ’ ὑπὸ ψυχῆς εὔλογον ἀναγκαζούσης μένειν ἀΐδιον· οὐδὲ γὰρ τῆς ψυχῆς οἷόν τ’ εἶναι τὴν τοιαύτην ζωὴν ἄλυπον καὶ μακαρίαν· ἀνάγκη γὰρ καὶ τὴν κίνησιν μετὰ βίας οὖσαν, εἴπερ κινεῖ φέρεσθαι πεφυκότος τοῦ πρώτου σώματος ἄλλως καὶ κινεῖ συνεχῶς, ἄσχολον εἶναι καὶ πάσης ἀπηλλαγμένην ῥαστώνης ἔμφρονος, εἴ γε μηδ’ ὥσπερ τῇ ψυχῇ τῇ τῶν θνητῶν ζῴων ἐστὶν ἀνάπαυσις ἡ περὶ τὸν ὕπνον γινομένη τοῦ σώματος ἄνεσις, ἀλλ’ ἀναγκαῖον Ἰξίονός τινος μοῖραν κατέχειν αὐτὴν ἀΐδιον καὶ ἄτρυτον.

Εἰ δή, καθάπερ (284b.) εἴπομεν, ἐνδέχεται τὸν εἰρημένον ἔχειν τρόπον περὶ τῆς πρώτης φορᾶς, οὐ μόνον αὐτοῦ περὶ τῆς ἀϊδιότητος οὕτως ὑπολαβεῖν ἐμμελέστερον, ἀλλὰ καὶ τῇ μαντείᾳ τῇ περὶ τὸν θεὸν μόνως ἂν ἔχοιμεν οὕτως ὁμολογουμένως ἀποφαίνεσθαι συμφώνους λόγους. Ἀλλὰ τῶν μὲν τοιούτων λόγων ἅλις ἔστω τὸ νῦν.

Κεφάλαιο 2

Ἐπειδὴ δέ τινές εἰσιν οἵ φασιν εἶναί τι δεξιὸν καὶ ἀριστερὸν τοῦ οὐρανοῦ, καθάπερ οἱ καλούμενοι Πυθαγόρειοι (ἐκείνων γὰρ οὗτος ὁ λόγος ἐστίν), σκεπτέον πότερον τοῦτον ἔχει τὸν τρόπον ὡς ἐκεῖνοι λέγουσιν, ἢ μᾶλλον ἑτέρως, εἴπερ δεῖ προσάπτειν τῷ τοῦ παντὸς σώματι ταύτας τὰς ἀρχάς.

Εὐθὺς γὰρ πρῶτον, εἰ τὸ δεξιὸν ὑπάρχει καὶ τὸ ἀριστερόν, ἔτι πρότερον τὰς προτέρας ὑποληπτέον ὑπάρχειν ἀρχὰς ἐν αὐτῷ. Διώρισται μὲν οὖν περὶ τούτων ἐν τοῖς περὶ τὰς τῶν ζῴων κινήσεις διὰ τὸ τῆς φύσεως οἰκεῖα τῆς ἐκείνων εἶναι· φανερῶς γὰρ ἔν γε τοῖς ζῴοις ὑπάρχοντα φαίνεται τοῖς μὲν πάντα τὰ τοιαῦτα μόρια, λέγω δ’ οἷον τό τε δεξιὸν καὶ τὸ ἀριστερόν, τοῖς δ’ ἔνια, τοῖς δὲ φυτοῖς τὸ ἄνω καὶ τὸ κάτω μόνον. Εἰ δὲ δεῖ καὶ τῷ οὐρανῷ προσάπτειν τι τῶν τοιούτων, καὶ τὸ πρῶτον, καθάπερ εἴπομεν, ἐν τοῖς ζῴοις ὑπάρχον εὔλογον ὑπάρχειν ἐν αὐτῷ· τριῶν γὰρ ὄντων ἕκαστον οἷον ἀρχή τις ἐστίν. Λέγω δὲ τὰ τρία τὸ ἄνω καὶ τὸ κάτω, καὶ τὸ πρόσθιον καὶ τὸ ἀντικείμενον, καὶ τὸ δεξιὸν καὶ τὸ ἀριστερόν· ταύτας γὰρ τὰς διαστάσεις εὔλογον ὑπάρχειν τοῖς σώμασι τοῖς τελείοις πάσας. Ἔστι δὲ τὸ μὲν ἄνω τοῦ μήκους ἀρχή, τὸ δὲ δεξιὸν τοῦ πλάτους, τὸ δ’ ἔμπροσθεν τοῦ βάθους. Ἔτι δ’ ἄλλως κατὰ τὰς κινήσεις· ἀρχὰς γὰρ ταύτας λέγω ὅθεν ἄρχονται πρῶτον αἱ κινήσεις τοῖς ἔχουσιν. Ἔστι δὲ ἀπὸ μὲν τοῦ ἄνω ἡ αὔξησις, ἀπὸ δὲ τῶν δεξιῶν ἡ κατὰ τόπον, ἀπὸ δὲ τῶν ἔμπροσθεν ἡ κατὰ τὴν αἴσθησιν· ἔμπροσθεν γὰρ λέγω ἐφ’ ὃ αἱ αἰσθήσεις.

Διὸ καὶ οὐκ ἐν ἅπαντι σώματι τὸ ἄνω καὶ κάτω καὶ τὸ δεξιὸν καὶ ἀριστερὸν καὶ τὸ ἔμπροσθεν καὶ ὄπισθεν ζητητέον, ἀλλ’ ὅσα ἔχει κινήσεως ἀρχὴν ἐν αὑτοῖς ἔμψυχα ὄντα· τῶν γὰρ ἀψύχων ἐν οὐθενὶ ὁρῶμεν ὅθεν ἡ ἀρχὴ τῆς κινήσεως. Τὰ μὲν γὰρ ὅλως οὐ κινεῖται, τὰ δὲ κινεῖται μὲν ἀλλ’ οὐ πανταχόθεν ὁμοίως, οἷον τὸ πῦρ ἄνω μό(285a.) νον καὶ ἡ γῆ ἐπὶ τὸ μέσον. Ἀλλ’ ἐν μὲν τούτοις λέγομεν τὸ ἄνω καὶ τὸ κάτω καὶ τὸ δεξιὸν καὶ τὸ ἀριστερὸν πρὸς ἡμᾶς ἐπαναφέροντες· ἢ γὰρ κατὰ τὰ ἡμέτερα δεξιά, ὥσπερ οἱ μάντεις, ἢ καθ’ ὁμοιότητα τοῖς ἡμετέροις, ὥσπερ τὰ τοῦ ἀνδριάντος, ἢ τὰ ἐναντίως ἔχοντα τῇ θέσει, δεξιὸν μὲν τὸ κατὰ τὸ ἡμέτερον ἀριστερόν, ἀριστερὸν δὲ τὸ κατὰ τὸ ἡμέτερον δεξιόν, [καὶ ὄπισθεν τὸ κατὰ τὸ ἡμέτερον ἔμπροσθεν]. Ἐν αὐτοῖς δὲ τούτοις οὐδεμίαν ὁρῶμεν διαφοράν· ἐὰν γὰρ

ἀνάπαλιν στραφῇ, τὰ ἐναντία ἐροῦμεν δεξιὰ καὶ ἀριστερὰ καὶ ἄνω καὶ κάτω καὶ ἔμπροσθεν καὶ ὄπισθεν.

Διὸ καὶ τῶν Πυθαγορείων ἄν τις θαυμάσειεν ὅτι δύο μόνας ταύτας ἀρχὰς ἔλεγον, τὸ δεξιὸν καὶ τὸ ἀριστερόν, τὰς δὲ τέτταρας παρέλιπον οὐθὲν ἧττον κυρίας οὔσας· οὐθὲν γὰρ ἐλάττω διαφορὰν ἔχει τὰ ἄνω πρὸς τὰ κάτω καὶ τὰ ἔμπροσθεν πρὸς τὰ ὄπισθεν ἢ τὰ δεξιὰ πρὸς τὰ ἀριστερὰ ἐν ἅπασι τοῖς ζῴοις. Τὰ μὲν γὰρ τῇ δυνάμει διαφέρει μόνον, τὰ δὲ καὶ τοῖς σχήμασι, καὶ τὸ μὲν ἄνω καὶ τὸ κάτω πᾶσι τοῖς ἐμψύχοις ἐστὶν ὁμοίως ζῴοις καὶ φυτοῖς, τὸ δὲ δεξιὸν καὶ τὸ ἀριστερὸν οὐκ ἐνυπάρχει τοῖς φυτοῖς.

Ἔτι δ' ὡς τὸ μῆκος τοῦ πλάτους πρότερον, εἰ τὸ μὲν ἄνω τοῦ μήκους ἀρχή, τὸ δὲ δεξιὸν τοῦ πλάτους, ἡ δὲ τοῦ προτέρου ἀρχὴ προτέρα, πρότερον ἂν εἴη τὸ ἄνω τοῦ δεξιοῦ κατὰ γένεσιν, ἐπειδὴ πολλαχῶς λέγεται τὸ πρότερον. Πρὸς δὲ τούτοις, εἰ τὸ μὲν ἄνω ἐστὶ τὸ ὅθεν ἡ κίνησις, τὸ δὲ δεξιὸν ἀφ' οὗ, τὸ δ' ἔμπροσθεν ἐφ' ὅ, κἂν οὕτως ἔχοι τινὰ δύναμιν ἀρχῆς τὸ ἄνω πρὸς τὰς ἄλλας ἰδέας.

Διά τε δὴ τὸ παραλείπειν τὰς κυριωτέρας ἀρχὰς δίκαιον αὐτοῖς ἐπιτιμᾶν, καὶ διότι ταύτας ἐν ἅπασιν ὁμοίως ἐνόμιζον ὑπάρχειν.

Ἡμῖν δ' ἐπεὶ διώρισται πρότερον ὅτι ἐν τοῖς ἔχουσιν ἀρχὴν κινήσεως αἱ τοιαῦται δυνάμεις ἐνυπάρχουσιν, ὁ δ' οὐρανὸς ἔμψυχος καὶ ἔχει κινήσεως ἀρχήν, δῆλον ὅτι ἔχει καὶ τὸ ἄνω καὶ τὸ κάτω καὶ τὸ δεξιὸν καὶ τὸ ἀριστερόν.

Οὐ δεῖ γὰρ ἀπορεῖν διὰ τὸ σφαιροειδὲς εἶναι τὸ σχῆμα τοῦ παντός, ὅπως ἔσται τούτου τὸ μὲν δεξιὸν τὸ δὲ ἀριστερὸν ὁμοίων γ' ὄντων τῶν μο(285b.) ρίων ἁπάντων καὶ κινουμένων τὸν ἅπαντα χρόνον, ἀλλὰ νοεῖν ὥσπερ ἂν εἴ τις, ἐν οἷς ἔχει τὸ δεξιὸν πρὸς τὸ ἀριστερὸν διαφορὰν καὶ τοῖς σχήμασιν, εἶτα περιθείη σφαῖραν· ἕξει μὲν γὰρ τὴν δύναμιν διαφέρουσαν, δόξει δ' οὔ, διὰ τὴν ὁμοιότητα τοῦ σχήματος. Τὸν αὐτὸν δὲ τρόπον καὶ περὶ τῆς ἀρχῆς τοῦ κινεῖσθαι· καὶ γὰρ εἰ μηδέποτ' ἤρξατο, ὅμως ἔχειν ἀναγκαῖον ἀρχήν, ὅθεν ἂν ἤρξατο, εἰ ἤρχετο κινούμενον, κἂν εἰ σταίη, κινηθείη ἂν πάλιν.

Λέγω δὲ μῆκος μὲν αὐτοῦ τὸ κατὰ τοὺς πόλους διάστημα, καὶ τῶν πόλων τὸν μὲν ἄνω τὸν δὲ κάτω· διαφορὰν γὰρ ἐν τούτοις μόνοις ὁρῶμεν τῶν ἡμισφαιρίων, τῷ μὴ κινεῖσθαι τοὺς πόλους. Ἅμα δὲ καὶ εἰώθαμεν λέγειν τὰ πλάγια ἐν τῷ κόσμῳ οὐ τὸ ἄνω καὶ τὸ κάτω, ἀλλὰ τὸ παρὰ τοὺς πόλους, ὡς τούτου μήκους ὄντος· τὸ γὰρ εἰς τὸ πλάγιόν ἐστι τὸ παρὰ τὸ ἄνω καὶ τὸ κάτω.

Τῶν δὲ πόλων ὁ μὲν ὑπὲρ ἡμᾶς φαινόμενος τὸ κάτω μέρος ἐστίν, ὁ δ' ἡμῖν ἄδηλος τὸ ἄνω. Δεξιὸν γὰρ ἑκάστου λέγομεν, ὅθεν ἡ ἀρχὴ τῆς κατὰ τόπον

κινήσεως· τοῦ δ’ οὐρανοῦ ἀρχὴ τῆς περιφορᾶς, ὅθεν αἱ ἀνατολαὶ τῶν ἄστρων, ὥστε τοῦτ’ ἂν εἴη δεξιόν, οὗ δ’ αἱ δύσεις, ἀριστερόν. Εἰ οὖν ἄρχεται ἀπὸ τῶν δεξιῶν καὶ ἐπὶ τὰ δεξιὰ περιφέρεται, ἀνάγκη τὸ ἄνω εἶναι τὸν ἀφανῆ πόλον· εἰ γὰρ ἔσται ὁ φανερός, ἐπ’ ἀριστερὰ ἔσται ἡ κίνησις, ὅπερ οὔ φαμεν. Δῆλον τοίνυν ὅτι ὁ ἀφανὴς πόλος ἐστὶ τὸ ἄνω. Καὶ οἱ μὲν ἐκεῖ οἰκοῦντες ἐν τῷ ἄνω εἰσὶν ἡμισφαιρίῳ καὶ πρὸς τοῖς δεξιοῖς, ἡμεῖς δ’ ἐν τῷ κάτω καὶ πρὸς τοῖς ἀριστεροῖς, ἐναντίως ἢ ὡς οἱ Πυθαγόρειοι λέγουσιν· ἐκεῖνοι γὰρ ἡμᾶς ἄνω ποιοῦσι καὶ ἐν τῷ δεξιῷ μέρει, τοὺς δ’ ἐκεῖ κάτω καὶ ἐν τῷ ἀριστερῷ. Συμβαίνει δὲ τοὐναντίον.

Ἀλλὰ τῆς μὲν δευτέρας περιφορᾶς, οἷον τῆς τῶν πλανήτων, ἡμεῖς μὲν ἐν τοῖς ἄνω καὶ ἐν τοῖς δεξιοῖς ἐσμεν, ἐκεῖνοι δὲ ἐν τοῖς κάτω καὶ ἐν τοῖς ἀριστεροῖς· ἀνάπαλιν γὰρ τούτοις ἡ ἀρχὴ τῆς κινήσεώς ἐστι διὰ τὸ ἐναντίας εἶναι τὰς φοράς, ὥστε συμβαίνειν ἡμᾶς μὲν εἶναι πρὸς τῇ ἀρχῇ, ἐκείνους δὲ πρὸς τῷ τέλει. Περὶ μὲν οὖν τῶν κατὰ τὰς δια(286a.) στάσεις τῶν μορίων καὶ τῶν κατὰ τόπον ὡρισμένων τοσαῦτα εἰρήσθω.

Κεφάλαιο 3

Ἐπεὶ δ’ οὐκ ἔστιν ἐναντία κίνησις ἡ κύκλῳ τῇ κύκλῳ, σκεπτέον διὰ τί πλείους εἰσὶ φοραί, καίπερ πόρρωθεν πειρωμένοις ποιεῖσθαι τὴν ζήτησιν, πόρρω δ’ οὐχ οὕτω τῷ τόπῳ, πολὺ δὲ μᾶλλον τῷ τῶν συμβεβηκότων αὐτοῖς περὶ πάμπαν ὀλίγων ἔχειν αἴσθησιν. Ὅμως δὲ λέγωμεν.

Ἡ δ’ αἰτία περὶ αὐτῶν ἐνθένδε ληπτέα. Ἕκαστόν ἐστιν, ὧν ἐστιν ἔργον, ἕνεκα τοῦ ἔργου. Θεοῦ δ’ ἐνέργεια ἀθανασία· τοῦτο δ’ ἐστὶ ζωὴ ἀΐδιος. ὥστ’ ἀνάγκη τῷ θεῷ κίνησιν ἀΐδιον ὑπάρχειν. Ἐπεὶ δ’ ὁ οὐρανὸς τοιοῦτος (σῶμα γάρ τι θεῖον), διὰ τοῦτο ἔχει τὸ ἐγκύκλιον σῶμα, ὃ φύσει κινεῖται κύκλῳ ἀεί.

Διὰ τί οὖν οὐχ ὅλον τὸ σῶμα τοῦ οὐρανοῦ τοιοῦτον; ὅτι ἀνάγκη μένειν τι τοῦ σώματος τοῦ φερομένου κύκλῳ, τὸ ἐπὶ τοῦ μέσου, τούτου δ’ οὐθὲν οἷόν τε μένειν μόριον, οὔθ’ ὅλως οὔτ’ ἐπὶ τοῦ μέσου. Καὶ γὰρ ἂν ἡ κατὰ φύσιν κίνησις ἦν αὐτοῦ ἐπὶ τὸ μέσον· φύσει δὲ κύκλῳ κινεῖται· οὐ γὰρ ἂν ἦν ἀΐδιος ἡ κίνησις· οὐθὲν γὰρ παρὰ φύσιν ἀΐδιον. Ὕστερον δὲ τὸ παρὰ φύσιν τοῦ κατὰ φύσιν, καὶ ἔκστασίς τίς ἐστιν ἐν τῇ γενέσει τὸ παρὰ φύσιν τοῦ κατὰ φύσιν. Ἀνάγκη τοίνυν γῆν εἶναι· τοῦτο γὰρ ἠρεμεῖ ἐπὶ τοῦ μέσου. Νῦν μὲν οὖν ὑποκείσθω τοῦτο, ὕστερον δὲ δειχθήσεται περὶ αὐτοῦ.

Ἀλλὰ μὴν εἰ γῆν, ἀνάγκη καὶ πῦρ εἶναι· τῶν γὰρ ἐναντίων εἰ θάτερον φύσει, ἀνάγκη καὶ θάτερον εἶναι φύσει, ἐάν περ ᾖ ἐναντίον, καὶ εἶναί τινα αὐτοῦ φύσιν· ἡ γὰρ αὐτὴ ὕλη τῶν ἐναντίων, καὶ τῆς στερήσεως πρότερον ἡ κατάφασις (λέγω δ’ οἷον τὸ θερμὸν τοῦ ψυχροῦ), ἡ δ’ ἠρεμία καὶ τὸ βαρὺ λέγεται κατὰ στέρησιν κουφότητος καὶ κινήσεως. Ἀλλὰ μὴν εἴπερ ἔστι πῦρ καὶ γῆ, ἀνάγκη καὶ τὰ μεταξὺ αὐτῶν εἶναι σώματα· ἐναντίωσιν γὰρ ἔχει ἕκαστον τῶν στοιχείσων πρὸς ἕκαστον. Ὑποκείσθω δὲ καὶ τοῦτο νῦν, ὕστερον δὲ πειρατέον δεῖξαι. Τούτων δ’ ὑπαρχόντων φανερὸν ὅτι ἀνάγκη γένεσιν εἶναι διὰ τὸ μηδὲν οἷόν τ’ αὐτῶν εἶναι ἀΐδιον· πάσχει γὰρ καὶ ποιεῖ τἀναντία ὑπ’ ἀλλήλων, καὶ φθαρτικὰ ἀλλήλων ἐστίν. Ἔτι δ’ οὐκ εὔλογον εἶναί τι κινητὸν ἀΐδιον, οὗ μὴ ἐνδέχεται εἶναι κατὰ φύσιν τὴν κίνησιν ἀΐδιον· (286b.) τούτων δ’ ἔστι κίνησις. Ὅτι μὲν τοίνυν ἀναγκαῖον εἶναι γένεσιν, ἐκ τούτων δῆλον.

Εἰ δὲ γένεσιν, ἀναγκαῖον καὶ ἄλλην εἶναι φοράν, ἢ μίαν ἢ πλείους· κατὰ γὰρ τὴν τοῦ ὅλου ὡσαύτως ἀναγκαῖον ἔχειν τὰ στοιχεῖα τῶν σωμάτων πρὸς

ἄλληλα. Λεχθήσεται δὲ καὶ περὶ τούτου ἐν τοῖς ἑπομένοις σαφέστερον. Νῦν δὲ τοσοῦτόν ἐστι δῆλον, διὰ τίνα αἰτίαν πλείω τὰ ἐγκύκλιά ἐστι σώματα, ὅτι ἀνάγκη γένεσιν εἶναι, γένεσιν δ’, εἴπερ καὶ πῦρ, τοῦτο δὲ καὶ τἆλλα, εἴπερ καὶ γῆν· ταύτην δ’ ὅτι ἀνάγκη μένειν τι ἀεί, εἴπερ καὶ κινεῖσθαί τι ἀεί.

Κεφάλαιο 4

Σχῆμα δ’ ἀνάγκη σφαιροειδὲς ἔχειν τὸν οὐρανόν· τοῦτο γὰρ οἰκειότατόν τε τῇ οὐσίᾳ καὶ τῇ φύσει πρῶτον. Εἴπωμεν δὲ καθόλου περὶ τῶν σχημάτων, τὸ ποῖόν ἐστι πρῶτον, καὶ ἐν ἐπιπέδοις καὶ ἐν στερεοῖς. Ἅπαν δὴ σχῆμα ἐπίπεδον ἢ εὐθύγραμμόν ἐστιν ἢ περιφερόγραμμον. Καὶ τὸ μὲν εὐθύγραμμον ὑπὸ πλειόνων περιέχεται γραμμῶν, τὸ δὲ περιφερόγραμμον ὑπὸ μιᾶς. Ἐπεὶ δὲ πρότερον [τῇ φύσει] ἐν ἑκάστῳ γένει τὸ ἓν τῶν πολλῶν καὶ τὸ ἁπλοῦν τῶν συνθέτων, πρῶτον ἂν εἴη τῶν ἐπιπέδων σχημάτων ὁ κύκλος.

Ἔτι δὲ εἴπερ τέλειόν ἐστιν οὗ μηδὲν ἔξω τῶν αὐτοῦ λαβεῖν δυνατόν, ὥσπερ ὥρισται πρότερον, καὶ τῇ μὲν εὐθείᾳ πρόσθεσίς ἐστιν ἀεί, τῇ δὲ τοῦ κύκλου οὐδέποτε, φανερὸν ὅτι τέλειος ἂν εἴη ἡ περιέχουσα τὸν κύκλον· ὥστ’ εἰ τὸ τέλειον πρότερον τοῦ ἀτελοῦς, καὶ διὰ ταῦτα πρότερον ἂν εἴη τῶν σχημάτων ὁ κύκλος.

Ὡσαύτως δὲ καὶ ἡ σφαῖρα τῶν στερεῶν· μόνη γὰρ περιέχεται μιᾷ ἐπιφανείᾳ, τὰ δ’ εὐθύγραμμα πλείοσιν· ὡς γὰρ ἔχει ὁ κύκλος ἐν τοῖς ἐπιπέδοις, οὕτως ἡ σφαῖρα ἐν τοῖς στερεοῖς.

Ἔτι δὲ καὶ οἱ διαιροῦντες εἰς ἐπίπεδα καὶ ἐξ ἐπιπέδων τὰ σώματα γεννῶντες μεμαρτυρηκέναι φαίνονται τούτοις· μόνην γὰρ τῶν στερεῶν οὐ διαιροῦσι τὴν σφαῖραν ὡς οὐκ ἔχουσαν πλείους ἐπιφανείας ἢ μίαν· ἡ γὰρ εἰς τὰ ἐπίπεδα διαίρεσις οὐχ ὡς ἂν τέμνων τις εἰς τὰ μέρη διέλοι τὸ ὅλον, τοῦτον διαιρεῖται τὸν τρόπον, ἀλλ’ ὡς εἰς ἕτερα τῷ εἴδει.

Ὅτι μὲν οὖν πρῶτόν ἐστιν ἡ σφαῖρα τῶν στερεῶν σχημάτων, δῆλον. Ἔστι δὲ καὶ κατὰ τὸν ἀριθμὸν τὴν τάξιν ἀποδιδοῦσιν οὕτω τιθεμένοις εὐλογώτατον, τὸν μὲν κύκλον κατὰ τὸ ἕν, τὸ δὲ τρίγωνον (287a.) κατὰ τὴν δυάδα, ἐπειδὴ ὀρθαὶ δύο. Ἐὰν δὲ τὸ ἓν κατὰ τὸ τρίγωνον, ὁ κύκλος οὐκέτι ἔσται σχῆμα.

Ἐπεὶ δὲ τὸ μὲν πρῶτον σχῆμα τοῦ πρώτου σώματος, πρῶτον δὲ σῶμα τὸ ἐν τῇ ἐσχάτῃ περιφορᾷ, σφαιροειδὲς ἂν εἴη τὸ τὴν κύκλῳ περιφερόμενον φοράν. Καὶ τὸ συνεχὲς ἄρα ἐκείνῳ· τὸ γὰρ τῷ σφαιροειδεῖ συνεχὲς σφαιροειδές. Ὡσαύτως δὲ καὶ τὰ πρὸς τὸ μέσον τούτων· τὰ γὰρ ὑπὸ τοῦ σφαιροειδοῦς περιεχόμενα καὶ ἁπτόμενα ὅλα σφαιροειδῆ ἀνάγκη εἶναι· τὰ δὲ κάτω τῆς τῶν πλανήτων ἅπτεται τῆς ἐπάνω σφαίρας. Ὥστε σφαιροειδὴς ἂν εἴη πᾶσα·

πάντα γὰρ ἅπτεται καὶ συνεχῆ ἐστι ταῖς σφαίραις.

Ἔτι δὲ ἐπεὶ φαίνεται καὶ ὑπόκειται κύκλῳ περιφέρεσθαι τὸ πᾶν, δέδεικται δ’ ὅτι τῆς ἐσχάτης περιφορᾶς οὔτε κενόν ἐστιν ἔξωθεν οὔτε τόπος, ἀνάγκη καὶ διὰ ταῦτα σφαιροειδῆ εἶναι αὐτόν. Εἰ γὰρ ἔσται εὐθύγραμμος, συμβήσεται καὶ τόπον εἶναι ἔξω καὶ σῶμα καὶ κενόν. Κύκλῳ γὰρ στρεφόμενον τὸ εὐθέγραμμον οὐδέποτε τὴν αὐτὴν ἐφέξει χώραν, ἀλλ’ ὅπου πρότερον ἦν σῶμα, νῦν οὐκ ἔσται, καὶ οὗ νῦν οὐκ ἔστι, πάλιν ἔσται, διὰ τὴν παράλλαξιν τῶν γωνιῶν.

Ὁμοίως δὲ κἂν εἴ τι ἄλλο σχῆμα γένοιτο μὴ ἴσας ἔχον τὰς ἐκ τοῦ μέσου γραμμάς, οἷον φακοειδὲς ἢ ᾠοειδές· ἐν ἅπασι γὰρ συμβήσεται καὶ τόπον ἔξω καὶ κενὸν εἶναι τῆς φορᾶς, διὰ τὸ μὴ τὴν αὐτὴν χώραν κατέχειν τὸ ὅλον. Ἔτι δ’ εἰ τῶν μὲν κινήσεων τὸ μέτρον ἡ τοῦ οὐρανοῦ φορὰ διὰ τὸ εἶναι μόνη συνεχὴς καὶ ὁμαλὴς καὶ ἀΐδιος, ἐν ἑκάστῳ δὲ μέτρον τὸ ἐλάχιστον, ἐλαχίστη δὲ κίνησις ἡ ταχίστη, δῆλον ὅτι ταχίστη ἂν εἴη πασῶν τῶν κινήσεων ἡ τοῦ οὐρανοῦ κίνησις.

Ἀλλὰ μὴν τῶν ἀφ’ αὑτοῦ ἐφ’ αὑτὸ ἐλαχίστη ἐστὶν ἡ τοῦ κύκλου γραμμή· κατὰ δὲ τὴν ἐλαχίστην ταχίστη ἡ κίνησις· ὥστ’ εἰ ὁ οὐρανὸς κύκλῳ τε φέρεται καὶ τάχιστα κινεῖται, σφαιροειδῆ αὐτὸν ἀνάγκη εἶναι.

Λάβοι δ’ ἄν τις καὶ ἐκ τῶν περὶ τὸ μέσον ἱδρυμένων σωμάτων ταύτην τὴν πίστιν. Εἰ γὰρ τὸ μὲν ὕδωρ ἐστὶ περὶ τὴν γῆν, ὁ δ’ ἀὴρ περὶ τὸ ὕδωρ, τὸ δὲ πῦρ περὶ τὸν ἀέρα, καὶ τὰ ἄνω σώματα κατὰ τὸν αὐτὸν λόγον (συνεχῆ μὲν γὰρ οὐκ ἔστιν, ἅπτεται δὲ (287b.) τούτων), ἡ δὲ τοῦ ὕδατος ἐπιφάνεια σφαιροειδής ἐστιν, τὸ δὲ τῷ σφαιροειδεῖ συνεχὲς ἢ κείμενον περὶ τὸ σφαιροειδὲς καὶ αὐτὸ τοιοῦτον ἀναγκαῖον εἶναι· ὥστε κἂν διὰ τοῦτο φανερὸν εἴη ὅτι σφαιροειδής ἐστιν ὁ οὐρανός.

Ἀλλὰ μὴν ὅτι γε ἡ τοῦ ὕδατος ἐπιφάνεια τοιαύτη φανερόν, ὑπόθεσιν λαμβάνουσιν ὅτι πέφυκεν ἀεὶ συρρεῖν τὸ ὕδωρ εἰς τὸ κοιλότερον· κοιλότερον δέ ἐστι τὸ τοῦ κέντρου ἐγγύτερον. Ἤχθωσαν οὖν ἐκ τοῦ κέντρου ἡ ΑΒ καὶ ἡ ΑΓ, καὶ ἐπεζεύχθω ἐφ’ ἧς ΒΓ. Ἡ οὖν ἀχθεῖσα ἐπὶ τὴν βάσιν, ἐφ’ ἧς ΑΔ, ἐλάττων ἐστὶ τῶν ἐκ τοῦ κέντρου· κοιλότερος ἄρα ὁ τόπος. Ὥστε περιρρεύσεται τὸ ὕδωρ, ἕως ἂν ἰσασθῇ. Ἴση δὲ ταῖς ἐκ τοῦ κέντρου ἡ ΑΕ. Ὥστ’ ἀνάγκη πρὸς ταῖς ἐκ τοῦ κέντρου εἶναι τὸ ὕδωρ· τότε γὰρ ἠρεμήσει. Ἡ δὲ τῶν ἐκ τοῦ κέντρου ἁπτομένη περιφερής· σφαιροειδὴς ἄρα ἡ τοῦ ὕδατος ἐπιφάνεια, ἐφ’ ἧς ΒΕΓ.

Ὅτι μὲν οὖν σφαιροειδής ἐστιν ὁ κόσμος, δῆλον ἐκ τούτων, καὶ ὅτι κατ’ ἀκρίβειαν ἔντορνος οὕτως ὥστε μηθὲν μήτε χειρόκμητον ἔχειν παραπλησίως μήτ’ ἄλλο μηθὲν τῶν ἡμῖν ἐν ὀφθαλμοῖς φαινομένων. Ἐξ ὧν γὰρ τὴν σύστασιν εἴληφεν, οὐδὲν οὕτω δυνατὸν ὁμαλότητα δέξασθαι καὶ ἀκρίβειαν ὡς ἡ τοῦ πέριξ σώματος φύσις· δῆλον γὰρ ὡς ἀνάλογον ἔχει, καθάπερ ὕδωρ πρὸς γῆν, καὶ τὰ πλεῖον ἀεὶ ἀπέχοντα τῶν συστοίχων.

Κεφάλαιο 5

Ἐπεὶ δ’ ἔστι διχῶς ἐπὶ τοῦ κύκλου κινηθῆναι, οἷον ἀπὸ τοῦ Α τὴν μὲν ἐπὶ τὸ Β τὴν δ’ ἐπὶ τὸ Γ, ὅτι μὲν οὖν οὐκ εἰσὶν ἐναντίαι αὗται, πρότερον εἴρηται. Ἀλλ’ εἰ μηδὲν ὡς ἔτυχε μηδ’ ἀπὸ ταὐτομάτου ἐνδέχεται ἐν τοῖς ἀϊδίοις εἶναι, ὁ δ’ οὐρανὸς ἀΐδιος καὶ ἡ κύκλῳ φορά, διὰ τίνα ποτ’ αἰτίαν ἐπὶ θάτερα φέρεται, ἀλλ’ οὐκ ἐπὶ θάτερα; ἀνάγκη γὰρ καὶ τοῦτο ἢ ἀρχὴν εἶναι ἢ εἶναι αὐτοῦ ἀρχήν.

Ἴσως μὲν οὖν τὸ περὶ ἐνίων ἀποφαίνεσθαί τι πειρᾶσθαι καὶ τὸ περὶ πάντων καὶ τὸ παριέναι μηθὲν τάχ’ ἂν δόξειεν εἶναι σημεῖον ἢ πολλῆς εὐηθείας ἢ πολλῆς προθυμίας. Οὐ μὴν δίκαιόν γε πᾶσιν ὁμοίως ἐπιτιμᾶν, ἀλλ’ ὁρᾶν δεῖ τὴν αἰτίαν τοῦ λέγειν τίς ἐστιν, ἔτι δὲ πῶς ἔχων τῷ πιστεύειν, πότερον ἀνθρωπίνως ἢ καρτερώτερον. Τὰς μὲν οὖν ἀκριβεστέρας ἀνάγκας, ὅταν (288a.) τις ἐπιτύχῃ, τότε χάριν ἔχειν δεῖ τοῖς εὑρίσκουσι, νῦν δὲ τὸ φαινόμενον ῥητέον.

Εἰ γὰρ ἡ φύσις ἀεὶ ποιεῖ τῶν ἐνδεχομένων τὸ βέλτιστον, ἔστι δὲ καθάπερ τῶν ἐπὶ τῆς εὐθείας φορῶν ἡ πρὸς τὸν ἄνω τόπον τιμιωτέρα (θειότερος γὰρ τόπος ὁ ἄνω τοῦ κάτω), τὸν αὐτὸν τρόπον καὶ ἡ εἰς τὸ πρόσθεν τῆς εἰς τοὔπισθεν, ἔχει, εἴπερ καὶ τὸ δεξιὸν καὶ τὸ ἀριστερόν, καθάπερ ἐλέχθη πρότερον, (καὶ μαρτυρεῖ δ’ ἡ ῥηθεῖσα ἀπορία ὅτι ἔχει) τὸ πρότερον καὶ ὕστερον· αὕτη γὰρ ἡ αἰτία λύει τὴν ἀπορίαν. Εἰ γὰρ ἔχει ὡς ἐνδέχεται βέλτιστα, αὕτη ἂν εἴη αἰτία καὶ τοῦ εἰρημένου· βέλτιστον γὰρ κινεῖσθαι ἁπλῆν τε κίνησιν καὶ ἄπαυστον, καὶ ταύτην ἐπὶ τὸ τιμιώτερον.

Κεφάλαιο 6

Περὶ δὲ τῆς κινήσεως αὐτοῦ, ὅτι ὁμαλής ἐστι καὶ οὐκ ἀνώμαλος, ἐφεξῆς ἂν εἴη τῶν εἰρημένων διελθεῖν. Λέγω δὲ τοῦτο περὶ τοῦ πρώτου οὐρανοῦ καὶ περὶ τῆς πρώτης φορᾶς· ἐν γὰρ τοῖς ὑποκάτω πλείους ἤδη αἱ φοραὶ συνεληλύθασιν εἰς ἕν.

Εἰ γὰρ ἀνωμάλως κινήσεται, δῆλον ὅτι ἐπίτασις ἔσται καὶ ἀκμὴ καὶ ἄνεσις τῆς φορᾶς· ἅπασα γὰρ ἡ ἀνώμαλος φορὰ καὶ ἄνεσιν ἔχει καὶ ἐπίτασιν καὶ ἀκμήν. Ἀκμὴ δ’ ἐστὶν ἢ ὅθεν φέρεται ἢ οἷ ἢ ἀνὰ μέσον, οἷον ἴσως τοῖς μὲν κατὰ φύσιν οἷ φέρονται, τοῖς δὲ παρὰ φύσιν ὅθεν, τοῖς δὲ ῥιπτουμένοις ἀνὰ μέσον. Τῆς δὲ κύκλῳ φορᾶς οὐκ ἔστιν οὔτε ὅθεν οὔτε οἷ οὔτε μέσον· οὔτε γὰρ ἀρχὴ οὔτε πέρας οὔτε μέσον ἐστὶν αὐτῆς ἁπλῶς· τῷ τε γὰρ χρόνῳ ἀΐδιος καὶ τῷ μήκει συνηγμένη καὶ ἄκλαστος· ὥστ’ εἰ μή ἐστιν ἀκμὴ αὐτοῦ τῆς φορᾶς, οὐδ’ ἂν ἀνωμαλία εἴη· ἡ γὰρ ἀνωμαλία γίγνεται διὰ τὴν ἄνεσιν καὶ ἐπίτασιν.

Ἔτι δ’ ἐπεὶ πᾶν τὸ κινούμενον ὑπό τινος κινεῖται, ἀνάγκη τὴν ἀνωμαλίαν γίγνεσθαι τῆς κινήσεως ἢ διὰ τὸ κινοῦν ἢ διὰ τὸ κινούμενον ἢ δι’ ἄμφω· εἴτε γὰρ τὸ κινοῦν μὴ τῇ αὐτῇ δυνάμει κινοῖ, εἴτε τὸ κινούμενον ἀλλοιοῖτο καὶ μὴ διαμένοι τὸ αὐτό, εἴτε ἄμφω μεταβάλλοι, οὐθὲν κωλύει ἀνωμάλως κινεῖσθαι τὸ κινούμενον. Οὐθὲν δὲ τούτων δυνατὸν περὶ τὸν οὐρανὸν γενέσθαι· τὸ μὲν γὰρ κινούμενον δέδεικται ὅτι πρῶτον καὶ ἁπλοῦν καὶ (288b.) ἀγένητον καὶ ἄφθαρτον καὶ ὅλως ἀμετάβλητον, τὸ δὲ κινοῦν πολὺ μᾶλλον εὔλογον εἶναι τοιοῦτον· τὸ γὰρ πρῶτον τοῦ πρώτου καὶ τὸ ἁπλοῦν τοῦ ἁπλοῦ καὶ τὸ ἄφθαρτον καὶ ἀγένητον τοῦ ἀφθάρτου καὶ ἀγενήτου κινητικόν. Ἐπεὶ οὖν τὸ κινούμενον οὐ μεταβάλλει σῶμα ὄν, οὐδ’ ἂν τὸ κινοῦν μεταβάλλοι ἀσώματον ὄν. Ὥστε καὶ τὴν φορὰν ἀδύνατον ἀνώμαλον εἶναι.

Καὶ γὰρ εἰ γίνεται ἀνώμαλος, ἤτοι ὅλη μεταβάλλει καὶ ὁτὲ μὲν γίνεται θάττων ὁτὲ δὲ βραδυτέρα πάλιν, ἢ τὰ μέρη αὐτῆς. Τὰ μὲν οὖν μέρη ὅτι οὐκ ἔστιν ἀνώμαλα, φανερόν· ἤδη γὰρ ἂν ἐγεγόνει διάστασις τῶν ἄστρων ἐν τῷ ἀπείρῳ χρόνῳ, τοῦ μὲν θᾶττον κινουμένου τοῦ δὲ βραδύτερον. Οὐ φαίνεται δ’ οὐθὲν ἄλλως ἔχον τοῖς διαστήμασιν. Ἀλλὰ μὴν οὐδὲ τὴν ὅλην ἐγχωρεῖ μεταβάλλειν· ἡ γὰρ ἄνεσις ἑκάστου γίνεται δι’ ἀδυναμίαν, ἡ δ’ ἀδυναμία παρὰ φύσιν· καὶ γὰρ αἱ ἐν τοῖς ζῴοις ἀδυναμίαι πᾶσαι παρὰ φύσιν εἰσίν, οἷον γῆρας καὶ φθίσις. Ὅλη γὰρ ἴσως ἡ σύστασις τῶν ζῴων ἐκ τοιούτων συνέστηκεν ἃ διαφέρει τοῖς οἰκείοις τόποις· οὐθὲν γὰρ τῶν μερῶν ἔχει τὴν αὑτοῦ χώραν.

Εἰ οὖν ἐν τοῖς πρώτοις μή ἐστι τὸ παρὰ φύσιν (ἁπλᾶ γὰρ καὶ ἄμικτα καὶ ἐν τῇ οἰκείᾳ χώρᾳ, καὶ οὐθὲν αὐτοῖς ἐναντίον), οὐδ' ἂν ἀδυναμία εἴη, ὥστ' οὐδ' ἄνεσις οὐδ' ἐπίτασις· εἰ γὰρ ἐπίτασις, καὶ ἄνεσις.

Ἔτι δὲ καὶ ἄλογον ἄπειρον χρόνον ἀδύνατον εἶναι τὸ κινοῦν, καὶ πάλιν ἄλλον ἄπειρον δυνατόν· οὐθὲν γὰρ φαίνεται ὂν ἄπειρον χρόνον παρὰ φύσιν (ἡ δ' ἀδυναμία παρὰ φύσιν), οὐδὲ τὸν ἴσον χρόνον παρὰ φύσιν καὶ κατὰ φύσιν, οὐδ' ὅλως δυνατὸν καὶ ἀδύνατον· ἀνάγκη δ', εἰ ἀνίησιν ἡ κίνησις, ἄπειρον ἀνιέναι χρόνον. Ἀλλὰ μὴν οὐδ' ἐπιτείνειν ἀεὶ ἢ πάλιν ἀνίενται δυνατόν· ἄπειρος γὰρ ἂν εἴη καὶ ἀόριστος ἡ κίνησις, ἅπασαν δέ φαμεν ἔκ τινος εἴς τι εἶναι καὶ ὡρισμένην.

Ἔτι δ' εἴ τις λάβοι εἶναί τινα χρόνον ἐλάχιστον, οὗ οὐκ ἐνδέχεται ἐν ἐλάττονι κινηθῆναι τὸν οὐρανόν (ὥσπερ γὰρ οὐδὲ κιθαρίσαι οὐδὲ βαδίσαι ἐν ὁτῳοῦν χρόνῳ δυνατόν, ἀλλ' ἔστιν ἑκάστης πράξεως ὡρισμένος ὁ ἐλάχιστος χρόνος κατὰ τὸ μὴ ὑπερβάλλειν, οὕτως οὐδὲ κινηθῆναι τὸν οὐρανὸν (289a.) ἐν ὁτῳοῦν χρόνῳ δυνατόν)· εἰ οὖν τοῦτ' ἀληθές, οὐκ ἂν εἴη ἀεὶ ἐπίτασις τῆς φορᾶς (εἰ δὲ μὴ ἐπίτασις, οὐδ' ἄνεσις· ὁμοίως γὰρ ἄμφω καὶ θάτερον), εἴπερ τῷ αὐτῷ τε ἐπιτείνει τάχει ἢ μείζονι, καὶ ἄπειρον χρόνον.

Λείπεται δὴ λέγειν ἐναλλὰξ εἶναι τῇ κινήσει τὸ θᾶττον καὶ τὸ βραδύτερον· τοῦτο δὲ παντελῶς ἄλογον καὶ πλάσματι ὅμοιον. Ἔτι δὲ καὶ τὸ μὴ λανθάνειν ἐπὶ τούτων εὐλογώτερον· εὐαισθητότερα γὰρ τὰ παρ' ἄλληλα τιθέμενα.

Ὅτι μὲν οὖν εἷς τε μόνος ἐστὶν ὁ οὐρανός, καὶ οὗτος ἀγένητος καὶ ἀΐδιος, ἔτι δὲ κινούμενος ὁμαλῶς, ἐπὶ τοσοῦτον ἡμῖν εἰρήσθω.

Κεφάλαιο 7

Περὶ δὲ τῶν καλουμένων ἄστρων ἑπόμενον ἂν εἴη λέγειν, ἐκ τίνων τε συνεστᾶσι καὶ ἐν ποίοις σχήμασι καὶ τίνες αἱ κινήσεις αὐτῶν.

Εὐλογώτατον δὴ καὶ τοῖς εἰρημένοις ἑπόμενον ἡμῖν τὸ ἕκαστον τῶν ἄστρων ποιεῖν ἐκ τούτου τοῦ σώματος ἐν ᾧ τυγχάνει τὴν φορὰν ἔχον, ἐπειδὴ ἔφαμέν τι εἶναι ὃ κύκλῳ φέρεσθαι πέφυκεν· ὥσπερ γὰρ οἱ πύρινα φάσκοντες εἶναι διὰ τοῦτο λέγουσιν, ὅτι τὸ ἄνω σῶμα πῦρ εἶναί φασιν, ὡς εὔλογον ὂν ἕκαστον συνεστάναι ἐκ τούτων ἐν οἷς ἕκαστόν ἐστιν, ὁμοίως καὶ ἡμεῖς λέγομεν.

Ἡ δὲ θερμότης ἀπ’ αὐτῶν καὶ τὸ φῶς γίνεται παρεκτριβομένου τοῦ ἀέρος ὑπὸ τῆς ἐκείνων φορᾶς. Πέφυκε γὰρ ἡ κίνησις ἐκπυροῦν καὶ ξύλα καὶ λίθους καὶ σίδηρον· εὐλογώτερον οὖν τὸ ἐγγύτερον τοῦ πυρός, ἐγγύτερον δὲ ὁ ἀήρ· οἷον καὶ ἐπὶ τῶν φερομένων βελῶν· ταῦτα γὰρ αὐτὰ ἐκπυροῦται οὕτως ὥστε τήκεσθαι τὰς μολυβδίδας, καὶ ἐπείπερ αὐτὰ ἐκπυροῦται, ἀνάγκη καὶ τὸν κύκλῳ αὐτῶν ἀέρα τὸ αὐτὸ τοῦτο πάσχειν. Ταῦτα μὲν οὖν αὐτὰ ἐκθερμαίνεται διὰ τὸ ἐν ἀέρι φέρεσθαι, ὃς διὰ τὴν πληγὴν τῇ κινήσει γίγνεται πῦρ.

Τῶν δὲ ἄνω ἕκαστον ἐν τῇ σφαίρᾳ φέρεται, ὥστ’ αὐτὰ μὲν μὴ ἐκπυροῦσθαι, τοῦ δ’ ἀέρος ὑπὸ τὴν τοῦ κυκλικοῦ σώματος σφαῖραν ὄντος ἀνάγκη φερομένης ἐκείνης ἐκθερμαίνεσθαι, καὶ ταύτῃ μάλιστα ᾗ ὁ ἥλιος τετύχηκεν ἐνδεδεμένος· διὸ δὴ πλησιάζοντός τε αὐτοῦ καὶ ἀνίσχοντος καὶ ὑπὲρ ἡμῶν ὄντος γίγνεται ἡ θερμότης. Ὅτι μὲν οὖν οὔτε πύρινά ἐστιν οὔτ’ ἐν πυρὶ φέρεται, ταῦθ’ ἡμῖν εἰρήσθω περὶ αὐτῶν.

Κεφάλαιο 8

(289b.) Ἐπεὶ δὲ φαίνεται καὶ τὰ ἄστρα μεθιστάμενα καὶ ὅλος ὁ οὐρανός, ἀναγκαῖον ἤτοι ἠρεμούντων ἀμφοτέρων γίγνεσθαι τὴν μεταβολήν, ἢ κινουμένων, ἢ τοῦ μὲν ἠρεμοῦντος τοῦ δὲ κινουμένου.

Ἀμφότερα μὲν τοίνυν ἠρεμεῖν ἀδύνατον ἠρεμούσης γε τῆς γῆς· οὐ γὰρ ἂν ἐγίγνετο τὰ φαινόμενα. Τὴν δὲ γῆν ὑποκείσθω ἠρεμεῖν. Λείπεται δὴ ἀμφότερα κινεῖσθαι, ἢ τὸ μὲν κινεῖσθαι τὸ δ’ ἠρεμεῖν.

Εἰ μὲν οὖν ἀμφότερα κινήσεται, ἄλογον τὸ ταὐτὰ τάχη τῶν ἄστρων εἶναι καὶ τῶν κύκλων· ἕκαστον γὰρ δὴ ὁμοταχὲς ἔσται τῷ κύκλῳ καθ’ ὃν φέρεται. Φαίνεται γὰρ ἅμα τοῖς κύκλοις καθιστάμενα πάλιν εἰς τὸ αὐτό. Συμβαίνει οὖν ἅμα τό τε ἄστρον διεληλυθέναι τὸν κύκλον καὶ τὸν κύκλον ἐνηνέχθαι τὴν αὑτοῦ φοράν, διεληλυθότα τὴν περιφέρειαν. Οὐκ ἔστι δ’ εὔλογον τὸ τὸν αὐτὸν λόγον ἔχειν τὰ τάχη τῶν ἄστρων καὶ τὰ μεγέθη τῶν κύκλων. Τοὺς μὲν γὰρ κύκλους οὐθὲν ἄτοπον ἀλλ’ ἀναγκαῖον ἀνάλογον ἔχειν τὰ τάχη τοῖς μεγέθεσι, τῶν δ’ ἄστρων ἕκαστον τῶν ἐν τούτοις οὐθαμῶς εὔλογον· εἴτε γὰρ ἐξ ἀνάγκης τὸ τὸν μείζω κύκλον φερόμενον θᾶττον ἔσται, δῆλον ὅτι κἂν μετατεθῇ τὰ ἄστρα εἰς τοὺς ἀλλήλων κύκλους, τὸ μὲν ἔσται θᾶττον τὸ δὲ βραδύτερον (οὕτω δ’ οὐκ ἂν ἔχοιεν οἰκείαν κίνησιν, ἀλλὰ φέροιντ’ ἂν ὑπὸ τῶν κύκλων), εἴτε ἀπὸ ταὐτομάτου συνέπεσεν, οὐδ’ οὕτως εὔλογον ὥστ’ ἐν ἅπασιν ἅμα τόν τε κύκλον εἶναι μείζω καὶ τὴν φορὰν θάττω τοῦ ἐν αὐτῷ ἄστρου· τὸ μὲν γὰρ ἓν ἢ δύο τοῦτον τὸν τρόπον ἔχειν οὐθὲν ἄτοπον, τὸ δὲ πάνθ’ ὁμοίως πλάσματι ἔοικεν. Ἅμα δὲ καὶ οὐκ ἔστιν ἐν τοῖς φύσει τὸ ὡς ἔτυχεν, οὐδὲ τὸ πανταχοῦ καὶ πᾶσιν ὑπάρχον τὸ ἀπὸ τύχης.

Ἀλλὰ μὴν πάλιν εἰ οἱ μὲν κύκλοι μένουσιν, αὐτὰ δὲ τὰ ἄστρα κινεῖται, τὰ αὐτὰ καὶ ὁμοίως ἔσται ἄλογα· συμβήσεται γὰρ θᾶττον κινεῖσθαι τὰ ἔξω, καὶ τὰ τάχη εἶναι κατὰ τὰ μεγέθη τῶν κύκλων.

Ἐπεὶ τοίνυν οὔτ’ ἀμφότερα κινεῖσθαι εὔλογον οὔτε τὸ ἕτερον μόνον, λείπεται τοὺς μὲν κύκλους κινεῖσθαι, τὰ δὲ ἄστρα ἠρεμεῖν καὶ ἐνδεδεμένα τοῖς κύκλοις φέρεσθαι· μόνως γὰρ οὕτως οὐθὲν ἄλογον συμβαίνει· τό τε γὰρ θᾶττον εἶναι τοῦ μείζονος κύκλου τὸ τάχος εὔλογον περὶ τὸ αὐτὸ κέντρον ἐνδεδεμένων (290a.) (ὥσπερ γὰρ ἐν τοῖς ἄλλοις τὸ μεῖζον σῶμα θᾶττον φέρεται τὴν οἰκείαν φοράν, οὕτως καὶ ἐν τοῖς ἐγκυκλίοις· μεῖζον γὰρ τῶν ἀφαιρουμένων ὑπὸ τῶν ἐκ τοῦ κέντρου τὸ τοῦ μείζονος κύκλου τμῆμα, ὥστ' εὐλόγως ἐν τῷ ἴσῳ χρόνῳ ὁ μείζων περιοισθήσεται κύκλος), τό τε μὴ διασπᾶσθαι τὸν οὐρανὸν διά τε τοῦτο συμβήσεται καὶ ὅτι δέδεικται συνεχὲς ὂν τὸ ὅλον.

Ἔτι δ' ἐπεὶ σφαιροειδῆ τὰ ἄστρα, καθάπερ οἵ τ' ἄλλοι φασὶ καὶ ἡμῖν ὁμολογούμενον εἰπεῖν, ἐξ ἐκείνου γε τοῦ σώματος γεννῶσιν, τοῦ δὲ σφαιροειδοῦς δύο κινήσεις εἰσὶ καθ' αὑτό, κύλισις καὶ δίνησις, εἴπερ οὖν κινεῖται τὰ ἄστρα δι' αὑτῶν, τὴν ἑτέραν ἂν κινοῖτο τούτων· ἀλλ' οὐδετέραν φαίνεται.

Δινούμενα μὲν γὰρ ἂν ἔμενεν ἐν ταὐτῷ καὶ οὐ μετέβαλλε τὸν τόπον, ὅπερ φαίνεταί τε καὶ πάντες φασίν. Ἔτι δὲ πάντα μὲν εὔλογον τὴν αὐτὴν κίνησιν κινεῖσθαι, μόνος δὲ δοκεῖ τῶν ἄστρων ὁ ἥλιος τοῦτο δρᾶν ἀνατέλλων καὶ δύνων, καὶ οὗτος οὐ δι' αὑτὸν ἀλλὰ διὰ τὴν ἀπόστασιν τῆς ἡμετέρας ὄψεως· ἡ γὰρ ὄψις ἀποτεινομένη μακρὰν ἑλίσσεται διὰ τὴν ἀσθένειαν. Ὅπερ αἴτιον ἴσως καὶ τοῦ στίλβειν φαίνεσθαι τοὺς ἀστέρας τοὺς ἐνδεδεμένους, τοὺς δὲ πλάνητας μὴ στίλβειν· οἱ μὲν γὰρ πλάνητες ἐγγύς εἰσιν, ὥστ' ἐγκρατὴς οὖσα πρὸς αὐτοὺς ἀφικνεῖται ἡ ὄψις· πρὸς δὲ τοὺς μένοντας κραδαίνεται διὰ τὸ μῆκος, ἀποτεινομένη πόρρω λίαν. Ὁ δὲ τρόμος αὐτῆς ποιεῖ τοῦ ἄστρου δοκεῖν εἶναι τὴν κίνησιν· οὐθὲν γὰρ διαφέρει κινεῖν τὴν ὄψιν ἢ τὸ ὁρώμενον.

Ἀλλὰ μὴν ὅτι οὐδὲ κυλίεται τὰ ἄστρα, φανερόν· τὸ μὲν γὰρ κυλιόμενον στρέφεσθαι ἀνάγκη, τῆς δὲ σελήνης ἀεὶ δῆλόν ἐστι τὸ καλούμενον πρόσωπον. Ὥστ' ἐπεὶ κινούμενα μὲν δι' αὑτῶν τὰς οἰκείας κινεῖσθαι κινήσεις εὔλογον, ταύτας δ' οὐ φαίνεται κινούμενα, δῆλον ὅτι οὐκ ἂν κινοῖτο δι' αὑτῶν.

Πρὸς δὲ τούτοις ἄλογον τὸ μηθὲν ὄργανον αὐτοῖς ἀποδοῦναι τὴν φύσιν πρὸς τὴν κίνησιν (οὐθὲν γὰρ ὡς ἔτυχε ποιεῖ ἡ φύσις), οὐδὲ τῶν μὲν ζῴων φροντίσαι, τῶν δ' οὕτω τιμίων ὑπεριδεῖν, ἀλλ' ἔοικεν ὥσπερ ἐπίτηδες ἀφελεῖν πάντα δι' ὧν ἐνεδέχετο προϊέναι καθ' αὑτά, καὶ ὅτι πλεῖστον ἀποστῆσαι τῶν ἐχόντων ὄργανα πρὸς κίνησιν.

Διὸ καὶ εὐλόγως ἂν δόξειεν ὅ τε (290b.) ὅλος οὐρανὸς σφαιροειδὴς εἶναι καὶ ἕκαστον τῶν ἄστρων. Πρὸς μὲν γὰρ τὴν ἐν ἑαυτῷ κίνησιν ἡ σφαῖρα τῶν σχημάτων χρησιμώτατον (οὕτω γὰρ ἂν καὶ τάχιστα κινοῖτο καὶ μάλιστα κατέχοι τὸν αὐτὸν τόπον), πρὸς δὲ τὴν εἰς τὸ πρόσθεν ἀχρηστότατον· ἥκιστα γὰρ ὅμοιον τοῖς δι' αὑτῶν κινητικοῖς· οὐδὲν γὰρ ἀπηρτημένον ἔχει οὐδὲ προέχον, ὥσπερ τὸ εὐθύγραμμον, ἀλλὰ πλεῖστον ἀφέστηκε τῷ σχήματι τῶν πορευτικῶν σωμάτων.

Ἐπεὶ οὖν δεῖ τὸν μὲν οὐρανὸν κινεῖσθαι τὴν ἐν ἑαυτῷ κίνησιν, τὰ δ’ ἄλλα [ἄστρα] μὴ προϊέναι δι’ αὑτῶν, εὐλόγως ἂν ἑκάτερον εἴη σφαιροειδές· οὕτω γὰρ μάλιστα τὸ μὲν κινήσεται τὸ δ’ ἠρεμήσει.

Κεφάλαιο 9

Φανερὸν δ’ ἐκ τούτων ὅτι καὶ τὸ φάναι γίνεσθαι φερομένων ἁρμονίαν, ὡς συμφώνων γινομένων τῶν ψόφων, κομψῶς μὲν εἴρηται καὶ περιττῶς ὑπὸ τῶν εἰπόντων, οὐ μὴν οὕτως ἔχει τἀληθές. Δοκεῖ γάρ τισιν ἀναγκαῖον εἶναι τηλικούτων φερομένων σωμάτων γίγνεσθαι ψόφον, ἐπεὶ καὶ τῶν παρ’ ἡμῖν οὔτε τοὺς ὄγκους ἐχόντων ἴσους οὔτε τοιούτῳ τάχει φερομένων· ἡλίου δὲ καὶ σελήνης, ἔτι τε τοσούτων τὸ πλῆθος ἄστρων καὶ τὸ μέγεθος φερομένων τῷ τάχει τοιαύτην φορὰν ἀδύνατον μὴ γίγνεσθαι ψόφον ἀμήχανόν τινα τὸ μέγεθος. Ὑποθέμενοι δὲ ταῦτα καὶ τὰς ταχυτῆτας ἐκ τῶν ἀποστάσεων ἔχειν τοὺς τῶν συμφωνιῶν λόγους, ἐναρμόνιον γίγνεσθαί φασι τὴν φωνὴν φερομένων κύκλῳ τῶν ἄστρων.

Ἐπεὶ δ’ ἄλογον δοκεῖ τὸ μὴ συνακούειν ἡμᾶς τῆς φωνῆς ταύτης, αἴτιον τούτου φασὶν εἶναι τὸ γιγνομένων εὐθὺς ὑπάρχειν τὸν ψόφον, ὥστε μὴ διάδηλον εἶναι πρὸς τὴν ἐναντίαν σιγήν· πρὸς ἄλληλα γὰρ φωνῆς καὶ σιγῆς εἶναι τὴν διάγνωσιν· ὥστε καθάπερ τοῖς χαλκοτύποις διὰ συνήθειαν οὐθὲν δοκεῖ διαφέρειν, καὶ τοῖς ἀνθρώποις ταὐτὸ συμβαίνειν.

Ταῦτα δή, καθάπερ εἴρηται πρότερον, ἐμμελῶς μὲν λέγεται καὶ μουσικῶς, ἀδύνατον δὲ τοῦτον ἔχειν τὸν τρόπον. Οὐ γὰρ μόνον τὸ μηθὲν ἀκούειν ἄτοπον, περὶ οὗ λέγειν ἐγχειροῦσι τὴν αἰτίαν, ἀλλὰ καὶ τὸ μηδὲν πάσχειν χωρὶς αἰσθήσεως. Οἱ γὰρ ὑπερβάλλοντες ψόφοι διακναίουσι καὶ τῶν ἀψύχων σωμάτων τοὺς ὄγκους, οἷον ὁ τῆς βροντῆς διίστησι λίθους καὶ (291a.) τὰ καρτερώτατα τῶν σωμάτων. Τοσούτων δὲ φερομένων, καὶ τοῦ ψόφου διιόντος πρὸς τὸ φερόμενον μέγεθος, πολλαπλάσιον μέγεθος ἀναγκαῖον ἀφικνεῖσθαί τε δεῦρο καὶ τὴν ἰσχὺν ἀμήχανον εἶναι τῆς βίας. Ἀλλ’ εὐλόγως οὔτ’ ἀκούομεν οὔτε πάσχοντα φαίνεται τὰ σώματα βίαιον οὐδὲν πάθος, διὰ τὸ μὴ ψοφεῖν. Ἅμα δ’ ἐστὶ τό τ’ αἴτιον τούτων δῆλον, καὶ μαρτύριον τῶν εἰρημένων ἡμῖν λόγων, ὥς εἰσιν ἀληθεῖς· τὸ γὰρ ἀπορηθὲν καὶ ποιῆσαν τοὺς Πυθαγορείους φάναι γίγνεσθαι συμφωνίαν τῶν φερομένων ἡμῖν ἐστι τεκμήριον. Ὅσα (9) μὲν γὰρ αὐτὰ φέρεται, ποιεῖ ψόφον καὶ πληγήν· ὅσα δ’ ἐν φερομένῳ ἐνδέδεται ἢ ἐνυπάρχει, καθάπερ ἐν τῷ πλοίῳ τὰ μόρια, οὐχ οἷόν τε ψοφεῖν, οὐδ’ αὐτὸ τὸ πλοῖον, εἰ φέροιτο ἐν ποταμῷ. Καίτοι τοὺς αὐτοὺς λόγους ἂν ἐξείη λέγειν, ὡς ἄτοπον εἰ μὴ φερόμενος ὁ ἱστὸς καὶ ἡ πρύμνα

ποιεῖ ψόφον πολὺν τηλικαύτης νεώς, ἢ πάλιν αὐτὸ τὸ πλοῖον κινούμενον. Τὸ δ’ ἐν μὴ φερομένῳ φερόμενον ποιεῖ ψόφον· ἐν φερομένῳ δὲ συνεχὲς καὶ μὴ ποιοῦν πληγὴν ἀδύνατον ψοφεῖν. Ὥστ’ ἐνταῦθα λεκτέον ὡς εἴπερ ἐφέρετο τὰ σώματα τούτων εἴτ’ ἐν ἀέρος πλήθει κεχυμένῳ κατὰ τὸ πᾶν εἴτε πυρός, ὥσπερ πάντες φασίν, ἀναγκαῖον ποιεῖν ὑπερφυᾶ τῷ μεγέθει τὸν ψόφον, τούτου δὲ γινομένου καὶ δεῦρ’ ἀφικνεῖσθαι καὶ διακναίειν. Ὥστ’ ἐπείπερ οὐ φαίνεται τοῦτο συμβαῖνον, οὔτ’ ἂν ἔμψυχον οὔτε βίαιον φέροιτο φορὰν οὐθὲν αὐτῶν, ὥσπερ τὸ μέλλον ἔσεσθαι προνοούσης τῆς φύσεως, ὅτι μὴ τοῦτον τὸν τρόπον ἐχούσης τῆς κινήσεως οὐθὲν ἂν ἦν τῶν περὶ τὸν δεῦρο τόπον ὁμοίως ἔχον.

Ὅτι μὲν οὖν σφαιροειδῆ τὰ ἄστρα καὶ ὅτι οὐ κινεῖται δι’ αὑτῶν, εἴρηται.

Κεφάλαιο 10

Περὶ δὲ τῆς τάξεως αὐτῶν, ὃν μὲν τρόπον ἕκαστα κινεῖται τῷ τὰ μὲν εἶναι πρότερα τὰ δ’ ὕστερα, καὶ πῶς ἔχει πρὸς ἄλληλα τοῖς ἀποστήμασιν, ἐκ τῶν περὶ ἀστρολογίαν θεωρείσθω· λέγεται γὰρ ἱκανῶς. Συμβαίνει δὲ κατὰ λόγον γίγνεσθαι τὰς ἑκάστου κινήσεις τοῖς ἀποστήμασι τῷ τὰς μὲν εἶναι θάττους τὰς δὲ βραδυτέρας· ἐπεὶ γὰρ ὑπόκειται τὴν μὲν ἐσχάτην τοῦ οὐρανοῦ περιφορὰν ἁπλῆν τ’ εἶναι (291b.) καὶ ταχίστην, τὰς δὲ τῶν ἄλλων βραδυτέρας τε καὶ πλείους (ἕκαστον γὰρ ἀντιφέρεται τῷ οὐρανῷ κατὰ τὸν αὑτοῦ κύκλον), εὔλογον ἤδη τὸ μὲν ἐγγυτάτω τῆς ἁπλῆς καὶ πρώτης περιφορᾶς ἐν πλείστῳ χρόνῳ διιέναι τὸν αὑτοῦ κύκλον, τὸ δὲ πορρωτάτω ἐν ἐλαχίστῳ, τῶν δ’ ἄλλων τὸ ἐγγύτερον ἀεὶ ἐν πλείονι, τὸ δὲ πορρώτερον ἐν ἐλάττονι. Τὸ μὲν γὰρ ἐγγυτάτω μάλιστα κρατεῖται, τὸ δὲ πορρωτάτω πάντων ἥκιστα διὰ τὴν ἀπόστασιν· τὰ δὲ μεταξὺ κατὰ λόγον ἤδη τῆς ἀποστάσεως, ὥσπερ καὶ δεικνύουσιν οἱ μαθηματικοί.

Κεφάλαιο 11

Τὸ δὲ σχῆμα τῶν ἄστρων ἑκάστου σφαιροειδὲς μάλιστ' ἄν τις εὐλόγως ὑπολάβοι. Ἐπεὶ γὰρ δέδεικται ὅτι οὐ πεφύκασι κινεῖσθαι δι' αὑτῶν, ἡ δὲ φύσις οὐδὲν ἀλόγως οὐδὲ μάτην ποιεῖ, δῆλον ὅτι καὶ σχῆμα τοιοῦτον ἀπέδωκε τοῖς ἀκινήτοις ὃ ἥκιστά ἐστι κινητικόν. Ἥκιστα δὲ κινητικὸν ἡ σφαῖρα διὰ τὸ μηδὲν ἔχειν ὄργανον πρὸς τὴν κίνησιν. Ὥστε δῆλον ὅτι σφαιροειδῆ ἂν εἴη τὸν ὄγκον.

Ἔτι δ' ὁμοίως μὲν ἅπαντα καὶ ἕν, ἡ δὲ σελήνη δείκνυται διὰ τῶν περὶ τὴν ὄψιν ὅτι σφαιροειδής· οὐ γὰρ ἂν ἐγίνετο αὐξανομένη καὶ φθίνουσα τὰ μὲν πλεῖστα μηνοειδὴς ἢ ἀμφίκυρτος, ἅπαξ δὲ διχότομος. Καὶ πάλιν διὰ τῶν ἀστρολογικῶν, ὅτι οὐκ ἂν ἦσαν αἱ τοῦ ἡλίου ἐκλείψεις μηνοειδεῖς. Ὥστ' εἴπερ ἓν τοιοῦτον, δῆλον ὅτι καὶ τἆλλα ἂν εἴη σφαιροειδῆ.

Κεφάλαιο 12

Δυοῖν δ’ ἀπορίαιν οὔσαιν, περὶ ὧν εἰκότως ἂν ὁστισοῦν ἀπορήσειε, πειρατέον λέγειν τὸ φαινόμενον, αἰδοῦς ἀξίαν εἶναι νομίζοντας τὴν προθυμίαν μᾶλλον ἢ θράσους, εἴ τις διὰ τὸ φιλοσοφίας διψῆν καὶ μικρὰς εὐπορίας ἀγαπᾷ περὶ ὧν τὰς μεγίστας ἔχομεν ἀπορίας. Ἔστι δὲ πολλῶν ὄντων τοιούτων οὐχ ἥκιστα θαυμαστόν, διὰ τίνα ποτ’ αἰτίαν οὐκ ἀεὶ τὰ πλεῖον ἀπέχοντα τῆς πρώτης φορᾶς κινεῖται πλείους κινήσεις, ἀλλὰ τὰ μεταξὺ πλείστας. Εὔλογον γὰρ ἂν δόξειεν εἶναι τοῦ πρώτου σώματος μίαν κινουμένου φορὰν τὸ πλησιαίτατον ἐλαχίστας κινεῖσθαι κινήσεις, οἷον δύο, τὸ δ’ ἐχόμενον τρεῖς ἤ τινα ἄλλην τοιαύτην τάξιν. Νῦν δὲ συμβαίνει τοὐναντίον· ἐλάττους γὰρ ἥλιος καὶ σελήνη κινοῦνται (292a.) κινήσεις ἢ τῶν πλανωμένων ἄστρων ἔνια· καίτοι πορρώτερον τοῦ μέσου καὶ πλησιαίτερον τοῦ πρώτου σώματός εἰσιν αὐτῶν. Δῆλον δὲ τοῦτο περὶ ἐνίων καὶ τῇ ὄψει γέγονεν· τὴν γὰρ σελήνην ἑωράκαμεν διχότομον μὲν οὖσαν, ὑπελθοῦσαν δὲ τῶν ἀστέρων τὸν τοῦ Ἄρεος, καὶ ἀποκρυφέντα μὲν κατὰ τὸ μέλαν αὐτῆς, ἐξελθόντα δὲ κατὰ τὸ φανὸν καὶ λαμπρόν.

Ὁμοίως δὲ καὶ περὶ τοὺς ἄλλους ἀστέρας λέγουσιν οἱ πάλαι τετηρηκότες ἐκ πλείστων ἐτῶν Αἰγύπτιοι καὶ Βαβυλώνιοι, παρ’ ὧν πολλὰς πίστεις ἔχομεν περὶ ἑκάστου τῶν ἄστρων.

Τοῦτό τε δὴ δικαίως ἀπορήσειεν ἄν τις, καὶ διὰ τίνα ποτ’ αἰτίαν ἐν μὲν τῇ πρώτῃ φορᾷ τοσοῦτόν ἐστιν ἄστρων πλῆθος ὥστε τῶν ἀναριθμήτων εἶναι δοκεῖν τὴν πᾶσαν τάξιν, τῶν δ’ ἄλλων ἓν χωρὶς ἕκαστον, δύο δ’ ἢ πλείω οὐ φαίνεται ἐν τῇ αὐτῇ ἐνδεδεμένα φορᾷ.

Περὶ δὴ τούτων ζητεῖν μὲν καλῶς ἔχει καὶ τὴν ἐπὶ πλεῖον σύνεσιν, καίπερ μικρὰς ἔχοντας ἀφορμὰς καὶ τοσαύτην ἀπόστασιν ἀπέχοντας τῶν περὶ αὐτὰ συμβαινόντων· ὅμως δ’ ἐκ τῶν τοιούτων θεωροῦσιν οὐδὲν ἄλογον ἂν δόξειεν εἶναι τὸ νῦν ἀπορούμενον. Ἀλλ’ ἡμεῖς ὡς περὶ σωμάτων αὐτῶν μόνον, καὶ μονάδων τάξιν μὲν ἐχόντων, ἀψύχων δὲ πάμπαν, διανοούμεθα· δεῖ δ’ ὡς μετεχόντων ὑπολαμβάνειν πράξεως καὶ ζωῆς· οὕτω γὰρ οὐθὲν δόξει παράλογον εἶναι τὸ συμβαῖνον. Ἔοικε γὰρ τῷ μὲν ἄριστα ἔχοντι ὑπάρχειν τὸ εὖ ἄνευ πράξεως, τῷ δ’ ἐγγύτατα διὰ ὀλίγης καὶ μιᾶς, τοῖς δὲ πορρωτέρω διὰ πλειόνων, ὥσπερ ἐπὶ σώματος τὸ μὲν οὐδὲ γυμναζόμενον εὖ ἔχει, τὸ δὲ μικρὰ

περιπατῆσαν, τῷ δὲ καὶ δρόμου δεῖ καὶ πάλης καὶ κονίσεως, πάλιν δ’ ἑτέρῳ οὐδ’ ὁποσαοῦν πονοῦντι τοῦτό γ’ ἂν ἔτι ὑπάρξαι τἀγαθόν, ἀλλ’ ἕτερόν τι.

Ἔστι δὲ τὸ κατορθοῦν χαλεπὸν ἢ τὸ πολλὰ ἢ τὸ πολλάκις, οἷον μυρίους ἀστραγάλους Χίους βαλεῖν ἀμήχανον, ἀλλ’ ἕνα ἢ δύο ῥᾷον. Καὶ πάλιν ὅταν τοδὶ μὲν δέῃ τοῦδ’ ἕνεκα ποιῆσαι, τοῦτο δ’ ἄλλου καὶ τοῦτο ἑτέρου, ἐν μὲν ἑνὶ ἢ δυσὶ ῥᾴδιον ἐπιτυχεῖν, ὅσῳ δ’ ἂν διὰ πλειόνων, (292b.) χαλεπώτερον.

Διὸ δεῖ νομίζειν καὶ τὴν τῶν ἄστρων πρᾶξιν εἶναι τοιαύτην οἵα περ ἡ τῶν ζῴων καὶ φυτῶν. Καὶ γὰρ ἐνταῦθα αἱ τοῦ ἀνθρώπου πλεῖσται πράξεις· πολλῶν γὰρ τῶν εὖ δύναται τυχεῖν, ὥστε πολλὰ πράττειν, καὶ ἄλλων ἕνεκα. (Τῷ δ’ ὡς ἄριστα ἔχοντι οὐθὲν δεῖ πράξεως· ἔστι γὰρ αὐτὸ τὸ οὗ ἕνεκα, ἡ δὲ πρᾶξις ἀεί ἐστιν ἐν δυσίν, ὅταν καὶ οὗ ἕνεκα ᾖ καὶ τὸ τούτου ἕνεκα). Τῶν δ’ ἄλλων ζῴων ἐλάττους, τῶν δὲ φυτῶν μικρά τις καὶ μία ἴσως· ἢ γὰρ ἕν τί ἐστιν οὗ τύχοι ἄν, ὥσπερ καὶ ἄνθρωπος, ἢ καὶ τὰ πολλὰ πάντα πρὸ ὁδοῦ ἐστι πρὸς τὸ ἄριστον. Τὸ μὲν οὖν ἔχει καὶ μετέχει τοῦ ἀρίστου, τὸ δ’ ἀφικνεῖται [ἐγγὺς] δι’ ὀλίγων, τὸ δὲ διὰ πολλῶν, τὸ δ’ οὐδ’ ἐγχειρεῖ, ἀλλ’ ἱκανὸν εἰς τὸ ἐγγὺς τοῦ ἐσχάτου ἐλθεῖν· οἷον εἰ ὑγίεια τέλος, τὸ μὲν δὴ ἀεὶ ὑγιαίνει, τὸ δ’ ἰσχνανθέν, τὸ δὲ δραμὸν καὶ ἰσχνανθέν, τὸ δὲ καὶ ἄλλο τι πρᾶξαν τοῦ δραμεῖν ἕνεκα, ὥστε πλείους αἱ κινήσεις· ἕτερον δ’ ἀδυνατεῖ πρὸς τὸ ὑγιᾶναι ἐλθεῖν, ἀλλὰ πρὸς τὸ δραμεῖν μόνον ἢ ἰσχνανθῆναι, καὶ τούτων θάτερον τέλος αὐτοῖς. Μάλιστα μὲν γὰρ ἐκείνου τυχεῖν ἄριστον πᾶσι τοῦ τέλους· εἰ δὲ μή, ἀεὶ ἄμεινόν ἐστιν ὅσῳ ἂν ἐγγύτερον ᾖ τοῦ ἀρίστου.

Καὶ διὰ τοῦτο ἡ μὲν γῆ ὅλως οὐ κινεῖται, τὰ δ’ ἐγγὺς ὀλίγας (20) κινήσεις· οὐ γὰρ ἀφικνεῖται πρὸς τὸ ἔσχατον, ἀλλὰ μέχρι ὅτου δύναται τυχεῖν τῆς θειοτάτης ἀρχῆς. Ὁ δὲ πρῶτος οὐρανὸς εὐθὺς τυγχάνει διὰ μιᾶς κινήσεως. Τὰ δ’ ἐν μέσῳ τοῦ πρώτου καὶ τῶν ἐσχάτων ἀφικνεῖται μέν, διὰ πλειόνων δ’ ἀφικνεῖται κινήσεων. Περὶ δὲ τῆς ἀπορίας ὅτι κατὰ μὲν τὴν πρώτην μίαν οὖσαν φορὰν πολὺ πλῆθος συνέστηκεν ἄστρων, τῶν δ’ ἄλλων χωρὶς ἕκαστον εἴληφεν ἰδίας κινήσεις, δι’ ἓν μὲν ἄν τις πρῶτον εὐλόγως οἰηθείη τοῦθ’ ὑπάρχειν· νοῆσαι γὰρ δεῖ τῆς ζωῆς καὶ τῆς ἀρχῆς ἑκάστης πολλὴν ὑπεροχὴν εἶναι τῆς πρώτης πρὸς τὰς ἄλλας, εἴη δ’ ἂν ἥδε συμβαίνουσα κατὰ λόγον· ἡ μὲν γὰρ πρώτη μία οὖσα πολλὰ κινεῖ τῶν σωμάτων τῶν θείων, αἱ δὲ πολλαὶ οὖσαι ἓν μόνον (293a.) ἑκάστη· τῶν γὰρ πλανωμένων ἓν ὁτιοῦν πλείους φέρεται φοράς. Ταύτῃ τε οὖν ἀνισάζει ἡ φύσις καὶ ποιεῖ τινὰ τάξιν, τῇ μὲν μιᾷ φορᾷ πολλὰ ἀποδοῦσα σώματα, τῷ δ’ ἑνὶ σώματι πολλὰς φοράς.

Καὶ ἔτι διὰ τόδε ἓν ἔχουσι σῶμα αἱ ἄλλαι φοραί, ὅτι πολλὰ σώματα κινοῦσιν αἱ πρὸ τῆς τελευταίας καὶ τῆς ἓν ἄστρον ἐχούσης· ἐν πολλαῖς γὰρ σφαίραις ἡ τελευταία σφαῖρα ἐνδεδεμένη φέρεται, ἑκάστη δὲ σφαῖρα σῶμά τι τυγχάνει ὄν. Ἐκείνης ἂν οὖν κοινὸν εἴη τὸ ἔργον· αὐτῇ μὲν γὰρ ἑκάστῃ ἡ ἴδιος φύσει φορά, αὕτη δὲ οἷον πρόσκειται, παντὸς δὲ πεπερασμένου σώματος πρὸς πεπερασμένον ἡ δύναμίς ἐστιν.

Ἀλλὰ περὶ μὲν τῶν τὴν ἐγκύκλιον φερομένων κίνησιν ἄστρων εἴρηται ποῖ’ ἄττα κατά τε τὴν οὐσίαν ἐστὶ καὶ κατὰ τὸ σχῆμα, περί τε τῆς φορᾶς καὶ τῆς τάξεως αὐτῶν.

Κεφάλαιο 13

Λοιπὸν δὲ περὶ τῆς γῆς εἰπεῖν, οὗ τε τυγχάνει κειμένη, καὶ πότερον τῶν ἠρεμούντων ἐστὶν ἢ τῶν κινουμένων, καὶ περὶ τοῦ σχήματος αὐτῆς.

Περὶ μὲν οὖν τῆς θέσεως οὐ τὴν αὐτὴν ἅπαντες ἔχουσι δόξαν, ἀλλὰ τῶν πλείστων ἐπὶ τοῦ μέσου κεῖσθαι λεγόντων, ὅσοι τὸν ὅλον οὐρανὸν πεπερασμένον εἶναί φασιν, ἐναντίως οἱ περὶ τὴν Ἰταλίαν, καλούμενοι δὲ Πυθαγόρειοι λέγουσιν· ἐπὶ μὲν γὰρ τοῦ μέσου πῦρ εἶναί φασι, τὴν δὲ γῆν, ἓν τῶν ἄστρων οὖσαν, κύκλῳ φερομένην περὶ τὸ μέσον νύκτα τε καὶ ἡμέραν ποιεῖν. Ἔτι δ’ ἐναντίαν ἄλλην ταύτῃ κατασκευάζουσι γῆν, ἣν ἀντίχθονα ὄνομα καλοῦσιν, οὐ πρὸς τὰ φαινόμενα τοὺς λόγους καὶ τὰς αἰτίας ζητοῦντες, ἀλλὰ πρός τινας λόγους καὶ δόξας αὑτῶν τὰ φαινόμενα προσέλκοντες καὶ πειρώμενοι συγκοσμεῖν.

Πολλοῖς δ’ ἂν καὶ ἑτέροις συνδόξειε μὴ δεῖν τῇ γῇ τὴν τοῦ μέσου χώραν ἀποδιδόναι, τὸ πιστὸν οὐκ ἐκ τῶν φαινομένων ἀθροῦσιν ἀλλὰ μᾶλλον ἐκ τῶν λόγων. Τῷ γὰρ τιμιωτάτῳ οἴονται προσήκειν τὴν τιμιωτάτην ὑπάρχειν χώραν, εἶναι δὲ πῦρ μὲν γῆς τιμιώτερον, τὸ δὲ πέρας τοῦ μεταξύ, τὸ δ’ ἔσχατον καὶ τὸ μέσον πέρας· ὥστ’ ἐκ τούτων ἀναλογιζόμενοι οὐκ οἴονται ἐπὶ τοῦ μέσου τῆς σφαίρας κεῖσθαι αὐτήν, ἀλλὰ μᾶλλον (293b.) τὸ πῦρ. Ἔτι δ’ οἵ γε Πυθαγόρειοι καὶ διὰ τὸ μάλιστα προσήκειν φυλάττεσθαι τὸ κυριώτατον τοῦ παντός, τὸ δὲ μέσον εἶναι τοιοῦτον, [ὃ] Διὸς φυλακὴν ὀνομάζουσι τὸ ταύτην ἔχον τὴν χώραν πῦρ· ὥσπερ τὸ μέσον ἁπλῶς λεγόμενον, καὶ τὸ τοῦ μεγέθους μέσον καὶ τοῦ πράγματος ὂν μέσον καὶ τῆς φύσεως. Καίτοι καθάπερ ἐν τοῖς ζῴοις οὐ ταὐτὸν τοῦ ζῴου καὶ τοῦ σώματος μέσον, οὕτως ὑποληπτέον μᾶλλον καὶ περὶ τὸν ὅλον οὐρανόν. Διὰ μὲν οὖν ταύτην τὴν αἰτίαν οὐθὲν αὐτοὺς δεῖ θορυβεῖσθαι περὶ τὸ πᾶν, οὐδ’ εἰσάγειν φυλακὴν ἐπὶ τὸ κέντρον, ἀλλ’ ἐκεῖνο ζητεῖν τὸ μέσον, ποῖόν τι καὶ ποῦ πέφυκεν. Ἐκεῖνο μὲν γὰρ ἀρχὴ τὸ μέσον καὶ τίμιον, τὸ δὲ τοῦ τόπου μέσον ἔοικε τελευτῇ μᾶλλον ἢ ἀρχῇ· τὸ μὲν γὰρ ὁριζόμενον τὸ μέσον, τὸ δ’ ὁρίζον τὸ πέρας. Τιμιώτερον δὲ τὸ περιέχον καὶ τὸ πέρας ἢ τὸ περαινόμενον· τὸ μὲν γὰρ ὕλη, τὸ δ’ οὐσία τῆς συστάσεώς ἐστιν.

Περὶ μὲν οὖν τοῦ τόπου τῆς γῆς ταύτην ἔχουσί τινες τὴν δόξαν, ὁμοίως δὲ καὶ περὶ μονῆς καὶ κινήσεως· οὐ γὰρ τὸν αὐτὸν τρόπον ἅπαντες ὑπολαμβάνουσιν, ἀλλ’ ὅσοι μὲν μηδ’ ἐπὶ τοῦ μέσου κεῖσθαί φασιν αὐτήν, κινεῖσθαι κύκλῳ περὶ τὸ μέσον, οὐ μόνον δὲ ταύτην, ἀλλὰ καὶ τὴν ἀντίχθονα, καθάπερ εἴπομεν πρότερον.

Ἐνίοις δὲ δοκεῖ καὶ πλείω σώματα τοιαῦτα ἐνδέχεσθαι φέρεσθαι περὶ τὸ μέσον, ἡμῖν ἄδηλα διὰ τὴν ἐπιπρόσθησιν τῆς γῆς. Διὸ καὶ τὰς τῆς σελήνης ἐκλείψεις πλείους ἢ τὰς τοῦ ἡλίου γίγνεσθαί φασιν· τῶν γὰρ φερομένων ἕκαστον ἀντιφράττειν αὐτήν, ἀλλ’ οὐ μόνον τὴν γῆν. Ἐπεὶ γὰρ οὐκ ἔστιν ἡ γῆ κέντρον, ἀλλ’ ἀπέχει τὸ ἡμισφαίριον αὐτῆς ὅλον, οὐθὲν κωλύειν οἴονται τὰ φαινόμενα συμβαίνειν ὁμοίως μὴ κατοικοῦσιν ἡμῖν ἐπὶ τοῦ κέντρου, ὥσπερ κἂν εἰ ἐπὶ τοῦ μέσου ἦν ἡ γῆ· οὐθὲν γὰρ οὐδὲ νῦν ποιεῖν ἐπίδηλον τὴν ἡμίσειαν ἀπεχόντων τῆς διαμέτρου.

Ἔνιοι δὲ καὶ κειμένην ἐπὶ τοῦ κέντρου φασὶν αὐτὴν ἴλλεσθαι καὶ κινεῖσθαι περὶ τὸν διὰ παντὸς τεταμένον πόλον, ὥσπερ ἐν τῷ Τιμαίῳ γέγραπται.

Παραπλησίως δὲ καὶ περὶ τοῦ σχήματος ἀμφισβητεῖται· τοῖς μὲν γὰρ δοκεῖ εἶναι σφαιροειδής, τοῖς δὲ πλατεῖα καὶ τὸ σχῆμα τυμπανο(294a.) ειδής· ποιοῦνται δὲ τεκμήριον ὅτι δύνων καὶ ἀνατέλλων ὁ ἥλιος εὐθεῖαν ἀλλ’ οὐ περιφερῆ τὴν ἀπόκρυψιν φαίνεται ποιούμενος ὑπὸ τῆς γῆς, ὡς δέον, εἴπερ ἦν σφαιροειδής, περιφερῆ γίνεσθαι τὴν ἀποτομήν, οὐ προσλογιζόμενοι τό τε ἀπόστημα τοῦ ἡλίου πρὸς τὴν γῆν καὶ τὸ τῆς περιφερείας μέγεθος, ὡς ἐν τοῖς φαινομένοις μικροῖς κύκλοις εὐθεῖα φαίνεται πόρρωθεν. Διὰ μὲν οὖν ταύτην τὴν φαντασίαν οὐδὲν αὐτοὺς ἀπιστεῖν δεῖ μὴ κυκλοτερῆ τὸν ὄγκον εἶναι τῆς γῆς· ἀλλ’ ἔτι προστιθέασι, καὶ φασὶ διὰ τὴν ἠρεμίαν ἀναγκαῖον τὸ σχῆμα τοῦτ’ ἔχειν αὐτήν.

Καὶ γὰρ δὴ οἱ περὶ τῆς κινήσεως καὶ τῆς μονῆς εἰρημένοι τρόποι πολλοὶ τυγχάνουσιν. Τὸ μὲν οὖν ἀπορῆσαι πᾶσιν ἀναγκαῖον ἐπελθεῖν· τάχα γὰρ ἀλυποτέρας διανοίας τὸ μὴ θαυμάζειν πῶς ποτε μικρὸν μὲν μόριον τῆς γῆς, ἂν μετεωρισθὲν ἀφεθῇ, φέρεται καὶ μένειν οὐκ ἐθέλει, καὶ τὸ πλεῖον ἀεὶ θᾶττον, πᾶσαν δὲ τὴν γῆν εἴ τις ἀφείη μετεωρίσας, οὐκ ἂν φέροιτο. Νῦν δ’ ἠρεμεῖ τοσοῦτον βάρος. Ἀλλὰ μὴν κἂν εἴ τις τῶν φερομένων μορίων αὐτῆς, πρὶν πεσεῖν, ὑφαιροίη τὴν γῆν, οἰσθήσεται κάτω μηθενὸς ἀντερείσαντος.

Ὥστε τὸ μὲν ἀπορεῖν εἰκότως ἐγένετο φιλοσόφημα πᾶσιν· τὸ δὲ τὰς περὶ τούτου λύσεις μὴ μᾶλλον ἀτόπους εἶναι δοκεῖν τῆς ἀπορίας, θαυμάσειεν ἄν τις. Οἱ μὲν γὰρ διὰ ταῦτα ἄπειρον τὸ κάτω τῆς γῆς εἶναί φασιν, ἐπ’ ἄπειρον αὐτὴν ἐρριζῶσθαι λέγοντες, ὥσπερ Ξενοφάνης ὁ Κολοφώνιος, ἵνα μὴ πράγματ’ ἔχωσι ζητοῦντες τὴν αἰτίαν· διὸ καὶ Ἐμπεδοκλῆς οὕτως ἐπέπληξεν, εἰπὼν ὡς εἴ περ ἀπείρονα γῆς τε βάθη καὶ δαψιλὸς αἰθήρ, ὡς διὰ πολλῶν δὴ γλώσσης ῥηθέντα ματαίως ἐκκέχυται στομάτων, ὀλίγον τοῦ παντὸς ἰδόντων.

Οἱ δ’ ἐφ’ ὕδατος κεῖσθαι. Τοῦτον γὰρ ἀρχαιότατον παρειλήφαμεν τὸν λόγον, ὅν φασιν εἰπεῖν Θαλῆν τὸν Μιλήσιον, ὡς διὰ τὸ πλωτὴν εἶναι μένουσαν ὥσπερ ξύλον ἤ τι τοιοῦτον ἕτερον (καὶ γὰρ τούτων ἐπ’ ἀέρος μὲν οὐθὲν πέφυκε μένειν, ἀλλ’ ἐφ’ ὕδατος), ὥσπερ οὐ τὸν αὐτὸν λόγον ὄντα περὶ τῆς γῆς καὶ τοῦ ὕδατος τοῦ ὀχοῦντος τὴν γῆν· οὐδὲ γὰρ τὸ ὕδωρ πέφυκε μένειν μετέωρον, ἀλλ’ ἐπί τινός (294b.) ἐστιν.

Ἔτι δ’ ὥσπερ ἀὴρ ὕδατος κουφότερον, καὶ γῆς ὕδωρ· ὥστε πῶς οἷόν τε τὸ κουφότερον κατωτέρω κεῖσθαι τοῦ βαρυτέρου τὴν φύσιν; Ἔτι δ’ εἴπερ ὅλη πέφυκε μένειν ἐφ’ ὕδατος, δῆλον ὅτι καὶ τῶν μορίων ἕκαστον· νῦν δ’ οὐ φαίνεται τοῦτο γιγνόμενον, ἀλλὰ τὸ τυχὸν μόριον φέρεται εἰς βυθόν, καὶ θᾶττον τὸ μεῖζον.

Ἀλλ’ ἐοίκασι μέχρι τινὸς ζητεῖν, ἀλλ’ οὐ μέχρι περ οὗ δυνατὸν τῆς ἀπορίας. Πᾶσι γὰρ ἡμῖν τοῦτο σύνηθες, μὴ πρὸς τὸ πρᾶγμα ποιεῖσθαι τὴν ζήτησιν ἀλλὰ πρὸς τὸν τἀναντία λέγοντα· καὶ γὰρ αὐτὸς ἐν αὑτῷ ζητεῖ μέχρι περ ἂν οὗ μηκέτι ἔχῃ ἀντιλέγειν αὐτὸς αὑτῷ. Διὸ δεῖ τὸν μέλλοντα καλῶς ζητήσειν ἐνστατικὸν εἶναι διὰ τῶν οἰκείων ἐνστάσεων τῷ γένει, τοῦτο δ’ ἐστὶν ἐκ τοῦ πάσας τεθεωρηκέναι τὰς διαφοράς.

Ἀναξιμένης δὲ καὶ Ἀναξαγόρας καὶ Δημόκριτος τὸ πλάτος αἴτιον εἶναί φασι τοῦ μένειν αὐτήν. Οὐ γὰρ τέμνειν ἀλλ’ ἐπιπωμάζειν τὸν ἀέρα τὸν κάτωθεν, ὅπερ φαίνεται τὰ πλάτος ἔχοντα τῶν σωμάτων ποιεῖν· ταῦτα γὰρ καὶ πρὸς τοὺς ἀνέμους ἔχει δυσκινήτως διὰ τὴν ἀντέρεισιν. Ταὐτὸ δὴ τοῦτο ποιεῖν τῷ πλάτει φασὶ τὴν γῆν πρὸς τὸν ὑποκείμενον ἀέρα, (τὸν δ’ οὐκ ἔχοντα μεταστῆναι τόπον ἱκανὸν ἀθρόως [τῷ] κάτωθεν ἠρεμεῖν,) ὥσπερ τὸ ἐν ταῖς κλεψύδραις ὕδωρ. Ὅτι δὲ δύναται πολὺ βάρος φέρειν ἀπολαμβανόμενος καὶ μένων ὁ ἀήρ, τεκμήρια πολλὰ λέγουσιν. Πρῶτον μὲν οὖν εἰ μὴ πλατὺ τὸ σχῆμα τῆς γῆς ἐστι, διὰ τοῦτο μὲν οὐκ ἂν ἠρεμοῖ. Καίτοι τῆς μονῆς οὐ τὸ πλάτος αἴτιον ἐξ ὧν λέγουσιν, ἀλλὰ τὸ μέγεθος μᾶλλον· διὰ γὰρ τὴν στενοχωρίαν οὐκ ἔχων τὴν πάροδον ὁ ἀὴρ μένει διὰ τὸ πλῆθος· πολὺς δ’ ἐστὶ διὰ τὸ ὑπὸ μεγέθους πολλοῦ ἐναπολαμβάνεσθαι τοῦ τῆς γῆς. Ὥστε τοῦτο μὲν ὑπάρξει, κἂν σφαιροειδὴς μὲν ᾖ, τηλικαύτη δὲ τὸ μέγεθος· μενεῖ γὰρ κατὰ τὸν ἐκείνων λόγον.

Ὅλως δὲ πρὸς τοὺς οὕτω λέγοντας περὶ τῆς κινήσεως οὐ περὶ μορίων ἐστὶν ἡ ἀμφισβήτησις, ἀλλὰ περὶ ὅλου τινὸς καὶ παντός. Ἐξ ἀρχῆς γὰρ διοριστέον πότερόν ἐστί τις τοῖς σώμασι φύσει κίνησις ἢ οὐδεμία, καὶ πότερον φύσει μὲν οὐκ ἔστι, βίᾳ δ’ ἔστιν. Ἐπεὶ δὲ (295a.) περὶ τούτων διώρισται πρότερον ὅσα κατὰ τὴν παροῦσαν δύναμιν εἴχομεν, χρηστέον ὡς ὑπάρχουσιν.

Εἰ γὰρ μηδεμία φύσει κίνησίς ἐστιν αὐτῶν, οὐδὲ βίαιος ἔσται· εἰ δὲ μή ἐστι μήτε φύσει μήτε βίᾳ, ὅλως οὐδὲν κινηθήσεται· περὶ γὰρ τούτων ὅτι ἀναγκαῖον συμβαίνειν, διώρισται πρότερον, καὶ πρὸς τούτοις ὅτι οὐδ' ἠρεμεῖν ἐνδέχεται· ὥσπερ γὰρ κίνησις ὑπάρχει ἢ βίᾳ ἢ φύσει, οὕτω καὶ ἠρεμία.

Ἀλλὰ μὴν εἴ γέ ἐστι κίνησίς τις κατὰ φύσιν, οὐκ ἂν ἡ βίαιος εἴη φορὰ μόνον οὐδ' ἠρέμησις· ὥστ' εἰ βίᾳ νῦν ἡ γῆ μένει, καὶ συνῆλθεν ἐπὶ τὸ μέσον φερομένη διὰ τὴν δίνησιν· ταύτην γὰρ τὴν αἰτίαν πάντες λέγουσιν ἐκ τῶν ἐν τοῖς ὑγροῖς καὶ περὶ τὸν ἀέρα συμβαινόντων· ἐν τούτοις γὰρ ἀεὶ φέρεται τὰ μείζω καὶ βαρύτερα πρὸς τὸ μέσον τῆς δίνης. Διὸ δὴ τὴν γῆν πάντες ὅσοι τὸν οὐρανὸν γεννῶσιν, ἐπὶ τὸ μέσον συνελθεῖν φασίν· ὅτι δὲ μένει, ζητοῦσι τὴν αἰτίαν, καὶ λέγουσιν οἱ μὲν τοῦτον τὸν τρόπον, ὅτι τὸ πλάτος καὶ τὸ μέγεθος αὐτῆς αἴτιον, οἱ δ' ὥσπερ Ἐμπεδοκλῆς, τὴν τοῦ οὐρανοῦ φορὰν κύκλῳ περιθέουσαν καὶ θᾶττον φερομένην ἢ τὴν τῆς γῆς φορὰν κωλύειν, καθάπερ τὸ ἐν τοῖς κυάθοις ὕδωρ· καὶ γὰρ τοῦτο κύκλῳ τοῦ κυάθου φερομένου πολλάκις κάτω τοῦ χαλκοῦ γινόμενον ὅμως οὐ φέρεται κάτω, πεφυκὸς φέρεσθαι, διὰ τὴν αὐτὴν αἰτίαν. Καίτοι μήτε τῆς δίνης κωλυούσης μήτε τοῦ πλάτους, ἀλλ' ὑπείκοντος τοῦ ἀέρος, ποῖ ποτ' οἰσθήσεται; Πρὸς μὲν γὰρ τὸ μέσον βίᾳ, καὶ μένει βίᾳ· κατὰ φύσιν δέ γε ἀναγκαῖον εἶναί τινα αὐτῆς φοράν. Αὕτη οὖν πότερον ἄνω ἢ κάτω, ἢ ποῦ ἐστιν; Εἶναι μὲν γάρ τινα ἀναγκαῖον· εἰ δὲ μηδὲν μᾶλλον κάτω ἢ ἄνω, ὁ δ' ἄνω ἀὴρ μὴ κωλύει τὴν ἄνω φοράν, οὐδ' ἂν ὁ ὑπὸ τῇ γῇ κωλύοι τὴν κάτω· τὰ γὰρ αὐτὰ τῶν αὐτῶν ἀναγκαῖον εἶναι αἴτια τοῖς αὐτοῖς.

Ἔτι δὲ πρὸς Ἐμπεδοκλέα κἂν ἐκεῖνό τις εἴπειεν. Ὅτε γὰρ τὰ στοιχεῖα διειστήκει χωρὶς ὑπὸ τοῦ νείκους, τίς αἰτία τῇ γῇ τῆς μονῆς ἦν; Οὐ γὰρ δὴ καὶ τότε αἰτιάσεται τὴν δίνην. Ἄτοπον δὲ καὶ τὸ μὴ συννοεῖν ὅτι πρότερον μὲν διὰ τὴν δίνησιν ἐφέρετο τὰ μόρια τῆς γῆς πρὸς τὸ μέσον· νῦν δὲ διὰ τίν' αἰτίαν πάντα τὰ βάρος ἔχοντα φέρεται πρὸς αὐτήν; Οὐ γὰρ ἥ γε δίνη πλησιά(295b.) ζει πρὸς ἡμᾶς. Ἔτι δὲ καὶ τὸ πῦρ ἄνω φέρεται διὰ τίν' αἰτίαν; Οὐ γὰρ διά γε τὴν δίνην. Εἰ δὲ τοῦτο φέρεσθαί που πέφυκεν, δῆλον ὅτι καὶ τὴν γῆν οἰητέον. Ἀλλὰ μὴν οὐδὲ τῇ δίνῃ γε τὸ βαρὺ καὶ κοῦφον ὥρισται, ἀλλὰ τῶν πρότερον ὑπαρχόντων βαρέων καὶ κούφων τὰ μὲν εἰς τὸ μέσον ἔρχεται, τὰ δ' ἐπιπολάζει διὰ τὴν κίνησιν. Ἦν ἄρα καὶ πρὶν γενέσθαι τὴν δίνην τὸ μὲν βαρὺ τὸ δὲ κοῦφον, ἃ τίνι διώριστο καὶ πῶς ἐπεφύκει φέρεσθαι ἢ ποῦ; ἀπείρου γὰρ ὄντος ἀδύνατον εἶναι ἄνω ἢ κάτω, διώρισται δὲ τούτοις τὸ βαρὺ καὶ κοῦφον.

Οἱ μὲν οὖν πλεῖστοι περὶ τὰς αἰτίας ταύτας διατρίβουσιν· εἰσὶ δέ τινες οἳ διὰ τὴν ὁμοιότητά φασιν αὐτὴν μένειν, ὥσπερ τῶν ἀρχαίων Ἀναξίμανδρος· μᾶλλον μὲν γὰρ οὐθὲν ἄνω ἢ κάτω ἢ εἰς τὰ πλάγια φέρεσθαι προσήκει τὸ ἐπὶ τοῦ μέσου ἱδρυμένον καὶ ὁμοίως πρὸς τὰ ἔσχατα ἔχον· ἅμα δ’ ἀδύνατον εἰς τὸ ἐναντίον ποιεῖσθαι τὴν κίνησιν· ὥστ’ ἐξ ἀνάγκης μένειν.

Τοῦτο δὲ λέγεται κομψῶς μέν, οὐκ ἀληθῶς δέ· κατὰ γὰρ τοῦτον τὸν λόγον ἀναγκαῖον ἅπαν ὅ τι ἂν τεθῇ ἐπὶ τοῦ μέσου, μένειν, ὥστε καὶ τὸ πῦρ ἠρεμήσει· τὸ γὰρ εἰρημένον οὐκ ἴδιόν ἐστι τῆς γῆς. Ἀλλὰ μὴν οὐκ ἀναγκαῖον. Οὐ γὰρ μόνον φαίνεται μένουσα ἐπὶ τοῦ μέσου, ἀλλὰ καὶ φερομένη πρὸς τὸ μέσον. Ὅπου γὰρ ὁτιοῦν φέρεται μόριον αὐτῆς, ἀναγκαῖον ἐνταῦθα φέρεσθαι καὶ τὴν ὅλην· οὗ δὲ φέρεται κατὰ φύσιν, καὶ μένει ἐνταυθοῖ κατὰ φύσιν. Οὐκ ἄρα διὰ τὸ ὁμοίως ἔχειν πρὸς τὰ ἔσχατα· τοῦτο μὲν γὰρ πᾶσι κοινόν, τὸ δὲ φέρεσθαι πρὸς τὸ μέσον ἴδιον τῆς γῆς.

Ἄτοπον δὲ καὶ τοῦτο μὲν ζητεῖν, διὰ τί ποτε μένει ἡ γῆ ἐπὶ τοῦ μέσου, τὸ δὲ πῦρ μὴ ζητεῖν διὰ τί ἐπὶ τοῦ ἐσχάτου. Εἰ μὲν γὰρ κἀκείνῳ φύσει τόπος ὁ ἔσχατος, δῆλον ὅτι ἀναγκαῖον εἶναί τινα καὶ τῇ γῇ φύσει τόπον· εἰ δὲ μὴ ταύτῃ οὗτος ὁ τόπος, ἀλλὰ διὰ τὴν ἀνάγκην μένει τὴν τῆς ὁμοιότητος (ὥσπερ ὁ περὶ τῆς τριχὸς λόγος τῆς ἰσχυρῶς μὲν ὁμοίως δὲ πάντῃ τεινομένης, ὅτι οὐ διαρραγήσεται, καὶ τοῦ πεινῶντος καὶ διψῶντος σφόδρα μέν, ὁμοίως δέ, καὶ τῶν ἐδωδίμων καὶ ποτῶν ἴσον ἀπέχοντος· καὶ γὰρ τοῦτον ἠρεμεῖν ἀναγκαῖον), ζητητέον αὐτοῖς περὶ τῆς τοῦ πυρὸς μονῆς ἐπὶ τῶν ἐσχάτων.

(296a.) Θαυμαστὸν δὲ καὶ τὸ περὶ μὲν τῆς μονῆς ζητεῖν, περὶ δὲ τῆς φορᾶς αὐτῶν μὴ ζητεῖν, διὰ τίν’ αἰτίαν τὸ μὲν ἄνω φέρεται, τὸ δ’ ἐπὶ τὸ μέσον, μηδενὸς ἐμποδίζοντος.

Ἀλλὰ μὴν οὐδ’ ἀληθές ἐστι τὸ λεγόμενον. Κατὰ συμβεβηκὸς μέντοι τοῦτό γ’ ἀληθές, ὡς ἀναγκαῖον μένειν ἐπὶ τοῦ μέσου πᾶν ᾧ μηθὲν μᾶλλον δεῦρο ἢ δεῦρο κινεῖσθαι προσήκει. Ἀλλὰ διά γε τοῦτον τὸν λόγον οὐ μενεῖ, ἀλλὰ κινηθήσεται, οὐ μέντοι ὅλον, ἀλλὰ διεσπασμένον. Ὁ γὰρ αὐτὸς ἁρμόσει λόγος καὶ ἐπὶ τοῦ πυρός· ἀνάγκη γὰρ τεθὲν μένειν ὁμοίως ὥσπερ τὴν γῆν· ὁμοίως γὰρ ἕξει πρὸς τῶν σημείων τῶν ἐσχάτων ὁτιοῦν· ἀλλ’ ὅμως οἰσθήσεται ἀπὸ τοῦ μέσου, ὥσπερ καὶ φαίνεται φερόμενον, ἂν μή τι κωλύῃ, πρὸς τὸ ἔσχατον· πλὴν οὐχ ὅλον πρὸς ἓν σημεῖον (τοῦτο γὰρ ἀναγκαῖον μόνον συμβαίνειν ἐκ τοῦ λόγου τοῦ περὶ τῆς ὁμοιότητος) ἀλλὰ τὸ ἀνάλογον μόριον πρὸς τὸ ἀνάλογον τοῦ ἐσχάτου, λέγω δ’ οἷον τὸ τέταρτον μέρος πρὸς τὸ τέταρτον μέρος τοῦ περιέχοντος· οὐθὲν γὰρ στιγμὴ τῶν σωμάτων ἐστίν.

Ὥσπερ δὲ κἂν ἐκ μεγάλου συνέλθοι πυκνούμενον εἰς ἐλάττω τόπον, οὕτω κἂν ἐξ ἐλάττονος εἰς μείζω μανότερον γιγνόμενον· ὥστε κἂν ἡ γῆ τοῦτον τὸν τρόπον ἐκινεῖτο ἀπὸ τοῦ μέσου διά γε τὸν τῆς ὁμοιότητος λόγον, εἰ μὴ φύσει τῆς γῆς οὗτος ὁ τόπος ἦν. Ὅσα μὲν οὖν τυγχάνει περί τε τοῦ σχήματος αὐτῆς ὑπολαμβανόμενα καὶ περὶ τόπου καὶ μονῆς καὶ κινήσεως, σχεδὸν ταῦτ᾽ ἐστίν.

Κεφάλαιο 14

Ἡμεῖς δὲ λέγωμεν πρῶτον πότερον ἔχει κίνησιν ἢ μένει· καθάπερ γὰρ εἴπομεν, οἱ μὲν αὐτὴν ἓν τῶν ἄστρων εἶναι ποιοῦσιν, οἱ δ’ ἐπὶ τοῦ μέσου θέντες ἴλλεσθαι καὶ κινεῖσθαί φασι περὶ τὸν πόλον μέσον. Ὅτι δ’ ἐστὶν ἀδύνατον, δῆλον λαβοῦσιν ἀρχὴν ὡς εἴπερ φέρεται εἴτ’ ἐκτὸς οὖσα τοῦ μέσου εἴτ’ ἐπὶ τοῦ μέσου, ἀναγκαῖον αὐτὴν βίᾳ κινεῖσθαι ταύτην τὴν κίνησιν· οὐ γὰρ αὐτῆς γε τῆς γῆς ἐστιν· καὶ γὰρ ἂν τῶν μορίων ἕκαστον ταύτην εἶχε τὴν φοράν· νῦν δ’ ἐπ’ εὐθείας πάντα φέρεται πρὸς τὸ μέσον. Διόπερ οὐχ οἷόν τ’ ἀΐδιον εἶναι, βίαιόν γ’ οὖσαν καὶ παρὰ φύσιν· ἡ δέ γε τοῦ κόσμου τάξις ἀΐδιος.

Ἔτι πάντα τὰ φερόμενα τὴν φορὰν τὴν ἐγκύκλιον ὑπολειπόμενα φαίνεται καὶ κινούμενα πλείους (296b.) μιᾶς φορὰς ἔξω τῆς πρώτης, ὥστε καὶ τὴν γῆν ἀναγκαῖον, εἴτε περὶ τὸ μέσον εἴτ’ ἐπὶ τοῦ μέσου κειμένη φέρεται, δύο κινεῖσθαι φοράς. Τούτου δὲ συμβαίνοντος ἀναγκαῖον γίγνεσθαι πάροδον καὶ τροπὰς τῶν ἐνδεδεμένων ἄστρων. Τοῦτο δ’ οὐ φαίνεται γιγνόμενον, ἀλλ’ ἀεὶ ταὐτὰ κατὰ τοὺς αὐτοὺς ἀνατέλλει καὶ δύεται τόπους αὐτῆς. Ἔτι δ’ ἡ φορὰ τῶν μορίων καὶ ὅλης αὐτῆς ἡ κατὰ φύσιν ἐπὶ τὸ μέσον τοῦ παντός ἐστιν· διὰ τοῦτο γὰρ καὶ τυγχάνει κειμένη νῦν ἐπὶ τοῦ κέντρου· διαπορήσειε δ’ ἄν τις, ἐπεὶ ταὐτὸν ἀμφοτέρων ἐστὶ τὸ μέσον, πρὸς πότερον φέρεται τὰ βάρος ἔχοντα καὶ τὰ μόρια τῆς γῆς κατὰ φύσιν· πότερον ὅτι τοῦ παντός ἐστι μέσον, ἢ διότι τῆς γῆς. Ἀνάγκη δὴ πρὸς τὸ τοῦ παντός· καὶ γὰρ τὰ κοῦφα καὶ τὸ πῦρ εἰς τοὐναντίον φερόμενα τοῖς βάρεσι πρὸς τὸ ἔσχατον φέρεται τοῦ περιέχοντος τόπου τὸ μέσον. Συμβέβηκε δὲ ταὐτὸ μέσον εἶναι τῆς γῆς καὶ τοῦ παντός· φέρεται γὰρ καὶ ἐπὶ τὸ τῆς γῆς μέσον, ἀλλὰ κατὰ συμβεβηκός, ᾗ τὸ μέσον ἔχει ἐν τῷ τοῦ παντὸς μέσῳ. Ὅτι δὲ φέρεται καὶ πρὸς τὸ τῆς γῆς μέσον, σημεῖον ὅτι τὰ φερόμενα βάρη ἐπὶ ταύτην οὐ παρ’ ἄλληλα φέρεται ἀλλὰ πρὸς ὁμοίας γωνίας, ὥστε πρὸς ἓν τὸ μέσον φέρεται, καὶ τὸ τῆς γῆς.

Φανερὸν τοίνυν ὅτι ἀνάγκη ἐπὶ τοῦ μέσου εἶναι τὴν γῆν καὶ ἀκίνητον, διά τε τὰς εἰρημένας αἰτίας, καὶ διότι τὰ βίᾳ ῥιπτούμενα ἄνω βάρη κατὰ στάθμην πάλιν φέρεται εἰς ταὐτό, κἂν εἰς ἄπειρον ἡ δύναμις ἐκριπτῇ. Ὅτι μὲν οὖν οὔτε κινεῖται οὔτ’ ἐκτὸς κεῖται τοῦ μέσου, φανερὸν ἐκ τούτων· πρὸς δὲ τούτοις δῆλον ἐκ τῶν εἰρημένων τὸ αἴτιον τῆς μονῆς. Εἰ γὰρ φύσει πέφυκε φέρεσθαι πάντοθεν πρὸς τὸ μέσον, ὥσπερ φαίνεται, καὶ τὸ πῦρ ἀπὸ τοῦ μέσου πάλιν πρὸς τὸ ἔσχατον, ἀδύνατον ἐνεχθῆναι ὁτιοῦν μόριον αὐτῆς ἀπὸ τοῦ μέσου μὴ βιασθέν· μία γὰρ φορὰ τοῦ ἑνὸς καὶ ἁπλῆ τοῦ ἁπλοῦ, ἀλλ' οὐχ αἱ ἐναντίαι· ἡ δ' ἀπὸ τοῦ μέσου τῇ ἐπὶ τὸ μέσον ἐναντία. Εἰ τοίνυν ὁτιοῦν μόριον ἀδύνατον ἐνεχθῆναι ἀπὸ τοῦ μέσου, φανερὸν ὅτι καὶ τὴν ὅλην ἔτι ἀδυνατώτερον· εἰς ὃ γὰρ τὸ μόριον πέφυκε φέρεσθαι, καὶ τὸ ὅλον ἐνταῦθα πέφυκεν· ὥστ' (297a.) εἴπερ ἀδύνατον κινηθῆναι μὴ ὑπὸ κρείττονος ἰσχύος, ἀναγκαῖον ἂν εἴη μένειν αὐτὴν ἐπὶ τοῦ μέσου.

Μαρτυρεῖ δὲ τούτοις καὶ τὰ παρὰ τῶν μαθηματικῶν λεγόμενα περὶ τὴν ἀστρολογίαν· τὰ γὰρ φαινόμενα συμβαίνει μεταβαλλόντων τῶν σχημάτων οἷς ὥρισται τῶν ἄστρων ἡ τάξις, ὡς ἐπὶ τοῦ μέσου κειμένης τῆς γῆς.

Περὶ μὲν οὖν τοῦ τόπου καὶ μονῆς καὶ κινήσεως, ὃν τρόπον ἔχει, τοσαῦτα εἰρήσθω περὶ αὐτῆς.

Σχῆμα δ' ἔχειν σφαιροειδὲς ἀναγκαῖον αὐτήν· ἕκαστον γὰρ τῶν μορίων βάρος ἔχει μέχρι πρὸς τὸ μέσον, καὶ τὸ ἔλαττον ὑπὸ τοῦ μείζονος ὠθούμενον οὐχ οἷόν τε κυμαίνειν, ἀλλὰ συμπιέζεσθαι μᾶλλον καὶ συγχωρεῖν ἕτερον ἑτέρῳ, ἕως ἂν ἔλθῃ ἐπὶ τὸ μέσον. Δεῖ δὲ νοῆσαι τὸ λεγόμενον ὥσπερ ἂν εἰ γιγνομένης τὸν τρόπον ὃν καὶ τῶν φυσιολόγων λέγουσί τινες γενέσθαι. Πλὴν ἐκεῖνοι μὲν βίαν αἰτιῶνται τῆς κάτω φορᾶς· βέλτιον δὲ τιθέναι τἀληθές, καὶ φάναι τοῦτο συμβαίνειν διὰ τὸ φύσιν ἔχειν φέρεσθαι τὸ βάρος ἔχον πρὸς τὸ μέσον. Ἐν δυνάμει οὖν ὄντος τοῦ μίγματος τὰ διακρινόμενα ἐφέρετο ὁμοίως πάντοθεν πρὸς τὸ μέσον. Εἴτ' οὖν ὁμοίως ἀπὸ τῶν ἐσχάτων διῃρημένα τὰ μόρια συνήχθη πρὸς τὸ μέσον, εἴτ' ἄλλως ἔχοντα, ποιήσει ταὐτόν. Ὅτι μὲν οὖν ὁμοίως γε πανταχόθεν ἀπὸ τῶν ἐσχάτων φερομένων πρὸς ἓν μέσον ἀναγκαῖον ὅμοιον γίγνεσθαι πάντῃ τὸν ὄγκον, φανερόν· ἴσου γὰρ πάντῃ προστιθεμένου ἴσον ἀνάγκη ἀπέχειν τοῦ μέσου τὸ ἔσχατον· τοῦτο δὲ τὸ σχῆμα σφαίρας ἐστίν. Οὐδὲν δὲ διοίσει πρὸς τὸν λόγον, οὐδ' εἰ μὴ πανταχόθεν ὁμοίως συνέθει πρὸς τὸ μέσον τὰ μόρια αὐτῆς. Τὸ γὰρ πλεῖον ἀεὶ τὸ πρὸ αὑτοῦ ἔλαττον προωθεῖν ἀναγκαῖον μέχρι τοῦ μέσου τὴν ῥοπὴν ἐχόντων ἀμφοῖν, καὶ τοῦ βαρυτέρου προωθοῦντος μέχρι τούτου τὸ ἔλαττον βάρος.

Ὃ γὰρ ἄν τις ἀπορήσειε, τὴν αὐτὴν ἔχει τούτοις λύσιν· εἰ γὰρ οὔσης ἐπὶ τοῦ μέσου καὶ σφαιροειδοῦς τῆς γῆς πολλαπλάσιον βάρος ἐπιγένοιτο πρὸς θάτερον ἡμισφαίριον, οὐκ ἔσται τὸ αὐτὸ μέσον τοῦ ὅλου καὶ τὸ τῆς γῆς· ὥστε ἢ οὐ μενεῖ ἐπὶ τοῦ μέσου, ἢ εἴπερ, ἠρεμήσει γε καὶ (297b.) μὴ τὸ μέσον ἔχουσα, ᾗ πέφυκε κινεῖσθαι καὶ νῦν.

Τὸ μὲν οὖν ἀπορούμενον τοῦτ’ ἔστιν· ἰδεῖν δ’ οὐ χαλεπὸν μικρὸν ἐπιτείναντας, καὶ διελόντας πῶς ἀξιοῦμεν ὁποσονοῦν μέγεθος φέρεσθαι πρὸς τὸ μέσον, βάρος ἔχον. Δῆλον γὰρ ὡς οὐχὶ μέχρι τοῦ ἅψασθαι τοῦ κέντρου τὸ ἔσχατον, ἀλλὰ δεῖ κρατεῖν τὸ πλέον ἕως ἂν λάβῃ τῷ αὑτοῦ μέσῳ τὸ μέσον· μέχρι τούτου γὰρ ἔχει τὴν ῥοπήν. Οὐδὲν τοίνυν τοῦτο διαφέρει λέγειν ἐπὶ βώλου καὶ μορίου τοῦ τυχόντος ἢ ἐπὶ ὅλης τῆς γῆς· οὐ γὰρ διὰ μικρότητα ἢ μέγεθος εἴρηται τὸ συμβαῖνον, ἀλλὰ κατὰ παντὸς τοῦ ῥοπὴν ἔχοντος ἐπὶ τὸ μέσον.

Ὥστε εἴτε ὅλη ποθὲν ἐφέρετο εἴτε κατὰ μέρος, ἀναγκαῖον μέχρι τούτου φέρεσθαι ἕως ἂν πανταχόθεν ὁμοίως λάβῃ τὸ μέσον, ἀνισαζομένων τῶν ἐλαττόνων ὑπὸ τῶν μειζόνων τῇ προώσει τῆς ῥοπῆς.

Εἴτ’ οὖν ἐγένετο, τοῦτον ἀναγκαῖον γενέσθαι τὸν τρόπον, ὥστε φανερὸν ὅτι σφαιροειδὴς ἡ γένεσις αὐτῆς, εἴτ’ ἀγένητος ἀεὶ διατελεῖ μένουσα, τὸν αὐτὸν τρόπον ἔχειν ὅνπερ κἂν εἰ γιγνομένη τὸ πρῶτον ἐγένετο.

Κατὰ τοῦτόν τε δὴ τὸν λόγον ἀναγκαῖον εἶναι τὸ σχῆμα σφαιροειδὲς αὐτῆς, καὶ ὅτι πάντα φέρεται τὰ βαρέα πρὸς ὁμοίας γωνίας, ἀλλ’ οὐ παρ’ ἄλληλα· τοῦτο δὲ πέφυκε πρὸς τὸ φύσει σφαιροειδές. Ἢ οὖν ἐστι σφαιροειδής, ἢ φύσει γε σφαιροειδής. Δεῖ δ’ ἕκαστον λέγειν τοιοῦτον εἶναι ὃ φύσει βούλεται εἶναι καὶ ὑπάρχειν, ἀλλὰ μὴ ὃ βίᾳ καὶ παρὰ φύσιν.

Ἔτι δὲ καὶ διὰ τῶν φαινομένων κατὰ τὴν αἴσθησιν· οὔτε γὰρ ἂν αἱ τῆς σελήνης ἐκλείψεις τοιαύτας ἂν εἶχον τὰς ἀποτομάς· νῦν γὰρ ἐν μὲν τοῖς κατὰ μῆνα σχηματισμοῖς πάσας λαμβάνει τὰς διαιρέσεις (καὶ γὰρ εὐθεῖα γίνεται καὶ ἀμφίκυρτος καὶ κοίλη), περὶ δὲ τὰς ἐκλείψεις ἀεὶ κυρτὴν ἔχει τὴν ὁρίζουσαν γραμμήν, ὥστ’ ἐπείπερ ἐκλείπει διὰ τὴν τῆς γῆς ἐπιπρόσθησιν, ἡ τῆς γῆς ἂν εἴη περιφέρεια τοῦ σχήματος αἰτία σφαιροειδὴς οὖσα. Ἔτι δὲ διὰ τῆς τῶν ἄστρων φαντασίας οὐ μόνον φανερὸν ὅτι περιφερής, ἀλλὰ καὶ τὸ μέγεθος οὐκ οὖσα μεγάλη· μικρᾶς γὰρ γιγνομένης μεταστάσεως ἡμῖν πρὸς μεσημβρίαν καὶ ἄρκτον ἐπιδήλως ἕτερος γίγνεται ὁ ὁρίζων κύκλος, ὥστε τὰ (298a.) ὑπὲρ κεφαλῆς ἄστρα μεγάλην ἔχειν τὴν μεταβολήν, καὶ μὴ ταὐτὰ φαίνεσθαι πρὸς ἄρκτον τε καὶ μεσημβρίαν μεταβαίνουσιν· ἔνιοι γὰρ ἐν Αἰγύπτῳ μὲν ἀστέρες ὁρῶνται καὶ περὶ Κύπρον, ἐν τοῖς πρὸς ἄρκτον δὲ χωρίοις οὐχ ὁρῶνται, καὶ τὰ διὰ παντὸς ἐν τοῖς πρὸς ἄρκτον φαινόμενα τῶν ἄστρων ἐν ἐκείνοις τοῖς τόποις ποιεῖται δύσιν. Ὥστ’ οὐ μόνον ἐκ τούτων δῆλον περιφερὲς ὂν τὸ σχῆμα τῆς γῆς, ἀλλὰ καὶ σφαίρας οὐ μεγάλης· οὐ γὰρ ἂν οὕτω ταχὺ ἐπίδηλον ἐποίει μεθισταμένοις οὕτω βραχύ.

Διὸ τοὺς ὑπολαμβάνοντας συνάπτειν τὸν περὶ τὰς Ἡρακλείας στήλας

τόπον τῷ περὶ τὴν Ἰνδικήν, καὶ τοῦτον τὸν τρόπον εἶναι τὴν θάλατταν μίαν, μὴ λίαν ὑπολαμβάνειν ἄπιστα δοκεῖν· λέγουσι δὲ τεκμαιρόμενοι καὶ τοῖς ἐλέφασιν, ὅτι περὶ ἀμφοτέρους τοὺς τόπους τοὺς ἐσχάτους ὄντας τὸ γένος αὐτῶν ἐστιν, ὡς τῶν ἐσχάτων διὰ τὸ συνάπτειν ἀλλήλοις τοῦτο πεπονθότων.

Καὶ τῶν μαθηματικῶν δὲ ὅσοι τὸ μέγεθος ἀναλογίζεσθαι πειρῶνται τῆς περιφερείας, εἰς τετταράκοντα λέγουσιν εἶναι μυριάδας.

Ἐξ ὧν τεκμαιρομένοις οὐ μόνον σφαιροειδῆ τὸν ὄγκον ἀναγκαῖον εἶναι τῆς γῆς, ἀλλὰ καὶ μὴ μέγαν πρὸς τὸ τῶν ἄλλων ἄστρων μέγεθος.

Βιβλίο 3

Κεφάλαιο 1

Περὶ μὲν οὖν τοῦ πρώτου οὐρανοῦ καὶ τῶν μερῶν, ἔτι δὲ περὶ τῶν ἐν αὐτῷ φερομένων ἄστρων, ἐκ τίνων τε συνεστᾶσι καὶ ποῖ’ ἄττα τὴν φύσιν ἐστί, πρὸς δὲ τούτοις ὅτι ἀγένητα καὶ ἄφθαρτα, διεληλύθαμεν πρότερον. Ἐπεὶ δὲ τῶν φύσει λεγομένων τὰ μέν ἐστιν οὐσίαι, τὰ δ’ ἔργα καὶ πάθη τούτων (λέγω δ’ οὐσίας μὲν τά τε ἁπλᾶ σώματα, οἷον πῦρ καὶ γῆν καὶ τὰ σύστοιχα τούτοις, καὶ ὅσα ἐκ τούτων, οἷον τόν τε σύνολον οὐρανὸν καὶ τὰ μόρια αὐτοῦ, καὶ πάλιν τά τε ζῷα καὶ τὰ φυτὰ καὶ τὰ μόρια τούτων, πάθη δὲ καὶ ἔργα τάς τε κινήσεις τὰς τούτων ἑκάστου καὶ τῶν ἄλλων, ὅσων ἐστὶν αἴτια ταῦτα κατὰ τὴν δύναμιν τὴν ἑαυτῶν, ἔτι δὲ τὰς ἀλ(298b.) λοιώσεις καὶ τὰς εἰς ἄλληλα μεταβάσεις), φανερὸν ὅτι τὴν πλείστην συμβαίνει τῆς περὶ φύσεως ἱστορίας περὶ σωμάτων εἶναι· πᾶσαι γὰρ αἱ φυσικαὶ οὐσίαι ἢ σώματα ἢ μετὰ σωμάτων γίγνονται καὶ μεγεθῶν. Τοῦτο δὲ δῆλον ἔκ τε τοῦ διωρίσθαι τὰ ποῖά ἐστι φύσει, καὶ ἐκ τῆς καθ’ ἕκαστα θεωρίας.

Περὶ μὲν οὖν τοῦ πρώτου τῶν στοιχείων εἴρηται, καὶ ποῖόν τι τὴν φύσιν, καὶ ὅτι ἄφθαρτον καὶ ἀγένητον· λοιπὸν δὲ περὶ τοῖν δυοῖν εἰπεῖν. Ἅμα δὲ συμβήσεται περὶ τούτων λέγουσι καὶ περὶ γενέσεως καὶ φθορᾶς διασκέψασθαι· γένεσις γὰρ ἤτοι τὸ παράπαν οὐκ ἔστιν, ἢ μόνον ἐν τούτοις τοῖς στοιχείοις καὶ τοῖς ἐκ τούτων ἐστίν. Αὐτὸ δὲ τοῦτο πρῶτον ἴσως θεωρητέον, πότερον ἔστιν ἢ οὐκ ἔστιν.

Οἱ μὲν οὖν πρότερον φιλοσοφήσαντες περὶ τῆς ἀληθείας καὶ πρὸς οὓς νῦν λέγομεν ἡμεῖς λόγους καὶ πρὸς ἀλλήλους διηνέχθησαν.

Οἱ μὲν γὰρ αὐτῶν ὅλως ἀνεῖλον γένεσιν καὶ φθοράν· οὐθὲν γὰρ οὔτε γίγνεσθαί φασιν οὔτε φθείρεσθαι τῶν ὄντων, ἀλλὰ μόνον δοκεῖν ἡμῖν, οἷον οἱ περὶ Μέλισσόν τε καὶ Παρμενίδην, οὕς, εἰ καὶ τἆλλα λέγουσι καλῶς, ἀλλ’ οὐ φυσικῶς γε δεῖ νομίσαι λέγειν· τὸ γὰρ εἶναι ἄττα τῶν ὄντων ἀγένητα καὶ ὅλως ἀκίνητα μᾶλλόν ἐστιν ἑτέρας καὶ προτέρας ἢ τῆς φυσικῆς σκέψεως.

Ἐκεῖνοι δὲ διὰ τὸ μηθὲν μὲν ἄλλο παρὰ τὴν τῶν αἰσθητῶν οὐσίαν ὑπολαμβάνειν εἶναι, τοιαύτας δέ τινας νοῆσαι πρῶτοι φύσεις, εἴπερ ἔσται τις γνῶσις ἢ φρόνησις, οὕτω μετήνεγκαν ἐπὶ ταῦτα τοὺς ἐκεῖθεν λόγους. Ἕτεροι δέ τινες ὥσπερ ἐπίτηδες τὴν ἐναντίαν τούτοις ἔσχον δόξαν. Εἰσὶ γάρ τινες οἵ φασιν οὐθὲν ἀγένητον εἶναι τῶν πραγμάτων, ἀλλὰ πάντα γίγνεσθαι, γενόμενα δὲ τὰ μὲν ἄφθαρτα διαμένειν, τὰ δὲ πάλιν φθείρεσθαι, μάλιστα μὲν οἱ περὶ Ἡσίοδον, εἶτα καὶ τῶν ἄλλων οἱ πρῶτοι φυσιολογήσαντες.

Οἱ δὲ τὰ μὲν ἄλλα πάντα γίνεσθαί φασι καὶ ῥεῖν, εἶναι δὲ παγίως οὐθέν, ἓν δέ τι μόνον ὑπομένειν, ἐξ οὗ ταῦτα πάντα μετασχηματίζεσθαι πέφυκεν· ὅπερ ἐοίκασι βούλεσθαι λέγειν ἄλλοι τε πολλοὶ καὶ Ἡράκλειτος ὁ Ἐφέσιος. Εἰσὶ δέ τινες καὶ οἳ πᾶν σῶμα γενητὸν ποιοῦσι, συντιθέντες καὶ διαλύοντες εἰς (299a.) ἐπίπεδα καὶ ἐξ ἐπιπέδων.

Περὶ μὲν οὖν τῶν ἄλλων ἕτερος ἔστω λόγος· τοῖς δὲ τοῦτον τὸν τρόπον λέγουσι καὶ πάντα τὰ σώματα συνιστᾶσιν ἐξ ἐπιπέδων ὅσα μὲν ἄλλα συμβαίνει λέγειν ὑπεναντία τοῖς μαθήμασιν, ἐπιπολῆς ἰδεῖν· καίτοι δίκαιον ἢ μὴ κινεῖν ἢ πιστοτέροις αὐτὰ λόγοις κινεῖν τῶν ὑποθέσεων. Ἔπειτα δῆλον ὅτι τοῦ αὐτοῦ λόγου ἐστὶ στερεὰ μὲν ἐξ ἐπιπέδων συγκεῖσθαι, ἐπίπεδα δ’ ἐκ γραμμῶν, ταύτας δ’ ἐκ στιγμῶν· οὕτω δ’ ἐχόντων οὐκ ἀνάγκη τὸ τῆς γραμμῆς μέρος γραμμὴν εἶναι· περὶ δὲ τούτων ἐπέσκεπται πρότερον ἐν τοῖς περὶ κινήσεως λόγοις, ὅτι οὐκ ἔστιν ἀδιαίρετα μήκη.

Ὅσα δὲ περὶ τῶν φυσικῶν σωμάτων ἀδύνατα συμβαίνει λέγειν τοῖς ποιοῦσι τὰς ἀτόμους γραμμάς, ἐπὶ μικρὸν θεωρήσωμεν καὶ νῦν· τὰ μὲν γὰρ ἐπ’ ἐκείνων ἀδύνατα συμβαίνοντα καὶ τοῖς φυσικοῖς ἀκολουθήσει, τὰ δὲ τούτοις ἐπ’ ἐκείνων οὐχ ἅπαντα διὰ τὸ τὰ μὲν ἐξ ἀφαιρέσεως λέγεσθαι, τὰ μαθηματικά, τὰ δὲ φυσικὰ ἐκ προσθέσεως. Πολλὰ δ’ ἐστὶν ἃ τοῖς ἀδιαιρέτοις οὐχ οἷόν τε ὑπάρχειν, τοῖς δὲ φυσικοῖς ἀναγκαῖον. [Οἷον εἴ τί ἐστιν ἀδιαίρετον·] ἐν ἀδιαιρέτῳ γὰρ διαιρετὸν ἀδύνατον ὑπάρχειν, τὰ δὲ πάθη διαιρετὰ πάντα διχῶς· ἢ γὰρ κατ’ εἶδος ἢ κατὰ συμβεβηκός, κατ’ εἶδος μὲν οἷον χρώματος τὸ λευκὸν ἢ τὸ μέλαν, κατὰ συμβεβηκὸς δέ, ἂν ᾧ ὑπάρχει ᾖ διαιρετόν, ὥστε ὅσα ἁπλᾶ τῶν παθημάτων, πάντ’ ἐστὶ διαιρετὰ τοῦτον τὸν τρόπον. Διὸ τὸ ἀδύνατον ἐν τοῖς τοιούτοις ἐπισκεπτέον.

Εἰ δὴ τῶν ἀδυνάτων ἐστὶν ἑκατέρου μέρους μηδὲν ἔχοντος βάρος τὰ ἄμφω ἔχειν βάρος, τὰ δ’ αἰσθητὰ σώματα ἢ πάντα ἢ ἔνια βάρος ἔχει, οἷον ἡ γῆ καὶ τὸ ὕδωρ, ὡς κἂν αὐτοὶ φαῖεν, εἰ ἡ στιγμὴ μηδὲν ἔχει βάρος, δῆλον ὅτι οὐδ’ αἱ γραμμαί, εἰ δὲ μὴ αὗται, οὐδὲ τὰ ἐπίπεδα· ὥστ’ οὐδὲ τῶν σωμάτων οὐθέν.

Ἀλλὰ μὴν ὅτι τὴν στιγμὴν οὐχ οἷόν τε βάρος ἔχειν, φανερόν. Τὸ μὲν γὰρ βαρὺ ἅπαν καὶ βαρύτερον καὶ τὸ κοῦφον καὶ κουφότερον ἐνδέχε(299b.) ταί τινος εἶναι. Τὸ δὲ βαρύτερον ἢ κουφότερον ἴσως οὐκ ἀνάγκη βαρὺ ἢ κοῦφον εἶναι, ὥσπερ καὶ τὸ μὲν μέγα μεῖζον, τὸ δὲ μεῖζον οὐ πᾶν μέγα· πολλὰ γάρ ἐστιν ἃ μικρὰ ὄντα ἁπλῶς ὅμως μείζω ἑτέρων ἐστίν. Εἰ δὴ ὃ ἂν βαρὺ ὂν βαρύτερον ᾖ, ἀνάγκη βάρει μεῖζον εἶναι, τὸ βαρὺ ἅπαν διαιρετὸν ἂν εἴη. Ἡ δὲ στιγμὴ ἀδιαίρετον ὑπόκειται.

Ἔτι εἰ τὸ μὲν βαρὺ πυκνόν τι, τὸ δὲ κοῦφον μανόν, ἔστι δὲ πυκνὸν μανοῦ διαφέρον τῷ ἐν ἴσῳ ὄγκῳ πλεῖον ἐνυπάρχειν· εἰ οὖν ἐστι στιγμὴ βαρεῖα καὶ κούφη, ἔστι καὶ πυκνὴ καὶ μανή. Ἀλλὰ τὸ μὲν πυκνὸν διαιρετόν, ἡ δὲ στιγμὴ ἀδιαίρετος.

Εἰ δὲ πᾶν τὸ βαρὺ ἢ μαλακὸν ἢ σκληρὸν ἀνάγκη εἶναι, ῥᾴδιον ἐκ τούτων ἀδύνατόν τι συναγαγεῖν. Μαλακὸν μὲν γὰρ τὸ εἰς ἑαυτὸ ὑπεῖκον, σκληρὸν δὲ τὸ μὴ ὑπεῖκον· τὸ δὲ ὑπεῖκον διαιρετόν.

Ἀλλὰ μὴν οὐδ’ ἐκ μὴ ἐχόντων βάρος ἔσται βάρος. Καὶ γὰρ ἐπὶ πόσων συμβήσεται τοῦτο καὶ ἐπὶ ποίων; Ἢ πῶς διοριοῦσι μὴ βουλόμενοι πλάττειν; καὶ εἰ πᾶν μεῖζον βάρος βάρους βάρει, συμβήσεται καὶ ἕκαστον τῶν ἀβαρῶν βάρος ἔχειν· εἰ γὰρ αἱ τέτταρες στιγμαὶ βάρος ἔχουσι, τὸ δ’ ἐκ πλειόνων ἢ τοδὶ βαρέος ὄντος βαρύτερον, τὸ δὲ βαρέος βαρύτερον ἀνάγκη βάρει εἶναι, ὥσπερ καὶ τὸ λευκοῦ λευκότερον λευκῷ, ἔσται τὸ μεῖζον μιᾷ στιγμῇ βαρύτερον, ὥστε, ἀφαιρεθέντος τοῦ ἴσου, [ὥστε] καὶ ἡ μία στιγμὴ βάρος ἕξει.

Ἔτι εἰ μὲν τὰ ἐπίπεδα μόνον κατὰ γραμμὴν ἐνδέχεται συντίθεσθαι, ἄτοπον· ὥσπερ γὰρ γραμμὴ πρὸς γραμμὴν ἀμφοτέρως συντίθεται, καὶ κατὰ μῆκος καὶ κατὰ πλάτος, δεῖ καὶ ἐπίπεδον ἐπιπέδῳ τὸν αὐτὸν τρόπον. Γραμμὴ δὲ δύναται γραμμῇ συντίθεσθαι κατὰ γραμμὴν ἐπιτιθεμένη ἀλλ’ οὐ προστιθεμένη. Ἀλλὰ μὴν εἴ γε καὶ κατὰ πλάτος ἐνδέχεται συντίθεσθαι, ἔσται τι σῶμα ὃ οὔτε στοιχεῖον οὔτε ἐκ στοιχείων, συντιθέμενον ἐκ τῶν οὕτω συντιθεμένων ἐπιπέδων.

Ἔτι εἰ μὲν πλήθει βαρύτερα τὰ σώματα τῶν ἐπιπέδων, ὥσπερ ἐν τῷ (300a.) Τιμαίῳ διώρισται, δῆλον ὡς ἕξει καὶ ἡ γραμμὴ καὶ ἡ στιγμὴ βάρος· ἀνάλογον γὰρ πρὸς ἄλληλα ἔχουσιν, ὥσπερ καὶ πρότερον εἰρήκαμεν. Εἰ δὲ μὴ τοῦτον διαφέρει τὸν τρόπον ἀλλὰ τῷ τὴν μὲν γῆν εἶναι βαρὺ τὸ δὲ πῦρ κοῦφον, ἔσται καὶ τῶν ἐπιπέδων τὸ μὲν κοῦφον τὸ δὲ βαρύ. Καὶ τῶν γραμμῶν δὴ καὶ τῶν στιγμῶν ὡσαύτως· τὸ γὰρ τῆς γῆς ἐπίπεδον ἔσται βαρύτερον ἢ τὸ τοῦ πυρός. Ὅλως δὲ συμβαίνει ἢ μηδέν ποτ’ εἶναι μέγεθος, ἢ δύνασθαί γε ἀναιρεθῆναι, εἴπερ ὁμοίως ἔχει στιγμὴ μὲν πρὸς γραμμήν, γραμμὴ δὲ πρὸς ἐπίπεδον, τοῦτο δὲ πρὸς σῶμα· πάντα γὰρ εἰς ἄλληλα ἀναλυόμενα εἰς τὰ πρῶτα ἀναλυθήσεται· ὥστ’ ἐνδέχοιτ’ ἂν στιγμὰς μόνον εἶναι, σῶμα δὲ μηθέν.

Πρὸς δὲ τούτοις καὶ εἰ ὁ χρόνος ὁμοίως ἔχει, ἀναιροῖτ’ ἄν ποτε ἢ ἐνδέχοιτ’ ἂν ἀναιρεθῆναι· τὸ γὰρ νῦν τὸ ἄτομον οἷον στιγμὴ γραμμῆς ἐστιν.

Τὸ δ’ αὐτὸ συμβαίνει καὶ τοῖς ἐξ ἀριθμῶν συντιθεῖσι τὸν οὐρανόν· ἔνιοι γὰρ τὴν φύσιν ἐξ ἀριθμῶν συνιστᾶσιν, ὥσπερ τῶν Πυθαγορείων τινές· τὰ μὲν γὰρ φυσικὰ σώματα φαίνεται βάρος ἔχοντα καὶ κουφότητα, τὰς δὲ μονάδας οὔτε σώματα ποιεῖν οἷόν τε συντιθεμένας οὔτε βάρος ἔχειν.

Κεφάλαιο 2

Ὅτι δ᾽ ἀναγκαῖον ὑπάρχειν κίνησιν τοῖς ἁπλοῖς σώμασι φύσει τινὰ πᾶσιν, ἐκ τῶνδε δῆλον. Ἐπεὶ γὰρ κινούμενα φαίνεται, κινεῖσθαί γε ἀναγκαῖον βίᾳ, εἰ μὴ οἰκείαν ἔχει κίνησιν· τὸ δὲ βίᾳ καὶ παρὰ φύσιν ταὐτόν. Ἀλλὰ μὴν εἰ παρὰ φύσιν ἐστί τις κίνησις, ἀνάγκη εἶναι καὶ κατὰ φύσιν, παρ᾽ ἣν αὕτη· καὶ εἰ πολλαὶ αἱ παρὰ φύσιν, τὴν κατὰ φύσιν μίαν· κατὰ φύσιν μὲν γὰρ ἁπλῶς, παρὰ φύσιν δ᾽ ἔχει πολλὰς ἕκαστον.

Ἔτι δὲ καὶ ἐκ τῆς ἠρεμίας δῆλον· καὶ γὰρ ἠρεμεῖν ἀναγκαῖον ἢ βίᾳ ἢ κατὰ φύσιν· βίᾳ δὲ μένει οὗ καὶ φέρεται βίᾳ, καὶ κατὰ φύσιν οὗ κατὰ φύσιν.

Ἐπεὶ οὖν φαίνεταί τι μένον ἐπὶ τοῦ μέσου, εἰ μὲν κατὰ φύσιν, δῆλον ὅτι καὶ ἡ φορὰ ἡ ἐνταῦθα κατὰ φύσιν αὐτῷ· εἰ δὲ βίᾳ, τί τὸ φέρεσθαι κωλῦον; Εἰ μὲν ἠρεμοῦν, τὸν αὐτὸν κυκλήσομεν λόγον· ἀνάγκη γὰρ ἢ κατὰ φύσιν εἶναι τὸ (300b.) πρῶτον ἠρεμοῦν ἢ εἰς ἄπειρον ἰέναι, ὅπερ ἀδύνατον· εἰ δὲ κινούμενον τὸ κωλῦον φέρεσθαι, καθάπερ φησὶν Ἐμπεδοκλῆς τὴν γῆν ὑπὸ τῆς δίνης ἠρεμεῖν, ποῦ ἂν ἐφέρετο, ἐπειδὴ εἰς ἄπειρον ἀδύνατον; Οὐθὲν γὰρ γίγνεται ἀδύνατον, τὸ δ᾽ ἄπειρον διελθεῖν ἀδύνατον. Ὥστ᾽ ἀνάγκη στῆναί που τὸ φερόμενον, κἀκεῖ μὴ βίᾳ μένειν ἀλλὰ κατὰ φύσιν. Εἰ δ᾽ ἐστὶν ἠρεμία κατὰ φύσιν, ἔστι καὶ κίνησις κατὰ φύσιν, ἡ εἰς τοῦτον τὸν τόπον φορά. Διὸ καὶ Λευκίππῳ καὶ Δημοκρίτῳ, τοῖς λέγουσιν ἀεὶ κινεῖσθαι τὰ πρῶτα σώματα ἐν τῷ κενῷ καὶ τῷ ἀπείρῳ, λεκτέον τίνα κίνησιν καὶ τίς ἡ κατὰ φύσιν αὐτῶν κίνησις. Εἰ γὰρ ἄλλο ὑπ᾽ ἄλλου κινεῖται βίᾳ τῶν στοιχείων, ἀλλὰ καὶ κατὰ φύσιν ἀνάγκη τινὰ εἶναι κίνησιν ἑκάστου, παρ᾽ ἣν ἡ βίαιός ἐστιν· καὶ δεῖ τὴν πρώτην κινοῦσαν μὴ βίᾳ κινεῖν, ἀλλὰ κατὰ φύσιν· εἰς ἄπειρον γὰρ εἶσιν, εἰ μή τι ἔσται κατὰ φύσιν κινοῦν πρῶτον, ἀλλ᾽ ἀεὶ τὸ πρότερον βίᾳ κινούμενον κινήσει.

Τὸ αὐτὸ δὲ τοῦτο συμβαίνειν ἀναγκαῖον κἂν εἰ καθάπερ ἐν τῷ Τιμαίῳ γέγραπται, πρὶν γενέσθαι τὸν κόσμον ἐκινεῖτο τὰ στοιχεῖα ἀτάκτως. Ἀνάγκη γὰρ ἢ βίαιον εἶναι τὴν κίνησιν ἢ κατὰ φύσιν. Εἰ δὲ κατὰ φύσιν ἐκινεῖτο, ἀνάγκη κόσμον εἶναι, ἐάν τις βούληται θεωρεῖν ἐπιστήσας· τό τε γὰρ πρῶτον κινοῦν ἀνάγκη κινεῖν ἑαυτὸ κινούμενον κατὰ φύσιν, καὶ τὰ κινούμενα μὴ βίᾳ, ἐν τοῖς οἰκείοις ἠρεμοῦντα τόποις, ποιεῖν ἥνπερ ἔχουσι νῦν τάξιν, τὰ μὲν βάρος ἔχοντα ἐπὶ τὸ μέσον, τὰ δὲ κουφότητα ἔχοντα ἀπὸ τοῦ μέσου· ταύτην δ’ ὁ κόσμος ἔχει τὴν διάταξιν.

Ἔτι δὲ τοσοῦτον ἐπανέροιτ’ ἄν τις, πότερον οὐχ οἷόν τ’ ἦν κινούμενα ἀτάκτως καὶ μίγνυσθαι τοιαύτας μίξεις ἔνια, ἐξ ὧν συνίσταται τὰ κατὰ φύσιν συνιστάμενα σώματα, λέγω δ’ οἷον ὀστᾶ καὶ σάρκας, καθάπερ Ἐμπεδοκλῆς φησὶ γίνεσθαι ἐπὶ τῆς φιλότητος· λέγει γὰρ ὡς πολλαὶ μὲν κόρσαι ἀναύχενες ἐβλάστησαν.

Τοῖς δ’ ἄπειρα ἐν ἀπείρῳ τὰ κινούμενα ποιοῦσιν, εἰ μὲν ἓν τὸ κινοῦν, ἀνάγκη μίαν φέρεσθαι φοράν, ὥστ’ οὐκ ἀτάκτως κινηθήσεται, εἰ δ’ ἄπειρα τὰ (301a.) κινοῦντα, καὶ τὰς φορὰς ἀναγκαῖον ἀπείρους εἶναι· εἰ γὰρ πεπερασμέναι, τάξις τις ἔσται· οὐ γὰρ τῷ μὴ φέρεσθαι εἰς τὸ αὐτὸ ἡ ἀταξία συμβαίνει· οὐδὲ γὰρ νῦν εἰς τὸ αὐτὸ φέρεται πάντα, ἀλλὰ τὰ συγγενῆ μόνον.

Ἔτι τὸ ἀτάκτως οὐθέν ἐστιν ἕτερον ἢ τὸ παρὰ φύσιν· ἡ γὰρ τάξις ἡ οἰκεία τῶν αἰσθητῶν φύσις ἐστίν. Ἀλλὰ μὴν καὶ τοῦτο ἄτοπον καὶ ἀδύνατον, τὸ ἄπειρον ἄτακτον ἔχειν κίνησιν· ἔστι γὰρ φύσις ἐκείνη τῶν πραγμάτων οἵαν ἔχει τὰ πλείω καὶ τὸν πλείω χρόνον· συμβαίνει οὖν αὐτοῖς τοὐναντίον τὴν μὲν ἀταξίαν εἶναι κατὰ φύσιν, τὴν δὲ τάξιν καὶ τὸν κόσμον παρὰ φύσιν· καίτοι οὐδὲν ὡς ἔτυχε γίγνεται τῶν κατὰ φύσιν. Ἔοικε δὲ τοῦτό γε αὐτὸ καλῶς Ἀναξαγόρας λαβεῖν· ἐξ ἀκινήτων γὰρ ἄρχεται κοσμοποιεῖν. Πειρῶνται δὲ καὶ οἱ ἄλλοι συγκρίνοντές πως πάλιν κινεῖν καὶ διακρίνειν. Ἐκ διεστώτων δὲ καὶ κινουμένων οὐκ εὔλογον ποιεῖν τὴν γένεσιν. Διὸ καὶ Ἐμπεδοκλῆς παραλείπει τὴν ἐπὶ τῆς φιλότητος· οὐ γὰρ ἂν ἠδύνατο συστῆσαι τὸν οὐρανὸν ἐκ κεχωρισμένων μὲν κατασκευάζων, σύγκρισιν δὲ ποιῶν διὰ τὴν φιλότητα· ἐκ διακεκριμένων γὰρ συνέστηκεν ὁ κόσμος τῶν στοιχείων· ὥστ’ ἀναγκαῖον γίνεσθαι ἐξ ἑνὸς καὶ συγκεκριμένου.

Ὅτι μὲν οὖν ἐστι φυσική τις κίνησις ἑκάστου τῶν σωμάτων, ἣν οὐ βίᾳ κινοῦνται οὐδὲ παρὰ φύσιν, φανερὸν ἐκ τούτων.

Ὅτι δ’ ἔχειν ἔνια ἀναγκαῖον ῥοπὴν βάρους καὶ κουφότητος, ἐκ τῶνδε δῆλον. Κινεῖσθαι μὲν γάρ φαμεν ἀναγκαῖον εἶναι· εἰ δὲ μὴ ἕξει φύσει ῥοπὴν τὸ κινούμενον, ἀδύνατον κινεῖσθαι ἢ πρὸς τὸ μέσον ἢ ἀπὸ τοῦ μέσου. Ἔστω γὰρ τὸ μὲν ἐφ’ οὗ Α ἀβαρές, τὸ δ’ ἐφ’ οὗ Β βάρος ἔχον, ἐνηνέχθω δὲ τὸ ἀβαρὲς τὴν ΓΔ, τὸ δὲ Β ἐν τῷ ἴσῳ χρόνῳ τὴν ΓΕ· μείζω γὰρ οἰσθήσεται τὸ βάρος ἔχον. Ἐὰν δὴ διαιρεθῇ τὸ σῶμα τὸ ἔχον βάρος ὡς ἡ ΓΕ πρὸς τὴν ΓΔ (δυνατὸν γὰρ οὕτως ἔχειν πρός τι τῶν ἐν αὐτῷ μορίων), εἰ τὸ ὅλον φέρεται τὴν ὅλην τὴν ΓΕ, τὸ μόριον ἀνάγκη ἐν τῷ αὐτῷ χρόνῳ τὴν ΓΔ φέρεσθαι, ὥστε ἴσον οἰσθήσεται τὸ ἀβαρὲς καὶ τὸ βάρος ἔχον· ὅπερ ἀδύνα(301b.) τον. Ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ κουφότητος.

Ἔτι δ’ εἰ ἔσται τι σῶμα κινούμενον μήτε κουφότητα μήτε βάρος ἔχον, ἀνάγκη τοῦτο βίᾳ κινεῖσθαι, βίᾳ δὲ κινούμενον ἄπειρον ποιεῖ τὴν κίνησιν. Ἐπεὶ γὰρ δύναμίς τις ἡ κινοῦσα, τὸ δ’ ἔλαττον καὶ τὸ κουφότερον ὑπὸ τῆς αὐτῆς δυνάμεως πλεῖον κινηθήσεται, κεκινήσθω τὸ μὲν ἐφ’ ᾧ τὸ A, τὸ ἀβαρές, τὴν ΓΕ, τὸ δ’ ἐφ’ ᾧ τὸ B, τὸ βάρος ἔχον, ἐν τῷ ἴσῳ χρόνῳ τὴν ΓΔ.

Διαιρεθέντος δὴ τοῦ βάρος ἔχοντος σώματος ὡς ἡ ΓΕ πρὸς τὴν ΓΔ, συμβήσεται τὸ ἀφαιρούμενον ἀπὸ τοῦ βάρος ἔχοντος σώματος τὴν ΓΕ φέρεσθαι ἐν τῷ ἴσῳ χρόνῳ, ἐπείπερ τὸ ὅλον ἐφέρετο τὴν ΓΔ. Τὸ γὰρ τάχος ἕξει τὸ τοῦ ἐλάττονος πρὸς τὸ τοῦ μείζονος ὡς τὸ μεῖζον σῶμα πρὸς τὸ ἔλαττον. Ἴσον ἄρα τὸ ἀβαρὲς οἰσθήσεται σῶμα καὶ τὸ βάρος ἔχον ἐν τῷ αὐτῷ χρόνῳ. Τοῦτο δ’ ἀδύνατον. Ὥστ’ ἐπεὶ παντὸς τοῦ προτεθέντος μεῖζον κινηθήσεται διάστημα τὸ ἀβαρές, ἄπειρον ἂν φέροιτο. Φανερὸν οὖν ὅτι ἀνάγκη σῶμα πᾶν βάρος ἔχειν ἢ κουφότητα διωρισμένον. Ἐπεὶ δὲ φύσις μέν ἐστιν ἡ ἐν αὐτῷ ὑπάρχουσα κινήσεως ἀρχή, δύναμις δ’ ἡ ἐν ἄλλῳ ἢ ᾗ ἄλλο, κίνησις δὲ ἡ μὲν κατὰ φύσιν ἡ δὲ βίᾳ πᾶσα, τὴν μὲν κατὰ φύσιν, οἷον τῷ λίθῳ τὴν κάτω, θάττω ποιήσει τὸ κατὰ δύναμιν, τὴν δὲ παρὰ φύσιν ὅλως αὐτή. Πρὸς ἀμφότερα δὲ ὥσπερ ὀργάνῳ χρῆται τῷ ἀέρι (πέφυκε γὰρ οὗτος καὶ κοῦφος εἶναι καὶ βαρύς)· τὴν μὲν οὖν ἄνω ποιήσει φορὰν ᾗ κοῦφος, ὅταν ὠσθῇ καὶ λάβῃ τὴν ἀρχὴν ἀπὸ τῆς δυνάμεως, τὴν δὲ κάτω πάλιν ᾗ βαρύς· ὥσπερ γὰρ ἐναφάψασα παραδίδωσιν ἑκατέρῳ. Διὸ καὶ οὐ παρακολουθοῦντος τοῦ κινήσαντος φέρεται τὸ βίᾳ κινηθέν. Εἰ γὰρ μὴ τοιοῦτόν τι σῶμα ὑπῆρχεν, οὐκ ἂν ἦν βίᾳ κίνησις. Καὶ τὴν κατὰ φύσιν δ’ ἑκάστου κίνησιν συνεπουρίζει τὸν αὐτὸν τρόπον. Ὅτι μὲν οὖν ἅπαν ἢ κοῦφον ἢ βαρύ, καὶ πῶς αἱ παρὰ φύσιν κινήσεις ἔχουσι ἐν τούτοις, φανερόν.

Ὅτι δ’ οὔτε πάντων ἐστὶ γένεσις οὔθ’ ἁπλῶς οὐθενός, δῆλον ἐκ τῶν προειρημένων· ἀδύνατον γὰρ παντὸς σώματος εἶναι γένεσιν, (302a.) εἰ μὴ καὶ κενὸν εἶναί τι δυνατὸν κεχωρισμένον· ἐν ᾧ γὰρ ἔσται τόπῳ τὸ νῦν γιγνόμενον εἰ ἐγίγνετο, ἐν τούτῳ πρότερον τὸ κενὸν ἀναγκαῖον εἶναι σώματος μηθενὸς ὄντος. Ἄλλο μὲν γὰρ ἐξ ἄλλου σῶμα γίγνεσθαι δυνατόν, οἷον ἐξ ἀέρος πῦρ, ὅλως δ’ ἐκ μηδενὸς ἄλλου προϋπάρχοντος μεγέθους ἀδύνατον· μάλιστα γὰρ ἂν ἐκ δυνάμει τινὸς ὄντος σώματος ἐνεργείᾳ γένοιτ’ ἂν σῶμα. Ἀλλ’ εἰ τὸ δυνάμει ὂν σῶμα μηθέν ἐστιν ἄλλο σῶμα ἐνεργείᾳ πρότερον, κενὸν ἔσται κεχωρισμένον.

Κεφάλαιο 3

Λοιπὸν δ’ εἰπεῖν τίνων τέ ἐστι γένεσις [σωμάτων], καὶ διὰ τί ἐστιν. Ἐπεὶ οὖν ἐν ἅπασιν ἡ γνῶσις διὰ τῶν πρώτων, πρῶτα δὲ τῶν ἐνυπαρχόντων τὰ στοιχεῖα, σκεπτέον ποῖα τῶν τοιούτων σωμάτων ἐστὶ στοιχεῖα, καὶ διὰ τί ἐστιν, ἔπειτα μετὰ ταῦτα πόσα καὶ ποῖ’ ἄττα.

Τοῦτο δ’ ἔσται φανερὸν ὑποθεμένοις τίς ἐστιν ἡ τοῦ στοιχείου φύσις. Ἔστω δὴ στοιχεῖον τῶν σωμάτων, εἰς ὃ τἆλλα σώματα διαιρεῖται, ἐνυπάρχον δυνάμει ἢ ἐνεργείᾳ (τοῦτο γὰρ ποτέρως, ἔτι ἀμφισβητήσιμον), αὐτὸ δ’ ἐστὶν ἀδιαίρετον εἰς ἕτερα τῷ εἴδει· τοιοῦτον γάρ τι τὸ στοιχεῖον ἅπαντες καὶ ἐν ἅπασι βούλονται λέγειν. Εἰ δὴ τὸ εἰρημένον ἐστὶ στοιχεῖον, ἀνάγκη εἶναι ἄττα τοιαῦτα τῶν σωμάτων. Ἐν μὲν γὰρ σαρκὶ καὶ ξύλῳ καὶ ἑκάστῳ τῶν τοιούτων ἔνεστι δυνάμει πῦρ καὶ γῆ· φανερὰ γὰρ ταῦτα ἐξ ἐκείνων ἐκκρινόμενα. Ἐν δὲ πυρὶ σὰρξ ἢ ξύλον οὐκ ἐνυπάρχουσιν, οὔτε κατὰ δύναμιν οὔτε κατ’ ἐνέργειαν· ἐξεκρίνετο γὰρ ἄν. Ὁμοίως δ’ οὐδ’ εἰ ἕν τι μόνον εἴη τοιοῦτον, οὐδ’ ἐν ἐκείνῳ· οὐ γὰρ εἰ ἔσται σὰρξ ἢ ὀστοῦν ἢ τῶν ἄλλων ὁτιοῦν, οὔπω φατέον ἐνυπάρχειν δυνάμει, ἀλλὰ προσθεωρητέον τίς ὁ τρόπος τῆς γενέσεως.

Ἀναξαγόρας δ’ ἐναντίως Ἐμπεδοκλεῖ λέγει περὶ τῶν στοιχείων. Ὁ μὲν γὰρ πῦρ καὶ γῆν καὶ τὰ σύστοιχα τούτοις στοιχεῖά φησιν εἶναι τῶν σωμάτων καὶ συγκεῖσθαι πάντ’ ἐκ τούτων, Ἀναξαγόρας δὲ τοὐναντίον· τὰ γὰρ ὁμοιομερῆ στοιχεῖα (λέγω δ’ οἷον σάρκα καὶ ὀστοῦν καὶ τῶν τοι(302b.) ούτων ἕκαστον), ἀέρα δὲ καὶ πῦρ μίγματα τούτων καὶ τῶν ἄλλων σπερμάτων πάντων· εἶναι γὰρ ἑκάτερον αὐτῶν ἐξ ἀοράτων τῶν ὁμοιομερῶν πάντων ἠθροισμένον. Διὸ καὶ γίγνεσθαι πάντ’ ἐκ τούτων· τὸ γὰρ πῦρ καὶ τὸν αἰθέρα προσαγορεύει ταὐτό.

Ἐπεὶ δ’ ἐστὶ παντὸς φυσικοῦ σώματος κίνησις οἰκεία, τῶν δὲ κινήσεων αἱ μὲν ἁπλαῖ αἱ δὲ μικταί, καὶ αἱ μὲν μικταὶ τῶν μικτῶν, αἱ δὲ ἁπλαῖ τῶν ἁπλῶν εἰσι, φανερὸν ὅτι ἔσται ἄττα σώματα ἁπλᾶ. Εἰσὶ γὰρ καὶ κινήσεις ἁπλαῖ. Ὥστε δῆλον καὶ ὅτι ἐστὶ στοιχεῖα καὶ διὰ τί ἐστιν.

Κεφάλαιο 4

Πότερον δὲ πεπερασμένα ἢ ἄπειρα, καὶ εἰ πεπερασμένα, πόσα τὸν ἀριθμόν, ἑπόμενον ἂν εἴη σκοπεῖν.

Πρῶτον μὲν οὖν ὅτι οὐκ ἔστιν ἄπειρα, καθάπερ οἴονταί τινες, θεωρητέον, καὶ πρῶτον τοὺς πάντα τὰ ὁμοιομερῆ στοιχεῖα ποιοῦντας, καθάπερ καὶ Ἀναξαγόρας. Οὐθεὶς γὰρ τῶν οὕτως ἀξιούντων ὀρθῶς λαμβάνει τὸ στοιχεῖον· ὁρῶμεν γὰρ πολλὰ καὶ τῶν μικτῶν σωμάτων εἰς ὁμοιομερῆ διαιρούμενα, λέγω δ’ οἷον σάρκα καὶ ὀστοῦν καὶ ξύλον καὶ λίθον. Ὥστ’ εἴπερ τὸ σύνθετον οὐκ ἔστι στοιχεῖον, οὐχ ἅπαν ἔσται τὸ ὁμοιομερὲς στοιχεῖον, ἀλλὰ τὸ ἀδιαίρετον εἰς ἕτερα τῷ εἴδει, καθάπερ εἴρηται πρότερον.

Ἔτι δ’ οὐδ’ οὕτως λαμβάνοντας τὸ στοιχεῖον ἀνάγκη ποιεῖν ἄπειρα· πάντα γὰρ ταὐτὰ ἀποδοθήσεται καὶ πεπερασμένων ὄντων, ἐάν τις λάβῃ· τὸ αὐτὸ γὰρ ποιήσει, κἂν δύο ἢ τρία μόνον ᾖ τοιαῦτα, καθάπερ ἐγχειρεῖ καὶ Ἐμπεδοκλῆς. Ἐπεὶ γὰρ καὶ ὣς αὐτοῖς συμβαίνει μὴ πάντα ποιεῖν ἐξ ὁμοιομερῶν (πρόσωπον γὰρ οὐκ ἐκ προσώπων ποιοῦσιν, οὐδ’ ἄλλο τῶν κατὰ φύσιν ἐσχηματισμένων οὐθέν), φανερὸν ὅτι πολλῷ βέλτιον πεπερασμένας ποιεῖν τὰς ἀρχάς, καὶ ταύτας ὡς ἐλαχίστας πάντων γε τῶν αὐτῶν μελλόντων δείκνυσθαι, καθάπερ ἀξιοῦσι καὶ οἱ ἐν τοῖς μαθήμασιν· ἀεὶ γὰρ πεπερασμένας λαμβάνουσιν ἀρχὰς ἢ τῷ εἴδει ἢ τῷ ποσῷ.

Ἔτι εἰ σῶμα σώματος ἕτερον λέγεται κατὰ τὰς οἰκείας διαφοράς, αἱ δὲ τῶν σωμάτων διαφοραὶ πεπερασμέναι (δια(303a.) φέρουσι γὰρ τοῖς αἰσθητοῖς, ταῦτα δὲ πεπέρανται· δεῖ δὲ τοῦτο δειχθῆναι), φανερὸν ὅτι καὶ τὰ στοιχεῖα ἀνάγκη πεπερασμένα εἶναι.

Ἀλλὰ μὴν οὐδ’ ὡς ἕτεροί τινες λέγουσιν, οἷον Λεύκιππός τε καὶ Δημόκριτος ὁ Ἀβδηρίτης, εὔλογα τὰ συμβαίνοντα· φασὶ γὰρ εἶναι τὰ πρῶτα μεγέθη πλήθει μὲν ἄπειρα, μεγέθει δὲ ἀδιαίρετα, καὶ οὔτ’ ἐξ ἑνὸς πολλὰ γίγνεσθαι οὔτε ἐκ πολλῶν ἕν, ἀλλὰ τῇ τούτων συμπλοκῇ καὶ περιπαλάξει πάντα γεννᾶσθαι. Τρόπον γάρ τινα καὶ οὗτοι πάντα τὰ ὄντα ποιοῦσιν ἀριθμοὺς καὶ ἐξ ἀριθμῶν· καὶ γὰρ εἰ μὴ σαφῶς δηλοῦσιν, ὅμως τοῦτο βούλονται λέγειν. Καὶ πρὸς τούτοις, ἐπεὶ διαφέρει τὰ σώματα σχήμασιν, ἄπειρα δὲ τὰ σχήματα, ἄπειρα καὶ τὰ ἁπλᾶ σώματά φασιν εἶναι. Ποῖον δὲ καὶ τί ἑκάστου τὸ σχῆμα τῶν στοιχείων, οὐθὲν ἐπιδιώρισαν, ἀλλὰ μόνον τῷ πυρὶ τὴν σφαῖραν ἀπέδωκαν· ἀέρα δὲ καὶ ὕδωρ καὶ τἆλλα μεγέθει καὶ μικρότητι διεῖλον, ὡς οὖσαν αὐτῶν τὴν φύσιν οἷον πανσπερμίαν πάντων τῶν στοιχείων.

Πρῶτον μὲν οὖν ταὐτὸν καὶ τούτοις ἁμάρτημα τὸ μὴ πεπερασμένας λαβεῖν τὰς ἀρχάς, ἐξὸν ἅπαντα ταὐτὰ λέγειν. Ἔτι δ' εἰ μὴ ἄπειροι τῶν σχημάτων αἱ διαφοραί, δῆλον ὅτι οὐκ ἔσται τὰ στοιχεῖα ἄπειρα.

Πρὸς δὲ τούτοις ἀνάγκη μάχεσθαι ταῖς μαθηματικαῖς ἐπιστήμαις ἄτομα σώματα λέγοντας, καὶ πολλὰ τῶν ἐνδόξων καὶ τῶν φαινομένων κατὰ τὴν αἴσθησιν ἀναιρεῖν, περὶ ὧν εἴρηται πρότερον ἐν τοῖς περὶ χρόνου καὶ κινήσεως. Ἅμα δὲ καὶ ἐναντία λέγειν αὐτοὺς αὑτοῖς ἀνάγκη· ἀδύνατον γὰρ ἀτόμων ὄντων τῶν στοιχείων μεγέθει καὶ μικρότητι διαφέρειν ἀέρα καὶ γῆν καὶ ὕδωρ· οὐ γὰρ οἷόν τ' ἐξ ἀλλήλων γίγνεσθαι· ὑπολείψει γὰρ ἀεὶ τὰ μέγιστα σώματα ἐκκρινόμενα, φασὶ δ' οὕτω γίγνεσθαι ὕδωρ καὶ ἀέρα καὶ γῆν ἐξ ἀλλήλων.

Ἔτι οὐδὲ κατὰ τὴν τούτων ὑπόληψιν δόξειεν ἂν ἄπειρα γίγνεσθαι τὰ στοιχεῖα, εἴπερ τὰ μὲν σώματα διαφέρει σχήμασι, τὰ δὲ σχήματα πάντα σύγκειται ἐκ πυραμίδων, τὰ μὲν εὐθύγραμμα ἐξ εὐθυ(303b.) γράμμων, ἡ δὲ σφαῖρα ἐξ ὀκτὼ μορίων. Ἀνάγκη γὰρ εἶναί τινας ἀρχὰς τῶν σχημάτων. Ὥστε εἴτε μία εἴτε δύο εἴτε πλείους, καὶ τὰ ἁπλᾶ σώματα τοσαῦτα ἔσται τὸ πλῆθος.

Ἔτι δ' εἰ ἑκάστῳ μὲν τῶν στοιχείων ἐστί τις οἰκεία κίνησις, καὶ ἡ τοῦ ἁπλοῦ σώματος ἁπλῆ, μή εἰσι δ' αἱ ἁπλαῖ κινήσεις ἄπειροι διὰ τὸ μήτε τὰς ἁπλᾶς φορὰς πλείους εἶναι δυοῖν μήτε τοὺς τόπους ἀπείρους, οὐκ ἂν εἴη οὐδ' οὕτως ἄπειρα τὰ στοιχεῖα.

Κεφάλαιο 5

Ἐπεὶ δ’ ἀνάγκη πεπεράνθαι τὰ στοιχεῖα, λοιπὸν σκέψασθαι πότερον πλείω ἔσται ἢ ἕν. Ἔνιοι γὰρ ἓν μόνον ὑποτίθενται, καὶ τοῦτο οἱ μὲν ὕδωρ, οἱ δ’ ἀέρα, οἱ δὲ πῦρ, οἱ δ’ ὕδατος μὲν λεπτότερον, ἀέρος δὲ πυκνότερον, ὃ περιέχειν φασὶ πάντας τοὺς οὐρανοὺς ἄπειρον ὄν.

Ὅσοι μὲν οὖν τὸ ἓν τοῦτο ποιοῦσιν ὕδωρ ἢ ἀέρα ἢ ὕδατος μὲν λεπτότερον, ἀέρος δὲ πυκνότερον, εἶτ’ ἐκ τούτου μανότητι καὶ πυκνότητι τἆλλα γεννῶσιν, οὗτοι λανθάνουσιν αὐτοὶ αὑτοὺς ἄλλο τι πρότερον τοῦ στοιχείου ποιοῦντες· ἔστι γὰρ ἡ μὲν ἐκ τῶν στοιχείων γένεσις σύνθεσις, ὥς φασιν, ἡ δ’ εἰς τὰ στοιχεῖα διάλυσις, ὥστ’ ἀνάγκη πρότερον εἶναι τῇ φύσει τὸ λεπτομερέστερον. Ἐπεὶ οὖν φασὶ πάντων τῶν σωμάτων τὸ πῦρ λεπτότατον εἶναι, πρῶτον ἂν εἴη τῇ φύσει τὸ πῦρ· διαφέρει δ’ οὐθέν, ἀνάγκη γὰρ ἕν τι τῶν ἄλλων εἶναι πρῶτον, καὶ μὴ τὸ μέσον. Ἔτι δὲ τὸ μὲν πυκνότητι καὶ μανότητι τἆλλα γεννᾶν οὐθὲν διαφέρει ἢ λεπτότητι καὶ παχύτητι· τὸ μὲν γὰρ λεπτὸν μανόν, τὸ δὲ παχὺ βούλονται εἶναι πυκνόν. Πάλιν δὲ τὸ λεπτότητι καὶ παχύτητι ταὐτὸν καὶ τὸ μεγέθει καὶ μικρότητι· λεπτὸν μὲν γὰρ τὸ μικρομερές, παχὺ δὲ τὸ μεγαλομερές· τὸ γὰρ ἐπεκτεινόμενον ἐπὶ πολὺ λεπτόν, τοιοῦτον δὲ τὸ ἐκ μικρῶν μερῶν συνεστός, ὥστ’ αὐτοῖς συμβαίνει μεγέθει καὶ μικρότητι διαιρεῖν τὴν τῶν ἄλλων οὐσίαν. Οὕτω δὲ διοριζομένοις ἅπαντα συμβήσεται λέγειν πρός τι, καὶ οὐκ ἔσται ἁπλῶς τὸ μὲν πῦρ τὸ δ’ ὕδωρ τὸ δ’ ἀήρ, ἀλλὰ τὸ αὐτὸ πρὸς μὲν τόδε (304a.) πῦρ, πρὸς δέ τι ἄλλο ἀήρ, ὅπερ συμβαίνει καὶ τοῖς πλείω μὲν τὰ στοιχεῖα λέγουσι, μεγέθει δὲ καὶ μικρότητι διαφέρειν φάσκουσιν· ἐπεὶ γὰρ τῷ ποσῷ διώρισται ἕκαστον, ἔσται τις λόγος πρὸς ἄλληλα τῶν μεγεθῶν, ὥστε τὰ τοῦτον ἔχοντα τὸν λόγον πρὸς ἄλληλα ἀνάγκη τὸ μὲν ἀέρα εἶναι τὸ δὲ πῦρ τὸ δὲ γῆν τὸ δ’ ὕδωρ, διὰ τὸ ἐνυπάρχειν ἐν τοῖς μείζοσι τοὺς τῶν ἐλαττόνων λόγους.

Ὅσοι δὲ πῦρ ὑποτίθενται τὸ στοιχεῖον, τοῦτο μὲν διαφεύγουσιν, ἄλλα δ’ αὐτοῖς ἀναγκαῖον ἄλογα συμβαίνειν. Οἱ μὲν γὰρ αὐτῶν σχῆμα περιάπτουσι τῷ πυρί, καθάπερ οἱ τὴν πυραμίδα ποιοῦντες, καὶ τούτων οἱ μὲν ἁπλουστέρως λέγοντες ὅτι τῶν μὲν σχημάτων τμητικώτατον ἡ πυραμίς, τῶν δὲ σωμάτων τὸ πῦρ, οἱ δὲ κομψοτέρως τῷ λόγῳ προσάγοντες ὅτι τὰ μὲν σώματα πάντα σύγκειται ἐκ τοῦ λεπτομερεστάτου, τὰ δὲ σχήματα τὰ στερεὰ ἐκ πυραμίδων, ὥστ’ ἐπεὶ τῶν μὲν σωμάτων τὸ πῦρ λεπτότατον, τῶν δὲ σχημάτων ἡ πυραμὶς μικρομερέστατον καὶ πρῶτον, τὸ δὲ πρῶτον σχῆμα τοῦ πρώτου σώματος, πυραμὶς ἂν εἴη τὸ πῦρ.

Οἱ δὲ περὶ μὲν σχήματος οὐδὲν ἀποφαίνονται, λεπτομερέστατον δὲ μόνον ποιοῦσιν, ἔπειτ’ ἐκ τούτου συντιθεμένου φασὶ γίγνεσθαι τἆλλα καθάπερ ἂν εἰ συμφυσωμένου ψήγματος.

Ἀμφοτέροις δὲ ταὐτὰ συμβαίνει δυσχερῆ· εἰ μὲν γὰρ ἄτομον τὸ πρῶτον σῶμα ποιοῦσι, πάλιν ἥξουσιν οἱ πρότερον εἰρημένοι λόγοι πρὸς ταύτην τὴν ὑπόθεσιν.

Ἔτι οὐκ ἐνδέχεται τοῦτο λέγειν φυσικῶς βουλομένοις θεωρεῖν. Εἰ γὰρ ἅπαν σῶμα σώματι συμβλητὸν κατὰ τὸ ποσόν, ἔχει δ’ ἀνάλογον τὰ μεγέθη τά τε τῶν ὁμοιομερῶν πρὸς ἄλληλα καὶ τὰ τῶν στοιχείων (οἷον τὰ τοῦ παντὸς ὕδατος πρὸς τὸν ἅπαντα ἀέρα καὶ τοῦ στοιχείου πρὸς τὸ στοιχεῖον, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων), ὁ δ’ ἀὴρ πλείων τοῦ ὕδατος καὶ ὅλως τὸ λεπτομερέστερον τοῦ παχυμερεστέρου, φανερὸν ὅτι καὶ τὸ στοιχεῖον ἔλαττον ἔσται τὸ τοῦ ὕδατος ἢ τὸ τοῦ ἀέρος. Εἰ οὖν τὸ ἔλαττον μέγεθος ἐνυπάρχει τῷ μείζονι, διαιρετὸν ἂν εἴη τὸ τοῦ ἀέρος (304b.) στοιχεῖον. Ὡσαύτως δὲ καὶ τὸ τοῦ πυρὸς καὶ ὅλως τῶν λεπτομερεστέρων.

Εἰ δὲ διαιρετόν, τοῖς μὲν σχηματίζουσι τὸ πῦρ συμβήσεται μὴ εἶναι τὸ τοῦ πυρὸς μέρος πῦρ διὰ τὸ μὴ συγκεῖσθαι τὴν πυραμίδα ἐκ πυραμίδων, ἔτι δὲ μὴ πᾶν σῶμα εἶναι ἢ στοιχεῖον ἢ ἐκ στοιχείων (τὸ γὰρ μέρος τοῦ πυρὸς οὔτε πῦρ οὔθ’ ἕτερον στοιχεῖον οὐδέν)· τοῖς δὲ τῷ μεγέθει διορίζουσι πρότερόν τι τοῦ στοιχείου στοιχεῖον εἶναι, καὶ τοῦτ’ εἰς ἄπειρον βαδίζειν, εἴπερ ἅπαν σῶμα διαιρετὸν καὶ τὸ μικρομερέστατον στοιχεῖον. Ἔτι δὲ καὶ τούτοις συμβαίνει λέγειν ὡς ταὐτὸν πρὸς μὲν τόδε πῦρ ἐστι, πρὸς ἄλλο δ’ ἀήρ, καὶ πάλιν ὕδωρ καὶ γῆ.

Κοινὸν δὲ πᾶσιν ἁμάρτημα τοῖς ἓν τὸ στοιχεῖον ὑποτιθεμένοις τὸ μίαν μόνην κίνησιν ποιεῖν φυσικήν, καὶ πάντων τὴν αὐτήν. Ὁρῶμεν γὰρ πᾶν τὸ φυσικὸν σῶμα κινήσεως ἔχον ἀρχήν. Εἰ οὖν ἅπαντα τὰ σώματα ἕν τί ἐστι, πάντων ἂν εἴη μία κίνησις· καὶ ταύτην ἀναγκαῖον ὥσῳπερ ἂν πλείω γίγνηται, κινεῖσθαι μᾶλλον, ὥσπερ καὶ τὸ πῦρ ὅσῳ ἂν πλεῖον γίγνηται, φέρεται θᾶττον ἄνω τὴν αὑτοῦ φοράν. Συμβαίνει δὲ πολλὰ κάτω φέρεσθαι θᾶττον.

Ὥστε διά τε ταῦτα καὶ πρὸς τούτοις ἐπεὶ διώρισται πρότερον ὅτι πλείους αἱ φυσικαὶ κινήσεις, δῆλον ὅτι ἀδύνατον ἓν εἶναι τὸ στοιχεῖον. Ἐπειδὴ δὲ οὔτε ἄπειρα οὔτε ἕν, ἀνάγκη πλείω εἶναι καὶ πεπερασμένα.

Κεφάλαιο 6

Ἐπισκεπτέον δὲ πρῶτον πότερον ἀΐδιά ἐστιν ἢ γινόμενα φθείρεται· τούτου γὰρ δειχθέντος φανερὸν ἔσται καὶ πόσ’ ἄττα καὶ ποῖά ἐστιν. Ἀΐδια μὲν οὖν εἶναι ἀδύνατον· ὁρῶμεν γὰρ καὶ πῦρ καὶ ὕδωρ καὶ ἕκαστον τῶν ἁπλῶν σωμάτων διαλυόμενον. Ἀνάγκη δὲ ἢ ἄπειρον εἶναι ἢ ἵστασθαι τὴν διάλυσιν. Εἰ μὲν οὖν ἄπειρος, ἔσται καὶ ὁ χρόνος ὁ τῆς διαλύσεως ἄπειρος, καὶ πάλιν ὁ τῆς συνθέσεως· ἕκαστον γὰρ ἐν ἄλλῳ χρόνῳ διαλύεται καὶ συντίθεται τῶν μορίων. Ὥστε συμβήσεται ἔξω τοῦ ἀπείρου χρόνου ἄλλον εἶναι ἄπειρον, ὅταν ὅ τε τῆς συνθέσεως ἄπειρος ᾖ καὶ ἔτι πρότερος τούτου ὁ τῆς διαλύσεως. Ὥστε τοῦ ἀπείρου ἔξω γίγνεται ἄπειρον· (305a.) ὅπερ ἀδύνατον.

Εἰ δὲ στήσεταί που ἡ διάλυσις, ἤτοι ἄτομον ἔσται τὸ σῶμα ἐν ᾧ ἵσταται, ἢ διαιρετὸν μὲν οὐ μέντοι διαιρεθησόμενον οὐδέποτε, καθάπερ ἔοικεν Ἐμπεδοκλῆς βούλεσθαι λέγειν.

Ἄτομον μὲν οὖν οὐκ ἔσται διὰ τοὺς πρότερον εἰρημένους λόγους· ἀλλὰ μὴν οὐδὲ διαιρετὸν μὲν οὐδέποτε δὲ διαλυθησόμενον. Τὸ γὰρ ἔλαττον σῶμα τοῦ μείζονος εὐφθαρτότερόν ἐστιν. Εἴπερ οὖν καὶ τὸ πολὺ φθείρεται κατὰ ταύτην τὴν φθοράν, ὥστε διαλύεσθαι εἰς ἐλάττω, ἔτι μᾶλλον τοῦτο πάσχειν εὔλογον τὸ ἔλαττον. Δύο δὲ τρόπους ὁρῶμεν φθειρόμενον τὸ πῦρ· ὑπό τε γὰρ τοῦ ἐναντίου φθείρεται σβεννύμενον, καὶ αὐτὸ ὑφ’ αὑτοῦ μαραινόμενον. Τοῦτο δὲ πάσχει τὸ ἔλαττον ὑπὸ τοῦ πλείονος, καὶ θᾶττον, ὅσῳ ἂν ᾖ ἔλαττον. Ὥστ’ ἀνάγκη φθαρτὰ καὶ γενητὰ εἶναι τὰ στοιχεῖα τῶν σωμάτων.

Ἐπεὶ δ’ ἐστὶ γενητά, ἤτοι ἐξ ἀσωμάτου ἢ ἐκ σώματος ἔσται ἡ γένεσις, καὶ εἰ ἐκ σώματος, ἤτοι ἐξ ἄλλου ἢ ἐξ ἀλλήλων.

Ὁ μὲν οὖν ἐξ ἀσωμάτου γεννῶν λόγος ποιεῖ κεχωρισμένον κενόν. Πᾶν γὰρ τὸ γινόμενον <ἔν τινι γίγνεται καὶ> ἤτοι ἀσώματον ἔσται ἐν ᾧ ἡ γένεσις, ἢ ἕξει σῶμα· καὶ εἰ μὲν ἕξει σῶμα, δύο ἅμα ἔσται σώματα ἐν τῷ αὐτῷ, τό τε γιγνόμενον καὶ τὸ προϋπάρχον· εἰ δ’ ἀσώματον, ἀνάγκη κενὸν εἶναι ἀφωρισμένον· τοῦτο δ’ ὅτι ἀδύνατον, δέδεικται πρότερον.

Ἀλλὰ μὴν οὐδ’ ἐκ σώματός τινος ἐγχωρεῖ γίνεσθαι τὰ στοιχεῖα· συμβήσεται γὰρ ἄλλο σῶμα πρότερον εἶναι τῶν στοιχείων. Τοῦτο δ’ εἰ μὲν ἕξει βάρος ἢ κουφότητα, τῶν στοιχείων ἔσται τι, μηδεμίαν δ’ ἔχον ῥοπὴν ἀκίνητον ἔσται καὶ μαθηματικόν· τοιοῦτον δὲ ὂν οὐκ ἔσται ἐν τόπῳ. Ἐν ᾧ γὰρ ἠρεμεῖ, ἐν τούτῳ καὶ κινεῖσθαι δυνατόν. Καὶ εἰ μὲν βίᾳ, παρὰ φύσιν, εἰ δὲ μὴ βίᾳ, κατὰ φύσιν. Εἰ μὲν οὖν ἔσται ἐν τόπῳ καί που, ἔσται τι τῶν στοιχείων· εἰ δὲ μὴ ἐν τόπῳ, οὐδὲν ἐξ αὐτοῦ ἔσται· τὸ γὰρ γινόμενον, καὶ ἐξ οὗ γίγνεται, ἀνάγκη ἅμα εἶναι. Ἐπεὶ δ’ οὔτε ἐξ ἀσωμάτου γίγνεσθαι δυνατὸν οὔτ’ ἐξ ἄλλου σώματος, λείπεται ἐξ ἀλλήλων γίγνεσθαι.

Κεφάλαιο 7

Πάλιν οὖν ἐπισκεπτέον τίς ὁ τρόπος τῆς ἐξ ἀλλήλων γενέσεως, πότερον ὡς Ἐμπεδοκλῆς λέγει καὶ Δημόκριτος, ἢ ὡς οἱ εἰς τὰ ἐπίπεδα διαλύοντες, ἢ ἔστιν ἄλλος τις τρόπος (305b.) παρὰ τούτους.

Οἱ μὲν οὖν περὶ Ἐμπεδοκλέα καὶ Δημόκριτον λανθάνουσιν αὐτοὶ αὑτοὺς οὐ γένεσιν ἐξ ἀλλήλων ποιοῦντες, ἀλλὰ φαινομένην γένεσιν· ἐνυπάρχον γὰρ ἕκαστον ἐκκρίνεσθαί φασιν, ὥσπερ ἐξ ἀγγείου τῆς γενέσεως οὔσης, ἀλλ᾽ οὐκ ἔκ τινος ὕλης, οὐδὲ γίγνεσθαι μεταβάλλοντος.

Ἔπειτα κἂν οὕτως οὐδὲν ἧττον ἄλογα τὰ συμβαίνοντα. Τὸ γὰρ αὐτὸ μέγεθος οὐ δοκεῖ συμπιληθὲν γίνεσθαι βαρύτερον. Ἀνάγκη δὲ τοῦτο λέγειν τοῖς φάσκουσιν ἐκκρίνεσθαι τὸ ὕδωρ ἐκ τοῦ ἀέρος ἐνυπάρχον· ὅταν γὰρ ὕδωρ ἐξ ἀέρος γένηται, βαρύτερόν ἐστιν.

Ἔτι δὲ τῶν μεμιγμένων σωμάτων οὐκ ἀνάγκη χωρισθὲν θάτερον ἀεὶ πλείω τόπον ἐπέχειν· ὅταν δ᾽ ἐξ ὕδατος ἀὴρ γένηται, πλείω καταλαμβάνει τόπον· τὸ γὰρ λεπτομερέστερον ἐν πλείονι τόπῳ γίγνεται. Φανερὸν δὲ τοῦτό γε καὶ ἐν τῇ μεταβάσει· διατμιζομένου γὰρ καὶ πνευματουμένου τοῦ ὑγροῦ ῥήγνυται τὰ περιέχοντα τοὺς ὄγκους ἀγγεῖα διὰ τὴν στενοχωρίαν. Ὥστ᾽ εἰ μὲν ὅλως μή ἐστι κενὸν μηδ᾽ ἐπεκτείνεται τὰ σώματα, καθάπερ φασὶν οἱ ταῦτα λέγοντες, φανερὸν τὸ ἀδύνατον· εἰ δ᾽ ἔστι κενὸν καὶ ἐπέκτασις, ἄλογον τὸ ἐξ ἀνάγκης ἀεὶ πλείω τόπον ἐπιλαμβάνειν τὸ χωριζόμενον.

Ἀνάγκη δὲ καὶ ὑπολείπειν τὴν ἐξ ἀλλήλων γένεσιν, εἴπερ ἐν τῷ πεπερασμένῳ μεγέθει μὴ ἐνυπάρχει ἄπειρα πεπερασμένα. Ὅταν γὰρ ἐκ γῆς ὕδωρ γένηται, ἀφῄρηταί τι τῆς γῆς, εἴπερ ἐκκρίσει ἡ γένεσις· καὶ πάλιν ὅταν ἐκ τῆς ὑπολειπομένης, ὡσαύτως. Εἰ μὲν οὖν ἀεὶ τοῦτ᾽ ἔσται, συμβήσεται ἐν τῷ πεπερασμένῳ ἄπειρα ἐνυπάρχειν· ἐπεὶ δὲ τοῦτ᾽ ἀδύνατον, οὐκ ἂν ἀεὶ γίγνοιτο ἐξ ἀλλήλων. Ὅτι μὲν οὖν οὐκ ἔστι τῇ ἐκκρίσει ἡ εἰς ἄλληλα μετάβασις, εἴρηται.

Λείπεται δ᾽ εἰς ἄλληλα μεταβάλλοντα γίγνεσθαι. Τοῦτο δὲ διχῶς· ἢ γὰρ τῇ μετασχηματίσει, καθάπερ ἐκ τοῦ αὐτοῦ κηροῦ γίγνοιτ᾽ ἂν σφαῖρα καὶ κύβος, ἢ τῇ διαλύσει τῇ εἰς τὰ ἐπίπεδα, ὥσπερ ἔνιοί φασιν.

Εἰ μὲν οὖν τῇ μετασχηματίσει γίνεται, συμβαίνει ἐξ ἀνάγκης ἄτομα λέγειν τὰ σώματα· διαιρετῶν γὰρ ὄντων οὐκ ἔσται τὸ τοῦ πυρὸς μέρος πῦρ, οὐδὲ τὸ τῆς γῆς γῆ, διὰ τὸ μὴ εἶναι μήτε τὸ τῆς πυραμίδος μέρος πάντως πυραμίδα μήτε τὸ τοῦ κύβου (306a.) κύβον.

Εἰ δὲ τῇ τῶν ἐπιπέδων διαλύσει, πρῶτον μὲν ἄτοπον τὸ μὴ πάντα γεννᾶν ἐξ ἀλλήλων, ὅπερ ἀνάγκη λέγειν αὐτοῖς, καὶ λέγουσιν. Οὔτε γὰρ εὔλογον ἓν μόνον ἄμοιρον γενέσθαι τῆς μεταβάσεως, οὔτε φαίνεται κατὰ τὴν αἴσθησιν, ἀλλ' ὁμοίως πάντα μεταβάλλειν εἰς ἄλληλα. Συμβαίνει δὲ περὶ τῶν φαινομένων λέγουσι μὴ ὁμολογούμενα λέγειν τοῖς φαινομένοις. Τούτου δ' αἴτιον τὸ μὴ καλῶς λαβεῖν τὰς πρώτας ἀρχάς, ἀλλὰ πάντα βούλεσθαι πρός τινας δόξας ὡρισμένας ἀνάγειν. Δεῖ γὰρ ἴσως τῶν μὲν αἰσθητῶν αἰσθητάς, τῶν δὲ ἀϊδίων ἀϊδίους, τῶν δὲ φθαρτῶν φθαρτὰς εἶναι τὰς ἀρχάς, ὅλως δ' ὁμογενεῖς τοῖς ὑποκειμένοις. Οἱ δὲ διὰ τὴν τούτων φιλίαν ταὐτὸ ποιεῖν ἐοίκασι τοῖς τὰς θέσεις ἐν τοῖς λόγοις διαφυλάττουσιν· ἅπαν γὰρ ὑπομένουσι τὸ συμβαῖνον ὡς ἀληθεῖς ἔχοντες ἀρχάς, ὥσπερ οὐκ ἐνίας δέον κρίνειν ἐκ τῶν ἀποβαινόντων, καὶ μάλιστα ἐκ τοῦ τέλους.

Τέλος δὲ τῆς μὲν ποιητικῆς ἐπιστήμης τὸ ἔργον, τῆς δὲ φυσικῆς τὸ φαινόμενον ἀεὶ κυρίως κατὰ τὴν αἴσθησιν. Συμβαίνει δ' αὐτοῖς μάλιστα τὴν γῆν εἶναι στοιχεῖον, καὶ μόνην ἄφθαρτον, εἴπερ τὸ ἀδιάλυτον ἄφθαρτόν τ' ἐστὶ καὶ στοιχεῖον· ἡ γὰρ γῆ μόνη ἀδιάλυτος εἰς ἄλλο σῶμα.

Ἀλλὰ μὴν οὐδ' ἐν τοῖς διαλυομένοις ἡ τῶν τριγώνων παραιώρησις εὔλογος. Συμβαίνει δὲ καὶ τοῦτο ἐν τῇ εἰς ἄλληλα μεταβάσει διὰ τὸ ἐξ ἀνίσων τῷ πλήθει συνεστάναι τριγώνων.

Ἔτι δ' ἀνάγκη τοῖς ταῦτα λέγουσιν οὐκ ἐκ σώματος ποιεῖν γένεσιν· ὅταν γὰρ ἐξ ἐπιπέδων γένηται, οὐκ ἐκ σώματος ἔσται γεγονός.

Πρὸς δὲ τούτοις ἀνάγκη μὴ πᾶν σῶμα λέγειν διαιρετόν, ἀλλὰ μάχεσθαι ταῖς ἀκριβεστάταις ἐπιστήμαις· αἱ μὲν γὰρ καὶ τὸ νοητὸν λαμβάνουσι διαιρετόν, αἱ μαθηματικαί, οἱ δὲ οὐδὲ τὸ αἰσθητὸν ἅπαν συγχωροῦσι διὰ τὸ βούλεσθαι σῴζειν τὴν ὑπόθεσιν. Ἀνάγκη γὰρ ὅσοι σχῆμα ποιοῦσιν ἑκάστου τῶν στοιχείων καὶ τούτῳ διορίζουσι τὰς οὐσίας αὐτῶν, ἀδιαίρετα ποιεῖν αὐτά· τῆς γὰρ πυραμίδος ἢ τῆς σφαίρας διαιρεθείσης πως οὐκ ἔσται τὸ λειπόμενον σφαῖρα ἢ πυραμίς.

Ὥστε ἢ τὸ τοῦ πυρὸς μέρος οὐ πῦρ, ἀλλ' ἔσται τι πρότερον τοῦ (306b.) στοιχείου, διὰ τὸ πᾶν εἶναι ἢ στοιχεῖον ἢ ἐκστοιχείων· ἢ οὐχ ἅπαν σῶμα διαιρετόν.

Κεφάλαιο 8

Ὅλως δὲ τὸ πειρᾶσθαι τὰ ἁπλᾶ σώματα σχηματίζειν ἄλογόν ἐστι, πρῶτον μὲν ὅτι συμβήσεται μὴ ἀναπληροῦσθαι τὸ ὅλον· ἐν μὲν γὰρ τοῖς ἐπιπέδοις τρία σχήματα δοκεῖ συμπληροῦν τὸν τόπον, τρίγωνον καὶ τετράγωνον καὶ ἑξάγωνον, ἐν δὲ τοῖς στερεοῖς δύο μόνον, πυραμὶς καὶ κύβος· ἀνάγκη δὲ πλείω τούτων λαμβάνειν διὰ τὸ πλείω τὰ στοιχεῖα ποιεῖν.

Ἔπειτα φαίνεται πάντα μὲν τὰ ἁπλᾶ σώματα σχηματιζόμενα τῷ περιέχοντι τόπῳ, μάλιστα δὲ τὸ ὕδωρ καὶ ὁ ἀήρ. Διαμένειν μὲν οὖν τὸ τοῦ στοιχείου σχῆμα ἀδύνατον· οὐ γὰρ ἂν ἥπτετο πανταχῇ τοῦ περιέχοντος τὸ ὅλον. Ἀλλὰ μὴν εἰ μεταρρυθμισθήσεται, οὐκέτι ἔσται ὕδωρ, εἴπερ τῷ σχήματι διέφερεν. Ὥστε φανερὸν ὅτι οὐκ ἔστιν ὡρισμένα τὰ σχήματα αὐτῶν.

Ἀλλ’ ἔοικεν ἡ φύσις αὐτὴ τοῦτο σημαίνειν ἡμῖν, ὃ καὶ κατὰ λόγον ἐστίν· ὥσπερ γὰρ ἐν τοῖς ἄλλοις ἀειδὲς καὶ ἄμορφον δεῖ τὸ ὑποκείμενον εἶναι (μάλιστα γὰρ ἂν οὕτω δύναιτο ῥυθμίζεσθαι, καθάπερ ἐν τῷ Τιμαίῳ γέγραπται, τὸ πανδεχές), οὕτω καὶ τὰ στοιχεῖα δεῖ νομίζειν ὥσπερ ὕλην εἶναι τοῖς συνθέτοις· διὸ καὶ δύναται μεταβάλλειν εἰς ἄλληλα χωριζομένων τῶν κατὰ τὰ πάθη διαφορῶν.

Πρὸς δὲ τούτοις πῶς ἐνδέχεται γίγνεσθαι σάρκα καὶ ὀστοῦν ἢ ὁτιοῦν τῶν συνεχῶν σωμάτων; οὔτε γὰρ ἐξ αὐτῶν τῶν στοιχείων ἐγχωρεῖ διὰ τὸ μὴ γίγνεσθαι συνεχὲς ἐκ τῆς συνθέσεως, οὔτ’ ἐκ τῶν ἐπιπέδων συντιθεμένων· τὰ γὰρ στοιχεῖα γεννᾶται τῇ συνθέσει καὶ οὐ τὰ ἐκ τῶν στοιχείων. Ὥστ’ ἐάν τις ἀκριβολογεῖσθαι βούληται καὶ μὴ ἐκ παρόδου τοὺς λόγους ἀποδέχεσθαι τοὺς τοιούτους, ἀναιροῦντας ὄψεται τὴν γένεσιν ἐκ τῶν ὄντων.

Ἀλλὰ μὴν καὶ πρὸς τὰ πάθη τε καὶ τὰς δυνάμεις καὶ τὰς κινήσεις ἀσύμφωνα τὰ σχήματα τοῖς σώμασιν, εἰς ἃ μάλιστα βλέψαντες οὕτω διένειμαν. Οἷον ἐπεὶ τὸ πῦρ εὐκίνητόν ἐστι καὶ θερμαντικὸν καὶ καυστικόν, οἱ μὲν ἐποίησαν αὐτὸ σφαῖραν, οἱ δὲ πυραμίδα· ταῦτα γὰρ εὐκινητότατα μὲν διὰ τὸ ἐλαχίστων ἅπτεσθαι καὶ ἥκι(307a.) στα βεβηκέναι, θερμαντικώτατα δὲ καὶ καυστικώτατα, διότι τὸ μὲν ὅλον ἐστὶ γωνία, τὸ δὲ ὀξυγωνιώτατον, καίει δὲ καὶ θερμαίνει ταῖς γωνίαις, ὥς φασιν.

Πρῶτον μὲν οὖν κατὰ τὴν κίνησιν ἀμφότεροι διημαρτήκασιν· εἰ γὰρ καὶ ἔστιν εὐκινητότατα ταῦτα τῶν σχημάτων, ἀλλ’ οὐ τὴν τοῦ πυρὸς κίνησιν εὐκίνητα· ἡ μὲν γὰρ τοῦ πυρὸς ἄνω καὶ κατ’ εὐθεῖαν, ταῦτα δ’ εὐκίνητα κύκλῳ, τὴν καλουμένην κύλισιν. Ἔπειτ’ εἰ ἔστιν ἡ γῆ κύβος διὰ τὸ βεβηκέναι καὶ μένειν, μένει δ’ οὐχ οὗ ἔτυχεν ἀλλ’ ἐν τῷ αὑτῆς τόπῳ, ἐκ δὲ τοῦ ἀλλοτρίου φέρεται μὴ κωλυομένη, καὶ τὸ πῦρ δὲ καὶ τὰ ἄλλα ὡσαύτως, δῆλον ὅτι καὶ τὸ πῦρ καὶ ἕκαστον τῶν στοιχείων ἐν μὲν τῷ ἀλλοτρίῳ τόπῳ σφαῖρα ἔσται ἢ πυραμίς, ἐν δὲ τῷ οἰκείῳ κύβος. Ἔτι δ’ εἰ θερμαίνει καὶ καίει τὸ πῦρ διὰ τὰς γωνίας, ἅπαντα ἔσται τὰ στοιχεῖα θερμαντικά, μᾶλλον δ’ ἴσως ἕτερον ἑτέρου· πάντα γὰρ ἔχει γωνίας, οἷον τό τε ὀκτάεδρον καὶ τὸ δωδεκάεδρον. (Δημοκρίτῳ δὲ καὶ ἡ σφαῖρα, ὡς γωνία τις οὖσα, τέμνει ὡς εὐκίνητον).

Ὥστε διοίσει τῷ μᾶλλον καὶ ἧττον. Τοῦτο δ’ ὅτι ψεῦδος, φανερόν. Ἅμα δὲ συμβήσεται καὶ τὰ μαθηματικὰ σώματα καίειν καὶ θερμαίνειν· ἔχει γὰρ κἀκεῖνα γωνίας, καὶ ἔνεισιν ἐν αὐτοῖς ἄτομοι καὶ σφαῖραι καὶ πυραμίδες, ἄλλως τε καὶ εἰ ἔστιν ἄτομα μεγέθη, καθάπερ φασίν. Εἰ γὰρ τὰ μὲν τὰ δὲ μή, λεκτέον τὴν διαφοράν, ἀλλ’ οὐχ ἁπλῶς οὕτω λεκτέον ὡς λέγουσιν.

Ἔτι εἰ τὸ καιόμενον πυροῦται, τὸ δὲ πῦρ ἐστι σφαῖρα ἢ πυραμίς, ἀνάγκη τὸ καιόμενον γίγνεσθαι σφαίρας ἢ πυραμίδας. Τὸ μὲν οὖν τέμνειν καὶ διαιρεῖν ἔστω κατὰ λόγον συμβαῖνον τῷ σχήματι· τὸ δ’ ἐξ ἀνάγκης τὴν πυραμίδα ποιεῖν πυραμίδας ἢ τὴν σφαῖραν σφαίρας παντελῶς ἄλογον, καὶ ὅμοιον ὥσπερ εἴ τις ἀξιοίη τὴν μάχαιραν εἰς μαχαίρας διαιρεῖν ἢ τὸν πρίονα εἰς πρίονας.

Ἔτι δὲ γελοῖον πρὸς τὸ διαιρεῖν μόνον ἀποδοῦναι τὸ σχῆμα τῷ πυρί· δοκεῖ γὰρ μᾶλλον συγκρίνειν καὶ συνορίζειν ἢ διακρίνειν. Διακρίνει μὲν γὰρ τὰ μὴ (307b.) ὁμόφυλα, συγκρίνει δὲ τὰ ὁμόφυλα· καὶ ἡ μὲν σύγκρισις καθ’ αὑτό ἐστι (τὸ γὰρ συνορίζειν καὶ ἑνοῦν τοῦ πυρός), ἡ δὲ διάκρισις κατὰ συμβεβηκός (συγκρῖνον γὰρ τὸ ὁμόφυλον ἐξαιρεῖ τὸ ἀλλότριον). Ὥστ’ ἢ πρὸς ἄμφω ἐχρῆν ἀποδοῦναι ἢ μᾶλλον ἐπὶ τὸ συγκρίνειν.

Πρὸς δὲ τούτοις, ἐπεὶ τὸ θερμὸν καὶ τὸ ψυχρὸν ἐναντία τῇ δυνάμει, ἀδύνατον ἀποδοῦναι τῷ ψυχρῷ σχῆμά τι· δεῖ γὰρ ἐναντίον εἶναι τὸ ἀποδιδόμενον, οὐθὲν δ’ ἐναντίον ἐστὶ σχῆμα σχήματι. Διὸ καὶ πάντες ἀπολελοίπασι τοῦτο· καίτοι προσῆκεν ἢ πάντα ἀφορίσαι σχήμασιν ἢ μηδέν. Ἔνιοι δὲ περὶ τῆς δυνάμεως αὐτοῦ πειραθέντες εἰπεῖν ἐναντία λέγουσιν αὐτοὶ αὑτοῖς.

Φασὶ γὰρ εἶναι ψυχρὸν τὸ μεγαλομερὲς διὰ τὸ συνθλίβειν καὶ μὴ διιέναι διὰ τῶν πόρων. Δῆλον τοίνυν ὅτι καὶ τὸ θερμὸν ἂν εἴη τὸ διιόν· τοιοῦτον δ’ ἀεὶ τὸ λεπτομερές. Ὥστε συμβαίνει μικρότητι καὶ μεγέθει διαφέρειν τὸ θερμὸν καὶ τὸ ψυχρόν, ἀλλ’ οὐ τοῖς σχήμασιν. Ἔτι δ’ εἰ ἄνισοι αἱ πυραμίδες, αἱ μεγάλαι ἂν εἶεν οὐ πῦρ οὐδ’ αἴτιον τὸ σχῆμα τοῦ καίειν, ἀλλὰ τοὐναντίον.

Ὅτι μὲν οὖν οὐ τοῖς σχήμασι διαφέρει τὰ στοιχεῖα, φανερὸν ἐκ τῶν εἰρημένων· ἐπεὶ δὲ κυριώταται διαφοραὶ τῶν σωμάτων αἵ τε κατὰ τὰ πάθη καὶ τὰ ἔργα καὶ τὰς δυνάμεις (ἑκάστου γὰρ εἶναί φαμεν τῶν φύσει καὶ ἔργα καὶ πάθη καὶ δυνάμεις), πρῶτον ἂν εἴη περὶ τούτων λεκτέον, ὅπως θεωρήσαντες ταῦτα λάβωμεν τὰς ἑκάστου πρὸς ἕκαστον διαφοράς.

Βιβλίο 4

Κεφάλαιο 1

Περὶ δὲ βαρέος καὶ κούφου, τί τ’ ἐστὶν ἑκάτερον καὶ τίς ἡ φύσις αὐτῶν, σκεπτέον, καὶ διὰ τίν’ αἰτίαν ἔχουσι τὰς δυνάμεις ταύτας. Ἔστι γὰρ ἡ περὶ αὐτῶν θεωρία τοῖς περὶ κινήσεως λόγοις οἰκεία· βαρὺ γὰρ καὶ κοῦφον τῷ δύνασθαι κινεῖσθαι φυσικῶς πως λέγομεν. (Ταῖς δὲ ἐνεργείαις ὀνόματ’ αὐτῶν οὐ κεῖται, πλὴν εἴ τις οἴοιτο τὴν ῥοπὴν εἶναι τοιοῦτον.) (308a.) Διὰ δὲ τὸ τὴν φυσικὴν μὲν εἶναι πραγματείαν περὶ κίνησιν, ταῦτα δ’ ἔχειν ἐν ἑαυτοῖς οἷον ζώπυρ’ ἄττα κινήσεως, πάντες μὲν χρῶνται ταῖς δυνάμεσιν αὐτῶν, οὐ μὴν διωρίκασί γε, πλὴν ὀλίγων. Ἰδόντες οὖν πρῶτον τὰ παρὰ τῶν ἄλλων εἰρημένα, καὶ διαπορήσαντες ὅσα πρὸς τὴν σκέψιν ταύτην διελεῖν ἀναγκαῖον, οὕτω καὶ τὸ φαινόμενον ἡμῖν εἴπωμεν περὶ αὐτῶν.

Λέγεται δὴ τὸ μὲν ἁπλῶς βαρὺ καὶ κοῦφον, τὸ δὲ πρὸς ἕτερον· τῶν γὰρ ἐχόντων βάρος φαμὲν τὸ μὲν εἶναι κουφότερον, τὸ δὲ βαρύτερον, οἷον ξύλου χαλκόν. Περὶ μὲν οὖν τῶν ἁπλῶς λεγομένων οὐδὲν εἴρηται παρὰ τῶν πρότερον, περὶ δὲ τῶν πρὸς ἕτερον· οὐ γὰρ λέγουσι τί ἐστι τὸ βαρὺ καὶ τί τὸ κοῦφον, ἀλλὰ τί τὸ βαρύτερον καὶ κουφότερον ἐν τοῖς ἔχουσι βάρος. Μᾶλλον δ’ ἔσται δῆλον ὃ λέγομεν ὧδε. Τὰ μὲν γὰρ ἀεὶ πέφυκεν ἀπὸ τοῦ μέσου φέρεσθαι, τὰ δ’ ἀεὶ πρὸς τὸ μέσον. Τούτων δὲ τὸ μὲν ἀπὸ τοῦ μέσου φερόμενον ἄνω λέγω φέρεσθαι, κάτω δὲ τὸ πρὸς τὸ μέσον.

Ἄτοπον γὰρ τὸ μὴ νομίζειν εἶναί τι ἐν τῷ οὐρανῷ τὸ μὲν ἄνω τὸ δὲ κάτω, καθάπερ τινὲς ἀξιοῦσιν· οὐ γὰρ εἶναι τὸ μὲν ἄνω τὸ δὲ κάτω φασίν, εἴπερ πάντῃ ὅμοιός ἐστι, καὶ πανταχόθεν ἀντίπους ἔσται πορευόμενος ἕκαστος αὐτὸς αὑτῷ. Ἡμεῖς δὲ τὸ τοῦ παντὸς ἔσχατον ἄνω λέγομεν, ὃ καὶ κατὰ τὴν θέσιν ἐστὶν ἄνω καὶ τῇ φύσει πρῶτον· ἐπεὶ δ’ ἐστί τι τοῦ οὐρανοῦ ἔσχατον καὶ μέσον, δῆλον ὅτι ἔσται καὶ ἄνω καὶ κάτω, ὥσπερ καὶ οἱ πολλοὶ λέγουσι, πλὴν οὐχ ἱκανῶς.

Τούτου δ’ αἴτιον ὅτι νομίζουσιν οὐχ ὅμοιον εἶναι πάντῃ τὸν οὐρανόν, ἀλλ’ ἓν εἶναι μόνον τὸ ὑπὲρ ἡμᾶς ἡμισφαίριον, ἐπεὶ προσυπολαβόντες καὶ κύκλῳ τοιοῦτον, καὶ τὸ μέσον ὁμοίως ἔχειν πρὸς ἅπαν, τὸ μὲν ἄνω φήσουσιν εἶναι, τὸ δὲ μέσον κάτω.

Ἁπλῶς μὲν οὖν κοῦφον λέγομεν τὸ ἄνω φερόμενον καὶ πρὸς τὸ ἔσχατον, βαρὺ δὲ ἁπλῶς τὸ κάτω καὶ πρὸς τὸ μέσον· πρὸς ἄλλο δὲ κοῦφον καὶ κουφότερον, ὅτε, δυοῖν ἐχόντων βάρος καὶ τὸν ὄγκον ἴσον, κάτω φέρεται θάτερον φύσει θᾶττον.

Κεφάλαιο 2

Τῶν δὴ πρότερον ἐλθόντων ἐπὶ τὴν περὶ τούτων σκέψιν σχεδὸν οἱ πλεῖστοι περὶ τῶν οὕτω βαρέων καὶ κούφων εἰρήκασι μόνον, ὅσων ἀμφοτέρων ἐχόντων βάρος θάτερόν ἐστι (308b.) κουφότερον· οὕτω δὲ διελθόντες οἴονται διωρίσθαι καὶ περὶ τοῦ ἁπλῶς κούφου καὶ βαρέος· ὁ δὲ λόγος αὐτοῖς οὐκ ἐφαρμόττει. Δῆλον δ’ ἔσται τοῦτο μᾶλλον προελθοῦσιν.

Λέγουσι γὰρ τὸ κουφότερον καὶ βαρύτερον οἱ μὲν ὥσπερ ἐν τῷ Τιμαίῳ τυγχάνει γεγραμμένον, βαρύτερον μὲν τὸ ἐκ πλειόνων τῶν αὐτῶν συνεστός, κουφότερον δὲ τὸ ἐξ ἐλαττόνων, ὥσπερ μολίβδου μόλιβδος ὁ πλείων βαρύτερος καὶ χαλκοῦ χαλκός. Ὁμοίως δὲ καὶ τῶν ἄλλων τῶν ὁμοειδῶν ἕκαστον· ἐν ὑπεροχῇ γὰρ τῶν ἴσων μορίων βαρύτερον ἕκαστόν ἐστιν. Τὸν αὐτὸν δὲ τρόπον καὶ ξύλου μόλιβδόν φασιν· ἔκ τινων γὰρ τῶν αὐτῶν εἶναι πάντα τὰ σώματα καὶ μιᾶς ὕλης, ἀλλ’ οὐ δοκεῖν.

Οὕτω δὴ διωρισμένων οὐκ εἴρηται περὶ τοῦ ἁπλῶς κούφου καὶ βαρέος· νῦν γὰρ τὸ μὲν πῦρ ἀεὶ κοῦφον καὶ ἄνω φέρεται, ἡ δὲ γῆ καὶ τὰ γεηρὰ πάντα κάτω καὶ πρὸς τὸ μέσον. Ὥστ’ οὐ δι’ ὀλιγότητα τῶν τριγώνων, ἐξ ὧν συνεστάναι φασὶν ἕκαστον αὐτῶν, τὸ πῦρ ἄνω φέρεσθαι πέφυκεν· τό τε γὰρ πλεῖον ἧττον ἂν ἐφέρετο καὶ βαρύτερον ἦν ἐκ πλειόνων ὂν τριγώνων. Νῦν δὲ φαίνεται τοὐναντίον· ὅσῳ γὰρ ἂν ᾖ πλεῖον, κουφότερόν ἐστι καὶ ἄνω φέρεται θᾶττον. Καὶ ἄνωθεν δὲ κάτω τὸ ὀλίγον οἰσθήσεται θᾶττον πῦρ, τὸ δὲ πολὺ βραδύτερον.

Πρὸς δὲ τούτοις, ἐπεὶ τὸ μὲν ἐλάσσω ἔχον τὰ ὁμογενῆ κουφότερον εἶναί φασι, τὸ δὲ πλείω βαρύτερον, ἀέρα δὲ καὶ ὕδωρ καὶ πῦρ ἐκ τῶν αὐτῶν εἶναι τριγώνων, ἀλλὰ διαφέρειν ὀλιγότητι καὶ πλήθει, διὸ τὸ μὲν αὐτῶν εἶναι κουφότερον τὸ δὲ βαρύτερον, ἔσται τι πλῆθος ἀέρος ὃ βαρύτερον ὕδατος ἔσται. Συμβαίνει δὲ πᾶν τοὐναντίον· ἀεί τε γὰρ ὁ πλείων ἀὴρ ἄνω φέρεται μᾶλλον, καὶ ὅλως ὁτιοῦν μέρος ἀέρος ἄνω φέρεται ἐκ τοῦ ὕδατος.

Οἱ μὲν οὖν τοῦτον τὸν τρόπον περὶ κούφου καὶ βαρέος διώρισαν· τοῖς δ’ οὐχ ἱκανὸν ἔδοξεν οὕτω διελεῖν, ἀλλὰ καίπερ ὄντες ἀρχαιότεροι ταῖς ἡλικίαις καινοτέρως ἐνόησαν περὶ τῶν νῦν λεχθέντων. Φαίνεται γὰρ ἔνια τὸν ὄγκον μὲν ἐλάττω τῶν σωμάτων, ὄντα δὲ βαρύτερα. Δῆλον οὖν ὡς οὐχ ἱκανὸν τὸ φάσκειν ἐξ ἴσων συγκεῖσθαι τῶν πρώτων τὰ ἰσοβαρῆ· ἴσα γὰρ ἂν ἦν τὸν ὄγκον. Τὰ δὲ πρῶτα καὶ ἄτομα τοῖς μὲν ἐπίπεδα λέγουσιν ἐξ ὧν συνέστηκε τὰ βάρος ἔχοντα (309a.) τῶν σωμάτων, ἄτοπον τὸ φάναι· τοῖς δὲ στερεὰ μᾶλλον ἐνδέχεται λέγειν τὸ μεῖζον εἶναι βαρύτερον αὐτῶν. Τῶν δὲ συνθέτων, ἐπειδήπερ οὐ φαίνεται τοῦτον ἕκαστον ἔχειν τὸν τρόπον, ἀλλὰ πολλὰ βαρύτερα ὁρῶμεν ἐλάττω τὸν ὄγκον ὄντα, καθάπερ ἐρίου χαλκόν, ἕτερον τὸ αἴτιον οἴονταί τε καὶ λέγουσιν ἔνιοι· τὸ γὰρ κενὸν ἐμπεριλαμβανόμενον κουφίζειν τὰ σώματά φασι καὶ ποιεῖν ἔστιν ὅτε τὰ μείζω κουφότερα· πλεῖον γὰρ ἔχειν κενόν. Διὰ τοῦτο γὰρ καὶ τὸν ὄγκον εἶναι μείζω συγκείμενα πολλάκις ἐξ ἴσων στερεῶν ἢ καὶ ἐλαττόνων. Ὅλως δὲ καὶ παντὸς αἴτιον εἶναι τοῦ κουφοτέρου τὸ πλεῖον ἐνυπάρχειν κενόν.

Λέγουσι μὲν οὖν τοῦτον τὸν τρόπον, ἀνάγκη δὲ προσθεῖναι τοῖς οὕτω διορίζουσι μὴ μόνον τὸ κενὸν ἔχειν πλεῖον, ἂν ᾖ κουφότερον, ἀλλὰ καὶ τὸ στερεὸν ἔλαττον· εἰ γὰρ ὑπερέξει τῆς τοιαύτης ἀναλογίας, οὐκ ἔσται κουφότερον. Διὰ γὰρ τοῦτο καὶ τὸ πῦρ εἶναί φασι κουφότατον, ὅτι πλεῖστον ἔχει κενόν. Συμβήσεται οὖν μικροῦ πυρὸς πολὺν χρυσὸν πλεῖον ἔχοντα τὸ κενὸν εἶναι κουφότερον, εἰ μὴ καὶ στερεὸν ἕξει πολλαπλάσιον· ὥστε τοῦτο λεκτέον. Ἔνιοι μὲν οὖν τῶν μὴ φασκόντων εἶναι κενὸν οὐδὲν διώρισαν περὶ κούφου καὶ βαρέος, οἷον Ἀναξαγόρας καὶ Ἐμπεδοκλῆς· οἱ δὲ διορίσαντες μέν, οὐ φάσκοντες δὲ εἶναι κενόν, οὐδὲν εἶπον διὰ τί τὰ μὲν ἁπλῶς κοῦφα τὰ δὲ βαρέα τῶν σωμάτων, καὶ φέρεται τὰ μὲν ἀεὶ ἄνω τὰ δὲ κάτω, οὐδὲ περὶ τοῦ ἔνια μείζω τὸν ὄγκον ὄντα κουφότερα τῶν ἐλαττόνων εἶναι σωμάτων οὐδὲν ἐπεμνήσθησαν, οὐδὲ δῆλον πῶς ἐκ τῶν εἰρημένων ὁμολογούμενα τοῖς φαινομένοις συμβήσεται λέγειν αὐτοῖς.

Ἀναγκαῖον δὲ καὶ τοῖς περὶ τῆς τοῦ πυρὸς κουφότητος αἰτιωμένοις τὸ πολὺ κενὸν ἔχειν σχεδὸν ἐν ταῖς αὐταῖς ἐνέχεσθαι δυσχερείαις. Ἔλαττον μὲν γὰρ ἕξει στερεὸν τῶν ἄλλων σωμάτων, καὶ τὸ κενὸν πλεῖον· ἀλλ’ ὅμως ἔσται τι πυρὸς πλῆθος ἐν ᾧ τὸ στερεὸν καὶ τὸ πλῆρες ὑπερβάλλει τῶν περιεχομένων στερεῶν ἔν τινι μικρῷ πλήθει γῆς. Ἐὰν δὲ φῶσι καὶ τὸ κενόν, πῶς διοριοῦσι τὸ ἁπλῶς βαρύ; Ἢ γὰρ τῷ πλεῖον στερεὸν ἔχειν ἢ τῷ ἔλαττον κενόν. Εἰ μὲν οὖν τοῦτο (309b.) φήσουσιν, ἔσται τι πλῆθος γῆς οὕτως ὀλίγον ἐν ᾧ στερεὸν ἔσται ἔλαττον ἢ ἐν πολλῷ πλήθει πυρός. Ὁμοίως δὲ κἂν τῷ κενῷ διορίσωσιν, ἔσται τι κουφότερον τοῦ ἁπλῶς κούφου καὶ φερομένου ἀεὶ ἄνω αὐτὸ φερόμενον ἀεὶ κάτω. Τοῦτο δὲ ἀδύνατον· τὸ γὰρ ἁπλῶς κοῦφον ἀεὶ κουφότερον τῶν ἐχόντων βάρος καὶ κάτω φερομένων, τὸ δὲ κουφότερον οὐκ ἀεὶ κοῦφον διὰ τὸ λέγεσθαι καὶ ἐν τοῖς ἔχουσι βάρος ἕτερον ἑτέρου κουφότερον, οἷον γῆς ὕδωρ.

Ἀλλὰ μὴν οὐδὲ τῷ τὸ κενὸν ἀνάλογον ἔχειν πρὸς τὸ πλῆρες ἱκανὸν λῦσαι τὴν λεγομένην νῦν ἀπορίαν. Συμβήσεται γὰρ καὶ τοῦτον τὸν τρόπον λέγουσιν ὡσαύτως τὸ ἀδύνατον. Ἐν γὰρ τῷ πλείονι πυρὶ καὶ ἐν τῷ ἐλάττονι τὸν αὐτὸν ἕξει λόγον τὸ στερεὸν πρὸς τὸ κενόν. Φέρεται δέ γε θᾶττον τὸ πλεῖον ἄνω πῦρ τοῦ ἐλάττονος, καὶ κάτω δὲ πάλιν ὡσαύτως ὁ πλείων χρυσὸς καὶ ὁ μόλιβδος· ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστον τῶν ἐχόντων βάρος. Οὐκ ἔδει δὲ τοῦτο συμβαίνειν, εἴπερ τούτῳ διώρισται τὸ βαρὺ καὶ κοῦφον.

Ἄτοπον δὲ καὶ εἰ διὰ τὸ κενὸν μὲν ἄνω φέρονται, τὸ δὲ κενὸν αὐτὸ μή. Ἀλλὰ μὴν εἴ γε τὸ μὲν κενὸν ἄνω πέφυκε φέρεσθαι, κάτω δὲ τὸ πλῆρες, καὶ διὰ τοῦτο τοῖς ἄλλοις αἴτια τῆς φορᾶς ἑκατέρας, οὐθὲν περὶ τῶν συνθέτων ἔδει σκοπεῖν διὰ τί τὰ μὲν κοῦφα τὰ δὲ βαρέα τῶν σωμάτων, ἀλλὰ περὶ τούτων αὐτῶν εἰπεῖν διὰ τί τὸ μὲν κοῦφον, τὸ δ’ ἔχει βάρος, ἔτι δὲ τί τὸ αἴτιον τοῦ μὴ διεστάναι τὸ πλῆρες καὶ τὸ κενόν.

Ἄλογον δὲ καὶ τὸ χώραν τῷ κενῷ ποιεῖν, ὥσπερ οὐκ αὐτὸ χώραν τινὰ οὖσαν· ἀναγκαῖον δ’, εἴπερ κινεῖται τὸ κενόν, εἶναι αὐτοῦ τινα τόπον, ἐξ οὗ μεταβάλλει καὶ εἰς ὅν.

Πρὸς δὲ τούτοις τί τῆς κινήσεως αἴτιον; Οὐ γὰρ δὴ τό γε κενόν· οὐ γὰρ αὐτὸ κινεῖται μόνον, ἀλλὰ καὶ τὸ στερεόν.

Ὡσαύτως δὲ συμβαίνει κἄν τις ἄλλως διορίζῃ, μεγέθει καὶ σμικρότητι ποιῶν βαρύτερα καὶ κουφότερα ρων, κἂν ἄλλον ὁντινοῦν τρόπον κατασκευάζων, μόνον δὲ τὴν αὐτὴν ὕλην ἅπασιν ἀποδιδούς, ἢ πλείους μὲν ὑπεναντίας δὲ μόνον.

Μιᾶς μὲν γὰρ οὔσης οὐκ ἔσται τὸ ἁπλῶς βαρὺ καὶ κοῦφον, ὥσπερ τοῖς ἐκ τῶν τριγώνων συνιστᾶσιν· ἐναντίας δέ, (310a.) καθάπερ οἱ τὸ κενὸν καὶ πλῆρες, οὐκ ἔσται τὰ μεταξὺ τῶν ἁπλῶς βαρέων καὶ κούφων διὰ τίν’ αἰτίαν βαρύτερα καὶ κουφότερα ἀλλήλων καὶ τῶν ἁπλῶν ἐστιν.

Τὸ δὲ μεγέθει καὶ μικρότητι διορίζειν πεπλασμένῳ μὲν ἔοικε μᾶλλον τῶν πρότερον, ὅτι δ’ ἐνδέχεται καθ’ ἕκαστον ποιεῖν διαφορὰς τῶν τεττάρων στοιχείων, ἀσφαλεστέρως ἔχει πρὸς τὰς ἔμπροσθεν ἀπορίας.

Τῷ δὲ μίαν ποιεῖν φύσιν τῶν τῷ μεγέθει διαφερόντων ἀναγκαῖον ταὐτὸν συμβαίνειν τοῖς μίαν ποιοῦσιν ὕλην, καὶ μήθ’ ἁπλῶς εἶναι μηθὲν κοῦφον μήτε φερόμενον ἄνω, ἀλλ’ ἢ ὑστερίζον ἢ ἐκθλιβόμενον, καὶ πολλὰ μικρὰ ὀλίγων μεγάλων βαρύτερα εἶναι. Εἰ δὲ τοῦτο ἔσται, συμβήσεται πολὺν ἀέρα καὶ πολὺ πῦρ ὕδατος εἶναι βαρύτερα καὶ γῆς ὀλίγης. Τοῦτο δ’ ἐστὶν ἀδύνατον.

Κεφάλαιο 3

Τὰ μὲν οὖν παρὰ τῶν ἄλλων εἰρημένα ταῦτα, καὶ τοῦτον λέγεται τὸν τρόπον.

Ἡμεῖς δὲ λέγωμεν πρῶτον διορίσαντες περὶ οὖ μάλιστα ἀποροῦσί τινες, διὰ τί τὰ μὲν ἄνω φέρεται τὰ δὲ κάτω τῶν σωμάτων ἀεὶ κατὰ φύσιν, τὰ δὲ καὶ ἄνω καὶ κάτω, μετὰ δὲ ταῦτα περὶ βαρέος καὶ κούφου καὶ τῶν συμβαινόντων περὶ αὐτὰ παθημάτων, διὰ τίν’ αἰτίαν ἕκαστον γίνεται.

Περὶ μὲν οὖν τοῦ φέρεσθαι εἰς τὸν αὑτοῦ τόπον ἕκαστον ὁμοίως ὑποτῶν ἑτέληπτέον ὥσπερ καὶ περὶ τὰς ἄλλας γενέσεις καὶ μεταβολάς. Ἐπεὶ γάρ εἰσι τρεῖς αἱ κινήσεις (ἡ μὲν κατὰ μέγεθος, ἡ δὲ κατ’ εἶδος, ἡ δὲ κατὰ τόπον), ἐν ἑκάστῃ τούτων τὴν μεταβολὴν ὁρῶμεν γινομένην ἐκ τῶν ἐναντίων εἰς τὰ ἐναντία καὶ τὰ μεταξύ, καὶ οὐκ εἰς τὸ τυχὸν τῷ τυχόντι μεταβολὴν οὖσαν· ὁμοίως δὲ οὐδὲ κινητικὸν τὸ τυχὸν τοῦ τυχόντος· ἀλλ’ ὥσπερ τὸ ἀλλοιωτὸν καὶ τὸ αὐξητὸν ἕτερον, οὕτω καὶ τὸ ἀλλοιωτικὸν καὶ τὸ αὐξητικόν. Τὸν αὐτὸν δὴ τρόπον ὑποληπτέον καὶ τὸ κατὰ τόπον κινητικὸν καὶ κινητὸν οὐ τὸ τυχὸν εἶναι τοῦ τυχόντος.

Εἰ οὖν εἰς τὸ ἄνω καὶ τὸ κάτω κινητικὸν μὲν τὸ βαρυντικὸν καὶ τὸ κουφιστικόν, κινητὸν δὲ τὸ δυνάμει βαρὺ καὶ κοῦφον, τὸ δ’ εἰς τὸν αὑτοῦ τόπον φέρεσθαι ἕκαστον τὸ εἰς τὸ αὑτοῦ εἶδός ἐστι φέρε(310b.) σθαι (καὶ ταύτῃ μᾶλλον ἄν τις ὑπολάβοι ὃ ἔλεγον οἱ ἀρχαῖοι, ὅτι τὸ ὅμοιον φέροιτο πρὸς τὸ ὅμοιον. Τοῦτο γὰρ οὐ συμβαίνει πάντως· οὐ γὰρ ἐάν τις μεταθῇ τὴν γῆν οὗ νῦν ἡ σελήνη, οἰσθήσεται τῶν μορίων ἕκαστον πρὸς αὐτήν, ἀλλ’ ὅπου περ καὶ νῦν. Ὅλως μὲν οὖν τοῖς ὁμοίοις καὶ ἀδιαφόροις ὑπὸ τῆς αὐτῆς κινήσεως ἀνάγκη τοῦτο συμβαίνειν, ὥσθ’ ὅπου πέφυκεν ἕν τι φέρεσθαι μόριον, καὶ τὸ πᾶν. Ἐπεὶ δ’ ὁ τόπος ἐστὶ τὸ τοῦ περιέχοντος πέρας, περιέχει δὲ πάντα τὰ κινούμενα ἄνω καὶ κάτω τό τε ἔσχατον καὶ τὸ μέσον, τοῦτο δὲ τρόπον τινὰ γίγνεται τὸ εἶδος τοῦ περιεχομένου, τὸ εἰς τὸν αὑτοῦ τόπον φέρεσθαι πρὸς τὸ ὅμοιόν ἐστι φέρεσθαι· τὰ γὰρ ἐφεξῆς ὅμοιά ἐστιν ἀλλήλοις, οἷον ὕδωρ ἀέρι καὶ ἀὴρ πυρί. Ἀνάπαλιν δὲ λέγειν τοῖς μέσοις ἔστι, τοῖς δ’ ἄκροις οὔ, οἷον ἀέρα μὲν ὕδατι, ὕδωρ δὲ γῇ· ἀεὶ γὰρ τὸ ἀνώτερον πρὸς τὸ ὑφ’ αὐτὸ, ὡς εἶδος πρὸς ὕλην, οὕτως ἔχει πρὸς ἄλληλα), τὸ δὲ ζητεῖν διὰ τί φέρεται τὸ πῦρ ἄνω καὶ ἡ γῆ κάτω, τὸ αὐτό ἐστι καὶ διὰ τί τὸ ὑγιαστὸν ἂν κινῆται καὶ μεταβάλλῃ ᾗ ὑγιαστόν, εἰς ὑγίειαν ἔρχεται ἀλλ’ οὐκ εἰς λευκότητα. Ὁμοίως δὲ καὶ τἆλλα πάντα τὰ ἀλλοιωτά. Ἀλλὰ μὴν καὶ τὸ αὐξητὸν ὅταν μεταβάλλῃ ᾗ αὐξητόν, οὐκ εἰς ὑγίειαν ἔρχεται ἀλλ’ εἰς μεγέθους ὑπεροχήν. Ὁμοίως δὲ καὶ τούτων ἕκαστον τὸ μὲν ἐν τῷ ποιῷ, τὸ δ’ ἐν τῷ ποσῷ μεταβάλλει, καὶ ἐν τόπῳ τὰ μὲν κοῦφα ἄνω, τὰ δὲ βαρέα κάτω.

Πλὴν ὅτι τὰ μὲν ἐν αὑτοῖς δοκεῖ ἔχειν ἀρχὴν τῆς μεταβολῆς (λέγω δὲ τὸ βαρὺ καὶ τὸ κοῦφον), τὰ δ’ οὔ, ἀλλ’ ἔξωθεν, οἷον τὸ ὑγιαστὸν καὶ τὸ αὐξητόν. Καίτοι ἐνίοτε καὶ ταῦτα ἐξ αὑτῶν μεταβάλλει, καὶ μικρᾶς γενομένης ἐν τοῖς ἔξω κινήσεως τὸ μὲν εἰς ὑγίειαν ἔρχεται, τὸ δ’ εἰς αὔξην· καὶ ἐπεὶ ταὐτὸν τὸ ὑγιαστὸν καὶ τὸ νόσου δεκτικόν, ἐὰν μὲν κινηθῇ ᾗ ὑγιαστόν, εἰς ὑγίειαν φέρεται, ἐὰν δ’ ᾗ νοσερόν, εἰς νόσον.

Μᾶλλον δὲ τὸ βαρὺ καὶ τὸ κοῦφον τούτων ἐν ἑαυτοῖς ἔχειν φαίνεται τὴν ἀρχὴν διὰ τὸ ἐγγύτατα τῆς οὐσίας εἶναι τὴν τούτων ὕλην· σημεῖον δ’ ὅτι ἡ φορὰ ἀπολελυμένων ἐστί, καὶ γενέσει ὑστάτη τῶν κινήσεων, ὥστε πρώτη (311a.) ἂν εἴη κατὰ τὴν οὐσίαν αὕτη ἡ κίνησις. Ὅταν μὲν οὖν γίγνηται ἐξ ὕδατος ἀὴρ καὶ ἐκ βαρέος κοῦφον, ἔρχεται εἰς τὸ ἄνω.

Ἅμα δ’ ἐστὶ κοῦφον, καὶ οὐκέτι γίνεται, ἀλλ’ ἐκεῖ ἐστιν. Φανερὸν δὴ ὅτι δυνάμει ὄν, εἰς ἐντελέχειαν ἰὸν ἔρχεται ἐκεῖ καὶ εἰς τὸ τοσοῦτον καὶ τὸ τοιοῦτον, οὗ ἡ ἐντελέχεια καὶ ὅσου καὶ οἵου [καὶ ὅπου]. Τὸ δ’ αὐτὸ αἴτιον καὶ τοῦ ἤδη ὑπάρχοντα καὶ ὄντα γῆν καὶ πῦρ κινεῖσθαι εἰς τοὺς αὑτῶν τόπους μηδενὸς ἐμποδίζοντος. Καὶ γὰρ ἡ τροφή, ὅταν τὸ κωλῦον, καὶ τὸ ὑγιαστόν, ὅταν τὸ ἐπίσχον μὴ ᾖ, φέρεται εὐθύς. Κινεῖ δὲ τό τε ἐξ ἀρχῆς ποιῆσαν καὶ τὸ ὑποσπάσαν ἢ ὅθεν ἀπεπήδησεν, καθάπερ εἴρηται ἐν τοῖς πρώτοις λόγοις, ἐν οἷς διωρίζομεν ὅτι οὐθὲν τούτων αὐτὸ ἑαυτὸ κινεῖ.

Διὰ τίνα μὲν οὖν αἰτίαν φέρεται τῶν φερομένων ἕκαστον, καὶ τὸ φέρεσθαι εἰς τὸν αὑτοῦ τόπον τί ἐστιν, εἴρηται.

Κεφάλαιο 4

Τὰς δὲ διαφορὰς καὶ τὰ συμβαίνοντα περὶ αὐτὰ νῦν λέγωμεν. Πρῶτον μὲν οὖν διωρίσθω, καθάπερ φαίνεται πᾶσι, βαρὺ μὲν ἁπλῶς τὸ πᾶσιν ὑφιστάμενον, κοῦφον δὲ τὸ πᾶσιν ἐπιπολάζον. Ἁπλῶς δὲ λέγω εἴς τε τὸ γένος βλέπων, καὶ ὅσοις μὴ ἀμφότερα ὑπάρχει· οἷον φαίνεται πυρὸς μὲν τὸ τυχὸν μέγεθος ἄνω φερόμενον, ἐὰν μή τι τύχῃ κωλῦον ἕτερον, γῆς δὲ κάτω· τὸν αὐτὸν δὲ τρόπον καὶ θᾶττον τὸ πλεῖον.

Ἄλλως δὲ βαρὺ καὶ κοῦφον, οἷς ἀμφότερα ὑπάρχει· καὶ γὰρ ἐπιπολάζουσί τισι καὶ ὑφίστανται, καθάπερ ἀὴρ καὶ ὕδωρ· ἁπλῶς μὲν γὰρ οὐδέτερον τούτων κοῦφον ἢ βαρύ· γῆς μὲν γὰρ ἄμφω κουφότερα (ἐπιπολάζει γὰρ αὐτῇ τὸ τυχὸν αὐτῶν μόριον), πυρὸς δὲ βαρύτερα (ὑφίσταται γὰρ αὐτῶν ὁπόσον ἂν ᾖ μόριον), πρὸς ἑαυτὰ δὲ ἁπλῶς τὸ μὲν βαρὺ τὸ δὲ κοῦφον· ἀὴρ μὲν γὰρ ὁπόσος ἂν ᾖ, ἐπιπολάζει ὕδατι, ὕδωρ δὲ ὁπόσον ἂν ᾖ, ἀέρι ὑφίσταται.

Ἐπεὶ δὲ καὶ τῶν ἄλλων τὰ μὲν ἔχει βάρος τὰ δὲ κουφότητα, δῆλον ὅτι τούτων μὲν αἰτία πάντων ἡ ἐν τοῖς ἀσυνθέτοις διαφορά· κατὰ γὰρ τὸ ἐκείνων τετυχηκέναι τοῦ μὲν πλεῖον τοῦ δ᾽ ἔλαττον, ἔσται τὰ μὲν κοῦφα τὰ δὲ βαρέα τῶν σωμάτων. Ὥστε περὶ ἐκείνων λεκτέον· τἆλλα γὰρ ἀκολουθεῖ τοῖς πρώτοις, ὅπερ ἔφαμεν χρῆναι ποιεῖν καὶ τοὺς διὰ τὸ πλῆρες τὸ βαρὺ λέγοντας (311b.) καὶ διὰ τὸ κενὸν τὸ κοῦφον.

Συμβαίνει δὴ μὴ πανταχοῦ ταὐτὰ βαρέα δοκεῖν εἶναι καὶ κοῦφα διὰ τὴν τῶν πρώτων διαφοράν· λέγω δ᾽ οἷον ἐν μὲν ἀέρι βαρύτερον ἔσται ταλαντιαῖον ξύλον μολίβδου μναϊαίου, ἐν δὲ ὕδατι κουφότερον· αἴτιον δ᾽ ὅτι πάντα βάρος ἔχει πλὴν πυρὸς καὶ κουφότητα πλὴν γῆς.

Γῆν μὲν οὖν καὶ ὅσα γῆς ἔχει πλεῖστον, πανταχοῦ βάρος ἔχειν ἀναγκαῖον, ὕδωρ δὲ πανταχοῦ πλὴν ἐν γῇ, ἀέρα δὲ πλὴν ἐν ὕδατι καὶ γῇ· ἐν τῇ αὑτοῦ γὰρ χώρᾳ πάντα βάρος ἔχει πλὴν πυρός, καὶ ὁ ἀήρ. Σημεῖον δ᾽ ὅτι ἕλκει πλεῖον ὁ πεφυσημένος ἀσκὸς τοῦ κενοῦ. Ὥστ᾽ εἴ τι ἀέρος ἔχει πλεῖον ἢ γῆς καὶ ὕδατος, ἐν μὲν ὕδατι ἐνδέχεται κουφότερον εἶναί τινος, ἐν δὲ ἀέρι βαρύτερον· ἀέρι μὲν γὰρ οὐκ ἐπιπολάζει, τῷ δὲ ὕδατι ἐπιπολάζει. Ὅτι δ᾽ ἐστί τι ἁπλῶς κοῦφον καὶ ἁπλῶς βαρύ, ἐκ τῶνδ᾽ ἐστὶ φανερόν. Λέγω δ᾽ ἁπλῶς κοῦφον ὃ ἀεὶ ἄνω καὶ βαρὺ ὃ ἀεὶ κάτω πέφυκε φέρεσθαι μὴ κωλυόμενον· τοιαῦτα γάρ ἐστί τινα, καὶ οὐχ ὥσπερ οἴονταί τινες πάντ᾽ ἔχειν βάρος· βαρὺ μὲν γὰρ δοκεῖ τισιν εἶναι καὶ ἑτέροις, καὶ ἀεὶ φέρεσθαι πρὸς τὸ μέσον. Ἔστι δ’ ὁμοίως καὶ τὸ κοῦφον. Ὁρῶμεν γάρ, καθάπερ εἴρηται πρότερον, ὅτι τὰ γεηρὰ πᾶσιν ὑφίσταται καὶ φέρεται πρὸς τὸ μέσον. Ἀλλὰ μὴν ὥρισται τὸ μέσον. Εἰ τοίνυν ἐστί τι ὃ πᾶσιν ἐπιπολάζει, καθάπερ φαίνεται τὸ πῦρ καὶ ἐν αὐτῷ τῷ ἀέρι ἄνω φερόμενον, ὁ δ’ ἀὴρ ἡσυχάζων, δῆλον ὅτι τοῦτο φέρεται πρὸς τὸ ἔσχατον. Ὥστε βάρος οὐδὲν οἷόν τ’ ἔχειν αὐτό· ὑφίστατο γὰρ ἂν ἄλλῳ· εἰ δὲ τοῦτο, εἴη ἄν τι ἄλλο, ὃ φέρεται ἐπὶ τὸ ἔσχατον, ὃ πᾶσι τοῖς φερομένοις ἐπιπολάζει. Νῦν δ’ οὐδὲν φαίνεται. Τὸ ἄρα πῦρ οὐδὲν ἔχει βάρος, οὐδὲ ἡ γῆ κουφότητα οὐδεμίαν, εἴπερ ὑφίσταται πᾶσι καὶ τὸ ὑφιστάμενον φέρεται ἐπὶ τὸ μέσον.

Ἀλλὰ μὴν ὅτι γ’ ἐστὶ μέσον πρὸς ὃ ἡ φορὰ τοῖς ἔχουσι βάρος καὶ ἀφ’ οὗ τοῖς κούφοις, δῆλον πολλαχόθεν. Πρῶτον μὲν τῷ εἰς ἄπειρον μὴ ἐνδέχεσθαι φέρεσθαι μηθέν. Ὥσπερ γὰρ οὐκ ἔστιν οὐθὲν ἀδύνατον, οὕτως οὐδὲ γίγνεται· ἡ δὲ φορὰ γένεσίς ποθέν ποι.

Ἔπειτα πρὸς ὁμοίας φαίνεται γωνίας τὸ μὲν πῦρ ἄνω φερόμενον, ἡ δὲ γῆ κάτω καὶ πᾶν τὸ βάρος ἔχον. Ὥστ’ ἀνάγκη φέρεσθαι (312a.) πρὸς τὸ μέσον. (Τοῦτο δὲ πότερον συμβαίνει πρὸς τὸ τῆς γῆς μέσον ἢ πρὸς τὸ τοῦ παντός, ἐπεὶ ταὐτὸν αὐτῶν ἐστιν, ἄλλος λόγος.) Ἐπεὶ δὲ τὸ πᾶσιν ὑφιστάμενον φέρεται πρὸς τὸ μέσον, ἀνάγκη τὸ πᾶσιν ἐπιπολάζον φέρεσθαι πρὸς τὸ ἔσχατον τῆς χώρας, ἐν ᾗ ποιοῦνται τὴν κίνησιν· ἐναντίον γὰρ τὸ μὲν μέσον τῷ ἐσχάτῳ, τὸ δὲ ὑφιστάμενον ἀεὶ τῷ ἐπιπολάζοντι.

Διὸ καὶ εὐλόγως τὸ βαρὺ καὶ κοῦφον δύο ἐστίν· καὶ γὰρ οἱ τόποι δύο, τὸ μέσον καὶ τὸ ἔσχατον.

Ἔστι δὲ δή τι καὶ μεταξὺ τούτων, ὃ πρὸς ἑκάτερον αὐτῶν λέγεται θάτερον· ἔστι γὰρ ὡς ἔσχατον καὶ μέσον ἀμφοτέρων ἐστὶ τὸ μεταξύ· διὰ τοῦτό ἐστί τι καὶ ἄλλο βαρὺ καὶ κοῦφον, οἷον ὕδωρ καὶ ἀήρ.

Φαμὲν δὲ τὸ μὲν περιέχον τοῦ εἴδους εἶναι, τὸ δὲ περιεχόμενον τῆς ὕλης. Ἔστι δ’ ἐν πᾶσι τοῖς γένεσιν αὕτη ἡ διάστασις· καὶ γὰρ ἐν τῷ ποιῷ καὶ ἐν τῷ ποσῷ ἐστι τὸ μὲν ὡς εἶδος μᾶλλον, τὸ δ’ ὡς ὕλη. Καὶ ἐν τοῖς κατὰ τόπον ὡσαύτως τὸ μὲν ἄνω τοῦ ὡρισμένου, τὸ δὲ κάτω τῆς ὕλης.

Ὥστε καὶ ἐν αὐτῇ τῇ ὕλῃ τῇ τοῦ βαρέος καὶ κούφου, ᾗ μὲν τοιοῦτον δυνάμει, βαρέος ὕλη, ᾗ δὲ τοιοῦτον, κούφου· καὶ ἔστι μὲν ἡ αὐτή, τὸ δ’ εἶναι οὐ ταὐτόν, ὥσπερ καὶ τὸ νοσερὸν καὶ τὸ ὑγιαστόν. Τὸ γὰρ εἶναι οὐ ταὐτόν· διόπερ οὐδὲ τὸ νοσώδει εἶναι ἢ ὑγιεινῷ.

Κεφάλαιο 5

Τὸ μὲν οὖν ἔχον τοιαύτην ὕλην κοῦφον καὶ ἀεὶ ἄνω, τὸ δὲ τὴν ἐναντίαν βαρὺ καὶ ἀεὶ κάτω· τὸ δ' ἑτέρας μὲν τούτων, ἐχούσας δ' οὕτω πρὸς ἀλλήλας ὡς αὗται ἁπλῶς, καὶ ἄνω καὶ κάτω [φερομένας]· διὸ ἀὴρ καὶ ὕδωρ ἔχουσι καὶ κουφότητα καὶ βάρος ἑκάτερον, καὶ ὕδωρ μὲν πλὴν γῆς πᾶσιν ὑφίσταται, ἀὴρ δὲ πλὴν πυρὸς πᾶσιν ἐπιπολάζει. Ἐπεὶ δ' ἐστὶν ἓν μόνον ὃ πᾶσιν ἐπιπολάζει καὶ ἓν ὃ πᾶσιν ὑφίσταται, ἀνάγκη δύο ἄλλα εἶναι ἃ καὶ ὑφίσταταί τινι καὶ ἐπιπολάζει τινί.

Ὥστε ἀνάγκη καὶ τὰς ὕλας τοσαύτας εἶναι ὅσαπερ ταῦτα, τέτταρας, οὕτω δὲ τέτταρας ὡς μίαν μὲν ἁπάντων τὴν κοινήν, ἄλλως τε καὶ εἰ γίγνονται ἐξ ἀλλήλων, ἀλλὰ τὸ εἶναι ἕτερον. Οὐδὲν γὰρ κωλύει τῶν (312b.) ἐναντίων εἶναι μεταξὺ καὶ ἓν καὶ πλείω, ὥσπερ ἐν χρώμασιν· πολλαχῶς γὰρ λέγεται τὸ μεταξὺ καὶ τὸ μέσον.

Ἐν μὲν οὖν τῇ αὑτοῦ χώρᾳ τῶν ἐχόντων καὶ βάρος καὶ κουφότητα ἕκαστον ἔχει βάρος (ἡ δὲ γῆ ἐν ἅπασιν)· κουφότητα δ' οὐκ ἔχει, ἀλλ' ἢ ἐν οἷς ἐπιπολάζει.

Διὸ καὶ ὑποσπωμένων μὲν φέρεται εἰς τὰ ἐφεξῆς κάτω, ἀὴρ μὲν εἰς τὴν τοῦ ὕδατος χώραν, ὕδωρ δὲ εἰς τὴν τῆς γῆς. Ἄνω δ' εἰς τὴν τοῦ πυρός, ἀναιρουμένου τοῦ πυρός, οὐκ οἰσθήσεται ὁ ἀήρ, εἰ μὴ βίᾳ, ὥσπερ καὶ τὸ ὕδωρ σπᾶται, ὅταν γένηται τὸ ἐπίπεδον ἓν καὶ θᾶττον σπάσῃ τις ἄνω τῆς φορᾶς, ἣν φέρεται τὸ ὕδωρ κάτω. Οὐδὲ τὸ ὕδωρ εἰς τὴν τοῦ ἀέρος, ἀλλ' ἢ ὡς νῦν εἴρηται. Ἡ γῆ δὲ τοῦτο οὐ πάσχει, ὅτι οὐχ ἓν τὸ ἐπίπεδον. Διὸ τὸ μὲν ὕδωρ εἰς τὸ ἀγγεῖον πυρωθὲν σπᾶται, γῆ δ' οὔ. Ὥσπερ δὲ οὐδ' ἡ γῆ ἄνω, οὐδὲ τὸ πῦρ κάτω εἶσιν ὑφαιρουμένου τοῦ ἀέρος· οὐδὲν γὰρ ἔχει βάρος οὐδ' ἐν τῇ αὑτοῦ χώρᾳ, ὥσπερ οὐδ' ἡ γῆ κουφότητα. Φέρεται δὲ κάτω τὰ δύο ὑποσπωμένων, ὅτι τὸ μὲν ἁπλῶς βαρύ ἐστιν ὃ πᾶσιν ὑφίσταται, τὸ δὲ πρός τι βαρὺ ὂν εἰς τὴν αὑτοῦ χώραν ἢ οἷς ἐπιπολάζει, δι' ὁμοιότητα τῆς ὕλης.

Ὅτι δ' ἀναγκαῖον ποιεῖν ἴσας τὰς διαφορὰς αὐτοῖς, δῆλον. Εἰ μὲν γὰρ μία ὕλη πάντων, οἷον ἢ τὸ κενὸν ἢ τὸ πλῆρες ἢ τὸ μέγεθος ἢ τὰ τρίγωνα, ἢ πάντα ἄνω ἢ πάντα κάτω οἰσθήσεται, ἡ δὲ ἑτέρα φορὰ οὐκέτι ἔσται· ὥστ' ἢ κοῦφον οὐδὲν ἔσται ἁπλῶς, εἰ πάντα ῥέπει μᾶλλον τῷ ἐκ μειζόνων εἶναι σωμάτων ἢ ἐκ πλειόνων ἢ ὅτι πλήρη (τοῦτο δὲ ὁρῶμέν τε, καὶ δέδεικται ὅτι ὁμοίως κάτω

τε ἀεὶ καὶ πανταχοῦ φέρεται καὶ ἄνω)· ἐὰν δὲ τὸ κενὸν ἤ τι τοιοῦτον ὃ ἀεὶ ἄνω, οὐκ ἔσται ὃ ἀεὶ κάτω. Καὶ τῶν μεταξὺ δὴ ἔνια ἔσται κάτω θᾶττον γῆς· ἐν γὰρ τῷ πολλῷ ἀέρι τρίγωνα πλείω ἢ τὰ στερεὰ ἢ τὰ μικρὰ ἔσται. Οὐ φαίνεται δ’ οὐδὲ ἓν μόριον ἀέρος κάτω φερόμενον. Ὁμοίως δὲ καὶ ἐπὶ τοῦ κούφου, ἐὰν ἐκεῖνο ποιῇ τις ὑπερέχειν τῇ ὕλῃ.

Ἐὰν δὲ δύο, τὰ μεταξὺ πῶς ἔσται ποιοῦντα ἃ ποιεῖ ἀήρ τε καὶ ὕδωρ; (Οἷον εἴ τις (313a.) φαίη εἶναι τὸ κενὸν καὶ πλῆρες· τὸ μὲν οὖν πῦρ κενόν, διὸ ἄνω, τὴν δὲ γῆν πλῆρες, διὸ κάτω· ἀέρα δὲ πλεῖον πυρὸς ἔχειν, ὕδωρ δὲ γῆς). Ἔσται γάρ τι ὕδωρ ὃ πλεῖον ἕξει πῦρ ὀλίγου ἀέρος, καὶ ἀὴρ πολὺς ὀλίγου ὕδατος γῆν πλείω, ὥστε δεήσει ἀέρος τι πλῆθος θᾶττον φέρεσθαι κάτω ὕδατος ὀλίγου. Τοῦτο δ’ οὐ φαίνεται οὐδαμοῦ οὐδέποτε.

Ἀνάγκη τοίνυν, ὥσπερ καὶ τὸ πῦρ ἄνω, ὅτι τοδὶ ἔχει, οἷον τὸ κενόν, τὰ δ’ ἄλλα οὔ, καὶ τὴν γῆν κάτω, ὅτι τὸ πλῆρες ἔχει, καὶ τὸν ἀέρα εἰς τὴν αὑτοῦ καὶ ἀνώτερον τοῦ ὕδατος, ὅτι τοδί τι ἔχει, καὶ τὸ ὕδωρ κάτω, ὅτι τοιόνδε τι.

Εἰ δὲ ἦν ἕν τι ἄμφω ἢ δύο, ἄμφω δ’ ὑπάρξει ταῦτα ἑκατέρῳ, ἔσται τι πλῆθος ἑκατέρου ὃ ὑπερέξει ὕδωρ τε ἀέρος ὀλίγου τῷ ἄνω καὶ ἀὴρ ὕδατος τῷ κάτω, καθάπερ εἴρηται πολλάκις.

Κεφάλαιο 6

Τὰ δὲ σχήματα οὐκ αἴτια τοῦ φέρεσθαι ἁπλῶς ἢ κάτω ἢ ἄνω, ἀλλὰ τοῦ θᾶττον ἢ βραδύτερον. Δι' ἃς δ' αἰτίας, οὐ χαλεπὸν ἰδεῖν· ἀπορεῖται γὰρ νῦν διὰ τί τὰ πλατέα σιδήρια καὶ μόλιβδος ἐπιπλεῖ ἐπὶ τοῦ ὕδατος, ἄλλα δὲ ἐλάττω καὶ ἧττον βαρέα, ἂν ᾖ στρογγύλα ἢ μακρά, οἷον βελόνη, κάτω φέρεται, καὶ ὅτι ἔνια διὰ μικρότητα ἐπιπλεῖ, οἷον τὸ ψῆγμα καὶ ἄλλα γεώδη καὶ κονιορτώδη ἐπὶ τοῦ ἀέρος.

Περὶ δὴ τούτων ἁπάντων τὸ μὲν νομίζειν αἴτιον εἶναι ὥσπερ Δημόκριτος οὐκ ὀρθῶς ἔχει. Ἐκεῖνος γάρ φησι τὰ ἀναφερόμενα θερμὰ ἐκ τοῦ ὕδατος ἀνακωχεύειν (313b.) τὰ πλατέα τῶν ἐχόντων βάρος, τὰ δὲ στενὰ διαπίπτειν· ὀλίγα γὰρ εἶναι τὰ ἀντικρούοντα αὐτοῖς.

Ἔδει δ' ἐν τῷ ἀέρι ἔτι μᾶλλον τοῦτο ποιεῖν, ὥσπερ ἐνίσταται κἀκεῖνος αὐτός.

Ἀλλ' ἐνστὰς λύει μαλακῶς· φησὶ γὰρ οὐκ εἰς ἓν ὁρμᾶν τὸν σοῦν, λέγων τὸν σοῦν τὴν κίνησιν τῶν ἄνω φερομένων σωμάτων.

Ἐπεὶ δ' ἐστὶ τὰ μὲν εὐδιαίρετα τῶν συνεχῶν τὰ δ' ἧττον, καὶ διαιρετικὰ δὴ τὸν αὐτὸν τρόπον τὰ μὲν μᾶλλον τὰ δ' ἧττον, ταύτας εἶναι νομιστέον αἰτίας. Εὐδιαίρετον μὲν οὖν τὸ εὐόριστον, καὶ μᾶλλον τὸ μᾶλλον· ἀὴρ δὲ μᾶλλον ὕδατος τοιοῦτον, ὕδωρ δὲ γῆς. Καὶ τὸ ἔλαττον δὴ ἐν ἑκάστῳ γένει εὐδιαιρετώτερον καὶ διασπᾶται ῥᾷον. Τὰ μὲν οὖν ἔχοντα πλάτος διὰ τὸ πολὺ περιλαμβάνειν ἐπιμένει, διὰ τὸ μὴ διασπᾶσθαι τὸ πλεῖον ῥᾳδίως· τὰ δ' ἐναντίως ἔχοντα τοῖς σχήμασι διὰ τὸ ὀλίγον περιλαμβάνειν φέρεται κάτω, διὰ τὸ διαιρεῖν ῥᾳδίως. Καὶ ἐν ἀέρι πολὺ μᾶλλον, ὅσῳ εὐδιαιρετώτερος ὕδατός ἐστιν.

Ἐπεὶ δὲ τό τε βάρος ἔχει τινὰ ἰσχὺν καθ' ἣν φέρεται κάτω, καὶ τὰ συνεχῆ πρὸς τὸ μὴ διασπᾶσθαι, ταῦτα δεῖ πρὸς ἄλληλα συμβάλλειν· ἐὰν γὰρ ὑπερβάλλῃ ἡ ἰσχὺς ἡ τοῦ βάρους τῆς ἐν τῷ συνεχεῖ πρὸς τὴν διάσπασιν καὶ διαίρεσιν, βιάσεται κάτω θᾶττον, ἐὰν δὲ ἀσθενεστέρα ᾖ, ἐπιπολάσει.

Περὶ μὲν οὖν βαρέος καὶ κούφου καὶ τῶν περὶ αὐτὰ συμβεβηκότων διωρίσθω τοῦτον ἡμῖν τὸν τρόπον.

Περὶ γενέσεως καὶ φθορᾶς (314a) On Generation and Corruption

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Βιβλίο 1

Κεφάλαιο 1

(314a.) Περὶ δὲ γενέσεως καὶ φθορᾶς τῶν φύσει γενομένων καὶ φθειρομένων, ὁμοίως κατὰ πάντων, τάς τε αἰτίας διαιρετέον καὶ τοὺς λόγους αὐτῶν, ἔτι δὲ περὶ αὐξήσεως καὶ ἀλλοιώσεως, τί ἑκάτερον, καὶ πότερον τὴν αὐτὴν ὑποληπτέον φύσιν εἶναι ἀλλοιώσεως καὶ γενέσεως, ἢ χωρίς, ὥσπερ διώρισται καὶ τοῖς ὀνόμασιν. Τῶν μὲν οὖν ἀρχαίων οἱ μὲν τὴν καλουμένην ἁπλῆν γένεσιν ἀλλοίωσιν εἶναί φασιν, οἱ δ’ ἕτεροι ἀλλοίωσιν καὶ γένεσιν. Ὅσοι μὲν γὰρ ἕν τι τὸ πᾶν λέγουσιν εἶναι καὶ πάντα ἐξ ἑνὸς γεννῶσι, τούτοις μὲν ἀνάγκη τὴν γένεσιν ἀλλοίωσιν φάναι καὶ τὸ κυρίως γινόμενον ἀλλοιοῦσθαι.

Ὅσοι δὲ πλείω τὴν ὕλην ἑνὸς τιθέασιν, οἷον Ἐμπεδοκλῆς καὶ Ἀναξαγόρας καὶ Λεύκιππος, τούτοις δὲ ἕτερον. Καίτοι Ἀναξαγόρας γε τὴν οἰκείαν φωνὴν ἠγνόησεν· λέγει γοῦν ὡς τὸ γίνεσθαι καὶ ἀπόλλυσθαι ταὐτὸν καθέστηκε τῷ ἀλλοιοῦσθαι, πολλὰ δὲ λέγει τὰ στοιχεῖα, καθάπερ καὶ ἕτεροι. Ἐμπεδοκλῆς μὲν γὰρ τὰ μὲν σωματικὰ τέτταρα, τὰ δὲ πάντα μετὰ τῶν κινούντων ἓξ τὸν ἀριθμόν, Ἀναξαγόρας δὲ ἄπειρα καὶ Λεύκιππος καὶ Δημόκριτος. Ὁ μὲν γὰρ τὰ ὁμοιομερῆ στοιχεῖα τίθησιν, οἷον ὀστοῦν καὶ σάρκα καὶ μυελόν, καὶ τῶν ἄλλων ὧν ἑκάστῳ συνώνυμον τὸ μέρος ἐστίν.

Δημόκριτος δὲ καὶ Λεύκιππος ἐκ σωμάτων ἀδιαιρέτων τἆλλα συγκεῖσθαί φασι, ταῦτα δ’ ἄπειρα καὶ τὸ πλῆθος εἶναι καὶ τὰς μορφάς, αὐτὰ δὲ πρὸς αὑτὰ διαφέρειν τούτοις ἐξ ὧν εἰσὶ καὶ θέσει καὶ τάξει τούτων. Ἐναντίως δὲ φαίνονται λέγοντες οἱ περὶ Ἀναξαγόραν τοῖς περὶ Ἐμπεδοκλέα· ὁ μὲν γάρ φησι πῦρ καὶ ὕδωρ καὶ ἀέρα καὶ γῆν στοιχεῖα τέσσαρα καὶ ἁπλᾶ εἶναι μᾶλλον ἢ σάρκα καὶ ὀστοῦν καὶ τὰ τοιαῦτα τῶν ὁμοιομερῶν, οἱ δὲ ταῦτα μὲν ἁπλᾶ καὶ στοιχεῖα, γῆν δὲ καὶ πῦρ καὶ ὕδωρ καὶ ἀέρα σύνθετα· (314b.) πανσπερμίαν γὰρ εἶναι τούτων. Τοῖς μὲν οὖν ἐξ ἑνὸς πάντα κατασκευάζουσιν ἀναγκαῖον λέγειν τὴν γένεσιν καὶ τὴν φθορὰν ἀλλοίωσιν· ἀεὶ γὰρ μένειν τὸ ὑποκείμενον ταὐτὸ καὶ ἕν· τὸ δὲ τοιοῦτον ἀλλοιοῦσθαί φαμεν· τοῖς δὲ τὰ γένη πλείω ποιοῦσι διαφέρειν τὴν ἀλλοίωσιν τῆς γενέσεως· συνιόντων γὰρ καὶ διαλυομένων ἡ γένεσις συμβαίνει καὶ ἡ φθορά. Διὸ λέγει τοῦτον τὸν τρόπον καὶ Ἐμπεδοκλῆς, ὅτι “φύσις οὐδενός ἐστιν, ... ἀλλὰ μόνον μίξις τε διάλλαξίς τε μιγέντων.” Ὅτι μὲν οὖν οἰκεῖος ὁ λόγος αὐτῶν τῇ ὑποθέσει οὕτω φάναι, δῆλον, καὶ ὅτι λέγουσι τὸν τρόπον τοῦτον· ἀναγκαῖον δὲ καὶ τούτοις τὴν ἀλλοίωσιν εἶναι μέν τι φάναι παρὰ τὴν γένεσιν, ἀδύνατον μέντοι κατὰ τὰ ὑπ’ ἐκείνων λεγόμενα. Τοῦτο δ’ ὅτι λέγομεν ὀρθῶς, ῥᾴδιον συνιδεῖν. Ὥσπερ γὰρ ὁρῶμεν ἠρεμούσης τῆς οὐσίας ἐν αὐτῇ μεταβολὴν κατὰ μέγεθος, τὴν καλουμένην αὔξησιν καὶ φθίσιν, οὕτω καὶ ἀλλοίωσιν. Οὐ μὴν ἀλλ’ ἐξ ὧν λέγουσιν οἱ πλείους ἀρχὰς ποιοῦντες μιᾶς ἀδύνατον ἀλλοιοῦσθαι. Τὰ γὰρ πάθη, καθ’ ἅ φαμεν τοῦτο συμβαίνειν, διαφοραὶ τῶν στοιχείων εἰσίν, λέγω δ’ οἷον θερμὸν ψυχρόν, λευκὸν μέλαν, ξηρὸν ὑγρόν, μαλακὸν σκληρὸν καὶ τῶν ἄλλων ἕκαστον, ὥσπερ καὶ φησὶν Ἐμπεδοκλῆς “ἠέλιον μὲν λευκὸν ὁρᾶν καὶ θερμὸν ἁπάντῃ, ὄμβρον δ’ ἐν πᾶσιν δνοφόεντά τε ῥιγαλέον τε”. Ὁμοίως δὲ διορίζει καὶ ἐπὶ τῶν λοιπῶν. Ὥστ’ εἰ μὴ δυνατὸν ἐκ πυρὸς γενέσθαι ὕδωρ μηδ’ ἐξ ὕδατος γῆν, οὐδ’ ἐκ λευκοῦ μέλαν ἔσται οὐδὲν οὐδ’ ἐκ μαλακοῦ σκληρόν· ὁ δ’ αὐτὸς λόγος καὶ περὶ τῶν ἄλλων· τοῦτο δ’ ἦν ἀλλοίωσις. Ἧι καὶ φανερὸν ὅτι μίαν ἀεὶ τοῖς ἐναντίοις ὑποθετέον ὕλην, ἄν τε μεταβάλλῃ κατὰ τόπον, ἄν τε κατ’ αὔξησιν καὶ φθίσιν, ἄν τε κατ’ ἀλλοίωσιν. Ἔτι δ’ ὁμοίως ἀναγκαῖον εἶναι τοῦτο καὶ ἀλλοίωσιν· εἴτε γὰρ ἀλλοίωσίς (315a.) ἐστι, καὶ τὸ ὑποκείμενον ἓν στοιχεῖον καὶ μία πάντων ὕλη τῶν ἐχόντων εἰς ἄλληλα μεταβολήν, κἂν εἰ τὸ ὑποκείμενον ἕν, ἔστιν ἀλλοίωσις.

Ἐμπεδοκλῆς μὲν οὖν ἔοικεν ἐναντία λέγειν καὶ πρὸς τὰ φαινόμενα καὶ πρὸς αὑτὸν αὐτός. Ἅμα μὲν γὰρ οὔ φησιν ἕτερον ἐξ ἑτέρου γίνεσθαι τῶν στοιχείων οὐδέν, ἀλλὰ τἆλλα πάντα ἐκ τούτων, ἅμα δ’ ὅταν εἰς ἓν συναγάγῃ τὴν ἅπασαν φύσιν πλὴν τοῦ νείκους, ἐκ τοῦ ἑνὸς γίνεσθαι πάλιν ἕκαστον. Ὥστ’ ἐξ ἑνός τινος δῆλον ὅτι διαφοραῖς τισι χωριζομένων καὶ πάθεσιν ἐγένετο τὸ μὲν ὕδωρ τὸ δὲ πῦρ, καθάπερ λέγει τὸν μὲν ἥλιον λευκὸν καὶ θερμόν, τὴν δὲ γῆν βαρὺ καὶ σκληρόν· ἀφαιρουμένων οὖν τούτων τῶν διαφορῶν (εἰσὶ γὰρ ἀφαιρεταὶ γενόμεναί γε) δῆλον ὡς ἀνάγκη γίνεσθαι καὶ γῆν ἐξ ὕδατος καὶ ὕδωρ ἐκ γῆς, ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστον, οὐ τότε μόνον ἀλλὰ καὶ νῦν, μεταβάλλοντά γε τοῖς πάθεσιν. Ἔστι δ’ ἐξ ὧν εἴρηκε δυνάμενα προσγίνεσθαι καὶ χωρίζεσθαι πάλιν, ἄλλως τε καὶ μαχομένων ἀλλήλοις ἔτι τοῦ νείκους καὶ τῆς φιλίας. Διόπερ καὶ τότε ἐξ ἑνὸς ἐγεννήθησαν· οὐ γὰρ δὴ πῦρ γε καὶ γῆ καὶ ὕδωρ ὄντα ἓν ἦν τὸ πᾶν. Ἄδηλον δὲ καὶ πότερον ἀρχὴν αὐτῶν θετέον τὸ ἓν ἢ τὰ πολλά, λέγω δὲ πῦρ καὶ γῆν καὶ τὰ σύστοιχα τούτων. Ἧι μὲν γὰρ ὡς ὕλη ὑπόκειται, ἐξ οὗ μεταβάλλοντα διὰ τὴν κίνησιν γίνονται γῆ καὶ πῦρ, τὸ ἓν στοιχεῖον· ᾗ δὲ τοῦτο μὲν ἐκ συνθέσεως γίνεται συνιόντων ἐκείνων, ἐκεῖνα δ’ ἐκ διαλύσεως, στοιχειωδέστερα ἐκεῖνα καὶ πρότερα τὴν φύσιν.

Κεφάλαιο 2

Ὅλως τε δὴ περὶ γενέσεως καὶ φθορᾶς τῆς ἁπλῆς λεκτέον, πότερον ἔστιν ἢ οὐκ ἔστι καὶ πῶς ἔστιν, καὶ περὶ τῶν ἄλλων ἁπλῶν κινήσεων, οἷον περὶ αὐξήσεως καὶ ἀλλοιώσεως.

Πλάτων μὲν οὖν μόνον περὶ γενέσεως ἐσκέψατο καὶ φθορᾶς, ὅπως ὑπάρχει τοῖς πράγμασι, καὶ περὶ γενέσεως οὐ πάσης ἀλλὰ τῆς τῶν στοιχείων· πῶς δὲ σάρκες ἢ ὀστᾶ ἢ τῶν ἄλλων τι τῶν τοιούτων, οὐδέν· ἔτι οὔτε περὶ ἀλλοιώσεως οὔτε περὶ αὐξήσεως, τίνα τρόπον ὑπάρχουσι τοῖς πράγμασιν. Ὅλως δὲ παρὰ τὰ ἐπιπολῆς περὶ οὐδενὸς οὐδεὶς ἐπέστησεν ἔξω Δημοκρίτου. Οὗτος δ’ ἔοικε μὲν περὶ ἁπάντων φροντίσαι, ἤδη (315b.) δὲ ἐν τῷ πῶς διαφέρειν. Οὔτε γὰρ περὶ αὐξήσεως οὐδεὶς οὐδὲν διώρισεν, ὥσπερ λέγομεν, ὅ τι μὴ κἂν ὁ τυχὼν εἴπειεν, ὅτι προσιόντος αὐξάνονται τῷ ὁμοίῳ (πῶς δὲ τοῦτο, οὐκέτι), οὐδὲ περὶ μίξεως, οὔτε περὶ τῶν ἄλλων ὡς εἰπεῖν οὐδενός, οἷον τοῦ ποιεῖν καὶ τοῦ πάσχειν, τίνα τρόπον τὸ μὲν ποιεῖ τὸ δὲ πάσχει τὰς φυσικὰς ποιήσεις. Δημόκριτος δὲ καὶ Λεύκιππος ποιήσαντες τὰ σχήματα τὴν ἀλλοίωσιν καὶ τὴν γένεσιν ἐκ τούτων ποιοῦσι, διακρίσει μὲν καὶ συγκρίσει γένεσιν καὶ φθοράν, τάξει δὲ καὶ θέσει ἀλλοίωσιν. Ἐπεὶ δ’ ᾤοντο τἀληθὲς ἐν τῷ φαίνεσθαι, ἐναντία δὲ καὶ ἄπειρα τὰ φαινόμενα, τὰ σχήματα ἄπειρα ἐποίησαν, ὥστε ταῖς μεταβολαῖς τοῦ συγκειμένου τὸ αὐτὸ ἐναντίον δοκεῖν ἄλλῳ καὶ ἄλλῳ, καὶ μετακινεῖσθαι μικροῦ ἐμμιγνυμένου καὶ ὅλως ἕτερον φαίνεσθαι ἑνὸς μετακινηθέντος· ἐκ τῶν αὐτῶν γὰρ τραγῳδία καὶ κωμῳδία γίνεται γραμμάτων.

Ἐπεὶ δὲ δοκεῖ σχεδὸν πᾶσιν ἕτερον εἶναι γένεσις καὶ ἀλλοίωσις, καὶ γίνεσθαι μὲν καὶ φθείρεσθαι συγκρινόμενα καὶ διακρινόμενα, ἀλλοιοῦσθαι δὲ μεταβαλλόντων τῶν παθημάτων, περὶ τούτων ἐπιστήσασι θεωρητέον. Ἀπορίας γὰρ ἔχει ταῦτα καὶ πολλὰς καὶ εὐλόγους. Εἰ μὲν γάρ ἐστι σύγκρισις ἡ γένεσις, πολλὰ ἀδύνατα συμβαίνει· εἰσὶ δ’ αὖ λόγοι ἕτεροι ἀναγκαστικοὶ καὶ οὐκ εὔποροι διαλύειν ὡς οὐκ ἐνδέχεται ἄλλως ἔχειν. Εἴτε μή ἐστι σύγκρισις ἡ γένεσις, ἢ ὅλως οὐκ ἔστι γένεσις ἢ ἀλλοίωσις, ἢ εἰ καὶ τοῦτο διαλῦσαι χαλεπὸν ὂν πειρατέον.

Ἀρχὴ δὲ τούτων πάντων, πότερον οὕτω γίνεται καὶ ἀλλοιοῦται καὶ αὐξάνεται τὰ ὄντα καὶ τἀναντία τούτοις πάσχει, τῶν πρώτων ὑπαρχόντων μεγεθῶν ἀδιαιρέτων, ἢ οὐθέν ἐστι μέγεθος ἀδιαίρετον· διαφέρει γὰρ τοῦτο πλεῖστον. Καὶ πάλιν εἰ μεγέθη, πότερον, ὡς Δημόκριτος καὶ Λεύκιππος, σώματα ταῦτ’ ἐστίν, ἢ ὥσπερ ἐν τῷ Τιμαίῳ ἐπίπεδα. Τοῦτο μὲν οὖν αὐτό, καθάπερ καὶ ἐν ἄλλοις εἰρήκαμεν, ἄλογον μέχρι ἐπιπέδων διαλῦσαι. Διὸ μᾶλλον εὔλογον σώματα εἶναι ἀδιαίρετα.

Ἀλλὰ καὶ ταῦτα πολλὴν ἔχει ἀλογίαν. Ὅμως δὲ τούτοις ἀλλοίωσιν καὶ γένεσιν ἐνδέχεται ποιεῖν, καθάπερ εἴρηται, τροπῇ καὶ διαθιγῇ μετακινοῦντα τὸ αὐτὸ καὶ ταῖς τῶν σχημά(316a.) των διαφοραῖς, ὅπερ ποιεῖ Δημόκριτος. Διὸ καὶ χροιὰν οὔ φησιν εἶναι· τροπῇ γὰρ χρωματίζεσθαι. Τοῖς δ’ εἰς ἐπίπεδα διαιροῦσιν οὐκέτι· οὐδὲν γὰρ γίνεται πλὴν στερεὰ συντιθεμένων· πάθος γὰρ οὐδ’ ἐγχειροῦσι γεννᾶν οὐδὲν ἐξ αὐτῶν.

Αἴτιον δὲ τοῦ ἐπ’ ἔλαττον δύνασθαι τὰ ὁμολογούμενα συνορᾶν ἡ ἀπειρία. Διὸ ὅσοι ἐνῳκήκασι μᾶλλον ἐν τοῖς φυσικοῖς μᾶλλον δύνανται ὑποτίθεσθαι τοιαύτας ἀρχὰς αἳ ἐπὶ πολὺ δύνανται συνείρειν· οἱ δ’ ἐκ τῶν πολλῶν λόγων ἀθεώρητοι τῶν ὑπαρχόντων ὄντες, πρὸς ὀλίγα βλέψαντες, ἀποφαίνονται ῥᾷον. Ἴδοι δ’ ἄν τις καὶ ἐκ τούτων ὅσον διαφέρουσιν οἱ φυσικῶς καὶ λογικῶς σκοποῦντες· περὶ γὰρ τοῦ ἄτομα εἶναι μεγέθη οἱ μέν φασιν ὅτι τὸ αὐτοτρίγωνον πολλὰ ἔσται, Δημόκριτος δ’ ἂν φανείη οἰκείοις καὶ φυσικοῖς λόγοις πεπεῖσθαι. Δῆλον δ’ ἔσται ὃ λέγομεν προιοῦσιν.

Ἔχει γὰρ ἀπορίαν, εἴ τις θείη σῶμά τι εἶναι καὶ μέγεθος πάντῃ διαιρετόν, καὶ τοῦτο δυνατόν. Τί γὰρ ἔσται ὅπερ τὴν διαίρεσιν διαφεύγει; εἰ γὰρ πάντῃ διαιρετόν, καὶ τοῦτο δυνατόν, κἂν ἅμα εἴη τοῦτο πάντῃ διῃρημένον, καὶ εἰ μὴ ἅμα διῄρηται· κἂν εἰ τοῦτο γένοιτο, οὐδὲν ἂν εἴη ἀδύνατον. Οὐκοῦν καὶ κατὰ τὸ μέσον ὡσαύτως, καὶ ὅλως δέ, εἰ πάντῃ πέφυκε διαιρετόν, ἂν διαιρεθῇ, οὐδὲν ἔσται ἀδύνατον γεγονός, ἐπεὶ οὐδ’ ἂν εἰς μυρία μυριάκις διῃρημένα ᾖ, οὐδὲν ἀδύνατον· καίτοι ἴσως οὐδεὶς ἂν διέλοι. Ἐπεὶ τοίνυν πάντῃ τοιοῦτόν ἐστι τὸ σῶμα, διῃρήσθω. Τί οὖν ἔσται λοιπόν; μέγεθος; οὐ γὰρ οἷόν τε· ἔσται γάρ τι οὐ διῃρημένον, ἦν δὲ πάντῃ διαιρετόν. Ἀλλὰ μὴν εἰ μηδὲν ἔσται σῶμα μηδὲ μέγεθος, διαίρεσις δ’ ἔσται, ἢ ἐκ στιγμῶν ἔσται, καὶ ἀμεγέθη ἐξ ὧν σύγκειται, ἢ οὐδὲν παντάπασιν, ὥστε κἂν γίνοιτο ἐκ μηδενὸς κἂν εἴη συγκείμενον, καὶ τὸ πᾶν δὴ οὐδὲν ἄλλ’ ἢ φαινόμενον. Ὁμοίως δὲ κἂν ᾖ ἐκ στιγμῶν, οὐκ ἔσται ποσόν. Ὁπότε γὰρ ἥπτοντο καὶ ἓν ἦν μέγεθος καὶ ἅμα ἦσαν, οὐδὲν ἐποίουν μεῖζον τὸ πᾶν. Διαιρεθέντος γὰρ εἰς δύο καὶ πλείω, οὐδὲν ἔλαττον οὐδὲ μεῖζον τὸ πᾶν τοῦ πρότερον, ὥστε κἂν πᾶσαι συντεθῶσιν, οὐδὲν ποιήσουσι μέγεθος. Ἀλλὰ μὴν καὶ εἴ τι διαιρουμένου οἷον ἔκπρισμα (316b.) γίνεται τοῦ σώματος, καὶ οὕτως ἐκ τοῦ μεγέθους σῶμά τι ἀπέρχεται, ὁ αὐτὸς λόγος, ἐκεῖνο πῶς διαιρετόν. Εἰ δὲ μὴ σῶμα ἀλλ’ εἶδός τι χωριστὸν ἢ πάθος ὃ ἀπῆλθεν, καὶ ἔστι τὸ μέγεθος στιγμαὶ ἢ ἁφαὶ τοδὶ παθοῦσαι, ἄτοπον ἐκ μὴ μεγεθῶν μέγεθος εἶναι. Ἔτι δὲ ποῦ ἔσονται, καὶ ἀκίνητοι ἢ κινούμεναι αἱ στιγμαί; ἁφή τε ἀεὶ μία δυοῖν τινων, ὡς ὄντος τινὸς παρὰ τὴν ἁφὴν καὶ τὴν διαίρεσιν καὶ τὴν στιγμήν. Εἰ δή τις θήσεται ὁτιοῦν ἢ ὁπηλικονοῦν σῶμα εἶναι πάντῃ διαιρετόν, πάντα ταῦτα συμβαίνει. Ἔτι ἐὰν διελὼν συνθῶ τὸ ξύλον ἤ τι ἄλλο, πάλιν ἴσον τε καὶ ἕν. Οὐκοῦν οὕτως ἔχει δηλονότι κἂν τέμω τὸ ξύλον καθ’ ὁτιοῦν σημεῖον. Πάντῃ ἄρα διῄρηται δυνάμει. Τί οὖν ἔστι παρὰ τὴν διαίρεσιν; εἰ γὰρ καὶ ἔστι τι πάθος, ἀλλὰ πῶς εἰς ταῦτα διαλύεται καὶ γίνεται ἐκ τούτων; ἢ πῶς χωρίζεται ταῦτα; ὥστ’ εἴπερ ἀδύνατον ἐξ ἁφῶν ἢ στιγμῶν εἶναι τὰ μεγέθη, ἀνάγκη εἶναι σώματα ἀδιαίρετα καὶ μεγέθη. Οὐ μὴν ἀλλὰ καὶ ταῦτα θεμένοις οὐχ ἧττον συμβαίνει ἀδύνατα. Ἔσκεπται δὲ περὶ αὐτῶν ἐν ἑτέροις. Ἀλλὰ ταῦτα πειρατέον λύειν· διὸ πάλιν ἐξ ἀρχῆς τὴν ἀπορίαν λεκτέον.

Τὸ μὲν οὖν ἅπαν σῶμα αἰσθητὸν εἶναι διαιρετὸν καθ’ ὁτιοῦν σημεῖον καὶ ἀδιαίρετον οὐδὲν ἄτοπον· τὸ μὲν γὰρ δυνάμει διαιρετόν, τὸ δ’ ἐντελεχείᾳ ὑπάρξει. Τὸ δ’ εἶναι ἅμα πάντῃ διαιρετὸν δυνάμει ἀδύνατον δόξειεν ἂν εἶναι. Εἰ γὰρ δυνατόν, κἂν γένοιτο, οὐχ ὥστε εἶναι ἅμα ἄμφω ἐντελεχείᾳ ἀδιαίρετον καὶ διῃρημένον, ἀλλὰ διῃρημένον καθ’ ὁτιοῦν σημεῖον. Οὐδὲν ἄρα ἔσται λοιπόν, καὶ ἀσώματον ἐφθαρμένον τὸ σῶμα, καὶ γίνοιτο δ’ ἂν πάλιν ἤτοι ἐκ στιγμῶν ἢ ὅλως ἐξ οὐδενός. Καὶ τοῦτο πῶς δυνατόν; ἀλλὰ μὴν ὅτι γε διαιρεῖται εἰς χωριστὰ καὶ ἀεὶ εἰς ἐλάττω μεγέθη καὶ εἰς ἀπέχοντα καὶ κεχωρισμένα, φανερόν. Οὔτε δὴ κατὰ μέρος διαιροῦντι εἴη ἂν ἄπειρος ἡ θρύψις, οὔτε ἅμα οἷόν τε διαιρεθῆναι κατὰ πᾶν σημεῖον (οὐ γὰρ δυνατόν), ἀλλὰ μέχρι του. Ἀνάγκη ἄρα ἄτομα ἐνυπάρχειν μεγέθη ἀόρατα, ἄλλως τε καὶ εἴπερ ἔσται γένεσις καὶ φθορὰ ἡ μὲν διακρίσει ἡ δὲ συγκρίσει. Ὁ μὲν οὖν ἀναγκάζειν δοκῶν (317a.) λόγος εἶναι μεγέθη ἄτομα οὗτός ἐστιν· ὅτι δὲ λανθάνει παραλογιζόμενος, καὶ ᾗ λανθάνει, λέγωμεν.

Ἐπεὶ γὰρ οὐκ ἔστι στιγμὴ στιγμῆς ἐχομένη, τὸ πάντῃ εἶναι διαιρετὸν ἔστι μὲν ὡς ὑπάρχει τοῖς μεγέθεσιν, ἔστι δ’ ὡς οὔ. Δοκεῖ δ’, ὅταν τοῦτο τεθῇ, καὶ ὁπῃοῦν καὶ πάντῃ στιγμὴν εἶναι, ὥστ’ ἀναγκαῖον εἶναι διαιρεθῆναι τὸ μέγεθος εἰς μηδέν· πάντῃ γὰρ εἶναι στιγμήν, ὥστε ἢ ἐξ ἁφῶν ἢ ἐκ στιγμῶν εἶναι. Τὸ δ’ ἐστὶν ὡς ὑπάρχει πάντῃ, ὅτι μία ὁπῃοῦν ἐστι, καὶ πᾶσαι ὡς ἑκάστη· πλείους δὲ μιᾶς οὐκ εἰσίν· ἐφεξῆς γὰρ οὐκ εἰσίν, ὥστ’ οὐ πάντῃ· εἰ γὰρ κατὰ μέσον διαιρετόν, καὶ κατ’ ἐχομένην στιγμὴν ἔσται διαιρετόν· οὐ γάρ ἐστιν ἐχόμενον σημεῖον σημείου ἢ στιγμὴ στιγμῆς. Τοῦτο δ’ ἐστὶ διαίρεσις ἢ σύνθεσις. Ὥστ’ ἔστι καὶ διάκρισις καὶ σύγκρισις, ἀλλ’ οὔτ’ εἰς ἄτομα καὶ ἐξ ἀτόμων (πολλὰ γὰρ τὰ ἀδύνατα) οὔτε οὕτως ὥστε πάντῃ διαίρεσιν γενέσθαι (εἰ γὰρ ἦν ἐχομένη στιγμὴ στιγμῆς, τοῦτ’ ἂν ἦν), ἀλλ’ εἰς μικρὰ καὶ ἐλάττω ἐστί, καὶ σύγκρισις ἐξ ἐλαττόνων. Ἀλλ’ οὐχ ἡ ἁπλῆ καὶ τελεία γένεσις συγκρίσει καὶ διακρίσει ὥρισται, ὥς τινές φασιν, τὴν δ’ ἐν τῷ συνεχεῖ μεταβολὴν ἀλλοίωσιν. Ἀλλὰ τοῦτ’ ἔστιν ἐν ᾧ σφάλλεται πάντα. Ἔστι γὰρ γένεσις ἁπλῆ καὶ φθορὰ οὐ συγκρίσει καὶ διακρίσει, ἀλλ’ ὅταν μεταβάλλῃ ἐκ τοῦδε εἰς τόδε ὅλον. Οἱ δὲ οἴονται ἀλλοίωσιν πᾶσαν εἶναι τὴν τοιαύτην μεταβολήν· τὸ δὲ διαφέρει. Ἐν γὰρ τῷ ὑποκειμένῳ τὸ μέν ἐστι κατὰ τὸν λόγον, τὸ δὲ κατὰ τὴν ὕλην.

Ὅταν μὲν οὖν ἐν τούτοις ᾖ ἡ μεταβολή, γένεσις ἔσται ἢ φθορά, ὅταν δ’ ἐν τοῖς πάθεσι καὶ κατὰ συμβεβηκός, ἀλλοίωσις. Διακρινόμενα δὲ καὶ συγκρινόμενα εὔφθαρτα γίνεται. Ἐὰν μὲν γὰρ εἰς ἐλάττω ὑδάτια διαιρεθῇ, θᾶττον ἀὴρ γίνεται, ἐὰν δὲ συγκριθῇ, βραδύτερον. Μᾶλλον δ’ ἔσται δῆλον ἐν τοῖς ὕστερον. Νῦν δὲ τοσοῦτον διωρίσθω, ὅτι ἀδύνατον εἶναι τὴν γένεσιν σύγκρισιν, οἵαν δή τινές φασιν.

Κεφάλαιο 3

Διωρισμένων δὲ τούτων, πρῶτον θεωρητέον πότερόν ἐστί τι γινόμενον ἁπλῶς καὶ φθειρόμενον, ἢ κυρίως μὲν οὐδέν, ἀεὶ δ’ ἔκ τινος καὶ τί, λέγω δ’ οἷον ἐκ κάμνοντος ὑγιαῖνον καὶ κάμνον ἐξ ὑγιαίνοντος, ἢ μικρὸν ἐκ μεγάλου καὶ (317b.) μέγα ἐκ μικροῦ, καὶ τἆλλα πάντα τοῦτον τὸν τρόπον. Εἰ γὰρ ἁπλῶς ἔσται γένεσις, ἁπλῶς ἄν τι γίνοιτο ἐκ μὴ ὄντος, ὥστ’ ἀληθὲς ἂν εἴη λέγειν ὅτι ὑπάρχει τισὶ τὸ μὴ ὄν. Τὶς μὲν γὰρ γένεσις ἐκ μὴ ὄντος τινός, οἷον ἐκ μὴ λευκοῦ ἢ μὴ καλοῦ, ἡ δὲ ἁπλῆ ἐξ ἁπλῶς μὴ ὄντος. Τὸ δ’ ἁπλῶς ἤτοι τὸ πρῶτον σημαίνει καθ’ ἑκάστην κατηγορίαν τοῦ ὄντος, ἢ τὸ καθόλου καὶ τὸ πάντα περιέχον. Εἰ μὲν οὖν τὸ πρῶτον, οὐσίας ἔσται γένεσις ἐκ μὴ οὐσίας. Ὧι δὲ μὴ ὑπάρχει οὐσία μηδὲ τὸ τόδε, δῆλον ὡς οὐδὲ τῶν ἄλλων οὐδεμία κατηγοριῶν, οἷον οὔτε ποιὸν οὔτε ποσὸν οὔτε τὸ ποῦ· χωριστὰ γὰρ ἂν εἴη τὰ πάθη τῶν οὐσιῶν. Εἰ δὲ τὸ μὴ ὂν ὅλως, ἀπόφασις ἔσται καθόλου πάντων, ὥστε ἐκ μηδενὸς ἀνάγκη γίνεσθαι τὸ γινόμενον. Περὶ μὲν οὖν τούτων ἐν ἄλλοις τε διηπόρηται καὶ διώρισται τοῖς λόγοις ἐπὶ πλεῖον· συντόμως δὲ καὶ νῦν λεκτέον, ὅτι τρόπον μέν τινα ἐκ μὴ ὄντος ἁπλῶς γίνεται, τρόπον δὲ ἄλλον ἐξ ὄντος ἀεί· τὸ γὰρ δυνάμει ὂν ἐντελεχείᾳ δὲ μὴ ὂν ἀνάγκη προυπάρχειν λεγόμενον ἀμφοτέρως. Ὃ δὲ καὶ τούτων διωρισμένων ἔχει θαυμαστὴν ἀπορίαν, πάλιν ἐπαναποδιστέον, πῶς ἔστιν ἁπλῆ γένεσις, εἴτ’ ἐκ δυνάμει ὄντος οὖσα εἴτε καί πως ἄλλως. Ἀπορήσειε γὰρ ἄν τις ἆρ’ ἔστιν οὐσίας γένεσις καὶ τοῦ τοῦδε, ἀλλὰ μὴ τοῦ τοιοῦδε καὶ τοσοῦδε καὶ ποῦ. Τὸν αὐτὸν δὲ τρόπον καὶ περὶ φθορᾶς. Εἰ γάρ τι γίνεται, δῆλον ὡς ἔσται δυνάμει τις οὐσία, ἐντελεχείᾳ δ’ οὔ, ἐξ ἧς ἡ γένεσις ἔσται καὶ εἰς ἣν ἀνάγκη μεταβάλλειν τὸ φθειρόμενον. Πότερον οὖν ὑπάρξει τι τούτῳ τῶν ἄλλων ἐντελεχείᾳ; λέγω δ’ οἷον ἆρ’ ἔσται ποσὸν ἢ ποιὸν ἢ ποῦ τὸ δυνάμει μόνον τόδε καὶ ὄν, ἁπλῶς δὲ μὴ τόδε μηδ’ ὄν; εἰ γὰρ μηδὲν ἀλλὰ πάντα δυνάμει, χωριστόν τε συμβαίνει τὸ μὴ οὕτως ὄν, καὶ ἔτι, ὃ μάλιστα φοβούμενοι διετέλεσαν οἱ πρῶτοι φιλοσοφήσαντες, τὸ ἐκ μηδενὸς γίνεσθαι προυπάρχοντος· εἰ δὲ τὸ μὲν εἶναι τόδε τι ἢ οὐσίαν οὐχ ὑπάρξει, τῶν δ’ ἄλλων τι τῶν εἰρημένων, ἔσται, καθάπερ εἴπομεν, χωριστὰ τὰ πάθη τῶν οὐσιῶν.

Περί τε τούτων οὖν ὅσον ἐνδέχεται πραγματευτέον, καὶ τίς αἰτία τοῦ γένεσιν ἀεὶ εἶναι, καὶ τὴν ἁπλῆν καὶ τὴν κατὰ μέρος. (318a.) Οὔσης δ’ αἰτίας μιᾶς μὲν ὅθεν τὴν ἀρχὴν εἶναί φαμεν τῆς κινήσεως, μιᾶς δὲ τῆς ὕλης, τὴν τοιαύτην αἰτίαν λεκτέον.

Περὶ μὲν γὰρ ἐκείνης εἴρηται πρότερον ἐν τοῖς περὶ κινήσεως λόγοις, ὅτι ἐστὶ τὸ μὲν ἀκίνητον τὸν ἅπαντα χρόνον, τὸ δὲ κινούμενον ἀεί. Τούτων δὲ περὶ μὲν τῆς ἀκινήτου ἀρχῆς τῆς ἑτέρας καὶ προτέρας διελεῖν ἐστι φιλοσοφίας ἔργον· περὶ δὲ τοῦ διὰ τὸ συνεχῶς κινεῖσθαι τἆλλα κινοῦντος ὕστερον ἀποδοτέον, τί τοιοῦτον τῶν καθ' ἕκαστα λεγομένων αἴτιόν ἐστιν, νῦν δὲ τὴν ὡς ἐν ὕλης εἴδει τιθεμένην αἰτίαν εἴπωμεν, δι' ἣν ἀεὶ φθορὰ καὶ γένεσις οὐχ ὑπολείπει τὴν φύσιν· ἅμα γὰρ ἂν ἴσως τοῦτο γένοιτο δῆλον, καὶ περὶ τοῦ νῦν ἀπορηθέντος, πῶς ποτὲ δεῖ λέγειν καὶ περὶ τῆς ἁπλῆς φθορᾶς καὶ γενέσεως. Ἔχει δ' ἀπορίαν ἱκανὴν καὶ τί τὸ αἴτιον τοῦ συνείρειν τὴν γένεσιν, εἴπερ τὸ φθειρόμενον εἰς τὸ μὴ ὂν ἀπέρχεται, τὸ δὲ μὴ ὂν μηδέν ἐστιν· οὔτε γὰρ τὶ οὔτε ποιὸν οὔτε ποσὸν οὔτε ποῦ τὸ μὴ ὄν. Εἴπερ οὖν ἀεί τι τῶν ὄντων ἀπέρχεται, διὰ τί ποτ' οὐκ ἀνήλωται πάλαι καὶ φροῦδον τὸ πᾶν, εἴ γε πεπερασμένον ἦν ἐξ οὗ γίνεται τῶν γινομένων ἕκαστον; οὐ γὰρ δὴ διὰ τὸ ἄπειρον εἶναι ἐξ οὗ γίνεται, οὐχ ὑπολείπει· τοῦτο γὰρ ἀδύνατον. Κατ' ἐνέργειαν μὲν γὰρ οὐδέν ἐστιν ἄπειρον, δυνάμει δ' ἐπὶ τὴν διαίρεσιν, ὥστ' ἔδει ταύτην εἶναι μόνην τὴν μὴ ὑπολείπουσαν τῷ γίνεσθαί τι ἀεὶ ἔλαττον· νῦν δὲ τοῦτο οὐχ ὁρῶμεν. Ἆρ' οὖν διὰ τὸ τὴν τοῦδε φθορὰν ἄλλου εἶναι γένεσιν καὶ τὴν τοῦδε γένεσιν ἄλλου εἶναι φθορὰν ἄπαυστον ἀναγκαῖον εἶναι τὴν μεταβολήν;

Περὶ μὲν οὖν τοῦ γένεσιν εἶναι καὶ φθορὰν ὁμοίως περὶ ἕκαστον τῶν ὄντων, ταύτην οἰητέον εἶναι πᾶσιν ἱκανὴν αἰτίαν. Διὰ τί δέ ποτε τὰ μὲν ἁπλῶς γίνεσθαι λέγεται καὶ φθείρεσθαι τὰ δ' οὐχ ἁπλῶς, πάλιν σκεπτέον, εἴπερ τὸ αὐτό ἐστι γένεσις μὲν τουδὶ φθορὰ δὲ τουδί, καὶ φθορὰ μὲν τουδὶ γένεσις δὲ τουδί· ζητεῖ γάρ τινα τοῦτο λόγον. Λέγομεν γὰρ ὅτι φθείρεται νῦν ἁπλῶς, καὶ οὐ μόνον τοδί· καὶ αὕτη μὲν γένεσις ἁπλῶς, αὕτη δὲ φθορά. Τοδὶ δὲ γίνεται μέν τι, γίνεται δ' ἁπλῶς οὔ· φαμὲν γὰρ τὸν μανθάνοντα γίνεσθαι μὲν ἐπιστήμονα, γίνεσθαι δ' ἁπλῶς οὔ. Καθάπερ οὖν πολλάκις (318b.) διορίζομεν λέγοντες ὅτι τὰ μὲν τόδε τι σημαίνει τὰ δ' οὔ, διὰ τοῦτο συμβαίνει τὸ ζητούμενον.

Διαφέρει γὰρ εἰς ἃ μεταβάλλει τὸ μεταβάλλον, οἷον ἴσως ἡ μὲν εἰς πῦρ ὁδὸς γένεσις μὲν ἁπλῆ, φθορὰ δέ <τίς> τινός ἐστιν, οἷον γῆς, ἡ δὲ γῆς γένεσις τὶς γένεσις, γένεσις δ' οὐχ ἁπλῶς, φθορὰ δ' ἁπλῶς, οἷον πυρός, ὥσπερ Παρμενίδης λέγει δύο, τὸ ὂν καὶ τὸ μὴ ὂν εἶναι φάσκων πῦρ καὶ γῆν. Τὸ δὴ ταῦτα ἢ τοιαῦθ' ἕτερα ὑποτίθεσθαι διαφέρει οὐδέν· τὸν γὰρ τρόπον ζητοῦμεν, ἀλλ’ οὐ τὸ ὑποκείμενον.

Ἡ μὲν οὖν εἰς τὸ μὴ ὂν ἁπλῶς ὁδὸς φθορὰ ἁπλῆ, ἡ δ’ εἰς τὸ ἁπλῶς ὂν γένεσις ἁπλῆ. Οἷς οὖν διώρισται εἴτε πυρὶ καὶ γῇ εἴτε ἄλλοις τισί, τούτων ἔσται τὸ μὲν ὂν τὸ δὲ μὴ ὄν. Ἕνα μὲν οὖν τρόπον τούτῳ διοίσει τὸ ἁπλῶς τι γίνεσθαι καὶ φθείρεσθαι τοῦ μὴ ἁπλῶς, ἄλλον δὲ τῇ ὕλῃ ὁποία τις ἂν ᾖ· ἧς μὲν γὰρ μᾶλλον αἱ διαφοραὶ τόδε τι σημαίνουσι, μᾶλλον οὐσία, ἧς δὲ στέρησιν, μὴ ὄν, οἷον τὸ μὲν θερμὸν κατηγορία τις καὶ εἶδος, ἡ δὲ ψυχρότης στέρησις, διαφέρουσι δὲ γῆ καὶ πῦρ καὶ ταύταις ταῖς διαφοραῖς. Δοκεῖ δὲ μᾶλλον τοῖς πολλοῖς τῷ αἰσθητῷ καὶ μὴ αἰσθητῷ διαφέρειν· ὅταν μὲν γὰρ εἰς αἰσθητὴν μεταβάλλῃ ὕλην, γίνεσθαί φασιν, ὅταν δ’ εἰς ἀφανῆ, φθείρεσθαι· τὸ γὰρ ὂν καὶ τὸ μὴ ὂν τῷ αἰσθάνεσθαι καὶ τῷ μὴ αἰσθάνεσθαι διορίζουσιν, ὥσπερ τὸ μὲν ἐπιστητὸν ὄν, τὸ δ’ ἄγνωστον μὴ ὄν· ἡ γὰρ αἴσθησις ἐπιστήμης ἔχει δύναμιν. Καθάπερ οὖν αὐτοὶ τῷ αἰσθάνεσθαι ἢ τῷ δύνασθαι καὶ ζῆν καὶ εἶναι νομίζουσιν, οὕτω καὶ τὰ πράγματα, τρόπον τινὰ διώκοντες τἀληθές, αὐτὸ δὲ λέγοντες οὐκ ἀληθές. Συμβαίνει δὴ κατὰ δόξαν καὶ κατ’ ἀλήθειαν ἄλλως τὸ γίνεσθαί τε ἁπλῶς καὶ τὸ φθείρεσθαι· πνεῦμα γὰρ καὶ ἀὴρ κατὰ μὲν τὴν αἴσθησιν ἧττόν ἐστιν (διὸ καὶ τὰ φθειρόμενα ἁπλῶς τῇ εἰς ταῦτα μεταβολῇ φθείρεσθαι λέγουσιν, γίνεσθαι δ’ ὅταν εἰς ἁπτὸν καὶ εἰς γῆν μεταβάλλῃ), κατὰ δ’ ἀλήθειαν μᾶλλον τόδε τι καὶ εἶδος ταῦτα τῆς γῆς.

Τοῦ μὲν οὖν εἶναι τὴν μὲν ἁπλῆν γένεσιν φθορὰν οὖσάν τινος, τὴν δὲ φθορὰν [τὴν] ἁπλῆν γένεσιν οὖσάν τινος, εἴρηται τὸ αἴτιον· διὰ γὰρ τὸ τὴν ὕλην διαφέρειν ἢ τῷ οὐσίαν (319a.) εἶναι ἢ τῷ μή, ἢ τῷ τὴν μὲν μᾶλλον τὴν δὲ μή, ἢ τῷ τὴν μὲν μᾶλλον αἰσθητὴν εἶναι τὴν ὕλην ἐξ ἧς καὶ εἰς ἥν, τὴν δὲ ἧττον εἶναι. Τοῦ δὲ τὰ μὲν ἁπλῶς γίνεσθαι λέγεσθαι, τὰ δέ τι μόνον, μὴ τῇ ἐξ ἀλλήλων γενέσει καθ’ ὃν εἴπομεν νῦν τρόπον· νῦν μὲν γὰρ τοσοῦτον διώρισται, τί δή ποτε πάσης γενέσεως οὔσης φθορᾶς ἄλλου, καὶ πάσης φθορᾶς οὔσης ἑτέρου τινὸς γενέσεως, οὐχ ὁμοίως ἀποδίδομεν τὸ γίνεσθαι καὶ τὸ φθείρεσθαι τοῖς εἰς ἄλληλα μεταβάλλουσιν· τὸ δ’ ὕστερον εἰρημένον οὐ τοῦτο διαπορεῖ, ἀλλὰ τί ποτε τὸ μανθάνον μὲν οὐ λέγεται ἁπλῶς γίνεσθαι ἀλλὰ γίνεσθαι ἐπιστῆμον, τὸ δὲ φυόμενον γίνεσθαι. Ταῦτα δὲ διώρισται ταῖς κατηγορίαις· τὰ μὲν γὰρ τόδε τι σημαίνει, τὰ δὲ τοιόνδε, τὰ δὲ ποσόν.

Ὅσα οὖν μὴ οὐσίαν σημαίνει, οὐ λέγεται ἁπλῶς, ἀλλά τι γίνεσθαι. Οὐ μὴν ἀλλ’ ὁμοίως ἐν πᾶσι γένεσις μὲν κατὰ τὰ ἐν τῇ ἑτέρᾳ συστοιχίᾳ λέγεται, οἷον ἐν μὲν οὐσίᾳ ἐὰν πῦρ ἀλλ’ οὐκ ἐὰν γῆ, ἐν δὲ τῷ ποιῷ ἐὰν ἐπιστῆμον ἀλλ’ οὐχ ὅταν ἀνεπιστῆμον.

Περὶ μὲν οὖν τοῦ τὰ μὲν ἁπλῶς γίνεσθαι τὰ δὲ μή, καὶ ὅλως καὶ ἐν ταῖς οὐσίαις αὐταῖς, εἴρηται, καὶ διότι τοῦ γένεσιν εἶναι συνεχῶς αἰτία ὡς ὕλη τὸ ὑποκείμενον, ὅτι μεταβλητικόν ἐστι εἰς τἀναντία, καὶ ἔστιν ἡ θατέρου γένεσις ἀεὶ ἐπὶ τῶν οὐσιῶν ἄλλου φθορὰ καὶ ἡ ἄλλου φθορὰ ἄλλου γένεσις. Ἀλλὰ μὴν οὐδ’ ἀπορῆσαι δεῖ διὰ τί γίνεται ἀεὶ ἀπολλυμένων· ὥσπερ γὰρ καὶ τὸ φθείρεσθαι ἁπλῶς φασιν, ὅταν εἰς ἀναίσθητον ἔλθῃ καὶ τὸ μὴ ὄν, ὁμοίως καὶ γίνεσθαι ἐκ μὴ ὄντος φασίν, ὅταν ἐξ ἀναισθήτου. Εἴτ’ οὖν ὄντος τινὸς τοῦ ὑποκειμένου εἴτε μή, γίνεται ἐκ μὴ ὄντος. Ὥστε ὁμοίως καὶ γίνεται ἐκ μὴ ὄντος καὶ φθείρεται εἰς τὸ μὴ ὄν. Εἰκότως οὖν οὐχ ὑπολείπει· ἡ γὰρ γένεσις φθορὰ τοῦ μὴ ὄντος, ἡ δὲ φθορὰ γένεσις τοῦ μὴ ὄντος. Ἀλλὰ τοῦτο τὸ μὴ ὂν ἁπλῶς ἀπορήσειεν ἄν τις πότερον τὸ ἕτερον τῶν ἐναντίων ἐστίν, οἷον γῆ καὶ τὸ βαρὺ μὴ ὄν, πῦρ δὲ καὶ τὸ κοῦφον τὸ ὄν, ἢ οὔ, ἀλλ’ ἐστὶ καὶ γῆ τὸ ὄν, τὸ δὲ μὴ ὂν ὕλη ἡ τῆς γῆς, καὶ πυρὸς ὡσαύτως. Καὶ ἆρά γε ἑτέρα ἑκατέρου ἡ ὕλη, ἢ οὐκ ἂν γί(319b.) νοιτο ἐξ ἀλλήλων οὐδ’ ἐξ ἐναντίων; τούτοις γὰρ ὑπάρχει τἀναντία, πυρί, γῇ, ὕδατι, ἀέρι. Ἢ ἔστι μὲν ὡς ἡ αὐτή, ἔστι δ’ ὡς ἡ ἑτέρα· ὃ μὲν γάρ ποτε ὂν ὑπόκειται τὸ αὐτό, τὸ δ’ εἶναι οὐ τὸ αὐτό. Περὶ μὲν οὖν τούτων ἐπὶ τοσοῦτον εἰρήσθω.

Κεφάλαιο 4

Περὶ δὲ γενέσεως καὶ ἀλλοιώσεως λέγωμεν τί διαφέρουσιν· φαμὲν γὰρ ἑτέρας εἶναι ταύτας τὰς μεταβολὰς ἀλλήλων. Ἐπειδὴ οὖν ἐστί τι τὸ ὑποκείμενον καὶ ἕτερον τὸ πάθος ὃ κατὰ τοῦ ὑποκειμένου λέγεσθαι πέφυκεν, καὶ ἔστι μεταβολὴ ἑκατέρου τούτων, ἀλλοίωσις μέν ἐστιν, ὅταν ὑπομένοντος τοῦ ὑποκειμένου, αἰσθητοῦ ὄντος, μεταβάλλῃ ἐν τοῖς αὑτοῦ πάθεσιν, ἢ ἐναντίοις οὖσιν ἢ μεταξύ, οἷον τὸ σῶμα ὑγιαίνει καὶ πάλιν κάμνει ὑπομένον γε ταὐτό, καὶ ὁ χαλκὸς στρογγύλος, ὁτὲ δὲ γωνιοειδὴς ὁ αὐτός γε ὤν. Ὅταν δ’ ὅλον μεταβάλλῃ μὴ ὑπομένοντος αἰσθητοῦ τινὸς ὡς ὑποκειμένου τοῦ αὐτοῦ, ἀλλ’ οἷον ἐκ τῆς γονῆς αἷμα πάσης ἢ ἐξ ὕδατος ἀὴρ ἢ ἐξ ἀέρος παντὸς ὕδωρ, γένεσις ἤδη τὸ τοιοῦτον, τοῦ δὲ φθορά, μάλιστα δέ, ἂν ἡ μεταβολὴ γίνηται ἐξ ἀναισθήτου εἰς αἰσθητὸν ἢ ἁφῇ ἢ πάσαις ταῖς αἰσθήσεσιν, οἷον ὅταν ὕδωρ γένηται ἢ φθαρῇ εἰς ἀέρα· ὁ γὰρ ἀὴρ ἐπιεικῶς ἀναίσθητον. Ἐν δὲ τούτοις ἄν τι ὑπομένῃ πάθος τὸ αὐτὸ ἐναντιώσεως ἐν τῷ γενομένῳ καὶ τῷ φθαρέντι, οἷον ὅταν ἐξ ἀέρος ὕδωρ, εἰ ἄμφω διαφανῆ ἢ ψυχρά, οὐ δεῖ τούτου θάτερον πάθος εἶναι εἰς ὃ μεταβάλλει. Εἰ δὲ μή, ἔσται ἀλλοίωσις, οἷον ὁ μουσικὸς ἄνθρωπος ἐφθάρη, ἄνθρωπος δ’ ἄμουσος ἐγένετο, ὁ δ’ ἄνθρωπος ὑπομένει τὸ αὐτό. Εἰ μὲν οὖν τούτου μὴ πάθος ἦν καθ’ αὑτὸ ἡ μουσικὴ καὶ ἡ ἀμουσία, τοῦ μὲν γένεσις ἦν ἄν, τοῦ δὲ φθορά· διὸ ἀνθρώπου μὲν ταῦτα πάθη, ἀνθρώπου δὲ μουσικοῦ καὶ ἀνθρώπου ἀμούσου γένεσις καὶ φθορά· νῦν δὲ πάθος τοῦτο τοῦ ὑπομένοντος. Διὸ ἀλλοίωσις τὰ τοιαῦτα. Ὅταν μὲν οὖν κατὰ τὸ ποσὸν ᾖ ἡ μεταβολὴ τῆς ἐναντιώσεως, αὔξη καὶ φθίσις, ὅταν δὲ κατὰ τόπον, φορά, ὅταν δὲ κατὰ πάθος καὶ τὸ ποιόν, ἀλλοίωσις, ὅταν δὲ μηδὲν (320a.) ὑπομένῃ οὗ θάτερον πάθος ἢ συμβεβηκὸς ὅλως, γένεσις, τὸ δὲ φθορά. Ἐστὶ δὲ ὕλη μάλιστα μὲν καὶ κυρίως τὸ ὑποκείμενον γενέσεως καὶ φθορᾶς δεκτικόν, τρόπον δέ τινα καὶ τὸ ταῖς ἄλλαις μεταβολαῖς, ὅτι πάντα δεκτικὰ τὰ ὑποκείμενα ἐναντιώσεών τινων. Περὶ μὲν οὖν γενέσεως, εἴτε ἔστιν εἴτε μή, καὶ πῶς ἔστι, καὶ περὶ ἀλλοιώσεως διωρίσθω τοῦτον τὸν τρόπον.

Κεφάλαιο 5

Περὶ δὲ αὐξήσεως λοιπὸν εἰπεῖν, τί τε διαφέρει γενέσεως καὶ ἀλλοιώσεως, καὶ πῶς αὐξάνεται τῶν αὐξανομένων ἕκαστον καὶ φθίνει ὁτιοῦν τῶν φθινόντων. Σκεπτέον δὴ πρῶτον πότερον μόνως ἐν τῷ περὶ ὅ ἐστιν αὐτῶν ἡ πρὸς ἄλληλα διαφορά, οἷον ὅτι ἡ μὲν ἐκ τοῦδε εἰς τόδε μεταβολή, οἷον ἐκ δυνάμει οὐσίας εἰς ἐντελεχείᾳ οὐσίαν, γένεσίς ἐστιν, ἡ δὲ περὶ μέγεθος αὔξησις, ἡ δὲ περὶ πάθος ἀλλοίωσις· ἀμφότερα δὲ ἐκ δυνάμει ὄντων εἰς ἐντελέχειαν μεταβολὴ τῶν εἰρημένων ἐστίν, ἢ καὶ ὁ τρόπος διαφέρει τῆς μεταβολῆς· φαίνεται γὰρ τὸ μὲν ἀλλοιούμενον οὐκ ἐξ ἀνάγκης μεταβάλλον κατὰ τόπον, οὐδὲ τὸ γινόμενον, τὸ δ’ αὐξανόμενον καὶ τὸ φθῖνον, ἄλλον δὲ τρόπον τοῦ φερομένου. Τὸ μὲν γὰρ φερόμενον ὅλον ἀλλάττει τόπον, τὸ δ’ αὐξανόμενον ὥσπερ τὸ ἐλαυνόμενον· τούτου γὰρ μένοντος τὰ μόρια μεταβάλλει κατὰ τόπον, οὐχ ὥσπερ τὰ τῆς σφαίρας· τὰ μὲν γὰρ ἐν τῷ ἴσῳ τόπῳ μεταβάλλει τοῦ ὅλου μένοντος, τὰ δὲ τοῦ αὐξανομένου ἀεὶ ἐπὶ πλείω τόπον, ἐπ’ ἐλάττω δὲ τὰ τοῦ φθίνοντος. Ὅτι μὲν οὖν ἡ μεταβολὴ διαφέρει οὐ μόνον περὶ ὃ ἀλλὰ καὶ ὣς τοῦ τε γινομένου καὶ ἀλλοιουμένου καὶ αὐξανομένου, δῆλον. Περὶ δὲ ὅ ἐστιν ἡ μεταβολὴ ἡ τῆς αὐξήσεως καὶ ἡ τῆς φθίσεως (περὶ μέγεθος δὲ δοκεῖ εἶναι τὸ αὐξάνεσθαι καὶ φθίνειν), ποτέρως ὑποληπτέον, πότερον ἐκ δυνάμει μὲν μεγέθους καὶ σώματος, ἐντελεχείᾳ δ’ ἀσωμάτου καὶ ἀμεγέθους γίνεσθαι σῶμα καὶ μέγεθος, καὶ τούτου διχῶς ἐνδεχομένου λέγειν, ποτέρως ἡ αὔξησις γίνεται; πότερον ἐκ κεχωρισμένης αὐτῆς καθ’ αὑτὴν τῆς ὕλης, ἢ ἐνυπαρχούσης ἐν ἄλλῳ σώματι; ἢ ἀδύνατον ἀμφοτέρως. Χω(320b.) ριστὴ μὲν γὰρ οὖσα ἢ οὐδένα καθέξει τόπον, [ἢ] οἷον στιγμή τις, ἢ κενὸν ἔσται καὶ σῶμα οὐκ αἰσθητόν. Τούτων δὲ τὸ μὲν οὐκ ἐνδέχεται, τὸ δὲ ἀναγκαῖον ἔν τινι εἶναι· ἀεὶ γάρ που ἔσται τὸ γινόμενον ἐξ αὐτοῦ, ὥστε κἀκεῖνο, ἢ καθ’ αὑτὸ ἢ κατὰ συμβεβηκός. Ἀλλὰ μὴν εἴ γ’ ἔν τινι ὑπάρξει, εἰ μὲν κεχωρισμένον οὕτως ὥστε μὴ ἐκείνου καθ’ αὑτὸ ἢ κατὰ συμβεβηκός τι εἶναι, συμβήσεται πολλὰ καὶ ἀδύνατα. Λέγω δ’ οἷον εἰ γίνεται ἀὴρ ἐξ ὕδατος, οὐ τοῦ ὕδατος ἔσται μεταβάλλοντος, ἀλλὰ διὰ τὸ ὥσπερ ἐν ἀγγείῳ τῷ ὕδατι ἐνεῖναι τὴν ὕλην αὐτοῦ. Ἀπείρους γὰρ οὐδὲν κωλύει ὕλας εἶναι, ὥστε καὶ γίνεσθαι ἐντελεχείᾳ. Ἔτι δ’ οὐδ’ οὕτω φαίνεται γινόμενος ἀὴρ ἐξ ὕδατος, οἷον ἐξιὼν ὑπομένοντος. Βέλτιον τοίνυν ποιεῖν πᾶσιν ἀχώριστον τὴν ὕλην ὡς οὖσαν τὴν αὐτὴν καὶ μίαν τῷ ἀριθμῷ, τῷ λόγῳ δὲ μὴ μίαν. Ἀλλὰ μὴν οὐδὲ στιγμὰς θετέον οὐδὲ γραμμὰς τὴν τοῦ σώματος ὕλην διὰ τὰς αὐτὰς αἰτίας. Ἐκεῖνο δὲ οὗ ταῦτα ἔσχατα ἡ ὕλη, ἣν οὐδέποτ᾽ ἄνευ πάθους οἷόν τε εἶναι οὐδ᾽ ἄνευ μορφῆς.

Γίνεται μὲν οὖν ἁπλῶς ἕτερον ἐξ ἑτέρου, ὥσπερ καὶ ἐν ἄλλοις διώρισται, καὶ ὑπό τινος δὲ ἐντελεχείᾳ ὄντος, ἢ ὁμοιοειδοῦς ἢ ὁμογενοῦς, οἷον πῦρ ὑπὸ πυρὸς ἢ ἄνθρωπος ὑπ᾽ ἀνθρώπου, ἢ ὑπ᾽ ἐντελεχείας· σκληρὸν γὰρ οὐχ ὑπὸ σκληροῦ γίνεται.

Ἐπεὶ δ᾽ ἐστὶ καὶ οὐσίας ὕλη σωματικῆς, σώματος δ᾽ ἤδη τοιουδί (σῶμα γὰρ κοινὸν οὐδέν), ἡ αὐτὴ καὶ μεγέθους καὶ πάθους ἐστί, τῷ μὲν λόγῳ χωριστή, τόπῳ δ᾽ οὐ χωριστή, εἰ μὴ καὶ τὰ πάθη χωριστά.

Φανερὸν δὴ ἐκ τῶν διηπορημένων ὅτι οὐκ ἔστιν ἡ αὔξησις μεταβολὴ ἐκ δυνάμει μεγέθους, ἐντελεχείᾳ δὲ μηδὲν ἔχοντος μέγεθος· χωριστὸν γὰρ ἂν εἴη τὸ κενόν, τοῦτο δ᾽ ὅτι ἀδύνατον, εἴρηται ἐν ἑτέροις πρότερον. Ἔτι δ᾽ ἥ γε τοιαύτη μεταβολὴ οὐκ αὐξήσεως ἴδιος ἀλλὰ γενέσεως ὅλως. Ἡ γὰρ αὔξησίς ἐστι τοῦ ἐνυπάρχοντος μεγέθους ἐπίδοσις, ἡ δὲ φθίσις μείωσις. Διὸ δὴ ἔχειν τι δεῖ μέγεθος τὸ αὐξανόμενον, ὥστ᾽ οὐκ ἐξ ἀμεγέθους ὕλης δεῖ εἶναι τὴν αὔξησιν εἰς ἐντελέχειαν μεγέθους· γένεσις γὰρ ἂν εἴη σώματος μᾶλλον, οὐκ αὔξησις.

Ληπτέον δὴ μᾶλλον οἷον ἁπτομένους (321a.) τῆς ζητήσεως ἐξ ἀρχῆς, ποίου τινὸς ὄντος τοῦ αὐξάνεσθαι ἢ τοῦ φθίνειν τὰ αἴτια ζητοῦμεν. Φαίνεται δὴ τοῦ αὐξανομένου ὁτιοῦν μέρος ηὐξῆσθαι, ὁμοίως δὲ καὶ ἐν τῷ φθίνειν ἔλαττον γεγονέναι, ἔτι δὲ προσιόντος τινὸς αὐξάνεσθαι καὶ ἀπιόντος φθίνειν. Ἀναγκαῖον δὴ ἢ ἀσωμάτῳ αὐξάνεσθαι ἢ σώματι· εἰ μὲν οὖν ἀσωμάτῳ, ἔσται χωριστὸν τὸ κενόν· ἀδύνατον δὲ μεγέθους ὕλην εἶναι χωριστήν, ὥσπερ εἴρηται πρότερον. Εἰ δὲ σώματι, δύο ἐν τῷ αὐτῷ σώματα τόπῳ ἔσται, τό τε αὐξόμενον καὶ τὸ αὖξον· ἔστι δὲ καὶ τοῦτο ἀδύνατον. Ἀλλὰ μὴν οὐδ᾽ οὕτως ἐνδέχεται λέγειν γίνεσθαι τὴν αὔξησιν ἢ τὴν φθίσιν, ὥσπερ ὅταν ἐξ ὕδατος ἀήρ· τότε γὰρ μείζων ὁ ὄγκος γέγονεν· οὐ γὰρ αὔξησις τοῦτο ἀλλὰ γένεσις μὲν τοῦ εἰς ὃ μεταβάλλει ἔσται, φθορὰ δὲ τοῦ ἐναντίου, αὔξησις δὲ οὐδετέρου, ἀλλ᾽ ἢ οὐδενὸς ἢ εἴ τι κοινὸν ἀμφοῖν ὑπάρχει, τῷ γινομένῳ καὶ τῷ φθαρέντι, οἷον εἰ σῶμα. Τὸ δ᾽ ὕδωρ οὐκ ηὔξηται οὐδ᾽ ὁ ἀήρ, ἀλλὰ τὸ μὲν ἀπόλωλε τὸ δὲ γέγονεν· τὸ σῶμα δέ, εἴπερ, ηὔξηται. Ἀλλὰ καὶ τοῦτ᾽ ἀδύνατον· δεῖ γὰρ σώζειν τῷ λόγῳ τὰ ὑπάρχοντα τῷ αὐξανομένῳ καὶ φθίνοντι. Ταῦτα δὲ τρία ἐστίν, ὧν ἓν μέν ἐστι τὸ ὁτιοῦν μέρος μεῖζον γίνεσθαι τοῦ αὐξανομένου μεγέθους, οἷον εἰ σὰρξ τῆς σαρκός, καὶ προσιόντος τινός, καὶ τρίτον σωζομένου τοῦ αὐξανομένου καὶ ὑπομένοντος· ἐν μὲν γὰρ τῷ γίνεσθαί τι ἁπλῶς ἢ φθείρεσθαι οὐχ ὑπομένει, ἐν δὲ τῷ ἀλλοιοῦσθαι ἢ αὐξάνεσθαι ἢ φθίνειν ὑπομένει τὸ αὐτὸ τὸ αὐξανόμενον καὶ ἀλλοιούμενον.

Ἀλλ’ ἔνθα μὲν τὸ πάθος ἔνθα δὲ τὸ μέγεθος τὸ αὐτὸ οὐ μένει. Εἰ δὴ ἔσται ἡ εἰρημένη αὔξησις, ἐνδέχοιτ’ ἂν μηδενός γε προσιόντος μηδὲ ὑπομένοντος αὐξάνεσθαι καὶ μηδενὸς ἀπιόντος φθίνειν καὶ μὴ ὑπομένειν τὸ αὐξανόμενον. Ἀλλὰ δεῖ τοῦτο σώζειν· ὑπόκειται γὰρ ἡ αὔξησις τοιοῦτον.

Ἀπορήσειε δ’ ἄν τις καὶ τί ἐστι τὸ αὐξανόμενον, πότερον ᾧ προστίθεταί τι, οἷον εἰ τὴν κνήμην αὐξάνει, αὕτη μείζων, ᾧ δὲ αὐξάνει, ἡ τροφή, οὔ. Διὰ τί δὴ οὖν οὐκ ἄμφω ηὔξηται; μεῖζον γὰρ καὶ ὃ καὶ ᾧ, ὥσπερ ὅταν μίξῃς οἶνον ὕδατι· ὁμοίως γὰρ πλεῖον ἑκάτερον. Ἢ ὅτι τοῦ μὲν μένει ἡ οὐσία, τοῦ δ’ οὔ, οἷον τῆς τροφῆς, ἐπεὶ καὶ ἐνταῦθα τὸ ἐπικρατοῦν λέγεται ἐν (321b.) τῇ μίξει, οἷον ὅτι οἶνος· ποιεῖ γὰρ τὸ τοῦ οἴνου ἔργον ἀλλ’ οὐ τὸ τοῦ ὕδατος τὸ συνόλον μίγμα.

Ὁμοίως δὲ καὶ ἐπ’ ἀλλοιώσεως, εἰ μένει σὰρξ οὖσα καὶ τὸ τί ἐστι, πάθος δέ τι ὑπάρχει τῶν καθ’ αὐτό, ὃ πρότερον οὐχ ὑπῆρχεν, ἠλλοίωται τοῦτο· ᾧ δ’ ἠλλοίωται, ὁτὲ μὲν οὐδὲν πέπονθεν, ὁτὲ δὲ κἀκεῖνο. Ἀλλὰ τὸ ἀλλοιοῦν καὶ ἡ ἀρχὴ τῆς κινήσεως ἐν τῷ αὐξανομένῳ καὶ τῷ ἀλλοιουμένῳ· ἐν τούτοις γὰρ τὸ κινοῦν, ἐπεὶ καὶ τὸ εἰσελθὸν γένοιτ’ ἄν ποτε μεῖζον, καὶ τὸ ἀπολαῦσαν αὐτοῦ σῶμα, οἷον εἰ εἰσελθὸν γένοιτο πνεῦμα. Ἀλλ’ ἔφθαρταί γε τοῦτο παθόν, καὶ τὸ κινοῦν οὐκ ἐν τούτῳ.

Ἐπεὶ δὲ διηπόρηται περὶ αὐτῶν ἱκανῶς, δεῖ καὶ τῆς ἀπορίας πειρᾶσθαι λύσιν εὑρεῖν, σώζοντας τὸ ὑπομένοντός τε τοῦ αὐξανομένου καὶ προσιόντος τινὸς αὐξάνεσθαι, ἀπιόντος δὲ φθίνειν, ἔτι δὲ τὸ ὁτιοῦν σημεῖον αἰσθητὸν ἢ μεῖζον ἢ ἔλαττον γεγονέναι, καὶ μήτε κενὸν εἶναι τὸ σῶμα μήτε δύο ἐν τῷ αὐτῷ τόπῳ μεγέθη μήτε ἀσωμάτῳ αὐξάνεσθαι. Ληπτέον δὲ τὸ αἴτιον διορισαμένοις πρῶτον ἓν μὲν ὅτι τὰ ἀνομοιομερῆ αὐξάνεται τῷ τὰ ὁμοιομερῆ αὐξάνεσθαι (σύγκειται γὰρ ἐκ τούτων ἕκαστον), ἔπειθ’ ὅτι σὰρξ καὶ ὀστοῦν καὶ ἕκαστον τῶν τοιούτων μορίων ἐστὶ διττόν, ὥσπερ καὶ τῶν ἄλλων τῶν ἐν ὕλῃ εἶδος ἐχόντων· καὶ γὰρ ἡ ὕλη λέγεται καὶ τὸ εἶδος σὰρξ ἢ ὀστοῦν. Τὸ οὖν ὁτιοῦν μέρος αὐξάνεσθαι καὶ προσιόντος τινὸς κατὰ μὲν τὸ εἶδός ἐστιν ἐνδεχόμενον, κατὰ δὲ τὴν ὕλην οὐκ ἔστιν· δεῖ γὰρ νοῆσαι ὥσπερ εἴ τις μετροίη τῷ αὐτῷ μέτρῳ ὕδωρ· ἀεὶ γὰρ ἄλλο καὶ ἄλλο τὸ γινόμενον. Οὕτω δ’ αὐξάνεται ἡ ὕλη τῆς σαρκός, καὶ οὐχ ὁτῳοῦν παντὶ προσγίνεται, ἀλλὰ τὸ μὲν ὑπεκρεῖ τὸ δὲ προσέρχεται, τοῦ δὲ σχήματος καὶ τοῦ εἴδους ὁτῳοῦν μορίῳ.

Ἐπὶ δὲ τῶν ἀνομοιομερῶν τοῦτο μᾶλλον δῆλον, οἷον χειρός, ὅτι ἀνάλογον ηὔξηται· ἡ γὰρ ὕλη ἑτέρα οὖσα δήλη μᾶλλον τοῦ εἴδους ἐνταῦθα ἢ ἐπὶ σαρκὸς καὶ τῶν ὁμοιομερῶν· διὸ καὶ τεθνεῶτος μᾶλλον ἂν δόξειεν εἶναι ἔτι σὰρξ καὶ ὀστοῦν ἢ χεὶρ καὶ βραχίων. Ὥστε ἔστι μὲν ὡς ὁτιοῦν τῆς σαρκὸς ηὔξηται, ἔστι δ’ ὡς οὔ. Κατὰ μὲν γὰρ τὸ εἶδος ὁτῳοῦν προσελήλυθεν, κατὰ δὲ τὴν ὕλην οὔ.

Μεῖζον μέντοι τὸ ὅλον γέγονε προσελθόντος μέν τινος, ὃ κα(322a.) λεῖται τροφὴ καὶ ἐναντίον, μεταβάλλοντος δὲ εἰς τὸ αὐτὸ εἶδος, οἷον εἰ ξηρῷ προσίοι ὑγρόν, προσελθὸν δὲ μεταβάλοι καὶ γένοιτο ξηρόν· ἔστι μὲν γὰρ ὡς τὸ ὅμοιον ὁμοίῳ αὐξάνεται, ἔστι δ’ ὡς ἀνομοίῳ.

Ἀπορήσειε δ’ ἄν τις ποῖόν τι δεῖ εἶναι τὸ ᾧ αὐξάνεται. Φανερὸν δὴ ὅτι δυνάμει ἐκεῖνο, οἷον εἰ σάρξ, δυνάμει σάρκα. Ἐντελεχείᾳ ἄρα ἄλλο· φθαρὲν δὴ τοῦτο σὰρξ γέγονεν. Οὐκοῦν οὐ τοῦτο αὐτὸ καθ’ αὑτό· γένεσις γὰρ ἂν ἦν, οὐκ αὔξησις· ἀλλὰ τὸ αὐξανόμενον τούτῳ. Τί οὖν παθὸν ὑπὸ τούτου [ηὐξήθη]; ἢ μιχθέν, ὥσπερ οἴνῳ εἴ τις ἐπιχέοι ὕδωρ, ὁ δὲ δύναιτο οἶνον ποιεῖν τὸ μιχθέν; καὶ ὥσπερ τὸ πῦρ ἁψάμενον τοῦ καυστοῦ, οὕτως ἐν τῷ αὐξανομένῳ καὶ ὄντι ἐντελεχείᾳ σαρκὶ τὸ ἐνὸν αὐξητικὸν προσελθόντος δυνάμει σαρκὸς ἐποίησεν ἐντελεχείᾳ σάρκα. Οὐκοῦν ἅμα ὄντος· εἰ γὰρ χωρίς, γένεσις. Ἔστι μὲν γὰρ οὕτω πῦρ ποιῆσαι ἐπὶ τὸ ὑπάρχον ἐπιθέντα ξύλα. Ἀλλ’ οὕτω μὲν αὔξησις, ὅταν δὲ αὐτὰ τὰ ξύλα ἁφθῇ, γένεσις. Ποσὸν δὲ τὸ μὲν καθόλου οὐ γίνεται, ὥσπερ οὐδὲ ζῷον ὃ μήτ’ ἄνθρωπος μήτε τῶν καθ’ ἕκαστα· ἀλλ’ ὡς ἐνταῦθα τὸ καθόλου, κἀκεῖ τὸ ποσόν.

Σὰρξ δὲ ἢ ὀστοῦν ἢ χεὶρ καὶ τούτων τὰ ὁμοιομερῆ. Προσελθόντος μὲν δή τινος ποσοῦ, ἀλλ’ οὐ σαρκὸς ποσῆς. Ἧι μὲν οὖν δυνάμει τὸ συναμφότερον, οἷον ποσὴ σάρξ, ταύτῃ μὲν αὔξει· καὶ γὰρ ποσὴν δεῖ γενέσθαι καὶ σάρκα· ᾗ δὲ μόνον σάρξ, τρέφει· ταύτῃ γὰρ διαφέρει τροφὴ καὶ αὔξησις τῷ λόγῳ. Διὸ τρέφεται μὲν ἕως ἂν σώζηται καὶ φθῖνον, αὐξάνεται δὲ οὐκ ἀεί, καὶ ἡ τροφὴ τῇ αὐξήσει τὸ αὐτὸ μέν, τὸ δ’ εἶναι ἄλλο· ᾗ μὲν γάρ ἐστι τὸ προσιὸν δυνάμει ποσὴ σάρξ, ταύτῃ μὲν αὐξητικὸν σαρκός, ᾗ δὲ μόνον δυνάμει σάρξ, τροφή. Τοῦτο δὲ τὸ εἶδος ἄνευ ὕλης, οἷον αὐλός, δύναμίς τις ἐν ὕλῃ ἐστίν. Ἐὰν δέ τις προσίῃ ὕλη, οὖσα δυνάμει αὐλός, ἔχουσα καὶ τὸ ποσὸν δυνάμει, οὗτοι ἔσονται μείζους αὐλοί. Ἐὰν δὲ μηκέτι ποιεῖν δύνηται, ἀλλ’ οἷον ὕδωρ οἴνῳ ἀεὶ πλεῖον μιγνύμενον τέλος ὑδαρῆ ποιεῖ καὶ ὕδωρ, τότε φθίσιν ποιεῖται τοῦ ποσοῦ, τὸ δ’ εἶδος μένει.

Κεφάλαιο 6

(322b.) Ἐπεὶ δὲ πρῶτον δεῖ περὶ τῆς ὕλης καὶ τῶν καλουμένων στοιχείων εἰπεῖν, εἴτ’ ἔστιν εἴτε μή, καὶ πότερον ἀίδιον ἕκαστον ἢ γίνεταί πως, καὶ εἰ γίνεται, πότερον ἐξ ἀλλήλων γίνεται πάντα τὸν αὐτὸν τρόπον ἤ τι πρῶτον ἓν αὐτῶν ἐστιν, ἀνάγκη δὴ πρότερον εἰπεῖν περὶ ὧν ἀδιορίστως λέγεται νῦν.

Πάντες γὰρ οἵ τε τὰ στοιχεῖα γεννῶντες καὶ οἱ τὰ ἐκ τῶν στοιχείων διακρίσει χρῶνται καὶ συγκρίσει καὶ τῷ ποιεῖν καὶ πάσχειν. Ἔστι δ’ ἡ σύγκρισις μίξις· πῶς δὲ μίγνυσθαι λέγομεν, οὐ διώρισται σαφῶς. Ἀλλὰ μὴν οὐδ’ ἀλλοιοῦσθαι δυνατόν, οὐδὲ διακρίνεσθαι καὶ συγκρίνεσθαι, μηδενὸς ποιοῦντος μηδὲ πάσχοντος· καὶ γὰρ οἱ πλείω τὰ στοιχεῖα ποιοῦντες γεννῶσι τῷ ποιεῖν καὶ πάσχειν ὑπ’ ἀλλήλων, καὶ τοῖς ἐξ ἑνὸς ἀνάγκη λέγειν τὴν ποίησιν, καὶ τοῦτ’ ὀρθῶς λέγει Διογένης, ὅτι εἰ μὴ ἐξ ἑνὸς ἦν ἅπαντα, οὐκ ἂν ἦν τὸ ποιεῖν καὶ τὸ πάσχειν ὑπ’ ἀλλήλων, οἷον τὸ θερμὸν ψύχεσθαι καὶ τοῦτο θερμαίνεσθαι πάλιν· οὐ γὰρ ἡ θερμότης μεταβάλλει καὶ ἡ ψυχρότης εἰς ἄλληλα, ἀλλὰ δῆλον ὅτι τὸ ὑποκείμενον, ὥστε ἐν οἷς τὸ ποιεῖν ἐστι καὶ τὸ πάσχειν, ἀνάγκη τούτων μίαν εἶναι τὴν ὑποκειμένην φύσιν. Τὸ μὲν οὖν πάντα εἶναι τοιαῦτα φάσκειν οὐκ ἀληθές, ἀλλ’ ἐν ὅσοις τὸ ὑπ’ ἀλλήλων ἐστίν. Ἀλλὰ μὴν εἰ περὶ τοῦ ποιεῖν καὶ πάσχειν καὶ περὶ μίξεως θεωρητέον, ἀνάγκη καὶ περὶ ἁφῆς· οὔτε γὰρ ποιεῖν ταῦτα καὶ πάσχειν δύναται κυρίως ἃ μὴ οἷόν τε ἅψασθαι ἀλλήλων, οὔτε μὴ ἁψάμενά πως ἐνδέχεται μιχθῆναι πρῶτον. Ὥστε περὶ τριῶν τούτων διοριστέον, τί ἁφὴ καὶ τί μίξις καὶ τί ποίησις. Ἀρχὴν δὲ λάβωμεν τήνδε. Ἀνάγκη γὰρ τῶν ὄντων ὅσοις ἐστὶ μίξις, εἶναι ταῦτ’ ἀλλήλων ἁπτικά· κἂν εἴ τι ποιεῖ, τὸ δὲ πάσχει κυρίως, καὶ τούτοις ὡσαύτως. Διὸ πρῶτον λεκτέον περὶ ἁφῆς.

Σχεδὸν μὲν οὖν, ὥσπερ καὶ τῶν ἄλλων ὀνομάτων ἕκαστον λέγεται πολλαχῶς, καὶ τὰ μὲν ὁμωνύμως τὰ δὲ θάτερα ἀπὸ τῶν ἑτέρων καὶ τῶν προτέρων, οὕτως ἔχει καὶ περὶ ἁφῆς. Ὅμως δὲ τὸ κυρίως λεγόμενον ὑπάρχει τοῖς ἔχουσι θέσιν, θέσις δ’ οἷσπερ (323a.) καὶ τόπος· καὶ γὰρ τοῖς μαθηματικοῖς ὁμοίως ἀποδοτέον ἁφὴν καὶ τόπον, εἴτ’ ἐστὶ κεχωρισμένον ἕκαστον αὐτῶν εἴτ’ ἄλλον τρόπον. Εἰ οὖν ἐστίν, ὥσπερ διωρίσθη πρότερον, τὸ ἅπτεσθαι τὸ τὰ ἔσχατα ἔχειν ἅμα, ταῦτα ἂν ἅπτοιτο ἀλλήλων ὅσα διωρισμένα μεγέθη καὶ θέσιν ἔχοντα ἅμα ἔχει τὰ ἔσχατα. Ἐπεὶ δὲ θέσις μὲν ὅσοις καὶ τόπος ὑπάρχει, τόπου δὲ διαφορὰ πρώτη τὸ ἄνω καὶ τὸ κάτω καὶ τὰ τοιαῦτα τῶν ἀντικειμένων, ἅπαντα τὰ ἀλλήλων ἁπτόμενα βάρος ἂν ἔχοι ἢ κουφότητα, ἢ ἄμφω ἢ θάτερον. Τὰ δὲ τοιαῦτα παθητικὰ καὶ ποιητικά· ὥστε φανερὸν ὅτι ταῦτα ἅπτεσθαι πέφυκεν ἀλλήλων, ὧν διῃρημένων μεγεθῶν ἅμα τὰ ἔσχατά ἐστιν, ὄντων κινητικῶν καὶ κινητῶν ὑπ’ ἀλλήλων.

Ἐπεὶ δὲ τὸ κινοῦν οὐχ ὁμοίως κινεῖ τὸ κινούμενον, ἀλλὰ τὸ μὲν ἀνάγκη κινούμενον καὶ αὐτὸ κινεῖν, τὸ δ’ ἀκίνητον ὄν, δῆλον ὅτι καὶ ἐπὶ τοῦ ποιοῦντος ἐροῦμεν ὡσαύτως· καὶ γὰρ τὸ κινοῦν ποιεῖν τί φασι καὶ τὸ ποιοῦν κινεῖν. Οὐ μὴν ἀλλὰ διαφέρει γε καὶ δεῖ διορίζειν· οὐ γὰρ οἷόν τε πᾶν τὸ κινοῦν ποιεῖν, εἴπερ τὸ ποιοῦν ἀντιθήσομεν τῷ πάσχοντι, τοῦτο δ’ οἷς ἡ κίνησις πάθος.

Πάθος δὲ καθ’ ὅσον ἀλλοιοῦται μόνον, οἷον τὸ λευκὸν καὶ τὸ θερμόν· ἀλλὰ τὸ κινεῖν ἐπὶ πλέον τοῦ ποιεῖν ἐστιν. Ἐκεῖνο δ’ οὖν φανερόν, ὅτι ἔστι μὲν ὡς τὰ κινοῦντα τῶν κινητῶν ἅπτοιτ’ ἄν, ἔστι δ’ ὡς οὔ. Ἀλλ’ ὁ διορισμὸς τοῦ ἅπτεσθαι καθόλου μὲν ὁ τῶν θέσιν ἐχόντων καὶ τοῦ μὲν κινητικοῦ τοῦ δὲ κινητοῦ, πρὸς ἄλληλα δὲ κινητικοῦ καὶ κινητοῦ, ἐν οἷς ὑπάρχει τὸ ποιεῖν καὶ τὸ πάσχειν. Ἔστι μὲν οὖν ὡς ἐπὶ τὸ πολὺ τὸ ἁπτόμενον ἁπτομένου ἁπτόμενον· καὶ γὰρ κινεῖ κινούμενα πάντα σχεδὸν τὰ ἐμποδών, ὅσοις ἀνάγκη καὶ φαίνεται τὸ ἁπτόμενον ἅπτεσθαι ἁπτομένου· ἔστι δ’ ὡς ἐνίοτέ φαμεν τὸ κινοῦν ἅπτεσθαι μόνου τοῦ κινουμένου, τὸ δ’ ἁπτόμενον μὴ ἅπτεσθαι ἁπτομένου· ἀλλὰ διὰ τὸ κινεῖν κινούμενα τὰ ὁμογενῆ, ἀνάγκη δοκεῖ εἶναι ἁπτομένου ἅπτεσθαι. Ὥστε εἴ τι κινεῖ ἀκίνητον ὄν, ἐκεῖνο μὲν ἂν ἅπτοιτο τοῦ κινητοῦ, ἐκείνου δὲ οὐδέν· φαμὲν γὰρ ἐνίοτε τὸν λυποῦντα ἅπτεσθαι ἡμῶν, ἀλλ’ οὐκ αὐτοὶ ἐκείνου. Περὶ μὲν οὖν ἁφῆς τῆς ἐν τοῖς φυσικοῖς διωρίσθω τοῦτον τὸν τρόπον.

Κεφάλαιο 7

(323b.) Περὶ δὲ τοῦ ποιεῖν καὶ πάσχειν λεκτέον ἐφεξῆς· παρειλήφαμεν δὲ παρὰ τῶν πρότερον ὑπεναντίους ἀλλήλοις λόγους. Οἱ μὲν γὰρ πλεῖστοι τοῦτό γε ὁμονοητικῶς λέγουσιν, ὡς τὸ μὲν ὅμοιον ὑπὸ τοῦ ὁμοίου πᾶν ἀπαθές ἐστι διὰ τὸ μηδὲν μᾶλλον ποιητικὸν ἢ παθητικὸν εἶναι θάτερον θατέρου (πάντα γὰρ ὁμοίως ὑπάρχειν ταὐτὰ τοῖς ὁμοίοις), τὰ δ’ ἀνόμοια καὶ τὰ διάφορα ποιεῖν καὶ πάσχειν εἰς ἄλληλα πέφυκεν.

Καὶ γὰρ ὅταν τὸ ἔλαττον πῦρ ὑπὸ τοῦ πλείονος φθείρηται, διὰ τὴν ἐναντίωσιν τοῦτό φασι πάσχειν· ἐναντίον γὰρ εἶναι τὸ πολὺ τῷ ὀλίγῳ. Δημόκριτος δὲ παρὰ τοὺς ἄλλους ἰδίως ἔλεξε μόνος· φησὶ γὰρ τὸ αὐτὸ καὶ ὅμοιον εἶναι τό τε ποιοῦν καὶ τὸ πάσχον· οὐ γὰρ ἐγχωρεῖν τὰ ἕτερα καὶ ιαφέροντα πάσχειν ὑπ’ ἀλλήλων, ἀλλὰ κἂν ἕτερα ὄντα ποιῇ τι εἰς ἄλληλα, οὐχ ᾗ ἕτερα ἀλλ’ ᾗ ταὐτόν τι ὑπάρχει, ταύτῃ τοῦτο συμβαίνειν αὐτοῖς.

Τὰ μὲν οὖν λεγόμενα ταῦτ’ ἐστίν, ἐοίκασι δὲ οἱ τοῦτον τὸν τρόπον λέγοντες ὑπεναντία φαίνεσθαι λέγειν. Αἴτιον δὲ τῆς ἐναντιολογίας ὅτι δέον ὅλον τι θεωρῆσαι μέρος τι τυγχάνουσι λέγοντες ἑκάτεροι· τό τε γὰρ ὅμοιον καὶ τὸ πάντῃ πάντως ἀδιάφορον εὔλογον μὴ πάσχειν ὑπὸ τοῦ ὁμοίου μηθέν· τί γὰρ μᾶλλον θάτερον ἔσται ποιητικὸν ἢ θάτερον; εἴ τε ὑπὸ τοῦ ὁμοίου τι πάσχειν δυνατόν, καὶ αὐτὸ ὑφ’ αὑτοῦ· καίτοι τούτων οὕτως ἐχόντων οὐδὲν ἂν εἴη οὔτε ἄφθαρτον οὔτε ἀκίνητον, εἴπερ τὸ ὅμοιον ᾗ ὅμοιον ποιητικόν· αὐτὸ γὰρ αὑτὸ κινήσει πᾶν, τό τε παντελῶς ἕτερον καὶ τὸ μηθαμῇ ταὐτὸν ὡσαύτως· οὐδὲν γὰρ ἂν πάθοι λευκότης ὑπὸ γραμμῆς ἢ γραμμὴ ὑπὸ λευκότητος, πλὴν εἰ μή που κατὰ συμβεβηκός, οἷον εἰ συμβέβηκε λευκὴν ἢ μέλαιναν εἶναι τὴν γραμμήν· οὐκ ἐξίστησι γὰρ ἄλληλα τῆς φύσεως ὅσα μήτ’ ἐναντία μήτ’ ἐξ ἐναντίων ἐστίν.

Ἀλλ’ ἐπεὶ οὐ τὸ τυχὸν πέφυκε πάσχειν καὶ ποιεῖν, ἀλλ’ ὅσα ἢ ἐναντία ἐστὶν ἢ ἐναντίωσιν ἔχει, ἀνάγκη καὶ τὸ ποιοῦν καὶ τὸ πάσχον τῷ γένει μὲν ὅμοιον εἶναι καὶ ταὐτό, τῷ δ’ εἴδει ἀνόμοιον καὶ ἐναντίον· πέφυκε γὰρ σῶμα μὲν ὑπὸ σώματος, χυμὸς δ’ ὑπὸ χυμοῦ, χρῶμα δ’ ὑπὸ χρώματος πάσχειν, (324a.) ὅλως δὲ τὸ ὁμογενὲς ὑπὸ τοῦ ὁμογενοῦς. Τούτου δ’ αἴτιον ὅτι τἀναντία ἐν ταὐτῷ γένει πάντα, ποιεῖ δὲ καὶ πάσχει τἀναντία ὑπ’ ἀλλήλων. Ὥστ’ ἀνάγκη πῶς μὲν εἶναι ταὐτὰ τό τε ποιοῦν καὶ τὸ πάσχον, πῶς δ’ ἕτερα καὶ ἀνόμοια ἀλλήλοις. Ἐπεὶ δὲ καὶ τὸ πάσχον καὶ τὸ ποιοῦν τῷ μὲν γένει ταὐτὰ καὶ ὅμοια τῷ δ’ εἴδει ἀνόμοια, τοιαῦτα δὲ τἀναντία, φανερὸν ὅτι παθητικὰ καὶ ποιητικὰ ἀλλήλων ἐστὶ τά τ’ ἐναντία καὶ τὰ μεταξύ· καὶ γὰρ ὅλως φθορὰ καὶ γένεσις ἐν τούτοις. Διὸ καὶ εὔλογον ἤδη τό τε πῦρ θερμαίνειν καὶ τὸ ψυχρὸν ψύχειν, καὶ ὅλως τὸ ποιητικὸν ὁμοιοῦν ἑαυτῷ τὸ πάσχον· τό τε γὰρ ποιοῦν καὶ τὸ πάσχον ἐναντία ἐστί, καὶ ἡ γένεσις εἰς τοὐναντίον. Ὥστ’ ἀνάγκη τὸ πάσχον εἰς τὸ ποιοῦν μεταβάλλειν· οὕτω γὰρ ἔσται εἰς τοὐναντίον ἡ γένεσις. Καὶ κατὰ λόγον δὴ τὸ μὴ ταὐτὰ λέγοντας ἀμφοτέρους ὅμως ἅπτεσθαι τῆς φύσεως. Λέγομεν γὰρ πάσχειν ὁτὲ μὲν τὸ ὑποκείμενον, οἷον ὑγιάζεσθαι τὸν ἄνθρωπον καὶ θερμαίνεσθαι καὶ ψύχεσθαι καὶ τἆλλα τὸν αὐτὸν τρόπον, ὁτὲ δὲ θερμαίνεσθαι μὲν τὸ ψυχρόν, ὑγιάζεσθαι δὲ τὸ κάμνον· ἀμφότερα δ’ ἐστὶν ἀληθῆ.

Τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τοῦ ποιοῦντος· ὁτὲ μὲν γὰρ τὸν ἄνθρωπόν φαμεν θερμαίνειν, ὁτὲ δὲ τὸ θερμόν· ἔστι μὲν γὰρ ὡς ἡ ὕλη πάσχει, ἔστι δ’ ὡς τοὐναντίον. Οἱ μὲν οὖν εἰς ἐκεῖνο βλέψαντες ταὐτόν τι δεῖν ᾠήθησαν τὸ ποιοῦν ἔχειν καὶ τὸ πάσχον, οἱ δ’ εἰς θάτερα τοὐναντίον. Τὸν αὐτὸν δὲ λόγον ὑποληπτέον εἶναι περὶ τοῦ ποιεῖν καὶ πάσχειν ὅνπερ καὶ περὶ τοῦ κινεῖν καὶ κινεῖσθαι· διχῶς γὰρ λέγεται καὶ τὸ κινοῦν· ἐν ᾧ τε γὰρ ἡ ἀρχὴ τῆς κινήσεως, δοκεῖ τοῦτο κινεῖν (ἡ γὰρ ἀρχὴ πρώτη τῶν αἰτίων), καὶ πάλιν τὸ ἔσχατον πρὸς τὸ κινούμενον καὶ τὴν γένεσιν. Ὁμοίως δὲ καὶ περὶ τοῦ ποιοῦντος· καὶ γὰρ τὸν ἰατρόν φαμεν ὑγιάζειν καὶ τὸν οἶνον. Τὸ μὲν οὖν πρῶτον κινοῦν οὐδὲν κωλύει ἐν μὲν κινήσει ἀκίνητον εἶναι· ἐπ’ ἐνίων δὲ καὶ ἀναγκαῖον· τὸ δ’ ἔσχατον ἀεὶ κινεῖν κινούμενον. Ἐπὶ δὲ ποιήσεως τὸ μὲν πρῶτον ἀπαθές, τὸ δ’ ἔσχατον καὶ αὐτὸ πάσχον· ὅσα γὰρ μὴ ἔχει τὴν αὐτὴν ὕλην, ποιεῖ ἀπαθῆ ὄντα, οἷον ἡ ἰατρική· αὐτὴ γὰρ ποιοῦσα ὑγίειαν οὐδὲν πάσχει (324b.) ὑπὸ τοῦ ὑγιαζομένου. Τὸ δὲ σιτίον ποιοῦν καὶ αὐτὸ πάσχει τι· ἢ γὰρ θερμαίνεται ἢ ψύχεται ἢ ἄλλο τι πάσχει ἅμα ποιοῦν. Ἔστι δὲ ἡ μὲν ἰατρικὴ ὡς ἀρχή, τὸ δὲ σιτίον τὸ ἔσχατον καὶ ἁπτόμενον. Ὅσα μὲν οὖν μὴ ἐν ὕλῃ ἔχει τὴν μορφήν, ταῦτα μὲν ἀπαθῆ τῶν ποιητικῶν, ὅσα δ’ ἐν ὕλῃ, παθητικά. Τὴν μὲν γὰρ ὕλην λέγομεν ὁμοίως ὡς εἰπεῖν τὴν αὐτὴν εἶναι τῶν ἀντικειμένων ὁποτερουοῦν, ὥσπερ γένος ὄν, τὸ δὲ δυνάμενον θερμὸν εἶναι παρόντος τοῦ θερμαντικοῦ καὶ πλησιάζοντος ἀνάγκη θερμαίνεσθαι· διό, καθάπερ εἴρηται, τὰ μὲν τῶν ποιητικῶν ἀπαθῆ τὰ δὲ παθητικά. Καὶ ὥσπερ ἐπὶ κινήσεως τὸν αὐτὸν ἔχει τρόπον καὶ ἐπὶ τῶν ποιητικῶν· ἐκεῖ τε γὰρ τὸ πρῶτον κινοῦν ἀκίνητον, καὶ ἐπὶ τῶν ποιητικῶν τὸ πρῶτον ποιοῦν ἀπαθές.

Ἔστι δὲ τὸ ποιητικὸν αἴτιον ὡς ὅθεν ἡ ἀρχὴ τῆς κινήσεως. Τὸ δ’ οὗ ἕνεκα οὐ ποιητικόν. Διὸ ἡ ὑγίεια οὐ ποιητικόν, εἰ μὴ κατὰ μεταφοράν· καὶ γὰρ τοῦ μὲν ποιοῦντος ὅταν ὑπάρχῃ, γίνεταί τι τὸ πάσχον, τῶν δ᾽ ἕξεων παρουσῶν οὐκέτι γίνεται, ἀλλ᾽ ἔστιν ἤδη· τὰ δ᾽ εἴδη καὶ τὰ τέλη ἕξεις τινές, ἡ δ᾽ ὕλη ᾗ ὕλη παθητικόν. Τὸ μὲν οὖν πῦρ ἔχει ἐν ὕλῃ τὸ θερμόν· εἰ δέ τι εἴη θερμὸν χωριστόν, τοῦτο οὐθὲν ἂν πάσχοι. Τοῦτο μὲν οὖν ἴσως ἀδύνατον εἶναι χωριστόν· εἰ δ᾽ ἐστὶν ἔνια τοιαῦτα, ἐπ᾽ ἐκείνων ἂν εἴη τὸ λεγόμενον ἀληθές. Τί μὲν οὖν τὸ ποιεῖν καὶ πάσχειν ἐστὶ καὶ τίσιν ὑπάρχει καὶ διὰ τί καὶ πῶς, διωρίσθω τοῦτον τὸν τρόπον.

Πῶς δὲ ἐνδέχεται τοῦτο συμβαίνειν, πάλιν λέγωμεν.

Κεφάλαιο 8

Τοῖς μὲν οὖν δοκεῖ πάσχειν ἕκαστον διά τινων πόρων εἰσιόντος τοῦ ποιοῦντος ἐσχάτου καὶ κυριωτάτου, καὶ τοῦτον τὸν τρόπον καὶ ὁρᾶν καὶ ἀκούειν ἡμᾶς φασι καὶ τὰς ἄλλας αἰσθήσεις αἰσθάνεσθαι πάσας, ἔτι δὲ ὁρᾶσθαι διά τε ἀέρος καὶ ὕδατος καὶ τῶν διαφανῶν, διὰ τὸ πόρους ἔχειν ἀοράτους μὲν διὰ μικρότητα, πυκνοὺς δὲ καὶ κατὰ στοῖχον, καὶ μᾶλλον ἔχειν τὰ διαφανῆ μᾶλλον. Οἱ μὲν οὖν ἐπί τινων οὕτω διώρισαν, ὥσπερ καὶ Ἐμπεδοκλῆς, οὐ μόνον ἐπὶ τῶν ποιούντων καὶ πασχόντων, ἀλλὰ καὶ μίγνυσθαί φησιν ὅσων οἱ πόροι σύμμετροι πρὸς ἀλλήλους εἰσίν. Ὁδῷ δὲ μάλιστα καὶ περὶ (325a.) πάντων ἑνὶ λόγῳ διωρίκασι Λεύκιππος καὶ Δημόκριτος, ἀρχὴν ποιησάμενοι κατὰ φύσιν ἥπερ ἐστίν.

Ἐνίοις γὰρ τῶν ἀρχαίων ἔδοξε τὸ ὂν ἐξ ἀνάγκης ἓν εἶναι καὶ ἀκίνητον· τὸ μὲν γὰρ κενὸν οὐκ ὄν, κινηθῆναι δ’ οὐκ ἂν δύνασθαι μὴ ὄντος κενοῦ κεχωρισμένου. Οὐδ’ αὖ πολλὰ εἶναι μὴ ὄντος τοῦ διείργοντος· τοῦτο δὲ μηδὲν διαφέρειν, εἴ τις οἴεται μὴ συνεχὲς εἶναι τὸ πᾶν ἀλλ’ ἅπτεσθαι διῃρημένον, τοῦ φάναι πολλὰ καὶ μὴ ἓν εἶναι καὶ κενόν. Εἰ μὲν γὰρ πάντῃ διαιρετόν, οὐδὲν εἶναι ἕν, ὥστε οὐδὲ πολλά, ἀλλὰ κενὸν τὸ ὅλον· εἰ δὲ τῇ μὲν τῇ δὲ μή, πεπλασμένῳ τινὶ τοῦτ’ ἐοικέναι· μέχρι πόσου γὰρ καὶ διὰ τί τὸ μὲν οὕτως ἔχει τοῦ ὅλου καὶ πλῆρές ἐστι, τὸ δὲ διῃρημένον; ἔτι ὁμοίως φάναι ἀναγκαῖον μὴ εἶναι κίνησιν. Ἐκ μὲν οὖν τούτων τῶν λόγων, ὑπερβάντες τὴν αἴσθησιν καὶ παριδόντες αὐτὴν ὡς τῷ λόγῳ δέον ἀκολουθεῖν, ἓν καὶ ἀκίνητον τὸ πᾶν εἶναί φασι καὶ ἄπειρον ἔνιοι· τὸ γὰρ πέρας περαίνειν ἂν πρὸς τὸ κενόν. Οἱ μὲν οὖν οὕτως καὶ διὰ ταύτας τὰς αἰτίας ἀπεφήναντο περὶ τῆς ἀληθείας· ἐπεὶ δὲ ἐπὶ μὲν τῶν λόγων δοκεῖ ταῦτα συμβαίνειν, ἐπὶ δὲ τῶν πραγμάτων μανίᾳ παραπλήσιον εἶναι τὸ δοξάζειν οὕτως· οὐδένα γὰρ τῶν μαινομένων ἐξεστάναι τοσοῦτον ὥστε τὸ πῦρ ἓν εἶναι δοκεῖν καὶ τὸν κρύσταλλον, ἀλλὰ μόνον τὰ καλὰ καὶ τὰ φαινόμενα διὰ συνήθειαν, ταῦτ’ ἐνίοις διὰ τὴν μανίαν οὐθὲν δοκεῖ διαφέρειν.

Λεύκιππος δ’ ἔχειν ᾠήθη λόγους οἵ τινες πρὸς τὴν αἴσθησιν ὁμολογούμενα λέγοντες οὐκ ἀναιρήσουσιν οὔτε γένεσιν οὔτε φθορὰν οὔτε κίνησιν καὶ τὸ πλῆθος τῶν ὄντων Ὁμολογήσας δὲ ταῦτα μὲν τοῖς φαινομένοις, τοῖς δὲ τὸ ἓν κατασκευάζουσιν ὡς οὐκ ἂν κίνησιν οὖσαν ἄνευ κενοῦ τό τε κενὸν μὴ ὄν, καὶ τοῦ ὄντος οὐθὲν μὴ ὄν φησιν εἶναι.

Τὸ γὰρ κυρίως ὂν παμπλῆρες ὄν· ἀλλ’ εἶναι τὸ τοιοῦτον οὐχ ἕν, ἀλλ’ ἄπειρα τὸ πλῆθος καὶ ἀόρατα διὰ σμικρότητα τῶν ὄγκων. Ταῦτα δ’ ἐν τῷ κενῷ φέρεσθαι (κενὸν γὰρ εἶναι), καὶ συνιστάμενα μὲν γένεσιν ποιεῖν, διαλυόμενα δὲ φθοράν. Ποιεῖν δὲ καὶ πάσχειν ᾗ τυγχάνουσιν ἁπτόμενα· ταύτῃ γὰρ οὐχ ὓν εἶναι. Καὶ συντιθέμενα δὲ καὶ περιπλεκόμενα γεννᾶν· ἐκ δὲ τοῦ κατ’ ἀλήθειαν ἑνὸς οὐκ ἂν γενέσθαι πλῆθος, οὐδ’ ἐκ τῶν ἀληθῶς πολλῶν ἕν, ἀλλ’ εἶναι τοῦτ’ ἀδύνατον, ἀλλ’ (325b.) ὥσπερ Ἐμπεδοκλῆς καὶ τῶν ἄλλων τινές φασι πάσχειν διὰ πόρων, οὕτω πᾶσαν ἀλλοίωσιν καὶ πᾶν τὸ πάσχειν τοῦτον γίνεσθαι τὸν τρόπον, διὰ τοῦ κενοῦ γινομένης τῆς διαλύσεως καὶ τῆς φθορᾶς, ὁμοίως δὲ καὶ τῆς αὐξήσεως, ὑπεισδυομένων στερεῶν. Σχεδὸν δὲ καὶ Ἐμπεδοκλεῖ ἀναγκαῖον λέγειν, ὥσπερ καὶ Λεύκιππός φησιν· εἶναι γὰρ ἄττα στερεά, ἀδιαίρετα δέ, εἰ μὴ πάντῃ πόροι συνεχεῖς εἰσιν. Τοῦτο δ’ ἀδύνατον· οὐθὲν γὰρ ἔσται ἕτερον στερεὸν παρὰ τοὺς πόρους, ἀλλὰ πᾶν κενόν. Ἀνάγκη ἄρα τὰ μὲν ἁπτόμενα εἶναι ἀδιαίρετα, τὰ δὲ μεταξὺ αὐτῶν κενά, οὓς ἐκεῖνος λέγει πόρους. Οὕτως δὲ καὶ Λεύκιππος λέγει περὶ τοῦ ποιεῖν καὶ πάσχειν.

Οἱ μὲν οὖν τρόποι καθ’ οὓς τὰ μὲν ποιεῖ τὰ δὲ πάσχει σχεδὸν οὗτοι λέγονται· καὶ περὶ μὲν τούτων, καὶ πῶς λέγουσι, δῆλον, καὶ πρὸς τὰς αὐτῶν θέσεις αἷς χρῶνται σχεδὸν ὁμολογουμένως φαίνεται συμβαῖνον. Τοῖς δ’ ἄλλοις ἧττον, οἷον Ἐμπεδοκλεῖ τίνα τρόπον ἔσται γένεσις καὶ φθορὰ καὶ ἀλλοίωσις οὐ δῆλον. Τοῖς μὲν γάρ ἐστιν ἀδιαίρετα τὰ πρῶτα τῶν σωμάτων, σχήματι διαφέροντα μόνον, ἐξ ὧν πρώτων σύγκειται καὶ εἰς ἃ ἔσχατα διαλύεται· Ἐμπεδοκλεῖ δὲ τὰ μὲν ἄλλα φανερὸν ὅτι μέχρι τῶν στοιχείων ἔχει τὴν γένεσιν καὶ τὴν φθοράν, αὐτῶν δὲ τούτων πῶς γίνεται καὶ φθείρεται τὸ σωρευόμενον μέγεθος, οὔτε δῆλον οὔτε ἐνδέχεται λέγειν αὐτῷ μὴ λέγοντι καὶ τοῦ πυρὸς εἶναι στοιχεῖον, ὁμοίως δὲ καὶ τῶν ἄλλων ἁπάντων, ὥσπερ ἐν τῷ Τιμαίῳ γέγραφε Πλάτων.

Τοσοῦτον γὰρ διαφέρει τοῦ μὴ τὸν αὐτὸν τρόπον Λευκίππῳ λέγειν, ὅτι ὁ μὲν στερεὰ ὁ δ’ ἐπίπεδα λέγει τὰ ἀδιαίρετα, καὶ ὁ μὲν ἀπείροις ὡρίσθαι σχήμασι τῶν ἀδιαιρέτων στερεῶν ἕκαστον ὁ δὲ ὡρισμένοις, ἐπεὶ ἀδιαίρετά γε ἀμφότεροι λέγουσι καὶ ὡρισμένα σχήμασιν. Ἐκδὴ τούτων αἱ γενέσεις καὶ αἱ διακρίσεις Λευκίππῳ μὲν δύο τρόποι ἂν εἶεν, διά τε τοῦ κενοῦ καὶ διὰ τῆς ἁφῆς (ταύτῃ γὰρ διαιρετὸν ἕκαστον), Πλάτωνι δὲ κατὰ τὴν ἁφὴν μόνον· κενὸν γὰρ οὐκ εἶναί φησιν· καὶ περὶ μὲν τῶν ἀδιαιρέτων ἐπιπέδων εἰρήκαμεν ἐν τοῖς πρότερον λόγοις· περὶ δὴ τῶν ἀδιαιρέτων στερεῶν τὸ μὲν ἐπὶ πλέον θεωρῆσαι τὸ συμβαῖνον ἀφείσθω τὸ νῦν, ὡς δὲ μικρὸν παρεκβᾶσιν εἰπεῖν, (326a.) ἀναγκαῖον ἀπαθές τε ἕκαστον λέγειν τῶν ἀδιαιρέτων (οὐ γὰρ οἷόν τε πάσχειν ἀλλ' ἢ διὰ τοῦ κενοῦ) καὶ μηθενὸς ποιητικὸν πάθους· οὔτε γὰρ ψυχρὸν οὔτε σκληρὸν οἷόν τ' εἶναι. Καίτοι τοῦτό γε ἄτοπον, τὸ μόνον ἀποδοῦναι τῷ περιφερεῖ σχήματι τὸ θερμόν· ἀνάγκη γὰρ καὶ τοὐναντίον τὸ ψυχρὸν ἄλλῳ τινὶ προσήκειν τῶν σχημάτων. Ἄτοπον δὲ κἂν εἰ ταῦτα μὲν ὑπάρχει, λέγω δὲ θερμότης καὶ ψυχρότης, βαρύτης δὲ καὶ κουφότης καὶ σκληρότης καὶ μαλακότης μὴ ὑπάρξει· καίτοι βαρύτερόν γε κατὰ τὴν ὑπεροχήν φησιν εἶναι Δημόκριτος ἕκαστον τῶν ἀδιαιρέτων, ὥστε δῆλον ὅτι καὶ θερμότερον. Τοιαῦτα δ' ὄντα μὴ πάσχειν ὑπ' ἀλλήλων ἀδύνατον, οἷον ὑπὸ τοῦ πολὺ ὑπερβάλλοντος θερμοῦ τὸ ἠρέμα θερμόν.

Ἀλλὰ μὴν εἰ σκληρόν, καὶ μαλακόν. Τὸ δὲ μαλακὸν ἤδη τῷ πάσχειν τι λέγεται· τὸ γὰρ ὑπεικτικὸν μαλακόν. Ἀλλὰ μὴν ἄτοπον καὶ εἰ μηθὲν ὑπάρχει ἀλλ' ἢ μόνον σχῆμα· καὶ εἰ ὑπάρχει, ἓν δὲ μόνον, οἷον τὸ μὲν ψυχρὸν τὸ δὲ θερμόν· οὐδὲ γὰρ ἂν μία τις εἴη ἡ φύσις αὐτῶν. Ὁμοίως δὲ ἀδύνατον καὶ εἰ πλείω τῷ ἑνί· ἀδιαίρετον γὰρ ὂν ἐν τῷ αὐτῷ ἕξει τὰ πάθη, ὥστε καὶ ἐὰν πάσχῃ ᾗπερ ψύχεται, ταύτῃ τι καὶ ἄλλο ποιήσει ἢ πείσεται. Τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων παθημάτων· τοῦτο γὰρ καὶ τοῖς στερεὰ καὶ τοῖς ἐπίπεδα λέγουσιν ἀδιαίρετα συμβαίνει τὸν αὐτὸν τρόπον· οὔτε γὰρ μανότερα οὔτε πυκνότερα οἷόν τε γίνεσθαι κενοῦ μὴ ὄντος ἐν τοῖς ἀδιαιρέτοις.

Ἔτι δ' ἄτοπον καὶ τὸ μικρὰ μὲν ἀδιαίρετα εἶναι, μεγάλα δὲ μή· νῦν μὲν γὰρ εὐλόγως τὰ μείζω θραύεται μᾶλλον τῶν μικρῶν· τὰ μὲν γὰρ διαλύεται ῥᾳδίως, οἷον τὰ μεγάλα· προσκόπτει γὰρ πολλοῖς· τὸ δὲ ἀδιαίρετον ὅλως διὰ τί μᾶλλον ὑπάρχει τῶν μεγάλων τοῖς μικροῖς; ἔτι δὲ πότερον μία πάντων ἡ φύσις ἐκείνων τῶν στερεῶν, ἢ διαφέρει θάτερα τῶν ἑτέρων, ὥσπερ ἂν εἰ τὰ μὲν εἴη πύρινα, τὰ δὲ γήινα τὸν ὄγκον; εἰ μὲν γὰρ μία φύσις ἐστὶν ἁπάντων, τί τὸ χωρίσαν; ἢ διὰ τί οὐ γίνεται ἁψάμενα ἕν, ὥσπερ ὕδωρ ὕδατος ὅταν θίγῃ; οὐδὲν γὰρ διαφέρει τὸ ὕστερον τοῦ προτέρου. Εἰ δ' ἕτερα, ποῖα ταῦτα; καὶ δῆλον ὡς ταῦτα θετέον ἀρχὰς καὶ αἰτίας τῶν (326b.) συμβαινόντων μᾶλλον ἢ τὰ σχήματα. Ἔτι δὲ διαφέροντα τὴν φύσιν, κἂν ποιοῖ κἂν πάσχοι θιγγάνοντα ἀλλήλων. Ἔτι δὲ τί τὸ κινοῦν; εἰ μὲν γὰρ ἕτερον, παθητικόν· εἰ δ' αὐτὸ αὑτὸ ἕκαστον, ἢ διαιρετὸν ἔσται, κατ' ἄλλο μὲν κινοῦν κατ' ἄλλο δὲ κινούμενον, ἢ κατὰ ταὐτὸ τἀναντία ὑπάρξει, καὶ ἡ ὕλη οὐ μόνον ἀριθμῷ ἔσται μία ἀλλὰ καὶ δυνάμει.

Ὅσοι (6) μὲν οὖν διὰ τῆς <διὰ> τῶν πόρων κινήσεώς φασι τὰ πάθη συμβαίνειν, εἰ μὲν καὶ πεπληρωμένων τῶν πόρων, περίεργον οἱ πόροι· εἰ γὰρ ταύτῃ τι πάσχει τὸ πᾶν, κἂν μὴ πόρους ἔχον ἀλλ’ αὐτὸ συνεχὲς ὂν πάσχοι τὸν αὐτὸν τρόπον. Ἔτι δὲ πῶς ἐνδέχεται περὶ τοῦ διορᾶν συμβαίνειν ὡς λέγουσιν; οὔτε γὰρ κατὰ τὰς ἁφὰς ἐνδέχεται διιέναι διὰ τῶν διαφανῶν, οὔτε διὰ τῶν πόρων, εἰ πλήρης ἕκαστος· τί γὰρ διοίσει τοῦ μὴ ἔχειν πόρους; πᾶν γὰρ ὁμοίως ἔσται πλῆρες.

Ἀλλὰ μὴν εἰ καὶ κενὰ μὲν ταῦτα, ἀνάγκη δὲ σώματα ἐν αὐτοῖς ἔχειν, ταὐτὸ συμβήσεται πάλιν. Εἰ δὲ τηλικαῦτα τὸ μέγεθος ὥστε μὴ δέχεσθαι σῶμα μηδέν, γελοῖον τὸ μικρὸν μὲν οἴεσθαι κενὸν εἶναι, μέγα δὲ μὴ μηδ’ ὁπηλικονοῦν, ἢ τὸ κενὸν ἄλλο τι οἴεσθαι λέγειν πλὴν χώραν σώματος, ὥστε δῆλον ὅτι παντὶ σώματι τὸν ὄγκον ἴσον ἔσται κενόν.

Ὅλως δὲ τὸ πόρους ποιεῖν περίεργον· εἰ μὲν γὰρ μηδὲν ποιεῖ κατὰ τὴν ἁφήν, οὐδὲ διὰ τῶν πόρων ποιήσει διιόν· εἰ δὲ τῷ ἅπτεσθαι, καὶ μὴ πόρων ὄντων τὰ μὲν πείσεται τὰ δὲ ποιήσει τῶν πρὸς ἄλληλα τοῦτον τὸν τρόπον πεφυκότων.

Ὅτι μὲν οὖν οὕτως λέγειν τοὺς πόρους, ὥς τινες ὑπολαμβάνουσιν, ἢ ψεῦδος ἢ μάταιον, φανερὸν ἐκ τούτων ἐστίν· διαιρετῶν δ’ ὄντων πάντῃ τῶν σωμάτων πόρους ποιεῖν γελοῖον· ᾗ γὰρ διαιρετά, δύναται χωρίζεσθαι.

Κεφάλαιο 9

Τίνα δὲ τρόπον ὑπάρχει τοῖς οὖσι γεννᾶν καὶ ποιεῖν καὶ πάσχειν, λέγωμεν λαβόντες ἀρχὴν τὴν πολλάκις εἰρημένην.

Εἰ γάρ ἐστι τὸ μὲν δυνάμει τὸ δ’ ἐντελεχείᾳ τοιοῦτον, πέφυκεν οὐ τῇ μὲν τῇ δ’ οὐ πάσχειν, ἀλλὰ πάντῃ καθ’ ὅσον ἐστὶ τοιοῦτον, ἧττον δὲ καὶ μᾶλλον ᾗ τοιοῦτον μᾶλλόν ἐστι καὶ ἧττον· καὶ ταύτῃ πόρους ἄν τις λέγοι μᾶλλον, καθάπερ ἐν τοῖς μεταλλευομένοις διατείνουσι τοῦ παθητικοῦ φλέβες (327a.) συνεχεῖς. Συμφυὲς μὲν οὖν ἕκαστον καὶ ἓν ὂν ἀπαθές.

Ὁμοίως δὲ καὶ μὴ θιγγάνοντα μήτε αὑτῶν μήτ’ ἄλλων, ἃ ποιεῖν πέφυκε καὶ πάσχειν. Λέγω δ’ οἷον οὐ μόνον ἁπτόμενον θερμαίνει τὸ πῦρ, ἀλλὰ κἂν ἄποθεν ᾖ· τὸν μὲν γὰρ ἀέρα τὸ πῦρ, ὁ δ’ ἀὴρ τὸ σῶμα θερμαίνει, πεφυκὼς ποιεῖν καὶ πάσχειν.

Τὸ δὲ τῇ μὲν οἴεσθαι πάσχειν τῇ δὲ μή, διορίσαντας ἐν ἀρχῇ τοῦτο λεκτέον. Εἰ μὲν γὰρ μὴ πάντῃ διαιρετὸν τὸ μέγεθος, ἀλλ’ ἔστι σῶμα ἀδιαίρετον ἢ πλάτος, οὐκ ἂν εἴη πάντῃ παθητικόν, ἀλλ’ οὐδὲ συνεχὲς οὐδέν· εἰ δὲ τοῦτο ψεῦδος καὶ πᾶν σῶμα διαιρετόν, οὐδὲν διαφέρει διῃρῆσθαι μὲν ἅπτεσθαι δέ, ἢ διαιρετὸν εἶναι· εἰ γὰρ διακρίνεσθαι δύναται κατὰ τὰς ἁφάς, ὥσπερ φασί τινες, κἂν μήπω ᾖ διῃρημένον, ἔσται διῃρημένον· δυνατὸν γὰρ διαιρεθῆναι· γίνεται γὰρ οὐθὲν ἀδύνατον.

Ὅλως δὲ τὸ τοῦτον γίνεσθαι τὸν τρόπον μόνον σχιζομένων τῶν σωμάτων ἄτοπον· ἀναιρεῖ γὰρ οὗτος ὁ λόγος ἀλλοίωσιν, ὁρῶμεν δὲ τὸ αὐτὸ σῶμα συνεχὲς ὂν ὁτὲ μὲν ὑγρὸν ὁτὲ δὲ πεπηγός, οὐ διαιρέσει καὶ συνθέσει τοῦτο παθόν, οὐδὲ τροπῇ καὶ διαθιγῇ, καθάπερ λέγει Δημόκριτος· οὔτε γὰρ μεταταχθὲν οὔτε μετατεθὲν τὴν φύσιν πεπηγὸς ἐξ ὑγροῦ γέγονεν· οὐδ’ ἐνυπάρχει τὰ σκληρὰ καὶ πεπηγότα ἀδιαίρετα τοὺς ὄγκους· ἀλλ’ ὁμοίως ἅπαν ὑγρόν, ὁτὲ δὲ σκληρὸν καὶ πεπηγός ἐστιν.

Ἔτι δ’ οὐδ’ αὔξησιν οἷόν τ’ εἶναι καὶ φθίσιν· οὐ γὰρ ὁτιοῦν ἔσται γεγονὸς μεῖζον, εἴπερ ἔσται πρόσθεσις, καὶ μὴ πᾶν μεταβεβληκός, ἢ μιχθέντος τινὸς ἢ καθ’ αὑτὸ μεταβαλόντος.

Ὅτι μὲν οὖν ἐστὶ τὸ γεννᾶν καὶ τὸ ποιεῖν καὶ τὸ γίνεσθαί τε καὶ πάσχειν ὑπ’ ἀλλήλων, καὶ τίνα τρόπον ἐνδέχεται, καὶ τίνα φασὶ μέν τινες οὐκ ἐνδέχεται δέ, διωρίσθω τοῦτον τὸν τρόπον.

Κεφάλαιο 10

Λοιπὸν δὲ θεωρῆσαι περὶ μίξεως κατὰ τὸν αὐτὸν τρόπον τῆς μεθόδου· τοῦτο γὰρ ἦν τρίτον τῶν προτεθέντων ἐξ ἀρχῆς. Σκεπτέον δὲ τί τ’ ἐστὶν ἡ μίξις καὶ τί τὸ μικτόν, καὶ τίσιν ὑπάρχει τῶν ὄντων καὶ πῶς, ἔτι δὲ πότερον ἔστι μίξις ἢ τοῦτο ψεῦδος· ἀδύνατον γάρ ἐστι μιχθῆναί τι ἕτερον ἑτέρῳ, καθάπερ λέγουσί τινες· ὄντων μὲν γὰρ ἔτι τῶν (327b.) μιχθέντων καὶ μὴ ἠλλοιωμένων οὐδὲν μᾶλλον νῦν μεμίχθαι φασὶν ἢ πρότερον, ἀλλ’ ὁμοίως ἔχειν, θατέρου δὲ φθαρέντος οὐ μεμίχθαι, ἀλλὰ τὸ μὲν εἶναι τὸ δ’ οὐκ εἶναι, τὴν δὲ μίξιν ὁμοίως ἐχόντων εἶναι τὸν αὐτὸν δὲ τρόπον κἂν εἰ ἀμφοτέρων συνελθόντων ἔφθαρται τῶν μιγνυμένων ἑκάτερον· οὐ γὰρ εἶναι μεμιγμένα τά γε ὅλως οὐκ ὄντα. Οὗτος μὲν οὖν ὁ λόγος ἔοικε ζητεῖν διορίσαι τί διαφέρει μίξις γενέσεως καὶ φθορᾶς, καὶ τί τὸ μικτὸν τοῦ γεννητοῦ καὶ φθαρτοῦ· δῆλον γὰρ ὡς δεῖ διαφέρειν, εἴπερ ἔστιν. Ὥστε τούτων ὄντων φανερῶν τὰ διαπορηθέντα λύοιντ’ ἄν.

Ἀλλὰ μὴν οὐδὲ τὴν ὕλην τῷ πυρὶ μεμίχθαι φαμὲν οὐδὲ μίγνυσθαι καιομένην, οὔτ’ αὐτὴν αὑτῆς τοῖς μορίοις οὔτε τῷ πυρί, ἀλλὰ τὸ μὲν πῦρ γίνεσθαι, τὴν δὲ φθείρεσθαι. Τὸν αὐτὸν δὲ τρόπον οὔτε τῷ σώματι τὴν τροφὴν οὔτε τὸ σχῆμα τῷ κηρῷ μιγνύμενον σχηματίζειν τὸν ὄγκον· οὐδὲ τὸ σῶμα καὶ τὸ λευκὸν οὐδ’ ὅλως τὰ πάθη καὶ τὰς ἕξεις οἷόν τε μίγνυσθαι τοῖς πράγμασιν· σωζόμενα γὰρ ὁρᾶται. Ἀλλὰ μὴν οὐδὲ τὸ λευκόν γε καὶ τὴν ἐπιστήμην ἐνδέχεται μιχθῆναι, οὐδ’ ἄλλο τῶν μὴ χωριστῶν οὐδέν. Ἀλλὰ τοῦτο λέγουσιν οὐ καλῶς οἱ πάντα ποτὲ ὁμοῦ φάσκοντες εἶναι καὶ μεμίχθαι· οὐ γὰρ ἅπαν ἅπαντι μικτόν, ἀλλ’ ὑπάρχειν δεῖ χωριστὸν ἑκάτερον τῶν μιχθέντων· τῶν δὲ παθῶν οὐθὲν χωριστόν. Ἐπεὶ δ’ ἐστὶ τὰ μὲν δυνάμει τὰ δ’ ἐνεργείᾳ τῶν ὄντων, ἐνδέχεται τὰ μιχθέντα εἶναί πως καὶ μὴ εἶναι, ἐνεργείᾳ μὲν ἑτέρου ὄντος τοῦ γεγονότος ἐξ αὐτῶν, δυνάμει δ’ ἔτι ἑκατέρου ἅπερ ἦσαν πρὶν μιχθῆναι, καὶ οὐκ ἀπολωλότα· τοῦτο γὰρ ὁ λόγος διηπόρει πρότερον· φαίνεται δὲ τὰ μιγνύμενα πρότερόν τε ἐκ κεχωρισμένων συνιόντα καὶ δυνάμενα χωρίζεσθαι πάλιν· οὔτε διαμένουσιν οὖν ἐνεργείᾳ ὥσπερ τὸ σῶμα καὶ τὸ λευκόν, οὔτε φθείρονται, οὔτε θάτερον οὔτ’ ἄμφω· σώζεται γὰρ ἡ δύναμις αὐτῶν.

Διὸ ταῦτα μὲν ἀφείσθω· τὸ δὲ συνεχὲς τούτοις ἀπόρημα διαιρετέον, πότερον ἡ μίξις πρὸς τὴν αἴσθησιν τί ἐστιν. Ὅταν γὰρ οὕτως εἰς μικρὰ διαιρεθῇ τὰ μιγνύμενα, καὶ τεθῇ παρ’ ἄλληλα τοῦτον τὸν τρόπον ὥστε μὴ δῆλον ἕκαστον εἶναι τῇ αἰσθήσει, τότε μέμικται (328a.) ἢ οὔ, ἀλλ’ ἔστιν ὥστε ὁτιοῦν εἶναι μόριον τῶν μιχθέντων; λέγεται μὲν οὖν ἐκείνως, οἷον κριθὰς μεμίχθαι πυροῖς, ὅταν ἡτισοῦν παρ’ ὁντινοῦν τεθῇ. Εἰ δ’ ἐστὶ πᾶν σῶμα διαιρετόν, εἴπερ ἐστὶ σῶμα σώματι μικτὸν ὁμοιομερές, ὁτιοῦν ἂν δέοι μέρος γίνεσθαι παρ’ ὁτιοῦν. Ἐπεὶ δ’ οὐκ ἔστιν εἰς τἀλάχιστα διαιρεθῆναι, <οὐδὲ> σύνθεσις ταὐτὸ καὶ μίξις ἀλλ’ ἕτερον, δῆλον ὡς οὔτε κατὰ μικρὰ σωζόμενα δεῖ τὰ μιγνύμενα φάναι μεμίχθαι. Σύνθεσις γὰρ ἔσται καὶ οὐ κρᾶσις οὐδὲ μίξις, οὐδ’ ἕξει τὸν αὐτὸν λόγον τῷ ὅλῳ τὸ μόριον.

Φαμὲν δ’, εἴπερ δεῖ μεμίχθαι τι, τὸ μιχθὲν ὁμοιομερὲς εἶναι, καὶ ὥσπερ τοῦ ὕδατος τὸ μέρος ὕδωρ, οὕτω καὶ τοῦ κραθέντος. Ἂν δ’ ᾖ κατὰ μικρὰ σύνθεσις ἡ μίξις, οὐθὲν συμβήσεται τούτων, ἀλλὰ μόνον μεμιγμένα πρὸς τὴν αἴσθησιν (καὶ τὸ αὐτὸ τῷ μὲν μεμιγμένον, ἐὰν μὴ βλέπῃ ὀξύ, τῷ Λυγκεῖ δ’ οὐθὲν μεμιγμένον), <οὐδὲ> τῇ διαιρέσει, ὥστε ὁτιοῦν παρ’ ὁτιοῦν μέρος, ἀδύνατον γὰρ οὕτω διαιρεθῆναι. Ἢ οὖν οὐκ ἔστι μίξις, ἢ λεκτέον τοῦτο πῶς ἐνδέχεται γίνεσθαι πάλιν.

Ἔστι δή, ὡς ἔφαμεν, τῶν ὄντων τὰ μὲν ποιητικὰ τὰ δ’ ὑπὸ τούτων παθητικά. Τὰ μὲν οὖν ἀντιστρέφει, ὅσων ἡ αὐτὴ ὕλη ἐστί, καὶ ποιητικὰ ἀλλήλων καὶ παθητικὰ ὑπ’ ἀλλήλων· τὰ δὲ ποιεῖ ἀπαθῆ ὄντα, ὅσων μὴ ἡ αὐτὴ ὕλη. Τούτων μὲν οὖν οὐκ ἔστι μίξις· διὸ οὐδ’ ἡ ἰατρικὴ ποιεῖ ὑγίειαν οὐδ’ ἡ ὑγίεια μιγνυμένη τοῖς σώμασιν. Τῶν δὲ ποιητικῶν καὶ παθητικῶν ὅσα εὐδιαίρετα, πολλὰ μὲν ὀλίγοις καὶ μεγάλα μικροῖς συντιθέμενα οὐ ποιεῖ μίξιν, ἀλλ’ αὔξησιν τοῦ κρατοῦντος· μεταβάλλει γὰρ θάτερον εἰς τὸ κρατοῦν, οἷον σταλαγμὸς οἴνου μυρίοις χοεῦσιν ὕδατος οὐ μίγνυται· λύεται γὰρ τὸ εἶδος καὶ μεταβάλλει εἰς τὸ πᾶν ὕδωρ. Ὅταν δὲ ταῖς δυνάμεσιν ἰσάζῃ πως, τότε μεταβάλλει μὲν ἑκάτερον εἰς τὸ κρατοῦν ἐκ τῆς αὑτοῦ φύσεως, οὐ γίνεται δὲ θάτερον, ἀλλὰ μεταξὺ καὶ κοινόν.

Φανερὸν οὖν ὅτι ταῦτ’ ἐστὶ μικτὰ ὅσα ἐναντίωσιν ἔχει τῶν ποιούντων· ταῦτα γὰρ δὴ ὑπ’ ἀλλήλων ἐστὶ παθητικά. Καὶ μικρὰ δὲ μικροῖς παρατιθέμενα μίγνυται μᾶλλον· ῥᾷον γὰρ καὶ θᾶττον ἄλληλα μεθίστησιν.

Τὸ δὲ πολὺ καὶ ὑπὸ πολλοῦ χρονίως τοῦτο δρᾷ. Διὸ τὰ (328b.) εὐόριστα τῶν διαιρετῶν καὶ παθητικῶν μικτά (διαιρεῖται γὰρ εἰς μικρὰ ταῦτα ῥᾳδίως· τοῦτο γὰρ ἦν τὸ εὐορίστῳ εἶναι), οἷον τὰ ὑγρὰ μικτὰ μάλιστα τῶν σωμάτων· εὐόριστον γὰρ μάλιστα τὸ ὑγρὸν τῶν διαιρετῶν, ἐὰν μὴ γλίσχρον ᾖ· ταῦτα γὰρ δὴ πλείω καὶ μείζω μόνον ποιεῖ τὸν ὄγκον.

Ὅταν δ’ ᾖ θάτερον μόνον παθητικὸν ἢ σφόδρα, τὸ δὲ πάμπαν ἠρέμα, ἢ οὐθὲν πλεῖον τὸ μιχθὲν ἐξ ἀμφοῖν ἢ μικρόν, ὅπερ συμβαίνει περὶ τὸν καττίτερον καὶ τὸν χαλκόν. Ἔνια γὰρ ψελλίζεται πρὸς ἄλληλα τῶν ὄντων καὶ ἐπαμφοτερίζει· φαίνεται γάρ πως καὶ μικτὰ ἠρέμα, καὶ ὡς θάτερον μὲν δεκτικὸν θάτερον δ’ εἶδος. Ὅπερ ἐπὶ τούτων συμβαίνει· ὁ γὰρ καττίτερος ὡς πάθος τι ὢν ἄνευ ὕλης τοῦ χαλκοῦ σχεδὸν ἀφανίζεται καὶ μιχθεὶς ἄπεισι χρωματίσας μόνον. Ταὐτὸ δὲ τοῦτο συμβαίνει καὶ ἐφ’ ἑτέρων.

Φανερὸν τοίνυν ἐκ τῶν εἰρημένων καὶ ὅτι ἔστι μίξις καὶ τί ἐστι καὶ διὰ τί, καὶ ποῖα μικτὰ τῶν ὄντων, ἐπείπερ ἐστὶν ἔνια τοιαῦτα οἷα παθητικά τε ὑπ’ ἀλλήλων καὶ εὐόριστα καὶ εὐδιαίρετα· ταῦτα γὰρ οὔτ’ ἐφθάρθαι ἀνάγκη μεμιγμένα οὔτ’ ἔτι ταὐτὰ ἁπλῶς εἶναι, οὔτε σύνθεσιν εἶναι τὴν μίξιν αὐτῶν, οὔτε πρὸς τὴν αἴσθησιν· ἀλλ’ ἔστι μικτὸν μὲν ὃ ἂν εὐόριστον ὂν παθητικὸν ᾖ καὶ ποιητικὸν καὶ τοιούτῳ μικτόν (πρὸς ὁμώνυμον γὰρ τὸ μικτόν), ἡ δὲ μίξις τῶν μικτῶν ἀλλοιωθέντων ἕνωσις.

Βιβλίο 2

Κεφάλαιο 1

Περὶ μὲν οὖν μίξεως καὶ ἁφῆς καὶ τοῦ ποιεῖν καὶ πάσχειν εἴρηται πῶς ὑπάρχει τοῖς μεταβάλλουσι κατὰ φύσιν, ἔτι δὲ περὶ γενέσεως καὶ φθορᾶς τῆς ἁπλῆς, τίνος καὶ πῶς ἐστὶ καὶ διὰ τίν' αἰτίαν. Ὁμοίως δὲ καὶ περὶ ἀλλοιώσεως εἴρηται, τί τὸ ἀλλοιοῦσθαι καὶ τίν' ἔχει διαφορὰν αὐτῶν.

Λοιπὸν δὲ θεωρῆσαι περὶ τὰ καλούμενα στοιχεῖα τῶν σωμάτων. Γένεσις μὲν γὰρ καὶ φθορὰ πάσαις ταῖς φύσει συνεστώσαις οὐσίαις οὐκ ἄνευ τῶν αἰσθητῶν σωμάτων.

Τούτων δὲ τὴν ὑποκειμένην ὕλην οἱ μέν φασιν εἶναι μίαν, οἷον ἀέρα τιθέντες ἢ πῦρ ἤ τι μεταξὺ τούτων, σῶμά τε ὂν καὶ χωριστόν, (329a.) οἱ δὲ πλείω τὸν ἀριθμὸν ἑνός, οἱ μὲν πῦρ καὶ γῆν, οἱ δὲ ταῦτά τε καὶ ἀέρα τρίτον, οἱ δὲ καὶ ὕδωρ τούτων τέταρτον, ὥσπερ Ἐμπεδοκλῆς· ἐξ ὧν συγκρινομένων καὶ διακρινομένων ἢ ἀλλοιουμένων συμβαίνειν τὴν γένεσιν καὶ τὴν φθορὰν τοῖς πράγμασιν.

Ὅτι μὲν οὖν τὰ πρῶτα ἀρχὰς καὶ στοιχεῖα καλῶς ἔχει λέγειν, ἔστω συνομολογούμενον, ἐξ ὧν μεταβαλλόντων ἢ κατὰ σύγκρισιν καὶ διάκρισιν ἢ κατ' ἄλλην μεταβολὴν συμβαίνει γένεσιν εἶναι καὶ φθοράν. Ἀλλ' οἱ μὲν ποιοῦντες μίαν ὕλην παρὰ τὰ εἰρημένα, ταύτην δὲ σωματικὴν καὶ χωριστήν, ἁμαρτάνουσιν· ἀδύνατον γὰρ ἄνευ ἐναντιώσεως εἶναι τὸ σῶμα τοῦτο αἰσθητῆς· ἢ γὰρ κοῦφον ἢ βαρὺ ἢ ψυχρὸν ἢ θερμὸν ἀνάγκη εἶναι τὸ ἄπειρον τοῦτο, ὃ λέγουσί τινες εἶναι τὴν ἀρχήν. Ὡς δ' ἐν τῷ Τιμαίῳ γέγραπται, οὐδένα ἔχει διορισμόν· οὐ γὰρ εἴρηκε σαφῶς τὸ πανδεχές, εἰ χωρίζεται τῶν στοιχείων. Οὐδὲ χρῆται οὐδέν, φήσας εἶναι ὑποκείμενόν τι τοῖς καλουμένοις στοιχείοις πρότερον, οἷον χρυσὸν τοῖς ἔργοις τοῖς χρυσοῖς. Καίτοι καὶ τοῦτο οὐ καλῶς λέγεται τοῦτον τὸν τρόπον λεγόμενον, ἀλλ' ὧν μὲν ἀλλοίωσις, ἐστὶν οὕτως, ὧν δὲ γένεσις καὶ φθορά, ἀδύνατον ἐκεῖνο προσαγορεύεσθαι ἐξ οὗ γέγονεν. Καίτοι γέ φησι μακρῷ ἀληθέστατον εἶναι χρυσὸν λέγειν ἕκαστον εἶναι. Ἀλλὰ τῶν στοιχείων ὄντων στερεῶν μέχρι ἐπιπέδων ποιεῖται τὴν ἀνάλυσιν· ἀδύνατον δὲ τὴν τιθήνην καὶ τὴν ὕλην τὴν πρώτην τὰ ἐπίπεδα εἶναι. Ἡμεῖς δὲ φαμὲν μὲν εἶναί τινα ὕλην τῶν σωμάτων τῶν αἰσθητῶν, ἀλλὰ ταύτην οὐ χωριστὴν ἀλλ' ἀεὶ μετ' ἐναντιώσεως, ἐξ ἧς γίνεται τὰ καλούμενα στοιχεῖα.

Διώρισται δὲ περὶ αὐτῶν ἐν ἑτέροις ἀκριβέστερον. Οὐ μὴν ἀλλ’ ἐπειδὴ καὶ τὸν τρόπον τοῦτόν ἐστιν ἐκ τῆς ὕλης τὰ σώματα τὰ πρῶτα, διοριστέον καὶ περὶ τούτων, ἀρχὴν μὲν καὶ πρώτην οἰομένοις εἶναι τὴν ὕλην τὴν ἀχώριστον μέν, ὑποκειμένην δὲ τοῖς ἐναντίοις· οὔτε γὰρ τὸ θερμὸν ὕλη τῷ ψυχρῷ οὔτε τοῦτο τῷ θερμῷ, ἀλλὰ τὸ ὑποκείμενον ἀμφοῖν. Ὥστε πρῶτον μὲν τὸ δυνάμει σῶμα αἰσθητὸν ἀρχή, δεύτερον δ’ αἱ ἐναντιώσεις, λέγω δ’ οἷον θερμότης καὶ ψυχρότης, τρίτον δ’ ἤδη πῦρ καὶ ὕδωρ καὶ τὰ τοιαῦτα· ταῦτα μὲν γὰρ μεταβάλλει εἰς ἄλληλα, καὶ οὐχ ὡς Ἐμπεδοκλῆς καὶ (329b.) ἕτεροι λέγουσιν (οὐδὲ γὰρ ἂν ἦν ἀλλοίωσις), αἱ δ’ ἐναντιώσεις οὐ μεταβάλλουσιν. Ἀλλ’ οὐδὲν ἧττον καὶ ὧς σώματος ποίας καὶ πόσας λεκτέον ἀρχάς· οἱ μὲν γὰρ ἄλλοι ὑποθέμενοι χρῶνται, καὶ οὐδὲν λέγουσι διὰ τί αὗται ἢ τοσαῦται.

Κεφάλαιο 2

Ἐπεὶ οὖν ζητοῦμεν αἰσθητοῦ σώματος ἀρχάς, τοῦτο δ’ ἐστὶν ἁπτοῦ, ἁπτὸν δ’ οὗ ἡ αἴσθησις ἁφή, φανερὸν ὅτι οὐ πᾶσαι αἱ ἐναντιώσεις σώματος εἴδη καὶ ἀρχὰς ποιοῦσιν, ἀλλὰ μόνον αἱ κατὰ τὴν ἁφήν· κατ’ ἐναντίωσίν τε γὰρ διαφέρουσι, καὶ κατὰ ἁπτὴν ἐναντίωσιν. Διὸ οὔτε λευκότης καὶ μελανία οὔτε γλυκύτης καὶ πικρότης, ὁμοίως δ’ οὐδὲ τῶν ἄλλων τῶν αἰσθητῶν ἐναντιώσεων οὐδὲν ποιεῖ στοιχεῖον. Καίτοι πρότερον ὄψις ἁφῆς, ὥστε καὶ τὸ ὑποκείμενον πρότερον.

Ἀλλ’ οὐκ ἔστι σώματος ἁπτοῦ πάθος ᾗ ἁπτόν, ἀλλὰ καθ’ ἕτερον, καὶ εἰ ἔτυχε τῇ φύσει πρότερον. Αὐτῶν δὴ πρῶτον τῶν ἁπτῶν διαιρετέον ποῖαι πρῶται διαφοραὶ καὶ ἐναντιώσεις. Εἰσὶ δ’ ἐναντιώσεις κατὰ τὴν ἁφὴν αἵδε, θερμὸν ψυχρόν, ξηρὸν ὑγρόν, βαρὺ κοῦφον, σκληρὸν μαλακόν, γλίσχρον κραῦρον, τραχὺ λεῖον, παχὺ λεπτόν. Τούτων δὲ βαρὺ μὲν καὶ κοῦφον οὐ ποιητικὰ οὐδὲ παθητικά· οὐ γὰρ τῷ ποιεῖν τε ἕτερον ἢ πάσχειν ὑφ’ ἑτέρου λέγονται. Δεῖ δὲ ποιητικὰ καὶ παθητικὰ εἶναι ἀλλήλων τὰ στοιχεῖα· μίγνυται γὰρ καὶ μεταβάλλει εἰς ἄλληλα. Θερμὸν δὲ καὶ ψυχρὸν καὶ ὑγρὸν καὶ ξηρὸν τὰ μὲν τῷ ποιητικὰ εἶναι τὰ δὲ τῷ παθητικὰ λέγεται· θερμὸν γάρ ἐστι τὸ συγκρῖνον τὰ ὁμογενῆ (τὸ γὰρ διακρίνειν, ὅπερ φασὶ ποιεῖν τὸ πῦρ, συγκρίνειν ἐστὶ τὰ ὁμόφυλα· συμβαίνει γὰρ ἐξαιρεῖν τὰ ἀλλότρια), ψυχρὸν δὲ τὸ συνάγον καὶ συγκρῖνον ὁμοίως τά τε συγγενῆ καὶ τὰ μὴ ὁμόφυλα, ὑγρὸν δὲ τὸ ἀόριστον οἰκείῳ ὅρῳ εὐόριστον ὄν, ξηρὸν δὲ τὸ εὐόριστον μὲν οἰκείῳ ὅρῳ, δυσόριστον δέ. Τὸ δὲ λεπτὸν καὶ παχὺ καὶ γλίσχρον καὶ κραῦρον καὶ σκληρὸν καὶ μαλακὸν καὶ αἱ ἄλλαι διαφοραὶ ἐκ τούτων· ἐπεὶ γὰρ τὸ ἀναπληστικόν ἐστι τοῦ ὑγροῦ διὰ τὸ μὴ ὡρίσθαι μὲν εὐόριστον δ’ εἶναι καὶ ἀκολουθεῖν τῷ (330a.) ἁπτομένῳ, τὸ δὲ λεπτὸν ἀναπληστικόν (λεπτομερὲς γάρ, καὶ τὸ μικρομερὲς ἀναπληστικόν· ὅλον γὰρ ὅλου ἅπτεται· τὸ δὲ λεπτὸν μάλιστα τοιοῦτον), φανερὸν ὅτι τὸ μὲν λεπτὸν ἔσται τοῦ ὑγροῦ, τὸ δὲ παχὺ τοῦ ξηροῦ. Πάλιν δὲ τὸ μὲν γλίσχρον τοῦ ὑγροῦ (τὸ γὰρ γλίσχρον ὑγρὸν πεπονθός τί ἐστιν, οἷον τὸ ἔλαιον), τὸ δὲ κραῦρον τοῦ ξηροῦ· κραῦρον γὰρ τὸ τελέως ξηρόν, ὥστε καὶ πεπηγέναι δι’ ἔλλειψιν ὑγρότητος.

Ἔτι τὸ μὲν μαλακὸν τοῦ ὑγροῦ (μαλακὸν γὰρ τὸ ὑπεῖκον εἰς ἑαυτὸ καὶ μὴ μεθιστάμενον, ὅπερ ποιεῖ τὸ ὑγρόν· διὸ καὶ οὐκ ἔστι τὸ ὑγρὸν μαλακόν, ἀλλὰ τὸ μαλακὸν τοῦ ὑγροῦ), τὸ δὲ σκληρὸν τοῦ ξηροῦ· σκληρὸν γάρ ἐστι τὸ πεπηγός, τὸ δὲ πεπηγὸς ξηρόν. Λέγεται δὲ ξηρὸν καὶ ὑγρὸν πλεοναχῶς· ἀντίκειται γὰρ τῷ ξηρῷ καὶ τὸ ὑγρὸν καὶ τὸ διερόν, καὶ πάλιν τῷ ὑγρῷ καὶ τὸ ξηρὸν καὶ τὸ πεπηγός· ἅπαντα δὲ ταῦτ᾽ ἐστὶ τοῦ ξηροῦ καὶ τοῦ ὑγροῦ τῶν πρώτως λεχθέντων.

Ἐπεὶ γὰρ ἀντίκειται τῷ διερῷ τὸ ξηρόν, καὶ διερὸν μέν ἐστι τὸ ἔχον ἀλλοτρίαν ὑγρότητα ἐπιπολῆς, βεβρεγμένον δὲ τὸ εἰς βάθος, ξηρὸν δὲ τὸ ἐστερημένον ταύτης, φανερὸν ὅτι τὸ μὲν διερὸν ἔσται τοῦ ὑγροῦ, τὸ δ᾽ ἀντικείμενον ξηρὸν τοῦ πρώτως ξηροῦ. Πάλιν δὲ τὸ ὑγρὸν καὶ τὸ πεπηγὸς ὡσαύτως· ὑγρὸν μὲν γάρ ἐστι τὸ ἔχον οἰκείαν ὑγρότητα, βεβρεγμένον δὲ τὸ ἔχον ἀλλοτρίαν ὑγρότητα ἐν τῷ βάθει, πεπηγὸς δὲ τὸ ἐστερημένον ταύτης. Ὥστε καὶ τούτων ἔσται τὸ μὲν ξηροῦ τὸ δὲ ὑγροῦ. Δῆλον τοίνυν ὅτι πᾶσαι αἱ ἄλλαι διαφοραὶ ἀνάγονται εἰς τὰς πρώτας τέτταρας. Αὗται δὲ οὐκέτι εἰς ἐλάττους· οὔτε γὰρ τὸ θερμὸν ὅπερ ὑγρὸν ἢ ὅπερ ξηρόν, οὔτε τὸ ὑγρὸν ὅπερ θερμὸν ἢ ὅπερ ψυχρόν, οὔτε τὸ ψυχρὸν καὶ τὸ ξηρὸν οὔθ᾽ ὑπ᾽ ἄλληλ᾽ οὔθ᾽ ὑπὸ τὸ θερμὸν καὶ τὸ ὑγρόν εἰσιν ὥστ᾽ ἀνάγκη τέτταρας εἶναι ταύτας.

Κεφάλαιο 3

Ἐπεὶ δὲ τέτταρα τὰ στοιχεῖα, τῶν δὲ τεττάρων ἓξ αἱ συζεύξεις, τὰ δ’ ἐναντία οὐ πέφυκε συνδυάζεσθαι (θερμὸν γὰρ καὶ ψυχρὸν εἶναι τὸ αὐτὸ καὶ πάλιν ξηρὸν καὶ ὑγρὸν ἀδύνατον), φανερὸν ὅτι τέτταρες ἔσονται αἱ τῶν στοιχείων συζεύξεις, θερμοῦ καὶ ξηροῦ, καὶ θερμοῦ καὶ ὑγροῦ, καὶ (330b.) πάλιν ψυχροῦ καὶ ὑγροῦ, καὶ ψυχροῦ καὶ ξηροῦ. Καὶ ἠκολούθηκε κατὰ λόγον τοῖς ἁπλοῖς φαινομένοις σώμασι, πυρὶ καὶ ἀέρι καὶ ὕδατι καὶ γῇ· τὸ μὲν γὰρ πῦρ θερμὸν καὶ ξηρόν, ὁ δ’ ἀὴρ θερμὸν καὶ ὑγρόν (οἷον ἀτμὶς γὰρ ὁ ἀήρ), τὸ δ’ ὕδωρ ψυχρὸν καὶ ὑγρόν, ἡ δὲ γῆ ψυχρὸν καὶ ξηρόν, ὥστ’ εὐλόγως διανέμεσθαι τὰς διαφορὰς τοῖς πρώτοις σώμασι, καὶ τὸ πλῆθος αὐτῶν εἶναι κατὰ λόγον. Ἅπαντες γὰρ οἱ τὰ ἁπλᾶ σώματα στοιχεῖα ποιοῦντες οἱ μὲν ἕν, οἱ δὲ δύο, οἱ δὲ τρία, οἱ δὲ τέτταρα ποιοῦσιν. Ὅσοι μὲν οὖν ἓν μόνον λέγουσιν, εἶτα πυκνώσει καὶ μανώσει τἆλλα γεννῶσι, τούτοις συμβαίνει δύο ποιεῖν τὰς ἀρχάς, τό τε μανὸν καὶ τὸ πυκνὸν ἢ τὸ θερμὸν καὶ τὸ ψυχρόν· ταῦτα γὰρ τὰ δημιουργοῦντα, τὸ δ’ ἓν ὑπόκειται καθάπερ ὕλη.

Οἱ δ’ εὐθὺς δύο ποιοῦντες, ὥσπερ Παρμενίδης πῦρ καὶ γῆν, τὰ μεταξὺ μίγματα ποιοῦσι τούτων, οἷον ἀέρα καὶ ὕδωρ. Ὡσαύτως δὲ καὶ οἱ τρία λέγοντες, καθάπερ Πλάτων ἐν ταῖς διαιρέσεσιν· τὸ γὰρ μέσον μίγμα ποιεῖ. Καὶ σχεδὸν ταὐτὰ λέγουσιν οἵ τε δύο καὶ οἱ τρία ποιοῦντες· πλὴν οἱ μὲν τέμνουσιν εἰς δύο τὸ μέσον, οἱ δ’ ἓν μόνον ποιοῦσιν. Ἔνιοι δ’ εὐθὺς τέτταρα λέγουσιν, οἷον Ἐμπεδοκλῆς. Συνάγει δὲ καὶ οὗτος εἰς τὰ δύο· τῷ γὰρ πυρὶ τἆλλα πάντα ἀντιτίθησιν. Οὐκ ἔστι δὲ τὸ πῦρ καὶ ὁ ἀὴρ καὶ ἕκαστον τῶν εἰρημένων ἁπλοῦν, ἀλλὰ μικτόν.

Τὰ δ’ ἁπλᾶ τοιαῦτα μέν ἐστιν, οὐ μέντοι ταὐτά, οἷον εἴ τι τῷ πυρὶ ὅμοιον, πυροειδές, οὐ πῦρ, καὶ τὸ τῷ ἀέρι ἀεροειδές· ὁμοίως δὲ κἀπὶ τῶν ἄλλων. Τὸ δὲ πῦρ ἐστιν ὑπερβολὴ θερμότητος, ὥσπερ καὶ κρύσταλλος ψυχρότητος· ἡ γὰρ πῆξις καὶ ἡ ζέσις ὑπερβολαί τινές εἰσιν, ἡ μὲν ψυχρότητος, ἡ δὲ θερμότητος. Εἰ οὖν ὁ κρύσταλλός ἐστι πῆξις ὑγροῦ ψυχροῦ, καὶ τὸ πῦρ ἔσται ζέσις ξηροῦ θερμοῦ. Διὸ καὶ οὐδὲν οὔτ’ ἐκ κρυστάλλου γίνεται οὔτ’ ἐκ πυρός.

Ὄντων δὲ τεττάρων τῶν ἁπλῶν σωμάτων, ἑκάτερα τοῖν δυοῖν ἑκατέρου τῶν τόπων ἐστίν· πῦρ μὲν γὰρ καὶ ἀὴρ τοῦ πρὸς τὸν ὅρον φερομένου, γῆ δὲ καὶ ὕδωρ τοῦ πρὸς τὸ μέσον. Καὶ ἄκρα μὲν καὶ εἰλικρινέστατα πῦρ καὶ γῆ, μέσα δὲ καὶ μεμιγμένα μᾶλλον (331a.) ὕδωρ καὶ ἀήρ. Καὶ ἑκάτερα ἑκατέροις ἐναντία· πυρὶ μὲν γὰρ ἐναντίον ὕδωρ, ἀέρι δὲ γῆ· ταῦτα γὰρ ἐκ τῶν ἐναντίων παθημάτων συνέστηκεν. Οὐ μὴν ἀλλ’ ἁπλῶς γε τέτταρα ὄντα ἑνὸς ἕκαστόν ἐστι, γῆ μὲν ξηροῦ μᾶλλον ἢ ψυχροῦ, ὕδωρ δὲ ψυχροῦ μᾶλλον ἢ ὑγροῦ, ἀὴρ δ’ ὑγροῦ μᾶλλον ἢ θερμοῦ, πῦρ δὲ θερμοῦ μᾶλλον ἢ ξηροῦ.

Κεφάλαιο 4

Ἐπεὶ δὲ διώρισται πρότερον ὅτι τοῖς ἁπλοῖς σώμασιν ἐξ ἀλλήλων ἡ γένεσις, ἅμα δὲ καὶ κατὰ τὴν αἴσθησιν φαίνεται γινόμενα (οὐ γὰρ ἂν ἦν ἀλλοίωσις· κατὰ γὰρ τὰ τῶν ἁπτῶν πάθη ἀλλοίωσίς ἐστιν), λεκτέον τίς ὁ τρόπος τῆς εἰς ἄλληλα μεταβολῆς, καὶ πότερον ἅπαν ἐξ ἅπαντος γίνεσθαι δυνατὸν ἢ τὰ μὲν δυνατὸν τὰ δ' ἀδύνατον. Ὅτι μὲν οὖν ἅπαντα πέφυκεν εἰς ἄλληλα μεταβάλλειν, φανερόν· ἡ γὰρ γένεσις εἰς ἐναντία καὶ ἐξ ἐναντίων, τὰ δὲ στοιχεῖα πάντα ἔχει ἐναντίωσιν πρὸς ἄλληλα διὰ τὸ τὰς διαφορὰς ἐναντίας εἶναι· τοῖς μὲν γὰρ ἀμφότεραι ἐναντίαι, οἷον πυρὶ καὶ ὕδατι (τὸ μὲν γὰρ ξηρὸν καὶ θερμόν, τὸ δ' ὑγρὸν καὶ ψυχρόν), τοῖς δ' ἡ ἑτέρα μόνον, οἷον ἀέρι καὶ ὕδατι (τὸ μὲν γὰρ ὑγρὸν καὶ θερμόν, τὸ δὲ ὑγρὸν καὶ ψυχρόν).

Ὥστε καθόλου μὲν φανερὸν ὅτι πᾶν ἐκ παντὸς γίνεσθαι πέφυκεν, ἤδη δὲ καθ' ἕκαστον οὐ χαλεπὸν ἰδεῖν πῶς· ἅπαντα μὲν γὰρ ἐξ ἁπάντων ἔσται, διοίσει δὲ τῷ θᾶττον καὶ βραδύτερον καὶ τῷ ῥᾷον καὶ χαλεπώτερον. Ὅσα μὲν γὰρ ἔχει σύμβολα πρὸς ἄλληλα, ταχεῖα τούτων ἡ μετάβασις, ὅσα δὲ μὴ ἔχει, βραδεῖα, διὰ τὸ ῥᾷον εἶναι τὸ ἓν ἢ τὰ πολλὰ μεταβάλλειν, οἷον ἐκ πυρὸς μὲν ἔσται ἀὴρ θατέρου μεταβάλλοντος (τὸ μὲν γὰρ ἦν θερμὸν καὶ ξηρόν, τὸ δὲ θερμὸν καὶ ὑγρόν, ὥστε ἂν κρατηθῇ τὸ ξηρὸν ὑπὸ τοῦ ὑγροῦ, ἀὴρ ἔσται), πάλιν δὲ ἐξ ἀέρος ὕδωρ, ἐὰν κρατηθῇ τὸ θερμὸν ὑπὸ τοῦ ψυχροῦ (τὸ μὲν γὰρ ἦν θερμὸν καὶ ὑγρόν, τὸ δὲ ψυχρὸν καὶ ὑγρόν, ὥστε μεταβάλλοντος τοῦ θερμοῦ ὕδωρ ἔσται). Τὸν αὐτὸν δὲ τρόπον καὶ ἐξ ὕδατος γῆ καὶ ἐκ γῆς πῦρ· ἔχει γὰρ ἄμφω πρὸς ἄμφω σύμβολα· τὸ μὲν γὰρ ὕδωρ ὑγρὸν καὶ ψυχρόν, ἡ δὲ γῆ ψυχρὸν καὶ ξηρόν, ὥστε κρατηθέντος τοῦ ὑγροῦ γῆ ἔσται. Καὶ πάλιν ἐπεὶ τὸ μὲν πῦρ ξηρὸν καὶ θερμόν, ἡ δὲ (331b.) γῆ ψυχρὸν καὶ ξηρόν, ἐὰν φθαρῇ τὸ ψυχρόν, πῦρ ἔσται ἐκ γῆς. Ὥστε φανερὸν ὅτι κύκλῳ τε ἔσται ἡ γένεσις τοῖς ἁπλοῖς σώμασι, καὶ ῥᾷστος οὗτος ὁ τρόπος τῆς μεταβολῆς διὰ τὸ σύμβολα ἐνυπάρχειν τοῖς ἐφεξῆς.

Ἐκ πυρὸς δὲ ὕδωρ καὶ ἐξ ἀέρος γῆν καὶ πάλιν ἐξ ὕδατος καὶ γῆς ἀέρα καὶ πῦρ ἐνδέχεται μὲν γίνεσθαι, χαλεπώτερον δὲ διὰ τὸ πλειόνων εἶναι τὴν μεταβολήν· ἀνάγκη γάρ, εἰ ἔσται ἐξ ὕδατος πῦρ, φθαρῆναι καὶ τὸ ψυχρὸν καὶ τὸ ὑγρόν, καὶ πάλιν εἰ ἐκ γῆς ἀήρ, φθαρῆναι καὶ τὸ ψυχρὸν καὶ τὸ ξηρόν. Ὡσαύτως δὲ καὶ εἰ ἐκ πυρὸς καὶ ἀέρος ὕδωρ καὶ γῆ, ἀνάγκη ἀμφότερα μεταβάλλειν. Αὕτη μὲν οὖν χρονιωτέρα ἡ γένεσις· ἐὰν δ' ἑκατέρου φθαρῇ θάτερον, ῥᾴων μέν, οὐκ εἰς ἄλληλα δὲ ἡ μετάβασις, ἀλλ' ἐκ πυρὸς μὲν καὶ ὕδατος ἔσται γῆ καὶ ἀήρ, ἐξ ἀέρος δὲ καὶ γῆς πῦρ καὶ ὕδωρ. Ὅταν μὲν γὰρ τοῦ ὕδατος φθαρῇ τὸ ψυχρὸν τοῦ δὲ πυρὸς τὸ ξηρόν, ἀὴρ ἔσται (λείπεται γὰρ τοῦ μὲν τὸ θερμὸν τοῦ δὲ τὸ ὑγρόν), ὅταν δὲ τοῦ μὲν πυρὸς τὸ θερμὸν τοῦ δ' ὕδατος τὸ ὑγρόν, γῆ, διὰ τὸ λείπεσθαι τοῦ μὲν τὸ ξηρὸν τοῦ δὲ τὸ ψυχρόν. Ὡσαύτως δὲ καὶ ἐξ ἀέρος καὶ γῆς πῦρ καὶ ὕδωρ· ὅταν μὲν γὰρ τοῦ ἀέρος φθαρῇ τὸ θερμὸν τῆς δὲ γῆς τὸ ξηρόν, ὕδωρ ἔσται (λείπεται γὰρ τοῦ μὲν τὸ ὑγρὸν τῆς δὲ τὸ ψυχρόν), ὅταν δὲ τοῦ μὲν ἀέρος τὸ ὑγρὸν τῆς δὲ γῆς τὸ ψυχρόν, πῦρ, διὰ τὸ λείπεσθαι τοῦ μὲν τὸ θερμὸν τῆς δὲ τὸ ξηρόν, ἅπερ ἦν πυρός.

Ὁμολογουμένη δὲ καὶ τῇ αἰσθήσει ἡ τοῦ πυρὸς γένεσις. Μάλιστα μὲν γὰρ πῦρ ἡ φλόξ, αὕτη δ' ἐστὶ καπνὸς καιόμενος, ὁ δὲ καπνὸς ἐξ ἀέρος καὶ γῆς. Ἐν δὲ τοῖς ἐφεξῆς οὐκ ἐνδέχεται φθαρέντος ἐν ἑκατέρῳ θατέρου τῶν στοιχείων γενέσθαι μετάβασιν εἰς οὐδὲν τῶν σωμάτων διὰ τὸ λείπεσθαι ἐν ἀμφοῖν ἢ ταὐτὰ ἢ τἀναντία. Ἐξ οὐδετέρων δὲ ἐγχωρεῖ γίνεσθαι σῶμα, οἷον εἰ μὲν τοῦ πυρὸς φθαρείη τὸ ξηρόν, τοῦ δ' ἀέρος τὸ ὑγρόν· λείπεται γὰρ ἐν ἀμφοῖν τὸ θερμόν· ἐὰν δ' ἐξ ἑκατέρου τὸ θερμόν, λείπεται τἀναντία, ξηρὸν καὶ ὑγρόν. Ὁμοίως δὲ καὶ ἐν τοῖς ἄλλοις· ἐν ἅπασι γὰρ τοῖς ἐφεξῆς ἐνυπάρχει τὸ μὲν ταὐτὸ τὸ δ' ἐναντίον.

Ὥσθ' ἅμα δῆλον ὅτι τὰ μὲν ἐξ ἑνὸς εἰς ἓν μεταβαίνοντα ἑνὸς φθαρέντος γίνεται, τὰ δ' ἐκ δυοῖν εἰς ἓν πλειόνων. Ὅτι (332a.) μὲν οὖν ἅπαντα ἐκ παντὸς γίνεται, καὶ τίνα τρόπον εἰς ἄλληλα μετάβασις γίνεται, εἴρηται. Οὐ μὴν ἀλλ' ἔτι καὶ ὧδε θεωρήσωμεν περὶ αὐτῶν.

Κεφάλαιο 5

Εἰ γάρ ἐστι τῶν φυσικῶν σωμάτων ὕλη, ὥσπερ καὶ δοκεῖ ἐνίοις, ὕδωρ καὶ ἀὴρ καὶ τὰ τοιαῦτα, ἀνάγκη ἤτοι ἓν ἢ δύο εἶναι ταῦτα ἢ πλείω. Ἓν μὲν δὴ πάντα οὐχ οἷόν τε, οἷον ἀέρα πάντα ἢ ὕδωρ ἢ πῦρ ἢ γῆν, εἴπερ ἡ μεταβολὴ εἰς τἀναντία. Εἰ γὰρ εἴη ἀήρ, εἰ μὲν ὑπομένει, ἀλλοίωσις ἔσται ἀλλ’ οὐ γένεσις. Ἅμα δ’ οὐδ’ οὕτω δοκεῖ, ὥστε ὕδωρ εἶναι ἅμα καὶ ἀέρα ἢ ἄλλ’ ὁτιοῦν. Ἔσται δή τις ἐναντίωσις καὶ διαφορὰ ἧς ἕξει τι θάτερον μόριον, τὸ πῦρ οἷον θερμότητα. Ἀλλὰ μὴν οὐκ ἔσται τό γε πῦρ ἀὴρ θερμός· ἀλλοίωσίς τε γὰρ τὸ τοιοῦτον, καὶ οὐ φαίνεται. Ἅμα δὲ πάλιν εἰ ἔσται ἐκ πυρὸς ἀήρ, τοῦ θερμοῦ εἰς τοὐναντίον μεταβάλλοντος ἔσται. Ὑπάρξει ἄρα τῷ ἀέρι τοῦτο, καὶ ἔσται ὁ ἀὴρ ψυχρόν τι. Ὥστε ἀδύνατον τὸ πῦρ ἀέρα θερμὸν εἶναι· ἅμα γὰρ τὸ αὐτὸ θερμὸν καὶ ψυχρὸν ἔσται. Ἄλλο τι ἄρ’ ἀμφότερα τὸ αὐτὸ ἔσται, καὶ ἄλλη τις ὕλη κοινή.

Ὁ δ’ αὐτὸς λόγος περὶ ἁπάντων, ὅτι οὐκ ἔστιν ἓν τούτων ἐξ οὗ τὰ πάντα. Οὐ μὴν οὐδ’ ἄλλο τί γε παρὰ ταῦτα, οἷον μέσον τι ἀέρος καὶ ὕδατος ἢ ἀέρος καὶ πυρός, ἀέρος μὲν παχύτερον καὶ πυρός, τῶν δὲ λεπτότερον· ἔσται γὰρ ἀὴρ καὶ πῦρ ἐκεῖνο μετ’ ἐναντιότητος· ἀλλὰ στέρησις τὸ ἕτερον τῶν ἐναντίων· ὥστ’ οὐκ ἐνδέχεται μονοῦσθαι ἐκεῖνο οὐδέποτε, ὥσπερ φασί τινες τὸ ἄπειρον καὶ τὸ περιέχον. Ὁμοίως ἄρα ὁτιοῦν τούτων ἢ οὐδέν. Εἰ οὖν μηδὲν αἰσθητόν γε πρότερον τούτων, ταῦτα ἂν εἴη πάντα. Ἀνάγκη τοίνυν ἢ ἀεὶ μένοντα καὶ ἀμετάβλητα εἰς ἄλληλα, ἢ μεταβάλλοντα, καὶ ἢ ἅπαντα, ἢ τὰ μὲν τὰ δ’ οὔ, ὥσπερ ἐν τῷ Τιμαίῳ Πλάτων ἔγραψεν. Ὅτι μὲν τοίνυν μεταβάλλειν ἀνάγκη εἰς ἄλληλα, δέδεικται πρότερον· ὅτι δ’ οὐχ ὁμοίως ταχέως ἄλλο ἐξ ἄλλου, εἴρηται πρότερον, ὅτι τὰ μὲν ἔχοντα σύμβολον θᾶττον γίνεται ἐξ ἀλλήλων, τὰ δ’ οὐκ ἔχοντα βραδύτερον.

Εἰ μὲν τοίνυν ἡ ἐναντιότης μία ἐστὶ καθ’ ἣν μεταβάλλουσιν, ἀνάγκη δύο εἶναι· ἡ γὰρ ὕλη τὸ μέσον ἀναίσθητος οὖσα (332b.) καὶ ἀχώριστος. Ἐπεὶ δὲ πλείω ὁρᾶται ὄντα, δύο ἂν εἶεν αἱ ἐλάχισται. Δύο δ’ οὐσῶν οὐχ οἷόν τε τρία εἶναι, ἀλλὰ τέσσαρα, ὥσπερ φαίνεται· τοσαῦται γὰρ αἱ συζυγίαι· ἓξ γὰρ οὐσῶν τὰς δύο ἀδύνατον γενέσθαι διὰ τὸ ἐναντίας εἶναι ἀλλήλαις. Περὶ μὲν οὖν τούτων εἴρηται πρότερον.

Ὅτι δ’ ἐπειδὴ μεταβάλλουσιν εἰς ἄλληλα, ἀδύνατον ἀρχήν τινα εἶναι αὐτῶν ἢ ἐπὶ τῷ ἄκρῳ ἢ μέσῳ, ἐκ τῶνδε δῆλον. Ἐπὶ μὲν οὖν τοῖς ἄκροις οὐκ ἔσται, ὅτι πῦρ ἔσται ἢ γῆ πάντα· καὶ ὁ αὐτὸς λόγος τῷ φάναι ἐκ πυρὸς ἢ γῆς εἶναι πάντα.

Ὅτι δ’ οὐδὲ μέσον, ὥσπερ δοκεῖ τισιν ἀὴρ μὲν καὶ εἰς πῦρ μεταβάλλειν καὶ εἰς ὕδωρ, ὕδωρ δὲ καὶ εἰς ἀέρα καὶ εἰς γῆν· τὰ δ’ ἔσχατα οὐκέτι εἰς ἄλληλα· δεῖ μὲν γὰρ στῆναι καὶ μὴ εἰς ἄπειρον τοῦτο ἰέναι ἐπ’ εὐθείας ἐφ’ ἑκάτερα.

Ἄπειροι γὰρ ἐναντιότητες ἐπὶ τοῦ ἑνὸς ἔσονται. Γῆ ἐφ’ ᾧ Γ, ὕδωρ ἐφ’ ᾧ Υ, ἀὴρ ἐφ’ ᾧ Α, πῦρ ἐφ’ ᾧ Π. Εἰ δὴ τὸ Α μεταβάλλει εἰς τὸ Π καὶ Υ, ἐναντιότης ἔσται τῶν Α Π.

Ἔστω ταῦτα λευκότης καὶ μελανία. Πάλιν εἰ εἰς τὸ Υ τὸ Α, ἔσται ἄλλη· οὐ γὰρ ταὐτὸ τὸ Υ καὶ Π. Ἔστω δὲ ξηρότης καὶ ὑγρότης, τὸ μὲν Ξ ξηρότης, τὸ δὲ Υ ὑγρότης.

Οὐκοῦν εἰ μὲν μένει τὸ λευκόν, ὑπάρξει τὸ ὕδωρ ὑγρὸν καὶ λευκόν, εἰ δὲ μή, μέλαν ἔσται τὸ ὕδωρ· εἰς τἀναντία γὰρ ἡ μεταβολή. Ἀνάγκη ἄρα ἢ λευκὸν ἢ μέλαν εἶναι τὸ ὕδωρ.

Ἔστω δὴ τὸ πρῶτον. Ὁμοίως τοίνυν καὶ τῷ Π τὸ Ξ ὑπάρξει ἡ ξηρότης. Ἔσται ἄρα καὶ τῷ Π τῷ πυρὶ μεταβολὴ εἰς τὸ ὕδωρ· ἐναντία γὰρ ὑπάρχει· τὸ μὲν γὰρ πῦρ τὸ πρῶτον μέλαν ἦν, ἔπειτα δὲ ξηρόν, τὸ δ’ ὕδωρ ὑγρόν, ἔπειτα δὲ λευκόν. Φανερὸν δὴ ὅτι πᾶσιν ἐξ ἀλλήλων ἔσται ἡ μεταβολή, καὶ ἐπί γε τούτων, ὅτι καὶ ἐν τῷ Γ τῇ γῇ ὑπάρξει τὰ λοιπά, καὶ δύο σύμβολα τὸ μέλαν καὶ τὸ ὑγρόν· ταῦτα γὰρ οὐ συνδεδύασταί πως.

Ὅτι δ’ εἰς ἄπειρον οὐχ οἷόν τ’ ἰέναι, ὅπερ μελλήσαντες δείξειν ἐπὶ τοῦτο ἔμπροσθεν ἤλθομεν, δῆλον ἐκ τῶνδε. Εἰ γὰρ πάλιν τὸ πῦρ, ἐφ’ ᾧ Π, εἰς ἄλλο μεταβαλεῖ καὶ μὴ ἀνακάμψει, οἷον εἰς τὸ Ψ, ἐναντιότης τις τῷ πυρὶ καὶ τῷ Ψ ἄλλη ὑπάρξει τῶν εἰρημένων· οὐδενὶ γὰρ τὸ αὐτὸ ὑπόκειται τῶν Γ Υ Α Π (333a.) τὸ Ψ. Ἔστω δὴ τῷ μὲν Π τὸ Κ, τῷ δὲ Ψ τὸ Φ. Τὸ δὴ Κ πᾶσιν ὑπάρξει τοῖς Γ Υ Α Π· μεταβάλλουσι γὰρ εἰς ἄλληλα. Ἀλλὰ γὰρ τοῦτο μὲν ἔστω μήπω δεδειγμένον· ἀλλ’ ἐκεῖνο δῆλον, ὅτι εἰ πάλιν τὸ Ψ εἰς ἄλλο, ἄλλη ἐναντιότης καὶ τῷ Ψ ὑπάρξει καὶ τῷ πυρὶ τῷ Π. Ὁμοίως δ’ ἀεὶ μετὰ τοῦ προστιθεμένου ἐναντιότης τις ὑπάρξει τοῖς ἔμπροσθεν, ὥστ’ εἰ ἄπειρα, καὶ ἐναντιότητες ἄπειροι τῷ ἑνὶ ὑπάρξουσιν. Εἰ δὲ τοῦτο, οὐκ ἔσται οὔτε ὁρίσασθαι οὐδὲν οὔτε γενέσθαι· δεήσει γάρ, εἰ ἄλλο ἔσται ἐξ ἄλλου, τοσαύτας διεξελθεῖν ἐναντιότητας, καὶ ἔτι πλείους, ὥστ’ εἰς ἔνια μὲν οὐδέποτ’ ἔσται μεταβολή, οἷον εἰ ἄπειρα τὰ μεταξύ· ἀνάγκη δ’, εἴπερ ἄπειρα τὰ στοιχεῖα· ἔτι δ’ οὐδ’ ἐξ ἀέρος εἰς πῦρ, εἰ ἄπειροι αἱ ἐναντιότητες. Γίνεται δὲ καὶ πάντα ἕν· ἀνάγκη γὰρ πάσας ὑπάρχειν τοῖς μὲν κάτω τοῦ Π τὰς τῶν ἄνωθεν, τούτοις δὲ τὰς τῶν κάτωθεν, ὥστε πάντα ἓν ἔσται.

Κεφάλαιο 6

Θαυμάσειε δ’ ἄν τις τῶν λεγόντων πλείω ἑνὸς τὰ στοιχεῖα τῶν σωμάτων ὥστε μὴ μεταβάλλειν εἰς ἄλληλα, καθάπερ Ἐμπεδοκλῆς φησι, πῶς ἐνδέχεται λέγειν αὐτοῖς εἶναι συμβλητὰ τὰ στοιχεῖα. Καίτοι λέγει οὕτω· “ταῦτα γὰρ ἶσά τε πάντα”. Εἰ μὲν οὖν κατὰ τὸ ποσόν, ἀνάγκη ταὐτό τι εἶναι ὑπάρχον ἅπασι τοῖς συμβλητοῖς ᾧ μετροῦνται, οἷον εἰ ἐξ ὕδατος κοτύλης εἶεν ἀέρος δέκα· τὸ αὐτό τι ἦν ἄρα ἄμφω, εἰ μετρεῖται τῷ αὐτῷ. Εἰ δὲ μὴ οὕτω κατὰ τὸ ποσὸν συμβλητὰ ὡς ποσὸν ἐκ ποσοῦ, ἀλλ’ ὅσον δύναται, οἷον εἰ κοτύλη ὕδατος ἴσον δύναται ψύχειν καὶ δέκα ἀέρος, καὶ οὕτως κατὰ τὸ ποσὸν οὐχ ᾗ ποσὸν συμβλητά, ἀλλ’ ᾗ δύναταί τι. Εἴη δ’ ἂν καὶ μὴ τῷ τοῦ ποσοῦ μέτρῳ συμβάλλεσθαι τὰς δυνάμεις, ἀλλὰ κατ’ ἀναλογίαν, οἷον ὡς τόδε λευκὸν τόδε θερμόν. Τὸ δ’ ὡς τόδε σημαίνει ἐν μὲν ποιῷ τὸ ὅμοιον, ἐν δὲ τῷ ποσῷ τὸ ἴσον. Ἄτοπον δὴ φαίνεται, εἰ τὰ σώματα ἀμετάβλητα ὄντα μὴ ἀναλογίᾳ συμβλητά ἐστιν, ἀλλὰ μέτρῳ τῶν δυνάμεων καὶ τῷ εἶναι ἴσον θερμὸν ἢ ὅμοιον πυρὸς τοσονδὶ καὶ ἀέρος πολλαπλάσιον· τὸ γὰρ αὐτὸ πλεῖον τῷ ὁμογενὲς εἶναι τοιοῦτον ἕξει τὸν λόγον.

Ἀλλὰ μὴν οὐδ’ αὔξησις ἂν εἴη κατ’ Ἐμπεδοκλέα, ἀλλ’ ἢ (333b.) κατὰ πρόσθεσιν· πυρὶ γὰρ αὔξει τὸ πῦρ· “αὔξει δὲ χθὼν μὲν σφέτερον δέμας, αἰθέρα δ’ αἰθήρ”. Ταῦτα δὲ προστίθεται· δοκεῖ δ’ οὐχ οὕτως αὔξεσθαι τὰ αὐξανόμενα.

Πολὺ δὲ χαλεπώτερον ἀποδοῦναι περὶ γενέσεως τῆς κατὰ φύσιν. Τὰ γὰρ γινόμενα φύσει πάντα γίνεται ἢ ἀεὶ ἢ ὡς ἐπὶ τὸ πολύ, τὰ δὲ παρὰ τὸ ἀεὶ καὶ ὡς ἐπὶ τὸ πολὺ ἀπὸ ταὐτομάτου καὶ ἀπὸ τύχης. Τί οὖν τὸ αἴτιον τοῦ ἐξ ἀνθρώπου ἄνθρωπον ἢ ἀεὶ ἢ ὡς ἐπὶ τὸ πολύ, καὶ ἐκ τοῦ πυροῦ πυρὸν ἀλλὰ μὴ ἐλαίαν; ἢ καὶ ἐὰν ὡδὶ συντεθῇ ὀστοῦν; οὐ γὰρ ὅπως ἔτυχε συνελθόντων οὐδὲν γίνεται, καθ’ ἃ ἐκεῖνός φησιν, ἀλλὰ λόγῳ τινί. Τί οὖν τούτων αἴτιον; οὐ γὰρ δὴ πῦρ γε ἢ γῆ. Ἀλλὰ μὴν οὐδ’ ἡ φιλία καὶ τὸ νεῖκος· συγκρίσεως γὰρ <τὸ μέν>, τὸ δὲ διακρίσεως αἴτιον. Τοῦτο δ’ ἐστὶν ἡ οὐσία ἡ ἑκάστου, ἀλλ’ οὐ “μόνον μίξις τε διάλλαξίς τε μιγέντων”, ὥσπερ ἐκεῖνός φησιν. Τύχη δ’ ἐπὶ τούτοις ὀνομάζεται, ἀλλ’ οὐ λόγος· ἔστι γὰρ μιχθῆναι ὡς ἔτυχεν. Τῶν δὴ φύσει ὄντων αἴτιον τὸ οὕτως ἔχειν, καὶ ἡ ἑκάστου φύσις αὕτη, περὶ ἧς οὐδὲν λέγει. Οὐδὲν ἄρα περὶ φύσεως λέγει.

Ἀλλὰ μὴν καὶ τὸ εὖ τοῦτο καὶ ἀγαθόν· ὁ δὲ τὴν μίξιν μόνον ἐπαινεῖ. Καίτοι τά γε στοιχεῖα διακρίνει οὐ τὸ νεῖκος, ἀλλ' ἡ φιλία τὰ φύσει πρότερα τοῦ θεοῦ· θεοὶ δὲ καὶ ταῦτα.

Ἔτι δὲ περὶ κινήσεως ἁπλῶς λέγει· οὐ γὰρ ἱκανὸν εἰπεῖν διότι ἡ φιλία καὶ τὸ νεῖκος κινεῖ, εἰ μὴ τοῦτ' ἦν φιλίᾳ εἶναι τὸ κινήσει τοιᾳδί, νείκει δὲ τὸ τοιᾳδί. Ἔδει οὖν ἢ ὁρίσασθαι ἢ ὑποθέσθαι ἢ ἀποδεῖξαι, ἢ ἀκριβῶς ἢ μαλακῶς, ἢ ἄλλως γέ πως. Ἔτι δ' ἐπεὶ φαίνεται καὶ βίᾳ καὶ παρὰ φύσιν κινούμενα τὰ σώματα καὶ κατὰ φύσιν, οἷον τὸ πῦρ ἄνω μὲν οὐ βίᾳ, κάτω δὲ βίᾳ, τῷ δὲ βίᾳ τὸ κατὰ φύσιν ἐναντίον, ἔστι δὲ τὸ βίᾳ, ἔστιν ἄρα καὶ τὸ κατὰ φύσιν κινεῖσθαι. Ταύτην οὖν ἡ φιλία κινεῖ; ἢ οὔ; τοὐναντίον γὰρ τὴν γῆν ἄνω καὶ διακρίσει ἔοικεν, καὶ μᾶλλον τὸ νεῖκος αἴτιον τῆς κατὰ φύσιν κινήεως ἢ ἡ φιλία. Ὥστε καὶ ὅλως παρὰ φύσιν ἡ φιλία ἂν εἴη μᾶλλον. Ἁπλῶς δὲ εἰ μὴ ἡ φιλία ἢ τὸ νεῖκος κινοῖ, αὐτῶν τῶν σωμάτων οὐδεμία κίνησίς ἐστιν οὐδὲ μονή· ἀλλ' ἄτοπον. Ἔτι δὲ καὶ φαίνεται κινούμενα· (334a.) διέκρινε μὲν γὰρ τὸ νεῖκος, ἠνέχθη δ' ἄνω ὁ αἰθὴρ οὐχ ὑπὸ τοῦ νείκους, ἀλλ' ὁτὲ μέν φησιν ὥσπερ ἀπὸ τύχης "οὕτω γὰρ συνέκυρσε θέων τοτέ, πολλάκι δ' ἄλλως" ὁτὲ δέ φησι πεφυκέναι τὸ πῦρ ἄνω φέρεσθαι, ὁ δ' αἰθήρ, φησί, "<δ' αὖ> μακρῇσι κατὰ χθόνα δύετο ῥίζαις". Ἅμα δὲ καὶ τὸν κόσμον ὁμοίως ἔχειν φησὶν ἐπί τε τοῦ νείκους νῦν καὶ πρότερον ἐπὶ τῆς φιλίας. Τί οὖν ἐστὶ τὸ κινοῦν πρῶτον καὶ αἴτιον τῆς κινήσεως; οὐ γὰρ δὴ ἡ φιλία καὶ τὸ νεῖκος, ἀλλά τινος κινήσεως ταῦτα αἴτια· εἰ δ' ἔστιν, ἐκεῖνο ἀρχή· ἄτοπον δὲ καὶ εἰ ἡ ψυχὴ ἐκ τῶν στοιχείων ἢ ἕν τι αὐτῶν· αἱ γὰρ ἀλλοιώσεις αἱ τῆς ψυχῆς πῶς ἔσονται, οἷον τὸ μουσικὸν εἶναι καὶ πάλιν ἄμουσον, ἢ μνήμη ἢ λήθη; δῆλον γὰρ ὅτι εἰ μὲν πῦρ ἡ ψυχή, τὰ πάθη ὑπάρξει αὐτῇ ὅσα πυρὶ ᾗ πῦρ· εἰ δὲ μικτόν, τὰ σωματικά· τούτων δ' οὐδὲν σωματικόν. Ἀλλὰ περὶ μὲν τούτων ἑτέρας ἔργον ἐστὶ θεωρίας.

Κεφάλαιο 7

Περὶ δὲ τῶν στοιχείων ἐξ ὧν τὰ σώματα συνέστηκεν, ὅσοις μὲν δοκεῖ τι εἶναι κοινὸν ἢ μεταβάλλειν εἰς ἄλληλα, ἀνάγκη εἰ θάτερον τούτων, καὶ θάτερον συμβαίνειν· ὅσοι δὲ μὴ ποιοῦσιν ἐξ ἀλλήλων γένεσιν μηδ' ὡς ἐξ ἑκάστου, πλὴν ὡς ἐκ τοίχου πλίνθους, ἄτοπον πῶς ἐξ ἐκείνων ἔσονται σάρκες καὶ ὀστᾶ καὶ τῶν ἄλλων ὁτιοῦν. Ἔχει δὲ τὸ λεγόμενον ἀπορίαν καὶ τοῖς ἐξ ἀλλήλων γεννῶσιν, τίνα τρόπον γίνεται ἐξ αὐτῶν ἕτερόν τι παρ' αὐτά. Λέγω δ' οἷον ἔστιν ἐκ πυρὸς ὕδωρ καὶ ἐκ τούτου γίνεσθαι πῦρ· ἔστι γάρ τι κοινὸν ὑποκείμενον.

Ἀλλὰ δὴ καὶ σὰρξ ἐξ αὐτῶν γίνεται καὶ μυελός· ταῦτα δὴ γίνεται πῶς; ἐκείνοις τε γὰρ τοῖς λέγουσιν ὡς Ἐμπεδοκλῆς τίς ἔσται τρόπος; ἀνάγκη γὰρ σύνθεσιν εἶναι καθάπερ ἐξ πλίνθων καὶ λίθων τοῖχος· καὶ τὸ μίγμα δὲ τοῦτο ἐκ σωζομένων μὲν ἔσται τῶν στοιχείων, κατὰ μικρὰ δὲ παρ' ἄλληλα συγκειμένων. Οὕτω δὴ σὰρξ καὶ τῶν ἄλλων ἕκαστον. Συμβαίνει δὴ μὴ ἐξ ὁτουοῦν μέρους σαρκὸς γίνεσθαι πῦρ καὶ ὕδωρ, ὥσπερ ἐκ κηροῦ γένοιτ' ἂν ἐκ μὲν τουδὶ τοῦ μέρους σφαῖρα, πυραμὶς δ' ἐξ ἄλλου τινός· ἀλλ' ἐνεδέχετό γε ἐξ ἑκατέρου ἑκάτερον γενέσθαι. Τοῦτο μὲν δὴ τοῦτον γίνεται τὸν τρόπον ἐκ τῆς σαρκὸς ἐξ ὁτουοῦν ἄμφω· τοῖς δ' ἐκείνως λέγουσιν οὐκ ἐνδέχεται, ἀλλ' ὡς ἐκ τοίχου λίθος καὶ πλίνθος, (334b.) ἑκάτερον ἐξ ἄλλου τόπου καὶ μέρους. Ὁμοίως δὲ καὶ τοῖς ποιοῦσι μίαν αὐτῶν ὕλην ἔχει τινὰ ἀπορίαν, πῶς ἔσται τι ἐξ ἀμφοτέρων, οἷον ψυχροῦ καὶ θερμοῦ ἢ πυρὸς καὶ γῆς. Εἰ ἐστιν ἡ σὰρξ ἐξ ἀμφοῖν καὶ μηδέτερον ἐκείνων, μηδ' αὖ σύνθεσις σωζομένων, τί λείπεται πλὴν τὴν ὕλην εἶναι τὸ ἐξ ἐκείνων; ἡ γὰρ θατέρου φθορὰ ἢ θάτερον ποεῖ ἢ τὴν ὕλην.

Ἆρ' οὖν ἐπειδή ἐστι καὶ μᾶλλον καὶ ἧττον θερμὸν καὶ ψυχρόν, ὅταν μὲν ἁπλῶς ᾖ θάτερον ἐντελεχείᾳ, δυνάμει θάτερον ἔσται· ὅταν δὲ μὴ παντελῶς, ἀλλ' ὡς μὲν θερμὸν ψυχρόν, ὡς δὲ ψυχρὸν θερμὸν διὰ τὸ μιγνύμενα φθείρειν τὰς ὑπεροχὰς ἀλλήλων, τότε οὔθ' ἡ ὕλη ἔσται οὔτε ἐκείνων τῶν ἐναντίων ἑκάτερον ἐντελεχείᾳ ἁπλῶς, ἀλλὰ μεταξύ· κατὰ δὲ τὸ δυνάμει μᾶλλον εἶναι θερμὸν ἢ ψυχρὸν ἢ τοὐναντίον, κατὰ τοῦτον τὸν λόγον διπλασίως θερμὸν δυνάμει ἢ ψυχρόν, ἢ τριπλασίως, ἢ κατ' ἄλλον τρόπον τοιοῦτον.

Ἔσται δὴ μιχθέντων τἆλλ' ἐκ τῶν ἐναντίων ἢ τῶν στοιχείων, καὶ τὰ στοιχεῖα ἐξ ἐκείνων δυνάμει πως ὄντων, οὐχ οὕτω δὲ ὡς ἡ ὕλη, ἀλλὰ τὸν εἰρημένον τρόπον· καὶ ἔστιν οὕτω μὲν μίξις, ἐκείνως δὲ ὕλη τὸ γινόμενον. Ἐπεὶ δὲ καὶ πάσχει τἀναντία κατὰ τὸν ἐν τοῖς πρώτοις διορισμόν· ἔστι γὰρ τὸ ἐνεργείᾳ θερμὸν δυνάμει ψυχρὸν καὶ τὸ ἐνεργείᾳ ψυχρὸν δυνάμει θερμόν, ὥστε ἐὰν μὴ ἰσάζῃ, μεταβάλλει εἰς ἄλληλα· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων ἐναντίων. Καὶ πρῶτον οὕτω τὰ στοιχεῖα μεταβάλλει, ἐκ δὲ τούτων σάρκες καὶ ὀστᾶ καὶ τὰ τοιαῦτα, τοῦ μὲν θερμοῦ γινομένου ψυχροῦ, τοῦ δὲ ψυχροῦ θερμοῦ, ὅταν πρὸς τὸ μέσον ἔλθῃ· ἐνταῦθα γὰρ οὐδέτερον, τὸ δὲ μέσον πολὺ καὶ οὐκ ἀδιαίρετον. Ὁμοίως δὲ καὶ τὸ ξηρὸν καὶ ὑγρὸν καὶ τὰ τοιαῦτα κατὰ μεσότητα ποιοῦσι σάρκα καὶ ὀστοῦν καὶ τἆλλα.

Κεφάλαιο 8

Ἅπαντα δὲ τὰ μικτὰ σώματα, ὅσα περὶ τὸν τοῦ μέσου τόπον ἐστίν, ἐξ ἁπάντων σύγκειται τῶν ἁπλῶν. Γῆ μὲν γὰρ ἐνυπάρχει πᾶσι διὰ τὸ ἕκαστον εἶναι μάλιστα καὶ πλεῖστον ἐν τῷ οἰκείῳ τόπῳ, ὕδωρ δὲ διὰ τὸ δεῖν μὲν ὁρίζεσθαι τὸ σύνθετον, μόνον δ’ εἶναι τῶν ἁπλῶν εὐόριστον τὸ (335a.) ὕδωρ, ἔτι δὲ καὶ τὴν γῆν ἄνευ τοῦ ὑγροῦ μὴ δύνασθαι συμμένειν, ἀλλὰ τοῦτ’ εἶναι τὸ συνέχον· εἰ γὰρ ἐξαιρεθείη τελέως ἐξ αὐτῆς τὸ ὑγρόν, διαπίπτοι ἄν. Γῆ μὲν οὖν καὶ ὕδωρ διὰ ταύτας ἐνυπάρχει τὰς αἰτίας, ἀὴρ δὲ καὶ πῦρ, ὅτι ἐναντία ἐστὶ γῇ καὶ ὕδατι· γῆ μὲν γὰρ ἀέρι, ὕδωρ δὲ πυρὶ ἐναντίον ἐστίν, ὡς ἐνδέχεται οὐσίαν οὐσίᾳ ἐναντίαν εἶναι. Ἐπεὶ οὖν αἱ γενέσεις ἐκ τῶν ἐναντίων εἰσίν, ἐνυπάρχει δὲ θάτερα ἄκρα τῶν ἐναντίων, ἀνάγκη καὶ θάτερον ἐνυπάρχειν, ὥστ’ ἐν ἅπαντι τῷ συνθέτῳ πάντα τὰ ἁπλᾶ ἐνέσται. Μαρτυρεῖν δ’ ἔοικε καὶ ἡ τροφὴ ἑκάστων· ἅπαντα μὲν γὰρ τρέφεται τοῖς αὐτοῖς ἐξ ὧνπέρ ἐστιν, ἅπαντα δὲ πλείοσι τρέφεται. Καὶ γὰρ ἅπερ ἂν δόξειεν ἑνὶ μόνῳ τρέφεσθαι, τῷ ὕδατι τὰ φυτά, πλείοσι τρέφεται· μέμικται γὰρ τῷ ὕδατι γῆ· διὸ καὶ οἱ γεωργοὶ πειρῶνται μίξαντες ἄρδειν.

Ἐπεὶ δ’ ἐστὶν ἡ μὲν τροφὴ τῆς ὕλης, τὸ δὲ τρεφόμενον συνειλημμένον τῇ ὕλῃ ἡ μορφὴ καὶ τὸ εἶδος, εὔλογον ἤδη τὸ μόνον τῶν ἁπλῶν σωμάτων τρέφεσθαι τὸ πῦρ ἁπάντων ἐξ ἀλλήλων γινομένων, ὥσπερ καὶ οἱ πρότεροι λέγουσιν· μόνον γάρ ἐστι καὶ μάλιστα τοῦ εἴδους τὸ πῦρ διὰ τὸ πεφυκέναι φέρεσθαι πρὸς τὸν ὅρον. Ἕκαστον δὲ πέφυκεν εἰς τὴν ἑαυτοῦ χώραν φέρεσθαι· ἡ δὲ μορφὴ καὶ τὸ εἶδος ἁπάντων ἐν τοῖς ὅροις. Ὅτι μὲν οὖν ἅπαντα τὰ σώματα ἐξ ἁπάντων συνέστηκε τῶν ἁπλῶν, εἴρηται.

Κεφάλαιο 9

Ἐπεὶ δ’ ἐστὶν ἔνια γενητὰ καὶ φθαρτά, καὶ ἡ γένεσις τυγχάνει οὖσα ἐν τῷ περὶ τὸ μέσον τόπῳ, λεκτέον περὶ πάσης γενέσεως ὁμοίως πόσαι τε καὶ τίνες αὐτῆς ἀρχαί· ῥᾷον γὰρ οὕτω τὰ καθ’ ἕκαστον θεωρήσομεν, ὅταν περὶ τῶν καθόλου λάβωμεν πρῶτον. Εἰσὶν οὖν καὶ τὸν ἀριθμὸν ἴσαι καὶ τῷ γένει αἱ αὐταὶ αἵπερ ἐν τοῖς ἀιδίοις τε καὶ πρώτοις· ἡ μὲν γάρ ἐστιν ὡς ὕλη, ἡ δ’ ὡς μορφή. Δεῖ δὲ καὶ τὴν τρίτην ἔτι προσυπάρχειν· οὐ γὰρ ἱκαναὶ πρὸς τὸ γεννῆσαι αἱ δύο, καθάπερ οὐδ’ ἐν τοῖς πρώτοις. Ὡς μὲν οὖν ὕλη τοῖς γενητοῖς ἐστιν αἴτιον τὸ δυνατὸν εἶναι καὶ μὴ εἶναι. Τὰ μὲν γὰρ ἐξ ἀνάγκης ἐστίν, οἷον τὰ ἀίδια, τὰ δ’ ἐξ ἀνάγκης οὐκ ἔστιν. Τούτων δὲ τὰ μὲν ἀδύνατον μὴ εἶναι, τὰ δὲ ἀδύνατον (335b.) εἶναι διὰ τὸ μὴ ἐνδέχεσθαι παρὰ τὸ ἀναγκαῖον ἄλλως ἔχειν. Ἔνια δὲ καὶ εἶναι καὶ μὴ εἶναι δυνατά, ὅπερ ἐστὶ τὸ γενητὸν καὶ φθαρτόν· ποτὲ μὲν γὰρ ἔστι τοῦτο, ποτὲ δ’ οὐκ ἔστιν. Ὥστ’ ἀνάγκη γένεσιν εἶναι καὶ φθορὰν περὶ τὸ δυνατὸν εἶναι καὶ μὴ εἶναι. Διὸ καὶ ὡς μὲν ὕλη τοῦτ’ ἐστὶν αἴτιον τοῖς γενητοῖς, ὡς δὲ τὸ οὗ ἕνεκεν ἡ μορφὴ καὶ τὸ εἶδος· τοῦτο δ’ ἐστὶν ὁ λόγος ὁ τῆς ἑκάστου οὐσίας.

Δεῖ δὲ προσεῖναι καὶ τὴν τρίτην, ἣν ἅπαντες μὲν ὀνειρώττουσι, λέγει δ’ οὐδείς, ἀλλ’ οἱ μὲν ἱκανὴν ᾠήθησαν αἰτίαν εἶναι πρὸς τὸ γίνεσθαι τὴν τῶν εἰδῶν φύσιν, ὥσπερ ὁ ἐν Φαίδωνι Σωκράτης· καὶ γὰρ ἐκεῖνος, ἐπιτιμήσας τοῖς ἄλλοις ὡς οὐδὲν εἰρηκόσιν, ὑποτίθεται ὅτι ἐστὶ τῶν ὄντων τὰ μὲν εἴδη τὰ δὲ μεθεκτικὰ τῶν εἰδῶν, καὶ ὅτι εἶναι μὲν ἕκαστον λέγεται κατὰ τὸ εἶδος, γίνεσθαι δὲ κατὰ τὴν μετάληψιν καὶ φθείρεσθαι κατὰ τὴν ἀποβολήν, ὥστ’ εἰ ταῦτα ἀληθῆ, τὰ εἴδη οἴεται ἐξ ἀνάγκης αἴτια εἶναι καὶ γενέσεως καὶ φθορᾶς. Οἱ δ’ αὐτὴν τὴν ὕλην· ἀπὸ ταύτης γὰρ εἶναι τὴν κίνησιν. Οὐδέτεροι δὲ λέγουσι καλῶς.

Εἰ μὲν γάρ ἐστιν αἴτια τὰ εἴδη, διὰ τί οὐκ ἀεὶ γεννᾷ συνεχῶς, ἀλλὰ ποτὲ μὲν ποτὲ δ’ οὔ, ὄντων καὶ τῶν εἰδῶν ἀεὶ καὶ τῶν μεθεκτικῶν; ἔτι δ’ ἐπ’ ἐνίων θεωροῦμεν ἄλλο τὸ αἴτιον ὄν· ὑγίειαν γὰρ ὁ ἰατρὸς ἐμποιεῖ καὶ ἐπιστήμην ὁ ἐπιστήμων, οὔσης καὶ ὑγιείας αὐτῆς καὶ ἐπιστήμης καὶ τῶν μεθεκτικῶν· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν κατὰ δύναμιν πραττομένων. Εἰ δὲ τὴν ὕλην τις φήσειε γεννᾶν διὰ τὴν κίνησιν, φυσικώτερον μὲν ἂν λέγοι τῶν οὕτω λεγόντων· τὸ γὰρ ἀλλοιοῦν καὶ τὸ μετασχηματίζον αἰτιώτερόν τε τοῦ γεννᾶν, καὶ ἐν ἅπασιν εἰώθαμεν τοῦτο λέγειν τὸ ποιοῦν, ὁμοίως ἔν τε τοῖς φύσει καὶ ἐν τοῖς ἀπὸ τέχνης, ὃ ἂν ᾖ κινητικόν.

Οὐ μὴν ἀλλὰ καὶ οὗτοι οὐκ ὀρθῶς λέγουσιν· τῆς μὲν γὰρ ὕλης τὸ πάσχειν ἐστὶ καὶ τὸ κινεῖσθαι, τὸ δὲ κινεῖν καὶ ποιεῖν ἑτέρας δυνάμεως. Δῆλον δὲ καὶ ἐπὶ τῶν τέχνῃ καὶ ἐπὶ τῶν φύσει γινομένων· οὐ γὰρ αὐτὸ ποιεῖ τὸ ὕδωρ ζῷον ἐξ αὑτοῦ, οὐδὲ τὸ ξύλον κλίνην, ἀλλ' ἡ τέχνη. Ὥστε καὶ οὗτοι διὰ τοῦτο λέγουσιν οὐκ ὀρθῶς, καὶ ὅτι παραλείπουσι τὴν κυριωτέραν αἰτίαν· ἐξαιροῦσι γὰρ τὸ τί ἦν εἶναι καὶ τὴν μορφήν.

(336a.) Ἔτι δὲ καὶ τὰς δυνάμεις ἀποδιδόασι τοῖς σώμασι, δι' ἃς γεννῶσι, λίαν ὀργανικῶς, ἀφαιροῦντες τὴν κατὰ τὸ εἶδος αἰτίαν. Ἐπειδὴ γὰρ πέφυκεν, ὥς φασι, τὸ μὲν θερμὸν διακρίνειν τὸ δὲ ψυχρὸν συνιστάναι, καὶ τῶν ἄλλων ἕκαστον τὸ μὲν ποιεῖν τὸ δὲ πάσχειν, ἐκ τούτων λέγουσι καὶ διὰ τούτων ἅπαντα τἆλλα γίνεσθαι καὶ φθείρεσθαι· φαίνεται δὲ καὶ τὸ πῦρ αὐτὸ κινούμενον καὶ πάσχον. Ἔτι δὲ παραπλήσιον ποιοῦσιν ὥσπερ εἴ τις τῷ πρίονι καὶ ἑκάστῳ τῶν ὀργάνων ἀπονέμοι τὴν αἰτίαν τῶν γινομένων· ἀνάγκη γὰρ πρίονος ὄντος διαιρεῖσθαι καὶ ξέοντος λεαίνεσθαι, καὶ ἐπὶ τῶν ἄλλων ὁμοίως. Ὥστ' εἰ ὅτι μάλιστα ποιεῖ καὶ κινεῖ τὸ πῦρ, ἀλλὰ πῶς κινεῖ οὐχ ὁρῶσιν, ὅτι χεῖρον ἢ τὰ ὄργανα.

Κεφάλαιο 10

Ἡμῖν δὲ καθόλου τε πρότερον εἴρηται περὶ τῶν αἰτίων, καὶ νῦν διώρισται περί τε τῆς ὕλης καὶ τῆς μορφῆς.

Ἔτι δὲ ἐπεὶ ἡ κατὰ τὴν φορὰν κίνησις δέδεικται ὅτι ἀίδιος, ἀνάγκη τούτων ὄντων καὶ γένεσιν εἶναι συνεχῶς· ἡ γὰρ φορὰ ποιήσει τὴν γένεσιν ἐνδελεχῶς διὰ τὸ προσάγειν καὶ ἀπάγειν τὸ γεννητικόν. Ἅμα δὲ δῆλον ὅτι καὶ τὸ πρότερον καλῶς εἴρηται, τὸ πρώτην τῶν μεταβολῶν τὴν φορὰν ἀλλὰ μὴ τὴν γένεσιν εἰπεῖν· πολὺ γὰρ εὐλογώτερον τὸ ὂν τῷ μὴ ὄντι γενέσεως αἴτιον εἶναι ἢ τὸ μὴ ὂν τῷ ὄντι τοῦ εἶναι. Τὸ μὲν οὖν φερόμενον ἔστι, τὸ δὲ γινόμενον οὐκ ἔστιν· διὸ καὶ ἡ φορὰ προτέρα τῆς γενέσεως. Ἐπεὶ δ’ ὑπόκειται καὶ δέδεικται συνεχὴς οὖσα τοῖς πράγμασι καὶ γένεσις καὶ φθορά, φαμὲν δ’ αἰτίαν εἶναι τὴν φορὰν τοῦ γίνεσθαι, φανερὸν ὅτι μιᾶς μὲν οὔσης τῆς φορᾶς οὐκ ἐνδέχεται γίνεσθαι ἄμφω διὰ τὸ ἐναντία εἶναι· τὸ γὰρ αὐτὸ καὶ ὡσαύτως ἔχον ἀεὶ τὸ αὐτὸ πέφυκε ποιεῖν. Ὥστε ἤτοι γένεσις ἀεὶ ἔσται ἢ φθορά. Δεῖ <δὴ> πλείους εἶναι τὰς κινήσεις καὶ ἐναντίας, ἢ τῇ φορᾷ ἢ τῇ ἀνωμαλίᾳ· τῶν γὰρ ἐναντίων τἀναντία αἴτια· διὸ καὶ οὐχ ἡ πρώτη φορὰ αἰτία ἐστὶ γενέσεως καὶ φθορᾶς, ἀλλ’ ἡ κατὰ τὸν λοξὸν κύκλον· ἐν ταύτῃ γὰρ καὶ τὸ συνεχές ἐστι καὶ τὸ κινεῖσθαι δύο κινήσεις· ἀνάγκη γάρ, εἴ γε ἀεὶ ἔσται συνεχὴς γένεσις καὶ (336b.) φθορά, ἀεὶ μέν τι κινεῖσθαι, ἵνα μὴ ἐπιλείπωσιν αὗται αἱ μεταβολαί, δύο δ’, ὅπως μὴ θάτερον συμβαίνῃ μόνον.

Τῆς μὲν οὖν συνεχείας ἡ τοῦ ὅλου φορὰ αἰτία, τοῦ δὲ προσιέναι καὶ ἀπιέναι ἡ ἔγκλισις· συμβαίνει γὰρ ὁτὲ μὲν πόρρω γίνεσθαι ὁτὲ δ’ ἐγγύς. Ἀνίσου δὲ τοῦ διαστήματος ὄντος ἀνώμαλος ἔσται ἡ κίνησις· ὥστ’ εἰ τῷ προσιέναι καὶ ἐγγὺς εἶναι γεννᾷ, τῷ ἀπιέναι ταὐτὸν τοῦτο καὶ πόρρω γίνεσθαι φθείρει, καὶ εἰ τῷ πολλάκις προσελθεῖν γεννᾷ, καὶ τῷ πολλάκις ἀπελθεῖν φθείρει· τῶν γὰρ ἐναντίων τἀναντία αἴτια. Καὶ ἐν ἴσῳ χρόνῳ καὶ ἡ φθορὰ καὶ ἡ γένεσις ἡ κατὰ φύσιν. Διὸ καὶ οἱ χρόνοι καὶ οἱ βίοι ἑκάστων ἀριθμὸν ἔχουσι καὶ τούτῳ διορίζονται· πάντων γάρ ἐστι τάξις, καὶ πᾶς βίος καὶ χρόνος μετρεῖται περιόδῳ, πλὴν οὐ τῇ αὐτῇ πάντες, ἀλλ’ οἱ μὲν ἐλάττονι οἱ δὲ πλείονι· τοῖς μὲν γὰρ ἐνιαυτός, τοῖς δὲ μείζων, τοῖς δὲ ἐλάττων ἡ περίοδός ἐστι τὸ μέτρον.

Φαίνεται δὲ καὶ κατὰ τὴν αἴσθησιν ὁμολογούμενα τοῖς παρ’ ἡμῶν λόγοις·

ὁρῶμεν γὰρ ὅτι προσιόντος μὲν τοῦ ἡλίου γένεσίς ἐστιν, ἀπιόντος δὲ φθίσις, καὶ ἐν ἴσῳ χρόνῳ ἑκάτερον· ἴσος γὰρ ὁ χρόνος τῆς φθορᾶς καὶ τῆς γενέσεως τῆς κατὰ φύσιν.

Ἀλλὰ συμβαίνει πολλάκις ἐν ἐλάττονι φθείρεσθαι διὰ τὴν πρὸς ἄλληλα σύγκρασιν· ἀνωμάλου γὰρ οὔσης τῆς ὕλης καὶ οὐ πανταχοῦ τῆς αὐτῆς ἀνάγκη καὶ τὰς γενέσεις ἀνωμάλους εἶναι καὶ τὰς μὲν θάττους τὰς δὲ βραδυτέρας, ὥστε συμβαίνει διὰ τὴν τούτων γένεσιν ἄλλοις γίνεσθαι φθοράν.

Ἀεὶ δ’, ὥσπερ εἴρηται, συνεχὴς ἔσται ἡ γένεσις καὶ ἡ φθορά, καὶ οὐδέποτε ὑπολείψει δι’ ἣν εἴπομεν αἰτίαν. Τοῦτο δ’ εὐλόγως συμβέβηκεν· ἐπεὶ γὰρ ἐν ἅπασιν ἀεὶ τοῦ βελτίονος ὀρέγεσθαί φαμεν τὴν φύσιν, βέλτιον δὲ τὸ εἶναι ἢ τὸ μὴ εἶναι (τὸ δ’ εἶναι ποσαχῶς λέγομεν ἐν ἄλλοις εἴρηται), τοῦτο δ’ ἀδύνατον ἐν ἅπασιν ὑπάρχειν διὰ τὸ πόρρω τῆς ἀρχῆς ἀφίστασθαι, τῷ λειπομένῳ τρόπῳ συνεπλήρωσε τὸ ὅλον ὁ θεός, ἐνδελεχῆ ποιήσας τὴν γένεσιν· οὕτω γὰρ ἂν μάλιστα συνείροιτο τὸ εἶναι διὰ τὸ ἐγγύτατα εἶναι τῆς οὐσίας τὸ γίνεσθαι ἀεὶ καὶ τὴν γένεσιν. Τούτου δ’ αἴτιον, ὥσπερ (337a.) εἴρηται πολλάκις, ἡ κύκλῳ φορά· μόνη γὰρ συνεχής. Διὸ καὶ τἆλλα ὅσα μεταβάλλει εἰς ἄλληλα κατὰ τὰ πάθη καὶ τὰς δυνάμεις, οἷον τὰ ἁπλᾶ σώματα, μιμεῖται τὴν κύκλῳ φοράν· ὅταν γὰρ ἐξ ὕδατος ἀὴρ γένηται καὶ ἐξ ἀέρος πῦρ καὶ πάλιν ἐκ πυρὸς ὕδωρ, κύκλῳ φαμὲν περιεληλυθέναι τὴν γένεσιν διὰ τὸ πάλιν ἀνακάμπτειν. Ὥστε καὶ ἡ εὐθεῖα φορὰ μιμουμένη τὴν κύκλῳ συνεχής ἐστιν.

Ἅμα δὲ δῆλον ἐκ τούτων ὅ τινες ἀποροῦσιν, διὰ τί ἑκάστου τῶν σωμάτων εἰς τὴν οἰκείαν φερομένου χώραν ἐν τῷ ἀπείρῳ χρόνῳ οὐ διεστᾶσι τὰ σώματα. Αἴτιον γὰρ τούτου ἐστὶν ἡ εἰς ἄλληλα μετάβασις· εἰ γὰρ ἕκαστον ἔμενεν ἐν τῇ αὑτοῦ χώρᾳ καὶ μὴ μετέβαλλεν ὑπὸ τοῦ πλησίον, ἤδη ἂν διεστήκεσαν.

Μεταβάλλει μὲν οὖν διὰ τὴν φορὰν διπλῆν οὖσαν· διὰ δὲ τὸ μεταβάλλειν οὐκ ἐνδέχεται μένειν οὐδὲν αὐτῶν ἐν οὐδεμιᾷ χώρᾳ τεταγμένῃ.

Διότι μὲν οὖν ἔστι γένεσις καὶ φθορὰ καὶ διὰ τίν’ αἰτίαν, καὶ τί τὸ γενητὸν καὶ φθαρτόν, φανερὸν ἐκ τῶν εἰρημένων. Ἐπεὶ δ’ ἀνάγκη εἶναί τι τὸ κινοῦν εἰ κίνησις ἔσται, ὥσπερ εἴρηται πρότερον ἐν ἑτέροις, καὶ εἰ ἀεί, ὅτι ἀεί τι δεῖ εἶναι, καὶ εἰ συνεχής, ἓν τὸ αὐτὸ καὶ ἀκίνητον καὶ ἀγένητον καὶ ἀναλλοίωτον, καὶ εἰ πλείους εἶεν αἱ κύκλῳ κινήσεις, πλείους μέν, πάσας δέ πως εἶναι ταύτας ἀνάγκη ὑπὸ μίαν ἀρχήν· συνεχοῦς δ’ ὄντος τοῦ χρόνου ἀνάγκη τὴν κίνησιν συνεχῆ εἶναι, εἴπερ ἀδύνατον χρόνον χωρὶς κινήσεως εἶναι· συνεχοῦς ἄρα τινὸς ἀριθμὸς ὁ χρόνος, τῆς κύκλῳ ἄρα, καθάπερ ἐν τοῖς ἐν ἀρχῇ λόγοις διωρίσθη. Συνεχὴς δ’ ἡ κίνησις πότερον τῷ τὸ κινούμενον συνεχὲς εἶναι ἢ τῷ τὸ ἐν ᾧ κινεῖται, οἷον τὸν τόπον λέγω ἢ τὸ πάθος; δῆλον δὴ ὅτι τῷ τὸ κινούμενον· πῶς γὰρ τὸ πάθος συνεχὲς ἀλλ’ ἢ τῷ τὸ πρᾶγμα ᾧ συμβέβηκε συνεχὲς εἶναι; εἰ δὲ καὶ τῷ ἐν ᾧ, μόνῳ τοῦτο τῷ τόπῳ ὑπάρχει· μέγεθος γάρ τι ἔχει, τούτου δὲ τὸ κύκλῳ μόνον συνεχές, ὥστε αὐτὸ αὑτῷ ἀεὶ συνεχές. Τοῦτο ἄρα ἐστὶν ὃ ποιεῖ συνεχῆ κίνησιν, τὸ κύκλῳ σῶμα φερόμενον· ἡ δὲ κίνησις τὸν χρόνον.

Κεφάλαιο 11

Ἐπεὶ δ’ ἐν τοῖς συνεχῶς κινουμένοις κατὰ γένεσιν ἢ ἀλλοίωσιν ἢ ὅλως μεταβολὴν ὁρῶμεν τὸ ἐφεξῆς ὂν καὶ (337b.) γινόμενον τόδε μετὰ τόδε ὥστε μὴ διαλείπειν, σκεπτέον πότερον ἔστι τι ὃ ἐξ ἀνάγκης ἔσται, ἢ οὐδέν, ἀλλὰ πάντα ἐνδέχεται μὴ γενέσθαι. Ὅτι μὲν γὰρ ἔνια, δῆλον, καὶ εὐθὺς τὸ ἔσται καὶ τὸ μέλλον ἕτερον διὰ τοῦτο· ὃ μὲν γὰρ ἀληθὲς εἰπεῖν ὅτι ἔσται, δεῖ τοῦτο εἶναί ποτε ἀληθὲς ὅτι ἐστίν· ὃ δὲ νῦν ἀληθὲς εἰπεῖν ὅτι μέλλει, οὐδὲν κωλύει μὴ γενέσθαι· μέλλων γὰρ ἂν βαδίζειν τις οὐκ ἂν βαδίσειεν. Ὅλως δ’, ἐπεὶ ἐνδέχεται ἔνια τῶν ὄντων καὶ μὴ εἶναι, δῆλον ὅτι καὶ τὰ γινόμενα οὕτως ἕξει, καὶ οὐκ ἐξ ἀνάγκης τοῦτ’ ἔσται.

Πότερον οὖν ἅπαντα τοιαῦτα ἢ οὔ, ἀλλ’ ἔνια ἀναγκαῖον ἁπλῶς γίνεσθαι, καὶ ἔστιν ὥσπερ ἐπὶ τοῦ εἶναι τὰ μὲν ἀδύνατα μὴ εἶναι τὰ δὲ δυνατά, οὕτως καὶ περὶ τὴν γένεσιν; οἷον τροπὰς ἆρα ἀνάγκη γενέσθαι, καὶ οὐχ οἷόν τε μὴ ἐνδέχεσθαι;

Εἰ δὴ τὸ πρότερον ἀνάγκη γενέσθαι, εἰ τὸ ὕστερον ἔσται, οἷον εἰ οἰκία, θεμέλιον, εἰ δὲ τοῦτο, πηλόν, ἆρ’ οὖν καὶ εἰ θεμέλιος γέγονεν, ἀνάγκη οἰκίαν γενέσθαι; ἢ οὐκέτι, εἰ μὴ κἀκεῖνο ἀνάγκη γενέσθαι ἁπλῶς· εἰ δὲ τοῦτο, ἀνάγκη καὶ θεμελίου γενομένου γενέσθαι οἰκίαν· οὕτω γὰρ ἦν τὸ πρότερον ἔχον πρὸς τὸ ὕστερον, ὥστ’ εἰ ἐκεῖνο ἔσται, ἀνάγκη ἐκεῖνο πρότερον. Εἰ τοίνυν ἀνάγκη γενέσθαι τὸ ὕστερον, καὶ τὸ πρότερον ἀνάγκη· καὶ εἰ τὸ πρότερον, καὶ τὸ ὕστερον τοίνυν ἀνάγκη, ἀλλ’ οὐ δι’ ἐκεῖνο, ἀλλ’ ὅτι ὑπέκειτο ἐξ ἀνάγκης ἐσόμενον. Ἐν οἷς ἄρα τὸ ὕστερον ἀνάγκη εἶναι, ἐν τούτοις ἀντιστρέφει, καὶ ἀεὶ τοῦ προτέρου γενομένου ἀνάγκη γενέσθαι τὸ ὕστερον. Εἰ μὲν οὖν εἰς ἄπειρον εἶσιν ἐπὶ τὸ κάτω, οὐκ ἔσται ἀνάγκη τὸ ὕστερον τόδε γενέσθαι ἁπλῶς. Ἀλλ’ ἐξ ὑποθέσεως· ἀεὶ γὰρ ἕτερον ἔμπροσθεν ἀνάγκη ἔσται, δι’ ὃ ἐκεῖνο ἀνάγκη γενέσθαι. Ὥστ’ εἰ μή ἐστιν ἀρχὴ τοῦ ἀπείρου, οὐδὲ πρῶτον ἔσται οὐδὲν δι’ ὃ ἀναγκαῖον ἔσται γενέσθαι. Ἀλλὰ μὴν οὐδ’ ἐν τοῖς πέρας ἔχουσι τοῦτ’ ἔσται εἰπεῖν ἀληθῶς, ὅτι ἁπλῶς ἀνάγκη γενέσθαι, οἷον οἰκίαν, ὅταν θεμέλιος γένηται· ὅταν γὰρ γένηται, εἰ μὴ ἀεὶ τοῦτο ἀνάγκη γίνεσθαι, συμβήσεται ἀεὶ εἶναι τὸ ἐνδεχόμενον μὴ ἀεὶ εἶναι. Ἀλλὰ δεῖ τῇ γενέσει ἀεὶ εἶναι, εἰ ἐξ ἀνάγκης αὐτοῦ ἐστιν ἡ γένεσις· τὸ γὰρ ἐξ ἀνάγκης καὶ ἀεὶ ἅμα· ὃ γὰρ εἶναι ἀνάγκη (338a.) οὐχ οἷόν τε μὴ εἶναι· ὥστ’ εἰ ἔστιν ἐξ ἀνάγκης, ἀίδιόν ἐστι, καὶ εἰ ἀίδιον, ἐξ ἀνάγκης. Καὶ εἰ ἡ γένεσις τοίνυν ἐξ ἀνάγκης, ἀίδιος ἡ γένεσις τούτου, καὶ εἰ ἀίδιος, ἐξ ἀνάγκης.

Εἰ ἄρα τινὸς ἐξ ἀνάγκης ἁπλῶς ἡ γένεσις, ἀνάγκη ἀνακυκλεῖν καὶ ἀνακάμπτειν. Ἀνάγκη γὰρ ἤτοι πέρας ἔχειν τὴν γένεσιν ἢ μή, καὶ εἰ μή, ἢ εἰς εὐθὺ ἢ κύκλῳ. Τούτων δ’ εἴπερ ἔσται ἀίδιος, οὐκ εἰς εὐθὺ οἷόν τε διὰ τὸ μηδαμῶς εἶναι ἀρχὴν μήτ’ ἂν κάτω, ὡς ἐπὶ τῶν ἐσομένων λαμβανομένων, μήτ’ ἄνω, ὡς ἐπὶ τῶν γενομένων· ἀνάγκη δ’ εἶναι ἀρχήν, μὴ πεπερασμένης οὔσης, καὶ ἀίδιον εἶναι. Διὸ ἀνάγκη κύκλῳ εἶναι. Ἀντιστρέφειν ἄρα ἀνάγκη ἔσται, οἷον εἰ τοδὶ ἐξ ἀνάγκης, καὶ τὸ πρότερον ἄρα· ἀλλὰ μὴν εἰ τοῦτο, καὶ τὸ ὕστερον ἀνάγκη γενέσθαι. Καὶ τοῦτο ἀεὶ δὴ συνεχῶς· οὐδὲν γὰρ τοῦτο διαφέρει λέγειν διὰ δύο ἢ πολλῶν. Ἐν τῇ κύκλῳ ἄρα κινήσει καὶ γενέσει ἐστὶ τὸ ἐξ ἀνάγκης ἁπλῶς· καὶ εἴτε κύκλῳ, ἀνάγκη ἕκαστον γίνεσθαι καὶ γεγονέναι, καὶ εἰ ἀνάγκη, ἡ τούτων γένεσις κύκλῳ.

Ταῦτα μὲν δὴ εὐλόγως, ἐπεὶ ἀίδιος καὶ ἄλλως ἐφάνη ἡ κύκλῳ κίνησις καὶ ἡ τοῦ οὐρανοῦ, ὅτι ταῦτα ἐξ ἀνάγκης γίνεται καὶ ἔσται, ὅσαι (338b.) ταύτης κινήσεις καὶ ὅσαι διὰ ταύτην· εἰ γὰρ τὸ κύκλῳ κινούμενον ἀεί τι κινεῖ, ἀνάγκη καὶ τούτων κύκλῳ εἶναι τὴν κίνησιν, οἷον τῆς ἄνω φορᾶς οὔσης κύκλῳ ὁ ἥλιος ὡδί, ἐπεὶ δ’ οὕτως, αἱ ὧραι διὰ τοῦτο κύκλῳ γίνονται καὶ ἀνακάμπτουσιν, τούτων δ’ οὕτω γινομένων πάλιν τὰ ὑπὸ τούτων.

Τί οὖν δή ποτε τὰ μὲν οὕτω φαίνεται, οἷον ὕδατα καὶ ἀὴρ κύκλῳ γινόμενα, καὶ εἰ μὲν νέφος ἔσται, δεῖ ὗσαι, καὶ εἰ ὕσει γε, δεῖ καὶ νέφος εἶναι, ἄνθρωποι δὲ καὶ ζῷα οὐκ ἀνακάμπτουσιν εἰς αὑτοὺς ὥστε πάλιν γίνεσθαι τὸν αὐτόν· οὐ γὰρ ἀνάγκη, εἰ ὁ πατὴρ ἐγένετο, σὲ γενέσθαι· ἀλλ’ εἰ σύ, ἐκεῖνον. Εἰς εὐθὺ δὲ ἔοικεν εἶναι αὕτη ἡ γένεσις.

Ἀρχὴ δὲ τῆς σκέψεως πάλιν αὕτη, πότερον ὁμοίως ἅπαντα ἀνακάμπτει ἢ οὔ, ἀλλὰ τὰ μὲν ἀριθμῷ τὰ δὲ εἴδει μόνον.

Ὅσων μὲν οὖν ἄφθαρτος ἡ οὐσία ἡ κινουμένη, φανερὸν ὅτι καὶ ἀριθμῷ ταὐτὰ ἔσται (ἡ γὰρ κίνησις ἀκολουθεῖ τῷ κινουμένῳ), ὅσων δὲ μὴ ἀλλὰ φθαρτή, ἀνάγκη τῷ εἴδει, ἀριθμῷ δὲ μὴ ἀνακάμπτειν. Διὸ ὕδωρ ἐξ ἀέρος καὶ ἀὴρ ἐξ ὕδατος εἴδει ὁ αὐτός, οὐκ ἀριθμῷ. Εἰ δὲ καὶ ταῦτα ἀριθμῷ, ἀλλ’ οὐχ ὧν ἡ οὐσία γίνεται οὖσα τοιαύτη οἵα ἐνδέχεσθαι μὴ εἶναι.

Μετεωρολογικά (338a) Meteorology

Βιβλίο Α’Περὶ μὲν οὖν τῶν πρώτων αἰτίων τῆς φύσεως καὶ περὶ πάσης κινήσεως φυσικῆς, ἔτι δὲ περὶ τῶν κατὰ τὴν ἄνω φορὰν διακεκοσμημένων ἄστρων καὶ περὶ τῶν στοιχείων τῶν σωματικῶν, πόσα τε καὶ ποῖα, καὶ τῆς εἰς ἄλληλα μεταβολῆς, καὶ περὶ γενέσεως καὶ φθορᾶς τῆς κοινῆς εἴρηται πρότερον. λοιπὸν δ’ ἐστὶ μέρος τῆς μεθόδου ταύτης ἔτι θεωρητέον, ὃ πάντες οἱ πρότεροι μετεωρολογίαν ἐκάλουν· ταῦτα [338b.20] δ’ ἐστὶν ὅσα συμβαίνει κατὰ φύσιν μέν, ἀτακτοτέραν μέντοι τῆς τοῦ πρώτου στοιχείου τῶν σωμάτων, περὶ τὸν γειτνιῶντα μάλιστα τόπον τῇ φορᾷ τῇ τῶν ἄστρων, οἷον περί τε γάλακτος καὶ κομητῶν καὶ τῶν ἐκπυρουμένων καὶ κινουμένων φασμάτων, ὅσα τε θείημεν ἂν ἀέρος εἶναι κοινὰ πάθη καὶ ὕδατος, ἔτι δὲ γῆς ὅσα μέρη καὶ εἴδη καὶ πάθη τῶν μερῶν, ἐξ ὧν περί τε πνευμάτων καὶ σεισμῶν θεωρήσαιμεν ἂν τὰς αἰτίας [339a] καὶ περὶ πάντων τῶν γιγνομένων κατὰ τὰς κινήσεις τὰς τούτων· ἐν οἷς τὰ μὲν ἀποροῦμεν, τῶν δὲ ἐφαπτόμεθά τινα τρόπον· ἔτι δὲ περὶ κεραυνῶν πτώσεως καὶ τυφώνων καὶ πρηστήρων καὶ τῶν ἄλλων τῶν ἐγκυκλίων, ὅσα διὰ πῆξιν συμβαίνει πάθη τῶν αὐτῶν σωμάτων τούτων. διελθόντες δὲ περὶ τούτων, θεωρήσωμεν εἴ τι δυνάμεθα κατὰ τὸν ὑφηγημένον τρόπον ἀποδοῦναι περὶ ζῴων καὶ φυτῶν, καθόλου τε καὶ χωρίς· σχεδὸν γὰρ τούτων ῥηθέντων τέλος ἂν εἴη γεγονὸς τῆς ἐξ ἀρχῆς ἡμῖν προαιρέσεως πάσης. ὧδ’ οὖν ἀρξάμενοι λέγωμεν περὶ αὐτῶν πρῶτον.

ἐπειδὴ γὰρ διώρισται πρότερον ἡμῖν μία μὲν ἀρχὴ τῶν σωμάτων, ἐξ ὧν συνέστηκεν ἡ τῶν ἐγκυκλίως φερομένων σωμάτων φύσις, ἄλλα δὲ τέτταρα σώματα διὰ τὰς τέτταρας ἀρχάς, ὧν διπλῆν εἶναί φαμεν τὴν κίνησιν, τὴν μὲν ἀπὸ τοῦ μέσου τὴν δ’ ἐπὶ τὸ μέσον· τεττάρων δ’ ὄντων τούτων, πυρὸς καὶ ἀέρος καὶ ὕδατος καὶ γῆς, τὸ μὲν τούτοις πᾶσιν ἐπιπολάζον εἶναι πῦρ, τὸ δ’ ὑφιστάμενον γῆν· δύο δὲ ἃ πρὸς αὑτὰ τούτοις ἀνάλογον ἔχει (ἀὴρ μὲν γὰρ πυρὸς ἐγγυτάτω τῶν ἄλλων, ὕδωρ δὲ γῆς)· ὁ δὴ περὶ τὴν γῆν ὅλος κόσμος ἐκ τούτων συνέστηκε τῶν σωμάτων· περὶ οὗ τὰ συμβαίνοντα πάθη φαμὲν εἶναι ληπτέον. ἔστιν δ’ ἐξ ἀνάγκης συνεχὴς οὗτος ταῖς ἄνω φοραῖς, ὥστε πᾶσαν αὐτοῦ τὴν δύναμιν κυβερνᾶσθαι ἐκεῖθεν· ὅθεν γὰρ ἡ τῆς κινήσεως ἀρχὴ πᾶσιν, ἐκείνην αἰτίαν νομιστέον πρώτην. πρὸς δὲ τούτοις ἡ μὲν ἀίδιος καὶ τέλος οὐκ ἔχουσα τῷ τόπῳ τῆς κινήσεως, ἀλλ’ ἀεὶ ἐν τέλει· ταῦτα δὲ τὰ σώματα πάντα πεπερασμένους διέστηκε τόπους ἀλλήλων. ὥστε τῶν συμβαινόντων περὶ αὐτὸν πῦρ μὲν καὶ γῆν καὶ τὰ συγγενῆ τούτοις ὡς ἐν ὕλης εἴδει τῶν γιγνομένων αἴτια χρὴ νομίζειν (τὸ γὰρ ὑποκείμενον καὶ πάσχον τοῦτον προσαγορεύομεν τὸν τρόπον), τὸ δ’ οὕτως αἴτιον ὅθεν ἡ τῆς κινήσεως ἀρχή, τὴν τῶν ἀεὶ κινουμένων αἰτιατέον δύναμιν.

ἀναλαβόντες οὖν τὰς ἐξ ἀρχῆς θέσεις καὶ τοὺς εἰρημένους πρότερον διορισμούς, λέγωμεν περί τε τῆς τοῦ γάλακτος φαντασίας καὶ περὶ κομητῶν καὶ τῶν ἄλλων ὅσα τυγχάνει τούτοις ὄντα συγγενῆ. φαμὲν δὴ πῦρ καὶ ἀέρα καὶ ὕδωρ καὶ γῆν γίγνεσθαι ἐξ ἀλλήλων, καὶ ἕκαστον ἐν ἑκάστῳ [339b] ὑπάρχειν τούτων δυνάμει, ὥσπερ καὶ τῶν ἄλλων οἷς ἕν τι καὶ ταὐτὸν ὑπόκειται, εἰς ὃ δὴ ἀναλύονται ἔσχατον. πρῶτον μὲν οὖν ἀπορήσειεν ἄν τις περὶ τὸν καλούμενον ἀέρα, τίνα τε χρὴ λαβεῖν αὐτοῦ τὴν φύσιν ἐν τῷ περιέχοντι κόσμῳ τὴν γῆν, καὶ πῶς ἔχει τῇ τάξει πρὸς τἆλλα τὰ λεγόμενα στοιχεῖα τῶν σωμάτων. ὁ μὲν γὰρ δὴ τῆς γῆς ὄγκος πηλίκος ἄν τις εἴη πρὸς τὰ περιέχοντα μεγέθη, οὐκ ἄδηλον· ἤδη γὰρ ὦπται διὰ τῶν ἀστρολογικῶν θεωρημάτων ἡμῖν ὅτι πολὺ καὶ τῶν ἄστρων ἐνίων ἐλάττων ἐστίν. ὕδατος δὲ φύσιν συνεστηκυῖαν καὶ ἀφωρισμένην οὔθ’ ὁρῶμεν οὔτ’ ἐνδέχεται κεχωρισμένην εἶναι τοῦ περὶ τὴν γῆν ἱδρυμένου σώματος, οἷον τῶν τε φανερῶν, θαλάττης καὶ ποταμῶν, κἂν εἴ τι κατὰ βάθους ἄδηλον ἡμῖν ἐστιν. τὸ δὲ δὴ μεταξὺ τῆς γῆς τε καὶ τῶν ἐσχάτων ἄστρων πότερον ἕν τι νομιστέον εἶναι σῶμα τὴν φύσιν ἢ πλείω, κἂν εἰ πλείω, πόσα, καὶ μέχρι ποῦ διώρισται τοῖς τόποις; ἡμῖν μὲν οὖν εἴρηται πρότερον περὶ τοῦ πρώτου στοιχείου, ποῖόν τι τὴν δύναμίν ἐστιν, καὶ διότι πᾶς ὁ περὶ τὰς ἄνω φορὰς κόσμος ἐκείνου τοῦ σώματος πλήρης ἐστί. καὶ ταύτην τὴν δόξαν οὐ μόνον ἡμεῖς τυγχάνομεν ἔχοντες, φαίνεται δὲ ἀρχαία τις ὑπόληψις αὕτη καὶ τῶν πρότερον ἀνθρώπων· ὁ γὰρ λεγόμενος αἰθὴρ παλαιὰν εἴληφε τὴν προσηγορίαν, ἣν Ἀναξαγόρας μὲν τῷ πυρὶ ταὐτὸν ἡγήσασθαί μοι δοκεῖ σημαίνειν· τά τε γὰρ ἄνω πλήρη πυρὸς εἶναι, κἀκεῖνος τὴν ἐκεῖ δύναμιν αἰθέρα καλεῖν ἐνόμισεν, τοῦτο μὲν ὀρθῶς νομίσας· τὸ γὰρ ἀεὶ σῶμα θέον ἅμα καὶ θεῖόν τι τὴν φύσιν ἐοίκασιν ὑπολαβεῖν, καὶ διώρισαν ὀνομάζειν αἰθέρα τὸ τοιοῦτον ὡς ὂν οὐδενὶ τῶν παρ’ ἡμῖν τὸ αὐτό· οὐ γὰρ δὴ φήσομεν ἅπαξ οὐδὲ δὶς οὐδ’ ὀλιγάκις τὰς αὐτὰς δόξας ἀνακυκλεῖν γιγνομένας ἐν τοῖς ἀνθρώποις, ἀλλ’ ἀπειράκις. ὅσοι δὲ πῦρ καθαρὸν εἶναί φασι τὸ περιέχον καὶ μὴ μόνον τὰ φερόμενα σώματα, τὸ δὲ μεταξὺ γῆς καὶ τῶν ἄστρων ἀέρα, θεωρήσαντες ἂν τὰ νῦν δεικνύμενα διὰ τῶν μαθημάτων ἱκανῶς ἴσως ἂν ἐπαύσαντο ταύτης τῆς παιδικῆς δόξης· λίαν γὰρ ἁπλοῦν τὸ νομίζειν μικρὸν τοῖς μεγέθεσιν εἶναι τῶν φερομένων ἕκαστον, ὅτι φαίνεται θεωροῦσιν ἐντεῦθεν ἡμῖν οὕτως. εἴρηται μὲν οὖν καὶ πρότερον ἐν τοῖς περὶ τὸν ἄνω τόπον θεωρήμασι· λέγωμεν δὲ τὸν αὐτὸν λόγον καὶ νῦν. [340a] εἰ γὰρ τά τε διαστήματα πλήρη πυρὸς καὶ τὰ σώματα συνέστηκεν ἐκ πυρός, πάλαι φροῦδον ἂν ἦν ἕκαστον τῶν ἄλλων στοιχείων. ἀλλὰ μὴν οὐδ’ ἀέρος γε μόνου πλήρη· πολὺ γὰρ ἂν ὑπερβάλλοι τὴν ἰσότητα τῆς κοινῆς ἀναλογίας πρὸς τὰ σύστοιχα σώματα, κἂν εἰ δύο στοιχείων πλήρης ὁ μεταξὺ γῆς τε καὶ οὐρανοῦ τόπος ἐστίν· οὐδὲν γὰρ ὡς εἰπεῖν μόριον ὁ τῆς γῆς ἐστιν ὄγκος, ἐν ᾧ συνείληπται πᾶν καὶ τὸ τοῦ ὕδατος πλῆθος, πρὸς τὸ περιέχον μέγεθος. ὁρῶμεν δ’ οὐκ ἐν τοσούτῳ μεγέθει γιγνομένην τὴν ὑπεροχὴν τῶν ὄγκων, ὅταν ἐξ ὕδατος ἀὴρ γένηται διακριθέντος ἢ πῦρ ἐξ ἀέρος· ἀνάγκη δὲ τὸν αὐτὸν ἔχειν λόγον ὃν ἔχει τὸ τοσονδὶ καὶ μικρὸν ὕδωρ πρὸς τὸν ἐξ αὐτοῦ γιγνόμενον ἀέρα, καὶ τὸν πάντα πρὸς τὸ πᾶν ὕδωρ. διαφέρει δ’ οὐδὲν οὐδ’ εἴ τις φήσει μὲν μὴ γίγνεσθαι ταῦτα ἐξ ἀλλήλων, ἴσα μέντοι τὴν δύναμιν εἶναι· κατὰ τοῦτον γὰρ τὸν τρόπον ἀνάγκη τὴν ἰσότητα τῆς δυνάμεως ὑπάρχειν τοῖς μεγέθεσιν αὐτῶν, ὥσπερ κἂν εἰ γιγνόμενα ἐξ ἀλλήλων ὑπῆρχεν. ὅτι μὲν οὖν οὔτ’ ἀὴρ οὔτε πῦρ συμπεπλήρωκε μόνον τὸν μεταξὺ τόπον, φανερόν ἐστι· λοιπὸν δὲ διαπορήσαντας εἰπεῖν πῶς τέτακται τὰ δύο πρὸς τὴν τοῦ πρώτου σώματος θέσιν, λέγω δὲ ἀέρα τε καὶ πῦρ, καὶ διὰ τίν’ αἰτίαν ἡ θερμότης ἀπὸ τῶν ἄνωθεν ἄστρων γίγνεται τοῖς περὶ τὴν γῆν τόποις. περὶ ἀέρος οὖν εἰπόντες πρῶτον, ὥσπερ ὑπεθέμεθα, λέγωμεν οὕτω καὶ περὶ τούτων πάλιν. εἰ δὴ γίγνεται ὕδωρ ἐξ ἀέρος καὶ ἀὴρ ἐξ ὕδατος, διὰ τίνα ποτ’ αἰτίαν οὐ συνίσταται νέφη κατὰ τὸν ἄνω τόπον; προσῆκε γὰρ μᾶλλον ὅσῳ πορρώτερον ὁ τόπος τῆς γῆς καὶ ψυχρότερος, διὰ τὸ μήθ’ οὕτω πλησίον εἶναι τῶν ἄστρων θερμῶν ὄντων μήτε τῶν ἀπὸ τῆς γῆς ἀνακλωμένων ἀκτίνων, αἳ κωλύουσι πλησίον τῆς γῆς συνίστασθαι, διακρίνουσαι τῇ θερμότητι τὰς συστάσεις· γίγνονται γὰρ αἱ τῶν νεφῶν ἀθροίσεις, οὗ λήγουσιν ἤδη διὰ τὸ σχίζεσθαι εἰς ἀχανὲς αἱ ἀκτῖνες. ἢ οὖν οὐκ ἐξ ἅπαντος τοῦ ἀέρος πέφυκεν ὕδωρ γίγνεσθαι, ἢ εἰ ὁμοίως ἐξ ἅπαντος, ὁ περὶ τὴν γῆν οὐ μόνον ἀήρ ἐστιν ἀλλ’ οἷον ἀτμίς, διὸ πάλιν συνίσταται εἰς ὕδωρ. ἀλλὰ μὴν εἰ τοσοῦτος ὢν ὁ ἀὴρ ἅπας ἀτμίς ἐστι, δόξειεν ἂν πολὺ ὑπερβάλλειν ἡ τοῦ ἀέρος φύσις καὶ ἡ τοῦ ὕδατος, εἴπερ τά τε διαστήματα τῶν ἄνω πλήρη ἐστὶ [340b] σώματός τινος, καὶ πυρὸς μὲν ἀδύνατον διὰ τὸ κατεξηράνθαι ἂν τἆλλα πάντα, λείπεται δ’ ἀέρος καὶ τοῦ περὶ τὴν γῆν πᾶσαν ὕδατος· ἡ γὰρ ἀτμὶς ὕδατος διάκρισίς ἐστιν. περὶ μὲν οὖν τούτων ἠπορήσθω τοῦτον τὸν τρόπον· ἡμεῖς δὲ λέγωμεν ἅμα πρός τε τὰ λεχθησόμενα διορίζοντες καὶ πρὸς τὰ νῦν εἰρημένα. τὸ μὲν γὰρ ἄνω καὶ μέχρι σελήνης ἕτερον εἶναι σῶμά φαμεν πυρός τε καὶ ἀέρος, οὐ μὴν ἀλλ’ ἐν αὐτῷ γε τὸ μὲν καθαρώτερον εἶναι τὸ δ’ ἧττον εἰλικρινές, καὶ διαφορὰς ἔχειν, καὶ μάλιστα ᾗ καταλήγει πρὸς τὸν ἀέρα καὶ πρὸς τὸν περὶ τὴν γῆν κόσμον. φερομένου δὲ τοῦ πρώτου στοιχείου κύκλῳ καὶ τῶν ἐν αὐτῷ σωμάτων, τὸ προσεχὲς ἀεὶ τοῦ κάτω κόσμου καὶ σώματος τῇ κινήσει διακρινόμενον ἐκπυροῦται καὶ ποιεῖ τὴν θερμότητα. δεῖ δὲ νοεῖν οὕτως καὶ ἐντεῦθεν ἀρξαμένους. τὸ γὰρ ὑπὸ τὴν ἄνω περιφορὰν σῶμα οἷον ὕλη τις οὖσα καὶ δυνάμει θερμὴ καὶ ψυχρὰ καὶ ξηρὰ καὶ ὑγρά, καὶ ὅσα ἄλλα τούτοις ἀκολουθεῖ πάθη, γίγνεται τοιαύτη καὶ ἔστιν ὑπὸ κινήσεως καὶ ἀκινησίας, ἧς τὴν αἰτίαν καὶ τὴν ἀρχὴν εἰρήκαμεν πρότερον. ἐπὶ μὲν οὖν τοῦ μέσου καὶ περὶ τὸ μέσον τὸ βαρύτατόν ἐστιν καὶ ψυχρότατον ἀποκεκριμένον, γῆ καὶ ὕδωρ· περὶ δὲ ταῦτα καὶ ἐχόμενα τούτων, ἀήρ τε καὶ ὃ διὰ συνήθειαν καλοῦμεν πῦρ, οὐκ ἔστι δὲ πῦρ· ὑπερβολὴ γὰρ θερμοῦ καὶ οἷον ζέσις ἐστὶ τὸ πῦρ. ἀλλὰ δεῖ νοῆσαι τοῦ λεγομένου ὑφ’ ἡμῶν ἀέρος τὸ μὲν περὶ τὴν γῆν οἷον ὑγρὸν καὶ θερμὸν εἶναι διὰ τὸ ἀτμίζειν τε καὶ ἀναθυμίασιν ἔχειν γῆς, τὸ δὲ ὑπὲρ τοῦτο θερμὸν ἤδη καὶ ξηρόν. ἔστιν γὰρ ἀτμίδος μὲν φύσις ὑγρὸν καὶ θερμόν, ἀναθυμιάσεως δὲ θερμὸν καὶ ξηρόν· καὶ ἔστιν ἀτμὶς μὲν δυνάμει οἷον ὕδωρ, ἀναθυμίασις δὲ δυνάμει οἷον πῦρ. τοῦ μὲν οὖν ἐν τῷ ἄνω τόπῳ μὴ συνίστασθαι νέφη ταύτην ὑποληπτέον αἰτίαν εἶναι, ὅτι οὐκ ἔνεστιν ἀὴρ μόνον ἀλλὰ μᾶλλον οἷον πῦρ. οὐδὲν δὲ κωλύει καὶ διὰ τὴν κύκλῳ φορὰν κωλύεσθαι συνίστασθαι νέφη ἐν τῷ ἀνωτέρω τόπῳ· ῥεῖν γὰρ ἀναγκαῖον ἅπαντα τὸν κύκλῳ ἀέρα, ὅσος μὴ ἐντὸς τῆς περιφερείας λαμβάνεται τῆς ἀπαρτιζούσης ὥστε τὴν γῆν σφαιροειδῆ εἶναι πᾶσαν· φαίνεται γὰρ καὶ νῦν ἡ τῶν ἀνέμων γένεσις ἐν τοῖς λιμνάζουσι τόποις τῆς γῆς, καὶ οὐχ [341a] ὑπερβάλλειν τὰ πνεύματα τῶν ὑψηλῶν ὀρῶν. ῥεῖ δὲ κύκλῳ διὰ τὸ συνεφέλκεσθαι τῇ τοῦ ὅλου περιφορᾷ. τὸ μὲν γὰρ πῦρ τῷ ἄνω στοιχείῳ, τῷ δὲ πυρὶ ὁ ἀὴρ συνεχής ἐστιν· ὥστε καὶ διὰ τὴν κίνησιν κωλύεται συγκρίνεσθαι εἰς ὕδωρ, ἀλλ’ ἀεὶ ὅ τι ἂν βαρύνηται μόριον αὐτοῦ ἐκθλιβομένου εἰς τὸν ἄνω τόπον τοῦ θερμοῦ κάτω φέρεται, ἄλλα δ’ ἐν μέρει συναναφέρεται τῷ ἀναθυμιωμένῳ πυρί, καὶ οὕτω συνεχῶς τὸ [341a.8] μὲν ἀέρος διατελεῖ πλῆρες ὂν τὸ δὲ πυρός, καὶ ἀεὶ ἄλλο καὶ ἄλλο γίγνεται ἕκαστον αὐτῶν. περὶ μὲν οὖν τοῦ μὴ γίγνεσθαι νέφη μηδ’ εἰς ὕδωρ σύγκρισιν, καὶ πῶς δεῖ λαβεῖν περὶ τοῦ μεταξὺ τόπου τῶν ἄστρων καὶ τῆς γῆς, καὶ τίνος ἐστὶν σώματος πλήρης, τοσαῦτα εἰρήσθω. περὶ δὲ τῆς γιγνομένης θερμότητος, ἣν παρέχεται ὁ ἥλιος, μᾶλλον μὲν καθ’ ἑαυτὸ καὶ ἀκριβῶς ἐν τοῖς περὶ αἰσθήσεως προσήκει λέγειν (πάθος γάρ τι τὸ θερμὸν αἰσθήσεώς ἐστιν), διὰ τίνα δ’ αἰτίαν γίγνεται μὴ τοιούτων ὄντων ἐκείνων τὴν φύσιν, λεκτέον καὶ νῦν. ὁρῶμεν δὴ τὴν κίνησιν ὅτι δύναται διακρίνειν τὸν ἀέρα καὶ ἐκπυροῦν, ὥστε καὶ τὰ φερόμενα τηκόμενα φαίνεσθαι πολλάκις. τὸ μὲν οὖν γίγνεσθαι τὴν ἀλέαν καὶ τὴν θερμότητα ἱκανή ἐστιν παρασκευάζειν καὶ ἡ τοῦ ἡλίου φορὰ μόνον· ταχεῖάν τε γὰρ δεῖ καὶ μὴ πόρρω εἶναι. ἡ μὲν οὖν τῶν ἄστρων ταχεῖα μὲν πόρρω δέ, ἡ δὲ τῆς σελήνης κάτω μὲν βραδεῖα δέ· ἡ δὲ τοῦ ἡλίου ἄμφω ταῦτα ἔχει ἱκανῶς. τὸ δὲ μᾶλλον γίγνεσθαι ἅμα τῷ ἡλίῳ αὐτῷ τὴν θερμότητα εὔλογον, λαμβάνοντας τὸ ὅμοιον ἐκ τῶν παρ’ ἡμῖν γιγνομένων· καὶ γὰρ ἐνταῦθα τῶν βίᾳ φερομένων ὁ πλησιάζων ἀὴρ μάλιστα γίγνεται θερμός. καὶ τοῦτ’ εὐλόγως συμβαίνει· μάλιστα γὰρ ἡ τοῦ στερεοῦ διακρίνει κίνησις αὐτόν. διά τε ταύτην οὖν τὴν αἰτίαν ἀφικνεῖται πρὸς τόνδε τὸν τόπον ἡ θερμότης, καὶ διὰ τὸ τὸ περιέχον πῦρ τὸν ἀέρα διαρραίνεσθαι τῇ κινήσει πολλάκις καὶ φέρεσθαι βίᾳ κάτω. σημεῖον δ’ ἱκανὸν ὅτι ὁ ἄνω τόπος οὐκ ἔστι θερμὸς οὐδ’ ἐκπεπυρωμένος καὶ αἱ διαδρομαὶ τῶν ἀστέρων. ἐκεῖ μὲν γὰρ οὐ γίγνονται, κάτω δέ· καίτοι τὰ μᾶλλον κινούμενα καὶ θᾶττον, ἐκπυροῦται θᾶττον. πρὸς δὲ τούτοις ὁ ἥλιος, ὅσπερ μάλιστα εἶναι δοκεῖ θερμός, φαίνεται λευκὸς ἀλλ’ οὐ πυρώδης ὤν. [341b] τούτων δὲ διωρισμένων, λέγωμεν διὰ τίν’ αἰτίαν αἵ τε φλόγες αἱ καιόμεναι φαίνονται περὶ τὸν οὐρανὸν καὶ οἱ διαθέοντες ἀστέρες καὶ οἱ καλούμενοι ὑπό τινων δαλοὶ καὶ αἶγες· ταῦτα γὰρ πάντ’ ἐστὶν τὸ αὐτὸ καὶ διὰ τὴν αὐτὴν αἰτίαν, διαφέρει δὲ τῷ μᾶλλον καὶ ἧττον. ἀρχὴ δέ ἐστιν καὶ τούτων καὶ πολλῶν ἄλλων ἥδε. θερμαινομένης γὰρ τῆς γῆς ὑπὸ τοῦ ἡλίου τὴν ἀναθυμίασιν ἀναγκαῖον γίγνεσθαι μὴ ἁπλῆν, ὥς τινες οἴονται, ἀλλὰ διπλῆν, τὴν μὲν ἀτμιδωδεστέραν τὴν δὲ πνευματωδεστέραν, τὴν μὲν τοῦ ἐν τῇ γῇ καὶ ἐπὶ τῇ γῇ ὑγροῦ ἀτμίδα, τὴν δ’ αὐτῆς τῆς γῆς οὔσης ξηρᾶς καπνώδη· καὶ τούτων τὴν μὲν πνευματώδη ἐπιπολάζειν διὰ τὸ θερμόν, τὴν δὲ ὑγροτέραν ὑφίστασθαι διὰ τὸ βάρος. καὶ διὰ ταῦτα τοῦτον τὸν τρόπον κεκόσμηται τὸ πέριξ· πρῶτον μὲν γὰρ ὑπὸ τὴν ἐγκύκλιον φοράν ἐστιν τὸ θερμὸν καὶ ξηρόν, ὃ λέγομεν πῦρ (ἀνώνυμον γὰρ τὸ κοινὸν ἐπὶ πάσης τῆς καπνώδους διακρίσεως· ὅμως δὲ διὰ τὸ μάλιστα πεφυκέναι τὸ τοιοῦτον ἐκκαίεσθαι τῶν σωμάτων οὕτως ἀναγκαῖον χρῆσθαι τοῖς ὀνόμασιν), ὑπὸ δὲ ταύτην τὴν φύσιν ἀήρ. δεῖ δὴ νοῆσαι οἷον ὑπέκκαυμα τοῦτο ὃ νῦν εἴπομεν πῦρ περιτετάσθαι τῆς περὶ τὴν γῆν σφαίρας ἔσχατον, ὥστε μικρᾶς κινήσεως τυχὸν ἐκκαίεσθαι πολλάκις ὥσπερ τὸν καπνόν· ἔστι γὰρ ἡ φλὸξ πνεύματος ξηροῦ ζέσις. ᾗ ἂν οὖν μάλιστα εὐκαίρως ἔχῃ ἡ τοιαύτη σύστασις, ὅταν ὑπὸ τῆς περιφορᾶς κινηθῇ πως, ἐκκάεται. διαφέρει δ’ ἤδη κατὰ τὴν τοῦ ὑπεκκαύματος θέσιν ἢ τὸ πλῆθος· ἂν μὲν γὰρ πλάτος ἔχῃ καὶ μῆκος τὸ ὑπέκκαυμα, πολλάκις ὁρᾶται καιομένη φλὸξ ὥσπερ ἐν ἀρούρᾳ καιομένης καλάμης, ἐὰν δὲ κατὰ μῆκος μόνον, οἱ καλούμενοι δαλοὶ καὶ αἶγες καὶ ἀστέρες. ἐὰν μὲν πλέον τὸ ὑπέκκαυμα ᾖ κατὰ τὸ μῆκος ἢ τὸ πλάτος, ὅταν μὲν οἷον ἀποσπινθηρίζῃ ἅμα καιόμενον (τοῦτο δὲ γίγνεται διὰ τὸ παρεκπυροῦσθαι, κατὰ μικρὰ μέν, ἐπ’ ἀρχὴν δέ), αἲξ καλεῖται, ὅταν δ’ ἄνευ τούτου τοῦ πάθους, δαλός. ἐὰν δὲ τὰ μήκη τῆς ἀναθυμιάσεως κατὰ μικρά τε καὶ πολλαχῇ διεσπαρμένα ᾖ καὶ ὁμοίως κατὰ πλάτος καὶ βάθος, οἱ δοκοῦντες ἀστέρες διάττειν γίγνονται. ὁτὲ μὲν οὖν ὑπὸ τῆς κινήσεως ἡ ἀναθυμίασις ἐκκαιομένη γεννᾷ αὐτά· ὁτὲ δὲ ὑπὸ τοῦ διὰ τὴν ψύξιν [342a] συνισταμένου ἀέρος ἐκθλίβεται καὶ ἐκκρίνεται τὸ θερμόν, διὸ καὶ ἔοικεν ἡ φορὰ ῥίψει μᾶλλον αὐτῶν, ἀλλ’ οὐκ ἐκκαύσει. ἀπορήσειε γὰρ ἄν τις πότερον ὥσπερ ἡ ὑπὸ τοὺς λύχνους τιθεμένη ἀναθυμίασις ἀπὸ τῆς ἄνωθεν φλογὸς ἅπτει τὸν κάτωθεν λύχνον (θαυμαστὴ γὰρ καὶ τούτου ἡ ταχυτής ἐστιν καὶ ὁμοία ῥίψει, ἀλλ’ οὐχ ὡς ἄλλου καὶ ἄλλου γιγνομένου πυρός), ἢ ῥίψεις τοῦ αὐτοῦ τινος σώματός εἰσιν αἱ διαδρομαί. ἔοικε δὴ δι’ ἄμφω· καὶ γὰρ οὕτως ὡς ἡ ἀπὸ τοῦ λύχνου γίγνεται, καὶ ἔνια διὰ τὸ ἐκθλίβεσθαι ῥιπτεῖται, ὥσπερ οἱ ἐκ τῶν δακτύλων πυρῆνες, ὥστε καὶ εἰς τὴν γῆν καὶ εἰς τὴν θάλατταν φαίνεσθαι πίπτοντα, καὶ νύκτωρ καὶ μεθ’ ἡμέραν καὶ αἰθρίας οὔσης. κάτω δὲ ῥιπτεῖται διὰ τὸ τὴν πύκνωσιν εἰς τὸ κάτω ῥέπειν τὴν ἀπωθοῦσαν. διὸ καὶ οἱ κεραυνοὶ κάτω πίπτουσιν <, τοῦ πυρὸς ἄνω φερομένου [342a.14] κατὰ φύσιν>· πάντων γὰρ τούτων ἡ γένεσις οὐκ ἔκκαυσις ἀλλ’ ἔκκρισις ὑπὸ τῆς ἐκθλίψεώς ἐστιν, ἐπεὶ κατὰ φύσιν γε τὸ θερμὸν ἄνω πέφυκε φέρεσθαι πᾶν. ὅσα μὲν οὖν μᾶλλον ἐν τῷ ἀνωτάτω τόπῳ συνίσταται, ἐκκαιομένης γίγνεται τῆς ἀναθυμιάσεως, ὅσα δὲ κατώτερον, ἐκκρινομένης διὰ τὸ συνιέναι καὶ ψύχεσθαι τὴν ὑγροτέραν ἀναθυμίασιν· αὕτη γὰρ συνιοῦσα καὶ κάτω ῥέπουσα ἀπωθεῖ πυκνουμένη καὶ κάτω ποιεῖ τοῦ θερμοῦ τὴν ῥῖψιν· διὰ δὲ τὴν θέσιν τῆς ἀναθυμιάσεως, ὅπως ἂν τύχῃ κειμένη τοῦ πλάτους καὶ τοῦ βάθους, οὕτω φέρεται ἢ ἄνω ἢ κάτω ἢ εἰς τὸ πλάγιον. τὰ πλεῖστα δ’ εἰς τὸ πλάγιον διὰ τὸ δύο φέρεσθαι φοράς, βίᾳ μὲν κάτω, φύσει δ’ ἄνω· πάντα γὰρ κατὰ τὴν διάμετρον φέρεται τὰ τοιαῦτα. διὸ καὶ τῶν διαθεόντων ἀστέρων ἡ πλείστη λοξὴ γίγνεται φορά. πάντων δὴ τούτων αἴτιον ὡς μὲν ὕλη ἡ ἀναθυμίασις, ὡς δὲ τὸ κινοῦν ὁτὲ μὲν ἡ ἄνω φορά, ὁτὲ δ’ ἡ τοῦ ἀέρος συγκρινομένου πῆξις. πάντα δὲ κάτω ταῦτα σελήνης γίγνεται. σημεῖον δ’ ἡ φαινομένη αὐτῶν ταχυτὴς ὁμοία οὖσα τοῖς ὑφ’ ἡμῶν ῥιπτουμένοις, ἃ διὰ τὸ πλησίον εἶναι ἡμῶν πολὺ δοκεῖ τῷ τάχει παραλλάττειν ἄστρα τε καὶ ἥλιον καὶ σελήνην.

φαίνεται δέ ποτε συνιστάμενα νύκτωρ αἰθρίας οὔσης πολλὰ φάσματα ἐν τῷ οὐρανῷ, οἷον χάσματά τε καὶ βόθυνοι καὶ αἱματώδη χρώματα. αἴτιον δὲ ἐπὶ τούτων τὸ [342b] αὐτό· ἐπεὶ γὰρ φανερός ἐστι συνιστάμενος ὁ ἄνω ἀὴρ ὥστ’ ἐκπυροῦσθαι, καὶ τὴν ἐκπύρωσιν ὁτὲ μὲν τοιαύτην γίγνεσθαι ὥστε φλόγα δοκεῖν καίεσθαι, ὁτὲ δὲ οἷον δαλοὺς φέρεσθαι καὶ ἀστέρας, οὐδὲν ἄτοπον εἰ χρωματίζεται ὁ αὐτὸς οὗτος ἀὴρ συνιστάμενος παντοδαπὰς χρόας· διά τε γὰρ πυκνοτέρου διαφαινόμενον ἔλαττον φῶς καὶ ἀνάκλασιν δεχόμενος ὁ ἀὴρ παντοδαπὰ χρώματα ποιήσει, μάλιστα δὲ φοινικοῦν ἢ πορφυροῦν, διὰ τὸ ταῦτα μάλιστα ἐκ τοῦ πυρώδους καὶ λευκοῦ φαίνεσθαι μειγνυμένων κατὰ τὰς ἐπιπροσθήσεις, οἷον ἀνίσχοντα τὰ ἄστρα καὶ δυόμενα, ἐὰν ᾖ καῦμα, καὶ διὰ καπνοῦ φοινικᾶ φαίνεται. καὶ τῇ ἀνακλάσει δὲ ποιήσει, ὅταν τὸ ἔνοπτρον ᾖ τοιοῦτον ὥστε μὴ τὸ σχῆμα ἀλλὰ τὸ χρῶμα δέχεσθαι. τοῦ δὲ μὴ πολὺν χρόνον μένειν ταῦτα ἡ σύστασις αἰτία ταχεῖα οὖσα. τὰ δὲ χάσματα ἀναρρηγνυμένου τοῦ φωτὸς ἐκ κυανοῦ καὶ μέλανος ποιεῖ τι βάθος ἔχειν δοκεῖν. πολλάκις δ’ ἐκ τῶν τοιούτων καὶ δαλοὶ ἐκπίπτουσιν, ὅταν συγκριθῇ μᾶλλον· συνιὸν δ’ ἔτι χάσμα [342b.18] δοκεῖ. ὅλως δ’ ἐν τῷ μέλανι τὸ λευκὸν πολλὰς ποιεῖ ποικιλίας, οἷον ἡ φλὸξ ἐν τῷ καπνῷ. ἡμέρας μὲν οὖν ὁ ἥλιος κωλύει, νυκτὸς δ’ ἔξω τοῦ φοινικοῦ τὰ ἄλλα δι’ ὁμόχροιαν οὐ φαίνεται. περὶ μὲν οὖν τῶν διαθεόντων ἀστέρων καὶ τῶν ἐκπυρουμένων, ἔτι δὲ τῶν ἄλλων τῶν τοιούτων φασμάτων ὅσα ταχείας ποιεῖται τὰς φαντασίας, ταύτας ὑπολαβεῖν δεῖ τὰς αἰτίας.

περὶ δὲ τῶν κομητῶν καὶ τοῦ καλουμένου γάλακτος λέγωμεν, διαπορήσαντες πρὸς τὰ παρὰ τῶν ἄλλων εἰρημένα πρῶτον. Ἀναξαγόρας μὲν οὖν καὶ Δημόκριτός φασιν εἶναι τοὺς κομήτας σύμφασιν τῶν πλανήτων ἀστέρων, ὅταν διὰ τὸ πλησίον ἐλθεῖν δόξωσι θιγγάνειν ἀλλήλων. τῶν δ’ Ἰταλικῶν τινες καλουμένων Πυθαγορείων ἕνα λέγουσιν αὐτὸν εἶναι τῶν πλανήτων ἀστέρων, ἀλλὰ διὰ πολλοῦ τε χρόνου τὴν φαντασίαν αὐτοῦ εἶναι καὶ τὴν ὑπερβολὴν ἐπὶ μικρόν, ὅπερ συμβαίνει καὶ περὶ τὸν τοῦ Ἑρμοῦ ἀστέρα· διὰ γὰρ τὸ μικρὸν ἐπαναβαίνειν πολλὰς ἐκλείπει φάσεις, ὥστε διὰ χρόνου φαίνεσθαι πολλοῦ. παραπλησίως δὲ τούτοις καὶ οἱ περὶ Ἱπποκράτην τὸν Χῖον καὶ τὸν μαθητὴν αὐτοῦ [343a] Αἰσχύλον ἀπεφήναντο, πλὴν τήν γε κόμην οὐκ ἐξ αὑτοῦ φασιν ἔχειν, ἀλλὰ πλανώμενον διὰ τὸν τόπον ἐνίοτε λαμβάνειν ἀνακλωμένης τῆς ἡμετέρας ὄψεως ἀπὸ τῆς ἑλκομένης ὑγρότητος ὑπ’ αὐτοῦ πρὸς τὸν ἥλιον. διὰ δὲ τὸ ὑπολείπεσθαι βραδύτατα τῷ χρόνῳ διὰ πλείστου χρόνου φαίνεσθαι τῶν ἄλλων ἄστρων, ὡς ὅταν ἐκ ταὐτοῦ φανῇ ὑπολελειμμένον ὅλον τὸν ἑαυτοῦ κύκλον· ὑπολείπεσθαι δ’ αὐτὸν καὶ πρὸς ἄρκτον καὶ πρὸς νότον. ἐν μὲν οὖν τῷ μεταξὺ τόπῳ τῶν τροπικῶν οὐχ ἕλκειν τὸ ὕδωρ πρὸς ἑαυτὸν διὰ τὸ κεκαῦσθαι ὑπὸ τῆς τοῦ ἡλίου φορᾶς· πρὸς δὲ νότον ὅταν φέρηται, δαψίλειαν μὲν ἔχειν τῆς τοιαύτης νοτίδος, ἀλλὰ διὰ τὸ μικρὸν εἶναι τὸ ὑπὲρ τῆς γῆς τμῆμα τοῦ κύκλου, τὸ δὲ κάτω πολλαπλάσιον, οὐ δύνασθαι τὴν ὄψιν τῶν ἀνθρώπων φέρεσθαι κλωμένην πρὸς τὸν ἥλιον οὔτε τῷ τροπικῷ τόπῳ πλησιάζοντος οὔτ’ ἐπὶ θεριναῖς τροπαῖς ὄντος τοῦ ἡλίου· διόπερ ἐν τούτοις μὲν τοῖς τόποις οὐ γίγνεσθαι κομήτην αὐτόν· ὅταν δὲ πρὸς βορέαν ὑπολειφθεὶς τύχῃ, λαμβάνειν κόμην διὰ τὸ μεγάλην εἶναι τὴν περιφέρειαν τὴν ἄνωθεν τοῦ ὁρίζοντος, τὸ δὲ κάτω μέρος τοῦ κύκλου μικρόν· ῥᾳδίως γὰρ τὴν ὄψιν τῶν ἀνθρώπων ἀφικνεῖσθαι τότε πρὸς τὸν ἥλιον. πᾶσιν δὲ τούτοις τὰ μὲν κοινῇ συμπίπτει λέγειν ἀδύνατα, τὰ δὲ χωρίς. πρῶτον μὲν οὖν τοῖς λέγουσιν ὅτι τῶν πλανωμένων ἐστὶν εἷς ἀστέρων ὁ κομήτης· οἱ γὰρ πλανώμενοι πάντες ἐν τῷ κύκλῳ ὑπολείπονται τῷ τῶν ζῳδίων, κομῆται δὲ πολλοὶ ἑωραμένοι εἰσὶν ἔξω τοῦ κύκλου. εἶτα καὶ πλείους ἑνὸς ἅμα γεγένηνται πολλάκις. πρὸς δὲ τούτοις, εἰ διὰ τὴν ἀνάκλασιν τὴν κόμην ἴσχουσι, καθάπερ φησὶν Αἰσχύλος καὶ Ἱπποκράτης, ἔδει ποτὲ φαίνεσθαι καὶ ἄνευ κόμης τὸν ἀστέρα τοῦτον, ἐπειδήπερ ὑπολείπεται μὲν καὶ εἰς ἄλλους τόπους, τὴν δὲ κόμην ἴσχει οὐ πανταχοῦ· νῦν δ’ οὐδεὶς ὦπται παρὰ τοὺς πέντε ἀστέρας· οὗτοι δὲ πολλάκις ἅμα πάντες μετέωροι φαίνονται ὑπὲρ τοῦ ὁρίζοντος. καὶ φανερῶν δὲ ὄντων αὐτῶν ἁπάντων καὶ μὴ φαινομένων πάντων, ἀλλ’ ἐνίων ὄντων πρὸς τῷ ἡλίῳ, οὐδὲν ἧττον κομῆται φαίνονται γιγνόμενοι πολλάκις. ἀλλὰ μὴν οὐδὲ τοῦτο ἀληθές, ὡς ἐν τῷ πρὸς ἄρκτον τόπῳ γίγνεται κομήτης μόνον, ἅμα καὶ τοῦ ἡλίου [343b] ὄντος περὶ θερινὰς τροπάς· ὅ τε γὰρ μέγας κομήτης ὁ γενόμενος περὶ τὸν ἐν Ἀχαΐᾳ σεισμὸν καὶ τὴν τοῦ κύματος ἔφοδον ἀπὸ δυσμῶν τῶν ἰσημερινῶν ἀνέσχεν, καὶ πρὸς νότον ἤδη πολλοὶ γεγόνασιν. ἐπὶ δ’ ἄρχοντος Ἀθήνησιν Εὐκλέους τοῦ Μόλωνος ἐγένετο κομήτης ἀστὴρ πρὸς ἄρκτον μηνὸς Γαμηλιῶνος περὶ τροπὰς ὄντος τοῦ ἡλίου χειμερινάς· καίτοι τοσοῦτον ἀνακλασθῆναι καὶ αὐτοὶ τῶν ἀδυνάτων εἶναί φασι. κοινὸν δὲ καὶ τούτοις καὶ τοῖς τὴν σύναψιν λέγουσιν πρῶτον μὲν ὅτι καὶ τῶν ἀπλανῶν λαμβάνουσι κόμην τινές. καὶ τοῦτ’ οὐ μόνον Αἰγυπτίοις πιστεῦσαι δεῖ, καίτοι κἀκεῖνοί φασιν, ἀλλὰ καὶ ἡμεῖς ἐφεωράκαμεν· τῶν γὰρ ἐν τῷ ἰσχίῳ τοῦ κυνὸς ἀστήρ τις ἔσχε κόμην, ἀμαυρὰν μέντοι· ἀτενίζουσιν μὲν γὰρ εἰς αὐτὸν ἀμυδρὸν ἐγίγνετο τὸ φέγγος, παραβλέπουσι δ’ ἠρέμα τὴν ὄψιν πλέον. πρὸς δὲ τούτοις ἅπαντες οἱ καθ’ ἡμᾶς ὠμμένοι ἄνευ δύσεως ἠφανίσθησαν ἐν τῷ ὑπὲρ τοῦ ὁρίζοντος τόπῳ ἀπομαρανθέντες κατὰ μικρὸν οὕτως, ὥστε μήτε ἑνὸς ἀστέρος ὑπολειφθῆναι σῶμα μήτε πλειόνων, ἐπεὶ καὶ ὁ μέγας ἀστὴρ περὶ οὗ πρότερον ἐμνήσθημεν ἐφάνη μὲν χειμῶνος ἐν πάγοις καὶ αἰθρίαις ἀφ' ἑσπέρας, ἐπὶ Ἀστείου ἄρχοντος, καὶ τῇ μὲν πρώτῃ οὐκ ὤφθη ὡς προδεδυκὼς τοῦ ἡλίου, τῇ δ' ὑστεραίᾳ ὤφθη· ὅσον ἐνδέχεται γὰρ ἐλάχιστον ὑπελείφθη, καὶ εὐθὺς ἔδυ· τὸ δὲ φέγγος ἀπέτεινε μέχρι τοῦ τρίτου μέρους τοῦ οὐρανοῦ οἷον ἅλμα· διὸ καὶ ἐκλήθη ὁδός. ἐπανῆλθε δὲ μέχρι τῆς ζώνης τοῦ Ὠρίωνος, καὶ ἐνταυθοῖ διελύθη. καίτοι Δημόκριτός γε προσπεφιλονείκηκεν τῇ δόξῃ τῇ αὑτοῦ· φησὶ γὰρ ὦφθαι διαλυομένων τῶν κομητῶν ἀστέρας τινάς. τοῦτο δὲ οὐχ ὁτὲ μὲν ἔδει γίγνεσθαι ὁτὲ δὲ οὔ, ἀλλ' ἀεί. πρὸς δὲ τούτοις καὶ οἱ Αἰγύπτιοί φασι καὶ τῶν πλανήτων καὶ πρὸς αὑτοὺς καὶ πρὸς τοὺς ἀπλανεῖς γίγνεσθαι συνόδους, καὶ αὐτοὶ ἑωράκαμεν τὸν ἀστέρα τὸν τοῦ Διὸς τῶν ἐν τοῖς διδύμοις συνελθόντα τινὶ ἤδη καὶ ἀφανίσαντα, ἀλλ' οὐ κομήτην γενόμενον. ἔτι δὲ καὶ ἐκ τοῦ λόγου φανερόν· οἱ γὰρ ἀστέρες κἂν εἰ μείζους καὶ ἐλάττους φαίνονται, ἀλλ' ὅμως ἀδιαίρετοί γε καθ' ἑαυτοὺς εἶναι δοκοῦσιν. ὥσπερ οὖν καὶ εἰ ἦσαν ἀδιαίρετοι, ἁψάμενοι οὐδὲν ἂν ἐποίησαν μέγεθος μεῖζον, οὕτως καὶ ἐπειδὴ οὐκ εἰσὶν μὲν φαίνονται δὲ [344a] ἀδιαίρετοι, καὶ συνελθόντες οὐδὲν φανοῦνται μείζους τὸ μέγεθος ὄντες. ὅτι μὲν οὖν αἱ λεγόμεναι περὶ αὐτῶν αἰτίαι ψευδεῖς οὖσαι τυγχάνουσιν, εἰ μὴ διὰ πλειόνων, ἀλλὰ καὶ διὰ τούτων ἱκανῶς δῆλόν ἐστιν.

ἐπεὶ δὲ περὶ τῶν ἀφανῶν τῇ αἰσθήσει νομίζομεν ἱκανῶς ἀποδεδεῖχθαι κατὰ τὸν λόγον, ἐὰν εἰς τὸ δυνατὸν ἀναγάγωμεν, ἔκ τε τῶν νῦν φαινομένων ὑπολάβοι τις ἂν ὧδε περὶ τούτων μάλιστα συμβαίνειν· ὑπόκειται γὰρ ἡμῖν τοῦ κόσμου τοῦ περὶ τὴν γῆν, ὅσον ὑπὸ τὴν ἐγκύκλιόν ἐστιν φοράν, εἶναι τὸ πρῶτον μέρος ἀναθυμίασιν ξηρὰν καὶ θερμήν· αὕτη δὲ αὐτή τε καὶ τοῦ συνεχοῦς ὑπ' αὐτὴν ἀέρος ἐπὶ πολὺ συμπεριάγεται περὶ τὴν γῆν ὑπὸ τῆς φορᾶς καὶ τῆς κινήσεως τῆς κύκλῳ· φερομένη δὲ καὶ κινουμένη τοῦτον τὸν τρόπον, ᾗ ἂν τύχῃ εὔκρατος οὖσα, πολλάκις ἐκπυροῦται· διό φαμεν γίγνεσθαι καὶ τὰς τῶν σποράδων ἀστέρων διαδρομάς. ὅταν οὖν εἰς τὴν τοιαύτην πύκνωσιν ἐμπέσῃ διὰ τὴν ἄνωθεν κίνησιν ἀρχὴ πυρώδης, μήτε οὕτω πολλὴ λίαν ὥστε ταχὺ καὶ ἐπὶ πολὺ ἐκκαίειν, μήθ' οὕτως ἀσθενὴς ὥστε ἀποσβεσθῆναι ταχύ, ἀλλὰ πλείων καὶ ἐπὶ πολύ, ἅμα δὲ κάτωθεν συμπίπτῃ ἀναβαίνειν εὔκρατον ἀναθυμίασιν, ἀστὴρ τοῦτο γίγνεται κομήτης, ὅπως ἂν τὸ ἀναθυμιώμενον τύχῃ ἐσχηματισμένον· ἐὰν μὲν γὰρ πάντῃ ὁμοίως, κομήτης, ἐὰν δ' ἐπὶ μῆκος, καλεῖται πωγωνίας. ὥσπερ δὲ ἡ τοιαύτη φορὰ ἀστέρος φορὰ δοκεῖ εἶναι, οὕτως καὶ ἡ μονὴ ἡ ὁμοία ἀστέρος μονὴ δοκεῖ εἶναι· παραπλήσιον γὰρ τὸ γιγνόμενον οἷον εἴ τις εἰς ἀχύρων θημῶνα καὶ πλῆθος ὤσειε δαλὸν ἢ πυρὸς ἀρχὴν ἐμβάλοι μικράν· φαίνεται γὰρ ὁμοία καὶ ἡ τῶν ἀστέρων διαδρομὴ τούτῳ· ταχὺ γὰρ διὰ τὴν εὐφυΐαν τοῦ [344a.29] ὑπεκκαύματος διαδίδωσιν ἐπὶ μῆκος. εἰ δὴ τοῦτο μείνειε καὶ μὴ καταμαρανθείη διελθόν, ᾗ μάλιστα ἐπύκνωσε τὸ ὑπέκκαυμα, γένοιτ' ἂν ἀρχὴ τῆς φορᾶς ἡ τελευτὴ τῆς διαδρομῆς. τοιοῦτον ὁ κομήτης ἐστὶν ἀστήρ, ὥσπερ διαδρομὴ ἀστέρος, ἔχων ἐν ἑαυτῷ πέρας καὶ ἀρχήν. ὅταν μὲν οὖν ἐν αὐτῷ τῷ κάτω τόπῳ ἡ ἀρχὴ τῆς συστάσεως ᾖ, καθ' ἑαυτὸν φαίνεται κομήτης· ὅταν δ' ὑπὸ τῶν ἄστρων τινός, ἢ τῶν ἀπλανῶν ἢ τῶν πλανήτων, ὑπὸ τῆς κινήσεως συνιστῆται ἡ [344b] ἀναθυμίασις, τότε κομήτης γίγνεται τούτων τις· οὐ γὰρ πρὸς αὐτοῖς ἡ κόμη γίγνεται τοῖς ἄστροις, ἀλλ' ὥσπερ αἱ ἅλῳ περὶ τὸν ἥλιον φαίνονται καὶ τὴν σελήνην παρακολουθοῦσαι, καίπερ μεθισταμένων, ὅταν οὕτως ᾖ πεπυκνωμένος ὁ ἀὴρ ὥστε τοῦτο γίγνεσθαι τὸ πάθος ὑπὸ τὴν τοῦ ἡλίου πορείαν, οὕτω καὶ ἡ κόμη τοῖς ἄστροις οἷον ἅλως ἐστίν· πλὴν ἡ μὲν γίγνεται δι' ἀνάκλασιν τοιαύτη τὴν χρόαν, ἐκεῖ δ' ἐπ' αὐτῶν τὸ χρῶμα φαινόμενόν ἐστιν. ὅταν μὲν οὖν κατ' ἀστέρα γένηται ἡ τοιαύτη σύγκρισις, τὴν αὐτὴν ἀνάγκη φαίνεσθαι φορὰν κινούμενον τὸν κομήτην ἥνπερ φέρεται ὁ ἀστήρ· ὅταν δὲ συστῇ καθ' αὐτόν, τότε ὑπολειπόμενοι φαίνονται. τοιαύτη γὰρ ἡ φορὰ τοῦ κόσμου τοῦ περὶ τὴν γῆν. τοῦτο γὰρ μάλιστα μηνύει μὴ εἶναι ἀνάκλασίν τινα τὸν κομήτην, ὡς ἅλω ἐν ὑπεκκαύματι καθαρῷ πρὸς αὐτὸν τὸν ἀστέρα γιγνομένην, καὶ μὴ ὡς λέγουσιν οἱ περὶ Ἱπποκράτην, πρὸς τὸν ἥλιον, ὅτι καὶ καθ' αὐτὸν γίγνεται κομήτης πολλάκις καὶ πλεονάκις ἢ περὶ τῶν ὡρισμένων τινὰς ἀστέρων. περὶ μὲν οὖν τῆς ἅλω τὴν αἰτίαν ὕστερον ἐροῦμεν· περὶ δὲ τοῦ πυρώδη τὴν σύστασιν αὐτῶν εἶναι τεκμήριον χρὴ νομίζειν ὅτι σημαίνουσι γιγνόμενοι πλείους πνεύματα καὶ αὐχμούς· δῆλον γὰρ ὅτι γίγνονται διὰ τὸ πολλὴν εἶναι τὴν τοιαύτην ἔκκρισιν, ὥστε ξηρότερον ἀναγκαῖον εἶναι τὸν ἀέρα, καὶ διακρίνεσθαι καὶ διαλύεσθαι τὸ διατμίζον ὑγρὸν ὑπὸ τοῦ πλήθους τῆς θερμῆς ἀναθυμιάσεως, ὥστε μὴ συνίστασθαι ῥᾳδίως εἰς ὕδωρ. σαφέστερον δ' ἐροῦμεν καὶ περὶ τούτου τοῦ πάθους, ὅταν καὶ περὶ πνευμάτων λέγειν ᾖ καιρός. ὅταν μὲν οὖν πυκνοὶ καὶ πλείους φαίνωνται, καθάπερ λέγομεν, ξηροὶ καὶ πνευματώδεις γίγνονται οἱ ἐνιαυτοὶ ἐπιδήλως· ὅταν δὲ σπανιώτεροι καὶ ἀμαυρότεροι τὸ μέγεθος, ὁμοίως μὲν οὐ γίγνεται τὸ τοιοῦτον, οὐ μὴν ἀλλ' ὡς ἐπὶ τὸ πολὺ γίγνεταί τις ὑπερβολὴ πνεύματος ἢ κατὰ χρόνον ἢ κατὰ μέγεθος, ἐπεὶ καὶ ὅτε ὁ ἐν Αἰγὸς ποταμοῖς ἔπεσε λίθος ἐκ τοῦ ἀέρος, ὑπὸ πνεύματος ἀρθεὶς ἐξέπεσε μεθ' ἡμέραν· ἔτυχε δὲ καὶ τότε κομήτης ἀστὴρ γενόμενος ἀφ’ ἑσπέρας. καὶ περὶ τὸν μέγαν ἀστέρα τὸν κομήτην ξηρὸς ἦν ὁ χειμὼν καὶ βόρειος, καὶ τὸ κῦμα δι’ ἐναντίωσιν ἐγένετο πνευμάτων· ἐν μὲν γὰρ τῷ κόλπῳ [345a] βορέας κατεῖχεν, ἔξω δὲ νότος ἔπνευσε μέγας. ἔτι δ’ ἐπ’ ἄρχοντος Νικομάχου ἐγένετο ὀλίγας ἡμέρας κομήτης περὶ τὸν ἰσημερινὸν κύκλον, οὐκ ἀφ’ ἑσπέρας ποιησάμενος τὴν ἀνατολήν, ἐφ’ ᾧ τὸ περὶ Κόρινθον πνεῦμα γενέσθαι συνέπεσεν. τοῦ δὲ μὴ γίγνεσθαι πολλοὺς μηδὲ πολλάκις κομήτας, καὶ μᾶλλον ἐκτὸς τῶν τροπικῶν ἢ ἐντός, αἴτιος ἡ τοῦ ἡλίου καὶ ἡ τῶν ἀστέρων κίνησις, οὐ μόνον ἐκκρίνουσα τὸ θερμόν, ἀλλὰ καὶ διακρίνουσα τὸ συνιστάμενον. μάλιστα δ’ αἴτιον ὅτι τὸ πλεῖστον εἰς τὴν τοῦ γάλακτος ἀθροίζεται χώραν.

ὅπως δὲ καὶ διὰ τίν’ αἰτίαν γίγνεται καὶ τί ἐστι τὸ γάλα, λέγωμεν ἤδη. προδιέλθωμεν δὲ καὶ περὶ τούτου τὰ παρὰ τῶν ἄλλων εἰρημένα πρῶτον. τῶν μὲν οὖν καλουμένων Πυθαγορείων φασί τινες ὁδὸν εἶναι ταύτην οἱ μὲν τῶν ἐκπεσόντων τινὸς ἀστέρων, κατὰ τὴν λεγομένην ἐπὶ Φαέθοντος φθοράν, οἱ δὲ τὸν ἥλιον τοῦτον τὸν κύκλον φέρεσθαί ποτέ φασιν· οἷον οὖν διακεκαῦσθαι τὸν τόπον τοῦτον ἤ τι τοιοῦτον ἄλλο πεπονθέναι πάθος ὑπὸ τῆς φορᾶς αὐτῶν. ἄτοπον δὲ τὸ μὴ συννοεῖν ὅτι εἴπερ τοῦτ’ ἦν τὸ αἴτιον, ἔδει καὶ τὸν τῶν ζῳδίων κύκλον οὕτως ἔχειν, καὶ μᾶλλον ἢ τὸν τοῦ γάλακτος· ἅπαντα γὰρ ἐν αὐτῷ φέρεται τὰ πλανώμενα καὶ οὐχ ὁ ἥλιος μόνος. δῆλος δ’ ἡμῖν ἅπας ὁ κύκλος· αἰεὶ γὰρ αὐτοῦ φανερὸν ἡμικύκλιον τῆς νυκτός. ἀλλὰ πεπονθὼς οὐδὲν φαίνεται τοιοῦτον, πλὴν εἴ τι συνάπτει μόριον αὐτοῦ πρὸς τὸν τοῦ γάλακτος κύκλον. οἱ δὲ περὶ Ἀναξαγόραν καὶ Δημόκριτον φῶς εἶναι τὸ γάλα λέγουσιν ἄστρων τινῶν· τὸν γὰρ ἥλιον ὑπὸ τὴν γῆν φερόμενον οὐχ ὁρᾶν ἔνια τῶν ἄστρων. ὅσα μὲν οὖν περιορᾶται ὑπ’ αὐτοῦ, τούτων μὲν οὐ φαίνεσθαι τὸ φῶς (κωλύεσθαι γὰρ ὑπὸ τῶν τοῦ ἡλίου ἀκτίνων)· ὅσοις δ’ ἀντιφράττει ἡ γῆ ὥστε μὴ ὁρᾶσθαι ὑπὸ τοῦ ἡλίου, τὸ τούτων οἰκεῖον φῶς εἶναί φασι τὸ γάλα. φανερὸν δ’ ὅτι καὶ τοῦτ’ ἀδύνατον· τὸ μὲν γὰρ γάλα ἀεὶ τὸ αὐτὸ ἐν τοῖς αὐτοῖς ἐστιν ἄστροις (φαίνεται γὰρ μέγιστος ὢν κύκλος), ὑπὸ δὲ τοῦ ἡλίου ἀεὶ ἕτερα τὰ οὐχ ὁρώμενα διὰ τὸ μὴ ἐν ταὐτῷ μένειν τόπῳ. ἔδει οὖν μεθισταμένου τοῦ ἡλίου μεθίστασθαι καὶ τὸ γάλα· νῦν δὲ οὐ φαίνεται τοῦτο γιγνόμενον. πρὸς [345b] δὲ τούτοις, εἰ καθάπερ δείκνυται νῦν ἐν τοῖς περὶ ἀστρολογίαν θεωρήμασιν, τὸ τοῦ ἡλίου μέγεθος μεῖζόν ἐστιν ἢ τὸ τῆς γῆς καὶ τὸ διάστημα πολλαπλασίως μεῖζον τὸ τῶν ἄστρων πρὸς τὴν γῆν ἢ τὸ τοῦ ἡλίου, καθάπερ τὸ τοῦ ἡλίου πρὸς τὴν γῆν ἢ τὸ τῆς σελήνης, οὐκ ἂν πόρρω που τῆς γῆς ὁ κῶνος ὁ ἀπὸ τοῦ ἡλίου συμβάλλοι τὰς ἀκτῖνας, οὐδ’ ἂν ἡ σκιὰ πρὸς τοῖς ἄστροις εἴη τῆς γῆς, ἡ καλουμένη νύξ· ἀλλ' ἀνάγκη πάντα τὸν ἥλιον τὰ ἄστρα περιορᾶν, καὶ μηδενὶ τὴν γῆν ἀντιφράττειν αὐτῶν. ἔτι δ' ἐστὶν τρίτη τις ὑπόληψις περὶ αὐτοῦ· λέγουσιν γάρ τινες ἀνάκλασιν εἶναι τὸ γάλα τῆς ἡμετέρας ὄψεως πρὸς τὸν ἥλιον, ὥσπερ καὶ τὸν ἀστέρα τὸν κομήτην. ἀδύνατον δὲ καὶ τοῦτο· εἰ μὲν γὰρ τό τε ὁρῶν ἠρεμοίη καὶ τὸ ἔνοπτρον καὶ τὸ ὁρώμενον ἅπαν, ἐν τῷ αὐτῷ σημείῳ τοῦ ἐνόπτρου τὸ αὐτὸ φαίνοιτ' ἂν μέρος τῆς ἐμφάσεως· εἰ δὲ κινοῖτο τὸ ἔνοπτρον καὶ τὸ ὁρώμενον ἐν τῷ αὐτῷ μὲν ἀποστήματι πρὸς τὸ ὁρῶν καὶ ἠρεμοῦν, πρὸς ἄλληλα δὲ μήτε ἰσοταχῶς μηδ' ἐν τῷ αὐτῷ ἀεὶ διαστήματι, ἀδύνατον τὴν αὐτὴν ἔμφασιν ἐπὶ τοῦ αὐτοῦ εἶναι μέρους τοῦ ἐνόπτρου. τὰ δ' ἐν τῷ τοῦ γάλακτος κύκλῳ φερόμενα ἄστρα κινεῖται καὶ ὁ ἥλιος πρὸς ὃν ἡ ἀνάκλασις, μενόντων ἡμῶν, καὶ ὁμοίως καὶ ἴσον πρὸς ἡμᾶς ἀπέχοντα, αὐτῶν δ' οὐκ ἴσον· ὁτὲ μὲν γὰρ μέσων νυκτῶν ὁ δελφὶς ἐπιτέλλει, ὁτὲ δὲ ἕωθεν, τὰ δὲ μόρια τοῦ γάλακτος τὰ αὐτὰ μένει ἐν ἑκάστῳ. καίτοι οὐκ ἔδει, εἰ ἦν ἔμφασις, ἀλλὰ μὴ ἐν αὐτοῖς τι ἦν τοῦτο τὸ πάθος τοῖς τόποις. ἔτι δὲ νύκτωρ ἐν ὕδατι καὶ τοῖς τοιούτοις ἐνόπτροις τὸ μὲν γάλα ἐμφαίνεται θεωροῦσι, τὸ δὲ τὴν ὄψιν ἀνακλᾶσθαι πρὸς τὸν ἥλιον πῶς δυνατόν; ὅτι μὲν οὖν οὔτε ὁδὸς τῶν πλανήτων οὐδενὸς οὔτε φῶς ἐστι τῶν μὴ ὁρωμένων ἄστρων οὔτ' ἀνάκλασις, ἐκ τούτων φανερόν. σχεδὸν δὲ ταῦτ' ἐστὶν μόνον τὰ μέχρι τοῦ νῦν παραδεδομένα παρὰ τῶν ἄλλων. ἡμεῖς δὲ λέγωμεν ἀναλαβόντες τὴν ὑποκειμένην ἀρχὴν ἡμῖν. εἴρηται γὰρ πρότερον ὅτι τὸ ἔσχατον τοῦ λεγομένου ἀέρος δύναμιν ἔχει πυρός, ὥστε τῇ κινήσει διακρινομένου τοῦ ἀέρος ἀποκρίνεσθαι τοιαύτην σύστασιν οἵαν καὶ τοὺς κομήτας ἀστέρας εἶναί φαμεν. τοιοῦτον δὴ δεῖ νοῆσαι γιγνόμενον ὅπερ ἐπ' ἐκείνων, ὅταν μὴ αὐτὴ [346a] καθ' αὑτὴν γένηται ἡ τοιαύτη ἔκκρισις, ἀλλ' ὑπό τινος τῶν [346a.2] ἄστρων ἢ τῶν ἐνδεδεμένων ἢ τῶν πλανωμένων· τότε γὰρ οὗτοι φαίνονται κομῆται διὰ τὸ παρακολουθεῖν αὐτῶν τῇ φορᾷ ὥσπερ τῷ ἡλίῳ τὴν τοιαύτην σύγκρισιν, ἀφ' ἧς διὰ τὴν ἀνάκλασιν τὴν ἅλω φαίνεσθαί φαμεν, ὅταν οὕτω τύχῃ κεκραμένος ὁ ἀήρ. ὃ δὴ καθ' ἕνα συμβαίνει τῶν ἀστέρων, τοῦτο δεῖ λαβεῖν γιγνόμενον περὶ ὅλον τὸν οὐρανὸν καὶ τὴν ἄνω φορὰν ἅπασαν· εὔλογον γάρ, εἴπερ ἡ ἑνὸς ἄστρου κίνησις, καὶ τὴν τῶν πάντων ποιεῖν τι τοιοῦτον καὶ ἐκριπίζειν ἀέρα [346a] τε καὶ διακρίνειν διὰ τὸ τοῦ κύκλου μέγεθος. <ἀνάγκη τοίνυν τῶν αὐτῶν μεγίστων κύκλων μάλιστα τὴν μέλλουσαν τοῦτο ποιήσειν φοράν. . . χρὴ γὰρ τοῦτο, ἵνα πολλὴ κίνησις ᾖ διὰ τὸ μέγεθος γιγνομένη καὶ πλείονα τὴν ἔξαψιν ποιήσῃ.> [346a.10] καὶ πρὸς τούτοις ἔτι καθ' ὃν τόπον πυκνότατα καὶ πλεῖστα καὶ μέγιστα τυγχάνουσιν ὄντα τῶν ἄστρων. ὁ μὲν οὖν τῶν ζῳδίων διὰ τὴν τοῦ ἡλίου φορὰν καὶ τὴν τῶν πλανητῶν διαλύει τὴν τοιαύτην σύστασιν· διόπερ οἱ πολλοὶ τῶν κομητῶν ἐκτὸς γίγνονται τῶν τροπικῶν. ἔτι δ’ οὔτε περὶ τὸν ἥλιον οὔτε περὶ σελήνην γίγνεται κόμη· θᾶττον γὰρ διακρίνουσιν ἢ ὥστε συστῆναι τοιαύτην σύγκρισιν. οὗτος δ’ ὁ κύκλος ἐν ᾧ τὸ γάλα φαίνεται τοῖς ὁρῶσιν, ὅ τε μέγιστος ὢν τυγχάνει καὶ τῇ θέσει κείμενος οὕτως ὥστε πολὺ τοὺς τροπικοὺς ὑπερβάλλειν. πρὸς δὲ τούτοις ἄστρων ὁ τόπος πλήρης ἐστὶν τῶν μεγίστων καὶ λαμπροτάτων, καὶ ἔτι τῶν σποράδων καλουμένων (τοῦτο δ’ ἐστὶν καὶ τοῖς ὄμμασιν ἰδεῖν φανερόν), ὥστε διὰ ταῦτα συνεχῶς καὶ ἀεὶ ταύτην πᾶσαν ἀθροίζεσθαι τὴν σύγκρισιν. σημεῖον δέ· καὶ γὰρ αὐτοῦ τοῦ κύκλου πλέον τὸ φῶς ἐστιν ἐν θατέρῳ ἡμικυκλίῳ τῷ τὸ δίπλωμα ἔχοντι· ἐν τούτῳ γὰρ πλείω καὶ πυκνότερά ἐστιν ἄστρα ἢ ἐν θατέρῳ, ὡς οὐ δι’ ἑτέραν τιν’ αἰτίαν γιγνομένου τοῦ φέγγους ἢ διὰ τὴν τῶν ἄστρων φοράν· εἰ γὰρ ἔν τε τῷ κύκλῳ τούτῳ γίγνεται ἐν ᾧ τὰ πλεῖστα κεῖται τῶν ἄστρων, καὶ αὐτοῦ τοῦ κύκλου ἐν ᾧ μᾶλλον φαίνεται καταπεπυκνῶσθαι καὶ μεγέθει καὶ πλήθει ἀστέρων, ταύτην εἰκὸς ὑπολαβεῖν οἰκειοτάτην αἰτίαν εἶναι τοῦ πάθους. θεωρείσθω δ’ ὅ τε κύκλος καὶ τὰ ἐν αὐτῷ ἄστρα ἐκ τῆς ὑπογραφῆς. τοὺς δὲ σποράδας καλουμένους οὕτω μὲν εἰς τὴν σφαῖραν οὐκ ἔσται τάξαι διὰ τὸ μηδεμίαν διὰ τέλους ἔχειν φανερὰν ἕκαστον θέσιν, εἰς δὲ τὸν οὐρανὸν ἀναβλέπουσίν ἐστι δῆλον· ἐν μόνῳ γὰρ τούτῳ τῶν κύκλων τὰ μεταξὺ πλήρη τοιούτων ἀστέρων ἐστίν, ἐν δὲ τοῖς ἄλλοις διαλείπει [346b] φανερῶς. ὥστ’ εἴπερ καὶ περὶ τοῦ φαίνεσθαι κομήτας ἀποδεχόμεθα τὴν αἰτίαν ὡς εἰρημένην μετρίως, καὶ περὶ τοῦ γάλακτος τὸν αὐτὸν ὑποληπτέον τρόπον ἔχειν· ὃ γὰρ ἐκεῖ περὶ ἕνα ἐστὶν πάθος ἡ κόμη, τοῦτο περὶ κύκλον τινὰ συμβαίνει γίγνεσθαι τὸ αὐτό, καὶ ἔστιν τὸ γάλα, ὡς εἰπεῖν οἷον ὁριζόμενον, ἡ τοῦ μεγίστου διὰ τὴν ἔκκρισιν κύκλου κόμη. διὸ καθάπερ πρότερον εἴπομεν, οὐ πολλοὶ οὐδὲ πολλάκις γίγνονται κομῆται, διὰ τὸ συνεχῶς ἀποκεκρίσθαι καὶ ἀποκρίνεσθαι καθ’ ἑκάστην περίοδον εἰς τοῦτον τὸν τόπον αἰεὶ τὴν τοιαύτην σύστασιν. περὶ μὲν οὖν τῶν γιγνομένων ἐν τῷ περὶ τὴν γῆν κόσμῳ τῷ συνεχεῖ ταῖς φοραῖς εἴρηται, περί τε τῆς διαδρομῆς τῶν ἄστρων καὶ τῆς ἐκπιμπραμένης φλογός, ἔτι δὲ περί τε κομητῶν καὶ τοῦ καλουμένου γάλακτος· σχεδὸν γάρ εἰσιν τοσαῦτα τὰ πάθη τὰ φαινόμενα περὶ τὸν τόπον τοῦτον.

περὶ δὲ τοῦ τῇ θέσει μὲν δευτέρου τόπου μετὰ τοῦτον, πρώτου δὲ περὶ τὴν γῆν, λέγωμεν· οὗτος γὰρ κοινὸς ὕδατός τε τόπος καὶ ἀέρος καὶ τῶν συμβαινόντων περὶ τὴν ἄνω γένεσιν αὐτοῦ. ληπτέον δὲ καὶ τούτων τὰς ἀρχὰς καὶ τὰς αἰτίας πάντων ὁμοίως. ἡ μὲν οὖν ὡς κινοῦσα καὶ κυρία καὶ πρώτη τῶν ἀρχῶν ὁ κύκλος ἐστίν, ἐν ᾧ φανερῶς ἡ τοῦ ἡλίου φορὰ διακρίνουσα καὶ συγκρίνουσα τῷ γίγνεσθαι πλησίον ἢ πορρώτερον αἰτία τῆς γενέσεως καὶ τῆς φθορᾶς ἐστι. μενούσης δὲ τῆς γῆς, τὸ περὶ αὐτὴν ὑγρὸν ὑπὸ τῶν ἀκτίνων καὶ ὑπὸ τῆς ἄλλης τῆς ἄνωθεν θερμότητος ἀτμιδούμενον φέρεται ἄνω· τῆς δὲ θερμότητος ἀπολιπούσης τῆς ἀναγούσης αὐτό, καὶ τῆς μὲν διασκεδαννυμένης πρὸς τὸν ἄνω τόπον, τῆς δὲ καὶ σβεννυμένης διὰ τὸ μετεωρίζεσθαι πορρώτερον εἰς τὸν ὑπὲρ τῆς γῆς ἀέρα, συνίσταται πάλιν ἡ ἀτμὶς ψυχομένη διά τε τὴν ἀπόλειψιν τοῦ θερμοῦ καὶ τὸν τόπον, καὶ γίγνεται ὕδωρ ἐξ ἀέρος· γενόμενον δὲ πάλιν φέρεται πρὸς τὴν γῆν. ἔστι δ’ ἡ μὲν ἐξ ὕδατος ἀναθυμίασις ἀτμίς, ἡ δ’ ἐξ ἀέρος εἰς ὕδωρ νέφος· ὁμίχλη δὲ νεφέλης περίττωμα τῆς εἰς ὕδωρ συγκρίσεως. διὸ σημεῖον μᾶλλόν ἐστιν εὐδίας ἢ ὑδάτων· οἷον γάρ ἐστιν ἡ ὁμίχλη νεφέλη ἄγονος. γίγνεται δὲ κύκλος οὗτος μιμούμενος τὸν τοῦ ἡλίου κύκλον· ἅμα γὰρ [347a] ἐκεῖνος εἰς τὰ πλάγια μεταβάλλει καὶ οὗτος ἄνω καὶ κάτω. δεῖ δὲ νοῆσαι τοῦτον ὥσπερ ποταμὸν ῥέοντα κύκλῳ ἄνω καὶ κάτω, κοινὸν ἀέρος καὶ ὕδατος· πλησίον μὲν γὰρ ὄντος τοῦ ἡλίου ὁ τῆς ἀτμίδος ἄνω ῥεῖ ποταμός, ἀφισταμένου δὲ ὁ τοῦ ὕδατος κάτω. καὶ τοῦτ’ ἐνδελεχὲς ἐθέλει γίγνεσθαι κατά γε τὴν τάξιν· ὥστ’ εἴπερ ᾐνίττοντο τὸν ὠκεανὸν οἱ πρότερον, τάχ’ ἂν τοῦτον τὸν ποταμὸν λέγοιεν τὸν κύκλῳ ῥέοντα περὶ τὴν γῆν. ἀναγομένου δὲ τοῦ ὑγροῦ αἰεὶ διὰ τὴν τοῦ θερμοῦ δύναμιν καὶ πάλιν φερομένου κάτω διὰ τὴν ψύξιν πρὸς τὴν γῆν, οἰκείως τὰ ὀνόματα τοῖς πάθεσιν κεῖται καί τισιν διαφοραῖς αὐτῶν· ὅταν μὲν γὰρ κατὰ μικρὰ φέρηται, ψακάδες, ὅταν δὲ κατὰ μείζω μόρια, ὑετὸς καλεῖται.

ἐκ δὲ τοῦ καθ’ ἡμέραν ἀτμίζοντος ὅσον ἂν μὴ μετεωρισθῇ δι’ ὀλιγότητα τοῦ ἀνάγοντος αὐτὸ πυρὸς πρὸς τὸ ἀναγόμενον ὕδωρ, πάλιν καταφερόμενον ὅταν ψυχθῇ νύκτωρ, καλεῖται δρόσος καὶ πάχνη, πάχνη μὲν ὅταν ἡ ἀτμὶς παγῇ πρὶν εἰς ὕδωρ συγκριθῆναι πάλιν (γίγνεται δὲ χειμῶνος, καὶ μᾶλλον ἐν τοῖς χειμερινοῖς τόποις), δρόσος δ’ ὅταν συγκριθῇ εἰς ὕδωρ ἡ ἀτμίς, καὶ μήθ’ οὕτως ἔχῃ ἡ ἀλέα ὥστε ξηρᾶναι τὸ ἀναχθέν, μήθ’ οὕτω ψῦχος ὥστε παγῆναι τὴν ἀτμίδα αὐτὴν διὰ τὸ ἢ τὸν τόπον ἀλεεινότερον ἢ τὴν ὥραν εἶναι· γίγνεται γὰρ μᾶλλον ἡ δρόσος ἐν εὐδίᾳ καὶ ἐν τοῖς εὐδιεινοτέροις τόποις, ἡ δὲ πάχνη, καθάπερ εἴρηται, τοὐναντίον· δῆλον γὰρ ὡς ἡ ἀτμὶς θερμότερον ὕδατος (ἔχει γὰρ τὸ ἀνάγον ἔτι πῦρ), ὥστε πλείονος ψυχρότητος αὐτὴν πῆξαι. γίγνεται δ’ ἄμφω αἰθρίας τε καὶ νηνεμίας· οὔτε γὰρ ἀναχθήσεται μὴ οὔσης αἰθρίας, οὔτε συστῆναι δύναιτ’ ἂν ἀνέμου πνέοντος. σημεῖον δ’ ὅτι γίγνεται ταῦτα διὰ τὸ μὴ πόρρω μετεωρίζεσθαι τὴν ἀτμίδα· ἐν γὰρ τοῖς ὄρεσιν οὐ γίγνεται πάχνη.

αἰτία δὲ μία μὲν αὕτη, ὅτι ἀνάγεται ἐκ τῶν κοίλων καὶ ἐφύδρων τόπων, ὥστε καθάπερ φορτίον φέρουσα πλέον ἡ ἀνάγουσα θερμότης ἢ καθ’ ἑαυτὴν οὐ δύναται μετεωρίζειν ἐπὶ πολὺν τόπον αὐτὸ τοῦ ὕψους, ἀλλ’ ἐγγὺς ἀφίησι πάλιν· ἑτέρα δ’ ὅτι καὶ ῥεῖ μάλιστα ὁ ἀὴρ ῥέων ἐν τοῖς ὑψηλοῖς, ὃς διαλύει τὴν σύστασιν τὴν τοιαύτην. γίγνεται δ’ ἡ δρόσος πανταχοῦ νοτίοις, οὐ βορείοις, πλὴν ἐν τῷ Πόντῳ. ἐκεῖ δὲ τοὐναντίον· βορείοις μὲν γὰρ γίγνεται, νοτίοις δ’ οὐ [347b] γίγνεται. αἴτιον δ’ ὁμοίως ὥσπερ ὅτι εὐδίας μὲν γίγνεται, χειμῶνος δ’ οὔ· ὁ μὲν γὰρ νότος εὐδίαν ποιεῖ, ὁ δὲ βορέας χειμῶνα· ψυχρὸς γάρ, ὥστ’ ἐκ τοῦ χειμῶνος τῆς ἀναθυμιάσεως σβέννυσι τὴν θερμότητα. ἐν δὲ τῷ Πόντῳ ὁ μὲν νότος οὐχ οὕτως ποιεῖ εὐδίαν ὥστε γίγνεσθαι ἀτμίδα, ὁ δὲ βορέας διὰ τὴν ψυχρότητα ἀντιπεριιστὰς τὸ θερμὸν [347b.7] ἀθροίζει, ὥστε πλέον ἀτμίζει μᾶλλον. πολλάκις δὲ τοῦτο καὶ ἐν τοῖς ἔξω τόποις ἰδεῖν γιγνόμενον ἔστιν· ἀτμίζει γὰρ τὰ φρέατα βορείοις μᾶλλον ἢ νοτίοις· ἀλλὰ τὰ μὲν βόρεια σβέννυσιν πρὶν συστῆναί τι πλῆθος, ἐν δὲ τοῖς νοτίοις ἐᾶται ἀθροίζεσθαι ἡ ἀναθυμίασις. αὐτὸ δὲ τὸ ὕδωρ οὐ πήγνυται, καθάπερ ἐν τῷ περὶ τὰ νέφη τόπῳ. ἐκεῖθεν γὰρ τρία φοιτᾷ σώματα συνιστάμενα διὰ τὴν ψύξιν, ὕδωρ καὶ χιὼν καὶ χάλαζα. τούτων δὲ τὰ μὲν δύο ἀνάλογον καὶ διὰ τὰς αὐτὰς αἰτίας γίγνεται τοῖς κάτω, διαφέροντα τῷ μᾶλλον καὶ ἧττον καὶ πλήθει καὶ ὀλιγότητι· χιὼν γὰρ καὶ πάχνη ταὐτόν, καὶ ὑετὸς καὶ δρόσος, ἀλλὰ τὸ μὲν πολὺ τὸ δ’ ὀλίγον. ὁ μὲν γὰρ ὑετὸς ἐκ πολλῆς ἀτμίδος γίγνεται ψυχομένης· τούτου δ’ αἴτιον ὅ τε τόπος πολὺς καὶ ὁ χρόνος ὤν, ἐν ᾧ συλλέγεται καὶ ἐξ οὗ. τὸ δ’ ὀλίγον ἡ δρόσος· ἐφήμερος γὰρ ἡ σύστασις καὶ ὁ τόπος μικρός· δηλοῖ τε ἥ τε γένεσις οὖσα ταχεῖα καὶ βραχὺ τὸ πλῆθος. ὁμοίως δὲ καὶ πάχνη καὶ χιών· ὅταν γὰρ παγῇ τὸ νέφος, χιών ἐστιν, ὅταν δ’ ἡ ἀτμίς, πάχνη. διὸ ἢ ὥρας ἢ χώρας ἐστὶν σημεῖον ψυχρᾶς· οὐ γὰρ ἂν ἐπήγνυτο ἔτι πολλῆς ἐνούσης θερμότητος, εἰ μὴ ἐπεκράτει τὸ ψῦχος· ἐν γὰρ τῷ νέφει ἔτι ἔνεστιν πολὺ θερμὸν τὸ ὑπόλοιπον τοῦ ἐξατμίσαντος ἐκ τῆς γῆς τὸ ὑγρὸν πυρός. χάλαζα δ’ ἐκεῖ μὲν γίγνεται, ἐν δὲ τῷ πλησίον τῆς γῆς ἀτμίζοντι τοῦτ’ ἐκλείπει· καθάπερ γὰρ εἴπομεν, ὡς μὲν ἐκεῖ χιών, ἐνταῦθα γίγνεται πάχνη, ὡς δ’ ἐκεῖ ὑετός, ἐνταῦθα δρόσος· ὡς δ’ ἐκεῖ χάλαζα, ἐνταῦθα οὐκ ἀνταποδίδωσι τὸ ὅμοιον. τὸ δ’ αἴτιον εἰποῦσι περὶ χαλάζης ἔσται δῆλον.

δεῖ δὲ λαβεῖν ἅμα καὶ τὰ συμβαίνοντα περὶ τὴν γένεσιν αὐτῆς, τά τε μὴ πλανῶντα καὶ τὰ δοκοῦντ’ εἶναι παράλογα. ἔστι μὲν γὰρ ἡ χάλαζα κρύσταλλος, πήγνυται δὲ τὸ ὕδωρ τοῦ χειμῶνος· αἱ δὲ χάλαζαι γίγνονται ἔαρος μὲν [348a] καὶ μετοπώρου μάλιστα, εἶτα δὲ καὶ τῆς ὀπώρας, χειμῶνος δ’ ὀλιγάκις, καὶ ὅταν ἧττον ᾖ ψῦχος. καὶ ὅλως δὲ γίγνονται χάλαζαι μὲν ἐν τοῖς εὐδιεινοτέροις τόποις, αἱ δὲ χιόνες ἐν τοῖς ψυχροτέροις. ἄτοπον δὲ καὶ τὸ πήγνυσθαι ὕδωρ ἐν τῷ ἄνω τόπῳ· οὔτε γὰρ παγῆναι δυνατὸν πρὶν γενέσθαι ὕδωρ, οὔτε τὸ ὕδωρ οὐδένα χρόνον οἷόν τε μένειν μετέωρον ὄν. ἀλλὰ μὴν οὐδ’ ὥσπερ αἱ ψακάδες ἄνω μὲν ὀχοῦνται διὰ μικρότητα, ἐνδιατρίψασαι δ’ ἐπὶ τοῦ ἀέρος, ὥσπερ καὶ ἐπὶ τοῦ ὕδατος γῆ καὶ χρυσὸς διὰ μικρομέρειαν πολλάκις ἐπιπλέουσιν, οὕτως ἐπὶ τοῦ ἀέρος τὸ ὕδωρ, συνελθόντων δὲ πολλῶν μικρῶν μεγάλαι καταφέρονται ψακάδες· τοῦτο γὰρ οὐκ ἐνδέχεται γενέσθαι ἐπὶ τῆς χαλάζης· οὐ γὰρ συμφύεται τὰ πεπηγότα ὥσπερ τὰ ὑγρά. δῆλον οὖν ὅτι ἄνω τοσοῦτον ὕδωρ ἔμεινεν· οὐ γὰρ ἂν ἐπάγη τοσοῦτον. τοῖς μὲν οὖν δοκεῖ τοῦ πάθους αἴτιον εἶναι τούτου καὶ τῆς γενέσεως, ὅταν ἀπωσθῇ τὸ νέφος εἰς τὸν ἄνω τόπον μᾶλλον ὄντα ψυχρὸν διὰ τὸ λήγειν ἐκεῖ τὰς ἀπὸ τῆς γῆς τῶν ἀκτίνων ἀνακλάσεις, ἐλθὸν δ’ ἐκεῖ πήγνυσθαι τὸ ὕδωρ· διὸ καὶ θέρους μᾶλλον καὶ ἐν ταῖς ἀλεειναῖς χώραις γίγνεσθαι τὰς χαλάζας, ὅτι ἐπὶ πλέον τὸ θερμὸν ἀνωθεῖ ἀπὸ τῆς γῆς τὰς νεφέλας. συμβαίνει δ’ ἐν τοῖς σφόδρα ὑψηλοῖς ἥκιστα γίγνεσθαι χάλαζαν· καίτοι ἔδει, ὥσπερ καὶ τὴν χιόνα ὁρῶμεν ἐπὶ τοῖς ὑψηλοῖς μάλιστα γιγνομένην. ἔτι δὲ πολλάκις ὦπται νέφη φερόμενα σὺν ψόφῳ πολλῷ παρ’ αὐτὴν τὴν γῆν, ὥστε φοβερὸν εἶναι τοῖς ἀκούουσιν καὶ ὁρῶσιν ὡς ἐσομένου τινὸς μείζονος. ὁτὲ δὲ καὶ ἄνευ ψόφου τοιούτων ὀφθέντων νεφῶν χάλαζα γίγνεται πολλὴ καὶ τὸ μέγεθος ἄπιστος, καὶ τοῖς σχήμασιν οὐ στρογγύλη, διὰ τὸ μὴ πολὺν χρόνον γίγνεσθαι τὴν φορὰν αὐτῆς ὡς πλησίον τῆς πήξεως γενομένης τῆς γῆς, ἀλλ’ οὐχ ὥσπερ ἐκεῖνοί φασιν. ἀλλὰ μὴν ἀναγκαῖον ὑπὸ τοῦ μάλιστ’ αἰτίου τῆς πήξεως μεγάλας γίγνεσθαι χαλάζας· κρύσταλλος γὰρ ἡ χάλαζα, καὶ τοῦτο παντὶ δῆλον. μεγάλαι δ’ εἰσὶν αἱ τοῖς σχήμασιν μὴ στρογγύλαι. τοῦτο δ’ ἐστὶ σημεῖον τοῦ παγῆναι πλησίον τῆς γῆς· αἱ γὰρ φερόμεναι πόρρωθεν διὰ τὸ φέρεσθαι μακρὰν περιθραυόμεναι γίγνονται τό τε σχῆμα περιφερεῖς καὶ τὸ μέγεθος ἐλάττους. ὅτι μὲν [348b] οὖν οὐ τῷ ἀπωθεῖσθαι εἰς τὸν ἄνω τόπον τὸν ψυχρὸν ἡ πῆξις συμβαίνει, δῆλον· ἀλλ’ ἐπειδὴ ὁρῶμεν ὅτι γίγνεται ἀντιπερίστασις τῷ θερμῷ καὶ ψυχρῷ ἀλλήλοις (διὸ ἔν τε ταῖς ἀλέαις ψυχρὰ τὰ κάτω τῆς γῆς καὶ ἀλεεινὰ ἐν τοῖς πάγοις), τοῦτο δεῖ νομίζειν καὶ ἐν τῷ ἄνω γίγνεσθαι τόπῳ, ὥστ’ ἐν ταῖς ἀλεεινοτέραις ὥραις ἀντιπεριιστάμενον εἴσω τὸ ψυχρὸν διὰ τὴν κύκλῳ θερμότητα ὁτὲ μὲν ταχὺ ὕδωρ ἐκ νέφους ποιεῖ· διὸ καὶ αἱ ψακάδες πολὺ μείζους ἐν ταῖς ἀλεειναῖς γίγνονται ἡμέραις ἢ ἐν τῷ χειμῶνι, καὶ ὕδατα λαβρότερα· λαβρότερα μὲν γὰρ λέγεται ὅταν ἀθροώτερα, ἀθροώτερα δὲ διὰ τὸ τάχος τῆς πυκνώσεως. (τοῦτο δὲ γίγνεται αὐτὸ τοὐναντίον ἢ ὡς Ἀναξαγόρας λέγει· ὁ μὲν γὰρ ὅταν εἰς τὸν ψυχρὸν ἀέρα ἐπανέλθῃ φησὶ τοῦτο πάσχειν, ἡμεῖς δ’ ὅταν εἰς τὸν θερμὸν κατέλθῃ, καὶ μάλιστα ὅταν μάλιστα.) ὅταν δ’ ἔτι μᾶλλον ἀντιπεριστῇ ἐντὸς τὸ ψυχρὸν ὑπὸ τοῦ ἔξω θερμοῦ, ὕδωρ ποιῆσαν ἔπηξεν καὶ γίγνεται χάλαζα. συμβαίνει δὲ τοῦτο ὅταν θᾶττον ᾖ ἡ πῆξις ἢ ἡ τοῦ ὕδατος φορὰ ἡ κάτω· εἰ γὰρ φέρεται μὲν ἐν τοσῷδε χρόνῳ, ἡ δὲ ψυχρότης σφοδρὰ οὖσα ἐν ἐλάττονι ἔπηξεν, οὐδὲν κωλύει μετέωρον παγῆναι, ἐὰν ἡ πῆξις ἐν ἐλάττονι γίγνηται χρόνῳ τῆς κάτω φορᾶς. καὶ ὅσῳ δ’ ἂν ἐγγύτερον καὶ ἀθροωτέρα γένηται ἡ πῆξις, τά τε ὕδατα λαβρότερα γίγνεται καὶ αἱ ψακάδες καὶ αἱ χάλαζαι μείζους διὰ τὸ βραχὺν φέρεσθαι τόπον. καὶ οὐ πυκναὶ αἱ ψακάδες αἱ μεγάλαι πίπτουσιν διὰ τὴν αὐτὴν αἰτίαν. ἧττον δὲ τοῦ θέρους γίγνεται ἢ ἔαρος καὶ μετοπώρου, μᾶλλον μέντοι ἢ χειμῶνος, ὅτι ξηρότερος ὁ ἀὴρ τοῦ θέρους· ἐν δὲ τῷ ἔαρι ἔτι ὑγρός, ἐν δὲ τῷ μετοπώρῳ ἤδη ὑγραίνεται. γίγνονται δέ ποτε, καθάπερ εἴρηται, καὶ τῆς ὀπώρας χάλαζαι διὰ τὴν αὐτὴν αἰτίαν. συμβάλλεται δ’ ἔτι πρὸς τὴν ταχυτῆτα τῆς πήξεως καὶ τὸ προτεθερμάνθαι τὸ ὕδωρ· θᾶττον γὰρ ψύχεται. διὸ πολλοὶ ὅταν τὸ ὕδωρ ψῦξαι ταχὺ βουληθῶσιν, εἰς τὸν ἥλιον τιθέασι πρῶτον, καὶ οἱ περὶ τὸν Πόντον ὅταν ἐπὶ τοῦ κρυστάλλου σκηνοποιῶνται πρὸς τὰς τῶν ἰχθύων θήρας (θηρεύουσι γὰρ διακόπτοντες τὸν κρύσταλλον), ὕδωρ θερμὸν [349a] περιχέουσι τοῖς καλάμοις διὰ τὸ θᾶττον πήγνυσθαι· χρῶνται γὰρ τῷ κρυστάλλῳ ὥσπερ τῷ μολύβδῳ, ἵν’ ἠρεμῶσιν οἱ κάλαμοι. θερμὸν δὲ γίγνεται ταχὺ τὸ συνιστάμενον ὕδωρ ἔν τε ταῖς χώραις καὶ ταῖς ὥραις ταῖς ἀλεειναῖς. γίγνεται δὲ καὶ περὶ τὴν Ἀραβίαν καὶ τὴν Αἰθιοπίαν τοῦ θέρους τὰ ὕδατα καὶ οὐ τοῦ χειμῶνος, καὶ ταῦτα ῥαγδαῖα, καὶ τῆς αὐτῆς ἡμέρας πολλάκις, διὰ τὴν αὐτὴν αἰτίαν· ταχὺ γὰρ ψύχεται τῇ ἀντιπεριστάσει, ἣ γίγνεται διὰ τὸ ἀλεεινὴν εἶναι τὴν χώραν ἰσχυρῶς. περὶ μὲν οὖν ὑετοῦ καὶ δρόσου καὶ νιφετοῦ καὶ πάχνης καὶ χαλάζης, διὰ τίν’ αἰτίαν γίγνεται καὶ τίς ἡ φύσις αὐτῶν ἐστιν, εἰρήσθω τοσαῦτα.

περὶ δὲ ἀνέμων καὶ πάντων πνευμάτων, ἔτι δὲ ποταμῶν καὶ θαλάττης λέγωμεν, πρῶτον καὶ περὶ τούτων διαπορήσαντες πρὸς ἡμᾶς αὐτούς· ὥσπερ γὰρ καὶ περὶ ἄλλων, οὕτως καὶ περὶ τούτων οὐδὲν παρειλήφαμεν λεγόμενον τοιοῦτον ὃ μὴ κἂν ὁ τυχὼν εἴπειεν. εἰσὶ δέ τινες οἵ φασι τὸν καλούμενον ἀέρα κινούμενον μὲν καὶ ῥέοντα ἄνεμον εἶναι, [349a.18] συνιστάμενον δὲ τὸν αὐτὸν τοῦτον πάλιν νέφος καὶ ὕδωρ, ὡς τῆς αὐτῆς φύσεως οὔσης ὕδατος καὶ πνεύματος, καὶ τὸν ἄνεμον εἶναι κίνησιν ἀέρος. διὸ καὶ τῶν σοφῶς βουλομένων λέγειν τινὲς ἕνα φασὶν ἄνεμον εἶναι πάντας τοὺς ἀνέμους, ὅτι συμπέπτωκε καὶ τὸν ἀέρα τὸν κινούμενον ἕνα καὶ τὸν αὐτὸν εἶναι πάντα, δοκεῖν δὲ διαφέρειν οὐδὲν διαφέροντα διὰ τοὺς τόπους ὅθεν ἂν τυγχάνῃ ῥέων ἑκάστοτε, παραπλησίως λέγοντες ὥσπερ ἂν εἴ τις οἴοιτο καὶ τοὺς ποταμοὺς πάντας ἕνα ποταμὸν εἶναι. διὸ βέλτιον οἱ πολλοὶ λέγουσιν ἄνευ ζητήσεως τῶν μετὰ ζητήσεως οὕτω λεγόντων· εἰ μὲν γὰρ ἐκ μιᾶς ἀρχῆς ἅπαντες ῥέουσι, κἀκεῖ τὰ πνεύματα τὸν αὐτὸν τρόπον, τάχα λέγοιεν ἄν τι οἱ λέγοντες οὕτως· εἰ δ’ ὁμοίως ἐνταῦθα κἀκεῖ, δῆλον ὅτι τὸ κόμψευμα ἂν εἴη τοῦτο ψεῦδος, ἐπεὶ τοῦτό γε προσήκουσαν ἔχει σκέψιν, τί τ’ ἐστὶν ὁ ἄνεμος, καὶ γίγνεται πῶς, καὶ τί τὸ κινοῦν, καὶ ἡ ἀρχὴ πόθεν αὐτῶν, καὶ πότερον ἄρ’ ὥσπερ ἐξ ἀγγείου δεῖ λαβεῖν ῥέοντα τὸν ἄνεμον, καὶ μέχρι τούτου ῥεῖν ἕως ἂν κενωθῇ τὸ ἀγγεῖον, οἷον ἐξ ἀσκῶν ἀφιέμενον, [349b] ἢ καθάπερ καὶ οἱ γραφεῖς γράφουσιν, ἐξ αὑτῶν τὴν ἀρχὴν ἀφιέντας. ὁμοίως δὲ καὶ περὶ τῆς τῶν ποταμῶν γενέσεως δοκεῖ τισιν ἔχειν· τὸ γὰρ ἀναχθὲν ὑπὸ τοῦ ἡλίου ὕδωρ πάλιν ὑόμενον ἀθροισθὲν ὑπὸ γῆν ῥεῖν ἐκ κοιλίας μεγάλης, ἢ πάντας μιᾶς ἢ ἄλλον ἄλλης· καὶ οὐ γίγνεσθαι ὕδωρ οὐδέν, ἀλλὰ τὸ συλλεχθὲν ἐκ τοῦ χειμῶνος εἰς τὰς τοιαύτας ὑποδοχάς, τοῦτο γίγνεσθαι τὸ πλῆθος τὸ τῶν ποταμῶν. διὸ καὶ μείζους ἀεὶ τοῦ χειμῶνος ῥεῖν ἢ τοῦ θέρους, καὶ τοὺς μὲν ἀενάους εἶναι τοὺς δ’ οὐκ ἀενάους· ὅσων μὲν γὰρ διὰ τὸ μέγεθος τῆς κοιλίας πολὺ τὸ συλλεγόμενον ὕδωρ ἐστίν, ὥστε διαρκεῖν καὶ μὴ προαναλίσκεσθαι πρὶν ἐπελθεῖν τὸ ὄμβριον ἐν τῷ χειμῶνι πάλιν, τούτους μὲν ἀενάους εἶναι διὰ τέλους, ὅσοις δὲ ἐλάττους αἱ ὑποδοχαί, τούτους δὲ δι’ ὀλιγότητα τοῦ ὕδατος φθάνειν ξηραινομένους πρὶν ἐπελθεῖν τὸ ἐκ τοῦ οὐρανοῦ, κενουμένου τοῦ ἀγγείου. καίτοι φανερόν, εἴ τις βούλεται ποιήσας οἷον ὑποδοχὴν πρὸ ὀμμάτων τῷ καθ’ ἡμέραν ὕδατι ῥέοντι συνεχῶς νοῆσαι τὸ πλῆθος· ὑπερβάλλοι γὰρ ἂν τῷ μεγέθει τὸν τῆς γῆς ὄγκον ἢ οὐ πολὺ ἂν ἐλλείποι τὸ δεχόμενον πᾶν τὸ ῥέον ὕδωρ εἰς τὸν ἐνιαυτόν. ἀλλὰ δῆλον ὅτι συμβαίνει μὲν καὶ πολλὰ τοιαῦτα πολλαχοῦ τῆς γῆς, οὐ μὴν ἀλλ’ ἄτοπον εἴ τις μὴ νομίζει διὰ τὴν αὐτὴν αἰτίαν ὕδωρ ἐξ ἀέρος γίγνεσθαι δι’ ἥνπερ ὑπὲρ γῆς καὶ ἐν τῇ γῇ. ὥστ’ εἴπερ κἀκεῖ διὰ ψυχρότητα συνίσταται ὁ ἀτμίζων ἀὴρ εἰς ὕδωρ, καὶ ὑπὸ τῆς ἐν τῇ γῇ ψυχρότητος τὸ αὐτὸ τοῦτο δεῖ νομίζειν συμβαίνειν, καὶ γίγνεσθαι μὴ μόνον τὸ ἀποκεκριμένον ὕδωρ ἐν αὐτῇ, καὶ τοῦτο ῥεῖν, ἀλλὰ καὶ γίγνεσθαι συνεχῶς. ἔτι δὲ τοῦ μὴ γιγνομένου ἀλλ’ ὑπάρχοντος ὕδατος καθ’ ἡμέραν μὴ τοιαύτην εἶναι τὴν ἀρχὴν τῶν ποταμῶν, οἷον ὑπὸ γῆν λίμνας τινὰς ἀποκεκριμένας, καθάπερ ἔνιοι λέγουσιν, ἀλλ’ ὁμοίως ὥσπερ καὶ ἐν τῷ ὑπὲρ γῆς τόπῳ μικραὶ συνιστάμεναι ῥανίδες, καὶ πάλιν αὗται ἑτέραις, τέλος μετὰ πλήθους καταβαίνει τὸ ὑόμενον ὕδωρ, οὕτω καὶ ἐν τῇ γῇ ἐκ μικρῶν συλλείβεσθαι τὸ πρῶτον καὶ εἶναι οἷον πιδώσης εἰς ἓν τῆς γῆς τὰς ἀρχὰς τῶν ποταμῶν. δηλοῖ δ’ αὐτὸ τὸ ἔργον· οἱ γὰρ τὰς ὑδραγωγίας [350a] ποιοῦντες ὑπονόμοις καὶ διώρυξι συνάγουσιν, ὥσπερ ἂν ἰδιούσης τῆς γῆς ἀπὸ τῶν ὑψηλῶν. διὸ καὶ τὰ ῥεύματα τῶν ποταμῶν ἐκ τῶν ὀρῶν φαίνεται ῥέοντα, καὶ πλεῖστοι καὶ μέγιστοι ποταμοὶ ῥέουσιν ἐκ τῶν μεγίστων ὀρῶν. ὁμοίως δὲ καὶ αἱ κρῆναι αἱ πλεῖσται ὄρεσιν καὶ τόποις ὑψηλοῖς γειτνιῶσιν· ἐν δὲ τοῖς πεδίοις ἄνευ ποταμῶν ὀλίγαι γίγνονται πάμπαν. οἱ γὰρ ὀρεινοὶ καὶ ὑψηλοὶ τόποι, οἷον σπόγγος πυκνὸς ἐπικρεμάμενοι, κατὰ μικρὰ μὲν πολλαχῇ δὲ διαπιδῶσι καὶ συλλείβουσι τὸ ὕδωρ· δέχονταί τε γὰρ τοῦ κατιόντος ὕδατος πολὺ πλῆθος (τί γὰρ διαφέρει κοίλην καὶ ὑπτίαν ἢ πρηνῆ τὴν περιφέρειαν εἶναι καὶ κυρτήν; ἀμφοτέρως γὰρ τὸν ἴσον ὄγκον περιλήψεται σώματος) καὶ τὴν ἀνιοῦσαν ἀτμίδα ψύχουσι καὶ συγκρίνουσι πάλιν εἰς ὕδωρ· διό, καθάπερ εἴπομεν, οἱ μέγιστοι τῶν ποταμῶν ἐκ τῶν μεγίστων φαίνονται ῥέοντες ὀρῶν. δῆλον δ’ ἐστὶ τοῦτο θεωμένοις τὰς τῆς γῆς περιόδους· ταύτας γὰρ ἐκ τοῦ πυνθάνεσθαι παρ’ ἑκάστων οὕτως ἀνέγραψαν, ὅσων μὴ συμβέβηκεν αὐτόπτας γενέσθαι τοὺς λέγοντας. ἐν μὲν οὖν τῇ Ἀσίᾳ πλεῖστοι μὲν ἐκ τοῦ Παρνασσοῦ καλουμένου φαίνονται ῥέοντες ὄρους καὶ μέγιστοι ποταμοί, τοῦτο δ’ ὁμολογεῖται πάντων εἶναι μέγιστον τὸ ὄρος τῶν πρὸς τὴν ἕω τὴν χειμερινήν· ὑπερβάντι γὰρ ἤδη τοῦτο φαίνεται ἡ ἔξω θάλαττα, ἧς τὸ πέρας οὐ δῆλον τοῖς ἐντεῦθεν. ἐκ μὲν οὖν τούτου ῥέουσιν ἄλλοι τε ποταμοὶ καὶ ὁ Βάκτρος καὶ ὁ Χοάσπης καὶ ὁ Ἀράξης· τούτου δ’ ὁ Τάναϊς ἀποσχίζεται μέρος ὢν εἰς τὴν Μαιῶτιν λίμνην. ῥεῖ δὲ καὶ ὁ Ἰνδὸς ἐξ αὐτοῦ, πάντων τῶν ποταμῶν ῥεῦμα πλεῖστον. ἐκ δὲ τοῦ Καυκάσου ἄλλοι τε ῥέουσι πολλοὶ καὶ κατὰ πλῆθος καὶ κατὰ μέγεθος ὑπερβάλλοντες, καὶ ὁ Φᾶσις· ὁ δὲ Καύκασος μέγιστον ὄρος τῶν πρὸς τὴν ἕω τὴν θερινήν ἐστιν καὶ πλήθει καὶ ὕψει. σημεῖα δὲ τοῦ μὲν ὕψους ὅτι ὁρᾶται καὶ ἀπὸ τῶν καλουμένων βαθέων καὶ εἰς τὴν λίμνην εἰσπλεόντων, ἔτι δ’ ἡλιοῦται τῆς νυκτὸς αὐτοῦ τὰ ἄκρα μέχρι τοῦ τρίτου μέρους ἀπό τε τῆς ἕω καὶ πάλιν ἀπὸ τῆς ἑσπέρας· τοῦ δὲ πλήθους ὅτι πολλὰς ἔχον ἕδρας, ἐν αἷς ἔθνη τε κατοικεῖ πολλὰ καὶ λίμνας εἶναί φασι μεγάλας, ἀλλ’ ὅμως πάσας τὰς ἕδρας εἶναί φασι φανερὰς μέχρι τῆς ἐσχάτης κορυφῆς. ἐκ δὲ [350b] τῆς Πυρήνης (τοῦτο δ’ ἐστὶν ὄρος πρὸς δυσμὴν ἰσημερινὴν ἐν τῇ Κελτικῇ) ῥέουσιν ὅ τε Ἴστρος καὶ ὁ Ταρτησσός. οὗτος μὲν οὖν ἔξω στηλῶν, ὁ δ’ Ἴστρος δι’ ὅλης τῆς Εὐρώπης εἰς τὸν Εὔξεινον πόντον. τῶν δ’ ἄλλων ποταμῶν οἱ πλεῖστοι πρὸς ἄρκτον ἐκ τῶν ὀρῶν τῶν Ἀρκυνίων· ταῦτα δὲ καὶ ὕψει καὶ πλήθει μέγιστα περὶ τὸν τόπον τοῦτόν ἐστιν. ὑπ’ αὐτὴν δὲ τὴν ἄρκτον ὑπὲρ τῆς ἐσχάτης Σκυθίας αἱ καλούμεναι Ῥῖπαι, περὶ ὧν τοῦ μεγέθους λίαν εἰσὶν οἱ λεγόμενοι λόγοι μυθώδεις· ῥέουσι δ’ οὖν οἱ πλεῖστοι καὶ μέγιστοι μετὰ τὸν Ἴστρον τῶν ἄλλων ποταμῶν ἐντεῦθεν, ὥς φασιν.

ὁμοίως δὲ καὶ περὶ τὴν Λιβύην οἱ μὲν ἐκ τῶν Αἰθιοπικῶν ὀρῶν, ὅ τε Αἰγὼν καὶ ὁ Νύσης, οἱ δὲ μέγιστοι τῶν διωνομασμένων, ὅ τε Χρεμέτης καλούμενος, ὃς εἰς τὴν ἔξω ῥεῖ θάλατταν, καὶ τοῦ Νείλου τὸ ῥεῦμα τὸ πρῶτον, ἐκ τοῦ Ἀργυροῦ καλουμένου ὄρους. τῶν δὲ περὶ τὸν Ἑλληνικὸν τόπον ὁ μὲν Ἀχελῷος ἐκ Πίνδου, καὶ ὁ Ἴναχος ἐντεῦθεν, ὁ δὲ Στρυμὼν καὶ Νέσσος καὶ ὁ Ἕβρος ἅπαντες τρεῖς ὄντες ἐκ τοῦ Σκόμβρου· πολλὰ δὲ ῥεύματα καὶ ἐκ τῆς Ῥοδόπης ἐστίν. ὁμοίως δὲ καὶ τοὺς ἄλλους ποταμοὺς εὕροι τις ἂν ῥέοντας· ἀλλὰ μαρτυρίου χάριν τούτους εἴπομεν· ἐπεὶ καὶ ὅσοι αὐτῶν ῥέουσιν ἐξ ἑλῶν, τὰ ἕλη ὑπὸ ὄρη κεῖσθαι συμβαίνει πάντα σχεδὸν ἢ τόπους ὑψηλοὺς ἐκ προσαγωγῆς. ὅτι μὲν οὖν οὐ δεῖ νομίζειν οὕτω γίγνεσθαι τὰς ἀρχὰς τῶν ποταμῶν ὡς ἐξ ἀφωρισμένων κοιλιῶν, φανερόν· οὔτε γὰρ ἂν ὁ τόπος ἱκανὸς ἦν ὁ τῆς γῆς ὡς εἰπεῖν, ὥσπερ οὐδ᾽ ὁ τῶν νεφῶν, εἰ τὸ ὂν ἔδει ῥεῖν μόνον, ἀλλὰ μὴ τὸ μὲν ἀπῄει τὸ δ᾽ ἐγίγνετο, ἀλλ᾽ αἰεὶ ἀπὸ ὄντος ἐταμιεύετο· τό τε ὑπὸ τοῖς ὄρεσιν ἔχειν τὰς [350b.28] πηγὰς μαρτυρεῖ διότι τῷ συρρεῖν εἰς ὀλίγον καὶ κατὰ μικρὸν ἐκ πολλῶν νοτίδων διαδίδωσιν ὁ τόπος καὶ γίγνονται οὕτως αἱ πηγαὶ τῶν ποταμῶν. οὐ μὴν ἀλλὰ καὶ τοιούτους εἶναι τόπους ἔχοντας πλῆθος ὕδατος, οἷον λίμνας, οὐδὲν ἄτοπον, πλὴν οὔτι τηλικαύτας ὥστε τοῦτο συμβαίνειν, οὐδὲν μᾶλλον ἢ εἴ τις οἴοιτο τὰς φανερὰς εἶναι πηγὰς τῶν ποταμῶν· σχεδὸν γὰρ ἐκ κρηνῶν οἱ πλεῖστοι ῥέουσιν. ὅμοιον οὖν τὸ ἐκείνας καὶ τὸ ταύτας νομίζειν εἶναι τὸ σῶμα τὸ τοῦ ὕδατος πᾶν. ὅτι δ᾽ εἰσὶν τοιαῦται φάραγγες καὶ διαστάσεις τῆς γῆς, [351a] δηλοῦσιν οἱ καταπινόμενοι τῶν ποταμῶν. συμβαίνει δὲ τοῦτο πολλαχοῦ τῆς γῆς, οἷον τῆς μὲν Πελοποννήσου πλεῖστα τοιαῦτα περὶ τὴν Ἀρκαδίαν ἐστίν. αἴτιον δὲ διὰ τὸ ὀρεινὴν οὖσαν μὴ ἔχειν ἐκροὰς ἐκ τῶν κοίλων εἰς θάλατταν· πληρούμενοι γὰρ οἱ τόποι καὶ οὐκ ἔχοντες ἔκρυσιν αὑτοῖς εὑρίσκονται τὴν δίοδον εἰς βάθος, ἀποβιαζομένου τοῦ ἄνωθεν ἐπιόντος ὕδατος. περὶ μὲν οὖν τὴν Ἑλλάδα μικρὰ τοιαῦτα παντελῶς ἐστιν γιγνόμενα· ἀλλ᾽ ἥ γε ὑπὸ τὸν Καύκασον λίμνη, ἣν καλοῦσιν οἱ ἐκεῖ θάλατταν· αὕτη γὰρ ποταμῶν πολλῶν καὶ μεγάλων εἰσβαλλόντων οὐκ ἔχουσα ἔκρουν φανερὸν ἐκδίδωσιν ὑπὸ γῆν κατὰ Κοραξούς, περὶ τὰ καλούμενα βαθέα τοῦ Πόντου· ταῦτα δ᾽ ἐστὶν ἄπειρόν τι τῆς θαλάττης βάθος· οὐδεὶς γοῦν πώποτε καθεὶς ἐδυνήθη πέρας εὑρεῖν. ταύτῃ δὲ πόρρω τῆς γῆς σχεδὸν περὶ τριακόσια στάδια πότιμον ἀναδίδωσιν ὕδωρ ἐπὶ πολὺν τόπον, οὐ συνεχῆ δέ, ἀλλὰ τρισσαχῇ. καὶ περὶ τὴν Λιγυστικὴν οὐκ ἐλάττων τοῦ Ῥοδανοῦ καταπίνεταί τις ποταμός, καὶ πάλιν ἀναδίδωσιν κατ᾽ ἄλλον τόπον· ὁ δὲ Ῥοδανὸς ποταμὸς ναυσιπέρατός ἐστιν.

οὐκ αἰεὶ δ’ οἱ αὐτοὶ τόποι τῆς γῆς οὔτ’ ἔνυγροί εἰσιν οὔτε ξηροί, ἀλλὰ μεταβάλλουσιν κατὰ τὰς τῶν ποταμῶν γενέσεις καὶ τὰς ἀπολείψεις· διὸ καὶ τὰ περὶ τὴν ἤπειρον μεταβάλλει καὶ τὴν θάλατταν, καὶ οὐκ αἰεὶ τὰ μὲν γῆ τὰ δὲ θάλαττα διατελεῖ πάντα τὸν χρόνον, ἀλλὰ γίγνεται θάλαττα μὲν ὅπου χέρσος, ἔνθα δὲ νῦν θάλαττα, πάλιν ἐνταῦθα γῆ. κατὰ μέντοι τινὰ τάξιν νομίζειν χρὴ ταῦτα γίγνεσθαι καὶ περίοδον. ἀρχὴ δὲ τούτων καὶ αἴτιον ὅτι καὶ τῆς γῆς τὰ ἐντός, ὥσπερ τὰ σώματα τῶν φυτῶν καὶ ζῴων, ἀκμὴν ἔχει καὶ γῆρας. πλὴν ἐκείνοις μὲν οὐ κατὰ μέρος ταῦτα συμβαίνει πάσχειν, ἀλλ’ ἅμα πᾶν ἀκμάζειν καὶ φθίνειν ἀναγκαῖον· τῇ δὲ γῇ τοῦτο γίγνεται κατὰ μέρος διὰ ψύξιν καὶ θερμότητα. ταῦτα μὲν οὖν αὔξεται καὶ φθίνει διὰ τὸν ἥλιον καὶ τὴν περιφοράν, διὰ δὲ ταῦτα καὶ τὴν δύναμιν τὰ μέρη τῆς γῆς λαμβάνει διαφέρουσαν, ὥστε μέχρι τινὸς ἔνυδρα δύναται διαμένειν, εἶτα ξηραίνεται καὶ γηράσκει πάλιν· ἕτεροι δὲ τόποι βιώσκονται καὶ ἔνυδροι γίγνονται κατὰ μέρος. ἀνάγκη δὲ τῶν μὲν τόπων γιγνομένων [351b] ξηροτέρων τὰς πηγὰς ἀφανίζεσθαι, τούτων δὲ συμβαινόντων τοὺς ποταμοὺς πρῶτον μὲν ἐκ μεγάλων μικρούς, εἶτα τέλος γίγνεσθαι ξηρούς, τῶν δὲ ποταμῶν μεθισταμένων καὶ ἔνθεν μὲν ἀφανιζομένων ἐν ἄλλοις δ’ ἀνάλογον γιγνομένων μεταβάλλειν τὴν θάλατταν· ὅπου μὲν γὰρ ἐξωθουμένη ὑπὸ τῶν ποταμῶν ἐπλεόναζεν, ἀπιοῦσαν ξηρὰν ποιεῖν ἀναγκαῖον, ὅπου δὲ τοῖς ῥεύμασιν πληθύουσα ἐξηραίνετο προσχουμένη, πάλιν ἐνταῦθα λιμνάζειν. ἀλλὰ διὰ τὸ γίγνεσθαι πᾶσαν τὴν φυσικὴν περὶ τὴν γῆν γένεσιν ἐκ προσαγωγῆς καὶ ἐν χρόνοις παμμήκεσι πρὸς τὴν ἡμετέραν ζωήν, λανθάνει ταῦτα γιγνόμενα, καὶ πρότερον ὅλων τῶν ἐθνῶν ἀπώλειαι γίγνονται καὶ φθοραὶ πρὶν μνημονευθῆναι τὴν τούτων μεταβολὴν ἐξ ἀρχῆς εἰς τέλος. μέγισται μὲν οὖν φθοραὶ γίγνονται καὶ τάχισται ἐν τοῖς πολέμοις, ἄλλαι δὲ νόσοις, αἱ δὲ ἀφορίαις, καὶ ταύταις αἱ μὲν μεγάλαι αἱ δὲ κατὰ μικρόν, ὥστε λανθάνουσι τῶν γε τοιούτων ἐθνῶν καὶ αἱ μεταναστάσεις διὰ τὸ τοὺς μὲν λείπειν τὰς χώρας, τοὺς δὲ ὑπομένειν μέχρι τούτου μέχριπερ ἂν μηκέτι δύνηται τρέφειν ἡ χώρα πλῆθος μηδέν. ἀπὸ τῆς πρώτης οὖν ἀπολείψεως εἰς τὴν ὑστέραν εἰκὸς γίγνεσθαι μακροὺς χρόνους, ὥστε μηδένα μνημονεύειν, ἀλλὰ σῳζομένων ἔτι τῶν ὑπομενόντων ἐπιλελῆσθαι διὰ χρόνου πλῆθος. τὸν αὐτὸν δὲ τρόπον χρὴ νομίζειν καὶ τοὺς κατοικισμοὺς λανθάνειν πότε πρῶτον ἐγένοντο τοῖς ἔθνεσιν ἑκάστοις εἰς τὰ μεταβάλλοντα καὶ γιγνόμενα ξηρὰ ἐξ ἑλωδῶν καὶ ἐνύδρων· καὶ γὰρ ἐνταῦθα κατὰ μικρὸν ἐν πολλῷ γίγνεται χρόνῳ ἡ ἐπίδοσις, ὥστε μὴ μνημονεύειν τίνες πρῶτοι καὶ πότε καὶ πῶς ἐχόντων ἦλθον τῶν τόπων, οἷον συμβέβηκεν καὶ τὰ περὶ Αἴγυπτον· καὶ γὰρ οὗτος ἀεὶ ξηρότερος ὁ τόπος φαίνεται γιγνόμενος καὶ πᾶσα ἡ χώρα τοῦ ποταμοῦ πρόσχωσις οὖσα τοῦ Νείλου, διὰ δὲ τὸ κατὰ μικρὸν ξηραινομένων τῶν ἑλῶν τοὺς πλησίον εἰσοικίζεσθαι τὸ τοῦ χρόνου μῆκος ἀφῄρηται τὴν ἀρχήν. φαίνεται οὖν καὶ τὰ στόματα πάντα, πλὴν ἑνὸς τοῦ Κανωβικοῦ, χειροποίητα καὶ οὐ τοῦ ποταμοῦ ὄντα, καὶ τὸ ἀρχαῖον ἡ Αἴγυπτος Θῆβαι καλούμεναι. δηλοῖ δὲ καὶ Ὅμηρος, οὕτως πρόσφατος ὢν ὡς εἰπεῖν πρὸς τὰς τοιαύτας μεταβολάς· ἐκείνου γὰρ τοῦ τόπου [352a] ποιεῖται μνείαν ὡς οὔπω Μέμφιος οὔσης ἢ ὅλως ἢ οὐ τηλικαύτης. τοῦτο δ’ εἰκὸς οὕτω συμβαίνειν· οἱ γὰρ κάτωθεν τόποι τῶν ἄνωθεν ὕστερον ᾠκίσθησαν· ἑλώδεις γὰρ ἐπὶ πλείω χρόνον ἀναγκαῖον εἶναι τοὺς ἐγγύτερον τῆς προσχώσεως διὰ τὸ λιμνάζειν ἐν τοῖς ἐσχάτοις ἀεὶ μᾶλλον. μεταβάλλει δὲ τοῦτο καὶ πάλιν εὐθενεῖ· ξηραινόμενοι γὰρ οἱ τόποι ἔρχονται εἰς τὸ καλῶς ἔχειν, οἱ δὲ πρότερον εὐκραεῖς ὑπερξηραινόμενοί ποτε γίγνονται χείρους. ὅπερ συμβέβηκε τῆς Ἑλλάδος καὶ περὶ τὴν Ἀργείων καὶ Μυκηναίων χώραν· ἐπὶ μὲν γὰρ τῶν Τρωικῶν ἡ μὲν Ἀργεία διὰ τὸ ἑλώδης εἶναι ὀλίγους ἐδύνατο τρέφειν, ἡ δὲ Μυκηναία καλῶς εἶχεν (διὸ ἐντιμοτέρα ἦν), νῦν δὲ τοὐναντίον διὰ τὴν προειρημένην αἰτίαν· ἡ μὲν γὰρ ἀργὴ γέγονεν καὶ ξηρὰ πάμπαν, τῆς δὲ τὰ τότε διὰ τὸ λιμνάζειν ἀργὰ νῦν χρήσιμα γέγονεν. ὥσπερ οὖν ἐπὶ τούτου τοῦ τόπου συμβέβηκεν ὄντος μικροῦ, ταὐτὸ δεῖ νομίζειν τοῦτο συμβαίνειν καὶ περὶ μεγάλους τόπους καὶ χώρας ὅλας. οἱ μὲν οὖν βλέποντες ἐπὶ μικρὸν αἰτίαν οἴονται τῶν τοιούτων εἶναι παθημάτων τὴν τοῦ ὅλου μεταβολὴν ὡς γιγνομένου τοῦ οὐρανοῦ· διὸ καὶ τὴν θάλατταν ἐλάττω γίγνεσθαί φασιν ὡς ξηραινομένην, ὅτι πλείους φαίνονται τόποι τοῦτο πεπονθότες νῦν ἢ πρότερον. ἔστιν δὲ τούτων τὸ μὲν ἀληθὲς τὸ δ’ οὐκ ἀληθές· πλείους μὲν γάρ εἰσιν οἱ πρότερον ἔνυδροι νῦν δὲ χερσεύοντες, οὐ μὴν ἀλλὰ καὶ τοὐναντίον· πολλαχῇ γὰρ σκοποῦντες εὑρήσουσιν ἐπεληλυθυῖαν τὴν θάλατταν. ἀλλὰ τούτου τὴν αἰτίαν οὐ τὴν τοῦ κόσμου γένεσιν οἴεσθαι χρή· γελοῖον γὰρ διὰ μικρὰς καὶ ἀκαριαίας μεταβολὰς κινεῖν τὸ πᾶν, ὁ δὲ τῆς γῆς ὄγκος καὶ τὸ μέγεθος οὐδέν ἐστι δή που πρὸς τὸν ὅλον οὐρανόν· ἀλλὰ πάντων τούτων αἴτιον ὑποληπτέον ὅτι γίγνεται διὰ χρόνων εἱμαρμένων, οἷον ἐν ταῖς κατ’ ἐνιαυτὸν ὥραις χειμών, οὕτως περιόδου τινὸς μεγάλης μέγας χειμὼν καὶ ὑπερβολὴ ὄμβρων. αὕτη δὲ οὐκ ἀεὶ κατὰ τοὺς αὐτοὺς τόπους, ἀλλ’ ὥσπερ ὁ καλούμενος ἐπὶ Δευκαλίωνος κατακλυσμός· καὶ γὰρ οὗτος περὶ τὸν Ἑλληνικὸν ἐγένετο τόπον μάλιστα, καὶ τούτου περὶ τὴν Ἑλλάδα τὴν ἀρχαίαν. αὕτη δ’ ἐστὶν ἡ περὶ Δωδώνην καὶ τὸν Ἀχελῷον· [352b] οὗτος γὰρ πολλαχοῦ τὸ ῥεῦμα μεταβέβληκεν· ᾤκουν γὰρ οἱ Σελλοὶ ἐνταῦθα καὶ οἱ καλούμενοι τότε μὲν Γραικοὶ νῦν δ’ Ἕλληνες. ὅταν οὖν γένηται τοιαύτη ὑπερβολὴ ὄμβρων, [352b.4] νομίζειν χρὴ ἐπὶ πολὺν χρόνον διαρκεῖν, καὶ ὥσπερ νῦν τοῦ ἀενάους εἶναί τινας τῶν ποταμῶν τοὺς δὲ μὴ οἱ μέν φασιν αἴτιον εἶναι τὸ μέγεθος τῶν ὑπὸ γῆς χασμάτων, ἡμεῖς δὲ τὸ μέγεθος τῶν ὑψηλῶν τόπων καὶ τὴν πυκνότητα καὶ ψυχρότητα αὐτῶν (οὗτοι γὰρ πλεῖστον καὶ δέχονται ὕδωρ καὶ στέγουσιν καὶ ποιοῦσιν· ὅσοις δὲ μικραὶ αἱ ἐπικρεμάμεναι τῶν ὀρῶν συστάσεις ἢ σομφαὶ καὶ λιθώδεις καὶ ἀργιλώδεις, τούτους δὲ προαπολείπειν), οὕτως οἴεσθαι δεῖν τότε, ἐν οἷς ἂν γένηται ἡ τοιαύτη τοῦ ὑγροῦ φορά, οἷον ἀενάους ποιεῖν τὰς ὑγρότητας τῶν τόπων μᾶλλον. τῷ χρόνῳ δὲ ταῦτα ξηραίνεται γιγνόμενα μᾶλλον, θάτερα δ’ ἐλάττω τὰ ἔφυδρα, ἕως ἂν ἔλθῃ πάλιν ἡ καταβολὴ τῆς περιόδου τῆς αὐτῆς. ἐπεὶ δ’ ἀνάγκη τοῦ ὅλου γίγνεσθαι μέν τινα μεταβολήν, μὴ μέντοι γένεσιν καὶ φθοράν, εἴπερ μένει τὸ πᾶν, ἀνάγκη, καθάπερ ἡμεῖς λέγομεν, μὴ τοὺς αὐτοὺς ἀεὶ τόπους ὑγρούς τ’ εἶναι θαλάττῃ καὶ ποταμοῖς καὶ ξηρούς. δηλοῖ δὲ τὸ γιγνόμενον· οὓς γάρ φαμεν ἀρχαιοτάτους εἶναι τῶν ἀνθρώπων Αἰγυπτίους, τούτων ἡ χώρα πᾶσα γεγονυῖα φαίνεται καὶ οὖσα τοῦ ποταμοῦ ἔργον. καὶ τοῦτο κατά τε τὴν χώραν αὐτὴν ὁρῶντι δῆλόν ἐστιν, καὶ τὰ περὶ τὴν ἐρυθρὰν θάλατταν τεκμήριον ἱκανόν· ταύτην γὰρ τῶν βασιλέων τις ἐπειράθη διορύττειν (οὐ γὰρ μικρὰς εἶχεν ἂν αὐτοῖς ὠφελείας πλωτὸς πᾶς ὁ τόπος γενόμενος· λέγεται δὲ πρῶτος Σέσωστρις ἐγχειρῆσαι τῶν παλαιῶν), ἀλλ’ εὗρεν ὑψηλοτέραν οὖσαν τὴν θάλατταν τῆς γῆς· διὸ ἐκεῖνός τε πρότερον καὶ Δαρεῖος ὕστερον ἐπαύσατο διορύττων, ὅπως μὴ διαφθαρῇ τὸ ῥεῦμα τοῦ ποταμοῦ συμμιγείσης τῆς θαλάττης. φανερὸν οὖν ὅτι θάλαττα πάντα μία ταύτῃ συνεχὴς ἦν. διὸ καὶ τὰ περὶ τὴν Λιβύην τὴν Ἀμμωνίαν χώραν ταπεινότερα φαίνεται καὶ κοιλότερα παρὰ λόγον τῆς κάτωθεν χώρας· δῆλον γὰρ ὡς ἐγχώσεως μὲν γενομένης ἐγένοντο λίμναι καὶ χέρσος, χρόνου δὲ γενομένου τὸ ἐναπολειφθὲν καὶ λιμνάσαν ὕδωρ [353a] ξηρανθέν ἐστιν ἤδη φροῦδον. ἀλλὰ μὴν καὶ τὰ περὶ τὴν Μαιῶτιν λίμνην ἐπιδέδωκε τῇ προσχώσει τῶν ποταμῶν τοσοῦτον, ὥστε πολλῷ ἐλάττω μεγέθει πλοῖα νῦν εἰσπλεῖν πρὸς τὴν ἐργασίαν ἢ ἔτος ἑξηκοστόν· ὥστε ἐκ τούτου ῥᾴδιον ἀναλογίσασθαι ὅτι καὶ τὸ πρῶτον, ὥσπερ αἱ πολλαὶ τῶν λιμνῶν, καὶ αὕτη ἔργον ἐστὶ τῶν ποταμῶν, καὶ τὸ τελευταῖον πᾶσαν ἀνάγκη γενέσθαι ξηράν. ἔτι δὲ ὁ Βόσπορος ἀεὶ μὲν ῥεῖ διὰ τὸ προσχοῦσθαι, καὶ ἔστιν ἔτι ταῦτα καὶ τοῖς ὄμμασιν ἰδεῖν ὅν τινα συμβαίνει τρόπον· ὅτε γὰρ ἀπὸ τῆς Ἀσίας ᾐόνα ποιήσειεν ὁ ῥοῦς, τὸ ὄπισθεν λίμνη ἐγίγνετο μικρὰ τὸ πρῶτον, εἶτ’ ἐξηράνθη ἄν, μετὰ δὲ τοῦτο ἄλλη ἡ ἀπὸ ταύτης ᾐών, καὶ λίμνη ἀπὸ ταύτης· καὶ τοῦτο ἀεὶ οὕτως συνέβαινεν ὁμοίως·

τούτου δὲ γιγνομένου πολλάκις ἀνάγκη χρόνου προϊόντος ὥσπερ ποταμὸν γενέσθαι, τέλος δὲ καὶ τοῦτον ξηρόν. φανερὸν τοίνυν, ἐπεὶ ὅ τε χρόνος οὐχ ὑπολείψει καὶ τὸ ὅλον ἀίδιον, ὅτι οὔτε ὁ Τάναϊς οὔτε ὁ Νεῖλος ἀεὶ ἔρρει, ἀλλ' ἦν ποτε ξηρὸς ὁ τόπος ὅθεν ῥέουσιν· τὸ γὰρ ἔργον ἔχει αὐτῶν πέρας, ὁ δὲ χρόνος οὐκ ἔχει. ὁμοίως δὲ τοῦτο καὶ ἐπὶ τῶν ἄλλων ἁρμόσει ποταμῶν λέγειν. ἀλλὰ μὴν εἴπερ καὶ οἱ ποταμοὶ γίγνονται καὶ φθείρονται καὶ μὴ ἀεὶ οἱ αὐτοὶ τόποι τῆς γῆς ἔνυδροι, καὶ τὴν θάλατταν ἀνάγκη μεταβάλλειν ὁμοίως. τῆς δὲ θαλάττης τὰ μὲν ἀπολειπούσης τὰ δ' ἐπιούσης ἀεὶ φανερὸν ὅτι τῆς πάσης γῆς οὐκ ἀεὶ τὰ αὐτὰ τὰ μέν ἐστιν θάλαττα τὰ δ' ἤπειρος, ἀλλὰ μεταβάλλει τῷ χρόνῳ πάντα. διότι μὲν οὖν οὐκ ἀεὶ ταὐτὰ οὔτε χερσεύει τῆς γῆς οὔτε πλωτά ἐστιν, καὶ διὰ τίν' αἰτίαν ταῦτα συμβαίνει, εἴρηται· ὁμοίως δὲ καὶ διὰ τί οἱ μὲν ἀέναοι οἱ δ' οὒ τῶν ποταμῶν εἰσιν.

Βιβλίο Β'Περὶ δὲ θαλάττης, καὶ τίς ἡ φύσις αὐτῆς, καὶ διὰ τίν' αἰτίαν ἁλμυρὸν τοσοῦτόν ἐστιν ὕδατος πλῆθος, ἔτι δὲ περὶ τῆς ἐξ ἀρχῆς γενέσεως λέγωμεν. οἱ μὲν οὖν ἀρχαῖοι καὶ διατρίβοντες περὶ τὰς θεολογίας ποιοῦσιν αὐτῆς πηγάς, ἵν' [353b] αὐτοῖς ὦσιν ἀρχαὶ καὶ ῥίζαι γῆς καὶ θαλάττης· τραγικώτερον γὰρ οὕτω καὶ σεμνότερον ὑπέλαβον ἴσως εἶναι τὸ λεγόμενον, ὡς μέγα τι τοῦ παντὸς τοῦτο μόριον ὄν· καὶ τὸν λοιπὸν οὐρανὸν ὅλον περὶ τοῦτον συνεστάναι τὸν τόπον καὶ τούτου χάριν ὡς ὄντα τιμιώτατον καὶ ἀρχήν. οἱ δὲ σοφώτεροι τὴν ἀνθρωπίνην σοφίαν ποιοῦσιν αὐτῆς γένεσιν· εἶναι γὰρ τὸ πρῶτον ὑγρὸν ἅπαντα τὸν περὶ τὴν γῆν τόπον, ὑπὸ δὲ τοῦ ἡλίου ξηραινόμενον τὸ μὲν διατμίσαν πνεύματα καὶ τροπὰς ἡλίου καὶ σελήνης φασὶ ποιεῖν, τὸ δὲ λειφθὲν θάλατταν εἶναι· διὸ καὶ ἐλάττω γίγνεσθαι ξηραινομένην οἴονται, καὶ τέλος ἔσεσθαί ποτε πᾶσαν ξηράν. ἔνιοι δ' αὐτῶν θερμαινομένης φασὶν ὑπὸ τοῦ ἡλίου τῆς γῆς οἷον ἱδρῶτα γίγνεσθαι· διὸ καὶ ἁλμυρὰν εἶναι· καὶ γὰρ ὁ ἱδρὼς ἁλμυρός. οἱ δὲ τῆς ἁλμυρότητος αἰτίαν τὴν γῆν εἶναί φασιν· καθάπερ γὰρ τὸ διὰ τῆς τέφρας ἠθούμενον ἁλμυρὸν γίγνεται, τὸν αὐτὸν τρόπον καὶ ταύτην ἁλμυρὰν εἶναι μειχθείσης αὐτῇ τοιαύτης γῆς. ὅτι μὲν οὖν πηγὰς τῆς θαλάττης ἀδύνατον εἶναι, διὰ τῶν ὑπαρχόντων ἤδη θεωρεῖν δεῖ. τῶν γὰρ περὶ τὴν γῆν ὑδάτων τὰ μὲν ῥυτὰ τυγχάνει ὄντα τὰ δὲ στάσιμα. τὰ μὲν οὖν ῥυτὰ πάντα πηγαῖα· περὶ δὲ τῶν πηγῶν εἰρήκαμεν πρότερον ὅτι δεῖ νοεῖν οὐχ ὥσπερ ἐξ ἀγγείου ταμιευόμενον τὴν ἀρχὴν εἶναι πηγήν, ἀλλ' εἰς ἓν ἀεὶ γιγνόμενον καὶ συρρέον ἀπαντᾶν πρώτην. τῶν δὲ στασίμων τὰ μὲν συλλογιμαῖα καὶ ὑποστάσεις, οἷον τὰ τελματιαῖα καὶ ὅσα λιμνώδη, πλήθει καὶ ὀλιγότητι διαφέροντα, τὰ δὲ πηγαῖα. ταῦτα δὲ πάντα χειρόκμητα, λέγω δ' οἷον τὰ φρεατιαῖα καλούμενα· πάντων γὰρ ἀνωτέρω δεῖ τὴν πηγὴν εἶναι τῆς ῥύσεως. διὸ τὰ μὲν αὐτόματα ῥεῖ τὰ κρηναῖα καὶ ποτάμια, ταῦτα δὲ τέχνης προσδεῖται τῆς ἐργασομένης. αἱ μὲν οὖν διαφοραὶ τοσαῦται καὶ τοιαῦται τῶν ὑδάτων εἰσίν· τούτων δ' οὕτω διωρισμένων ἀδύνατον πηγὰς εἶναι τῆς θαλάττης· ἐν οὐδετέρῳ γὰρ τούτων οἷόν τ' εἶναι τῶν γενῶν αὐτήν· οὔτε γὰρ ἀπόρρυτός ἐστιν οὔτε χειροποίητος, τὰ δὲ πηγαῖα πάντα τούτων θάτερον πέπονθεν· αὐτόματον δὲ στάσιμον τοσοῦτον πλῆθος οὐδὲν ὁρῶμεν πηγαῖον γιγνόμενον. ἔτι δ' ἐπεὶ πλείους εἰσὶ [354a] θάλατται πρὸς ἀλλήλας οὐ συμμειγνύουσαι κατ' οὐδένα τόπον, ὧν ἡ μὲν ἐρυθρὰ φαίνεται κατὰ μικρὸν κοινωνοῦσα πρὸς τὴν ἔξω στηλῶν θάλατταν, ἡ δ' Ὑρκανία καὶ Κασπία κεχωρισμέναι τε ταύτης καὶ περιοικούμεναι κύκλῳ, ὥστ' οὐκ ἂν ἐλάνθανον αἱ πηγαί, εἰ κατά τινα τόπον αὐτῶν ἦσαν. ῥέουσα δ' ἡ θάλαττα φαίνεται κατά τε τὰς στενότητας, εἴ που διὰ τὴν περιέχουσαν γῆν εἰς μικρὸν ἐκ μεγάλου συνάγεται πελάγους, διὰ τὸ ταλαντεύεσθαι δεῦρο κἀκεῖσε πολλάκις. τοῦτο δ' ἐν μὲν πολλῷ πλήθει θαλάττης ἄδηλον· ᾗ δὲ διὰ τὴν στενότητα τῆς γῆς ὀλίγον ἐπέχει τόπον, ἀναγκαῖον τὴν ἐν τῷ πελάγει μικρὰν ταλάντωσιν ἐκεῖ φαίνεσθαι μεγάλην. ἡ δ' ἐντὸς Ἡρακλείων στηλῶν ἅπασα κατὰ τὴν τῆς γῆς κοιλότητα ῥεῖ, καὶ τῶν ποταμῶν τὸ πλῆθος· ἡ μὲν γὰρ Μαιῶτις εἰς τὸν Πόντον ῥεῖ, οὗτος δ' εἰς τὸν Αἰγαῖον. τὰ δ' ἤδη τούτων ἔξω πελάγη ἧττον ποιεῖ τοῦτ' ἐπιδήλως. ἐκείνοις δὲ διά τε τὸ τῶν ποταμῶν πλῆθος συμβαίνει τοῦτο (πλείους γὰρ εἰς τὸν Εὔξεινον ῥέουσιν ποταμοὶ καὶ τὴν Μαιῶτιν ἢ τὴν πολλαπλασίαν χώραν αὐτῆς) καὶ διὰ τὴν βραχύτητα τοῦ βάθους· ἀεὶ γὰρ ἔτι βαθυτέρα φαίνεται οὖσα ἡ θάλαττα, καὶ τῆς [354a.20] μὲν Μαιώτιδος ὁ Πόντος, τούτου δ' ὁ Αἰγαῖος, τοῦ δ' Αἰγαίου ὁ Σικελικός· ὁ δὲ Σαρδονικὸς καὶ Τυρρηνικὸς βαθύτατοι πάντων. τὰ δ' ἔξω στηλῶν βραχέα μὲν διὰ τὸν πηλόν, ἄπνοα δ' ἐστὶν ὡς ἐν κοίλῳ τῆς θαλάττης οὔσης. ὥσπερ οὖν καὶ κατὰ μέρος ἐκ τῶν ὑψηλῶν οἱ ποταμοὶ φαίνονται ῥέοντες, οὕτω καὶ τῆς ὅλης γῆς ἐκ τῶν ὑψηλοτέρων τῶν πρὸς ἄρκτον τὸ ῥεῦμα γίγνεται τὸ πλεῖστον· ὥστε τὰ μὲν διὰ τὴν ἔκχυσιν οὐ βαθέα, τὰ δ' ἔξω πελάγη βαθέα μᾶλλον. περὶ δὲ τοῦ τὰ πρὸς ἄρκτον εἶναι τῆς γῆς ὑψηλὰ σημεῖόν τι καὶ τὸ πολλοὺς πεισθῆναι τῶν ἀρχαίων μετεωρολόγων τὸν ἥλιον μὴ φέρεσθαι ὑπὸ γῆν ἀλλὰ περὶ τὴν γῆν καὶ τὸν τόπον τοῦτον, ἀφανίζεσθαι δὲ καὶ ποιεῖν νύκτα διὰ τὸ ὑψηλὴν εἶναι πρὸς ἄρκτον τὴν γῆν. ὅτι μὲν οὖν οὔτε πηγὰς οἷόν τ' εἶναι τῆς θαλάττης, καὶ διὰ τίν' αἰτίαν οὕτως φαίνεται ῥέουσα, τοιαῦτα καὶ τοσαῦθ' ἡμῖν εἰρήσθω. [354b] περὶ δὲ τῆς γενέσεως αὐτῆς, εἰ γέγονε, καὶ τοῦ χυμοῦ, τίς ἡ αἰτία τῆς ἁλμυρότητος καὶ πικρότητος, λεκτέον. ἡ μὲν οὖν αἰτία ἡ ποιήσασα τοὺς πρότερον οἴεσθαι τὴν θάλατταν ἀρχὴν εἶναι καὶ σῶμα τοῦ παντὸς ὕδατος ἤδ' ἐστίν· δόξειε γὰρ ἂν εὔλογον εἶναι, καθάπερ καὶ τῶν ἄλλων στοιχείων ἐστὶν ἠθροισμένος ὄγκος καὶ ἀρχὴ διὰ τὸ πλῆθος, ὅθεν μεταβάλλει τε μεριζόμενον καὶ μείγνυται τοῖς ἄλλοις-οἷον πυρὸς μὲν ἐν τοῖς ἄνω τόποις, ἀέρος δὲ πλῆθος τὸ μετὰ τὸν τοῦ πυρὸς τόπον, γῆς δὲ σῶμα περὶ ὃ ταῦτα πάντα κεῖται φανερῶς· ὥστε δῆλον ὅτι κατὰ τὸν αὐτὸν λόγον καὶ περὶ ὕδατος ἀνάγκη ζητεῖν. τοιοῦτον δ’ οὐδὲν ἄλλο φαίνεται σῶμα κείμενον ἀθρόον, ὥσπερ καὶ τῶν ἄλλων στοιχείων, πλὴν τὸ τῆς θαλάττης μέγεθος· τὸ γὰρ τῶν ποταμῶν οὔτ’ ἀθρόον οὔτε στάσιμον, ἀλλ’ ὡς γιγνόμενον ἀεὶ φαίνεται καθ’ ἡμέραν. ἐκ ταύτης δὴ τῆς ἀπορίας καὶ ἀρχὴ τῶν ὑγρῶν ἔδοξεν εἶναι καὶ τοῦ παντὸς ὕδατος ἡ θάλαττα. διὸ καὶ τοὺς ποταμοὺς οὐ μόνον εἰς ταύτην ἀλλὰ καὶ ἐκ ταύτης φασί τινες ῥεῖν· διηθούμενον γὰρ γίγνεσθαι τὸ ἁλμυρὸν πότιμον. ἀντίκειται δὲ ἑτέρα πρὸς ταύτην τὴν δόξαν ἀπορία, τί δή ποτ’ οὐκ ἔστιν τὸ συνεστὸς ὕδωρ τοῦτο πότιμον, εἴπερ ἀρχὴ τοῦ παντὸς ὕδατος, ἀλλ’ ἁλμυρόν. τὸ δ’ αἴτιον ἅμα ταύτης τε τῆς ἀπορίας λύσις ἔσται, καὶ περὶ θαλάττης τὴν πρώτην λαβεῖν ὑπόληψιν ἀναγκαῖον ὀρθῶς. τοῦ γὰρ ὕδατος περὶ τὴν γῆν περιτεταμένου, καθάπερ περὶ τοῦτο ἡ τοῦ ἀέρος σφαῖρα καὶ περὶ ταύτην ἡ λεγομένη πυρός (τοῦτο γάρ ἐστι πάντων ἔσχατον, εἴθ’ ὡς οἱ πλεῖστοι λέγουσιν εἴθ’ ὡς ἡμεῖς), φερομένου δὲ τοῦ ἡλίου τοῦτον τὸν τρόπον, καὶ διὰ ταῦτα τῆς μεταβολῆς καὶ γενέσεώς τε καὶ φθορᾶς οὔσης, τὸ μὲν λεπτότατον καὶ γλυκύτατον ἀνάγεται καθ’ ἑκάστην ἡμέραν καὶ φέρεται διακρινόμενον καὶ ἀτμίζον εἰς τὸν ἄνω τόπον, ἐκεῖ δὲ πάλιν συστὰν διὰ τὴν ψύξιν καταφέρεται πάλιν πρὸς τὴν γῆν. καὶ τοῦτ’ ἀεὶ βούλεται ποιεῖν ἡ φύσις οὕτως, καθάπερ εἴρηται πρότερον. διὸ καὶ γελοῖοι πάντες ὅσοι τῶν πρότερον ὑπέλαβον τὸν ἥλιον τρέφεσθαι τῷ ὑγρῷ· καὶ διὰ τοῦτ’ ἔνιοί γέ [355a] φασιν καὶ ποιεῖσθαι τὰς τροπὰς αὐτόν· οὐ γὰρ αἰεὶ τοὺς αὐτοὺς δύνασθαι τόπους παρασκευάζειν αὐτῷ τὴν τροφήν· ἀναγκαῖον δ’ εἶναι τοῦτο συμβαίνειν περὶ αὐτὸν ἢ φθείρεσθαι· καὶ γὰρ τὸ φανερὸν πῦρ, ἕως ἂν ἔχῃ τροφήν, μέχρι τούτου ζῆν, τὸ δ’ ὑγρὸν τῷ πυρὶ τροφὴν εἶναι μόνον, -ὥσπερ ἀφικνούμενον μέχρι πρὸς τὸν ἥλιον τὸ ἀναγόμενον τοῦ ὑγροῦ, ἢ τὴν ἄνοδον τοιαύτην οὖσαν οἵανπερ τῇ γιγνομένῃ φλογί, δι’ ἧς τὸ εἰκὸς λαβόντες οὕτω καὶ περὶ τοῦ ἡλίου ὑπέλαβον. τὸ δ’ οὐκ ἔστιν ὅμοιον· ἡ μὲν γὰρ φλὸξ διὰ συνεχοῦς ὑγροῦ καὶ ξηροῦ μεταβαλλόντων γίγνεται καὶ οὐ τρέφεται (οὐ γὰρ ἡ αὐτὴ οὖσα διαμένει οὐδένα χρόνον ὡς εἰπεῖν), περὶ δὲ τὸν ἥλιον ἀδύνατον τοῦτο συμβαίνειν, ἐπεὶ τρεφομένου γε τὸν αὐτὸν τρόπον, ὥσπερ ἐκεῖνοί φασιν, δῆλον ὅτι καὶ ὁ ἥλιος οὐ μόνον καθάπερ Ἡράκλειτός φησιν, νέος ἐφ’ ἡμέρῃ ἐστίν, ἀλλ’ ἀεὶ νέος συνεχῶς. ἔτι δ’ ἡ ὑπὸ τοῦ ἡλίου ἀναγωγὴ τοῦ ὑγροῦ ὁμοία τοῖς θερμαινομένοις ἐστὶν ὕδασιν ὑπὸ πυρός· εἰ οὖν μηδὲ τὸ ὑποκαόμενον τρέφεται πῦρ, οὐδὲ τὸν ἥλιον εἰκὸς ἦν ὑπολαβεῖν, οὐδ’ εἰ πᾶν θερμαίνων ἐξατμίσειεν τὸ ὕδωρ. ἄτοπον δὲ καὶ τὸ μόνον φροντίσαι τοῦ ἡλίου, τῶν δ’ ἄλλων ἄστρων αὐτοὺς παριδεῖν τὴν σωτηρίαν, τοσούτων καὶ τὸ πλῆθος καὶ τὸ μέγεθος ὄντων. τὸ δ’ αὐτὸ συμβαίνει καὶ τούτοις ἄλογον καὶ τοῖς φάσκουσι τὸ πρῶτον ὑγρᾶς οὔσης καὶ τῆς γῆς, καὶ τοῦ κόσμου τοῦ περὶ τὴν γῆν ὑπὸ τοῦ ἡλίου θερμαινομένου, ἀέρα γενέσθαι καὶ τὸν ὅλον οὐρανὸν αὐξηθῆναι, καὶ τοῦτον πνεύματά τε παρέχεσθαι καὶ τὰς τροπὰς αὐτοῦ ποιεῖν· φανερῶς γὰρ ἀεὶ τὸ ἀναχθὲν ὁρῶμεν καταβαῖνον πάλιν ὕδωρ· κἂν μὴ κατ’ ἐνιαυτὸν ἀποδιδῷ καὶ καθ’ ἑκάστην ὁμοίως χώραν, ἀλλ’ ἔν γέ τισιν τεταγμένοις χρόνοις ἀποδίδωσι πᾶν τὸ ληφθέν, ὡς οὔτε τρεφομένων τῶν ἄνωθεν, οὔτε τοῦ μὲν μένοντος ἀέρος ἤδη μετὰ τὴν γένεσιν, τοῦ δὲ γιγνομένου καὶ φθειρομένου πάλιν εἰς ὕδωρ, ἀλλ’ ὁμοίως ἅπαντος διαλυομένου καὶ συνισταμένου πάλιν εἰς ὕδωρ. τὸ μὲν οὖν πότιμον καὶ γλυκὺ διὰ κουφότητα πᾶν ἀνάγεται, τὸ δ’ ἁλμυρὸν ὑπομένει διὰ βάρος οὐκ ἐν τῷ αὑτοῦ οἰκείῳ τόπῳ· τοῦτο γὰρ οἰητέον ἀπορηθῆναί τε προσηκόντως (ἄλογον γὰρ εἰ μή [355b] τίς ἐστιν τόπος ὕδατος ὥσπερ καὶ τῶν ἄλλων στοιχείων) καὶ ταύτην εἶναι λύσιν· ὃν γὰρ ὁρῶμεν κατέχουσαν τόπον τὴν θάλατταν, οὗτος οὐκ ἔστιν θαλάττης ἀλλὰ μᾶλλον ὕδατος. φαίνεται δὲ θαλάττης, ὅτι τὸ μὲν ἁλμυρὸν ὑπομένει διὰ τὸ βάρος, τὸ δὲ γλυκὺ καὶ πότιμον ἀνάγεται διὰ τὴν κουφότητα, καθάπερ ἐν τοῖς τῶν ζῴων σώμασιν. καὶ γὰρ ἐν τούτοις τῆς τροφῆς εἰσελθούσης γλυκείας ἡ τῆς ὑγρᾶς τροφῆς ὑπόστασις καὶ τὸ περίττωμα φαίνεται πικρὸν ὂν καὶ ἁλμυρόν· τὸ γὰρ γλυκὺ καὶ πότιμον ὑπὸ τῆς ἐμφύτου θερμότητος ἑλκυσθὲν εἰς τὰς σάρκας καὶ τὴν ἄλλην σύνταξιν ἦλθεν τῶν μερῶν, ὡς ἕκαστον πέφυκεν. ὥσπερ οὖν κἀκεῖ ἄτοπον εἴ τις τῆς ποτίμου τροφῆς μὴ νομίζοι τόπον εἶναι τὴν κοιλίαν, ὅτι ταχέως ἀφανίζεται, ἀλλὰ τοῦ περιττώματος, ὅτι τοῦθ’ ὁρᾷ ὑπομένον, οὐκ ἂν ὑπολαμβάνοι καλῶς. ὁμοίως δὲ καὶ ἐν τούτοις· ἔστιν γάρ, ὥσπερ λέγομεν, οὗτος ὁ τόπος ὕδατος· διὸ καὶ οἱ ποταμοὶ ῥέουσιν εἰς αὐτὸν ἅπαντες καὶ πᾶν τὸ γιγνόμενον ὕδωρ· εἴς τε γὰρ τὸ κοιλότατον ἡ ῥύσις, καὶ ἡ θάλαττα τὸν τοιοῦτον ἐπέχει τῆς γῆς τόπον· ἀλλὰ τὸ μὲν ἀναφέρεται ταχὺ διὰ τὸν ἥλιον ἅπαν, τὸ δ’ ὑπολείπεται διὰ τὴν εἰρημένην αἰτίαν. τὸ δὲ ζητεῖν τὴν ἀρχαίαν ἀπορίαν, διὰ τί τοσοῦτον πλῆθος ὕδατος οὐδαμοῦ φαίνεται (καθ’ ἑκάστην γὰρ ἡμέραν ποταμῶν ῥεόντων ἀναρίθμων καὶ τὸ μέγεθος ἀπλέτων οὐδὲν ἡ θάλαττα γίγνεται πλείων), τοῦτο οὐδὲν μὲν ἄτοπον ἀπορῆσαί τινας, οὐ μὴν ἐπιβλέψαντά γε χαλεπὸν ἰδεῖν. τὸ γὰρ αὐτὸ πλῆθος ὕδατος εἰς πλάτος τε διαταθὲν καὶ ἀθρόον οὐκ ἐν ἴσῳ χρόνῳ ἀναξηραίνεται, ἀλλὰ διαφέρει τοσοῦτον ὥστε τὸ μὲν διαμεῖναι ἂν ὅλην τὴν ἡμέραν, τὸ δ’ ὥσπερ εἴ τις ἐπὶ τράπεζαν μεγάλην περιτείνειεν ὕδατος κύαθον, ἅμα διανοουμένοις ἂν ἀφανισθείη πᾶν. ὃ δὴ καὶ περὶ τοὺς ποταμοὺς συμβαίνει· συνεχῶς γὰρ ῥεόντων ἀθρόων ἀεὶ τὸ ἀφικνούμενον εἰς ἀχανῆ καὶ πλατὺν τόπον ἀναξηραίνεται ταχὺ καὶ ἀδήλως. τὸ δ’ ἐν τῷ Φαίδωνι γεγραμμένον περί τε τῶν ποταμῶν καὶ τῆς θαλάττης [355b.34] ἀδύνατόν ἐστιν. λέγεται γὰρ ὡς ἅπαντα μὲν εἰς ἄλληλα συντέτρηται ὑπὸ γῆν, ἀρχὴ δὲ πάντων εἴη καὶ πηγὴ τῶν [356a] ὑδάτων ὁ καλούμενος Τάρταρος, περὶ τὸ μέσον ὕδατός τι πλῆθος, ἐξ οὗ καὶ τὰ ῥέοντα καὶ τὰ μὴ ῥέοντα ἀναδίδωσιν πάντα· τὴν δ’ ἐπίρρυσιν ποιεῖν ἐφ’ ἕκαστα τῶν ῥευμάτων διὰ τὸ σαλεύειν ἀεὶ τὸ πρῶτον καὶ τὴν ἀρχήν· οὐκ ἔχειν γὰρ ἕδραν, ἀλλ’ ἀεὶ περὶ τὸ μέσον εἱλεῖσθαι· κινούμενον δ’ ἄνω καὶ κάτω ποιεῖν τὴν ἐπίχυσιν τοῖς ῥεύμασιν. τὰ δὲ πολλαχοῦ μὲν λιμνάζειν, οἷον καὶ τὴν παρ’ ἡμῖν εἶναι θάλατταν, πάντα δὲ πάλιν κύκλῳ περιάγειν εἰς τὴν ἀρχήν, ὅθεν ἤρξαντο ῥεῖν, πολλὰ μὲν κατὰ τὸν αὐτὸν τόπον, τὰ δὲ καὶ καταντικρὺ τῇ θέσει τῆς ἐκροῆς, οἷον εἰ ῥεῖν ἤρξαντο κάτωθεν, ἄνωθεν εἰσβάλλειν. εἶναι δὲ μέχρι τοῦ μέσου τὴν κάθεσιν· τὸ γὰρ λοιπὸν πρὸς ἄναντες ἤδη πᾶσιν εἶναι τὴν φοράν. τοὺς δὲ χυμοὺς καὶ τὰς χρόας ἴσχειν τὸ ὕδωρ δι’ οἵας ἂν τύχωσι ῥέοντα γῆς. συμβαίνει δὲ τοὺς ποταμοὺς ῥεῖν οὐκ ἐπὶ ταὐτὸν ἀεὶ κατὰ τὸν λόγον τοῦτον· ἐπεὶ γὰρ εἰς τὸ μέσον εἰσρέουσιν ἀφ’ οὗπερ ἐκρέουσιν, οὐδὲν μᾶλλον ῥευσοῦνται κάτωθεν ἢ ἄνωθεν, ἀλλ’ ἐφ’ ὁπότερ’ ἂν ῥέψῃ κυμαίνων ὁ Τάρταρος. καίτοι τούτου συμβαίνοντος γένοιτ’ ἂν τὸ λεγόμενον ἄνω ποταμῶν· ὅπερ ἀδύνατον. ἔτι τὸ γιγνόμενον ὕδωρ καὶ τὸ πάλιν ἀναγόμενον πόθεν ἔσται; τοῦτο γὰρ ἐξαίρειν ὅλον ἀναγκαῖον, εἴπερ ἀεὶ σῴζεται τὸ ἴσον· ὅσον γὰρ ἔξω ῥεῖ, πάλιν ῥεῖ πρὸς τὴν ἀρχήν. καίτοι πάντες οἱ ποταμοὶ φαίνονται τελευτῶντες εἰς τὴν θάλατταν, ὅσοι μὴ εἰς ἀλλήλους· εἰς δὲ γῆν οὐδείς, ἀλλὰ κἂν ἀφανισθῇ, πάλιν ἀναδύνουσιν. μεγάλοι δὲ γίγνονται τῶν ποταμῶν οἱ μακρὰν ῥέοντες διὰ κοίλης· πολλῶν γὰρ δέχονται ῥεύματα ποταμῶν, ὑποτεμνόμενοι τῷ τόπῳ καὶ τῷ μήκει τὰς ὁδούς· διόπερ ὅ τ’ Ἴστρος καὶ ὁ Νεῖλος μέγιστοι τῶν ποταμῶν εἰσιν τῶν εἰς τήνδε τὴν θάλατταν ἐξιόντων. καὶ περὶ τῶν πηγῶν ἄλλοι λέγουσιν ἑκάστου τῶν ποταμῶν ἄλλας αἰτίας διὰ τὸ πολλοὺς εἰς τὸν αὐτὸν ἐμβάλλειν. ταῦτα δὴ πάντα φανερὸν ὡς ἀδύνατόν ἐστι συμβαίνειν ἄλλως τε καὶ τῆς θαλάττης ἐκεῖθεν τὴν ἀρχὴν ἐχούσης. ὅτι μὲν οὖν ὕδατός τε ὁ τόπος ἐστὶν οὗτος καὶ οὐ θαλάττης, καὶ διὰ τίν’ αἰτίαν τὸ μὲν πότιμον ἄδηλον πλὴν ῥέον, τὸ δ’ ὑπομένον, καὶ διότι τελευτὴ [356b] μᾶλλον ὕδατος ἢ ἀρχή ἐστιν ἡ θάλαττα, καθάπερ τὸ ἐν τοῖς σώμασιν περίττωμα τῆς τροφῆς πάσης, καὶ μάλιστα τὸ τῆς ὑγρᾶς, εἰρήσθω τοσαῦθ’ ἡμῖν.

περὶ δὲ τῆς ἁλμυρότητος αὐτῆς λεκτέον, καὶ πότερον αἰεί ἐστιν ἡ αὐτή, ἢ οὔτ’ ἦν οὔτ’ ἔσται ἀλλ’ ὑπολείψει· καὶ γὰρ οὕτως οἴονταί τινες. τοῦτο μὲν οὖν ἐοίκασι πάντες ὁμολογεῖν, ὅτι γέγονεν, εἴπερ καὶ πᾶς ὁ κόσμος· ἅμα γὰρ αὐτῆς ποιοῦσι τὴν γένεσιν. ὥστε δῆλον ὡς εἴπερ ἀίδιον τὸ πᾶν, καὶ περὶ τῆς θαλάττης οὕτως ὑποληπτέον. τὸ δὲ νομίζειν ἐλάττω τε γίγνεσθαι τὸ πλῆθος, ὥσπερ φησὶ Δημόκριτος, καὶ τέλος ὑπολείψειν, τῶν Αἰσώπου μύθων οὐδὲν διαφέρειν ἔοικεν ὁ πεπεισμένος οὕτως· καὶ γὰρ ἐκεῖνος ἐμυθολόγησεν ὡς δὶς μὲν ἡ Χάρυβδις ἀναρροφήσασα τὸ μὲν πρῶτον τὰ ὄρη ἐποίησεν φανερά, τὸ δὲ δεύτερον τὰς νήσους, τὸ δὲ τελευταῖον ῥοφήσασα ξηρὰν ποιήσει πάμπαν. ἐκείνῳ μὲν οὖν ἥρμοττεν ὀργιζομένῳ πρὸς τὸν πορθμέα τοιοῦτον εἰπεῖν μῦθον, τοῖς δὲ τὴν ἀλήθειαν ζητοῦσιν ἧττον· δι’ ἣν γὰρ αἰτίαν ἔμεινε τὸ πρῶτον, εἴτε διὰ βάρος, ὥσπερ τινὲς καὶ τούτων φασίν (ἐν προχείρῳ γὰρ τούτου τὴν αἰτίαν ἰδεῖν), εἴτε καὶ δι’ ἄλλο τι, δῆλον ὅτι διὰ τοῦτο διαμένειν ἀναγκαῖον καὶ τὸν λοιπὸν χρόνον αὐτήν. ἢ γὰρ λεκτέον αὐτοῖς ὅτι οὐδὲ τὸ ἀναχθὲν ὕδωρ ὑπὸ τοῦ ἡλίου ἥξει πάλιν, ἢ εἴπερ τοῦτ’ ἔσται, ἀναγκαῖον ἤτοι ἀεὶ ἢ μέχρι οὗπερ ἂν ᾖ τοῦτο ὑπολείπεσθαι τὴν θάλατταν, καὶ πάλιν ἀναχθῆναι ἐκεῖνο πρότερον δεήσει τὸ πότιμον. ὥστε οὐδέποτε ξηρανεῖται· πάλιν γὰρ ἐκεῖνο φθήσεται καταβὰν εἰς τὴν αὐτὴν τὸ προανελθόν· διαφέρει γὰρ οὐδὲν ἅπαξ τοῦτ’ εἰπεῖν ἢ πολλάκις. εἰ μὲν οὖν τὸν ἥλιον παύσει τις τῆς φορᾶς, τί ἔσται τὸ ξηραῖνον; εἰ δ’ ἐάσει εἶναι τὴν περιφοράν, ἀεὶ πλησιάζων τὸ πότιμον, καθάπερ εἴπομεν, ἀνάξει, ἀφήσει δὲ πάλιν ἀναχωρῶν. ἔλαβον δὲ ταύτην τὴν διάνοιαν κατὰ τῆς θαλάττης ἐκ τοῦ πολλοὺς τόπους φαίνεσθαι ξηροτέρους νῦν ἢ πρότερον· περὶ οὗ τὴν αἰτίαν εἴπομεν, ὅτι τῶν κατά τινα χρόνον ὑπερβολῶν γιγνομένων ὕδατος τοῦτ’ ἐστὶν τὸ πάθος, ἀλλ’ οὐ διὰ τὴν τοῦ παντὸς γένεσιν καὶ τῶν μορίων· καὶ πάλιν γ’ ἔσται τοὐναντίον· καὶ [357a] ὅταν γένηται, ξηρανεῖται πάλιν· καὶ τοῦθ’ οὕτως κατὰ κύκλον ἀναγκαῖον ἀεὶ βαδίζειν· μᾶλλον γὰρ οὕτως εὔλογον ὑπολαβεῖν ἢ διὰ ταῦτα τὸν οὐρανὸν ὅλον μεταβάλλειν. ἀλλὰ περὶ μὲν τούτων πλείω τῆς ἀξίας ἐνδιατέτριφεν ὁ λόγος· περὶ δὲ τῆς ἁλμυρότητος, τοῖς μὲν ἅπαξ γεννήσασι καὶ ὅλως αὐτὴν γεννῶσιν ἀδύνατόν ἐστιν ἁλμυρὰν ποιεῖν. εἰ γὰρ παντὸς τοῦ ὑγροῦ τοῦ περὶ τὴν γῆν ὄντος καὶ ἀναχθέντος ὑπὸ τοῦ ἡλίου τὸ ὑπολειφθὲν ἐγένετο θάλαττα, εἴτ’ ἐνυπῆρχε τοσοῦτος χυμὸς ἐν τῷ πολλῷ ὕδατι καὶ γλυκεῖ διὰ τὸ συμμειχθῆναί τινα γῆν τοιαύτην, οὐδὲν ἧττον ἐλθόντος πάλιν τοῦ διατμίσαντος ὕδατος ἀνάγκη, ἴσου γ’ ὄντος τοῦ πλήθους, καὶ τὸ πρῶτον·

ἢ εἰ μηδὲ τὸ πρῶτον, μηδ’ ὕστερον ἁλμυρὰν αὐτὴν εἶναι. εἰ δὲ καὶ τὸ πρῶτον εὐθὺς ἦν, λεκτέον τίς ἡ αἰτία, καὶ ἅμα διὰ τί οὐκ εἰ καὶ τότε ἀνήχθη καὶ νῦν πάσχει ταὐτό. ἀλλὰ μὴν καὶ ὅσοι τὴν γῆν αἰτιῶνται τῆς ἁλμυρότητος ἐμμειγνυμένην (ἔχειν γάρ φασι πολλοὺς χυμοὺς αὐτήν, ὥσθ’ ὑπὸ τῶν ποταμῶν συγκαταφερομένην διὰ τὴν μεῖξιν ποιεῖν ἁλμυράν), ἄτοπον τὸ μὴ καὶ τοὺς ποταμοὺς ἁλμυροὺς εἶναι· πῶς γὰρ δυνατὸν ἐν πολλῷ μὲν πλήθει ὕδατος ἐπίδηλον οὕτως ποιεῖν τὴν μεῖξιν τῆς τοιαύτης γῆς, ἐν ἑκάστῳ δὲ μή; δῆλον γὰρ ὅτι ἡ θάλαττά ἐστιν ἅπαν τὸ ποτάμιον ὕδωρ· οὐδενὶ γὰρ διέφερεν ἀλλ’ ἢ τῷ ἁλμυρὰ εἶναι τῶν ποταμῶν· τοῦτο δ’ ἐν ἐκείνοις ἔρχεται εἰς τὸν τόπον εἰς ὃν ἀθρόοι ῥέουσιν. ὁμοίως δὲ γελοῖον κἂν εἴ τις εἰπὼν ἱδρῶτα τῆς γῆς εἶναι τὴν θάλατταν οἴεταί τι σαφὲς εἰρηκέναι, καθάπερ Ἐμπεδοκλῆς· πρὸς ποίησιν μὲν γὰρ οὕτως εἰπὼν ἴσως εἴρηκεν ἱκανῶς (ἡ γὰρ μεταφορὰ ποιητικόν), πρὸς δὲ τὸ γνῶναι τὴν φύσιν οὐχ ἱκανῶς· οὐδὲ γὰρ ἐνταῦθα δῆλον πῶς ἐκ γλυκέος τοῦ πόματος ἁλμυρὸς γίγνεται ὁ ἱδρώς, πότερον ἀπελθόντος τινὸς μόνον οἷον τοῦ γλυκυτάτου, ἢ συμμειχθέντος τινός, καθάπερ ἐν τοῖς διὰ τῆς τέφρας ἠθουμένοις ὕδασιν. φαίνεται δὲ τὸ αἴτιον ταὐτὸ καὶ περὶ τὸ εἰς τὴν κύστιν περίττωμα συλλεγόμενον· καὶ γὰρ ἐκεῖνο πικρὸν καὶ ἁλμυρὸν γίγνεται τοῦ πινομένου καὶ τοῦ ἐν τῇ τροφῇ ὑγροῦ [357b] γλυκέος ὄντος. εἰ δὴ ὥσπερ τὸ διὰ τῆς κονίας ἠθούμενον ὕδωρ γίγνεται πικρόν, καὶ ταῦτα, τῷ μὲν οὔρῳ συγκαταφερομένης τοιαύτης τινὸς δυνάμεως οἵα καὶ φαίνεται ὑφισταμένη ἐν τοῖς ἀγγείοις ἁλμυρίς, τῷ δ’ ἱδρῶτι συνεκκρινομένης ἐκ τῶν σαρκῶν, οἷον καταπλύνοντος τὸ τοιοῦτον ἐκ τοῦ σώματος τοῦ ἐξιόντος ὑγροῦ, δῆλον ὅτι κἀν τῇ θαλάττῃ τὸ ἐκ τῆς γῆς συγκαταμισγόμενον τῷ ὑγρῷ αἴτιον τῆς ἁλμυρότητος. ἐν μὲν οὖν τῷ σώματι γίγνεται τὸ τοιοῦτον ἡ τῆς τροφῆς ὑπόστασις διὰ τὴν ἀπεψίαν· ἐν δὲ τῇ γῇ τίνα τρόπον ὑπῆρχε, λεκτέον. ὅλως δὲ πῶς οἷόν τε τοσοῦτον ὕδατος πλῆθος [357b.11] ξηραινομένης καὶ θερμαινομένης ἐκκριθῆναι; πολλοστὸν γὰρ δεῖ μέρος αὐτὸ τοῦ λειφθέντος εἶναι ἐν τῇ γῇ. ἔτι διὰ τί οὐ καὶ νῦν ὅταν ξηραινομένη τύχῃ γῆ, εἴτε πλείων εἴτε ἐλάττων, ἰδίει; (ἡ γὰρ ὑγρότης καὶ ὁ ἱδρὼς γίγνεται πικρός.) εἴπερ γὰρ καὶ τότε, καὶ νῦν ἐχρῆν. οὐ φαίνεται δὲ τοῦτο συμβαῖνον, ἀλλὰ ξηρὰ μὲν οὖσα ὑγραίνεται, ὑγρὰ δ’ οὖσα οὐδὲν πάσχει τοιοῦτον. πῶς οὖν οἷόν τε περὶ τὴν πρώτην γένεσιν, ὑγρᾶς οὔσης τῆς γῆς, ἰδίειν ξηραινομένην; ἀλλὰ μᾶλλον εἰκός, ὥσπερ φασί τινες, ἀπελθόντος τοῦ πλείστου καὶ μετεωρισθέντος τοῦ ὑγροῦ διὰ τὸν ἥλιον, τὸ λειφθὲν εἶναι θάλατταν· ὑγρὰν δ’ οὖσαν ἰδίειν ἀδύνατον. τὰ μὲν οὖν λεγόμενα τῆς ἁλμυρότητος αἴτια διαφεύγειν φαίνεται τὸν λόγον· ἡμεῖς δὲ λέγωμεν ἀρχὴν λαβόντες τὴν αὐτὴν ἣν καὶ πρότερον· ἐπειδὴ γὰρ κεῖται διπλῆν εἶναι τὴν ἀναθυμίασιν, τὴν μὲν ὑγρὰν τὴν δὲ ξηράν, δῆλον ὅτι ταύτην οἰητέον ἀρχὴν εἶναι τῶν τοιούτων. καὶ δὴ καὶ περὶ οὗ ἀπορῆσαι πρότερον ἀναγκαῖον, πότερον καὶ ἡ θάλαττα ἀεὶ διαμένει τῶν αὐτῶν οὖσα μορίων ἀριθμῷ ἢ τῷ εἴδει καὶ τῷ ποσῷ μεταβαλλόντων ἀεὶ τῶν μερῶν, καθάπερ ἀὴρ καὶ τὸ πότιμον ὕδωρ καὶ πῦρ (ἀεὶ γὰρ ἄλλο καὶ ἄλλο γίγνεται τούτων ἕκαστον, τὸ δ’ εἶδος τοῦ πλήθους ἑκάστου τούτων μένει, καθάπερ τὸ τῶν ῥεόντων ὑδάτων καὶ τὸ τῆς φλογὸς ῥεῦμα)· φανερὸν δὴ καὶ τοῦτο καὶ πιθανόν, ὡς ἀδύνατον μὴ τὸν αὐτὸν εἶναι περὶ πάντων τούτων λόγον, καὶ διαφέρειν ταχυτῆτι καὶ [358a] βραδυτῆτι τῆς μεταβολῆς, ἐπὶ πάντων τε φθορὰν εἶναι καὶ γένεσιν, ταύτην μέντοι τεταγμένως συμβαίνειν πᾶσιν αὐτοῖς. τούτων δ’ οὕτως ἐχόντων, πειρατέον ἀποδοῦναι τὴν αἰτίαν καὶ περὶ τῆς ἁλμυρότητος. φανερὸν δὴ διὰ πολλῶν σημείων ὅτι γίγνεται τοιοῦτος ὁ χυμὸς διὰ σύμμειξίν τινος. ἔν τε γὰρ τοῖς σώμασι τὸ ἀπεπτότατον ἁλμυρὸν καὶ πικρόν, ὥσπερ καὶ πρότερον εἴπομεν· ἀπεπτότατον γὰρ τὸ περίττωμα τῆς ὑγρᾶς τροφῆς· τοιαύτη δὲ πᾶσα μὲν ἡ ὑπόστασις, μάλιστα δὲ ἡ εἰς τὴν κύστιν (σημεῖον δ’ ὅτι λεπτοτάτη ἐστίν· τὰ δὲ πεττόμενα πάντα συνίστασθαι πέφυκεν)· ἔπειτα ἱδρώς [ἀεί]· ἐν οἷς τὸ αὐτὸ σῶμα συνεκκρίνεται, ὃ ποιεῖ τὸν χυμὸν τοῦτον. ὁμοίως δὲ καὶ ἐν τοῖς καομένοις· οὗ γὰρ ἂν μὴ κρατήσῃ τὸ θερμόν, ἐν μὲν τοῖς σώμασι γίγνεται περίττωσις, ἐν δὲ τοῖς καομένοις τέφρα. διὸ καὶ τὴν θάλαττάν τινες ἐκ κατακεκαυμένης φασὶ γενέσθαι γῆς. ὃ οὕτω μὲν εἰπεῖν ἄτοπον, τὸ μέντοι ἐκ τοιαύτης ἀληθές· ὥσπερ γὰρ καὶ ἐν τοῖς εἰρημένοις, οὕτω καὶ ἐν τῷ ὅλῳ ἔκ τε τῶν φυομένων καὶ γιγνομένων κατὰ φύσιν ἀεὶ δεῖ νοεῖν, ὥσπερ ἐκ πεπυρωμένων τὸ λειπόμενον τοιαύτην εἶναι γῆν, καὶ δὴ καὶ τὴν ἐν τῇ ξηρᾷ ἀναθυμίασιν πᾶσαν· αὕτη γὰρ καὶ παρέχεται τὸ πολὺ τοῦτο πλῆθος. μεμειγμένης δ’ οὔσης, ὥσπερ εἴπομεν, τῆς τε ἀτμιδώδους ἀναθυμιάσεως καὶ τῆς ξηρᾶς, ὅταν συνιστῆται εἰς νέφη καὶ ὕδωρ, ἀναγκαῖον ἐμπεριλαμβάνεσθαί τι πλῆθος ἀεὶ ταύτης τῆς δυνάμεως, καὶ συγκαταφέρεσθαι πάλιν ὕοντος, καὶ τοῦτ’ ἀεὶ γίγνεσθαι κατά τινα τάξιν, ὡς ἐνδέχεται μετέχειν τὰ ἐνταῦθα τάξεως. ὅθεν μὲν οὖν ἡ γένεσις ἔνεστιν τοῦ ἁλμυροῦ ἐν τῷ ὕδατι, εἴρηται. καὶ διὰ τοῦτο τά τε νότια ὕδατα πλατύτερα καὶ τὰ πρῶτα τῶν μετοπωρινῶν· ὅ τε γὰρ νότος καὶ τῷ μεγέθει καὶ τῷ πνεύματι ἀλεεινότατος ἄνεμός ἐστιν, καὶ πνεῖ ἀπὸ τόπων ξηρῶν καὶ θερμῶν, ὥστε μετ’ ὀλίγης ἀτμίδος. διὸ καὶ θερμός ἐστιν· εἰ γὰρ καὶ μὴ τοιοῦτος, ἀλλ’ ὅθεν ἄρχεται πνεῖν ψυχρός, οὐδὲν ἧττον προϊὼν διὰ τὸ συμπεριλαμβάνειν πολλὴν ἀναθυμίασιν ξηρὰν ἐκ τῶν σύνεγγυς τόπων θερμός ἐστιν· ὁ δὲ βορέας ἅτε ἀφ’ ὑγρῶν τόπων ἀτμιδώδης· διὸ [358b] ψυχρός· τῷ δ’ ἀπωθεῖν αἴθριος ἐνταῦθα, ἐν δὲ τοῖς ἐναντίοις ὑδατώδης. ὁμοίως δὲ καὶ ὁ νότος αἴθριος τοῖς περὶ τὴν Λιβύην. πολὺ οὖν ἐν τῷ καταφερομένῳ ὕδατι συμβάλλεται τοιοῦτον, καὶ τοῦ μετοπώρου πλατέα τὰ ὕδατα· ἀνάγκη γὰρ τὰ βαρύτατα πρῶτα φέρεσθαι. ὥστ’ ἐν ὅσοις ἔνεστι τῆς τοιαύτης γῆς πλῆθος, ῥέπει τάχιστα κάτω ταῦτα. καὶ θερμή γε ἡ θάλαττα διὰ τοῦτό ἐστιν· πάντα γὰρ ὅσα πεπύρωται, ἔχει δυνάμει θερμότητα ἐν αὑτοῖς. ὁρᾶν δ’ ἔξεστι καὶ τὴν κονίαν καὶ τὴν τέφραν καὶ τὴν ὑπόστασιν τῶν ζῴων καὶ τὴν ξηρὰν καὶ τὴν ὑγράν· καὶ τῶν θερμοτάτων γε κατὰ τὴν κοιλίαν ζῴων συμβαίνει θερμοτάτην εἶναι τὴν ὑπόστασιν. γίγνεται μὲν οὖν ἀεί τε πλατυτέρα διὰ ταύτην τὴν αἰτίαν, ἀνάγεται δ’ ἀεί τι μέρος αὐτῆς μετὰ τοῦ γλυκέος (ἀλλ’ ἔλαττον τοσούτῳ ὅσῳ καὶ ἐν τῷ ὑομένῳ τὸ ἁλμυρὸν καὶ πλατὺ τοῦ γλυκέος ἔλαττον· διόπερ ἰσάζει ὡς ἐπίπαν εἰπεῖν). ὅτι δὲ γίγνεται ἀτμίζουσα πότιμος καὶ οὐκ εἰς θάλατταν συγκρίνεται τὸ ἀτμίζον, ὅταν συνιστῆται πάλιν, πεπειραμένοι λέγωμεν. πάσχει δὲ καὶ τἆλλα ταὐτό· καὶ γὰρ οἶνος καὶ πάντες οἱ χυμοί, ὅσοι ἂν ἀτμίσαντες πάλιν εἰς ὑγρὸν συστῶσιν, ὕδωρ γίγνονται· πάθη γὰρ τἆλλα διά τινα σύμμειξιν τοῦ ὕδατός ἐστιν, καὶ οἷον ἄν τι ᾖ τὸ συμμειχθέν, τοιοῦτον ποιεῖ τὸν χυμόν. ἀλλὰ περὶ μὲν τούτων ἐν ἄλλοις καιροῖς οἰκειοτέροις ποιητέον τὴν σκέψιν. νῦν δὲ τοσοῦτον λέγωμεν, ὅτι τῆς θαλάττης ὑπαρχούσης αἰεί τι ἀνάγεται καὶ γίγνεται πότιμον καὶ ἄνωθεν ἐν τῷ ὑομένῳ κατέρχεται ἄλλο γεγενημένον, οὐ τὸ ἀναχθέν· καὶ διὰ βάρος ὑφίσταται τῷ ποτίμῳ. καὶ διὰ τοῦτο οὔτ’ ἐπιλείπει, ὥσπερ οἱ ποταμοί, ἀλλ’ ἢ τοῖς τόποις (τοῦτο δ’ ἐπ’ ἀμφοτέρων ἀνάγκη συμβαίνειν ὁμοίως), οὔτε ἀεὶ τὰ αὐτὰ μέρη διαμένει, οὔτε γῆς οὔτε θαλάττης, ἀλλ’ ἢ μόνον ὁ πᾶς ὄγκος. καὶ γὰρ καὶ περὶ γῆς ὁμοίως δεῖ ὑπολαβεῖν· τὸ μὲν γὰρ ἀνέρχεται, τὸ δὲ πάλιν συγκαταβαίνει, καὶ τοὺς τόπους μεταβάλλει τά τ’ ἐπιπολάζοντα καὶ τὰ κατιόντα πάλιν. ὅτι δ’ ἐστὶν ἐν μείξει τινὸς τὸ ἁλμυρόν, δῆλον οὐ μόνον ἐκ τῶν εἰρημένων, ἀλλὰ καὶ ἐάν τις ἀγγεῖον [359a] πλάσας θῇ κήρινον εἰς τὴν θάλατταν, περιδήσας τὸ στόμα τοιούτοις ὥστε μὴ παρεγχεῖσθαι τῆς θαλάττης· τὸ γὰρ εἰσιὸν διὰ τῶν τοίχων τῶν κηρίνων γίγνεται πότιμον ὕδωρ· ὥσπερ γὰρ δι’ ἠθμοῦ τὸ γεῶδες ἀποκρίνεται καὶ τὸ ποιοῦν τὴν ἁλμυρότητα διὰ τὴν σύμμειξιν. τοῦτο γὰρ αἴτιον καὶ τοῦ βάρους (πλέον γὰρ ἕλκει τὸ ἁλμυρὸν ἢ τὸ πότιμον) καὶ τοῦ πάχους· καὶ γὰρ τὸ πάχος διαφέρει τοσοῦτον ὥστε τὰ πλοῖα ἀπὸ τοῦ αὐτοῦ τῶν ἀγωγίμων βάρους ἐν μὲν τοῖς ποταμοῖς ὀλίγου καταδύνειν, ἐν δὲ τῇ θαλάττῃ μετρίως ἔχειν καὶ πλευστικῶς· διόπερ ἔνιοι τῶν ἐν τοῖς ποταμοῖς γεμιζόντων διὰ ταύτην τὴν ἄγνοιαν ἐζημιώθησαν. τεκμήριον δὲ τοῦ μειγνυμένου τὸ παχύτερον εἶναι τὸν ὄγκον· ἐὰν γάρ τις ὕδωρ ἁλμυρὸν ποιήσῃ σφόδρα μείξας ἅλας, ἐπιπλέουσι τὰ ᾠά, κἂν ᾖ πλήρη· σχεδὸν γὰρ ὥσπερ πηλὸς γίγνεται· τοσοῦτον ἔχει σωματῶδες πλῆθος ἡ θάλαττα. ταὐτὸ δὲ τοῦτο δρῶσι καὶ περὶ τὰς ταριχείας. εἰ δ' ἔστιν ὥσπερ μυθολογοῦσί τινες ἐν Παλαιστίνῃ τοιαύτη λίμνη, εἰς ἣν ἐάν τις ἐμβάλῃ συνδήσας ἄνθρωπον ἢ ὑποζύγιον ἐπιπλεῖν καὶ οὐ καταδύεσθαι κατὰ τοῦ ὕδατος, μαρτύριον ἂν εἴη τι τοῖς εἰρημένοις· λέγουσι γὰρ πικρὰν οὕτως εἶναι τὴν λίμνην καὶ ἁλμυρὰν ὥστε μηδένα ἰχθὺν ἐγγίγνεσθαι, τὰ δὲ ἱμάτια ῥύπτειν, ἐάν τις διασείσῃ βρέξας. ἔστι δὲ καὶ τὰ τοιαῦτα σημεῖα πάντα τῶν εἰρημένων, ὅτι τὸ ἁλμυρὸν ποιεῖ σῶμά τι, καὶ γεῶδές ἐστιν τὸ ἐνυπάρχον· ἔν τε γὰρ τῇ Χαονίᾳ κρήνη τίς ἐστιν ὕδατος πλατυτέρου, ἀπορρεῖ δ' [359a.26] αὕτη εἰς ποταμὸν πλησίον γλυκὺν μέν, ἰχθῦς δ' οὐκ ἔχοντα· εἵλοντο γὰρ δή, ὡς οἱ ἐκεῖ μυθολογοῦσιν, ἐξουσίας δοθείσης ὑπὸ τοῦ Ἡρακλέους, ὅτ' ἦλθεν ἄγων ἐκ τῆς Ἐρυθείας τὰς βοῦς, ἅλας ἀντὶ τῶν ἰχθύων, οἳ γίγνονται αὐτοῖς ἐκ τῆς κρήνης· τούτου γὰρ τοῦ ὕδατος ἀφέψοντές τι μέρος τιθέασι, καὶ γίγνεται ψυχθέν, ὅταν ἀπατμίσῃ τὸ ὑγρὸν ἅμα τῷ θερμῷ, ἅλες, οὐ χονδροὶ ἀλλὰ χαῦνοι καὶ λεπτοὶ ὥσπερ χιών. εἰσίν τε τήν τε δύναμιν ἀσθενέστεροι τῶν ἄλλων καὶ πλείους ἡδύνουσιν ἐμβληθέντες, καὶ τὴν χροιὰν οὐχ ὁμοίως λευκοί. τοιοῦτον δ' ἕτερον γίγνεται καὶ ἐν Ὀμβρικοῖς· [359b] ἔστι γάρ τις τόπος ἐν ᾧ πεφύκασι κάλαμοι καὶ σχοῖνος· τούτων κατακάουσι, καὶ τὴν τέφραν ἐμβάλλοντες εἰς ὕδωρ ἀφέψουσιν· ὅταν δὲ λίπωσί τι μέρος τοῦ ὕδατος, τοῦτο ψυχθὲν ἁλῶν γίγνεται πλῆθος. ὅσα δ' ἐστὶν ἁλμυρὰ ῥεύματα ποταμῶν ἢ κρηνῶν, τὰ πλεῖστα θερμά ποτε εἶναι δεῖ νομίζειν, εἶτα τὴν μὲν ἀρχὴν ἀπεσβέσθαι τοῦ πυρός, δι' ἧς δὲ διηθοῦνται γῆς, ἔτι μένειν οὖσαν οἷον κονίαν καὶ τέφραν. εἰσὶ δὲ πολλαχοῦ καὶ κρῆναι καὶ ῥεύματα ποταμῶν παντοδαποὺς ἔχοντα χυμούς, ὧν πάντων αἰτιατέον τὴν ἐνοῦσαν ἢ ἐγγιγνομένην δύναμιν πυρός· καομένη γὰρ ἡ γῆ τῷ μᾶλλον καὶ ἧττον παντοδαπὰς λαμβάνει μορφὰς καὶ χρόας χυμῶν· στυπτηρίας γὰρ καὶ κονίας καὶ τῶν ἄλλων τῶν τοιούτων γίγνεται πλήρης δυνάμεων, δι' ὧν τὰ ἠθούμενα ὕδατα ὄντα γλυκέα μεταβάλλει, καὶ τὰ μὲν ὀξέα γίγνεται, καθάπερ ἐν τῇ Σικάνῃ τῆς Σικελίας· ἐκεῖ γὰρ ὀξάλμη γίγνεται, καὶ χρῶνται καθάπερ ὄξει πρὸς ἔνια τῶν ἐδεσμάτων αὐτῷ. ἔστι δὲ καὶ περὶ Λύγκον κρήνη τις ὕδατος ὀξέος, περὶ δὲ τὴν Σκυθικὴν πικρά· τὸ δ' ἀπορρέον αὐτῆς τὸν ποταμὸν εἰς ὃν εἰσβάλλει ποιεῖ πικρὸν ὅλον. αἱ δὲ διαφοραὶ τούτων ἐκεῖθεν δῆλαι, ποῖοι χυμοὶ ἐκ ποίων γίγνονται κράσεων· εἴρηται δὲ περὶ αὐτῶν χωρὶς ἐν ἄλλοις. περὶ μὲν οὖν ὕδατος καὶ θαλάττης, δι' ἃς αἰτίας αἰεί τε συνεχῶς εἰσι καὶ πῶς μεταβάλλουσι καὶ τίς ἡ φύσις αὐτῶν, ἔτι δ' ὅσα πάθη κατὰ φύσιν αὐτοῖς συμβαίνει ποιεῖν ἢ πάσχειν, εἴρηται σχεδὸν ἡμῖν περὶ τῶν πλείστων.

περὶ δὲ πνευμάτων λέγωμεν, λαβόντες ἀρχὴν τὴν εἰρημένην ἡμῖν ἤδη πρότερον. ἔστι γὰρ δύ’ εἴδη τῆς ἀναθυμιάσεως, ὥς φαμεν, ἡ μὲν ὑγρὰ ἡ δὲ ξηρά· καλεῖται δ’ ἡ μὲν ἀτμίς, ἡ δὲ τὸ μὲν ὅλον ἀνώνυμος, τῷ δ’ ἐπὶ μέρους ἀνάγκη χρωμένους καθόλου προσαγορεύειν αὐτὴν οἷον καπνόν· ἔστι δ’ οὔτε τὸ ὑγρὸν ἄνευ τοῦ ξηροῦ οὔτε τὸ ξηρὸν ἄνευ τοῦ ὑγροῦ, ἀλλὰ πάντα ταῦτα λέγεται κατὰ τὴν ὑπεροχήν. φερομένου δὴ τοῦ ἡλίου κύκλῳ, καὶ ὅταν μὲν πλησιάζῃ, τῇ θερμότητι ἀνάγοντος τὸ ὑγρόν, πορρωτέρω [360a] δὲ γιγνομένου διὰ τὴν ψύξιν συνισταμένης πάλιν τῆς ἀναχθείσης ἀτμίδος εἰς ὕδωρ (διὸ χειμῶνός τε μᾶλλον γίγνεται τὰ ὕδατα, καὶ νύκτωρ ἢ μεθ’ ἡμέραν· ἀλλ’ οὐ δοκεῖ, διὰ τὸ λανθάνειν τὰ νυκτερινὰ τῶν μεθ’ ἡμέραν μᾶλλον), τὸ δὴ κατιὸν ὕδωρ διαδίδοται πᾶν εἰς τὴν γῆν, ὑπάρχει δ’ ἐν τῇ γῇ πολὺ πῦρ καὶ πολλὴ θερμότης, καὶ ὁ ἥλιος οὐ μόνον τὸ ἐπιπολάζον τῆς γῆς ὑγρὸν ἕλκει, ἀλλὰ καὶ τὴν γῆν αὐτὴν ξηραίνει θερμαίνων· τῆς δ’ ἀναθυμιάσεως, ὥσπερ εἴρηται, διπλῆς οὔσης, τῆς μὲν ἀτμιδώδους τῆς δὲ καπνώδους, ἀμφοτέρας ἀναγκαῖον γίγνεσθαι. τούτων δ’ ἡ μὲν ὑγροῦ πλέον ἔχουσα πλῆθος ἀναθυμίασις ἀρχὴ τοῦ ὑομένου ὕδατός ἐστιν, ὥσπερ εἴρηται πρότερον, ἡ δὲ ξηρὰ τῶν πνευμάτων ἀρχὴ καὶ φύσις πάντων. ταῦτα δὲ ὅτι τοῦτον τὸν τρόπον ἀναγκαῖον συμβαίνειν, καὶ ἐξ αὐτῶν τῶν ἔργων δῆλον· καὶ γὰρ τὴν ἀναθυμίασιν διαφέρειν ἀναγκαῖον, καὶ τὸν ἥλιον καὶ τὴν ἐν τῇ γῇ θερμότητα ταῦτα ποιεῖν οὐ μόνον δυνατὸν ἀλλ’ ἀναγκαῖόν ἐστιν. ἐπειδὴ δ’ ἕτερον ἑκατέρας τὸ εἶδος, φανερὸν ὅτι διαφέρει, καὶ οὐχ ἡ αὐτή ἐστιν ἥ τε ἀνέμου φύσις καὶ ἡ τοῦ ὑομένου ὕδατος, καθάπερ τινὲς λέγουσιν· τὸν γὰρ αὐτὸν ἀέρα κινούμενον μὲν ἄνεμον εἶναι, συνιστάμενον δὲ πάλιν ὕδωρ. ὁ μὲν οὖν ἀήρ, καθάπερ ἐν τοῖς πρὸ τούτων λόγοις εἰρήκαμεν, γίγνεται ἐκ τούτων· ἡ μὲν γὰρ ἀτμὶς ὑγρὸν καὶ ψυχρόν (εὐόριστον μὲν γὰρ ὡς ὑγρόν, διὰ δὲ τὸ ὕδατος εἶναι ψυχρὸν τῇ οἰκείᾳ φύσει, ὥσπερ ὕδωρ μὴ θερμανθέν), ὁ δὲ καπνὸς θερμὸν καὶ ξηρόν· ὥστε καθάπερ ἐκ συμβόλων, συνίσταιτο ἂν ὁ ἀὴρ ὑγρὸς καὶ θερμός. καὶ γὰρ ἄτοπον εἰ ὁ περὶ ἑκάστους περικεχυμένος ἀὴρ οὗτος γίγνεται κινούμενος πνεῦμα, καὶ ὅθεν ἂν τύχῃ κινηθείς, ἄνεμος ἔσται, ἀλλ’ οὐ καθάπερ τοὺς ποταμοὺς ὑπολαμβάνομεν οὐχ ὁπωσοῦν τοῦ ὕδατος εἶναι ῥέοντος, οὐδ’ ἂν ἔχῃ πλῆθος, ἀλλὰ δεῖ πηγαῖον εἶναι τὸ ῥέον· οὕτω γὰρ καὶ περὶ τῶν ἀνέμων ἔχει· κινηθείη γὰρ ἂν πολὺ πλῆθος ἀέρος ὑπό τινος μεγάλης πτώσεως, οὐκ ἔχον ἀρχὴν οὐδὲ πηγήν. μαρτυρεῖ δὲ τὰ γιγνόμενα τοῖς εἰρημένοις· διὰ γὰρ τὸ συνεχῶς μὲν μᾶλλον δὲ καὶ ἧττον καὶ πλείω καὶ ἐλάττω γίγνεσθαι τὴν [360b] ἀναθυμίασιν, ἀεὶ νέφη τε καὶ πνεύματα γίγνεται κατὰ τὴν ὥραν ἑκάστην ὡς πέφυκεν· διὰ δὲ τὸ ἐνίοτε μὲν τὴν ἀτμιδώδη γίγνεσθαι πολλαπλασίαν ὁτὲ δὲ τὴν ξηρὰν καὶ καπνώδη, ὁτὲ μὲν ἔπομβρα τὰ ἔτη γίγνεται καὶ ὑγρά, ὁτὲ δὲ ἀνεμώδη καὶ αὐχμοί. ὁτὲ μὲν οὖν συμβαίνει καὶ τοὺς αὐχμοὺς καὶ τὰς ἐπομβρίας πολλοὺς ἅμα καὶ κατὰ συνεχῆ γίγνεσθαι χώραν, ὁτὲ δὲ κατὰ μέρη· πολλάκις γὰρ ἡ μὲν κύκλῳ χώρα λαμβάνει τοὺς ὡραίους ὄμβρους ἢ καὶ πλείους, ἐν δέ τινι μέρει ταύτης αὐχμός ἐστιν· ὁτὲ δὲ τοὐναντίον τῆς κύκλῳ πάσης ἢ μετρίοις χρωμένης ὕδασιν ἢ καὶ μᾶλλον αὐχμώσης, ἕν τι μόριον ὕδατος ἄφθονον λαμβάνει πλῆθος. αἴτιον δ’ ὅτι ὡς μὲν τὰ πολλὰ τὸ αὐτὸ πάθος ἐπὶ πλείω διήκειν εἰκὸς χώραν, διὰ τὸ παραπλησίως κεῖσθαι πρὸς τὸν ἥλιον τὰ σύνεγγυς, ἐὰν μή τι διάφορον ἔχωσιν ἴδιον· οὐ μὴν ἀλλ’ ἐνίοτε κατὰ τοδὶ μὲν τὸ μέρος ἡ ξηρὰ ἀναθυμίασις ἐγένετο πλείων, κατὰ δὲ τὸ ἄλλο ἡ ἀτμιδώδης, ὁτὲ δὲ τοὐναντίον. καὶ αὐτοῦ δὲ τούτου αἴτιον τὸ ἑκατέραν μεταπίπτειν εἰς τὴν τῆς ἐχομένης χώρας ἀναθυμίασιν, οἷον ἡ μὲν ξηρὰ κατὰ τὴν οἰκείαν ῥεῖ χώραν, ἡ δ’ ὑγρὰ πρὸς τὴν γειτνιῶσαν, ἢ καὶ εἰς τῶν πόρρω τινὰ τόπων ἀπεώσθη ὑπὸ πνευμάτων· ὁτὲ δὲ αὕτη μὲν ἔμεινεν, ἡ δ’ ἐναντία ταὐτὸν ἐποίησεν. καὶ συμβαίνει τοῦτο πολλάκις, ὥσπερ ἐπὶ τοῦ σώματος, ἐὰν ἡ ἄνω κοιλία ξηρὰ ᾖ, τὴν κάτω ἐναντίως διακεῖσθαι, καὶ ταύτης ξηρᾶς οὔσης ὑγρὰν εἶναι τὴν ἄνω καὶ ψυχράν, οὕτω καὶ περὶ τοὺς τόπους ἀντιπεριίστασθαι καὶ μεταβάλλειν τὰς ἀναθυμιάσεις. ἔτι δὲ μετά τε τοὺς ὄμβρους ἄνεμος ὡς τὰ πολλὰ γίγνεται ἐν ἐκείνοις τοῖς τόποις καθ’ οὓς ἂν συμπέσῃ γενέσθαι τοὺς ὄμβρους, καὶ τὰ πνεύματα παύεται ὕδατος γενομένου. ταῦτα γὰρ ἀνάγκη συμβαίνειν διὰ τὰς εἰρημένας ἀρχάς· ὕσαντός τε γὰρ ἡ γῆ ξηραινομένη ὑπό τε τοῦ ἐν αὐτῇ θερμοῦ καὶ ὑπὸ τοῦ ἄνωθεν ἀναθυμιᾶται, τοῦτο δ’ ἦν ἀνέμου σῶμα· καὶ ὅταν ἡ τοιαύτη ἀπόκρισις ᾖ καὶ ἄνεμοι κατέχωσι, παυομένων διὰ τὸ ἀποκρίνεσθαι τὸ θερμὸν ἀεὶ καὶ ἀναφέρεσθαι εἰς τὸν ἄνω τόπον συνίσταται ἡ ἀτμὶς ψυχομένη καὶ γίγνεται ὕδωρ· [361a] καὶ ὅταν εἰς ταὐτὸν συνωσθῶσι τὰ νέφη καὶ ἀντιπεριστῇ εἰς αὐτὰ ἡ ψύξις, ὕδωρ γίγνεται καὶ καταψύχει τὴν ξηρὰν ἀναθυμίασιν. παύουσί τε οὖν τὰ ὕδατα γιγνόμενα τοὺς ἀνέμους, καὶ παυομένων αὐτὰ γίγνεται διὰ ταύτας τὰς αἰτίας. ἔτι δὲ τοῦ γίγνεσθαι μάλιστα πνεύματα ἀπό τε τῆς ἄρκτου καὶ [361a.6] μεσημβρίας τὸ αὐτὸ αἴτιον· πλεῖστοι γὰρ βορέαι καὶ νότοι γίγνονται τῶν ἀνέμων· ὁ γὰρ ἥλιος τούτους μόνους οὐκ ἐπέρχεται τοὺς τόπους, ἀλλὰ πρὸς τούτους καὶ ἀπὸ τούτων, ἐπὶ δυσμὰς δὲ καὶ ἐπ’ ἀνατολὰς ἀεὶ φέρεται· διὸ τὰ νέφη συνίσταται ἐν τοῖς πλαγίοις, καὶ γίγνεται προσιόντος μὲν ἡ ἀναθυμίασις τοῦ ὑγροῦ, ἀπιόντος δὲ πρὸς τὸν ἐναντίον τόπον ὕδατα καὶ χειμῶνες. διὰ μὲν οὖν τὴν φορὰν τὴν ἐπὶ τροπὰς καὶ ἀπὸ τροπῶν θέρος γίγνεται καὶ χειμών, καὶ ἀνάγεταί τε ἄνω τὸ ὕδωρ καὶ γίγνεται πάλιν· ἐπεὶ δὲ πλεῖστον μὲν καταβαίνει ὕδωρ ἐν τούτοις τοῖς τόποις ἐφ’ οὓς τρέπεται καὶ ἀφ’ ὧν, οὗτοι δέ εἰσιν ὅ τε πρὸς ἄρκτον καὶ μεσημβρίαν, ὅπου δὲ πλεῖστον ὕδωρ ἡ γῆ δέχεται, ἐνταῦθα πλείστην ἀναγκαῖον γίγνεσθαι τὴν ἀναθυμίασιν παραπλησίως οἷον ἐκ χλωρῶν ξύλων καπνόν, ἡ δ’ ἀναθυμίασις αὕτη ἄνεμός ἐστιν, εὐλόγως ἂν οὖν ἐντεῦθεν γίγνοιτο τὰ πλεῖστα καὶ κυριώτατα τῶν πνευμάτων. καλοῦνται δ’ οἱ μὲν ἀπὸ τῆς ἄρκτου βορέαι, οἱ δὲ ἀπὸ τῆς μεσημβρίας νότοι. ἡ δὲ φορὰ λοξὴ αὐτῶν ἐστιν· περὶ γὰρ τὴν γῆν πνέουσιν εἰς ὀρθὸν γιγνομένης τῆς ἀναθυμιάσεως, ὅτι πᾶς ὁ κύκλῳ ἀὴρ συνέπεται τῇ φορᾷ. διὸ καὶ ἀπορήσειεν ἄν τις ποτέρωθεν ἡ ἀρχὴ τῶν πνευμάτων ἐστί, πότερον ἄνωθεν ἢ κάτωθεν· ἡ μὲν γὰρ κίνησις ἄνωθεν καὶ πρὶν πνεῖν, ὁ δ’ ἀὴρ ἐπίδηλος, κἂν ᾖ νέφος ἢ ἀχλύς· σημαίνει γὰρ κινουμένην πνεύματος ἀρχὴν πρὶν φανερῶς ἐληλυθέναι τὸν ἄνεμον, ὡς ἄνωθεν αὐτῶν ἐχόντων τὴν ἀρχήν. ἐπεὶ δ’ ἐστὶν ἄνεμος πλῆθός τι τῆς ξηρᾶς ἐκ γῆς ἀναθυμιάσεως κινούμενον περὶ τὴν γῆν, δῆλον ὅτι τῆς μὲν κινήσεως ἡ ἀρχὴ ἄνωθεν, τῆς δὲ ὕλης καὶ τῆς γενέσεως κάτωθεν· ᾗ μὲν γὰρ ῥευσεῖται τὸ ἀνιόν, ἐκεῖθεν τὸ αἴτιον· ἡ γὰρ φορὰ τῶν πορρωτέρω κυρία τῆς γῆς· καὶ ἅμα κάτωθεν μὲν εἰς ὀρθὸν ἀναφέρεται, καὶ πᾶν ἰσχύει μᾶλλον ἐγγύς, ἡ δὲ τῆς γενέσεως ἀρχὴ δῆλον ὡς ἐκ τῆς [361b] γῆς ἐστιν. ὅτι δ’ ἐκ πολλῶν ἀναθυμιάσεων συνιουσῶν κατὰ μικρόν, ὥσπερ αἱ τῶν ποταμῶν ἀρχαὶ γίγνονται νοτιζούσης τῆς γῆς, δῆλον καὶ ἐπὶ τῶν ἔργων· ὅθεν γὰρ ἑκάστοτε πνέουσιν, ἐλάχιστοι πάντες εἰσί, προϊόντες δὲ καὶ πόρρω λαμπροὶ πνέουσιν. ἔτι δὲ καὶ τὰ περὶ τὴν ἄρκτον ἐν τῷ χειμῶνι νήνεμα καὶ ἄπνοα, κατ’ αὐτὸν ἐκεῖνον τὸν τόπον· ἀλλὰ τὸ κατὰ μικρὸν ἀποπνέον καὶ λανθάνον ἔξω προϊὸν ἤδη πνεῦμα γίγνεται λαμπρόν. τίς μὲν οὖν ἐστιν ἡ τοῦ ἀνέμου φύσις καὶ πῶς γίγνεται, ἔτι δὲ αὐχμῶν τε πέρι καὶ ἐπομβρίας, καὶ διὰ τίν’ αἰτίαν καὶ παύονται καὶ γίγνονται μετὰ τοὺς ὄμβρους, διὰ τί τε βορέαι καὶ νότοι πλεῖστοι τῶν ἀνέμων εἰσίν, εἴρηται· πρὸς δὲ τούτοις καὶ περὶ τῆς φορᾶς αὐτῶν.

ὁ δ’ ἥλιος καὶ παύει καὶ συνεξορμᾷ τὰ πνεύματα· ἀσθενεῖς μὲν γὰρ καὶ ὀλίγας οὔσας τὰς ἀναθυμιάσεις μαραίνει τῷ πλείονι θερμῷ τὸ ἐν τῇ ἀναθυμιάσει ἔλαττον ὄν, καὶ διακρίνει. ἔτι δὲ αὐτὴν τὴν γῆν φθάνει ξηραίνων πρὶν γενέσθαι ἔκκρισιν ἀθρόαν, ὥσπερ εἰς πολὺ πῦρ ἐὰν ὀλίγον ἐμπέσῃ ὑπέκκαυμα, φθάνει πολλάκις πρὶν καπνὸν ποιῆσαι κατακαυθέν. διὰ μὲν οὖν ταύτας τὰς αἰτίας καταπαύει τε τὰ πνεύματα καὶ ἐξ ἀρχῆς γίγνεσθαι κωλύει, τῇ μὲν μαράνσει καταπαύων, τῷ δὲ τάχει τῆς ξηρότητος γίγνεσθαι κωλύων· διὸ περὶ Ὠρίωνος ἀνατολὴν μάλιστα γίγνεται νηνεμία, καὶ μέχρι τῶν ἐτησίων καὶ προδρόμων. ὅλως δὲ γίγνονται αἱ νηνεμίαι διὰ δύ' αἰτίας· ἢ γὰρ διὰ ψῦχος ἀποσβεννυμένης τῆς ἀναθυμιάσεως, οἷον ὅταν γένηται πάγος ἰσχυρός, ἢ καταμαραινομένης ὑπὸ τοῦ πνίγους. αἱ δὲ πλεῖσται καὶ ἐν ταῖς ἀνὰ μέσον ὥραις, ἢ τῷ μήπω ἀναθυμιᾶσθαι, ἢ τῷ ἤδη ἐξεληλυθέναι τὴν ἀναθυμίασιν καὶ ἄλλην μήπω ἐπιρρεῖν. ἄκριτος δὲ καὶ χαλεπὸς ὁ Ὠρίων εἶναι δοκεῖ, καὶ δύνων καὶ ἐπιτέλλων, διὰ τὸ ἐν μεταβολῇ ὥρας συμβαίνειν τὴν δύσιν καὶ τὴν ἀνατολήν, θέρους ἢ χειμῶνος, καὶ διὰ τὸ μέγεθος τοῦ ἄστρου ἡμερῶν γίγνεται πλῆθος· αἱ δὲ μεταβολαὶ πάντων ταραχώδεις διὰ τὴν ἀοριστίαν εἰσίν. οἱ δ' ἐτησίαι πνέουσι μετὰ τροπὰς καὶ κυνὸς ἐπιτολήν, καὶ οὔτε τηνικαῦτα ὅτε μάλιστα πλησιάζει ὁ ἥλιος, [362a] οὔτε ὅτε πόρρω· καὶ τὰς μὲν ἡμέρας πνέουσι, τὰς δὲ νύκτας παύονται. αἴτιον δ' ὅτι πλησίον μὲν ὢν φθάνει ξηραίνων πρὶν γενέσθαι τὴν ἀναθυμίασιν· ὅταν δ' ἀπέλθῃ μικρόν, σύμμετρος ἤδη γίγνεται ἡ ἀναθυμίασις καὶ ἡ θερμότης, ὥστε τὰ πεπηγότα ὕδατα τήκεσθαι, καὶ τῆς γῆς ξηραινομένης ὑπό τε τῆς οἰκείας θερμότητος καὶ ὑπὸ τῆς τοῦ ἡλίου οἷον τύφεσθαι καὶ θυμιᾶσθαι. τῆς δὲ νυκτὸς λωφῶσι διὰ τὸ τὰ πεπηγότα τηκόμενα παύεσθαι διὰ τὴν ψυχρότητα τῶν νυκτῶν. θυμιᾶται δ' οὔτε τὸ πεπηγὸς οὔτε τὸ μηδὲν ἔχον ξηρόν, ἀλλ' ὅταν ἔχῃ τὸ ξηρὸν ὑγρότητα, τοῦτο θερμαινόμενον θυμιᾶται. ἀποροῦσι δέ τινες διὰ τί βορέαι μὲν γίγνονται συνεχεῖς, οὓς καλοῦμεν ἐτησίας, μετὰ τὰς θερινὰς τροπάς, νότοι δὲ οὕτως οὐ γίγνονται μετὰ τὰς χειμερινάς. ἔχει δὲ οὐκ ἀλόγως· γίγνονται μὲν γὰρ οἱ καλούμενοι λευκόνοτοι τὴν ἀντικειμένην ὥραν, οὐχ οὕτως δὲ γίγνονται συνεχεῖς· διὸ λανθάνοντες ποιοῦσιν ἐπιζητεῖν. αἴτιον δ' ὅτι ὁ μὲν βορέας ἀπὸ τῶν ὑπὸ τὴν ἄρκτον πνεῖ τόπων, οἳ πλήρεις ὕδατος καὶ χιόνος εἰσὶ πολλῆς, ὧν τηκομένων ὑπὸ τοῦ ἡλίου μετὰ τὰς θερινὰς τροπὰς μᾶλλον ἢ ἐν αὐταῖς πνέουσιν οἱ ἐτησίαι· οὕτω γὰρ καὶ τὰ πνίγη γίγνεται, οὐχ ὅταν μάλιστα πλησιάζῃ πρὸς ἄρκτον, ἀλλ' ὅταν πλείων μὲν ᾖ χρόνος θερμαίνοντι, ἔτι δὲ ἐγγύς. ὁμοίως δὲ καὶ μετὰ χειμερινὰς τροπὰς πνέουσιν οἱ ὀρνιθίαι· καὶ γὰρ οὗτοι ἐτησίαι εἰσὶν ἀσθενεῖς· ἐλάττους δὲ καὶ ὀψιαίτεροι τῶν ἐτησίων πνέουσιν· ἑβδομηκοστῇ γὰρ ἄρχονται πνεῖν διὰ τὸ πόρρω ὄντα τὸν ἥλιον ἐνισχύειν ἧττον. οὐ συνεχεῖς δ' ὁμοίως πνέουσι, διότι τὰ μὲν ἐπιπολῆς καὶ ἀσθενῆ τότε ἀποκρίνεται, τὰ δὲ μᾶλλον πεπηγότα πλείονος δεῖται θερμότητος. διὸ διαλείποντες οὗτοι πνέουσιν, ἕως ἂν ἐπὶ τροπαῖς πάλιν ταῖς θεριναῖς πνεύσωσιν οἱ ἐτησίαι, ἐπεὶ θέλει γε ὅτι μάλιστα συνεχῶς ἐντεῦθεν ἀεὶ πνεῖν ἄνεμος. ὁ δὲ νότος ἀπὸ τῆς θερινῆς τροπῆς πνεῖ, καὶ οὐκ ἀπὸ τῆς ἑτέρας ἄρκτου. δύο γὰρ ὄντων τμημάτων τῆς δυνατῆς οἰκεῖσθαι χώρας, τῆς μὲν πρὸς τὸν ἄνω πόλον, καθ’ ἡμᾶς, τῆς δὲ πρὸς τὸν ἕτερον καὶ πρὸς μεσημβρίαν, καὶ οὔσης οἷον τυμπάνου (τοιοῦτον γὰρ σχῆμα τῆς γῆς [362b] ἐκτέμνουσιν αἱ ἐκ τοῦ κέντρου αὐτῆς ἀγόμεναι, καὶ ποιοῦσι δύο κώνους, τὸν μὲν ἔχοντα βάσιν τὸν τροπικόν, τὸν δὲ τὸν διὰ παντὸς φανερόν, τὴν δὲ κορυφὴν ἐπὶ τοῦ μέσου τῆς γῆς· τὸν αὐτὸν δὲ τρόπον πρὸς τὸν κάτω πόλον ἕτεροι δύο κῶνοι τῆς γῆς ἐκτμήματα ποιοῦσι. ταῦτα δ’ οἰκεῖσθαι μόνα δυνατόν, καὶ οὔτ’ ἐπέκεινα τῶν τροπῶν (σκιὰ γὰρ οὐκ ἂν ἦν πρὸς ἄρκτον, νῦν δ’ ἀοίκητοι πρότερον γίγνονται οἱ τόποι πρὶν ἢ ὑπολείπειν ἢ μεταβάλλειν τὴν σκιὰν πρὸς μεσημβρίαν) τά θ’ ὑπὸ τὴν ἄρκτον ὑπὸ ψύχους ἀοίκητα. φέρεται δὲ καὶ ὁ στέφανος κατὰ τοῦτον τὸν τόπον· φαίνεται γὰρ ὑπὲρ κεφαλῆς γιγνόμενος ἡμῖν, ὅταν ᾖ κατὰ τὸν μεσημβρινόν. διὸ καὶ γελοίως γράφουσι νῦν τὰς περιόδους τῆς γῆς· γράφουσι γὰρ κυκλοτερῆ τὴν οἰκουμένην, τοῦτο δ’ ἐστὶν ἀδύνατον κατά τε τὰ φαινόμενα καὶ κατὰ τὸν λόγον. ὅ τε γὰρ λόγος δείκνυσιν ὅτι ἐπὶ πλάτος μὲν ὥρισται, τὸ δὲ κύκλῳ συνάπτειν ἐνδέχεται διὰ τὴν κρᾶσιν, -οὐ γὰρ ὑπερβάλλει τὰ καύματα καὶ τὸ ψῦχος κατὰ μῆκος, ἀλλ’ ἐπὶ [362b.18] πλάτος, ὥστ’ εἰ μή που κωλύει θαλάττης πλῆθος, ἅπαν εἶναι πορεύσιμον, -καὶ κατὰ τὰ φαινόμενα περί τε τοὺς πλοῦς καὶ τὰς πορείας· πολὺ γὰρ τὸ μῆκος διαφέρει τοῦ πλάτους. τὸ γὰρ ἀπὸ Ἡρακλείων στηλῶν μέχρι τῆς Ἰνδικῆς τοῦ ἐξ Αἰθιοπίας πρὸς τὴν Μαιῶτιν καὶ τοὺς ἐσχατεύοντας τῆς Σκυθίας τόπους πλέον ἢ πέντε πρὸς τρία τὸ μέγεθός ἐστιν, ἐάν τέ τις τοὺς πλοῦς λογίζηται καὶ τὰς ὁδούς, ὡς ἐνδέχεται λαμβάνειν τῶν τοιούτων τὰς ἀκριβείας. καίτοι ἐπὶ πλάτος μὲν μέχρι τῶν ἀοικήτων ἴσμεν τὴν οἰκουμένην· ἔνθα μὲν γὰρ διὰ ψῦχος οὐκέτι κατοικοῦσιν, ἔνθα δὲ διὰ τὴν ἀλέαν. τὰ δὲ τῆς Ἰνδικῆς ἔξω καὶ τῶν στηλῶν τῶν Ἡρακλείων διὰ τὴν θάλατταν οὐ φαίνεται συνείρειν, τῷ συνεχῶς εἶναι πᾶσαν οἰκουμένην)· ἐπεὶ δ’ ὁμοίως ἔχειν ἀνάγκη τόπον τινὰ πρὸς τὸν ἕτερον πόλον ὥσπερ ὃν ἡμεῖς οἰκοῦμεν πρὸς τὸν ὑπὲρ ἡμῶν, δῆλον ὡς ἀνάλογον ἕξει τά τ’ ἄλλα καὶ τῶν πνευμάτων ἡ στάσις· ὥστε καθάπερ ἐνταῦθα βορέας ἐστίν, κἀκείνοις ἀπὸ τῆς ἐκεῖ ἄρκτου τις ἄνεμος οὕτως ὤν, ὃν οὐδὲν δυνατὸν διέχειν δεῦρο, ἐπεὶ οὐδ’ ὁ βορέας οὗτος εἰς τὴν ἐνταῦθα [363a] οἰκουμένην πᾶσάν ἐστιν· ἔστιν γὰρ ὥσπερ ἀπόγειον τὸ πνεῦμα τὸ βόρειον [[Μετεωρολογικά/Β#ρἕως ὁ βορέας οὗτος εἰς τὴν ἐνταῦθα οἰκουμένην πνεῖ|[ἕως ὁ βορέας οὗτος εἰς τὴν ἐνταῦθα οἰκουμένην πνεῖ]]]. ἀλλὰ διὰ τὸ τὴν οἴκησιν κεῖσθαι ταύτην πρὸς ἄρκτον, πλεῖστοι βορέαι πνέουσιν. ὅμως δὲ καὶ ἐνταῦθα ἐλλείπει καὶ οὐ δύναται πόρρω διήκειν, ἐπεὶ περὶ τὴν ἔξω Λιβύης θάλατταν τὴν νοτίαν, ὥσπερ ἐνταῦθα οἱ βορέαι καὶ οἱ νότοι πνέουσιν, οὕτως ἐκεῖ εὖροι καὶ ζέφυροι διαδεχόμενοι συνεχεῖς ἀεὶ πνέουσιν. ὅτι μὲν οὖν ὁ νότος οὐκ ἔστιν ὁ ἀπὸ τοῦ ἑτέρου πόλου πνέων ἄνεμος, δῆλον. ἐπεὶ δ' οὔτ' ἐκεῖνος, οὔτε ὁ ἀπὸ χειμερινῆς τροπῆς (δέοι γὰρ ἂν ἄλλον ἀπὸ θερινῆς εἶναι τροπῆς· οὕτως γὰρ τὸ ἀνάλογον ἀποδώσει· νῦν δ' οὐκ ἔστιν· εἷς γὰρ μόνος φαίνεται πνέων ἐκ τῶν ἐκεῖθεν τόπων)· ὥστ' ἀνάγκη τὸν ἀπὸ τοῦ κατακεκαυμένου τόπου πνέοντα ἄνεμον εἶναι νότον. ἐκεῖνος δ' ὁ τόπος διὰ τὴν τοῦ ἡλίου γειτνίασιν οὐκ ἔχει ὕδατα καὶ νομάς, αἳ διὰ τὴν πῆξιν ποιήσουσιν ἐτησίας· ἀλλὰ διὰ τὸ τὸν τόπον εἶναι πολὺ πλείω ἐκεῖνον καὶ ἀναπεπταμένον, μείζων καὶ πλείων καὶ μᾶλλον ἀλεεινὸς ἄνεμος ὁ νότος ἐστὶ τοῦ βορέου, καὶ διήκει μᾶλλον δεῦρο ἢ οὗτος ἐκεῖ. τίς μὲν οὖν αἰτία τούτων ἐστὶ τῶν ἀνέμων, καὶ πῶς ἔχουσι πρὸς ἀλλήλους, εἴρηται.

περὶ δὲ θέσεως αὐτῶν, καὶ τίνες ἐναντίοι τίσι, καὶ ποίους ἅμα πνεῖν ἐνδέχεται καὶ ποίους οὔ, ἔτι δὲ καὶ τίνες καὶ πόσοι τυγχάνουσιν ὄντες, καὶ πρὸς τούτοις περὶ τῶν ἄλλων παθημάτων ὅσα μὴ συμβέβηκεν ἐν τοῖς προβλήμασιν εἰρῆσθαι τοῖς κατὰ μέρος, νῦν λέγωμεν. δεῖ δὲ περὶ τῆς θέσεως ἅμα τοὺς λόγους ἐκ τῆς ὑπογραφῆς θεωρεῖν. γέγραπται μὲν οὖν, τοῦ μᾶλλον εὐσήμως ἔχειν, ὁ τοῦ ὁρίζοντος κύκλος· διὸ καὶ στρογγύλος. δεῖ δὲ νοεῖν αὐτοῦ τὸ ἕτερον ἔκτμημα τὸ ὑφ' ἡμῶν οἰκούμενον· ἔσται γὰρ κἀκεῖνο διελεῖν τὸν αὐτὸν τρόπον. ὑποκείσθω δὲ πρῶτον μὲν ἐναντία κατὰ τόπον εἶναι τὰ πλεῖστον ἀπέχοντα κατὰ τόπον, ὥσπερ κατ' εἶδος ἐναντία τὰ πλεῖστον ἀπέχοντα κατὰ τὸ εἶδος· πλεῖστον δ' ἀπέχει κατὰ τόπον τὰ κείμενα πρὸς ἄλληλα κατὰ διάμετρον. ἔστω οὖν τὸ μὲν ἐφ' ᾧ Α δυσμὴ ἰσημερινή, [363b] ἐναντίος δὲ τούτῳ τόπος, ἐφ' οὗ τὸ Β, ἀνατολὴ ἰσημερινή· ἄλλη δὲ διάμετρος ταύτην πρὸς ὀρθὴν τέμνουσα, ἧς τὸ ἐφ' οὗ Η ἔστω ἄρκτος· τούτῳ δ' ἐναντίον ἐξ ἐναντίας, τὸ ἐφ' οὗ Θ, μεσημβρία· τὸ δ' ἐφ' οὗ Ζ ἀνατολὴ θερινή, τὸ δ' ἐφ' ᾧ Ε δυσμὴ θερινή, τὸ δ' ἐφ' οὗ Δ ἀνατολὴ χειμερινή, τὸ δ' ἐφ' οὗ Γ δυσμὴ χειμερινή. ἀπὸ δὲ τοῦ Ζ ἤχθω διάμετρος ἐπὶ τὸ Γ, καὶ ἀπὸ τοῦ Δ ἐπὶ τὸ Ε. ἐπεὶ οὖν τὰ μὲν πλεῖστον ἀπέχοντα κατὰ τόπον ἐναντία κατὰ τόπον, πλεῖστον δ' ἀπέχει τὰ κατὰ διάμετρον, ἀναγκαῖον καὶ τῶν πνευμάτων ταῦτα ἀλλήλοις ἐναντία εἶναι, ὅσα κατὰ διάμετρόν ἐστιν. καλεῖται δὲ κατὰ τὴν θέσιν τῶν τόπων τὰ πνεύματα ὧδε· ζέφυρος μὲν τὸ ἀπὸ τοῦ Α· τοῦτο γὰρ δυσμὴ ἰσημερινή. ἐναντίος δὲ τούτῳ ἀπηλιώτης ἀπὸ τοῦ Β· τοῦτο γὰρ ἀνατολὴ ἰσημερινή. βορέας δὲ <καὶ> ἀπαρκτίας ἀπὸ τοῦ Η· ἐνταῦθα γὰρ ἡ ἄρκτος. ἐναντίος δὲ τούτῳ νότος ἀπὸ τοῦ Θ· μεσημβρία τε γὰρ αὕτη ἀφ' ἧς πνεῖ, καὶ τὸ Θ τῷ Η ἐναντίον· κατὰ διάμετρον γάρ. ἀπὸ δὲ τοῦ Ζ καικίας·

αὕτη γὰρ ἀνατολὴ θερινή. ἐναντίος δ’ οὐχ ὁ ἀπὸ τοῦ Ε πνέων, ἀλλ’ ὁ ἀπὸ τοῦ Γ λίψ· οὗτος γὰρ ἀπὸ δυσμῆς χειμερινῆς, ἐναντίος δὲ τούτῳ (κατὰ διάμετρον γὰρ κεῖται). ἀπὸ δὲ τοῦ Δ εὖρος· οὗτος γὰρ ἀπ’ ἀνατολῆς χειμερινῆς πνεῖ, γειτνιῶν τῷ νότῳ· διὸ καὶ πολλάκις εὐρόνοτοι λέγονται πνεῖν. ἐναντίος δὲ τούτῳ οὐχ ὁ ἀπὸ τοῦ Γ λίψ, ἀλλ’ ὁ ἀπὸ τοῦ Ε, ὃν καλοῦσιν οἱ μὲν ἀργέστην; οἱ δ’ ὀλυμπίαν, οἱ δὲ σκίρωνα· οὗτος γὰρ ἀπὸ δυσμῆς θερινῆς πνεῖ, καὶ κατὰ διάμετρον αὐτῷ κεῖται μόνος. οὗτοι μὲν οὖν οἱ κατὰ διάμετρόν τε κείμενοι ἄνεμοι καὶ οἷς εἰσιν ἐναντίοι· ἕτεροι δ’ εἰσὶν καθ’ οὓς οὐκ ἔστιν ἐναντία πνεύματα. ἀπὸ μὲν γὰρ τοῦ Ι ὃν καλοῦσι θρασκίαν· οὗτος γὰρ μέσος ἀργέστου καὶ ἀπαρκτίου· ἀπὸ δὲ τοῦ Κ ὃν καλοῦσιν μέσην· οὗτος γὰρ μέσος καικίου καὶ ἀπαρκτίου. ἡ δὲ τοῦ ΙΚ διάμετρος βούλεται μὲν κατὰ τὸν διὰ παντὸς εἶναι φαινόμενον, οὐκ ἀκριβοῖ δέ. ἐναντία δὲ τούτοις οὐκ ἔστι τοῖς πνεύμασιν, οὔτε τῷ μέσῃ (ἔπνει γὰρ ἄν τις ἐφ’ οὗ τὸ Μ· τοῦτο γὰρ κατὰ [364a] διάμετρον) οὔτε τῷ Ι, τῷ θρασκίᾳ (ἔπνει γὰρ ἂν ἀπὸ τοῦ Ν· τοῦτο γὰρ κατὰ διάμετρον τὸ σημεῖον, εἰ μὴ ἀπ’ αὐτοῦ καὶ ἐπ’ ὀλίγον πνεῖ τις ἄνεμος, ὃν καλοῦσιν οἱ περὶ τὸν τόπον ἐκεῖνον φοινικίαν). τὰ μὲν οὖν κυριώτατα καὶ διωρισμένα πνεύματα ταῦτ’ ἐστὶ καὶ τοῦτον τέτακται τὸν τρόπον· τοῦ δ’ εἶναι πλείους ἀνέμους ἀπὸ τῶν πρὸς ἄρκτον τόπων ἢ τῶν πρὸς μεσημβρίαν αἴτιον τό τε τὴν οἰκουμένην ὑποκεῖσθαι πρὸς τοῦτον τὸν τόπον, καὶ ὅτι πολλῷ πλέον ὕδωρ καὶ χιὼν ἀπωθεῖται εἰς τοῦτο τὸ μέρος διὰ τὸ ἐκεῖνα ὑπὸ τὸν ἥλιον εἶναι καὶ τὴν ἐκείνου φοράν, ὧν τηκομένων εἰς τὴν γῆν καὶ θερμαινομένων ὑπὸ τοῦ ἡλίου καὶ τῆς γῆς ἀναγκαῖον πλείω καὶ ἐπὶ πλείω τόπον γίγνεσθαι τὴν ἀναθυμίασιν διὰ ταύτην τὴν αἰτίαν. ἔστι δὲ τῶν εἰρημένων πνευμάτων βορέας μὲν ὅ τ’ ἀπαρκτίας κυριώτατα, καὶ θρασκίας καὶ μέσης· ὁ δὲ καικίας κοινὸς ἀπηλιώτου καὶ βορέου· νότος δὲ ὅ τε ἰθαγενὴς ὁ ἀπὸ μεσημβρίας καὶ λίψ· ἀπηλιώτης δὲ ὅ τε ἀπ’ ἀνατολῆς ἰσημερινῆς καὶ ὁ εὖρος· ὁ δὲ φοινικίας κοινός· ζέφυρος δὲ ὅ τε ἰθαγενὴς καὶ ὁ ἀργέστης καλούμενος. ὅλως δὲ τὰ μὲν βόρεια τούτων καλεῖται, τὰ δὲ νότια· προστίθεται δὲ τὰ μὲν ζεφυρικὰ τῷ βορέᾳ (ψυχρότερα γὰρ διὰ τὸ ἀπὸ δυσμῶν πνεῖν), νότῳ δὲ τὰ ἀπηλιωτικά (θερμότερα γὰρ διὰ τὸ ἀπ’ ἀνατολῆς πνεῖν). διωρισμένων οὖν τῷ ψυχρῷ καὶ τῷ θερμῷ καὶ ἀλεεινῷ τῶν πνευμάτων οὕτως ἐκάλεσαν. θερμότερα μὲν τὰ ἀπὸ τῆς ἕω τῶν ἀπὸ δυσμῆς, ὅτι πλείω χρόνον ὑπὸ τὸν ἥλιόν ἐστι τὰ ἀπ’ ἀνατολῆς· τὰ δ’ ἀπὸ δυσμῆς ἀπολείπει τε θᾶττον καὶ πλησιάζει τῷ τόπῳ ὀψιαίτερον. οὕτω δὲ τεταγμένων τῶν ἀνέμων, δῆλον ὅτι ἅμα πνεῖν τοὺς μὲν ἐναντίους οὐχ οἷόν τε (κατὰ διάμετρον γάρ· ἅτερος οὖν παύσεται ἀποβιασθείς), τοὺς δὲ μὴ οὕτως κειμένους πρὸς ἀλλήλους οὐδὲν κωλύει, οἷον τὸν Ζ καὶ Δ. διὰ [364a.31] τοῦτο ἅμα πνέουσιν ἐνίοτε ἀμφότεροι οὔριοι, ἐπὶ τὸ αὐτὸ σημεῖον, οὐκ ἐκ ταὐτοῦ οὐδὲ τῷ αὐτῷ πνεύματι. κατὰ δὲ τὰς ὥρας τὰς ἐναντίας οἱ ἐναντίοι μάλιστα πνέουσιν, οἷον περὶ [364b] ἰσημερίαν τὴν μὲν ἐαρινὴν καικίας καὶ ὅλως τὰ ἐπέκεινα τροπῆς θερινῆς, περὶ δὲ τὴν μετοπωρινὴν λίβες, περὶ δὲ τροπὰς θερινὰς μὲν ζέφυρος, χειμερινὰς δὲ εὖρος. ἐπιπίπτουσι δὲ τοῖς ἄλλοις μάλιστα καὶ παύουσιν ἀπαρκτίαι καὶ θρασκίαι καὶ ἀργέσται· διὰ τὸ ἐγγυτάτω γὰρ τὴν ὁρμὴν αὐτῶν εἶναι πολλοί τε καὶ ἰσχυροὶ πνέουσι μάλιστα οὗτοι. διὸ καὶ αἰθριώτατοί εἰσι τῶν ἀνέμων· πνέοντες γὰρ ἐγγύθεν μάλιστα ἀποβιαζόμενοί τε τἆλλα πνεύματα παύουσι, καὶ ἀποφυσῶντες τὰ συνιστάμενα νέφη ποιοῦσιν αἰθρίαν, ἂν μὴ ψυχροὶ σφόδρα τύχωσιν ἅμα ὄντες. τότε δὲ οὐκ αἴθριοι· ἐὰν γὰρ ὦσι μᾶλλον ψυχροὶ ἢ μεγάλοι, φθάνουσι πηγνύντες ἢ προωθοῦντες. ὁ δὲ καικίας οὐκ αἴθριος, ὅτι ἀνακάμπτει εἰς αὑτόν· ὅθεν καὶ λέγεται ἡ παροιμία “ἕλκων ἐφ’ αὑτὸν ὥστε καικίας νέφος.” αἱ δὲ περιστάσεις γίγνονται αὐτῶν καταπαυομένων εἰς τοὺς ἐχομένους κατὰ τὴν τοῦ ἡλίου μετάστασιν, διὰ τὸ κινεῖσθαι μάλιστα τὸ ἐχόμενον τῆς ἀρχῆς· ἡ δὲ ἀρχὴ οὕτω κινεῖται τῶν πνευμάτων ὡς ὁ ἥλιος. οἱ ἐναντίοι δὲ ἢ ταὐτὸ ποιοῦσιν ἢ ἐναντίον, οἷον ὑγροὶ λὶψ καὶ καικίας, ὃν ἑλλησποντίαν ἔνιοι καλοῦσιν, καὶ εὖρος, ὃν ἀπηλιώτην. ξηροὶ δὲ ἀργέστης καὶ εὖρος· ἀπ’ ἀρχῆς δὲ οὗτος ξηρός, τελευτῶν δὲ ὑδατώδης. νιφετώδης δὲ μέσης καὶ ἀπαρκτίας μάλιστα· οὗτοι γὰρ ψυχρότατοι. χαλαζώδεις δὲ ἀπαρκτίας καὶ θρασκίας καὶ ἀργέστης. καυματώδης δὲ νότος καὶ ζέφυρος καὶ εὖρος. νέφεσι δὲ πυκνοῦσι τὸν οὐρανὸν καικίας μὲν σφόδρα, λὶψ δὲ ἀραιοτέροις, καικίας μὲν διά τε τὸ ἀνακάμπτειν πρὸς αὑτὸν καὶ διὰ τὸ κοινὸς εἶναι βορέου καὶ εὔρου, ὥστε διὰ μὲν τὸ ψυχρὸς εἶναι πηγνὺς τὸν ἀτμίζοντα ἀέρα συνίστησι, διὰ δὲ τὸ τῷ τόπῳ ἀπηλιωτικὸς εἶναι ἔχει πολλὴν ὕλην καὶ ἀτμίδα ἣν προωθεῖ. αἴθριοι δὲ ἀπαρκτίας, θρασκίας, ἀργέστης· ἡ δ’ αἰτία εἴρηται πρότερον. ἀστραπὰς δὲ ποιοῦσιν μάλιστα οὗτοί τε καὶ ὁ μέσης· διὰ μὲν γὰρ τὸ ἐγγύθεν πνεῖν ψυχροί εἰσιν, διὰ δὲ τὸ ψυχρὸν ἀστραπὴ γίγνεται· ἐκκρίνεται γὰρ συνιόντων τῶν νεφῶν. διὸ καὶ ἔνιοι τῶν αὐτῶν τούτων [365a] χαλαζώδεις εἰσίν· ταχὺ γὰρ πηγνύουσιν. ἐκνεφίαι δὲ γίγνονται μετοπώρου μὲν μάλιστα, εἶτα ἔαρος, καὶ μάλιστα ἀπαρκτίας καὶ θρασκίας καὶ ἀργέστης. αἴτιον δ’ ὅτι οἱ ἐκνεφίαι γίγνονται μάλιστα ὅταν τῶν ἄλλων πνεόντων ἐμπίπτωσιν ἕτεροι, οὗτοι δὲ μάλιστα ἐμπίπτουσιν τοῖς ἄλλοις πνέουσιν· ἡ δ’ αἰτία εἴρηται καὶ τούτου πρότερον. οἱ δ’ ἐτησίαι περιίστανται τοῖς μὲν περὶ δυσμὰς οἰκοῦσιν ἐκ τῶν ἀπαρκτίων εἰς θρασκίας καὶ ἀργέστας καὶ ζεφύρους (ὁ γὰρ ἀπαρκτίας . . .

ζέφυρός ἐστιν), ἀρχόμενοι μὲν ἀπὸ τῆς ἄρκτου, τελευτῶντες δ’ εἰς τοὺς πόρρω· τοῖς δὲ πρὸς ἕω περιίστανται μέχρι τοῦ ἀπηλιώτου. περὶ μὲν οὖν ἀνέμων, τῆς τε ἐξ ἀρχῆς αὐτῶν γενέσεως καὶ οὐσίας καὶ τῶν συμβαινόντων κοινῇ τε παθημάτων καὶ περὶ ἕκαστον, τοσαῦθ’ ἡμῖν εἰρήσθω.

περὶ δὲ σεισμοῦ καὶ κινήσεως γῆς μετὰ ταῦτα λεκτέον· ἡ γὰρ αἰτία τοῦ πάθους ἐχομένη τούτου τοῦ γένους ἐστίν. ἔστι δὲ τὰ παρειλημμένα μέχρι γε τοῦ νῦν χρόνου τρία καὶ παρὰ τριῶν. Ἀναξαγόρας τε γὰρ ὁ Κλαζομένιος καὶ πρότερον Ἀναξιμένης ὁ Μιλήσιος ἀπεφήναντο, καὶ τούτων ὕστερον Δημόκριτος ὁ Ἀβδηρίτης. Ἀναξαγόρας μὲν οὖν φησι τὸν αἰθέρα πεφυκότα φέρεσθαι ἄνω, ἐμπίπτοντα δ’ εἰς τὰ κάτω τῆς γῆς καὶ κοῖλα κινεῖν αὐτήν· τὰ μὲν γὰρ ἄνω συναληλεῖφθαι διὰ τοὺς ὄμβρους (ἐπεὶ φύσει γε ἅπασαν ὁμοίως εἶναι σομφήν), ὡς ὄντος τοῦ μὲν ἄνω τοῦ δὲ κάτω τῆς ὅλης σφαίρας, καὶ ἄνω μὲν τούτου ὄντος τοῦ μορίου ἐφ’ οὗ τυγχάνομεν οἰκοῦντες, κάτω δὲ θατέρου. πρὸς μὲν οὖν ταύτην τὴν αἰτίαν οὐδὲν ἴσως δεῖ λέγειν ὡς λίαν ἁπλῶς εἰρημένην· τό τε γὰρ ἄνω καὶ τὸ κάτω νομίζειν οὕτως ἔχειν ὥστε μὴ πρὸς μὲν τὴν γῆν πάντῃ φέρεσθαι τὰ βάρος ἔχοντα τῶν σωμάτων, ἄνω δὲ τὰ κοῦφα καὶ τὸ πῦρ, εὔηθες, καὶ ταῦθ’ ὁρῶντας τὸν ὁρίζοντα τὴν οἰκουμένην, ὅσην ἡμεῖς ἴσμεν, ἕτερον ἀεὶ γιγνόμενον μεθισταμένων, ὡς οὔσης κυρτῆς καὶ σφαιροειδοῦς· καὶ τὸ λέγειν μὲν ὡς διὰ τὸ μέγεθος ἐπὶ τοῦ ἀέρος μένειν, σείεσθαι δὲ φάσκειν τυπτομένην κάτωθεν ἄνω δι’ ὅλης. πρὸς δὲ τούτοις οὐδὲν ἀποδίδωσι τῶν συμβαινόντων περὶ τοὺς σεισμούς· οὔτε γὰρ χῶραι οὔτε ὧραι αἱ τυχοῦσαι μετέχουσι τούτου τοῦ πάθους. [365b] Δημόκριτος δέ φησι πλήρη τὴν γῆν ὕδατος οὖσαν, καὶ πολὺ δεχομένην ἕτερον ὄμβριον ὕδωρ, ὑπὸ τούτου κινεῖσθαι· πλείονός τε γὰρ γιγνομένου διὰ τὸ μὴ δύνασθαι δέχεσθαι τὰς κοιλίας ἀποβιαζόμενον ποιεῖν τὸν σεισμόν, καὶ ξηραινομένην ἕλκουσαν εἰς τοὺς κενοὺς τόπους ἐκ τῶν πληρεστέρων τὸ μεταβάλλον ἐμπῖπτον κινεῖν. Ἀναξιμένης δέ φησιν βρεχομένην τὴν γῆν καὶ ξηραινομένην ῥήγνυσθαι, καὶ ὑπὸ τούτων τῶν ἀπορρηγνυμένων κολωνῶν ἐμπιπτόντων σείεσθαι· διὸ καὶ γίγνεσθαι τοὺς σεισμοὺς ἔν τε τοῖς αὐχμοῖς καὶ πάλιν ἐν ταῖς ἐπομβρίαις· ἔν τε γὰρ τοῖς αὐχμοῖς, ὥσπερ εἴρηται, ξηραινομένην ῥήγνυσθαι, καὶ ὑπὸ τῶν ὑδάτων ὑπερυγραινομένην διαπίπτειν. ἔδει δὲ τούτου συμβαίνοντος ὑπονοστοῦσαν πολλαχῇ φαίνεσθαι τὴν γῆν. ἔτι δὲ διὰ τίν’ αἰτίαν περὶ τόπους τινὰς πολλάκις γίγνεται τοῦτο τὸ πάθος οὐδεμιᾷ διαφέροντας ὑπερβολῇ τοιαύτῃ παρὰ τοὺς ἄλλους; καίτοι ἐχρῆν. ὅλως δὲ τοῖς οὕτως ὑπολαμβάνουσιν ἀναγκαῖον ἧττον ἀεὶ τοὺς σεισμοὺς φάναι γίγνεσθαι, καὶ τέλος παύσασθαί ποτε σειομένην· τὸ γὰρ σαττόμενον τοιαύτην ἔχει φύσιν. ὥστ' εἰ τοῦτ' ἀδύνατον, δῆλον ὅτι ἀδύνατον καὶ ταύτην εἶναι τὴν αἰτίαν.

ἀλλ' ἐπειδὴ φανερὸν ὅτι ἀναγκαῖον καὶ ἀπὸ ὑγροῦ καὶ ἀπὸ ξηροῦ γίγνεσθαι ἀναθυμίασιν, ὥσπερ εἴπομεν ἐν τοῖς πρότερον, ἀνάγκη τούτων ὑπαρχόντων γίγνεσθαι τοὺς σεισμούς. ὑπάρχει γὰρ ἡ γῆ καθ' αὑτὴν μὲν ξηρά, διὰ δὲ τοὺς ὄμβρους ἔχουσα ἐν αὑτῇ νοτίδα πολλήν, ὥσθ' ὑπό τε τοῦ ἡλίου καὶ τοῦ ἐν αὑτῇ πυρὸς θερμαινομένης πολὺ μὲν ἔξω πολὺ δ' ἐντὸς γίγνεσθαι τὸ πνεῦμα· καὶ τοῦτο ὁτὲ μὲν συνεχὲς ἔξω ῥεῖ πᾶν, ὁτὲ δ' εἴσω πᾶν, ἐνίοτε δὲ καὶ μερίζεται. εἰ δὴ τοῦτ' ἀδύνατον ἄλλως ἔχειν, τὸ μετὰ τοῦτο σκεπτέον ἂν εἴη ποῖον κινητικώτατον εἴη τῶν σωμάτων· ἀνάγκη γὰρ τὸ ἐπὶ πλεῖστόν τε πεφυκὸς ἰέναι καὶ σφοδρότατον μάλιστα τοιοῦτον εἶναι. σφοδρότατον μὲν οὖν ἐξ ἀνάγκης τὸ τάχιστα φερόμενον· πλήσσει γὰρ μάλιστα διὰ τὸ τάχος· ἐπὶ πλεῖστον δὲ πέφυκε διιέναι τὸ διὰ παντὸς ἰέναι μάλιστα δυνάμενον, τοιοῦτον δὲ τὸ λεπτότατον. ὥστ' εἴπερ ἡ τοῦ [366a] πνεύματος φύσις τοιαύτη, μάλιστα τῶν σωμάτων τὸ πνεῦμα κινητικόν· καὶ γὰρ τὸ πῦρ ὅταν μετὰ πνεύματος ᾖ, γίγνεται φλὸξ καὶ φέρεται ταχέως. οὐκ ἂν οὖν ὕδωρ οὐδὲ γῆ αἴτιον εἴη, ἀλλὰ πνεῦμα τῆς κινήσεως, ὅταν εἴσω τύχῃ ῥυὲν τὸ ἔξω ἀναθυμιώμενον. διὸ γίγνονται νηνεμίας οἱ πλεῖστοι καὶ μέγιστοι τῶν σεισμῶν· συνεχὴς γὰρ οὖσα ἡ ἀναθυμίασις ἀκολουθεῖ ὡς ἐπὶ τὸ πολὺ τῇ ὁρμῇ τῆς ἀρχῆς, ὥστε ἢ ἔσω ἅμα ἢ ἔξω ὁρμᾷ πᾶσα. τὸ δ' ἐνίους γίγνεσθαι καὶ πνεύματος ὄντος οὐδὲν ἄλογον· ὁρῶμεν γὰρ ἐνίοτε ἅμα πλείους πνέοντας ἀνέμους, ὧν ὅταν εἰς τὴν γῆν ὁρμήσῃ θάτερον, ἔσται πνεύματος ὄντος ὁ σεισμός. ἐλάττους δ' οὗτοι τὸ μέγεθος [366a.12] γίγνονται διὰ τὸ διῃρῆσθαι τὴν ἀρχὴν καὶ τὴν αἰτίαν αὐτῶν. νυκτὸς δ' οἱ πλείους καὶ μείζους γίγνονται τῶν σεισμῶν, οἱ δὲ τῆς ἡμέρας περὶ μεσημβρίαν· νηνεμώτατον γάρ ἐστιν ὡς ἐπὶ τὸ πολὺ τῆς ἡμέρας ἡ μεσημβρία (ὁ γὰρ ἥλιος ὅταν μάλιστα κρατῇ, κατακλείει τὴν ἀναθυμίασιν εἰς τὴν γῆν· κρατεῖ δὲ μάλιστα περὶ τὴν μεσημβρίαν), καὶ αἱ νύκτες δὲ τῶν ἡμερῶν νηνεμώτεραι διὰ τὴν ἀπουσίαν τὴν τοῦ ἡλίου· ὥστ' ἔσω γίγνεται πάλιν ἡ ῥύσις, ὥσπερ ἄμπωτις, εἰς τοὐναντίον τῆς ἔξω πλημμυρίδος, καὶ πρὸς ὄρθρον μάλιστα· τηνικαῦτα γὰρ καὶ τὰ πνεύματα πέφυκεν ἄρχεσθαι πνεῖν. ἐὰν οὖν εἴσω τύχῃ μεταβάλλουσα ἡ ἀρχὴ αὐτῶν ὥσπερ Εὔριπος, διὰ τὸ πλῆθος ἰσχυρότερον ποιεῖ τὸν σεισμόν. ἔτι δὲ περὶ τόπους τοιούτους οἱ ἰσχυρότατοι γίγνονται τῶν σεισμῶν, ὅπου θάλαττα ῥοώδης ἢ ἡ χώρα σομφὴ καὶ ὕπαντρος· διὸ καὶ περὶ Ἑλλήσποντον καὶ περὶ Ἀχαΐαν καὶ Σικελίαν, καὶ τῆς Εὐβοίας περὶ τούτους τοὺς τόπους· δοκεῖ γὰρ διαυλωνίζειν ὑπὸ τὴν γῆν ἡ θάλαττα· διὸ καὶ τὰ θερμὰ τὰ περὶ

Αἰδηψὸν ἀπὸ τοιαύτης αἰτίας γέγονε. περὶ δὲ τοὺς εἰρημένους τόπους οἱ σεισμοὶ γίγνονται μάλιστα διὰ τὴν στενότητα· τὸ γὰρ πνεῦμα γιγνόμενον σφοδρὸν καὶ διὰ τὸ πλῆθος τῆς θαλάττης πολλῆς προσφερομένης ἀπωθεῖται πάλιν εἰς τὴν γῆν, τὸ πεφυκὸς ἀποπνεῖν ἐκ τῆς γῆς. αἵ τε χῶραι ὅσαι [366b] σομφοὺς ἔχουσι τοὺς κάτω τόπους, πολὺ δεχόμεναι πνεῦμα σείονται μᾶλλον. καὶ ἔαρος δὲ καὶ μετοπώρου μάλιστα καὶ ἐν ἐπομβρίαις καὶ ἐν αὐχμοῖς γίγνονται διὰ τὴν αὐτὴν αἰτίαν· αἵ τε γὰρ ὧραι αὗται πνευματωδέσταται· τὸ γὰρ θέρος καὶ ὁ χειμών, τὸ μὲν διὰ τὸν πάγον, τὸ δὲ διὰ τὴν ἀλέαν ποιεῖ τὴν ἀκινησίαν· τὸ μὲν γὰρ ἄγαν ψυχρόν, τὸ δ’ ἄγαν ξηρόν ἐστι· καὶ ἐν μὲν τοῖς αὐχμοῖς πνευματώδης ὁ ἀήρ· τοῦτο γὰρ αὐτό ἐστιν ὁ αὐχμός, ὅταν πλείων ἡ ἀναθυμίασις ἡ ξηρὰ γίγνηται τῆς ὑγρᾶς· ἐν δὲ ταῖς ὑπερομβρίαις πλείω τε ποιεῖ τὴν ἐντὸς ἀναθυμίασιν, καὶ τῷ ἐναπολαμβάνεσθαι ἐν στενοτέροις τόποις καὶ ἀποβιάζεσθαι εἰς ἐλάττω τόπον τὴν τοιαύτην ἀπόκρισιν, πληρουμένων τῶν κοιλιῶν ὕδατος, ὅταν ἄρξηται κρατεῖν διὰ τὸ πολὺ εἰς ὀλίγον πιληθῆναι τόπον, ἰσχυρῶς κινεῖ ῥέων ὁ ἄνεμος καὶ προσπίπτων· δεῖ γὰρ νοεῖν ὅτι ὥσπερ ἐν τῷ σώματι ἡμῶν καὶ τρόμων καὶ σφυγμῶν αἴτιόν ἐστιν ἡ τοῦ πνεύματος ἐναπολαμβανομένη δύναμις, οὕτω καὶ ἐν τῇ γῇ τὸ πνεῦμα παραπλήσιον ποιεῖν, καὶ τὸν μὲν τῶν σεισμῶν οἷον τρόμον εἶναι τὸν δ’ οἷον σφυγμόν, καὶ καθάπερ συμβαίνει πολλάκις μετὰ τὴν οὔρησιν (διὰ τοῦ σώματος γὰρ γίγνεται ὥσπερ τρόμος τις ἀντιμεθισταμένου τοῦ πνεύματος ἔξωθεν εἴσω ἀθρόου), τοιαῦτα [γὰρ] γίγνεσθαι καὶ περὶ τὴν γῆν. ὅσην δ’ ἔχει τὸ πνεῦμα δύναμιν, οὐ μόνον ἐκ τῶν ἐν τῷ ἀέρι δεῖ θεωρεῖν γιγνομένων (ἐνταῦθα μὲν γὰρ διὰ τὸ μέγεθος ὑπολάβοι τις ἂν τοιαῦτα δύνασθαι ποιεῖν) ἀλλὰ καὶ ἐν τοῖς σώμασι τοῖς τῶν ζῴων· οἵ τε γὰρ τέτανοι καὶ οἱ σπασμοὶ πνεύματος μέν εἰσιν κινήσεις, τοσαύτην δὲ ἔχουσιν ἰσχὺν ὥστε πολλοὺς ἅμα πειρωμένους ἀποβιάζεσθαι μὴ δύνασθαι κρατεῖν τῆς κινήσεως τῶν ἀρρωστούντων. τοιοῦτον δὴ δεῖ νοεῖν τὸ γιγνόμενον καὶ ἐν τῇ γῇ, ὡς εἰκάσαι πρὸς μικρὸν μεῖζον. σημεῖα δὲ τούτων καὶ πρὸς τὴν ἡμετέραν αἴσθησιν πολλαχῇ γέγονεν· ἤδη γὰρ σεισμὸς ἐν τόποις τισὶν γιγνόμενος οὐ πρότερον ἔληξε πρὶν ἐκρήξας εἰς τὸν ὑπὲρ τῆς γῆς τόπον φανερῶς ὥσπερ ἐκνεφίας ἐξῆλθεν ὁ κινήσας ἄνεμος, [367a] οἷον καὶ περὶ Ἡράκλειαν ἐγένετο τὴν ἐν τῷ Πόντῳ νεωστί, καὶ πρότερον περὶ τὴν Ἱερὰν νῆσον (αὕτη δ’ ἐστὶν μία τῶν Αἰόλου καλουμένων νήσων)· ἐν ταύτῃ γὰρ ἀνῴδει τι τῆς γῆς, καὶ ἀνῄει οἷον λοφώδης ὄγκος μετὰ ψόφου· τέλος δὲ ῥαγέντος ἐξῆλθεν πνεῦμα πολὺ καὶ τὸν φέψαλον καὶ τὴν τέφραν ἀνῆκεν καὶ τήν τε Λιπαραίων πόλιν οὖσαν οὐ πόρρω πᾶσαν κατετέφρωσε καὶ εἰς ἐνίας τῶν ἐν Ἰταλίᾳ πόλεων ἦλθεν· καὶ νῦν ὅπου τὸ ἀναφύσημα τοῦτο ἐγένετο, δῆλόν ἐστιν. καὶ γὰρ δὴ τοῦ γιγνομένου πυρὸς ἐν τῇ γῇ ταύτην οἰητέον εἶναι τὴν αἰτίαν, ὅταν κοπτόμενον ἐκπρησθῇ πρῶτον εἰς μικρὰ κερματισθέντος τοῦ ἀέρος. τεκμήριον δ’ ἐστὶ τοῦ ῥεῖν ὑπὸ γῆν τὰ πνεύματα καὶ τὸ γιγνόμενον περὶ ταύτας τὰς νήσους· ὅταν γὰρ ἄνεμος μέλλῃ πνευσεῖσθαι νότος, προσημαίνει πρότερον· ἠχοῦσι γὰρ οἱ τόποι ἐξ ὧν γίγνεται τὰ ἀναφυσήματα, διὰ τὸ τὴν θάλατταν μὲν προωθεῖσθαι ἤδη πόρρωθεν, ὑπὸ δὲ ταύτης τὸ ἐκ τῆς γῆς ἀναφυσώμενον ἀπωθεῖσθαι πάλιν εἴσω, ᾗπερ ἐπέρχεται ἡ θάλαττα ταύτῃ. ποιεῖ δὲ ψόφον ἄνευ σεισμοῦ διά τε τὴν εὐρυχωρίαν τῶν τόπων (ὑπερχεῖται γὰρ εἰς τὸ ἀχανὲς ἔξω) καὶ δι’ ὀλιγότητα τοῦ ἀπωθουμένου ἀέρος. ἔτι τὸ γίγνεσθαι τὸν ἥλιον ἀχλυώδη καὶ ἀμαυρότερον ἄνευ νέφους, καὶ πρὸ τῶν ὀρθρίων σεισμῶν ἐνίοτε νηνεμίαν τε καὶ κρύος ἰσχυρόν, σημεῖον τῆς εἰρημένης αἰτίας ἐστίν. τόν τε γὰρ ἥλιον ἀχλυώδη καὶ ἀμαυρὸν ἀναγκαῖον εἶναι ὑπονοστεῖν ἀρχομένου τοῦ πνεύματος εἰς τὴν γῆν τοῦ διαλύοντος τὸν ἀέρα καὶ διακρίνοντος, καὶ πρὸς τὴν ἕω καὶ περὶ τοὺς ὄρθρους νηνεμίαν τε καὶ ψῦχος. τὴν μὲν γὰρ νηνεμίαν ἀναγκαῖον ὡς ἐπὶ τὸ πολὺ συμβαίνειν, καθάπερ εἴρηται καὶ πρότερον, οἷον μεταρροίας εἴσω γιγνομένης τοῦ πνεύματος, καὶ μᾶλλον πρὸ τῶν μειζόνων σεισμῶν· μὴ διασπώμενον γὰρ τὸ μὲν ἔξω τὸ δ’ ἐντός, ἀλλ’ ἀθρόως φερόμενον ἀναγκαῖον ἰσχύειν μᾶλλον. τὸ δὲ ψῦχος συμβαίνει διὰ τὸ τὴν ἀναθυμίασιν εἴσω τρέπεσθαι, φύσει θερμὴν οὖσαν καθ’ αὑτήν. οὐ δοκοῦσι δ’ οἱ ἄνεμοι εἶναι θερμοὶ διὰ τὸ κινεῖν τὸν ἀέρα πλήρη πολλῆς ὄντα καὶ ψυχρᾶς ἀτμίδος, [367b] ὥσπερ τὸ πνεῦμα <τὸ> διὰ τοῦ στόματος φυσώμενον· καὶ γὰρ τοῦτο ἐγγύθεν μέν ἐστι θερμόν, ὥσπερ καὶ ὅταν ἀάζωμεν, ἀλλὰ δι’ ὀλιγότητα οὐχ ὁμοίως ἐπίδηλον, πόρρωθεν δὲ ψυχρὸν διὰ τὴν αὐτὴν αἰτίαν τοῖς ἀνέμοις. ἐκλειπούσης οὖν εἰς τὴν γῆν τῆς τοιαύτης δυνάμεως, συνιοῦσα δι’ ὑγρότητα ἡ ἀτμιδώδης ἀπόρροια ποιεῖ τὸ ψῦχος, ἐν οἷς συμβαίνει τόποις γίγνεσθαι τοῦτο τὸ πάθος. τὸ δ’ αὐτὸ αἴτιον καὶ τοῦ εἰωθότος ἐνίοτε γίγνεσθαι σημείου πρὸ τῶν σεισμῶν· ἢ γὰρ μεθ’ ἡμέραν ἢ μικρὸν μετὰ δυσμάς, αἰθρίας οὔσης, νεφέλιον λεπτὸν φαίνεται διατεῖνον καὶ μακρόν, οἷον γραμμῆς μῆκος εὐθύτητι διηκριβωμένον, τοῦ πνεύματος ἀπομαραινομένου διὰ τὴν μετάστασιν. τὸ δ’ ὅμοιον συμβαίνει καὶ ἐν τῇ θαλάττῃ περὶ τοὺς αἰγιαλούς· ὅταν μὲν γὰρ κυμαίνουσα ἐκβάλλῃ, σφόδρα παχεῖαι καὶ σκολιαὶ γίγνονται αἱ ῥηγμῖνες, ὅταν δὲ γαλήνη ᾖ, διὰ τὸ μικρὰν ποιεῖσθαι τὴν ἔκκρισιν λεπταί εἰσι καὶ εὐθεῖαι. ὅπερ οὖν ἡ θάλαττα ποιεῖ περὶ τὴν γῆν, τοῦτο τὸ πνεῦμα περὶ τὴν ἐν τῷ ἀέρι ἀχλύν, ὥσθ’ ὅταν γένηται νηνεμία, πάμπαν εὐθεῖαν καὶ λεπτὴν καταλείπεσθαι ὥσπερ ῥηγμῖνα οὖσαν ἀέρος τὴν νεφέλην. διὰ ταῦτα δὲ καὶ περὶ τὰς ἐκλείψεις ἐνίοτε τῆς σελήνης συμβαίνει γίγνεσθαι σεισμόν· ὅταν γὰρ ἤδη πλησίον ᾖ ἡ ἀντίφραξις, καὶ μήπω μὲν ᾖ πάμπαν ἀπολελοιπὸς τὸ φῶς καὶ τὸ ἀπὸ τοῦ ἡλίου θερμὸν ἐκ τοῦ ἀέρος, ἤδη δ’ ἀπομαραινόμενον, νηνεμία γίγνεται ἀντιμεθισταμένου τοῦ πνεύματος εἰς τὴν γῆν, ὃ ποιεῖ τὸν σεισμὸν πρὸ τῶν ἐκλείψεων. γίγνονται γὰρ καὶ ἄνεμοι πρὸ τῶν ἐκλείψεων πολλάκις, ἀκρόνυχον μὲν πρὸ τῶν μεσονυκτίων ἐκλείψεων, μεσονύκτιον δὲ πρὸ τῶν ἑῴων. συμβαίνει δὲ τοῦτο διὰ τὸ ἀμαυροῦσθαι τὸ θερμὸν τὸ ἀπὸ τῆς σελήνης, [367b.29] ὅταν πλησίον ἤδη γίγνηται ἡ φορὰ ἐν ᾧ γενομένων ἔσται ἡ ἔκλειψις. ἀνιεμένου οὖν ᾧ κατείχετο ὁ ἀὴρ καὶ ἠρέμει, πάλιν κινεῖται καὶ γίγνεται πνεῦμα τῆς ὀψιαίτερον ἐκλείψεως ὀψιαίτερον. ὅταν δ’ ἰσχυρὸς γένηται σεισμός, οὐκ εὐθὺς οὐδ’ εἰσάπαξ παύεται σείσας, ἀλλὰ τὸ πρῶτον μὲν μέχρι περὶ τετταράκοντα πρόεισι πολλάκις ἡμέρας, ὕστερον δὲ καὶ ἐφ’ [368a] ἓν καὶ ἐπὶ δύο ἔτη ἐπισημαίνει κατὰ τοὺς αὐτοὺς τόπους. αἴτιον δὲ τοῦ μὲν μεγέθους τὸ πλῆθος τοῦ πνεύματος καὶ τῶν τόπων τὰ σχήματα δι’ οἵων ἂν ῥυῇ· ᾗ γὰρ ἂν ἀντιτυπήσῃ καὶ μὴ ῥᾳδίως διέλθῃ, μάλιστά τε σείει καὶ ἐγκαταλείπεσθαι ἀναγκαῖον ἐν ταῖς δυσχωρίαις, οἷον ὕδωρ ἐν σκεύει οὐ δυνάμενον διεξελθεῖν. διὸ καθάπερ ἐν σώματι οἱ σφυγμοὶ οὐκ ἐξαίφνης παύονται οὐδὲ ταχέως, ἀλλ’ ἐκ προσαγωγῆς ἅμα καταμαραινομένου τοῦ πάθους, καὶ ἡ ἀρχὴ ἀφ’ ἧς ἡ ἀναθυμίασις ἐγένετο καὶ ἡ ὁρμὴ τοῦ πνεύματος δῆλον ὅτι οὐκ εὐθὺς ἅπασαν ἀνήλωσεν τὴν ὕλην, ἐξ ἧς ἐποίησε τὸν ἄνεμον, ὃν καλοῦμεν σεισμόν. ἕως ἂν οὖν ἀναλωθῇ τὰ ὑπόλοιπα τούτων, ἀνάγκη σείειν, ἠρεμαιότερον δὲ καὶ μέχρι τούτου ἕως ἂν ἔλαττον ᾖ τὸ ἀναθυμιώμενον ἢ ὥστε δύνασθαι κινεῖν ἐπιδήλως. ποιεῖ δὲ καὶ τοὺς ψόφους τοὺς ὑπὸ τὴν γῆν γιγνομένους τὸ πνεῦμα, καὶ τοὺς πρὸ τῶν σεισμῶν· καὶ ἄνευ δὲ σεισμῶν ἤδη που γεγόνασιν ὑπὸ γῆν· ὥσπερ γὰρ καὶ ῥαπιζόμενος ὁ ἀὴρ παντοδαποὺς ἀφίησι ψόφους, οὕτως καὶ τύπτων αὐτός· οὐδὲν γὰρ διαφέρει· τὸ γὰρ τύπτον ἅμα καὶ αὐτὸ τύπτεται πᾶν. προέρχεται δὲ ὁ ψόφος τῆς κινήσεως διὰ τὸ λεπτομερέστερον εἶναι καὶ μᾶλλον διὰ παντὸς ἰέναι τοῦ πνεύματος τὸν ψόφον. ὅταν δ’ ἔλαττον ᾖ ἢ ὥστε κινῆσαι τὴν γῆν διὰ λεπτότητα, διὰ μὲν τὸ ῥᾳδίως διηθεῖσθαι οὐ δύναται κινεῖν, διὰ δὲ τὸ προσπίπτειν στερεοῖς ὄγκοις καὶ κοίλοις καὶ παντοδαποῖς σχήμασι παντοδαπὴν ἀφίησι φωνήν, ὥστ’ ἐνίοτε δοκεῖν ὅπερ λέγουσιν οἱ τερατολογοῦντες, μυκᾶσθαι τὴν γῆν. ἤδη δὲ καὶ ὕδατα ἀνερράγη γιγνομένων σεισμῶν· ἀλλ’ οὐ διὰ τοῦτο αἴτιον τὸ ὕδωρ τῆς κινήσεως, ἀλλ’ ἂν ᾖ ἐξ ἐπιπολῆς ἢ κάτωθεν βιάζηται τὸ πνεῦμα, ἐκεῖνο τὸ κινοῦν ἐστιν, ὥσπερ τῶν κυμάτων οἱ ἄνεμοι ἀλλ’ οὐ τὰ κύματα τῶν ἀνέμων εἰσὶν αἴτια, ἐπεὶ καὶ τὴν γῆν οὕτως ἄν τις αἰτιῷτο τοῦ πάθους· ἀνατρέπεται γὰρ σειομένη, καθάπερ ὕδωρ (ἡ γὰρ ἔκχυσις ἀνάτρεψίς τίς ἐστιν). ἀλλ’ αἴτια ταῦτα μὲν ἄμφω ὡς ὕλη (πάσχει γάρ, ἀλλ’ οὐ ποιεῖ), τὸ δὲ πνεῦμα ὡς ἀρχή. ὅπου δ’ ἅμα κῦμα σεισμῷ γέγονεν, αἴτιον, ὅταν ἐναντία γίγνηται τὰ πνεύματα. τοῦτο δὲ γίγνεται ὅταν τὸ [368b] σεῖον τὴν γῆν πνεῦμα φερομένην ὑπ’ ἄλλου πνεύματος τὴν θάλατταν ἀπῶσαι μὲν ὅλως μὴ δύνηται, προωθοῦν δὲ καὶ συστέλλον εἰς ταὐτὸν συναθροίσῃ πολλήν· τότε γὰρ ἀναγκαῖον ἡττηθέντος τούτου τοῦ πνεύματος ἀθρόαν ὠθουμένην ὑπὸ τοῦ ἐναντίου πνεύματος ἐκρήγνυσθαι καὶ ποιεῖν τὸν κατακλυσμόν. ἐγένετο δὲ τοῦτο καὶ περὶ Ἀχαΐαν· ἔξω μὲν γὰρ ἦν νότος, ἐκεῖ δὲ βορέας, νηνεμίας δὲ γενομένης καὶ ῥυέντος εἴσω τοῦ ἀνέμου ἐγένετο τό τε κῦμα καὶ ὁ σεισμὸς ἅμα, καὶ μᾶλλον διὰ τὸ τὴν θάλατταν μὴ διδόναι διαπνοὴν τῷ ὑπὸ τὴν γῆν ὡρμημένῳ πνεύματι, ἀλλ’ ἀντιφράττειν· ἀποβιαζόμενα γὰρ ἄλληλα τὸ μὲν πνεῦμα τὸν σεισμὸν ἐποίησεν, ἡ δ’ ὑπόστασις τοῦ κύματος τὸν κατακλυσμόν. κατὰ μέρος δὲ γίγνονται οἱ σεισμοὶ τῆς γῆς, καὶ πολλάκις ἐπὶ μικρὸν τόπον, οἱ δ’ ἄνεμοι οὔ· κατὰ μέρος μέν, ὅταν αἱ ἀναθυμιάσεις αἱ κατὰ τὸν τόπον αὐτὸν καὶ τὸν γειτνιῶντα συνέλθωσιν εἰς ἕν, ὥσπερ καὶ τοὺς αὐχμοὺς ἔφαμεν γίγνεσθαι καὶ τὰς ὑπερομβρίας τὰς κατὰ μέρος. καὶ οἱ μὲν σεισμοὶ γίγνονται διὰ τοῦτον τὸν τρόπον, οἱ δ’ ἄνεμοι οὔ· τὰ μὲν γὰρ ἐν τῇ γῇ τὴν ἀρχὴν ἔχει, ὥστ’ ἐφ’ ἓν ἁπάσας ὁρμᾶν· ὁ δ’ ἥλιος οὐχ ὁμοίως δύναται, τὰς δὲ μετεώρους μᾶλλον, ὥστε ῥεῖν, ὅταν ἀρχὴν λάβωσιν ἀπὸ τῆς τοῦ ἡλίου φορᾶς ἤδη κατὰ τὰς διαφορὰς τῶν τόπων, ἐφ’ ἕν. ὅταν μὲν οὖν ᾖ πολὺ τὸ πνεῦμα, κινεῖ τὴν γῆν, ὥσπερ δὲ ὁ τρόμος, ἐπὶ πλάτος· γίγνεται δ’ ὀλιγάκις καὶ κατά τινας τόπους, οἷον σφυγμός, ἄνω κάτωθεν· διὸ καὶ ἐλαττονάκις [δίδωσιν] σείει τοῦτον τὸν τρόπον· οὐ γὰρ ῥᾴδιον οὕτω πολλὴν συνελθεῖν ἀρχήν· ἐπὶ μῆκος γὰρ πολλαπλασία τῆς ἀπὸ τοῦ βάθους ἡ διάκρισις. ὅπου δ’ ἂν γένηται τοιοῦτος σεισμός, ἐπιπολάζει πλῆθος λίθων, ὥσπερ τῶν ἐν τοῖς λίκνοις ἀναβραττομένων· τοῦτον γὰρ τὸν τρόπον γενομένου σεισμοῦ τά τε περὶ Σίπυλον ἀνετράπη καὶ τὸ Φλεγραῖον καλούμενον πεδίον καὶ τὰ περὶ τὴν Λιγυστικὴν χώραν. ἐν δὲ ταῖς νήσοις ταῖς ποντίαις ἧττον γίγνονται σεισμοὶ τῶν προσγείων· τὸ γὰρ πλῆθος τῆς θαλάττης καταψύχει τὰς ἀναθυμιάσεις καὶ κωλύει τῷ βάρει καὶ ἀποβιάζεται· ἔτι δὲ ῥεῖ καὶ οὐ σείεται [369a] κρατουμένη ὑπὸ τῶν πνευμάτων· καὶ διὰ τὸ πολὺν ἐπέχειν τόπον οὐκ εἰς ταύτην ἀλλ’ ἐκ ταύτης αἱ ἀναθυμιάσεις γίγνονται, καὶ ταύταις ἀκολουθοῦσιν αἱ ἐκ τῆς γῆς. αἱ δ’ ἐγγὺς τῆς ἠπείρου μόριόν εἰσιν τῆς ἠπείρου· τὸ γὰρ μεταξὺ διὰ μικρότητα οὐδεμίαν ἔχει δύναμιν· τὰς δὲ ποντίας οὐκ ἔστιν κινῆσαι ἄνευ τῆς θαλάττης ὅλης, ὑφ’ ἧς περιεχόμεναι τυγχάνουσιν. περὶ μὲν οὖν σεισμῶν, καὶ τίς ἡ φύσις, καὶ διὰ τίνα αἰτίαν γίγνονται, καὶ περὶ τῶν ἄλλων τῶν συμβαινόντων περὶ αὐτούς, εἴρηται σχεδὸν περὶ τῶν μεγίστων.

περὶ δὲ ἀστραπῆς καὶ βροντῆς, ἔτι δὲ περὶ τυφῶνος καὶ πρηστῆρος καὶ κεραυνῶν λέγωμεν· καὶ γὰρ τούτων τὴν αὐτὴν ἀρχὴν ὑπολαβεῖν δεῖ πάντων. τῆς γὰρ ἀναθυμιάσεως, ὥσπερ εἴπομεν, οὔσης διττῆς, τῆς μὲν ὑγρᾶς τῆς δὲ ξηρᾶς, καὶ τῆς συγκρίσεως ἐχούσης ἄμφω ταῦτα δυνάμει καὶ συνισταμένης εἰς νέφος, ὥσπερ εἴρηται πρότερον, ἔτι δὲ πυκνοτέρας τῆς συστάσεως τῶν νεφῶν γιγνομένης πρὸς τὸ ἔσχατον πέρας (ᾗ γὰρ ἐκλείπει τὸ θερμὸν διακρινόμενον εἰς τὸν ἄνω τόπον, ταύτῃ πυκνοτέραν καὶ ψυχροτέραν ἀναγκαῖον εἶναι τὴν σύστασιν· διὸ καὶ οἱ κεραυνοὶ καὶ οἱ ἐκνεφίαι καὶ πάντα τὰ τοιαῦτα φέρεται κάτω, καίτοι πεφυκότος ἄνω τοῦ θερμοῦ φέρεσθαι παντός· ἀλλ’ εἰς τοὐναντίον τῆς πυκνότητος ἀναγκαῖον γίγνεσθαι τὴν ἔκθλιψιν, οἷον οἱ πυρῆνες οἱ ἐκ τῶν δακτύλων ἐκπηδῶντες· καὶ γὰρ ταῦτα βάρος ἔχοντα φέρεται πολλάκις ἄνω)· ἡ μὲν οὖν ἐκκρινομένη θερμότης εἰς τὸν ἄνω διασπείρεται τόπον· ὅση δ’ ἐμπεριλαμβάνεται τῆς ξηρᾶς ἀναθυμιάσεως ἐν τῇ μεταβολῇ ψυχομένου τοῦ ἀέρος, αὕτη συνιόντων τῶν νεφῶν ἐκκρίνεται, βίᾳ δὲ φερομένη καὶ προσπίπτουσα τοῖς περιεχομένοις νέφεσι ποιεῖ πληγήν, ἧς ὁ ψόφος καλεῖται βροντή. γίγνεται δ’ ἡ πληγὴ τὸν αὐτὸν τρόπον, ὡς παρεικάσαι μείζονι μικρὸν πάθος, τῷ ἐν τῇ φλογὶ γιγνομένῳ ψόφῳ, ὃν καλοῦσιν οἱ μὲν τὸν Ἥφαιστον γελᾶν, οἱ δὲ τὴν Ἑστίαν, οἱ δ’ ἀπειλὴν τούτων. γίγνεται δ’ ὅταν ἡ ἀναθυμίασις εἰς τὴν φλόγα συνεστραμμένη φέρηται, ῥηγνυμένων καὶ ξηραινομένων τῶν ξύλων· οὕτως γὰρ καὶ ἐν τοῖς νέφεσι ἡ γιγνομένη τοῦ πνεύματος ἔκκρισις πρὸς τὴν πυκνότητα τῶν νεφῶν ἐμπίπτουσα [369b] ποιεῖ τὴν βροντήν. παντοδαποὶ δὲ ψόφοι διὰ τὴν ἀνωμαλίαν τε γίγνονται τῶν νεφῶν καὶ διὰ τὰς μεταξὺ κοιλίας, ᾗ τὸ συνεχὲς ἐκλείπει τῆς πυκνότητος. ἡ μὲν οὖν βροντὴ τοῦτ’ ἔστι, καὶ γίγνεται διὰ ταύτην τὴν αἰτίαν· τὸ δὲ πνεῦμα τὸ ἐκθλιβόμενον τὰ πολλὰ μὲν ἐκπυροῦται λεπτῇ καὶ ἀσθενεῖ πυρώσει, καὶ τοῦτ’ ἔστιν ἣν καλοῦμεν ἀστραπήν, ᾗ ἂν ὥσπερ [369b.7] ἐκπῖπτον τὸ πνεῦμα χρωματισθὲν ὀφθῇ. γίγνεται δὲ μετὰ τὴν πληγὴν καὶ ὕστερον τῆς βροντῆς· ἀλλὰ φαίνεται πρότερον διὰ τὸ τὴν ὄψιν προτερεῖν τῆς ἀκοῆς. δηλοῖ δ’ ἐπὶ τῆς εἰρεσίας τῶν τριήρων· ἤδη γὰρ ἀναφερόντων πάλιν τὰς κώπας ὁ πρῶτος ἀφικνεῖται ψόφος τῆς κωπηλασίας. καίτοι τινὲς λέγουσιν ὡς ἐν τοῖς νέφεσιν ἐγγίγνεται πῦρ· τοῦτο δ’ Ἐμπεδοκλῆς μέν φησιν εἶναι τὸ ἐμπεριλαμβανόμενον τῶν τοῦ ἡλίου ἀκτίνων, Ἀναξαγόρας δὲ τοῦ ἄνωθεν αἰθέρος, ὃ δὴ ἐκεῖνος καλεῖ πῦρ κατενεχθὲν ἄνωθεν κάτω. τὴν μὲν οὖν διάλαμψιν ἀστραπὴν εἶναι τὴν τούτου τοῦ πυρός, τὸν δὲ ψόφον ἐναποσβεννυμένου καὶ τὴν σίξιν βροντήν, ὡς καθάπερ φαίνεται καὶ γιγνόμενον οὕτως καὶ πρότερον τὴν ἀστραπὴν οὖσαν τῆς βροντῆς. ἄλογος δὲ καὶ ἡ τοῦ πυρὸς ἐμπερίληψις, ἀμφοτέρως μέν, μᾶλλον δ' ἡ κατάσπασις τοῦ ἄνωθεν αἰθέρος. τοῦ τε γὰρ κάτω φέρεσθαι τὸ πεφυκὸς ἄνω δεῖ λέγεσθαι τὴν αἰτίαν, καὶ διὰ τί ποτε τοῦτο γίγνεται κατὰ τὸν οὐρανὸν ὅταν ἐπινέφελον ᾖ μόνον, ἀλλ' οὐ συνεχῶς οὕτως· αἰθρίας δὲ οὔσης οὐ γίγνεται. τοῦτο γὰρ παντάπασιν ἔοικεν εἰρῆσθαι προχείρως. ὁμοίως δὲ καὶ τὸ τὴν ἀπὸ τῶν ἀκτίνων θερμότητα φάναι τὴν ἀπολαμβανομένην ἐν τοῖς νέφεσιν εἶναι τούτων αἰτίαν οὐ πιθανόν· καὶ γὰρ οὗτος ὁ λόγος ἀπραγμόνως εἴρηται λίαν· ἀποκεκριμένον τε γὰρ ἀναγκαῖον εἶναι τὸ αἴτιον ἀεὶ καὶ ὡρισμένον, τό τε τῆς βροντῆς καὶ τῆς ἀστραπῆς καὶ τῶν ἄλλων τῶν τοιούτων, καὶ οὕτω γίγνεσθαι. τοῦτο δὲ διαφέρει πλεῖστον· ὅμοιον γὰρ κἂν εἴ τις οἴοιτο τὸ ὕδωρ καὶ τὴν χιόνα καὶ τὴν χάλαζαν ἐνυπάρχοντα πρότερον ὕστερον ἐκκρίνεσθαι καὶ μὴ γίγνεσθαι, οἷον ὑπὸ χεῖρα ποιούσης ἀεὶ τῆς συγκρίσεως ἕκαστον αὐτῶν· ὡσαύτως γὰρ ἐκεῖνά τε συγκρίσεις καὶ ταῦτα διακρίσεις ὑποληπτέον εἶναι, ὥστ' εἰ θάτερα τούτων μὴ γίγνεται ἀλλ' ἔστι, περὶ ἀμφοτέρων ὁ αὐτὸς [370a] ἁρμόσει λόγος. τήν τ' ἐναπόληψιν τί ἂν ἀλλοιότερον λέγοι τις ἢ καθάπερ ἐν τοῖς πυκνοτέροις; καὶ γὰρ τὸ ὕδωρ ὑπὸ τοῦ ἡλίου καὶ τοῦ πυρὸς γίγνεται θερμόν· ἀλλ' ὅμως ὅταν πάλιν συνίῃ καὶ ψύχηται τὸ ὕδωρ πηγνύμενον, οὐδεμίαν συμβαίνει γίγνεσθαι τοιαύτην ἔκπτωσιν οἵαν ἐκεῖνοι λέγουσιν. καίτοι γ' ἐχρῆν κατὰ λόγον τοῦ μεγέθους τὴν ζέσιν ποιεῖν τὸ ἐγγιγνόμενον πνεῦμα ὑπὸ τοῦ πυρός, ἣν οὔτε δυνατὸν ἐνυπάρχειν πρότερον, οὔτ' ἐκεῖνοι τὸν ψόφον ζέσιν ποιοῦσιν ἀλλὰ σίξιν· ἔστι δὲ καὶ ἡ σίξις μικρὰ ζέσις· ᾗ γὰρ τὸ προσπῖπτον κρατεῖ σβεννύμενον, ταύτῃ ζέον ποιεῖ τὸν ψόφον. εἰσὶ δέ τινες οἳ τὴν ἀστραπήν, ὥσπερ καὶ Κλείδημος, οὐκ εἶναί φασιν ἀλλὰ φαίνεσθαι, παρεικάζοντες ὡς τὸ πάθος ὅμοιον ὂν καὶ ὅταν τὴν θάλαττάν τις ῥάβδῳ τύπτῃ· φαίνεται γὰρ τὸ ὕδωρ ἀποστίλβον τῆς νυκτός· οὕτως ἐν τῇ νεφέλῃ ῥαπιζομένου τοῦ ὑγροῦ τὴν φάντασιν τῆς λαμπρότητος εἶναι τὴν ἀστραπήν. οὗτοι μὲν οὖν οὔπω συνήθεις ἦσαν ταῖς περὶ τῆς ἀνακλάσεως δόξαις, ὅπερ αἴτιον δοκεῖ τοῦ τοιούτου πάθους εἶναι· φαίνεται γὰρ τὸ ὕδωρ στίλβειν τυπτόμενον ἀνακλωμένης ἀπ' αὐτοῦ τῆς ὄψεως πρός τι τῶν λαμπρῶν. διὸ καὶ γίγνεται μᾶλλον τοῦτο νύκτωρ· τῆς γὰρ ἡμέρας οὐ φαίνεται διὰ τὸ πλέον ὂν τὸ φέγγος τὸ τῆς ἡμέρας ἀφανίζειν. τὰ μὲν οὖν λεγόμενα περὶ βροντῆς τε καὶ ἀστραπῆς παρὰ τῶν ἄλλων ταῦτ' ἐστί, τῶν μὲν ὅτι ἀνάκλασις ἡ ἀστραπή, τῶν δ' ὅτι πυρὸς μὲν ἡ ἀστραπὴ διάλαμψις, ἡ δὲ βροντὴ σβέσις, οὐκ ἐγγιγνομένου παρ’ ἕκαστον πάθος τοῦ πυρὸς ἀλλ’ ἐνυπάρχοντος. ἡμεῖς δέ φαμεν τὴν αὐτὴν εἶναι φύσιν ἐπὶ μὲν τῆς γῆς ἄνεμον, ἐν δὲ τῇ γῇ σεισμόν, ἐν δὲ τοῖς νέφεσι βροντήν· πάντα γὰρ εἶναι ταῦτα τὴν οὐσίαν ταὐτόν, ἀναθυμίασιν ξηράν, ἣ ῥέουσα μέν πως ἄνεμός ἐστιν, ὡδὶ δὲ ποιεῖ τοὺς σεισμούς, ἐν δὲ τοῖς νέφεσι μεταβάλλουσα διακρινομένη, συνιόντων καὶ συγκρινομένων αὐτῶν εἰς ὕδωρ, βροντάς τε καὶ ἀστραπὰς καὶ πρὸς τούτοις τἆλλα τὰ τῆς αὐτῆς φύσεως τούτοις ὄντα. καὶ περὶ μὲν βροντῆς εἴρηται καὶ ἀστραπῆς.

Βιβλίο Γ’Περὶ δὲ τῶν ὑπολοίπων εἴπωμεν ἔργων τῆς ἐκκρίσεως ταύτης, τὸν ὑφηγημένον ἤδη τρόπον λέγοντες. τὸ γὰρ πνεῦμα τοῦτο ἐκκρινόμενον κατὰ μικρὰ μὲν καὶ σποράδην διαχεόμενον καὶ πολλάκις γιγνόμενον καὶ διαπνέον καὶ λεπτομερέστερον ὂν βροντὰς ποιεῖ καὶ ἀστραπάς· ἂν δ’ ἀθρόον καὶ πυκνότερον, ἧττον δ’ ἐκκριθῇ λεπτόν, ἐκνεφίας ἄνεμος γίγνεται· διὸ καὶ βίαιος (τὸ γὰρ τάχος τῆς ἐκκρίσεως ποιεῖ τὴν ἰσχύν). ὅταν μὲν οὖν συνακολουθήσῃ πολλὴ καὶ συνεχὴς ἔκκρισις, τὸν αὐτὸν γίγνεται τρόπον ὥσπερ ὅταν πάλιν εἰς τοὐναντίον ὁρμήσῃ· τότε γὰρ ὑετὸς καὶ ὕδατος γίγνεται πλῆθος. ὑπάρχει μὲν οὖν ἄμφω δυνάμει ταῦτα κατὰ τὴν ὕλην· ὅταν δὲ ἀρχὴ γένηται τῆς δυνάμεως ὁποτερασοῦν, ἀκολουθεῖ συγκρινόμενον ἐκ τῆς ὕλης ὁποτέρου ἂν ᾖ πλῆθος ἐνυπάρχον πλέον, καὶ γίγνεται τὸ μὲν ὄμβρος, τὸ δὲ τῆς ἑτέρας ἀναθυμιάσεως ἐκνεφίας. ὅταν δὲ τὸ ἐκκρινόμενον πνεῦμα τὸ ἐν τῷ νέφει ἑτέρῳ ἀντιτυπήσῃ οὕτως ὥσπερ ὅταν ἐξ εὐρέος εἰς στενὸν βιάζηται ὁ ἄνεμος ἐν πύλαις ἢ ὁδοῖς (συμβαίνει γὰρ πολλάκις ἐν τοῖς τοιούτοις ἀπωσθέντος τοῦ πρώτου μορίου τοῦ ῥέοντος σώματος διὰ τὸ μὴ ὑπείκειν, ἢ διὰ στενότητα ἢ διὰ τὸ ἀντιπνεῖν, κύκλον καὶ δίνην γίγνεσθαι τοῦ πνεύματος· τὸ μὲν γὰρ εἰς τὸ πρόσθεν κωλύει προϊέναι, τὸ δ’ ὄπισθεν ἐπωθεῖ, ὥστε ἀναγκάζεται εἰς τὸ πλάγιον, ᾗ οὐ κωλύεται, φέρεσθαι, καὶ οὕτως ἀεὶ τὸ ἐχόμενον, ἕως ἂν ἓν γένηται, τοῦτο δ’ ἐστὶ κύκλος· οὗ γὰρ μία φορὰ σχήματος, τοῦτο καὶ αὐτὸ ἀνάγκη ἓν εἶναι)· ἐπί τε τῆς γῆς οὖν διὰ ταῦτα γίγνονται οἱ δῖνοι, καὶ ἐν τοῖς νέφεσιν ὁμοίως κατὰ τὴν ἀρχήν, πλὴν ὅτι, ὥσπερ, ὅταν ἐκνεφίας γίγνηται, ἀεὶ τὸ νέφος ἐκκρίνεται καὶ γίγνεται συνεχὴς ἄνεμος, οὕτως ἐνταῦθα ἀεὶ τὸ συνεχὲς ἀκολουθεῖ τοῦ νέφους· διὰ δὲ πυκνότητα οὐ δυνάμενον ἐκκριθῆναι τὸ πνεῦμα ἐκ τοῦ νέφους στρέφεται μὲν κύκλῳ τὸ πρῶτον διὰ τὴν εἰρημένην αἰτίαν, κάτω δὲ φέρεται διὰ [371a] τὸ ἀεὶ τὰ νέφη πυκνοῦσθαι, ᾗ ἐκπίπτει τὸ θερμόν. καλεῖται δ’, ἂν ἀχρωμάτιστον ᾖ, τοῦτο τὸ πάθος τυφῶν, ἄνεμος ὤν, οἷον ἐκνεφίας ἄπεπτος. βορείοις δ’ οὐ γίγνεται τυφῶν, οὐδὲ νιπτικῶς ἐχόντων ἐκνεφίας, διὰ τὸ πάντα ταῦτ’ εἶναι πνεῦμα, τὸ δὲ πνεῦμα ξηρὰν εἶναι καὶ θερμὴν ἀναθυμίασιν. ὁ οὖν πάγος καὶ τὸ ψῦχος διὰ τὸ κρατεῖν σβέννυσιν εὐθὺς γιγνομένην ἔτι τὴν ἀρχήν. ὅτι δὲ κρατεῖ, δῆλον· οὐδὲ γὰρ ἂν ἦν νιφετός, οὐδὲ βόρεια τὰ ὑγρά· ταῦτα γὰρ συμβαίνει κρατούσης εἶναι τῆς ψυχρότητος. γίγνεται μὲν οὖν τυφῶν, ὅταν ἐκνεφίας γιγνόμενος μὴ δύνηται ἐκκριθῆναι τοῦ νέφους· ἔστι δὲ διὰ τὴν ἀντίκρουσιν τῆς δίνης, ὅταν ἐπὶ γῆν φέρηται ἡ ἕλιξ συγκατάγουσα τὸ νέφος, οὐ δυναμένη ἀπολυθῆναι. ᾗ δὲ κατ’ εὐθυωρίαν ἐκπνεῖ, ταύτῃ τῷ πνεύματι κινεῖ, καὶ τῇ κύκλῳ κινήσει στρέφει καὶ ἀναφέρει ᾧ ἂν προσπέσῃ βιαζόμενον. ὅταν δὲ κατασπώμενον ἐκπυρωθῇ (τοῦτο δ’ ἐστὶν ἐὰν λεπτότερον τὸ πνεῦμα γένηται), καλεῖται πρηστήρ· συνεκπίμπρησι γὰρ τὸν ἀέρα τῇ πυρώσει χρωματίζων. ἐὰν δ’ ἐν αὐτῷ τῷ νέφει πολὺ καὶ λεπτὸν ἐκθλιφθῇ πνεῦμα, τοῦτο γίγνεται κεραυνός, ἐὰν μὲν πάνυ λεπτόν, οὐκ ἐπικάων διὰ λεπτότητα, ὃν οἱ ποιηταὶ ἀργῆτα καλοῦσιν, ἐὰν δ’ ἧττον, ἐπικάων, ὃν ψολόεντα καλοῦσιν· ὁ μὲν γὰρ διὰ τὴν λεπτότητα φέρεται, διὰ δὲ τὸ τάχος φθάνει διιὼν πρὶν ἢ [371a.23] ἐκπυρῶσαι καὶ ἐπιδιατρίψας μελᾶναι· ὁ δὲ βραδύτερος ἔχρωσε μέν, ἔκαυσε δ’ οὔ, ἀλλ’ ἔφθασε. διὸ καὶ τὰ μὲν ἀντιτυπήσαντα πάσχει τι, τὰ δὲ μὴ οὐδέν, οἷον ἀσπίδος ἤδη τὸ μὲν χάλκωμα ἐτάκη, τὸ δὲ ξύλον οὐδὲν ἔπαθεν· διὰ γὰρ μανότητα ἔφθασε τὸ πνεῦμα διηθηθὲν καὶ διελθόν· καὶ δι’ ἱματίων ὁμοίως οὐ κατέκαυσεν, ἀλλ’ οἷον τρῦχος ἐποίησεν· ὥστε ὅτι γε πνεῦμα ταῦτα πάντα, δῆλον καὶ ἐκ τῶν τοιούτων. ἔστι δ’ ἐνίοτε καὶ τοῖς ὄμμασιν θεωρεῖν, οἷον καὶ νῦν ἐθεωροῦμεν περὶ τὸν ἐν Ἐφέσῳ ναὸν καόμενον· πολλαχῇ γὰρ ἡ φλὸξ ἐφέρετο συνεχής, ἀποσπωμένη χωρίς. ὅτι μὲν γὰρ ὅ τε καπνὸς πνεῦμα καὶ κάεται ὁ καπνός, [371b] φανερόν, καὶ εἴρηται ἐν ἑτέροις πρότερον· ὅταν δ’ ἀθρόον χωρῇ, τότε φανερῶς δοκεῖ πνεῦμα εἶναι. ὅπερ οὖν ἐν ταῖς μικραῖς πυρκαϊαῖς φαίνεται, τοῦτο καὶ τότε πολλῆς ὕλης καομένης ἐγίγνετο πολλῷ ἰσχυρότερον. ῥηγνυμένων οὖν τῶν ξύλων, ὅθεν ἡ ἀρχὴ τοῦ πνεύματος ἦν, πολὺ ἐχώρει ἀθρόον, ᾗ ἐξέπνει, καὶ ἐφέρετο ἄνω πεπυρωμένον. ὥστ’ ἐφαίνετο ἡ φλὸξ φέρεσθαι καὶ εἰσπίπτειν εἰς τὰς οἰκίας. ἀεὶ γὰρ οἴεσθαι δεῖ ἐπακολουθεῖν τοῖς κεραυνοῖς πνεῦμα καὶ προϊέναι· ἀλλ’ οὐχ ὁρᾶται, διὰ τὸ ἀχρωμάτιστον εἶναι. διὸ καὶ ᾗ μέλλει πατάξειν, κινεῖται πρὶν πληγῆναι, ἅτε πρότερον προσπιπτούσης τῆς ἀρχῆς τοῦ πνεύματος. καὶ αἱ βρονταὶ δὲ διιστᾶσιν οὐ τῷ ψόφῳ, ἀλλ’ ὅτι ἅμα συνεκκρίνεται τὸ τὴν πληγὴν ποιῆσαν καὶ τὸν ψόφον πνεῦμα· ὃ ἐὰν πατάξῃ, διέστησεν, ἐπέκαυσε δ’ οὔ. περὶ μὲν οὖν βροντῆς καὶ ἀστραπῆς καὶ ἐκνεφίου, ἔτι δὲ πρηστήρων τε καὶ τυφώνων καὶ κεραυνῶν, εἴρηται, καὶ ὅτι ταὐτὸ πάντα, καὶ τίς ἡ διαφορὰ πάντων αὐτῶν.

περὶ δὲ ἅλω καὶ ἴριδος, τί τε ἑκάτερον καὶ διὰ τίν’ αἰτίαν γίγνεται, λέγωμεν, καὶ περὶ παρηλίων καὶ ῥάβδων· καὶ γὰρ ταῦτα γίγνεται πάντα διὰ τὰς αὐτὰς αἰτίας ἀλλήλοις. πρῶτον δὲ δεῖ λαβεῖν τὰ πάθη καὶ τὰ συμβαίνοντα περὶ ἕκαστον αὐτῶν. τῆς μὲν οὖν ἅλω φαίνεται πολλάκις κύκλος ὅλος, καὶ γίγνεται περὶ ἥλιον καὶ σελήνην καὶ περὶ τὰ λαμπρὰ τῶν ἄστρων, ἔτι δ’ οὐδὲν ἧττον νυκτὸς ἢ ἡμέρας καὶ περὶ μεσημβρίαν ἢ δείλην· ἕωθεν δ’ ἐλαττονάκις καὶ περὶ δύσιν. τῆς δ’ ἴριδος οὐδέποτε γίγνεται κύκλος οὐδὲ μεῖζον ἡμικυκλίου τμῆμα· καὶ δύνοντος μὲν καὶ ἀνατέλλοντος ἐλαχίστου μὲν κύκλου, μεγίστη δ' ἡ ἁψίς, αἰρομένου δὲ μᾶλλον κύκλου μὲν μείζονος, ἐλάττων δ' ἡ ἁψίς· καὶ μετὰ μὲν τὴν μετοπωρινὴν ἰσημερίαν, ἐν ταῖς βραχυτέραις ἡμέραις, πᾶσαν ὥραν γίγνεται τῆς ἡμέρας, ἐν δὲ ταῖς θεριναῖς οὐ γίγνεται περὶ μεσημβρίαν. οὐδὲ δὴ δυοῖν πλείους ἴριδες οὐ γίγνονται ἅμα. τούτων δὲ τρίχρως μὲν ἑκατέρα, καὶ τὰ [372a] χρώματα ταὐτὰ καὶ ἴσα τὸν ἀριθμὸν ἔχουσιν ἀλλήλαις, ἀμυδρότερα δ' ἐν τῇ ἐκτὸς καὶ ἐξ ἐναντίας κείμενα κατὰ τὴν θέσιν· ἡ μὲν γὰρ ἐντὸς τὴν πρώτην ἔχει περιφέρειαν τὴν μεγίστην φοινικίαν, ἡ δ' ἔξωθεν τὴν ἐλαχίστην μὲν ἐγγύτατα δὲ πρὸς ταύτην, καὶ τὰς ἄλλας ἀνάλογον. ἔστι δὲ τὰ χρώματα ταῦτα ἅπερ μόνα σχεδὸν οὐ δύνανται ποιεῖν οἱ γραφεῖς· ἔνια γὰρ αὐτοὶ κεραννύουσι, τὸ δὲ φοινικοῦν καὶ πράσινον καὶ ἁλουργὸν οὐ γίγνεται κεραννύμενον· ἡ δὲ ἶρις ταῦτ' ἔχει τὰ χρώματα. τὸ δὲ μεταξὺ τοῦ φοινικοῦ καὶ πρασίνου φαίνεται πολλάκις ξανθόν. παρήλιοι δὲ καὶ ῥάβδοι γίγνονται ἐκ πλαγίας αἰεὶ καὶ οὔτ' ἄνωθεν οὔτε πρὸς τῆς γῆς οὔτ' ἐξ ἐναντίας, οὐδὲ δὴ νύκτωρ, ἀλλ' ἀεὶ περὶ τὸν ἥλιον, ἔτι δὲ ἢ αἰρομένου ἢ καταφερομένου· τὰ πλεῖστα δὲ πρὸς δυσμάς· μεσουρανοῦντος δὲ σπάνιον εἴ τι γέγονεν, οἷον ἐν Βοσπόρῳ ποτὲ συνέπεσε· δι' ὅλης γὰρ τῆς ἡμέρας συνανασχόντες δύο παρήλιοι διετέλεσαν μέχρι δυσμῶν. τὰ μὲν οὖν περὶ ἕκαστον αὐτῶν συμβαίνοντα ταῦτ' ἐστίν· τὸ δ' αἴτιον τούτων ἁπάντων ταὐτό· πάντα γὰρ ἀνάκλασις ταῦτ' ἐστί. διαφέρουσι δὲ τοῖς τρόποις καὶ ἀφ' ὧν, καὶ ὡς συμβαίνει γίγνεσθαι τὴν ἀνάκλασιν πρὸς τὸν ἥλιον ἢ πρὸς ἄλλο τι τῶν λαμπρῶν. καὶ μεθ' ἡμέραν μὲν ἶρις γίγνεται, νύκτωρ δ' ἀπὸ σελήνης, ὡς μὲν οἱ ἀρχαῖοι ᾤοντο, οὐκ ἐγίγνετο· τοῦτο δ' ἔπαθον διὰ τὸ σπάνιον· ἐλάνθανε γὰρ αὐτούς· γίγνεται μὲν γάρ, ὀλιγάκις δὲ γίγνεται. τὸ δ' αἴτιον ὅτι τ' ἐν τῷ σκότει λανθάνει τὰ χρώματα, καὶ ἄλλα πολλὰ δεῖ συμπεσεῖν, καὶ ταῦτα πάντα ἐν ἡμέρᾳ μιᾷ τοῦ μηνός· ἐν τῇ πανσελήνῳ γὰρ γενέσθαι ἀνάγκη τὸ μέλλον ἔσεσθαι, καὶ τότε ἀνατελλούσης ἢ δυνούσης· διόπερ ἐν ἔτεσιν ὑπὲρ τὰ πεντήκοντα δὶς ἐνετύχομεν μόνον. ὅτι μὲν οὖν ἡ ὄψις ἀνακλᾶται, ὥσπερ καὶ ἀφ' ὕδατος, οὕτω καὶ ἀπὸ ἀέρος καὶ πάντων τῶν ἐχόντων τὴν ἐπιφάνειαν λείαν, ἐκ τῶν περὶ τὴν ὄψιν δεικνυμένων δεῖ λαμβάνειν τὴν πίστιν, καὶ διότι τῶν ἐνόπτρων ἐν ἐνίοις μὲν καὶ τὰ σχήματα ἐμφαίνεται, ἐν ἐνίοις δὲ τὰ χρώματα μόνον· τοιαῦτα δ' ἐστὶν ὅσα [372b] μικρὰ τῶν ἐνόπτρων, καὶ μηδεμίαν αἰσθητὴν ἔχει διαίρεσιν· ἐν γὰρ τούτοις τὸ μὲν σχῆμα ἀδύνατον ἐμφαίνεσθαι (δόξει γὰρ εἶναι διαιρετόν· πᾶν γὰρ σχῆμα ἅμα δοκεῖ σχῆμά τ' εἶναι καὶ διαίρεσιν ἔχειν), ἐπεὶ δ' ἐμφαίνεσθαί τι ἀναγκαῖον, τοῦτο δὲ ἀδύνατον, λείπεται τὸ χρῶμα μόνον ἐμφαίνεσθαι. τὸ δὲ χρῶμα ὁτὲ μὲν λαμπρὸν φαίνεται τῶν λαμπρῶν, ὁτὲ δέ, ἢ τῷ μείγνυσθαι τῷ τοῦ ἐνόπτρου ἢ διὰ τὴν ἀσθένειαν τῆς ὄψεως, ἄλλου χρώματος ἐμποιεῖ φαντασίαν. ἔστω δὲ περὶ τούτων ἡμῖν τεθεωρημένον ἐν τοῖς περὶ τὰς αἰσθήσεις δεικνυμένοις· διὸ τὰ μὲν λέγωμεν, τοῖς δ' ὡς ὑπάρχουσι χρησώμεθα αὐτῶν.

πρῶτον δὲ περὶ τῆς ἅλω τοῦ σχήματος εἴπωμεν, διότι τε κύκλος γίγνεται, καὶ διότι περὶ τὸν ἥλιον ἢ τὴν σελήνην, ὁμοίως δὲ καὶ περί τι τῶν ἄλλων ἄστρων· ὁ γὰρ αὐτὸς ἐπὶ πάντων ἁρμόσει λόγος. γίγνεται μὲν οὖν ἡ ἀνάκλασις τῆς ὄψεως συνισταμένου τοῦ ἀέρος καὶ τῆς ἀτμίδος εἰς νέφος, ἐὰν ὁμαλὴς καὶ μικρομερὴς συνισταμένη τύχῃ. διὸ καὶ σημεῖον ἡ μὲν σύστασις ὕδατός ἐστιν, αἱ μέντοι διασπάσεις ἢ μαράνσεις, αὗται μὲν εὐδιῶν, αἱ δὲ διασπάσεις πνεύματος. ἐὰν μὲν γὰρ μήτε καταμαρανθῇ μήτε διασπασθῇ, ἀλλ' ἐαθῇ τὴν φύσιν ἀπολαμβάνειν τὴν αὑτῆς, ὕδατος εἰκότως σημεῖόν ἐστι· δηλοῖ γὰρ ἤδη γίγνεσθαι τοιαύτην τὴν σύστασιν, ἐξ ἧς τὸ συνεχὲς λαμβανούσης τῆς πυκνώσεως ἀναγκαῖον εἰς ὕδωρ ἐλθεῖν· διὸ καὶ μέλαιναι γίγνονται τὴν χρόαν αὗται μάλιστα τῶν ἄλλων. ὅταν δὲ διασπασθῇ, πνεύματος σημεῖον· ἡ γὰρ διαίρεσις ὑπὸ πνεύματος γέγονεν ἤδη μὲν ὄντος, οὔπω δὲ παρόντος. σημεῖον δὲ τούτου διότι ἐντεῦθεν γίγνεται ὁ ἄνεμος, ὅθεν ἂν ἡ κυρία γίγνηται διάσπασις. ἀπομαραινομένη δὲ εὐδίας· εἰ γὰρ μὴ ἔχει πως οὕτως ὁ ἀὴρ ὥστε κρατεῖν τοῦ ἐναπολαμβανομένου θερμοῦ μηδ' ἔρχεσθαι εἰς πύκνωσιν ὑδατώδη, [ἀπὸ] δῆλον ὡς οὔπω ἡ ἀτμὶς ἀποκέκριται τῆς ἀναθυμιάσεως τῆς ξηρᾶς καὶ πυρώδους· τοῦτο δὲ εὐδίας αἴτιον. πῶς μὲν οὖν ἔχοντος τοῦ ἀέρος γίγνεται ἡ ἀνάκλασις, εἴρηται. [373a] ἀνακλᾶται δ' ἀπὸ τῆς συνισταμένης ἀχλύος περὶ τὸν ἥλιον ἢ τὴν σελήνην ἡ ὄψις· διὸ οὐκ ἐξ ἐναντίας ὥσπερ ἶρις φαίνεται. πάντοθεν δὲ ὁμοίως ἀνακλωμένης ἀναγκαῖον κύκλον εἶναι ἢ κύκλου μέρος· ἀπὸ γὰρ τοῦ αὐτοῦ σημείου πρὸς τὸ αὐτὸ σημεῖον αἱ ἴσαι κλασθήσονται ἐπὶ κύκλου γραμμῆς ἀεί. ἔστω γὰρ ἀπὸ τοῦ σημείου ἐφ' ᾧ τὸ Α πρὸς τὸ Β κεκλασμένη ἥ τε τὸ ΑΓΒ καὶ ἡ τὸ ΑΖΒ καὶ ἡ τὸ ΑΔ Β· ἴσαι δὲ αὗταί τε αἱ ΑΓ ΑΖ ΑΔ ἀλλήλαις, καὶ [373a.9] αἱ πρὸς τὸ Β ἀλλήλαις, οἷον αἱ ΓΒ ΖΒ ΔΒ· καὶ ἐπεζεύχθω ἡ ΑΕΒ, ὥστε τὰ τρίγωνα ἴσα· καὶ γὰρ ἐπ' ἴσης τῆς ΑΕΒ. ἤχθωσαν δὴ κάθετοι ἐπὶ τὴν ΑΕΒ ἐκ τῶν γωνιῶν, ἀπὸ μὲν τῆς Γ ἡ τὸ ΓΕ, ἀπὸ δὲ τῆς Ζ ἡ τὸ ΖΕ, ἀπὸ δὲ τῆς Δ ἡ τὸ ΔΕ. ἴσαι δὴ αὗται· ἐν ἴσοις γὰρ τριγώνοις καὶ ἐν ἑνὶ ἐπιπέδῳ πᾶσαι· πρὸς ὀρθὰς γὰρ πᾶσαι τῇ ΑΕΒ, καὶ ἐφ' ἓν σημεῖον τὸ Ε συνάπτουσι. κύκλος ἄρα ἔσται ἡ γραφομένη, κέντρον δὲ τὸ Ε. ἔστι δὴ τὸ μὲν Β ὁ ἥλιος, τὸ δὲ Α ἡ ὄψις, ἡ δὲ περὶ τὸ ΓΖΔ περιφέρεια τὸ νέφος ἀφ' οὗ ἀνακλᾶται ἡ ὄψις πρὸς τὸν ἥλιον. δεῖ δὲ νοεῖν συνεχῆ τὰ ἔνοπτρα· ἀλλὰ διὰ μικρότητα ἕκαστον μὲν ἀόρατον, τὸ δ' ἐξ ἁπάντων ἓν εἶναι δοκεῖ διὰ τὸ ἐφεξῆς. φαίνεται δὲ τὸ μὲν λευκόν, ὁ ἥλιος, κύκλῳ συνεχῶς ἐν ἑκάστῳ φαινόμενος τῶν ἐνόπτρων, καὶ μηδεμίαν ἔχων αἰσθητὴν διαίρεσιν, πρὸς δὲ τῇ γῇ μᾶλλον διὰ τὸ νηνεμώτερον εἶναι· πνεύματος γὰρ ὄντος οὐκ εἶναι στάσιν φανερόν. παρὰ δὲ τοῦτο μέλαινα ἡ ἐχομένη περιφέρεια, διὰ τὴν ἐκείνης λευκότητα δοκοῦσα εἶναι μελαντέρα. πλεονάκις δὲ γίγνονται αἱ ἅλῳ περὶ τὴν σελήνην διὰ τὸ τὸν ἥλιον θερμότερον ὄντα θᾶττον διαλύειν τὰς συστάσεις τοῦ ἀέρος. περὶ δὲ τοὺς ἀστέρας γίγνονται μὲν διὰ τὰς αὐτὰς αἰτίας, οὐ σημειώδεις δ’ ὁμοίως, ὅτι μικρὰς πάμπαν ἐπιδηλοῦσι τὰς συστάσεις καὶ οὔπω γονίμους.

ἡ δ’ ἶρις ὅτι μέν ἐστιν ἀνάκλασις, εἴρηται πρότερον· ποία δέ τις ἀνάκλασις, καὶ πῶς καὶ διὰ τίν’ αἰτίαν ἕκαστα γίγνεται τῶν συμβαινόντων περὶ ταύτην, λέγωμεν νῦν. ἀνακλωμένη μὲν οὖν ἡ ὄψις ἀπὸ πάντων φαίνεται τῶν λείων, [373b] τούτων δ’ ἐστὶν καὶ ἀὴρ καὶ ὕδωρ. γίγνεται δὲ ἀπὸ μὲν ἀέρος, ὅταν τύχῃ συνιστάμενος. διὰ δὲ τὴν τῆς ὄψεως ἀσθένειαν πολλάκις καὶ ἄνευ συστάσεως ποιεῖ ἀνάκλασιν, οἷόν ποτε συνέβαινέ τινι πάθος ἠρέμα καὶ οὐκ ὀξὺ βλέποντι· ἀεὶ γὰρ εἴδωλον ἐδόκει προηγεῖσθαι βαδίζοντι αὐτῷ, ἐξ ἐναντίας βλέπον πρὸς αὐτόν. τοῦτο δ’ ἔπασχε διὰ τὸ τὴν ὄψιν ἀνακλᾶσθαι πρὸς αὐτόν· οὕτω γὰρ ἀσθενὴς ἦν καὶ λεπτὴ πάμπαν ὑπὸ τῆς ἀρρωστίας, ὥστ’ ἔνοπτρον ἐγίγνετο καὶ ὁ πλησίον ἀήρ, καὶ οὐκ ἐδύνατο ἀπωθεῖν-ὡς ὁ πόρρω καὶ πυκνός· διόπερ αἵ τ’ ἄκραι ἀνεσπασμέναι φαίνονται ἐν τῇ θαλάττῃ, καὶ μείζω τὰ μεγέθη πάντων, ὅταν εὖροι πνέωσι, καὶ τὰ ἐν ταῖς ἀχλύσιν, οἷον καὶ ἥλιος καὶ ἄστρα ἀνίσχοντα καὶ δύνοντα μᾶλλον ἢ μεσουρανοῦντα. ἀπὸ δὲ ὕδατος μάλιστα ἀνακλᾶται, καὶ ἀπὸ ἀρχομένου γίγνεσθαι μᾶλλον ἔτι ἢ ἀπ’ ἀέρος· ἕκαστον γὰρ τῶν μορίων ἐξ ὧν γίγνεται συνισταμένων ἡ ψακὰς ἔνοπτρον ἀναγκαῖον εἶναι μᾶλλον τῆς ἀχλύος. ἐπεὶ δὲ καὶ δῆλον καὶ εἴρηται πρότερον ὅτι ἐν τοῖς τοιούτοις ἐνόπτροις τὸ χρῶμα μόνον ἐμφαίνεται, τὸ δὲ σχῆμα ἄδηλον, ἀναγκαῖον, ὅταν ἄρχηται ὕειν καὶ ἤδη μὲν συνιστῆται εἰς ψακάδας ὁ ἐν τοῖς νέφεσιν ἀήρ, μήπω δὲ ὕῃ, ἐὰν ἐξ ἐναντίας ᾖ ὁ ἥλιος ἢ ἄλλο τι οὕτω λαμπρὸν ὥστε γίγνεσθαι ἔνοπτρον τὸ νέφος, καὶ τὴν ἀνάκλασιν γίγνεσθαι πρὸς τὸ λαμπρὸν ἐξ ἐναντίας, γίγνεσθαι ἔμφασιν χρώματος, οὐ σχήματος. ἑκάστου δ’ ὄντος τῶν ἐνόπτρων μικροῦ καὶ ἀοράτου, τῆς δ’ ἐξ ἁπάντων αὐτῶν συνεχείας τοῦ μεγέθους ὁρωμένης, ἀνάγκη συνεχὲς μέγεθος τοῦ αὐτοῦ φαίνεσθαι χρώματος· ἕκαστον γὰρ τῶν ἐνόπτρων τὸ αὐτὸ ἀποδίδωσι χρῶμα τῷ συνεχεῖ. ὥστ’ ἐπεὶ ταῦτ’ ἐνδέχεται συμβαίνειν, ὅταν τοῦτον ἔχῃ τὸν τρόπον ὅ τε ἥλιος καὶ τὸ νέφος καὶ ἡμεῖς ὦμεν μεταξὺ αὐτῶν, ἔσται διὰ τὴν ἀνάκλασιν ἔμφασίς τις. ἀλλὰ μὴν καὶ φαίνεται τότε καὶ οὐκ ἄλλως ἐχόντων γιγνομένη ἡ ἶρις. ὅτι μὲν οὖν ἀνάκλασις ἡ ἶρις τῆς ὄψεως πρὸς τὸν ἥλιόν ἐστι, φανερόν· διὸ καὶ ἐξ ἐναντίας ἀεὶ γίγνεται, ἡ δ’ ἅλως περὶ αὐτόν· καίτοι ἄμφω ἀνάκλασις· ἀλλ’ ἥ γε τῶν χρωμάτων [374a] ποικιλία διαφέρει· ἡ μὲν γὰρ ἀφ’ ὕδατος καὶ μέλανος γίγνεται ἀνάκλασις καὶ πόρρωθεν, ἡ δ’ ἐγγύθεν καὶ ἀπὸ ἀέρος λευκοτέρου τὴν φύσιν. φαίνεται δὲ τὸ λαμπρὸν διὰ τοῦ μέλανος ἢ ἐν τῷ μέλανι (διαφέρει γὰρ οὐδέν) φοινικοῦν (ὁρᾶν δ’ ἔξεστι τό γε τῶν χλωρῶν ξύλων πῦρ, ὡς ἐρυθρὰν ἔχει τὴν φλόγα διὰ τὸ τῷ καπνῷ πολλῷ μεμεῖχθαι τὸ πῦρ λαμπρὸν ὂν καὶ λευκόν)· καὶ δι’ ἀχλύος καὶ καπνοῦ ὁ ἥλιος φαίνεται φοινικοῦς. διὸ ἡ μὲν τῆς ἴριδος ἀνάκλασις ἡ μὲν πρώτη τοιαύτην ἔχειν φαίνεται τὴν χρόαν (ἀπὸ ῥανίδων γὰρ μικρῶν γίγνεται ἡ ἀνάκλασις), ἡ δὲ τῆς ἅλω οὔ. περὶ δὲ τῶν ἄλλων χρωμάτων ὕστερον ἐροῦμεν. ἔτι δὲ περὶ αὐτὸν μὲν τὸν ἥλιον οὐ γίγνεται διατριβὴ τοιαύτης συστάσεως, ἀλλ’ ἢ ὕει ἢ διαλύεται. ἐκ δὲ τῶν ἐναντίων ἐν τῷ μεταξὺ τῆς τοῦ ὕδατος γενέσεως γίγνεταί τις χρόνος· τούτου γὰρ μὴ συμβαίνοντος ἦσαν ἂν κεχρωματισμέναι αἱ ἅλως ὥσπερ ἡ ἶρις. νῦν δ’ ὅλα μὲν οὐ γίγνεται τοιαύτην ἔχοντα τὴν ἔμφασιν, οὐδὲ κύκλῳ, μικρὰ δὲ καὶ κατὰ μόριον, αἳ καλοῦνται ῥάβδοι, ἐπεὶ εἰ συνίστατο τοιαύτη ἀχλὺς οἵα γένοιτ’ ἂν ὕδατος ἤ τινος ἄλλου μέλανος, καθάπερ λέγομεν, ἐφαίνετο ἂν ἡ ἶρις ὅλη, ὥσπερ ἡ περὶ τοὺς λύχνους. περὶ γὰρ τούτους τὰ πλεῖστα νοτίων ὄντων ἶρις γίγνεται τοῦ χειμῶνος, μάλιστα δὲ δήλη γίγνεται τοῖς ὑγροὺς ἔχουσι τοὺς ὀφθαλμούς· τούτων γὰρ ἡ ὄψις ταχὺ δι’ ἀσθένειαν ἀνακλᾶται. γίγνεται δ’ ἀπό τε τῆς τοῦ ἀέρος ὑγρότητος καὶ ἀπὸ λιγνύος τῆς ἀπὸ τῆς φλογὸς ἀπορρεούσης καὶ μειγνυμένης· τότε γὰρ γίγνεται ἔνοπτρον, καὶ διὰ τὴν μελανίαν· καπνώδης γὰρ ἡ λιγνύς· τὸ δὲ τοῦ λύχνου φῶς οὐ λευκὸν ἀλλὰ πορφυροῦν φαίνεται κύκλῳ καὶ ἰριῶδες, φοινικοῦν δ’ οὔ· ἔστι γὰρ ἥ τε ὄψις ὀλίγη ἡ ἀνακλωμένη, καὶ μέλαν τὸ ἔνοπτρον. ἡ δ’ ἀπὸ τῶν κωπῶν τῶν ἀναφερομένων ἐκ τῆς θαλάττης ἶρις τῇ μὲν θέσει τὸν αὐτὸν γίγνεται τρόπον τῇ ἐν τῷ οὐρανῷ, τὸ δὲ χρῶμα ὁμοιοτέρα τῇ περὶ τοὺς λύχνους· οὐ γὰρ φοινικῆν ἀλλὰ πορφυρᾶν ἔχουσα φαίνεται τὴν χρόαν. ἡ δ’ ἀνάκλασις ἀπὸ τῶν μικροτάτων μὲν συνεχῶν δὲ γίγνεται ῥανίδων· αὗται δ’ ὕδωρ ἀποκεκριμένον εἰσὶν ἤδη παντελῶς. γίγνεται δὲ κἄν [374b] τις λεπταῖς ῥαίνῃ ῥανίσιν εἴς τι τοιοῦτον χωρίον ὃ τὴν θέσιν πρὸς τὸν ἥλιον ἐστραμμένον ἐστὶ καὶ τῇ μὲν ὁ ἥλιος ἀνέχῃ τῇ δὲ σκιάζῃ· ἐν τῷ τοιούτῳ γάρ, ἐὰν εἴσω τις ῥαίνῃ, τῷ ἑστῶτι ἐκτός, ᾗ ἐπαλλάττουσιν αἱ ἀκτῖνες καὶ ποιοῦσι τὴν σκιάν, φαίνεται ἶρις. ὁ δὲ τρόπος καὶ ἡ χρόα ὁμοία καὶ τὸ αἴτιον τὸ αὐτὸ τῇ ἀπὸ τῶν κωπῶν· τῇ γὰρ χειρὶ κώπῃ χρῆται ὁ ῥαίνων. ὅτι δὲ τὸ χρῶμα τοιοῦτον, ἅμα δῆλον ἔσται καὶ περὶ τῶν ἄλλων χρωμάτων τῆς φαντασίας, ἐκ τῶνδε. δεῖ γὰρ νοήσαντας, ὥσπερ εἴρηται, καὶ ὑποθεμένους πρῶτον μὲν ὅτι τὸ λαμπρὸν ἐν τῷ μέλανι ἢ διὰ τοῦ μέλανος χρῶμα ποιεῖ φοινικοῦν, δεύτερον δ’ ὅτι ἡ ὄψις ἐκτεινομένη ἀσθενεστέρα γίγνεται καὶ ἐλάττων, τρίτον δ’ ὅτι τὸ μέλαν οἷον ἀπόφασίς ἐστιν· τῷ γὰρ ἐκλείπειν τὴν ὄψιν φαίνεται μέλαν· διὸ τὰ πόρρω πάντα μελάντερα φαίνεται, διὰ τὸ μὴ διικνεῖσθαι τὴν ὄψιν. θεωρείσθω μὲν οὖν ταῦτ’ ἐκ τῶν περὶ τὰς αἰσθήσεις συμβαινόντων· ἐκείνων γὰρ ἴδιοι οἱ περὶ τούτων λόγοι· νῦν δ’ ὅσον ἀνάγκη, τοσοῦτον περὶ αὐτῶν λέγωμεν. φαίνεται δ’ οὖν διὰ ταύτην τὴν αἰτίαν τά τε πόρρω μελάντερα καὶ ἐλάττω καὶ λειότερα, καὶ τὰ ἐν τοῖς ἐνόπτροις, καὶ τὰ νέφη μελάντερα βλέπουσιν εἰς τὸ ὕδωρ ἢ εἰς αὐτὰ τὰ νέφη. καὶ τοῦτο πάνυ ἐπιδήλως· διὰ γὰρ τὴν [374b.22] ἀνάκλασιν ὀλίγῃ τῇ ὄψει θεωροῦνται. διαφέρει δ’ οὐδὲν τὸ ὁρώμενον μεταβάλλειν ἢ τὴν ὄψιν· ἀμφοτέρως γὰρ ἔσται ταὐτόν. πρὸς δὲ τούτοις δεῖ μὴ λεληθέναι καὶ τόδε· συμβαίνει γὰρ ὅταν ᾖ τοῦ ἡλίου νέφος πλησίον, εἰς μὲν αὐτὸ βλέποντι μηδὲν φαίνεσθαι κεχρωματισμένον ἀλλ’ εἶναι λευκόν, ἐν δὲ τῷ ὕδατι αὐτὸ τοῦτο θεωροῦντι χρῶμά τι ἔχειν τῆς ἴριδος. δῆλον τοίνυν ὅτι ἡ ὄψις ὥσπερ καὶ τὸ μέλαν κλωμένη δι’ ἀσθένειαν μελάντερον ποιεῖ φαίνεσθαι, καὶ τὸ λευκὸν ἧττον λευκόν, καὶ προσάγει πρὸς τὸ μέλαν. ἡ μὲν οὖν ἰσχυροτέρα ὄψις εἰς φοινικοῦν χρῶμα μετέβαλεν, ἡ δ’ ἐχομένη εἰς τὸ πράσινον, ἡ δὲ ἔτι ἀσθενεστέρα εἰς τὸ ἁλουργόν. ἐπὶ δὲ τὸ πλέον οὐκέτι φαίνεται, ἀλλ’ ἐν τοῖς τρισίν, ὥσπερ καὶ τῶν ἄλλων τὰ πλεῖστα, καὶ τούτων ἔσχεν τέλος· τῶν δ’ ἄλλων ἀναίσθητος ἡ μεταβολή. διὸ καὶ ἡ [375a] ἶρις τρίχρως φαίνεται, ἑκατέρα μέν, ἐναντίως δέ. ἡ μὲν οὖν πρώτη τὴν ἔξω φοινικῆν ἔχει· ἀπὸ μεγίστης γὰρ περιφερείας πλείστη προσπίπτει ὄψις πρὸς τὸν ἥλιον, μεγίστη δ’ ἡ ἔξω· ἡ δ’ ἐχομένη καὶ ἡ τρίτη ἀνάλογον. ὥστ’ εἰ τὰ περὶ τῶν χρωμάτων τῆς φαντασίας εἴρηται καλῶς, ἀνάγκη τρίχρων τε εἶναι αὐτὴν καὶ τούτοις τοῖς χρώμασι κεχρῶσθαι μόνοις. τὸ δὲ ξανθὸν φαίνεται διὰ τὸ παρ’ ἄλληλα φαίνεσθαι. τὸ γὰρ φοινικοῦν παρὰ τὸ πράσινον λευκὸν φαίνεται. σημεῖον δὲ τούτου· ἐν γὰρ τῷ μελαντάτῳ νέφει μάλιστα ἄκρατος γίγνεται ἶρις· συμβαίνει δὲ τότε ξανθότερον εἶναι δοκεῖν τὸ φοινικοῦν. ἔστι δὲ τὸ ξανθὸν ἐν τῇ ἴριδι χρῶμα μεταξὺ τοῦ τε φοινικοῦ καὶ πρασίνου χρώματος. διὰ τὴν μελανίαν οὖν τοῦ κύκλῳ νέφους ὅλον αὐτοῦ φαίνεται τὸ φοινικοῦν λευκόν· ἔστι γὰρ πρὸς ἐκεῖνα λευκόν. καὶ πάλιν ἀπομαραινομένης τῆς ἴριδος ἐγγύτατα, ὅταν λύηται τὸ φοινικοῦν· ἡ γὰρ νεφέλη λευκὴ οὖσα, προσπίπτουσα παρὰ τὸ πράσινον, μεταβάλλει εἰς τὸ ξανθόν. μέγιστον δὲ σημεῖον τούτων ἡ ἀπὸ τῆς σελήνης ἶρις· φαίνεται γὰρ λευκὴ πάμπαν. γίγνεται δὲ τοῦτο ὅτι ἔν τε τῷ νέφει ζοφερῷ φαίνεται καὶ ἐν νυκτί. ὥσπερ οὖν πῦρ ἐπὶ πῦρ, μέλαν παρὰ μέλαν ποιεῖ τὸ ἠρέμα λευκὸν παντελῶς φαίνεσθαι λευκόν· τοῦτο δ' ἐστὶν τὸ φοινικοῦν. γίγνεται δὲ τοῦτο τὸ πάθος καταφανὲς καὶ ἐπὶ τῶν ἀνθῶν· ἐν γὰρ τοῖς ὑφάσμασιν καὶ ποικίλμασιν ἀμύθητον διαφέρει τῇ φαντασίᾳ ἄλλα παρ' ἄλλα τιθέμενα τῶν χρωμάτων, οἷον καὶ τὰ πορφυρᾶ ἐν λευκοῖς ἢ μέλασιν ἐρίοις, ἔτι δ' ἐν αὐγῇ τοιᾳδὶ ἢ τοιᾳδί· διὸ καὶ οἱ ποικιλταί φασι διαμαρτάνειν ἐργαζόμενοι πρὸς τὸν λύχνον πολλάκις τῶν ἀνθῶν, λαμβάνοντες ἕτερα ἀνθ' ἑτέρων. διότι μὲν οὖν τρίχρως τε, καὶ ὅτι ἐκ τούτων φαίνεται τῶν χρωμάτων μόνων ἡ ἶρις, εἴρηται. διπλῆ δὲ καὶ ἀμαυροτέρα τοῖς χρώμασιν ἡ περιέχουσα, καὶ τῇ θέσει τὰς χρόας ἐξ ἐναντίας ἔχει κειμένας διὰ τὴν αὐτὴν αἰτίαν· μακροτέρα γὰρ ἀποτεινομένη ἡ ὄψις ὥσπερ τὸ πορρώτερον ὁρᾷ, καὶ τὸ ἐνταῦθα τὸν αὐτὸν τρόπον. ἀσθενεστέρα οὖν ἀπὸ τῆς ἔξωθεν ἡ [375b] ἀνάκλασις γίγνεται διὰ τὸ πορρώτερον ποιεῖσθαι τὴν ἀνάκλασιν, ὥστ' ἐλάττων προσπίπτουσα τὰ χρώματα ποιεῖ ἀμαυρότερα φαίνεσθαι. καὶ ἀντεστραμμένως δὴ διὰ τὸ πλείω ἀπὸ τῆς ἐλάττονος καὶ τῆς ἐντὸς περιφερείας προσπίπτειν πρὸς τὸν ἥλιον· ἐγγυτέρω γὰρ τῆς ὄψεως οὖσα ἀνακλᾶται ἀπὸ τῆς ἐγγυτάτω περιφερείας τῆς πρώτης ἴριδος. ἐγγυτάτω δὲ ἐν τῇ ἔξωθεν ἴριδι ἡ ἐλαχίστη περιφέρεια, ὥστε αὕτη ἕξει τὸ χρῶμα φοινικοῦν· ἡ δ' ἐχομένη καὶ ἡ τρίτη κατὰ λόγον. ἡ ἔξω ἶρις ἐφ' ᾧ τὸ Β· ἡ ἔσω, ἡ πρώτη, ἐφ' ᾧ τὸ Α· τὰ χρώματα δ', ἐφ' ᾧ τὸ Γ, φοινικοῦν, ἐφ' ᾧ τὸ Δ, πράσινον, ἐφ' ᾧ Ε, ἁλουργόν· τὸ ξανθὸν δὲ φαίνεται ἐφ' οὗ τὸ Ζ. τρεῖς δ' οὐκέτι γίγνονται, οὐδὲ πλείους ἴριδες, διὰ τὸ καὶ τὴν δευτέραν γίγνεσθαι ἀμαυροτέραν, ὥστε καὶ τὴν τρίτην ἀνάκλασιν πάμπαν ἀσθενῆ γίγνεσθαι καὶ ἀδυνατεῖν ἀφικνεῖσθαι πρὸς τὸν ἥλιον.

ὅτι δ' οὔτε κύκλον οἷόν τε γενέσθαι τῆς ἴριδος οὔτε μεῖζον ἡμικυκλίου τμῆμα, καὶ περὶ τῶν ἄλλων τῶν συμβαινόντων περὶ αὐτήν, ἐκ τοῦ διαγράμματος ἔσται θεωροῦσι δῆλον. ἡμισφαιρίου γὰρ ὄντος ἐπὶ τοῦ ὁρίζοντος κύκλου τοῦ ἐφ' ᾧ τὸ Α, κέντρου δὲ τοῦ Κ, ἄλλου δέ τινος ἀνατέλλοντος σημείου ἐφ' ᾧ τὸ Η, ἐὰν ἀπὸ τοῦ Κ γραμμαὶ κατὰ κῶνον ἐκπίπτουσαι ποιῶσιν ὡσπερεὶ ἄξονα τὴν ἐφ' ᾗ ΗΚ, καὶ ἀπὸ τοῦ Κ ἐπὶ τὸ Μ ἐπιζευχθεῖσαι ἀνακλασθῶσιν ἀπὸ τοῦ ἡμισφαιρίου ἐπὶ τὸ Η ἐπὶ τὴν μείζω γωνίαν, πρὸς κύκλου περιφέρειαν προσπεσοῦνται αἱ ἀπὸ τοῦ Κ· καὶ ἐὰν μὲν ἐπ' ἀνατολῆς ἢ ἐπὶ δύσεως τοῦ ἄστρου ἡ ἀνάκλασις γένηται, ἡμικύκλιον ἀποληφθήσεται τοῦ κύκλου ὑπὸ τοῦ ὁρίζοντος τὸ ὑπὲρ γῆν γιγνόμενον, ἐὰν δ' ἐπάνω, ἀεὶ ἔλαττον ἡμικυκλίου· ἐλάχιστον δέ, ὅταν ἐπὶ τοῦ μεσημβρινοῦ γένηται τὸ ἄστρον. ἔστω γὰρ ἐπ' ἀνατολῆς πρῶτον, οὗ τὸ Η, καὶ ἀνακεκλάσθω ἡ ΚΜ ἐπὶ τὸ Η, καὶ τὸ ἐπίπεδον ἐκβεβλήσθω ἐν ᾧ ἡ Α, τὸ ἀπὸ τοῦ τριγώνου ἐν ᾧ τὸ ΗΚΜ. κύκλος οὖν ἡ τομὴ ἔσται τῆς σφαίρας ὁ μέγιστος. ἔστω ὁ ἐφ’ ᾧ Α· διοίσει γὰρ οὐδὲν ἂν ὁποιονοῦν τῶν ἐπὶ τῆς ΗΚ κατὰ τὸ τρίγωνον τὸ [376a] ΚΜΗ ἐκβληθῇ τὸ ἐπίπεδον. αἱ οὖν ἀπὸ τῶν Η Κ ἀναγόμεναι γραμμαὶ ἐν τούτῳ τῷ λόγῳ οὐ συσταθήσονται τοῦ ἐφ’ ᾧ Α ἡμικυκλίου πρὸς ἄλλο καὶ ἄλλο σημεῖον· ἐπεὶ γὰρ τά τε Κ Η σημεῖα δέδοται καὶ ἡ ΗΚ, δεδομένη ἂν εἴη καὶ ἡ ΜΗ, ὥστε καὶ λόγος τῆς ΜΗ πρὸς ΜΚ. δεδομένης οὖν περιφερείας ἐφάψεται τὸ Μ. ἔστω δὴ αὕτη ἐφ’ ἧς τὰ Ν Μ· ὥστε ἡ τομὴ τῶν περιφερειῶν δέδοται. πρὸς ἄλλῃ δέ γε ἢ τῇ ΜΝ περιφερείᾳ ἀπὸ τῶν αὐτῶν σημείων ὁ αὐτὸς λόγος ἐν τῷ αὐτῷ ἐπιπέδῳ οὐ συνίσταται. ἐκκείσθω οὖν τις γραμμὴ ἡ ΔΒ, καὶ τετμήσθω ὡς ἡ ΜΗ πρὸς ΜΚ ἡ Δ πρὸς Β. μείζων δὲ ἡ ΜΗ τῆς ΚΜ, ἐπείπερ ἐπὶ τὴν μείζω γωνίαν ἡ ἀνάκλασις τοῦ κώνου· ὑπὸ γὰρ τὴν μείζω γωνίαν ὑποτείνει τοῦ ΚΜΗ τριγώνου. [μείζων ἄρα καὶ ἡ Δ τῆς Β.] προσπεπορίσθω οὖν πρὸς τὴν Β, ἐφ’ ἧς τὸ Ζ· ὥστ’ εἶναι ὅπερ τὴν Δ πρὸς τὴν Β, τὴν ΒΖ πρὸς τὴν Δ. εἶτα ὅπερ ἡ Ζ πρὸς τὴν ΚΗ, ἡ τὸ Β πρὸς ἄλλην πεποιήσθω τὴν ΚΠ, καὶ ἀπὸ τοῦ Π ἐπὶ τὸ Μ ἐπεζεύχθω ἡ τὸ ΜΠ. ἔσται οὖν τὸ Π πόλος τοῦ κύκλου, πρὸς ὃν αἱ ἀπὸ τοῦ Κ γραμμαὶ προσπίπτουσιν· ἔσται γὰρ ὅπερ ἡ Ζ πρὸς ΚΗ, καὶ ἡ Β πρὸς ΚΠ, καὶ ἡ Δ πρὸς ΠΜ. μὴ γὰρ ἔστω, ἀλλ’ ἢ πρὸς ἐλάττω ἢ πρὸς μείζω τῆς ΠΜ· οὐδὲν γὰρ διοίσει. ἔστω πρὸς ΠΡ. τὸν αὐτὸν ἄρα λόγον αἱ ΗΚ καὶ ΚΠ καὶ ἡ ΠΡ πρὸς ἀλλήλας ἕξουσιν ὅνπερ αἱ Δ Β Ζ. αἱ δὲ Δ Β Ζ ἀνὰ λόγον ἦσαν, ὅνπερ ἡ Δ πρὸς Β, ἡ ΖΒ πρὸς Δ· ὥστε ὅπερ ἡ ΠΗ πρὸς τὴν ΠΡ, ἡ τὸ ΠΡ πρὸς τὴν ΠΚ. ἂν οὖν ἀπὸ τῶν Κ Η αἱ ΗΡ καὶ ΚΡ ἐπὶ τὸ Ρ ἐπιζευχθῶσιν, αἱ ἐπιζευχθεῖσαι αὗται τὸν αὐτὸν ἕξουσι λόγον ὅνπερ ἡ ΗΠ πρὸς τὴν ΠΡ· περὶ γὰρ τὴν αὐτὴν γωνίαν τὴν Π ἀνάλογον αἵ τε τοῦ ΗΠΡ τριγώνου καὶ τοῦ ΚΡΠ. ὥστε καὶ ἡ ΠΡ πρὸς τὴν ΚΡ τὸν αὐτὸν ἕξει λόγον, καὶ ἡ τὸ ΗΠ πρὸς τὴν ΠΡ. ἔχει δὲ καὶ ἡ ΜΗ πρὸς ΚΜ τοῦτον τὸν λόγον· ὅνπερ γὰρ [376b] ἡ τὸ Δ πρὸς τὴν Β ἀμφότεραι. ὥστε ἀπὸ τῶν Η Κ σημείων οὐ μόνον πρὸς τὴν ΜΝ περιφέρειαν συσταθήσονται τὸν αὐτὸν ἔχουσαι λόγον, ἀλλὰ καὶ ἄλλοθι· ὅπερ ἀδύνατον. ἐπεὶ οὖν ἡ Δ οὔτε πρὸς ἔλαττον τοῦ ΜΠ οὔτε πρὸς μείζω (ὁμοίως [376b.5] γὰρ δειχθήσεται), δῆλον ὅτι πρὸς αὐτὴν ἂν εἴη τὴν ἐφ’ ᾗ Μ Π. ὥστ’ ἔσται ὅπερ ἡ ΜΠ πρὸς ΠΚ, ἡ ΠΗ πρὸς τὴν ΜΠ [καὶ λοιπὴ ἡ τὸ ΜΗ πρὸς ΜΚ]. ἐὰν οὖν τῷ ἐφ’ ᾧ τὸ Π πόλῳ χρώμενος, διαστήματι δὲ τῷ ἐφ’ ᾧ Μ Π, κύκλος γραφῇ, ἁπασῶν ἐφάψεται τῶν γωνιῶν ἃς ἀνακλώμεναι ποιοῦσιν αἱ ἀπὸ τοῦ ΜΑ κύκλου· εἰ δὲ μή, ὁμοίως δειχθήσονται τὸν αὐτὸν ἔχουσαι λόγον αἱ ἄλλοθι καὶ ἄλλοθι τοῦ ἡμικυκλίου συνιστάμεναι, ὅπερ ἦν ἀδύνατον. ἐὰν οὖν περιαγάγῃς τὸ ἡμικύκλιον τὸ ἐφ’ ᾧ τὸ Α περὶ τὴν ἐφ’ ᾗ Η Κ Π διάμετρον, αἱ ἀπὸ τοῦ ΗΚ ἀνακλώμεναι πρὸς τὸ ἐφ’ ᾧ τὸ Μ ἐν πᾶσι τοῖς ἐπιπέδοις ὁμοίως ἕξουσι, καὶ ἴσην ποιήσουσι γωνίαν τὴν ΚΜΗ· καὶ ἣν ποιήσουσι δὲ γωνίαν αἱ ΗΠ καὶ ΜΠ ἐπὶ τῆς ΗΠ, ἀεὶ ἴση ἔσται. τρίγωνα οὖν ἐπὶ τῆς ΗΠ καὶ ΚΠ ἴσα τῷ ΗΜΠ ΚΜΠ συνεστήκασι. τούτων δὲ αἱ κάθετοι ἐπὶ τὸ αὐτὸ σημεῖον πεσοῦνται τῆς ΗΠ καὶ ἴσαι ἔσονται. πιπτέτωσαν ἐπὶ τὸ Ο. κέντρον ἄρα τοῦ κύκλου τὸ Ο, ἡμικύκλιον δὲ τὸ περὶ τὴν ΜΝ ἀφῄρηται ἀπὸ τοῦ ὁρίζοντος· τῶν μὲν γὰρ ἄνω τὸν ἥλιον οὐ κρατεῖν, τῶν δὲ *προσπεριζομένων* κρατεῖν, καὶ διαχεῖν τὸν ἀέρα· καὶ διὰ τοῦτο τὴν ἶριν οὐ συμβάλλειν τὸν κύκλον· γίγνεσθαι δὲ καὶ νύκτωρ ἀπὸ τῆς σελήνης ὀλιγάκις· οὔτε γὰρ ἀεὶ πλήρης, ἀσθενεστέρα τε τὴν φύσιν ὥστε κρατεῖν τοῦ ἀέρος· μάλιστα δ’ ἵστασθαι τὴν ἶριν, ὅπου μάλιστα κρατεῖται ὁ ἥλιος· πλείστη γὰρ ἐν αὐτῇ ἰκμὰς ἐνέμεινεν. πάλιν ἔστω ὁρίζων μὲν ἐφ’ οὗ τὸ ΑΚΓ, ἐπανατεταλκέτω δὲ τὸ Η, ὁ δ’ ἄξων ἔστω νῦν ἐφ’ οὗ τὸ ΗΠ. τὰ μὲν οὖν ἄλλα πάντα ὁμοίως δειχθήσεται ὡς καὶ πρότερον, ὁ δὲ πόλος τοῦ κύκλου ὁ ἐφ’ ᾧ Π κάτω ἔσται τοῦ ὁρίζοντος τοῦ ἐφ’ ᾧ τὸ ΑΓ, [377a] ἀρθέντος τοῦ ἐφ’ ᾧ τὸ Η σημείου. ἐπὶ δὲ τῆς αὐτῆς ὅ τε πόλος καὶ τὸ κέντρον τοῦ κύκλου καὶ τὸ τοῦ ὁρίζοντος νῦν τὴν ἀνατολήν· ἔστι γὰρ οὗτος ἐφ’ ᾧ τὸ ΗΠ. ἐπεὶ δὲ τῆς διαμέτρου τῆς ΑΓ τὸ ΚΗ ἐπάνω, τὸ κέντρον εἴη ἂν ὑποκάτω τοῦ ὁρίζοντος πρότερον τοῦ ἐφ’ ᾧ τὸ ΑΓ, ἐπὶ τῆς ΚΠ γραμμῆς, ἐφ’ οὗ τὸ Β. ὥστ’ ἔλαττον ἔσται τὸ ἐπάνω τμῆμα ἡμικυκλίου τὸ ἐφ’ ᾧ Ψ Υ· τὸ γὰρ ΨΥΟ ἡμικύκλιον ἦν, νῦν δὲ ἀποτέτμηται ἀπὸ τοῦ ΑΓ ὁρίζοντος. τὸ δὴ ΟΥ ἀφανὲς ἔσται αὐτοῦ, ἐπαρθέντος τοῦ ἡλίου· ἐλάχιστον δ’, ὅταν ἐπὶ μεσημβρίας· ὅσον γὰρ ἀνώτερον τὸ Η, κατώτερον ὅ τε πόλος καὶ τὸ κέντρον τοῦ κύκλου ἔσται. ὅτι δ’ ἐν μὲν ταῖς ἐλάττοσιν ἡμέραις ταῖς μετ’ ἰσημερίαν τὴν μετοπωρινὴν ἐνδέχεται ἀεὶ γίγνεσθαι ἶριν, ἐν δὲ ταῖς μακροτέραις ἡμέραις ταῖς ἀπὸ ἰσημερίας τῆς ἑτέρας ἐπὶ τὴν ἰσημερίαν τὴν ἑτέραν περὶ μεσημβρίαν οὐ γίγνεται ἶρις, αἴτιον ὅτι τὰ μὲν πρὸς ἄρκτον τμήματα πάντα μείζω ἡμικυκλίου καὶ ἀεὶ ἐπὶ μείζω ἡμικυκλίου, τὸ δ’ ἀφανὲς μικρόν, τὰ δὲ πρὸς μεσημβρίαν τμήματα τοῦ ἰσημερινοῦ, τὸ μὲν ἄνω τμῆμα μικρόν, τὸ δ’ ὑπὸ γῆν μέγα, καὶ ἀεὶ δὴ μείζω τὰ πορρώτερα· ὥστ’ ἐν μὲν ταῖς πρὸς θερινὰς τροπὰς ἡμέραις διὰ τὸ μέγεθος τοῦ τμήματος, πρὶν ἐπὶ τὸ μέσον ἐλθεῖν τοῦ τμήματος καὶ ἐπὶ τὸν μεσημβρινὸν τὴν τὸ Η, κάτω ἤδη τελέως γίγνεται ἡ τὸ Π, διὰ τὸ πόρρω ἀφεστάναι τῆς γῆς τὴν μεσημβρίαν διὰ τὸ μέγεθος τοῦ τμήματος. ἐν δὲ ταῖς πρὸς τὰς χειμερινὰς τροπὰς ἡμέραις, διὰ τὸ μὴ πολὺ ὑπὲρ γῆς εἶναι τὰ τμήματα τῶν κύκλων, τοὐναντίον ἀναγκαῖον γίγνεσθαι· βραχὺ γὰρ ἀρθείσης τῆς ἐφ’ ᾧ τὸ Η, ἐπὶ τῆς μεσημβρίας γίγνεται ὁ ἥλιος.

τὰς δ’ αὐτὰς αἰτίας ὑποληπτέον καὶ περὶ παρηλίων καὶ ῥάβδων ταῖς εἰρημέναις. γίγνεται γὰρ παρήλιος μὲν ἀνακλωμένης τῆς ὄψεως πρὸς τὸν ἥλιον, ῥάβδοι δὲ διὰ τὸ προσπίπτειν τοιαύτην οὖσαν τὴν ὄψιν, οἵαν εἴπομεν ἀεὶ γίγνεσθαι ὅταν πλησίον ὄντων τοῦ ἡλίου νεφῶν ἀπό τινος ἀνακλασθῇ τῶν ὑγρῶν πρὸς τὸ νέφος· φαίνεται γὰρ αὐτὰ μὲν [377b] ἀχρωμάτιστα τὰ νέφη κατ’ εὐθυωρίαν εἰσβλέπουσιν, ἐν δὲ τῷ ὕδατι ῥάβδων μεστὸν τὸ νέφος· πλὴν τότε μὲν ἐν τῷ ὕδατι δοκεῖ τὸ χρῶμα τοῦ νέφους εἶναι, ἐν δὲ ταῖς ῥάβδοις ἐπ’ αὐτοῦ τοῦ νέφους. γίγνεται δὲ τοῦτο ὅταν ἀνώμαλος ἡ τοῦ νέφους ᾖ σύστασις, καὶ τῇ μὲν πυκνότερον τῇ δὲ μανόν, καὶ τῇ μὲν ὑδατωδέστερον τῇ δ’ ἧττον· ἀνακλασθείσης γὰρ τῆς [τοῦ ἡλίου] ὄψεως πρὸς τὸν ἥλιον, τὸ σχῆμα μὲν οὐχ ὁρᾶται [διὰ μικρότητα τῶν ἐνόπτρων], τὸ δὲ χρῶμα· διὰ δὲ τὸ ἐν ἀνωμάλῳ φαίνεσθαι λαμπρὸν καὶ λευκὸν τὸν ἥλιον, πρὸς ὃν ἀνεκλάσθη ἡ ὄψις, τὸ μὲν φοινικοῦν φαίνεται, τὸ δὲ πράσινον ἢ ξανθόν. διαφέρει γὰρ οὐδὲν διὰ τοιούτων ὁρᾶν ἢ ἀπὸ τοιούτων ἀνακλωμένην· ἀμφοτέρως γὰρ φαίνεται τὴν χρόαν ὅμοιον, ὥστ’ εἰ κἀκείνως φοινικοῦν, καὶ οὕτως. αἱ μὲν οὖν ῥάβδοι γίγνονται δι’ ἀνωμαλίαν τοῦ ἐνόπτρου οὐ τῷ σχήματι ἀλλὰ τῷ χρώματι· ὁ δὲ παρήλιος, ὅταν ὅτι μάλιστα ὁμαλὸς ᾖ ὁ ἀὴρ καὶ πυκνὸς ὁμοίως· διὸ φαίνεται λευκός. ἡ μὲν γὰρ ὁμαλότης τοῦ ἐνόπτρου ποιεῖ χρόαν μίαν τῆς ἐμφάσεως· ἡ δ’ ἀνάκλασις ἀθρόας τῆς ὄψεως, διὰ τὸ ἅμα προσπίπτειν πρὸς τὸν ἥλιον ἀπὸ πυκνῆς οὔσης τῆς ἀχλύος, [διὰ] καὶ οὔπω μὲν οὔσης ὕδωρ ἐγγὺς δ’ ὕδατος, τὸ ὑπάρχον τῷ ἡλίῳ ἐμφαίνεσθαι χρῶμα ποιεῖ, ὥσπερ ἀπὸ χαλκοῦ λείου κλωμένην διὰ τὴν πυκνότητα. ὥστ’ ἐπεὶ τὸ χρῶμα τοῦ ἡλίου λευκόν, καὶ ὁ παρήλιος φαίνεται λευκός. διὰ δὲ τὸ αὐτὸ τοῦτο μᾶλλον ὕδατος σημεῖον ὁ παρήλιος τῶν ῥάβδων· μᾶλλον γὰρ συμβαίνει τὸν ἀέρα εὐεργῶς ἔχειν πρὸς γένεσιν ὕδατος. ὁ δὲ νότιος τοῦ βορείου μᾶλλον, ὅτι μᾶλλον ὁ νότιος ἀὴρ εἰς ὕδωρ μεταβάλλει τοῦ πρὸς ἄρκτον. γίγνονται δ’, ὥσπερ εἴπομεν, περί τε δυσμὰς καὶ περὶ τὰς ἀνατολάς, καὶ οὔτε ἄνωθεν οὔτε κάτωθεν, ἀλλ’ ἐκ τῶν πλαγίων καὶ ῥάβδοι καὶ παρήλιοι· καὶ οὔτ’ ἐγγὺς τοῦ ἡλίου λίαν οὔτε πόρρω παντελῶς· ἐγγὺς μὲν γὰρ οὖσαν ὁ ἥλιος διαλύει τὴν σύστασιν, πόρρω δ’ οὔσης ἡ ὄψις οὐκ ἀνακλασθήσεται· ἀπὸ γὰρ μικροῦ ἐνόπτρου πόρρω ἀποτεινομένη ἀσθενὴς γίγνεται· διὸ καὶ αἱ ἅλως οὐ γίγνονται ἐξ ἐναντίας τοῦ ἡλίου. ἄνω [378a] μὲν οὖν ἐὰν γίγνηται καὶ ἐγγύς, διαλύσει ὁ ἥλιος· ἐὰν δὲ πόρρω, ἐλάττων ἡ ὄψις οὖσα ἢ ὥστε ποιεῖν ἀνάκλασιν οὐ [ὑπὸ τὸν ἥλιον] προσπεσεῖται. ἐν δὲ τῷ πλαγίῳ ἐστὶ τοσοῦτον ἀποστῆναι τὸ ἔνοπτρον, ὥστε μήτε τὸν ἥλιον διαλῦσαι, τήν τε ὄψιν ἀθρόαν ἐλθεῖν, διὰ τὸ πρὸς τὴν γῆν φερομένην μὴ διασπᾶσθαι ὥσπερ δι’ ἀχανοῦς φερομένην. ὑπὸ δὲ τὸν ἥλιον οὐ γίγνεται διὰ τὸ πλησίον μὲν τῆς γῆς διαλύεσθαι ἂν ὑπὸ τοῦ ἡλίου, ἄνω δὲ μεσουρανίου <γιγνομένης συστάσεως> τὴν ὄψιν διασπᾶσθαι. καὶ ὅλως οὐδ’ ἐκ πλαγίου μεσουρανίου γίγνεται· ἡ γὰρ ὄψις οὐχ ὑπὸ τὴν γῆν φέρεται, ὥστε ὀλίγη ἀφικνεῖται πρὸς τὸ ἔνοπτρον, καὶ ἡ ἀνακλωμένη γίγνεται πάμπαν ἀσθενής. ὅσα μὲν οὖν ἔργα συμβαίνει παρέχεσθαι τὴν ἔκκρισιν ἐν τοῖς τόποις τοῖς ὑπὲρ τῆς γῆς, σχεδόν ἐστι τοσαῦτα καὶ τοιαῦτα.

ὅσα δ’ ἐν αὐτῇ τῇ γῇ, ἐγκατακλειομένη τοῖς τῆς γῆς μέρεσιν, ἀπεργάζεται, λεκτέον. ποιεῖ γὰρ δύο διαφορὰς σωμάτων διὰ τὸ διπλῆ πεφυκέναι καὶ αὐτή, καθάπερ καὶ ἐν τῷ μετεώρῳ· δύο μὲν γὰρ αἱ ἀναθυμιάσεις, ἡ μὲν ἀτμιδώδης ἡ δὲ καπνώδης, ὥς φαμεν, εἰσίν· δύο δὲ καὶ τὰ εἴδη τῶν ἐν τῇ γῇ γιγνομένων, τὰ μὲν ὀρυκτὰ τὰ δὲ μεταλλευτά. ἡ μὲν οὖν ξηρὰ ἀναθυμίασίς ἐστιν ἥ τις ἐκπυροῦσα ποιεῖ τὰ ὀρυκτὰ πάντα, οἷον λίθων τε γένη τὰ [378a.23] ἄτηκτα καὶ σανδαράκην καὶ ὤχραν καὶ μίλτον καὶ θεῖον καὶ τἆλλα τὰ τοιαῦτα. τὰ δὲ πλεῖστα τῶν ὀρυκτῶν ἐστιν τὰ μὲν κονία κεχρωματισμένη, τὰ δὲ λίθος ἐκ τοιαύτης γεγονὼς συστάσεως, οἷον τὸ κιννάβαρι. τῆς δ’ ἀναθυμιάσεως τῆς ἀτμιδώδους, ὅσα μεταλλεύεται, καὶ ἔστιν ἢ χυτὰ ἢ ἐλατά, οἷον σίδηρος, χρυσός, χαλκός. ποιεῖ δὲ ταῦτα πάντα ἡ ἀναθυμίασις ἡ ἀτμιδώδης ἐγκατακλειομένη, καὶ μάλιστα ἐν τοῖς λίθοις, διὰ ξηρότητα εἰς ἓν συνθλιβομένη καὶ πηγνυμένη, οἷον ἢ δρόσος ἢ πάχνη, ὅταν ἀποκριθῇ. ἐνταῦθα δὲ πρὶν ἀποκριθῆναι γεννᾶται ταῦτα. διὸ ἔστι μὲν ὡς ὕδωρ ταῦτα, ἔστιν δ’ ὡς οὔ· δυνάμει μὲν γὰρ ἡ ὕλη ὕδατος ἦν, ἔστι δ’ οὐκέτι, οὐδ’ ἐξ ὕδατος γενομένου διά τι πάθος, ὥσπερ [378b] οἱ χυμοί· οὐδὲ γὰρ οὕτω γίγνεται τὸ μὲν χαλκὸς τὸ δὲ χρυσός, ἀλλὰ πρὶν γενέσθαι παγείσης τῆς ἀναθυμιάσεως ἕκαστα τούτων ἐστίν. διὸ καὶ πυροῦται πάντα καὶ γῆν ἔχει· ξηρὰν γὰρ ἔχει ἀναθυμίασιν· ὁ δὲ χρυσὸς μόνος οὐ πυροῦται. κοινῇ μὲν οὖν εἴρηται περὶ αὐτῶν ἁπάντων, ἰδίᾳ δὲ σκεπτέον προχειριζομένοις περὶ ἕκαστον γένος.

Βιβλίο Δ’Ἐπεὶ δὲ τέτταρα αἴτια διώρισται τῶν στοιχείων, τούτων

δὲ κατὰ συζυγίας καὶ τὰ στοιχεῖα τέτταρα συμβέβηκεν εἶναι, ὧν τὰ μὲν δύο ποιητικά, τὸ θερμὸν καὶ τὸ ψυχρόν, τὰ δὲ δύο παθητικά, τὸ ξηρὸν καὶ τὸ ὑγρόν· ἡ δὲ πίστις τούτων ἐκ τῆς ἐπαγωγῆς· φαίνεται γὰρ ἐν πᾶσιν ἡ μὲν θερμότης καὶ ψυχρότης ὁρίζουσαι καὶ συμφύουσαι καὶ μεταβάλλουσαι τά θ’ ὁμογενῆ καὶ τὰ μὴ ὁμογενῆ, καὶ ὑγραίνουσαι καὶ ξηραίνουσαι καὶ σκληρύνουσαι καὶ μαλάττουσαι, τὰ δὲ ξηρὰ καὶ ὑγρὰ ὁριζόμενα καὶ τἆλλα τὰ εἰρημένα πάθη πάσχοντα αὐτά τε καθ’ αὑτὰ καὶ ὅσα κοινὰ ἐξ ἀμφοῖν σώματα συνέστηκεν· ἔτι δ’ ἐκ τῶν λόγων δῆλον, οἷς ὁριζόμεθα τὰς φύσεις αὐτῶν· τὸ μὲν γὰρ θερμὸν καὶ ψυχρὸν ὡς ποιητικὰ λέγομεν (τὸ γὰρ συγκριτικὸν ὥσπερ ποιητικόν τί ἐστι), τὸ δὲ ὑγρὸν καὶ ξηρὸν παθητικόν (τὸ γὰρ εὐόριστον καὶ δυσόριστον τῷ πάσχειν τι λέγεται τὴν φύσιν αὐτῶν)· ὅτι μὲν οὖν τὰ μὲν ποιητικὰ τὰ δὲ παθητικά, φανερόν· διωρισμένων δὲ τούτων ληπτέον ἂν εἴη τὰς ἐργασίας αὐτῶν, αἷς ἐργάζονται τὰ ποιητικά, καὶ τῶν παθητικῶν τὰ εἴδη. πρῶτον μὲν οὖν καθόλου ἡ ἁπλῆ γένεσις καὶ ἡ φυσικὴ μεταβολὴ τούτων τῶν δυνάμεών ἐστιν ἔργον, καὶ ἡ ἀντικειμένη φθορὰ κατὰ φύσιν. αὗται μὲν οὖν τοῖς τε φυτοῖς ὑπάρχουσι καὶ ζῴοις καὶ τοῖς μέρεσιν αὐτῶν. ἔστι δ’ ἡ ἁπλῆ καὶ ἡ φυσικὴ γένεσις μεταβολὴ ὑπὸ τούτων τῶν δυνάμεων, ὅταν ἔχωσι λόγον, ἐκ τῆς ὑποκειμένης ὕλης ἑκάστῃ φύσει· αὗται δ’ εἰσὶν αἱ εἰρημέναι δυνάμεις παθητικαί. [379a] γεννῶσι δὲ τὸ θερμὸν καὶ ψυχρὸν κρατοῦντα τῆς ὕλης· ὅταν δὲ μὴ κρατῇ, κατὰ μέρος μὲν μόλυνσις καὶ ἀπεψία γίγνεται. τῇ δ’ ἁπλῇ γενέσει ἐναντίον μάλιστα κοινὸν σῆψις· πᾶσα γὰρ ἡ κατὰ φύσιν φθορὰ εἰς τοῦθ’ ὁδός ἐστιν, οἷον γῆρας καὶ αὔανσις. τέλος δὲ πάντων τῶν ἄλλων τούτων σαπρότης, ἐὰν μή τι βίᾳ φθαρῇ τῶν φύσει συνεστώτων· ἔστιν γὰρ καὶ σάρκα καὶ ὀστοῦν καὶ ὁτιοῦν κατακαῦσαι, ὧν τὸ τέλος τῆς κατὰ φύσιν φθορᾶς σῆψίς ἐστιν. διὸ ὑγρὰ πρῶτον, εἶτα ξηρὰ τέλος γίγνεται τὰ σηπόμενα· ἐκ τούτων γὰρ ἐγένετο, καὶ ὡρίσθη τῷ ὑγρῷ τὸ ξηρὸν ἐργαζομένων τῶν ποιητικῶν. γίγνεται δ’ ἡ φθορὰ ὅταν κρατῇ τοῦ ὁρίζοντος τὸ ὁριζόμενον διὰ τὸ περιέχον. (οὐ μὴν ἀλλ’ ἰδίως γε λέγεται σῆψις ἐπὶ τῶν κατὰ μέρος φθειρομένων, ὅταν χωρισθῇ τῆς φύσεως.) διὸ καὶ σήπεται πάντα τἆλλα πλὴν πυρός· καὶ γὰρ γῆ καὶ ὕδωρ καὶ ἀὴρ σήπεται· πάντα γὰρ ὕλη τῷ πυρί ἐστι ταῦτα. σῆψις δ’ ἐστὶν φθορὰ τῆς ἐν ἑκάστῳ ὑγρῷ οἰκείας καὶ κατὰ φύσιν θερμότητος ὑπ’ ἀλλοτρίας θερμότητος· αὕτη δ’ ἐστὶν ἡ τοῦ περιέχοντος. ὥστε ἐπεὶ κατ’ ἔνδειαν πάσχει θερμοῦ, ἐνδεὲς δὲ ὂν τοιαύτης δυνάμεως ψυχρὸν πᾶν, ἄμφω ἂν αἴτια εἴη, καὶ κοινὸν τὸ πάθος ἡ σῆψις, ψυχρότητός τε οἰκείας καὶ θερμότητος ἀλλοτρίας. διὰ τοῦτο γὰρ καὶ ξηρότερα γίγνεται τὰ σηπόμενα πάντα, καὶ τέλος γῆ καὶ κόπρος· ἐξιόντος γὰρ τοῦ οἰκείου θερμοῦ συνεξατμίζεται τὸ κατὰ φύσιν ὑγρόν, καὶ τὸ σπῶν τὴν ὑγρότητα οὐκ ἔστιν· ἐπάγει γὰρ ἕλκουσα ἡ οἰκεία θερμότης. καὶ ἐν τοῖς ψύχεσι δ’ ἧττον σήπεται ἢ ἐν ταῖς ἀλέαις (ἐν μὲν γὰρ τῷ χειμῶνι ὀλίγον ἐν τῷ περιέχοντι ἀέρι καὶ ὕδατι τὸ θερμόν, ὥστ’ οὐδὲν ἰσχύει, ἐν δὲ τῷ θέρει πλέον)· καὶ οὔτε τὸ πεπηγός (μᾶλλον γὰρ ψυχρὸν ἢ ὁ ἀὴρ θερμόν· οὔκουν κρατεῖται, τὸ δὲ κινοῦν κρατεῖ) οὔτε τὸ ζέον ἢ θερμόν (ἐλάττων γὰρ ἡ ἐν τῷ ἀέρι θερμότης τῆς ἐν τῷ πράγματι, ὥστ’ οὐ κρατεῖ οὐδὲ ποιεῖ μεταβολὴν οὐδεμίαν). ὁμοίως δὲ καὶ τὸ κινούμενον καὶ ῥέον ἧττον σήπεται τοῦ ἀκινητίζοντος· ἀσθενεστέρα γὰρ γίγνεται ἡ ὑπὸ τῆς ἐν τῷ ἀέρι θερμότητος κίνησις τῆς ἐν τῷ [379b] πράγματι προϋπαρχούσης, ὥστε οὐδὲν ποιεῖ μεταβάλλειν. ἡ δ’ αὐτὴ αἰτία καὶ τοῦ τὸ πολὺ ἧττον τοῦ ὀλίγου σήπεσθαι· ἐν γὰρ τῷ πλέονι πλέον ἐστὶν πῦρ οἰκεῖον καὶ ψυχρὸν ἢ ὥστε κρατεῖν τὰς ἐν τῷ περιεστῶτι δυνάμεις. διὸ ἡ θάλαττα κατὰ μέρος μὲν διαιρουμένη ταχὺ σήπεται, ἅπασα δ’ οὔ, καὶ τἆλλα ὕδατα ὡσαύτως. καὶ ζῷα ἐγγίγνεται τοῖς σηπομένοις διὰ τὸ τὴν ἀποκεκριμένην θερμότητα φυσικὴν οὖσαν συνιστάναι τὰ ἐκκριθέντα. τί μὲν οὖν ἐστι γένεσις καὶ τί φθορά, εἴρηται.

λοιπὸν δ’ εἰπεῖν τὰ ἐχόμενα εἴδη, ὅσα αἱ εἰρημέναι δυνάμεις ἐργάζονται ἐξ ὑποκειμένων τῶν φύσει συνεστώτων ἤδη. ἔστι δὴ θερμοῦ μὲν πέψις, πέψεως δὲ πέπανσις, ἕψησις, ἔτι ὄπτησις· ψυχρότητος δὲ ἀπεψία, ταύτης δὲ ὠμότης, μόλυνσις, στάτευσις. δεῖ δὲ ὑπολαμβάνειν μὴ κυρίως ταῦτα λέγεσθαι τὰ ὀνόματα τοῖς πράγμασιν, ἀλλ’ οὐ κεῖται καθόλου τοῖς ὁμοίοις, ὥστε οὐ ταῦτα ἀλλὰ τοιαῦτα δεῖ νομίζειν εἶναι τὰ εἰρημένα εἴδη. εἴπωμεν δ’ αὐτῶν ἕκαστον τί ἐστιν. πέψις μὲν οὖν ἐστιν τελείωσις ὑπὸ τοῦ φυσικοῦ καὶ οἰκείου θερμοῦ ἐκ τῶν ἀντικειμένων παθητικῶν· ταῦτα δ’ ἐστὶν ἡ οἰκεία ἑκάστῳ ὕλη. ὅταν γὰρ πεφθῇ, τετελείωταί τε καὶ γέγονεν. καὶ ἡ ἀρχὴ τῆς τελειώσεως ὑπὸ θερμότητος τῆς οἰκείας συμβαίνει, κἂν διά τινος τῶν ἐκτὸς βοηθείας συνεπιτελεσθῇ, οἷον ἡ τροφὴ συμπέττεται καὶ διὰ λουτρῶν καὶ δι’ ἄλλων τοιούτων· ἀλλ’ ἥ γε ἀρχὴ ἡ ἐν αὐτῷ θερμότης ἐστίν. τὸ δὲ τέλος τοῖς μὲν ἡ φύσις ἐστίν, φύσις δὲ ἣν λέγομεν ὡς εἶδος καὶ οὐσίαν· τοῖς δὲ εἰς ὑποκειμένην τινὰ μορφὴν τὸ τέλος ἐστὶ τῆς πέψεως, ὅταν τοιονδὶ γένηται καὶ τοσονδὶ τὸ ὑγρὸν ἢ ὀπτώμενον ἢ ἑψόμενον ἢ σηπόμενον ἢ ἄλλως πως θερμαινόμενον· τότε γὰρ χρήσιμόν ἐστι καὶ πεπέφθαι φαμέν, ὥσπερ τὸ γλεῦκος καὶ τὰ ἐν τοῖς φύμασιν συνιστάμενα, ὅταν γένηται πύον, καὶ τὸ δάκρυον, ὅταν γένηται λήμη· ὁμοίως δὲ καὶ τἆλλα. συμβαίνει δὲ τοῦτο πάσχειν ἅπασιν, ὅταν κρατηθῇ ἡ ὕλη καὶ ἡ ὑγρότης· αὕτη γάρ ἐστιν ἡ ὁριζομένη ὑπὸ τῆς ἐν τῇ φύσει θερμότητος. ἕως γὰρ ἂν ἐνῇ ἐν αὐτῇ ὁ λόγος, φύσις τοῦτ’ ἐστίν. [380a] διὸ καὶ ὑγιείας σημεῖα τὰ τοιαῦτα, καὶ οὖρα καὶ ὑποχωρήσεις καὶ ὅλως τὰ περιττώματα. καὶ λέγεται πεπέφθαι, ὅτι δηλοῖ κρατεῖν τὴν θερμότητα τὴν οἰκείαν τοῦ ἀορίστου. ἀνάγκη δὲ τὰ πεττόμενα παχύτερα καὶ θερμότερα εἶναι· τοιοῦτον γὰρ ἀποτελεῖ τὸ θερμόν, εὐογκότερον καὶ παχύτερον καὶ ξηρότερον. πέψις μὲν οὖν τοῦτο ἐστίν· ἀπεψία δὲ ἀτέλεια δι’ [380a.7] ἔνδειαν τῆς οἰκείας θερμότητος (ἡ δὲ ἔνδεια τῆς θερμότητος ψυχρότης ἐστίν)· ἡ δ' ἀτέλειά ἐστιν τῶν ἀντικειμένων παθητικῶν, ἥπερ ἐστὶν ἑκάστῳ φύσει ὕλη. πέψις μὲν οὖν καὶ ἀπεψία διωρίσθω τοῦτον τὸν τρόπον.

πέπανσις δ' ἐστὶν πέψις τις· ἡ γὰρ τῆς ἐν τοῖς περικαρπίοις τροφῆς πέψις πέπανσις λέγεται. ἐπεὶ δ' ἡ πέψις τελέωσις, τότε ἡ πέπανσις τελέα ἐστὶν ὅταν τὰ ἐν τῷ περικαρπίῳ σπέρματα δύνηται ἀποτελεῖν τοιοῦτον ἕτερον οἷον αὐτό· καὶ γὰρ ἐπὶ τῶν ἄλλων τὸ τέλεον οὕτω λέγομεν. περικαρπίου μὲν οὖν αὕτη πέπανσις, λέγεται δὲ καὶ ἄλλα πολλὰ πέπονα τῶν πεπεμμένων, κατὰ μὲν τὴν αὐτὴν ἰδέαν, μεταφοραῖς δέ, διὰ τὸ μὴ κεῖσθαι, καθάπερ εἴρηται καὶ πρότερον, ὀνόματα καθ' ἑκάστην τελείωσιν περὶ τὰ ὁριζόμενα ὑπὸ τῆς φυσικῆς θερμότητος καὶ ψυχρότητος. ἔστιν δὲ ἡ φυμάτων καὶ φλέγματος καὶ τῶν τοιούτων πέπανσις ἡ ὑπὸ τοῦ φυσικοῦ θερμοῦ τοῦ ἐνόντος ὑγροῦ πέψις· ἀδύνατον γὰρ ὁρίζειν μὴ κρατοῦν. ἐκ μὲν οὖν τῶν πνευματικῶν ὑδατώδη, ἐκ δὲ τῶν τοιούτων τὰ γεηρὰ συνίσταται, καὶ ἐκ λεπτῶν αἰεὶ παχύτερα γίγνεται πεπαινόμενα πάντα. καὶ τὰ μὲν εἰς αὐτὴν ἡ φύσις ἄγει κατὰ τοῦτο, τὰ δὲ ἐκβάλλει. πέπανσις μὲν οὖν εἴρηται τί ἐστιν· ὠμότης δ' ἐστὶν τὸ ἐναντίον· ἐναντίον δὲ πεπάνσει ἀπεψία τῆς ἐν τῷ περικαρπίῳ τροφῆς· αὕτη δ' ἐστὶν ἡ ἀόριστος ὑγρότης. διὸ ἢ πνευματικὴ ἢ ὑδατώδης ἢ τῶν ἐξ ἀμφοῖν ἐστιν ἡ ὠμότης. ἐπεὶ δ' ἡ πέπανσις τελέωσίς τίς ἐστιν, ἡ ὠμότης ἀτέλεια ἔσται. γίγνεται δ' ἡ ἀτέλεια δι' ἔνδειαν τοῦ φυσικοῦ θερμοῦ καὶ ἀσυμμετρίαν πρὸς τὸ ὑγρὸν τὸ πεπαινόμενον. οὐδὲν δὲ ὑγρὸν αὐτὸ καθ' αὑτὸ πεπαίνεται ἄνευ ξηροῦ· ὕδωρ γὰρ οὐ παχύνεται μόνον τῶν ὑγρῶν. [380b] συμβαίνει δὲ τοῦτο ἢ τῷ τὸ θερμὸν ὀλίγον εἶναι ἢ τῷ τὸ ὁριζόμενον πολύ· διὸ καὶ λεπτοὶ οἱ χυμοὶ τῶν ὠμῶν, καὶ ψυχροὶ μᾶλλον ἢ θερμοί, καὶ ἄβρωτοι καὶ ἄποτοι. λέγεται δὲ καὶ ἡ ὠμότης ὥσπερ καὶ ἡ πέπανσις, πολλαχῶς. ὅθεν καὶ οὖρα καὶ ὑποχωρήσεις καὶ κατάρροι ὠμοὶ λέγονται διὰ τὸ αὐτὸ αἴτιον· τῷ γὰρ μὴ κεκρατῆσθαι ὑπὸ τῆς θερμότητος μηδὲ συνεστάναι ὠμὰ πάντα προσαγορεύεται. πόρρω δὲ προϊόντων καὶ κέραμος ὠμὸς καὶ γάλα ὠμὸν καὶ ἄλλα πολλὰ λέγεται, ἐὰν δυνάμενα μεταβάλλειν καὶ συνίστασθαι ὑπὸ θερμότητος ἀπαθῆ ᾖ. διὸ τὸ ὕδωρ εφθὸν μὲν λέγεται, ὠμὸν δ' οὔ, ὅτι οὐ παχύνεται. πέπανσις μὲν οὖν καὶ ὠμότης εἴρηται τί ἐστιν, καὶ διὰ τί ἐστιν ἑκάτερον αὐτῶν· ἕψησις δ' ἐστὶν τὸ μὲν ὅλον πέψις ὑπὸ θερμότητος ὑγρᾶς τοῦ ἐνυπάρχοντος ἀορίστου ἐν τῷ ὑγρῷ, λέγεται δὲ τοὔνομα κυρίως μόνον ἐπὶ τῶν ἑψομένων. τοῦτο δ' ἂν εἴη, ὥσπερ εἴρηται, πνευματῶδες ἢ ὑδατῶδες. ἡ δὲ πέψις γίγνεται ἀπὸ τοῦ ἐν τῷ ὑγρῷ πυρός· τὸ γὰρ ἐπὶ τῶν τηγάνων ὀπτᾶται (ὑπὸ γὰρ τοῦ ἔξωθεν θερμοῦ πάσχει, ἐν ᾧ δ' ἐστὶν ὑγρῷ, ποιεῖ ἐκεῖνο μᾶλλον ξηρόν, εἰς αὐτὸ ἀναλαμβάνον), τὸ δ’ ἑψόμενον τοὐναντίον ποιεῖ (ἐκκρίνεται γὰρ ἐξ αὐτοῦ τὸ ὑγρὸν ὑπὸ τῆς ἐν τῷ ἔξω ὑγρῷ θερμασίας)· διὸ ξηρότερα τὰ ἑφθὰ τῶν ὀπτῶν· οὐ γὰρ ἀνασπᾷ εἰς ἑαυτὰ τὸ ὑγρὸν τὰ ἑψόμενα· κρατεῖ γὰρ ἡ ἔξωθεν θερμότης τῆς ἐντός· εἰ δ’ ἐκράτει ἡ ἐντός, εἷλκεν ἂν εἰς ἑαυτήν. ἔστιν δ’ οὐ πᾶν σῶμα ἑψητόν· οὔτε γὰρ ἐν ᾧ μηδέν ἐστιν ὑγρόν, οἷον ἐν λίθοις, οὔτ’ ἐν οἷς ἔνεστι μέν, ἀλλ’ ἀδύνατον κρατηθῆναι διὰ πυκνότητα, οἷον ἐν τοῖς ξύλοις· ἀλλ’ ὅσα τῶν σωμάτων ἔχει ὑγρότητα παθητικὴν ὑπὸ τῆς ἐν τῷ ὑγρῷ πυρώσεως. λέγεται δὲ καὶ χρυσὸς ἕψεσθαι καὶ ξύλον καὶ ἄλλα πολλά, κατὰ μὲν τὴν ἰδέαν οὐ τὴν αὐτήν, μεταφορᾷ δέ· οὐ γὰρ κεῖται ὀνόματα ταῖς διαφοραῖς. καὶ τὰ ὑγρὰ δὲ ἕψεσθαι λέγομεν, οἷον γάλα καὶ γλεῦκος, ὅταν ἐν τῷ ὑγρῷ ὁ χυμὸς εἰς εἶδός τι μεταβάλλῃ ὑπὸ τοῦ κύκλῳ καὶ ἔξωθεν πυρὸς θερμαίνοντος, ὥστε τρόπον τινὰ παραπλήσιον τῇ εἰρημένῃ [381a] ἑψήσει ποιεῖ. (τέλος δὲ οὐ ταὐτὸ πᾶσιν, οὔτε ἑψομένοις οὔτε πεττομένοις, ἀλλὰ τοῖς μὲν πρὸς ἐδωδήν, τοῖς δὲ πρὸς ῥόφησιν, τοῖς δὲ πρὸς ἄλλην χρείαν, ἐπεὶ καὶ τὰ φάρμακα ἕψειν λέγομεν.) ὥστε ὅσα παχύτερα δύναται γίγνεσθαι ἢ ἐλάττω ἢ βαρύτερα, ἢ τὰ μὲν αὐτῶν τοιαῦτα τὰ δ’ ἐναντία, διὰ τὸ διακρινόμενα τὰ μὲν παχύνεσθαι τὰ δὲ λεπτύνεσθαι, ὥσπερ τὸ γάλα εἴς τε ὀρὸν καὶ πυετίαν, πάντα ἑψητά ἐστιν. τὸ δὲ ἔλαιον οὐχ ἕψεται αὐτὸ καθ’ ἑαυτό, ὅτι τούτων οὐδὲν πάσχει. ἡ μὲν οὖν κατὰ τὴν ἕψησιν λεγομένη πέψις τοῦτ’ ἐστίν· καὶ οὐδὲν διαφέρει ἐν ὀργάνοις τεχνικοῖς καὶ φυσικοῖς ἐάν τι γίγνηται· διὰ τὴν αὐτὴν γὰρ αἰτίαν πάντα ἔσται. μόλυνσις δὲ ἀπεψία μὲν ἡ ἐναντία ἑψήσει· εἴη δ’ ἂν ἐναντία ἥ τε πρώτη λεχθεῖσα ἀπεψία τοῦ ἐν τῷ σώματι ἀορίστου δι’ ἔνδειαν τῆς ἐν τῷ ὑγρῷ τῷ πέριξ θερμότητος (ἡ δ’ ἔνδεια μετὰ ψυχρότητος ὅτι ἐστίν, εἴρηται)· γίγνεται δὲ διὰ κίνησιν ἄλλην· ἐκκρούεται γὰρ ἡ πέττουσα, καὶ ἡ ἔνδεια δὲ ἢ διὰ τὸ πλῆθος τῆς ἐν τῷ ὑγρῷ ψυχρότητος ἢ διὰ τὸ ἐν τῷ ἑψομένῳ πλῆθος· τότε γὰρ συμβαίνει τὴν ἐν τῷ ὑγρῷ θερμότητα πλείω μὲν εἶναι ἢ ὥστε μὴ κινῆσαι, ἐλάττω δὲ ἢ ὥστε ὁμαλῦναι καὶ συμπέψαι. διὸ σκληρότερα μὲν τὰ μεμωλυσμένα γίγνεται τῶν ἑφθῶν, τὰ δ’ ὑγρὰ διωρισμένα μᾶλλον. ἕψησις μὲν οὖν καὶ μόλυνσις εἴρηται, καὶ τί ἐστιν καὶ διὰ τί ἐστιν· ὄπτησις δ’ ἐστὶν πέψις ὑπὸ θερμότητος ξηρᾶς καὶ ἀλλοτρίας. διὰ τοῦτο κἂν ἕψων τις ποιῇ μεταβάλλειν καὶ πέττεσθαι, μὴ ὑπὸ τῆς τοῦ ὑγροῦ θερμότητος ἀλλ’ ὑπὸ τῆς τοῦ πυρός, ὅταν τελεσθῇ, ὀπτὸν γίγνεται καὶ οὐχ ἑφθόν, καὶ τῇ ὑπερβολῇ προσκεκαῦσθαι λέγεται· ὑπὸ ξηρᾶς δὲ θερμότητος γίγνεται ὅταν ξηρότερον γίγνηται ἐπιτελεσθέν. διὸ καὶ τὰ ἐκτὸς ξηρότερα τῶν ἐντός· τὰ δ’ ἑφθὰ τοὐναντίον. καὶ ἔργον ἐπὶ τῶν χειροκμήτων τὸ ὀπτῆσαι μεῖζον ἢ ἑψῆσαι·

χαλεπὸν γὰρ τὰ ἐκτὸς καὶ τὰ ἐντὸς ὁμαλῶς θερμαίνειν. ἀεὶ γὰρ τὰ ἐγγύτερον τοῦ πυρὸς ξηραίνεται [381b] θᾶττον, ὥστε καὶ μᾶλλον. συνιόντων οὖν τῶν ἔξω πόρων οὐ δύναται ἐκκρίνεσθαι τὸ ἐνυπάρχον ὑγρόν, ἀλλ' ἐγκατακλείεται, ὅταν οἱ πόροι μύσωσιν. ὄπτησις μὲν οὖν καὶ ἕψησις γίγνονται μὲν τέχνῃ, ἔστιν δ', ὥσπερ λέγομεν, τὰ εἴδη καθόλου ταὐτὰ καὶ φύσει· ὅμοια γὰρ τὰ γιγνόμενα πάθη, ἀλλ' ἀνώνυμα· μιμεῖται γὰρ ἡ τέχνη τὴν φύσιν, ἐπεὶ καὶ ἡ τῆς τροφῆς ἐν τῷ σώματι πέψις ὁμοία ἑψήσει ἐστίν· καὶ γὰρ ἐν ὑγρῷ καὶ θερμῷ ὑπὸ τῆς τοῦ σώματος θερμότητος γίγνεται. καὶ ἀπεψίαι ἔνιαι ὅμοιαι τῇ μολύνσει. καὶ ζῷον οὐκ ἐγγίγνεται ἐν τῇ πέψει, ὥσπερ τινές φασιν, ἀλλ' ἐν τῇ ἀποκρίσει σηπομένῃ ἐν τῇ κάτω κοιλίᾳ, εἶτ' ἐπανέρχεται ἄνω· πέττεται μὲν γὰρ ἐν τῇ ἄνω κοιλίᾳ, σήπεται δ' ἐν τῇ κάτω τὸ ἀποκριθέν· δι' ἣν δ' αἰτίαν, εἴρηται ἐν ἑτέροις. ἡ μὲν οὖν μόλυνσις τῇ ἑψήσει ἐναντίον· τῇ δὲ ὡς ὀπτήσει λεγομένῃ πέψει ἔστι μέν τι ἀντικείμενον ὁμοίως, ἀνωνυμώτερον δέ. εἴη δ' ἂν οἷον εἰ γένοιτο στάτευσις ἀλλὰ μὴ ὄπτησις δι' ἔνδειαν θερμότητος, ἣ συμβαίη ἂν ἢ δι' ὀλιγότητα τοῦ ἔξω πυρὸς ἢ διὰ πλῆθος τοῦ ἐν τῷ ὀπτωμένῳ ὕδατος· τότε γὰρ πλείων μέν ἐστιν ἢ ὥστε μὴ κινῆσαι, ἐλάττων δὲ ἢ ὥστε πέψαι. τί μὲν οὖν ἐστι πέψις καὶ ἀπεψία, καὶ πέπανσις καὶ ὠμότης, καὶ ἕψησις καὶ ὄπτησις καὶ τἀναντία τούτοις, εἴρηται.

τῶν δὲ παθητικῶν, τοῦ ὑγροῦ καὶ τοῦ ξηροῦ, λεκτέον τὰ [381b.24] εἴδη. εἰσὶν δ' αἱ μὲν ἀρχαὶ τῶν σωμάτων αἱ παθητικαὶ ὑγρὸν καὶ ξηρόν, τὰ δ' ἄλλα μεικτὰ μὲν ἐκ τούτων, ὁποτέρου δὲ μᾶλλον, τούτου μᾶλλον τὴν φύσιν ἐστίν, οἷον τὰ μὲν ξηροῦ μᾶλλον τὰ δ' ὑγροῦ. πάντα δὲ τὰ μὲν ἐντελεχείᾳ ἔσται, τὰ δ' ἐν τῷ ἀντικειμένῳ· ἔχει δ' οὕτως τῆξις πρὸς τὸ τηκτόν. ἐπεὶ δ' ἐστὶν τὸ μὲν ὑγρὸν εὐόριστον, τὸ δὲ ξηρὸν δυσόριστον, ὅμοιόν τι τῷ ὄψῳ καὶ τοῖς ἡδύσμασι πρὸς ἄλληλα πάσχουσι· τὸ γὰρ ὑγρὸν τῷ ξηρῷ αἴτιον τοῦ ὁρίζεσθαι, καὶ ἑκάτερον ἑκατέρῳ οἷον κόλλα γίγνεται, ὥσπερ καὶ [382a] Ἐμπεδοκλῆς ἐποίησεν ἐν τοῖς φυσικοῖς "ἄλφιτον ὕδατι κολλήσας." καὶ διὰ τοῦτο ἐξ ἀμφοῖν ἐστιν τὸ ὡρισμένον σῶμα. λέγεται δὲ τῶν στοιχείων ἰδιαίτατα ξηροῦ μὲν γῆ, ὑγροῦ δὲ ὕδωρ. διὰ τοῦτο ἅπαντά τε τὰ ὡρισμένα σώματα ἐνταῦθα οὐκ ἄνευ γῆς καὶ ὕδατος (ὁποτέρου δὲ πλέον, κατὰ τὴν δύναμιν τούτου ἕκαστον φαίνεται)· καὶ ἐν γῇ καὶ ἐν ὕδατι ζῷα μόνον ἐστίν, ἐν ἀέρι δὲ καὶ πυρὶ οὐκ ἔστιν, ὅτι τῶν σωμάτων ὕλη ταῦτα. τῶν δὲ σωματικῶν παθημάτων ταῦτα πρῶτα ἀνάγκη ὑπάρχειν τῷ ὡρισμένῳ, σκληρότητα ἢ μαλακότητα· ἀνάγκη γὰρ τὸ ἐξ ὑγροῦ καὶ ξηροῦ ἢ σκληρὸν εἶναι ἢ μαλακόν. ἔστι δὲ σκληρὸν μὲν τὸ μὴ ὑπεῖκον εἰς αὑτὸ κατὰ τὸ ἐπίπεδον, μαλακὸν δὲ τὸ ὑπεῖκον τῷ μὴ ἀντιπεριίστασθαι· τὸ γὰρ ὕδωρ οὐ μαλακόν· οὐ γὰρ ὑπείκει τῇ θλίψει τὸ ἐπίπεδον εἰς βάθος, ἀλλ' ἀντιπερiίσταται. ἁπλῶς μὲν οὖν σκληρὸν ἢ μαλακὸν τὸ ἁπλῶς τοιοῦτον, πρὸς ἕτερον δὲ τὸ πρὸς ἐκεῖνο τοιοῦτον. πρὸς μὲν οὖν ἄλληλα ἀόριστά ἐστιν τῷ μᾶλλον καὶ ἧττον· ἐπεὶ δὲ πρὸς τὴν αἴσθησιν πάντα κρίνομεν τὰ αἰσθητά, δῆλον ὅτι καὶ τὸ σκληρὸν καὶ τὸ μαλακὸν ἁπλῶς πρὸς τὴν ἁφὴν ὡρίκαμεν, ὡς μεσότητι χρώμενοι τῇ ἁφῇ· διὸ τὸ μὲν ὑπερβάλλον αὐτὴν σκληρόν, τὸ δ' ἐλλεῖπον μαλακὸν εἶναί φαμεν.

ἀνάγκη δὲ σκληρὸν ἢ μαλακὸν εἶναι τὸ ὡρισμένον σῶμα οἰκείῳ ὅρῳ (ἢ γὰρ ὑπείκει ἢ μή)· ἔτι πεπηγὸς εἶναι (τούτῳ γὰρ ὁρίζεται)· ὥστ' ἐπεὶ πᾶν μὲν τὸ ὡρισμένον καὶ συνεστὸς ἢ μαλακὸν ἢ σκληρόν, ταῦτα δὲ πήξει ἐστίν, ἅπαντ' ἂν εἴη τὰ σώματα τὰ σύνθετα καὶ ὡρισμένα οὐκ ἄνευ πήξεως. πήξεως οὖν πέρι ῥητέον. ἔστιν δὴ τὰ αἴτια τὰ παρὰ τὴν ὕλην δύο, τό τε ποιοῦν καὶ τὸ πάθος (τὸ μὲν οὖν ποιοῦν ὡς ὅθεν ἡ κίνησις, τὸ δὲ πάθος ὡς εἶδος)· ὥστε καὶ πήξεως καὶ διαχύσεως, καὶ τοῦ ξηραίνεσθαι καὶ τοῦ ὑγραίνεσθαι. ποιεῖ δὲ τὸ ποιοῦν δυσὶ δυνάμεσι, καὶ πάσχει παθήμασιν δυσίν, ὥσπερ εἴρηται· ποιεῖ μὲν θερμῷ καὶ ψυχρῷ, τὸ δὲ πάθος ἢ ἀπουσίᾳ ἢ παρουσίᾳ θερμοῦ ἢ [382b] ψυχροῦ. ἐπεὶ δὲ τὸ πήγνυσθαι ξηραίνεσθαί πώς ἐστιν, περὶ τούτου εἴπωμεν πρῶτον. τὸ δὴ πάσχον ἢ ὑγρὸν ἢ ξηρὸν ἢ ἐκ τούτων. τιθέμεθα δὲ ὑγροῦ σῶμα ὕδωρ, ξηροῦ δὲ γῆν· ταῦτα γὰρ τῶν ὑγρῶν καὶ τῶν ξηρῶν παθητικά. διὸ καὶ τὸ ψυχρὸν τῶν παθητικῶν μᾶλλον· ἐν τούτοις γάρ ἐστιν· καὶ γὰρ ἡ γῆ καὶ τὸ ὕδωρ ψυχρὰ ὑπόκειται. ποιητικὸν δὲ τὸ ψυχρὸν ὡς φθαρτικὸν ἢ ὡς κατὰ συμβεβηκός, καθάπερ εἴρηται πρότερον· ἐνίοτε γὰρ καὶ κάειν λέγεται καὶ θερμαίνειν τὸ ψυχρόν, οὐχ ὡς τὸ θερμόν, ἀλλὰ τῷ συνάγειν ἢ ἀντιπεριιστάναι τὸ θερμόν. ξηραίνεται δὲ ὅσα ἐστὶν ὕδωρ καὶ ὕδατος εἴδη, ἢ ἔχει ὕδωρ εἴτ' ἐπακτὸν εἴτε συμφυές (λέγω δὲ ἐπακτὸν μὲν οἷον ἐν ἐρίῳ, σύμφυτον δ' οἷον ἐν γάλακτι). ὕδατος δ' εἴδη τὰ τοιάδε, οἶνος, οὖρον, ὀρός, καὶ ὅλως ὅσα μηδεμίαν ἢ βραχεῖαν ἔχει ὑπόστασιν, μὴ διὰ γλισχρότητα· ἐνίοις γὰρ αἴτιον τοῦ μὴ ὑφίστασθαι μηδὲν ἡ γλισχρότης, ὥσπερ ἐλαίῳ ἢ πίττῃ. ξηραίνεται δὲ πάντα ἢ θερμαινόμενα ἢ ψυχόμενα, ἀμφότερα δὲ θερμῷ, καὶ ὑπὸ τῆς ἐντὸς θερμότητος ἢ τῆς ἔξω· καὶ γὰρ τὰ τῇ ψύξει ξηραινόμενα, ὥσπερ ἱμάτιον, ἐὰν ᾖ κεχωρισμένον αὐτὸ καθ' αὑτὸ τὸ ὑγρόν, ὑπὸ τοῦ ἐντὸς θερμοῦ συνεξατμίζοντος τὸ ὑγρὸν ξηραίνεται, ἂν ὀλίγον ᾖ τὸ ὑγρόν, ἐξιούσης τῆς θερμότητος ὑπὸ τοῦ περιεστῶτος ψυχροῦ. ξηραίνεται μὲν οὖν, ὥσπερ εἴρηται, ἅπαντα ἢ θερμαινόμενα ἢ ψυχόμενα, καὶ πάντα θερμῷ, ἢ τῷ ἐντὸς ἢ τῷ ἐκτὸς συνεξατμίζοντι τὸ ὑγρόν (λέγω δ' ἐκτὸς μὲν ὥσπερ τὰ ἑψόμενα, ἐντὸς δὲ ὅταν ἀφαιρεθέντος ὑφ' ἧς ἔχει θερμότητος ἀναλωθῇ ἀποπνεούσης). περὶ μὲν οὖν τοῦ ξηραίνεσθαι εἴρηται.

τὸ δ' ὑγραίνεσθαί ἐστιν ἓν μὲν τὸ ὕδωρ γίγνεσθαι συνιστάμενον, ἓν δὲ τὸ τήκεσθαι τὸ πεπηγός. τούτων δὲ συνίσταται μὲν ψυχόμενον τὸ πνεῦμα· περὶ δὲ τήξεως ἅμα καὶ περὶ πήξεως ἔσται δῆλον. πήγνυται δὲ ὅσα πήγνυται ἢ ὕδατος ὄντα ἢ γῆς καὶ ὕδατος, καὶ ταῦτα ἢ θερμῷ ξηρῷ ἢ ψυχρῷ. διὸ καὶ λύεται τοῖς ἐναντίοις, ὅσα [383a] λύεται τῶν ὑπὸ θερμοῦ παγέντων ἢ ὑπὸ ψυχροῦ· τὰ μὲν γὰρ ὑπὸ ξηροῦ θερμοῦ παγέντα ὑπὸ ὕδατος λύεται, ὅ ἐστιν ὑγρὸν ψυχρόν, τὰ δὲ ὑπὸ ψυχροῦ παγέντα ὑπὸ πυρὸς λύεται, ὅ ἐστιν θερμόν. πήγνυσθαι δ' ἔνια δόξειεν ἂν ὑπὸ ὕδατος, ὡς τὸ μέλι τὸ ἑφθόν· πήγνυται δὲ οὐχ ὑπὸ τοῦ ὕδατος, ἀλλ' ὑπὸ τοῦ ἐν αὐτῷ ψυχροῦ. ὅσα μὲν οὖν ἐστιν ὕδατος, οὐ πήγνυται ὑπὸ πυρός· λύεται γὰρ ὑπὸ πυρός, τὸ δὲ αὐτὸ τῷ αὐτῷ κατὰ ταὐτὸ οὐκ ἔσται αἴτιον τοῦ ἐναντίου. ἔτι τῷ ἀπιέναι τὸ θερμὸν πήγνυται, ὥστε δῆλον ὅτι τῷ εἰσιέναι λυθήσεται· ὥστε ποιοῦντος τοῦ ψυχροῦ πήγνυται. διὸ καὶ οὐ παχύνεται τὰ τοιαῦτα πηγνύμενα· ἡ γὰρ πάχυνσις ὑγροῦ μὲν ἀπιόντος γίγνεται, τοῦ ξηροῦ δὲ συνισταμένου· ὕδωρ δὲ τῶν ὑγρῶν οὐ παχύνεται μόνον. ὅσα δὲ κοινὰ γῆς καὶ ὕδατος, καὶ ὑπὸ πυρὸς πήγνυται καὶ ὑπὸ ψυχροῦ, παχύνεται δὲ ὑπ' ἀμφοῖν ἔστι μὲν ὡς τὸν αὐτὸν τρόπον, ἔστι δ' ὡς ἄλλως, ὑπὸ μὲν θερμοῦ τὸ ὑγρὸν ἐξάγοντος (ἐξατμίζοντος γὰρ τοῦ ὑγροῦ παχύνεται τὸ ξηρὸν καὶ συνίσταται), ὑπὸ δὲ ψυχροῦ τὸ θερμὸν ἐκθλίβοντος, μεθ' οὗ τὸ ὑγρὸν συναπέρχεται συνεξατμίζον. ὅσα μὲν οὖν μαλακὰ ἀλλὰ μὴ ὑγρά, οὐ παχύνεται ἀλλὰ πήγνυται ἐξιόντος τοῦ ὑγροῦ, οἷον ὁ ὀπτώμενος κέραμος· ὅσα δὲ ὑγρὰ τῶν μεικτῶν, καὶ παχύνεται, οἷον γάλα. πολλὰ δὲ καὶ ὑγραίνεται πρῶτον, ὅσα ἢ παχέα ἢ σκληρὰ ὑπὸ ψυχροῦ προϋπῆρχεν ὄντα, ὥσπερ καὶ ὁ κέραμος τὸ πρῶτον ὀπτώμενος ἀτμίζει καὶ μαλακώτερος γίγνεται· διὸ καὶ διαστρέφεται ἐν ταῖς καμίνοις. ὅσα μὲν οὖν ὑπὸ ψυχροῦ πήγνυται τῶν κοινῶν γῆς καὶ ὕδατος, πλέον δὲ ἐχόντων γῆς, τὰ μὲν τῷ τὸ θερμὸν ἐξεληλυθέναι πηγνύμενα, ταῦτα τήκεται θερμῷ εἰσιόντος πάλιν τοῦ θερμοῦ, οἷον ὁ πηλὸς ὅταν παγῇ· ὅσα δὲ διὰ ψύξιν, καὶ τοῦ θερμοῦ συνεξατμίσαντος ἅπαντος, ταῦτα δὲ ἄλυτα μὴ ὑπερβαλλούσῃ θερμότητι, ἀλλὰ μαλάττεται, οἷον σίδηρος καὶ κέρας. τήκεται δὲ καὶ ὁ εἰργασμένος σίδηρος, ὥστε ὑγρὸς γίγνεσθαι καὶ πάλιν πήγνυσθαι. καὶ τὰ στομώματα ποιοῦσιν οὕτως· ὑφίσταται γὰρ καὶ ἀποκαθαίρεται κάτω [383b] ἡ σκωρία· ὅταν δὲ πολλάκις πάθῃ καὶ καθαρὸς γένηται, τοῦτο στόμωμα γίγνεται. οὐ ποιοῦσι δὲ πολλάκις αὐτὸ διὰ τὸ ἀπουσίαν γίγνεσθαι πολλὴν καὶ τὸν σταθμὸν ἐλάττω ἀποκαθαιρομένου. ἔστιν δ' ἀμείνων σίδηρος ὁ ἐλάττω ἔχων ἀποκάθαρσιν. τήκεται δὲ καὶ ὁ λίθος ὁ πυρίμαχος ὥστε στάζειν καὶ ῥεῖν· τὸ δὲ πηγνύμενον ὅταν ῥυῇ, πάλιν γίγνεται σκληρόν. καὶ αἱ μύλαι τήκονται ὥστε ῥεῖν· τὸ δὲ ῥέον πηγνύμενον τὸ μὲν χρῶμα μέλαν, ὅμοιον δὲ γίγνεται τῇ τιτάνῳ. τήκεται δὲ καὶ ὁ πηλὸς καὶ ἡ γῆ. ὅσα δ' ὑπὸ [383b.10] ξηροῦ θερμοῦ πήγνυται, τὰ μὲν ἄλυτα, τὰ δὲ λυτὰ ὑγρῷ. κέραμος μὲν οὖν καὶ λίθων ἐνίων γένη, ὅσοι ὑπὸ πυρὸς τῆς γῆς συγκαυθείσης γίγνονται, οἷον οἱ μυλίαι, ἄλυτα, νίτρον δὲ καὶ ἅλες λυτὰ ὑγρῷ, οὐ παντὶ δὲ ἀλλὰ ψυχρῷ· διὸ ὕδατι καὶ ὅσα ὕδατος εἴδη τήκεται, ἐλαίῳ δ' οὐ τήκεται· τῷ γὰρ ξηρῷ θερμῷ ἐναντίον ψυχρὸν ὑγρόν. εἰ οὖν ἔπηξεν θάτερον, θάτερον λύσει· οὕτω γὰρ τἀναντία ἔσται αἴτια τῶν ἐναντίων.

παχύνεται μὲν οὖν ὑπὸ πυρὸς μόνον, ὅσα ὕδατος πλέον ἔχει ἢ γῆς, πήγνυται δέ, ὅσα γῆς. διὸ καὶ τὸ νίτρον καὶ οἱ ἅλες γῆς εἰσιν μᾶλλον, καὶ λίθος καὶ κέραμος. ἀπορώτατα δὲ ἔχει ἡ τοῦ ἐλαίου φύσις. εἰ μὲν γὰρ ὕδατος, ἔδει πήγνυσθαι ὑπὸ ψυχροῦ, εἰ δὲ γῆς πλέον, ὑπὸ πυρός· νῦν δὲ πήγνυται μὲν ὑπ' οὐδετέρου, παχύνεται δὲ ὑπ' ἀμφοῖν. αἴτιον δ' ἐστὶν ὅτι ἀέρος ἐστὶν πλῆρες. διὸ καὶ ἐν τῷ ὕδατι ἐπιπολάζει· καὶ γὰρ ὁ ἀὴρ φέρεται ἄνω. τὸ μὲν οὖν ψυχρὸν ἐκ τοῦ ἐνόντος πνεύματος ὕδωρ ποιοῦν παχύνει· ἀεὶ γάρ, ὅταν μειχθῇ ὕδωρ καὶ ἔλαιον, ἀμφοῖν γίγνεται παχύτερον. ὑπὸ δὲ πυρὸς καὶ χρόνου παχύνεται καὶ λευκαίνεται, λευκαίνεται μὲν ἐξατμίζοντος εἴ τι ἐνῆν ὕδατος, παχύνεται δὲ διὰ τὸ μαραινομένου τοῦ θερμοῦ ἐκ τοῦ ἀέρος γίγνεσθαι ὕδωρ. ἀμφοτέρως μὲν οὖν τὸ αὐτὸ γίγνεται πάθος, καὶ διὰ τὸ αὐτό, ἀλλ' οὐχ ὡσαύτως. παχύνεται μὲν οὖν ὑπ' ἀμφοτέρων, οὐ ξηραίνεται δ' ὑπ' οὐδετέρου· οὔτε γὰρ ὁ ἥλιος οὔτε τὸ ψῦχος ξηραίνει· οὐ μόνον διότι γλίσχρον, [384a] ἀλλὰ καὶ διότι ἀέρος ἐστίν. οὐ ξηραίνεται δὲ τὸ ὕδωρ οὐδ' ἕψεται ὑπὸ πυρός, ὅτι οὐκ ἀτμίζει διὰ γλισχρότητα. ὅσα δὲ μεικτὰ ὕδατος καὶ γῆς, κατὰ τὸ πλῆθος ἑκατέρου ἄξιον λέγεσθαι· οἶνος γάρ τις καὶ πήγνυται καὶ ἕψεται, οἷον τὸ γλεῦκος. ἀπέρχεται δὲ ἀπὸ πάντων τῶν τοιούτων ξηραινομένων τὸ ὕδωρ. σημεῖον δ' ὅτι τὸ ὕδωρ· ἡ γὰρ ἀτμὶς συνίσταται εἰς ὕδωρ, ἐάν τις βούληται συλλέγειν· ὥστε ὅσοις λείπεταί τι, τοῦτο γῆς. ἔνια δὲ τούτων καὶ ὑπὸ ψυχροῦ, ὥσπερ εἴρηται, παχύνεται καὶ ξηραίνεται· τὸ γὰρ ψυχρὸν οὐ μόνον πήγνυσιν, ἀλλὰ ξηραίνει μὲν ὕδωρ, παχύνει δὲ τὸν ἀέρα ὕδωρ ποιοῦν· ἡ δὲ πῆξις εἴρηται ξηρασία τις οὖσα. ὅσα μὲν οὖν μὴ παχύνεται ὑπὸ τοῦ ψυχροῦ ἀλλὰ πήγνυται, ὕδατός ἐστι μᾶλλον, οἷον οἶνος καὶ οὖρον καὶ ὄξος καὶ κονία καὶ ὀρός· ὅσα δὲ παχύνεται μὴ ἐξατμίζοντα ὑπὸ πυρός, τὰ μὲν γῆς, τὰ δὲ κοινὰ ὕδατος καὶ ἀέρος, μέλι μὲν γῆς, ἔλαιον δ' ἀέρος. ἔστιν δὲ καὶ τὸ γάλα καὶ τὸ αἷμα ἀμφοῖν μὲν κοινὰ καὶ ὕδατος καὶ γῆς, μᾶλλον δὲ τὰ πολλὰ γῆς, ὥσπερ καὶ ἐξ ὅσων ὑγρῶν νίτρον γίγνεται καὶ ἅλες (καὶ λίθοι δ’ ἔκ τινων συνίστανται τοιούτων). διὸ ἐὰν μὴ χωρισθῇ ὁ ὀρός, ἐκκάεται ὑπὸ τοῦ πυρὸς ἑψόμενος. τὸ δὲ γεῶδες συνίσταται καὶ ὑπὸ τοῦ ὀποῦ, ἐάν πως ἕψῃ τις, οἷον οἱ ἰατροὶ ὀπίζοντες. οὕτω δὲ χωρίζεται ὁ ὀρὸς καὶ ὁ τυρός. ὁ δὲ χωρισθεὶς ὀρὸς οὐκέτι παχύνεται, ἀλλ’ ἐκκάεται ὥσπερ ὕδωρ. εἰ δέ τι μὴ ἔχει τυρὸν γάλα ἢ ὀλίγον, τοῦτο μᾶλλον ὕδατος καὶ ἄτροφον. καὶ τὸ αἷμα δὲ ὁμοίως· πήγνυται γὰρ τῷ ξηραίνεσθαι ψυχόμενον. ὅσα δὲ μὴ πήγνυται, οἷον τὸ τῆς ἐλάφου, τὰ τοιαῦτα ὕδατος μᾶλλον, καὶ ψυχρὰ ταῦτα. διὸ καὶ οὐκ ἔχει ἶνας· αἱ γὰρ ἶνές εἰσιν γῆς καὶ στερεόν· ὥστε καὶ ἐξαιρεθεισῶν οὐ πήγνυται· τοῦτο δ’ ἐστὶν ὅτι οὐ ξηραίνεται· ὕδωρ γὰρ τὸ λοιπόν, ὡς τὸ γάλα τοῦ τυροῦ ἐξαιρεθέντος. σημεῖον δέ· τὰ νοσώδη γὰρ αἵματα οὐ θέλει πήγνυσθαι· ἰχωροειδῆ γάρ, τοῦτο δὲ φλέγμα καὶ ὕδωρ διὰ τὸ ἄπεπτον εἶναι καὶ ἀκράτητον ὑπὸ τῆς φύσεως. ἔτι δὲ τὰ μὲν λυτά ἐστιν, οἷον νίτρον, τὰ δὲ ἄλυτα, οἷον [384b] κέραμος, καὶ τούτων τὰ μὲν μαλακτά, οἷον κέρας, τὰ δὲ ἀμάλακτα, οἷον κέραμος καὶ λίθος. αἴτιον δ’ ὅτι τἀναντία τῶν ἐναντίων αἴτια, ὥστ’ εἰ πήγνυται δυοῖν, ψυχρῷ καὶ ξηρῷ, λύεσθαι ἀνάγκη θερμῷ καὶ ὑγρῷ· διὸ πυρὶ καὶ ὕδατι (ταῦτα γὰρ ἐναντία), ὕδατι μὲν ὅσα πυρὶ μόνῳ, πυρὶ δὲ ὅσα ψυχρῷ μόνῳ· ὥστ’ εἴ τι ὑπ’ ἀμφοῖν συμβαίνει πήγνυσθαι, ταῦτα ἄλυτα μάλιστα. γίγνεται δὲ τοιαῦτα ὅσα θερμανθέντα ἔπειτα τῷ ψυχρῷ πήγνυται· συμβαίνει γάρ, ὅταν τὸ θερμὸν ἐξικμάσῃ ἐξιόν, τὸ πλεῖστον ὑγρὸν συνθλίβεσθαι πάλιν ὑπὸ τοῦ ψυχροῦ, ὥστε μηδὲ ὑγρῷ διδόναι δίοδον. καὶ διὰ ταῦτα οὔτε τὸ θερμὸν λύει· ὅσα γὰρ ὑπὸ ψυχροῦ πήγνυται μόνου, ταῦτα λύει· οὔθ’ ὑπὸ ὕδατος· ὅσα γὰρ ὑπὸ ψυχροῦ πήγνυται, οὐ λύει, ἀλλ’ ὅσα ὑπὸ θερμοῦ ξηροῦ μόνον. ὁ δὲ σίδηρος τακεὶς ὑπὸ θερμοῦ ψυχθεὶς πήγνυται. τὰ δὲ ξύλα ἐστὶν γῆς καὶ ἀέρος· διὸ καυστὰ καὶ οὐ τηκτὰ οὐδὲ μαλακτά, καὶ ἐπὶ τῷ ὕδατι ἐπιπλεῖ, πλὴν ἐβένου· αὕτη δ’ οὔ· τὰ μὲν γὰρ ἄλλα ἀέρος ἔχει πλέον, ἐκ δὲ τῆς ἐβένου τῆς μελαίνης διαπέπνευκεν ὁ ἀήρ, καὶ ἔστι πλέον ἐν αὐτῇ γῆς. κέραμος δὲ γῆς μόνον διὰ τὸ ξηραινόμενος παγῆναι κατὰ μικρόν· οὔτε γὰρ τὸ ὕδωρ εἰσόδους ἔχει, δι’ ὧν μόνον πνεῦμα ἐξῆλθεν, οὔτε πῦρ· ἔπηξε γὰρ αὐτό. τί μὲν οὖν ἐστι πῆξις καὶ τῆξις, καὶ διὰ πόσα καὶ ἐν πόσοις ἐστίν, εἴρηται.

ἐκ δὲ τούτων φανερὸν ὅτι ὑπὸ θερμοῦ καὶ ψυχροῦ συνίσταται τὰ σώματα, ταῦτα δὲ παχύνοντα καὶ πηγνύντα ποιεῖται τὴν ἐργασίαν αὐτῶν. διὰ δὲ τὸ ὑπὸ τούτων δημιουργεῖσθαι ἐν ἅπασιν ἔνεστι θερμότης, τισὶ δὲ καὶ ψυχρότης ᾗ ἐκλείπει. ὥστ’ ἐπεὶ ταῦτα μὲν ὑπάρχει διὰ τὸ ποιεῖν, ὑγρὸν δὲ καὶ ξηρὸν διὰ τὸ πάσχειν, μετέχει αὐτῶν τὰ κοινὰ πάντων. ἐκ μὲν οὖν ὕδατος καὶ γῆς τὰ ὁμοιομερῆ σώματα συνίσταται, καὶ ἐν φυτοῖς καὶ ἐν ζῴοις, καὶ τὰ μεταλλευόμενα, οἷον χρυσὸς καὶ ἄργυρος καὶ ὅσα ἄλλα τοιαῦτα, ἐξ αὐτῶν τε καὶ ἐκ τῆς ἀναθυμιάσεως τῆς ἑκατέρου ἐγκατακλειομένης, ὥσπερ εἴρηται ἐν ἄλλοις. ταῦτα [385a] δὲ διαφέρει ἀλλήλων τοῖς τε πρὸς τὰς αἰσθήσεις ἰδίοις ἅπαντα, τῷ ποιεῖν τι δύνασθαι (λευκὸν γὰρ καὶ εὐῶδες καὶ ψοφητικὸν καὶ γλυκὺ καὶ θερμὸν καὶ ψυχρὸν τῷ ποιεῖν τι δύνασθαι τὴν αἴσθησίν ἐστι), καὶ ἄλλοις οἰκειοτέροις πάθεσιν, ὅσα τῷ πάσχειν λέγονται, λέγω δ’ οἷον τὸ τηκτὸν καὶ πηκτὸν καὶ καμπτὸν καὶ ὅσα ἄλλα τοιαῦτα· πάντα γὰρ τὰ τοιαῦτα παθητικά, ὥσπερ τὸ ὑγρὸν καὶ τὸ ξηρόν. τούτοις δ’ ἤδη διαφέρει ὀστοῦν καὶ σὰρξ καὶ νεῦρον καὶ ξύλον καὶ φλοιὸς καὶ λίθος καὶ τῶν ἄλλων ἕκαστον τῶν ὁμοιομερῶν μὲν φυσικῶν δὲ σωμάτων. εἴπωμεν δὲ πρῶτον τὸν ἀριθμὸν αὐτῶν, ὅσα κατὰ δύναμιν καὶ ἀδυναμίαν λέγεται. ἔστιν δὲ τάδε, πηκτὸν ἄπηκτον, τηκτὸν ἄτηκτον, μαλακτὸν ἀμάλακτον, τεγκτὸν ἄτεγκτον, καμπτὸν ἄκαμπτον, κατακτὸν ἀκάτακτον, θραυστὸν ἄθραυστον, θλαστὸν ἄθλαστον, πλαστὸν ἄπλαστον, πιεστὸν ἀπίεστον, ἑλκτὸν ἄνελκτον, ἐλατὸν ἀνήλατον, σχιστὸν ἄσχιστον, τμητὸν ἄτμητον, γλίσχρον ψαθυρόν, πιλητὸν ἀπίλητον, καυστὸν ἄκαυστον, θυμιατὸν ἀθυμίατον. τὰ μὲν οὖν πλεῖστα σχεδὸν τῶν σωμάτων τούτοις διαφέρει τοῖς πάθεσιν· τίνα δ’ ἕκαστον τούτων ἔχει δύναμιν, εἴπωμεν. περὶ μὲν οὖν πηκτοῦ καὶ ἀπήκτου καὶ τηκτοῦ καὶ ἀτήκτου εἴρηται μὲν καθόλου πρότερον, ὅμως δ’ ἐπανέλθωμεν καὶ νῦν. τῶν γὰρ σωμάτων ὅσα πήγνυται καὶ σκληρύνεται, τὰ μὲν ὑπὸ θερμοῦ πάσχει τοῦτο τὰ δ’ ὑπὸ ψυχροῦ, ὑπὸ μὲν τοῦ θερμοῦ ξηραίνοντος τὸ ὑγρόν, ὑπὸ δὲ τοῦ ψυχροῦ ἐκθλίβοντος τὸ θερμόν. ὥστε τὰ μὲν ὑγροῦ ἀπουσίᾳ τὰ δὲ θερμοῦ τοῦτο πάσχει, ὅσα μὲν ὕδατος, θερμοῦ, ὅσα δὲ γῆς, ὑγροῦ. τὰ μὲν [385a.28] οὖν ὑγροῦ ἀπουσίᾳ ὑπὸ ὑγροῦ διατήκεται, ἂν μὴ οὕτως συνέλθῃ ὥστε ἐλάττους τοὺς πόρους λειφθῆναι τῶν τοῦ ὕδατος ὄγκων, οἷον ὁ κέραμος· ὅσα δὲ μὴ οὕτω, πάντα ὑγρῷ τήκεται, οἷον νίτρον, ἅλες, γῆ ἡ ἐκ πηλοῦ· τὰ δὲ θερμοῦ στερήσει ὑπὸ θερμοῦ τήκεται, οἷον κρύσταλλος, μόλυβδος, χαλκός. ποῖα μὲν οὖν πηκτὰ καὶ τηκτά, εἴρηται, καὶ ποῖα [385b] ἄτηκτα. ἄπηκτα δὲ ὅσα μὴ ἔχει ὑγρότητα ὑδατώδη, μηδὲ ὕδατός ἐστιν, ἀλλὰ πλέον θερμοῦ καὶ γῆς, οἷον μέλι καὶ γλεῦκος (ὥσπερ ζέοντα γάρ ἐστιν), καὶ ὅσα ὕδατος μὲν ἔχει, ἔστιν δὲ πλέον ἀέρος, ὥσπερ τὸ ἔλαιον καὶ ὁ ἄργυρος ὁ χυτός, καὶ εἴ τι γλίσχρον, οἷον <πίττα καὶ> ἰξός.

μαλακτὰ δ’ ἐστὶ τῶν πεπηγότων ὅσα μὴ ἐξ ὕδατος, οἷον κρύσταλλος ὕδατος, ἀλλ’ ὅσα γῆς μᾶλλον, καὶ μήτ’ ἐξίκμασται πᾶν τὸ ὑγρὸν ὥσπερ ἐν νίτρῳ ἢ ἁλσί, μήτ’ ἔχει ἀνωμάλως ὥσπερ ὁ κέραμος, ἀλλ’ ἢ ἑλκτὰ μὴ ὄντα διαντά, ἢ ἐλατὰ μὴ ὄντα ὕδατος, καὶ μαλακτὰ πυρί, οἷον σίδηρος καὶ κέρας καὶ ξύλα. ἔστι δὲ καὶ τῶν τηκτῶν καὶ τῶν ἀτήκτων τὰ μὲν τεγκτὰ τὰ δὲ ἄτεγκτα, οἷον χαλκὸς ἄτεγκτον, τηκτὸν ὄν, ἔριον δὲ καὶ γῆ τεγκτόν· βρέχεται γάρ. καὶ χαλκὸς μὲν δὴ τηκτόν, οὐχ ὑπὸ ὕδατος δὲ τηκτόν. ἀλλὰ καὶ τῶν ὑπὸ ὕδατος τηκτῶν ἔνια ἄτεγκτα, οἷον νίτρον καὶ ἅλες· οὐδὲ γὰρ ἄλλο τεγκτὸν οὐδὲν ὃ μὴ μαλακώτερον γίγνεται βρεχόμενον. ἔνια δὲ τεγκτὰ ὄντα οὐ τηκτά ἐστιν, οἷον ἔριον καὶ οἱ καρποί. ἔστι δὲ τεγκτὰ μὲν ὅσα γῆς ὄντα ἔχει τοὺς πόρους μείζους τῶν τοῦ ὕδατος ὄγκων, ὄντων σκληροτέρων τοῦ ὕδατος. τηκτὰ δὲ ὕδατι ὅσα δι’ ὅλου. διὰ τί δ’ ἡ μὲν γῆ καὶ τήκεται καὶ τέγγεται ὑπὸ τοῦ ὑγροῦ, τὸ δὲ νίτρον τήκεται μέν, τέγγεται δ’ οὔ; ὅτι ἐν μὲν τῷ νίτρῳ δι’ ὅλου οἱ πόροι, ὥστε διαιρεῖται εὐθὺς ὑπὸ τοῦ ὕδατος τὰ μόρια, ἐν δὲ τῇ γῇ καὶ παραλλάξ εἰσι πόροι, ὥστε ὁποτέρως ἂν δέξηται, διαφέρει τὸ πάθος. ἔστι δὲ καὶ τὰ μὲν τῶν σωμάτων καμπτὰ καὶ εὐθυντά, οἷον κάλαμος καὶ λύγος, τὰ δ’ ἄκαμπτα τῶν σωμάτων, οἷον κέραμος καὶ λίθος. ἔστιν δὲ ἄκαμπτα μὲν καὶ ἀνεύθυντα ὅσων σωμάτων οὐ δύναται τὸ μῆκος εἰς εὐθύτητα ἐκ περιφερείας καὶ ἐξ εὐθύτητος εἰς περιφέρειαν μεταβάλλειν, καὶ τὸ κάμπτεσθαι καὶ τὸ εὐθύνεσθαί ἐστιν τὸ εἰς εὐθύτητα ἢ περιφέρειαν μεθίστασθαι ἢ κινεῖσθαι· καὶ γὰρ τὸ ἀνακαμπτόμενον καὶ τὸ [386a] κατακαμπτόμενον κάμπτεται. ἡ μὲν οὖν εἰς κυρτότητα ἢ κοιλότητα κίνησις τοῦ μήκους σῳζομένου κάμψις ἐστίν· εἰ γὰρ καὶ εἰς τὸ εὐθύ, εἴη ἂν ἅμα κεκαμμένον καὶ εὐθύ· ὅπερ ἀδύνατον, τὸ εὐθὺ κεκάμφθαι. καὶ εἰ κάμπτεται πᾶν ἢ ἀνακάμψει ἢ κατακάμψει, τούτων δὲ τὸ μὲν εἰς τὸ κυρτὸν τὸ δ’ εἰς τὸ κοῖλον μετάβασις, οὐκ ἂν εἴη καὶ εἰς τὸ εὐθὺ κάμψις, ἀλλ’ ἔστι κάμψις καὶ εὔθυνσις ἄλλο καὶ ἄλλο. καὶ ταῦτά ἐστιν καμπτὰ καὶ εὐθυντά, καὶ ἄκαμπτα καὶ ἀνεύθυντα. καὶ τὰ μὲν κατακτὰ καὶ θραυστὰ ἅμα ἢ χωρίς, οἷον ξύλον μὲν κατακτόν, θραυστὸν δ’ οὔ, κρύσταλλος δὲ καὶ λίθος θραυστόν, κατακτὸν δ’ οὔ, κέραμος δὲ καὶ θραυστὸν καὶ κατακτόν. διαφέρει δ’, ὅτι κάταξις μὲν ἐστιν εἰς μεγάλα μέρη διαίρεσις καὶ χώρισις, θραῦσις δὲ εἰς τὰ τυχόντα καὶ πλείω δυοῖν. ὅσα μὲν οὖν οὕτω πέπηγεν ὥστε πολλοὺς ἔχειν παραλλάττοντας πόρους, θραυστά (μέχρι γὰρ τούτου διίσταται), ὅσα δ’ εἰς πολύ, κατακτά, ὅσα δ’ ἄμφω, ἀμφότερα. καὶ τὰ μὲν θλαστά, οἷον χαλκὸς καὶ κηρός, τὰ δ’ ἄθλαστα, οἷον κέραμος καὶ ὕδωρ. ἔστιν δὲ θλάσις ἐπιπέδου κατὰ μέρος εἰς βάθος μετάστασις ὤσει ἢ πληγῇ, τὸ δ’ ὅλον ἁφῇ. ἔστιν δὲ τὰ τοιαῦτα καὶ μαλακτά, οἷον κηρὸς μένοντος τοῦ ἄλλου ἐπιπέδου κατὰ μέρος μεθίσταται, καὶ σκληρά, οἷον χαλκός, καὶ ἄθλαστα καὶ σκληρά, οἷον κέραμος (οὐ γὰρ ὑπείκει εἰς βάθος τὸ ἐπίπεδον), καὶ ὑγρά, οἷον ὕδωρ (τὸ γὰρ ὕδωρ ὑπείκει μέν, ἀλλ’ οὐ κατὰ μέρος, ἀλλ’ ἀντιμεθίσταται). τῶν δὲ θλαστῶν ὅσα μὲν μένει θλασθέντα καὶ εὔθλαστα χειρί, ταῦτα μὲν πλαστά, τὰ δὲ ἢ μὴ εὔθλαστα, ὥσπερ λίθος ἢ ξύλον, ἢ εὔθλαστα μέν, μὴ μένει δὲ ἡ θλάσις, ὥσπερ ἐρίου ἢ σπόγγου, οὐ πλαστά, ἀλλὰ πιεστὰ ταῦτ’ ἐστίν. ἔστι δὲ πιεστὰ ὅσα ὠθούμενα εἰς αὑτὰ συνιέναι δύναται, εἰς βάθος τοῦ ἐπιπέδου παραλλάττοντος, οὐ διαιρουμένου, καὶ <μὴ> μεθισταμένου ἄλλου ἄλλῳ μορίου, οἷον τὸ ὕδωρ ποιεῖ· τοῦτο γὰρ ἀντιμεθίσταται. ἔστι δὲ ὦσις ἡ κίνησις ὑπὸ τοῦ κινοῦντος, ἣ [386b] γίγνεται ἀπὸ τῆς ἅψεως· πληγὴ δέ, ὅταν ἀπὸ τῆς φορᾶς. πιέζεται δὲ ὅσα πόρους ἔχει κενοὺς συγγενοῦς σώματος· καὶ πιεστὰ ταῦτα ὅσα δύναται εἰς τὰ ἑαυτῶν κενὰ συνιέναι ἢ εἰς τοὺς ἑαυτῶν πόρους· [ἐνίοτε γὰρ οὐ κενοί εἰσιν εἰς οὓς συνέρχεται,] οἷον ὁ βεβρεγμένος σπόγγος (πλήρεις γὰρ αὐτοῦ οἱ πόροι), ἀλλ’ ὧν ἂν οἱ πόροι πλήρεις ὦσι μαλακωτέρων ἢ αὐτὸ τὸ πεφυκὸς συνιέναι εἰς αὑτά. πιεστὰ μὲν οὖν ἐστιν οἷον σπόγγος, κηρός, σάρξ· ἀπίεστα δὲ τὰ μὴ πεφυκότα συνιέναι ὤσει εἰς τοὺς ἑαυτῶν πόρους διὰ τὸ ἢ μὴ ἔχειν ἢ σκληροτέρων ἔχειν πλήρεις· ὁ γὰρ σίδηρος ἀπίεστος καὶ λίθος καὶ ὕδωρ καὶ πᾶν ὑγρόν. ἑλκτὰ δ’ ἐστὶν ὅσων δυνατὸν εἰς τὸ πλάγιον μεθίστασθαι τὸ ἐπίπεδον· τὸ γὰρ ἕλκεσθαί ἐστι τὸ ἐπὶ τὸ κινοῦν μεθίστασθαι τὸ ἐπίπεδον συνεχὲς ὄν. ἔστιν δὲ τὰ μὲν ἑλκτά, οἷον θρίξ, ἱμάς, νεῦρον, σταίς, ἰξός, τὰ δ’ ἄνελκτα, οἷον ὕδωρ καὶ λίθος. τὰ μὲν οὖν ταὐτά ἐστιν ἑλκτὰ καὶ πιεστά, οἷον ἔριον, τὰ δ’ οὐ ταὐτά, οἷον φλέγμα πιεστὸν μὲν οὐκ ἔστιν, ἑλκτὸν δέ, καὶ ὁ σπόγγος πιεστὸν μέν, οὐχ ἑλκτὸν δέ. ἔστιν δὲ καὶ τὰ μὲν ἐλατά, οἷον χαλκός, τὰ δ’ ἀνήλατα, οἷον λίθος καὶ ξύλον. ἔστιν δ’ ἐλατὰ μὲν ὅσα τῇ αὐτῇ πληγῇ δύναται ἅμα καὶ εἰς πλάτος καὶ εἰς βάθος τὸ ἐπίπεδον μεθίστασθαι κατὰ μέρος, ἀνήλατα δὲ ὅσα ἀδύνατα. ἔστιν δὲ τὰ μὲν ἐλατὰ ἅπαντα καὶ θλαστά, τὰ δὲ θλαστὰ οὐ πάντα ἐλατά, οἷον ξύλον· ὡς μέντοι ἐπίπαν εἰπεῖν, ἀντιστρέφει. τῶν δὲ πιεστῶν τὰ μὲν ἐλατὰ τὰ δ’ οὔ, κηρὸς μὲν καὶ πηλὸς ἐλατά, ἔριον δ’ οὔ [οὐδ’ ὕδωρ]. ἔστιν δὲ καὶ τὰ μὲν σχιστά, οἷον ξύλον, τὰ δὲ ἄσχιστα, οἷον κέραμος. ἔστιν δὲ σχιστὸν τὸ δυνάμενον διαιρεῖσθαι ἐπὶ πλέον ἢ τὸ διαιροῦν διαιρεῖ· σχίζεται γάρ, ὅταν ἐπὶ πλέον διαιρῆται ἢ τὸ διαιροῦν διαιρεῖ, καὶ προηγεῖται ἡ διαίρεσις· ἐν δὲ τῇ τμήσει οὐκ ἔστιν τοῦτο. ἄσχιστα δὲ ὅσα μὴ δύνανται τοῦτο πάσχειν. ἔστιν δὲ οὔτε μαλακὸν οὐδὲν σχιστόν (λέγω δὲ τῶν ἁπλῶς μαλακῶν καὶ μὴ πρὸς ἄλληλα· οὕτω μὲν γὰρ καὶ σίδηρος ἔσται μαλακός) οὔτε τὰ σκληρὰ πάντα, [387a] ἀλλ’ ὅσα μήτε ὑγρά ἐστιν μήτε θλαστὰ μήτε θραυστά· τοιαῦτα δ’ ἐστὶν ὅσα κατὰ μῆκος ἔχει τοὺς πόρους, καθ’ οὓς προσφύεται ἀλλήλοις, ἀλλὰ μὴ κατὰ πλάτος. τμητὰ δ’ ἐστὶν τῶν συνεστώτων σκληρῶν ἢ μαλακῶν ὅσα δύναται μήτ’ ἐξ ἀνάγκης προηγεῖσθαι τῆς διαιρέσεως μήτε θραύεσθαι διαιρούμενα· ὅσα δὲ μὴ ὑγρὰ ᾖ, τὰ τοιαῦτα ἄτμητα. ἔνια δ’ ἐστὶν ταὐτὰ καὶ τμητὰ καὶ σχιστά, οἷον ξύλον· ἀλλ’ ὡς ἐπὶ τὸ πολὺ σχιστὸν μὲν κατὰ τὸ μῆκος, τμητὸν δὲ κατὰ τὸ πλάτος· ἐπεὶ γὰρ διαιρεῖται ἕκαστον εἰς πολλά, ᾗ μὲν μήκη πολλὰ τὸ ἕν, σχιστὸν ταύτῃ, ᾗ δὲ πλάτη πολλὰ τὸ ἕν, τμητὸν ταύτῃ. γλίσχρον δ’ ἐστὶν ὅταν ἑλκτὸν ᾖ ὑγρὸν ὂν ἢ μαλακόν. τοιοῦτον δὲ γίγνεται τῇ ἐπαλλάξει ὅσα ὥσπερ αἱ ἁλύσεις σύγκεινται τῶν σωμάτων· [387a.14] ταῦτα γὰρ ἐπὶ πολὺ δύναται ἐκτείνεσθαι καὶ συνιέναι. ὅσα δὲ μὴ τοιαῦτα, ψαθυρά. πιλητὰ δ’ ὅσα τῶν πιεστῶν μόνιμον ἔχει τὴν πίεσιν, ἀπίλητα δὲ ὅσα ἢ ὅλως ἀπίεστα ἢ μὴ μόνιμον ἔχει τὴν πίεσιν. καὶ τὰ μὲν καυστά ἐστιν τὰ δὲ ἄκαυστα, οἷον ξύλον μὲν καυστὸν καὶ ἔριον καὶ ὀστοῦν, λίθος δὲ καὶ κρύσταλλος ἄκαυστον. ἔστιν δὲ καυστὰ ὅσα ἔχει πόρους δεκτικοὺς πυρὸς καὶ ὑγρότητα ἐν τοῖς κατ’ εὐθυωρίαν πόροις ἀσθενεστέραν πυρός. ὅσα δὲ μὴ ἔχει ἢ ἰσχυροτέραν, οἷον κρύσταλλος καὶ τὰ σφόδρα χλωρά, ἄκαυστα. θυμιατὰ δ’ ἐστὶ τῶν σωμάτων ὅσα ὑγρότητα ἔχει μέν, οὕτω δ’ ἔχει ὥστε μὴ ἐξατμίζειν πυρουμένων χωρίς· ἔστιν γὰρ ἀτμὶς ἡ ὑπὸ θερμοῦ καυστικοῦ εἰς ἀέρα καὶ πνεῦμα ἔκκρισις ἐξ ὑγροῦ διαντική. τὰ δὲ θυμιατὰ χρόνῳ εἰς ἀέρα ἐκκρίνεται, καὶ τὰ μὲν ἀφανιζόμενα ξηρά, τὰ δὲ γῆ γίγνεται. διαφέρει δ’ αὕτη ἡ ἔκκρισις, ὅτι οὔτε διαίνει οὔτε πνεῦμα γίγνεται. ἔστιν δὲ πνεῦμα ῥύσις συνεχὴς ἀέρος ἐπὶ μῆκος· θυμίασις δ’ ἐστὶν ἡ ὑπὸ θερμοῦ καυστικοῦ κοινὴ ἔκκρισις ξηροῦ καὶ ὑγροῦ ἀθρόως· διόπερ οὐ διαίνει, ἀλλὰ χρωματίζει μᾶλλον. ἔστι δ’ ἡ μὲν ξυλώδους σώματος [387b] θυμίασις καπνός. λέγω γὰρ καὶ ὀστᾶ καὶ τρίχας καὶ πᾶν τὸ τοιοῦτον ἐν ταὐτῷ· οὐ γὰρ κεῖται ὄνομα κοινόν, ἀλλὰ κατ’ ἀναλογίαν ὅμως ἐν ταὐτῷ πάντ’ ἐστίν, ὥσπερ καὶ Ἐμπεδοκλῆς φησιν “ταὐτὰ τρίχες καὶ φύλλα καὶ οἰωνῶν πτερὰ πυκνὰ καὶ λοπίδες γίγνονται ἐπὶ στιβαροῖσι μέλεσσιν.” ἡ δὲ πίονος θυμίασις λιγνύς, ἡ δὲ λιπαροῦ κνῖσα. διὰ τοῦτο τὸ ἔλαιον οὐχ ἕψεται οὐδὲ παχύνεται, ὅτι θυμιατόν ἐστιν ἀλλ’ οὐκ ἀτμιστόν· ὕδωρ δ’ οὐ θυμιατὸν ἀλλ’ ἀτμιστόν. οἶνος δ’ ὁ μὲν γλυκὺς θυμιᾶται. πίων γάρ, καὶ ταὐτὰ ποιεῖ τῷ ἐλαίῳ· οὔτε γὰρ ὑπὸ ψύχους πήγνυται, καίεταί τε. ἔστιν δὲ ὀνόματι οἶνος, ἔργῳ δ’ οὐκ ἔστιν· οὐ γὰρ οἰνώδης ὁ χυμός· διὸ οὐ μεθύσκει, ὁ τυχὼν δ’ οἶνος (μικρὰν δ’ ἔχει θυμίασιν· διὸ ἀνίησιν φλόγα). καυστὰ δὲ δοκεῖ εἶναι ὅσα εἰς τέφραν διαλύεται τῶν σωμάτων. πάσχει δὲ τοῦτο πάντα ὅσα πέπηγεν ἢ ὑπὸ θερμοῦ ἢ ὑπ’ ἀμφοῖν, ψυχροῦ καὶ θερμοῦ· ταῦτα γὰρ φαίνεται κρατούμενα ὑπὸ τοῦ πυρός· ἥκιστα δὲ τῶν λίθων ἡ σφραγίς, ὁ καλούμενος ἄνθραξ. τῶν δὲ καυστῶν τὰ μὲν φλογιστά ἐστιν τὰ δ’ ἀφλόγιστα· τούτων δ’ ἔνια ἀνθρακευτά. φλογιστὰ μὲν οὖν ὅσα φλόγα δύναται παρέχεσθαι· ὅσα δὲ ἀδύνατα, ἀφλόγιστα. ἔστι δὲ φλογιστὰ ὅσα μὴ ὑγρὰ ὄντα θυμιατά ἐστιν· πίττα δὲ ἢ ἔλαιον ἢ κηρὸς μᾶλλον μετ’ ἄλλων ἢ καθ’ αὑτὰ φλογιστά· μάλιστα δ’ ὅσα καπνὸν ἀνίησιν. ἀνθρακευτὰ δ’ ὅσα τῶν τοιούτων γῆς πλέον ἔχει ἢ καπνοῦ. ἔτι δ’ ἔνια τηκτὰ ὄντα οὐ φλογιστά ἐστιν, οἷον χαλκός, καὶ φλογιστὰ οὐ τηκτά, οἷον ξύλον, τὰ δ’ ἄμφω, οἷον λιβανωτός. αἴτιον δ’ ὅτι τὰ μὲν ξύλα ἀθρόον ἔχει τὸ ὑγρόν, καὶ δι’ ὅλου συνεχές ἐστιν, ὥστε διακάεσθαι, ὁ δὲ χαλκὸς παρ’ ἕκαστον μὲν μέρος, οὐ συνεχὲς δέ, καὶ ἔλαττον ἢ ὥστε φλόγα ποιῆσαι· ὁ δὲ λιβανωτὸς τῇ μὲν οὕτως τῇ δ’ ἐκείνως ἔχει. φλογιστὰ δ’ ἐστὶν τῶν θυμιατῶν ὅσα μὴ τηκτά ἐστιν διὰ τὸ μᾶλλον εἶναι γῆς. (τὸ ξηρὸν γὰρ ἔχει κοινὸν τῷ [388a] πυρί· τοῦτ’ οὖν θερμὸν ἂν γένηται τὸ ξηρόν, πῦρ γίγνεται. διὰ τοῦτο ἡ φλὸξ πνεῦμα ἢ καπνὸς καόμενός ἐστιν.) ξύλων μὲν οὖν ἡ θυμίασις καπνός, κηροῦ δὲ καὶ λιβανωτοῦ καὶ τῶν τοιούτων καὶ πίττης, καὶ ὅσα ἔχει πίτταν ἢ τοιαῦτα, λιγνύς, ἐλαίου δὲ καὶ ὅσα ἐλαιώδη, κνῖσα, καὶ ὅσα ἥκιστα καίεται μόνα, ὅτι ὀλίγον ξηροῦ ἔχει, ἡ δὲ μετάβασις διὰ τούτου, μετὰ δ’ ἑτέρου τάχιστα· τοῦτο γάρ ἐστιν τὸ πῖον, ξηρὸν λιπαρόν. τὰ μὲν οὖν ἐκθυμιώμενα τῶν ὑγρῶν ὑγροῦ μᾶλλον, ὡς ἔλαιον καὶ πίττα, τὰ δὲ καόμενα ξηροῦ.

τούτοις δὲ τοῖς παθήμασιν καὶ ταύταις ταῖς διαφοραῖς τὰ ὁμοιομερῆ τῶν σωμάτων, ὥσπερ εἴρηται, διαφέρει ἀλλήλων κατὰ τὴν ἁφήν, καὶ ἔτι χυμοῖς καὶ ὀσμαῖς καὶ χρώμασιν· λέγω δ’ ὁμοιομερῆ οἷον τά τε μεταλλευόμενα-χαλκόν, χρυσόν, ἄργυρον, καττίτερον, σίδηρον, λίθον, καὶ τἆλλα τὰ τοιαῦτα, καὶ ὅσα ἐκ τούτων γίγνεται ἐκκρινόμενα-καὶ τὰ ἐν τοῖς ζῴοις καὶ φυτοῖς, οἷον σάρκες, ὀστᾶ, νεῦρον, δέρμα, σπλάγχνον, τρίχες, ἶνες, φλέβες, ἐξ ὧν ἤδη συνέστηκε τὰ ἀνομοιομερῆ, οἷον πρόσωπον, χείρ, πούς, καὶ τἆλλα τὰ τοιαῦτα, καὶ ἐν φυτοῖς ξύλον, φλοιός, φύλλον, ῥίζα, καὶ ὅσα τοιαῦτα. ἐπεὶ δὲ ταῦτα μὲν ὑπ’ ἄλλης αἰτίας συνέστηκεν, ἐξ ὧν δὲ ταῦτα ὕλη μὲν τὸ ξηρὸν καὶ ὑγρόν, ὥστε ὕδωρ καὶ γῆ (ταῦτα γὰρ προφανεστάτην ἔχει τὴν δύναμιν ἑκάτερον ἑκατέρου), τὰ δὲ ποιοῦντα τὸ θερμὸν καὶ ψυχρόν (ταῦτα γὰρ συνίστησιν καὶ πήγνυσιν ἐξ ἐκείνων), λάβωμεν τῶν ὁμοιομερῶν ποῖα γῆς εἴδη καὶ ποῖα ὕδατος καὶ ποῖα κοινά. ἔστι δὴ τῶν σωμάτων τῶν δεδημιουργημένων τὰ μὲν ὑγρά, τὰ δὲ μαλακά, τὰ δὲ σκληρά· τούτων δὲ ὁπόσα σκληρὰ ἢ μαλακὰ πήξει ἐστίν, εἴρηται πρότερον. τῶν μὲν οὖν ὑγρῶν ὅσα μὲν ἐξατμίζεται, ὕδατος, ὅσα δὲ μή, ἢ γῆς ἢ κοινὰ γῆς καὶ ὕδατος, οἷον γάλα, ἢ γῆς καὶ ἀέρος, οἷον ξύλον, ἢ ὕδατος καὶ ἀέρος, οἷον ἔλαιον. καὶ ὅσα μὲν ὑπὸ θερμοῦ παχύνεται, κοινά (ἀπορήσειε δ’ ἄν τις περὶ οἴνου τῶν ὑγρῶν· τοῦτο [388b] γὰρ καὶ ἐξατμισθείη ἄν, καὶ παχύνεται ὥσπερ ὁ νέος· αἴτιον δ’ ὅτι οὔτε ἐν ἑνὶ εἴδει λέγεται ὁ οἶνος, καὶ ὅτι ἄλλος ἄλλως· ὁ γὰρ νέος μᾶλλον γῆς ἢ ὁ παλαιός· διὸ καὶ παχύνεται τῷ θερμῷ μάλιστα καὶ πήγνυται ἧττον ὑπὸ τοῦ ψυχροῦ· ἔχει γὰρ καὶ θερμὸν πολὺ καὶ γῆς, ὥσπερ ὁ ἐν Ἀρκαδίᾳ οὕτως ἀποξηραίνεται ὑπὲρ τοῦ καπνοῦ ἐν τοῖς ἀσκοῖς ὥστε ξυόμενος πίνεσθαι· εἰ δὴ ἅπας ἰλὺν ἔχει, οὕτως ἑκατέρου ἐστίν, ἢ γῆς ἢ ὕδατος, ὡς ταύτης ἔχει πλῆθος)· ὅσα δὲ ὑπὸ ψυχροῦ παχύνεται, γῆς· ὅσα δ' ὑπ' ἀμφοῖν, κοινὰ πλειόνων, οἷον ἔλαιον καὶ μέλι καὶ ὁ γλυκὺς οἶνος. τῶν δὲ συνεστώτων ὅσα μὲν πέπηγεν ὑπὸ ψυχροῦ, ὕδατος, οἷον κρύσταλλος, χιών, χάλαζα, πάχνη· ὅσα δ' ὑπὸ θερμοῦ, γῆς, οἷον κέραμος, τυρός, νίτρον, ἅλες· ὅσα δ' ὑπ' ἀμφοῖν (τοιαῦτα δ' ἐστὶν ὅσα ψύξει· ταῦτα δ' ἐστὶν ὅσα ἀμφοῖν στερήσει, καὶ θερμοῦ καὶ ὑγροῦ συνεξιόντος τῷ θερμῷ· οἱ μὲν γὰρ ἅλες ὑγροῦ μόνου στερήσει πήγνυνται, καὶ ὅσα εἰλικρινῆ γῆς, ὁ δὲ κρύσταλλος θερμοῦ μόνου), ταῦτα δ' ἀμφοῖν. διὸ καὶ ὑπ' ἀμφοῖν καὶ εἶχεν ἄμφω. ὅσων μὲν οὖν ἅπαν ἐξικμάσθη, οἷον κέραμος ἢ ἤλεκτρον (καὶ γὰρ τὸ ἤλεκτρον, καὶ ὅσα λέγεται ὡς δάκρυα, ψύξει ἐστίν, οἷον σμύρνα, λιβανωτός, κόμμι· καὶ τὸ ἤλεκτρον δὲ τούτου τοῦ γένους ἔοικεν, καὶ πήγνυται· ἐμπεριειλημμένα γοῦν ζῷα ἐν αὐτῷ φαίνεται· ὑπὸ δὲ τοῦ ποταμοῦ τὸ θερμὸν ἐξιὸν ὥσπερ τοῦ ἑψομένου μέλιτος, ὅταν εἰς ὕδωρ ἀφεθῇ, ἐξατμίζει τὸ ὑγρόν), ταῦτα πάντα γῆς. καὶ τὰ μὲν ἄτηκτα καὶ ἀμάλακτα, οἷον τὸ ἤλεκτρον καὶ λίθοι ἔνιοι, ὥσπερ οἱ πῶροι οἱ ἐν τοῖς σπηλαίοις· καὶ γὰρ οὗτοι ὁμοίως γίγνονται τούτοις, καὶ οὐχ ὡς ὑπὸ πυρὸς ἀλλ' ὡς ὑπὸ τοῦ ψυχροῦ διεξιόντος τοῦ θερμοῦ συνεξέρχεται τὸ ὑγρὸν ὑπὸ τοῦ ἐξ αὐτοῦ ἐξιόντος θερμοῦ· ἐν δὲ τοῖς ἑτέροις ὑπὸ τοῦ ἔξωθεν πυρός. ὅσα δὲ μὴ ὅλα, γῆς μέν ἐστι μᾶλλον, μαλακτὰ δέ, οἷον σίδηρος καὶ κέρας. (λιβανωτοὶ δὲ καὶ τὰ τοιαῦτα παραπλησίως τοῖς ξύλοις ἀτμίζει.) ἐπεὶ οὖν τηκτά γε θετέον καὶ ὅσα τήκεται ὑπὸ πυρός, ταῦτ' ἐστὶν ὑδατωδέστερα, ἔνια [389a] δὲ καὶ κοινά, οἷον κηρός· ὅσα δὲ ὑπὸ ὕδατος, ταῦτα δὲ [389a.2] γῆς· ὅσα δὲ μηδ' ὑφ' ἑτέρου, ταῦτα ἢ γῆς ἢ ἀμφοῖν. εἰ οὖν ἅπαντα μὲν ἢ ὑγρὰ ἢ πεπηγότα, τούτων δὲ τὰ ἐν τοῖς εἰρημένοις πάθεσιν, καὶ οὐκ ἔστιν μεταξύ, ἅπαντ' ἂν εἴη εἰρημένα οἷς διαγνωσόμεθα πότερον γῆς ἢ ὕδατος ἢ πλειόνων κοινόν, καὶ πότερον ὑπὸ πυρὸς συνέστηκεν ἢ ψυχροῦ ἢ ἀμφοῖν. χρυσὸς μὲν δὴ καὶ ἄργυρος καὶ χαλκὸς καὶ καττίτερος καὶ μόλυβδος καὶ ὕαλος καὶ λίθοι πολλοὶ ἀνώνυμοι ὕδατος· πάντα γὰρ τήκεται ταῦτα θερμῷ. ἔτι οἶνοι ἔνιοι καὶ οὖρον καὶ ὄξος καὶ κονία καὶ ὀρὸς καὶ ἰχὼρ ὕδατος· πάντα γὰρ πήγνυται ψυχρῷ. σίδηρος δὲ καὶ κέρας καὶ ὄνυξ καὶ ὀστοῦν καὶ νεῦρον καὶ ξύλον καὶ τρίχες καὶ φύλλα καὶ φλοιὸς γῆς μᾶλλον· ἔτι ἤλεκτρον, σμύρνα, λίβανος, καὶ πάντα τὰ δάκρυα λεγόμενα, καὶ πῶρος, καὶ οἱ καρποί, οἷον τὰ χεδροπά, καὶ σῖτος (τὰ τοιαῦτα γὰρ τὰ μὲν σφόδρα, τὰ δὲ ἧττον μὲν τούτων, ὅμως δὲ γῆς·

τὰ μὲν γὰρ μαλακτά, τὰ δὲ θυμιατὰ καὶ ψύξει γεγενημένα)· ἔτι νίτρον, ἅλες, λίθων γένη, ὅσα μήτε ψύξει μήτε τηκτά. αἷμα δὲ καὶ γονὴ κοινὰ γῆς καὶ ὕδατος καὶ ἀέρος, τὸ μὲν ἔχον αἷμα ἶνας μᾶλλον γῆς (διὸ ψύχει πήγνυται καὶ ὑγρῷ τήκεται), τὰ δὲ μὴ ἔχοντα ἶνας ὕδατος (διὸ καὶ οὐ πήγνυται). γονὴ δὲ πήγνυται ψύξει ἐξιόντος τοῦ ὑγροῦ μετὰ τοῦ θερμοῦ.

ποῖα δὲ θερμὰ ἢ ψυχρὰ τῶν πεπηγότων ἢ τῶν ὑγρῶν, ἐκ τῶν εἰρημένων δεῖ μεταδιώκειν. ὅσα μὲν οὖν ὕδατος, ὡς ἐπὶ τὸ πολὺ ψυχρά, ἐὰν μὴ ἀλλοτρίαν ἔχῃ θερμότητα, οἷον κονία, οὖρον, οἶνος· ὅσα δὲ γῆς, ὡς ἐπὶ τὸ πολὺ θερμὰ διὰ τὴν τοῦ θερμοῦ δημιουργίαν, οἷον τίτανος καὶ τέφρα. δεῖ δὲ λαβεῖν τὴν ὕλην ψυχρότητά τινα εἶναι· ἐπεὶ γὰρ τὸ ξηρὸν καὶ τὸ ὑγρὸν ὕλη (ταῦτα γὰρ παθητικά), τούτων δὲ σώματα μάλιστα γῆ καὶ ὕδωρ ἐστίν (ταῦτα γὰρ ψυχρότητι ὥρισται), δῆλον ὅτι πάντα τὰ σώματα ὅσα ἑκατέρου ἁπλῶς [389b] τοῦ στοιχείου, ψυχρὰ μᾶλλόν ἐστιν, ἐὰν μὴ ἔχῃ ἀλλοτρίαν θερμότητα, οἷον τὸ ζέον ὕδωρ ἢ τὸ διὰ τέφρας ἠθημένον· καὶ γὰρ τοῦτο ἔχει τὴν ἐκ τῆς τέφρας θερμότητα· ἐν ἅπασι γάρ ἐστι θερμότης, ἢ πλείων ἢ ἐλάττων, τοῖς πεπυρωμένοις· διὸ καὶ ἐν τοῖς σαπροῖς ζῷα ἐγγίγνεται· ἔνεστι γὰρ θερμότης ἡ φθείρασα τὴν ἑκάστου οἰκείαν θερμότητα. ὅσα δὲ κοινά, ἔχει θερμότητα· συνέστηκε γὰρ τὰ πλεῖστα ὑπὸ θερμότητος πεψάσης. ἔνια δὲ σήψεις εἰσίν, οἷον τὰ συντηκτά· ὥστε ἔχοντα μὲν τὴν φύσιν θερμὰ καὶ αἷμα καὶ γονὴ καὶ μυελὸς καὶ ὀπὸς καὶ πάντα τὰ τοιαῦτα, φθειρόμενα δὲ καὶ ἐξιστάμενα τῆς φύσεως οὐκέτι· λείπεται γὰρ ἡ ὕλη, γῆ οὖσα ἢ ὕδωρ· διὸ ἀμφότερα δοκεῖ τισιν, καὶ οἱ μὲν ψυχρὰ οἱ δὲ θερμὰ ταῦτά φασιν εἶναι, ὁρῶντες, ὅταν μὲν ἐν τῇ φύσει ὦσιν, θερμά, ὅταν δὲ χωρισθῶσιν, πηγνύμενα. ἔχει μὲν οὖν οὕτως, ὅμως δέ, ὥσπερ διώρισται, ἐν οἷς μὲν ἡ ὕλη ὕδατος τὸ πλεῖστον, ψυχρά (ἀντίκειται γὰρ μάλιστα τοῦτο τῷ πυρί), ἐν οἷς δὲ γῆς ἢ ἀέρος, θερμότερα. συμβαίνει δέ ποτε ταὐτὰ γίγνεσθαι ψυχρότατα καὶ θερμότατα ἀλλοτρίᾳ θερμότητι· ὅσα γὰρ μάλιστα πέπηγε καὶ στερεώτερά ἐστιν, ταῦτα ψυχρά τε μάλιστα, ἐὰν στερηθῇ θερμότητος, καὶ κάει μάλιστα, ἐὰν πυρωθῇ, οἷον ὕδωρ καπνοῦ καὶ ὁ λίθος ὕδατος καίει μᾶλλον.

ἐπεὶ δὲ περὶ τούτων διώρισται, καθ’ ἕκαστον λέγωμεν τί σὰρξ ἢ ὀστοῦν ἢ τῶν ἄλλων τῶν ὁμοιομερῶν· ἔχομεν γὰρ ἐξ ὧν ἡ τῶν ὁμοιομερῶν φύσις συνέστηκεν, τὰ γένη αὐτῶν, τίνος ἕκαστον γένους, διὰ τῆς γενέσεως· ἐκ μὲν γὰρ τῶν στοιχείων τὰ ὁμοιομερῆ, ἐκ δὲ τούτων ὡς ὕλης τὰ ὅλα ἔργα τῆς φύσεως. ἔστιν δ’ ἅπαντα ὡς μὲν ἐξ ὕλης ἐκ τῶν εἰρημένων, ὡς δὲ κατ’ οὐσίαν τῷ λόγῳ. ἀεὶ δὲ μᾶλλον δῆλον ἐπὶ τῶν ὑστέρων καὶ ὅλως ὅσα οἷον ὄργανα καὶ ἕνεκά του. μᾶλλον γὰρ δῆλον ὅτι ὁ νεκρὸς ἄνθρωπος ὁμωνύμως.

οὕτω τοίνυν καὶ χεὶρ τελευτήσαντος ὁμωνύμως, καθάπερ καὶ [390a] αὐλοὶ λίθινοι λεχθείησαν· οἷον γὰρ καὶ ταῦτα ὄργανα ἄττα ἔοικεν εἶναι. ἧττον δ' ἐπὶ σαρκὸς καὶ ὀστοῦ τὰ τοιαῦτα δῆλα. ἔτι δ' ἐπὶ πυρὸς καὶ ὕδατος ἧττον· τὸ γὰρ οὗ ἕνεκα ἥκιστα ἐνταῦθα δῆλον, ὅπου δὴ πλεῖστον τῆς ὕλης· ὥσπερ γὰρ εἰ καὶ τὰ ἔσχατα ληφθείη, ἡ μὲν ὕλη οὐδὲν ἄλλο παρ' αὐτήν, ἡ δ' οὐσία οὐδὲν ἄλλο ἢ λόγος, τὰ δὲ μεταξὺ ἀνάλογον τῷ ἐγγὺς εἶναι ἕκαστον, ἐπεὶ καὶ τούτων ὁτιοῦν ἐστιν ἕνεκά του, καὶ οὐ πάντως ἔχον ὕδωρ ἢ πῦρ, ὥσπερ οὐδὲ σὰρξ οὐδὲ σπλάγχνον. τούτων δ' ἔτι μᾶλλον πρόσωπον καὶ χείρ. ἅπαντα δ' ἐστὶν ὡρισμένα τῷ ἔργῳ· τὰ μὲν γὰρ δυνάμενα ποιεῖν τὸ αὑτῶν ἔργον ἀληθῶς ἐστιν ἕκαστον, οἷον ὀφθαλμὸς εἰ ὁρᾷ, τὸ δὲ μὴ δυνάμενον ὁμωνύμως, οἷον ὁ τεθνεὼς ἢ ὁ λίθινος· οὐδὲ γὰρ πρίων ὁ ξύλινος, ἀλλ' ἢ ὡς εἰκών. οὕτω τοίνυν καὶ σάρξ· ἀλλὰ τὸ ἔργον αὐτῆς ἧττον δῆλον ἢ τὸ τῆς γλώττης. ὁμοίως δὲ καὶ πῦρ· ἀλλ' ἔτι ἧττον ἴσως δῆλον φυσικῶς ἢ τὸ τῆς σαρκὸς ἔργον. ὁμοίως δὲ καὶ τὰ ἐν τοῖς φυτοῖς καὶ τὰ ἄψυχα, οἷον χαλκὸς καὶ ἄργυρος· πάντα γὰρ δυνάμει τινί ἐστιν ἢ τοῦ ποιεῖν ἢ τοῦ πάσχειν, ὥσπερ σὰρξ καὶ νεῦρον· ἀλλ' οἱ λόγοι αὐτῶν οὐκ ἀκριβεῖς. ὥστε πότε ὑπάρχει καὶ πότε οὔ, οὐ ῥᾴδιον διιδεῖν, ἂν μὴ σφόδρα ἐξίτηλον ᾖ καὶ τὰ σχήματα μόνα ᾖ λοιπά, οἷον καὶ τὰ τῶν παλαιουμένων νεκρῶν σώματα ἐξαίφνης τέφρα γίγνεται ἐν ταῖς θήκαις· καὶ καρποὶ μόνον τῷ [390b] σχήματι, τὴν δ' αἴσθησιν οὐ φαίνονται, παλαιούμενοι σφόδρα· καὶ τὰ ἐκ τοῦ γάλακτος πηγνύμενα. τὰ μὲν οὖν τοιαῦτα μόρια θερμότητι καὶ ψυχρότητι καὶ ταῖς ὑπὸ τούτων κινήσεσιν ἐνδέχεται γίγνεσθαι, πηγνύμενα τῷ θερμῷ καὶ τῷ ψυχρῷ· λέγω δ' ὅσα ὁμοιομερῆ, οἷον σάρκα, ὀστοῦν, τρίχας, νεῦρον, καὶ ὅσα τοιαῦτα· πάντα γὰρ διαφέρει ταῖς πρότερον εἰρημέναις διαφοραῖς, τάσει, ἕλξει, θραύσει, σκληρότητι, μαλακότητι καὶ τοῖς ἄλλοις τοῖς τοιούτοις· ταῦτα δὲ ὑπὸ θερμοῦ καὶ ψυχροῦ καὶ τῶν κινήσεων γίγνεται μειγνυμένων. τὰ δ' ἐκ τούτων συνεστῶτα οὐδενὶ ἂν ἔτι δόξειεν τὰ ἀνομοιομερῆ, οἷον κεφαλὴ ἢ χεὶρ ἢ πούς, ἀλλ' ὥσπερ καὶ τοῦ χαλκὸν μὲν ἢ ἄργυρον γενέσθαι αἰτία ψυχρότης καὶ θερμότης καὶ κίνησις, τοῦ δὲ πρίονα ἢ φιάλην ἢ κιβωτὸν οὐκέτι, ἀλλ' ἐνταῦθα μὲν τέχνη, ἐκεῖ δὲ φύσις ἢ ἄλλη τις αἰτία. εἰ οὖν ἔχομεν τίνος γένους ἕκαστον τῶν ὁμοιομερῶν, ληπτέον καθ' ἕκαστον τί ἐστιν, οἷον τί αἷμα ἢ σὰρξ ἢ σπέρμα καὶ τῶν ἄλλων ἕκαστον· οὕτω γὰρ ἴσμεν ἕκαστον διὰ τί καὶ τί ἐστιν, ἐὰν ἢ τὴν ὕλην ἢ τὸν λόγον ἔχωμεν, μάλιστα δ' ὅταν ἄμφω τῆς τε γενέσεως καὶ φθορᾶς, καὶ πόθεν ἡ ἀρχὴ τῆς κινήσεως. δηλωθέντων δὲ τούτων ὁμοίως τὰ ἀνομοιομερῆ θεωρητέον, καὶ τέλος τὰ ἐκ τούτων συνεστῶτα, οἷον ἄνθρωπον, φυτόν, καὶ τἆλλα τὰ τοιαῦτα.

Περὶ κόσμου (ψευδεπίγραφο) (391a) On the Universe

Πολλάκις μὲν ἔμοιγε θεῖόν τι καὶ δαιμόνιον ὄντως χρῆμα, ὦ Ἀλέξανδρε, ἡ φιλοσοφία ἔδοξεν εἶναι, μάλιστα δὲ ἐν οἷς μόνη διαραμένη πρὸς τὴν τῶν ὄντων θέαν ἐσπούδασε γνῶναι τὴν ἐν αὐτοῖς ἀλήθειαν, καὶ τῶν ἄλλων ταύτης ἀποστάντων διὰ τὸ ὕψος καὶ τὸ μέγεθος, αὕτη τὸ πρᾶγμα οὐκ ἔδεισεν οὐδ' αὑτὴν τῶν καλλίστων ἀπηξίωσεν, ἀλλὰ καὶ συγγενεστάτην ἑαυτῇ καὶ μάλιστα πρέπουσαν ἐνόμισεν εἶναι τὴν ἐκείνων μάθησιν. Ἐπειδὴ γὰρ οὐχ οἷόν τε ἦν τῷ σώματι εἰς τὸν οὐράνιον ἀφικέσθαι τόπον καὶ τὴν γῆν ἐκλιπόντα τὸν ἱερὸν ἐκεῖνον χῶρον κατοπτεῦσαι, καθάπερ οἱ ἀνόητοί ποτε ἐπενόουν Ἀλῳάδαι, ἡ γοῦν ψυχὴ διὰ φιλοσοφίας, λαβοῦσα ἡγεμόνα τὸν νοῦν, ἐπεραιώθη καὶ ἐξεδήμησεν, ἀκοπίατόν τινα ὁδὸν εὑροῦσα, καὶ τὰ πλεῖστον ἀλλήλων ἀφεστῶτα τοῖς τόποις τῇ διανοίᾳ συνεφόρησε, ῥᾳδίως, οἶμαι, τὰ συγγενῆ γνωρίσασα, καὶ θείῳ ψυχῆς ὄμματι τὰ θεῖα καταλαβομένη, τοῖς τε ἀνθρώποις προφητεύουσα. Τοῦτο δὲ ἔπαθε, καθ' ὅσον οἷόν τε ἦν, πᾶσιν ἀφθόνως μεταδοῦναι βουληθεῖσα τῶν παρ' αὑτῇ τιμίων. Διὸ καὶ τοὺς μετὰ σπουδῆς διαγράψαντας ἡμῖν ἑνὸς τόπου φύσιν ἢ μιᾶς σχῆμα πόλεως ἢ ποταμοῦ μέγεθος ἢ ὄρους κάλλος, οἷά τινες ἤδη πεποιήκασι, φράζοντες οἱ μὲν τὴν Ὄσσαν, οἱ δὲ τὴν Νύσσαν, οἱ δὲ τὸ Κωρύκιον ἄντρον, οἱ δὲ ὁτιοῦν ἔτυχε τῶν ἐπὶ μέρους, οἰκτίσειεν ἄν τις τῆς μικροψυχίας, τὰ τυχόντα ἐκπεπληγμένους καὶ μέγα φρονοῦντας ἐπὶ θεωρίᾳ μικρᾷ. Τοῦτο δὲ πάσχουσι διὰ τὸ ἀθέατοι τῶν κρειττόνων εἶναι, κόσμου λέγω καὶ τῶν ἐν κόσμῳ μεγίστων· οὐδέποτε γὰρ ἂν τούτοις γνησίως ἐπιστήσαντες ἐθαύμαζόν τι τῶν ἄλλων, ἀλλὰ πάντα αὐτοῖς τὰ ἄλλα μικρὰ κατεφαίνετο ἂν καὶ οὐδενὸς ἄξια πρὸς τὴν τούτων ὑπεροχήν. Λέγωμεν δὴ ἡμεῖς καί, καθ' ὅσον ἐφικτόν, θεολογῶμεν περὶ τούτων συμπάντων, ὡς ἕκαστον ἔχει φύσεως καὶ θέσεως καὶ κινήσεως. Πρέπειν δέ γε οἶμαι καὶ σοί, ὄντι ἡγεμόνων ἀρίστῳ, τὴν τῶν μεγίστων ἱστορίαν μετιέναι, φιλοσοφίᾳ τε μηδὲν μικρὸν ἐπινοεῖν, ἀλλὰ τοῖς τοιούτοις δώροις δεξιοῦσθαι τοὺς ἀρίστους.

Κόσμος μὲν οὖν ἐστι σύστημα ἐξ οὐρανοῦ καὶ γῆς καὶ τῶν ἐν τούτοις περιεχομένων φύσεων. Λέγεται δὲ καὶ ἑτέρως κόσμος ἡ τῶν ὅλων τάξις τε καὶ διακόσμησις, ὑπὸ θεοῦ τε καὶ διὰ θεὸν φυλαττομένη. Ταύτης δὲ τὸ μὲν μέσον, ἀκίνητόν τε καὶ ἑδραῖον ὄν, ἡ φερέσβιος εἴληχε γῆ, παντοδαπῶν ζῴων ἑστία τε οὖσα καὶ μήτηρ. Τὸ δὲ ὕπερθεν αὐτῆς, πᾶν τε καὶ πάντῃ πεπερατωμένον εἰς τὸ ἀνωτάτω, θεῶν οἰκητήριον, οὐρανὸς ὠνόμασται. Πλήρης δὲ ὢν σωμάτων θείων, ἃ δὴ καλεῖν ἄστρα εἰώθαμεν, κινούμενος κίνησιν ἀίδιον, μιᾷ περιαγωγῇ καὶ κύκλῳ συναναχορεύει πᾶσι τούτοις ἀπαύστως δι’ αἰῶνος. Τοῦ δὲ σύμπαντος οὐρανοῦ τε καὶ κόσμου σφαιροειδοῦς ὄντος καὶ κινουμένου, καθάπερ εἶπον, ἐνδελεχῶς, δύο ἐξ ἀνάγκης ἀκίνητά ἐστι σημεῖα, καταντικρὺ ἀλλήλων, καθάπερ τῆς ἐν τόρνῳ κυκλοφορουμένης σφαίρας, στερεὰ μένοντα καὶ συνέχοντα τὴν σφαῖραν, περὶ ἃ ὁ πᾶς ὄγκος κύκλῳ στρέφεται· καλοῦνται δὲ οὗτοι πόλοι· δι’ ὧν εἰ νοήσαιμεν ἐπεζευγμένην εὐθεῖαν, ἥν τινες ἄξονα καλοῦσι, διάμετρος ἔσται τοῦ κόσμου, μέσον μὲν ἔχουσα τὴν γῆν, τοὺς δὲ δύο πόλους πέρατα. Τῶν δὲ ἀκινήτων πόλων τούτων ὁ μὲν ἀεὶ φανερός ἐστιν ὑπὲρ κορυφὴν ὢν κατὰ τὸ βόρειον κλίμα, ἀρκτικὸς καλούμενος, ὁ δὲ ὑπὸ γῆν ἀεὶ κατακέκρυπται, κατὰ τὸ νότιον, ἀνταρκτικὸς καλούμενος. Οὐρανοῦ δὲ καὶ ἄστρων οὐσίαν μὲν αἰθέρα καλοῦμεν, οὐχ, ὥς τινες, διὰ τὸ πυρώδη οὖσαν αἴθεσθαι, πλημμελοῦντες περὶ τὴν πλεῖστον πυρὸς ἀπηλλαγμένην δύναμιν, ἀλλὰ διὰ τὸ ἀεὶ θεῖν κυκλοφορουμένην, στοιχεῖον οὖσαν ἕτερον τῶν τεττάρων, ἀκήρατόν τε καὶ θεῖον. Τῶν γε μὴν ἐμπεριεχομένων ἄστρων τὰ μὲν ἀπλανῶς τῷ σύμπαντι οὐρανῷ συμπεριστρέφεται, τὰς αὐτὰς ἔχοντα ἕδρας, ὧν μέσος ὁ ζῳοφόρος καλούμενος κύκλος ἐγκάρσιος διὰ τῶν τροπικῶν διέζωσται, κατὰ μέρη διῃρημένος εἰς δώδεκα ζῳδίων χώρας, τὰ δέ, πλανητὰ ὄντα, οὔτε τοῖς προτέροις ὁμοταχῶς κινεῖσθαι πέφυκεν οὔτε ἀλλήλοις, ἀλλ’ ἐν ἑτέροις καὶ ἑτέροις κύκλοις, ὥστε αὐτῶν τὸ μὲν προσγειότερον εἶναι, τὸ δὲ ἀνώτερον. Τὸ μὲν οὖν τῶν ἀπλανῶν πλῆθος ἀνεξεύρετόν ἐστιν ἀνθρώποις, καίπερ ἐπὶ μιᾶς κινουμένων ἐπιφανείας τῆς τοῦ σύμπαντος οὐρανοῦ· τὸ δὲ τῶν πλανήτων, εἰς ἑπτὰ μέρη κεφαλαιούμενον, ἐν τοσούτοις ἐστὶ κύκλοις ἐφεξῆς κειμένοις, ὥστε ἀεὶ τὸν ἀνωτέρω μείζω τοῦ ὑποκάτω εἶναι, τούς τε ἑπτὰ ἐν ἀλλήλοις ἐμπεριέχεσθαι, πάντας γε μὴν ὑπὸ τῆς τῶν ἀπλανῶν σφαίρας περιειλῆφθαι. Συνεχῆ δὲ ἔχει ἀεὶ τὴν θέσιν ταύτῃ ὁ τοῦ Φαίνοντος ἅμα καὶ Κρόνου καλούμενος κύκλος, ἐφεξῆς δὲ ὁ τοῦ Φαέθοντος καὶ Διὸς λεγόμενος, εἶθ’ ὁ Πυρόεις, Ἡρακλέους τε καὶ Ἄρεος προσαγορευόμενος, ἑξῆς δὲ ὁ Στίλβων, ὃν ἱερὸν Ἑρμοῦ καλοῦσιν ἔνιοι, τινὲς δὲ Ἀπόλλωνος· μεθ’ ὃν ὁ τοῦ Φωσφόρου, ὃν Ἀφροδίτης, οἱ δὲ Ἥρας προσαγορεύουσιν, εἶτα ὁ ἡλίου, καὶ τελευταῖος ὁ τῆς σελήνης, μέχρις ἧς ὁρίζεται ὁ αἰθήρ, τά τε θεῖα ἐμπεριέχων σώματα καὶ τὴν τῆς κινήσεως τάξιν. Μετὰ δὲ τὴν αἰθέριον καὶ θείαν φύσιν, ἥντινα τεταγμένην ἀποφαίνομεν, ἔτι δὲ ἄτρεπτον καὶ ἀνετεροίωτον καὶ ἀπαθῆ, συνεχής ἐστιν ἡ δι’ ὅλων παθητή τε καὶ τρεπτή, καί, τὸ σύμπαν εἰπεῖν, φθαρτή τε καὶ ἐπίκηρος. Ταύτης δὲ αὐτῆς πρώτη μέν ἐστιν ἡ λεπτομερὴς καὶ φλογώδης οὐσία, ὑπὸ τῆς αἰθερίου πυρουμένη διὰ τὸ μέγεθος αὐτῆς καὶ τὴν ὀξύτητα τῆς κινήσεως· ἐν δὲ τῇ πυρώδει καὶ ἀτάκτῳ λεγομένῃ τά τε σέλα διᾴττει καὶ φλόγες ἀκοντίζονται καὶ δοκίδες τε καὶ βόθυνοι καὶ κομῆται λεγόμενοι στηρίζονται καὶ σβέννυνται πολλάκις. Ἑξῆς δὲ ταύτης ὁ ἀὴρ ὑποκέχυται, ζοφώδης ὢν καὶ παγετώδης τὴν φύσιν· ὑπὸ δὲ ἐκείνης λαμπόμενος ἅμα καὶ διακαιόμενος λαμπρός τε γίνεται καὶ ἀλεεινός. Ἐν δὲ τούτῳ, τῆς παθητῆς ὄντι καὶ αὐτῷ δυνάμεως καὶ παντοδαπῶς ἀλλοιουμένῳ, νέφη τε συνίσταται καὶ ὄμβροι καταράσσουσι, χιόνες τε καὶ πάχναι καὶ χάλαζαι πνοαί τε ἀνέμων καὶ τυφώνων, ἔτι τε βρονταὶ καὶ ἀστραπαὶ καὶ πτώσεις κεραυνῶν μυρίων τε γνόφων συμπληγάδες.

Ἑξῆς δὲ τῆς ἀερίου φύσεως γῆ καὶ θάλασσα ἐρήρεισται, φυτοῖς βρύουσα καὶ ζῴοις πηγαῖς τε καὶ ποταμοῖς, τοῖς μὲν ἐν γῇ ἀναλισκομένοις, τοῖς δὲ ἀνερευγομένοις εἰς θάλασσαν. Πεποίκιλται δὲ καὶ χλόαις μυρίαις ὄρεσι τε ὑψήλοις καὶ βαθυξύλοις δρυμοῖς καὶ πόλεσιν, ἃς τὸ σοφὸν ζῷον, ὁ ἄνθρωπος, ἱδρύσατο, νήσοις τε ἐναλίοις καὶ ἠπείροις. Τὴν μὲν οὖν οἰκουμένην ὁ πολὺς λόγος εἴς τε νήσους καὶ ἠπείρους διεῖλεν, ἀγνοῶν ὅτι καὶ ἡ σύμπασα μία νῆσός ἐστιν, ὑπὸ τῆς Ἀτλαντικῆς καλουμένης θαλάσσης περιρρεομένη. Πολλὰς δὲ καὶ ἄλλας εἰκὸς τῆσδε ἀντιπόρθμους ἄπωθεν κεῖσθαι, τὰς μὲν μείζους αὐτῆς, τὰς δὲ ἐλάττους, ἡμῖν δὲ πάσας πλὴν τῆσδε ἀοράτους· ὅπερ γὰρ αἱ παρ’ ἡμῖν νῆσοι πρὸς ταυτὶ τὰ πελάγη πεπόνθασι, τοῦτο ἥδε ἡ οἰκουμένη πρὸς τὴν Ἀτλαντικὴν θάλασσαν πολλαί τε ἕτεραι πρὸς σύμπασαν τὴν θάλασσαν· καὶ γὰρ αὗται μεγάλαι τινές εἰσι νῆσοι μεγάλοις περικλυζόμεναι πελάγεσιν. Ἡ δὲ σύμπασα τοῦ ὑγροῦ φύσις ἐπιπολάζουσα, κατά τινας τῆς γῆς σπίλους τὰς καλουμένας ἀναπεφαγκυῖα οἰκουμένας, ἑξῆς ἂν εἴη τῆς ἀερίου μάλιστα φύσεως. Μετὰ δὲ ταύτην ἐν τοῖς βυθοῖς κατὰ τὸ μεσαίτατον τοῦ κόσμου συνερηρεισμένη γῆ πᾶσα καὶ πεπιεσμένη συνέστηκεν, ἀκίνητος καὶ ἀσάλευτος· καὶ τοῦτ’ ἔστι τοῦ κόσμου τὸ πᾶν ὃ καλοῦμεν κάτω. Πέντε δὴ στοιχεῖα ταῦτα ἐν πέντε χώραις σφαιρικῶς ἐγκείμενα, περιεχομένης ἀεὶ τῆς ἐλάττονος τῇ μείζονι - λέγω δὲ γῆς μὲν ἐν ὕδατι, ὕδατος δὲ ἐν ἀέρι, ἀέρος δὲ ἐν πυρί, πυρὸς δὲ ἐν αἰθέρι - τὸν ὅλον κόσμον συνεστήσατο, καὶ τὸ μὲν ἄνω πᾶν θεῶν ἀπέδειξεν οἰκητήριον, τὸ κάτω δὲ ἐφημέρων ζῴων. Αὐτοῦ γε μὴν τούτου τὸ μὲν ὑγρόν ἐστιν, ὃ καλεῖν ποταμοὺς καὶ νάματα καὶ θαλάσσας εἰθίσμεθα, τὸ δὲ ξηρὸν, ὃ γῆν τε καὶ ἠπείρους καὶ νήσους ὀνομάζομεν.

Τῶν δὲ νήσων αἱ μέν εἰσι μεγάλαι, καθάπερ ἡ σύμπασα ἥδε οἰκουμένη λέλεκται πολλαί τε ἕτεραι μεγάλοις περιρρεόμεναι πελάγεσιν, αἱ δὲ ἐλάττους, φανεραί τε ἡμῖν καὶ ἐντὸς οὖσαι. Καὶ τούτων αἱ μὲν ἀξιόλογοι, Σικελία καὶ Σαρδὼ καὶ Κύρνος Κρήτη τε καὶ Εὔβοια καὶ Κύπρος καὶ Λέσβος, αἱ δὲ ὑποδεέστεραι, ὧν αἱ μὲν Σποράδες, αἱ δὲ Κυκλάδες, αἱ δὲ ἄλλως ὀνομάζονται.

Πέλαγος δὲ τὸ μὲν ἔξω τῆς οἰκουμένης Ἀτλαντικόν τε καὶ Ὠκεανὸς καλεῖται, περιρρέων ἡμᾶς. Ἐντὸς δὲ πρὸς δύσεις στενοπόρῳ διανεωγὼς στόματι, κατὰ τὰς Ἡρακλείους λεγομένας στήλας τὸν εἴσρουν εἰς τὴν ἔσω θάλασσαν ὡς ἂν εἰς λιμένα ποιεῖται, κατὰ μικρὸν δὲ ἐπιπλατυνόμενος ἀναχεῖται, μεγάλους περιλαμβάνων κόλπους ἀλλήλοις συναφεῖς, πῇ μὲν κατὰ στενοπόρους αὐχένας ἀνεστομωμένος, πῇ δὲ πάλιν πλατυνόμενος. Πρῶτον μὲν οὖν λέγεται ἐγκεκολπῶσθαι ἐν δεξιᾷ εἰσπλέοντι τὰς Ἡρακλείους στήλας, διχῶς, εἰς τὰς καλουμένας Σύρτεις, ὧν τὴν μὲν Μεγάλην, τὴν δὲ Μικρὰν, καλοῦσιν· ἐπὶ θάτερα δὲ οὐκέτι ὁμοίως ἀποκολπούμενος τρία ποιεῖ πελάγη, τό τε Σαρδόνιον καὶ τὸ Γαλατικὸν λεγόμενον καὶ Ἀδρίαν, ἑξῆς δὲ τούτων ἐγκάρσιον τὸ Σικελικόν, μετὰ δὲ τοῦτο τὸ Κρητικόν, συνεχὲς δὲ αὐτοῦ, τῇ μὲν τὸ Αἰγύπτιόν τε καὶ Παμφύλιον καὶ Σύριον, τῇ δὲ τὸ Αἰγαῖόν τε καὶ Μυρτῷον. Ἀντιπαρήκει δὲ τοῖς εἰρημένοις πολυμερέστατος ὢν ὁ Πόντος, οὗ τὸ μὲν μυχαίτατον Μαιῶτις καλεῖται, τὸ δὲ ἔξω πρὸς τὸν Ἑλλήσποντον συνανεστόμωται τῇ καλουμένῃ Προποντίδι. Πρός γε μὴν ταῖς ἀνασχέσεσι τοῦ ἡλίου πάλιν εἰσρέων ὁ Ὠκεανός, τὸν Ἰνδικόν τε καὶ Περσικὸν διανοίξας κόλπον, ἀναφαίνει συνεχῆ τὴν Ἐρυθρὰν θάλασσαν διειληφώς. Ἐπὶ θάτερον δὲ κέρας κατὰ στενόν τε καὶ ἐπιμήκη διήκων αὐχένα, πάλιν ἀνευρύνεται, τὴν Ὑρκανίαν τε καὶ Κασπίαν ὁρίζων· τὸ δὲ ὑπὲρ ταύτην βαθὺν ἔχει τὸν ὑπὲρ τὴν Μαιῶτιν λίμνην τόπον. Εἶτα κατ’ ὀλίγον ὑπὲρ τοὺς Σκύθας τε καὶ Κελτικὴν σφίγγει τὴν οἰκουμένην πρός τε τὸν Γαλατικὸν κόλπον καὶ τὰς προειρημένας Ἡρακλείους στήλας, ὧν ἔξω περιρρέει τὴν γῆν ὁ Ὠκεανός. Ἐν τούτῳ γε μὴν νῆσοι μέγισται τυγχάνουσιν οὖσαι δύο, Βρεττανικαὶ λεγόμεναι, Ἀλβίων καὶ Ἰέρνη, τῶν προϊστορημένων μείζους, ὑπὲρ τοὺς Κελτοὺς κείμεναι. Τούτων δὲ οὐκ ἐλάττους ἥ τε Ταπροβάνη πέραν Ἰνδῶν, λοξὴ πρὸς τὴν οἰκουμένην, καὶ ἡ †Φεβὸλ καλουμένη, κατὰ τὸν Ἀραβικὸν κειμένη κόλπον. Οὐκ ὀλίγαι δὲ ἄλλαι μικραὶ περὶ τὰς Βρεττανικὰς καὶ τὴν Ἰβηρίαν κύκλῳ περιεστεφάνωνται τὴν οἰκουμένην ταύτην, ἣν δὴ νῆσον εἰρήκαμεν· ἧς πλάτος μέν ἐστι κατὰ τὸ βαθύτατον τῆς ἠπείρου βραχὺ ἀποδέον τετρακισμυρίων σταδίων, ὥς φασιν οἱ εὖ γεωγραφήσαντες, μῆκος δὲ περὶ ἑπτακισμυρίους μάλιστα. Διαιρεῖται δὲ εἴς τε Εὐρώπην καὶ Ἀσίαν καὶ Λιβύην.

Εὐρώπη μὲν οὖν ἐστιν ἧς ὅροι κύκλῳ στῆλαί τε Ἡρακλέους καὶ μυχοὶ Πόντου θάλαττά τε Ὑρκανία, καθ’ ἣν στενότατος ἰσθμὸς εἰς τὸν Πόντον διήκει· τινὲς δὲ ἀντὶ τοῦ ἰσθμοῦ Τάναϊν ποταμὸν εἰρήκασιν. Ἀσία δέ ἐστι τὸ ἀπὸ τοῦ εἰρημένου ἰσθμοῦ τοῦ τε Πόντου καὶ τῆς Ὑρκανίας θαλάσσης μέχρι θατέρου ἰσθμοῦ, ὃς μεταξὺ κεῖται τοῦ τε Ἀραβικοῦ κόλπου καὶ τῆς ἔσω θαλάσσης, περιεχόμενος ὑπό τε ταύτης καὶ τοῦ πέριξ Ὠκεανοῦ· τινὲς δὲ ἀπὸ Τανάϊδος μέχρι Νείλου στομάτων τὸν τῆς Ἀσίας τίθενται ὅρον. Λιβύη δὲ τὸ ἀπὸ τοῦ Ἀραβικοῦ ἰσθμοῦ ἕως Ἡρακλέους στηλῶν. Οἱ δὲ ἀπὸ τοῦ Νείλου φασὶν ἕως ἐκείνων. Τὴν δὲ Αἴγυπτον, ὑπὸ τῶν τοῦ Νείλου στομάτων περιρρεομένην, οἱ μὲν τῇ Ἀσίᾳ, οἱ δὲ τῇ Λιβύῃ προσάπτουσι, καὶ τὰς νήσους οἱ μὲν ἐξαιρέτους ποιοῦσιν, οἱ δὲ προσνέμουσι ταῖς γείτοσιν ἀεὶ μοίραις. Γῆς μὲν δὴ καὶ θαλάττης φύσιν καὶ θέσιν, ἥντινα καλεῖν εἰώθαμεν οἰκουμένην, τοιάνδε τινὰ ἱστορήκαμεν.

Περὶ δὲ τῶν ἀξιολογωτάτων ἐν αὐτῇ καὶ περὶ αὐτὴν παθῶν νῦν λέγωμεν, αὐτὰ τὰ ἀναγκαῖα κεφαλαιούμενοι. Δύο γὰρ δή τινες ἀπ’ αὐτῆς ἀναθυμιάσεις ἀναφέρονται συνεχῶς εἰς τὸν ὑπὲρ ἡμᾶς ἀέρα, λεπτομερεῖς καὶ ἀόρατοι παντάπασιν, εἰ [τι] μὴ κατὰ τὰς ἑῴας ἔστιν ὅτε ἀπὸ ποταμῶν τε καὶ ναμάτων ἀναφερόμεναι θεωροῦνται. Τούτων δὲ ἡ μέν ἐστι ξηρὰ καὶ καπνώδης, ἀπὸ τῆς γῆς ἀπορρέουσα, ἡ δὲ νοτερὰ καὶ ἀτμώδης, ἀπὸ τῆς ὑγρᾶς ἀναθυμιωμένη φύσεως. Γίνονται δὲ ἀπὸ μὲν ταύτης ὁμίχλαι καὶ δρόσοι καὶ πάγων ἰδέαι νέφη τε καὶ ὄμβροι καὶ χιόνες καὶ χάλαζαι, ἀπὸ δὲ τῆς ξηρᾶς ἄνεμοί τε καὶ πνευμάτων διαφοραὶ βρονταί τε καὶ ἀστραπαὶ καὶ πρηστῆρες καὶ κεραυνοὶ καὶ τὰ ἄλλα ἃ δὴ τούτοις ἐστὶ σύμφυλα. Ἔστι δὲ ὁμίχλη μὲν ἀτμώδης ἀναθυμίασις ἄγονος ὕδατος, ἀέρος μὲν παχυτέρα, νέφους δὲ ἀραιοτέρα· γίνεται δὲ ἤτοι ἐξ ἀρχῆς νέφους ἢ ἐξ ὑπολείμματος. Ἀντίπαλος δὲ αὐτῇ λέγεταί τε καὶ ἔστιν αἰθρία, οὐδὲν ἄλλο οὖσα πλὴν ἀὴρ ἀνέφελος καὶ ἀνόμιχλος. Δρόσος δέ ἐστιν ὑγρὸν ἐξ αἰθρίας κατὰ σύστασιν λεπτὴν φερόμενον, κρύσταλλος δὲ ἀθρόον ὕδωρ ἐξ αἰθρίας πεπηγός, πάχνη δὲ δρόσος πεπηγυῖα, δροσοπάχνη δὲ ἡμιπαγὴς δρόσος. Νέφος δέ ἐστι πάχος ἀτμῶδες συνεστραμμένον, γόνιμον ὕδατος· ὄμβρος δὲ γίνεται μὲν κατ’ ἐκπιεσμὸν νέφους εὖ μάλα πεπαχυσμένου, διαφορὰς δὲ ἴσχει τοσάσδε ὅσας καὶ ἡ τοῦ νέφους θλῖψις· ἠπία μὲν γὰρ οὖσα μαλακὰς ψεκάδας διασπείρει, σφοδρὰ δὲ ἁδροτέρας· καὶ τοῦτο καλοῦμεν ὑετὸν, ὄμβρου μείζω καὶ συνεχῆ συστρέμματα ἐπὶ γῆς φερόμενον. Χιὼν δὲ γίνεται κατὰ νεφῶν πεπυκνωμένων ἀπόθραυσιν πρὸ τῆς εἰς ὕδωρ μεταβολῆς ἀνακοπέντων· ἐργάζεται δὲ ἡ μὲν κοπὴ τὸ ἀφρῶδες καὶ ἔκλευκον, ἡ δὲ σύμπηξις τοῦ ἐνόντος ὑγροῦ τὴν ψυχρότητα οὔπω χυθέντος οὐδὲ ἠραιωμένου. Σφοδρὰ δὲ αὕτη καὶ ἀθρόα καταφερομένη νιφετὸς ὠνόμασται. Χάλαζα δὲ γίνεται νιφετοῦ συστραφέντος καὶ βρῖθος ἐκ πιλήματος εἰς καταφορὰν ταχυτέραν λαβόντος· παρὰ δὲ τὰ μεγέθη τῶν ἀπορρηγνυμένων θραυσμάτων οἵ τε ὄγκοι μείζους αἵ τε φοραὶ γίνονται βιαιότεραι. Ταῦτα μὲν οὖν ἐκ τῆς ὑγρᾶς ἀναθυμιάσεως πέφυκε συμπίπτειν.

Ἐκ δὲ τῆς ξηρᾶς ὑπὸ ψύχους μὲν ὠσθείσης ὥστε ῥεῖν ἄνεμος ἐγένετο· οὐδὲν γάρ ἐστιν οὗτος πλὴν ἀὴρ πολὺς ῥέων καὶ ἀθρόος· ὅστις ἅμα καὶ πνεῦμα λέγεται. Λέγεται δὲ καὶ ἑτέρως πνεῦμα ἥ τε ἐν φυτοῖς καὶ ζῴοις καὶ διὰ πάντων διήκουσα ἔμψυχός τε καὶ γόνιμος οὐσία, περὶ ἧς νῦν λέγειν οὐκ ἀναγκαῖον. Τὰ δὲ ἐν ἀέρι πνέοντα πνεύματα καλοῦμεν ἀνέμους, αὔρας δὲ τὰς ἐξ ὑγροῦ φερομένας ἐκπνοάς. Τῶν δὲ ἀνέμων οἱ μὲν ἐκ νενοτισμένης γῆς πνέοντες ἀπόγειοι λέγονται, οἱ δὲ ἐκ κόλπων διεξᾴττοντες ἐγκολπίαι· τούτοις δὲ ἀνάλογόν τι ἔχουσιν οἱ ἐκ ποταμῶν καὶ λιμνῶν. Οἱ δὲ κατὰ ῥῆξιν νέφους γινόμενοι καὶ ἀνάλυσιν τοῦ πάχους εἰς ἑαυτοὺς ποιούμενοι ἐκνεφίαι καλοῦνται· μεθ’ ὕδατος δὲ ἀθρόον ῥαγέντες ἐξυδρίαι λέγονται. Καὶ οἱ μὲν ἀπὸ ἀνατολῆς συνεχεῖς εὖροι κέκληνται, βορέαι δὲ οἱ ἀπὸ ἄρκτου, ζέφυροι δὲ οἱ ἀπὸ δύσεως, νότοι δὲ οἱ ἀπὸ μεσημβρίας. Τῶν γε μὴν εὔρων καικίας μὲν λέγεται ὁ ἀπὸ τοῦ περὶ τὰς θερινὰς ἀνατολὰς τόπου πνέων ἄνεμος, ἀπηλιώτης δὲ ὁ ἀπὸ τοῦ περὶ τὰς ἰσημερινάς, εὖρος δὲ ὁ ἀπὸ τοῦ περὶ τὰς χειμερινάς. Καὶ τῶν ἐναντίων ζεφύρων ἀργέστης μὲν ὁ ἀπὸ τῆς θερινῆς δύσεως, ὅν τινες καλοῦσιν ὀλυμπίαν, οἱ δὲ ἰάπυγα· ζέφυρος δὲ ὁ ἀπὸ τῆς ἰσημερινῆς, λὶψ δὲ ὁ ἀπὸ τῆς χειμερινῆς. Καὶ τῶν βορεῶν ἰδίως ὁ μὲν ἑξῆς τῷ καικίᾳ καλεῖται βορέας, ἀπαρκτίας δὲ ὁ ἐφεξῆς ἀπὸ τοῦ πόλου κατὰ τὸ μεσημβρινὸν πνέων, θρασκίας δὲ ὁ ἑξῆς πνέων τῷ ἀργέστῃ, ὃν ἔνιοι κιρκίαν καλοῦσιν. Καὶ τῶν νότων ὁ μὲν ἀπὸ τοῦ ἀφανοῦς πόλου φερόμενος ἀντίπαλος τῷ ἀπαρκτίᾳ καλεῖται νότος, εὐρόνοτος δὲ ὁ μεταξὺ νότου καὶ εὔρου· τὸν δὲ ἐπὶ θάτερα μεταξὺ λιβὸς καὶ νότου οἱ μὲν λιβόνοτον, οἱ δὲ λιβοφοίνικα, καλοῦσιν. Τῶν δὲ ἀνέμων οἱ μέν εἰσιν εὐθύπνοοι, ὁπόσοι διεκπνέουσι πρόσω κατ’ εὐθεῖαν, οἱ δὲ ἀνακαμψίπνοοι, καθάπερ ὁ καικίας λεγόμενος, καὶ οἱ μὲν χειμῶνος, ὥσπερ οἱ νότοι, δυναστεύοντες, οἱ δὲ θέρους, ὡς οἱ ἐτησίαι λεγόμενοι, μῖξιν ἔχοντες τῶν τε ἀπὸ τῆς ἄρκτου φερομένων καὶ ζεφύρων· οἱ δὲ ὀρνιθίαι καλούμενοι, ἐαρινοί τινες ὄντες ἄνεμοι, βορέαι εἰσὶ τῷ γένει. Τῶν γε μὴν βιαίων πνευμάτων καταιγὶς μέν ἐστι πνεῦμα ἄνωθεν τύπτον ἐξαίφνης, θύελλα δὲ πνεῦμα βίαιον καὶ ἄφνω προσαλλόμενον, λαῖλαψ δὲ καὶ στρόβιλος πνεῦμα εἱλούμενον κάτωθεν ἄνω, ἀναφύσημα δὲ γῆς πνεῦμα ἄνω φερόμενον κατὰ τὴν ἐκ βυθοῦ τινος ἢ ῥήγματος ἀνάδοσιν· ὅταν δὲ εἱλούμενον πολὺ φέρηται, πρηστὴρ χθόνιός ἐστιν. Εἰληθὲν δὲ πνεῦμα ἐν νέφει παχεῖ τε καὶ νοτερῷ, καὶ ἐξωσθὲν δι’ αὐτοῦ, βιαίως ῥηγνύον τὰ συνεχῆ πιλήματα τοῦ νέφους, βρόμον καὶ πάταγον μέγαν ἀπειργάσατο, ‹ὃς› βροντὴ λέγεται, ὥσπερ ἐν ὕδατι πνεῦμα σφοδρῶς ἐλαυνόμενον. Κατὰ δὲ τὴν τοῦ νέφους ἔκρηξιν πυρωθὲν τὸ πνεῦμα καὶ λάμψαν ἀστραπὴ λέγεται· ὃ δὴ πρότερον τῆς βροντῆς προσέπεσεν, ὕστερον γενόμενον, ἐπεὶ τὸ ἀκουστὸν ὑπὸ τοῦ ὁρατοῦ πέφυκε φθάνεσθαι, τοῦ μὲν καὶ πόρρωθεν ὁρωμένου, τοῦ δὲ ἐπειδὰν ἐμπελάσῃ τῇ ἀκοῇ, καὶ μάλιστα ὅταν τὸ μὲν τάχιστον ᾖ τῶν ὄντων, λέγω δὲ τὸ πυρῶδες, τὸ δὲ ἧττον ταχύ, ἀερῶδες ὄν, ἐν τῇ πλήξει πρὸς ἀκοὴν ἀφικνούμενον. Τὸ δὲ ἀστράψαν ἀναπυρωθέν, βιαίως ἄχρι τῆς γῆς διεκθέον, κεραυνὸς καλεῖται, ἐὰν δὲ ἡμίπυρον ᾖ, σφοδρὸν δὲ ἄλλως καὶ ἀθρόον, πρηστήρ, ἐὰν δὲ ἄπυρον παντελῶς, τυφών· ἕκαστον δὲ τούτων κατασκῆψαν εἰς τὴν γῆν σκηπτὸς ὀνομάζεται. Τῶν δὲ κεραυνῶν οἱ μὲν αἰθαλώδεις ψολόεντες λέγονται, οἱ δὲ ταχέως διᾴττοντες ἀργῆτες, ἑλικίαι δὲ οἱ γραμμοειδῶς φερόμενοι, σκηπτοὶ δὲ ὅσοι κατασκήπτουσιν εἰς τὴν γῆν. Συλλήβδην δὲ τῶν ἐν ἀέρι φαντασμάτων τὰ μέν ἐστι κατ’ ἔμφασιν, τὰ δὲ καθ’ ὑπόστασιν - κατ’ ἔμφασιν μὲν ἴριδες καὶ ῥάβδοι καὶ τὰ τοιαῦτα, καθ’ ὑπόστασιν δὲ σέλα τε καὶ διᾴττοντες καὶ κομῆται καὶ τὰ τούτοις παραπλήσια. Ἶρις μὲν οὖν ἐστιν ἔμφασις ἡλίου τμήματος ἢ σελήνης, ἐν νέφει νοτερῷ καὶ κοίλῳ καὶ συνεχεῖ πρὸς φαντασίαν, ὡς ἐν κατόπτρῳ, θεωρουμένη κατὰ κύκλου περιφέρειαν. Ῥάβδος δέ ἐστιν ἴριδος ἔμφασις εὐθεῖα. Ἅλως δέ ἐστιν ἔμφασις λαμπρότητος ἄστρου περίαυγος· διαφέρει δὲ ἴριδος ὅτι ἡ μὲν ἶρις ἐξ ἐναντίας φαίνεται ἡλίου καὶ σελήνης, ἡ δὲ ἅλως κύκλῳ παντὸς ἄστρου. Σέλας δέ ἐστι πυρὸς ἀθρόου ἔξαψις ἐν ἀέρι. Τῶν δὲ σελάων ἃ μὲν ἀκοντίζεται, ἃ δὲ στηρίζεται. Ὁ μὲν οὖν ἐξακοντισμός ἐστι πυρὸς γένεσις ἐκ παρατρίψεως ἐν ἀέρι φερομένου ταχέως καὶ φαντασίαν μήκους ἐμφαίνοντος διὰ τὸ τάχος, ὁ δὲ στηριγμός ἐστι χωρὶς φορᾶς προμήκης ἔκτασις καὶ οἷον ἄστρου ῥύσις· πλατυνομένη δὲ κατὰ θάτερον κομήτης καλεῖται. Πολλάκις δὲ τῶν σελάων τὰ μὲν ἐπιμένει πλείονα χρόνον, τὰ δὲ παραχρῆμα σβέννυται. Πολλαὶ δὲ καὶ ἄλλαι φαντασμάτων ἰδέαι θεωροῦνται, λαμπάδες τε καλούμεναι καὶ δοκίδες καὶ πίθοι καὶ βόθυνοι, κατὰ τὴν πρὸς ταῦτα ὁμοιότητα ὧδε προσαγορευθεῖσαι. Καὶ τὰ μὲν τούτων ἑσπέρια, τὰ δὲ ἑῷα, τὰ δὲ ἀμφιφανῆ θεωρεῖται, σπανίως δὲ βόρεια καὶ νότια. Πάντα δὲ ἀβέβαια· οὐδέποτε γάρ τι τούτων ἀεὶ φανερὸν ἱστόρηται κατεστηριγμένον. Τὰ μὲν τοίνυν ἀέρια τοιαῦτα.

Ἐμπεριέχει δὲ καὶ ἡ γῆ πολλὰς ἐν αὐτῇ, καθάπερ ὕδατος, οὕτως καὶ πνεύματος καὶ πυρὸς πηγάς· Τούτων δὲ αἱ μὲν ὑπὸ γῆν εἰσιν ἀόρατοι, πολλαὶ δὲ ἀναπνοὰς ἔχουσι καὶ ἀναφυσήσεις, ὥσπερ Λιπάρα τε καὶ Αἴτνη καὶ αἱ ἐν Αἰόλου νήσοις· αἳ δὴ καὶ ῥέουσι πολλάκις ποταμοῦ δίκην, καὶ μύδρους ἀναρριπτοῦσι διαπύρους. Ἔνιαι δὲ ὑπὸ γῆν οὖσαι πλησίον πηγαίων ὑδάτων θερμαίνουσι ταῦτα, καὶ τὰ μὲν χλιαρὰ τῶν ναμάτων ἀνιᾶσι, τὰ δὲ ὑπέρζεστα, τὰ δὲ εὖ ἔχοντα κράσεως. Ὁμοίως δὲ καὶ τῶν πνευμάτων πολλὰ πολλαχοῦ γῆς στόμια ἀνέῳκται· ὧν τὰ μὲν ἐνθουσιᾶν ποιεῖ τοὺς ἐμπελάζοντας, τὰ δὲ ἀτροφεῖν, τὰ δὲ χρησμῳδεῖν, ὥσπερ τὰ ἐν Δελφοῖς καὶ Λεβαδείᾳ, τὰ δὲ καὶ παντάπασιν ἀναιρεῖ, καθάπερ τὸ ἐν Φρυγίᾳ. Πολλάκις δὲ καὶ συγγενὲς πνεῦμα εὔκρατον ἐν γῇ παρεξωσθὲν εἰς μυχίους σήραγγας αὐτῆς, ἔξεδρον γενόμενον ἐκ τῶν οἰκείων τόπων, πολλὰ μέρη συνεκράδανεν. Πολλάκις δὲ πολὺ γενόμενον ἔξωθεν ἐγκατειλήθη τοῖς ταύτης κοιλώμασι καὶ ἀποκλεισθὲν [ἐξόδου] μετὰ βίας αὐτὴν συνετίναξε, ζητοῦν ἔξοδον ἑαυτῷ, καὶ ἀπειργάσατο πάθος τοῦτο ὃ καλεῖν εἰώθαμεν σεισμόν. Τῶν δὲ σεισμῶν οἱ μὲν εἰς πλάγια σείοντες κατ᾽ ὀξείας γωνίας ἐπικλίνται καλοῦνται, οἱ δὲ ἄνω ῥιπτοῦντες καὶ κάτω κατ᾽ ὀρθὰς γωνίας βράσται, οἱ δὲ συνιζήσεις ποιοῦντες εἰς τὰ κοῖλα ἱζηματίαι· οἱ δὲ χάσματα ἀνοίγοντες καὶ τὴν γῆν ἀναρρηγνύντες ῥῆκται καλοῦνται. Τούτων δὲ οἱ μὲν καὶ πνεῦμα προσαναβάλλουσιν, οἱ δὲ πέτρας, οἱ δὲ πηλόν, οἱ δὲ πηγὰς φαίνουσι τὰς πρότερον οὐκ οὔσας. Τινὲς δὲ ἀνατρέπουσι κατὰ μίαν πρόωσιν, οὓς καλοῦσιν ὤστας. Οἱ δὲ ἀνταποπάλλοντες καὶ ταῖς εἰς ἑκάτερον ἐγκλίσεσι καὶ ἀποπάλσεσι διορθοῦντες ἀεὶ τὸ σειόμενον παλματίαι λέγονται, τρόμῳ πάθος ὅμοιον ἀπεργαζόμενοι. Γίνονται δὲ καὶ μυκηταὶ σεισμοί, σείοντες τὴν γῆν μετὰ βρόμου. Πολλάκις δὲ καὶ χωρὶς σεισμοῦ γίνεται μύκημα γῆς, ὅταν τὸ πνεῦμα σείειν μὲν μὴ αὔταρκες ᾖ, ἐνειλούμενον δὲ ἐν αὐτῇ κόπτηται μετὰ ῥοθίου βίας. Συσσωματοποιεῖται δὲ τὰ εἰσιόντα πνεύματα καὶ ὑπὸ τῶν ἐν τῇ γῇ ὑγρῶν κεκρυμμένων.

Τὰ δὲ ἀνάλογον συμπίπτει [τούτοις] καὶ ἐν θαλάσσῃ· χάσματά τε γὰρ γίνεται θαλάσσης καὶ ἀναχωρήματα πολλάκις καὶ κυμάτων ἐπιδρομαί, ποτὲ μὲν ἀντανακοπὴν ἔχουσαι, ποτὲ δὲ πρόωσιν μόνον, ὥσπερ ἱστορεῖται περὶ

Ἑλίκην τε καὶ Βοῦραν. Πολλάκις δὲ καὶ ἀναφυσήματα γίνεται πυρὸς ἐν τῇ θαλάσσῃ καὶ πηγῶν ἀναβλύσεις καὶ ποταμῶν ἐκβολαὶ καὶ δένδρων ἐκφύσεις ῥοαί τε καὶ δῖναι ταῖς τῶν πνευμάτων ἀνάλογον, αἱ μὲν ἐν μέσοις πελάγεσιν, αἱ δὲ κατὰ τοὺς εὐρίπους τε καὶ πορθμούς. Πολλαί τε ἀμπώτεις λέγονται καὶ κυμάτων ἄρσεις συμπεριοδεύειν ἀεὶ τῇ σελήνῃ κατά τινας ὡρισμένους καιρούς. Ὡς δὲ τὸ πᾶν εἰπεῖν, τῶν στοιχείων ἐγκεκραμένων ἀλλήλοις ἐν ἀέρι τε καὶ γῇ καὶ θαλάσσῃ κατὰ τὸ εἰκὸς αἱ τῶν παθῶν ὁμοιότητες συνίστανται, τοῖς μὲν ἐπὶ μέρους φθορὰς καὶ γενέσεις φέρουσαι, τὸ δὲ σύμπαν ἀνώλεθρόν τε καὶ ἀγένητον φυλάττουσαι.

Καίτοι γέ τις ἐθαύμασε πῶς ποτε, ἐκ τῶν ἐναντίων ἀρχῶν συνεστηκὼς ὁ κόσμος, λέγω δὲ ξηρῶν τε καὶ ὑγρῶν, ψυχρῶν τε καὶ θερμῶν, οὐ πάλαι διέφθαρται καὶ ἀπόλωλεν, ὡς κἂν εἰ πόλιν τινὲς θαυμάζοιεν, ὅπως διαμένει συνεστηκυῖα ἐκ τῶν ἐναντιωτάτων ἐθνῶν, πενήτων λέγω καὶ πλουσίων, νέων γερόντων, ἀσθενῶν ἰσχυρῶν, πονηρῶν χρηστῶν. Ἀγνοοῦσι δὲ ὅτι τοῦτ᾽ ἦν πολιτικῆς ὁμονοίας τὸ θαυμασιώτατον, λέγω δὲ τὸ ἐκ πολλῶν μίαν καὶ ὁμοίαν ἐξ ἀνομοίων ἀποτελεῖν διάθεσιν ὑποδεχομένην πᾶσαν καὶ φύσιν καὶ τύχην. Ἴσως δὲ τῶν ἐναντίων ἡ φύσις γλίχεται καὶ ἐκ τούτων ἀποτελεῖ τὸ σύμφωνον, οὐκ ἐκ τῶν ὁμοίων, ὥσπερ ἀμέλει τὸ ἄρρεν συνήγαγε πρὸς τὸ θῆλυ καὶ οὐχ ἑκάτερον πρὸς τὸ ὁμόφυλον, καὶ τὴν πρώτην ὁμόνοιαν διὰ τῶν ἐναντίων σηνῆψεν, οὐ διὰ τῶν ὁμοίων. Ἔοικε δὲ καὶ ἡ τέχνη τὴν φύσιν μιμουμένη τοῦτο ποιεῖν. Ζωγραφία μὲν γὰρ λευκῶν τε καὶ μελάνων, ὠχρῶν τε καὶ ἐρυθρῶν, χρωμάτων ἐγκερασαμένη φύσεις τὰς εἰκόνας τοῖς προηγουμένοις ἀπετέλεσε συμφώνους, μουσικὴ δὲ ὀξεῖς ἅμα καὶ βαρεῖς, μακρούς τε καὶ βραχεῖς, φθόγγους μίξασα ἐν διαφόροις φωναῖς μίαν ἀπετέλεσεν ἁρμονίαν, γραμματικὴ δὲ ἐκ φωνηέντων καὶ ἀφώνων γραμμάτων κρᾶσιν ποιησαμένη τὴν ὅλην τέχνην ἀπ᾽ αὐτῶν συνεστήσατο. Ταὐτὸ δὲ τοῦτο ἦν καὶ τὸ παρὰ τῷ σκοτεινῷ λεγόμενον Ἡρακλείτῳ· "Συλλάψιες ὅλα καὶ οὐχ ὅλα, συμφερόμενον διαφερόμενον, συνᾷδον διᾷδον· ἐκ πάντων ἓν καὶ ἐξ ἑνὸς πάντα." Οὕτως οὖν καὶ τὴν τῶν ὅλων σύστασιν, οὐρανοῦ λέγω καὶ γῆς τοῦ τε σύμπαντος κόσμου, διὰ τῆς τῶν ἐναντιωτάτων κράσεως ἀρχῶν μία διεκόσμησεν ἁρμονία· ξηρὸν γὰρ ὑγρῷ, θερμὸν δὲ ψυχρῷ, βαρεῖ τε κοῦφον μιγέν, καὶ ὀρθὸν περιφερεῖ, γῆν τε πᾶσαν καὶ θάλασσαν αἰθέρα τε καὶ ἥλιον καὶ σελήνην καὶ τὸν ὅλον οὐρανὸν διεκόσμησε μία [ἡ] διὰ πάντων διήκουσα δύναμις, ἐκ τῶν ἀμίκτων καὶ ἑτεροίων, ἀέρος τε καὶ γῆς καὶ πυρὸς καὶ ὕδατος, τὸν σύμπαντα κόσμον δημιουργήσασα καὶ μιᾷ διαλαβοῦσα σφαίρας ἐπιφανείᾳ τάς τε ἐναντιωτάτας ἐν αὐτῷ φύσεις ἀλλήλαις ἀναγκάσασα ὁμολογῆσαι καὶ ἐκ τούτων μηχανησαμένη τῷ παντὶ σωτηρίαν. Αἰτία δὲ ταύτης μὲν ἡ τῶν στοιχείων ὁμολογία, τῆς δὲ ὁμολογίας ἡ ἰσομοιρία καὶ τὸ μηδὲν αὐτῶν πλέον ἕτερον ἑτέρου δύνασθαι· τὴν γὰρ ἴσην ἀντίστασιν ἔχει τὰ βαρέα πρὸς τὰ κοῦφα καὶ τὰ θερμὰ πρὸς θάτερα, τῆς φύσεως ἐπὶ τῶν μειζόνων διδασκούσης ὅτι τὸ ἴσον σωστικόν πώς ἐστιν ὁμονοίας, ἡ δὲ ὁμόνοια τοῦ πάντων γενετῆρος καὶ περικαλλεστάτου κόσμου. Τίς γὰρ ἂν εἴη φύσις τοῦδε κρείττων; ἣν γὰρ ἂν εἴπῃ τις, μέρος ἐστὶν αὐτοῦ. Τό τε καλὸν πᾶν ἐπώνυμόν ἐστι τούτου καὶ τὸ τεταγμένον, ἀπὸ τοῦ κόσμου λεγόμενον κεκοσμῆσθαι. Τί δὲ τῶν ἐπὶ μέρους δύναιτ’ ἂν ἐξισωθῆναι τῇ κατ’ οὐρανὸν τάξει τε καὶ φορᾷ τῶν ἄστρων ἡλίου τε καὶ σελήνης, κινουμένων ἐν ἀκριβεστάτοις μέτροις ἐξ αἰῶνος εἰς ἕτερον αἰῶνα; τίς δὲ γένοιτ’ ἂν ἀψεύδεια τοιάδε, ἥντινα φυλάττουσιν αἱ καλαὶ καὶ γόνιμοι τῶν ὅλων ὧραι, θέρη τε καὶ χειμῶνας ἐπάγουσαι τεταγμένως ἡμέρας τε καὶ νύκτας εἰς μηνὸς ἀποτέλεσμα καὶ ἐνιαυτοῦ; καὶ μὴν μεγέθει μὲν οὗτος πανυπέρτατος, κινήσει δὲ ὀξύτατος, λαμπρότητι δὲ εὐαυγέστατος, δυνάμει δὲ ἀγήρως τε καὶ ἄφθαρτος. Οὗτος ἐναλίων ζῴων καὶ πεζῶν καὶ ἀερίων φύσεις ἐχώρισε καὶ βίους ἐμέτρησε ταῖς ἑαυτοῦ κινήσεσιν. Ἐκ τούτου πάντα ἐμπνεῖ τε καὶ ψυχὴν ἴσχει τὰ ζῷα. Τούτου καὶ αἱ παράδοξοι νεοχμώσεις τεταγμένως ἀποτελοῦνται, συναραττόντων μὲν ἀνέμων παντοίων, πιπτόντων δὲ ἐξ οὐρανοῦ κεραυνῶν, ῥηγνυμένων δὲ χειμώνων ἐξαισίων. Διὰ δὲ τούτων τὸ νοτερὸν ἐκπιεζόμενον τό τε πυρῶδες διαπνεόμενον εἰς ὁμόνοιαν ἄγει τὸ πᾶν καὶ καθίστησιν. Ἥ τε γῆ φυτοῖς κομῶσα παντοδαποῖς νάμασί τε περιβλύζουσα καὶ περιοχουμένη ζῴοις, κατὰ καιρὸν ἐκφύουσά τε πάντα καὶ τρέφουσα καὶ δεχομένη, μυρίας τε φέρουσα ἰδέας καὶ πάθη, τὴν ἀγήρω φύσιν ὁμοίως τηρεῖ, καίτοι καὶ σεισμοῖς τινασσομένη καὶ πλημυρίσιν ἐπικλυζομένη πυρκαϊαῖς τε κατὰ μέρος φλογιζομένη. Ταῦτα δὲ πάντα ἔοικεν αὐτῇ πρὸς ἀγαθοῦ γινόμενα τὴν δι’ αἰῶνος σωτηρίαν παρέχειν· σειομένης τε γὰρ διεξᾴττουσιν αἱ τῶν πνευμάτων παρεμπτώσεις κατὰ τὰ ῥήγματα τὰς ἀναπνοὰς ἴσχουσαι, καθὼς ἄνω λέλεκται, καθαιρομένη τε ὄμβροις ἀποκλύζεται πάντα τὰ νοσώδη, περιπνεομένη δὲ αὔραις τά τε ὑπ’ αὐτὴν καὶ τὰ ὑπὲρ αὐτὴν εἱλικρινεῖται. Καὶ μὴν αἱ φλόγες μὲν τὸ παγετῶδες ἠπιαίνουσιν, οἱ πάγοι δὲ τὰς φλόγας ἀνιᾶσιν. Καὶ τῶν ἐπὶ μέρους τὰ μὲν γίνεται, τὰ δὲ ἀκμάζει, τὰ δὲ φθείρεται. Καὶ αἱ μὲν γενέσεις ἐπαναστέλλουσι τὰς φθοράς, αἱ δὲ φθοραὶ κουφίζουσι τὰς γενέσεις. Μία δὲ ἐκ πάντων περαινομένη σωτηρία διὰ τέλους ἀντιπεριισταμένων ἀλλήλοις καὶ τοτὲ μὲν κρατούντων, τοτὲ δὲ κρατουμένων, φυλάττει τὸ σύμπαν ἄφθαρτον δι’ αἰῶνος.

Λοιπὸν δὴ περὶ τῆς τῶν ὅλων συνεκτικῆς αἰτίας κεφαλαιωδῶς εἰπεῖν, ὃν τρόπον καὶ περὶ τῶν ἄλλων· πλημμελὲς γὰρ περὶ κόσμου λέγοντας, εἰ καὶ μὴ δι' ἀκριβείας, ἀλλ' οὖν γε ὡς εἰς τυπώδη μάθησιν, τὸ τοῦ κόσμου κυριώτατον παραλιπεῖν. Ἀρχαῖος μὲν οὖν τις λόγος καὶ πάτριός ἐστι πᾶσιν ἀνθρώποις ὡς ἐκ θεοῦ πάντα καὶ διὰ θεὸν συνέστηκεν, οὐδεμία δὲ φύσις αὐτὴ καθ' ἑαυτήν ἐστιν αὐτάρκης, ἐρημωθεῖσα τῆς ἐκ τούτου σωτηρίας. Διὸ καὶ τῶν παλαιῶν εἰπεῖν τινες προήχθησαν ὅτι πάντα ταῦτά ἐστι θεῶν πλέα τὰ καὶ δι' ὀφθαλμῶν ἰνδαλλόμενα ἡμῖν καὶ δι' ἀκοῆς καὶ πάσης αἰσθήσεως, τῇ μὲν θείᾳ δυνάμει πρέποντα καταβαλλόμενοι λόγον, οὐ μὴν τῇ γε οὐσίᾳ. Σωτὴρ μὲν γὰρ ὄντως ἁπάντων ἐστὶ καὶ γενέτωρ τῶν ὁπωσδήποτε κατὰ τόνδε τὸν κόσμον συντελουμένων ὁ θεός, οὐ μὴν αὐτουργοῦ καὶ ἐπιπόνου ζῴου κάματον ὑπομένων, ἀλλὰ δυνάμει χρώμενος ἀτρύτῳ, δι' ἧς καὶ τῶν πόρρω δοκούντων εἶναι περιγίνεται. Τὴν μὲν οὖν ἀνωτάτω καὶ πρώτην ἕδραν αὐτὸς ἔλαχεν, ὕπατός τε διὰ τοῦτο ὠνόμασται, κατὰ τὸν ποιητὴν "ἀκροτάτῃ κορυφῇ" τοῦ σύμπαντος ἐγκαθιδρυμένος οὐρανοῦ· μάλιστα δέ πως αὐτοῦ τῆς δυνάμεως ἀπολαύει τὸ πλησίον αὐτοῦ σῶμα, καὶ ἔπειτα τὸ μετ' ἐκεῖνο, καὶ ἐφεξῆς οὕτως ἄχρι τῶν καθ' ἡμᾶς τόπων. Διὸ γῆ τε καὶ τὰ ἐπὶ γῆς ἔοικεν, ἐν ἀποστάσει πλείστῃ τῆς ἐκ θεοῦ ὄντα ὠφελείας, ἀσθενῆ καὶ ἀκατάλληλα εἶναι καὶ πολλῆς μεστὰ ταραχῆς· οὐ μὴν ἀλλὰ καθ' ὅσον ἐπὶ πᾶν διικνεῖσθαι πέφυκε τὸ θεῖον, καὶ ἐπὶ τὰ καθ' ἡμᾶς ὁμοίως συμβαίνει τά τε ὑπὲρ ἡμᾶς, κατὰ τὸ ἔγγιόν τε καὶ πορρωτέρω θεοῦ εἶναι μᾶλλόν τε καὶ ἧττον ὠφελείας μεταλαμβάνοντα. Κρεῖττον οὖν ὑπολαβεῖν, ὃ καὶ πρέπον ἐστὶ καὶ θεῷ μάλιστα ἁρμόζον, ὡς ἡ ἐν οὐρανῷ δύναμις ἱδρυμένη καὶ τοῖς πλεῖστον ἀφεστηκόσιν, ὡς ἕνι γε εἰπεῖν, καὶ σύμπασιν αἴτιος γίνεται σωτηρίας, μᾶλλον ἢ ὡς διήκουσα καὶ φοιτῶσα ἔνθα μὴ καλὸν μηδὲ εὔσχημον αὐτουργεῖ[ν] τὰ ἐπὶ γῆς. Τοῦτο μὲν γὰρ οὐδὲ ἀνθρώπων ἡγεμόσιν ἁρμόττει, παντὶ καὶ τῷ τυχόντι ἐφίστασθαι ἔργῳ, λέγω δὲ οἷον στρατιᾶς ἄρχοντι ἢ πόλεως ἢ οἴκου, [καὶ] εἰ χρεὼν στρωματόδεσμον εἴη δῆσαι καὶ εἴ τι φαυλότερον ἀποτελεῖν ἔργον, ὃ κἂν τὸ τυχὸν ἀνδράποδον ποιήσειεν, ἀλλ' οἷον ἐπὶ τοῦ μεγάλου βασιλέως ἱστορεῖται. Τὸ ‹γὰρ› Καμβύσου Ξέρξου τε καὶ Δαρείου πρόσχημα εἰς σεμνότητος καὶ ὑπεροχῆς ὕψος μεγαλοπρεπῶς διεκεκόσμητο· αὐτὸς μὲν γάρ, ὡς λόγος, ἵδρυτο ἐν Σούσοις ἢ Ἐκβατάνοις, παντὶ ἀόρατος, θαυμαστὸν ἐπέχων βασίλειον οἶκον καὶ περίβολον χρυσῷ καὶ ἠλέκτρῳ καὶ ἐλέφαντι ἀστράπτοντα· πυλῶνες δὲ πολλοὶ καὶ συνεχεῖς πρόθυρά τε σύχνοις εἰργόμενα σταδίοις ἀπ' ἀλλήλων θύραις τε χαλκαῖς καὶ τείχεσι μεγάλοις ὠχύρωτο· ἔξω δὲ τούτων ἄνδρες οἱ πρῶτοι καὶ δοκιμώτατοι διεκεκόσμηντο, οἱ μὲν ἀμφ' αὐτὸν τὸν βασιλέα δορυφόροι τε καὶ θεράποντες, οἱ δὲ ἑκάστου περιβόλου φύλακες, πυλωροί τε καὶ ὠτακουσταὶ λεγόμενοι, ὡς ἂν ὁ βασιλεὺς αὐτός, δεσπότης καὶ θεὸς ὀνομαζόμενος, πάντα μὲν βλέποι, πάντα δὲ ἀκούοι. Χωρὶς δὲ τούτων ἄλλοι καθειστήκεσαν προσόδων ταμίαι καὶ στρατηγοὶ πολέμων καὶ κυνηγεσίων δώρων τε ἀποδεκτῆρες τῶν τε λοιπῶν ἔργων ἕκαστοι κατὰ τὰς χρείας ἐπιμεληταί. Τὴν δὲ σύμπασαν ἀρχὴν τῆς Ἀσίας, περατουμένην Ἑλλησπόντῳ μὲν ἐκ τῶν πρὸς ἑσπέραν μερῶν, Ἰνδῷ δὲ ἐκ τῶν πρὸς ἕω, διειλήφεσαν κατὰ ἔθνη στρατηγοὶ καὶ σατράπαι καὶ βασιλεῖς, δοῦλοι τοῦ μεγάλου βασιλέως, ἡμεροδρόμοι τε καὶ σκοποὶ καὶ ἀγγελιαφόροι φρυκτωριῶν τε ἐποπτῆρες. Τοσοῦτος δὲ ἦν ὁ κόσμος, καὶ μάλιστα τῶν φρυκτωρ[ι]ῶν, κατὰ διαδοχὰς πυρσευόντων ἀλλήλοις ἐκ περάτων τῆς ἀρχῆς μέχρι Σούσων καὶ Ἐκβατάνων, ὥστε τὸν βασιλέα γινώσκειν αὐθημερὸν πάντα τὰ ἐν τῇ Ἀσίᾳ καινουργούμενα.

Νομιστέον δὴ τὴν τοῦ μεγάλου βασιλέως ὑπεροχὴν πρὸς τὴν τοῦ τὸν κόσμον ἐπέχοντος θεοῦ τοσοῦτον καταδεεστέραν ὅσον τῆς ἐκείνου τὴν τοῦ φαυλοτάτου τε καὶ ἀσθενεστάτου ζῴου, ὥστε, εἴπερ ἄσεμνον ἦν αὐτὸν αὑτῷ δοκεῖν Ξέρξην αὐτουργεῖν ἅπαντα καὶ ἐπιτελεῖν ἃ βούλοιτο καὶ ἐφιστάμενον ‹ἑκασταχοῦ› διοικεῖν, πολὺ μᾶλλον ἀπρεπὲς ἂν εἴη θεῷ. Σεμνότερον δὲ καὶ πρεπωδέστερον αὐτὸν μὲν ἐπὶ τῆς ἀνωτάτω χώρας ἱδρῦσθαι, τὴν δὲ δύναμιν διὰ τοῦ σύμπαντος κόσμου διήκουσαν ἥλιόν τε κινεῖν καὶ σελήνην καὶ τὸν πάντα οὐρανὸν περιάγειν αἴτιόν τε γίνεσθαι τοῖς ἐπὶ τῆς γῆς σωτηρίας. Οὐδὲν γὰρ ἐπιτεχνήσεως δεῖ καὶ ὑπηρεσίας τῆς παρ’ ἑτέρων, ὥσπερ τοῖς παρ’ ἡμῖν ἄρχουσι τῆς πολυχειρίας διὰ τὴν ἀσθένειαν, ἀλλὰ τοῦτο ἦν τὸ θειότατον, τὸ μετὰ ῥᾳστώνης καὶ ἁπλῆς κινήσεως παντοδαπὰς ἀποτελεῖν ἰδέας, ὥσπερ ἀμέλει δρῶσιν οἱ μηχανοτέχναι, διὰ μιᾶς ὀργάνου σχαστηρίας πολλὰς καὶ ποικίλας ἐνεργείας ἀποτελοῦντες. Ὁμοίως δὲ καὶ οἱ νευροσπάσται μίαν μήρινθον ἐπισπασάμενοι ποιοῦσι καὶ αὐχένα κινεῖσθαι καὶ χεῖρα τοῦ ζῴου καὶ ὦμον καὶ ὀφθαλμόν, ἔστι δὲ ὅτε πάντα τὰ μέρη, μετά τινος εὐρυθμίας. Οὕτως οὖν καὶ ἡ θεία φύσις ἀπό τινος ἁπλῆς κινήσεως τοῦ πρώτου τὴν δύναμιν εἰς τὰ συνεχῆ δίδωσι καὶ ἀπ’ ἐκείνων πάλιν εἰς τὰ πορρωτέρω, μέχρις ἂν διὰ τοῦ παντὸς διεξέλθῃ· κινηθὲν γὰρ ἕτερον ὑφ’ ἑτέρου καὶ αὐτὸ πάλιν ἐκίνησεν ἄλλο σὺν κόσμῳ, δρώντων μὲν πάντων οἰκείως ταῖς σφετέραις κατασκευαῖς, οὐ τῆς αὐτῆς δὲ ὁδοῦ πᾶσιν οὔσης, ἀλλὰ διαφόρου καὶ ἑτεροίας, ἔστι δὲ οἷς καὶ ἐναντίας, καίτοι τῆς πρώτης οἷον ἐνδόσεως εἰς κίνησιν μιᾶς γενομένης· ὥσπερ ἂν εἴ τις ἐξ ἄγγους ὁμοῦ ῥίψειε σφαῖραν καὶ κύβον καὶ κῶνον καὶ κύλινδρον - ἕκαστον γὰρ αὐτῶν κατὰ τὸ ἴδιον κινηθήσεται σχῆμα - ἢ εἴ τις ὁμοῦ ζῷον ἔνυδρόν τε καὶ χερσαῖον καὶ πτηνὸν ἐν τοῖς κόλποις ἔχων ἐκβάλοι· δῆλον γὰρ ὅτι τὸ μὲν νηκτὸν ἁλόμενον εἰς τὴν ἑαυτοῦ δίαιταν ἐκνήξεται, τὸ δὲ χερσαῖον εἰς τὰ σφέτερα ἤθη καὶ νομοὺς διεξερπύσει, τὸ δὲ ἀέριον ἐξαρθὲν ἐκ γῆς μετάρσιον οἰχήσεται πετόμενον, μιᾶς τῆς πρώτης αἰτίας πᾶσιν ἀποδούσης τὴν οἰκείαν εὐμάρειαν. Οὕτως καὶ ἐπὶ κόσμου· διὰ γὰρ ἁπλῆς τοῦ σύμπαντος οὐρανοῦ περιαγωγῆς ἡμέρᾳ καὶ νυκτὶ περατουμένης ἀλλοῖαι πάντων διέξοδοι γίνονται, καίτοι ὑπὸ μιᾶς σφαίρας περιεχομένων, τῶν μὲν θᾶττον, τῶν δὲ σχολαιότερον κινουμένων παρά τε τὰ τῶν διαστημάτων μήκη καὶ τὰς ἰδίας ἑκάστων κατασκευάς. Σελήνη μὲν γὰρ ἐν μηνὶ τὸν ἑαυτῆς διαπεραίνεται κύκλον αὐξομένη τε καὶ μειουμένη καὶ φθίνουσα, ἥλιος δὲ ἐν ἐνιαυτῷ καὶ οἱ τούτου ἰσόδρομοι, ὅ τε Φωσφόρος καὶ ὁ Ἑρμοῦ λεγόμενος, ὁ δὲ Πυρόεις ἐν διπλασίονι τούτων χρόνῳ, ὁ δὲ Διὸς ἐν ἑξαπλασίονι τούτου, καὶ τελευταῖος ὁ Κρόνου λεγόμενος ἐν διπλασίονι καὶ ἡμίσει τοῦ ὑποκάτω. Μία δὲ ἐκ πάντων ἁρμονία συνᾳδόντων καὶ χορευόντων κατὰ τὸν οὐρανὸν ἐξ ἑνός τε γίνεται καὶ εἰς ἓν ἀπολήγει, κόσμον ἐτύμως τὸ σύμπαν ἀλλ’ οὐκ ἀκοσμίαν ὀνομάσασα. Καθάπερ δὲ ἐν χορῷ κορυφαίου κατάρξαντος συνεπηχεῖ πᾶς ὁ χορὸς ἀνδρῶν, ἔσθ’ ὅτε καὶ γυναικῶν, ἐν διαφόροις φωναῖς ὀξυτέραις καὶ βαρυτέραις μίαν ἁρμονίαν ἐμμελῆ κεραννύντων, οὕτως ἔχει καὶ ἐπὶ τοῦ τὸ σύμπαν διέποντος θεοῦ· κατὰ γὰρ τὸ ἄνωθεν ἐνδόσιμον ὑπὸ τοῦ φερωνύμως ἂν κορυφαίου προσαγορευθέντος κινεῖται μὲν τὰ ἄστρα ἀεὶ καὶ ὁ σύμπας οὐρανός, πορεύεται δὲ διττὰς πορείας ὁ παμφαὴς ἥλιος, τῇ μὲν ἡμέραν καὶ νύκτα διορίζων ἀνατολῇ καὶ δύσει, τῇ δὲ τὰς τέσσαρας ὥρας ἄγων τοῦ ἔτους, πρόσω τε βόρειος καὶ ὀπίσω νότιος διεξέρπων. Γίνονται δὲ ὑετοὶ κατὰ καιρὸν καὶ ἄνεμοι καὶ δρόσοι τά τε πάθη τὰ ἐν τῷ περιέχοντι συμβαίνοντα διὰ τὴν πρώτην καὶ ἀρχέγονον αἰτίαν. Ἕπονται δὲ τούτοις ποταμῶν ἐκροαί, θαλάσσης ἀνοιδήσεις, δένδρων ἐκφύσεις, καρπῶν πεπάνσεις, γοναὶ ζῴων, ἐκτροφαί τε πάντων καὶ ἀκμαὶ καὶ φθίσεις, συμβαλλομένης πρὸς ταῦτα καὶ τῆς ἑκάστου κατασκευῆς, ὡς ἔφην. Ὅταν οὖν ὁ πάντων ἡγεμών τε καὶ γενέτωρ, ἀόρατος ὢν ἄλλῳ πλὴν λογισμῷ, σημήνῃ πάσῃ φύσει μεταξὺ οὐρανοῦ τε καὶ γῆς φερομένῃ, κινεῖται πᾶσα ἐνδελεχῶς ἐν κύκλοις καὶ πέρασιν ἰδίοις, ποτὲ μὲν ἀφανιζομένη, ποτὲ δὲ φαινομένη, μυρίας ἰδέας ἀναφαίνουσά τε καὶ πάλιν ἀποκρύπτουσα ἐκ μιᾶς ἀρχῆς. Ἔοικε δὲ κομιδῇ τὸ δρώμενον τοῖς ἐν πολέμου καιροῖς μάλιστα γινομένοις, ἐπειδὰν ἡ σάλπιγξ σημήνῃ τῷ στρατοπέδῳ· τότε γὰρ τῆς φωνῆς ἕκαστος ἀκούσας ὁ μὲν ἀσπίδα ἀναιρεῖται, ὁ δὲ θώρακα ἐνδύεται, ὁ δὲ κνημῖδας ἢ κράνος ἢ ζωστῆρα περιτίθεται· καὶ ὁ μὲν ἵππον χαλινοῖ, ὁ δὲ συνωρίδα ἀναβαίνει, ὁ δὲ σύνθημα παρεγγυᾷ· καθίσταται δὲ εὐθέως ὁ μὲν λοχαγὸς εἰς λόχον, ὁ δὲ ταξίαρχος εἰς τάξιν, ὁ δὲ ἱππεὺς ἐπὶ κέρας, ὁ δὲ ψιλὸς εἰς τὴν ἰδίαν ἐκτρέχει χώραν· πάντα δὲ ὑφ’ ἕνα σημάντορα δονεῖται κατὰ προστάξιν τοῦ τὸ κράτος ἔχοντος ἡγεμόνος. Οὕτω χρὴ καὶ περὶ τοῦ σύμπαντος φρονεῖν· ὑπὸ γὰρ μιᾶς ῥοπῆς ὀτρυνομένων ἁπάντων γίνεται τὰ οἰκεῖα, καὶ ταύτης ἀοράτου καὶ ἀφανοῦς. Ὅπερ οὐδαμῶς ἐστιν ἐμπόδιον οὔτε ἐκείνῃ πρὸς τὸ δρᾶν οὔτε ἡμῖν πρὸς τὸ πιστεῦσαι· καὶ γὰρ ἡ ψυχή, δι’ ἣν ζῶμέν τε καὶ οἴκους καὶ πόλεις ἔχομεν, ἀόρατος οὖσα τοῖς ἔργοις αὐτῆς ὁρᾶται· πᾶς γὰρ ὁ τοῦ βίου διάκοσμος ὑπὸ ταύτης εὕρηται καὶ διατέτακται καὶ συνέχεται, γῆς ἀρόσεις καὶ φυτεύσεις, τέχνης ἐπίνοιαι, χρήσεις νόμων, κόσμος πολιτείας, ἔνδημοι πράξεις, ὑπερόριος πόλεμος, εἰρήνη. Ταῦτα χρὴ καὶ περὶ θεοῦ διανοεῖσθαι, δυνάμει μὲν ὄντος ἰσχυροτάτου, κάλλει δὲ εὐπρεπεστάτου, ζωῇ δὲ ἀθανάτου, ἀρετῇ δὲ κρατίστου, διότι πάσῃ θνητῇ φύσει γενόμενος ἀθεώρητος ἀπ’ αὐτῶν τῶν ἔργων θεωρεῖται. Τὰ γὰρ πάθη, καὶ τὰ δι’ ἀέρος ἅπαντα καὶ τὰ ἐπὶ γῆς καὶ τὰ ἐν ὕδατι, θεοῦ λέγοιτ’ ἂν ὄντως ἔργα εἶναι τοῦ τὸν κόσμον ἐπέχοντος· ἐξ οὗ, κατὰ τὸν φυσικὸν Ἐμπεδοκλέα,

“πάνθ’ ὅσα τ’ ἦν ὅσα τ’ ἔσθ’ ὅσα τ’ ἔσται ὀπίσσω,
δένδρεά τ’ ἐβλάστησε καὶ ἀνέρες ἠδὲ γυναῖκες
θῆρές τ’ οἰωνοί τε καὶ ὑδατοθρέμμονες ἰχθῦς.”

Ἔοικε δὲ ὄντως, εἰ καὶ μικρότερον παραβαλεῖν, τοῖς ὀμφαλοῖς λεγομένοις τοῖς ἐν ταῖς ψαλίσιν [λίθοις], οἳ μέσοι κείμενοι κατὰ τὴν εἰς ἑκάτερον μέρος ἔνδεσιν ἐν ἁρμονίᾳ τηροῦσι καὶ ἐν τάξει τὸ πᾶν σχῆμα τῆς ψαλίδος καὶ ἀκίνητον. Φασὶ δὲ καὶ τὸν ἀγαλματοποιὸν Φειδίαν κατασκευάζοντα τὴν ἐν ἀκροπόλει Ἀθηνᾶν ἐν μέσῃ τῇ ταύτης ἀσπίδι τὸ ἑαυτοῦ πρόσωπον ἐντυπώσασθαι, καὶ συνδῆσαι τῷ ἀγάλματι διά τινος ἀφανοῦς δημιουργίας, ὥστε ἐξ ἀνάγκης, εἴ τις βούλοιτο αὐτὸ περιαιρεῖν, τὸ σύμπαν ἄγαλμα λύειν τε καὶ συγχεῖν. Τοῦτον οὖν ἔχει τὸν λόγον ὁ θεὸς ἐν κόσμῳ, συνέχων τὴν τῶν ὅλων ἁρμονίαν τε καὶ σωτηρίαν, πλὴν οὔτε μέσος ὤν, ἔνθα ἡ γῆ τε καὶ ὁ θολερὸς τόπος οὗτος, ἀλλ’ ἄνω καθαρὸς ἐν καθαρῷ χωρῷ βεβηκώς, ὃν ἐτύμως καλοῦμεν οὐρανὸν μὲν ἀπὸ τοῦ ὅρον εἶναι τὸν ἄνω, Ὄλυμπον δὲ οἷον ὁλολαμπῆ τε καὶ παντὸς ζόφου καὶ ἀτάκτου κινήματος κεχωρισμένον, οἷα γίνεται παρ’ ἡμῖν διὰ χειμῶνος καὶ ἀνέμων βίας, ὥσπερ ἔφη καὶ ὁ ποιητὴς

“Οὔλυμπόνδ’ ὅθι φασὶ θεῶν ἕδος ἀσφαλὲς αἰεὶ
ἔμμεναι· οὔτ’ ἀνέμοισι τινάσσεται οὔτε ποτ’ ὄμβρῳ
δεύεται, οὔτε χιὼν ἐπιπίλναται, ἀλλὰ μάλ’ αἴθρη

πέπταται ἀνέφελος, λευκὴ δ’ ἐπιδέδρομεν αἴγλη.”

συνεπιμαρτυρεῖ δὲ καὶ ὁ βίος ἅπας, τὴν ἄνω χώραν ἀποδοὺς θεῷ· καὶ γὰρ πάντες ἄνθρωποι ἀνατείνομεν τὰς χεῖρας εἰς τὸν οὐρανὸν εὐχὰς ποιούμενοι. Καθ’ ὃν λόγον οὐ κακῶς κἀκεῖνο ἀναπεφώνηται

“Ζεὺς δ’ ἔλαχ’ οὐρανὸν εὐρὺν ἐν αἰθέρι καὶ νεφέλῃσι.”

διὸ καὶ τῶν αἰσθητῶν τὰ τιμιώτατα τὸν αὐτὸν ἐπέχει τόπον, ἄστρα τε καὶ ἥλιος καὶ σελήνη, μόνα τε τὰ οὐράνια διὰ τοῦτο ἀεὶ τὴν αὐτὴν σώζοντα τάξιν διακεκόσμηται, καὶ οὔποτε ἀλλοιωθέντα μετεκινήθη, καθάπερ τὰ ἐπὶ γῆς εὔτρεπτα ὄντα πολλὰς ἑτεροιώσεις καὶ πάθη ἀναδέδεκται· σεισμοί τε γὰρ ἤδη βίαιοι πολλὰ μέρη τῆς γῆς ἀνέρρηξαν, ὄμβροι τε κατέκλυσαν ἐξαίσιοι καταρραγέντες, ἐπιδρομαί τε κυμάτων καὶ ἀναχωρήσεις πολλάκις καὶ ἠπείρους ἐθαλάττωσαν καὶ θάλαττας ἠπείρωσαν, βιαί τε πνευμάτων καὶ τυφώνων ἔστιν ὅτε πόλεις ὅλας ἀνέτρεψαν, πυρκαϊαί τε καὶ φλόγες αἱ μὲν ἐξ οὐρανοῦ γενόμεναι πρότερον, ὥσπερ φασίν, ἐπὶ Φαέθοντος τὰ πρὸς ἕω μέρη κατέφλεξαν, αἱ δὲ πρὸς ἑσπέραν ἐκ γῆς ἀναβλύσασαι καὶ ἐκφυσήσασαι, καθάπερ τῶν ἐν Αἴτνῃ κρατήρων ἀναρραγέντων καὶ ἀνὰ τὴν γῆν φερομένων χειμάρρου δίκην. Ἔνθα καὶ τὸ τῶν εὐσεβῶν γένος ἐξόχως ἐτίμησε τὸ δαιμόνιον· περικαταληφθέντων γὰρ ‹αὐτῶν› ὑπὸ τοῦ ῥεύματος διὰ τὸ βαστάζειν γέροντας ἐπὶ τῶν ὤμων γονεῖς καὶ σώζειν, πλησίον [αὐτῶν] γενόμενος ὁ τοῦ πυρὸς ποταμὸς ἐξεσχίσθη παρέτρεψέ τε τοῦ φλογμοῦ τὸ μὲν ἔνθα, τὸ δὲ ἔνθα, καὶ ἐτήρησεν ἀβλαβεῖς ἅμα τοῖς γονεῦσι τοὺς νεανίσκους. Καθόλου δὲ ὅπερ ἐν νηὶ μὲν κυβερνήτης, ἐν ἅρματι δὲ ἡνίοχος, ἐν χορῷ δὲ κορυφαῖος, ἐν πόλει δὲ νομο‹θέτη›ς, ἐν στρατοπέδῳ δὲ ἡγεμών, τοῦτο θεὸς ἐν κόσμῳ, πλὴν καθ’ ὅσον τοῖς μὲν καματηρὸν τὸ ἄρχειν πολυκίνητόν τε καὶ πολυμέριμνον, τῷ δὲ ἄλυπον ἄπονόν τε καὶ πάσης κεχωρισμένον σωματικῆς ἀσθενείας· ἐν ἀκινήτῳ γὰρ ἱδρυμένος δυνάμει πάντα κινεῖ καὶ περιάγει, ὅπου βούλεται καὶ ὅπως, ἐν διαφόροις ἰδέαις τε καὶ φύσεσιν, ὥσπερ ἀμέλει καὶ ὁ τῆς πόλεως νόμος ἀκίνητος ὢν ἐν ταῖς τῶν χρωμένων ψυχαῖς πάντα οἰκονομεῖ τὰ κατὰ τὴν πολιτείαν· ἐφεπόμενοι γὰρ αὐτῷ δηλονότι ἐξίασιν ἄρχοντες μὲν ἐπὶ τὰ ἀρχεῖα, θεσμοθέται δὲ εἰς τὰ οἰκεῖα δικαστήρια, βουλευταὶ δὲ καὶ ἐκκλησιασταὶ εἰς συνέδρια τὰ προσήκοντα, καὶ ὁ μέν τις εἰς τὸ πρυτανεῖον βαδίζει σιτησόμενος, ὁ δὲ πρὸς τοὺς δικαστὰς ἀπολογησόμενος, ὁ δὲ εἰς τὸ δεσμωτήριον ἀποθανούμενος. Γίνονται δὲ καὶ δημοθοινίαι νόμιμοι καὶ πανηγύρεις ἐνιαύσιοι θεῶν τε θυσίαι καὶ ἡρώων θεραπεῖαι καὶ χοαὶ κεκμηκότων· ἄλλα δὲ ἄλλως ἐνεργούμενα κατὰ μίαν πρόσταξιν ἢ νόμιμον ἐξουσίαν σώζει τὸ τοῦ ποιήσαντος ὄντως ὅτι

“πόλις δ’ ὁμοῦ μὲν θυμιαμάτων γέμει,
ὁμοῦ δὲ παιάνων τε καὶ στεναγμάτων,”

οὕτως ὑποληπτέον καὶ ἐπὶ τῆς μείζονος πόλεως, λέγω δὲ τοῦ κόσμου· νόμος γὰρ ἡμῖν ἰσοκλινὴς ὁ θεός, οὐδεμίαν ἐπιδεχόμενος διόρθωσιν ἢ μετάθεσιν, κρείττων δέ, οἶμαι, καὶ βεβαιότερος τῶν ἐν ταῖς κύρβεσιν ἀναγεγραμμένων. Ἡγουμένου δὲ ἀκινήτως αὐτοῦ καὶ ἐμμελῶς ὁ σύμπας οἰκονομεῖται διάκοσμος οὐρανοῦ καὶ γῆς, μεμερισμένος κατὰ τὰς φύσεις πάσας διὰ τῶν οἰκείων σπερμάτων εἴς τε φυτὰ καὶ ζῷα κατὰ γένη τε καὶ εἴδη· καὶ γὰρ ἄμπελοι καὶ φοίνικες καὶ περσέαι

“συκέαι τε γλυκεραὶ καὶ ἐλαῖαι”,

ὥς φησιν ὁ ποιητής, τά τε ἄκαρπα μέν, ἄλλας δὲ παρεχόμενα χρείας, πλάτανοι καὶ πίτυες καὶ πύξοι

“κλήθρη τ’ αἴγειρός τε καὶ εὐώδης κυπάρισσος,”

αἵ τε καρπὸν ὀπώρας ἡδὺν ἄλλως δὲ δυσθησαύριστον φέρουσαι,

“ὄχναι καὶ ῥοιαὶ καὶ μηλέαι ἀγλαόκαρποι,”

τῶν τε ζῴων τά τε ἄγρια καὶ ἥμερα, τά τε ἐν ἀέρι καὶ ἐπὶ γῆς καὶ ἐν ὕδατι βοσκόμενα, γίνεται καὶ ἀκμάζει καὶ φθείρεται τοῖς τοῦ θεοῦ πειθόμενα θεσμοῖς· “πᾶν γὰρ ἑρπετὸν πληγῇ νέμεται”, ὥς φησιν Ἡράκλειτος.

Εἷς δὲ ὢν πολυώνυμός ἐστι, κατονομαζόμενος τοῖς πάθεσι πᾶσιν ἅπερ αὐτὸς νεοχμοῖ. Καλοῦμεν γὰρ αὐτὸν καὶ Ζῆνα καὶ Δία, παραλλήλως χρώμενοι τοῖς ὀνόμασιν, ὡς κἂν εἰ λέγοιμεν δι’ ὃν ζῶμεν. Κρόνου δὲ παῖς καὶ χρόνου λέγεται, διήκων ἐξ αἰῶνος ἀτέρμονος εἰς ἕτερον αἰῶνα· ἀστραπαῖός τε καὶ βρονταῖος καὶ αἴθριος καὶ αἰθέριος κεραύνιός τε καὶ ὑέτιος ἀπὸ τῶν ὑετῶν καὶ κεραυνῶν καὶ τῶν ἄλλων καλεῖται. Καὶ μὴν ἐπικάρπιος μὲν ἀπὸ τῶν καρπῶν, πολιεὺς δὲ ἀπὸ τῶν πόλεων ὀνομάζεται, γενέθλιός τε καὶ ἑρκεῖος καὶ ὁμόγνιος καὶ πατρῷος ἀπὸ τῆς πρὸς ταῦτα κοινωνίας, ἑταιρεῖός τε καὶ φίλιος καὶ ξένιος καὶ στράτιος καὶ τροπαιοῦχος καθάρσιός τε καὶ παλαμναῖος καὶ ἱκέσιος καὶ μειλίχιος, ὥσπερ οἱ ποιηταὶ λέγουσι, σωτήρ τε καὶ ἐλευθέριος ἐτύμως, ὡς δὲ τὸ πᾶν εἰπεῖν, οὐράνιός τε καὶ χθόνιος, πάσης ἐπώνυμος φύσεως ὢν καὶ τύχης, ἅτε πάντων αὐτὸς αἴτιος ὤν. Διὸ καὶ ἐν τοῖς Ὀρφικοῖς οὐ κακῶς λέγεται

“Ζεὺς πρῶτος γένετο, Ζεὺς ὕστατος ἀρχικέραυνος·
Ζεὺς κεφαλή, Ζεὺς μέσσα, Διὸς δ’ ἐκ πάντα τέτυκται·
Ζεὺς πυθμὴν γαίης τε καὶ οὐρανοῦ ἀστερόεντος·
Ζεὺς ἄρσην γένετο, Ζεὺς ἄμβροτος ἔπλετο νύμφη·
Ζεὺς πνοιὴ πάντων, Ζεὺς ἀκαμάτου πυρὸς ὁρμή·

Ζεὺς πόντου ῥίζα, Ζεὺς ἥλιος ἠδὲ σελήνη·
Ζεὺς βασιλεύς, Ζεὺς ἀρχὸς ἁπάντων ἀρχικέραυνος·
πάντας γὰρ κρύψας αὖθις φάος ἐς πολυγηθὲς
ἐκ καθαρῆς κραδίης ἀνενέγκατο, μέρμερα ῥέζων."

οἶμαι δὲ καὶ τὴν Ἀνάγκην οὐκ ἄλλο τι λέγεσθαι πλὴν τοῦτον, οἱονεὶ ἀνίκητον αἰτίαν ὄντα, Εἱμαρμένην δὲ διὰ τὸ εἴρειν τε καὶ χωρεῖν ἀκωλύτως, Πεπρωμένην δὲ διὰ τὸ πεπερατῶσθαι πάντα καὶ μηδὲν ἐν τοῖς οὖσιν ἄπειρον εἶναι, καὶ Μοῖραν μὲν ἀπὸ τοῦ μεμερίσθαι, Νέμεσιν δὲ ἀπὸ τῆς ἑκάστῳ διανεμήσεως, Ἀδράστειαν δὲ ἀναπόδραστον αἰτίαν οὖσαν κατὰ φύσιν, Αἶσαν δὲ ἀεὶ οὖσαν. Τά τε περὶ τὰς Μοίρας καὶ τὸν ἄτρακτον εἰς ταὐτό πως νεύει· τρεῖς μὲν γὰρ αἱ Μοῖραι, κατὰ τοὺς χρόνους μεμερισμέναι, νῆμα δὲ ἀτράκτου τὸ μὲν ἐξειργασμένον, τὸ δὲ μέλλον, τὸ δὲ περιστρεφόμενον· τέτακται δὲ κατὰ μὲν τὸ γεγονὸς μία τῶν Μοιρῶν, Ἄτροπος, ἐπεὶ τὰ παρελθόντα πάντα ἄτρεπτά ἐστι, κατὰ δὲ τὸ μέλλον Λάχεσις - [εἰς] πάντα γὰρ ἡ κατὰ φύσιν μένει λῆξις - κατὰ δὲ τὸ ἐνεστὼς Κλωθώ, συμπεραίνουσά τε καὶ κλώθουσα ἑκάστῳ τὰ οἰκεῖα. Περαίνεται δὲ καὶ ὁ μῦθος οὐκ ἀτάκτως. Ταῦτα δὲ πάντα ἐστὶν οὐκ ἄλλο τι πλὴν ὁ θεός, καθάπερ καὶ ὁ γενναῖος Πλάτων φησίν· "ὁ μὲν δὴ θεός, ὥσπερ ὁ παλαιὸς λόγος, ἀρχήν τε καὶ τελευτὴν καὶ μέσα τῶν ὄντων ἁπάντων ἔχων, εὐθείᾳ περαίνει κατὰ φύσιν πορευόμενος· τῷ δὲ ἀεὶ ξυνέπεται δίκη, τῶν ἀπολειπομένων τοῦ θείου νόμου τιμωρός", "ἧς ὁ γενήσεσθαι μέλλων μακάριός τε καὶ εὐδαίμων ἐξ ἀρχῆς εὐθὺς μέτοχος εἴη."

Περὶ ψυχῆς (402a) On the Soul

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Βιβλίο A

Κεφάλαιο 1

[402a] Τῶν καλῶν καὶ τιμίων τὴν εἴδησιν ὑπολαμβάνοντες, μᾶλλον δ’ ἑτέραν ἑτέρας ἢ κατ’ ἀκρίβειαν ἢ τῷ βελτιόνων τε καὶ θαυμασιωτέρων εἶναι, δι’ ἀμφότερα ταῦτα τὴν περὶ τῆς ψυχῆς ἱστορίαν εὐλόγως ἂν ἐν πρώτοις τιθείημεν. δοκεῖ δὲ καὶ πρὸς ἀλήθειαν ἅπασαν ἡ γνῶσις αὐτῆς μεγάλα συμβάλλεσθαι, μάλιστα δὲ πρὸς τὴν φύσιν· ἔστι γὰρ οἷον ἀρχὴ τῶν ζῴων. ἐπιζητοῦμεν δὲ θεωρῆσαι καὶ γνῶναι τήν τε φύσιν αὐτῆς καὶ τὴν οὐσίαν, εἶθ’ ὅσα συμβέβηκε περὶ αὐτήν· ὧν τὰ μὲν ἴδια πάθη τῆς ψυχῆς εἶναι δοκεῖ, τὰ δὲ δι’ ἐκείνην καὶ τοῖς ζῴοις ὑπάρχειν.

πάντῃ δὲ πάντως ἐστὶ τῶν χαλεπωτάτων λαβεῖν τινα πίστιν περὶ αὐτῆς. καὶ γάρ, ὄντος κοινοῦ τοῦ ζητήματος καὶ πολλοῖς ἑτέροις, λέγω δὲ τοῦ περὶ τὴν οὐσίαν καὶ τὸ τί ἐστι, τάχ’ ἄν τῳ δόξειε μία τις εἶναι μέθοδος κατὰ πάντων περὶ ὧν βουλόμεθα γνῶναι τὴν οὐσίαν, ὥσπερ καὶ τῶν κατὰ συμβεβηκὸς ἰδίων ἀπόδειξις, ὥστε ζητητέον ἂν εἴη τὴν μέθοδον ταύτην· εἰ δὲ μὴ ἔστι μία τις καὶ κοινὴ μέθοδος περὶ τὸ τί ἐστιν, ἔτι χαλεπώτερον γίνεται τὸ πραγματευθῆναι· δεήσει γὰρ λαβεῖν περὶ ἕκαστον τίς ὁ τρόπος, ἐὰν δὲ φανερὸν ᾖ πότερον ἀπόδειξίς ἐστιν ἢ διαίρεσις ἢ καί τις ἄλλη μέθοδος, ἔτι πολλὰς ἀπορίας ἔχει καὶ πλάνας, ἐκ τίνων δεῖ ζητεῖν· ἄλλαι γὰρ ἄλλων ἀρχαί, καθάπερ ἀριθμῶν καὶ ἐπιπέδων.

πρῶτον δ’ ἴσως ἀναγκαῖον διελεῖν ἐν τίνι τῶν γενῶν καὶ τί ἐστι, λέγω δὲ πότερον τόδε τι καὶ οὐσία ἢ ποιὸν ἢ ποσόν, ἢ καί τις ἄλλη τῶν διαιρεθεισῶν κατηγοριῶν, ἔτι δὲ πότερον τῶν ἐν δυνάμει ὄντων ἢ μᾶλλον ἐντελέχειά τις· διαφέρει γὰρ οὔ τι [402b] μικρόν.

σκεπτέον δὲ καὶ εἰ μεριστὴ ἢ ἀμερής, καὶ πότερον ὁμοειδὴς ἅπασα ψυχὴ ἢ οὔ· εἰ δὲ μὴ ὁμοειδής, πότερον εἴδει διαφέρουσα ἢ γένει. νῦν μὲν γὰρ οἱ λέγοντες καὶ ζητοῦντες περὶ ψυχῆς περὶ τῆς ἀνθρωπίνης μόνης ἐοίκασιν ἐπισκοπεῖν·

εὐλαβητέον δ’ ὅπως μὴ λανθάνῃ πότερον εἷς ὁ λόγος αὐτῆς ἐστι, καθάπερ ζῴου, ἢ καθ’ ἕκαστον ἕτερος, οἷον ἵππου, κυνός, ἀνθρώπου, θεοῦ, τὸ δὲ ζῷον τὸ καθόλου ἤτοι οὐθέν ἐστιν ἢ ὕστερον, ὁμοίως δὲ κἂν εἴ τι κοινὸν ἄλλο κατηγοροῖτο·

ἔτι δέ, εἰ μὴ πολλαὶ ψυχαὶ ἀλλὰ μόρια, πότερον δεῖ ζητεῖν πρότερον τὴν ὅλην ψυχὴν ἢ τὰ μόρια. χαλεπὸν δὲ καὶ τούτων διορίσαι ποῖα πέφυκεν ἕτερα ἀλλήλων, καὶ πότερον τὰ μόρια χρὴ ζητεῖν πρότερον ἢ τὰ ἔργα αὐτῶν, οἷον τὸ νοεῖν ἢ τὸν νοῦν, καὶ τὸ αἰσθάνεσθαι ἢ τὸ αἰσθητικόν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

εἰ δὲ τὰ ἔργα πρότερον, πάλιν ἄν τις ἀπορήσειεν εἰ τὰ ἀντικείμενα πρότερον τούτων ζητητέον, οἷον τὸ αἰσθητὸν τοῦ αἰσθητικοῦ, καὶ τὸ νοητὸν τοῦ νοῦ.

[402b16] ἔοικε δ’ οὐ μόνον τὸ τί ἐστι γνῶναι χρήσιμον εἶναι πρὸς τὸ θεωρῆσαι τὰς αἰτίας τῶν συμβεβηκότων ταῖς οὐσίαις (ὥσπερ ἐν τοῖς μαθήμασι τί τὸ εὐθὺ καὶ τὸ καμπύλον, ἢ τί γραμμὴ καὶ ἐπίπεδον, πρὸς τὸ κατιδεῖν πόσαις ὀρθαῖς αἱ τοῦ τριγώνου γωνίαι ἴσαι), ἀλλὰ καὶ ἀνάπαλιν τὰ συμβεβηκότα συμβάλλεται μέγα μέρος πρὸς τὸ εἰδέναι τὸ τί ἐστιν· ἐπειδὰν γὰρ ἔχωμεν ἀποδιδόναι κατὰ τὴν φαντασίαν περὶ τῶν συμβεβηκότων, ἢ πάντων ἢ τῶν πλείστων, τότε καὶ περὶ τῆς οὐσίας ἕξομεν λέγειν κάλλιστα· πάσης γὰρ ἀποδείξεως ἀρχὴ τὸ τί ἐστιν, ὥστε καθ’ ὅσους τῶν ὁρισμῶν μὴ συμβαίνει τὰ [403a] συμβεβηκότα γνωρίζειν, ἀλλὰ μηδ’ εἰκάσαι περὶ αὐτῶν εὐμαρές, δῆλον ὅτι διαλεκτικῶς εἴρηνται καὶ κενῶς ἅπαντες.

[403a3] ἀπορίαν δ’ ἔχει καὶ τὰ πάθη τῆς ψυχῆς, πότερόν ἐστι πάντα κοινὰ καὶ τοῦ ἔχοντος ἢ ἔστι τι καὶ τῆς ψυχῆς ἴδιον αὐτῆς· τοῦτο γὰρ λαβεῖν μὲν ἀναγκαῖον, οὐ ῥᾴδιον δέ. φαίνεται δὲ τῶν μὲν πλείστων οὐθὲν ἄνευ τοῦ σώματος πάσχειν οὐδὲ ποιεῖν, οἷον ὀργίζεσθαι, θαρρεῖν, ἐπιθυμεῖν, ὅλως αἰσθάνεσθαι, μάλιστα δ’ ἔοικεν ἰδίῳ τὸ νοεῖν· εἰ δ’ ἐστὶ καὶ τοῦτο φαντασία τις ἢ μὴ ἄνευ φαντασίας, οὐκ ἐνδέχοιτ’ ἂν οὐδὲ τοῦτ’ ἄνευ σώματος εἶναι.

εἰ μὲν οὖν ἔστι τι τῶν τῆς ψυχῆς ἔργων ἢ παθημάτων ἴδιον, ἐνδέχοιτ’ ἂν αὐτὴν χωρίζεσθαι· εἰ δὲ μηθέν ἐστιν ἴδιον αὐτῆς, οὐκ ἂν εἴη χωριστή, ἀλλὰ καθάπερ τῷ εὐθεῖ, ᾗ εὐθύ, πολλὰ συμβαίνει, οἷον ἅπτεσθαι τῆς [χαλκῆς] σφαίρας κατὰ στιγμήν, οὐ μέντοι γ’ ἅψεται οὕτως χωρισθέν τι εὐθύ· ἀχώριστον γάρ, εἴπερ ἀεὶ μετὰ σώματός τινος ἐστιν. ἔοικε δὲ καὶ τὰ τῆς ψυχῆς πάθη πάντα εἶναι μετὰ σώματος, θυμός, πραότης, φόβος, ἔλεος, θάρσος, ἔτι χαρὰ καὶ τὸ φιλεῖν τε καὶ μισεῖν· ἅμα γὰρ τούτοις πάσχει τι τὸ σῶμα. μηνύει δὲ τὸ ποτὲ μὲν ἰσχυρῶν καὶ ἐναργῶν παθημάτων συμβαινόντων μηδὲν παροξύνεσθαι ἢ φοβεῖσθαι, ἐνίοτε δ’ ὑπὸ μικρῶν καὶ ἀμαυρῶν κινεῖσθαι, ὅταν ὀργᾷ τὸ σῶμα καὶ οὕτως ἔχῃ ὥσπερ ὅταν ὀργίζηται. ἔτι δὲ μᾶλλον τοῦτο φανερόν· μηθενὸς γὰρ φοβεροῦ συμβαίνοντος ἐν τοῖς πάθεσι γίνονται τοῖς τοῦ φοβουμένου. εἰ δ’ οὕτως ἔχει, δῆλον ὅτι τὰ πάθη λόγοι ἔνυλοί εἰσιν· ὥστε οἱ ὅροι τοιοῦτοι οἷον “τὸ ὀργίζεσθαι κίνησίς τις τοῦ τοιουδὶ σώματος ἢ μέρους ἢ δυνάμεως ὑπὸ τοῦδε ἕνεκα τοῦδε”,

καὶ διὰ ταῦτα ἤδη φυσικοῦ τὸ θεωρῆσαι περὶ ψυχῆς, ἢ πάσης ἢ τῆς τοιαύτης. διαφερόντως δ’ ἂν ὁρίσαιντο ὁ φυσικὸς [τε] καὶ ὁ διαλεκτικὸς ἕκαστον αὐτῶν, οἷον ὀργὴ τί ἐστιν· ὁ μὲν γὰρ ὄρεξιν ἀντιλυπήσεως ἤ τι τοιοῦτον, ὁ δὲ ζέσιν τοῦ περὶ καρδίαν αἵματος [403b] καὶ θερμοῦ. τούτων δὲ ὁ μὲν τὴν ὕλην ἀποδίδωσιν, ὁ δὲ τὸ εἶδος καὶ τὸν λόγον. ὁ μὲν γὰρ λόγος ὅδε τοῦ πράγματος, ἀνάγκη δ’ εἶναι τοῦτον ἐν ὕλῃ τοιᾳδί, εἰ ἔσται· ὥσπερ οἰκίας ὁ μὲν λόγος τοιοῦτος, ὅτι σκέπασμα κωλυτικὸν φθορᾶς ὑπ’ ἀνέμων καὶ ὄμβρων καὶ καυμάτων, ὁ δὲ φήσει λίθους καὶ πλίνθους καὶ ξύλα, ἕτερος δ’ ἐν τούτοις τὸ εἶδος <οὗ> ἕνεκα τωνδί. τίς οὖν ὁ φυσικὸς τούτων; πότερον ὁ περὶ τὴν ὕλην, τὸν δὲ λόγον ἀγνοῶν, ἢ ὁ περὶ τὸν λόγον μόνον; ἢ μᾶλλον ὁ ἐξ ἀμφοῖν; ἐκείνων δὲ δὴ τίς ἑκάτερος; ἢ οὐκ ἔστιν εἷς ὁ περὶ τὰ πάθη τῆς ὕλης τὰ μὴ χωριστὰ μηδ’ ᾗ χωριστά, ἀλλ’ ὁ φυσικὸς περὶ ἅπανθ’ ὅσα τοῦ τοιουδὶ σώματος καὶ τῆς τοι- αύτης ὕλης ἔργα καὶ πάθη, ὅσα δὲ μὴ τοιαῦτα, ἄλλος, καὶ περὶ τινῶν μὲν τεχνίτης, ἐὰν τύχῃ, οἷον τέκτων ἢ ἰατρός, τῶν δὲ μὴ χωριστῶν μέν, ᾗ δὲ μὴ τοιούτου σώματος πάθη καὶ ἐξ ἀφαιρέσεως, ὁ μαθηματικός, ᾗ δὲ κεχωρισμένα, ὁ πρῶτος φιλόσοφος; ἀλλ’ ἐπανιτέον ὅθεν ὁ λόγος. ἐλέγομεν δὴ ὅτι τὰ πάθη τῆς ψυχῆς οὕτως ἀχώριστα τῆς φυσικῆς ὕλης τῶν ζῴων, ᾗ γε τοιαῦθ’ ὑπάρχει <οἷα> θυμὸς καὶ φόβος, καὶ οὐχ ὥσπερ γραμμὴ καὶ ἐπίπεδον.

Κεφάλαιο 2

[403b20] Ἐπισκοποῦντας δὲ περὶ ψυχῆς ἀναγκαῖον, ἅμα διαποροῦντας περὶ ὧν εὐπορεῖν δεῖ προελθόντας, τὰς τῶν προτέρων δόξας συμπαραλαμβάνειν ὅσοι τι περὶ αὐτῆς ἀπεφήναντο, ὅπως τὰ μὲν καλῶς εἰρημένα λάβωμεν, εἰ δέ τι μὴ καλῶς, τοῦτ’ εὐλαβηθῶμεν.

ἀρχὴ δὲ τῆς ζητήσεως προθέσθαι τὰ μάλιστα δοκοῦνθ’ ὑπάρχειν αὐτῇ κατὰ φύσιν. τὸ ἔμψυχον δὴ τοῦ ἀψύχου δυσὶ μάλιστα διαφέρειν δοκεῖ, κινήσει τε καὶ τῷ αἰσθάνεσθαι. παρειλήφαμεν δὲ καὶ παρὰ τῶν προγενεστέρων σχεδὸν δύο ταῦτα περὶ ψυχῆς· φασὶ γὰρ ἔνιοι καὶ μάλιστα καὶ πρώτως ψυχὴν εἶναι τὸ κινοῦν, οἰηθέντες δὲ τὸ μὴ κινούμενον αὐτὸ μὴ ἐνδέχεσθαι κινεῖν ἕτερον, τῶν κινουμένων τι τὴν ψυχὴν ὑπέλαβον εἶναι. ὅθεν Δημόκριτος μὲν [404a] πῦρ τι καὶ θερμόν φησιν αὐτὴν εἶναι· ἀπείρων γὰρ ὄντων σχημάτων καὶ ἀτόμων τὰ σφαιροειδῆ πῦρ καὶ ψυχὴν λέγει (οἷον ἐν τῷ ἀέρι τὰ καλούμενα ξύσματα, ἃ φαίνεται ἐν ταῖς διὰ τῶν θυρίδων ἀκτῖσιν), ὧν τὴν μὲν πανσπερμίαν στοιχεῖα λέγει τῆς ὅλης φύσεως (ὁμοίως δὲ καὶ Λεύκιππος), τού- των δὲ τὰ σφαιροειδῆ ψυχήν, διὰ τὸ μάλιστα διὰ παντὸς δύνασθαι διαδύνειν τοὺς τοιούτους ῥυσμοὺς καὶ κινεῖν τὰ λοιπά, κινούμενα καὶ αὐτά, ὑπολαμβάνοντες τὴν ψυχὴν εἶναι τὸ παρέχον τοῖς ζῴοις τὴν κίνησιν· διὸ καὶ τοῦ ζῆν ὅρον εἶναι τὴν ἀναπνοήν· συνάγοντος γὰρ τοῦ περιέχοντος τὰ σώματα καὶ ἐκθλίβοντος τῶν σχημάτων τὰ παρέχοντα τοῖς ζῴοις τὴν κίνησιν διὰ τὸ μηδ’ αὐτὰ ἠρεμεῖν μηδέποτε, βοήθειαν γίνεσθαι θύραθεν ἐπεισιόντων ἄλλων τοιούτων ἐν τῷ ἀναπνεῖν· κωλύειν γὰρ αὐτὰ καὶ τὰ ἐνυπάρχοντα ἐν τοῖς ζῴοις ἐκκρίνεσθαι, συνανείργοντα τὸ συνάγον καὶ πηγνύον· καὶ ζῆν δὲ ἕως ἂν δύνωνται τοῦτο ποιεῖν.

[404a16] ἔοικε δὲ καὶ τὸ παρὰ τῶν Πυθαγορείων λεγόμενον τὴν αὐτὴν ἔχειν διάνοιαν· ἔφασαν γάρ τινες αὐτῶν ψυχὴν εἶναι τὰ ἐν τῷ ἀέρι ξύσματα, οἱ δὲ τὸ ταῦτα κινοῦν, περὶ δὲ τούτων εἴρηται ὅτι συνεχῶς φαίνεται κινούμενα, κἂν ᾖ νηνεμία παντελής. ἐπὶ ταὐτὸ δὲ φέρονται καὶ ὅσοι λέγουσι τὴν ψυχὴν τὸ αὑτὸ κινοῦν· ἐοίκασι γὰρ οὗτοι πάντες ὑπειληφέναι τὴν κίνησιν οἰκειότατον εἶναι τῇ ψυχῇ, καὶ τὰ μὲν ἄλλα πάντα κινεῖσθαι διὰ τὴν ψυχήν, ταύτην δ’ ὑφ’ ἑαυτῆς, διὰ τὸ μηθὲν ὁρᾶν κινοῦν ὃ μὴ καὶ αὐτὸ κινεῖται.

ὁμοίως δὲ καὶ Ἀναξαγόρας ψυχὴν εἶναι λέγει τὴν κινοῦσαν, καὶ εἴ τις ἄλλος εἴρηκεν ὡς τὸ πᾶν ἐκίνησε νοῦς· οὐ μὴν παντελῶς γ’ ὥσπερ Δημόκριτος. ἐκεῖνος μὲν γὰρ ἁπλῶς ταὐτὸν ψυχὴν καὶ νοῦν (τὸ γὰρ ἀληθὲς εἶναι τὸ φαινόμενον, διὸ καλῶς ποιῆσαι [τὸν] Ὅμηρον ὡς ὁ Ἕκτωρ “κεῖτ’ ἀλλοφρονέων”· οὐ δὴ χρῆται τῷ νῷ ὡς δυνάμει τινὶ περὶ τὴν ἀλήθειαν, ἀλλὰ ταὐτὸ λέγει ψυχὴν καὶ νοῦν)·

[404b] Ἀναξαγόρας δ’ ἧττον διασαφεῖ περὶ αὐτῶν· πολλαχοῦ μὲν γὰρ τὸ αἴτιον τοῦ καλῶς καὶ ὀρθῶς τὸν νοῦν λέγει, ἑτέρωθι δὲ τὸν νοῦν εἶναι ταὐτὸν τῇ ψυχῇ· ἐν ἅπασι γὰρ ὑπάρχειν αὐτὸν τοῖς ζῴοις, καὶ μεγάλοις καὶ μικροῖς, καὶ τιμίοις καὶ ἀτιμοτέροις· οὐ φαίνεται δ’ ὅ γε κατὰ φρόνησιν λεγόμενος νοῦς πᾶσιν ὁμοίως ὑπάρχειν τοῖς ζῴοις, ἀλλ’ οὐδὲ τοῖς ἀνθρώποις πᾶσιν.

ὅσοι μὲν οὖν ἐπὶ τὸ κινεῖσθαι τὸ ἔμψυχον ἀπέβλεψαν, οὗτοι τὸ κινητικώτατον ὑπέλαβον τὴν ψυχήν· ὅσοι δ’ ἐπὶ τὸ γινώσκειν καὶ τὸ αἰσθάνεσθαι τῶν ὄντων, οὗτοι δὲ λέγουσι τὴν ψυχὴν τὰς ἀρχάς, οἱ μὲν πλείους ποιοῦντες, ταύτας, οἱ δὲ μίαν, ταύτην, ὥσπερ Ἐμπεδοκλῆς μὲν ἐκ τῶν στοιχείων πάντων, εἶναι δὲ καὶ ἕκαστον ψυχὴν τούτων, λέγων οὕτως,

γαίῃ μὲν γὰρ γαῖαν ὀπώπαμεν, ὕδατι δ’ ὕδωρ,
αἰθέρι δ’ αἰθέρα δῖαν, ἀτὰρ πυρὶ πῦρ ἀΐδηλον,
στοργῇ δὲ στοργήν, νεῖκος δέ τε νείκεϊ λυγρῷ·

τὸν αὐτὸν δὲ τρόπον καὶ Πλάτων ἐν τῷ Τιμαίῳ τὴν ψυχὴν ἐκ τῶν στοιχείων ποιεῖ· γινώσκεσθαι γὰρ τῷ ὁμοίῳ τὸ ὅμοιον, τὰ δὲ πράγματα ἐκ τῶν ἀρχῶν εἶναι. ὁμοίως δὲ καὶ ἐν τοῖς περὶ φιλοσοφίας λεγομένοις διωρίσθη, αὐτὸ μὲν τὸ ζῷον ἐξ αὐτῆς τῆς τοῦ ἑνὸς ἰδέας καὶ τοῦ πρώτου μήκους καὶ πλάτους καὶ βάθους, τὰ δ’ ἄλλα ὁμοιοτρόπως· ἔτι δὲ καὶ ἄλλως, νοῦν μὲν τὸ ἕν, ἐπιστήμην δὲ τὰ δύο (μοναχῶς γὰρ ἐφ’ ἕν), τὸν δὲ τοῦ ἐπιπέδου ἀριθμὸν δόξαν, αἴσθησιν δὲ τὸν τοῦ στερεοῦ. οἱ μὲν γὰρ ἀριθμοὶ τὰ εἴδη αὐτὰ καὶ αἱ [404b25] ἀρχαὶ ἐλέγοντο, εἰσὶ δ’ ἐκ τῶν στοιχείων, κρίνεται δὲ τὰ πράγματα τὰ μὲν νῷ, τὰ δ’ ἐπιστήμῃ, τὰ δὲ δόξῃ, τὰ δ’ αἰσθήσει· εἴδη δ’ οἱ ἀριθμοὶ οὗτοι τῶν πραγμάτων.

[404b27] ἐπεὶ δὲ καὶ κινητικὸν ἐδόκει ἡ ψυχὴ εἶναι καὶ γνωριστικὸν οὕτως, ἔνιοι συνέπλεξαν ἐξ ἀμφοῖν, ἀποφηνάμενοι τὴν ψυχὴν ἀριθμὸν κινοῦνθ’ ἑαυτόν,

διαφέρονται δὲ περὶ τῶν ἀρχῶν, τίνες καὶ πόσαι, μάλιστα μὲν οἱ σωματικὰς ποιοῦντες τοῖς ἀσωμάτους, [405a] τούτοις δ’ οἱ μίξαντες καὶ ἀπ’ ἀμφοῖν τὰς ἀρχὰς ἀποφηνάμενοι.

διαφέρονται δὲ καὶ περὶ τοῦ πλήθους· οἱ μὲν γὰρ μίαν οἱ δὲ πλείους λέγουσιν. ἑπομένως δὲ τούτοις καὶ τὴν ψυχὴν ἀποδιδόασιν· τὸ γὰρ κινητικὸν τὴν φύσιν τῶν πρώτων ὑπειλήφασιν, οὐκ ἀλόγως.

ὅθεν ἔδοξέ τισι πῦρ εἶναι· καὶ γὰρ τοῦτο λεπτομερέστατόν τε καὶ μάλιστα τῶν στοιχείων ἀσώματον, ἔτι δὲ κινεῖταί τε καὶ κινεῖ τὰ ἄλλα πρώτως.

Δημόκριτος δὲ καὶ γλαφυρωτέρως εἴρηκεν ἀποφαινόμενος διὰ τί τούτων ἑκάτερον· ψυχὴν μὲν γὰρ εἶναι ταὐτὸ καὶ νοῦν, τοῦτο δ᾽ εἶναι τῶν πρώτων καὶ ἀδιαιρέτων σωμάτων, κινητικὸν δὲ διὰ μικρομέρειαν καὶ τὸ σχῆμα· τῶν δὲ σχημάτων εὐκινητότατον τὸ σφαιροειδὲς λέγει· τοιοῦτον δ᾽ εἶναι τόν τε νοῦν καὶ τὸ πῦρ.

Ἀναξαγόρας δ᾽ ἔοικε μὲν ἕτερον λέγειν ψυχήν τε καὶ νοῦν, ὥσπερ εἴπομεν καὶ πρότερον, χρῆται δ᾽ ἀμφοῖν ὡς μιᾷ φύσει, πλὴν ἀρχήν γε τὸν νοῦν τίθεται μάλιστα πάντων· μόνον γοῦν φησὶν αὐτὸν τῶν ὄντων ἁπλοῦν εἶναι καὶ ἀμιγῆ τε καὶ καθαρόν. ἀποδίδωσι δ᾽ ἄμφω τῇ αὐτῇ ἀρχῇ, τό τε γινώσκειν καὶ τὸ κινεῖν, λέγων νοῦν κινῆσαι τὸ πᾶν.

ἔοικε δὲ καὶ Θαλῆς ἐξ ὧν ἀπομνημονεύουσι κινητικόν τι τὴν ψυχὴν ὑπολαβεῖν, εἴπερ τὴν λίθον ἔφη ψυχὴν ἔχειν, ὅτι τὸν σίδηρον κινεῖ·

Διογένης δ᾽ ὥσπερ καὶ ἕτεροί τινες ἀέρα, τοῦτον οἰηθεὶς πάντων λεπτομερέστατον εἶναι καὶ ἀρχήν· καὶ διὰ τοῦτο γινώσκειν τε καὶ κινεῖν τὴν ψυχήν, ᾗ μὲν πρῶτόν ἐστι, καὶ ἐκ τούτου τὰ λοιπά, γινώσκειν, ᾗ δὲ λεπτότατον, κινητικὸν εἶναι.

καὶ Ἡράκλειτος δὲ τὴν ἀρχὴν εἶναί φησι ψυχήν, εἴπερ τὴν ἀναθυμίασιν, ἐξ ἧς τἆλλα συνίστησιν· καὶ ἀσωματώτατόν τε καὶ ῥέον ἀεί· τὸ δὲ κινούμενον κινουμένῳ γινώσκεσθαι· ἐν κινήσει δ᾽ εἶναι τὰ ὄντα κἀκεῖνος ᾤετο καὶ οἱ πολλοί.

παραπλησίως δὲ τούτοις καὶ Ἀλκμαίων ἔοικεν ὑπολαβεῖν περὶ ψυχῆς· φησὶ γὰρ αὐτὴν ἀθάνατον εἶναι διὰ τὸ ἐοικέναι τοῖς ἀθανάτοις· τοῦτο δ᾽ ὑπάρχειν αὐτῇ ὡς ἀεὶ κινουμένῃ· κινεῖσθαι γὰρ καὶ τὰ θεῖα πάντα συνεχῶς [405b] ἀεί, σελήνην, ἥλιον, τοὺς ἀστέρας καὶ τὸν οὐρανὸν ὅλον.

τῶν δὲ φορτικωτέρων καὶ ὕδωρ τινὲς ἀπεφήναντο, καθάπερ Ἵππων· πεισθῆναι δ᾽ ἐοίκασιν ἐκ τῆς γονῆς, ὅτι πάντων ὑγρά. καὶ γὰρ ἐλέγχει τοὺς αἷμα φάσκοντας τὴν ψυχήν, ὅτι ἡ γονὴ οὐχ αἷμα· ταύτην δ᾽ εἶναι τὴν πρώτην ψυχήν.

ἕτεροι δ᾽ αἷμα, καθάπερ Κριτίας, τὸ αἰσθάνεσθαι ψυχῆς οἰκειότατον ὑπολαμβάνοντες, τοῦτο δ᾽ ὑπάρχειν διὰ τὴν τοῦ αἵματος φύσιν. πάντα γὰρ τὰ στοιχεῖα κριτὴν εἴληφε, πλὴν τῆς γῆς· ταύτην δ᾽ οὐθεὶς ἀποπέφανται, πλὴν εἴ τις αὐτὴν εἴρηκεν ἐκ πάντων εἶναι τῶν στοιχείων ἢ πάντα.

ὁρίζονται δὴ πάντες τὴν ψυχὴν τρισὶν ὡς εἰπεῖν, κινήσει, αἰσθήσει, τῷ ἀσωμάτῳ· τούτων δ’ ἕκαστον ἀνάγεται πρὸς τὰς ἀρχάς. διὸ καὶ οἱ τῷ γινώσκειν ὁριζόμενοι αὐτὴν ἢ στοιχεῖον ἢ ἐκ τῶν στοιχείων ποιοῦσι, λέγοντες παραπλησίως ἀλλήλοις, πλὴν ἑνός· φασὶ γὰρ γινώσκεσθαι τὸ ὅμοιον τῷ ὁμοίῳ· ἐπειδὴ γὰρ ἡ ψυχὴ πάντα γινώσκει, συνιστᾶσιν αὐτὴν ἐκ πασῶν τῶν ἀρχῶν.

ὅσοι μὲν οὖν μίαν τινὰ λέγουσιν αἰτίαν καὶ στοιχεῖον ἕν, καὶ τὴν ψυχὴν ἓν τιθέασιν, οἷον πῦρ ἢ ἀέρα· οἱ δὲ πλείους λέγοντες τὰς ἀρχὰς καὶ τὴν ψυχὴν πλείω ποιοῦσιν.

Ἀναξαγόρας δὲ μόνος ἀπαθῆ φησιν εἶναι τὸν νοῦν, καὶ κοινὸν οὐθὲν οὐθενὶ τῶν ἄλλων ἔχειν. τοιοῦτος δ’ ὢν πῶς γνωριεῖ καὶ διὰ τίν’ αἰτίαν, οὔτ’ ἐκεῖνος εἴρηκεν οὔτ’ ἐκ τῶν εἰρημένων συμφανές ἐστιν. ὅσοι δ’ ἐναντιώσεις ποιοῦσιν ἐν ταῖς ἀρχαῖς, καὶ τὴν ψυχὴν ἐκ τῶν ἐναντίων συνιστᾶσιν· οἱ δὲ θάτερον τῶν ἐναντίων, οἷον θερμὸν ἢ ψυχρὸν ἤ τι τοιοῦτον ἄλλο, καὶ τὴν ψυχὴν ὁμοίως ἕν τι τούτων τιθέασιν. διὸ καὶ τοῖς ὀνόμασιν ἀκολουθοῦσιν, οἱ μὲν τὸ θερμὸν λέγοντες, ὅτι διὰ τοῦτο καὶ τὸ ζῆν ὠνόμασται, οἱ δὲ τὸ ψυχρόν, <διὰ τὸ> διὰ τὴν ἀναπνοὴν καὶ τὴν κατάψυξιν καλεῖσθαι ψυχήν.

τὰ μὲν οὖν παραδεδομένα περὶ ψυχῆς, καὶ δι’ ἃς αἰτίας λέγουσιν οὕτω, ταῦτ’ ἐστίν.

Κεφάλαιο 3

[405a31] Ἐπισκεπτέον δὲ πρῶτον μὲν περὶ κινήσεως· ἴσως γὰρ οὐ μόνον ψεῦδός ἐστι τὸ τὴν οὐσίαν αὐτῆς τοιαύτην εἶναι οἵαν [406a] φασὶν οἱ λέγοντες ψυχὴν εἶναι τὸ κινοῦν ἑαυτὸ ἢ δυνάμενον κινεῖν, ἀλλ' ἕν τι τῶν ἀδυνάτων τὸ ὑπάρχειν αὐτῇ κίνησιν.

ὅτι μὲν οὖν οὐκ ἀναγκαῖον τὸ κινοῦν καὶ αὐτὸ κινεῖσθαι, πρότερον εἴρηται. διχῶς δὲ κινουμένου παντός-ἢ γὰρ καθ' ἕτερον ἢ καθ' αὑτό· καθ' ἕτερον δὲ λέγομεν ὅσα κινεῖται τῷ ἐν κινουμένῳ εἶναι, οἷον πλωτῆρες· οὐ γὰρ ὁμοίως κινοῦνται τῷ πλοίῳ· τὸ μὲν γὰρ καθ' αὑτὸ κινεῖται, οἱ δὲ τῷ ἐν κινουμένῳ εἶναι (δῆλον δ' ἐπὶ τῶν μορίων· οἰκεία μὲν γάρ ἐστι κίνησις ποδῶν βάδισις, αὕτη δὲ καὶ ἀνθρώπων· οὐχ ὑπάρχει δὲ τοῖς πλωτῆρσι τόδε) -διχῶς δὴ λεγομένου τοῦ κινεῖσθαι νῦν ἐπισκοποῦμεν περὶ τῆς ψυχῆς εἰ καθ' αὑτὴν κινεῖται καὶ μετέχει κινήσεως.

[406a12] τεσσάρων δὲ κινήσεων οὐσῶν, φορᾶς ἀλλοιώσεως φθίσεως αὐξήσεως, ἢ μίαν τούτων κινοῖτ' ἂν ἢ πλείους ἢ πάσας. εἰ δὲ κινεῖται μὴ κατὰ συμβεβηκός, φύσει ἂν ὑπάρχοι κίνησις αὐτῇ· εἰ δὲ τοῦτο, καὶ τόπος· πᾶσαι γὰρ αἱ λεχθεῖσαι κινήσεις ἐν τόπῳ. εἰ δ' ἐστὶν ἡ οὐσία τῆς ψυχῆς τὸ κινεῖν ἑαυτήν, οὐ κατὰ συμβεβηκὸς αὐτῇ τὸ κινεῖσθαι ὑπάρξει, ὥσπερ τῷ λευκῷ ἢ τῷ τριπήχει· κινεῖται γὰρ καὶ ταῦτα, ἀλλὰ κατὰ συμβεβηκός· ᾧ γὰρ ὑπάρχουσιν, ἐκεῖνο κινεῖται, τὸ σῶμα. διὸ καὶ οὐκ ἔστι τόπος αὐτῶν· τῆς δὲ ψυχῆς ἔσται, εἴπερ φύσει κινήσεως μετέχει.

ἔτι δ' εἰ φύσει κινεῖται, κἂν βίᾳ κινηθείη· κἂν εἰ βίᾳ, καὶ φύσει. τὸν αὐτὸν δὲ τρόπον ἔχει καὶ περὶ ἠρεμίας· εἰς ὃ γὰρ κινεῖται φύσει, καὶ ἠρεμεῖ ἐν τούτῳ φύσει· ὁμοίως δὲ καὶ εἰς ὃ κινεῖται βίᾳ, καὶ ἠρεμεῖ ἐν τούτῳ βίᾳ. ποῖαι δὲ βίαιοι τῆς ψυχῆς κινήσεις ἔσονται καὶ ἠρεμίαι, οὐδὲ πλάττειν βουλομένοις ῥᾴδιον ἀποδοῦναι.

ἔτι δ' εἰ μὲν ἄνω κινήσεται, πῦρ ἔσται, εἰ δὲ κάτω, γῆ· τούτων γὰρ τῶν σωμάτων αἱ κινήσεις αὗται·

ὁ δ' αὐτὸς λόγος καὶ περὶ τῶν μεταξύ. ἔτι δ' ἐπεὶ φαίνεται κινοῦσα τὸ σῶμα, ταύτας εὔλογον κινεῖν τὰς κινήσεις ἃς καὶ αὐτὴ κινεῖται. εἰ δὲ τοῦτο, καὶ ἀντιστρέψασιν εἰπεῖν ἀληθὲς ὅτι ἣν τὸ [406b] σῶμα κινεῖται, ταύτην καὶ αὐτή. τὸ δὲ σῶμα κινεῖται φορᾷ· ὥστε καὶ ἡ ψυχὴ μεταβάλλοι ἂν κατὰ τὸ

σῶμα ἢ ὅλη ἢ κατὰ μόρια μεθισταμένη. εἰ δὲ τοῦτ᾽ ἐνδέχεται, καὶ ἐξελθοῦσαν εἰσιέναι πάλιν ἐνδέχοιτ᾽ ἄν· τούτῳ δ᾽ ἕποιτ᾽ ἂν τὸ ἀνίστασθαι τὰ τεθνεῶτα τῶν ζῴων.

τὴν δὲ κατὰ συμβεβηκὸς κίνησιν κἂν ὑφ᾽ ἑτέρου κινοῖτο· ὠσθείη γὰρ ἂν βίᾳ τὸ ζῷον. οὐ δεῖ δὲ ᾧ τὸ ὑφ᾽ ἑαυτοῦ κινεῖσθαι ἐν τῇ οὐσίᾳ, τοῦθ᾽ ὑπ᾽ ἄλλου κινεῖσθαι, πλὴν εἰ μὴ κατὰ συμβεβηκός, ὥσπερ οὐδὲ τὸ καθ᾽ αὑτὸ ἀγαθὸν ἢ δι᾽ αὑτό, τὸ μὲν δι᾽ ἄλλο εἶναι, τὸ δ᾽ ἑτέρου ἕνεκεν. τὴν δὲ ψυχὴν μάλιστα φαίη τις ἂν ὑπὸ τῶν αἰσθητῶν κινεῖσθαι, εἴπερ κινεῖται.

ἀλλὰ μὴν καὶ εἰ κινεῖ [406b12] γε αὐτὴ αὑτήν, καὶ αὐτὴ κινοῖτ᾽ ἄν, ὥστ᾽ εἰ πᾶσα κίνησις ἔκστασίς ἐστι τοῦ κινουμένου ᾗ κινεῖται, καὶ ἡ ψυχὴ ἐξίσταιτ᾽ ἂν ἐκ τῆς οὐσίας, εἰ μὴ κατὰ συμβεβηκὸς ἑαυτὴν κινεῖ, ἀλλ᾽ ἐστὶν ἡ κίνησις τῆς οὐσίας αὐτῆς καθ᾽ αὑτήν.

ἔνιοι δὲ καὶ κινεῖν φασι τὴν ψυχὴν τὸ σῶμα ἐν ᾧ ἐστιν, ὡς αὐτὴ κινεῖται, οἷον Δημόκριτος, παραπλησίως λέγων Φιλίππῳ τῷ κωμῳδοδιδασκάλῳ· φησὶ γὰρ τὸν Δαίδαλον κινουμένην ποιῆσαι τὴν ξυλίνην Ἀφροδίτην, ἐγχέαντ᾽ ἄργυρον χυτόν· ὁμοίως δὲ καὶ Δημόκριτος λέγει· κινουμένας γάρ φησι τὰς ἀδιαιρέτους σφαίρας, διὰ τὸ πεφυκέναι μηδέποτε μένειν, συνεφέλκειν καὶ κινεῖν τὸ σῶμα πᾶν. ἡμεῖς δ᾽ ἐρωτήσομεν εἰ καὶ ἠρέμησιν ποιεῖ τοῦτο αὐτό· πῶς δὲ ποιήσει, χαλεπὸν ἢ καὶ ἀδύνατον εἰπεῖν. ὅλως δ᾽ οὐχ οὕτω φαίνεται κινεῖν ἡ ψυχὴ τὸ ζῷον, ἀλλὰ διὰ προαιρέσεώς τινος καὶ νοήσεως.

τὸν αὐτὸν δὲ τρόπον καὶ ὁ Τίμαιος φυσιολογεῖ τὴν ψυχὴν κινεῖν τὸ σῶμα· τῷ γὰρ κινεῖσθαι αὐτὴν καὶ τὸ σῶμα κινεῖν διὰ τὸ συμπεπλέχθαι πρὸς αὐτό. συνεστηκυῖαν γὰρ ἐκ τῶν στοιχείων καὶ μεμερισμένην κατὰ τοὺς ἁρμονικοὺς ἀριθμούς, ὅπως αἴσθησίν τε σύμφυτον ἁρμονίας ἔχῃ καὶ τὸ πᾶν φέρηται συμφώνους φοράς, τὴν εὐθυωρίαν εἰς κύκλον κατέκαμψεν· καὶ διελὼν ἐκ τοῦ ἑνὸς δύο κύκλους δισσαχῇ συνημμένους [407a] πάλιν τὸν ἕνα διεῖλεν εἰς ἑπτὰ κύκλους, ὡς οὔσας τὰς τοῦ οὐρανοῦ φορὰς τὰς τῆς ψυχῆς κινήσεις.

[407a2] πρῶτον μὲν οὖν οὐ καλῶς τὸ λέγειν τὴν ψυχὴν μέγεθος εἶναι· τὴν γὰρ τοῦ παντὸς δῆλον ὅτι τοιαύτην εἶναι βούλεται οἷόν ποτ᾽ ἐστὶν ὁ καλούμενος νοῦς (οὐ γὰρ δὴ οἷόν γ᾽ ἡ αἰσθητική, οὐδ᾽ οἷον ἡ ἐπιθυμητική· τούτων γὰρ ἡ κίνησις οὐ κυκλοφορία)·

ὁ δὲ νοῦς εἷς καὶ συνεχὴς ὥσπερ καὶ ἡ νόησις· ἡ δὲ νόησις τὰ νοήματα· ταῦτα δὲ τῷ ἐφεξῆς ἕν, ὡς ὁ ἀριθμός, ἀλλ᾽ οὐχ ὡς τὸ μέγεθος· διόπερ οὐδ᾽ ὁ νοῦς οὕτω συνεχής, ἀλλ᾽ ἤτοι ἀμερὴς ἢ οὐχ ὡς μέγεθός τι συνεχής. πῶς γὰρ δὴ καὶ νοήσει, μέγεθος ὤν, πότερον ὁτῳοῦν τῶν μορίων τῶν αὑτοῦ, μορίων δ᾽ ἤτοι κατὰ μέγεθος ἢ κατὰ στιγμήν, εἰ δεῖ καὶ τοῦτο μόριον εἰπεῖν;

εἰ μὲν οὖν κατὰ στιγμήν, αὗται δ’ ἄπειροι, δῆλον ὡς οὐδέποτε διέξεισιν· εἰ δὲ κατὰ μέγεθος, πολλάκις ἢ ἀπειράκις νοήσει τὸ αὐτό. φαίνεται δὲ καὶ ἅπαξ ἐνδεχόμενον. εἰ δ’ ἱκανὸν θιγεῖν ὁτῳοῦν τῶν μορίων, τί δεῖ κύκλῳ κινεῖσθαι, ἢ καὶ ὅλως μέγεθος ἔχειν; εἰ δ’ ἀναγκαῖον νοῆσαι τῷ ὅλῳ κύκλῳ θιγόντα, τίς ἐστιν ἡ τοῖς μορίοις θίξις; ἔτι δὲ πῶς νοήσει τὸ μεριστὸν ἀμερεῖ ἢ τὸ ἀμερὲς μεριστῷ; ἀναγκαῖον δὲ τὸν νοῦν εἶναι τὸν κύκλον τοῦτον· νοῦ μὲν γὰρ κίνησις νόησις κύκλου δὲ περιφορά·

εἰ οὖν ἡ νόησις περιφορά, καὶ νοῦς ἂν εἴη ὁ κύκλος οὗ ἡ τοιαύτη περιφορὰ νόησις. ἀεὶ δὲ δὴ τί νοήσει (δεῖ γάρ, εἴπερ ἀΐδιος ἡ περιφορά); τῶν μὲν γὰρ πρακτικῶν νοήσεων ἔστι πέρατα (πᾶσαι γὰρ ἑτέρου χάριν), αἱ δὲ θεωρητικαὶ τοῖς λόγοις ὁμοίως ὁρίζονται· λόγος δὲ πᾶς ὁρισμὸς ἢ ἀπόδειξις· αἱ μὲν οὖν ἀποδείξεις καὶ ἀπ’ ἀρχῆς καὶ ἔχουσαί πως τέλος, τὸν συλλογισμὸν ἢ τὸ συμπέρασμα (εἰ δὲ μὴ περατοῦνται, ἀλλ’ οὐκ ἀνακάμπτουσί γε πάλιν ἐπ’ ἀρχήν, προσλαμβάνουσαι δ’ ἀεὶ μέσον καὶ ἄκρον εὐθυποροῦσιν· ἡ δὲ περιφορὰ πάλιν ἐπ’ ἀρχὴν ἀνακάμπτει)· οἱ δ’ ὁρισμοὶ πάντες πεπερασμένοι.

ἔτι εἰ ἡ αὐτὴ περιφορὰ πολλάκις, δεήσει πολλάκις νοεῖν τὸ αὐτό.

ἔτι δ’ ἡ νόησις ἔοικεν ἠρεμήσει τινὶ καὶ ἐπιστάσει μᾶλλον ἢ κινήσει· τὸν αὐτὸν δὲ τρόπον καὶ ὁ συλλογισμός.

ἀλλὰ μὴν οὐδὲ μακάριόν γε τὸ μὴ [407b] ῥᾴδιον ἀλλὰ βίαιον· εἰ δ’ ἐστὶν ἡ κίνησις αὐτῆς ᾗ οὐσία, παρὰ φύσιν ἂν κινοῖτο. ἐπίπονον δὲ καὶ τὸ μεμῖχθαι τῷ σώματι μὴ δυνάμενον ἀπολυθῆναι, καὶ προσέτι φευκτόν, εἴπερ βέλτιον τῷ νῷ μὴ μετὰ σώματος εἶναι, καθάπερ εἴωθέ τε λέγεσθαι καὶ πολλοῖς συνδοκεῖ.

ἄδηλος δὲ καὶ τοῦ κύκλῳ φέρεσθαι τὸν οὐρανὸν ἡ αἰτία· οὔτε γὰρ τῆς ψυχῆς ἡ οὐσία αἰτία τοῦ κύκλῳ φέρεσθαι, ἀλλὰ κατὰ συμβεβηκὸς οὕτω κινεῖται, οὔτε τὸ σῶμα αἴτιον, ἀλλ’ ἡ ψυχὴ μᾶλλον ἐκείνῳ. ἀλλὰ μὴν οὐδ’ ὅτι βέλτιον λέγεται· καίτοι γ’ ἐχρῆν διὰ τοῦτο τὸν θεὸν κύκλῳ ποιεῖν φέρεσθαι τὴν ψυχήν, ὅτι βέλτιον αὐτῇ τὸ κινεῖσθαι τοῦ μένειν, κινεῖσθαι δ’ οὕτως ἢ ἄλλως.

ἐπεὶ δ’ ἐστὶν ἡ τοιαύτη σκέψις ἑτέρων λόγων οἰκειοτέρα, ταύτην μὲν ἀφῶμεν τὸ νῦν. ἐκεῖνο δὲ ἄτοπον συμβαίνει καὶ τούτῳ τῷ λόγῳ καὶ τοῖς πλείστοις τῶν περὶ ψυχῆς· συνάπτουσι γὰρ καὶ τιθέασιν εἰς σῶμα τὴν ψυχήν, οὐθὲν προσδιορίσαντες διὰ τίν’ αἰτίαν καὶ πῶς ἔχοντος τοῦ σώματος. καίτοι δόξειεν ἂν τοῦτ’ ἀναγκαῖον εἶναι· διὰ γὰρ τὴν κοινωνίαν τὸ μὲν ποιεῖ τὸ δὲ πάσχει καὶ τὸ μὲν κινεῖται τὸ δὲ κινεῖ, τούτων δ’ οὐθὲν ὑπάρχει πρὸς ἄλληλα τοῖς τυχοῦσιν.

οἱ δὲ μόνον ἐπιχειροῦσι λέγειν ποῖόν τι ἡ ψυχή, περὶ δὲ τοῦ δεξομένου σώματος οὐθὲν ἔτι προσδιορίζουσιν, ὥσπερ ἐνδεχόμενον κατὰ τοὺς Πυθαγορικοὺς μύθους τὴν τυχοῦσαν ψυχὴν εἰς τὸ τυχὸν ἐνδύεσθαι σῶμα. δοκεῖ γὰρ ἕκαστον ἴδιον ἔχειν εἶδος καὶ μορφήν, παραπλήσιον δὲ λέγουσιν ὥσπερ εἴ τις φαίη τὴν τεκτονικὴν εἰς αὐλοὺς ἐνδύεσθαι· δεῖ γὰρ τὴν μὲν τέχνην χρῆσθαι τοῖς ὀργάνοις, τὴν δὲ ψυχὴν τῷ σώματι.

Κεφάλαιο 4

[407b27] Καὶ ἄλλη δέ τις δόξα παραδέδοται περὶ ψυχῆς, πιθανὴ μὲν πολλοῖς οὐδεμιᾶς ἧττον τῶν λεγομένων, λόγον δ’ ὥσπερ εὐθύνοις δεδωκυῖα κἀν τοῖς ἐν κοινῷ γεγενημένοις λόγοις. ἁρμονίαν γάρ τινα αὐτὴν λέγουσι· καὶ γὰρ τὴν ἁρμονίαν κρᾶσιν καὶ σύνθεσιν ἐναντίων εἶναι, καὶ τὸ σῶμα συγκεῖσθαι ἐξ ἐναντίων.

καίτοι γε ἡ μὲν ἁρμονία λόγος τίς ἐστι τῶν μιχθέντων ἢ σύνθεσις, τὴν δὲ ψυχὴν οὐδέτερον οἷόν τ’ εἶναι τούτων. ἔτι δὲ τὸ κινεῖν οὐκ ἔστιν ἁρμονίας, ψυχῇ δὲ [408a] πάντες ἀπονέμουσι τοῦτο μάλισθ’ ὡς εἰπεῖν. ἁρμόζει δὲ μᾶλλον καθ’ ὑγιείας λέγειν ἁρμονίαν, καὶ ὅλως τῶν σωματικῶν ἀρετῶν, ἢ κατὰ ψυχῆς. φανερώτατον δ’ εἴ τις ἀποδιδόναι πειραθείη τὰ πάθη καὶ τὰ ἔργα τῆς ψυχῆς ἁρμονίᾳ τινί· χαλεπὸν γὰρ ἐφαρμόζειν.

ἔτι δ’ εἰ λέγομεν τὴν ἁρμονίαν εἰς δύο ἀποβλέποντες, κυριώτατα μέν, τῶν μεγεθῶν ἐν τοῖς ἔχουσι κίνησιν καὶ θέσιν, τὴν σύνθεσιν αὐτῶν, ἐπειδὰν οὕτω συναρμόζωσιν ὥστε μηδὲν συγγενὲς παραδέχεσθαι, ἐντεῦθεν δὲ καὶ τὸν τῶν μεμιγμένων λόγον-οὐδετέρως μὲν οὖν εὔλογον, ἡ δὲ σύνθεσις τῶν τοῦ σώματος μερῶν λίαν εὐεξέταστος. πολλαί τε γὰρ αἱ συνθέσεις τῶν μερῶν καὶ πολλαχῶς· τίνος οὖν ἢ πῶς ὑπολαβεῖν τὸν νοῦν χρὴ σύνθεσιν εἶναι, ἢ καὶ τὸ αἰσθητικὸν ἢ ὀρεκτικόν; ὁμοίως δὲ ἄτοπον καὶ τὸ τὸν λόγον τῆς μίξεως εἶναι τὴν ψυχήν· οὐ γὰρ τὸν αὐτὸν ἔχει λόγον ἡ μίξις τῶν στοιχείων καθ’ ἣν σὰρξ καὶ καθ’ ἣν ὀστοῦν. συμβήσεται οὖν πολλάς τε ψυχὰς ἔχειν καὶ κατὰ πᾶν τὸ σῶμα, εἴπερ πάντα μὲν ἐκ τῶν στοιχείων μεμιγμένων, ὁ δὲ τῆς μίξεως λόγος ἁρμονία καὶ ψυχή.

ἀπαιτήσειε δ’ ἄν τις τοῦτό γε καὶ παρ’ Ἐμπεδοκλέους· ἕκαστον γὰρ αὐτῶν λόγῳ τινί φησιν εἶναι· πότερον οὖν ὁ λόγος ἐστὶν ἡ ψυχή, ἢ μᾶλλον ἕτερόν τι οὖσα ἐγγίνεται τοῖς μέρεσιν; ἔτι δὲ πότερον ἡ φιλία τῆς τυχούσης αἰτία μίξεως ἢ τῆς κατὰ τὸν λόγον, καὶ αὕτη πότερον ὁ λόγος ἐστὶν ἢ παρὰ τὸν λόγον ἕτερόν τι;

ταῦτα μὲν οὖν ἔχει τοιαύτας ἀπορίας. εἰ δ’ ἐστὶν ἕτερον ἡ ψυχὴ τῆς μίξεως, τί δή ποτε ἅμα τῷ σαρκὶ εἶναι ἀναιρεῖται καὶ τὸ τοῖς ἄλλοις μορίοις τοῦ ζῴου; πρὸς δὲ τούτοις εἴπερ μὴ ἕκαστον τῶν μορίων ψυχὴν ἔχει, εἰ μὴ ἔστιν ἡ ψυχὴ ὁ λόγος τῆς μίξεως, τί ἐστιν ὃ φθείρεται τῆς ψυχῆς ἀπολιπούσης;

ὅτι μὲν οὖν οὔθ' ἁρμονίαν οἷόν τ' εἶναι τὴν ψυχὴν οὔτε κύκλῳ περιφέρεσθαι, δῆλον ἐκ τῶν εἰρημένων. κατὰ συμβεβηκὸς δὲ κινεῖσθαι, καθάπερ εἴπομεν, ἔστι, καὶ κι- νεῖν ἑαυτήν, οἷον κινεῖσθαι μὲν ἐν ᾧ ἐστι, τοῦτο δὲ κινεῖσθαι ὑπὸ τῆς ψυχῆς· ἄλλως δ' οὐχ οἷόν τε κινεῖσθαι κατὰ τόπον αὐτήν.

εὐλογώτερον δ' ἀπορήσειεν ἄν τις περὶ αὐτῆς ὡς [408b] κινουμένης, εἰς τὰ τοιαῦτα ἀποβλέψας· φαμὲν γὰρ τὴν ψυχὴν λυπεῖσθαι χαίρειν, θαρρεῖν φοβεῖσθαι, ἔτι δὲ ὀργίζεσθαί τε καὶ αἰσθάνεσθαι καὶ διανοεῖσθαι· ταῦτα δὲ πάντα κινήσεις εἶναι δοκοῦσιν. ὅθεν οἰηθείη τις ἂν αὐτὴν κινεῖσθαι·

τὸ δ' οὐκ ἔστιν ἀναγκαῖον. εἰ γὰρ καὶ ὅτι μάλιστα τὸ λυπεῖσθαι ἢ χαίρειν ἢ διανοεῖσθαι κινήσεις εἰσί, καὶ ἕκαστον κινεῖσθαί τι τούτων, τὸ δὲ κινεῖσθαί ἐστιν ὑπὸ τῆς ψυχῆς, οἷον τὸ ὀργίζεσθαι ἢ φοβεῖσθαι τὸ τὴν καρδίαν ὡδὶ κινεῖσθαι, τὸ δὲ διανοεῖσθαι ἤ τι τοιοῦτον ἴσως ἢ ἕτερόν τι, τούτων δὲ συμβαίνει τὰ μὲν κατὰ φοράν τινων κινουμένων, τὰ δὲ κατ' ἀλλοίωσιν (ποῖα δὲ καὶ πῶς, ἕτερός ἐστι λόγος),

τὸ δὴ λέγειν ὀργίζεσθαι τὴν ψυχὴν ὅμοιον κἂν εἴ τις λέγοι τὴν ψυχὴν ὑφαίνειν ἢ οἰκοδομεῖν· βέλτιον γὰρ ἴσως μὴ λέγειν τὴν ψυχὴν ἐλεεῖν ἢ μανθάνειν ἢ διανοεῖσθαι, ἀλλὰ τὸν ἄνθρωπον τῇ ψυχῇ· τοῦτο δὲ μὴ ὡς ἐν ἐκείνῃ τῆς κινήσεως οὔσης, ἀλλ' ὁτὲ μὲν μέχρι ἐκείνης, ὁτὲ δ' ἀπ' ἐκείνης, οἷον ἡ μὲν αἴσθησις ἀπὸ τωνδί, ἡ δ' ἀνάμνησις ἀπ' ἐκείνης ἐπὶ τὰς ἐν τοῖς αἰσθητηρίοις κινήσεις ἢ μονάς.

[408b18] ὁ δὲ νοῦς ἔοικεν ἐγγίνεσθαι οὐσία τις οὖσα, καὶ οὐ φθείρεσθαι. μάλιστα γὰρ ἐφθείρετ' ἂν ὑπὸ τῆς ἐν τῷ γήρᾳ ἀμαυρώσεως, νῦν δ' ὥσπερ ἐπὶ τῶν αἰσθητηρίων συμβαίνει· εἰ γὰρ λάβοι ὁ πρεσβύτης ὄμμα τοιονδί, βλέποι ἂν ὥσπερ καὶ ὁ νέος. ὥστε τὸ γῆρας οὐ τῷ τὴν ψυχήν τι πεπονθέναι, ἀλλ' ἐν ᾧ, καθάπερ ἐν μέθαις καὶ νόσοις.

καὶ τὸ νοεῖν δὴ καὶ τὸ θεωρεῖν μαραίνεται ἄλλου τινὸς ἔσω φθειρομένου, αὐτὸ δὲ ἀπαθές ἐστιν. τὸ δὲ διανοεῖσθαι καὶ φιλεῖν ἢ μισεῖν οὐκ ἔστιν ἐκείνου πάθη, ἀλλὰ τουδὶ τοῦ ἔχοντος ἐκεῖνο, ᾗ ἐκεῖνο ἔχει. διὸ καὶ τούτου φθειρομένου οὔτε μνημονεύει οὔτε φιλεῖ· οὐ γὰρ ἐκείνου ἦν, ἀλλὰ τοῦ κοινοῦ, ὃ ἀπόλωλεν· ὁ δὲ νοῦς ἴσως θειότερόν τι καὶ ἀπαθές ἐστιν.

ὅτι μὲν οὖν οὐχ οἷόν τε κινεῖσθαι τὴν ψυχήν, φανερὸν ἐκ τούτων· εἰ δ' ὅλως μὴ κινεῖται, δῆλον ὡς οὐδ' ὑφ' ἑαυτῆς.

πολὺ δὲ τῶν εἰρημένων ἀλογώτατον τὸ λέγειν ἀριθμὸν εἶναι τὴν ψυχὴν κινοῦνθ' ἑαυτόν· ὑπάρχει γὰρ αὐτοῖς ἀδύνατα πρῶτα μὲν τὰ ἐκ τοῦ κινεῖσθαι συμβαίνοντα, ἴδια δ' ἐκ τοῦ [409a] λέγειν αὐτὴν ἀριθμόν. πῶς γὰρ χρὴ νοῆσαι μονάδα κινουμένην, καὶ ὑπὸ τίνος, καὶ πῶς, ἀμερῆ καὶ ἀδιάφορον οὖσαν; ᾗ γάρ ἐστι κινητικὴ καὶ κινητή, διαφέρειν δεῖ. ἔτι δ’ ἐπεί φασι κινηθεῖσαν γραμμὴν ἐπίπεδον ποιεῖν, στιγμὴν δὲ γραμμήν, καὶ αἱ τῶν μονάδων κινήσεις γραμμαὶ ἔσονται· ἡ γὰρ στιγμὴ μονάς ἐστι θέσιν ἔχουσα, ὁ δ’ ἀριθμὸς τῆς ψυχῆς ἤδη πού ἐστι καὶ θέσιν ἔχει.

ἔτι δ’ ἀριθμοῦ μὲν ἐὰν ἀφέλῃ τις ἀριθμὸν ἢ μονάδα, λείπεται ἄλλος ἀριθμός· τὰ δὲ φυτὰ καὶ τῶν ζῴων πολλὰ διαιρούμενα ζῇ καὶ δοκεῖ τὴν αὐτὴν ψυχὴν ἔχειν τῷ εἴδει.

δόξειε δ’ ἂν οὐθὲν διαφέρειν μονάδας λέγειν ἢ σωμάτια μικρά· καὶ γὰρ ἐκ τῶν Δημοκρίτου σφαιρίων ἐὰν γένωνται στιγμαί, μόνον δὲ μένῃ τὸ ποσόν, ἔσται [τι] ἐν αὐτῷ τὸ μὲν κινοῦν τὸ δὲ κινούμενον, ὥσπερ ἐν τῷ συνεχεῖ· οὐ γὰρ διὰ τὸ μεγέθει διαφέρειν ἢ μικρότητι συμβαίνει τὸ λεχθέν, ἀλλ’ ὅτι ποσόν· διὸ ἀναγκαῖον εἶναί τι τὸ κινῆσον τὰς μονάδας. εἰ δ’ ἐν τῷ ζῴῳ τὸ κινοῦν ἡ ψυχή, καὶ ἐν τῷ ἀριθμῷ, ὥστε οὐ τὸ κινοῦν καὶ κινούμενον ἡ ψυχή, ἀλλὰ τὸ κινοῦν μόνον.

ἐνδέχεται δὲ δὴ πῶς μονάδα ταύτην εἶναι; δεῖ γὰρ ὑπάρχειν τινὰ αὐτῇ διαφορὰν πρὸς τὰς ἄλλας, στιγμῆς δὲ μοναδικῆς τίς ἂν εἴη διαφορὰ πλὴν θέσις; εἰ μὲν οὖν εἰσὶν ἕτεραι αἱ ἐν τῷ σώματι μονάδες καὶ αἱ στιγμαί, ἐν τῷ αὐτῷ ἔσονται αἱ μονάδες· καθέξει γὰρ <ἑκάστη> χώραν στιγμῆς. καίτοι τί κωλύει ἐν τῷ αὐτῷ εἶναι, εἰ δύο, καὶ ἄπειρα; ὧν γὰρ ὁ τόπος ἀδιαίρετος, καὶ αὐτά.

εἰ δ’ αἱ ἐν τῷ σώματι στιγμαὶ ὁ ἀριθμὸς ὁ τῆς ψυχῆς, ἢ εἰ ὁ τῶν ἐν τῷ σώματι στιγμῶν ἀριθμὸς ἡ ψυχή, διὰ τί οὐ πάντα ψυχὴν ἔχουσι τὰ σώματα; στιγμαὶ γὰρ ἐν ἅπασι δοκοῦσιν εἶναι καὶ ἄπειροι.

ἔτι δὲ πῶς οἷόν τε χωρίζεσθαι τὰς στιγμὰς καὶ ἀπολύεσθαι τῶν σωμάτων, εἴ γε μὴ διαιροῦνται αἱ γραμμαὶ εἰς στιγμάς;

Κεφάλαιο 5

[409a31] Συμβαίνει δέ, καθάπερ εἴπομεν, τῇ μὲν ταὐτὸ λέγειν τοῖς σῶμά τι λεπτομερὲς αὐτὴν τιθεῖσι, τῇ δ’, ὥσπερ [409b] Δημόκριτος κινεῖσθαί φησιν ὑπὸ τῆς ψυχῆς, ἴδιον τὸ ἄτοπον. εἴπερ γάρ ἐστιν ἡ ψυχὴ ἐν παντὶ τῷ αἰσθανομένῳ σώματι, ἀναγκαῖον ἐν τῷ αὐτῷ δύο εἶναι σώματα, εἰ σῶμά τι ἡ ψυχή· τοῖς δ’ ἀριθμὸν λέγουσιν, ἐν τῇ μιᾷ στιγμῇ πολλὰς στιγμάς, καὶ πᾶν σῶμα ψυχὴν ἔχειν, εἰ μὴ διαφέρων τις ἀριθμὸς ἐγγίνεται καὶ ἄλλος τις τῶν ὑπαρχουσῶν ἐν τῷ σώματι στιγμῶν·

συμβαίνει τε κινεῖσθαι τὸ ζῷον ὑπὸ τοῦ ἀριθμοῦ, καθάπερ καὶ Δημόκριτον αὐτὸ ἔφαμεν κινεῖν· τί γὰρ διαφέρει σφαίρας λέγειν μικρὰς ἢ μονάδας μεγάλας, ἢ ὅλως μονάδας φερομένας; ἀμφοτέρως γὰρ ἀναγκαῖον κινεῖν τὸ ζῷον τῷ κινεῖσθαι ταύτας.

τοῖς δὴ συμπλέξασιν εἰς τὸ αὐτὸ κίνησιν καὶ ἀριθμὸν ταῦτά τε συμβαίνει καὶ πολλὰ ἕτερα τοιαῦτα· οὐ γὰρ μόνον ὁρισμὸν ψυχῆς ἀδύνατον τοιοῦτον εἶναι, ἀλλὰ καὶ συμβεβηκός. δῆλον δ’ εἴ τις ἐπιχειρήσειεν ἐκ τοῦ λόγου τούτου τὰ πάθη καὶ τὰ ἔργα τῆς ψυχῆς ἀποδιδόναι, οἷον λογισμούς, αἰσθήσεις, ἡδονάς, λύπας, ὅσα ἄλλα τοιαῦτα· ὥσπερ γὰρ εἴπομεν πρότερον, οὐδὲ μαντεύσασθαι ῥᾴδιον ἐξ αὐτῶν.

τριῶν δὲ τρόπων παραδεδομένων καθ’ οὓς ὁρίζονται τὴν ψυχήν, οἱ μὲν τὸ κινητικώτατον ἀπεφήναντο τῷ κινεῖν ἑαυτό, οἱ δὲ σῶμα τὸ λεπτομερέστατον ἢ τὸ ἀσωματώτατον τῶν ἄλλων. ταῦτα δὲ τίνας ἀπορίας τε καὶ ὑπεναντιώσεις ἔχει, διεληλύθαμεν σχεδόν·

λείπεται δ’ ἐπισκέψασθαι πῶς λέγεται τὸ ἐκ τῶν στοιχείων αὐτὴν εἶναι. λέγουσι μὲν γάρ, ἵν’ αἰσθάνηταί τε τῶν ὄντων καὶ ἕκαστον γνωρίζῃ· ἀναγκαῖον δὲ συμβαίνειν πολλὰ καὶ ἀδύνατα τῷ λόγῳ. τίθενται γὰρ γνωρίζειν τῷ ὁμοίῳ τὸ ὅμοιον, ὥσπερ ἂν εἰ τὴν ψυχὴν τὰ πράγματα τιθέντες. οὐκ ἔστι δὲ μόνα ταῦτα, πολλὰ δὲ καὶ ἕτερα, μᾶλλον δ’ ἴσως ἄπειρα τὸν ἀριθμὸν τὰ ἐκ τούτων. ἐξ ὧν μὲν οὖν ἐστιν ἕκαστον τούτων, ἔστω γινώσκειν τὴν ψυχὴν καὶ αἰσθάνεσθαι· ἀλλὰ τὸ σύνολον τίνι γνωριεῖ ἢ αἰσθήσεται, οἷον τί θεὸς ἢ ἄνθρωπος ἢ σὰρξ ἢ ὀστοῦν; ὁμοίως δὲ καὶ [410a] ἄλλο ὁτιοῦν τῶν συνθέτων· οὐ γὰρ ὁπωσοῦν ἔχοντα τὰ στοιχεῖα τούτων ἕκαστον, ἀλλὰ λόγῳ τινὶ καὶ συνθέσει, καθάπερ φησὶ καὶ Ἐμπεδοκλῆς τὸ ὀστοῦν·

ἡ δὲ χθὼν ἐπίηρος ἐν εὐστέρνοις χοάνοισιν
τὼ δύο τῶν ὀκτὼ μερέων λάχε νήστιδος αἴγλης,
τέσσαρα δ’ Ἡφαίστοιο· τὰ δ’ ὀστέα λευκὰ γένοντο.

οὐδὲν οὖν ὄφελος ἐνεῖναι τὰ στοιχεῖα ἐν τῇ ψυχῇ, εἰ μὴ καὶ οἱ λόγοι ἐνέσονται καὶ ἡ σύνθεσις· γνωριεῖ γὰρ ἕκαστον τὸ ὅμοιον, τὸ δ’ ὀστοῦν ἢ τὸν ἄνθρωπον οὐθέν, εἰ μὴ καὶ ταῦτ’ ἐνέσται. τοῦτο δ’ ὅτι ἀδύνατον, οὐθὲν δεῖ λέγειν· τίς γὰρ ἂν ἀπορήσειεν εἰ ἔνεστιν ἐν τῇ ψυχῇ λίθος ἢ ἄνθρωπος; ὁμοίως δὲ καὶ τὸ ἀγαθὸν καὶ τὸ μὴ ἀγαθόν· τὸν αὐτὸν δὲ τρόπον καὶ περὶ τῶν ἄλλων.

[410a13] ἔτι δὲ πολλαχῶς λεγομένου τοῦ ὄντος (σημαίνει γὰρ τὸ μὲν τόδε τι, τὸ δὲ ποσὸν ἢ ποιὸν ἢ καί τινα ἄλλην τῶν διαιρεθεισῶν κατηγοριῶν) πότερον ἐξ ἁπάντων ἔσται ἡ ψυχὴ ἢ οὔ; ἀλλ’ οὐ δοκεῖ κοινὰ πάντων εἶναι στοιχεῖα. ἆρ’ οὖν ὅσα τῶν οὐσιῶν, ἐκ τούτων μόνον; πῶς οὖν γινώσκει καὶ τῶν ἄλλων ἕκαστον; ἢ φήσουσιν ἑκάστου γένους εἶναι στοιχεῖα καὶ ἀρχὰς ἰδίας, ἐξ ὧν τὴν ψυχὴν συνεστάναι; ἔσται ἄρα ποσὸν καὶ ποιὸν καὶ οὐσία. ἀλλ’ ἀδύνατον ἐκ τῶν τοῦ ποσοῦ στοιχείων οὐσίαν εἶναι καὶ μὴ ποσόν. τοῖς δὴ λέγουσιν ἐκ πάντων ταὐτά τε καὶ τοιαῦθ’ ἕτερα συμβαίνει.

ἄτοπον δὲ καὶ τὸ φάναι μὲν ἀπαθὲς εἶναι τὸ ὅμοιον ὑπὸ τοῦ ὁμοίου, αἰσθάνεσθαι δὲ τὸ ὅμοιον τοῦ ὁμοίου καὶ γινώσκειν τῷ ὁμοίῳ τὸ ὅμοιον· τὸ δ’ αἰσθάνεσθαι πάσχειν τι καὶ κινεῖσθαι τιθέασιν· ὁμοίως δὲ καὶ τὸ νοεῖν τε καὶ γινώσκειν.

πολλὰς δ’ ἀπορίας καὶ δυσχερείας ἔχοντος τοῦ λέγειν, καθάπερ Ἐμπεδοκλῆς, ὡς τοῖς σωματικοῖς στοιχείοις ἕκαστα γνωρίζεται, καί, πρός, τῷ ὁμοίῳ, μαρτυρεῖ τὸ νῦν λεχθέν· ὅσα γάρ ἐστιν ἐν τοῖς τῶν ζῴων σώμασιν ἁπλῶς γῆς, οἷον [410b] ὀστᾶ νεῦρα τρίχες, οὐθενὸς αἰσθάνεσθαι δοκεῖ, ὥστ’ οὐδὲ τῶν ὁμοίων· καίτοι προσῆκεν. ἔτι δ’ ἑκάστῃ τῶν ἀρχῶν ἄγνοια πλείων ἢ σύνεσις ὑπάρξει· γνώσεται μὲν γὰρ ἓν ἑκάστη, πολλὰ δ’ ἀγνοήσει· πάντα γὰρ τἆλλα. συμβαίνει δ’ Ἐμπεδοκλεῖ γε καὶ ἀφρονέστατον εἶναι τὸν θεόν· μόνος γὰρ τῶν στοιχείων ἓν οὐ γνωριεῖ, τὸ νεῖκος, τὰ δὲ θνητὰ πάντα· ἐκ πάντων γὰρ ἕκαστον.

ὅλως τε διὰ τίν’ αἰτίαν οὐχ ἅπαντα ψυχὴν ἔχει τὰ ὄντα, ἐπειδὴ πᾶν ἤτοι στοιχεῖον ἢ ἐκ στοιχείου ἑνὸς ἢ πλειόνων ἢ πάντων; ἀναγκαῖον γάρ ἐστιν ἕν τι γινώσκειν ἢ τινὰ ἢ πάντα.

ἀπορήσειε δ’ ἄν τις καὶ τί ποτ’ ἐστὶ τὸ ἑνοποιοῦν αὐτά· ὕλῃ γὰρ ἔοικε τά γε στοιχεῖα, κυριώτατον δ’ ἐκεῖνο τὸ συνέχον, ὅ τί ποτ’ ἐστίν· τῆς δὲ ψυχῆς εἶναί τι κρεῖττον καὶ ἄρχον ἀδύνατον· ἀδυνατώτερον δ’ ἔτι τοῦ νοῦ· εὔλογον γὰρ τοῦτον εἶναι προγενέστατον καὶ κύριον κατὰ φύσιν, τὰ δὲ στοιχεῖά φασι πρῶτα τῶν ὄντων εἶναι.

πάντες δὲ καὶ οἱ διὰ τὸ γνωρίζειν καὶ αἰσθάνεσθαι τὰ ὄντα τὴν ψυχὴν ἐκ τῶν στοιχείων λέγοντες αὐτήν, καὶ οἱ τὸ κινητικώτατον, οὐ περὶ πάσης λέγουσι ψυχῆς. οὔτε γὰρ τὰ αἰσθανόμενα πάντα κινητικά (φαίνεται γὰρ εἶναί τινα μόνιμα τῶν ζῴων κατὰ τόπον· καίτοι δοκεῖ γε ταύτην μόνην τῶν κινήσεων κινεῖν ἡ ψυχὴ τὸ ζῷον)· ὁμοίως δὲ καὶ ὅσοι τὸν νοῦν καὶ τὸ αἰσθητικὸν ἐκ τῶν στοιχείων ποιοῦσιν. φαίνεται γὰρ τά τε φυτὰ ζῆν οὐ μετέχοντα [φορᾶς οὐδ’] αἰσθήσεως, καὶ τῶν ζῴων <τὰ> πολλὰ διάνοιαν οὐκ ἔχειν.

εἰ δέ τις καὶ ταῦτα παραχωρήσειε καὶ θείη τὸν νοῦν μέρος τι τῆς ψυχῆς, ὁμοίως δὲ καὶ τὸ αἰσθητικόν, οὐδ’ ἂν οὕτω λέγοιεν καθόλου περὶ πάσης ψυχῆς οὐδὲ περὶ ὅλης οὐδεμιᾶς.

τοῦτο δὲ πέπονθε καὶ ὁ ἐν τοῖς Ὀρφικοῖς καλουμένοις ἔπεσι λόγος· φησὶ γὰρ τὴν ψυχὴν ἐκ τοῦ ὅλου εἰσιέναι ἀναπνεόντων, φερομένην ὑπὸ τῶν ἀνέμων, οὐχ οἷόν τε δὲ τοῖς φυτοῖς τοῦτο συμβαίνειν οὐδὲ [411a] τῶν ζῴων ἐνίοις, εἴπερ μὴ πάντα ἀναπνέουσιν· τοῦτο δὲ λέληθε τοὺς οὕτως ὑπειληφότας.

(εἰ δὲ δεῖ τὴν ψυχὴν ἐκ τῶν στοιχείων ποιεῖν, οὐθὲν δεῖ ἐξ ἁπάντων· ἱκανὸν γὰρ θάτερον μέρος τῆς ἐναντιώσεως ἑαυτό τε κρίνειν καὶ τὸ ἀντικείμενον. καὶ γὰρ τῷ εὐθεῖ καὶ αὐτὸ καὶ τὸ καμπύλον γινώσκομεν· κριτὴς γὰρ ἀμφοῖν ὁ κανών, τὸ δὲ καμπύλον οὔθ’ ἑαυτοῦ οὔτε τοῦ εὐθέος.)

καὶ ἐν τῷ ὅλῳ δή τινες αὐτὴν μεμῖχθαί φασιν, ὅθεν ἴσως καὶ Θαλῆς ᾠήθη πάντα πλήρη θεῶν εἶναι.

τοῦτο δ’ ἔχει τινὰς ἀπορίας· διὰ τίνα γὰρ αἰτίαν ἐν μὲν τῷ ἀέρι ἢ τῷ πυρὶ οὖσα ἡ ψυχὴ οὐ ποιεῖ ζῷον, ἐν δὲ τοῖς μικτοῖς, καὶ ταῦτα βελτίων ἐν τούτοις εἶναι δοκοῦσα;

(ἐπιζητήσειε δ’ ἄν τις καὶ διὰ τίν’ αἰτίαν ἡ ἐν τῷ ἀέρι ψυχὴ τῆς ἐν τοῖς ζῴοις βελτίων ἐστὶ καὶ ἀθανατωτέρα.)

συμβαίνει δ’ ἀμφοτέρως ἄτοπον καὶ παράλογον· καὶ γὰρ τὸ λέγειν ζῷον τὸ πῦρ ἢ τὸν ἀέρα τῶν παραλογωτέρων ἐστί, καὶ τὸ μὴ λέγειν ζῷα ψυχῆς ἐνούσης ἄτοπον. ὑπολαβεῖν δ’ ἐοίκασιν εἶναι τὴν ψυχὴν ἐν τούτοις ὅτι τὸ ὅλον τοῖς μορίοις ὁμοειδές· ὥστ’ ἀναγκαῖον αὐτοῖς λέγειν καὶ τὴν ψυχὴν ὁμοειδῆ τοῖς μορίοις εἶναι, εἰ τῷ ἀπολαμβάνεσθαί τι τοῦ περιέχοντος ἐν τοῖς ζῴοις ἔμψυχα τὰ ζῷα γίνεται. εἰ δ’ ὁ μὲν ἀὴρ διασπώ- μενος ὁμοειδής, ἡ δὲ ψυχὴ ἀνομοιομερής, τὸ μέν τι αὐτῆς ὑπάρξει δῆλον ὅτι, τὸ δ’ οὐχ ὑπάρξει.

ἀναγκαῖον οὖν αὐτὴν ἢ ὁμοιομερῆ εἶναι ἢ μὴ ἐνυπάρχειν ἐν ὁτῳοῦν μορίῳ τοῦ παντός.

φανερὸν οὖν ἐκ τῶν εἰρημένων ὡς οὔτε τὸ γινώσκειν ὑπάρχει τῇ ψυχῇ διὰ τὸ ἐκ τῶν στοιχείων εἶναι, οὔτε τὸ κινεῖσθαι αὐτὴν καλῶς οὐδ' ἀληθῶς λέγεται.

ἐπεὶ δὲ τὸ γινώσκειν τῆς ψυχῆς ἐστὶ καὶ τὸ αἰσθάνεσθαί τε καὶ τὸ δοξάζειν, ἔτι δὲ τὸ ἐπιθυμεῖν καὶ βούλεσθαι καὶ ὅλως αἱ ὀρέξεις, γίνεται δὲ καὶ ἡ κατὰ τόπον κίνησις τοῖς ζῴοις ὑπὸ τῆς ψυχῆς, ἔτι δ' αὔξη τε καὶ ἀκμὴ καὶ φθίσις, πότερον ὅλῃ [411b] τῇ ψυχῇ τούτων ἕκαστον ὑπάρχει, καὶ πάσῃ νοοῦμέν τε καὶ αἰσθανόμεθα καὶ κινούμεθα καὶ τῶν ἄλλων ἕκαστον ποιοῦμέν τε καὶ πάσχομεν, ἢ μορίοις ἑτέροις ἕτερα; καὶ τὸ ζῆν δὴ πότερον ἔν τινι τούτων ἐστὶν ἑνὶ ἢ καὶ ἐν πλείοσιν ἢ πᾶσιν, ἢ καὶ ἄλλο τι αἴτιον;

λέγουσι δή τινες μεριστὴν αὐτήν, καὶ ἄλλῳ μὲν νοεῖν ἄλλῳ δὲ ἐπιθυμεῖν. τί οὖν δή ποτε συνέχει τὴν ψυχήν, εἰ μεριστὴ πέφυκεν; οὐ γὰρ δὴ τό γε σῶμα· δοκεῖ γὰρ τοὐναντίον μᾶλλον ἡ ψυχὴ τὸ σῶμα συνέχειν· ἐξελθούσης γοῦν διαπνεῖται καὶ σήπεται. εἰ οὖν ἕτερόν τι μίαν αὐτὴν ποιεῖ, ἐκεῖνο μάλιστ' ἂν εἴη ψυχή. δεήσει δὲ πάλιν κἀκεῖνο ζητεῖν πότερον ἓν ἢ πολυμερές. εἰ μὲν γὰρ ἕν, διὰ τί οὐκ εὐθέως καὶ ἡ ψυχὴ ἕν; εἰ δὲ μεριστόν, πάλιν ὁ λόγος ζητήσει τί τὸ συνέχον ἐκεῖνο, καὶ οὕτω δὴ πρόεισιν ἐπὶ τὸ ἄπειρον.

[411b14] ἀπορήσειε δ' ἄν τις καὶ περὶ τῶν μορίων αὐτῆς, τίν' ἔχει δύναμιν ἕκαστον ἐν τῷ σώματι. εἰ γὰρ ἡ ὅλη ψυχὴ πᾶν τὸ σῶμα συνέχει, προσήκει καὶ τῶν μορίων ἕκαστον συνέχειν τι τοῦ σώματος. τοῦτο δ' ἔοικεν ἀδυνάτῳ· ποῖον γὰρ μόριον ἢ πῶς ὁ νοῦς συνέξει, χαλεπὸν καὶ πλάσαι.

φαίνεται δὲ καὶ τὰ φυτὰ διαιρούμενα ζῆν καὶ τῶν ζῴων ἔνια τῶν ἐντόμων, ὡς τὴν αὐτὴν ἔχοντα ψυχὴν τῷ εἴδει, εἰ καὶ μὴ ἀριθμῷ· ἑκάτερον γὰρ τῶν μορίων αἴσθησιν ἔχει καὶ κινεῖται κατὰ τόπον ἐπί τινα χρόνον. εἰ δὲ μὴ διατελοῦσιν, οὐθὲν ἄτοπον· ὄργανα γὰρ οὐκ ἔχουσιν ὥστε σώζειν τὴν φύσιν. ἀλλ' οὐδὲν ἧττον ἐν ἑκατέρῳ τῶν μορίων ἅπαντ' ἐνυπάρχει τὰ μόρια τῆς ψυχῆς, καὶ ὁμοειδῆ ἐστιν ἀλλήλοις καὶ τῇ ὅλῃ, ἀλλήλοις μὲν ὡς οὐ χωριστὰ ὄντα, τῇ δ' ὅλῃ ψυχῇ ὡς οὐ διαιρετῇ οὔσῃ.

ἔοικε δὲ καὶ ἡ ἐν τοῖς φυτοῖς ἀρχὴ ψυχή τις εἶναι· μόνης γὰρ ταύτης κοινωνεῖ καὶ ζῷα καὶ φυτά, καὶ αὕτη μὲν χωρίζεται τῆς αἰσθητικῆς ἀρχῆς, αἴσθησιν δ' οὐθὲν ἄνευ ταύτης ἔχει.

Βιβλίο Β

Κεφάλαιο 1

[412a] 1. Τὰ μὲν δὴ ὑπὸ τῶν πρότερον παραδεδομένα περὶ ψυχῆς εἰρήσθω· πάλιν δ’ ὥσπερ ἐξ ὑπαρχῆς ἐπανίωμεν, πειρώμενοι διορίσαι τί ἐστι ψυχὴ καὶ τίς ἂν εἴη κοινότατος λόγος αὐτῆς.

2. λέγομεν δὴ γένος ἕν τι τῶν ὄντων τὴν οὐσίαν, ταύτης δὲ τὸ μέν, ὡς ὕλην, ὃ καθ’ αὑτὸ οὐκ ἔστι τόδε τι, ἕτερον δὲ μορφὴν καὶ εἶδος, καθ’ ἣν ἤδη λέγεται τόδε τι, καὶ τρίτον τὸ ἐκ τούτων. ἔστι δ’ ἡ μὲν ὕλη δύναμις, τὸ δ’ εἶδος ἐντελέχεια, καὶ τοῦτο διχῶς, τὸ μὲν ὡς ἐπιστήμη, τὸ δ’ ὡς τὸ θεωρεῖν.

3. οὐσίαι δὲ μάλιστ’ εἶναι δοκοῦσι τὰ σώματα, καὶ τούτων τὰ φυσικά· ταῦτα γὰρ τῶν ἄλλων ἀρχαί. τῶν δὲ φυσικῶν τὰ μὲν ἔχει ζωήν, τὰ δ’ οὐκ ἔχει· ζωὴν δὲ λέγομεν τὴν δι’ αὑτοῦ τροφήν τε καὶ αὔξησιν καὶ φθίσιν. ὥστε πᾶν σῶμα φυσικὸν μετέχον ζωῆς οὐσία ἂν εἴη, οὐσία δ’ οὕτως ὡς συνθέτη.

4. ἐπεὶ δ’ ἐστὶ καὶ σῶμα καὶ τοιόνδε, ζωὴν γὰρ ἔχον, οὐκ ἂν εἴη σῶμα ἡ ψυχή· οὐ γάρ ἐστι τῶν καθ’ ὑποκειμένου τὸ σῶμα, μᾶλλον δ’ ὡς ὑποκείμενον καὶ ὕλη. ἀναγκαῖον ἄρα τὴν ψυχὴν οὐσίαν εἶναι ὡς εἶδος σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος. ἡ δ’ οὐσία ἐντελέχεια· τοιούτου ἄρα σώματος ἐντελέχεια.

5. αὕτη δὲ λέγεται διχῶς, ἡ μὲν ὡς ἐπιστήμη, ἡ δ’ ὡς τὸ θεωρεῖν. φανερὸν οὖν ὅτι ὡς ἐπιστήμη· ἐν γὰρ τῷ ὑπάρχειν τὴν ψυχὴν καὶ ὕπνος καὶ ἐγρήγορσίς ἐστιν, ἀνάλογον δ’ ἡ μὲν ἐγρήγορσις τῷ θεωρεῖν, ὁ δ’ ὕπνος τῷ ἔχειν καὶ μὴ ἐνεργεῖν· προτέρα δὲ τῇ γενέσει ἐπὶ τοῦ αὐτοῦ ἡ ἐπιστήμη. διὸ ἡ ψυχή ἐστιν ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος.

6. τοιοῦτον δὲ ὃ ἂν ᾖ ὀργανικόν. (ὄργανα δὲ καὶ τὰ τῶν φυτῶν μέρη, ἀλλὰ παντελῶς ἁπλᾶ, οἷον τὸ φύλλον περικαρπίου σκέπασμα, τὸ δὲ περικάρπιον καρποῦ· αἱ δὲ ῥίζαι τῷ στόματι ἀνάλογον· ἄμφω γὰρ ἕλκει τὴν τροφήν.) εἰ δή τι κοινὸν ἐπὶ πάσης ψυχῆς δεῖ λέγειν, εἴη ἂν ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ ὀργανικοῦ.

7. διὸ καὶ οὐ δεῖ ζητεῖν εἰ ἓν ἡ ψυχὴ καὶ τὸ σῶμα, ὥσπερ οὐδὲ τὸν κηρὸν καὶ τὸ σχῆμα, οὐδ’ ὅλως τὴν ἑκάστου ὕλην καὶ τὸ οὗ ἡ ὕλη· τὸ γὰρ ἓν καὶ τὸ εἶναι ἐπεὶ πλεοναχῶς λέγεται, τὸ κυρίως ἡ ἐντελέχειά ἐστιν.

8. καθόλου μὲν οὖν εἴρηται τί ἐστιν ἡ ψυχή· οὐσία γὰρ ἡ κατὰ τὸν λόγον. τοῦτο δὲ τὸ τί ἦν εἶναι τῷ τοιῳδὶ σώματι, καθάπερ εἴ τι τῶν ὀργάνων φυσικὸν

ἦν σῶμα, οἷον πέλεκυς· ἦν μὲν γὰρ ἂν τὸ πελέκει εἶναι ἡ οὐσία αὐτοῦ, καὶ ἡ ψυχὴ τοῦτο· χωρισθείσης δὲ ταύτης οὐκ ἂν ἔτι πέλεκυς ἦν, ἀλλ᾽ ἢ ὁμωνύμως, νῦν δ᾽ ἔστι πέλεκυς. οὐ γὰρ τοιούτου σώματος τὸ τί ἦν εἶναι καὶ ὁ λόγος ἡ ψυχή, ἀλλὰ φυσικοῦ τοιουδί, ἔχοντος ἀρχὴν κινήσεως καὶ στάσεως ἐν ἑαυτῷ.

9. θεωρεῖν δὲ καὶ ἐπὶ τῶν μερῶν δεῖ τὸ λεχθέν. εἰ γὰρ ἦν ὁ ὀφθαλμὸς ζῷον, ψυχὴ ἂν ἦν αὐτοῦ ἡ ὄψις· αὕτη γὰρ οὐσία ὀφθαλμοῦ ἡ κατὰ τὸν λόγον (ὁ δ᾽ ὀφθαλμὸς ὕλη ὄψεως), ἧς ἀπολειπούσης οὐκέτ᾽ ὀφθαλμός, πλὴν ὁμωνύμως, καθάπερ ὁ λίθινος καὶ ὁ γεγραμμένος. δεῖ δὴ λαβεῖν τὸ ἐπὶ μέρους ἐφ᾽ ὅλου τοῦ ζῶντος σώματος· ἀνάλογον γὰρ ἔχει ὡς τὸ μέρος πρὸς τὸ μέρος, οὕτως ἡ ὅλη αἴσθησις πρὸς τὸ ὅλον σῶμα τὸ αἰσθητικόν, ᾗ τοιοῦτον.

10. ἔστι δὲ οὐ τὸ ἀποβεβληκὸς τὴν ψυχὴν τὸ δυνάμει ὂν ὥστε ζῆν, ἀλλὰ τὸ ἔχον· τὸ δὲ σπέρμα καὶ ὁ καρπὸς τὸ δυνάμει τοιονδὶ σῶμα. ὡς μὲν οὖν ἡ τμῆσις καὶ ἡ ὅρασις, οὕτω καὶ ἡ ἐγρήγορσις ἐντελέ-[413a]χεια, ὡς δ᾽ ἡ ὄψις καὶ ἡ δύναμις τοῦ ὀργάνου, ἡ ψυχή· τὸ δὲ σῶμα τὸ δυνάμει ὄν· ἀλλ᾽ ὥσπερ ὀφθαλμὸς ἡ κόρη καὶ ἡ ὄψις, κἀκεῖ ἡ ψυχὴ καὶ τὸ σῶμα ζῷον.

11. ὅτι μὲν οὖν οὐκ ἔστιν ἡ ψυχὴ χωριστὴ τοῦ σώματος, ἢ μέρη τινὰ αὐτῆς, εἰ μεριστὴ πέφυκεν, οὐκ ἄδηλον· ἐνίων γὰρ ἡ ἐντελέχεια τῶν μερῶν ἐστὶν αὐτῶν. οὐ μὴν ἀλλ᾽ ἔνιά γε οὐθὲν κωλύει, διὰ τὸ μηθενὸς εἶναι σώματος ἐντελεχείας.

12. ἔτι δὲ ἄδηλον εἰ οὕτως ἐντελέχεια τοῦ σώματος ἡ ψυχὴ <ἢ> ὥσπερ πλωτὴρ πλοίου. τύπῳ μὲν οὖν ταύτῃ διωρίσθω καὶ ὑπογεγράφθω περὶ ψυχῆς.

Κεφάλαιο 2

[413a11] 1. Ἐπεὶ δ’ ἐκ τῶν ἀσαφῶν μὲν φανερωτέρων δὲ γίνεται τὸ σαφὲς καὶ κατὰ τὸν λόγον γνωριμώτερον, πειρατέον πάλιν οὕτω γ’ ἐπελθεῖν περὶ αὐτῆς· οὐ γὰρ μόνον τὸ ὅτι δεῖ τὸν ὁριστικὸν λόγον δηλοῦν, ὥσπερ οἱ πλεῖστοι τῶν ὅρων λέγουσιν, ἀλλὰ καὶ τὴν αἰτίαν ἐνυπάρχειν καὶ ἐμφαίνεσθαι. νῦν δ’ ὥσπερ συμπεράσμαθ’ οἱ λόγοι τῶν ὅρων εἰσίν· οἷον τί ἐστιν ὁ τετραγωνισμός; τὸ ἴσον ἑτερομήκει ὀρθογώνιον εἶναι ἰσόπλευρον. ὁ δὲ τοιοῦτος ὅρος λόγος τοῦ συμπεράσματος· ὁ δὲ λέγων ὅτι ἐστὶν ὁ τετραγωνισμὸς μέσης εὕρεσις τοῦ πράγματος λέγει τὸ αἴτιον.

2. λέγομεν οὖν, ἀρχὴν λαβόντες τῆς σκέψεως, διωρίσθαι τὸ ἔμψυχον τοῦ ἀψύχου τῷ ζῆν. πλεοναχῶς δὲ τοῦ ζῆν λεγομένου, κἂν ἕν τι τούτων ἐνυπάρχῃ μόνον, ζῆν αὐτό φαμεν, οἷον νοῦς, αἴσθησις, κίνησις καὶ στάσις ἡ κατὰ τόπον, ἔτι κίνησις ἡ κατὰ τροφὴν καὶ φθίσις τε καὶ αὔξησις.

3. διὸ καὶ τὰ φυόμενα πάντα δοκεῖ ζῆν· φαίνεται γὰρ ἐν αὑτοῖς ἔχοντα δύναμιν καὶ ἀρχὴν τοιαύτην, δι’ ἧς αὔξησίν τε καὶ φθίσιν λαμβάνουσι κατὰ τοὺς ἐναντίους τόπους· οὐ γὰρ ἄνω μὲν αὔξεται, κάτω δ’ οὔ, ἀλλ’ ὁμοίως ἐπ’ ἄμφω καὶ πάντῃ, ὅσα ἀεὶ τρέφεταί τε καὶ ζῇ διὰ τέλους, ἕως ἂν δύνηται λαμβάνειν τροφήν.

4. χωρίζεσθαι δὲ τοῦτο μὲν τῶν ἄλλων δυνατόν, τὰ δ’ ἄλλα τούτου ἀδύνατον ἐν τοῖς θνητοῖς. φανερὸν δ’ ἐπὶ τῶν φυομένων· οὐδεμία γὰρ αὐτοῖς ὑπάρχει δύναμις ἄλλη [413b] ψυχῆς. τὸ μὲν οὖν ζῆν διὰ τὴν ἀρχὴν ταύτην ὑπάρχει τοῖς ζῶσι, τὸ δὲ ζῷον διὰ τὴν αἴσθησιν πρώτως· καὶ γὰρ τὰ μὴ κινούμενα μηδ’ ἀλλάττοντα τόπον, ἔχοντα δ’ αἴσθησιν, ζῷα λέγομεν καὶ οὐ ζῆν μόνον. αἰσθήσεως δὲ πρῶτον ὑπάρχει πᾶσιν ἁφή· ὥσπερ δὲ τὸ θρεπτικὸν δύναται χωρίζεσθαι τῆς ἁφῆς καὶ πάσης αἰσθήσεως, οὕτως ἡ ἁφὴ τῶν ἄλλων αἰσθήσεων (θρεπτικὸν δὲ λέγομεν τὸ τοιοῦτον μόριον τῆς ψυχῆς οὗ καὶ τὰ φυόμενα μετέχει), τὰ δὲ ζῷα πάντα φαίνεται τὴν ἁπτικὴν αἴσθησιν ἔχοντα· δι’ ἣν δ’ αἰτίαν ἑκάτερον τούτων συμβέβηκεν, ὕστερον ἐροῦμεν.

5. νῦν δ’ ἐπὶ τοσοῦτον εἰρήσθω μόνον, ὅτι ἐστὶν ἡ ψυχὴ τῶν εἰρημένων τούτων ἀρχὴ καὶ τούτοις ὥρισται, θρεπτικῷ, αἰσθητικῷ, διανοητικῷ, κινήσει. πότερον δὲ τούτων ἕκαστόν ἐστι ψυχὴ ἢ μόριον ψυχῆς, καὶ εἰ μόριον, πότερον οὕτως ὥστ’ εἶναι χωριστὸν λόγῳ μόνον ἢ καὶ τόπῳ, περὶ μὲν τινῶν

τούτων οὐ χαλεπὸν ἰδεῖν, ἔνια δὲ ἀπορίαν ἔχει.

6. ὥσπερ γὰρ ἐπὶ τῶν φυτῶν ἔνια διαιρούμενα φαίνεται ζῶντα καὶ χωριζόμενα ἀπ' ἀλλήλων, ὡς οὔσης τῆς ἐν αὐτοῖς ψυχῆς ἐντελεχείᾳ μὲν μιᾶς ἐν ἑκάστῳ φυτῷ, δυνάμει δὲ πλειόνων, οὕτως ὁρῶμεν καὶ περὶ ἑτέρας διαφορὰς τῆς ψυχῆς συμβαῖνον ἐπὶ τῶν ἐντόμων ἐν τοῖς διατεμνομένοις· καὶ γὰρ αἴσθησιν ἑκάτερον τῶν μερῶν ἔχει καὶ κίνησιν τὴν κατὰ τόπον, εἰ δ' αἴσθησιν, καὶ φαντασίαν καὶ ὄρεξιν· ὅπου μὲν γὰρ αἴσθησις, καὶ λύπη τε καὶ ἡδονή, ὅπου δὲ ταῦτα, ἐξ ἀνάγκης καὶ ἐπιθυμία.

7. περὶ δὲ τοῦ νοῦ καὶ τῆς θεωρητικῆς δυνάμεως οὐδέν πω φανερόν, ἀλλ' ἔοικε ψυχῆς γένος ἕτερον εἶναι, καὶ τοῦτο μόνον ἐνδέχεσθαι χωρίζεσθαι, καθάπερ τὸ ἀΐδιον τοῦ φθαρτοῦ.

8. τὰ δὲ λοιπὰ μόρια τῆς ψυχῆς φανερὸν ἐκ τούτων ὅτι οὐκ ἔστι χωριστά, καθάπερ τινές φασιν· τῷ δὲ λόγῳ ὅτι ἕτερα, φανερόν· αἰσθητικῷ γὰρ εἶναι καὶ δοξαστικῷ ἕτερον, εἴπερ καὶ τὸ αἰσθάνεσθαι τοῦ δοξάζειν, ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστον τῶν εἰρημένων.

9. ἔτι δ' ἐνίοις μὲν τῶν ζῴων ἅπανθ' ὑπάρχει ταῦτα, τισὶ δὲ τινὰ τούτων, ἑτέροις δὲ ἓν μόνον (τοῦτο δὲ ποιεῖ δια- [414a] φορὰν τῶν ζῴων)· διὰ τίνα δ' αἰτίαν, ὕστερον ἐπισκεπτέον. παραπλήσιον δὲ καὶ περὶ τὰς αἰσθήσεις συμβέβηκεν· τὰ μὲν γὰρ ἔχει πάσας, τὰ δὲ τινάς, τὰ δὲ μίαν τὴν ἀναγκαιοτάτην, ἁφήν.

10. ἐπεὶ δὲ ᾧ ζῶμεν καὶ αἰσθανόμεθα διχῶς λέγεται, καθάπερ ᾧ ἐπιστάμεθα (λέγομεν δὲ τὸ μὲν ἐπιστήμην τὸ δὲ ψυχήν, ἑκατέρῳ γὰρ τούτων φαμὲν ἐπίστασθαι), ὁμοίως δὲ καὶ [ᾧ] ὑγιαίνομεν τὸ μὲν ὑγιείᾳ τὸ δὲ μορίῳ τινὶ τοῦ σώματος ἢ καὶ ὅλῳ, τούτων δ' ἡ μὲν ἐπιστήμη τε καὶ ὑγίεια μορφὴ καὶ εἶδός τι καὶ λόγος καὶ οἷον ἐνέργεια τοῦ δεκτικοῦ, ἡ μὲν τοῦ ἐπιστημονικοῦ, ἡ δὲ τοῦ ὑγιαστοῦ (δοκεῖ γὰρ ἐν τῷ πάσχοντι καὶ διατιθεμένῳ ἡ τῶν ποιητικῶν ὑπάρχειν ἐνέργεια), ἡ ψυχὴ δὲ τοῦτο ᾧ ζῶμεν καὶ αἰσθανόμεθα καὶ διανοούμεθα πρώτως-ὥστε λόγος τις ἂν εἴη καὶ εἶδος, ἀλλ' οὐχ ὕλη καὶ τὸ ὑποκείμενον.

11. τριχῶς γὰρ λεγομένης τῆς οὐσίας, καθάπερ εἴπομεν, ὧν τὸ μὲν εἶδος, τὸ δὲ ὕλη, τὸ δὲ ἐξ ἀμφοῖν, τούτων δ' ἡ μὲν ὕλη δύναμις, τὸ δὲ εἶδος ἐντελέχεια, ἐπεὶ τὸ ἐξ ἀμφοῖν ἔμψυχον, οὐ τὸ σῶμά ἐστιν ἐντελέχεια ψυχῆς, ἀλλ' αὕτη σώματός τινος. καὶ διὰ τοῦτο καλῶς ὑπολαμβάνουσιν οἷς δοκεῖ μήτ' ἄνευ σώματος εἶναι μήτε σῶμά τι ἡ ψυχή· σῶμα μὲν γὰρ οὐκ ἔστι, σώματος δέ τι,

12. καὶ διὰ τοῦτο ἐν σώματι ὑπάρχει, καὶ ἐν σώματι τοιούτῳ, καὶ οὐχ

ὥσπερ οἱ πρότερον εἰς σῶμα ἐνήρμοζον αὐτήν, οὐθὲν προσδιορίζοντες ἐν τίνι καὶ ποίῳ, καίπερ οὐδὲ φαινομένου τοῦ τυχόντος δέχεσθαι τὸ τυχόν.

13. οὕτω δὲ γίνεται καὶ κατὰ λόγον· ἑκάστου γὰρ ἡ ἐντελέχεια ἐν τῷ δυνάμει ὑπάρχοντι καὶ τῇ οἰκείᾳ ὕλῃ πέφυκεν ἐγγίνεσθαι. ὅτι μὲν οὖν ἐντελέχειά τίς ἐστι καὶ λόγος τοῦ δύναμιν ἔχοντος εἶναι τοιούτου, φανερὸν ἐκ τούτων.

Κεφάλαιο 3

[414a27] 1. Τῶν δὲ δυνάμεων τῆς ψυχῆς αἱ λεχθεῖσαι τοῖς μὲν ὑπάρχουσι πᾶσαι, καθάπερ εἴπομεν, τοῖς δὲ τινὲς αὐτῶν, ἐνίοις δὲ μία μόνη. δυνάμεις δ’ εἴπομεν θρεπτικόν, αἰσθητικόν, ὀρεκτικόν, κινητικὸν κατὰ τόπον, διανοητικόν.

2. ὑπάρχει δὲ τοῖς μὲν φυτοῖς τὸ θρεπτικὸν μόνον, ἑτέροις δὲ [414b] τοῦτό τε καὶ τὸ αἰσθητικόν. εἰ δὲ τὸ αἰσθητικόν, καὶ τὸ ὀρεκτικόν· ὄρεξις μὲν γὰρ ἐπιθυμία καὶ θυμὸς καὶ βούλησις, τὰ δὲ ζῷα πάντ’ ἔχουσι μίαν γε τῶν αἰσθήσεων, τὴν ἁφήν· ᾧ δ’ αἴσθησις ὑπάρχει, τούτῳ ἡδονή τε καὶ λύπη καὶ τὸ ἡδύ τε καὶ λυπηρόν, οἷς δὲ ταῦτα, καὶ ἐπιθυμία· τοῦ γὰρ ἡδέος ὄρεξις αὕτη.

3. ἔτι δὲ τῆς τροφῆς αἴσθησιν ἔχουσιν· ἡ γὰρ ἁφὴ τῆς τροφῆς αἴσθησις· ξηροῖς γὰρ καὶ ὑγροῖς καὶ θερμοῖς καὶ ψυχροῖς τρέφεται τὰ ζῶντα πάντα, τούτων δ’ αἴσθησις ἁφή, τῶν δ’ ἄλλων αἰσθητῶν κατὰ συμβεβηκός. οὐθὲν γὰρ εἰς τροφὴν συμβάλλεται ψόφος οὐδὲ χρῶμα οὐδὲ ὀσμή, ὁ δὲ χυμὸς ἕν τι τῶν ἁπτῶν ἐστιν. πεῖνα δὲ καὶ δίψα ἐπιθυμία, καὶ ἡ μὲν πεῖνα ξηροῦ καὶ θερμοῦ, ἡ δὲ δίψα ὑγροῦ καὶ ψυχροῦ· ὁ δὲ χυμὸς οἷον ἥδυσμά τι τούτων ἐστίν. διασαφητέον δὲ περὶ αὐτῶν ὕστερον, νῦν δ’ ἐπὶ τοσοῦτον εἰρήσθω, ὅτι τῶν ζώντων τοῖς ἔχουσιν ἁφὴν καὶ ὄρεξις ὑπάρχει. περὶ δὲ φαντασίας ἄδηλον, ὕστερον δ’ ἐπισκεπτέον.

4. ἐνίοις δὲ πρὸς τούτοις ὑπάρχει καὶ τὸ κατὰ τόπον κινητικόν, ἑτέροις δὲ καὶ τὸ διανοητικόν τε καὶ νοῦς, οἷον ἀνθρώποις καὶ εἴ τι τοιοῦτον ἕτερον ἔστιν ἢ τιμιώτερον.

5. δῆλον οὖν ὅτι τὸν αὐτὸν τρόπον εἷς ἂν εἴη λόγος ψυχῆς τε καὶ σχήματος· οὔτε γὰρ ἐκεῖ σχῆμα παρὰ τὸ τρίγωνον ἔστι καὶ τὰ ἐφεξῆς, οὔτ’ ἐνταῦθα ψυχὴ παρὰ τὰς εἰρημένας. γένοιτο δ’ ἂν καὶ ἐπὶ τῶν σχημάτων λόγος κοινός, ὃς ἐφαρμόσει μὲν πᾶσιν, ἴδιος δ’ οὐδενὸς ἔσται σχήματος. ὁμοίως δὲ καὶ ἐπὶ ταῖς εἰρημέναις ψυχαῖς. διὸ γελοῖον ζητεῖν τὸν κοινὸν λόγον καὶ ἐπὶ τούτων καὶ ἐφ’ ἑτέρων, ὃς οὐδενὸς ἔσται τῶν ὄντων ἴδιος λόγος, οὐδὲ κατὰ τὸ οἰκεῖον καὶ ἄτομον εἶδος, ἀφέντας τὸν τοιοῦτον.

6. (παραπλησίως δ’ ἔχει τῷ περὶ τῶν σχημάτων καὶ τὰ κατὰ ψυχήν· ἀεὶ γὰρ ἐν τῷ ἐφεξῆς ὑπάρχει δυνάμει τὸ πρότερον ἐπί τε τῶν σχημάτων καὶ ἐπὶ τῶν

ἐμψύχων, οἷον ἐν τετραγώνῳ μὲν τρίγωνον, ἐν αἰσθητικῷ δὲ τὸ θρεπτι- κόν.) ὥστε καθ’ ἕκαστον ζητητέον, τίς ἑκάστου ψυχή, οἷον τίς φυτοῦ καὶ τίς ἀνθρώπου ἢ θηρίου.

7. διὰ τίνα δ’ αἰτίαν τῷ [415a] ἐφεξῆς οὕτως ἔχουσι, σκεπτέον. ἄνευ μὲν γὰρ τοῦ θρεπτικοῦ τὸ αἰσθητικὸν οὐκ ἔστιν· τοῦ δ’ αἰσθητικοῦ χωρίζεται τὸ θρεπτικὸν ἐν τοῖς φυτοῖς. πάλιν δ’ ἄνευ μὲν τοῦ ἁπτικοῦ τῶν ἄλλων αἰσθήσεων οὐδεμία ὑπάρχει, ἁφὴ δ’ ἄνευ τῶν ἄλλων ὑπάρχει· πολλὰ γὰρ τῶν ζῴων οὔτ’ ὄψιν οὔτ’ ἀκοὴν ἔχουσιν οὔτ’ ὀσμῆς αἴσθησιν. καὶ τῶν αἰσθητικῶν δὲ τὰ μὲν ἔχει τὸ κατὰ τόπον κινητικόν, τὰ δ’ οὐκ ἔχει· τελευταῖον δὲ καὶ ἐλάχιστα λογισμὸν καὶ διάνοιαν· οἷς μὲν γὰρ ὑπάρχει λογισμὸς τῶν φθαρτῶν, τούτοις καὶ τὰ λοιπὰ πάντα, οἷς δ’ ἐκείνων ἕκαστον, οὐ πᾶσι λογισμός, ἀλλὰ τοῖς μὲν οὐδὲ φαντασία, τὰ δὲ ταύτῃ μόνῃ ζῶσιν. περὶ δὲ τοῦ θεωρητικοῦ νοῦ ἕτερος λόγος. ὅτι μὲν οὖν ὁ περὶ τούτων ἑκάστου λόγος, οὗτος οἰκειότατος καὶ περὶ ψυχῆς, δῆλον.

Κεφάλαιο 4

[415a13] 1. Ἀναγκαῖον δὲ τὸν μέλλοντα περὶ τούτων σκέψιν ποιεῖσθαι λαβεῖν ἕκαστον αὐτῶν τί ἐστιν, εἶθ’ οὕτως περὶ τῶν ἐχομένων καὶ περὶ τῶν ἄλλων ἐπιζητεῖν. εἰ δὲ χρὴ λέγειν τί ἕκαστον αὐτῶν, οἷον τί τὸ νοητικὸν ἢ τὸ αἰσθητικὸν ἢ τὸ θρεπτικόν, πρότερον ἔτι λεκτέον τί τὸ νοεῖν καὶ τί τὸ αἰσθάνεσθαι· πρότεραι γάρ εἰσι τῶν δυνάμεων αἱ ἐνέργειαι καὶ αἱ πράξεις κατὰ τὸν λόγον. εἰ δ’ οὕτως, τούτων δ’ ἔτι πρότερα τὰ ἀντικείμενα δεῖ τεθεωρηκέναι, περὶ ἐκείνων πρῶτον ἂν δέοι διορίσαι διὰ τὴν αὐτὴν αἰτίαν, οἷον περὶ τροφῆς καὶ αἰσθητοῦ καὶ νοητοῦ.

2. ὥστε πρῶτον περὶ τροφῆς καὶ γεννήσεως λεκτέον· ἡ γὰρ θρεπτικὴ ψυχὴ καὶ τοῖς ἄλλοις ὑπάρχει, καὶ πρώτη καὶ κοινοτάτη δύναμίς ἐστι ψυχῆς, καθ’ ἣν ὑπάρχει τὸ ζῆν ἅπασιν. ἧς ἐστὶν ἔργα γεννῆσαι καὶ τροφῇ χρῆσθαι· φυσικώτατον γὰρ τῶν ἔργων τοῖς ζῶσιν, ὅσα τέλεια καὶ μὴ πηρώματα ἢ τὴν γένεσιν αὐτομάτην ἔχει, τὸ ποιῆσαι ἕτερον οἷον αὐτό, ζῷον μὲν ζῷον, φυτὸν δὲ φυτόν, ἵνα τοῦ ἀεὶ καὶ τοῦ θείου μετέχωσιν ᾗ [415b] δύνανται· πάντα γὰρ ἐκείνου ὀρέγεται, καὶ ἐκείνου ἕνεκα πράττει ὅσα πράττει κατὰ φύσιν (τὸ δ’ οὗ ἕνεκα διττόν, τὸ μὲν οὗ, τὸ δὲ ᾧ). ἐπεὶ οὖν κοινωνεῖν ἀδυνατεῖ τοῦ ἀεὶ καὶ τοῦ θείου τῇ συνεχείᾳ, διὰ τὸ μηδὲν ἐνδέχεσθαι τῶν φθαρτῶν ταὐτὸ καὶ ἓν ἀριθμῷ διαμένειν, ᾗ δύναται μετέχειν ἕκαστον, κοινωνεῖ ταύτῃ, τὸ μὲν μᾶλλον τὸ δ’ ἧττον, καὶ διαμένει οὐκ αὐτὸ ἀλλ’ οἷον αὐτό, ἀριθμῷ μὲν οὐχ ἕν, εἴδει δ’ ἕν.

3. ἔστι δὲ ἡ ψυχὴ τοῦ ζῶντος σώματος αἰτία καὶ ἀρχή. ταῦτα δὲ πολλαχῶς λέγεται, ὁμοίως δ’ ἡ ψυχὴ κατὰ τοὺς διωρισμένους τρόπους τρεῖς αἰτία· καὶ γὰρ ὅθεν ἡ κίνησις καὶ οὗ ἕνεκα καὶ ὡς ἡ οὐσία τῶν ἐμψύχων σωμάτων ἡ ψυχὴ αἰτία.

4. ὅτι μὲν οὖν ὡς οὐσία, δῆλον· τὸ γὰρ αἴτιον τοῦ εἶναι πᾶσιν ἡ οὐσία, τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναί ἐστιν, αἰτία δὲ καὶ ἀρχὴ τούτου ἡ ψυχή. ἔτι τοῦ δυνάμει ὄντος λόγος ἡ ἐντελέχεια.

5. φανερὸν δ’ ὡς καὶ οὗ ἕνεκεν ἡ ψυχὴ αἰτία· ὥσπερ γὰρ ὁ νοῦς ἕνεκά του ποιεῖ, τὸν αὐτὸν τρόπον καὶ ἡ φύσις, καὶ τοῦτ’ ἔστιν αὐτῆς τέλος. τοιοῦτον δ’ ἐν τοῖς ζῴοις ἡ ψυχὴ κατὰ φύσιν· πάντα γὰρ τὰ φυσικὰ σώματα τῆς ψυχῆς ὄργανα, καθάπερ τὰ τῶν ζῴων, οὕτω καὶ τὰ τῶν φυτῶν, ὡς ἕνεκα τῆς ψυχῆς

ὄντα· διττῶς δὲ τὸ οὗ ἕνεκα, τό τε οὗ καὶ τὸ ᾧ.

6. ἀλλὰ μὴν καὶ ὅθεν πρῶτον ἡ κατὰ τόπον κίνησις, ψυχή· οὐ πᾶσι δ' ὑπάρχει τοῖς ζῶσιν ἡ δύναμις αὕτη. ἔστι δὲ καὶ ἀλλοίωσις καὶ αὔξησις κατὰ ψυχήν· ἡ μὲν γὰρ αἴσθησις ἀλλοίωσίς τις εἶναι δοκεῖ, αἰσθάνεται δ' οὐθὲν ὃ μὴ μετέχει ψυχῆς, ὁμοίως δὲ καὶ περὶ αὐξήσεώς τε καὶ φθίσεως ἔχει· οὐδὲν γὰρ φθίνει οὐδ' αὔξεται φυσικῶς μὴ τρεφόμενον, τρέφεται δ' οὐθὲν ὃ μὴ κοινωνεῖ ζωῆς.

7. Ἐμπεδοκλῆς δ' οὐ καλῶς εἴρηκε τοῦτο προστιθείς, τὴν αὔξησιν συμβαίνειν τοῖς φυτοῖς κάτω μὲν συρριζουμένοις διὰ τὸ τὴν γῆν οὕτω φέρεσθαι κατὰ φύσιν, ἄνω δὲ διὰ τὸ <τὸ> πῦρ ὡσαύτως. οὔτε γὰρ τὸ ἄνω καὶ κάτω καλῶς λαμβάνει (οὐ γὰρ ταὐτὸ πᾶσι τὸ ἄνω καὶ κάτω καὶ τῷ παντί, ἀλλ' ὡς ἡ κεφαλὴ τῶν ζῴων, οὕτως αἱ ῥίζαι τῶν φυτῶν, εἰ χρὴ τὰ ὄργανα λέγειν ἕτερα καὶ ταὐτὰ τοῖς ἔργοις) πρὸς δὲ τούτοις τί τὸ συνέχον εἰς τἀναντία φερόμενα τὸ πῦρ καὶ τὴν γῆν; διασπασθήσεται γάρ, εἰ μή τι ἔσται τὸ κωλῦον· εἰ δ' ἔσται, τοῦτ' ἔστιν ἡ ψυχή, καὶ τὸ αἴτιον τοῦ αὐ- ξάνεσθαι καὶ τρέφεσθαι.

8. δοκεῖ δέ τισιν ἡ τοῦ πυρὸς φύσις ἁπλῶς αἰτία τῆς τροφῆς καὶ τῆς αὐξήσεως εἶναι· καὶ γὰρ αὐτὸ φαίνεται μόνον τῶν σωμάτων [ἢ τῶν στοιχείων] τρεφόμενον καὶ αὐξόμενον, διὸ καὶ ἐν τοῖς φυτοῖς καὶ ἐν τοῖς ζῴοις ὑπολάβοι τις ἂν τοῦτο εἶναι τὸ ἐργαζόμενον. τὸ δὲ συναίτιον μέν πώς ἐστιν, οὐ μὴν ἁπλῶς γε αἴτιον, ἀλλὰ μᾶλλον ἡ ψυχή· ἡ μὲν γὰρ τοῦ πυρὸς αὔξησις εἰς ἄπειρον, ἕως ἂν ᾖ τὸ καυστόν, τῶν δὲ φύσει συνισταμένων πάντων ἔστι πέρας καὶ λόγος μεγέθους τε καὶ αὐξήσεως· ταῦτα δὲ ψυχῆς, ἀλλ' οὐ πυρός, καὶ λόγου μᾶλλον ἢ ὕλης.

9. ἐπεὶ δ' ἡ αὐτὴ δύναμις τῆς ψυχῆς θρεπτικὴ καὶ γεννητική, περὶ τροφῆς ἀναγκαῖον διωρίσθαι πρῶτον· ἀφορίζεται γὰρ πρὸς τὰς ἄλλας δυνάμεις τῷ ἔργῳ τούτῳ. δοκεῖ δ' εἶναι ἡ τροφὴ τὸ ἐναντίον τῷ ἐναντίῳ, οὐ πᾶν δὲ παντί, ἀλλ' ὅσα τῶν ἐναντίων μὴ μόνον γένεσιν ἐξ ἀλλήλων ἔχουσιν ἀλλὰ καὶ αὔξησιν· γίνεται γὰρ πολλὰ ἐξ ἀλλήλων, ἀλλ' οὐ πάντα ποσά, οἷον ὑγιὲς ἐκ κάμνοντος. φαίνεται δ' οὐδ' ἐκεῖνα τὸν αὐτὸν τρόπον ἀλλήλοις εἶναι τροφή, ἀλλὰ τὸ μὲν ὕδωρ τῷ πυρὶ τροφή, τὸ δὲ πῦρ οὐ τρέφει τὸ ὕδωρ. ἐν μὲν οὖν τοῖς ἁπλοῖς σώμασι ταῦτ' εἶναι δοκεῖ μάλιστα τὸ μὲν τροφὴ τὸ δὲ τρεφόμενον.

10. ἀπορίαν δ' ἔχει· φασὶ γὰρ οἱ μὲν τὸ ὅμοιον τῷ ὁμοίῳ τρέφεσθαι, καθάπερ καὶ αὐξάνεσθαι, τοῖς δ' ὥσπερ εἴπομεν τοὔμπαλιν δοκεῖ, τὸ ἐναντίον τῷ ἐναντίῳ, ὡς ἀπαθοῦς ὄντος τοῦ ὁμοίου ὑπὸ τοῦ ὁμοίου, τὴν δὲ

τροφὴν δεῖν μεταβάλλειν καὶ πέττεσθαι· ἡ δὲ μεταβολὴ πᾶσιν εἰς τὸ ἀντικείμενον ἢ τὸ μεταξύ. ἔτι πάσχει τι ἡ τροφὴ ὑπὸ τοῦ τρεφομένου, ἀλλ’ οὐ τοῦτο ὑπὸ τῆς [416b]

11. τροφῆς, ὥσπερ οὐδ’ ὁ τέκτων ὑπὸ τῆς ὕλης, ἀλλ’ ὑπ’ ἐκεί- νου αὕτη· ὁ δὲ τέκτων μεταβάλλει μόνον εἰς ἐνέργειαν ἐξ ἀργίας. πότερον δ’ ἐστὶν ἡ τροφὴ τὸ τελευταῖον προσγινόμενον ἢ τὸ πρῶτον, ἔχει διαφοράν. εἰ δ’ ἄμφω, ἀλλ’ ἡ μὲν ἄπεπτος ἡ δὲ πεπεμμένη, ἀμφοτέρως ἂν ἐνδέχοιτο τὴν τροφὴν λέγειν· ᾗ μὲν γὰρ ἄπεπτος, τὸ ἐναντίον τῷ ἐναντίῳ τρέφεται, ᾗ δὲ πεπεμμένη, τὸ ὅμοιον τῷ ὁμοίῳ. ὥστε φανερὸν ὅτι λέγουσί τινα τρόπον ἀμφότεροι καὶ ὀρθῶς καὶ οὐκ ὀρθῶς.

12. ἐπεὶ δ’ οὐθὲν τρέφεται μὴ μετέχον ζωῆς, τὸ ἔμψυχον ἂν εἴη σῶμα τὸ τρεφόμενον, ᾗ ἔμψυχον, ὥστε καὶ ἡ τροφὴ πρὸς ἔμψυχόν ἐστι, καὶ οὐ κατὰ συμβεβηκός. ἔστι δ’ ἕτερον τροφῇ καὶ αὐξητικῷ εἶναι· ᾗ μὲν γὰρ ποσόν τι τὸ ἔμψυχον, αὐξητικόν, ᾗ δὲ τόδε τι καὶ οὐσία, τροφή (σώζει γὰρ τὴν οὐσίαν, καὶ μέχρι τούτου ἔστιν ἕως ἂν τρέφηται), καὶ γενέσεως ποιητικόν, οὐ τοῦ τρεφομένου, ἀλλ’ οἷον τὸ τρεφόμενον· ἤδη γὰρ ἔστιν αὐτοῦ ἡ οὐσία, γεννᾷ δ’ οὐθὲν αὐτὸ ἑαυτό, ἀλλὰ σώζει. ὥσθ’ ἡ μὲν τοιαύτη τῆς ψυχῆς ἀρχὴ δύναμίς ἐστιν οἵα σώζειν τὸ ἔχον αὐτὴν ᾗ τοιοῦτον, ἡ δὲ τροφὴ παρασκευάζει ἐνεργεῖν· διὸ στερηθὲν τροφῆς οὐ δύναται εἶναι.

13. [ἐπεὶ δ’ ἔστι τρία, τὸ τρεφόμενον καὶ ᾧ τρέφεται καὶ τὸ τρέφον, τὸ μὲν τρέφον ἐστὶν ἡ πρώτη ψυχή, τὸ δὲ τρεφόμενον τὸ ἔχον ταύτην σῶμα, ᾧ δὲ τρέφεται, ἡ τροφή.] ἐπεὶ δὲ ἀπὸ τοῦ τέλους ἅπαντα προσαγορεύειν δίκαιον, τέλος δὲ τὸ γεννῆσαι οἷον αὐτό, εἴη ἂν ἡ πρώτη ψυχὴ γεννητικὴ οἷον αὐτό. ἔστι δὲ ᾧ [416b26] τρέφει διττόν, ὥσπερ καὶ ᾧ κυβερνᾷ καὶ ἡ χεὶρ καὶ τὸ πηδά- λιον, τὸ μὲν κινοῦν καὶ κινούμενον, τὸ δὲ κινούμενον μόνον. πᾶσαν δ’ ἀναγκαῖον τροφὴν δύνασθαι πέττεσθαι, ἐργάζεται δὲ τὴν πέψιν τὸ θερμόν· διὸ πᾶν ἔμψυχον ἔχει θερμότητα. τύπῳ μὲν οὖν ἡ τροφὴ τί ἐστιν εἴρηται· διασαφητέον δ’ ἐστὶν ὕστερον περὶ αὐτῆς ἐν τοῖς οἰκείοις λόγοις.

Κεφάλαιο 5

[416b32] 1. Διωρισμένων δὲ τούτων λέγωμεν κοινῇ περὶ πάσης αἰσθήσεως. ἡ δ’ αἴσθησις ἐν τῷ κινεῖσθαί τε καὶ πάσχειν συμβαίνει, καθάπερ εἴρηται· δοκεῖ γὰρ ἀλλοίωσίς τις εἶναι. φασὶ δέ τινες καὶ τὸ ὅμοιον ὑπὸ τοῦ ὁμοίου πάσχειν. [417a] τοῦτο δὲ πῶς δυνατὸν ἢ ἀδύνατον, εἰρήκαμεν ἐν τοῖς καθόλου λόγοις περὶ τοῦ ποιεῖν καὶ πάσχειν.

2. ἔχει δ’ ἀπορίαν διὰ τί καὶ τῶν αἰσθήσεων αὐτῶν οὐ γίνεται αἴσθησις, καὶ διὰ τί ἄνευ τῶν ἔξω οὐ ποιοῦσιν αἴσθησιν, ἐνόντος πυρὸς καὶ γῆς καὶ τῶν ἄλλων στοιχείων, ὧν ἐστιν ἡ αἴσθησις καθ’ αὑτὰ ἢ τὰ συμβεβηκότα τούτοις. δῆλον οὖν ὅτι τὸ αἰσθητικὸν οὐκ ἔστιν ἐνεργείᾳ, ἀλλὰ δυνάμει μόνον, διὸ οὐκ αἰσθάνεται, καθάπερ τὸ καυστὸν οὐ καίεται αὐτὸ καθ’ αὑτὸ ἄνευ τοῦ καυστικοῦ· ἔκαιε γὰρ ἂν ἑαυτό, καὶ οὐθὲν ἐδεῖτο τοῦ ἐντελεχείᾳ πυρὸς ὄντος. ἐπειδὴ δὲ τὸ αἰσθάνεσθαι λέγομεν διχῶς (τό τε γὰρ δυνάμει ἀκοῦον καὶ ὁρῶν ἀκούειν καὶ ὁρᾶν λέγομεν, κἂν τύχῃ καθεῦδον, καὶ τὸ ἤδη ἐνεργοῦν), διχῶς ἂν λέγοιτο καὶ ἡ αἴσθησις, ἡ μὲν ὡς δυνάμει, ἡ δὲ ὡς ἐνεργείᾳ. ὁμοίως δὲ καὶ τὸ αἰσθητόν, τό τε δυνάμει ὂν καὶ τὸ ἐνεργείᾳ.

3. πρῶτον μὲν οὖν ὡς τοῦ αὐτοῦ ὄντος τοῦ πάσχειν καὶ τοῦ κινεῖσθαι καὶ τοῦ ἐνεργεῖν λέγωμεν· καὶ γὰρ ἔστιν ἡ κίνησις ἐνέργειά τις, ἀτελὴς μέντοι, καθάπερ ἐν ἑτέροις εἴρηται. πάντα δὲ πάσχει καὶ κινεῖται ὑπὸ τοῦ ποιητικοῦ καὶ ἐνεργείᾳ ὄντος. διὸ ἔστι μὲν ὡς ὑπὸ τοῦ ὁμοίου πάσχει, ἔστι δὲ ὡς ὑπὸ τοῦ ἀνομοίου, καθάπερ εἴπομεν· πάσχει μὲν γὰρ τὸ ἀνόμοιον, πεπονθὸς δ’ ὅμοιόν ἐστιν.

4. διαιρετέον δὲ καὶ περὶ δυνάμεως καὶ ἐντελεχείας· νῦν γὰρ ἁπλῶς ἐλέγομεν περὶ αὐτῶν. ἔστι μὲν γὰρ οὕτως ἐπιστῆμόν τι ὡς ἂν εἴποιμεν ἄνθρωπον ἐπιστήμονα ὅτι ὁ ἄνθρωπος τῶν ἐπιστημόνων καὶ ἐχόντων ἐπιστήμην· ἔστι δ’ ὡς ἤδη λέγομεν ἐπιστήμονα τὸν ἔχοντα τὴν γραμματικήν· ἑκάτερος δὲ τούτων οὐ τὸν αὐτὸν τρόπον δυνατός ἐστιν, ἀλλ’ ὁ μὲν ὅτι τὸ γένος τοιοῦτον καὶ ἡ ὕλη, ὁ δ’ ὅτι βουληθεὶς δυνατὸς θεωρεῖν, ἂν μή τι κωλύσῃ τῶν ἔξωθεν· ὁ δ’ ἤδη θεωρῶν, ἐντελεχείᾳ ὢν καὶ κυρίως ἐπιστάμενος τόδε τὸ Α. ἀμφότεροι μὲν οὖν οἱ πρῶτοι, κατὰ δύναμιν ἐπιστήμονες <ὄντες, ἐνεργείᾳ γίνονται ἐπιστήμονες,> ἀλλ’ ὁ μὲν διὰ μαθήσεως ἀλλοιωθεὶς καὶ πολλάκις ἐξ ἐναντίας μεταβαλὼν ἕξεως, ὁ δ’ ἐκ

τοῦ ἔχειν τὴν ἀριθμητικὴν ἢ τὴν γραμματικήν, μὴ ἐνεργεῖν δέ, εἰς τὸ ἐνεργεῖν, ἄλλον τρόπον.

5. οὐκ ἔστι δ' ἁπλοῦν οὐδὲ τὸ πάσχειν, ἀλλὰ τὸ μὲν φθορά τις ὑπὸ τοῦ ἐναντίου, τὸ δὲ σωτηρία μᾶλλον ὑπὸ τοῦ ἐντελεχείᾳ ὄντος τοῦ δυνάμει ὄντος καὶ ὁμοίου οὕτως ὡς δύναμις ἔχει πρὸς ἐντελέχειαν· θεωροῦν γὰρ γίνεται τὸ ἔχον τὴν ἐπιστήμην, ὅπερ ἢ οὐκ ἔστιν ἀλλοιοῦσθαι (εἰς αὐτὸ γὰρ ἡ ἐπίδοσις καὶ εἰς ἐντελέχειαν) ἢ ἕτερον γένος ἀλλοιώσεως. διὸ οὐ καλῶς ἔχει λέγειν τὸ φρονοῦν, ὅταν φρονῇ, ἀλλοιοῦσθαι, ὥσπερ οὐδὲ τὸν οἰκοδόμον ὅταν οἰκοδομῇ. τὸ μὲν οὖν εἰς ἐντελέχειαν ἄγειν ἐκ δυνάμει ὄντος [κατὰ] τὸ νοοῦν καὶ φρονοῦν οὐ διδασκαλίαν ἀλλ' ἑτέραν ἐπωνυμίαν ἔχειν δίκαιον· τὸ δ' ἐκ δυνάμει ὄντος μανθάνον καὶ λαμβάνον ἐπιστήμην ὑπὸ τοῦ ἐντελεχείᾳ ὄντος καὶ διδασκαλικοῦ ἤτοι οὐδὲ πάσχειν φατέον, [ὥσπερ εἴρηται,] ἢ δύο τρόπους εἶναι ἀλλοιώσεως, τήν τε ἐπὶ τὰς στερητικὰς διαθέσεις μεταβολὴν καὶ τὴν ἐπὶ τὰς ἕξεις καὶ τὴν φύσιν.

6. τοῦ δ' αἰσθητικοῦ ἡ μὲν πρώτη μεταβολὴ γίνεται ὑπὸ τοῦ γεννῶντος, ὅταν δὲ γεννηθῇ, ἔχει ἤδη, ὥσπερ ἐπιστήμην, καὶ τὸ αἰσθάνεσθαι. τὸ κατ' ἐνέργειαν δὲ ὁμοίως λέγεται τῷ θεωρεῖν· διαφέρει δέ, ὅτι τοῦ μὲν τὰ ποιητικὰ τῆς ἐνεργείας ἔξωθεν, τὸ ὁρατὸν καὶ τὸ ἀκουστόν, ὁμοίως δὲ καὶ τὰ λοιπὰ τῶν αἰσθητῶν. αἴτιον δ' ὅτι τῶν καθ' ἕκαστον ἡ κατ' ἐνέργειαν αἴσθησις, ἡ δ' ἐπιστήμη τῶν καθόλου· ταῦτα δ' ἐν αὐτῇ πώς ἐστι τῇ ψυχῇ.

διὸ νοῆσαι μὲν ἐπ' αὐτῷ, ὁπόταν βούληται, αἰσθάνεσθαι δ' οὐκ ἐπ' αὐτῷ· ἀναγκαῖον γὰρ ὑπάρχειν τὸ αἰσθητόν. ὁμοίως δὲ τοῦτο ἔχει κἀν ταῖς ἐπιστήμαις ταῖς τῶν αἰσθητῶν, καὶ διὰ τὴν αὐτὴν αἰτίαν, ὅτι τὰ αἰσθητὰ τῶν καθ' ἕκαστα καὶ τῶν ἔξωθεν.

7. ἀλλὰ περὶ μὲν τούτων διασαφῆσαι καιρὸς γένοιτ' ἂν καὶ εἰσαῦθις· νῦν δὲ διωρίσθω τοσοῦτον, ὅτι οὐχ ἁπλοῦ ὄντος τοῦ δυνάμει λεγομένου, ἀλλὰ τοῦ μὲν ὥσπερ ἂν εἴποιμεν τὸν παῖδα δύνασθαι στρατηγεῖν, τοῦ δὲ ὡς τὸν ἐν ἡλικίᾳ ὄντα, οὕτως ἔχει [[418a] τὸ αἰσθητικόν. ἐπεὶ δ' ἀνώνυμος αὐτῶν ἡ διαφορά, διώρισται δὲ περὶ αὐτῶν ὅτι ἕτερα καὶ πῶς ἕτερα, χρῆσθαι ἀναγκαῖον τῷ πάσχειν καὶ ἀλλοιοῦσθαι ὡς κυρίοις ὀνόμασιν. τὸ δ' αἰσθητικὸν δυνάμει ἐστὶν οἷον τὸ αἰσθητὸν ἤδη ἐντελεχείᾳ, καθάπερ εἴρηται. πάσχει μὲν οὖν οὐχ ὅμοιον ὄν, πεπονθὸς δ' ὡμοίωται καὶ ἔστιν οἷον ἐκεῖνο.

Κεφάλαιο 6

[418a7] 1. Λεκτέον δὲ καθ’ ἑκάστην αἴσθησιν περὶ τῶν αἰσθητῶν πρῶτον. λέγεται δὲ τὸ αἰσθητὸν τριχῶς, ὧν δύο μὲν καθ’ αὑτά φαμεν αἰσθάνεσθαι, τὸ δὲ ἓν κατὰ συμβεβηκός. τῶν δὲ δυοῖν τὸ μὲν ἴδιόν ἐστιν ἑκάστης αἰσθήσεως, τὸ δὲ κοινὸν πασῶν.

2. λέγω δ’ ἴδιον μὲν ὃ μὴ ἐνδέχεται ἑτέρᾳ αἰσθήσει αἰσθάνεσθαι, καὶ περὶ ὃ μὴ ἐνδέχεται ἀπατηθῆναι, οἷον ὄψις χρώματος καὶ ἀκοὴ ψόφου καὶ γεῦσις χυμοῦ, ἡ δ’ ἁφὴ πλείους [μὲν] ἔχει διαφοράς, ἀλλ’ ἑκάστη γε κρίνει περὶ τούτων, καὶ οὐκ ἀπατᾶται ὅτι χρῶμα οὐδ’ ὅτι ψόφος, ἀλλὰ τί τὸ κεχρωσμένον ἢ ποῦ, ἢ τί τὸ ψοφοῦν ἢ ποῦ. τὰ μὲν οὖν τοιαῦτα λέγεται ἴδια ἑκάστης,

3. κοινὰ δὲ κίνησις, ἠρεμία, ἀριθμός, σχῆμα, μέγεθος· τὰ γὰρ τοιαῦτα οὐδεμιᾶς ἐστὶν ἴδια, ἀλλὰ κοινὰ πάσαις· καὶ γὰρ ἁφῇ κίνησίς τίς ἐστιν αἰσθητὴ καὶ ὄψει.

4. κατὰ συμβεβηκὸς δὲ λέγεται αἰσθητόν, οἷον εἰ τὸ λευκὸν εἴη Διάρους υἱός· κατὰ συμβεβηκὸς γὰρ τούτου αἰσθάνεται, ὅτι τῷ λευκῷ συμβέβηκε τοῦτο, οὗ αἰσθάνεται· διὸ καὶ οὐδὲν πάσχει ᾗ τοιοῦτον ὑπὸ τοῦ αἰσθητοῦ. τῶν δὲ καθ’ αὑτὰ αἰσθητῶν τὰ ἴδια κυρίως ἐστὶν αἰσθητά, καὶ πρὸς ἃ ἡ οὐσία πέφυκεν ἑκάστης αἰσθήσεως.

Κεφάλαιο 7

[418a26] 1. Οὗ μὲν οὖν ἐστιν ἡ ὄψις, τοῦτ᾽ ἐστὶν ὁρατόν, ὁρατὸν δ᾽ ἐστὶ χρῶμά τε καὶ ὃ λόγῳ μὲν ἔστιν εἰπεῖν, ἀνώνυμον δὲ τυγχάνει ὄν· δῆλον δὲ ἔσται ὃ λέγομεν προελθοῦσι. τὸ γὰρ ὁρατόν ἐστι χρῶμα, τοῦτο δ᾽ ἐστὶ τὸ ἐπὶ τοῦ καθ᾽ αὑτὸ ὁρατοῦ· καθ᾽ αὑτὸ δὲ οὐ τῷ λόγῳ, ἀλλ᾽ ὅτι ἐν ἑαυτῷ ἔχει τὸ αἴτιον τοῦ εἶναι ὁρατόν. πᾶν δὲ χρῶμα [418b] κινητικόν ἐστι τοῦ κατ᾽ ἐνέργειαν διαφανοῦς, καὶ τοῦτ᾽ ἐστὶν αὐτοῦ ἡ φύσις· διόπερ οὐχ ὁρατὸν ἄνευ φωτός, ἀλλὰ πᾶν τὸ ἑκάστου χρῶμα ἐν φωτὶ ὁρᾶται. διὸ περὶ φωτὸς πρῶτον λεκτέον τί ἐστιν.

2. ἔστι δή τι διαφανές. διαφανὲς δὲ λέγω ὃ ἔστι μὲν ὁρατόν, οὐ καθ᾽ αὑτὸ δὲ ὁρατὸν ὡς ἁπλῶς εἰπεῖν, ἀλλὰ δι᾽ ἀλλότριον χρῶμα. τοιοῦτον δέ ἐστιν ἀὴρ καὶ ὕδωρ καὶ πολλὰ τῶν στερεῶν· οὐ γὰρ ᾗ ὕδωρ οὐδ᾽ ᾗ ἀὴρ διαφανές, ἀλλ᾽ ὅτι ἔστι τις φύσις ἐνυπάρχουσα ἡ αὐτὴ ἐν τούτοις ἀμφοτέροις καὶ ἐν τῷ ἀϊδίῳ τῷ ἄνω σώματι. φῶς δέ ἐστιν ἡ τούτου ἐνέργεια, τοῦ διαφανοῦς ᾗ διαφανές. δυνάμει δέ, ἐν ᾧ τοῦτ᾽ ἐστί, καὶ τὸ σκότος. τὸ δὲ φῶς οἷον χρῶμά ἐστι τοῦ διαφανοῦς, ὅταν ᾖ ἐντελεχείᾳ διαφανὲς ὑπὸ πυρὸς ἢ τοιούτου οἷον τὸ ἄνω σῶμα· καὶ γὰρ τούτῳ τι ὑπάρχει ἓν καὶ ταὐτόν. τί μὲν οὖν τὸ διαφανὲς καὶ τί τὸ φῶς, εἴρηται, ὅτι οὔτε πῦρ οὔθ᾽ ὅλως σῶμα οὐδ᾽ ἀπορροὴ σώματος οὐδενός (εἴη γὰρ ἂν σῶμά τι καὶ οὕτως), ἀλλὰ πυρὸς ἢ τοιούτου τινὸς παρουσία ἐν τῷ διαφανεῖ· οὔτε γὰρ δύο σώματα ἅμα δυνατὸν ἐν τῷ αὐτῷ εἶναι,

3. δοκεῖ τε τὸ φῶς ἐναντίον εἶναι τῷ σκότει· ἔστι δὲ τὸ σκότος στέρησις τῆς τοιαύτης ἕξεως ἐκ διαφανοῦς, ὥστε δῆλον ὅτι καὶ ἡ τούτου παρουσία τὸ φῶς ἐστιν. καὶ οὐκ ὀρθῶς Ἐμπεδοκλῆς, οὐδ᾽ εἴ τις ἄλλος οὕτως εἴρηκεν, ὡς φερομένου τοῦ φωτὸς καὶ γιγνομένου ποτὲ μεταξὺ τῆς γῆς καὶ τοῦ περιέχοντος, ἡμᾶς δὲ λανθάνοντος· τοῦτο γάρ ἐστι καὶ παρὰ τὴν τοῦ λόγου ἐνάργειαν καὶ παρὰ τὰ φαινόμενα· ἐν μικρῷ μὲν γὰρ διαστήματι λάθοι ἄν, ἀπ᾽ ἀνατολῆς δ᾽ ἐπὶ δυσμὰς τὸ λανθάνειν μέγα λίαν τὸ αἴτημα. [418b26]

4. ἔστι δὲ χρώματος μὲν δεκτικὸν τὸ ἄχρουν, ψόφου δὲ τὸ ἄψοφον. ἄχρουν δ᾽ ἐστὶ τὸ διαφανὲς καὶ τὸ ἀόρατον ἢ τὸ μόλις ὁρώμενον, οἷον δοκεῖ τὸ σκοτεινόν. τοιοῦτον δὲ τὸ διαφανὲς μέν, ἀλλ᾽ οὐχ ὅταν ᾖ ἐντελεχείᾳ διαφανές, ἀλλ᾽ ὅταν δυνάμει· ἡ γὰρ αὐτὴ φύσις ὁτὲ μὲν σκότος ὁτὲ δὲ φῶς

[419a]

5. νῦν δ᾽ ἐπὶ τοσοῦτον φανερόν ἐστιν, ὅτι τὸ μὲν ἐν φωτὶ ὁρώμενον χρῶμα (διὸ καὶ οὐχ ὁρᾶται ἄνευ φωτός· τοῦτο γὰρ ἦν αὐτῷ τὸ χρώματι εἶναι, τὸ κινητικῷ εἶναι τοῦ κατ᾽ ἐνέργειαν διαφανοῦς), ἡ δ᾽ ἐντελέχεια τοῦ διαφανοῦς φῶς ἐστιν. σημεῖον δὲ τούτου φανερόν· ἐὰν γάρ τις θῇ τὸ ἔχον χρῶμα ἐπ᾽ αὐτὴν τὴν ὄψιν, οὐκ ὄψεται· ἀλλὰ τὸ μὲν χρῶμα κινεῖ τὸ διαφανές, οἷον τὸν ἀέρα, ὑπὸ τούτου δὲ συνεχοῦς ὄντος κινεῖται τὸ αἰσθητήριον.

6. οὐ γὰρ καλῶς τοῦτο λέγει Δημόκριτος, οἰόμενος, εἰ γένοιτο κενὸν τὸ μεταξύ, ὁρᾶσθαι ἂν ἀκριβῶς καὶ εἰ μύρμηξ ἐν τῷ οὐρανῷ εἴη· τοῦτο γὰρ ἀδύνατόν ἐστιν. πάσχοντος γάρ τι τοῦ αἰσθητικοῦ γίνεται τὸ ὁρᾶν· ὑπ᾽ αὐτοῦ μὲν οὖν τοῦ ὁρωμένου χρώματος ἀδύνατον· λείπεται δὴ ὑπὸ τοῦ μεταξύ, ὥστ᾽ ἀναγκαῖόν τι εἶναι μεταξύ· κενοῦ δὲ γενομένου οὐχ ὅτι ἀκριβῶς, ἀλλ᾽ ὅλως οὐθὲν ὀφθήσεται.

7. δι᾽ ἣν μὲν οὖν αἰτίαν τὸ χρῶμα ἀναγκαῖον ἐν φωτὶ ὁρᾶσθαι, εἴρηται. πῦρ δὲ ἐν ἀμφοῖν ὁρᾶται, καὶ ἐν σκότει καὶ ἐν φωτί, καὶ τοῦτο ἐξ ἀνάγκης· τὸ γὰρ διαφανὲς ὑπὸ τούτου γίνεται διαφανές.

8. ὁ δ᾽ αὐτὸς λόγος καὶ περὶ ψόφου καὶ ὀσμῆς ἐστιν· οὐθὲν γὰρ αὐτῶν ἁπτόμενον τοῦ αἰσθητηρίου ποιεῖ τὴν αἴσθησιν, ἀλλ᾽ ὑπὸ μὲν ὀσμῆς καὶ ψόφου τὸ μεταξὺ κινεῖται, ὑπὸ δὲ τούτου τῶν αἰσθητηρίων ἑκάτερον· ὅταν δ᾽ ἐπ᾽ αὐτό τις ἐπιθῇ τὸ αἰσθητήριον τὸ ψοφοῦν ἢ τὸ ὄζον, οὐδεμίαν αἴσθησιν ποιήσει. περὶ δὲ ἁφῆς καὶ γεύσεως ἔχει μὲν ὁμοίως, οὐ φαίνεται δέ· δι᾽ ἣν δ᾽ αἰτίαν, ὕστερον ἔσται δῆλον.

9. τὸ δὲ μεταξὺ ψόφων μὲν ἀήρ, ὀσμῆς δ᾽ ἀνώνυμον· κοινὸν γάρ τι πάθος ἐπ᾽ ἀέρος καὶ ὕδατος ἔστιν, ὥσπερ τὸ διαφανὲς χρώματι, οὕτω τῷ ἔχοντι ὀσμὴν ὃ ἐν ἀμφοτέροις ὑπάρχει τούτοις· φαίνεται γὰρ καὶ τὰ ἔνυδρα τῶν ζῴων [419b] ἔχειν αἴσθησιν ὀσμῆς. ἀλλ᾽ ὁ μὲν ἄνθρωπος, καὶ τῶν πεζῶν ὅσα ἀναπνεῖ, ἀδυνατεῖ ὀσμᾶσθαι μὴ ἀναπνέοντα. ἡ δ᾽ αἰτία καὶ περὶ τούτων ὕστερον λεχθήσεται.

Κεφάλαιο 8

[419b4] 1. Νῦν δὲ πρῶτον περὶ ψόφου καὶ ἀκοῆς διορίσωμεν. ἔστι δὲ διττὸς ὁ ψόφος· ὁ μὲν γὰρ ἐνέργειά τις, ὁ δὲ δύναμις· τὰ μὲν γὰρ οὔ φαμεν ἔχειν ψόφον, οἷον σπόγγον, ἔρια, τὰ δ' ἔχειν, οἷον χαλκὸν καὶ ὅσα στερεὰ καὶ λεῖα, ὅτι δύναται ψοφῆσαι (τοῦτο δ' ἐστὶν αὐτοῦ μεταξὺ καὶ τῆς ἀκοῆς ἐμποιῆσαι ψόφον ἐνεργείᾳ)·

2. γίνεται δ' ὁ κατ' ἐνέργειαν ψόφος ἀεί τινος πρός τι καὶ ἔν τινι· πληγὴ γάρ ἐστιν ἡ ποιοῦσα. διὸ καὶ ἀδύνατον ἑνὸς ὄντος γενέσθαι ψόφον· ἕτερον γὰρ τὸ τύπτον καὶ τὸ τυπτόμενον· ὥστε τὸ ψοφοῦν πρός τι ψοφεῖ· πληγὴ δ' οὐ γίνεται ἄνευ φορᾶς. ὥσπερ δ' εἴπομεν, οὐ τῶν τυχόντων πληγὴ ὁ ψόφος· οὐθένα γὰρ ποιεῖ ψόφον ἔρια ἂν πληγῇ, ἀλλὰ χαλκὸς καὶ ὅσα λεῖα καὶ κοῖλα· ὁ μὲν χαλκὸς ὅτι λεῖος, τὰ δὲ κοῖλα τῇ ἀνακλάσει πολλὰς ποιεῖ πληγὰς μετὰ τὴν πρώτην, ἀδυνατοῦντος ἐξελθεῖν τοῦ κινηθέντος.

3. ἔτι ἀκούεται ἐν ἀέρι, κἀν ὕδατι, ἀλλ' ἧττον, οὐκ ἔστι δὲ ψόφου κύριος ὁ ἀὴρ οὐδὲ τὸ ὕδωρ, ἀλλὰ δεῖ στερεῶν πληγὴν γενέσθαι πρὸς ἄλληλα καὶ πρὸς τὸν ἀέρα. τοῦτο δὲ γίνεται ὅταν ὑπομένῃ πληγεὶς ὁ ἀὴρ καὶ μὴ διαχυθῇ. διὸ ἐὰν ταχέως καὶ σφοδρῶς πληγῇ, ψοφεῖ· δεῖ γὰρ φθάσαι τὴν κίνησιν τοῦ ῥαπίζοντος τὴν θρύψιν τοῦ ἀέρος, ὥσπερ ἂν εἰ σωρὸν ἢ ὁρμαθὸν ψάμμου τύπτοι τις φερόμενον ταχύ.

4. ἠχὼ δὲ γίνεται ὅταν, ἀέρος ἑνὸς γενομένου διὰ τὸ ἀγγεῖον τὸ διορίσαν καὶ κωλῦσαν θρυφθῆναι, πάλιν ὁ ἀὴρ ἀπωσθῇ, ὥσπερ σφαῖρα. ἔοικε δ' ἀεὶ γίνεσθαι ἠχώ, ἀλλ' οὐ σαφής, ἐπεὶ συμβαίνει γε ἐπὶ τοῦ ψόφου καθάπερ καὶ ἐπὶ τοῦ φωτός· καὶ γὰρ τὸ φῶς ἀεὶ ἀνακλᾶται (οὐδὲ γὰρ ἂν ἐγίνετο πάντῃ φῶς, ἀλλὰ σκότος ἔξω τοῦ ἡλιουμένου), ἀλλ' οὐχ οὕτως ἀνακλᾶται ὥσπερ ἀφ' ὕδατος ἢ χαλκοῦ ἢ καί τινος ἄλλου τῶν λείων, ὥστε σκιὰν ποιεῖν, ᾗ τὸ φῶς ὁρίζομεν.

5. τὸ δὲ κενὸν ὀρθῶς λέγεται κύριον τοῦ ἀκούειν. δοκεῖ γὰρ εἶναι κενὸν ὁ ἀήρ, οὗτος δ' ἐστὶν ὁ ποιῶν ἀκούειν, ὅταν κινηθῇ συνεχὴς καὶ εἷς. ἀλλὰ διὰ τὸ ψαθυρὸς [420a] εἶναι οὐ γεγωνεῖ, ἂν μὴ λεῖον ᾖ τὸ πληγέν. τότε δὲ εἷς γίνεται ἅμα διὰ τὸ ἐπίπεδον· ἓν γὰρ τὸ τοῦ λείου ἐπίπεδον.

6. ψοφητικὸν μὲν οὖν τὸ κινητικὸν ἑνὸς ἀέρος συνεχείᾳ μέχρις ἀκοῆς. ἀκοῇ δὲ συμφυὴς <ἔστιν> ἀήρ· διὰ δὲ τὸ ἐν ἀέρι εἶναι, κινουμένου τοῦ ἔξω ὁ

εἴσω κινεῖται. διόπερ οὐ πάντῃ τὸ ζῷον ἀκούει, οὐδὲ πάντῃ διέρχεται ὁ ἀήρ· οὐ γὰρ πάντῃ ἔχει ἀέρα τὸ κινησόμενον μέρος καὶ ἔμψυχον. αὐτὸς μὲν δὴ ἄψοφον ὁ ἀὴρ διὰ τὸ εὔθρυπτον· ὅταν δὲ κωλυθῇ θρύπτεσθαι, ἡ τούτου κίνησις ψόφος. ὁ δ᾽ ἐν τοῖς ὠσὶν ἐγκατῳκοδόμηται πρὸς τὸ ἀκίνητος εἶναι, ὅπως ἀκριβῶς αἰσθάνηται πάσας τὰς διαφορὰς τῆς κινήσεως. διὰ ταῦτα δὲ καὶ ἐν ὕδατι ἀκούομεν, ὅτι οὐκ εἰσέρχεται πρὸς αὐτὸν τὸν συμφυῆ ἀέρα· ἀλλ᾽ οὐδ᾽ εἰς τὸ οὖς, διὰ τὰς ἕλικας. ὅταν δὲ τοῦτο συμβῇ, οὐκ ἀκούει· οὐδ᾽ ἂν ἡ μῆνιγξ κάμῃ, ὥσπερ τὸ ἐπὶ τῇ κόρῃ δέρμα [ὅταν κάμῃ]. ἀλλ᾽ οὐ σημεῖον τοῦ ἀκούειν ἢ μὴ τὸ ἠχεῖν τὸ οὖς ὥσπερ τὸ κέρας· ἀεὶ γὰρ οἰκείαν τινὰ κίνησιν ὁ ἀὴρ κινεῖται ὁ ἐν τοῖς ὠσίν, ἀλλ᾽ ὁ ψόφος ἀλλότριος καὶ οὐκ ἴδιος. καὶ διὰ τοῦτό φασιν ἀκούειν τῷ κενῷ καὶ ἠχοῦντι, ὅτι ἀκούομεν τῷ ἔχοντι ὡρισμένον τὸν ἀέρα. [420a.19]

7. πότερον δὲ ψοφεῖ τὸ τυπτόμενον ἢ τὸ τύπτον; ἢ καὶ ἄμφω, τρόπον δ᾽ ἕτερον; ἔστι γὰρ ὁ ψόφος κίνησις τοῦ δυναμένου κινεῖσθαι τὸν τρόπον τοῦτον ὅνπερ τὰ ἀφαλλόμενα ἀπὸ τῶν λείων, ὅταν τις κρούσῃ. οὐ δὴ πᾶν, ὥσπερ εἴρηται, ψοφεῖ τυπτόμενον καὶ τύπτον, οἷον ἐὰν πατάξῃ βελόνη βελόνην, ἀλλὰ δεῖ τὸ τυπτόμενον ὁμαλὸν εἶναι, ὥστε τὸν ἀέρα ἀθροῦν ἀφάλλεσθαι καὶ σείεσθαι.

8. αἱ δὲ διαφοραὶ τῶν ψοφούντων ἐν τῷ κατ᾽ ἐνέργειαν ψόφῳ δηλοῦνται· ὥσπερ γὰρ ἄνευ φωτὸς οὐχ ὁρᾶται τὰ χρώματα, οὕτως οὐδ᾽ ἄνευ ψόφου τὸ ὀξὺ καὶ τὸ βαρύ. ταῦτα δὲ λέγεται κατὰ μεταφορὰν ἀπὸ τῶν ἁπτῶν· τὸ μὲν γὰρ ὀξὺ κινεῖ τὴν αἴσθησιν ἐν ὀλίγῳ χρόνῳ ἐπὶ πολύ, τὸ δὲ βαρὺ ἐν πολλῷ ἐπ᾽ ὀλίγον. οὐ δὴ ταχὺ τὸ ὀξύ, τὸ δὲ βαρὺ βραδύ, ἀλλὰ γίνεται τοῦ μὲν διὰ τὸ τάχος ἡ κίνησις τοιαύτη, τοῦ δὲ διὰ βραδυτῆτα, [420b] καὶ ἔοικεν ἀνάλογον ἔχειν τῷ περὶ τὴν ἁφὴν ὀξεῖ καὶ ἀμβλεῖ· τὸ μὲν γὰρ ὀξὺ οἷον κεντεῖ, τὸ δ᾽ ἀμβλὺ οἷον ὠθεῖ, διὰ τὸ κινεῖν τὸ μὲν ἐν ὀλίγῳ τὸ δὲ ἐν πολλῷ, ὥστε συμβαίνει τὸ μὲν ταχὺ τὸ δὲ βραδὺ εἶναι.

9. περὶ μὲν οὖν ψόφου ταύτῃ διωρίσθω. ἡ δὲ φωνὴ ψόφος τίς ἐστιν ἐμψύχου· τῶν γὰρ ἀψύχων οὐθὲν φωνεῖ, ἀλλὰ καθ᾽ ὁμοιότητα λέγεται φωνεῖν, οἷον αὐλὸς καὶ λύρα καὶ ὅσα ἄλλα τῶν ἀψύχων ἀπότασιν ἔχει καὶ μέλος καὶ διάλεκτον. ἔοικε γάρ, ὅτι καὶ ἡ φωνὴ ταῦτ᾽ ἔχει. πολλὰ δὲ τῶν ζῴων οὐκ ἔχουσι φωνήν, οἷον τά τε ἄναιμα καὶ τῶν ἐναίμων ἰχθύες (καὶ τοῦτ᾽ εὐλόγως, εἴπερ ἀέρος κίνησίς τίς ἐστιν ὁ ψόφος), ἀλλ᾽ οἱ λεγόμενοι φωνεῖν, οἷον <οἱ> ἐν τῷ Ἀχελῴῳ, ψοφοῦσι τοῖς βραγχίοις ἤ τινι ἑτέρῳ τοιούτῳ,

10. φωνὴ δ᾽ ἐστὶ ζῴου ψόφος οὐ τῷ τυχόντι μορίῳ. ἀλλ᾽ ἐπεὶ πᾶν ψοφεῖ τύπτοντός τινος καί τι καὶ ἔν τινι, τοῦτο δ᾽ ἐστὶν ἀήρ, εὐλόγως ἂν φωνοίη

ταῦτα μόνα ὅσα δέχεται τὸν ἀέρα. τῷ γὰρ ἤδη ἀναπνεομένῳ καταχρῆται ἡ φύσις ἐπὶ δύο ἔργα-καθάπερ τῇ γλώττῃ ἐπί τε τὴν γεῦσιν καὶ τὴν διάλεκτον, ὧν ἡ μὲν γεῦσις ἀναγκαῖον (διὸ καὶ πλείοσιν ὑπάρχει), ἡ δ’ ἑρμηνεία ἕνεκα τοῦ εὖ, οὕτω καὶ τῷ πνεύματι πρός τε τὴν θερ- μότητα τὴν ἐντὸς ὡς ἀναγκαῖον <ὄν> (τὸ δ’ αἴτιον ἐν ἑτέροις εἰρήσεται) καὶ πρὸς τὴν φωνὴν ὅπως ὑπάρχῃ τὸ εὖ.

11. ὄργανον δὲ τῇ ἀναπνοῇ ὁ φάρυγξ· οὗ δ’ ἕνεκα τὸ μόριόν ἐστι τοῦτο, πνεύμων· τούτῳ γὰρ τῷ μορίῳ πλέον ἔχει τὸ θερμὸν τὰ πεζὰ τῶν ἄλλων. δεῖται δὲ τῆς ἀναπνοῆς καὶ ὁ περὶ τὴν καρδίαν τόπος πρῶτος. διὸ ἀναγκαῖον εἴσω ἀναπνεόμενον εἰσιέναι τὸν ἀέρα. ὥστε ἡ πληγὴ τοῦ ἀναπνεομένου ἀέρος ὑπὸ τῆς ἐν τούτοις τοῖς μορίοις ψυχῆς πρὸς τὴν καλουμένην ἀρτηρίαν φωνή ἐστιν (οὐ γὰρ πᾶς ζῴου ψόφος φωνή, καθάπερ εἴπομεν-ἔστι γὰρ καὶ τῇ γλώττῃ ψοφεῖν καὶ ὡς οἱ βήττοντες-ἀλλὰ δεῖ ἔμψυχόν τε εἶναι τὸ τύπτον καὶ μετὰ φαντασίας τινός· σημαντικὸς γὰρ δή τις ψόφος ἐστὶν ἡ φωνή)· καὶ οὐ τοῦ ἀναπνεομένου ἀέρος ὥσπερ ἡ βήξ, [421a] ἀλλὰ τούτῳ τύπτει τὸν ἐν τῇ ἀρτηρίᾳ πρὸς αὐτήν.

12. σημεῖον δὲ τὸ μὴ δύνασθαι φωνεῖν ἀναπνέοντα μηδ’ ἐκπνέοντα, ἀλλὰ κατέχοντα· κινεῖ γὰρ τούτῳ ὁ κατέχων. φανερὸν δὲ καὶ διότι οἱ ἰχθύες ἄφωνοι· οὐ γὰρ ἔχουσι φάρυγγα. τοῦτο δὲ τὸ μόριον οὐκ ἔχουσιν ὅτι οὐ δέχονται τὸν ἀέρα οὐδ’ ἀναπνέουσιν. δι’ ἣν μὲν οὖν αἰτίαν, ἕτερός ἐστι λόγος.

Κεφάλαιο 9

[421a7] 1. Περὶ δὲ ὀσμῆς καὶ ὀσφραντοῦ ἧττον εὐδιόριστόν ἐστι τῶν εἰρημένων· οὐ γὰρ δῆλον ποῖόν τί ἐστιν ἡ ὀσμή, οὕτως ὡς ὁ ψόφος ἢ τὸ χρῶμα. αἴτιον δ’ ὅτι τὴν αἴσθησιν ταύτην οὐκ ἔχομεν ἀκριβῆ, ἀλλὰ χείρω πολλῶν ζῴων· φαύλως γὰρ ἄνθρωπος ὀσμᾶται, καὶ οὐθενὸς αἰσθάνεται τῶν ὀσφραντῶν ἄνευ τοῦ λυπηροῦ ἢ τοῦ ἡδέος, ὡς οὐκ ὄντος ἀκριβοῦς τοῦ αἰσθητηρίου.

2. εὔλογον δ’ οὕτω καὶ τὰ σκληρόφθαλμα τῶν χρωμάτων αἰσθάνεσθαι, καὶ μὴ διαδήλους αὐτοῖς εἶναι τὰς διαφορὰς τῶν χρωμάτων πλὴν τῷ φοβερῷ καὶ ἀφόβῳ· οὕτω δὲ καὶ περὶ τὰς ὀσμὰς τὸ τῶν ἀνθρώπων γένος. ἔοικε μὲν γὰρ ἀνάλογον ἔχειν πρὸς τὴν γεῦσιν, καὶ ὁμοίως τὰ εἴδη τῶν χυμῶν τοῖς τῆς ὀσμῆς, ἀλλ’ ἀκριβεστέραν ἔχομεν τὴν γεῦσιν διὰ τὸ εἶναι αὐτὴν ἁφήν τινα, ταύτην δ’ ἔχειν τὴν αἴσθησιν τὸν ἄνθρωπον ἀκριβεστάτην· ἐν μὲν γὰρ ταῖς ἄλλαις λείπεται πολλῶν τῶν ζῴων, κατὰ δὲ τὴν ἁφὴν πολλῷ τῶν ἄλλων διαφερόντως ἀκριβοῖ· διὸ καὶ φρονιμώτατόν ἐστι τῶν ζῴων. σημεῖον δὲ τὸ καὶ ἐν τῷ γένει τῶν ἀνθρώπων παρὰ τὸ αἰσθητήριον τοῦτο εἶναι εὐφυεῖς καὶ ἀφυεῖς, παρ’ ἄλλο δὲ μηδέν· οἱ μὲν γὰρ σκληρόσαρκοι ἀφυεῖς τὴν διάνοιαν, οἱ δὲ μαλακόσαρκοι εὐφυεῖς. [421a26]

3. ἔστι δ’, ὥσπερ χυμὸς ὁ μὲν γλυκὺς ὁ δὲ πικρός, οὕτω καὶ ὀσμαί, ἀλλὰ τὰ μὲν ἔχουσι τὴν ἀνάλογον ὀσμὴν καὶ χυμόν, λέγω δὲ οἷον γλυκεῖαν ὀσμὴν καὶ γλυκὺν χυμόν, τὰ δὲ τοὐναντίον. ὁμοίως δὲ καὶ δριμεῖα καὶ αὐστηρὰ καὶ ὀξεῖα καὶ λιπαρά ἐστιν ὀσμή. ἀλλ’ ὥσπερ εἴπομεν, διὰ τὸ μὴ σφόδρα διαδήλους εἶναι τὰς ὀσμὰς ὥσπερ τοὺς χυμούς, [ἀπὸ τούτων] εἴληφε τὰ [421b] ὀνόματα καθ’ ὁμοιότητα τῶν πραγμάτων, ἡ μὲν γλυκεῖα κρόκου καὶ μέλιτος, ἡ δὲ δριμεῖα θύμου καὶ τῶν τοιούτων· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων.

4. ἔστι δ’ ὥςπερ ἡ ἀκοὴ καὶ ἑκάστη τῶν αἰσθήσεων, ἡ μὲν τοῦ ἀκουστοῦ καὶ ἀνηκούστου, ἡ δὲ τοῦ ὁρατοῦ καὶ ἀοράτου, καὶ ἡ ὄσφρησις τοῦ ὀσφραντοῦ καὶ ἀνοσφράντου. ἀνόσφραντον δὲ τὸ μὲν παρὰ τὸ ὅλως ἀδύνατον <εἶναι> ἔχειν ὀσμήν, τὸ δὲ μικρὰν ἔχον καὶ φαύλην. ὁμοίως δὲ καὶ τὸ ἄγευστον λέγεται.

5. ἔστι δὲ καὶ ἡ ὄσφρησις διὰ τοῦ μεταξύ, οἷον ἀέρος ἢ ὕδατος· καὶ γὰρ τὰ

ἔνυδρα δοκοῦσιν ὀσμῆς αἰσθάνεσθαι, ὁμοίως καὶ τὰ ἔναιμα καὶ τὰ ἄναιμα, ὥσπερ καὶ τὰ ἐν τῷ ἀέρι· καὶ γὰρ τούτων ἔνια πόρρωθεν ἀπαντᾷ πρὸς τὴν τροφὴν ὕποσμα γινόμενα.

6. διὸ καὶ ἄπορον φαίνεται εἰ πάντα μὲν ὁμοίως ὀσμᾶται, ὁ δ’ ἄνθρωπος ἀναπνέων μέν, μὴ ἀναπνέων δὲ ἀλλ’ ἐκπνέων ἢ κατέχων τὸ πνεῦμα οὐκ ὀσμᾶται, οὔτε πόρρωθεν οὔτ’ ἐγγύθεν, οὐδ’ ἂν ἐπὶ τοῦ μυκτῆρος ἐντὸς τεθῇ· καὶ τὸ μὲν ἐπ’ αὐτῷ τιθέμενον τῷ αἰσθητηρίῳ ἀναίσθητον εἶναι κοινὸν πάντων, ἀλλὰ τὸ ἄνευ τοῦ ἀναπνεῖν μὴ αἰσθάνεσθαι ἴδιον ἐπὶ τῶν ἀνθρώπων· δῆλον δὲ πειρωμένοις· ὥστε τὰ ἄναιμα, ἐπειδὴ οὐκ ἀναπνέουσιν, ἑτέραν ἄν τιν’ αἴσθησιν ἔχοι παρὰ τὰς λεγομένας. ἀλλ’ ἀδύνατον, εἴπερ τῆς ὀσμῆς αἰσθάνεται· ἡ γὰρ τοῦ ὀσφραντοῦ αἴσθησις καὶ δυσώδους καὶ εὐώδους ὄσφρησίς ἐστιν. ἔτι δὲ καὶ φθειρόμενα φαίνεται ὑπὸ τῶν ἰσχυρῶν ὀσμῶν ὑφ’ ὧνπερ ἄνθρωπος, οἷον ἀσφάλτου καὶ θείου καὶ τῶν τοιούτων. ὀσφραίνεσθαι μὲν οὖν ἀναγκαῖον, ἀλλ’ οὐκ ἀναπνέοντα.

7. ἔοικε δὲ τοῖς ἀνθρώποις διαφέρειν τὸ αἰσθητήριον τοῦτο πρὸς τὸ τῶν ἄλλων ζῴων, ὥσπερ τὰ ὄμματα πρὸς τὰ τῶν σκληροφθάλμων-τὰ μὲν γὰρ ἔχει φράγμα καὶ ὥσπερ ἔλυτρον τὰ βλέφαρα, ἃ μὴ κινήσας μηδ’ ἀνασπάσας οὐχ ὁρᾷ· τὰ δὲ σκληρόφθαλμα οὐδὲν ἔχει τοιοῦτον, ἀλλ’ εὐθέως ὁρᾷ τὰ γινόμενα ἐν τῷ διαφανεῖ-οὕτως οὖν καὶ τὸ ὀσφραντικὸν αἰσθητήριον τοῖς μὲν [422a] ἀκαλυφὲς εἶναι, ὥσπερ τὸ ὄμμα, τοῖς δὲ τὸν ἀέρα δεχομένοις ἔχειν ἐπικάλυμμα, ὃ ἀναπνεόντων ἀποκαλύπτεται, διευρυνομένων τῶν φλεβίων καὶ τῶν πόρων.

8. καὶ διὰ τοῦτο τὰ ἀναπνέοντα οὐκ ὀσμᾶται ἐν τῷ ὑγρῷ· ἀναγκαῖον γὰρ ὀσφρανθῆναι ἀναπνεύσαντα, τοῦτο δὲ ποιεῖν ἐν τῷ ὑγρῷ ἀδύνατον. ἔστι δ’ ἡ ὀσμὴ τοῦ ξηροῦ (ὥσπερ ὁ χυμὸς τοῦ ὑγροῦ), τὸ δὲ ὀσφραντικὸν αἰσθητήριον δυνάμει τοιοῦτον.

Κεφάλαιο 10

[422a8] 1. Τὸ δὲ γευστόν ἐστιν ἁπτόν τι· καὶ τοῦτ’ αἴτιον τοῦ μὴ εἶναι αἰσθητὸν διὰ τοῦ μεταξὺ ἀλλοτρίου ὄντος σώματος· οὐδὲ γὰρ τῇ ἁφῇ. καὶ τὸ σῶμα δὲ ἐν ᾧ ὁ χυμός, τὸ γευστόν, ἐν ὑγρῷ ὡς ὕλῃ· τοῦτο δ’ ἁπτόν τι. διὸ κἂν εἰ ἐν ὕδατι ἦμεν, ᾐσθανόμεθ’ ἂν ἐμβληθέντος τοῦ γλυκέος, οὐκ ἦν δ’ ἂν ἡ αἴσθησις ἡμῖν διὰ τοῦ μεταξύ, ἀλλὰ τῷ μιχθῆναι τῷ ὑγρῷ, καθάπερ ἐπὶ τοῦ ποτοῦ. τὸ δὲ χρῶμα οὐχ οὕτως ὁρᾶται τῷ μίγνυσθαι, οὐδὲ ταῖς ἀπορροίαις. ὡς μὲν οὖν τὸ μεταξὺ οὐθὲν ἔστιν· ὡς δὲ χρῶμα τὸ ὁρατόν, οὕτω τὸ γευστὸν ὁ χυμός. οὐθὲν δὲ ποιεῖ χυμοῦ αἴσθησιν ἄνευ ὑγρότητος, ἀλλ’ ἔχει ἐνεργείᾳ ἢ δυνάμει ὑγρότητα, οἷον τὸ ἁλμυρόν· εὔτηκτόν τε γὰρ αὐτὸ καὶ συντηκτικὸν γλώττης. ὥσπερ δὲ καὶ ἡ ὄψις ἐστὶ τοῦ τε ὁρατοῦ καὶ τοῦ ἀοράτου (τὸ γὰρ σκότος ἀόρατον, κρίνει δὲ καὶ τοῦτο ἡ ὄψις), ἔτι τε τοῦ λίαν λαμπροῦ (καὶ γὰρ τοῦτο ἀόρατον, ἄλλον δὲ τρόπον τοῦ σκότους), ὁμοίως δὲ καὶ ἡ ἀκοὴ ψόφου τε καὶ σιγῆς, ὧν τὸ μὲν ἀκουστὸν τὸ δ’ οὐκ ἀκουστόν, καὶ μεγάλου ψόφου καθάπερ ἡ ὄψις τοῦ λαμπροῦ (ὥσπερ γὰρ ὁ μικρὸς ψόφος ἀνήκουστος, τρόπον τινὰ καὶ ὁ μέγας τε καὶ ὁ βίαιος), ἀόρατον δὲ τὸ μὲν ὅλως λέγεται, ὥσπερ καὶ ἐπ’ ἄλλων τὸ ἀδύνατον, τὸ δ’ ἐὰν πεφυκὸς μὴ ἔχῃ ἢ φαύλως, ὥσπερ τὸ ἄπουν καὶ τὸ ἀπύρηνον-οὕτω δὴ καὶ ἡ γεῦσις τοῦ γευστοῦ τε καὶ ἀγεύστου, τοῦτο δὲ τὸ μικρὸν ἢ φαῦλον ἔχον χυμὸν ἢ φθαρτικὸν τῆς γεύσεως. [422b] δοκεῖ δ’ εἶναι ἀρχὴ τὸ ποτὸν καὶ ἄποτον (γεῦσις γάρ τις ἀμφοτέρου· ἀλλὰ τοῦ μὲν φαύλη καὶ φθαρτική [τῆς γεύσεως], τοῦ δὲ κατὰ φύσιν)· ἔστι δὲ κοινὸν ἁφῆς καὶ γεύσεως τὸ ποτόν. ἐπεὶ δ’ ὑγρὸν τὸ γευστόν,

ἀνάγκη καὶ τὸ αἰσθητήριον αὐτοῦ μήτε ὑγρὸν εἶναι ἐντελεχείᾳ μήτε ἀδύνατον ὑγραίνεσθαι· πάσχει γάρ τι ἡ γεῦσις ὑπὸ τοῦ γευστοῦ, ᾗ γευστόν. ἀναγκαῖον ἄρα ὑγρανθῆναι τὸ δυνάμενον μὲν ὑγραίνεσθαι σωζόμενον, μὴ ὑγρὸν δέ, τὸ γευστικὸν αἰσθητήριον. σημεῖον δὲ τὸ μήτε κατάξηρον οὖσαν τὴν γλῶτταν αἰσθάνεσθαι μήτε λίαν ὑγράν· αὕτη γὰρ ἁφῇ γίνεται τοῦ πρώτου ὑγροῦ, ὥσπερ ὅταν προγευματίσας τις ἰσχυροῦ χυμοῦ γεύηται ἑτέρου, καὶ οἷον τοῖς κάμνουσι πικρὰ πάντα φαίνεται διὰ τὸ τῇ γλώττῃ πλήρει τοιαύτης ὑγρότητος αἰσθάνεσθαι.

2. τὰ δ’ εἴδη τῶν χυμῶν, ὥσπερ καὶ ἐπὶ τῶν χρωμάτων, ἁπλᾶ μὲν τἀναντία, τὸ γλυκὺ καὶ τὸ πικρόν, ἐχόμενα δὲ τοῦ μὲν τὸ λιπαρόν, τοῦ δὲ τὸ ἁλμυρόν·

μεταξὺ δὲ τούτων τό τε δριμὺ καὶ τὸ αὐστηρὸν καὶ στρυφνὸν καὶ ὀξύ· σχεδὸν γὰρ αὗται δοκοῦσιν εἶναι διαφοραὶ χυμῶν. ὥστε τὸ γευστικόν ἐστι τὸ δυνάμει τοιοῦτον, γευστὸν δὲ τὸ ποιητικὸν ἐντελεχείᾳ αὐτοῦ.

Κεφάλαιο 11

[422b17] 1. Περὶ δὲ τοῦ ἁπτοῦ καὶ περὶ ἁφῆς ὁ αὐτὸς λόγος· εἰ γὰρ ἡ ἁφὴ μὴ μία ἐστὶν αἴσθησις ἀλλὰ πλείους, ἀναγκαῖον καὶ τὰ ἁπτὰ αἰσθητὰ πλείω εἶναι. ἔχει δ' ἀπορίαν πότερον πλείους εἰσὶν ἢ μία, καὶ τί τὸ αἰσθητήριον τὸ τοῦ ἁπτικοῦ, πότερον ἡ σὰρξ καὶ ἐν τοῖς ἄλλοις τὸ ἀνάλογον, ἢ οὔ, ἀλλὰ τοῦτο μέν ἐστι τὸ μεταξύ, τὸ δὲ πρῶτον αἰσθητήριον ἄλλο τί ἐστιν ἐντός.

2. πᾶσα γὰρ αἴσθησις μιᾶς ἐναντιώσεως εἶναι δοκεῖ, οἷον ὄψις λευκοῦ καὶ μέλανος, καὶ ἀκοὴ ὀξέος καὶ βαρέος, καὶ γεῦσις πικροῦ καὶ γλυκέος· ἐν δὲ τῷ ἁπτῷ πολλαὶ ἔνεισιν ἐναντιώσεις, θερμὸν ψυχρόν, ξηρὸν ὑγρόν, σκληρὸν μαλακόν, καὶ τῶν ἄλλων ὅσα τοιαῦτα. ἔχει δέ τινα λύσιν πρός γε ταύτην τὴν ἀπορίαν, ὅτι καὶ ἐπὶ τῶν ἄλλων αἰσθήσεων εἰσὶν ἐναντιώσεις πλείους, οἷον ἐν φωνῇ οὐ μόνον ὀξύτης καὶ βαρύτης, ἀλλὰ καὶ μέγεθος καὶ μικρότης, καὶ λειότης καὶ τραχύτης φωνῆς, καὶ τοιαῦθ' ἕτερα. εἰσὶ δὲ καὶ περὶ χρῶμα διαφοραὶ τοιαῦται ἕτεραι. ἀλλὰ τί τὸ ἓν τὸ ὑποκείμενον, ὥσπερ ἀκοῇ ψόφος, οὕτω τῇ ἁφῇ, οὐκ ἔστιν ἔνδηλον.

3. πότερον δ' ἐστὶ τὸ αἰσθητήριον ἐντός, ἢ οὔ, ἀλλ' [423a] εὐθέως ἡ σάρξ, οὐδὲν δοκεῖ σημεῖον εἶναι τὸ γίνεσθαι τὴν αἴσθησιν ἅμα θιγγανομένων. καὶ γὰρ νῦν εἴ τίς <τι> περὶ τὴν σάρκα περιτείνειεν οἷον ὑμένα ποιήσας, ὁμοίως τὴν αἴσθησιν εὐθέως ἁψάμενος ἐνσημανεῖ· καίτοι δῆλον ὡς οὐκ ἔστιν ἐν τούτῳ τὸ αἰσθητήριον (εἰ δὲ καὶ συμφυὲς γένοιτο, θᾶττον ἔτι διικνοῖτ' ἂν ἡ αἴσθησις)·

4. διὸ τὸ τοιοῦτον μόριον τοῦ σώματος ἔοικεν οὕτως ἔχειν ὥσπερ ἂν εἰ κύκλῳ ἡμῖν περιεπεφύκει ὁ ἀήρ· ἐδοκοῦμεν γὰρ ἂν ἑνί τινι αἰσθάνεσθαι καὶ ψόφου καὶ χρώματος καὶ ὀσμῆς, καὶ μία τις αἴσθησις εἶναι ὄψις ἀκοὴ ὄσφρησις. νῦν δὲ διὰ τὸ διωρίσθαι δι' οὗ γίνονται αἱ κινήσεις, φανερὰ τὰ εἰρημένα αἰσθητήρια ἕτερα ὄντα. ἐπὶ δὲ τῆς ἁφῆς τοῦτο νῦν ἄδηλον· ἐξ ἀέρος μὲν γὰρ ἢ ὕδατος ἀδύνατον συστῆναι τὸ ἔμψυχον σῶμα· δεῖ γάρ τι στερεὸν εἶναι· λείπεται δὴ μικτὸν ἐκ τῆς καὶ τούτων εἶναι, οἷον βούλεται εἶναι ἡ σὰρξ καὶ τὸ ἀνάλογον· ὥστε ἀναγκαῖον τὸ σῶμα εἶναι τὸ μεταξὺ τοῦ ἁπτικοῦ προσπεφυκός, δι' οὗ γίνονται αἱ αἰσθήσεις πλείους οὖσαι.

5. δηλοῖ δ' ὅτι πλείους ἡ ἐπὶ τῆς γλώττης ἁφή· ἁπάντων γὰρ τῶν ἁπτῶν αἰσθάνεται κατὰ τὸ αὐτὸ μόριον καὶ χυμοῦ. εἰ μὲν οὖν καὶ ἡ ἄλλη σὰρξ

ᾐσθάνετο τοῦ χυμοῦ, ἐδόκει ἂν ἡ αὐτὴ καὶ μία εἶναι αἴσθησις ἡ γεῦσις καὶ ἡ ἀφή· νῦν δὲ δύο διὰ τὸ μὴ ἀντιστρέφειν.

6. ἀπορήσειε δ’ ἄν τις, εἰ πᾶν σῶμα βάθος ἔχει, τοῦτο δ’ ἐστὶ τὸ τρίτον μέγεθος, ὧν δ’ ἐστὶ δύο σωμάτων μεταξὺ σῶμά τι, οὐκ ἐνδέχεται ταῦτα ἀλλήλων ἅπτεσθαι, τὸ δ’ ὑγρὸν οὐκ ἔστιν ἄνευ σώματος, οὐδὲ τὸ διερόν, ἀλλ’ ἀναγκαῖον ὕδωρ εἶναι ἢ ἔχειν ὕδωρ,

τὰ δὲ ἁπτόμενα ἀλλήλων ἐν τῷ ὕδατι, μὴ ξηρῶν τῶν ἄκρων ὄντων, ἀναγκαῖον ὕδωρ ἔχειν μεταξύ, οὗ ἀνάπλεα τὰ ἔσχατα, εἰ δὲ τοῦτ’ ἀληθές, ἀδύνατον ἅψασθαι ἄλλο ἄλλου ἐν ὕδατι, τὸν αὐτὸν δὲ τρόπον καὶ ἐν τῷ ἀέρι (ὁμοίως γὰρ ἔχει ὁ ἀὴρ πρὸς τὰ ἐν αὐτῷ καὶ τὸ ὕδωρ πρὸς τὰ ἐν τῷ ὕδατι, λανθάνει δὲ μᾶλλον ἡμᾶς, ὥσπερ καὶ τὰ ἐν τῷ ὕδατι ζῷα [423b] εἰ διερὸν διεροῦ ἅπτεται)

-πότερον οὖν πάντων ὁμοίως ἐστὶν ἡ αἴσθησις, ἢ ἄλλων ἄλλως, καθάπερ νῦν δοκεῖ ἡ μὲν γεῦσις καὶ ἡ ἁφὴ τῷ ἅπτεσθαι, αἱ δ’ ἄλλαι ἄποθεν. τὸ δ’ οὐκ ἔστιν, ἀλλὰ καὶ τὸ σκληρὸν καὶ τὸ μαλακὸν δι’ ἑτέρων αἰσθανόμεθα, ὥσπερ καὶ τὸ ψοφητικὸν καὶ τὸ ὁρατὸν καὶ τὸ ὀσφραντόν· ἀλλὰ τὰ μὲν πόρρωθεν, τὰ δ’ ἐγγύθεν, διὸ λανθάνει· ἐπεὶ αἰσθανόμεθά γε πάντων διὰ τοῦ μέσου, ἀλλ’ ἐπὶ τούτων λανθάνει. καίτοι καθάπερ εἴπομεν καὶ πρότερον, κἂν εἰ δι’ ὑμένος αἰσθανοίμεθα τῶν ἁπτῶν ἁπάντων λανθάνοντος ὅτι διείργει, ὁμοίως ἂν ἔχοιμεν ὥσπερ καὶ νῦν ἐν τῷ ὕδατι καὶ ἐν τῷ ἀέρι· δοκοῦμεν γὰρ νῦν αὐτῶν ἅπτεσθαι καὶ οὐδὲν εἶναι διὰ μέσου.

8. ἀλλὰ διαφέρει τὸ ἁπτὸν τῶν ὁρατῶν καὶ τῶν ψοφητικῶν, ὅτι ἐκείνων μὲν αἰσθανόμεθα τῷ τὸ μεταξὺ ποιεῖν τι ἡμᾶς, τῶν δὲ ἁπτῶν οὐχ ὑπὸ τοῦ μεταξὺ ἀλλ’ ἅμα τῷ μεταξύ, ὥσπερ ὁ δι’ ἀσπίδος πληγείς· οὐ γὰρ ἡ ἀσπὶς πληγεῖσα ἐπάταξεν, ἀλλ’ ἅμ’ ἄμφω συνέβη πληγῆναι.

9. ὅλως δ’ ἔοικεν ἡ σὰρξ καὶ ἡ γλῶττα, ὡς ὁ ἀὴρ καὶ τὸ ὕδωρ πρὸς τὴν ὄψιν καὶ τὴν ἀκοὴν καὶ τὴν ὄσφρησιν ἔχουσιν, οὕτως ἔχειν πρὸς τὸ αἰσθητήριον ὥσπερ ἐκείνων ἕκαστον. αὐτοῦ δὲ τοῦ αἰσθητηρίου ἁπτομένου οὔτ’ ἐκεῖ οὔτ’ ἐνταῦθα γένοιτ’ ἂν αἴσθησις, οἷον εἴ τις σῶμά τι λευκὸν ἐπὶ τοῦ ὄμματος θείη τὸ ἔσχατον. ᾗ καὶ δῆλον ὅτι ἐντὸς τὸ τοῦ ἁπτοῦ αἰσθητικόν. οὕτω γὰρ ἂν συμβαίνοι ὅπερ καὶ ἐπὶ τῶν ἄλλων· ἐπιτιθεμένων γὰρ ἐπὶ τὸ αἰσθητήριον οὐκ αἰσθάνεται, ἐπὶ δὲ τὴν σάρκα ἐπιτιθεμένων αἰσθάνεται· ὥστε τὸ μεταξὺ τοῦ ἁπτικοῦ ἡ σάρξ.

10. ἁπταὶ μὲν οὖν εἰσὶν αἱ διαφοραὶ τοῦ σώματος ᾗ σῶμα· λέγω δὲ διαφορὰς αἳ τὰ στοιχεῖα διορίζουσι, θερμὸν ψυχρόν, ξηρὸν ὑγρόν, περὶ ὧν εἰρήκαμεν πρότερον ἐν τοῖς περὶ τῶν στοιχείων.

11. τὸ δὲ αἰσθητήριον αὐτῶν τὸ ἁπτικόν, καὶ ἐν ᾧ ἡ καλουμένη ἁφὴ ὑπάρχει αἴσθησις πρώτῳ, τὸ δυνάμει τοιοῦτόν ἐστι μόριον· [424a] τὸ γὰρ αἰσθάνεσθαι πάσχειν τι ἐστίν· ὥστε τὸ ποιοῦν, οἷον αὐτὸ ἐνεργείᾳ, τοιοῦτον ἐκεῖνο ποιεῖ, δυνάμει ὄν. διὸ τοῦ ὁμοίως θερμοῦ καὶ ψυχροῦ, ἢ σκληροῦ καὶ μαλακοῦ, οὐκ αἰσθανόμεθα, ἀλλὰ τῶν ὑπερβολῶν, ὡς τῆς αἰσθήσεως οἷον μεσότητός τινος οὔσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως. καὶ διὰ τοῦτο κρίνει τὰ αἰσθητά. τὸ γὰρ μέσον κριτικόν· γίνεται γὰρ πρὸς ἑκάτερον αὐτῶν θάτερον τῶν ἄκρων· καὶ δεῖ ὥσπερ τὸ μέλλον αἰσθήσεσθαι λευκοῦ καὶ μέλανος μηδέτερον αὐτῶν εἶναι ἐνεργείᾳ, δυνάμει δ’ ἄμφω (οὕτω δὲ καὶ ἐπὶ τῶν ἄλλων), καὶ ἐπὶ τῆς ἁφῆς μήτε θερμὸν μήτε ψυχρόν.

12. ἔτι δ’ ὥσπερ ὁρατοῦ καὶ ἀοράτου ἦν πως ἡ ὄψις, ὁμοίως δὲ καὶ αἱ λοιπαὶ τῶν ἀντικειμένων, οὕτω καὶ ἡ ἁφὴ τοῦ ἁπτοῦ καὶ ἀνάπτου· ἄναπτον δ’ ἐστὶ τό τε μικρὰν ἔχον πάμπαν διαφορὰν τῶν ἁπτῶν, οἷον πέπονθεν ὁ ἀήρ, καὶ τῶν ἁπτῶν αἱ ὑπερβολαί, ὥσπερ τὰ φθαρτικά. καθ’ ἑκάστην μὲν οὖν τῶν αἰσθήσεων εἴρηται τύπῳ.

Κεφάλαιο 12

[424a17] 1. Καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἡ μὲν αἴσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς ὕλης, οἷον ὁ κηρὸς τοῦ δακτυλίου ἄνευ τοῦ σιδήρου καὶ τοῦ χρυσοῦ δέχεται τὸ σημεῖον, λαμβάνει δὲ τὸ χρυσοῦν ἢ τὸ χαλκοῦν σημεῖον, ἀλλ’ οὐχ ᾗ χρυσὸς ἢ χαλκός· ὁμοίως δὲ καὶ ἡ αἴσθησις ἑκάστου ὑπὸ τοῦ ἔχοντος χρῶμα ἢ χυμὸν ἢ ψόφον πάσχει, ἀλλ’ οὐχ ᾗ ἕκαστον ἐκείνων λέγεται, ἀλλ’ ᾗ τοιονδί, καὶ κατὰ τὸν λόγον.

2. αἰσθητήριον δὲ πρῶτον ἐν ᾧ ἡ τοιαύτη δύναμις. ἔστι μὲν οὖν ταὐτόν, τὸ δ’ εἶναι ἕτερον· μέγεθος μὲν γὰρ ἄν τι εἴη τὸ αἰσθανόμενον, οὐ μὴν τό γε αἰσθητικῷ εἶναι οὐδ’ ἡ αἴσθησις μέγεθός ἐστιν, ἀλλὰ λόγος τις καὶ δύναμις ἐκείνου.

3. φανερὸν δ’ ἐκ τούτων καὶ διὰ τί ποτε τῶν αἰσθητῶν αἱ ὑπερβολαὶ φθείρουσι τὰ αἰσθητήρια (ἐὰν γὰρ ᾖ ἰσχυροτέρα τοῦ αἰσθητηρίου ἡ κίνησις, λύεται ὁ λόγος-τοῦτο δ’ ἦν ἡ αἴσθησις-ὥσπερ καὶ ἡ συμφωνία καὶ ὁ τόνος κρουομένων σφόδρα τῶν χορδῶν),

4. καὶ διὰ τί ποτε τὰ φυτὰ οὐκ αἰσθάνεται, ἔχοντά τι μόριον ψυχικὸν καὶ πάσχοντά τι ὑπὸ τῶν ἁπτῶν (καὶ γὰρ ψύχε- [424b] ται καὶ θερμαίνεται)· αἴτιον γὰρ τὸ μὴ ἔχειν μεσότητα, μηδὲ τοιαύτην ἀρχὴν οἵαν τὰ εἴδη δέχεσθαι τῶν αἰσθητῶν, ἀλλὰ πάσχειν μετὰ τῆς ὕλης.

5. ἀπορήσειε δ’ ἄν τις εἰ πάθοι ἄν τι ὑπ’ ὀσμῆς τὸ ἀδύνατον ὀσφρανθῆναι, ἢ ὑπὸ χρώματος τὸ μὴ δυνάμενον ἰδεῖν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δὲ τὸ ὀσφραντὸν ὀσμή, εἴ τι ποιεῖ, τὴν ὄσφρησιν ἡ ὀσμὴ ποιεῖ· ὥστε τῶν ἀδυνάτων ὀσφρανθῆναι οὐθὲν οἷόν τε πάσχειν ὑπ’ ὀσμῆς (ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων)· οὐδὲ τῶν δυνατῶν, ἀλλ’ <ἢ> ᾗ αἰσθητικὸν ἕκαστον. ἅμα δὲ δῆλον καὶ οὕτως· οὔτε γὰρ φῶς καὶ σκότος οὔτε ψόφος οὔτε ὀσμὴ οὐδὲν ποιεῖ τὰ σώματα, ἀλλ’ ἐν οἷς ἐστίν, οἷον ἀὴρ ὁ μετὰ βροντῆς διίστησι τὸ ξύλον.

6. ἀλλὰ τὰ ἁπτὰ καὶ οἱ χυμοὶ ποιοῦσιν· εἰ γὰρ μή, ὑπὸ τίνος ἂν πάσχοι τὰ ἄψυχα καὶ ἀλλοιοῖτο; ἆρ’ οὖν κἀκεῖνα ποιήσει; ἢ οὐ πᾶν σῶμα παθητικὸν ὑπ’ ὀσμῆς καὶ ψόφου, καὶ τὰ πάσχοντα ἀόριστα, καὶ οὐ μένει, οἷον ἀήρ (ὄζει γὰρ ὥσπερ παθών τι); τί οὖν ἐστι τὸ ὀσμᾶσθαι παρὰ τὸ πάσχειν τι; ἢ τὸ μὲν ὀσμᾶσθαι αἰσθάνεσθαι, ὁ δ’ ἀὴρ παθὼν ταχέως αἰσθητὸς γίνεται;

Βιβλίο Γ

Κεφάλαιο 1

[424b.22] 1. Ὅτι δ’ οὐκ ἔστιν αἴσθησις ἑτέρα παρὰ τὰς πέντε (λέγω δὲ ταύτας ὄψιν, ἀκοήν, ὄσφρησιν, γεῦσιν, ἁφήν), ἐκ τῶνδε πιστεύσειεν ἄν τις. εἰ γὰρ παντὸς οὗ ἐστὶν αἴσθησις ἁφὴ καὶ νῦν αἴσθησιν ἔχομεν (πάντα γὰρ τὰ τοῦ ἁπτοῦ ᾗ ἁπτὸν πάθη τῇ ἁφῇ ἡμῖν αἰσθητά ἐστιν), ἀνάγκη τ’, εἴπερ ἐκλείπει τις αἴσθησις, καὶ αἰσθητήριόν τι ἡμῖν ἐκλείπειν, καὶ ὅσων μὲν αὐτῶν ἁπτόμενοι αἰσθανόμεθα, τῇ ἁφῇ αἰσθητά ἐστιν, ἣν τυγχάνομεν ἔχοντες, ὅσα δὲ διὰ τῶν μεταξὺ καὶ μὴ αὐτῶν ἁπτόμενοι, τοῖς ἁπλοῖς, λέγω δ’ οἷον ἀέρι καὶ ὕδατι,

2. ἔχει δ’ οὕτως ὥστ’ εἰ μὲν δι’ ἑνὸς πλείω αἰσθητὰ ἕτερα ὄντα ἀλλήλων τῷ γένει, ἀνάγκη τὸν ἔχοντα τὸ τοιοῦτον αἰσθητήριον ἀμφοῖν αἰσθητικὸν εἶναι (οἷον εἰ ἐξ ἀέρος ἐστὶ τὸ αἰσθητήριον, καὶ ἔστιν ὁ ἀὴρ καὶ ψόφου καὶ χρόας), εἰ δὲ πλείω [425a] τοῦ αὐτοῦ, οἷον χρόας καὶ ἀὴρ καὶ ὕδωρ (ἄμφω γὰρ διαφανῆ), καὶ ὁ τὸ ἕτερον αὐτῶν ἔχων μόνον αἰσθήσεται τοῦ δι’ ἀμφοῖν,

3. τῶν δὲ ἁπλῶν ἐκ δύο τούτων αἰσθητήρια μόνον ἐστίν, ἐξ ἀέρος καὶ ὕδατος (ἡ μὲν γὰρ κόρη ὕδατος, ἡ δ’ ἀκοὴ ἀέρος, ἡ δ’ ὄσφρησις θατέρου τούτων), τὸ δὲ πῦρ ἢ οὐθενὸς ἢ κοινὸν πάντων (οὐθὲν γὰρ ἄνευ θερμότητος αἰσθητικόν), γῆ δὲ ἢ οὐθενός, ἢ ἐν τῇ ἁφῇ μάλιστα μέμικται ἰδίως, διὸ λείποιτ’ ἂν μηθὲν εἶναι αἰσθητήριον ἔξω ὕδατος καὶ ἀέρος,

4. ταῦτα δὲ καὶ νῦν ἔχουσιν ἔνια ζῷα-πᾶσαι ἄρα αἱ αἰσθήσεις ἔχονται ὑπὸ τῶν μὴ ἀτελῶν μηδὲ πεπηρωμένων (φαίνεται γὰρ καὶ ἡ ἀσπάλαξ ὑπὸ τὸ δέρμα ἔχουσα ὀφθαλμούς)· ὥστ’ εἰ μή τι ἕτερον ἔστι σῶμα, καὶ πάθος ὃ μηθενός ἐστι τῶν ἐνταῦθα σωμάτων, οὐδεμία ἂν ἐκλείποι αἴσθησις.

5. ἀλλὰ μὴν οὐδὲ τῶν κοινῶν οἷόν τ’ εἶναι αἰσθητήριόν τι ἴδιον, ὧν ἑκάστῃ αἰσθήσει αἰσθανόμεθα κατὰ συμβεβηκός, οἷον κινήσεως, στάσεως, σχήματος, μεγέθους, ἀριθμοῦ· ταῦτα γὰρ πάντα [κινήσει] αἰσθανόμεθα, οἷον μέγεθος κινήσει (ὥστε καὶ σχῆμα· μέγεθος γάρ τι τὸ σχῆμα), τὸ δ’ ἠρεμοῦν τῷ μὴ κινεῖσθαι, ὁ δ’ ἀριθμὸς τῇ ἀποφάσει τοῦ συνεχοῦς, καὶ τοῖς ἰδίοις (ἑκάστη γὰρ ἓν αἰσθάνεται αἴσθησις)· ὥστε δῆλον ὅτι ἀδύνατον ὁτουοῦν ἰδίαν αἴσθησιν εἶναι τούτων, οἷον κινήσεως· οὕτω γὰρ ἔσται ὥσπερ νῦν τῇ ὄψει τὸ γλυκὺ αἰσθανόμεθα·

6. τοῦτο δ’ ὅτι ἀμφοῖν ἔχοντες τυγχάνομεν αἴσθησιν, ᾗ ὅταν συμπέσωσιν

ἅμα γνωρίζομεν. εἰ δὲ μή, οὐδαμῶς ἂν ἀλλ’ ἢ κατὰ συμβεβηκὸς ᾐσθανόμεθα (οἷον τὸν Κλέωνος υἱὸν οὐχ ὅτι Κλέωνος υἱός, ἀλλ’ ὅτι λευκός, τούτῳ δὲ συμβέβηκεν υἱῷ Κλέωνος εἶναι)·

7. τῶν δὲ κοινῶν ἤδη ἔχομεν αἴσθησιν κοινήν, οὐ κατὰ συμβεβηκός· οὐκ ἄρ’ ἐστὶν ἰδία· οὐδαμῶς γὰρ ἂν ᾐσθανόμεθα ἀλλ’ ἢ οὕτως ὥσπερ εἴρηται [τὸν Κλέωνος υἱὸν ἡμᾶς ὁρᾶν]. τὰ δ’ ἀλλήλων ἴδια κατὰ συμβεβηκὸς αἰσθάνονται αἱ αἰσθήσεις, οὐχ ᾗ αὐταί, ἀλλ’ ᾗ μία, ὅταν [425b] ἅμα γένηται ἡ αἴσθησις ἐπὶ τοῦ αὐτοῦ, οἷον χολῆς ὅτι πικρὰ καὶ ξανθή (οὐ γὰρ δὴ ἑτέρας γε τὸ εἰπεῖν ὅτι ἄμφω ἕν)· διὸ καὶ ἀπατᾶται, καὶ ἐὰν ᾖ ξανθόν, χολὴν οἴεται εἶναι.

8. ζητήσειε δ’ ἄν τις τίνος ἕνεκα πλείους ἔχομεν αἰσθήσεις, ἀλλ’ οὐ μίαν μόνην. ἢ ὅπως ἧττον λανθάνῃ τὰ ἀκολουθοῦντα καὶ κοινά, οἷον κίνησις καὶ μέγεθος καὶ ἀριθμός; εἰ γὰρ ἦν ἡ ὄψις μόνη, καὶ αὕτη λευκοῦ, ἐλάνθανεν ἂν μᾶλλον κἂν ἐδόκει ταὐτὸν εἶναι πάντα διὰ τὸ ἀκολουθεῖν ἀλλήλοις ἅμα χρῶμα καὶ μέγεθος. νῦν δ’ ἐπεὶ καὶ ἐν ἑτέρῳ αἰσθητῷ τὰ κοινὰ ὑπάρχει, δῆλον ποιεῖ ὅτι ἄλλο τι ἕκαστον αὐτῶν.

Κεφάλαιο 2

[425b12] 1. Ἐπεὶ δ’ αἰσθανόμεθα ὅτι ὁρῶμεν καὶ ἀκούομεν, ἀνάγκη ἢ τῇ ὄψει αἰσθάνεσθαι ὅτι ὁρᾷ, ἢ ἑτέρᾳ. ἀλλ’ ἡ αὐτὴ ἔσται τῆς ὄψεως καὶ τοῦ ὑποκειμένου χρώματος, ὥστε ἢ δύο τοῦ αὐτοῦ ἔσονται ἢ αὐτὴ αὑτῆς.

2. ἔτι δ’ εἰ καὶ ἑτέρα εἴη ἡ τῆς ὄψεως αἴσθησις, ἢ εἰς ἄπειρον εἶσιν ἢ αὐτή τις ἔσται αὑτῆς· ὥστ’ ἐπὶ τῆς πρώτης τοῦτο ποιητέον. ἔχει δ’ ἀπορίαν· εἰ γὰρ τὸ τῇ ὄψει αἰσθάνεσθαί ἐστιν ὁρᾶν, ὁρᾶται δὲ χρῶμα ἢ τὸ ἔχον, εἰ ὄψεταί τις τὸ ὁρῶν, καὶ χρῶμα ἕξει τὸ ὁρῶν πρῶτον.

3. φανερὸν τοίνυν ὅτι οὐχ ἓν τὸ τῇ ὄψει αἰσθάνεσθαι· καὶ γὰρ ὅταν μὴ ὁρῶμεν, τῇ ὄψει κρίνομεν καὶ τὸ σκότος καὶ τὸ φῶς, ἀλλ’ οὐχ ὡσαύτως. ἔτι δὲ καὶ τὸ ὁρῶν ἔστιν ὡς κεχρωμάτισται· τὸ γὰρ αἰσθητήριον δεκτικὸν τοῦ αἰσθητοῦ ἄνευ τῆς ὕλης ἕκαστον· διὸ καὶ ἀπελθόντων τῶν αἰσθητῶν ἔνεισιν αἰσθήσεις καὶ φαντασίαι ἐν τοῖς αἰσθητηρίοις.

4. ἡ δὲ τοῦ αἰσθητοῦ ἐνέργεια καὶ τῆς αἰσθήσεως ἡ αὐτὴ μέν ἐστι καὶ μία, τὸ δ’ εἶναι οὐ τὸ αὐτὸ αὐταῖς· λέγω δ’ οἷον ὁ ψόφος ὁ κατ’ ἐνέργειαν καὶ ἡ ἀκοὴ ἡ κατ’ ἐνέργειαν· ἔστι γὰρ ἀκοὴν ἔχοντα μὴ ἀκούειν, καὶ τὸ ἔχον ψόφον οὐκ ἀεὶ ψοφεῖ, ὅταν δ’ ἐνεργῇ τὸ δυνάμενον ἀκούειν καὶ ψοφῇ τὸ δυνάμενον ψοφεῖν, τότε ἡ κατ’ ἐνέργειαν ἀκοὴ ἅμα γίνεται καὶ ὁ κατ’ [426a] ἐνέργειαν ψόφος, ὧν εἴπειεν ἄν τις τὸ μὲν εἶναι ἄκουσιν τὸ δὲ ψόφησιν.

5. εἰ δή ἐστιν ἡ κίνησις (καὶ ἡ ποίησις καὶ τὸ πάθος) ἐν τῷ κινουμένῳ, ἀνάγκη καὶ τὸν ψόφον καὶ τὴν ἀκοὴν τὴν κατ’ ἐνέργειαν ἐν τῷ κατὰ δύναμιν εἶναι· ἡ γὰρ τοῦ ποιητικοῦ καὶ κινητικοῦ ἐνέργεια ἐν τῷ πάσχοντι ἐγγίνεται· διὸ οὐκ ἀνάγκη τὸ κινοῦν κινεῖσθαι. ἡ μὲν οὖν τοῦ ψοφητικοῦ ἐνέργειά ἐστι ψόφος ἢ ψόφησις, ἡ δὲ τοῦ ἀκουστικοῦ ἀκοὴ ἢ ἄκουσις· διττὸν γὰρ ἡ ἀκοή, καὶ διττὸν ὁ ψόφος.

6. ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων αἰσθήσεων καὶ αἰσθητῶν. ὥσπερ γὰρ καὶ ἡ ποίησις καὶ ἡ πάθησις ἐν τῷ πάσχοντι ἀλλ’ οὐκ ἐν τῷ ποιοῦντι, οὕτω καὶ ἡ τοῦ αἰσθητοῦ ἐνέργεια καὶ ἡ τοῦ αἰσθητικοῦ ἐν τῷ αἰσθητικῷ. ἀλλ’ ἐπ’ ἐνίων μὲν ὠνόμασται, οἷον ἡ ψόφησις καὶ ἡ ἄκουσις, ἐπ’ ἐνίων δ’ ἀνώνυμον θάτερον· ὅρασις γὰρ λέγεται ἡ τῆς ὄψεως ἐνέργεια, ἡ δὲ τοῦ χρώματος ἀνώνυμος, καὶ γεῦσις ἡ τοῦ γευστικοῦ, ἡ δὲ τοῦ χυμοῦ ἀνώνυμος.

7. ἐπεὶ δὲ μία μέν ἐστιν ἐνέργεια ἡ τοῦ αἰσθητοῦ καὶ τοῦ αἰσθητικοῦ, τὸ δ’

εἶναι ἕτερον, ἀνάγκη ἅμα φθείρεσθαι καὶ σώζεσθαι τὴν οὕτω λεγομένην ἀκοὴν καὶ ψόφον, καὶ χυμὸν δὴ καὶ γεῦσιν, καὶ τὰ ἄλλα ὁμοίως· τὰ δὲ κατὰ δύναμιν λεγόμενα οὐκ ἀνάγκη·

8. ἀλλ’ οἱ πρότερον φυσιολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐθὲν οἰόμενοι οὔτε λευκὸν οὔτε μέλαν εἶναι ἄνευ ὄψεως, οὐδὲ χυμὸν ἄνευ γεύσεως. τῇ μὲν γὰρ ἔλεγον ὀρθῶς, τῇ δ’ οὐκ ὀρθῶς· διχῶς γὰρ λεγομένης τῆς αἰσθήσεως καὶ τοῦ αἰσθητοῦ, τῶν μὲν κατὰ δύναμιν τῶν δὲ κατ’ ἐνέργειαν, ἐπὶ τούτων μὲν συμβαίνει τὸ λεχθέν, ἐπὶ δὲ τῶν ἑτέρων οὐ συμβαίνει. ἀλλ’ ἐκεῖνοι ἁπλῶς ἔλεγον περὶ τῶν λεγομένων οὐχ ἁπλῶς.

9. εἰ δ’ ἡ φωνὴ συμφωνία τίς ἐστιν, ἡ δὲ φωνὴ καὶ ἡ ἀκοὴ ἔστιν ὡς ἕν ἐστι [καὶ ἔστιν ὡς οὐχ ἓν τὸ αὐτό], λόγος δ’ ἡ συμφωνία, ἀνάγκη καὶ τὴν ἀκοὴν λόγον τινὰ εἶναι. καὶ διὰ τοῦτο καὶ φθείρει ἕκαστον ὑπερβάλλον, καὶ τὸ ὀξὺ καὶ τὸ βαρύ, τὴν ἀκοήν· ὁμοίως δὲ καὶ ἐν χυμοῖς τὴν [426b] γεῦσιν, καὶ ἐν χρώμασι τὴν ὄψιν τὸ σφόδρα λαμπρὸν ἢ ζοφερόν, καὶ ἐν ὀσφρήσει ἡ ἰσχυρὰ ὀσμή, καὶ γλυκεῖα καὶ πικρά, ὡς λόγου τινὸς ὄντος τῆς αἰσθήσεως. διὸ καὶ ἡδέα μέν, ὅταν εἰλικρινῆ καὶ ἄμικτα ὄντα ἄγηται εἰς τὸν λόγον, οἷον τὸ ὀξὺ ἢ γλυκὺ ἢ ἁλμυρόν, ἡδέα γὰρ τότε· ὅλως δὲ μᾶλλον τὸ μικτόν, συμφωνία, ἢ τὸ ὀξὺ ἢ βαρύ, ἁφῇ δὲ τὸ θερμαντὸν ἢ ψυκτόν· ἡ δ’ αἴσθησις ὁ λόγος· ὑπερβάλλοντα δὲ λύει ἢ φθείρει.

10. ἑκάστη μὲν οὖν αἴσθησις τοῦ ὑποκειμένου αἰσθητοῦ ἐστίν, ὑπάρχουσα ἐν τῷ αἰσθητηρίῳ ᾗ αἰσθητήριον, καὶ κρίνει τὰς τοῦ ὑποκειμένου αἰσθητοῦ διαφοράς, οἷον λευκὸν μὲν καὶ μέλαν ὄψις, γλυκὺ δὲ καὶ πικρὸν γεῦσις· ὁμοίως δ’ ἔχει τοῦτο καὶ ἐπὶ τῶν ἄλλων. ἐπεὶ δὲ καὶ τὸ λευκὸν καὶ τὸ γλυκὺ καὶ ἕκαστον τῶν αἰσθητῶν πρὸς ἕκαστον κρίνομεν, τινὶ καὶ αἰσθανόμεθα ὅτι διαφέρει. ἀνάγκη δὴ αἰσθήσει· αἰσθητὰ γάρ ἐστιν.

11. ᾗ καὶ δῆλον ὅτι ἡ σὰρξ οὐκ ἔστι τὸ ἔσχατον αἰσθητήριον· ἀνάγκη γὰρ ἂν ἦν ἁπτόμενον αὐτὸ κρίνειν τὸ κρῖνον. οὔτε δὴ κεχωρισμένοις ἐνδέχεται κρίνειν ὅτι ἕτερον τὸ γλυκὺ τοῦ λευκοῦ, ἀλλὰ δεῖ ἑνί τινι ἄμφω δῆλα εἶναι- οὕτω μὲν γὰρ κἂν εἰ τοῦ μὲν ἐγὼ τοῦ δὲ σὺ αἴσθοιο, δῆλον ἂν εἴη ὅτι ἕτερα ἀλλήλων, δεῖ δὲ τὸ ἓν λέγειν ὅτι ἕτερον· ἕτερον γὰρ τὸ γλυκὺ τοῦ λευκοῦ· λέγει ἄρα τὸ αὐτό· ὥστε ὡς λέγει, οὕτω καὶ νοεῖ καὶ αἰσθάνεται-

12. ὅτι μὲν οὖν οὐχ οἷόν τε κεχωρισμένοις κρίνειν τὰ κεχωρισμένα, δῆλον· ὅτι δ’ οὐδ’ ἐν κεχωρισμένῳ χρόνῳ, ἐντεῦθεν. ὥσπερ γὰρ τὸ αὐτὸ λέγει ὅτι ἕτερον τὸ ἀγαθὸν καὶ τὸ κακόν, οὕτω καὶ ὅτε θάτερον λέγει ὅτι ἕτερον καὶ θάτερον (οὐ κατὰ συμβεβηκὸς τὸ ὅτε, λέγω δ’, οἷον νῦν λέγω ὅτι ἕτερον, οὐ μέντοι ὅτι νῦν ἕτερον, ἀλλ’ οὕτω λέγει, καὶ νῦν καὶ ὅτι νῦν)· ἅμα ἄρα. ὥστε

ἀχώριστον καὶ ἐν ἀχωρίστῳ χρόνῳ.

13. ἀλλὰ μὴν ἀδύνατον ἅμα τὰς ἐναντίας κινήσεις κινεῖσθαι τὸ αὐτὸ ᾗ ἀδιαίρετον, καὶ ἐν ἀδιαιρέτῳ χρόνῳ. εἰ γὰρ γλυκύ, ὡδὶ κινεῖ τὴν αἴσθησιν [427a]

14. ἢ τὴν νόησιν, τὸ δὲ πικρὸν ἐναντίως, καὶ τὸ λευκὸν ἑτέρως. ἆρ’ οὖν ἅμα μὲν ἀριθμῷ ἀδιαίρετον καὶ ἀχώριστον τὸ κρῖνον, τῷ εἶναι δὲ κεχωρισμένον; ἔστι δὴ [πως] ὡς τὸ διαιρετὸν τῶν διῃρημένων αἰσθάνεται, ἔστι δ’ ὡς ᾗ ἀδιαίρετον· τῷ εἶναι μὲν γὰρ διαιρετόν, τόπῳ δὲ καὶ ἀριθμῷ ἀδιαίρετον. ἢ οὐχ οἷόν τε; δυνάμει μὲν γὰρ τὸ αὐτὸ καὶ ἀδιαίρετον τἀναντία, τῷ δ’ εἶναι οὔ, ἀλλὰ τῷ ἐνεργεῖσθαι διαιρετόν, καὶ οὐχ οἷόν τε ἅμα λευκὸν καὶ μέλαν εἶναι, ὥστ’ οὐδὲ τὰ εἴδη πάσχειν αὐτῶν, εἰ τοιοῦτον ἡ αἴσθησις καὶ ἡ νόησις.

15. ἀλλ’ ὥσπερ ἣν καλοῦσί τινες στιγμήν, ᾗ μία καὶ δύο, ταύτῃ <καὶ ἀδιαίρετος> καὶ διαιρετή. ᾗ μὲν οὖν ἀδιαίρετον, ἓν τὸ κρῖνόν ἐστι καὶ ἅμα, ᾗ δὲ διαιρετὸν ὑπάρχει, δὶς τῷ αὐτῷ χρῆται σημείῳ ἅμα· ᾗ μὲν οὖν δὶς χρῆται τῷ πέρατι, δύο κρίνει καὶ κεχωρισμένα, ἔστιν ὡς κεχωρισμένως· ᾗ δὲ ἑνί, ἓν καὶ ἅμα. περὶ μὲν οὖν τῆς ἀρχῆς ᾗ φαμὲν τὸ ζῷον αἰσθητικὸν εἶναι, διωρίσθω τὸν τρόπον τοῦτον.

Κεφάλαιο 3

[427a17] 1. Ἐπεὶ δὲ δύο διαφοραῖς ὁρίζονται μάλιστα τὴν ψυχήν, κινήσει τε τῇ κατὰ τόπον καὶ τῷ νοεῖν καὶ φρονεῖν καὶ αἰσθάνεσθαι, δοκεῖ δὲ καὶ τὸ νοεῖν καὶ τὸ φρονεῖν ὥσπερ αἰσθάνεσθαί τι εἶναι (ἐν ἀμφοτέροις γὰρ τούτοις κρίνει τι ἡ ψυχὴ καὶ γνωρίζει τῶν ὄντων), καὶ οἵ γε ἀρχαῖοι τὸ φρονεῖν καὶ τὸ αἰσθάνεσθαι ταὐτὸν εἶναί φασιν-ὥσπερ καὶ Ἐμπεδοκλῆς εἴρηκε “πρὸς παρεὸν γὰρ μῆτις ἀέξεται ἀνθρώποισιν” καὶ ἐν ἄλλοις “ὅθεν σφίσιν αἰεὶ καὶ τὸ φρονεῖν ἀλλοῖα παρίσταται”, τὸ δ’ αὐτὸ τούτοις βούλεται καὶ τὸ Ὁμήρου “τοῖος γὰρ νόος ἐστίν”,

2. πάντες γὰρ οὗτοι τὸ νοεῖν σωματικὸν ὥσπερ τὸ αἰσθάνεσθαι ὑπολαμβάνουσιν, καὶ αἰσθάνεσθαί τε καὶ φρονεῖν τῷ ὁμοίῳ τὸ ὅμοιον, ὥσπερ καὶ ἐν τοῖς κατ’ ἀρχὰς λόγοις διωρίσαμεν (καίτοι ἔδει ἅμα καὶ περὶ [427b] τοῦ ἠπατῆσθαι αὐτοὺς λέγειν, οἰκειότερον γὰρ τοῖς ζῴοις, καὶ πλείω χρόνον ἐν τούτῳ διατελεῖ ἡ ψυχή· διὸ ἀνάγκη ἤτοι, ὥσπερ ἔνιοι λέγουσι, πάντα τὰ φαινόμενα εἶναι ἀληθῆ, ἢ τὴν τοῦ ἀνομοίου θίξιν ἀπάτην εἶναι, τοῦτο γὰρ ἐναντίον τῷ τὸ ὅμοιον τῷ ὁμοίῳ γνωρίζειν· δοκεῖ δὲ καὶ ἡ ἀπάτη καὶ ἡ ἐπιστήμη τῶν ἐναντίων ἡ αὐτὴ εἶναι)

3. ὅτι μὲν οὖν οὐ ταὐτόν ἐστι τὸ αἰσθάνεσθαι καὶ τὸ φρονεῖν, φανερόν· τοῦ μὲν γὰρ πᾶσι μέτεστι, τοῦ δὲ ὀλίγοις τῶν ζῴων. ἀλλ’ οὐδὲ τὸ νοεῖν, ἐν ᾧ ἐστι τὸ ὀρθῶς καὶ τὸ μὴ ὀρθῶς, τὸ μὲν ὀρθῶς φρόνησις καὶ ἐπιστήμη καὶ δόξα ἀληθής, τὸ δὲ μὴ ὀρθῶς τἀναντία τούτων-οὐδὲ τοῦτό ἐστι ταὐτὸ τῷ αἰσθάνεσθαι· ἡ μὲν γὰρ αἴσθησις τῶν ἰδίων ἀεὶ ἀληθής, καὶ πᾶσιν ὑπάρχει τοῖς ζῴοις, διανοεῖσθαι δ’ ἐνδέχεται καὶ ψευδῶς, καὶ οὐδενὶ ὑπάρχει ᾧ μὴ καὶ λόγος·

4. φαντασία γὰρ ἕτερον καὶ αἰσθήσεως καὶ διανοίας, αὕτη τε οὐ γίγνεται ἄνευ αἰσθήσεως, καὶ ἄνευ ταύτης οὐκ ἔστιν ὑπόληψις. ὅτι δ’ οὐκ ἔστιν ἡ αὐτὴ [νόησις] καὶ ὑπόληψις, φανερόν. τοῦτο μὲν γὰρ τὸ πάθος ἐφ’ ἡμῖν ἐστιν, ὅταν βουλώμεθα (πρὸ ὀμμάτων γὰρ ἔστι τι ποιήσασθαι, ὥσπερ οἱ ἐν τοῖς μνημονικοῖς τιθέμενοι καὶ εἰδωλοποιοῦντες), δοξάζειν δ’ οὐκ ἐφ’ ἡμῖν· ἀνάγκη γὰρ ἢ ψεύδεσθαι ἢ ἀληθεύειν. ἔτι δὲ ὅταν μὲν δοξάσωμεν δεινόν τι ἢ φοβερόν, εὐθὺς συμπάσχομεν, ὁμοίως δὲ κἂν θαρραλέον· κατὰ δὲ τὴν φαντασίαν ὡσαύτως ἔχομεν ὥσπερ ἂν εἰ θεώμενοι ἐν γραφῇ τὰ δεινὰ ἢ

θαρραλέα.

5. εἰσὶ δὲ καὶ αὐτῆς τῆς ὑπολήψεως διαφοραί, ἐπιστήμη καὶ δόξα καὶ φρόνησις καὶ τἀναντία τούτων, περὶ ὧν τῆς διαφορᾶς ἕτερος ἔστω λόγος. περὶ δὲ τοῦ νοεῖν, ἐπεὶ ἕτερον τοῦ αἰσθάνεσθαι, τούτου δὲ τὸ μὲν φαντασία δοκεῖ εἶναι τὸ δὲ ὑπόληψις, περὶ φαντασίας διορίσαντας οὕτω περὶ θατέρου λεκτέον. [428a]

6. εἰ δή ἐστιν ἡ φαντασία καθ' ἣν λέγομεν φάντασμά τι ἡμῖν γίγνεσθαι καὶ μὴ εἴ τι κατὰ μεταφορὰν λέγομεν, <ἆρα> μία τις ἔστι τούτων δύναμις ἢ ἕξις καθ' ἃς κρίνομεν καὶ ἀληθεύομεν ἢ ψευδόμεθα; τοιαῦται δ' εἰσὶν αἴσθησις, δόξα, ἐπιστήμη, νοῦς. ὅτι μὲν οὖν οὐκ ἔστιν αἴσθησις, δῆλον ἐκ τῶνδε. αἴσθησις μὲν γὰρ ἤτοι δύναμις ἢ ἐνέργεια, οἷον ὄψις καὶ ὅρασις, φαίνεται δέ τι καὶ μηδετέρου ὑπάρχοντος τούτων, οἷον τὰ ἐν τοῖς ὕπνοις. εἶτα αἴσθησις μὲν ἀεὶ πάρεστι, φαντασία δ' οὔ. εἰ δὲ τῇ ἐνεργείᾳ τὸ αὐτό, πᾶσιν ἂν ἐνδέχοιτο τοῖς θηρίοις φαντασίαν ὑπάρχειν· δοκεῖ δ' οὔ, οἷον μύρμηκι ἢ μελίττῃ, σκώληκι δ' οὔ. εἶτα αἱ μὲν ἀληθεῖς ἀεί, αἱ δὲ φαντασίαι γίνονται αἱ πλείους ψευδεῖς. ἔπειτα οὐδὲ λέγομεν, ὅταν ἐνεργῶμεν ἀκριβῶς περὶ τὸ αἰσθητόν, ὅτι φαίνεται τοῦτο ἡμῖν ἄνθρωπος, ἀλλὰ μᾶλλον ὅταν μὴ ἐναργῶς αἰσθανώμεθα πότερον ἀληθὴς ἢ ψευδής. καὶ ὅπερ δὴ ἐλέγομεν πρότερον, φαίνεται καὶ μύουσιν ὁράματα.

8. ἀλλὰ μὴν οὐδὲ τῶν ἀεὶ ἀληθευουσῶν οὐδεμία ἔσται, οἷον ἐπιστήμη ἢ νοῦς· ἔστι γὰρ φαντασία καὶ ψευδής. λείπεται ἄρα ἰδεῖν εἰ δόξα· γίνεται γὰρ δόξα καὶ ἀληθὴς καὶ ψευδής, ἀλλὰ δόξῃ μὲν ἕπεται πίστις (οὐκ ἐνδέχεται γὰρ δοξάζοντα οἷς δοκεῖ μὴ πιστεύειν), τῶν δὲ θηρίων οὐθενὶ ὑπάρχει πίστις, φαντασία δὲ πολλοῖς. [ἔτι πάσῃ μὲν δόξῃ ἀκολουθεῖ πίστις, πίστει δὲ τὸ πεπεῖσθαι, πειθοῖ δὲ λόγος· τῶν δὲ θηρίων ἐνίοις φαντασία μὲν ὑπάρχει, λόγος δ' οὔ.] [428a24]

9. φανερὸν τοίνυν ὅτι οὐδὲ δόξα μετ' αἰσθήσεως, οὐδὲ δι' αἰσθήσεως, οὐδὲ συμπλοκὴ δόξης καὶ αἰσθήσεως, φαντασία ἂν εἴη, διά τε ταῦτα καὶ διότι οὐκ ἄλλου τινὸς ἔσται ἡ δόξα, ἀλλ' ἐκείνου, εἴπερ ἔστιν, οὗ καὶ ἡ αἴσθησις· λέγω δ', ἐκ τῆς τοῦ λευκοῦ δόξης καὶ αἰσθήσεως ἡ συμπλοκὴ φαντασία ἔσται· οὐ γὰρ δὴ ἐκ τῆς δόξης μὲν τῆς τοῦ ἀγαθοῦ, αἰσθήσεως δὲ τῆς τοῦ [428b] λευκοῦ. τὸ οὖν φαίνεσθαι ἔσται τὸ δοξάζειν ὅπερ αἰσθάνεται, μὴ κατὰ συμβεβηκός.

10. φαίνεται δέ γε καὶ ψευδῆ, περὶ ὧν ἅμα ὑπόληψιν ἀληθῆ ἔχει, οἷον φαίνεται μὲν ὁ ἥλιος ποδιαῖος, πιστεύεται δ' εἶναι μείζων τῆς οἰκουμένης· συμβαίνει οὖν ἤτοι ἀποβεβληκέναι τὴν ἑαυτοῦ ἀληθῆ δόξαν, ἣν εἶχε,

σωζομένου τοῦ πράγματος, μὴ ἐπιλαθόμενον μηδὲ μεταπεισθέντα, ἢ εἰ ἔτι ἔχει, ἀνάγκη τὴν αὐτὴν ἀληθῆ εἶναι καὶ ψευδῆ. ἀλλὰ ψευδὴς ἐγένετο ὅτε λάθοι μεταπεσὸν τὸ πρᾶγμα. οὔτ' ἄρα ἕν τι τούτων ἐστὶν οὔτ' ἐκ τούτων ἡ φαντασία.

11. ἀλλ' ἐπειδὴ ἔστι κινηθέντος τουδὶ κινεῖσθαι ἕτερον ὑπὸ τούτου, ἡ δὲ φαντασία κίνησίς τις δοκεῖ εἶναι καὶ οὐκ ἄνευ αἰσθήσεως γίνεσθαι ἀλλ' αἰσθανομένοις καὶ ὧν αἴσθησις ἔστιν, ἔστι δὲ γίνεσθαι κίνησιν ὑπὸ τῆς ἐνεργείας τῆς αἰσθήσεως, καὶ ταύτην ὁμοίαν ἀνάγκη εἶναι τῇ αἰσθήσει, εἴη ἂν αὕτη ἡ κίνησις οὔτε ἄνευ αἰσθήσεως ἐνδεχομένη οὔτε μὴ αἰσθανομένοις ὑπάρχειν, καὶ πολλὰ κατ' αὐτὴν καὶ ποιεῖν καὶ πάσχειν τὸ ἔχον, καὶ εἶναι καὶ ἀληθῆ καὶ ψευδῆ.

12. τοῦτο δὲ συμβαίνει διὰ τάδε· ἡ αἴσθησις τῶν μὲν ἰδίων ἀληθής ἐστιν ἢ ὅτι ὀλίγιστον ἔχουσα τὸ ψεῦδος. δεύτερον δὲ τοῦ συμβεβηκέναι ταῦτα <ἃ συμβέβηκε τοῖς αἰσθητοῖς>· καὶ ἐνταῦθα ἤδη ἐνδέχετα διαψεύδεσθαι· ὅτι μὲν γὰρ λευκόν, οὐ ψεύδεται, εἰ δὲ τοῦτο τὸ λευκὸν ἢ ἄλλο τι, ψεύδεται. τρίτον δὲ τῶν κοινῶν καὶ ἑπομένων τοῖς συμβεβηκόσιν οἷς ὑπάρχει τὰ ἴδια (λέγω δ' οἷον κίνησις καὶ μέγεθος) [ἃ συμβέβηκε τοῖς αἰσθητοῖς]· περὶ ἃ μάλιστα ἤδη ἔστιν ἀπατηθῆναι κατὰ τὴν αἴσθησιν.

13. ἡ δὲ κίνησις ἡ ὑπὸ τῆς ἐνεργείας τῆς αἰσθήσεως γινομένη διοίσει, ἡ ἀπὸ τούτων τῶν τριῶν αἰσθήσεων, καὶ ἡ μὲν πρώτη παρούσης τῆς αἰσθήσεως ἀληθής, αἱ δ' ἕτεραι καὶ παρούσης καὶ ἀπούσης εἶεν ἂν ψευδεῖς, καὶ μάλιστα ὅταν πόρρω τὸ αἰσθητὸν ᾖ. εἰ οὖν μηθὲν ἄλλο ἔχει τὰ εἰρημένα ἢ [429a] φαντασία (τοῦτο δ' ἐστὶ τὸ λεχθέν), ἡ φαντασία ἂν εἴη κίνησις ὑπὸ τῆς αἰσθήσεως τῆς κατ' ἐνέργειαν γιγνομένη.

14. ἐπεὶ δ' ἡ ὄψις μάλιστα αἴσθησίς ἐστι, καὶ τὸ ὄνομα ἀπὸ τοῦ φάους εἴληφεν, ὅτι ἄνευ φωτὸς οὐκ ἔστιν ἰδεῖν.

15. καὶ διὰ τὸ ἐμμένειν καὶ ὁμοίας εἶναι ταῖς αἰσθήσεσι, πολλὰ κατ' αὐτὰς πράττει τὰ ζῷα, τὰ μὲν διὰ τὸ μὴ ἔχειν νοῦν, οἷον τὰ θηρία, τὰ δὲ διὰ τὸ ἐπικαλύπτεσθαι τὸν νοῦν ἐνίοτε πάθει ἢ νόσῳ ἢ ὕπνῳ, οἷον οἱ ἄνθρωποι. περὶ μὲν οὖν φαντασίας, τί ἐστι καὶ διὰ τί ἐστιν, εἰρήσθω ἐπὶ τοσοῦτον.

Κεφάλαιο 4

[429a10] 1. Περὶ δὲ τοῦ μορίου τοῦ τῆς ψυχῆς ᾧ γινώσκει τε ἡ ψυχὴ καὶ φρονεῖ, εἴτε χωριστοῦ ὄντος εἴτε μὴ χωριστοῦ κατὰ μέγεθος ἀλλὰ κατὰ λόγον, σκεπτέον τίν' ἔχει διαφοράν, καὶ πῶς ποτὲ γίνεται τὸ νοεῖν.

2. εἰ δή ἐστι τὸ νοεῖν ὥσπερ τὸ αἰσθάνεσθαι, ἢ πάσχειν τι ἂν εἴη ὑπὸ τοῦ νοητοῦ ἤ τι τοιοῦτον ἕτερον.

3. ἀπαθὲς ἄρα δεῖ εἶναι, δεκτικὸν δὲ τοῦ εἴδους καὶ δυνάμει τοιοῦτον ἀλλὰ μὴ τοῦτο, καὶ ὁμοίως ἔχειν, ὥσπερ τὸ αἰσθητικὸν πρὸς τὰ αἰσθητά, οὕτω τὸν νοῦν πρὸς τὰ νοητά. ἀνάγκη ἄρα, ἐπεὶ πάντα νοεῖ, ἀμιγῆ εἶναι, ὥσπερ φησὶν Ἀναξαγόρας, ἵνα κρατῇ, τοῦτο δ' ἐστὶν ἵνα γνωρίζῃ (παρεμφαινόμενον γὰρ κωλύει τὸ ἀλλότριον καὶ ἀντιφράττει)· ὥστε μηδ' αὐτοῦ εἶναι φύσιν μηδεμίαν ἀλλ' ἢ ταύτην, ὅτι δυνατός. ὁ ἄρα καλούμενος τῆς ψυχῆς νοῦς (λέγω δὲ νοῦν ᾧ διανοεῖται καὶ ὑπολαμβάνει ἡ ψυχή) οὐθέν ἐστιν ἐνεργείᾳ τῶν ὄντων πρὶν νοεῖν·

4. διὸ οὐδὲ μεμῖχθαι εὔλογον αὐτὸν τῷ σώματι· ποιός τις γὰρ ἂν γίγνοιτο, ἢ ψυχρὸς ἢ θερμός, κἂν ὄργανόν τι εἴη, ὥσπερ τῷ αἰσθητικῷ· νῦν δ' οὐθὲν ἔστιν. καὶ εὖ δὴ οἱ λέγοντες τὴν ψυχὴν εἶναι τόπον εἰδῶν, πλὴν ὅτι οὔτε ὅλη ἀλλ' ἡ νοητική, οὔτε ἐντελεχείᾳ ἀλλὰ δυνάμει τὰ εἴδη.

5. ὅτι δ' οὐχ ὁμοία ἡ ἀπάθεια τοῦ αἰσθητικοῦ καὶ τοῦ νοητικοῦ, φανερὸν ἐπὶ τῶν αἰσθητηρίων καὶ τῆς αἰσθήσεως. ἡ μὲν γὰρ αἴσθησις οὐ δύναται [429b] αἰσθάνεσθαι ἐκ τοῦ σφόδρα αἰσθητοῦ, οἷον ψόφου ἐκ τῶν μεγάλων ψόφων, οὐδ' ἐκ τῶν ἰσχυρῶν χρωμάτων καὶ ὀσμῶν οὔτε ὁρᾶν οὔτε ὀσμᾶσθαι· ἀλλ' ὁ νοῦς ὅταν τι νοήσῃ σφόδρα νοητόν, οὐχ ἧττον νοεῖ τὰ ὑποδεέστερα, ἀλλὰ καὶ μᾶλλον· τὸ μὲν γὰρ αἰσθητικὸν οὐκ ἄνευ σώματος, ὁ δὲ χωριστός.

6. ὅταν δ' οὕτως ἕκαστα γένηται ὡς ὁ ἐπιστήμων λέγεται ὁ κατ' ἐνέργειαν (τοῦτο δὲ συμβαίνει ὅταν δύνηται ἐνεργεῖν δι' αὑτοῦ), ἔστι μὲν καὶ τότε δυνάμει πως, οὐ μὴν ὁμοίως καὶ πρὶν μαθεῖν ἢ εὑρεῖν· καὶ αὐτὸς δι' αὑτοῦ τότε δύναται νοεῖν.

7. ἐπεὶ δ' ἄλλο ἐστὶ τὸ μέγεθος καὶ τὸ μεγέθει εἶναι, καὶ ὕδωρ καὶ ὕδατι εἶναι (οὕτω δὲ καὶ ἐφ' ἑτέρων πολλῶν, ἀλλ' οὐκ ἐπὶ πάντων· ἐπ' ἐνίων γὰρ ταὐτόν ἐστι), τὸ σαρκὶ εἶναι καὶ σάρκα ἢ ἄλλῳ ἢ ἄλλως ἔχοντι κρίνει· ἡ γὰρ

σὰρξ οὐκ ἄνευ τῆς ὕλης, ἀλλ’ ὥσπερ τὸ σιμόν, τόδε ἐν τῷδε. τῷ μὲν οὖν αἰσθητικῷ τὸ θερμὸν καὶ τὸ ψυχρὸν κρίνει, καὶ ὧν λόγος τις ἡ σάρξ· ἄλλῳ δέ, ἤτοι χωριστῷ ἢ ὡς ἡ κεκλασμένη ἔχει πρὸς αὑτὴν ὅταν ἐκταθῇ, τὸ σαρκὶ εἶναι κρίνει.

8. πάλιν δ’ ἐπὶ τῶν ἐν ἀφαιρέσει ὄντων τὸ εὐθὺ ὡς τὸ σιμόν· μετὰ συνεχοῦς γάρ· τὸ δὲ τί ἦν εἶναι, εἰ ἔστιν ἕτερον τὸ εὐθεῖ εἶναι καὶ τὸ εὐθύ, ἄλλο· ἔστω γὰρ δυάς. ἑτέρῳ ἄρα ἢ ἑτέρως ἔχοντι κρίνει. ὅλως ἄρα ὡς χωριστὰ τὰ πράγματα τῆς ὕλης, οὕτω καὶ τὰ περὶ τὸν νοῦν. [429b22]

9. ἀπορήσειε δ’ ἄν τις, εἰ ὁ νοῦς ἁπλοῦν ἐστὶ καὶ ἀπαθὲς καὶ μηθενὶ μηθὲν ἔχει κοινόν, ὥσπερ φησὶν Ἀναξαγόρας, πῶς νοήσει, εἰ τὸ νοεῖν πάσχειν τί ἐστιν (ᾗ γάρ τι κοινὸν ἀμφοῖν ὑπάρχει, τὸ μὲν ποιεῖν δοκεῖ τὸ δὲ πάσχειν),

10. ἔτι δ’ εἰ νοητὸς καὶ αὐτός; ἢ γὰρ τοῖς ἄλλοις νοῦς ὑπάρξει, εἰ μὴ κατ’ ἄλλο αὐτὸς νοητός, ἓν δέ τι τὸ νοητὸν εἴδει, ἢ μεμιγμένον τι ἕξει, ὃ ποιεῖ νοητὸν αὐτὸν ὥσπερ τἆλλα.

11. ἢ τὸ μὲν πάσχειν κατὰ κοινόν τι διῄρηται πρότερον, ὅτι δυνάμει πώς ἐστι τὰ νοητὰ ὁ νοῦς, ἀλλ’ ἐντελεχείᾳ οὐδέν, πρὶν ἂν νοῇ· δυνάμει δ’ οὕτως [430a] ὥσπερ ἐν γραμματείῳ ᾧ μηθὲν ἐνυπάρχει ἐντελεχείᾳ γεγραμμένον· ὅπερ συμβαίνει ἐπὶ τοῦ νοῦ.

12. καὶ αὐτὸς δὲ νοητός ἐστιν ὥσπερ τὰ νοητά. ἐπὶ μὲν γὰρ τῶν ἄνευ ὕλης τὸ αὐτό ἐστι τὸ νοοῦν καὶ τὸ νοούμενον· ἡ γὰρ ἐπιστήμη ἡ θεωρητικὴ καὶ τὸ οὕτως ἐπιστητὸν τὸ αὐτό ἐστιν (τοῦ δὲ μὴ ἀεὶ νοεῖν τὸ αἴτιον ἐπισκεπτέον)· ἐν δὲ τοῖς ἔχουσιν ὕλην δυνάμει ἕκαστον ἔστι τῶν νοητῶν. ὥστ’ ἐκείνοις μὲν οὐχ ὑπάρξει νοῦς (ἄνευ γὰρ ὕλης δύναμις ὁ νοῦς τῶν τοιούτων), ἐκείνῳ δὲ τὸ νοητὸν ὑπάρξει.

Κεφάλαιο 5

[4310a10] 1. Ἐπεὶ δ’ [ὥσπερ] ἐν ἁπάσῃ τῇ φύσει ἐστὶ [τι] τὸ μὲν ὕλη ἑκάστῳ γένει (τοῦτο δὲ ὃ πάντα δυνάμει ἐκεῖνα), ἕτερον δὲ τὸ αἴτιον καὶ ποιητικόν, τῷ ποιεῖν πάντα, οἷον ἡ τέχνη πρὸς τὴν ὕλην πέπονθεν, ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς· καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἕξις τις, οἷον τὸ φῶς· τρόπον γάρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργείᾳ χρώματα. καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγής, τῇ οὐσίᾳ ὢν ἐνέργεια·

2. ἀεὶ γὰρ τιμιώτερον τὸ ποιοῦν τοῦ πάσχοντος καὶ ἡ ἀρχὴ τῆς ὕλης. [τὸ δ’ αὐτό ἐστιν ἡ κατ’ ἐνέργειαν ἐπιστήμη τῷ πράγματι· ἡ δὲ κατὰ δύναμιν χρόνῳ προτέρα ἐν τῷ ἑνί, ὅλως δὲ οὐδὲ χρόνῳ, ἀλλ’ οὐχ ὁτὲ μὲν νοεῖ ὁτὲ δ’ οὐ νοεῖ.] χωρισθεὶς δ’ ἐστὶ μόνον τοῦθ’ ὅπερ ἐστί, καὶ τοῦτο μόνον ἀθάνατον καὶ ἀΐδιον (οὐ μνημονεύομεν δέ, ὅτι τοῦτο μὲν ἀπαθές, ὁ δὲ παθητικὸς νοῦς φθαρτός)· καὶ ἄνευ τούτου οὐθὲν νοεῖ.

Κεφάλαιο 6

[430a27] 1. Ἡ μὲν οὖν τῶν ἀδιαιρέτων νόησις ἐν τούτοις περὶ ἃ οὐκ ἔστι τὸ ψεῦδος, ἐν οἷς δὲ καὶ τὸ ψεῦδος καὶ τὸ ἀληθές σύνθεσίς τις ἤδη νοημάτων ὥσπερ ἓν ὄντων-καθάπερ Ἐμπεδοκλῆς ἔφη “ᾗ πολλῶν μὲν κόρσαι ἀναύχενες ἐβλάστησαν”, ἔπειτα συντίθεσθαι τῇ φιλίᾳ, οὕτω καὶ ταῦτα κεχωρισμένα συντίθεται, οἷον τὸ ἀσύμμετρον καὶ ἡ διάμετρος -

2. ἂν δὲ [430b] γενομένων ἢ ἐσομένων, τὸν χρόνον προσεννοῶν [καὶ] συντίθησι. τὸ γὰρ ψεῦδος ἐν συνθέσει ἀεί· καὶ γὰρ ἂν τὸ λευκὸν μὴ λευκὸν <φῇ, τὸ λευκὸν καὶ> τὸ μὴ λευκὸν συνέθηκεν· ἐνδέχεται δὲ καὶ διαίρεσιν φάναι πάντα. ἀλλ’ οὖν ἔστι γε οὐ μόνον τὸ ψεῦδος ἢ ἀληθὲς ὅτι λευκὸς Κλέων ἐστίν, ἀλλὰ καὶ ὅτι ἦν ἢ ἔσται. τὸ δὲ ἓν ποιοῦν ἕκαστον, τοῦτο ὁ νοῦς. [430b6]

3. τὸ δ’ ἀδιαίρετον ἐπεὶ διχῶς, ἢ δυνάμει ἢ ἐνεργείᾳ, οὐθὲν κωλύει νοεῖν τὸ <διαιρετὸν ᾗ> ἀδιαίρετον, <οἷον> ὅταν νοῇ τὸ μῆκος (ἀδιαίρετον γὰρ ἐνεργείᾳ), καὶ ἐν χρόνῳ ἀδιαιρέτῳ· ὁμοίως γὰρ ὁ χρόνος διαιρετὸς καὶ ἀδιαίρετος τῷ μήκει. οὔκουν ἔστιν εἰπεῖν ἐν τῷ ἡμίσει τί ἐνόει ἑκατέρῳ· οὐ γὰρ ἔστιν, ἂν μὴ διαιρεθῇ, ἀλλ’ ἢ δυνάμει. χωρὶς δ’ ἑκάτερον νοῶν τῶν ἡμίσεων διαιρεῖ καὶ τὸν χρόνον ἅμα, τότε δ’ οἱονεὶ μήκη· εἰ δ’ ὡς ἐξ ἀμφοῖν, καὶ ἐν τῷ χρόνῳ τῷ ἐπ’ ἀμφοῖν.

4. [τὸ δὲ μὴ κατὰ τὸ ποσὸν ἀδιαίρετον ἀλλὰ τῷ εἴδει νοεῖ ἐν ἀδιαιρέτῳ χρόνῳ καὶ ἀδιαιρέτῳ τῆς ψυχῆς.] κατὰ συμβεβηκὸς δέ, καὶ οὐχ ᾗ ἐκεῖνα, διαιρετὰ ὃ νοεῖ καὶ ἐν ᾧ χρόνῳ, ἀλλ’ ᾗ <ἐκεῖνα> ἀδιαίρετα· ἔνεστι γὰρ κἀν τούτοις τι ἀδιαίρετον, ἀλλ’ ἴσως οὐ χωριστόν, ὃ ποιεῖ ἕνα τὸν χρόνον καὶ τὸ μῆκος. καὶ τοῦθ’ ὁμοίως ἐν ἅπαντί ἐστι τῷ συνεχεῖ, καὶ χρόνῳ καὶ μήκει. [430b20] <τὸ δὲ μὴ κατὰ τὸ ποσὸν ἀδιαίρετον ἀλλὰ τῷ εἴδει νοεῖ ἐν ἀδιαιρέτῳ χρόνῳ καὶ ἀδιαιρέτῳ <τῳ> τῆς ψυχῆς.>

5. ἡ δὲ στιγμὴ καὶ πᾶσα διαίρεσις, καὶ τὸ οὕτως ἀδιαίρετον, δηλοῦται ὥσπερ ἡ στέρησις. καὶ ὅμοιος ὁ λόγος ἐπὶ τῶν ἄλλων, οἷον πῶς τὸ κακὸν γνωρίζει ἢ τὸ μέλαν· τῷ ἐναντίῳ γάρ πως γνωρίζει.

6. δεῖ δὲ δυνάμει εἶναι τὸ γνωρίζον καὶ ἐνεῖναι ἐν αὐτῷ. εἰ δέ τινι μηδὲν ἔστιν ἐναντίον [τῶν αἰτίων], αὐτὸ ἑαυτὸ γινώσκει καὶ ἐνέργειά ἐστι καὶ χωριστόν.

7. ἔστι δ’ ἡ μὲν φάσις τι κατά τινος, ὥσπερ καὶ ἡ ἀπόφασις, καὶ ἀληθὴς ἢ ψευδὴς πᾶσα· ὁ δὲ νοῦς οὐ πᾶς, ἀλλ’ ὁ τοῦ τί ἐστι κατὰ τὸ τί ἦν εἶναι ἀληθής, καὶ οὐ τὶ κατά τινος· ἀλλ’ ὥσπερ τὸ ὁρᾶν τοῦ ἰδίου ἀληθές, εἰ δ’ ἄνθρωπος τὸ λευκὸν ἢ μή, οὐκ ἀληθὲς ἀεί, οὕτως ἔχει ὅσα ἄνευ ὕλης.

Κεφάλαιο 7

[431a] 1. Τὸ δ’ αὐτό ἐστιν ἡ κατ’ ἐνέργειαν ἐπιστήμη τῷ πράγματι. ἡ δὲ κατὰ δύναμιν χρόνῳ προτέρα ἐν τῷ ἑνί, ὅλως δὲ οὐδὲ χρόνῳ· ἔστι γὰρ ἐξ ἐντελεχείᾳ ὄντος πάντα τὰ γιγνόμενα. -φαίνεται δὲ τὸ μὲν αἰσθητὸν ἐκ δυνάμει ὄντος τοῦ αἰσθητικοῦ ἐνεργείᾳ ποιοῦν· οὐ γὰρ πάσχει οὐδ’ ἀλλοιοῦται. διὸ ἄλλο εἶδος τοῦτο κινήσεως· ἡ γὰρ κίνησις τοῦ ἀτελοῦς ἐνέργεια, ἡ δ’ ἁπλῶς ἐνέργεια ἑτέρα, ἡ τοῦ τετελεσμένου.

2. τὸ μὲν οὖν αἰσθάνεσθαι ὅμοιον τῷ φάναι μόνον καὶ νοεῖν· ὅταν δὲ ἡδὺ ἢ λυπηρόν, οἷον καταφᾶσα ἢ ἀποφᾶσα διώκει ἢ φεύγει· καὶ ἔστι τὸ ἥδεσθαι καὶ λυπεῖσθαι τὸ ἐνεργεῖν τῇ αἰσθητικῇ μεσότητι πρὸς τὸ ἀγαθὸν ἢ κακόν, ᾗ τοιαῦτα. καὶ ἡ φυγὴ δὲ καὶ ἡ ὄρεξις ταὐτό, ἡ κατ’ ἐνέργειαν, καὶ οὐχ ἕτερον τὸ ὀρεκτικὸν καὶ τὸ φευκτικόν, οὔτ’ ἀλλήλων οὔτε τοῦ αἰσθητικοῦ· ἀλλὰ τὸ εἶναι ἄλλο.

3. τῇ δὲ διανοητικῇ ψυχῇ τὰ φαντάσματα οἷον αἰσθήματα ὑπάρχει, ὅταν δὲ ἀγαθὸν ἢ κακὸν φήσῃ ἢ ἀποφήσῃ, φεύγει ἢ διώκει· διὸ οὐδέποτε νοεῖ ἄνευ φαντάσματος ἡ ψυχή. -ὥσπερ δὲ ὁ ἀὴρ τὴν κόρην τοιανδὶ ἐποίησεν, αὕτη δ’ ἕτερον, καὶ ἡ ἀκοὴ ὡςαύτως, τὸ δὲ ἔσχατον ἕν, καὶ μία <ἡ> μεσότης, τὸ δ’ εἶναι αὐτῇ πλείω ... [431a20]

4. -τίνι δ’ ἐπικρίνει τί διαφέρει γλυκὺ καὶ θερμόν, εἴρηται μὲν καὶ πρότερον, λεκτέον δὲ καὶ ὧδε. ἔστι γὰρ ἕν τι, οὕτω δὲ ὡς ὁ ὅρος, καὶ ταῦτα, ἓν τῷ ἀνάλογον καὶ τῷ ἀριθμῷ ὄντα, ἔχει <ἑκάτερον> πρὸς ἑκάτερον ὡς ἐκεῖνα πρὸς ἄλληλα· τί γὰρ διαφέρει τὸ ἀπορεῖν πῶς τὰ μὴ ὁμογενῆ κρίνει ἢ τὰ ἐναντία, οἷον λευκὸν καὶ μέλαν; ἔστω δὴ ὡς τὸ Α τὸ λευκὸν πρὸς τὸ Β τὸ μέλαν, τὸ Γ πρὸς τὸ Δ [ὡς ἐκεῖνα πρὸς ἄλληλα]· ὥστε καὶ ἐναλλάξ. εἰ δὴ τὰ ΓΑ ἑνὶ εἴη ὑπάρχοντα, οὕτως ἕξει, ὥσπερ καὶ τὰ ΔΒ, τὸ αὐτὸ μὲν καὶ ἕν, τὸ δ’ εἶναι οὐ τὸ αὐτό-κἀκεῖνα ὁμοίως. ὁ δ’ αὐτὸς [431b] λόγος καὶ εἰ τὸ μὲν Α τὸ γλυκὺ εἴη, τὸ δὲ Β τὸ λευκόν.

5. τὰ μὲν οὖν εἴδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι νοεῖ, καὶ ὡς ἐν ἐκείνοις ὥρισται αὐτῷ τὸ διωκτὸν καὶ φευκτόν, καὶ ἐκτὸς τῆς αἰσθήσεως, ὅταν ἐπὶ τῶν φαντασμάτων ᾖ, κινεῖται· οἷον, αἰσθανόμενος τὸν φρυκτὸν ὅτι πῦρ, τῇ κοινῇ ὁρῶν κινούμενον γνωρίζει ὅτι πολέμιος·

6. ὁτὲ δὲ τοῖς ἐν τῇ ψυχῇ φαντάσμασιν ἢ νοήμασιν, ὥσπερ ὁρῶν, λογίζεται

καὶ βουλεύεται τὰ μέλλοντα πρὸς τὰ παρόντα· καὶ ὅταν εἴπῃ ὡς ἐκεῖ τὸ ἡδὺ ἢ λυπηρόν, ἐνταῦθα φεύγει ἢ διώκει- καὶ ὅλως ἓν πράξει. καὶ τὸ ἄνευ δὲ πράξεως, τὸ ἀληθὲς καὶ τὸ ψεῦδος, ἐν τῷ αὐτῷ γένει ἐστὶ τῷ ἀγαθῷ καὶ τῷ κακῷ· ἀλλὰ τῷ γε ἁπλῶς διαφέρει καὶ τινί.

7. -τὰ δὲ ἐν ἀφαιρέσει λεγόμενα <νοεῖ> ὥσπερ, εἴ <τις> τὸ σιμὸν ᾗ μὲν σιμὸν οὔ, κεχωρισμένως δὲ ᾗ κοῖλον [εἴ τις] ἐνόει [ἐνεργείᾳ], ἄνευ τῆς σαρκὸς ἂν ἐνόει ἐν ᾗ τὸ κοῖλον-οὕτω τὰ μαθηματικά, οὐ κεχωρισμένα <ὄντα>, ὡς κεχωρισμένα νοεῖ, ὅταν νοῇ <ᾗ> ἐκεῖνα.

8. ὅλως δὲ ὁ νοῦς ἐστιν, ὁ κατ’ ἐνέργειαν, τὰ πράγματα. ἆρα δ’ ἐνδέχεται τῶν κεχωρισμένων τι νοεῖν ὄντα αὐτὸν μὴ κεχωρισμένον μεγέθους, ἢ οὔ, σκεπτέον ὕστερον.

Κεφάλαιο 8

[431b20] 1. Νῦν δέ, περὶ ψυχῆς τὰ λεχθέντα συγκεφαλαιώσαντες, εἴπωμεν πάλιν ὅτι ἡ ψυχὴ τὰ ὄντα πώς ἐστι πάντα· ἢ γὰρ αἰσθητὰ τὰ ὄντα ἢ νοητά, ἔστι δ' ἡ ἐπιστήμη μὲν τὰ ἐπιστητά πως, ἡ δ' αἴσθησις τὰ αἰσθητά·

2. πῶς δὲ τοῦτο, δεῖ ζητεῖν. τέμνεται οὖν ἡ ἐπιστήμη καὶ ἡ αἴσθησις εἰς τὰ πράγματα, ἡ μὲν δυνάμει εἰς τὰ δυνάμει, ἡ δ' ἐντελεχείᾳ εἰς τὰ ἐντελεχείᾳ· τῆς δὲ ψυχῆς τὸ αἰσθητικὸν καὶ τὸ ἐπιστημονικὸν δυνάμει ταὐτά ἐστι, τὸ μὲν <τὸ> ἐπιστητὸν τὸ δὲ <τὸ> αἰσθητόν. ἀνάγκη δ' ἢ αὐτὰ ἢ τὰ εἴδη εἶναι. αὐτὰ μὲν δὴ οὔ· οὐ γὰρ ὁ λίθος ἐν τῇ ψυχῇ, ἀλλὰ τὸ [432a] εἶδος· ὥστε ἡ ψυχὴ ὥσπερ ἡ χείρ ἐστιν· καὶ γὰρ ἡ χεὶρ ὄργανόν ἐστιν ὀργάνων, καὶ ὁ νοῦς εἶδος εἰδῶν καὶ ἡ αἴ- σθησις εἶδος αἰσθητῶν.

3. ἐπεὶ δὲ οὐδὲ πρᾶγμα οὐθὲν ἔστι παρὰ τὰ μεγέθη, ὡς δοκεῖ, τὰ αἰσθητὰ κεχωρισμένον, ἐν τοῖς εἴδεσι τοῖς αἰσθητοῖς τὰ νοητά ἐστι, τά τε ἐν ἀφαιρέσει λεγόμενα καὶ ὅσα τῶν αἰσθητῶν ἕξεις καὶ πάθη. καὶ διὰ τοῦτο οὔτε μὴ αἰσθανόμενος μηθὲν οὐθὲν ἂν μάθοι οὐδὲ ξυνείη, ὅταν τε θεωρῇ, ἀνάγκη ἅμα φάντασμά τι θεωρεῖν· τὰ γὰρ φαντάσματα ὥσπερ αἰσθήματά ἐστι, πλὴν ἄνευ ὕλης. ἔστι δ' ἡ φαντασία ἕτερον φάσεως καὶ ἀποφάσεως· συμπλοκὴ γὰρ νοημάτων ἐστὶ τὸ ἀληθὲς ἢ ψεῦδος. τὰ δὲ πρῶτα νοήματα τί διοίσει τοῦ μὴ φαντάσματα εἶναι; ἢ οὐδὲ ταῦτα φαντάσματα, ἀλλ' οὐκ ἄνευ φαντασμάτων.

Κεφάλαιο 9

[432a15] 1. Ἐπεὶ δὲ ἡ ψυχὴ κατὰ δύο ὥρισται δυνάμεις ἡ τῶν ζῴων, τῷ τε κριτικῷ, ὃ διανοίας ἔργον ἐστὶ καὶ αἰσθήσεως, καὶ ἔτι τῷ κινεῖν τὴν κατὰ τόπον κίνησιν, περὶ μὲν αἰσθήσεως καὶ νοῦ διωρίσθω τοσαῦτα, περὶ δὲ τοῦ κινοῦντος, τί ποτέ ἐστι τῆς ψυχῆς, σκεπτέον, πότερον ἕν τι μόριον αὐτῆς χωριστὸν ὂν ἢ μεγέθει ἢ λόγῳ, ἢ πᾶσα ἡ ψυχή, καὶ εἰ μόριόν τι, πότερον ἴδιόν τι παρὰ τὰ εἰωθότα λέγεσθαι καὶ τὰ εἰρημένα, ἢ τούτων ἕν τι.

2. ἔχει δὲ ἀπορίαν εὐθὺς πῶς τε δεῖ μόρια λέγειν τῆς ψυχῆς καὶ πόσα. τρόπον γάρ τινα ἄπειρα φαίνεται, καὶ οὐ μόνον ἅ τινες λέγουσι διορίζοντες, λογιστικὸν καὶ θυμικὸν καὶ ἐπιθυμητικόν, οἱ δὲ τὸ λόγον ἔχον καὶ τὸ ἄλογον· κατὰ γὰρ τὰς διαφορὰς δι᾽ ἃς ταῦτα χωρίζουσι, καὶ ἄλλα φαίνεται μόρια μείζω διάστασιν ἔχοντα τούτων, περὶ ὧν καὶ νῦν εἴρηται, τό τε θρεπτικόν, ὃ καὶ τοῖς φυτοῖς ὑπάρχει καὶ πᾶσι τοῖς ζῴοις, καὶ τὸ αἰσθητικόν, ὃ οὔτε ὡς ἄλογον οὔτε ὡς λόγον ἔχον θείη ἄν τις ῥᾳδίως·

3. ἔτι δὲ τὸ φανταστικόν, [432b] ὃ τῷ μὲν εἶναι πάντων ἕτερον, τίνι δὲ τούτων ταὐτὸν ἢ ἕτερον ἔχει πολλὴν ἀπορίαν, εἴ τις θήσει κεχωρισμένα μόρια τῆς ψυχῆς· πρὸς δὲ τούτοις τὸ ὀρεκτικόν, ὃ καὶ λόγῳ καὶ δυνάμει ἕτερον ἂν δόξειεν εἶναι πάντων. καὶ ἄτοπον δὴ τὸ τοῦτο διασπᾶν· ἔν τε τῷ λογιστικῷ γὰρ ἡ βούλησις γίνεται, καὶ ἐν τῷ ἀλόγῳ ἡ ἐπιθυμία καὶ ὁ θυμός· εἰ δὲ τρία ἡ ψυχή, ἐν ἑκάστῳ ἔσται ὄρεξις.

4. καὶ δὴ καὶ περὶ οὗ νῦν ὁ λόγος ἐνέστηκε, τί τὸ κινοῦν κατὰ τόπον τὸ ζῷόν ἐστιν; τὴν μὲν γὰρ κατ᾽ αὔξησιν καὶ φθίσιν κίνησιν, ἅπασιν ὑπάρχουσαν, τὸ πᾶσιν ὑπάρχον δόξειεν ἂν κινεῖν, τὸ γεννητικὸν καὶ θρεπτικόν· περὶ δὲ ἀναπνοῆς καὶ ἐκπνοῆς, καὶ ὕπνου καὶ ἐγρηγόρσεως, ὕστερον ἐπισκεπτέον· ἔχει γὰρ καὶ ταῦτα πολλὴν ἀπορίαν.

5. ἀλλὰ περὶ τῆς κατὰ τόπον κινήσεως, τί τὸ κινοῦν τὸ ζῷον τὴν πορευτικὴν κίνησιν, σκεπτέον. ὅτι μὲν οὖν οὐχ ἡ θρεπτικὴ δύναμις, δῆλον· ἀεί τε γὰρ ἕνεκά του ἡ κίνησις αὕτη, καὶ μετὰ φαντασίας καὶ ὀρέξεώς ἐστιν· οὐθὲν γὰρ μὴ ὀρεγόμενον ἢ φεῦγον κινεῖται ἀλλ᾽ ἢ βίᾳ· ἔτι κἂν τὰ φυτὰ κινητικὰ ἦν, κἂν εἶχέ τι μόριον ὀργανικὸν πρὸς τὴν κίνησιν ταύτην.

6. ὁμοίως δὲ οὐδὲ τὸ αἰσθητικόν· πολλὰ γὰρ ἔστι τῶν ζῴων ἃ αἴσθησιν μὲν ἔχει, μόνιμα δ᾽ ἐστὶ καὶ ἀκίνητα διὰ τέλους. εἰ οὖν ἡ φύσις μήτε ποιεῖ μάτην

μηθὲν μήτε ἀπολείπει τι τῶν ἀναγκαίων, πλὴν ἐν τοῖς πηρώμασι καὶ ἐν τοῖς ἀτελέσιν, τὰ δὲ τοιαῦτα τῶν ζῴων τέλεια καὶ οὐ πηρώματά ἐστιν (σημεῖον δ' ὅτι ἐστὶ γεννητικὰ καὶ ἀκμὴν ἔχει καὶ φθίσιν) -ὥστ' εἶχεν ἂν καὶ τὰ ὀργανικὰ μέρη τῆς πορείας.

7. ἀλλὰ μὴν οὐδὲ τὸ λογιστικὸν καὶ ὁ καλούμενος νοῦς ἐστιν ὁ κινῶν· ὁ μὲν γὰρ θεωρητικὸς οὐθὲν θεωρεῖ πρακτόν, οὐδὲ λέγει περὶ φευκτοῦ καὶ διωκτοῦ οὐθέν, ἀεὶ δὲ ἡ κίνησις ἢ φεύγοντός τι ἢ διώκοντός τί ἐστιν. ἀλλ' οὐδ' ὅταν θεωρῇ τι τοιοῦτον, ἤδη κελεύει φεύγειν ἢ διώκειν, οἷον πολλάκις διανοεῖται φοβερόν τι ἢ ἡδύ, οὐ κελεύει δὲ φοβεῖσθαι, ἡ δὲ καρδία [433a] κινεῖται, ἂν δ' ἡδύ, ἕτερόν τι μόριον.

8. ἔτι καὶ ἐπιτάττοντος τοῦ νοῦ καὶ λεγούσης τῆς διανοίας φεύγειν τι ἢ διώκειν οὐ κινεῖται, ἀλλὰ κατὰ τὴν ἐπιθυμίαν πράττει, οἷον ὁ ἀκρατής. καὶ ὅλως δὲ ὁρῶμεν ὅτι ὁ ἔχων τὴν ἰατρικὴν οὐκ ἰᾶται, ὡς ἑτέρου τινὸς κυρίου ὄντος τοῦ ποιεῖν κατὰ τὴν ἐπιστήμην, ἀλλ' οὐ τῆς ἐπιστήμης. ἀλλὰ μὴν οὐδ' ἡ ὄρεξις ταύτης κυρία τῆς κινήσεως· οἱ γὰρ ἐγκρατεῖς ὀρεγόμενοι καὶ ἐπιθυμοῦντες οὐ πράττουσιν ὧν ἔχουσι τὴν ὄρεξιν, ἀλλ' ἀκολουθοῦσι τῷ νῷ.

Κεφάλαιο 10

[433a9] 1. Φαίνεται δέ γε δύο ταῦτα κινοῦντα, ἢ ὄρεξις ἢ νοῦς, εἴ τις τὴν φαντασίαν τιθείη ὡς νόησίν τινα· πολλοὶ γὰρ παρὰ τὴν ἐπιστήμην ἀκολουθοῦσι ταῖς φαντασίαις, καὶ ἐν τοῖς ἄλλοις ζῴοις οὐ νόησις οὐδὲ λογισμὸς ἔστιν, ἀλλὰ φαντασία. ἄμφω ἄρα ταῦτα κινητικὰ κατὰ τόπον, νοῦς καὶ ὄρεξις,

2. νοῦς δὲ ὁ ἕνεκά του λογιζόμενος καὶ ὁ πρακτικός· διαφέρει δὲ τοῦ θεωρητικοῦ τῷ τέλει. καὶ ἡ ὄρεξις <δ’> ἕνεκά του πᾶσα· οὗ γὰρ ἡ ὄρεξις, αὕτη ἀρχὴ τοῦ πρακτικοῦ νοῦ, τὸ δ’ ἔσχατον ἀρχὴ τῆς πράξεως. ὥστε εὐλόγως δύο ταῦτα φαίνεται τὰ κινοῦντα, ὄρεξις καὶ διάνοια πρακτική· τὸ ὀρεκτὸν γὰρ κι- νεῖ, καὶ διὰ τοῦτο ἡ διάνοια κινεῖ, ὅτι ἀρχὴ αὐτῆς ἐστι τὸ ὀρεκτόν.

3. καὶ ἡ φαντασία δὲ ὅταν κινῇ, οὐ κινεῖ ἄνευ ὀρέξεως. ἓν δή τι τὸ κινοῦν, τὸ ὀρεκτικόν. εἰ γὰρ δύο, νοῦς καὶ ὄρεξις, ἐκίνουν, κατὰ κοινὸν ἄν τι ἐκίνουν εἶδος· νῦν δὲ ὁ μὲν νοῦς οὐ φαίνεται κινῶν ἄνευ ὀρέξεως (ἡ γὰρ βούλησις ὄρεξις, ὅταν δὲ κατὰ τὸν λογισμὸν κινῆται, καὶ κατὰ βούλησιν κινεῖται), ἡ δ’ ὄρεξις κινεῖ καὶ παρὰ τὸν λογισμόν· ἡ γὰρ ἐπιθυμία ὄρεξίς τίς ἐστιν.

4. νοῦς μὲν οὖν πᾶς ὀρθός ἐστιν· ὄρεξις δὲ καὶ φαντασία καὶ ὀρθὴ καὶ οὐκ ὀρθή. διὸ ἀεὶ κινεῖ μὲν τὸ ὀρεκτόν, ἀλλὰ τοῦτ’ ἐστὶν ἢ τὸ ἀγαθὸν ἢ τὸ φαινόμενον ἀγαθόν· οὐ πᾶν δέ, ἀλλὰ τὸ πρακτὸν ἀγαθόν. πρακτὸν δ’ ἐστὶ τὸ ἐνδεχόμενον καὶ ἄλλως ἔχειν.

5. ὅτι μὲν οὖν ἡ τοιαύτη δύναμις κινεῖ τῆς ψυχῆς, ἡ καλουμένη [433b] ὄρεξις, φανερόν. τοῖς δὲ διαιροῦσι τὰ μέρη τῆς ψυχῆς, ἐὰν κατὰ τὰς δυνάμεις διαιρῶσι καὶ χωρίζωσι, πάμπολλα γίνεται, θρεπτικόν, αἰσθητικόν, νοητικόν, βουλευτικόν, ἔτι ὀρεκτικόν· ταῦτα γὰρ πλέον διαφέρει ἀλλήλων ἢ ἐπιθυμητικὸν καὶ θυμικόν.

6. ἐπεὶ δ’ ὀρέξεις γίνονται ἐναντίαι ἀλλήλαις, τοῦτο δὲ συμβαίνει ὅταν ὁ λόγος καὶ αἱ ἐπιθυμίαι ἐναντίαι ὦσι, γίνεται δ’ ἐν τοῖς χρόνου αἴσθησιν ἔχουσιν (ὁ μὲν γὰρ νοῦς διὰ τὸ μέλλον ἀνθέλκειν κελεύει, ἡ δ’ ἐπιθυμία διὰ τὸ ἤδη· φαίνεται γὰρ τὸ ἤδη ἡδὺ καὶ ἁπλῶς ἡδὺ καὶ ἀγαθὸν ἁπλῶς, διὰ τὸ μὴ ὁρᾶν τὸ μέλλον), εἴδει μὲν ἓν ἂν εἴη τὸ κινοῦν, τὸ ὀρεκτικόν, ᾗ ὀρεκτικόν-πρῶτον δὲ πάντων τὸ ὀρεκτόν· τοῦτο γὰρ κινεῖ οὐ κινούμενον, τῷ νοηθῆναι

ἢ φαντασθῆναι-ἀριθμῷ δὲ πλείω τὰ κινοῦντα.

7. ἐπεὶ δ’ ἔστι τρία, ἓν μὲν τὸ κινοῦν, δεύτερον δ’ ᾧ κινεῖ, ἔτι τρίτον τὸ κινούμενον, τὸ δὲ κινοῦν διττόν, τὸ μὲν ἀκίνητον, τὸ δὲ κινοῦν καὶ κινούμενον, ἔστι δὴ τὸ μὲν ἀκίνητον τὸ πρακτὸν ἀγαθόν, τὸ δὲ κινοῦν καὶ κινούμενον τὸ ὀρεκτικόν (κινεῖται γὰρ τὸ κινούμενον ᾗ ὀρέγεται, καὶ ἡ ὄρεξις κίνησίς τίς ἐστιν, ἡ ἐνεργείᾳ), τὸ δὲ κινούμενον τὸ ζῷον· ᾧ δὲ κινεῖ ὀργάνῳ ἡ ὄρεξις, ἤδη τοῦτο σωματικόν ἐστιν - διὸ ἐν τοῖς κοινοῖς σώματος καὶ ψυχῆς ἔργοις θεωρητέον περὶ αὐτοῦ.

8. νῦν δὲ ὡς ἐν κεφαλαίῳ εἰπεῖν, τὸ κινοῦν ὀργανικῶς ὅπου ἀρχὴ καὶ τελευτὴ τὸ αὐτό-οἷον ὁ γιγγλυμός· ἐνταῦθα γὰρ τὸ κυρτὸν καὶ τὸ κοῖλον τὸ μὲν τελευτὴ τὸ δ’ ἀρχή (διὸ τὸ μὲν ἠρεμεῖ τὸ δὲ κινεῖται), λόγῳ μὲν ἕτερα ὄντα, μεγέθει δ’ ἀχώριστα. πάντα γὰρ ὤσει καὶ ἕλξει κινεῖται· διὸ δεῖ, ὥσπερ ἐν κύκλῳ, μένειν τι, καὶ ἐντεῦθεν ἄρχεσθαι τὴν κίνησιν.

9. ὅλως μὲν οὖν, ὥσπερ εἴρηται, ᾗ ὀρεκτικὸν τὸ ζῷον, ταύτῃ αὑτοῦ κινητικόν· ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας· φαντασία δὲ πᾶσα ἢ λογιστικὴ ἢ αἰσθητική. ταύτης μὲν οὖν καὶ τὰ ἄλλα ζῷα μετέχει.

Κεφάλαιο 11

[433b31] 1. Σκεπτέον δὲ καὶ περὶ τῶν ἀτελῶν τί τὸ κινοῦν ἐστιν, [434a] οἷς ἁφῇ μόνον ὑπάρχει αἴσθησις, πότερον ἐνδέχεται φαντασίαν ὑπάρχειν τούτοις, ἢ οὔ, καὶ ἐπιθυμίαν. φαίνεται γὰρ λύπη καὶ ἡδονὴ ἐνοῦσα, εἰ δὲ ταῦτα, καὶ ἐπιθυμίαν ἀνάγκη. φαντασία δὲ πῶς ἂν ἐνείη; ἢ ὥσπερ καὶ κινεῖται ἀορίστως, καὶ ταῦτ᾽ ἔνεστι μέν, ἀορίστως δ᾽ ἔνεστιν.

2. ἡ μὲν οὖν αἰσθητικὴ φαντασία, ὥσπερ εἴρηται, καὶ ἐν τοῖς ἄλλοις ζῴοις ὑπάρ- χει, ἡ δὲ βουλευτικὴ ἐν τοῖς λογιστικοῖς (πότερον γὰρ πράξει τόδε ἢ τόδε, λογισμοῦ ἤδη ἐστὶν ἔργον· καὶ ἀνάγκη ἑνὶ μετρεῖν· τὸ μεῖζον γὰρ διώκει· ὥστε δύναται ἓν ἐκ πλειόνων φαντασμάτων ποιεῖν). καὶ αἴτιον τοῦτο τοῦ δόξαν μὴ δοκεῖν ἔχειν, ὅτι τὴν ἐκ συλλογισμοῦ οὐκ ἔχει, αὕτη δὲ κινεῖ·

3. διὸ τὸ βουλευτικὸν οὐκ ἔχει ἡ ὄρεξις· νικᾷ δ᾽ ἐνίοτε καὶ κινεῖ ὁτὲ μὲν αὕτη ἐκείνην, ὁτὲ δ᾽ ἐκείνη ταύτην, ὥσπερ σφαῖρα <σφαῖραν>, ἡ ὄρεξις τὴν ὄρεξιν, ὅταν ἀκρασία γένηται· φύσει δὲ ἀεὶ ἡ ἄνω ἀρχικωτέρα καὶ κινεῖ· ὥστε τρεῖς φορὰς ἤδη κινεῖσθαι.

4. τὸ δ᾽ ἐπιστημονικὸν οὐ κινεῖται, ἀλλὰ μένει. ἐπεὶ δ᾽ ἡ μὲν καθόλου ὑπόληψις καὶ λόγος, ἡ δὲ τοῦ καθ᾽ ἕκαστον (ἡ μὲν γὰρ λέγει ὅτι δεῖ τὸν τοιοῦτον τὸ τοιόνδε πράττειν, ἡ δὲ ὅτι τόδε τοιόνδε, κἀγὼ δὲ τοιόσδε), ἢ δὴ αὕτη κινεῖ ἡ δόξα, οὐχ ἡ καθόλου, ἢ ἄμφω, ἀλλ᾽ ἡ μὲν ἠρεμοῦσα μᾶλλον, ἡ δ᾽ οὔ.

Κεφάλαιο 12

[434a21] 1. Τὴν μὲν οὖν θρεπτικὴν ψυχὴν ἀνάγκη πᾶν ἔχειν ὅτι περ ἂν ζῇ καὶ ψυχὴν ἔχῃ, ἀπὸ γενέσεως καὶ μέχρι φθορᾶς· ἀνάγκη γὰρ τὸ γενόμενον αὔξησιν ἔχειν καὶ ἀκμὴν καὶ φθίσιν, ταῦτα δ’ ἄνευ τροφῆς ἀδύνατον· ἀνάγκη ἄρα ἐνεῖναι τὴν θρεπτικὴν δύναμιν ἐν πᾶσι τοῖς φυομένοις καὶ φθίνουσιν·

2. αἴσθησιν δ’ οὐκ ἀναγκαῖον ἐν ἅπασι τοῖς ζῶσιν· οὔτε γὰρ ὅσων τὸ σῶμα ἁπλοῦν ἐνδέχεται αὐτὴν ἔχειν, [οὔτε ἄνευ ταύτης οἷόν τε οὐθὲν εἶναι ζῷον] οὔτε ὅσα μὴ δεκτικὰ τῶν εἰδῶν ἄνευ τῆς ὕλης.

3. τὸ δὲ ζῷον ἀναγκαῖον αἴσθησιν ἔχειν, [434a30] <οὐδὲ ἄνευ ταύτης οἷόν τε οὐθὲν εἶναι ζῷον,> εἰ μηθὲν μάτην ποιεῖ ἡ φύσις. ἕνεκά του γὰρ πάντα ὑπάρχει τὰ φύσει, ἢ συμπτώματα ἔσται τῶν ἕνεκά του. εἰ οὖν πᾶν σῶμα πορευτικόν, μὴ ἔχον αἴσθησιν, φθείροιτο ἂν καὶ [434b] εἰς τέλος οὐκ ἂν ἔλθοι, ὅ ἐστι φύσεως ἔργον (πῶς γὰρ θρέψεται; τοῖς μὲν γὰρ μονίμοις ὑπάρχει τοῦτο ὅθεν πεφύκασιν,

4. οὐχ οἷόν τε δὲ σῶμα ἔχειν μὲν ψυχὴν καὶ νοῦν κριτικόν, αἴσθησιν δὲ μὴ ἔχειν, μὴ μόνιμον ὄν, γενητὸν δέ-ἀλλὰ μὴν οὐδὲ ἀγένητον· διὰ τί γὰρ οὐχ ἕξει; ἢ γὰρ τῇ ψυχῇ βέλτιον ἢ τῷ σώματι, νῦν δ’ οὐδέτερον· ἡ μὲν γὰρ οὐ μᾶλλον νοήσει, τῷ δ’ οὐθὲν ἔσται μᾶλλον δι’ ἐκεῖνο) -οὐθὲν ἄρα ἔχει ψυχὴν σῶμα μὴ μόνιμον <ὂν> ἄνευ αἰσθήσεως.

5. ἀλλὰ μὴν εἴγε αἴσθησιν ἔχει, ἀνάγκη τὸ σῶμα εἶναι ἢ ἁπλοῦν ἢ μικτόν. οὐχ οἷόν τε δὲ ἁπλοῦν· ἁφὴν γὰρ οὐχ ἕξει, ἔστι δὲ ἀνάγκη ταύτην ἔχειν. τοῦτο δὲ ἐκ τῶνδε δῆλον.

6. ἐπεὶ γὰρ τὸ ζῷον σῶμα ἔμψυχόν ἐστι, σῶμα δὲ ἅπαν ἁπτόν, [ἁπτὸν δὲ τὸ αἰσθητὸν ἁφῇ,] ἀνάγκη [καὶ] τὸ τοῦ ζῴου σῶμα ἁπτικὸν εἶναι, εἰ μέλλει σώζεσθαι τὸ ζῷον. αἱ γὰρ ἄλλαι αἰσθήσεις δι’ ἑτέρων αἰσθάνονται, οἷον ὄσφρησις ὄψις ἀκοή· ἁπτόμενον δέ, εἰ μὴ ἕξει αἴσθησιν, οὐ δυνήσεται τὰ μὲν φεύγειν τὰ δὲ λαβεῖν. εἰ δὲ τοῦτο, ἀδύνατον ἔσται σώζεσθαι τὸ ζῷον.

7. διὸ καὶ ἡ γεῦσίς ἐστιν ὥσπερ ἁφή τις· τροφῆς γάρ ἐστιν, ἡ δὲ τροφὴ τὸ σῶμα ἁπτόν. ψόφος δὲ καὶ χρῶμα καὶ ὀσμὴ οὐ τρέφει, οὐδὲ ποιεῖ οὔτ’ αὔξησιν οὔτε φθίσιν· ὥστε καὶ τὴν γεῦσιν ἀνάγκη ἁφὴν εἶναί τινα, διὰ τὸ τοῦ ἁπτοῦ καὶ θρεπτικοῦ αἴσθησιν εἶναι· αὗται μὲν οὖν ἀναγκαῖαι τῷ ζῴῳ, καὶ φανερὸν ὅτι οὐχ οἷόν τε ἄνευ ἁφῆς εἶναι ζῷον,

8. αἱ δὲ ἄλλαι τοῦ τε εὖ ἕνεκα καὶ γένει ζῴων ἤδη οὐ τῷ τυχόντι· ἀλλὰ τισίν, οἷον τῷ πορευτικῷ, ἀνάγκη ὑπάρχειν· εἰ γὰρ μέλλει σώζεσθαι, οὐ μόνον δεῖ ἁπτόμενον αἰσθάνεσθαι ἀλλὰ καὶ ἄποθεν. τοῦτο δ’ ἂν εἴη, εἰ διὰ τοῦ μεταξὺ αἰσθητικὸν εἴη τῷ ἐκεῖνο μὲν ὑπὸ τοῦ αἰσθητοῦ πάσχειν καὶ κινεῖσθαι, αὐτὸ δ’ ὑπ’ ἐκείνου.

9. ὥσπερ γὰρ τὸ κινοῦν κατὰ τόπον μέχρι του μεταβάλλειν ποιεῖ, καὶ τὸ ὦσαν ἕτερον ποιεῖ ὥστε ὠθεῖν, καὶ ἔστι διὰ μέσου ἡ κίνησις, καὶ τὸ μὲν πρῶτον κινοῦν ὠθεῖ οὐκ ὠθούμενον, τὸ δ’ ἔσχατον μόνον ὠθεῖται οὐκ ὦσαν, τὸ δὲ μέσον ἄμφω, [435a] πολλὰ δὲ τὰ μέσα, οὕτω καὶ ἐπ’ ἀλλοιώσεως, πλὴν ὅτι μένοντος ἐν τῷ αὐτῷ τόπῳ ἀλλοιοῖ, οἷον εἰ εἰς κηρὸν βάψειέ τις, μέχρι τούτου ἐκινήθη, ἕως ἔβαψεν· λίθος δὲ οὐδέν, ἀλλ’ ὕδωρ μέχρι πόρρω· ὁ δ’ ἀὴρ ἐπὶ πλεῖστον κινεῖται καὶ ποιεῖ καὶ πάσχει, ἐὰν μένῃ καὶ εἷς ᾖ. διὸ καὶ περὶ ἀνακλάσεως βέλτιον ἢ τὴν ὄψιν ἐξιοῦσαν ἀνακλᾶσθαι τὸν ἀέρα πάσχειν ὑπὸ τοῦ σχήματος καὶ χρώματος, μέχρι περ οὗ ἂν ᾖ εἷς. ἐπὶ δὲ τοῦ λείου ἐστὶν εἷς· διὸ πάλιν οὗτος τὴν ὄψιν κινεῖ, ὥσπερ ἂν εἰ τὸ ἐν τῷ κηρῷ σημεῖον διεδίδοτο μέχρι τοῦ πέρατος.

Κεφάλαιο 13

[435a11] 1. Ὅτι δ’ οὐχ οἷόν τε ἁπλοῦν εἶναι τὸ τοῦ ζῴου σῶμα, φανερόν, λέγω δ’ οἷον πύρινον ἢ ἀέρινον. ἄνευ μὲν γὰρ ἁφῆς οὐδεμίαν ἐνδέχεται ἄλλην αἴσθησιν ἔχειν (τὸ γὰρ σῶμα ἁπτικὸν τὸ ἔμψυχον πᾶν, ὥσπερ εἴρηται)· τὰ δὲ ἄλλα ἔξω γῆς αἰσθητήρια μὲν ἂν γένοιτο, πάντα δὲ τῷ δι’ ἑτέρου αἰσθάνεσθαι ποιεῖ τὴν αἴσθησιν, καὶ διὰ τῶν μετα- ξύ, ἡ δ’ ἁφὴ τῷ αὐτῶν ἅπτεσθαί ἐστιν, διὸ καὶ τοὔνομα τοῦτο ἔχει. καίτοι καὶ τὰ ἄλλα αἰσθητήρια ἁφῇ αἰσθάνεται, ἀλλὰ δι’ ἑτέρου· αὕτη δὲ δοκεῖ μόνη δι’ αὑτῆς. ὥστε τῶν μὲν τοιούτων στοιχείων οὐθὲν ἂν εἴη σῶμα τοῦ ζῴου. οὐδὲ δὴ γήϊνον. πάντων γὰρ ἡ ἁφὴ τῶν ἁπτῶν ἐστὶν ὥσπερ μεσότης, καὶ δεκτικὸν τὸ αἰσθητήριον οὐ μόνον ὅσαι διαφοραὶ γῆς εἰσίν, ἀλλὰ καὶ θερμοῦ καὶ ψυχροῦ καὶ τῶν ἄλλων ἁπτῶν ἁπάντων. καὶ διὰ τοῦτο τοῖς ὀστοῖς καὶ ταῖς θριξὶ καὶ τοῖς τοιούτοις μορίοις οὐκ αἰσθανόμεθα, ὅτι γῆς ἐστιν, [435b] καὶ τὰ φυτὰ διὰ τοῦτο οὐδεμίαν ἔχει αἴσθησιν, ὅτι γῆς ἐστιν· ἄνευ δὲ ἁφῆς οὐδεμίαν οἷόν τε ἄλλην ὑπάρχειν, τοῦτο δὲ τὸ αἰσθητήριον οὐκ ἔστιν οὔτε γῆς οὔτε ἄλλου τῶν στοιχείων οὐδενός.

2. φανερὸν τοίνυν ὅτι ἀνάγκη μόνης ταύτης στερισκόμενα τῆς αἰσθήσεως τὰ ζῷα ἀποθνήσκειν· οὔτε γὰρ ταύτην ἔχειν οἷόν τε μὴ ζῷον ὄν, οὔτε ζῷον ὂν ἄλλην ἔχειν ἀνάγκη πλὴν ταύτην. καὶ διὰ τοῦτο τὰ μὲν ἄλλα αἰσθητὰ ταῖς ὑπερβολαῖς οὐ διαφθείρει τὸ ζῷον, οἷον χρῶμα καὶ ψόφος καὶ ὀσμή, ἀλλὰ μόνον τὰ αἰσθητήρια (ἂν μὴ κατὰ συμβεβηκός, οἷον ἂν ἅμα τῷ ψόφῳ ὦσις γένηται καὶ πληγή), καὶ ὑπὸ ὁραμάτων καὶ ὀσμῆς ἕτερα κινεῖται, ἃ τῇ ἁφῇ φθείρει (καὶ ὁ χυμὸς δὲ ᾗ ἅμα συμβαίνει ἁπτικὸν εἶναι, ταύτῃ φθείρει),

3. ἡ δὲ τῶν ἁπτῶν ὑπερβολή, οἷον θερμῶν καὶ ψυχρῶν καὶ σκληρῶν, ἀναιρεῖ τὸ ζῷον· παντὸς μὲν γὰρ ὑπερβολὴ αἰσθητοῦ ἀναιρεῖ τὸ αἰσθητήριον, ὥστε καὶ τὸ ἁπτὸν τὴν ἁφήν, ταύτῃ δὲ ὥρισται τὸ ζῷον· ἄνευ γὰρ ἁφῆς δέδεικται ὅτι ἀδύνατον εἶναι ζῷον. διὸ ἡ τῶν ἁπτῶν ὑπερβολὴ οὐ μόνον τὸ αἰσθητήριον φθείρει, ἀλλὰ καὶ τὸ ζῷον, ὅτι ἀνάγκη μόνην ἔχειν ταύτην. τὰς δ’ ἄλλας αἰσθήσεις ἔχει τὸ ζῷον, ὥσπερ εἴρηται, οὐ τοῦ εἶναι ἕνεκα ἀλλὰ τοῦ εὖ, οἷον ὄψιν, ἐπεὶ ἐν ἀέρι καὶ ὕδατι, ὅπως ὁρᾷ, ὅλως δ’ ἐπεὶ ἐν διαφανεῖ, γεῦσιν δὲ διὰ τὸ ἡδὺ καὶ λυπηρόν, ἵνα αἰσθάνηται τὸ ἐν τροφῇ καὶ ἐπιθυμῇ καὶ κινῆται, ἀκοὴν δὲ ὅπως σημαίνηταί τι αὐτῷ [γλῶτταν δὲ ὅπως σημαίνῃ τι

ἑτέρῳ].

Περι Αισθησεωσ και Αισθητων (436a) Sense and Sensibilia

[436a] Ἐπεὶ δὲ περὶ ψυχῆς καθ’ αὑτὴν διώρισται πρότερον καὶ περὶ τῶν δυνάμεων ἑκάστης κατὰ μόριον αὐτῆς, ἐχόμενόν ἐστι ποιήσασθαι τὴν ἐπίσκεψιν περὶ τῶν ζῴων καὶ τῶν ζωὴν ἐχόντων ἁπάντων, τίνες εἰσὶν ἴδιαι καὶ τίνες κοιναὶ πράξεις αὐτῶν. τὰ μὲν οὖν εἰρημένα περὶ ψυχῆς ὑποκείσθω, περὶ δὲ τῶν λοιπῶν λέγωμεν, καὶ πρῶτον περὶ τῶν πρώτων. φαίνεται δὲ τὰ μέγιστα, καὶ τὰ κοινὰ καὶ τὰ ἴδια τῶν ζῴων, κοινὰ τῆς τε ψυχῆς ὄντα καὶ τοῦ σώματος, οἷον αἴσθησις καὶ μνήμη καὶ θυμὸς καὶ ἐπιθυμία καὶ ὅλως ὄρεξις, καὶ πρὸς τούτοις ἡδονὴ καὶ λύπη· καὶ γὰρ ταῦτα σχεδὸν ὑπάρχει πᾶσι τοῖς ζῴοις. πρὸς δὲ τούτοις τὰ μὲν πάντων ἐστὶ τῶν μετεχόντων ζωῆς κοινά, τὰ δὲ τῶν ζῴων ἐνίοις. τυγχάνουσι δὲ τούτων τὰ μέγιστα τέτταρες οὖσαι συζυγίαι τὸν ἀριθμόν, οἷον ἐγρήγορσις καὶ ὕπνος, καὶ νεότης καὶ γῆρας, καὶ ἀναπνοὴ καὶ ἐκπνοή, καὶ ζωὴ καὶ θάνατος· περὶ ὧν θεωρητέον, τί τε ἕκαστον αὐτῶν, καὶ διὰ τίνας αἰτίας συμβαίνει. φυσικοῦ δὲ καὶ περὶ ὑγιείας καὶ νόσου τὰς πρώτας ἰδεῖν ἀρχάς· οὔτε γὰρ ὑγίειαν οὔτε νόσον οἷόν τε γίγνεσθαι τοῖς ἐστερημένοις ζωῆς. διὸ σχεδὸν τῶν περὶ φύσεως οἱ πλεῖστοι καὶ τῶν ἰατρῶν οἱ φιλοσοφωτέρως τὴν τέχνην μετιόντες, οἱ μὲν τελευτῶσιν εἰς τὰ περὶ ἰατρικῆς, [436b] οἱ δ’ ἐκ τῶν περὶ φύσεως ἄρχονται [περὶ τῆς ἰατρικῆς].

ὅτι δὲ πάντα τὰ λεχθέντα κοινὰ τῆς τε ψυχῆς ἐστὶ καὶ τοῦ σώματος, οὐκ ἄδηλον. πάντα γὰρ τὰ μὲν μετ’ αἰσθήσεως συμβαίνει, τὰ δὲ δι’ αἰσθήσεως, ἔνια δὲ τὰ μὲν πάθη ταύτης ὄντα τυγχάνει, τὰ δ’ ἕξεις, τὰ δὲ φυλακαὶ καὶ σωτηρίαι, τὰ δὲ φθοραὶ καὶ στερήσεις· ἡ δ’ αἴσθησις ὅτι διὰ σώματος γίγνεται τῇ ψυχῇ, δῆλον καὶ διὰ τοῦ λόγου καὶ τοῦ λόγου χωρίς. ἀλλὰ περὶ μὲν αἰσθήσεως καὶ τοῦ αἰσθάνεσθαι, τί ἐστι καὶ διὰ τί συμβαίνει τοῖς ζῴοις τοῦτο τὸ πάθος, εἴρηται πρότερον ἐν τοῖς περὶ ψυχῆς. τοῖς δὲ ζῴοις, ᾗ μὲν ζῷον ἕκαστον, ἀνάγκη ὑπάρχειν αἴσθησιν· τούτῳ γὰρ τὸ ζῷον εἶναι καὶ μὴ ζῷον διορίζομεν. ἰδίᾳ δ’ ἤδη καθ’ ἕκαστον ἡ μὲν ἁφὴ καὶ γεῦσις ἀκολουθεῖ πᾶσιν ἐξ ἀνάγκης, ἡ μὲν ἁφὴ διὰ τὴν εἰρημένην αἰτίαν ἐν τοῖς περὶ ψυχῆς, ἡ δὲ γεῦσις διὰ τὴν τροφήν· τὸ γὰρ ἡδὺ διακρίνει καὶ τὸ λυπηρὸν αὐτῇ περὶ τὴν τροφήν, ὥστε τὸ μὲν φεύγειν τὸ δὲ διώκειν, καὶ ὅλως ὁ χυμός ἐστι τοῦ θρεπτικοῦ πάθος. αἱ δὲ διὰ τῶν ἔξωθεν αἰσθήσεις τοῖς πορευτικοῖς αὐτῶν, οἷον ὄσφρησις καὶ ἀκοὴ καὶ ὄψις, πᾶσι μὲν τοῖς ἔχουσι σωτηρίας ἕνεκεν ὑπάρχουσιν, ὅπως διώκωσί τε προαισθανόμενα τὴν τροφὴν καὶ τὰ φαῦλα καὶ τὰ φθαρτικὰ [437a] φεύγωσι, τοῖς δὲ καὶ φρονήσεως τυγχάνουσι τοῦ εὖ ἕνεκα· πολλὰς γὰρ εἰσαγγέλλουσι διαφοράς, ἐξ ὧν ἥ τε τῶν νοητῶν ἐγγίνεται φρόνησις καὶ ἡ τῶν πρακτῶν.

αὐτῶν δὲ τούτων πρὸς μὲν τὰ ἀναγκαῖα κρείττων ἡ ὄψις καθ’ αὑτήν, πρὸς δὲ νοῦν κατὰ συμβεβηκὸς ἡ ἀκοή. διαφορὰς μὲν γὰρ πολλὰς καὶ παντοδαπὰς ἡ τῆς ὄψεως εἰσαγγέλλει δύναμις διὰ τὸ πάντα τὰ σώματα μετέχειν χρώματος, ὥστε καὶ τὰ κοινὰ διὰ ταύτης αἰσθάνεσθαι μάλιστα (λέγω δὲ κοινὰ μέγεθος, σχῆμα, κίνησιν, ἀριθμόν), ἡ δ’ ἀκοὴ τὰς τοῦ ψόφου διαφορὰς μόνον, ὀλίγοις δὲ καὶ τὰς τῆς φωνῆς· κατὰ συμβεβηκὸς δὲ πρὸς φρόνησιν ἡ ἀκοὴ πλεῖστον συμβάλλεται μέρος. ὁ γὰρ λόγος αἴτιός ἐστι τῆς μαθήσεως ἀκουστὸς ὤν, οὐ καθ’ αὑτὸν ἀλλὰ κατὰ συμβεβηκός· ἐξ ὀνομάτων γὰρ σύγκειται, τῶν δ’ ὀνομάτων ἕκαστον σύμβολόν ἐστιν. διόπερ φρονιμώτεροι τῶν ἐκ γενετῆς ἐστερημένων εἰσὶν ἑκατέρας τῆς αἰσθήσεως οἱ τυφλοὶ τῶν ἐνεῶν καὶ κωφῶν.

Περὶ μὲν οὖν τῆς δυνάμεως ἣν ἔχει τῶν αἰσθήσεων ἑκάστη, πρότερον εἴρηται. τοῦ δὲ σώματος ἐν οἷς ἐγγίγνεσθαι πέφυκεν αἰσθητηρίοις, ἔνιοι μὲν ζητοῦσι κατὰ τὰ στοιχεῖα τῶν σωμάτων· οὐκ εὐποροῦντες δὲ πρὸς τέτταρα πέντ’ οὔσας συνάγειν, γλίχονται περὶ τῆς πέμπτης. ποιοῦσι δὲ πάντες τὴν ὄψιν πυρὸς διὰ τὸ πάθους τινὸς ἀγνοεῖν τὴν αἰτίαν· θλιβομένου γὰρ καὶ κινουμένου τοῦ ὀφθαλμοῦ φαίνεται πῦρ ἐκλάμπειν· τοῦτο δ’ ἐν τῷ σκότει πέφυκε συμβαίνειν, ἢ τῶν βλεφάρων ἐπικεκαλυμμένων· γίγνεται γὰρ καὶ τότε σκότος.

ἔχει δ’ ἀπορίαν τοῦτο καὶ ἑτέραν. εἰ γὰρ μὴ ἔστι λανθάνειν ‹μὴ› αἰσθανόμενον καὶ ὁρῶντα, ἀνάγκη ἄρ’ αὐτὸν ἑαυτὸν ὁρᾶν τὸν ὀφθαλμόν. διὰ τί οὖν ἠρεμοῦντι τοῦτ’ οὐ συμβαίνει; τὸ δ’ αἴτιον τούτου, καὶ τῆς ἀπορίας καὶ τοῦ δοκεῖν πῦρ εἶναι τὴν ὄψιν, ἐντεῦθεν ληπτέον. τὰ γὰρ λεῖα πέφυκεν ἐν τῷ σκότει λάμπειν, οὐ μέντοι φῶς γε ποιεῖν, τοῦ δ’ ὀφθαλμοῦ [437b] τὸ καλούμενον μέλαν καὶ μέσον λεῖον. φαίνεται δὲ τοῦτο κινουμένου τοῦ ὄμματος διὰ τὸ συμβαίνειν ὥσπερ δύο γίγνεσθαι τὸ ἕν. τοῦτο δ’ ἡ ταχυτὴς ποιεῖ τῆς κινήσεως, ὥστε δοκεῖν ἕτερον εἶναι τὸ ὁρῶν καὶ τὸ ὁρώμενον. διὸ καὶ οὐ γίγνεται, ἐὰν μὴ ταχέως καὶ ἐν σκότει τοῦτο συμβῇ· τὸ γὰρ λεῖον ἐν τῷ σκότει πέφυκε λάμπειν (οἷον κεφαλαὶ ἰχθύων τινῶν καὶ ὁ τῆς σηπίας θολός), καὶ βραδέως μεταβάλλοντος τοῦ ὄμματος οὐ συμβαίνει ὥστε δοκεῖν ἅμα ἓν καὶ δύο εἶναι τό θ’ ὁρῶν καὶ τὸ ὁρώμενον. ἐκείνως δ’ αὐτὸς αὐτὸν ὁρᾷ ὁ ὀφθαλμός, ὥσπερ καὶ ἐν τῇ ἀνακλάσει· ἐπεὶ εἴ γε πῦρ ἦν, καθάπερ Ἐμπεδοκλῆς φησὶ καὶ ἐν τῷ Τιμαίῳ γέγραπται, καὶ συνέβαινε τὸ ὁρᾶν ἐξιόντος ὥσπερ ἐκ λαμπτῆρος τοῦ φωτός, διὰ τί οὐ καὶ ἐν τῷ σκότει ἑώρα ἂν ἡ ὄψις; τὸ δ’ ἀποσβέννυσθαι φάναι ἐν τῷ σκότει ἐξιοῦσαν, ὥσπερ ὁ Τίμαιος λέγει, κενόν ἐστι παντελῶς· τίς γὰρ ἀπόσβεσις φωτός ἐστιν; σβέννυται γὰρ ἢ ὑγρῷ ἢ ψυχρῷ τὸ θερμὸν καὶ ξηρόν (οἷον δοκεῖ τό τ’ ἐν τοῖς ἀνθρακώδεσιν εἶναι πῦρ καὶ ἡ φλόξ), ὧν τῷ φωτὶ οὐδέτερον φαίνεται ὑπάρχον. εἰ δ’ ἄρα ὑπάρχει μὲν ἀλλὰ διὰ τὸ ἠρέμα λανθάνει ἡμᾶς, ἔδει μεθ’ ἡμέραν γε καὶ ἐν τῷ ὕδατι ἀποσβέννυσθαι τὸ φῶς καὶ ἐν τοῖς πάγοις μᾶλλον γίγνεσθαι σκότον· ἡ γοῦν φλὸξ καὶ τὰ πεπυρωμένα σώματα πάσχει τοῦτο· νῦν δ’ οὐδὲν συμβαίνει τοιοῦτον.

Ἐμπεδοκλῆς δ’ ἔοικε νομίζοντι ὁτὲ μὲν ἐξιόντος τοῦ φωτός, ὥσπερ εἴρηται πρότερον, βλέπειν· λέγει γοῦν οὕτως·

ὡς δ’ ὅτε τις πρόοδον νοέων ὡπλίσσατο λύχνον
χειμερίην διὰ νύκατα, πυρὸς σέλας αἰθομένοιο,
ἅψας παντοίων ἀνέμων λαμπτῆρας ἀμοργούς,
οἵ τ’ ἀνέμων μὲν πνεῦμα διασκιδνᾶσιν ἀέντων,
πῦρ δ’ ἔξω διαθρῷσκον, ὅσον ταναώτερον ἦεν,
λάμπεσκεν κατὰ βηλὸν ἀτειρέσιν ἀκτίνεσσιν·
ὣς δὲ τότ’ ἐν μήνιγξιν ἐεργμένον ὠγύγιον πῦρ
[438a] λεπτῇσιν τ’ ὀθόνῃσι λοχεύσατο κύκλοπα κούρην·
‹αἳ› χοάνῃσι δίαντα τετρήατο θεσπεσίῃσιν·
αἱ δ’ ὕδατος μὲν βένθος ἀπέστεγον ἀμφιναέντος,
πῦρ δ’ ἔξω διίεσκον, ὅσον ταναώτερον ἦεν.

ὁτὲ μὲν οὖν οὕτως ὁρᾶν φησίν, ὁτὲ δὲ ταῖς ἀπορροίαις ταῖς ἀπὸ τῶν ὁρωμένων.

Δημόκριτος δ’ ὅτι μὲν ὕδωρ εἶναί φησι, λέγει καλῶς, ὅτι δ’ οἴεται τὸ ὁρᾶν εἶναι τὴν ἔμφασιν, οὐ καλῶς· τοῦτο μὲν γὰρ συμβαίνει ὅτι τὸ ὄμμα λεῖον, καὶ ἔστιν οὐκ ἐν ἐκείνῳ ἀλλ’ ἐν τῷ ὁρῶντι· ἀνάκλασις γὰρ τὸ πάθος, ἀλλὰ καθόλου περὶ τῶν ἐμφαινομένων καὶ ἀνακλάσεως οὐδέν πω δῆλον ἦν, ὡς ἔοικεν. ἄτοπον δὲ καὶ τὸ μὴ ἐπελθεῖν αὐτῷ ἀπορῆσαι διὰ τί ὁ ὀφθαλμὸς ὁρᾷ μόνον, τῶν δ’ ἄλλων οὐδὲν ἐν οἷς ἐμφαίνεται τὰ εἴδωλα. τὸ μὲν οὖν τὴν ὄψιν εἶναι ὕδατος ἀληθὲς μέν, οὐ μέντοι συμβαίνει τὸ ὁρᾶν ᾗ ὕδωρ ἀλλ’ ᾗ διαφανές· ὃ καὶ ἐπὶ τοῦ ἀέρος κοινόν ἐστιν. ἀλλ' εὐφυλακτότερον καὶ εὐπιλητότερον τὸ ὕδωρ τοῦ ἀέρος· διόπερ ἡ κόρη καὶ τὸ ὄμμα ὕδατός ἐστιν. τοῦτο δὲ καὶ ἐπ' αὐτῶν τῶν ἔργων δῆλον· φαίνεται γὰρ ὕδωρ τὸ ἐκρέον διαφθειρομένων, καὶ ἔν γε τοῖς πάμπαν ἐμβρύοις τῇ ψυχρότητι ὑπερβάλλον καὶ τῇ λαμπρότητι, καὶ τὸ λευκὸν τοῦ ὄμματος ἐν τοῖς ἔχουσιν αἷμα πῖον καὶ λιπαρόν· ὅπερ διὰ τοῦτ' ἐστί, πρὸς τὸ διαμένειν τὸ ὑγρὸν ἄπηκτον, καὶ διὰ τοῦτο τοῦ σώματος ἀρριγότατον ὁ ὀφθαλμός ἐστιν· οὐδεὶς γάρ πω τὸ ἐντὸς τῶν βλεφάρων ἐρρίγωσεν. τῶν δ' ἀναίμων σκληρόδερμοι οἱ ὀφθαλμοί εἰσι, καὶ τοῦτο ποιεῖ τὴν σκέπην. ἄλογον δὲ ὅλως τὸ ἐξιόντι τινὶ τὴν ὄψιν ὁρᾶν, καὶ ἀποτείνεσθαι μέχρι τῶν ἄστρων, ἢ μέχρι τινὸς ἐξιοῦσαν συμφύεσθαι, καθάπερ λέγουσί τινες. τούτου μὲν γὰρ βέλτιον τὸ ἐν ‹τῇ› ἀρχῇ συμφύεσθαι τοῦ ὄμματος. ἀλλὰ καὶ τοῦτο εὔηθες· τό τε γὰρ συμφύεσθαι τί ἐστι φωτὶ πρὸς φῶς, ἢ πῶς οἷόν θ' ὑπάρχειν (οὐ γὰρ τῷ τυχόντι [438b] συμφύεται τὸ τυχόν), τό τ' ἐντὸς τῷ ἐκτὸς πῶς; ἡ γὰρ μῆνιγξ μεταξύ ἐστιν.

περὶ μὲν οὖν τοῦ ἄνευ φωτὸς μὴ ὁρᾶν εἴρηται ἐν ἄλλοις· ἀλλ' εἴτε φῶς εἴτ' ἀήρ ἐστι τὸ μεταξὺ τοῦ ὁρωμένου καὶ τοῦ ὄμματος, ἡ διὰ τούτου κίνησίς ἐστιν ἡ ποιοῦσα τὸ ὁρᾶν. καὶ εὐλόγως τὸ ἐντός ἐστιν ὕδατος· διαφανὲς γὰρ τὸ ὕδωρ, ὁρᾶται δὲ ὥσπερ καὶ ἔξω οὐκ ἄνευ φωτός, οὕτως καὶ ἐντός· διαφανὲς ἄρα δεῖ εἶναι· ἀνάγκη ἄρα ὕδωρ εἶναι, ἐπειδὴ οὐκ ἀήρ. οὐ γὰρ ἐπὶ ἐσχάτου τοῦ ὄμματος ἡ ψυχὴ ἢ τῆς ψυχῆς τὸ αἰσθητικόν ἐστιν, ἀλλὰ δῆλον ὅτι ἐντός· διόπερ ἀνάγκη διαφανὲς εἶναι καὶ δεκτικὸν φωτὸς τὸ ἐντὸς τοῦ ὄμματος. καὶ τοῦτο καὶ ἐπὶ τῶν συμβαινόντων δῆλον· ἤδη γάρ τισι πληγεῖσιν ἐν πολέμῳ παρὰ τὸν κρόταφον οὕτως ὥστ' ἀποτμηθῆναι τοὺς πόρους τοῦ ὄμματος ἔδοξε γενέσθαι σκότος ὥσπερ λύχνου ἀποσβεσθέντος, διὰ τὸ οἷον λαμπτῆρά τινα ἀποτμηθῆναι τὸ διαφανές, τὴν καλουμένην κόρην. ὥστ' εἴπερ ἐπὶ τούτων συμβαίνει καθάπερ λέγομεν, φανερὸν ὡς εἰ δεῖ τοῦτον τὸν τρόπον ἀποδιδόναι καὶ προσάπτειν ἕκαστον τῶν αἰσθητηρίων ἑνὶ τῶν στοιχείων, τοῦ μὲν ὄμματος τὸ ὁρατικὸν ὕδατος ὑποληπτέον, ἀέρος δὲ τὸ τῶν ψόφων αἰσθητικόν, πυρὸς δὲ τὴν ὄσφρησιν (ὃ γὰρ ἐνεργείᾳ ἡ ὄσφρησις, τοῦτο δυνάμει τὸ ὀσφραντικόν· τὸ γὰρ αἰσθητὸν ἐνεργεῖν ποιεῖ τὴν αἴσθησιν, ὥσθ' ὑπάρχειν ἀναγκαῖον αὐτὴν δυνάμει πρότερον. ἡ δ' ὀσμὴ καπνώδης τίς ἐστιν ἀναθυμίασις, ἡ δ' ἀναθυμίασις ἡ καπνώδης ἐκ πυρός. διὸ καὶ τῷ περὶ τὸν ἐγκέφαλον τόπῳ τὸ τῆς ὀσφρήσεως αἰσθητήριόν ἐστιν ἴδιον· δυνάμει γὰρ θερμὴ ἡ τοῦ ψυχροῦ ὕλη ἐστίν. καὶ ἡ τοῦ ὄμματος γένεσις τὸν αὐτὸν ἔχει τρόπον· ἀπὸ τοῦ ἐγκεφάλου γὰρ συνέστηκεν· οὗτος γὰρ ὑγρότατος καὶ ψυχρότατος τῶν ἐν τῷ σώματι μορίων ἐστίν). τὸ δ' ἁπτικὸν γῆς, τὸ δὲ γευστικὸν [439a] εἶδός τι ἁφῆς ἐστίν. καὶ διὰ τοῦτο πρὸς τῇ καρδίᾳ τὸ αἰσθητήριον αὐτῶν, τῆς γεύσεως καὶ τῆς ἁφῆς· ἀντίκειται γὰρ τῷ ἐγκεφάλῳ αὕτη, καὶ ἔστι θερμότατον τῶν μορίων. καὶ περὶ μὲν τῶν αἰσθητικῶν τοῦ σώματος μορίων ἔστω τοῦτον τὸν τρόπον διωρισμένα.

Περὶ δὲ τῶν αἰσθητῶν τῶν καθ’ ἕκαστον αἰσθητήριον, οἷον λέγω χρώματος καὶ ψόφου καὶ ὀσμῆς καὶ χυμοῦ καὶ ἁφῆς, καθόλου μὲν εἴρηται ἐν τοῖς περὶ ψυχῆς, τί τὸ ἔργον αὐτῶν καὶ τί τὸ ἐνεργεῖν καθ’ ἕκαστον τῶν αἰσθητηρίων. τί δέ ποτε δεῖ λέγειν ὁτιοῦν αὐτῶν, οἷον τί χρῶμα ἢ τί ψόφον ἢ τί ὀσμὴν ἢ χυμόν, ὁμοίως δὲ καὶ περὶ ἁφῆς, ἐπισκεπτέον, καὶ πρῶτον περὶ χρώματος. ἔστι μὲν οὖν ἕκαστον διχῶς λεγόμενον, τὸ μὲν ἐνεργείᾳ τὸ δὲ δυνάμει. τὸ μὲν οὖν ἐνεργείᾳ χρῶμα καὶ ψόφος πῶς ἐστὶ τὸ αὐτὸ ἢ ἕτερον ταῖς κατ’ ἐνέργειαν αἰσθήσεσιν, οἷον ὁράσει καὶ ἀκούσει, εἴρηται ἐν τοῖς περὶ ψυχῆς· τί δὲ ἕκαστον αὐτῶν ὂν ποιήσει τὴν αἴσθησιν καὶ τὴν ἐνέργειαν, νῦν λέγωμεν. ὥσπερ οὖν εἴρηται περὶ φωτὸς ἐν ἐκείνοις, ὅτι ἐστὶ χρῶμα τοῦ διαφανοῦς κατὰ συμβεβηκός - ὅταν γὰρ ᾖ τι πυρῶδες ἐν διαφανεῖ, ἡ μὲν παρουσία φῶς, ἡ δὲ στέρησίς ἐστι σκότος· ὃ δὲ λέγομεν διαφανὲς οὐκ ἔστιν ἴδιον ἀέρος ἢ ὕδατος οὐδ’ ἄλλου τῶν οὕτω λεγομένων σωμάτων, ἀλλά τίς ἐστι κοινὴ φύσις καὶ δύναμις, ἣ χωριστὴ μὲν οὐκ ἔστιν, ἐν τούτοις δ’ ἔστι, καὶ τοῖς ἄλλοις σώμασιν ἐνυπάρχει, τοῖς μὲν μᾶλλον τοῖς δ’ ἧττον· ὥσπερ οὖν καὶ τῶν σωμάτων ἀνάγκη τι εἶναι ἔσχατον, καὶ ταύτης - ἡ μὲν οὖν τοῦ φωτὸς φύσις ἐν ἀορίστῳ τῷ διαφανεῖ ἐστίν· τοῦ δ’ ἐν τοῖς σώμασι διαφανοῦς τὸ ἔσχατον ὅτι μὲν εἴη ἄν τι, δῆλον, ὅτι δὲ τοῦτ’ ἐστὶ τὸ χρῶμα, ἐκ τῶν συμβαινόντων φανερόν. τὸ γὰρ χρῶμα ἢ ἐν τῷ πέρατί ἐστιν ἢ πέρας (διὸ καὶ οἱ Πυθαγόρειοι τὴν ἐπιφάνειαν χρόαν ἐκάλουν)· ἔστι μὲν γὰρ ἐν τῷ τοῦ σώματος πέρατι, ἀλλ’ οὐ τὸ τοῦ σώματος πέρας, ἀλλὰ τὴν αὐτὴν φύσιν δεῖ νομίζειν ἥπερ καὶ ἔξω [439b] χρωματίζεται, ταύτην καὶ ἐντός.

φαίνεται δὲ καὶ ἀὴρ καὶ ὕδωρ χρωματιζόμενα· καὶ γὰρ ἡ αὐγὴ τοιοῦτόν ἐστιν. ἀλλ’ ἐκεῖ μὲν διὰ τὸ ἐν ἀορίστῳ οὐ τὴν αὐτὴν ἐγγύθεν καὶ προσιοῦσι καὶ πόρρωθεν ἔχει χρόαν οὔθ’ ὁ ἀὴρ οὔθ’ ἡ θάλαττα· ἐν δὲ τοῖς σώμασιν, ἐὰν μὴ τὸ περιέχον ποιῇ μεταβάλλειν, ὥρισται καὶ ἡ φαντασία τῆς χρόας. δῆλον ἄρα ὅτι τὸ αὐτὸ κἀκεῖ κἀνθάδε δεκτικὸν τῆς χρόας ἐστίν. τὸ ἄρα διαφανὲς καθ’ ὅσον ὑπάρχει ἐν τοῖς σώμασιν (ὑπάρχει δὲ μᾶλλον καὶ ἧττον ἐν πᾶσι) χρώματος ποιεῖ μετέχειν. ἐπεὶ δ’ ἐν πέρατι ἡ χρόα, τούτου ἂν ἐν πέρατι εἴη. ὥστε χρῶμα ἂν εἴη τὸ τοῦ διαφανοῦς ἐν σώματι ὡρισμένῳ πέρας. καὶ αὐτῶν δὲ τῶν διαφανῶν, οἷον ὕδατος καὶ εἴ τι ἄλλο τοιοῦτον, καὶ ὅσοις φαίνεται χρῶμα ἴδιον ὑπάρχειν, κατὰ τὸ ἔσχατον ὁμοίως πᾶσιν ὑπάρχει. ἔστι μὲν οὖν ἐνεῖναι ἐν τῷ διαφανεῖ τοῦθ’ ὅπερ καὶ ἐν τῷ ἀέρι ποιεῖ φῶς, ἔστι δὲ μή, ἀλλ’ ἐστερῆσθαι. ὥσπερ οὖν ἐκεῖ τὸ μὲν φῶς τὸ δὲ σκότος, οὕτως ἐν τοῖς σώμασιν ἐγγίγνεται τὸ λευκὸν καὶ τὸ μέλαν. περὶ δὲ τῶν ἄλλων χρωμάτων ἤδη, διελομένοις ποσαχῶς ἐνδέχεται γίγνεσθαι, λεκτέον. ἐνδέχεται μὲν γὰρ παρ’ ἄλληλα τιθέμενα τὸ λευκὸν καὶ τὸ μέλαν, ὥσθ’ ἑκάτερον μὲν εἶναι ἀόρατον διὰ σμικρότητα, τὸ δ’ ἐξ ἀμφοῖν ὁρατόν, οὕτω γίγνεσθαι. τοῦτο γὰρ οὔτε λευκὸν οἷόν τε φαίνεσθαι οὔτε μέλαν· ἐπεὶ δ’ ἀνάγκη μέν τι ἔχειν χρῶμα, τούτων δ’ οὐδέτερον δυνατόν, ἀνάγκη μεικτόν τι εἶναι καὶ εἶδός τι χρόας ἕτερον. ἔστι μὲν οὖν οὕτως ὑπολαβεῖν πλείους εἶναι χρόας παρὰ τὸ λευκὸν καὶ τὸ μέλαν, πολλὰς δὲ τῷ λόγῳ (τρία γὰρ πρὸς δύο, καὶ τρία πρὸς τέτταρα, καὶ κατ’ ἄλλους ἀριθμοὺς ἔστι παρ’ ἄλληλα κεῖσθαι· τὰ δ’ ὅλως κατὰ μὲν λόγον μηδένα, καθ’ ὑπεροχὴν δέ τινα καὶ ἔλλειψιν ἀσύμμετρον), καὶ τὸν αὐτὸν δὴ τρόπον ἔχειν ταῦτα ταῖς συμφωνίαις· τὰ μὲν γὰρ ἐν ἀριθμοῖς εὐλογίστοις χρώματα, καθάπερ ἐκεῖ τὰς συμφωνίας, τὰ ἥδιστα τῶν χρωμάτων εἶναι δοκοῦντα, οἷον [440a] τὸ ἁλουργὸν καὶ τὸ φοινικοῦν καὶ ὀλίγ’ ἄττα τοιαῦτα (δι’ ἥνπερ αἰτίαν καὶ αἱ συμφωνίαι ὀλίγαι), τὰ δὲ μὴ ἐν ἀριθμοῖς τἆλλα χρώματα· ἢ καὶ πάσας τὰς χρόας ἐν ἀριθμοῖς εἶναι, τὰς μὲν τεταγμένας τὰς δὲ ἀτάκτους, καὶ αὐτὰς ταύτας, ὅταν μὴ καθαραὶ ὦσι, διὰ τὸ μὴ ἐν ἀριθμοῖς εἶναι τοιαύτας γίγνεσθαι.

εἷς μὲν οὖν τρόπος τῆς γενέσεως τῶν χρωμάτων οὗτος, εἷς δὲ τὸ φαίνεσθαι δι’ ἀλλήλων, οἷον ἐνίοτε οἱ γραφεῖς ποιοῦσιν, ἑτέραν χρόαν ἐφ’ ἑτέραν ἐναργεστέραν ἐπαλείφοντες, ὥσπερ ὅταν ἐν ὕδατί τι ἢ ἐν ἀέρι βούλωνται ποιῆσαι φαινόμενον, καὶ οἷον ὁ ἥλιος καθ’ αὑτὸν μὲν λευκὸς φαίνεται, διὰ δ’ ἀχλύος καὶ καπνοῦ φοινικοῦς. πολλαὶ δὲ καὶ οὕτως ἔσονται χρόαι τὸν αὐτὸν τρόπον τῷ πρότερον εἰρημένῳ· λόγος γὰρ ἂν εἴη τις τῶν ἐπιπολῆς πρὸς τὰ ἐν βάθει, τὰ δὲ καὶ ὅλως οὐκ ἐν λόγῳ. τὸ μὲν οὖν, ὥσπερ οἱ ἀρχαῖοι, λέγειν ἀπόρροιαν εἶναι τὴν χρόαν καὶ ὁρᾶσθαι διὰ τοιαύτην αἰτίαν ἄτοπον· πάντως γὰρ δι’ ἀφῆς ἀναγκαῖον αὐτοῖς ποιεῖν τὴν αἴσθησιν, ὥστ’ εὐθὺς κρεῖττον φάναι τῷ κινεῖσθαι τὸ μεταξὺ τῆς αἰσθήσεως ὑπὸ τοῦ αἰσθητοῦ γίγνεσθαι τὴν αἴσθησιν, ἁφῇ καὶ μὴ ταῖς ἀπορροίαις. ἐπὶ μὲν οὖν τῶν παρ’ ἄλληλα κειμένων ἀνάγκη ὥσπερ καὶ μέγεθος λαμβάνειν ἀόρατον, οὕτω καὶ χρόνον ἀναίσθητον, ἵνα λανθάνωσιν αἱ κινήσεις ἀφικνούμεναι καὶ ἓν δοκῇ εἶναι διὰ τὸ ἅμα φαίνεσθαι· ἐνταῦθα δὲ οὐδεμία ἀνάγκη, ἀλλὰ τὸ ἐπιπολῆς χρῶμα ἀκίνητον ὂν καὶ κινούμενον ὑπὸ τοῦ ὑποκειμένου οὐχ ὁμοίαν ποιήσει τὴν κίνησιν. διὸ καὶ ἕτερον φαίνεται καὶ οὔτε λευκὸν οὔτε μέλαν. ὥστ’ εἰ μὴ ἐνδέχεται μηδὲν εἶναι μέγεθος ἀόρατον, ἀλλὰ πᾶν ἔκ τινος ἀποστήματος ὁρατόν, καίτοι αὕτη τις ἂν εἴη χρωμάτων μίξις. κἀκείνως δ’ οὐδὲν κωλύει φαίνεσθαί τινα χρόαν κοινὴν τοῖς πόρρωθεν· ὅτι γὰρ οὐκ ἔστιν οὐδὲν μέγεθος ἀόρατον, ἐν τοῖς ὕστερον ἐπισκεπτέον.

εἰ δ’ ἔστι μίξις τῶν σωμάτων [440b] μὴ μόνον τὸν τρόπον τοῦτον ὅνπερ οἴονταί τινες, παρ’ ἄλληλα τῶν ἐλαχίστων τιθεμένων, ἀδήλων δ’ ἡμῖν διὰ τὴν αἴσθησιν, ἀλλ’ ὅλως πάντη πάντως, ὥσπερ ἐν τοῖς περὶ μίξεως εἴρηται καθόλου περὶ πάντων (ἐκείνως μὲν γὰρ μείγνυται ταῦτα μόνον ὅσα ἐνδέχεται διελεῖν εἰς τὰ ἐλάχιστα, καθάπερ ἀνθρώπους ‹ἢ› ἵππους ἢ τὰ σπέρματα· τῶν μὲν γὰρ ἀνθρώπων ἄνθρωπος ἐλάχιστον, τῶν δ’ ἵππων ἵππος· ὥστε τῇ τούτων παρ’ ἄλληλα θέσει τὸ πλῆθος μέμεικται τῶν συναμφοτέρων· ἄνθρωπον δὲ ἕνα ἑνὶ ἵππῳ οὐ λέγομεν μεμεῖχθαι· ὅσα δὲ μὴ διαιρεῖται εἰς τὸ ἐλάχιστον, τούτων οὐκ ἐνδέχεται μίξιν γενέσθαι τὸν τρόπον τοῦτον ἀλλὰ τῷ πάντη μεμεῖχθαι, ἅπερ καὶ μάλιστα μείγνυσθαι πέφυκεν· πῶς δὲ τοῦτο γίγνεσθαι δυνατόν, ἐν τοῖς περὶ μίξεως εἴρηται πρότερον) - ἀλλ’ ὅτι ἀνάγκη μειγνυμένων καὶ τὰς χρόας μείγνυσθαι, δῆλον, καὶ ταύτην τὴν αἰτίαν εἶναι κυρίαν τοῦ πολλὰς εἶναι χρόας, ἀλλὰ μὴ τὴν ἐπιπόλασιν μηδὲ τὴν παρ’ ἄλληλα θέσιν· οὐ γὰρ πόρρωθεν μὲν ἐγγύθεν δ’ οὒ φαίνεται μία χρόα τῶν μεμειγμένων, ἀλλὰ πάντοθεν. πολλαὶ δ’ ἔσονται χρόαι διὰ τὸ κατὰ πολλοὺς λόγους ἐνδέχεσθαι μείγνυσθαι ἀλλήλοις τὰ μειγνύμενα, καὶ τὰ μὲν ἐν ἀριθμοῖς τὰ δὲ καθ’ ὑπεροχὴν μόνον. καὶ τἆλλα δὴ τὸν αὐτὸν τρόπον ὅνπερ ἐπὶ τῶν παρ’ ἄλληλα τιθεμένων χρωμάτων ἢ ἐπιπολῆς, ἐνδέχεται λέγειν καὶ περὶ τῶν μειγνυμένων. διὰ τίνα δ’ αἰτίαν εἴδη τῶν χρωμάτων ἐστὶν ὡρισμένα καὶ οὐκ ἄπειρα, καὶ χυμῶν καὶ ψόφων, ὕστερον ἐπισκεπτέον.

Τί μὲν οὖν ἐστὶ χρῶμα καὶ διὰ τίν’ αἰτίαν πολλαὶ χρόαι εἰσίν, εἴρηται· [περὶ δὲ ψόφου καὶ φωνῆς εἴρηται πρότερον ἐν τοῖς περὶ ψυχῆς·] περὶ δὲ ὀσμῆς καὶ χυμοῦ λεκτέον. σχεδὸν γάρ ἐστι τὸ αὐτὸ πάθος, οὐκ ἐν τοῖς αὐτοῖς δ’ ἐστὶν ἑκάτερον αὐτῶν. ἐναργέστερον δ’ ἡμῖν ἐστι τὸ τῶν χυμῶν γένος ἢ τὸ τῆς ὀσμῆς. τούτου δ’ αἴτιον ὅτι χειρίστην [441a] ἔχομεν τῶν ἄλλων ζῴων τὴν ὄσφρησιν καὶ τῶν ἐν ἡμῖν αὐτοῖς αἰσθήσεων, τὴν δ’ ἁφὴν ἀκριβεστάτην τῶν ἄλλων ζῴων· ἡ δὲ γεῦσις ἁφή τίς ἐστιν.

ἡ μὲν οὖν τοῦ ὕδατος φύσις βούλεται ἄχυμος εἶναι· ἀνάγκη δ’ ἢ ἐν αὑτῷ τὸ ὕδωρ ἔχειν τὰ γένη τῶν χυμῶν ἀναίσθητα διὰ μικρότητα, καθάπερ Ἐμπεδοκλῆς φησίν, ἢ ὕλην τοιαύτην εἶναι οἷον πανσπερμίαν χυμῶν, καὶ ἅπαντα μὲν ἐξ ὕδατος γίγνεσθαι, ἄλλο δ’ ἐξ ἄλλου μέρους, ἢ μηδεμίαν ἔχοντος διαφορὰν τοῦ ὕδατος τὸ ποιοῦν αἴτιον εἶναι, οἷον εἰ τὸ θερμὸν καὶ τὸν ἥλιον φαίη τις. τούτων δ’ ὡς μὲν Ἐμπεδοκλῆς λέγει λίαν εὐσύνοπτον τὸ ψεῦδος· ὁρῶμεν γὰρ μεταβάλλοντας ὑπὸ τοῦ θερμοῦ τοὺς χυμοὺς ἀφαιρουμένων τῶν περικαρπίων [εἰς τὸν ἥλιον] καὶ πυρουμένων, ὡς οὐ τῷ ἐκ τοῦ ὕδατος ἕλκειν τοιούτους γιγνομένους, ἀλλ' ἐν αὐτῷ τῷ περικαρπίῳ μεταβάλλοντας, καὶ ἐξικμαζομένους δὲ καὶ κειμένους διὰ τὸν χρόνον αὐστηροὺς ἐκ γλυκέων καὶ πικροὺς καὶ παντοδαποὺς γιγνομένους, καὶ ἑψομένους εἰς πάντα τὰ γένη τῶν χυμῶν ὡς εἰπεῖν μεταβάλλοντας. ὁμοίως δὲ καὶ τὸ πανσπερμίας εἶναι τὸ ὕδωρ ὕλην ἀδύνατον· ἐκ τοῦ αὐτοῦ γὰρ ὁρῶμεν ὡς [ἐκ τῆς αὐτῆς] τροφῆς γιγνομένους ἑτέρους χυμούς.

λείπεται δὴ τῷ πάσχειν τι τὸ ὕδωρ μεταβάλλειν. ὅτι μὲν τοίνυν οὐχ ὑπὸ τῆς τοῦ θερμοῦ μόνον δυνάμεως λαμβάνει ταύτην τὴν δύναμιν ἣν καλοῦμεν χυμόν, φανερόν. λεπτότατον γὰρ πάντων τῶν οὕτως ὑγρῶν τὸ ὕδωρ ἐστί, καὶ αὐτοῦ τοῦ ἐλαίου (ἀλλ' ἐπεκτείνεται ἐπὶ πλέον τοῦ ὕδατος τὸ ἔλαιον διὰ τὴν γλισχρότητα· τὸ δ' ὕδωρ ψαθυρόν ἐστι, διὸ καὶ χαλεπώτερον φυλάξαι ἐν τῇ χειρὶ τὸ ὕδωρ ἤπερ ἔλαιον), ἐπεὶ δὲ θερμαινόμενον οὐδὲν φαίνεται παχυνόμενον τὸ ὕδωρ αὐτὸ μόνον, δῆλον ὅτι ἑτέρα τις ἂν εἴη αἰτία· οἱ γὰρ χυμοὶ πάντες πάχος ἔχουσι μᾶλλον· τὸ δὲ θερμὸν συναίτιον. φαίνονται δ' οἱ χυμοὶ ὅσοιπερ καὶ ἐν τοῖς περικαρπίοις, [441b] οὗτοι ὑπάρχοντες καὶ ἐν τῇ γῇ. διὸ καὶ πολλοί φασι τῶν ἀρχαίων φυσιολόγων τοιοῦτον εἶναι τὸ ὕδωρ δι' οἵας ἂν γῆς πορεύηται. καὶ τοῦτο δῆλόν ἐστιν ἐπὶ τῶν ἁλμυρῶν ὑδάτων μάλιστα· οἱ γὰρ ἅλες γῆς τι εἶδός εἰσιν. καὶ τὰ διὰ τῆς τέφρας διηθούμενα πικρᾶς οὔσης πικρὸν ποιεῖ τὸν χυμόν, εἰσί τε κρῆναι πολλαὶ αἱ μὲν πικραί, αἱ δ' ὀξεῖαι, αἱ δὲ παντοδαποὺς ἔχουσαι χυμοὺς ἄλλους. εὐλόγως δ' ἐν τοῖς φυομένοις τὸ τῶν χυμῶν γίγνεται γένος μάλιστα. πάσχειν γὰρ πέφυκε τὸ ὑγρόν, ὥσπερ καὶ τἆλλα, ὑπὸ τοῦ ἐναντίου· ἐναντίον δὲ τὸ ξηρόν. διὸ καὶ ὑπὸ τοῦ πυρὸς πάσχει τι· ξηρὰ γὰρ ἡ τοῦ πυρὸς φύσις. ἀλλ' ἴδιον τοῦ πυρὸς τὸ θερμόν ἐστι, γῆς δὲ τὸ ξηρόν, ὥσπερ εἴρηται ἐν τοῖς περὶ στοιχείων. ᾗ μὲν οὖν πῦρ καὶ ᾗ γῆ, οὐδὲν πέφυκε ποιεῖν καὶ πάσχειν, οὐδ' ἄλλο οὐδέν· ᾗ δ' ὑπάρχει ἐναντιότης ἐν ἑκάστῳ, ταύτῃ πάντα καὶ ποιοῦσι καὶ πάσχουσιν.

ὥσπερ οὖν οἱ ἐναποπλύνοντες ἐν τῷ ὑγρῷ τὰ χρώματα καὶ τοὺς χυμοὺς τοιοῦτον ἔχειν ποιοῦσι τὸ ὕδωρ, οὕτως καὶ ἡ φύσις τὸ ξηρὸν καὶ γεῶδες, καὶ διὰ τοῦ ξηροῦ καὶ γεώδους διηθοῦσα καὶ κινοῦσα τῷ θερμῷ ποιόν τι τὸ ὑγρὸν παρασκευάζει. καὶ ἔστι τοῦτο χυμός, τὸ γιγνόμενον ὑπὸ τοῦ εἰρημένου ξηροῦ πάθος ἐν τῷ ὑγρῷ, τῆς γεύσεως τῆς κατὰ δύναμιν ἀλλοιωτικὸν ‹ὂν› εἰς ἐνέργειαν· ἄγει γὰρ τὸ αἰσθητικὸν εἰς τοῦτο δυνάμει προϋπάρχον· οὐ γὰρ κατὰ τὸ μανθάνειν ἀλλὰ κατὰ τὸ θεωρεῖν ἐστι τὸ αἰσθάνεσθαι. ὅτι δ' οὐ παντὸς ξηροῦ ἀλλὰ τοῦ τροφίμου οἱ χυμοὶ ἢ πάθος εἰσὶν ἢ στέρησις, δεῖ λαβεῖν ἐντεῦθεν, ὅτι οὔτε τὸ ξηρὸν ἄνευ τοῦ ὑγροῦ οὔτε τὸ ὑγρὸν ἄνευ τοῦ ξηροῦ· τροφὴ γὰρ οὐχ ἓν μόνον τοῖς ζῴοις, ἀλλὰ τὸ μεμειγμένον. καὶ ἔστι τῆς προσφερομένης τροφῆς τοῖς ζῴοις τὰ μὲν ἁπτὰ τῶν αἰσθητῶν αὔξησιν ποιοῦντα καὶ φθίσιν· τούτων μὲν γὰρ αἴτιον ᾗ θερμὸν καὶ ψυχρὸν τὸ προσφερόμενον (ταῦτα γὰρ ποιεῖ καὶ αὔξησιν [442a] καὶ φθίσιν), τρέφει δὲ ᾗ γευστὸν τὸ προσφερόμενον (πάντα γὰρ τρέφεται τῷ γλυκεῖ, ἢ ἁπλῶς ἢ μεμειγμένῳ). δεῖ μὲν οὖν διορίζειν περὶ τούτων ἐν τοῖς περὶ γενέσεως, νῦν δ' ὅσον ἀναγκαῖον ἅψασθαι αὐτῶν. τὸ γὰρ θερμὸν αὐξάνει, καὶ δημιουργεῖ τὴν τροφήν, καὶ τὸ κοῦφον ἕλκει, τὸ δ' ἁλμυρὸν καὶ πικρὸν καταλείπει διὰ τὸ βάρος. ὃ δὴ ἐν τοῖς ἔξω σώμασι ποιεῖ τὸ ἔξω θερμόν, τοῦτο τὸ ἐν τῇ φύσει τῶν ζῴων καὶ φυτῶν· διὸ τρέφεται τῷ γλυκεῖ. συμμείγνυνται δ' οἱ ἄλλοι χυμοὶ εἰς τὴν τροφὴν τὸν αὐτὸν τρόπον τῷ ἁλμυρῷ καὶ ὀξεῖ, ἀντὶ ἡδύσματος, ταῦτα δὲ διὰ τὸ ἀντισπᾶν τῷ λίαν τρόφιμον εἶναι τὸ γλυκὺ καὶ ἐπιπολαστικόν.

ὥσπερ δὲ τὰ χρώματα ἐκ λευκοῦ καὶ μέλανος μίξεώς ἐστιν, οὕτως οἱ χυμοὶ ἐκ γλυκέος καὶ πικροῦ, καὶ κατὰ λόγον δ' ἢ τῷ μᾶλλον καὶ ἧττον ἕκαστοί εἰσιν, εἴτε κατ' ἀριθμούς τινας τῆς μίξεως καὶ κινήσεως, εἴτε καὶ ἀορίστως, οἱ δὲ τὴν ἡδονὴν ποιοῦντες μειγνύμενοι, οὗτοι ἐν ἀριθμοῖς μόνον· ὁ μὲν οὖν λιπαρὸς τοῦ γλυκέος ἐστὶ χυμός, τὸ δ' ἁλμυρὸν καὶ πικρὸν σχεδὸν τὸ αὐτό, ὁ δὲ δριμὺς καὶ αὐστηρὸς καὶ στρυφνὸς καὶ ὀξὺς ἀνὰ μέσον. σχεδὸν γὰρ ἴσα καὶ τὰ τῶν χυμῶν εἴδη καὶ τὰ τῶν χρωμάτων ἐστίν· ἑπτὰ γὰρ ἀμφοτέρων εἴδη, ἄν τις τιθῇ, ὥσπερ εὔλογον, τὸ φαιὸν μέλαν τι εἶναι· λείπεται γὰρ τὸ ξανθὸν μὲν τοῦ λευκοῦ εἶναι ὥσπερ τὸ λιπαρὸν τοῦ γλυκέος, τὸ φοινικοῦν δὲ καὶ ἁλουργὸν καὶ πράσινον καὶ κυανοῦν μεταξὺ τοῦ λευκοῦ καὶ μέλανος, τὰ δ' ἄλλα μεικτὰ ἐκ τούτων. καὶ ὥσπερ τὸ μέλαν στέρησις ἐν τῷ διαφανεῖ τοῦ λευκοῦ, οὕτω τὸ ἁλμυρὸν καὶ τὸ πικρὸν τοῦ γλυκέος ἐν τῷ τροφίμῳ ὑγρῷ. διὸ καὶ ἡ τέφρα τῶν κατακαιομένων πικρὰ πάντων· ἐξίκμασται γὰρ τὸ πότιμον ἐξ αὐτῶν.

Δημόκριτος δὲ καὶ οἱ πλεῖστοι τῶν φυσιολόγων, ὅσοι λέγουσι περὶ αἰσθήσεως, ἀτοπώτατόν τι [442b] ποιοῦσιν· πάντα γὰρ τὰ αἰσθητὰ ἁπτὰ ποιοῦσιν. καίτοι εἰ τοῦτο οὕτως ἔχει, δῆλον ὡς καὶ τῶν ἄλλων αἰσθήσεων ἑκάστη ἁφή τίς ἐστιν· τοῦτο δ' ὅτι ἀδύνατον, οὐ χαλεπὸν συνιδεῖν. ἔτι δὲ τοῖς κοινοῖς τῶν αἰσθήσεων πασῶν χρῶνται ὡς ἰδίοις· μέγεθος γὰρ καὶ σχῆμα καὶ τὸ τραχὺ καὶ τὸ λεῖον, ἔτι δὲ τὸ ὀξὺ καὶ τὸ ἀμβλὺ τὸ ἐν τοῖς ὄγκοις, κοινὰ τῶν αἰσθήσεών ἐστιν, εἰ δὲ μὴ πασῶν, ἀλλ' ὄψεώς γε καὶ ἁφῆς. διὸ καὶ περὶ μὲν τούτων ἀπατῶνται, περὶ δὲ τῶν ἰδίων οὐκ ἀπατῶνται, οἷον ἡ ὄψις περὶ χρώματος καὶ ἡ ἀκοὴ περὶ ψόφων. οἱ δὲ τὰ ἴδια εἰς ταῦτα ἀνάγουσιν, ὥσπερ Δημόκριτος· τὸ γὰρ λευκὸν καὶ τὸ μέλαν τὸ μὲν τραχύ φησιν εἶναι τὸ δὲ λεῖον, εἰς δὲ τὰ σχήματα ἀνάγει τοὺς χυμούς. καίτοι ἢ οὐδεμιᾶς ἢ μᾶλλον τῆς ὄψεως τὰ κοινὰ γνωρίζειν. εἰ δ’ ἄρα τῆς γεύσεως μᾶλλον, τὰ γοῦν ἐλάχιστα τῆς ἀκριβεστάτης ἐστὶν αἰσθήσεως διακρίνειν περὶ ἕκαστον γένος, ὥστε ἐχρῆν τὴν γεῦσιν καὶ τῶν ἄλλων κοινῶν αἰσθάνεσθαι μάλιστα καὶ τῶν σχημάτων εἶναι κριτικωτάτην. ἔτι τὰ μὲν αἰσθητὰ πάντα ἔχει ἐναντίωσιν, οἷον ἐν χρώματι τῷ μέλανι τὸ λευκὸν καὶ ἐν χυμοῖς τῷ γλυκεῖ τὸ πικρόν· σχῆμα δὲ σχήματι οὐ δοκεῖ εἶναι ἐναντίον· τίνι γὰρ τῶν πολυγώνων τὸ περιφερὲς ἐναντίον; ἔτι ἀπείρων ὄντων τῶν σχημάτων ἀναγκαῖον καὶ τοὺς χυμοὺς εἶναι ἀπείρους· διὰ τί γὰρ ὁ μὲν τῶν χυμῶν αἴσθησιν ποιήσει, ὁ δ’ οὐκ ἂν ποιήσειεν; καὶ περὶ μὲν τοῦ γευστοῦ καὶ χυμοῦ εἴρηται· τὰ γὰρ ἄλλα πάθη τῶν χυμῶν οἰκείαν ἔχει τὴν σκέψιν ἐν τῇ φυσιολογίᾳ τῇ περὶ τῶν φυτῶν.

Τὸν αὐτὸν δὲ τρόπον δεῖ νοῆσαι καὶ περὶ τὰς ὀσμάς· ὅπερ γὰρ ποιεῖ ἐν τῷ ὑγρῷ τὸ ξηρόν, τοῦτο ποιεῖ ἐν ἄλλῳ γένει τὸ ἔγχυμον ὑγρόν, ἐν ἀέρι καὶ ὕδατι ὁμοίως. (κοινὸν δὲ κατὰ τούτων νῦν μὲν λέγομεν τὸ διαφανές, ἔστι δ’ ὀσφραντὸν [443a] οὐχ ᾗ διαφανές, ἀλλ’ ᾗ πλυτικὸν καὶ ῥυπτικὸν ἐγχύμου ξηρότητος.) οὐ γὰρ μόνον ἐν ἀέρι ἀλλὰ καὶ ἐν ὕδατι τὸ τῆς ὀσφρήσεώς ἐστιν. δῆλον δ’ ἐπὶ τῶν ἰχθύων καὶ τῶν ὀστρακοδέρμων· φαίνονται γὰρ ὀσφραινόμενα οὔτε ἀέρος ὄντος ἐν τῷ ὕδατι (ἐπιπολάζει γὰρ ὁ ἀήρ, ὅταν ἐγγένηται) οὔτ’ αὐτὰ ἀναπνέοντα. εἰ οὖν τις θείη καὶ τὸν ἀέρα καὶ τὸ ὕδωρ ἄμφω ὑγρά, εἴη ἂν ἡ ἐν ὑγρῷ τοῦ ἐγχύμου ξηροῦ φύσις ὀσμή, καὶ ὀσφραντὸν τὸ τοιοῦτον. ὅτι δ’ ἀπ’ ἐγχύμου ἐστὶ τὸ πάθος, δῆλον ἐκ τῶν ἐχόντων καὶ μὴ ἐχόντων ὀσμήν· τά τε γὰρ στοιχεῖα ἄοσμα, οἷον πῦρ ἀὴρ γῆ ὕδωρ, διὰ τὸ τά τε ξηρὰ αὐτῶν καὶ τὰ ὑγρὰ ἄχυμα εἶναι, ἂν μή τι μειγνύμενον ποιῇ. διὸ καὶ ἡ θάλαττα ἔχει ὀσμήν (ἔχει γὰρ χυμὸν καὶ ξηρότητα), καὶ ἅλες μᾶλλον νίτρου ὀσμώδεις (δηλοῖ δὲ τὸ ἐξικμαζόμενον ἐξ αὐτῶν ἔλαιον), τὸ δὲ νίτρον γῆς ἐστι μᾶλλον. ἔτι λίθος μὲν ἄοσμον, ἄχυμον γάρ, τὰ δὲ ξύλα ὀσμώδη, ἔγχυμα γάρ· καὶ τούτων τὰ ὑδατώδη ἧττον. ἔτι ἐπὶ τῶν μεταλλευομένων χρυσὸς ἄοσμον, ἄχυμον γάρ, ὁ δὲ χαλκὸς καὶ ὁ σίδηρος ὀσμώδη· ὅταν δ’ ἐκκαυθῇ τὸ ὑγρόν, ἀοσμότεραι αἱ σκωρίαι γίγνονται πάντων· ἄργυρος δὲ καὶ καττίτερος τῶν μὲν μᾶλλον ὀσμώδη τῶν δ’ ἧττον· ὑδατώδη γάρ.

δοκεῖ δ’ ἐνίοις ἡ καπνώδης ἀναθυμίασις εἶναι ὀσμή, οὖσα κοινὴ γῆς τε καὶ ἀέρος [καὶ πάντες ἐπιφέρονται ἐπὶ τουτο περὶ ὀσμῆς]· διὸ καὶ Ἡράκλειτος οὕτως εἴρηκεν, ὡς εἰ πάντα τὰ ὄντα καπνὸς γένοιτο, ῥῖνες ἂν διαγνοῖεν, ‹καὶ πάντες ἐπιφέρονται ἐπὶ τοῦτο περὶ ὀσμῆς›, οἱ μὲν ὡς ἀτμίδα, οἱ δ’ ὡς ἀναθυμίασιν, οἱ δ’ ὡς ἄμφω ταῦτα· ἔστι δ’ ἡ μὲν ἀτμὶς ὑγρότης τις, ἡ δὲ καπνώδης ἀναθυμίασις, ὥσπερ εἴρηται, κοινὸν ἀέρος καὶ γῆς· καὶ συνίσταται ἐκ μὲν ἐκείνης ὕδωρ, ἐκ δὲ ταύτης γῆς τι εἶδος. ἀλλ’ οὐδέτερον τούτων ἔοικεν· ἡ μὲν γὰρ ἀτμίς ἐστιν ὕδατος, ἡ δὲ καπνώδης ἀναθυμίασις ἀδύνατος ἐν ὕδατι γενέσθαι· ὀσμᾶται δὲ καὶ τὰ ἐν τῷ ὕδατι, [443b] ὥσπερ εἴρηται πρότερον. ἔτι ἡ ἀναθυμίασις ὁμοίως λέγεται ταῖς ἀπορροίαις· εἰ οὖν μηδ’ ἐκεῖναι καλῶς, οὐδ’ αὕτη καλῶς. ὅτι μὲν οὖν ἐνδέχεται ἀπολαύειν τὸ ὑγρόν, καὶ τὸ ἐν τῷ πνεύματι καὶ τὸ ἐν τῷ ὕδατι, καὶ πάσχειν τι ὑπὸ τῆς ἐγχύμου ξηρότητος, οὐκ ἄδηλον· καὶ γὰρ ὁ ἀὴρ ὑγρὸν τὴν φύσιν ἐστίν. ἔτι δ’ εἴπερ ὁμοίως ἐν τοῖς ὑγροῖς ποιεῖ καὶ ἐν τῷ ἀέρι οἷον ἀποπλυνόμενον τὸ ξηρόν, φανερὸν ὅτι δεῖ ἀνάλογον εἶναι τὰς ὀσμὰς τοῖς χυμοῖς. ἀλλὰ μὴν τοῦτό γε ἐπ’ ἐνίων συμβέβηκεν· καὶ γὰρ δριμεῖαι καὶ γλυκεῖαί εἰσιν ὀσμαὶ καὶ αὐστηραὶ καὶ στρυφναὶ καὶ λιπαραί, καὶ τοῖς πικροῖς τὰς σαπρὰς ἄν τις ἀνάλογον εἴποι· διὸ ὥσπερ ἐκεῖνα δυσκατάποτα, τὰ σαπρὰ δυσανάπνευστά ἐστιν. δῆλον ἄρα ὅτι ὅπερ ἐν τῷ ὕδατι ὁ χυμός, τοῦτ’ ἐν τῷ ἀέρι καὶ ὕδατι ἡ ὀσμή. καὶ διὰ τοῦτο τὸ ψυχρὸν καὶ ἡ πῆξις καὶ τοὺς χυμοὺς ἀμβλύνει καὶ τὰς ὀσμὰς ἀφανίζει· τὸ γὰρ θερμὸν τὸ κινοῦν καὶ δημιουργοῦν ἀφανίζουσιν ἡ ψύξις καὶ ἡ πῆξις.

εἴδη δὲ τοῦ ὀσφραντοῦ δύο ἐστίν· οὐ γάρ, ὥσπερ τινές φασιν, οὐκ ἔστιν εἴδη τοῦ ὀσφραντοῦ, ἀλλ’ ἔστιν. διοριστέον δὲ πῶς ἔστι καὶ πῶς οὐκ ἔστιν· τὸ μὲν γάρ ἐστι κατὰ τοὺς χυμοὺς τεταγμένον αὐτῶν, ὥσπερ εἴπομεν, καὶ τὸ ἡδὺ καὶ τὸ λυπηρὸν κατὰ συμβεβηκὸς ἔχουσιν (διὰ γὰρ τὸ τοῦ θρεπτικοῦ πάθη εἶναι, ἐπιθυμούντων μὲν ἡδεῖαι αἱ ὀσμαὶ τούτων εἰσί, πεπληρωμένοις δὲ καὶ μηδὲν δεομένοις οὐχ ἡδεῖαι, οὐδ’ ὅσοις μὴ καὶ ἡ τροφὴ ἡ ἔχουσα τὰς ὀσμὰς ἡδεῖα, οὐδὲ τούτοις) - ὥστε αὗται μέν, καθάπερ εἴπομεν, κατὰ συμβεβηκὸς ἔχουσι τὸ ἡδὺ καὶ λυπηρόν, διὸ καὶ πάντων εἰσὶ κοιναὶ τῶν ζῴων· αἱ δὲ καθ’ αὑτὰς ἡδεῖαι τῶν ὀσμῶν εἰσιν, οἷον αἱ τῶν ἀνθῶν· οὐδὲν γὰρ μᾶλλον οὐδ’ ἧττον πρὸς τὴν τροφὴν παρακαλοῦσιν, οὐδὲ συμβάλλονται πρὸς ἐπιθυμίαν οὐδέν, ἀλλὰ τοὐναντίον μᾶλλον· ἀληθὲς γὰρ ὅπερ Εὐριπίδην σκώπτων εἶπε Στράττις, “ὅταν φακῆν ἕψητε, μὴ ‘πιχεῖν μύρον.” οἱ δὲ νῦν μειγνύντες [444a] εἰς τὰ πόματα τὰς τοιαύτας δυνάμεις βιάζονται τῇ συνηθείᾳ τὴν ἡδονήν, ἕως ἂν ἐκ δύ’ αἰσθήσεων γένηται τὸ ἡδὺ ὡς ἂν καὶ ἀπὸ μιᾶς.

τοῦτο μὲν οὖν τὸ ὀσφραντὸν ἴδιον ἀνθρώπου ἐστίν, ἡ δὲ κατὰ τοὺς χυμοὺς τεταγμένη καὶ τῶν ἄλλων ζῴων, ὥσπερ εἴρηται πρότερον· κἀκείνων μέν, διὰ τὸ κατὰ συμβεβηκὸς ἔχειν τὸ ἡδύ, διῄρηται τὰ εἴδη κατὰ τοὺς χυμούς, ταύτης δ’ οὐκέτι, διὰ τὸ τὴν φύσιν αὐτῆς εἶναι καθ’ αὑτὴν ἡδεῖαν ἢ λυπηράν. αἴτιον δὲ τοῦ ἴδιον εἶναι ἀνθρώπου τὴν τοιαύτην ὀσμὴν διὰ τὴν ἕξιν τὴν περὶ τὸν ἐγκέφαλον. ψυχροῦ γὰρ ὄντος τὴν φύσιν τοῦ ἐγκεφάλου, καὶ τοῦ αἵματος τοῦ περὶ αὐτὸν ἐν τοῖς φλεβίοις ὄντος λεπτοῦ μὲν καὶ καθαροῦ, εὐψύκτου δέ (διὸ καὶ ἡ τῆς τροφῆς ἀναθυμίασις ψυχομένη διὰ τὸν τόπον τὰ νοσηματικὰ ῥεύματα ποιεῖ), τοῖς ἀνθρώποις πρὸς βοήθειαν ὑγιείας γέγονε τὸ τοιοῦτον εἶδος τῆς ὀσμῆς· οὐδὲν γὰρ ἄλλο ἔργον ἐστὶν αὐτῆς ἢ τοῦτο. τοῦτο δὲ ποιεῖ φανερῶς· ἡ μὲν γὰρ τροφὴ ἡδεῖα οὖσα, καὶ ἡ ξηρὰ καὶ ἡ ὑγρά, πολλάκις νοσώδης ἐστίν, ἡ δ’ ἀπὸ τῆς ὀσμῆς τῆς καθ’ αὑτὴν ἡδείας εὐωδία ὁπωσοῦν ἔχουσιν ὠφέλιμος ὡς εἰπεῖν αἰεί. καὶ διὰ τοῦτο γίγνεται διὰ τῆς ἀναπνοῆς, οὐ πᾶσιν ἀλλὰ τοῖς ἀνθρώποις καὶ τῶν ἐναίμων οἷον τοῖς τετράποσι καὶ ὅσα μετέχει μᾶλλον τῆς τοῦ ἀέρος φύσεως· ἀναφερομένων γὰρ τῶν ὀσμῶν πρὸς τὸν ἐγκέφαλον διὰ τὴν ἐν αὐταῖς τῆς θερμότητος κουφότητα ὑγιεινοτέρως ἔχει τὰ περὶ τὸν τόπον τοῦτον· ἡ γὰρ τῆς ὀσμῆς δύναμις θερμὴ τὴν φύσιν ἐστίν. κατακέχρηται δ’ ἡ φύσις τῇ ἀναπνοῇ ἐπὶ δύο, ὡς ἔργῳ μὲν ἐπὶ τὴν εἰς τὸν θώρακα βοήθειαν, ὡς παρέργῳ δ’ ἐπὶ τὴν ὀσμήν· ἀναπνέοντος γὰρ ὥσπερ ἐκ παρόδου ποιεῖται διὰ τῶν μυκτήρων τὴν κίνησιν.

ἴδιον δὲ τῆς τοῦ ἀνθρώπου φύσεώς ἐστι τὸ τῆς ὀσμῆς τῆς τοιαύτης γένος διὰ τὸ πλεῖστον ἐγκέφαλον καὶ ὑγρότατον ἔχειν τῶν ἄλλων ζῴων ὡς κατὰ μέγεθος· διὰ γὰρ τοῦτο καὶ μόνον ὡς εἰπεῖν αἰσθάνεται τῶν ζῴων ἄνθρωπος καὶ χαίρει ταῖς τῶν ἀνθῶν καὶ τῶν τοιούτων ὀσμαῖς· σύμμετρος γὰρ αὐτῶν [444b] ἡ θερμότης καὶ ἡ κίνησις πρὸς τὴν ὑπερβολὴν τῆς ἐν τῷ τόπῳ ὑγρότητος καὶ ψυχρότητός ἐστιν. τοῖς δ’ ἄλλοις ὅσα πνεύμονα ἔχει διὰ τοῦ ἀναπνεῖν τοῦ ἑτέρου γένους τῆς ὀσμῆς τὴν αἴσθησιν ἀποδέδωκεν ἡ φύσις, ὅπως μὴ δύο αἰσθητήρια ποιῇ· ἀπόχρη γάρ, ἐπείπερ καὶ ὣς ἀναπνέουσιν, ὥσπερ τοῖς ἀνθρώποις ἀμφοτέρων τῶν ὀσφραντῶν, τούτοις τῶν ἑτέρων μόνων ὑπάρχουσα ἡ αἴσθησις. τὰ δὲ μὴ ἀναπνέοντα ὅτι μὲν ἔχει αἴσθησιν τοῦ ὀσφραντοῦ, φανερόν· καὶ γὰρ ἰχθύες καὶ τὸ τῶν ἐντόμων γένος πᾶν ἀκριβῶς καὶ πόρρωθεν αἰσθάνεται, διὰ τὸ θρεπτικὸν εἶδος τῆς ὀσμῆς, ἀπέχοντα πολὺ τῆς οἰκείας τροφῆς, οἷον αἵ τε μέλιτται [ποιοῦσι πρὸς τὸ μέλι] καὶ τὸ τῶν μικρῶν μυρμήκων γένος, οὓς καλοῦσί τινες κνῖπας, καὶ τῶν θαλαττίων αἱ πορφύραι, καὶ πολλὰ τῶν ἄλλων τῶν τοιούτων ζῴων ὀξέως αἰσθάνεται τῆς τροφῆς διὰ τὴν ὀσμήν. ὅτῳ δὲ αἰσθάνεται, οὐχ ὁμοίως φανερόν. διὸ κἂν ἀπορήσειέ τις τίνι αἰσθάνονται τῆς ὀσμῆς, εἴπερ ἀναπνέουσι μὲν γίγνεται τὸ ὀσμᾶσθαι μοναχῶς (τοῦτο γὰρ φαίνεται ἐπὶ τῶν ἀναπνεόντων συμβαῖνον πάντων), ἐκείνων δ’ οὐθὲν ἀναπνεῖ, αἰσθάνεται μέντοι, εἰ μή τις παρὰ τὰς πέντε αἰσθήσεις ἑτέρα. τοῦτο δ’ ἀδύνατον· τοῦ γὰρ ὀσφραντοῦ ὄσφρησις, ἐκεῖνα δὲ τούτου αἰσθάνεται, ἀλλ’ οὐ τὸν αὐτὸν ἴσως τρόπον, ἀλλὰ τοῖς μὲν ἀναπνέουσι τὸ πνεῦμα ἀφαιρεῖ τὸ ἐπικείμενον ὥσπερ πῶμά τι (διὸ οὐκ αἰσθάνεται μὴ ἀναπνέοντα), τοῖς δὲ μὴ ἀναπνέουσιν ἀφῄρηται τοῦτο, καθάπερ ἐπὶ τῶν ὀφθαλμῶν τὰ μὲν ἔχει βλέφαρα τῶν ζῴων, ὧν μὴ ἀνακαλυφθέντων οὐ δύναται ὁρᾶν, τὰ δὲ σκληρόφθαλμα οὐκ ἔχει, διόπερ οὐ προσδεῖται οὐδενὸς τοῦ ἀνακαλύψοντος, ἀλλ’ ὁρᾷ ἐκ τοῦ δυνατοῦ ὄντος αὐτοῖς εὐθύς.

ὁμοίως δὲ καὶ τῶν ἄλλων ζῴων ὁτιοῦν οὐδὲν δυσχεραίνει τῶν καθ’ αὑτὰ δυσωδῶν τὴν ὀσμήν, ἂν μή τι τύχῃ φθαρτικὸν ὄν, ὑπὸ τούτων δ’ ὁμοίως φθαρεῖται καθάπερ καὶ οἱ ἄνθρωποι ὑπὸ τῆς τῶν ἀνθράκων ἀτμίδος καρηβαροῦσι καὶ φθείρονται πολλάκις· οὕτως ὑπὸ τῆς τοῦ θείου δυνάμεως καὶ τῶν ἀσφαλτωδῶν φθείρεται [445a] τἆλλα ζῷα, καὶ φεύγει διὰ τὸ πάθος. αὐτῆς δὲ καθ’ αὑτὴν τῆς δυσωδίας οὐδὲν φροντίζουσιν (καίτοι πολλὰ τῶν φυομένων δυσώδεις ἔχει τὰς ὀσμάς), ἐὰν μή τι συμβάλληται πρὸς τὴν γεῦσιν ἢ τὴν ἐδωδὴν αὐτοῖς. ἔοικε δ’ ἡ αἴσθησις ἡ τοῦ ὀσφραίνεσθαι, περιττῶν οὐσῶν τῶν αἰσθήσεων καὶ τοῦ ἀριθμοῦ ἔχοντος μέσον τοῦ περιττοῦ, καὶ αὐτὴ μέση εἶναι τῶν τε ἁπτικῶν, οἷον ἁφῆς καὶ γεύσεως, καὶ τῶν δι’ ἄλλου αἰσθητικῶν, οἷον ὄψεως καὶ ἀκοῆς. διὸ καὶ τὸ ὀσφραντὸν τῶν θρεπτικῶν ἐστὶ πάθος τι (ταῦτα δ’ ἐν τῷ ἁπτῷ γένει), καὶ τοῦ ἀκουστοῦ δὲ καὶ τοῦ ὁρατοῦ, διὸ καὶ ἐν ἀέρι καὶ ἐν ὕδατι ὀσμῶνται. ὥστ’ ἐστὶ τὸ ὀσφραντὸν κοινόν τι τούτων ἀμφοτέρων, καὶ τῷ τε ἁπτῷ ὑπάρχει καὶ τῷ ἀκουστῷ καὶ τῷ διαφανεῖ· διὸ καὶ εὐλόγως παρείκασται ξηρότητος ἐν ὑγρῷ καὶ χυτῷ οἷον βαφή τις εἶναι καὶ πλύσις. πῶς μὲν οὖν εἴδη δεῖ λέγειν καὶ πῶς οὐ δεῖ τοῦ ὀσφραντοῦ, ἐπὶ τοσοῦτον εἰρήσθω.

ὃ δὲ λέγουσί τινες τῶν Πυθαγορείων, οὐκ ἔστιν εὔλογον· τρέφεσθαι γάρ φασιν ἔνια ζῷα ταῖς ὀσμαῖς. πρῶτον μὲν γὰρ ὁρῶμεν ὅτι τὴν τροφὴν δεῖ εἶναι συνθετήν (καὶ γὰρ τὰ τρεφόμενα οὐχ ἁπλᾶ ἐστιν, διὸ καὶ περιττώματα γίγνεται τῆς τροφῆς, ἢ ἐν αὑτοῖς ἢ ἔξω, ὥσπερ τοῖς φυτοῖς, ἐπεὶ δ’ οὐδὲ τὸ ὕδωρ ἐθέλει αὐτὸ μόνον ἄμεικτον ὂν τρέφειν - σωματῶδες γάρ τι δεῖ εἶναι τὸ συστησόμενον - ἔτι πολὺ ἧττον εὔλογον τὸν ἀέρα σωματοῦσθαι)· πρὸς δὲ τούτοις, ὅτι πᾶσιν ἔστι τοῖς ζῴοις τόπος δεκτικὸς τῆς τροφῆς, ἐξ οὗ ἕλκον λαμβάνει τὸ σῶμα· τοῦ δ’ ὀσφραντοῦ ἐν τῇ κεφαλῇ τὸ αἰσθητήριον, καὶ μετὰ πνευματώδους εἰσέρχεται ἀναθυμιάσεως, ὥστ’ εἰς τὸν ἀναπνευστικὸν βαδίζοι ἂν τόπον. ὅτι μὲν οὖν οὐ συμβάλλεται εἰς τροφὴν τὸ ὀσφραντόν, ᾗ ὀσφραντόν, δῆλον· ὅτι μέντοι εἰς ὑγίειαν, καὶ ἐκ τῆς αἰσθήσεως καὶ ἐκ τῶν εἰρημένων φανερόν, ὥστε ὅπερ ὁ χυμὸς ἐν τῷ θρεπτικῷ καὶ πρὸς τὰ τρεφόμενα, τοῦτ' ἐστὶ πρὸς ὑγίειαν τὸ [445b] ὀσφραντόν. καθ' ἕκαστον μὲν οὖν αἰσθητήριον διωρίσθω τὸν τρόπον τοῦτον.

Ἀπορήσειε δ' ἄν τις, εἰ πᾶν σῶμα εἰς ἄπειρον διαιρεῖται, ἆρα καὶ τὰ παθήματα τὰ αἰσθητά, οἷον χρῶμα καὶ χυμὸς καὶ ὀσμὴ καὶ ψόφος, καὶ βαρῦ καὶ κοῦφον, καὶ θερμὸν καὶ ψυχρόν, καὶ σκληρὸν καὶ μαλακόν, ἢ ἀδύνατον. ποιητικὸν γάρ ἐστιν ἕκαστον αὐτῶν τῆς αἰσθήσεως (τῷ δύνασθαι γὰρ κινεῖν αὐτὴν λέγεται πάντα), ὥστ' ἀνάγκη, εἰ ἡ δύναμις, καὶ τὴν αἴσθησιν εἰς ἄπειρα διαιρεῖσθαι καὶ πᾶν εἶναι μέγεθος αἰσθητόν (ἀδύνατον γὰρ λευκὸν μὲν ὁρᾶν, μὴ ποσὸν δέ)· εἰ γὰρ μὴ οὕτως, ἐνδέχοιτ' ἂν εἶναί τι σῶμα μηδὲν ἔχον χρῶμα μηδὲ βάρος μηδ' ἄλλο τι τοιοῦτον πάθος, ὥστ' οὐδ' αἰσθητὸν ὅλως· ταῦτα γὰρ τὰ αἰσθητά. τὸ ἄρ' αἰσθητὸν ἔσται συγκείμενον οὐκ ἐξ αἰσθητῶν. ἀλλ' ἀναγκαῖον· οὐ γὰρ δὴ ἔκ γε τῶν μαθηματικῶν. ἔτι τίνι κρινοῦμεν ταῦτα καὶ γνωσόμεθα; ἢ τῷ νῷ; ἀλλ' οὐ νοητά, οὐδὲ νοεῖ ὁ νοῦς τὰ ἐκτὸς μὴ μετ' αἰσθήσεως. ἅμα δ' εἰ ταῦτ' ἔχει οὕτως, ἔοικε μαρτυρεῖν τοῖς τὰ ἄτομα ποιοῦσι μεγέθη· οὕτω γὰρ ἂν λύοιτο ὁ λόγος. ἀλλ' ἀδύνατα· εἴρηται δὲ περὶ αὐτῶν ἐν τοῖς λόγοις τοῖς περὶ κινήσεως.

περὶ δὲ τῆς λύσεως αὐτῶν ἅμα δῆλον ἔσται καὶ διὰ τί πεπέρανται τὰ εἴδη καὶ χρώματος καὶ χυμοῦ καὶ φθόγγων καὶ τῶν ἄλλων αἰσθητῶν. ὧν μὲν γάρ ἐστιν ἔσχατα, ἀνάγκη πεπεράνθαι τὰ ἐντός· τὰ δ' ἐναντία ἔσχατα, πᾶν δὲ τὸ αἰσθητὸν ἔχει ἐναντίωσιν, οἷον ἐν χρώματι τὸ λευκὸν καὶ τὸ μέλαν, ἐν χυμῷ γλυκὺ καὶ πικρόν· καὶ ἐν τοῖς ἄλλοις δὴ πᾶσίν ἐστιν ἔσχατα τὰ ἐναντία. τὸ μὲν οὖν συνεχὲς εἰς ἄπειρα τέμνεται ἄνισα, εἰς δ' ἴσα πεπερασμένα· τὸ δὲ μὴ καθ' αὑτὸ συνεχὲς εἰς πεπερασμένα εἴδη. ἐπεὶ οὖν τὰ μὲν πάθη ὡς εἴδη λεκτέον, ὑπάρχει δὲ συνέχεια ἀεὶ ἐν τούτοις, ληπτέον ὅτι τὸ δυνάμει καὶ τὸ ἐνεργείᾳ ἕτερον· καὶ διὰ τοῦτο τὸ μυριοστημόριον λανθάνει [446a] τῆς κέγχρου ὁρωμένης, καίτοι ἡ ὄψις ἐπελήλυθεν, καὶ ὁ ἐν τῇ διέσει φθόγγος λανθάνει, καίτοι συνεχοῦς ὄντος ἀκούει τοῦ μέλους παντός· τὸ δὲ διάστημα τὸ τοῦ μεταξὺ πρὸς τοὺς ἐσχάτους λανθάνει. ὁμοίως δὲ καὶ ἐν τοῖς ἄλλοις αἰσθητοῖς τὰ μικρὰ πάμπαν· δυνάμει γὰρ ὁρατά, ἐνεργείᾳ δ' οὔ, ὅταν μὴ χωρὶς ᾖ· καὶ γὰρ ἐνυπάρχει δυνάμει ἡ ποδιαία τῇ δίποδι, ἐνεργείᾳ δ' ἤδη ἀφαιρεθεῖσα. χωριζόμεναι δ' αἱ τηλικαῦται ὑπεροχαὶ εὐλόγως μὲν ἂν καὶ διαλύοιντο εἰς τὰ περιέχοντα, ὥσπερ καὶ ἀκαριαῖος χυμὸς εἰς τὴν θάλατταν ἐγχυθείς. οὐ μὴν ἀλλ' ἐπειδὴ οὐδ' ἡ τῆς αἰσθήσεως ὑπεροχὴ καθ' αὑτὴν αἰσθητὴ οὐδὲ χωριστή (δυνάμει γὰρ ἐνυπάρχει ἐν τῇ ἀκριβεστέρᾳ ἡ ὑπεροχή), οὐδὲ τὸ τηλικοῦτον αἰσθητὸν χωριστὸν ἔσται ἐνεργείᾳ αἰσθάνεσθαι. ἀλλ' ὅμως ἔσται αἰσθητόν· δυνάμει τε γάρ ἐστιν ἤδη, καὶ ἐνεργείᾳ ἔσται προσγενόμενον. ὅτι μὲν οὖν ἔνια μεγέθη καὶ πάθη λανθάνει, καὶ διὰ τίν' αἰτίαν, καὶ πῶς αἰσθητὰ καὶ πῶς οὔ, εἴρηται. ὅταν δὲ δὴ ἐνυπάρχῃ τούτῳ τοσαῦτα ὥστε καὶ ἐνεργείᾳ αἰσθητὰ εἶναι, καὶ μὴ μόνον ὅτι ἐν τῷ ὅλῳ ἀλλὰ καὶ χωρίς, πεπερασμένα ἀνάγκη εἶναι τὸν ἀριθμόν, καὶ χρώματα καὶ χυμοὺς καὶ φθόγγους.

ἀπορήσειε δ' ἄν τις, ἆρ' ἀφικνοῦνται ἢ τὰ αἰσθητὰ ἢ αἱ κινήσεις αἱ ἀπὸ τῶν αἰσθητῶν (ὁποτέρως ποτὲ γίγνεται ἡ αἴσθησις), ὅταν ἐνεργῶσιν, εἰς τὸ μέσον πρῶτον, οἷον ἥ τε ὀσμὴ φαίνεται ποιοῦσα καὶ ὁ ψόφος· πρότερον γὰρ ὁ ἐγγὺς αἰσθάνεται τῆς ὀσμῆς, καὶ ὁ ψόφος ὕστερον ἀφικνεῖται τῆς πληγῆς. ἆρ' οὖν οὕτω καὶ τὸ ὁρώμενον καὶ τὸ φῶς, καθάπερ καὶ Ἐμπεδοκλῆς φησιν ἀφικνεῖσθαι πρότερον τὸ ἀπὸ τοῦ ἡλίου φῶς εἰς τὸ μεταξὺ πρὶν πρὸς τὴν ὄψιν ἢ ἐπὶ τὴν γῆν; δόξειε δ' ἂν εὐλόγως τοῦτο συμβαίνειν· τὸ γὰρ κινούμενον κινεῖταί ποθέν ποι, ὥστ' ἀνάγκη εἶναί τινα καὶ χρόνον ἐν ᾧ κινεῖται ἐκ θατέρου πρὸς θάτερον· ὁ δὲ [446b] χρόνος πᾶς διαιρετός, ὥστε ἦν ὅτε οὔ πω ἑωρᾶτο ἀλλ' ἔτ' ἐφέρετο ἡ ἀκτὶς ἐν τῷ μεταξύ. καὶ εἰ ‹καὶ› ἅπαν ἅμα ἀκούει καὶ ἀκήκοε, καὶ ὅλως αἰσθάνεται καὶ ᾔσθηται, καὶ μή ἐστι γένεσις αὐτῶν, ἀλλ' εἰσὶν ἄνευ τοῦ γίγνεσθαι, ὅμως οὐδὲν ἧττον, ὥσπερ ὁ ψόφος ἤδη γεγενημένης τῆς πληγῆς οὔ πω πρὸς τῇ ἀκοῇ - δηλοῖ δὲ τοῦτο καὶ ἡ τῶν γραμμάτων μετασχημάτισις, ὡς γιγνομένης τῆς φορᾶς ἐν τῷ μεταξύ· οὐ γὰρ τὸ λεχθὲν φαίνονται ἀκηκοότες διὰ τὸ μετασχηματίζεσθαι φερόμενον τὸν ἀέρα - ἆρ' οὖν οὕτω καὶ τὸ χρῶμα καὶ τὸ φῶς; οὐ γὰρ δὴ τῷ πως ἔχειν τὸ μὲν ὁρᾷ τὸ δ' ὁρᾶται, ὥσπερ ἴσα ἐστίν· οὐθὲν γὰρ ἂν ἔδει που ἑκάτερον εἶναι· τοῖς γὰρ ἴσοις γιγνομένοις οὐδὲν διαφέρει ἢ ἐγγὺς ἢ πόρρω ἀλλήλων εἶναι.

ἢ περὶ μὲν τὸν ψόφον καὶ τὴν ὀσμὴν τοῦτο συμβαίνειν εὔλογον· ὥσπερ γὰρ ὁ ἀὴρ καὶ τὸ ὕδωρ, συνεχῆ μέν, μεμέρισται δ' ἀμφοτέρων ἡ κίνησις. διὸ καὶ ἔστι μὲν ὡς τὸ αὐτὸ ἀκούει ὁ πρῶτος καὶ ὁ ὕστερος καὶ ὀσφραίνεται, ἔστι δ' ὡς οὔ. δοκεῖ δέ τισιν εἶναι ἀπορία καὶ περὶ τούτων· ἀδύνατον γάρ φασί τινες ἄλλον ἄλλῳ τὸ αὐτὸ ἀκούειν καὶ ὁρᾶν καὶ ὀσφραίνεσθαι· οὐ γὰρ οἷόν τ' εἶναι πολλοὺς καὶ χωρὶς ὄντας ‹ἓν› ἀκούειν καὶ ὀσφραίνεσθαι· τὸ γὰρ ἓν χωρὶς ἂν αὐτὸ αὑτοῦ εἶναι. ἢ τοῦ μὲν κινήσαντος πρώτου, οἷον τῆς κώδωνος ἢ λιβανωτοῦ ἢ πυρός, τοῦ αὐτοῦ καὶ ἑνὸς ἀριθμῷ αἰσθάνονται πάντες, τοῦ δὲ δὴ ἰδίου ἑτέρου ἀριθμῷ, εἴδει δὲ τοῦ αὐτοῦ, διὸ ἅμα πολλοὶ ὁρῶσι καὶ ὀσμῶνται καὶ ἀκούουσιν; ἔστι δ' οὔτε σώματα ταῦτα, ἀλλὰ πάθος καὶ κίνησίς τις (οὐ γὰρ ἂν τοῦτο συνέβαινεν), οὔτ’ ἄνευ σώματος. περὶ δὲ τοῦ φωτὸς ἄλλος λόγος· τῷ ἐνεῖναι γάρ τι τὸ φῶς ἐστιν, ἀλλ’ οὐ κίνησίς τις. ὅλως δὲ οὐδὲ ὁμοίως ἐπί τε ἀλλοιώσεως ἔχει καὶ φορᾶς· αἱ μὲν γὰρ φοραὶ εὐλόγως εἰς τὸ μεταξὺ πρῶτον ἀφικνοῦνται (δοκεῖ δ’ ὁ ψόφος εἶναι φερομένου [447a] τινὸς κίνησις), ὅσα δ’ ἀλλοιοῦται, οὐκέτι ὁμοίως· ἐνδέχεται γὰρ ἀθρόον ἀλλοιοῦσθαι, καὶ μὴ τὸ ἥμισυ πρότερον, οἷον τὸ ὕδωρ ἅμα πᾶν πήγνυσθαι. οὐ μὴν ἀλλ’ ἂν ᾖ πολὺ τὸ θερμαινόμενον ἢ πηγνύμενον, τὸ ἐχόμενον ὑπὸ τοῦ ἐχομένου πάσχει, τὸ δὲ πρῶτον ὑπ’ αὐτοῦ τοῦ ἀλλοιοῦντος μεταβάλλει καὶ ἀνάγκη ἅμα ἀλλοιοῦσθαι καὶ ἀθρόον. ἦν δ’ ἂν καὶ τὸ γεύεσθαι ὥσπερ ἡ ὀσμή, εἰ ἐν ὑγρῷ ἦμεν καὶ πορρωτέρωθεν πρὶν θιγεῖν αὐτοῦ ᾐσθανόμεθα. εὐλόγως δὴ ὧν ἐστι μεταξὺ τοῦ αἰσθητηρίου, οὐχ ἅμα πάντα πάσχει, πλὴν ἐπὶ τοῦ φωτὸς διὰ τὸ εἰρημένον, διὰ τὸ αὐτὸ δὲ καὶ ἐπὶ τοῦ ὁρᾶν· τὸ γὰρ φῶς ποιεῖ τὸ ὁρᾶν.

Ἔστι δ’ ἀπορία καὶ ἄλλη τις τοιάδε περὶ τὰς αἰσθήσεις, πότερον ἐνδέχεται δυεῖν ἅμα αἰσθάνεσθαι ἐν τῷ αὐτῷ καὶ ἀτόμῳ χρόνῳ, ἢ οὔ. εἰ δὴ ἀεὶ ἡ μείζων κίνησις τὴν ἐλάττω ἐκκρούει - διὸ ὑποφερομένων ὑπὸ τὰ ὄμματα οὐκ αἰσθάνονται, ἐὰν τύχωσι σφόδρα τι ἐννοῦντες ἢ φοβούμενοι ἢ ἀκούοντες πολὺν ψόφον - τοῦτο δὴ ὑποκείσθω, καὶ ὅτι ἑκάστου μᾶλλον ἔστιν αἰσθάνεσθαι ἁπλοῦ ὄντος ἢ κεκραμένου, οἷον οἴνου ἀκράτου ἢ κεκραμένου, καὶ μέλιτος, καὶ χρόας, καὶ τῆς νήτης μόνης ἢ ἐν τῇ διὰ πασῶν, διὰ τὸ ἀφανίζειν ἄλληλα. τοῦτο δὲ ποιεῖ ἐξ ὧν ἕν τι γίγνεται. εἰ δὴ ἡ μείζων τὴν ἐλάττω κίνησιν ἐκκρούει, ἀνάγκη, ἂν ἅμα ὦσι, καὶ αὐτὴν ἧττον αἰσθητὴν εἶναι ἢ εἰ μόνη ἦν· ἀφαιρεῖται γάρ τι ἡ ἐλάττων μειγνυμένη, εἴπερ ἅπαντα τὰ ἁπλᾶ μᾶλλον αἰσθητά ἐστιν. ἐὰν ἄρα ἴσαι ὦσιν ἕτεραι οὖσαι, οὐδετέρας ἔσται αἴσθησις· ἀφανιεῖ γὰρ ἡ ἑτέρα ὁμοίως τὴν ἑτέραν, ἁπλῆς δ’ οὐκ ἔστιν αἰσθάνεσθαι. ὥστε ἢ οὐδεμία ἔσται αἴσθησις, ἢ ἄλλη ἐξ ἀμφοῖν· ὅπερ καὶ γίγνεσθαι δοκεῖ ἐπὶ τῶν κεραννυμένων ἐν ᾧ ἂν μειχθῶσιν.

ἐπεὶ οὖν ἐκ μὲν ἐνίων γίγνεταί τι, ἐκ δ’ ἐνίων οὐ γίγνεται, τοιαῦτα δὲ τὰ ὑφ’ ἑτέραν αἴσθησιν (μείγνυνται γὰρ [447b] ὧν τὰ ἔσχατα ἐναντία· οὐκ ἔστι δ’ ἐκ λευκοῦ καὶ ὀξέος ὂν γίγνεσθαι ἀλλ’ ἢ κατὰ συμβεβηκός, ἀλλ’ οὐχ ὡς ἐξ ὀξέος καὶ βαρέος συμφωνία), οὐκ ἄρα οὐδ’ αἰσθάνεσθαι ἐνδέχεται αὐτῶν ἅμα. ἴσαι μὲν γὰρ οὖσαι αἱ κινήσεις ἀφανιοῦσιν ἀλλήλας, ἐπεὶ μία οὐ γίγνεται ἐξ αὐτῶν· ἂν δ’ ἄνισοι, ἡ κρείττων αἴσθησιν ἐμποιήσει. ἔτι μᾶλλον ἅμα δυοῖν αἴσθοιτ’ ἂν ἡ ψυχὴ τῇ μιᾷ αἰσθήσει ὧν μία αἴσθησις, οἷον ὀξέος καὶ βαρέος (μᾶλλον γὰρ ἅμα ἡ κίνησις τῇ μιᾶς αὐτὴ ἑαυτῇ ἢ τοῖν δυοῖν, οἷον ὄψεως καὶ ἀκοῆς), τῇ μιᾷ δὲ ἅμα δυοῖν οὐκ ἔστιν αἰσθάνεσθαι ἂν μὴ μειχθῇ (τὸ γὰρ μεῖγμα ἓν βούλεται εἶναι, τοῦ δ’ ἑνὸς μία αἴσθησις, ἡ δὲ μία ἅμα αὑτῇ), ὥστ’ ἐξ ἀνάγκης τῶν μεμειγμένων ἅμα αἰσθάνεται, ὅτι μιᾷ αἰσθήσει κατ’ ἐνέργειαν αἰσθάνεται· ἑνὸς μὲν γὰρ ἀριθμῷ ἡ κατ’ ἐνέργειαν μία, εἴδει δὲ ἡ κατὰ δύναμιν μία· καὶ εἰ μία τοίνυν ἡ αἴσθησις ἡ κατ’ ἐνέργειαν, ἓν ἐκεῖνα ἐρεῖ. μεμεῖχθαι ἄρα ἀνάγκη αὐτά. ὅταν ἄρα μὴ ᾖ μεμειγμένα, δύο ἔσονται αἰσθήσεις αἱ κατ’ ἐνέργειαν. ἀλλὰ κατὰ μίαν δύναμιν καὶ ἄτομον χρόνον μίαν ἀνάγκη εἶναι τὴν ἐνέργειαν· μιᾶς γὰρ ἡ εἰσάπαξ μία χρῆσις καὶ κίνησις, μία δὲ ἡ δύναμις. οὐκ ἄρα ἐνδέχεται δυοῖν ἅμα αἰσθάνεσθαι τῇ μιᾷ αἰσθήσει.

ἀλλὰ μὴν εἰ τὰ ὑπὸ τὴν αὐτὴν αἴσθησιν ἅμα ἀδύνατον, ἐὰν ᾖ δύο, δῆλον ὅτι ἧττον ἔτι τὰ κατὰ δύο αἰσθήσεις ἐνδέχεται ἅμα αἰσθάνεσθαι, οἷον λευκὸν καὶ γλυκύ. φαίνεται γὰρ τὸ μὲν τῷ ἀριθμῷ ἓν ἡ ψυχὴ οὐδενὶ ἑτέρῳ λέγειν ἀλλ’ ἢ τῷ ἅμα, τὸ δὲ τῷ εἴδει ἓν τῇ κρινούσῃ αἰσθήσει καὶ τῷ τρόπῳ. λέγω δὲ τοῦτο, ὅτι ἴσως τὸ λευκὸν καὶ τὸ μέλαν, ἕτερον τῷ εἴδει ὄν, ἡ αὐτὴ κρίνει, καὶ τὸ γλυκὺ καὶ τὸ πικρὸν ἡ αὐτὴ μὲν ἑαυτῇ, ἐκείνης δ’ ἄλλη, ἀλλ’ ἑτέρως ἑκάτερον τῶν ἐναντίων, ὡς δ’ αὔτως ἑαυταῖς τὰ σύστοιχα, οἷον ὡς ἡ γεῦσις τὸ γλυκύ, οὕτως ἡ ὄψις τὸ λευκόν, [448a] ὡς δ’ αὕτη τὸ μέλαν, οὕτως ἐκείνη τὸ πικρόν. ἔτι εἰ αἱ τῶν ἐναντίων κινήσεις ἐναντίαι, ἅμα δὲ τὰ ἐναντία ἐν τῷ αὐτῷ καὶ ἀτόμῳ οὐκ ἐνδέχεται ὑπάρχειν, ὑπὸ δὲ τὴν αἴσθησιν τὴν μίαν ἐναντία ἐστίν, οἷον γλυκὺ πικρῷ, τούτων οὐκ ἂν ἐνδέχοιτο αἰσθάνεσθαι ἅμα. ὁμοίως δὲ δῆλον ὅτι οὐδὲ τὰ μὴ ἐναντία· τὰ μὲν γὰρ τοῦ λευκοῦ τὰ δὲ τοῦ μέλανός ἐστιν, καὶ ἐν τοῖς ἄλλοις ὁμοίως, οἷον τῶν χυμῶν οἱ μὲν τοῦ γλυκέος οἱ δὲ τοῦ πικροῦ. οὐδὲ τὰ μεμειγμένα ἅμα (λόγοι γάρ εἰσιν ἀντικειμένων, οἷον τὸ διὰ πασῶν καὶ τὸ διὰ πέντε), ἐὰν μὴ ὡς ἓν αἰσθάνηται. οὕτως δ’ εἷς ὁ λόγος ὁ τῶν ἄκρων γίγνεται· ἄλλως δ’ οὔ, ἔσται γὰρ ἅμα ὁ μὲν πολλοῦ πρὸς ὀλίγον ἢ περιττοῦ πρὸς ἄρτιον, ὁ δ’ ὀλίγου πρὸς πολὺ ἢ ἀρτίου πρὸς περιττόν. εἰ οὖν πλεῖον ἔτι ἀπέχει ἀλλήλων καὶ διαφέρει τὰ συστοίχως μὲν λεγόμενα ἐν ἄλλῳ δὲ γένει τῶν ἐν τῷ αὐτῷ γένει (λέγω δ’ οἷον τὸ γλυκὺ καὶ τὸ λευκὸν καλῶ σύστοιχα, γένει δ’ ἕτερα, τὸ γλυκὺ δὲ τοῦ λευκοῦ πλεῖον ἔτι τῷ εἴδει διαφέρει ἢ τὸ μέλαν), ἔτι ἂν ἧττον ἅμα ἐνδέχοιτο αὐτὰ αἰσθάνεσθαι ἢ τὰ τῷ γένει ταὐτά. ὥστ’ εἰ μὴ ταῦτα, οὐδ’ ἐκεῖνα.

ὃ δὲ λέγουσί τινες τῶν περὶ τὰς συμφωνίας, ὅτι οὐχ ἅμα μὲν ἀφικνοῦνται οἱ ψόφοι, φαίνονται δέ, καὶ λανθάνει, ὅταν ὁ χρόνος ᾖ ἀναίσθητος, πότερον ὀρθῶς λέγεται ἢ οὔ; τάχα γὰρ ἂν φαίη τις καὶ νῦν παρὰ τοῦτο δοκεῖν ἅμα ὁρᾶν καὶ ἀκούειν, ὅτι οἱ μεταξὺ χρόνοι λανθάνουσιν. ἢ τοῦτ’ οὐκ ἀληθές, οὐδ’ ἐνδέχεται χρόνον εἶναι ἀναίσθητον οὐδένα οὐδὲ λανθάνειν, ἀλλὰ παντὸς ἐνδέχεται αἰσθάνεσθαι; εἰ γάρ, ὅτε αὐτὸς αὑτοῦ τις αἰσθάνεται ἢ ἄλλου ἐν συνεχεῖ χρόνῳ, μὴ ἐνδέχεται τότε λανθάνειν ὅτι ἔστιν, ἔστι δέ τις ἐν τῷ συνεχεῖ καὶ τοσοῦτος ὅσος ὅλως ἀναίσθητός ἐστι, δῆλον ὅτι τότε λανθάνοι ἂν εἰ ἔστιν αὐτὸς αὑτόν, καὶ εἰ ὁρᾷ καὶ αἰσθάνεται [καὶ εἰ αἰσθάνεται]. ἔτι οὐκ ἂν εἴη [448b] οὔτε χρόνος οὔτε πρᾶγμα οὐδὲν ὃ αἰσθάνεται ἢ ἐν ᾧ, εἰ μὴ οὕτως, ὅτι ἐν τούτου τινὶ ἢ ὅτι τούτου τι ὁρᾷ, εἴπερ ἔστι τι μέγεθος καὶ χρόνου καὶ πράγματος ἀναίσθητον ὅλως διὰ μικρότητα· εἰ γὰρ τὴν ὅλην ὁρᾷ, καὶ αἰσθάνεται τὸν αὐτὸν συνεχῶς χρόνον, οὕτω, τῷ ἐν τούτου τινί, ἀφῃρήσθω τὸ ΓΒ, ἐν ᾧ οὐκ ᾐσθάνετο. οὐκοῦν ἐν ταύτης τινί ἢ ταύτης τι, ὥσπερ τὴν γῆν ὁρᾷ ὅλην, ὅτι τοδὶ αὐτῆς, καὶ ἐν τῷ ἐνιαυτῷ βαδίζει, ὅτι ἐν τῳδὶ τῷ μέρει αὐτοῦ. ἀλλὰ μὴν ἐν τῷ ΓΒ οὐδὲν αἰσθάνεται. τῷ ἄρα ἐν τούτου τινὶ τοῦ ΑΒ αἰσθάνεσθαι λέγεται τοῦ ὅλου αἰσθάνεσθαι καὶ τὴν ὅλην. ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῆς ΑΓ· ἀεὶ γὰρ ἐν τινὶ καὶ τινός, ὅλου δ’ οὐκ ἔστιν αἰσθάνεσθαι. ἅπαντα μὲν οὖν αἰσθητά ἐστιν, ἀλλ’ οὐ φαίνεται ὅσα ἐστίν· τοῦ γὰρ ἡλίου τὸ μέγεθος ὁρᾷ καὶ τὸ τετράπηχυ πόρρωθεν, ἀλλ’ οὐ φαίνεται ὅσον, ἀλλ’ ἐνίοτε ἀδιαίρετον, ‹ὃ› ὁρᾷ δ’ οὐκ ἀδιαίρετον. ἡ δ’ αἰτία εἴρηται ἐν τοῖς ἔμπροσθεν περὶ τούτου.

ὅτι μὲν οὖν οὐθείς ἐστι χρόνος ἀναίσθητος, ἐκ τούτων φανερόν· περὶ δὲ τῆς πρότερον λεχθείσης ἀπορίας σκεπτέον, πότερον ἐνδέχεται ἅμα πλειόνων αἰσθάνεσθαι ἢ οὐκ ἐνδέχεται. τὸ δ’ ἅμα λέγω ἐν ἑνὶ καὶ ἀτόμῳ χρόνῳ πρὸς ἄλληλα. πρῶτον μὲν οὖν ἆρ’ ὧδ’ ἐνδέχεται, ἅμα μέν, ἑτέρῳ δὲ τῆς ψυχῆς αἰσθάνεσθαι, κἂν [οὐ τῷ ἀτόμῳ] οὕτως ἀτόμῳ ὡς παντὶ ὄντι συνεχεῖ; ἢ [ὅτι] πρῶτον μὲν κατὰ τὴν μίαν αἴσθησιν, οἷον λέγω ὄψιν, εἰ ἔσται ἄλλῳ αἰσθανομένη ἄλλου καὶ ἄλλου χρώματος, πλείω γε μέρη ἕξει εἴδει ταὐτά; καὶ γὰρ ἃ αἰσθάνεται ἐν τῷ αὐτῷ γένει ἐστίν. εἰ δέ, [ὅτι] ὡς ὄμματα δύο, φαίη τις οὐδὲν κωλύειν οὕτω καὶ ἐν τῇ ψυχῇ, [ὅτι] ἴσως ἐκ μὲν τούτων ἕν τι γίγνεται καὶ μία ἡ ἐνέργεια αὐτῶν· ἐκεῖ δέ, εἰ μὲν ἓν τὸ ἐξ ἀμφοῖν, ἐκεῖνο τὸ αἰσθανόμενον ἔσται, εἰ δὲ χωρίς, οὐχ ὁμοίως ἕξει. ἔτι αἰσθήσεις αἱ αὐταὶ πλείους ἔσονται, ὥσπερ εἴ τις ἐπιστήμας [449a] διαφόρους φαίη· οὔτε γὰρ ἡ ἐνέργεια ἄνευ τῆς κατ’ αὐτὴν ἔσται δυνάμεως, οὔτ’ ἄνευ ταύτης αἴσθησις ἔσται.

εἰ δὲ τούτων ἐν ἑνὶ καὶ ἀτόμῳ ‹μὴ› αἰσθάνεται, δῆλον ὅτι καὶ τῶν ἄλλων· μᾶλλον γὰρ ἐνεδέχετο τούτων ἅμα πλειόνων ἢ τῶν τῷ γένει ἑτέρων. εἰ δὲ δὴ ἄλλῳ μὲν γλυκέος ἄλλῳ δὲ λευκοῦ αἰσθάνεται ἡ ψυχὴ μέρει, ἤτοι τὸ ἐκ τούτων ἕν τί ἐστιν ἢ οὐχ ἕν. ἀλλ’ ἀνάγκη ἕν· ἓν γάρ τι τὸ αἰσθητικόν ἐστι μέρος. τίνος οὖν ἐκεῖνο ἑνός; οὐδὲν γὰρ ἐκ τούτων ἕν. ἀνάγκη ἄρα ἕν τι εἶναι τῆς ψυχῆς ᾧ ἅπαντα αἰσθάνεται, καθάπερ εἴρηται πρότερον, ἄλλο δὲ γένος δι’ ἄλλου. ἆρ’ οὖν ᾗ μὲν ἀδιαίρετόν ἐστι κατ’ ἐνέργειαν, ἕν τί ἐστι τὸ αἰσθητικὸν γλυκέος καὶ λευκοῦ, ὅταν δὲ διαιρετὸν γένηται κατ’ ἐνέργειαν, ἕτερον; ἢ ὥσπερ ἐπὶ τῶν πραγμάτων αὐτῶν ἐνδέχεται, οὕτως καὶ ἐπὶ τῆς ψυχῆς; τὸ γὰρ αὐτὸ καὶ ἓν ἀριθμῷ λευκὸν καὶ γλυκύ ἐστι, καὶ ἄλλα πολλά· εἰ γὰρ μὴ χωριστὰ τὰ πάθη ἀλλήλων, ἀλλὰ τὸ εἶναι ἕτερον ἑκάστῳ. ὁμοίως τοίνυν θετέον καὶ ἐπὶ τῆς ψυχῆς τὸ αὐτὸ καὶ ἓν εἶναι ἀριθμῷ τὸ αἰσθητικὸν πάντων, τὸ μέντοι εἶναι ἕτερον καὶ ἕτερον τῶν μὲν γένει τῶν δὲ εἴδει. ὥστε καὶ αἰσθάνοιτ’ ἂν ἅμα τῷ αὐτῷ καὶ ἑνί, λόγῳ δ’ οὐ τῷ αὐτῷ.

ὅτι δὲ τὸ αἰσθητὸν πᾶν ἐστι μέγεθος καὶ οὐκ ἔστιν ἀδιαίρετον αἰσθητόν, δῆλον. ἔστι γὰρ ὅθεν μὲν οὐκ ἂν ὀφθείη ἄπειρον τὸ ἀπόστημα, ὅθεν δὲ ὁρᾶται, πεπερασμένον· ὁμοίως δὲ καὶ τὸ ὀσφραντὸν καὶ ἀκουστὸν καὶ ὅσων μὴ αὐτῶν ἁπτόμενοι αἰσθάνονται. ἔστι δή τι ἔσχατον τοῦ ἀποστήματος ὅθεν οὐχ ὁρᾶται, καὶ πρῶτον ὅθεν ὁρᾶται. τοῦτο δὴ ἀνάγκη ἀδιαίρετον εἶναι, οὗ ἐν μὲν τῷ ἐπέκεινα οὐκ ἐνδέχεται αἰσθάνεσθαι ὄντος, ἐν δὲ τῷ ἐπὶ τάδε ἀνάγκη αἰσθάνεσθαι. εἰ δή τι ἔστιν ἀδιαίρετον αἰσθητόν, ὅταν τεθῇ ἐπὶ τῷ ἐσχάτῳ ὅθεν ἐστὶν ὕστατον μὲν οὐκ αἰσθητὸν πρῶτον δ’ αἰσθητόν, ἅμα συμβήσεται ὁρατὸν εἶναι καὶ ἀόρατον· τοῦτο δ’ ἀδύνατον.

[449b] περὶ μὲν οὖν τῶν αἰσθητηρίων καὶ τῶν αἰσθητῶν τίνα τρόπον ἔχει καὶ κοινῇ καὶ καθ’ ἕκαστον αἰσθητήριον εἴρηται· τῶν δὲ λοιπῶν πρῶτον σκεπτέον περὶ μνήμης καὶ τοῦ μνημονεύειν.

Περι Μνημησ και Αναμνησεωσ (449b) On Memory

[449b] Περὶ μνήμης καὶ τοῦ μνημονεύειν λεκτέον τί ἐστι καὶ διὰ τίν’ αἰτίαν γίγνεται καὶ τίνι τῶν τῆς ψυχῆς μορίων συμβαίνει τοῦτο τὸ πάθος καὶ τὸ ἀναμιμνήσκεσθαι· οὐ γὰρ οἱ αὐτοί εἰσι μνημονικοὶ καὶ ἀναμνηστικοί, ἀλλ’ ὡς ἐπὶ τὸ πολὺ μνημονικώτεροι μὲν οἱ βραδεῖς, ἀναμνηστικώτεροι δὲ οἱ ταχεῖς καὶ εὐμαθεῖς. πρῶτον μὲν οὖν σκεπτέον ποῖά ἐστι τὰ μνημονευτά· πολλάκις γὰρ ἐξαπατᾷ τοῦτο. οὔτε γὰρ τὸ μέλλον ἐνδέχεται μνημονεύειν, ἀλλ’ ἔστι δοξαστὸν καὶ ἐλπιστόν (εἴη δ’ ἂν καὶ ἐπιστήμη τις ἐλπιστική, καθάπερ τινές φασι τὴν μαντικήν), οὔτε τοῦ παρόντος, ἀλλ’ αἴσθησις· ταύτῃ γὰρ οὔτε τὸ μέλλον οὔτε τὸ γενόμενον γνωρίζομεν, ἀλλὰ τὸ παρὸν μόνον. ἡ δὲ μνήμη τοῦ γενομένου· τὸ δὲ παρὸν ὅτε πάρεστιν, οἷον τοδὶ τὸ λευκὸν ὅτε ὁρᾷ, οὐδεὶς ἂν φαίη μνημονεύειν, οὐδὲ τὸ θεωρούμενον, ὅτε θεωρῶν τυγχάνει καὶ νοῶν, ἀλλὰ τὸ μὲν αἰσθάνεσθαί φησι, τὸ δ’ ἐπίστασθαι μόνον· ὅταν δ’ ἄνευ τῶν ἔργων σχῇ τὴν ἐπιστήμην καὶ τὴν αἴσθησιν, οὕτω μέμνηται [τὰς τοῦ τριγώνου ὅτι δύο ὀρθαῖς ἴσαι], τὸ μὲν ὅτι ἔμαθεν ἢ ἐθεώρησεν, τὸ δὲ ὅτι ἤκουσεν ἢ εἶδεν ἤ τι τοιοῦτον· ἀεὶ γὰρ ὅταν ἐνεργῇ κατὰ τὸ μνημονεύειν, οὕτως ἐν τῇ ψυχῇ λέγει, ὅτι πρότερον τοῦτο ἤκουσεν ἢ ᾔσθετο ἢ ἐνόησεν. ἔστι μὲν οὖν ἡ μνήμη οὔτε αἴσθησις οὔτε ὑπόληψις, ἀλλὰ τούτων τινὸς ἕξις ἢ πάθος, ὅταν γένηται χρόνος. τοῦ δὲ νῦν ἐν τῷ νῦν οὐκ ἔστι μνήμη, καθάπερ εἴρηται [καὶ πρότερον], ἀλλὰ τοῦ μὲν παρόντος αἴσθησις, τοῦ δὲ μέλλοντος ἐλπίς, τοῦ δὲ γενομένου μνήμη· διὸ μετὰ χρόνου πᾶσα μνήμη. ὥσθ’ ὅσα χρόνου αἰσθάνεται, ταῦτα μόνα τῶν ζῴων μνημονεύει, καὶ τούτῳ ᾧ αἰσθάνεται.

ἐπεὶ δὲ περὶ φαντασίας εἴρηται πρότερον ἐν τοῖς περὶ ψυχῆς, καὶ νοεῖν οὐκ ἔστιν ἄνευ φαντάσματος [450a] - συμβαίνει γὰρ τὸ αὐτὸ πάθος ἐν τῷ νοεῖν ὅπερ καὶ ἐν τῷ διαγράφειν· ἐκεῖ τε γὰρ οὐθὲν προσχρώμενοι τῷ τὸ ποσὸν ὡρισμένον εἶναι τοῦ τριγώνου, ὅμως γράφομεν ὡρισμένον κατὰ τὸ ποσόν, καὶ ὁ νοῶν ὡσαύτως, κἂν μὴ ποσὸν νοῇ, τίθεται πρὸ ὀμμάτων ποσόν, νοεῖ δ’ οὐχ ᾗ ποσόν· ἂν δ’ ἡ φύσις ᾖ τῶν ποσῶν, ἀορίστων δέ, τίθεται μὲν

ποσὸν ὡρισμένον, νοεῖ δ’ ᾗ ποσὸν μόνον - διὰ τίνα μὲν οὖν αἰτίαν οὐκ ἐνδέχεται νοεῖν οὐδὲν ἄνευ συνεχοῦς, οὐδ’ ἄνευ χρόνου τὰ μὴ ἐν χρόνῳ ὄντα, ἄλλος λόγος· μέγεθος δ’ ἀναγκαῖον γνωρίζειν καὶ κίνησιν ᾧ καὶ χρόνον· [καὶ τὸ φάντασμα τῆς κοινῆς αἰσθήσεως πάθος ἐστίν] ὥστε φανερὸν ὅτι τῷ πρώτῳ αἰσθητικῷ τούτων ἡ γνῶσίς ἐστιν· ἡ δὲ μνήμη, καὶ ἡ τῶν νοητῶν, οὐκ ἄνευ φαντάσματός ἐστιν, ‹καὶ τὸ φάντασμα τῆς κοινῆς αἰσθήσεως πάθος ἐστίν›· ὥστε τοῦ νοῦ μὲν κατὰ συμβεβηκὸς ἂν εἴη, καθ’ αὑτὸ δὲ τοῦ πρώτου αἰσθητικοῦ. διὸ καὶ ἑτέροις τισὶν ὑπάρχει τῶν ζῴων, καὶ οὐ μόνον ἀνθρώποις καὶ τοῖς ἔχουσι δόξαν ἢ φρόνησιν. εἰ δὲ τῶν νοητικῶν τι μορίων ἦν, οὐκ ἂν ὑπῆρχε πολλοῖς τῶν ἄλλων ζῴων, ἴσως δ’ οὐδενὶ τῶν ἀνοήτων, ἐπεὶ οὐδὲ νῦν πᾶσι διὰ τὸ μὴ πάντα χρόνου αἴσθησιν ἔχειν· ἀεὶ γὰρ ὅταν ἐνεργῇ τῇ μνήμῃ, καθάπερ καὶ πρότερον εἴπομεν, ὅτι εἶδε τοῦτο ἢ ἤκουσεν ἢ ἔμαθε, προσαισθάνεται ὅτι πρότερον· τὸ δὲ πρότερον καὶ ὕστερον ἐν χρόνῳ ἐστίν. τίνος μὲν οὖν τῶν τῆς ψυχῆς ἐστι μνήμη, φανερόν, ὅτι οὗπερ καὶ ἡ φαντασία· καί ἐστι μνημονευτὰ καθ’ αὑτὰ μὲν ὧν ἐστι φαντασία, κατὰ συμβεβηκὸς δὲ ὅσα μὴ ἄνευ φαντασίας.

ἀπορήσειε δ’ ἄν τις πῶς ποτε τοῦ μὲν πάθους παρόντος τοῦ δὲ πράγματος ἀπόντος μνημονεύεται τὸ μὴ παρόν. δῆλον γὰρ ὅτι δεῖ νοῆσαι τοιοῦτον τὸ γιγνόμενον διὰ τῆς αἰσθήσεως ἐν τῇ ψυχῇ καὶ τῷ μορίῳ τοῦ σώματος τῷ ἔχοντι αὐτήν - οἷον ζωγράφημά τι [τὸ πάθος] οὗ φαμεν τὴν ἕξιν μνήμην εἶναι· ἡ γὰρ γιγνομένη κίνησις ἐνσημαίνεται οἷον τύπον τινὰ τοῦ αἰσθήματος, καθάπερ οἱ σφραγιζόμενοι τοῖς δακτυλίοις. διὸ καὶ τοῖς [450b] μὲν ἐν κινήσει πολλῇ διὰ πάθος ἢ δι’ ἡλικίαν οὖσιν οὐ γίγνεται μνήμη, καθάπερ ἂν εἰς ὕδωρ ῥέον ἐμπιπτούσης τῆς κινήσεως καὶ τῆς σφραγῖδος· τοῖς δὲ διὰ τὸ ψήχεσθαι, καθάπερ τὰ παλαιὰ τῶν οἰκοδομημάτων, καὶ διὰ σκληρότητα τοῦ δεχομένου τὸ πάθος οὐκ ἐγγίγνεται ὁ τύπος. διόπερ οἵ τε σφόδρα νέοι καὶ οἱ γέροντες ἀμνήμονές εἰσιν· ῥέουσι γὰρ οἱ μὲν διὰ τὴν αὔξησιν, οἱ δὲ διὰ τὴν φθίσιν. ὁμοίως δὲ καὶ οἱ λίαν ταχεῖς καὶ οἱ λίαν βραδεῖς οὐδέτεροι φαίνονται μνήμονες· οἱ μὲν γάρ εἰσιν ὑγρότεροι τοῦ δέοντος, οἱ δὲ σκληρότεροι· τοῖς μὲν οὖν οὐ μένει τὸ φάντασμα ἐν τῇ ψυχῇ, τῶν δ’ οὐχ ἅπτεται.

ἀλλ’ εἰ δὴ τοιοῦτόν ἐστι τὸ συμβαῖνον περὶ τὴν μνήμην, πότερον τοῦτο μνημονεύει τὸ πάθος, ἢ ἐκεῖνο ἀφ’ οὗ ἐγένετο; εἰ μὲν γὰρ τουτο, τῶν ἀπόντων οὐδὲν ἂν μνημονεύοιμεν· εἰ δ’ ἐκεῖνο, πῶς αἰσθανόμενοι τοῦτο μνημονεύομεν οὗ μὴ αἰσθανόμεθα, τὸ ἀπόν; εἴ τ’ ἐστὶν ὅμοιον ὥσπερ τύπος ἢ γραφὴ ἐν ἡμῖν, ἡ τούτου αἴσθησις διὰ τί ἂν εἴη μνήμη ἑτέρου, ἀλλ’ οὐκ αὐτοῦ τούτου; ὁ γὰρ ἐνεργῶν τῇ μνήμῃ θεωρεῖ τὸ πάθος τοῦτο καὶ αἰσθάνεται τούτου. πῶς οὖν τὸ μὴ παρὸν μνημονεύσει; εἴη γὰρ ἂν καὶ ὁρᾶν τὸ μὴ παρὸν καὶ ἀκούειν. ἢ ἔστιν ὡς ἐνδέχεται καὶ συμβαίνειν τοῦτο; οἷον γὰρ τὸ ἐν πίνακι γεγραμμένον ζῷον καὶ ζῷόν ἐστι καὶ εἰκών, καὶ τὸ αὐτὸ καὶ ἓν τοῦτ’ ἐστὶν ἄμφω, τὸ μέντοι εἶναι οὐ ταὐτὸν ἀμφοῖν, καὶ ἔστι θεωρεῖν καὶ ὡς ζῷον καὶ ὡς εἰκόνα, οὕτω καὶ τὸ ἐν ἡμῖν φάντασμα δεῖ ὑπολαβεῖν καὶ αὐτό τι καθ’ αὑτὸ εἶναι καὶ ἄλλου [φάντασμα]. ᾗ μὲν οὖν καθ’ αὑτό, θεώρημα ἢ φάντασμά ἐστιν, ᾗ δ’ ἄλλου, οἷον εἰκὼν καὶ μνημόνευμα. ὥστε καὶ ὅταν ἐνεργῇ ἡ κίνησις αὐτοῦ, ἂν μὲν ᾗ καθ’ αὑτό ἐστι, ταύτῃ αἰσθάνηται ἡ ψυχὴ αὐτοῦ, οἷον νόημά τι ἢ φάντασμα φαίνεται ἐπελθεῖν· ἂν δ’ ᾗ ἄλλου καὶ ὥσπερ ἐν τῇ γραφῇ ὡς εἰκόνα θεωρεῖ καί, μὴ ἑωρακὼς τὸν Κορίσκον, ὡς Κορίσκου, ἐνταῦθά τε ἄλλο τὸ πάθος τῆς θεωρίας ταύτης καὶ ὅταν ὡς ζῷον γεγραμμένον [451a] θεωρῇ, ἔν τε τῇ ψυχῇ τὸ μὲν γίγνεται ὥσπερ νόημα μόνον, τὸ δ’ ὡς ἐκεῖ ὅτι εἰκών, μνημόνευμα. καὶ διὰ τοῦτο ἐνίοτ’ οὐκ ἴσμεν, ἐγγινομένων ἡμῖν ἐν τῇ ψυχῇ τοιούτων κινήσεων ἀπὸ τοῦ αἰσθέσθαι πρότερον, εἰ κατὰ τὸ ᾐσθῆσθαι συμβαίνει, καὶ εἰ ἔστι μνήμη ἢ οὔ, διστάζομεν· ὁτὲ δὲ συμβαίνει ἐννοῆσαι καὶ ἀναμνησθῆναι ὅτι ἠκούσαμέν τι πρότερον ἢ εἴδομεν. τοῦτο δὲ συμβαίνει, ὅταν θεωρῶν ὡς αὐτὸ μεταβάλλῃ καὶ θεωρῇ ὡς ἄλλου.

γίγνεται δὲ καὶ τοὐναντίον, οἷον συνέβη Ἀντιφέροντι τῷ Ὠρείτῃ καὶ ἄλλοις ἐξισταμένοις· τὰ γὰρ φαντάσματα ἔλεγον ὡς γενόμενα καὶ ὡς μνημονεύοντες. τοῦτο δὲ γίγνεται ὅταν τις τὴν μὴ εἰκόνα ὡς εἰκόνα θεωρῇ. αἱ δὲ μελέται τὴν μνήμην σῴζουσι τῷ ἐπαναμιμνήσκειν· τοῦτο δ’ ἐστὶν οὐδὲν ἕτερον ἢ τὸ θεωρεῖν πολλάκις ὡς εἰκόνα καὶ μὴ ὡς καθ’ αὑτό. τί μὲν οὖν ἐστι μνήμη καὶ τὸ μνημονεύειν, εἴρηται, ὅτι φαντάσματος, ὡς εἰκόνος οὗ φάντασμα, ἕξις, καὶ τίνος μορίου τῶν ἐν ἡμῖν, ὅτι τοῦ πρώτου αἰσθητικοῦ καὶ ᾧ χρόνου αἰσθανόμεθα.

Περὶ δὲ τοῦ ἀναμιμνήσκεσθαι λοιπὸν εἰπεῖν. πρῶτον μὲν οὖν ὅσα ἐν τοῖς ἐπιχειρηματικοῖς λόγοις ἐστὶν ἀληθῆ, δεῖ τιθέναι ὡς ὑπάρχοντα. οὔτε γὰρ μνήμης ἐστὶν ἀνάληψις ἡ ἀνάμνησις οὔτε λῆψις· ὅταν γὰρ τὸ πρῶτον μάθῃ ἢ πάθῃ, οὔτ’ ἀναλαμβάνει μνήμην οὐδεμίαν (οὐδεμία γὰρ προγέγονεν) οὔτ’ ἐξ ἀρχῆς λαμβάνει· ὅταν γὰρ ἐγγένηται ἡ ἕξις ἢ τὸ πάθος, τότε μνήμη ἐστίν, ὥστε μετὰ τοῦ πάθους ἐγγινομένου οὐκ ἐγγίνεται. ἔτι δ’ ὅτε τὸ πρῶτον ἐγγέγονε τῷ ἀτόμῳ καὶ ἐσχάτῳ, τὸ μὲν πάθος ἐνυπάρχει ἤδη τῷ παθόντι καὶ ἡ ἐπιστήμη, εἰ δεῖ καλεῖν ἐπιστήμην τὴν ἕξιν ἢ τὸ πάθος (οὐθὲν δὲ κωλύει κατὰ συμβεβηκὸς καὶ μνημονεύειν ἔνια ὧν ἐπιστάμεθα)· τὸ δὲ μνημονεύειν καθ’ αὑτὸ οὐχ ὑπάρχει πρὶν χρονισθῆναι· μνημονεύει γὰρ νῦν ὃ εἶδεν ἢ ἔπαθε πρότερον, οὐχ ὃ νῦν ἔπαθε, νῦν μνημονεύει. ἔτι δὲ φανερὸν [451b] ὅτι μνημονεύειν ἔστι μὴ νῦν ἀναμνησθέντα, ἀλλ’ ἐξ ἀρχῆς αἰσθόμενον ἢ παθόντα· ἀλλ’ ὅταν ἀναλαμβάνῃ ἣν πρότερον εἶχεν ἐπιστήμην ἢ αἴσθησιν ἢ οὗ ποτε τὴν ἕξιν ἐλέγομεν μνήμην, τοῦτ’ ἐστὶ καὶ τότε τὸ ἀναμιμνήσκεσθαι τῶν εἰρημένων τι, τῷ δὲ μνημονεύειν συμβαίνει καὶ μνήμην ἀκολουθεῖν. οὐδὲ δὴ ταῦτα ἁπλῶς, ἐὰν ἔμπροσθεν ὑπάρξαντα πάλιν ἐγγένηται, ἀλλ’ ἔστιν ὡς, ἔστι δ’ ὡς οὔ. δὶς γὰρ μαθεῖν καὶ εὑρεῖν ἐνδέχεται τὸν αὐτὸν τὸ αὐτό· δεῖ οὖν διαφέρειν τὸ ἀναμιμνήσκεσθαι τούτων, καὶ ἐνούσης πλείονος ἀρχῆς ἢ ἐξ ἧς μανθάνουσιν ἀναμιμνήσκεσθαι.

συμβαίνουσι δ’ αἱ ἀναμνήσεις ἐπειδὴ πέφυκεν ἡ κίνησις ἥδε γενέσθαι μετὰ τήνδε· εἰ μὲν ἐξ ἀνάγκης, δῆλον ὡς ὅταν ἐκείνην κινηθῇ, τήνδε κινηθήσεται· εἰ δὲ μὴ ἐξ ἀνάγκης ἀλλ’ ἔθει, ὡς ἐπὶ τὸ πολὺ κινηθήσεται. συμβαίνει δ’ ἐνίας ἅπαξ ἐθισθῆναι μᾶλλον ἢ ἑτέρας πολλάκις κινουμένους· διὸ ἔνια ἅπαξ ἰδόντες μᾶλλον μνημονεύομεν ἢ ἕτερα πολλάκις. ὅταν οὖν ἀναμιμνησκώμεθα, κινούμεθα τῶν προτέρων τινὰ κινήσεων, ἕως ἂν κινηθῶμεν μεθ’ ἣν ἐκείνη εἴωθεν. διὸ καὶ τὸ ἐφεξῆς θηρεύομεν νοήσαντες ἀπὸ τοῦ νῦν ἢ ἄλλου τινός, καὶ ἀφ’ ὁμοίου ἢ ἐναντίου ἢ τοῦ σύνεγγυς. διὰ τοῦτο γίγνεται ἡ ἀνάμνησις· αἱ γὰρ κινήσεις τούτων τῶν μὲν αἱ αὐταί, τῶν δ’ ἅμα, τῶν δὲ μέρος ἔχουσιν, ὥστε τὸ λοιπὸν μικρὸν ὃ ἐκινήθη μετ’ ἐκεῖνο.

ζητοῦσι μὲν οὖν οὕτω, καὶ μὴ ζητοῦντες δ’ οὕτως ἀναμιμνήσκονται, ὅταν μεθ’ ἑτέραν κίνησιν ἐκείνη γένηται· ὡς δὲ τὰ πολλὰ ἑτέρων γενομένων κινήσεων οἵων εἴπομεν ἐγένετο ἐκείνη. οὐδὲν δὲ δεῖ σκοπεῖν τὰ πόρρω, πῶς μεμνήμεθα, ἀλλὰ τὰ σύνεγγυς· δῆλον γὰρ ὅτι ὁ αὐτός ἐστι τρόπος. [λέγω δὲ τὸ ἐφεξῆς οὐ προζητήσας οὐδ’ ἀναμνησθείς.] τῷ γὰρ ἔθει ἀκολουθοῦσιν αἱ κινήσεις ἀλλήλαις, ἥδε μετὰ τήνδε, καὶ ὅταν τοίνυν ἀναμιμνήσκεσθαι βούληται, τοῦτο ποιήσει· ζητήσει λαβεῖν ἀρχὴν κινήσεως, μεθ’ ἣν ἐκείνη ἔσται. διὸ τάχιστα καὶ κάλλιστα γίνονται [452a] ἀπ’ ἀρχῆς αἱ ἀναμνήσεις· ὡς γὰρ ἔχουσι τὰ πράγματα πρὸς ἄλληλα τῷ ἐφεξῆς, οὕτω καὶ αἱ κινήσεις. καὶ ἔστιν εὐμνημόνευτα ὅσα τάξιν τινὰ ἔχει, ὥσπερ τὰ μαθήματα· τὰ δὲ φαύλως καὶ χαλεπῶς. καὶ τούτῳ διαφέρει τὸ ἀναμιμνήσκεσθαι τοῦ πάλιν μανθάνειν, ὅτι δυνήσεταί πως δι’ αὑτοῦ κινηθῆναι ἐπὶ τὸ μετὰ τὴν ἀρχήν. ὅταν δὲ μή, ἀλλὰ δι’ ἄλλου, οὐκέτι μέμνηται. πολλάκις δ’ ἤδη μὲν ἀδυνατεῖ ἀναμνησθῆναι, ζητῶν δὲ δύναται καὶ εὑρίσκει. τοῦτο δὲ γίγνεται κινοῦντι πολλά, ἕως ἂν τοιαύτην κινήσῃ κίνησιν ᾗ ἀκολουθήσει τὸ πρᾶγμα. τὸ γὰρ μεμνῆσθαί ἐστι τὸ ἐνεῖναι δύναμιν τὴν κινοῦσαν· τοῦτο δέ, ὥστ’ ἐξ αὑτοῦ καὶ ὧν ἔχει κινήσεων κινηθῆναι, ὥσπερ εἴρηται. δεῖ δὲ λαβέσθαι ἀρχῆς· διὸ ἀπὸ τόπων δοκοῦσιν ἀναμιμνήσκεσθαι ἐνίοτε. τὸ δ’ αἴτιον ὅτι ταχὺ ἀπ’ ἄλλου ἐπ’ ἄλλο ἔρχονται, οἷον ἀπὸ γάλακτος ἐπὶ λευκόν, ἀπὸ λευκοῦ δ’ ἐπ’ ἀέρα, καὶ ἀπὸ τούτου ἐφ’ ὑγρόν, ἀφ’ οὗ ἐμνήσθη μετοπώρου, ταύτην ἐπιζητῶν τὴν ὥραν.

ἔοικε δὲ καθόλου ἀρχῇ καὶ τὸ μέσον πάντων· εἰ γὰρ μὴ πρότερον, ὅταν ἐπὶ τοῦτο ἔλθῃ μνησθήσεται, ἢ οὐκέτ’ οὐδὲ ἄλλοθεν, οἷον εἴ τις νοήσειεν ἐφ’ ὧν Α Β Γ Δ Ε Ζ Η Θ ‹Ι›· εἰ γὰρ μὴ ἐπὶ τοῦ Ι μέμνηται, ἐπὶ τοῦ Ε μνησθήσεται· ἐντεῦθεν γὰρ ἐπ’ ἄμφω κινηθῆναι ἐνδέχεται, καὶ ἐπὶ τὸ Δ καὶ ἐπὶ τὸ Ζ. εἰ δὲ μὴ τούτων τι ἐζήτει, ἐπὶ τὸ Γ ἐλθὼν μνησθήσεται, εἰ τὸ Α ἢ τὸ Β ἐπιζητεῖ, εἰ δὲ μή, ἐπὶ τὸ Η· καὶ οὕτως ἀεί. τοῦ δ’ ἀπὸ τοῦ αὐτοῦ ἐνίοτε μὲν μνησθῆναι, ἐνίοτε δὲ μή, αἴτιον ὅτι ἐπὶ πλείω ἐνδέχεται κινηθῆναι ἀπὸ τῆς αὐτῆς ἀρχῆς, οἷον ἀπὸ τοῦ Γ ἐπὶ τὸ Β ἢ τὸ Δ. ἐὰν οὖν διὰ πολλοῦ κινηθῇ, ἐπὶ τὸ συνηθέστερον κινεῖται· ὥσπερ γὰρ φύσις ἤδη τὸ ἔθος. διὸ ἃ πολλάκις ἐννοοῦμεν, ταχὺ ἀναμιμνησκόμεθα· ὥσπερ γὰρ φύσει τόδε μετὰ τόδε ἐστίν, οὕτω καὶ ἐνεργείᾳ· τὸ δὲ πολλάκις φύσιν ποιεῖ. ἐπεὶ δ’ ὥσπερ [452b] ἐν τοῖς φύσει γίγνεται καὶ παρὰ φύσιν καὶ ἀπὸ τύχης, ἔτι μᾶλλον ἐν τοῖς δι’ ἔθος, οἷς ἡ φύσις γε μὴ ὁμοίως ὑπάρχει, ὥστε κινηθῆναι ἐνίοτε κἀκεῖ καὶ ἄλλως, ἄλλως τε καὶ ὅταν ἀφέλκῃ ‹τι› ἐκεῖθεν αὑτόσε πῃ, διὰ τοῦτο καὶ ὅταν δέῃ ὄνομα μνημονεῦσαι, παρόμοιον ‹εἰ› ἴσμεν, εἰς ἐκεῖνο σολοικίζομεν. τὸ μὲν οὖν ἀναμιμνήσκεσθαι τοῦτον συμβαίνει τὸν τρόπον.

τὸ δὲ μέγιστον, γνωρίζειν δεῖ τὸν χρόνον, ἢ μέτρῳ ἢ ἀορίστως. ἔστω δέ τι ᾧ κρίνει τὸν πλείω καὶ ἐλάττω· εὔλογον δ’ ὥσπερ τὰ μεγέθη· νοεῖ γὰρ τὰ μεγάλα καὶ πόρρω οὐ τῷ ἀποτείνειν ἐκεῖ τὴν διάνοιαν ὥσπερ τὴν ὄψιν φασί τινες (καὶ γὰρ μὴ ὄντων ὁμοίως νοήσει), ἀλλὰ τῇ ἀνάλογον κινήσει· ἔστι γὰρ ἐν αὐτῇ τὰ ὅμοια σχήματα καὶ κινήσεις. τίνι οὖν διοίσει, ὅταν τὰ μείζω νοῇ, ὅτι ἐκεῖνα νοεῖ ἢ τὰ ἐλάττω; πάντα γὰρ τὰ ἐντὸς ἐλάττω, καὶ ἀνὰ λόγον [καὶ τὰ ἐκτός]. ἔστι δ’ ἴσως ὥσπερ καὶ τοῖς εἴδεσιν ἀνάλογον λαβεῖν ἄλλο ἐν αὑτῷ, οὕτως καὶ τοῖς ἀποστήμασιν. ὥσπερ οὖν εἰ τὴν Α Β   Β Ε κινεῖται, ποιεῖ τὴν Γ Δ· ἀνάλογον γὰρ ἡ Α Γ καὶ ἡ Γ Δ. τί οὖν μᾶλλον τὴν Γ Δ ἢ τὴν Ζ Η ποιεῖ; ἢ ὡς ἡ Α Γ πρὸς τὴν Α Β ἔχει, οὕτως ἡ Θ πρὸς τὴν Ι ἔχει; ταύτας οὖν ἅμα κινεῖται. ἂν δὲ τὴν Ζ Η βούληται νοῆσαι, τὴν μὲν Β Ε ὁμοίως νοεῖ, ἀντὶ δὲ τῶν Θ Ι τὰς Κ Λ νοεῖ· αὗται γὰρ ἔχουσιν ὡς Ζ Α πρὸς Β Α.

ὅταν οὖν ἅμα ἥ τε τοῦ πράγματος γίγνηται κίνησις καὶ ἡ τοῦ χρόνου, τότε τῇ μνήμῃ ἐνεργεῖ. ἂν δ’ οἴηται μὴ ποιῶν, οἴεται μνημονεύειν· οὐθὲν γὰρ κωλύει διαψευσθῆναί τινα καὶ δοκεῖν μνημονεύειν μὴ μνημονεύοντα.

ἐνεργοῦντα δὲ τῇ μνήμῃ μὴ οἴεσθαι ἀλλὰ λανθάνειν μεμνημένον οὐκ ἔστιν· τοῦτο γὰρ ἦν αὐτὸ τὸ μεμνῆσθαι. ἀλλ' ἐὰν ἡ τοῦ πράγματος γένηται χωρὶς τῆς τοῦ χρόνου ἢ αὕτη ἐκείνης, οὐ μέμνηται. ἡ δὲ τοῦ χρόνου διττή ἐστιν· ὁτὲ μὲν γὰρ μέτρῳ οὐ μέμνηται αὐτόν, [453a] οἷον ὅτι τρίτῃ ἡμέρᾳ ὁδήποτε ἐποίησεν, ὁτὲ δὲ καὶ μέτρῳ· ἀλλὰ μέμνηται καὶ ἐὰν μὴ μέτρῳ. εἰώθασι δὲ λέγειν ὅτι μέμνηνται μέν, πότε μέντοι οὐκ ἴσασιν, ὅταν μὴ γνωρίζωσι τοῦ πότε τὸ ποσὸν μέτρῳ.

ὅτι μὲν οὖν οὐχ οἱ αὐτοὶ μνημονικοὶ καὶ ἀναμνηστικοί, ἐν τοῖς πρότερον εἴρηται. διαφέρει δὲ τοῦ μνημονεύειν τὸ ἀναμιμνήσκεσθαι οὐ μόνον κατὰ τὸν χρόνον, ἀλλ' ὅτι τοῦ μὲν μνημονεύειν καὶ τῶν ἄλλων ζῴων μετέχει πολλά, τοῦ δ' ἀναμιμνήσκεσθαι οὐδὲν ὡς εἰπεῖν τῶν γνωριζομένων ζῴων, πλὴν ἄνθρωπος. αἴτιον δ' ὅτι τὸ ἀναμιμνήσκεσθαί ἐστιν οἷον συλλογισμός τις· ὅτι γὰρ πρότερον εἶδεν ἢ ἤκουσεν ἤ τι τοιοῦτον ἔπαθε, συλλογίζεται ὁ ἀναμιμνησκόμενος, καὶ ἔστιν οἷον ζήτησίς τις. τοῦτο δ' οἷς καὶ τὸ βουλευτικὸν ὑπάρχει, φύσει μόνοις συμβέβηκεν· καὶ γὰρ τὸ βουλεύεσθαι συλλογισμός τίς ἐστιν.

ὅτι δ' ἐστὶ σωματικόν τι τὸ πάθος, καὶ ἡ ἀνάμνησις ζήτησις ἐν τοιούτῳ φαντάσματος, σημεῖον τὸ παρενοχλεῖν ἐνίους ἐπειδὰν μὴ δύνωνται ἀναμνησθῆναι καὶ πάνυ ἐπέχοντες τὴν διάνοιαν, καὶ οὐκέτ' ἐπιχειροῦντας ἀναμιμνήσκεσθαι οὐδὲν ἧττον, καὶ μάλιστα τοὺς μελαγχολικούς· τούτους γὰρ φαντάσματα κινεῖ μάλιστα. αἴτιον δὲ τοῦ μὴ ἐπ' αὐτοῖς εἶναι [τὸ ἀναμιμνήσκεσθαι], ὅτι καθάπερ τοῖς βάλλουσιν οὐκέτι ἐπ' αὐτοῖς τὸ στῆσαι, οὕτως καὶ ὁ ἀναμιμνησκόμενος καὶ θηρεύων σωματικόν τι κινεῖ, ἐν ᾧ τὸ πάθος. μάλιστα δ' ἐνοχλοῦνται οἷς ἂν ὑγρότης τύχῃ ὑπάρχουσα περὶ τὸν αἰσθητικὸν τόπον· οὐ γὰρ ῥᾳδίως παύεται κινηθεῖσα, ἕως ἂν ἐπανέλθῃ τὸ ζητούμενον καὶ εὐθυπορήσῃ ἡ κίνησις. διὸ καὶ ὀργαὶ καὶ φόβοι, ὅταν τι κινήσωσιν, ἀντικινούντων πάλιν τούτων οὐ καθίστανται, ἀλλ' ἐπὶ τὸ αὐτὸ ἀντικινοῦσιν. καὶ ἔοικε τὸ πάθος τοῖς ὀνόμασι καὶ μέλεσι καὶ λόγοις, ὅταν διὰ στόματος γένηταί τι αὐτῶν σφόδρα· παυσαμένοις γὰρ καὶ οὐ βουλομένοις ἐπέρχεται πάλιν ᾄδειν ἢ λέγειν. εἰσὶ δὲ καὶ οἱ τὰ ἄνω μείζω ἔχοντες καὶ οἱ νανώδεις [453b] ἀμνημονέστεροι τῶν ἐναντίων διὰ τὸ πολὺ βάρος ἔχειν ἐπὶ τῷ αἰσθητικῷ, καὶ μήτ' ἐξ ἀρχῆς τὰς κινήσεις δύνασθαι ἐμμένειν ἀλλὰ διαλύεσθαι μήτ' ἐν τῷ ἀναμιμνήσκεσθαι ῥᾳδίως εὐθυπορεῖν. οἱ δὲ πάμπαν νέοι καὶ λίαν γέροντες ἀμνήμονες διὰ τὴν κίνησιν· οἱ μὲν γὰρ ἐν φθίσει, οἱ δ' ἐν αὐξήσει πολλῇ εἰσίν· ἔτι δὲ τά γε παιδία καὶ νανώδη ἐστὶ μέχρι πόρρω τῆς ἡλικίας.

περὶ μὲν οὖν μνήμης καὶ τοῦ μνημονεύειν, τίς ἡ φύσις αὐτῶν καὶ τίνι τῶν τῆς ψυχῆς μνημονεύει τὰ ζῷα, καὶ περὶ τοῦ ἀναμιμνήσκεσθαι, τί ἐστι καὶ πῶς γίγνεται καὶ διὰ τίνας αἰτίας, εἴρηται.

Περι Υπνον και Εγρηγορσεωσ (453b) On Sleep

[453b] Περὶ δὲ ὕπνου καὶ ἐγρηγόρσεως ἐπισκεπτέον τίνα τε τυγχάνει ὄντα, καὶ πότερον ἴδια τῆς ψυχῆς ἢ τοῦ σώματος ἢ κοινά, καὶ εἰ κοινά, τίνος μορίου τῆς ψυχῆς ἢ τοῦ σώματος, καὶ διὰ τίν' αἰτίαν ὑπάρχει τοῖς ζῴοις· καὶ πότερον ἅπαντα κεκοινώνηκεν ἀμφοτέρων, ἢ τὰ μὲν θατέρου τὰ δὲ θατέρου μόνον, ἢ τὰ μὲν οὐδετέρου τὰ δὲ ἀμφοτέρων· πρὸς δὲ τούτοις τί ἐστι τὸ ἐνύπνιον, καὶ διὰ τίνα αἰτίαν οἱ καθεύδοντες ὁτὲ μὲν ὀνειρώττουσιν ὁτὲ δὲ οὔ, ἢ συμβαίνει μὲν ἀεὶ τοῖς καθεύδουσιν ἐνυπνιάζειν, ἀλλ' οὐ μνημονεύουσιν, καὶ εἰ τοῦτο γίγνεται, διὰ τίνα αἰτίαν γίγνεται· καὶ πότερον ἐνδέχεται τὰ μέλλοντα προορᾶν ἢ οὐκ ἐνδέχεται, καὶ τίνα τρόπον εἰ ἐνδέχεται· καὶ πότερον τὰ μέλλοντα ὑπ' ἀνθρώπου πράσσεσθαι μόνον, ἢ καὶ ὧν τὸ δαιμόνιον ἔχει τὴν αἰτίαν, καὶ φύσει γίγνεται ἢ ἀπὸ ταὐτομάτου.

πρῶτον μὲν οὖν τοῦτό γε φανερόν, ὅτι τῷ αὐτῷ τοῦ ζῴου ἥ τε ἐγρήγορσις ὑπάρχει καὶ ὁ ὕπνος· ἀντίκεινται γάρ, καὶ φαίνεται στέρησίς τις ὁ ὕπνος τῆς ἐγρηγόρσεως· ἀεὶ γὰρ τὰ ἐναντία καὶ ἐπὶ τῶν ἄλλων καὶ ἐν τοῖς φυσικοῖς ἐν τῷ αὐτῷ δεκτικῷ φαίνεται γιγνόμενα, καὶ τοῦ αὐτοῦ ὄντα πάθη, λέγω δ' οἷον ὑγίεια καὶ νόσος, καὶ κάλλος καὶ αἶσχος, καὶ ἰσχὺς καὶ ἀσθένεια, καὶ ὄψις καὶ τυφλότης, καὶ ἀκοὴ καὶ κωφότης. ἔτι δὲ [454a] καὶ ἐκ τῶνδε δῆλον· ᾧ γὰρ τὸν ἐγρηγορότα γνωρίζομεν, τούτῳ καὶ τὸν καθυπνοῦντα· τὸν δὲ αἰσθανόμενον ἐγρηγορέναι νομίζομεν, καὶ τὸν ἐγρηγορότα πάντα ἢ τῶν ἔξωθέν τινος αἰσθάνεσθαι ἢ τῶν ἐν αὑτῷ κινήσεων. εἰ τοίνυν τὸ ἐγρηγορέναι ἐν μηδενὶ ἄλλῳ ἐστὶν ἢ τῷ αἰσθάνεσθαι, δῆλον ὅτι ᾧ περ αἰσθάνεται, τούτῳ καὶ ἐγρήγορε τὰ ἐγρηγορότα καὶ καθεύδει τὰ καθεύδοντα. ἐπεὶ δὲ οὔτε τῆς ψυχῆς ἴδιον τὸ αἰσθάνεσθαι οὔτε τοῦ σώματος (οὗ γὰρ ἡ δύναμις, τούτου καὶ ἡ ἐνέργεια· ἡ δὲ λεγομένη αἴσθησις ὡς ἐνέργεια κίνησίς τις διὰ τοῦ σώματος τῆς ψυχῆς ἐστι), φανερὸν ὡς οὔτε τῆς ψυχῆς τὸ πάθος ἴδιον, οὔτ' ἄψυχον σῶμα δυνατὸν αἰσθάνεσθαι.

διωρισμένων δὲ πρότερον ἐν ἑτέροις περὶ τῶν λεγομένων ὡς μορίων τῆς ψυχῆς, καὶ τοῦ μὲν θρεπτικοῦ χωριζομένου τῶν ἄλλων ἐν τοῖς ἔχουσι σώμασι ζωήν, τῶν δ' ἄλλων οὐδενὸς ἄνευ τούτου, δῆλον ὡς ὅσα μὲν αὐξήσεως καὶ φθίσεως μετέχει μόνον τῶν ζώντων, [ὅτι] τούτοις οὐχ ὑπάρχει ὕπνος οὐδὲ ἐγρήγορσις, οἷον τοῖς φυτοῖς (οὐ γὰρ ἔχουσι τὸ αἰσθητικὸν μόριον, οὔτε εἰ χωριστόν ἐστιν οὔτε εἰ μὴ χωριστόν· τῇ γὰρ δυνάμει καὶ τῷ εἶναι χωριστόν ἐστιν)· ὁμοίως δὲ καὶ ὅτι οὐδέν ἐστιν ὃ ἀεὶ ἐγρήγορεν ἢ ἀεὶ καθεύδει, ἀλλὰ τοῖς αὐτοῖς ὑπάρχει τῶν ζῴων ἀμφότερα τὰ πάθη ταῦτα. οὐ γάρ, εἴ τι ἔστι ζῷον ‹μὴ› ἔχον αἴσθησιν, τοῦτ' ἐνδέχεται οὔτε καθεύδειν οὔτε ἐγρηγορέναι (ἄμφω γάρ ἐστι τὰ πάθη ταῦτα περὶ αἴσθησιν τοῦ πρώτου αἰσθητικοῦ)· οὐκ ἐνδέχεται δὲ οὐδὲ θάτερον τούτων ἀεὶ ὑπάρχειν τῷ αὐτῷ, οἷον ἀεί τι γένος ζῴων καθεύδειν ἢ ἀεί τι ἐγρηγορέναι. ἔτι ὅσων ἔστι τι ἔργον κατὰ φύσιν, ὅταν ὑπερβάλλῃ τὸν χρόνον ὅσον δύναταί τι ποιεῖν, ἀνάγκη ἀδυνατεῖν, οἷον τὰ ὄμματα ὁρῶντα, καὶ παύεσθαι τοῦτο ποιοῦντα, ὁμοίως δὲ καὶ χεῖρα καὶ ἄλλο πᾶν οὗ ἔστι τι ἔργον. εἰ δή τινός ἐστιν ἔργον τὸ αἰσθάνεσθαι, καὶ τοῦτο, ἂν ὑπερβάλλῃ ὅσον ἦν χρόνον δυνάμενον αἰσθάνεσθαι συνεχῶς, ἀδυνατήσει καὶ οὐκέτι τοῦτο ποιήσει. εἰ τοίνυν τὸ ἐγρηγορέναι ὥρισται τῷ λελύσθαι [454b] τὴν αἴσθησιν, τῶν δ' ἐναντίων τῶν μὲν ἀνάγκη θάτερον ἀεὶ παρεῖναι τῶν δ' οὔ, τῷ δ' ἐγρηγορέναι τὸ καθεύδειν ἐναντίον, καὶ ἀναγκαῖον ἅπαντι θάτερον ὑπάρχειν, ἀναγκαῖον ἂν εἴη καθεύδειν. εἰ οὖν τὸ τοιοῦτον πάθος ὕπνος, τοῦτο δ' ἐστὶν ἀδυναμία δι' ὑπερβολὴν τοῦ ἐγρηγορέναι, ἡ δὲ τοῦ ἐγρηγορέναι ὑπερβολὴ ὁτὲ μὲν νοσώδης ὁτὲ δὲ ἄνευ νόσου γίγνεται, ὥστε καὶ ἡ ἀδυναμία καὶ ἡ διάλυσις ὡσαύτως ἔσται, ἀνάγκη πᾶν τὸ ἐγρηγορὸς ἐνδέχεσθαι καθεύδειν· ἀδύνατον γὰρ ἀεὶ ἐνεργεῖν.

ὁμοίως δὲ οὐδὲ καθεύδειν οὐδὲν ἀεὶ ἐνδέχεται. ὁ γὰρ ὕπνος πάθος τι τοῦ αἰσθητικοῦ μορίου ἐστίν, οἷον δεσμός τις καὶ ἀκινησία, ὥστ' ἀνάγκη πᾶν τὸ καθεῦδον ἔχειν τὸ αἰσθητικὸν μόριον. αἰσθητικὸν δὲ τὸ δυνατὸν αἰσθάνεσθαι κατ' ἐνέργειαν· ἐνεργεῖν δὲ τῇ αἰσθήσει κυρίως καὶ ἁπλῶς ἀδύνατον καθεῦδον ἅμα· διὸ ἀναγκαῖον ὕπνον πάντα ἐγερτὸν εἶναι. τὰ μὲν οὖν ἄλλα σχεδὸν ἅπαντα δῆλα κοινωνοῦνθ' ὕπνου, καὶ πλωτὰ καὶ πτηνὰ καὶ πεζά· καὶ γὰρ τὰ τῶν ἰχθύων γένη πάντα καὶ τὰ τῶν μαλακίων ὦπται καθεύδοντα, καὶ τἆλλα πάντα ὅσαπερ ἔχει ὀφθαλμούς· καὶ γὰρ τὰ σκληρόφθαλμα φανερὰ καὶ τὰ ἔντομα κοιμώμενα· βραχύυπνα δὲ τὰ τοιαῦτα πάντα, διὸ καὶ λάθοι ἄν τινα πολλάκις πότερον μετέχουσι τοῦ καθεύδειν ἢ οὔ. τῶν δ' ὀστρακοδέρμων κατὰ μὲν τὴν αἴσθησιν οὐδέ πω γέγονε φανερὸν εἰ καθεύδουσιν· εἰ δέ τῳ πιθανὸς ὁ λεχθεὶς λόγος, τοῦτο πεισθήσεται. ὅτι μὲν οὖν ὕπνου κοινωνεῖ τὰ ζῷα πάντα, φανερὸν ἐκ τούτων. τῷ γὰρ αἴσθησιν ἔχειν ὥρισται τὸ ζῷον, τῆς δ’ αἰσθήσεως τρόπον τινὰ τὴν μὲν ἀκινησίαν καὶ οἷον δεσμὸν τὸν ὕπνον εἶναί φαμεν, τὴν δὲ λύσιν καὶ τὴν ἄνεσιν ἐγρήγορσιν. τῶν δὲ φυτῶν οὐδὲν οἷόν τε κοινωνεῖν οὐδετέρου τούτων τῶν παθημάτων· ἄνευ μὲν γὰρ αἰσθήσεως οὐχ ὑπάρχει οὔτε ὕπνος οὔτε ἐγρήγορσις· οἷς δ’ αἴσθησις ὑπάρχει, καὶ τὸ λυπεῖσθαι καὶ τὸ χαίρειν· οἷς δὲ ταῦτα, καὶ ἐπιθυμία· τοῖς δὲ φυτοῖς οὐδὲν ὑπάρχει τούτων. σημεῖον δ’ ὅτι καὶ τὸ ἔργον τὸ αὑτοῦ ποιεῖ τὸ θρεπτικὸν [455a] μόριον ἐν τῷ καθεύδειν μᾶλλον ἢ ἐν τῷ ἐγρηγορέναι· τρέφεται γὰρ καὶ αὐξάνεται τότε μᾶλλον, ὡς οὐδὲν προσδεόμενα πρὸς ταῦτα τῆς αἰσθήσεως.

Διὰ τί δὲ καθεύδει καὶ ἐγρήγορε καὶ διὰ ποίαν τινὰ αἴσθησιν ἢ ποίας, εἰ διὰ πλείους, σκεπτέον. ἐπεὶ δ’ ἔνια μὲν τῶν ζῴων ἔχει τὰς αἰσθήσεις πάσας, ἔνια δ’ οὐκ ἔχει, οἷον ὄψιν, τὴν δ’ ἁφὴν καὶ τὴν γεῦσιν ἅπαντα ἔχει, πλὴν εἴ τι τῶν ζῴων ἀτελές (εἴρηται δὲ περὶ αὐτῶν ἐν τοῖς Περὶ ψυχῆς), ἀδύνατον δ’ ἐστὶν ἁπλῶς ὁποιανοῦν αἴσθησιν αἰσθάνεσθαι τὸ καθεῦδον ζῷον, φανερὸν ὅτι πάσαις ἀναγκαῖον ὑπάρχειν τὸ αὐτὸ πάθος ἐν τῷ καλουμένῳ ὕπνῳ· εἰ γὰρ τῇ μέν, τῇ δὲ μή, ταύτῃ καθεῦδον αἰσθήσεται, τοῦτο δ’ ἀδύνατον. ἐπεὶ δ’ ὑπάρχει καθ’ ἑκάστην αἴσθησιν τὸ μέν τι ἴδιον, τὸ δέ τι κοινόν, ἴδιον μὲν οἷον τῇ ὄψει τὸ ὁρᾶν, τῇ δ’ ἀκοῇ τὸ ἀκούειν, καὶ ταῖς ἄλλαις ἑκάστῃ κατὰ τὸν αὐτὸν τρόπον, ἔστι δέ τις καὶ κοινὴ δύναμις ἀκολουθοῦσα πάσαις, ᾗ καὶ ὅτι ὁρᾷ καὶ ἀκούει αἰσθάνεται (οὐ γὰρ δὴ τῇ γε ὄψει ὁρᾷ ὅτι ὁρᾷ, καὶ κρίνει δὴ καὶ δύναται κρίνειν ὅτι ἕτερα τὰ γλυκέα τῶν λευκῶν οὔτε γεύσει οὔτε ὄψει οὔτε ἀμφοῖν, ἀλλά τινι κοινῷ μορίῳ τῶν αἰσθητηρίων ἁπάντων· ἔστι μὲν γὰρ μία αἴσθησις, καὶ τὸ κύριον αἰσθητήριον ἕν, τὸ δ’ εἶναι αἰσθήσει τοῦ γένους ἑκάστου ἕτερον, οἷον ψόφου καὶ χρώματος), τοῦτο δ’ ἅμα τῷ ἁπτικῷ μάλιστα ὑπάρχει (τοῦτο μὲν γὰρ χωρίζεται τῶν ἄλλων αἰσθητηρίων, τὰ δ’ ἄλλα τούτου ἀχώριστα, εἴρηται δὲ περὶ αὐτῶν ἐν τοῖς Περὶ ψυχῆς θεωρήμασιν), φανερὸν τοίνυν ὅτι τούτου ἐστὶ πάθος ἡ ἐγρήγορσις καὶ ὁ ὕπνος. διὸ καὶ πᾶσιν ὑπάρχει τοῖς ζῴοις· καὶ γὰρ ἡ ἁφὴ μόνη πᾶσιν· εἰ γὰρ τῷ πάσας τι πεπονθέναι τὰς αἰσθήσεις ἐγίγνετο τὸ καθεύδειν, ἄτοπον εἰ αἷς οὔτε ἀνάγκη οὔτε δυνατὸν τρόπον τινὰ ἐνεργεῖν ἅμα, ταύτας ἀναγκαῖον ἀργεῖν ἅμα καὶ ἀκινητίζειν· τοὐναντίον γὰρ εὐλογώτερον συνέβαινεν ἂν αὐταῖς, τὸ μὴ ἅμα ἠρεμεῖν. ὡς δὲ νῦν λέγομεν, εὐλόγως ἔχει καὶ περὶ τούτων· τοῦ γὰρ κυρίου τῶν ἄλλων πάντων αἰσθητηρίου, καὶ πρὸς ὃ συντείνει τἆλλα, πεπονθότος τι συμπάσχειν ἀναγκαῖον [455b] καὶ τὰ λοιπὰ πάντα, ἐκείνων δέ τινος ἀδυνατοῦντος οὐκ ἀνάγκη τοῦτ’ ἀδυνατεῖν.

φανερὸν δὲ ἐκ πολλῶν ὅτι οὐκ ἐν τῷ τὰς αἰσθήσεις ἀργεῖν καὶ μὴ χρῆσθαι αὐταῖς ὁ ὕπνος, οὐδ’ ἐν τῷ μὴ δύνασθαι αἰσθάνεσθαι (καὶ γὰρ ἐν ταῖς λειποψυχίαις τοιοῦτόν τι συμβαίνει· ἀδυναμία γὰρ αἰσθήσεως ἡ λειποψυχία, γίγνονται δὲ καὶ ἔκνοιαί τινες τοιαῦται· ἔτι δ’ οἱ τὰς ἐν τῷ αὐχένι φλέβας καταλαμβανόμενοι ἀναίσθητοι γίγνονται), ἀλλ’ ὅταν ἡ ἀδυναμία τῆς χρήσεως μήτ’ ἐν τῷ τυχόντι αἰσθητηρίῳ, μήτε δι’ ἣν ἔτυχεν αἰτίαν, ἀλλά, καθάπερ εἴρηται νῦν, ἐν τῷ πρώτῳ ᾧ αἰσθάνεται πάντων· ὅταν μὲν γὰρ τοῦτ’ ἀδυνατήσῃ, ἀνάγκη καὶ τοῖς αἰσθητηρίοις πᾶσιν ἀδυνατεῖν αἰσθέσθαι, ὅταν δ’ ἐκείνων τι, οὐκ ἀνάγκη τούτῳ.

δι’ ἣν δ’ αἰτίαν συμβαίνει τὸ καθεύδειν, καὶ ποῖόν τι τὸ πάθος ἐστί, λεκτέον. ἐπεὶ δὲ τρόποι πλείους τῆς αἰτίας (καὶ γὰρ τὸ τίνος ἕνεκεν, καὶ ὅθεν ἡ ἀρχὴ τῆς κινήσεως, καὶ τὴν ὕλην καὶ τὸν λόγον αἴτιον εἶναί φαμεν), πρῶτον μὲν οὖν ἐπειδὴ λέγομεν τὴν φύσιν ἕνεκά του ποιεῖν, τοῦτο δὲ ἀγαθόν τι, τὴν δ’ ἀνάπαυσιν παντὶ τῷ πεφυκότι κινεῖσθαι, μὴ δυναμένῳ δ’ ἀεὶ καὶ συνεχῶς κινεῖσθαι μεθ’ ἡδονῆς, ἀναγκαῖον εἶναι καὶ ὠφέλιμον, τῷ δὲ ὕπνῳ αὐτῇ τῇ ἀληθείᾳ προσάπτουσι τὴν μεταφορὰν ταύτην ὡς ἀναπαύσει ὄντι - ὥστε σωτηρίας ἕνεκα τῶν ζῴων ὑπάρχει. ἡ δ’ ἐγρήγορσις τέλος· τὸ γὰρ αἰσθάνεσθαι καὶ τὸ φρονεῖν πᾶσι τέλος οἷς ὑπάρχει θάτερον αὐτῶν. βέλτιστα γὰρ ταῦτα, τὸ δὲ τέλος βέλτιστον. ἔτι δὲ ἀναγκαῖον ἑκάστῳ τῶν ζῴων ὑπάρχειν τὸν ὕπνον. λέγω δ’ ἐξ ὑποθέσεως τὴν ἀνάγκην, ὅτι εἰ ζῷον ἔσται ἔχον τὴν αὑτοῦ φύσιν, ἐξ ἀνάγκης τινὰ ὑπάρχειν αὐτῷ δεῖ, καὶ τούτων ὑπαρχόντων ἕτερα ὑπάρχειν. ἔτι δὲ ποίας κινήσεως καὶ πράξεως ἐν τοῖς σώμασι γιγνομένης συμβαίνει τό τε ἐγρηγορέναι καὶ τὸ καθεύδειν τοῖς ζῴοις, μετὰ ταῦτα λεκτέον. τοῖς μὲν οὖν ἄλλοις ζῴοις καθάπερ τοῖς ἐναίμοις ὑποληπτέον εἶναι τὰ αἴτια τοῦ πάθους ἢ ταὐτὰ ἢ τὰ ἀνάλογον, τοῖς δ’ ἐναίμοις ἅπερ τοῖς ἀνθρώποις· ὥστε ἐκ τούτων πάντα θεωρητέον.

ὅτι μὲν οὖν ἡ τῆς αἰσθήσεως ἀρχὴ γίγνεται [456a] ἀπὸ τοῦ αὐτοῦ μέρους τοῖς ζῴοις ἀφ’ οὗπερ καὶ ἡ τῆς κινήσεως, διώρισται πρότερον ἐν ἑτέροις. αὕτη δέ ἐστι τριῶν διωρισμένων τόπων ὁ μέσος κεφαλῆς καὶ τῆς κάτω κοιλίας. τοῖς μὲν οὖν ἐναίμοις τοῦτ’ ἐστὶ τὸ περὶ τὴν καρδίαν μέρος. πάντα γὰρ τὰ ἔναιμα καρδίαν ἔχει, καὶ ἡ ἀρχὴ τῆς κινήσεως καὶ τῆς αἰσθήσεως τῆς κυρίας ἐντεῦθέν ἐστιν. τῆς μὲν οὖν κινήσεως φανερὸν ὅτι καὶ ἡ τοῦ πνεύματος ἀρχὴ καὶ ὅλως ἡ τῆς καταψύξεώς ἐστιν ἐνταῦθα, καὶ τὸ ἀναπνεῖν τε καὶ τὸ τῷ ὑγρῷ καταψύχεσθαι πρός γε τὴν σωτηρίαν τοῦ ἐν τούτῳ μορίῳ θερμοῦ ἡ φύσις πεπόρικεν· ῥηθήσεται δὲ περὶ αὐτῆς ὕστερον καθ’ αὑτήν. τοῖς δὲ ἀναίμοις καὶ τοῖς ἐντόμοις καὶ μὴ δεχομένοις πνεῦμα ἐν τῷ ἀνάλογον τὸ σύμφυτον πνεῦμα ἀναφυσώμενον καὶ συνιζάνον φαίνεται.

δῆλον δὲ τοῦτο ἐπὶ τῶν ὁλοπτέρων, οἷον σφηκῶν καὶ μελιττῶν, καὶ ἐν ταῖς μυίαις καὶ ὅσα τοιαῦτα. ἐπεὶ δὲ κινεῖν μέν τι ἢ ποιεῖν ἄνευ ἰσχύος ἀδύνατον, ἰσχὺν δὲ ποιεῖ ἡ τοῦ πνεύματος κάθεξις, τοῖς μὲν εἰσφερομένοις ἡ θύραθεν, τοῖς δὲ μὴ ἀναπνέουσιν ἡ σύμφυτος (διὸ καὶ βομβοῦντα φαίνεται τὰ πτερωτά, ὅταν κινῆται, τῇ τρίψει τοῦ πνεύματος προσπίπτοντος πρὸς τὸ ὑπόζωμα τῶν ὁλοπτέρων), κινεῖται δὲ πᾶν αἰσθήσεώς τινος γενομένης, ἢ οἰκείας ἢ ἀλλοτρίας, ἐν τῷ πρώτῳ αἰσθητηρίῳ - εἰ δή ἐστιν ὁ ὕπνος καὶ ἡ ἐγρήγορσις πάθη τοῦ μορίου τούτου, ἐν ᾧ μὲν τόπῳ καὶ ἐν ᾧ μορίῳ πρώτῳ γίγνεται ὁ ὕπνος καὶ ἡ ἐγρήγορσις, φανερόν. κινοῦνται δ' ἔνιοι καθεύδοντες καὶ ποιοῦσι πολλὰ ἐγρηγορικά, οὐ μέντοι ἄνευ φαντάσματος καὶ αἰσθήσεώς τινος· τὸ γὰρ ἐνύπνιόν ἐστιν αἴσθημα τρόπον τινά· λεκτέον δὲ περὶ αὐτῶν ὕστερον. διότι δὲ τὰ μὲν ἐνύπνια μνημονεύουσιν ἐγερθέντες, τὰς δ' ἐγρηγορικὰς πράξεις ἀμνημονοῦσιν, ἐν τοῖς Προβληματικοῖς εἴρηται.

Ἐχόμενον δὲ τῶν εἰρημένων ἐστὶν ἐπελθεῖν τίνων γιγνομένων καὶ πόθεν ἡ ἀρχὴ τοῦ πάθους γίγνεται, τοῦ τ' ἐγρηγορέναι καὶ τοῦ καθεύδειν. φανερὸν δὴ ὅτι ἐπεὶ ἀναγκαῖον τῷ ζῴῳ, ὅταν αἴσθησιν ἔχῃ, τότε πρῶτον τροφήν τε λαμβάνειν καὶ αὔξησιν, τροφὴ δ' ἐστὶ πᾶσιν ἡ ἐσχάτη τοῖς μὲν ἐναίμοις ἡ τοῦ αἵματος φύσις, τοῖς δ' ἀναίμοις τὸ ἀνάλογον, [456b] τόπος δὲ τοῦ αἵματος αἱ φλέβες, τούτων δ' ἀρχὴ ἡ καρδία (φανερὸν δὲ τὸ λεχθὲν ἐκ τῶν ἀνατομῶν) - τῆς μὲν οὖν θύραθεν τροφῆς εἰσιούσης εἰς τοὺς δεκτικοὺς τόπους γίγνεται ἡ ἀναθυμίασις εἰς τὰς φλέβας, ἐκεῖ δὲ μεταβάλλουσα ἐξαιματοῦται καὶ πορεύεται ἐπὶ τὴν ἀρχήν. εἴρηται δὲ περὶ τούτων ἐν τοῖς Περὶ τροφῆς· νῦν δὲ ἀναληπτέον ὑπὲρ αὐτῶν τούτου χάριν, ὅπως τὰς ἀρχὰς τῆς κινήσεως θεωρήσωμεν, καὶ τί πάσχοντος τοῦ μορίου τοῦ αἰσθητικοῦ συμβαίνει ἡ ἐγρήγορσις καὶ ὁ ὕπνος. οὐ γάρ ἐστιν ὁ ὕπνος ἡτισοῦν ἀδυναμία τοῦ αἰσθητικοῦ, καθάπερ εἴρηται· καὶ γὰρ ἔκνοια καὶ πνιγμός τις καὶ λειποψυχία ποιεῖ τὴν τοιαύτην ἀδυναμίαν. ἤδη δὲ γεγένηταί τισι καὶ φαντασία λειποψυχήσασιν ἰσχυρῶς.

τοῦτο μὲν οὖν ἔχει τινὰ ἀπορίαν· εἰ γὰρ ἐνδέχεται καταδαρθεῖν τὸν λειποψυχήσαντα, ἐνδέχοιτ' ἂν ἐνύπνιον εἶναι καὶ τὸ φάντασμα. πολλὰ δ' ἐστὶν ἃ λέγουσιν οἱ σφόδρα λειποψυχήσαντες καὶ δόξαντες τεθνάναι· περὶ ὧν τὸν αὐτὸν λόγον ὑποληπτέον εἶναι πάντων. ἀλλὰ γάρ, ὥσπερ εἴπομεν, οὐκ ἔστιν ὁ ὕπνος ἀδυναμία πᾶσα τοῦ αἰσθητικοῦ, ἀλλ' ἐκ τῆς περὶ τὴν τροφὴν ἀναθυμιάσεως γίγνεται τὸ πάθος τοῦτο· ἀνάγκη γὰρ τὸ ἀναθυμιώμενον μέχρι του ὠθεῖσθαι, εἶτ' ἀντιστρέφειν καὶ μεταβάλλειν καθάπερ εὔριπον. τὸ δὲ θερμὸν ἑκάστου τῶν ζῴων πρὸς τὸ ἄνω πέφυκε φέρεσθαι· ὅταν δ' ἐν τοῖς ἄνω τόποις γένηται, ἀθρόον πάλιν ἀντιστρέφει καὶ καταφέρεται. διὸ μάλιστα γίγνονται ὕπνοι ἀπὸ τῆς τροφῆς· ἀθρόον γὰρ πολὺ τό τε ὑγρὸν καὶ τὸ σωματῶδες ἀναφέρεται. ἱστάμενον μὲν οὖν βαρύνει καὶ ποιεῖ νυστάζειν· ὅταν δὲ ῥέψῃ κάτω καὶ ἀντιστρέψαν ἀπώσῃ τὸ θερμόν, τότε γίγνεται ὁ ὕπνος καὶ τὸ ζῷον καθεύδει. σημεῖον δὲ τούτων καὶ τὰ ὑπνωτικά· πάντα γὰρ καρηβαρίαν ποιεῖ, καὶ τὰ ποτὰ καὶ τὰ βρωτά, μήκων, μανδραγόρας, οἶνος, αἶραι. καὶ καταφερόμενοι καὶ νυστάζοντες τοῦτο δοκοῦσι πάσχειν, καὶ ἀδυνατοῦσιν αἴρειν τὴν κεφαλὴν καὶ τὰ βλέφαρα. καὶ μετὰ τὰ σιτία μάλιστα τοιοῦτος ὁ ὕπνος· πολλὴ γὰρ ἡ ἀπὸ τῶν σιτίων ἀναθυμίασις. ἔτι δ’ ἐκ κόπων ἐνίων· ὁ μὲν γὰρ κόπος συντηκτικόν, τὸ δὲ σύντηγμα γίγνεται ὥσπερ τροφὴ ἄπεπτος, [457a] ἂν μὴ ψυχρὸν ᾖ. καὶ νόσοι δέ τινες τὸ αὐτὸ τοῦτο ποιοῦσιν, ὅσαι ἀπὸ περιττώματος ὑγροῦ καὶ θερμοῦ, οἷον συμβαίνει τοῖς πυρέττουσι καὶ ἐν τοῖς ληθάργοις. ἔτι δ’ ἡ πρώτη ἡλικία· τὰ γὰρ παιδία καθεύδει σφόδρα διὰ τὸ τὴν τροφὴν ἄνω φέρεσθαι πᾶσαν. σημεῖον δὲ τὸ ὑπερβάλλειν τὸ μέγεθος τῶν ἄνω πρὸς τὰ κάτω κατὰ τὴν πρώτην ἡλικίαν, διὰ τὸ ἐπὶ ταῦτα γίγνεσθαι τὴν αὔξησιν. διὰ ταύτην δὲ τὴν αἰτίαν καὶ ἐπιληπτικὰ γίγνεται· ὅμοιον γὰρ ὁ ὕπνος ἐπιλήψει, καὶ ἔστιν τρόπον τινὰ ὁ ὕπνος ἐπίληψις. διὸ καὶ συμβαίνει τισὶν ἡ ἀρχὴ τούτου τοῦ πάθους καθεύδουσιν, καὶ καθεύδοντες μὲν ἁλίσκονται, ἐγρηγορότες δ’ οὔ· ὅταν γὰρ πολὺ φέρηται τὸ πνεῦμα ἄνω, καταβαῖνον πάλιν τὰς φλέβας ὀγκοῖ, καὶ συνθλίβει τὸν πόρον δι’ οὗ ἡ ἀναπνοὴ γίγνεται. διὸ τοῖς παιδίοις οὐ συμφέρουσιν οἱ οἶνοι, οὐδὲ ταῖς τίτθαις (διαφέρει γὰρ ἴσως οὐδὲν αὐτὰ πίνειν ἢ τὰς τίτθας), ἀλλὰ δεῖ πίνειν ὑδαρῆ καὶ ὀλίγον· πνευματῶδες γὰρ ὁ οἶνος καὶ τούτου μᾶλλον ὁ μέλας. οὕτω δὲ τὰ ἄνω πλήρη τροφῆς τοῖς παιδίοις, ὥστε πέντε μηνῶν οὐδὲ στρέφουσι τὸν αὐχένα· ὥσπερ γὰρ τοῖς σφόδρα μεθύουσιν, ὑγρότης ἀναφέρεται πολλή. εὔλογον δὲ τοῦτ’ εἶναι τὸ πάθος αἴτιον καὶ τοῦ ἠρεμεῖν ἐν ταῖς μήτραις τὰ ἔμβρυα τὸ πρῶτον. καὶ τὸ ὅλον δὲ φίλυπνοι οἱ ἀδηλόφλεβοι καὶ οἱ νανώδεις καὶ οἱ μεγαλοκέφαλοι· τῶν μὲν γὰρ αἱ φλέβες στεναί, ὥστ’ οὐ ῥᾴδιον διαρρεῖν κατιὸν τὸ ὑγρόν, τοῖς δὲ νανώδεσι καὶ μεγαλοκεφάλοις ἡ ἄνω ὁρμὴ πολλὴ καὶ ἀναθυμίασις. οἱ δὲ φλεβώδεις οὐχ ὑπνωτικοὶ δι’ εὔροιαν τῶν πόρων, ἂν μή τι ἄλλο πάθος ἔχωσιν ὑπεναντίον. οὐδ’ οἱ μελαγχολικοί· κατέψυκται γὰρ ὁ εἴσω τόπος, ὥστ’ οὐ γίγνεται πλῆθος αὐτοῖς ἀναθυμιάσεως. διὰ τοῦτο γὰρ καὶ βρωτικοί, σκληφροὶ ὄντες· ὥσπερ γὰρ οὐδὲν ἀπολελαυκότα διάκειται τὰ σώματα αὐτοῖς. ἡ δὲ μέλαινα χολὴ φύσει ψυχρὰ οὖσα καὶ τὸν θρεπτικὸν τόπον ψυχρὸν ποιεῖ καὶ τὰ ἄλλα μόρια, ὅπου ἂν ὑπάρχῃ δυνάμει τὸ τοιοῦτον περίττωμα. ὥστε φανερὸν ἐκ [457b] τῶν εἰρημένων ὅτι ὁ ὕπνος ἐστὶ σύνοδός τις τοῦ θερμοῦ εἴσω καὶ ἀντιπερίστασις φυσικὴ διὰ τὴν εἰρημένην αἰτίαν· διὸ πολλὴ ἡ κίνησις τοῦ ὑπνοῦντος. ὅθεν δ’ ἐκλείπει, καταψύχεται καὶ διὰ ψῦξιν καταπίπτει τὰ βλέφαρα, καὶ τὰ μὲν ἄνω κατέψυκται καὶ τὰ ἔξω, τὰ δ’ ἔντος καὶ τὰ κάτω θερμά, οἷον τὰ περὶ τοὺς πόδας καὶ τὰ εἴσω.

καίτοι τοῦτό τις ἀπορήσειεν ἄν, ὅτι μετὰ τὰ σιτία ἰσχυρότατος ὁ ὕπνος γίγνεται, καὶ ἔστιν ὑπνωτικὰ οἶνος καὶ ἄλλα θερμότητα ἔχοντα τοιαῦτα, ἔστι δ’ οὐκ εὔλογον τὸν μὲν ὕπνον εἶναι κατάψυξιν, τὰ δ’ αἴτια τοῦ καθεύδειν θερμά. πότερον οὖν τοῦτο συμβαίνει ὅτι ὥσπερ ἡ κοιλία κενὴ μὲν οὖσα θερμή ἐστιν, ἡ δὲ πλήρωσις αὐτὴν καταψύχει διὰ τὴν κίνησιν, οὕτω καὶ οἱ ἐν τῇ κεφαλῇ πόροι καὶ τόποι καταψύχονται ἀναφερομένης τῆς ἀναθυμιάσεως; ἢ ὥσπερ τοῖς προσχεομένοις τὸ θερμὸν ἐξαίφνης φρίκη γίγνεται, κἀκεῖ ἀνιόντος τοῦ θερμοῦ ἀθροιζόμενον τὸ ψυχρὸν καταψύχει, καὶ τὸ κατὰ φύσιν θερμὸν ποιεῖ ἐξαδυνατεῖν καὶ ὑποχωρεῖν; ἔτι δὲ πολλῆς ἐμπιπτούσης τροφῆς, ἣν ἀνάγει τὸ θερμόν, ὥσπερ τὸ πῦρ ἐπιτιθεμένων τῶν ξύλων, καταψύχεται, ἕως ἂν καταπεφθῇ. γίγνεται γὰρ ὁ ὕπνος, ὥσπερ εἴρηται, τοῦ σωματώδους ἀναφερομένου ὑπὸ τοῦ θερμοῦ διὰ τῶν φλεβῶν πρὸς τὴν κεφαλήν· ὅταν δὲ μηκέτι δύνηται, ἀλλὰ τῷ πλήθει ὑπερβάλλῃ τὸ ἀναχθέν, πάλιν ἀνταπωθεῖται καὶ κάτω ῥεῖ (διὸ καὶ πίπτουσί γε ὑποσπωμένου τοῦ θερμοῦ τοῦ ἀνάγοντος οἱ ἄνθρωποι· μόνον γὰρ ὀρθὸν τῶν ζῴων), καὶ ἐπιπεσὸν μὲν ἔκνοιαν ποιεῖ, ὕστερον δὲ φαντασίαν.

ἢ αἱ μὲν νῦν λεγόμεναι λύσεις ἐνδεχόμεναι μέν εἰσι τοῦ γίγνεσθαι τὴν κατάψυξιν, οὐ μὴν ἀλλὰ κύριός γ’ ἐστὶν ὁ τόπος ὁ περὶ τὸν ἐγκέφαλον, ὥσπερ ἐν ἄλλοις εἴρηται. πάντων δ’ ἐστὶ τῶν ἐν τῷ σώματι ψυχρότατον ὁ ἐγκέφαλος, τοῖς δὲ μὴ ἔχουσι τὸ ἀνάλογον τούτῳ μόριον. ὥσπερ οὖν τὸ ἀπατμίζον ὑγρὸν ὑπὸ τῆς τοῦ ἡλίου θερμότητος, ὅταν ἔλθῃ εἰς τὸν ἄνω τόπον, διὰ τὴν ψυχρότητα αὐτοῦ καταψύχεται καὶ συστὰν καταφέρεται [458a] γενόμενον πάλιν ὕδωρ, οὕτως ἐν τῇ ἀναφορᾷ τοῦ θερμοῦ τῇ πρὸς τὸν ἐγκέφαλον ἡ μὲν περιττωματικὴ ἀναθυμίασις εἰς φλέγμα συνίσταται (διὸ καὶ οἱ κατάρροι φαίνονται γιγνόμενοι ἐκ τῆς κεφαλῆς), ἡ δὲ τρόφιμος καὶ μὴ νοσώδης καταφέρεται συνισταμένη καὶ καταψύχει τὸ θερμόν. πρὸς δὲ τὸ καταψύχεσθαι καὶ μὴ δέχεσθαι ῥᾳδίως τὴν ἀναθυμίασιν συμβάλλεται καὶ ἡ λεπτότης καὶ [ἡ] στενότης τῶν περὶ τὸν ἐγκέφαλον φλεβῶν. τῆς μὲν οὖν καταψύξεως τοῦτ’ ἐστὶν αἴτιον, καίπερ τῆς ἀναθυμιάσεως ὑπερβαλλούσης τῇ θερμότητι.

ἐγείρεται δ’ ὅταν πεφθῇ καὶ κρατήσῃ ἡ συνεωσμένη θερμότης ἐν ὀλίγῳ πολλὴ ἐκ τοῦ περιεστῶτος, καὶ διακριθῇ τό τε σωματωδέστερον αἷμα καὶ τὸ καθαρώτερον. ἔστι δὲ λεπτότατον μὲν αἷμα καὶ καθαρώτατον τὸ ἐν τῇ κεφαλῇ, παχύτατον δὲ καὶ θολερώτατον τὸ ἐν τοῖς κάτω μέρεσιν. παντὸς δὲ τοῦ αἵματος ἀρχή, ὥσπερ εἴρηται καὶ ἐνταῦθα καὶ ἐν ἄλλοις, ἡ καρδία. τῶν δ' ἐν τῇ καρδίᾳ ἑκατέρας τῆς θαλάμης κοινὴ ἡ μέση· ἐκείνων δ' ἑκατέρα δέχεται ἐξ ἑκατέρας τῆς φλεβός, τῆς τε μεγάλης καλουμένης καὶ τῆς ἀορτῆς· ἐν δὲ τῇ μέσῃ γίγνεται ἡ διάκρισις. ἀλλὰ τὸ μὲν διορίζειν περὶ τούτων ἑτέρων ἐστὶ λόγων οἰκειότερον· διὰ δὲ τὸ γίγνεσθαι ἀδιακριτώτερον τὸ αἷμα μετὰ τὴν τῆς τροφῆς προσφορὰν ὕπνος γίγνεται, ἕως ἂν διακριθῇ τοῦ αἵματος τὸ μὲν καθαρώτερον εἰς τὰ ἄνω, τὸ δὲ θολερώτερον εἰς τὰ κάτω· ὅταν δὲ τοῦτο συμβῇ, ἐγείρονται ἀπολυθέντα τοῦ ἐκ τῆς τροφῆς βάρους.

τί μὲν οὖν τὸ αἴτιον τοῦ καθεύδειν εἴρηται, ὅτι ἡ [ὑπὸ] τοῦ σωματώδους τοῦ ἀναφερομένου ὑπὸ τοῦ συμφύτου θερμοῦ ἀντιπερίστασις ἀθρόως ἐπὶ τὸ πρῶτον αἰσθητήριον· καὶ τί ἐστιν ὁ ὕπνος, ὅτι τοῦ πρώτου αἰσθητηρίου κατάληψις πρὸς τὸ μὴ δύνασθαι ἐνεργεῖν, ἐξ ἀνάγκης μὲν γινόμενος (οὐ γὰρ ἐνδέχεται ζῷον εἶναι μὴ συμβαινόντων τῶν ἀπεργαζομένων αὐτό), ἕνεκα δὲ σωτηρίας· σῴζει γὰρ ἡ ἀνάπαυσις.

Περι Ενυπνιων (458a) On Dreams

[458a] Μετὰ δὲ ταῦτα περὶ ἐνυπνίου ἐπιζητητέον, καὶ πρῶτον [458b] τίνι τῶν τῆς ψυχῆς φαίνεται, καὶ πότερον τοῦ νοητικοῦ τὸ πάθος ἐστὶ τοῦτο ἢ τοῦ αἰσθητικοῦ· τούτοις γὰρ μόνοις τῶν ἐν ἡμῖν γνωρίζομέν τι. εἰ δ’ ἡ χρῆσις ὄψεως ὅρασις, καὶ ἀκοῆς τὸ ἀκούειν, καὶ ὅλως αἰσθήσεως τὸ αἰσθάνεσθαι, κοινὰ δ’ ἐστὶ τῶν αἰσθήσεων οἷον σχῆμα καὶ μέγεθος καὶ κίνησις καὶ τἆλλα τὰ τοιαῦτα, ἴδια δ’ οἷον χρῶμα ψόφος χυμός, ἀδυνατεῖ δὲ πάντα μύοντα καὶ καθεύδοντα ὁρᾶν, ὁμοίως δὲ καὶ ἐπὶ τῶν λοιπῶν, δῆλον ὅτι οὐκ αἰσθανόμεθα οὐδὲν ἐν τοῖς ὕπνοις· οὐκ ἄρα γε τῇ αἰσθήσει τὸ ἐνύπνιον αἰσθανόμεθα.

ἀλλὰ μὴν οὐδὲ τῇ δόξῃ· οὐ γὰρ μόνον τὸ προσιόν φαμεν ἄνθρωπον ἢ ἵππον εἶναι, ἀλλὰ καὶ λευκὸν ἢ καλόν· ὧν ἡ δόξα ἄνευ αἰσθήσεως οὐδὲν ἂν φήσειεν, οὔτ’ ἀληθῶς οὔτε ψευδῶς. ἐν δὲ τοῖς ὕπνοις συμβαίνει τὴν ψυχὴν τοῦτο ποιεῖν· ὁμοίως γὰρ ὅτι ἄνθρωπος καὶ ὅτι λευκὸς ὁ προσιὼν δοκοῦμεν ὁρᾶν. ἔτι παρὰ τὸ ἐνύπνιον ἐννοοῦμεν ἄλλο τι, καθάπερ ἐν τῷ ἐγρηγορέναι αἰσθανόμενοί τι. περὶ οὗ γὰρ αἰσθανόμεθα, πολλάκις καὶ διανοούμεθά τι· οὕτω καὶ ἐν τοῖς ὕπνοις παρὰ τὰ φαντάσματα ἐνίοτε ἄλλα ἐννοοῦμεν. φανείη δ’ ἄν τῳ τοῦτο, εἴ τις προσέχοι τὸν νοῦν καὶ πειρῷτο μνημονεύειν ἀναστάς. ἤδη δέ τινες καὶ ἑωράκασιν ἐνύπνια τοιαῦτα, οἷον οἱ δοκοῦντες κατὰ τὸ μνημονικὸν παράγγελμα τίθεσθαι τὰ προβαλλόμενα· συμβαίνει γὰρ αὐτοῖς πολλάκις ἄλλο τι παρὰ τὸ ἐνύπνιον τίθεσθαι πρὸ ὀμμάτων εἰς τὸν τόπον φάντασμα· ὥστε δῆλον ὅτι οὐκ ἐνύπνιον πᾶν τὸ ἐν ὕπνῳ φάντασμα, καὶ ὅτι ὃ ἐννοοῦμεν τῇ δόξῃ δοξάζομεν. δῆλον δὲ περὶ τούτων ἁπάντων τό γε τοσοῦτον, ὅτι τὸ αὐτὸ ᾧ καὶ ἐγρηγορότες ἐν ταῖς νόσοις ἀπατώμεθα, τοῦτ’ αὐτὸ καὶ ἐν τῷ ὕπνῳ ποιεῖ τὸ πάθος. καὶ ὑγιαίνουσι δὲ καὶ εἰδόσιν ὅμως ὁ ἥλιος ποδιαῖος εἶναι δοκεῖ. ἀλλ’ εἴτε δὴ ταὐτὸν εἴθ’ ἕτερον τὸ φανταστικὸν τῆς ψυχῆς καὶ τὸ αἰσθητικόν, οὐδὲν ἧττον οὐ γίνεται ἄνευ τοῦ ὁρᾶν καὶ αἰσθάνεσθαί τι· τὸ γὰρ παρορᾶν καὶ παρακούειν ὁρῶντος ἀληθές τι καὶ ἀκούοντος, οὐ μέντοι τοῦτο ὃ οἴεται. ἐν δὲ τῷ ὕπνῳ ὑπόκειται μηδὲν ὁρᾶν [459a] μηδ’ ἀκούειν μηδ’ ὅλως αἰσθάνεσθαι. ἆρ’ οὖν τὸ μὲν μὴ ὁρᾶν μηδὲν ἀληθές, τὸ δὲ μηδὲν πάσχειν τὴν αἴσθησιν οὐκ ἀληθές, ἀλλ’ ἐνδέχεται καὶ τὴν ὄψιν πάσχειν τι καὶ τὰς ἄλλας αἰσθήσεις, ἕκαστον δὲ τούτων ὥσπερ ἐγρηγορότος προσβάλλει μέν πως τῇ αἰσθήσει, οὐχ οὕτω δὲ ὥσπερ ἐγρηγορότος· καὶ ὁτὲ μὲν ἡ δόξα λέγει ὅτι ψεῦδος, ὥσπερ ἐγρηγορόσιν, ὁτὲ δὲ κατέχεται καὶ ἀκολουθεῖ τῷ φαντάσματι;

ὅτι μὲν οὖν οὐκ ἔστι τοῦ δοξάζοντος οὐδὲ τοῦ διανοουμένου τὸ πάθος τοῦτο ὃ καλοῦμεν ἐνυπνιάζειν, φανερόν. ἀλλ’ οὐδὲ τοῦ αἰσθανομένου ἁπλῶς· ὁρᾶν γὰρ ἂν ἦν καὶ ἀκούειν ἁπλῶς. ἀλλὰ πῶς δὴ καὶ τίνα τρόπον, ἐπισκεπτέον. ὑποκείσθω μὲν οὖν, ὅπερ ἐστὶ καὶ φανερόν, ὅτι τοῦ αἰσθητικοῦ τὸ πάθος, εἴπερ καὶ ὁ ὕπνος· οὐ γὰρ ἄλλῳ μέν τινι τῶν ζῴων ὑπάρχει ὁ ὕπνος, ἄλλῳ δὲ τὸ ἐνυπνιάζειν, ἀλλὰ τῷ αὐτῷ. ἐπεὶ δὲ περὶ φαντασίας ἐν τοῖς Περὶ ψυχῆς εἴρηται, καὶ ἔστι μὲν τὸ αὐτὸ τῷ αἰσθητικῷ τὸ φανταστικόν, τὸ δ’ εἶναι φανταστικῷ καὶ αἰσθητικῷ ἕτερον, ἔστι δὲ φαντασία ἡ ὑπὸ τῆς κατ’ ἐνέργειαν αἰσθήσεως γινομένη κίνησις, τὸ δ’ ἐνύπνιον φάντασμά τι φαίνεται εἶναι (τὸ γὰρ ἐν ὕπνῳ φάντασμα ἐνύπνιον λέγομεν, εἴθ’ ἁπλῶς εἴτε τρόπον τινὰ γινόμενον), φανερὸν ὅτι τοῦ αἰσθητικοῦ μέν ἐστι τὸ ἐνυπνιάζειν, τούτου δ’ ᾗ φανταστικόν.

Τί δ’ ἐστὶ τὸ ἐνύπνιον, καὶ πῶς γίνεται, ἐκ τῶν περὶ τὸν ὕπνον συμβαινόντων μάλιστ’ ἂν θεωρήσαιμεν. τὰ γὰρ αἰσθητὰ καθ’ ἕκαστον αἰσθητήριον ἡμῖν ἐμποιοῦσιν αἴσθησιν, καὶ τὸ γινόμενον ὑπ’ αὐτῶν πάθος οὐ μόνον ἐνυπάρχει ἐν τοῖς αἰσθητηρίοις ἐνεργουσῶν τῶν αἰσθήσεων, ἀλλὰ καὶ ἀπελθουσῶν. παραπλήσιον γὰρ τὸ πάθος ἐπί τε τούτων καὶ ἐπὶ τῶν φερομένων ἔοικεν εἶναι. καὶ γὰρ ἐπὶ τῶν φερομένων τοῦ κινήσαντος οὐκέτι θιγγάνοντος κινεῖται· τὸ γὰρ κινῆσαν ἐκίνησεν ἀέρα τινά, καὶ πάλιν οὗτος κινούμενος ἕτερον· καὶ τοῦτον δὴ τὸν τρόπον, ἕως ἂν στῇ, ποιεῖται τὴν κίνησιν καὶ ἐν [459b] ἀέρι καὶ ἐν τοῖς ὑγροῖς.

ὁμοίως δὲ ὑπολαβεῖν τοῦτο δεῖ καὶ ἐπ’ ἀλλοιώσεως· τὸ γὰρ θερμανθὲν ὑπὸ τοῦ θερμοῦ τὸ πλησίον θερμαίνει, καὶ τοῦτο διαδίδωσιν ἕως τῆς ἀρχῆς. ὥστε καὶ ἐν τῷ αἰσθάνεσθαι, ἐπειδή ἐστιν ἀλλοίωσίς τις ἡ κατ’ ἐνέργειαν αἴσθησις, ἀνάγκη τοῦτο συμβαίνειν. διὸ τὸ πάθος ἐστὶν οὐ μόνον ἐν αἰσθανομένοις τοῖς αἰσθητηρίοις, ἀλλὰ καὶ ἐν πεπαυμένοις, καὶ ἐν βάθει καὶ ἐπιπολῆς. φανερὸν δὲ ὅταν συνεχῶς αἰσθανώμεθά τι· μεταφερόντων γὰρ τὴν αἴσθησιν ἀκολουθεῖ τὸ πάθος, οἷον ἐκ τοῦ ἡλίου εἰς τὸ σκότος· συμβαίνει γὰρ μηδὲν ὁρᾶν διὰ τὴν ἔτι ὑποῦσαν κίνησιν ἐν τοῖς ὄμμασιν ὑπὸ τοῦ φωτός. κἂν πρὸς ἓν χρῶμα πολὺν χρόνον βλέψωμεν ἢ λευκὸν ἢ χλωρόν, τοιοῦτον φαίνεται ἐφ’ ὅπερ ἂν τὴν ὄψιν μεταβάλωμεν. κἂν πρὸς τὸν ἥλιον βλέψαντες ἢ ἄλλο τι λαμπρὸν μύσωμεν, παρατηρήσασι φαίνεται κατ’ εὐθυωρίαν, ᾗ συμβαίνει τὴν ὄψιν ὁρᾶν, πρῶτον μὲν τοιοῦτον τὴν χρόαν, εἶτα μεταβάλλει εἰς φοινικοῦν κἄπειτα πορφυροῦν, ἕως ἂν εἰς τὴν μέλαιναν ἔλθῃ χρόαν καὶ ἀφανισθῇ. καὶ ἀπὸ τῶν κινουμένων δὲ μεταβάλλουσιν, οἷον ἀπὸ τῶν ποταμῶν, μάλιστα δὲ ἀπὸ τῶν τάχιστα ῥεόντων, φαίνεται [γὰρ] τὰ ἠρεμοῦντα κινούμενα. γίνονται δὲ καὶ ἀπὸ τῶν μεγάλων ψόφων δύσκωφοι καὶ ἀπὸ τῶν ἰσχυρῶν ὀσμῶν δύσοσμοι, καὶ ἐπὶ τῶν ὁμοίων ‹ὁμοίως›. ταῦτά γε δὴ φανερῶς συμβαίνει τοῦτον τὸν τρόπον.

ὅτι δὲ ταχὺ τὰ αἰσθητήρια καὶ μικρᾶς διαφορᾶς αἰσθάνεται, σημεῖον τὸ ἐπὶ τῶν ἐνόπτρων γινόμενον· περὶ οὗ καὶ αὐτοῦ ἐπιστήσας σκέψαιτό τις ἂν καὶ ἀπορήσειεν. ἅμα δ’ ἐξ αὐτοῦ δῆλον ὅτι ὥσπερ καὶ ἡ ὄψις πάσχει, οὕτω καὶ ποιεῖ τι. ἐν γὰρ τοῖς ἐνόπτροις τοῖς σφόδρα καθαροῖς, ὅταν τῶν καταμηνίων ταῖς γυναιξὶ γινομένων ἐμβλέψωσιν εἰς τὸ κάτοπτρον, γίνεται τὸ ἐπιπολῆς τοῦ ἐνόπτρου οἷον νεφέλη αἱματώδης· κἂν μὲν καινὸν ᾖ τὸ κάτοπτρον, οὐ ῥᾴδιον ἐκμάξαι τὴν τοιαύτην κηλίδα, ἐὰν δὲ παλαιόν, ῥᾷον. αἴτιον δέ, ὥσπερ εἴπομεν, [460a] ὅτι οὐ μόνον πάσχει ἡ ὄψις ὑπὸ τοῦ ἀέρος, ἀλλὰ καὶ ποιεῖ τι καὶ κινεῖ, ὥσπερ καὶ τὰ λαμπρά· καὶ γὰρ ἡ ὄψις τῶν λαμπρῶν καὶ ἐχόντων χρῶμα. τὰ μὲν οὖν ὄμματα εὐλόγως, ὅταν ᾖ τὰ καταμήνια, διακεῖται ὥσπερ καὶ ἕτερον μέρος ὁτιοῦν· καὶ γὰρ φύσει τυγχάνουσι φλεβώδεις ὄντες. διὸ γινομένων τῶν καταμηνίων διὰ ταραχὴν καὶ φλεγμασίαν αἱματικὴν ἡμῖν μὲν ἡ ἐν τοῖς ὄμμασι διαφορὰ ἄδηλος, ἔνεστι δέ (ἡ γὰρ αὐτὴ φύσις σπέρματος καὶ καταμηνίων), ὁ δ’ ἀὴρ κινεῖται ὑπ’ αὐτῶν, καὶ τὸν ἐπὶ τῶν κατόπτρων ἀέρα συνεχῆ ὄντα ποιόν τινα ποιεῖ καὶ τοιοῦτον οἷον αὐτὸς πάσχει· ὁ δὲ τοῦ κατόπτρου τὴν ἐπιφάνειαν. ὥσπερ δὲ τῶν ἱματίων, τὰ μάλιστα καθαρὰ τάχιστα κηλιδοῦται· τὸ γὰρ καθαρὸν ἀκριβῶς δηλοῖ ὅ τι ἂν δέξηται, καὶ τὸ μάλιστα τὰς ἐλαχίστας κινήσεις. ὁ δὲ χαλκὸς διὰ μὲν τὸ λεῖος εἶναι ὁποιασοῦν ἁφῆς αἰσθάνεται μάλιστα (δεῖ δὲ νοῆσαι οἷον τρίψιν οὖσαν τὴν τοῦ ἀέρος ἁφὴν καὶ ὥσπερ ἔκμαξιν καὶ ἀνάπλυσιν), διὰ δὲ τὸ καθαρὸν ἔνδηλος γίνεται ὁπηλικηοῦν οὖσα. τοῦ δὲ μὴ ἀπιέναι ταχέως ἐκ τῶν καινῶν κατόπτρων αἴτιον τὸ καθαρὸν εἶναι καὶ λεῖον· διαδεύται γὰρ διὰ τῶν τοιούτων καὶ εἰς βάθος καὶ πάντῃ, διὰ μὲν τὸ καθαρὸν εἰς βάθος, διὰ δὲ τὸ λεῖον πάντῃ. ἐν δὲ τοῖς παλαιοῖς οὐκ ἐμμένει, ὅτι οὐχ ὁμοίως εἰσδύεται ἡ κηλὶς ἀλλ’ ἐπιπολαιότερον.

ὅτι μὲν οὖν καὶ ὑπὸ τῶν μικρῶν διαφορῶν γίνεται κίνησις, καὶ ὅτι ταχεῖα ἡ αἴσθησις, καὶ ὅτι οὐ μόνον πάσχει, ἀλλὰ καὶ ἀντιποιεῖ τὸ τῶν χρωμάτων αἰσθητήριον, φανερὸν ἐκ τούτων. μαρτυρεῖ δὲ τοῖς εἰρημένοις καὶ τὰ περὶ τοὺς οἴνους καὶ τὴν μυρεψίαν συμβαίνοντα. τό τε γὰρ παρασκευασθὲν ἔλαιον ταχέως λαμβάνει τὰς τῶν πλησίον ὀσμάς, καὶ οἱ οἶνοι τὸ αὐτὸ τοῦτο πάσχουσιν· οὐ γὰρ μόνον τῶν ἐμβαλλομένων ἢ ὑποκιρναμένων ἀλλὰ καὶ τῶν πλησίον τοῖς ἀγγείοις τιθεμένων ἢ πεφυκότων ἀναλαμβάνουσι τὰς ὀσμάς.

πρὸς δὲ τὴν ἐξ ἀρχῆς [460b] σκέψιν ὑποκείσθω ἓν μέν, ὅπερ ἐκ τῶν εἰρημένων φανερόν, ὅτι καὶ ἀπελθόντος τοῦ θύραθεν αἰσθητοῦ ἐμμένει τὰ αἰσθήματα αἰσθητὰ ὄντα, πρὸς δὲ τούτοις ὅτι ῥᾳδίως ἀπατώμεθα περὶ τὰς αἰσθήσεις ἐν τοῖς πάθεσιν ὄντες, ἄλλοι δὲ ἐν ἄλλοις, οἷον ὁ δειλὸς ἐν φόβῳ, ὁ δ’ ἐρωτικὸς ἐν ἔρωτι, ὥστε δοκεῖν ἀπὸ μικρᾶς ὁμοιότητος τὸν μὲν τοὺς πολεμίους ὁρᾶν, τὸν δὲ τὸν ἐρώμενον· καὶ ταῦτα ὅσῳ ἂν ἐμπαθέστερος ᾖ, τοσούτῳ ἀπ’ ἐλάσσονος ὁμοιότητος φαίνεται. τὸν αὐτὸν δὲ τρόπον καὶ ἐν ὀργαῖς καὶ ἐν πάσαις ἐπιθυμίαις εὐαπάτητοι γίνονται πάντες, καὶ μᾶλλον ὅσῳ ἂν μᾶλλον ἐν τοῖς πάθεσιν ὦσιν. διὸ καὶ τοῖς πυρέττουσιν ἐνίοτε φαίνεται ζῷα ἐν τοῖς τοίχοις ἀπὸ μικρᾶς ὁμοιότητος τῶν γραμμῶν συντιθεμένων. καὶ ταῦτ’ ἐνίοτε συνεπιτείνει τοῖς πάθεσιν οὕτως, ὥστε, ἂν μὲν μὴ σφόδρα κάμνωσι, μὴ λανθάνειν ὅτι ψεῦδος, ἐὰν δὲ μεῖζον ᾖ τὸ πάθος, καὶ κινεῖσθαι πρὸς αὐτά. αἴτιον δὲ τοῦ συμβαίνειν ταῦτα τὸ μὴ κατὰ τὴν αὐτὴν δύναμιν κρίνειν τό τε κύριον καὶ ᾧ τὰ φαντάσματα γίνεται. τούτου δὲ σημεῖον ὅτι φαίνεται μὲν ὁ ἥλιος ποδιαῖος, ἀντίφησι δὲ πολλάκις ἕτερόν τι πρὸς τὴν φαντασίαν. καὶ τῇ ἐπαλλάξει τῶν δακτύλων τὸ ἓν δύο φαίνεται, ἀλλ’ ὅμως οὔ φαμεν δύο· κυριωτέρα γὰρ τῆς ἁφῆς ἡ ὄψις. εἰ δ’ ἦν ἡ ἁφὴ μόνη, κἂν ἐκρίνομεν τὸ ἓν δύο. τοῦ δὲ διεψεῦσθαι αἴτιον ὅτι οὐ μόνον τοῦ αἰσθητοῦ κινοῦντος φαίνεται ἁδήποτε, ἀλλὰ καὶ τῆς αἰσθήσεως κινουμένης αὐτῆς, ἐὰν ὡσαύτως κινῆται ὥσπερ καὶ ὑπὸ τοῦ αἰσθητοῦ· λέγω δ’ οἷον ἡ γῆ δοκεῖ τοῖς πλέουσι κινεῖσθαι κινουμένης τῆς ὄψεως ὑπ’ ἄλλου.

Ἐκ δὴ τούτων φανερὸν ὅτι οὐ μόνον ἐγρηγορότων αἱ κινήσεις αἱ ἀπὸ τῶν αἰσθημάτων γινόμεναι τῶν τε θύραθεν καὶ τῶν ἐκ τοῦ σώματος ἐνυπάρχουσιν, ἀλλὰ καὶ ὅταν γένηται τὸ πάθος τοῦτο ὃ καλεῖται ὕπνος, καὶ μᾶλλον τότε φαίνονται. μεθ’ ἡμέραν μὲν γὰρ ἐκκρούονται ἐνεργουσῶν τῶν [461a] αἰσθήσεων καὶ τῆς διανοίας, καὶ ἀφανίζονται ὥσπερ παρὰ πολὺ πῦρ ἔλαττον καὶ λῦπαι καὶ ἡδοναὶ μικραὶ παρὰ μεγάλας, παυσαμένων δὲ ἐπιπολάζει καὶ τὰ μικρά· νύκτωρ δὲ δι’ ἀργίαν τῶν κατὰ μόριον αἰσθήσεων καὶ ἀδυναμίαν τοῦ ἐνεργεῖν, διὰ τὸ ἐκ τῶν ἔξω εἰς τὸ ἐντὸς γίνεσθαι τὴν τοῦ θερμοῦ παλίρροιαν, ἐπὶ τὴν ἀρχὴν τῆς αἰσθήσεως καταφέρονται καὶ γίνονται φανεραὶ καθισταμένης τῆς ταραχῆς.

δεῖ δὲ ὑπολαβεῖν ὥσπερ τὰς μικρὰς δίνας τὰς ἐν τοῖς ποταμοῖς γινομένας, οὕτω τὴν κίνησιν ἑκάστην γίνεσθαι συνεχῶς, πολλάκις μὲν ὁμοίως, πολλάκις δὲ διαλυομένας εἰς ἄλλα σχήματα διὰ τὴν ἀντίκρουσιν. διὸ καὶ μετὰ τὴν τροφὴν καὶ πάμπαν νέοις οὖσιν, οἷον τοῖς παιδίοις, οὐ γίνεται ἐνύπνια· πολλὴ γὰρ ἡ κίνησις διὰ τὴν ἀπὸ τῆς τροφῆς θερμότητα. ὥστε καθάπερ ἐν ὑγρῷ, ἐὰν σφόδρα κινῇ τις, ὁτὲ μὲν οὐθὲν φαίνεται εἴδωλον, ὁτὲ δὲ φαίνεται μέν, διεστραμμένον δὲ πάμπαν, ὥστε φαίνεσθαι ἀλλοῖον ἢ οἷόν ἐστιν, ἠρεμήσαντος δὲ καθαρὰ καὶ φανερά, οὕτω καὶ ἐν τῷ καθεύδειν τὰ φαντάσματα καὶ αἱ ὑπόλοιποι κινήσεις αἱ συμβαίνουσαι ἀπὸ τῶν αἰσθημάτων ὁτὲ μὲν ὑπὸ μείζονος οὔσης τῆς εἰρημένης κινήσεως ἀφανίζονται πάμπαν, ὁτὲ δὲ τεταραγμέναι φαίνονται αἱ ὄψεις καὶ τερατώδεις, καὶ οὐκ εἰρόμενα τὰ ἐνύπνια, οἷον τοῖς μελαγχολικοῖς καὶ πυρέττουσι καὶ οἰνωμένοις· πάντα γὰρ τὰ τοιαῦτα πάθη πνευματώδη ὄντα πολλὴν ποιεῖ κίνησιν καὶ ταραχήν. καθισταμένου δὲ καὶ διακρινομένου τοῦ αἵματος ἐν τοῖς ἐναίμοις, σῳζομένη τῶν αἰσθημάτων ἡ κίνησις ἀφ᾽ ἑκάστου τῶν αἰσθητηρίων εἰρόμενά τε ποιεῖ τὰ ἐνύπνια, καὶ φαίνεσθαί τι καὶ δοκεῖν διὰ μὲν τὰ ἀπὸ τῆς ὄψεως καταφερόμενα ὁρᾶν, διὰ δὲ τὰ ἀπὸ τῆς ἀκοῆς ἀκούειν, ὁμοιοτρόπως δὲ καὶ ἀπὸ τῶν ἄλλων αἰσθητηρίων· τῷ μὲν γὰρ ἐκεῖθεν ἀφικνεῖσθαι τὴν κίνησιν πρὸς τὴν ἀρχὴν καὶ ἐγρηγορὼς δοκεῖ [461b] ὁρᾶν καὶ ἀκούειν καὶ αἰσθάνεσθαι, καὶ διὰ τὸ τὴν ὄψιν ἐνίοτε κινεῖσθαι δοκεῖν, οὐ κινουμένην, ὁρᾶν φαμεν, καὶ τῷ τὴν ἁφὴν δύο κινήσεις εἰσαγγέλλειν τὸ ἓν δύο δοκεῖ. ὅλως γὰρ τὸ ἀφ᾽ ἑκάστης αἰσθήσεώς φησιν ἡ ἀρχή, ἐὰν μὴ ἑτέρα κυριωτέρα ἀντιφῇ. φαίνεται μὲν οὖν πάντως, δοκεῖ δὲ οὐ πάντως τὸ φαινόμενον, ἀλλ᾽ ἂν τὸ ἐπικρῖνον κατέχηται ἢ μὴ κινῆται τὴν οἰκείαν κίνησιν.

ὥσπερ δ᾽ εἴπομεν ὅτι ἄλλοι δι᾽ ἄλλο πάθος εὐαπάτητοι, οὕτως ὁ καθεύδων διὰ τὸν ὕπνον καὶ τὸ κινεῖσθαι τὰ αἰσθητήρια καὶ τἆλλα τὰ συμβαίνοντα περὶ τὴν αἴσθησιν, ὥστε τὸ μικρὰν ἔχον ὁμοιότητα φαίνεται ἐκεῖνο. ὅταν γὰρ καθεύδῃ, κατιόντος τοῦ πλείστου αἵματος ἐπὶ τὴν ἀρχὴν συγκατέρχονται αἱ ἐνοῦσαι κινήσεις, αἱ μὲν δυνάμει αἱ δὲ ἐνεργείᾳ. οὕτω δ᾽ ἔχουσιν ὥστε ἐν τῇ κινήσει τῃδὶ ἥδε ἐπιπολάσει ἐξ αὐτοῦ ἡ κίνησις, ἂν δ᾽ αὕτη φθαρῇ, ἥδε. καὶ πρὸς ἀλλήλας δὴ ἔχουσιν ὥσπερ οἱ πεπλασμένοι βάτραχοι οἱ ἀνιόντες ἐν τῷ ὕδατι τηκομένου τοῦ ἁλός - οὕτως ἔνεισι δυνάμει, ἀνειμένου δὲ τοῦ κωλύοντος ἐνεργοῦσιν, καὶ λυόμεναι ἐν ὀλίγῳ τῷ λοιπῷ αἵματι τῷ ἐν τοῖς αἰσθητηρίοις κινοῦνται, ἔχουσαι ὁμοιότητα ὥσπερ τὰ ἐν τοῖς νέφεσιν, ἃ παρεικάζουσιν ἀνθρώποις καὶ κενταύροις ταχέως μεταβάλλοντα. τούτων δὲ ἕκαστόν ἐστιν, ὥσπερ εἴρηται, ὑπόλειμμα τοῦ ἐν τῇ ἐνεργείᾳ αἰσθήματος· καὶ ἀπελθόντος τοῦ ἀληθοῦς ἔνεστι, καὶ ἀληθὲς εἰπεῖν ὅτι τοιοῦτον οἷον Κορίσκος, ἀλλ' οὐ Κορίσκος. ὅτε δὲ ᾐσθάνετο, οὐκ ἔλεγε Κορίσκον τὸ κύριον καὶ τὸ ἐπικρῖνον, ἀλλὰ διὰ τοῦτο ἐκεῖνον Κορίσκον τὸν ἀληθινόν. ὃ δὴ καὶ αἰσθανόμενον λέγει τοῦτο, ἐὰν μὴ παντελῶς κατέχηται ὑπὸ τοῦ αἵματος, ὥσπερ αἰσθανόμενον τοῦτο κινεῖται ὑπὸ τῶν κινήσεων τῶν ἐν τοῖς αἰσθητηρίοις, καὶ δοκεῖ τὸ ὅμοιον αὐτὸ εἶναι τὸ ἀληθές· καὶ τοσαύτη τοῦ ὕπνου ἡ δύναμις ὥστε ποιεῖν τοῦτο λανθάνειν. ὥσπερ οὖν εἴ τινα λανθάνοι ὑποβαλλόμενος ὁ δάκτυλος τῷ ὀφθαλμῷ, [462a] οὐ μόνον φανεῖται ἀλλὰ καὶ δόξει εἶναι δύο τὸ ἕν, ἂν δὲ μὴ λανθάνῃ, φανεῖται μὲν οὐ δόξει δέ, οὕτω καὶ ἐν τοῖς ὕπνοις, ἐὰν μὲν αἰσθάνηται ὅτι καθεύδει, καὶ τοῦ πάθους ἐν ᾧ ἡ αἴσθησις τοῦ ὑπνωτικοῦ, φαίνεται μέν, λέγει δέ τι ἐν αὐτῷ ὅτι φαίνεται μὲν Κορίσκος, οὐκ ἔστι δὲ ὁ Κορίσκος (πολλάκις γὰρ καθεύδοντος λέγει τι ἐν τῇ ψυχῇ ὅτι ἐνύπνιον τὸ φαινόμενον)· ἐὰν δὲ λανθάνῃ ὅτι καθεύδει, οὐδὲν ἀντιφήσει τῇ φαντασίᾳ.

ὅτι δὲ ἀληθῆ λέγομεν καὶ εἰσὶ κινήσεις φανταστικαὶ ἐν τοῖς αἰσθητηρίοις, δῆλον, ἐάν τις προσέχων πειρᾶται μνημονεύειν ἃ πάσχομεν καταφερόμενοί τε καὶ ἐγειρόμενοι· ἐνίοτε γὰρ τὰ φαινόμενα εἴδωλα καθεύδοντι φωράσει ἐγειρόμενος κινήσεις οὔσας ἐν τοῖς αἰσθητηρίοις· καὶ ἐνίοις γε τῶν νεωτέρων καὶ πάμπαν διαβλέπουσιν, ἐὰν ᾖ σκότος, φαίνεται εἴδωλα πολλὰ κινούμενα, ὥστ' ἐγκαλύπτεσθαι πολλάκις φοβουμένους. ἐκ δὴ τούτων ἁπάντων δεῖ συλλογίσασθαι ὅτι ἐστὶ τὸ ἐνύπνιον φάντασμα μέν τι καὶ ἐν ὕπνῳ· τὰ γὰρ ἄρτι λεχθέντα εἴδωλα οὐκ ἔστιν ἐνύπνια, οὐδ' εἴ τι ἄλλο λελυμένων τῶν αἰσθήσεων φαίνεται· οὐδὲ τὸ ἐν ὕπνῳ φάντασμα πᾶν. πρῶτον μὲν γὰρ ἐνίοις συμβαίνει καὶ αἰσθάνεσθαί πῃ καὶ ψόφων καὶ φωτὸς καὶ χυμοῦ καὶ ἁφῆς, ἀσθενικῶς μέντοι καὶ οἷον πόρρωθεν· ἤδη γὰρ ἐν τῷ καθεύδειν ὑποβλέποντες, ὃ ἠρέμα ἑώρων φῶς τοῦ λύχνου καθεύδοντες, ὡς ᾤοντο, ἐπεγερθέντες εὐθὺς ἐγνώρισαν τὸ τοῦ λύχνου ὄν, καὶ ἀλεκτρυόνων καὶ κυνῶν φωνὴν ἠρέμα ἀκούοντες ἐγερθέντες σαφῶς ἐγνώρισαν. ἔνιοι δὲ καὶ ἀποκρίνονται ἐρωτώμενοι· ἐνδέχεται γὰρ τοῦ ἐγρηγορέναι καὶ καθεύδειν ἁπλῶς θατέρου ὑπάρχοντος θάτερόν πῃ ὑπάρχειν. ὧν οὐθὲν ἐνύπνιον φατέον, οὐδ' ὅσαι δὴ ἐν τῷ ὕπνῳ γίνονται ἀληθεῖς ἔννοιαι παρὰ τὰ φαντάσματα, ἀλλὰ τὸ φάντασμα τὸ ἀπὸ τῆς κινήσεως τῶν αἰσθημάτων, ὅταν ἐν τῷ καθεύδειν ᾖ, ᾗ καθεύδει, τοῦτ' ἐστὶν ἐνύπνιον.

ἤδη δέ τισι συμβέβηκεν μηδὲν [462b] ἐνύπνιον ἑωρακέναι κατὰ τὸν βίον, τοῖς δὲ πόρρω που προελθούσης τῆς ἡλικίας ἰδεῖν πρότερον μὴ ἑωρακόσιν. τὸ δ' αἴτιον τοῦ μὴ γίνεσθαι παραπλήσιον φαίνεται τῷ ἐπὶ τῶν παιδίων καὶ μετὰ τὴν τροφήν. ὅσοις γὰρ συνέστηκεν ἡ φύσις ὥστε πολλὴν ἀναθυμίασιν πρὸς τὸν ἄνω τόπον ἀναφέρεσθαι, ἣ πάλιν καταφερομένη ποιεῖ πλῆθος κινήσεως, εὐλόγως τούτοις οὐδὲν φαίνεται φάντασμα. προϊούσης δὲ τῆς ἡλικίας οὐδὲν ἄτοπον φανῆναι ἐνύπνιον· μεταβολῆς γάρ τινος γενομένης ἢ καθ’ ἡλικίαν ἢ κατὰ πάθος ἀναγκαῖον συμβῆναι τὴν ἐναντίωσιν ταύτην.

Περι Τησ καθ’ Υπνον Μαντικησ (462b) On Divination in Sleep

[462b] Περὶ δὲ τῆς μαντικῆς τῆς ἐν τοῖς ὕπνοις γινομένης καὶ λεγομένης συμβαίνειν ἀπὸ τῶν ἐνυπνίων, οὔτε καταφρονῆσαι ῥᾴδιον οὔτε πεισθῆναι. τὸ μὲν γὰρ πάντας ἢ πολλοὺς ὑπολαμβάνειν ἔχειν τι σημειῶδες τὰ ἐνύπνια παρέχεται πίστιν ὡς ἐξ ἐμπειρίας λεγόμενον, καὶ τὸ περὶ ἐνίων εἶναι τὴν μαντικὴν ἐν τοῖς ἐνυπνίοις οὐκ ἄπιστον· ἔχει γάρ τινα λόγον· διὸ καὶ περὶ τῶν ἄλλων ἐνυπνίων ὁμοίως ἄν τις οἰηθείη. τὸ δὲ μηδεμίαν αἰτίαν εὔλογον ὁρᾶν καθ’ ἣν ἂν γίνοιτο, τοῦτο δὴ ἀπιστεῖν ποιεῖ· τό τε γὰρ θεὸν εἶναι τὸν πέμποντα, πρὸς τῇ ἄλλῃ ἀλογίᾳ, καὶ τὸ μὴ τοῖς βελτίστοις καὶ φρονιμωτάτοις ἀλλὰ τοῖς τυχοῦσι πέμπειν ἄτοπον. ἀφαιρεθείσης δὲ τῆς ἀπὸ τοῦ θεοῦ αἰτίας οὐδεμία τῶν ἄλλων εὔλογος εἶναι φαίνεται αἰτία· τοῦ γὰρ περὶ τῶν ἐφ’ Ἡρακλείαις στήλαις ἢ τῶν ἐν Βορυσθένει προορᾶν τινας ὑπὲρ τὴν ἡμετέραν εἶναι δόξειεν ἂν σύνεσιν εὑρεῖν τὴν ἀρχήν. ἀνάγκη δ’ οὖν τὰ ἐνύπνια ἢ αἴτια εἶναι ἢ σημεῖα τῶν γινομένων ἢ συμπτώματα, ἢ πάντα ἢ ἔνια τούτων ἢ ἓν μόνον. λέγω δ’ αἴτιον μὲν οἷον τὴν σελήνην τοῦ ἐκλείπειν τὸν ἥλιον, καὶ τὸν κόπον τοῦ πυρετοῦ, σημεῖον δὲ τῆς ἐκλείψεως τὸ τὸν ἀστέρα εἰσελθεῖν, τὴν δὲ τραχύτητα τῆς γλώττης τοῦ πυρέττειν, σύμπτωμα δὲ τὸ βαδίζοντος ἐκλείπειν τὸν ἥλιον· [463a] οὔτε γὰρ σημεῖον τοῦ ἐκλείπειν τοῦτ’ ἐστὶν οὔτ’ αἴτιον, οὔθ’ ἡ ἔκλειψις τοῦ βαδίζειν· διὸ τῶν συμπτωμάτων οὐδὲν οὔτε ἀεὶ γίνεται, οὔθ’ ὡς ἐπὶ τὸ πολύ. ἆρ’ οὖν ἐστι τῶν ἐνυπνίων τὰ μὲν αἴτια, τὰ δὲ σημεῖα, οἷον τῶν περὶ τὸ σῶμα συμβαινόντων; λέγουσι γοῦν καὶ τῶν ἰατρῶν οἱ χαρίεντες ὅτι δεῖ σφόδρα προσέχειν τοῖς ἐνυπνίοις· εὔλογον δὲ οὕτως ὑπολαβεῖν καὶ τοῖς μὴ τεχνίταις μέν, σκοπουμένοις δέ τι καὶ φιλοσοφοῦσιν. αἱ γὰρ μεθ’ ἡμέραν γινόμεναι κινήσεις, ἂν μὴ σφόδρα μεγάλαι ὦσι καὶ ἰσχυραί, λανθάνουσι παρὰ μείζους τὰς ἐγρηγορικὰς κινήσεις, ἐν δὲ τῷ καθεύδειν τοὐναντίον· καὶ γὰρ αἱ μικραὶ μεγάλαι δοκοῦσιν εἶναι. δῆλον δ’ ἐπὶ τῶν συμβαινόντων κατὰ τοὺς ὕπνους πολλάκις· οἴονται γὰρ κεραυνοῦσθαι καὶ βροντᾶσθαι μικρῶν ἤχων ἐν τοῖς ὠσὶ γινομένων, καὶ

μέλιτος καὶ γλυκέων χυμῶν ἀπολαύειν ἀκαριαίου φλέγματος καταρρέοντος, καὶ βαδίζειν διὰ πυρὸς καὶ θερμαίνεσθαι σφόδρα μικρᾶς θερμασίας περί τινα μέρη γινομένης, ἐπεγειρομένοις δὲ ταῦτα φανερὰ τοῦτον ἔχοντα τὸν τρόπον· ὥστ’ ἐπεὶ μικραὶ πάντων αἱ ἀρχαί, δῆλον ὅτι καὶ τῶν νόσων καὶ τῶν ἄλλων παθημάτων τῶν ἐν τοῖς σώμασι μελλόντων γίνεσθαι. φανερὸν οὖν ὅτι ταῦτα ἀναγκαῖον ἐν τοίς ὕπνοις εἶναι καταφανῆ μᾶλλον ἢ ἐν τῷ ἐγρηγορέναι.

ἀλλὰ μὴν καὶ ἔνιά γε τῶν καθ’ ὕπνον φαντασμάτων αἴτια εἶναι τῶν οἰκείων ἑκάστῳ πράξεων οὐκ ἄλογον· ὥσπερ γὰρ μέλλοντες πράττειν ἢ ἐν ταῖς πράξεσιν ὄντες ἢ πεπραχότες πολλάκις εὐθυονειρίᾳ ταύταις σύνεσμεν καὶ πράττομεν (αἴτιον δ’ ὅτι προωδοποιημένη τυγχάνει ἡ κίνησις ἀπὸ τῶν μεθ’ ἡμέραν ἀρχῶν), οὕτω πάλιν ἀναγκαῖον καὶ τὰς καθ’ ὕπνον κινήσεις πολλάκις ἀρχὰς εἶναι τῶν μεθ’ ἡμέραν πράξεων διὰ τὸ προωδοποιῆσθαι πάλιν καὶ τούτων τὴν διάνοιαν ἐν τοῖς φαντάσμασι τοῖς νυκτερινοῖς. οὕτω μὲν οὖν ἐνδέχεται τῶν ἐνυπνίων ἔνια καὶ σημεῖα καὶ αἴτια εἶναι. τὰ δὲ πολλὰ συμπτώμασιν [463b] ἔοικε, μάλιστα δὲ τά τε ὑπερβατὰ πάντα καὶ ὧν μὴ ἐν αὐτοῖς ἡ ἀρχή, ἀλλὰ περὶ ναυμαχίας καὶ τῶν πόρρω συμβαινόντων ἐστίν· περὶ γὰρ τούτων τὸν αὐτὸν τρόπον ἔχειν εἰκὸς ὃν ὅταν μεμνημένῳ τινὶ περί τινος τυχῇ τοῦτο γιγνόμενον· τί γὰρ κωλύει καὶ ἐν τοῖς ὕπνοις οὕτως; μᾶλλον δ’ εἰκὸς πολλὰ τοιαῦτα συμβαίνειν. ὥσπερ οὖν οὐδὲ τὸ μνησθῆναι περὶ τοῦδε σημεῖον οὐδὲ αἴτιον τοῦ παραγενέσθαι αὐτόν, οὕτως οὐδ’ ἐκεῖ τοῦ ἀποβῆναι τὸ ἐνύπνιον τῷ ἰδόντι οὔτε σημεῖον οὔτ’ αἴτιον, ἀλλὰ σύμπτωμα. διὸ καὶ πολλὰ τῶν ἐνυπνίων οὐκ ἀποβαίνει· τὰ γὰρ συμπτώματα οὔτε ἀεὶ οὔθ’ ὡς ἐπὶ τὸ πολὺ γίγνεται.

Ὅλως δὲ ἐπεὶ καὶ τῶν ἄλλων ζῴων ὀνειρώττει τινά, θεόπεμπτα μὲν οὐκ ἂν εἴη τὰ ἐνύπνια, οὐδὲ γέγονε τούτου χάριν (δαιμόνια μέντοι· ἡ γὰρ φύσις δαιμονία, ἀλλ’ οὐ θεία). σημεῖον δέ· πάνυ γὰρ εὐτελεῖς ἄνθρωποι προορατικοί εἰσι καὶ εὐθυόνειροι, ὡς οὐ θεοῦ πέμποντος, ἀλλ’ ὅσων ὥσπερ ἂν εἰ λάλος ἡ φύσις ἐστὶ καὶ μελαγχολική, παντοδαπὰς ὄψεις ὁρῶσιν· διὰ γὰρ τὸ πολλὰ καὶ παντοδαπὰ κινεῖσθαι ἐπιτυγχάνουσιν ὁμοίοις θεωρήμασιν, ἐπιτυχεῖς ὄντες ἐν τούτοις ὥσπερ ἔνιοι ἀρτιάζοντες· ὥσπερ γὰρ καὶ λέγεται “ἂν πολλὰ βάλλῃς, ἄλλοτ’ ἀλλοῖον βαλεῖς”, καὶ ἐπὶ τούτων τοῦτο συμβαίνει. ὅτι δ’ οὐκ ἀποβαίνει πολλὰ τῶν ἐνυπνίων, οὐδὲν ἄτοπον· οὐδὲ γὰρ τῶν ἐν τοῖς σώμασι σημείων καὶ τῶν οὐρανίων, οἷον τὰ τῶν ὑδάτων καὶ τὰ τῶν πνευμάτων (ἂν γὰρ ἄλλη κυριωτέρα ταύτης συμβῇ κίνησις, ἀφ’ ἧς μελλούσης ἐγένετο τὸ σημεῖον, οὐ γίνεται), καὶ πολλὰ βουλευθέντα καλῶς τῶν πραχθῆναι δεόντων διελύθη δι’ ἄλλας κυριωτέρας ἀρχάς. ὅλως γὰρ οὐ πᾶν γίνεται τὸ μελλῆσαν, οὐδὲ τὸ αὐτὸ τὸ ἐσόμενον καὶ τὸ μέλλον· ἀλλ' ὅμως ἀρχάς γέ τινας λεκτέον εἶναι ἀφ' ὧν οὐκ ἐπετελέσθη, καὶ σημεῖα πέφυκε ταῦτά τινων οὐ γενομένων.

περὶ δὲ τῶν μὴ τοιαύτας [464a] ἐχόντων ἀρχὰς ἐνυπνίων οἵας εἴπομεν, ἀλλ' ὑπερορίας ἢ τοῖς χρόνοις ἢ τοῖς τόποις ἢ τοῖς μεγέθεσιν, ἢ τούτων μὲν μηδέν, μὴ μέντοι γε ἐν αὑτοῖς ἐχόντων τὰς ἄρχας τῶν ἰδόντων τὸ ἐνύπνιον, εἰ μὴ γίνεται τὸ προορᾶν ἀπὸ συμπτώματος, τοιόνδ' ἂν εἴη μᾶλλον ἢ ὥσπερ λέγει Δημόκριτος εἴδωλα καὶ ἀπορροίας αἰτιώμενος. ὥσπερ γὰρ ὅταν κινήσῃ τι τὸ ὕδωρ ἢ τὸν ἀέρα, τοῦθ' ἕτερον ἐκίνησε, καὶ παυσαμένου ἐκείνου συμβαίνει τὴν τοιαύτην κίνησιν προϊέναι μέχρι τινός, τοῦ κινήσαντος οὐ πάροντος, οὕτως οὐδὲν κωλύει κίνησίν τινα καὶ αἴσθησιν ἀφικνεῖσθαι πρὸς τὰς ψυχὰς τὰς ἐνυπνιαζούσας (ἀφ' ὧν ἐκεῖνος τὰ εἴδωλα ποιεῖ καὶ τὰς ἀπορροίας), καὶ ὅποι δὴ ἔτυχεν ἀφικνουμένας μᾶλλον αἰσθητὰς εἶναι νύκτωρ διὰ τὸ μεθ' ἡμέραν φερομένας διαλύεσθαι μᾶλλον (ἀταραχωδέστερος γὰρ ὁ ἀὴρ τῆς νυκτὸς διὰ τὸ νηνεμωτέρας εἶναι τὰς νύκτας), καὶ ἐν τῷ σώματι ποιεῖν αἴσθησιν διὰ τὸν ὕπνον, διὰ τὸ καὶ τῶν μικρῶν κινήσεων τῶν ἐντὸς αἰσθάνεσθαι καθεύδοντας μᾶλλον ἢ ἐγρηγορότας. αὗται δ' αἱ κινήσεις φαντάσματα ποιοῦσιν, ἐξ ὧν προορῶσι τὰ μέλλοντα καὶ περὶ τῶν τοιούτων, καὶ διὰ ταῦτα συμβαίνει τὸ πάθος τοῦτο τοῖς τυχοῦσι καὶ οὐ τοῖς φρονιμωτάτοις. μεθ' ἡμέραν τε γὰρ ἐγίνετ' ἂν καὶ τοῖς σοφοῖς, εἰ θεὸς ἦν ὁ πέμπων· οὕτω δ' εἰκὸς τοὺς τυχόντας προορᾶν· ἡ γὰρ διάνοια τῶν τοιούτων οὐ φροντιστική, ἀλλ' ὥσπερ ἔρημος καὶ κενὴ πάντων, καὶ κινηθεῖσα κατὰ τὸ κινοῦν ἄγεται.

τοῦ δ' ἐνίους τῶν ἐκστατικῶν προορᾶν αἴτιον ὅτι αἱ οἰκεῖαι κινήσεις οὐκ ἐνοχλοῦσιν ἀλλ' ἀπορραπίζονται· τῶν ξενικῶν οὖν μάλιστα αἰσθάνονται. τὸ δέ τινας εὐθυονείρους εἶναι καὶ τὸ τοὺς γνωρίμους περὶ τῶν γνωρίμων μάλιστα προορᾶν συμβαίνει διὰ τὸ μάλιστα τοὺς γνωρίμους ὑπὲρ ἀλλήλων φροντίζειν· ὥσπερ γὰρ πόρρω ὄντων τάχιστα γνωρίζουσι καὶ αἰσθάνονται, οὕτω καὶ τῶν κινήσεων· αἱ γὰρ τῶν γνωρίμων γνωριμώτεραι. οἱ δὲ μελαγχολικοὶ διὰ τὸ σφοδρόν, ὥσπερ βάλλοντες πόρρωθεν, εὔστοχοί εἰσιν, καὶ διὰ τὸ μεταβλητικὸν [464b] ταχὺ τὸ ἐχόμενον φαντάζεται αὐτοῖς· ὥσπερ γὰρ τὰ Φιλαινίδος ποιήματα καὶ οἱ ἐμμανεῖς ἐχόμενα τοῦ ὁμοίου λέγουσι καὶ διανοοῦνται, οἷον Ἀφροδίτην φροδίτην, καὶ οὕτω συνείρουσιν εἰς τὸ πρόσω. ἔτι δὲ διὰ τὴν σφοδρότητα οὐκ ἐκκρούεται αὐτῶν ἡ κίνησις ὑφ' ἑτέρας κινήσεως.

τεχνικώτατος δ' ἐστὶ κριτὴς ἐνυπνίων ὅστις δύναται τὰς ὁμοιότητας θεωρεῖν· τὰς γὰρ εὐθυονειρίας κρίνειν παντός ἐστιν. λέγω δὲ τὰς ὁμοιότητας, ὅτι παραπλήσια συμβαίνει τὰ φαντάσματα τοῖς ἐν τοῖς ὕδασιν εἰδώλοις, καθάπερ καὶ πρότερον εἴπομεν. ἐκεῖ δέ, ἂν πολλὴ γίγνηται ἡ κίνησις, οὐδὲν ὁμοία γίνεται ἡ ἔμφασις καὶ τὰ εἴδωλα τοῖς ἀληθινοῖς. δεινὸς δὴ τὰς ἐμφάσεις κρίνειν εἴη ἂν ὁ δυνάμενος ταχὺ διαισθάνεσθαι καὶ συνορᾶν τὰ διαπεφορημένα καὶ διεστραμμένα τῶν εἰδώλων, ὅτι ἐστὶν ἀνθρώπου ἢ ἵππου ἢ ὁτουδήποτε, κἀκεῖ δὴ ὁμοίως τί δύναται τὸ ἐνύπνιον τοῦτο. ἡ γὰρ κίνησις ἐκκόπτει τὴν εὐθυονειρίαν. τί μὲν οὖν ἐστιν ὕπνος καὶ τί ἐνύπνιον, καὶ διὰ τίν' αἰτίαν ἑκάτερον αὐτῶν γίνεται, ἔτι δὲ περὶ τῆς ἐκ τῶν ἐνυπνίων μαντείας εἴρηται περὶ πάσης· [περὶ δὲ κινήσεως τῆς κοινῆς τῶν ζῴων λεκτέον.]

Περι Μακροβιοτητοσ και Βραχυβιοτητοσ (464b) On Length and Shortness of Life

[464b] Περὶ δὲ τοῦ τὰ μὲν εἶναι μακρόβια τῶν ζῴων τὰ δὲ βραχύβια, καὶ περὶ ζωῆς ὅλως μήκους καὶ βραχύτητος, ἐπισκεπτέον τὰς αἰτίας, ἀρχὴ δὲ τῆς σκέψεως ἀναγκαία πρῶτον ἐκ τοῦ διαπορῆσαι περὶ αὐτῶν. οὐ γάρ ἐστι δῆλον πότερον ἕτερον ἢ τὸ αὐτὸ αἴτιον πᾶσι τοῖς ζῴοις καὶ φυτοῖς τοῦ τὰ μὲν εἶναι μακρόβια τὰ δὲ βραχύβια (καὶ γὰρ τῶν φυτῶν τὰ μὲν ἐπέτειον τὰ δὲ πολυχρόνιον ἔχει τὴν ζωήν)· ἔτι δὲ πότερον ταὐτὰ μακρόβια καὶ τὴν φύσιν ὑγιεινὰ τῶν φύσει συνεστώτων, ἢ κεχώρισται [καὶ] τὸ βραχύβιον καὶ τὸ νοσῶδες, ἢ κατ' ἐνίας μὲν νόσους ἐπαλλάττει τὰ νοσώδη τὴν φύσιν σώματα τοῖς βραχυβίοις, κατ' ἐνίας δ' οὐδὲν κωλύει νοσώδεις εἶναι μακροβίους ὄντας. περὶ μὲν οὖν ὕπνου καὶ ἐγρηγόρσεως εἴρηται πρότερον, περὶ δὲ ζωῆς καὶ θανάτου λεκτέον ὕστερον, ὁμοίως δὲ καὶ περὶ νόσου καὶ ὑγιείας, ὅσον ἐπιβάλλει τῇ φυσικῇ φιλοσοφίᾳ· νῦν [465a] δὲ περὶ τὰς αἰτίας τοῦ τὰ μὲν εἶναι μακρόβια τὰ δὲ βραχύβια, καθάπερ εἴρηται πρότερον, θεωρητέον. ἔστι δ' ἔχοντα τὴν διαφορὰν ταύτην ὅλα τε πρὸς ὅλα γένη καὶ τῶν ὑφ' ἓν εἶδος ἕτερα πρὸς ἕτερα. λέγω δὲ κατὰ γένος μὲν διαφέρειν οἷον ἄνθρωπον πρὸς ἵππον (μακροβιώτερον γὰρ τὸ τῶν ἀνθρώπων γένος ἢ τὸ τῶν ἵππων), κατ' εἶδος δ' ἄνθρωπον πρὸς ἄνθρωπον· εἰσὶ γὰρ καὶ ἄνθρωποι οἱ μὲν μακρόβιοι οἱ δὲ βραχύβιοι ἕτεροι καθ' ἑτέρους τόπους διεστῶτες (τὰ μὲν γὰρ ἐν τοῖς θερμοῖς τῶν ἐθνῶν μακροβιώτερα, τὰ δ' ἐν τοῖς ψυχροῖς βραχυβιώτερα), καὶ τῶν τὸν αὐτὸν δὲ τόπον οἰκούντων διαφέρουσιν ὁμοίως τινὲς ταύτην τὴν πρὸς ἀλλήλους διαφοράν.

Δεῖ δὴ λαβεῖν τί τὸ εὔφθαρτον ἐν τοῖς φύσει συνεστῶσι καὶ τί τὸ οὐκ εὔφθαρτον. πῦρ γὰρ καὶ ὕδωρ καὶ τὰ τούτοις συγγενῆ, οὐκ ἔχοντα τὴν αὐτὴν δύναμιν, τυγχάνει γενέσεως καὶ φθορᾶς αἴτια ἀλλήλοις, ὥστε καὶ τῶν ἄλλων ἕκαστον ἐκ τούτων ὄντα καὶ συνεστῶτα μετέχειν τῆς τούτων φύσεως εὔλογον, ὅσα μὴ συνθέσει ἐκ πολλῶν ἐστιν, οἷον οἰκία. περὶ μὲν οὖν τῶν ἄλλων ἕτερος λόγος· εἰσὶ γὰρ ἴδιαι φθοραὶ πολλοῖς τῶν ὄντων, οἷον ἐπιστήμῃ

‹καὶ ἀγνοίᾳ›, καὶ ὑγιείᾳ καὶ νόσῳ· ταῦτα γὰρ φθείρεται καὶ μὴ φθειρομένων τῶν δεκτικῶν ἀλλὰ σῳζομένων, οἷον ἀγνοίας μὲν φθορὰ ἀνάμνησις καὶ μάθησις, ἐπιστήμης δὲ λήθη καὶ ἀπάτη. κατὰ συμβεβηκὸς δ' ἀκολουθοῦσι τοῖς φυσικοῖς αἱ τῶν ἄλλων φθοραί· φθειρομένων γὰρ τῶν ζῴων φθείρεται καὶ ἡ ἐπιστήμη καὶ ἡ ὑγίεια ἡ ἐν τοῖς ζῴοις. διὸ καὶ περὶ ψυχῆς λογίσαιτ' ἄν τις ἐκ τούτων· εἰ γάρ ἐστι μὴ φύσει ἀλλ' ὥσπερ ἐπιστήμη ἐν ψυχῇ, οὕτω καὶ ψυχὴ ἐν σώματι, εἴη ἄν τις αὐτῆς καὶ ἄλλη φθορὰ παρὰ τὴν φθορὰν ἣν φθείρεται φθειρομένου τοῦ σώματος. ὥστ' ἐπεὶ οὐ φαίνεται τοιαύτη οὖσα, ἄλλως ἂν ἔχοι πρὸς τὴν τοῦ σώματος κοινωνίαν.

[465b] Ἴσως δ' ἄν τις ἀπορήσειεν εὐλόγως, ἆρ' ἔστιν οὗ ἄφθαρτον ἔσται τὸ φθαρτόν, οἷον τὸ πῦρ ἄνω, οὗ μὴ ἔστι τὸ ἐναντίον. φθείρεται γὰρ τὰ μὲν ὑπάρχοντα τοῖς ἐναντίοις κατὰ συμβεβηκός, τῷ ἐκεῖνα φθείρεσθαι (ἀναιρεῖται γὰρ τἀναντία ὑπ' ἀλλήλων), κατὰ συμβεβηκὸς δ' οὐθὲν τῶν ἐν ταῖς οὐσίαις ἐναντίων φθείρεται, διὰ τὸ μηθενὸς ὑποκειμένου κατηγορεῖσθαι τὴν οὐσίαν. ὥσθ' ᾧ μὴ ἔστιν ἐναντίον καὶ ὅπου μὴ ἔστιν, ἀδύνατον ἂν εἴη φθαρῆναι· τί γὰρ ἔσται τὸ φθεροῦν, εἴπερ ὑπ' ἐναντίων μὲν φθείρεσθαι συμβαίνει μόνων, τοῦτο δὲ μὴ ὑπάρχει, ἢ ὅλως ἢ ἐνταῦθα; ἢ τοῦτο τῇ μὲν ἀληθές ἐστι τῇ δ' οὔ; ἀδύνατον γὰρ τῷ ὕλην ἔχοντι μὴ ὑπάρχειν πως τὸ ἐναντίον. παντὶ μὲν γὰρ ἐνεῖναι τὸ θερμὸν ἢ τὸ εὐθὺ ἐνδέχεται, πᾶν δ' εἶναι ἀδύνατον ἢ θερμὸν ἢ εὐθὺ ἢ λευκόν· ἔσται γὰρ τὰ πάθη κεχωρισμένα. εἰ οὖν, ὅταν ἅμα ᾖ τὸ ποιητικὸν καὶ τὸ παθητικόν, ἀεὶ τὸ μὲν ποιεῖ τὸ δὲ πάσχει, ἀδύνατον μὴ μεταβάλλειν. ἔτι καὶ εἰ ἀνάγκη περίττωμα ποιεῖν, τὸ δὲ περίττωμα ἐναντίον· ἐξ ἐναντίου γὰρ ἀεὶ ἡ μεταβολή, τὸ δὲ περίττωμα ὑπόλειμμα τοῦ προτέρου. εἰ δὲ πᾶν ἐξελαύνει τὸ ἐνεργείᾳ ἐναντίον, κἂν ἐνταῦθ' ἄφθαρτον ἂν εἴη. ἢ οὔ, ἀλλ' ὑπὸ τοῦ περιέχοντος φθείρεται; εἰ μὲν οὖν, ἱκανὸν ἐκ τῶν εἰρημένων· εἰ δὲ μή, ὑποθέσθαι δεῖ ὅτι ἔνεστί τι ἐνεργείᾳ ἐναντίον, καὶ περίττωμα γίνεται. [διὸ ἡ ἐλάττων φλὸξ κατακαίεται ὑπὸ τῆς πολλῆς κατὰ συμβεβηκός, ὅτι ἡ τροφὴ ἣν ἐκείνη ἐν πολλῷ χρόνῳ ἀναλίσκει, τὸν καπνόν, ταύτην ἡ πολλὴ φλὸξ ταχύ.] διὸ πάντα ἀεὶ ἐν κινήσει ἐστί, καὶ γίνεται ἢ φθείρεται. τὸ δὲ περιέχον ἢ συμπράττει ἢ ἀντιπράττει· καὶ διὰ τοῦτο μετατιθέμενα πολυχρονιώτερα μὲν γίνεται καὶ ὀλιγοχρονιώτερα τῆς φύσεως, ἀίδια δ' οὐδαμοῦ, ὅσοις ἐναντία ἔστιν· εὐθὺς γὰρ ἡ ὕλη τὸ ἐναντίον ἔχει, ὥστ' εἰ μὲν τοῦ ποῦ, κατὰ τόπον μεταβάλλει, εἰ δὲ τοῦ ποσοῦ, κατ' αὔξησιν καὶ φθίσιν, εἰ δὲ πάθους, ἀλλοιοῦται.

[466a] Ἔστι δ' οὔτε τὰ μέγιστα ἀφθαρτότερα (ἵππος γὰρ ἀνθρώπου βραχυβιώτερον) οὔτε τὰ μικρά (ἐπέτεια γὰρ τὰ πολλὰ τῶν ἐντόμων), οὔτε τὰ

φυτὰ ὅλως τῶν ζῴων (ἐπέτεια γὰρ ἔνια τῶν φυτῶν), οὔτε τὰ ἔναιμα (μέλιττα γὰρ πολυχρονιώτερον ἐνίων ἐναίμων) οὔτε τὰ ἄναιμα (τὰ γὰρ μαλάκια ἐπέτεια μέν, ἄναιμα δέ), οὔτε τὰ ἐν τῇ γῇ (καὶ γὰρ φυτὰ ἐπέτεια ἔστι καὶ ζῷα πεζά) οὔτε τὰ ἐν τῇ θαλάττῃ (καὶ γὰρ ἐκεῖ βραχύβια καὶ τὰ ὀστρακηρὰ καὶ τὰ μαλάκια). ὅλως δὲ τὰ μακροβιώτατα ἐν τοῖς φυτοῖς ἐστιν, οἷον ὁ φοῖνιξ. εἶτ’ ἐν τοῖς ἐναίμοις ζῴοις μᾶλλον ἢ ἐν τοῖς ἀναίμοις, καὶ ἐν τοῖς πεζοῖς ἢ ἐν τοῖς ἐνύδροις· ὥστε καὶ συνδυασθέντων ἐν τοῖς ἐναίμοις καὶ πεζοῖς τὰ μακροβιώτατα τῶν ζῴων ἐστίν, οἷον ἄνθρωπος καὶ ἐλέφας. καὶ δὴ καὶ τὰ μείζω ὡς ἐπὶ τὸ πολὺ εἰπεῖν τῶν ἐλαττόνων μακροβιώτερα· καὶ γὰρ τοῖς ἄλλοις συμβέβηκε τοῖς μακροβιωτάτοις μέγεθος, ὥσπερ καὶ τοῖς εἰρημένοις.

Τὴν δ’ αἰτίαν περὶ τούτων ἁπάντων ἐντεῦθεν ἄν τις θεωρήσειεν. δεῖ γὰρ λαβεῖν ὅτι τὸ ζῷόν ἐστι φύσει ὑγρὸν καὶ θερμόν, καὶ τὸ ζῆν τοιοῦτον, τὸ δὲ γῆρας ξηρὸν καὶ ψυχρόν, καὶ τὸ τεθνηκός· φαίνεται γὰρ οὕτως. ὕλη δὲ τῶν σωμάτων τοῖς ζῴοις ταῦτα, τὸ θερμὸν καὶ τὸ ψυχρόν, καὶ τὸ ξηρὸν καὶ τὸ ὑγρόν. ἀνάγκη τοίνυν γηράσκοντα ξηραίνεσθαι· διὸ δεῖ μὴ εὐξήραντον εἶναι τὸ ὑγρόν. καὶ διὰ τοῦτο τὰ λιπαρὰ ἄσηπτα· αἴτιον δ’ ὅτι ἀέρος, ὁ δ’ ἀὴρ πρὸς τἆλλα πῦρ, πῦρ δ’ οὐ γίνεται σαπρόν. οὐδ’ αὖ ὀλίγον δεῖ εἶναι τὸ ὑγρόν· εὐξήραντον γὰρ καὶ τὸ ὀλίγον. διὸ καὶ τὰ μεγάλα καὶ ζῷα καὶ φυτὰ ὡς ὅλως εἰπεῖν μακροβιώτερα, καθάπερ ἐλέχθη πρότερον· εὔλογον γὰρ τὰ μείζω πλέον ἔχειν ὑγρόν. οὐ μόνον δὲ διὰ τοῦτο μακροβιώτερα· δύο γὰρ τὰ αἴτια, τό τε ποσὸν καὶ τὸ ποιόν, ὥστε δεῖ μὴ μόνον πλῆθος εἶναι ὑγροῦ, ἀλλὰ τοῦτο καὶ θερμόν, ἵνα μήτε εὔπηκτον μήτε εὐξήραντον ᾖ. καὶ διὰ τοῦτο ἄνθρωπος μακρόβιον μᾶλλον ἐνίων μειζόνων· μακροβιώτερα γὰρ τὰ λειπόμενα τῷ πλήθει τοῦ [466b] ὑγροῦ, ἐὰν πλείονι λόγῳ ὑπερέχῃ κατὰ τὸ ποιὸν ἢ λείπεται κατὰ τὸ ποσόν. ἔστι δ’ ἐνίοις μὲν τὸ θερμὸν τὸ λιπαρόν, ὃ ἅμα ποιεῖ τό τε μὴ εὐξήραντον καὶ τὸ μὴ εὔψυκτον· ἐνίοις δ’ ἄλλον ἔχει χυμόν.

ἔτι δεῖ τὸ μέλλον εἶναι μὴ εὔφθαρτον μὴ περιττωματικὸν εἶναι. ἀναιρεῖ γὰρ τὸ τοιοῦτον ἢ νόσῳ ἢ φύσει· ἐναντία γὰρ ἡ τοῦ περιττώματος δύναμις καὶ φθαρτικὴ ἡ μὲν τῆς φύσεως ἡ δὲ μορίου. διὸ καὶ τὰ ὀχευτικὰ καὶ πολύσπερμα γηράσκει ταχύ· τὸ γὰρ σπέρμα περίττωμα, καὶ ἔτι ξηραίνει ἀπιόν. καὶ διὰ τοῦτο ἡμίονος μακροβιώτερος καὶ ἵππου καὶ ὄνου, ἐξ ὧν ἐγένετο, καὶ τὰ θήλεα τῶν ἀρρένων, ἐὰν ὀχευτικὰ ᾖ τὰ ἄρρενα· διὸ οἱ στρουθοὶ οἱ ἄρρενες βραχυβιώτεροι τῶν θηλειῶν. ἔτι δὲ καὶ ὅσα πονητικὰ τῶν ἀρρένων καὶ διὰ τὸν πόνον γηράσκει μᾶλλον· ξηραίνει γὰρ ὁ πόνος, τὸ δὲ γῆρας ξηρόν ἐστιν. φύσει δὲ καὶ ὡς ἐπὶ τὸ πᾶν εἰπεῖν τὰ ἄρρενα τῶν θηλειῶν μακροβιώτερα· αἴτιον δ’ ὅτι θερμότερον ζῷον τὸ ἄρρεν τοῦ θήλεος.

τὰ δ’ αὐτὰ ἐν τοῖς ἀλεεινοῖς μακροβιώτερά ἐστιν ἢ ἐν τοῖς ψυχροῖς τόποις, διὰ τὴν αὐτὴν αἰτίαν δι’ ἥνπερ καὶ μείζω. καὶ μάλιστ’ ἐπίδηλον τὸ μέγεθος τῶν τὴν φύσιν ψυχρῶν ζῴων· διὸ οἵ τ’ ὄφεις καὶ αἱ σαῦραι καὶ τὰ φολιδωτὰ μεγάλα ἐν τοῖς θερμοῖς τόποις, καὶ ἐν τῇ θαλάττῃ τῇ ἐρυθρᾷ τὰ ὀστρακόδερμα· τῆς τε γὰρ αὐξήσεως ἡ θερμὴ ὑγρότης αἰτία καὶ τῆς ζωῆς. ἐν δὲ τοῖς ψυχροῖς τόποις ὑδατωδέστερον τὸ ὑγρὸν τὸ ἐν τοῖς ζῴοις ἐστίν· διὸ εὔπηκτον, ὥστε τὰ μὲν οὐ γίνεται ὅλως τῶν ζῴων τῶν ὀλιγαίμων ἢ ἀναίμων ἐν τοῖς πρὸς τὴν ἄρκτον τόποις, οὔτε τὰ πεζὰ ἐν τῇ γῇ οὔτε τὰ ἔνυδρα ἐν τῇ θαλάττῃ, τὰ δὲ γίνεται μέν, ἐλάττω δὲ καὶ βραχυβιώτερα· ἀφαιρεῖται γὰρ ὁ πάγος τὴν αὔξησιν. τροφὴν δὲ μὴ λαμβάνοντα καὶ τὰ φυτὰ καὶ τὰ ζῷα φθείρεται· συντήκει γὰρ αὐτὰ ἑαυτά· ὥσπερ γὰρ ἡ πολλὴ φλὸξ κατακαίει καὶ φθείρει τὴν ὀλίγην τῷ τὴν τροφὴν ἀναλίσκειν, οὕτω τὸ φυσικὸν θερμόν, τὸ πρῶτον πεπτικὸν ‹ὄν›, ἀναλίσκει τὴν ὕλην ἐν ᾗ ἐστιν. τὰ δ’ ἔνυδρα τῶν πεζῶν ἧττον μακρόβια οὐχ ὅτι [467a] ὑγρὰ ἁπλῶς, ἀλλ’ ὅτι ὑδατώδη· τὸ δὲ τοιοῦτον ὑγρὸν εὔφθαρτον, ὅτι ψυχρὸν καὶ εὔπηκτον. καὶ τὸ ἄναιμον διὰ τὸ αὐτό, ἐὰν μὴ μεγέθει ἀπαμύνηται· οὔτε γὰρ λίπος οὔτε γλυκὺ ἔχει. ἐν γὰρ ζῴῳ τὸ λιπαρὸν γλυκύ· διὸ αἱ μέλιτται μακροβιώτεραι ἑτέρων μειζόνων ζῴων.

Ἐν δὲ τοῖς φυτοῖς ἐστι τὰ μακροβιώτατα, καὶ μᾶλλον ἢ ἐν τοῖς ζῴοις, πρῶτον μὲν ὅτι ἧττον ὑδατώδη, ὥστ’ οὐκ εὔπηκτα· εἶτ’ ἔχει λιπαρότητα καὶ γλισχρότητα, διὸ καὶ ξηρὰ καὶ γεώδη ὄντα ὅμως οὐκ εὐξήραντον ἔχουσι τὸ ὑγρόν. περὶ δὲ τοῦ πολυχρόνιον εἶναι τὴν τῶν δένδρων φύσιν δεῖ λαβεῖν τὴν αἰτίαν· ἔχει γὰρ ἰδίαν πρὸς τὰ ζῷα, πλὴν πρὸς τὰ ἔντομα. νέα γὰρ ἀεὶ τὰ φυτὰ γίνεται· διὸ πολυχρόνια. ἀεὶ γὰρ ἕτεροι οἱ πτόρθοι, οἱ δὲ γηράσκουσιν, καὶ αἱ ῥίζαι ὁμοίως. ἀλλ’ οὐχ ἅμα, ἀλλ’ ὁτὲ μὲν μόνον τὸ στέλεχος καὶ οἱ κλάδοι ἀπώλοντο, ἕτεροι δὲ παρεφύησαν· ὅταν δ’ οὕτως ποιῶσιν, αἱ ῥίζαι ἄλλαι ἐκ τοῦ ὑπάρχοντος γίνονται, καὶ οὕτως ἀεὶ διατελεῖ τὸ μὲν φθειρόμενον τὸ δὲ γινόμενον· διὸ καὶ μακρόβια. ἔοικε δὲ τὰ φυτὰ τοῖς ἐντόμοις, ὥσπερ εἴρηται πρότερον· διαιρούμενα γὰρ ζῇ, καὶ δύο καὶ πολλὰ γίνεται ἐξ ἑνός. τὰ δ’ ἔντομα μέχρι μὲν τοῦ ζῆν ἦλθεν, πολὺν δ’ οὐ δύναται χρόνον· οὐ γὰρ ἔχει ὄργανα, οὐδὲ δύναται ποιεῖν αὐτὰ ἡ ἀρχὴ ἡ ἐν ἑκάστῳ. ἡ δ’ ἐν τῷ φυτῷ δύναται· πανταχῇ γὰρ ἔχει καὶ ῥίζαν καὶ καυλὸν δυνάμει. διὸ ἀπὸ ταύτης ἀεὶ προέρχεται τὸ μὲν νέον τὸ δὲ γηράσκον, μικρόν τι διαφέροντα τοῦ εἶναι μακρόβια οὕτως ὥσπερ τὰ ἀποφυτευόμενα. καὶ γὰρ ἐν τῇ ἀποφυτείᾳ τρόπον τινὰ φαίη ἄν τις ταὐτὰ συμβαίνειν· μόριον γάρ τι τὸ ἀποφυτευθέν. ἐν μὲν οὖν τῇ ἀποφυτείᾳ χωριζομένων συμβαίνει τοῦτο, ἐκεῖ δὲ διὰ τοῦ συνεχοῦς. αἴτιον δ’ ὅτι ἐνυπάρχει πάντῃ ἡ ἀρχὴ δυνάμει ἐνοῦσα.

συμβαίνει δὲ ταὐτὸ ἐπί τε τῶν ζῴων καὶ φυτῶν. ἔν τε γὰρ τοῖς ζῴοις τὰ ἄρρενα μακροβιώτερα ὡς ἐπὶ τὸ πολύ - τούτων δὲ τὰ ἄνω μείζω ἢ τὰ κάτω (νανωδέστερον γὰρ τοῦ θήλεος τὸ ἄρρεν), ἐν δὲ τῷ ἄνω τὸ θερμόν, καὶ τὸ ψυχρὸν ἐν τῷ κάτω - καὶ τῶν φυτῶν τὰ κεφαλοβαρῆ μακροβιώτερα.

[467b] τοιαῦτα δὲ τὰ μὴ ἐπέτεια ἀλλὰ δενδρώδη· τὸ γὰρ ἄνω τοῦ φυτοῦ καὶ κεφαλὴ ἡ ῥίζα ἐστί, τὰ δ’ ἐπέτεια ἐπὶ τὰ κάτω καὶ τὸν καρπὸν λαμβάνει τὴν αὔξησιν. ἀλλὰ περὶ μὲν τούτων καὶ καθ’ αὑτὰ ἐν τοῖς Περὶ φυτῶν διορισθήσεται· νῦν δὲ περὶ τῶν ἄλλων [ζῴων] εἴρηται τὸ αἴτιον περί τε μεγέθους ζωῆς καὶ βραχυβιότητος. λοιπὸν δ’ ἡμῖν θεωρῆσαι περί τε νεότητος καὶ γήρως καὶ ζωῆς καὶ θανάτου· τούτων γὰρ διορισθέντων τέλος ἂν ἡ περὶ τῶν ζῴων ἔχοι μέθοδος.

Περι Νεοτητοσ και Γηρωσ, και Ζωησ και Θανατου, και Αναπνοησ (467b) On Youth, Old Age, Life and Death, and Respiration

[467b] Περὶ δὲ νεότητος καὶ γήρως καὶ περὶ ζωῆς καὶ θανάτου λεκτέον νῦν· ἅμα δὲ καὶ περὶ ἀναπνοῆς ἀναγκαῖον ἴσως τὰς αἰτίας εἰπεῖν· ἐνίοις γὰρ τῶν ζῴων διὰ τοῦτο συμβαίνει τὸ ζῆν καὶ τὸ μὴ ζῆν. ἐπεὶ δὲ περὶ ψυχῆς ἐν ἑτέροις διώρισται, καὶ δῆλον ὅτι οὐχ οἷόν τ’ εἶναι σῶμα τὴν οὐσίαν αὐτῆς, ἀλλ’ ὅμως ὅτι γ’ ἔν τινι τοῦ σώματος ὑπάρχει μορίῳ φανερόν, καὶ ἐν τούτῳ τινὶ τῶν ἐχόντων δύναμιν ἐν τοῖς μορίοις, τὰ μὲν οὖν ἄλλα τῆς ψυχῆς ἢ μόρια ἢ δυνάμεις, ὁποτέρως ποτὲ δεῖ καλεῖν, ἀφείσθω τὰ νῦν· ὅσα δὲ ζῷα λέγεται καὶ ζῆν, ἐν μὲν τοῖς ἀμφοτέρων τούτων τετυχηκόσι (λέγω δ’ ἀμφοτέρων τοῦ τε ζῷον εἶναι καὶ τοῦ ζῆν) ἀνάγκη ταὐτὸν εἶναι καὶ ἓν μόριον καθ’ ὅ τε ζῇ καὶ καθ’ ὃ προσαγορεύομεν αὐτὸ ζῷον· τὸ μὲν γὰρ ζῷον ᾗ ζῷον ἀδύνατον μὴ ζῆν· ᾗ δὲ ζῇ, ταύτῃ ζῷον ὑπάρχειν οὐκ ἀναγκαῖον· τὰ γὰρ φυτὰ ζῇ μέν, οὐκ ἔχει δ’ αἴσθησιν, τῷ δ’ αἰσθάνεσθαι τὸ ζῷον πρὸς τὸ μὴ ζῷον διορίζομεν.

ἀριθμῷ μὲν οὖν ἀναγκαῖον ἓν εἶναι καὶ τὸ αὐτὸ τοῦτο τὸ μόριον, τῷ δ’ εἶναι πλείω καὶ ἕτερα· οὐ γὰρ ταὐτὸ τὸ ζῴῳ εἶναι καὶ τὸ ζῆν. ἐπεὶ οὖν τῶν ἰδίων αἰσθητηρίων ἕν τι κοινόν ἐστιν αἰσθητήριον, εἰς ὃ τὰς κατ’ ἐνέργειαν αἰσθήσεις ἀναγκαῖον ἀπαντᾶν, τοῦτο δ’ ἂν εἴη μέσον τοῦ πρόσθεν καλουμένου καὶ ὄπισθεν (ἔμπροσθεν μὲν γὰρ λέγεται ἐφ’ ὅ ἐστιν ἡμῖν ἡ αἴσθησις, ὄπισθεν δὲ τὸ ἀντικείμενον), ἔτι δὲ διῃρημένου τοῦ σώματος τῶν ζώντων πάντων τῷ τ’ ἄνω καὶ κάτω (πάντα γὰρ ἔχει τὸ ἄνω καὶ τὸ κάτω, ὥστε καὶ τὰ φυτά), δῆλον ὅτι τὴν θρεπτικὴν [468a] ἀρχὴν ἔχοι ἂν ἐν μέσῳ τούτων· καθ’ ὃ μὲν γὰρ εἰσέρχεται μόριον ἡ τροφή, ἄνω καλοῦμεν, πρὸς αὐτὸ βλέποντες ἀλλ’ οὐ πρὸς τὸ περιέχον ὅλον, κάτω δὲ καθ’ ὃ τὸ περίττωμα ἀφίησι τὸ πρῶτον. ἔχει δ’ ἐναντίως τοῖς φυτοῖς τοῦτο καὶ τοῖς ζῴοις· τῷ μὲν γὰρ ἀνθρώπῳ διὰ τὴν ὀρθότητα μάλιστα ὑπάρχει τοῦτο τῶν ζῴων, τὸ ἔχειν τὸ ἄνω μόριον πρὸς τὸ τοῦ παντὸς ἄνω, τοῖς δ’ ἄλλοις μεταξύ· τοῖς δὲ φυτοῖς ἀκινήτοις οὖσι καὶ λαμβάνουσιν ἐκ τῆς γῆς τὴν τροφὴν ἀναγκαῖον ἀεὶ κάτω τοῦτ’ ἔχειν τὸ μόριον. ἀνάλογον γάρ εἰσιν αἱ ῥίζαι τοῖς φυτοῖς καὶ τὸ καλούμενον στόμα τοῖς ζῴοις, δι’ οὗ τὴν τροφὴν τὰ μὲν ἐκ τῆς γῆς λαμβάνει, τὰ δὲ δι’ αὑτῶν.

Τριῶν δὲ μερῶν ὄντων εἰς ἃ διαιρεῖται πάντα τὰ τέλεια τῶν ζῴων, ἑνὸς μὲν ᾗ δέχεται τὴν τροφήν, ἑνὸς δ’ ᾗ τὸ περίττωμα προΐεται, τρίτου δὲ τοῦ μέσου τούτων, τοῦτο ἐν μὲν τοῖς μεγίστοις τῶν ζῴων καλεῖται στῆθος, ἐν δὲ τοῖς ἄλλοις τὸ ἀνάλογον, διήρθρωται δὲ μᾶλλον ἑτέροις ἑτέρων. ὅσα δ’ αὐτῶν ἐστι πορευτικά, πρόσκειται καὶ μόρια τὰ πρὸς ταύτην τὴν ὑπηρεσίαν, οἷς τὸ πᾶν οἴσουσι κύτος, σκέλη τε καὶ πόδες καὶ τὰ τούτοις ἔχοντα τὴν αὐτὴν δύναμιν. ἀλλ’ ἥ γε τῆς θρεπτικῆς ἀρχὴ ψυχῆς ἐν τῷ μέσῳ τῶν τριῶν μορίων καὶ κατὰ τὴν αἴσθησιν οὖσα φαίνεται καὶ κατὰ τὸν λόγον· πολλὰ γὰρ τῶν ζῴων ἀφαιρουμένου ἑκατέρου τῶν μορίων, τῆς τε καλουμένης κεφαλῆς καὶ τοῦ δεκτικοῦ τῆς τροφῆς, ζῇ μεθ’ οὗπερ ἂν ᾖ τὸ μέσον. δῆλον δ’ ἐπὶ τῶν ἐντόμων, οἷον σφηκῶν τε καὶ μελιττῶν, τοῦτο συμβαῖνον· καὶ τῶν μὴ ἐντόμων δὲ πολλὰ διαιρούμενα δύναται ζῆν διὰ τὸ θρεπτικόν. τὸ δὲ τοιοῦτον μόριον ἐνεργείᾳ μὲν ἔχει ἕν, δυνάμει δὲ πλείω· τὸν αὐτὸν γὰρ συνέστηκε τοῖς φυτοῖς τρόπον· καὶ γὰρ τὰ φυτὰ διαιρούμενα ζῇ χωρίς, καὶ γίνεται πολλὰ ἀπὸ μιᾶς ἀρχῆς δένδρα. δι’ ἣν δ’ αἰτίαν τὰ μὲν οὐ δύναται διαιρούμενα ζῆν, τὰ δ’ ἀποφυτεύεται τῶν φυτῶν, ἕτερος [468b] ἔσται λόγος. ἀλλ’ ὁμοίως ἔχει κατά γε τοῦτο τά τε φυτὰ καὶ τὸ τῶν ἐντόμων γένος.

ἀνάγκη δὲ καὶ τὴν θρεπτικὴν ψυχὴν ἐνεργείᾳ μὲν ἐν τοῖς ἔχουσιν εἶναι μίαν, δυνάμει δὲ πλείους, ὁμοίως δὲ καὶ τὴν αἰσθητικήν· φαίνεται γὰρ ἔχοντα αἴσθησιν τὰ διαιρούμενα αὐτῶν. ἀλλὰ πρὸς τὸ σῴζεσθαι τὴν φύσιν, τὰ μὲν φυτὰ δύναται, ταῦτα δ’ οὐ δύναται διὰ τὸ μὴ ἔχειν ὄργανα πρὸς σωτηρίαν, ἐνδεᾶ τ’ εἶναι τὰ μὲν τοῦ ληψομένου τὰ δὲ τοῦ δεξομένου τὴν τροφήν, τὰ δ’ ἄλλων τε καὶ τούτων ἀμφοτέρων. ἐοίκασι γὰρ τὰ τοιαῦτα τῶν ζῴων πολλοῖς ζῴοις συμπεφυκόσιν (τὰ δ’ ἄριστα συνεστηκότα τοῦτ’ οὐ πάσχει τῶν ζῴων διὰ τὸ εἶναι τὴν φύσιν αὐτῶν ὡς ἐνδέχεται μάλιστα μίαν). διὸ καὶ μικρὰν αἴσθησιν ἔνια ποιεῖ διαιρούμενα τῶν μορίων ὅτι ἔχει τι ψυχικὸν πάθος· χωριζομένων γὰρ τῶν σπλάγχνων ποιεῖται κίνησιν, οἷον καὶ αἱ χελῶναι τῆς καρδίας ἀφῃρημένης.

Ἔτι δὲ ἐπί τε τῶν φυτῶν δῆλον καὶ ἐπὶ τῶν ζῴων, τῶν μὲν φυτῶν τήν τ’ ἐκ τῶν σπερμάτων γένεσιν ἐπισκοποῦσι καὶ τὰς ἐμφυτείας τε καὶ τὰς ἀποφυτείας. ἥ τε γὰρ ἐκ τῶν σπερμάτων γένεσις συμβαίνει πᾶσιν ἐκ τοῦ μέσου (διθύρων γὰρ ὄντων πάντων, ᾗ συμπέφυκεν καὶ τὸ μέσον ἔστιν ἑκατέρου τῶν μορίων, ἐντεῦθεν ὅ τε καυλὸς ἐκφύεται καὶ ἡ ῥίζα τῶν φυομένων, ἡ δ’ ἀρχὴ τὸ μέσον αὐτῶν ἐστιν), ἔν τε ταῖς ἐμφυτείαις καὶ ταῖς ἀποφυτείαις μάλιστα συμβαίνει τοῦτο περὶ τοὺς ὄζους· ἔστι γὰρ ἀρχή τις ὁ ὄζος τοῦ κλάδου, ἅμα δὲ καὶ μέσον, ὥστε ἢ τοῦτο ἀφαιροῦσιν ἢ εἰς τοῦτο ἐμβάλλουσιν, ἵνα ἢ ὁ κλάδος ἢ αἱ ῥίζαι ἐκ τούτου γίνωνται, ὡς οὔσης τῆς ἀρχῆς ἐκ τοῦ μέσου κλάδου καὶ ῥίζης. καὶ τῶν ζῴων τῶν ἐναίμων ἡ καρδία γίνεται πρῶτον· τοῦτο δὲ δῆλον ἐξ ὧν ἐν τοῖς ἐνδεχομένοις ἔτι γινομένοις ἰδεῖν τεθεωρήκαμεν. ὥστε καὶ ἐν τοῖς ἀναίμοις ἀναγκαῖον τὸ ἀνάλογον τῇ καρδίᾳ γίνεσθαι πρῶτον. ἡ δὲ καρδία ὅτι ἐστὶν ἀρχή, τῶν φλεβῶν ἐν τοῖς περὶ τὰ Πέρη τῶν ζῴων εἴρηται [469a] πρότερον· καὶ ὅτι τὸ αἷμα τοῖς ἐναίμοις ἐστὶ τελευταία τροφή, ἐξ οὗ γίνεται τὰ μόρια. φανερὸν τοίνυν ὅτι μίαν μέν τινα ἐργασίαν ἡ τοῦ στόματος λειτουργεῖ δύναμις, ἑτέραν δ’ ἡ τῆς κοιλίας, περὶ τὴν τροφήν, ἡ δὲ καρδία κυριωτάτη, καὶ τὸ τέλος ἐπιτίθησιν. ὥστ’ ἀνάγκη καὶ τῆς αἰσθητικῆς καὶ τῆς θρεπτικῆς ψυχῆς ἐν τῇ καρδίᾳ τὴν ἀρχὴν εἶναι τοῖς ἐναίμοις· τὰ γὰρ τῶν ἄλλων μορίων ἔργα περὶ τὴν τροφὴν τοῦ ταύτης ἔργου χάριν ἐστί· δεῖ μὲν γὰρ τὸ κύριον πρὸς τὸ οὗ ἕνεκα διατελεῖν, ἀλλ’ οὐκ ἐν τοῖς τούτου ἕνεκα, οἷον ἰατρὸς πρὸς τὴν ὑγίειαν.

ἀλλὰ μὴν τό γε κύριον τῶν αἰσθήσεων ἐν ταύτῃ τοῖς ἐναίμοις πᾶσιν· ἐν τούτῳ γὰρ ἀναγκαῖον εἶναι τὸ πάντων τῶν αἰσθητηρίων κοινὸν αἰσθητήριον. δύο δὲ φανερῶς ἐνταῦθα συντεινούσας ὁρῶμεν, τήν τε γεῦσιν καὶ τὴν ἁφήν, ὥστε καὶ τὰς ἄλλας ἀναγκαῖον· ἐν τούτῳ μὲν γὰρ τοῖς ἄλλοις αἰσθητηρίοις ἐνδέχεται ποιεῖσθαι τὴν κίνησιν, ταῦτα δ’ οὐδὲν συντείνει πρὸς τὸν ἄνω τόπον. χωρὶς δὲ τούτων, εἰ τὸ ζῆν ἐν τούτῳ τῷ μορίῳ πᾶσίν ἐστι, δῆλον ὅτι καὶ τὴν αἰσθητικὴν ἀρχὴν ἀναγκαῖον· ᾗ μὲν γὰρ ζῷον, ταύτῃ καὶ ζῆν φαμεν, ᾗ δ’ αἰσθητικόν, ταύτῃ τὸ σῶμα ζῷον εἶναι λέγομεν. διὰ τί δ’ αἱ μὲν τῶν αἰσθήσεων φανερῶς συντείνουσι πρὸς τὴν καρδίαν, αἱ δ’ εἰσὶν ἐν τῇ κεφαλῇ (διὸ καὶ δοκεῖ τισιν αἰσθάνεσθαι τὰ ζῷα διὰ τὸν ἐγκέφαλον), τὸ αἴτιον τούτων ἐν ἑτέροις εἴρηται χωρίς.

κατὰ μὲν οὖν τὰ φαινόμενα δῆλον ἐκ τῶν εἰρημένων ὅτι ἐν τούτῳ τε καὶ ἐν τῷ μέσῳ τοῦ σώματος τῶν τριῶν μορίων ἥ τε τῆς αἰσθητικῆς ψυχῆς ἀρχή ἐστι καὶ ἡ τῆς αὐξητικῆς καὶ θρεπτικῆς· κατὰ δὲ τὸν λόγον, ὅτι τὴν φύσιν ὁρῶμεν ἐν πᾶσιν ἐκ τῶν δυνατῶν ποιοῦσαν τὸ κάλλιστον· ἐν τῷ μέσῳ δὲ τῆς οὐσίας τῆς ἀρχῆς οὔσης ἑκατέρας μάλιστα ἂν ἀποτελοῖ τῶν μορίων ἑκάτερον τὸ αὑτοῦ ἔργον, τό τε κατεργαζόμενον τὴν ἐσχάτην τροφὴν καὶ τὸ δεκτικόν· πρὸς ἑκατέρῳ γὰρ αὐτῶν οὕτως ἔσται, καὶ ἔστιν ἡ τοῦ τοιούτου μέσου χώρα ἄρχοντος [469b] χώρα. ἔτι τὸ χρώμενον καὶ ᾧ χρῆται τὸ χρώμενον δεῖ διαφέρειν (ὥσπερ δὲ τὴν δύναμιν, οὕτως, ἂν ἐνδέχηται, καὶ τὸν τόπον), ὥσπερ οἵ τ’ αὐλοὶ καὶ τὸ κινοῦν τοὺς αὐλούς, ἡ χείρ. εἴπερ οὖν τὸ ζῷον ὥρισται τῷ τὴν αἰσθητικὴν ἔχειν ψυχήν, τοῖς μὲν ἐναίμοις ἀναγκαῖον ἐν τῇ καρδίᾳ ταύτην ἔχειν τὴν ἀρχήν, τοῖς δ’ ἀναίμοις ἐν τῷ ἀνάλογον μορίῳ. πάντα δὲ τὰ μόρια καὶ πᾶν τὸ σῶμα τῶν ζῴων ἔχει τινὰ σύμφυτον θερμότητα φυσικήν· διὸ ζῶντα μὲν φαίνεται θερμά, τελευτῶντα δὲ καὶ στερισκόμενα τοῦ ζῆν τοὐναντίον. ἀναγκαῖον δὴ ταύτης τὴν ἀρχὴν τῆς θερμότητος ἐν τῇ καρδίᾳ τοῖς ἐναίμοις εἶναι, τοῖς δ’ ἀναίμοις ἐν τῷ ἀνάλογον· ἐργάζεται γὰρ καὶ πέττει τῷ φυσικῷ θερμῷ τὴν τροφὴν πάντα, μάλιστα δὲ τὸ κυριώτατον. διὸ τῶν μὲν ἄλλων μορίων ψυχομένων ὑπομένει τὸ ζῆν, τοῦ δ’ ἐν ταύτῃ φθείρεται πάμπαν, διὰ τὸ τὴν ἀρχὴν ἐντεῦθεν τῆς θερμότητος ἠρτῆσθαι πᾶσι, καὶ τῆς ψυχῆς ὥσπερ ἐμπεπυρευμένης ἐν τοῖς μορίοις τούτοις, τῶν μὲν ἀναίμων ἐν τῷ ἀνάλογον, ἐν δὲ τῇ καρδίᾳ τῶν ἐναίμων. ἀνάγκη τοίνυν ἅμα τό τε ζῆν ὑπάρχειν καὶ τὴν τοῦ θερμοῦ τούτου σωτηρίαν, καὶ τὸν καλούμενον θάνατον εἶναι τὴν τούτου φθοράν.

Ἀλλὰ μὴν πυρός γε δύο ὁρῶμεν φθοράς, μάρανσίν τε καὶ σβέσιν. καλοῦμεν δὲ τὴν μὲν ὑφ’ αὑτοῦ μάρανσιν, τὴν δ’ ὑπὸ τῶν ἐναντίων σβέσιν, [τὴν μὲν γήρᾳ, τὴν δὲ βίαιον,] συμβαίνει δ’ ἀμφοτέρας διὰ ταὐτὸ γίνεσθαι τὰς φθοράς· ὑπολειπούσης γὰρ τῆς τροφῆς, οὐ δυναμένου λαμβάνειν τοῦ θερμοῦ τὴν τροφήν, φθορὰ γίνεται τοῦ πυρός. τὸ μὲν γὰρ ἐναντίον παῦον τὴν πέψιν κωλύει τρέφεσθαι· ὁτὲ δὲ μαραίνεσθαι συμβαίνει, πλείονος ἀθροιζομένου θερμοῦ διὰ τὸ μὴ ἀναπνεῖν μηδὲ καταψύχεσθαι· ταχὺ γὰρ καὶ οὕτω καταναλίσκει τὴν τροφὴν πολὺ συναθροιζόμενον τὸ θερμόν, καὶ φθάνει καταναλίσκον πρὶν ἐπιστῆναι τὴν ἀναθυμίασιν. διόπερ οὐ μόνον μαραίνεται τὸ ἔλαττον παρὰ τὸ πλεῖον πῦρ, ἀλλὰ καὶ αὐτὴ καθ’ αὑτὴν ἡ τοῦ λύχνου φλὸξ ἐντιθεμένη πλείονι φλογὶ [470a] κατακαίεται, καθάπερ ὁτιοῦν ἄλλο τῶν καυστῶν. αἴτιον δ’ ὅτι τὴν μὲν οὖσαν ἐν τῇ φλογὶ τροφὴν φθάνει λαμβάνουσα ἡ μείζων φλὸξ πρὶν ἐπελθεῖν ἑτέραν, τὸ δὲ πῦρ ἀεὶ διατελεῖ γινόμενον καὶ ῥέον ὥσπερ ποταμός, ἀλλὰ λανθάνει διὰ τὸ τάχος. δῆλον τοίνυν ὡς εἴπερ δεῖ σῴζεσθαι τὸ θερμόν (τοῦτο δ’ ἀναγκαῖον, εἴπερ μέλλει ζῆν), δεῖ γίνεσθαί τινα τοῦ θερμοῦ τοῦ ἐν τῇ ἀρχῇ κατάψυξιν. παράδειγμα δὲ τούτου λαβεῖν ἔστι τὸ συμβαῖνον ἐπὶ τῶν καταπνιγομένων ἀνθράκων· ἂν μὲν γὰρ ὦσι περιπεπωμασμένοι τῷ καλουμένῳ πνιγεῖ συνεχῶς, ἀποσβέννυνται ταχέως· ἂν δὲ παρ’ ἄλληλά τις ποιῇ πυκνὰ τὴν ἀφαίρεσιν καὶ τὴν ἐπίθεσιν, μένουσι πεπυρωμένοι πολὺν χρόνον. ἡ δ’ ἔγκρυψις σῴζει τὸ πῦρ· οὔτε γὰρ ἀποπνεῖν κωλύεται, διὰ μανότητα τῆς τέφρας, ἀντιφράττει τε τῷ πέριξ ἀέρι πρὸς τὸ μὴ σβεννύναι, τῷ πλήθει τῆς ἐνυπαρχούσης αὐτῷ θερμότητος. ἀλλὰ περὶ μὲν τῆς αἰτίας ταύτης, ὅτι τὸ ἐναντίον συμβαίνει τῷ ἐγκρυπτομένῳ καὶ καταπνιγομένῳ πυρί (τὸ μὲν γὰρ μαραίνεται, τὸ δὲ διαμένει πλείω χρόνον), εἴρηται ἐν τοῖς προβλήμασιν.

Ἐπεὶ δὲ πᾶν ζῶν ἔχει ψυχήν, αὕτη δ’ οὐκ ἄνευ φυσικῆς ὑπάρχει θερμότητος, ὥσπερ εἴπομεν, τοῖς μὲν φυτοῖς ἡ διὰ τῆς τροφῆς καὶ τοῦ περιέχοντος ἱκανὴ γίνεται βοήθεια πρὸς τὴν τοῦ φυσικοῦ θερμοῦ σωτηρίαν. καὶ γὰρ ἡ τροφὴ ποιεῖ κατάψυξιν εἰσιοῦσα, καθάπερ καὶ τοῖς ἀνθρώποις τὸ πρῶτον προσενεγκαμένοις, αἱ δὲ νηστεῖαι θερμαίνουσι καὶ δίψας ποιοῦσιν· ἀκίνητος γὰρ ὢν ὁ ἀὴρ ἀεὶ θερμαίνεται, τῆς δὲ τροφῆς εἰσιούσης καταψύχεται κινούμενος, ἕως ἂν λάβῃ τὴν πέψιν. ἐὰν δὲ τὸ περιέχον ὑπερβάλλῃ ψυχρότητι διὰ τὴν ὥραν, ἰσχυρῶν γινομένων πάγων, ἐξαυαίνεται ἡ τοῦ θερμοῦ ἰσχύς, ἂν δὲ συμβαίνῃ καύματα καὶ μὴ δύνηται τὸ σπώμενον ἐκ τῆς γῆς ὑγρὸν καταψύχειν, φθείρεται μαραινόμενον τὸ θερμόν, καὶ λέγεται σφακελίζειν καὶ ἀστρόβλητα γίνεσθαι τὰ δένδρα περὶ τοὺς καιροὺς τούτους. διὸ καὶ γένη τινὰ λίθων ταῖς ῥίζαις ὑποβάλλουσι καὶ ὕδωρ ἐν ἀγγείοις, ὅπως αἱ ῥίζαι ψύχωνται τῶν φυτῶν. τῶν δὲ ζῴων ἐπεὶ τὰ μέν ἐστιν ἔνυδρα τὰ δ’ ἐν τῷ ἀέρι ποιεῖται τὴν δίαιταν, ἐκ τούτων καὶ διὰ τούτων πορίζεται τὴν κατάψυξιν, τὰ μὲν τῷ ὕδατι τὰ δὲ τῷ ἀέρι. τίνα δὲ τρόπον καὶ πῶς, λεκτέον ἐπιστήσασι τὸν λόγον μᾶλλον.

Ανωνυμου περι Πνευματοσ (481a) On Breath

[481a] Τίς ἡ τοῦ ἐμφύτου πνεύματος διαμονή, καὶ τίς ἡ αὔξησις; ὁρῶμεν γὰρ ὅτι πλέον καὶ ἰσχυρότερον γίνεται καὶ καθ’ ἡλικίας μεταβολὴν καὶ κατὰ διάθεσιν σώματος. ἢ ὡς τἆλλα μέρη, προσγινομένου τινός; προσγίνεται δὲ τροφὴ τοῖς ἐμψύχοις, ὥστε ταύτην σκεπτέον ποία τε καὶ πόθεν. δύο δὴ τρόποι δι’ ὧν γίνεται, ἢ διὰ τῆς ἀναπνοῆς, ἢ διὰ τῆς κατὰ τὴν τῆς τροφῆς προσφορὰν πέψεως, καθάπερ τοῖς ἄλλοις. τούτων ἴσως οὐχ ἧττον ἂν [οὐχ οὕτω] δόξειεν διὰ τῆς τροφῆς· σῶμα γὰρ ὑπὸ σώματος τρέφεται, τὸ δὲ πνεῦμα σῶμα. τίς οὖν ὁ τρόπος; ἢ δῆλον ὡς ἐκ τῆς φλεβὸς ὁλκῇ τινι καὶ πέψει. τὸ γὰρ αἷμα ἡ ἐσχάτη τροφὴ καὶ ἡ αὐτὴ πᾶσιν. ὥσπερ οὖν καὶ εἰς τὸ ἀγγεῖον αὐτοῦ καὶ εἰς τὸ περιεχόμενον λαμβάνει τροφὴν εἰς τὸ θερμόν. ἄγει δ’ ὁ ἀὴρ τὴν ἐνέργειαν ποιῶν, τήν τε πεπτικὴν αὐτὸς αὑτῷ προστιθεὶς αὔξει καὶ τρέφει. οὐδὲν δ’ ἴσως ἄτοπον αὐτό γε τοῦτο, ἀλλὰ γενέσθαι τὸ πρῶτον ἐκ τῆς τροφῆς. καθαρώτερον γὰρ ὃ τῇ ψυχῇ συμφυές, εἰ μὴ καὶ τὴν ψυχὴν ὕστερον λέγοι γίνεσθαι, διακρινομένων τῶν σπερμάτων καὶ εἰς φύσιν ἰόντων. εἴτε περίττωμα πάσης τροφῆς ἐστι, ποίᾳ διαπέμπεται τοῦτο; κατὰ μὲν γὰρ τὴν ἐκπνοὴν οὐκ εὔλογον· ἀντιλαμβάνει γὰρ εὐθύς. λοιπὸν δὲ δῆλον ὅτι διὰ τῶν τῆς ἀρτηρίας πόρων. τὸ δ’ ἐκκρινόμενον ἤτοι λεπτότερον ἢ παχύτερον. ἀμφοτέρως δ’ ἄτοπον, εἰ τοῦτο πάντων ἔσται καθαρώτατον. εἰ δὲ παχύτερον, ἔσονταί τινες πόροι μείζους. εἰ δ’ ἄρα κατὰ τοὺς αὐτοὺς λαμβάνει καὶ ἐκπέμπει, τοῦτ’ αὐτὸ παράλογον καὶ ἄτοπον. ἡ μὲν οὖν ἐκ τῆς τροφῆς αὔξησις καὶ διαμονὴ σχεδὸν ταῦτα.

Ἡ δ’ ἐκ τῆς ἀναπνοῆς, ὥσπερ Ἀριστογένης οἴεται (τροφὴν γὰρ οἴεται καὶ τὸ πνεῦμα πεττομένου τοῦ ἀέρος ἐν τῷ πνεύμονι· τοῦτο δ’ εἰς τὰ ἀγγεῖα διαδίδοσθαι, τὸ [481b] περίττωμα πάλιν ἐκπέμπεσθαι) πλείους ἔχει τὰς ἀπορίας. ἥ τε γὰρ πέψις ὑπὸ τίνος; εἰκὸς μὲν γὰρ ὑπ’ αὐτοῦ, καθάπερ καὶ τῶν ἄλλων. αὐτὸ δὲ τοῦτ’ ἄτοπον, εἰ μὴ διαφέρει τοῦ ἔξω ἀέρος· οὕτω δ’ ἡ θερμότης ἂν πέττοι. καὶ μὴν καὶ παχύτερον αὐτὸν εὔλογον εἶναι μεθ’ ὑγρότητος τῆς ἀπὸ τῶν ἀγγείων ὄντα καὶ τῶν ὅλων ὄγκων, ὥσθ’ ἡ πέψις ἂν εἰς τὸ σωματῶδες εἴη. τὸ δὲ περίττωμα, εἴπερ γίνεται λεπτότερον, οὐ πιθανόν. ἄλογος δὲ καὶ ἡ ταχυτὴς τῆς πέψεως. εὐθὺς γὰρ μετὰ τὴν εἰσπνοὴν ἡ ἐκπνοή. τί οὖν τὸ οὕτω ταχὺ μεταβάλλον καὶ ἀλλοιοῦν; ὑπολάβοι γὰρ ἄν τις μάλιστα τὸ θερμόν, καὶ μαρτυρεῖ οὕτως ἡ αἴσθησις· ὁ γὰρ ἐκπνεόμενος θερμός. ἔτι δ’ εἰ μὲν ἐν τῷ πνεύμονι καὶ τῇ ἀρτηρίᾳ τὸ πεττόμενον, ἡ τοῦ θερμοῦ δύναμις ἐν τούτοις· ὅπερ οὔ φασιν, ἀλλ’ ἐν τῇ κινήσει τῇ τοῦ πνεύματος ἐκθερμαίνεσθαι τὴν τροφήν. εἰ δ’ ἐξ ἑτέρου τινὸς οἷον ἐπισπᾶται ἢ καὶ κινοῦντος δέχεται, τοῦτ’ ἔτι θαυμασιώτερον. ἅμα δὲ καὶ οὐκ αὐτὸ τὸ πρῶτον κινοῦν. ἔτι δ’ ἡ μὲν ἀναπνοὴ μέχρι τοῦ πνεύμονος, ὥσπερ λέγουσιν αὐτοί, τὸ δὲ πνεῦμα δι’ ὅλου τὸ σύμφυτον. εἰ δ’ ἀπὸ τούτου διαδίδοται καὶ πρὸς τὰ κάτω καὶ πρὸς τὰ ἄλλα, πῶς ἡ πέψις οὕτω ταχεῖα; θαυμασιώτερον γὰρ τοῦτο καὶ μεῖζον· οὐ γὰρ διαπέμπει τοῦτό γ’ εὐθὺς πεττόμενον τὸν ἀέρα τοῖς κάτω. καίτοι τὸ μὲν δόξειεν ‹ἂν› ἀναγκαῖον εἶναι τοῦτο τῆς πέψεως γινομένης ἐν τῷ πνεύμονι τῆς τ’ ἀναπνοῆς κοινωνούντων καὶ τῶν κάτω, μεῖζον δ’ οὕτως ἔτι καὶ παραδοξότερον τὸ συμβαῖνον· οἷον γὰρ διόδῳ καὶ θίξει γίνεται μόνον ἡ πέψις. ἄλογον δὲ καὶ τουτὶ καὶ λογοδεστερον, εἰ ὁ αὐτὸς πόρος τῆς τροφῆς καὶ τοῦ περιττώματος. εἰ δὲ δι’ ἄλλου τινὸς τῶν ἐντός, οἱ αὐτοὶ λόγοι οἳ καὶ πρότερον, εἰ μὴ τοῦτο λέγοι τις, ὡς οὐ πάσης τῆς τροφῆς οὐδὲ πᾶσι γίνεται περίττωμα, [482a] καθάπερ οὐδὲ τοῖς φυτοῖς, ἐπεὶ οὐδὲ τῶν τοῦ σώματος μερῶν ἑκάστου λαβεῖν ἐστιν, εἰ μή, ὅτι γε παντός. ἀλλ’ ἄρα γε ἡ μὲν ἀγγείων αὔξησις ἡ αὐτὴ καὶ τῶν ἄλλων μορίων, εὐρυνομένων δὲ καὶ διισταμένων τούτων πλείων ὁ ἀὴρ ὁ εἰσρέων καὶ ἐκρέων. εἰ δέ τι ἀναγκαῖον ἐνυπάρχει, τοῦτο αὐτὸ ζητεῖται, τίς ὁ φυσικός; καὶ πῶς οὗτος πλείων ὑγιῶς, ἐκ τούτου φανερὸν ἂν εἴη. τοῖς δὲ δὴ μὴ ἀναπνευστικοῖς τίς ἡ τροφὴ τοῦ συμφύτου καὶ τίς ἡ αὔξησις; οὐ γὰρ ἔτι τούτοις ἀπὸ τοῦ ἔξωθεν. εἰ δ’ ἀπὸ τῶν ἐντὸς καὶ τῆς κοινῆς τροφῆς, εὔλογον κἀκείνοις· ἀπὸ γὰρ τῶν αὐτῶν τὰ ὅμοια καὶ ὡσαύτως, εἰ μὴ ἄρα καὶ τούτοις ἀπὸ τοῦ ἐκτός, ὥσπερ καὶ τῶν ὀσμῶν αἰσθάνονται. ἀλλ’ οὔτοιγ’ οἷον ἀναπνοὴ γίνεται. περὶ οὗ κἂν ἀπορήσειέ τις, εἰ κατὰ ἀλήθειάν ἐστιν, αὐτό τε τοῦτο προφέρων καὶ τὴν ἐπίσπασιν τῆς τροφῆς (ὁλκὴ γὰρ ἅμα πνεύματος), ἔτι δ’ ὑπὲρ τῆς καταψύξεως ἀντιλέγων, ὡς κἀκείνων δεομένων. εἰ δὲ διὰ τοῦ ὑποζώματος αὐτοῖς γίνεται, ταύτῃ δῆλον ὅτι καὶ ἡ τοῦ ἀέρος εἴσοδος· ὥσθ’ ὅμοιόν τι τῇ ἀναπνοῇ. πλὴν οὐκ ἀφορίζεται τίς ‹ἡ› ὁλκὴ καὶ ὑπὸ τίνος, ἢ εἰ μὴ ὁλκή, πῶς ἡ εἴσοδος; εἰ μὴ ἄρα αὐτομάτως. τοῦτο μὲν οὖν ἔχει καὶ αὐτὸ καθ’ αὑτὸ σκέψιν. τοῖς δὲ δὴ ἐνύγροις τίς ἡ τροφὴ καὶ αὔξησις τοῦ συμφύτου; χωρὶς γὰρ τοῦ μὴ ἀναπνεῖν οὐδ’ ἐνυπάρχειν ὅλως ἐν τῷ ὑγρῷ φαμεν ἀέρα. λοιπὸν ἄρα διὰ τῆς τροφῆς, ὡς οὐχ ὁμοίως πᾶσιν, ἢ κἀκεῖνα διὰ τῆς τροφῆς τὰ ‹μὴ› ἔνυγρα· τριῶν γὰρ τούτων ἀναγκαῖον ἕν. καὶ ταῦτα μὲν ὡς περὶ τὴν αὔξησιν καὶ τροφὴν τοῦ πνεύματος.

Περὶ δὲ ἀναπνοῆς οἱ μὲν οὐ λέγουσι τίνος χάριν, ἀλλὰ μόνον ὃν τρόπον γίνεται, καθάπερ Ἐμπεδοκλῆς καὶ Δημόκριτος· οἱ δ’ οὐδὲ τὸν τρόπον ὅλως λέγουσιν, ἀλλ’ ὡς φανερῷ χρῶνται. δεῖ δὲ καὶ εἰ καταψύξεως χάριν, αὐτὸ τοῦτο διασαφῆσαι. εἰ γὰρ ἐν τοῖς ἄνω τὸ θερμόν, οὐκ ἂν ἔτι δέοιτο κάτω. τὸ δὲ σύμφυτον πνεῦμα δι’ ὅλου, καὶ ἀρχὴ ἀπὸ τοῦ πνεύμονος. δοκεῖ δὲ καὶ τὸ τῆς ἀναπνοῆς εἰς πάντα διαδίδοσθαι κατὰ συνέχειαν, ὥστε τοῦτο δεικτέον ὡς οὐκ ἔστιν. ἄτοπον δὲ εἰ μὴ δεῖταί τινος κινήσεως καὶ [482b] οἷον τροφῆς. εἰ δὲ διαπνεῖ πρὸς πᾶν, οὐκ ‹ἂν› ἔτι καταψύξεως εἴη χάριν. ἀλλὰ μὴν καὶ ἡ διάδοσις ἄλλως τ’ ἀναίσθητος, καὶ τὸ τάχος αὐτῆς. καὶ πάλιν τὸ τῆς παλιρροίας, εἴπερ ἀπὸ πάντων, θαυμαστόν, πλὴν εἰ ἄλλον τρόπον ἀπὸ τῶν ἐσχάτων, τὸ δὲ πρώτως καὶ κυρίως ἀπὸ τῶν περὶ τὴν καρδίαν. ἐν πολλοῖς δ’ οὕτω τὸ τῶν ἐνεργειῶν καὶ τῶν δυνάμεων. ἄτοπον οὖν ὅμως εἰ καὶ εἰς τὸ ὀστοῦν διαδίδοται· καὶ γὰρ δὴ τοῦτό φασιν ἐξ ἀρτηριῶν. διό, καθάπερ εἴρηται, σκεπτέον περὶ ἀναπνοῆς, καὶ τίνος ἕνεκα καὶ ποίοις μέρεσι καὶ πῶς. ἔτι δὲ οὐδ’ ἐπιφορὰ τῆς τροφῆς φέρεται πᾶσι δι’ ἀρτηριῶν, οἷον αὐτοῖς τε τοῖς ἀγγείοις καὶ ἄλλοις τισὶ τῶν μερῶν· ζῇ δὲ ‹ὥσπερ› τὰ φυτὰ καὶ τρέφεται. ταῦτα μὲν οἰκειότερά πως τοῖς περὶ τὰς τροφάς.

Ἐπεὶ δὲ τρεῖς αἱ κινήσεις τοῦ ἐν τῇ ἀρτηρίᾳ πνεύματος, ἀναπνοή, σφυγμός, τρίτη δ’ ἡ τὴν τροφὴν ἐπάγουσα καὶ κατεργαζομένη, λεκτέον ὑπὲρ ἑκάστης καὶ ποῦ καὶ πῶς καὶ τίνος χάριν. τούτων δ’ ἡ μὲν τοῦ σφυγμοῦ καὶ τῇ αἰσθήσει φανερὰ καθ’ ὁτιοῦν μέρος ἁπτομένοις, ἡ δὲ τῆς ἀναπνοῆς μέχρι μέν του φανερά, τὸ δὲ πλέον κατὰ λόγον, ἡ δὲ τῆς τροφῆς ἅπασα κατὰ λόγον ὡς εἰπεῖν, ὡς ἐκ τῶν συμβαινόντων δὲ κατὰ τὴν αἴσθησιν. ἡ μὲν οὖν ἀναπνοὴ δῆλον ὡς ἀπὸ τοῦ ἐντὸς ἔχει τὴν ἀρχήν, εἴτε ψυχῆς δύναμιν εἴτε ψυχὴν δεῖ λέγειν ταύτην, εἴτε καὶ ἄλλην τινὰ σωμάτων μίξιν, ἣ δι’ αὐτῶν ποιεῖ τὴν τοιαύτην ὁλκήν. ἡ δὲ θρεπτικὴ δόξειεν ἂν ἀπὸ τῆς ἀναπνοῆς· αὕτη γὰρ ἀνταποδίδοται, καὶ ὁμοία τῷ ἀληθεῖ. εἰ δὲ μή, πᾶν ὁμαλίζει τοῖς χρόνοις τὸ σῶμα κατὰ τὴν τοιαύτην κίνησιν. ἢ εἰ μηδὲν διαφέρει τὸ ἅμα, πάντα τὰ μέρη σκεπτέον. ὁ δὲ σφυγμὸς ἴδιός τις παρὰ ταύτας τῇ μὲν ἂν δοκῶν εἶναι κατὰ συμβεβηκός, εἴπερ, ὅταν ἐν ὑγρῷ πλῆθος ᾖ θερμότητος, ἀνάγκη τὸ ἐκπνευματούμενον διὰ τὴν ἐναπόληψιν ποιεῖν σφυγμόν, ἐν τῇ ἀρχῇ δὲ καὶ πρῶτον, εἴπερ τοῖς πρώτοις σύμφυτον· [ἐν γὰρ τῇ καρδίᾳ μάλιστα καὶ πρῶτον, ἀφ’ ἧς καὶ τοῖς ἄλλοις.] τάχα δὲ πρὸς τὴν ὑποκειμένην οὐσίαν τοῦ ζῴου τὴν ἐκ τῆς ἐνεργείας ἀνάγκη τοῦτο παρακολουθεῖν. ὅτι δ’ οὐδὲν πρὸς τὴν ἀναπνοὴν ὁ σφυγμός, [483a] σημεῖον· ἐάν τε γὰρ πυκνὸν ἐάν τε ὁμαλὸν ἐάν τε σφοδρὸν ἢ ἀραιὸν ἀναπνέῃ τις, ὅ γε σφυγμὸς ὅμοιος καὶ ὁ αὐτός, ἀλλ’ ἡ ἀνωμαλία γίνεται καὶ ἐπίτασις ἔν τε σωματικοῖς τισι πάθεσι καὶ ἐν τοῖς τῆς ψυχῆς φόβοις ἐλπίσιν ἀγωνίαις. εἰ δὲ καὶ ἐν ταῖς ἀρτηρίαις ὁ σφυγμός, κἂν ὁ αὐτὸς ὢν ἐν ῥυθμῷ καὶ ὁμαλὸς ᾖ, σκεπτέον· οὐκ ἔοικε δέ γε τοῖς μακρὰν ἀπηρτημένοις. ἥκιστα δ’ ἕνεκά του φαίνεται γίνεσθαι, καθάπερ εἴρηται. τὸ γὰρ αὖ τῆς ἀναπνοῆς καὶ τῆς ἐπαγωγῆς, εἴθ’ ὡς ἕτερα πάμπαν ἀλλήλων εἴθ’ ὡς θάτερον πρὸς θάτερον, ἕνεκά του φαίνεται καὶ ἔχει τινὰ λόγον. τριῶν δ’ οὐσῶν πρότερον εὔλογον εἶναι τήν τε σφυγμώδη καὶ τὴν ἀναπνευστικήν· ἡ γὰρ τροφὴ προϋπάρχοντος. ἢ οὔ; τὸ μὲν γὰρ ἀναπνεῖν, ὅταν ἀπολυθῇ τῆς κυούσης, ἡ δ’ ἐπιφορὰ καὶ ἡ τροφὴ καὶ ξυνισταμένου καὶ ξυνεστηκότος· ὁ δὲ σφυγμὸς εὐθὺς ἐν τῇ ἀρχῇ ξυνισταμένης τῆς καρδίας, καθάπερ ἐν τοῖς ᾠοῖς γίνεται φανερόν. ὥστε αὕτη πρώτη, καὶ ἔοικεν ἐνεργείᾳ τινὶ καὶ οὐκ ἐναπολήψει πνεύματος, εἰ μὴ ἄρα τοῦτο πρὸς τὴν ἐνέργειαν. τὸ δὲ πνεῦμα τὸ ἐκ τῆς ἀναπνοῆς φέρεσθαι μὲν εἰς τὴν κοιλίαν, οὐ διὰ τοῦ στομάχου (τοῦτο μὲν γὰρ ἀδύνατον), ἀλλὰ πόρον εἶναι παρὰ τὴν ὀσφύν, δι’ οὗ τὸ πνεῦμα τῇ ἀναπνοῇ φέρεσθαι ἐκ τοῦ βρογχίου εἰς τὴν κοιλίαν καὶ πάλιν ἔξω· τοῦτο δὲ τῇ αἰσθήσει φανερόν. ἔχει δ’ ἀπορίαν καὶ τὰ περὶ τὴν αἴσθησιν. εἰ γὰρ ἡ ἀρτηρία μόνον αἰσθάνεται, πότερα τῷ πνεύματι τῷ δι’ αὐτῆς, ἢ τῷ ὄγκῳ, ἢ τῷ σώματι; ἢ εἴπερ ὁ ἀὴρ πρῶτον ὑπὸ τὴν ψυχήν, τῷ κυριωτέρῳ τε καὶ προτέρῳ; τί οὖν ἡ ψυχή; δύναμίν φασι τὴν αἰτίαν τῆς κινήσεως τῆς τοιαύτης. ἢ δῆλον ὡς οὐκ ὀρθῶς ἐπιτιμήσεις τοῖς τὸ λογιστικὸν καὶ θυμικόν· καὶ γὰρ οὗτοι ὡς δυνάμεις λέγουσιν. ἀλλ’ εἰ δὴ ἡ ψυχὴ ἐν τῷ ἀέρι τούτῳ, οὗτός γε κοινός. ἢ πάσχων γέ τι καὶ ἀλλοιούμενος εὐλόγως, ἂν ἔμψυχον ἢ ψυχή, πρὸς τὸ συγγενὲς φέρεται καὶ τῷ ὁμοίῳ τὸ ὅμοιον αὔξεται. ἢ οὔ; τὸ γὰρ ὅλον οὐκ ἀήρ, ἀλλὰ συμβαλλόμενόν τι πρὸς ταύτην τὴν δύναμιν ὁ ἀήρ. ἢ οὐ, ‹ἀλλὰ› τὸ ταύτην ποιοῦν, καὶ τὸ ποιῆσαν τοῦτ’ ἀρχὴ καὶ ὑπόθεσις; [483b] τοῖς δὲ μὴ ἀναπνέουσιν, ἵνα ἀνεπίμικτος τῷ ἔξω. ἢ οὔ, ἀλλὰ κατ’ ἄλλον τρόπον μειγνύμενος; τίς οὖν ἡ διαφορὰ τοῦ ἐν τῇ ἀρτηρίᾳ πρὸς τὸν ἔξω; διαφέρειν γὰρ εὔλογον, τάχα δὲ καὶ ἀναγκαῖον, λεπτότητι. ἀλλ’ ἔτι δὲ καθ’ αὑτὸν θερμὸς ἢ ὑφ’ ἑτέρου; φαίνεται γὰρ ὁ ἔσω καθάπερ ὁ ἔξω· βοηθεῖται δὲ τῇ καταψύξει. πότερα δέ; ἔξω μὲν γὰρ πραΰς, ἐμπεριληφθεὶς δὲ πνεῦμα, καθάπερ πυκνωθεὶς καὶ διαδοθείς πως. ἢ μίξιν τινὰ ἀνάγκη λαμβάνειν, ἐν ὑγρότητί τε καὶ σωματικοῖς ὄγκοις ἀναστρεφόμενον; οὐκ ἄρα λεπτότατος, εἴπερ μέμεικται. καὶ μὴν εὔλογόν γε τὸ πρῶτον δεκτικὸν ψυχῆς, εἰ μὴ ἄρα καὶ ἡ ψυχὴ τοιοῦτον, καὶ οὐ καθαρόν τι καὶ ἀμιγές. τὴν ἀρτηρίαν μόνον εἶναι δεκτικὴν πνεύματος, τὸ δὲ νεῦρον οὔ. διαφέρειν δὲ καὶ ὅτι τὸ μὲν νεῦρον ἔχει τάσιν, ἡ δ’ ἀρτηρία ταχὺ διαρρήγνυται, καθάπερ καὶ ἡ φλέψ. τὸ δὲ δέρμα ἐκ φλεβὸς καὶ νεύρου καὶ ἀρτηρίας, ἐκ φλεβὸς μὲν ὅτι κεντηθὲν αἷμα ἀναδίδωσιν, ἐκ νεύρου δὲ ὅτι τάσιν ἔχει, ἐξ ἀρτηρίας δὲ ὅτι διαπνοὴν ἔχει. μόνον γὰρ δεκτικὸν πνεύματος ἡ ἀρτηρία. τὰς δὲ φλέβας ἔχειν πόρους, ἐν αἷς τὸ θερμὸν ὂν ὥσπερ ἐν χαλκείῳ θερμαίνειν τὸ αἷμα· φύσει γὰρ οὐκ εἶναι θερμόν, ἀλλ’ ὥσπερ τὰ τηκτὰ διαχεῖσθαι· διὸ καὶ πήγνυσθαι τὴν ἀρτηρίαν, καὶ ἔχειν ὑγρότητα καὶ ἐν αὐτῇ καὶ ἐν τοῖς χιτῶσι τοῖς περιέχουσι τὸ κοίλωμα. φανερὸν δ’ ἔκ τε τῶν ἀνατομῶν εἶναι, καὶ ὅτι εἰς τὸ ἔντερον καὶ εἰς τὴν κοιλίαν αἵ τε φλέβες καὶ αἱ ἀρτηρίαι συνάπτουσιν, ἃς εἰκὸς εἶναι τὴν τροφὴν ἕλκειν. ἐκ δὲ τῶν φλεβῶν εἰς τὰς σάρκας διαδίδοσθαι τὴν τροφήν, οὐ κατὰ τὰ πλάγια ἀλλὰ κατὰ τὸ στόμα, καθάπερ σωλῆνας. ἀποτείνειν γὰρ ἐκ τῶν πλαγίων φλεβῶν φλέβια λεπτὰ ἐκ τῆς μεγάλης φλεβὸς καὶ τῆς ἀρτηρίας παρ’ ἑκάστην πλευράν, καὶ ἀρτηρίαν καὶ φλέβα παρακεῖσθαι· καὶ τὰ ὀστέα δὲ καθάπτειν τὰ νεῦρα καὶ τὰς φλέβας καὶ εἰς μέσα καὶ εἰς τὰς συμβολὰς τῶν κεφαλῶν, δι’ ὧν τὴν τροφὴν δέχεσθαι τοὺς ἰχθύας καὶ ἀναπνεῖν· εἰ δὲ μὴ ἀνέπνεον, ἐξαιρεθέντας ἂν ἐκ τοῦ ὑγροῦ εὐθὺς θνήσκειν. τὰς δὲ φλέβας καὶ τὰς [484a] ἀρτηρίας συνάπτειν εἰς ἀλλήλας καὶ τῇ αἰσθήσει φανερὸν εἶναι. τοῦτο δ’ οὐκ ἂν συμβαίνειν, εἰ μὴ ἐδεῖτο καὶ τὸ ὑγρὸν πνεύματος καὶ τὸ πνεῦμα ὑγροῦ, τῷ θερμὸν εἶναι ἐν νεύρῳ καὶ ἀρτηρίᾳ καὶ φλεβί, θερμότατον δὲ καὶ οἷον φλεβωδέστατον τὸ ἐν τῷ νεύρῳ. ἄτοπον οὖν τῇ τοῦ πνεύματος χώρᾳ τὸ θερμόν, ἄλλως τε καὶ καταψύξεως χάριν. εἰ δὲ ποιεῖ καὶ οἷον ἀναζωπυρεῖ θερμῷ τὸ θερμόν, γίγνοιτ’ ἄν. ἔτι πάντων τῶν ἐχόντων θερμότητα σύμφυτον πῶς ἡ διαμονή, μηδενὸς ἀντικειμένου μηδὲ καταψύχοντος; ὅτι γὰρ πάντα δεῖται καταψύξεως, σχεδὸν φανερὸν τῷ ‹τὸ› αἷμα κατέχειν ἐν τῇ φλεβὶ τὸ θερμὸν οἷον ἀποστέγον· διὸ καὶ ὅταν ἐκρυῇ, μεθιέναι τε καὶ θνήσκειν, τῷ τὸ ἧπαρ οὐκ ἔχειν οὐδεμίαν ἀρτηρίαν.

Πότερον δὲ τὸ σπέρμα διὰ τῆς ἀρτηρίας ὡς καὶ συνθλιβόμενον, καὶ ἐν τῇ προέσει μόνον; ἐν οἷς δὴ φαίνεται καὶ ἡ ἐξ αἵματος μεταβολὴ τῷ τὰ νεῦρα ἀπὸ τῶν ὀστῶν τρέφεσθαι· καθάπτει γὰρ αὐτά. ἢ οὐδὲ τοῦτ’ ἀληθές· καὶ γὰρ ἐν τῇ καρδίᾳ νεῦρον, καὶ νεῦρα δὲ ἐκ τῶν ὀστῶν ἠρτημένα. οὐ συνάπτει δὲ ἐν ἑτέρῳ, ἀλλ’ εἰς σάρκα ἀποτελευτᾷ. ἢ τοῦτό γ’ οὐθέν· εἴη γὰρ ἂν οὐθὲν ἧττον ἀπὸ τοῦ ὀστοῦ ἡ τροφή. αὐτοῖς δ’ ἀπὸ τοῦ νεύρου τοῖς ὀστοῖς μᾶλλον τὴν τροφήν. ἄτοπον γὰρ καὶ τοῦτο. ξηρὸν ‹γὰρ› φύσει καὶ οὐκ ἔχον πόρους ὑγρούς· ἡ τροφὴ δ’ ὑγρόν. σκεπτέον δὲ πρότερον, εἴπερ ἀπὸ τῶν ὀστῶν, τίς ἡ τοῦ ὀστοῦ τροφή, ἣ φέρουσι πόροι καὶ ἐκ τῆς φλεβὸς καὶ ἐκ τῆς ἀρτηρίας εἰς αὐτό. καὶ ἐν πολλοῖς μὲν εὔδηλοι, μάλιστα δ’ εἰς τὴν ῥάχιν. τὰς δ’ ἀπὸ τῶν ὀστῶν γίνεσθαι συνεχεῖς, ὥσπερ ταῖς πλευραῖς· τούτους δ’ ἀπὸ τῆς κοιλίας τίνα τρόπον, ἢ πῶς τῆς ὁλκῆς γινομένης; ἢ τὰ πολλὰ ἄχονδρα, καθάπερ ἡ ῥάχις· ἀλλ’ οὗτοι πρὸς τὴν κίνησιν. ἢ συνάψεως χάριν; δεῖ δέ, καὶ εἰ ἀπὸ τοῦ νεύρου τὸ ὀστοῦν τρέφεται, τὴν τοῦ νεύρου τροφὴν εἰδέναι. ἡμεῖς δέ φαμεν ἐκ τῆς ὑγρότητος γλίσχρας οὔσης τῆς περὶ [τὸ] αὐτό. πόθεν δ’ αὐτὴ καὶ πῶς, λεκτέον. τὸ ἐκ φλεβὸς καὶ ἀρτηρίας τὴν σάρκα, ὅτι πανταχόθεν αἷμα τῇ κεντήσει, ψεῦδος ἐπί γε τῶν ἄλλων ζῴων, οἷον ὀρνίθων καὶ ὄφεων καὶ ἰχθύων ἢ ὅλως τῶν ᾠοτόκων· ἀλλὰ τῶν πολυαίμων τοῦτ’ ἴδιον, ἐπεὶ τῶν ὀρνιθίων γε καὶ τεμνομένων τὸ στῆθος ἰχώρ, οὐχ αἷμα. Ἐμπεδοκλῆς δὲ ἐκ νεύρου τὸν ὄνυχα [484b] τῇ πήξει. ἆρ’ οὖν οὕτω καὶ δέρμα πρὸς σάρκα; ἀλλὰ τοῖς ὀστρακοδέρμοις καὶ μαλακοστράκοις πῶς ἀπὸ τῶν ἐκτὸς ἡ τροφή; τοὐναντίον γὰρ δοκεῖ μᾶλλον ἀπὸ τῶν ἐντὸς ἢ τῶν ἐκτός. ἔτι δὲ ποία καὶ διὰ τίνων ἡ ἐκ τῆς κοιλίας δίοδος; καὶ πάλιν ἡ ἐκείνων ἀναστροφὴ πρὸς τὴν σάρκα, καίπερ ἄλογος οὖσα. πολὺ γάρ τι θαυμαστὸν φαίνεται καὶ ἀδύνατον ὅλως. ἄρα γε ἄλλοις ἄλλη τροφή, καὶ οὐ πᾶσι τροφὴ τὸ αἷμα· πλὴν ἐκ τούτου τἆλλα.

Τὴν τῶν ὀστῶν φύσιν ἄρα σκεπτέον εἰ πρὸς κίνησιν ἢ πρὸς ἔρεισμα καὶ πρὸς τὸ στέγειν καὶ περιέχειν, ἔτι δ’ εἰ ὥσπερ ἀρχαὶ ἔνια, καθάπερ ὁ πόλος. λέγω δὲ πρὸς μὲν κίνησιν, οἷον ποδὸς ἢ χειρὸς ἢ σκέλους ἢ ἀγκῶνος, ὁμοίως τήν τε καμπτικὴν καὶ τὴν κατὰ τόπον· οὐδὲ γὰρ τὴν τοπικὴν οἷόν τε ἄνευ κάμψεως. σχεδὸν δὲ καὶ τὰ ἐρείσματα ἐν τούτοις. τὴν δὲ τοῦ στέγειν καὶ περιέχειν, οἷον τὰ ἐν τῇ κεφαλῇ τὸν ἐγκέφαλον, καὶ ὅσοι δὴ τὸν μυελὸν ἀρχήν. αἱ δὲ πλευραὶ τοῦ συγκλείειν. ἀρχὴ δὲ καὶ μένον ἡ ῥάχις, ἀφ’ ἧς καὶ αἱ πλευραὶ πρὸς τὴν σύγκλεισιν. ἀνάγκη γὰρ εἶναί τι τοιοῦτον· ἅπαν γὰρ τὸ κινούμενον ἐξ ἠρεμοῦντος. ἅμα δὲ καὶ δεῖ γε εἶναι τὸ οὗ ἕνεκα. ἐν ᾧ δὴ καὶ τὴν ἀρχὴν ἔνιοι, τόν τε ῥαχίτην καὶ τὸν ἐγκέφαλον. ἔτι δὲ παρὰ ταῦτ’ ἐπισυναφῆς καὶ συγκλείσεως χάριν, οἷον ἡ κλείς· ὅθεν ἴσως καὶ τοὔνομα. πρὸς δὲ τὴν χρείαν ἕκαστον καλῶς. οὐδὲ γὰρ ἡ κάμψις, οὔτε τοῦ ὅλου οὔτε τῶν μερῶν, εἰ μὴ τοιαῦτα, οἷον ῥάχις, πούς, ἀγκών. εἴσω γὰρ δεῖ τὴν κάμψιν πρὸς τὴν χρείαν, ὁμοίως δὲ καὶ τὴν τοῦ ποδὸς καὶ τῶν ἄλλων τοιαύτην. ἅπαντα δὲ ἕνεκά του, καὶ τὰ ἐν τούτοις ὀστᾶ, οἷον ἡ ἐν τῷ ἀγκῶνι κερκὶς ἕνεκα τῆς στροφῆς τοῦ ἀγκῶνος καὶ τῆς χειρός. οὐ γὰρ ‹ἂν› ἐδυνάμεθα πρηνῆ καὶ ὑπτίαν κινεῖν ἄνευ ταύτης, οὐδὲ τοὺς πόδας ἐπαίρειν καὶ κάμπτειν, εἰ μὴ δύο αἱ ἐν τῇ κινήσει κερκίδες. ὡσαύτως δὲ καὶ τὰ ἄλλα σκεπτέον, οἷον ἡ τοῦ τραχήλου κίνησις, εἰ ἓν τὸ ὀστοῦν. δεῖ δὲ καὶ ὅσα πρὸς κατάληψιν ἢ σύνδεσμον, οἷον ἡ μύλη ἡ ἐπὶ τῷ γόνατι. ἀλλὰ καὶ διὰ τί τοῖς ἄλλοις οὔ. ὅσα μὲν οὖν κινητικά, πάντα μὲν μετὰ νεύρων, ἴσως δ’ ὅσα πρακτικῶς, μάλιστα, οἷον τὰ περὶ ἀγκῶνα καὶ σκέλη καὶ χεῖρας καὶ πόδας. τὰ δ’ ἄλλα συνδέσμου χάριν, ὅσα δεῖται. ἐνίοις γὰρ ἴσως οὐδὲν ἢ ἐπ’ ὀλίγον, οἷον ἡ ῥάχις· ἀλλ’ ἡ [485a] κάμψις. καὶ γὰρ ἡ πρὸς ἄλληλα κόλλησις ἰχώρ ἐστι καὶ ὑγρότης μυξώδης. τὰ δὲ καὶ συνδεῖται νεύροις, οἷον τὰ περὶ τὰ ἄρθρα.

Πάντων δ’ ἐστὶ λόγος ὁ βελτίων ὡς καὶ νῦν ζητεῖν· ἀλλὰ τὰς ἀρχὰς ἐφ’ ἱκανόν, ὧν χάριν, σκεπτέον. οὐκ ἂν δόξειε κινήσεως ἕνεκα τὰ ὀστᾶ, ἀλλὰ μᾶλλον τὰ νεῦρα ἢ τὰ ἀνάλογον, ἐν ᾧ πρώτῳ τὸ πνεῦμα τὸ κινητικόν, ἐπεὶ καὶ ἡ κοιλία κινεῖται καὶ ἡ καρδία νεῦρα ἔχει· τὰ δ’ οὐ πᾶσιν, ἀλλ’ ἐνίοις, ἀνάγκη καὶ πρὸς τὴν τοιαύτην κίνησιν νεῦρα ἔχειν, ἢ εἰς τὸ ὁ γὰρ πολύπους ἐπ’ ὀλίγον καὶ κακῶς βαδίζει. δεῖ γὰρ τοῦτο λαβεῖν ὥσπερ ἀρχήν, ὅτι πᾶσιν [ἢ] ἄλλου τινὸς χάριν ἄλλα πρὸς τὴν κίνησιν τὴν οἰκείαν, οἷον τοῖς μὲν πεζοῖς πόδας, καὶ τοῦτο τοῖς μὲν ὀρθοῖς δύο, τοῖς δὲ παντελῶς ἐπὶ τῆς γῆς πλείους, ὅσοις ἡ ὕλη γεωδεστέρα καὶ ψυχροτέρα (τὰ δὲ καὶ ἄποδα ὅλως ἐγχωρεῖ· βίᾳ γὰρ οὕτω κινεῖσθαι) τοῖς ‹δὲ› πτηνοῖς πτέρυγας, καὶ τούτων τὴν μορφὴν οἰκείαν τῇ φύσει, διάφορα δὲ τοῖς πτητικωτέροις καὶ βραδυτέροις. πόδας δὲ τροφῆς χάριν καὶ ἀναστάσεως, πλὴν τῆς νυκτερίδος· διὸ καὶ τὴν τροφὴν ἐκ τοῦ ἀέρος. καὶ μὴ δεῖσθαι διαναπαύσεως· οὐ δέονται γὰρ δι’ ἄλλων. τὰ δὲ ὀστρακόδερμα τῶν ἐνύδρων ὑπόποδα διὰ τὸ βάρος. καὶ ταῦτα μὲν πρὸς τὴν κατὰ τόπον ἀλλαγήν· ὅσα δὲ πρὸς τὴν ἄλλην χρείαν, ὥσπερ ὑφηγεῖται καὶ ἑκάστου τὰ ἴδια, καὶ εἴ τι μὴ προφανές, οἷον διὰ τί τὰ πολύποδα βραδύτατα. (καίτοι τὰ τετράποδα θάττω τῶν διπόδων) πότερον ὅτι ἐπὶ γῆς ὅλα τὰ σώματα ἢ ὅτι φύσει ψυχρὰ καὶ δυσκίνητα ἢ δι’ ἄλλην αἰτίαν.

Οἱ ἀναιροῦντες ὡς οὐ τὸ θερμὸν τὸ ἐργαζόμενον ἐν τοῖς σώμασιν, ἢ ὅτι μία τις φορὰ καὶ δύναμις ἡ τμητικὴ τοῦ πυρός, οὐ καλῶς λέγουσιν. οὐδὲ γὰρ ὅλα τοῖς ἀψύχοις ταὐτὸ ποιεῖ πᾶσιν, ἀλλὰ τὰ μὲν πυκνοῖ, τὰ δὲ μανοῖ, καὶ τήκει, τὰ δὲ πήγνυσιν. ἐν δὲ δὴ τοῖς ἐμψύχοις οὕτως ὑποληπτέον, ὥσπερ φύσεως πῦρ ζητοῦντα, καθάπερ τέχνης· καὶ γὰρ ἐν ταῖς τέχναις ἕτερον τὸ χρυσοχοϊκὸν καὶ τὸ χαλκευτικὸν καὶ τὸ τεκτονικὸν πῦρ ἀποτελεῖ, καὶ τὸ μαγειρικόν. ἴσως δ’ ἀληθέστερον ὅτι αἱ τέχναι· χρῶνται γὰρ [485b] ὥσπερ ὀργάνῳ μαλάττουσαι καὶ τήκουσαι καὶ ξηραίνουσαι, ἔνια δὲ καὶ ῥυθμίζουσαι. τὸ αὐτὸ δὴ τοῦτο καὶ αἱ φύσεις· ὅθεν δὴ καὶ ‹αἱ› πρὸς ἄλληλα διαφοραί. διὸ γελοῖον πρὸς τὸ ἔξω κρίνειν· εἴτε γὰρ διακρῖνον εἴτε λεπτῦνον εἴθ’ ὁτιδήποτ’ ἐστὶ τὸ θερμαίνεσθαι καὶ πυροῦσθαι, διάφορα ἕξει τὰ ἔργα τοῖς χρωμένοις. ἀλλ’ αἱ μὲν τέχναι ὡς ὀργάνῳ χρῶνται, ἡ δὲ φύσις ἅμα καὶ ὡς ὕλῃ. οὐ δὴ τοῦτο χαλεπόν, ἀλλὰ μᾶλλον τὸ τὴν φύσιν αὐτὴν νοῆσαι τὴν χρωμένην, ἥτις ἅμα τοῖς αἰσθητοῖς πάθεσι καὶ τὸν ῥυθμὸν ἀποδώσει. τοῦτο γὰρ οὐκέτι πυρὸς οὐδὲ πνεύματος. τούτοις δὴ καταμεμεῖχθαι τοιαύτην δύναμιν θαυμαστόν. ἔτι δὲ τοῦτο θαυμαστὸν ταὐτὸν καὶ περὶ ψυχῆς· ἐν τούτοις γὰρ ὑπάρχει. διόπερ οὐ κακῶς εἰς ταὐτόν, ἢ ἁπλῶς ἢ μόριόν τι τὸ δημιουργοῦν, καὶ τὸ τὴν κίνησιν ἀεὶ τὴν ὁμοίαν ὑπάρχειν ἐνεργοῦν. καὶ γὰρ ἡ φύσις, ἀφ’ ἧς καὶ ἡ γένεσις. ἀλλὰ δὴ τίς ἡ διαφορὰ τοῦ καθ’ ἕκαστον θερμοῦ, εἴθ’ ὡς ὄργανον εἴθ’ ὡς ὕλην εἴθ’ ὡς ἄμφω; πυρὸς γὰρ διαφοραὶ κατὰ τὸ μᾶλλον καὶ ἧττον. τοῦτο δὲ σχεδὸν ὥσπερ ἐν μίξει καὶ ἀμιξίᾳ· τὸ γὰρ καθαρώτερον μᾶλλον. ὁ αὐτὸς δὲ λόγος καὶ ἐπὶ τῶν ἄλλων ἁπλῶν. ἀνάγκη γάρ, ἐπείπερ ἕτερον ὀστοῦν καὶ σὰρξ ᾗ ἵππου καὶ ᾗ βοός, ἢ τῷ ἐξ ἑτέρων εἶναι ἢ τῇ χρήσει διαφέρειν. εἰ μὲν οὖν ἕτερα, τίνες αἱ διαφοραὶ ἑκάστου τῶν ἁπλῶν καὶ τίς ταύτας γὰρ ζητοῦμεν. εἰ δὲ ταὐτά, τοῖς λόγοις ἂν διαφέροι. ἀνάγκη γὰρ δυοῖν θάτερον, καθάπερ ἐν τοῖς ἄλλοις· οἴνου μὲν γὰρ καὶ μέλιτος κρᾶσις διὰ τὸ ὑποκείμενον, οἴνου δ’ αὐτοῦ, εἴπερ ἑτέρα, διὰ τὸν λόγον. διὸ καὶ Ἐμπεδοκλῆς μίαν ἁπλῶς τὴν τοῦ ὀστοῦ φύσιν εἴπερ ἅπαντα τὸν αὐτὸν λόγον ἔχει τῆς μίξεως, ἀδιάφορα ἐχρῆν ἵππου καὶ λέοντος καὶ ἀνθρώπου εἶναι. νῦν δὲ διαφέρει σκληρότητι, μαλακότητι, πυκνότητι, τοῖς ἄλλοις ὁμοίως καὶ σὰρξ καὶ τὰ ἄλλα μόρια. ἔτι δὲ τὰ ἐν τῷ αὐτῷ ζῴῳ διαφέρουσι πυκνότητι καὶ μανότητι καὶ τοῖς ἄλλοις, ὥστ’ οὐχ ἡ αὐτὴ κρᾶσις. παχὺ μὲν γὰρ καὶ λεπτὸν καὶ μέγα καὶ μικρὸν ‹ἂν› εἴη ἐν τῷ ποσῷ, σκληρὸν δὲ καὶ πυκνὸν καὶ τὰ ἐναντία τούτοις ἐν τῷ ποιῷ τῷ τῆς μίξεως. ἀναγκαῖον δὲ τοῖς οὕτω λέγουσιν εἰδέναι, πῶς τὸ δημιουργοῦν ἕτερον εἴη ἂν καὶ τῷ [486a] τοῦτο πλέον ἢ ἔλαττον εἶναι, καὶ τῷ καθ’ αὑτὸ καὶ ‹τῷ› μεμειγμένῳ ἢ ἐν ἄλλῳ πυροῦσθαι [καθάπερ τὰ ἑψόμενα καὶ ὀπτώμενα. ὅπερ ἴσως ἀληθές]. ἅμα γὰρ ἐγκαταμείγνυται καὶ ποιεῖ τὸ τῆς φύσεως. ἆρα ὁ αὐτὸς καὶ περὶ σαρκὸς [486b] λόγος· καὶ γὰρ αἱ αὐταὶ διαφοραί, σχεδὸν δὲ καὶ περὶ φλεβὸς καὶ ἀρτηρίας καὶ τῶν λοιπῶν. ὥστε δυεῖν θάτερον, ἢ οὐχ εἷς ὁ λόγος τούτων κατὰ τὴν μίξιν, ἢ οὐ σκληρότητι καὶ πυκνότητι καὶ τοῖς ἐναντίοις τοὺς λόγους ληπτέον.

Τῶν περὶ τὰ ζῷα ἱστοριῶν (486a) History of Animals

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(486a.) Τῶν ἐν τοῖς ζῴοις μορίων τὰ μέν ἐστιν ἀσύνθετα, ὅσα διαιρεῖται εἰς ὁμοιομερῆ, οἷον σάρκες εἰς σάρκας, τὰ δὲ σύνθετα, ὅσα εἰς ἀνομοιομερῆ, οἷον ἡ χεὶρ οὐκ εἰς χεῖρας διαιρεῖται οὐδὲ τὸ πρόσωπον εἰς πρόσωπα. Τῶν δὲ τοιούτων ἔνια οὐ μόνον μέρη ἀλλὰ καὶ μέλη καλεῖται. Τοιαῦτα δ' ἐστὶν ὅσα τῶν μερῶν ὅλα ὄντα ἕτερα μέρη ἔχει ἐν αὑτοῖς, οἷον κεφαλὴ καὶ σκέλος καὶ χεὶρ καὶ ὅλος ὁ βραχίων καὶ ὁ θώραξ· ταῦτα γὰρ αὐτά τ' ἐστὶ μέρη ὅλα, καὶ ἔστιν αὐτῶν ἕτερα μόρια. Πάντα δὲ τὰ ἀνομοιομερῆ σύγκειται ἐκ τῶν ὁμοιομερῶν, οἷον χεὶρ ἐκ σαρκὸς καὶ νεύρων καὶ ὀστῶν.

Ἔχει δὲ τῶν ζῴων ἔνια μὲν πάντα τὰ μόρια ταὐτὰ ἀλλήλοις, ἔνια δ' ἕτερα. Ταὐτὰ δὲ τὰ μὲν εἴδει τῶν μορίων ἐστίν, οἷον ἀνθρώπου ῥὶς καὶ ὀφθαλμὸς ἀνθρώπου ῥινὶ καὶ ὀφθαλμῷ, καὶ σαρκὶ σὰρξ καὶ ὀστῷ ὀστοῦν· τὸν αὐτὸν δὲ τρόπον καὶ ἵππου καὶ τῶν ἄλλων ζῴων, ὅσα τῷ εἴδει ταὐτὰ λέγομεν ἑαυτοῖς· ὁμοίως γὰρ ὥσπερ τὸ ὅλον ἔχει πρὸς τὸ ὅλον, καὶ τῶν μορίων ἔχει ἕκαστον πρὸς ἕκαστον. Τὰ δὲ ταὐτὰ μέν ἐστιν, διαφέρει δὲ καθ' ὑπεροχὴν καὶ ἔλλειψιν, ὅσων τὸ γένος ἐστὶ ταὐτόν. Λέγω δὲ γένος οἷον ὄρνιθα καὶ ἰχθύν· τούτων γὰρ ἑκάτερον ἔχει διαφορὰν κατὰ τὸ γένος, καὶ ἔστιν εἴδη πλείω ἰχθύων καὶ ὀρνίθων. Διαφέρει δὲ σχεδὸν τὰ πλεῖστα τῶν (486b.) μορίων ἐν αὐτοῖς παρὰ τὰς τῶν παθημάτων ἐναντιώσεις, οἷον Χρώματος καὶ σχήματος, τῷ τὰ μὲν μᾶλλον αὐτὰ πεπονθέναι τὰ δ' ἧττον, ἔτι δὲ πλήθει καὶ ὀλιγότητι καὶ μεγέθει καὶ σμικρότητι καὶ ὅλως ὑπεροχῇ καὶ ἐλλείψει. Τὰ μὲν γάρ ἐστι μαλακόσαρκα αὐτῶν τὰ δὲ σκληρόσαρκα, καὶ τὰ μὲν μακρὸν ἔχει τὸ ῥύγχος τὰ δὲ βραχύ, καὶ τὰ μὲν πολύπτερα τὰ δ' ὀλιγόπτερά ἐστιν. Οὐ μὴν ἀλλ' ἔνιά γε καὶ ἐν τούτοις ἕτερα ἑτέροις μόρια ὑπάρχει, οἷον τὰ μὲν ἔχει πλῆκτρα τὰ δ' οὔ, καὶ τὰ μὲν λόφον ἔχει τὰ δ' οὐκ ἔχει. Ἀλλ' ὡς εἰπεῖν τὰ πλεῖστα καὶ ἐξ ὧν μερῶν ὁ πᾶς ὄγκος συνέστηκεν, ἢ ταὐτά ἐστιν ἢ διαφέρει τοῖς τ' ἐναντίοις καὶ καθ' ὑπεροχὴν καὶ ἔλλειψιν· τὸ γὰρ μᾶλλον καὶ ἧττον ὑπεροχὴν ἄν τις καὶ ἔλλειψιν θείη. Ἔνια δὲ τῶν ζῴων οὔτε εἴδει τὰ μόρια ταὐτὰ ἔχει οὔτε καθ' ὑπεροχὴν καὶ ἔλλειψιν, ἀλλὰ κατ' ἀναλογίαν, οἷον πέπονθεν ὀστοῦν πρὸς ἄκανθαν καὶ ὄνυξ πρὸς ὁπλὴν καὶ χεὶρ πρὸς χηλὴν καὶ πρὸς πτερὸν λεπίς· ὃ γὰρ ἐν ὄρνιθι πτερόν, τοῦτο ἐν τῷ ἰχθύι ἐστὶ λεπίς. Κατὰ μὲν οὖν τὰ μόρια ἃ ἔχουσιν ἕκαστα τῶν ζῴων, τοῦτόν τε τὸν τρόπον ἕτερά ἐστι καὶ

ταὐτά, καὶ ἔτι τῇ θέσει τῶν μερῶν· πολλὰ γὰρ τῶν ζῴων ἔχει μὲν ταὐτὰ μέρη, ἀλλὰ κείμενα οὐχ ὡσαύτως, οἷον μαστοὺς τὰ μὲν ἐν τῷ στήθει τὰ (487a.) δὲ πρὸς τοῖς μηροῖς.

Ἔστι δὲ τῶν ὁμοιομερῶν τὰ μὲν μαλακὰ καὶ ὑγρά, τὰ δὲ ξηρὰ καὶ στερεά, ὑγρὰ μέν, ἢ ὅλως ἢ ἕως ἂν ᾖ ἐν τῇ φύσει, οἷον αἷμα, ἰχώρ, πιμελή, στέαρ, μυελός, γονή, χολή, γάλα ἐν τοῖς ἔχουσι, σάρξ τε καὶ τὰ τούτοις ἀνάλογον, ἔτι ἄλλον τρόπον τὰ περιττώματα, οἷον φλέγμα, καὶ τὰ ὑποστήματα τῆς κοιλίας καὶ κύστεως· ξηρὰ δὲ καὶ στερεὰ οἷον νεῦρον, δέρμα, φλέψ, θρίξ, ὀστοῦν, χόνδρος, ὄνυξ, κέρας (ὁμώνυμον γὰρ τὸ μέρος, ὅταν τῷ σχήματι καὶ τὸ ὅλον λέγηται κέρας), ἔτι ὅσα ἀνάλογον τούτοις.

Αἱ δὲ διαφοραὶ τῶν ζῴων εἰσὶ κατά τε τοὺς βίους καὶ τὰς πράξεις καὶ τὰ ἤθη καὶ τὰ μόρια, περὶ ὧν τύπῳ μὲν εἴπωμεν πρῶτον, ὕστερον δὲ περὶ ἕκαστον γένος ἐπιστήσαντες ἐροῦμεν. Εἰσὶ δὲ διαφοραὶ κατὰ μὲν τοὺς βίους καὶ τὰ ἤθη καὶ τὰς πράξεις αἱ τοιαίδε, ᾗ τὰ μὲν ἔνυδρα αὐτῶν ἐστι τὰ δὲ χερσαῖα, ἔνυδρα δὲ διχῶς, τὰ μὲν ὅτι τὸν βίον καὶ τὴν τροφὴν ποιεῖται ἐν τῷ ὑγρῷ, καὶ δέχεται τὸ ὑγρὸν καὶ ἀφίησι, τούτου δὲ στερισκόμενα οὐ δύναται ζῆν, οἷον πολλοῖς συμβαίνει τῶν ἰχθύων· τὰ δὲ τὴν μὲν τροφὴν ποιεῖται καὶ τὴν διατριβὴν ἐν τῷ ὑγρῷ, οὐ μέντοι δέχεται τὸ ὕδωρ ἀλλὰ τὸν ἀέρα, καὶ γεννᾷ ἔξω. Πολλὰ δ’ ἐστὶ τοιαῦτα καὶ πεζά, ὥσπερ ἐνυδρὶς καὶ λάταξ καὶ κροκόδειλος, καὶ πτηνά, οἷον αἴθυια καὶ κολυμβίς, καὶ ἄποδα, οἷον ὕδρος. Ἔνια δὲ τὴν μὲν τροφὴν ἐν τῷ ὑγρῷ ποιεῖται καὶ οὐ δύναται ζῆν ἐκτός, οὐ μέντοι δέχεται οὔτε τὸν ἀέρα οὔτε τὸ ὑγρόν, οἷον ἀκαλήφη καὶ τὰ ὄστρεα. Τῶν δ’ ἐνύδρων τὰ μέν ἐστι θαλάττια, τὰ δὲ ποτάμια, τὰ δὲ λιμναῖα, τὰ δὲ τελματιαῖα, οἷον βάτραχος καὶ κορδύλος.

Τῶν δὲ χερσαίων τὰ μὲν δέχεται τὸν ἀέρα καὶ ἀφίησιν, ὃ καλεῖται ἀναπνεῖν καὶ ἐκπνεῖν, οἷον ἄνθρωπος καὶ πάντα ὅσα πλεύμονα ἔχει τῶν χερσαίων· τὰ δὲ τὸν ἀέρα μὲν οὐ δέχεται, ζῇ δὲ καὶ τὴν τροφὴν ἔχει ἐν τῇ γῇ, οἷον σφὴξ καὶ μέλιττα καὶ τὰ ἄλλα ἔντομα. Καλῶ δ’ ἔντομα ὅσα ἔχει κατὰ τὸ σῶμα ἐντομάς, ἢ ἐν τοῖς ὑπτίοις ἢ ἐν τούτοις τε καὶ τοῖς πρανέσιν. Καὶ τῶν μὲν χερσαίων (487b.) πολλά, ὥσπερ εἴρηται, ἐκ τοῦ ὑγροῦ τὴν τροφὴν πορίζεται τῶν δ’ ἐνύδρων καὶ δεχομένων τὴν θάλατταν οὐδὲν ἐκ τῆς γῆς. Ἔνια δὲ τῶν ζῴων τὸ μὲν πρῶτον ζῇ ἐν τῷ ὑγρῷ, ἔπειτα μεταβάλλει εἰς ἄλλην μορφὴν καὶ ζῇ ἔξω, οἷον ἐπὶ τῶν ἐν τοῖς ποταμοῖς ἀσκαρίδων· γίνεται γὰρ ἐξ αὐτῶν ὁ οἶστρος.

Ἔτι τὰ μέν ἐστι μόνιμα τῶν ζῴων, τὰ δὲ μεταβλητικά. Ἔστι δὲ τὰ μόνιμα ἐν τῷ ὑγρῷ· τῶν δὲ χερσαίων οὐδὲν μόνιμον. Ἐν δὲ τῷ ὑγρῷ πολλὰ τῷ προσπεφυκέναι ζῇ, οἷον γένη ὀστρέων πολλά. Δοκεῖ δὲ καὶ ὁ σπόγγος ἔχειν τινὰ αἴσθησιν· σημεῖον δ’ ὅτι χαλεπώτερον ἀποσπᾶται, ἂν μὴ γένηται λαθραίως ἡ κίνησις, ὥς φασιν. Τὰ δὲ καὶ προσφύεται καὶ ἀπολύεται, οἷόν ἐστι γένος τι τῆς καλουμένης ἀκαλήφης· τούτων γάρ τινες νύκτωρ ἀπολυόμεναι νέμονται.

Πολλὰ δ’ ἀπολελυμένα μέν ἐστιν ἀκίνητα δέ, οἷον ὄστρεα καὶ τὰ καλούμενα ὁλοθούρια. Τὰ δὲ νευστικά, οἷον ἰχθύες καὶ τὰ μαλάκια καὶ τὰ μαλακόστρακα, οἷον κάραβοι. Τὰ δὲ πορευτικά, οἷον τὸ τῶν καρκίνων γένος· τοῦτο γὰρ ἔνυδρον ὂν τὴν φύσιν πορευτικόν ἐστιν.

Τῶν δὲ χερσαίων ἐστὶ τὰ μὲν πτηνά, ὥσπερ ὄρνιθες καὶ μέλιτται, καὶ ταῦτ’ ἄλλον τρόπον ἀλλήλων, τὰ δὲ πεζά. Καὶ τῶν πεζῶν τὰ μὲν πορευτικά, τὰ δ’ ἑρπυστικά, τὰ δ’ ἰλυσπαστικά. Πτηνὸν δὲ μόνον οὐδέν ἐστιν, ὥσπερ νευστικὸν μόνον ἰχθύς· καὶ γὰρ τὰ δερμόπτερα πεζεύει, καὶ νυκτερίδι πόδες εἰσί, καὶ τῇ φώκῃ κεκολοβωμένοι πόδες. Καὶ τῶν ὀρνίθων εἰσί τινες κακόποδες, οἳ διὰ τοῦτο καλοῦνται ἄποδες· ἔστι δ’ εὔπτερον τοῦτο τὸ ὀρνίθιον. Σχεδὸν δὲ καὶ τὰ ὅμοια αὐτῷ εὔπτερα μὲν κακόποδα δ’ ἐστίν, οἷον χελιδὼν καὶ δρεπανίς· ὁμοιότροπά τε γὰρ καὶ ὁμοιόπτερα πάντα ταῦτα, καὶ τὰς ὄψεις ἐγγὺς ἀλλήλων. Φαίνεται δ’ ὁ μὲν ἄπους πᾶσαν ὥραν, ἡ δὲ δρεπανὶς ὅταν ὕσῃ τοῦ θέρους· τότε γὰρ ὁρᾶται καὶ ἁλίσκεται, ὅλως δὲ καὶ σπάνιόν ἐστι τοῦτο τὸ ὄρνεον. Πορευτικὰ δὲ καὶ νευστικὰ πολλὰ τῶν ζῴων ἐστίν.

Εἰσὶ δὲ καὶ αἱ τοιαίδε διαφοραὶ κατὰ τοὺς βίους καὶ τὰς πράξεις. Τὰ μὲν γὰρ αὐτῶν ἐστιν ἀγελαῖα τὰ δὲ (488a.) μοναδικά, καὶ πεζὰ καὶ πτηνὰ καὶ πλωτά, τὰ δ’ ἐπαμφοτερίζει. Καὶ τῶν ἀγελαίων καὶ τῶν μοναδικῶν τὰ μὲν πολιτικὰ τὰ δὲ σποραδικά ἐστιν. Ἀγελαῖα μὲν οὖν οἷον ἐν τοῖς πτηνοῖς τὸ τῶν περιστερῶν γένος καὶ γέρανος καὶ κύκνος (γαμψώνυχον δ’ οὐδὲν ἀγελαῖον), καὶ τῶν πλωτῶν πολλὰ γένη τῶν ἰχθύων, οἷον οὓς καλοῦσι δρομάδας, θύννοι, πηλαμύδες, ἀμίαι· ὁ δ’ ἄνθρωπος ἐπαμφοτερίζει. Πολιτικὰ δ’ ἐστὶν ὧν ἕν τι καὶ κοινὸν γίνεται πάντων τὸ ἔργον· ὅπερ οὐ πάντα ποιεῖ τὰ ἀγελαῖα. Ἔστι δὲ τοιοῦτον ἄνθρωπος, μέλιττα, σφήξ, μύρμηξ, γέρανος. Καὶ τούτων τὰ μὲν ὑφ’ ἡγεμόνα ἐστὶ τὰ δ’ ἄναρχα, οἷον γέρανος μὲν καὶ τὸ τῶν μελιττῶν γένος ὑφ’ ἡγεμόνα, μύρμηκες δὲ καὶ μυρία ἄλλα ἄναρχα. Καὶ τὰ μὲν ἐπιδημητικὰ καὶ τῶν ἀγελαίων καὶ τῶν μοναδικῶν, τὰ δ’ ἐκτοπιστικά.

Καὶ τὰ μὲν σαρκοφάγα, τὰ δὲ καρποφάγα, τὰ δὲ παμφάγα, τὰ δ’ ἰδιότροφα, οἷον τὸ τῶν μελιττῶν γένος καὶ τὸ τῶν ἀραχνῶν· τὸ μὲν γὰρ μέλιτι καί τισιν ἄλλοις ὀλίγοις τῶν γλυκέων χρῆται τροφῇ, οἱ δ’ ἀράχναι ἀπὸ τῆς τῶν μυιῶν θήρας ζῶσιν, τὰ δ’ ἰχθύσι χρῶνται τροφῇ. Καὶ τὰ μὲν θηρευτικά, τὰ δὲ θησαυριστικὰ τῆς τροφῆς ἐστι, τὰ δ’ οὔ. Καὶ τὰ μὲν οἰκητικὰ τὰ δ’ ἄοικα, οἰκητικὰ μὲν οἷον ἀσπάλαξ, μῦς, μύρμηξ, μέλιττα, ἄοικα δὲ πολλὰ τῶν ἐντόμων καὶ τῶν τετραπόδων. Ἔτι τοῖς τόποις τὰ μὲν τρωγλοδυτικά, οἷον σαύρα, ὄφις, τὰ δ’ ὑπέργεια, οἷον ἵππος, κύων. Καὶ τὰ μὲν τρηματώδη τὰ δ’ ἄτρητα. Καὶ τὰ μὲν νυκτερόβια, οἷον γλαύξ, νυκτερίς, τὰ δ’ ἐν τῷ φωτὶ ζῇ.

Ἔτι δ’ ἥμερα καὶ ἄγρια, καὶ τὰ μὲν ἀεί, οἷον ὄνος καὶ ὀρεὺς ἀεὶ ἥμερα, τὰ δ’ ἄγρια, ὥσπερ πάρδαλις καὶ λύκος· τὰ δὲ καὶ ἡμεροῦσθαι δύναται ταχύ, οἷον ἐλέφας. Ἔτι ἄλλον τρόπον· πάντα γὰρ ὅσα ἥμερά ἐστι γένη, καὶ ἄγριά ἐστιν, οἷον ἵπποι, βόες, ὕες, ἄνθρωποι, πρόβατα, αἶγες, κύνες.

Καὶ τὰ μὲν ψοφητικά, τὰ δ’ ἄφωνα, τὰ δὲ φωνήεντα, καὶ τούτων τὰ μὲν διάλεκτον ἔχει τὰ δ’ ἀγράμματα, καὶ τὰ μὲν κωτίλα τὰ δὲ σιγηλά, τὰ δ’ ᾠδικὰ τὰ δ’ ἄνῳδα· πάντων (488b.) δὲ κοινὸν τὸ περὶ τὰς ὀχείας μάλιστα ᾄδειν καὶ λαλεῖν.

Καὶ τὰ μὲν ἄγροικα, ὥσπερ φάττα, τὰ δ’ ὄρεια, ὥσπερ ἔποψ, τὰ δὲ συνανθρωπίζει, οἷον περιστερά.

Καὶ τὰ μὲν ἀφροδισιαστικά, οἷον τὸ τῶν περδίκων καὶ ἀλεκτρυόνων γένος, τὰ δ’ ἁγνευτικά, οἷον τὸ τῶν κορακοειδῶν ὀρνίθων γένος· ταῦτα γὰρ σπανίως ποιεῖται τὴν ὀχείαν.

Καὶ τῶν θαλαττίων τὰ μὲν πελάγια, τὰ δ’ αἰγιαλώδη, τὰ δὲ πετραῖα.

Ἔτι τὰ μὲν ἀμυντικὰ τὰ δὲ φυλακτικά· ἔστι δ’ ἀμυντικὰ μὲν ὅσα ἢ ἐπιτίθεται ἢ ἀδικούμενα ἀμύνεται, φυλακτικὰ δ’ ὅσα πρὸς τὸ μὴ παθεῖν τι ἔχει ἐν αὑτοῖς ἀλεωρήν.

Διαφέρουσι δὲ καὶ ταῖς τοιαῖσδε διαφοραῖς κατὰ τὸ ἦθος.

Τὰ μὲν γάρ ἐστι πρᾶα καὶ δύσθυμα καὶ οὐκ ἐνστατικά, οἷον βοῦς, τὰ δὲ θυμώδη καὶ ἐνστατικὰ καὶ ἀμαθῆ, οἷον ὗς ἄγριος, τὰ δὲ φρόνιμα καὶ δειλά, οἷον ἔλαφος, δασύπους, τὰ δ’ ἀνελεύθερα καὶ ἐπίβουλα, οἷον οἱ ὄφεις, τὰ δ’ ἐλευθέρια καὶ ἀνδρεῖα καὶ εὐγενῆ, οἷον λέων, τὰ δὲ γενναῖα καὶ ἄγρια καὶ ἐπίβουλα, οἷον λύκος· εὐγενὲς μὲν γάρ ἐστι τὸ ἐξ ἀγαθοῦ γένους, γενναῖον δὲ τὸ μὴ ἐξιστάμενον ἐκ τῆς αὑτοῦ φύσεως. Καὶ τὰ μὲν πανοῦργα καὶ κακοῦργα, οἷον ἀλώπηξ, τὰ δὲ θυμικὰ καὶ φιλητικὰ καὶ θωπευτικά, οἷον κύων, τὰ δὲ πρᾶα καὶ τιθασσευτικά, οἷον ἐλέφας, τὰ δ’ αἰσχυντηλὰ καὶ φυλακτικά, οἷον χήν, τὰ δὲ φθονερὰ καὶ φιλόκαλα, οἷον ταώς. Βουλευτικὸν δὲ μόνον ἄνθρωπός ἐστι τῶν ζῴων. Καὶ μνήμης μὲν καὶ διδαχῆς πολλὰ κοινωνεῖ, ἀναμιμνήσκεσθαι δ’ οὐδὲν ἄλλο δύναται πλὴν ἄνθρωπος.

Περὶ ἕκαστον δὲ τῶν γενῶν τά τε περὶ τὰ ἤθη καὶ τοὺς βίους ὕστερον λεχθήσεται δι’ ἀκριβείας μᾶλλον.

Κεφάλαιο 2

Πάντων δ’ ἐστὶ τῶν ζῴων κοινὰ μόρια, ᾧ δέχεται τὴν τροφὴν καὶ εἰς ὃ δέχεται· ταῦτα δ’ ἐστὶ ταὐτὰ καὶ ἕτερα κατὰ τοὺς εἰρημένους τρόπους, ἢ κατ’ εἶδος ἢ καθ’ ὑπεροχὴν ἢ κατ’ ἀναλογίαν ἢ τῇ θέσει διαφέροντα. Μετὰ δὲ ταῦτα ἄλλα κοινὰ μόρια ἔχει τὰ πλεῖστα τῶν ζῴων πρὸς τούτοις, ᾗ ἀφίησι τὸ περίττωμα τῆς τροφῆς [καὶ ᾗ λαμβάνει]· οὐ (489a.) γὰρ πᾶσιν ὑπάρχει τοῦτο. Καλεῖται δ’ ᾗ μὲν λαμβάνει, στόμα, εἰς ὃ δὲ δέχεται, κοιλία· τὸ δὲ λοιπὸν πολυώνυμόν ἐστιν. Τοῦ δὲ περιττώματος ὄντος διττοῦ, ὅσα μὲν ἔχει δεκτικὰ μόρια τοῦ ὑγροῦ περιττώματος, ἔχει καὶ τῆς ξηρᾶς τροφῆς, ὅσα δὲ ταύτης, ἐκείνης οὐ πάντα. Διὸ ὅσα μὲν κύστιν ἔχει, καὶ κοιλίαν ἔχει, ὅσα δὲ κοιλίαν ἔχει, οὐ πάντα κύστιν ἔχει.

Ὀνομάζεται γὰρ τὸ μὲν τῆς ὑγρᾶς περιττώσεως δεκτικὸν μόριον κύστις, κοιλία δὲ τὸ τῆς ξηρᾶς.

Κεφάλαιο 3

Τῶν δὲ λοιπῶν πολλοῖς ὑπάρχει ταῦτά τε τὰ μόρια καὶ ἔτι ᾗ τὸ σπέρμα ἀφιᾶσιν· καὶ τούτων ἐν οἷς μὲν ὑπάρχει γένεσις ζῴων τὸ μὲν εἰς αὑτὸ ἀφιέν, τὸ δ’ εἰς ἕτερον. Καλεῖται δὲ τὸ μὲν εἰς αὑτὸ ἀφιὲν θῆλυ, τὸ δ’ εἰς τοῦτο ἄρρεν. Ἐν ἐνίοις δ’ οὐκ ἔστι τὸ ἄρρεν καὶ θῆλυ· ᾗ καὶ τῶν μορίων τῶν πρὸς τὴν δημιουργίαν ταύτην διαφέρει τὸ εἶδος· τὰ μὲν γὰρ ἔχει ὑστέραν, τὰ δὲ τὸ ἀνάλογον. Ὅσα μὲν οὖν ἀναγκαιότατα μόρια τοῖς ζῴοις τὰ μὲν πᾶσιν ἔχειν συμβέβηκε, τὰ δὲ τοῖς πλείστοις, ταῦτ’ ἐστίν.

Πᾶσι δὲ τοῖς ζῴοις αἴσθησις μία ὑπάρχει κοινὴ μόνη ἡ ἁφή, ὥστε καὶ ἐν ᾧ αὕτη μορίῳ γίνεσθαι πέφυκεν, ἀνώνυμόν ἐστιν· τοῖς μὲν γὰρ ταὐτὸ τοῖς δὲ τὸ ἀνάλογόν ἐστιν.

Κεφάλαιο 4

Ἔχει δὲ καὶ ὑγρότητα πᾶν ζῷον, ἧς στερισκόμενον ἢ φύσει ἢ βίᾳ φθείρεται. Ἔτι ἐν ᾧ γίνεται, τοῦτο ἄλλο. Ἔστι δὲ τοῦτο τοῖς μὲν αἷμα καὶ φλέψ, τοῖς δὲ τὸ ἀνάλογον τούτων· ἔστι δ' ἀτελῆ ταῦτα, οἷον τὸ μὲν ἲς τὸ δ' ἰχώρ. Ἡ μὲν οὖν ἁφὴ ἐν ὁμοιομερεῖ ἐγγίνεται μέρει, οἷον ἐν σαρκὶ ἢ τοιούτῳ τινί, καὶ ὅλως ἐν τοῖς αἱματικοῖς, ὅσα ἔχει αἷμα· τοῖς δ' ἐν τῷ ἀνάλογον, πᾶσι δ' ἐν τοῖς ὁμοιομερέσιν. Αἱ δὲ ποιητικαὶ δυνάμεις ἐν τοῖς ἀνομοιομερέσιν, οἷον ἡ τῆς τροφῆς ἐργασία ἐν στόματι καὶ ἡ τῆς κινήσεως τῆς κατὰ τόπον ἐν ποσὶν ἢ πτέρυξιν ἢ τοῖς ἀνάλογον.

Πρὸς δὲ τούτοις τὰ μὲν ἔναιμα τυγχάνει ὄντα, οἷον ἄνθρωπος καὶ ἵππος καὶ πάνθ' ὅσα ἢ ἄποδά ἐστι τέλεα ὄντα ἢ δίποδα ἢ τετράποδα, τὰ δ' ἄναιμα, οἷον μέλιττα καὶ σφὴξ καὶ τῶν θαλαττίων σηπία καὶ κάραβος καὶ πάνθ' ὅσα πλείους πόδας ἔχει τεττάρων.

Κεφάλαιο 5

Καὶ τὰ μὲν ζῳοτόκα τὰ δ' ᾠοτόκα τὰ δὲ σκωληκοτόκα, ζῳοτόκα μὲν οἷον ἄνθρωπος καὶ ἵππος (489b.) καὶ φώκη καὶ τὰ ἄλλα ὅσα ἔχει τρίχας, καὶ τῶν ἐνύδρων τὰ κητώδη, οἷον δελφίς, καὶ τὰ καλούμενα σελάχη. Τούτων δὲ τὰ μὲν αὐλὸν ἔχει, βράγχια δ' οὐκ ἔχει, οἷον δελφὶς καὶ φάλαινα (ἔχει δ' ὁ μὲν δελφὶς τὸν αὐλὸν διὰ τοῦ νώτου, ἡ δὲ φάλαινα ἐν τῷ μετώπῳ), τὰ δ' ἀκάλυπτα βράγχια, οἷον τὰ σελάχη, γαλεοί τε καὶ βάτοι.

Καλεῖται δ' ᾠὸν μὲν τῶν κυημάτων τῶν τελείων, ἐξ οὗ γίνεται τὸ γινόμενον ζῷον, ἐκ μορίου τὴν ἀρχήν, τὸ δ' ἄλλο τροφὴ τῷ γινομένῳ ἐστίν· σκώληξ δ' ἐστὶν ἐξ οὗ ὅλου ὅλον γίνεται τὸ ζῷον, διαρθρουμένου καὶ αὐξανομένου τοῦ κυήματος. Τὰ μὲν οὖν ἐν αὑτοῖς ᾠοτοκεῖ τῶν ζῳοτόκων, οἷον τὰ σελάχη, τὰ δὲ ζῳοτοκεῖ ἐν αὑτοῖς, οἷον ἄνθρωπος καὶ ἵππος· εἰς δὲ τὸ φανερὸν τῶν μὲν τελεωθέντος τοῦ κυήματος ζῷον ἐξέρχεται, τῶν δ' ᾠόν, τῶν δὲ σκώληξ.

Τῶν δ' ᾠῶν τὰ μὲν ὀστρακόδερμά ἐστι καὶ δίχροα, οἷον τὰ τῶν ὀρνίθων, τὰ δὲ μαλακόδερμα καὶ μονόχροα, οἷον τὰ τῶν σελαχῶν. Καὶ τῶν σκωλήκων οἱ μὲν εὐθὺς κινητικοὶ οἱ δ' ἀκίνητοι. Ἀλλὰ περὶ μὲν τούτων ἐν τοῖς περὶ γενέσεως δι' ἀκριβείας ὕστερον λεκτέον.

Ἔτι δὲ τῶν ζῴων τὰ μὲν ἔχει πόδας τὰ δ' ἄποδα, καὶ τῶν ἐχόντων τὰ μὲν δύο πόδας ἔχει, οἷον ἄνθρωπος καὶ ὄρνις μόνα, τὰ δὲ τέτταρας, οἷον σαύρα καὶ κύων, τὰ δὲ πλείους, οἷον σκολόπενδρα καὶ μέλιττα· πάντα δ' ἀρτίους ἔχει πόδας.

Τῶν δὲ νευστικῶν ὅσα ἄποδα, τὰ μὲν πτερύγια ἔχει, ὥσπερ ἰχθύς, καὶ τούτων οἱ μὲν τέτταρα πτερύγια, δύο μὲν ἄνω ἐν τοῖς πρανέσι, δύο δὲ κάτω ἐν τοῖς ὑπτίοις, οἷον χρύσοφρυς καὶ λάβραξ, τὰ δὲ δύο μόνον, ὅσα προμήκη καὶ λεῖα, οἷον ἔγχελυς καὶ γόγγρος· τὰ δ' ὅλως οὐκ ἔχει, οἷον σμύραινα καὶ ὅσα ἄλλα χρῆται τῇ θαλάττῃ ὥσπερ οἱ ὄφεις τῇ γῇ, καὶ ἐν τῷ ὑγρῷ ὁμοίως νέουσιν. Τῶν δὲ σελαχῶν ἔνια μὲν οὐκ ἔχει πτερύγια, οἷον τὰ πλατέα καὶ κερκοφόρα, ὥσπερ βάτος καὶ τρυγών, ἀλλ' αὐτοῖς νεῖ τοῖς πλάτεσιν· βάτραχος δ' ἔχει, καὶ ὅσα τὸ πλάτος μὴ ἔχει ἀπολελεπτυσμένον. Ὅσα δὲ δοκεῖ πόδας ἔχειν, καθάπερ καὶ τὰ μαλάκια, τούτοις νεῖ καὶ τοῖς πτερυγίοις, καὶ θᾶττον ἐπὶ κύτος, οἷον σηπία καὶ τευθὶς καὶ (490a.) πολύπους· βαδίζει δὲ τούτων οὐδέτερον, ὥσπερ πολύπους.

Τὰ δὲ σκληρόδερμα, οἷον κάραβος, τοῖς οὐραίοις νεῖ, τάχιστα δ᾽ ἐπὶ τὴν κέρκον τοῖς ἐν ἐκείνῃ πτερυγίοις· καὶ ὁ κορδύλος τοῖς ποσὶ καὶ τῷ οὐραίῳ· ἔχει δ᾽ ὅμοιον γλάνει τὸ οὐραῖον, ὡς μικρὸν εἰκάσαι μεγάλῳ. Τῶν δὲ πτηνῶν τὰ μὲν πτερωτά ἐστιν, οἷον ἀετὸς καὶ ἱέραξ, τὰ δὲ πτιλωτά, οἷον μέλιττα καὶ μηλολόνθη, τὰ δὲ δερμόπτερα, οἷον ἀλώπηξ καὶ νυκτερίς. Πτερωτὰ μὲν οὖν ἐστιν ὅσα ἔναιμα, καὶ δερμόπτερα ὡσαύτως· πτιλωτὰ δ᾽ ὅσα ἄναιμα, οἷον τὰ ἔντομα.

Ἔστι δὲ τὰ μὲν πτερωτὰ καὶ δερμόπτερα δίποδα πάντα ἢ ἄποδα· λέγονται γὰρ εἶναί τινες ὄφεις τοιοῦτοι περὶ Αἰθιοπίαν.

Τὸ μὲν οὖν πτερωτὸν γένος τῶν ζῴων ὄρνις καλεῖται, τὰ δὲ λοιπὰ δύο ἀνώνυμα ἑνὶ ὀνόματι.

Τῶν δὲ πτηνῶν μὲν ἀναίμων δὲ τὰ μὲν κολεόπτερά ἐστιν (ἔχει γὰρ ἐν ἐλύτρῳ τὰ πτερά, οἷον αἱ μηλολόνθαι καὶ οἱ κάνθαροι), τὰ δ᾽ ἀνέλυτρα, καὶ τούτων τὰ μὲν δίπτερα τὰ δὲ τετράπτερα, τετράπτερα μὲν ὅσα μέγεθος ἔχει ἢ ὅσα ὀπισθόκεντρά ἐστι, δίπτερα δ᾽ ὅσα ἢ μέγεθος μὴ ἔχει ἢ ἐμπροσθόκεντρά ἐστιν.

Τῶν δὲ κολεοπτέρων οὐδὲν ἔχει κέντρον. Τὰ δὲ δίπτερα ἔμπροσθεν ἔχει τὰ κέντρα, οἷον μυῖα καὶ μύωψ καὶ οἶστρος καὶ ἐμπίς. Πάντα δὲ τὰ ἄναιμα ἐλάττω τὰ μεγέθη ἐστὶ τῶν ἐναίμων ζῴων· πλὴν ὀλίγα ἐν τῇ θαλάττῃ μείζονα ἄναιμά ἐστιν, οἷον τῶν μαλακίων ἔνια. Μέγιστα δὲ γίνεται ταῦτα τὰ γένη αὐτῶν ἐν τοῖς ἀλεεινοτάτοις, καὶ ἐν τῇ θαλάττῃ μᾶλλον ἢ ἐν τῇ γῇ καὶ ἐν τοῖς γλυκέσιν ὕδασιν.

Κινεῖται δὲ τὰ κινούμενα πάντα τέτταρσι σημείοις ἢ πλείοσι, τὰ μὲν ἔναιμα τέτταρσι μόνον, οἷον ἄνθρωπος μὲν χερσὶ δυσὶ καὶ ποσὶ δυσίν, ὄρνις δὲ πτέρυξι δυσὶ καὶ ποσὶ δυσί, τὰ δὲ τετράποδα καὶ ἰχθύες τὰ μὲν τέτταρσι ποσίν, οἱ δὲ τέτταρσι πτερυγίοις. Ὅσα δὲ δύο ἔχει πτερύγια ἢ ὅλως μή, οἷον ὄφις, τέτταρσι σημείοις οὐδὲν ἧττον· αἱ γὰρ καμπαὶ τέτταρες, ἢ δύο σὺν τοῖς πτερυγίοις. Ὅσα δ᾽ ἄναιμα ὄντα πλείους πόδας ἔχει, εἴτε πτηνὰ εἴτε πεζά, σημείοις κινεῖται πλείοσιν, οἷον τὸ καλούμενον ζῷον ἐφήμερον τέτταρσι καὶ (490b.) ποσὶ καὶ πτεροῖς· τούτῳ γὰρ οὐ μόνον κατὰ τὸν βίον συμβαίνει τὸ ἴδιον, ὅθεν καὶ τὴν ἐπωνυμίαν ἔχει, ἀλλ᾽ ὅτι καὶ πτηνόν ἐστι τετράπουν ὄν.

Πάντα δὲ κινεῖται ὁμοίως, τὰ τετράποδα καὶ πολύποδα· κατὰ διάμετρον γὰρ κινεῖται. Τὰ μὲν οὖν ἄλλα ζῷα δύο τοὺς ἡγεμόνας ἔχει πόδας, ὁ δὲ καρκίνος μόνος τῶν ζῴων τέτταρας.

Κεφάλαιο 6

Γένη δὲ μέγιστα τῶν ζῴων, εἰς ἃ διῄρηται τἆλλα ζῷα, τάδ’ ἐστίν, ἓν μὲν ὀρνίθων, ἓν δ’ ἰχθύων, ἄλλο δὲ κῆτος. Ταῦτα μὲν οὖν πάντα ἔναιμά ἐστιν. Ἄλλο δὲ γένος ἐστὶ τὸ τῶν ὀστρακοδέρμων, ὃ καλεῖται ὄστρεον· ἄλλο τὸ τῶν μαλακοστράκων, ἀνώνυμον ἑνὶ ὀνόματι, οἷον κάραβοι καὶ γένη τινὰ καρκίνων καὶ ἀστακῶν· ἄλλο τὸ τῶν μαλακίων, οἷον τευθίδες τε καὶ τεῦθοι καὶ σηπίαι· ἕτερον τὸ τῶν ἐντόμων. Ταῦτα δὲ πάντα μέν ἐστιν ἄναιμα, ὅσα δὲ πόδας ἔχει, πολύποδα· τῶν δ’ ἐντόμων ἔνια καὶ πτηνά ἐστιν.

Τῶν δὲ λοιπῶν ζῴων οὐκέτι τὰ γένη μεγάλα· οὐ γὰρ περιέχει πολλὰ εἴδη ἓν εἶδος, ἀλλὰ τὸ μέν ἐστιν ἁπλοῦν αὐτὸ οὐκ ἔχον διαφορὰν τὸ εἶδος, οἷον ἄνθρωπος, τὰ δ’ ἔχει μέν, ἀλλ’ ἀνώνυμα τὰ εἴδη. Ἔστι γὰρ τὰ τετράποδα καὶ μὴ πτερωτὰ ἔναιμα μὲν πάντα, ἀλλὰ τὰ μὲν ζῳοτόκα τὰ δ’ ᾠοτόκα αὐτῶν. Ὅσα μὲν οὖν ζῳοτόκα, οὐ πάντα τρίχας ἔχει, ὅσα δ’ ᾠοτόκα, φολίδας· ἔστι δ’ ἡ φολὶς ὅμοιον χώρᾳ λεπίδος. Ἄπουν δὲ φύσει ἐστὶν ἔναιμον πεζὸν τὸ τῶν ὄφεων γένος· ἔστι δὲ τοῦτο φολιδωτόν. Ἀλλ’ οἱ μὲν ἄλλοι ᾠοτοκοῦσιν ὄφεις, ἡ δ’ ἔχιδνα μόνον ζῳοτοκεῖ. Τὰ μὲν γὰρ ζῳοτοκοῦντα οὐ πάντα τρίχας ἔχει· καὶ γὰρ τῶν ἰχθύων τινὲς ζῳοτοκοῦσιν· ὅσα μέντοι ἔχει τρίχας, ἅπαντα ζῳοτοκεῖ.

Τριχῶν γάρ τι εἶδος θετέον καὶ τὰς ἀκανθώδεις τρίχας, οἵας οἱ χερσαῖοι ἔχουσιν ἐχῖνοι καὶ οἱ ὕστριχες· τριχὸς γὰρ χρείαν παρέχουσιν, ἀλλ’ οὐ ποδῶν, ὥσπερ αἱ τῶν θαλαττίων.

Τοῦ δὲ γένους τοῦ τῶν τετραπόδων ζῴων καὶ ζῳοτόκων εἴδη μέν ἐστι πολλά, ἀνώνυμα δέ· ἀλλὰ καθ’ ἕκαστον αὐτῶν ὡς εἰπεῖν, ὥσπερ ἄνθρωπος εἴρηται, λέων, ἔλαφος, ἵππος, κύων καὶ τἆλλα τοῦτον τὸν τρόπον, ἐπεί ἐστιν ἕν τι γένος μόνον (491a.) ἐπὶ τοῖς λοφούροις καλουμένοις, οἷον ἵππῳ καὶ ὄνῳ καὶ ὀρεῖ καὶ γίννῳ [καὶ ἴννῳ] καὶ ταῖς ἐν Συρίᾳ καλουμέναις ἡμιόνοις, αἳ καλοῦνται ἡμίονοι δι’ ὁμοιότητα, οὐκ οὖσαι ἁπλῶς τὸ αὐτὸ εἶδος· καὶ γὰρ ὀχεύονται καὶ γεννῶνται ἐξ ἀλλήλων. Διὸ καὶ χωρὶς λαμβάνοντας ἀνάγκη θεωρεῖν ἑκάστου τὴν φύσιν αὐτῶν.

Ταῦτα μὲν οὖν τοῦτον τὸν τρόπον εἴρηται νῦν ὡς ἐν τύπῳ, γεύματος χάριν περὶ ὅσων καὶ ὅσα θεωρητέον· δι’ ἀκριβείας δ’ ὕστερον ἐροῦμεν, ἵνα πρῶτον τὰς ὑπαρχούσας διαφορὰς καὶ τὰ συρβεβηκότα πᾶσι λαμβάνωμεν. Μετὰ δὲ τοῦτο τὰς αἰτίας τούτων πειρατέον εὑρεῖν. Οὕτω γὰρ κατὰ φύσιν ἐστὶ ποιεῖσθαι τὴν μέθοδον, ὑπαρχούσης τῆς ἱστορίας τῆς περὶ ἕκαστον· περὶ ὧν τε γὰρ καὶ ἐξ ὧν εἶναι δεῖ τὴν ἀπόδειξιν, ἐκ τούτων γίνεται φανερόν.

Ληπτέον δὲ πρῶτον τὰ μέρη τῶν ζῴων ἐξ ὧν συνέστηκεν. Κατὰ γὰρ ταῦτα μάλιστα καὶ πρῶτα διαφέρει καὶ τὰ ὅλα, ἢ τῷ τὰ μὲν ἔχειν τὰ δὲ μὴ ἔχειν, ἢ τῇ θέσει καὶ τῇ τάξει, ἢ καὶ κατὰ τὰς εἰρημένας πρότερον διαφοράς, εἴδει καὶ ὑπεροχῇ καὶ ἀναλογίᾳ καὶ τῶν παθημάτων ἐναντιότητι. Πρῶτον δὲ τὰ τοῦ ἀνθρώπου μέρη ληπτέον· ὥσπερ γὰρ τὰ νομίσματα πρὸς τὸ αὑτοῖς ἕκαστοι γνωριμώτατον δοκιμάζουσιν, οὕτω δὴ καὶ ἐν τοῖς ἄλλοις· ὁ δ’ ἄνθρωπος τῶν ζῴων γνωριμώτατον ἡμῖν ἐξ ἀνάγκης ἐστίν. Τῇ μὲν οὖν αἰσθήσει οὐκ ἄδηλα τὰ μόρια· ὅμως δ’ ἕνεκεν τοῦ μὴ παραλιπεῖν τε τὸ ἐφεξῆς καὶ τοῦ λόγον ἔχειν μετὰ τῆς αἰσθήσεως, λεκτέον τὰ μέρη πρῶτον μὲν τὰ ὀργανικά, εἶτα τὰ ὁμοιομερῆ.

Κεφάλαιο 7

Μέγιστα μὲν οὖν ἐστι τάδε τῶν μερῶν εἰς ἃ διαιρεῖται τὸ σῶμα τὸ σύνολον, κεφαλή, αὐχήν, θώραξ, βραχίονες δύο, σκέλη δύο (τὸ ἀπ’ αὐχένος μέχρι αἰδοίων κύτος, ὃ καλεῖται θώραξ). Κεφαλῆς μὲν οὖν μέρη τὸ μὲν τριχωτὸν κρανίον καλεῖται. Τούτου δὲ μέρη τὸ μὲν πρόσθιον βρέγμα, ὑστερογενές (τελευταῖον γὰρ τῶν ἐν τῷ σώματι πήγνυται ὀστῶν), τὸ δ’ ὀπίσθιον ἰνίον, μέσον δ’ ἰνίου καὶ βρέγματος κορυφή. Ὑπὸ μὲν οὖν τὸ βρέγμα ὁ ἐγκέφαλός ἐστιν, τὸ δ’ (491b.) ἰνίον κενόν. Ἔστι δὲ τὸ κρανίον ἅπαν ἀραιὸν ὀστοῦν, στρογγύλον, ἀσάρκῳ δέρματι περιεχόμενον. Ἔχει δὲ ῥαφὰς τῶν μὲν γυναικῶν μίαν κύκλῳ, τῶν δ’ ἀνδρῶν τρεῖς εἰς ἓν συναπτούσας ὡς ἐπὶ τὸ πολύ· ἤδη δ’ ὠμμένη ἐστὶ κεφαλὴ ἀνδρὸς οὐδεμίαν ἔχουσα ῥαφήν. Τοῦ δὲ κρανίου κορυφὴ καλεῖται τὸ μέσον λίσσωμα τῶν τριχῶν. Τοῦτο δ’ ἐνίοις διπλοῦν ἐστιν· γίνονται γάρ τινες δικόροφοι, οὐ τῷ ὀστῷ ἀλλὰ τῇ τῶν τριχῶν λισσώσει.

Κεφάλαιο 8

Τὸ δ' ὑπὸ τὸ κρανίον ὀνομάζεται πρόσωπον ἐπὶ μόνου τῶν ἄλλων ζῴων ἀνθρώπου· ἰχθύος γὰρ καὶ βοὸς οὐ λέγεται πρόσωπον. Προσώπου δὲ τὸ μὲν ὑπὸ τὸ βρέγμα μεταξὺ τῶν ὀμμάτων μέτωπον. Τοῦτο δ' οἷς μὲν μέγα, βραδύτεροι, οἷς δὲ μικρόν, εὐκίνητοι· καὶ οἷς μὲν πλατύ, ἐκστατικοί, οἷς δὲ περιφερές, θυμικοί.

Κεφάλαιο 9

Ὑπὸ δὲ τῷ μετώπῳ ὀφρύες διφυεῖς· ὧν αἱ μὲν εὐθεῖαι μαλακοῦ ἤθους σημεῖον, αἱ δὲ πρὸς τὴν ῥῖνα τὴν καμπυλότητ’ ἔχουσαι στρυφνοῦ, αἱ δὲ πρὸς τοὺς κροτάφους μωκοῦ καὶ εἴρωνος, αἱ δὲ κατεσπασμέναι φθόνου. Ὑφ’ αἷς ὀφθαλμοί. Οὗτοι κατὰ φύσιν δύο. Τούτων μέρη ἑκατέρου βλέφαρον τὸ ἄνω καὶ κάτω. Τούτου τρίχες αἱ ἔσχαται βλεφαρίδες. Τὸ δ’ ἐντὸς τοῦ ὀφθαλμοῦ, τὸ μὲν ὑγρόν, ᾧ βλέπει, κόρη, τὸ δὲ περὶ τοῦτο μέλαν, τὸ δ’ ἐκτὸς τούτου λευκόν. Κοινὸν δὲ τῆς βλεφαρίδος μέρος τῆς ἄνω καὶ κάτω κανθοὶ δύο, ὁ μὲν πρὸς τῇ ῥινί, ὁ δὲ πρὸς τοῖς κροτάφοις· οἳ ἂν μὲν ὦσι μακροί, κακοηθείας σημεῖον, ἂν δ’ οἷον οἱ ἰκτῖνες κρεῶδες ἔχωσι τὸ πρὸς τῷ μυκτῆρι, πονηρίας.

Τὰ μὲν οὖν ἄλλα γένη πάντα τῶν ζῴων πλὴν τῶν ὀστρακοδέρμων καὶ εἴ τι ἄλλο ἀτελές, ἔχει ὀφθαλμούς· τὰ δὲ ζῳοτόκα πάντα πλὴν ἀσπάλακος. Τοῦτον δὲ τρόπον μέν τιν’ ἔχειν ἂν θείη τις, ὅλως δ’ οὐκ ἔχειν. Ὅλως μὲν γὰρ οὔθ’ ὁρᾷ οὔτ’ ἔχει εἰς τὸ φανερὸν δήλους ὀφθαλμούς· ἀφαιρεθέντος δὲ τοῦ δέρματος ἔχει τήν τε χώραν τῶν ὀμμάτων καὶ τῶν ὀφθαλμῶν τὰ μέλανα κατὰ τὸν τόπον καὶ τὴν χώραν τὴν φύσει τοῖς ὀφθαλμοῖς ὑπάρχουσαν ἐν τῷ ἐκτός, ὡς ἐν τῇ γενέσει πηρουμένων καὶ ἐπιφυομένου τοῦ δέρματος.

Κεφάλαιο 10

Ὀφθαλμοῦ (492a.) δὲ τὸ μὲν λευκὸν ὅμοιον ὡς ἐπὶ τὸ πολὺ πᾶσιν, τὸ δὲ καλούμενον μέλαν διαφέρει· τοῖς μὲν γάρ ἐστι μέλαν, τοῖς δὲ σφόδρα γλαυκόν, τοῖς δὲ χαροπόν, ἐνίοις δὲ αἰγωπόν· τοῦτο ἤθους βελτίστου σημεῖον καὶ πρὸς ὀξύτητα ὄψεως κράτιστον.

Μόνον δ’ ἢ μάλιστα τῶν ζῴων ἄνθρωπος πολύχρους τὰ ὄμματά ἐστιν· τῶν δ’ ἄλλων ἓν εἶδος· ἵπποι δὲ γίνονται γλαυκοὶ ἔνιοι.

Τῶν δ’ ὀφθαλμῶν οἱ μὲν μεγάλοι, οἱ δὲ μικροί, οἱ δὲ μέσοι· οἱ μέσοι βέλτιστοι. Καὶ ἢ ἐκτὸς σφόδρα ἢ ἐντὸς ἢ μέσως· τούτων οἱ ἐντὸς μάλιστα ὀξυωπέστατοι ἐπὶ παντὸς ζῴου, τὸ δὲ μέσον ἤθους βελτίστου σημεῖον. Καὶ ἢ σκαρδαμυκτικοὶ ἢ ἀτενεῖς ἢ μέσοι· βελτίστου δ’ ἤθους οἱ μέσοι, ἐκείνων δ’ ὁ μὲν ἀναιδὴς ὁ δ’ ἀβέβαιος.

Κεφάλαιο 11

Ἔτι δὲ κεφαλῆς μόριον, δι’ οὗ ἀκούει, ἄπνουν, τὸ οὖς· Ἀλκμαίων γὰρ οὐκ ἀληθῆ λέγει, φάμενος ἀναπνεῖν τὰς αἶγας κατὰ τὰ ὦτα. Ὠτὸς δὲ μέρος τὸ μὲν ἀνώνυμον, τὸ δὲ λοβός. Ὅλον δ’ ἐκ χόνδρου καὶ σαρκὸς σύγκειται. Εἴσω δὲ τὴν μὲν φύσιν ἔχει οἷον οἱ στρόμβοι, τὸ δ’ ἔσχατον ὀστοῦν ὅμοιον τῷ ὠτί, εἰς ὃ ὥσπερ ἀγγεῖον ἔσχατον ἀφικνεῖται ὁ ψόφος. Τοῦτο δ’ εἰς μὲν τὸν ἐγκέφαλον οὐκ ἔχει πόρον, εἰς δὲ τὸν τοῦ στόματος οὐρανόν· καὶ ἐκ τοῦ ἐγκεφάλου φλὲψ τείνει εἰς αὐτό. Περαίνουσι δὲ καὶ οἱ ὀφθαλμοὶ εἰς τὸν ἐγκέφαλον, καὶ κεῖται ἐπὶ φλεβίου ἑκάτερος. Ἀκίνητον δὲ τὸ οὖς ἄνθρωπος ἔχει μόνος τῶν ἐχόντων τοῦτο τὸ μόριον. Τῶν γὰρ ἐχόντων ἀκοὴν τὰ μὲν ἔχει ὦτα, τὰ δ’ οὐκ ἔχει, ἀλλὰ τὸν πόρον φανερόν, οἷον ὅσα πτερωτὰ ἢ φολιδωτά. Ὅσα δὲ ζῳοτοκεῖ, ἔξω φώκης καὶ δελφῖνος καὶ τῶν ἄλλων ὅσα οὕτω κητώδη, πάντα ἔχει ὦτα· ζῳοτοκεῖ γὰρ καὶ τὰ σελάχη· ἀλλὰ μόνον ἄνθρωπος οὐ κινεῖ. Ἡ μὲν οὖν φώκη πόρους ἔχει φανεροὺς ᾗ ἀκούει· ὁ δὲ δελφὶς ἀκούει μέν, οὐκ ἔχει δ’ ὦτα.

Τὰ δ’ ἄλλα κινεῖ πάντα. Κεῖται δὲ τὰ ὦτα ἐπὶ τῆς αὐτῆς περιφερείας τοῖς ὀφθαλμοῖς, καὶ οὐχ ὥσπερ ἐνίοις τῶν τετραπόδων ἄνωθεν. Ὤτων δὲ τὰ μὲν ψιλά, τὰ δὲ δασέα, τὰ δὲ μέσα· βέλτιστα δὲ τὰ μέσα πρὸς ἀκοήν, ἦθος δ’ οὐδὲν σημαίνει. Καὶ ἢ μεγάλα ἢ μικρὰ ἢ μέσα, ἢ ἐπανεστηκότα (492b.) σφόδρα ἢ οὐδὲν ἢ μέσον· τὰ δὲ μέσα βελτίστου ἤθους σημεῖον, τὰ δὲ μεγάλα καὶ ἐπανεστηκότα μωρολογίας καὶ ἀδολεσχίας. Τὸ δὲ μεταξὺ ὀφθαλμοῦ καὶ ὠτὸς καὶ κορυφῆς καλεῖται κρόταφος.

Ἔτι προσώπου μέρος τὸ μὲν ὂν τῷ πνεύματι πόρος ῥίς· καὶ γὰρ ἀναπνεῖ καὶ ἐκπνεῖ ταύτῃ, καὶ ὁ πταρμὸς διὰ ταύτης γίνεται, πνεύματος ἀθρόου ἔξοδος, σημεῖον οἰωνιστικὸν καὶ ἱερὸν μόνον τῶν πνευμάτων. Ἅμα δ’ ἡ ἀνάπνευσις καὶ ἔκπνευσις γίνεται εἰς τὸ στῆθος, καὶ ἀδύνατον χωρὶς τοῖς μυκτῆρσιν ἀναπνεῦσαι ἢ ἐκπνεῦσαι, διὰ τὸ ἐκ τοῦ στήθους εἶναι τὴν ἀναπνοὴν καὶ ἐκπνοὴν κατὰ τὸν γαργαρεῶνα, καὶ μὴ ἐκ τῆς κεφαλῆς τινι μέρει· ἐνδέχεται δὲ καὶ μὴ χρώμενον ταύτῃ ζῆν. Ἡ δ’ ὄσφρησις γίνεται διὰ τούτου τοῦ μέρους· αὕτη δ’ ἐστὶν ἡ αἴσθησις ὀσμῆς. Εὐκίνητος δ’ ὁ μυκτήρ, καὶ οὐχ ὥσπερ τὸ οὖς ἀκίνητον κατ’ ἰδίαν. Μέρος δ’ αὐτοῦ τὸ μὲν διάφραγμα χόνδρος, τὸ δ’ ὀχέτευμα κενόν· ἔστι γὰρ ὁ μυκτὴρ διχότομος. Τοῖς δ’

ἐλέφασιν ὁ μυκτὴρ γίνεται μακρὸς καὶ ἰσχυρός, καὶ χρῆται αὐτῷ ὥσπερ χειρί· προσάγεταί τε γὰρ καὶ λαμβάνει τούτῳ καὶ εἰς τὸ στόμα προσφέρεται τὴν τροφήν, καὶ τὴν ὑγρὰν καὶ τὴν ξηράν, μόνον τῶν ζῴων.

Ἔτι δὲ σιαγόνες δύο· τούτων τὸ πρόσθιον γένειον, τὸ δ' ὀπίσθιον γένυς. Κινεῖ δὲ πάντα τὰ ζῷα τὴν κάτωθεν γένυν, πλὴν τοῦ ποταμίου κροκοδείλου· οὗτος δὲ τὴν ἄνω μόνον.

Μετὰ δὲ τὴν ῥῖνα χείλη δύο, σὰρξ εὐκίνητος. Τὸ δ' ἐντὸς στόμα σιαγόνων καὶ χειλῶν. Τούτου μέρη τὸ μὲν ὑπερῷα τὸ δὲ φάρυγξ. Τὸ δ' αἰσθητικὸν χυμοῦ γλῶττα· ἡ δ' αἴσθησις ἐν τῷ ἄκρῳ· ἐὰν δέ <τι> ἐπὶ τὸ πλατὺ ἐπιτεθῇ, ἧττον. Αἰσθάνεται δὲ καὶ ὧν ἡ ἄλλη σὰρξ πάντων, οἷον σκληροῦ θερμοῦ καὶ ψυχροῦ καθ' ὁτιοῦν μέρος, ὥσπερ καὶ χυμοῦ. Αὕτη δ' ἢ πλατεῖα ἢ στενὴ ἢ μέση· ἡ μέση δὲ βελτίστη καὶ σαφεστάτη.

Καὶ ἢ λελυμένη ἢ καταδεδεμένη, ὥσπερ τοῖς ψελλοῖς καὶ τοῖς τραυλοῖς. Ἔστι δ' ἡ γλῶττα σὰρξ μανὴ καὶ σομφή.

Ταύτης τι μέρος ἐπιγλωττίς. Καὶ τὸ μὲν διφυὲς τοῦ (493a.) στόματος παρίσθμιον, τὸ δὲ πολυφυὲς οὖλον· σάρκινα δὲ ταῦτα. Ἐντὸς δ' ὀδόντες ὀστέινοι. Εἴσω δ' ἄλλο μόριον σταφυλοφόρον, κίων ἐπίφλεβος· ὃς ἐὰν ἐξυγρανθεὶς φλεγμήνῃ, σταφυλὴ καλεῖται καὶ πνίγει.

Κεφάλαιο 12

Αὐχὴν δὲ τὸ μεταξὺ προσώπου καὶ θώρακος. Καὶ τούτου τὸ μὲν πρόσθιον μέρος λάρυγξ, [τὸ δ’ ὀπίσθιον στόμαχος].

Τούτου δὲ τὸ μὲν χονδρῶδες καὶ πρόσθιον, δι’ οὗ ἡ φωνὴ καὶ ἡ ἀναπνοή, ἀρτηρία· τὸ δὲ σαρκῶδες στόμαχος, ἐντὸς πρὸ τῆς ῥάχεως. Τὸ δ’ ὀπίσθιον αὐχένος μέρος ἐπωμίς. Ταῦτα μὲν οὖν τὰ μόρια μέχρι τοῦ θώρακος.

Θώρακος δὲ μέρη τὰ μὲν πρόσθια τὰ δ’ ὀπίσθια.

Πρῶτον μὲν μετὰ τὸν αὐχένα ἐν τοῖς προσθίοις στῆθος διφυὲς μαστοῖς. Τούτων ἡ θηλὴ διφυής, δι’ ἧς τοῖς θήλεσι τὸ γάλα διηθεῖται· ὁ δὲ μαστὸς μανός. Ἐγγίνεται δὲ καὶ τοῖς ἄρρεσι γάλα· ἀλλὰ πυκνὴ ἡ σὰρξ τοῖς ἄρρεσι, ταῖς δὲ γυναιξὶ σομφὴ καὶ πόρων μεστή.

Κεφάλαιο 13

Μετὰ δὲ τὸν θώρακα ἐν τοῖς προσθίοις γαστήρ, καὶ ταύτης ῥίζα ὀμφαλός· ὑπόρριζον δὲ τὸ μὲν διφυὲς λαγών, τὸ δὲ μονοφυὲς τὸ μὲν ὑπὸ τὸν ὀμφαλὸν ἦτρον (τούτου δὲ τὸ ἔσχατον ἐπίσιον), τὸ δ’ ὑπὲρ τὸν ὀμφαλὸν ὑποχόνδριον, τὸ δὲ κοινὸν ὑποχονδρίου καὶ λαγόνος χολάς.

Τῶν δ’ ὄπισθεν διάζωμα μὲν ἡ ὀσφύς (ὅθεν καὶ τοὔνομ’ ἔχει· δοκεῖ γὰρ εἶναι ἰσοφυές), τοῦ δὲ διεξοδικοῦ τὸ μὲν οἷον ἐφέδρανον γλουτός, τὸ δ’ ἐν ᾧ στρέφεται ὁ μηρός, κοτυληδών.

Τοῦ δὲ θήλεος ἴδιον μέρος ὑστέρα, καὶ τοῦ ἄρρενος αἰδοῖον, ἔξωθεν ἐπὶ τῷ τέλει τοῦ θώρακος, διμερές, τὸ μὲν ἄκρον σαρκῶδες καὶ ἀεὶ λεῖον <καὶ> ὡς εἰπεῖν ἴσον, ὃ καλεῖται βάλανος, τὸ δὲ περὶ αὐτὴν ἀνώνυμον δέρμα, ὃ ἐὰν διακοπῇ, οὐ συμφύεται, οὐδὲ γνάθος οὐδὲ βλεφαρίς. Κοινὸν δὲ τούτου καὶ τῆς βαλάνου ἀκροποσθία. Τὸ δὲ λοιπὸν μέρος χονδρῶδες, εὐαυξές, καὶ ἐξέρχεται καὶ εἰσέρχεται ἐναντίως ἢ τοῖς λοφούροις. Τοῦ δ’ αἰδοίου ὑποκάτω ὄρχεις δύο. Τὸ δὲ πέριξ δέρμα, ὃ καλεῖται ὄσχεος. Οἱ δ’ ὄρχεις οὔτε ταὐτὸ σαρκὶ οὔτε πόρρω σαρκός· ὃν (493b.) τρόπον δ’ ἔχουσιν, ὕστερον δι’ ἀκριβείας λεχθήσεται καθόλου περὶ πάντων τῶν τοιούτων μορίων.

Κεφάλαιο 14

Τὸ δὲ τῆς γυναικὸς αἰδοῖον ἐξ ἐναντίας τῷ τῶν ἀρρένων· κοῖλον γὰρ τὸ ὑπὸ τὴν ἥβην καὶ οὐχ ὥσπερ τὸ τοῦ ἄρρενος ἐξεστηκός. Καὶ οὐρήθρα ἔξω τῶν ὑστερῶν, δίοδος τῷ σπέρματι τοῦ ἄρρενος. Τοῦ δ’ ὑγροῦ περιττώματος ἀμφοῖν ἔξοδος.

Κοινὸν δὲ μέρος αὐχένος καὶ στήθους σφαγή, πλευρᾶς δὲ καὶ βραχίονος καὶ ὤμου μασχάλη, μηροῦ δὲ καὶ ἤτρου βουβών. Μηροῦ δὲ καὶ γλουτοῦ τὸ ἐντὸς περίνεον, μηροῦ δὲ καὶ γλουτοῦ τὸ ἔξω ὑπογλουτίς.

Θώρακος δὲ περὶ μὲν τῶν ἔμπροσθεν εἴρηται, τοῦ δὲ στήθους τὸ ὄπισθεν νῶτος.

Κεφάλαιο 15

Νώτου δὲ μέρη ὠμοπλάται δύο καὶ ῥάχις, ὑποκάτωθεν δὲ κατὰ τὴν γαστέρα ὀσφύς. Κοινὸν δὲ τοῦ ἄνω καὶ κάτω τοῦ θώρακος πλευραί, ἑκατέρωθεν ὀκτώ· περὶ γὰρ Λιγύων τῶν καλουμένων ἑπταπλεύρων οὐδενός πω ἀξιοπίστου ἀκηκόαμεν.

Ἔχει δ’ ὁ ἄνθρωπος καὶ τὸ ἄνω καὶ τὸ κάτω, καὶ τὰ ἔμπροσθεν καὶ τὰ ὀπίσθια, καὶ δεξιὰ καὶ ἀριστερά. Τὰ μὲν οὖν δεξιὰ καὶ ἀριστερὰ ὅμοια σχεδὸν ἐν τοῖς μέρεσι καὶ ταὐτὰ πάντα, πλὴν ἀσθενέστερα τὰ ἀριστερά· τὰ δ’ ὀπίσθια τοῖς προσθίοις ἀνόμοια, καὶ τὰ κάτω τοῖς ἄνω, πλὴν ὧδε ὅμοια, τὰ κάτω τοῦ ἤτρου οἷον τὸ πρόσωπον εὐσαρκίᾳ καὶ ἀσαρκίᾳ, καὶ τὰ σκέλη πρὸς τοὺς βραχίονας ἀντίκειται· καὶ οἷς βραχεῖς οἱ ἀγκῶνες, καὶ οἱ μηροὶ ὡς ἐπὶ τὸ πολύ, καὶ οἷς οἱ πόδες μικροί, καὶ αἱ χεῖρες.

Κώλων δὲ τὸ μὲν διφυὲς βραχίων· βραχίονος δὲ ὦμος, ἀγκών, ὠλέκρανον, πῆχυς, χείρ· χειρὸς δὲ θέναρ, δάκτυλοι πέντε· δακτύλου δὲ τὸ μὲν καμπτικὸν κόνδυλος, τὸ δ’ ἄκαμπτον φάλαγξ. Δάκτυλος δ’ ὁ μὲν μέγας μονοκόνδυλος, οἱ δ’ ἄλλοι δικόνδυλοι. Ἡ δὲ κάμψις καὶ τῷ βραχίονι καὶ τῷ δακτύλῳ εἴσω πᾶσιν· κάμπτεται δ’ ὁ βραχίων κατὰ τὸ ὠλέκρανον. Χειρὸς δὲ τὸ μὲν ἐντὸς θέναρ, σαρκῶδες καὶ διῃρημένον ἄρθροις, τοῖς μὲν μακροβίοις ἑνὶ ἢ (494a.) δυσὶ δι’ ὅλου, τοῖς δὲ βραχυβίοις δυσὶ καὶ οὐ δι’ ὅλου. Ἄρθρον δὲ χειρὸς καὶ βραχίονος καρπός. Τὸ δ’ ἔξω τῆς χειρὸς νευρῶδες καὶ ἀνώνυμον.

Κώλων δὲ διμερὲς ἄλλο σκέλος. Σκέλους δὲ τὸ μὲν ἀμφικέφαλον μηρός, τὸ δὲ πλανησίεδρον μύλη, τὸ δὲ διόστεον κνήμη, καὶ ταύτης τὸ μὲν πρόσθιον ἀντικνήμιον, τὸ δ’ ὀπίσθιον γαστροκνημία, σὰρξ νευρώδης καὶ φλεβώδης, τοῖς μὲν ἀνεσπασμένη ἄνω πρὸς τὴν ἰγνύν, ὅσοι μεγάλα τὰ ἰσχία ἔχουσι, τοῖς δ’ ἐναντίως κατεσπασμένη· τὸ δ’ ἔσχατον ἀντικνημίου σφυρόν, διφυὲς ἐν ἑκατέρῳ τῷ σκέλει. Τὸ δὲ πολυόστεον τοῦ σκέλους πούς. Τούτου δὲ τὸ μὲν ὀπίσθιον μέρος πτέρνα, τὸ δ’ ἐμπρόσθιον τοῦ ποδὸς τὸ μὲν ἐσχισμένον δάκτυλοι πέντε, τὸ δὲ σαρκῶδες κάτωθεν στῆθος, τὸ δ’ ἄνωθεν ἐν τοῖς πρανέσι νευρῶδες καὶ ἀνώνυμον. Δακτύλου δὲ τὸ μὲν ὄνυξ, τὸ δὲ καμπή· πάντων δ’ ὁ ὄνυξ ἐπ’ ἄκρῳ· μονόκαμπτοι δὲ πάντες οἱ κάτω δάκτυλοι. Τοῦ δὲ ποδὸς ὅσοις τὸ ἐντὸς παχὺ καὶ μὴ κοῖλον, ἀλλὰ βαίνουσιν ὅλῳ, πανοῦργοι. Κοινὸν δὲ μηροῦ καὶ κνήμης γόνυ καμπή.

Ταῦτα μὲν οὖν τὰ μέρη κοινὰ καὶ θήλεος καὶ ἄρρενος.

Ἡ δὲ θέσις τῶν μερῶν πρὸς τὸ ἄνω καὶ κάτω καὶ πρόσθιον καὶ ὀπίσθιον καὶ δεξιὸν καὶ ἀριστερὸν ὡς ἔχει, φανερὰ μὲν ἂν εἶναι δόξειε τὰ ἔξωθεν κατὰ τὴν αἴσθησιν, οὐ μὴν ἀλλὰ διὰ τὴν αὐτὴν αἰτίαν λεκτέον δι’ ἥνπερ καὶ τὰ πρότερον εἰρήκαμεν, ἵνα περαίνηται τὸ ἐφεξῆς, καὶ καταριθμουμένων ὅπως ἧττον λανθάνῃ τὰ μὴ τὸν αὐτὸν ἔχοντα τρόπον ἐπί τε τῶν ἄλλων ζῴων καὶ ἐπὶ τῶν ἀνθρώπων.

Μάλιστα δ’ ἔχει διωρισμένα πρὸς τοὺς κατὰ φύσιν τόπους τὰ ἄνω καὶ κάτω ἄνθρωπος τῶν ἄλλων ζῴων· τά τε γὰρ ἄνω καὶ κάτω πρὸς τὰ τοῦ παντὸς ἄνω καὶ κάτω τέτακται. Τὸν αὐτὸν τρόπον καὶ τὰ πρόσθια καὶ τὰ ὀπίσθια καὶ τὰ δεξιὰ καὶ τὰ ἀριστερὰ κατὰ φύσιν ἔχει. Τῶν δ’ ἄλλων ζῴων τὰ μὲν οὐκ ἔχει, τὰ δ’ ἔχει μὲν συγκεχυμένα δ’ ἔχει μᾶλλον. Ἡ μὲν οὖν κεφαλὴ πᾶσιν ἄνω πρὸς τὸ σῶμα τὸ ἑαυτῶν· ὁ δ’ ἄνθρωπος μόνος, ὥσπερ εἴρηται, πρὸς τὸ τοῦ ὅλου τελειωθεὶς (494b.) ἔχει τοῦτο τὸ μόριον.

Μετὰ δὲ τὴν κεφαλήν ἐστιν ὁ αὐχήν, εἶτα στῆθος καὶ νῶτος, τὸ μὲν ἐκ τοῦ πρόσθεν τὸ δ’ ἐκ τοῦ ὄπισθεν. Καὶ ἐχόμενα τούτων γαστὴρ καὶ ὀσφὺς καὶ αἰδοῖον καὶ ἰσχίον, εἶτα μηρὸς καὶ κνήμη, τελευταῖον δὲ πόδες. Εἰς τὸ πρόσθεν δὲ καὶ τὰ σκέλη τὴν κάμψιν ἔχει, ἐφ’ ὃ καὶ ἡ πορεία, καὶ τῶν ποδῶν τὸ κινητικώτερον μέρος καὶ ἡ κάμψις· ἡ δὲ πτέρνα ἐκ τοῦ ὄπισθεν· τῶν δὲ σφυρῶν ἑκάτερον κατὰ τὸ οὖς. Ἐκ δὲ τῶν πλαγίων τῶν δεξιῶν καὶ τῶν ἀριστερῶν οἱ βραχίονες, τὴν κάμψιν ἔχοντες εἰς τὸ ἐντός, ὥστε τὰ κυρτὰ τῶν σκελῶν καὶ τῶν βραχιόνων πρὸς ἄλληλα εἶναι ἐπ’ ἀνθρώπου μάλιστα.

Τὰς δ’ αἰσθήσεις καὶ τὰ αἰσθητήρια, ὀφθαλμοὺς καὶ μυκτῆρας καὶ γλῶτταν, ἐπὶ ταὐτὸ καὶ εἰς τὸ πρόσθιον ἔχει· τὴν δ’ ἀκοὴν καὶ τὸ αἰσθητήριον αὐτῆς, τὰ ὦτα, ἐκ τοῦ πλαγίου μέν, ἐπὶ τῆς αὐτῆς δὲ περιφερείας τοῖς ὄμμασιν. Τὰ δ’ ὄμματα ἐλάχιστον κατὰ μέγεθος διέστηκεν ἀνθρώπῳ τῶν ζῴων. Ἔχει δ’ ἀκριβεστάτην ἄνθρωπος τῶν αἰσθήσεων τὴν ἁφήν, δευτέραν δὲ τὴν γεῦσιν· ἐν δὲ ταῖς ἄλλαις λείπεται πολλῶν.

Κεφάλαιο 16

Τὰ μὲν οὖν μόρια τὰ πρὸς τὴν ἔξω ἐπιφάνειαν τοῦτον τέτακται τὸν τρόπον, καὶ καθάπερ ἐλέχθη, διωνόμασταί τε μάλιστα καὶ γνώριμα διὰ τὴν συνήθειάν ἐστιν· τὰ δ’ ἐντὸς τοὐναντίον. Ἄγνωστα γάρ ἐστι μάλιστα τὰ τῶν ἀνθρώπων, ὥστε δεῖ πρὸς τὰ τῶν ἄλλων μόρια ζῴων ἀνάγοντας σκοπεῖν, οἷς ἔχει παραπλησίαν τὴν φύσιν.

Πρῶτον μὲν οὖν τῆς κεφαλῆς κεῖται τὴν θέσιν ἐν τῷ πρόσθεν ἔχων ὁ ἐγκέφαλος. Ὁμοίως δὲ καὶ τοῖς ἄλλοις ζῴοις, ὅσα ἔχει τοῦτο τὸ μόριον· ἔχει δ’ ἅπαντα ὅσα ἔχει αἷμα, καὶ ἔτι τὰ μαλάκια· κατὰ μέγεθος δ’ ὁμοίως ἔχει ἄνθρωπος πλεῖστον ἐγκέφαλον καὶ ὑγρότατον. Ὑμένες δ’ αὐτὸν δύο περιέχουσιν, ὁ μὲν περὶ τὸ ὀστοῦν ἰσχυρότερος, ὁ δὲ περὶ αὐτὸν τὸν ἐγκέφαλον ἥττων ἐκείνου. Διφυὴς δ’ ἐν πᾶσίν ἐστιν ὁ ἐγκέφαλος. Καὶ ἐπὶ τούτου ἡ καλουμένη παρεγκεφαλὶς ἔσχατον, ἑτέραν ἔχουσα τὴν μορφὴν καὶ κατὰ τὴν ἁφὴν καὶ κατὰ τὴν ὄψιν.

Τὸ δ’ ὄπισθεν τῆς κεφαλῆς κενὸν καὶ κοῖλον πᾶσιν, ὡς ἑκάστοις (495a.) ὑπάρχει μεγέθους. Ἔνια μὲν γὰρ μεγάλην ἔχει τὴν κεφαλήν, τὸ δ’ ὑποκείμενον τοῦ προσώπου μόριον ἔλαττον, ὅσα στρογγυλοπρόσωπα· τὰ δὲ τὴν μὲν κεφαλὴν μικράν, τὰς δὲ σιαγόνας μακράς, οἷον τὸ τῶν λοφούρων γένος πᾶν.

Ἄναιμος δ’ ὁ ἐγκέφαλος ἅπασι, καὶ οὐδεμίαν ἔχων ἐν αὑτῷ φλέβα, καὶ θιγγανόμενος κατὰ φύσιν ψυχρός. Ἔχει δ’ ἐν τῷ μέσῳ ὁ τῶν πλείστων [πᾶς] κοῖλόν τι μικρόν. Ἡ δὲ περὶ αὐτὸν μῆνιγξ φλεβώδης· ἔστι δ’ ὑμὴν δερματικὸς ἡ μῆνιγξ ὁ περιέχων τὸν ἐγκέφαλον. Ὑπὲρ δὲ τοῦ ἐγκεφάλου λεπτότατον ὀστοῦν καὶ ἀσθενέστατον τῆς κεφαλῆς ἐστιν, ὃ καλεῖται βρέγμα.

Φέρουσι δ’ ἐκ τοῦ ὀφθαλμοῦ τρεῖς πόροι εἰς τὸν ἐγκέφαλον, ὁ μὲν μέγιστος καὶ ὁ μέσος εἰς τὴν παρεγκεφαλίδα, ὁ δ’ ἐλάχιστος εἰς αὐτὸν τὸν ἐγκέφαλον· ἐλάχιστος δ’ ἐστὶν ὁ πρὸς τῷ μυκτῆρι μάλιστα. Οἱ μὲν οὖν μέγιστοι παράλληλοί εἰσι καὶ οὐ συμπίπτουσιν, οἱ δὲ μέσοι συμπίπτουσι (δῆλον δὲ τοῦτο μάλιστα ἐπὶ τῶν ἰχθύων)· καὶ γὰρ ἐγγύτερον οὗτοι τοῦ ἐγκεφάλου ἢ οἱ μεγάλοι· οἱ δ’ ἐλάχιστοι πλεῖστόν τε ἀπήρτηνται ἀλλήλων καὶ οὐ συμπίπτουσιν.

Ἐντὸς δὲ τοῦ αὐχένος ὅ τ’ οἰσοφάγος καλούμενός ἐστιν, ἔχων τὴν ἐπωνυμίαν ἀπὸ τοῦ μήκους καὶ τῆς στενότητος, καὶ ἡ ἀρτηρία. Πρότερον δὲ τῇ θέσει ἡ ἀρτηρία κεῖται τοῦ οἰσοφάγου ἐν πᾶσι τοῖς ἔχουσιν αὐτήν· ἔχει δὲ ταύτην πάντα ὅσαπερ πλεύμονα ἔχει.

Ἔστι δ’ ἡ μὲν ἀρτηρία χονδρώδης τὴν φύσιν καὶ ὀλίγαιμος, πολλοῖς λεπτοῖς φλεβίοις περιεχομένη, κεῖται δ’ ἐπὶ μὲν τὰ ἄνω πρὸς τὸ στόμα κατὰ τὴν ἐκ τῶν μυκτήρων σύντρησιν εἰς τὸ στόμα, ᾗ καὶ ὅταν πίνοντες ἀνασπάσωσί τι τοῦ ποτοῦ, χωρεῖ ἐκ τοῦ στόματος διὰ τῶν μυκτήρων ἔξω. Μεταξὺ δ’ ἔχει τῶν τρήσεων τὴν ἐπιγλωττίδα καλουμένην, ἐπιπτύσσεσθαι δυναμένην ἐπὶ τὸ τῆς ἀρτηρίας τρῆμα τὸ εἰς τὸ στόμα τεῖνον. Ταύτῃ δὲ τὸ πέρας συνήρτηται τῆς γλώττης. Ἐπὶ δὲ θάτερα καθήκει εἰς τὸ μεταξὺ τοῦ πλεύμονος, εἶτ’ ἀπὸ τούτου σχίζεται εἰς ἑκάτερον τῶν μερῶν τοῦ πλεύμονος. Θέλει γὰρ εἶναι διμερὴς ὁ πλεύμων ἐν ἅπασι τοῖς ἔχουσιν αὐτόν· ἀλλ’ ἐν μὲν τοῖς ζῳοτόκοις οὐχ ὁμοίως ἡ διάστασις φανερά, ἥκιστα (495b.) δ’ ἐν ἀνθρώπῳ. Ἔστι δ’ οὐ πολυσχιδὴς ὁ τοῦ ἀνθρώπου, ὥσπερ ἐνίων ζῳοτόκων, οὐδὲ λεῖος, ἀλλ’ ἔχει ἀνωμαλίαν.

Ἐν δὲ τοῖς ᾠοτόκοις, οἷον ὄρνισι καὶ τῶν τετραπόδων ὅσα ᾠοτόκα, πολὺ τὸ μέρος ἑκάτερον ἀπ’ ἀλλήλων ἔσχισται, ὥστε δοκεῖν δύο ἔχειν πλεύμονας· καὶ ἀπὸ μιᾶς δύο ἐστὶ μόρια τῆς ἀρτηρίας, εἰς ἑκάτερον τὸ μέρος τείνοντα τοῦ πλεύμονος. Συνήρτηται δὲ καὶ τῇ μεγάλῃ φλεβὶ καὶ τῇ ἀορτῇ καλουμένῃ.

Φυσωμένης δὲ τῆς ἀρτηρίας διαδίδωσιν εἰς τὰ κοῖλα μέρη τοῦ πλεύμονος τὸ πνεῦμα. Ταῦτα δὲ διαφύσεις ἔχει χονδρώδεις εἰς ὀξὺ συνηκούσας· ἐκ δὲ τῶν διαφύσεων τρήματα διὰ παντός ἐστι τοῦ πλεύμονος, ἀεὶ ἐκ μειζόνων εἰς ἐλάττω διαδιδόμενα.

Συνήρτηται δὲ καὶ ἡ καρδία τῇ ἀρτηρίᾳ πιμελώδεσι καὶ χονδρώδεσι καὶ ἰνώδεσι δεσμοῖς· ᾗ δὲ συνήρτηται, κοῖλόν ἐστιν. Φυσωμένης δὲ τῆς ἀρτηρίας ἐν ἐνίοις μὲν οὐ κατάδηλον ποιεῖ, ἐν δὲ τοῖς μείζοσι τῶν ζῴων δῆλον ὅτι εἰσέρχεται τὸ πνεῦμα εἰς αὐτήν. Ἡ μὲν οὖν ἀρτηρία τοῦτον ἔχει τὸν τρόπον, καὶ δέχεται μόνον τὸ πνεῦμα καὶ ἀφίησιν, ἄλλο δ’ οὐδὲν οὔτε ξηρὸν οὔθ’ ὑγρόν, ἢ πόνον παρέχει, ἕως ἂν ἐκβήξῃ τὸ κατελθόν.

Ὁ δὲ στόμαχος ἤρτηται μὲν ἄνωθεν ἀπὸ τοῦ στόματος, ἐχόμενος τῆς ἀρτηρίας, συνεχὴς ὢν πρός τε τὴν ῥάχιν καὶ τὴν ἀρτηρίαν ὑμενώδεσι δεσμοῖς, τελευτᾷ δὲ διὰ τοῦ διαζώματος εἰς τὴν κοιλίαν, σαρκοειδὴς ὢν τὴν φύσιν, καὶ τάσιν ἔχων καὶ ἐπὶ μῆκος καὶ ἐπὶ πλάτος.

Ἡ δὲ κοιλία ἡ τοῦ ἀνθρώπου ὁμοία τῇ κυνείᾳ ἐστίν· οὐ πολλῷ γὰρ τοῦ ἐντέρου μείζων, ἀλλ’ ἐοικυῖα οἱονεὶ ἐντέρῳ τινὶ εὖρος ἔχοντι· εἶτα ἔντερον ἁπλοῦν, εἱλιγμένον, ἐπιεικῶς πλατύ. Ἡ δὲ κάτω κοιλία ὁμοία τῇ ὑείᾳ·

πλατεῖά τε γάρ ἐστι, καὶ τὸ ἀπὸ ταύτης πρὸς τὴν ἕδραν παχὺ καὶ βραχύ. Τὸ δ’ ἐπίπλοον ἀπὸ μέσης τῆς κοιλίας ἤρτηται, ἔστι δὲ τὴν φύσιν ὑμὴν πιμελώδης, ὥσπερ καὶ τοῖς ἄλλοις τοῖς μονοκοιλίοις καὶ ἀμφώδουσιν.

Ὑπὲρ δὲ τῶν ἐντέρων τὸ μεσεντέριόν ἐστιν· ὑμενῶδες δ’ ἐστὶ καὶ τοῦτο καὶ πλατύ, καὶ πῖον γίνεται. Ἐξήρτηται δ’ ἐκ τῆς μεγάλης φλεβὸς καὶ τῆς ἀορτῆς, καὶ δι’ αὐτοῦ φλέβες πολλαὶ καὶ πυκναί, (496a.) κατατείνουσαι πρὸς τὴν τῶν ἐντέρων θέσιν, ἄνωθεν ἀρξάμεναι μέχρι κάτω. Τὰ μὲν οὖν περὶ τὸν στόμαχον καὶ τὴν ἀρτηρίαν οὕτως ἔχει, καὶ τὰ περὶ τὴν κοιλίαν.

Κεφάλαιο 17

Ἡ δὲ καρδία ἔχει μὲν τρεῖς κοιλίας, κεῖται δ’ ἀνωτέρω τοῦ πλεύμονος κατὰ τὴν σχίσιν τῆς ἀρτηρίας, ἔχει δ’ ὑμένα πιμελώδη καὶ παχύν, ᾗ προσπέφυκε τῇ φλεβὶ τῇ μεγάλῃ καὶ τῇ ἀορτῇ. Κεῖται δ’ ἐπὶ τῇ ἀορτῇ κατὰ τὰ ὀξέα.

Κεῖται δὲ τὰ ὀξέα κατὰ τὸ στῆθος ὁμοίως ἁπάντων τῶν ζῴων, ὅσα ἔχει στῆθος. Πᾶσι δ’ ὁμοίως καὶ τοῖς ἔχουσι καὶ τοῖς μὴ ἔχουσι τοῦτο τὸ μόριον εἰς τὸ πρόσθεν ἔχει ἡ καρδία τὸ ὀξύ· λάθοι δ’ ἂν πολλάκις διὰ τὸ μεταπίπτειν διαιρουμένων. Τὸ δὲ κυρτὸν αὐτῆς ἐστιν ἄνω. Ἔχει δὲ τὸ ὀξὺ σαρκῶδες ἐπὶ πολὺ καὶ πυκνόν, καὶ ἐν τοῖς κοίλοις αὐτῆς νεῦρα ἔνεστιν.

Κεῖται δὲ τὴν θέσιν ἐν μὲν τοῖς ἄλλοις κατὰ μέσον τὸ στῆθος, ὅσα ἔχει στῆθος, τοῖς δ’ ἀνθρώποις ἐν τοῖς ἀριστεροῖς μᾶλλον, μικρὸν τῆς διαιρέσεως τῶν μαστῶν ἐγκλίνουσα εἰς τὸν ἀριστερὸν μαστὸν ἐν τῷ ἄνω μέρει τοῦ στήθους.

Καὶ οὔτε μεγάλη, τό θ’ ὅλον αὐτῆς εἶδος οὐ πρόμηκές ἐστιν ἀλλὰ στρογγυλώτερον· πλὴν τὸ ἄκρον εἰς ὀξὺ συνῆκται. Ἔχει δὲ κοιλίας τρεῖς, ὥσπερ εἴρηται, μεγίστην μὲν τὴν ἐν τοῖς δεξιοῖς, ἐλαχίστην δὲ τὴν ἐν τοῖς ἀριστεροῖς, μέσην δὲ μεγέθει τὴν ἀνὰ μέσον· καί εἰσιν εἰς τὸν πλεύμονα τετρημέναι πᾶσαι. [Ἀμφοτέρας δ’ ἔχει τὰς δύο μικράς, καὶ τὸν πλεύμονα τετρημένας πάσας]. Κατάδηλον δὲ κατὰ μίαν τῶν κοιλιῶν.

Κάτωθεν δ’ ἐκ τῆς προσφύσεως· κατὰ μὲν τὴν μεγίστην κοιλίαν ἐξήρτηται τῇ μεγάλῃ φλεβί, πρὸς ἣν καὶ τὸ μεσεντέριόν ἐστι, κατὰ δὲ τὴν μέσην τῇ ἀορτῇ.

Φέρουσι δὲ καὶ εἰς τὸν πλεύμονα πόροι ἀπὸ τῆς καρδίας, καὶ σχίζονται τὸν αὐτὸν τρόπον ὄνπερ ἡ ἀρτηρία, κατὰ πάντα τὸν πλεύμονα παρακολουθοῦντες τοῖς ἀπὸ τῆς ἀρτηρίας. Ἐπάνω δ’ εἰσὶν οἱ ἀπὸ τῆς καρδίας· πόρος δ’ οὐδείς ἐστι κοινός, ἀλλὰ διὰ τὴν σύναψιν δέχονται τὸ πνεῦμα καὶ τῇ καρδίᾳ διαπέμπουσιν· φέρει γὰρ ὁ μὲν εἰς τὸ δεξιὸν κοῖλον τῶν πόρων, ὁ δ’ εἰς τὸ ἀριστερόν. Περὶ δὲ τῆς φλεβὸς τῆς μεγάλης καὶ τῆς ἀορτῆς κατ’ αὐτὰς κοινῇ περὶ ἀμφοτέρων ἐροῦμεν ὕστερον.

Αἷμα (496b.) δὲ πλεῖστον μὲν ὁ πλεύμων ἔχει τῶν ἐν τοῖς ζῴοις μορίων τοῖς ἔχουσί τε πλεύμονα καὶ ζῳοτοκοῦσιν ἐν αὑτοῖς τε καὶ ἐκτός· ἅπας μὲν γάρ ἐστι σομφός, παρ’ ἑκάστην δὲ τὴν σύριγγα πόροι Φέρουσι τῆς μεγάλης

Φλεβός. Ἀλλ’ οἱ νομίζοντες εἶναι κενὸν διηπάτηνται, θεωροῦντες τοὺς ἐξῃρημένους ἐκ τῶν διαιρουμένων τῶν ζῴων, ὧν εὐθὺς ἐξελήλυθε τὸ αἷμα ἀθρόον.

Τῶν δ’ ἄλλων σπλάγχνων ἡ καρδία μόνον ἔχει αἷμα. Καὶ ὁ μὲν πλεύμων οὐκ ἐν αὑτῷ ἀλλ’ ἐν ταῖς φλεψίν, ἡ δὲ καρδία ἐν αὑτῇ· ἐν ἑκάστῃ γὰρ ἔχει αἷμα τῶν κοιλιῶν, λεπτότατον δ’ ἐστὶ τὸ ἐν τῇ μέσῃ.

Ὑπὸ δὲ τὸν πλεύμονά ἐστι τὸ διάζωμα τὸ τοῦ θώρακος, αἱ καλούμεναι φρένες, πρὸς μὲν τὰ πλευρὰ καὶ τὰ ὑποχόνδρια καὶ τὴν ῥάχιν συνηρτημέναι, ἐν μέσῳ δ’ ἔχει τὰ λεπτὰ καὶ ὑμενώδη. Ἔχει δὲ δι’ αὐτοῦ καὶ φλέβας τεταμένας· εἰσὶ δ’ αἱ τοῦ ἀνθρώπου φρένες παχεῖαι ὡς κατὰ λόγον τοῦ σώματος.

Ὑπὸ δὲ τὸ διάζωμα ἐν μὲν τοῖς δεξιοῖς κεῖται τὸ ἧπαρ, ἐν δὲ τοῖς ἀριστεροῖς ὁ σπλήν, ὁμοίως ἐν ἅπασι τοῖς ἔχουσι ταῦτα τὰ μόρια κατὰ φύσιν καὶ μὴ τερατωδῶς· ἤδη γὰρ ὦπται μετηλλαχότα τὴν τάξιν ἔν τισι τῶν τετραπόδων. Συνήρτηται δὲ τῇ κοιλίᾳ κατὰ τὸ ἐπίπλοον. Τὴν δ’ ὄψιν ἐστὶν ὁ τοῦ ἀνθρώπου σπλὴν στενὸς καὶ μακρός, ὅμοιος τῷ ὑείῳ. Τὸ δ’ ἧπαρ ὡς μὲν ἐπὶ τὸ πολὺ καὶ ἐν τοῖς πλείστοις ἔχει χολήν, ἐπ’ ἐνίοις δ’ οὐκ ἔπεστιν. Στρογγύλον δ’ ἐστὶ τὸ τοῦ ἀνθρώπου ἧπαρ καὶ ὅμοιον τῷ βοείῳ. Συμβαίνει δὲ τοῦτο καὶ ἐν τοῖς ἱερείοις, οἷον ἐν μὲν τόπῳ τινὶ τῆς ἐν Εὐβοίᾳ Χαλκιδικῆς οὐκ ἔχει τὰ πρόβατα χολήν, ἐν δὲ Νάξῳ πάντα σχεδὸν τὰ τετράποδα τοσαύτην ὥστ’ ἐκπλήττεσθαι τοὺς θύοντας τῶν ξένων, οἰομένους αὑτῶν ἴδιον εἶναι τὸ σημεῖον, ἀλλ’ οὐ φύσιν αὐτῶν εἶναι ταύτην. Προσπέφυκε δὲ τῇ μεγάλῃ φλεβὶ τὸ ἧπαρ, τῇ δ’ ἀορτῇ οὐ κοινωνεῖ· διὰ γὰρ τοῦ ἥπατος διέχει ἡ ἀπὸ τῆς μεγάλης φλεβὸς φλέψ, ᾗ αἱ καλούμεναι πύλαι εἰσὶ τοῦ ἥπατος. Συνήρτηται δὲ καὶ ὁ σπλὴν τῇ μεγάλῃ φλεβὶ μόνον· τείνει γὰρ ἀπ’ αὐτῆς φλὲψ εἰς τὸν σπλῆνα.

Μετὰ δὲ ταῦτα οἱ νεφροὶ πρὸς αὐτῇ τῇ ῥάχει κεῖνται, ὅμοιοι τὴν φύσιν ὄντες τοῖς βοείοις. (497a.) Ἀνώτερος δ’ ὁ δεξιός ἐστιν ἐν πᾶσι τοῖς ζῴοις τοῖς ἔχουσι νεφρούς· καὶ ἐλάττω δὲ πιμελὴν ἔχει τοῦ ἀριστεροῦ καὶ αὐχμηρότερος ὁ δεξιός. Ἐν πᾶσι δ’ ἔχει ὁμοίως τοῖς ἄλλοις καὶ τοῦτο. Φέρουσι δ’ εἰς αὐτοὺς πόροι ἔκ τε τῆς μεγάλης φλεβὸς καὶ τῆς ἀορτῆς, πλὴν οὐκ εἰς τὸ κοῖλον. Ἔχουσι γὰρ οἱ νεφροὶ ἐν μέσῳ κοῖλον, οἱ μὲν μεῖζον οἱ δ’ ἔλαττον, πλὴν οἱ τῆς φώκης· οὗτοι δ’ ὅμοιοι τοῖς βοείοις ὄντες στερεώτατοι πάντων εἰσίν. Οἱ δὲ πόροι οἱ τείνοντες εἰς αὐτοὺς εἰς τὸ σῶμα καταναλίσκονται τῶν νεφρῶν· σημεῖον δ’ ὅτι οὐ περαίνουσι τὸ μὴ ἔχειν αἷμα μηδὲ πήγνυσθαι ἐν αὐτοῖς.

Ἔχουσι δὲ κοιλίαν, ὥσπερ εἴρηται, μικράν. Ἐκ δὲ τοῦ κοίλου τῶν νεφρῶν φέρουσιν εἰς τὴν κύστιν πόροι δύο νεανικοί, καὶ ἄλλοι ἐκ τῆς ἀορτῆς ἰσχυροὶ καὶ συνεχεῖς. Ἐκ μέσου δὲ τῶν νεφρῶν ἑκατέρου φλὲψ κοίλη καὶ νευρώδης ἐξήρτηται, τείνουσα παρ’ αὐτὴν τὴν ῥάχιν διὰ τῶν στενῶν· εἶτα εἰς ἑκάτερον τὸ ἰσχίον ἀφανίζονται, καὶ πάλιν δῆλαι γίνονται τεταμέναι πρὸς τὸ ἰσχίον. Αὗται δ’ αἱ ἀποτομαὶ τῶν φλεβίων εἰς τὴν κύστιν καθήκουσιν. Τελευταία γὰρ ἡ κύστις κεῖται, τὴν μὲν ἐξάρτησιν ἔχουσα τοῖς ἀπὸ τῶν νεφρῶν τεταμένοις πόροις παρὰ τὸν καυλὸν τὸν ἐπὶ τὴν οὐρήθραν τείνοντα, καὶ σχεδὸν πάντῃ κύκλῳ λεπτοῖς καὶ ἰνώδεσιν ὑμενίοις ἐστὶ προσειλημμένη, παραπλησίοις οὖσι τρόπον τινὰ τῷ διαζώματι τοῦ θώρακος. Ἔστι δ’ ἡ τοῦ ἀνθρώπου κύστις ἐπιεικῶς ἔχουσα μέγεθος.

Πρὸς δὲ τὸν καυλὸν τὸν τῆς κύστεως συνήρτηται τὸ αἰδοῖον, τὸ μὲν ἐξωτάτω τρῆμα συνερρωγὸς εἰς ταὐτό, μικρὸν δ’ ὑποκάτω. Τὸ μὲν οὖν εἰς τοὺς ὄρχεις φέρει τῶν τρημάτων, τὸ δ’ εἰς τὴν κύστιν, νευρῶδες καὶ χονδρῶδες ὄν. Τοῦτον δ’ ἐξήρτηνται οἱ ὄρχεις τοῖς ἄρρεσι, περὶ ὧν ἐν τοῖς κοινῇ λεγομένοις διορισθήσεται πῶς ἔχουσιν.

Τὸν αὐτὸν δὲ τρόπον καὶ ἐν τῷ θήλει πάντα πέφυκεν· διαφέρει γὰρ οὐδενὶ τῶν ἔσω πλὴν ταῖς ὑστέραις, ὧν ἡ μὲν ὄψις θεωρείσθω ἐκ τῆς διαγραφῆς τῆς ἐν ταῖς ἀνατομαῖς, ἡ δὲ θέσις ἐστὶν ἐπὶ τοῖς ἐντέροις· ἐπὶ δὲ τῆς ὑστέρας ἡ κύστις. Λεκτέον δὲ καὶ περὶ ὑστερῶν κοινῇ πασῶν ἐν τοῖς ἑπομένοις· οὔτε γὰρ ὅμοιαι πᾶσιν οὔθ’ ὁμοίως ἔχουσιν.

(497b.) Τὰ μὲν οὖν μόρια καὶ τὰ ἐντὸς καὶ τὰ ἐκτὸς τοῦ ἀνθρώπου ταῦτα καὶ τοιαῦτα, καὶ τοῦτον ἔχει τὸν τρόπον.

Βιβλίο 2

Κεφάλαιο 1

Τῶν δ’ ἄλλων ζῴων τὰ μόρια τὰ μὲν κοινὰ πάντων ἐστίν, ὥσπερ εἴρηται πρότερον, τὰ δὲ γενῶν τινων. Ταὐτὰ δὲ καὶ ἕτερά ἐστιν ἀλλήλων τὸν ἤδη πολλάκις εἰρημένον τρόπον. Σχεδὸν γὰρ ὅσα γ’ ἐστὶ γένει ἕτερα τῶν ζῴων, καὶ τὰ πλεῖστα τῶν μερῶν ἔχει ἕτερα τῷ εἴδει, καὶ τὰ μὲν κατ’ ἀναλογίαν ἀδιάφορα μόνον, τῷ γένει δ’ ἕτερα, τὰ δὲ τῷ γένει μὲν ταὐτὰ τῷ εἴδει δ’ ἕτερα· πολλὰ δὲ τοῖς μὲν ὑπάρχει, τοῖς δ’ οὐχ ὑπάρχει.

Τὰ μὲν οὖν τετράποδα καὶ ζῳοτόκα κεφαλὴν μὲν ἔχει καὶ αὐχένα καὶ τὰ ἐν τῇ κεφαλῇ μόρια ἅπαντα, διαφέρει δὲ τὰς μορφὰς τῶν μορίων ἕκαστον. Καὶ ὅ γε λέων τὸ τοῦ αὐχένος ἔχει ἓν ὀστοῦν, σφονδύλους δ’ οὐκ ἔχει· τὰ δ’ ἐντὸς ἀνοιχθεὶς ὅμοια πάντ’ ἔχει κυνί. Ἔχει δὲ τὰ τετράποδα ζῷα καὶ ζῳοτόκα ἀντὶ τῶν βραχιόνων σκέλη πρόσθια, πάντα μὲν τὰ τετράποδα, μάλιστα δ’ ἀνάλογα ταῖς χερσὶ τὰ πολυσχιδῆ αὐτῶν· χρῆται γὰρ πρὸς πολλὰ ὡς χερσίν. Καὶ τὰ ἀριστερὰ δ’ ἧττον ἔχει ἀπολελυμένα τῶν ἀνθρώπων, πλὴν ἐλέφαντος. Οὗτος δὲ τά τε περὶ τοὺς δακτύλους ἀδιαρθρωτότερα ἔχει τῶν ποδῶν, καὶ τὰ πρόσθια σκέλη πολλῷ μείζω. Ἔστι δὲ πενταδάκτυλον, καὶ πρὸς τοῖς ὀπισθίοις σκέλεσι σφυρὰ ἔχει βραχέα. Ἔχει δὲ μυκτῆρα τοιοῦτον καὶ τηλικοῦτον ὥστε ἀντὶ χειρῶν ἔχειν αὐτόν· πίνει γὰρ καὶ ἐσθίει ὀρέγων τούτῳ εἰς τὸ στόμα, καὶ τῷ ἐλεφαντιστῇ ἀνορέγει ἄνω. Τούτῳ καὶ δένδρα ἀνασπᾷ, καὶ διὰ τοῦ ὕδατος βαδίζων τούτῳ ἀναφυσᾷ. Τῷ δ’ ἄκρῳ ἐγκλίνει, οὐ κάμπτεται δέ· χονδρῶδες γὰρ ἔχει. Μόνον δὲ καὶ ἀμφιδέξιον γίνεται τῶν ἄλλων ζῴων ἄνθρωπος.

Τῷ δὲ στήθει τῷ τοῦ ἀνθρώπου πάντα τὰ ζῷα ἀνάλογον ἔχει τοῦτο τὸ μόριον, ἀλλ’ οὐχ ὅμοιον· ὁ μὲν γὰρ πλατὺ τὸ στῆθος, τὰ δ’ ἄλλα στενόν. Μαστοὺς δ’ οὐκ ἔχει οὐδὲν ἐν τῷ πρόσθεν ἀλλ’ ἢ ἄνθρωπος· ὁ δ’ ἐλέφας ἔχει (498a.) μὲν μαστοὺς δύο, ἀλλ’ οὐκ ἐν τῷ στήθει ἀλλὰ πρὸς τῷ στήθει.

Τὰς δὲ κάμψεις τῶν κώλων καὶ τῶν ἔμπροσθεν καὶ τῶν ὄπισθεν ὑπεναντίας ἔχουσι καὶ ἑαυταῖς καὶ ταῖς τοῦ ἀνθρώπου καμπαῖς, πλὴν ἐλέφαντος. Τοῖς μὲν γὰρ ζῳοτόκοις τῶν τετραπόδων κάμπτεται τὰ μὲν πρόσθια εἰς τὸ πρόσθεν τὰ δ’ ὀπίσθια εἰς τοὔπισθεν, καὶ ἔχουσι τὰ κοῖλα τῆς περιφερείας πρὸς ἄλληλα ἀντεστραμμένα· ὁ δ’ ἐλέφας οὐχ ὥσπερ ἔλεγόν τινες, ἀλλὰ συγκαθίζει καὶ κάμπτει τὰ σκέλη, πλὴν οὐ δύναται διὰ τὸ βάρος ἐπ’ ἀμφότερα ἅμα, ἀλλ’ ἀνακλίνεται ἢ ἐπὶ τὰ εὐώνυμα ἢ ἐπὶ τὰ δεξιά, καὶ καθεύδει ἐν τούτῳ τῷ σχήματι, κάμπτει δὲ τὰ ὀπίσθια σκέλη ὥσπερ ἄνθρωπος.

Τοῖς ᾠοτόκοις δέ, ὥσπερ κροκοδείλῳ καὶ σαύρᾳ καὶ τοῖς ἄλλοις τοῖς τοιούτοις ἅπασιν, ἀμφότερα τὰ σκέλη καὶ τὰ πρόσθια καὶ τὰ ὀπίσθια εἰς τὸ πρόσθεν κάμπτεται, μικρὸν εἰς τὸ πλάγιον παρεγκλίνοντα. Ὁμοίως δὲ καὶ τοῖς ἄλλοις τοῖς πολύποσιν· πλὴν τὰ μεταξὺ τῶν ἐσχάτων ἀεὶ ἐπαμφοτερίζει καὶ τὴν κάμψιν ἔχει εἰς τὸ πλάγιον μᾶλλον. Ὁ δ’ ἄνθρωπος ἄμφω τὰς καμπὰς τῶν κώλων ἐπὶ ταὐτὸ ἔχει καὶ ἐξ ἐναντίας· τοὺς μὲν γὰρ βραχίονας εἰς τοὔπισθεν κάμπτει, πλὴν μικρὸν βεβλαίσωται ἐπὶ τὰ πλάγια τὰ ἐντός, τὰ δὲ σκέλη εἰς τοὔμπροσθεν. Εἰς δὲ τὸ ὄπισθεν τά τε πρόσθια καὶ τὰ ὀπίσθια οὐδὲν κάμπτει τῶν ζῴων. Ἐναντίως δὲ τοῖς ἀγκῶσι καὶ τοῖς προσθίοις σκέλεσιν ἡ τῶν ὤμων ἔχει καμπὴ πᾶσι, καὶ τῶν ὄπισθεν γονάτων ἡ τῶν ἰσχίων, ὥστ’ ἐπεὶ ὁ ἄνθρωπος τοῖς ἄλλοις ἐναντίως κάμπτει, καὶ οἱ ταὔτ’ ἔχοντες ἐναντίως.

Παραπλησίους δὲ τὰς καμπὰς ἔχει καὶ ὁ ὄρνις τοῖς τετράποσι ζῴοις· δίπους γὰρ ὢν τὰ μὲν σκέλη εἰς τὸ ὄπισθεν κάμπτει, ἀντὶ δὲ βραχιόνων καὶ σκελῶν τῶν ἔμπροσθεν πτέρυγας ἔχει, ὧν ἡ κάμψις ἐστὶν εἰς τὸ πρόσθεν. Ἡ δὲ φώκη ὥσπερ πεπηρωμένον τετράπουν ἐστίν· εὐθὺς γὰρ ἔχει μετὰ τὴν ὠμοπλάτην τοὺς πόδας ὁμοίους χερσίν, ὥσπερ καὶ οἱ τῆς ἄρκτου· πενταδάκτυλοι γάρ εἰσι, καὶ ἕκαστος τῶν (498b.) δακτύλων καμπὰς ἔχει τρεῖς καὶ ὄνυχα οὐ μέγαν· οἱ δ’ ὀπίσθιοι πόδες πενταδάκτυλοι μέν εἰσι, καὶ τὰς καμπὰς καὶ τοὺς ὄνυχας ὁμοίους ἔχουσι τοῖς προσθίοις, τῷ δὲ σχήματι παραπλήσιοι ταῖς τῶν ἰχθύων οὐραῖς εἰσιν.

Αἱ δὲ κινήσεις τῶν ζῴων τῶν μὲν τετραπόδων καὶ πολυπόδων κατὰ διάμετρόν εἰσι, καὶ ἑστᾶσιν οὕτως· ἡ δ’ ἀρχὴ ἀπὸ τῶν δεξιῶν πᾶσιν. Κατὰ σκέλος δὲ βαδίζουσιν ὅ τε λέων καὶ αἱ κάμηλοι ἀμφότεραι, αἵ τε Βακτριαναὶ καὶ αἱ Ἀράβιαι. Τὸ δὲ κατὰ σκέλος ἐστὶν ὅτε οὐ προβαίνει τῷ ἀριστερῷ τὸ δεξιόν, ἀλλ’ ἐπακολουθεῖ.

Ἔχουσι δὲ τὰ τετράποδα ζῷα, ὅσα μὲν ὁ ἄνθρωπος μόρια ἔχει ἐν τῷ πρόσθεν, κάτω ἐν τοῖς ὑπτίοις, τὰ δ’ ὀπίσθια ἐν τοῖς πρανέσιν. Ἔτι δὲ τὰ πλεῖστα κέρκον ἔχει· καὶ γὰρ ἡ φώκη μικρὰν ἔχει, ὁμοίαν τῇ τοῦ ἐλάφου. Περὶ δὲ τῶν πιθηκοειδῶν ζῴων ὕστερον διορισθήσεται. Πάντα δ’ ὅσα τετράποδα καὶ ζῳοτόκα, δασέα ὡς εἰπεῖν ἐστι, καὶ οὐχ ὥσπερ ὁ ἄνθρωπος ὀλιγότριχον καὶ μικρότριχον πλὴν τῆς κεφαλῆς, τὴν δὲ κεφαλὴν δασύτατον τῶν ζῴων. Ἔτι δὲ τῶν μὲν ἄλλων ζῴων τῶν ἐχόντων τρίχας τὰ πρανῆ δασύτερα, τὰ δ’ ὕπτια ἢ λεῖα πάμπαν ἢ ἧττον δασέα· ὁ δ’ ἄνθρωπος τοὐναντίον. Καὶ βλεφαρίδας ὁ μὲν ἄνθρωπος ἐπ’ ἄμφω ἔχει, καὶ ἐν μασχάλαις ἔχει τρίχας καὶ ἐπὶ τῆς ἥβης· τῶν δ’ ἄλλων οὐδὲν οὔτε τούτων οὐδέτερον οὔτε τὴν κάτω βλεφαρίδα, ἀλλὰ κάτωθεν τοῦ βλεφάρου ἐνίοις μαναὶ τρίχες πεφύκασιν.

Αὐτῶν δὲ τῶν τετραπόδων καὶ τρίχας ἐχόντων τῶν μὲν ἅπαν τὸ σῶμα δασύ, καθάπερ ὑὸς καὶ ἄρκτου καὶ κυνός· τὰ δὲ δασύτερα τὸν αὐχένα ὁμοίως πάντῃ, οἷον ὅσα χαίτην ἔχει, ὥσπερ λέων· τὰ δ’ ἐπὶ τῷ πρανεῖ τοῦ αὐχένος ἀπὸ τῆς κεφαλῆς μέχρι τῆς ἀκρωμίας, οἷον ὅσα λοφιὰν ἔχει, ὥσπερ ἵππος καὶ ὀρεὺς καὶ τῶν ἀγρίων καὶ κερατοφόρων βόνασος. Ἔχει δὲ καὶ ὁ ἱππέλαφος καλούμενος ἐπὶ τῇ ἀκρωμίᾳ χαίτην καὶ τὸ θηρίον τὸ πάρδιον ὀνομαζόμενον· ἀπὸ δὲ τῆς κεφαλῆς ἐπὶ τὴν ἀκρωμίαν λεπτὴν ἑκάτερον· ἰδίᾳ δ’ ὁ ἱππέλαφος πώγωνα (499a.) ἔχει κατὰ τὸν λάρυγγα. Ἔστι δ’ ἀμφότερα κερατοφόρα καὶ διχαλά· ἡ δὲ θήλεια ἱππέλαφος οὐκ ἔχει κέρατα. Τὸ δὲ μέγεθός ἐστι τούτου τοῦ ζῴου ἐλάφῳ προσεμφερές. Γίνονται δ’ οἱ ἱππέλαφοι ἐν Ἀραχώταις, οὗπερ καὶ οἱ βόες οἱ ἄγριοι. Διαφέρουσι δ’ οἱ ἄγριοι τῶν ἡμέρων ὅσον περ οἱ ὕες οἱ ἄγριοι πρὸς τοὺς ἡμέρους· μέλανές τε γάρ εἰσι καὶ ἰσχυροὶ τῷ εἴδει καὶ ἐπίγρυποι, τὰ δὲ κέρατα ἐξυπτιάζοντα ἔχουσι μᾶλλον· τὰ δὲ τῶν ἱππελάφων κέρατα παραπλήσια τοῖς τῆς δορκάδος εἰσίν. Ὁ δ’ ἐλέφας ἥκιστα δασύς ἐστι τῶν τετραπόδων. Ἀκολουθοῦσι δὲ κατὰ τὸ σῶμα καὶ αἱ κέρκοι δασύτητι καὶ ψιλότητι, ὅσων αἱ κέρκοι μέγεθος ἔχουσιν· ἔνια γὰρ μικρὰν ἔχει πάμπαν.

Αἱ δὲ κάμηλοι ἴδιον ἔχουσι παρὰ τἆλλα τετράποδα τὸν καλούμενον ὕβον ἐπὶ τῷ νώτῳ. Διαφέρουσι δ’ αἱ Βάκτριαι τῶν Ἀραβίων· αἱ μὲν γὰρ δύο ἔχουσιν ὕβους, αἱ δ’ ἕνα μόνον, ἄλλον δ’ ἔχουσιν ὕβον τοιοῦτον οἷον ἄνω ἐν τοῖς κάτω, ἐφ’ οὗ, ὅταν κατακλιθῇ εἰς γόνατα, ἐστήρικται τὸ ἄλλο σῶμα. Θηλὰς μὲν οὖν ἔχει τέτταρας ἡ κάμηλος ὥσπερ βοῦς, καὶ κέρκον ὁμοίαν ὄνῳ, τὸ δ’ αἰδοῖον ὄπισθεν. Καὶ γόνυ δ’ ἔχει ἐν ἑκάστῳ τῷ σκέλει ἕν, καὶ τὰς καμπὰς οὐ πλείους, ὥσπερ λέγουσί τινες, ἀλλὰ φαίνεται διὰ τὴν ὑπόσταλσιν τῆς κοιλίας. Καὶ ἀστράγαλον ὅμοιον μὲν βοΐ, ἰσχνὸν δὲ καὶ μικρὸν ὡς κατὰ τὸ μέγεθος. Ἔστι δὲ διχαλὸν καὶ οὐκ ἄμφωδον, διχαλὸν δ’ ὧδε. Ἐκ μὲν τοῦ ὄπισθεν μικρὸν ἔσχισται μέχρι τῆς δευτέρας καμπῆς τῶν δακτύλων· τὰ δ’ ἔμπροσθεν ἔσχισται μικρόν, ὅσον ἄχρι τῆς πρώτης καμπῆς τῶν δακτύλων ἐπ’ ἄκρῳ, τέτταρα· καὶ ἔστι τι καὶ διὰ μέσου τῶν σχισμάτων, ὥσπερ τοῖς χησίν. Ὁ δὲ πούς ἐστι κάτωθεν σαρκώδης, ὥσπερ καὶ οἱ τῶν ἄρκτων· διὸ καὶ τὰς εἰς πόλεμον ἰούσας ὑποδοῦσι καρβατίναις, ὅταν ἀλγήσωσιν.

Πάντα δὲ τὰ τετράποδα ὀστώδη τὰ σκέλη ἔχει καὶ νευρώδη καὶ ἄσαρκα·

ὅλως δὲ καὶ τἆλλα ζῷα ἅπαντα, (499b.) ὅσα ἔχει πόδας, ἐκτὸς ἀνθρώπου. Ἔτι δ’ ἀνίσχια· καὶ γὰρ οἱ ὄρνιθες ἔτι μᾶλλον τοῦτο πεπόνθασιν. Ὁ δ’ ἄνθρωπος τοὐναντίον· σαρκώδη γὰρ ἔχει σχεδὸν μάλιστα τοῦ σώματος τὰ ἰσχία καὶ τοὺς μηροὺς καὶ τὰς κνήμας· αἱ γὰρ καλούμεναι γαστροκνημίαι ἐν ταῖς κνήμαις εἰσὶ σαρκώδεις.

Τῶν δὲ τετραπόδων καὶ ἐναίμων καὶ ζῳοτόκων τὰ μέν ἐστι πολυσχιδῆ, ὥσπερ αἱ τοῦ ἀνθρώπου χεῖρες καὶ οἱ πόδες (πολυδάκτυλα γὰρ ἔνιά ἐστιν, οἷον λέων, κύων, πάρδαλις), τὰ δὲ δισχιδῆ, καὶ ἀντὶ τῶν ὀνύχων χηλὰς ἔχει, ὥσπερ πρόβατον καὶ αἲξ καὶ ἔλαφος καὶ ἵππος ὁ ποτάμιος· τὰ δ’ ἀσχιδῆ, οἷον τὰ μώνυχα, ὥσπερ ἵππος καὶ ὀρεύς. Τὸ δὲ τῶν ὑῶν γένος ἐπαμφοτερίζει· εἰσὶ γὰρ καὶ ἐν Ἰλλυριοῖς καὶ ἐν Παιονίᾳ καὶ ἄλλοθι μώνυχες ὕες. Τὰ μὲν οὖν διχαλὰ δύο ἔχει σχίσεις ὄπισθεν· τοῖς δὲ μώνυξι τοῦτ’ ἐστὶ συνεχές.

Ἔστι δὲ καὶ τὰ μὲν κερατοφόρα τῶν ζῴων τὰ δ’ ἄκερα. Τὰ μὲν οὖν πλεῖστα τῶν ἐχόντων κέρατα διχαλὰ κατὰ φύσιν ἐστίν, οἷον βοῦς καὶ ἔλαφος καὶ αἴξ· μώνυχον δὲ καὶ δίκερων οὐδὲν ὦπται. Μονοκέρατα δὲ καὶ μώνυχα ὀλίγα, οἷον ὁ Ἰνδικὸς ὄνος. Μονόκερων δὲ καὶ διχαλὸν ὄρυξ. Καὶ ἀστράγαλον δ’ ὁ Ἰνδικὸς ὄνος ἔχει τῶν μωνύχων μόνον· ἡ γὰρ ὗς, ὥσπερ ἐλέχθη πρότερον, ἐπαμφοτερίζει, διὸ καὶ οὐ καλλιαστράγαλόν ἐστιν. Τῶν δὲ διχαλῶν πολλὰ ἔχει ἀστράγαλον. Πολυσχιδὲς δ’ οὐδὲν ὦπται τοιοῦτον ἔχον ἀστράγαλον, ὥσπερ οὐδ’ ἄνθρωπος, ἀλλ’ ἡ μὲν λὺγξ ὅμοιον ἡμιαστραγαλίῳ, ὁ δὲ λέων, οἷόν περ πλάττουσι, λαβυρινθώδη. Πάντα δὲ τὰ ἔχοντα ἀστραγάλους ἐν τοῖς ὄπισθεν ἔχει σκέλεσιν. Ἔχει δ’ ὀρθὸν τὸν ἀστράγαλον ἐν τῇ καμπῇ, τὸ μὲν πρανὲς ἔξω, τὸ δ’ ὕπτιον εἴσω, καὶ τὰ μὲν κῷα ἐντὸς ἐστραμμένα πρὸς ἄλληλα, τὰ δὲ χῖα καλούμενα ἔξω, καὶ τὰς κεραίας ἄνω. Ἡ μὲν οὖν θέσις τῶν ἀστραγάλων τοῖς ἔχουσι πᾶσι τοῦτον ἔχει τὸν τρόπον.

Διχαλὰ δ’ ἅμα καὶ χαίτην ἔχοντα καὶ κέρατα δύο κεκαμμένα εἰς αὑτά ἐστιν (500a.) ἔνια τῶν ζῴων, οἷον ὁ βόνασος, ὃς γίνεται περὶ τὴν Παιονίαν καὶ τὴν Μαιδικήν. Πάντα δ’ ὅσα κερατοφόρα, τετράποδά ἐστιν, εἰ μή τι κατὰ μεταφορὰν λέγεται ἔχειν κέρας καὶ λόγου χάριν, ὥσπερ τοὺς περὶ Θήβας ὄφεις οἱ Αἰγύπτιοί φασιν, ἔχοντας ἐπανάστασιν ὅσον προφάσεως χάριν.

Τῶν δ’ ἐχόντων κέρας δι’ ὅλου μὲν ἔχει στερεὸν μόνον ἔλαφος, τὰ δ’ ἄλλα κοῖλα μέχρι τινός, τὸ δ’ ἔσχατον στερεόν. Τὸ μὲν οὖν κοῖλον ἐκ τοῦ δέρματος πέφυκε μᾶλλον· ὃ δὲ περὶ τοῦτο περιήρμοσται τὸ στερεὸν ἐκ τῶν ὀστῶν, οἷον τὰ κέρατα τῶν βοῶν. Ἀποβάλλει δὲ τὰ κέρατα μόνον ἔλαφος κατ’ ἔτος, ἀρξάμενος ἀπὸ διετοῦς, καὶ πάλιν φύει· τὰ δ’ ἄλλα συνεχῶς ἔχει, ἐὰν μή τι βίᾳ πηρωθῇ.

Ἔτι δὲ περί τε τοὺς μαστοὺς ὑπεναντίως ἐν τοῖς ἄλλοις ζῴοις ὑπάρχει πρὸς αὑτά τε καὶ πρὸς τὸν ἄνθρωπον, καὶ περὶ τὰ ὄργανα τὰ χρήσιμα πρὸς τὴν ὀχείαν. Τὰ μὲν γὰρ ἔμπροσθεν ἔχει τοὺς μαστοὺς ἐν τῷ στήθει ἢ πρὸς τῷ στήθει, καὶ δύο μαστοὺς καὶ δύο θηλάς, ὥσπερ ἄνθρωπος καὶ ἐλέφας, καθάπερ εἴρηται πρότερον. Καὶ γὰρ ὁ ἐλέφας ἔχει τοὺς μαστοὺς δύο περὶ τὰς μασχάλας· ἔχει δ’ ἡ θήλεια τοὺς μαστοὺς μικροὺς παντελῶς καὶ οὐ κατὰ λόγον τοῦ σώματος, ὥστ’ ἐκ τοῦ πλαγίου μὴ πάνυ ὁρᾶν· ἔχουσι δὲ καὶ οἱ ἄρρενες μαστούς, ὥσπερ αἱ θήλειαι, μικροὺς παντελῶς. Ἡ δ’ ἄρκτος τέτταρας. Τὰ δὲ δύο μὲν μαστοὺς ἔχει, ἐν τοῖς μηροῖς δ’ ἔχει, καὶ τὰς θηλὰς δύο, ὥσπερ πρόβατον· τὰ δὲ τέτταρας θηλάς, ὥσπερ βοῦς. Τὰ δ’ οὔτ’ ἐν τῷ στήθει ἔχει τοὺς μαστοὺς οὔτ’ ἐν τοῖς μηροῖς, ἀλλ’ ἐν τῇ γαστρί, οἷον κύων καὶ ὗς, καὶ πολλούς, οὐ πάντας δ’ ἴσους. Τὰ μὲν οὖν ἄλλα πλείους ἔχει, ἡ δὲ πάρδαλις τέτταρας ἐν τῇ γαστρί, ἡ δὲ λέαινα δύο ἐν τῇ γαστρί. Ἔχει δὲ καὶ ἡ κάμηλος μαστοὺς δύο καὶ θηλὰς τέτταρας, ὥσπερ ὁ βοῦς. Τῶν δὲ μωνύχων τὰ ἄρρενα οὐκ ἔχουσι μαστούς, πλὴν ὅσα ἐοίκασι τῇ μητρί, ὅπερ συμβαίνει ἐπὶ τῶν ἵππων.

Τὰ δ’ αἰδοῖα τῶν μὲν ἀρρένων τὰ μὲν ἔξω ἔχει, οἷον ἄνθρωπος καὶ ἵππος καὶ ἄλλα πολλά, τὰ δ’ ἐντός, (500b.) ὥσπερ δελφίς· καὶ τῶν ἔξω δ’ ἐχόντων τὰ μὲν εἰς τὸ πρόσθεν, ὥσπερ καὶ τὰ εἰρημένα, καὶ τούτων τὰ μὲν ἀπολελυμένα καὶ τὸ αἰδοῖον καὶ τοὺς ὄρχεις, ὥσπερ ἄνθρωπος, τὰ δὲ πρὸς τῇ γαστρὶ καὶ τοὺς ὄρχεις καὶ τὸ αἰδοῖον, καὶ τὰ μὲν μᾶλλον τὰ δ’ ἧττον ἀπολελυμένα· οὐ γὰρ ὡσαύτως ἀπολέλυται κάπρῳ καὶ ἵππῳ τοῦτο τὸ μόριον. Ἔχει δὲ καὶ ὁ ἐλέφας τὸ αἰδοῖον ὅμοιον μὲν ἵππῳ, μικρὸν δὲ καὶ οὐκ ἀνὰ λόγον τοῦ σώματος, τοὺς δ’ ὄρχεις οὐκ ἔξω φανερούς, ἀλλ’ ἐντὸς περὶ τοὺς νεφρούς· διὸ καὶ ἐν τῇ ὀχείᾳ ἀπαλλάττεται ταχέως. Ἡ δὲ θήλεια τὸ αἰδοῖον ἔχει ἐν τῷ τόπῳ οὗ τὰ οὔθατα τῶν προβάτων ἐστίν· ὅταν δ’ ὀργᾷ ὀχεύεσθαι, ἀνασπᾷ ἄνω καὶ ἐκτρέπει πρὸς τὸν ἔξω τόπον, ὥστε ῥᾳδίαν εἶναι τῷ ἄρρενι τὴν ὀχείαν· ἀνέρρωγε δ’ ἐπιεικῶς ἐπὶ πολὺ τὸ αἰδοῖον.

Τοῖς μὲν οὖν πλείστοις αὐτῶν τὰ αἰδοῖα τοῦτον ἔχει τὸν τρόπον· ἔνια δ’ ὀπισθουρητικά ἐστιν, οἷον λὺγξ καὶ λέων καὶ κάμηλος καὶ δασύπους. Τὰ μὲν οὖν ἄρρενα ὑπεναντίως ἔχει ἀλλήλοις, καθάπερ εἴρηται, τὰ δὲ θήλεα πάντα ὀπισθουρητικά ἐστιν· καὶ γὰρ ὁ θῆλυς ἐλέφας ἔχει τὰ αἰδοῖα ὑπὸ τοῖς μηροῖς, καθάπερ καὶ τἆλλα.

Τῶν δ’ αἰδοίων διαφορὰ πολλή ἐστιν. Τὰ μὲν γὰρ ἔχει χονδρῶδες τὸ αἰδοῖον καὶ σαρκῶδες, ὥσπερ ἄνθρωπος· τὸ μὲν οὖν σαρκῶδες οὐκ ἐμφυσᾶται, τὸ δὲ χονδρῶδες ἔχει αὔξησιν. Τὰ δὲ νευρώδη, οἷον καμήλου καὶ ἐλάφου, τὰ δ’ ὀστώδη, ὥσπερ ἀλώπεκος καὶ λύκου καὶ ἴκτιδος καὶ γαλῆς· καὶ γὰρ ἡ γαλῆ ὀστοῦν ἔχει τὸ αἰδοῖον.

Πρὸς δὲ τούτοις ὁ μὲν ἄνθρωπος τελειωθεὶς τὰ ἄνω ἔχει ἐλάττω τῶν κάτωθεν, τὰ δ’ ἄλλα ζῷα, ὅσα ἔναιμα, τοὐναντίον. Λέγομεν δ’ ἄνω τὸ ἀπὸ κεφαλῆς μέχρι τοῦ μορίου ᾗ ἡ τοῦ περιττώματός ἐστιν ἔξοδος, κάτω δὲ τὸ ἀπὸ τούτου λοιπόν. Τοῖς μὲν οὖν ἔχουσι πόδας τὸ ὀπίσθιόν ἐστι σκέλος τὸ κάτωθεν μέρος πρὸς τὸ μέγεθος, τοῖς δὲ μὴ ἔχουσιν οὐραὶ καὶ κέρκοι καὶ τὰ τοιαῦτα.

Τελειούμενα μὲν οὖν τοιαῦτ’ ἐστίν, ἐν δὲ τῇ αὐξήσει διαφέρει· ὁ μὲν γὰρ ἄνθρωπος μείζω τὰ ἄνω ἔχει νέος ὢν ἢ τὰ κάτω, αὐξανόμενος δὲ μεταβάλλει (501a.) τοὐναντίον (διὸ καὶ μόνον οὐ τὴν αὐτὴν κίνησιν ποιεῖται τῆς πορείας νέος ὢν καὶ τελειωθείς, ἀλλὰ τὸ πρῶτον παιδίον ὂν ἕρπει τετραποδίζον), τὰ δ’ ἀνὰ λόγον ἀποδίδωσι τὴν αὔξησιν, οἷον κύων. Ἔνια δὲ τὸ πρῶτον ἐλάττω τὰ ἄνω, τὰ δὲ κάτω μείζω ἔχει, αὐξανόμενα δὲ τὰ ἄνω γίνεται μείζω, ὥσπερ τὰ λοφοῦρα· τούτων γὰρ οὐδὲν γίνεται μεῖζον ὕστερον τὸ ἀπὸ τῆς ὁπλῆς μέχρι τοῦ ἰσχίου.

Ἔστι δὲ καὶ περὶ τοὺς ὀδόντας πολλὴ διαφορὰ τοῖς ἄλλοις ζῴοις καὶ πρὸς αὑτὰ καὶ πρὸς ἄνθρωπον. Ἔχει μὲν γὰρ πάντα ὀδόντας ὅσα τετράποδα καὶ ἔναιμα καὶ ζῳοτόκα, ἀλλὰ πρῶτον τὰ μέν ἐστιν ἀμφώδοντα, τὰ δ’ οὐκ ἀμφώδοντα. Ὅσα μὲν γάρ ἐστι κερατοφόρα, οὐκ ἀμφώδοντα· οὐ γὰρ ἔχει τοὺς προσθίους ὀδόντας ἐπὶ τῆς ἄνω σιαγόνος.

Ἔστι δ’ ἔνια οὐκ ἀμφώδοντα καὶ ἀκέρατα, οἷον κάμηλος. Καὶ τὰ μὲν χαυλιόδοντας ἔχει, ὥσπερ οἱ ἄρρενες ὕες, τὰ δ’ οὐκ ἔχει. Ἔτι δὲ τὰ μέν ἐστι καρχαρόδοντα αὐτῶν, οἷον λέων καὶ πάρδαλις καὶ κύων, τὰ δ’ ἀνεπάλλακτα, οἷον ἵππος καὶ βοῦς· καρχαρόδοντα γάρ ἐστιν ὅσα ἐπαλλάττει τοὺς ὀδόντας τοὺς ὀξεῖς. Ἅμα δὲ χαυλιόδοντα καὶ κέρας οὐδὲν ἔχει ζῷον, οὐδὲ καρχαρόδουν καὶ τούτων θάτερον. Τὰ δὲ πλεῖστα τοὺς προσθίους ἔχει ὀξεῖς, τοὺς δ’ ἐντὸς πλατεῖς. Ἡ δὲ φώκη καρχαρόδουν ἐστὶ πᾶσι τοῖς ὀδοῦσιν, ὡς ἐπαλλάττουσα τῷ γένει τῶν ἰχθύων· οἱ γὰρ ἰχθύες πάντες σχεδὸν καρχαρόδοντές εἰσιν.

Διστοίχους δ’ ὀδόντας οὐδὲν ἔχει τούτων τῶν γενῶν. Ἔστι δέ τι, εἰ δεῖ πιστεῦσαι Κτησίᾳ· ἐκεῖνος γὰρ τὸ ἐν Ἰνδοῖς θηρίον, ᾧ ὄνομα εἶναι μαρτιχόραν, τοῦτ’ ἔχειν ἐπ’ ἀμφότερά φησι τριστοίχους τοὺς ὀδόντας· εἶναι δὲ μέγεθος μὲν ἡλίκον λέοντα καὶ δασὺ ὁμοίως, καὶ πόδας ἔχειν ὁμοίους, πρόσωπον δὲ καὶ ὦτα ἀνθρωποειδές, τὸ δ’ ὄμμα γλαυκόν, τὸ δὲ χρῶμα κινναβάρινον, τὴν δὲ κέρκον ὁμοίαν τῇ τοῦ σκορπίου τοῦ χερσαίου, ἐν ᾗ κέντρον ἔχειν καὶ τὰς ἀποφυάδας ἀπακοντίζειν, φθέγγεσθαι δ’ ὅμοιον φωνῇ ἅμα σύριγγος καὶ σάλπιγγος, ταχὺ δὲ θεῖν οὐχ ἧττον τῶν (501b.) ἐλάφων, καὶ εἶναι ἄγριον καὶ ἀνθρωποφάγον.

Ἄνθρωπος μὲν οὖν βάλλει τοὺς ὀδόντας, βάλλει δὲ καὶ ἄλλα τῶν ζῴων, οἷον ἵππος καὶ ὀρεὺς καὶ ὄνος. Βάλλει δ’ ἄνθρωπος τοὺς προσθίους, τοὺς δὲ γομφίους οὐδὲν βάλλει τῶν ζῴων. Ὗς δ’ ὅλως οὐδένα βάλλει τῶν ὀδόντων.

Κεφάλαιο 2

Περὶ δὲ τῶν κυνῶν ἀμφισβητεῖται, καὶ οἱ μὲν ὅλως οὐκ οἴονται βάλλειν οὐδένα αὐτούς, οἱ δὲ τοὺς κυνόδοντας μόνον· ὦπται δ’ ὅτι βάλλει καθάπερ καὶ ἄνθρωπος, ἀλλὰ λανθάνει διὰ τὸ μὴ βάλλειν πρότερον πρὶν ὑποφυῶσιν ἐντὸς ἴσοι. Ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν ἀγρίων εἰκὸς συμβαίνειν, ἐπεὶ λέγονταί γε τοὺς κυνόδοντας μόνον βάλλειν. Τοὺς δὲ κύνας διαγινώσκουσι τοὺς νεωτέρους καὶ πρεσβυτέρους ἐκ τῶν ὀδόντων· οἱ μὲν γὰρ νέοι λευκοὺς ἔχουσι καὶ ὀξεῖς τοὺς ὀδόντας, οἱ δὲ πρεσβύτεροι μέλανας καὶ ἀμβλεῖς.

Κεφάλαιο 3

Ἐναντίως δὲ πρὸς τἆλλα ζῷα καὶ ἐπὶ τῶν ἵππων συμβαίνει· τὰ μὲν γὰρ ἄλλα ζῷα πρεσβύτερα γινόμενα μελαντέρους ἔχει τοὺς ὀδόντας, ὁ δ' ἵππος λευκοτέρους.

Ὁρίζουσι δὲ τούς τε ὀξεῖς καὶ τοὺς πλατεῖς οἱ καλούμενοι κυνόδοντες, ἀμφοτέρων μετέχοντες τῆς μορφῆς· κάτωθεν μὲν γὰρ πλατεῖς, ἄνωθεν δ' εἰσὶν ὀξεῖς.

Ἔχουσι δὲ πλείους οἱ ἄρρενες τῶν θηλειῶν ὀδόντας καὶ ἐν ἀνθρώποις καὶ ἐπὶ προβάτων καὶ αἰγῶν καὶ ὑῶν· ἐπὶ δὲ τῶν ἄλλων οὐ τεθεώρηταί πω.

Ὅσοι δὲ πλείους ἔχουσι, μακροβιώτεροι ὡς ἐπὶ τὸ πολύ εἰσιν, οἱ δ' ἐλάττους καὶ ἀραιόδοντες ὡς ἐπὶ τὸ πολὺ βραχυβιώτεροι.

Κεφάλαιο 4

Φύονται δ’ οἱ τελευταῖοι τοῖς ἀνθρώποις γόμφιοι, οὓς καλοῦσι κραντῆρας, περὶ τὰ εἴκοσιν ἔτη καὶ ἀνδράσι καὶ γυναιξίν. Ἤδη δέ τισι γυναιξὶ καὶ ὀγδοήκοντα ἐτῶν οὔσαις ἔφυσαν γόμφιοι ἐν τοῖς ἐσχάτοις, πόνον παρασχόντες ἐν τῇ ἀνατολῇ, καὶ ἀνδράσιν ὡσαύτως· τοῦτο δὲ συμβαίνει ὅσοις ἂν μὴ ἐν τῇ ἡλικίᾳ ἀνατείλωσιν οἱ κραντῆρες.

Κεφάλαιο 5

Ὁ δ’ ἐλέφας ὀδόντας μὲν ἔχει τέτταρας ἐφ’ ἑκάτερα, οἷς κατεργάζεται τὴν τροφήν (λεαίνει δ’ ὥσπερ κρίμνα), χωρὶς δὲ τούτων ἄλλους δύο τοὺς μεγάλους. Ὁ μὲν οὖν ἄρρην τούτους ἔχει μεγάλους τε καὶ ἀνασίμους, ἡ δὲ θήλεια μικροὺς καὶ ἐξ (502a.) ἐναντίας τοῖς ἄρρεσιν· κάτω γὰρ οἱ ὀδόντες βλέπουσιν.

Κεφάλαιο 6

Ἔχει δ’ ὁ ἐλέφας εὐθὺς γενόμενος ὀδόντας, τοὺς μέντοι μεγάλους ἀδήλους τὸ πρῶτον. Γλῶτταν δ’ ἔχει μικράν τε σφόδρα καὶ ἐντός, ὥστε ἔργον ἐστὶν ἰδεῖν.

Κεφάλαιο 7

Ἔχουσι δὲ τὰ ζῷα καὶ τὰ μεγέθη διαφέροντα τοῦ στόματος. Τῶν μὲν γάρ ἐστι τὰ στόματα ἀνερρωγότα, ὥσπερ κυνὸς καὶ λέοντος καὶ πάντων τῶν καρχαροδόντων, τὰ δὲ μικρόστομα, ὥσπερ ἄνθρωπος, τὰ δὲ μεταξύ, οἷον τὸ τῶν ὑῶν γένος.

Ὁ δ’ ἵππος ὁ ποτάμιος ὁ ἐν Αἰγύπτῳ χαίτην μὲν ἔχει ὥσπερ ἵππος, διχαλὸν δ’ ἐστὶν ὥσπερ βοῦς, τὴν δ’ ὄψιν σιμός. Ἔχει δὲ καὶ ἀστράγαλον ὥσπερ τὰ διχαλά, καὶ χαυλιόδοντας ὑποφαινομένους, κέρκον δ’ ὑός, φωνὴν δ’ ἵππου· μέγεθος δ’ ἐστὶν ἡλίκον ὄνος. Τοῦ δὲ δέρματος τὸ πάχος ὥστε δόρατα ποιεῖσθαι ἐξ αὐτοῦ. Τὰ δ’ ἐντὸς ἔχει ὅμοια ἵππῳ καὶ ὄνῳ.

Κεφάλαιο 8

Ἔνια δὲ τῶν ζῴων ἐπαμφοτερίζει τὴν φύσιν τῷ τ᾽ ἀνθρώπῳ καὶ τοῖς τετράποσιν, οἷον πίθηκοι καὶ κῆβοι καὶ κυνοκέφαλοι. Ἔστι δ᾽ ὁ μὲν κῆβος πίθηκος ἔχων οὐράν. Καὶ οἱ κυνοκέφαλοι δὲ τὴν αὐτὴν ἔχουσι μορφὴν τοῖς πιθήκοις, πλὴν μείζονές τ᾽ εἰσὶ καὶ ἰσχυρότεροι καὶ τὰ πρόσωπα ἔχοντες κυνοειδέστερα, ἔτι δ᾽ ἀγριώτερά τε τὰ ἤθη καὶ τοὺς ὀδόντας ἔχουσι κυνοειδεστέρους καὶ ἰσχυροτέρους. Οἱ δὲ πίθηκοι δασεῖς μέν εἰσι τὰ πρανῆ ὡς ὄντες τετράποδες, καὶ τὰ ὕπτια δ᾽ ὡσαύτως ὡς ὄντες ἀνθρωποειδεῖς (τοῦτο γὰρ ἐπὶ τῶν ἀνθρώπων ἐναντίως ἔχει καὶ ἐπὶ τῶν τετραπόδων, καθάπερ ἐλέχθη πρότερον)· πλὴν ἥ τε θρὶξ παχεῖα, καὶ δασεῖς ἐπ᾽ ἀμφότερα σφόδρα εἰσὶν οἱ πίθηκοι. Τὸ δὲ πρόσωπον ἔχει πολλὰς ὁμοιότητας τῷ τοῦ ἀνθρώπου· καὶ γὰρ μυκτῆρας καὶ ὦτα παραπλήσια ἔχει, καὶ ὀδόντας ὥσπερ ὁ ἄνθρωπος, καὶ τοὺς προσθίους καὶ τοὺς γομφίους.

Ἔτι δὲ βλεφαρίδας τῶν ἄλλων τετραπόδων ἐπὶ θάτερα οὐκ ἐχόντων οὗτος ἔχει μὲν λεπτὰς δὲ σφόδρα, καὶ μᾶλλον τὰς κάτω, καὶ μικρὰς πάμπαν· τὰ γὰρ ἄλλα τετράποδα ταύτας οὐκ ἔχει.

Ἔτι δ᾽ ἐν τῷ στήθει δύο θηλὰς μαστῶν μικρῶν. Ἔχει δὲ καὶ βραχίονας ὥσπερ ἄνθρωπος, πλὴν (502b.) δασεῖς· καὶ κάμπτει καὶ τούτους καὶ τὰ σκέλη ὥσπερ ἄνθρωπος, τὰς περιφερείας πρὸς ἀλλήλας ἀμφοτέρων τῶν κώλων. Πρὸς δὲ τούτοις χεῖρας καὶ δακτύλους καὶ ὄνυχας ὁμοίους ἀνθρώπῳ, πλὴν πάντα ταῦτα ἐπὶ τὸ θηριωδέστερον.

Ἰδίους δὲ τοὺς πόδας· εἰσὶ γὰρ οἷον χεῖρες μεγάλαι, καὶ οἱ δάκτυλοι ὥσπερ οἱ τῶν χειρῶν, ὁ μέσος μακρότατος, καὶ τὸ κάτω τοῦ ποδὸς χειρὶ ὅμοιον, πλὴν ἐπιμηκέστερον τοῦ τῆς χειρός, ἐπὶ τὰ ἔσχατα τεῖνον, καθάπερ θέναρ· τοῦτο δ᾽ ἐπ᾽ ἄκρου σκληρότερον, κακῶς καὶ ἀμυδρῶς μιμούμενον πτέρνην. Κέχρηται δὲ τοῖς ποσὶν ἐπ᾽ ἄμφω, καὶ ὡς χερσὶ καὶ ὡς ποσί, καὶ συγκάμπτει ὥσπερ χεῖρας. Ἔχει δὲ τὸν ἀγκῶνα καὶ τὸν μηρὸν βραχεῖς ὡς πρὸς τὸν βραχίονα καὶ τὴν κνήμην. Ὀμφαλὸν δ᾽ ἐξέχοντα μὲν οὐκ ἔχει, σκληρὸν δέ τι κατὰ τὸν τόπον τοῦ ὀμφαλοῦ. Τὰ δ᾽ ἄνω τοῦ κάτω πολὺ μείζονα ἔχει, ὥσπερ τὰ τετράποδα· σχεδὸν γὰρ ὡς πέντε πρὸς τρία ἐστίν. Καὶ διά τε ταῦτα καὶ διὰ τὸ τοὺς πόδας ἔχειν ὁμοίους χερσὶ καὶ ὡσπερανεὶ συγκειμένους ἐκ χειρὸς καὶ ποδός (ἐκ μὲν ποδὸς κατὰ τὸ τῆς πτέρνης ἔσχατον, ἐκ δὲ χειρὸς τἆλλα μέρη·

καὶ γὰρ οἱ δάκτυλοι ἔχουσι τὸ καλούμενον θέναρ), διατελεῖ δὲ τὸν πλείω χρόνον τετράπουν ὂν μᾶλλον ἢ ὀρθόν· καὶ οὔτ’ ἰσχία ἔχει ὡς τετράπουν ὂν οὔτε κέρκον ὡς δίπουν, πλὴν μικρὰν τὸ ὅλον, ὅσον σημείου χάριν. Ἔχει δὲ καὶ τὸ αἰδοῖον ἡ θήλεια ὅμοιον γυναικί, ὁ δ’ ἄρρην κυνωδέστερον ἢ ὁ ἄνθρωπος.

Κεφάλαιο 9

Οἱ δὲ κῆβοι, καθάπερ εἴρηται πρότερον, ἔχουσι κέρκον. Τὰ δ’ ἐντὸς διαιρεθέντα ὅμοια ἔχουσιν ἀνθρώπῳ πάντα τὰ τοιαῦτα.

Τὰ μὲν οὖν τῶν εἰς τὸ ἐκτὸς ζῳοτοκούντων μόρια τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 10

Τὰ δὲ τετράποδα μὲν ᾠοτόκα δὲ καὶ ἔναιμα (οὐδὲν δὲ ᾠοτοκεῖ χερσαῖον καὶ ἔναιμον μὴ τετράπουν ὂν ἢ ἄπουν) κεφαλὴν μὲν ἔχει καὶ αὐχένα καὶ νῶτον καὶ τὰ πρανῆ καὶ τὰ ὕπτια τοῦ σώματος, ἔτι δὲ σκέλη πρόσθια καὶ ὀπίσθια καὶ τὸ ἀνάλογον τῷ στήθει, ὥσπερ τὰ ζῳοτόκα τῶν τετραπόδων, καὶ κέρκον τὰ μὲν πλεῖστα μείζω, ὀλίγα δ' ἐλάττω. Πάντα δὲ πολυδάκτυλα καὶ πολυσχιδῆ ἐστι τὰ τοιαῦτα. Πρὸς δὲ τούτοις τὰ αἰσθητήρια καὶ γλῶτταν (503a.) πάντα, πλὴν ὁ ἐν Αἰγύπτῳ κροκόδειλος. Οὗτος δὲ παραπλησίως τῶν ἰχθύων τισίν· ὅλως μὲν γὰρ οἱ ἰχθύες ἀκανθώδη καὶ οὐκ ἀπολελυμένην ἔχουσι τὴν γλῶτταν, ἔνιοι δὲ πάμπαν λεῖον καὶ ἀδιάρθρωτον τὸν τόπον μὴ ἐγκλίναντι σφόδρα τὸ χεῖλος.

Ὦτα δ' οὐκ ἔχουσιν ἀλλὰ τὸν πόρον τῆς ἀκοῆς μόνον πάντα τὰ τοιαῦτα· οὐδὲ μαστούς, οὐδ' αἰδοῖον, οὐδ' ὄρχεις ἔξω φανεροὺς ἀλλ' ἐντός, οὐδὲ τρίχας, ἀλλὰ πάντ' ἐστὶ φολιδωτά. Ἔτι δὲ καρχαρόδοντα πάντα.

Οἱ δὲ κροκόδειλοι οἱ ποτάμιοι ἔχουσιν ὀφθαλμοὺς μὲν ὑός, ὀδόντας δὲ μεγάλους καὶ χαυλιόδοντας καὶ ὄνυχας ἰσχυροὺς καὶ δέρμα ἄρρηκτον φολιδωτόν· βλέπουσι δ' ἐν μὲν τῷ ὕδατι φαύλως, ἔξω δ' ὀξύτατον. Τὴν μὲν οὖν ἡμέραν ἐν τῇ γῇ τὸ πλεῖστον διατρίβει, τὴν δὲ νύκτα ἐν τῷ ὕδατι· ἀλεεινότερον γάρ ἐστι τῆς αἰθρίας.

Κεφάλαιο 11

Ὁ δὲ χαμαιλέων ὅλον μὲν τοῦ σώματος ἔχει τὸ σχῆμα σαυροειδές, τὰ δὲ πλευρὰ κάτω καθήκει συνάπτοντα πρὸς τὸ ὑπογάστριον, καθάπερ τοῖς ἰχθύσι, καὶ ἡ ῥάχις ἐπανέστηκεν ὁμοίως τῇ τῶν ἰχθύων. Τὸ δὲ πρόσωπον ὁμοιότατον τῷ τοῦ χοιροπιθήκου. Κέρκον δ’ ἔχει μακρὰν σφόδρα, εἰς λεπτὸν καθήκουσαν καὶ συνελιττομένην ἐπὶ πολύ, καθάπερ ἱμάντα. Μετεωρότερος δ’ ἐστὶ τῇ ἀπὸ τῆς γῆς ἀποστάσει τῶν σαύρων, τὰς δὲ καμπὰς τῶν σκελῶν καθάπερ οἱ σαῦροι ἔχει. Τῶν δὲ ποδῶν ἕκαστος αὐτοῦ διχῇ διήρηται εἰς μέρη θέσιν ὁμοίαν πρὸς αὐτὰ ἔχοντα οἵανπερ ὁ μέγας ἡμῶν δάκτυλος πρὸς τὸ λοιπὸν τῆς χειρὸς ἀντίθεσιν ἔχει. Ἐπὶ βραχὺ δὲ καὶ τούτων τῶν μερῶν ἕκαστον διήρηται εἴς τινας δακτύλους, τῶν μὲν ἔμπροσθεν ποδῶν τὰ μὲν πρὸς αὐτὸν τρίχα, τὰ δ’ ἐκτὸς δίχα, τῶν δ’ ὀπισθίων τὰ μὲν πρὸς αὐτὸν δίχα, τὰ δ’ ἐκτὸς τρίχα. Ἔχει δὲ καὶ ὀνύχια ἐπὶ τούτων ὅμοια τοῖς τῶν γαμψωνύχων.

Τραχὺ δ’ ἔχει ὅλον τὸ σῶμα, καθάπερ ὁ κροκόδειλος. Ὀφθαλμοὺς δ’ ἔχει ἐν κοίλῳ τε κειμένους καὶ μεγάλους σφόδρα καὶ στρογγύλους καὶ δέρματι ὁμοίῳ τῷ τοῦ λοιποῦ σώματος περιεχομένους. Κατὰ μέσους δ’ αὐτοὺς διαλέλειπται μικρὰ τῇ ὄψει χώρα, δι’ ἧς ὁρᾷ· οὐδέποτε δὲ τῷ δέρματι ἐπικαλύπτει τοῦτο. Στρέφει δὲ (503b.) τὸν ὀφθαλμὸν κύκλῳ τὴν ὄψιν ἐπὶ πάντας τοὺς τόπους μεταβάλλει, καὶ οὕτως ὁρᾷ ὃ βούλεται.

Τῆς δὲ χροιᾶς ἡ μεταβολὴ ἐμφυσωμένῳ αὐτῷ γίνεται· ἔχει δὲ καὶ μέλαιναν ταύτην, οὐ πόρρω τῆς τῶν κροκοδείλων, καὶ ὠχρὰν καθάπερ οἱ σαῦροι, μέλανι ὥσπερ τὰ παρδάλια διαπεποικιλμένην. Γίνεται δὲ καθ’ ἅπαν τὸ σῶμα αὐτοῦ ἡ τοιαύτη μεταβολή· καὶ γὰρ οἱ ὀφθαλμοὶ συμμεταβάλλουσιν ὁμοίως τῷ λοιπῷ σώματι καὶ ἡ κέρκος. Ἡ δὲ κίνησις αὐτοῦ νωθὴς ἰσχυρῶς ἐστι, καθάπερ ἡ τῶν χελωνῶν. Καὶ ἀποθνήσκων τε ὠχρὸς γίνεται, καὶ τελευτήσαντος αὐτοῦ ἡ χροιὰ τοιαύτη ἐστίν.

Τὰ δὲ περὶ τὸν στόμαχον καὶ τὴν ἀρτηρίαν ὁμοίως ἔχει τοῖς σαύροις κείμενα. Σάρκα δ’ οὐδαμοῦ ἔχει πλὴν πρὸς τῇ κεφαλῇ καὶ ταῖς σιαγόσιν ὀλίγα σαρκία, καὶ περὶ ἄκραν τὴν τῆς κέρκου πρόσφυσιν. Καὶ αἷμα δ’ ἔχει περί τε τὴν καρδίαν μόνον καὶ τὰ ὄμματα καὶ τὸν ἄνω τῆς καρδίας τόπον, καὶ ὅσα ἀπὸ τούτων φλέβια ἀποτείνει· ἔστι δὲ καὶ ἐν τούτοις βραχὺ παντελῶς.

Κεῖται δὲ καὶ ὁ ἐγκέφαλος ἀνώτερον μὲν ὀλίγῳ τῶν ὀφθαλμῶν, συνεχὴς δὲ τούτοις.

Περιαιρεθέντος δὲ τοῦ ἔξωθεν δέρματος τῶν ὀφθαλμῶν περιέχει τι διαλάμπον διὰ τούτων, οἷον κρίκος χαλκοῦς λεπτός.

Καθ’ ἅπαν δ’ αὐτοῦ τὸ σῶμα σχεδὸν διατείνουσιν ὑμένες πολλοὶ καὶ ἰσχυροὶ καὶ πολὺ ὑπερβάλλοντες τῶν περὶ τὰ λοιπὰ ὑπαρχόντων. Ἐνεργεῖ δὲ καὶ τῷ πνεύματι ἀνατετμημένος ὅλος ἐπὶ πολὺν χρόνον, βραχείας ἰσχυρῶς ἔτι κινήσεως ἐν αὐτῷ περὶ τὴν καρδίαν οὔσης, καὶ συνάγει διαφερόντως μὲν τὰ περὶ τὰ πλευρά, οὐ μὴν ἀλλὰ καὶ τὰ λοιπὰ μέρη τοῦ σώματος. Σπλῆνα δ’ οὐδαμοῦ ἔχει φανερόν. Φωλεύει δὲ καθάπερ οἱ σαῦροι.

Κεφάλαιο 12

Ὁμοίως δ’ ἔνια μόρια καὶ οἱ ὄρνιθες τοῖς εἰρημένοις ἔχουσι ζῴοις· καὶ γὰρ κεφαλὴν καὶ αὐχένα πάντ’ ἔχει καὶ νῶτον καὶ τὰ ὕπτια τοῦ σώματος καὶ τὸ ἀνάλογον τῷ στήθει· σκέλη δὲ δύο καθάπερ ἄνθρωπος μάλιστα τῶν ζῴων· πλὴν κάμπτει εἰς τοὔπισθεν ὁμοίως τοῖς τετράποσιν, ὥσπερ εἴρηται πρότερον. Χεῖρας δ’ οὐδὲ πόδας προσθίους ἔχει, ἀλλὰ πτέρυγας ἴδιον πρὸς τὰ ἄλλα ζῷα. Ἔτι δὲ τὸ ἰσχίον ὅμοιον (504a.) μηρῷ μακρὸν καὶ προσπεφυκὸς μέχρι ὑπὸ μέσην τὴν γαστέρα, ὥστε δοκεῖν διαιρούμενον μηρὸν εἶναι, τὸν δὲ μηρὸν μεταξὺ τῆς κνήμης, ἕτερόν τι μέρος. Μεγίστους δὲ τοὺς μηροὺς ἔχει τὰ γαμψώνυχα τῶν ὀρνίθων, καὶ τὸ στῆθος ἰσχυρότερον τῶν ἄλλων.

Πολυώνυχοι δ’ εἰσὶ πάντες οἱ ὄρνιθες, ἔτι δὲ πολυσχιδεῖς τρόπον τινὰ πάντες· τῶν μὲν γὰρ πλείστων διῄρηνται οἱ δάκτυλοι, τὰ δὲ πλωτὰ στεγανόποδά ἐστι, διηρθρωμένους δ’ ἔχει καὶ χωριστοὺς <τοὺς> δακτύλους. Εἰσὶ δ’ ὅσοι αὐτῶν μετεωρίζονται πάντες τετραδάκτυλοι· τρεῖς μὲν γὰρ εἰς τὸ ἔμπροσθεν ἕνα δ’ εἰς τὸ ὄπισθεν κείμενον ἔχουσιν οἱ πλεῖστοι ἀντὶ πτέρνης· ὀλίγοι δέ τινες δύο μὲν ἔμπροσθεν δύο δ’ ὄπισθεν, οἷον ἡ καλουμένη ἴυγξ. Αὕτη δ’ ἐστὶ μικρῷ μὲν μείζων σπίζης, τὸ δ’ εἶδος ποικίλον, ἴδια δ’ ἔχει τά τε περὶ τοὺς δακτύλους καὶ τὴν γλῶτταν ὁμοίαν τοῖς ὄφεσιν· ἔχει γὰρ ἐπὶ μῆκος ἔκτασιν καὶ ἐπὶ τέτταρας δακτύλους, καὶ πάλιν συστέλλεται εἰς ἑαυτήν. Ἔτι δὲ περιστρέφει τὸν τράχηλον εἰς τοὐπίσω τοῦ λοιποῦ σώματος ἠρεμοῦντος, καθάπερ οἱ ὄφεις. Ὄνυχας δ’ ἔχει μεγάλους μὲν ὁμοίως μέντοι πεφυκότας τοῖς τῶν κολοιῶν· τῇ δὲ φωνῇ τρίζει.

Στόμα δ’ οἱ ὄρνιθες ἔχουσι μὲν ἴδιον δέ· οὔτε γὰρ χείλη οὔτ’ ὀδόντας ἔχουσιν, ἀλλὰ ῥύγχος, οὔτ’ ὦτα οὔτε μυκτῆρας, ἀλλὰ τοὺς πόρους τούτων τῶν αἰσθήσεων, τῶν μὲν μυκτήρων ἐν τῷ ῥύγχει, τῆς δ’ ἀκοῆς ἐν τῇ κεφαλῇ. Ὀφθαλμοὺς δὲ πάντες καθάπερ καὶ τἆλλα ζῷα δύο, ἄνευ βλεφαρίδων. Μύουσι δ’ οἱ βαρεῖς τῷ κάτω βλεφάρῳ, σκαρδαμύττουσι δ’ ἐκ τοῦ κανθοῦ δέρματι ἐπιόντι πάντες, οἱ δὲ γλαυκώδεις τῶν ὀρνίθων καὶ τῷ ἄνω βλεφάρῳ. Τὸ δ’ αὐτὸ τοῦτο ποιοῦσι καὶ τὰ φολιδωτά, οἷον οἱ σαῦροι καὶ τἆλλα τὰ ὁμοιογενῆ τούτοις τῶν ζῴων· μύουσι γὰρ τῇ κάτω βλεφαρίδι πάντες, οὐ μέντοι σκαρδαμύττουσί γε ὥσπερ οἱ ὄρνιθες.

Ἔτι δ’ οὔτε φολίδας οὔτε τρίχας ἔχουσιν, ἀλλὰ πτερά· τὰ δὲ πτερὰ ἔχει καυλὸν ἅπαντα. Καὶ οὐρὰν μὲν οὐκ ἔχουσιν, ὀρροπύγιον δέ, οἱ μὲν μακροσκελεῖς καὶ στεγανόποδες βραχύ, οἱ δ’ ἐναντίοι μέγα. Καὶ οὗτοι μὲν πρὸς τῇ γαστρὶ τοὺς πόδας ἔχοντες πέτονται, οἱ δὲ μικρουρροπύγιοι ἐκτεταμένους.

Καὶ γλῶτταν ἅπαντες, ταύτην δ’ ἀνομοίαν· οἱ (504b.) μὲν γὰρ μακρὰν οἱ δὲ βραχεῖαν. Μάλιστα δὲ τῶν ζῴων μετὰ τὸν ἄνθρωπον γράμματα φθέγγεται ἔνια τῶν ὀρνίθων γένη· τοιαῦτα δ’ ἐστὶ τὰ πλατύγλωττα αὐτῶν μάλιστα.

Τὴν ἀλλὰ συνάγει καὶ διοίγει τὸν πόρον ὥστε μηδὲν κατιέναι τῶν ἐχόντων βάρος ἐπὶ τὸν πλεύμονα.

Γένη δ’ ἔνια τῶν ὀρνίθων ἔχει καὶ πλῆκτρα· γαμψώνυχον δ’ ἅμα καὶ πλῆκτρον ἔχον οὐδέν. Ἔστι δὲ τὰ μὲν γαμψώνυχα τῶν πτητικῶν, τὰ δὲ πληκτροφόρα τῶν βαρέων.

Ἔτι δ’ ἔνια τῶν ὀρνέων λόφον ἔχουσι, τὰ μὲν αὐτῶν τῶν πτερῶν ἐπανεστηκότα, ὁ δ’ ἀλεκτρυὼν μόνος ἴδιον· οὔτε γὰρ σάρξ ἐστιν οὔτε πόρρω σαρκὸς τὴν φύσιν.

Κεφάλαιο 13

Τῶν δ’ ἐνύδρων ζῴων τὸ τῶν ἰχθύων γένος ἓν ἀπὸ τῶν ἄλλων ἀφώρισται, πολλὰς περιέχον ἰδέας. Κεφαλὴν μὲν γὰρ ἔχει καὶ τὰ πρανῆ καὶ τὰ ὕπτια, ἐν ᾧ τόπῳ ἡ γαστὴρ καὶ τὰ σπλάγχνα· καὶ ὀπίσθιον οὐραῖον συνεχὲς ἔχει καὶ ἄσχιστον· τοῦτο δ’ οὐ πᾶσιν ὅμοιον. Αὐχένα δ’ οὐδεὶς ἔχει ἰχθύς, οὐδὲ κῶλον οὐδέν, οὐδ’ ὄρχεις ὅλως, οὔτ’ ἐντὸς οὔτ’ ἐκτός, οὐδὲ μαστούς. Τοῦτο μὲν οὖν ὅλως οὐδ’ ἄλλο οὐδὲν τῶν μὴ ζῳοτοκούντων, οὐδὲ τὰ ζῳοτοκοῦντα πάντα, ἀλλ’ ὅσα εὐθὺς ἐν αὑτοῖς ζῳοτοκεῖ καὶ μὴ ᾠοτοκεῖ πρῶτον. Καὶ γὰρ ὁ δελφὶς ζῳοτοκεῖ, διὸ ἔχει μαστοὺς δύο, οὐκ ἄνω δ’ ἀλλὰ πλησίον τῶν ἄρθρων. Ἔχει δ’ οὐχ ὥσπερ τὰ τετράποδα ἐπιφανεῖς θηλάς, ἀλλ’ οἷον ῥύακας δύο, ἑκατέρωθεν ἐκ τῶν πλαγίων ἕνα, ἐξ ὧν τὸ γάλα ῥεῖ· καὶ θηλάζεται ὑπὸ τῶν τέκνων παρακολουθούντων· καὶ τοῦτο ὦπται ἤδη ὑπό τινων φανερῶς.

Οἱ δ’ ἰχθύες, ὥσπερ εἴρηται, οὔτε μαστοὺς ἔχουσιν οὔτ’ αἰδοίων πόρον ἐκτὸς οὐδένα φανερόν. Ἴδιον δ’ ἔχουσι τό τε τῶν βραγχίων, ᾗ τὸ ὕδωρ ἀφιᾶσι δεξάμενοι κατὰ τὸ στόμα, καὶ τὰ πτερύγια, οἱ μὲν πλεῖστοι τέτταρα, οἱ δὲ προμήκεις δύο, οἷον ἔγχελυς, δύο ὄντα πρὸς τὰ βράγχια. Ὁμοίως δὲ καὶ κεστρεῖς, οἷον ἐν Σιφαῖς οἱ ἐν τῇ λίμνῃ, δύο, καὶ ἡ καλουμένη ταινία ὡσαύτως. Ἔνια δὲ τῶν προμήκων οὐδὲ πτερύγια ἔχει, οἷον σμύραινα, οὐδὲ τὰ βράγχια διηρθρωμένα ὁμοίως τοῖς ἄλλοις ἰχθύσιν.

Αὐτῶν δὲ τῶν ἐχόντων βράγχια τὰ μὲν (505a.) ἔχει ἐπικάλυμμα τοῖς βραγχίοις, τὰ δὲ σελάχη πάντα ἀκάλυπτα. Καὶ τὰ μὲν ἔχοντα καλύμματα πάντα ἐκ πλαγίου ἔχει τὰ βράγχια, τῶν δὲ σελαχῶν τὰ μὲν πλατέα κάτω ἐν τοῖς ὑπτίοις, οἷον νάρκη καὶ βάτος, τὰ δὲ προμήκη ἐν τοῖς πλαγίοις, οἷον πάντα τὰ γαλεώδη. Ὁ δὲ βάτραχος ἐκ πλαγίου μὲν ἔχει, καλυπτόμενα δ’ οὐκ ἀκανθώδει καλύμματι ὥσπερ οἱ μὴ σελαχώδεις, ἀλλὰ δερματώδει.

Ἔτι δὲ τῶν ἐχόντων βράγχια τῶν μὲν ἁπλᾶ ἐστι τὰ βράγχια, τῶν δὲ διπλᾶ· τὸ δ’ ἔσχατον πρὸς τὸ σῶμα πάντων ἁπλοῦν. Καὶ πάλιν τὰ μὲν ὀλίγα βράγχια ἔχει, τὰ δὲ πλῆθος βραγχίων· ἴσα δ’ ἐφ’ ἑκάτερα πάντες. Ἔχει δ’ ὁ ἐλάχιστα ἔχων ἓν ἐφ’ ἑκάτερα βράγχιον, διπλοῦν δὲ τοῦτο, οἷον κάπρος· οἱ δὲ δύο ἐφ’ ἑκάτερα, τὸ μὲν ἁπλοῦν τὸ δὲ διπλοῦν, οἷον γόγγρος καὶ σκάρος· οἱ δὲ τέτταρα ἐφ’ ἑκάτερα ἁπλᾶ, οἷον ἔλλοψ, συναγρίς, σμύραινα, ἔγχελυς· οἱ δὲ τέτταρα μὲν δίστοιχα δὲ πλὴν τοῦ ἐσχάτου, οἷον κίχλη καὶ πέρκη καὶ γλάνις καὶ κυπρῖνος. Ἔχουσι δὲ καὶ οἱ γαλεώδεις διπλᾶ πάντες, καὶ πέντ’ ἐφ’ ἑκάτερα· ὁ δὲ ξιφίας ὀκτὼ διπλᾶ. Περὶ μὲν οὖν πλήθους βραγχίων ἐν τοῖς ἰχθύσι τοῦτον ἔχει τὸν τρόπον.

Ἔτι δὲ πρὸς τἆλλα ζῷα οἱ ἰχθύες διαφέρουσι πρὸς τῇ διαφορᾷ τῇ περὶ τὰ βράγχια· οὔτε γὰρ ὥσπερ τῶν πεζῶν ὅσα ζῳοτόκα ἔχει τρίχας, οὔθ’ ὥσπερ ἔνια τῶν ᾠοτοκούντων τετραπόδων φολίδας, οὔθ’ ὡς τὸ τῶν ὀρνέων γένος πτερωτόν, ἀλλ’ οἱ μὲν πλεῖστοι αὐτῶν λεπιδωτοί εἰσιν, ὀλίγοι δέ τινες τραχεῖς, ἐλάχιστον δ’ ἐστὶ πλῆθος αὐτῶν τὸ λεῖον. Τῶν μὲν οὖν σελαχῶν τὰ μὲν τραχέα ἐστὶ τὰ δὲ λεῖα, γόγγρος δὲ καὶ ἔγχελυς καὶ θύννος τῶν λείων.

Καρχαρόδοντες δὲ πάντες οἱ ἰχθύες ἔξω τοῦ σκάρου· καὶ πάντες ἔχουσιν ὀξεῖς τοὺς ὀδόντας καὶ πολυστοίχους, καὶ ἔνιοι ἐν τῇ γλώττῃ. Καὶ γλῶτταν σκληρὰν καὶ ἀκανθώδη ἔχουσι, καὶ προσπεφυκυῖαν οὕτως ὥστ’ ἐνίοτε μὴ δοκεῖν ἔχειν.

Τὸ δὲ στόμα οἱ μὲν ἀνερρωγός, ὥσπερ ἔνια τῶν ζῳοτοκούντων καὶ τετραπόδων. Τῶν δ’ αἰσθητηρίων τῶν μὲν ἄλλων οὐδὲν ἔχουσι φανερὸν οὔτ’ αὐτὸ οὔτε τοὺς πόρους, οὔτ’ ἀκοῆς οὔτ’ ὀσφρήσεως· ὀφθαλμοὺς δὲ πάντες ἔχουσιν ἄνευ βλεφάρων, οὐ (505b.) σκληρόφθαλμοι ὄντες.

Ἔναιμον μὲν οὖν ἐστιν ἅπαν τὸ τῶν ἰχθύων γένος, εἰσὶ δ’ αὐτῶν οἱ μὲν ᾠοτόκοι οἱ δὲ ζῳοτόκοι, οἱ μὲν λεπιδωτοὶ πάντες ᾠοτόκοι, τὰ δὲ σελάχη πάντα ζῳοτόκα πλὴν βατράχου.

Κεφάλαιο 14

Λοιπὸν δὲ τῶν ἐναίμων ζῴων τὸ τῶν ὄφεων γένος. Ἔστι δὲ κοινὸν ἀμφοῖν· τὸ μὲν γὰρ πλεῖστον αὐτῶν χερσαῖόν ἐστιν, ὀλίγον δὲ τὸ τῶν ἐνύδρων ἐν τοῖς ποτίμοις ὕδασι διατελεῖ.

Εἰσὶ δὲ καὶ θαλάττιοι ὄφεις, παραπλήσιοι τὴν μορφὴν τοῖς χερσαίοις τἆλλα· πλὴν τὴν κεφαλὴν ἔχουσι γογγροειδεστέραν. Γένη δὲ πολλὰ τῶν θαλαττίων ὄφεών ἐστι, καὶ χρόαν ἔχουσι παντοδαπήν· οὐ γίνονται δ’ οὗτοι ἐν τοῖς σφόδρα βαθέσιν. Ἄποδες δ’ εἰσὶν οἱ ὄφεις ὥσπερ τὸ τῶν ἰχθύων γένος.

Εἰσὶ δὲ καὶ σκολόπενδραι θαλάττιαι, παραπλήσιαι τὸ εἶδος ταῖς χερσαίαις, τὸ δὲ μέγεθος μικρῷ ἐλάττους· γίνονται δὲ περὶ τοὺς πετρώδεις τόπους. Τὴν δὲ χροιάν εἰσιν ἐρυθρότεραι καὶ πολύποδες μᾶλλον καὶ λεπτοσκελέστεραι τῶν χερσαίων. Οὐ γίνονται δ’ οὐδ’ αὗται, ὥσπερ οὐδ’ οἱ ὄφεις, ἐν τοῖς βαθέσι σφόδρα.

Ἔστι δ’ ἰχθύδιόν τι τῶν πετραίων, ὃ καλοῦσί τινες ἐχενηΐδα, καὶ χρῶνταί τινες αὐτῷ πρὸς δίκας καὶ φίλτρα· ἔστι δ’ ἄβρωτον· τοῦτο δ’ ἔνιοί φασιν ἔχειν πόδας οὐκ ἔχον, ἀλλὰ φαίνεται διὰ τὸ τὰς πτέρυγας ὁμοίας ἔχειν ποσίν.

Τὰ μὲν οὖν ἔξω μόρια, καὶ πόσα καὶ ποῖα τῶν ἐναίμων ζῴων, καὶ τίνας ἔχει πρὸς ἄλληλα διαφοράς, εἴρηται.

Κεφάλαιο 15

Τὰ δ’ ἐντὸς πῶς ἔχει, λεκτέον ἐν τοῖς ἐναίμοις ζῴοις πρῶτον· τούτῳ γὰρ διαφέρει τὰ μέγιστα γένη πρὸς τὰ λοιπὰ τῶν ἄλλων ζῴων, τῷ τὰ μὲν ἔναιμα τὰ δ’ ἄναιμα εἶναι.

Ἔστι δὲ ταῦτα ἄνθρωπός τε καὶ τὰ ζῳοτόκα τῶν τετραπόδων, ἔτι δὲ καὶ τὰ ᾠοτόκα τῶν τετραπόδων καὶ ὄρνις καὶ ἰχθὺς καὶ κῆτος, καὶ εἴ τι ἄλλο ἀνώνυμόν ἐστι διὰ τὸ μὴ εἶναι γένος ἀλλ’ ἁπλοῦν τὸ εἶδος ἐπὶ τῶν καθ’ ἕκαστον, οἷον ὄφις καὶ κροκόδειλος.

Ὅσα μὲν οὖν ἐστι τετράποδα καὶ ζῳοτόκα, στόμαχον μὲν καὶ ἀρτηρίαν πάντ’ ἔχει, καὶ κείμενα τὸν αὐτὸν τρόπον ὥσπερ ἐν τοῖς ἀνθρώποις· ὁμοίως δὲ καὶ ὅσα ᾠοτοκεῖ τῶν τετραπόδων, καὶ ἐν τοῖς ὄρνισιν· ἀλλὰ τοῖς (506a.) εἴδεσι τῶν μορίων τούτων διαφέρουσιν. Ὅλως δὲ πάντα ὅσα τὸν ἀέρα δεχόμενα ἀναπνεῖ καὶ ἐκπνεῖ, πάντ’ ἔχει πλεύμονα καὶ ἀρτηρίαν καὶ στόμαχον, καὶ τὴν θέσιν τοῦ στομάχου καὶ τῆς ἀρτηρίας ὁμοίως, ἀλλ’ οὐχ ὅμοια, τὸν δὲ πλεύμονα οὔθ’ ὅμοιον οὔτε τῇ θέσει ὁμοίως ἔχοντα.

Ἔτι δὲ καρδίαν ἅπαντ’ ἔχει ὅσα αἷμα ἔχει, καὶ τὸ διάζωμα, ὃ καλοῦνται φρένες· ἀλλ’ ἐν τοῖς μικροῖς διὰ λεπτότητα καὶ σμικρότητα οὐ φαίνεται ὁμοίως, πλὴν ἐν τῇ καρδίᾳ. Ἴδιον δ’ ἐστὶν ἐπὶ τῶν βοῶν· ἔστι γάρ τι γένος βοῶν, ἀλλ’ οὐ πάντες, ὃ ἔχει ἐν τῇ καρδίᾳ ὀστοῦν. Ἔχει δὲ καὶ ἡ τῶν ἵππων καρδία ὀστοῦν.

Πλεύμονα δ’ οὐ πάντα, οἷον ἰχθὺς οὐκ ἔχει, οὐδ’ εἴ τι ἄλλο τῶν ζῴων ἔχει βράγχια. Καὶ ἧπαρ ἅπαντ’ ἔχει ὅσαπερ αἷμα. Σπλῆνα δὲ τὰ πλεῖστα ἔχει ὅσαπερ καὶ αἷμα. Τὰ δὲ πολλὰ τῶν μὴ ζῳοτόκων ἀλλ’ ᾠοτόκων μικρὸν ἔχει τὸν σπλῆνα οὕτως ὥστε λανθάνειν ὀλίγου τὴν αἴσθησιν, ἔν τε τοῖς ὄρνισι τοῖς πλείστοις, οἷον ἐν περιστερᾷ καὶ ἰκτίνῳ καὶ ἱέρακι καὶ γλαυκί· ὁ δ’ αἰγοκέφαλος ὅλως οὐκ ἔχει. Καὶ ἐπὶ τῶν ᾠοτόκων δὲ καὶ τετραπόδων τὸν αὐτὸν τρόπον ἔχει· μικρὸν γὰρ πάμπαν ἔχουσι καὶ ταῦτα, οἷον χελώνη, ἑμύς, φρύνη, σαῦρος, κροκόδειλος, βάτραχος.

Χολὴν δὲ τῶν ζῴων τὰ μὲν ἔχει τὰ δ’ οὐκ ἔχει ἐπὶ τῷ ἥπατι. Τῶν μὲν ζῳοτόκων καὶ τετραπόδων ἔλαφος οὐκ ἔχει οὐδὲ πρόξ, ἔτι δ’ ἵππος, ὀρεύς, ὄνος, φώκη καὶ τῶν ὑῶν ἔνιοι. Τῶν δ’ ἐλάφων αἱ ἀχαΐναι καλούμεναι δοκοῦσιν ἔχειν ἐν τῇ κέρκῳ χολήν· ἔστι δ’ ὃ λέγουσι τὸ μὲν χρῶμα ὅμοιον χολῇ, οὐ μέντοι ὅλον ὑγρὸν οὕτως, ἀλλ’ ὅμοιον τῷ τοῦ σπληνὸς τὰ ἐντός.

Σκώληκας μέντοι πάντες ἔχουσιν ἐν τῇ κεφαλῇ ζῶντας· ἐγγίνονται δ’ ὑποκάτω τοῦ ὑπογλωττίου ἐν τῷ κοίλῳ καὶ περὶ τὸν σφόνδυλον, ᾗ ἡ κεφαλὴ προσπέφυκε, τὸ μέγεθος οὐκ ἐλάττους ὄντες τῶν μεγίστων εὐλῶν· ἐγγίνονται δ’ ἀθρόοι καὶ συνεχεῖς, τὸν ἀριθμὸν δ’ εἰσὶ μάλιστα περὶ εἴκοσι.

Χολὴν μὲν οὖν οὐκ ἔχουσιν οἱ ἔλαφοι, ὥσπερ εἴρηται· τὸ δ’ ἔντερον αὐτῶν ἐστι πικρὸν οὕτως ὥστε μηδὲ τοὺς κύνας ἐθέλειν ἐσθίειν, ἂν μὴ (506b.) σφόδρα πίων ᾖ ὁ ἔλαφος. Ἔχει δὲ καὶ ὁ ἐλέφας τὸ ἧπαρ ἄχολον μέν, τεμνομένου μέντοι περὶ τὸν τόπον οὗ τοῖς ἔχουσιν ἐπιφύεται ἡ χολή, ῥεῖ ὑγρότης χολώδης ἢ πλείων ἢ ἐλάττων.

Τῶν δὲ δεχομένων τὴν θάλατταν καὶ ἐχόντων πλεύμονα δελφὶς οὐκ ἔχει χολήν. Οἱ δ’ ὄρνιθες καὶ οἱ ἰχθύες πάντες ἔχουσι, καὶ τὰ ᾠοτόκα καὶ τετράποδα, καὶ ὡς ἐπίπαν εἰπεῖν ἢ πλείω ἢ ἐλάττω· ἀλλ’ οἱ μὲν πρὸς τῷ ἥπατι τῶν ἰχθύων, οἷον οἵ τε γαλεώδεις καὶ γλάνις καὶ ῥίνη καὶ λειόβατος καὶ νάρκη καὶ τῶν μακρῶν ἔγχελυς καὶ βελόνη καὶ ζύγαινα. Ἔχει δὲ καὶ ὁ καλλιώνυμος ἐπὶ τῷ ἥπατι, ὅσπερ ἔχει μεγίστην τῶν ἰχθύων ὡς κατὰ μέγεθος. Οἱ δὲ πρὸς τοῖς ἐντέροις ἔχουσιν, ἀποτεταμένην ἀπὸ τοῦ ἥπατος πόροις ἐνίοις πάνυ λεπτοῖς. Ἡ μὲν οὖν ἀμία παρὰ τὸ ἔντερον παρατεταμένην ἰσομήκη ἔχει, πολλάκις δὲ καὶ ἐπαναδίπλωμα· οἱ δ’ ἄλλοι πρὸς τοῖς ἐντέροις, οἱ μὲν πορρώτερον οἱ δ’ ἐγγύτερον, οἷον βάτραχος, ἔλοψ, συναγρία, σμύραινα, ξιφίας. Πολλάκις δὲ καὶ τὸ αὐτὸ γένος ἐπ’ ἀμφότερα φαίνεται ἔχον, οἷον γόγγροι οἱ μὲν πρὸς τῷ ἥπατι, οἱ δὲ κάτω ἀπηρτημένην. Ὁμοίως δ’ ἔχει τοῦτο καὶ ἐπὶ τῶν ὀρνίθων· ἔνιοι γὰρ πρὸς τῇ κοιλίᾳ ἔχουσιν, οἱ δὲ πρὸς τοῖς ἐντέροις τὴν χολήν, οἷον περιστερά, κόραξ, ὄρτυξ, χελιδών, στρουθός. Ἔνιοι δ’ ἅμα πρὸς τῷ ἥπατι ἔχουσι καὶ πρὸς τῇ κοιλίᾳ, οἷον αἰγοκέφαλος, οἱ δ’ ἅμα πρὸς τῷ ἥπατι καὶ τοῖς ἐντέροις, οἷον ἱέραξ καὶ ἰκτῖνος.

Κεφάλαιο 16

Νεφροὺς δὲ καὶ κύστιν τὰ μὲν ζῳοτόκα τῶν τετραπόδων πάντ’ ἔχει· ὅσα δ’ ᾠοτοκεῖ, τῶν μὲν ἄλλων οὐδὲν ἔχει, οἷον οὔτ’ ὄρνις οὔτ’ ἰχθύς, τῶν δὲ τετραπόδων μόνη χελώνη ἡ θαλαττία μέγεθος κατὰ λόγον τῶν ἄλλων μορίων. Ὁμοίους δ’ ἔχει τοὺς νεφροὺς ἡ θαλαττία χελώνη τοῖς βοείοις· ἔστι δ’ ὁ τοῦ βοὸς οἷον ἐκ πολλῶν μικρῶν εἷς συγκείμενος. Ἔχει δὲ καὶ ὁ βόνασος τὰ ἐντὸς ἅπαντα ὅμοια βοΐ.

Κεφάλαιο 17

Τῇ δὲ θέσει, ὅσα ἔχει ταῦτα τὰ μόρια, ὁμοίως κείμενα ἔχει, τήν τε καρδίαν περὶ τὸ μέσον, πλὴν ἐν (507a.) ἀνθρώπῳ· οὗτος δ' ἐν τῷ ἀριστερῷ μᾶλλον μέρει, καθάπερ ἐλέχθη πρότερον. Ἔχει δὲ καὶ τὸ ὀξὺ ἡ καρδία πάντων εἰς τὸ πρόσθεν· πλὴν ἐπὶ τῶν ἰχθύων οὐκ ἂν δόξειεν· οὐ γὰρ πρὸς τὸ στῆθος ἔχει τὸ ὀξύ, ἀλλὰ πρὸς τὴν κεφαλὴν καὶ τὸ στόμα. Ἀνήρτηται δ' αὐτῶν τὸ ἄκρον ᾗ συνάπτει τὰ βράγχια ἀλλήλοις τὰ δεξιὰ καὶ τὰ ἀριστερά. Εἰσὶ δὲ καὶ ἄλλοι πόροι τεταμένοι ἐξ αὐτῆς εἰς ἕκαστον τῶν βραγχίων, μείζους μὲν τοῖς μείζοσιν, ἐλάττους δὲ τοῖς ἐλάττοσιν· ὁ δ' ἐπ' ἄκρας τῆς καρδίας τοῖς μεγάλοις αὐτῶν σφόδρα παχὺς αὐλός ἐστι καὶ λευκός. Στόμαχον δ' ὀλίγοι ἔχουσι τῶν ἰχθύων, οἷον γόγγρος καὶ ἔγχελυς, καὶ οὗτοι μικρόν.

Καὶ τὸ ἧπαρ τοῖς ἔχουσι τοῖς μὲν ἀσχιδὲς ἔχουσίν ἐστιν ἐν τοῖς δεξιοῖς ὅλον, τοῖς δ' ἐσχισμένον ἀπ' ἀρχῆς τὸ μεῖζον ἐν τοῖς δεξιοῖς. Ἐνίοις γὰρ ἑκάτερον τὸ μόριον ἀπήρτηται καὶ οὐ συμπέφυκεν ἡ ἀρχή, οἷον τῶν τ' ἰχθύων τοῖς γαλεώδεσι, καὶ δασυπόδων τι γένος ἐστὶ καὶ ἄλλοθι καὶ περὶ τὴν λίμνην τὴν Βόλβην ἐν τῇ καλουμένῃ Συκίνῃ, οὓς ἄν τις δόξειε δύο ἥπατα ἔχειν διὰ τὸ πόρρω τοὺς πόρους συνάπτειν, ὥσπερ καὶ ἐπὶ τοῦ τῶν ὀρνίθων πλεύμονος.

Καὶ ὁ σπλὴν δ' ἐστὶ πᾶσιν ἐν τοῖς ἀριστεροῖς κατὰ φύσιν, καὶ οἱ νεφροὶ τοῖς ἔχουσι κείμενοι τὸν αὐτὸν τρόπον· ἤδη δὲ διανοιχθέν τι τῶν τετραπόδων ὤφθη ἔχον τὸν σπλῆνα μὲν ἐν τοῖς δεξιοῖς, τὸ δ' ἧπαρ ἐν τοῖς ἀριστεροῖς· ἀλλὰ τὰ τοιαῦτα ὡς τέρατα κρίνεται.

Τείνει δ' ἡ μὲν ἀρτηρία πᾶσιν εἰς τὸν πλεύμονα (ὃν δὲ τρόπον, ὕστερον ἐροῦμεν), ὁ δὲ στόμαχος εἰς τὴν κοιλίαν διὰ τοῦ διαζώματος, ὅσα ἔχει στόμαχον· οἱ γὰρ ἰχθύες, ὥσπερ εἴρηται πρότερον, οἱ πλεῖστοι οὐκ ἔχουσιν, ἀλλ' εὐθὺς πρὸς τὸ στόμα συνάπτει ἡ κοιλία, διὸ πολλάκις ἐνίοις τῶν μεγάλων διώκουσι τοὺς ἐλάττους προπίπτει ἡ κοιλία εἰς τὸ στόμα.

Ἔχει δὲ κοιλίαν πάντα μὲν τὰ εἰρημένα, καὶ κειμένην ὁμοίως (κεῖται γὰρ ὑπὸ τὸ διάζωμα εὐθύς), καὶ τὸ ἔντερον ἐχόμενον καὶ τελευτῶν πρὸς τὴν ἔξοδον τῆς τροφῆς καὶ τὸν καλούμενον ἀρχόν. Ἀνομοίας δ' ἔχουσι τὰς κοιλίας.

Πρῶτον μὲν γὰρ τῶν τετραπόδων καὶ ζῳοτόκων ὅσα μὴ ἔστιν ἀμφώδοντα τῶν κερατοφόρων, τέτταρας ἔχει τοὺς τοιούτους πόρους· ἃ δὴ καὶ λέγεται μηρυκάζειν. Διήκει γὰρ ὁ μὲν στόμαχος ἀπὸ τοῦ στόματος ἀρξάμενος ἐπὶ τὰ κάτω παρὰ (507b.) τὸν πλεύμονα, ἀπὸ τοῦ διαζώματος ἐπὶ τὴν κοιλίαν τὴν μεγάλην· αὕτη δ’ ἐστὶ τὰ ἔσω τραχεῖα καὶ διειλημμένη.

Συνήρτηται δ’ αὐτῇ πλησίον τῆς τοῦ στομάχου προσβολῆς ὁ καλούμενος κεκρύφαλος ἀπὸ τῆς ὄψεως· ἔστι γὰρ τὰ μὲν ἔξωθεν ὅμοιος τῇ κοιλίᾳ, τὰ δ’ ἐντὸς ὅμοιος τοῖς πλεκτοῖς κεκρυφάλοις· μεγέθει δὲ πολὺ ἐλάττων ἐστὶν ὁ κεκρύφαλος τῆς κοιλίας. Τούτου δ’ ἔχεται ὁ ἐχῖνος, τὰ ἐντὸς ὢν τραχὺς καὶ πλακώδης, τὸ δὲ μέγεθος παραπλήσιος τῷ κεκρυφάλῳ.

Μετὰ δὲ τοῦτον τὸ καλούμενον ἤνυστρόν ἐστι, τῷ μὲν μεγέθει τοῦ ἐχίνου μεῖζον, τὸ δὲ σχῆμα προμηκέστερον· ἔχει δ’ ἐντὸς πλάκας πολλὰς καὶ μεγάλας καὶ λείας. Ἀπὸ δὲ τούτου τὸ ἔντερον ἤδη.

Τὰ μὲν οὖν κερατοφόρα καὶ μὴ ἀμφώδοντα τοιαύτην ἔχει τὴν κοιλίαν, διαφέρει δὲ πρὸς ἄλληλα τοῖς σχήμασι καὶ τοῖς μεγέθεσι τούτων τε καὶ τῷ τὸν στόμαχον εἰς μέσην ἢ πλαγίαν τείνειν τὴν κοιλίαν. Τὰ δ’ ἀμφώδοντα μίαν ἔχει κοιλίαν, οἷον ἄνθρωπος, ὗς, κύων, ἄρκτος, λέων, λύκος. Ἔχει δὲ καὶ ὁ θὼς πάντα τὰ ἐντὸς ὅμοια λύκῳ.

Πάντα μὲν οὖν ἔχει μίαν κοιλίαν, καὶ μετὰ ταῦτα τὸ ἔντερον· ἀλλὰ τὰ μὲν ἔχει μείζω τὴν κοιλίαν, ὥσπερ ὗς καὶ ἄρκτος (καὶ ἥ γε τῆς ὑὸς ὀλίγας ἔχει λείας πλάκας), τὰ δὲ πολὺ ἐλάττω καὶ οὐ πολλῷ μείζω τοῦ ἐντέρου, καθάπερ λέων καὶ κύων καὶ ἄνθρωπος. Καὶ τῶν ἄλλων δὲ τὰ εἴδη διέστηκε πρὸς τὰς τούτων κοιλίας· τὰ μὲν γὰρ ὑῒ ὁμοίαν ἔχει τὰ δὲ κυνί, καὶ τὰ μείζω καὶ τὰ ἐλάττω τῶν ζῴων ὡσαύτως. Διαφορὰ δὲ καὶ ἐν τούτοις κατὰ τὰ μεγέθη καὶ τὰ σχήματα καὶ πάχη καὶ λεπτότητας ὑπάρχει τὰς τῆς κοιλίας, καὶ κατὰ τὴν τοῦ στομάχου τῇ θέσει σύντρησιν.

Διαφέρει δὲ καὶ ἡ τῶν ἐντέρων φύσις ἑκατέροις τῶν εἰρημένων ζῴων, τοῖς τε μὴ ἀμφώδουσι καὶ τοῖς ἀμφώδουσι, τῷ μεγέθει καὶ πάχει καὶ ταῖς ἐπαναδιπλώσεσιν. Πάντα δὲ μείζω τὰ τῶν μὴ ἀμφωδόντων ἐστίν· καὶ γὰρ αὐτὰ πάντα μείζω· μικρὰ μὲν γὰρ ὀλίγα, πάμπαν δὲ μικρὸν οὐδέν ἐστι κερατοφόρον. Ἔχουσι δ’ ἔνια καὶ ἀποφυάδας τῶν ἐντέρων, εὐθυέντερον δ’ οὐδέν ἐστι μὴ ἀμφώδουν. Ὁ δ’ ἐλέφας ἔντερον ἔχει συμφύσεις ἔχον, ὥστε φαίνεσθαι τέτταρας κοιλίας ἔχειν. Ἐν τούτῳ καὶ ἡ τροφὴ ἐγγίνεται, χωρὶς δ’ οὐκ ἔχει ἀγγεῖον. Καὶ τὰ σπλάγχνα ἔχει παραπλήσια τοῖς (508a.) ὑείοις, πλὴν τὸ μὲν ἧπαρ τετραπλάσιον τοῦ βοείου καὶ τἆλλα, τὸν δὲ σπλῆνα ἐλάττω ἢ κατὰ λόγον.

Τὸν αὐτὸν δὲ τρόπον ἔχει τὰ περὶ τὴν κοιλίαν καὶ τὴν τῶν ἐντέρων φύσιν καὶ τοῖς τετράποσι μὲν τῶν ζῴων ᾠοτόκοις δέ, οἷον χελώνῃ χερσαίᾳ καὶ χελώνῃ θαλαττίᾳ καὶ σαύρᾳ καὶ τοῖς κροκοδείλοις ἀμφοῖν καὶ πᾶσιν ὅλως τοῖς τοιούτοις· ἁπλῆν τε γὰρ ἔχουσι καὶ μίαν τὴν κοιλίαν, καὶ τὰ μὲν ὁμοίαν τῇ ὑείᾳ, τὰ δὲ τῇ τοῦ κυνός.

Τὸ δὲ τῶν ὄφεων γένος ὅμοιόν ἐστι καὶ ἔχει παραπλήσια σχεδὸν πάντα τῶν πεζῶν καὶ ᾠοτόκων τοῖς σαύροις, εἴ τις μῆκος ἀποδοὺς αὐτοῖς ἀφέλοι τοὺς πόδας. Φολιδωτόν τε γάρ ἐστι, καὶ τὰ πρανῆ καὶ τὰ ὕπτια παραπλήσια τούτοις ἔχει· πλὴν ὄρχεις οὐκ ἔχει, ἀλλ’ ὥσπερ ἰχθὺς δύο πόρους εἰς ἓν συνάπτοντας καὶ τὴν ὑστέραν μακρὰν καὶ δικρόαν. Τὰ δ’ ἄλλα τὰ ἐντὸς τὰ αὐτὰ τοῖς σαύροις, πλὴν ἅπαντα διὰ τὴν στενότητα καὶ τὸ μῆκος στενὰ καὶ μακρὰ τὰ σπλάγχνα, ὥστε καὶ λανθάνειν διὰ τὴν ὁμοιότητα τῶν σχημάτων· τήν τε γὰρ ἀρτηρίαν ἔχει σφόδρα μακράν, ἔτι δὲ μακρότερον τὸν στόμαχον. Ἀρχὴ δὲ τῆς ἀρτηρίας πρὸς αὐτῷ ἐστι τῷ στόματι, ὥστε δοκεῖν ὑπὸ ταύτην εἶναι τὴν γλῶτταν. Προέχειν δὲ δοκεῖ τῆς γλώττης ἡ ἀρτηρία διὰ τὸ συσπᾶσθαι τὴν γλῶτταν καὶ μὴ μένειν ὥσπερ τοῖς ἄλλοις. Ἔστι δ’ ἡ γλῶττα λεπτὴ καὶ μακρὰ καὶ μέλαινα, καὶ ἐξέρχεται μέχρι πόρρω. Ἴδιον δὲ παρὰ τὰς τῶν ἄλλων γλώττας ἔχουσι καὶ οἱ ὄφεις καὶ οἱ σαῦροι τὸ δικρόαν αὐτῶν εἶναι τὴν γλῶτταν ἄκραν, πολὺ δὲ μάλιστα οἱ ὄφεις· τὰ γὰρ ἄκρα αὐτῶν ἐστι λεπτὰ ὥσπερ τρίχες.

Ἔχει δὲ καὶ ἡ φώκη ἐσχισμένην τὴν γλῶτταν.

Τὴν δὲ κοιλίαν ὁ ὄφις ἔχει οἷον ἔντερον εὐρυχωρέστερον, ὁμοίαν τῇ τοῦ κυνός· εἶτα τὸ ἔντερον μακρὸν καὶ λεπτὸν καὶ μέχρι τοῦ τέλους ἕν. Ἐπὶ δὲ τοῦ φάρυγγος ἡ καρδία, μικρὰ δὲ καὶ νεφροειδής· διὸ δόξειεν ἂν ἐνίοτε οὐ πρὸς τὸ στῆθος ἔχειν τὸ ὀξύ. Εἶθ’ ὁ πλεύμων ἁπλοῦς, ἰνώδει πόρῳ διηρθρωμένος καὶ μακρὸς σφόδρα καὶ πολὺ ἀπηρτημένος τῆς καρδίας. Καὶ τὸ ἧπαρ μακρὸν καὶ ἁπλοῦν, σπλῆνα δὲ μικρὸν καὶ στρογγύλον, ὥσπερ καὶ οἱ σαῦροι. Χολὴν δ’ ἔχει ὁμοίως τοῖς (508b.) ἰχθύσιν· οἱ μὲν γὰρ ὕδροι πρὸς τῷ ἥπατι ἔχουσιν, οἱ δ’ ἄλλοι πρὸς τοῖς ἐντέροις ὡς ἐπὶ τὸ πολύ. Καρχαρόδοντες δὲ πάντες εἰσίν. Πλευρὰς δ’ ἔχουσιν ἴσας ταῖς ἐν τῷ μηνὶ ἡμέραις· τριάκοντα γὰρ ἔχουσιν. Λέγουσι δέ τινες συμβαίνειν περὶ τοὺς ὄφεις τὸ αὐτὸ ὅπερ καὶ περὶ τοὺς νεοττοὺς τῶν χελιδόνων· ἐὰν γάρ τις ἐκκεντήσῃ τὰ ὄμματα τῶν ὄφεων, φασὶ φύεσθαι πάλιν. Καὶ αἱ κέρκοι δὲ ἀποτεμνόμεναι τῶν τε σαύρων καὶ τῶν ὄφεων φύονται.

Ὡσαύτως δὲ καὶ τοῖς ἰχθύσιν ἔχει τὰ περὶ τὰ ἔντερα καὶ τὴν κοιλίαν· μίαν γὰρ καὶ ἁπλῆν ἔχουσι, διαφέρουσαν τοῖς σχήμασιν. Ἔνιοι γὰρ πάμπαν ἐντεροειδῆ ἔχουσιν, οἷον ὃν καλοῦσι σκάρον, ὃς δὴ καὶ δοκεῖ μόνος ἰχθὺς μηρυκάζειν. Καὶ τὸ τοῦ ἐντέρου δὲ μέγεθος ἁπλοῦν, καὶ ἀναδίπλωσιν ἔχει, ὃ ἀναλύεται εἰς ἕν.

Ἴδιον δὲ τῶν ἰχθύων ἐστὶ καὶ τῶν ὀρνίθων τῶν πλείστων τὸ ἔχειν ἀποφυάδας· ἀλλ’ οἱ μὲν ὄρνιθες κάτωθεν καὶ ὀλίγας, οἱ δ’ ἰχθύες ἄνωθεν περὶ τὴν κοιλίαν, καὶ ἔνιοι πολλάς, οἷον κωβιός, γαλεός, πέρκη, σκορπίος, κίθαρος, τρίγλη, σπάρος· ὁ δὲ κεστρεὺς ἐπὶ μὲν θάτερα τῆς κοιλίας πολλάς, ἐπὶ δὲ θάτερα μίαν. Ἔνιοι δ’ ἔχουσι μὲν ὀλίγας δέ, οἷον ἥπατος, γλαῦκος· ἔχει δὲ καὶ ὁ χρύσοφρυς ὀλίγας. Διαφέρουσι δὲ καὶ αὐτοὶ αὑτῶν, οἷον χρύσοφρυς ἔχει ὁ μὲν πλείους ὁ δ’ ἐλάττους. Εἰσὶ δὲ καὶ οἳ ὅλως οὐκ ἔχουσιν, οἷον οἱ πλεῖστοι τῶν σελαχωδῶν· τῶν δ’ ἄλλων οἱ μὲν ὀλίγας, οἱ δὲ καὶ πάνυ πολλάς. Πάντες δὲ παρ’ αὐτὴν ἔχουσι τὴν κοιλίαν τὰς ἀποφυάδας οἱ ἰχθύες.

Οἱ δ’ ὄρνιθες ἔχουσι καὶ πρὸς ἀλλήλους καὶ πρὸς τἆλλα ζῷα περὶ τὰ ἐντὸς μέρη διαφοράν. Οἱ μὲν γὰρ ἔχουσι πρὸ τῆς κοιλίας πρόλοβον, οἷον ἀλεκτρυών, φάττα, περιστερά, πέρδιξ· ἔστι δ’ ὁ πρόλοβος δέρμα κοῖλον καὶ μέγα, ἐν ᾧ ἡ τροφὴ πρώτη εἰσιοῦσα ἄπεπτός ἐστιν.

Ἔστι δ’ αὐτόθι μὲν ἀπὸ τοῦ στομάχου στενότερος, ἔπειτα εὐρύτερος, ᾗ δὲ καθήκει πάλιν πρὸς τὴν κοιλίαν, λεπτότερος.

Τὴν δὲ κοιλίαν σαρκώδη καὶ στιφρὰν οἱ πλεῖστοι ἔχουσι, καὶ ἔσωθεν δέρμα ἰσχυρὸν καὶ ἀφαιρούμενον ἀπὸ τοῦ σαρκώδους.

Οἱ δὲ πρόλοβον μὲν οὐκ ἔχουσιν, ἀλλ’ ἀντὶ τούτου τὸν στόμαχον εὐρὺν καὶ πλατύν, ἢ δι’ ὅλου ἢ τὸ πρὸς τὴν κοιλίαν τεῖνον, οἷον (509a.) κολοιὸς καὶ κόραξ καὶ κορώνη. Ἔχει δὲ καὶ ὁ ὄρτυξ τοῦ στομάχου τὸ πλατὺ κάτω, καὶ ὁ αἰγοκέφαλος μικρὸν εὐρύτερον τὸ κάτω καὶ ἡ γλαύξ. Νῆττα δὲ καὶ χὴν καὶ λάρος καὶ καταρράκτης καὶ ὠτὶς τὸν στόμαχον εὐρὺν καὶ πλατὺν ὅλον, καὶ ἄλλοι δὲ πολλοὶ τῶν ὀρνίθων ὁμοίως. Ἔνιοι δὲ τῆς κοιλίας αὐτῆς τι ἔχουσιν ὅμοιον προλόβῳ, οἷον ἡ κεγχρηΐς.

Ἔστι δ’ ἃ οὐκ ἔχει οὔτε τὸν στόμαχον οὔτε τὸν πρόλοβον εὐρύν, ἀλλὰ τὴν κοιλίαν μακράν, ὅσα μικρὰ τῶν ὀρνίθων, οἷον χελιδὼν καὶ στρουθός. Ὀλίγοι δ’ οὔτε τὸν πρόλοβον ἔχουσιν οὔτε τὸν στόμαχον εὐρύν, ἀλλὰ σφόδρα μακρόν, ὅσοι τὸν αὐχένα μακρὸν ἔχουσιν, οἷον πορφυρίων· σχεδὸν δ’ οὗτοι καὶ τὸ περίττωμα ὑγρότερον τῶν ἄλλων προΐενται πάντες. Ὁ δ’ ὄρτυξ ἰδίως ἔχει ταῦτα πρὸς τοὺς ἄλλους· ἔχει γὰρ καὶ πρόλοβον καὶ πρὸ τῆς γαστρὸς τὸν στόμαχον εὐρὺν καὶ πλάτος ἔχοντα· διέχει δ’ ὁ πρόλοβος τοῦ πρὸ τῆς γαστρὸς στομάχου συχνὸν ὡς κατὰ μέγεθος.

Ἔχουσι δὲ καὶ λεπτὸν τὸ ἔντερον οἱ πλεῖστοι καὶ ἁπλοῦν ἀναλυόμενον. Τὰς δ’ ἀποφυάδας ἔχουσιν οἱ ὄρνιθες, καθάπερ εἴρηται, ὀλίγας, καὶ οὐκ ἄνωθεν ὥσπερ οἱ ἰχθύες, ἀλλὰ κάτωθεν κατὰ τὴν τοῦ ἐντέρου τελευτήν. Ἔχουσι δ’ οὐ πάντες ἀλλ’ οἱ πλεῖστοι, οἷον ἀλεκτρυών, πέρδιξ, νῆττα, νυκτικόραξ, λόκαλος, ἀσκάλαφος, χήν, κύκνος, ὠτίς, γλαύξ. Ἔχουσι δὲ καὶ τῶν μικρῶν τινές, ἀλλὰ μικρὰ πάμπαν, οἷον στρουθός.

Βιβλίο 3

Κεφάλαιο 1

Περὶ μὲν οὖν τῶν ἄλλων μορίων τῶν ἐντὸς εἴρηται, καὶ πόσα καὶ ποῖ' ἄττα, καὶ τίνας ἔχει πρὸς ἄλληλα διαφοράς· λοιπὸν δὲ περὶ τῶν εἰς τὴν γένεσιν συντελούντων μορίων εἰπεῖν.

Ταῦτα γὰρ τοῖς μὲν θήλεσι πᾶσιν ἐντός ἐστι, τὰ δὲ τῶν ἀρρένων διαφορὰς ἔχει πλείους. Τὰ μὲν γὰρ ὅλως τῶν ἐναίμων ζῴων οὐκ ἔχει ὄρχεις, τὰ δ' ἔχει μὲν ἐντὸς δ' ἔχει, καὶ τῶν ἐντὸς ἐχόντων τὰ μὲν πρὸς τῇ ὀσφύϊ ἔχει περὶ τὸν τῶν νεφρῶν τόπον, τὰ δὲ πρὸς τῇ γαστρί, τὰ δ' ἐκτός. Καὶ τὸ αἰδοῖον τούτων τοῖς μὲν συνήρτηται πρὸς τὴν (509b.) γαστέρα, τοῖς δ' ἀφεῖται καθάπερ καὶ οἱ ὄρχεις· πρὸς δὲ τὴν γαστέρα συνήρτηται ἄλλως τοῖς τ' ἐμπροσθουρητικοῖς καὶ τοῖς ὀπισθουρητικοῖς.

Τῶν μὲν οὖν ἰχθύων οὐδεὶς ὄρχεις ἔχει, οὐδ' εἴ τι ἄλλο ἔχει βράγχια, οὐδὲ τὸ τῶν ὄφεων γένος ἅπαν, οὐδ' ὅλως ἄπουν οὐδέν, ὅσα μὴ ζῳοτοκεῖ ἐν αὑτοῖς. Οἱ δ' ὄρνιθες ἔχουσι μὲν ὄρχεις, ἔχουσι δ' ἐντὸς πρὸς τῇ ὀσφύϊ.

Καὶ τῶν τετραπόδων ὅσα ᾠοτοκεῖ, τὸν αὐτὸν ἔχει τρόπον, οἷον σαύρα καὶ χελώνη καὶ κροκόδειλος, καὶ τῶν ζῳοτόκων ἐχῖνος. Τὰ δὲ τῶν ἐντὸς ἐχόντων πρὸς τῇ γαστρὶ ἔχει, οἷον τῶν ἀπόδων μὲν δελφίς, τῶν δὲ τετραπόδων καὶ ζῳοτόκων ἐλέφας· τὰ δ' ἄλλα φανεροὺς ἔχει.

Ἡ δ' ἐξάρτησις ἡ πρὸς τὴν κοιλίαν καὶ τὸν τόπον τὸν συνεχῆ τίνα διαφορὰν ἔχει, πρότερον εἴρηται· τοῖς μὲν γὰρ ἐκ τοῦ ὄπισθεν συνεχεῖς καὶ οὐκ ἀπηρτημένοι εἰσίν, οἷον τῷ γένει τῷ τῶν ὑῶν, τοῖς δ' ἀπηρτημένοι, καθάπερ τοῖς ἀνθρώποις. Οἱ μὲν οὖν ἰχθύες ὄρχεις μὲν οὐκ ἔχουσιν, ὥσπερ εἴρηται πρότερον, οὐδ' οἱ ὄφεις· πόρους δὲ δύο ἔχουσιν ἀπὸ τοῦ ὑποζώματος ἠρτημένους ἐφ' ἑκάτερα τῆς ῥάχεως, συνάπτοντας εἰς ἕνα πόρον ἄνωθεν τῆς τοῦ περιττώματος ἐξόδου· τὸ δ' ἄνωθεν λέγομεν τὸ πρὸς τὴν ἄκανθαν. Οὗτοι δὲ γίνονται περὶ τὴν ὥραν τῆς ὀχείας θοροῦ πλήρεις, καὶ θλιβομένων ἐξέρχεται τὸ σπέρμα λευκόν. Αὐτοὶ δὲ πρὸς αὑτοὺς ἣν ἔχουσι διαφοράν, ἔκ τε τῶν ἀνατομῶν δεῖ θεωρεῖν καὶ ὕστερον λεχθήσεται ἐν τοῖς περὶ ἕκαστον αὐτῶν ἰδίοις ἀκριβέστερον.

Ὅσα δ' ᾠοτοκεῖ ἢ δίποδα ὄντα ἢ τετράποδα, πάντ' ἔχει ὄρχεις πρὸς τῇ ὀσφύϊ κάτωθεν τοῦ διαζώματος, τὰ μὲν λευκοτέρους τὰ δ' ὠχροτέρους, λεπτοῖς πάμπαν φλεβίοις περιεχομένους. Καὶ ἀφ' ἑκατέρου τείνει πόρος

συνάπτων εἰς ἕν, καθάπερ καὶ τοῖς ἰχθύσιν, ὑπὲρ τῆς τοῦ περιττώματος ἐξόδου. Τοῦτο δ’ ἐστὶν αἰδοῖον, ὃ τοῖς μὲν μικροῖς ἄδηλον, ἐν δὲ τοῖς μείζοσιν, οἷον ἐν χηνὶ καὶ τοῖς τηλικούτοις, φανερώτερον γίνεται, ὅταν ἡ ὀχεία πρόσφατος ᾖ.

Οἱ δὲ πόροι καὶ τοῖς ἰχθύσι καὶ τούτοις προσπεφύκασι πρὸς τῇ ὀσφύϊ ὑποκάτω τῆς κοιλίας καὶ τῶν ἐντέρων, μεταξὺ τῆς μεγάλης φλεβός, ἀφ’ ἧς τείνουσι πόροι εἰς ἑκάτερον τῶν ὄρχεων. Ὥσπερ δὲ τοῖς ἰχθύσι περὶ μὲν τὴν ὥραν (510a.) τῆς ὀχείας θορός τε φαίνεται ἐνὼν καὶ οἱ πόροι σφόδρα δῆλοι, ὅταν δὲ παρέλθῃ ἡ ὥρα, ἄδηλοι καὶ οἱ πόροι ἐνίοτε, οὕτω καὶ τῶν ὀρνίθων οἱ ὄρχεις· πρὶν μὲν ὀχεύειν, οἱ μὲν μικροὺς οἱ δὲ πάμπαν ἀδήλους ἔχουσιν, ὅταν δ’ ὀχεύωσι, σφόδρα μεγάλους ἴσχουσιν. Ἐπιδηλότατα δὲ τοῦτο συμβαίνει ταῖς φάτταις καὶ τοῖς πέρδιξιν, ὥστ’ ἔνιοι οἴονται οὐδ’ ἔχειν τοῦ χειμῶνος ὄρχεις αὐτά.

Τῶν δ’ ἐν τῷ ἔμπροσθεν ἐχόντων τοὺς ὄρχεις οἱ μὲν ἐντὸς ἔχουσι πρὸς τῇ γαστρί, καθάπερ δελφίς, οἱ δ’ ἐκτὸς ἐν τῷ φανερῷ πρὸς τῷ τέλει τῆς γαστρός. Τούτοις δὲ τὰ μὲν ἄλλα ἔχει τὸν αὐτὸν τρόπον, διαφέρουσι δ’ ὅτι οἱ μὲν αὐτῶν ἔχουσι καθ’ αὑτοὺς τοὺς ὄρχεις, οἱ δ’ ἐν τῇ καλουμένῃ ὀσχέᾳ, ὅσοι ἔξωθεν.

Αὐτοὶ δ’ οἱ ὄρχεις ἐν πᾶσι τοῖς πεζοῖς καὶ ζῳοτόκοις τόνδ’ ἔχουσι τὸν τρόπον. Τείνουσιν ἐκ τῆς ἀορτῆς πόροι φλεβικοὶ μέχρι τῆς κεφαλῆς ἑκατέρου τοῦ ὄρχεως, καὶ ἄλλοι ἀπὸ τῶν νεφρῶν δύο· εἰσὶ δ’ οὗτοι μὲν αἱματώδεις, οἱ δ’ ἐκ τῆς ἀορτῆς ἄναιμοι. Ἀπὸ δὲ τῆς κεφαλῆς πρὸς αὐτῷ τῷ ὄρχει πόρος ἐστὶ πυκνότερος ἐκείνου καὶ νευρωδέστερος, ὃς ἀνακάμπτει πάλιν ἐν ἑκατέρῳ τῷ ὄρχει πρὸς τὴν κεφαλὴν τοῦ ὄρχεως· ἀπὸ δὲ τῆς κεφαλῆς ἑκατέρας πάλιν εἰς ταὐτὸ συνάπτουσιν εἰς τὸ πρόσθεν ἐπὶ τὸ αἰδοῖον. Οἱ δ’ ἐπανακάμπτοντες πόροι καὶ προσκαθήμενοι τοῖς ὄρχεσιν ὑμένι περιειλημμένοι εἰσὶ τῷ αὐτῷ, ὥστε δοκεῖν ἕνα εἶναι πόρον, ἂν μὴ διέλῃ τὸν ὑμένα τις. Ὁ μὲν οὖν προσκαθήμενος πόρος ἔτι αἱματῶδες ἔχει τὸ ὑγρόν, ἧττον μέντοι τῶν ἄνω τῶν ἐκ τῆς ἀορτῆς· ἐν δὲ τοῖς ἐπανακάμπτουσιν εἰς τὸν καυλὸν τὸν ἐν τῷ αἰδοίῳ λευκή ἐστιν ἡ ὑγρότης. Φέρει δὲ καὶ ἀπὸ τῆς κύστεως πόρος, καὶ συνάπτει ἄνωθεν εἰς τὸν καυλόν· περὶ τοῦτον δ’ οἷον κέλυφός ἐστι τὸ καλούμενον αἰδοῖον. Θεωρείσθω δὲ τὰ εἰρημένα ταῦτα ἐκ τῆς ὑπογραφῆς τῆσδε. Τῶν πόρων ἀρχὴ τῶν ἀπὸ τῆς ἀορτῆς, ἐφ’ οἷς Α· κεφαλαὶ τῶν ὄρχεων καὶ οἱ καθήκοντες πόροι, ἐφ’ οἷς ΚΚ· οἱ ἀπὸ τούτων πρὸς τῷ ὄρχει προσκαθήμενοι, ἐφ’ οἷς τὰ ΩΩ· οἱ δ’ ἀνακάμπτοντες, ἐν οἷς ἡ ὑγρότης ἡ λευκή, ἐφ’ οἷς τὰ ΒΒ· αἰδοῖον Δ, κύστις Ε, ὄρχεις δ’ ἐν οἷς τὰ ΨΨ.

Ἀποτεμνομένων δ’ ἢ (510b.) ἀφαιρουμένων τῶν ὄρχεων αὐτῶν ἀνασπῶνται οἱ πόροι ἄνω. Διαφθείρουσι δ’ οἱ μὲν ἔτι νέων ὄντων τρίψει, οἱ δὲ καὶ ὕστερον ἐκτέμνοντες· συνέβη δ’ ἤδη ταῦρον ἐκτμηθέντα καὶ εὐθὺς ἐπιβάντα ὀχεῦσαι καὶ γεννῆσαι. Τὰ μὲν οὖν περὶ τοὺς ὄρχεις τοῖς ζῴοις τοῦτον ἔχει τὸν τρόπον.

Αἱ δ’ ὑστέραι τῶν ἐχόντων ὑστέρας ζῴων οὔτε τὸν αὐτὸν τρόπον ἔχουσιν οὔθ’ ὅμοιαι πάντων εἰσίν, ἀλλὰ διαφέρουσι καὶ τῶν ζῳοτοκούντων πρὸς ἄλληλα καὶ τῶν ᾠοτοκούντων. Δίκροαι μὲν οὖν εἰσιν ἁπάντων τῶν πρὸς τοῖς ἄρθροις ἐχόντων τὰς ὑστέρας, καὶ τὸ μὲν αὐτῶν ἐν τοῖς δεξιοῖς μέρεσι, τὸ δ’ ἕτερον ἐν τοῖς ἀριστεροῖς ἐστιν· ἡ δ’ ἀρχὴ μία καὶ τὸ στόμα ἕν, οἷον καυλὸς σαρκώδης σφόδρα καὶ χονδρώδης τοῖς πλείστοις καὶ μεγίστοις.

Καλεῖται δὲ τούτων τὸ μὲν ὑστέρα καὶ δελφύς (ὅθεν καὶ ἀδελφοὺς προσαγορεύουσι), μήτρα δ’ ὁ καυλὸς καὶ τὸ στόμα τῆς ὑστέρας. Ὅσα μὲν οὖν ἐστι ζῳοτόκα καὶ δίποδα καὶ τετράποδα, τούτων μὲν ἡ ὑστέρα πάντων ἐστὶ κάτω τοῦ ὑποζώματος, οἷον ἀνθρώπῳ καὶ κυνὶ καὶ ὑῒ καὶ ἵππῳ καὶ βοΐ· καὶ τοῖς κερατοφόροις ὁμοίως ταῦτά γ’ ἔχει πᾶσιν. Ἐπ’ ἄκρων δ’ αἱ ὑστέραι τῶν καλουμένων κερατίων εἱλιγμὸν ἔχουσιν αἱ τῶν πλείστων.

Τῶν δ’ ᾠοτοκούντων εἰς τοὐμφανὲς οὐχ ὁμοίως ἁπάντων ἔχουσιν, ἀλλ’ αἱ μὲν τῶν ὀρνίθων πρὸς τῷ ὑποζώματι, αἱ δὲ τῶν ἰχθύων κάτῳ καθάπερ αἱ τῶν ζῳοτοκούντων διπόδων καὶ τετραπόδων, πλὴν λεπταὶ καὶ ὑμενώδεις καὶ μακραί, ὥστ’ ἐν τοῖς σφόδρα μικροῖς τῶν ἰχθύων δοκεῖν ἑκατέραν ᾠὸν εἶναι ἕν, ὡς δύο ἐχόντων ᾠὰ τῶν ἰχθύων τούτων, ὅσων λέγεται τὸ ᾠὸν εἶναι ψαθυρόν· ἔστι γὰρ οὐχ ἓν ἀλλὰ πολλά, διόπερ διαχεῖται εἰς πολλά.

Ἡ δὲ τῶν ὀρνίθων ὑστέρα κάτωθεν μὲν ἔχει τὸν καυλὸν σαρκώδη καὶ στιφρόν, τὰ δὲ πρὸς τῷ ὑποζώματι ὑμενώδη καὶ λεπτὰ πάμπαν, ὥστε δόξαι ἂν ἔξω τῆς ὑστέρας εἶναι τὰ ᾠά. Ἐν μὲν οὖν τοῖς μείζοσι τῶν ὀρνίθων δῆλός ἐστιν ὁ ὑμὴν μᾶλλον, καὶ φυσώμενος διὰ τοῦ καυλοῦ αἴρεται καὶ κολποῦται· ἐν δὲ τοῖς μικροῖς ἀδηλότερα πάντα ταῦτα.

Τὸν αὐτὸν δὲ τρόπον ἔχει ἡ ὑστέρα καὶ ἐν τοῖς τετράποσι μὲν τῶν ζῴων ᾠοτόκοις δέ, οἷον χελώνῃ καὶ σαύρᾳ καὶ βατράχοις καὶ τοῖς ἄλλοις (511a.) τοῖς τοιούτοις· ὁ μὲν γὰρ καυλὸς κάτωθεν εἷς καὶ σαρκωδέστερος, ἡ δὲ σχίσις καὶ τὰ ᾠὰ ἄνω πρὸς τῷ ὑποζώματι.

Ὅσα δὲ τῶν ἀπόδων εἰς τὸ φανερὸν μὲν ζῳοτοκεῖ ἐν αὑτοῖς δ’ ᾠοτοκεῖ, οἷον οἵ τε γαλεοὶ καὶ τἆλλα τὰ καλούμενα σελάχη (καλεῖται δὲ σέλαχος ὃ ἂν ἄπουν ὂν καὶ βράγχια ἔχον ζῳοτόκον ᾖ), τούτων δὴ δικρόα μὲν ἡ ὑστέρα, ὁμοίως δὲ καὶ πρὸς τὸ ὑπόζωμα τείνει, καθάπερ καὶ τῶν ὀρνίθων. Ἔτι δὲ διὰ

μέσου τῶν δικρόων κάτωθεν ἀρξαμένη μέχρι πρὸς τὸ ὑπόζωμα τείνει, καὶ τὰ ᾠὰ ἐνταῦθα γίνεται καὶ ἄνω ἐπ’ ἀρχῇ τοῦ ὑποζώματος· εἶτα προελθόντα εἰς τὴν εὐρυχωρίαν ζῷα γίνεται ἐκ τῶν ᾠῶν. Αὐτῶν δὲ τούτων πρὸς ἄλληλά τε καὶ πρὸς τοὺς ἄλλους ἰχθῦς ἡ διαφορὰ τῶν ὑστερῶν ἀκριβέστερον ἂν θεωρηθείη τοῖς σχήμασιν ἐκ τῶν ἀνατομῶν.

Ἔχει δὲ καὶ τὸ τῶν ὄφεων γένος πρός τε ταῦτα καὶ πρὸς ἄλληλα διαφοράν. Τὰ μὲν γὰρ ἄλλα γένη τῶν ὄφεων ᾠοτοκεῖ πάντα, ὁ δ’ ἔχις ζῳοτοκεῖ μόνον, ᾠοτοκήσας ἐν αὑτῷ πρῶτον· διὸ παραπλησίως ἔχει τὰ περὶ τὴν ὑστέραν τοῖς σελάχεσιν. Ἡ δὲ τῶν ὄφεων ὑστέρα μακρά, καθάπερ τὸ σῶμα, τείνει κάτωθεν ἀρξαμένη ἀφ’ ἑνὸς πόρου συνεχής, ἔνθεν καὶ ἔνθεν τῆς ἀκάνθης, οἷον πόρος ἑκάτερος ὤν, μέχρι πρὸς τὸ ὑπόζωμα, ἐν ᾗ τὰ ᾠὰ κατὰ στοῖχον ἐγγίνεται, καὶ ἐκτίκτει οὐ καθ’ ἓν ἀλλὰ συνεχές.

Ἔχει δὲ τὴν ὑστέραν, ὅσα μὲν ζῳοτοκεῖ καὶ ἐν αὑτοῖς καὶ εἰς τοὐμφανές, ἄνωθεν τῆς κοιλίας, ὅσα δ’ ᾠοτοκεῖ, πάντα κάτωθεν πρὸς τῇ ὀσφύϊ. Ὅσα δ’ εἰς τὸ φανερὸν μὲν ζῳοτοκεῖ ἐν αὑτοῖς δ’ ᾠοτοκεῖ, ἐπαμφοτερίζει· τὸ μὲν γὰρ κάτωθεν πρὸς τὴν ὀσφὺν αὐτῆς μέρος ἐστίν, ἐν ᾧ τὰ ᾠά, τὸ δὲ περὶ τὴν ἔξοδον ἐπάνω τῶν ἐντέρων.

Ἔτι δὲ διαφορὰ καὶ ἥδε πρὸς ἀλλήλας ἐστὶ τῶν ὑστερῶν. Τὰ μὲν γὰρ κερατοφόρα καὶ μὴ ἀμφώδοντα ἔχει κοτυληδόνας ἐν τῇ ὑστέρᾳ, ὅταν ἔχῃ τὸ ἔμβρυον, καὶ τῶν ἀμφωδόντων οἷον δασύπους καὶ μῦς καὶ νυκτερίς· τὰ δ’ ἄλλα τὰ ἀμφώδοντα καὶ ζῳοτόκα καὶ ὑπόποδα πάντα λείαν ἔχει τὴν ὑστέραν, καὶ ἡ τῶν ἐμβρύων ἐξάρτησις ἐξ αὐτῆς ἐστι τῆς ὑστέρας, ἀλλ’ οὐκ ἐκ κοτυληδόνος.

Τὰ μὲν οὖν ἀνομοιομερῆ ἐν τοῖς ζῴοις μέρη τοῦτον ἔχει (511b.) τὸν τρόπον, καὶ τὰ ἐκτὸς καὶ τὰ ἐντός.

Κεφάλαιο 2

Τῶν δ’ ὁμοιομερῶν κοινότατον μέν ἐστι τὸ αἷμα πᾶσι τοῖς ἐναίμοις ζῴοις καὶ τὸ μόριον ἐν ᾧ πέφυκεν ἐγγίνεσθαι (τοῦτο δὲ καλεῖται φλέψ), ἔπειτα δὲ τὸ ἀνάλογον τούτοις, ἰχὼρ καὶ ἶνες, καὶ ὃ μάλιστα δή ἐστι τὸ σῶμα τῶν ζῴων, ἡ σὰρξ καὶ τὸ τούτῳ ἀνάλογον ἐν ἑκάστῳ μόριον, ἔτι ὀστοῦν καὶ τὸ ἀνάλογον τούτῳ, οἷον ἄκανθα καὶ χόνδρος· ἔτι δὲ δέρμα, ὑμήν, νεῦρα, τρίχες, ὄνυχες, καὶ τὰ ὁμολογούμενα τούτοις· πρὸς δὲ τούτοις πιμελή, στέαρ καὶ τὰ περιττώματα· ταῦτα δ’ ἐστὶ κόπρος, φλέγμα, χολὴ ξανθὴ καὶ μέλαινα.

Ἐπεὶ δ’ ἀρχῇ ἔοικεν ἡ τοῦ αἵματος φύσις καὶ ἡ τῶν φλεβῶν, πρῶτον περὶ τούτων λεκτέον, ἄλλως τ’ ἐπειδὴ καὶ τῶν πρότερον εἰρηκότων τινὲς οὐ καλῶς λέγουσιν. Αἴτιον δὲ τῆς ἀγνοίας τὸ δυσθεώρητον αὐτῶν. Ἐν μὲν γὰρ τοῖς τεθνεῶσι τῶν ζῴων ἄδηλος ἡ φύσις τῶν κυριωτάτων φλεβῶν διὰ τὸ συμπίπτειν εὐθὺς ἐξιόντος τοῦ αἵματος μάλιστα ταύτας (ἐκ τούτων γὰρ ἐκχεῖται ἀθρόον ὥσπερ ἐξ ἀγγείου· καθ’ αὑτὸ γὰρ οὐδὲν ἔχει αἷμα, πλὴν ὀλίγον ἐν τῇ καρδίᾳ, ἀλλὰ πᾶν ἐστιν ἐν ταῖς φλεψίν). Ἐν δὲ τοῖς ζῶσιν ἀδύνατόν ἐστι θεάσασθαι πῶς ἔχουσιν· ἐντὸς γὰρ ἡ φύσις αὐτῶν. Ὥσθ’ οἱ μὲν ἐν τεθνεῶσι καὶ διῃρημένοις τοῖς ζῴοις θεωροῦντες τὰς μεγίστας ἀρχὰς οὐκ ἐθεώρουν, οἱ δ’ ἐν τοῖς λελεπτυσμένοις σφόδρα ἀνθρώποις ἐκ τῶν τότε ἔξωθεν φαινομένων τὰς ἀρχὰς τῶν φλεβῶν διώρισαν.

Συέννεσις μὲν ὁ Κύπριος ἰατρὸς τόνδε τὸν τρόπον λέγει. Αἱ φλέβες αἱ παχεῖαι ὧδε πεφύκασιν, ἐκ τοῦ ὀμφαλοῦ παρὰ τὴν ὀσφὺν διὰ τοῦ νώτου παρὰ τὸν πλεύμονα ὑπὸ τοὺς μαστούς, ἡ μὲν ἐκ τοῦ δεξιοῦ εἰς τὰ ἀριστερά, ἡ δ’ ἐκ τοῦ ἀριστεροῦ εἰς τὸ δεξιόν, ἡ μὲν ἐκ τοῦ ἀριστεροῦ διὰ τοῦ ἥπατος εἰς τὸν νεφρὸν καὶ εἰς τὸν ὄρχιν, ἡ δ’ ἐκ τοῦ δεξιοῦ εἰς τὸν σπλῆνα καὶ νεφρὸν καὶ ὄρχιν, ἐντεῦθεν δ’ εἰς τὸ αἰδοῖον.

Διογένης δ’ ὁ Ἀπολλωνιάτης τάδε λέγει. Αἱ φλέβες ἐν τῷ ἀνθρώπῳ ὧδ’ ἔχουσιν. Εἰσὶ δύο μέγισται· αὗται τείνουσι διὰ τῆς κοιλίας παρὰ τὴν νωτιαίαν ἄκανθαν, ἡ μὲν ἐπὶ δεξιὰ ἡ δ’ ἐπ’ ἀριστερά, εἰς τὰ σκέλη ἑκατέρα παρ’ ἑαυτῇ, καὶ ἄνω εἰς τὴν κεφαλὴν παρὰ τὰς κλεῖδας διὰ τῶν σφαγῶν. Ἀπὸ δὲ τούτων καθ’ (512a.) ἅπαν τὸ σῶμα φλέβες διατείνουσιν, ἀπὸ μὲν τῆς δεξιᾶς εἰς τὰ δεξιά, ἀπὸ δὲ τῆς ἀριστερᾶς εἰς τὰ ἀριστερά, μέγισται μὲν δύο εἰς τὴν καρδίαν περὶ αὐτὴν τὴν νωτιαίαν ἄκανθαν, ἕτεραι δ’ ὀλίγον ἀνωτέρω διὰ τῶν στηθῶν ὑπὸ τὴν μασχάλην εἰς ἑκατέραν τὴν χεῖρα τὴν παρ’ ἑαυτῇ· καὶ καλεῖται ἡ μὲν σπληνῖτις, ἡ δ’ ἡπατῖτις. Σχίζεται δ’ αὐτῶν ἄκρα ἑκατέρα, ἡ μὲν ἐπὶ τὸν μέγαν δάκτυλον, ἡ δ’ ἐπὶ τὸν ταρσόν· ἀπὸ δὲ τούτων λεπταὶ καὶ πολύοζοι ἐπὶ τὴν ἄλλην χεῖρα καὶ δακτύλους. Ἕτεραι δὲ λεπτότεραι ἀπὸ τῶν πρώτων φλεβῶν τείνουσιν, ἀπὸ μὲν τῆς δεξιᾶς εἰς τὸ ἧπαρ, ἀπὸ δὲ τῆς ἀριστερᾶς εἰς τὸν σπλῆνα καὶ τοὺς νεφρούς. Αἱ δ’ εἰς τὰ σκέλη τείνουσαι σχίζονται κατὰ τὴν πρόσφυσιν, καὶ διὰ παντὸς τοῦ μηροῦ τείνουσιν. Ἡ δὲ μεγίστη αὐτῶν ὄπισθεν τείνει τοῦ μηροῦ, καὶ ἐκφαίνεται παχεῖα· ἑτέρα δ’ εἴσω τοῦ μηροῦ, μικρὸν ἧττον παχεῖα ἐκείνης. Ἔπειτα παρὰ τὸ γόνυ τείνουσιν εἰς τὴν κνήμην τε καὶ τὸν πόδα. Καὶ καθάπερ αἱ εἰς τὰς χεῖρας, καὶ ἐπὶ τὸν ταρσὸν τοῦ ποδὸς καθήκουσι, καὶ ἐντεῦθεν ἐπὶ τοὺς δακτύλους διατείνουσιν. Σχίζονται δὲ καὶ ἐπὶ τὴν κοιλίαν καὶ τὸ πλευρὸν πολλαὶ ἀπ’ αὐτῶν καὶ λεπταὶ φλέβες.

Αἱ δ’ εἰς τὴν κεφαλὴν τείνουσαι διὰ τῶν σφαγῶν φαίνονται ἐν τῷ αὐχένι μεγάλαι· ἀφ’ ἑκατέρας δ’ αὐτῶν, ᾗ τελευτᾷ, σχίζονται εἰς τὴν κεφαλὴν πολλαί, αἱ μὲν ἐκ τῶν δεξιῶν εἰς τὰ ἀριστερά, αἱ δ’ ἐκ τῶν ἀριστερῶν εἰς τὰ δεξιά· τελευτῶσι δὲ παρὰ τὸ οὖς ἑκάτεραι. Ἔστι δ’ ἑτέρα φλὲψ ἐν τῷ τραχήλῳ παρὰ τὴν μεγάλην ἑκατέρωθεν, ἐλάττων ἐκείνης ὀλίγον, εἰς ἣν αἱ πλεῖσται ἐκ τῆς κεφαλῆς συνέχουσιν αὐτῆς· καὶ αὗται τείνουσι διὰ τῶν σφαγῶν εἴσω, καὶ ἀπ’ αὐτῶν ἑκατέρας ὑπὸ τὴν ὠμοπλάτην τείνουσι καὶ εἰς τὰς χεῖρας. Καὶ φαίνονται παρά τε τὴν σπληνῖτιν καὶ τὴν ἡπατῖτιν ἕτεραι ὀλίγον ἐλάττους, ἃς ἀποσχάζουσιν, ὅταν τι ὑπὸ τὸ δέρμα λυπῇ· ἂν δέ τι περὶ τὴν κοιλίαν, τὴν ἡπατῖτιν καὶ τὴν σπληνῖτιν. Τείνουσι δὲ καὶ ὑπὸ τοὺς μαστοὺς ἀπὸ (512b.) τούτων ἕτεραι. Ἕτεραι δ’ εἰσὶν αἱ ἀπὸ ἑκατέρας τείνουσαι διὰ τοῦ νωτιαίου μυελοῦ εἰς τοὺς ὄρχεις, λεπταί. Ἕτεραι δ’ ὑπὸ τὸ δέρμα καὶ διὰ τῆς σαρκὸς τείνουσιν εἰς τοὺς νεφρούς, καὶ τελευτῶσιν εἰς τοὺς ὄρχεις τοῖς ἀνδράσι, ταῖς δὲ γυναιξὶν εἰς τὰς ὑστέρας. Αἱ δὲ φλέβες αἱ μὲν πρῶται ἐκ τῆς κοιλίας εὐρύτεραί εἰσιν, ἔπειτα λεπτότεραι γίνονται, ἕως ἂν μεταβάλωσιν ἐκ τῶν δεξιῶν εἰς τὰ ἀριστερὰ καὶ ἐκ τούτων εἰς τὰ δεξιά· αὗται δὲ σπερματίδες καλοῦνται.

Τὸ δ’ αἷμα τὸ μὲν παχύτατον ὑπὸ τῶν σαρκῶν ἐγγίνεται· ὑπερβάλλον δ’ εἰς τοὺς τόπους τούτους λεπτὸν καὶ θερμὸν καὶ ἀφρῶδες γίνεται.

Κεφάλαιο 3

Συέννεσις μὲν οὖν καὶ Διογένης οὕτως εἰρήκασιν, Πόλυβος δ’ ὧδε. Τὰ δὲ τῶν φλεβῶν τέτταρα ζεύγη ἐστίν, ἓν μὲν ἀπὸ τοῦ ἐξόπισθεν τῆς κεφαλῆς διὰ τοῦ αὐχένος ἔξωθεν παρὰ τὴν ῥάχιν ἔνθεν καὶ ἔνθεν μέχρι τῶν ἰσχίων εἰς τὰ σκέλη, ἔπειτα διὰ τῶν κνημῶν ἐκ τῶν σφυρῶν εἴς τ’ ἔξω καὶ εἰς τοὺς πόδας· διὸ καὶ τὰς φλεβοτομίας ποιοῦνται τῶν περὶ τὸν νῶτον ἀλγημάτων καὶ ἰσχίον ἀπὸ τῶν ἰγνύων καὶ τῶν σφυρῶν ἔξωθεν. Ἕτεραι δὲ φλέβες ἐκ τῆς κεφαλῆς παρὰ τὰ ὦτα διὰ τοῦ αὐχένος, αἳ καλοῦνται σφαγίτιδες, ἔνδοθεν παρὰ τὴν ῥάχιν ἑκάτεραι φέρουσαι παρὰ τὰς ψύας εἰς τοὺς ὄρχεις καὶ εἰς τοὺς μηρούς, καὶ διὰ τῶν ἰγνύων τοῦ ἔνδοθεν μορίου καὶ διὰ τῶν κνημῶν ἐπὶ τὰ σφυρὰ τὰ εἴσω καὶ τοὺς πόδας· διὸ καὶ τὰς φλεβοτομίας ποιοῦνται τῶν περὶ τὰς ψύας καὶ τοὺς ὄρχεις ἀλγημάτων ἀπὸ τῶν ἰγνύων καὶ τῶν σφυρῶν <εἴσωθεν>.

Τὸ δὲ τρίτον ζεῦγος ἐκ τῶν κροτάφων διὰ τοῦ αὐχένος ὑπὸ τὰς ὠμοπλάτας εἰς τὸν πλεύμονα ἀφικνοῦνται, αἱ μὲν ἐκ τῶν δεξιῶν εἰς τὰ ἀριστερὰ ὑπὸ τὸν μαστὸν καὶ εἰς τὸν σπλῆνά τε καὶ εἰς τὸν νεφρόν, αἱ δ’ ἀπὸ τῶν ἀριστερῶν εἰς τὸν δεξιὸν ἐκ τοῦ πλεύμονος ὑπὸ τὸν μαστὸν καὶ ἧπαρ καὶ εἰς τὸν νεφρόν· ἄμφω δὲ τελευτῶσιν εἰς τὸν ἀρχόν. Αἱ δὲ τέταρται ἀπὸ τοῦ ἔμπροσθεν τῆς κεφαλῆς καὶ (513a.) τῶν ὀφθαλμῶν ὑπὸ τὸν αὐχένα καὶ τὰς κλεῖδας· ἐντεῦθεν δὲ τείνουσι διὰ τῶν βραχιόνων ἄνωθεν εἰς τὰς καμπάς, εἶτα διὰ τῶν πήχεων ἐπὶ τοὺς καρποὺς καὶ τὰς συγκαμπάς, καὶ διὰ τῶν βραχιόνων τοῦ κάτωθεν μορίου εἰς τὰς μασχάλας, καὶ ἐπὶ lt;τὸ> τῶν πλευρῶν ἄνωθεν, ἕως ἡ μὲν ἐπὶ τὸν σπλῆνα ἡ δ’ ἐπὶ τὸ ἧπαρ ἀφίκηται· εἶθ’ ὑπὲρ τῆς γαστρὸς εἰς τὸ αἰδοῖον ἄμφω τελευτῶσιν.

Τὰ μὲν οὖν ὑπὸ τῶν ἄλλων εἰρημένα σχεδὸν ταῦτ’ ἐστίν· εἰσὶ δὲ καὶ τῶν περὶ φύσιν οἳ τοιαύτην μὲν οὐκ ἐπραγματεύθησαν ἀκριβολογίαν περὶ τὰς φλέβας, πάντες δ’ ὁμοίως τὴν ἀρχὴν αὐτῶν ἐκ τῆς κεφαλῆς καὶ τοῦ ἐγκεφάλου ποιοῦσι, λέγοντες οὐ καλῶς. Χαλεπῆς δ’ οὔσης, ὥσπερ εἴρηται πρότερον, τῆς θεωρίας ἐν μόνοις τοῖς ἀποπεπνιγμένοις τῶν ζῴων προλεπτυνθεῖσιν ἔστιν ἱκανῶς καταμαθεῖν, εἴ τινι περὶ τῶν τοιούτων ἐπιμελές.

Ἔχει δὲ τοῦτον τὸν τρόπον ἡ τῶν φλεβῶν φύσις. Δύο φλέβες εἰσὶν ἐν τῷ θώρακι κατὰ τὴν ῥάχιν ἐντός, ἔστι δὲ κειμένη αὐτῶν ἡ μὲν μείζων ἐν τοῖς ἔμπροσθεν, ἡ δ’ ἐλάττων ὄπισθεν ταύτης, καὶ ἡ μὲν μείζων ἐν τοῖς δεξιοῖς μᾶλλον, ἡ δ’ ἐλάττων ἐν τοῖς ἀριστεροῖς, ἣν καλοῦσί τινες ἀορτὴν ἐκ τοῦ τεθεᾶσθαι καὶ ἐν τοῖς τεθνεῶσι τὸ νευρῶδες αὐτῆς μόριον. Αὗται δ’ ἔχουσι τὰς ἀρχὰς ἀπὸ τῆς καρδίας· διὰ μὲν γὰρ τῶν ἄλλων σπλάγχνων, ᾗ τυγχάνουσι τείνουσαι, ὅλαι δι’ αὐτῶν διέρχονται σωζόμεναι καὶ οὖσαι φλέβες, ἡ δὲ καρδία ὥσπερ μόριον αὐτῶν ἐστι, καὶ μᾶλλον τῆς ἐμπροσθίας καὶ μείζονος, διὰ τὸ ἄνω μὲν καὶ κάτω τὰς φλέβας εἶναι ταύτας, ἐν μέσῳ δ’ αὐτῶν τὴν καρδίαν.

Ἔχουσι δ’ αἱ καρδίαι πᾶσαι μὲν κοιλίας ἐν αὑταῖς, ἀλλ’ αἱ μὲν τῶν σφόδρα μικρῶν ζῴων μόλις φανερὰν τὴν μεγίστην ἔχουσι, τὰ δὲ μέσα τῷ μεγέθει τῶν ζῴων καὶ τὴν ἑτέραν, τὰ δὲ μέγιστα τὰς τρεῖς. Ἔστι δὲ τῆς καρδίας τὸ ὀξὺ ἐχούσης εἰς τὸ πρόσθεν, καθάπερ εἴρηται πρότερον, ἡ μεγίστη μὲν κοιλία ἐν τοῖς δεξιοῖς καὶ ἀνωτάτω αὐτῆς, ἡ δ’ ἐλαχίστη ἐν τοῖς ἀριστεροῖς, ἡ δὲ μέση μεγέθει τούτων ἐν τῷ μέσῳ ἀμφοῖν· ἀμφότεραι δὲ πολλῷ ἐλάττους εἰσὶ τῆς μεγίστης. Συντέτρηνται μέντοι πᾶσαι αὗται πρὸς τὸν πλεύμονα, ἀλλ’ ἄδηλοι διὰ σμικρότητα τῶν (513b.) πόρων πλὴν μιᾶς.

Ἡ μὲν οὖν μεγάλη φλὲψ ἐκ τῆς μεγίστης ἤρτηται κοίλιας τῆς ἄνω καὶ ἐν τοῖς δεξιοῖς, εἶτα διὰ τοῦ κοίλου τοῦ μέσου τείνεται πάλιν φλέψ, ὡς οὔσης τῆς κοιλίας μορίου τῆς φλεβὸς ἐν ᾧ λιμνάζει τὸ αἷμα. Ἡ δ’ ἀορτὴ ἀπὸ τῆς μέσης· πλὴν οὐχ οὕτως ἀλλὰ κατὰ στενωτέραν σύριγγα πολλῷ κοινωνεῖ. Καὶ ἡ μὲν φλὲψ διὰ τῆς καρδίας, εἰς δὲ τὴν ἀορτὴν ἀπὸ τῆς καρδίας τείνει. Καὶ ἔστιν ἡ μὲν μεγάλη φλὲψ ὑμενώδης καὶ δερματώδης, ἡ δ’ ἀορτὴ στενωτέρα μὲν ταύτης, σφόδρα δὲ νευρώδης· καὶ ἀποτεινομένη πόρρω πρός τε τὴν κεφαλὴν καὶ πρὸς τὰ κάτω μόρια στενή τε γίνεται καὶ νευρώδης πάμπαν.

Τείνει δὲ πρῶτον μὲν ἄνω ἀπὸ τῆς καρδίας τῆς μεγάλης φλεβὸς μόριον πρὸς τὸν πλεύμονα καὶ τὴν σύναψιν τῆς ἀορτῆς, ἄσχιστος καὶ μεγάλη οὖσα φλέψ. Σχίζεται δ’ ἀπ’ αὐτῆς μόρια δύο, τὸ μὲν ἐπὶ τὸν πλεύμονα, τὸ δ’ ἐπὶ τὴν ῥάχιν καὶ τὸν ὕστατον τοῦ τραχήλου σφόνδυλον. Ἡ μὲν οὖν ἐπὶ τὸν πλεύμονα τείνουσα φλὲψ εἰς διμερῆ ὄντ’ αὐτὸν διχῇ σχίζεται πρῶτον, εἶτα παρ’ ἑκάστην σύριγγα καὶ ἕκαστον τρῆμα τείνει, μείζων μὲν παρὰ τὰ μείζω, ἐλάττων δὲ παρὰ τὰ ἐλάττω, οὕτως ὥστε μηδὲν εἶναι μόριον λαβεῖν ἐν ᾧ οὐ τρῆμά τ’ ἔνεστι καὶ φλέβιον· τὰ γὰρ τελευταῖα τῷ μεγέθει ἄδηλα διὰ τὴν μικρότητά ἐστιν, ἀλλὰ πᾶς ὁ πλεύμων φαίνεται μεστὸς ὢν αἵματος. Ἐπάνω δ’ οἱ ἀπὸ τῆς φλεβός εἰσι πόροι τῶν ἀπὸ τῆς ἀρτηρίας συρίγγων τεινουσῶν. Ἡ δ’ ἐπὶ τὸν σφόνδυλον τοῦ τραχήλου τείνουσα φλὲψ καὶ τὴν ῥάχιν πάλιν παρὰ τὴν ῥάχιν τείνει· ἣν καὶ μηρος ἐν τοῖς ἔπεσιν εἴρηκε ποιήσας “ἀπὸ δὲ φλέβα πᾶσαν ἔκερσεν, ἥ τ᾽ ἀνὰ νῶτα θέουσα διαμπερὲς αὐχέν᾽ ἱκάνει". Ἀπὸ δὲ ταύτης τείνουσι παρά τε τὴν πλευρὰν ἑκάστην φλέβια καὶ πρὸς ἕκαστον τὸν σφόνδυλον, κατὰ δὲ τὸν ὑπὲρ τῶν νεφρῶν σφόνδυλον σχίζεται διχῇ.

Ταῦτα μὲν οὖν τὰ μόρια ἀπὸ τῆς μεγάλης φλεβὸς τοῦτον ἔσχισται τὸν τρόπον· ὑπεράνω δὲ τούτων ἀπὸ τῆς ἐκ τῆς καρδίας τεταμένης πάλιν ἡ ὅλη σχίζεται εἰς δύο τόπους. Αἱ μὲν γὰρ φέρουσιν εἰς τὰ πλάγια καὶ τὰς κλεῖδας, κἄπειτα διὰ τῶν μασχαλῶν τοῖς μὲν ἀνθρώποις εἰς τοὺς βραχίονας, τοῖς δὲ τετράποσιν εἰς (514a.) τὰ πρόσθια σκέλη τείνουσι, τοῖς δ᾽ ὄρνισιν εἰς τὰς πτέρυγας, τοῖς δ᾽ ἰχθύσιν εἰς τὰ πτερύγια τὰ πρανῆ. Αἱ δ᾽ ἀρχαὶ τούτων τῶν φλεβῶν, ᾗ σχίζονται τὸ πρῶτον, καλοῦνται σφαγίτιδες· ᾗ δὲ σχίζονται εἰς τὸν αὐχένα [ἀπὸ τῆς μεγάλης φλεβός], παρὰ τὴν ἀρτηρίαν τείνουσι τὴν τοῦ πλεύμονος· ὧν ἐπιλαμβανομένων ἐνίοτε ἔξωθεν ἄνευ πνιγμοῦ καταπίπτουσιν οἱ ἄνθρωποι μετ᾽ ἀναισθησίας, τὰ βλέφαρα συμβεβληκότες. Οὕτω δὲ τείνουσαι, καὶ μεταξὺ λαμβάνουσαι τὴν ἀρτηρίαν, φέρουσι μέχρι τῶν ὤτων, ᾗ συμβάλλουσιν αἱ γένυες τῇ κεφαλῇ. Πάλιν δ᾽ ἐντεῦθεν εἰς τέτταρας σχίζονται φλέβας, ὧν μία μὲν ἐπανακάμψασα καταβαίνει διὰ τοῦ τραχήλου καὶ τοῦ ὤμου, καὶ συμβάλλει τῇ πρότερον ἀποσχίσει τῆς φλεβὸς κατὰ τὴν τοῦ βραχίονος καμπήν, τὸ δ᾽ ἕτερον μόριον εἰς τὴν χεῖρα τελευτᾷ καὶ τοὺς δακτύλους· μία δ᾽ ἑτέρα ἀφ᾽ ἑκατέρου τοῦ τόπου τοῦ περὶ τὰ ὦτα ἐπὶ τὸν ἐγκέφαλον τείνει, καὶ σχίζεται εἰς πολλὰ καὶ λεπτὰ φλέβια εἰς τὴν καλουμένην μήνιγγα τὴν περὶ τὸν ἐγκέφαλον. Αὐτὸς δ᾽ ὁ ἐγκέφαλος ἄναιμος πάντων ἐστί, καὶ οὔτε μικρὸν οὔτε μέγα φλέβιον τελευτᾷ εἰς αὐτόν. Τῶν δὲ λοιπῶν τῶν ἀπὸ τῆς φλεβὸς ταύτης σχισθεισῶν φλεβῶν αἱ μὲν τὴν κεφαλὴν κύκλῳ περιλαμβάνουσιν, αἱ δ᾽ εἰς τὰ αἰσθητήρια ἀποτελευτῶσι καὶ τοὺς ὀδόντας λεπτοῖς πάμπαν φλεβίοις.

Κεφάλαιο 4

Τὸν δ’ αὐτὸν τρόπον καὶ τὰ τῆς ἐλάττονος φλεβός, καλουμένης δ’ ἀορτῆς, ἔσχισται μέρη, συμπαρακολουθοῦντα τοῖς τῆς μεγάλης· πλὴν ἐλάττους οἱ πόροι καὶ τὰ φλέβια πολλῷ ἐλάττω ταύτης ἐστὶ τῶν τῆς μεγάλης φλεβός.

Τὰ μὲν οὖν ἄνωθεν τῆς καρδίας τοῦτον ἔχουσι τὸν τρόπον αἱ φλέβες· τὸ δ’ ὑποκάτω τῆς καρδίας μέρος τῆς μεγάλης φλεβὸς τείνει μετέωρον διὰ τοῦ ὑποζώματος, συνέχεται δὲ καὶ πρὸς τὴν ἀορτὴν καὶ πρὸς τὴν ῥάχιν πόροις ὑμενώδεσι καὶ χαλαροῖς. Τείνει δ’ ἀπ’ αὐτῆς μία μὲν διὰ τοῦ ἥπατος φλέψ, βραχεῖα μὲν πλατεῖα δέ, ἀφ’ ἧς πολλαὶ καὶ λεπταὶ εἰς τὸ ἧπαρ ἀποτείνουσαι ἀφανίζονται. Δύο δ’ ἀπὸ τῆς διὰ τοῦ ἥπατος φλεβὸς ἀποσχίσεις εἰσίν, ὧν ἡ μὲν εἰς τὸ ὑπόζωμα τελευτᾷ καὶ τὰς καλουμένας φρένας, ἡ δὲ πάλιν ἐπανελθοῦσα διὰ τῆς μασχάλης εἰς τὸν (514b.) βραχίονα τὸν δεξιὸν συμβάλλει ταῖς ἑτέραις φλεψὶ κατὰ τὴν ἐντὸς καμπήν· διὸ ἀποσχαζόντων τῶν ἰατρῶν ταύτην ἀπολύονταί τινων πόνων περὶ τὸ ἧπαρ.

Ἐκ δὲ τῶν ἀριστερῶν αὐτῆς μικρὰ μὲν παχεῖα δὲ φλὲψ τείνει εἰς τὸν σπλῆνα, καὶ ἀφανίζεται τὰ ἀπ’ αὐτῆς φλέβια εἰς τοῦτον. Ἕτερον δὲ μέρος ἀπὸ τῶν ἀριστερῶν τῆς μεγάλης φλεβὸς ἀποσχισθὲν τὸν αὐτὸν τρόπον ἀναβαίνει ἐπὶ τὸν ἀριστερὸν βραχίονα· πλὴν ἐκείνη μὲν ἡ διὰ τοῦ ἥπατός ἐστιν, αὕτη δ’ ἑτέρα τῆς εἰς τὸν σπλῆνα τεινούσης.

Ἔτι δ’ ἄλλαι ἀπὸ τῆς μεγάλης φλεβὸς ἀποσχίζονται, ἡ μὲν ἐπὶ τὸ ἐπίπλοον, ἡ δ’ ἐπὶ τὸ καλούμενον πάγκρεας. Ἀπὸ δὲ ταύτης πολλαὶ φλέβες διὰ τοῦ μεσεντερίου τείνουσιν. Πᾶσαι δ’ αὗται εἰς μίαν φλέβα μεγάλην τελευτῶσιν, παρὰ πᾶν τὸ ἔντερον καὶ τὴν κοιλίαν μέχρι τοῦ στομάχου τεταμένην. Καὶ περὶ ταῦτα τὰ μόρια πολλαὶ ἀπ’ αὐτῶν σχίζονται φλέβες.

Μέχρι μὲν οὖν τῶν νεφρῶν μία οὖσα ἑκατέρα τείνει, καὶ ἡ ἀορτὴ καὶ ἡ μεγάλη φλέψ· ἐνταῦθα δὲ πρός τε τὴν ῥάχιν μᾶλλον προσπεφύκασι, καὶ σχίζονται εἰς δύο ὡσπερεὶ λάμβδα ἑκάτερα, καὶ γίνεται εἰς τοὔπισθεν μᾶλλον ἡ μεγάλη φλὲψ τῆς ἀορτῆς. Προσπέφυκε δ’ ἡ ἀορτὴ μάλιστα τῇ ῥάχει περὶ τὴν καρδίαν· ἡ δὲ πρόσφυσίς ἐστι φλεβίοις νευρώδεσι καὶ μικροῖς.

Ἔστι δ’ ἡ ἀορτὴ ἀπὸ μὲν τῆς καρδίας ἀγομένη εὖ μάλα κοίλη, προϊοῦσα δ’ ἐστὶ στενωτέρα καὶ νευρωδεστέρα. Τείνουσι δὲ καὶ ἀπὸ τῆς ἀορτῆς εἰς τὸ μεσεντέριον φλέβες ὥσπερ αἱ ἀπὸ τῆς μεγάλης φλεβός, πλὴν πολλῷ

λειπόμεναι τῷ μεγέθει· στεναὶ γάρ εἰσι καὶ ἰνώδεις· λεπτοῖς γὰρ καὶ ποικίλοις καὶ ἰνώδεσι τελευτῶσι φλεβίοις. Εἰς δὲ τὸ ἧπαρ καὶ τὸν σπλῆνα οὐδεμία τείνει ἀπὸ τῆς ἀορτῆς φλέψ.

Αἱ δὲ σχίσεις ἑκατέρας τῆς φλεβὸς τείνουσιν εἰς τὸ ἰσχίον ἑκάτερον, καὶ καθάπτουσιν εἰς τὸ ὀστοῦν ἀμφότεραι. Φέρουσι δὲ καὶ εἰς τοὺς νεφροὺς ἀπό τε τῆς μεγάλης φλεβὸς καὶ τῆς ἀορτῆς φλέβες· πλὴν οὐκ εἰς τὸ κοῖλον ἀλλ' εἰς τὸ σῶμα καταναλίσκονται τῶν νεφρῶν. Ἀπὸ μὲν οὖν τῆς ἀορτῆς ἄλλοι δύο πόροι φέρουσιν εἰς τὴν κύστιν, ἰσχυροὶ καὶ συνεχεῖς, καὶ ἄλλοι ἐκ τοῦ κοίλου τῶν νεφρῶν, οὐδὲν κοινωνοῦντες τῇ μεγάλῃ φλεβί. Ἐκ μέσου δὲ τῶν νεφρῶν ἑκατέρου φλὲψ κοίλη καὶ νευρώδης ἐξήρτηται, τείνουσα παρ' αὐτὴν τὴν ῥάχιν διὰ (515a.) τῶν στενῶν· εἶτα εἰς ἑκάτερον τὸ ἰσχίον ἀφανίζεται ἑκατέρα πρῶτον, ἔπειτα δῆλαι γίνονται πάλιν διατεταμέναι πρὸς τὸ ἰσχίον. Καθάπτουσι δὲ πρὸς τὴν κύστιν καὶ τὸ αἰδοῖον τὰ πέρατα αὐτῶν ἐν τοῖς ἄρρεσιν, ἐν δὲ τοῖς θήλεσι πρὸς τὰς ὑστέρας. Τείνει δ' ἀπὸ μὲν τῆς μεγάλης φλεβὸς οὐδεμία εἰς τὰς ὑστέρας, ἀπὸ δὲ τῆς ἀορτῆς πολλαὶ καὶ πυκναί. Τείνουσι δ' ἀπὸ τῆς ἀορτῆς καὶ τῆς μεγάλης φλεβὸς ἀπὸ τῶν σχιζομένων καὶ ἄλλαι, αἱ μὲν ἐπὶ τοὺς βουβῶνας πρῶτον μεγάλαι καὶ κοῖλαι, ἔπειτα διὰ τῶν σκελῶν τελευτῶσιν εἰς τοὺς πόδας καὶ τοὺς δακτύλους· καὶ πάλιν ἕτεραι διὰ τῶν βουβώνων καὶ τῶν μηρῶν φέρουσιν ἐναλλάξ, ἡ μὲν ἐκ τῶν ἀριστερῶν εἰς τὰ δεξιά, ἡ δ' εἰς τὰ ἀριστερὰ ἐκ τῶν δεξιῶν· καὶ συνάπτουσι περὶ τὰς ἰγνύας ταῖς ἑτέραις φλεψίν.

Ὃν μὲν οὖν τρόπον ἔχουσιν αἱ φλέβες καὶ πόθεν ἤρτηνται τὰς ἀρχάς, φανερὸν ἐκ τούτων. Ἔχει δ' ἐν ἅπασι μὲν τοῖς ἐναίμοις ζῴοις οὕτω τὰ περὶ τὰς ἀρχὰς καὶ τὰς μεγίστας φλέβας (τὸ γὰρ ἄλλο πλῆθος τῶν φλεβῶν οὐχ ὡσαύτως ἔχει πᾶσιν· οὐδὲ γὰρ τὰ μέρη τὸν αὐτὸν τρόπον ἔχουσιν, οὐδὲ ταῦτα πάντα ἔχουσιν), οὐ μὴν οὐδ' ὁμοίως ἐν ἅπασίν ἐστι φανερόν, ἀλλὰ μάλιστα ἐν τοῖς μάλιστα πολυαίμοις καὶ μεγίστοις. Ἐν γὰρ τοῖς μικροῖς καὶ μὴ πολυαίμοις ἢ διὰ φύσιν ἢ διὰ πιότητα τοῦ σώματος οὐχ ὁμοίως ἔστι καταμαθεῖν· τῶν μὲν γὰρ οἱ πόροι συγκεχυμένοι καθάπερ ὀχετοί τινες ὑπὸ πολλῆς ἰλύος εἰσίν, οἱ δ' ὀλίγας καὶ ταύτας ἶνας ἀντὶ φλεβῶν ἔχουσιν. Ἡ δὲ μεγάλη φλὲψ ἐν πᾶσι μάλιστα διάδηλος, καὶ τοῖς μικροῖς.

Κεφάλαιο 5

Τὰ δὲ νεῦρα τοῖς ζῴοις ἔχει τόνδε τὸν τρόπον. Ἡ μὲν ἀρχὴ καὶ τούτων ἐστὶν ἀπὸ τῆς καρδίας· καὶ γὰρ ἐν αὐτῇ ἡ καρδία ἔχει νεῦρα ἐν τῇ μεγίστῃ κοιλίᾳ, καὶ ἡ καλουμένη ἀορτὴ νευρώδης ἐστὶ φλέψ, τὰ μὲν τελευταῖα καὶ παντελῶς αὐτῆς· ἄκοιλα γάρ ἐστι, καὶ τάσιν ἔχει τοιαύτην οἵαν περ τὰ νεῦρα, ᾗ τελευτᾷ πρὸς τὰς καμπὰς τῶν ὀστῶν. Οὐ μὴν ἀλλ' οὐκ ἔστι συνεχὴς ἡ τῶν νεύρων φύσις ἀπὸ μιᾶς ἀρχῆς, ὥσπερ αἱ φλέβες. Αἱ μὲν γὰρ φλέβες, ὥσπερ ἐν τοῖς γραφομένοις κανάβοις, τὸ τοῦ σώματος ἔχουσι σχῆμα παντὸς (515b.) οὕτως ὥστ' ἐν τοῖς σφόδρα λελεπτυσμένοις πάντα τὸν ὄγκον φαίνεσθαι πλήρη φλεβίων (γίνεται γὰρ ὁ αὐτὸς τόπος λεπτῶν μὲν ὄντων φλέβια, παχυνθέντων δὲ σάρκες), τὰ δὲ νεῦρα διεσπασμένα περὶ τὰ ἄρθρα καὶ τὰς τῶν ὀστῶν ἐστι κάμψεις. Εἰ δ' ἦν συνεχὴς ἡ φύσις αὐτῶν, ἐν τοῖς λελεπτυσμένοις ἂν καταφανὴς ἐγίνετο ἡ συνέχεια πάντων.

Μέγιστα δὲ μέρη τῶν νεύρων τό τε περὶ τὸ μόριον τὸ τῆς ἅλσεως κύριον (καλεῖται δὲ τοῦτο ἰγνύα), καὶ ἕτερον νεῦρον διπτυχές, ὁ τένων, καὶ τὰ πρὸς τὴν ἰσχὺν βοηθητικά, ἐπίτονός τε καὶ ὠμιαία. Τὰ δ' ἀνώνυμα περὶ τὴν τῶν ὀστῶν ἐστι κάμψιν· πάντα γὰρ τὰ ὀστᾶ, ὅσα ἁπτόμενα πρὸς ἄλληλα σύγκειται, συνδέδενται νεύροις, καὶ περὶ πάντα ἐστὶ τὰ ὀστᾶ πλῆθος νεύρων. Πλὴν ἐν τῇ κεφαλῇ οὐκ ἔστιν οὐδέν, ἀλλ' αἱ ῥαφαὶ αὐταὶ τῶν ὀστῶν συνέχουσιν αὐτήν.

Ἔστι δ' ἡ τοῦ νεύρου φύσις σχιστὴ κατὰ μῆκος, κατὰ δὲ πλάτος ἄσχιστος καὶ τάσιν ἔχουσα πολλήν. Ὑγρότης δὲ περὶ αὐτὰ μυξώδης γίνεται, λευκὴ καὶ κολλώδης, ᾗ τρέφεται καὶ ἐξ ἧς γινόμενα φαίνεται. Ἡ μὲν οὖν φλὲψ δύναται πυροῦσθαι, νεῦρον δὲ πᾶν φθείρεται πυρωθέν· κἂν διακοπῇ, οὐ συμφύεται πάλιν. Οὐ λαμβάνει δ' οὐδὲ νάρκη, ὅπου μὴ νεῦρόν ἐστι τοῦ σώματος.

Πλεῖστα δ' ἐστὶ νεῦρα περὶ τοὺς πόδας καὶ τὰς χεῖρας καὶ πλευρὰς καὶ ὠμοπλάτας καὶ περὶ τὸν αὐχένα καὶ τοὺς βραχίονας. Ἔχει δὲ νεῦρα πάντα ὅσα ἔχει αἷμα· ἀλλ' ἐν οἷς μή εἰσι καμπαὶ ἀλλ' ἄποδα καὶ ἄχειρά ἐστι, λεπτὰ καὶ ἄδηλα· διὸ τῶν ἰχθύων μάλιστά ἐστι δῆλα πρὸς τοῖς πτερυγίοις.

Κεφάλαιο 6

Αἱ δ’ ἶνές εἰσι μεταξὺ νεύρου καὶ φλεβός. Ἔνιαι δ’ αὐτῶν ἔχουσιν ὑγρότητα τὴν τοῦ ἰχῶρος, καὶ διέχουσιν ἀπό τε τῶν νεύρων πρὸς τὰς φλέβας καὶ ἀπ’ ἐκείνων πρὸς τὰ νεῦρα.

Ἔστι δὲ καὶ ἄλλο γένος ἰνῶν, ὃ γίνεται μὲν ἐν αἵματι, οὐκ ἐν ἅπαντος δὲ ζῴου αἵματι· ὧν ἐξαιρουμένων ἐκ τοῦ αἵματος οὐ πήγνυται τὸ αἷμα, ἐὰν δὲ μὴ ἐξαιρεθῶσι, πήγνυται.

Ἐν μὲν οὖν τῷ τῶν πλείστων αἵματι ζῴων ἔνεισιν, ἐν δὲ τῷ τῆς ἐλάφου καὶ προκὸς καὶ βουβαλίδος καὶ ἄλλων τινῶν οὐκ ἔνεισιν ἶνες· διὸ καὶ οὐ πήγνυται αὐτῶν τὸ αἷμα ὁμοίως τοῖς (516a.) ἄλλοις, ἀλλὰ τὸ μὲν τῶν ἐλάφων παραπλησίως τῷ τῶν δασυπόδων (ἔστι δ’ ἀμφοτέρων αὐτῶν ἡ πῆξις οὐ στιφρά, καθάπερ ἡ τῶν ἄλλων, ἀλλὰ πλαδῶσα, καθάπερ ἡ τοῦ γάλακτος, ἄν τις εἰς αὐτὸ τὸ πῆγμα μὴ ἐμβάλῃ), τὸ δὲ τῆς βουβαλίδος πήγνυται μᾶλλον· παραπλησίως γὰρ συνίσταται ἢ μικρῷ ἧττον τοῦ τῶν προβάτων.

Περὶ μὲν οὖν φλεβὸς καὶ νεύρου καὶ ἰνὸς τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 7

Τὰ δ’ ὀστᾶ τοῖς ζῴοις ἀφ’ ἑνὸς πάντα συνηρτημένα ἐστὶ καὶ συνεχῆ ἀλλήλοις ὥσπερ αἱ φλέβες· αὐτὸ δὲ καθ’ αὑτὸ οὐδέν ἐστιν ὀστοῦν. Ἀρχὴ δ’ ἡ ῥάχις ἐστὶν ἐν πᾶσι τοῖς ἔχουσιν ὀστᾶ. Σύγκειται δ’ ἡ ῥάχις ἐκ σφονδύλων, τείνει δ’ ἀπὸ τῆς κεφαλῆς μέχρι πρὸς τὰ ἰσχία. Οἱ μὲν οὖν σφόνδυλοι πάντες τετρημένοι εἰσίν, ἄνω δὲ τὸ τῆς κεφαλῆς ὀστοῦν συνεχές ἐστι τοῖς ἐσχάτοις σφονδύλοις, ὃ καλεῖται κρανίον.

Τούτου δὲ τὸ πριονωτὸν μέρος ῥαφή. Ἔστι δ’ οὐ πᾶσιν ὁμοίως ἔχον τοῦτο τοῖς ζῴοις· τὰ μὲν γὰρ ἔχει μονόστεον τὸ κρανίον, ὥσπερ κύων, τὰ δὲ συγκείμενον, ὥσπερ ἄνθρωπος, καὶ τούτου τὸ μὲν θῆλυ κύκλῳ ἔχει τὴν ῥαφήν, τὸ δ’ ἄρρεν τρεῖς ῥαφὰς ἄνωθεν συναπτούσας, τριγωνοειδεῖς· ἤδη δ’ ὤφθη καὶ ἀνδρὸς κεφαλὴ οὐκ ἔχουσα ῥαφάς.

Σύγκειται δ’ ἡ κεφαλὴ οὐκ ἐκ τεττάρων ὀστῶν, ἀλλ’ ἐξ ἕξ· ἔστι δὲ δύο τούτων περὶ τὰ ὦτα, μικρὰ πρὸς τὰ λοιπά. Ἀπὸ δὲ τῆς κεφαλῆς αἱ σιαγόνες τείνουσιν ὀστᾶ. Κινεῖται δὲ τοῖς μὲν ἄλλοις ζῴοις ἅπασιν ἡ κάτωθεν σιαγών· ὁ δὲ κροκόδειλος ὁ ποτάμιος μόνος τῶν ζῴων κινεῖ τὴν σιαγόνα τὴν ἄνωθεν. Ἐν δὲ ταῖς σιαγόσιν ἔνεστι τὸ τῶν ὀδόντων γένος, ὀστοῦν τῇ μὲν ἄτρητον τῇ δὲ τρητόν, καὶ ἀδύνατον γλύφεσθαι τῶν ὀστῶν μόνον.

Ἀπὸ δὲ τῆς ῥάχεως, ἥπερ περόνη ἐστί, καὶ αἱ κλεῖδες καὶ αἱ πλευραί. Ἔστι δὲ καὶ τὸ στῆθος ἐπὶ πλευραῖς κείμενον· ἀλλ’ αὗται μὲν συνάπτουσιν, αἱ δ’ ἄλλαι ἀσύναπτοι· οὐδὲν γὰρ ἔχει ζῷον ὀστοῦν περὶ τὴν κοιλίαν. Ἔτι δὲ τά τ’ ἐν τοῖς ὤμοις ὀστᾶ, καὶ αἱ καλούμεναι ὠμοπλάται, καὶ τὰ τῶν βραχιόνων ἐχόμενα, καὶ τούτων τὰ ἐν ταῖς χερσίν. Ὅσα δ’ ἔχει σκέλη πρόσθια, καὶ ἐν τούτοις τὸν αὐτὸν ἔχει τρόπον.

Κάτω δ’ ᾗ περαίνει, μετὰ τὸ ἰσχίον ἡ κοτυληδών ἐστι καὶ τὰ τῶν σκελῶν ἤδη ὀστᾶ, τά τ’ ἐν τοῖς μηροῖς καὶ κνήμαις, οἳ (516b.) καλοῦνται κωλῆνες, ὧν μέρος τὰ σφυρά, καὶ τούτων τὰ καλούμενα πλῆκτρα ἐν τοῖς ἔχουσι σφυρόν· καὶ τούτοις συνεχῆ τὰ ἐν τοῖς ποσίν.

Ὅσα μὲν οὖν τῶν ἐναίμων καὶ πεζῶν ζῳοτόκα ἐστίν, οὐ πολὺ διαφέρει τὰ ὀστᾶ, ἀλλὰ κατ’ ἀναλογίαν μόνον σκληρότητι καὶ μαλακότητι καὶ μεγέθει. Ἔτι δὲ τὰ μὲν ἔχει μυελὸν τὰ δ’ οὐκ ἔχει τῶν ἐν τῷ αὐτῷ ζῴῳ ὀστῶν.

Ἔνια δὲ ζῷα οὐδ’ ἂν ἔχειν δόξειεν ὅλως μυελὸν ἐν τοῖς ὀστοῖς, οἷον λέων, διὰ τὸ πάμπαν ἔχειν μικρὸν καὶ λεπτὸν καὶ ἐν ὀλίγοις· ἔχει δὲ καὶ ἐν τοῖς μηροῖς καὶ βραχίοσιν. Στερεὰ δὲ πάντων μάλιστα ὁ λέων ἔχει τὰ ὀστᾶ· οὕτω γάρ ἐστι σκληρὰ ὥστε συντριβομένων ὥσπερ ἐκ λίθων ἐκλάμπειν πῦρ.

Ἔχει δὲ καὶ ὁ δελφὶς ὀστᾶ, ἀλλ’ οὐκ ἄκανθαν. Τὰ δὲ τῶν ἄλλων ζῴων τῶν ἐναίμων τὰ μὲν μικρὸν παραλλάττει, οἷον τὰ τῶν ὀρνίθων, τὰ δὲ τῷ ἀνάλογόν ἐστι ταὐτά, οἷον ἐν τοῖς ἰχθύσι· τούτων γὰρ τὰ μὲν ζῳοτοκοῦντα χονδράκανθά ἐστιν, οἷον τὰ καλούμενα σελάχη, τὰ δ’ ᾠοτοκοῦντα ἄκανθαν ἔχει, ἥ ἐστιν ὥσπερ ἐν τοῖς τετράποσιν ἡ ῥάχις. Ἴδιον δ’ ἐν τοῖς ἰχθύσιν, ὅτι ἐν ἐνίοις εἰσὶ κατὰ τὴν σάρκα κεχωρισμένα ἀκάνθια λεπτά. Ὁμοίως δὲ καὶ ὁ ὄφις ἔχει τοῖς ἰχθύσιν· ἀκανθώδης γὰρ ἡ ῥάχις αὐτοῦ ἐστιν.

Τὰ δὲ τῶν τετραπόδων μὲν ᾠοτοκούντων δὲ τῶν μὲν μειζόνων ὀστωδέστερά ἐστι, τῶν δ’ ἐλαττόνων ἀκανθωδέστερα. Πάντα δὲ τὰ ζῷα ὅσα ἔναιμά ἐστιν, ἔχει ῥάχιν ἢ ὀστώδη ἢ ἀκανθώδη· τὰ δ’ ἄλλα μόρια τῶν ὀστῶν ἐν ἐνίοις μέν ἐστιν, ἐν ἐνίοις δ’ οὐκ ἔστιν, ἀλλ’ ὡς ὑπάρχει τοῦ ἔχειν τὰ μόρια, οὕτω καὶ τοῦ ἔχειν τὰ ἐν τούτοις ὀστᾶ. Ὅσα γὰρ μὴ ἔχει σκέλη καὶ βραχίονας, οὐδὲ κωλῆνας ἔχει, οὐδ’ ὅσα ταὐτὰ μὲν ἔχει μόρια, μὴ ὅμοια δέ· καὶ γὰρ ἐν τούτοις ἢ τῷ μᾶλλον καὶ ἧττον διαφέρει ἢ τῷ ἀνάλογον.

Τὰ μὲν οὖν περὶ τὴν τῶν ὀστῶν φύσιν τοῦτον ἔχει τὸν τρόπον τοῖς ζῴοις.

Κεφάλαιο 8

Ἔστι δὲ καὶ ὁ χόνδρος τῆς αὐτῆς φύσεως τοῖς ὀστοῖς, ἀλλὰ τῷ μᾶλλον διαφέρει καὶ ἧττον.

Καὶ ὥσπερ οὐδ’ ὀστοῦν οὐδ’ ὁ χόνδρος αὐξάνεται, ἂν ἀποκοπῇ.

Εἰσὶ δ’ ἐν μὲν τοῖς χερσαίοις καὶ ζῳοτόκοις τῶν ἐναίμων ἄτρητοι οἱ χόνδροι, καὶ οὐ γίνεται ἐν αὐτοῖς ὥσπερ ἐν τοῖς ὀστοῖς μυελός· ἐν δὲ τοῖς σελάχεσιν (ταῦτα γάρ ἐστι (517a.) χονδράκανθα) ἔνεστιν αὐτῶν ἐν τοῖς πλατέσι τὸ κατὰ τὴν ῥάχιν ἀνάλογον τοῖς ὀστοῖς χονδρῶδες, ἐν οἷς ὑπάρχει ὑγρότης μυελώδης. Τῶν δὲ ζῳοτοκούντων καὶ πεζῶν περί τε τὰ ὦτα χόνδροι εἰσὶ καὶ τοὺς μυκτῆρας καὶ ἔνια ἀκρωτήρια τῶν ὀστῶν.

Κεφάλαιο 9

Ἔτι δ’ ἐστὶν ἄλλα γένη μορίων, οὔτε τὴν αὐτὴν ἔχοντα φύσιν τούτοις οὔτε πόρρω τούτων, οἷον ὄνυχές τε καὶ ὁπλαὶ καὶ χηλαὶ καὶ κέρατα, καὶ ἔτι παρὰ ταῦτα ῥύγχος, οἷον ἔχουσιν οἱ ὄρνιθες, ἐν οἷς ὑπάρχει ταῦτα τὰ μόρια τῶν ζῴων. Ταῦτα μὲν γὰρ καὶ καμπτὰ καὶ σχιστά, ὀστοῦν δ’ οὐδὲν καμπτὸν οὐδὲ σχιστόν, ἀλλὰ θραυστόν. Καὶ τὰ χρώματα τῶν κεράτων καὶ ὀνύχων καὶ χηλῆς καὶ ὁπλῆς κατὰ τὴν τοῦ δέρματος καὶ τὴν τῶν τριχῶν ἀκολουθεῖ χρόαν.

Τῶν τε γὰρ μελανοδερμάτων μέλανα τὰ κέρατα καὶ αἱ ὁπλαὶ καὶ αἱ χηλαί, ὅσα χηλὰς ἔχει, καὶ τῶν λευκῶν λευκά, μεταξὺ δὲ τὰ τῶν ἀνὰ μέσον. Ἔχει δὲ καὶ περὶ τοὺς ὄνυχας τὸν αὐτὸν τρόπον. Οἱ δ’ ὀδόντες κατὰ τὴν τῶν ὀστῶν εἰσι φύσιν. Διόπερ τῶν μελάνων ἀνθρώπων, ὥσπερ Αἰθιόπων καὶ τῶν τοιούτων, οἱ μὲν ὀδόντες λευκοὶ καὶ τὰ ὀστᾶ, οἱ δ’ ὄνυχες μέλανες, ὥσπερ καὶ τὸ πᾶν δέρμα.

Τῶν δὲ κεράτων τὰ μὲν πλεῖστα κοῖλά ἐστιν ἀπὸ τῆς προσφύσεως περὶ τὸ ἐντὸς ἐκπεφυκὸς ἐκ τῆς κεφαλῆς ὀστοῦν, ἐπ’ ἄκρου δ’ ἔχει τὸ στερεόν, καὶ ἔστιν ἁπλᾶ· τὰ δὲ τῶν ἐλάφων μόνα δι’ ὅλου στερεὰ καὶ πολυσχιδῆ. Καὶ τῶν μὲν ἄλλων τῶν ἐχόντων κέρας οὐδὲν ἀποβάλλει τὰ κέρατα, ἔλαφος δὲ μόνος καθ’ ἕκαστον ἔτος, ἐὰν μὴ ἐκτμηθῇ· περὶ δὲ τῶν ἐκτετμημένων ἐν τοῖς ὕστερον λεχθήσεται. Τὰ δὲ κέρατα προσπέφυκε μᾶλλον τῷ δέρματι ἢ τῷ ὀστῷ· διὸ καὶ ἐν Φρυγίᾳ εἰσὶ βόες καὶ ἄλλοθι οἳ κινοῦσι τὰ κέρατα ὥσπερ τὰ ὦτα.

Τῶν δ’ ἐχόντων ὄνυχας (ἔχει δ’ ὄνυχας ἅπαντα ὅσαπερ δακτύλους, δακτύλους δ’ ὅσα πόδας, πλὴν ἐλέφας· οὗτος δὲ καὶ δακτύλους ἀσχίστους καὶ ἠρέμα διηρθρωμένους καὶ ὄνυχας ὅλως οὐκ ἔχει) τῶν δ’ ἐχόντων τὰ μέν ἐστιν εὐθυώνυχα, (517b.) ὥσπερ ἄνθρωπος, τὰ δὲ γαμψώνυχα, ὥσπερ καὶ τῶν πεζῶν λέων καὶ τῶν πτηνῶν ἀετός.

Κεφάλαιο 10

Περὶ δὲ τριχῶν καὶ τῶν ἀνάλογον καὶ δέρματος τόνδ’ ἔχει τὸν τρόπον. Τρίχας μὲν ἔχει τῶν ζῴων ὅσα πεζὰ καὶ ζῳοτόκα, φολίδας δ’ ὅσα πεζὰ καὶ ᾠοτόκα, λεπίδας δ’ ἰχθύες μόνοι, ὅσοι ᾠοτοκοῦσι τὸ ψαθυρὸν ᾠόν· τῶν γὰρ μακρῶν γόγγρος μὲν οὐ τοιοῦτον ἔχει ᾠόν, οὐδ’ ἡ μύραινα, ἔγχελυς δ’ ὅλως οὐκ ἔχει.

Τὰ δὲ πάχη τῶν τριχῶν καὶ αἱ λεπτότητες καὶ τὰ μεγέθη διαφέρουσι κατὰ τοὺς τόπους, ἐν οἷς ἂν ὦσι τῶν μερῶν, καὶ ὁποῖον ἂν ᾖ τὸ δέρμα· ὡς γὰρ ἐπὶ τὸ πολὺ ἐν τοῖς παχυτέροις δέρμασι σκληρότεραι αἱ τρίχες καὶ παχύτεραι, πλείους δὲ καὶ μακρότεραι ἐν τοῖς κοιλοτέροις καὶ ὑγροτέροις, ἄνπερ ὁ τόπος ᾖ τοιοῦτος οἷος ἔχειν τρίχας. Ὁμοίως δὲ καὶ περὶ τῶν λεπιδωτῶν ἔχει καὶ τῶν φολιδωτῶν. Ὅσα μὲν οὖν μαλακὰς ἔχει τὰς τρίχας, εὐβοσίᾳ χρώμενα σκληροτέρας ἴσχει, ὅσα δὲ σκληράς, μαλακωτέρας καὶ ἐλάττους. Διαφέρουσι δὲ καὶ κατὰ τοὺς τόπους τοὺς θερμοτέρους καὶ ψυχροτέρους, οἷον αἱ τῶν ἀνθρώπων τρίχες ἐν μὲν τοῖς θερμοῖς σκληραί, ἐν δὲ τοῖς ψυχροῖς μαλακαί. Εἰσὶ δ’ αἱ μὲν εὐθεῖαι μαλακαί, αἱ δὲ κεκαμμέναι σκληραί.

Κεφάλαιο 11

Ἡ δὲ φύσις τῆς τριχός ἐστι σχιστή. Τῷ μᾶλλον δὲ καὶ ἧττον διαφέρουσι πρὸς ἀλλήλας. Ἔνιαι δὲ τῇ σκληρότητι μεταβαίνουσαι κατὰ μικρὸν οὐκέτι θριξὶν ἐοίκασιν ἀλλ’ ἀκάνθαις, οἷον αἱ τῶν ἐχίνων τῶν χερσαίων, παραπλησίως τοῖς ὄνυξιν· καὶ γὰρ τὸ τῶν ἀνύχων γένος ἐν ἐνίοις τῶν ζῴων οὐδὲν διαφέρει τὴν σκληρότητα τῶν ὀστῶν.

Δέρμα δὲ πάντων λεπτότατον ἄνθρωπος ἔχει κατὰ λόγον τοῦ μεγέθους. Ἔνεστι δ’ ἐν τοῖς δέρμασι πᾶσι γλισχρότης μυξώδης, ἐν μὲν τοῖς ἐλάττων ἐν δὲ τοῖς πλείων, οἷον ἐν τοῖς τῶν βοῶν, ἐξ ἧς ποιοῦσι τὴν κόλλαν· ἐνιαχοῦ δὲ καὶ ἐξ ἰχθύων ποιοῦσι κόλλαν. Ἀναίσθητον δὲ τὸ δέρμα τεμνόμενόν ἐστι καθ’ αὑτό· μάλιστα δὲ τοιοῦτον τὸ ἐν τῇ κεφαλῇ, διὰ τὸ τὸ μεταξὺ ἀσαρκότατον εἶναι πρὸς τὸ ὀστοῦν. Ὅπου δ’ (518a.) ἂν ᾖ καθ’ αὑτὸ δέρμα, ἂν διακοπῇ, οὐ συμφύεται, οἷον γνάθου τὸ λεπτὸν καὶ ἀκροποσθία καὶ βλεφαρίς. Τῶν συνεχῶν δ’ ἐστὶ τὸ δέρμα ἐν ἅπασι τοῖς ζῴοις, καὶ ταύτῃ διαλείπει ᾗ καὶ οἱ κατὰ φύσιν πόροι ἐξικμάζονται, καὶ κατὰ τὸ στόμα καὶ ὄνυχας. Δέρμα μὲν οὖν ἅπαντ’ ἔχει τὰ ἔναιμα ζῷα, τρίχας δ’ οὐ πάντα, ἀλλ’ ὥσπερ εἴρηται πρότερον.

Μεταβάλλουσι δὲ τὰς χρόας γηρασκόντων καὶ λευκαίνονται ἐν ἀνθρώπῳ· τοῖς δ’ ἄλλοις γίνεται μέν, οὐκ ἐπιδήλως δὲ σφόδρα, πλὴν ἐν ἵππῳ. Λευκαίνεται δὲ καὶ ἀπ’ ἄκρας ἡ θρίξ. Αἱ δὲ πλεῖσται εὐθὺς φύονται λευκαὶ τῶν πολιῶν. Ἧι καὶ δῆλον ὅτι οὐχ αὑότης ἐστὶν ἡ πολιότης, ὥσπερ τινές φασιν· οὐδὲν γὰρ φύεται εὐθὺς αὗον. Ἐν δὲ τῷ ἐξανθήματι ὃ καλεῖται λεύκη, πᾶσαι πολιαὶ γίνονται· ἤδη δέ τισι κάμνουσι μὲν πολιαὶ ἐγένοντο, ὑγιασθεῖσι δὲ ἀπορρυεισῶν μέλαιναι ἀνεφύησαν. Γίνονταί τε μᾶλλον πολιαὶ σκεπαζομένων τῶν τριχῶν ἢ διαπνεομένων. Πρῶτον δὲ πολιοῦνται οἱ κρόταφοι τῶν ἀνθρώπων, καὶ τὰ πρόσθια πρότερα τῶν ὄπισθεν· τελευταῖον δ’ ἡ ἥβη.

Εἰσὶ δὲ τῶν τριχῶν αἱ μὲν συγγενεῖς, αἱ δ’ ὕστερον κατὰ τὰς ἡλικίας γινόμεναι ἐν ἀνθρώπῳ μόνῳ τῶν ζῴων, συγγενεῖς μὲν αἱ ἐν τῇ κεφαλῇ καὶ ταῖς βλεφαρίσι καὶ ταῖς ὀφρύσιν, ὑστερογενεῖς δ’ αἱ ἐπὶ τῆς ἥβης πρῶτον, ἔπειτα δ’ αἱ ἐπὶ τῆς μασχάλης, τρίται δ’ αἱ ἐπὶ τοῦ γενείου· ἴσοι γὰρ οἱ τόποι εἰσὶν ἐν οἷς αἱ τρίχες ἐγγίνονται αἵ τε συγγενεῖς καὶ αἱ ὑστερογενεῖς.

Λείπουσι δὲ καὶ ῥέουσι κατὰ τὴν ἡλικίαν αἱ ἐκ τῆς κεφαλῆς καὶ μάλιστα καὶ πρῶται. Τούτων δ’ αἱ ἔμπροσθεν μόναι· τὰ γὰρ ὄπισθεν οὐδεὶς γίνεται φαλακρός. Ἡ μὲν οὖν κατὰ κορυφὴν λειότης φαλακρότης καλεῖται, ἡ δὲ κατὰ τὰς ὀφρῦς ἀναφαλανθίασις· οὐδέτερον δὲ τούτων συμβαίνει οὐδενὶ πρὶν ἢ ἀφροδισιάζειν ἄρξηται. Οὐ γίνεται δ’ οὔτε παῖς φαλακρὸς οὔτε γυνὴ οὔθ’ οἱ ἐκτετμημένοι· ἀλλ’ ἐὰν μὲν ἐκτμηθῇ πρὸ ἥβης, οὐ φύονται αἱ ὑστερογενεῖς, ἐὰν δ’ ὕστερον, αὗται μόναι ἐκρέουσι, πλὴν τῆς ἥβης. Γυνὴ δὲ τὰς ἐπὶ τῷ γενείῳ οὐ φύει τρίχας· πλὴν ἐνίαις γίνονται ὀλίγαι, ὅταν τὰ καταμήνια στῶσι, καὶ οἷον ἐν Καρίᾳ ταῖς ἱερείαις, ὃ δοκεῖ συμβαίνειν (518b.) σημεῖον τῶν μελλόντων. Αἱ δ’ ἄλλαι γίνονται μέν, ἐλάττους δέ. Γίνονται δὲ καὶ ἄνδρες καὶ γυναῖκες ἐκ γενετῆς ἐνδεεῖς τῶν ὑστερογενῶν τριχῶν ἅμα καὶ ἄγονοι, ὅσοιπερ ἂν καὶ ἥβης στερηθῶσιν.

Αἱ μὲν οὖν ἄλλαι τρίχες αὐξάνονται κατὰ λόγον ἢ πλέον ἢ ἔλαττον, μάλιστα μὲν αἱ ἐν τῇ κεφαλῇ, εἶτα πώγωνι, καὶ οἱ λεπτότριχοι μάλιστα. Δασύνονται δέ τισι καὶ αἱ ὀφρύες γινομένοις πρεσβυτέροις, οὕτως ὥστ’ ἀποκείρεσθαι, διὰ τὸ ἐπὶ συμφύσει ὀστῶν κεῖσθαι, ἃ γηρασκόντων διιστάμενα διιᾶσι πλείω ὑγρότητα. Αἱ δ’ ἐν ταῖς βλεφαρίσιν οὐκ αὐξάνονται, ῥέουσι δέ, ὅταν ἀφροδισιάζειν ἄρξωνται, καὶ μᾶλλον τοῖς μᾶλλον ἀφροδισιαστικοῖς· πολιοῦνται δὲ βραδύτατα αὗται. Ἐκτιλλόμεναι δ’ αἱ τρίχες μέχρι τῆς ἀκμῆς ἀναφύονται, εἶτα οὐκέτι. Ἔχει δὲ πᾶσα θρὶξ ὑγρότητα πρὸς τῇ ῥίζῃ γλίσχραν, καὶ ἕλκει εὐθὺς ἐκτιλθεῖσα τὰ κοῦφα θιγγάνουσα.

Ὅσα δὲ ποικίλα τῶν ζῴων κατὰ τὰς τρίχας, τούτοις καὶ ἐν τῷ δέρματι προϋπάρχει ἡ ποικιλία καὶ ἐν τῷ τῆς γλώττης δέρματι.

Περὶ δὲ τὸ γένειον τοῖς μὲν συμβαίνει τὴν ὑπήνην καὶ τὸ γένειον δασὺ ἔχειν, τοῖς δὲ ταῦτα μὲν λεῖα τὰς σιαγόνας δὲ δασείας· ἧττον δὲ γίνονται φαλακροὶ οἱ μαδιγένειοι.

Αὔξονται δ’ αἱ τρίχες ἔν τε νόσοις τισίν, οἷον ἐν ταῖς φθίσεσι μᾶλλον, καὶ ἐν γήρᾳ καὶ τεθνεώτων, καὶ σκληρότεραι γίνονται ἀντὶ μαλακῶν· τὰ δ’ αὐτὰ ταῦτα συμβαίνει καὶ περὶ τοὺς ὄνυχας.

Ῥέουσι δὲ μᾶλλον αἱ τρίχες τοῖς ἀφροδισιαστικοῖς αἱ συγγενεῖς· αἱ δ’ ὑστερογενεῖς γίνονται θᾶττον. Οἱ δ’ ἰξίαν ἔχοντες ἧττον φαλακροῦνται, κἂν ὄντες φαλακροὶ λάβωσιν, ἔνιοι δασύνονται.

Οὐκ αὐξάνεται δὲ θρὶξ ἀποτμηθεῖσα, ἀλλὰ κάτωθεν ἀναφυομένη γίνεται μείζων. Καὶ αἱ λεπίδες δὲ τοῖς ἰχθύσι σκληρότεραι γίνονται καὶ παχύτεραι, τοῖς δὲ λεπτυνομένοις καὶ τοῖς γηράσκουσι σκληρότεραι. Καὶ τῶν τετραπόδων δὲ γινομένων πρεσβυτέρων τῶν μὲν αἱ τρίχες τῶν δὲ τὰ ἔρια

βαθύτερα μὲν γίνεται, ἐλάττω δὲ τῷ πλήθει· καὶ τῶν μὲν αἱ ὁπλαὶ τῶν δ’ αἱ χηλαὶ γίνονται γηρασκόντων μείζους, καὶ τὰ ῥύγχη τῶν ὀρνίθων. Αὐξάνονται δὲ καὶ αἱ χηλαί, ὥσπερ καὶ οἱ ὄνυχες.

Κεφάλαιο 12

Περὶ δὲ τὰ πτερωτὰ τῶν (519a.) ζῴων, οἷον τοὺς ὄρνιθας, κατὰ μὲν τὰς ἡλικίας οὐδὲν μεταβάλλει, πλὴν γέρανος· αὕτη δ’ οὖσα τεφρὰ μελάντερα γηράσκουσα τὰ πτερὰ ἴσχει· διὰ δὲ τὰ πάθη τὰ γινόμενα κατὰ τὰς ὥρας, οἷον ὅταν ψύχη γίνηται μᾶλλον, ἐνίοτε γίνεται τῶν μονοχρόων ἐκ μελάνων τε καὶ μελαντέρων λευκά, οἷον κόραξ τε καὶ στρουθὸς καὶ χελιδόνες· ἐκ δὲ τῶν λευκῶν γενῶν οὐκ ὦπται εἰς μέλαν μεταβάλλον. Καὶ κατὰ τὰς ὥρας δ’ οἱ πολλοὶ τῶν ὀρνίθων μεταβάλλουσι τὰς χρόας, ὥστε λαθεῖν ἂν τὸν μὴ συνήθη.

Μεταβάλλουσι δέ τινα τῶν ζῴων τὰς χρόας τῶν τριχῶν κατὰ τὰς τῶν ὑδάτων μεταβολάς· ἔνθα μὲν γὰρ λευκὰ γίνονται, ἔνθα δὲ μέλανα ταὐτά. Καὶ περὶ τὰς ὀχείας δ’ εἰσὶν ὕδατα πολλαχοῦ τοιαῦτα, ἃ πιόντα καὶ ὀχεύσαντα μετὰ τὴν πόσιν τὰ πρόβατα μέλανας γεννῶσι τοὺς ἄρνας, οἷον καὶ ἐν τῇ Χαλκιδικῇ τῇ ἐπὶ τῆς Θρᾴκης ἐν τῇ Ἀσσυρίτιδι ἐποίει ὁ καλούμενος ποταμὸς Ψυχρός. Καὶ ἐν τῇ Ἀντανδρίᾳ δὲ δύο ποταμοί εἰσιν, ὧν ὁ μὲν λευκὰ ὁ δὲ μέλανα ποιεῖ τὰ πρόβατα.

Δοκεῖ δὲ καὶ ὁ Σκάμανδρος ποταμὸς ξανθὰ τὰ πρόβατα ποιεῖν· διὸ καὶ τὸν Ὅμηρόν φασιν ἀντὶ Σκαμάνδρου Ξάνθον προσαγορεύειν αὐτόν.

Τὰ μὲν οὖν ἄλλα ζῷα οὔτ’ ἐντὸς ἔχει τρίχας, τῶν τ’ ἀκρωτηρίων ἐν τοῖς πρανέσιν ἀλλ’ οὐκ ἐν τοῖς ὑπτίοις· ὁ δὲ δασύπους μόνος καὶ ἐντὸς ἔχει τῶν γνάθων τρίχας καὶ ὑπὸ τοῖς ποσίν. Ἔτι δὲ καὶ ὁ μῦς τὸ κῆτος ὀδόντας μὲν ἐν τῷ στόματι οὐκ ἔχει, τρίχας δ’ ὁμοίας ὑείαις.

Αἱ μὲν οὖν τρίχες αὐξάνονται ἀποτμηθεῖσαι κάτωθεν, ἄνωθεν δ’ οὔ· τὰ δὲ πτερὰ οὔτ’ ἄνωθεν οὔτε κάτωθεν, ἀλλ’ ἐκπίπτει.

Οὐκ ἀναφύεται δὲ ἐκτιλθὲν οὔτε τῶν μελιττῶν τὸ πτερὸν οὔθ’ ὅσα ἄλλα ἔχει ἄσχιστον τὸ πτερόν· οὐδὲ τὸ κέντρον, ὅταν ἀποβάλλῃ ἡ μέλιττα, ἀλλὰ θνήσκει.

Κεφάλαιο 13

Εἰσὶ δὲ καὶ ὑμένες ἐν τοῖς ζώοις ἅπασι τοῖς ἐναίμοις.

Ὅμοιος δ’ ἐστὶν ὁ ὑμὴν δέρματι πυκνῷ καὶ λεπτῷ, ἔστι δὲ τὸ γένος ἕτερον· οὔτε γάρ ἐστι σχιστὸν οὔτε τατόν. Περὶ ἕκαστον δὲ τῶν ὀστῶν καὶ περὶ ἕκαστον τῶν σπλάγχνων ὁ ὑμήν ἐστι καὶ ἐν τοῖς μείζοσι καὶ ἐν τοῖς ἐλάττοσι ζῴοις· ἀλλ’ (519b.) ἄδηλοι ἐν τοῖς ἐλάττοσι διὰ τὸ πάμπαν εἶναι λεπτοὶ καὶ μικροί.

Μέγιστοι δὲ τῶν ὑμένων εἰσὶν οἵ τε περὶ τὸν ἐγκέφαλον δύο, ὧν ὁ περὶ τὸ ὀστοῦν ἰσχυρότερος καὶ παχύτερος τοῦ περὶ τὸν ἐγκέφαλον, ἔπειθ’ ὁ περὶ τὴν καρδίαν ὑμήν. Διακοπεὶς δ’ οὐ συμφύεται ψιλὸς ὑμήν, ψιλούμενά τε τὰ ὀστᾶ τῶν ὑμένων σφακελίζει.

Κεφάλαιο 14

Ἔστι δὲ καὶ τὸ ἐπίπλοον ὑμήν. Ἔχει δ’ ἐπίπλοον ἅπαντα τὰ ἔναιμα· ἀλλὰ τοῖς μὲν πῖον τοῖς δ’ ἀπίμελόν ἐστιν.

Ἔχει δὲ καὶ τὴν ἀρχὴν καὶ τὴν ἐξάρτησιν ἐν τοῖς ζῳοτόκοις καὶ ἀμφώδουσιν ἐκ μέσης τῆς κοιλίας, ᾗ ἐστιν οἷον ῥαφή τις αὐτῆς· καὶ τοῖς μὴ ἀμφώδουσι δ’ ἐκ τῆς μεγάλης κοιλίας ὡσαύτως.

Κεφάλαιο 15

Ἔστι δὲ καὶ ἡ κύστις ὑμενοειδὴς μέν, ἄλλο δὲ γένος ὑμένος· ἔχει γὰρ τάσιν· ἔχει δὲ κύστιν οὐ πάντα, ἀλλὰ τὰ μὲν ζῳοτόκα πάντα, τῶν δ’ ᾠοτόκων ἡ χελώνη μόνον. Διακοπεῖσα δ’ οὐδ’ ἡ κύστις συμφύεται ἀλλ’ ἢ παρ’ αὐτὴν τὴν ἀρχὴν τοῦ οὐρητῆρος, εἰ μή τι πάμπαν σπάνιον· γέγονε γάρ τι ἤδη τοιοῦτον. Τεθνεώτων μὲν οὖν οὐδὲν διίησιν ὑγρόν, ἐν δὲ τοῖς ζῶσι καὶ ξηρὰς συστάσεις, ἐξ ὧν οἱ λίθοι γίνονται τοῖς κάμνουσιν. Ἐνίοις δ’ ἤδη καὶ τοιαῦτα συνέστη ἐν τῇ κύστει ὥστε μηδὲν δοκεῖν διαφέρειν κογχυλίων.

Περὶ μὲν οὖν φλεβὸς καὶ νεύρου καὶ δέρματος, καὶ περὶ ἰνῶν καὶ ὑμένων, ἔτι δὲ καὶ περὶ τριχῶν καὶ ὀνύχων καὶ χηλῆς καὶ ὁπλῆς καὶ κεράτων καὶ ὀδόντων καὶ ῥύγχους καὶ χόνδρου καὶ ὀστῶν καὶ τῶν ἀνάλογον τούτοις τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 16

Σὰρξ δὲ καὶ τὸ παραπλησίαν ἔχον τὴν φύσιν τῇ σαρκὶ ἐν τοῖς ἐναίμοις ἐν πᾶσίν ἐστι μεταξὺ τοῦ δέρματος καὶ τοῦ ὀστοῦ καὶ τῶν ἀνάλογον τοῖς ὀστοῖς· ὡς γὰρ ἡ ἄκανθα ἔχει πρὸς τὸ ὀστοῦν, οὕτω καὶ τὸ σαρκῶδες πρὸς τὰς σάρκας ἔχει τῶν ἐχόντων ὀστᾶ καὶ ἄκανθαν.

Ἔστι δὲ διαιρετὴ ἡ σὰρξ πάντῃ, καὶ οὐχ ὥσπερ τὰ νεῦρα καὶ αἱ φλέβες ἐπὶ μῆκος μόνον. Λεπτυνομένων μὲν οὖν τῶν ζῴων ἀφανίζονται, καὶ γίνονται φλέβια καὶ ἶνες· εὐβοσίᾳ δὲ πλείονι χρωμένων πιμελὴ ἀντὶ σαρκῶν. Εἰσὶ δὲ τοῖς μὲν ἔχουσι (520a.) τὰς σάρκας πολλὰς αἱ φλέβες ἐλάττους καὶ τὸ αἷμα ἐρυθρότερον καὶ τὰ σπλάγχνα καὶ κοιλία μικρά· τοῖς δὲ τὰς φλέβας ἔχουσι μεγάλας καὶ τὸ αἷμα μελάντερον καὶ σπλάγχνα μεγάλα καὶ κοιλία μεγάλη, αἱ δὲ σάρκες ἐλάττους. Γίνονται δὲ κατὰ σάρκα πίονα τὰ τὰς κοιλίας ἔχοντα μικράς.

Κεφάλαιο 17

Πιμελὴ δὲ καὶ στέαρ διαφέρουσιν ἀλλήλων.

Τὸ μὲν γὰρ στέαρ ἐστὶ θραυστὸν πάντῃ καὶ πήγνυται ψυχόμενον, ἡ δὲ πιμελὴ χυτὸν καὶ ἄπηκτον· καὶ οἱ μὲν ζωμοὶ οἱ τῶν πιόνων οὐ πήγνυνται, οἷον ἵππου καὶ ὑός, οἱ δὲ τῶν στέαρ ἐχόντων πήγνυνται, οἷον προβάτου καὶ αἰγός. Διαφέρουσι δὲ καὶ τοῖς τόποις· ἡ μὲν γὰρ πιμελὴ γίνεται μεταξὺ δέρματος καὶ σαρκός, στέαρ δ’ οὐ γίνεται ἀλλ’ ἢ ἐπὶ τέλει τῶν σαρκῶν. Γίνεται δὲ καὶ τὸ ἐπίπλοον τοῖς μὲν πιμελώδεσι πιμελῶδες, τοῖς δὲ στεατώδεσι στεατῶδες. Ἔχει δὲ τὰ μὲν ἀμφώδοντα πιμελήν, τὰ δὲ μὴ ἀμφώδοντα στέαρ.

Τῶν δὲ σπλάγχνων τὸ ἧπαρ ἐν ἐνίοις τῶν ζῴων γίνεται πιμελῶδες, οἷον τῶν ἰχθύων ἐν τοῖς σελάχεσιν· ποιοῦσι γὰρ ἔλαιον ἀπ’ αὐτῶν, ὃ γίνεται τηκομένων· αὐτὰ δὲ τὰ σελάχη ἐστὶν ἀπιμελώτατα καὶ κατὰ σάρκα καὶ κατὰ κοιλίαν κεχωρισμένῃ πιμελῇ. Ἔστι δὲ καὶ τὸ τῶν ἰχθύων στέαρ πιμελῶδες, καὶ οὐ πήγνυται.

Πάντα δὲ τὰ ζῷα τὰ μὲν κατὰ σάρκα ἐστὶ πίονα τὰ δ’ ἀφωρισμένως. Ὅσα δὲ μὴ ἔχει κεχωρισμένην τὴν πιότητα, ἧττόν ἐστι πίονα κατὰ κοιλίαν καὶ ἐπίπλοον, οἷον ἔγχελυς· ὀλίγον γὰρ στέαρ ἔχουσι περὶ τὸ ἐπίπλοον. Τὰ δὲ πλεῖστα γίνεται πίονα κατὰ τὴν γαστέρα, καὶ μάλιστα τὰ μὴ ἐν κινήσει ὄντα τῶν ζῴων. Οἱ δ’ ἐγκέφαλοι τῶν μὲν πιμελωδῶν λιπαροί, οἷον ὑός, τῶν δὲ στεατωδῶν αὐχμηροί. Τῶν δὲ σπλάγχνων περὶ τοὺς νεφροὺς μάλιστα πίονα γίνεται τὰ ζῷα· ἔστι δ’ ἀεὶ ὁ δεξιὸς ἀπιμελώτερος, κἂν σφόδρα πίονες ὦσιν, ἐλλείπει τι ἀεὶ κατὰ τὸ μέσον. Περίνεφρα δὲ γίνεται τὰ στεατώδη μᾶλλον, καὶ μάλιστα τῶν ζῴων πρόβατον· τοῦτο γὰρ ἀποθνήσκει τῶν νεφρῶν πάντῃ καλυφθέντων. Γίνεται δὲ περίνεφρα δι’ (520b.) εὐβοσίαν, οἷον τῆς Σικελίας περὶ Λεοντίνους· διὸ καὶ ἐξελαύνουσιν ὀψὲ τὰ πρόβατα τῆς ἡμέρας, ὅπως ἐλάττω λάβωσι τὴν τροφήν.

Κεφάλαιο 18

Πάντων δὲ τῶν ζῴων κοινόν ἐστι τὸ περὶ τὴν κόρην ἐν τοῖς ὀφθαλμοῖς· ἔχουσι γὰρ τοῦτο τὸ μόριον στεατῶδες πάντα ὅσα ἔχουσι τὸ τοιοῦτον μόριον ἐν τοῖς ὀφθαλμοῖς καὶ μή εἰσι σκληρόφθαλμα.

Ἔστι δ’ ἀγονώτερα πάντα τὰ πιμελώδη καὶ ἄρρενα καὶ θήλεα. Πιαίνεται δὲ πάντα πρεσβύτερα μᾶλλον ἢ νεώτερα ὄντα, μάλιστα δ’ ὅταν καὶ τὸ πλάτος καὶ τὸ μῆκος ἔχῃ τοῦ μεγέθους καὶ εἰς βάθος αὐξάνηται.

Κεφάλαιο 19

Περὶ δ’ αἵματος ὧδε ἔχει· τοῦτο γὰρ πᾶσιν ἀναγκαιότατον καὶ κοινότατον τοῖς ἐναίμοις, καὶ οὐκ ἐπίκτητον, ἀλλ’ ὑπάρχει πᾶσι τοῖς μὴ φθειρομένοις. Πᾶν δ’ αἷμά ἐστιν ἐν ἀγγείῳ, ἐν ταῖς καλουμέναις φλεψίν, ἐν ἄλλῳ δ’ οὐδενὶ πλὴν ἐν τῇ καρδίᾳ μόνον. Οὐκ ἔχει δ’ αἴσθησιν τὸ αἷμα ἁπτομένων ἐν οὐδενὶ τῶν ζῴων, ὥσπερ οὐδ’ ἡ περίττωσις ἡ τῆς κοιλίας· οὐδὲ δὴ ὁ ἐγκέφαλος οὐδ’ ὁ μυελὸς οὐκ ἔχει αἴσθησιν ἁπτομένων. Ὅπου δ’ ἄν τις διέλῃ τὴν σάρκα, γίνεται αἷμα ἐν ζῶντι, ἂν μὴ διεφθαρμένη ἡ σὰρξ ᾖ. Ἔστι δὲ τὴν φύσιν τὸ αἷμα τόν τε χυμὸν ἔχον γλυκύν, ἐάν περ ὑγιὲς ᾖ, καὶ τὸ χρῶμα ἐρυθρόν· τὸ δὲ χεῖρον ἢ φύσει ἢ νόσῳ μελάντερον. Καὶ οὔτε λίαν παχὺ οὔτε λίαν λεπτὸν τὸ βέλτιστον, ἐὰν μὴ χεῖρον ᾖ διὰ φύσιν ἢ διὰ νόσον. Καὶ ἐν μὲν τῷ ζῴῳ ὑγρὸν καὶ θερμὸν ἀεί, ἐξιὸν δὲ ἔξω πήγνυται πάντων πλὴν ἐλάφου καὶ προκὸς καὶ εἴ τι ἄλλο τοιαύτην ἔχει τὴν φύσιν· τὸ δ’ ἄλλο αἷμα πήγνυται, ἐὰν μὴ ἐξαιρεθῶσιν αἱ ἶνες. Τάχιστα δὲ πήγνυται τὸ τοῦ ταύρου αἷμα πάντων.

Ἔστι δὲ τῶν ἐναίμων ταῦτα πολυαιμότερα ἃ καὶ ἐν αὑτοῖς καὶ ἔξω ζῳοτοκεῖ τῶν ἐναίμων μὲν ᾠοτοκούντων δέ. Τὰ δ’ εὖ ἔχοντα ἢ φύσει ἢ τῷ ὑγιαίνειν οὔτε πολὺ λίαν ἔχει, ὥσπερ τὰ πεπωκότα πόμα πρόσφατον, οὔτ’ ὀλίγον, ὥσπερ τὰ πίονα λίαν· τὰ γὰρ πίονα καθαρὸν μὲν ἔχει ὀλίγον δὲ τὸ αἷμα, καὶ γίνεται πιότερα γινόμενα ἀναιμότερα· ἄναιμον γὰρ τὸ πῖον. Καὶ (521a.) τὸ μὲν πῖον ἄσηπτον, τὸ δ’ αἷμα καὶ τὰ ἔναιμα τάχιστα σήπεται, καὶ τούτων τὰ περὶ τὰ ὀστᾶ.

Ἔχει δὲ λεπτότατον μὲν αἷμα καὶ καθαρώτατον ἄνθρωπος, παχύτατον δὲ καὶ μελάντατον τῶν ζῳοτόκων ταῦρος καὶ ὄνος, Καὶ ἐν τοῖς κάτω δὲ μορίοις ἢ ἐν τοῖς ἄνω παχύτερον τὸ αἷμα γίνεται καὶ μελάντερον. Σφύζει δὲ τὸ αἷμα ἐν ταῖς φλεψὶν ἅπασι πάντῃ ἅμα τοῖς ζῴοις, καὶ ἔστι τῶν ὑγρῶν μόνον καθ’ ἅπαν τε τὸ σῶμα τοῖς ζῴοις καὶ ἀεί, ἕως ἂν ζῇ, τὸ αἷμα μόνον. Πρῶτον δὲ γίνεται τὸ αἷμα ἐν τῇ καρδίᾳ τοῖς ζῴοις, καὶ πρὶν ὅλον διηρθρῶσθαι τὸ σῶμα. Στερισκομένου δ’ αὐτοῦ καὶ ἀφιεμένου ἔξω πλείονος μὲν ἐκθνήσκουσι, πολλοῦ δ’ ἄγαν ἀποθνήσκουσιν. Ἐξυγραινομένου δὲ λίαν νοσοῦσιν· γίνεται γὰρ ἰχωροειδές, καὶ διορροῦται οὕτως ὥστε ἤδη τινὲς ἴδισαν αἱματώδη ἱδρῶτα. Καὶ ἐξιὸν ἐνίοις οὐ πήγνυται παντελῶς ἢ διωρισμένως καὶ χωρίς. Τοῖς δὲ καθεύδουσιν ἐν τοῖς ἐκτὸς μέρεσιν ἔλαττον γίνεται τὸ αἷμα, ὥστε καὶ

κεντουμένων μὴ ῥεῖν ὁμοίως.

Γίνεται δὲ πεττόμενον ἐξ ἰχῶρος μὲν αἷμα, ἐξ αἵματος δὲ πιμελή· νενοσηκότος δ’ αἵματος αἱμορροῒς ἥ τ’ ἐν ταῖς ῥισὶ καὶ ἡ περὶ τὴν ἕδραν, καὶ ἰξία. Σηπόμενον δὲ γίνεται τὸ αἷμα ἐν τῷ σώματι πύον, ἐκ δὲ τοῦ πύου πῶρος.

Τὸ δὲ τῶν θηλειῶν πρὸς τὸ τῶν ἀρρένων διαφέρει· παχύτερόν τε γὰρ καὶ μελάντερόν ἐστιν ὁμοίως ἐχόντων πρὸς ὑγίειαν καὶ ἡλικίαν ἐν τοῖς θήλεσιν, καὶ ἐπιπολῆς μὲν ἔλαττον ἐν τοῖς θήλεσιν, ἐντὸς δὲ πολυαιμότερον. Μάλιστα δὲ καὶ τῶν θηλέων ζῴων γυνὴ πολύαιμον, καὶ τὰ καλούμενα καταμήνια γίνεται πλεῖστα τῶν ζῴων ταῖς γυναιξίν. Νενοσηκὸς δὲ τοῦτο τὸ αἷμα καλεῖται ῥοῦς. Τῶν δ’ ἄνδρων τῶν νοσηματικῶν ἧττον μετέχουσιν αἱ γυναῖκες· ὀλίγαις δὲ γίνεται ἰξία καὶ αἱμορροῒς καὶ ἐκ ῥινῶν ῥύσις· ἐὰν δέ τι συμβαίνῃ τούτων, τὰ καταμήνια χεῖρω γίνεται.

Διαφέρει δὲ καὶ κατὰ τὰς ἡλικίας πλήθει καὶ εἴδει τὸ αἷμα· ἐν μὲν γὰρ τοῖς πάμπαν νέοις ἰχωροειδές ἐστι καὶ πλέον, ἐν δὲ τοῖς γέρουσι παχὺ καὶ μέλαν καὶ ὀλίγον, ἐν ἀκμάζουσι δὲ μέσως· καὶ πήγνυται (521b.) ταχὺ τὸ τῶν γερόντων, κἂν ἐν τῷ σώματι ᾖ ἐπιπολῆς· τοῖς δὲ νέοις οὐ γίνεται τοῦτο.

Ἰχὼρ δ’ ἐστὶν ἄπεπτον αἷμα, ἢ τῷ μήπω πεπέφθαι ἢ τῷ διωρρῶσθαι.

Κεφάλαιο 20

Περὶ δὲ μυελοῦ· καὶ γὰρ τοῦτο ἓν τῶν ὑγρῶν ἐνίοις τῶν ἐναίμων ὑπάρχει ζῴων. Πάντα δ' ὅσα φύσει ὑπάρχει ὑγρὰ ἐν τῷ σώματι, ἐν ἀγγείοις ὑπάρχει, ὥσπερ καὶ αἷμα ἐν φλεψὶ καὶ μυελὸς ἐν ὀστοῖς, τὰ δ' ἐν ὑμενώδεσι, καὶ δέρμασι καὶ κοιλίαις. Γίνεται δ' ἐν μὲν τοῖς νέοις αἱματώδης πάμπαν ὁ μυελός, πρεσβυτέρων δὲ γενομένων ἐν μὲν τοῖς πιμελώδεσι πιμελώδης, ἐν δὲ τοῖς στεατώδεσι στεατώδης. Οὐ πάντα δ' ἔχει τὰ ὀστᾶ μυελόν, ἀλλὰ τὰ κοῖλα, καὶ τούτων ἐνίοις οὐκ ἔνεστιν· τὰ γὰρ τοῦ λέοντος ὀστᾶ τὰ μὲν οὐκ ἔχει πάμπαν, τὰ δ' ἔχει μικρόν, διόπερ ἔνιοι οὔ φασιν ὅλως ἔχειν μυελὸν τοὺς λέοντας, ὥσπερ εἴρηται καὶ πρότερον. Καὶ ἐν τοῖς ὑείοις δ' ὀστοῖς ἐλάττων ἐστίν, ἐνίοις δ' αὐτῶν πάμπαν οὐκ ἔνεστιν.

Ταῦτα μὲν οὖν τὰ ὑγρὰ σχεδὸν ἀεὶ σύμφυτα τοῖς ζῴοις ἐστίν, ὑστερογενῆ δὲ γάλα τε καὶ γονή. Τούτων δὲ τὸ μὲν ἀποκεκριμένον ἅπασιν, ὅταν ἐνῇ, ἐστὶ τὸ γάλα· ἡ δὲ γονὴ οὐ πᾶσιν ἀλλ' ἐνίοις οἱ καλούμενοι θοροὶ οἷον τοῖς ἰχθύσιν.

Ἔχει δέ, ὅσα ἔχει τὸ γάλα, ἐν τοῖς μαστοῖς. Μαστοὺς δ' ἔχει ὅσα ζῳοτοκεῖ καὶ ἐν αὑτοῖς καὶ ἔξω, οἷον ὅσα τε τρίχας ἔχει, ὥσπερ ἄνθρωπος καὶ ἵππος, καὶ τὰ κήτη, οἷον δελφὶς καὶ φώκαινα καὶ φάλαινα· καὶ γὰρ ταῦτα μαστοὺς ἔχει καὶ γάλα. Ὅσα δ' ἔξω ζῳοτοκεῖ μόνον ἢ ᾠοτοκεῖ, οὐκ ἔχει οὔτε μαστοὺς οὔτε γάλα, οἷον ἰχθὺς καὶ ὄρνις.

Πᾶν δὲ γάλα ἔχει ἰχῶρα ὑδατώδη, ὃ καλεῖται ὀρρός, καὶ σωματῶδες, ὃ καλεῖται τυρός· ἔχει δὲ πλείω τυρὸν τὸ παχύτερον τῶν γαλάκτων. Τὸ μὲν οὖν τῶν μὴ ἀμφωδόντων γάλα πήγνυται (διὸ καὶ τυρεύεται τῶν ἡμέρων), τῶν δ' ἀμφωδόντων οὐ πήγνυται, ὥσπερ οὐδ' ἡ πιμελή, καὶ ἔστι λεπτὸν καὶ γλυκύ. Ἔστι δὲ λεπτότατον μὲν γάλα καμήλου, δεύτερον δ' ἵππου, τρίτον δ' ὄνου· παχύτατον δὲ τὸ βόειον. Ὑπὸ μὲν οὖν τοῦ ψυχροῦ οὐ πήγνυται τὸ γάλα, ἀλλὰ διορροῦται (522a.) μᾶλλον· ὑπὸ δὲ τοῦ πυρὸς πήγνυται καὶ παχύνεται.

Οὐ γίνεται δὲ γάλα, πρὶν ἢ ἔγκυον γένηται, οὐδενὶ τῶν ζῴων ὡς ἐπὶ τὸ πολύ. Ὅταν δ' ἔγκυον ᾖ, γίνεται μέν, ἄχρηστον δὲ τὸ πρῶτον καὶ ὕστερον. Μὴ ἐγκύοις δ' οὔσαις ὀλίγον μὲν ἀπ' ἐδεσμάτων τινῶν, οὐ μὴν ἀλλὰ καὶ βδαλλομέναις ἤδη πρεσβυτέραις προῆλθε, καὶ τοσοῦτον ἤδη τισὶν ὥστ' ἐκτιτθεῦσαι παιδίον.

Καὶ οἱ περὶ τὴν Οἴτην δέ, ὅσαι ἂν μὴ ὑπομένωσι τὴν ὀχείαν τῶν αἰγῶν, λαμβάνοντες κνίδην τρίβουσι τὰ οὔθατα βίᾳ διὰ τὸ ἀλγεινὸν εἶναι· τὸ μὲν οὖν πρῶτον αἱματῶδες ἀμέλγονται, εἶθ' ὑπόπυον, τὸ δὲ τελευταῖον γάλα ἤδη οὐδὲν ἔλαττον τῶν ὀχευομένων.

Τῶν δ' ἀρρένων ἔν τε τοῖς ἄλλοις ζῴοις καὶ ἐν ἀνθρώπῳ ἐν οὐδενὶ μὲν ὡς ἐπὶ τὸ πολὺ γίνεται γάλα, ὅμως δὲ γίνεται ἔν τισιν, ἐπεὶ καὶ ἐν Λήμνῳ αἲξ ἐκ τῶν μαστῶν, οὓς ἔχει δύο ὁ ἄρρην παρὰ τὸ αἰδοῖον, γάλα ἠμέλγετο τοσοῦτον ὥστε γίνεσθαι τροφαλίδα, καὶ πάλιν ὀχεύσαντος τῷ ἐκ τούτου γενομένῳ συνέβαινε ταὐτόν. Ἀλλὰ τὰ μὲν τοιαῦτα ὡς σημεῖα ὑπολαμβάνουσιν, ἐπεὶ καὶ τῷ ἐν Λήμνῳ ἀνεῖλεν ὁ θεὸς μαντευομένῳ ἐπίκτησιν ἔσεσθαι κτημάτων. Ἐν δὲ τοῖς ἀνδράσι μεθ' ἥβην ἐνίοις ἐκθλίβεται ὀλίγον· βδαλλομένοις δὲ καὶ πολὺ ἤδη τισὶ προῆλθεν.

Ὑπάρχει δ' ἐν τῷ γάλακτι λιπαρότης, ἣ καὶ ἐν τοῖς πεπηγόσι γίνεται ἐλαιώδης. Εἰς δὲ τὸ προβάτειον ἐν Σικελίᾳ, καὶ ὅπου πλεῖον, αἴγειον μιγνύουσιν. Πήγνυται δὲ μάλιστα οὐ μόνον τὸ τυρὸν ἔχον πλεῖστον, ἀλλὰ καὶ τὸ αὐχμηρότερον ἔχον.

Τὰ μὲν οὖν πλέον ἔχει γάλα ἢ ὅσον εἰς τὴν ἐκτροφὴν τῶν τέκνων, καὶ χρήσιμον εἰς τύρευσιν καὶ ἀπόθεσιν, μάλιστα μὲν τὸ προβάτειον καὶ τὸ αἴγειον, ἔπειτα τὸ βόειον· τὸ δ' ἵππειον καὶ ὄνειον μίγνυται εἰς τὸν Φρύγιον τυρόν. Ἔστι δὲ τυρὸς πλείων ἐν τῷ βοείῳ ἢ ἐν τῷ αἰγείῳ· γίνεσθαι γάρ φασιν οἱ νομεῖς ἐκ μὲν ἀμφορέως αἰγείου γάλακτος τροφαλίδας ὀβολιαίας μιᾶς δεούσης εἴκοσιν, ἐκ δὲ βοείου τριάκοντα.

Τὰ δ' ὅσον τοῖς τέκνοις ἱκανόν, πλῆθος δ' οὐδὲν οὔτε χρήσιμον εἰς τύρευσιν, οἷον πάντα τὰ πλείους ἔχοντα (522b.) μαστοὺς δυοῖν· οὐδενὸς γὰρ τούτων οὔτε πλῆθός ἐστι γάλακτος οὔτε τυρεύεται τὸ γάλα.

Πήγνυσι δὲ τὸ γάλα ὀπός τε συκῆς καὶ πυετία. Ὁ μὲν οὖν ὀπὸς εἰς ἔριον ἐξοπισθείς, ὅταν ἐκπλυθῇ πάλιν τὸ ἔριον εἰς γάλα ὀλίγον· τοῦτο γὰρ κεραννύμενον πήγνυσιν. Ἡ δὲ πυετία γάλα ἐστίν· τῶν γὰρ ἔτι θηλαζόντων γίνεται ἐν τῇ κοιλίᾳ.

Κεφάλαιο 21

Ἔστιν οὖν ἡ πυετία γάλα ἔχον ἐν ἑαυτῷ πῦρ ὃ ἐκ τῆς τοῦ ζῴου θερμότητος πεττομένου τοῦ γάλακτος γίνεται. Ἔχει δὲ πυετίαν τὰ μὲν μηρυκάζοντα πάντα, τῶν δ’ ἀμφωδόντων δασύπους. Βελτίων δ’ ἐστὶν ἡ πυετία ὅσῳ ἂν ᾖ παλαιοτέρα· συμφέρει γὰρ πρὸς τὰς διαρροίας ἡ τοιαύτη μάλιστα καὶ ἡ τοῦ δασύποδος· ἀρίστη δὲ πυετία νεβροῦ.

Διαφέρει δὲ τῷ πλέον ἱμᾶσθαι γάλα ἢ ἔλαττον τῶν ἐχόντων γάλα ζῴων κατά τε τὰ μεγέθη τῶν σωμάτων καὶ τὰς τῶν ἐδεσμάτων διαφοράς, οἷον ἐν Φάσει μέν ἐστι βοΐδια μικρὰ ὧν ἕκαστον βδάλλεται γάλα πολύ, αἱ δ’ Ἠπειρωτικαὶ βόες αἱ μεγάλαι βδάλλονται ἑκάστη ἀμφορέα καὶ τούτου τὸ ἥμισυ κατὰ τοὺς δύο μαστούς· ὁ δὲ βδάλλων ὀρθὸς ἕστηκεν, μικρὸν ἐπικύπτων, διὰ τὸ μὴ δύνασθαι ἂν ἐφικνεῖσθαι καθήμενος. Γίνεται δ’ ἔξω ὄνου καὶ τἆλλα μεγάλα ἐν τῇ Ἠπείρῳ τετράποδα, μέγιστοι δ’ οἱ βόες καὶ οἱ κύνες. Νομῆς δὲ δέονται τὰ μεγάλα πλείονος· ἀλλ’ ἔχει πολλὴν ἡ χώρα τοιαύτην εὐβοσίαν, καὶ καθ’ ἑκάστην ὥραν ἐπιτηδείους τόπους. Μέγιστοι δ’ οἵ τε βόες εἰσὶ καὶ τὰ πρόβατα τὰ καλούμενα Πυρρικά, τὴν ἐπωνυμίαν ἔχοντα ταύτην ἀπὸ Πύρρου τοῦ βασιλέως.

Τῆς δὲ τροφῆς ἡ μὲν σβέννυσι τὸ γάλα, οἷον ἡ Μηδικὴ πόα, καὶ μάλιστα τοῖς μηρυκάζουσιν· ποιεῖ δὲ πολὺ ἕτερα, οἷον κύτισος καὶ ὄροβοι, πλὴν κύτισος μὲν ὁ ἀνθῶν οὐ συμφέρει (πίμπρησι γάρ), οἱ δ’ ὄροβοι ταῖς κυούσαις οὐ συμφέρουσι (τίκτουσι γὰρ χαλεπώτερον). Ὅλως δὲ τὰ φαγεῖν δυνάμενα τῶν τετραπόδων, ὥσπερ καὶ πρὸς τὴν κύησιν συμφέρει, καὶ βδάλλεται πολὺ τροφὴν ἔχοντα. Ποιεῖ δὲ γάλα καὶ τῶν φυσωδῶν ἔνια προσφερόμενα, οἷον καὶ κυάμων πλῆθος ὀῒ καὶ αἰγὶ καὶ βοῒ (523a.) καὶ χιμαίρᾳ· ποιεῖ γὰρ καθιέναι τὸ οὖθαρ. Σημεῖον δὲ τοῦ γάλα πλεῖον ἱμήσεσθαι, ὅταν πρὸ τοῦ τόκου τὸ οὖθαρ βλέπῃ κάτω. Γίνεται δὲ πολὺν χρόνον γάλα πᾶσι τοῖς ἔχουσιν, ἂν ἀνόχευτα διατελῇ καὶ τὰ ἐπιτήδεια ἔχωσι, μάλιστα δὲ τῶν τετραπόδων πρόβατον· ἀμέλγεται γὰρ μῆνας ὀκτώ.

Ὅλως δὲ τὰ μηρυκάζοντα γάλα πολὺ καὶ χρήσιμον εἰς τυρείαν ἀμέλγεται. Περὶ δὲ Τορώνην αἱ βόες ὀλίγας ἡμέρας πρὸ τοῦ τόκου διαλείπουσι, τὸν δ’ ἄλλον χρόνον πάντα ἔχουσι γάλα. Τῶν δὲ γυναικῶν τὸ πελιώτερον γάλα βέλτιον τοῦ λευκοῦ τοῖς τιτθευομένοις· καὶ αἱ μέλαιναι τῶν λευκῶν ὑγιεινότερον ἔχουσιν. Τροφιμώτατον μὲν οὖν τὸ πλεῖστον ἔχον τυρόν, ὑγιεινότερον δὲ τοῖς παιδίοις τὸ ἔλαττον.

Κεφάλαιο 22

Σπέρμα δὲ προΐενται πάντα τὰ ἔχοντα αἷμα. Τί δὲ συμβάλλεται εἰς τὴν γένεσιν καὶ πῶς, ἐν ἄλλοις λεχθήσεται.

Πλεῖστον δὲ κατὰ τὸ σῶμα ἄνθρωπος προΐεται. Ἔστι δὲ τῶν μὲν ἐχόντων τρίχας γλίσχρον, τῶν δ’ ἄλλων ζῴων οὐκ ἔχει γλισχρότητα. Λευκὸν δὲ πάντων· ἀλλ’ Ἡρόδοτος διέψευσται γράψας τοὺς Αἰθίοπας προΐεσθαι μέλαιναν τὴν γονήν. Τὸ δὲ σπέρμα ἐξέρχεται μὲν λευκὸν καὶ παχύ, ἂν ᾖ ὑγιαῖνον, θύραζε δ’ ἐλθὸν λεπτὸν γίνεται καὶ μέλαν. Ἐν δὲ τοῖς πάγοις οὐ πήγνυται, ἀλλὰ γίνεται πάμπαν λεπτὸν καὶ ὑδατῶδες καὶ τὸ χρῶμα καὶ τὸ πάχος· ὑπὸ δὲ τοῦ θερμοῦ πήγνυται καὶ παχύνεται. Καὶ ὅταν ἐξίῃ χρονίσαν ἐν τῇ ὑστέρᾳ, παχύτερον ἐξέρχεται, ἐνίοτε δὲ ξηρὸν καὶ συνεστραμμένον. Καὶ τὸ μὲν γόνιμον ἐν τῷ ὕδατι χωρεῖ κάτω, τὸ δ’ ἄγονον διαχεῖται. Ψευδὲς δ’ ἐστὶ καὶ ὃ Κτησίας γέγραφε περὶ τῆς γονῆς τῶν ἐλεφάντων.

Βιβλίο 4

Κεφάλαιο 1

Περὶ μὲν οὖν τῶν ἐναίμων ζῴων, ὅσα τε κοινὰ ἔχουσι μέρη καὶ ὅσα ἴδια ἕκαστον γένος, καὶ τῶν ἀνομοιομερῶν καὶ τῶν ὁμοιομερῶν, καὶ ὅσα ἐκτὸς καὶ ὅσα ἐντός, εἴρηται (523b.) πρότερον· περὶ δὲ τῶν ἀναίμων νῦν λεκτέον.

Ἔστι δὲ γένη ταῦτα πλείω, ἓν μὲν τὸ τῶν καλουμένων μαλακίων· ταῦτα δ' ἐστὶν ὅσα ἄναιμα ὄντα ἐκτὸς ἔχει τὸ σαρκῶδες, ἐντὸς δ' εἴ τι ἔχει στερεόν, καθάπερ καὶ τὰ ἔναιμα τῶν ζῴων, οἷον τὸ τῶν σηπιῶν γένος. Ἓν δὲ τὸ τῶν μαλακοστράκων· ταῦτα δ' ἐστὶν ὅσων ἐκτὸς τὸ στερεόν, ἐντὸς δὲ τὸ μαλακὸν καὶ σαρκῶδες· τὸ δὲ σκληρὸν αὐτῶν ἐστιν οὐ θραυστὸν ἀλλὰ θλαστόν, οἷόν ἐστι τό τε τῶν καράβων γένος καὶ τὸ τῶν καρκίνων. Ἔτι δὲ τὰ ὀστρακόδερμα· τοιαῦτα δ' ἐστὶν ὧν ἐντὸς μὲν τὸ σαρκῶδες, ἐκτὸς δὲ τὸ στερεόν, θραυστὸν ὂν καὶ κατακτόν, ἀλλ' οὐ θλαστόν· τοιοῦτον δὲ τὸ τῶν κοχλιῶν γένος καὶ τὸ τῶν ὀστρέων ἐστίν. Τέταρτον δὲ τὸ τῶν ἐντόμων, ὃ πολλὰ καὶ ἀνόμοια περιείληφεν εἴδη ζῴων. Ἔστι δ' ἔντομα ὅσα κατὰ τοὔνομά ἐστιν ἐντομὰς ἔχοντα ἢ ἐν τοῖς ὑπτίοις ἢ ἐν τοῖς πρανέσιν ἢ ἐν ἀμφοῖν, καὶ οὔτε ὀστῶδες ἔχει ἓν κεχωρισμένον οὔτε σαρκῶδες, ἀλλὰ μέσον ἀμφοῖν· τὸ σῶμα γὰρ ὁμοίως καὶ ἔσω καὶ ἔξω σκληρόν ἐστιν αὐτῶν. Ἔστι δ' ἔντομα καὶ ἄπτερα, οἷον ἴουλος καὶ σκολόπενδρα, καὶ πτερωτά, οἷον μέλιττα καὶ μηλολόνθη καὶ σφήξ· καὶ ταὐτὸ δὲ γένος αὐτῶν ἐστι καὶ πτερωτὸν καὶ ἄπτερον, οἷον μύρμηκές εἰσι καὶ πτερωτοὶ καὶ ἄπτεροι, καὶ αἱ καλούμεναι πυγολαμπίδες.

Τῶν μὲν οὖν μαλακίων καλουμένων τὰ μὲν ἔξω μόρια τάδ' ἐστίν, ἓν μὲν οἱ ὀνομαζόμενοι πόδες, δεύτερον δὲ τούτων ἐχομένη ἡ κεφαλή, τρίτον δὲ τὸ κύτος, ὃ περιέχει τἀντός, καὶ καλοῦσιν αὐτὸ κεφαλήν τινες, οὐκ ὀρθῶς καλοῦντες· ἔτι δὲ πτερύγια κύκλῳ περὶ τὸ κύτος.

Συμβαίνει δ' ἐν πᾶσι τοῖς μαλακίοις μεταξὺ τῶν ποδῶν καὶ τῆς γαστρὸς εἶναι τὴν κεφαλήν. Πόδας μὲν οὖν ὀκτὼ πάντ' ἔχει, καὶ τούτους δικοτύλους πάντα, πλὴν ἑνὸς γένους πολυπόδων. Ἰδίᾳ δ' ἔχουσιν αἵ τε σηπίαι καὶ αἱ τευθίδες καὶ οἱ τεῦθοι δύο προβοσκίδας μακράς, ἐπ' ἄκρων τραχύτητα ἐχούσας δικότυλον, αἷς προσάγονταί τε καὶ λαμβάνουσιν εἰς τὸ στόμα τὴν τροφήν, καὶ ὅταν χειμὼν ᾖ, βαλλόμεναι πρός τινα πέτραν ὥσπερ ἀγκύρας ἀποσαλεύουσιν.

(524a.) Τοῖς δ’ ὥσπερ πτερυγίοις, οἷς ἔχουσι περὶ τὸ κύτος, νέουσιν. Ἐπὶ δὲ τῶν ποδῶν αἱ κοτυληδόνες ἅπασιν εἰσίν.

Ὁ μὲν οὖν πολύπους καὶ ὡς ποσὶ καὶ ὡς χερσὶ χρῆται ταῖς πλεκτάναις. Προσάγεται δὲ ταῖς δυσὶ ταῖς ὑπὲρ τοῦ στόματος· τῇ δ’ ἐσχάτῃ τῶν πλεκτανῶν, ἥ ἐστιν ὀξυτάτη τε καὶ μόνη παράλευκος αὐτῶν καὶ ἐξ ἄκρου δικρόα (ἔστι δ’ αὕτη ἐπὶ τῇ ῥάχει· καλεῖται δὲ ῥάχις τὸ λεῖον, οὗ πρόσω αἱ κοτυληδόνες εἰσίν), ταύτῃ δὴ τῇ πλεκτάνῃ χρῆται ἐν ταῖς ὀχείαις. Πρὸ τοῦ κύτους δ’ ὑπὲρ τῶν πλεκτανῶν ἔχουσι κοῖλον αὐλόν, ᾧ τὴν θάλατταν ἀφιᾶσι δεξάμενοι τῷ κύτει, ὅταν τι τῷ στόματι λαμβάνωσιν. Μεταβάλλει δὲ τοῦτον ὁτὲ μὲν εἰς τὰ δεξιὰ ὁτὲ δ’ εἰς τὰ ἀριστερά· ἀφίησι δὲ καὶ τὸν θολὸν ταύτῃ.

Νεῖ δὲ πλάγιος, ἐπὶ τὴν καλουμένην κεφαλήν, ἐκτείνων τοὺς πόδας· οὕτω δὲ νέοντι συμβαίνει προορᾶν μὲν εἰς τὸ πρόσθεν (ἐπάνω γάρ εἰσιν οἱ ὀφθαλμοί), τὸ δὲ στόμα ἔχει ὄπισθεν. Τὴν δὲ κεφαλήν, ἕως ἂν ζῇ, σκληρὰν ἔχει καθάπερ ἐμπεφυσημένην. Ἅπτεται δὲ καὶ κατέχει ταῖς πλεκτάναις ὑπτίαις, καὶ ὁ μεταξὺ τῶν ποδῶν ὑμὴν διατέταται πᾶς· ἐὰν δ’ εἰς τὴν ἄμμον ἐμπέσῃ, οὐκέτι δύναται κατέχειν.

Ἔχουσι δὲ διαφορὰν οἵ τε πολύποδες καὶ τὰ εἰρημένα τῶν μαλακίων· τῶν μὲν γὰρ πολυπόδων τὸ μὲν κύτος μικρόν, οἱ δὲ πόδες μακροί εἰσι, τῶν δὲ τὸ μὲν κύτος μέγα, οἱ δὲ πόδες βραχεῖς, ὥστε μὴ πορεύεσθαι ἐπ’ αὐτοῖς. Αὐτῶν δὲ πρὸς αὑτά, τὸ μὲν μακρότερόν ἐστιν ἡ τευθίς, ἡ δὲ σηπία πλατύτερον. Τῶν δὲ τευθίδων οἱ τεῦθοι καλούμενοι ἐπὶ πολὺ μείζους· γίνονται γὰρ καὶ πέντε πήχεων τὸ μέγεθος. Γίνονται δὲ καὶ σηπίαι ἔνιαι διπήχεις, καὶ πολυπόδων πλεκτάναι τηλικαῦται καὶ μείζους ἔτι τὸ μέγεθος. Ἔστι δὲ τὸ γένος ὀλίγον τῶν τεύθων. Διαφέρει δὲ τὸ σχῆμα τῶν τευθίδων ὁ τεῦθος· πλατύτερον γάρ ἐστι τὸ ὀξὺ τῶν τεύθων, ἔτι δὲ τὸ κύκλῳ πτερύγιον περὶ ἅπαν ἐστὶ τὸ κύτος· τῇ δὲ τευθίδι ἐλλείπει. Ἔστι δὲ πελάγιον, ὥσπερ καὶ ἡ τευθίς.

Μετὰ δὲ τοὺς πόδας ἡ κεφαλή ἐστιν (524b.) ἁπάντων ἐν μέσῳ τῶν ποδῶν τῶν καλουμένων πλεκτανῶν. Ταύτης δὲ τὸ μέν ἐστι στόμα, ἐν ᾧ ἔνεισι δύο ὀδόντες· ὑπὲρ δὲ τούτων ὀφθαλμοὶ μεγάλοι δύο, ὧν τὸ μεταξὺ μικρὸς χόνδρος ἔχων ἐγκέφαλον μικρόν. Ἐν δὲ τῷ στόματί ἐστι μικρὸν σαρκῶδες· γλῶτταν δ’ οὐκ ἔχει αὐτῶν οὐδέν, ἀλλὰ τούτῳ χρῆται ἀντὶ γλώττης.

Μετὰ δὲ τοῦτο ἔξωθεν μὲν ἔστιν ἰδεῖν τὸ φαινόμενον κύτος. Ἔστι δ’ αὐτοῦ ἡ σὰρξ σχιστή, οὐκ εἰς εὐθὺ μέντοι ἀλλὰ κύκλῳ· δέρμα δ’ ἔχουσι πάντα τὰ μαλάκια περὶ ταύτην.

Μετὰ δὲ τὸ στόμα ἔχουσιν οἰσοφάγον μακρὸν καὶ στενόν, ἐχόμενον δὲ τούτου πρόλοβον μέγαν καὶ περιφερῆ ὀρνιθώδη. Τούτου δ’ ἔχεται ἡ κοιλία οἷον ἤνυστρον· τὸ δὲ σχῆμα ὅμοιον τῇ ἐν τοῖς κήρυξιν ἑλίκῃ. Ἀπὸ δὲ ταύτης ἄνω πάλιν φέρει πρὸς τὸ στόμα ἔντερον λεπτόν· παχύτερον δ’ ἐστὶ τοῦ στομάχου τὸ ἔντερον.

Σπλάγχνον δ’ οὐδὲν ἔχει τῶν μαλακίων, ἀλλ’ ἣν καλοῦσι μύτιν, καὶ ἐπὶ ταύτῃ θολόν. Τοῦτον δὲ πλεῖστον αὐτῶν καὶ μέγιστον ἡ σηπία ἔχει· ἀφίησι μὲν οὖν ἅπαντα, ὅταν φοβηθῇ, μάλιστα δ’ ἡ σηπία. Ἡ μὲν οὖν μύτις κεῖται ὑπὸ τὸ στόμα, καὶ διὰ ταύτης τείνει ὁ στόμαχος· ᾗ δὲ τὸ ἔντερον ἀνατείνει, κάτωθεν ὁ θολός, καὶ τῷ αὐτῷ ὑμένι περιεχόμενον ἔχει τὸν πόρον τῷ ἐντέρῳ, καὶ ἀφίησι κατὰ ταὐτὸν τόν τε θολὸν καὶ τὸ περίττωμα· ἔχουσι δὲ καὶ τριχώδη ἄττα ἐν τῷ σώματι.

Τῇ μὲν οὖν σηπίᾳ καὶ τῇ τευθίδι καὶ τῷ τεύθῳ ἐντός ἐστι τὰ στερεὰ ἐν τῷ πρανεῖ τοῦ σώματος, ἃ καλοῦσι τὸ μὲν σήπιον, τὸ δὲ ξίφος. Διαφέρει δέ· τὸ μὲν γὰρ σήπιον ἰσχυρὸν καὶ πλατύ ἐστι, μεταξὺ ἀκάνθης καὶ ὀστοῦ, ἔχον ἐν αὑτῷ ψαθυρότητα σομφήν, τὸ δὲ τῶν τευθίδων λεπτὸν καὶ χονδρωδέστερον. Τῷ δὲ σχήματι διαφέρουσιν ἀλλήλων ὥσπερ καὶ τὰ κύτη. Οἱ δὲ πολύποδες οὐκ ἔχουσιν εἴσω στερεὸν τοιοῦτον οὐδέν, ἀλλὰ περὶ τὴν κεφαλὴν χονδρῶδες, ὃ γίνεται, ἐάν τις αὐτῶν παλαιωθῇ, σκληρόν.

Τὰ δὲ θήλεα τῶν ἀρρένων διαφέρουσιν· οἱ μὲν γὰρ ἄρρενες ἔχουσι πόρον ὑπὸ τὸν στόμαχον, ἀπὸ τοῦ ἐγκεφάλου τείνοντα πρὸς τὸ κάτω τοῦ κύτους· ἔστι δὲ πρὸς ὃ τείνει, ὅμοιον μαστῷ· (525a.) ἐν δὲ ταῖς θηλείαις δύο τε ταῦτ’ ἐστὶ καὶ ἄνω. Ἀμφοτέροις δ’ ὑπὸ ταῦτα ἐρυθρὰ ἄττα σωμάτια πρόσεστιν.

Τὸ δ’ ᾠὸν ὁ μὲν πολύπους ἓν καὶ ἀνώμαλον ἔξωθεν καὶ μέγα ἴσχει· ἔσω δὲ τὸ ὑγρόν, ὁμόχρουν ἅπαν καὶ λεῖον, χρῶμα δὲ λευκόν· τὸ δὲ πλῆθος τοῦ ᾠοῦ τοσοῦτον ὥστε πληροῦν ἀγγεῖον μεῖζον τῆς τοῦ πολύποδος κεφαλῆς. Ἡ δὲ σηπία δύο τε τὰ κύτη καὶ πολλὰ ᾠὰ ἐν τούτοις, χαλάζαις ὅμοια λευκαῖς. Ἕκαστα δὲ τούτων ὡς κεῖται τῶν μορίων, θεωρείσθω ἐκ τῆς ἐν ταῖς ἀνατομαῖς διαγραφῆς.

Πάντα δὲ τὰ ἄρρενα ταῦτα τῶν θηλειῶν διαφέρει, καὶ μάλιστα ἡ σηπία· τά τε γὰρ πρανῆ τοῦ κύτους, ὄντα μελάντερα τῶν ὑπτίων, τραχύτερά τ’ ἔχει ὁ ἄρρην τῆς θηλείας, καὶ διαποίκιλα ῥάβδοις, καὶ τὸ ὀρροπύγιον ὀξύτερον.

Ἔστι δὲ γένη πλείω πολυπόδων, ἓν μὲν τὸ μάλιστ’ ἐπιπολάζον καὶ μέγιστον αὐτῶν (εἰσὶ δὲ πολὺ μείζους οἱ πρόσγειοι τῶν πελαγίων), ἔτι δ’ ἄλλοι μικροί, ποικίλοι, οἳ οὐκ ἐσθίονται. Ἄλλα τε δύο, ἥ τε καλουμένη ἑλεδώνη, μήκει τε διαφέρουσα τῷ τῶν ποδῶν καὶ τῷ μονοκότυλον εἶναι μόνην τῶν μαλακίων (τὰ γὰρ ἄλλα πάντα δικότυλά ἐστι), καὶ ἣν καλοῦσιν οἱ μὲν βολίταιναν οἱ δ’ ὄζολιν. Ἔτι δ’ ἄλλοι δύο ἐν ὀστρείοις, ὅ τε καλούμενος ὑπό τινων ναυτίλος καὶ ποντίλος, ὑπ’ ἐνίων δ’ ᾠὸν πολύποδος· τὸ δ’ ὄστρακον αὐτοῦ ἐστιν οἷον κτεὶς κοῖλος καὶ οὐ συμφυής. Οὗτος νέμεται πολλάκις παρὰ τὴν γῆν, εἶθ’ ὑπὸ τῶν κυμάτων ἐκκλύζεται εἰς τὸ ξηρόν, καὶ περιπεσόντος τοῦ ὀστρέου ἁλίσκεται καὶ ἐν τῇ γῇ ἀποθνήσκει. Εἰσὶ δ’ οὗτοι μικροί, τὸ εἶδος ὅμοιοι ταῖς βολιταίναις. Καὶ ἄλλος ἐν ὀστράκῳ οἷον κοχλίας, ὃς οὐκ ἐξέρχεται ἐκ τοῦ ὀστράκου, ἀλλ’ ἔνεστιν ὥσπερ ὁ κοχλίας, καὶ ἔξω ἐνίοτε τὰς πλεκτάνας προτείνει. Περὶ μὲν οὖν τῶν μαλακίων εἴρηται.

Κεφάλαιο 2

Τῶν δὲ μαλακοστράκων ἓν μέν ἐστι γένος τὸ τῶν καράβων, καὶ τούτῳ παραπλήσιον ἕτερον τὸ τῶν καλουμένων ἀστακῶν· οὗτοι δὲ διαφέρουσι τῶν καράβων τῷ ἔχειν χηλὰς καὶ ἄλλας τινὰς διαφορὰς οὐ πολλάς. Ἓν δὲ τὸ τῶν καρίδων, καὶ ἄλλο τὸ τῶν καρκίνων. Γένη δὲ πλείω τῶν (525b.) καρίδων ἐστὶ καὶ τῶν καρκίνων, τῶν μὲν καρίδων αἵ τε κυφαὶ καὶ αἱ κράγγονες καὶ τὸ μικρὸν γένος (αὗται γὰρ οὐ γίνονται μείζους), τῶν δὲ καρκίνων παντοδαπώτερον τὸ γένος καὶ οὐκ εὐαρίθμητον. Μέγιστον μὲν οὖν ἐστιν ἃς καλοῦσι μαίας, δεύτερον δ’ οἵ τε πάγουροι καὶ οἱ Ἡρακλεωτικοὶ καρκίνοι, ἔτι δ’ οἱ ποτάμιοι· οἱ δ’ ἄλλοι ἐλάττους καὶ ἀνωνυμώτεροι.

Περὶ δὲ τὴν Φοινίκην γίνονται ἐν τῷ αἰγιαλῷ οὓς καλοῦσιν ἵππους διὰ τὸ οὕτω ταχέως θεῖν ὥστε μὴ ῥᾴδιον εἶναι καταλαβεῖν· ἀνοιχθέντες δὲ κενοὶ διὰ τὸ μὴ ἔχειν νομήν. Ἔστι δὲ καὶ ἕτερον γένος μικρὸν μὲν ὥσπερ οἱ καρκίνοι, τὸ δ’ εἶδος ὅμοιον τοῖς ἀστακοῖς.

Πάντα μὲν οὖν ταῦτα, καθάπερ εἴρηται πρότερον, τὸ μὲν στερεὸν καὶ ὀστρακῶδες ἐκτὸς ἔχει ἐν τῇ χώρᾳ τῇ τοῦ δέρματος, τὸ δὲ σαρκῶδες ἐντός, τὰ δ’ ἐν τοῖς ὑπτίοις πλακωδέστερα, εἰς ἃ καὶ ἐκτίκτουσιν αἱ θήλειαι.

Πόδας δ’ οἱ μὲν κάραβοι ἐφ’ ἑκάτερα ἔχουσι πέντε σὺν ταῖς ἐσχάταις χηλαῖς· ὁμοίως δὲ καὶ οἱ καρκίνοι δέκα τοὺς πάντας σὺν ταῖς χηλαῖς. Τῶν δὲ καρίδων αἱ μὲν κυφαὶ πέντε μὲν ἐφ’ ἑκάτερα ἔχουσιν, ὀξεῖς τοὺς πρὸς τῇ κεφαλῇ, ἄλλους δὲ πέντε ἐφ’ ἑκάτερα κατὰ τὴν γαστέρα, τὰ ἄκρα ἔχοντας πλατέα· πλάκας δ’ ἐν ὑπτίοις οὐκ ἔχουσι, τὰ δ’ ἐν τοῖς πρανέσιν ὅμοια τοῖς καράβοις. Ἡ δὲ κραγγὼν ἀνάπαλιν· τοὺς πρώτους γὰρ ἔχει τέτταρας ἐφ’ ἑκάτερα, εἶτ’ ἄλλους ἐχομένους λεπτοὺς τρεῖς ἐφ’ ἑκάτερα, τὸ δὲ λοιπὸν πλεῖον μόριον τοῦ σώματος ἄπουν ἐστίν. Κάμπτονται δ’ οἱ μὲν πόδες πάντων εἰς τὸ πλάγιον, ὥσπερ καὶ τῶν ἐντόμων, αἱ δὲ χηλαί, ὅσα ἔχει χηλάς, εἰς τὸ ἐντός. Ἔχει δ’ ὁ κάραβος καὶ κέρκον, πτερύγια δὲ πέντε· καὶ ἡ καρὶς ἡ κυφὴ τὴν οὐρὰν καὶ πτερύγια τέτταρα. Ἔχει δὲ καὶ ἡ κραγγὼν πτερύγια ἐφ’ ἑκάτερα ἐν τῇ οὐρᾷ· τὸ δὲ μέσον αὐτῶν ἀμφότεραι ἀκανθῶδες, πλὴν αὕτη μὲν πλατύ, ἡ δὲ κυφὴ ὀξύ. Ὁ δὲ καρκίνος μόνος τῶν τοιούτων ἀνορροπύγιον· καὶ τὸ σῶμα τὸ μὲν τῶν καρίδων καὶ τῶν καράβων πρόμηκες, τὸ δὲ τῶν καρκίνων στρογγύλον.

Διαφέρει δ’ ὁ κάραβος ὁ ἄρρην τῆς θηλείας· τῆς μὲν γὰρ θηλείας ὁ πρῶτος (526a.) πoὺς δίκρους ἐστί, τοῦ δ’ ἄρρενος μῶνυξ, καὶ τὰ πτερύγια τὰ ἐν τῷ ὑπτίῳ ἡ μὲν θήλεια μεγάλα ἔχει καὶ ἐπαλλάττοντα πρὸς τῷ τραχήλῳ, ὁ δ’ ἄρρην ἐλάττω καὶ οὐκ ἐπαλλάττοντα· ἔτι τοῦ μὲν ἄρρενος ἐν τοῖς τελευταίοις ποσὶ μεγάλα καὶ ὀξέα ἐστὶν ὥσπερ πλῆκτρα, τῆς δὲ θηλείας ταῦτα μικρὰ καὶ λεῖα. Ὁμοίως δ’ ἔχουσιν ἀμφότερα κεραίας δύο πρὸ τῶν ὀφθαλμῶν μεγάλας καὶ τραχείας, καὶ ἄλλα κεράτια μικρὰ ὑποκάτω λεῖα.

Τὰ δ’ ὄμματα πάντων τούτων ἐστὶ σκληρόφθαλμα, καὶ κινεῖται καὶ ἐκτὸς καὶ ἐντὸς καὶ εἰς τὸ πλάγιον· ὁμοίως δὲ καὶ τοῖς καρκίνοις τοῖς πλείστοις, καὶ ἔτι μᾶλλον.

Ὁ δ’ ἀστακὸς τὸ μὲν ὅλον ὑπόλευκον ἔχει τὸ χρῶμα, μέλανι δὲ διαπεπασμένον. Ἔχει δὲ τοὺς μὲν ὑποκάτω πόδας τοὺς ἄχρι τῶν μεγάλων ὀκτώ, μετὰ δὲ ταῦτα τοὺς μεγάλους πολλῷ μείζους καὶ ἐξ ἄκρου πλατυτέρους ἢ ὁ κάραβος, ἀνωμάλους δ’ αὐτούς· ὁ μὲν γὰρ δεξιὸς τὸ πλατὺ τὸ ἔσχατον πρόμηκες ἔχει καὶ λεπτόν, ὁ δ’ ἀριστερὸς παχὺ καὶ στρογγύλον. Ἐξ ἄκρου δ’ ἑκάτερος ἐσχισμένος ὥσπερ σιαγὼν ὀδόντας ἔχων καὶ κάτωθεν καὶ ἄνωθεν, πλὴν ὁ μὲν δεξιὸς μικροὺς ἅπαντας καὶ καρχαρόδοντας, ὁ δ’ ἀριστερὸς ἐξ ἄκρου μὲν καρχαρόδοντας, τοὺς δ’ ἐντὸς ὥσπερ γομφίους, ἐκ μὲν τοῦ κάτω μέρους τέτταρας καὶ συνεχεῖς, ἄνωθεν δὲ τρεῖς καὶ οὐ συνεχεῖς. Κινοῦσι δὲ τὸ ἄνω μέρος ἀμφότεροι, καὶ προσπιέζουσι πρὸς τὸ κάτω· βλαισοὶ δ’ ἀμφότεροι τῇ θέσει, καθάπερ πρὸς τὸ λαβεῖν καὶ πιέσαι πεφυκότες. Ἐπάνω δὲ τῶν μεγάλων ἄλλοι δύο δασεῖς, μικρὸν ὑποκάτω τοῦ στόματος, καὶ ὑποκάτω τούτων τὰ βραγχιώδη τὰ περὶ τὸ στόμα, δασέα καὶ πολλά. Ταῦτα δ’ ἀεὶ διατελεῖ κινῶν· κάμπτει δὲ καὶ προσάγεται τοὺς δύο πόδας πρὸς τὸ στόμα τοὺς δασεῖς. Ἔχουσι δὲ καὶ παραφυάδας λεπτὰς οἱ πρὸς τῷ στόματι πόδες.

Ὀδόντας δ’ ἔχει δύο καθάπερ ὁ κάραβος, ἐπάνω δὲ τούτων τὰ κέρατα μακρά, βραχύτερα δὲ καὶ λεπτότερα πολὺ ἢ ὁ κάραβος, καὶ ἄλλα τέτταρα τὴν μὲν μορφὴν ὅμοια τούτοις, βραχύτερα δὲ καὶ (526b.) λεπτότερα. Τούτων δ’ ἐπάνω τοὺς ὀφθαλμοὺς μικροὺς καὶ βραχεῖς, οὐχ ὥσπερ ὁ κάραβος μεγάλους. Τὸ δ’ ἐπάνω τῶν ὀφθαλμῶν ὀξὺ καὶ τραχύ, καθαπερεὶ μέτωπον, μεῖζον ἢ ὁ κάραβος. Ὅλως δὲ τὸ μὲν πρόσωπον ὀξύτερον, τὸν δὲ θώρακα εὐρύτερον ἔχει πολὺ τοῦ καράβου, καὶ τὸ ὅλον σῶμα σαρκωδέστερον καὶ μαλακώτερον. Τῶν δ’ ὀκτὼ ποδῶν οἱ μὲν τέτταρες ἐξ ἄκρου δίκροοί εἰσιν, οἱ δὲ τέτταρες οὔ. Τὰ δὲ περὶ τὸν τράχηλον καλούμενον διῄρηται μὲν ἔξωθεν πενταχῇ, καὶ ἕκτον ἐστὶ τὸ πλατὺ τὸ ἔσχατον, πέντε πλάκας ἔχον· τὰ δ’ ἐντός, εἰς ἃ

προεντίκτουσιν αἱ θήλειαι, δασέα τέτταρα.

Καθ’ ἕκαστον δὲ τῶν εἰρημένων πρὸς τὰ ἔξω ἄκανθαν ἔχει βραχεῖαν καὶ ὀρθήν. Τὸ δ’ ὅλον σῶμα καὶ τὰ περὶ τὸν θώρακα λεῖα, οὐχ ὥσπερ ὁ κάραβος τραχύς· ἀλλ’ ἐν τοῖς μεγάλοις ποσὶ τὰ ἔξωθεν ἀκάνθας ἔχει μείζους. Τῆς δὲ θηλείας πρὸς τὸν ἄρρενα οὐδεμία διαφορὰ φαίνεται· καὶ γὰρ ὁ ἄρρην καὶ ἡ θήλεια ὁποτέραν ἂν τύχῃ τῶν χηλῶν ἔχουσι μείζω, ἴσας μέντοι ἀμφοτέρας οὐδέτερος οὐδέποτε.

Τὴν δὲ θάλατταν δέχονται μὲν παρὰ τὸ στόμα πάντα τὰ τοιαῦτα, ἀφιᾶσι δ’ ἐπιλαμβάνοντα μικρὸν τούτου μόριον οἱ καρκίνοι, οἱ δὲ κάραβοι παρὰ τὰ βραγχιοειδῆ· ἔχουσι δὲ τὰ βραγχιοειδῆ πολλὰ οἱ κάραβοι.

Κοινὸν δὲ πάντων τούτων ἐστίν· ὀδόντας τε πάντ’ ἔχει δύο (καὶ γὰρ οἱ κάραβοι τοὺς πρώτους δύο ἔχουσι) καὶ ἐν τῷ στόματι σαρκωδέστερον ἀντὶ γλώττης, εἶτα κοιλίαν τοῦ στόματος ἐχομένην εὐθύς, πλὴν οἱ κάραβοι μικρὸν στόμαχον πρὸ τῆς κοιλίας, εἶτ’ ἐκ ταύτης ἔντερον εὐθύ. Τελευτᾷ δὲ τοῦτο τοῖς μὲν καραβοειδέσι καὶ καρίσι κατ’ εὐθυωρίαν πρὸς τὴν οὐράν, ᾗ τὸ περίττωμα ἀφιᾶσι καὶ τὰ ᾠὰ ἐκτίκτουσιν, τοῖς δὲ καρκίνοις, ᾗ τὸ ἐπίπτυγμα ἔχουσι, κατὰ μέσον τὸ ἐπίπτυγμα, ᾗ τὰ ᾠὰ ἐκτίκτουσιν (ἐκτὸς δὲ καὶ οὗτοι). Ἔτι τὰ θήλεα αὐτῶν παρὰ τὸ ἔντερον τὴν τῶν ᾠῶν χώραν ἔχουσιν. Καὶ τὴν καλουμένην δὲ μύτιν ἢ μήκωνα πλείω ἢ ἐλάττω πάντ’ ἔχει ταῦτα.

Τὰς δ’ ἰδίας ἤδη διαφορὰς καθ’ ἕκαστον δεῖ (527a.) θεωρεῖν. Οἱ μὲν οὖν κάραβοι, ὥσπερ εἴρηται, δύο ἔχουσιν ὀδόντας μεγάλους καὶ κοίλους, ἐν οἷς ἔνεστι χυμὸς ὅμοιος τῇ μύτιδι, μεταξὺ δὲ τῶν ὀδόντων σαρκίον γλωττοειδές. Ἀπὸ δὲ τοῦ στόματος ἔχει οἰσοφάγον βραχὺν καὶ κοιλίαν τούτου ἐχομένην ὑμενώδη, ἧς πρὸς τῷ στόματι ὀδόντες εἰσὶ τρεῖς, οἱ μὲν δύο κατ’ ἀλλήλους, ὁ δ’ εἷς ὑποκάτω. Τῆς δὲ κοιλίας ἐκ τοῦ πλαγίου ἔντερον ἁπλοῦν καὶ ἰσοπαχὲς δι’ ὅλου μέχρι πρὸς τὴν ἔξοδον τοῦ περιττώματος. Ταῦτα μὲν οὖν πάντα ἔχουσι καὶ οἱ κάραβοι καὶ αἱ καρίδες καὶ οἱ καρκίνοι· καὶ γὰρ ὀδόντας δύο ἔχουσιν οἱ καρκίνοι.

Ἔτι δ’ οἵ γε κάραβοι πόρον ἔχουσιν ἀπὸ τοῦ στήθους ἠρτημένον μέχρι πρὸς τὴν ἔξοδον τοῦ περιττώματος· οὗτος δ’ ἐστὶ τῇ μὲν θηλείᾳ ὑστερικός, τῷ δ’ ἄρρενι θορικός. Ἔστι δ’ ὁ πόρος οὗτος πρὸς τῷ κοίλῳ τῆς σαρκός, ὥστε μεταξὺ εἶναι τὴν σάρκα· τὸ μὲν γὰρ ἔντερον πρὸς τῷ κυρτῷ ἐστιν, ὁ δὲ πόρος πρὸς τῷ κοίλῳ, ὁμοίως ἔχοντα ταῦτα ὥσπερ τοῖς τετράποσιν.

Διαφέρει δ’ οὐδὲν ὁ τοῦ ἄρρενος ἢ τῆς θηλείας· ἀμφότεροι γάρ εἰσι λεπτοὶ καὶ λευκοὶ καὶ ὑγρότητα ἔχοντες ἐν αὑτοῖς ὠχράν, ἔτι δ’ ἠρτημένοι ἀμφότεροι ἐκ τοῦ στήθους.

Ἔχουσι δ’ οὕτω τὸ ᾠὸν καὶ αἱ καρίδες καὶ τὰς ἑλίκας.

Ἰδίᾳ δ’ ἔχει ὁ ἄρρην πρὸς τὴν θήλειαν ἐν τῇ σαρκὶ κατὰ τὸ στῆθος δύο λεύκ’ ἄττα καθ’ αὑτά, ὅμοια τὸ χρῶμα καὶ τὴν σύστασιν ταῖς τῆς σηπίας προβοσκίσιν· είλιγμένα δ’ ἐστὶ ταῦτα ὥσπερ ἡ τοῦ κήρυκος μήκων. Ἡ δ’ ἀρχὴ τούτων ἐστὶν ἀπὸ τῶν κοτυληδόνων, αἵ εἰσιν ὑποκάτω τῶν ἐσχάτων ποδῶν. Ἔχει δὲ καὶ ἐν τούτῳ σάρκα ἐρυθρὰν καὶ αἱματώδη τὴν χρόαν, τῇ δ’ ἁφῇ γλίσχραν καὶ οὐχ ὁμοίαν τῇ σαρκί. Ἀπὸ δὲ τοῦ περὶ τὰ στήθη κηρυκώδους ἄλλος ἐστὶν ἑλιγμός, ὥσπερ ἁρπεδόνη τὸ πάχος· ὧν ὑποκάτω δύο ἄττα ψαθυρά ἐστι προσηρτημένα τῷ ἐντέρῳ θορικά. Ταῦτα μὲν οὖν ὁ ἄρρην ἔχει· ἡ δὲ θήλεια ᾠὰ ἔχει τὸ χρῶμα ἐρυθρά, ὧν ἡ πρόσφυσίς ἐστι πρὸς τῇ κοιλίᾳ καὶ τοῦ ἐντέρου ἑκατέρωθι μέχρι εἰς τὸ σαρκῶδες, ὑμένι λεπτῷ περιεχόμενα. Τὰ μὲν οὖν μόρια ὅσα ἐντὸς καὶ ἐκτὸς ἔχουσι, ταῦτά ἐστιν.

Κεφάλαιο 3

(527b.) Συμβέβηκε δὲ τῶν μὲν ἐναίμων τὰ ἐντὸς μόρια ὀνόματα ἔχειν· πάντα γὰρ σπλάγχνα ἔχει τὰ ἔσωθεν· τῶν δ’ ἀναίμων οὐδέν, ἀλλὰ κοινὸν τούτοις καὶ ἐκείνοις πᾶσι κοιλία καὶ στόμαχος καὶ ἔντερον.

Οἱ δὲ καρκίνοι, περὶ μὲν τῶν χηλῶν καὶ τῶν ποδῶν, ὅτι ἔχουσι καὶ πῶς ἔχουσιν, εἴρηται πρότερον· ὡς δ’ ἐπὶ τὸ πολὺ πάντες τὴν δεξιὰν ἔχουσι μείζω χηλὴν καὶ ἰσχυροτέραν. Εἴρηται δὲ πρότερον καὶ περὶ ὀφθαλμῶν, ὅτι εἰς τὸ πλάγιον βλέπουσιν οἱ πλεῖστοι. Τὸ δὲ κύτος τοῦ σώματος ἕν ἐστιν ἀδιόριστον, ἔτι δὲ κεφαλή, καὶ εἴ τι ἄλλο μόριον. Ἔχουσι δ’ ὀφθαλμοὺς οἱ μὲν ἐκ τοῦ πλαγίου ἄνω ὑπὸ τὸ πρανὲς εὐθὺς πολὺ διεστῶτας, ἔνιοι δ’ ἐν μέσῳ καὶ ἐγγὺς ἀλλήλων, οἷον οἱ Ἡρακλεωτικοὶ καὶ αἱ μαῖαι. Ὑποκάτω δὲ τὸ στόμα τῶν ὀφθαλμῶν, καὶ ἐν αὐτῷ ὀδόντας δύο ὥσπερ ὁ κάραβος, πλὴν οὐ στρογγύλοι οὗτοι ἀλλὰ μακροί. Καὶ ἐπὶ τούτων ἐπικαλύμματά ἐστι δύο, ὧν μεταξύ ἐστιν οἷά περ ὁ κάραβος ἔχει πρὸς τοῖς ὀδοῦσιν. Δέχεται μὲν οὖν τὸ ὕδωρ παρὰ τὸ στόμα, ἀπωθῶν τοῖς ἐπικαλύμμασιν, ἀφίησι δὲ κατὰ τοὺς ἄνω πόρους τοῦ στόματος, ἐπιλαμβάνων τοῖς ἐπικαλύμμασιν, ᾗ εἰσῆλθεν· οὗτοι δ’ εἰσὶν εὐθὺς ὑπὸ τοὺς ὀφθαλμούς· καὶ ὅταν δέξηται τὸ ὕδωρ, ἐπιλαμβάνει τὸ στόμα τοῖς ἐπικαλύμμασιν ἀμφοτέροις, ἔπειθ’ οὕτως ἀποπυτίζει τὴν θάλατταν.

Ἐχόμενος δὲ τῶν ὀδόντων ὁ στόμαχος βραχὺς πάμπαν, ὥστε δοκεῖν εὐθὺς εἶναι μετὰ τὸ στόμα τὴν κοιλίαν. Καὶ κοιλία τούτου ἐχομένη δικρόα, ἧς ἐκ μέσης μὲν τὸ ἔντερόν ἐστιν ἁπλοῦν καὶ λεπτόν· τελευτᾷ δὲ τὸ ἔντερον ὑπὸ τὸ ἐπικάλυμμα τὸ ἔξω, ὥσπερ εἴρηται καὶ πρότερον. Ἔχει δὲ τὰ μεταξὺ τῶν ἐπικαλυμμάτων, οἷά περ ὁ κάραβος, πρὸς τοῖς ὀδοῦσιν.

Ἐν δὲ τῷ κύτει ἔσω χυμός ἐστιν ὠχρός, καὶ μίκρ’ ἄττα προμήκη λευκά, καὶ ἄλλα πυρρὰ διαπεπασμένα. Διαφέρει δ’ ὁ ἄρρην τῆς θηλείας τῷ τε μεγέθει καὶ τῷ πλάτει καὶ τῷ ἐπικαλύμματι· μεῖζον γὰρ τοῦτο ἔχει ἡ θήλεια, καὶ πλέον ἀφεστηκὸς καὶ συνηρεφέστερον, καθάπερ καὶ ἐπὶ τῶν θηλειῶν καράβων.

Τὰ μὲν οὖν τῶν μαλακοστράκων μόρια τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 4

Τὰ δ’ ὀστρακόδερμα τῶν ζῴων, οἷον οἵ τε κοχλίαι (528a.) καὶ οἱ κόχλοι καὶ πάντα τὰ καλούμενα ὄστρεα, ἔτι δὲ τὸ τῶν ἐχίνων γένος, τὸ μὲν σαρκῶδες, ὅσα σάρκας ἔχει, ὁμοίως ἔχει τοῖς μαλακοστράκοις (ἐντὸς γὰρ ἔχει), τὸ δ’ ὄστρακον ἐκτός, ἐντὸς δ’ οὐδὲν σκληρόν. Αὐτὰ δὲ πρὸς αὑτὰ διαφορὰς ἔχει πολλὰς καὶ κατὰ τὰ ὄστρακα καὶ κατὰ τὴν σάρκα τὴν ἐντός.

Τὰ μὲν γὰρ αὐτῶν οὐκ ἔχει σάρκα οὐδεμίαν, οἷον ἐχῖνος, τὰ δ’ ἔχει μέν, ἐντὸς δ’ ἔχει τὴν σάρκα ἀφανῆ πᾶσαν πλὴν τῆς κεφαλῆς, οἷον οἵ τε χερσαῖοι κοχλίαι καὶ τὰ καλούμενα ὑπό τινων κοκάλια καὶ τῶν ἐν τῇ θαλάττῃ αἵ τε πορφύραι καὶ οἱ κήρυκες καὶ ὁ κόχλος καὶ τἆλλα τὰ στρομβώδη. Τῶν δ’ ἄλλων τὰ μέν ἐστι δίθυρα τὰ δὲ μονόθυρα· λέγω δὲ δίθυρα τὰ δυσὶν ὀστράκοις περιεχόμενα, μονόθυρα δὲ τὰ ἑνί· τὸ δὲ σαρκῶδες ἐπιπολῆς, οἷον ἡ λεπάς. Τῶν δὲ διθύρων τὰ μέν ἐστιν ἀναπτυκτά, οἷον οἵ τε κτένες καὶ οἱ μύες· ἅπαντα γὰρ τὰ τοιαῦτα τῇ μὲν συμπέφυκε τῇ δὲ διαλέλυται, ὥστε συγκλείεσθαι καὶ ἀνοίγεσθαι. Τὰ δὲ δίθυρα μέν ἐστιν, ὁμοίως δὲ συγκέκλεισται ἐπ’ ἀμφότερα, οἷον οἱ σωλῆνες. Ἔστι δ’ ἃ ὅλα περιέχεται τῷ ὀστράκῳ καὶ οὐδὲν τῆς σαρκὸς ἔχει εἰς τὸ ἔξω γυμνόν, οἷον τὰ καλούμενα τήθυα.

Ἔτι δ’ αὐτῶν τῶν ὀστράκων διαφοραὶ πρὸς ἄλληλά εἰσιν. Τὰ μὲν γάρ ἐστι λειόστρακα, ὥσπερ σωλὴν καὶ μύες καὶ κόγχαι ἔνιαι αἱ καλούμεναι ὑπό τινων γάλακες, τὰ δὲ τραχυόστρακα, οἷον τὰ λιμνόστρεα καὶ πίννα καὶ γένη κόγχων ἔνια καὶ κήρυκες· καὶ τούτων τὰ μὲν ῥαβδωτά ἐστιν, οἷον κτεὶς καὶ κόγχων τι γένος, τὰ δ’ ἀρράβδωτα, οἷον αἵ τε πίνναι καὶ κόγχων τι γένος.

Καὶ πάχει δὲ καὶ λεπτότητι τῶν ὀστράκων διαφέρουσιν, ὅλων τε τῶν ὀστράκων καὶ κατὰ μέρος, οἷον περὶ τὰ χείλη· τὰ μὲν γὰρ λεπτοχειλῆ ἐστιν, οἷον οἱ μύες, τὰ δὲ παχυχειλῆ, οἷον τὰ λιμνόστρεα. Ἔτι τὰ μὲν κινητικὰ αὐτῶν ἐστιν, οἷον ὁ κτείς (ἔνιοι γὰρ καὶ πέτεσθαι λέγουσι τοὺς κτένας, ἐπεὶ καὶ ἐκ τοῦ ὀργάνου ᾧ θηρεύονται ἐξάλλονται πολλάκις), τὰ δ’ ἀκίνητά ἐστιν ἐκ τῆς προσφυῆς, οἷον ἡ πίννα. Τὰ δὲ (528b.) στρομβώδη πάντα κινεῖται καὶ ἕρπει· νέμεται δ’ ἀπολυομένη καὶ ἡ λεπάς. Κοινὸν δὲ καὶ τούτων καὶ τῶν ἄλλων τῶν σκληροστράκων τὸ λεῖον εἶναι ἐντὸς τὸ ὄστρακον.

Τὸ δὲ σαρκῶδες τοῖς μὲν μονοθύροις καὶ διθύροις προσπέφυκε τοῖς ὀστράκοις, ὥστε βίᾳ ἀποσπᾶσθαι, τοῖς δὲ στρομβώδεσιν ἀπολέλυται μᾶλλον.

Ἴδιον δὲ τούτοις κατὰ τὸ ὄστρακον ὑπάρχει πᾶσι τὸ ἑλίκην ἔχειν τὸ ὄστρακον τὸ ἔσχατον ἀπὸ τῆς κεφαλῆς. Ἔτι δ’ ἐπίπτυγμα πάντ’ ἔχει ἐκ γενετῆς. Ἔστι δὲ πάντα τὰ στρομβώδη τῶν ὀστρακοδέρμων δεξιά, καὶ κινεῖται οὐκ ἐπὶ τὴν ἑλίκην ἀλλ’ ἐπὶ τὸ καταντικρύ.

Τὰ μὲν οὖν ἔξωθεν μόρια τούτων τῶν ζῴων τοιαύτας ἔχει τὰς διαφοράς· τῶν δ’ ἐντὸς τρόπον μέν τινα παραπλήσιος ἡ φύσις ἐστὶ πάντων, καὶ μάλιστα τῶν στρομβωδῶν (μεγέθει γὰρ ἀλλήλων διαφέρει καὶ τοῖς καθ’ ὑπεροχὴν πάθεσιν), οὐ πολὺ δὲ διαφέρει οὐδὲ τὰ μονόθυρα καὶ δίθυρα, συγκλειστὰ δέ· διαφορὰν γὰρ ἔχει πρὸς ἄλληλα μὲν μικράν, πρὸς δὲ τὰ ἀκίνητα πλείω. Τοῦτο δ’ ἔσται φανερὸν ἐκ τῶν ὕστερον μᾶλλον.

Ἡ δὲ φύσις τῶν στρομβοειδῶν ἁπάντων ὁμοίως ἔχει, διαφέρει δ’ ὥσπερ εἴρηται, καθ’ ὑπεροχήν (τὰ μὲν γὰρ μείζω μόρια καὶ ἐνδηλότερα ἔχει αὐτῶν, τὰ δ’ ἐλάττω τοὐναντίον), ἔτι δὲ σκληρότητι καὶ μαλακότητι καὶ τοῖς ἄλλοις τοῖς τοιούτοις πάθεσιν. Ἔχει γὰρ πάντα τὴν μὲν ἐξωτάτω ἐν τῷ στόματι τοῦ ὀστράκου σάρκα στιφράν, τὰ μὲν μᾶλλον τὰ δ’ ἧττον. Ἐκ μέσου δὲ τούτου ἡ κεφαλὴ καὶ κεράτια δύο· ταῦτα δ’ ἐν μὲν τοῖς μείζοσι μεγάλα, ἐν δὲ τοῖς ἐλάττοσι πάμπαν μικρά ἐστιν. Ἡ δὲ κεφαλὴ ἐξέρχεται πᾶσι τὸν αὐτὸν τρόπον· κἄν τι φοβηθῇ, συσπᾶται πάλιν εἰς τὸ ἐντός. Ἔχει δὲ στόμα καὶ ὀδόντας ἔνια, οἷον ὁ κοχλίας, ὀξεῖς καὶ μικροὺς καὶ λεπτούς. Ἔχουσι δὲ καὶ προβοσκίδας, ὥσπερ καὶ αἱ μυῖαι· τοῦτο δ’ ἐστὶ γλωττοειδές. Ἔχουσι δὲ καὶ οἱ κήρυκες τοῦτο καὶ αἱ πορφύραι στιφρόν, καὶ ὥσπερ οἱ μύωπες καὶ οἱ οἶστροι τὰ δέρματα διατρυπῶσι τῶν τετραπόδων, ἔτι τὴν ἰσχὺν τοῦτ’ ἔστι σφοδρότερον· τῶν γὰρ δελεάτων τὰ ὄστρακα διατρυπῶσιν.

(529a.) Τοῦ δὲ στόματος ἔχεται εὐθὺς ἡ κοιλία. Ὁμοία δ’ ἐστὶν ἡ κοιλία προλόβῳ ὄρνιθος ἡ τῶν κόχλων. Κάτω δ’ ἔχει δύο λευκὰ στιφρά, ὅμοια μαστοῖς, οἷα ἐγγίνεται καὶ ἐν ταῖς σηπίαις, πλὴν στιφρὰ ταῦτα μᾶλλον. Ἀπὸ δὲ τῆς κοιλίας στόμαχος ἁπλοῦς μακρὸς μέχρι τῆς μήκωνος, ἥ ἐστιν ἐν τῷ πυθμένι. Ταῦτα μὲν οὖν δῆλα καὶ ἐπὶ τῶν πορφυρῶν καὶ τῶν κηρύκων ἐστὶν ἐν τῇ ἑλίκῃ τοῦ ὀστράκου.

Τοῦ δὲ στομάχου τὸ ἐχόμενόν ἐστιν ἔντερον· συνεχὲς δ’ ὅ τε στόμαχος καὶ τὸ ἔντερον, καὶ ἅπαν ἁπλοῦν μέχρι τῆς ἐξόδου. Ἡ δ’ ἀρχὴ τοῦ ἐντέρου περὶ τὴν ἑλίκην τῆς μήκωνος, καὶ ταύτῃ ἐστὶν εὐρύτερον (ἔστι γὰρ ἡ μήκων οἱονεὶ περίττωμα πᾶσι τοῖς ὀστρακηροῖς τὸ πολὺ αὐτῆς), εἶτ’ ἐπικάμψαν ἄνω φέρεται πάλιν πρὸς τὸ σαρκῶδες, καὶ ἡ τελευτὴ τοῦ ἐντέρου παρὰ τὴν κεφαλήν ἐστιν, ᾗ ἀφιᾶσι τὸ περίττωμα, πᾶσιν ὁμοίως τοῖς στρομβώδεσι καὶ τοῖς χερσαίοις καὶ τοῖς θαλαττίοις. Παρύφανται δ’ ἀπὸ τῆς κοιλίας τῷ στομάχῳ ἐν τοῖς μεγάλοις κόχλοις συνεχόμενος ὑμενίῳ μακρὸς πόρος καὶ λευκός, ὅμοιος τὴν χρόαν τοῖς ἄνω μαστοειδέσιν· ἔχει δ’ ἐντομὰς ὥσπερ τὸ ἐν τῷ καράβῳ ᾠόν, πλὴν τὴν χρόαν τὸ μὲν λευκόν, ἐκεῖνο δ’ ἐρυθρόν. Ἔχει δ’ οὐδεμίαν ἔξοδον τοῦτο οὐδὲ πόρον, ἀλλ’ ἐν ὑμένι ἐστὶ λεπτῷ, κοιλότητα ἔχον ἐν ἑαυτῷ στενήν. Ἀπὸ δὲ τοῦ ἐντέρου κάτω παρατείνει μέλανα καὶ τραχέα συνεχῆ, οἷα καὶ ἐν ταῖς χελώναις, πλὴν ἧττον μέλανα.

Ἔχουσι δὲ καὶ οἱ θαλάττιοι κόχλοι ταῦτα καὶ τὰ λευκά, πλὴν ἐλάττω οἱ ἐλάττους.

Τὰ δὲ μονόθυρα καὶ δίθυρα τῇ μὲν ὁμοίως ἔχει τούτοις τῇ δ’ ἑτέρως. Κεφαλὴν μὲν γὰρ καὶ κεράτια καὶ στόμα ἔχουσι καὶ τὸ γλωττοειδές· ἀλλ’ ἐν μὲν τοῖς ἐλάττοσι διὰ μικρότητα αὐτῶν ἄδηλα, τὰ δὲ καὶ ἐν τεθνεῶσιν ἢ μὴ κινουμένοις οὐ δῆλα. Τὴν δὲ μήκωνα πάντα ἔχει, ἀλλ’ οὐκ ἐν τῷ αὐτῷ οὐδ’ ἴσην οὐδ’ ὁμοίως φανεράν, ἀλλ’ αἱ μὲν λεπάδες κάτω ἐν τῷ βάθει, τὰ δὲ δίθυρα ἐν τῷ γιγγλυμώδει. Καὶ τὰ τριχώδη πᾶσιν ὑπάρχει κύκλῳ (529b.) τούτοις, οἷον καὶ τοῖς κτεσίν. Καὶ τὸ λεγόμενον ᾠὸν τοῖς ἔχουσιν, ὅταν ἔχωσιν, ἐν τῷ ἐπὶ θάτερα κύκλῳ τῆς περιφερείας ἐστίν, ὥσπερ καὶ τὸ λευκὸν τοῖς κόχλοις· καὶ γὰρ ἐκείνοις τοῦτο ὅμοιον ὑπάρχει.

Ἀλλὰ πάντα τὰ τοιαῦτα μόρια, ὥσπερ εἴρηται, ἐν μὲν τοῖς μεγάλοις δῆλά ἐστιν, ἐν δὲ τοῖς μικροῖς ἢ οὐδὲν ἢ μόλις. Διὸ μάλιστα ἐν τοῖς μεγάλοις κτεσὶ φανερά ἐστιν· οὗτοι δ’ εἰσὶν οἱ τὴν ἑτέραν θυρίδα πλατεῖαν ἔχοντες, οἷον ἐπίθεμα. Ἡ δὲ τοῦ περιττώματος ἔξοδος τοῖς μὲν ἄλλοις ἐστὶν ἐκ πλαγίου· ἔστι γὰρ πόρος ᾗ πορεύεται ἔξω· ἡ γὰρ μήκων, ὥσπερ εἴρηται, περίττωμά ἐστι πᾶσιν ἐν ὑμένι. Τὸ δὲ καλούμενον ᾠὸν οὐκ ἔχει πόρον ἐν οὐδενί, ἀλλ’ αὐτῆς τῆς σαρκὸς ἐπανοιδεῖ· ἔστι δ’ οὐκ ἐπὶ ταὐτὸ τῷ ἐντέρῳ, ἀλλὰ τὸ μὲν ᾠὸν ἐν τοῖς δεξιοῖς, τὸ δ’ ἔντερον ἐν τοῖς ἀριστεροῖς. Τοῖς μὲν οὖν ἄλλοις τοιαύτη ἡ ἔξοδος τῆς περιττώσεως, τῇ δ’ ἀγρίᾳ λεπάδι, ἥν τινες καλοῦσι θαλάττιον οὖς, ὑποκάτω τοῦ ὀστράκου ἡ περίττωσις ἐξέρχεται· τετρύπηται γὰρ τὸ ὄστρακον. Φανερὰ δὲ καὶ ἡ κοιλία μετὰ τὸ στόμα οὖσα ἐν ταύτῃ καὶ τὰ ᾠοειδῆ. Πάντα δὲ ταῦτα τίνα τρόπον τῇ θέσει ἔχει, ἐκ τῶν ἀνατομῶν θεωρείσθω.

Τὸ δὲ καλούμενον καρκίνιον τρόπον μέν τινα κοινόν ἐστι τῶν τε μαλακοστράκων καὶ τῶν ὀστρακοδέρμων. Αὐτὸ μὲν γὰρ τὴν φύσιν ὅμοιον τοῖς καραβοειδέσι, καὶ γίνεται αὐτὸ καθ’ αὑτό, τῷ δ’ εἰσδύεσθαι καὶ ζῆν ἐν ὀστράκῳ ὅμοιον τοῖς ὀστρακοδέρμοις, ὥστε διὰ ταῦτα ἔοικεν ἐπαμφοτερίζειν. Τὴν δὲ μορφὴν ὡς μὲν ἁπλῶς εἰπεῖν ὅμοιόν ἐστι τοῖς ἀράχναις, πλὴν τὸ κάτω τῆς κεφαλῆς καὶ τοῦ θώρακος μεῖζον ἔχει ἐκείνου.

Ἔχει δὲ κεράτια δύο λεπτὰ πυρρά, καὶ ὀφθαλμοὺς ὑποκάτω τούτων δύο μακρούς, οὐκ εἰσδυομένους οὐδὲ κατακλινομένους ὥσπερ οἱ τῶν καρκίνων ἀλλ' ὀρθούς, ὑποκάτω δὲ τούτων τὸ στόμα καὶ περὶ αὐτὸ καθαπερεὶ τριχώδη ἄττα πλείω, τούτων δ' ἐχομένους δύο πόδας δικρόους, οἷς προσάγεται, καὶ ἄλλους ἐφ' ἑκάτερα δύο, καὶ τρίτον μικρόν. Τὸ δὲ κάτω τοῦ (530a.) θώρακος μαλακὸν ἅπαν ἐστὶ καὶ διοιγόμενον ὠχρὸν ἔνδοθεν. Ἀπὸ δὲ τοῦ στόματος πόρος εἷς ἄχρι τῆς κοιλίας· τῆς δὲ περιττώσεως οὐ δῆλος ὁ πόρος. Οἱ δὲ πόδες καὶ ὁ θώραξ σκληρὰ μέν, ἧττον δ' ἢ τῶν καρκίνων. Πρόσφυσιν δ' οὐκ ἔχει πρὸς τὰ ὄστρακα ὥσπερ αἱ πορφύραι καὶ οἱ κήρυκες, ἀλλ' εὐαπόλυτόν ἐστιν. Προμηκέστερα δ' ἐστὶ τὰ ἐν τοῖς στρόμβοις τῶν ἐν τοῖς νηρείταις. Ἕτερον δὲ γένος ἐστὶ τὸ τῶν νηρειτῶν, τὰ μὲν ἄλλα παραπλήσιον, τῶν δὲ δικρόων ποδῶν τὸν μὲν δεξιὸν ἔχει μικρὸν τὸν δ' ἀριστερὸν μέγαν, καὶ ποιεῖται τὴν βάδισιν μᾶλλον ἐπὶ τούτῳ. Λαμβάνεται δὲ καὶ ἐν ταῖς κόγχαις τοιοῦτον, ὧν ἐστιν ἡ πρόσφυσις παραπλησία, καὶ ἐν τοῖς ἄλλοις. Τοῦτον δὲ καλοῦσι κύλλαρον.

Ὁ δὲ νηρείτης τὸ μὲν ὄστρακον ἔχει λεῖον καὶ μέγα καὶ στρογγύλον, τὴν δὲ μορφὴν παραπλησίαν τοῖς κήρυξι, πλὴν οὐχ ὥσπερ ἐκεῖνοι τὴν μήκωνα μέλαιναν ἀλλ' ἐρυθράν· προσπέφυκε δὲ νεανικῶς κατὰ τὸ μέσον.

Ἐν μὲν οὖν ταῖς εὐδίαις ἀπολυόμενα νέμεται ταῦτα, πνευμάτων δ' ὄντων τὰ μὲν καρκίνια ἡσυχάζει πρὸς τοῖς λίθοις, οἱ δὲ νηρεῖται προσέχονται καθάπερ αἱ λεπάδες· ὡσαύτως δὲ καὶ αἱ αἱμορροΐδες καὶ πᾶν τὸ τοιοῦτον γένος. Προσφύονται δὲ ταῖς πέτραις, ὅταν ἀποκλίνωσι τὸ ἐπικάλυμμα· τοῦτο γὰρ ἔοικεν εἶναι ὡσπερεὶ πῶμα· ὃ γὰρ τοῖς διθύροις ἄμφω, τοῦτο τοῖς στρομβώδεσι τὸ ἕτερον μέρος. Τὸ δ' ἐντὸς σαρκῶδές ἐστι, καὶ ἐν τούτῳ τὸ στόμα. Τὸν αὐτὸν δὲ τρόπον ἔχει ταῖς αἱμορροΐσι καὶ ταῖς πορφύραις καὶ πᾶσι τοῖς τοιούτοις.

Ὅσα δ' ἔχει μείζω τὸν ἀριστερὸν πόδα, ταῦτα ἐν μὲν τοῖς στρόμβοις οὐκ ἐγγίνεται, ἐν δὲ τοῖς νηρείταις ἐγγίνεται. Εἰσὶ δέ τινες κόχλοι οἳ ἔχουσιν ἐν ἑαυτοῖς ὅμοια ζῷα τοῖς ἀστακοῖς τοῖς μικροῖς, οἳ γίνονται καὶ ἐν τοῖς ποταμοῖς· διαφέρουσι δ' αὐτῶν τῷ μαλακὸν ἔχειν τὸ ἔσω τοῦ ὀστράκου. Τὴν δ' ἰδέαν οἷοί εἰσιν, ἐκ τῶν ἀνατομῶν θεωρείσθωσαν.

Κεφάλαιο 5

Οἱ δ’ ἐχῖνοι τὸ μὲν σαρκῶδες οὐκ ἔχουσιν, ἀλλ’ ἴδιον αὐτῶν τοῦτ’ ἔστιν· ἐστέρηνται γὰρ πάντες, καὶ οὐκ ἔχουσι σάρκα ἐντὸς οὐδεμίαν· τὰ δὲ μέλανα πάντες. Ἔστι δὲ γένη πλείω (530b.) τῶν ἐχίνων, ἓν μὲν τὸ ἐσθιόμενον· τοῦτο δ’ ἐστὶν ἐν ᾧ τὰ καλούμενα ᾠὰ μεγάλα ἐγγίνεται καὶ ἐδώδιμα, ὁμοίως ἐν μείζοσι καὶ ἐλάττοσιν· καὶ γὰρ εὐθὺς ἔτι μικροὶ ὄντες ἔχουσι ταῦτα. Ἄλλα δὲ δύο γένη τό τε τῶν σπατάγγων καὶ τὸ τῶν καλουμένων βρύσσων· γίνονται δ’ οὗτοι πελάγιοι καὶ σπάνιοι. Ἔτι αἱ ἐχινομῆτραι καλούμεναι, μεγέθει πάντων μέγισται. Πρὸς δὲ τούτοις ἄλλο γένος μεγέθει μὲν μικρόν, ἀκάνθας δὲ μεγάλας ἔχει καὶ σκληράς, γίνεται δ’ ἐκ τῆς θαλάττης ἐν πολλαῖς ὀργυιαῖς, ᾧ χρῶνται πρὸς τὰς στραγγουρίας τινές. Περὶ δὲ Τορώνην εἰσὶν ἐχῖνοι λευκοὶ θαλάττιοι καὶ τὰ ὄστρακα καὶ τὰς ἀκάνθας καὶ τὰ ᾠά, μείζους δὲ τῶν ἄλλων εἰς μῆκος· ἡ δ’ ἄκανθα οὐ μεγάλη οὐδ’ ἰσχυρὰ ἀλλὰ μαλακωτέρα, τὰ δὲ μέλανα τὰ ἀπὸ τοῦ στόματος πλείω, καὶ πρὸς μὲν τὸν ἔξω πόρον συνάπτοντα πρὸς ἑαυτὰ δὲ ἀσύναπτα· τούτοις δ’ ὥσπερ διειλημμένος ἐστίν. Κινοῦνται δὲ μάλιστα καὶ πλειστάκις οἱ ἐδώδιμοι αὐτῶν· καὶ σημεῖον δ’ <ὅτι> ἀεί τι ἔχουσιν ἐπὶ ταῖς ἀκάνθαις.

Ἔχουσι μὲν οὖν ἅπαντες ᾠά, ἀλλ’ ἔνιοι πάμπαν μικρὰ καὶ οὐκ ἐδώδιμα. Συμβαίνει δὲ τὴν μὲν λεγομένην κεφαλὴν καὶ τὸ στόμα τὸν ἐχῖνον κάτω ἔχειν, ᾗ δ’ ἀφίησι τὸ περίττωμα, ἄνω. Ταὐτὸ δὲ τοῦτο συμβέβηκε τοῖς τε στρομβώδεσι πᾶσι καὶ ταῖς λεπάσιν· ἡ γὰρ νομὴ ἐκ τῶν κάτωθεν, ὥστε τὸ μὲν στόμα πρὸς τῇ νομῇ, τὸ δὲ περίττωμα ἄνω πρὸς τοῖς πρανέσι τοῦ ὀστράκου. Ἔχει δ’ ὁ ἐχῖνος ὀδόντας πέντε κοίλους ἔνδοθεν, ἐν μέσῳ δὲ τούτων σῶμα σαρκῶδες ἀντὶ γλώττης. Τούτου δ’ ἔχεται ὁ στόμαχος, εἶτα ἡ κοιλία εἰς πέντε μέρη διῃρημένη, πλήρης περιττώματος· συνέχουσι δὲ πάντες οἱ κόλποι αὐτῆς εἰς ἓν πρὸς τὴν ἔξοδον τῆς περιττώσεως, ᾗ τετρύπηται τὸ ὄστρακον. Ὑπὸ δὲ τὴν κοιλίαν ἐν ἄλλῳ ὑμένι τὰ καλούμενα ᾠά ἐστιν, ἴσα τὸν ἀριθμὸν ὄντα ἐν ἅπασιν (πέντε γάρ ἐστι τὸ πλῆθος) καὶ περιττά. Ἄνω δὲ τὰ μέλανα ἀπὸ τῆς ἀρχῆς τῶν ὀδόντων ἤρτηται, ἅ ἐστι πικρὰ καὶ οὐκ ἐδώδιμα. Ἐν πολλοῖς δὲ τῶν ζῴων τὸ τοιοῦτόν ἐστιν ἢ τὸ ἀνάλογον· καὶ γὰρ ἐν ταῖς χελώναις καὶ φρύναις καὶ βατράχοις καὶ ἐν (531a.) τοῖς στρομβώδεσι καὶ τοῖς μαλακίοις· ἀλλὰ τῷ χρώματι διαφέρει, καὶ ἄβρωτά ἐστιν ἐν πᾶσι τὰ τοιαῦτα ἢ πάμπαν ἢ μᾶλλον. Κατὰ μὲν οὖν τὴν ἀρχὴν καὶ τελευτὴν συνεχὲς τοῦ ἐχίνου τὸ στόμα ἐστί, κατὰ δὲ τὴν ἐπιφάνειαν οὐ συνεχὲς ἀλλ’ ὅμοιον λαμπτῆρι μὴ ἔχοντι τὸ κύκλῳ δέρμα. Ταῖς δ’ ἀκάνθαις χρῆται ὁ ἐχῖνος ὡς ποσίν· ταύταις γὰρ ἐπερειδόμενος καὶ κινούμενος μεταβάλλει τὸν τόπον.

Κεφάλαιο 6

Τὰ δὲ καλούμενα τήθυα τούτων πάντων ἔχει τὴν φύσιν περιττοτάτην. Κέκρυπται γὰρ αὐτῶν μόνων τὸ σῶμα ἐν τῷ ὀστράκῳ πᾶν, τὸ δ᾽ ὄστρακόν ἐστι μεταξὺ δέρματος καὶ ὀστράκου, διὸ καὶ τέμνεται ὥσπερ βύρσα σκληρά. Προσπέφυκε μὲν οὖν ταῖς πέτραις τῷ ὀστρακώδει, δύο δ᾽ ἔχει πόρους ἀπέχοντας ἀπ᾽ ἀλλήλων, πάμπαν μικροὺς καὶ οὐ ῥᾳδίους ἰδεῖν, ᾗ ἀφίησι καὶ δέχεται τὸ ὑγρόν· περίττωμα γὰρ οὐδὲν ἔχει φανερόν, ὥσπερ τῶν ἄλλων ὀστρέων τὰ μὲν ὥσπερ ἐχῖνος, τὰ δὲ τὴν καλουμένην μήκωνα. Ἀνοιχθέντα δ᾽ ἔσωθεν πρῶτον μὲν ὑμένα ἔχει νευρώδη περὶ τὸ ὀστρακῶδες· ἐν δὲ τούτῳ αὐτό ἐστι τὸ σαρκῶδες τοῦ τηθύου, οὐδενὶ ὅμοιον τῶν ἄλλων· αὕτη μέντοι ἡ σὰρξ πᾶσα ὁμοία. Προσπέφυκε δὲ τοῦτο κατὰ δύο τόπους τῷ ὑμένι καὶ τῷ δέρματι ἐκ τοῦ πλαγίου· καὶ ᾗ προσπέφυκε, ταύτῃ ἐστὶ στενότερον ἐφ᾽ ἑκάτερα, οἷς τείνει πρὸς τοὺς πόρους τοὺς ἔξω διὰ τοῦ ὀστράκου φέροντας, ᾗ ἀφίησι καὶ δέχεται τὴν τροφὴν καὶ τὸ ὑγρόν, ὡς ἂν εἰ τὸ μὲν στόμα εἴη, τὸ δὲ τῇ περιττώσει ἔξοδος· καὶ ἔστιν αὐτῶν τὸ μὲν παχύτερον τὸ δὲ λεπτότερον. Ἔσω δὲ κοῖλον ἐφ᾽ ἑκάτερα, καὶ διείργει μικρόν τι συνεχές· ἐν θατέρῳ δὲ τῶν κοίλων ἡ ὑγρότης ἐγγίνεται. Ἄλλο δ᾽ οὐδὲν ἔχει μόριον οὔτε ὀργανικὸν οὔτε αἰσθητήριον οὔτε, ὥσπερ ἐλέχθη πρότερον ἐν τοῖς ἄλλοις, τὸ περιττωματικόν. Χρῶμα δὲ τοῦ τηθύου ἐστὶ τὸ μὲν ὠχρὸν τὸ δ᾽ ἐρυθρόν.

Ἔστι δὲ καὶ τὸ τῶν ἀκαληφῶν γένος ἴδιον· προσπέφυκε μὲν γὰρ ταῖς πέτραις ὥσπερ ἔνια τῶν ὀστρακοδέρμων, ἀπολύεται δ᾽ ἐνίοτε. Οὐκ ἔχει δ᾽ ὄστρακον, ἀλλὰ σαρκῶδες (531b.) τὸ σῶμα πᾶν ἐστιν αὐτῆς. Αἰσθάνεται δὲ καὶ συναρπάζει προσφερομένης τῆς χειρὸς καὶ προσέχεται, καθάπερ ὁ πολύπους ταῖς πλεκτάναις, οὕτως ὥστε τὴν σάρκα ἐπανοιδεῖν. Ἔχει δὲ τὸ στόμα ἐν μέσῳ, καὶ ζῇ ἀπὸ τῆς πέτρας ὥσπερ ἀπ᾽ ὀστρέου. Κἄν τι προσπέσῃ τῶν μικρῶν ἰχθυδίων, ἀντέχεται ὥσπερ τῆς χειρός· οὕτω κἄν τι προσπέσῃ αὐτῇ ἐδώδιμον, κατεσθίει. Καὶ ἀπολύεται δὲ γένος τι αὐτῶν, ὃ ἐάν τι προσπέσῃ κατεσθίει καὶ ἐχίνους καὶ κτένας. Περίττωμα δὲ παντελῶς οὐδὲν φαίνεται ἔχουσα, ἀλλ᾽ ὁμοία κατὰ τοῦτο τοῖς φυτοῖς ἐστιν.

Γένη δὲ τῶν ἀκαληφῶν ἐστι δύο, αἱ μὲν ἐλάττους καὶ ἐδώδιμοι μᾶλλον, αἱ δὲ μεγάλαι καὶ σκληραί, οἷαι γίνονται καὶ περὶ Χαλκίδα. Τοῦ μὲν οὖν χειμῶνος τὴν σάρκα στιφρὰν ἔχουσι (διὸ καὶ θηρεύονται καὶ ἐδώδιμοί εἰσι),

τοῦ δὲ θέρους ἀπόλλυνται· γίνονται γὰρ μαδαραί, καὶ ἐάν τις θίγῃ, διασπῶνται ταχέως καὶ ὅλαι ἀφαιρεῖσθαι οὐ δύνανται, πονοῦσαί τε ταῖς ἀλέαις εἰς τὰς πέτρας εἰσδύονται μᾶλλον.

Περὶ μὲν οὖν τῶν μαλακίων καὶ τῶν μαλακοστράκων καὶ τῶν ὀστρακοδέρμων, ὅσα τ’ ἔχουσιν μέρη ἐκτὸς καὶ ὅσα ἐντός, εἴρηται.

Κεφάλαιο 7

Περὶ δὲ τῶν ἐντόμων λεκτέον τὸν αὐτὸν τρόπον. Ἔστι δὲ τοῦτο τὸ γένος πολλὰ εἴδη ἔχον ἐν ἑαυτῷ, καὶ ἐνίοις πρὸς ἄλληλα συγγενικοῖς οὖσιν οὐκ ἐπέζευκται κοινὸν ὄνομα οὐδέν, οἷον ἐπὶ μελίττῃ καὶ ἀνθρήνῃ καὶ σφηκὶ καὶ πᾶσι τοῖς τοιούτοις, καὶ πάλιν ὅσα τὸ πτερὸν ἔχει ἐν κολεῷ, οἷον μηλολόνθη καὶ κάραβος καὶ κανθαρὶς καὶ ὅσα τοιαῦτα ἄλλα.

Πάντων μὲν οὖν κοινὰ μέρη ἐστὶ τρία, κεφαλή τε καὶ τὸ περὶ τὴν κοιλίαν κύτος καὶ τρίτον τὸ μεταξὺ τούτων, οἷον τοῖς ἄλλοις τὸ στῆθος καὶ τὸ νῶτόν ἐστιν. Τοῦτο δὲ τοῖς μὲν πολλοῖς ἕν ἐστιν· ὅσα δὲ μακρὰ καὶ πολύποδα, σχεδὸν ἴσα ταῖς ἐντομαῖς ἔχει τὰ μεταξύ.

Πάντα δ’ ἔχει διαιρούμενα ζωὴν τὰ ἔντομα, πλὴν ὅσα ἢ λίαν κατέψυκται ἢ διὰ μικρότητα ταχὺ καταψύχεται, ἐπεὶ καὶ οἱ σφῆκες διαιρεθέντες ζῶσιν. Μετὰ μὲν οὖν τοῦ μέσου καὶ ἡ κεφαλὴ καὶ ἡ (532a.) κοιλία ζῇ, ἄνευ δὲ τούτου ἡ κεφαλὴ οὐ ζῇ. Ὅσα δὲ μακρὰ καὶ πολύποδά ἐστι, πολὺν χρόνον ζῇ διαιρούμενα, καὶ κινεῖται τὸ ἀποτμηθὲν ἐπ’ ἀμφότερα τὰ ἔσχατα· καὶ γὰρ ἐπὶ τὴν τομὴν πορεύεται καὶ ἐπὶ τὴν οὐράν, οἷον ἡ καλουμένη σκολόπενδρα.

Ἔχει δ’ ὀφθαλμοὺς μὲν ἅπαντα, ἄλλο δ’ αἰσθητήριον οὐδὲν φανερόν, πλὴν ἔνια οἷον γλῶτταν (ἣν καὶ τὰ ὀστρακόδερμα ἔχει πάντα), ᾗ καὶ γεύεται καὶ εἰς αὑτὸ τὴν τροφὴν ἀνασπᾷ. Τοῦτο δὲ τοῖς μὲν μαλακόν ἐστι, τοῖς δ’ ἔχει ἰσχὺν πολλήν, ὥσπερ ταῖς πορφύραις. Καὶ οἱ μύωπες δὲ καὶ οἱ οἶστροι ἰσχυρὸν τοῦτ’ ἔχουσι, καὶ τἆλλα σχεδὸν τὰ πλεῖστα· ἐν πᾶσι γὰρ τοῖς μὴ ὀπισθοκέντροις τοῦτο ὥσπερ ὅπλον ἔχει ἕκαστον. Ὅσα δ’ ἔχει τοῦτο, ὀδόντας οὐκ ἔχει, ἔξω ὀλίγων τινῶν, ἐπεὶ καὶ αἱ μυῖαι τούτῳ θιγγάνουσαι αἱματίζουσι καὶ οἱ κώνωπες τούτῳ κεντοῦσιν.

Ἔχουσι δ’ ἔνια τῶν ἐντόμων καὶ κέντρα. Τὸ δὲ κέντρον τὰ μὲν ἔχει ἐν αὑτοῖς, οἷον αἱ μέλιτται καὶ οἱ σφῆκες, τὰ δ’ ἐκτός, οἷον σκορπίος· καὶ μόνον δὴ τοῦτο τῶν ἐντόμων μακρόκεντρόν ἐστιν.

Ἔτι δὲ χηλὰς ἔχει τοῦτό τε καὶ τὸ ἐν τοῖς βιβλίοις γινόμενον σκορπιῶδες.

Τὰ δὲ πτηνὰ αὐτῶν πρὸς τοῖς ἄλλοις μορίοις καὶ πτερὰ ἔχει. Ἔστι δὲ τὰ μὲν δίπτερα αὐτῶν, ὥσπερ αἱ μυῖαι, τὰ δὲ τετράπτερα, ὥσπερ αἱ μέλιτται· οὐθὲν δ’ ἐστὶν ὀπισθόκεντρον δίπτερον μόνον. Ἔτι δὲ τὰ μὲν ἔχει τῶν πτηνῶν ἔλυτρον τοῖς πτεροῖς, ὥσπερ ἡ μηλολόνθη, τὰ δ’ ἀνέλυτρά ἐστιν, ὥσπερ ἡ μέλιττα· ἀνορροπύγιος δ’ ἡ πτῆσις αὐτῶν ἁπάντων ἐστί, καὶ τὸ πτερὸν οὐκ ἔχει καυλὸν οὐδὲ σχίσιν. Ἔτι κεραίας πρὸ τῶν ὀμμάτων ἔχει ἔνια, οἷον αἵ τε ψυχαὶ καὶ οἱ κάραβοι.

Ὅσα δὲ πηδητικὰ αὐτῶν ἐστι, τούτων τὰ μὲν ἔχει τὰ ὄπισθεν σκέλη μείζω, τὰ δὲ πηδάλια καμπτόμενα εἰς τοὔπισθεν ὥσπερ τὰ τῶν τετραπόδων σκέλη.

Πάντα δ’ ἔχει τὰ πρανῆ πρὸς τὰ ὕπτια διάφορα, ὥσπερ καὶ τἆλλα ζῷα. Ἡ δὲ τοῦ σώματος σὰρξ οὔτ’ ὀστρακώδης ἐστὶν οὔθ’ οἷον τὸ ἐντὸς τῶν ὀστρακωδῶν, οὔτε σαρκώδης, ἀλλὰ μεταξύ. Διὸ καὶ οὔτ’ ἄκανθαν ἔχουσιν οὔτ’ (532b.) ὀστοῦν οὔθ’ οἷον σήπιον οὔτε κύκλῳ ὄστρακον· αὐτὸ γὰρ αὑτὸ τὸ σῶμα διὰ τὴν σκληρότητα σώζει, καὶ οὐ προσδεῖται ἑτέρου ἐρείσματος. Δέρμα δ’ ἔχουσι μέν, πάμπαν δὲ τοῦτο λεπτόν.

Τὰ μὲν οὖν ἔξωθεν αὐτῶν μόρια ταῦτα καὶ τοιαῦτ’ ἐστίν, ἐντὸς δ’ εὐθὺς μετὰ τὸ στόμα ἔντερον τοῖς μὲν πλείστοις εὐθὺ καὶ ἁπλοῦν μέχρι τῆς ἐξόδου ἐστίν, ὀλίγοις δ’ ἑλιγμὸν ἔχει. Σπλάγχνον δ’ οὐδὲν ἔχει τῶν τοιούτων οὐδὲ πιμελήν, ὥσπερ οὐδ’ ἄλλο τῶν ἀναίμων οὐδέν. Ἔνια δ’ ἔχει καὶ κοιλίαν, καὶ ἀπὸ ταύτης τὸ λοιπὸν ἔντερον ἢ ἁπλοῦν ἢ εἱλιγμένον, ὥσπερ αἱ ἀκρίδες.

Ὁ δὲ τέττιξ μόνον τῶν τοιούτων καὶ τῶν ἄλλων ζῴων στόμα οὐκ ἔχει, ἀλλ’ οἷον τοῖς ὀπισθοκέντροις τὸ γλωττοειδές, τοῦτο μακρὸν καὶ συμφυὲς καὶ ἀδιάσχιστον, δι’ οὗ τῇ δρόσῳ τρέφεται μόνον· ἐν δὲ τῇ κοιλίᾳ οὐκ ἴσχει περίττωμα. Ἔστι δ’ αὐτῶν πλείω εἴδη, καὶ διαφέρουσι μεγέθει τε καὶ μικρότητι καὶ τῷ τοὺς μὲν καλουμένους ἀχέτας ὑπὸ τὸ διάζωμα διῃρῆσθαι καὶ ἔχειν ὑμένα φανερόν, τὰ δὲ τεττιγόνια μὴ ἔχειν.

Ἔστι δ’ ἔνια ζῷα περιττὰ καὶ ἐν τῇ θαλάττῃ, ἃ διὰ τὸ σπάνια εἶναι οὐκ ἔστι θεῖναι εἰς γένος. Ἤδη γάρ φασί τινες τῶν ἐμπειρικῶν ἁλιέων [οἱ μὲν] ἑωρακέναι ἐν τῇ θαλάττῃ ὅμοια δοκίοις, μέλανα, στρογγύλα τε καὶ ἰσοπαχῆ· ἕτερα δὲ καὶ ἀσπίσιν ὅμοια, τὸ μὲν χρῶμα ἐρυθρά, πτερύγια δ’ ἔχοντα πυκνά· καὶ ἄλλα ὅμοια αἰδοίῳ ἀνδρὸς τό τ’ εἶδος καὶ τὸ μέγεθος, πλὴν ἀντὶ τῶν ὄρχεων πτερύγια ἔχειν δύο, καὶ λαβέσθαι ποτὲ τοῦ πολυαγκίστρου τῷ ἄκρῳ.

Τὰ μὲν οὖν μέρη τῶν ζῴων ἁπάντων τά τ’ ἐκτὸς καὶ τὰ ἐντὸς περὶ ἕκαστον γένος καὶ ἰδίᾳ καὶ κοινῇ τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 8

Περὶ δὲ τῶν αἰσθήσεων νῦν λεκτέον· οὐ γὰρ ὁμοίως ἁπᾶσιν ὑπάρχουσιν, ἀλλὰ τοῖς μὲν πᾶσαι τοῖς δ᾽ ἐλάττους εἰσίν. Εἰσὶ δ᾽ αἱ πλεῖσται, καὶ παρ᾽ ἃς οὐδεμία φαίνεται ἴδιος ἑτέρα, πέντε τὸν ἀριθμόν, ὄψις, ἀκοή, ὄσφρησις, γεῦσις, ἁφή. Ἄνθρωπος μὲν οὖν καὶ τὰ ζῳοτόκα καὶ πεζά, (533a.) πρὸς δὲ τούτοις καὶ ὅσα ἔναιμα καὶ ᾠοτόκα, πάντα φαίνεται ἔχοντα ταύτας πάσας, πλὴν εἴ τι πεπήρωται γένος ἕν, οἷον τὸ τῶν ἀσπαλάκων. Τοῦτο γὰρ ὄψιν οὐκ ἔχει· ὀφθαλμοὺς γὰρ ἐν μὲν τῷ φανερῷ οὐκ ἔχει, ἀφαιρεθέντος δὲ τοῦ δέρματος ὄντος παχέος ἀπὸ τῆς κεφαλῆς κατὰ τὴν χώραν τὴν ἔξω τῶν ὀμμάτων ἔσωθέν εἰσιν οἱ ὀφθαλμοὶ διεφθαρμένοι, πάντ᾽ ἔχοντες ταὐτὰ τὰ μέρη τοῖς ἀληθινοῖς· ἔχουσι γὰρ τό τε μέλαν καὶ τὸ ἐντὸς τοῦ μέλανος, τὴν καλουμένην κόρην, καὶ τὸ κύκλῳ πῖον, ἐλάττω μέντοι ταῦτα πάντα τῶν φανερῶν ὀφθαλμῶν. Εἰς δὲ τὸ ἔξωθεν οὐδὲν σημαίνει τούτων διὰ τὸ τοῦ δέρματος πάχος, ὡς ἐν τῇ γενέσει πηρουμένης τῆς φύσεως· εἰσὶ γὰρ ἀπὸ τοῦ ἐγκεφάλου, ᾗ συνάπτει τῷ μυελῷ, δύο πόροι νευρώδεις καὶ ἰσχυροὶ παρ᾽ αὐτὰς τείνοντες τὰς ἕδρας τῶν ὀφθαλμῶν, τελευτῶντες δ᾽ εἰς τοὺς ἄνω χαυλιόδοντας.

Τὰ δ᾽ ἄλλα καὶ τῶν χρωμάτων αἴσθησιν ἔχει καὶ τῶν ψόφων, ἔτι δ᾽ ὀσμῆς καὶ χυμῶν. Τὴν δὲ πέμπτην αἴσθησιν τὴν ἁφὴν καλουμένην καὶ τἆλλα πάντ᾽ ἔχει ζῷα.

Ἐν μὲν οὖν ἐνίοις [καὶ] τὰ αἰσθητήρια φανερώτατά ἐστι, τὰ μὲν τῶν ὀμμάτων καὶ μᾶλλον. Διωρισμένον γὰρ ἔχει τὸν τόπον τῶν ὀφθαλμῶν καὶ τὸν τῆς ἀκοῆς· ἔνια μὲν γὰρ ὦτα ἔχει, ἔνια δὲ τοὺς πόρους φανερούς. Ὁμοίως δὲ καὶ περὶ ὀσφρήσεως· τὰ μὲν γὰρ ἔχει μυκτῆρας, τὰ δὲ τοὺς πόρους τῆς ὀσφρήσεως, οἷον τὸ τῶν ὀρνίθων γένος. Ὁμοίως δὲ καὶ τὸ τῶν χυμῶν αἰσθητήριον, τὴν γλῶτταν. Ἐν δὲ τοῖς ἐνύδροις, καλουμένοις δ᾽ ἰχθύσι, τὸ μὲν τῶν χυμῶν αἰσθητήριον, τὴν γλῶτταν, ἔχουσι μέν, ἔχουσι δ᾽ ἀμυδρῶς· ὀστώδη γὰρ καὶ οὐκ ἀπολελυμένην ἔχουσιν. Ἀλλ᾽ ἐνίοις τῶν ἰχθύων ὁ οὐρανός ἐστι σαρκώδης, οἷον τῶν ποταμίων ἐν τοῖς κυπρίνοις, ὥστε τοῖς μὴ σκοπουμένοις ἀκριβῶς δοκεῖν ταύτην εἶναι γλῶτταν.

Ὅτι δ᾽ αἰσθάνονται γευόμενα, φανερόν· ἰδίοις τε γὰρ πολλὰ χαίρει χυμοῖς, καὶ τὸ τῆς ἀμίας λαμβάνουσι μάλιστα δέλεαρ καὶ τὸ τῶν πιόνων ἰχθύων, ὡς χαίροντες ἐν τῇ γεύσει καὶ ἐδωδῇ τοῖς τοιούτοις δελέασιν. Τῆς δ’ ἀκοῆς καὶ τῆς (533b.) ὀσφρήσεως οὐδὲν ἔχουσι φανερὸν αἰσθητήριον· ἃ γὰρ ἄν τισιν εἶναι δόξειε κατὰ τοὺς τόπους τῶν μυκτήρων, οὐδὲν περαίνει πρὸς τὸν ἐγκέφαλον, ἀλλὰ τὰ μὲν τυφλά, τὰ δὲ φέρει μέχρι τῶν βραγχίων. Ὅτι δὲ καὶ ἀκούουσι καὶ ὀσφραίνονται, φανερόν· τούς τε γὰρ ψόφους φεύγοντα φαίνεται τοὺς μεγάλους, οἷον τὰς εἰρεσίας τῶν τριήρων, ὥστε λαμβάνεσθαι ῥᾳδίως ἐν ταῖς θαλάμαις· καὶ γὰρ ἂν μικρὸς ᾖ ὁ ἔξω ψόφος, ὅμως τοῖς ἐν τῷ ὑγρῷ τὴν ἀκοὴν ἔχουσι χαλεπὸς καὶ μέγας καὶ βαρὺς φαίνεται πᾶσιν. Ὃ συμβαίνει καὶ ἐπὶ τῆς τῶν δελφίνων θήρας· ὅταν γὰρ ἀθρόως περικυκλώσωσι τοῖς μονοξύλοις, ψοφοῦντες ἐξ αὐτῶν ἐν τῇ θαλάττῃ ἀθρόους ποιοῦσιν ἐξοκέλλειν φεύγοντας εἰς τὴν γῆν, καὶ λαμβάνουσιν ὑπὸ τοῦ ψόφου καρηβαροῦντας.

Καίτοι οὐδ’ οἱ δελφῖνες τῆς ἀκοῆς φανερὸν οὐδὲν ἔχουσιν αἰσθητήριον. Ἔτι δ’ ἐν ταῖς θήραις τῶν ἰχθύων ὅτι μάλιστα εὐλαβοῦνται ψόφον ποιεῖν ἢ κώπης ἢ δικτύων οἱ περὶ τὴν θήραν ταύτην ὄντες· ἀλλ’ ὅταν κατανοήσωσιν ἔν τινι τόπῳ πολλοὺς ἀθρόους ὄντας, ἐκ τοσούτου τόπου τεκμαιρόμενοι τὰ δίκτυα καθιᾶσιν, ὅπως μήτε κώπης μήτε τῆς ῥύμης τῆς ἁλιάδος ἀφίκηται πρὸς τὸν τόπον ἐκεῖνον ὁ ψόφος· παραγγέλλουσί τε πᾶσι τοῖς ναύταις ὅτι μάλιστα σιγῇ πλεῖν, μέχρι περ ἂν κυκλώσωσιν. Ἐνίοτε δ’ ὅταν βούλωνται συνδραμεῖν, ταὐτὸν ποιοῦσιν ὅπερ ἐπὶ τῆς τῶν δελφίνων θήρας· ψοφοῦσι γὰρ λίθοις, ἵνα φοβηθέντες συνθέωσιν εἰς ταὐτὸ καὶ τοῖς δικτύοις οὕτω περιβάλλωνται. Καὶ πρὶν μὲν συγκλεῖσαι, καθάπερ εἴρηται, κωλύουσι ψοφεῖν, ὅταν δὲ κυκλώσωσι, κελεύουσιν ἤδη βοᾶν καὶ ψοφεῖν· τὸν γὰρ ψόφον καὶ τὸν θόρυβον ἀκούοντες ἐμπίπτουσι διὰ τὸν φόβον.

Ἔτι δ’ ὅταν ἴδωσιν οἱ ἁλιεῖς ἐκ πάνυ πολλοῦ νεμομένους ἀθρόους πολλοὺς ἐν ταῖς γαλήναις καὶ εὐδίαις ἐπιπολάζοντας, καὶ βουληθῶσιν ἰδεῖν τὰ μεγέθη καὶ τί τὸ γένος αὐτῶν, ἂν μὲν ἀψοφητὶ προσπλεύσωσι, λανθάνουσι καὶ καταλαμβάνουσιν ἐπιπολάζοντας ἔτι, ἐὰν δέ τις τύχῃ ψοφήσας πρότερον, φανεροί εἰσι φεύγοντες.

Ἔτι δ’ ἐν τοῖς (534a.) ποταμοῖς εἰσιν ἰχθύδια ἄττα ἃ καλοῦσί τινες κόττους· ταῦτα θηρεύουσί τινες διὰ τὸ ὑπὸ ταῖς πέτραις ὑποδεδυκέναι κόπτοντες τὰς πέτρας λίθοις· τὰ δ’ ἐκπίπτει παραφερόμενα ὡς ἀκούοντα καὶ καρηβαροῦντα ὑπὸ τοῦ ψόφου.

Ὅτι μὲν οὖν ἀκούουσιν, ἐκ τῶν τοιούτων ἐστὶ φανερόν· εἰσὶ δέ τινες οἵ φασι καὶ μάλιστα ὀξυηκόους εἶναι τῶν ζῴων τοὺς ἰχθῦς, ἐκ τοῦ διατρίβοντας περὶ τὴν θάλατταν ἐντυγχάνειν τοιούτοις πολλοῖς. Μάλιστα δὲ τῶν ἰχθύων

εἰσὶν ὀξυήκοοι κεστρεύς, λάβραξ, σάλπη, χρομίς, καὶ ὅσοι ἄλλοι τοιοῦτοι τῶν ἰχθύων· οἱ δ’ ἄλλοι τούτων ἧττον, διὸ μᾶλλον πρὸς τῷ ἐδάφει τῆς θαλάττης ποιοῦνται τὰς διαγωγάς.

Ὁμοίως δὲ καὶ περὶ ὀσφρήσεως. Τοῦ τε γὰρ μὴ προσφάτου δελέατος οὐκ ἐθέλουσιν ἅπτεσθαι οἱ πλεῖστοι τῶν ἰχθύων, τοῖς τε δελέασιν οὐ τοῖς αὐτοῖς ἁλίσκονται πάντες ἀλλ’ ἰδίοις, διαγινώσκοντες τῷ ὀσφραίνεσθαι· ἔνια γὰρ δελεάζεται τοῖς δυσώδεσιν, ὥσπερ ἡ σάλπη τῇ κόπρῳ. Ἔτι δὲ πολλοὶ τῶν ἰχθύων διατρίβουσιν ἐν σπηλαίοις, οὓς ἐπειδὰν βούλωνται προκαλέσασθαι εἰς τὴν θήραν οἱ ἁλιεῖς, τὸ στόμα τοῦ σπηλαίου περιαλείφουσι ταριχηραῖς ὀσμαῖς, πρὸς ἃς ἐξέρχονται ταχέως. Ἁλίσκεται δὲ καὶ ἡ ἔγχελυς τοῦτον τὸν τρόπον· τιθέασι γὰρ τῶν ταριχηρῶν τι κεραμίων, ἐνθέντες εἰς τὸ στόμα τοῦ κεραμίου τὸν καλούμενον ἠθμόν. Καὶ ὅλως δὲ πρὸς τὰ κνισώδη φέρονται πάντες θᾶττον. Καὶ τῶν σηπιῶν δὲ τὰ σαρκία σταθεύσαντες ἕνεκα τῆς ὀσμῆς δελεάζουσι τούτοις· προσέρχονται γὰρ μᾶλλον. Τοὺς δὲ πολύπους φασὶν ὀπτήσαντες εἰς τοὺς κύρτους ἐντιθέναι οὐδενὸς ἄλλου χάριν ἢ τῆς κνίσης.

Ἔτι δ’ οἱ ῥυάδες ἰχθύες, ὅταν ἐκχυθῇ τὸ πλύμα τῶν ἰχθύων, ἢ τῆς ἀντλίας ἐκχυθείσης, φεύγουσιν ὡς ὀσφραινόμενοι τῆς ὀσμῆς αὐτῶν. Καὶ τοῦ αὐτῶν δὴ αἵματος (534b.) τάχιστα ὀσφραίνεσθαί φασιν αὐτούς· δῆλον δὲ ποιοῦσι φεύγοντες καὶ ἐκτοπίζοντες μακράν, ὅταν αἷμα γένηται ἰχθύων. Καὶ ὅλως δ’ ἐὰν μὲν σαπρῷ τις δελέατι δελεάσῃ τὸν κύρτον, οὐκ ἐθέλουσιν εἰσδύνειν οὐδὲ πλησιάζειν, ἐὰν δὲ νεαρῷ δελέατι καὶ κεκνισωμένῳ, εὐθὺς φερόμενοι πόρρωθεν εἰσδύνουσιν.

Μάλιστα δὲ φανερόν ἐστι περὶ τῶν εἰρημένων ἐπὶ τῶν δελφίνων· οὗτοι γὰρ τῆς ἀκοῆς αἰσθητήριον μὲν οὐδὲν ἔχουσι φανερόν, ἁλίσκονται δὲ διὰ τὸ καρηβαρεῖν ὑπὸ τοῦ ψόφου, καθάπερ εἴρηται πρότερον. Οὐδὲ δὴ τῆς ὀσφρήσεως αἰσθητήριον οὐδὲν ἔχει φανερόν, ὀσφραίνεται δ’ ὀξέως.

Ὅτι μὲν οὖν πάσας τὰς αἰσθήσεις ἔχει ταῦτα τὰ ζῷα, φανερόν· τὰ δὲ λοιπὰ γένη τῶν ζῴων ἐστὶ μὲν τέτταρα διῃρημένα εἰς γένη, ἃ περιέχει τὸ πλῆθος τῶν λοιπῶν ζῴων, τά τε μαλάκια καὶ τὰ μαλακόστρακα καὶ τὰ ὀστρακόδερμα καὶ ἔτι τὰ ἔντομα.

Τούτων δὲ τὰ μὲν μαλάκια καὶ τὰ μαλακόστρακα καὶ τὰ ἔντομα ἔχει πάσας τὰς αἰσθήσεις· καὶ γὰρ ὄψιν ἔχει καὶ ὄσφρησιν καὶ γεῦσιν.

Τά τε γὰρ ἔντομα ὄντα πόρρω συναισθάνεται, καὶ τὰ πτερωτὰ καὶ τὰ ἄπτερα, οἷον αἱ μέλιτται καὶ οἱ κνῖπες τοῦ μέλιτος· ἐκ πολλοῦ γὰρ αἰσθάνονται ὡς τῇ ὀσμῇ γινώσκοντα. Καὶ ὑπὸ τῆς τοῦ θείου ὀσμῆς πολλὰ ἀπόλλυται.

Ἔτι δ’ οἱ μύρμηκες ὑπ’ ὀριγάνου καὶ θείου περιπαττομένων λείων ἐκλείπουσι τὰς μυρμηκίας, καὶ ἐλαφείου κέρατος θυμιωμένου τὰ πλεῖστα φεύγει τῶν τοιούτων· μάλιστα δὲ φεύγουσι θυμιωμένου τοῦ στύρακος.

Ἔτι δ’ αἱ σηπίαι καὶ οἱ πολύποδες καὶ οἱ κάραβοι τοῖς δελέασιν ἁλίσκονται· καὶ οἵ γε πολύποδες οὕτω μὲν προσέχονται ὥστε μὴ ἀποσπᾶσθαι ἀλλ’ ὑπομένειν τεμνόμενοι· ἐὰν δέ τις κόνυζαν προσενέγκῃ, ἀφιᾶσιν εὐθέως ὀσμώμενοι.

Ὁμοίως δὲ καὶ περὶ (535a.) γεύσεως· τήν τε γὰρ τροφὴν ἑτέραν διώκουσι, καὶ οὐ τοῖς αὐτοῖς πάντα χαίρει χυμοῖς, οἷον ἡ μέλιττα πρὸς οὐδὲν προσιζάνει σαπρὸν ἀλλὰ πρὸς τὰ γλυκέα, ὁ δὲ κώνωψ πρὸς οὐδὲν γλυκὺ ἀλλὰ πρὸς τὰ ὀξέα. Τὸ δὲ τῇ ἁφῇ αἰσθάνεσθαι, ὥσπερ καὶ πρότερον εἴρηται, πᾶσιν ὑπάρχει τοῖς ζῴοις.

Τὰ δ’ ὀστρακόδερμα ὄσφρησιν μὲν καὶ γεῦσιν ἔχει, φανερὸν δ’ ἐκ τῶν δελεασμῶν, οἷον ἐπὶ τῆς πορφύρας· αὕτη γὰρ δελεάζεται τοῖς σαπροῖς, καὶ προσέρχεται πρὸς τὸ τοιοῦτον δέλεαρ ὡς αἴσθησιν ἔχουσα πόρρωθεν. Καὶ τῶν χυμῶν δ’ ὅτι αἴσθησιν ἔχει, φανερὸν ἐκ τῶν αὐτῶν· πρὸς ἃ γὰρ διὰ τὰς ὀσμὰς προσέρχεται κρίναντα, τούτων χαίρει καὶ τοῖς χυμοῖς ἕκαστα. Ἔτι δ’ ὅσα ἔχει στόμα, χαίρει καὶ λυπεῖται τῇ τῶν χυμῶν ἅψει.

Περὶ δ’ ὄψεως καὶ ἀκοῆς βέβαιον μὲν οὐδέν ἐστιν οὐδὲ λίαν φανερόν, δοκοῦσι δ’ οἵ τε σωλῆνες, ἄν τις ψοφήσῃ, καταδύεσθαι, καὶ φεύγειν κατωτέρω, ὅταν αἴσθωνται τὸ σιδήριον προσιόν (ὑπερέχει γὰρ αὐτῶν μικρόν, τὸ δ’ ἄλλο ὥσπερ ἐν θαλάμῃ ἐστίν), καὶ οἱ κτένες, ἐάν τις προσφέρῃ τὸν δάκτυλον, χάσκουσι καὶ συμμύουσιν ὡς ὁρῶντες. Καὶ τοὺς νηρείτας δ’ οἱ θηρεύοντες οὐ κατὰ πνεῦμα προσιόντες θηρεύουσιν, ὅταν θηρεύσωσιν αὐτοὺς εἰς τὸ δέλεαρ, οὐδὲ φθεγγόμενοι ἀλλὰ σιωπῶντες ὡς ὀσφραινομένων καὶ ἀκουόντων· ἐὰν δὲ φθέγγωνται, φασὶν ὑποφεύγειν αὐτούς. Ἥκιστα δὲ τὴν ὄσφρησιν τῶν ὀστρακοδέρμων φαίνεται ἔχειν τῶν μὲν πορευτικῶν ἐχῖνος, τῶν δ’ ἀκινήτων τήθυα καὶ βάλανοι.

Περὶ μὲν οὖν τῶν αἰσθητηρίων τοῦτον ἔχει τὸν τρόπον τοῖς ζῴοις πᾶσιν, περὶ δὲ φωνῆς τῶν ζῴων ὧδ’ ἔχει.

Κεφάλαιο 9

Φωνὴ καὶ ψόφος ἕτερόν ἐστι, καὶ τρίτον διάλεκτος. Φωνεῖ μὲν οὖν οὐδενὶ τῶν ἄλλων μορίων οὐδὲν πλὴν τῷ φάρυγγι· διὸ ὅσα μὴ ἔχει πλεύμονα, οὐδὲ φθέγγεται· διάλεκτος δ’ ἡ τῆς φωνῆς ἐστι τῇ γλώττῃ διάρθρωσις. Τὰ μὲν οὖν φωνήεντα ἡ φωνὴ καὶ ὁ λάρυγξ ἀφίησιν, τὰ δ’ ἄφωνα ἡ (535b.) γλῶττα καὶ τὰ χείλη· ἐξ ὧν ἡ διάλεκτός ἐστιν. Διὸ ὅσα γλῶτταν μὴ ἔχει ἢ μὴ ἀπολελυμένην, οὐ διαλέγεται. Ψοφεῖν δ’ ἔστι καὶ ἄλλοις μορίοις. Τὰ μὲν οὖν ἔντομα οὔτε φωνεῖ οὔτε διαλέγεται, ψοφεῖ δὲ τῷ ἔσω πνεύματι, οὐ τῷ θύραζε· οὐδὲν γὰρ ἀναπνεῖ αὐτῶν, ἀλλὰ τὰ μὲν βομβεῖ, οἷον μέλιττα καὶ τὰ πτηνὰ αὐτῶν, τὰ δ’ ᾄδειν λέγεται, οἷον οἱ τέττιγες. Πάντα δὲ ταῦτα ψοφεῖ τῷ ὑμένι τῷ ὑπὸ τὸ ὑπόζωμα, ὅσων διῄρηται, οἷον τῶν τεττίγων τι γένος τῇ τρίψει τοῦ πνεύματος. Καὶ αἱ μυῖαι δὲ καὶ αἱ μέλιτται καὶ τἆλλα πάντα, τῇ πτήσει αἴροντα καὶ συστέλλοντα· ὁ γὰρ ψόφος τρῖψις τοῦ ἔσω πνεύματός ἐστιν. Αἱ δ’ ἀκρίδες τοῖς πηδαλίοις τρίβουσαι ποιοῦσι τὸν ψόφον.

Οὐδὲ δὴ τῶν μαλακίων οὐδὲν οὔτε φθέγγεται οὔτε ψοφεῖ οὐδένα φυσικὸν ψόφον, οὐδὲ τῶν μαλακοστράκων. Οἱ δ’ ἰχθύες ἄφωνοι μέν εἰσιν (οὔτε γὰρ πλεύμονα οὔτ’ ἀρτηρίαν καὶ φάρυγγα ἔχουσι), ψόφους δέ τινας ἀφιᾶσι καὶ τριγμοὺς οὓς λέγουσι φωνεῖν, οἷον λύρα καὶ χρομίς (οὗτοι γὰρ ἀφιᾶσιν ὥσπερ γρυλισμόν) καὶ ὁ κάπρος ὁ ἐν τῷ Ἀχελῴῳ, ἔτι δὲ χαλκὶς καὶ κόκκυξ· ἡ μὲν γὰρ ψοφεῖ οἷον συριγμόν, ὁ δὲ παραπλήσιον τῷ κόκκυγι ψόφον, ὅθεν καὶ τοὔνομα ἔχει. Πάντα δὲ ταῦτα τὴν δοκοῦσαν φωνὴν ἀφιᾶσι, τὰ μὲν τῇ τρίψει τῶν βραγχίων (ἀκανθώδεις γὰρ οἱ τόποι), τὰ δὲ τοῖς ἐντὸς τοῖς περὶ τὴν κοιλίαν· πνεῦμα γὰρ ἔχει τούτων ἕκαστον, ὃ προστρίβοντα καὶ κινοῦντα ποιεῖ τοὺς ψόφους. Καὶ τῶν σελαχῶν δ’ ἔνια δοκεῖ τρίζειν. Ἀλλὰ ταῦτα φωνεῖν μὲν οὐκ ὀρθῶς ἔχει φάναι, ψοφεῖν δέ. Καὶ γὰρ οἱ κτένες ὅταν φέρωνται ἀπερειδόμενοι τῷ ὑγρῷ, ὃ καλοῦσι πέτεσθαι, ῥοιζοῦσι, καὶ αἱ χελιδόνες αἱ θαλάττιαι ὁμοίως· καὶ γὰρ αὗται πέτονται μετέωροι, οὐχ ἁπτόμεναι τῆς θαλάττης· τὰ γὰρ πτερύγια ἔχουσι πλατέα καὶ μακρά. Ὥσπερ οὖν τῶν ὀρνίθων πετομένων ὁ γινόμενος ταῖς πτέρυξι ψόφος οὐ φωνή ἐστιν, οὕτως οὐδὲ τῶν τοιούτων οὐδενός.

Ἀφίησι δὲ καὶ ὁ δελφὶς τριγμὸν καὶ μύζει, (536a.) ὅταν ἐξέλθῃ, ἐν τῷ ἀέρι, οὐχ ὁμοίως δὲ τοῖς εἰρημένοις· ἔστι γὰρ τούτῳ φωνή· ἔχει γὰρ καὶ πλεύμονα καὶ ἀρτηρίαν, ἀλλὰ τὴν γλῶτταν οὐκ ἀπολελυμένην οὐδὲ χείλη ὥστε ἄρθρον τι τῆς φωνῆς ποιεῖν.

Τῶν δ’ ἐχόντων γλῶτταν καὶ πλεύμονα ὅσα μὲν ᾠοτόκα ἐστὶ καὶ τετράποδα, ἀφίησι μὲν φωνήν, ἀσθενῆ δέ, καὶ τὰ μὲν συριγμόν, ὥσπερ οἱ ὄφεις, τὰ δὲ λεπτὴν καὶ ἀσθενῆ φωνήν, τὰ δὲ σιγμὸν μικρόν, ὥσπερ αἱ χελῶναι. Ὁ δὲ βάτραχος ἰδίαν ἔχει τὴν γλῶτταν· τὸ μὲν γὰρ ἔμπροσθεν προσπέφυκεν ἰχθυωδῶς, ὃ τοῖς ἄλλοις ἀπολέλυται, τὸ δὲ πρὸς τὸν φάρυγγα ἀπολέλυται καὶ πέπτυκται, ᾧ τὴν ἰδίαν ἀφίησι φωνήν. Καὶ τὴν ὀλολυγόνα δὲ τὴν γινομένην ἐν τῷ ὕδατι οἱ βάτραχοι οἱ ἄρρενες ποιοῦσιν, ὅταν ἀνακαλῶνται τὰς θηλείας πρὸς τὴν ὀχείαν· εἰσὶ γὰρ ἑκάστοις τῶν ζῴων ἴδιαι φωναὶ πρὸς τὴν ὁμιλίαν καὶ τὸν πλησιασμόν, οἷον καὶ τράγοις καὶ ὑσὶ καὶ προβάτοις.

Ποιεῖ δὲ τὴν ὀλολυγόνα, ὅταν ἰσοχειλῆ τὴν κάτω σιαγόνα ποιήσας ἐπὶ τῷ ὕδατι περιτείνῃ τὴν ἄνω. Δοκεῖ δὲ διαλαμπουσῶν τῶν σιαγόνων ἐκ τῆς ἐπιτάσεως ὥσπερ λύχνοι φαίνεσθαι οἱ ὀφθαλμοί· ἡ γὰρ ὀχεία τὰ πολλὰ γίνεται νύκτωρ.

Τὸ δὲ τῶν ὀρνίθων γένος ἀφίησι φωνήν· καὶ μάλιστα ἔχει διάλεκτον ὅσοις ὑπάρχει ἡ γλῶττα πλατεῖα, καὶ ὅσα ἔχουσι τὴν γλῶτταν αὐτῶν λεπτήν. Ἔνια μὲν οὖν τὴν αὐτὴν ἀφιᾶσι φωνὴν τά τε θήλεα καὶ τὰ ἄρρενα, ἔνια δ’ ἑτέραν.

Πολύφωνα δ’ ἐστὶ καὶ λαλίστερα τὰ ἐλάττω τῶν μεγάλων· καὶ μάλιστα περὶ τὴν ὀχείαν ἕκαστον γίνεται τῶν ὀρνέων τοιοῦτον. Καὶ τὰ μὲν μαχόμενα φθέγγεται, οἷον ὄρτυξ, τὰ δὲ πρὸ τοῦ μάχεσθαι προκαλούμενα <οἷον πέρδικες>, ἢ νικῶντα, οἷον ἀλεκτρυόνες. Ἄδουσι δ’ ἔνια μὲν ὁμοίως τὰ ἄρρενα τοῖς θήλεσιν, οἷον καὶ ἀηδὼν ᾄδει καὶ ὁ ἄρρην καὶ ἡ θήλεια, πλὴν ἡ θήλεια παύεται ὅταν ἐπῳάζῃ καὶ τὰ νεόττια ἔχῃ· ἐνίων δὲ τὰ ἄρρενα μᾶλλον, οἷον ἀλεκτρυόνες καὶ ὄρτυγες, αἱ δὲ θήλειαι οὐκ ᾄδουσιν.

Τὰ δὲ ζῳοτόκα καὶ τετράποδα ζῷα ἄλλο (536b.) ἄλλην φωνὴν ἀφίησι, διάλεκτον δ’ οὐδὲν ἔχει, ἀλλ’ ἴδιον τοῦτ’ ἀνθρώπου ἐστίν· ὅσα μὲν γὰρ διάλεκτον ἔχει, καὶ φωνὴν ἔχει, ὅσα δὲ φωνήν, οὐ πάντα διάλεκτον. Ὅσοι δὲ γίνονται κωφοὶ ἐκ γενετῆς, πάντες καὶ ἐνεοὶ γίνονται· φωνὴν μὲν οὖν ἀφιᾶσι, διάλεκτον δ’ οὐδεμίαν. Τὰ δὲ παιδία ὥσπερ καὶ τῶν ἄλλων μορίων οὐκ ἐγκρατῆ ἐστιν, οὕτως οὐδὲ τῆς γλώττης τὸ πρῶτον, καὶ ἔστιν ἀτελής, καὶ ἀπολύεται ὀψιαίτερον, ὥστε ψελλίζουσι καὶ τραυλίζουσι τὰ πολλά.

Διαφέρουσι δὲ κατὰ τοὺς τόπους καὶ αἱ φωναὶ καὶ αἱ διάλεκτοι. Ἡ μὲν οὖν φωνὴ ὀξύτητι καὶ βαρύτητι μάλιστα ἐπίδηλος, τὸ δ’ εἶδος οὐδὲν διαφέρει τῶν αὐτῶν γενῶν· ἡ δ’ ἐν τοῖς ἄρθροις, ἣν ἄν τις ὥσπερ διάλεκτον εἴπειεν, καὶ τῶν ἄλλων ζῴων διαφέρει καὶ τῶν ἐν ταὐτῷ γένει ζῴων κατὰ τοὺς τόπους, οἷον τῶν περδίκων οἱ μὲν κακκαβίζουσιν οἱ δὲ τρίζουσιν. Καὶ τῶν μικρῶν ὀρνιθίων ἔνια οὐ τὴν αὐτὴν φωνὴν ἀφίησι ἐν τῷ ᾄδειν τοῖς γεννήσασιν, ἂν ἀπότροφα γένωνται καὶ ἄλλων ἀκούσωσιν ὀρνίθων ᾀδόντων. Ἤδη δ’ ὦπται καὶ ἀηδὼν νεοττὸν προδιδάσκουσα, ὡς οὐχ ὁμοίας φύσει τῆς διαλέκτου οὔσης καὶ τῆς φωνῆς, ἀλλ’ ἐνδεχόμενον πλάττεσθαι. Καὶ οἱ ἄνθρωποι φωνὴν μὲν τὴν αὐτὴν ἀφιᾶσι, διάλεκτον δ’ οὐ τὴν αὐτήν. Ὁ δ’ ἐλέφας φωνεῖ ἄνευ μὲν τοῦ μυκτῆρος αὐτῷ τῷ στόματι πνευματῶδες ὥσπερ ὅταν ἄνθρωπος ἐκπνέῃ καὶ αἰάζῃ, μετὰ δὲ τοῦ μυκτῆρος ὅμοιον σάλπιγγι τετραχυσμένῃ.

Κεφάλαιο 10

Περὶ δ’ ὕπνου καὶ ἐγρηγόρσεως τῶν ζῴων, ὅτι μὲν ὅσα πεζὰ καὶ ἔναιμα πάντα καθεύδει καὶ ἐγρήγορεν, φανερὸν ποιοῦσι κατὰ τὴν αἴσθησιν. Πάντα γὰρ ὅσα ἔχει βλεφαρίδας, μύοντα ποιεῖται τὸν ὕπνον. Ἔτι δ’ ἐνυπνιάζειν φαίνονται οὐ μόνον ἄνθρωποι, ἀλλὰ καὶ ἵπποι καὶ κύνες καὶ βόες, ἔτι δὲ πρόβατα καὶ αἶγες καὶ πᾶν τὸ τῶν ζῳοτόκων καὶ τετραπόδων γένος· δηλοῦσι δ’ οἱ κύνες τῷ ὑλαγμῷ. Περὶ δὲ τῶν ᾠοτοκούντων τοῦτο μὲν ἄδηλον, ὅτι δὲ καθεύδουσι, φανερόν. Ὁμοίως δὲ καὶ τὰ ἔνυδρα, οἷον οἵ τ’ ἰχθύες καὶ τὰ (537a.) μαλάκια καὶ τὰ μαλακόστρακα, κάραβοί τε καὶ τὰ τοιαῦτα. Βραχύυπνα μὲν οὖν ἐστι πάντα ταῦτα, φαίνεται δὲ καθεύδοντα. Σημεῖον δὲ κατὰ μὲν τὰ ὄμματα οὐκ ἔστι λαβεῖν (οὐδὲν γὰρ ἔχει βλέφαρα αὐτῶν), ἀλλὰ ταῖς ἀτρεμίαις.

Ἁλίσκονται γὰρ οἱ ἰχθύες, εἰ μὴ διὰ τοὺς φθεῖρας καὶ τοὺς καλουμένους ψύλλους, κἂν ὥστε τῇ χειρὶ λαμβάνειν ῥᾳδίως· νῦν δ’, ἂν χρονίζωσιν, οὗτοι τῆς νυκτὸς κατεσθίουσι προσπίπτοντες, πολλοὶ τὸ πλῆθος ὄντες. Γίνονται δ’ ἐν τῷ βυθῷ τῆς θαλάττης, καὶ τοσοῦτοι τὸ πλῆθος ὥστε καὶ τὸ δέλεαρ, ὅ τι ἂν ἰχθύος ᾖ, ἐὰν χρονίσῃ ἐπὶ τῆς γῆς, κατεσθίουσιν· καὶ ἀνέλκουσι πολλάκις οἱ ἁλιεῖς περὶ τὸ δέλεαρ ὥσπερ σφαῖραν συνεχομένων αὐτῶν.

Ἀλλ’ ἐκ τῶν τοιῶνδε μᾶλλον ἔστι τεκμήρασθαι ὅτι καθεύδουσιν· πολλάκις γὰρ ἔστιν ἐπιπεσόντα τοῖς ἰχθύσι λαθεῖν οὕτως ὥστε καὶ τῇ χειρὶ λαβεῖν ἢ πατάξαντα λαθεῖν· ὑπὸ δὲ τὸν καιρὸν τοῦτον ἠρεμοῦσι σφόδρα, καὶ κινοῦσιν οὐδὲν πλὴν ἠρέμα τὸ οὐραῖον. Δῆλον δὲ γίνεται ὅτι καθεύδει καὶ ταῖς φοραῖς, ἄν τι κινηθῇ ἡσυχαζόντων αὐτῶν· φέρεται γὰρ ὥσπερ ἐξ ὕπνου ὄντα. Ἔτι δ’ ἐν ταῖς πυρίαις ἁλίσκονται διὰ τὸ καθεύδειν. Πολλάκις δὲ καὶ οἱ θυννοσκόποι περιβάλλονται καθεύδοντας· δῆλον δ’ ἐκ τοῦ ἡσυχάζοντας καὶ τὰ λευκὰ ὑποφαίνοντας ἁλίσκεσθαι. Καθεύδουσι δὲ τῆς νυκτὸς μᾶλλον ἢ τῆς ἡμέρας οὕτως ὥστε βαλλόντων μὴ κινεῖσθαι. Τὰ δὲ πλεῖστα καθεύδουσι τῆς γῆς ἢ τῆς ἄμμου ἢ λίθου τινὸς ἐχόμενοι ἐν τῷ βυθῷ, ἢ ἀποκρύψαντες ὑπὸ πέτραν ἢ θῖνα ἑαυτούς, οἱ δὲ πλατεῖς ἐν τῇ ἄμμῳ· γινώσκονται δὲ τῇ σχηματίσει τῆς ἄμμου, καὶ λαμβάνονται τυπτόμενοι τοῖς τριώδουσιν. Λαμβάνονται δὲ καὶ λάβραξ καὶ χρύσοφρυς καὶ κεστρεὺς καὶ ὅσοι τοιοῦτοι τριώδοντι ἡμέρας πολλάκις διὰ τὸ καθεύδειν· εἰ δὲ μή, οὐδὲν δοκεῖ τῶν τοιούτων ληφθῆναι ἂν τριώδοντι. Τὰ δὲ σελάχη οὕτω καθεύδει ἐνίοτε ὥστε καὶ λαμβάνεσθαι τῇ χειρί. Δελφὶς δὲ καὶ (537b.) φάλαινα, καὶ ὅσα αὐλὸν ἔχει, ὑπερέχοντα τὸν αὐλὸν καθεύδει τῆς θαλάττης, δι’ οὗ ἀναπνέουσιν ἠρέμα κινοῦντες τὰς πτέρυγας· καὶ δελφῖνός γε καὶ ῥέγχοντος ἤδη ἠκρόανταί τινες.

Καθεύδει δὲ καὶ τὰ μαλάκια τὸν αὐτὸν τρόπον ὅνπερ οἱ ἰχθύες· ὁμοίως δὲ καὶ τὰ μαλακόστρακα τούτοις.

Καὶ τὰ ἔντομα δὲ τῶν ζῴων ὅτι τυγχάνει ὕπνου, διὰ τοιούτων σημείων ἐστὶ φανερόν· ἡσυχάζουσί τε γὰρ καὶ ἀκινητίζουσιν ἐπιδήλως.

Μάλιστα δ’ ἐπὶ τῶν μελιττῶν τοῦτο δῆλον· ἠρεμοῦσι γὰρ καὶ παύονται βομβοῦσαι τῆς νυκτός. Δῆλον δὲ καὶ ἐπὶ τῶν ἐν ποσὶ μάλιστα τῶν τοιούτων· οὐ γὰρ μόνον διὰ τὸ μὴ ὀξὺ βλέπειν ἡσυχάζουσι τῆς νυκτός (ἅπαντα γὰρ ἀμυδρῶς βλέπει τὰ σκληρόφθαλμα), ἀλλὰ καὶ πρὸς τὸ φῶς τῶν λύχνων ἡσυχάζοντα φαίνονται οὐδὲν ἧττον.

Ἐνυπνιάζει δὲ τῶν ζῴων μάλιστα ἄνθρωπος. Καὶ νέοις μὲν οὖσι καὶ παιδίοις ἔτι πάμπαν οὐ γίνεται ἐνύπνιον, ἀλλ’ ἄρχεται τοῖς πλείστοις περὶ τέτταρα ἔτη ἢ πέντε· ἤδη δὲ γεγόνασι καὶ ἄνδρες καὶ γυναῖκες οἳ ὅλως οὐδὲν πώποτε ἐνύπνιον εἶδον. Συνέβη δέ τισι τῶν τοιούτων προϊούσης τῆς ἡλικίας ἰδεῖν ἐνύπνιον, καὶ μετὰ ταῦτα γενέσθαι περὶ τὸ σῶμα μεταβολὴν τοῖς μὲν εἰς θάνατον τοῖς δ’ εἰς ἀρρωστίαν.

Περὶ μὲν οὖν αἰσθήσεως καὶ ὕπνου καὶ ἐγρηγόρσεως τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 11

Τὸ δ’ ἄρρεν καὶ θῆλυ τοῖς μὲν ὑπάρχει τῶν ζῴων, τοῖς δ’ οὐχ ὑπάρχει, ἀλλὰ καθ’ ὁμοιότητά τινα καὶ τίκτειν λέγονται καὶ κύειν. Ἔστι δ’ οὐδὲν ἄρρεν καὶ θῆλυ ἐν τοῖς μονίμοις, οὐδ’ ὅλως ἐν τοῖς ὀστρακοδέρμοις. Ἐν δὲ τοῖς μαλακίοις καὶ τοῖς μαλακοστράκοις ἔστι τὸ μὲν θῆλυ τὸ δ’ ἄρρεν, καὶ ἐν τοῖς πεζοῖς καὶ ἐν τοῖς δίποσι καὶ τετράποσι καὶ πᾶσιν ὅσα ἐκ συνδυασμοῦ τίκτει ζῷον ἢ ᾠὸν ἢ σκώληκα. Ἐν μὲν οὖν τοῖς ἄλλοις γένεσιν ἁπλῶς ἢ ἔστιν ἢ οὐκ ἔστιν, οἷον ἐν μὲν τοῖς τετράποσι πᾶσιν ἔστι τὸ μὲν θῆλυ τὸ δ’ ἄρρεν, ἐν δὲ τοῖς ὀστρακοδέρμοις οὐκ ἔστιν, ἀλλ’ ὥσπερ ἐν φυτοῖς τὰ (538a.) μὲν εὔφορά ἐστι τὰ δ’ ἄλλ’ ἄφορα, οὕτω καὶ ἐν τούτοις.

Ἐν δὲ τοῖς ἐντόμοις καὶ τοῖς ἰχθύσιν ἐστὶ τὰ μὲν ὅλως οὐκ ἔχοντα ταύτην τὴν διαφορὰν ἐπ’ οὐδέτερον, οἷον ἔγχελυς οὔτ’ ἄρρεν ἐστὶν οὔτε θῆλυ, οὐδὲ γεννᾷ ἐξ αὑτῆς οὐδέν, ἀλλ’ οἱ μὲν φάσκοντες ὅτι τριχώδη καὶ ἑλμινθώδη προσπεφυκότ’ ἔχουσαί ποτέ τινες φαίνονται, οὐ προσθεωρήσαντες τὸ ποῦ ἔχουσιν ἀσκέπτως λέγουσιν. Οὔτε γὰρ ζῳοτοκεῖ ἄνευ ᾠοτοκίας οὐδὲν τῶν τοιούτων, ᾠὸν δ’ οὐδεμία πώποτε ὦπται ἔχουσα· ὅσα τε ζῳοτοκεῖ, ἐν τῇ ὑστέρᾳ ἔχει καὶ προσπεφυκότα, ἀλλ’ οὐκ ἐν τῇ γαστρί· ἐπέττετο γὰρ ἂν ὥσπερ ἡ τροφή. Ἣν δὲ λέγουσι διαφορὰν ἄρρενος ἐγχέλυος καὶ θηλείας τῷ τὸν μὲν μείζω κεφαλὴν ἔχειν καὶ μακροτέραν, τὴν δὲ θήλειαν μικρὰν καὶ σιμοτέραν, οὐ τοῦ θήλεος ἢ ἄρρενος λέγουσιν, ἀλλὰ τοῦ γένους.

Εἰσὶ δέ τινες ἰχθύες οἳ καλοῦνται ἐπιτραγίαι, γίνονται δὲ τοιοῦτοι τῶν ποταμίων κυπρῖνος καὶ βάλαγρος· οὐκ ἔχουσι δ’ οἱ τοιοῦτοι οὔτε ᾠὸν οὔτε θορὸν οὐδέποτε, ἀλλ’ ὅσοι στερεοί εἰσι καὶ πίονες, ἔντερον μικρὸν ἔχουσι, καὶ δοκοῦσιν ἄριστοι οὗτοι εἶναι.

Ἔτι δ’ ἔνια, καθάπερ ἐν τοῖς ὀστρακοδέρμοις καὶ φυτοῖς τὸ μὲν τίκτον ἐστὶ καὶ γεννῶν, τὸ δ’ ὀχεῦον οὐκ ἔστιν, οὕτως ἐν τοῖς ἰχθύσι τὸ τῶν ψηττῶν γένος καὶ τὸ τῶν ἐρυθρίνων καὶ αἱ χάνναι· πάντα γὰρ τὰ τοιαῦτα ᾠὰ φαίνεται ἔχοντα.

Ἐν μὲν οὖν τοῖς πεζοῖς καὶ ἐναίμοις τῶν ζῴων ὅσα μὴ ᾠοτοκεῖ, τὰ πλεῖστα μείζω καὶ μακροβιώτερα τὰ ἄρρενα τῶν θηλειῶν ἐστι, πλὴν ἡμίονος, τούτων δ’ αἱ θήλειαι μακροβιώτεραι καὶ μείζους· ἐν δὲ τοῖς ᾠοτόκοις καὶ τοῖς σκωληκοτόκοις, οἷον ἔν τε τοῖς ἰχθύσι καὶ ἐπὶ τῶν ἐντόμων, μείζω τὰ θήλεα τῶν ἀρρένων ἐστίν, οἷον ὄφεις καὶ φαλάγγια καὶ ἀσκαλαβῶται καὶ βάτραχοι. Καὶ ἐπὶ τῶν ἰχθύων δ’ ὡσαύτως, οἷον τά τε σελάχη τὰ μικρὰ καὶ τῶν ἀγελαίων τὰ πλεῖστα, τὰ δὲ πετραῖα πάντα. Ὅτι δὲ μακροβιώτεροι τῶν (538b.) ἰχθύων αἱ θήλεις τῶν ἀρρένων, δῆλον ἐκ τοῦ παλαιότερα ἁλίσκεσθαι τὰ θήλεα τῶν ἀρρένων.

Ἔστι δὲ τὰ μὲν ἄνω καὶ πρόσθια πάντων τῶν ζῴων τὰ ἄρρενα κρείττω καὶ ἰσχυρότερα καὶ εὐοπλότερα, τὰ δ’ ὡς ἂν ὀπίσθια καὶ κάτω λεχθέντα τῶν θηλέων. Τοῦτο δὲ καὶ ἐπ’ ἀνθρώπων καὶ ἐπὶ τῶν ἄλλων ζῴων τῶν πεζῶν καὶ ζῳοτόκων πάντων ἔχει τὸν αὐτὸν τρόπον. Καὶ ἀνευρότερον δὲ καὶ ἀναρθρότερον τὸ θῆλυ μᾶλλον, καὶ λεπτοτριχώτερον, ὅσα τρίχας ἔχει· τὰ δὲ μὴ τρίχας ἔχοντα κατὰ τὸ ἀνάλογον. Καὶ ὑγροσαρκότερα δὲ τὰ θήλεα τῶν ἀρρένων καὶ γονυκροτώτερα, καὶ αἱ κνῆμαι λεπτότεραι· τοὺς δὲ πόδας γλαφυρωτέρους, ὅσα τὰ μόρια ταῦτ’ ἔχει τῶν ζῴων.

Καὶ περὶ φωνῆς δέ, πάντα τὰ θήλεα λεπτοφωνότερα καὶ ὀξυφωνότερα, πλὴν βοός, ὅσα ἔχει φωνήν· οἱ δὲ βόες βαρύτερον φθέγγονται αἱ θήλειαι τῶν ἀρρένων. Τὰ δὲ πρὸς ἀλκὴν ἐν τῇ φύσει ὑπάρχοντα μόρια, οἷον ὀδόντες καὶ χαυλιόδοντες καὶ κέρατα καὶ πλῆκτρα καὶ ὅσα ἄλλα τοιαῦτα μόρια, ἐν ἐνίοις μὲν γένεσιν ὅλως τὰ μὲν ἄρρενα ἔχει τὰ δὲ θήλεα οὐκ ἔχει, οἷον κέρατα ἔλαφος θήλεια οὐκ ἔχει καὶ τῶν ὀρνίθων τῶν πλῆκτρα ἐχόντων ἐνίων αἱ θήλειαι ὅλως πλῆκτρα οὐκ ἔχουσιν· ὁμοίως δὲ καὶ χαυλιόδοντας αἱ θήλειαι οὐκ ἔχουσι τῶν ὑῶν. Ἐν ἐνίοις δ’ ὑπάρχει μὲν ἀμφοῖν, ἀλλὰ κρείττω καὶ μᾶλλον τοῖς ἄρρεσιν, οἷον τὰ κέρατα τῶν ταύρων ἰσχυρότερα τῶν θηλειῶν βοῶν.

Βιβλίο 5

Κεφάλαιο 1

Ὅσα μὲν οὖν ἔχουσι μόρια τὰ ζῷα πάντα καὶ τῶν ἐντὸς καὶ τῶν ἐκτός, ἔτι δὲ περί τε τῶν αἰσθήσεων καὶ φωνῆς καὶ ὕπνου, καὶ ποῖα θήλεα καὶ ποῖα ἄρρενα, πρότερον (539a.) εἴρηται περὶ ἁπάντων· περὶ δὲ τῶν γενέσεων αὐτῶν λοιπὸν διελθεῖν, καὶ πρῶτον περὶ τῶν πρώτων.

Εἰσὶ δὲ πολλαὶ καὶ πολλὴν ἔχουσαι ποικιλίαν, καὶ τῇ μὲν ἀνόμοιοι, τῇ δὲ τρόπον τινὰ προσεοίκασιν ἀλλήλαις. Ἐπεὶ δὲ διῄρηται τὰ γένη πρότερον, τὸν αὐτὸν τρόπον καὶ νῦν πειρατέον ποιεῖσθαι τὴν θεωρίαν· πλὴν τότε μὲν τὴν ἀρχὴν ἐποιούμεθα σκοποῦντες περὶ τῶν μερῶν ἀπ’ ἀνθρώπου, νῦν δὲ περὶ τούτου τελευταῖον λεκτέον διὰ τὸ πλείστην ἔχειν πραγματείαν.

Πρῶτον δ’ ἀρκτέον ἀπὸ τῶν ὀστρακοδέρμων, μετὰ δὲ ταῦτα περὶ τῶν μαλακοστράκων, καὶ τὰ ἄλλα δὴ τοῦτον τὸν τρόπον ἐφεξῆς· ἔστι δὲ τά τε μαλάκια καὶ τὰ ἔντομα, καὶ μετὰ ταῦτα τὸ τῶν ἰχθύων γένος, τό τε ζῳοτόκον καὶ τὸ ᾠοτόκον αὐτῶν, εἶτα τὸ τῶν ὀρνίθων· μετὰ δὲ ταῦτα περὶ τῶν πεζῶν λεκτέον, ὅσα τ’ ᾠοτόκα καὶ ὅσα ζῳοτόκα. Ζῳοτόκα δ’ ἐστὶ τῶν τετραπόδων ἔνια, καὶ ἄνθρωπος τῶν διπόδων μόνον.

Κοινὸν μὲν οὖν συμβέβηκε καὶ ἐπὶ τῶν ζῴων, ὥσπερ καὶ ἐπὶ τῶν φυτῶν· τὰ μὲν γὰρ ἀπὸ σπέρματος ἑτέρων φυτῶν, τὰ δ’ αὐτόματα γίνεται, συστάσης τινὸς τοιαύτης ἀρχῆς, καὶ τούτων τὰ μὲν ἐκ τῆς γῆς λαμβάνει τὴν τροφήν, τὰ δ’ ἐν ἑτέροις ἐγγίνεται φυτοῖς, ὥσπερ εἴρηται ἐν τῇ θεωρίᾳ τῇ περὶ φυτῶν. Οὕτω καὶ τῶν ζῴων τὰ μὲν ἀπὸ ζῴων γίνεται κατὰ συγγένειαν τῆς μορφῆς, τὰ δ’ αὐτόματα καὶ οὐκ ἀπὸ συγγενῶν, καὶ τούτων τὰ μὲν ἐκ γῆς σηπομένης καὶ φυτῶν, ὥσπερ πολλὰ συμβαίνει τῶν ἐντόμων, τὰ δ’ ἐν τοῖς ζῴοις αὐτοῖς ἐκ τῶν τοῖς μορίοις περιττωμάτων. Τῶν δὴ τὴν γένεσιν ἐχόντων ἀπὸ συγγενῶν ζῴων ἐν οἷς μὲν αὐτῶν ἐστι τὸ θῆλυ καὶ τὸ ἄρρεν, ἐκ συνδυασμοῦ γίνονται· ἐν δὲ τῷ τῶν ἰχθύων γένει ἔνια γίνεται οὔτ’ ἄρρενα οὔτε θήλεα, τῷ γένει μὲν ὄντα ἑτέροις τῶν ἰχθύων τὰ αὐτά, τῷ εἴδει δ’ ἕτερα, ἔνια δὲ καὶ πάμπαν ἴδια. Τὰ δὲ θήλεα μὲν ἐστιν, ἄρρενα δ’ οὔ· ἐξ ὧν γίνεται ὥσπερ ἐν τοῖς ὄρνισι τὰ ὑπηνέμια. Τὰ μὲν οὖν τῶν ὀρνίθων ἄγονα πάντα ἐστὶ ταῦτα (μέχρι γὰρ τοῦ ᾠὸν γεννῆσαι δύναται ἡ φύσις αὐτῶν ἐπιτελεῖν), ἂν μή τις (539b.) αὐτοῖς συμβῇ τρόπος ἄλλος τῆς κοινωνίας πρὸς τοὺς ἄρρενας· περὶ ὧν ἀκριβέστερον ἔσται δῆλον ἐν τοῖς ὕστερον. Τῶν δ’ ἰχθύων ἐνίοις, ὅταν

αὐτόματα γεννήσωσιν ᾠά, συμβαίνει ἐκ τούτων καὶ ζῷα γίνεσθαι, πλὴν τῶν μὲν καθ’ αὑτά, τῶν δ’ οὐκ ἄνευ ἄρρενος· ὃν δὲ τρόπον, καὶ περὶ τούτων ἐν τοῖς ἐχομένοις ἔσται φανερόν· σχεδὸν γὰρ παραπλήσια συμβαίνει καὶ ἐπὶ τῶν ὀρνίθων.

Ὅσα δ’ ἀπὸ ταὐτομάτου γίνεται ἐν ζῴοις ἢ γῇ ἢ φυτοῖς ἢ τοῖς τούτων μορίοις, ἔχουσι δὲ τὸ ἄρρεν καὶ τὸ θῆλυ, ἐκ τούτων συνδυαζομένων γίνεται μέν τι, οὐ ταὐτὸ δ’ ἐξ οὐδενὸς ἀλλ’ ἀτελές, οἷον ἔκ τε τῶν φθειρῶν ὀχευομένων αἱ καλούμεναι κονίδες καὶ ἐκ τῶν μυιῶν σκώληκες καὶ ἐκ τῶν ψυλλῶν σκώληκες ᾠοειδεῖς, ἐξ ὧν οὔτε τὰ γεννήσαντα γίνεται οὔτε ἄλλο οὐδὲν ζῷον, ἀλλὰ τὰ τοιαῦτα μόνον.

Πρῶτον μὲν οὖν περὶ τῆς ὀχείας λεκτέον, ὅσα ὀχεύεται, εἶτα μετὰ ταῦτα περὶ τῶν ἄλλων ἐφεξῆς, τά τε καθ’ ἕκαστα καὶ τὰ κοινῇ συμβαίνοντα περὶ αὐτῶν.

Κεφάλαιο 2

Ὀχεύεται μὲν οὖν ταῦτα τῶν ζῴων ἐν οἷς ὑπάρχει τὸ θῆλυ καὶ τὸ ἄρρεν, εἰσὶ δ’ αἱ ὀχεῖαι οὔθ’ ὅμοιαι πᾶσιν οὔθ’ ὁμοίως ἔχουσαι. Τὰ μὲν γὰρ ζῳοτόκα καὶ πεζὰ τῶν ἐναίμων ἔχει μὲν ὄργανα πάντα τὰ ἄρρενα πρὸς τὴν πρᾶξιν τὴν γεννητικήν, οὐ μὴν ὁμοίως γε πάντα πλησιάζουσιν, ἀλλὰ τὰ μὲν ὀπισθουρητικὰ συνιόντα πυγηδόν, οἷον λέοντές τε καὶ δασύποδες καὶ λύγκες· τῶν δὲ δασυπόδων καὶ πολλάκις ἡ θήλεια προτέρα ἀναβαίνει ἐπὶ τὸν ἄρρενα. Τῶν δ’ ἄλλων τῶν μὲν πλείστων ὁ αὐτὸς τρόπος· τὸν ἐνδεχόμενον γὰρ ποιοῦνται συνδυασμὸν τά τε πλεῖστα τῶν τετραπόδων, ἐπιβαίνοντος ἐπὶ τὸ θῆλυ τοῦ ἄρρενος, καὶ τὸ τῶν ὀρνίθων ἅπαν γένος οὕτω τε καὶ μοναχῶς. Εἰσὶ δὲ διαφοραί τινες καὶ περὶ τοὺς ὄρνιθας· τὰ μὲν γὰρ συγκαθείσης τῆς θηλείας ἐπὶ τὴν γῆν ἐπιβαίνει τὸ ἄρρεν, ὥσπερ αἱ ὠτίδες καὶ οἱ ἀλεκτρυόνες, τὰ δ’ οὐ συγκαθείσης τῆς θηλείας, οἷον αἱ γέρανοι· ἐν τούτοις γὰρ ὁ ἄρρην ἐπιπηδῶν ὀχεύει τὴν θήλειαν, καὶ συγγίνεται ὥσπερ καὶ τὰ στρουθία ὀξέως.

Τῶν δὲ τετραπόδων αἱ ἄρκτοι (540a.) παρακεκλιμέναι τὸν αὐτὸν τρόπον ὅνπερ τἆλλα ἐπὶ τῶν ποδῶν ποιούμενα τὴν ὀχείαν, πρὸς τὰ πρανῆ τῶν θηλειῶν τὰ ὕπτια τῶν ἀρρένων· οἱ δὲ χερσαῖοι ἐχῖνοι ὀρθοὶ τὰ ὕπτια πρὸς ἄλληλα ἔχοντες. Τῶν δὲ ζῳοτόκων καὶ μέγεθος ἐχόντων οὔτε τοὺς ἄρρενας ἐλάφους αἱ θήλειαι ὑπομένουσιν, εἰ μὴ ὀλιγάκις, οὔτε τοὺς ταύρους αἱ βόες διὰ τὴν τοῦ αἰδοίου συντονίαν, ἀλλ’ ὑπάγοντα τὰ θήλεα δέχονται τὴν γονήν· καὶ γὰρ ἐπὶ τῶν ἐλάφων ὦπται τοῦτο συμβαῖνον, τῶν γε τιθασσῶν. Λύκος δ’ ὀχεύει καὶ ὀχεύεται τὸν αὐτὸν τρόπον ὅνπερ καὶ κύων. Οἱ δ’ αἴλουροι οὐκ ὄπισθεν συνίοντες, ἀλλ’ ὁ μὲν ὀρθός, ἡ δὲ θήλεια ὑποτίθησιν αὑτήν· εἰσὶ δὲ τὴν φύσιν αἱ θήλειαι ἀφροδισιαστικαί, καὶ προσάγονται τοὺς ἄρρενας εἰς τὰς ὀχείας, καὶ συνοῦσαι κράζουσιν. Αἱ δὲ κάμηλοι ὀχεύονται τῆς θηλείας καθημένης· περιβεβηκὼς δ’ ὁ ἄρρην ὀχεύει, οὐκ ἀντίπυγος, ἀλλὰ καθάπερ καὶ τὰ ἄλλα τετράποδα· καὶ διημερεύει τὸ μὲν ὀχεῦον τὸ δ’ ὀχευόμενον. Ἀποχωροῦσι δ’ εἰς ἐρημίαν, ὅταν ποιῶνται τὴν ὀχείαν, καὶ οὐκ ἔστι πλησιάσαι ἀλλ’ ἢ τῷ βόσκοντι. Τὸ δ’ αἰδοῖον ἔχει ὁ κάμηλος νεῦρον οὕτως ὥστε καὶ νευρὰν ποιοῦνται ἐκ τούτου τοῖς τόξοις. Οἱ δ’ ἐλέφαντες ὀχεύονται μὲν ἐν ταῖς ἐρημίαις, μάλιστα δὲ περὶ τοὺς ποταμοὺς καὶ οὗ διατρίβειν εἰώθασιν· ὀχεύεται δ’ ἡ μὲν θήλεια συγκαθιεῖσα καὶ διαβαίνουσα, ὁ δ’ ἄρρην ἐπαναβαίνων ὀχεύει. Ὀχεύεται δὲ καὶ ἡ φώκη καθάπερ τὰ ὀπισθουρητικὰ τῶν ζῴων, καὶ συνέχονται ἐν τῇ ὀχείᾳ πολὺν χρόνον, ὥσπερ αἱ κύνες· ἔχουσι δὲ καὶ τὸ αἰδοῖον οἱ ἄρρενες μέγα.

Κεφάλαιο 3

Τὸν αὐτὸν δὲ τρόπον καὶ τῶν πεζῶν τὰ τετράποδα καὶ ᾠοτόκα ποιεῖται τὴν ὀχείαν. Τὰ μὲν γὰρ ἐπιβαίνοντα καθάπερ τὰ ζῳοτόκα, οἷον χελώνη καὶ ἡ θαλαττία καὶ ἡ χερσαία. Ἔχουσι δέ τι εἰς ὃ οἱ πόροι συνάπτουσιν καὶ ᾧ ἐν τῇ ὀχείᾳ πλησιάζουσιν, οἷον φρῦναι καὶ βάτραχοι καὶ πᾶν τὸ τοιοῦτον γένος.

Κεφάλαιο 4

Τὰ δ’ ἄποδα καὶ μακρὰ τῶν ζῴων, οἷον ὄφεις τε καὶ (540b.) σμύραιναι, περιπλεκόμεναι τοῖς ὑπτίοις πρὸς τὰ ὕπτια.

Οὕτω δὲ σφόδρα οἵ γ’ ὄφεις περιελίττονται ἀλλήλοις, ὥστε δοκεῖν ἑνὸς ὄφεως δικεφάλου τὸ σῶμα εἶναι ἅπαν. Τὸν αὐτὸν δὲ τρόπον καὶ τὸ τῶν σαύρων γένος· ὁμοίᾳ γὰρ περιπλοκῇ ποιοῦνται τὴν ὀχείαν.

Κεφάλαιο 5

Οἱ δ’ ἰχθύες ἅπαντες, ἔξω τῶν πλατέων σελαχῶν, παραπίπτοντες τὰ ὕπτια πρὸς τὰ ὕπτια ποιοῦνται τὸν συνδυασμόν. Τὰ δὲ πλατέα καὶ κερκοφόρα, οἷον βάτος καὶ τρυγὼν καὶ τὰ τοιαῦτα, οὐ μόνον παραπίπτοντα ἀλλὰ καὶ ἐπιβαίνοντα τοῖς ὑπτίοις ἐπὶ τὰ πρανῆ τῶν θηλειῶν, ὅσοις μὴ ἐμποδίζει τὸ οὐραῖον δεινὸν ἔχον πάχος. Αἱ δὲ ῥῖναι, καὶ ὅσοις τῶν τοιούτων πολὺ τὸ οὐραῖον, παρατριβόμενα μόνον ὀχεύεται τὰ ὕπτια πρὸς τὰ ὕπτια. Εἰσὶ δέ τινες οἳ ἑωρακέναι φασὶ καὶ συνεχόμενα τῶν σελαχῶν ἔνια ὄπισθεν, ὥσπερ τοὺς κύνας.

Ἔστι δ’ ἐν πᾶσι τοῖς σελαχώδεσι μεῖζον τὸ θῆλυ τοῦ ἄρρενος· σχεδὸν δὲ καὶ ἐν τοῖς ἄλλοις ἰχθύσι τὰ θήλεα μείζω τῶν ἀρρένων. Σελάχη δ’ ἐστὶ τά τ’ εἰρημένα καὶ βοῦς καὶ λάμια καὶ ἀετὸς καὶ νάρκη καὶ βάτραχος καὶ πάντα τὰ γαλεώδη. Τὰ μὲν οὖν σελάχη πάντα τεθεώρηται ὑπὸ πολλῶν τούτους ποιούμενα τοὺς τρόπους τὴν ὀχείαν· χρονιωτέρα γὰρ ἡ συμπλοκὴ πάντων τῶν ζῳοτόκων ἐστὶν ἢ τῶν ᾠοτόκων. Καὶ δελφῖνες δὲ καὶ πάντα τὰ κητώδη τὸν αὐτὸν τρόπον· παραπίπτοντα γὰρ ὀχεύει παρὰ τὸ θῆλυ τὸ ἄρρεν, καὶ χρόνον οὔτ’ ὀλίγον οὔτε λίαν πολύν. Διαφέρουσι δ’ ἔνιοι τῶν σελαχωδῶν ἰχθύων οἱ ἄρρενες τῶν θηλειῶν τῷ τοὺς μὲν ἔχειν ἀποκρεμώμενα ἄττα δύο περὶ τὴν ἔξοδον τῆς περιττώσεως, τὰς δὲ θηλείας ταῦτα μὴ ἔχειν, οἷον ἐν τοῖς γαλεώδεσιν· ἐπὶ γὰρ τούτων ὑπάρχει πάντων τὸ εἰρημένον. Ὄρχεις μὲν οὖν οὔτ’ ἰχθύες οὔτ’ ἄλλο τῶν ἀπόδων ἔχει οὐδέν, πόρους δὲ δύο καὶ οἱ ὄφεις καὶ οἱ ἰχθύες οἱ ἄρρενες ἔχουσιν, οἳ γίνονται θοροῦ πλήρεις περὶ τὴν τῆς ὀχείας ὥραν, καὶ προΐενται ὑγρότητα γαλακτώδη πάντες. Οὗτοι δ’ οἱ πόροι εἰς ἓν υνάπτουσιν, ὥσπερ καὶ τοῖς ὄρνισιν· οἱ γὰρ ὄρνιθες ἐντὸς ἔχουσι τοὺς (541a.) ὄρχεις, καὶ τὰ ἄλλα πάντα ὅσα ᾠοτοκεῖ πόδας ἔχοντα.

Τοῦτο δὴ συμπεραίνει καὶ ἐπεκτείνεται εἰς τὴν τοῦ θήλεος χώραν καὶ ὑποδοχήν. Ἔστι δὲ τοῖς μὲν ζῳοτόκοις καὶ πεζοῖς ὁ αὐτὸς πόρος τοῦ τε σπέρματος καὶ τῆς τοῦ ὑγροῦ περιττώσεως ἔξωθεν, ἔσωθεν δ’ ἕτερος πόρος, ὥσπερ ἐλέχθη καὶ πρότερον ἐν τῇ διαφορᾷ τῇ τῶν μορίων. Τοῖς δὲ μὴ ἔχουσι κύστιν ὁ αὐτὸς καὶ τῆς ξηρᾶς περιττώσεως πόρος ἔξωθεν· ἔσωθεν δὲ σύνεγγυς ἀλλήλων. Ὁμοίως δὲ ταῦτα ἔχει τοῖς θήλεσιν αὐτῶν καὶ τοῖς ἄρρεσιν· οὐ γὰρ ἔχουσι κύστιν πλὴν ἐπὶ χελώνης, τούτων δ’ ἡ θήλεια ἕνα πόρον ἔχει, καίτοι κύστιν ἔχουσα· αἱ χελῶναι δὲ τῶν ᾠοτόκων εἰσίν.

Ἡ δὲ τῶν ᾠοτόκων ἰχθύων ὀχεία ἧττον γίνεται κατάδηλος· διόπερ οἱ πλεῖστοι νομίζουσι πληροῦσθαι τὰ θήλεα τὸν τῶν ἀρρένων ἀνακάπτοντα θορόν.

Τοῦτο γὰρ πολλάκις ὁρᾶται γινόμενον· περὶ μὲν γὰρ τὴν τῆς ὀχείας ὥραν αἱ θήλειαι τοῖς ἄρρεσιν ἑπόμεναι τοῦτο δρῶσι, καὶ κόπτουσιν ὑπὸ τὴν γαστέρα τοῖς στόμασιν, οἱ δὲ θᾶττον προΐενται καὶ μᾶλλον· κατὰ δὲ τὸν τόκον οἱ ἄρρενες τοῖς θήλεσι, καὶ ἀποτικτουσῶν δ’ ἀνακάπτουσι τὰ ᾠά· ἐκ δὲ τῶν παραλειπομένων γίνονται οἱ ἰχθύες. Περὶ δὲ τὴν Φοινίκην καὶ θήραν ποιοῦνται δι’ ἀλλήλων· ἄρρενας μὲν γὰρ ὑπάγοντες κεστρέας τὰς θηλείας περιβάλλονται συνάγοντες, θηλείας δὲ τοὺς ἄρρενας. Τοῦτο μὲν οὖν διὰ τὸ πολλάκις ὁρᾶσθαι τὴν δόξαν ἐποίησε τῆς ὀχείας ταύτην, ποιεῖ δέ τι τοιοῦτον καὶ τὰ τετράποδα τῶν ζῴων· περὶ γὰρ τὴν ὥραν τῆς ὀχείας ἀπορραίνουσι καὶ τὰ ἄρρενα καὶ τὰ θήλεα, καὶ τῶν αἰδοίων ὀσμῶνται ἀλλήλων. Αἱ δὲ πέρδικες ἂν κατ’ ἄνεμον στῶσιν αἱ θήλειαι τῶν ἀρρένων, ἔγκυοι γίνονται· πολλάκις δὲ καὶ τῆς φωνῆς <ἀκούουσαι>, ἐὰν ὀργῶσαι τύχωσι, καὶ ὑπερπετομένων ἐκ τοῦ καταπνεῦσαι τὸν ἄρρενα· χάσκει δὲ καὶ ἡ θήλεια καὶ ὁ ἄρρην, καὶ τὴν γλῶτταν ἔξω ἔχουσι περὶ τὴν τῆς ὀχείας ποίησιν.

Ἡ δ’ ἀληθινὴ σύνοδος τῶν ᾠοτόκων ἰχθύων ὀλιγάκις ὁρᾶται διὰ τὸ ταχέως ἀπολύεσθαι παραπεσόντας, ἐπεὶ ὦπται ἡ ὀχεία καὶ ἐπὶ τούτων γινομένη τὸν εἰρημένον τρόπον.

Κεφάλαιο 6

(541b.) Τὰ δὲ μαλάκια, οἷον πολύποδες καὶ σηπίαι καὶ τευθίδες, τὸν αὐτὸν τρόπον πάντα πλησιάζουσιν ἀλλήλοις· κατὰ τὸ στόμα γὰρ συμπλέκονται, τὰς πλεκτάνας πρὸς τὰς πλεκτάνας συναρμόττοντες. Ὁ μὲν οὖν πολύπους ὅταν τὴν λεγομένην κεφαλὴν ἐρείσῃ πρὸς τὴν γῆν καὶ διαπετάσῃ τὰς πλεκτάνας, ἅτερος ἐφαρμόττει ἐπὶ τὸ πέτασμα τῶν πλεκτανῶν, καὶ συνεχεῖς ποιοῦνται τὰς κοτυληδόνας πρὸς ἀλλήλας. Φασὶ δέ τινες καὶ τὸν ἄρρενα ἔχειν αἰδοιῶδές τι ἐν μιᾷ τῶν πλεκτανῶν, ἐν ᾗ δύο αἱ μέγισται κοτυληδόνες εἰσίν· εἶναι δὲ τὸ τοιοῦτον ὥσπερ νευρῶδες, μέχρι εἰς μέσην τὴν πλεκτάνην προσπεφυκὸς ἅπαν, ᾗ ἐσπιφράναι εἰς τὸν μυκτῆρα τῆς θηλείας. Αἱ δὲ σηπίαι καὶ αἱ τευθίδες νέουσιν ἅμα συμπεπλεγμέναι, τὰ στόματα καὶ τὰς πλεκτάνας ἐφαρμόττουσαι καταντικρὺ ἀλλήλαις, νέουσαι ἐναντίως· ἐναρμόττουσι δὲ καὶ τὸν καλούμενον μυκτῆρα εἰς τὸν μυκτῆρα. Τὴν δὲ νεῦσιν ἡ μὲν ἐπὶ τὸ ὄπισθεν, ἡ δ’ ἐπὶ τὸ στόμα ποιεῖται.

Ἐκτίκτει δὲ κατὰ τὸν φυσητῆρα καλούμενον, καθ’ ὃν ἔνιοι καὶ ὀχεύεσθαί φασιν αὐτάς.

Κεφάλαιο 7

Τὰ δὲ μαλακόστρακα ὀχεύεται, οἷον κάραβοι καὶ ἀστακοὶ καὶ καρίδες καὶ τὰ τοιαῦτα, ὥσπερ καὶ τὰ ὀπισθουρητικὰ τῶν τετραπόδων, ὅταν ὁ μὲν ὑπτίαν ὁ δ' ἐπὶ ταύτης ποιήσῃ τὴν κέρκον. Ὀχεύεται δὲ τοῦ ἔαρος ἀρχομένου πρὸς τῇ γῇ (ἤδη γὰρ ὦπται ἡ ὀχεία πάντων τῶν τοιούτων), ἐνιαχοῦ δὲ καὶ ὅταν τὰ σῦκα ἄρχηται πεπαίνεσθαι. Τὸν αὐτὸν δὲ τρόπον καὶ οἱ ἀστακοὶ καὶ αἱ καρίδες ὀχεύονται.

Οἱ δὲ καρκίνοι κατὰ τὰ πρόσθια ἀλλήλων συνδυάζονται, τὰ ἐπικαλύμματα τὰ πτυχώδη πρὸς ἄλληλα συμβάλλοντες. Πρῶτον δ' ὁ καρκίνος ἀναβαίνει ὁ ἐλάττων ἐκ τοῦ ὄπισθεν· ὅταν δ' ἀναβῇ οὗτος, ὁ μείζων πλάγιος ἐπιστρέφει. Ἄλλο μὲν οὖν οὐδὲν ἡ θήλεια τοῦ ἄρρενος διαφέρει· τὸ δ' ἐπικάλυμμα μεῖζόν ἐστι τὸ τῆς θηλείας καὶ μᾶλλον ἀφεστηκὸς καὶ συνηρεφέστερον, εἰς ὃ ἐκτίκτουσι καὶ ᾗ τὸ περίττωμα ἐξέρχεται. Μόριον δ' οὐδὲν προΐεται θάτερον εἰς θάτερον.

Κεφάλαιο 8

Τὰ δ’ ἔντομα συνέρχεται μὲν ὄπισθεν, εἶτ’ ἐπιβαίνει (542a.) τὸ ἔλαττον ἐπὶ τὸ μεῖζον· τοῦτο δ’ ἐστὶ τὸ ἄρρεν. Ἐναφίησι δὲ τὸν πόρον κάτωθεν τὸ θῆλυ εἰς τὸ ἄρρεν τὸ ἐπάνω, ἀλλ’ οὐ τὸ ἄρρεν εἰς τὸ θῆλυ, ὥσπερ ἐπὶ τῶν ἄλλων. Καὶ τοῦτο τὸ μόριον ἐπὶ μὲν ἐνίων καὶ φαίνεται μεῖζον ὂν ἢ κατὰ λόγον τοῦ ὅλου σώματος, καὶ πάνυ μικρῶν ὄντων, ἐπ’ ἐνίων δ’ ἧττον. Τοῦτο δ’ ἐστὶ φανερόν, ἄν τις διαιρῇ τὰς ὀχευομένας μυίας. Ἀπολύονται δ’ ἀπ’ ἀλλήλων μόλις· πολὺν γὰρ χρόνον ὁ συνδυασμός ἐστι τῶν τοιούτων. Δῆλον δ’ ἐπὶ τῶν ἐν ποσίν, οἷον μυιῶν τε καὶ κανθαρίδων. Πάντα δὲ τὸν τρόπον τοῦτον ὀχεύεται, αἵ τε μυῖαι καὶ αἱ κανθαρίδες καὶ αἱ σπονδύλαι καὶ τὰ φαλάγγια, καὶ εἴ τι ἄλλο τοιοῦτόν ἐστι τῶν ὀχευομένων. Ποιοῦνται δὲ τὰ φαλάγγια τὴν ὀχείαν τόνδε τὸν τρόπον, ὅσα γε ὑφαίνει ἀράχνια· ὅταν ἡ θήλεια σπάσῃ τῶν ἀποτεταμένων ἀραχνίων ἀπὸ τοῦ μέσου, πάλιν ὁ ἄρρην ἀντισπᾷ· τοῦτο δὲ ποιήσαντα πολλάκις οὕτω συνέρχεται καὶ συμπλέκεται ἀντίπυγα· διὰ γὰρ τὴν περιφέρειαν τῆς κοιλίας οὗτος ἁρμόττει ὁ συνδυασμὸς αὐτοῖς.

Ἡ μὲν οὖν ὀχεία τῶν ζῴων τοῦτον γίνεται τὸν τρόπον πάντων, ὧραι δὲ καὶ ἡλικίαι τῆς ὀχείας ἑκάστοις εἰσὶ διωρισμέναι τῶν ζῴων. Βούλεται μὲν οὖν ἡ φύσις τῶν πλείστων περὶ τὸν αὐτὸν χρόνον ποιεῖσθαι τὴν ὁμιλίαν ταύτην, ὅταν ἐκ τοῦ χειμῶνος μεταβάλλῃ πρὸς τὸ θέρος· αὕτη δ’ ἐστὶν ἡ τοῦ ἔαρος ὥρα, ἐν ᾗ τὰ πλεῖστα καὶ πτηνὰ καὶ πεζὰ καὶ πλωτὰ ὁρμᾷ πρὸς τὸν συνδυασμόν. Ποιεῖται δ’ ἔνια τὴν ὀχείαν καὶ τὸν τόκον καὶ μετοπώρου καὶ χειμῶνος, οἷον τῶν τ’ ἐνύδρων γένη ἄττα καὶ τῶν πτηνῶν· ἄνθρωπος δὲ μάλιστα πᾶσαν ὥραν, καὶ τῶν συνανθρωπευομένων ζῴων πολλὰ διὰ τὴν ἀλέαν καὶ εὐτροφίαν, ὅσων καὶ αἱ κυήσεις ὀλιγοχρόνιοί εἰσιν, οἷον ὑὸς καὶ κυνός, καὶ τῶν πτηνῶν ὅσα πλεονάκις ποιοῦνται τοὺς τόκους. Πολλὰ δὲ καὶ πρὸς τὰς ἐκτροφὰς τῶν τέκνων στοχαζόμενα ποιεῖται τὸν συνδυασμὸν ἐν τῇ ἀπαρτιζούσῃ ὥρᾳ. Ὀργᾷ δὲ πρὸς τὴν ὁμιλίαν τῶν ἀνθρώπων τὸ μὲν (542b.) ἄρρεν ἐν τῷ χειμῶνι μᾶλλον, τὸ δὲ θῆλυ ἐν τῷ θέρει.

Τὸ δὲ τῶν ὀρνίθων γένος, ὥσπερ εἴρηται, τὸ πλεῖστον περὶ τὸ ἔαρ ποιεῖται καὶ ἀρχομένου τοῦ θέρους τὴν ὀχείαν καὶ τοὺς τόκους, πλὴν ἁλκυόνος. Ἡ δ’ ἁλκυὼν τίκτει περὶ τροπὰς τὰς χειμερινάς. Διὸ καὶ καλοῦνται, ὅταν εὐδιειναὶ γένωνται αἱ τροπαί, ἁλκυονίδες ἡμέραι ἑπτὰ μὲν πρὸ τροπῶν, ἑπτὰ δὲ μετὰ τροπάς, καθάπερ καὶ Σιμωνίδης ἐποίησεν ὡς ὁπόταν χειμέριον κατὰ μῆνα πινύσκῃ Ζεὺς ἤματα τεσσαρακαίδεκα, λαθάνεμόν τέ μιν ὥραν καλέουσιν ἐπιχθόνιοι, ἱερὰν παιδοτρόφον ποικίλας ἀλκυόνος. Γίνονται δ’ εὐδιειναί, ὅταν συμβῇ νοτίους γίνεσθαι τὰς τροπάς, τῆς Πλειάδος βορείου γενομένης. Λέγεται δ’ ἐν ἑπτὰ μὲν ἡμέραις ποιεῖσθαι τὴν νεοττιάν, ἐν δὲ ταῖς λοιπαῖς ἑπτὰ ἡμέραις τίκτειν καὶ ἐκτρέφειν τὰ νεόττια. Περὶ μὲν οὖν τοὺς ἐνταῦθα τόπους οὐκ ἀεὶ συμβαίνει γίνεσθαι ἁλκυονίδας ἡμέρας περὶ τὰς τροπάς, ἐν δὲ τῷ Σικελικῷ πελάγει σχεδὸν ἀεί. Τίκτει δ’ ἡ ἁλκυὼν περὶ πέντε ᾠά.

Κεφάλαιο 9

Ἡ δ’ αἴθυια καὶ οἱ λάροι τίκτουσι μὲν ἐν ταῖς περὶ θάλατταν πέτραις, τὸ δὲ πλῆθος δύο ἢ τρία· ἀλλ’ ὁ μὲν λάρος τοῦ θέρους, ἡ δ’ αἴθυια ἀρχομένου τοῦ ἔαρος εὐθὺς ἐκ τροπῶν, καὶ ἐπικαθεύδει ὥσπερ αἱ ἄλλαι ὄρνιθες.

Οὐδέτερον δὲ φωλεῖ τούτων τῶν ὀρνέων. Πάντων δὲ σπανιώτατον ἰδεῖν ἁλκυόνα ἐστίν· σχεδὸν γὰρ περὶ Πλειάδος δύσιν καὶ τροπὰς ὁρᾶται μόνον, καὶ ἐν τοῖς ὑφόρμοις ὅσον περιιπταμένη περὶ τὸ πλοῖον ἀφανίζεται εὐθύς, διὸ καὶ Στησίχορος τοῦτον τὸν τρόπον ἐμνήσθη περὶ αὐτῆς. Τίκτει δὲ καὶ ἡ ἀηδὼν τοῦ θέρους ἀρχομένου, τίκτει δὲ πέντε καὶ ἓξ ᾠά· φωλεῖ δ’ ἀπὸ τοῦ μετοπώρου μέχρι τοῦ ἔαρος.

Τὰ δ’ ἔντομα καὶ τοῦ χειμῶνος ὀχεύεται καὶ γίνεται, ὅταν εὐημερίαι γένωνται καὶ νότια, ὅσα μὴ φωλεῖ αὐτῶν, οἷον μυῖαι καὶ μύρμηκες.

Τίκτει δ’ ἅπαξ τοῦ ἐνιαυτοῦ τὰ πολλὰ τῶν ἀγρίων, ὅσα μὴ ἐπικυΐσκεται ὥσπερ δασύπους.

Ὁμοίως δὲ καὶ τῶν ἰχθύων οἱ πλεῖστοι ἅπαξ, οἷον οἱ (543a.) χυτοί (καλοῦνται δὲ χυτοὶ οἱ τῷ δικτύῳ περιεχόμενοι), θύννος, πηλαμύς, κεστρεύς, χαλκίδες, κολίαι, χρομίς, ψῆττα καὶ τὰ τοιαῦτα, πλὴν ὁ λάβραξ· οὗτος δὲ δὶς τούτων μόνος, γίνεται δ’ ὁ τόκος αὐτῷ ὁ ὕστερος ἀσθενέστερος. Καὶ ὁ τριχίας δὲ καὶ τὰ πετραῖα δίς, ἡ δὲ τρίγλη μόνη τρίς.

Τεκμαίρονται δ’ ἐκ τοῦ γόνου· τρὶς γὰρ φαίνεται ὁ γόνος περί τινας τόπους. Ὁ δὲ σκορπίος τίκτει δίς. Τίκτει δὲ καὶ ὁ σαργὸς δίς, ἔαρος καὶ μετοπώρου· ἡ δὲ σάλπη τοῦ μετοπώρου ἅπαξ. Ἡ δὲ θυννὶς ἅπαξ τίκτει, ἀλλὰ διὰ τὸ τὰ μὲν πρώϊα τὰ δ’ ὄψια προΐεσθαι δὶς δοκεῖ τίκτειν· ἔστι δ’ ὁ μὲν πρῶτος τόκος περὶ τὸν Ποσειδεῶνα πρὸ τροπῶν, ὁ δ’ ὕστερος τοῦ ἔαρος.

Διαφέρει δ’ ὁ θύννος ὁ ἄρρην τοῦ θήλεος, ὅτι ἡ μὲν ἔχει ὁ δ’ οὐκ ἔχει ὑπὸ τῇ γαστρὶ πτερύγιον, ὃ καλοῦσιν ἀφαρέα.

Κεφάλαιο 10

Τῶν δὲ σελαχῶν ἡ ῥίνη μόνη τίκτει δίς· τίκτει γὰρ καὶ ἀρχομένου τοῦ φθινοπώρου καὶ περὶ Πλειάδος δύσιν, εὐημερεῖ δ’ ἐν τῷ φθινοπώρῳ μᾶλλον· ὁ δ’ εἷς τόκος γίνεται περὶ ἑπτὰ ἢ ὀκτώ. Δοκοῦσι δ’ ἔνιοι τῶν γαλεῶν, οἷον ὁ ἀστερίας, δὶς τοῦ μηνὸς τίκτειν· τοῦτο δὲ συμβαίνει, ὅτι οὐχ ἅμα πάντα λαμβάνει τελέωσιν τὰ ᾠά. Ἔνια δὲ τίκτει πᾶσαν ὥραν, οἷον ἡ σμύραινα. Τίκτει δ’ αὕτη ᾠὰ πολλά, καὶ ἐκ μικροῦ ταχεῖαν τὴν αὔξησιν λαμβάνουσι τὰ γενόμενα, ὥσπερ καὶ τὰ τοῦ ἱππούρου· καὶ γὰρ ταῦτα ἐξ ἐλαχίστου μέγιστα γίνεται τάχιστα, πλὴν ἡ μὲν σμύραινα πᾶσαν ὥραν τίκτει, ὁ δ’ ἵππουρος ἔαρος. Διαφέρει δ’ ὁ σμῦρος καὶ ἡ σμύραινα· ἡ μὲν γὰρ σμύραινα ποικίλον καὶ ἀσθενέστερον, ὁ δὲ σμῦρος ὁμόχρους καὶ ἰσχυρός, καὶ τὸ χρῶμα ἔχει ὅμοιον τῇ πίτυϊ, καὶ ὀδόντας ἔχει καὶ ἔσωθεν καὶ ἔξωθεν. Φασὶ δ’ ὥσπερ καὶ τἆλλα, τὸν μὲν ἄρρενα τὴν δὲ θήλειαν εἶναι. Ἐξέρχονται δὲ ταῦτα εἰς τὸ ξηρόν, καὶ λαμβάνονται πολλάκις.

Συμβαίνει μὲν οὖν σχεδὸν πᾶσι ταχεῖαν γίνεσθαι τὴν αὔξησιν τοῖς ἰχθύσιν, οὐχ ἥκιστα δὲ κορακίνῳ τῶν μικρῶν· τίκτει δὲ (543b.) πρὸς τῇ γῇ καὶ τοῖς βρυώδεσι καὶ δασέσιν. Ταχὺ δὲ καὶ ὁ ὀρφὼς ἐκ μικροῦ γίνεται μέγας. Αἱ δὲ πηλαμύδες καὶ οἱ θύννοι τίκτουσιν ἐν τῷ Πόντῳ, ἄλλοθι δ’ οὔ· κεστρεῖς δὲ καὶ χρυσόφρυες καὶ λάβρακες μάλιστα οὗ ἂν ποταμοὶ ῥέωσιν· οἱ δ’ ὄρκυνες καὶ σκορπίδες καὶ ἄλλα πολλὰ γένη ἐν τῷ πελάγει.

Κεφάλαιο 11

Τίκτουσι δ’ οἱ πλεῖστοι τῶν ἰχθύων ἐν μησὶ τρισί, Μουνυχιῶνι, Θαργηλιῶνι, Σκιρροφοριῶνι· μετοπώρου δ’ ὀλίγοι, οἷον σάλπη καὶ σαργὸς καὶ ὅσα ἄλλα τοιαῦτα μικρὸν πρὸ ἰσημερίας τῆς φθινοπωρινῆς, καὶ νάρκη καὶ ῥίνη. Τίκτει δ’ ἔνια καὶ χειμῶνος καὶ θέρους, ὥσπερ ἐλέχθη πρότερον, οἷον χειμῶνος μὲν λάβραξ, κεστρεύς, βελόνη, θέρους δὲ περὶ τὸν Ἑκατομβαιῶνα θυννίς, περὶ τροπὰς θερινάς· τίκτει δὲ θυλακοειδές, ἐν ᾧ πολλὰ ἐγγίνεται καὶ μικρὰ ᾠά. Καὶ οἱ ῥυάδες τοῦ θέρους τίκτουσιν.

Ἄρχονται δὲ κύειν τῶν κεστρέων οἱ μὲν χελῶνες τοῦ Ποσειδεῶνος καὶ ὁ σαργὸς καὶ ὁ σμύξων καλούμενος καὶ ὁ κέφαλος· κύουσι δὲ τριάκοντα ἡμέρας.

Ἔνιοι δὲ τῶν κεστρέων οὐ γίνονται ἐκ συνδυασμοῦ, ἀλλὰ φύονται ἐκ τῆς ἰλύος καὶ τῆς ἄμμου.

Ὡς μὲν οὖν ἐπὶ τὸ πολὺ τοῦ ἔαρος τὰ πλεῖστα κυΐσκεται, οὐ μὴν ἀλλά, καθάπερ εἴρηται, καὶ θέρους ἔνια καὶ φθινοπώρου καὶ χειμῶνος· ἀλλ’ οὔθ’ ἅπασιν ὁμοίως τοῦτο συμβαίνει οὔθ’ ἁπλῶς οὔτε καθ’ ἕκαστον γένος, ὥσπερ τοῖς πλείστοις τοῦ ἔαρος· οὐδὲ δὴ κύουσι πολλὰ κυήματα ὁμοίως ἐν τοῖς ἄλλοις χρόνοις. Ὅλως δὲ δεῖ μὴ λεληθέναι ὅτι, ὥσπερ καὶ τῶν φυομένων καὶ τῶν ζῴων τῶν τετραπόδων πολλὴν αἱ χῶραι ποιοῦσι διαφορὰν οὐ μόνον πρὸς τὴν ἄλλην τοῦ σώματος εὐημερίαν ἀλλὰ καὶ πρὸς τὸ πλεονάκις ὀχεύεσθαι καὶ γεννᾶν, οὕτω καὶ περὶ τοὺς ἰχθῦς πολλὴν ποιοῦσι τὴν διαφορὰν αὐτοὶ οἱ τόποι οὐ μόνον κατὰ μέγεθος καὶ εὐτροφίαν ἀλλὰ καὶ κατὰ τοὺς τόκους καὶ τὰς ὀχείας, τοῦ ἔνθα μὲν πλεονάκις ἔνθα δ’ ἐλαττονάκις γεννᾶν τὰ αὐτά.

Κεφάλαιο 12

(544a.) Τίκτει δὲ καὶ τὰ μαλάκια τοῦ ἔαρος, καὶ ἐν τοῖς πρώτοις τίκτει τῶν θαλαττίων ἡ σηπία. Τίκτει δὲ πᾶσαν ὥραν, ἀποτίκτει δ’ ἐν ἡμέραις πέντε καὶ δέκα. Ὅταν δὲ τέκῃ τὰ ᾠά, ὁ ἄρρην παρακολουθῶν καταφυσᾷ τὸν θορόν, καὶ γίνεται στιφρά. Βαδίζουσι δὲ κατὰ ζυγά· ἔστι δ’ ὁ ἄρρην τῆς θηλείας ποικιλώτερος καὶ μελάντερος τὸν νῶτον.

Ὁ δὲ πολύπους ὀχεύεται τοῦ χειμῶνος, τίκτει δὲ τοῦ ἔαρος, ὅτε καὶ φωλεῖ περὶ δύο μῆνας. Τίκτει δὲ τὸ ᾠὸν καθάπερ βοστρύχιον, ὅμοιον τῷ τῆς λεύκης καρπῷ. Ἔστι δὲ πολύγονον τὸ ζῷον· ἐκ γὰρ τοῦ ἀποτικτομένου ἄπειρον γίνεται τὸ πλῆθος. Διαφέρει δ’ ὁ ἄρρην τῆς θηλείας τῷ τε τὴν κεφαλὴν ἔχειν προμηκεστέραν καὶ τὸ καλούμενον ὑπὸ τῶν ἁλιέων αἰδοῖον ἐν τῇ πλεκτάνῃ λευκόν. Ἐπῳάζει δέ, ὅταν τέκῃ· διὸ καὶ χείριστοι γίνονται· οὐ γὰρ νέμονται κατὰ τὸν καιρὸν τοῦτον.

Γίνονται δὲ καὶ αἱ πορφύραι περὶ τὸ ἔαρ, καὶ οἱ κήρυκες λήγοντος τοῦ χειμῶνος. Καὶ ὅλως τὰ ὀστρακόδερμα ἔν τε τῷ ἔαρι φαίνεται τὰ καλούμενα ᾠὰ ἔχοντα καὶ ἐν τῷ μετοπώρῳ, πλὴν τῶν ἐχίνων τῶν ἐδωδίμων· οὗτοι δὲ μάλιστα μὲν ἐν ταύταις ταῖς ὥραις, οὐ μὴν ἀλλὰ καὶ ἀεὶ ἔχουσι, καὶ μάλιστα ταῖς πανσελήνοις καὶ ταῖς ἀλεεινaῖς ἡμέραις, πλὴν τῶν ἐν τῷ εὐρίπῳ τῶν Πυρραίων· ἐκεῖνοι δ’ ἀμείνους τοῦ χειμῶνος. Εἰσὶ δὲ μικροὶ μέν, πλήρεις δὲ τῶν ᾠῶν. Κύοντες δὲ φαίνονται καὶ οἱ κοχλίαι πάντες ὁμοίως τὴν αὐτὴν ὥραν.

Κεφάλαιο 13

Τῶν δ’ ὀρνέων τὰ μὲν ἄγρια, ὥσπερ εἴρηται, ἅπαξ ὀχεύεται καὶ τίκτει τὰ πλεῖστα, χελιδὼν δὲ δὶς τίκτει καὶ κόττυφος. Τὰ μὲν οὖν πρῶτα τοῦ κοττύφου ὑπὸ χειμῶνος ἀπόλλυται (πρωϊαίτατα γὰρ τίκτει τῶν ὀρνέων ἁπάντων), τὸν δ’ ὕστερον τόκον εἰς τέλος ἐκτρέφει. Ὅσα δ’ ἢ ἥμερα ἢ ἡμεροῦσθαι δύναται, ταῦτα δὲ πλεονάκις, οἷον αἱ περιστεραὶ καθ’ ἅπαν τὸ θέρος, καὶ τὸ τῶν ἀλεκτορίδων γένος· ὀχεύουσι γὰρ οἱ ἄρρενες καὶ ὀχεύονται αἱ θήλειαι τῶν ἀλεκτορίδων καὶ τίκτουσιν ἀεί, πλὴν τῶν ἐν χειμῶνι τροπικῶν ἡμερῶν. Τῶν (544b.) δὲ περιστεροειδῶν πλείω τυγχάνει ὄντα γένη· ἔστι γὰρ ἕτερον περιστερὰ καὶ πελειάς. Ἐλάττων μὲν οὖν ἡ πελειάς, τιθασσὸν δὲ γίνεται μᾶλλον ἡ περιστερά· ἡ δὲ πελειὰς καὶ μέλαν καὶ μικρὸν καὶ ἐρυθρόπουν καὶ τραχύπουν, διὸ καὶ οὐδεὶς τρέφει. Μέγιστον μὲν οὖν τῶν τοιούτων ἡ φάττα ἐστί, δεύτερον δ’ ἡ οἰνάς· αὕτη δὲ μικρῷ μείζων ἐστὶ τῆς περιστερᾶς· ἐλάχιστον δὲ τῶν τοιούτων ἡ τρυγών. Τίκτουσι δ’ αἱ περιστεραὶ πᾶσαν ὥραν καὶ ἐκτρέφουσιν, ἂν τόπον ἔχωσιν ἀλεεινὸν καὶ τὰ ἐπιτήδεια· εἰ δὲ μή, τοῦ θέρους μόνον. Τὰ δ’ ἔκγονα τοῦ ἔαρος βέλτιστα καὶ τοῦ φθινοπώρου· τὰ δὲ τοῦ θέρους καὶ ἐν ταῖς θερμημερίαις χείριστα.

Κεφάλαιο 14

Διαφέρουσι δὲ καὶ κατὰ τὴν ἡλικίαν τὰ ζῷα πρὸς τὴν ὀχείαν. Πρῶτον μὲν οὖν οὐχ ἅμα τοῖς πολλοῖς ἄρχεταί τε τὸ σπέρμα ἐκκρίνεσθαι καὶ γεννᾶν δύναται, ἀλλ’ ὕστερον· τὸ γὰρ τῶν νέων ἐν πᾶσι τοῖς ζῴοις τὸ μὲν πρῶτον ἄγονον, γονίμων δ’ ὄντων ἀσθενέστερα καὶ ἐλάττω τὰ ἔκγονα. Τοῦτο δὲ μάλιστα δῆλον ἐπί τε τῶν ἀνθρώπων καὶ τῶν ζῳοτόκων τετραπόδων καὶ ἐπὶ τῶν ὀρνίθων· τῶν μὲν γὰρ τὰ ἔκγονα ἐλάττω, τῶν δὲ τὰ ᾠά. Αἱ δ’ ἡλικίαι τοῖς ὀχεύουσιν αὐτοῖς μὲν πρὸς αὐτὰ τοῖς γένεσι τοῖς πλείστοις σχεδὸν κατὰ τὸν αὐτὸν γίνονται χρόνον, ἐὰν μή τι προτερῇ διά τι τερατῶδες πάθος ἢ διὰ βλάβην τῆς φύσεως.

Τοῖς μὲν οὖν ἀνθρώποις ἐπισημαίνει κατά τε τὴν τῆς φωνῆς μεταβολὴν καὶ τῶν αἰδοίων οὐ μόνον μεγέθει ἀλλὰ καὶ εἴδει, καὶ ἐπὶ τῶν μαστῶν ὡσαύτως, μάλιστα δὲ τῇ τριχώσει τῆς ἥβης. Ἄρχεται δὲ φέρειν τὸ σπέρμα περὶ τὰ δὶς ἑπτὰ ἔτη, γεννητικὸς δὲ περὶ τὰ τρὶς ἑπτά. Τοῖς δ’ ἄλλοις ζῴοις ἥβη μὲν οὐ γίνεται (τὰ μὲν γὰρ ὅλως οὐκ ἔχει τρίχας, τὰ δ’ οὐκ ἔχει ἐν τοῖς ὑπτίοις, ἢ ἐλάττους τῶν ἐν τοῖς πρανέσιν), ἡ δὲ φωνὴ μεταβάλλουσα ἐν ἐνίοις ἐπίδηλός ἐστιν· τοῖς δ’ ἕτερα τοῦ σώματος μόρια ἐπισημαίνει τήν τ’ ἀρχὴν τοῦ σπέρμα ἔχειν καὶ τοῦ τὸ γόνιμον ἤδη.

Τὴν δὲ φωνὴν ὅλως ἔχει τὸ θῆλυ ἐν τοῖς πλείστοις ὀξυτέραν, καὶ τὰ νεώτερα τῶν (545a.) πρεσβυτέρων, ἐπεὶ καὶ οἱ ἔλαφοι οἱ ἄρρενες τῶν θηλειῶν φθέγγονται βαρύτερον. Φθέγγονται δ’ οἱ μὲν ἄρρενες, ὅταν ἡ ὥρα τῆς ὀχείας ᾖ, αἱ δὲ θήλειαι, ὅταν φοβηθῶσιν. Ἔστι δ’ ἡ μὲν τῆς θηλείας φωνὴ βραχεῖα, ἡ δὲ τοῦ ἄρρενος ἔχει μῆκος. Καὶ ἡ τῶν κυνῶν δὲ γηρασκόντων γίνεται βαρυτέρα φωνή. Καὶ τῶν ἵππων δὲ διαφέρουσιν αἱ φωναί· εὐθὺς μὲν γὰρ γενόμεναι ἀφιᾶσι φωνὴν λεπτὴν καὶ μικρὰν αἱ θήλειαι, οἱ δ’ ἄρρενες μικρὰν μέν, μείζω μέντοι γε καὶ βαρυτέραν τῆς θηλείας· τοῦ δὲ χρόνου προϊόντος μείζονα· διετὴς δ’ ἐπειδὰν γένηται καὶ τῆς ὀχείας ἄρξηται, φωνὴν ἀφίησιν ὁ μὲν ἄρρην μεγάλην καὶ βαρεῖαν, ἡ δὲ θήλεια μείζω καὶ λαμπροτέραν ἢ τέως, ἄχρι ἐτῶν εἴκοσιν ὡς ἐπὶ τὸ πολύ· μετὰ μέντοι τὸν χρόνον τοῦτον ἀσθενεστέραν ἀφιᾶσι καὶ οἱ ἄρρενες καὶ αἱ θήλειαι.

Ὡς μὲν οὖν ἐπὶ τὸ πολύ, καθάπερ εἴπομεν, διαφέρει ἡ φωνὴ τῶν ἀρρένων καὶ τῶν θηλειῶν ἐν τῷ βαρύτερον φθέγγεσθαι τὰ ἄρρενα τῶν θηλειῶν, ὅσων ἐστὶν ἀπότασις τῆς φωνῆς· οὐ μὴν ἐν πᾶσί γε τοῖς ζῴοις, ἀλλ’ ἐνίοις τοὐναντίον, οἷον ἐπὶ τῶν βοῶν· ἐπὶ γὰρ τούτων τὸ θῆλυ τοῦ ἄρρενος βαρύτερον φθέγγεται, καὶ οἱ μόσχοι τῶν τελείων. Διὸ καὶ τὰς φωνὰς τὰ ἐκτεμνόμενα μεταβάλλουσιν ἐναντίως· εἰς τὸ θῆλυ γὰρ μεταβάλλουσι τὰ ἐκτεμνόμενα.

Οἱ δὲ χρόνοι τῆς ὀχείας κατὰ τὴν ἡλικίαν ἔχουσιν ὧδε τοῖς ζῴοις. Πρόβατον μὲν καὶ αἴξ αὐτοετὲς ὀχεύεται καὶ κύει, μᾶλλον δ’ ἡ αἴξ· καὶ οἱ ἄρρενες δ’ ὀχεύουσιν ὡσαύτως. Τὰ δ’ ἔκγονα τῶν ἀρρένων διαφέρει ἐπὶ τούτων καὶ τῶν ἄλλων· οἱ γὰρ ἄρρενες βελτίους γίνονται τῷ ὕστερον ἔτει, ὅταν γηράσκωσιν. Ὗς δ’ ὀχεύεται μὲν καὶ ὀχεύει πρῶτον ὀκτάμηνος, τίκτει δ’ ἡ θήλεια μὲν ἐνιαυσία (οὕτω γὰρ συμβαίνει ὁ χρόνος τῆς κυήσεως). Ὁ δ’ ἄρρην γεννᾷ μὲν ὀκτάμηνος, φαῦλα μέντοι πρὶν γενέσθαι ἐνιαύσιος. Οὐ πανταχοῦ δέ, ὥσπερ εἴρηται, ὁμοίως συμβαίνουσιν αἱ ἡλικίαι· ἐνιαχοῦ μὲν (545b.) γὰρ αἱ ὕες ὀχεύονται μὲν καὶ ὀχεύουσι τετράμηνοι, ὥστε δὲ γεννᾶν καὶ ἐκτρέφειν ἑξάμηνοι, ἐνιαχοῦ δ’ οἱ κάπροι δεκάμηνοι ἄρχονται ὀχεύειν, ἀγαθοὶ δὲ μέχρι ἐπὶ τριετές. Κύων δ’ ὡς ἐπὶ τὸ πολὺ μὲν ὀχεύεται ἐνιαυσία καὶ ὀχεύει ἐνιαύσιος, ἐνίοτε δὲ συμβαίνει ταῦτα καὶ ὀκταμήνοις· μᾶλλον δὲ τοῦτο γίνεται ἐπὶ τῶν ἀρρένων ἢ τῶν θηλειῶν. Κύει δ’ ἑξήκοντα καὶ μίαν ἢ καὶ δύο ἢ τρεῖς ἡμέρας τὸ μακρότατον· ἔλαττον δ’ οὐ φέρει τῶν ἑξήκονθ’ ἡμερῶν, ἀλλ’ ἄν τι καὶ γένηται, οὐκ ἐκτρέφεται εἰς τέλος. Τεκοῦσα δὲ πάλιν ὀχεύεται ἕκτῳ μηνί, καὶ οὐ πρότερον.

Ἵππος δ’ ὀχεύειν ἄρχεται διετὴς καὶ ὀχεύεσθαι, ὥστε καὶ γεννᾶν· τὰ μέντοι ἔκγονα τὰ κατὰ τούτους τοὺς χρόνους ἐλάττω καὶ ἀσθενικώτερα.

Ὡς δ’ ἐπὶ τὸ πλεῖστον τριετὴς ὀχεύει καὶ ὀχεύεται. Καὶ ἐπιδίδωσι δ’ ἀεὶ ἐπὶ τὸ βελτίω τὰ ἔκγονα γεννᾶν μέχρι ἐτῶν εἴκοσιν. Ὀχεύει δ’ ὁ ἵππος ὁ ἄρρην μέχρι ἐτῶν τριάκοντα καὶ τριῶν, ἡ δὲ θήλεια ὀχεύεται μέχρι τετταράκοντα ἐτῶν, ὥστε συμβαίνει σχεδὸν διὰ βίου γίνεσθαι τὴν ὀχείαν· ζῇ γὰρ ὡς ἐπὶ τὸ πολὺ ὁ μὲν ἄρρην περὶ πέντε καὶ τριάκοντα ἔτη, ἡ δὲ θήλεια πλείω τῶν τετταράκοντα· ἤδη δέ τις ἐβίωσεν ἵππος ἔτη ἑβδομήκοντα καὶ πέντε.

Ὄνος δὲ τριακοντάμηνος ὀχεύει καὶ ὀχεύεται. Οὐ μέντοι γεννῶσί γ’ ὡς ἐπὶ τὸ πολὺ ἀλλ’ ἢ τριετὴς ἢ τριετὴς καὶ ἑξάμηνος. Ἤδη δὲ καὶ ἐνιαυσία ἐκύησεν ὥστε καὶ ἐκτραφῆναι. Καὶ βοῦς ἐνιαυσία ἔτεκεν ὥστε καὶ ἐκτραφῆναι· καὶ τὸ μέγεθος ηὐξήθη ὅσον ἔμελλε, καὶ οὐκέτι. Αἱ μὲν οὖν ἀρχαὶ τοῖς ζῴοις τούτοις τῆς γεννήσεως τοῦτον ἔχουσι τὸν τρόπον.

Γεννᾷ δ’ ἄνθρωπος μὲν τὸ ἔσχατον μέχρι ἑβδομήκοντα ἐτῶν ὁ ἄρρην, γυνὴ δὲ μέχρι πεντήκοντα. Ἀλλὰ τοῦτο μὲν σπάνιον· ὀλίγοις γὰρ γεννᾶται ἐν

ταύταις ταῖς ἡλικίαις τέκνα· ὡς δ’ ἐπὶ τὸ πολὺ τοῖς μὲν πέντε καὶ ἑξήκοντα ὅρος, ταῖς δὲ πέντε καὶ τετταράκοντα.

Πρόβατον δὲ τίκτει μέχρι ἐτῶν ὀκτώ, ἐὰν δὲ θεραπεύηται καλῶς, καὶ μέχρι ἕνδεκα· σχεδὸν δὲ διὰ βίου (546a.) συμβαίνει ὀχεύειν καὶ ὀχεύεσθαι ἀμφοτέροις. Οἱ δὲ τράγοι πίονες ὄντες ἧττον γόνιμοί εἰσιν (ἀφ’ ὧν καὶ τὰς ἀμπέλους, ὅταν μὴ φέρωσι, τραγᾶν καλοῦσιν), ἀλλὰ παρισχναινόμενοι δύνανται ὀχεύοντες γεννᾶν. Ὀχεύουσι δ’ οἱ κριοὶ τὰς πρεσβυτάτας πρῶτον, τὰς δὲ νέας οὐ διώκουσιν. Τίκτουσι δ’, ὥσπερ εἴρηται ἐν τοῖς πρότερον, αἱ νέαι ἐλάττω τὰ ἔκγονα τῶν πρεσβυτέρων.

Κάπρος δ’ ἀγαθὸς μὲν ὀχεύειν μέχρι ἐπὶ τριετές, τῶν δὲ πρεσβυτέρων χείρω τὰ ἔκγονα· οὐ γὰρ ἔτι γίνεται αὐτῷ ἐπίδοσις οὐδὲ ῥώμη. Ὀχεύειν δ’ εἴωθε χορτασθεὶς καὶ μὴ προβιβάσας ἄλλην· εἰ δὲ μή, ὀλιγοχρονιωτέρα ἡ ὀχεία γίνεται καὶ μικρότερα τὰ ἔκγονα.

Τίκτει δ’ ἐλάχιστα μὲν ὗς, ὅταν ᾖ πρωτοτόκος· δευτεροτόκος δ’ οὖσα ἀκμάζει· γηράσκουσα δὲ τίκτει μὲν ὁμοίως, ὀχεύεται δὲ βραδύτερον· ὅταν δὲ πεντεκαιδεκαετεῖς ὦσιν, οὐκέτι γεννῶσιν ἀλλὰ γραῖαι γίνονται. Ἐὰν δ’ εὐτραφὴς ᾖ, θᾶττον ὁρμᾷ πρὸς τὰς ὀχείας καὶ νέα καὶ γηράσκουσα· ἔγκυος δ’ οὖσα ἐὰν πιαίνηται σφόδρα, ἔλαττον ἴσχει τὸ γάλα μετὰ τὸν τόκον. Τὰ δ’ ἔκγονα κατὰ μὲν τὴν ἡλικίαν βέλτιστα <ἃ> ἐν ἀκμῇ, κατὰ δὲ τὰς ὥρας, ὅσα τοῦ χειμῶνος ἀρχομένου γίνεται· χείριστα δὲ τὰ θερινά· καὶ γὰρ μικρὰ καὶ λεπτὰ καὶ ὑγρά. Ὁ δ’ ἄρρην, ἐὰν μὲν εὐτραφὴς ᾖ, πᾶσαν ὥραν ὀχεύειν δύναται, καὶ μεθ’ ἡμέραν καὶ νύκτωρ· εἰ δὲ μή, μάλιστα τό γ’ ἕωθεν· καὶ γηράσκων ἧττον ἀεί, ὥσπερ εἴρηται καὶ πρότερον. Πολλάκις δ’ οἱ ἀδύνατοι ἢ διὰ τὴν ἡλικίαν ἢ δι’ ἀσθένειαν, οὐ δυνάμενοι ταχέως ὀχεύειν, κατακλινομένης τῆς θηλείας διὰ τὸ κάμνειν τῇ στάσει συγκατακλιθέντες πλησιάζουσιν. Κυΐσκεται δὲ μάλιστα ἡ ὗς, ἐπειδὰν θυῶσα καταβάλλῃ τὰ ὦτα· εἰ δὲ μή, ἀναθυᾷ πάλιν.

Αἱ δὲ κύνες ὀχεύονται οὐ διὰ βίου ἀλλὰ μέχρι τινὸς ἀκμῆς ὡς μὲν οὖν ἐπὶ τὸ πολὺ μέχρι ἐτῶν δώδεκα αἵ τ’ ὀχεῖαι συμβαίνουσι καὶ αἱ κυήσεις αὐτῶν· οὐ μὴν ἀλλ’ ἤδη τισὶ καὶ ὀκτωκαίδεκα ἔτη γεγονόσι καὶ εἴκοσι συνέβη καὶ θηλείαις ὀχευθῆναι καὶ ἄρρεσι γεννῆσαι. Ἀφαιρεῖται δὲ καὶ τὸ γῆρας ὥστε μὴ γεννᾶν μηδὲ τίκτειν, καθάπερ καὶ (546b.) ἐπὶ τῶν ἄλλων.

Ἡ δὲ κάμηλος ἐστι μὲν ὀπισθουρητικόν, καὶ ὀχεύεται ὥσπερ εἴρηται πρότερον· τῆς δ’ ὀχείας ὁ χρόνος ἐν τῇ Ἀραβίᾳ κατὰ τὸν Μαιμακτηριῶνα μῆνα. Κύει δὲ δώδεκα μῆνας, τίκτει δ’ ἕν· ἔστι γὰρ μονοτόκον. Ἄρχεται δὲ τῆς ὀχείας ἡ θήλεια τριετὴς οὖσα καὶ ὁ ἄρρην τριετὴς ὤν· μετὰ δὲ τὸν τόκον

ἓν ἔτος διαλιποῦσα ὀχεύεται ἡ θήλεια.

Ὁ δ’ ἐλέφας ἄρχεται μὲν βαίνεσθαι ὁ μὲν νεώτατος δέκ’ ἐτῶν, ὁ δὲ πρεσβύτατος πεντεκαίδεκα· ὁ δ’ ἄρρην βαίνει πεντέτης ὢν ἢ ἑξέτης. Χρόνος δὲ τῆς ὀχείας τὸ ἔαρ. Πάλιν δὲ βαίνει μετὰ τὴν ὀχείαν διὰ τρίτου ἔτους· ὃν δ’ ἂν ἐγκύμονα ποιήσῃ, τούτου πάλιν οὐχ ἅπτεται. Κύει δ’ ἔτη δύο, τίκτει δ’ ἕν· ἔστι γὰρ μονοτόκον· τὸ δ’ ἔμβρυον γίνεται ὅσον μόσχος δίμηνος ἢ τρίμηνος.

Κεφάλαιο 15

Περὶ μὲν οὖν τῆς ὀχείας τῶν ζῴων τῶν ὀχευομένων τοῦτον ἔχει τὸν τρόπον. Περὶ δὲ τῆς γενέσεως καὶ τῶν ὀχευομένων καὶ τῶν ἀνοχεύτων λεκτέον, καὶ πρῶτον περὶ τῶν ὀστρακοδέρμων· τοῦτο γάρ ἐστιν ἀνόχευτον μόνον ὡς εἰπεῖν ὅλον τὸ γένος. Αἱ μὲν οὖν πορφύραι τοῦ ἔαρος συναθροιζόμεναι εἰς ταὐτὸ ποιοῦσι τὴν καλουμένην μελίκηραν. Τοῦτο δ' ἐστὶν οἷον κηρίον, πλὴν οὐχ οὕτω γλαφυρόν, ἀλλ' ὥσπερ ἂν εἰ ἐκ λεπυρίων ἐρεβίνθων λευκῶν πολλὰ συμπαγείη. Οὐκ ἔχει δ' ἀνεῳγμένον πόρον οὐδὲν τούτων, οὐδὲ γίνονται ἐκ τούτων αἱ πορφύραι, ἀλλὰ φύονται καὶ αὗται καὶ τἆλλα τὰ ὀστρακόδερμα ἐξ ἰλύος καὶ συσσήψεως. Τοῦτο δὲ συμβαίνει ὥσπερ ἀποκάθαρμα καὶ ταύταις καὶ τοῖς κήρυξιν· κηριάζουσι γὰρ καὶ οἱ κήρυκες. Γίνονται μὲν οὖν καὶ τὰ κηριάζοντα τῶν ὀστρακοδέρμων τὸν αὐτὸν τρόπον τοῖς ἄλλοις ὀστρακοδέρμοις, οὐ μὴν ἀλλὰ μᾶλλον ὅταν προϋπάρχῃ τὰ ὁμοιογενῆ· ἀφιᾶσι γὰρ ἀρχόμενα κηριάζειν γλισχρότητα μυξώδη, ἐξ ἧς τὰ λεπυριώδη συνίσταται. Ταῦτα μὲν οὖν ἅπαντα διαχεῖται, ἀφίησι δ' ὃ εἶχεν εἰς τὴν γῆν· καὶ ἐν τούτῳ τῷ τόπῳ γίνεται ἐν τῇ γῇ συστάντα πορφύρια μικρά, ἃ ἔχουσαι ἁλίσκονται αἱ πορφύραι ἐφ' αὑτῶν, ἔνια δ' οὔπω διηκριβωμένα (547a.) τὴν μορφήν. Ἐὰν δὲ πρὶν ἐκτεκεῖν ἁλῶσιν, ἐνίοτε ἐν ταῖς φορμίσιν οὐχ ὅπου ἔτυχεν ἐκτίκτουσιν, ἀλλ' εἰς ταὐτὸ ἰοῦσαι, ὥσπερ καὶ ἐν τῇ θαλάττῃ, καὶ διὰ τὴν στενοχωρίαν γίνονται οἱονεὶ βότρυς.

Εἰσὶ δὲ τῶν πορφυρῶν γένη πλείω, καὶ ἔνιαι μὲν μεγάλαι, οἷον αἱ περὶ τὸ Σίγειον καὶ Λεκτόν, αἱ δὲ μικραί, οἷον ἐν τῷ Εὐρίπῳ καὶ περὶ τὴν Καρίαν, καὶ αἱ μὲν ἐν τοῖς κόλποις μεγάλαι καὶ τραχεῖαι, καὶ τὸ ἄνθος αὐτῶν αἱ μὲν πλεῖσται μέλαν ἔχουσιν, ἔνιαι δ' ἐρυθρὸν καὶ μικρόν. Γίνονται δ' ἔνιαι τῶν μεγάλων καὶ μναῖαι· αἱ δ' ἐν τοῖς αἰγιαλοῖς καὶ περὶ τὰς ἀκτὰς τὸ μὲν μέγεθος γίνονται μικραί, τὸ δ' ἄνθος ἐρυθρὸν ἔχουσιν. Ἔτι δ' ἐν μὲν τοῖς προσβορείοις μέλαιναι, ἐν δὲ τοῖς νοτίοις ἐρυθραὶ ὡς ἐπὶ τὸ πλεῖστον εἰπεῖν. Ἁλίσκονται δὲ τοῦ ἔαρος, ὅταν κηριάζωσιν· ὑπὸ κύνα δ' οὐχ ἁλίσκονται· οὐ γὰρ νέμονται, ἀλλὰ κρύπτουσιν ἑαυτὰς καὶ φωλοῦσιν. Τὸ δ' ἄνθος ἔχουσιν ἀνὰ μέσον τῆς μήκωνος καὶ τοῦ τραχήλου· τούτων δ' ἐστὶν ἡ σύμφυσις πυκνή, τὸ δὲ χρῶμα ἰδεῖν ὥσπερ ὑμὴν λευκός, ὃν ἀφαιροῦσιν· θλιβόμενος δὲ βάπτει καὶ ἀνθίζει τὴν χεῖρα. Διατείνει δ' αὐτὴν οἷον φλέψ· τοῦτο δὲ δοκεῖ εἶναι τὸ ἄνθος.

Ἡ δ’ ἄλλη φύσις οἷον στυπτηρία. Ὅταν δὲ κηριάζωσιν αἱ πορφύραι, τότε χείριστον ἔχουσι τὸ ἄνθος. Τὰς μὲν οὖν μικρὰς μετὰ τῶν ὀστράκων κόπτουσιν· οὐ γὰρ ῥᾴδιον ἀφελεῖν· τῶν δὲ μειζόνων περιελόντες τὸ ὄστρακον ἀφαιροῦσι τὸ ἄνθος.

Διὸ καὶ χωρίζεται ὁ τράχηλος καὶ ἡ μήκων· μεταξὺ γὰρ τούτων τὸ ἄνθος, ἐπάνω τῆς καλουμένης κοιλίας· ἀφαιρεθέντος οὖν ἀνάγκη διῃρῆσθαι. Σπουδάζουσι δὲ ζώσας κόπτειν· ἐὰν γὰρ πρότερον ἀποθάνῃ, συνεξεμεῖ τὸ ἄνθος· διὸ καὶ φυλάττουσιν ἐν τοῖς κύρτοις, ἕως ἂν ἀθροίσωσι καὶ σχολάσωσιν. Οἱ μὲν οὖν ἀρχαῖοι πρὸς τοῖς δελέασιν οὐ καθίεσαν οὐδὲ προσῆπτον τοὺς κύρτους, ὥστε συνέβαινεν ἀνεσπασμένην ἤδη πολλάκις ἀποπίπτειν· οἱ δὲ νῦν προσάπτουσιν, ὅπως ἐὰν ἀποπέσῃ, μὴ ἀπολλύηται. Μάλιστα δ’ ἀποπίπτει, ἐὰν πλήρης ᾖ· κενῆς δ’ οὔσης καὶ ἀποσπάσαι χαλεπόν. Ταῦτα μὲν οὖν τὰ (547b.) συμβαίνοντα ἴδια περὶ τὰς πορφύρας ἐστίν.

Τὸν αὐτὸν δὲ τρόπον γίνονται ταῖς πορφύραις καὶ οἱ κήρυκες, καὶ τὴν αὐτὴν ὥραν. Ἔχουσι δὲ καὶ τὰ ἐπικαλύμματα κατὰ ταὐτὰ ἀμφότερα, καὶ τἆλλα τὰ στρομβώδη, ἐκ γενετῆς ἅπαντα· νέμονται δ’ ἐξείροντα τὴν καλουμένην γλῶτταν ὑπὸ τὸ κάλυμμα. Τὸ δὲ μέγεθος τῆς γλώττης ἔχει ἡ πορφύρα μεῖζον δακτύλου, ᾧ νέμεται καὶ διατρυπᾷ τὰ κογχύλια καὶ τὸ αὑτῆς ὄστρακον.

Ἔστι δὲ καὶ ἡ πορφύρα καὶ ὁ κῆρυξ ἀμφότερα μακρόβια· ζῇ γὰρ ἡ πορφύρα περὶ ἔτη ἕξ, καὶ καθ’ ἕκαστον ἐνιαυτὸν φανερά ἐστιν ἡ αὔξησις τοῖς διαστήμασι τοῖς ἐν τῷ ὀστράκῳ τῆς ἕλικος.

Κηριάζουσι δὲ καὶ οἱ μύες. Τὰ δὲ λιμνόστρεα καλούμενα, ὅπου ἂν βόρβορος ᾖ, ἐνταῦθα συνίσταται πρῶτον αὐτῶν ἡ ἀρχή. Αἱ δὲ κόγχαι καὶ αἱ χῆμαι καὶ οἱ σωλῆνες καὶ οἱ κτένες ἐν τοῖς ἀμμώδεσι λαμβάνουσι τὴν σύστασιν. Αἱ δὲ πίνναι ὀρθαὶ φύονται ἐκ τοῦ βυσσοῦ ἐν τοῖς ἀμμώδεσι καὶ βορβορώδεσιν. Ἔχουσι δ’ ἐν αὑταῖς πιννοφύλακα, αἱ μὲν καρίδιον αἱ δὲ καρκίνιον· οὗ στερισκόμεναι διαφθείρονται θᾶττον. Ὅλως δὲ πάντα τὰ ὀστρακώδη γίνεται ἐν τῇ ἰλύϊ καὶ αὐτόματα, κατὰ τὴν διαφορὰν τῆς ἰλύος ἕτερα, ἐν μὲν τῇ βορβορώδει τὰ ὄστρεα, ἐν δὲ τῇ ἀμμώδει κόγχαι καὶ τὰ εἰρημένα, περὶ δὲ τὰς σήραγγας τῶν πετριδίων τήθυα καὶ βάλανοι καὶ τὰ ἐπιπολάζοντα, οἷον αἱ λεπάδες καὶ οἱ νηρεῖται. Ἅπαντα μὲν οὖν τὰ τοιαῦτα τὴν αὔξησιν ἔχει ταχεῖαν, μάλιστα δ’ αἵ τε πορφύραι καὶ οἱ κτένες· ταῦτα γὰρ ἐν ἐνιαυτῷ γίνεται τέλεια.

Ἐμφύονται δ’ ἐν ἐνίοις τῶν ὀστρακοδέρμων καρκίνοι λευκοί, τὸ μέγεθος μικροὶ πάμπαν, πλεῖστοι μὲν ἐν τοῖς μυσὶ τοῖς πυελώδεσιν, ἔπειτα καὶ ἐν ταῖς πίνναις οἱ καλούμενοι πιννοτῆραι. Γίνονται δὲ καὶ ἐν τοῖς κτεσὶ καὶ ἐν τοῖς λιμνοστρέοις· αὔξησιν δ’ ἐπίδηλον οὐδεμίαν οὗτοι λαμβάνουσιν. Φασὶ δ’ αὐτοὺς οἱ ἁλιεῖς ἅμα συγγίνεσθαι γινομένοις. Ἀφανίζονται δέ τινα χρόνον ἐν τῇ ἄμμῳ καὶ οἱ κτένες, ὥσπερ καὶ αἱ πορφύραι.

Φύεται μὲν οὖν τὰ ὄστρεα καθάπερ εἴρηται, φύεται δὲ τὰ μὲν αὐτῶν (548a.) ἐν τοῖς τενάγεσι, τὰ δ’ ἐν τοῖς αἰγιαλοῖς, τὰ δ’ ἐν τοῖς πηλώδεσι τόποις, ἔνια δ’ ἐν τοῖς σκληροῖς καὶ τραχέσι, τὰ δ’ ἐν τοῖς ἀμμώδεσιν. Καὶ τὰ μὲν μεταβάλλει τοὺς τόπους, τὰ δ’ οὔ. Τῶν δὲ μὴ μεταβαλλόντων αἱ μὲν πίνναι ἐρρίζωνται, οἱ δὲ σωλῆνες καὶ αἱ κόγχαι ἀρρίζωτοι διαμένουσιν· ὅταν δ’ ἀνασπασθῶσιν, οὐκέτι δύνανται ζῆν.

Ὁ δὲ καλούμενος ἀστὴρ οὕτω θερμός ἐστι τὴν φύσιν, ὥσθ’ ὅ τι ἂν λάβῃ, παραχρῆμα ἐξαιρούμενον δίεφθον εἶναι. Φασὶ δὲ καὶ σίνος μέγιστον εἶναι τοῦτο ἐν τῷ εὐρίπῳ τῷ τῶν Πυρραίων. Τὴν δὲ μορφὴν ὅμοιόν ἐστι τοῖς γραφομένοις.

Γίνονται δὲ καὶ οἱ κανούμενοι πνεύμονες αὐτόματοι. Ὧι δ’ οἱ γραφεῖς ὀστρέῳ χρῶνται, πάχει τε πολὺ ὑπερβάλλει, καὶ ἔξωθεν τοῦ ὀστράκου τὸ ἄνθος ἐπιγίνεται· εἰσὶ δὲ τὰ τοιαῦτα μάλιστα περὶ τοὺς τόπους τοὺς περὶ Καρίαν.

Τὸ δὲ καρκίνιον γίνεται μὲν τὴν ἀρχὴν ἐκ τῆς γῆς καὶ ἰλύος, εἶτ’ εἰς τὰ κενὰ τῶν ὀστράκων εἰσδύεται, καὶ αὐξανόμενον μετεισδύνει πάλιν εἰς ἄλλο μεῖζον ὄστρακον, οἷον εἴς τε τὸ τοῦ νηρείτου καὶ τὸ τοῦ στρόμβου καὶ τὸ τῶν ἄλλων τῶν τοιούτων, πολλάκις δ’ εἰς τοὺς κήρυκας τοὺς μικρούς. Ὅταν δ’ εἰσδύσῃ, συμπεριφέρει τοῦτο καὶ ἐν τούτῳ τρέφεται πάλιν· καὶ αὐξανόμενον πάλιν εἰς ἄλλο μετεισδύνει μεῖζον.

Κεφάλαιο 16

Τὸν αὐτὸν δὲ τρόπον γίνονται τοῖς ὀστρακοδέρμοις καὶ τὰ μὴ ἔχοντα ὄστρακον, οἷον αἵ τε κνῖδαι καὶ οἱ σπόγγοι, ἐν ταῖς σήραγξι τῶν πετρῶν. Ἔστι δὲ τῶν κνιδῶν δύο γένη· αἱ μὲν οὖν ἐν τοῖς κοίλοις οὐκ ἀπολύονται τῶν πετρῶν, αἱ δ' ἐπὶ τοῖς λείοις καὶ πλαταμώδεσιν ἀπολυόμεναι μεταχωροῦσιν. Καὶ αἱ λεπάδες δ' ἀπολύονται καὶ μεταχωροῦσιν.

Τῶν δὲ σπόγγων ἐν ταῖς θαλάμαις γίνονται πιννοφύλακες.

Ἔπεστι δ' οἷον ἀράχνιον ἐπὶ τῶν θαλαμῶν, ὃ διοίγοντες καὶ συνάγοντες θηρεύουσι τὰ ἰχθύδια τὰ μικρά, πρὸς μὲν τὸ εἰσελθεῖν διοίγοντες αὐτά, ὅταν δ' εἰσέλθῃ, συνάγοντες. Ἔστι δὲ τῶν σπόγγων τρία γένη, ὁ μὲν μανός, ὁ δὲ πυκνός, (548b.) τρίτος δ' ὃν καλοῦσιν Ἀχίλλειον λεπτότατος καὶ πυκνότατος καὶ ἰσχυρότατος· ὃν ὑπὸ τὰ κράνη καὶ τὰς κνημῖδας ὑποτιθέασι, καὶ ἧττον ἡ πληγὴ ψοφεῖ. Σπανιώτατος δὲ γίνεται οὗτος. Τῶν δὲ πυκνῶν οἱ σκληροὶ σφόδρα καὶ τραχεῖς τράγοι καλοῦνται. Φύονται δ' ἢ πρὸς πέτρᾳ πάντες ἢ ἐν ταῖς θισί, τρέφονται δ' ἐν τῇ ἰλύϊ. Σημεῖον δέ· ὅταν γὰρ ληφθῶσι, φαίνονται μεστοὶ ἰλύος· ὅπερ συμβαίνει καὶ τοῖς ἄλλοις τοῖς φυομένοις ἀπὸ τῆς προσφύσεως οὖσα ἡ τροφή. Ἀσθενέστεροι δ' εἰσὶν οἱ πυκνοὶ τῶν μανῶν διὰ τὸ τὴν πρόσφυσιν εἶναι κατ' ἔλαττον.

Ἔχει δὲ καὶ αἴσθησιν, ὥς φασίν. Σημεῖον δέ· ἐὰν γὰρ μέλλοντος ἀποσπᾶν αἴσθηται, συνάγει ἑαυτὸν καὶ χαλεπὸν ἀφελεῖν ἐστιν. Ταὐτὸ δὲ τοῦτο ποιεῖ καὶ ὅταν ᾖ πνεῦμα πολὺ καὶ κλύδων, πρὸς τὸ μὴ ἀποπίπτειν. Εἰσὶ δέ τινες οἳ περὶ τούτου ἀμφισβητοῦσιν, ὥσπερ οἱ ἐν Τορώνῃ.

Τρέφει δ' ἐν ἑαυτῷ ζῷα, ἕλμινθάς τε καὶ ἕτερ' ἄττα, ἃ κατεσθίει, ὅταν ἀποσπασθῇ, τὰ ἰχθύδια τὰ πετραῖα, καὶ τὰς ῥίζας τὰς ὑπολοίπους· ἐὰν δ' ἀπορραγῇ, φύεται πάλιν ἐκ τοῦ καταλοίπου καὶ ἀναπληροῦται. Μέγιστοι μὲν οὖν γίνονται οἱ μανοί, καὶ πλεῖστοι περὶ τὴν Λυκίαν, μαλακώτατοι δ' οἱ πυκνοί· οἱ γὰρ Ἀχίλλειοι στιφρότεροι τούτων εἰσίν. Ὅλως δ' οἱ ἐν τοῖς βαθέσι καὶ εὐδιεινοῖς μαλακώτατοί εἰσιν· τὸ γὰρ πνεῦμα καὶ ὁ χειμὼν σκληρύνει, καθάπερ καὶ τἆλλα τὰ φυόμενα, καὶ ἀφαιρεῖται τὴν αὔξησιν· διὸ καὶ οἱ ἐν Ἑλλησπόντῳ τραχεῖς εἰσι καὶ πυκνοί, καὶ ὅλως οἵ τ' ἐπέκεινα Μαλέας καὶ οἱ ἐντὸς διαφέρουσι μαλακότητι καὶ σκληρότητι. Δεῖ δὲ μηδ' ἀλέαν εἶναι σφόδρα· σήπεται γάρ, ὥσπερ τὰ φυόμενα. Διὸ οἱ πρὸς ταῖς ἀκταῖς εἰσι κάλλιστοι, ἂν ὦσιν ἀγχιβαθεῖς· εὖ γὰρ κέκρανται πρὸς ἄμφω διὰ τὸ βάθος. Ἄπλυτοι δ’ ὄντες καὶ ζῶντες ἰδεῖν μέν εἰσι μέλανες. Ἡ δὲ πρόσφυσίς ἐστιν οὔτε καθ’ ἓν οὔτε κατὰ πᾶν· μεταξὺ γάρ εἰσι πόροι κενοί. Περιτέταται δ’ ὥσπερ ὑμὴν περὶ τὰ κάτω· κατὰ (549a.) πλείω δ’ ἐστὶν ἡ πρόσφυσις. Ἄνωθεν δ’ οἱ μὲν ἄλλοι πόροι συγκεκλεισμένοι, φανεροὶ δ’ εἰσὶ τέτταρες ἢ πέντε· διό φασιν ἔνιοι τούτους εἶναι καθ’ οὓς δέχεται τὴν τροφήν.

Ἔστι δ’ ἄλλο γένος ὃ καλοῦσιν ἀπλυσίας διὰ τὸ μὴ δύνασθαι πλύνεσθαι· τοῦτο δὲ τοὺς μὲν μεγάλους πόρους ἔχει, τὸ δ’ ἄλλο πυκνόν ἐστι πᾶν· διατμηθὲν δὲ πυκνότερόν ἐστι καὶ γλισχρότερον τοῦ σπόγγου, καὶ τὸ σύνολον πνευμονῶδες. Ὁμολογεῖται δὲ μάλιστα παρὰ πάντων τοῦτο τὸ γένος αἴσθησιν ἔχειν καὶ πολυχρόνιον εἶναι. Διάδηλοι δ’ εἰσὶν ἐν τῇ θαλάττῃ πρὸςτοὺς σπόγγους τῷ τοὺς σπόγγους μὲν εἶναι λευκοὺς ἐφιζούσης τῆς ἰλύος, τούτους δ’ ἀεὶ μέλανας. Τὰ μὲν οὖν περὶ τοὺς σπόγγους καὶ τὴν τῶν ὀστρακοδέρμων γένεσιν τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 17

Τῶν δὲ μαλακοστράκων οἱ κάραβοι μετὰ τὴν ὀχείαν κύουσι καὶ ἴσχουσι τὰ ᾠὰ περὶ τρεῖς μῆνας, Σκιρροφοριῶνα καὶ Ἑκατομβαιῶνα καὶ Μεταγειτνιῶνα· μετὰ δὲ ταῦτα προεκτίκτουσιν ὑπὸ τὴν κοιλίαν εἰς τὰς πτύχας, καὶ αὐξάνεται αὐτῶν τὰ ᾠὰ ὥσπερ οἱ σκώληκες. Τὸ δ᾿ αὐτὸ τοῦτο καὶ ἐπὶ τῶν μαλακίων ἐστὶ καὶ τῶν ἰχθύων, ὅσοι ᾠοτοκοῦσιν· αὐξάνεται γὰρ πάντων τὸ ᾠόν. Τὸ μὲν οὖν ᾠὸν γίνεται ψαθυρὸν τῶν καράβων, διῃρημένον εἰς ὀκτὼ μοίρας. Καθ᾿ ἕκαστον γὰρ τῶν ἐπικαλυμμάτων τῶν ἐκ τοῦ πλαγίου πεφυκότων ἐστὶ χονδρῶδές τι πρὸς ὃ περιφύεται, καὶ τὸ ὅλον γίνεται ὥσπερ βότρυς· σχίζεται γὰρ ἕκαστον εἰς πλείω τῶν χονδρωδῶν. Ταῦτα δὲ διαστέλλοντι μὲν γίνεται φανερά, προσβλέποντι δὲ συνεστηκός τι φαίνεται· καὶ γίνεται δὲ μέγιστα οὐ τὰ πρὸς τῷ πόρῳ ἀλλὰ τὰ κατὰ μέσον, ἐλάχιστα δὲ τὰ ἔσχατα. Τὸ δὲ μέγεθος τῶν ᾠῶν τῶν μικρῶν ἐστιν ἡλίκον κεγχραμίς. Οὐκ ἔστι δ᾿ εὐθὺς ἐχόμενα τοῦ πόρου, ἀλλὰ κατὰ μέσον· ἑκατέρωθεν γὰρ ἀπὸ τῆς κέρκου καὶ ἀπὸ τοῦ θώρακος δύο διαστήματα ἐπέχει μάλιστα· οὕτω γὰρ καὶ τὰ ἐπικαλύμματα πέφυκεν. Αὐτὰ μὲν οὖν τὰ ἐκ τοῦ πλαγίου οὐ δύναται συμπεριλαμβάνειν, τοῦ δ᾿ ἄκρου προσεπιτεθέντος καλύπτει πάντα, καὶ γίνεται τοῦτ᾿ αὐτοῖς οἷον πῶμα. Ἔοικε (549b.) δὲ τὰ ᾠὰ τίκτουσα προσάγειν πρὸς τὰ χονδρώδη τῷ πλάτει τῆς κέρκου προσαναπτυττομένης, καὶ προσπιέσασα εὐθὺς καὶ κεκαμμένη ἀποτίκτειν. Τὰ δὲ χονδρώδη κατὰ τοὺς καιροὺς τούτους αὐξάνεται καὶ δεκτικὰ γίνεται τῶν ᾠῶν· πρὸς τὰ χονδρώδη γὰρ ἀποτίκτουσι, καθάπερ αἱ σηπίαι πρὸς τὰ κλήματα καὶ τὸν φορυτόν. Ἀποτίκτει μὲν οὖν τοῦτον τὸν τρόπον, συμπέψασα δ᾿ ἐνταῦθα μάλιστα ἐν εἴκοσιν ἡμέραις ἀποβάλλει συνεστηκὸς καὶ ἀθρόον, ὥσπερ φαίνεται καὶ ἐκτός· εἶτ᾿ ἐκ τούτων γίνονται οἱ κάραβοι ἐν ἡμέραις μάλιστα πεντεκαίδεκα, καὶ λαμβάνονται πολλάκις ἐλάττους ἢ δακτυλιαῖοι. Προεκτίκτει μὲν οὖν πρὸ ἀρκτούρου, μετὰ δ᾿ ἀρκτοῦρον ἀποβάλλει τὰ ᾠά. Τῶν δὲ κυφῶν καρίδων ἡ κύησίς ἐστι περὶ τέτταρας μῆνας.

Γίνονται δ᾿ οἱ μὲν κάραβοι ἐν τοῖς τραχέσι καὶ πετρώδεσιν, οἱ δ᾿ ἀστακοὶ ἐν τοῖς λείοις· ἐν δὲ τοῖς πηλώδεσιν οὐδέτεροι· διὸ καὶ ἐν Ἑλλησπόντῳ μὲν καὶ περὶ Θάσον ἀστακοὶ γίνονται, περὶ δὲ τὸ Σίγειον καὶ τὸν Ἄθων κάραβοι. Διασημαίνονται δὲ τοὺς τόπους οἱ ἁλιεῖς τούς τε τραχεῖς καὶ τοὺς πηλώδεις ταῖς τ’ ἀκταῖς καὶ τοῖς ἄλλοις τοῖς τοιούτοις σημείοις, ὅταν βούλωνται ἐν τῷ πελάγει ποιεῖσθαι τὴν θήραν. Γίνονται δ’ ἐν μὲν τῷ χειμῶνι καὶ τῷ ἔαρι πρὸς τῇ γῇ μᾶλλον, τοῦ δὲ θέρους ἐν τῷ πελάγει, διώκοντα ὁτὲ μὲν τὴν ἀλέαν ὁτὲ δὲ τὸ ψῦχος.

Τοῖς δὲ χρόνοις παραπλησίως καὶ αἱ καλούμεναι ἄρκτοι τίκτουσι τοῖς καράβοις· διὸ καὶ τοῦ χειμῶνος καὶ πρὶν ἐκτεκεῖν τοῦ ἔαρος ἄρισταί εἰσιν, ὅταν δ’ ἐκτέκωσι, χείρισται.

Ἐκδύνουσι δὲ τὸ κέλυφος τοῦ ἔαρος, ὥσπερ οἱ ὄφεις τὸ καλούμενον γῆρας, καὶ εὐθὺς γενόμενοι καὶ ὕστερον καὶ οἱ καρκίνοι καὶ οἱ κάραβοι. Εἰσὶ δ’ οἱ κάραβοι μακρόβιοι πάντες.

Κεφάλαιο 18

Τὰ δὲ μαλάκια ἐκ τοῦ συνδυασμοῦ καὶ τῆς ὀχείας ᾠὸν ἴσχει λευκόν· τοῦτο δὲ γίνεται τῷ χρόνῳ, ὥσπερ τὰ τῶν σκληροδέρμων, ψαθυρόν. Καὶ ἀποτίκτει ὁ μὲν πολύπους εἰς τὰς θαλάμας ἢ εἰς κεράμιον ἤ τι ἄλλο κοῖλον ὅμοιον βοστρυχίοις οἰνάνθης καὶ λεύκης καρπῷ, καθάπερ εἴρηται πρότερον. Ἐκκρεμάννυνται δὲ περὶ τὴν θαλάμην τὰ ᾠά, ὅταν (550a.) ἐκτέκῃ. Τὸ δὲ πλῆθος ἔχει τοσαῦτα ᾠὰ ὥστ' ἐξαιρεθέντων ἐμπίπλαται ἀγγεῖον πολλῷ μεῖζον τῆς κεφαλῆς, ἐν ᾗ ἔχει τὰ ᾠά.

Τὰ μὲν οὖν τῶν πολυπόδων μεθ' ἡμέρας μάλιστα πεντήκοντα γίνεται ἐκ τῶν ἀπορραγέντων πολυπόδια, καὶ ἐξέρπει, ὥσπερ τὰ φαλάγγια, πολλὰ τὸ πλῆθος· ὧν ἡ μὲν καθ' ἕκαστα φύσις τῶν μελῶν οὔπω διάδηλος, ἡ δ' ὅλη μορφὴ φανερά. Διὰ δὲ τὴν μικρότητα καὶ τὴν ἀσθένειαν φθείρεται τὸ πλῆθος αὐτῶν. Ἤδη δ' ὦπται καὶ οὕτω πάμπαν μικρὰ ὥστ' ἀδιάρθρωτα μὲν εἶναι, ἁπτομένων δὲ κινεῖσθαι.

Αἱ δὲ σηπίαι ἀποτίκτουσι, καὶ γίνεται ὅμοια μύρτοις μεγάλοις καὶ μέλασιν· καὶ ἀλλήλων ἐχόμενά ἐστιν, οἷον βότρυς τὸ πᾶν, περιπεπλεγμένα τινὶ ἑνί, καὶ οὐκ εὐαπόσπαστα ἀλλήλων. Ἐπαφίησι γὰρ ὁ ἄρρην ὑγρότητά τινα μυξώδη· ὃ τὴν γλισχρότητα παρέχει. Καὶ αὐξάνεται δὲ ταῦτα τὰ ᾠά, καὶ εὐθὺς μέν ἐστι λευκά, ὅταν δ' ἀφῇ τὸν θορόν, καὶ μείζω καὶ μέλανα. Ὅταν δὲ σηπίδιον γένηται, ὅλον ἐκ τοῦ λευκοῦ γενόμενον ἔσω, τούτου περιρραγέντος ἐξέρχεται. Γίνεται δ' ὅταν πρῶτον ἀπορράνῃ ἡ θήλεια, οἱονεὶ χάλαζα· ἐκ γὰρ τούτου τὸ σηπίδιον φύεται ἐπὶ κεφαλήν, ὥσπερ οἱ ὄρνιθες κατὰ τὴν κοιλίαν προσηρτημένοι. Ποία δέ τίς ἐστιν ἡ πρόσφυσις ἡ ὀμφαλώδης, οὔπω ὦπται, πλὴν ὅτι αὐξανομένου τοῦ σηπιδίου ἀεὶ ἔλαττον γίνεται τὸ λευκόν, καὶ τέλος, ὥσπερ τὸ ὠχρὸν τοῖς ὄρνισι, τούτοις τὸ λευκὸν ἀφανίζεται. Μέγιστοι δὲ φαίνονται πρῶτον, ὥσπερ καὶ ἐν τοῖς ἄλλοις, καὶ ἐν τούτοις οἱ ὀφθαλμοί. Ὠὸν ἐφ' οὗ τὸ Α, ὀφθαλμοὶ ἐφ' ὧν τὸ ΒΓ, τὸ σηπίδιον αὐτὸ ἐφ' οὗ Δ.

Κύει δὲ τοῦ ἔαρος, ἀποτίκτει δ' ἐν ἡμέραις πεντεκαίδεκα· ὅταν δ' ἀποτέκῃ τὰ ᾠά, γίνεται ἐν ἄλλαις πεντεκαίδεκα ἡμέραις οἷον ῥάγες βότρυος, ὧν περιρραγέντων ἐκδύεται ἔσωθεν τὰ σηπίδια. Ἐὰν δέ τις περισχίσῃ πρότερον ἤδη τετελειωμένων, προΐενται κόπρον τὰ σηπίδια, καὶ τὸ χρῶμα μεταβάλλει ἐρυθρότερον γινόμενον ἐκ λευκοῦ διὰ τὸν φόβον.

Τὰ μὲν οὖν μαλακόστρακα αὐτὰ (550b.) ὑφ’ αὑτὰ θέμενα τὰ ᾠὰ ἐπῳάζει, ὁ δὲ πολύπους καὶ ἡ σηπία καὶ τἆλλα τὰ τοιαῦτα ἐκτεκόντα, οὗ ἂν τὰ κυήματα αὐτῶν ᾖ, μάλιστα μὲν ἡ σηπία· πολλάκις γὰρ ὑπερφαίνεται πρὸς τῇ γῇ τὸ κύτος αὐτῆς. Ὁ δὲ πολύπους ὁ θῆλυς ὁτὲ μὲν ἐπὶ τοῖς ᾠοῖς ὁτὲ δ’ ἐπὶ τῷ στόματι προκάθηται τῆς θαλάμης, τὴν πλεκτάνην ἐπέχων. Ἡ δὲ σηπία πρὸς τὴν γῆν ἐκτίκτει περὶ τὰ φυκία καὶ τὰ καλαμώδη, κἄν τι ᾖ τοιοῦτον ἐκβεβλημένον, οἷον ὕλη <ἢ> κλήματα ἢ λίθοι· καὶ οἱ ἁλιεῖς δὲ κλήματα τιθέασιν ἐπίτηδες· καὶ πρὸς ταῦτα ἐκτίκτει μακρὸν καὶ συνεχὲς ἐκ τῶν ᾠῶν, οἷον τὸ τῶν βοστρύχων.

Ἀποτίκτει δὲ καὶ ἀπορραίνει ἐξ ἀναγωγῆς, ὡς μετὰ πόνου γινομένης τῆς προέσεως. Αἱ δὲ τευθίδες πελάγιαι ἀποτίκτουσιν· τὸ δ’ ᾠόν, ὥσπερ ἡ σηπία, ἀποτίκτει συνεχές. Ἔστι δὲ καὶ ὁ τεῦθος καὶ ἡ σηπία βραχύβιον· οὐ γὰρ διετίζουσιν, εἰ μή τινες ὀλίγαι αὐτῶν· ὁμοίως δὲ καὶ οἱ πολύποδες. Γίνεται δ’ ἐξ ἑνὸς ᾠοῦ ἓν σηπίδιον· ὁμοίως δὲ καὶ ἐπὶ τῶν τευθίδων ἔχει. Διαφέρει δ’ ἡ ἄρρην τευθὶς τῆς θηλείας· ἔχει γὰρ ἡ θήλεια, ἐάν τις διαστείλας θεωρήσῃ τὴν κόμην εἴσω, ἐρυθρὰ δύο οἷον μαστούς, ὁ δ’ ἄρρην οὐκ ἔχει. Ἡ δὲ σηπία τοῦτό τ’ ἔχει διάφορον, καὶ ὅτι ποικιλώτερός ἐστιν ὁ ἄρρην τῆς θηλείας, καθάπερ εἴρηται πρότερον.

Κεφάλαιο 19

Τὰ δ’ ἔντομα τῶν ζῴων ὅτι μὲν ἐλάττω ἐστὶ τὰ ἄρρενα τῶν θηλειῶν καὶ ἐπιβαίνει ἄνωθεν, καὶ πῶς ποιεῖται τὴν ὀχείαν, καὶ ὅτι διαλύεται μόλις, εἴρηται πρότερον· ὅταν δ’ ὀχευθῇ, ταχέως ποιεῖται τὰ πλεῖστα τὸν τόκον. Τίκτει δὲ πάντα ὅσα ὀχεύεται σκώληκας πλὴν γένος τι ψυχῶν· αὗται δὲ σκληρόν, ὅμοιον κνήκου σπέρματι, ἔσω δὲ χύμα.

Ἐκ δὲ τῶν σκωλήκων οὐκ ἐκ μέρους τινὸς γίνεται τὸ ζῷον, ὥσπερ ἐκ τῶν ᾠῶν, ἀλλ’ ὅλον αὐξάνεται καὶ διαρθρούμενον γίνεται τὸ ζῷον.

Γίνεται δ’ αὐτῶν τὰ μὲν ἐκ ζῴων τῶν συγγενῶν, οἷον φαλάγγιά τε καὶ ἀράχνια ἐκ φαλαγγίων καὶ ἀραχνίων, καὶ ἀττέλαβοι καὶ ἀκρίδες καὶ τέττιγες· τὰ δ’ (551a.) οὐκ ἐκ ζῴων ἀλλ’ αὐτόματα, τὰ μὲν ἐκ τῆς δρόσου τῆς ἐπὶ τοῖς φύλλοις πιπτούσης, κατὰ φύσιν μὲν ἐν τῷ ἔαρι, πολλάκις δὲ καὶ τοῦ χειμῶνος, ὅταν εὐδία καὶ νοτία γένηται πλείω χρόνον· τὰ δ’ ἐν βορβόρῳ καὶ κόπρῳ σηπομένοις, τὰ δ’ ἐν ξύλοις, τὰ μὲν φυτῶν, τὰ δ’ ἐν αὔοις ἤδη, τὰ δ’ ἐν θριξὶ ζῴων, τὰ δ’ ἐν σαρκὶ τῶν ζῴων, τὰ δ’ ἐν τοῖς περιττώμασι, καὶ τούτων τὰ μὲν ἐκκεχωρισμένων, τὰ δ’ ἔτι ὄντων ἐν τοῖς ζῴοις, οἷον αἱ καλούμεναι ἕλμινθες. Ἔστι δ’ αὐτῶν γένη τρία, ἥ τε ὀνομαζομένη πλατεῖα, καὶ αἱ στρογγύλαι, καὶ τρίται αἱ ἀσκαρίδες. Ἐκ μὲν οὖν τούτων ἕτερον οὐδὲν γίνεται· ἡ δὲ πλατεῖα προσπέφυκέ τε μόνη τῷ ἐντέρῳ καὶ ἀποτίκτει οἷον σικύου σπέρμα, ᾧ γινώσκουσι σημείῳ οἱ ἰατροὶ τοὺς ἔχοντας αὐτήν.

Γίνονται δ’ αἱ μὲν καλούμεναι ψυχαὶ ἐκ τῶν καμπῶν, αἳ γίνονται ἐπὶ τῶν φύλλων τῶν χλωρῶν, καὶ μάλιστα ἐπὶ τῆς ῥαφάνου, ἣν καλοῦσί τινες κράμβην, πρῶτον μὲν ἔλαττον κέγχρου, εἶτα μικροὶ σκώληκες αὐξανόμενοι, ἔπειτα ἐν τρισὶν ἡμέραις κάμπαι μικραί· μετὰ δὲ ταῦτα αὐξηθεῖσαι ἀκινητίζουσι, καὶ μεταβάλλουσι τὴν μορφήν, καὶ καλοῦνται χρυσαλλίδες, καὶ σκληρὸν ἔχουσι τὸ κέλυφος, ἁπτομένου δὲ κινοῦνται. Προσέχονται δὲ πόροις ἀραχνιώδεσιν οὔτε στόμα ἔχουσαι οὔτ’ ἄλλο τῶν μορίων διάδηλον οὐδέν. Χρόνου δ’ οὐ πολλοῦ διελθόντος περιρρήγνυται τὸ κέλυφος, καὶ ἐκπέτεται ἐξ αὐτῶν πτερωτὰ ζῷα, ἃς καλοῦμεν ψυχάς. Τὸ μὲν οὖν πρῶτον, ὅταν ὦσι κάμπαι, τρέφονται καὶ περίττωμα ἀφιᾶσιν· ὅταν δὲ γένωνται χρυσαλλίδες, οὐδενὸς οὔτε γεύονται οὔτε προΐενται περίττωμα. Τὸν αὐτὸν δὲ τρόπον καὶ τἆλλα ὅσα γίνεται ἐκ σκωλήκων, καὶ ὅσοι ἐκ συνδυασμοῦ γίνονται ζῴων σκώληκες, καὶ ὅσοι ἄνευ ὀχείας. Καὶ γὰρ οἱ τῶν μελιττῶν καὶ ἀνθρηνῶν καὶ σφηκῶν ὅταν μὲν νέοι σκώληκες ὦσι, (551b.) τρέφονταί τε καὶ κόπρον ἔχοντες φαίνονται· ὅταν δ' ἐκ τῶν σκωλήκων εἰς τὴν διατύπωσιν ἔλθωσι, καλοῦνται μὲν νύμφαι τότε, οὐ λαμβάνουσι δὲ τρυφὴν οὐδὲ κόπρον ἔτ' ἔχουσιν, ἀλλὰ περιειργμένοι ἀκινητίζουσιν ἕως ἂν αὐξηθῶσιν· τότε δ' ἐξέρχονται διακόψαντες ᾧ καταλήλειπται ὁ κύτταρος. Γίνονται δὲ καὶ τὰ ὕπερα καὶ τὰ πηνία ἔκ τινων τοιούτων ἄλλων, αἳ κυμαίνουσι τῇ πορείᾳ καὶ προβᾶσαι τῷ ἑτέρῳ κάμψασαι ἐπιβαίνουσιν· ἕκαστον δὲ τῶν γινομένων τὸ οἰκεῖον χρῶμα λαμβάνει ἀπὸ τῆς κάμπης.

Ἐκ δέ τινος σκώληκος μεγάλου, ὃς ἔχει οἷον κέρατα καὶ διαφέρει τῶν ἄλλων, γίνεται πρῶτον μὲν μεταβάλλοντος τοῦ σκώληκος κάμπη, ἔπειτα βομβυλίς, ἐκ δὲ τούτου νεκύδαλος· ἐν ἓξ δὲ μησὶ μεταβάλλει ταύτας τὰς μορφὰς πάσας. Ἐκ δὲ τούτου τοῦ ζῴου καὶ τὰ βομβύκια ἀναλύουσι τῶν γυναικῶν τινὲς ἀναπηνιζόμεναι, κἄπειτα ὑφαίνουσιν· πρώτη δὲ λέγεται ὑφῆναι ἐν Κῷ Παμφίλη Πλάτεω θυγάτηρ.

Ἐκ δὲ τῶν σκωλήκων τῶν ἐν τοῖς ξύλοις τοῖς αὔοις οἱ καράμβιοι γίνονται τὸν αὐτὸν τρόπον· πρῶτον μὲν ἀκινητισάντων τῶν σκωλήκων, εἶτα περιρραγέντος τοῦ κελύφους ἐξέρχονται οἱ καράμβιοι. Ἐκ δὲ τῶν κραμβῶν ... γίνονται αἱ πρασοκουρίδες· ἴσχουσι δὲ πτερὰ καὶ αὐταί. Ἐκ δὲ τῶν ἐν τοῖς ποταμοῖς πλατέων ζωδαρίων τῶν ἐπιθεόντων οἱ οἶστροι· διὸ καὶ οἱ πλεῖστοι περὶ τὰ ὕδατα γίνονται οὗ τὰ τοιαῦτα ζῷά ἐστιν. Ἐκ δὲ μελαινῶν τινων καὶ δασειῶν οὐ μεγάλων καμπῶν πρῶτον γίνονται πυγολαμπίδες, οὐχ αἱ πετόμεναι· αὗται δὲ πάλιν μεταβάλλουσι, καὶ γίνονται πτερωτὰ ζῷα ἐξ αὐτῶν, οἱ καλούμενοι βόστρυχοι.

Αἱ δ' ἐμπίδες γίνονται ἐκ τῶν ἀσκαρίδων. Αἱ δ' ἀσκαρίδες γίνονται ἔν τε τῇ ἰλύϊ τῶν φρεάτων καὶ ὅπου ἂν σύρρευσις γένηται ὕδατος γεώδη ἔχουσα ὑπόστασιν. Τὸ μὲν οὖν πρῶτον αὐτὴ ἡ ἰλὺς σηπομένη χρῶμα λαμβάνει λευκόν, εἶτα (552a.) μέλαν, τελευτῶσα δ' αἱματῶδες· ὅταν δὲ τοιαύτη γένηται, φύεται ἐξ αὐτῆς ὥσπερ τὰ φυκία μικρὰ σφόδρα καὶ ἐρυθρά· ταῦτα δὲ χρόνον μέν τινα κινεῖται προσπεφυκότα, ἔπειτ' ἀπορραγέντα φέρεται κατὰ τὸ ὕδωρ, αἱ καλούμεναι ἀσκαρίδες. Μεθ' ἡμέρας δ' ὀλίγας ἵστανται ὀρθαὶ ἐπὶ τοῦ ὕδατος ἀκινητίζουσαι καὶ σκληραί, κἄπειτα περιρραγέντος τοῦ κελύφους ἡ ἐμπὶς ἄνω ἐπικάθηται, ἕως ἂν ἥλιος ἢ πνεῦμα κινήσῃ· τότε δ' ἤδη πέτεται. Πᾶσι δὲ καὶ τοῖς ἄλλοις σκώληξι καὶ τοῖς ζῴοις τοῖς ἐκ τῶν σκωλήκων περιρρηγνυμένοις ἡ ἀρχὴ γίνεται τῆς γενέσεως ὑφ' ἡλίου ἢ ὑπὸ πνεύματος. Μᾶλλον δὲ καὶ θᾶττον γίνονται αἱ ἀσκαρίδες ἐν τοῖς ἔχουσι παντοδαπὴν ὑπόστασιν, οἷον ἐν μαγειρείοις τε γίνεται καὶ ἐν τοῖς ἔργοις· σήπεται γὰρ τὰ τοιαῦτα θᾶττον. Καὶ μετοπώρου δὲ γίνονται μᾶλλον· τότε γὰρ τὸ ὑγρὸν συμβαίνει εἶναι ἔλαττον.

Οἱ δὲ κρότωνες γίνονται ἐκ τῆς ἀγρώστεως, αἱ δὲ μηλολόνθαι ἐκ τῶν σκωλήκων τῶν ἐν τοῖς βολίτοις καὶ τῶν ὀνίδων. Οἱ δὲ κάνθαροι ἣν κυλίουσι κόπρον, ἐν ταύτῃ φωλοῦσί τε τὸν χειμῶνα καὶ ἐντίκτουσι σκωλήκια, ἐξ ὧν γίνονται κάνθαροι. Γίνονται δὲ καὶ ἐκ τῶν σκωλήκων τῶν ἐν τοῖς ὀσπρίοις πτερωτὰ ζῷα ὁμοίως τοῖς εἰρημένοις.

Αἱ δὲ μυῖαι ἐκ τῶν σκωλήκων τῶν ἐν τῇ κόπρῳ τῇ χωριζομένῃ κατὰ μέρος· διὸ καὶ οἱ περὶ ταύτην τὴν ἐργασίαν ὄντες μηχανῶνται χωρίζειν τὴν ἄλλην τὴν μεμιγμένην, καὶ λέγουσι τότε κατειργάσθαι τὴν κόπρον. Ἡ δ’ ἀρχὴ τῶν σκωληκίων μικρά· πρῶτον μὲν γὰρ καὶ ἐνταῦθα ἐρυθραίνεται καὶ ἐξ ἀκινησίας λαμβάνει κίνησιν οἷον πεφυκότα· εἶτα σκωλήκιον ἀποβαίνει ἀκίνητον· εἶτα κινηθὲν ὕστερον γίνεται ἀκίνητον πάλιν· ἐκ δὲ τούτου μυῖα ἀποτελεῖται, καὶ κινεῖται πνεύματος ἢ ἡλίου γενομένου. Οἱ δὲ μύωπες γίνονται ἐκ τῶν ξύλων. Αἱ δ’ ὀρσοδάκναι ἐκ τῶν σκωληκίων μεταβαλλόντων· τὰ δὲ σκωλήκια ταῦτα γίνεται ἐν τοῖς καυλοῖς τῆς κράμβης. Αἱ (552b.) δὲ κανθαρίδες ἐκ τῶν πρὸς ταῖς συκαῖς καμπῶν καὶ ταῖς ἀπίοις καὶ ταῖς πεύκαις (πρὸς πᾶσι γὰρ τούτοις γίνονται σκώληκες) καὶ ἐκ τῶν ἐν τῇ κυνακάνθῃ· ὁρμῶσι δὲ καὶ πρὸς τὰ δυσώδη διὰ τὸ ἐκ τοιαύτης γεγονέναι ὕλης. Οἱ δὲ κώνωπες ἐκ σκωλήκων οἳ γίνονται ἐκ τῆς περὶ τὸ ὄξος ἰλύος· καὶ γὰρ ἐν τοῖς δοκοῦσιν ἀσηπτοτάτοις εἶναι ἐγγίνονται ζῷα, οἷον ἐν χιόνι τῇ παλαιᾷ. Γίνεται δ’ ἡ παλαιὰ ἐρυθροτέρα, διὸ καὶ οἱ σκώληκες τοιοῦτοι καὶ δασεῖς· οἱ δ’ ἐκ τῆς ἐν Μηδίᾳ χιόνος μεγάλοι καὶ λευκοί· δυσκίνητοι δὲ πάντες. Ἐν δὲ Κύπρῳ, οὗ ἡ χαλκῖτις λίθος καίεται, ἐπὶ πολλὰς ἡμέρας ἐμβαλλόντων, ἐνταῦθα γίνεται θηρία ἐν τῷ πυρί, τῶν μεγάλων μυιῶν μικρόν τι μείζονα, ὑπόπτερα, ἃ διὰ τοῦ πυρὸς πηδᾷ καὶ βαδίζει. Ἀποθνήσκουσι δὲ καὶ οἱ σκώληκες καὶ ταῦτα χωριζόμενα τὰ μὲν τοῦ πυρός, οἱ δὲ τῆς χιόνος. Ὅτι δ’ ἐνδέχεται καὶ μὴ καίεσθαι συστάσεις τινὰς ζῴων, ἡ σαλαμάνδρα ποιεῖ φανερόν· αὕτη γάρ, ὡς φασί, διὰ τοῦ πυρὸς βαδίζουσα κατασβέννυσι τὸ πῦρ.

Περὶ δὲ τὸν Ὕπανιν ποταμὸν τὸν περὶ Βόσπορον τὸν Κιμμέριον ὑπὸ τροπὰς θερινὰς καταφέρονται ὑπὸ τοῦ ποταμοῦ οἷον θύλακοι μείζους ῥαγῶν, ἐξ ὧν ῥηγνυμένων ἐξέρχεται ζῷον πτερωτὸν τετράπουν· ζῇ δὲ καὶ πέτεται μέχρι δείλης, καταφερομένου δὲ τοῦ ἡλίου ἀπομαραίνεται, καὶ ἅμα δυομένου ἀποθνήσκει βιῶσαν ἡμέραν μίαν, διὸ καὶ καλεῖται ἐφήμερον.

Τὰ πλεῖστα δὲ τῶν γινομένων ἔκ τε καμπῶν καὶ σκωλήκων ὑπὸ ἀραχνίων κατέχεται τὸ πρῶτον. Ταῦτα μὲν οὖν γίνεται τοῦτον τὸν τρόπον.

Κεφάλαιο 20

Οἱ δὲ σφῆκες οἱ ἰχνεύμονες καλούμενοι (εἰσὶ δ’ ἐλάττους τῶν ἑτέρων) τὰ φαλάγγια ἀποκτείναντες φέρουσι πρὸς τειχίον ἤ τι τοιοῦτον τρώγλην ἔχον, καὶ πηλῷ προσκαταλείψαντες ἐντίκτουσιν ἐνταῦθα, καὶ γίνονται ἐξ αὐτῶν οἱ σφῆκες οἱ ἰχνεύμονες. Ἔνια δὲ τῶν κολεοπτέρων καὶ μικρῶν καὶ ἀνωνύμων ζῴων τοῦ πηλοῦ τρώγλας ποιοῦνται (553a.) μικρὰς ἢ πρὸς τάφοις ἢ τειχίοις, καὶ ἐνταῦθα τὰ σκωλήκια ἐντίκτουσιν.

Ὁ δὲ χρόνος τῆς γενέσεως ἀπὸ μὲν τῆς ἀρχῆς μέχρι τοῦ τέλους σχεδὸν τοῖς πλείστοις ἑπτάσι μετρεῖται τρισὶν ἢ τέτταρσιν. Τοῖς μὲν οὖν σκώληξι καὶ τοῖς σκωληκοειδέσι τοῖς πλείστοις τρεῖς γίνονται ἑπτάδες, τοῖς δ’ ᾠοτοκοῦσι τέτταρες ὡς ἐπὶ τὸ πολύ. Τούτων δ’ ἀπὸ μὲν τῆς ὀχείας ἐν ταῖς ἑπτὰ ἡ σύστασις γίνεται, ἐν δὲ ταῖς λοιπαῖς τρισὶν ἐπῳάζουσι καὶ ἐκλέπουσιν ὅσα γόνῳ τίκτεται, οἷον ὑπ’ ἀράχνου ἢ ἄλλου τινὸς τοιούτου. Αἱ δὲ μεταβολαὶ γίνονται τοῖς πλείστοις κατὰ τριήμερον ἢ τετραήμερον, ὥσπερ καὶ αἱ τῶν νόσων συμβαίνουσι κρίσεις.

Τῶν μὲν οὖν ἐντόμων οὗτος ὁ τρόπος ἐστὶ τῆς γενέσεως· φθείρονται δ’ ἐρρικνωμένων τῶν μορίων, ὥσπερ γήρᾳ τὰ μείζω τῶν ζῴων· ὅσα δὲ πτερωτά, καὶ τῶν πτερῶν συσπωμένων περὶ τὸ μετόπωρον· οἱ δὲ μύωπες καὶ τῶν ὀμμάτων ἐξυδρωπιώντων.

Κεφάλαιο 21

Περὶ δὲ τὴν γένεσιν τὴν τῶν μελιττῶν οὐ τὸν αὐτὸν τρόπον πάντες ὑπολαμβάνουσιν. Οἱ μὲν γάρ φασιν οὐ τίκτειν οὐδ’ ὀχεύεσθαι τὰς μελίττας, ἀλλὰ φέρειν τὸν γόνον, καὶ φέρειν οἱ μὲν ἀπὸ τοῦ ἄνθους τοῦ καλλύντρου, οἱ δ’ ἀπὸ τοῦ ἄνθους τοῦ καλάμου, ἄλλοι δ’ ἀπὸ τοῦ ἄνθους τῆς ἐλαίας· καὶ σημεῖον λέγουσιν ὅτι, ἂν ἐλαιῶν φορὰ γένηται, τότε καὶ ἑσμοὶ ἀφίενται πλεῖστοι. Οἱ δέ φασι τὸν μὲν τῶν κηφήνων γόνον αὐτὰς φέρειν ἀπό τινος ὕλης τῶν προειρημένων, τὸν δὲ τῶν μελιττῶν τίκτειν τοὺς ἡγεμόνας. Τῶν δ’ ἡγεμόνων ἐστὶ γένη δύο, ὁ μὲν βελτίων πυρρός, ὁ δ’ ἕτερος μέλας καὶ ποικιλώτερος, τὸ δὲ μέγεθος διπλάσιος τῆς χρηστῆς μελίττης· τὸ δὲ κάτω τοῦ διαζώματος ἔχουσιν ἡμιόλιον μάλιστα τῷ μήκει, καὶ καλοῦνται ὑπό τινων μητέρες ὡς γεννῶντες. Σημεῖον δὲ λέγουσιν ὅτι ὁ μὲν τῶν κηφήνων ἐγγίνεται γόνος κἂν μὴ ἐνῇ ἡγεμών, ὁ δὲ τῶν μελιττῶν οὐκ ἐγγίνεται. Οἱ δέ φασιν ὀχεύεσθαι, καὶ εἶναι ἄρρενας μὲν (553b.) τοὺς κηφῆνας, θηλείας δὲ τὰς μελίττας.

Ἔστι δὲ τῶν μὲν ἄλλων ἡ γένεσις ἐν τοῖς κοίλοις τοῦ κηρίου, οἱ δέ γ’ ἡγεμόνες γίνονται κάτω πρὸς τῷ κηρίῳ, ἀποκρεμάμενοι χωρίς, ἓξ ἢ ἑπτά, ἐναντίως τῷ ἄλλῳ γόνῳ πεφυκότες. Κέντρον δ’ αἱ μὲν μέλιτται ἔχουσιν, οἱ δὲ κηφῆνες οὐκ ἔχουσιν· οἱ δὲ βασιλεῖς καὶ ἡγεμόνες ἔχουσι μὲν κέντρον, ἀλλ’ οὐ τύπτουσι, διὸ ἔνιοι οὐκ οἴονται ἔχειν αὐτούς.

Κεφάλαιο 22

Εἰσὶ δὲ γένη τῶν μελιττῶν, ἡ μὲν ἀρίστη μικρὰ καὶ στρογγύλη καὶ ποικίλη, ἄλλη δὲ μακρά, ὁμοία τῇ ἀνθρήνῃ, τρίτος δ' ὁ φὼρ καλούμενος (οὗτος δ' ἐστὶ μέλας καὶ πλατυγάστωρ), τέταρτος δ' ὁ κηφήν, μεγέθει μὲν μέγιστος ἁπάντων, ἄκεντρος δὲ καὶ νωθρός· διὸ καὶ πλέκουσί τινες περὶ τὰ σμήνη ὥστε τὰς μὲν μελίττας εἰσδύεσθαι, τοὺς δὲ κηφῆνας μὴ διὰ τὸ εἶναι αὐτοὺς μείζους.

Ἡγεμόνων δὲ γένη δύο ἐστίν, ὥσπερ εἴρηται καὶ πρότερον. Εἰσὶ δὲ πλείους ἐν ἑκάστῳ σμήνει ἡγεμόνες, καὶ οὐχ εἷς μόνος· ἀπόλλυται δὲ τὸ σμῆνος, ἄν τε ἡγεμόνες μὴ ἱκανοὶ ἐνῶσιν (οὐχ οὕτω διὰ τὸ ἄναρχοι εἶναι, ἀλλ' ὡς φασίν, ὅτι συμβάλλονται εἰς τὴν γένεσιν τὴν τῶν μελιττῶν) ἄν τε πολλοὶ ὦσιν οἱ ἡγεμόνες· διασπῶσι γάρ.

Ὅταν μὲν οὖν ἔαρ ὄψιον γένηται, καὶ ὅταν αὐχμοὶ καὶ ἐρυσίβη, ἐλάττων γίνεται ὁ γόνος· ἀλλ' αὐχμοῦ μὲν ὄντος μέλι ἐργάζονται μᾶλλον, ἐπομβρίας δὲ γόνον, διὸ καὶ ἅμα συμβαίνει ἐλαιῶν φορὰ καὶ ἑσμῶν.

Ἐργάζονται δὲ πρῶτον μὲν τὸ κηρίον, εἶτα τὸν γόνον ἐναφιᾶσιν, ὡς μὲν ἔνιοι λέγουσιν, ἐκ τοῦ στόματος, ὅσοι φέρειν φασὶν ἄλλοθεν, εἶθ' οὕτω τὸ μέλι τροφὴν τὴν μὲν τοῦ θέρους τὴν δὲ τοῦ μετοπώρου· ἄμεινον δ' ἐστὶ τὸ μετοπωρινὸν μέλι. Γίνεται δὲ κηρίον μὲν ἐξ ἀνθέων, κήρωσιν δὲ φέρουσιν ἀπὸ τοῦ δακρύου τῶν δένδρων, μέλι δὲ τὸ πῖπτον ἐκ τοῦ ἀέρος, καὶ μάλιστα ἐν ταῖς τῶν ἄστρων ἐπιτολαῖς, καὶ ὅταν κατασκήψῃ ἡ ἶρις· ὅλως δ' οὐ γίνεται μέλι πρὸ Πλειάδος ἐπιτολῆς.

Τὸ μὲν οὖν κηρίον ποιεῖ, ὥσπερ εἴρηται, ἐκ τῶν ἀνθέων· τὸ δὲ μέλι ὅτι οὐ (554a.) ποιεῖ, ἀλλὰ φέρει τὸ πῖπτον, σημεῖον· ἐν μιᾷ γὰρ ἢ δυσὶν ἡμέραις πλήρη εὑρίσκουσι τὰ σμήνη οἱ μελιττουργοὶ μέλιτος. Ἔτι δὲ τοῦ μετοπώρου ἄνθη μὲν γίνεται, μέλι δ' οὔ, ὅταν ἀφαιρεθῇ. Ἀφῃρημένου οὖν ἤδη τοῦ γενομένου μέλιτος, καὶ τροφῆς ἢ οὐκ ἐνούσης ἔτι ἢ σπανίας, ἐνεγίνετο ἄν, εἴπερ ἐποίουν ἐκ τῶν ἀνθέων.

Συνίσταται δὲ τὸ μέλι πεττόμενον· ἐξ ἀρχῆς γὰρ οἷον ὕδωρ γίνεται, καὶ ἐφ' ἡμέρας μέν τινας ὑγρόν ἐστι (διὸ κἂν ἀφαιρεθῇ ἐν ταύταις ταῖς ἡμέραις, οὐκ ἔχει πάχος), ἐν εἴκοσι δὲ μάλιστα συνίσταται.

Δῆλον δ' ἐστὶν εὐθέως τὸ ἀπὸ τοῦ χυμοῦ· διαφέρει γὰρ τῇ γλυκύτητι καὶ

τῷ πάχει. Φέρει δ’ ἀπὸ πάντων ἡ μέλιττα ὅσα ἐν κάλυκι ἀνθεῖ, καὶ ἀπὸ τῶν ἄλλων δ’ ὅσα ἂν γλυκύτητα ἔχῃ, οὐδένα βλάπτουσα καρπόν· τοὺς δὲ χυμοὺς τούτων τῷ ὁμοίῳ τῇ γλώττῃ ἀναλαμβάνουσα κομίζει.

Βλίττεται δὲ τὰ σμήνη, ὅταν ἐρινεὸν σῦκον φανῇ· σχάδονας δ’ ἀρίστας ποιοῦσιν, ὅταν μέλι ἐργάζωνται. Φέρει δὲ κηρὸν μὲν καὶ ἐριθάκην περὶ τοῖς σκέλεσι, τὸ δὲ μέλι ἐμεῖ εἰς τὸν κύτταρον. Τὸν δὲ γόνον ὅταν ἀφῇ, ἐπῳάζει ὥσπερ ὄρνις. Ἐν δὲ τῷ κηρίῳ τὸ σκωλήκιον μικρὸν μὲν ὂν κεῖται πλάγιον, ὕστερον δ’ ἀνίσταται αὐτὸ ὑφ’ ἑαυτοῦ καὶ τρέφεται, πρὸς δὲ τῷ κηρίῳ ἔχεται ὥστε καὶ ἀντειλῆφθαι. Ὁ δὲ γόνος ἐστὶ τῶν μελιττῶν καὶ τῶν κηφήνων λευκός, ἐξ οὗ τὰ σκωλήκια γίνεται· αὐξανόμενα δὲ γίνονται μέλιτται καὶ κηφῆνες. Ὁ δὲ τῶν βασιλέων γόνος τὴν χρόαν γίνεται ὑπόπυρρος, τὴν δὲ λεπτότητά ἐστιν οἷον μέλι παχύ· τὸν δ’ ὄγκον εὐθέως ἔχει παραπλήσιον τῷ γινομένῳ ἐξ αὐτοῦ.

Σκώληξ δ’ οὐ γίνεται πρότερον ἐκ τούτου, ἀλλ’ εὐθέως ἡ μέλιττα, ὡς φασίν. Ὅταν δὲ τέκῃ ἐν τῷ κηρίῳ, μέλι ἐκ τοῦ ἀπαντικρὺ γίνεται. Φύει δ’ ἡ σχάδων πόδας καὶ πτερά, ὅταν καταλειφθῇ· ὅταν δὲ λάβῃ τέλος, τὸν ὑμένα (554b.) περιρρήξασ’ ἐκπέταται. Κόπρον δὲ προΐεται, ἕως ἂν ᾖ σκωλήκιον, ὕστερον δ’ οὐκέτι, πλὴν ἐὰν μὴ ἐξέλθῃ, ὥσπερ ἐλέχθη πρότερον.

Ἐὰν δέ τις ἀφέλῃ τὰς κεφαλὰς τῆς σχάδονος πρὶν πτερὰ ἔχειν, ἐξεσθίουσιν αὐταὶ αἱ μέλιτται· καὶ κηφῆνος πτερὸν ἂν ἀποκνίσας ἀφῇ τις, τῶν λοιπῶν αὐταὶ τὰ πτερὰ ἀπεσθίουσιν. Βίος δὲ τῶν μελιττῶν ἔτη ἕξ· ἔνιαι δ’ ἑπτὰ ζῶσιν. Σμῆνος δ’ ἂν διαμείνῃ ἔτη ἐννέα ἢ δέκα, εὖ δοκεῖ διαγεγενῆσθαι.

Ἐν δὲ τῷ Πόντῳ εἰσί τινες μέλιτται λευκαὶ σφόδρα, αἳ τὸ μέλι ποιοῦσι δὶς τοῦ μηνός. Αἱ δ’ ἐν Θεμισκύρᾳ περὶ τὸν Θερμώδοντα ποταμὸν ἐν τῇ γῇ καὶ ἐν τοῖς σμήνεσι ποιοῦσι κηρία οὐκ ἔχοντα κηρὸν πολὺν ἀλλὰ πάνυ σμικρόν, μέλι δὲ παχύ· τὸ δὲ κηρίον λεῖον καὶ ὁμαλόν ἐστιν. Οὐκ ἀεὶ δὲ τοῦτο ποιοῦσιν, ἀλλὰ τοῦ χειμῶνος· ὁ γὰρ κιττὸς πολὺς ἐν τῷ Πόντῳ ἐστίν, ἀνθεῖ δὲ ταύτην τὴν ὥραν, ἀφ’ οὗ φέρουσι τὸ μέλι. Κατάγεται δὲ καὶ εἰς Ἀμισὸν μέλι ἄνωθεν λευκὸν καὶ παχὺ σφόδρα, ὃ ποιοῦσιν αἱ μέλιτται ἄνευ κηρίων πρὸς τοῖς δένδρεσιν· γίνεται δὲ καὶ ἄλλοθι τοιοῦτον ἐν τῷ Πόντῳ. Εἰσὶ δὲ καὶ μέλιτται αἳ ποιοῦσι κηρία τριπλᾶ ἐν τῇ γῇ· ταῦτα δὲ μέλι μὲν ἴσχει, σκώληκας δ’ οὐκ ἴσχει. Ἔστι δ’ οὔτε τὰ κηρία πάντα τοιαῦτα, οὔτε πᾶσαι αἱ μέλιτται τοιαῦτα ποιοῦσιν.

Κεφάλαιο 23

Αἱ δ’ ἀνθρῆναι καὶ οἱ σφῆκες ποιοῦσι κηρία τῷ γόνῳ, ὅταν μὲν μὴ ἔχωσιν ἡγεμόνα ἀλλ’ ἀποπλανηθῶσι καὶ μὴ εὑρίσκωσιν, αἱ μὲν ἀνθρῆναι ἐπὶ μετεώρου τινός, οἱ δὲ σφῆκες ἐν τρώγλαις, ὅταν δ’ ἔχωσιν ἡγεμόνα, ὑπὸ γῆν. Ἑξάγωνα μὲν οὖν πάντα ἐστὶ τὰ κηρία αὐτῶν, ὥσπερ καὶ τὰ τῶν μελιττῶν, σύγκειται δ’ οὐκ ἐκ κηροῦ ἀλλ’ ἐκ φλοιώδους καὶ ἀραχνιώδους ὕλης τὸ κηρίον· γλαφυρώτερον δὲ πολλῷ τὸ τῶν ἀνθρηνῶν ἐστὶν ἢ τὸ τῶν σφηκῶν κηρίον. Ἐναφιᾶσι δὲ γόνον, ὥσπερ αἱ μέλιτται, ὅσον σταλαγμὸν εἰς τὸ πλάγιον (555a.) τοῦ κυττάρου, καὶ ἔχεται πρὸς τῷ τοίχῳ. Οὐχ ἅμα δὲ πᾶσι τοῖς κυττάροις ἔνεστι γόνος, ἀλλ’ ἐνίοις μὲν ἤδη μεγάλα ἔνεστιν ὥστε καὶ πέτεσθαι, ἐνίοις δὲ νύμφαι, ἐν τοῖς δὲ σκώληκες ἔτι. Κόπρος δὲ μόνον περὶ τοῖς σκώληξιν, ὥσπερ καὶ ταῖς μελίτταις. Καὶ ἔστ’ ἂν νύμφαι ὦσιν, ἀκινητίζουσι καὶ ἐπαλήλιπται ὁ κύτταρος. Καταντικρὺ δ’ ἐν τῷ κυττάρῳ τοῦ γόνου ὅσον σταλαγμὸς μέλιτος ἐγγίνεται ἐν τοῖς τῆς ἀνθρήνης κηρίοις. Γίνονται δ’ αἱ σχάδονες οὐκ ἐν τῷ ἔαρι τούτων, ἀλλ’ ἐν τῷ μετοπώρῳ· τὴν δ’ αὔξησιν ἐπίδηλον λαμβάνουσι μάλιστ’ ἐν ταῖς πανσελήνοις. Ἔχεται δὲ καὶ ὁ γόνος καὶ οἱ σκώληκες οὐ κάτωθεν τοῦ κυττάρου, ἀλλ’ ἐκ τοῦ πλαγίου.

Κεφάλαιο 24

Ἔνια δὲ τῶν βομβυλιοειδῶν πρὸς λίθῳ ἢ τοιούτῳ τινὶ ποιοῦσι πήλινον ὀξύ, ὥσπερ σιάλῳ καταλείφοντα· τοῦτο δὲ σφόδρα καὶ παχὺ καὶ σκληρόν· λόγχῃ γὰρ μόλις διαιροῦσιν. Ἐνταῦθα δὲ τίκτουσι, καὶ γίνεται σκωλήκια λευκὰ ἐν ὑμένι μέλανι. Χωρὶς δὲ τοῦ ὑμένος ἐν τῷ πηλῷ ἐγγίνεται κηρός· οὗτος δ’ ὁ κηρὸς πολύ ἐστιν ὠχρότερος τοῦ τῶν μελιττῶν.

Κεφάλαιο 25

Ὀχεύονται δὲ καὶ οἱ μύρμηκες καὶ τίκτουσι σκωλήκια, ἃ οὐ προσπέφυκεν οὐδενί· αὐξανόμενα δὲ ταῦτα ἐκ μικρῶν καὶ στρογγύλων τὸ πρῶτον μακρὰ γίνεται καὶ διαρθροῦται· ἡ δὲ γένεσίς ἐστι τούτοις τοῦ ἔαρος.

Κεφάλαιο 26

Τίκτουσι δὲ καὶ οἱ σκορπίοι οἱ χερσαῖοι σκωλήκια ᾠοειδῆ πολλά, καὶ ἐπῳάζουσιν. Ὅταν δὲ τελειωθῇ, ἐκβάλλονται, ὥσπερ οἱ ἀράχναι, καὶ ἀπόλλυνται ὑπὸ τῶν τέκνων· πολλάκις γὰρ γίνονται περὶ ἕνδεκα τὸν ἀριθμόν.

Κεφάλαιο 27

Τὰ δ’ ἀράχνια ὀχεύεται μὲν πάντα τὸν εἰρημένον τρόπον, γεννᾷ δὲ σκωλήκια μικρὰ πρῶτον· ὅλα γὰρ μεταβάλλοντα γίνεται ἀράχνια, καὶ οὐκ ἐκ μέρους, ἐπεὶ στρογγύλα ἐστὶ κατ’ ἀρχάς· ὅταν δὲ τέκῃ, ἐπῳάζει τε καὶ ἐν (555b.) τρισὶν ἡμέραις διαρθροῦται. Τίκτει δὲ πάντα μὲν ἐν ἀραχνίῳ, ἀλλὰ τὰ μὲν ἐν λεπτῷ καὶ μικρῷ, τὰ δ’ ἐν παχεῖ, καὶ τὰ μὲν ὅλως ἐν κύτει στρογγύλῳ, τὰ δὲ μέχρι τινὸς περιέχεται ὑπὸ τοῦ ἀραχνίου.

Οὐχ ἅμα δὲ πάντα <τὰ> ἀράχνια, γίνεται· πηδᾷ δ’ εὐθὺς καὶ ἀφίησιν ἀράχνιον. Ὁ δὲ χυμὸς ὅμοιος ἐν τοῖς σκώληξι θλιβομένοις καὶ ἐν αὐτοῖς νέοις οὖσι, παχὺς καὶ λευκός.

Αἱ δὲ λειμώνιαι ἀράχναι προαποτίκτουσιν εἰς ἀράχνιον, οὗ τὸ μὲν ἥμισυ πρὸς αὐταῖς ἐστι, τὸ δ’ ἥμισυ ἔξω· καὶ ἐν τούτῳ ἐπῳάζουσαι ζῳοποιοῦσιν. Τὰ δὲ φαλάγγια τίκτει εἰς γύργαθον πλεξάμενα παχύν, ἐφ’ ᾧ ἐπῳάζουσιν. Τίκτουσι δ’ αἱ μὲν γλαφυραὶ ἐλάττω τὸ πλῆθος, τὰ δὲ φαλάγγια πολὺ τὸ πλῆθος· καὶ αὐξηθέντα περιέχει κύκλῳ τὸ φαλάγγιον, καὶ ἀποκτείνει τὴν τεκοῦσαν ἐκβάλλοντα, πολλάκις δὲ καὶ τὸν ἄρρενα, ἐὰν λάβωσιν· συνεπῳάζει γὰρ τῇ θηλείᾳ. Ἐνίοτε δὲ τὸ πλῆθος γίνονται καὶ τριακόσια περὶ ἓν φαλάγγιον. Ἐκ δὲ μικρῶν τέλειοι οἱ ἀράχναι γίνονται περὶ τὰς ἑπτάδας τὰς τέτταρας.

Κεφάλαιο 28

Αἱ δ’ ἀκρίδες ὀχεύονται μὲν τὸν αὐτὸν τρόπον τοῖς ἄλλοις ἐντόμοις, ἐπιβαίνοντος τοῦ ἐλάττονος ἐπὶ τὸ μεῖζον (τὸ γὰρ ἄρρεν ἔλαττόν ἐστι), τίκτουσι δ’ εἰς τὴν γῆν καταπήξασαι τὸν πρὸς τῇ κέρκῳ καυλόν, ὃν οἱ ἄρρενες οὐκ ἔχουσιν.

Ἀθρόα δὲ τίκτουσι καὶ κατὰ τὸν αὐτὸν τόπον, ὥστε εἶναι καθαπερεὶ κηρίον. Εἶθ’ ὅταν τέκωσιν, ἐνταῦθα γίνονται σκώληκες ᾠοειδεῖς, οἳ περιλαμβάνονται ὑπό τινος γῆς λεπτῆς ὥσπερ ὑμένος· ἐκ ταύτης δ’ ἐκπέττονται. Γίνεται δὲ μαλακὰ τὰ κυήματα οὕτως ὥστ’ ἄν τις ἅψηται συνθλίβεσθαι. Ταῦτα δ’ οὐκ ἐπιπολῆς ἀλλὰ μικρὸν ὑπὸ γῆς ἐστιν. Ὅταν δ’ ἐκπεφθῶσιν, ἐκδύνουσιν ἐκ τοῦ γεοειδοῦς τοῦ περιέχοντος ἀκρίδες μικραὶ καὶ μέλαιναι· εἶτα περιρρήγνυται αὐταῖς τὸ δέρμα καὶ γίνονται εὐθὺς μείζους. Τίκτουσι δὲ λήγοντος τοῦ θέρους, (556a.) καὶ τεκοῦσαι ἀποθνήσκουσιν· ἅμα γὰρ τικτούσαις σκώληκες ἐγγίνονται περὶ τὸν τράχηλον. Καὶ οἱ ἄρρενες δ’ ἀποθνήσκουσι περὶ τὸν αὐτὸν χρόνον. Ἐκδύνουσι δ’ ἐκ τῆς γῆς τοῦ ἔαρος. Οὐ γίνονται δ’ ἀκρίδες οὔτ’ ἐν τῇ ὀρεινῇ οὔτ’ ἐν τῇ λυπρᾷ, ἀλλ’ ἐν τῇ πεδιάδι καὶ κατερρωγυίᾳ· ἐν ταῖς ῥωγμαῖς γὰρ ἐκτίκτουσιν. Διαμένει δὲ τὰ ᾠὰ τὸν χειμῶνα ἐν τῇ γῇ· ἅμα δὲ τῷ θέρει γίνονται ἐκ τῶν περυσινῶν κυημάτων ἀκρίδες.

Κεφάλαιο 29

Ὁμοίως δὲ τίκτουσι καὶ οἱ ἀττέλαβοι, καὶ τεκόντες ἀποθνήσκουσιν. Φθείρεται δ’ αὐτῶν τὰ ᾠὰ ὑπὸ τῶν μετοπωρινῶν ὑδάτων, ὅταν πολλὰ γένηται· ἂν δ’ αὐχμὸς συμβῇ, τότε γίνονται μᾶλλον πολλοὶ οἱ ἀττέλαβοι διὰ τὸ μὴ φθείρεσθαι ὁμοίως, ἐπεὶ ἄτακτός γε δοκεῖ ἡ φθορὰ αὐτῶν, καὶ γίνεσθαι ὅπως ἂν τύχῃ.

Κεφάλαιο 30

Τῶν δὲ τεττίγων γένη μέν ἐστι δύο, οἱ μὲν μικροί, οἳ πρῶτοι φαίνονται καὶ τελευταῖοι ἀπόλλυνται, οἱ δὲ μεγάλοι, [οἱ ᾄδοντες] οἳ καὶ ὕστερον γίνονται καὶ πρότερον ἀπόλλυνται. Ὁμοίως δ’ ἔν τε τοῖς μικροῖς καὶ τοῖς μεγάλοις οἱ μὲν διῃρημένοι εἰσὶ τὸ ὑπόζωμα, οἱ ᾄδοντες, οἱ δ’ ἀδιαίρετοι, οἱ οὐκ ᾄδοντες. Καλοῦσι δὲ τοὺς μὲν μεγάλους καὶ ᾄδοντας ἀχέτας, τοὺς δὲ μικροὺς τεττιγόνια· ᾄδουσι δὲ μικρὸν καὶ τούτων οἱ διῃρημένοι.

Οὐ γίνονται δὲ τέττιγες ὅπου μὴ δένδρα ἐστίν· διὸ καὶ ἐν Κυρήνῃ οὐ γίνονται ἐν τῷ πεδίῳ, περὶ δὲ τὴν πόλιν πολλοί, μάλιστα δ’ οὗ ἐλαῖαι· οὐ γὰρ γίνονται παλίνσκιοι. Ἐν γὰρ τοῖς ψυχροῖς οὐ γίνονται τέττιγες, διὸ οὐδ’ ἐν τοῖς συσκίοις ἄλσεσιν.

Ὀχεύονται δ’ ὁμοίως οἱ μεγάλοι ἀλλήλοις καὶ οἱ μικροί, ὕπτιοι συνδυαζόμενοι πρὸς ἀλλήλους· ἐναφίησι δ’ ὁ ἄρρην εἰς τὴν θήλειαν, ὥσπερ καὶ τἆλλα ἔντομα. Ἔχει δὲ καὶ ἡ θήλεια αἰδοῖον ἐσχισμένον· θήλεια δ’ ἐστὶν εἰς ἣν ἀφίησιν ὁ ἄρρην. Τίκτουσι δ’ ἐν τοῖς ἀργοῖς, τρυπῶντες ᾧ ἔχουσιν ὄπισθεν ὀξεῖ, καθάπερ καὶ οἱ (556b.) ἀττέλαβοι· καὶ γὰρ οἱ ἀττέλαβοι τίκτουσιν ἐν τοῖς ἀργοῖς, διὸ πολλοὶ ἐν τῇ Κυρηναίᾳ γίνονται. Ἐντίκτουσι δὲ καὶ ἐν τοῖς καλάμοις ἐν οἷς ἱστᾶσι τὰς ἀμπέλους, διατρυπῶντες τοὺς καλάμους, καὶ ἐν τοῖς τῆς σκίλλης καυλοῖς. Ταῦτα δὲ τὰ κυήματα καταρρεῖ εἰς τὴν γῆν.

Γίνονται δὲ πολλοὶ ὅταν ἐπομβρία γένηται. Ὁ δὲ σκώληξ αὐξηθεὶς ἐν τῇ γῇ γίνεται τεττιγομήτρα· καὶ εἰσὶ τότε ἥδιστοι, πρὶν περιρραγῆναι τὸ κέλυφος. Ὅταν δ’ ἡ ὥρα ἔλθῃ περὶ τροπάς, ἐξέρχονται νύκτωρ, καὶ εὐθὺς ῥήγνυταί τε τὸ κέλυφος καὶ γίνονται τέττιγες ἐκ τῆς τεττιγομήτρας, καὶ γίνονται μέλανες καὶ σκληρότεροι εὐθὺς καὶ μείζους, καὶ ᾄδουσιν. Εἰσὶ δ’ ἄρρενες μὲν οἱ ᾄδοντες ἐν ἀμφοτέροις τοῖς γένεσι, θήλεις δ’ οἱ ἕτεροι. Καὶ τὸ μὲν πρῶτον ἡδίους οἱ ἄρρενες, μετὰ δὲ τὴν ὀχείαν αἱ θήλειαι· ἔχουσι γὰρ ᾠὰ λευκά. Ἀναπετόμενοι δ’ ὅταν σοβήσῃ τις, ἀφιᾶσιν ὑγρὸν οἷον ὕδωρ, ὃ λέγουσιν οἱ γεωργοὶ ὡς κατουρούντων καὶ ἐχόντων περίττωμα καὶ τρεφομένων τῇ δρόσῳ.

Ἐὰν δέ τις κινῶν τὸν δάκτυλον προσίῃ ἀπ’ ἄκρου ἐπικάμπτων τε καὶ ἐπεκτείνων πάλιν, μᾶλλον ὑπομένουσιν ἢ ἐὰν εὐθὺς ἐκτείνας, καὶ ἀναβαίνουσιν ἐπὶ τὸν δάκτυλον· διὰ τὸ ἀμυδρῶς γὰρ ὁρᾶν ὡς ἐπὶ φύλλον ἀναβαίνουσι κινούμενον.

Κεφάλαιο 31

Τῶν δ’ ἐντόμων ὅσα σαρκοφάγα μὲν μή ἐστι, ζῇ δὲ χυμοῖς σαρκὸς ζώσης, οἷον οἵ τε φθεῖρες καὶ αἱ ψύλλαι καὶ κόρεις, ἐκ μὲν τῆς ὀχείας πάντα γεννᾷ τὰς καλουμένας κόνιδας, ἐκ δὲ τούτων ἕτερον οὐδὲν γίνεται πάλιν.

Αὐτῶν δὲ γίνονται τούτων αἱ μὲν ψύλλαι ἐξ ἐλαχίστης σηπεδόνος (ὅπου γὰρ ἂν κόπρος ξηρὰ γένηται, ἐνταῦθα συνίστανται), αἱ δὲ κόρεις ἐκ τῆς ἰκμάδος τῆς ἀπὸ τῶν ζῴων συνισταμένης ἐκτός, οἱ δὲ φθεῖρες ἐκ τῶν σαρκῶν. Γίνονται δ’ ὅταν μέλλωσιν, οἷον ἴονθοι μικροί, οὐκ ἔχοντες πύον· τούτους ἄν τις κεντήσῃ, ἐξέρχονται φθεῖρες. Ἐνίοις δὲ τοῦτο συμβαίνει τῶν ἀνθρώπων (557a.) νόσημα, ὅταν ὑγρασία πολλὴ ἐν τῷ σώματι ᾖ· καὶ διεφθάρησάν τινες ἤδη τοῦτον τὸν τρόπον, ὥσπερ Ἀλκμᾶνά τέ φασι τὸν ποιητὴν καὶ Φερεκύδην τὸν Σύριον. Καὶ ἐν νόσοις δέ τισι γίνεται πλῆθος φθειρῶν. Ἔστι δὲ γένος φθειρῶν οἳ καλοῦνται ἄγριοι, καὶ σκληρότεροι τῶν ἐν τοῖς πολλοῖς γινομένων· εἰσὶ δ’ οὗτοι καὶ δυσαφαίρετοι ἀπὸ τοῦ χρωτός.

Παισὶ μὲν οὖν οὖσιν αἱ κεφαλαὶ γίνονται φθειρώδεις, τοῖς δ’ ἀνδράσιν ἧττον. Γίνονται δὲ καὶ αἱ γυναῖκες τῶν ἀνδρῶν μᾶλλον φθειρώδεις. Ὅσοις δ’ ἂν ἐγγίνωνται ἐν τῇ κεφαλῇ, ἧττον πονοῦσι τὰς κεφαλάς.

Ἐγγίνονται δὲ καὶ τῶν ἄλλων ζῴων ἐν πολλοῖς φθεῖρες. Καὶ γὰρ οἱ ὄρνιθες ἔχουσι, καὶ οἱ καλούμενοι φασιανοὶ ἐὰν μὴ κονιῶνται, διαφθείρονται ὑπὸ τῶν φθειρῶν. Καὶ τῶν ἄλλων δ’ ὅσα πτερὰ ἔχει ἔχοντα καυλόν, καὶ τῶν ἐχόντων τρίχας. Πλὴν ὄνος οὐκ ἔχει οὔτε φθεῖρας οὔτε κρότωνας. Οἱ δὲ βόες ἔχουσιν ἄμφω· τὰ δὲ πρόβατα καὶ <αἱ> αἶγες κρότωνας, φθεῖρας δ’ οὐκ ἔχουσιν· καὶ αἱ ὕες φθεῖρας μεγάλους καὶ σκληρούς. Ἐν δὲ τοῖς κυσὶν οἱ καλούμενοι γίνονται κυνοραϊσταί. Πάντες δ’ οἱ φθεῖρες ἐν τοῖς ἔχουσιν ἐξ αὐτῶν γίνονται τῶν ζῴων. Γίνονται δ’ οἱ φθεῖρες μᾶλλον ὅταν μεταβάλλωσι τὰ ὕδατα οἷς λούονται, ὅσα ἔχει τῶν λουομένων φθεῖρας.

Ἐν δὲ τῇ θαλάττῃ γίνονται μὲν ἐν τοῖς ἰχθύσι φθεῖρες, οὗτοι δ’ οὐκ ἐξ αὐτῶν τῶν ἰχθύων ἀλλ’ ἐκ τῆς ἰλύος· εἰσὶ δὲ τὰς ὄψεις ὅμοιοι τοῖς ὄνοις τοῖς πολύποσι, πλὴν τὴν οὐρὰν ἔχουσι πλατεῖαν. Ἓν δ’ εἶδός ἐστι τῶν φθειρῶν τῶν θαλαττίων, καὶ γίνονται πανταχοῦ, μάλιστα δὲ περὶ τὰς τρίγλας. Πάντα δὲ πολύποδα ταῦτ’ ἐστὶ καὶ ἄναιμα καὶ ἔντομα. Ὁ δὲ τῶν θύννων οἶστρος γίνεται μὲν περὶ τὰ πτερύγια, ἔστι δ’ ὅμοιος τοῖς σκορπίοις, καὶ τὸ μέγεθος ἡλίκος ἀράχνης. Ἐν δὲ τῇ θαλάττῃ τῇ ἀπὸ Κυρήνης πρὸς Αἴγυπτον ἔστι περὶ τὸν δελφῖνα ἰχθὺς ὃν καλοῦσι φθεῖρα· ὃς γίνεται πάντων πιότατος διὰ τὸ ἀπολαύειν τροφῆς ἀφθόνου θηρεύοντος τοῦ δελφῖνος.

Κεφάλαιο 32

(557b.) Γίνεται δὲ καὶ ἄλλα ζῳδάρια, ὥσπερ ἐλέχθη καὶ πρότερον, τὰ μὲν ἐν ἐρίοις καὶ ὅσα ἐξ ἐρίων ἐστίν, οἷον οἱ σῆτες, οἳ ἐμφύονται μᾶλλον ὅταν κονιορτώδη τὰ ἔρια ᾖ, μάλιστα δὲ γίνονται ἂν ἀράχνης συγκατακλεισθῇ· ἐκπίνων γάρ, ἄν τι ἐνῇ ὑγρόν, ξηραίνει. Γίνεται δὲ καὶ ἐν χιτῶνι ὁ σκώληξ οὗτος. Καὶ ἐπὶ κηρίῳ δὲ γίνεται παλαιουμένῳ, ὥσπερ ἐν ξύλῳ ζῷον, ὃ δὴ δοκεῖ ἐλάχιστον εἶναι τῶν ζῴων πάντων καὶ καλεῖται ἀκαρί, λευκὸν καὶ μικρόν. Καὶ ἐν τοῖς βιβλίοις ἄλλα γίνεται, τὰ μὲν ὅμοια τοῖς ἐν τοῖς ἱματίοις, τὰ δὲ τοῖς σκορπίοις ἄνευ τῆς οὐρᾶς, μικρὰ πάμπαν· καὶ ὅλως ἐν πᾶσιν ὡς εἰπεῖν, ἔν τε τοῖς ξηροῖς ὑγραινομένοις καὶ ἐν τοῖς ὑγροῖς ξηραινομένοις, ὅσα ἔχει αὐτῶν ζωήν.

Ἔστι δέ τι σκωλήκιον ὃ καλεῖται ξυλοφθόρον, οὐδενὸς ἧττον ἄτοπον τῶν ζῴων. Ἡ μὲν γὰρ κεφαλὴ ἔξω τοῦ κελύφους προέρχεται ποικίλη, καὶ οἱ πόδες ἐπ’ ἄκρου, ὥσπερ τοῖς ἄλλοις σκώληξιν, ἐν χιτῶνι δὲ τὸ ἄλλο σῶμα ἀραχνιώδει, καὶ περὶ αὐτὸ κάρφη, ὥστε δοκεῖν προσέχεσθαι βαδίζοντι· ταῦτα δὲ σύμφυτα τῷ χιτῶνί ἐστιν· ὥσπερ κοχλίᾳ τὸ ὄστρακον, οὕτω τὸ ἅπαν τῷ σκώληκι, καὶ οὐκ ἀποπίπτει ἀλλ’ ἀποσπᾶται ὥσπερ προσπεφυκότα· καὶ ἐάν τις τὸν χιτῶνα περιέλῃ, ἀποθνήσκει καὶ γίνεται ὁμοίως ἀχρεῖος ὥσπερ ὁ κοχλίας περιαιρεθέντος τοῦ ὀστράκου. Χρόνου δὲ προϊόντος γίνεται καὶ οὗτος ὁ σκώληξ χρυσαλλὶς ὥσπερ αἱ κάμπαι, καὶ ζῇ ἀκινητίζων· ὅ τι δ’ ἐξ αὐτοῦ γίνεται τῶν πτερωτῶν ζῴων, οὔπω συνῶπται.

Τὰ δ’ ἐρινεὰ τὰ ἐν τοῖς ἐρινεοῖς ἔχουσι τοὺς καλουμένους ψῆνας. Γίνεται δὲ τοῦτο πρῶτον σκωλήκιον, εἶτα περιρραγέντος τοῦ δέρματος ἐκπέτεται τοῦτο ἐγκαταλιπὼν ὁ ψήν, καὶ εἰσδύεται εἰς τὰ τῶν συκῶν ἐρινεά, καὶ διὰ στιγμάτων ποιεῖ μὴ ἀποπίπτειν τὰ ἐρινεά· διὸ περιάπτουσί τε τὰ ἐρινεὰ πρὸς τὰς συκᾶς οἱ γεωργοί, καὶ φυτεύουσι πλησίον ταῖς συκαῖς ἐρινεούς.

Κεφάλαιο 33

Τῶν δὲ τετραπόδων καὶ ἐναίμων καὶ ᾠοτόκων αἱ μὲν (558a.) γενέσεις εἰσὶ τοῦ ἔαρος, ὀχεύεται δ’ οὐ πάντα τὴν αὐτὴν ὥραν, ἀλλὰ τὰ μὲν ἔαρος τὰ δὲ θέρους τὰ δὲ περὶ τὸ μετόπωρον, ὡς ἑκάστοις πρὸς τὴν γένεσιν τῶν ἐκγόνων ἡ ἐπιοῦσα ὥρα συμφέρει.

Ἡ μὲν οὖν χελώνη τίκτει ᾠὰ σκληρόδερμα καὶ δίχροα ὥσπερ τὰ τῶν ὀρνίθων, τεκοῦσα δὲ κατορύττει καὶ τὸ ἄνω ποιεῖ ἐπίκροτον· ὅταν δὲ τοῦτο ποιήσῃ, φοιτῶσα ἐπῳάζει ἄνωθεν· ἐκλέπεται δὲ τὰ ᾠὰ τῷ ὑστέρῳ ἔτει. Ἡ δ’ ἐμὺς ἐξιοῦσα ἐκ τοῦ ὕδατος τίκτει, ὀρύξασα βόθυνον πιθώδη, καὶ ἐντεκοῦσα καταλείπει· ἐάσασα δ’ ἡμέρας ἐλάττους ἢ τριάκοντα ἀνορύττει καὶ ἐκλέπει ταχύ, καὶ ἀπάγει τοὺς νεοττοὺς εὐθὺς εἰς τὸ ὕδωρ. Τίκτουσι δὲ καὶ αἱ θαλάττιαι χελῶναι ἐν τῇ γῇ ᾠὰ ὅμοια τοῖς ὄρνισι τοῖς ἡμέροις, καὶ κατορύξασαι ἐπῳάζουσι τὰς νύκτας. Τίκτουσι δὲ πολὺ πλῆθος ᾠῶν· καὶ γὰρ εἰς ἑκατὸν τίκτουσιν ᾠά.

Τίκτουσι δὲ καὶ σαῦροι καὶ κροκόδειλοι οἱ χερσαῖοι καὶ οἱ ποτάμιοι εἰς τὴν γῆν. Ἐκλέπεται δὲ τὰ τῶν σαύρων αὐτόματα ἐν τῇ γῇ· οὐ γὰρ διετίζει ὁ σαῦρος· λέγεται γὰρ ἔκμηνος εἶναι βίος σαύρας. Ὁ δὲ ποτάμιος κροκόδειλος τίκτει μὲν ᾠὰ πολλά, τὰ πλεῖστα περὶ ἑξήκοντα, λευκὰ τὴν χρόαν, καὶ ἐπικάθηται δ’ ἡμέρας ἑξήκοντα (καὶ γὰρ καὶ βιοῖ χρόνον πολύν), ἐξ ἐλαχίστων δ’ ᾠῶν ζῷον μέγιστον γίνεται ἐκ τούτων· τὸ μὲν γὰρ ᾠὸν οὐ μεῖζόν ἐστι χηνείου, καὶ ὁ νεοττὸς τούτου κατὰ λόγον, αὐξανόμενος δὲ γίνεται καὶ ἑπτακαίδεκα πήχεων. Λέγουσι δέ τινες ὅτι καὶ αὐξάνεται ἕως ἂν ζῇ.

Κεφάλαιο 34

Τῶν δ’ ὄφεων ὁ μὲν ἔχις ζῳοτοκεῖ ἔξω, ἐν αὑτῷ πρῶτον ᾠοτοκήσας· τὸ δ’ ᾠόν, ὥσπερ τῶν ἰχθύων, μονόχρουν ἐστὶ καὶ μαλακόδερμον. Ὁ δὲ νεοττὸς ἄνω ἐπιγίνεται, καὶ οὐ περιέχει φλοιὸς ὀστρακώδης, ὥσπερ οὐδὲ τὰ τῶν ἰχθύων. Τίκτει δὲ μικρὰ ἐχίδια ἐν ὑμέσιν, οἳ περιρρήγνυνται τριταῖοι· ἐνίοτε δὲ καὶ τὰ ἔσω διαφαγόντα αὑτὰ ἐξέρχεται. Τίκτει δ’ ἐν μιᾷ ἡμέρᾳ καθ’ ἕν, τίκτει δὲ πλείω ἢ εἴκοσιν.

(558b.) Οἱ δ’ ἄλλοι ὄφεις ᾠοτοκοῦσιν ἔξω, τὰ δ’ ᾠὰ ἀλλήλοις συνεχῆ ἐστιν ὥσπερ αἱ τῶν γυναικῶν ὑποδερίδες· ὅταν δὲ τέκῃ εἰς τὴν γῆν, ἐπῳάζει. Ἐκλέπεται δὲ καὶ ταῦτα τῷ ὑστέρῳ ἔτει.

Βιβλίο 6

Κεφάλαιο 1

Αἱ μὲν οὖν τῶν ὄφεων καὶ τῶν ἐντόμων γενέσεις, ἔτι δὲ τῶν τετραπόδων καὶ ᾠοτόκων, τοῦτον ἔχουσι τὸν τρόπον.

Οἱ δ' ὄρνιθες ᾠοτοκοῦσι μὲν ἅπαντες, ἡ δ' ὥρα τῆς ὀχείας καὶ οἱ τόκοι οὐ πᾶσιν ὁμοίως ἔχουσιν. Τὰ μὲν γὰρ καὶ ὀχεύεται καὶ τίκτει κατὰ πάντα τὸν χρόνον ὡς εἰπεῖν, οἷον ἀλεκτορὶς καὶ περιστερά, ἡ μὲν ἀλεκτορὶς ὅλον τὸν ἐνιαυτὸν ἔξω δύο μηνῶν τῶν ἐν τῷ χειμῶνι τροπικῶν. Πλῆθος δὲ τίκτουσιν ἔνιαι καὶ τῶν γενναίων πρὸ ἐπῳασμοῦ καὶ ἑξήκοντα· καίτοι ἧττον πολυτόκοι αἱ γενναῖαι τῶν ἀγεννῶν εἰσιν. Αἱ δ' Ἀδριαναὶ ἀλεκτορίδες εἰσὶ μὲν μικραὶ τὸ μέγεθος, τίκτουσι δ' ἀν' ἑκάστην ἡμέραν· εἰσὶ δὲ χαλεπαί, καὶ κτείνουσι τοὺς νεοττοὺς πολλάκις· χρώματα δὲ παντοδαπὰ ἔχουσιν.

Τίκτουσι δὲ καὶ οἰκογενεῖς ἔνιαι δὶς τῆς ἡμέρας· ἤδη δέ τινες λίαν πολυτοκήσασαι ἀπέθανον διὰ ταχέων.

Αἱ μὲν οὖν ἀλεκτορίδες τίκτουσιν, ὥσπερ εἴρηται, συνεχῶς· περιστερὰ δὲ καὶ φάττα καὶ τρυγὼν καὶ οἰνὰς διτοκοῦσι μέν, ἀλλ' αἱ περιστεραὶ καὶ δεκάκις τοῦ ἐνιαυτοῦ τίκτουσιν.

Οἱ δὲ πλεῖστοι τῶν ὀρνίθων τίκτουσι τὴν ἐαρινὴν ὥραν, καί εἰσιν οἱ μὲν πολύγονοι αὐτῶν, πολύγονοι δὲ διχῶς, οἱ μὲν τῷ πολλάκις, ὥσπερ αἱ περιστεραί, οἱ δὲ τῷ πολλά, ὥσπερ αἱ ἀλεκτορίδες. Τὰ δὲ γαμψώνυχα πάντα ὀλιγόγονά ἐστιν, ἔξω κεγχρίδος· αὕτη δὲ πλεῖστα τίκτει τῶν γαμψωνύχων. Ὦπται μὲν οὖν καὶ τέτταρα ἤδη, τίκτει δὲ καὶ πλείω.

Τίκτουσι δὲ τὰ μὲν ἄλλα ἐν νεοττιαῖς, τὰ δὲ μὴ πτητικὰ ἐν νεοττιαῖς οὐδαμῶς, οἷον οἵ τε (559a.) πέρδικες καὶ οἱ ὄρτυγες, ἀλλ' ἐν τῇ γῇ, ἐπηλυγαζόμενα ὕλην. Ὡσαύτως δὲ καὶ κόρυδος καὶ τέτριξ. Ταῦτα μὲν οὖν ὑπηνέμους ποιεῖται τὰς νεοττεύσεις· ὃν δ' οἱ Βοιωτοὶ καλοῦσιν εἴροπα, εἰς τὰς ὀπὰς ἐν τῇ γῇ καταδυόμενος νεοττεύει μόνος. Αἱ δὲ κίχλαι νεοττιὰν μὲν ποιοῦνται ὥσπερ αἱ χελιδόνες ἐκ πηλοῦ ἐπὶ τοῖς ὑψηλοῖς τῶν δένδρων, ἐφεξῆς δὲ ποιοῦσιν ἀλλήλαις καὶ ἐχομένας, ὥστ' εἶναι διὰ τὴν συνέχειαν ὥσπερ ὁρμαθὸν νεοττιῶν. Ὁ δ' ἔποψ μόνος οὐ ποιεῖται νεοττιὰν τῶν καθ' ἑαυτὰ νεοττευόντων, ἀλλ' εἰσδυόμενος εἰς τὰ στελέχη ἐν τοῖς κοίλοις αὐτῶν τίκτει, οὐδὲν συμφορούμενος. Ὁ δὲ κόραξ καὶ ἐν οἰκίᾳ νεοττεύει καὶ ἐν πέτραις. Ἡ δὲ τέτριξ, ἣν καλοῦσιν Ἀθηναῖοι οὔραγα, οὔτ' ἐπὶ τῆς γῆς νεοττεύει οὔτ’ ἐπὶ τοῖς δένδρεσιν, ἀλλ’ ἐπὶ τοῖς χαμαιζήλοις φυτοῖς.

Κεφάλαιο 2

Τὸ δ’ ᾠὸν ἁπάντων ὁμοίως τῶν ὀρνίθων σκληρόδερμόν ἐστιν, ἐὰν γόνῳ γένηται καὶ μὴ διαφθαρῇ (ἔνια γὰρ μαλακὰ τίκτουσιν αἱ ἀλεκτορίδες), καὶ δίχροα τὰ ᾠὰ τῶν ὀρνίθων, ἐκτὸς μὲν τὸ λευκόν, ἐντὸς δὲ τὸ ὠχρόν. Διαφέρουσι δὲ καὶ τὰ τῶν περὶ ποταμοὺς καὶ λίμνας γινομένων ὀρνέων πρὸς τὰ τῶν ξηροβατικῶν· πολλαπλάσιον γὰρ ἔχει τὰ τῶν ἐνύδρων κατὰ λόγον τὸ ὠχρὸν πρὸς τὸ λευκόν. Καὶ τὰ χρώματα δὲ τῶν ᾠῶν διαφέρει κατὰ τὰ γένη τῶν ὀρνίθων· τῶν μὲν γὰρ λευκά ἐστι τὰ ᾠά, οἷον περιστερᾶς καὶ πέρδικος, τῶν δ’ ὠχρά, οἷον τῶν περὶ τὰς λίμνας, τῶν δὲ κατεστιγμένα, οἷον τὰ τῶν μελεαγρίδων καὶ φασιανῶν· τὰ δὲ τῆς κεγχρίδος ἐρυθρά ἐστιν ὥσπερ μίλτος.

Ἔχει δὲ τὸ ᾠὸν διαφοράν· τῇ μὲν γὰρ ὀξὺ τῇ δὲ πλατύτερόν ἐστιν· ἐξιόντος δ’ ἡγεῖται τὸ πλατύ. Ἔστι δὲ τὰ μὲν μακρὰ καὶ ὀξέα τῶν ᾠῶν θήλεα, τὰ δὲ στρογγύλα καὶ περιφέρειαν ἔχοντα κατὰ τὸ ὀξὺ ἄρρενα.

Ἐκλέπεται μὲν οὖν ἐπῳαζόντων τῶν ὀρνίθων, (559b.) οὐ μὴν ἀλλὰ καὶ αὐτόματα ἐν τῇ γῇ ὥσπερ ἐν Αἰγύπτῳ, κατορυττόντων εἰς τὴν κόπρον· καὶ ἐν Συρακούσαις δὲ φιλοπότης τις ὑποτιθέμενος ὑπὸ τὴν ψίαθον εἰς τὴν γῆν τοσοῦτον ἔπινεν, ὡς φασί, χρόνον συνεχῶς, ἕως ἐκλέποι τὰ ᾠά. Ἤδη δὲ καὶ κείμενα ἐν ἀγγείοις ἀλεεινοῖς ἐξεπέφθη καὶ ἐξῆλθεν αὐτόματα.

Ἡ μὲν οὖν γονὴ πάντων τῶν ὀρνίθων λευκή, ὥσπερ καὶ τῶν ἄλλων ζῴων· ὅταν δ’ ὀχευθῇ, ἄνω πρὸς τὸ ὑπόζωμα λαμβάνει ἡ θήλεια. Καὶ τὸ μὲν πρῶτον λευκὸν καὶ μικρὸν φαίνεται, ἔπειτα ἐρυθρὸν καὶ αἱματῶδες, αὐξανόμενον δ’ ὠχρὸν καὶ ξανθὸν ἅπαν· ὅταν δ’ ἤδη γίνηται ἁδρότερον, διακρίνεται, καὶ ἔσω μὲν τὸ ὠχρὸν ἔξω δὲ τὸ λευκὸν περιίσταται. Ὅταν δὲ τελειωθῇ, ἀπολύεταί τε καὶ ἐξέρχεται οὕτω τῷ καιρῷ ἐκ τοῦ μαλακὸν εἶναι μεταβάλλον ἐπὶ τὸ σκληρόν, ὥστ’ ἐξέρχεται μὲν οὔπω πεπηγός, ἐξελθὸν δ’ εὐθὺς πήγνυται καὶ γίνεται σκληρόν, ἂν μὴ ἐξίῃ νενοσηκός. Ἐφάνη δ’ ἤδη, οἷον ἔν τινι καιρῷ γίνεται τὸ ᾠόν (ἅπαν γὰρ ὠχρὸν ὁμοίως ἐστίν, ὥσπερ ὕστερον ὁ νεοττός), τοιαῦτα καὶ ἐν ἀλεκτρυόνι διαιρουμένῳ ὑπὸ τὸ ὑπόζωμα, οὗπερ αἱ θήλειαι ἔχουσι τὰ ᾠά, τὸ μὲν εἶδος ὠχρὰ ὅλα, τὸ δὲ μέγεθος ἡλίκα ᾠά· ἃ ἐν τέρατος λόγῳ τιθέασιν.

Οἱ δὲ λέγοντες ὅτι ὑπολείμματά ἐστι τὰ ὑπηνέμια τῶν ἔμπροσθεν ἐξ ὀχείας γενομένων, οὐκ ἀληθῆ λέγουσιν· ὦπται γὰρ ἱκανῶς ἤδη ἀνόχευτοι νεοττίδες ἀλεκτορίδων καὶ χηνῶν τίκτουσαι ὑπηνέμια. Τὰ δ’ ᾠὰ τὰ ὑπηνέμια ἐλάττω μὲν τῷ μεγέθει γίνεται καὶ ἧττον ἡδέα καὶ ὑγρότερα τῶν γονίμων, πλήθει δὲ πλείω· ὑποτιθεμένων δὲ τῇ ὄρνιθι οὐδὲν παχύνεται τὸ ὑγρόν, ἀλλὰ τό τ’ ὠχρὸν διαμένει καὶ τὸ λευκὸν ὅμοια ὄντα. Γίνεται δ’ ὑπηνέμια πολλῶν, οἷον ἀλεκτορίδος, πέρδικος, περιστερᾶς, ταῶνος, χηνός, χηναλώπεκος. Ἐκλέπεται δ’ ἐπῳαζουσῶν ἐν τῷ θέρει θᾶττον ἢ ἐν τῷ χειμῶνι· ἐν (560a.) ὀκτωκαίδεκα γὰρ ἡμέραις αἱ ἀλεκτορίδες ἐν τῷ θέρει ἐκλέπουσιν, ἐν δὲ τῷ χειμῶνι ἐνίοτ’ ἐν πέντε καὶ εἴκοσιν. Διαφέρουσι μέντοι καὶ ὄρνιθες ὀρνίθων τῷ ἐπῳαστικώτεραι εἶναι ἕτεραι ἑτέρων. Ἐὰν δὲ βροντήσῃ ἐπῳαζούσης, διαφθείρεται τὰ ᾠά.

Τὰ δὲ καλούμενα ὑπό τινων κυνόσουρα καὶ οὔρια γίνεται τοῦ θέρους μᾶλλον. Ζεφύρια δὲ καλεῖται τὰ ὑπηνέμια ὑπό τινων, ὅτι ὑπὸ τὴν ἐαρινὴν ὥραν φαίνονται δεχόμεναι τὰ πνεύματα αἱ ὄρνιθες· τοιοῦτον δὲ ποιοῦσι καὶ τῇ χειρί πως ψηλαφώμεναι.

Γίνεται δὲ τὰ ὑπηνέμια γόνιμα καὶ τὰ ἐξ ὀχείας ἤδη ἐνυπάρχοντα μεταβάλλει τὸ γένος εἰς ἄλλο γένος, ἐὰν πρὶν μεταβαλεῖν ἐκ τοῦ ὠχροῦ εἰς τὸ λευκὸν ὀχεύηται ἡ τὰ ὑπηνέμια ἔχουσα ἢ τὰ γόνῳ εἰλημμένα ἐξ ἑτέρου ὄρνιθος· καὶ γίνεται τὰ μὲν ὑπηνέμια γόνιμα, τὰ δὲ προϋπάρχοντα κατὰ τὸν ὕστερον ὀχεύοντα ὄρνιθα.

Ἐὰν δ’ ἤδη μεταβαλλόντων εἰς τὸ λευκόν, οὐδὲν μεταβάλλει οὔτε τὰ ὑπηνέμια ὥστε γίνεσθαι γόνιμα, οὔτε τὰ γόνῳ κυούμενα ὥστε μεταβαλεῖν εἰς τὸ τοῦ ὀχεύοντος γένος. Καὶ ἐὰν ὑπαρχόντων δὲ μικρῶν διαλείπῃ ἡ ὀχεία, οὐδὲν ἐπαυξάνεται τὰ προϋπάρχοντα· ἐὰν δὲ πάλιν ὀχεύηται, ταχεῖα γίνεται ἡ ἐπίδοσις εἰς τὸ μέγεθος.

Ἔχει δὲ φύσιν τοῦ ᾠοῦ τὸ ὠχρὸν καὶ τὸ λευκὸν ἐναντίαν οὐ μόνον τῷ χρώματι ἀλλὰ καὶ τῇ δυνάμει· τὸ μὲν γὰρ ὠχρὸν ὑπὸ τοῦ ψύχους πήγνυται, τὸ δὲ λευκὸν οὐ πήγνυται ἀλλ’ ὑγραίνεται μᾶλλον· ὑπὸ δὲ τοῦ πυρὸς τὸ μὲν λευκὸν πήγνυται, τὸ δ’ ὠχρὸν οὐ πήγνυται ἀλλὰ μαλακὸν διατελεῖ, ἂν μὴ κατακαυθῇ, καὶ μᾶλλον ἑψόμενον ἢ πυρούμενον συνίσταται καὶ ξηραίνεται.

Ἑκάτερον δὲ χωρὶς ὑμένι διείληπται ἀπ’ ἀλλήλων. Αἱ δὲ πρὸς τῇ ἀρχῇ τοῦ ὠχροῦ χάλαζαι οὐδὲν συμβάλλονται πρὸς τὴν γένεσιν, ὥσπερ τινὲς ὑπολαμβάνουσιν· εἰσὶ δὲ δύο, ἡ μὲν κάτωθεν ἡ δ’ ἄνωθεν. Συμβαίνει δὲ περὶ τὸ ὠχρὸν καὶ τὸ λευκὸν καὶ <τόδε> ὅταν ἐξαιρεθέντα συνεράσῃ (560b.) τις πλείω τοιαῦτα εἰς κύστιν καὶ ἕψῃ μαλακῶς καὶ μὴ συντόνῳ τῷ πυρί, τὸ ὠχρὸν εἰς τὸ μέσον συνέρχεται πᾶν, κύκλῳ δὲ τὸ λευκὸν περιίσταται.

Τῶν δ’ ἀλεκτορίδων αἱ νεοττίδες πρῶτον τίκτουσιν εὐθὺς ἀρχομένου τοῦ ἔαρος, καὶ πλείω τίκτουσιν ἢ αἱ πρεσβύτεραι· ἐλάττω δὲ τῷ μεγέθει τὰ ἐκ τῶν νεωτέρων.

Ὅλως δ’ ἐὰν μὴ ἐπῳάζωσιν αἱ ὄρνιθες, διαφθείρονται καὶ κάμνουσιν. Ὀχευθεῖσαι δ’ αἱ μὲν ὄρνιθες φρίττουσί τε καὶ ἀποσείονται καὶ πολλάκις κάρφος περιβάλλονται (ποιοῦσι δὲ τὸ αὐτὸ τοῦτο καὶ τεκοῦσαι ἐνίοτε) αἱ δὲ περιστεραὶ ἐφέλκουσι τὸ ὀρροπύγιον, οἱ δὲ χῆνες κατακολυμβῶσιν.

Αἱ δὲ κυήσεις καὶ αἱ τῶν ὑπηνεμίων ᾠῶν συλλήψεις ταχεῖαι γίνονται ταῖς πλείσταις τῶν ὀρνίθων, οἷον καὶ τῇ πέρδικι, ὅταν ὀργᾷ πρὸς τὴν ὀχείαν· ἐὰν γὰρ κατὰ πνεῦμα στῇ τοῦ ἄρρενος, κυΐσκεται καὶ εὐθὺς ἄχρηστος γίνεται πρὸς τὰς θήρας· ὄσφρησιν γὰρ δοκεῖ ἔχειν ἐπίδηλον ὁ πέρδιξ.

Ἡ δὲ τοῦ ᾠοῦ γένεσις μετὰ τὴν ὀχείαν καὶ ἐκ τοῦ ᾠοῦ πάλιν συμπεττομένου ἡ τοῦ νεοττοῦ γένεσις οὐκ ἐν ἴσοις χρόνοις συμβαίνει πᾶσιν, ἀλλὰ διαφέρει κατὰ τὰ μεγέθη τῶν γεννώντων. Συνίσταται δὲ τὸ τῆς ἀλεκτορίδος ᾠὸν μετὰ τὴν ὀχείαν καὶ τελειοῦται ἐν δέχ’ ἡμέραις ὡς ἐπὶ τὸ πολύ· καὶ τῆς περιστερᾶς δ’ ἐν μικρῷ ἐλάττονι. Δύνανται δ’ αἱ περιστεραὶ καὶ ἤδη τοῦ ᾠοῦ ἐν ὠδῖνι ὄντος κατέχειν· ἐὰν γάρ τι ἐνοχληθῇ ὑπό τινος ἢ περὶ τὴν νεοττείαν ἢ πτερὸν ἐκτιλθῇ ἢ ἄλλο τι πονήσῃ καὶ δυσαρεστήσῃ, κατέχει καὶ οὐ τίκτει μελλήσασα.

Ἴδια δὲ περὶ τὰς περιστερὰς συμβαίνει καὶ τάδε περὶ τὴν ὀχείαν. Κυνοῦσί τε γὰρ ἀλλήλας, ὅταν μέλλῃ ἀναβαίνειν ὁ ἄρρην, ἢ οὐκ ἂν ὀχεύσειεν· ὁ μὲν πρεσβύτερος τὸ πρῶτον, ὕστερον μέντοι ἀναβαίνει καὶ μὴ κύσας· οἱ δὲ νεώτεροι ἀεὶ τοῦτο ποιήσαντες ὀχεύουσιν. Τοῦτό [τε] δὴ ἴδιον ποιοῦσι. Καὶ ἔτι αἱ θήλειαι ἀλλήλαις ἀναβαίνουσιν, ὅταν ἄρρην μὴ παρῇ, κύσασαι ὥσπερ οἱ ἄρρενες· καὶ οὐδὲν προϊέμεναι (561a.) εἰς ἀλλήλας τίκτουσιν ᾠὰ πλείω ἢ τὰ γόνῳ γινόμενα, ἐξ ὧν οὐ γίνεται νεοττὸς οὐδείς, ἀλλ’ ὑπηνέμια πάντα τὰ τοιαῦτά ἐστιν.

Κεφάλαιο 3

Ἡ δὲ γένεσις ἐκ τοῦ ᾠοῦ τοῖς ὄρνισι συμβαίνει μὲν τὸν αὐτὸν τρόπον πᾶσιν, οἱ δὲ χρόνοι διαφέρουσι τῆς τελειώσεως, καθάπερ εἴρηται. Ταῖς μὲν οὖν ἀλεκτορίσι τριῶν ἡμερῶν καὶ νυκτῶν παρελθουσῶν ἐπισημαίνει τὸ πρῶτον, ταῖς δὲ μείζοσιν αὐτῶν ὄρνισιν ἐν πλείονι χρόνῳ, ταῖς δ’ ἐλάττοσιν ἐν ἐλάττονι. Γίνεται δ’ ἐν τούτῳ τῷ χρόνῳ ἤδη τό τ’ ὠχρὸν ἄνω προσεληλυθὸς πρὸς τὸ ὀξύ, ᾗπέρ ἐστιν ἡ ἀρχή τε τοῦ ᾠοῦ καὶ ἐκλέπεται τὸ ᾠόν, καὶ ὅσον στιγμὴ αἱματίνη ἐν τῷ λευκῷ ἡ καρδία. Τοῦτο δὲ τὸ σημεῖον πηδᾷ καὶ κινεῖται ὥσπερ ἔμψυχον, καὶ ἀπ’ αὐτοῦ δύο πόροι φλεβικοὶ ἔναιμοι ἑλισσόμενοι φέρουσιν αὐξανομένου εἰς ἑκάτερον τῶν χιτώνων τῶν περιεχόντων. Καὶ ὑμὴν δ’ αἱματικὰς ἶνας ἔχων ἤδη περιέχει τὸ λέκιθον κατὰ τὸν χρόνον τοῦτον ἀπὸ τῶν πόρων τῶν φλεβικῶν. Ὀλίγον δ’ ὕστερον καὶ τὸ σῶμα ἤδη ἀποκρίνεται, μικρὸν τὸ πρῶτον πάμπαν καὶ λευκόν. Δήλη δ’ ἡ κεφαλή, καὶ ταύτης οἱ ὀφθαλμοὶ μάλιστ’ ἐμπεφυσημένοι· καὶ τοῦτο μέχρι πόρρω διατελεῖ· ὀψὲ γάρ ποτε μικροὶ γίνονται καὶσυμπίπτουσιν. Τοῦ δὲ σώματος τὸ κάτω μέρος οὐδὲν φαίνεται μόριον πρὸς τὸ ἄνω τὸ πρῶτον. Τῶν δὲ πόρων τῶν ἐκ τῆς καρδίας τεινόντων ὁ μὲν φέρει εἰς τὸ κύκλῳ περιέχον χόριον, ὁ δ’ εἰς τὸ ὠχρὸν ὥσπερ ὀμφαλὸς ὤν. Ἡ μὲν οὖν ἀρχὴ τοῦ νεοττοῦ ἐστιν ἐκ τοῦ λευκοῦ, ἡ δὲ τροφὴ διὰ τοῦ ὀμφαλοῦ ἐκ τοῦ ὠχροῦ.

Δεκαταίου δ’ ἤδη ὄντος ὁ νεοττὸς ὅλος διάδηλος καὶ τὰ μέρη πάντα. Ἔχει δ’ ἔτι τὴν κεφαλὴν μείζω τοῦ ἄλλου σώματος, καὶ τοὺς ὀφθαλμοὺς τῆς κεφαλῆς, οὐκ ἔχοντάς πω ὄψιν. Γίνονται δ’ οἱ ὀφθαλμοὶ περὶ τὸν χρόνον τοῦτον ἐξαιρόμενοι μείζους κυάμων καὶ μέλανες· ἀφαιρουμένου δὲ τοῦ δέρματος ὑγρὸν ἔνεστι λευκὸν καὶ ψυχρόν, σφόδρα στίλβον πρὸς τὴν αὐγήν, στερεὸν δ’ οὐδέν. Τὰ μὲν οὖν περὶ τὰ (561b.) ὄμματα καὶ τὴν κεφαλὴν τοῦτον διάκειται τὸν τρόπον.

Ἔχει δ’ ἐν τῷ χρόνῳ τούτῳ καὶ τὰ σπλάγχνα ἤδη φανερὰ καὶ τὰ περὶ τὴν κοιλίαν καὶ τὴν τῶν ἐντέρων φύσιν, καὶ αἱ φλέβες αἱ ἀπὸ τῆς καρδίας φαινόμεναι τείνειν πρὸς τῷ ὀμφαλῷ ἤδη γίνονται. Ἀπὸ δὲ τοῦ ὀμφαλοῦ τέταται φλὲψ ἡ μὲν πρὸς τὸν ὑμένα τὸν περιέχοντα τὸ ὠχρόν (τὸ δ’ ὠχρὸν ἐν τούτῳ τῷ χρόνῳ ὑγρὸν ἤδη ἐστὶ καὶ πλεῖον ἢ τὸ κατὰ φύσιν), ἡ δ’ ἑτέρα εἰς τὸν ὑμένα τὸν περιέχοντα ὅλον τόν θ’ ὑμένα ἐν ᾧ ὁ νεοττός, καὶ τὸν τοῦ ὠχροῦ ὑμένα καὶ τὸ μεταξὺ τούτων ὑγρόν. Αὐξανομένου γὰρ τοῦ νεοττοῦ κατὰ μικρὸν τοῦ ὠχροῦ τὸ μὲν ἄνω γίνεται τὸ δὲ κάτω, ἐν μέσῳ δὲ τὸ λευκὸν ὑγρόν· τοῦ δὲ κάτω ὠχροῦ τὸ λευκὸν κάτωθεν, ὥσπερ τὸ πρῶτον ὑπῆρχεν. Δεκαταίου δ’ ὄντος τὸ λευκὸν ἔσχατον γίνεται, ὀλίγον ἤδη ὂν καὶ γλίσχρον καὶ παχὺ καὶ ὕπωχρον. Τέτακται γὰρ τῇ θέσει ἕκαστα τόνδε τὸν τρόπον. Πρῶτος μὲν καὶ ἔσχατος πρὸς τὸ ὄστρακον ὁ τοῦ ᾠοῦ ὑμήν, οὐχ ὁ τοῦ ὀστράκου, ἀλλ’ <ὁ> ὑπ’ ἐκεῖνον. Ἐν δὲ τούτῳ λευκὸν ἔνεστιν ὑγρόν, εἶτα ὁ νεοττός, καὶ περὶ αὐτὸν ὑμὴν χωρίζων, ὅπως μὴ ἐν ὑγρῷ ὁ νεοττὸς ᾖ· ὑπὸ δὲ τὸν νεοττὸν τὸ ὠχρόν, εἰς ὃ τῶν φλεβῶν ἔφερεν ἡ ἑτέρα, ἡ δ’ ἑτέρα εἰς τὸ περιέχον λευκόν. Τὸ δὲ πᾶν περιέχει ὑμὴν μεθ’ ὑγρότητος ἰχωροειδοῦς. Εἶτ’ ἄλλος ὑμὴν περὶ αὐτὸ ἤδη τὸ ἔμβρυον, ὥσπερ εἴρηται, χωρίζων πρὸς τὸ ὑγρόν. Ὑποκάτω δὲ τούτου τὸ ὠχρὸν ἐν ἑτέρῳ ὑμένι περιειλημμένον, εἰς ὃ τείνει ὀμφαλὸς ὁ ἀπὸ τῆς καρδίας καὶ τῆς μεγάλης φλεβὸς φέρων, ὥστε μὴ εἶναι τὸ ἔμβρυον ἐν μηδετέρᾳ τῶν ὑγροτήτων.

Περὶ δὲ τὴν εἰκοστὴν ἤδη φθέγγεταί τε κινούμενος ἔσωθεν, ἐάν τις κινῇ διελών, καὶ ἤδη δασὺς γίνεται, ὅταν ὑπὲρ τὰς εἴκοσιν ἡ ἐκκόλαψις γίνηται τῶν ᾠῶν. Ἔχει δὲ τὴν κεφαλὴν ὑπὲρ τοῦ δεξιοῦ σκέλους ἐπὶ τῇ λαγόνι, τὴν δὲ πτέρυγα ὑπὲρ τῆς κεφαλῆς· καὶ φανερὸς κατὰ τοῦτον τὸν χρόνον ὅ τε χοριοειδὴς ὑμὴν ὁ μετὰ τὸν τοῦ ὀστράκου ὑμένα (562a.) τὸν ἔσχατον, εἰς ὃν ἔτεινεν ὁ ἕτερος τῶν ὀμφαλῶν (καὶ ὁ νεοττὸς ἐν τούτῳ δὴ γίνεται τότε ὅλος), καὶ ὁ ἕτερος ὑμὴν χοριοειδὴς ὤν, ὁ περὶ τὸ ὠχρὸν εἰς ὃ ἔτεινεν ὁ ἕτερος ὀμφαλός· ἄμφω δ’ ἤστην ἀπό τε τῆς καρδίας καὶ τῆς φλεβὸς τῆς μεγάλης. Ἐν δὲ τούτῳ τῷ χρόνῳ ὁ μὲν πρὸς τὸ ἔξω χόριον ὀμφαλὸς τείνων ἀπολύεται τοῦ ζῴου συμπεπτωκώς, ὁ δ’ εἰς τὸ ὠχρὸν φέρων συνήρτηται τοῦ νεοττοῦ πρὸς τὸ ἔντερον τὸ λεπτόν, καὶ ἔσω τοῦ ὠχροῦ πολὺ ἤδη γίνεται ἐν τῷ νεοττῷ, καὶ ὑπόστημα ἐν τῇ κοιλίᾳ ὠχρόν. Καὶ περίττωμα δ’ ἀφίησι περὶ τὸν χρόνον τοῦτον πρὸς τὸ ἔξω χόριον, καὶ ἐν τῇ κοιλίᾳ ἔχει· λευκὸν δὲ καὶ τὸ ἔξω περίττωμα, καὶ ἔσω τι ἐγγίνεται λευκόν. Τέλος δὲ τὸ ὠχρὸν ἀεὶ ἔλαττον γινόμενον καὶ προϊὸν ἀναλίσκεται πάμπαν καὶ ἐμπεριλαμβάνεται ἐν τῷ νεοττῷ, ὥστ’ ἤδη ἐκκεκολαμμένου δεκαταίου, ἄν τις ἀνασχίσῃ, ἔτι πρὸς τῷ ἐντέρῳ μικρόν τι τοῦ ὠχροῦ λείπεται, ἀπὸ δὲ τοῦ ὀμφαλοῦ ἀπολέλυται, καὶ οὐδὲν γίνεται μεταξὺ ἀλλ’ ἀνήλωται πᾶν.

Περὶ δὲ τὸν χρόνον τὸν πρότερον ῥηθέντα καθεύδει μὲν ὁ νεοττός, ἐγείρεται δὲ καὶ ἀναβλέπει κινούμενος καὶ φθέγγεται· καὶ ἡ καρδία ἅμα τῷ ὀμφαλῷ ἀναφυσᾷ ὡς ἀναπνέοντος. Ἡ μὲν οὖν γένεσις ἐκ τοῦ ᾠοῦ τοῖς ὄρνισι τοῦτον ἔχει τὸν τρόπον.

Τίκτουσι δ’ αἱ ὄρνιθες ἔνια ἄγονα τῶν ᾠῶν καὶ [τὰ] ἐξ ὀχείας γινόμενα, καὶ ἐπῳαζουσῶν οὐδὲν γίνεται ἔκγονον· τεθεώρηται δὲ τοῦτο μάλιστα ἐπὶ τῶν περιστερῶν.

Τὰ δὲ δίδυμα τῶν ᾠῶν δύ’ ἔχει λεκίθους, ὧν τὰ μὲν διείργει τοῦ μὴ εἰς ἄλληλα συγκεχύσθαι τὰ ὠχρὰ τοῦ λευκοῦ λεπτὴ διάφυσις, τὰ δ’ οὐκ ἔχει ταύτην τὴν διάφυσιν, ἀλλὰ συμψαύουσιν. Εἰσὶ δ’ ἔνιαι ἀλεκτορίδες αἳ πάντα δίδυμα τίκτουσιν, καὶ ἤδη ἐπὶ τούτων ὦπται τὸ περὶ τὴν λέκιθον συμβαῖνον· ὀκτωκαίδεκα γάρ τις τεκοῦσα ἐξέλεψε δίδυμα, πλὴν ὅσα οὔρια ἐγένετο. Τὰ μὲν οὖν ἄλλα γόνιμα (πλὴν ὅτι τὸ μὲν μεῖζον (562b.) τὸ δ’ ἔλαττον γίνεται τῶν διδύμων), τὸ δὲ τελευταῖον τερατῶδες.

Κεφάλαιο 4

Τίκτουσι δὲ πάντα μὲν τὰ περιστεροειδῆ δύο, οἷον φάττα καὶ τρυγών, ὡς ἐπὶ τὸ πολύ, τὰ δὲ πλεῖστα τρία [τρυγὼν καὶ φάττα]. Τίκτει δ’ ἡ μὲν περιστερά, ὥσπερ εἴρηται, πᾶσαν ὥραν, τρυγὼν δὲ καὶ φάττα ἐν τῷ ἔαρι, οὐ πλεονάκις ἢ δίς· τίκτει δὲ τὰ δεύτερα, ὅταν τὰ πρότερον γεννηθέντα διαφθαρῇ· πολλαὶ γὰρ διαφθείρουσιν αὐτὰ τῶν ὀρνίθων. Τίκτει μὲν οὖν, ὥσπερ εἴρηται, καὶ τρία ποτέ· ἀλλ’ ἐξάγει οὐδέποτε δυοῖν πλέον νεοττοῖν, ἐνίοτε δὲ καὶ ἕνα μόνον· τὸ δ’ ὑπολειπόμενον τῶν ᾠῶν ἀεὶ οὔριόν ἐστιν.

Τῶν δὲ πλείστων ὀρνέων οὐδὲν αὐτοετὲς γεννᾷ. Ἅπαντες δ’ οἱ ὄρνιθες, ἐπειδὰν ἅπαξ ἄρξωνται τίκτειν, διὰ τέλους ὡς εἰπεῖν ἔχουσιν ᾠά, ἀλλ’ ἐν ἐνίοις διὰ μικρότητα οὐ ῥᾴδιον ἰδεῖν.

Ἡ δὲ περιστερὰ ὡς ἐπὶ τὸ πολὺ ἄρρεν καὶ θῆλυ, καὶ τούτων ὡς τὸ πολὺ πρότερον τὸ ἄρρεν τίκτει· καὶ τεκοῦσα μίαν ἡμέραν διαλείπει εἶτα πάλιν τίκτει θάτερον. Ἐπῳάζει δὲ καὶ ὁ ἄρρην ἐν τῷ μέρει τῆς ἡμέρας, τὴν δὲ νύκτα ἡ θήλεια. Ἐκπέττεταί τε καὶ ἐκλέπεται ἐντὸς εἴκοσιν ἡμερῶν τὸ γενόμενον πρότερον τῶν ᾠῶν· τιτρώσκει δὲ τὸ ᾠὸν τῇ προτεραίᾳ ἢ ἐκλέπει.

Καὶ συνθερμαίνουσι τοὺς νεοττοὺς ἀμφότεροι ἐπί τινα χρόνον τὸν αὐτόν γε τρόπον ὅνπερ καὶ τὰ ᾠά. Χαλεπωτέρα δ’ ἡ θήλειά ἐστι περὶ τὴν τεκνοτροφίαν τοῦ ἄρρενος, ὥσπερ καὶ τὰ ἄλλα ζῷα μετὰ τὸν τόκον. Τίκτουσι δὲ τοῦ ἐνιαυτοῦ καὶ δεκάκις, ἤδη δέ τινες καὶ ἑνδεκάκις, αἱ δ’ ἐν Αἰγύπτῳ καὶ δωδεκάκις. Ὀχεύει δὲ καὶ ὀχεύεται ἡ περιστερὰ ἐντὸς ἐνιαυτοῦ· καὶ γὰρ ἔκμηνος ὀχεύει καὶ ὀχεύεται.

Τὰς δὲ φάττας καὶ τὰς τρυγόνας ἔνιοί φασιν ὀχεύεσθαι καὶ γεννᾶν καὶ τρίμηνα ὄντα, σημεῖον ποιούμενοι τὴν πολυπλήθειαν αὐτῶν. Ἔγκυα δὲ γίνεται δέκα καὶ τέτταρας ἡμέρας, καὶ ἐπῳάζει ἄλλας τοσαύτας· ἐν ἑτέραις δὲ δέκα καὶ τέτταρσι πτεροῦνται οὕτως ὥστε (563a.) μὴ ῥᾳδίως καταλαμβάνεσθαι. Βιοῖ δὲ φάττα, ὡς φασί, καὶ τετταράκοντα ἔτη· καὶ αἱ πέρδικες δὲ πλείω ἢ ἔτη ἑκκαίδεκα. Τίκτει δὲ ἡ περιστερὰ ἀπονεοττεύουσα πάλιν ἐν τριάκονθ’ ἡμέραις.

Κεφάλαιο 5

Ὁ δὲ γὺψ νεοττεύει μὲν ἐπὶ πέτραις ἀπροσβάτοις· διὸ σπάνιον ἰδεῖν νεοττιὰν γυπὸς καὶ νεοττούς. Καὶ διὰ τοῦτο καὶ Ἡρόδωρος ὁ Βρύσωνος τοῦ σοφιστοῦ πατήρ φησιν εἶναι τοὺς γῦπας ἀφ’ ἑτέρας γῆς, ἀδήλου ἡμῖν, τοῦτό τε λέγων τὸ σημεῖον, ὅτι οὐδεὶς ἑώρακε γυπὸς νεοττιάν, καὶ ὅτι πολλοὶ ἐξαίφνης φαίνονται ἀκολουθοῦντες τοῖς στρατεύμασιν. Τὸ δ’ ἐστὶ χαλεπὸν μὲν ἰδεῖν, ὦπται δ’ ὅμως. Τίκτουσι δὲ δύο ᾠὰ οἱ γῦπες.

Τὰ μὲν οὖν ἄλλα ὅσα σαρκοφάγα οὐκ ὦπται πλεονάκις ἢ ἅπαξ τίκτοντα, ἡ δὲ χελιδὼν δὶς νεοττεύει μόνον τῶν σαρκοφάγων· τῶν δὲ νεοττῶν ἄν τις ἔτι νέων ὄντων τῆς χελιδόνος τὰ ὄμματα ἐκκεντήσῃ, γίνονται ὑγιεῖς καὶ βλέπουσιν ὕστερον.

Κεφάλαιο 6

Ὁ δ’ ἀετὸς ᾠὰ μὲν τίκτει τρία, ἐκλέπει δὲ τούτων τὰ δύο, ὥσπερ ἐστὶ καὶ ἐν τοῖς Μουσαίου λεγομένοις ἔπεσιν, “ὃς τρία μὲν τίκτει, δύο δ’ ἐκλέπει, ἓν δ’ ἀλεγίζει”.

Ὡς μὲν οὖν τὰ πολλὰ οὕτω συμβαίνει, ἤδη δὲ καὶ τρεῖς νεοττοὶ ὠμμένοι εἰσίν. Ἐκβάλλει δ’ αὐξανομένων τὸν ἕτερον τῶν νεοττῶν ἀχθόμενος τῇ ἐδωδῇ. Ἅμα δὲ καὶ λέγεται ἐν τῷ χρόνῳ τούτῳ ἄπαστος γίνεσθαι, ὅπως μὴ ἁρπάζῃ τοὺς τῶν θηρίων σκύμνους· οἵ τε οὖν ὄνυχες αὐτοῦ διαστρέφονται ὀλίγας ἡμέρας, καὶ τὰ πτερὰ λευκαίνεται, ὥστε καὶ τοῖς τέκνοις τότε γίνονται χαλεποί. Τὸν δ’ ἐκβληθέντα δέχεται καὶ ἐκτρέφει ἡ φήνη. Ἐπῳάζει δὲ περὶ τριάκονθ’ ἡμέρας. Καὶ τῶν ἄλλων δὲ τοῖς μεγάλοις ὁ χρόνος τοσοῦτός ἐστι τῆς ἐπῳάσεως, οἷον χηνὶ καὶ ὠτίδι· τοῖς δὲ μέσοις περὶ εἴκοσιν, οἷον ἰκτίνῳ καὶ ἱέρακι. Τίκτει δ’ ὁ ἰκτῖνος τὰ μὲν πλεῖστα δύο, ἐνίοτε δὲ καὶ τρεῖς ἐξάγει νεοττούς· ὁ δ’ αἰγώλιος καλούμενος ἔστιν ὅτε καὶ τέτταρας. Τίκτει δὲ καὶ ὁ (563b.) κόραξ οὐ μόνον δύο, ὥσπερ φασί τινες, ἀλλὰ καὶ πλείω· ἐπῳάζει δὲ περὶ εἴκοσιν ἡμέρας καὶ ἐκβάλλει τοὺς νεοττοὺς ὁ κόραξ. Ποιεῖ δὲ καὶ ἄλλα τῶν ὀρνέων τὸ αὐτὸ τοῦτο· πολλάκις γάρ, ὅσα πλείω τίκτει, ἕνα ἐκβάλλουσιν.

Οὐ πάντα δὲ τὰ τῶν ἀετῶν γένη ὅμοια περὶ τὰ τέκνα, ἀλλ’ ὁ πύγαργος χαλεπός, οἱ δὲ μέλανες εὔτεκνοι περὶ τὴν τροφήν εἰσιν, ἐπεὶ πάντες γ’ ὡς εἰπεῖν οἱ γαμψώνυχες, ὅταν θᾶττον οἱ νεοττοὶ δύνωνται πέτεσθαι, ἐκβάλλουσι τύπτοντες ἐκ τῆς νεοττιᾶς. Καὶ τῶν ἄλλων δέ, ὥσπερ εἴρηται, σχεδὸν οἱ πλεῖστοι τοῦτο δρῶσι καὶ θρέψαντες οὐδεμίαν ἐπιμέλειαν ποιοῦνται τὸ λοιπόν, πλὴν κορώνης· αὕτη δ’ ἐπί τινα χρόνον ἐπιμελεῖται· καὶ γὰρ ἤδη πετομένων σιτίζει παραπετομένη.

Κεφάλαιο 7

Ὁ δὲ κόκκυξ λέγεται μὲν ὑπό τινων ὡς μεταβάλλει ἐξ ἱέρακος, διὰ τὸ ἀφανίζεσθαι τὸν ἱέρακα, περὶ τοῦτον τὸν χρόνον, ᾧ ὅμοιός ἐστιν· σχεδὸν δὲ καὶ τοὺς ἄλλους ἱέρακας οὐκ ἔστιν ἰδεῖν, ὅταν θᾶττον φθέγγηται ὁ κόκκυξ, πλὴν ὀλίγας ἡμέρας. Ὁ δὲ κόκκυξ φαίνεται ἐπ’ ὀλίγον χρόνον τοῦ θέρους, τὸν δὲ χειμῶνα ἀφανίζεται. Ἔστι δ’ ὁ μὲν ἱέραξ γαμψώνυχος, ὁ δὲ κόκκυξ οὐ γαμψώνυχος. Ἔτι δ’ οὐδὲ τὰ περὶ τὴν κεφαλὴν ἔοικεν ἱέρακι, ἀλλ’ ἄμφω ταῦτα περιστερᾷ μᾶλλον· ἀλλ’ ἢ κατὰ τὸ χρῶμα μόνον προσέοικεν ἱέρακι, πλὴν τοῦ μὲν ἱέρακος τὰ ποικίλα οἷον γραμμαί εἰσι, τοῦ δὲ κόκκυγος οἷον στιγμαί. Τὸ μέντοι μέγεθος καὶ ἡ πτῆσις παραπλησία τῷ ἐλαχίστῳ τῶν ἱεράκων, ὃς κατὰ τὸν χρόνον τοῦτον ἀφανής ἐστιν ὡς ἐπὶ τὸ πολὺ ὃν φαίνεται ὁ κόκκυξ, ἐπεὶ ἤδη γ’ ὠμμένοι εἰσὶν ἄμφω. Καὶ κατεσθιόμενος δ’ ὦπται κόκκυξ ὑπὸ ἱέρακος· καίτοι οὐδὲν ποιεῖ τοῦτο τῶν ὁμογενῶν ὀρνέων. Νεοττοὺς δὲ κόκκυγος λέγουσιν ὡς οὐδεὶς ἑώρακεν· ὁ δὲ τίκτει μέν, ἀλλ’ οὐ ποιησάμενος νεοττιάν, ἀλλ’ ἐνίοτε μὲν ἐν τῇ τῶν ἐλαττόνων ὀρνίθων ἐντίκτει καταφαγὼν τὰ ᾠὰ τὰ ἐκείνων, μάλιστα δ’ ἐν ταῖς τῶν φαβῶν νεοττιαῖς, (564a.) καταφαγὼν καὶ τὰ τούτων ᾠά. Τίκτει δ’ ὀλιγάκις μὲν δύο, τὰ δὲ πλεῖστα ἕν. Ἐντίκτει δὲ καὶ τῇ τῆς ὑπολαΐδος νεοττιᾷ· ἡ δ’ ἐκπέττει καὶ ἐκτρέφει. Γίνεται δὲ πίων καὶ ἡδύκρεως κατὰ τοῦτον τὸν καιρὸν μάλιστα. Γίνονται δὲ καὶ τῶν ἱεράκων οἱ νεοττοὶ ἡδύκρεῳ σφόδρα καὶ πίονες. Νεοττεύει δὲ γένος τι αὐτῶν πόρρω καὶ ἐν ἀποτόμοις πέτραις.

Κεφάλαιο 8

Ἐπῳάζει δὲ τὰ πολλὰ τῶν ὀρνέων, ὥσπερ εἴρηται περὶ τῶν περιστερῶν, διαδεχόμενα τὰ ἄρρενα τοῖς θήλεσι, τὰ δὲ τοσοῦτον χρόνον ὅσον ἀπολείπει τὸ θῆλυ τροφὴν αὑτῷ πoριζόμενον. Τῶν δὲ χηνῶν αἱ θήλειαι ἐπῳάζουσι μόναι, καὶ διαμένουσι διὰ παντὸς ἐφεδρεύουσαι, ὅτανπερ ἄρξωνται τοῦτο ποιεῖν. Πρὸς δὲ τόποις ἑλώδεσί τε καὶ πόαν ἔχουσι πάντων τῶν λιμναίων ὀρνίθων αἱ νεοττιαὶ γίνονται· διόπερ καὶ ἡσυχίαν ἔχοντες ἐπὶ τῶν ᾠῶν δύνανται τροφήν τινα αὑτοῖς πορίζεσθαι καὶ μὴ παντάπασιν ἄσιτοι εἶναι.

Ἐπῳάζουσι δὲ καὶ τῶν κορωνῶν αἱ θήλειαι μόναι, καὶ διατελοῦσιν ἐπ' αὐτῶν οὖσαι διὰ παντός· τρέφουσι δ' αὐτὰς οἱ ἄρρενες κομίζοντες τὴν τροφὴν αὐταῖς καὶ σιτίζοντες. Τῶν δὲ φαβῶν ἡ μὲν θήλεια ἀπὸ δείλης ἀρξαμένη τήν τε νύχθ' ὅλην ἐπῳάζει καὶ ἕως ἀκρατίσματος ὥρας, ὁ δ' ἄρρην τὸ λοιπὸν τοῦ χρόνου. Οἱ δὲ πέρδικες δύο ποιοῦνται τῶν ᾠῶν σηκούς, καὶ ἐφ' ᾧ μὲν ἡ θήλεια ἐπὶ δὲ θατέρῳ ὁ ἄρρην ἐπῳάζει, καὶ ἐκλέψας ἐκτρέφει ἑκάτερος ἑκάτερα· καὶ τοὺς νεοττοὺς ὅταν πρῶτον ἐξάγῃ, ὀχεύει αὐτούς.

Κεφάλαιο 9

Ὁ δὲ ταὼς ζῇ μὲν περὶ πέντε καὶ εἴκοσιν ἔτη, γεννᾷ δὲ τριετὴς μάλιστα, ἐν οἷς καὶ τὴν ποικιλίαν τῶν πτερῶν ἀπολαμβάνει· ἐκλέπει δ’ ἐν τριάκονθ’ ἡμέραις ἢ μικρῷ πλείοσιν. Ἅπαξ δὲ τοῦ ἔτους μόνον τίκτει· τίκτει δ’ ᾠὰ δώδεκα ἢ μικρῷ ἐλάττω· τίκτει δὲ διαλείπων δύο ἢ τρεῖς ἡμέρας καὶ οὐκ ἐφεξῆς· αἱ δὲ πρωτοτόκοι μάλιστα περὶ ὀκτὼ ᾠά. Τίκτουσι δ’ οἱ ταῲ καὶ ὑπηνέμια. Ὀχεύονται δὲ περὶ τὸ ἔαρ· γίνεται δὲ καὶ ὁ τόκος εὐθέως μετὰ τὴν ὀχείαν. Πτερορρυεῖ (564b.) δ’ ἅμα τοῖς πρώτοις τῶν δένδρων καὶ ἄρχεται αὖθις ἀπολαμβάνειν τὴν πτέρωσιν ἅμα τῇ τούτων βλαστήσει. Ἀλεκτορίδι δ’ ὑποτιθέασιν αὐτῶν τὰ ᾠὰ ἐπῳάζειν οἱ τρέφοντες διὰ τὸ τὸν ἄρρενα τῆς θηλείας τοῦτο δρώσης ἐπιπετόμενον συντρίβειν· διὰ ταύτην δὲ τὴν αἰτίαν καὶ τῶν ἀγρίων ἔνιοι ὀρνίθων ἀποδιδράσκοντες τοὺς ἄρρενας τίκτουσι καὶ ἐπῳάζουσιν.

Ὑποτίθεται δὲ τῇ ὄρνιθι μάλιστα δύο ᾠά· τοσαῦτα γὰρ μόνα δύναται ἐπῳάζουσα ἐξάγειν. Ἐπιμελοῦνται δ’ ὅπως μὴ καταβαίνουσα διαλίπῃ τὸν ἐπῳασμόν, παρατιθέντες τροφήν.

Οἱ δ’ ὄρνιθες περὶ τὴν ὀχείαν τοὺς ὄρχεις μείζους ἴσχουσιν [ἐπιδήλως], οἱ μὲν μᾶλλον ὀχευτικοὶ καὶ μᾶλλον ἐπιδήλως, οἷον ἀλεκτρυόνες καὶ πέρδικες, οἱ δὲ μὴ συνεχῶς, ἧττον.

Κεφάλαιο 10

Περὶ μὲν οὖν τῆς τῶν ὀρνίθων κυήσεως καὶ γενέσεως τοῦτον ἔχει τὸν τρόπον, οἱ δ’ ἰχθύες ὅτι μὲν οὐ πάντες ᾠοτοκοῦσιν, εἴρηται πρότερον. Τὰ μὲν γὰρ σελάχη ζῳοτοκεῖ, τὸ δὲ τῶν ἄλλων γένος ἰχθύων ᾠοτοκεῖ. Ζῳοτοκεῖ δὲ τὰ σελάχη πρότερον ᾠοτοκήσαντα ἐν αὑτοῖς, καὶ ἐκτρέφουσιν ἐν αὑτοῖς, πλὴν βατράχου.

Ἔχουσι δὲ καὶ τὰς ὑστέρας, ὥσπερ ἐν τοῖς ἄνω ἐλέχθη, διαφόρους οἱ ἰχθύες· τὰ μὲν γὰρ ᾠοτοκοῦντα δικρόας ἔχει καὶ κάτω, τὰ δὲ σελάχη ὀρνιθωδεστέρας. Διαφέρει δὲ τῆς τῶν ὀρνίθων ὑστέρας, ὅτι οὐ πρὸς τῷ ὑποζώματι ἐνίοις συνίσταται τὰ ᾠά, ἀλλὰ μεταξὺ κατὰ τὴν ῥάχιν, ἐκεῖθεν δ’ αὐξανόμενα μεταβαίνει.

Τὸ δ’ ᾠὸν γίνεται πάντων τῶν ἰχθύων οὐ δίχρων ἀλλὰ μονόχρων, λευκότερον δ’ ἢ ὠχρότερον, καὶ πρότερον καὶ ὅταν ἐνῇ ὁ νεοττός. Διαφέρει δ’ ἡ γένεσις ἡ ἐκ τοῦ ᾠοῦ τοῦ τῶν ἰχθύων καὶ τῶν ὀρνίθων, ᾗ οὐκ ἔχει τὸν ἕτερον ὀμφαλὸν τείνοντα πρὸς τὸν ὑμένα τὸν ὑπὸ τὸ ὄστρακον· τὸν δ’ εἰς τὸ ὠχρὸν τοῖς ὄρνισι τείνοντα πόρον, τοῦτον ἔχει τοῖν δυοῖν μόνον. Ἡ δ’ ἄλλη γένεσις ἤδη πᾶσα ἡ αὐτὴ ἡ ἐκ τοῦ ᾠοῦ τῶν τ’ ὀρνίθων καὶ τῶν ἰχθύων· ἐπ’ ἄκρῳ τε γὰρ τούτου γίνεται, καὶ αἱ φλέβες ὁμοίως τείνουσιν ἐκ τῆς καρδίας πρῶτον, καὶ ἡ κεφαλὴ καὶ τὰ ὄμματα καὶ (565a.) τὰ ἄνω μέγιστα γίνεται τὸ πρῶτον· ὁμοίως δ’ αὐξανομένου ἀεὶ ἔλαττον γίνεται τὸ ᾠόν, καὶ τέλος ἀφανίζεται καὶ εἰσδύεται ἔσω, καθάπερ ἐν τοῖς ὄρνισιν ὁ νεοττὸς καλούμενος. Προσπέφυκε δὲ καὶ ὁ ὀμφαλὸς μικρὸν κατώτερον τοῦ στόματος τῆς γαστρός. Ἔστι δὲ νέοις μὲν οὖσιν ὁ ὀμφαλὸς μακρός, αὐξανομένοις δ’ ἐλάττων, καὶ τέλος μικρός, ἕως ἂν εἰσέλθῃ, καθάπερ ἐλέχθη ἐπὶ τῶν ὀρνίθων. Περιέχεται δὲ τὸ ἔμβρυον καὶ τὸ ᾠὸν ὑμένι κοινῷ· ὑπὸ δὲ τοῦτον ἄλλος ἐστὶν ὑμήν, ὃς περιέχει ἰδίᾳ τὸ ἔμβρυον· μεταξὺ δὲ τῶν ὑμένων ἔνεστιν ὑγρότης. Καὶ ἡ τροφὴ δ’ ὁμοία γίνεται τοῖς ἰχθυδίοις ἐν τῇ κοιλίᾳ ὥσπερ τοῖς τῶν ὀρνίθων νεοττοῖς, ἡ μὲν λευκὴ ἡ δ’ ὠχρά.

Τὸ μὲν οὖν σχῆμα τῆς ὑστέρας ὡς ἔχει, ἐκ τῶν ἀνατομῶν θεωρείσθω· διαφορὰ δ’ ἐστὶν αὐτοῖς πρὸς αὑτούς, οἷον τοῖς γαλεώδεσι καὶ πρὸς αὑτοὺς καὶ πρὸς τὰ πλατέα. Ἐνίοις μὲν γὰρ ἐν τῷ μέσῳ τῆς ὑστέρας περὶ τὴν ῥάχιν προσπέφυκε τὰ ᾠά, ὥσπερ εἴρηται, οἷον τοῖς σκυλίοις· αὐξανόμενα δὲ

περιέρχεται. Οὔσης δὲ δικρόας τῆς ὑστέρας καὶ προσπεφυκυίας πρὸς τῷ ὑποζώματι, ὥσπερ καὶ τῶν ἄλλων τῶν τοιούτων, περιέρχεται εἰς ἑκάτερον τὸ μέρος. Ἔχει δ’ ἡ ὑστέρα καὶ αὕτη καὶ ἡ τῶν ἄλλων τῶν γαλεοειδῶν μικρὸν προελθόντι ἀπὸ τοῦ ὑποζώματος οἷον μαστοὺς λευκούς, οἳ κυημάτων μὴ ἐνόντων οὐκ ἐγγίνονται. Τὰ μὲν σκύλια καὶ αἱ βατίδες ἴσχουσι τὰ ὀστρακώδη, ἐν οἷς ἐγγίνεται ᾠώδης ὑγρότης· τὸ δὲ σχῆμα τοῦ ὀστράκου ὅμοιον ταῖς τῶν αὐλῶν γλώτταις, καὶ πόροι τριχώδεις ἐγγίνονται τοῖς ὀστράκοις. Τοῖς μὲν οὖν σκυλίοις, οὓς καλοῦσί τινες νεβρίας γαλεούς, ὅταν περιρραγῇ καὶ ἐκπέσῃ τὸ ὄστρακον, γίνονται οἱ νεοττοί· ταῖς δὲ βατίσιν, ὅταν ἐκτέκωσι, τοῦ ὀστράκου περιρραγέντος ἐξέρχεται ὁ νεοττός. Ὁ δ’ ἀκανθίας γαλεὸς πρὸς τῷ ὑποζώματι ἔχει τὰ ᾠὰ ἄνωθεν τῶν μαστῶν· ὅταν δὲ καταβῇ τὸ ᾠόν, ἐπὶ τούτῳ ἀπολελυμένῳ γίνεται ὁ νεοττός. Τὸν αὐτὸν δὲ τρόπον (565b.) συμβαίνει ἡ γένεσις καὶ ἐπὶ τῶν ἀλωπέκων.

Οἱ δὲ καλούμενοι λεῖοι τῶν γαλεῶν τὰ μὲν ᾠὰ ἴσχουσι μεταξὺ τῶν ὑστερῶν ὁμοίως τοῖς σκυλίοις, περιιόντα δὲ ταῦτα εἰς ἑκατέραν τὴν δικρόαν τῆς ὑστέρας καταβαίνει, καὶ τὰ ζῷα γίνεται τὸν ὀμφαλὸν ἔχοντα πρὸς τῇ ὑστέρᾳ, ὥστε ἀναλισκομένων τῶν ᾠῶν ὁμοίως δοκεῖν ἔχειν τὸ ἔμβρυον τοῖς τετράποσιν. Προσπέφυκε δὲ μακρὸς ὢν ὁ ὀμφαλὸς τῆς μὲν ὑστέρας πρὸς τῷ κάτω μέρει, ὥσπερ ἐκ κοτυληδόνος ἕκαστος ἠρτημένος, τοῦ δ’ ἐμβρύου κατὰ τὸ μέσον, ᾗ τὸ ἧπαρ. Ἡ δὲ τροφὴ ἀνατεμνομένου, κἂν μηκέτ’ ἔχῃ τὸ ᾠόν, ᾠώδης. Χόριον δὲ καὶ ὑμένες ἴδιοι περὶ ἕκαστον γίνονται τῶν ἐμβρύων, καθάπερ ἐπὶ τῶν τετραπόδων. Ἔχει δὲ τὰ ἔμβρυα τὴν κεφαλὴν νέα μὲν ὄντα ἄνω, ἁδρυνόμενα δὲ καὶ τέλεα ὄντα κάτω. Ἐγγίνεται δὲ καὶ ἐν τῇ ἀριστερᾷ ἄρρενα καὶ ἐν τῇ δεξιᾷ θήλεα, καὶ ἐν τῇ αὐτῇ ἅμα θήλεα καὶ ἄρρενα. Καὶ τὰ ἔμβρυα διαιρούμενα, ὁμοίως ὥσπερ ἐπὶ τῶν τετραπόδων, ἔχει τῶν σπλάγχνων ὅσα ἔχει μεγάλα, οἷον τὸ ἧπαρ, καὶ αἱματώδη. Πάντα δὲ τὰ σελαχώδη ἅμα ἔχουσιν ἄνω μὲν πρὸς τῷ ὑποζώματι ᾠά, τὰ μὲν μείζω τὰ δ’ ἐλάττω, πολλά, κάτω δ’ ἔμβρυα ἤδη· διὸ πολλοὶ κατὰ μῆνα τίκτειν καὶ ὀχεύεσθαι οἴονται τοὺς τοιούτους τῶν ἰχθύων, ὅτι οὐχ ἅμα πάντα προΐενται, ἀλλὰ πολλάκις καὶ πολὺν χρόνον. Τὰ δὲ κάτω ἐν τῇ ὑστέρᾳ ἅμα πέττεται καὶ τελεσιουργεῖται.

Οἱ μὲν οὖν ἄλλοι γαλεοὶ καὶ ἐξαφιᾶσι καὶ δέχονται εἰς ἑαυτοὺς τοὺς νεοττούς, καὶ αἱ ῥῖναι καὶ αἱ νάρκαι (ἤδη δ’ ὤφθη νάρκη μεγάλη περὶ ὀγδοήκοντα ἔχουσα ἐν ἑαυτῇ ἔμβρυα), ὁ δ’ ἀκανθίας οὐκ εἰσδέχεται μόνος τῶν γαλεῶν διὰ τὴν ἄκανθαν.

Τῶν δὲ πλατέων τρυγὼν καὶ βάτος οὐ δέχονται διὰ τὴν τραχύτητα τῆς κέρκου. Οὐκ εἰσδέχεται δ’ οὐδὲ βάτραχος τοὺς νεοττοὺς διὰ τὸ μέγεθος τῆς κεφαλῆς καὶ τὰς ἀκάνθας· οὐδὲ γὰρ ζῳοτοκεῖ μόνος τούτων, ὥσπερ εἴρηται πρότερον. Αἱ μὲν (566a.) οὖν πρὸς ἄλληλα διαφοραὶ τοῦτον ἔχουσι τὸν τρόπον αὐτῶν, καὶ ἡ γένεσις ἡ ἐκ τῶν ᾠῶν.

Κεφάλαιο 11

Οἱ δ’ ἄρρενες περὶ τὸν χρόνον τῆς ὀχείας τοὺς πόρους ἔχουσι θοροῦ πλήρεις οὕτως ὥστε θλιβομένων ἔξω ῥεῖν τὸ σπέρμα λευκόν. Εἰσὶ δ’ οἱ πόροι δίκροοι, ἀπὸ τοῦ ὑποζώματος καὶ τῆς μεγάλης φλεβὸς ἔχοντες τὴν ἀρχήν. Περὶ μὲν οὖν τὸν χρόνον τοῦτον ἤδη διάδηλοι πρὸς τὴν τῶν θηλειῶν ὑστέραν εἰσὶν οἱ πόροι τῶν ἀρρένων, ὅταν δὲ μὴ αὐτὴ ἡ ὥρα, ἧττον διάδηλοι τῷ μὴ συνήθει· πάμπαν γὰρ ἐν ἐνίοις καὶ ἐνίοτε ἄδηλοι γίνονται, ὥσπερ ἐλέχθη περὶ τῶν ὄρχεων ἐν τοῖς ὄρνισιν. Ἔχουσι δὲ διαφορὰς καὶ ἄλλας μὲν πρὸς ἄλληλα οἵ τε θορικοὶ πόροι καὶ οἱ ὑστερικοί, καὶ ὅτι οἱ μὲν προσπεφύκασι τῇ ὀσφύϊ, οἱ δὲ τῶν θηλειῶν πόροι εὐκίνητοί εἰσι καὶ λεπτῷ ὑμένι προσειλημμένοι. Θεωρείσθωσαν δὲ καὶ οἱ τῶν ἀρρένων πόροι, ὡς ἔχουσιν, ἐκ τῶν ἐν ταῖς ἀνατομαῖς διαγεγραμμένων.

Ἐπικυΐσκεται δὲ τὰ σελάχη, καὶ κύει τοὺς πλείστους μῆνας ἕξ. Πλειστάκις δ’ ἀποτίκτει ὁ καλούμενος τῶν γαλεῶν ἀστερίας· ἀποτίκτει γὰρ δὶς τοῦ μηνός. Ἄρχονται δ’ ὀχεύεσθαι μηνὸς Μαιμακτηριῶνος. Οἱ δ’ ἄλλοι γαλεοὶ δὶς τίκτουσι, πλὴν τοῦ σκυλίου· οὗτος δ’ ἅπαξ τοῦ ἐνιαυτοῦ. Τίκτουσι δὲ τὰ μὲν τοῦ ἔαρος αὐτῶν, ῥίνη δὲ καὶ τοῦ μετοπώρου πρὸς δύσιν Πλειάδος χειμερινὴν τὸ ὕστερον, τὸ δὲ πρῶτον τοῦ ἔαρος· εὐθηνεῖ δ’ αὐτῆς μάλιστα μὲν ὁ γόνος ὁ ὕστερος· αἱ δὲ νάρκαι περὶ τὸ φθινόπωρον. Ἐκτίκτει δὲ τὰ σελάχη πρὸς τὴν γῆν ἐκ τοῦ πελάγους καὶ τῶν βαθέων ἐπανιόντα διά τε τὴν ἀλέαν καὶ διὰ τὸ φοβεῖσθαι περὶ τῶν τέκνων.

Τῶν μὲν οὖν ἄλλων ἰχθύων παρὰ τὰς συγγενείας οὐδὲν ὦπται συνδυαζόμενον, ῥίνη δὲ δοκεῖ μόνη τοῦτο ποιεῖν καὶ βάτος· ἔστι γάρ τις ἰχθὺς ὃς καλεῖται ῥινόβατος· ἔχει γὰρ τὴν μὲν κεφαλὴν καὶ τὰ ἔμπροσθεν βάτου, τὰ δ’ ὄπισθεν ῥίνης, ὡς γινόμενος ἐξ ἀμφοτέρων τούτων. Οἱ μὲν οὖν γαλεοὶ καὶ οἱ γαλεοειδεῖς, οἷον ἀλώπηξ καὶ κύων, καὶ οἱ πλατεῖς ἰχθύες, νάρκη καὶ βάτος καὶ λειόβατος (566b.) καὶ τρυγών, τὸν εἰρημένον τρόπον ζῳοτοκοῦσιν ᾠοτοκήσαντες.

Κεφάλαιο 12

Δελφὶς δὲ καὶ φάλαινα καὶ τὰ ἄλλα κήτη, ὅσα μὴ ἔχει βράγχια ἀλλὰ φυσητῆρα, ζῳοτοκοῦσιν, ἔτι δὲ πρίστις καὶ βοῦς· οὐδὲν γὰρ τούτων φαίνεται ἔχον ᾠά, ἀλλ’ εὐθέως κύημα, ἐξ οὗ διαρθρουμένου γίνεται τὸ ζῷον, καθάπερ ἄνθρωπος καὶ τῶν τετραπόδων τὰ ζῳοτόκα. Τίκτει δ’ ὁ μὲν δελφὶς τὰ μὲν πολλὰ ἕν, ἐνίοτε δὲ καὶ δύο· ἡ δὲ φάλαινα ἢ δύο τὰ πλεῖστα καὶ πλεονάκις, ἢ ἕν. Ὁμοίως δὲ τῷ δελφῖνι καὶ ἡ φώκαινα· καὶ γάρ ἐστιν ὅμοιον δελφῖνι μικρῷ, γίνεται δ’ ἐν τῷ Πόντῳ. Διαφέρει δὲ φώκαινα δελφῖνος· ἔστι γὰρ τὸ μέγεθος ἔλαττον, εὐρύτερον δ’ ἐκ τοῦ νώτου· τὸ χρῶμα ἔχει κυανοῦν. Πολλοὶ δὲ δελφίνων τι γένος εἶναί φασι τὴν φώκαιναν. Ἀναπνεῖ δὲ πάντα ὅσα ἔχει φυσητῆρα, καὶ δέχεται τὸν ἀέρα· πλεύμονα γὰρ ἔχουσιν. Καὶ ὅ γε δελφὶς ὦπται, ὅταν καθεύδῃ, ὑπερέχων τὸ ῥύγχος, καὶ ῥέγχει καθεύδων. Ἔχει δ’ ὁ δελφὶς καὶ ἡ φώκαινα γάλα, καὶ θηλάζονται· καὶ εἰσδέχονται δὲ τὰ τέκνα μικρὰ ὄντα. Τὴν δ’ αὔξησιν τὰ τέκνα τῶν δελφίνων ποιοῦνται ταχεῖαν· ἐν ἔτεσι γὰρ δέκα μέγεθος λαμβάνουσι τέλεον. Κύει δὲ δέκα μῆνας. Τίκτει δ’ ὁ δελφὶς ἐν τῷ θέρει, ἐν ἄλλῃ δ’ ὥρᾳ οὐδεμιᾷ· συμβαίνει δὲ καὶ ἀφανίζεσθαι αὐτὸν ὑπὸ κύνα περὶ τριάκονθ’ ἡμέρας. Παρακολουθεῖ δὲ τὰ τέκνα πολὺν χρόνον, καὶ ἔστι τὸ ζῷον φιλότεκνον. Ζῇ δ’ ἔτη πολλά· δῆλοι γὰρ ἔνιοι γεγόνασι βιοῦντες οἱ μὲν πλείω ἔτη ἢ πέντε καὶ εἴκοσιν, οἱ δὲ τριάκοντα· ἀποκόπτοντες γὰρ ἐνίων τὸ οὐραῖον οἱ ἁλιεῖς ἀφιᾶσιν, ὥστε τούτῳ γνωρίζουσι τοὺς χρόνους αὐτῶν.

Ἡ δὲ φώκη ἐστὶ τῶν ἐπαμφοτεριζόντων ζῴων· οὐ δέχεται μὲν γὰρ τὸ ὕδωρ, ἀλλ’ ἀναπνεῖ καὶ καθεύδει καὶ τίκτει ἐν τῇ γῇ μέν, πρὸς αἰγιαλοῖς δέ, ὡς οὖσα τῶν πεζῶν, διατρίβει δὲ τοῦ χρόνου τὸν πολὺν καὶ τρέφεται ἐκ τῆς θαλάττης, διὸ μετὰ τῶν ἐνύδρων περὶ αὐτῆς λεκτέον. Ζῳοτοκεῖ μὲν οὖν εὐθὺς ἐν αὑτῇ, καὶ τίκτει ζῷα, καὶ χόριον καὶ (567a.) τἆλλα προΐεται ὥσπερ πρόβατον. Τίκτει δ’ ἓν ἢ δύο, τὰ δὲ πλεῖστα τρία. Καὶ μαστοὺς δ’ ἔχει δύο καὶ θηλάζεται ὑπὸ τῶν τέκνων καθάπερ τὰ τετράποδα. Τίκτει δ’ ὥσπερ ἄνθρωπος πᾶσαν ὥραν τοῦ ἔτους, μάλιστα δ’ ἅμα ταῖς πρώταις αἰξίν. Ἄγει δὲ περὶ δωδεκαταῖα ὄντα τὰ τέκνα εἰς τὴν θάλατταν πολλάκις τῆς ἡμέρας, συνεθίζουσα κατὰ μικρόν· τὰ δὲ κατάντη φέρεται, ἀλλ’ οὐ βαδίζει, διὰ τὸ μὴ δύνασθαι ἀπερείδεσθαι τοῖς ποσίν. Συνάγει δὲ καὶ συστέλλει ἑαυτήν·

σαρκῶδες γάρ ἐστι καὶ μαλακόν, καὶ ὀστᾶ χονδρώδη ἔχει. Ἀποκτεῖναι δὲ φώκην χαλεπὸν βιαίως, ἐὰν μή τις πατάξῃ παρὰ τὸν κρόταφον· τὸ γὰρ σῶμα σαρκῶδες αὐτῆς ἐστιν. Ἀφίησι δὲ φωνὴν ὁμοίαν βοΐ. Ἔχει δὲ καὶ τὸ αἰδοῖον ἡ θήλεια ὅμοιον προβάτῳ, πάντα δὲ τἆλλα γυναικί.

Περὶ μὲν οὖν τῶν ἐνύδρων καὶ ζῳοτοκούντων ἢ ἐν αὑτοῖς ἢ ἔξω ἡ γένεσις καὶ τὰ περὶ τὸν τόκον τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 13

Οἱ δ’ ᾠοτοκοῦντες τῶν ἰχθύων τὴν μὲν ὑστέραν δικρόαν ἔχουσι καὶ κάτω, καθάπερ ἐλέχθη πρότερον (ᾠοτοκοῦσι δὲ πάντες οἵ τε λεπιδωτοί, οἷον λάβραξ, κεστρεύς, κέφαλος, ἐτελίς, καὶ οἱ λευκοὶ καλούμενοι πάντες, καὶ οἱ λεῖοι πλὴν ἐγχέλυος), ᾠὸν δ’ ἴσχουσι ψαθυρόν. Τοῦτο δὲ φαίνεται διὰ τὸ τὴν ὑστέραν εἶναι πλήρη πᾶσαν ᾠῶν, ὥστ’ ἔν γε τοῖς μικροῖς τῶν ἰχθύων δοκεῖν ᾠὰ μόνον εἶναι δύο· διὰ τὴν μικρότητα γὰρ καὶ τὴν λεπτότητα ἄδηλος ἐν αὐτοῖς ἡ ὑστέρα.

Περὶ μὲν οὖν τῆς ὀχείας πάντων τῶν ἰχθύων εἴρηται πρότερον. Εἰσὶ δὲ τῶν ἰχθύων οἱ μὲν πλεῖστοι ἄρρενες καὶ θήλεις, περὶ δ’ ἐρυθρίνου καὶ χάννης ἀπορεῖται· πάντες γὰρ ἁλίσκονται κυήματα ἔχοντες. Συνίσταται μὲν οὖν καὶ ὀχευομένων ᾠὰ τοῖς συνδυαζομένοις τῶν ἰχθύων, ἴσχουσι δὲ καὶ ἄνευ ὀχείας.

Δηλοῦσι δ’ ἔνιοι τῶν ποταμίων· εὐθὺς γὰρ γεννώμενοι ὡς εἰπεῖν καὶ μικροὶ ὄντες οἱ φοξῖνοι κυήματ’ ἔχουσιν.

Ἀπορραίνουσι δὲ τὰ ᾠὰ καί, καθάπερ λέγεται, τὰ μὲν πολλὰ οἱ ἄρρενες ἀνακάπτουσι, τὰ δ’ ἀπόλλυται ἐν τῷ ὑγρῷ· ὅσα (567b.) δ’ ἂν ἐκτέκωσιν εἰς τοὺς τόπους εἰς οὓς ἐκτίκτουσι, ταῦτα σώζεται· εἰ γὰρ πάντα ἐσώζετο, παμπληθὲς ἂν τὸ γένος ἦν ἑκάστων. Καὶ τούτων δ’ οὐ γίνεται τὰ πολλὰ γόνιμα, ἀλλ’ ὅσα ἂν ἐπιρράνῃ ὁ ἄρρην τῷ θορῷ· ὅταν γὰρ ἐκτέκῃ, παρεπόμενος ὁ ἄρρην ἐπιρραίνει ἐπὶ τὰ ᾠὰ τὸν θορόν, καὶ ὅσα μὲν ἂν ἐπιρρανθῇ, ἐκ πάντων γίνεται ἰχθύδια, ἐκ δὲ τῶν ἄλλων ὅπως ἂν τύχῃ. Ταὐτὸ δὲ συμβαίνει τοῦτο καὶ ἐπὶ τῶν μαλακίων· ὁ γὰρ ἄρρην τῶν σηπιῶν, ὅταν ἐκτέκῃ ἡ θήλεια, ἐπιρραίνει τὰ ᾠά. Ὅπερ εὔλογον καὶ ἐπὶ τῶν ἄλλων συμβαίνειν μαλακίων, ἀλλ’ ἐπὶ τῶν σηπιῶν ὦπται ἐν τῷ παρόντι μόνον.

Ἐκτίκτουσι δὲ πρὸς τῇ γῇ, οἱ μὲν κωβιοὶ πρὸς τοῖς λίθοις, πλὴν πλατὺ καὶ ψαθυρὸν τὸ ἀποτικτόμενόν ἐστιν. Ὁμοίως δὲ καὶ οἱ ἄλλοι· ἀλεεινά τε γάρ ἐστι τὰ περὶ τὴν γῆν, καὶ τροφὴν ἔχει μᾶλλον, καὶ πρὸς τὸ μὴ κατεσθίεσθαι ὑπὸ τῶν μειζόνων τὰ κυήματα. Διὸ καὶ ἐν τῷ Πόντῳ περὶ τὸν Θερμώδοντα ποταμὸν οἱ πλεῖστοι τίκτουσιν· νήνεμος γὰρ ὁ τόπος καὶ ἀλεεινὸς καὶ ἔχων ὕδατα γλυκέα. Τίκτουσι δ’ οἱ μὲν ἄλλοι τῶν ᾠοτόκων ἰχθύων ἅπαξ τοῦ ἐνιαυτοῦ, πλὴν τῶν μικρῶν φυκίδων· αὗται δὲ δίς. Διαφέρει δ’ ὁ ἄρρην φύκης τῆς θηλείας τῷ μελάντερος εἶναι καὶ μείζους ἔχειν τὰς λεπίδας.

Οἱ μὲν οὖν ἄλλοι ἰχθύες γόνῳ τίκτουσι καὶ τὰ ᾠὰ ἀφιᾶσιν· ἣν δὲ καλοῦσί τινες βελόνην, ὅταν ἤδη ὥρα ᾖ τοῦ τίκτειν, διαρρήγνυται, καὶ οὕτω τὰ ᾠὰ ἐξέρχεται. Ἔχει γάρ τινα ὁ ἰχθὺς οὗτος διάφυσιν ὑπὸ τὴν γαστέρα καὶ τὸ ἦτρον, ὥσπερ οἱ τυφλίναι ὄφεις· ὅταν δ’ ἐκτέκῃ, συμφύεται ταῦτα πάλιν.

Ἡ δὲ γένεσις ἐκ τοῦ ᾠοῦ ὁμοίως συμβαίνει ἐπί τε τῶν ἔσω ᾠοτοκούντων καὶ ἐπὶ τῶν ἔξω· ἐπ’ ἄκρου τε γὰρ γίνεται καὶ ὑμένι περιέχεται, καὶ πρῶτον διάδηλοι οἱ ὀφθαλμοὶ μεγάλοι καὶ σφαιροειδεῖς ὄντες. Ἧι καὶ δῆλον ὅτι οὐχ ὥσπερ τινές φασιν, ὁμοίως γίνονται τοῖς ἐκ τῶν σκωλήκων γινομένοις· τοὐναντίον γὰρ συμβαίνει ἐπ’ ἐκείνων, τὰ κάτω μείζω πρῶτον, οἱ δ’ ὀφθαλμοὶ καὶ ἡ κεφαλὴ ὕστερον. Ὅταν δ’ (568a.) ἀναλωθῇ τὸ ᾠόν, γίνονται γυρινώδεις, καὶ τὸ μὲν πρῶτον οὐδεμίαν τροφὴν λαμβάνοντα αὐξάνονται ἐκ τῆς ἀπὸ τοῦ ᾠοῦ ἐγγινομένης ὑγρότητος, ὕστερον δὲ τρέφονται ἕως ἂν αὐξηθῶσι τοῖς ποταμίοις ὕδασιν.

Τοῦ δὲ Πόντου καθαιρομένου ἐπιφέρεταί τι κατὰ τὸν Ἑλλήσποντον ὃ καλοῦσι φῦκος· ἔστι δ’ ὠχρὸν τοῦτο. Οἱ δέ τινές φασι τοῦτο ἄνθος εἶναι τοῦ φύκου, ἀφ’ οὗ τὸ φυκίον εἶναι. Ἀρχομένου δὲ γίνεται τοῦ θέρους. Τούτῳ τρέφεται καὶ τὰ ὄστρεα καὶ τὰ ἰχθύδια τὰ ἐν τοῖς τόποις τούτοις. Φασὶ δέ τινες τῶν θαλαττίων καὶ τὴν πορφύραν ἴσχειν ἀπὸ τούτου τὸ ἄνθος.

Κεφάλαιο 14

Οἱ δὲ λιμναῖοι καὶ οἱ ποτάμιοι τῶν ἰχθύων κυήματα μὲν ἴσχουσι πεντάμηνοι τὴν ἡλικίαν ὄντες ὡς ἐπὶ τὸ πολύ, τίκτουσι δὲ τοῦ ἐνιαυτοῦ περιιόντος ἅπαντες· ὥσπερ δὲ καὶ οἱ θαλάττιοι, καὶ οὗτοι οὐκ ἐξαφιᾶσιν οὐδέποτε ἅμα πᾶν, οὔθ' αἱ θήλειαι τὸ ᾠὸν οὔθ' οἱ ἄρρενες τὸν θορόν, ἀλλ' ἔχουσιν ἀεὶ πλείω ἢ ἐλάττονα αἱ μὲν ᾠὰ οἱ δὲ θορόν. Τίκτουσι δ' ἐν τῇ καθηκούσῃ ὥρᾳ κυπρῖνος μὲν πεντάκις ἢ ἑξάκις (ποιεῖται δὲ τὸν τόκον μάλιστα ἐπὶ τοῖς ἄστροις), χαλκὶς δὲ τίκτει τρίς, οἱ δ' ἄλλοι ἅπαξ ἐν τῷ ἐνιαυτῷ πάντες. Τίκτουσι δ' ἐν ταῖς προλιμνάσι τῶν ποταμῶν καὶ τῶν λιμνῶν πρὸς τὰ καλαμώδη, οἷον οἵ τε φοξῖνοι καὶ αἱ πέρκαι. Οἱ δὲ γλάνεις καὶ αἱ πέρκαι συνεχὲς ἀφιᾶσι τὸ κύημα, ὥσπερ οἱ βάτραχοι· οὕτω δὲ συνεχές ἐστι τὸ κύημα περιειλιγμένον, ὥστε τό γε τῆς πέρκης διὰ πλατύτητα ἀναπηνίζονται ἐν ταῖς λίμναις οἱ ἁλιεῖς ἐκ τῶν καλάμων. Οἱ μὲν οὖν μείζους τῶν γλανίων ἐν τοῖς βαθέσι ἐκτίκτουσιν, ἔνιοι καὶ κατ' ὀργυιᾶς τὸ βάθος, οἱ δ' ἐλάττους αὐτῶν ἐν τοῖς βραχυτέροις, μάλιστα πρὸς ῥίζαις ἰτέας ἢ ἄλλου τινὸς δένδρου, καὶ πρὸς τῷ καλάμῳ δὲ καὶ πρὸς τῷ βρύῳ. Συμπλέκονται δὲ πρὸς ἀλλήλους ἐνίοτε καὶ πάνυ μέγας πρὸς μικρόν· καὶ προσαγαγόντες τοὺς πόρους πρὸς ἀλλήλους, οὓς καλοῦσί τινες (568b.) ὀμφαλούς, ᾗ τὸν γόνον ἀφιᾶσιν, ὁ μὲν τὸ ᾠὸν ὁ δὲ τὸν θορὸν ἐξίησιν. Ὅσα δ' ἂν τῷ θορῷ μιχθῇ τῶν ᾠῶν, εὐθύς τε λευκότερα φαίνεται καὶ μείζω ἐν ἡμέρᾳ ὡς εἰπεῖν. Ὕστερον δ' ἐν ὀλίγῳ χρόνῳ δῆλά ἐστι τὰ ὄμματα τοῦ ἰχθύος· τοῦτο γὰρ ἐν πᾶσι τοῖς ἰχθύσιν, ὥσπερ καὶ ἐν τοῖς ἄλλοις ζῴοις, ἐπιδηλότατόν ἐστιν εὐθὺς καὶ φαίνεται μέγιστον. Ὅσων δ' ἂν ᾠῶν ὁ θορὸς μὴ θίγῃ, καθάπερ καὶ ἐπὶ τῶν θαλαττίων, ἀχρεῖον τὸ ᾠὸν τοῦτο καὶ ἄγονόν ἐστιν. Ἀπὸ δὲ τῶν γονίμων ᾠῶν αὐξανομένων τῶν ἰχθυδίων ἀποκαθαίρεται οἷον κέλυφος· τοῦτο δ' ἐστὶν ὑμὴν περιέχων τὸ ᾠὸν καὶ τὸ ἰχθύδιον.

Ὅταν δὲ μιγῇ τῷ ᾠῷ ὁ θορός, σφόδρα γίνεται κολλῶδες τὸ συνεστηκὸς ἐξ αὐτῶν πρὸς ταῖς ῥίζαις ἢ ὅπου ἂν ἐκτέκωσιν.

Οὗ δ' ἂν πλεῖστον τέκωσιν, ᾠοφυλακεῖ ὁ ἄρρην, ἡ δὲ θήλεια ἀπέρχεται τεκοῦσα. Ἔστι δὲ βραδυτάτη μὲν ἐκ τῶν ᾠῶν ἡ τῶν γλανίων αὔξησις, διὸ προσεδρεύει ὁ ἄρρην καὶ τετταράκοντα καὶ πεντήκοντα ἡμέρας, ὅπως μὴ κατεσθίηται ὁ γόνος ὑπὸ τῶν παρατυχόντων ἰχθυδίων· δευτέρα δὲ βραδυτῆτι ἡ τοῦ κυπρίνου γένεσις, ὅμως δὲ ταχέως καὶ τούτων ὁ σωζόμενος διαφεύγει γόνος. Τῶν δ’ ἐλαττόνων ἐνίων καὶ τριταίων ὄντων ἤδη ἰχθύδιά ἐστιν. Λαμβάνει δ’ αὔξησιν τὰ ᾠά, ὧν ἂν ἐπιψαύσῃ ὁ θορός, καὶ αὐθημερὸν καὶ ὕστερον ἔτι. Τὸ μὲν οὖν τοῦ γλάνιος γίνεται ὅσον ὄροβος, τὰ δὲ τῶν κυπρίνων καὶ τῶν τοιούτων ὅσον κέγχρος.

Ταῦτα μὲν οὖν τοῦτον τὸν τρόπον τίκτει καὶ γεννᾷ, χαλκὶς δὲ τίκτει ἐν τοῖς βαθέσιν ἀθρόα καὶ ἀγελαῖα, ὃν δὲ καλοῦσι τίλωνα, πρὸς τοῖς αἰγιαλοῖς ἐν ὑπηνέμοις· ἀγελαῖος δὲ καὶ οὗτος. Κυπρῖνος δὲ καὶ βάλερος καὶ οἱ ἄλλοι πάντες ὡς εἰπεῖν ὠθοῦνται μὲν εἰς τὰ βραχέα πρὸς τὸν τόκον, μιᾷ δὲ θηλείᾳ πολλάκις ἀκολουθοῦσιν ἄρρενες καὶ τρισκαίδεκα καὶ τεσσαρεσκαίδεκα· τῆς θηλείας δ’ ἀφιείσης τὸ ᾠὸν καὶ ὑποχωρούσης ἐπακολουθοῦντες ἐπιρραίνουσι τὸν θορόν. Ἀπόλλυται δὲ τὰ πλεῖστ’ αὐτῶν· (569a.) διά τε γὰρ τὸ ὑποχωροῦσαν τίκτειν τὴν θήλειαν σκεδάννυται τὸ ᾠόν, ὅ τι ἂν ὑπὸ ῥεύματος ληφθῇ καὶ μὴ προσπέσῃ πρὸς ὕλην· καὶ γὰρ οὐδ’ ᾠοφυλακεῖ τῶν ἄλλων ἔξω γλάνιος οὐδείς, πλὴν ἂν ἀθρόῳ γόνῳ ἑαυτοῦ περιτύχῃ ὁ κυπρῖνος· τοῦτον δέ φασιν ᾠοφυλακεῖν. Θορὸν δὲ πάντες ἔχουσιν οἱ ἄρρενες πλὴν ἐγχέλυος· αὕτη δ’ οὐδέτερον οὔτ’ ᾠὸν οὔτε θορόν. Οἱ μὲν οὖν κεστρεῖς ἐκ τῆς θαλάττης ἀναβαίνουσιν εἰς τὰς λίμνας καὶ τοὺς ποταμούς, αἱ δ’ ἐγχέλυς τοὐναντίον ἐκ τούτων εἰς τὴν θάλατταν.

Κεφάλαιο 15

Οἱ μὲν οὖν πλεῖστοι, ὥσπερ εἴρηται, τῶν ἰχθύων γίνονται ἐξ ᾠῶν. Οὐ μὴν ἀλλ’ ἔνιοι καὶ ἐκ τῆς ἰλύος καὶ ἐκ τῆς ἄμμου γίνονται, καὶ τῶν τοιούτων γενῶν ἃ γίνεται ἐκ συνδυασμοῦ καὶ ᾠῶν, ἐν τέλμασιν ἄλλοις τε, καὶ οἷον περὶ Κνίδον φασὶν εἶναί ποτε, ὃ ἐξηραίνετο μὲν ὑπὸ κύνα καὶ ἡ ἰλὺς ἅπασα ἐξῃρεῖτο, ὕδωρ δ’ ἤρχετο ἐγγίνεσθαι ἅμα τοῖς ὄμβροις γινομένοις. Ἐν τούτῳ ἰχθύδια ἐνεγίνετο ἀρχομένου τοῦ ὕδατος. Ἦν δὲ κεστρέων τι γένος τοῦτο, ὃ οὐδὲ γίνεται ἐξ ὀχείας, μέγεθος ἡλίκα μαινίδια μικρά· ᾠὸν δὲ τούτων εἶχεν οὐδὲν οὐδὲ θορόν. Γίνεται δὲ καὶ ἐν ποταμοῖς ἐν τῇ Ἀσίᾳ, οὐ διαρρέουσιν εἰς τὴν θάλατταν, ἰχθύδια μικρά, ἡλίκοι ἑψητοί, ἕτερα τὸν αὐτὸν τρόπον τούτοις. Ἔνιοι δὲ καὶ ὅλως φασὶ τοὺς κεστρεῖς φύεσθαι πάντας, οὐκ ὀρθῶς λέγοντες· ἔχουσαι γὰρ φαίνονται καὶ ᾠὰ αἱ θήλειαι αὐτῶν καὶ θορὸν οἱ ἄρρενες.

Ἀλλὰ γένος τί ἐστιν αὐτῶν τοιοῦτον, ὃ φύεται ἐκ τῆς ἰλύος καὶ τῆς ἄμμου. Ὅτι μὲν οὖν γίνεται αὐτόματα ἔνια οὔτ’ ἐξ ᾠῶν οὔτ’ ἐξ ὀχείας, φανερὸν ἐκ τούτων. Ὅσα δὲ μήτ’ ᾠοτοκεῖ μήτε ζῳοτοκεῖ, πάντα γίνεται τὰ μὲν ἐκ τῆς ἰλύος τὰ δ’ ἐκ τῆς ἄμμου καὶ τῆς ἐπιπολαζούσης σήψεως, οἷον καὶ τῆς ἀφύης ὁ καλούμενος ἀφρὸς γίνεται ἐκ τῆς ἀμμώδους γῆς· καὶ ἔστιν αὕτη ἡ ἀφύη ἀναυξὴς καὶ ἄγονος, καὶ ὅταν (569b.) πλείων γένηται χρόνος, ἀπόλλυται, ἄλλη δὲ πάλιν ἐπιγίνεται, διὸ ἔξω χρόνου τινὸς ὀλίγου πᾶσαν ὡς εἰπεῖν τὴν ἄλλην γίνεται ὥραν· διαμένει γὰρ ἀρξάμενος ἀπὸ ἀρκτούρου μετοπωρινοῦ μέχρι τοῦ ἔαρος. Σημεῖον δ’ ὅτι ἐνίοτ’ ἐκ τῆς γῆς ἀνέρχεται· ἁλιευομένων γάρ, ἐὰν μὲν ᾖ ψῦχος, οὐχ ἁλίσκεται, ἐὰν δ’ ᾖ εὐδία, ἁλίσκεται, ὡς ἐκ τῆς γῆς ἀνιοῦσα πρὸς τὴν ἀλέαν. Καὶ ἑλκόντων καὶ ἀναξυομένης τῆς γῆς πλεονάκις πλείων γίνεται καὶ βελτίων. Αἱ δ’ ἄλλαι ἀφύαι χείρους διὰ τὸ ταχὺ λαμβάνειν αὔξησιν.

Γίνονται δ’ ἐν τοῖς ἐπισκίοις καὶ ἑλώδεσι τόποις, ὅταν εὐημερίας γενομένης ἀναθερμαίνηται ἡ γῆ, οἷον περὶ Ἀθήνας ἐν Σαλαμῖνι καὶ πρὸς τῷ Θεμιστοκλείῳ καὶ ἐν Μαραθῶνι· ἐν γὰρ τούτοις τοῖς τόποις γίνεται ὁ ἀφρός. Φαίνεται δ’ ἐν μὲν τόποις τοιούτοις καὶ εὐημερίαις τοιαύταις, γίνεται δ’ ἐνιαχοῦ καὶ ὁπόταν ὕδωρ πολὺ ἐξ οὐρανοῦ γένηται, ἐν τῷ ἀφρῷ τῷ γινομένῳ ὑπὸ τοῦ ὀμβρίου ὕδατος, διὸ καὶ καλεῖται ἀφρός· καὶ ἐπιφέρεται ἐνίοτε ἐπιπολῆς τῆς θαλάττης, ὅταν εὐημερία ᾖ, ἐν ᾧ συστρέφεται, οἷον ἐν τῇ

κόπρῳ τὰ σκωλήκια, οὕτως ἐν τούτῳ ὁ ἀφρός, ὅπου ἂν συστῇ ἐπιπολῆς· διὸ πολλαχοῦ προσφέρεται ἐκ τοῦ πελάγους ἡ ἀφύη αὕτη. Καὶ εὐθηνεῖ δὲ καὶ ἁλίσκεται πλείστη, ὁπόταν ἔνυγρον καὶ εὐδιεινὸν γένηται τὸ ἔτος.

Ἡ δ’ ἄλλη ἀφύη γόνος ἰχθύων ἐστίν, ἡ μὲν καλουμένη κωβῖτις κωβιῶν τῶν μικρῶν καὶ φαύλων, οἳ καταδύνουσιν εἰς τὴν γῆν· ἐκ δὲ τῆς φαληρικῆς γίνονται μεμβράδες, ἐκ δὲ τούτων τριχίδες, ἐκ δὲ τῶν τριχίδων τριχίαι, ἐκ δὲ μιᾶς ἀφύης, οἷον τῆς ἐν τῷ Ἀθηναίων λιμένι, οἱ ἐγκρασίχολοι καλούμενοι. Ἔστι δὲ καὶ ἄλλη ἀφύη, ἣ γόνος ἐστὶ μαινίδων καὶ κεστρέων.

Ὁ δ’ ἀφρὸς ὁ ἄγονος ὑγρός ἐστι καὶ διαμένει ὀλίγον χρόνον, καθάπερ εἴρηται πρότερον· τέλος γὰρ λείπεται κεφαλὴ καὶ ὀφθαλμοί. Πλὴν (570a.) νῦν εὕρηται τοῖς ἁλιεῦσι πρὸς τὸ διακομίζειν· ἁλιζομένη γὰρ πλείω μένει χρόνον.

Κεφάλαιο 16

Αἱ δ’ ἐγχέλυς οὔτ’ ὀχείας γίνονται οὔτ’ ᾠοτοκοῦσιν, οὐδ’ ἐλήφθη πώποτε οὔτε θορὸν ἔχουσα οὐδεμία οὔτ’ ᾠά, οὔτ’ ἀνασχισθεῖσαι ἐντὸς θορικοὺς πόρους οὔθ’ ὑστερικοὺς ἔχουσιν· ἀλλὰ τοῦτο ὅλον τὸ γένος τῶν ἐναίμων οὐ γίνεται οὔτ’ ἐξ ὀχείας οὔτ’ ἐξ ᾠῶν. Φανερὸν δ’ ἐστὶν ὅτι οὕτως ἔχει· ἐν ἐνίαις γὰρ τελματώδεσι λίμναις τοῦ θ’ ὕδατος παντὸς ἐξαντληθέντος καὶ τοῦ πηλοῦ ξυσθέντος γίνονται πάλιν, ὅταν ὕδωρ γένηται ὄμβριον· ἐν δὲ τοῖς αὐχμοῖς οὐ γίνονται, οὐδ’ ἐν ταῖς διαμενούσαις λίμναις· καὶ γὰρ ζῶσι καὶ τρέφονται ὀμβρίῳ ὕδατι. Ὅτι μὲν οὖν οὔτ’ ἐξ ὀχείας οὔτ’ ἐξ ᾠῶν γίνονται, φανερόν ἐστιν.

Δοκοῦσι δέ τισι γεννᾶν, ὅτι ἐν ἐνίαις τῶν ἐγχελύων ἑλμίνθια ἐγγίνεται· ἐκ τούτων γὰρ οἴονται γίνεσθαι ἐγχέλυς. Τοῦτο δ’ ἐστὶν οὐκ ἀληθές, ἀλλὰ γίνονται ἐκ τῶν καλουμένων γῆς ἐντέρων, ἃ αὐτόματα συνίσταται ἐν τῷ πηλῷ καὶ ἐν τῇ γῇ τῇ ἐνίκμῳ. Καὶ ἤδη εἰσὶν ὠμμέναι αἱ μὲν ἐκλυόμεναι ἐκ τούτων, αἱ δ’ ἐν διακνιζομένοις καὶ διαιρουμένοις γίνονται φανεραί. Καὶ ἐν τῇ θαλάττῃ δὲ καὶ ἐν τοῖς ποταμοῖς γίνεται τὰ τοιαῦτα, ὅταν ᾖ μάλιστα σῆψις, τῆς μὲν θαλάττης πρὸς τοῖς τοιούτοις τόποις οὗ ἂν ᾖ φῦκος, τῶν δὲ ποταμῶν καὶ λιμνῶν περὶ τὰ χείλη· ἐνταῦθα γὰρ ἡ ἀλέα ἰσχύουσα σήπει. Περὶ μὲν οὖν τῆς τῶν ἐγχελύων γενέσεως τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 17

Τοὺς δὲ τόκους οὔτε πάντες οἱ ἰχθύες ποιοῦνται τὴν αὐτὴν ὥραν οὔθ’ ὁμοίως, οὔτε κύουσι τὸν ἴσον χρόνον. Πρὸ μὲν οὖν τῆς ὀχείας ἀγέλαι γίνονται ἀρρένων καὶ θηλειῶν· ὅταν δὲ περὶ τὴν ὀχείαν καὶ τοὺς τόκους ὦσι, συνδυάζονται. Κύουσι δὲ τούτων ἔνιοι μὲν οὐ πλείους τριάκονθ’ ἡμερῶν, οἱ δ’ ἐλάττω χρόνον, πάντες δ’ ἐν χρόνοις διαιρουμένοις εἰς τὸν τῶν ἑβδομάδων ἀριθμόν. Κύουσι δὲ πλεῖστον χρόνον οὓς καλοῦσί τινες μαρίνους. Σαργὸς δὲ κυΐσκεται μὲν περὶ τὸν (570b.) Ποσειδεῶνα μῆνα, κύει δ’ ἡμέρας τριάκοντα· καὶ ὃν καλοῦσί τινες χελῶνα τῶν κεστρέων, καὶ ὁ μύξων τὴν αὐτὴν ὥραν καὶ ἴσον χρόνον κύουσι τῷ σαργῷ.

Πονοῦσι δὲ τῇ κυήσει πάντες, διὸ μάλιστα τὴν ὥραν ταύτην ἐκπίπτουσιν· φέρονται γὰρ οἰστρῶντες πρὸς τὴν γῆν. Καὶ ὅλως ἐν κινήσει περὶ τὸν χρόνον τοῦτον διατελοῦσιν ὄντες, ἕως ἂν ἐκτέκωσιν· καὶ μάλιστα ὁ κεστρεὺς τοῦτο ποιεῖ τῶν ἰχθύων· ὅταν δ’ ἐκτέκωσιν, ἡσυχάζουσιν. Πολλοῖς δὲ τῶν ἰχθύων πέρας ἐστὶ τοῦ τίκτειν, ὅταν ἐγγένηται σκωλήκια ἐν τῇ γαστρί· ἐγγίνεται γὰρ μικρὰ καὶ ἔμψυχα, ἃ ἐξελαύνει τὰ κυήματα.

Οἱ δὲ τόκοι γίνονται τοῖς μὲν ῥυάσι τοῦ ἔαρος, καὶ τοῖς πλείστοις δὲ περὶ τὴν ἐαρινὴν ἰσημερίαν· τοῖς δ’ ἄλλοις οὐχ ἡ αὐτὴ ὥρα τοῦ ἔτους, ἀλλὰ τοῖς μὲν τοῦ θέρους, τοῖς δὲ περὶ τὴν φθινοπωρινὴν ἰσημερίαν. Τίκτει δὲ πρῶτον τῶν τοιούτων ἀθερίνη (τίκτει δὲ πρὸς τῇ γῇ), κέφαλος δ’ ὕστατος· δῆλον δ’ ἐκ τοῦ πρῶτον ταύτης φαίνεσθαι τὸν γόνον, τοῦ δ’ ὕστατον. Τίκτει δὲ καὶ κεστρεὺς ἐν τοῖς πρώτοις, καὶ σάλπη τοῦ θέρους ἀρχομένου ἐν τοῖς πλείστοις, ἐνιαχοῦ δὲ μετοπώρου.

Τίκτει δὲ καὶ ὁ αὐλωπίας, ὃν καλοῦσί τινες ἀνθίαν, τοῦ θέρους. Μετὰ δὲ τούτους χρύσοφρυς καὶ λάβραξ καὶ μόρμυρος καὶ ὅλως οἱ καλούμενοι δρομάδες. Ὕστατοι δὲ τῶν ἀγελαίων τρίγλη καὶ κορακῖνος· τίκτουσι δ’ οὗτοι περὶ τὸ μετόπωρον.

Τίκτει δ’ ἡ τρίγλη ἐπὶ τῷ πηλῷ, διὸ ὀψὲ τίκτει· πολὺν γὰρ χρόνον ὁ πηλὸς ψυχρός ἐστιν. Ὁ δὲ κορακῖνος ὕστερον τῆς τρίγλης ἐπὶ τῶν φυκίων ἐκπορευόμενος, διὰ τὸ βιοτεύειν ἐν τοῖς πετραίοις χωρίοις· κύει δὲ πολὺν χρόνον. Αἱ δὲ μαινίδες τίκτουσι μετὰ τροπὰς χειμερινάς. Τῶν δ’ ἄλλων ὅσοι πελάγιοι, οἱ πολλοὶ θέρους τίκτουσιν· σημεῖον δ’ ὅτι οὐχ ἁλίσκονται τὸν

χρόνον τοῦτον.

Πολυγονώτατον δ’ ἐστὶ τῶν ἰχθύων μαινίς, τῶν δὲ σελαχῶν βάτραχος· ἀλλὰ σπάνιοί εἰσι διὰ τὸ ἀπόλλυσθαι ῥᾳδίως· τίκτει γὰρ ἀθρόα καὶ πρὸς τῇ γῇ. Ὅλως δ’ ὀλιγογονώτερα μέν ἐστι τὰ σελάχη (571a.) διὰ τὸ ζῳοτοκεῖν, σώζεται δὲ μάλιστα ταῦτα διὰ τὸ μέγεθος. Ὀψίγονον δ’ ἐστὶ καὶ ἡ καλουμένη βελόνη, καὶ αἱ πολλαὶ αὐτῶν πρὸ τοῦ τίκτειν διαρρήγνυνται ὑπὸ τῶν ᾠῶν· ἴσχει δ’ οὐχ οὕτω πολλὰ ὡς μεγάλα. Καὶ ὥσπερ τὰ φαλάγγια δέ, περικέχυνται καὶ περὶ τὴν βελόνην· ἐκτίκτει γὰρ πρὸς αὐτῇ, κἄν τις θίγῃ, φεύγουσιν. Ἡ δ’ ἀθερίνη τίκτει τρίβουσα τὴν κοιλίαν πρὸς τὴν ἄμμον.

Διαρρήγνυνται δὲ καὶ οἱ θύννοι ὑπὸ τῆς πιμελῆς, ζῶσι δ’ ἔτη δύο. Σημεῖον δὲ τούτου ποιοῦνται οἱ ἁλιεῖς· ἐκλιπουσῶν γάρ ποτε τῶν θυννίδων ἐνιαυτόν, τῷ ἐχομένῳ ἔτει καὶ θύννοι ἐξέλιπον. Δοκοῦσι δ’ ἐνιαυτῷ εἶναι πρεσβύτεροι τῶν πηλαμύδων.

Ὀχεύφθίνοντα, τίκτουσι δὲ περὶ τὸν Ἑκατομβαιῶνα ἀρχόμενον· τίκτουσι δ’ οἷον ἐν θυλάκῳ τὰ ᾠά. Ἡ δ’ αὔξησίς ἐστι τῶν θυννίδων ταχεῖα· ὅταν γὰρ τέκωσιν οἱ ἰχθύες ἐν τῷ Πόντῳ, γίνονται ἐκ τοῦ ᾠοῦ ἃς καλοῦσιν οἱ μὲν σκορδύλας, οἱ δὲ Βυζάντιοι αὐξίδας διὰ τὸ ἐν ὀλίγαις αὐξάνεσθαι ἡμέραις, καὶ ἐξέρχονται μὲν τοῦ φθινοπώρου ἅμα ταῖς θυννίσιν, εἰσπλέουσι δὲ τοῦ ἔαρος ἤδη οὖσαι πηλαμύδες. Σχεδὸν δὲ καὶ οἱ ἄλλοι πάντες ἰχθύες ταχεῖαν λαμβάνουσι τὴν αὔξησιν, πάντες δ’ ἐν τῷ Πόντῳ θᾶττον· παρ’ ἡμέραν γὰρ καὶ αἱ ἀμίαι πολὺ ἐπιδήλως αὐξάνονται. Ὅλως δὲ δεῖ νομίζειν τοῖς αὐτοῖς ἰχθύσι μὴ ἐν τοῖς αὐτοῖς τόποις μήτε τῆς ὀχείας καὶ τῆς κυήσεως εἶναι τὴν αὐτὴν ὥραν μήτε τοῦ τόκου καὶ τῆς εὐημερίας, ἐπεὶ καὶ οἱ καλούμενοι κορακῖνοι ἐνιαχοῦ τίκτουσι περὶ τὸν πυραμητόν· ἀλλὰ τοῦ ὡς ἐπὶ τὸ πολὺ γινομένου ἐστόχασται τὰ εἰρημένα.

Ἴσχουσι δὲ καὶ οἱ γόγγροι κυήματα· ἀλλ’ οὐκ ἐν πᾶσι τοῖς τόποις ὁμοίως τοῦτο ἐπίδηλον, οὐδὲ τὸ κύημα σφόδρα φανερὸν διὰ τὴν πιμελήν· ἴσχει γὰρ μακρόν, ὥσπερ καὶ οἱ ὄφεις. Ἀλλ’ ἐπὶ τὸ πῦρ τιθέμενον διάδηλον ποιεῖ· ἡ μὲν γὰρ πιμελὴ θυμιᾶται καὶ τήκεται, τὰ δὲ πηδᾷ καὶ ψοφεῖ ἐκθλιβόμενα.

Ἔτι δ’ ἄν τις ψηλαφᾷ καὶ τρίβῃ τοῖς δακτύλοις, τὸ μὲν στέαρ λεῖον φαίνεται, τὸ δ’ ᾠὸν τραχύ. Ἔνιοι μὲν οὖν (571b.) γόγγροι στέαρ μὲν ἔχουσιν ᾠὸν δ’ οὐδέν, οἱ δὲ τοὐναντίον στέαρ μὲν οὐδέν, ᾠὸν δὲ τοιοῦτον οἷον εἴρηται νῦν.

Κεφάλαιο 18

Περὶ μὲν οὖν τῶν ἄλλων ζῴων καὶ πτηνῶν καὶ πλωτῶν, καὶ περὶ τῶν πεζῶν ὅσα ᾠοτοκεῖ, σχεδὸν εἴρηται περὶ πάντων, περί τ’ ὀχείας καὶ κυήσεως καὶ τῶν ἄλλων τῶν ὁμοιοτρόπων τούτοις· περὶ δὲ τῶν πεζῶν ὅσα ζῳοτοκεῖ καὶ περὶ ἀνθρώπου λεκτέον τὰ συμβαίνοντα τὸν αὐτὸν τρόπον.

Περὶ μὲν οὖν ὀχείας εἴρηται καὶ ἰδίᾳ καὶ κοινῇ κατὰ πάντων. Πάντων δὲ κοινὸν τῶν ζῴων τὸ περὶ τὴν ἐπιθυμίαν καὶ τὴν ἡδονὴν ἐπτοῆσθαι τὴν ἀπὸ τῆς ὀχείας μάλιστα. Τὰ μὲν οὖν θήλεα χαλεπώτατα, ὅταν ἐκτέκωσι πρῶτον, οἱ δ’ ἄρρενες περὶ τὴν ὀχείαν. Οἵ τε γὰρ ἵπποι δάκνουσι τοὺς ἵππους καὶ καταβάλλουσι καὶ διώκουσι τοὺς ἱππέας, καὶ οἱ ὕες οἱ ἄγριοι χαλεπώτατοι, καίπερ ἀσθενέστατοι περὶ τὸν καιρὸν τοῦτον ὄντες, διὰ τὴν ὀχείαν, καὶ πρὸς ἀλλήλους δὲ ποιοῦνται μάχας θαυμαστάς, θωρακίζοντες ἑαυτοὺς καὶ ποιοῦντες τὸ δέρμα ὡς παχύτατον ἐκ παρασκευῆς, πρὸς τὰ δένδρα τρίβοντες καὶ τῷ πηλῷ μολύνοντες πολλάκις καὶ ξηραίνοντες ἑαυτούς· μάχονται δὲ πρὸς ἀλλήλους, ἐξελαύνοντες ἐκ τῶν συοφορβίων, οὕτω σφοδρῶς ὥστε πολλάκις ἀμφότεροι ἀποθνήσκουσιν. Ὡσαύτως δὲ καὶ οἱ ταῦροι καὶ οἱ κριοὶ καὶ οἱ τράγοι· πρότερον γὰρ ὄντες σύννομοι ἕκαστοι περὶ τοὺς καιροὺς τῆς ὀχείας μάχονται διιστάμενοι πρὸς ἀλλήλους. Χαλεπὸς δὲ καὶ ὁ κάμηλος περὶ τὴν ὀχείαν ὁ ἄρρην, ἐάν τ’ ἄνθρωπος ἐάν τε κάμηλος πλησιάζῃ· ἵππῳ μὲν γὰρ ὅλως ἀεὶ πολεμεῖ.

Τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἀγρίων· καὶ γὰρ ἄρκτοι καὶ λύκοι καὶ λέοντες χαλεποὶ τοῖς πλησιάζουσι γίνονται περὶ τὸν καιρὸν τοῦτον, πρὸς ἀλλήλους δ’ ἧττον μάχονται διὰ τὸ μὴ ἀγελαῖον εἶναι μηδὲν τῶν τοιούτων ζῴων. Χαλεπαὶ δὲ καὶ αἱ θήλειαι ἄρκτοι ἀπὸ τῶν σκύμνων, ὥσπερ καὶ αἱ κύνες ἀπὸ τῶν σκυλακίων.

Ἐξαγριαίνονται δὲ καὶ οἱ ἐλέφαντες περὶ τὴν ὀχείαν, διόπερ φασὶν οὐκ ἐᾶν αὐτοὺς ὀχεύειν τὰς θηλείας τοὺς τρέφοντας ἐν τοῖς Ἰνδοῖς· ἐμμανεῖς γὰρ γινομένους ἐν τοῖς χρόνοις τούτοις (572a.) ἀνατρέπειν τὰς οἰκήσεις αὐτῶν ἅτε φαύλως ᾠκοδομημένας, καὶ ἄλλα πολλὰ ἐργάζεσθαι. Φασὶ δὲ καὶ τὴν τῆς τροφῆς δαψίλειαν πραοτέρους αὐτοὺς παρέχειν· καὶ προσάγοντες δ’ αὐτοῖς ἑτέρους κολάζουσι καὶ δουλοῦνται προστάττοντες τύπτειν τοῖς προσαγομένοις.

Τὰ δὲ πολλάκις ποιούμενα τὰς ὀχείας καὶ μὴ κατὰ μίαν ὥραν, οἷον τὰ συνανθρωπευόμενα, ὕες τε καὶ κύνες, ἧττον τοιαῦτα φαίνεται διὰ τὴν ἀφθονίαν τῆς ὁμιλίας.

Τῶν δὲ θηλειῶν ὁρμητικῶς ἔχουσι πρὸς τὸν συνδυασμὸν μάλιστα μὲν ἵππος, ἔπειτα βοῦς. Αἱ μὲν οὖν ἵπποι αἱ θήλειαι ἱππομανοῦσιν· ὅθεν καὶ ἐπὶ τὴν βλασφημίαν τὸ ὄνομα αὐτῶν ἐπιφέρουσιν ἀπὸ μόνου τῶν ζῴων τούτου τὴν ἐπὶ τῶν ἀκολάστων περὶ τὸ ἀφροδισιάζεσθαι. Λέγονται δὲ καὶ ἐξανεμοῦσθαι περὶ τὸν καιρὸν τοῦτον· διὸ ἐν Κρήτῃ οὐκ ἐξαιροῦσι τὰ ὀχεῖα ἐκ τῶν θηλειῶν. Ὅταν δὲ τοῦτο πάθωσι, θέουσιν ἐκ τῶν ἄλλων ἵππων. Ἔστι δὲ τὸ πάθος ὅπερ ἐπὶ τῶν ὑῶν λέγεται τὸ καπρίζειν. Θέουσι δὲ οὔτε πρὸς ἕω οὔτε πρὸς δυσμάς, ἀλλὰ πρὸς ἄρκτον ἢ νότον. Ὅταν δ᾿ ἐμπέσῃ τὸ πάθος, οὐδένα ἐῶσι πλησιάζειν, ἕως ἂν ἢ ἀπείπωσι διὰ τὸν πόνον ἢ πρὸς θάλατταν ἔλθωσιν· τότε δ᾿ ἐκβάλλουσί τι. Καλοῦσι δὲ καὶ τοῦτο, ὥσπερ ἐπὶ τοῦ τικτομένου, ἱππομανές· ἔστι δ᾿ οἷον ἡ καπρία, καὶ ζητοῦσι τοῦτο μάλιστα πάντων αἱ περὶ τὰς φαρμακείας.

Περὶ δὲ τὴν ὥραν τῆς ὀχείας συγκύπτουσί τε πρὸς ἀλλήλας μᾶλλον ἢ πρότερον, καὶ τὴν κέρκον κινοῦσι πυκνά, καὶ τὴν φωνὴν ἀφιᾶσιν ἀλλοιοτέραν ἢ κατὰ τὸν ἄλλον χρόνον· ῥεῖ δ᾿ αὐταῖς ἐκ τοῦ αἰδοίου ὅμοιον γονῇ, λεπτότερον δὲ πολὺ ἢ τὸ τοῦ ἄρρενος· καὶ καλοῦσί τινες τοῦτο ἱππομανές, ἀλλ᾿ οὐ τὸ ἐπὶ τοῖς πώλοις ἐπιφυόμενον· ἐργῶδες δ᾿ εἶναί φασι λαβεῖν· κατὰ μικρὸν γὰρ ῥεῖν. Καὶ οὐροῦσι δὲ πολλάκις, ὅταν σκυζῶσι, καὶ πρὸς αὑτὰς παίζουσιν.

Τὰ μὲν οὖν περὶ τοὺς ἵππους τοῦτον ἔχει τὸν τρόπον, αἱ δὲ βόες ταυρῶσιν· οὕτω δὲ σφόδρα κατακώχιμαι τῷ πάθει γίνονται, ὥστε μὴ δύνασθαι αὐτῶν κρατεῖν μηδὲ λαμβάνεσθαι τοὺς βουκόλους. (572b.) Δῆλαι δ᾿ εἰσὶ καὶ αἱ ἵπποι καὶ αἱ βόες, ὅταν ὀργῶσι πρὸς τὴν ὀχείαν, καὶ τῇ ἐπάρσει τῶν αἰδοίων, καὶ τῷ πυκνὰ οὐρεῖν αἱ βόες ὥσπερ αἱ ἵπποι. Ἔτι δ᾿ αἵ γε βόες ἐπὶ τοὺς ταύρους ἀναβαίνουσι, καὶ παρακολουθοῦσιν ἀεί, καὶ παρεστᾶσιν. Πρότερα δὲ τὰ νεώτερα ὀργᾷ πρὸς τὴν ὀχείαν καὶ ἐν τοῖς ἵπποις καὶ ἐν τοῖς βουσίν· καὶ ὅταν εὐημερίαι γίνωνται καὶ τὰ σώματα εὖ ἔχωσι, μᾶλλον ὀργῶσιν.

Αἱ μὲν οὖν ἵπποι ὅταν ἀποκείρωνται, ἀποπαύονται τῆς ὁρμῆς μᾶλλον καὶ γίνονται κατηφέστεραι. Οἱ δ᾿ ἄρρενες ἵπποι διαγινώσκουσι τὰς θηλείας τὰς συννόμους ταῖς ὀσμαῖς, κἂν ὀλίγας ἡμέρας ἅμα γένωνται πρὸ τῆς ὀχείας· κἂν ἀναμιχθῶσιν ἀλλήλοις, ἐξελαύνουσι δάκνοντες, καὶ νέμονται χωρίς, ἕκαστοι τὰς ἑαυτῶν ἔχοντες. Διδόασι δ᾿ ἑκάστῳ περὶ τριάκοντα ἢ μικρῷ πλείους. Ὅταν δὲ προσίῃ τις ἄρρην, συστρέψας εἰς ταὐτὸ καὶ περιδραμὼν κύκλῳ,

προσελθὼν μάχεται· κἄν τις κινῆται, δάκνει καὶ κωλύει.

Ὁ δὲ ταῦρος, ὅταν ὥρα τῆς ὀχείας ᾖ, τότε γίνεται σύννομος καὶ μάχεται τοῖς ἄλλοις, τὸν δὲ πρότερον χρόνον μετ' ἀλλήλων εἰσίν, ὃ καλεῖται ἀτιμαγελεῖν· πολλάκις γὰρ οἵ γ' ἐν τῇ Ἠπείρῳ οὐ φαίνονται τριῶν μηνῶν. Ὅλως δὲ τὰ ἄρρενα πάντα ἢ τὰ πλεῖστα οὐ συννέμονται τοῖς θήλεσι πρὸ τῆς ὥρας τοῦ ὀχεύειν, ἀλλ' ἐκκρίνονται, ὅταν εἰς ἡλικίαν ἔλθωσι, καὶ χωρὶς βόσκονται τὰ ἄρρενα τῶν θηλειῶν.

Καὶ αἱ ὕες δ' ὅταν ἔχωσι πρὸς τὴν ὀχείαν ὁρμητικῶς, ὃ καλεῖται καπρᾶν, ὠθοῦνται καὶ πρὸς τοὺς ἀνθρώπους. Περὶ δὲ τὰς κύνας τὸ τοιοῦτον πάθος καλεῖται σκυζᾶν.

Ἔπαρσις μὲν οὖν τοῖς θήλεσιν γίνεται τῶν αἰδοίων, ὅταν πρὸς τὴν ὀχείαν ὀργῶσι, καὶ ὑγρασία περὶ τὸν τόπον· αἱ δ' ἵπποι καὶ ἀπορραίνουσι λευκὴν ὑγρότητα περὶ τὸν καιρὸν τοῦτον. Καθάρσεις δὲ γίνονται μὲν καταμηνίων, οὐ μὴν ὅσαι γε ταῖς γυναιξὶν οὐθενὶ τῶν ἄλλων ζῴων. Τοῖς μὲν οὖν προβάτοις καὶ αἰξίν, ἐπειδὰν ὥρα ᾖ ὀχεύεσθαι, ἐπισημαίνει πρὸ τοῦ ὀχεύεσθαι· καὶ ἐπειδὰν ὀχευθῶσι, γίνεται τὰ σημεῖα, εἶτα διαλείπει, μέχρι οὗ ἂν (573a.) μέλλωσι τίκτειν. Τότε δ' ἐπισημαίνει, καὶ οὕτω γινώσκουσιν ὅτι ἐπίτοκοι οἱ ποιμένες. Ἐπειδὰν δὲ τέκῃ, κάθαρσις γίνεται πολλή, τὸ μὲν πρῶτον οὐ σφόδρα αἱματώδης, ὕστερον μέντοι σφόδρα. Βοῒ δὲ καὶ ὄνῳ καὶ ἵππῳ πλείω μὲν τούτων διὰ τὸ μέγεθος, ἐλάττω δὲ κατὰ λόγον πολλῷ. Ἡ μὲν οὖν βοῦς ὅταν ὀργᾷ πρὸς τὴν ὀχείαν ἡ θήλεια, καθαίρεται κάθαρσιν βραχεῖαν ὅσον ἡμικοτύλιον ἢ μικρῷ πλέον· καιρὸς δὲ γίνεται τῆς ὀχείας μάλιστα περὶ τὴν κάθαρσιν. Ἵππος δὲ τῶν τετραπόδων ἁπάντων εὐτοκώτατον καὶ λοχίων καθαρώτατον, καὶ ἐλαχίστην προΐεται αἵματος ῥύσιν, ὡς κατὰ τὸ τοῦ σώματος μέγεθος.

Μάλιστα δὲ καὶ ταῖς βουσὶ καὶ ταῖς ἵπποις τὰ καταμήνια ἐπισημαίνει διαλείποντα δίμηνον καὶ τετράμηνον καὶ ἑξάμηνον· ἀλλ' οὐ ῥᾴδιον γνῶναι μὴ παρεπομένῳ μηδὲ συνήθει σφόδρα, διὸ ἔνιοι οὐκ οἴονται γίνεσθαι αὐτοῖς.

Τοῖς δ' ὀρεῦσι τοῖς θήλεσιν οὐδὲν γίνεται καταμήνιον, ἀλλὰ τὸ οὖρον παχύτερον τὸ τῆς θηλείας.

Ὅλως μὲν οὖν τὸ τῆς κύστεως περίττωμα τοῖς τετράποσι παχύτερον ἢ τὸ τῶν ἀνθρώπων, τὸ δὲ τῶν προβάτων καὶ τῶν αἰγῶν τῶν θηλειῶν παχύτερον ἔτι ἢ τὸ τῶν ἀρρένων· ὄνου δὲ λεπτότερον τὸ τῶν θηλειῶν, βοὸς δὲ δριμύτερον τὸ τῆς θηλείας. Μετὰ δὲ τοὺς τόκους ἁπάντων τῶν τετραπόδων παχύτερον τὸ οὖρον γίνεται, καὶ μᾶλλον τῶν ἐλάττω προϊεμένων κάθαρσιν.

Τὸ δὲ γάλα γίνεται, ὅταν ὀχεύεσθαι ἄρχωνται, πυοειδές· χρήσιμον δὲ γίνεται, ἐπειδὰν τέκωσιν ὕστερον. Κύοντα δὲ καὶ πρόβατα καὶ αἶγες πιότερα γίνονται καὶ ἐσθίουσι μᾶλλον· καὶ βόες δὲ ὡσαύτως καὶ τἆλλα τὰ τετράποδα πάντα.

Ὁρμητικώτερα μὲν οὖν ὡς ἐπὶ τὸ πᾶν εἰπεῖν τὴν ὀχείαν τὴν ἐαρινὴν ὥραν ἐστίν· οὐ μὴν ἅπαντά γε ποιεῖται τὸν αὐτὸν καιρὸν τῆς ὀχείας, ἀλλὰ πρὸς τὴν ἐκτροφὴν τῶν τέκνων ἐν τοῖς καθήκουσι καιροῖς.

Αἱ μὲν οὖν ἥμεροι ὕες κύουσι τέτταρας μῆνας, τίκτουσι δὲ τὰ πλεῖστα εἴκοσιν· πλὴν ἂν πολλὰ τέκωσιν, οὐ δύνανται ἐκτρέφειν πάντα. Γηράσκουσαι δὲ τίκτουσι μὲν ὁμοίως, ὀχεύονται δὲ βραδύτερον· κυΐσκονται δ’ ἐκ μιᾶς ὀχείας, ἀλλὰ (573b.) πολλάκις ἐπιβιβάσκουσι διὰ τὸ ἐκβάλλειν μετὰ τὴν ὀχείαν τὴν καλουμένην ὑπό τινων καπρίαν. Τοῦτο μὲν οὖν συμβαίνει πάσαις, ἔνιαι δ’ ἅμα τούτῳ καὶ τὸ σπέρμα προΐενται. Ἐν δὲ τῇ κυήσει ὃ ἂν βλαφθῇ τῶν τέκνων καὶ τῷ μεγέθει πηρωθῇ, καλεῖται μετάχοιρον· τοῦτο δὲ γίνεται ὅπου ἂν τύχῃ τῆς ὑστέρας. Ὅταν δὲ γεννήσῃ, τῷ πρώτῳ τὸν πρῶτον παρέχει μαστόν. Θυῶσαν δ’ οὐ δεῖ εὐθὺς βιβάζειν, πρὶν ἂν μὴ τὰ ὦτα καταβάλῃ· εἰ δὲ μή, ἀναθυᾷ πάλιν· ἐὰν δ’ ὀργῶσαν βιβάσῃ, μία ὀχεία, ὥσπερ εἴρηται, ἀρκεῖ. Συμφέρει δ’ ὀχεύοντι μὲν τῷ κάπρῳ παρέχειν κριθάς, τετοκυίᾳ δὲ τῇ ὑῒ κριθὰς ἑφθάς. Εἰσὶ δὲ τῶν ὑῶν αἱ μὲν εὐθὺς καλλίχοιροι μόνον, αἱ δ’ ἐπαυξανόμεναι τὰ τέκνα καὶ τὰς δέλφακας χρηστὰς γεννῶσιν. Φασὶ δέ τινες, ἐὰν τὸν ἕτερον ὀφθαλμὸν ἐκκοπῇ ἡ ὗς, ἀποθνήσκειν διὰ ταχέων ὡς ἐπὶ τὸ πολύ. Ζῶσι δ’ αἱ πλεῖσται μὲν περὶ ἔτη πεντεκαίδεκα, ἔνιαι δὲ καὶ τῶν εἴκοσιν ὀλίγον ἀπολείπουσιν.

Κεφάλαιο 19

Τὰ δὲ πρόβατα κυΐσκεται μὲν ἐν τρισὶν ἢ τέτταρσιν ὀχείαις, ἐὰν δ’ ὕδωρ ἐπιγένηται μετὰ τὴν ὀχείαν, ἀνακυΐσκει· ὁμοίως δὲ καὶ αἱ αἶγες. Τίκτουσι δὲ τὰ μὲν πλεῖστα δύο, ἐνίοτε δὲ καὶ τρία ἢ τέτταρα. Κύει δὲ πέντε μῆνας καὶ πρόβατον καὶ αἴξ· διὸ ἐν ἐνίοις τόποις, ὅσοι ἀλεεινοί εἰσι καὶ ἐν οἷς εὐημεροῦσι καὶ τροφὴν ἄφθονον ἔχουσι, δὶς τίκτουσιν.

Ζῇ δ’ αἲξ μὲν περὶ ἔτη ὀκτώ, πρόβατον δὲ δέκα, τὰ δὲ πλεῖστα ἐλάττω, πλὴν οἱ ἡγεμόνες τῶν προβάτων· οὗτοι δὲ καὶ πεντεκαίδεκα. Ἐν ἑκάστῃ δὲ ποίμνῃ κατασκευάζουσιν ἡγεμόνα τῶν ἀρρένων, ὃς ὅταν ὀνόματι κληθῇ ὑπὸ τοῦ ποιμένος προηγεῖται· συνεθίζουσι δὲ τοῦτο δρᾶν ἐκ νέων. Τὰ δὲ περὶ τὴν Αἰθιοπίαν πρόβατα ζῇ καὶ δώδεκα καὶ τριακαίδεκα ἔτη, καὶ αἶγες δὲ καὶ δέκα καὶ ἕνδεκα. Ὀχεύει δὲ καὶ ὀχεύεται, ἕως ἂν ζῇ, καὶ πρόβατον καὶ αἴξ. Διδυμοτοκοῦσι δὲ καὶ πρόβατα καὶ αἶγες διά τε εὐβοσίαν, καὶ ἐὰν ὁ κριὸς ἢ ὁ τράγος ᾖ διδυμοτόκος ἢ ἡ μήτηρ. Θηλυγόνα δέ, τὰ δ’ ἀρρενογόνα γίνεται διά τε τὰ ὕδατα (ἔστι γὰρ τὰ μὲν θηλυγόνα τὰ δ’ ἀρρενογόνα) καὶ διὰ τὰς ὀχείας ὡσαύτως, καὶ (574a.) βορείοις μὲν ὀχευόμενα ἀρρενοτοκεῖ μᾶλλον, νοτίοις δὲ θηλυτοκεῖ. Μεταβάλλει δὲ καὶ τὰ θηλυτοκοῦντα καὶ ἀρρενοτοκεῖ· δεῖ δ’ ὁρᾶν ὀχευόμενα πρὸς βορέαν. Τὰ δ’ εἰωθότα πρωῒ ὀχεύεσθαι, ἐὰν ὀψὲ ὀχεύῃ τις, οὐχ ὑπομένουσι τοὺς κριούς.

Λευκὰ δὲ τὰ ἔκγονα γίνεται καὶ μέλανα, ἐὰν ὑπὸ τῇ τοῦ κριοῦ γλώττῃ λευκαὶ φλέβες ὦσιν ἢ μέλαιναι, λευκὰ μὲν ἐὰν λευκαί, ἐὰν δὲ μέλαιναι μέλανα· ἐὰν δ’ ἀμφότεραι, ἄμφω· πυρρὰ δ’ ἐὰν πυρραί. Τὰ δὲ τὸ ἁλυκὸν ὕδωρ πίνοντα πρότερον ὀχεύεται· δεῖ δ’ ἁλίζειν πρὶν τεκεῖν καὶ ἐπειδὰν τέκῃ, καὶ ἔαρος αὖθις.

Αἰγῶν δ’ ἡγεμόνα οὐ καθιστᾶσιν οἱ νομεῖς διὰ τὸ μὴ μόνιμον εἶναι τὴν φύσιν αὐτῶν, ἀλλ’ ὀξεῖαν καὶ εὐκίνητον. Τῶν δὲ προβάτων ἐὰν μὲν τὰ πρεσβύτερα ὁρμᾷ πρὸς τὴν ὀχείαν κατὰ τὴν τεταγμένην ὥραν, φασὶν οἱ ποιμένες σημεῖον εὐετηρίας εἶναι τοῖς προβάτοις, ἐὰν δὲ τὰ νεώτερα, κακοθηνεῖν τὰ πρόβατα.

Κεφάλαιο 20

Τῶν δὲ κυνῶν ἔστι μὲν γένη πλείω, ὀχεύει δὲ κύων ἡ Λακωνικὴ μὲν ὀκτάμηνος καὶ ὀχεύεται· καὶ τὸ σκέλος δ’ αἴροντες οὐροῦσιν ἤδη ἔνιοι περὶ τὸν χρόνον τοῦτον. Κυΐσκεται δὲ κύων ἐκ μιᾶς ὀχείας· δῆλον δὲ τοῦτο γίνεται μάλιστα ἐν τοῖς κλέπτουσι τὰς ὀχείας· ἅπαξ γὰρ ἐπιβάντες πληροῦσιν.

Κύει δ’ ἡ μὲν Λακωνικὴ ἕκτον μέρος τοῦ ἐνιαυτοῦ (τοῦτο δ’ ἐστὶν ἡμέραι ἑξήκοντα), κἂν ἄρα μιᾷ ἢ δυσὶν ἢ τρισὶ πλείονας ἡμέρας καὶ ἐλάττους μιᾷ. Τυφλὰ δὲ γίνεται αὐτῇ τὰ σκυλάκια, ὅταν τέκῃ, δώδεκα ἡμέρας. Τεκοῦσα δὲ πάλιν ὀχεύεται ἕκτῳ μηνί, καὶ οὐ πρότερον. Ἔνιαι δὲ κύουσι τῶν κυνῶν τὸ πέμπτον μέρος τοῦ ἐνιαυτοῦ (τοῦτο δ’ ἐστὶν ἡμέραι ἑβδομήκοντα καὶ δύο), τυφλὰ δὲ γίνεται τὰ σκυλάκια τούτων τῶν κυνῶν ἡμέρας δεκατέτταρας. Ἔνιαι δὲ κύουσι μὲν τέταρτον μέρος τοῦ ἐνιαυτοῦ (τοῦτο δ’ ἐστὶ τρεῖς μῆνες ὅλοι), τυφλὰ δὲ τὰ σκυλάκια τούτων γίνεται ἑπτακαίδεχ’ ἡμέρας. Δοκεῖ δὲ σκυζᾶν τὸν ἴσον χρόνον κύων.

Τὰ δὲ καταμήνια ταῖς κυσὶν ἑπτὰ ἡμέραις γίνεται· συμβαίνει δ’ ἅμα καὶ ἔπαρσις αἰδοίου. Ἐν δὲ τῷ χρόνῳ τούτῳ οὐ προσίενται ὀχείαν, ἀλλ’ ἐν ταῖς μετὰ (574b.) ταῦτα ἑπτὰ ἡμέραις· τὰς γὰρ πάσας δοκεῖ σκυζᾶν ἡμέρας τέτταρας καὶ δέκα ὡς ἐπὶ τὸ πολύ, οὐ μὴν ἀλλά τισι καὶ περὶ ἑκκαίδεχ’ ἡμέρας γεγένηται τοῦτο τὸ πάθος. Ἡ δ’ ἐν τοῖς τόκοις κάθαρσις γίνεται ἅμα τοῖς σκυλακίοις τικτομένοις, ἔστι δ’ αὕτη παχεῖα καὶ φλεγματώδης· καὶ τὸ πλῆθος δ’, ὅταν ἐκτέκωσιν, ἀπισχναίνεται ἔλαττον ἢ κατὰ τὸ σῶμα.

Τὸ δὲ γάλα αἱ κύνες ἴσχουσι πρὸ τοῦ τεκεῖν ὡς ἐπὶ τὸ πολὺ ἡμέρας πέντε· οὐ μὴν ἀλλ’ ἐνίαις καὶ ἑπτὰ γίνεται πρότερον καὶ τέτταρσιν. Χρήσιμον δ’ εὐθύς ἐστι τὸ γάλα, ὅταν τέκωσιν. Ἡ δὲ Λακωνικὴ μετὰ τὴν ὀχείαν τριάκονθ’ ἡμέραις ὕστερον. Τὸ μὲν οὖν πρῶτον παχύ ἐστι, χρονιζόμενον δὲ γίνεται λεπτότερον. Διαφέρει δὲ παχύτητι τὸ κύνειον τῶν ἄλλων ζῴων μετὰ τὸ ὕειον καὶ δασυπόδειον.

Γίνεται δὲ σημεῖον καὶ ὅταν ἡλικίαν ἔχωσι τοῦ ὀχεύεσθαι· ὥσπερ γὰρ τοῖς ἀνθρώποις, ἐπὶ ταῖς θηλαῖς τῶν μαστῶν ἐπιγίνεται ἀνοίδησίς τις καὶ χόνδρον ἴσχουσιν· οὐ μὴν ἀλλ’ ἔργον μὴ συνήθει ὄντι ταῦτα καταμαθεῖν· οὐ γὰρ ἔχει μέγεθος οὐδὲν τὸ σημεῖον.

Τῇ μὲν οὖν θηλείᾳ τοῦτο συμβαίνει, τῷ δ’ ἄρρενι οὐδὲν τούτων. Τὸ δὲ

σκέλος αἴροντες οὐροῦσιν οἱ ἄρρενες ὡς μὲν ἐπὶ τὸ πολὺ ὅταν ἑξάμηνοι ὦσιν· ποιοῦσι δέ τινες τοῦτο καὶ ὕστερον, ἤδη ὀκτάμηνοι ὄντες, καὶ πρότερον ἢ ἑξάμηνοι· ὡς γὰρ ἁπλῶς εἰπεῖν, ὅταν ἰσχύειν ἄρξωνται, αὐτὸ ποιοῦσιν. Αἱ δὲ θήλειαι πᾶσαι καθεζόμεναι οὐροῦσιν· ἤδη δέ τινες καὶ τούτων ἄρασαι τὸ σκέλος οὔρησαν.

Τίκτει δὲ κύων σκυλάκια τὰ πλεῖστα δώδεκα, ὡς δ’ ἐπὶ τὸ πολὺ πέντε ἢ ἕξ· ἤδη δὲ καὶ ἓν ἔτεκέ τις· αἱ δὲ Λακωνικαὶ ὡς ἐπὶ τὸ πολὺ ὀκτώ. Καὶ ὀχεύονται δ’ αἱ θήλειαι καὶ ὀχεύουσιν οἱ ἄρρενες ἕως ἂν ζῶσιν. Ἴδιον δ’ ἐπὶ τῶν Λακωνικῶν συμβαίνει πάθος· πονήσαντες γὰρ μᾶλλον δύνανται ὀχεύειν ἢ ἀργοῦντες.

Ζῇ δ’ ἡ μὲν Λακωνικὴ κύων ὁ μὲν ἄρρην περὶ ἔτη δέκα, ἡ δὲ θήλεια περὶ ἔτη δώδεκα, τῶν δ’ ἄλλων κυνῶν αἱ μὲν πλεῖσται περὶ ἔτη τετταρακαίδεκα ἢ πεντεκαίδεκα, ἔνιαι δὲ καὶ εἴκοσιν· διὸ καὶ Ὅμηρον οἴονταί τινες ὀρθῶς ποιῆσαι τῷ (575a.) εἰκοστῷ ἔτει ἀποθανόντα τὸν κύνα τοῦ Ὀδυσσέως. Ἐπὶ μὲν οὖν τῶν Λακωνικῶν διὰ τὸ πονεῖν τοὺς ἄρρενας μᾶλλον μακροβιώτεραι αἱ θήλειαι τῶν ἀρρένων· ἐπὶ δὲ τῶν ἄλλων λίαν μὲν οὐκ ἐπίδηλον, μακροβιώτεροι δ’ ὅμως οἱ ἄρρενες τῶν θηλειῶν εἰσιν.

Ὀδόντας δὲ κύων οὐ βάλλει πλὴν τοὺς καλουμένους κυνόδοντας· τούτους δ’ ὅταν ὦσι τετράμηνοι, ὁμοίως αἵ τε θήλειαι καὶ οἱ ἄρρενες. Διὰ δὲ τὸ τούτους μόνους βάλλειν ἀμφισβητοῦσί τινες· οἱ μὲν γὰρ διὰ τὸ δύο μόνους βάλλειν ὅλως οὔ φασι (χαλεπὸν γὰρ ἐπιτυχεῖν τούτοις), οἱ δ’ ὅταν ἴδωσι τούτους, ὅλως οἴονται βάλλειν καὶ τοὺς ἄλλους. Τὰς δ’ ἡλικίας ἐκ τῶν ὀδόντων σκοποῦσιν· οἱ μὲν γὰρ νέοι λευκοὺς καὶ ὀξεῖς ἔχουσιν, οἱ δὲ πρεσβύτεροι μέλανας καὶ ἀμβλεῖς.

Κεφάλαιο 21

Βοῦς δὲ πληροῖ μὲν ὁ ἄρρην ἐκ μιᾶς ὀχείας, βαίνει δὲ σφοδρῶς ὥστε συγκάμπτεσθαι τὴν βοῦν· ἐὰν δ’ ἁμάρτῃ τῆς ὁρμῆς, εἴκοσιν ἡμέρας διαλείπουσα προσίεται πάλιν ἡ θήλεια τὴν ὀχείαν. Οἱ μὲν οὖν πρεσβύτεροι τῶν ταύρων οὐδ’ ἀναβαίνουσι πλεονάκις ἐπὶ τὴν αὐτὴν τῆς αὐτῆς ἡμέρας, ἐὰν μὴ ἄρα διαλιπόντες· οἱ δὲ νεώτεροι καὶ τὴν αὐτὴν βιάζονται πλεονάκις καὶ ἐπὶ πολλὰς ἀναβαίνουσι διὰ τὴν ἀκμήν. Ἥκιστα δὲ τῶν ἀρρένων λάγνον ἐστὶ βοῦς. Ὀχεύει δ’ ὁ νικῶν τῶν ταύρων· ὅταν δ’ ἐξαδυνατήσῃ διὰ τὴν λαγνείαν, ἐπιτίθεται ὁ ἡττώμενος, καὶ κρατεῖ πολλάκις. Ὀχεύει δὲ τὰ ἄρρενα καὶ ὀχεύεται τὰ θήλεα ἐνιαύσια ὄντα πρῶτον, ὥστε καὶ γεννᾶν· οὐ μὴν ἀλλὰ τό γ’ ὡς ἐπὶ τὸ πολὺ ἐνιαύσιοι καὶ ὀκτάμηνοι, τὸ δὲ μάλισθ’ ὁμολογούμενον διετεῖς.

Κύει δ’ ἐννέα μῆνας, δεκάτῳ δὲ τίκτει· ἔνιοι δὲ διισχυρίζονται δέκα μῆνας κύειν ἡμερολεγδόν. Ὅ τι δ’ ἂν ἔμπροσθεν ἐξενεχθῇ τῶν εἰρημένων χρόνων, ἐκβόλιμόν ἐστι καὶ οὐ θέλει ζῆν· μαλακαὶ γὰρ καὶ ἀτελεῖς γίνονται αἱ ὁπλαί. Τίκτει δ’ ἓν τὰ πλεῖστα, ὀλιγάκις δὲ δύο· καὶ τίκτει καὶ ὀχεύει ἕως ἂν ζῇ.

Ζῶσι δ’ ὡς ἐπὶ τὸ πολὺ περὶ πεντεκαίδεκα ἔτη αἱ θήλειαι· καὶ οἱ ἄρρενες δ’, ἂν ἐκτμηθῶσιν. Ἔνιοι δὲ ζῶσι καὶ εἴκοσιν ἔτη καὶ ἔτι πλείω, ἐὰν εὔφορον ἔχωσι τὸ σῶμα· καὶ γὰρ (575b.) τῶν βοῶν τοὺς τομίας ἐθίζουσι, καὶ καθιστᾶσι τῶν βοῶν ἡγεμόνας ὥσπερ τῶν προβάτων, καὶ ζῶσιν οὗτοι πλείω χρόνον τῶν ἄλλων διά τε τὸ <μὴ> πονεῖν καὶ διὰ τὸ νέμεσθαι ἀκέραιον νομήν. Ἀκμάζει δὲ μάλιστα πεντετὴς ὤν, διὸ καὶ Ὅμηρόν φασι πεποιηκέναι τινὲς ὀρθῶς ποιήσαντα “ἄρσενα πενταέτηρον” καὶ τὸ “βοὸς ἐννεώροιο”· δύνασθαι γὰρ ταὐτόν.

Τοὺς δ’ ὀδόντας βάλλει βοῦς διετής, καὶ οὐκ ἀθρόους ἀλλ’ ὥσπερ ἵππος· τὰς δ’ ὁπλάς, ὁπόταν ποδαγρᾷ, οὐκ ἀποβάλλει, ἀλλ’ οἰδεῖ μόνον σφόδρα τοὺς πόδας.

Τὸ δὲ γάλα, ὅταν τέκῃ, χρήσιμον γίνεται· ἔμπροσθεν δ’ οὐκ ἔχει γάλα. Τὸ δὲ πρῶτον γινόμενον γάλα ὅταν παγῇ, οὕτω γίνεται σκληρὸν ὥσπερ λίθος· τοῦτο δὲ συμβαίνει, ἐὰν μή τις μίξῃ ὕδατι.

Νεώτεραι δ’ ἐνιαυσίων οὐκ ὀχεύονται, πλὴν ἐάν τι τερατῶδες ᾖ· ἤδη δέ τινες καὶ δεκάμηνοι ὠχεύθησαν καὶ ὤχευσαν. Ἄρχονται δὲ τῆς ὀχείας περὶ

τὸν Θαργηλιῶνα μῆνα καὶ τὸν Σκιρροφοριῶνα αἱ πλεῖσται· οὐ μὴν ἀλλ’ ἔνιαι καὶ μέχρι τοῦ μετοπώρου κυΐσκονται. Ὅταν δὲ πολλαὶ κύωσι καὶ προσδέχωνται τὴν ὀχείαν, σφόδρα δοκεῖ σημεῖον εἶναι καὶ χειμῶνος καὶ ἐπομβρίας. Αἱ δὲ συνήθειαι γίνονται μὲν ταῖς βουσὶν ὥσπερ ταῖς ἵπποις, ἧττον δέ.

Κεφάλαιο 22

Ἵππος δ’ ἄρχεται ὀχεύειν ὁ μὲν ἄρρην διετής, καὶ ἡ θήλεια διετὴς ὀχεύεσθαι· ταῦτα μέντοι ὀλίγα ἐστί, καὶ τὰ ἔκγονα τούτων ἐλάττω καὶ ἀσθενικώτερα· ὡς δ’ ἐπὶ τὸ πολὺ ἄρχονται ὀχεύειν τριετεῖς ὄντες, καὶ αἱ ἵπποι ὀχεύεσθαι, καὶ ἐπιδιδόασι δ’ ἀεὶ πρὸς τὸ βελτίω τὰ ἔκγονα γίνεσθαι μέχρι ἐτῶν εἴκοσιν. Κύει δ’ ἕνδεκα μῆνας, δωδεκάτῳ δὲ τίκτει. Πληροῖ δ’ ὁ ἵππος οὐκ ἐν τεταγμέναις ἡμέραις, ἀλλ’ ἐνίοτε μὲν ἐν μιᾷ ἢ δυσὶν ἢ τρισίν, ἐνίοτε δ’ ἐν πλείοσιν· θᾶττον δὲ πληροῖ ἐπιβαίνων ὄνος ἢ ἵππος. Ἡ δ’ ὀχεία οὐκ ἐπίπονος τῶν ἵππων, ὥσπερ ἡ τῶν βοῶν. Λαγνίστατον δὲ καὶ τῶν θηλειῶν καὶ τῶν ἀρρένων μετ’ ἄνθρωπον ἵππος ἐστίν. Ἡ δὲ τῶν νεωτέρων ὀχεία γίνεται παρὰ τὴν ἡλικίαν, ὅταν εὐβοσία καὶ ἀφθονία γένηται τροφῆς. Ἔστι μὲν οὖν ὡς ἐπὶ τὸ (576a.) πολὺ μονοτόκος, τίκτει μέντοι ποτὲ καὶ δύο τὰ πλεῖστα. Καὶ ἡμιόνους δ’ ἤδη ἔτεκέ τις δύο· ἃ κρίνουσιν ἐν τέρασιν.

Ὀχεύει μὲν οὖν ἵππος καὶ τριακοντάμηνος· ὥστε δὲ καὶ γεννᾶν ἀξίως, ὅταν παύσηται βάλλων (ἤδη δέ τινες καὶ βάλλοντες ἐπλήρωσαν, ὡς φασίν), ἐὰν μὴ φύσει ἄγονοι τυγχάνωσιν ὄντες. Ἔχει μὲν οὖν ὀδόντας τετταράκοντα, βάλλει δὲ τοὺς μὲν πρώτους τέτταρας τριακοντάμηνος, τοὺς μὲν δύο ἄνωθεν τοὺς δὲ δύο κάτωθεν· ἐπειδὰν δὲ γένηται ἐνιαυτός, βάλλει τὸν αὐτὸν τρόπον τέτταρας, δύο μὲν ἄνωθεν δύο δὲ κάτωθεν, καὶ πάλιν ὅταν ἄλλος ἐνιαυτὸς γένηται, ἑτέρους τέτταρας τὸν αὐτὸν τρόπον· τεττάρων δ’ ἐτῶν παρελθόντων καὶ ἓξ μηνῶν οὐκέτι βάλλει οὐδένα. Ἤδη δέ τις τὸ πρῶτον εὐθὺς ἅμα πάντας ἐξέβαλε, καὶ ἄλλος ἅμα τοῖς τελευταίοις ἅπαντας· ἀλλὰ τὰ τοιαῦτα γίνεται ὀλιγάκις. Ὥστε σχεδὸν συμβαίνει, ὅταν τεττάρων ἐτῶν ᾖ καὶ ἓξ μηνῶν, χρήσιμον εἶναι πρὸς τὴν γέννησιν μάλιστα. Εἰσὶ δ’ οἱ πρεσβύτεροι τῶν ἵππων γονιμώτεροι, καὶ οἱ ἄρρενες τῶν ἀρρένων καὶ αἱ θήλειαι τῶν θηλειῶν. Ἀναβαίνουσι δὲ καὶ ἐπὶ τὰς μητέρας οἱ ἵπποι καὶ ἐπὶ τὰς θυγατέρας· καὶ τότε δοκεῖ τέλεον εἶναι τὸ ἱπποφόρβιον, ὅταν ὀχεύωσι τὰ ἑαυτῶν ἔκγονα.

Οἱ δὲ Σκύθαι ἱππεύουσι ταῖς κυούσαις ἵπποις, ὅταν θᾶττον στραφῇ τὸ ἔμβρυον, καὶ φασὶ γίνεσθαι αὐτὰς εὐτοκωτέρας. Τὰ μὲν οὖν ἄλλα τετράποδα κατακείμενα τίκτει, διὸ καὶ πλάγια προέρχεται τὰ ἔμβρυα πάντων· ἡ δ’ ἵππος ἡ θήλεια ὅταν ἤδη πλησίον ᾖ τῆς ἀφέσεως, ὀρθὴ στᾶσα προΐεται τὸ ἔκγονον.

Ζῶσι δὲ τῶν ἵππων οἱ μὲν πλεῖστοι περὶ ὀκτωκαίδεκα ἔτη καὶ εἴκοσιν, ἔνιοι δὲ πεντεκαιείκοσι καὶ τριάκοντα· ἐὰν δέ τις ἐπιμελῶς θεραπεύῃ, ἐκτείνει καὶ πρὸς τὰ πεντήκοντα. Ὁ δὲ μακρότατος βίος τῶν πλείστων ἐστὶν ὡς ἐπὶ τὸ πολὺ τριακοντετής· ἡ δὲ θήλεια ὡς ἐπὶ τὸ πολὺ μὲν πέντε (576b.) καὶ εἴκοσιν ἔτη, ἤδη δέ τινες καὶ τετταράκοντα ἔτη βεβιώκασιν. Ἐλάττω δὲ χρόνον βιοῦσιν οἱ ἄρρενες τῶν θηλειῶν διὰ τὰς ὀχείας, καὶ οἱ ἰδίᾳ τρεφόμενοι τῶν ἐν τοῖς ἱπποφορβίοις. Ἡ μὲν οὖν θήλεια πέντ' ἐτῶν τέλος λαμβάνει μήκους καὶ ὕψους, ὁ δ' ἄρρην ἓξ ἐτῶν· μετὰ δὲ ταῦτα ἐν ἄλλοις ἓξ ἔτεσι τὸ πλῆθος λαμβάνει τοῦ σώματος, καὶ ἐπιδίδωσι μέχρι ἐτῶν εἴκοσιν. Ἀποτελειοῦται δὲ τὰ θήλεα τῶν ἀρρένων ἔμπροσθεν, ἐν δὲ τῇ γαστρὶ τὰ ἄρρενα τῶν θηλειῶν, καθάπερ καὶ ἐπὶ τῶν ἀνθρώπων· ταὐτὸ δὲ τοῦτο συμβαίνει καὶ ἐπὶ τῶν ἄλλων ζῴων ὅσα <μὴ> πλείω τίκτει.

Θηλάζειν δέ φασι τὸν μὲν ἡμίονον ἑξάμηνον, εἶτ' οὐκέτι προσίεσθαι διὰ τὸ σπᾶσθαι καὶ πονεῖν· τὸν δ' ἵππον πλείω χρόνον.

Ἀκμάζει δὲ καὶ ἵππος καὶ ἡμίονος μετὰ τοὺς βόλους· ὅταν δὲ πάντας ὦσι βεβληκότες, οὐ ῥᾴδιον γνῶναι τὴν ἡλικίαν. Διὸ καὶ λέγουσι γνώμην ἔχειν, ὅταν ἄβολος ᾖ· ὅταν δὲ βεβληκώς, οὐκ ἔχειν.

Ὅμως δὲ μάλιστα γνωρίζεται ἡ ἡλικία μετὰ τοὺς βόλους τῷ κυνόδοντι· τῶν μὲν γὰρ ἱππαστῶν γίνεται μικρὸς διὰ τὴν τρίψιν (κατὰ τοῦτον γὰρ ἐμβάλλεται ὁ χαλινός), τῶν δὲ μὴ ἱππαστῶν μέγας μὲν ἀλλ' ἀπηρτημένος, τῶν δὲ νέων ὀξὺς καὶ μακρός.

Ὀχεύει δ' ὁ μὲν ἄρρην πᾶσάν τε ὥραν καὶ ἕως ζῇ· καὶ ἡ θήλεια δ' ὀχεύεται ἕως ἂν ζῇ, οὔπω δὲ πᾶσαν ὥραν, ἐὰν μή τις δεσμὸν ἢ ἄλλην τινὰ προσενέγκῃ ἀνάγκην· ὥρα δ' οὐκ ἀφαιρεῖται οὐδεμία τεταγμένη τοῦ ὀχεύεσθαι καὶ ὀχεύειν. Οὐ μέντοι γε, ὅτ' ἔτυχε γενομένης τῆς ὀχείας, δύνανται ἃ ἂν γεννήσωσιν ἐκτρέφειν. Ἐν Ὀποῦντι δ' ἐν ἱπποφορβίῳ ἵππος ἐγένετο ὃς ὤχευεν ἐτῶν ὢν τετταράκοντα· ἔδει δὲ τὰ πρόσθια σκέλη συνεπαίρειν.

Ἄρχονται δ' ὀχεύεσθαι αἱ ἵπποι τοῦ ἔαρος. Ὅταν δὲ τέκῃ ἡ ἵππος, οὐκ εὐθὺς μετὰ τοῦτο πίμπλαται ἀλλὰ διαλείπει χρόνον, καὶ τίκτει ἄμεινον τετάρτῳ ἢ πέμπτῳ ἔτει μετὰ τὸν τόκον. Ἕνα δ' (577a.) ἐνιαυτὸν καὶ πάμπαν ἀνάγκη διαλείπειν καὶ ποιεῖν ὥσπερ νειόν.

Ἵππος μὲν οὖν διαλείπουσα τίκτει, ὥσπερ εἴρηται, ὄνος δὲ συνεχῶς. Γίνονται δὲ τῶν ἵππων αἱ μὲν καὶ ἄτεκνοι ὅλως, αἱ δὲ συλλαμβάνουσι μέν, οὐ δύνανται δ' ἐκφέρειν· σημεῖον δὲ τῶν τοιούτων λέγουσιν εἶναι, τὸ ἔμβρυον ἀνασχιζόμενον ἔχειν ἄλλα νεφροειδῆ περὶ τοὺς νεφρούς, ὥστε δοκεῖν τέτταρας ἔχειν νεφρούς. Ὅταν δὲ τέκῃ ἡ ἵππος, τό τε χόριον εὐθὺς κατεσθίει, καὶ ἀπεσθίει τοῦ πώλου ὃ ἐπιφύεται ἐπὶ τοῦ μετώπου τῶν πώλων, καλεῖται δ' ἱππομανές· ἔστι δὲ τὸ μέγεθος ἔλαττον μικρῷ ἰσχάδος, τὴν δ’ ἰδέαν πλατύ, περιφερές, μέλαν. Τοῦτο δ’ ἐάν τις φθῇ λαβὼν καὶ ὄσφρηται ἡ ἵππος, ἐξίσταται καὶ μαίνεται πρὸς τὴν ὀσμήν· διὸ καὶ τοῦτο αἱ φαρμακίδες ζητοῦσι καὶ συλλέγουσιν.

Ἐὰν δ’ ὠχευμένην ἵππον ὑπὸ ἵππου ὄνος ὀχεύσῃ, διαφθείρει τὸ ἔμβρυον τὸ ἐνυπάρχον. Ἵππων δ’ ἡγεμόνα οὐ καθιστᾶσιν οἱ ἱπποφορβοὶ ὥσπερ τῶν βοῶν, [διὰ τὸ μὴ μόνιμον εἶναι τὴν φύσιν αὐτῶν ἀλλ’ ὀξεῖαν καὶ εὐκίνητον].

Κεφάλαιο 23

Ὄνος δ’ ὀχεύει μὲν καὶ ὀχεύεται τριακοντάμηνος, καὶ βάλλει τοὺς πρώτους ὀδόντας· τοὺς δὲ δευτέρους ἕκτῳ μηνί, καὶ τοὺς τρίτους καὶ τοὺς τετάρτους ὡσαύτως· τούτους δὲ γνώμονας καλοῦσι, τοὺς τετάρτους. Ἤδη δὲ καὶ ἐνιαυσία ὄνος ἐκύησεν ὥστε καὶ ἐκτραφῆναι. Ἐξουρεῖ δ’, ὅταν ὀχευθῇ, τὴν γονήν, ἐὰν μὴ κωλύηται· διὸ τύπτουσι μετὰ τὴν ὀχείαν εὐθὺς καὶ διώκουσιν. Τίκτει δὲ δωδεκάτῳ μηνί. Τίκτει δὲ τὰ μὲν πολλὰ ἕν· μονοτόκον γάρ ἐστι φύσει· τίκτει δ’ ἐνίοτε καὶ δύο.

Ὁ μὲν οὖν ὄνος ἐπαναβὰς διαφθείρει τὸ τοῦ ἵππου ὄχευμα, ὥσπερ εἴρηται· ὁ δ’ ἵππος τὸ τοῦ ὄνου οὐ διαφθείρει, ὅταν ᾖ ὠχευμένη ἡ ἵππος ὑπὸ τοῦ ὄνου. Ἴσχει δὲ γάλα κύουσα δεκάμηνος οὖσα. Τεκοῦσα δὲ βιβάζεται ἑβδόμῃ ἡμέρᾳ, καὶ μάλιστα δέχεται τὸ πλῆσμα ταύτῃ βιβασθεῖσα τῇ ἡμέρᾳ, λαμβάνει δὲ καὶ ὕστερον. Ἐὰν δὲ μὴ τέκῃ πρὶν τὸ γνῶμα λιπεῖν, οὐκέτι λαμβάνει πλῆσμα οὐδὲ κυΐσκεται τοῦ λοιποῦ (577b.) βίου παντός. Τίκτειν δ’ οὐ θέλει οὔτε ὁρωμένη ὑπὸ ἀνθρώπου οὔτ’ ἐν τῷ φωτί, ἀλλ’ εἰς τὸ σκότος ἀπάγουσιν, ὅταν μέλλῃ τίκτειν. Τίκτει δὲ διὰ βίου, ἐὰν τέκῃ πρὶν τὸ γνῶμα λιπεῖν. Βιοῖ δ’ ὄνος πλείω τριάκοντ’ ἐτῶν, καὶ ἡ θήλεια τοῦ ἄρρενος πλείω ἔτη.

Ὅταν δ’ ἵππος ὀχεύσῃ ὄνον ἢ ὄνος ἵππον, πολὺ μᾶλλον ἐξαμβλοῖ ἢ ὅταν τὰ ὁμογενῆ ἀλλήλοις μιχθῇ, οἷον ἵππος ἵππῳ ἢ ὄνος ὄνῳ. Ἀποβαίνει δὲ καὶ ὁ τῆς κυήσεως χρόνος, ὅταν μιχθῇ ἵππος καὶ ὄνος, κατὰ τὸ ἄρρεν, λέγω δ’ ἐν ὅσῳ χρόνῳ τοῦτο γίνεται ἐξ ὁμογωνῶν γινόμενον.

Τὸ δὲ μέγεθος τοῦ σώματος καὶ τὸ εἶδος καὶ ἡ ἰσχὺς μᾶλλον τῷ θήλει ἀφομοιοῦται τοῦ γενομένου. Ἐὰν δὲ συνεχῶς μίσγηται καὶ μὴ διαλείπῃ χρόνον τινὰ οὕτως ὀχευόμενα, ταχέως ἄγονον τὸ θῆλυ γίνεται· διὸ συνεχῶς οὐ μίσγουσιν οὕτως οἱ περὶ ταῦτα πραγματευόμενοι, ἀλλὰ διαλείπουσί τινα χρόνον. Οὐ προσδέχεται δ’ οὔτε ἡ ἵππος τὸν ὄνον οὔτε ἡ ὄνος τὸν ἵππον, ἐὰν μὴ τύχῃ τεθηλακὼς ὁ ὄνος ἵππον· ὑποβάλλουσι γὰρ ἐπίτηδες οὓς καλοῦσιν ἱπποθήλας. Οὗτοι δ’ ὀχεύουσιν ἐν τῇ νομῇ βίᾳ κρατοῦντες, ὥσπερ οἱ ἵπποι.

Κεφάλαιο 24

Ὁ δ’ ὀρεὺς ἀναβαίνει μὲν καὶ ὀχεύει μετὰ τὸν πρῶτον βόλον, ἑπταετὴς δ’ ὢν καὶ πληροῖ, καὶ ἤδη ἐγένετο γίννος ὅταν ἀναβῇ ἐφ’ ἵππον θήλειαν· ὕστερον δ’ οὐκέτι ἀναβαίνει. Καὶ ὁ θῆλυς δ’ ὀρεὺς ἤδη ἐπληρώθη, οὐ μέντοι γε ὥστ’ ἐξενεγκεῖν διὰ τέλους. Αἱ δ’ ἐν τῇ Συρίᾳ τῇ ὑπὲρ Φοινίκης ἡμίονοι καὶ ὀχεύονται καὶ τίκτουσιν· ἀλλ’ ἔστι τὸ γένος ὅμοιον μὲν ἕτερον δέ.

Οἱ δὲ καλούμενοι γίννοι γίνονται ἐξ ἵππου, ὅταν νοσήσῃ ἐν τῇ κυήσει, ὥσπερ ἐν μὲν τοῖς ἀνθρώποις οἱ νάνοι, ἐν δὲ τοῖς ὑσὶ τὰ μετάχοιρα· καὶ ἴσχει δέ, ὥσπερ οἱ νάνοι, ὁ γίννος τὸ αἰδοῖον μέγα.

Ζῇ δ’ ἡμίονος ἔτη πολλά· ἤδη γάρ τις βεβίωκεν ἔτη καὶ ὀγδοήκοντα, οἷον Ἀθήνησιν ὅτε τὸν νεὼν ᾠκοδόμουν· ὃς καὶ ἀφειμένος ἤδη διὰ τὸ γῆρας συναμπρεύων καὶ παραπορευόμενος παρώξυνε τὰ ζεύγη πρὸς τὸ ἔργον, ὥστ’ ἐψηφίσαντο μὴ (578a.) ἀπελαύνειν αὐτὸν τοὺς σιτοπώλας ἀπὸ τῶν τηλιῶν. Γηράσκει δὲ βραδύτερον ὁ θῆλυς ὀρεὺς τοῦ ἄρρενος. Λέγουσι δ’ ἔνιοι ὅτι ἡ μὲν καθαίρεται οὐροῦσα, ὁ δ’ ἄρρην διὰ τὸ ὀσφραίνεσθαι τοῦ οὔρου γηράσκει θᾶττον. Τούτων μὲν οὖν τῶν ζῴων αἱ γενέσεις τοῦτον ἔχουσι τὸν τρόπον.

Κεφάλαιο 25

Τὰ δὲ νέα καὶ τὰ παλαιὰ τετράποδα διαγινώσκουσιν οἱ περὶ τὰς θεραπείας ὄντες αὐτῶν· ἐὰν μὲν ἀπὸ τῆς γνάθου τὸ δέρμα ἐφελκόμενον ταχὺ ἐπίῃ, νέον τὸ τετράπουν, ἐὰν δὲ πολὺν χρόνον μένῃ ἐρρυτιδωμένον, παλαιόν.

Κεφάλαιο 26

Ἡ δὲ κάμηλος κύει μὲν δέκα μῆνας, τίκτει δ’ ἀεὶ ἓν μόνον· μονοτόκον γάρ ἐστιν. Ἐκκρίνουσι δ’ ἐκ τῶν καμήλων ἐνιαύσιον τὸ ἔκγονον. Ζῇ δὲ χρόνον πολύν, πλείω ἢ πεντήκοντα ἔτη. Τίκτει δὲ τοῦ ἔαρος, καὶ γάλα ἔχει μέχρι οὗ ἂν ἐν γαστρὶ λάβῃ. Ἔχει δὲ καὶ τὰ κρέα καὶ τὸ γάλα ἥδιστα πάντων· πίνουσι δὲ τὸ γάλα δύο καὶ ἕνα ἢ τρία καὶ ἕνα πρὸς ὕδωρ κεράσαντες. Ὁ δ’ ἐλέφας ὀχεύει καὶ ὀχεύεται πρῶτον εἴκοσιν ἐτῶν.

Κεφάλαιο 27

Ὅταν δ’ ὀχευθῇ ἡ θήλεια, φέρει ἐν γαστρί, ὡς μέν τινές φασιν, ἐνιαυτὸν καὶ ἓξ μῆνας, ὡς δ’ ἕτεροι, τρί’ ἔτη· τοῦ δὲ μὴ ὁμολογεῖσθαι τὸν χρόνον αἴτιον τὸ μὴ εὐθεώρητον εἶναι τὴν ὀχείαν. Τίκτει δ’ ἡ θήλεια συγκαθίσασα ἐπὶ τὰ ὄπισθεν, καὶ ἀλγοῦσα δήλη ἐστίν. Ὁ δὲ σκύμνος ὅταν γένηται, θηλάζει τῷ στόματι καὶ οὐ τῷ μυκτῆρι, καὶ βαδίζει καὶ βλέπει εὐθὺς γεννηθείς.

Κεφάλαιο 28

Αἱ δ’ ὕες αἱ ἄγριαι τοῦ χειμῶνος ἀρχομένου ὀχεύονται, τίκτουσι δὲ τοῦ ἔαρος ἀποχωροῦσαι εἰς τοὺς δυσβατωτάτους τόπους καὶ ἀποκρήμνους μάλιστα καὶ φαραγγώδεις καὶ συσκίους. Διατρίβει δ’ ὁ ἄρρην ἐν ταῖς ὑσὶν ὡς ἐπὶ τὸ πολὺ ἡμέρας τριάκοντα. Τὸ δὲ πλῆθος τῶν τικτομένων καὶ ὁ χρόνος τῆς κυήσεως ὁ αὐτὸς καὶ ἐπὶ τῶν ἡμέρων ὑῶν ἐστιν. Τὰς δὲ φωνὰς παραπλησίας ἔχουσι τοῖς ἡμέροις, πλὴν μᾶλλον ἡ θήλεια φωνεῖ, ὁ δ’ ἄρρην σπανίως. Τῶν δ’ ἀρρένων καὶ ἀγρίων οἱ τομίαι μείζους γίνονται καὶ χαλεπώτεροι, ὥσπερ καὶ (578b.) Ὅμηρος ἐποίησεν “θρέψεν ἔπι χλούνην σῦν ἄγριον· οὐδὲ ἐῴκει θηρί γε σιτοφάγῳ, ἀλλὰ ῥίῳ ὑλήεντι.” Γίνονται δὲ τομίαι διὰ τὸ νέοις οὖσιν ἐμπίπτειν νόσημα κνησμὸν εἰς τοὺς ὄρχεις· εἶτα ξυόμενοι πρὸς τὰ δένδρα ἐκθλίβουσι τοὺς ὄρχεις.

Κεφάλαιο 29

Ἡ δ’ ἔλαφος τὴν μὲν ὀχείαν ποιεῖται, καθάπερ ἐλέχθη πρότερον, τὰ πλεῖστα μὲν ὑπαγωγῆς (οὐ γὰρ ὑπομένει ἡ θήλεια τὸν ἄρρενα πολλάκις διὰ τὴν συντονίαν), οὐ μὴν ἀλλὰ καὶ ὑπομένουσαι ἐνίοτε ὀχεύονται, καθάπερ τὰ πρόβατα· καὶ ὅταν ὀργῶσι, παρεκκλίνουσιν ἀλλήλας. Μεταλλάττει δ’ ὁ ἄρρην καὶ οὐ πρὸς μιᾷ διατρίβει, ἀλλὰ διαλιπὼν βραχὺν χρόνον πλησιάζει ἄλλαις. Ἡ δ’ ὀχεία γίνεται μετ’ ἀρκτοῦρον περὶ τὸν Βοηδρομιῶνα καὶ Μαιμακτηριῶνα. Κύει δ’ ὀκτὼ μῆνας· κυΐσκεται δ’ ἐν ὀλίγαις ἡμέραις, καὶ ὑφ’ ἑνὸς πολλαί. Τίκτει δ’ ὡς μὲν ἐπὶ τὸ πολὺ ἕν, ἤδη δέ τινες ὠμμέναι εἰσὶν ὀλίγαι καὶ δύο. Καὶ ποιεῖται τοὺς τόκους παρὰ τὰς ὁδοὺς διὰ τὸν πρὸς τὰ θηρία φόβον. Ἡ δ’ αὔξησις ταχεῖα τῶν νεβρῶν. Κάθαρσις δὲ κατ’ ἄλλους μὲν χρόνους οὐ συμβαίνει ταῖς ἐλάφοις· ὅταν δὲ τίκτωσι, γίνεται φλεγματώδης αὐταῖς κάθαρσις.

Εἴθισται δ’ ἄγειν τοὺς νεβροὺς ἐπὶ τοὺς σταθμούς· ἔστι δὲ τοῦτο τὸ χωρίον αὐταῖς καταφυγή, πέτρα περιρραγεῖσα μίαν ἔχουσα εἴσοδον, οὗ καὶ ἀμύνεσθαι εἴωθε τοὺς ἐπιτιθεμένους.

Περὶ δὲ τῆς ζωῆς μυθολογεῖται μὲν ὡς ὂν μακρόβιον, οὐ φαίνεται δ’ οὔτε τῶν μυθολογουμένων οὐδὲν σαφές, ἥ τε κύησις καὶ ἡ αὔξησις τῶν νεβρῶν συμβαίνει οὐχ ὡς μακροβίου τοῦ ζῴου ὄντος.

Ἐν δὲ τῷ ὄρει τῷ Ἐλαφώεντι καλουμένῳ, ὅ ἐστι τῆς Ἀσίας ἐν τῇ Ἀργινούσῃ, οὗ ἐτελεύτησεν Ἀλκιβιάδης, αἱ ἔλαφοι πᾶσαι τὸ οὖς ἐσχισμέναι εἰσίν, ὥστε κἂν ἐκτοπίσωσι γινώσκεσθαι τούτῳ· καὶ τὰ ἔμβρυα δ’ ἐν τῇ γαστρὶ ὄντα εὐθὺς ἔχει τοῦτο τὸ σημεῖον.

Θηλὰς δ’ ἔχουσιν αἱ θήλειαι τέτταρας ὥσπερ αἱ βόες. Ἐπειδὰν δὲ πλησθῶσιν αἱ θήλειαι, ἐκκρίνονται οἱ ἄρρενες καθ’ ἑαυτούς, καὶ διὰ τὴν ὁρμὴν τὴν τῶν ἀφροδισίων ἕκαστος (579a.) μονούμενος βόθρους ὀρύττει, καὶ βρωμᾶται ὥσπερ οἱ τράγοι· καὶ τὰ πρόσωπα διὰ τὸ ῥαίνεσθαι μέλανα γίνεται αὐτῶν, ὥσπερ τῶν τράγων. Οὕτω δὲ διάγουσιν, ἕως ἂν ὕδωρ γένηται· μετὰ δὲ ταῦτα τρέπονται πρὸς τὴν νομήν. Ταῦτα δὲ ποιεῖ τὸ ζῷον διὰ τὸ φύσει λάγνον εἶναι καὶ διὰ τὴν παχύτητα· ὑπερβάλλουσα γὰρ γίνεται τοῦ θέρους αὐτῶν, διὸ καὶ οὐ δύνανται θεῖν, ἀλλ’ ἁλίσκονται ὑπὸ τῶν πεζῇ διωκόντων ἐν τῷ δευτέρῳ δρόμῳ καὶ τρίτῳ, καὶ φεύγουσι διὰ τὸ καῦμα καὶ τὸ ἆσθμα εἰς τὸ ὕδωρ. Καθ’ ὃν δὲ χρόνον ὀχεύουσι, τὰ κρέα γίνεται φαῦλα καὶ δυσώδη, καθάπερ καὶ τῶν τράγων. Ἐν μὲν οὖν τῷ χειμῶνι γίνονται λεπτοὶ καὶ ἀσθενεῖς, πρὸς δ’ ἔαρ μάλιστ’ ἀκμάζουσι πρὸς τὸ δραμεῖν. Ἐν δὲ τῷ φεύγειν ἀνάπαυσιν ποιοῦνται τῶν δρόμων, καὶ ὑφιστάμενοι μένουσιν ἕως ἂν πλησίον ἔλθῃ ὁ διώκων· τότε δὲ πάλιν φεύγουσιν.

Τοῦτο δὲ δοκοῦσι ποιεῖν διὰ τὸ πονεῖν τὰ ἐντός· τὸ γὰρ ἔντερον ἔχει λεπτὸν καὶ ἀσθενὲς οὕτως ὥστ’ ἐὰν ἠρέμα τις πατάξῃ, διακόπτεται τοῦ δέρματος ὑγιοῦς ὄντος.

Κεφάλαιο 30

Αἱ δ’ ἄρκτοι τὴν μὲν ὀχείαν ποιοῦνται, ὥσπερ εἴρηται πρότερον, οὐκ ἀναβαδὸν ἀλλὰ κατακεκλιμέναι ἐπὶ τῆς γῆς.

Κύει δ’ ἄρκτος τριάκονθ’ ἡμέρας. Τίκτει δὲ καὶ ἓν καὶ δύο, τὰ δὲ πλεῖστα πέντε. Ἐλάχιστον δὲ τίκτει τὸ ἔμβρυον τῷ μεγέθει ὡς κατὰ τὸ σῶμα τὸ ἑαυτῆς· ἔλαττον μὲν γὰρ γαλῆς τίκτει, μεῖζον δὲ μυός, καὶ ψιλὸν καὶ τυφλόν, καὶ σχεδὸν ἀδιάρθρωτα τὰ σκέλη καὶ τὰ πλεῖστα τῶν μορίων.

Τὴν δ’ ὀχείαν ποιεῖται τοῦ μηνὸς τοῦ Ἐλαφηβολιῶνος, τίκτει δὲ περὶ τὴν ὥραν τὴν τοῦ φωλεύειν. Γίνονται μὲν οὖν περὶ τὸν χρόνον τοῦτον καὶ ἡ θήλεια καὶ ἡ ἄρρην πιότατοι· ὅταν δ’ ἐκθρέψῃ, τρίτῳ μηνὶ ἐκφαίνουσιν ἤδη τοῦ ἔαρος.

Καὶ ἡ ὕστριξ δὲ φωλεῖ καὶ κύει ἴσας ἡμέρας, καὶ τἆλλα ὡσαύτως τῇ ἄρκτῳ. Κύουσαν δ’ ἄρκτον ἔργον ἐστὶ λαβεῖν.

Κεφάλαιο 31

Λέων δ’ ὅτι μὲν ὀχεύει ὄπισθεν καὶ ἔστιν ὀπισθουρητικόν, εἴρηται πρότερον· ὀχεύει δὲ καὶ τίκτει οὐ πᾶσαν ὥραν, καθ’ ἕκαστον μέντοι τὸν ἐνιαυτόν. Τίκτει μὲν οὖν τοῦ ἔαρος, τίκτει (579b.) δ’ ὡς ἐπὶ τὸ πολὺ δύο, τὰ μέντοι πλεῖστα ἕξ· τίκτει δ’ ἐνίοτε καὶ ἕν. Ὁ δὲ λεχθεὶς μῦθος περὶ τοῦ ἐκβάλλειν τὰς ὑστέρας τίκτοντα ληρώδης ἐστί, συνετέθη δ’ ἐκ τοῦ σπανίους εἶναι τοὺς λέοντας, ἀποροῦντος τὴν αἰτίαν τοῦ τὸν μῦθον συνθέντος· σπάνιον γὰρ τὸ γένος τὸ τῶν λεόντων ἐστὶ καὶ οὐκ ἐν πολλῷ γίνεται τόπῳ, ἀλλὰ τῆς Εὐρώπης ἁπάσης ἐν τῷ μεταξὺ τοῦ Ἀχελῴου καὶ τοῦ Νέσσου ποταμοῦ. Τίκτει δὲ καὶ ὁ λέων πάνυ μικρὰ οὕτως ὥστε δίμηνα ὄντα μόλις βαδίζειν. Οἱ δ’ ἐν Συρίᾳ λέοντες τίκτουσι πεντάκις, τὸ πρῶτον πέντε, εἶτ’ ἀεὶ ἑνὶ ἐλάττονα· μετὰ δὲ ταῦτα οὐκέτι οὐδὲν τίκτουσιν, ἀλλ’ ἄγονοι διατελοῦσιν.

Οὐκ ἔχει δ’ ἡ λέαινα χαίτην, ἀλλ’ ὁ ἄρρην λέων. Βάλλει δ’ ὁ λέων τῶν ὀδόντων τοὺς κυνόδοντας καλουμένους τέτταρας μόνους, δύο μὲν ἄνωθεν δύο δὲ κάτωθεν· βάλλει δ’ ἑξάμηνος ὢν τὴν ἡλικίαν.

Κεφάλαιο 32

Ἡ δ’ ὕαινα τῷ μὲν χρώματι λυκώδης ἐστί, δασυτέρα δέ, καὶ λοφιὰν ἔχει δι’ ὅλης τῆς ῥάχεως· περὶ δὲ τῶν αἰδοίων ὃ λέγεται, ὡς ἔχει ἄρρενος καὶ θηλείας, ψεῦδός ἐστιν.

Ἀλλ’ ἔχει τὸ μὲν τοῦ ἄρρενος ὅμοιον τῷ τῶν λύκων καὶ τῶν κυνῶν, τὸ δὲ δοκοῦν θηλείας εἶναι ὑποκάτω μὲν ἔχει τῆς κέρκου, παραπλήσιον δ’ ἐστὶ τῷ σχήματι τῷ τοῦ θήλεος, οὐκ ἔχει μέντοι οὐδένα πόρον· ὑποκάτω δ’ αὐτοῦ ἐστιν ὁ τῆς περιττώσεως πόρος. Ἡ δὲ θήλεια ὕαινα ἔχει μὲν καὶ τὸ ὅμοιον τῷ τῆς θηλείας λεγομένῳ αἰδοίῳ, ἔχει δ’ ὥσπερ ὁ ἄρρην αὐτὸ ὑποκάτω τῆς κέρκου, πόρον δ’ οὐδένα ἔχει· μετὰ δὲ τοῦτο ὁ τῆς περιττώσεώς ἐστι πόρος, ὑποκάτω δὲ τούτου τὸ ἀληθινὸν αἰδοῖον.

Ἔχει δ’ ἡ ὕαινα ἡ θήλεια καὶ ὑστέραν, ὥσπερ καὶ τὰ ἄλλα ζῷα τὰ θήλεα, ὅσα ἐστὶ τοιαῦτα. Σπάνιον δ’ ἐστὶ λαβεῖν θήλειαν ὕαιναν· ἐν ἕνδεκα γοῦν κυνηγός τις μίαν ἔφη λαβεῖν.

Κεφάλαιο 33

Οἱ δὲ δασύποδες ὀχεύονται μὲν συνιόντες ὄπισθεν, ὥσπερ εἴρηται πρότερον (ἔστι γὰρ ὀπισθουρητικόν), ὀχεύονται δὲ καὶ τίκτουσι πᾶσαν ὥραν, καὶ ἐπικυΐσκονται ὅταν κύωσι, καὶ τίκτουσι κατὰ μῆνα. Τίκτουσι δ' οὐκ ἀθρόα, ἀλλὰ (580a.) διαλείπουσιν ἡμέρας ὅσας ἂν τύχωσιν. Ἴσχει δ' ἡ θήλεια γάλα πρότερον ἢ τεκεῖν, καὶ τεκοῦσα εὐθὺς ὀχεύεται, καὶ συλλαμβάνει ἔτι θηλαζομένη· τὸ δὲ γάλα παχύτητι ὅμοιόν ἐστι τῷ ὑείῳ. Τίκτει δὲ τυφλά, ὥσπερ τὰ πολλὰ τῶν πολυσχιδῶν.

Κεφάλαιο 34

Ἡ δ’ ἀλώπηξ ὀχεύει μὲν ἀναβαίνουσα, τίκτει δ’ ὥσπερ ἡ ἄρκτος, καὶ ἔτι μᾶλλον ἀδιάρθρωτον. Ὅταν δὲ μέλλῃ τίκτειν, ἐκτοπίζει οὕτως ὥστε σπάνιον εἶναι τὸ ληφθῆναι κύουσαν. Ὅταν δ’ ἐκτέκῃ, τῇ γλώττῃ λείχουσα ἐκθερμαίνει καὶ συμπέττει. Τίκτει δὲ τέτταρα τὰ πλεῖστα.

Κεφάλαιο 35

Λύκος δὲ κύει μὲν καὶ τίκτει καθάπερ κύων τῷ χρόνῳ καὶ τῷ πλήθει τῶν γινομένων, καὶ τυφλὰ τίκτει ὥσπερ κύων· ὀχεύει δὲ καὶ ὀχεύεται κατὰ μίαν ὥραν, καὶ τίκτει ἀρχομένου τοῦ θέρους. Λέγεται δέ τις περὶ τοῦ τόκου λόγος πρὸς μῦθον συνάπτων· φασὶ γὰρ πάντας τοὺς λύκους ἐν δώδεχ' ἡμέραις τοῦ ἐνιαυτοῦ τίκτειν. Τούτου δὲ τὴν αἰτίαν ἐν μύθῳ λέγουσιν, ὅτι ἐν τοσαύταις ἡμέραις τὴν Λητὼ παρεκόμισαν ἐξ Ὑπερβορέων εἰς Δῆλον, λύκαιναν φαινομένην διὰ τὸν τῆς Ἥρας φόβον. Εἰ δ' ἐστὶν ὁ χρόνος οὗτος τῆς κυήσεως ἢ μή ἐστιν, οὐδέν πω συνῶπται μέχρι γε τοῦ νῦν, ἀλλ' ἢ ὅτι λέγεται μόνον. Οὐκ ἀληθὲς δὲ φαίνεται ὂν οὐδὲ τὸ λεγόμενον ὡς ἅπαξ ἐν τῷ βίῳ τίκτουσιν οἱ λύκοι.

Οἱ δ' αἴλουροι καὶ οἱ ἰχνεύμονες τίκτουσιν ὅσαπερ καὶ οἱ κύνες, καὶ τρέφονται τοῖς αὐτοῖς· ζῶσι δὲ περὶ ἔτη ἕξ· καὶ ὁ πανθὴρ δὲ τίκτει τυφλὰ ὥσπερ λύκος, τίκτει δὲ τὰ πλεῖστα τέτταρα. Καὶ οἱ θῶες δ' ὁμοίως κυΐσκονται τοῖς κυσί, καὶ τίκτουσι τυφλά· τίκτουσι δὲ καὶ δύο καὶ τρία καὶ τέτταρα τὸν ἀριθμόν. Ἔστι δὲ τὴν ἰδέαν ἐπ' οὐρὰν μὲν μακρός, τὸ δ' ὕψος βραχύτερος. Ὁμοίως δὲ ταχυτῆτι διαφέρει, καίπερ τῶν σκελῶν ὄντων βραχέων, διὰ τὸ ὑγρὸς εἶναι, καὶ πηδᾷ πόρρω.

Κεφάλαιο 36

(580b.) Εἰσὶ δ’ ἐν Συρίᾳ οἱ καλούμενοι ἡμίονοι, ἕτερον γένος τῶν ἐκ συνδυασμοῦ γινομένων ἵππου καὶ ὄνου, ὅμοιοι δὲ τὴν ὄψιν, ὥσπερ καὶ οἱ ἄγριοι ὄνοι πρὸς τοὺς ἡμέρους, ἀπό τινος ὁμοιότητος λεχθέντες. Εἰσὶ δ’ ὥσπερ οἱ ὄνοι οἱ ἄγριοι καὶ αἱ ἡμίονοι, τὴν ταχυτῆτα διαφέροντες. Αὗται αἱ ἡμίονοι γεννῶσιν ἐξ ἀλλήλων. Σημεῖον δέ· ἦλθον γάρ τινες εἰς Φρυγίαν ἐπὶ Φαρνάκου τοῦ Φαρναβάζου πατρός, καὶ διαμένουσιν ἔτι. Εἰσὶ δὲ νῦν μὲν τρεῖς, τὸ παλαιὸν δ’ ἐννέα ἦσαν, ὡς φασίν.

Κεφάλαιο 37

Ἡ δὲ τῶν μυῶν γένεσις θαυμασιωτάτη παρὰ τἆλλα ζῷά ἐστι τῷ πλήθει καὶ τῷ τάχει. Ἤδη γάρ ποτε ἐναποληφθείσης τῆς θηλείας κυούσης ἐν ἀγγείῳ κέγχρου, μετ’ ὀλίγον ἀνοιχθέντος τοῦ ἀγγείου ἐφάνησαν ἑκατὸν καὶ εἴκοσι μύες τὸν ἀριθμόν. Ἀπορεῖται δὲ καὶ ἡ τῶν ἐπιπολαζόντων γένεσις μυῶν ἐν ταῖς χώραις καὶ ἡ φθορά· πολλαχοῦ γὰρ εἴωθε γίνεσθαι πλῆθος ἀμύθητον τῶν ἀρουραίων, ὥστ’ ὀλίγον λείπεσθαι τοῦ σίτου παντός. Γίνεται δ’ οὕτω ταχεῖα ἡ φορά, ὥστ’ ἔνιοι τῶν μὴ μεγάλας γεωργίας ἐργαζομένων, τῇ προτεραίᾳ ἰδόντες ὅτι θερίζειν ὥρα, τῇ ὑστεραίᾳ ἕωθεν ἄγοντες τοὺς θεριστὰς καταβεβρωμένα ἅπαντα καταλαμβάνουσιν. Ὁ δ’ ἀφανισμὸς οὐ κατὰ λόγον ἀποβαίνει· ἐν ὀλίγαις γὰρ ἡμέραις ἀφανεῖς πάμπαν γίνονται· καίτοι ἐν τοῖς ἔμπροσθεν χρόνοις οὐ κρατοῦσιν οἱ ἄνθρωποι ἀποθυμιῶντες καὶ ἀνορύττοντες, ἔτι δὲ θηρεύοντες καὶ τὰς ὗς ἐμβάλλοντες· αὗται γὰρ ἀνορύττουσι τὰς μυωπίας. Θηρεύουσι δὲ καὶ αἱ ἀλώπεκες αὐτούς, καὶ αἱ γαλαῖ αἱ ἄγριαι μάλιστα ἀναιροῦσιν, ὅταν ἐπιγένωνται· ἀλλ’ οὐ κρατοῦσι τῆς πολυγονίας καὶ τῆς ταχυγονίας, οὐδ’ ἄλλ’ οὐδὲν πλὴν οἱ ὄμβροι, ὅταν ἐπιγένωνται· τότε δ’ ἀφανίζονται ταχέως. Τῆς δὲ Περσικῆς ἔν τινι τόπῳ ἀνασχιζομένης τῆς θηλείας τῶν ἐμβρύων τὰ θήλεα κύοντα φαίνεται. Φασὶ δέ τινες καὶ ἰσχυρίζονται ὅτι ἂν ἅλα (581a.) λείχωσιν, ἄνευ ὀχείας γίνεσθαι ἐγκύους.

Οἱ δ’ ἐν Αἰγύπτῳ μύες σκληρὰν ἔχουσι τὴν τρίχα ὥσπερ οἱ χερσαῖοι ἐχῖνοι.

Εἰσὶ δὲ καὶ ἕτεροι οἳ βαδίζουσιν ἐπὶ τοῖς δυσὶ ποσίν· τὰ γὰρ πρόσθια μικρὰ ἔχουσι, τὰ δ’ ὀπίσθια μεγάλα· γίνονται δὲ πλήθει πολλοί. Ἔστι δὲ καὶ ἄλλα γένη μυῶν πολλά.

Βιβλίο 7

Κεφάλαιο 1

Περὶ δ’ ἀνθρώπου γενέσεως τῆς τε πρώτης τῆς ἐν τῷ θήλει καὶ τῆς ὕστερον μέχρι γήρως, ὅσα συμβαίνει διὰ τὴν φύσιν τὴν οἰκείαν, τόνδ’ ἔχει τὸν τρόπον.

Ἡ μὲν διαφορὰ τοῦ ἄρρενος πρὸς τὸ θῆλυ καὶ τὰ μόρια πρότερον εἴρηται. Φέρειν δὲ σπέρμα πρῶτον ἄρχεται τὸ ἄρρεν ὡς ἐπὶ τὸ πολὺ ἐν τοῖς ἔτεσι τοῖς δὶς ἑπτὰ τετελεσμένοις· ἅμα δὲ καὶ ἡ τρίχωσις τῆς ἥβης ἄρχεται, καθάπερ καὶ τὰ φυτὰ μέλλοντα σπέρμα φέρειν ἀνθεῖν πρῶτον Ἀλκμαίων φησὶν ὁ Κροτωνιάτης. Περὶ δὲ τὸν αὐτὸν χρόνον τοῦτον ἥ τε φωνὴ μεταβάλλειν ἄρχεται ἐπὶ τὸ τραχύτερον καὶ ἀνωμαλέστερον, οὔτ’ ἔτι ὀξεῖα οὖσα οὔτε πω βαρεῖα, οὔτε πᾶσα ὁμαλή, ἀλλ’ ὁμοία φαινομένη ταῖς παρανενευρισμέναις καὶ τραχείαις χορδαῖς· ὃ καλοῦσι τραγίζειν. Γίνεται δὲ τοῦτο μᾶλλον τοῖς πειρωμένοις ἀφροδισιάζειν· τοῖς γὰρ περὶ ταῦτα προθυμουμένοις καὶ μεταβάλλουσιν αἱ φωναὶ εἰς τὴν τῶν ἀνδρῶν φωνήν, ἀπεχομένοις δὲ τοὐναντίον· ἂν δὲ καὶ συναποβιάζωνται ταῖς ἐπιμελείαις, ὅπερ ποιοῦσιν ἔνιοι τῶν περὶ τὰς χορείας σπουδαζόντων, καὶ μέχρι πόρρω διαμένει καὶ τὸ πάμπαν μικρὰν λαμβάνει μεταβολήν.

Καὶ μαστῶν ἔπαρσις γίνεται καὶ αἰδοίων, οὐ μεγέθει μόνον ἀλλὰ καὶ εἴδει. Συμβαίνει δὲ περὶ τοῦτον τὸν χρόνον τοῖς τε πειρωμένοις τρίβεσθαι περὶ τὴν τοῦ σπέρματος πρόεσιν οὐ μόνον ἡδονὴν γίνεσθαι τοῦ σπέρματος ἐξιόντος, ἀλλὰ καὶ λύπην.

Περὶ τὸν αὐτὸν δὲ χρόνον καὶ τοῖς θήλεσιν ἥ τ’ ἔπαρσις γίνεται τῶν μαστῶν καὶ τὰ (581b.) καταμήνια καλούμενα καταρρήγνυται· τοῦτο δ’ ἐστὶν αἷμα οἷον νεόσφακτον. Τὰ δὲ λευκὰ καὶ παιδίοις οὖσι γίνεται νέοις πάμπαν, μᾶλλον δ’ ἂν ὑγρᾷ χρῶνται τροφῇ· καὶ κωλύει τὴν αὔξησιν, καὶ τὰ σώματα ἰσχναίνει τῶν παιδίων. Τὰ δὲ καταμήνια γίνεται ταῖς πλείσταις ἤδη τῶν μαστῶν ἐπὶ δύο δακτύλους ἠρμένων. Καὶ ἡ φωνὴ δὲ καὶ ταῖς παισὶ μεταβάλλει περὶ τὸν χρόνον τοῦτον ἐπὶ τὸ βαρύτερον. Ὅλως μὲν γὰρ γυνὴ ἀνδρὸς ὀξυφωνότερον, αἱ δὲ νέαι τῶν πρεσβυτέρων, ὥσπερ καὶ οἱ παῖδες τῶν ἀνδρῶν· ἀλλ’ ἔστιν ἡ φωνὴ ὀξυτέρα ἡ τῶν θηλειῶν παίδων ἢ τῶν ἀρρένων, καὶ ὁ παρθένιος αὐλὸς τοῦ παιδικοῦ ὀξύτερος.

Μάλιστα δὲ καὶ φυλακῆς δέονται περὶ τὸν χρόνον τοῦτον· μάλιστα γὰρ ὁρμῶσι πρὸς τὴν τῶν ἀφροδισίων χρῆσιν ἀρχομένων αὐτῶν, ὥστ' ἂν μὴ διευλαβηθῶσι μηδὲν ἐπὶ πλεῖον κινῆσαι οὗ αὐτὰ τὰ σώματα μεταβάλλει μηδὲν χρωμένων ἀφροδισίοις, ἀκολουθεῖν εἴωθεν εἰς τὰς ὕστερον ἡλικίας. Αἵ τε γὰρ νέαι πάμπαν ἀφροδισιαζόμεναι ἀκολαστότεραι γίνονται καὶ οἱ ἄρρενες, ἐάν τ' ἐπὶ θάτερα ἐάν τ' ἐπ' ἀμφότερα ἀφυλακτήσωσιν· οἵ τε γὰρ πόροι ἀναστομοῦνται, καὶ ποιοῦσιν εὔρουν τὸ σῶμα ταύτῃ· καὶ ἅμα ἡ τότε μνήμη τῆς συμβαινούσης ἡδονῆς ἐπιθυμίαν ποιεῖ τῆς τότε γινομένης ὁμιλίας.

Γίνονται δέ τινες ἄνηβοι ἐκ γενετῆς καὶ ἄγονοι, διὰ τὸ πηρωθῆναι περὶ τὸν τόπον τὸν γόνιμον· ὁμοίως δὲ καὶ γυναῖκες γίνονται ἄνηβοι ἐκ γενετῆς.

Μεταβάλλουσι δὲ καὶ τὰς ἕξεις καὶ τὰ ἄρρενα καὶ τὰ θήλεα περί τε τὸ ὑγιεινότερα εἶναι καὶ νοσερώτερα, καὶ περὶ τὴν τοῦ σώματος ἰσχνότητα καὶ παχύτητα καὶ εὐτροφίαν· μετὰ γὰρ τὴν ἥβην οἱ μὲν ἐξ ἰσχνῶν παχύνονται καὶ ὑγιεινότεροι γίνονται, οἱ δὲ τοὐναντίον· ὁμοίως δὲ τοῦτο συμβαίνει καὶ ἐπὶ τῶν παρθένων. Ὅσοι μὲν γὰρ παῖδες ἢ ὅσαι παρθένοι περιττωματικὰ τὰ σώματα εἶχον, συναποκρινομένων τῶν τοιούτων τοῖς μὲν ἐν τῷ σπέρματι ταῖς δ' ἐν τοῖς καταμηνίοις ὑγιεινότερα τὰ σώματα γίνεται καὶ (582a.) εὐτραφέστερα, ἐξιόντων τῶν ἐμποδιζόντων τὴν ὑγίειαν καὶ τὴν τροφήν· ὅσοι δὲ τοὐναντίον, ἰσχνότερα καὶ νοσακερώτερα τὰ σώματα γίνεται· ἀπὸ γὰρ τῆς φύσεως καὶ τῶν καλῶς ἐχόντων ἡ ἀπόκρισις γίνεται τοῖς μὲν ἐν τῷ σπέρματι ταῖς δ' ἐν τοῖς καταμηνίοις.

Ἔτι δὲ ταῖς γε παρθένοις καὶ τὰ περὶ τοὺς μαστοὺς γίνεται διαφερόντως ἑτέραις πρὸς ἑτέρας· αἱ μὲν γὰρ πάμπαν μεγάλους ἔχουσιν, αἱ δὲ μικρούς. Ὡς ἐπὶ τὸ πολὺ δὲ συμβαίνει τοῦτο, ὅσαι ἂν παῖδες οὖσαι περιττωματικαὶ ὦσιν· μελλόντων γὰρ καὶ οὔπω γινομένων τῶν γυναικείων, ὅσῳ ἂν πλείων ἡ ὑγρότης ᾖ, τοσούτῳ μᾶλλον ἀναγκάζει αἴρεσθαι ἄνω, ἕως ἂν καταρραγῇ· ὥστε τότε λαβόντες ὄγκον οἱ μαστοὶ διαμένουσι καὶ εἰς τὸ ὕστερον. Καὶ τῶν ἀρρένων δ' ἐπιδηλότεροι γίνονται καὶ γυναικικώτεροι οἱ μαστοί, καὶ νεωτέροις καὶ πρεσβυτέροις οὖσι, τοῖς ὑγροῖς καὶ λείοις καὶ μὴ φλεβώδεσι, καὶ τούτων μᾶλλον τοῖς μέλασιν ἢ λευκοῖς.

Μέχρι μὲν οὖν τῶν τρὶς ἑπτὰ ἐτῶν τὸ μὲν πρῶτον ἄγονα τὰ σπέρματά ἐστιν· ἔπειτα γόνιμα μὲν μικρὰ δὲ καὶ ἀτελῆ γεννῶσι καὶ οἱ νέοι καὶ αἱ νέαι, ὥσπερ καὶ ἐπὶ τῶν ἄλλων ζῴων τῶν πλείστων. Συλλαμβάνουσι μὲν οὖν αἱ νέαι θᾶττον· ἐὰν δὲ συλλάβωσιν, ἐν τοῖς τόκοις πονοῦσι μᾶλλον. Καὶ τὰ σώματα δ' αὐτῶν ἀτελέστερα γίνεται ὡς ἐπὶ τὸ πολὺ καὶ γηράσκει θᾶττον, τῶν τ' ἀφροδισιαστικῶν ἀρρένων καὶ τῶν γυναικῶν τῶν τοῖς τόκοις χρωμένων πλείοσιν· δοκεῖ γὰρ οὐδ' ἡ αὔξησις ἔτι γίνεσθαι μετὰ τοὺς τρεῖς τόκους. Καθίστανται δὲ καὶ σωφρονίζονται μᾶλλον ὅσαι τῶν γυναικῶν ἀκόλαστοι πρὸς τὴν ὁμιλίαν εἰσὶ τὴν τῶν ἀφροδισίων, ὅταν τοῖς τόκοις χρήσωνται πολλοῖς. Μετὰ δὲ τὰ τρὶς ἑπτὰ ἔτη αἱ μὲν γυναῖκες πρὸς τὰς τεκνοποιΐας ἤδη εὐκαίρως ἔχουσιν, οἱ δ’ ἄνδρες ἔτι ἔχουσιν ἐπίδοσιν.

Ἔστι δὲ τὰ μὲν λεπτὰ τῶν σπερμάτων ἄγονα, τὰ δὲ χαλαζώδη γόνιμα καὶ ἀρρενογόνα μᾶλλον· τὰ δὲ λεπτὰ καὶ μὴ θρομβώδη θηλυγόνα.

Καὶ γενείου δὲ τρίχωσις συμβαίνει τοῖς ἄρρεσι περὶ τὴν ἡλικίαν ταύτην.

Κεφάλαιο 2

Ἡ δὲ τῶν γυναικείων ὁρμὴ γίνεται περὶ φθίνοντας τοὺς μῆνας· διό φασί τινες τῶν σοφιζομένων καὶ τὴν σελήνην (582b.) εἶναι θῆλυ, ὅτι ἅμα συμβαίνει ταῖς μὲν ἡ κάθαρσις τῇ δ' ἡ φθίσις, καὶ μετὰ τὴν κάθαρσιν καὶ τὴν φθίσιν ἡ πλήρωσις ἀμφοῖν. Καὶ ταῖς μὲν συνεχῶς καθ' ἕκαστον ὀλιγάκις τὰ καταμήνια φοιτᾷ, παρὰ δὲ μῆνα τρίτον ταῖς πλείσταις.

Ὅσαις μὲν οὖν ὀλίγον χρόνον γίνεται, δύο ἢ τρεῖς ἡμέρας, ἀπαλλάττουσι ῥᾷον, ὅσαις δὲ πολλάς, χαλεπώτερον. Πονοῦσι γὰρ τὰς ἡμέρας ταύτας· ταῖς μὲν γὰρ ἀθρόα ἡ κάθαρσις γίνεται ταῖς δὲ κατ' ὀλίγον, τὸ δὲ σῶμα βαρύνεται πάσαις, ἕως ἂν ἐξέλθῃ. Πολλαῖς δὲ καὶ ὅταν ὁρμᾷ τὰ καταμήνια καὶ μέλλῃ ῥήγνυσθαι, πνιγμοὶ γίνονται καὶ ψόφος ἐν ταῖς ὑστέραις, ἕως ἂν ῥαγῇ.

Φύσει μὲν οὖν ἡ σύλληψις γίνεται μετὰ τὴν τούτων ἀπαλλαγὴν ταῖς γυναιξίν· καὶ ὅσαις μὴ γίνεται ταῦτα, ὡς ἐπὶ τὸ πολὺ ἄτεκνοι διατελοῦσιν. Οὐ μὴν ἀλλὰ καὶ μὴ γινομένων τούτων ἔνιαι συλλαμβάνουσιν, ὅσαις συναθροίζεται ἰκμὰς τοσαύτη ὅση ταῖς γειναμέναις ὑπολείπεται μετὰ τὴν κάθαρσιν, ἀλλὰ μὴ ὥστε καὶ θύραζε ἐξιέναι. Καὶ γινομένων ἔτι ἔνιαι συλλαμβάνουσιν· ὕστερον δ' οὐ συλλαμβάνουσιν, ὅσαις εὐθὺς μετὰ τὴν κάθαρσιν αἱ ὑστέραι συμμύουσιν. Γίνεται δ' ἐνίαις καὶ κυούσαις διὰ τέλους τὰ γυναικεῖα· συμβαίνει μέντοι ταύταις φαῦλα τίκτειν, καὶ ἢ μὴ σώζεσθαι εἰς αὔξην ἢ ἀσθενῆ τὰ ἔκγονα γίνεσθαι. Πολλαῖς δὲ καὶ διὰ τὸ δεῖσθαι τῆς συνουσίας ἢ διὰ τὴν νεότητα καὶ τὴν ἡλικίαν, ἢ διὰ τὸ χρόνον ἀπέχεσθαι πολύν, καταβαίνουσιν αἱ ὑστέραι κάτω, καὶ τὰ γυναικεῖα γίνεται πολλάκις τρὶς τοῦ μηνός, ἕως ἂν συλλάβωσιν· τότε δ' ἀπέρχονται πάλιν εἰς τὸν ἄνω τόπον τὸν οἰκεῖον.

Ἐνίοτε δὲ κἂν συμβῇ <εὖ> ἔχουσα, τύχῃ δ' ὑγρὰ οὖσα, ἀποφυσᾷ τοῦ σπέρματος τὸ ὑγρότερον.

Πάντων δὲ τῶν ζῴων, ὥσπερ εἴρηται καὶ πρότερον, ταῖς γυναιξὶ μᾶλλον τῶν ἄλλων θηλειῶν ἡ κάθαρσις γίνεται πλείστη. Τοῖς μὲν γὰρ μὴ ζῳοτοκοῦσιν οὐδὲν τοιοῦτον ἐπισημαίνει διὰ τὸ τὴν περίττωσιν ταύτην τρέπεσθαι εἰς τὸ σῶμα (μείζω τε γὰρ ἔνια τῶν ἀρρένων ἐστί, καὶ ἔτι τοῖς μὲν εἰς φολίδας τοῖς δ' εἰς λεπίδας τοῖς δ' εἰς τὸ τῶν πτερῶν ἀναλίσκεται πλῆθος), τοῖς δὲ πεζοῖς καὶ ζῳοτόκοις εἴς τε τὰς τρίχας καὶ τὸ σῶμα (λεῖον

γὰρ (583a.) ἄνθρωπός ἐστι μόνον) καὶ εἰς τὰ οὖρα (παχεῖαν γὰρ τὰ πλεῖστα καὶ πολλὴν τὰ τοιαῦτα ποιεῖται τὴν ἔκκρισιν)· ταῖς δὲ γυναιξὶν ἀντὶ τούτων τρέπεται τὸ περίττωμα εἰς τὴν κάθαρσιν. Ὁμοίως δ’ ἔχει τοῦτο καὶ ἐπὶ τῶν ἀρρένων· πλεῖστον γὰρ ὡς κατὰ τὸ μέγεθος ἀφίησι σπέρμα τῶν ἄλλων ζῴων ἄνθρωπος (διὸ καὶ λειότατον τῶν ζῴων ἐστὶν ἄνθρωπος), καὶ αὐτῶν δ’ οἱ ὑγρότεροι τὰς φύσεις καὶ μὴ πολύσαρκοι λίαν, καὶ οἱ λευκότεροι δὲ τῶν μελάνων. Καὶ ἐπὶ γυναικῶν δὲ τὸν αὐτὸν τρόπον· ταῖς γὰρ εὐσάρκοις πορεύεται εἰς τὴν τροφὴν τοῦ σώματος τὸ πολὺ τῆς ἐκκρίσεως. Καὶ ἐν ταῖς ὁμιλίαις δὲ τῶν ἀφροδισίων αἱ λευκότεραι τὴν φύσιν ἐξικμάζουσι μᾶλλον τῶν μελαινῶν. Ποιεῖ δὲ τῆς τροφῆς τὰ ὑγρὰ καὶ δριμέα τοιαύτην τὴν ὁμιλίαν μᾶλλον.

Κεφάλαιο 3

Γίνεται δὲ σημεῖον τοῦ συνειληφέναι ταῖς γυναιξίν, ὅταν εὐθὺς γένηται μετὰ τὴν ὁμιλίαν ὁ τόπος ξηρός. Ἂν μὲν οὖν λεῖα τὰ χείλη ᾖ τοῦ στόματος, οὐ θέλει συλλαμβάνειν (ἀπολισθαίνει γάρ), οὐδ’ ἂν παχέα· ἂν δ’ ἁπτομένῳ τῷ δακτύλῳ τραχύτερα ᾖ καὶ ἀντέχηται, καὶ ἐὰν λεπτὰ τὰ χείλη, τότε εὐκαίρως ἔχει πρὸς τὴν σύλληψιν. Πρὸς μὲν οὖν τὸ συλλαμβάνειν τοιαύτας δεῖ κατασκευάζειν τὰς ὑστέρας, πρὸς δὲ τὸ μὴ συλλαμβάνειν τοὐναντίον· ἐὰν γὰρ ᾖ λεῖα τὰ χείλη, οὐ συλλαμβάνει· διὸ ἔνιοι τῆς μήτρας πρὸς ὃ πίπτει τὸ σπέρμα, ἀλείφουσιν ἐλαίῳ κεδρίνῳ ἢ ψιμυθίῳ ἢ λιβανωτῷ, διέντες ἐλαίῳ. Ἐὰν δὲ ἑπτὰ ἐμμείνῃ ἡμέρας, φανερὸν ὅτι εἴληπται· αἱ γὰρ καλούμεναι ἐκρύσεις ἐν ταύταις γίνονται ταῖς ἡμέραις.

Αἱ δὲ καθάρσεις φοιτῶσι ταῖς πλείσταις ἐπί τινα χρόνον συνειληφυίαις, ἐπὶ μὲν τῶν θηλειῶν τριάκονθ’ ἡμέρας μάλιστα, περὶ δὲ τετταράκοντα ἐπὶ τῶν ἀρρένων. Καὶ μετὰ τοὺς τόκους δ’ αἱ καθάρσεις βούλονται τὸν αὐτὸν ἀριθμὸν ἀποδιδόναι τούτων, οὐ μὴν ἐξακριβοῦσί γε πάσαις ὁμοίως. Μετὰ δὲ τὴν σύλληψιν καὶ τὰς ἡμέρας τὰς εἰρημένας οὐκέτι κατὰ φύσιν, ἀλλ’ εἰς τοὺς μαστοὺς τρέπεται καὶ γίνεται γάλα. Ἐπισημαίνει δὲ τὸ πρῶτον μικρόν τε καὶ ἀραχνιῶδες τὸ γάλα ἐν τοῖς μαστοῖς.

Ὅταν δὲ συλ(583b.) (ἐνίαις γὰρ γίνονται πληρέστεραι εὐθύς· μᾶλλον δ’ ἐπιδήλως τοῦτο συμβαίνει ταῖς ἰσχναῖς) καὶ ἐν τοῖς βουβῶσιν.

Ἐπὶ μὲν οὖν τῶν ἀρρένων ὡς ἐπὶ τὸ πολὺ ἐν τῷ δεξιῷ μᾶλλον περὶ τὰς τετταράκοντα γίνεται ἡ κίνησις, τῶν δὲ θηλειῶν ἐν τῷ ἀριστερῷ περὶ ἐνενήκονθ’ ἡμέρας. Οὐ μὴν ἀλλ’ ἀκρίβειάν γε τούτων οὐδεμίαν ὑποληπτέον· πολλαῖς γὰρ θηλυτοκούσαις ἡ κίνησις ἐν τῷ δεξιῷ γίνεται, καὶ ταῖς ἐν τῷ ἀριστερῷ ἄρρεν· ἀλλὰ καὶ ταῦτα καὶ τὰ τοιαῦτα πάντα διαφέρει ὡς ἐπὶ τὸ πολὺ τῷ μᾶλλον καὶ ἧττον.

Περὶ δὲ τοῦτον τὸν χρόνον καὶ σχίζεται τὸ κύημα· τὸν δ’ ἔμπροσθεν ἄναρθρον συνέστηκε κρεῶδες. Καλοῦνται δ’ ἐκρύσεις μὲν αἱ μέχρι τῶν ἑπτὰ ἡμερῶν διαφθοραί, ἐκτρωσμοὶ δ’ αἱ μέχρι τῶν τετταράκοντα· καὶ πλεῖστα διαφθείρεται τῶν κυημάτων ἐν ταύταις ταῖς ἡμέραις.

Τὸ μὲν οὖν ἄρρεν ὅταν ἐξέλθῃ τετταρακοσταῖον, ἐὰν μὲν εἰς ἄλλο τι ἀφῇ τις, διαχεῖταί τε καὶ ἀφανίζεται, ἐὰν δ’ εἰς ψυχρὸν ὕδωρ, συνίσταται οἷον ἐν ὑμένι· τούτου δὲ διακνισθέντος φαίνεται τὸ ἔμβρυον τὸ μέγεθος ἡλίκον μύρμηξ τῶν μεγάλων, τά τε μέλη δῆλα, τά τε ἄλλα πάντα καὶ τὸ αἰδοῖον, καὶ οἱ ὀφθαλμοὶ καθάπερ ἐπὶ τῶν ἄλλων ζῴων μέγιστοι.

Τὸ δὲ θῆλυ, ὅ τι μὲν ἂν διαφθαρῇ ἐντὸς τῶν τριῶν μηνῶν, ἀδιάρθρωτον ὡς ἐπὶ τὸ πολὺ φαίνεται· ὅ τι δ’ ἂν ἐπιλάβῃ τοῦ τετάρτου μηνός, γίνεται ἐσχισμένον καὶ διὰ ταχέων λαμβάνει τὴν ἄλλην διάρθρωσιν. Τέως μὲν οὖν πᾶσαν τὴν τελείωσιν τῶν μορίων βραδύτερον ἀπολαμβάνει τὸ θῆλυ τοῦ ἄρρενος, καὶ δεκάμηνα γίνεται μᾶλλον τῶν ἀρρένων· ὅταν δὲ γένηται, θᾶττον τὰ θήλεα τῶν ἀρρένων καὶ νεότητα καὶ ἀκμὴν λαμβάνει καὶ γῆρας, καὶ μᾶλλον αἱ πλείοσι χρώμεναι τόκοις, ὥσπερ εἴρηται πρότερον.

Κεφάλαιο 4

Ὅταν δὲ συλλάβῃ ἡ ὑστέρα τὸ σπέρμα, εὐθὺς συμμύει ταῖς πολλαῖς, μέχρι γένωνται ἑπτὰ μῆνες· τῷ δ’ ὀγδόῳ χάσκουσιν· καὶ τὸ ἔμβρυον, ἐὰν ᾖ γόνιμον, προκαταβαίνει τῷ ὀγδόῳ μηνί. Τὰ δὲ μὴ γόνιμα ἀλλ’ ἀποπεπνιγμένα ὀκτάμηνα ἐν τοῖς τόκοις οὐκ ἐκφέρουσιν ὀκτάμηναι αἱ γυναῖκες, οὔτε προκαταβαίνει κάτω τὰ ἔμβρυα τῷ ὀγδόῳ μηνί, οὔθ’ αἱ ὑστέραι ἐν τῷ χρόνῳ τούτῳ χάσκουσιν· ἀλλὰ (584a.) σημεῖον ὅτι οὐ γόνιμον, ἐὰν γένηται μὴ συμπεσόντων τῶν εἰρημένων.

Μετὰ δὲ τὰς συλλήψεις αἱ γυναῖκες βαρύνονται τὸ σῶμα πᾶν, καὶ σκότοι πρὸ τῶν ὀμμάτων καὶ ἐν τῇ κεφαλῇ γίνονται πόνοι. Ταῦτα δὲ ταῖς μὲν θᾶττον καὶ σχεδὸν δεκαταίαις γίνεται, ταῖς δὲ βραδύτερον, ὅπως ἂν τύχωσιν οὖσαι τῷ περιττωματικαὶ εἶναι μᾶλλον καὶ ἧττον. Ἔτι δὲ ναυτίαι καὶ ἔμετοι λαμβάνουσι τὰς πλείστας, καὶ μάλιστα τὰς τοιαύτας, ὅταν αἵ τε καθάρσεις στῶσι καὶ μήπω εἰς τοὺς μαστοὺς τετραμμέναι ὦσιν.

Ἔνιαι μὲν οὖν ἀρχόμεναι μᾶλλον πονοῦσι τῶν γυναικῶν, ἔνιαι δ’ ὕστερον, ἤδη τοῦ κυήματος ἔχοντος αὔξησιν μᾶλλον· πολλαῖς δὲ καὶ πολλάκις καὶ στραγγουρίαι γίνονται τὸ τελευταῖον. Ὡς μὲν οὖν ἐπὶ τὸ πολὺ ῥᾷον ἀπαλλάττουσιν αἱ τὰ ἄρρενα κύουσαι καὶ μᾶλλον μετ’ εὐχροίας διατελοῦσιν, ἐπὶ δὲ τῶν θηλειῶν τοὐναντίον· ἀχρούστεραί τε γὰρ ὡς ἐπὶ τὸ πολύ, καὶ βαρύτερον διάγουσι, καὶ πολλαῖς περὶ τὰ σκέλη οἰδήματα καὶ ἐπάρσεις γίνονται τῆς σαρκός· οὐ μὴν ἀλλ’ ἐνίαις γίνεται καὶ τἀναντία τούτων.

Εἰώθασι δὲ ταῖς κυούσαις ἐπιθυμίαι γίνεσθαι παντοδαπαὶ καὶ μεταβάλλειν ὀξέως, ὃ καλοῦσί τινες κισσᾶν· καὶ ἐπὶ τῶν θηλειῶν ὀξύτεραι μὲν αἱ ἐπιθυμίαι, παραγινομένων δὲ ἧττον δύνανται ἀπολαύειν. Ὀλίγαις δέ τισι συμβαίνει βέλτιον ἔχειν τὸ σῶμα κυούσαις. Μάλιστα δ’ ἀσῶνται, ὅταν ἄρχωνται τὰ παιδία τρίχας ποιεῖν. Αἱ δὲ τρίχες ταῖς μὲν κυούσαις αἱ μὲν συγγενεῖς γίνονται ἐλάττους καὶ ῥέουσιν, ἐν οἷς δὲ μὴ εἰώθασιν ἔχειν τρίχας, ταῦτα δασύνεται μᾶλλον.

Καὶ κίνησιν δὲ παρέχεται ἐν τῷ σώματι μᾶλλον ὡς ἐπὶ τὸ πολὺ τὸ ἄρρεν τοῦ θήλεος, καὶ τίκτεται θᾶττον, τὰ δὲ θήλεα βραδύτερον. Καὶ ὁ πόνος ἐπὶ μὲν τοῖς θήλεσι συνεχὴς καὶ νωθρότερος, ἐπὶ δὲ τοῖς ἄρρεσιν ὀξὺς μέν, πολλῷ δὲ χαλεπώτερος. Αἱ δὲ πλησιάζουσαι πρὸ τῶν τόκων τοῖς ἀνδράσι θᾶττον τίκτουσιν. Δοκοῦσι δ’ ὠδίνειν αἱ γυναῖκες ἐνίοτε οὐ γινομένης ὠδῖνος, ἀλλὰ διὰ τὸ τὴν κεφαλὴν στρέφειν τὸ ἔμβρυον φαίνεται ὠδῖνος ἀρχὴ τοῦτο γίνεσθαι.

Τὰ μὲν οὖν ἄλλα ζῷα μοναχῶς ποιεῖται τὴν τοῦ τόκου τελείωσιν· εἷς γὰρ ὥρισται τοῦ τόκου χρόνος πᾶσιν· ἀνθρώπῳ δὲ πολλοὶ μόνῳ τῶν ζῴων· καὶ γὰρ ἑπτάμηνα καὶ ὀκτάμηνα καὶ ἐννεάμηνα γίνεται, καὶ δεκάμηνα τὸ πλεῖστον· ἔνιαι δ’ (584b.) ἐπιλαμβάνουσι καὶ τοῦ ἑνδεκάτου μηνός.

Ὅσα μὲν οὖν γίνεται πρότερα τῶν ἑπτὰ μηνῶν, οὐδὲν οὐδαμῇ δύναται ζῆν· τὰ δ’ ἑπτάμηνα γόνιμα γίνεται πρῶτον, ἀσθενῆ δὲ τὰ πολλά (διὸ καὶ σπαργανοῦσιν ἐρίοις αὐτά), πολλὰ δὲ καὶ τῶν πόρων ἐνίους ἔχοντα ἀσχίστους, οἷον ὤτων καὶ μυκτήρων· ἀλλ’ ἐπαυξανομένοις διαρθροῦται, καὶ βιοῦσι πολλὰ καὶ τῶν τοιούτων. Τὰ δ’ ὀκτάμηνα περὶ μὲν Αἴγυπτον καὶ ἐν ἐνίοις τόποις, ὅπου εὐέκφοροι αἱ γυναῖκες καὶ φέρουσί τε πολλὰ ῥᾳδίως καὶ τίκτουσι, καὶ γενόμενα δύναται ζῆν, κἂν τερατώδη γένηται, ἐνταῦθα μὲν ζῇ τὰ ὀκτάμηνα καὶ ἐκτρέφεται, ἐν δὲ τοῖς περὶ τὴν Ἑλλάδα τόποις ὀλίγα πάμπαν σώζεται, τὰ δὲ πολλὰ ἀπόλλυται· καὶ διὰ τὴν ὑπόληψιν, κἂν σωθῇ τι, νομίζουσιν οὐκ ὀκτάμηνον εἶναι τὸ γεγενημένον, ἀλλὰ λαθεῖν ἑαυτὰς αἱ γυναῖκες συλλαβοῦσαι πρότερον.

Πονοῦσι δ’ αἱ γυναῖκες μάλιστα τὸν μῆνα τὸν τέταρτον καὶ τὸν ὄγδοον, καὶ ἐὰν διαφθείρωσι τετάρτῳ ἢ ὀγδόῳ μηνί, διαφθείρονται καὶ αὐταὶ ὡς ἐπὶ τὸ πολύ, ὥστ’ οὐ μόνον τὰ ὀκτάμηνα οὐ ζῇ, ἀλλὰ καὶ διαφθειρομένων αἱ τίκτουσαι κινδυνεύουσιν.

Τὸν αὐτὸν δὲ τρόπον δοκεῖ λανθάνειν καὶ ὅσα φαίνεται τίκτεσθαι πολυχρονιώτερα τῶν ἕνδεκα μηνῶν· καὶ γὰρ τούτων ἡ τῆς συλλήψεως ἀρχὴ λανθάνει τὰς γυναῖκας· πολλάκις γὰρ πνευματικῶν γενομένων ἔμπροσθεν τῶν ὑστερῶν, μετὰ ταῦτα πλησιάσασαι καὶ συλλαβοῦσαι ἐκείνην οἴονται τὴν ἀρχὴν εἶναι τῆς συλλήψεως, δι’ ἣν ἐχρήσαντο τοῖς σημείοις ὁμοίοις.

Τὸ δὲ δὴ πλῆθος τῶν τόκων τῆς τελειώσεως παρὰ τἆλλα ζῷα τοῖς ἀνθρώποις ταύτην ἔχει τὴν διαφοράν· καὶ τῶν μὲν μονοτόκων ὄντων τῶν δὲ πολυτόκων, ἐπαμφοτερίζει τὸ γένος τὸ τῶν ἀνθρώπων. Τὸ μὲν γὰρ πλεῖστον καὶ παρὰ τοῖς πλείστοις ἓν τίκτουσιν αἱ γυναῖκες, πολλάκις δὲ καὶ πολλαχοῦ δίδυμα, οἷον καὶ περὶ Αἴγυπτον. Τίκτουσι δὲ καὶ τρία καὶ τέτταρα, περὶ ἐνίους μὲν καὶ σφόδρα τόπους, ὥσπερ εἴρηται πρότερον. Πλεῖστα δὲ τίκτεται πέντε τὸν ἀριθμόν· ἤδη γὰρ ὦπται τοῦτο καὶ ἐπὶ πλειόνων συμβεβηκός. Μία δέ τις ἐν τέτταρσι τόκοις ἔτεκεν εἴκοσιν· ἀνὰ πέντε γὰρ ἔτεκε, καὶ τὰ πολλὰ αὐτῶν ἐξετράφη.

Ἐν μὲν οὖν τοῖς ἄλλοις ζῴοις, κἂν ᾖ τὰ δίδυμα ἄρρεν καὶ θῆλυ, οὐδὲν ἧττον (585a.) ἐκτρέφεται γενόμενα καὶ σώζεται τῶν ἀρρένων ἢ θηλειῶν· ἐν δὲ τοῖς ἀνθρώποις ὀλίγα σώζεται τῶν διδύμων, ἐὰν ᾖ τὸ μὲν θῆλυ τὸ δ' ἄρρεν.

Δέχεται δ' ὀχείαν κύοντα μάλιστα τῶν ζῴων γυνὴ καὶ ἵππος· τὰ δ' ἄλλα ὅταν πληρωθῇ, φεύγει τοὺς ἄρρενας, ὅσα μὴ πέφυκεν ἐπικυΐσκεσθαι, καθάπερ δασύπους. Ἀλλ' ἵππος μὲν ἂν συλλάβῃ τὸ πρῶτον, οὐκ ἐπικυΐσκεται πάλιν, ἀλλ' ἓν τίκτει μόνον ὡς ἐπὶ τὸ πολύ· ἐπ' ἀνθρώπῳ δ' ὀλίγα μέν, γέγονε δέ ποτε.

Τὰ μὲν οὖν ὕστερον πολλῷ χρόνῳ συλληφθέντα οὐδὲν λαμβάνει τέλος, ἀλλὰ πόνον παρασχόντα συνδιαφθείρει τὸ προϋπάρχον (ἤδη γὰρ συνέβη γενομένης διαφθορᾶς καὶ δώδεκα ἐκπεσεῖν τὰ ἐπικυηθέντα)· ἐὰν δ' ἐγγὺς ἡ σύλληψις ἐγένετο, τὸ ἐπικυηθὲν ἐξήνεγκαν, καὶ τίκτουσιν ὥσπερ δίδυμα γόνῳ, καθάπερ καὶ τὸν Ἰφικλέα καὶ τὸν Ἡρακλέα μυθολογοῦσιν. Γέγονε γὰρ καὶ τοῦτο φανερόν· μοιχευομένη γάρ τις τὸ μὲν τῶν τέκνων τῷ ἀνδρὶ ἐοικὸς ἔτεκε, τὸ δὲ τῷ μοιχῷ. Ἤδη δὲ καὶ δίδυμα κύουσά τις ἐπεκύησε τρίτον, γενομένου δὲ τοῦ χρόνου τοῦ καθήκοντος τὰ μὲν τελεόγονα τῷ χρόνῳ ἔτεκε, τὸ δὲ πεντάμηνον· καὶ τοῦτ' ἀπέθανεν εὐθύς. Καὶ ἑτέρᾳ δέ τινι συνέβη τεκούσῃ πρῶτον μὲν ἑπτάμηνον, ὕστερον δὲ δύο τελεόμηνα τεκεῖν· καὶ τούτων τὸ μὲν ἐτελεύτησε, τὰ δ' ἐβίωσεν.

Καὶ ἐκτιτρώσκουσαι δέ τινες συνέλαβον ἅμα, καὶ τὸ μὲν ἐξέβαλον τὸ δ' ἔτεκον.

Ταῖς δὲ πλείσταις, ἐὰν συγγένωνται κύουσαι μετὰ τὸν ὄγδοον μῆνα, περίπλεων μυξώδους τὸ παιδίον ἐξέρχεται γλισχρότητος. Καὶ τῶν ἐδεσμάτων δὲ τῶν προσφερομένων περίπλεων φαίνεται πολλάκις.

Κεφάλαιο 5

Καὶ τῶν ἁλὶ δαψιλεστέρῳ χρησαμένων οὐκ ἔχοντα γίνεται τὰ παιδία ὄνυχας.

Τὸ δὲ γάλα τὸ γινόμενον πρότερον τῶν ἑπτὰ μηνῶν ἄχρηστόν ἐστιν· ἀλλ' ἅμα τά τε παιδία γόνιμα καὶ τὸ γάλα χρήσιμον. Τὸ δὲ πρῶτον καὶ ἁλμυρόν, ὥσπερ τοῖς προβάτοις.

Μάλιστα δ' ἐν ταῖς κυήσεσι τοῦ οἴνου αἰσθάνονται αἱ πλεῖσται· διαλύονταί τε γάρ, ἐὰν πίωσι, καὶ ἀδυνατοῦσιν.

Ἀρχὴ δὲ ταῖς γυναιξὶ τοῦ τεκνοῦσθαι καὶ τοῖς ἄρρεσι τοῦ τεκνοῦν, καὶ παῦλα ἀμφοτέροις, τοῖς μὲν ἡ τοῦ σπέρματος πρόεσις ταῖς δ' ἡ τῶν καταμηνίων, πλὴν οὔτ' ἀρχομένων γόνιμα (585b.) εὐθὺς οὔτ' ἔτι ὀλίγων γινομένων καὶ ἀσθενῶν. Ἡλικία δὲ τῆς μὲν ἀρχῆς εἴρηται· παύεται δὲ ταῖς γυναιξὶ ταῖς μὲν πλείσταις τὰ καταμήνια περὶ τετταράκοντα ἔτη, αἷς δ' ἂν ὑπερβάλῃ τὸν χρόνον τοῦτον, διαμένει μέχρι τῶν πεντήκοντα ἐτῶν, καὶ ἤδη τινὲς ἔτεκον· πλείω δὲ χρόνον οὐδεμία.

Κεφάλαιο 6

Οἱ δ’ ἄνδρες οἱ μὲν πλεῖστοι γεννῶσι μέχρι ἑξήκοντα ἐτῶν, ὅταν δ’ ὑπερβάλῃ ταῦτα, μέχρι ἑβδομήκοντα· καὶ ἤδη τινὲς γεγεννήκασιν ἑβδομήκοντα ἐτῶν ὄντες. Συμβαίνει δὲ πολλοῖς καὶ πολλαῖς γυναιξὶ καὶ ἀνδράσι μετ’ ἀλλήλων μὲν συνεζευγμένοις μὴ δύνασθαι τεκνοποιεῖσθαι, διαζευχθεῖσι δέ. Τὸ δ’ αὐτὸ συμβαίνει καὶ περὶ ἀρρενογονίας καὶ θηλυγονίας· ἐνίοτε γὰρ καὶ γυναῖκες καὶ ἄνδρες μετ’ ἀλλήλων μὲν ὄντες θηλυγόνοι εἰσὶν ἢ ἀρρενογόνοι, διεζευγμένοι δὲ γίνονται τοὐναντίον. Καὶ κατὰ τὴν ἡλικίαν δὲ μεταβάλλουσιν· νέοι μὲν ὄντες μετ’ ἀλλήλων θήλεα γεννῶσι, πρεσβύτεροι δ’ ἄρρενα· τοῖς δὲ καὶ ἐπὶ τούτων συμβαίνει τοὐναντίον. Καὶ ἐπὶ τοῦ γεννᾶν δ’ ὅλως τὸ αὐτό· νέοις μὲν οὖσιν οὐδὲν γίνεται, πρεσβυτέροις δέ· οἱ δὲ τὸ πρῶτον, ὕστερον δὲ γεννῶσιν οὐδέν.

Εἰσὶ δὲ καὶ τῶν γυναικῶν τινὲς αἳ μόλις μὲν συλλαμβάνουσιν, ἐὰν δὲ συλλάβωσιν, ἐκφέρουσιν· αἱ δὲ τοὐναντίον συλλαμβάνουσι μὲν ῥᾳδίως, οὐ δύνανται δ’ ἐκφέρειν. Εἰσὶ δὲ καὶ ἄνδρες θηλυγόνοι καὶ γυναῖκες ἀρρενογόνοι, οἷον καὶ κατὰ τοῦ Ἡρακλέους μυθολογεῖται, ὃς ἐν δύο καὶ ἑβδομήκοντα τέκνοις θυγατέρα μίαν ἐγέννησεν. Αἱ δὲ μὴ δυνάμεναι συλλαμβάνειν ἐὰν ἢ διὰ θεραπείαν συλλάβωσιν ἢ δι’ ἄλλην τινὰ σύμπτωσιν, ὡς ἐπὶ τὸ πολὺ θηλυτοκοῦσι μᾶλλον ἢ ἀρρενοτοκοῦσιν.

Πολλοῖς δὲ συμβαίνει καὶ τῶν ἀνδρῶν δυναμένοις γεννᾶν ὕστερον μὴ δύνασθαι, καὶ πάλιν καθίστασθαι εἰς αὐτό.

Γίνονται δὲ καὶ ἐξ ἀναπήρων ἀνάπηροι, οἷον ἐκ χωλῶν χωλοὶ καὶ τυφλῶν τυφλοί, καὶ ὅλως τὰ παρὰ φύσιν ἐοικότες πολλάκις, καὶ σημεῖα ἔχοντες συγγενῆ, οἷον φύματα καὶ οὐλάς. Ἤδη δ’ ἀπέδωκε τῶν τοιούτων τι καὶ διὰ τριῶν, οἷον ἔχοντός τινος στίγμα ἐν τῷ βραχίονι ὁ μὲν υἱὸς οὐκ ἐγένετο ὁ δ’ υἱιδοῦς ἔχων ἐν τῷ αὐτῷ τόπῳ συγκεχυμένον μέλαν.

Ὀλίγα μὲν οὖν γίνεται τὰ τοιαῦτα, τὰ δὲ πλεῖστα γίνεται ὁλόκληρα ἐκ κολοβῶν, καὶ οὐδὲν ἀποτέτακται τούτων. Καὶ (586a.) ἐοικότες δὲ τοῖς γεννήσασιν ἢ τοῖς ἄνωθεν γονεῦσιν, ὁτὲ δ’ οὐδὲν οὐδενί. Ἀποδίδωσι δὲ καὶ διὰ πλειόνων γενῶν, οἷον ἐν Σικελίᾳ ἡ τῷ Αἰθίοπι μοιχευθεῖσα· ἡ μὲν γὰρ θυγάτηρ ἐγένετο οὐκ Αἰθίοψ, τὸ δ’ ἐκ ταύτης.

Καὶ ὡς μὲν ἐπὶ τὸ πολὺ τὰ θήλεα ἔοικε τῇ μητρὶ μᾶλλον, τὰ δ’ ἄρρενα τῷ πατρί· γίνεται δὲ καὶ τοὐναντίον, τὰ μὲν θήλεα τῷ πατρί, τὰ δ’ ἄρρενα τῇ μητρί. Καὶ κατὰ μέρη δὲ γίνονται ἐοικότα ἄττα [μέρη] ἑκατέρῳ. Τὰ δὲ δίδυμα ἤδη μὲν ἐγένετο καὶ οὐκ ἐοικότα ἀλλήλοις, τὰ δὲ πλεῖστα καὶ ὡς ἐπὶ τὸ πολὺ ἐοικότα, ἐπεὶ καὶ μετὰ τὸν τόκον τις ἑβδομαία συγγενομένη καὶ συλλαβοῦσα ἔτεκε τὸ ὕστερον τῷ προτέρῳ ἐοικός, ὥσπερ δίδυμον. Εἰσὶ δὲ καὶ γυναῖκες ἐοικότα αὑταῖς γεννῶσαι, αἱ δὲ τῷ ἀνδρί, ὥσπερ ἡ ἐν Φαρσάλῳ ἵππος ἡ Δικαία καλουμένη.

Κεφάλαιο 7

Ἐν δὲ τῇ τοῦ σπέρματος ἐξόδῳ πρῶτον μὲν ἡγεῖται πνεῦμα (δηλοῖ δὲ καὶ ἡ ἔξοδος ὅτι γίνεται ὑπὸ πνεύματος· οὐδὲν γὰρ ῥιπτεῖται πόρρω ἄνευ βίας πνευματικῆς)· ὅταν δὲ λάβηται τὸ σπέρμα τῆς ὑστέρας καὶ ἐγχρονισθῇ, ὑμὴν περιίσταται. Φαίνεται γάρ, ὅταν πρὶν διαρθρωθῆναι ἐξέλθῃ, οἷον ᾠὸν ἐν ὑμένι περιεχόμενον ἀφαιρεθέντος τοῦ ὀστράκου· ὁ δ' ὑμὴν φλεβῶν μεστός.

Πάντα δὲ τὰ πλωτὰ καὶ πτηνὰ καὶ πεζά, εἴτε ζῳοτοκεῖται ἢ ᾠοτοκεῖται, ὁμοίως γίνεται· πλὴν τὸν ὀμφαλὸν τὰ μὲν πρὸς τὴν ὑστέραν ἔχει τὰ ζῳοτοκούμενα, τὰ δὲ πρὸς τῷ ᾠῷ, τὰ δ' ἀμφοτέρως, οἷον ἐπὶ γένους τινὸς ἰχθύων. Καὶ τὰ μὲν περιέχουσιν οἷον ὑμένες, τὰ δὲ χόρια· καὶ πρῶτον μὲν τοῦ ἐσχάτου ἐντὸς γίνεται τὸ ζῷον, εἶθ' ὑμὴν περὶ τοῦτον ἄλλος, τὸ μὲν πλεῖστον προσπεφυκὼς τῇ μήτρᾳ, τῇ δ' ἀφεστὼς καὶ ὕδωρ ἔχων. Μεταξὺ δ' ὑγρότης ὑδατώδης ἢ αἱματώδης, ὁ καλούμενος ὑπὸ τῶν γυναικῶν πρόφορος.

Κεφάλαιο 8

Αὔξεται δὲ τὰ ζῷα πάντα, ὅσα ἔχει ὀμφαλόν, διὰ τοῦ ὀμφαλοῦ. Ὁ δ’ ὀμφαλός, ὅσα μὲν κοτυληδόνας ἔχει, πρὸς τῇ κοτυληδόνι προσπέφυκεν, ὅσα δὲ λείαν ἔχει τὴν ὑστέραν, πρὸς τῇ ὑστέρᾳ ἐπὶ φλεβός. Σχῆμα δ’ ἔχει ἐν τῇ ὑστέρᾳ τὰ μὲν τετράποδα πάντα ἐκτεταμένα, καὶ τὰ ἄποδα (586b.) πλάγια, οἷον ἰχθύς, τὰ δὲ δίποδα συγκεκαμμένα, οἷον ὄρνις· καὶ ἄνθρωπος συγκεκαμμένος ῥῖνα μὲν μεταξὺ τῶν γονάτων ἔχει, ὀφθαλμοὺς δ’ ἐπὶ τοῖς γόνασιν, ὦτα δ’ ἐκτός. Ἔχει δ’ ὁμοίως πάντα τὰ ζῷα τὴν κεφαλὴν ἄνω τὸ πρῶτον· αὐξανόμενα δὲ καὶ πρὸς τὴν ἔξοδον ὁρμῶντα κάτω περιάγεται, καὶ ἡ γένεσίς ἐστιν ἡ κατὰ φύσιν ἐπὶ κεφαλήν· συγκεκαμμένα δὲ καὶ ἐπὶ πόδας γίνεται παρὰ φύσιν. Τὰ δὲ τῶν τετραπόδων ἔχει καὶ περιττώματα, ὅταν ἤδη τέλεια ᾖ, καὶ ὑγρὸν καὶ σφυράδας, τὰς μὲν ἐν τῷ ἐσχάτῳ τοῦ ἐντέρου, ἐν δὲ τῇ κύστει οὖρον. Τοῖς δ’ ἔχουσι κοτυληδόνας ἐν τῇ μήτρᾳ τῶν ζῴων ἀεὶ ἐλάττους γίνονται αἱ κοτυληδόνες αὐξανομένου τοῦ ἐμβρύου, καὶ τέλος ἀφανίζονται.

Ὁ δ’ ὀμφαλός ἐστι κέλυφος περὶ φλέβας, ὧν ἡ ἀρχὴ ἐκ τῆς ὑστέρας ἐστί, τοῖς μὲν ἔχουσι τὰς κοτυληδόνας ἐκ τῶν κοτυληδόνων, τοῖς δὲ μὴ ἔχουσιν ἀπὸ φλεβός. Εἰσὶ δὲ τοῖς μὲν μείζοσιν, οἷον τοῖς τῶν βοῶν ἐμβρύοις, τέτταρες αἱ φλέβες, τοῖς δ’ ἐλάττοσι δύο, τοῖς δὲ πάμπαν μικροῖς, οἷον ὄρνισι, μία φλέψ. Τείνουσι δ’ εἰς τὰ ἔμβρυα αἱ μὲν δύο διὰ τοῦ ἥπατος, ᾗ αἱ καλούμεναι πύλαι εἰσί, πρὸς τὴν φλέβα τὴν μεγάλην, αἱ δὲ δύο πρὸς τὴν ἀορτήν, ᾗ σχίζεται καὶ γίνεται ἡ ἀορτὴ δύο ἐκ μιᾶς. Εἰσὶ δὲ περὶ τὴν συζυγίαν ἑκατέραν τῶν φλεβῶν ὑμένες, περὶ δὲ τοὺς ὑμένας ὁ ὀμφαλὸς οἷον ἔλυτρον. Αὐξανομένων δ’ ἀεὶ μᾶλλον συμπίπτουσιν αὗται αἱ φλέβες. Τὸ δ’ ἔμβρυον ἁδρυνόμενον εἴς τε τὰ κοῖλα ἔρχεται, καὶ ἐνταῦθα δῆλόν ἐστι κινούμενον, καὶ ἐνίοτε κυλινδεῖται περὶ τὸ αἰδοῖον.

Κεφάλαιο 9

Ὅταν δ’ ὠδίνωσιν αἱ γυναῖκες, εἰς πολλὰ μὲν καὶ ἄλλα ἀποστηρίζονται αὐταῖς οἱ πόνοι, ταῖς δὲ πλείσταις εἰς ὁπότερον ἂν τύχῃ τῶν μηρῶν. Ὅσαις δ’ ἂν περὶ τὴν κοιλίαν σφοδρότατοι γένωνται πόνοι, αὗται τάχιστα τίκτουσιν· καὶ ὅσαι μὲν τὴν ὀσφὺν προαλγοῦσι, μόλις τίκτουσιν, ὅσαι δὲ τὸ ἦτρον, ταχύ.

Ἂν μὲν οὖν ἀρρενοτοκῇ, προέρχονται οἱ ἰχῶρες ὑδαρεῖς ὕπωχροι, ἐὰν δὲ θηλυτοκῇ, αἱματώδεις, ὑγροὶ δὲ καὶ οὗτοι· ἐνίαις μέντοι συμβαίνει περὶ τὰς ὠδῖνας καὶ οὐδέτερα τούτων.

Τοῖς μὲν οὖν ἄλλοις ζῴοις οὐκ ἐπίπονοι (587a.) γίνονται οἱ τόκοι, ἀλλὰ μετριωτέρως ἐπίδηλά ἐστιν ἐνοχλούμενα ὑπὸ τῆς ὠδῖνος· ταῖς δὲ γυναιξὶ συμβαίνουσιν οἱ πόνοι ἰσχυρότεροι, καὶ μάλιστα ταῖς ἑδραίαις καὶ ὅσαι μὴ εὔπλευροι μηδὲ δύνανται τὸ πνεῦμα κατέχειν. Δυστοκοῦσι δὲ μᾶλλον καὶ ἐὰν μεταξὺ ἀποπνεύσωσιν ἀποβιαζόμεναι τῷ πνεύματι.

Πρῶτον μὲν οὖν ὕδρωψ ἐξέρχεται κινουμένου τοῦ ἐμβρύου καὶ ῥηγνυμένων τῶν ὑμένων, ἔπειτα τὸ ἔμβρυον, στρεφομένων μὲν τῶν ὑστερῶν, καὶ τοῦ ὑστέρου τὰ ἔσω ἐκτὸς ἴσχοντος.

Κεφάλαιο 10

Καὶ τῆς μαίας ἡ ὀμφαλοτομία μέρος ἐστὶν οὐκ ἀστόχου διανοίας· οὐ γὰρ μόνον περὶ τὰς δυστοκίας τῶν γυναικῶν τῇ εὐχερείᾳ δύνασθαι δεῖ βοηθεῖν, ἀλλὰ καὶ πρὸς τὰ συμβαίνοντα ἀγχίνουν εἶναι καὶ περὶ τὴν τοῦ ὀμφαλοῦ ἀπόδεσιν τοῖς παιδίοις. Ἐὰν μὲν γὰρ καὶ τὸ ὕστερον συνεκπέσῃ, ἐρίῳ ἀποδεῖται ἀπὸ τοῦ ὑστέρου ὁ ὀμφαλός, καὶ ἀποτέμνεται ἄνωθεν· ᾗ δ᾽ ἂν ἀποδεθῇ, συμφύεται, τὸ δὲ συνεχὲς ἀποπίπτει. Ἐὰν δὲ λυθῇ τὸ ἅμμα, ἀποθνήσκει τοῦ αἵματος ἐκρυέντος τὸ ἔμβρυον. Ἐὰν δὲ μὴ συνεξέλθῃ εὐθὺς τὸ ὕστερον, ἔξω ὄντος αὐτοῦ τοῦ παιδίου, ἔσω ἀποτέμνεται ἀποδεθέντος τοῦ ὀμφαλοῦ. Πολλάκις δ᾽ ἔδοξε τεθνεὸς τίκτεσθαι τὸ παιδίον, ὅταν ἀσθενικοῦ ὄντος, πρὶν ἀποδεθῆναι τὸν ὀμφαλόν, τὸ αἷμα ἔξω εἰς τὸν ὀμφαλὸν καὶ τὸ πέριξ τύχῃ ἐξερρυηκός· ἀλλὰ τεχνικαί τινες ἤδη τῶν μαιῶν γενόμεναι ἀπέθλιψαν εἴσω ἐκ τοῦ ὀμφαλοῦ, καὶ εὐθὺς τὸ παιδίον, ὥσπερ ἔξαιμον γενόμενον πρότερον, πάλιν ἀνεβίωσεν.

Γίνεται δέ, καθάπερ ἐλέχθη πρότερον, κατὰ φύσιν ἐπὶ κεφαλὴν καὶ τἆλλα ζῷα, τὰ δὲ παιδία καὶ τὰς χεῖρας παρατεταμένα παρὰ τὰς πλευράς. Ἐξελθόντα δ᾽ εὐθὺς φθέγγεται, καὶ προσάγει πρὸς τὸ στόμα τὰς χεῖρας. Ἀφίησι δὲ καὶ περιττώματα τὰ μὲν εὐθὺς τὰ δὲ διὰ ταχέων, πάντα δ᾽ ἐν ἡμέρᾳ· καὶ τοῦτο πλέον ἢ τοῦ παιδὸς κατὰ μέγεθος· ὃ καλοῦσιν αἱ γυναῖκες μηκώνιον. Χρῶμα δὲ τούτου αἱματῶδες καὶ σφόδρα μέλαν, καὶ πιττῶδες, μετὰ δὲ τοῦτο ἤδη γαλακτῶδες· σπᾷ γὰρ εὐθὺς καὶ τὸν μαστόν.

Πρὶν δ᾽ ἐξελθεῖν οὐ φθέγγεται τὸ παιδίον, κἂν δυστοκούσης τὴν κεφαλὴν μὲν ὑπερέχῃ, τὸ δ᾽ ὅλον σῶμα ἔχῃ ἐντός.

Ὅσαις δ᾽ ἂν ἐν ταῖς (587b.) ἀποκαθάρσεσι προεξορμήσωσιν οἱ καθαρμοί, δυσαπαλλακτότεραι γίνονται τῶν ἐμβρύων. Ἐὰν δ᾽ αἱ καθάρσεις μετὰ τὸν τόκον ἐλάττους γένωνται, καὶ ὅσων μόνον αἱ πρῶται, καὶ μὴ διατελέσωσιν εἰς τὰς τετταράκοντα, ἰσχύουσί τε μᾶλλον αἱ γυναῖκες καὶ συλλαμβάνουσι θᾶττον.

Τὰ δὲ παιδία ὅταν γένωνται, τῶν τετταράκοντα ἡμερῶν ἐγρηγορότα μὲν οὔτε γελᾷ οὔτε δακρύει, νύκτωρ δ᾽ ἐνίοτε ἄμφω· οὐδὲ κνιζόμενα τὰ πολλὰ αἰσθάνεται, τὸ δὲ πλεῖστον καθεύδει τοῦ χρόνου.

Αὐξανόμενον δ᾽ ἀεὶ εἰς τὸ ἐγρηγορέναι μεταβάλλει μᾶλλον· καὶ ἐνυπνιαζόμενον δῆλον μὲν γίνεται, μνημονεύει δ’ ὀψὲ τὰς φαντασίας.

Τοῖς μὲν οὖν ἄλλοις ζῴοις οὐδεμία διαφορὰ τῶν ὀστῶν, ἀλλὰ πάντα τετελεσμένα γίνεται· τοῖς δὲ παιδίοις τὸ βρέγμα λεπτόν, καὶ ὀψὲ πήγνυται. Καὶ τὰ μὲν ἔχοντα γίνεται ὀδόντας, τὰ δὲ παιδία ἑβδόμῳ μηνὶ ἄρχονται ὀδοντοφυεῖν· φύει δὲ πρῶτον τοὺς προσθίους, καὶ τὰ μὲν τοὺς ἄνωθεν πρότερον, τὰ δὲ τοὺς κάτωθεν. Πάντα δὲ θᾶττον φύουσιν, ὅσων αἱ τίτθαι θερμότερον ἔχουσι τὸ γάλα.

Κεφάλαιο 11

Μετὰ δὲ τοὺς τόκους καὶ τὰς καθάρσεις ταῖς γυναιξὶ τὸ γάλα πληθύνεται, καὶ ἐνίαις ῥεῖ οὐ μόνον κατὰ τὰς θηλὰς ἀλλὰ πολλαχῇ τοῦ μαστοῦ, ἐνίαις δὲ καὶ κατὰ τὰς μασχάλας· καὶ διαμένουσιν εἰς τὸν ὕστερον χρόνον στραγγαλίδες, ὅταν μὴ ἐκπεφθῇ μηδὲ ἐξέλθῃ ὑγρότης, ἀλλὰ πληρωθῇ· ἅπας γὰρ ὁ μαστὸς σομφός ἐστιν οὕτως, ὥστε κἂν ἐν τῷ πόματι λάβωσι τρίχα, πόνος ἐγγίνεται ἐν τοῖς μαστοῖς (ὃ καλοῦσι τριχιᾶν), ἕως ἂν ἢ αὐτομάτη ἐξέλθῃ θλιβομένη ἢ μετὰ τοῦ γάλακτος ἐκθηλασθῇ.

Τὸ δὲ γάλα ἔχουσιν ἕως ἂν πάλιν συλλάβωσιν· τότε δὲ παύεται καὶ σβέννυται ὁμοίως ἐπ’ ἀνθρώπων καὶ τῶν ἄλλων ζῳοτόκων καὶ τετραπόδων. Τοῦ γάλακτος δ’ ἐξιόντος οὐ γίνονται αἱ καθάρσεις ὡς ἐπὶ τὸ πολύ, ἐπεὶ ἤδη τισὶ θηλαζομέναις ἐγένετο κάθαρσις.

Ὅλως δ’ ἅμα πολλαχῇ οὐ συμβαίνει ἡ ὁρμὴ τῆς ὑγρότητος, οἷον ταῖς ἐχούσαις αἱμορροΐδας χείρους αἱ καθάρσεις ἐπιγίνονται. Ἐνίαις δὲ καὶ διὰ τῶν ἰξιῶν, ὅταν ἀπὸ τῆς ὀσφύος ἐκκριθῇ, πρὶν ἐλθεῖν εἰς τὰς ὑστέρας. Καὶ ὅσαις δ’ ἂν μὴ (588a.) γινομένων τῶν καθάρσεων αἷμα συμπέσῃ ἐμέσαι, οὐδὲν βλάπτονται.

Κεφάλαιο 12

Εἴωθε δὲ τὰ παιδία τὰ πλεῖστα σπασμὸς ἐπιλαμβάνειν, καὶ μᾶλλον τὰ εὐτραφέστερα καὶ γάλακτι χρώμενα πλείονι ἢ παχυτέρῳ καὶ τίτθαις εὐσάρκοις. Βλαβερὸν δὲ πρὸς τὸ πάθος καὶ ὁ οἶνος ὁ μέλας μᾶλλον τοῦ λευκοῦ, καὶ ὁ μὴ ὑδαρής, καὶ τὰ πλεῖστα τῶν φυσωδῶν, καὶ ἐὰν ἡ κοιλία στῇ. Τὰ πλεῖστα δ’ ἀναιρεῖται πρὸ τῆς ἑβδόμης· διὸ καὶ τὰ ὀνόματα τότε τίθενται, ὡς πιστεύοντες ἤδη μᾶλλον τῇ σωτηρίᾳ. Καὶ ἐν ταῖς πανσελήνοις δὲ μᾶλλον πονοῦσιν. Ἐπικίνδυνον δὲ καὶ ὅσοις τῶν παιδίων οἱ σπασμοὶ ἐκ τοῦ νώτου ἄρχονται.

Βιβλίο 8

Κεφάλαιο 1

Τὰ μὲν οὖν περὶ τὴν ἄλλην φύσιν τῶν ζῴων καὶ τὴν γένεσιν τοῦτον ἔχει τὸν τρόπον· αἱ δὲ πράξεις καὶ οἱ βίοι κατὰ τὰ ἤθη καὶ τὰς τροφὰς διαφέρουσιν. Ἔνεστι γὰρ ἐν τοῖς πλείστοις καὶ τῶν ἄλλων ζῴων ἴχνη τῶν περὶ τὴν ψυχὴν τρόπων, ἅπερ ἐπὶ τῶν ἀνθρώπων ἔχει φανερωτέρας τὰς διαφοράς· καὶ γὰρ ἡμερότης καὶ ἀγριότης, καὶ πραότης καὶ χαλεπότης, καὶ ἀνδρία καὶ δειλία, καὶ φόβοι καὶ θάρρη, καὶ θυμοὶ καὶ πανουργίαι καὶ τῆς περὶ τὴν διάνοιαν συνέσεως ἔνεισιν ἐν πολλοῖς αὐτῶν ὁμοιότητες, καθάπερ ἐπὶ τῶν μερῶν ἐλέγομεν. Τὰ μὲν γὰρ τῷ μᾶλλον καὶ ἧττον διαφέρει πρὸς τὸν ἄνθρωπον, καὶ ὁ ἄνθρωπος πρὸς πολλὰ τῶν ζῴων (ἔνια γὰρ τῶν τοιούτων ὑπάρχει μᾶλλον ἐν ἀνθρώπῳ, ἔνια δ’ ἐν τοῖς ἄλλοις ζῴοις μᾶλλον), τὰ δὲ τῷ ἀνάλογον διαφέρει· ὡς γὰρ ἐν ἀνθρώπῳ τέχνη καὶ σοφία καὶ σύνεσις, οὕτως ἐνίοις τῶν ζῴων ἐστί τις ἑτέρα τοιαύτη φυσικὴ δύναμις. Φανερώτατον δ’ ἐστὶ τὸ τοιοῦτον ἐπὶ τὴν τῶν παίδων ἡλικίαν βλέψασιν· ἐν τούτοις γὰρ τῶν μὲν ὕστερον ἕξεων ἐσομένων ἔστιν ἰδεῖν οἷον ἴχνη καὶ σπέρματα, διαφέρει δ’ (588b.) οὐδὲν ὡς εἰπεῖν ἡ ψυχὴ τῆς τῶν θηρίων ψυχῆς κατὰ τὸν χρόνον τοῦτον, ὥστ’ οὐδὲν ἄλογον εἰ τὰ μὲν ταὐτὰ τὰ δὲ παραπλήσια τὰ δ’ ἀνάλογον ὑπάρχει τοῖς ἄλλοις ζῴοις.

Οὕτω δ’ ἐκ τῶν ἀψύχων εἰς τὰ ζῷα μεταβαίνει κατὰ μικρὸν ἡ φύσις, ὥστε τῇ συνεχείᾳ λανθάνει τὸ μεθόριον αὐτῶν καὶ τὸ μέσον ποτέρων ἐστίν. Μετὰ γὰρ τὸ τῶν ἀψύχων γένος τὸ τῶν φυτῶν πρῶτόν ἐστιν· καὶ τούτων ἕτερον πρὸς ἕτερον διαφέρει τῷ μᾶλλον δοκεῖν μετέχειν ζωῆς, ὅλον δὲ τὸ γένος πρὸς μὲν τἆλλα σώματα φαίνεται σχεδὸν ὥσπερ ἔμψυχον, πρὸς δὲ τὸ τῶν ζῴων ἄψυχον.

Ἡ δὲ μετάβασις ἐξ αὐτῶν εἰς τὰ ζῷα συνεχής ἐστιν, ὥσπερ ἐλέχθη πρότερον. Ἔνια γὰρ τῶν ἐν τῇ θαλάττῃ διαπορήσειεν ἄν τις πότερον ζῷόν ἐστιν ἢ φυτόν· προσπέφυκε γάρ, καὶ χωριζόμενα πολλὰ διαφθείρεται τῶν τοιούτων, οἷον αἱ μὲν πίνναι προσπεφύκασιν, οἱ δὲ σωλῆνες ἀνασπασθέντες οὐ δύνανται ζῆν. Ὅλως δὲ πᾶν τὸ γένος τὸ τῶν ὀστρακοδέρμων φυτοῖς ἔοικε πρὸς τὰ πορευτικὰ τῶν ζῴων.

Καὶ περὶ αἰσθήσεως, τὰ μὲν αὐτῶν οὐδ’ ὃν σημαίνεται, τὰ δ’ ἀμυδρῶς.

Ἡ δὲ τοῦ σώματος ἐνίων σαρκώδης ἐστὶ φύσις, οἷον τά τε καλούμενα τήθυα καὶ τὸ τῶν ἀκαληφῶν γένος· ὁ δὲ σπόγγος παντελῶς ἔοικε τοῖς φυτοῖς.

Ἀεὶ δὲ κατὰ μικρὰν διαφορὰν ἕτερα πρὸ ἑτέρων ἤδη φαίνεται μᾶλλον ζωὴν ἔχοντα καὶ κίνησιν. Καὶ κατὰ τὰς τοῦ βίου δὲ πράξεις τὸν αὐτὸν ἔχει τρόπον. Τῶν τε γὰρ φυτῶν ἔργον οὐδὲν ἄλλο φαίνεται πλὴν οἷον αὐτὸ ποιῆσαι πάλιν ἕτερον, ὅσα γίνεται διὰ σπέρματος· ὁμοίως δὲ καὶ τῶν ζῴων ἐνίων παρὰ τὴν γένεσιν οὐδὲν ἔστιν ἄλλο λαβεῖν ἔργον. Διόπερ αἱ μὲν τοιαῦται πράξεις κοιναὶ πάντων εἰσί· προσούσης δ’ αἰσθήσεως ἤδη, περί τε τὴν ὀχείαν διὰ τὴν ἡδονὴν διαφέρουσιν αὐτῶν οἱ βίοι, καὶ περὶ τοὺς τόκους καὶ τὰς ἐκτροφὰς τῶν τέκνων. Τὰ μὲν οὖν ἁπλῶς, ὥσπερ φυτά, κατὰ τὰς ὥρας ἀποτελεῖ τὴν οἰκείαν γένεσιν· τὰ δὲ καὶ περὶ τὰς τροφὰς ἐκπονεῖται τῶν τέκνων, ὅταν δ’ ἀποτελέσῃ, χωρίζονται καὶ κοινωνίαν (589a.) οὐδεμίαν ἔτι ποιοῦνται· τὰ δὲ συνετώτερα καὶ κοινωνοῦντα μνήμης ἐπὶ πλέον καὶ πολιτικώτερον χρῶνται τοῖς ἀπογόνοις.

Ἓν μὲν οὖν μέρος τῆς ζωῆς αἱ περὶ τὴν τεκνοποιίαν εἰσὶ πράξεις αὐτοῖς, ἔτι δ’ ἕτερον αἱ περὶ τὴν τροφήν· περὶ γὰρ δύο τούτων αἵ τε σπουδαὶ τυγχάνουσιν οὖσαι πᾶσαι καὶ ὁ βίος. Αἱ δὲ τροφαὶ διαφέρουσι μάλιστα κατὰ τὴν ὕλην ἐξ οἵας συνεστήκασιν. Ἡ γὰρ αὔξησις ἑκάστοις γίνεται κατὰ φύσιν ἐκ ταύτης. Τὸ δὲ κατὰ φύσιν ἡδύ· διώκει δὲ πάντα τὴν κατὰ φύσιν ἡδονήν.

Κεφάλαιο 2

Διῄρηνται δὲ κατὰ τοὺς τόπους· τὰ μὲν γὰρ πεζὰ τὰ δ’ ἔνυδρα τῶν ζῴων ἐστίν. Διχῶς δὲ λεγομένης ταύτης τῆς διαφορᾶς, τὰ μὲν τῷ δέχεσθαι τὸν ἀέρα, τὰ δὲ τῷ τὸ ὕδωρ, λέγεται τὰ μὲν πεζὰ τὰ δ’ ἔνυδρα· τὰ δ’ οὐ δεχόμενα μέν, πεφυκότα μέντοι πρὸς τὴν κρᾶσιν τῆς ψύξεως τὴν ἀφ’ ἑκατέρου τούτων ἱκανῶς, τὰ μὲν πεζὰ τὰ δ’ ἔνυδρα καλεῖται, οὔτ’ ἀναπνέοντα οὔτε δεχόμενα τὸ ὕδωρ. Τὰ δὲ τῷ τὴν τροφὴν ποιεῖσθαι καὶ διαγωγὴν ἐν ἑκατέρῳ τούτων.

Πολλὰ γὰρ δεχόμενα τὸν ἀέρα, καὶ τοὺς τόκους ἐν τῇ γῇ ποιούμενα, τὴν τροφὴν ἐκ τῶν ἐνύδρων ποιεῖται τόπων καὶ διατρίβει τὸν πλεῖστον ἐν ὕδατι χρόνον· ἅπερ ἔοικεν ἐπαμφοτερίζειν μόνα τῶν ζῴων· καὶ γὰρ ὡς πεζὰ καὶ ὡς ἔνυδρά τις ἂν θείη.

Τῶν δὲ δεχομένων τὸ ὑγρὸν οὐδὲν οὔτε πεζὸν οὔτε πτηνόν, οὐδὲ τὴν τροφὴν ἐκ τῆς γῆς ποιεῖται, τῶν δὲ πεζῶν καὶ δεχομένων τὸν ἀέρα πολλά. Καὶ τὰ μὲν οὕτως ὥστε μηδὲ ζῆν δύνασθαι χωριζόμενα τῆς τοῦ ὕδατος φύσεως, οἷον αἵ τε καλούμεναι θαλάττιαι χελῶναι καὶ κροκόδειλοι καὶ ἵπποι ποτάμιοι καὶ φῶκαι καὶ τῶν ἐλαττόνων ζῴων οἷον αἵ τ’ ἐμύδες καὶ τὸ τῶν βατράχων γένος· ταῦτα γὰρ ἅπαντα μὴ διά τινος ἀναπνεύσαντα χρόνου ἀποπνίγεται. Καὶ τίκτει δὲ καὶ ἐκτρέφει ἐν τῷ ξηρῷ, τὰ δὲ πρὸς τῷ ξηρῷ, διάγει δ’ ἐν τῷ ὑγρῷ.

Περιττότατα δὲ πάντων ὁ δελφὶς ἔχει τῶν ζῴων, καὶ εἴ τι ἄλλο τοιοῦτόν ἐστι καὶ τῶν ἐνύδρων καὶ τῶν ἄλλων κητωδῶν, ὅσα (589b.) τοῦτον ἔχει τὸν τρόπον, οἷον φάλαινα καὶ ὅσ’ ἄλλ’ αὐτῶν ἔχει αὐλόν. Οὐ γὰρ ῥᾴδιον οὔτ’ ἔνυδρον θεῖναι μόνον τούτων ἕκαστον οὔτε πεζόν, εἰ πεζὰ μὲν τὰ δεχόμενα τὸν ἀέρα θετέον, τὰ δὲ τὸ ὕδωρ ἔνυδρα τὴν φύσιν. Ἀμφοτέρων γὰρ μετείληφεν· καὶ γὰρ τὴν θάλατταν δέχεται καὶ ἀφίησι κατὰ τὸν αὐλόν, καὶ τὸν ἀέρα τῷ πλεύμονι. Τοῦτο γὰρ ἔχουσι τὸ μόριον, καὶ ἀναπνέουσιν· διὸ καὶ λαμβανόμενος ὁ δελφὶς ἐν τοῖς δικτύοις ἀποπνίγεται ταχέως διὰ τὸ μὴ ἀναπνεῖν. Καὶ ἔξω δὲ ζῇ πολὺν χρόνον μύζων καὶ στένων, ὥσπερ καὶ τἆλλα τῶν ἀναπνεόντων ζῴων· ἔτι δὲ καθεύδων ὑπερέχει τὸ ῥύγχος, ὅπως ἀναπνέῃ.

Τὰ δ’ αὐτὰ τάττειν εἰς ἀμφοτέρας τὰς διαιρέσεις ἄτοπον, ὑπεναντίους οὔσας· ἀλλ’ ἔοικεν εἶναι τὸ ἔνυδρον ἔτι προσδιοριστέον. Τὰ μὲν γὰρ δέχεται τὸ ὕδωρ καὶ ἀφίησι διὰ τὴν αὐτὴν αἰτίαν δι’ ἥνπερ τὰ ἀναπνέοντα τὸν ἀέρα, καταψύξεως χάριν, τὰ δὲ διὰ τὴν τροφήν· ἀνάγκη γὰρ ἐν ὑγρῷ λαμβάνοντα ταύτην καὶ τὸ ὑγρὸν ἅμα δέχεσθαι, καὶ δεχόμενα ὄργανον ἔχειν ᾧ ἐκπέμψει. Τὰ μὲν οὖν ἀνάλογον τῇ ἀναπνοῇ χρώμενα τῷ ὑγρῷ βράγχια ἔχει, τὰ δὲ διὰ τὴν τροφὴν αὐλὸν τῶν ἐναίμων ζῴων. Ὁμοίως δὲ τά τε μαλάκια καὶ τὰ μαλακόστρακα· καὶ γὰρ ταῦτα δέχεται τὸ ὑγρὸν διὰ τὴν τροφήν.

Ἔνυδρα δ' ἐστὶ τὸν ἕτερον τρόπον, διὰ τὴν τοῦ σώματος κρᾶσιν καὶ τὸν βίον, ὅσα δέχεται μὲν τὸν ἀέρα ζῇ δ' ἐν τῷ ὑγρῷ, ἢ ὅσα δέχεται μὲν τὸ ὑγρὸν καὶ ἔχει βράγχια, πορεύεται δ' εἰς τὸ ξηρὸν καὶ λαμβάνει τροφήν. Ἓν δὲ μόνον νῦν ὦπται τοιοῦτον, ὁ καλούμενος κορδύλος· οὗτος γὰρ πλεύμονα μὲν οὐκ ἔχει ἀλλὰ βράγχια, τετράπουν δ' ἐστὶν ὡς καὶ πεζεύειν πεφυκός.

Τούτων δὲ πάντων ἔοικεν ἡ φύσις ὡσπερανεὶ διεστράφθαι, καθάπερ τῶν τ' ἀρρένων ἔνια γίνεται θηλυκὰ καὶ τῶν θηλέων ἀρρενωπά. Ἐν μικροῖς γὰρ μορίοις λαμβάνοντα τὰ ζῷα διαφορὰν μέγα διαφέρειν φαίνεται κατὰ τὴν τοῦ ὅλου σώματος φύσιν. Δηλοῖ δ' ἐπὶ τῶν (590a.) ἐκτεμνομένων· μικροῦ γὰρ μορίου πηρωθέντος εἰς τὸ θῆλυ μεταβάλλει τὸ ζῷον. Ὥστε δῆλον ὅτι καὶ ἐν τῇ ἐξ ἀρχῆς συστάσει ἀκαριαίου τινὸς μεταβάλλοντος τῷ μεγέθει, ἂν ᾖ ἀρχοειδές, γίνεται τὸ μὲν θῆλυ τὸ δ' ἄρρεν, ὅλως δ' ἀναιρεθέντος οὐδέτερον. Ὥστε καὶ τὸ πεζὸν καὶ τὸ ἔνυδρον εἶναι κατ' ἀμφοτέρους τοὺς τρόπους, ἐν μικροῖς μορίοις γινομένης τῆς μεταβολῆς. Διὸ συμβαίνει γίνεσθαι τὰ μὲν πεζὰ τὰ δ' ἔνυδρα τῶν ζῴων. Καὶ τὰ μὲν οὐκ ἐπαμφοτερίζει, τὰ δ' ἐπαμφοτερίζει, διὰ τὸ μετέχειν τι τῆς ὕλης ἐν τῇ συστάσει τῆς γενέσεως, ἐξ οἵας ποιεῖται τὴν τροφήν· προσφιλὲς γὰρ ἑκάστῳ τῶν ζῴων τὸ κατὰ φύσιν, ὥσπερ εἴρηται καὶ πρότερον.

Διῃρημένων δὲ τῶν ζῴων εἰς τὸ ἔνυδρον καὶ πεζὸν τριχῶς, τῷ τε δέχεσθαι τὸν ἀέρα ἢ τὸ ὕδωρ, καὶ τῇ κράσει τῶν σωμάτων, τὸ δὲ τρίτον ταῖς τροφαῖς, ἀκολουθοῦσιν οἱ βίοι κατὰ ταύτας τὰς διαιρέσεις· τὰ μὲν γὰρ κατὰ τὴν κρᾶσιν καὶ τὴν τροφὴν ἀκολουθοῦσι, καὶ κατὰ τὸ δέχεσθαι τὸ ὕδωρ ἢ τὸν ἀέρα, τὰ δὲ τῇ κράσει καὶ τοῖς βίοις μόνον.

Τῶν μὲν οὖν ὀστρακοδέρμων ζῴων ἔνια μὲν ἀκινητίζοντα τρέφεται τῷ ποτίμῳ (διηθεῖται γὰρ διὰ τῶν πυκνῶν διὰ τὸ λεπτότερον εἶναι τῆς θαλάττης συμπεττομένης), ὥσπερ καὶ τὴν ἐξ ὑπαρχῆς λαμβάνει γένεσιν. Ὅτι δ' ἐν τῇ θαλάττῃ πότιμον ἔνεστι καὶ τοῦτο διηθεῖσθαι δύναται, φανερόν ἐστιν. Ἤδη γὰρ εἰληφέναι τούτου συμβέβηκε πεῖραν· ἐὰν γάρ τις κήρινον πλάσας λεπτὸν ἀγγεῖον καὶ περιδήσας καθῇ εἰς τὴν θάλατταν κενόν, ἐν νυκτὶ καὶ ἡμέρᾳ λαμβάνει ὕδατος πλῆθος, καὶ τοῦτο φαίνεται πότιμον.

Αἱ δ' ἀκαλῆφαι τρέφονται ὅ τι ἂν προσπέσῃ ἰχθύδιον. Ἔχει δὲ τὸ στόμα ἐν μέσῳ· δῆλον δὲ τοῦτο μάλιστ’ ἐστὶν ἐπὶ τῶν μεγάλων. Ἔχει δὲ καὶ ὥσπερ τὰ ὄστρεια, ᾗ ὑποχωρεῖ ἔξω ἡ τροφή, πόρον. Ἔστι δ’ οὗτος ἄνω· ἔοικε γὰρ ἡ ἀκαλήφη ὥσπερ τὸ ἔσω εἶναι τῶν ὀστρέων τὸ σαρκῶδες, τῇ δὲ πέτρᾳ χρῆσθαι ὡς ὀστρέῳ.

Καὶ αἱ λεπάδες δ’ ἀπολυόμεναι μεταχωροῦσι καὶ τρέφονται. Ὅσα δὲ κινητικά, τὰ (590b.) μὲν ζῳοφαγοῦντα τρέφεται τοῖς μικροῖς ἰχθυδίοις, οἷον ἡ πορφύρα (σαρκοφάγον γάρ ἐστι, διὸ καὶ δελεάζεται τοῖς τοιούτοις), τὰ δὲ καὶ τοῖς ἐν τῇ θαλάττῃ φυομένοις.

Αἱ δὲ χελῶναι αἱ θαλάττιαι τά τε κογχύλια νέμονται (ἔχουσι γὰρ τὸ στόμα ἰσχυρότατον πάντων· ὅτου γὰρ ἂν ἐπιλάβηται, ἢ λίθου ἢ ἄλλου ὁτουοῦν, ἀπεσθίει καὶ κατάγνυσιν), καὶ ἐξιοῦσα τὴν πόαν νέμεται. Πονοῦσι δὲ καὶ ἀπόλλυνται πολλάκις, ὅταν ἐπιπολάζουσαι ξηρανθῶσιν ὑπὸ τοῦ ἡλίου· καταφέρεσθαι γὰρ πάλιν οὐ δύνανται ῥᾳδίως.

Τὸν αὐτὸν δὲ τρόπον καὶ τὰ μαλακόστρακα· καὶ γὰρ ταῦτα παμφάγα· καὶ γὰρ λίθους καὶ ἰλὺν καὶ φυκία νέμονται καὶ κόπρον, οἷον οἱ πετραῖοι τῶν καρκίνων, καὶ σαρκοφαγοῦσιν. Οἱ δὲ κάραβοι κρατοῦσι μὲν καὶ τῶν μεγάλων ἰχθύων, καί τις συμβαίνει περιπέτεια τούτων ἐνίοις· τοὺς μὲν γὰρ καράβους οἱ πολύποδες κρατοῦσιν, ὥστε κἂν ὄντας πλησίον ἐν ταὐτῷ δικτύῳ αἴσθωνται, ἀποθνήσκουσιν οἱ κάραβοι διὰ τὸν φόβον. Οἱ δὲ κάραβοι τοὺς γόγγρους· διὰ γὰρ τὴν τραχύτητα οὐκ ἐξολισθαίνουσιν αὐτῶν. Οἱ δὲ γόγγροι τοὺς πολύποδας κατεσθίουσιν· οὐδὲν γὰρ αὐτοῖς διὰ τὴν λειότητα δύνανται χρῆσθαι. Τὰ δὲ μαλάκια πάντα σαρκοφάγα ἐστίν. Νέμονται δ’ οἱ κάραβοι τὰ ἰχθύδια θηρεύοντες παρὰ τὰς θαλάμας· καὶ γὰρ ἐν τοῖς πελάγεσιν ἐν τοῖς τοιούτοις γίνονται τόποις οἳ ἂν ὦσι τραχεῖς καὶ λιθώδεις· ἐν τούτοις γὰρ ποιοῦνται καὶ τὰς θαλάμας· ὅ τι δ’ ἂν λάβῃ, προσάγεται πρὸς τὸ στόμα τῇ δικρόᾳ χηλῇ καθάπερ οἱ καρκίνοι. Βαδίζει δὲ κατὰ φύσιν μὲν εἰς τοὔμπροσθεν, ὅταν ἄφοβος ᾖ, καταβαλὼν τὰ κέρατα πλάγια· ὅταν δὲ φοβηθῇ, φεύγει ἀνάπαλιν καὶ μακρὰν ἐξακοντίζει. Μάχονται δὲ πρὸς ἀλλήλους ὥσπερ οἱ κριοὶ τοῖς κέρασιν, ἐξαίροντες καὶ τύπτοντες· ὁρῶνται δὲ μετ’ ἀλλήλων καὶ ἀθρόοι πολλάκις ὥσπερ ἀγέλη.

Τὰ μὲν οὖν μαλακόστρακα τοῦτον ζῇ τὸν τρόπον, τῶν δὲ μαλακίων αἱ τευθίδες καὶ αἱ σηπίαι κρατοῦσι καὶ τῶν (591a.) μεγάλων ἰχθύων. Οἱ δὲ πολύποδες μάλιστα κογχύλια συλλέγοντες, ἐξαιροῦντες τὰ σαρκία τρέφονται τούτοις· διὸ καὶ τοῖς ὀστράκοις οἱ θηρεύοντες γνωρίζουσι τὰς θαλάμας αὐτῶν.

Ὃ δὲ λέγουσί τινες, ὡς αὐτὸς αὑτὸν ἐσθίει, ψευδές ἐστιν· ἀλλ’ ἀπεδηδεσμένας ἔχουσιν ἔνιοι τὰς πλεκτάνας ὑπὸ τῶν γόγγρων.

Οἱ δ’ ἰχθύες τοῖς μὲν κυήμασι τρέφονται πάντες, ὅταν οἱ χρόνοι καθήκωσιν οὗτοι, τὴν δ’ ἄλλην τροφὴν οὐ τὴν αὐτὴν ποιοῦνται πάντες. Οἱ μὲν γὰρ αὐτῶν εἰσι σαρκοφάγοι μόνον, οἷον τά τε σελάχη καὶ οἱ γόγγροι καὶ αἱ χάνναι καὶ οἱ θύννοι καὶ λάβρακες καὶ σινόδοντες καὶ ἀμίαι καὶ ὀρφοὶ καὶ μύραιναι· αἱ δὲ τρίγλαι καὶ φυκίοις τρέφονται καὶ ὀστρέοις καὶ βορβόρῳ καὶ σαρκοφαγοῦσιν· κέφαλοι δὲ τῷ βορβόρῳ, ὁ δὲ δάσκιλλος τῷ βορβόρῳ καὶ κόπρῳ, σκάρος δὲ καὶ μελάνουρος φυκίοις, ἡ δὲ σάλπη τῇ κόπρῳ καὶ φυκίοις· βόσκεται δὲ καὶ τὸ πράσον, θηρεύεται δὲ καὶ κολοκύνθῃ μόνη τῶν ἰχθύων.

Ἀλληλοφαγοῦσι δὲ πάντες μὲν πλὴν κεστρέως, μάλιστα δ’ οἱ γόγγροι. Ὁ δὲ κέφαλος καὶ ὁ κεστρεὺς ὅλως μόνοι οὐ σαρκοφαγοῦσιν· σημεῖον δέ, οὔτε γὰρ ἐν τῇ κοιλίᾳ πώποτ’ ἔχοντες εἰλημμένοι εἰσὶ τοιοῦτον οὐδέν, οὔτε δελέατι χρῶνται πρὸς αὐτοὺς ζῴων σαρξὶν ἀλλὰ μάζῃ. Τρέφεται δὲ πᾶς κεστρεὺς φυκίοις καὶ ἄμμῳ. Ἔστι δ’ ὁ μὲν κέφαλος, ὃν καλοῦσί τινες χελῶνα, πρόσγειος, ὁ δὲ περαίας οὔ· βόσκεται δ’ ὁ περαίας τὴν ἀφ’ αὑτοῦ μύξαν, διὸ καὶ νῆστίς ἐστιν ἀεί. Οἱ δὲ κέφαλοι νέμονται τὴν ἰλύν, διὸ καὶ βαρεῖς καὶ βλεννώδεις εἰσίν, ἰχθὺν δ’ ὅλως οὐκ ἐσθίουσιν· διὰ δὲ τὸ ἐν τῇ ἰλύϊ διατρίβειν ἐξανακολυμβῶσι πολλάκις, ἵνα περιπλύνωνται τὸ βλέννος. Τὸν δὲ γόνον αὐτῶν οὐδὲν ἐσθίει τῶν θηρίων, διὸ γίνονται πολλοί· ἀλλ’ ὅταν αὐξηθῶσι, τότε κατεσθίονται ὑπό τε τῶν ἄλλων ἰχθύων καὶ μάλιστα (591b.) ὑπὸ τοῦ ἀχάρνου. Λαίμαργος δὲ μάλιστα τῶν ἰχθύων ὁ κεστρεύς ἐστι καὶ ἄπληστος, διὸ ἡ κοιλία περιτείνεται, καὶ ὅταν ᾖ μὴ νῆστις, φαῦλος· ὅταν δὲ φοβηθῇ, κρύπτει τὴν κεφαλὴν ὡς ὅλον τὸ σῶμα κρύπτων. Σαρκοφαγεῖ δὲ καὶ ὁ σινόδων, καὶ τὰ μαλάκια κατεσθίει. Πολλάκις δὲ καὶ οὗτος καὶ ἡ χάννα ἐκβάλλουσι τὰς κοιλίας διώκοντες τοὺς ἐλάττους ἰχθῦς, διὰ τὸ πρὸς τῷ στόματι τὰς κοιλίας τῶν ἰχθύων εἶναι καὶ στόμαχον μὴ ἔχειν.

Τὰ μὲν οὖν, ὥσπερ εἴρηται, σαρκοφάγα μόνον ἐστίν, οἷον δελφὶς καὶ σινόδων καὶ χρύσοφρυς καὶ οἱ σελαχώδεις τῶν ἰχθύων καὶ τὰ μαλάκια· τὰ δ’ ὡς ἐπὶ τὸ πολὺ νέμονται μὲν τὸν πηλὸν καὶ τὸ φῦκος καὶ τὸ βρύον καὶ τὸ καλούμενον καυλίον καὶ τὴν φυομένην ὕλην, οἷον φυκὶς καὶ κωβιὸς καὶ οἱ πετραῖοι· ἡ δὲ φυκὶς ἄλλης μὲν σαρκὸς οὐχ ἅπτεται, τῶν δὲ καρίδων. Πολλάκις δὲ καὶ ἀλλήλων ἅπτονται, καθάπερ εἴρηται, καὶ τῶν ἐλαττόνων οἱ μείζους. Σημεῖον δ’ ὅτι σαρκοφαγοῦσιν· ἁλίσκονται γὰρ τοιούτοις δελέασιν. Καὶ ἀμία δὲ καὶ θύννος καὶ λάβραξ τὰ μὲν πολλὰ σαρκοφαγοῦσιν, ἅπτονται δὲ καὶ φυκίων. Ὁ δὲ σάργος ἐπινέμεται τῇ τρίγλῃ, καὶ ὅταν ἡ τρίγλη κινήσασα τὸν πηλὸν ἀπέλθῃ (δύναται γὰρ ὀρύττειν), ἐπικαταβὰς νέμεται καὶ τοὺς ἀσθενεστέρους ἑαυτοῦ κωλύει συνεπινεῖν. Δοκεῖ δὲ τῶν ἰχθύων ὁ καλούμενος σκάρος μηρυκάζειν ὥσπερ τὰ τετράποδα μόνος.

Τοῖς μὲν οὖν ἄλλοις ἰχθύσιν ἡ θήρα τῶν ἡττόνων καταντικρὺ γίνεται τοῖς στόμασιν, ὅνπερ πεφύκασι τρόπον νεῖν· οἱ δὲ σελαχώδεις καὶ οἱ δελφῖνες καὶ πάντες οἱ κητώδεις ὕπτιοι ἀναπίπτοντες λαμβάνουσιν· κάτω γὰρ τὸ στόμα ἔχουσιν. Διὸ σώζονται μᾶλλον οἱ ἐλάττους· εἰ δὲ μή, πάμπαν ἂν ὀλίγοι δοκοῦσιν εἶναι· καὶ γὰρ ἡ τοῦ δελφῖνος ὀξύτης καὶ δύναμις τοῦ φαγεῖν δοκεῖ εἶναι θαυμαστή.

Τῶν δ' ἐγχελύων τρέφονται ὀλίγαι μέν τινες καὶ (592a.) ἐνιαχοῦ καὶ τῇ ἰλύϊ καὶ σιτίοις, ἐάν τις παραβάλῃ, αἱ μέντοι πλεῖσται τῷ ποτίμῳ ὕδατι· καὶ τοῦτο τηροῦσιν οἱ ἐγχελυοτρόφοι ὅπως ὅτι μάλιστα καθαρὸν ᾖ, ἀπορρέον ἀεὶ καὶ ἐπιρρέον ἐπὶ πλαταμώνων· ἢ κονιῶνται τοὺς ἐγχελεῶνας. Ἀποπνίγονται γὰρ ταχύ, ἐὰν μὴ καθαρὸν ᾖ τὸ ὕδωρ· ἔχουσι γὰρ τὰ βράγχια μικρά. Διόπερ ὅταν θηρεύωσι, ταράττουσι τὸ ὕδωρ· καὶ ἐν τῷ Στρυμόνι δὲ περὶ Πλειάδας ἁλίσκονται· τότε γὰρ ἀναθολοῦται τὸ ὕδωρ καὶ ὁ πηλὸς ὑπὸ πνευμάτων γινομένων ἐναντίων· εἰ δὲ μή, συμφέρει ἡσυχίαν ἔχειν.

Ἀποθανοῦσαι δ' αἱ ἐγχέλυς οὐκ ἐπιπολάζουσιν οὐδὲ φέρονται ἄνω, ὥσπερ οἱ πλεῖστοι τῶν ἰχθύων· ἔχουσι γὰρ τὴν κοιλίαν μικράν. Δημὸν δ' ὀλίγαι μὲν ἔχουσιν, αἱ δὲ πλεῖσται οὐκ ἔχουσιν. Ζῶσι δ' ἐκ τοῦ ὑγροῦ ἀφαιρούμεναι ἡμέρας καὶ πέντε καὶ ἕξ, καὶ βορείων μὲν ὄντων πλείους, νοτίων δ' ἐλάττους. Καὶ μεταβαλλόμεναι τοῦ θέρους εἰς τοὺς ἐγχελεῶνας ἐκ τῶν λιμνῶν ἀποθνήσκουσι, χειμῶνος δ' οὔ.

Καὶ τὰς μεταβολὰς δ' οὐχ ὑπομένουσι τὰς ἰσχυράς, οἷον καὶ τοῖς φέρουσιν ἐὰν βάπτωσιν εἰς ψυχρόν· ἀπόλλυνται γὰρ ἀθρόαι πολλάκις. Ἀποπνίγονται δὲ καὶ ἐὰν ἐν ὀλίγῳ ὕδατι τρέφωνται. Τὸ δ' αὐτὸ τοῦτο καὶ ἐπὶ τῶν ἄλλων συμβαίνει ἰχθύων· ἀποπνίγονται γὰρ ἐν τῷ αὐτῷ ὕδατι καὶ ὀλίγῳ ἀεὶ ὄντες, ὥσπερ καὶ τὰ ἀναπνέοντα, ἐὰν περιπωμασθῇ ὀλίγος ἀήρ. Ζῶσι δ' ἔνιαι ἐγχέλυς καὶ ἑπτὰ καὶ ὀκτὼ ἔτη.

Τροφῇ δὲ καὶ οἱ ποτάμιοι χρῶνται ἀλλήλους τ' ἐσθίοντες καὶ βοτάνας καὶ ῥίζας, κἄν τι ἐν τῷ βορβόρῳ λάβωσιν. Νέμονται δὲ μᾶλλον τῆς νυκτός, τὴν δ' ἡμέραν εἰς τὰ βαθέα ὑποχωροῦσιν. Τὰ μὲν οὖν περὶ τὴν τῶν ἰχθύων τροφὴν τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 3

Τῶν δ’ ὀρνίθων ὅσοι μὲν γαμψώνυχες, σαρκοφάγοι πάντες εἰσί, σῖτον δ’ οὐδ’ ἐάν τις ψωμίζῃ δύνανται (592b.) καταπίνειν, οἷον τά τε τῶν ἀετῶν γένη πάντα καὶ ἰκτῖνοι καὶ ἱέρακες ἄμφω, ὅ τε φαβοτύπος καὶ ὁ σπιζίας (διαφέρουσι δ’ οὗτοι τὸ μέγεθος πολὺ ἀλλήλων), καὶ ὁ τριόρχης· ἔστι δ’ ὁ τριόρχης τὸ μέγεθος ὅσον ἰκτῖνος, καὶ φαίνεται οὗτος διὰ παντός. Ἔτι φήνη καὶ γύψ· ἔστι δ’ ἡ μὲν φήνη τὸ μέγεθος ἀετοῦ μείζων, τὸ δὲ χρῶμα σποδοειδές, τῶν δὲ γυπῶν δύο ἐστὶν εἴδη, ὁ μὲν μικρὸς καὶ ἐκλευκότερος, ὁ δὲ μείζων καὶ σποδοειδέστερος.

Ἔτι τῶν νυκτερινῶν ἔνιοι γαμψώνυχές εἰσιν, οἷον νυκτικόραξ, γλαύξ, βύας. Ἔστι δ’ ὁ βύας τὴν μὲν ἰδέαν ὅμοιος γλαυκί, τὸ δὲ μέγεθος ἀετοῦ οὐδὲν ἐλάττων. Ἔτι δ’ ἐλεὸς καὶ αἰγώλιος καὶ σκώψ. Τούτων δ’ ὁ μὲν ἐλεὸς μείζων ἀλεκτρυόνος, ὁ δ’ αἰγώλιος παραπλήσιος, ἀμφότεροι δὲ θηρεύουσι τὰς κίττας· ὁ δὲ σκὼψ ἐλάττων γλαυκός· πάντα δὲ ταῦτα τρία ὄντα ὅμοια τὰς ὄψεις καὶ σαρκοφάγα πάντα.

Εἰσὶ δὲ καὶ τῶν μὴ γαμψωνύχων ἔνιοι σαρκοφάγοι, οἷον ἡ χελιδών. Τὰ δὲ σκωληκοφάγα, οἷον σπίζα, στρουθός, βατίς, χλωρίς, αἰγιθαλός. Ἔστι δὲ τῶν αἰγιθαλῶν εἴδη τρία, ὁ μὲν σπιζίτης μέγιστος (ἔστι γὰρ ὅσον σπίζα), ἕτερος δ’ ὀρεινὸς διὰ τὸ διατρίβειν ἐν τοῖς ὄρεσιν, οὐραῖον μακρὸν ἔχων· ὁ δὲ τρίτος ὅμοιος μὲν τούτοις, διαφέρει δὲ κατὰ τὸ μέγεθος· ἔστι γὰρ ἐλάχιστος. Ἔτι δὲ συκαλίς, μελαγκόρυφος, πυρρούλας, ἐρίθακος, ἐπιλαΐς, οἶστρος, τύραννος· οὗτος τὸ μέγεθος μικρῷ μείζων ἀκρίδος, ἔστι δὲ φοινικοῦν λόφον ἔχων, καὶ ἄλλως εὔχαρι τὸ ὀρνίθιον καὶ εὔρυθμον. Ἄνθος· οὗτος τὸ μέγεθος ὅσον σπίζα. Ὀρόσπιζος· οὗτος σπίζῃ ὅμοιος καὶ τὸ μέγεθος παραπλήσιος, πλὴν ἔχει <τὸ> περὶ τὸν αὐχένα κυανοῦν, καὶ διατρίβει ἐν τοῖς ὄρεσιν. Ἔτι βασιλεύς, σπερμολόγος. Ταῦτα μὲν οὖν καὶ τὰ τοιαῦτα τὰ μὲν ὅλως, τὰ δ’ ὡς ἐπὶ τὸ πολὺ σκωληκοφάγα, τὰ δὲ τοιάδε ἀκανθοφάγα, ἀκανθίς, θραυπίς, ἔτι ἡ καλουμένη (593a.) χρυσομῆτρις. Ταῦτα γὰρ πάντα ἐπὶ τῶν ἀκανθῶν νέμεται, σκωλήκα δ’ οὐδὲν οὐδ’ ἔμψυχον οὐδέν· ἐν ταὐτῷ δὲ καθεύδει καὶ νέμεται ταῦτα.

Ἄλλα δ’ ἐστὶ σκνιποφάγα, ἃ τοὺς σκνῖπας θηρεύοντα ζῇ μάλιστα, οἷον πιπὼ ἥ τε μείζων καὶ ἡ ἐλάττων· καλοῦσι δέ τινες ἀμφότερα ταῦτα

δρυοκολάπτας· ὅμοια δ’ ἀλλήλοις, καὶ φωνὴν ἔχουσιν ὁμοίαν, πλὴν μείζω τὸ μεῖζον· νέμεται δ’ ἀμφότερα ταῦτα πρὸς τὰ ξύλα προσπετόμενα. Ἔτι κελεός· ἔστι δ’ ὁ κελεὸς τὸ μέγεθος ὅσον τρυγών, τὸ δὲ χρῶμα χλωρὸς ὅλος· ἔστι δὲ ξυλοκόπος σφόδρα, καὶ νέμεται ἐπὶ τῶν ξύλων τὰ πολλά, φωνήν τε μεγάλην ἔχει· γίνεται δὲ μάλιστα τὸ ὄρνεον τοῦτο περὶ Πελοπόννησον. Ἄλλος ὃς καλεῖται κνιπολόγος, τὸ δὲ μέγεθος μικρὸς ὅσον ἀκανθυλλίς, τὴν δὲ χρόαν σποδοειδὴς καὶ κατάστικτος· φωνεῖ δὲ μικρόν· ἔστι δὲ καὶ τοῦτο ξυλοκόπον.

Ἄλλα δ’ ἔστιν ἃ ζῇ καρποφαγοῦντα καὶ ποοφαγοῦντα, οἷον φάψ, φάττα, περιστερά, οἰνάς, τρυγών. Φάττα μὲν οὖν καὶ περιστερὰ ἀεὶ φαίνονται, τρυγὼν δὲ τοῦ θέρους· τοῦ γὰρ χειμῶνος ἀφανίζεται· φωλεῖ γάρ. Οἰνὰς δὲ τοῦ φθινοπώρου καὶ φαίνεται μάλιστα καὶ ἁλίσκεται· ἔστι δὲ τὸ μέγεθος ἡ οἰνὰς μείζων μὲν περιστερᾶς, ἐλάττων δὲ φαβός· ἡ δ’ ἅλωσις αὐτῆς γίνεται μάλιστα καπτούσης τὸ ὕδωρ. Ἀφικνοῦνται δ’ εἰς τοὺς τόπους τούτους ἔχουσαι νεοττούς· τὰ δ’ ἄλλα πάντα τοῦ θέρους ἀφικνούμενα νεοττεύει ἐνταῦθα, καὶ ἐκτρέφει τὰ πλεῖστα ζῴοις, πλὴν τῶν περιστεροειδῶν. Πάντων δ’ ὡς εἰπεῖν τῶν ὀρνίθων οἱ μὲν πεζεύουσι περὶ τὴν τροφήν, οἱ δὲ περὶ ποταμοὺς καὶ λίμνας βιοτεύουσιν, οἱ δὲ περὶ τὴν θάλατταν, ὅσοι μὲν στεγανόποδες, ἐν αὐτῷ τῷ ὕδατι ποιούμενοι τὴν πλείστην διατριβήν, ὅσοι δὲ σχιζόποδες, περὶ αὐτὸ τὸ ὕδωρ· καὶ τούτων ἔνιοι διὰ τῶν φυομένων τρέφονται, ὅσοι μὴ σαρκοφάγοι. (593b.) Οἷον περὶ μὲν τὰς λίμνας καὶ τοὺς ποταμοὺς ἐρωδιὸς καὶ ὁ λευκερωδιός· ἔστι δ’ οὗτος τὸ μέγεθος ἐκείνου ἐλάττων, καὶ ἔχει τὸ ῥύγχος πλατὺ καὶ μακρόν. Ἔτι πελαργὸς καὶ λάρος· ὁ δὲ λάρος τὸ χρῶμα σποδοειδής. Καὶ σχοινίλος καὶ κίγκλος καὶ πύγαργος· οὗτος μέγιστος τῶν ἐλαττόνων τούτων· ἔστι γὰρ ὅσον κίχλη. Πάντες δ’ οὗτοι τὸ οὐραῖον κινοῦσιν.

Ἔτι σκαλίδρις· ἔστι δὲ τοῦτο τὸ ὄρνεον ποικιλίαν ἔχον, τὸ δ’ ὅλον σποδοειδές. Καὶ τὸ τῶν ἁλκυόνων δὲ γένος πάρυδρόν ἐστιν. Τυγχάνει δ’ αὐτῶν ὄντα δύο εἴδη, καὶ ἡ μὲν φθέγγεται, καθιζάνουσα ἐπὶ τῶν δονάκων, ἡ δ’ ἄφωνος· ἔστι δ’ αὕτη μείζων· τὸν δὲ νῶτον ἀμφότεραι κυανοῦν ἔχουσιν. Καὶ τροχίλος.

Περὶ δὲ τὴν θάλατταν καὶ ἁλκυὼν καὶ κήρυλος. Καὶ αἱ κορῶναι δὲ νέμονται ἁπτόμεναι τῶν ἐκπιπτόντων ζῴων· παμφάγον γάρ ἐστιν. Ἔτι δὲ λάρος ὁ λευκὸς καὶ κέπφος, αἴθυια, χαραδριός.

Τῶν δὲ στεγανοπόδων τὰ μὲν βαρύτερα περὶ ποταμοὺς καὶ λίμνας ἐστίν, οἷον κύκνος, νῆττα, φαλαρίς, κολυμβίς, ἔτι βόσκας, ὅμοιος μὲν νήττῃ, τὸ δὲ μέγεθος ἐλάττων, καὶ ὁ καλούμενος κόραξ· οὗτος δ’ ἐστὶ τὸ μὲν μέγεθος οἷον πελαργός, πλὴν τὰ σκέλη ἔχει ἐλάττω, στεγανόπους δὲ καὶ νευστικός, τὸ δὲ χρῶμα μέλας· καθίζει δὲ οὗτος ἐπὶ τῶν δένδρων καὶ νεοττεύει ἐνταῦθα μόνος τῶν τοιούτων. Ἔτι χήν, καὶ ὁ μικρὸς χὴν ὁ ἀγελαῖος, καὶ χηναλώπηξ καὶ αἴξ καὶ πηνέλοψ. Ὁ δ' ἁλιαίετος καὶ περὶ τὴν θάλατταν διατρίβει καὶ τὰ λιμναῖα κόπτει.

Πολλοὶ δὲ καὶ παμφάγοι τῶν ὀρνίθων εἰσίν. Οἱ δὲ γαμψώνυχοι καὶ τῶν ἄλλων ἅπτονται ζῴων, ὅσων ἂν κρατῶσι, καὶ τῶν ὀρνέων· πλὴν οὐκ ἀλληλοφάγοι τοῦ γένους τοῦ οἰκείου εἰσίν, ὥσπερ οἱ ἰχθύες ἅπτονται πολλάκις καὶ αὑτῶν. Ἔστι δὲ τὸ τῶν ὄρνεων γένος πᾶν μὲν ὀλιγόποτον, οἱ δὲ γαμψώνυχοι καὶ (594a.) ἄποτοι πάμπαν, εἰ μή τι ὀλίγον γένος καὶ ὀλιγάκις. Μάλιστα δὲ τοιοῦτον ἡ κεγχρίς. Καὶ ἰκτῖνος ὀλιγάκις μέν, ὦπται δὲ πίνων.

Κεφάλαιο 4

Τὰ δὲ φολιδωτὰ τῶν ζῴων, οἷον σαῦρός τε καὶ τὰ τετράποδα τἆλλα καὶ οἱ ὄφεις, παμφάγα ἐστίν· καὶ γὰρ σαρκοφάγα, καὶ πόαν ἐσθίουσιν. Οἱ δ’ ὄφεις καὶ λιχνότατοι τῶν ζῴων εἰσίν. Ἔστι μὲν οὖν ὀλιγόποτα καὶ ταῦτα καὶ τἆλλα ὅσα ἔχει τὸν πλεύμονα σομφόν· ἔχουσι δὲ σομφὸν τὰ ὀλίγαιμα πάντα καὶ τὰ ᾠοτόκα. Οἱ δ’ ὄφεις καὶ πρὸς τὸν οἶνόν εἰσιν ἀκρατεῖς, διὸ θηρεύουσί τινες καὶ τοὺς ἔχεις εἰς ὀστράκια διατιθέντες οἶνον εἰς τὰς αἱμασιάς· λαμβάνονται γὰρ μεθύοντες.

Σαρκοφάγοι δ’ ὄντες οἱ ὄφεις, ὅ τι ἂν λάβωσι ζῷον, ἐξικμάζοντες ὅλα κατὰ τὴν ὑποχώρησιν προΐενται. Σχεδὸν δὲ καὶ τἆλλα τὰ τοιαῦτα, οἷον οἱ ἀράχναι· ἀλλ’ ἔξω οἱ ἀράχναι ἐκχυμίζουσιν, οἱ δ’ ὄφεις ἐν τῇ κοιλίᾳ.

Λαμβάνει μὲν οὖν ὁ ὄφις ὅθεν ἂν τύχῃ τὸ διδόμενον (ἐσθίει γὰρ καὶ ὀρνίθια καὶ θηρία, καὶ ᾠὰ καταπίνει), λαβὼν δ’ ἐπανάγει, ἕως ἂν ἐπὶ τὸ ἄκρον ἐλθὼν εἰς εὐθὺ καταστήσῃ, κἄπειθ’ οὕτω συνάγει αὑτὸν καὶ συστέλλει εἰς μικρὸν ὥστ’ ἐκταθέντος κάτω γίνεσθαι τὸ καταποθέν. Ταῦτα δὲ ποιεῖ διὰ τὸ τὸν στόμαχον εἶναι λεπτὸν καὶ μακρόν. Δύναται δ’ ἄσιτα καὶ τὰ φαλάγγια καὶ οἱ ὄφεις πολὺν χρόνον ζῆν· ἔστι δὲ τοῦτο θεωρῆσαι ἐκ τῶν παρὰ τοῖς φαρμακοπώλαις τρεφομένων.

Κεφάλαιο 5

Τῶν δὲ τετραπόδων καὶ ζῳοτόκων τὰ μὲν ἄγρια καὶ καρχαρόδοντα πάντα σαρκοφάγα· πλὴν τοὺς λύκους φασίν, ὅταν πεινῶσιν, ἐσθίειν τινὰ γῆν, μόνον δὴ τοῦτο τῶν ζῴων· πόας δ’ ἄλλοτε μὲν οὐχ ἅπτονται, ὅταν δὲ κάμνωσι, καθάπερ καὶ αἱ κύνες ἐσθίουσαι ἀνεμοῦσι καὶ καθαίρονται.

Ἀνθρωποφαγοῦσι δ’ οἱ μονοπεῖραι τῶν λύκων μᾶλλον [αὐτῶν] ἢ τὰ κυνηγέσια. Ὃν δὲ καλοῦσιν οἱ μὲν γλάνον οἱ δ’ ὕαιναν, ἔστι μὲν τὸ μέγεθος οὐκ ἐλάττων λύκου, χαίτην δ’ ἔχει ὥσπερ (594b.) ἵππος, καὶ ἔτι σκληροτέρας καὶ βαθυτέρας τὰς τρίχας, καὶ καθ’ ὅλης τῆς ῥάχεως· ἐπιβουλεύει δὲ καὶ θηρεύει τοὺς ἀνθρώπους, τοὺς δὲ κύνας καὶ ἐμοῦσα θηρεύει ὥσπερ οἱ ἄνθρωποι· καὶ τυμβωρυχεῖ δὲ ἐφιέμενον τῆς σαρκοφαγίας τῆς τοιαύτης.

Ἡ δ’ ἄρκτος παμφάγον ἐστί. Καὶ γὰρ καρπὸν ἐσθίει, καὶ ἀναβαίνει ἐπὶ τὰ δένδρα διὰ τὴν ὑγρότητα τοῦ σώματος, καὶ τοὺς καρποὺς τοὺς χέδροπας· ἐσθίει δὲ καὶ μέλι τὰ σμήνη καταγνύουσα, καὶ καρκίνους καὶ μύρμηκας, καὶ σαρκοφαγεῖ. Διὰ γὰρ τὴν ἰσχὺν ἐπιτίθεται οὐ μόνον τοῖς ἐλάφοις ἀλλὰ καὶ τοῖς ἀγρίοις ὑσίν, ἂν δύνηται λαθεῖν ἐπιπεσοῦσα, καὶ τοῖς ταύροις· ὁμόσε χωρήσασα γὰρ τῷ ταύρῳ κατὰ πρόσωπον ὑπτία καταπίπτει, καὶ τοῦ ταύρου τύπτειν ἐπιχειροῦντος τοῖς μὲν βραχίοσι τὰ κέρατα περιλαμβάνει, τῷ δὲ στόματι τὴν ἀκρωμίαν δακοῦσα καταβάλλει τὸν ταῦρον. Βαδίζει δ’ ἐπί τινα χρόνον ὀλίγον καὶ τοῖν δυοῖν ποδοῖν ὀρθή. Τὰ δὲ κρέα πάντα κατεσθίει προσήπουσα πρῶτον.

Ὁ δὲ λέων σαρκοφάγον μέν ἐστιν, ὥσπερ καὶ τἆλλα ὅσα ἄγρια καὶ καρχαρόδοντα, τῇ δὲ βρώσει χρῆται λάβρως, καὶ καταπίνει πολλὰ ὅλα οὐ διαιρῶν, εἶθ’ ἡμέρας δύο ἢ τρεῖς ἀσιτεῖ· δύναται γὰρ διὰ τὸ ὑπερπληροῦσθαι.

Ὀλιγόποτον δ’ ἐστίν. Τὸ δὲ περίττωμα προΐεται σπανίως· διὰ τρίτης γὰρ ἢ ὅπως ἂν τύχῃ προχωρεῖ, καὶ τοῦτο σκληρὸν καὶ ἐξικμασμένον, ὅμοιον κυνί. Προΐεται δὲ καὶ τὴν φῦσαν σφόδρα δριμεῖαν καὶ τὸ οὖρον ἔχον ὀσμήν, διὸ <ὥσ>περ οἱ κύνες ὀσφραίνεται τῶν δένδρων· οὐρεῖ γὰρ αἴρων τὸ σκέλος ὥσπερ οἱ κύνες. Ἐμποιεῖ δὲ καὶ ὀσμὴν βαρεῖαν ἐν τοῖς ἐσθιομένοις καταπνέων· καὶ γὰρ ἀνοιχθέντος αὐτοῦ τὰ ἔσω ἀτμίδα ἀφίησι βαρεῖαν.

Ἔνια δὲ τῶν τετραπόδων καὶ ἀγρίων ζῴων ποιεῖται τὴν τροφὴν περὶ λίμνας καὶ ποταμούς· περὶ δὲ τὴν θάλατταν οὐδὲν ἔξω φώκης. Τοιαῦτα δ’ ἐστὶν ὅ τε καλούμενος κάστωρ καὶ τὸ σαθέριον καὶ τὸ σατύριον καὶ ἐνυδρὶς καὶ ἡ καλουμένη λάταξ· ἔστι δὲ τοῦτο πλατύτερον τῆς ἐνυδρίδος, καὶ (595a.) ὀδόντας ἔχει ἰσχυρούς· ἐξιοῦσα γὰρ νύκτωρ πολλάκις τὰς περὶ τὸν ποταμὸν κερκίδας ἐκτέμνει τοῖς ὀδοῦσιν. Δάκνει δὲ τοὺς ἀνθρώπους καὶ ἡ ἐνυδρίς, καὶ οὐκ ἀφίησιν, ὡς λέγουσι, μέχρι ἂν ὀστοῦ ψόφον ἀκούσῃ. Τὸ δὲ τρίχωμα ἔχει ἡ λάταξ σκληρόν, καὶ τὸ εἶδος μεταξὺ τοῦ τῆς φώκης τριχώματος καὶ τοῦ τῆς ἐλάφου.

Κεφάλαιο 6

Πίνει δὲ τῶν ζῴων τὰ μὲν καρχαρόδοντα λάπτοντα· ἔνια δὲ καὶ τῶν μὴ καρχαροδόντων, οἷον οἱ μύες. Τὰ δὲ συνόδοντα σπάσει, οἷον ἵπποι καὶ βόες. Ἡ δ’ ἄρκτος οὔτε σπάσει οὔτε λάψει, ἀλλὰ κάψει. Καὶ τῶν ὀρνέων δὲ τὰ μὲν ἄλλα σπάσει, πλὴν τὰ μὲν μακραύχενα διαλείποντα καὶ αἴροντα τὴν κεφαλήν, ὁ δὲ πορφυρίων μόνος κάψει.

Τὰ δὲ κερατώδη τῶν ζῴων, καὶ ἥμερα καὶ ἄγρια, καὶ ὅσα μὴ καρχαρόδοντα, πάντα καρποφάγα καὶ ποηφάγα ἐστί, μὴ λίαν κατεχόμενα τῷ πεινῆν, ἔξω τῆς ὑός· αὕτη δ’ ἥκιστα ποηφάγον καὶ καρποφάγον· ῥιζοφάγον δὲ μάλιστα ἡ ὗς ἐστι τῶν ζῴων διὰ τὸ εὖ πεφυκέναι τὸ ῥύγχος πρὸς τὴν ἐργασίαν ταύτην, καὶ εὐχερέστατον πρὸς πᾶσαν τροφὴν τῶν ζῴων ἐστίν. Τάχιστα δὲ καὶ ἐπιδίδωσιν εἰς παχύτητα ὡς κατὰ μέγεθος· πιαίνεται γὰρ ἐν ἑξήκοντα ἡμέραις· ὅσον δ’ ἐπιδίδωσιν, γινώσκουσιν οἱ περὶ ταῦτα πραγματευόμενοι νῆστιν ἱστάντες. Πιαίνεται δὲ προλιμοκτονηθεῖσα ἡμέρας τρεῖς· σχεδὸν δὲ καὶ τἆλλα πάντα προλιμοκτονούμενα πιαίνεται. Μετὰ δὲ τὰς τρεῖς ἡμέρας εὐωχοῦσιν ἤδη οἱ πιαίνοντες τὰς ὗς. Οἱ δὲ Θρᾷκες πιαίνουσι τῇ μὲν πρώτῃ πιεῖν διδόντες, εἶτα διαλείπουσιν ἡμέραν μίαν τὸ πρῶτον, μετὰ δὲ ταῦτα δύο, εἶτα τρεῖς καὶ τέτταρας μέχρι τῶν ἑπτά. Πιαίνεται δὲ τὸ ζῷον τοῦτο κριθαῖς, κέγχροις, σύκοις, ἀκύλοις, ἀχράσι, σικύοις. Μάλιστα δὲ καὶ ταῦτα καὶ τἆλλα τὰ ἔχοντα κοιλίαν θερμὴν ἡ ἀτρεμία πιαίνει· τὰς δ’ ὗς καὶ τὸ λούεσθαι ἐν πηλῷ. Νέμεσθαι δὲ βούλονται (595b.) κατὰ τὰς ἡλικίας. Μάχεται δ’ ὗς καὶ λύκῳ. Ἀπογίνεται δ’ ἀπὸ τοῦ σταθμοῦ, ὅσον ἕλκει ζῶσα, τὸ ἕκτον μέρος εἰς τρίχας καὶ αἷμα καὶ τὰ τοιαῦτα. Θηλαζόμεναι δὲ καὶ αἱ ὕες καὶ τἆλλα πάντα λεπτότερα γίνεται. Ταῦτα μὲν οὖν τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 7

Οἱ δὲ βόες εἰσὶ μὲν καὶ καρποφάγοι καὶ ποηφάγοι, πιαίνονται δὲ τοῖς τε φυσητικοῖς, οἷον ὀρόβοις καὶ κυάμοις ἐρηριγμένοις καὶ χλόῃ κυάμων, καὶ ἄν τις τὸ δέρμα ἐντεμὼν φυσήσῃ καὶ μετὰ ταῦτα παράσχῃ τὴν τροφὴν τοῖς πρεσβυτέροις, ἔτι δὲ κριθαῖς καὶ ἁπλῶς καὶ ἐπτισμέναις, καὶ τοῖς γλυκέσιν, οἷον σύκοις καὶ ἀσταφίσι, καὶ οἴνῳ καὶ τοῖς φύλλοις τῆς πτελέας· μάλιστα δ’ οἱ ἥλιοι καὶ τὰ λουτρὰ τὰ θερμά.

Τὰ δὲ κέρατα τῶν νέων χλιαινόμενα τῷ κηρῷ ἄγεται ῥᾳδίως ὅπου ἄν τις ἐθέλῃ· καὶ τοὺς πόδας δ’ ἧττον ἀλγοῦσιν, ἄν τις τὰ κέρατα ἀλείφῃ κηρῷ ἢ ἐλαίῳ ἢ πίττῃ. Πονοῦσι δ’ αἱ ἀγελαῖαι μᾶλλον ὑπὸ τῆς πάχνης μετανιστάμεναι ἢ ὑπὸ χιόνος.

Αὐξάνονται δ’ ὅταν πλείω ἔτη ἀνόχευτοι ὦσιν· διὸ οἱ ἐν τῇ Ἠπείρῳ τὰς καλουμένας Πυρρικὰς βοῦς ἐννέα ἔτη διατηροῦσιν ἀνοχεύτους καὶ καλοῦσιν ἀποταύρους, ὅπως αὐξάνωνται. Τούτων δὲ τὸ μὲν πλῆθος εἶναί φασι περὶ τετρακοσίας, ἰδίους τῶν βασιλέων, ζῆν δ’ ἐν ἄλλῃ χώρᾳ οὐ δύνασθαι· καίτοι πεπειρᾶσθαί τινας.

Κεφάλαιο 8

Ἵπποι δὲ καὶ ὀρεῖς καὶ ὄνοι καρποφάγοι μέν εἰσι καὶ ποηφάγοι, μάλιστα δὲ πιαίνεται τῷ ποτῷ· ὡς γὰρ ἂν πίνῃ τὰ ὑποζύγια τὸ ὕδωρ, οὕτω καὶ πρὸς τὴν ἀπόλαυσιν ἔχει τῆς τροφῆς, καὶ ὅπου δ’ ἂν ἧττον δυσχεραίνῃ τὸ ποτόν, τοῦτο μᾶλλον εὔχορτόν ἐστιν. Ἡ δὲ κράστις λειοτριχεῖν ποιεῖ, ὅταν ἔγκυος ᾖ· ὅταν δ’ ἀθέρας ἔχῃ σκληρούς, οὐκ ἀγαθή. Τῆς δὲ πόας τῆς Μηδικῆς ἥ τε πρωτόκουρος φαύλη, καὶ ὅπου ἂν δυσῶδες ὕδωρ ἐπάγηται· ὄζει γὰρ τῆς πόας.

Πίνειν δ’ οἱ μὲν βόες ζητοῦσι καθαρόν, οἱ δ’ ἵπποι ὥσπερ αἱ κάμηλοι· ἡ δὲ κάμηλος πίνει ἥδιον θολερὸν καὶ παχύ· οὐδὲ γὰρ ἀπὸ τῶν (596a.) ποταμῶν πρότερον πίνει ἢ συνταράξαι. Δύναται δ’ ἄποτος ἀνέχεσθαι καὶ τέτταρας ἡμέρας· εἶτα μετὰ ταῦτα πίνει πολὺ πλῆθος.

Κεφάλαιο 9

Ὁ δ’ ἐλέφας ἐσθίει πλεῖστον μὲν <κριθῶν> μεδίμνους Μακεδονικοὺς ἐννέα ἐπὶ μιᾶς ἐδωδῆς· ἐπικίνδυνον δὲ τὸ τοσοῦτον πλῆθος· τὸ δ’ ἐπίπαν ἓξ μεδίμνους ἢ ἑπτά, ἀλφίτων δὲ πέντε μεδίμνους καὶ οἴνου πέντε μάρεις (ἔστι δ’ ὁ μάρις ἓξ κοτύλαι). Ἤδη δέ τις ἔπιεν ἐλέφας μετρητὰς ὕδατος Μακεδονικοὺς εἰσάπαξ δέκα καὶ τέτταρας, καὶ πάλιν τῆς δείλης ἄλλους ὀκτώ. Ζῶσι δ’ αἱ μὲν πολλαὶ τῶν καμήλων περὶ ἔτη τριάκοντα, ἔνιαι δὲ πολλῷ πλείω· καὶ γὰρ εἰς ἔτη ἑκατὸν ζῶσιν. Τὸν δ’ ἐλέφαντα ζῆν οἱ μὲν περὶ ἔτη διακόσιά φασιν, οἱ δὲ τριακόσια.

Κεφάλαιο 10

Πρόβατα δὲ καὶ αἶγες εἰσὶ μὲν ποηφάγα, τὴν δὲ νομὴν ποιοῦνται τὰ μὲν πρόβατα προσεδρεύοντα καὶ μονίμως, αἱ δ’ αἶγες ταχὺ μεταβάλλουσαι καὶ τῶν ἄκρων ἁπτόμεναι μόνον. Πιαίνει δὲ μάλιστα τὸ πρόβατον τὸ ποτόν, διὸ καὶ τοῦ θέρους διδόασιν ἅλας διὰ πέντε ἡμερῶν μέδιμνον τοῖς ἑκατόν· γίνεται γὰρ οὕτως ὑγιεινότερον καὶ πιότερον τὸ ποιμνίον. Καὶ τὰ πολλὰ δ’ ἁλίζοντες διὰ τοῦτο προσφέρουσιν, οἷον ἔν τε τοῖς ἀχύροις ἅλας πολλούς (διψῶντα γὰρ πίνει μᾶλλον) καὶ τοῦ μετοπώρου τὴν κολοκύνθην ἁλὶ πάττοντες· τοῦτο γὰρ καὶ γάλα ποιεῖ πλεῖον. Καὶ κινούμεναι δὲ μεσημβρίας πίνουσι μᾶλλον πρὸς τὴν δείλην. Πρός τε τοὺς τόκους ἁλιζόμεναι μείζω τὰ οὔθατα καθιᾶσιν.

Πιαίνει δὲ τὰ πρόβατα θαλλός, κότινος, ἀφάκη, ἄχυρα ὁποῖα ἂν ᾖ· ἅπαντα δὲ μᾶλλον πιαίνει ἅλμῃ προσρανθέντα. Παχύνεται δὲ καὶ ταῦτα μᾶλλον προλιμοκτονηθέντα τρεῖς ἡμέρας. Ὕδωρ δὲ τοῖς προβάτοις τοῦ μετοπώρου τὸ βόρειον τοῦ νοτίου ἄμεινον, καὶ αἱ νομαὶ αἱ πρὸς ἑσπέραν συμφέρουσιν, λεπτύνουσι δ’ αἱ ὁδοὶ καὶ αἱ ταλαιπωρίαι.

Οἱ δὲ ποιμένες γινώσκουσι τὰς ἰσχυούσας τῶν οἰῶν, ὅταν χειμὼν ᾖ, τῷ (596b.) ἔχειν πάχνην, τὰς δὲ μὴ ἔχειν· διὰ γὰρ τὴν ἀσθένειαν κινούμεναι ἀποβάλλουσιν αἱ μὴ ἰσχύουσαι.

Παντὸς δὲ τετράποδος τὰ κρέα χερίω, ὅπου ἑλώδη χωρία νέμονται ἢ ὅπου μετεωρότερα.

Εἰσὶ δὲ δυσχειμερώτεραι αἱ πλατύκερκοι οἶες τῶν μακροκέρκων καὶ αἱ κολέραι τῶν λασίων· δυσχείμεροι δὲ καὶ αἱ οὖλαι. Ὑγιεινότεραι μὲν οὖν αἱ οἶες τῶν αἰγῶν, ἰσχύουσι δὲ μᾶλλον αἱ αἶγες τῶν οἰῶν.

Τῶν δὲ λυκοβρώτων προβάτων τὰ κώδια καὶ τὰ ἔρια καὶ τὰ ἐξ αὐτῶν ἱμάτια φθειρωδέστερα γίνεται πολὺ μᾶλλον τῶν ἄλλων.

Κεφάλαιο 11

Τῶν δ’ ἐντόμων τὰ μὲν ἔχοντα ὀδόντας παμφάγα ἐστί, τὰ δὲ γλῶτταν μόνον τοῖς ὑγροῖς τρέφεται, πάντοθεν ἐκχυλίζοντα ταύτῃ. Καὶ τούτων τὰ μὲν παμφάγα (πάντων γὰρ γεύεται τῶν χυμῶν), οἷον αἱ μυῖαι, τὰ δ’ αἱμοβόρα, καθάπερ μύωψ καὶ οἶστρος· τὰ δὲ φυτῶν καὶ καρπῶν ζῇ χυλοῖς. Ἡ δὲ μέλιττα μόνον πρὸς οὐδὲν σαπρὸν προσίζει, οὐδὲ χρῆται τροφῇ οὐδεμιᾷ ἀλλ’ ἢ τῇ γλυκὺν ἐχούσῃ χυμόν· καὶ ὕδωρ δ’ ἥδιστα εἰς ἑαυτὰς λαμβάνουσιν, ὅπου ἂν καθαρὸν ἀναπηδᾷ. Τροφαῖς μὲν οὖν χρῶνται τὰ γένη τῶν ζῴων ταῖς εἰρημέναις.

Κεφάλαιο 12

Αἱ δὲ πράξεις αὐτῶν ἅπασαι περί τε τὰς ὀχείας καὶ τὰς τεκνώσεις εἰσί, καὶ περὶ τὰς εὐπορίας τῆς τροφῆς, καὶ πρὸς τὰ ψύχη καὶ τὰς ἀλέας πεπορισμέναι, καὶ πρὸς τὰς μεταβολὰς τὰς τῶν ὡρῶν. Πάντα γὰρ τῆς κατὰ τὸ θερμὸν καὶ ψυχρὸν μεταβολῆς αἴσθησιν ἔχει σύμφυτον, καὶ καθάπερ τῶν ἀνθρώπων οἱ μὲν εἰς τὰς οἰκίας τοῦ χειμῶνος μεταβάλλουσιν, οἱ δὲ πολλῆς χώρας κρατοῦντες θερίζουσι μὲν ἐν τοῖς ψυχροῖς χειμάζουσι δ’ ἐν τοῖς ἀλεεινοῖς, οὕτω καὶ τῶν ζῴων τὰ δυνάμενα μεταβάλλειν τοὺς τόπους.

Καὶ τὰ μὲν ἐν αὐτοῖς τοῖς συνήθεσι τόποις εὑρίσκεται τὰς βοηθείας, τὰ δ’ ἐκτοπίζει, μετὰ μὲν τὴν φθινοπωρινὴν ἰσημερίαν ἐκ τοῦ Πόντου καὶ τῶν ψυχρῶν τόπων φεύγοντα τὸν (597a.) ἐπιόντα χειμῶνα, μετὰ δὲ τὴν ἐαρινὴν ἐκ τῶν θερμῶν εἰς τοὺς τόπους τοὺς ψυχροὺς φοβούμενα τὰ καύματα, τὰ μὲν ἐκ τῶν ἐγγὺς τόπων ποιούμενα τὰς μεταβολάς, τὰ δὲ καὶ ἐκ τῶν ἐσχάτων ὡς εἰπεῖν, οἷον αἱ γέρανοι ποιοῦσιν. Μεταβάλλουσι γὰρ ἐκ τῶν Σκυθικῶν πεδίων εἰς τὰ ἕλη τὰ ἄνω τῆς Αἰγύπτου, ὅθεν ὁ Νεῖλος ῥεῖ· οὗ καὶ λέγονται τοῖς Πυγμαίοις ἐπιχειρεῖν· οὐ γάρ ἐστι τοῦτο μῦθος, ἀλλ’ ἔστι κατὰ τὴν ἀλήθειαν γένος μικρὸν μέν, ὥσπερ λέγεται, καὶ αὐτοὶ καὶ οἱ ἵπποι, τρωγλοδύται δ’ εἰσὶ τὸν βίον. Καὶ οἱ πελεκᾶνες δ’ ἐκτοπίζουσι, καὶ πέτονται ἀπὸ τοῦ Στρυμόνος ἐπὶ τὸν Ἴστρον, κἀκεῖ τεκνοποιοῦνται· ἀθρόοι δ’ ἀπέρχονται, ἀναμένοντες οἱ πρότεροι τοὺς ὕστερον, διὰ τὸ ὅταν ὑπερπτῶνται τὸ ὄρος ἀδήλους γίνεσθαι τοὺς προτέρους τοῖς ὑστέροις.

Καὶ οἱ ἰχθύες δὲ τὸν αὐτὸν τρόπον οἱ μὲν ἐκ τοῦ Πόντου καὶ εἰς τὸν Πόντον μεταβάλλουσιν, οἱ δ’ ἐν μὲν τῷ χειμῶνι ἐκ τοῦ πελάγους πρὸς τὴν γῆν, τὴν ἀλέαν διώκοντες, ἐν δὲ τῷ θέρει ἐκ τῶν προσγείων εἰς τὸ πέλαγος, φεύγοντες τὴν ἀλέαν.

Καὶ τὰ ἀσθενῆ δὲ τῶν ὀρνέων ἐν μὲν τῷ χειμῶνι καὶ τοῖς πάγοις εἰς τὰ πεδία καταβαίνουσι διὰ τὴν ἀλέαν, ἐν δὲ τῷ θέρει ἀποχωροῦσιν εἰς τὰ ὄρη ἄνω διὰ τὰ καύματα. Ποιεῖται δ’ ἀεὶ τὰ ἀσθενέστερα πρῶτα τὴν μετάστασιν καθ’ ἑκατέραν τὴν ὑπερβολήν, οἷον οἱ μὲν σκόμβροι τῶν θύννων, οἱ δ’ ὄρτυγες τῶν γεράνων· τὰ μὲν γὰρ μεταβάλλει τοῦ Βοηδρομιῶνος, τὰ δὲ τοῦ Μαιμακτηριῶνος.

Ἔστι δὲ πιότερα πάντα ὅταν ἐκ τῶν ψυχρῶν τόπων μεταβάλλῃ ἢ ὅταν ἐκ

τῶν θερμῶν, οἷον καὶ οἱ ὄρτυγες τοῦ φθινοπώρου μᾶλλον ἢ τοῦ ἔαρος. Συμβαίνει δ’ ἐκ τῶν ψυχρῶν τόπων ἅμα μεταβάλλειν καὶ ἐκ τῆς ὥρας τῆς θερμῆς. Ἔχουσι δὲ καὶ πρὸς τὰς ὀχείας ὁρμητικώτερον κατὰ τὴν ἐαρινὴν ὥραν καὶ ὅταν μεταβάλλωσιν ἐκ τῶν θερμῶν.

Τῶν μὲν οὖν ὀρνέων αἱ γέρανοι, καθάπερ εἴρηται πρότερον, ἐκτοπίζουσιν εἰς τὰ ἔσχατα ἐκ τῶν ἐσχάτων. Πέτονται δὲ πρὸς τὸ πνεῦμα. Τὸ δὲ περὶ (597b.) τοῦ λίθου ψεῦδός ἐστι· λέγεται γὰρ ὡς ἔχουσιν ἕρμα λίθον, ὃς γίνεται χρήσιμος πρὸς τὰς τοῦ χρυσοῦ βασάνους, ὅταν ἀνεμέσωσιν.

Ἀπαίρουσι δὲ καὶ αἱ φάτται καὶ αἱ πελειάδες, καὶ οὐ χειμάζουσι, καὶ αἱ χελιδόνες καὶ αἱ τρυγόνες· αἱ δὲ περιστεραὶ καταμένουσιν. Ὁμοίως δὲ καὶ οἱ ὄρτυγες, ἐὰν μή τινες ὑπολειφθῶσι καὶ τῶν τρυγόνων καὶ τῶν ὀρτύγων ἐν εὐείλοις χωρίοις. Ἀγελάζονται δ’ αἵ τε φάτται καὶ αἱ τρυγόνες, ὅταν τε παραγίνωνται καὶ πάλιν ὅταν ὥρα ᾖ πρὸς τὴν ἀνακομιδήν. Οἱ δ’ ὄρτυγες ὅταν ἐμπέσωσιν, ἐὰν μὲν εὐδία ἢ βόρειον ᾖ, συνδυάζονταί τε καὶ εὐημεροῦσιν, ἐὰν δὲ νότος, χαλεπῶς ἔχουσι διὰ τὸ μὴ εἶναι πτητικοί· ὑγρὸς γὰρ καὶ βαρὺς ὁ ἄνεμος· διὸ καὶ οἱ θηρεύοντες ἐπιχειροῦσι τοῖς νοτίοις. Εὐδίας δ’ οὐκ εὖ πέτονται διὰ τὸ βάρος· πολὺ γὰρ τὸ σῶμα. Διὸ καὶ βοῶντες πέτονται· πονοῦσι γάρ. Ὅταν μὲν οὖν ἐκεῖθεν παραβάλλωσιν, οὐκ ἔχουσιν ἡγεμόνας· ὅταν δ’ ἐντεῦθεν ἀπαίρωσιν, ἥ τε γλωττὶς συναπαίρει καὶ ἡ ὀρτυγομήτρα καὶ ὁ ὦτος καὶ ὁ κύχραμος, ὅσπερ αὐτοὺς καὶ ἀνακαλεῖται νύκτωρ· καὶ ὅταν τούτου τὴν φωνὴν ἀκούσωσιν οἱ θηρεύοντες, ἴσασιν ὅτι οὐ καταμένουσιν. Ἡ δ’ ὀρτυγομήτρα παραπλήσιος τὴν μορφὴν τοῖς λιμναίοις ἐστί, καὶ ἡ γλωττὶς γλῶτταν ἐξαγομένην ἔχουσα μέχρι πόρρω. Ὁ δ’ ὦτος ὅμοιος ταῖς γλαυξὶ καὶ περὶ τὰ ὦτα πτερύγια ἔχων· ἔνιοι δ’ αὐτὸν νυκτικόρακα καλοῦσιν. Ἔστι δὲ κόβαλος καὶ μιμητής, καὶ ἀντορχούμενος ἁλίσκεται, περιελθόντος θατέρου τῶν θηρευτῶν, καθάπερ ἡ γλαύξ. Ὅλως δὲ τὰ γαμψώνυχα πάντα βραχυτράχηλα καὶ πλατύγλωττα καὶ μιμητικά· καὶ γὰρ τὸ Ἰνδικὸν ὄρνεον ἡ ψιττάκη, τὸ λεγόμενον ἀνθρωπόγλωττον, τοιοῦτόν ἐστι· καὶ ἀκολαστότερον δὲ γίνεται, ὅταν πίῃ οἶνον.

Ἀγελαῖοι δὲ τῶν ὀρνίθων εἰσὶ γέρανος, κύκνος, πελεκάν, χὴν ὁ μικρός.

Κεφάλαιο 13

Τῶν δ’ ἰχθύων οἱ μέν, ὥσπερ εἴρηται, μεταβάλλουσι πρὸς τὴν γῆν ἐκ τοῦ πελάγους καὶ εἰς τὸ πέλαγος ἀπὸ τῆς (598a.) γῆς, φεύγοντες τὰς ὑπερβολὰς τοῦ ψύχους καὶ τῆς ἀλέας. Ἀμείνους δ’ εἰσὶν οἱ πρόσγειοι τῶν πελαγίων· πλείω γὰρ καὶ βελτίω νομὴν ἔχουσιν· ὅπου γὰρ ἂν ὁ ἥλιος ἐπιβάλλῃ, πλείω φύεται καὶ βελτίω καὶ ἁπαλώτερα, οἷον ἐν κήποις. Καὶ ὁ θὶς †..... ὁ μέλας φύεται πρὸς τῇ γῇ, ὁ δ’ ἄλλος ὅμοιός ἐστι τοῖς ἀγρίοις. Ἔτι δὲ καὶ κεκραμένοι τυγχάνουσι καλῶς τῷ θερμῷ καὶ τῷ ψυχρῷ οἱ τόποι οἱ πρόσγειοι τῆς θαλάττης· διὸ καὶ αἱ σάρκες συνεστᾶσι μᾶλλον τῶν τοιούτων ἰχθύων, τῶν δὲ πελαγίων ὑγραί εἰσι καὶ κεχυμέναι.

Εἰσὶ δὲ πρόσγειοι σινόδων, κάνθαρος, ὀρφώς, χρύσοφρυς, κεστρεύς, τρίγλη, κίχλη, δράκων, καλλιώνυμος, κωβιὸς καὶ τὰ πετραῖα πάντα· πελάγιοι δὲ τρυγὼν καὶ τὰ σελάχη καὶ γόγγροι οἱ λευκοί, χάννη, ἐρυθρῖνος, γλαῦκος· φάγροι δὲ καὶ σκορπίοι καὶ γόγγροι οἱ μέλανες καὶ μύραιναι καὶ κόκκυγες ἐπαμφοτερίζουσιν. Εἰσὶ δὲ διαφοραὶ τούτων καὶ κατὰ τοὺς τόπους, οἷον περὶ Κρήτην οἱ κωβιοὶ καὶ τὰ πετραῖα πάντα πίονα γίνεται. Γίνεται δὲ καὶ ὁ θύννος ἀγαθὸς πάλιν μετ’ Ἀρκτοῦρον· ἤδη γὰρ οἰστρῶν παύεται ταύτην τὴν ὥραν· διὰ γὰρ τοῦτο ἐν τῷ θέρει χείρων ἐστίν.

Γίνονται δὲ καὶ ἐν ταῖς λιμνοθαλάτταις πολλοὶ τῶν ἰχθύων, οἷον σάλπαι, χρύσοφρυς, τρίγλη καὶ τῶν ἄλλων σχεδὸν οἱ πλεῖστοι. Γίνονται δὲ καὶ ἀμίαι, οἷον περὶ Ἀλωπεκόννησον· καὶ ἐν τῇ Βιστωνίδι λίμνῃ ἔνεστι τὰ πλεῖστα γένη τῶν ἰχθύων.

Τῶν δὲ κολιῶν οἱ πολλοὶ εἰς μὲν τὸν Πόντον οὐκ ἐμβάλλουσιν, ἐν δὲ τῇ Προποντίδι θερίζουσι καὶ ἐκτίκτουσι, χειμάζουσι δ’ ἐν τῷ Αἰγαίῳ. Θυννίδες δὲ καὶ πηλαμύδες καὶ ἀμίαι εἰς τὸν Πόντον ἐμβάλλουσι τοῦ ἔαρος καὶ θερίζουσιν, σχεδὸν δὲ καὶ οἱ πλεῖστοι τῶν ῥυάδων καὶ ἀγελαίων ἰχθύων.

Εἰσὶ δ’ οἱ πλεῖστοι ἀγελαῖοι. Ἔχουσι δ’ οἱ ἀγελαῖοι ἡγεμόνας πάντες. Εἰσπλέουσι δ’ εἰς τὸν Πόντον διά τε τὴν τροφήν· ἡ γὰρ νομὴ καὶ πλείων καὶ βελτίων διὰ τὸ πότιμον, καὶ τὰ (598b.) θηρία δὲ τὰ μεγάλα ἐλάττω· ἔξω γὰρ δελφῖνος καὶ φωκαίνης οὐδέν ἐστιν ἐν τῷ Πόντῳ, καὶ ὁ δελφὶς μικρός. Ἔξω δ’ εὐθὺς προελθόντι μεγάλοι. Διά τε δὴ τὴν τροφὴν εἰσπλέουσι καὶ διὰ τὸν τόκον· τόποι γάρ εἰσιν ἐπιτήδειοι ἐντίκτειν, καὶ τὸ πότιμον καὶ τὸ γλυκύτερον ὕδωρ ἐκτρέφει τὰ κυήματα. Ὅταν δὲ τέκωσι καὶ τὰ γενόμενα αὐξηθῇ, ἐκπλέουσιν εὐθὺς μετὰ Πλειάδα. Ἂν μὲν οὖν νότιος ὁ χειμὼν ᾖ, βραδύτερον ἐκπλέουσιν, ἂν δὲ βόρειος, θᾶττον διὰ τὸ τὸ πνεῦμα συνεπουρίζειν· καὶ ὁ γόνος δὲ τότε μικρὸς ἁλίσκεται περὶ Βυζάντιον ἅτ' οὐ γενομένης πολλῆς ἐν τῷ Πόντῳ διατριβῆς.

Οἱ μὲν οὖν ἄλλοι καὶ ἐκπλέοντες καὶ εἰσπλέοντες δῆλοί εἰσιν, οἱ δὲ τριχίαι μόνοι εἰσπλέοντες μὲν ἁλίσκονται, ἐκπλέοντες δ' οὐχ ὁρῶνται, ἀλλὰ καὶ ὅταν ληφθῇ τις περὶ Βυζάντιον, οἱ ἁλιεῖς τὰ δίκτυα περικαθαίρουσι διὰ τὸ μὴ εἰωθέναι ἐκπλεῖν. Αἴτιον δ' ὅτι οὗτοι μόνοι ἀναπλέουσιν εἰς τὸν Ἴστρον, εἶθ' ᾗ σχίζεται, καταπλέουσιν εἰς τὸν Ἀδρίαν.

Σημεῖον δέ, ἐκεῖ γὰρ συμβαίνει τοὐναντίον· εἰσπλέοντες μὲν γὰρ οὐχ ἁλίσκονται εἰς τὸν Ἀδρίαν, ἐκπλέοντες δ' ἁλίσκονται.

Εἰσπλέουσι δ' οἱ θύννοι ἐπὶ δεξιὰ ἐχόμενοι τῆς γῆς, ἐκπλέουσι δ' ἐπ' ἀριστερά· τοῦτο δέ φασί τινες ποιεῖν ὅτι τῷ δεξιῷ ὀξύτερον ὁρῶσι, φύσει οὐκ ὀξὺ βλέποντες. Τὴν μὲν οὖν ἡμέραν οἱ ῥυάδες κομίζονται, τὴν δὲ νύκτα ἡσυχάζουσι καὶ νέμονται, ἂν μὴ σελήνη ᾖ· τότε δὲ κομίζονται καὶ οὐχ ἡσυχάζουσιν. Λέγουσι δέ τινες τῶν περὶ τὴν θάλατταν ὡς ὅταν τροπαὶ χειμεριναὶ γένωνται, οὐκέτι κινοῦνται ἀλλ' ἡσυχάζουσιν, ὅπου ἂν τύχωσι καταληφθέντες, μέχρι ἰσημερίας.

Οἱ μὲν οὖν κολίαι εἰσπλέοντες ἁλίσκονται, ἐξιόντες δ' ἧττον· ἄριστοι δ' εἰσὶν ἐν τῇ Προποντίδι πρὸ τοῦ τίκτειν. Οἱ δ' ἄλλοι ῥυάδες ἐξιόντες ἐκ τοῦ Πόντου ἁλίσκονται μᾶλλον καὶ ἄριστοι τότε εἰσίν· ὅταν δ' εἰσπλέωσιν, ἐγγύτατα τοῦ Αἰγαίου πιότατοι ἁλίσκονται, ὅσῳ δ' ἀνωτέρω, ἀεὶ λεπτότεροι.

(599a.) Πολλάκις δὲ καὶ ὅταν πνεῦμα ἀντικόψῃ νότιον ἐκπλέουσι καὶ τοῖς κολίαις καὶ τοῖς σκόμβροις, κάτω ἁλίσκονται μᾶλλον ἢ περὶ Βυζάντιον.

Τοὺς μὲν οὖν ἐκτοπισμοὺς τοῦτον ποιοῦνται τὸν τρόπον. Τὸ δ' αὐτὸ τοῦτο συμβαίνει πάθος καὶ ἐπὶ τῶν χερσαίων κατὰ τὴν φωλείαν· τοῦ μὲν γὰρ χειμῶνος ὁρμῶσι πρὸς τὴν φωλείαν, ἀπαλλάττονται δὲ κατὰ τὴν θερμοτέραν ὥραν. Ποιοῦνται δὲ τὰ ζῷα καὶ τὰς φωλείας πρὸς τὴν βοήθειαν καὶ τὰς ὑπερβολὰς τῆς ὥρας ἑκατέρας. Φωλεῖ δὲ τῶν μὲν ὅλον τὸ γένος, ἐνίων δὲ τὰ μὲν τὰ δ' οὔ. Τὰ μὲν γὰρ ὀστρακόδερμα πάντα φωλεῖ, οἷον τά τε ἐν τῇ θαλάττῃ, πορφύραι καὶ κήρυκες καὶ πᾶν τὸ τοιοῦτον γένος· ἀλλὰ τῶν μὲν ἀπολελυμένων ἐπιδηλότερός ἐστιν ἡ φωλεία (κρύπτουσι γὰρ αὑτά, οἷον οἱ κτένες, τὰ δ' ἴσχει ἐπιπολῆς ἐπικάλυμμα, οἷον οἱ χερσαῖοι κοχλίαι), τῶν δ' ἀναπολύτων ἄδηλος ἡ μεταβολή. Φωλοῦσι δ' οὐ τὴν αὐτὴν ὥραν, ἀλλ' οἱ μὲν κοχλίαι τοῦ χειμῶνος, αἱ δὲ πορφύραι καὶ οἱ κήρυκες ὑπὸ κύνα περὶ ἡμέρας τριάκοντα, καὶ οἱ κτένες περὶ τὸν αὐτὸν χρόνον. Τὰ δὲ πλεῖστα αὐτῶν φωλεῖ καὶ ἐν τοῖς σφόδρα ψύχεσι καὶ ἐν ταῖς σφόδρα ἀλέαις.

Κεφάλαιο 14

Τὰ δ’ ἔντομα σχεδὸν ἅπαντα φωλεῖ, πλὴν εἴ τι ἐν ταῖς οἰκήσεσι συνανθρωπεύεται αὐτῶν, καὶ ὅσα φθείρεται καὶ μὴ διετίζει. Τἆλλα δὲ φωλεῖ τοῦ χειμῶνος. Φωλεῖ δὲ τὰ μὲν πλείους ἡμέρας, τὰ δὲ τὰς χειμεριωτάτας, οἷον αἱ μέλιτται· καὶ γὰρ αὗται φωλοῦσιν. Σημεῖον δ’ ὅτι οὐδὲν φαίνονται γευόμεναι τῆς παρακειμένης τροφῆς· κἄν τις αὐτῶν ἐξερπύσῃ, φαίνεται διαφανής, καὶ οὐδὲν ἐν τῇ κοιλίᾳ ἐνὸν δῆλον. Ἡσυχάζει δ’ ἀπὸ Πλειάδος δύσεως μέχρι τοῦ ἔαρος.

Κεφάλαιο 15

Ποιεῖται δὲ τὰ ζῷα τὰς φωλείας ἀποκρυπτόμενα ἐν ἀλεεινοῖς καὶ ἐν οἷς εἴωθε τόποις ἐπικοιτάζεσθαι. Φωλεῖ δὲ καὶ τῶν ἐναίμων πολλά, οἷον τά τε φολιδωτά, ὄφεις τε καὶ σαῦροι καὶ ἀσκαλαβῶται καὶ κροκόδειλοι οἱ ποτάμιοι, τέτταρας μῆνας τοὺς χειμεριωτάτους, καὶ οὐκ ἐσθίουσιν οὐδέν. Οἱ μὲν οὖν ἄλλοι (599b.) ὄφεις ἐν τῇ γῇ φωλοῦσιν, αἱ δ’ ἔχιδναι ὑπὸ τὰς πέτρας ἀποκρύπτουσιν αὑτάς.

Φωλοῦσι δὲ πολλοὶ καὶ τῶν ἰχθύων, ἐπιφανέστατα δ’ ἵππουρος καὶ κορακῖνος τοῦ χειμῶνος· οὗτοι γὰρ μόνοι οὐχ ἁλίσκονται οὐδαμοῦ πλὴν κατά τινας χρόνους τακτοὺς καὶ τοὺς αὐτοὺς ἀεί, τὰ δὲ λοιπὰ πάντα σχεδόν. Φωλεῖ δὲ καὶ μύραινα καὶ ὀρφὼς καὶ γόγγρος. Κατὰ συζυγίας δ’ οἱ πετραῖοι φωλοῦσιν οἱ ἄρρενες τοῖς θήλεσιν, ὥσπερ καὶ νεοττεύουσιν, οἷον κίχλαι, κόττυφοι, πέρκαι. Φωλοῦσι δὲ καὶ οἱ θύννοι τοῦ χειμῶνος ἐν τοῖς βάθεσι, καὶ γίνονται πιότατοι μετὰ τὴν φωλείαν, καὶ ἄρχονται θηρεύεσθαι ἀπὸ Πλειάδος ἀνατολῆς μέχρι Ἀρκτούρου δύσεως τὸ ἔσχατον· τὸν δ’ ἄλλον χρόνον ἡσυχίαν ἔχουσι φωλοῦντες. Ἁλίσκονται δ’ ἔνιοι περὶ τὸν χρόνον τῆς φωλείας καὶ τούτων καὶ τῶν ἄλλων τινὲς τῶν φωλούντων κινούμενοι, ἂν ἀλεεινὸς ᾖ ὁ τόπος καὶ ἐπιγίνωνται εὐδῖαι παράλογοι· ἀπὸ γὰρ τῆς θαλάμης προέρχονται μικρὸν ἐπὶ νομήν· καὶ ταῖς πανσελήνοις. Εἰσὶ δ’ οἱ πολλοὶ φωλοῦντες ἥδιστοι. Αἱ δὲ πριμάδες κρύπτουσιν ἑαυτὰς ἐν τῷ βορβόρῳ· σημεῖον δὲ τό τε μὴ ἁλίσκεσθαι καὶ ἰλὺν ἐχούσας ἐπὶ τοῦ νώτου φαίνεσθαι πολλὴν καὶ τὰ πτερύγια ἐντεθλιμμένα. Κατὰ δὲ τὴν ἐαρινὴν ὥραν κινοῦνται καὶ προέρχονται πρὸς τὴν γῆν ὀχευόμεναι καὶ τίκτουσαι, καὶ ἁλίσκονται κύουσαι· καὶ τότε δοκοῦσιν ὡραῖοι εἶναι, οἱ δὲ μετοπωρινοὶ καὶ χειμερινοὶ χείρους· ἅμα δὲ καὶ οἱ ἄρρενες φαίνονται πλήρεις ὄντες θοροῦ. Ὅταν μὲν οὖν μικρὰ τὰ κυήματ’ ἔχωσι, δυσάλωτοί εἰσιν, ὅταν δὲ μείζω, πολλοὶ ἁλίσκονται διὰ τὸ οἰστρᾶν.

Φωλεῖ δὲ τὰ μὲν ἐν τῇ ἄμμῳ τὰ δ’ ἐν τῷ πηλῷ, ὑπερέχοντα τὸ στόμα μόνον. Τὰ μὲν οὖν πλεῖστα φωλεῖ μόνον τοῦ χειμῶνος, τὰ δὲ μαλακόστρακα καὶ τῶν ἰχθύων οἱ πετραῖοι καὶ βάτοι καὶ τὰ σελαχώδη τὰς χειμεριωτάτας μόνον ἡμέρας· δηλοῖ δὲ τὸ μὴ ἁλίσκεσθαι ὅταν ᾖ ψύχη.

Ἔνιοι δὲ τῶν ἰχθύων φωλοῦσι καὶ τοῦ θέρους, οἷον ὁ γλαῦκος· οὗτος γὰρ τοῦ θέρους φωλεῖ περὶ ἑξήκονθ’ ἡμέρας.

Φωλεῖ δὲ καὶ ὁ ὄνος καὶ ὁ χρύσοφρυς· σημεῖον δὲ δοκεῖ (600a.) εἶναι τοῦ τὸν ὄνον πλεῖστον φωλεῖν χρόνον τὸ διὰ πλείστου χρόνου ἁλίσκεσθαι. Τοῦ δὲ καὶ θέρους τοὺς ἰχθῦς φωλεῖν δοκεῖ σημεῖον εἶναι τὸ ἐπὶ τοῖς ἄστροις γίνεσθαι τὰς ἁλώσεις, καὶ μάλιστα ἐπὶ κυνί· τηνικαῦτα γὰρ ἀνατρέπεσθαι τὴν θάλατταν. Ὅπερ ἐν τῷ Βοσπόρῳ γνωριμώτατόν ἐστιν· ἡ γὰρ ἰλὺς ἐπάνω γίνεται καὶ ἐπιφέρονται οἱ ἰχθύες. Φασὶ δὲ καὶ πολλάκις τριβομένου τοῦ βυθοῦ ἁλίσκεσθαι πλείους ἐν τῷ αὐτῷ βόλῳ τὸ δεύτερον ἢ τὸ πρῶτον. Καὶ ἐπειδὰν ὄμβροι γένωνται μεγάλοι, πολλὰ φαίνεται ζῷα τῶν πρότερον ἢ ὅλως οὐχ ἑωραμένων ἢ οὐ πολλάκις.

Κεφάλαιο 16

Φωλοῦσι δὲ πολλοὶ καὶ τῶν ὀρνίθων, καὶ οὐχ ὥς τινες οἴονται, εἰς ἀλεεινοὺς τόπους ἀπέρχονται πάντες· ἀλλ’ οἱ μὲν πλησίον ὄντες τοιούτων τόπων, ἐν οἷς ἀεὶ διαμένουσι, καὶ ἰκτῖνοι καὶ χελιδόνες, ἀποχωροῦσιν ἐνταῦθα, οἱ δὲ πορρωτέρω ὄντες τῶν τοιούτων οὐκ ἐκτοπίζουσιν ἀλλὰ κρύπτουσιν ἑαυτούς. Ἤδη γὰρ ὠμμέναι πολλαὶ χελιδόνες εἰσὶν ἐν ἀγγείοις ἐψιλωμέναι πάμπαν, καὶ ἰκτῖνοι ἐκ τοιούτων ἐκπετόμενοι χωρίων, ὅταν φαίνωνται τὸ πρῶτον.

Φωλοῦσι δ’ οὐδὲν διακεκριμένως καὶ τῶν γαμψωνύχων καὶ τῶν εὐθυωνύχων· φωλεῖ γὰρ καὶ πελαργὸς καὶ κόττυφος καὶ τρυγὼν καὶ κόρυδος, καὶ ἥ γε τρυγὼν ὁμολογουμένως μάλιστα πάντων· οὐδεὶς γὰρ ὡς εἰπεῖν λέγεται τρυγόνα ἰδεῖν οὐδαμοῦ χειμῶνος. Ἄρχεται δὲ τῆς φωλείας σφόδρα πίειρα οὖσα, καὶ πτερορρυεῖ μὲν ἐν τῇ φωλείᾳ, παχεῖα μέντοι διατελεῖ οὖσα. Τῶν δὲ φασσῶν ἔνιαι μὲν φωλοῦσιν, ἔνιαι δ’ οὐ φωλοῦσιν, ἀπέρχονται δ’ ἅμα ταῖς χελιδόσιν. Φωλεῖ δὲ καὶ ἡ κίχλη καὶ ὁ ψάρος, καὶ τῶν γαμψωνύχων ἰκτῖνος ὀλίγας ἡμέρας καὶ ἡ γλαύξ.

Κεφάλαιο 17

Τῶν δὲ ζῳοτόκων καὶ τετραπόδων φωλοῦσιν οἵ τε ὕστριχες καὶ αἱ ἄρκτοι. Ὅτι μὲν οὖν φωλοῦσιν αἱ ἄγριαι ἄρκτοι, φανερόν ἐστι, πότερον δὲ διὰ ψῦχος ἢ δι’ ἄλλην αἰτίαν, ἀμφισβητεῖται. Γίνονται γὰρ περὶ τὸν χρόνον τοῦτον οἱ ἄρρενες καὶ αἱ θήλειαι πιότατοι, ὥστε μὴ εὐκίνητοι εἶναι. Ἡ δὲ θήλεια καὶ τίκτει περὶ (600b.) τοῦτον τὸν καιρόν, καὶ φωλεῖ ἕως ἂν ἐξάγειν ὥρα ᾖ τοὺς σκύμνους· τοῦτο δὲ ποιεῖ τοῦ ἔαρος περὶ τρίτον μῆνα ἀπὸ τροπῶν. Τὸ δ’ ἐλάχιστον φωλεῖ περὶ τετταράκονθ’ ἡμέρας· τούτων δὲ δὶς ἑπτὰ λέγουσιν ἐν αἷς οὐδὲν κινεῖται, ἐν δὲ ταῖς πλείοσι ταῖς μετὰ ταῦτα φωλεῖ μὲν κινεῖται δὲ καὶ ἐγείρεται. Κύουσα δ’ ἄρκτος ἢ ὑπ’ οὐδενὸς ἢ πάνυ ὀλίγων εἴληπται. Ἐν δὲ τῷ χρόνῳ τούτῳ φανερόν ἐστιν ὅτι οὐδὲν ἐσθίουσιν· οὔτε γὰρ ἐξέρχονται, ὅταν τε ληφθῶσι, κενὰ φαίνεται ἥ τε κοιλία καὶ τὰ ἔντερα. Λέγεται δὲ καὶ διὰ τὸ μηδὲν προσφέρεσθαι τὸ ἔντερον ὀλίγου συμφύεσθαι αὐτῇ, καὶ διὰ τοῦτο πρῶτον ἐξιοῦσαν γεύεσθαι τοῦ ἄρου πρὸς τὸ ἀφιστάναι τὸ ἔντερον καὶ διευρύνειν. Φωλεῖ δὲ καὶ ὁ ἐλειὸς ἐν αὐτοῖς τοῖς δένδρεσι, καὶ γίνεται τότε παχύτατος, καὶ ὁ μῦς ὁ Ποντικὸς ὁ λευκός.

Τῶν δὲ φωλούντων ἔνιοι τὸ καλούμενον ἐκδύνουσι γῆρας· ἔστι δὲ τοῦτο τὸ ἔσχατον δέρμα καὶ τὸ περὶ τὰς γενέσεις κέλυφος. Τῶν μὲν οὖν πεζῶν καὶ ζῳοτόκων περὶ τῆς ἄρκτου ἀμφισβητεῖται ἡ αἰτία τῆς φωλείας, καθάπερ ἐλέχθη πρότερον· τὰ δὲ φολιδωτὰ φωλεῖ μὲν σχεδὸν τὰ πλεῖστα, ἐκδύνει δὲ τὸ γῆρας ὅσων τὸ δέρμα μαλακὸν μὴ ὀστρακῶδες ὥσπερ τῆς χελώνης (καὶ γὰρ ἡ χελώνη τῶν φολιδωτῶν ἐστὶ καὶ ὁ ἐμύς), ἀλλ’ οἷον ἀσκαλαβώτης τε καὶ σαῦρος καὶ μάλιστα πάντων οἱ ὄφεις· ἐκδύνουσι γὰρ καὶ τοῦ ἔαρος, ὅταν ἐξίωσι, καὶ τοῦ μετοπώρου πάλιν. Ἐκδύνουσι δὲ καὶ οἱ ἔχεις τὸ γῆρας καὶ τοῦ ἔαρος καὶ τοῦ μετοπώρου, καὶ οὐχ ὥσπερ φασί τινες τοῦτο τὸ γένος τῶν ὄφεων μὴ ἐκδύεσθαι μόνον.

Ὅταν δ’ ἄρχωνται ἐκδύνειν οἱ ὄφεις, ἀπὸ τῶν ὀφθαλμῶν ἀφίσταται πᾶσι πρῶτον, ὥστε δοκεῖν γίνεσθαι τυφλοὺς τοῖς μὴ συννοοῦσι τὸ πάθος· μετὰ δὲ τοῦτο ἀπὸ τῆς κεφαλῆς, καὶ λευκὴ φαίνεται πάντων. Ἐν νυκτὶ δὲ σχεδὸν καὶ ἡμέρᾳ πᾶν ἀποδύεται τὸ γῆρας, ἀπὸ τῆς κεφαλῆς ἀρξάμενον μέχρι τῆς κέρκου. Γίνεται δ’ ἐκδυομένου τὰ ἐντὸς ἐκτός· (601a.) ἐκδύεται γὰρ ὥσπερ τὰ ἔμβρυα ἐκ τῶν χορίων.

Τὸν αὐτὸν δὲ τρόπον καὶ τῶν ἐντόμων ἐκδύνει τὸ γῆρας ὅσα ἐκδύνει, οἷον σίλφη καὶ ἐμπὶς καὶ τὰ κολεόπτερα, οἷον κάνθαρος. Πάντα δὲ μετὰ τὴν γένεσιν ἐκδύεται· ὥσπερ γὰρ τοῖς ζῳοτοκουμένοις τὸ χόριον καὶ τοῖς σκωληκοτοκουμένοις περιρρήγνυται τὸ κέλυφος, ὁμοίως καὶ μελίτταις καὶ ἀκρίσιν. Οἱ δὲ τέττιγες ὅταν ἐξέλθωσι, καθιζάνουσιν ἐπί τε τὰς ἐλαίας καὶ καλάμους. Περιρραγέντος δὲ τοῦ κελύφους ἐξέρχονται ἐγκαταλιπόντες ὑγρότητα μικράν, καὶ μετ’ οὐ πολὺν χρόνον ἀναπέτονται καὶ ᾄδουσιν.

Τῶν δὲ θαλαττίων οἱ κάραβοι καὶ ἀστακοὶ ἐκδύνουσιν ὁτὲ μὲν τοῦ ἔαρος ὁτὲ δὲ τοῦ μετοπώρου μετὰ τοὺς τόκους. Ἤδη δ’ εἰλημμένοι εἰσὶν ἔνιοι τῶν καράβων τὰ μὲν περὶ τὸν θώρακα μαλακὰ ἔχοντες διὰ τὸ περιερρωγέναι τὸ ὄστρακον, τὰ δὲ κάτω σκληρὰ διὰ τὸ μήπω περιερρωγέναι· τὴν γὰρ ἔκδυσιν ποιοῦνται οὐχ ὁμοίαν τοῖς ὄφεσιν. Φωλοῦσι δ’ οἱ κάραβοι περὶ πέντε μῆνας. Ἐκδύνουσι δὲ καὶ οἱ καρκίνοι τὸ γῆρας, οἱ μὲν μαλακόστρακοι ὁμολογουμένως, φασὶ δὲ καὶ τοὺς ὀστρακοδέρμους, οἷον τὰς μαίας. Ὅταν δ’ ἐκδύνωσι, μαλακὰ γίνεται πάμπαν τὰ ὄστρακα, καὶ οἵ γε καρκίνοι βαδίζειν οὐ σφόδρα δύνανται. Ἐκδύνει δὲ τὰ τοιαῦτα οὐχ ἅπαξ ἀλλὰ πολλάκις.

Ὅσα μὲν οὖν φωλεῖ καὶ πότε καὶ πῶς, ἔτι δὲ ποῖα καὶ πότε ἐκδύνει τὸ γῆρας, εἴρηται.

Κεφάλαιο 18

Εὐημεροῦσι δὲ τὰ ζῷα κατὰ τὰς ὥρας οὐ τὰς αὐτάς, οὐδ’ ἐν ταῖς ὑπερβολαῖς ὁμοίως ἁπάσαις· ἔτι δ’ ὑγίειαι καὶ νόσοι κατά τε τὰς ὥρας τοῖς ἑτερογενέσιν ἕτεραι καὶ τὸ σύνολον οὐχ αἱ αὐταὶ πᾶσιν.

Τοῖς μὲν οὖν ὄρνισιν οἱ αὐχμοὶ συμφέρουσι καὶ πρὸς τὴν ἄλλην ὑγίειαν καὶ πρὸς τοὺς τόκους, καὶ οὐχ ἥκιστα ταῖς φάτταις, τοῖς δ’ ἰχθύσιν ἔξω τινῶν ὀλίγων αἱ ἐπομβρίαι. Ἀσύμφορα δὲ τοὐναντίον ἑκατέροις, τοῖς μὲν ὄρνισι τὰ ἔπομβρα ἔτη (οὐδὲ γὰρ ὅλως συμφέρει τὸ πολὺ πίνειν), τοῖς δ’ ἰχθύσιν οἱ αὐχμοί. Τὰ μὲν οὖν γαμψώνυχα, καθάπερ εἴρηται πρότερον, ὡς ἁπλῶς (601b.) εἰπεῖν ἄποτα πάμπαν ἐστίν (ἀλλ’ Ἡσίοδος ἠγνόει τοῦτο· πεποίηκε γὰρ τὸν τῆς μαντείας πρόεδρον ἀετὸν ἐν τῇ διηγήσει τῇ περὶ τὴν πολιορκίαν τὴν Νίνου πίνοντα). Τὰ δ’ ἄλλα πίνει μέν, οὐ πολύποτα δ’ ἐστίν· ὁμοίως δ’ οὐδ’ ἄλλ’ οὐδὲν τῶν πλεύμονα ἐχόντων σομφὸν καὶ ᾠοτόκων. Τῶν δ’ ὀρνίθων ἐν ταῖς ἀρρωστίαις ἐπίδηλος ἡ πτέρωσις γίνεται· ταράττεται γάρ, καὶ οὐ τὴν αὐτὴν ἔχει κατάστασιν ἥνπερ ὑγιαινόντων.

Κεφάλαιο 19

Τῶν δ’ ἰχθύων τὸ πλεῖστον γένος εὐθηνεῖ μᾶλλον, ὥσπερ εἴρηται πρότερον, ἐν τοῖς ἐπομβρίοις ἔτεσιν· οὐ γὰρ μόνον τότε πλείω τροφὴν ἔχουσιν, ἀλλὰ καὶ ὅλως τὸ ὄμβριον συμφέρει, καθάπερ καὶ τοῖς ἐκ τῆς γῆς φυομένοις· καὶ γὰρ τὰ λάχανα καίπερ ἀρδευόμενα ὅμως ἐπιδίδωσιν ὑόμενα πλέον. Τὸ δ’ αὐτὸ καὶ οἱ κάλαμοι πάσχουσιν οἱ πεφυκότες ἐν ταῖς λίμναις· οὐδὲν γὰρ ὡς εἰπεῖν αὐξάνονται μὴ γινομένων ὑδάτων. Σημεῖον δὲ καὶ τὸ τοὺς πλείστους τῶν ἰχθύων εἰς τὸν Πόντον ἐκτοπίζειν θεριοῦντας· διὰ γὰρ τὸ πλῆθος τῶν ποταμῶν γλυκύτερον τὸ ὕδωρ, καὶ τροφὴν οἱ ποταμοὶ καταφέρουσι πολλήν. Ἔτι δὲ καὶ εἰς τοὺς ποταμοὺς ἀναπλέουσι πολλοὶ τῶν ἰχθύων, καὶ εὐθηνοῦσιν ἐν τοῖς ποταμοῖς καὶ ἐν ταῖς λίμναις, οἷον ἀμία καὶ κεστρεύς. Γίνονται δὲ καὶ οἱ κωβιοὶ πίονες ἐν τοῖς ποταμοῖς· καὶ ὅλως τὰ εὔλιμνα τῶν χωρίων ἀρίστους ἔχει ἰχθῦς. Αὐτῶν δὲ τῶν ὑδάτων οἱ θερινοὶ ὄμβροι μᾶλλον συμφέρουσι τοῖς πλείστοις ἰχθύσι, καὶ ὅταν τὸ ἔαρ καὶ τὸ θέρος καὶ τὸ φθινόπωρον γένηται ἐπόμβριον, ὁ δὲ χειμὼν εὐδιεινός. Ὡς δ’ εἰπεῖν ὅλως ὅταν καὶ κατὰ τοὺς ἀνθρώπους εὐετηρία ᾖ, καὶ τοῖς πλείστοις ἰχθύσι συμβαίνει εὐημερεῖν. Ἐν δὲ τοῖς ψυχροῖς τόποις οὐκ εὐθηνοῦσιν. Μάλιστα δὲ πονοῦσιν ἐν τοῖς χειμῶσιν οἱ ἔχοντες λίθον ἐν τῇ κεφαλῇ, οἷον χρομίς, λάβραξ, σκίαινα, φάγρος· διὰ γὰρ τὸν λίθον ὑπὸ τοῦ ψύχους καταπήγνυνται καὶ ἐκπίπτουσιν.

Τοῖς μὲν οὖν πλείστοις ἰχθύσι συμφέρει (602a.) μᾶλλον, κεστρεῖ δὲ καὶ κεφάλῳ καὶ ὃν καλοῦσί τινες μαρῖνον τοὐναντίον· ὑπὸ γὰρ τῶν ὀμβρίων ὑδάτων ἀποτυφλοῦνται οἱ πολλοὶ αὐτῶν θᾶττον, ἂν λίαν ὑπερβάλλωσιν. Εἰώθασι γὰρ πάσχειν αὐτὸ οἱ κέφαλοι ἐν τοῖς χειμῶσι μᾶλλον· γίνεται γὰρ αὐτῶν τὰ ὄμματα λευκά, καὶ ἁλίσκονται τότε λεπτοί, καὶ τέλος ἀπόλλυνται πάμπαν. Ἔοικε δ’ οὐ διὰ τὴν ὑπερομβρίαν τοῦτο πάσχειν μᾶλλον, ἀλλὰ διὰ τὸ ψῦχος· ἤδη γοῦν καὶ ἄλλοθι καὶ περὶ Ναυπλίαν τῆς Ἀργείας περὶ τὸ τέναγος πολλοὶ τυφλοὶ ἐλήφθησαν ἰσχυροῦ γενομένου ψύχους· ἐλήφθησαν δὲ πολλοὶ καὶ λευκὴν ἔχοντες τὴν ὄψιν. Πονεῖ δὲ τοῦ χειμῶνος καὶ ὁ χρύσοφρυς, τοῦ δὲ θέρους ὁ ἀχάρνας, καὶ γίνεται λεπτός. Συμφέρει δὲ τοῖς κορακίνοις ὡς εἰπεῖν παρὰ τοὺς ἄλλους ἰχθῦς τὰ αὐχμώδη μᾶλλον τῶν ἐτῶν· καὶ τούτοις δὲ διὰ τὸ συμβαίνειν ἀλέαν μᾶλλον ἐν τοῖς αὐχμοῖς.

Τόποι δ’ ἑκάστοις συμφέρουσι πρὸς εὐθηνίαν, ὅσα μέν ἐστι φύσει παράγεια ἢ πελάγια, ἐν ἑκατέρῳ τούτων, ὅσα δ’ ἐπαμφοτερίζει, ἐν ἀμφοτέροις· εἰσὶ δέ τινες καὶ ἴδιοι τόποι ἑκάστοις ἐν οἷς εὐθηνοῦσιν. Ὡς δ’ ἁπλῶς εἰπεῖν οἱ φυκώδεις συμφέρουσιν· πιότεροι γοῦν ἐν τοῖς τοιούτοις ἁλίσκονται, ὅσοι παντοδαποὺς νέμονται τόπους· οἱ μὲν γὰρ φυκιοφάγοι τροφῆς εὐποροῦσιν, οἱ δὲ σαρκοφάγοι πλείοσιν ἐντυγχάνουσιν ἰχθύσιν. Διαφέρουσι δὲ καὶ τὰ βόρεια καὶ τὰ νότια. Τὰ γὰρ μακρὰ μᾶλλον εὐθηνεῖ ἐν τοῖς βορείοις, καὶ τοῦ θέρους ἁλίσκονται ἐπὶ τοῦ αὐτοῦ χωρίου πλείους ἐν τοῖς βορείοις τῶν μακρῶν καὶ τῶν πλατέων.

Οἱ δὲ θύννοι καὶ οἱ ξιφίαι οἰστρῶσι περὶ κυνὸς ἐπιτολήν· ἔχουσι γὰρ ἀμφότεροι τηνικαῦτα παρὰ τὰ πτερύγια οἷον σκωλήκιον τὸ καλούμενον οἷστρον, ὅμοιον μὲν σκορπίῳ, μέγεθος δ’ ἡλίκον ἀράχνης· ποιοῦσι δὲ ταῦτα πόνον τοιοῦτον ὥστ’ ἐξάλλεσθαι οὐκ ἔλαττον ἐνίοτε τὸν ξιφίαν τοῦ δελφῖνος, διὸ καὶ τοῖς πλοίοις πολλάκις ἐμπίπτουσιν. Χαίρουσι δ’ οἱ θύννοι μάλιστα τῶν ἰχθύων τῇ ἀλέᾳ, καὶ πρὸς τὴν ἄμμον τὴν πρὸς τῇ γῇ (602b.) προσχωροῦσι τῆς ἀλέας ἕνεκεν, καὶ ἄνω ἐπιπολάζουσιν ὅτι θερμαίνονται.

Τὰ δὲ μικρὰ τῶν ἰχθυδίων σώζεται διὰ τὸ παροράσθαι· διώκουσι γὰρ τὰ μείζω οἱ μεγάλοι. Τῶν δ’ ᾠῶν καὶ τοῦ γόνου διαφθείρεται τὸ πολὺ διὰ τὰς ἀλέας· οὗ γὰρ ἂν ἐφάψωνται, πᾶν τοῦτο λυμαίνονται.

Ἁλίσκονται δὲ μάλιστα οἱ ἰχθύες πρὸ ἡλίου ἀνατολῆς καὶ μετὰ τὴν δύσιν, ὅλως δὲ περὶ δυσμὰς ἡλίου καὶ ἀνατολάς· οὗτοι γὰρ λέγονται εἶναι ὡραῖοι βόλοι, διὸ καὶ τὰ δίκτυα ταύτην τὴν ὥραν ἀναιροῦνται οἱ ἁλιεῖς. Μάλιστα γὰρ ἀπατῶνται οἱ ἰχθύες τῇ ὄψει κατὰ τούτους τοὺς καιρούς· τῆς μὲν γὰρ νυκτὸς ἡσυχάζουσι, πλείονος δὲ γενομένου τοῦ φωτὸς μᾶλλον ὁρῶσιν.

Νόσημα δὲ λοιμῶδες μὲν οὐδὲν εἰς τοὺς ἰχθῦς φαίνεται ἐμπῖπτον, οἷον ἐπὶ τῶν ἀνθρώπων συμβαίνει πολλάκις καὶ τῶν ζῳοτόκων καὶ τετραπόδων εἰς ἵππους καὶ βοῦς, καὶ τῶν ἄλλων εἰς ἔνια καὶ ἥμερα καὶ ἄγρια· νοσεῖν μέντοι γε δοκοῦσιν· τεκμαίρονται δ’ οἱ ἁλιεῖς τῷ ἐνίους ἁλίσκεσθαι λεπτοὺς καὶ ἠσθενηκόσιν ὁμοίους καὶ τὸ χρῶμα μεταβεβληκότας ἐν πολλοῖς καὶ πίοσιν ἑαλωκότας καὶ τῷ γένει τῷ αὐτῷ. Περὶ μὲν οὖν τῶν θαλαττίων τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 20

Τοῖς δὲ ποταμίοις καὶ λιμναίοις λοιμῶδες μὲν οὐδὲ τούτοις οὐδὲν γίνεται, ἐνίοις δ’ αὐτῶν ἴδια νοσήματα ἐμπίπτει, οἷον ὁ γλάνις ὑπὸ κύνα μάλιστα διὰ τὸ μετέωρος νεῖν ἀστροβλής τε γίνεται καὶ ὑπὸ βροντῆς νεανικῆς καροῦται. Πάσχει δέ ποτε τοῦτο καὶ ὁ κυπρῖνος, ἧττον δέ. Οἱ δὲ γλάνεις ἐν τοῖς βραχέσι καὶ ὑπὸ δράκοντος τοῦ ὄφεως τυπτόμενοι ἀπόλλυνται πολλοί. Ἐν δὲ τῷ βαλέρῳ καὶ τίλωνι ἑλμὶς ἐγγινομένη ὑπὸ κύνα μετεωρίζει τε καὶ ἀσθενῆ ποιεῖ· μετέωρος δὲ γινόμενος ὑπὸ τοῦ καύματος ἀπόλλυται. Τῇ δὲ χαλκίδι νόσημα ἐμπίπτει νεανικόν· φθεῖρες ὑπὸ τὰ βράγχια γινόμενοι πολλοὶ ἀναιροῦσιν. Τῶν δ’ ἄλλων ἰχθύων οὐδενὶ οὐδὲν τοιοῦτόν ἐστι νόσημα.

Ἀποθνήσκουσι δ’ οἱ ἰχθύες τῷ πλόμῳ· διὸ καὶ θηρεύουσιν οἱ μὲν ἄλλοι τοὺς ἐν τοῖς ποταμοῖς καὶ (603a.) λίμναις πλομίζοντες, οἱ δὲ Φοίνικες καὶ τοὺς ἐν τῇ θαλάττῃ. Ποιοῦνται δέ τινες καὶ δύ’ ἄλλας θήρας τῶν ἰχθύων. Διὰ γὰρ τὸ φεύγειν ἐν τῷ χειμῶνι τὰ βαθέα ἐν τοῖς ποταμοῖς (καὶ γὰρ ἄλλως τὸ πότιμον ὕδωρ ψυχρόν) ὀρύττουσι τάφρον εἰς τὸν ποταμὸν διὰ ξηροῦ· εἶτα ταύτην καταστεγάσαντες χόρτῳ καὶ λίθοις οἷον γωλεὸν ποιοῦσιν, ἔκδυσιν ἔχοντα ἐκ τοῦ ποταμοῦ· καὶ ὅταν πάγος ᾖ, ἐκ τούτου κύρτῳ θηρεύουσι τοὺς ἰχθῦς. Καὶ ἄλλην δὲ θήραν ποιοῦνται ὁμοίως θέρους καὶ χειμῶνος· ἐν μέσῳ τῷ ποταμῷ φρυγάνοις καὶ λίθοις περιφράξαντες ὅσον στόμα καταλείπουσιν· καὶ ἐν τούτῳ κύρτον ἐνθέντες θηρεύουσιν, περιελόντες τοὺς λίθους.

Τῶν δ’ ὀστρακοδέρμων συμφέρει τοῖς ἄλλοις τὰ ἔπομβρα ἔτη, πλὴν ταῖς πορφύραις. Σημεῖον δέ· ὅταν γὰρ τεθῇ οὗ ποταμὸς ἐξερεύγεται, καὶ γεύσωνται τοῦ ὕδατος, ἀποθνήσκουσιν αὐθημερόν. Καὶ ζῇ δ’ ἡ πορφύρα, ὅταν θηρευθῇ, περὶ ἡμέρας πεντήκοντα. Τρέφονται δ’ ὑπ’ ἀλλήλων· ἐπιγίνεται γὰρ ἐπὶ τοῖς ὀστράκοις ὥσπερ φῦκός τι καὶ βρύον.

Ἃ δ’ ἐμβάλλουσιν εἰς τροφὴν αὐταῖς, τοῦ σταθμοῦ φασι χάριν εἶναι πρὸς τὸ πλέον ἕλκειν. Τοῖς δ’ ἄλλοις οἱ αὐχμοὶ ἀσύμφοροι· ἐλάττω γὰρ καὶ χείρω γίνεται, καὶ οἱ πυρροὶ τότε γίνονται μᾶλλον κτένες. Ἐν δὲ τῷ Πυρραίῳ ποτ’ εὐρίπῳ ἐξέλιπον οἱ κτένες οὐ μόνον διὰ τὸ ὄργανον ᾧ θηρεύοντες ἀνέξυον, ἀλλὰ καὶ διὰ τοὺς αὐχμούς. Καὶ τοῖς ἄλλοις δ’ ὀστρακοδέρμοις τὰ ἔπομβρα ἔτη συμφέρει διὰ τὸ γλυκυτέραν γίνεσθαι τὴν θάλατταν. Ἐν δὲ τῷ Πόντῳ διὰ τὸ ψῦχος οὐ γίνονται, οὐδ’ ἐν τοῖς ποταμοῖς ἀλλ’ ἢ ὀλίγα τῶν διθύρων· τὰ δὲ μονόθυρα μάλιστα ἐν τοῖς πάγοις ἐκπήγνυται.

Κεφάλαιο 21

Περὶ μὲν οὖν τὰ ἔνυδρα τῶν ζῴων τοῦτον ἔχει τὸν τρόπον· τῶν δὲ τετραπόδων αἱ μὲν ὕες νοσήμασι μὲν κάμνουσι τρισίν, ὧν ἓν μὲν καλεῖται βράγχος, ἐν ᾧ μάλιστα τὰ περὶ τὰ βράγχια καὶ τὰς σιαγόνας φλεγμαίνει. Γίνεται δὲ καὶ (603b.) ὅπου ἂν τύχῃ τοῦ σώματος· πολλάκις γὰρ τοῦ ποδὸς λαμβάνεται, ὁτὲ δ’ ἐν τῷ ὠτί. Γίνεται δὲ σαπρὸν εὐθὺς καὶ τὸ ἐχόμενον, ἕως ἂν ἔλθῃ πρὸς τὸν πλεύμονα· τότε δ’ ἀποθνήσκει. Ταχὺ δ’ αὐξάνεται· καὶ οὐδὲν ἐσθίει, ὅταν ἄρξηται τὸ πάθος κἂν ὁσονοῦν. Ἰῶνται δ’ οἱ ὑοβοσκοί, ὅταν αἴσθωνται μικρὸν ὄν, ἄλλον μὲν οὐδένα τρόπον, ἀποτέμνουσι δ’ ὅλον.

Δύο δ’ ἄλλ’ ἐστί, λέγεται δὲ κραυρᾶν ἄμφω· ὧν τὸ μὲν ἕτερόν ἐστι κεφαλῆς πόνος καὶ βάρος, ᾧ αἱ πλεῖσται ἁλίσκονται, τὸ δ’ ἕτερον, ἡ κοιλία ῥεῖ. Καὶ τοῦτο μὲν δοκεῖ εἶναι ἀνίατον, θατέρῳ δὲ βοηθοῦσιν οἶνον προσφέροντες πρὸς τοὺς μυκτῆρας καὶ κλύζοντες τοὺς μυκτῆρας οἴνῳ. Διαφεύγειν δὲ καὶ τοῦτο χαλεπόν· ἀναιρεῖ μὲν γὰρ ἐν ἡμέραις τρισὶν ἢ τέτταρσιν. Βραγχῶσι δὲ μάλιστα, ὅταν τὸ θέρος ἐνέγκῃ σῦκα καὶ πιόταται ὦσιν· βοηθεῖ δὲ τά τε συκάμινα διδόμενα καὶ τὸ λουτρὸν ἐὰν πολὺ ᾖ καὶ θερμόν, καὶ ἐάν τις σχάσῃ ὑπὸ τὴν γλῶτταν.

Χαλαζώδεις δ’ εἰσὶ τῶν ὑῶν αἱ ὑγρόσαρκοι τά τε περὶ τὰ σκέλη καὶ τὰ περὶ τὸν τράχηλον καὶ τοὺς ὤμους, ἐν οἷς μέρεσι καὶ πλεῖσται γίνονται χάλαζαι· κἂν μὲν ὀλίγας ἔχῃ, γλυκυτέρα ἡ σάρξ, ἂν δὲ πολλάς, ὑγρὰ λίαν καὶ διάχυλος γίνεται. Δῆλαι δ’ εἰσὶν αἱ χαλαζῶσαι· ἔν τε γὰρ τῇ γλώττῃ τῇ κάτω ἔχουσι μάλιστα τὰς χαλάζας, καὶ ἐάν τις τρίχας ἐκτίλλῃ ἐκ τῆς λοφιᾶς, ὕφαιμοι φαίνονται· ἔτι δὲ τὰ χαλαζῶντα τοὺς ὀπισθίους πόδας οὐ δύνανται ἡσυχάζειν. Οὐκ ἔχουσι δὲ χαλάζας, ἕως ἂν ὦσι γαλαθηναὶ μόνον. Ἐκβάλλουσι δὲ τὰς χαλάζας ταῖς τίφαις· ὃ καὶ πρὸς τὴν τροφήν ἐστι χρήσιμον.

Ἄριστον δὲ πρὸς τὸ πιαίνειν καὶ τρέφειν οἱ ἐρέβινθοι καὶ τὰ σῦκα, τὸ δ’ ὅλον μὴ ποιεῖν ἁπλῆν τὴν τροφὴν ἀλλὰ ποικίλην· χαίρει γὰρ μεταβάλλουσα καθάπερ καὶ τἆλλα ζῷα, καὶ ἅμα φασὶ τὸ μὲν ἐμφυσᾶν τὸ δὲ σαρκοῦν τὸ δὲ πιαίνειν τῶν προσφερομένων, τὰς δὲ βαλάνους ἡδέως μὲν ἐσθίειν, ποιεῖν δ’ ὑγρὰν τὴν σάρκα· καὶ ἐὰν κύουσαι πλείους (604a.) ἐσθίωσιν, ἐκβάλλουσιν ὥσπερ καὶ τὰ πρόβατα· ταῦτα γὰρ ἐπιδηλοτέρως τοῦτο πάσχει διὰ τὰς βαλάνους. Χαλαζᾷ δὲ μόνον τῶν ζῴων ὧν ἴσμεν ὗς.

Κεφάλαιο 22

Οἱ δὲ κύνες κάμνουσι νοσήμασι τρισίν· ὀνομάζεται δὲ ταῦτα λύττα, κυνάγχη, ποδάγρα. Τούτων ἡ λύττα ἐμποιεῖ μανίαν, καὶ ὅταν δάκῃ, λυττῶσιν ἅπαντα τὰ δηχθέντα πλὴν ἀνθρώπου· καὶ ἀναιρεῖ δὲ τὸ νόσημα τοῦτο τάς τε κύνας καὶ ἄν τι δηχθῇ ὑπὸ λυττώσης πλὴν ἀνθρώπου. Ἀναιρεῖ δὲ καὶ ἡ κυνάγχη τὰς κύνας· ὀλίγαι δὲ καὶ ἐκ τῆς ποδάγρας περιφεύγουσιν. Λαμβάνει δ’ ἡ λύττα καὶ τὰς καμήλους. Τοὺς δ’ ἐλέφαντας πρὸς μὲν τὰ ἄλλα ἀρρωστήματα ἀνόσους εἶναί φασιν, ἐνοχλεῖσθαι δ’ ὑπὸ φυσῶν.

Κεφάλαιο 23

Οἱ δὲ βόες οἱ ἀγελαῖοι νοσοῦσι δύο νόσους, ὧν τὸ μὲν ποδάγρα τὸ δὲ κραῦρος καλεῖται. Ἐν μὲν οὖν τῇ ποδάγρᾳ τοὺς πόδας οἰδοῦσιν, οὐκ ἀποθνήσκουσι δ’ οὐδὲ τὰς ὁπλὰς ἀποβάλλουσιν· βέλτιον δ’ ἴσχουσι τῶν κεράτων ἀλειφομένων πίσσῃ θερμῇ. Ὅταν δὲ κραυρᾷ, τὸ πνεῦμα γίνεται θερμὸν καὶ πυκνόν· καὶ ὅ ἐστιν ἐν τοῖς ἀνθρώποις πυρετός, τοῦτό ἐστιν ἐν τοῖς βουσὶ τὸ κραυρᾶν. Σημεῖον δὲ τῆς ἀρρωστίας τὰ ὦτα καταβάλλουσι καὶ οὐ δύνανται ἐσθίειν. Ἀποθνήσκουσι δὲ ταχέως, καὶ ἀνοιχθέντων ὁ πλεύμων φαίνεται σαπρός.

Κεφάλαιο 24

Τῶν δ’ ἵππων αἱ μὲν φορβάδες ἄνοσοι τῶν ἄλλων ἀρρωστημάτων εἰσὶ πλὴν ποδάγρας, ταύτῃ δὲ κάμνουσι, καὶ ἐνίοτε ἀποβάλλουσι τὰς ὁπλάς· ὅταν δ’ ἀποβάλωσι, πάλιν φύουσιν εὐθύς· γίνεται γὰρ ἅμα τῆς ἑτέρας ὑποφυομένης ἡ τῆς ἑτέρας ὁπλῆς ἀποβολή. Σημεῖον δὲ τῆς ἀρρωστίας· ὁ γὰρ ὄρχις ἅλλεται ὁ δεξιός, ἢ κατὰ μέσον ὀλίγον κάτωθεν τῶν μυκτήρων ἔγκοιλόν τι γίνεται καὶ ῥυτιδῶδες.

Οἱ δὲ τροφίαι ἵπποι πλείστοις ἀρρωστήμασι κάμνουσιν. Λαμβάνει γὰρ καὶ εἰλεός· σημεῖον δὲ τῆς ἀρρωστίας τὰ (604b.) ὀπίσθια σκέλη ἐφέλκουσιν ἐπὶ τὰ ἐμπρόσθια καὶ ὑποφέρουσιν, ὥστε ὀλίγου συγκρούειν. Ἐὰν δ’ ἀσιτήσας τὰς ἔμπροσθεν ἡμέρας εἶτα μανῇ, αἷμα ἀφαιροῦντες βοηθοῦσι καὶ ἐκτέμνοντες. Λαμβάνει δὲ καὶ τέτανος· σημεῖον δ’ αἱ φλέβες τέτανται πᾶσαι καὶ κεφαλὴ καὶ αὐχήν, καὶ προβαίνει εὐθέσι τοῖς σκέλεσιν. Γίνονται δὲ καὶ ἔμπυοι οἱ ἵπποι. Λαμβάνει δὲ καὶ ἄλλος αὐτοὺς πόνος, καλεῖται δὲ τοῦτο κριθιᾶν· σημεῖον δὲ τοῦ ἀρρωστήματος μαλακὸς γίνεται ὁ οὐρανὸς καὶ θερμὸν πνεῖ. Ἀνίατα δέ, ἂν μὴ αὐτόματα καταστῇ.

Τὸ δὲ νυμφιᾶν καλούμενον, ἐν ᾧ συμβαίνει κατέχεσθαι ὅταν αὐλῇ τις, καὶ κατωπιᾶν· καὶ ὅταν ἀναβῇ τις, τροχάζει, ἕως ἂν μέλλῃ τις κατασχεῖν· κατηφεῖ δ’ ἀεί, καὶ ὅταν λυττήσῃ. Σημεῖον δὲ καὶ τούτου τὰ ὦτα καταβάλλει πρὸς τὴν χαίτην καὶ πάλιν προτείνει, καὶ ἐκλείπει, καὶ πνεῖ.

Ἀνίατα δὲ καὶ τάδε, ἐὰν καρδίαν ἀλγήσῃ (σημεῖον δὲ λαπαρὸς ὢν ἀλγεῖ), καὶ ἐὰν ἡ κύστις μεταστῇ (σημεῖον δὲ καὶ τούτου τὸ μὴ δύνασθαι οὐρεῖν, καὶ τὰς ὁπλὰς καὶ τὰ ἰσχία ἐφέλκει), καὶ ἐὰν σταφύλινον περιχάνῃ· τοῦτο δ’ ἐστὶν ἡλίκον σφονδύλη.

Τὰ δὲ δήγματα τῆς μυγαλῆς καὶ τοῖς ἄλλοις ὑποζυγίοις χαλεπά· γίνονται δὲ φλύκταιναι. Χαλεπώτερον δὲ τὸ δῆγμα, ἐὰν κύουσα δάκῃ· ἐκρήγνυνται γὰρ αἱ φλύκταιναι, εἰ δὲ μή, οὔ. Ἀποκτείνει δὲ δάκνουσα ἢ σφόδρα ποιεῖ ἀλγεῖν καὶ ἡ καλουμένη χαλκὶς ὑπὸ τινῶν, ὑπὸ δ’ ἐνίων ζιγνίς· ἔστι δ’ ὅμοιον ταῖς μικραῖς σαύραις, τὸ δὲ χρῶμα τοῖς τυφλίνοις ὄφεσιν. Ὅλως δέ φασιν οἱ ἔμπειροι, σχεδὸν ὅσαπερ ἀρρωστήματα ἀρρωστεῖ ἄνθρωπος, καὶ ἵππον ἀρρωστεῖν καὶ πρόβατον. Ὑπὸ φαρμάκου δὲ διαφορεῖται καὶ ἵππος καὶ πᾶν ὑποζύγιον σανδαράκης· δίδοται δ’ ἐν ὕδατι καὶ διηθεῖται. Καὶ ἐκβάλλει δὲ κύουσα ἵππος ὀσμῇ λύχνου ἀποσβεννυμένου· συμβαίνει (605a.) δὲ τοῦτο καὶ γυναιξὶν ἐνίαις κυούσαις. Περὶ μὲν οὖν τὰς νόσους τῶν ἵππων τοῦτον ἔχει τὸν τρόπον.

Τὸ δ’ ἱππομανὲς καλούμενον ἐπιφύεται μέν, ὥσπερ λέγεται, τοῖς πώλοις, αἱ δ’ ἵπποι περιλείχουσαι καὶ καθαίρουσαι ἀποτρώγουσιν αὐτό· τὰ δ’ ἐπιμυθευόμενα πέπλασται μᾶλλον ὑπὸ γυναικῶν καὶ τῶν περὶ τὰς ἐπῳδάς. Ὁμολογουμένως δὲ καὶ τὸ καλούμενον πώλιον αἱ ἵπποι προεκβάλλουσι πρὸ τοῦ πώλου.

Γινώσκουσι δ’ οἱ ἵπποι καὶ τὴν φωνὴν ἀκούοντες τῶν ἵππων, οἷς ἂν μαχεσάμενοι τύχωσιν. Χαίρουσι δ’ οἱ ἵπποι τοῖς λειμῶσι καὶ τοῖς ἕλεσιν· καὶ γὰρ τῶν ὑδάτων τὰ θολερὰ πίνουσι, κἂν ᾖ καθαρά, ἀνατρέπουσιν αὐτὰ οἱ ἵπποι ταῖς ὁπλαῖς, εἶτα πιοῦσαι λούονται. Καὶ γὰρ ὅλως ἐστὶ φιλόλουτρον τὸ ζῷον καὶ φίλυδρον· διὸ καὶ ἡ τοῦ ποταμίου ἵππου φύσις οὕτω συνέστηκεν. Ὁ δὲ βοῦς τοὐναντίον τοῦ ἵππου· ἂν γὰρ μὴ καθαρὸν ᾖ τὸ ὕδωρ καὶ ψυχρὸν καὶ ἀκέραιον, οὐκ ἐθέλει πιεῖν.

Κεφάλαιο 25

Οἱ δ’ ὄνοι νοσοῦσι μάλιστα νόσον μίαν, ἣν καλοῦσι μηλίδα. Γίνεται δὲ περὶ τὴν κεφαλὴν πρῶτον, καὶ ῥεῖ φλέγμα κατὰ τοὺς μυκτῆρας παχὺ καὶ πυρρόν· ἐὰν δὲ πρὸς τὸν πλεύμονα καταβῇ, ἀποκτείνει· τὰ δὲ περὶ τὴν κεφαλὴν οὐ θανάσιμα. Δυσριγότατον δ’ ἐστὶ τῶν τοιούτων ζῴων· διὸ καὶ περὶ τὸν Πόντον καὶ τὴν Σκυθικὴν οὐ γίνονται ὄνοι.

Κεφάλαιο 26

Οἱ δ’ ἐλέφαντες κάμνουσι τοῖς φυσώδεσι νοσήμασιν· διὸ οὔτε τὸ ὑγρὸν περίττωμα προΐεσθαι δύνανται οὔτε τὰ τῆς κοιλίας. Καὶ ἐὰν γῆν ἐσθίῃ, μαλακίζεται, ἐὰν μὴ συνεχῶς· εἰ δὲ συνεχῶς, οὐδὲν βλάπτεται. Καταπίνει δὲ καὶ λίθους ἐνίοτε. Ἁλίσκεται δὲ καὶ διαρροίᾳ· ὅταν δ’ ἁλῷ, ἰατρεύουσιν ὕδωρ θερμὸν διδόντες πίνειν, καὶ τὸν χόρτον εἰς μέλι βάπτοντες διδόασιν ἐσθίειν, καὶ ἵστησιν ἑκάτερον τούτων.

Ὅταν δὲ κοπιάσωσι διὰ τὸ μὴ κοιμηθῆναι, ἁλὶ τριβόμενοι καὶ ἐλαίῳ καὶ ὕδατι θερμῷ τοὺς ὤμους ὑγιάζονται. Καὶ (605b.) ὅταν τοὺς ὤμους ἀλγῇ, ὕεια κρέα ὀπτήσαντες προστιθέασι, καὶ βοηθεῖ αὐτοῖς. Ἔλαιον δ’ οἱ μὲν πίνουσιν οἱ δ’ οὒ τῶν ἐλεφάντων· κἂν τύχῃ σιδήριόν τι ἐν τῷ σώματι ἐνόν, τὸ ἔλαιον ἐκβάλλει, ὅταν πίωσιν, ὡς φασί· τοῖς δὲ μὴ πίνουσι ῥίζαν ἑψήσαντες ἐν ἐλαίῳ διδόασιν.

Κεφάλαιο 27

Περὶ μὲν οὖν τῶν τετραπόδων ζῴων τοῦτον ἔχει τὸν τρόπον. Τῶν δ’ ἐντόμων τὰ πλεῖστα εὐθηνεῖ ἐν ᾗπερ ὥρᾳ καὶ γίνεται, ὅταν τοιοῦτον ᾖ τὸ ἔτος οἷον τὸ ἔαρ, ὑγρὸν καὶ ἀλεεινόν. Ταῖς δὲ μελίτταις ἐγγίνεται ἐν τοῖς σμήνεσι θηρία ἃ λυμαίνεται τὰ κηρία, τό τε σκωλήκιον τὸ ἀραχνιοῦν καὶ λυμαινόμενον τὰ κηρία (καλεῖται δὲ κλῆρος, οἱ δὲ πυραύστην καλοῦσιν· ὃς ἐντίκτει ἐν τῷ κηρίῳ ὅμοιον ἑαυτῷ οἷον ἀράχνιον, καὶ νοσεῖν ποιεῖ τὸ σμῆνος), καὶ ἄλλο θηρίον, οἷον ὁ ἠπίολος ὁ περὶ τὸν λύχνον πετόμενος· οὗτος ἐντίκτει τι χνοῦ ἀνάπλεων, καὶ οὐ κεντεῖται ὑπὸ τῶν μελιττῶν, ἀλλὰ μόνον φεύγει καπνιζόμενος. Ἐγγίνονται δὲ καὶ κάμπαι ἐν τοῖς σμήνεσιν [ἃς καλοῦσι τερηδόνας], ἃς οὐκ ἀμύνονται αἱ μέλιτται. Νοσοῦσι δὲ μάλιστα ὅταν ἐρυσιβώδη τὰ ἄνθη ἡ ὕλη ἐνέγκῃ, καὶ ἐν τοῖς αὐχμηροῖς ἔτεσιν. Πάντα δὲ τὰ ἔντομα ἀποθνήσκει ἐλαιούμενα· τάχιστα δ’, ἄν τις τὴν κεφαλὴν ἀλείψας ἐν τῷ ἡλίῳ θῇ.

Κεφάλαιο 28

Διαφέρει δὲ τὰ ζῷα καὶ κατὰ τοὺς τόπους· ὥσπερ γὰρ ἔν τισιν ἔνια οὐ γίνεται παντάπασιν, οὕτως ἐν ἐνίοις τόποις γίνεται μὲν ἐλάττω δὲ καὶ ὀλιγοβιώτερα, καὶ οὐκ εὐημερεῖ.

Καὶ ἐνίοτε ἐν τοῖς πάρεγγυς τόποις ἡ διαφορὰ γίνεται τῶν τοιούτων, οἷον τῆς Μιλησίας ἐν τόποις γειτνιῶσιν ἀλλήλοις ἔνθα μὲν γίνονται τέττιγες ἔνθα δ' οὐ γίνονται, καὶ ἐν Κεφαληνίᾳ ποταμὸς διείργει, οὗ ἐπὶ τάδε μὲν γίνονται τέττιγες, ἐπ' ἐκεῖνα δ' οὐ γίνονται. Ἐν δὲ Πορδοσελήνῃ ὁδὸς διείργει, ἧς ἐπ' ἐκεῖνα μὲν γαλῆ γίνεται, ἐπὶ θάτερα δ' οὐ γίνεται.

Καὶ ἐν τῇ Βοιωτίᾳ ἀσπάλακες περὶ μὲν τὸν Ὀρχομενὸν (606a.) πολλοὶ γίνονται, ἐν δὲ τῇ Λεβαδιακῇ γειτνιώσῃ οὐκ εἰσίν, οὐδ' ἄν τις κομίσῃ, ἐθέλουσιν ὀρύττειν. Ἐν Ἰθάκῃ δ' οἱ δασύποδες, ἐάν τις ἀφῇ κομίσας, οὐ δύνανται ζῆν, ἀλλὰ φαίνονται τεθνεῶτες πρὸς τῇ θαλάττῃ ἐστραμμένοι, ᾗπερ ἂν εἰσαχθῶσιν. Καὶ ἐν μὲν Σικελίᾳ ἱππομύρμηκες οὐκ εἰσίν, ἐν δὲ Κυρήνῃ οἱ φωνοῦντες βάτραχοι πρότερον οὐκ ἦσαν. Ἐν δὲ Λιβύῃ πάσῃ οὔτε σῦς ἄγριός ἐστιν οὔτ' ἔλαφος οὔτ' αἷξ ἄγριος· ἐν δὲ τῇ Ἰνδικῇ, ὡς φησὶ Κτησίας οὐκ ὢν ἀξιόπιστος, οὔτ' ἄγριος οὔτε ἥμερος ὗς, τὰ δ' ἄναιμα καὶ τὰ φολιδωτὰ πάντα μεγάλα. Καὶ ἐν μὲν τῷ Πόντῳ οὔτε τὰ μαλάκια γίνεται οὔτε τὰ ὀστρακόδερμα, εἰ μὴ ἔν τισι τόποις ὀλίγα· ἐν δὲ τῇ ἐρυθρᾷ θαλάττῃ ὑπερμεγέθη τὰ ὀστρακόδερμα πάντα.

Ἐν δὲ Συρίᾳ τὰ πρόβατα τὰς οὐρὰς ἔχει τὸ πλάτος πήχεως, τὰ δ' ὦτα αἱ αἶγες σπιθαμῆς καὶ παλαιστῆς, καὶ ἔνιαι συμβάλλουσι κάτω τὰ ὦτα πρὸς τὴν γῆν· καὶ οἱ βόες, ὥσπερ αἱ κάμηλοι, κάλας ἔχουσιν ἐπὶ τῶν ἀκρωμίων. Καὶ ἐν Λυκίᾳ αἱ αἶγες κείρονται, ὥσπερ τὰ πρόβατα παρὰ τοῖς ἄλλοις. Καὶ ἐν μὲν Λιβύῃ εὐθὺς γίνεται κέρατα ἔχοντα τὰ κερατώδη τῶν ζῴων, οὐ μόνον οἱ ἄρνες, ὥσπερ φησὶν Ὅμηρος, ἀλλὰ καὶ τἆλλα· ἐν δὲ τῷ Πόντῳ περὶ τὴν Σκυθικὴν τοὐναντίον· ἀκέρατα γὰρ γίνονται.

Καὶ ἐν Αἰγύπτῳ τὰ μὲν ἄλλα μείζω ἢ ἐν τῇ Ἑλλάδι, καθάπερ οἱ βόες καὶ τὰ πρόβατα, τὰ δ' ἐλάττω, οἷον οἱ κύνες καὶ λύκοι καὶ λαγωοὶ καὶ ἀλώπεκες καὶ κόρακες καὶ ἱέρακες, τὰ δὲ παραπλήσια, οἷον κορῶναι καὶ αἶγες. Αἰτιῶνται δὲ τὰς τροφάς, ὅτι τοῖς μὲν ἄφθονος τοῖς δὲ σπανία, οἷον τοῖς λύκοις καὶ τοῖς ἱέραξι, τοῖς μὲν γὰρ σαρκοφάγοις ὀλίγη· σπάνια (606b.) γὰρ τὰ μικρὰ ὄρνεα·

τοῖς δὲ δασύποσι, καὶ ὅσα μὴ σαρκοφάγα, ὅτι οὔτ' ἀκρόδρυα οὔτ' ὀπώρα χρόνιος.

Πολλαχοῦ δὲ καὶ ἡ κρᾶσις αἰτία, οἷον ἐν τῇ Ἰλλυρίδι καὶ τῇ Θρᾴκῃ καὶ τῇ Ἠπείρῳ οἱ ὄνοι μικροί, ἐν δὲ τῇ Σκυθικῇ καὶ Κελτικῇ ὅλως οὐ γίνονται· δυσχείμερα γὰρ ταῦτα.

Ἐν δ' Ἀραβίᾳ σαῦραι μείζους πηχυαίων γίνονται καὶ μύες πολὺ μείζους τῶν ἀρουραίων, τὰ μὲν ὀπίσθια σκέλη ἔχοντες καὶ σπιθαμῆς, τὰ δὲ πρόσθια ὅσον ἄχρι τῆς πρώτης καμπῆς τῶν δακτύλων.

Ἐν δὲ τῇ Λιβύῃ τὸ τῶν ὄφεων μέγεθος γίνεται ἄπλετον, ὥσπερ καὶ λέγεται· ἤδη γάρ φασί τινες προσπλεύσαντες ἰδεῖν ὀστᾶ βοῶν πολλῶν, ἃ δῆλον γενέσθαι αὐτοῖς ὅτι ὑπ' ὄφεων ἦν κατεδηδεσμένα· ἀναγομένων γὰρ διώκειν ταχὺ τὰς τριήρεις αὐτούς, καὶ ἐνίους αὐτῶν ἐμβαλεῖν ἀνατρέψαντας τὴν τριήρη.

Ἔτι δὲ λέοντες μὲν ἐν τῇ Λιβύῃ μᾶλλον, καὶ τῆς Ἐυρώπης ἐν τῷ μεταξὺ τόπῳ τοῦ Ἀχελῴου καὶ Νέσσου ποταμοῦ· παρδάλεις δ' ἐν τῇ Ἀσίᾳ, ἐν δὲ τῇ Εὐρώπῃ οὐ γίνονται.

Ὅλως δὲ τὰ μὲν ἄγρια ἀγριώτερα ἐν τῇ Ἀσίᾳ, ἀνδρειότερα δ' ἐν τῇ Εὐρώπῃ πάντα, πολυμορφότατα δ' ἐν τῇ Λιβύῃ· καὶ λέγεται δέ τις παροιμία, ὅτι ἀεὶ Λιβύη φέρει τι καινόν. Διὰ γὰρ τὴν ἀνομβρίαν μίσγεσθαι δοκεῖ ἀπαντῶντα πρὸς τὰ ὑδάτια καὶ τὰ μὴ ὁμόφυλα, καὶ ἐκφέρειν ὧν οἱ χρόνοι οἱ τῆς κυήσεως οἱ αὐτοὶ καὶ τὰ μεγέθη μὴ πολὺ ἀπ' ἀλλήλων· πρὸς ἄλληλα δὲ πραΰνεται διὰ τὴν τοῦ ποτοῦ χρείαν. Καὶ γὰρ καὶ δέονται τοῦ πίνειν τοὐναντίον τῶν ἄλλων τοῦ χειμῶνος μᾶλλον ἢ τοῦ θέρους· διὰ γὰρ τὸ μὴ εἰωθέναι ὕδατα γίνεσθαι τοῦ θέρους ἀσύνηθες αὐτοῖς τὸ πίνειν ἐστίν. Καὶ οἵ γε μύες ὅταν πίωσιν, (607a.) ἀποθνήσκουσιν. Γίνεται δὲ καὶ ἄλλα ἐκ μίξεως μὴ ὁμοφύλων, ὥσπερ καὶ ἐν Κυρήνῃ οἱ λύκοι μίσγονται ταῖς κυσὶ καὶ γεννῶσι, καὶ ἐξ ἀλώπεκος καὶ κυνὸς οἱ Λακωνικοί. Φασὶ δὲ καὶ ἐκ τοῦ τίγριος καὶ κυνὸς γίνεσθαι τοὺς Ἰνδικούς, οὐκ εὐθὺς δ' ἀλλ' ἐπὶ τῆς τρίτης μίξεως· τὸ γὰρ πρῶτον γεννηθὲν θηριῶδες γίνεσθαί φασιν. Ἄγοντες δὲ δεσμεύουσιν εἰς τὰς ἐρημίας τὰς κύνας· καὶ πολλαὶ κατεσθίονται, ἐὰν μὴ τύχῃ ὀργῶν πρὸς τὴν ὀχείαν τὸ θηρίον.

Κεφάλαιο 29

Ποιοῦσι δ’ οἱ τόποι διαφέροντα καὶ τὰ ἤθη, οἷον οἱ ὀρεινοὶ καὶ τραχεῖς τῶν ἐν τοῖς πεδινοῖς καὶ μαλακοῖς· καὶ γὰρ τὰς ὄψεις ἀγριώτερα καὶ ἀλκιμώτερα, καθάπερ καὶ οἱ ἐν τῷ Ἄθῳ ὕες· τούτων γὰρ οὐδὲ τὰς θηλείας ὑπομένουσι τῶν κάτω οἱ ἄρρενες.

Καὶ πρὸς τὰ δήγματα δὲ τῶν θηρίων μεγάλην ἔχουσιν αἱ χῶραι διαφοράν, οἷον περὶ μὲν Φάρον καὶ ἄλλους τόπους οἱ σκορπίοι οὐ χαλεποί, ἐν ἄλλοις δὲ τόποις καὶ ἐν τῇ Σκυθίᾳ πολλοὶ καὶ μεγάλοι καὶ χαλεποὶ γίνονται, κἄν τινα πατάξωσιν ἄνθρωπον ἤ τι ἄλλο θηρίον, ἀποκτείνουσι, καὶ τὰς ὗς, αἳ ἥκιστα αἰσθάνονται τῶν ἄλλων δηγμάτων, καὶ τούτων τὰς μελαίνας μᾶλλον ἀποκτείνουσιν· τάχιστα δ’ ἀπόλλυνται αἱ ὕες πληγεῖσαι, ἐὰν εἰς ὕδωρ ἔλθωσιν.

Τά τε τῶν ὄφεων δήγματα πολὺ διαφέρουσιν. Ἥ τε γὰρ ἀσπὶς ἐν Λιβύῃ γίνεται, ἐξ οὗ ὄφεως ποιοῦσι τὸ σηπτικόν, καὶ ἄλλως ἀνίατος. Γίνεται δὲ καὶ ἐν τῷ σιλφίῳ τι ὀφείδιον, οὗ καὶ λέγεται ἄκος εἶναι λίθος τις, ὃν λαμβάνουσιν ἀπὸ τάφου βασιλέως τῶν ἀρχαίων καὶ ἐν οἴνῳ ἀποβάψαντες πίνουσιν. Τῆς δ’ Ἰταλίας ἔν τισι τόποις καὶ τὰ τῶν ἀσκαλαβωτῶν δήγματα θανάσιμά ἐστιν. Πάντων δὲ χαλεπώτερά ἐστι τὰ δήγματα τῶν ἰοβόλων, ἐὰν τύχῃ ἀλλήλων ἐδηδοκότα, οἷον σκορπίον ἔχις, Ἔστι δὲ τοῖς πλείστοις αὐτῶν πολέμιον τὸ τοῦ ἀνθρώπου πτύελον. Ἔστι δέ τι ὀφείδιον μικρόν, ὃ καλοῦσί τινες ἱερόν, ὃ οἱ πάνυ μεγάλοι ὄφεις φεύγουσιν· γίνεται δὲ τὸ μέγιστον πηχυαῖον, καὶ δασὺ ἰδεῖν· ὅ τι δ’ ἂν δάκῃ, εὐθὺς σήπεται τὸ κύκλῳ. Ἔστι δὲ καὶ ἐν τῇ Ἰνδικῇ ὀφείδιόν τι, οὗ μόνου φάρμακον οὐκ ἔχουσιν.

Κεφάλαιο 30

(607b.) Διαφέρει δὲ τὰ ζῷα τῷ εὐημερεῖν ἢ τοὐναντίον καὶ περὶ τὰς κυήσεις. Τὰ μὲν γὰρ ὀστρακόδερμα, οἷον κτένες καὶ ἅπαντα τὰ ὀστρεώδη καὶ τὰ μαλακόστρακα, ἄριστά ἐστιν ὅταν κύῃ, οἷον τὰ καραβώδη. Λέγεται δὲ κύησις καὶ τῶν ὀστρακοδέρμων· τὰ μὲν γὰρ μαλακόστρακα καὶ ὀχευόμενα ὁρᾶται καὶ ἀποτίκτοντα, ἐκείνων δ’ οὐδέν. Καὶ τὰ μαλάκια δὲ κύοντα ἄριστα, οἷον τευθίδες τε καὶ σηπίαι καὶ πολύποδες.

Οἱ δ’ ἰχθύες ἀρχόμενοι μὲν κυΐσκεσθαι σχεδὸν ἀγαθοὶ πάντες, προϊούσης δὲ τῆς κυήσεως οἱ μὲν οἱ δ’ οὔ. Κύουσα μὲν οὖν ἀγαθὴ μαινίς· μορφὴ δὲ τῆς θηλείας στρογγυλωτέρα, ὁ δ’ ἄρρην μακρότερος καὶ πλατύτερος· συμβαίνει δ’ ἀρχομένης κυΐσκεσθαι τῆς θηλείας τοὺς ἄρρενας μέλαν τὸ χρῶμα ἴσχειν καὶ ποικιλώτερον, καὶ φαγεῖν χειρίστους εἶναι· καλοῦνται δ’ ὑπ’ ἐνίων τράγοι περὶ τοῦτον τὸν χρόνον.

Μεταβάλλουσι δὲ καὶ οὓς καλοῦσι κοττύφους καὶ κίχλας καὶ ἡ σμαρὶς τὸ χρῶμα κατὰ τὰς ὥρας, ὥσπερ ἔνια τῶν ὀρνέων· τοῦ μὲν γὰρ ἔαρος μέλανες γίνονται, εἶτα ἐκ τοῦ ἔαρος λευκοὶ πάλιν. Μεταβάλλει δὲ καὶ ἡ φυκὶς τὴν χρόαν· τὸν μὲν γὰρ ἄλλον χρόνον λευκή ἐστι, τοῦ δ’ ἔαρος ποικίλη· μόνη δ’ αὕτη τῶν θαλαττίων ἰχθύων στιβαδοποιεῖται, ὡς φασί, καὶ τίκτει ἐν τῇ στιβάδι. Μεταβάλλει δὲ καὶ ἡ μαινίς, ὥσπερ εἴρηται, καὶ ἡ σμαρίς, καὶ ἐκ λευκοτέρων πάλιν ἐν τῷ θέρει καθίστανται καὶ γίνονται μέλανες· μάλιστα δ’ ἐπίδηλός ἐστι περὶ τὰ πτερύγια καὶ τὰ βράγχια.

Καὶ κορακῖνος δ’ ἄριστός ἐστι κύων, ὥσπερ καὶ ἡ μαινίς. Κεστρεὺς δὲ καὶ λάβραξ καὶ οἱ λοιποὶ πλωτοὶ φαῦλοι κύοντες σχεδὸν πάντες.

Ὅμοιοι δὲ κύοντες καὶ μὴ ὀλίγοι, οἷον γλαῦκος. Φαῦλοι δὲ καὶ οἱ γέροντες τῶν ἰχθύων, καὶ οἵ γε θύννοι καὶ εἰς τὰς ταριχείας φαῦλοι οἱ γέροντες· πολὺ γὰρ συντήκεται τῆς σαρκός. Τὸ δ’ αὐτὸ καὶ ἐπὶ τῶν ἄλλων συμβαίνει ἰχθύων. Δῆλοι δ’ οἱ γέροντες αὐτῶν τῷ μεγέθει τῶν λεπίδων καὶ τῇ σκληρότητι. Ἤδη δ’ ἐλήφθη γέρων θύννος οὗ σταθμὸς μὲν ἦν τάλαντα πεντεκαίδεκα, τοῦ δ’ οὐραίου τὸ διάστημα δύο πήχεων ἦν καὶ σπιθαμῆς.

Οἱ δὲ ποτάμιοι καὶ οἱ λιμναῖοι (608a.) ἄριστοι γίνονται μετὰ τὴν ἄφεσιν τοῦ κυήματος καὶ τοῦ θοροῦ, ὅταν ἀνατραφῶσιν· κύοντες δ’ ἔνιοι μὲν ἀγαθοί, οἷον σαπερδίς, ἔνιοι δὲ φαῦλοι, οἷον γλάνις. Οἱ μὲν οὖν ἄλλοι πάντες ἀμείνους οἱ ἄρρενες τῶν θηλειῶν, γλάνις δ’ ὁ θῆλυς τοῦ ἄρρενος ἀμείνων. Καὶ ἐν ταῖς ἐγχέλυσι δέ, ἃς καλοῦσι θηλείας, ἀμείνους εἰσίν· οὐκ οὔσας δὲ θηλείας καλοῦσιν, ἀλλὰ τῇ ὄψει διαφόρους.

Βιβλίο 9

Κεφάλαιο 1

Τὰ δ’ ἤθη τῶν ζῴων ἐστὶ τῶν μὲν ἀμαυροτέρων καὶ βραχυβιωτέρων ἧττον ἡμῖν ἔνδηλα κατὰ τὴν αἴσθησιν, τῶν δὲ μακροβιωτέρων ἐνδηλότερα. Φαίνονται γὰρ ἔχοντά τινα δύναμιν περὶ ἕκαστον τῶν τῆς ψυχῆς παθημάτων φυσικήν, περί τε φρόνησιν καὶ εὐήθειαν καὶ ἀνδρείαν καὶ δειλίαν, περί τε πραότητα καὶ χαλεπότητα καὶ τὰς ἄλλας τὰς τοιαύτας ἕξεις. Ἔνια δὲ κοινωνεῖ τινὸς ἅμα καὶ μαθήσεως καὶ διδασκαλίας, τὰ μὲν παρ’ ἀλλήλων, τὰ δὲ καὶ παρὰ τῶν ἀνθρώπων, ὅσαπερ ἀκοῆς μετέχει, μὴ μόνον ὅσα τῶν ψόφων, ἀλλ’ ὅσα καὶ τῶν σημείων διαισθάνεται τὰς διαφοράς.

Ἐν πᾶσι δ’ ὅσοις ἐστὶ γένεσι τὸ θῆλυ καὶ τὸ ἄρρεν, σχεδὸν ἡ φύσις ὁμοίως διέστησε τὸ ἦθος τῶν θηλειῶν πρὸς τὸ τῶν ἀρρένων. Μάλιστα δὲ φανερὸν ἐπί τε τῶν ἀνθρώπων καὶ τῶν μέγεθος ἐχόντων καὶ τῶν ζῳοτόκων τετραπόδων· μαλακώτερον γὰρ τὸ ἦθός ἐστι τῶν θηλειῶν, καὶ τιθασσεύεται θᾶττον, καὶ προσίεται τὰς χεῖρας μᾶλλον, καὶ μαθητικώτερον, οἷον καὶ αἱ Λάκαιναι κύνες αἱ θήλειαι εὐφυέστεραι τῶν ἀρρένων εἰσίν. Τὸ δ’ ἐν τῇ Μολοττίᾳ γένος τῶν κυνῶν τὸ μὲν θηρευτικὸν οὐδὲν διαφέρει πρὸς τὸ παρὰ τοῖς ἄλλοις, τὸ δ’ ἀκόλουθον τοῖς προβάτοις τῷ μεγέθει καὶ τῇ ἀνδρείᾳ τῇ πρὸς τὰ θηρία. Διαφέρουσι δ’ οἱ ἐξ ἀμφοῖν ἀνδρείᾳ καὶ φιλοπονίᾳ, οἵ τε ἐκ τῶν ἐν τῇ Μολοττίᾳ γινομένων κυνῶν καὶ ἐκ τῶν Λακωνικῶν.

Ἀθυμότερα δὲ τὰ θήλεα πάντα τῶν ἀρρένων πλὴν ἄρκτου καὶ παρδάλεως· τούτων δ’ ἡ θήλεια δοκεῖ εἶναι ἀνδρειοτέρα. Ἐν δὲ τοῖς ἄλλοις γένεσι τὰ θήλεα (608b.) μαλακώτερα καὶ κακουργότερα καὶ ἧττον ἁπλᾶ καὶ προπετέστερα καὶ περὶ τῶν τέκνων τροφὴν φροντιστικώτερα, τὰ δ’ ἄρρενα ἐναντίως θυμωδέστερα καὶ ἀγριώτερα καὶ ἁπλούστερα καὶ ἧττον ἐπίβουλα.

Τούτων δ’ ἴχνη μὲν τῶν ἠθῶν ἐστιν ἐν πᾶσιν ὡς εἰπεῖν, μᾶλλον δὲ φανερώτερα ἐν τοῖς ἔχουσι μᾶλλον ἦθος καὶ μάλιστα ἐν ἀνθρώπῳ· τοῦτο γὰρ ἔχει τὴν φύσιν ἀποτετελεσμένην, ὥστε καὶ ταύτας τὰς ἕξεις εἶναι φανερωτέρας ἐν αὐτοῖς. Διόπερ γυνὴ ἀνδρὸς ἐλεημονέστερον καὶ ἀρίδακρυ μᾶλλον, ἔτι δὲ φθονερώτερον καὶ μεμψιμοιρότερον, καὶ φιλολοίδορον μᾶλλον καὶ πληκτικώτερον. Ἔστι δὲ καὶ δύσθυμον μᾶλλον τὸ θῆλυ τοῦ ἄρρενος καὶ δύσελπι, καὶ ἀναιδέστερον καὶ ψευδέστερον, εὐαπατητότερον δὲ καὶ μνημονικώτερον, ἔτι δ’ ἀγρυπνότερον καὶ ὀκνηρότερον, καὶ ὅλως ἀκινητότερον τὸ θῆλυ τοῦ ἄρρενος, καὶ τροφῆς ἐλάττονός ἐστιν.

Βοηθητικώτερον δὲ καί, ὥσπερ ἐλέχθη, ἀνδρειότερον τὸ ἄρρεν τοῦ θήλεός ἐστιν, ἐπεὶ ἐν τοῖς μαλακίοις, ὅταν τῷ τριώδοντι πληγῇ ἡ σηπία, ὁ μὲν ἄρρην βοηθεῖ τῇ θηλείᾳ, ἡ δὲ θήλεια φεύγει τοῦ ἄρρενος πληγέντος. Πόλεμος μὲν οὖν πρὸς ἄλληλα τοῖς ζῴοις ἐστίν, ὅσα τοὺς αὐτούς τε κατέχει τόπους καὶ ἀπὸ τῶν αὐτῶν ποιεῖται τὴν ζωήν· ἐὰν γὰρ ᾖ σπάνιος ἡ τροφή, καὶ πρὸς ἄλληλα τὰ ὁμόφυλα μάχεται, ἐπεὶ καὶ τὰς φώκας φασὶ πολεμεῖν τὰς περὶ τὸν αὐτὸν τόπον, καὶ ἄρρενι ἄρρενα καὶ θηλείᾳ θήλειαν, ἕως ἂν ἀποκτείνῃ ἢ ἐκβληθῇ θάτερον ὑπὸ θατέρου· καὶ τὰ σκυμνία ὡσαύτως πάντα. Ἔτι δὲ τοῖς ὠμοφάγοις ἅπαντα πολεμεῖ, καὶ ταῦτα τοῖς ἄλλοις· ἀπὸ γὰρ τῶν ζῴων ἡ τροφὴ αὐτοῖς· ὅθεν καὶ τὰς διεδρείας καὶ τὰς συνεδρείας οἱ μάντεις λαμβάνουσι, δίεδρα μὲν τὰ πολέμια τιθέντες, σύνεδρα δὲ τὰ εἰρηνοῦντα πρὸς ἄλληλα. Κινδυνεύει δέ, εἰ ἀφθονία τροφῆς εἴη, πρός τε τοὺς ἀνθρώπους ἂν ἔχειν τιθασσῶς τὰ νῦν φοβούμενα αὐτῶν καὶ ἀγριαίνοντα, καὶ πρὸς ἄλληλα τὸν αὐτὸν τρόπον. Δῆλον δὲ ποιεῖ τοῦτο ἡ περὶ Αἴγυπτον ἐπιμέλεια τῶν ζῴων· διὰ γὰρ τὸ τροφὴν ὑπάρχειν καὶ μὴ ἀπορεῖν μετ’ ἀλλήλων ζῶσι καὶ αὐτὰ τὰ ἀγριώτατα· διὰ τὰς ὠφελείας γὰρ ἡμεροῦται, (609a.) οἷον ἐνιαχοῦ τὸ τῶν κροκοδείλων γένος πρὸς τὸν ἱερέα διὰ τὴν ἐπιμέλειαν τὴν τῆς τροφῆς. Τὸ δ’ αὐτὸ τοῦτ’ ἔστιν ἰδεῖν καὶ περὶ τὰς ἄλλας χώρας γινόμενον, καὶ κατὰ μόρια τούτων.

Ἔστι δ’ ἀετὸς καὶ δράκων πολέμια· τροφὴν γὰρ ποιεῖται τοὺς ὄφεις ὁ ἀετός. Καὶ ἰχνεύμων καὶ φάλαγξ· θηρεύει γὰρ τοὺς φάλαγγας ὁ ἰχνεύμων. Τῶν δ’ ὀρνίθων ποικιλίδες καὶ κορυδῶνες καὶ πίπρα καὶ χλωρεύς· τὰ γὰρ ᾠὰ κατεσθίουσιν ἀλλήλων. Καὶ κορώνη καὶ γλαύξ· ἡ μὲν γὰρ τῆς μεσημβρίας, διὰ τὸ μὴ ὀξὺ βλέπειν τὴν γλαῦκα τῆς ἡμέρας, κατεσθίει ὑφαρπάζουσα αὐτῆς τὰ ᾠά, ἡ δὲ γλαὺξ τῆς νυκτὸς τὰ τῆς κορώνης, καὶ κρείττων ἡ μὲν τῆς ἡμέρας ἡ δὲ τῆς νυκτός ἐστιν. Καὶ γλαὺξ δὲ καὶ ὄρχιλος πολέμια· τὰ γὰρ ᾠὰ κατεσθίει καὶ οὗτος τῆς γλαυκός. Τῆς δ’ ἡμέρας καὶ τὰ ἄλλα ὀρνίθια τὴν γλαῦκα περιπέταται, ὃ καλεῖται θαυμάζειν, καὶ προσπετόμενα τίλλουσιν· διὸ οἱ ὀρνιθοθῆραι θηρεύουσιν αὐτῇ παντοδαπὰ ὀρνίθια. Πολέμιος δὲ καὶ ὁ πρέσβυς καλούμενος καὶ γαλῆ [καὶ κορώνη]· τὰ γὰρ ᾠὰ καὶ τοὺς νεοττοὺς κατεσθίουσιν αὐτῆς.

Καὶ τρυγὼν καὶ πυραλλίς· τόπος γὰρ τῆς νομῆς καὶ βίος ὁ αὐτός. Καὶ κελεὸς καὶ λιβυός. Ἰκτῖνος δὲ καὶ κόραξ· ὑφαιρεῖται γὰρ τοῦ κόρακος ὁ ἰκτῖνος ὅ τι ἂν ἔχῃ διὰ τὸ κρείττων εἶναι τοῖς ὄνυξι καὶ τῇ πτήσει, ὥστε ἡ τροφὴ ποιεῖ πολεμίους καὶ τούτους.

Ἔτι οἱ ἀπὸ τῆς θαλάττης ζῶντες ἀλλήλοις, οἷον βρένθος καὶ λάρος καὶ ἅρπη. Τριόρχης δὲ καὶ φρῦνος καὶ ὄφις· κατεσθίει γὰρ ὁ τριόρχης αὐτούς. Τρυγὼν δὲ καὶ χλωρεύς· ἀποκτείνει γὰρ τὴν τρυγόνα ὁ χλωρεύς, καὶ ἡ κορώνη τὸν καλούμενον τύπανον. Τὸν δὲ κάλαριν ὁ αἰγώλιος καὶ οἱ ἄλλοι γαμψώνυχες κατεσθίουσιν· ὅθεν ὁ πόλεμος αὐτοῖς. Πόλεμος δὲ καὶ ἀσκαλαβώτῃ καὶ ἀράχνῃ· κατεσθίει γὰρ τοὺς ἀράχνας ὁ ἀσκαλαβώτης. Πίπῳ δὲ καὶ ἐρωδιῷ· τὰ γὰρ ᾠὰ κατεσθίει καὶ τοὺς νεοττοὺς τοῦ ἐρωδιοῦ. Αἰγίθῳ δὲ καὶ ὄνῳ πόλεμος διὰ τὸ παριόντα τὸν ὄνον κνήθεσθαι εἰς τὰς ἀκάνθας τὰ ἕλκη· διά τε οὖν τοῦτο, κἂν ὀγκήσηται, ἐκβάλλει τὰ ᾠὰ καὶ τοὺς νεοττούς· φοβούμενοι γὰρ ἐκπίπτουσιν· ὁ δὲ διὰ τὴν βλάβην ταύτην κολάπτει ἐπιπετόμενος τὰ ἕλκη (609b.) αὐτοῦ.

Λύκος δ’ ὄνῳ καὶ ταύρῳ καὶ ἀλώπεκι πολέμιος· ὠμοφάγος γὰρ ὢν ἐπιτίθεται τοῖς βουσὶ καὶ τοῖς ὄνοις καὶ τῇ ἀλώπεκι. Καὶ ἀλώπηξ δὲ καὶ κίρκος διὰ τὴν αὐτὴν αἰτίαν· γαμψώνυχος γὰρ ὢν καὶ ὠμοφάγος ἐπιτίθεται καὶ ἕλκη ποιεῖ κόπτων. Καὶ κόραξ ταύρῳ καὶ ὄνῳ πολέμιος διὰ τὸ τύπτειν ἐπιπετόμενος αὐτοὺς καὶ τὰ ὄμματα κολάπτειν αὐτῶν. Πολεμεῖ δὲ καὶ ἀετὸς καὶ ἐρωδιός· γαμψώνυχος γὰρ ὢν ὁ ἀετὸς ἐπιτίθεται, ὁ δ’ ἀποθνήσκει ἀμυνόμενος. Καὶ αἰσάλων δ’ αἰγυπιῷ πολέμιος, καὶ κρὲξ ἐλεῷ καὶ κοττύφῳ καὶ χλωρίωνι, ὃν ἔνιοι μυθολογοῦσι γενέσθαι ἐκ πυρκαϊᾶς· καὶ γὰρ αὐτοὺς βλάπτει καὶ τὰ τέκνα αὐτῶν. Καὶ σίττη καὶ τροχίλος ἀετῷ πολέμια· ἡ γὰρ σίττη καταγνύει τὰ ᾠὰ τοῦ ἀετοῦ, ὁ δ’ ἀετὸς καὶ διὰ τοῦτο καὶ διὰ τὸ ὠμοφάγος εἶναι πολέμιός ἐστι πᾶσιν. Ἄνθος δ’ ἵππῳ πολέμιος· ἐξελαύνει γὰρ ὁ ἵππος ἐκ τῆς νομῆς· πόαν γὰρ νέμεται ὁ ἄνθος, ἐπάργεμος δ’ ἐστὶ καὶ οὐκ ὀξυωπός· μιμεῖται γὰρ τοῦ ἵππου τὴν φωνήν, καὶ φοβεῖ ἐπιπετόμενος καὶ ἐξελαύνει, ὅταν δὲ λάβῃ, κτείνει αὐτόν. Οἰκεῖ δ’ ὁ ἄνθος παρὰ ποταμὸν καὶ ἕλη, χρόαν δ’ ἔχει καλὴν καὶ εὐβίοτος. Κωλωτῇ δ’ ὄνος πολέμιος· κοιμᾶται γὰρ ἐν τῇ φάτνῃ αὐτοῦ, καὶ κωλύει ἐσθίειν εἰς τοὺς μυκτῆρας ἐνδυόμενος.

Τῶν δ’ ἐρωδιῶν ἐστὶ τρία γένη, ὅ τε πέλλος καὶ ὁ λευκὸς καὶ ὁ ἀστερίας καλούμενος. Τούτων ὁ πέλλος χαλεπῶς εὐνάζεται καὶ ὀχεύει. κράζει τε γὰρ καὶ αἷμα, ὡς φασίν, ἀφίησιν ἐκ τῶν ὀφθαλμῶν ὀχεύων, καὶ τίκτει φαύλως καὶ ὀδυνηρῶς. Πολεμεῖ δὲ τοῖς βλάπτουσιν, ἀετῷ (ἁρπάζει γὰρ αὐτόν) καὶ ἀλώπεκι (φθείρει γὰρ αὐτὸν τῆς νυκτός) καὶ κορύδῳ (τὰ γὰρ ᾠὰ αὐτοῦ κλέπτει).

Ὄφις δὲ γαλῇ καὶ ὑῒ πολέμιον, τῇ μὲν γαλῇ, κατ’ οἰκίαν ὅταν ὦσιν ἀμφότερα· ἀπὸ γὰρ τῶν αὐτῶν ζῶσιν· ἡ δ’ ὗς ἐσθίει τοὺς ὄφεις. Καὶ αἰσάλων ἀλώπεκι πολέμιος· τύπτει γὰρ καὶ τίλλει αὐτήν, καὶ τὰ τέκνα ἀποκτείνει·

γαμψώνυχος γάρ ἐστιν. Κόραξ δὲ καὶ ἀλώπηξ ἀλλήλοις φίλοι· πολεμεῖ γὰρ τῷ αἰσάλωνι ὁ κόραξ· διὸ βοηθεῖ τυπτομένῃ αὐτῇ. Καὶ αἰγυπιὸς δὲ καὶ αἰσάλων πολέμιοι σφίσιν αὐτοῖς· ἀμφότεροι γὰρ γαμψώνυχοι. (610a.) Μάχεται δὲ καὶ ἀετῷ αἰγυπιὸς καὶ κύκνος· κρατεῖ δ' ὁ κύκνος πολλάκις· εἰσὶ δ' οἱ κύκνοι καὶ ἀλληλοφάγοι μάλιστα τῶν ὀρνέων.

Ἔστι δὲ τῶν θηρίων τὰ μὲν ἀεὶ πολέμια ἀλλήλοις, τὰ δ' ὥσπερ ἄνθρωποι, ὅταν τύχωσιν. Ὄνος δὲ καὶ ἀκανθίδες πολέμιοι· αἱ μὲν γὰρ ἀπὸ τῶν ἀκανθῶν βιοτεύουσιν, ὁ δ' ἁπαλὰς οὔσας κατεσθίει τὰς ἀκάνθας. Καὶ ἄνθος καὶ ἀκανθὶς καὶ αἴγιθος· λέγεται δ' ὅτι αἰγίθου καὶ ἄνθου αἷμα οὐ συμμίγνυται ἀλλήλοις.

Κορώνη δὲ καὶ ἐρωδιὸς φίλοι, καὶ σχοινίων καὶ κόρυδος, καὶ λαεδὸς καὶ κελεός· ὁ μὲν γὰρ κελεὸς παρὰ ποταμὸν οἰκεῖ καὶ λόχμας, ὁ δὲ λαεδὸς πέτρας καὶ ὄρη, καὶ φιλοχωρεῖ οὗ ἂν οἰκῇ. Καὶ πίφιγξ καὶ ἅρπη καὶ ἰκτῖνος φίλοι, καὶ ἀλώπηξ καὶ ὄφις (ἄμφω γὰρ τρωγλοδύται), καὶ κόττυφος καὶ τρυγών.

Πολέμιοι δὲ καὶ ὁ λέων καὶ ὁ θὼς ἀλλήλοις· ὠμοφάγοι γὰρ ὄντες ἀπὸ τῶν αὐτῶν ζῶσιν.

Μάχονται δὲ καὶ ἐλέφαντες σφοδρῶς πρὸς ἀλλήλους, καὶ τύπτουσι τοῖς ὀδοῦσι σφᾶς αὐτούς· ὁ δ' ἡττηθεὶς δουλοῦται ἰσχυρῶς, καὶ οὐχ ὑπομένει τὴν τοῦ νικήσαντος φωνήν. Διαφέρουσι δὲ καὶ τῇ ἀνδρείᾳ ἀλλήλων οἱ ἐλέφαντες θαυμαστὸν ὅσον. Χρῶνται δ' οἱ Ἰνδοὶ πολεμιστηρίοις, καθάπερ τοῖς ἄρρεσι, καὶ ταῖς θηλείαις· εἰσὶ μέντοι καὶ ἐλάττονες αἱ θήλειαι καὶ ἀψυχότεραι πολύ. Τοὺς δὲ τοίχους καταβάλλει ὁ ἐλέφας τοὺς ὀδόντας τοὺς μεγάλους προσβάλλων· τοὺς δὲ φοίνικας τῷ μετώπῳ, ἕως ἂν κατακλίνῃ, ἔπειτα τοῖς ποσὶν ἐπιβαίνων κατατείνει ἐπὶ τῆς γῆς. Ἔστι δὲ καὶ ἡ θήρα τῶν ἐλεφάντων τοιάδε· ἀναβάντες ἐπί τινας τῶν τιθασσῶν καὶ ἀνδρείων διώκουσι, καὶ ὅταν καταλάβωσι, τύπτειν προστάττουσι τούτοις, ἕως ἂν ἐκλύσωσιν· τότε δ' ὁ ἐλεφαντιστὴς ἐπιπηδήσας κατευθύνει τῷ δρεπάνῳ. Ταχέως δὲ μετὰ ταῦτα τιθασσεύεταί τε καὶ πειθαρχεῖ. Ἐπιβεβηκότος μὲν οὖν τοῦ ἐλεφαντιστοῦ ἅπαντες πραεῖς εἰσιν, ὅταν δ' ἀποβῇ, οἱ μὲν οἱ δ' οὔ· ἀλλὰ τῶν ἐξαγριουμένων τὰ ἐμπρόσθια σκέλη δεσμεύουσι σειραῖς, ἵν' ἡσυχάζωσιν. Ἔστι δ' ἡ θήρα καὶ μεγάλων ἤδη ὄντων καὶ πώλων.

Αἱ μὲν οὖν φιλίαι καὶ οἱ πόλεμοι τοῖς θηρίοις τούτοις διὰ τὰς τροφὰς καὶ τὸν βίον συμβαίνουσιν.

Κεφάλαιο 2

(610b.) Τῶν δ’ ἰχθύων οἱ μὲν συναγελάζονται μετ’ ἀλλήλων καὶ φίλοι εἰσίν, οἱ δὲ μὴ συναγελαζόμενοι πολέμιοι. Ἀγελάζονται δ’ οἱ μὲν κυοῦντες, ἔνιοι δ’ ὅταν ἐκτέκωσιν. Ὅλως δ’ ἀγελαῖά ἐστι τὰ τοιάδε, θυννίδες, μαινίδες, κωβιοί, βῶκες, σαῦροι, κορακῖνοι, σινόδοντες, τρίγλαι, σφύραιναι, ἀνθίαι, ἐλεγῖνοι, ἀθερῖνοι, σαργῖνοι, βελόναι, τευθοί, ἰουλίδες, πηλαμύδες, σκόμβροι, κολίαι. Τούτων δ’ ἔνιά ἐστιν οὐ μόνον ἀγελαῖα ἀλλὰ καὶ σύζυγα· τὰ γὰρ λοιπὰ συνδυάζεται μὲν ἅπαντα, τὰς δ’ ἀγέλας ποιοῦνται κατ’ ἐνίους καιρούς, ὥσπερ εἴρηται, ὅταν κύωσιν, ἔνια δὲ καὶ ὅταν τέκωσιν.

Λάβραξ δὲ καὶ κεστρεὺς πολεμιώτατοι ὄντες κατ’ ἐνίους καιροὺς συναγελάζονται ἀλλήλοις· συναγελάζονται γὰρ πολλάκις οὐ μόνον τὰ ὁμόγονα, ἀλλὰ καὶ οἷς ἡ αὐτὴ καὶ ἡ παραπλήσιός ἐστι νομή, ἂν ᾖ ἄφθονος.

Ζῶσι δὲ πολλάκις ἀφῃρημένοι οἱ κεστρεῖς τὴν κέρκον καὶ οἱ γόγγροι μέχρι τῆς ἐξόδου τῆς περιττώσεως· ἀπεσθίεται δ’ ὁ μὲν κεστρεὺς ὑπὸ λάβρακος, ὁ δὲ γόγγρος ὑπὸ μυραίνης. Ὁ δὲ πόλεμός ἐστι τοῖς κρείττοσι πρὸς τοὺς ἥττους· κατεσθίει γὰρ ὁ κρείττων. Καὶ περὶ μὲν τῶν θαλαττίων ταῦτα.

Κεφάλαιο 3

Τὰ δ’ ἤθη τῶν ζῴων, ὥσπερ εἴρηται πρότερον, διαφέρει κατά τε δειλίαν καὶ πραότητα καὶ ἀνδρείαν καὶ ἡμερότητα καὶ νοῦν τε καὶ ἄνοιαν. Τό τε γὰρ τῶν προβάτων ἦθος, ὥσπερ λέγεται, εὐηθες καὶ ἀνόητον· πάντων γὰρ τῶν τετραπόδων κάκιστόν ἐστι, καὶ ἕρπει εἰς τὰς ἐρημίας πρὸς οὐδέν, καὶ πολλάκις χειμῶνος ὄντος ἐξέρχεται ἔνδοθεν, καὶ ὅταν ὑπὸ νιφετοῦ ληφθῶσιν, ἂν μὴ κινήσῃ ὁ ποιμήν, οὐκ ἐθέλουσιν ἀπιέναι, ἀλλ’ ἀπόλλυνται καταλειπόμενα, ἐὰν μὴ ἄρρενας κομίσωσιν οἱ ποιμένες· τότε δ’ ἀκολουθοῦσιν.

Τῶν δ’ αἰγῶν ὅταν τις μιᾶς λάβῃ τὸ ἄκρον τοῦ ἠρύγγου (ἔστι δ’ οἷον θρίξ), αἱ ἄλλαι ἑστᾶσιν ὥσπερ μεμωρωμέναι βλέπουσαι εἰς ἐκείνην. Ἐγκαθεύδειν δὲ ψυχρότεραι ὄϊες αἰγῶν· αἱ γὰρ αἶγες μᾶλλον ἡσυχάζουσι καὶ προσέρχονται πρὸς τοὺς ἀνθρώπους· εἰσὶ δ’ αἱ αἶγες δυσριγότεραι τῶν ὀΐων.

Διδάσκουσι δ’ οἱ ποιμένες τὰ πρόβατα συνθεῖν ὅταν ψοφήσῃ· ἐὰν γὰρ βροντήσαντος ὑπολειφθῇ τις καὶ μὴ συνδράμῃ, ἐκτιτρώσκει, (611a.) ἐὰν τύχῃ κύουσα· διὸ ἐὰν ψοφῇ, ἐν τῇ οἰκίᾳ συνθέουσι διὰ τὸ ἔθος. Κατάκεινται δ’ αἱ ὄϊες καὶ αἱ αἶγες ἀθρόαι κατὰ συγγένειαν· ὅταν δ’ ὁ ἥλιος τραπῇ θᾶττον, φασὶν οἱ ποιμένες οὐκέτι ἀντιβλεπούσας κατακεῖσθαι τὰς αἶγας, ἀλλ’ ἀπεστραμμένας ἀπ’ ἀλλήλων.

Κεφάλαιο 4

Αἱ δὲ βόες καὶ νέμονται καθ’ ἑταιρείας καὶ συνηθείας, κἂν μία ἀποπλανηθῇ, ἀκολουθοῦσιν αἱ ἄλλαι· διὸ καὶ οἱ βουκόλοι, ἐὰν μίαν μὴ εὕρωσιν, εὐθὺς πάντες ἐπιζητοῦσιν. Ἀπόλλυνται δὲ καὶ οἱ ταῦροι, ὅταν ἀτιμαγελήσαντες ἀποπλανηθῶσιν, ὑπὸ θηρίων.

Τῶν δ’ ἵππων αἱ σύννομοι, ὅταν ἡ ἑτέρα ἀπόληται, ἐκτρέφουσι τὰ πωλία ἀλλήλων. Καὶ ὅλως γε δοκεῖ τὸ τῶν ἵππων γένος εἶναι φύσει φιλόστοργον. Σημεῖον δέ· πολλάκις γὰρ αἱ στέριφαι ἀφαιρούμεναι τὰς μητέρας τὰ πωλία αὐταὶ στέργουσι, διὰ δὲ τὸ μὴ ἔχειν γάλα διαφθείρουσιν.

Κεφάλαιο 5

Τῶν δ’ ἀγρίων καὶ τετραπόδων ἡ ἔλαφος οὐχ ἥκιστα δοκεῖ εἶναι φρόνιμον, τῷ τε τίκτειν παρὰ τὰς ὁδούς (τὰ γὰρ θηρία διὰ τοὺς ἀνθρώπους οὐ προσέρχεται), καὶ ὅταν τέκῃ, ἐσθίει τὸ χόριον πρῶτον. Καὶ ἐπὶ τὴν σέσελιν δὲ τρέχουσι, καὶ φαγοῦσαι οὕτως ἔρχονται πρὸς τὰ τέκνα πάλιν. Ἔτι δὲ τὰ τέκνα ἄγει ἐπὶ τοὺς σταθμούς, ἐθίζουσα οὗ δεῖ ποιεῖσθαι τὰς ἀποφυγάς· ἔστι δὲ τοῦτο πέτρα ἀπορρώξ, μίαν ἔχουσα εἴσοδον, οὗ δὴ καὶ ἀμύνεσθαι ἤδη φασὶν ὑπομένουσαν.

Ἔτι δὲ ὁ ἄρρην ὅταν γένηται παχύς (γίνεται δὲ σφόδρα πίων ὀπώρας οὔσης), οὐδαμοῦ ποιεῖ αὐτὸν φανερὸν ἀλλ’ ἐκτοπίζει ὡς διὰ τὴν παχύτητα εὐάλωτος ὤν. Ἀποβάλλουσι δὲ καὶ τὰ κέρατα ἐν τόποις χαλεποῖς καὶ δυσεξευρέτοις· ὅθεν καὶ ἡ παροιμία γέγονεν “οὗ αἱ ἔλαφοι τὰ κέρατα ἀποβάλλουσιν·” ὥσπερ γὰρ τὰ ὅπλα ἀποβεβληκυῖαι φυλάττονται ὁρᾶσθαι. Λέγεται δ’ ὡς τὸ ἀριστερὸν κέρας οὐδείς πω ἑώρακεν· ἀποκρύπτειν γὰρ αὐτὸ ὡς ἔχον τινὰ φαρμακείαν.

Οἱ μὲν οὖν ἐνιαύσιοι οὐ φύουσι κέρατα, πλὴν ὥσπερ σημείου χάριν ἀρχήν τινα· τοῦτο δ’ ἐστὶ βραχὺ καὶ δασύ. Φύουσι δὲ διετεῖς πρῶτον τὰ κέρατα εὐθέα, καθάπερ παττάλους· διὸ καὶ καλοῦσι τότε πατταλίας αὐτούς. Τῷ δὲ τρίτῳ ἔτει δίκρουν φύουσι, τῷ δὲ τετάρτῳ τραχύτερον· καὶ τοῦτον τὸν τρόπον ἀεὶ (611b.) ἐπιδιδόασι μέχρι ἓξ ἐτῶν. Ἀπὸ τούτου δὲ ὅμοια ἀεὶ ἀναφύουσιν, ὥστε μηκέτι ἂν γνῶναι τὴν ἡλικίαν τοῖς κέρασιν, ἀλλὰ τοὺς γέροντας γνωρίζουσι μάλιστα δυοῖν σημείοιν· ὀδόντας τε γὰρ οἱ μὲν οὐκ ἔχουσιν οἱ δ’ ὀλίγους, καὶ τοὺς ἀμυντῆρας οὐκέτι φύουσιν. Καλοῦνται δ’ ἀμυντῆρες τὰ προνενευκότα τῶν φυομένων κεράτων εἰς τὸ πρόσθεν, οἷς ἀμύνεται· ταῦτα δ’ οἱ γέροντες οὐκ ἔχουσιν, ἀλλ’ εἰς τὸ ὀρθὸν γίνεται ἡ αὔξησις αὐτοῖς τῶν κεράτων. Ἀποβάλλουσι δ’ ἀνὰ ἕκαστον ἐνιαυτὸν τὰ κέρατα, ἀποβάλλουσι δὲ περὶ τὸν Θαργηλιῶνα μῆνα.

Ὅταν δ’ ἀποβάλωσι, κρύπτουσιν αὐτοὺς τὴν ἡμέραν, ὥσπερ εἴρηται· κρύπτουσι δ’ ἐν τοῖς δασέσιν, εὐλαβούμενοι τὰς μυίας. Νέμονται δὲ τὸν χρόνον τοῦτον νύκτωρ, μέχριπερ ἂν ἐκφύσωσι τὰ κέρατα. Φύεται δ’ ὥσπερ ἐν δέρματι τὸ πρῶτον, καὶ γίνονται δασέα· ὅταν δ’ αὐξηθῶσιν, ἡλιάζονται, ἵν’ ἐκπέψωσι καὶ ξηράνωσι τὸ κέρας. Ὅταν δὲ μηκέτι πονῶσι πρὸς τὰ δένδρα κνώμενοι αὐτά, τότ’ ἐκλείπουσι τοὺς τόπους τούτους διὰ τὸ θαρρεῖν ὡς ἔχοντες ᾧ ἀμυνοῦνται. Ἤδη δ’ εἴληπται ἀχαΐνης ἔλαφος ἐπὶ τῶν κεράτων ἔχων κιττὸν πολὺν πεφυκότα χλωρόν, ὡς ἁπαλῶν ὄντων τῶν κεράτων ἐμφύντα ὥσπερ ἐν ξύλῳ χλωρῷ.

Ὅταν δὲ δηχθῶσιν αἱ ἔλαφοι ὑπὸ φαλαγγίου ἤ τινος τοιούτου, τοὺς ὀριγάνους συλλέγουσαι ἐσθίουσιν· δοκεῖ δὲ καὶ ἀνθρώπῳ ἀγαθὸν εἶναι τοῦτο πίνειν, ἀλλ’ ἔστιν ἀηδές. Αἱ δὲ θήλειαι τῶν ἐλάφων ὅταν τέκωσιν, εὐθὺς κατεσθίουσι τὸ χόριον, καὶ οὐκ ἔστι λαβεῖν· πρὸ γὰρ τοῦ χαμαὶ βαλεῖν αὐταὶ ἅπτονται· δοκεῖ δὲ τοῦτ’ εἶναι φάρμακον.

Ἁλίσκονται δὲ θηρευόμεναι αἱ ἔλαφοι συριττόντων καὶ ᾀδόντων, καὶ κατακλίνονται ὑπὸ τῆς ἡδονῆς.

Δύο δ’ ὄντων ὁ μὲν φανερῶς ᾄδει ἢ συρίττει, ὁ δ’ ἐκ τοῦ ὄπισθεν βάλλει, ὅταν οὗτος σημήνῃ τὸν καιρόν. Ἐὰν μὲν οὖν τύχῃ ὀρθὰ τὰ ὦτα ἔχουσα, ὀξὺ ἀκούει καὶ οὐκ ἔστι λαθεῖν· ἐὰν δὲ καταβεβληκυῖα τύχῃ, λανθάνει.

Κεφάλαιο 6

Αἱ δ’ ἄρκτοι ὅταν φεύγωσι, τὰ σκυμνία προωθοῦσι καὶ ἀναλαβοῦσαι φέρουσιν· ὅταν δ’ ἐπικαταλαμβάνωνται, ἐπὶ τὰ δένδρα ἀναπηδῶσιν. Καὶ ὅταν ἐκ τοῦ φωλεοῦ ἐξέλθωσι, πρῶτον τὸ ἄρον ἐσθίουσιν, ὥσπερ εἴρηται πρότερον, (612a.) καὶ τὰ ξύλα διαμασῶνται ὥσπερ ὀδοντοφυοῦσαι.

Πολλὰ δὲ καὶ τῶν ἄλλων ζῴων τῶν τετραπόδων ποιεῖ πρὸς βοήθειαν αὑτοῖς φρονίμως, ἐπεὶ καὶ ἐν Κρήτῃ φασὶ τὰς αἶγας τὰς ἀγρίας, ὅταν τοξευθῶσι, ζητεῖν τὸ δίκταμνον· δοκεῖ δὲ τοῦτο ἐκβλητικὸν εἶναι τῶν τοξευμάτων ἐν τῷ σώματι. Καὶ αἱ κύνες δ’ ὅταν τι πονῶσιν, ἔμετον ποιοῦνται φαγοῦσαί τινα πόαν. Ἡ δὲ πάρδαλις ὅταν φάγῃ τὸ φάρμακον τὸ παρδαλιαγχές, ζητεῖ τὴν τοῦ ἀνθρώπου κόπρον· βοηθεῖ γὰρ αὐτῇ.

Διαφθείρει δὲ τοῦτο τὸ φάρμακον καὶ λέοντας. Διὸ καὶ οἱ κυνηγοὶ κρεμαννύουσιν ἐν ἀγγείῳ ἔκ τινος δένδρου τὴν κόπρον, ὅπως μὴ ἀποχωρῇ μακρὰν τὸ θηρίον· αὐτοῦ γὰρ προσαλλομένη ἡ πάρδαλις καὶ ἐλπίζουσα λήψεσθαι τελευτᾷ. Λέγουσι δὲ καὶ κατανενοηκυῖαν τὴν πάρδαλιν ὅτι τῇ ὀσμῇ αὐτῆς χαίρουσι τὰ θηρία, ἀποκρύπτουσαν ἑαυτὴν θηρεύειν· προσιέναι γὰρ ἐγγύς, καὶ λαμβάνειν οὕτω καὶ τὰς ἐλάφους.

Ὁ δ’ ἰχνεύμων ὁ ἐν Αἰγύπτῳ ὅταν ἴδῃ τὸν ὄφιν τὴν ἀσπίδα καλουμένην, οὐ πρότερον ἐπιτίθεται πρὶν συγκαλέσῃ βοηθοὺς ἄλλους· πρὸς δὲ τὰς πληγὰς καὶ τὰ δήγματα πηλῷ καταπλάττουσιν ἑαυτούς· βρέξαντες γὰρ ἐν τῷ ὕδατι πρῶτον, οὕτω καλινδοῦνται ἐν τῇ γῇ.

Τῶν δὲ κροκοδείλων χασκόντων οἱ τροχίλοι καθαίρουσιν εἰσπετόμενοι τοὺς ὀδόντας, καὶ αὐτοὶ μὲν τροφὴν λαμβάνουσιν, ὁ δ’ ὠφελούμενος αἰσθάνεται καὶ οὐ βλάπτει, ἀλλ’ ὅταν ἐξελθεῖν βούληται, κινεῖ τὸν αὐχένα, ἵνα μὴ συνδάκῃ.

Ἡ δὲ χελώνη ὅταν ἔχεως φάγῃ, ἐπεσθίει τὴν ὀρίγανον· καὶ τοῦτο ὦπται. Καὶ ἤδη κατιδών τις τοῦτο πολλάκις ποιοῦσαν αὐτὴν καὶ ὅτε σπάσαι τῆς ὀριγάνου πάλιν ἐπὶ τὸν ἔχιν πορευομένην, ἐξέτιλε τὴν ὀρίγανον· τούτου δὲ συμβάντος ἀπέθανεν ἡ χελώνη. Ἡ δὲ γαλῆ ὅταν ὄφει μάχηται, προεσθίει τὸ πήγανον· πολεμία γὰρ ἡ ὀσμὴ τοῖς ὄφεσιν.

Ὁ δὲ δράκων ὅταν ὀπωρίζῃ, τὸν ὀπὸν τῆς πικρίδος ἐκροφεῖ, καὶ τοῦθ’ ἑώραται ποιῶν. Αἱ δὲ κύνες ὅταν ἑλμινθιῶσιν, ἐσθίουσι τοῦ σίτου τὸ λήϊον.

Οἱ δὲ πελαργοὶ καὶ οἱ ἄλλοι τῶν ὀρνίθων, ὅταν ἑλκωθῇ τι μαχομένοις, ἐπιτιθέασι τὴν ὀρίγανον. Πολλοὶ δὲ καὶ τὴν ἀκρίδα ἑωράκασιν ὅτι, ὅταν μάχηται τοῖς ὄφεσι, λαμβάνεται τοῦ τραχήλου τῶν ὄφεων.

(612b.) Φρονίμως δὲ δοκεῖ καὶ ἡ γαλῆ χειροῦσθαι τοὺς ὄρνιθας· σφάζει γὰρ ὥσπερ οἱ λύκοι τὰ πρόβατα. Μάχεται δὲ καὶ τοῖς ὄφεσι μάλιστα τοῖς μυοθήραις διὰ τὸ καὶ αὐτὴν τοῦτο τὸ ζῷον θηρεύειν.

Περὶ δὲ τῆς τῶν ἐχίνων αἰσθήσεως συμβέβηκε πολλαχοῦ τεθεωρῆσθαι ὅτι μεταβαλλόντων βορέων καὶ νότων οἱ μὲν ἐν τῇ γῇ τὰς ὀπὰς αὑτῶν μεταμείβουσιν, οἱ δ’ ἐν ταῖς οἰκίαις τρεφόμενοι μεταβάλλουσι πρὸς τοὺς τοίχους, ὥστ’ ἐν Βυζαντίῳ γέ τινά φασι προλέγοντα λαβεῖν δόξαν ἐκ τοῦ κατανενοηκέναι ποιοῦντα ταῦτα τὸν ἐχῖνον.

Ἡ δ’ ἴκτις ἐστὶ μὲν τὸ μέγεθος ἡλίκον Μελιταῖον κυνίδιον τῶν μικρῶν, τὴν δὲ δασύτητα καὶ τὴν ὄψιν καὶ τὸ λευκὸν τὸ ὑποκάτω καὶ τοῦ ἤθους τὴν κακουργίαν ὅμοιον γαλῇ, καὶ τιθασσὸν δὲ γίνεται σφόδρα, τὰ δὲ σμήνη κακουργεῖ· τῷ γὰρ μέλιτι χαίρει. Ἔστι δὲ καὶ ὀρνιθοφάγον ὥσπερ αἱ αἴλουροι. Τὸ δ’ αἰδοῖον αὐτῆς ἐστι μέν, ὥσπερ εἴρηται, ὀστοῦν, δοκεῖ δ’ εἶναι φάρμακον στραγγουρίας τὸ τοῦ ἄρρενος· διδόασι δ’ ἐπιξύοντες.

Κεφάλαιο 7

Ὅλως δὲ περὶ τοὺς βίους πολλὰ ἂν θεωρηθείη μιμήματα τῶν ἄλλων ζῴων τῆς ἀνθρωπίνης ζωῆς, καὶ μᾶλλον ἐπὶ τῶν ἐλαττόνων ἢ μειζόνων ἴδοι τις ἂν τὴν τῆς διανοίας ἀκρίβειαν, οἷον πρῶτον ἐπὶ τῶν ὀρνίθων ἡ τῆς χελιδόνος σκηνοπηγία· τῇ γὰρ περὶ τὸν πηλὸν ἀχυρώσει τὴν αὐτὴν ἔχει τάξιν. Συγκαταπλέκει γὰρ τοῖς κάρφεσι πηλόν· κἂν ἀπορῆται πηλοῦ, βρέχουσα αὑτὴν κυλινδεῖται τοῖς πτεροῖς πρὸς τὴν κόνιν. Ἔτι δὲ στιβαδοποιεῖται καθάπερ οἱ ἄνθρωποι, τὰ σκληρὰ πρῶτα ὑποτιθεῖσα καὶ τῷ μεγέθει σύμμετρον ποιοῦσα πρὸς ἑαυτήν. Περί τε τὴν τροφὴν τῶν τέκνων ἐκπονεῖται ἀμφότερα· δίδωσι δ’ ἑκατέρῳ διατηροῦσά τινι συνηθείᾳ τὸ προειληφός, ὅπως μὴ δὶς λάβῃ. Καὶ τὴν κόπρον τὸ μὲν πρῶτον αὐταὶ ἐκβάλλουσιν, ὅταν δ’ αὐξηθῶσι, μεταστρέφοντας ἔξω διδάσκουσι τοὺς νεοττοὺς προΐεσθαι.

Περί τε τὰς περιστερὰς ἔστιν ἕτερα τοιαύτην ἔχοντα τὴν θεωρίαν· οὔτε γὰρ συνδυάζεσθαι θέλουσι πλείοσιν, οὔτε προαπολείπουσι τὴν κοινωνίαν, πλὴν ἐὰν χῆρος ἢ χήρα γένηται. Ἔτι δὲ περὶ τὴν ὠδῖνα δεινὴ ἡ τοῦ ἄρρενος θεραπεία καὶ συναγανάκτησις· (613a.) ἐάν τ’ ἀπομαλακίζηται πρὸς τὴν εἴσοδον τῆς νεοττιᾶς διὰ τὴν λοχείαν, τύπτει καὶ ἀναγκάζει εἰσιέναι. Γενομένων δὲ τῶν νεοττῶν τῆς ἁλμυριζούσης μάλιστα γῆς διαμασησάμενος εἰσπτύει τοῖς νεοττοῖς διοιγνὺς τὸ στόμα, προπαρασκευάζων πρὸς τὴν τροφήν. Ὅταν δ’ ἐκ τῆς νεοττιᾶς ἐξάγειν μέλλῃ πάντας, ὁ ἄρρην ὀχεύει.

Ὡς μὲν οὖν ἐπὶ τὸ πολὺ τοῦτον τὸν τρόπον στέργουσιν ἀλλήλας, παροχεύονται δέ ποτε καὶ τῶν τοὺς ἄρρενας ἐχουσῶν τινες. Ἔστι δὲ μάχιμον τὸ ζῷον, καὶ ἐνοχλοῦσιν ἀλλήλαις, καὶ εἴς τὰς νεοττιὰς παραδύονται τὰς ἀλλήλων, ὀλιγάκις μέντοι· καὶ γὰρ ἂν ἄποθεν ἧττον ᾖ, ἀλλὰ παρά γε τὴν νεοττιὰν διαμάχονται ἐσχάτως. Ἴδιον δὲ ταῖς περιστεραῖς δοκεῖ συμβεβηκέναι καὶ ταῖς φαψί τε καὶ τρυγόσι τὸ μὴ ἀνακύπτειν πινούσας, ἐὰν μὴ ἱκανὸν πίωσιν.

Ἔχει δὲ τὸν ἄρρενα ἡ τρυγὼν τὸν αὐτὸν καὶ φάττα, καὶ ἄλλον οὐ προσίενται· καὶ ἐπῳάζουσιν ἀμφότεροι καὶ ὁ ἄρρην καὶ ἡ θήλεια. Διαγνῶναι δ’ οὐ ῥᾴδιον τὴν θήλειαν καὶ τὸν ἄρρενα, ἀλλ’ ἢ τοῖς ἐντός. Ζῶσι δ’ αἱ φάτται πολὺν χρόνον· καὶ γὰρ εἴκοσιν ἔτη καὶ πέντε καὶ τριάκοντα ἔτη ὠμμέναι εἰσίν, ἔνιαι δὲ καὶ τετταράκοντα ἔτη. Πρεσβυτέρων δὲ γινομένων αὐτῶν οἱ ὄνυχες αὐξάνονται· ἀλλ’ ἀποτέμνουσιν οἱ τρέφοντες. Ἄλλο δ’ οὐδὲν βλάπτονται ἐπιδήλως γηράσκουσαι.

Καὶ αἱ τρυγόνες δὲ καὶ αἱ περιστεραὶ ζῶσι καὶ ὀκτὼ ἔτη αἱ τετυφλωμέναι ὑπὸ τῶν παλευτρίας τρεφόντων αὐτάς. Ζῶσι δὲ καὶ οἱ πέρδικες περὶ πεντεκαίδεκ’ ἔτη. Νεοττεύουσι δὲ καὶ αἱ φάβες καὶ αἱ τρυγόνες ἐν τοῖς αὐτοῖς τόποις ἀεί. Πολυχρονιώτερα δ’ ὅλως μέν ἐστι τὰ ἄρρενα τῶν θηλέων, ἐπὶ δὲ τούτων τελευτᾶν φασί τινες πρότερον τὰ ἄρρενα τῶν θηλέων, τεκμαιρόμενοι ἐκ τῶν κατ’ οἰκίαν τρεφομένων παλευτριῶν.

Λέγουσι δέ τινες καὶ τῶν στρουθίων ἐνιαυτὸν μόνον ζῆν τοὺς ἄρρενας, ποιούμενοι σημεῖον ὅτι τοῦ ἔαρος οὐ φαίνονται ἔχοντες εὐθὺς τὰ περὶ τὸν πώγωνα μέλανα, ὕστερον δ’ ἴσχουσιν, ὡς οὐδενὸς σωζομένου τῶν προτέρων. Τὰς δὲ θηλείας μακροβιωτέρας εἶναι τῶν στρουθίων· ταύτας γὰρ ἁλίσκεσθαι ἐν τοῖς (613b.) νέοις, καὶ διαδήλας εἶναι τῷ ἔχειν τὰ περὶ τὰ χείλη σκληρά.

Διάγουσι δ’ αἱ μὲν τρυγόνες τοῦ θέρους ἐν τοῖς χειμερίοις, αἱ δὲ σπίζαι τοῦ μὲν θέρους ἐν τοῖς ἀλεεινοῖς, τοῦ δὲ χειμῶνος ἐν τοῖς ψυχροῖς.

Κεφάλαιο 8

Οἱ δὲ βαρεῖς τῶν ὀρνίθων οὐ ποιοῦνται νεοττιάς (οὐ συμφέρει γὰρ μὴ πτητικοῖς οὖσιν), οἷον ὄρτυγες καὶ πέρδικες καὶ τἆλλα τὰ τοιαῦτα τῶν ὀρνέων· ἀλλ’ ὅταν ποιήσωνται ἐν τῷ λείῳ κονίστραν (ἐν ἄλλῳ γὰρ τόπῳ οὐδενὶ τίκτει), ἐπηλυγασάμενοι ἄκανθάν τινα καὶ ὕλην τῆς περὶ τοὺς ἱέρακας ἕνεκα καὶ τοὺς ἀετοὺς ἀλεώρας, ἐνταῦθα τίκτουσι καὶ ἐπῳάζουσιν. Ἔπειτα ἐκλέψαντες εὐθὺς ἐξάγουσι τοὺς νεοττοὺς διὰ τὸ μὴ δύνασθαι τῇ πτήσει πορίζειν αὐτοῖς τροφήν. Ἀναπαύονται δ’ ὑφ’ ἑαυτοὺς ἀγόμενοι τοὺς νεοττοὺς καὶ οἱ ὄρτυγες καὶ οἱ πέρδικες, ὥσπερ αἱ ἀλεκτορίδες. Καὶ οὐκ ἐν τῷ αὐτῷ τίκτουσι καὶ ἐπῳάζουσιν, ἵνα μή τις κατανοήσῃ τὸν τόπον πλείω χρόνον προσεδρευόντων. Ὅταν δέ τις θηρεύῃ περιπεσὼν τῇ νεοττιᾷ, προκυλινδεῖται ἡ πέρδιξ τοῦ θηρεύοντος ὡς ἐπίληπτος οὖσα, καὶ ἐπισπᾶται ὡς ληψόμενον ἐφ’ ἑαυτήν, ἕως ἂν διαδράσῃ τῶν νεοττῶν ἕκαστος· μετὰ δὲ ταῦτα ἀναπτᾶσα αὐτὴ ἀνακαλεῖται πάλιν.

Τίκτει μὲν οὖν ᾠὰ ἡ πέρδιξ οὐκ ἐλάττω ἢ δέκα, πολλάκις δ’ ἑκκαίδεκα· ὥσπερ δ’ εἴρηται, κακόηθες τὸ ὄρνεόν ἐστι καὶ πανοῦργον. Τοῦ δ’ ἔαρος ἐκ τῆς ἀγέλης ἐκκρίνονται δι’ ᾠδῆς καὶ μάχης κατὰ ζεύγη μετὰ θηλείας, ἣν ἂν λάβῃ ἕκαστος. Διὰ δὲ τὸ εἶναι ἀφροδισιαστικοί, ὅπως μὴ ἐπῳάζῃ ἡ θήλεια, οἱ ἄρρενες τὰ ᾠὰ διακυλινδοῦσι καὶ συντρίβουσιν, ἐὰν εὕρωσιν· ἡ δὲ θήλεια ἀντιμηχανωμένη ἀποδιδράσκουσα τίκτει, καὶ πολλάκις διὰ τὸ ὀργᾶν τεκεῖν, ὅπου ἂν τύχῃ ἐκβάλλει· ἂν παρῇ ὁ ἄρρην καὶ ὅπως σώζηται ἀθρόα, οὐκ ἔρχεται πρὸς αὐτά. Καὶ ἐὰν ὑπ’ ἀνθρώπου ὀφθῇ, ὥσπερ περὶ τοὺς νεοττούς, οὕτω καὶ ἀπὸ τῶν ᾠῶν ὑπάγει, πρὸ ποδῶν φαινομένη τοῦ ἀνθρώπου, ἕως ἂν ἀπαγάγῃ.

Ὅταν δ’ ἀποδρᾶσα ἐπῳάζῃ, οἱ ἄρρενες (614a.) κεκράγασι καὶ μάχονται συνιόντες· καλοῦσι δὲ τούτους χήρους. Ὁ δ’ ἡττηθεὶς μαχόμενος ἀκολουθεῖ τῷ νικήσαντι, ὑπὸ τούτου ὀχευόμενος μόνου. Ἐὰν δὲ κρατηθῇ τις ὑπὸ τοῦ δευτέρου ἢ ὁποιουοῦν, οὗτος λάθρᾳ ὀχεύεται ὑπὸ τοῦ κρατιστεύοντος. Γίνεται δὲ τοῦτο οὐκ ἀεί, ἀλλὰ καθ’ ὥραν τινὰ τοῦ ἔτους· καὶ ἐπὶ τῶν ὀρτύγων ὡσαύτως. Ἐνίοτε δὲ συμβαίνει τοῦτο καὶ ἐπὶ τῶν ἀλεκτρυόνων· ἐν μὲν γὰρ τοῖς ἱεροῖς, ὅπου ἄνευ θηλειῶν ἀνάκεινται, τὸν ἀνατιθέμενον πάντες εὐλόγως ὀχεύουσιν.

Καὶ τῶν περδίκων δ’ οἱ τιθασσοὶ τοὺς ἀγρίους πέρδικας ὀχεύουσι καὶ ἐπικορρίζουσι καὶ ὑβρίζουσιν.

Ἐπὶ δὲ τὸν θηρευτὴν πέρδικα ὠθεῖται τῶν ἀγρίων ὁ ἡγεμὼν ἀντᾴσας ὡς μαχούμενος. Τούτου δ’ ἁλόντος ἐν ταῖς πηκταῖς πάλιν προσέρχεται ἄλλος, ἀντᾴσας τὸν αὐτὸν τρόπον. Ἐὰν μὲν οὖν ἄρρην ᾖ ὁ θηρεύων, τοῦτο ποιοῦσιν· ἐὰν δὲ θήλεια ἡ θηρεύουσα ᾖ καὶ ᾄδουσα, ἀντᾴσῃ δ’ ὁ ἡγεμὼν αὐτῇ, οἱ ἄλλοι ἀθροισθέντες τύπτουσι τοῦτον καὶ ἀποδιώκουσιν ἀπὸ τῆς θηλείας, ὅτι ἐκείνῃ ἀλλ’ οὐκ αὐτοῖς προσέρχεται. Ὁ δὲ πολλάκις διὰ ταῦτα σιωπῇ προσέρχεται, ὅπως μὴ ἄλλος τῆς φωνῆς ἀκούσας ἔλθῃ μαχούμενος αὐτῷ. Ἐνίοτε δέ φασιν οἱ ἔμπειροι τὸν ἄρρενα προσιόντα τὴν θήλειαν κατασιγάζειν, ὅπως μὴ ἀκουσάντων τῶν ἀρρένων ἀναγκασθῇ διαμάχεσθαι πρὸς αὐτούς.

Οὐ μόνον δ’ ᾄδει ὁ πέρδιξ, ἀλλὰ καὶ τριγμὸν ἀφίησι καὶ ἄλλας φωνάς. Πολλάκις δὲ καὶ ἡ θήλεια ἐπῳάζουσα ἀνίσταται, ὅταν τῇ θηρευούσῃ θηλείᾳ αἴσθηται προσέχοντα τὸν ἄρρενα, καὶ ἀντᾴσασα ὑπομένει, ἵν’ ὀχευθῇ καὶ ἀποσπάσῃ ἀπὸ τῆς θηρευούσης. Οὕτω δὲ σφόδρα καὶ οἱ πέρδικες καὶ οἱ ὄρτυγες ἐπτόηνται περὶ τὴν ὀχείαν, ὥστ’ εἰς τοὺς θηρεύοντας ἐμπίπτουσι καὶ πολλάκις καθιζάνουσιν ἐπὶ τὰς κεφαλάς.

Περὶ μὲν οὖν τὴν ὀχείαν καὶ θήραν τῶν περδίκων τοιαῦτα συμβαίνει, καὶ περὶ τὴν ἄλλην τοῦ ἤθους πανουργίαν.

Νεοττεύουσι δ’ ἐπὶ τῆς γῆς, ὥσπερ εἴρηται, οἵ τε ὄρτυγες καὶ οἱ πέρδικες καὶ τῶν ἄλλων ἔνιοι τῶν πτητικῶν. Ἔτι δὲ τῶν τοιούτων ὁ μὲν κόρυδος καὶ ὁ σκολόπαξ καὶ ὄρτυξ ἐπὶ δένδρου οὐ καθίζουσιν, ἀλλ’ ἐπὶ τῆς γῆς.

Κεφάλαιο 9

Ὁ δὲ δρυοκολάπτης οὐ καθίζει ἐπὶ τῆς γῆς· κόπτει δὲ τὰς δρῦς τῶν σκωλήκων (614b.) καὶ σκνιπῶν ἕνεκεν, ἵν’ ἐξίωσιν. Ἀναλέγεται γὰρ ἐξελθόντας αὐτοὺς τῇ γλώττῃ· πλατεῖαν δ’ ἔχει καὶ μεγάλην. Καὶ πορεύεται ἐπὶ τοῖς δένδρεσι ταχέως πάντα τρόπον, καὶ ὕπτιος, καθάπερ οἱ ἀσκαλαβῶται. Ἔχει δὲ καὶ τοὺς ὄνυχας βελτίους τῶν κολοιῶν πεφυκότας πρὸς τὴν ἀσφάλειαν τῆς ἐπὶ τοῖς δένδρεσιν ἐφεδρείας· τούτους γὰρ ἐμπηγνὺς πορεύεται.

Ἔστι δὲ τῶν δρυοκολαπτῶν ἓν μὲν γένος ἔλαττον τοῦ κοττύφου, ἔχει δ’ ὑπέρυθρα μικρά, ἕτερον δὲ γένος μεῖζον ἢ κόττυφος. Τὸ δὲ τρίτον γένος αὐτῶν οὐ πολλῷ ἔλαττόν ἐστιν ἀλεκτορίδος θηλείας. Νεοττεύει δ’ ἐπὶ τῶν δένδρων, ὥσπερ εἴρηται, ἐν ἄλλοις τε τῶν δένδρων καὶ ἐν ἐλαίαις. Βόσκεται δὲ τούς τε μύρμηκας καὶ τοὺς σκώληκας τοὺς ἐκ τῶν δένδρων. Θηρεύοντα δὲ τοὺς σκώληκας οὕτω σφόδρα φασὶ κοιλαίνειν, ὥστε καταβάλλειν τὰ δένδρα. Καὶ τιθασσευόμενος δέ τις ἤδη ἀμύγδαλον εἰς ῥωγμὴν ξύλου ἐνθείς, ὅπως ἐναρμοσθὲν ὑπομείνειεν αὐτοῦ τὴν πληγήν, ἐν τῇ τρίτῃ πληγῇ διέκοψε καὶ κατήσθιε τὸ μαλακόν.

Κεφάλαιο 10

Φρόνιμα δὲ πολλὰ καὶ περὶ τὰς γεράνους δοκεῖ συμβαίνειν· ἐκτοπίζουσί τε γὰρ μακράν, καὶ εἰς ὕψος πέτονται πρὸς τὸ καθορᾶν τὰ πόρρω, καὶ ἐὰν ἴδωσι νέφη καὶ χειμέρια, καταπτᾶσαι ἡσυχάζουσιν. Ἔτι δὲ τὸ ἔχειν ἡγεμόνα τε καὶ τοὺς ἐπισυρίττοντας ἐν τοῖς ἐσχάτοις, ὥστε κατακούεσθαι τὴν φωνήν. Ὅταν δὲ καθίζωνται, αἱ μὲν ἄλλαι ὑπὸ τῇ πτέρυγι τὴν κεφαλὴν ἔχουσαι καθεύδουσιν ἐπὶ ἑνὸς ποδὸς ἐναλλάξ, ὁ δ’ ἡγεμὼν γυμνὴν ἔχων τὴν κεφαλὴν προορᾷ, καὶ ὅταν αἴσθηταί τι, σημαίνει βοῶν. Οἱ δὲ πελεκᾶνες οἱ ἐν τοῖς ποταμοῖς γινόμενοι καταπίνουσι τὰς μεγάλας κόγχας καὶ λείας· ὅταν δ’ ἐν τῷ πρὸ τῆς κοιλίας τόπῳ πέψωσιν, ἐξεμοῦσιν, ἵνα χασκουσῶν τὰ κρέα ἐξαιροῦντες ἐσθίωσιν.

Κεφάλαιο 11

Τῶν δ’ ἀγρίων ὀρνέων αἵ τ’ οἰκήσεις μεμηχάνηνται πρὸς τοὺς βίους καὶ τὰς σωτηρίας τῶν τέκνων. Εἰσὶ δ’ οἱ μὲν εὔτεκνοι αὐτῶν καὶ ἐπιμελεῖς τῶν τέκνων, οἱ δὲ τοὐναντίον, καὶ οἱ μὲν εὐμήχανοι πρὸς τὸν βίον, οἱ δ’ ἀμηχανώτεροι.

Τὰς δ’ οἰκήσεις οἱ μὲν περὶ τὰς χαράδρας καὶ χηραμοὺς (615a.) ποιοῦνται καὶ πέτρας, οἷον ὁ καλούμενος χαραδριός· ἔστι δ’ ὁ χαραδριὸς καὶ τὴν χρόαν καὶ τὴν φωνὴν φαῦλος, φαίνεται δὲ νύκτωρ, ἡμέρας δ’ ἀποδιδράσκει.

Ἐν ἀποτόμοις δὲ καὶ ὁ ἱέραξ νεοττεύει· ὠμοφάγος δ’ ὤν, ὧν ἂν κρατήσῃ ὀρνέων, τὴν καρδίαν οὐ κατεσθίει· καὶ τοῦτό τινες ἑωράκασι καὶ ἐπ’ ὄρτυγος καὶ ἐπὶ κίχλης καὶ ἕτεροι ἐφ’ ἑτέρων. Ἔτι δὲ καὶ περὶ τὸ θηρεύειν μεταβάλλουσιν· οὐ γὰρ ἁρπάζουσιν ὁμοίως τοῦ θέρους.

Γυπὸς δὲ λέγεται ὑπό τινων ὡς οὐδεὶς ἑώρακεν οὔτε νεοττὸν οὔτε νεοττιάν· ἀλλὰ διὰ τοῦτο ἔφη Ἡρόδωρος ὁ Βρύσωνος τοῦ σοφιστοῦ πατὴρ ἀπό τινος αὐτὸν ἑτέρας εἶναι μετεώρου γῆς, τεκμήριον τοῦτο λέγων καὶ τὸ φαίνεσθαι ταχὺ πολλούς, ὅθεν δέ, μηδενὶ εἶναι δῆλον. Τούτου δ’ αἴτιον ὅτι τίκτει ἐν πέτραις ἀπροσβάτοις· ἔστι δ’ οὐδὲ πολλαχοῦ ἐπιχώριος ὁ ὄρνις. Τίκτει δ’ ἓν ᾠὸν ἢ δύο τὰ πλεῖστα.

Ἔνιοι δὲ τῶν ὀρνίθων ἐν τοῖς ὄρεσι καὶ τῇ ὕλῃ κατοικοῦσιν, οἷον ἔποψ καὶ βρίνθος· οὗτος δ’ ὁ ὄρνις εὐβίοτος καὶ ᾠδικός. Ὁ δὲ τροχίλος καὶ λόχμας καὶ τρώγλας οἰκεῖ· δυσάλωτος δὲ καὶ δραπέτης καὶ τὸ ἦθος ἀσθενής, εὐβίοτος δὲ καὶ τεχνικός. Καλεῖται δὲ πρέσβυς καὶ βασιλεύς· διὸ καὶ τὸν ἀετὸν αὐτῷ φασὶ πολεμεῖν.

Κεφάλαιο 12

Εἰσὶ δέ τινες οἳ περὶ τὴν θάλατταν βιοῦσιν, οἷον κίγκλος. Ἔστι δὲ τὸ ἦθος ὁ κίγκλος πανοῦργος καὶ δυσθήρατος, ὅταν δὲ ληφθῇ, τιθασσότατος.

Τυγχάνει δ’ ὢν καὶ ἀνάπηρος· ἀκρατὴς γὰρ τῶν ὄπισθέν ἐστιν. Ζῶσι δὲ περὶ θάλατταν καὶ ποταμοὺς καὶ λίμνας οἱ μὲν στεγανόποδες ἅπαντες· ἡ γὰρ φύσις αὐτὴ ζητεῖ τὸ πρόσφορον· πολλοὶ δὲ καὶ τῶν σχιζοπόδων περὶ τὰ ὕδατα καὶ τὰ ἕλη βιοτεύουσιν, οἷον ἄνθος παρὰ τοὺς ποταμούς· ἔχει δὲ τὴν χρόαν καλὴν καὶ ἔστιν εὐβίοτον. Ὁ δὲ καταρράκτης ζῇ μὲν περὶ θάλατταν, ὅταν δὲ καθῇ αὑτὸν εἰς τὸ βαθύ, μένει χρόνον οὐκ ἐλάττονα ἢ ὅσον πλέθρον διέλθοι τις· ἔστι δ’ ἔλαττον ἱέρακος τὸ ὄρνεον.

Καὶ οἱ κύκνοι δ’ εἰσὶ μὲν τῶν στεγανοπόδων, καὶ βιοτεύουσι περὶ λίμνας καὶ ἕλη, εὐβίοτοι δὲ καὶ εὐήθεις καὶ εὔτεκνοι καὶ εὔγηροι, καὶ τὸν ἀετόν, ἐὰν (615b.) ἄρξηται, ἀμυνόμενοι νικῶσιν, αὐτοὶ δ’ οὐκ ἄρχουσι μάχης. Ὠιδικοὶ δέ, καὶ περὶ τὰς τελευτὰς μάλιστα ᾄδουσιν· ἀναπέτονται γὰρ καὶ εἰς τὸ πέλαγος, καί τινες ἤδη πλέοντες παρὰ τὴν Λιβύην περιέτυχον ἐν τῇ θαλάττῃ πολλοῖς ᾄδουσι φωνῇ γοώδει, καὶ τούτων ἑώρων ἀποθνήσκοντας ἐνίους.

Ἡ δὲ κύμινδις ὀλιγάκις μὲν φαίνεται (οἰκεῖ γὰρ ὄρη), ἔστι δὲ μέλας καὶ μέγεθος ὅσον ἱέραξ ὁ φασσοφόνος καλούμενος, καὶ τὴν ἰδέαν μακρὸς καὶ λεπτός. Κύμινδιν δὲ καλοῦσιν Ἴωνες αὐτήν· ἧς καὶ Ὅμηρος μέμνηται ἐν τῇ Ἰλιάδι εἰπὼν “χαλκίδα κικλήσκουσι θεοί, ἄνδρες δὲ κύμινδιν.”

Ἡ δ’ ὕβρις, φασὶ δέ τινες εἶναι τὸν αὐτὸν τοῦτον ὄρνιθα τῷ πώϋγγι, οὗτος ἡμέρας μὲν οὐ φαίνεται διὰ τὸ μὴ βλέπειν ὀξύ, τὰς δὲ νύκτας θηρεύει ὥσπερ οἱ ὦτοι· καὶ μάχονται δὲ πρὸς τὸν ἀετὸν οὕτω σφόδρα ὥστ’ ἄμφω λαμβάνεσθαι πολλάκις ζῶντας ὑπὸ τῶν νομέων. Τίκτει μὲν οὖν δύο ᾠά, νεοττεύει δὲ καὶ οὗτος ἐν πέτραις καὶ σπηλαίοις. Μάχιμοι δὲ καὶ αἱ γέρανοί εἰσι πρὸς ἀλλήλας οὕτω σφόδρα ὥστε καὶ λαμβάνεσθαι μαχομένας· ὑπομένουσι γάρ. Τίκτει δὲ γέρανος δύο ᾠά.

Κεφάλαιο 13

Ἡ δὲ κίττα φωνὰς μὲν μεταβάλλει πλείστας (καθ’ ἑκάστην γὰρ ὡς εἰπεῖν ἡμέραν ἄλλην ἀφίησι), τίκτει δὲ περὶ ἐννέα ᾠά, ποιεῖται δὲ τὴν νεοττιὰν ἐπὶ τῶν δένδρων ἐκ τριχῶν καὶ ἐρίων· ὅταν δ’ ὑπολίπωσιν αἱ βάλανοι, ἀποκρύπτουσα ταμιεύεται.

Περὶ μὲν οὖν τῶν πελαργῶν, ὅτι ἀντεκτρέφονται, θρυλεῖται παρὰ πολλοῖς· φασὶ δέ τινες καὶ τοὺς μέροπας ταὐτὸ τοῦτο ποιεῖν, καὶ ἀντεκτρέφεσθαι ὑπὸ τῶν ἐκγόνων οὐ μόνον γηράσκοντας ἀλλὰ καὶ εὐθύς, ὅταν οἷοί τ’ ὦσιν· τὸν δὲ πατέρα καὶ τὴν μητέρα μένειν ἔνδον. Ἡ δ’ ἰδέα τοῦ ὄρνιθος τῶν πτερῶν ἐστὶ τὰ μὲν ὑποκάτω ὠχρόν, τὰ δὲ ἐπάνω ὥσπερ τῆς ἁλκυόνος κυάνεον, τὰ δ’ ἐπ’ ἄκρων τῶν πτερυγίων ἐρυθρά. Τίκτει δὲ περὶ ἓξ ἢ ἑπτὰ ὑπὸ τὴν ὀπώραν, ἐν τοῖς κρημνοῖς τοῖς μαλακοῖς· εἰσδύεται δ’ εἴσω καὶ τέτταρας πήχεις.

Ἡ δὲ καλουμένη χλωρὶς διὰ τὸ τὰ κάτω ἔχειν ὠχρά, ἔστι μὲν ἡλίκον κόρυδος, τίκτει δ’ ᾠὰ (616a.) τέτταρα ἢ πέντε, τὴν δὲ νεοττιὰν ποιεῖται μὲν ἐκ τοῦ συμφύτου ἕλκουσα πρόρριζον, στρώματα δ’ ὑποβάλλει τρίχας καὶ ἔρια. Ταὐτὸ δὲ τοῦτο ποιεῖ καὶ ὁ κόττυφος καὶ ἡ κίττα, καὶ τὰ ἐντὸς τῆς νεοττιᾶς ἐκ τούτων ποιοῦνται.

Τεχνικῶς δὲ καὶ ἡ τῆς ἀκανθυλλίδος ἔχει νεοττιά· πέπλεκται γὰρ ὥσπερ σφαῖρα λινῆ, ἔχουσα τὴν εἴσδυσιν μικράν· Φασὶ δὲ καὶ τὸ κιννάμωμον ὄρνεον εἶναι οἱ ἐκ τῶν τόπων ἐκείνων, καὶ τὸ καλούμενον κιννάμωμον φέρειν ποθὲν τοῦτο τὸ ὄρνεον, καὶ τὴν νεοττιὰν ἐξ αὐτοῦ ποιεῖσθαι. Νεοττεύει δ’ ἐφ’ ὑψηλῶν δένδρων καὶ ἐν τοῖς θαλλοῖς τῶν δένδρων· ἀλλὰ τοὺς ἐγχωρίους μόλιβδον πρὸς τοῖς ὀϊστοῖς προσαρτῶντας τοξεύοντας καταβάλλειν, καὶ οὕτω συνάγειν ἐκ τοῦ φορυτοῦ τὸ κιννάμωμον.

Κεφάλαιο 14

Ἡ δ’ ἁλκυών ἐστι μὲν οὐ πολλῷ μείζων στρουθοῦ, τὸ δὲ χρῶμα καὶ κυανοῦν ἔχει καὶ χλωρὸν καὶ ὑποπόρφυρον· μεμιγμένως δὲ τοιοῦτον τὸ σῶμα πᾶν καὶ αἱ πτέρυγες καὶ τὰ περὶ τὸν τράχηλον, οὐ χωρὶς ἕκαστον τῶν χρωμάτων· τὸ δὲ ῥύγχος ὑπόχλωρον μέν, μακρὸν δὲ καὶ λεπτόν. Τὸ μὲν οὖν εἶδος ἔχει τοιοῦτον, ἡ δὲ νεοττιὰ παρομοία ταῖς σφαίραις ταῖς θαλαττίαις ἐστὶ καὶ ταῖς καλουμέναις ἁλοσάχναις, πλὴν τοῦ χρώματος· τὴν δὲ χρόαν ὑπόπυρρον ἔχουσιν, τὸ δὲ σχῆμα παραπλήσιον ταῖς σικύαις ταῖς ἐχούσαις τοὺς τραχήλους μακρούς. Τὸ δὲ μέγεθος αὐτῶν ἐστι τῆς μεγίστης σπογγιᾶς μεῖζον· εἰσὶ γὰρ καὶ μείζους καὶ ἐλάττους· κατάστεγοι δέ, καὶ τὸ στερεὸν ἔχουσι συχνὸν καὶ τὸ κοῖλον.

Καὶ κόπτοντι μὲν σιδηρίῳ ὀξεῖ οὐ ταχὺ διακόπτεται, ἅμα δὲ κόπτοντι καὶ ταῖς χερσὶ θραύοντι ταχὺ διαθραύεται, ὥσπερ ἡ ἁλοσάχνη. Τὸ δὲ στόμα στενὸν ὅσον lt;εἰς> εἴσδυσιν μικράν, ὥστ’ οὐδ’ ἂν ἀνατραπῇ, ἡ θάλαττα οὐκ εἰσέρχεται. Τὰ δὲ κοῖλα παραπλήσια ἔχει τοῖς τῶν σπόγγων. Ἀπορεῖται δ’ ἐκ τίνος συντίθησι τὴν νεοττιάν, δοκεῖ δὲ μάλιστα ἐκ τῶν ἀκανθῶν τῆς βελόνης· ζῇ γὰρ ἰχθυοφαγοῦσα. Ἀναβαίνει δὲ καὶ ἀνὰ τοὺς ποταμούς. Τίκτει δὲ περὶ πέντε μάλιστα ᾠά. Λοχεύεται δὲ διὰ βίου, ἄρχεται δὲ τετράμηνος.

Κεφάλαιο 15

Ὁ δ’ ἔποψ τὴν νεοττιὰν μάλιστα ποιεῖται ἐκ τῆς (616b.) ἀνθρωπίνης κόπρου· τὴν δ’ ἰδέαν μεταβάλλει τοῦ θέρους καὶ τοῦ χειμῶνος, ὥσπερ καὶ τῶν ἄλλων ἀγρίων τὰ πλεῖστα.

Ὁ δ’ αἰγίθαλος τίκτει μὲν ᾠὰ πλεῖστα, ὡς φασίν. Ἔνιοι δὲ καὶ τὸν μελαγκόρυφον καλούμενόν φασι πλεῖστα τίκτειν μετά γε τὸν ἐν Λιβύῃ στρουθόν· ἑώραται μὲν γὰρ καὶ ἑπτακαίδεκα, τίκτει μέντοι καὶ πλείω ἢ εἴκοσιν. Τίκτει δ’ ἀεὶ περιττά, ὡς φασίν. Νεοττεύει δὲ καὶ οὗτος ἐν τοῖς δένδρεσι, καὶ βόσκεται τοὺς σκώληκας. Ἴδιον δὲ τούτῳ καὶ ἀηδόνι παρὰ τοὺς ἄλλους ὄρνιθας τὸ μὴ ἔχειν τῆς γλώττης τὸ ὀξύ.

Ὁ δ’ αἴγιθος εὐβίοτος καὶ πολύτεκνος, τὸν δὲ πόδα χωλός ἐστιν.

Χλωρίων δὲ μαθεῖν μὲν ἀγαθὸς καὶ βιομήχανος, κακοπέτης δέ, καὶ χρόαν ἔχει μοχθηράν.

Κεφάλαιο 16

Ἡ δ’ ἐλέα, ὥσπερ ἄλλος τις τῶν ὀρνίθων, εὐβίοτος, καὶ καθίζει θέρους μὲν ἐν προσηνέμῳ καὶ σκιᾷ, χειμῶνος δ’ ἐν εὐηλίῳ καὶ ἐπισκεπεῖ ἐπὶ τῶν δονάκων περὶ τὰ ἕλη. Ἔστι δὲ τὸ μὲν μέγεθος βραχύς, φωνὴν δ’ ἔχει ἀγαθήν.

Καὶ ὁ γνάφαλος καλούμενος τήν τε φωνὴν ἔχει ἀγαθὴν καὶ τὸ χρῶμα καλός, καὶ βιομήχανος, καὶ τὸ εἶδος εὐπρεπής. Δοκεῖ δ’ εἶναι ξενικὸς ὄρνις· ὀλιγάκις γὰρ φαίνεται ἐν τοῖς μὴ οἰκείοις τόποις.

Κεφάλαιο 17

Ἡ δὲ κρὲξ τὸ μὲν ἦθος μάχιμος, τὴν δὲ διάνοιαν εὐμήχανος πρὸς τὸν βίον, ἄλλως δὲ κακόποτμος ὄρνις.

Ἡ δὲ καλουμένη σίττη τὸ μὲν ἦθος μάχιμος, τὴν δὲ διάνοιαν εὔθικτος καὶ εὐθήμων καὶ εὐβίοτος, καὶ λέγεται φαρμάκεια εἶναι διὰ τὸ πολύιδρις εἶναι· πολύγονος δὲ καὶ εὔτεκνος, καὶ ζῇ ὑλογοποῦσα.

Αἰγώλιος δ' ἐστὶ νυκτινόμος καὶ ἡμέρας ὀλιγάκις φαίνεται, καὶ οἰκεῖ καὶ οὗτος πέτρας καὶ σπήλυγγας· ἔστι γὰρ ἀθαρσής, τὴν δὲ διάνοιαν βιωτικὸς καὶ εὐμήχανος.

Ἔστι δέ τι ὀρνίθιον μικρὸν ὃ καλεῖται κέρθιος· οὗτος τὸ μὲν ἦθος θρασύς, καὶ οἰκεῖ περὶ δένδρα, καὶ ἔστι θριποφάγος, τὴν δὲ διάνοιαν εὐβίοτος, καὶ τὴν φωνὴν ἔχει λαμπράν.

Αἱ δ' ἀκανθίδες κακόβιοι καὶ κακόχροοι, φωνὴν μέντοι λιγυρὰν ἔχουσιν.

Κεφάλαιο 18

Τῶν δ’ ἐρωδιῶν ὁ μὲν πέλλος, ὥσπερ εἴρηται, ὀχεύει μὲν χαλεπῶς, εὐμήχανος δὲ καὶ δειπνοφόρος καὶ ἔπαγρος, ἐργάζεται δὲ τὴν ἡμέραν· τὴν μέντοι χρόαν ἔχει φαύλην (617a.) καὶ τὴν κοιλίαν ἀεὶ ὑγράν. Τῶν δὲ λοιπῶν δύο (τρία γὰρ γένη ἐστὶν αὐτῶν) ὁ μὲν λευκὸς τήν τε χρόαν ἔχει καλήν, καὶ ὀχεύει ἀσινῶς, καὶ νεοττεύει καὶ τίκτει καλῶς ἐπὶ τῶν δένδρων, νέμεται δ’ ἕλη καὶ λίμνας καὶ πεδία καὶ λειμῶνας. Ὁ δ’ ἀστερίας ὁ ἐπικαλούμενος ὄκνος μυθολογεῖται μὲν γενέσθαι ἐκ δούλων τὸ ἀρχαῖον, ἔστι δὲ κατὰ τὴν ἐπωνυμίαν τούτων ἀργότατος.

Οἱ μὲν οὖν ἐρωδιοὶ τοῦτον βιοῦσι τὸν τρόπον. Ἡ δὲ καλουμένη πῶϋγξ ἴδιον ἔχει πρὸς τἆλλα· μάλιστα γάρ ἐστι ὀφθαλμοβόρος τῶν ὀρνίθων. Πολέμιος δὲ τῇ ἅρπῃ· καὶ γὰρ ἐκείνη ὁμοιοβίοτος.

Κεφάλαιο 19

Τῶν δὲ κοττύφων δύο γένη ἐστίν, ὁ μὲν ἕτερος μέλας καὶ πανταχοῦ ὤν, ὁ δ’ ἕτερος ἔκλευκος, τὸ δὲ μέγεθος ἴσος ἐκείνῳ, καὶ ἡ φωνὴ παραπλησία ἐκείνῳ· ἔστι δ’ οὗτος ἐν Κυλλήνῃ τῆς Ἀρκαδίας, ἄλλοθι δ’ οὐδαμοῦ. Τούτων ὅμοιος τῷ μέλανι κοττύφῳ ἐστὶ λαιός, τὸ μέγεθος μικρῷ ἐλάττων· οὗτος ἐπὶ τῶν πετρῶν καὶ ἐπὶ τῶν κεράμων τὰς διατριβὰς ποιεῖται, τὸ δὲ ῥύγχος οὐ φοινικοῦν ἔχει καθάπερ ὁ κόττυφος.

Κεφάλαιο 20

Κιχλῶν δ’ εἴδη τρία, ἡ μὲν ἰξοβόρος· αὕτη δ’ οὐκ ἐσθίει ἀλλ’ ἢ ἰξὸν καὶ ῥητίνην, τὸ δὲ μέγεθος ὅσον κίττα ἐστίν. Ἑτέρα τριχάς· αὕτη δ’ ὀξὺ φθέγγεται, τὸ δὲ μέγεθος ὅσον κόττυφος. Ἄλλη δ’ ἣν καλοῦσί τινες ἰλιάδα, ἐλαχίστη τε τούτων καὶ ἧττον ποικίλη.

Κεφάλαιο 21

Ἔστι δέ τις πετραῖος ᾧ ὄνομα κύανος· οὗτος ὁ ὄρνις ἐν Νισύρῳ μάλιστά ἐστι, ποιεῖται δ’ ἐπὶ τῶν πετρῶν τὰς διατριβάς. Τὸ δὲ μέγεθος κοττύφου μὲν ἐλάττων, σπίζης δὲ μείζων μικρῷ. Μεγαλόπους δέ, καὶ πρὸς τὰς πέτρας προσαναβαίνει. Κυανοῦς ὅλος· τὸ δὲ ῥύγχος ἔχει λεπτὸν καὶ μακρόν, σκέλη δὲ βραχέα τῇ πίπῳ παρόμοια.

Κεφάλαιο 22

Ὁ δὲ χλωρίων χλωρὸς ὅλος· οὗτος τὸν χειμῶνα οὐχ ὁρᾶται, περὶ δὲ τὰς τροπὰς τὰς θερινὰς φανερὸς μάλιστα γίνεται, ἀπαλλάττεται δ’ ὅταν Ἀρκτοῦρος ἐπιτέλλῃ. Τὸ δὲ μέγεθός ἐστιν ὅσον τρυγών.

Ὁ δὲ μαλακοκρανεὺς ἀεὶ ἐπὶ τὸ αὐτὸ (617b.) καθιζάνει, καὶ ἁλίσκεται ἐνταῦθα. Τὸ δ’ εἶδος, κεφαλὴ μὲν μεγάλη χονδρότυπος, τὸ δὲ μέγεθος ἐλάττων κίχλης μικρῷ· στόμα δ’ εὔρωστον, μικρόν, στρογγύλον· τὸ δὲ χρῶμα σποδοειδὴς ὅλος· εὔπους δὲ καὶ κακόπτερος. Ἁλίσκεται δὲ μάλιστα γλαυκί.

Κεφάλαιο 23

Ἔστι δὲ καὶ ὁ πάρδαλος. Τοῦτο δὲ τὸ ὄρνεόν ἐστιν ἀγελαῖον ὡς ἐπὶ τὸ πολύ, καὶ οὐκ ἔστι κατὰ ἕνα ἰδεῖν· τὸ δὲ χρῶμα σποδοειδὴς ὅλος, μέγεθος δὲ παραπλήσιος ἐκείνοις, εὔπους δὲ καὶ οὐ κακόπτερος, φωνὴ δὲ πολλὴ καὶ οὐ βαρεῖα.

Κολλυρίων δὲ τὰ αὐτὰ ἐσθίει τῷ κοττύφῳ· τὸ δὲ μέγεθος καὶ τούτου ταὐτὸν τοῖς πρότερον· ἁλίσκεται δὲ κατὰ χειμῶνα μάλιστα. Ταῦτα δὲ πάντα διὰ παντὸς φανερά ἐστιν.

Ἔτι δὲ τὰ κατὰ πόλεις εἰωθότα μάλιστα ζῆν, κόραξ καὶ κορώνη· καὶ γὰρ ταῦτ᾽ ἀεὶ φανερά, καὶ οὐ μεταβάλλει τοὺς τόπους οὐδὲ φωλεῖ.

Κεφάλαιο 24

Κολοιῶν δ’ ἐστὶν εἴδη τρία, ἓν μὲν ὁ κορακίας· οὗτος ὅσον κορώνη, φοινικόρυγχος· ἄλλος δ’ ὁ λύκος καλούμενος· ἔτι δ’ ὁ μικρός, ὁ βωμολόχος. Ἔστι δὲ καὶ ἄλλο γένος κολοιῶν περὶ τὴν Λυδίαν καὶ Φρυγίαν, ὃ στεγανόπουν ἐστίν.

Κεφάλαιο 25

Κορυδάλων δ’ ἐστὶ δύο γένη, ἡ μὲν ἑτέρα ἐπίγειος καὶ λόφον ἔχουσα, ἡ δ’ ἑτέρα ἀγελαία καὶ οὐ σποράς ὥσπερ ἐκείνη, τὸ μέντοι χρῶμα ὅμοιον τῇ ἑτέρᾳ ἔχουσα, τὸ δὲ μέγεθος ἐλάττων· καὶ λόφον οὐκ ἔχει· ἐσθίεται δέ.

Κεφάλαιο 26

Ἀσκαλώπας δ’ ἐν τοῖς κήποις ἁλίσκεται ἕρκεσιν· τὸ μέγεθος ὅσον ἀλεκτορίς, τὸ ῥύγχος μακρόν, τὸ χρῶμα ὅμοιον ἀτταγῆνι· τρέχει δὲ ταχύ, καὶ φιλάνθρωπόν ἐστιν ἐπιεικῶς.

Κεφάλαιο 27

Ὁ δὲ ψάρος ἐστὶ ποικίλος· μέγεθος δ’ ἐστὶν ἡλίκον κόττυφος.

Αἱ δ’ ἴβιες αἱ ἐν Αἰγύπτῳ εἰσὶ μὲν διτταί, αἱ μὲν λευκαὶ αὐτῶν, αἱ δὲ μέλαιναι. Ἐν μὲν οὖν τῇ ἄλλῃ Αἰγύπτῳ αἱ λευκαί εἰσι, πλὴν ἐν Πηλουσίῳ οὐ γίνονται· αἱ δὲ μέλαιναι ἐν τῇ ἄλλῃ Αἰγύπτῳ οὐκ εἰσίν, ἐν Πηλουσίῳ δ’ εἰσίν.

Κεφάλαιο 28

Σκῶπες δ’ οἱ μὲν ἀεὶ πᾶσαν ὥραν εἰσί, καὶ καλοῦνται ἀεισκῶπες, καὶ οὐκ (618a.) ἐσθίονται διὰ τὸ ἄβρωτοι εἶναι· ἕτεροι δὲ γίνονται ἐνίοτε τοῦ φθινοπώρου, φαίνονται δ’ ἐφ’ ἡμέραν μίαν ἢ δύο τὸ πλεῖστον, καὶ εἰσὶν ἐδώδιμοι καὶ σφόδρα εὐδοκιμοῦσιν. Καὶ διαφέρουσι τῶν ἀεισκωπῶν καλουμένων οὗτοι ἄλλῳ μὲν ὡς εἰπεῖν οὐδενί, τῷ δὲ πάχει· καὶ οὗτοι μέν εἰσιν ἄφωνοι, ἐκεῖνοι δὲ φθέγγονται. Περὶ δὲ γενέσεως αὐτῶν ἥτις ἐστίν, οὐδὲν ὦπται, πλὴν ὅτι τοῖς ζεφυρίοις φαίνονται· τοῦτο δὲ φανερόν.

Κεφάλαιο 29

Ὁ δὲ κόκκυξ, ὥσπερ εἴρηται ἐν ἑτέροις, οὐ ποιεῖ νεοττιάν, ἀλλ’ ἐν ἀλλοτρίαις τίκτει νεοττιαῖς, μάλιστα μὲν ἐν ταῖς τῶν φαβῶν καὶ ἐν ὑπολαΐδος καὶ κορύδου χαμαί, ἐπὶ δένδρου δ’ ἐν τῇ τῆς χλωρίδος καλουμένης νεοττιᾷ. Τίκτει μὲν οὖν ἓν ᾠόν, ἐπῳάζει δ’ οὐκ αὐτός, ἀλλ’ ἐν οὗ ἂν τέκῃ νεοττιᾷ, οὗτος ὁ ὄρνις ἐκκολάπτει καὶ τρέφει, καὶ ὥς φασίν, ὅταν αὐξάνηται ὁ τοῦ κόκκυγος νεοττός, ἐκβάλλει τὰ αὑτῆς, καὶ ἀπόλλυνται οὕτως. Οἱ δὲ λέγουσιν ὡς καὶ ἀποκτείνασα ἡ τρέφουσα δίδωσι καταφαγεῖν· διὰ γὰρ τὸ καλὸν εἶναι τὸν τοῦ κόκκυγος νεοττὸν ἀποδοκιμάζει τὰ αὑτῆς.

Τὰ μὲν οὖν πλεῖστα τούτων ὁμολογοῦσιν αὐτόπται γεγενημένοι τινές· περὶ δὲ τῆς φθορᾶς τῆς τῶν νεοττῶν τῆς ὄρνιθος οὐχ ὡσαύτως πάντες λέγουσιν, ἀλλ’ οἱ μέν φασιν αὐτὸν ἐπιφοιτῶντα τὸν κόκκυγα κατεσθίειν τὰ τῆς ὑποδεξαμένης ὄρνιθος νεόττια, οἱ δὲ διὰ τὸ τῷ μεγέθει ὑπερέχειν τὸν νεοττὸν τοῦ κόκκυγος ὑποκάπτοντα τὰ προσφερόμενα φθάνειν, ὥστε λιμῷ τοὺς ἑτέρους ἀπόλλυσθαι νεοττούς, οἱ δὲ κρείττον’ ὄντα ἀποκτιννύναι συντρεφόμενον αὐτοῖς.

Δοκεῖ δ’ ὁ κόκκυξ φρόνιμον ποιεῖσθαι τὴν τέκνωσιν· διὰ γὰρ τὸ συνειδέναι αὑτῷ τὴν δειλίαν καὶ ὅτι οὐκ ἂν δύναιτο βοηθῆσαι, διὰ τοῦτο ὥσπερ ὑποβολιμαίους ποιεῖ τοὺς ἑαυτοῦ νεοττούς, ἵνα σωθῶσιν. Τὴν γὰρ δειλίαν ὑπερβάλλει τοῦτο τὸ ὄρνεον· τίλλεται γὰρ ὑπὸ τῶν μικρῶν ὀρνέων, καὶ φεύγει αὐτά.

Κεφάλαιο 30

Οἱ δ’ ἄποδες, οὓς καλοῦσί τινες κυψέλους, ὅτι μὲν ὅμοιοι ταῖς χελιδόσιν εἰσίν, εἴρηται πρότερον· οὐ γὰρ ῥᾴδιον γνῶναι πρὸς τὴν χελιδόνα, πλὴν τῷ τὴν κνήμην ἔχειν δασεῖαν. Οὗτοι νεοττεύουσιν ἐν κυψελίσιν ἐκ πηλοῦ πεπλασμέναις μακραῖς, ὅσον εἴσδυσιν ἐχούσαις. Ἐν στεγνῷ δὲ ποιεῖται (618b.) τὰς νεοττιὰς ὑπὸ πέτραις καὶ σπηλαίοις, ὥστε καὶ τὰ θηρία καὶ τοὺς ἀνθρώπους διαφεύγειν.

Ὁ δὲ καλούμενος αἰγοθήλας ἐστὶ μὲν ὀρεινός, τὸ δὲ μέγεθος κοττύφου μὲν μικρῷ μείζων, κόκκυγος δ’ ἐλάττων. Τίκτει μὲν οὖν ᾠὰ δύο ἢ τρία τὸ πλεῖστον, τὸ δ’ ἦθός ἐστι βλακικός. Θηλάζει δὲ τὰς αἶγας προσπετόμενος, ὅθεν καὶ τοὔνομ’ εἴληφεν· φασὶ δ’, ὅταν θηλάσῃ τὸν μαστόν, ἀποσβέννυσθαί τε καὶ τὴν αἶγα ἀποτυφλοῦσθαι. Ἔστι δ’ οὐκ ὀξυωπὸς τῆς ἡμέρας, ἀλλὰ τῆς νυκτὸς βλέπει.

Κεφάλαιο 31

Οἱ δὲ κόρακες ἐν τοῖς μικροῖς χωρίοις, καὶ ὅπου μὴ ἱκανὴ τροφὴ πλείοσι, δύο μόνοι γίνονται· καὶ τοὺς ἑαυτῶν νεοττούς, ὅταν οἷοί τ’ ὦσιν ἤδη πέτεσθαι, τὸ μὲν πρῶτον ἐκβάλλουσιν, ὕστερον δὲ καὶ ἐκ τοῦ τόπου ἐκδιώκουσιν.

Τίκτει δ’ ὁ κόραξ καὶ τέτταρα καὶ πέντε. Περὶ δὲ τοὺς χρόνους ἐν οἷς ἀπώλοντο οἱ Μηδίου ξένοι ἐν Φαρσάλῳ, ἐρημία ἐν τοῖς τόποις τοῖς περὶ Ἀθήνας καὶ Πελοπόννησον ἐγένετο κοράκων, ὡς ἐχόντων αἴσθησίν τινα τῆς παρ’ ἀλλήλων δηλώσεως.

Κεφάλαιο 32

Τῶν δ’ ἀετῶν ἐστὶ πλείονα γένη, ἓν μὲν ὁ καλούμενος πύγαργος· οὗτος κατὰ τὰ πεδία καὶ τὰ ἄλση καὶ περὶ τὰς πόλεις γίνεται· ἔνιοι δὲ καλοῦσιν νεβροφόνον αὐτόν. Πέτεται δὲ καὶ εἰς τὰ ὄρη καὶ εἰς τὴν ὕλην διὰ τὸ θάρσος· τὰ δὲ λοιπὰ γένη ὀλιγάκις εἰς πεδία καὶ εἰς ἄλση φοιτᾷ.

Ἕτερον δὲ γένος ἀετοῦ ἐστὶν ὃ πλάγγος καλεῖται, δεύτερος μεγέθει καὶ ῥώμῃ· οἰκεῖ δὲ βήσσας καὶ ἄγκη καὶ λίμνας, ἐπικαλεῖται δὲ νηττοφόνος καὶ μορφνός· οὗ καὶ Ὅμηρος μέμνηται ἐν τῇ τοῦ Πριάμου ἐξόδῳ.

Ἕτερος δὲ μέλας τὴν χρόαν καὶ μέγεθος ἐλάχιστος, κράτιστος τούτων· οὗτος οἰκεῖ ὄρη καὶ ὕλας, καλεῖται δὲ μελανάετος καὶ λαγωφόνος. Ἐκτρέφει δὲ μόνος τὰ τέκνα οὗτος καὶ ἐξάγει. Ἔστι δ’ ὠκυβόλος καὶ εὐθήμων καὶ ἄφθονος καὶ ἄφοβος καὶ μάχιμος καὶ εὔφημος· οὐ γὰρ μινυρίζει οὐδὲ λέληκεν.

Ἔτι δ’ ἕτερον γένος περκνόπτερος, λευκὴ κεφαλή, μεγέθει δὲ μέγιστος, πτερὰ δὲ βραχύτατα καὶ οὐροπύγιον πρόμηκες, γυπὶ ὅμοιος· ὀρειπέλαργος καλεῖται καὶ ὑπάετος. Οἰκεῖ δ’ ἄλση, τὰ μὲν κακὰ ταὐτὰ ἔχων τοῖς ἄλλοις, τῶν δ’ ἀγαθῶν (619a.) οὐδέν· ἁλίσκεται γὰρ καὶ διώκεται ὑπὸ κοράκων καὶ τῶν ἄλλων· βαρὺς γὰρ καὶ κακόβιος καὶ τὰ τεθνεῶτα φέρων, πεινῇ δ’ ἀεὶ καὶ βοᾷ καὶ μινυρίζει.

Ἕτερον δὲ γένος ἐστὶν ἀετῶν οἱ καλούμενοι ἁλιάετοι. Οὗτοι δ’ ἔχουσιν αὐχένα τε μέγαν καὶ παχὺν καὶ πτερὰ καμπύλα, οὐροπύγιον δὲ πλατύ· οἰκοῦσι δὲ περὶ θάλατταν καὶ ἀκτάς, ἁρπάζοντες δὲ καὶ οὐ δυνάμενοι φέρειν πολλάκις καταφέρονται εἰς βυθόν.

Ἔτι δ’ ἄλλο γένος ἐστὶν ἀετῶν οἱ καλούμενοι γνήσιοι. Φασὶ δὲ τούτους μόνους καὶ τῶν ἄλλων ὀρνίθων γνησίους εἶναι· τὰ γὰρ ἄλλα γένη μέμικται καὶ μεμοίχευται ὑπ’ ἀλλήλων, καὶ τῶν ἀετῶν καὶ τῶν ἱεράκων καὶ τῶν ἐλαχίστων.

Ἔστι δ’ οὗτος μέγιστος τῶν ἀετῶν ἁπάντων, μείζων τε τῆς φήνης, τῶν δ’ ἀετῶν καὶ ἡμιόλιος, χρῶμα ξανθός. Φαίνεται δ’ ὀλιγάκις, ὥσπερ ἡ καλουμένη κύμινδις.

Ὥρα δὲ τοῦ ἐργάζεσθαι ἀετῷ καὶ πέτεσθαι ἀπ’ ἀρίστου μέχρι δείλης· τὸ γὰρ ἕωθεν κάθηται μέχρι ἀγορᾶς πληθυούσης. Γηράσκουσι δὲ τοῖς ἀετοῖς τὸ ῥύγχος αὐξάνεται τὸ ἄνω γαμψούμενον ἀεὶ μᾶλλον, καὶ τέλος λιμῷ ἀποθνήσκουσιν. Ἐπιλέγεται δέ τις καὶ μῦθος, ὡς τοῦτο πάσχει διότι ἄνθρωπός ποτ’ ὢν ἠδίκησε ξένον. Ἀποτίθεται δὲ τὴν περιττεύουσαν τροφὴν τοῖς νεοττοῖς· διὰ γὰρ τὸ μὴ εὔπορον εἶναι καθ’ ἑκάστην ἡμέραν αὐτὴν πορίζεσθαι, ἐνίοτε οὐκ ἔχουσιν ἔξωθεν κομίζειν. Τύπτουσι δὲ ταῖς πτέρυξι καὶ τοῖς ὄνυξιν ἀμύττουσιν, ἄν τινα λάβωσι σκευωρούμενον περὶ τὰς νεοττιάς.

Ποιοῦνται δ’ αὐτὰς οὐκ ἐν πεδινοῖς τόποις ἀλλ’ ἐν ὑψηλοῖς, μάλιστα μὲν ἐν πέτραις ἀποκρήμνοις, οὐ μὴν ἀλλὰ καὶ ἐπὶ δένδρων. Τρέφουσι δὲ τοὺς νεοττοὺς ἕως ἂν δυνατοὶ γένωνται πέτεσθαι· τότε δ’ ἐκ τῆς νεοττιᾶς αὐτοὺς ἐκβάλλουσι καὶ ἐκ τοῦ τόπου τοῦ περὶ αὐτὴν παντὸς ἀπελαύνουσιν. Ἐπέχει γὰρ ἓν ζεῦγος ἀετῶν πολὺν τόπον· διόπερ οὐκ ἐᾷ πλησίον αὐτῶν ἄλλους αὐλισθῆναι.

Τὴν δὲ θήραν ποιεῖται οὐκ ἐκ τῶν σύνεγγυς τόπων τῆς νεοττιᾶς, ἀλλὰ συχνὸν ἀποπτάς. Ὅταν δὲ κυνηγήσῃ καὶ ἄρῃ, τίθησι καὶ οὐκ εὐθὺς φέρει, ἀλλ’ ἀποπειραθεὶς τοῦ βάρους ἀφίησιν. Καὶ τοὺς δασύποδας δ’ οὐκ (619b.) εὐθὺς λαμβάνει, ἀλλ’ εἰς τὸ πεδίον ἐάσας προελθεῖν· καὶ καταβαίνει δ’ οὐκ εὐθὺς εἰς τὸ ἔδαφος, ἀλλ’ ἀεὶ ἀπὸ τοῦ μείζονος ἐπὶ τὸ ἔλαττον κατὰ μικρόν. Ἄμφω δὲ ταῦτα ποιεῖ πρὸς ἀσφάλειαν τοῦ μὴ ἐνεδρεύεσθαι. Καὶ ἐφ’ ὑψηλῶν καθίζει διὰ τὸ βραδέως αἴρεσθαι ἀπὸ τῆς γῆς. Ὑψοῦ δὲ πέτεται, ὅπως ἐπὶ πλεῖστον τόπον καθορᾷ· διόπερ θεῖον οἱ ἄνθρωποί φασιν εἶναι μόνον τῶν ὀρνέων.

Πάντες δ’ οἱ γαμψώνυχοι ἥκιστα καθιζάνουσιν ἐπὶ πέτραις διὰ τὸ τῇ γαμψότητι ἐμπόδιον εἶναι τὴν σκληρότητα. Θηρεύει δὲ λαγὼς καὶ νεβροὺς καὶ ἀλώπεκας καὶ τὰ λοιπά, ὅσων κρατεῖν οἷός τ’ ἐστίν. Μακρόβιος δ’ ἐστίν· δῆλον δὲ τοῦτο ἐκ τοῦ τὴν νεοττιὰν τὴν αὐτῶν ἐπὶ πολὺ διαμένειν.

Κεφάλαιο 33

Ἐν δὲ Σκύθαις ὀρνίθων γένος ἐστὶν οὐκ ἔλαττον ὠτίδος· τοῦτο τίκτει δύο νεοττούς, οὐκ ἐπικάθηται δέ, ἀλλ’ ἐν δέρματι λαγωοῦ ἢ ἀλώπεκος ἐγκρύψαν ἐᾷ· ἐπ’ ἄκρῳ δὲ τῷ δένδρῳ φυλάττει, ὅταν μὴ τύχῃ θηρεύων· κἄν τις ἀναβαίνῃ, μάχεται καὶ τύπτει ταῖς πτέρυξιν, ὥσπερ οἱ ἀετοί.

Γλαῦκες δὲ καὶ νυκτικόρακες, καὶ τὰ λοιπὰ ὅσα τῆς ἡμέρας ἀδυνατεῖ βλέπειν, τῆς νυκτὸς μὲν θηρεύοντα τὴν τροφὴν αὑτοῖς πορίζεται, οὐ κατὰ πᾶσαν δὲ τὴν νύκτα τοῦτο ποιεῖ, ἀλλ’ ἄκρας ἑσπέρας καὶ περὶ ὄρθρον· θηρεύει δὲ μῦς καὶ σαύρας καὶ σφονδύλας καὶ τοιαῦτ’ ἄλλα ζῳδάρια.

Ἡ δὲ καλουμένη φήνη ἐστὶν εὔτεκνος καὶ εὐβίοτος καὶ δειπνοφόρος καὶ ἤπιος, καὶ τὰ τέκνα ἐκτρέφει καὶ τὰ αὑτῆς καὶ τὰ τοῦ ἀετοῦ. Καὶ γὰρ ταῦθ’ ὅταν ἐκβάλλῃ ἐκεῖνος, ἀναλαβοῦσα τρέφει· ἐκβάλλει γὰρ ὁ ἀετὸς πρὸ ὥρας, ἔτι βίου δεόμενα καὶ οὔπω δυνάμενα πέτεσθαι. Ἐκβάλλειν δὲ δοκεῖ ὁ ἀετὸς τοὺς νεοττοὺς διὰ φθόνον· φύσει γάρ ἐστι φθονερὸς καὶ ὀξύπεινος, ἔτι δὲ ὀξυλαβής. Λαμβάνει δὲ μέγα, ὅταν λάβῃ. Φθονεῖ οὖν τοῖς νεοττοῖς ἁδρυνομένοις, ὅτι φαγεῖν ἀγαθοὶ γίνονται, καὶ σπᾷ τοῖς ὄνυξιν. Μάχονται δὲ καὶ οἱ νεοττοὶ καὶ αὐτοὶ περὶ τῆς ἕδρας καὶ τῆς τροφῆς· ὁ δ’ ἐκβάλλει καὶ κόπτει αὐτούς· οἱ δ’ ἐκβαλλόμενοι βοῶσι, καὶ οὕτως ὑπολαμβάνει αὐτοὺς ἡ φήνη.

Ἡ δὲ φήνη (620a.) ἐπάργεμός τ’ ἐστὶ καὶ πεπήρωται τοὺς ὀφθαλμούς· ὁ δ’ ἁλιάετος ὀξυωπέστατος μέν ἐστι, καὶ τὰ τέκνα ἀναγκάζει ἔτι ψιλὰ ὄντα πρὸς τὸν ἥλιον βλέπειν, καὶ τὸν μὴ βουλόμενον κόπτει καὶ στρέφει, καὶ ὁποτέρου ἂν ἔμπροσθεν οἱ ὀφθαλμοὶ δακρύσωσιν, τοῦτον ἀποκτείνει, τὸν δ’ ἕτερον ἐκτρέφει. Διατρίβει δὲ περὶ θάλατταν, καὶ ζῇ θηρεύων τοὺς περὶ τὴν θάλατταν ὄρνιθας, ὥσπερ εἴρηται. Θηρεύει δ’ ἀπολαμβάνων καθ’ ἕνα, παρατηρῶν ἀναδυόμενον ἐκ τῆς θαλάττης. Ὅταν δ’ ἴδῃ ὁ ὄρνις ἀνακύπτων τὸν ἁλιάετον, πάλιν φοβηθεὶς καταδύεται ὡς ἑτέρᾳ ἀνακύψων· ὁ δὲ διὰ τὸ ὀξὺ ὁρᾶν ἀεὶ πέτεται, ἕως ἂν ἀποπνίξῃ ἢ λάβῃ μετέωρον. Ἀθρόαις γὰρ οὐκ ἐπιχειρεῖ· ῥαίνουσαι γὰρ ἀπερύκουσι ταῖς πτέρυξιν.

Κεφάλαιο 34

Οἱ δὲ κέπφοι ἁλίσκονται τῷ ἀφρῷ· κάπτουσι γὰρ αὐτόν, διὸ προσραίνοντες θηρεύουσιν. Ἔχει δὲ τὴν μὲν ἄλλην σάρκα εὐώδη, τὸ δὲ πυγαῖον μόνον θινὸς ὄζει. Γίνονται δὲ πίονες.

Κεφάλαιο 35

Τῶν δ’ ἱεράκων κράτιστος μὲν ὁ τριόρχης, δεύτερος δ’ ὁ αἰσάλων, τρίτος ὁ κίρκος. Ὁ δ’ ἀστερίας καὶ ὁ φασσοφόνος καὶ ὁ πτέρνις ἀλλοῖοι. Οἱ δὲ πλατύτεροι ἱέρακες ὑποτριόρχαι καλοῦνται, ἄλλοι δὲ πέρκοι καὶ σπιζίαι, οἱ δ’ ἕλειοι καὶ οἱ φρυνολόγοι· οὗτοι εὐβιώτατοι καὶ χθαμαλοπτῆται.

Γένη δὲ τῶν ἱεράκων φασί τινες εἶναι οὐκ ἐλάττω τῶν δέκα, διαφέρουσι δ’ ἀλλήλων· οἱ μὲν γὰρ αὐτῶν ἐπὶ τῆς γῆς καθημένην τύπτουσι τὴν περιστερὰν καὶ συναρπάζουσι, πετομένης δ’ οὐ θιγγάνουσιν· οἱ δ’ ἐπὶ δένδρου μὲν ἤ τινος ἄλλου καθημένην θηρεύουσιν, ἐπὶ τῆς γῆς δ’ οὔσης ἢ μετεώρου οὐχ ἅπτονται· οἱ δ’ οὔτ’ ἐπὶ τῆς γῆς οὔτ’ ἐπ’ ἄλλου καθημένης θιγγάνουσιν, ἀλλὰ πετομένην πειρῶνται λαμβάνειν. Φασὶ δὲ καὶ τὰς περιστερὰς γινώσκειν ἕκαστον τούτων τῶν γενῶν, ὥστε προσπετομένων, ἐὰν μὲν ᾖ τῶν μετεωροθήρων, μένειν ὅπου ἂν καθήμεναι τύχωσιν, ἐὰν δ’ ᾖ τῶν χαμαιτύπων ὁ προσπετόμενος, οὐχ ὑπομένειν ἀλλ’ ἀναπέτεσθαι.

Ἐν δὲ Θρᾴκῃ τῇ καλουμένῃ ποτὲ Κεδρειπόλει ἐν τῷ ἕλει θηρεύουσιν οἱ ἄνθρωποι τὰ ὀρνίθια κοινῇ μετὰ τῶν ἱεράκων· οἱ μὲν γὰρ ἔχοντες ξύλα σοβοῦσι τὸν κάλαμον καὶ (620b.) τὴν ὕλην, ἵνα πέτωνται τὰ ὀρνίθια, οἱ δ’ ἱέρακες ἄνωθεν ὑπερφαινόμενοι καταδιώκουσιν· ταῦτα δὲ φοβούμενα κάτω πέτονται πάλιν πρὸς τὴν γῆν· οἱ δ’ ἄνθρωποι τύπτοντες τοῖς ξύλοις λαμβάνουσι, καὶ τῆς θήρας μεταδιδόασιν αὐτοῖς· ῥίπτουσι γὰρ τῶν ὀρνίθων, οἱ δ’ ὑπολαμβάνουσιν. Καὶ περὶ τὴν Μαιῶτιν δὲ λίμνην τοὺς λύκους φασὶ συνήθεις εἶναι τοῖς ποιουμένοις τὴν θήραν τῶν ἰχθύων· ὅταν δὲ μὴ μεταδιδῶσι, διαφθείρειν αὐτῶν τὰ δίκτυα ξηραινόμενα ἐν τῇ γῇ.

Κεφάλαιο 36

Τὰ μὲν οὖν περὶ τοὺς ὄρνιθας τοῦτον ἔχει τὸν τρόπον· ἔστι δὲ καὶ ἐν τοῖς θαλαττίοις ζῴοις πολλὰ τεχνικὰ θεωρῆσαι πρὸς τοὺς ἑκάστων βίους. Τά τε γὰρ θρυλούμενα περὶ τὸν βάτραχον τὸν ἁλιέα καλούμενόν ἐστιν ἀληθῆ, καὶ τὰ περὶ τὴν νάρκην. Ὁ μὲν γὰρ βάτραχος χρῆται τοῖς πρὸ τῶν ὀφθαλμῶν ἀποκρεμαμένοις, ὧν τὸ μὲν μῆκός ἐστι τριχοειδές, ἐπ’ ἄκρου δὲ στρογγύλον, ὥσπερ προσκείμενον ἑκατέρῳ δελέατος χάριν· ὅταν οὖν ἐν τοῖς ἀμμώδεσιν ἢ θολώδεσιν ἀναταράξας κρύψῃ ἑαυτόν, ἐπαίρει τὰ τριχώδη, κοπτόντων δὲ τῶν ἰχθυδίων συγκατάγει μέχριπερ ἂν πρὸς τὸ στόμα προσαγάγῃ.

Ἡ τε νάρκη ναρκᾶν ποιοῦσα ὧν ἂν κρατήσειν μέλλῃ ἰχθύων, τῷ ῥόπτρῳ ὃν ἔχει ἐν τῷ σώματι λαμβάνουσα, τρέφεται τούτοις, κατακρύπτεται δ’ εἰς τὴν ἄμμον καὶ πηλόν, λαμβάνει δὲ τὰ ἐπινέοντα, ὅσα ἂν ναρκήσῃ ἐπιφερόμενα τῶν ἰχθύων· καὶ τούτου αὐτόπται γεγένηνταί τινες. Κατακρύπτει δὲ καὶ ἡ τρυγὼν αὑτήν, πλὴν οὐχ ὁμοίως.

Σημεῖον δ’ ὅτι τοῦτον τὸν τρόπον ζῶσιν· ἁλίσκονται γὰρ ἔχοντες κεστρέας πολλάκις ὄντες αὐτοὶ βραδύτατοι, τὸν τάχιστον τῶν ἰχθύων. Ἔπειτα ὁ μὲν βάτραχος, ὅταν μηκέτ’ ἔχῃ τὰ ἐπὶ ταῖς θριξίν, ἁλίσκεται λεπτότερος· ἡ δὲ νάρκη φανερά ἐστι καὶ τοὺς ἀνθρώπους ποιοῦσα ναρκᾶν.

Καθαμμίζουσι δ’ ἑαυτὰ καὶ ὄνος καὶ βάτος καὶ ψῆττα καὶ ῥίνη, καὶ ὅταν ποιήσῃ ἑαυτὰ ἄδηλα, εἶτα ῥαβδεύεται τοῖς ἐν τῷ στόματι, ἃ καλοῦσιν οἱ ἁλιεῖς ῥαβδία· προσέρχονται δ’ ὡς πρὸς φυκία ἀφ’ ὧν τρέφονται.

Ὅπου δ’ ἂν ἀνθίας ὁραθῇ, οὐκ ἔστι θηρίον· ᾧ καὶ σημείῳ χρώμενοι κατακολυμβῶσιν οἱ σπογγεῖς, καὶ καλοῦσιν ἱεροὺς ἰχθῦς τούτους· ἔοικε δὲ συμπτώματι, (621a.) καθάπερ ὅπου ἂν ᾖ κοχλίας, σῦς οὐκ ἔστιν οὐδὲ πέρδιξ· κατεσθίουσι γὰρ ἄμφω τοὺς κοχλίας.

Ὁ δ’ ὄφις ὁ θαλάττιος τὸ μὲν χρῶμα παραπλήσιον ἔχει τῷ γόγγρῳ καὶ τὸ σῶμα, πλήν ἐστιν ἀμαυρότερος καὶ σφοδρότερος· ἐὰν δὲ ληφθῇ καὶ ἀφεθῇ, εἰς τὴν ἄμμον καταδύεται ταχὺ τῷ ῥύγχει διατρυπήσας· ἔχει δ’ ὀξύτερον τὸ στόμα τῶν ὄφεων.

Ἣν δὲ καλοῦσι σκολόπενδραν, ὅταν καταπίῃ τὸ ἄγκιστρον, ἐκτρέπεται τὰ ἐντὸς ἐκτός, ἕως ἂν ἐκβάλῃ τὸ ἄγκιστρον· εἶθ’ οὕτως εἰστρέπεται πάλιν ἐντός. Βαδίζουσι δ’ αἱ σκολόπενδραι πρὸς τὰ κνισώδη, ὥσπερ καὶ αἱ

χερσαῖαι. Τῷ μὲν οὖν στόματι οὐ δάκνουσι, τῇ δ’ ἅψει καθ’ ὅλον τὸ σῶμα, ὥσπερ αἱ καλούμεναι κνῖδαι.

Τῶν δ’ ἰχθύων αἱ ὀνομαζόμεναι ἀλώπεκες ὅταν αἴσθωνται ὅτι τὸ ἄγκιστρον καταπεπώκασι, βοηθοῦσι πρὸς τοῦτο ὥσπερ καὶ ἡ σκολόπενδρα· ἀναδραμοῦσαι γὰρ ἐπὶ πολὺ πρὸς τὴν ὁρμιὰν ἀποτρώγουσιν αὐτῆς· ἁλίσκονται γὰρ περὶ ἐνίους τόπους πολυαγκίστροις ἐν ῥοώδεσι καὶ βαθέσι τόποις.

Συστρέφονται δὲ καὶ αἱ ἀμίαι, ὅταν τι θηρίον ἴδωσι, καὶ κύκλῳ αὐτῶν περινέουσιν αἱ μέγισται, κἂν ἅπτηταί τινος, ἀμύνουσιν· ἔχουσι δ’ ὀδόντας ἰσχυρούς, καὶ ἤδη ὦπται καὶ ἄλλα καὶ λάμια ἐμπεσοῦσα καὶ καθελκωθεῖσα.

Τῶν δὲ ποταμίων ὁ γλάνις ὁ ἄρρην περὶ τὰ τέκνα ποιεῖται ἐπιμέλειαν πολλήν· ἡ μὲν γὰρ θήλεια τεκοῦσα ἀπαλλάττεται, ὁ δ’ ἄρρην, οὗ ἂν πλεῖστον συστῇ τοῦ κυήματος, ᾠοφυλακεῖ παραμένων, οὐδεμίαν ὠφέλειαν ἄλλην παρεχόμενος πλὴν ἐρύκων τἆλλα ἰχθύδια μὴ διαρπάσωσι τὸν γόνον· καὶ τοῦτο ποιεῖ ἡμέρας καὶ τετταράκοντα καὶ πεντήκοντα, ἕως ἂν αὐξηθεὶς ὁ γόνος δύνηται διαφεύγειν ἀπὸ τῶν ἄλλων ἰχθύων. Γινώσκεται δ’ ὑπὸ τῶν ἁλιέων οὗ ἂν τύχῃ ᾠοφυλακῶν· ἐρύκων γὰρ τὰ ἰχθύδια ἅττει καὶ ἦχον ποιεῖ καὶ μυγμόν. Οὕτω δὲ φιλοστόργως μένει πρὸς τοῖς ᾠοῖς, ὥστε οἱ ἁλιεῖς ἑκάστοτε, ἂν ἐν βαθείαις ῥίζαις τὰ ᾠὰ προσῇ, ἀνάγουσιν ὡς ἂν δύνωνται εἰς βραχύτατον· ὁ δ’ ὅμως οὐκ ἀπολείπει τὸν γόνον, ἀλλ’ ἐὰν μὲν <νέος> τύχῃ, ταχέως ὑπὸ τοῦ ἀγκίστρου ἑάλω διὰ τὸ ἁρπάζειν τὰ προσιόντα τῶν ἰχθυδίων, ἐὰν δ’ ᾖ συνήθης καὶ (621b.) ἀγκιστροφάγος, λείπει μὲν οὐδ’ ὧς τὸν γόνον, τῷ δ’ ὀδόντι τῷ σκληροτάτῳ συνδάκνων διαφθείρει τὰ ἄγκιστρα.

Ἅπαντα δὲ καὶ τὰ πλωτὰ καὶ τὰ μόνιμα τούτους νέμεται τοὺς τόπους ἐν οἷς ἂν φυῶσι, καὶ τοὺς ὁμοίους τούτοις· ἡ γὰρ οἰκεία τροφὴ ἑκάστων ἐν τούτοις ἐστίν. Πλανᾶται δὲ μάλιστα τὰ σαρκοφάγα· πάντα δὲ σχεδόν ἐστι σαρκοφάγα πλὴν ὀλίγων, οἷον κεστρέως καὶ σάλπης καὶ τρίγλης καὶ χαλκίδος. Τῇ δὲ καλουμένῃ φωλίδι ἡ μύξα, ἣν ἀφίησι, περιπλάττεται περὶ αὐτὴν καὶ γίνεται καθάπερ θαλάμη.

Τῶν δ’ ὀστρακοδέρμων καὶ ἀπόδων ὁ κτεὶς μάλιστα καὶ πλεῖστον κινεῖται δι’ αὑτοῦ πετόμενος· ἡ γὰρ πορφύρα ἐπὶ μικρότατον προέρχεται, καὶ τὰ ὅμοια ταύτῃ.

Ἐκ δὲ τοῦ εὐρίπου τοῦ ἐν Πύρρᾳ οἱ ἰχθύες χειμῶνος μὲν ἐκπλέουσιν ἔξω, πλὴν κωβιοῦ, διὰ τὸ ψῦχος (ψυχρότερος γάρ ἐστιν ὁ εὔριπος), ἅμα δὲ τῷ ἔαρι πάλιν εἰσπλέουσιν. Οὐ γίνεται δ’ ἐν τῷ εὐρίπῳ οὔτε σκάρος οὔτε θρίττα οὔτ’ ἄλλο τῶν ἀκανθηροτέρων οὐδέν, οὐδὲ γαλεοὶ οὐδ’ ἀκανθίαι οὐδὲ κάραβοι

οὐδὲ πολύποδες οὐδὲ βολίταιναι οὐδ’ ἄλλ’ ἄττα· τῶν δ’ ἐν τῷ εὐρίπῳ φυομένων οὐκ ἔστι πελάγιος ὁ λευκὸς κωβιός.

Ἀκμάζουσι δὲ τῶν ἰχθύων οἱ μὲν ᾠοφόροι τοῦ ἔαρος, μέχρι οὗ ἂν ἐκτέκωσιν, οἱ δὲ ζῳοτόκοι τοῦ μετοπώρου, καὶ πρὸς τούτοις κεστρεῖς καὶ τρίγλαι καὶ τἆλλα τὰ τοιαῦτα πάντα. Περὶ δὲ τὴν Λέσβον καὶ τὰ πελάγια πάντα καὶ τὰ εὐριπώδη τίκτει ἐν τῷ εὐρίπῳ· ὀχεύονται μὲν γὰρ τοῦ μετοπώρου, τίκτουσι δὲ τοῦ ἔαρος. Ἔστι δὲ καὶ τὰ σελάχη κατὰ μὲν τὸ μετόπωρον ἀναμὶξ τὰ ἄρρενα τοῖς θήλεσι κατὰ τὴν ὀχείαν, τοῦ δ’ ἔαρος εἰσπλέουσι διακεκριμένα μέχρι οὗ ἂν ἐκτέκωσιν· κατὰ δὲ τὴν ὀχείαν ἁλίσκεται πολλὰ συνεζευγμένα.

Τῶν δὲ μαλακίων πανουργότατον μὲν ἡ σηπία, καὶ μόνη χρῆται τῷ θολῷ κρύψεως χάριν, καὶ οὐ μόνον φοβουμένη· ὁ δὲ πολύπους καὶ ἡ τευθὶς διὰ φόβον ἀφίησι τὸν θολόν. Ἀφίησι δὲ ταῦτα πάντα οὐδέποτε ἀθρόον τὸν θολόν· καὶ ὅταν ἀφῇ, αὐξάνεται πάλιν.

Ἡ δὲ σηπία, ὥσπερ εἴρηται, τῷ τε θολῷ πολλάκις χρῆται κρύψεως χάριν, καὶ προδείξασα εἰς τὸ πρόσθεν (622a.) ἀναστρέφεται εἰς τὸν θολόν· ἔτι δὲ θηρεύει τοῖς μακροῖς τοῖς ἀποτείνουσιν οὐ μόνον τὰ μικρὰ τῶν ἰχθυδίων, ἀλλὰ καὶ κεστρέας πολλάκις.

Ὁ δὲ πολύπους ἀνόητον μέν ἐστι (καὶ γὰρ πρὸς τὴν χεῖρα βαδίζει τοῦ ἀνθρώπου καθιεμένην), οἰκονομικὸς δ’ ἐστίν· πάντα γὰρ συλλέγει μὲν εἰς τὴν θαλάμην, οὗ τυγχάνει κατοικῶν, ὅταν δὲ καταναλώσῃ τὰ χρησιμώτατα, ἐκβάλλει τὰ ὄστρακα καὶ τὰ κελύφια τῶν καρκίνων καὶ κογχυλίων καὶ τὰς ἀκάνθας τῶν ἰχθυδίων· καὶ θηρεύει τοὺς ἰχθῦς τὸ χρῶμα μεταβάλλων καὶ ποιῶν ὅμοιον οἷς ἂν πλησιάζῃ λίθοις. Τὸ δ’ αὐτὸ ποιεῖ καὶ φοβηθείς. Λέγεται δ’ ὑπό τινων ὡς καὶ ἡ σηπία τοῦτο ποιεῖ· παρόμοιον γάρ φασι τὸ χρῶμα ποιεῖν τὸ αὑτῆς τῷ τόπῳ περὶ ὃν διατρίβει. Τῶν δ’ ἰχθύων τοῦτο ποιεῖ μόνον ἡ ῥίνη· μεταβάλλει γὰρ τὴν χρόαν ὥσπερ ὁ πολύπους.

Τὸ μὲν οὖν πλεῖστον γένος τῶν πολυπόδων οὐ διετίζει· καὶ γὰρ φύσει συντηκτικόν ἐστιν· σημεῖον δ’ ἐστίν, πιλούμενος γὰρ ἀφίησιν ἀεί τι καὶ τέλος ἀφανίζεται. Αἱ δὲ θήλειαι μετὰ τὸν τόκον τοῦτο πάσχουσι μᾶλλον, καὶ γίνονται μωραί, καὶ οὔτε κυματιζόμεναι αἰσθάνονται, λαβεῖν τε τῇ χειρὶ κατακολυμβήσαντα ῥᾴδιον· βλεννώδεις τε γίνονται, καὶ οὐδὲ θηρεύουσιν ἔτι προσκαθήμεναι. Οἱ δ’ ἄρρενες σκυτώδεις τε γίνονται καὶ γλίσχροι.

Σημεῖον δὲ δοκεῖ εἶναι τοῦ μὴ διετίζειν, ὅτι μετὰ τὴν γένεσιν τῶν πολυποδίων ἔν γε τῷ θέρει καὶ πρὸς τὸ φθινόπωρον μέγαν πολύπουν οὐκέτι ῥᾴδιόν ἐστιν ἰδεῖν, μικρὸν δὲ πρὸ τούτου τοῦ καιροῦ μέγιστοί εἰσιν οἱ πολύποδες. Ὅταν δὲ τὰ ᾠὰ ἐκτέκωσιν, οὕτω καταγηράσκειν καὶ ἀσθενεῖς γίνεσθαι ἀμφοτέρους φασὶν ὥστε ὑπὸ τῶν ἰχθυδίων κατεσθίεσθαι καὶ ῥᾳδίως ἀποσπᾶσθαι ἀπὸ τῶν φωλεῶν· πρότερον δὲ τοιοῦτον οὐδὲν πάσχειν· Ἔτι δὲ τοὺς μικροὺς καὶ νέους τῶν πολυπόδων μετὰ τὴν γένεσιν οὐδέν φασι τοιοῦτον πάσχειν, ἀλλ' ἰσχυροτέρους εἶναι τῶν μειζόνων. Οὐ διετίζουσι δ' οὐδ' αἱ σηπίαι. Εἰς δὲ τὸ ξηρὸν ἐξέρχεται μόνον τῶν μαλακίων ὁ πολύπους· πορεύεται δ' ἐπὶ τοῦ τραχέος, τὸ δὲ λεῖον φεύγει. Ἔστι δὲ τὰ μὲν ἄλλα ἰσχυρὸν τὸ ζῷον, τὸν δὲ τράχηλον ἀσθενές, ὅταν πιεσθῇ.

(622b.) Περὶ μὲν οὖν τῶν μαλακίων τοῦτον ἔχει τὸν τρόπον. Τὰς δὲ κόγχας φασὶ τὰς λεπτὰς καὶ τραχείας ποιεῖσθαι περὶ αὑτὰς οἷον θώρακα σκληρόν, καὶ τοῦτον μείζονα, ὅταν γίνωνται μείζους, καὶ ἐκ τούτου ἐξιέναι ὥσπερ ἐκ φωλεοῦ τινὸς ἢ οἰκίας.

Ἔστι δὲ καὶ ὁ ναυτίλος πολύπους τῇ τε φύσει καὶ οἷς ποιεῖ περιττός· ἐπιπλεῖ γὰρ ἐπὶ τῆς θαλάττης, τὴν ἀναφορὰν ποιησάμενος κάτωθεν ἐκ τοῦ βυθοῦ, καὶ ἀναφέρεται μὲν κατεστραμμένῳ τῷ ὀστράκῳ, ἵνα ῥᾷόν γ' ἀνέλθῃ καὶ κενῷ ναυτίλληται, ἐπιπολάσας δὲ μεταστρέφει. Ἔχει δὲ <τὸ> μεταξὺ τῶν πλεκτανῶν ἐπί τι συνυφές· ὅμοιον τοῖς στεγανόποσι τὸ μεταξὺ δακτύλων, πλὴν ἐκείνοις μὲν παχύ, τούτοις δὲ λεπτὸν τοῦτο καὶ ἀραχνιῶδές ἐστιν. Χρῆται δ' αὐτῷ, ὅταν πνεῦμά τι ᾖ, ἱστίῳ· ἀντὶ πηδαλίων δὲ <δύο> τῶν πλεκτανῶν παρακαθίησιν· ἐὰν δὲ φοβηθῇ, καταδύνει τῆς θαλάττης μεστώσας τὸ ὄστρακον. Περὶ δὲ γενέσεως καὶ συναυξήσεως τοῦ ὀστράκου ἀκριβῶς μὲν οὔπω ὦπται, δοκεῖ δ' οὐκ ἐξ ὀχείας γίνεσθαι, ἀλλὰ φύεσθαι ὥσπερ τἆλλα κογχύλια. Οὐ δῆλον δέ πω οὐδ' εἰ ἀποδυόμενος δύναται ζῆν.

Κεφάλαιο 37

Τῶν δ’ ἐντόμων ἐργατικώτατον ζῴων ἐστί, σχεδὸν δὲ καὶ πρὸς τἆλλα συγκρίνεσθαι πάντα, τό τε τῶν μυρμήκων γένος καὶ τὸ τῶν μελιττῶν, ἔτι δ’ ἀνθρῆναι καὶ σφῆκες καὶ πάνθ’ ὡς εἰπεῖν τὰ συγγενῆ τούτοις. Εἰσὶ δὲ καὶ τῶν ἀραχνίων οἱ γλαφυρώτατοι καὶ λαγαρώτατοι καὶ τεχνικώτατοι περὶ τὸν βίον. Ἡ μὲν οὖν τῶν μυρμήκων ἐργασία πᾶσίν ἐστιν ἐπιπολῆς ἰδεῖν, καὶ ὡς ἀεὶ μίαν ἀτραπὸν πάντες βαδίζουσι, καὶ τὴν ἀπόθεσιν τῆς τροφῆς καὶ ταμιείαν· ἐργάζονται γὰρ καὶ τὰς νύκτας τὰς πανσελήνους.

Κεφάλαιο 38

Τῶν δ’ ἀραχνίων καὶ τῶν φαλαγγίων ἔστι πολλὰ γένη, τῶν μὲν δηκτικῶν φαλαγγίων δύο, τὸ μὲν ἕτερον ὅμοιον τοῖς καλουμένοις λύκοις μικρὸν καὶ ποικίλον καὶ ὀξὺ καὶ πηδητικόν· καλεῖται δὲ ψύλλα· τὸ δ’ ἕτερον μεῖζον, τὸ μὲν χρῶμα μέλαν, τὰ δὲ σκέλη τὰ πρόσθια μακρὰ ἔχον, καὶ τῇ κινήσει νωθρὸν καὶ βαδίζον ἠρέμα καὶ οὐ κρατερὸν καὶ οὐ πηδῶν. Τὰ δ’ ἄλλα πάντα, ὅσα παρατίθενται οἱ φαρμακοπῶλαι, τὰ μὲν (623a.) οὐδεμίαν τὰ δ’ ἀσθενῆ ποιεῖ τὴν δῆξιν. Ἄλλο δ’ ἐστὶ τῶν καλουμένων λύκων γένος.

Τοῦτο μὲν οὖν τὸ μικρὸν οὐχ ὑφαίνει ἀράχνιον, τὸ δὲ μεῖζον τραχὺ καὶ φαῦλον πρὸς τῇ γῇ καὶ ταῖς αἱμασιαῖς· ἐπὶ τοῖς στομίοις δ’ ἀεὶ ποιεῖ τὸ ἀράχνιον, καὶ ἔνδον ἔχον τὰς ἀρχὰς τηρεῖ, ἕως ἂν ἐμπεσόν τι κινήσῃ· ἔπειτα προσέρχεται. Τὸ δὲ ποικίλον ὑπὸ τοῖς δένδρεσι ποιεῖται μικρὸν καὶ φαῦλον ἀράχνιον.

Ἄλλο δ’ ἐστὶ τρίτον τούτων σοφώτατον καὶ γλαφυρώτατον· ὑφαίνει γὰρ πρῶτον μὲν διατεῖναν πρὸς τὰ πέρατα πανταχόθεν, εἶτα στημονίζεται ἀπὸ τοῦ μέσου (λαμβάνει δὲ τὸ μέσον ἱκανῶς), ἐπὶ δὲ τούτοις ὥσπερ κρόκας ἐμβάλλει, εἶτα συνυφαίνει. Τὴν μὲν οὖν κοίτην καὶ τὴν ἀπόθεσιν τῆς θήρας ἄλλοθι ποιεῖται, τὴν δὲ θήραν ἐπὶ τοῦ μέσου τηροῦσα· κἄπειθ’ ὅταν ἐμπέσῃ τι, κινηθέντος τοῦ μέσου πρῶτον μὲν περιδεῖ καὶ περιελίττει τοῖς ἀραχνίοις, ἕως ἂν ἀχρεῖον ποιήσῃ, μετὰ δὲ ταῦτ’ ἀπήνεγκεν ἀραμένη, καὶ ἐὰν μὲν τύχῃ πεινῶσα, ἐξεχύλισεν (αὕτη γὰρ ἡ ἀπόλαυσις), εἰ δὲ μή, πάλιν ὁρμᾷ πρὸς τὴν θήραν, ἀκεσαμένη πρῶτον τὸ διερρωγός· ἐὰν δέ τι μεταξὺ ἐμπέσῃ, πρῶτον ἐπὶ τὸ μέσον βαδίζει, κἀκεῖθεν ἐπανέρχεται πρὸς τὸ ἐμπεσὸν ὥσπερ ἀπ’ ἀρχῆς. Ἐὰν δέ τι λυμήνηται τοῦ ἀραχνίου, πάλιν ἄρχεται τῆς ὑφῆς καταφερομένου τοῦ ἡλίου ἢ ἀνατέλλοντος διὰ τὸ μάλιστα ἐν ταύταις ταῖς ὥραις ἐμπίπτειν τὰ θηρία. Ἐργάζεται δὲ καὶ θηρεύει ἡ θήλεια· ὁ δ’ ἄρρην συναπολαύει.

Τῶν δ’ ἀραχνίων τῶν γλαφυρῶν καὶ ὑφαινόντων ἀράχνιον πυκνὸν δύο ἐστὶ γένη, τὸ μὲν μεῖζον τὸ δ’ ἔλαττον. Τὸ μὲν οὖν μακροσκελέστερον κάτωθεν κρεμάμενον τηρεῖ, ὅπως ἂν μὴ φοβούμενα τὰ θηρία εὐλαβῆται ἀλλ’ ἐμπίπτῃ ἄνω (διὰ γὰρ τὸ μέγεθος οὐκ εὐκρυφές ἐστι), τὸ δὲ συμμετρότερον ἄνωθεν ἐπηλυγισάμενον τοῦ ἀραχνίου ὀπὴν μικράν.

Δύνανται δ’ ἀφιέναι οἱ ἀράχναι τὸ ἀράχνιον εὐθὺς γενόμενοι, οὐκ ἔσωθεν ὡς ὂν περίττωμα, καθάπερ φησὶ Δημόκριτος, ἀλλ’ ἀπὸ τοῦ σώματος οἷον φλοιόν, ἢ τὰ βάλλοντα ταῖς θριξίν, οἷον αἱ ὕστριχες. Ἐπιτίθεται δὲ καὶ περιελίττεται καὶ τοῖς μείζοσι ζῴοις, ἐπεὶ καὶ ταῖς (623b.) σαύραις ταῖς μικραῖς ἐπιβάλλον περὶ τὸ σῶμα περιθέον ἀφίησιν, ἕως ἂν συλλάβῃ τὸ στόμα· τότε δ’ ἤδη δάκνει προσελθόν.

Κεφάλαιο 39

Καὶ περὶ μὲν τούτων τῶν ζῴων τοῦτον ἔχει τὸν τρόπον.

Ἔστι δέ τι γένος τῶν ἐντόμων, ὃ ἑνὶ μὲν ὀνόματι ἀνώνυμόν ἐστιν, ἔχει δὲ πάντα τὴν μορφὴν συγγενικήν· ἔστι δὲ ταῦτα ὅσα κηριοποιά, οἷον μέλιτται καὶ τὰ παραπλήσια τὴν μορφήν. Τούτων δ' ἐστὶ γένη ἐννέα, ὧν τὰ μὲν ἓξ ἀγελαῖα, μέλιττα, βασιλεῖς τῶν μελιττῶν, κηφὴν ὁ ἐν ταῖς μελίτταις, σφὴξ ὁ ἐπέτειος, ἔτι δ' ἀνθρήνη καὶ τενθρηδών· μοναδικὰ δὲ τρία, σειρὴν ὁ μικρός, φαιός, ἄλλος σειρὴν ὁ μείζων, ὁ μέλας καὶ ποικίλος, τρίτος δ' ὁ καλούμενος βομβύλιος, μέγιστος τούτων.

Οἱ μὲν οὖν μύρμηκες θηρεύουσι μὲν οὐδέν, τὰ δὲ πεποιημένα συλλέγουσιν· οἱ δ' ἀράχναι ποιοῦσι μὲν οὐδὲν οὐδ' ἀποτίθενται, θηρεύουσι δὲ μόνον τὴν τροφήν· τῶν δ' ἐννέα γενῶν τῶν εἰρημένων περὶ μὲν τῶν λοιπῶν ὕστερον λεχθήσεται, αἱ δὲ μέλιτται θηρεύουσι μὲν οὐδέν, αὐταὶ δὲ ποιοῦνται καὶ ἀποτίθενται· ἔστι γὰρ αὐταῖς τὸ μέλι τροφή. Δῆλον δὲ ποιοῦσιν, ὅταν τὰ κηρία ἐπιχειρῶσιν οἱ μελιττουργοὶ ἐξαιρεῖν· θυμιώμεναι γὰρ καὶ σφόδρα πονοῦσαι ὑπὸ τοῦ καπνοῦ τότε μάλιστα τὸ μέλι ἐσθίουσιν, ἐν δὲ τῷ ἄλλῳ χρόνῳ οὐ σφόδρα ὁρῶνται, ὡς φειδόμεναι καὶ ἀποτιθέμεναι τροφῆς χάριν.

Ἔστι δ' αὐταῖς καὶ ἄλλη τροφή, ἣν καλοῦσί τινες κήρινθον· ἔστι δὲ τοῦτο ὑποδεέστερον καὶ γλυκύτητα συκώδη ἔχον, κομίζουσι δὲ τοῦτο τοῖς σκέλεσι καθάπερ καὶ τὸν κηρόν.

Ἔστι δὲ περὶ τὴν ἐργασίαν αὐτῶν καὶ τὸν βίον πολλὴ ποικιλία. Ἐπειδὰν γὰρ παραδοθῇ αὐταῖς καθαρὸν τὸ σμῆνος, οἰκοδομοῦσι τὰ κηρία, φέρουσαι τῶν τ' ἄλλων ἀνθέων καὶ ἀπὸ τῶν δένδρων τὰ δάκρυα, ἰτέας τε καὶ πτελέας καὶ ἄλλων τῶν κολλωδεστάτων. Τούτῳ δὲ καὶ τὸ ἔδαφος διαχρίουσι τῶν ἄλλων θηρίων ἕνεκεν· καλοῦσι δ' οἱ μελιττουργοὶ τοῦτο κόλλησιν καὶ τὰς εἰσόδους δὲ παροικοδομοῦσιν, ἐὰν εὐρεῖαι ὦσιν.

Πλάττουσι δὲ κηρία πρῶτον ἐν οἷς αὐταὶ γίνονται, εἶτ' ἐν οἷς οἱ καλούμενοι βασιλεῖς καὶ τὰ κηφήνια. Τὰ μὲν οὖν αὑτῶν ἀεὶ (624a.) πλάττουσι, τὰ δὲ τῶν βασιλέων ὅταν ᾖ πολυγονία, τὰ δὲ κηφήνια ἐὰν μέλιτος ἀφθονία ἐπισημαίνῃ. Πλάττουσι δὲ τὰ μὲν τῶν βασιλέων πρὸς τοῖς αὑτῶν (μικρὰ δ' ἐστὶ ταῦτα), τὰ δὲ κηφήνια πρὸς αὐτά· ἐλάττω δ' ἐστὶ ταῦτα τῷ μεγέθει τῶν μελιττίων. Ἄρχονται δὲ τῶν ἱστῶν ἄνωθεν ἀπὸ τῆς ὀροφῆς τοῦ σμήνους, καὶ κάτω συνυφεῖς ποιοῦσιν ἕως τοῦ ἐδάφους ἱστοὺς πολλούς. Αἱ δὲ θυρίδες καὶ αἱ τοῦ μέλιτος καὶ τῶν σχαδόνων ἀμφίστομοι· περὶ γὰρ μίαν βάσιν δύο θυρίδες εἰσίν, ὥσπερ ἡ τῶν ἀμφικυπέλλων, ἡ μὲν ἐντὸς ἡ δ’ ἐκτός. Αἱ δὲ περὶ τὰς ἀρχὰς τῶν κηρίων πρὸς τὰ σμήνη συνύφειαι, ὅσον ἐπὶ δύο ἢ τρεῖς στίχους κύκλῳ, βραχεῖαι καὶ κεναὶ μέλιτος· πληρέστερα δὲ τῶν κηρίων τὰ μάλιστα τῷ κηρῷ καταπεπλασμένα.

Περὶ δὲ τὸ στόμα τοῦ σμήνους τὸ μὲν πρῶτον τῆς εἰσδύσεως περιαλήλιπται μίτυϊ· τοῦτο δ’ ἐστὶ μέλαν ἱκανῶς, ὥσπερ ἀποκάθαρμ’ αὐταῖς τοῦ κηροῦ, καὶ τὴν ὀσμὴν δριμύ, φάρμακον δ’ ἐστὶ τυμμάτων καὶ τῶν τοιούτων ἐμπυημάτων· ἡ δὲ συνεχὴς ἀλοιφὴ τούτῳ πισσόκηρος, ἀμβλύτερον καὶ ἧττον φαρμακῶδες τῆς μίτυος.

Λέγουσι δέ τινες τοὺς κηφῆνας κηρία μὲν πλάττειν καθ’ αὑτοὺς καὶ ἐν τῷ αὐτῷ σμήνει καὶ ἐν τῷ ἑνὶ κηρίῳ μεριζομένους πρὸς τὰς μελίττας, μελιτουργεῖν μέντοι οὐδέν, ἀλλὰ τρέφεσθαι τῷ τῶν μελιττῶν καὶ αὐτοὺς καὶ τοὺς νεοττούς. Διατρίβουσι δ’ οἱ κηφῆνες τὰ μὲν πολλὰ ἔνδον, ἐὰν δ’ ἐκπετασθῶσι, προσφέρονται ῥύβδην ἄνω πρὸς τὸν οὐρανόν, ἐπιδινοῦντες αὑτοὺς καὶ ὥσπερ ἀπογυμνάζοντες· ὅταν δὲ τοῦτο δράσωσι, πάλιν εἰσελθόντες εὐωχοῦνται.

Οἱ δὲ βασιλεῖς οὐ πέτονται ἔξω, ἐὰν μὴ μετὰ ὅλου τοῦ ἑσμοῦ, οὔτ’ ἐπὶ βοσκὴν οὔτ’ ἄλλως. Φασὶ δὲ καὶ ἐὰν ἀποπλανηθῇ ὁ ἀφεσμός, ἀνιχνευούσας μεταθεῖν ἕως ἂν εὕρωσι τὸν ἡγεμόνα τῇ ὀσμῇ. Λέγεται δὲ καὶ φέρεσθαι αὐτὸν ὑπὸ τοῦ ἑσμοῦ, ὅταν πέτεσθαι μὴ δύνηται· καὶ ἐὰν ἀπόληται, ἀπόλλυσθαι τὸν ἀφεσμόν· ἐὰν δ’ ἄρα χρόνον τινὰ διαμείνωσι καὶ κηρία ποιήσωσι, μέλι οὐκ ἐγγίνεσθαι καὶ αὐτὰς ταχὺ ἀπόλλυσθαι.

Τὸν δὲ κηρὸν ἀναλαμβάνουσιν αἱ μέλισσαι ἀριχώμεναι πρὸς τὰ βρύα ὀξέως τοῖς (624b.) ἔμπροσθεν ποσί· τούτους δ’ ἐκμάττουσιν εἰς τοὺς μέσους, τοὺς δὲ μέσους εἰς τὰ βλαισὰ τῶν ὀπισθίων· καὶ οὕτω γεμισθεῖσαι ἀποπέτονται, καὶ δῆλαί εἰσι βαρυνόμεναι. Καθ’ ἑκάστην δὲ πτῆσιν οὐ βαδίζει ἡ μέλιττα ἐφ’ ἕτερα τῷ εἴδει ἄνθη, οἷον ἀπὸ ἴου ἐπὶ ἴον, καὶ οὐ θιγγάνει ἄλλου γε, ἕως ἂν εἰς τὸ σμῆνος εἰσπετασθῇ. Ὅταν δ’ εἰς τὸ σμῆνος ἀφίκωνται, ἀποσείονται, καὶ παρακολουθοῦσιν ἑκάστῃ τρεῖς ἢ τέτταρες. Τὸ δὲ λαμβανόμενον οὐ ῥᾴδιόν ἐστιν ἰδεῖν· οὐδὲ τὴν ἐργασίαν ὅντινα τρόπον ποιοῦνται, οὐκ ὦπται· τοῦ δὲ κηροῦ ἡ ἀνάληψις τεθεώρηται ἐπὶ τῶν ἐλαιῶν, διὰ πυκνότητα τῶν φύλλων ἐν ταὐτῷ διαμενουσῶν πλείω χρόνον.

Μετὰ δὲ τοῦτο νεοττεύουσιν. Οὐδὲν δὲ κωλύει ἐν τῷ αὐτῷ κηρίῳ εἶναι νεοττοὺς καὶ μέλι καὶ κηφῆνας.

Ἐὰν μὲν οὖν ὁ ἡγεμὼν ζῇ, χωρίς φασι τοὺς κηφῆνας γίνεσθαι, εἰ δὲ μή, ἐν τοῖς τῶν μελιττῶν κυττάροις γεννᾶσθαι ὑπὸ τῶν μελιττῶν, καὶ γίνεσθαι τούτους θυμικωτέρους· διὸ καὶ καλεῖσθαι κεντρωτούς, οὐκ ἔχοντας κέντρον, ἀλλ’ ὅτι βούλονται μὲν οὐ δύνανται δὲ βάλλειν. Εἰσὶ δὲ μείζους οἱ τῶν κηφήνων κύτταροι. Ἀναπλάττουσι δ’ ὁτὲ μὲν καὶ αὐτὰ καθ’ αὑτὰ τὰ κηρία τὰ τῶν κηφήνων, ὡς ἐπὶ τὸ πολὺ δ’ ἐν τοῖς τῶν μελιττῶν· διὸ καὶ ἀποτέμνουσιν.

Εἰσὶ δὲ γένη τῶν μελιττῶν πλείω, καθάπερ εἴρηται πρότερον, δύο μὲν ἡγεμόνων, ὁ μὲν βελτίων πυρρός, ὁ δ’ ἕτερος μέλας καὶ ποικιλώτερος, τὸ δὲ μέγεθος διπλάσιος τῆς χρηστῆς μελίττης. Ἡ δ’ ἀρίστη μικρά, στρογγύλη καὶ ποικίλη, ἄλλη μακρά, ὁμοία τῇ ἀνθρήνῃ. Ἕτερος ὁ φὼρ καλούμενος, μέλας, πλατυγάστωρ. Ἔτι δ’ ὁ κηφήν· οὗτος μέγιστος πάντων, ἄκεντρος δὲ καὶ νωθρός.

Διαφέρουσι δ’ αἱ γινόμεναι τῶν μελιττῶν αἵ τ’ ἀπὸ τῶν τὰ ἥμερα νεμομένων καὶ ἀπὸ τῶν τὰ ὀρεινά· εἰσὶ γὰρ αἱ ἀπὸ τῶν ὑλονόμων δασύτεραι καὶ ἐλάττους καὶ ἐργατικώτεραι καὶ χαλεπώτεραι.

Αἱ μὲν οὖν χρησταὶ μέλιτται ἐργάζονται τά τε κηρία ὁμαλὰ καὶ τὸ ἐπιπολῆς κάλυμμα πᾶν λεῖον, ἔτι δ’ ἓν εἶδος τοῦ κηρίου, οἷον ἅπαν μέλι ἢ νεοττοὺς ἢ κηφῆνας· ἐὰν δὲ συμβῇ ὥστ’ ἐν τῷ αὐτῷ κηρίῳ ἅπαντα ποιεῖν αὐτά, ἔσται ἐφεξῆς ἓν εἶδος εἰργασμένον διὰ (625a.) τέλους. Αἱ δὲ μακραὶ τά τε κηρία ποιοῦσιν ἀνώμαλα καὶ τὸ κάλυμμα ἀνῳδηκός, ὅμοιον τῷ τῆς ἀνθρήνης, ἔτι δὲ τὸν γόνον καὶ τἆλλα οὐ τεταγμένα ἀλλ’ ὡς ἂν τύχῃ· γίνονται δ’ ἐξ αὐτῶν οἵ τε πονηροὶ ἡγεμόνες καὶ κηφῆνες πολλοὶ καὶ οἱ φῶρες καλούμενοι, μέλι δ’ ἢ πάνυ βραχὺ ἢ οὐδέν.

Ἐπικάθηνται δ’ ἐπὶ τοῖς κηρίοις αἱ μέλιτται καὶ συμπέττουσιν· ἐὰν δὲ τοῦτο μὴ ποιῶσι, θείρεσθαί φασι τὰ κηρία καὶ ἀραχνιοῦσθαι. Καὶ ἐὰν μὲν τὸ λοιπὸν δύνωνται κατέχειν ἐπικαθήμεναι, τοῦθ’ ὥσπερ ἔκβρωμα γίνεται, εἰ δὲ μή, ἀπόλλυται ὅλα. Γίνεται δὲ σκωλήκια ἐν τοῖς φθειρομένοις, ἃ πτερούμενα ἐκπέταται.

Καὶ τὰ πίπτοντα δὲ τῶν κηρίων ὀρθοῦσιν αἱ μέλιτται, καὶ ὑφιστᾶσιν ἐρείσματα, ὅπως ἂν δύνωνται ὑπιέναι· ὅταν γὰρ μὴ ἔχωσιν ὁδὸν ᾗ προσπορεύσονται, οὐ προσκαθίζουσιν, εἶτ’ ἀραχνιοῦται.

Τοῦ δὲ φωρὸς καὶ κηφῆνος γενομένων οὐδέν ἐστιν ἔργον, τὰ δὲ τῶν ἄλλων βλάπτουσιν. Ἁλισκόμενοι δὲ θνήσκουσιν ὑπὸ τῶν χρηστῶν μελιττῶν. Κτείνουσι δ’ αὗται σφόδρα καὶ τῶν ἡγεμόνων τοὺς πολλούς, καὶ μᾶλλον τοὺς πονηρούς, ἵνα μὴ πολλοὶ ὄντες διασπῶσι τὸν ἑσμόν. Κτείνουσι δὲ μάλιστα, ὅταν μὴ πολύγονον ᾖ τὸ σμῆνος μηδὲ ἀφέσεις μέλλωσι γίνεσθαι· ἐν γὰρ τούτοις τοῖς καιροῖς καὶ τὰ κηρία διαφθείρουσι τὰ τῶν βασιλέων, ἐὰν ᾖ παρεσκευασμένα, ὡς ἐξαγωγέων ὄντων.

Διαφθείρουσι δὲ καὶ τὰ τῶν κηφήνων, ἐὰν ὑποφαίνῃ ἀπορία μέλιτος καὶ μὴ εὐμελιτῇ τὰ σμήνη· καὶ τοῖς ἐξαιροῦσι περὶ τοῦ μέλιτος τότε μάχονται μάλιστα, καὶ τοὺς ὑπάρχοντας τῶν κηφήνων ἐκβάλλουσι, καὶ πολλάκις ὁρῶνται ἐν τῷ τεύχει ἀποκαθήμεναι.

Πολεμοῦσι δὲ σφόδρα αἱ μικραὶ τῷ γένει τῷ μακρῷ, καὶ πειρῶνται ἐκβάλλειν ἐκ τῶν σμηνῶν· κἂν ἐπικρατήσωσι, τοῦτο δοκεῖ ὑπερβολῇ γίνεσθαι ἀγαθὸν σμῆνος. Αἱ δ’ ἕτεραι ἂν γένωνται αὐταὶ ἐφ’ ἑαυτῶν, ἀργοῦσί τε καὶ τελέως οὐδὲν ποιοῦσιν ἀγαθόν, ἀπόλλυνται δὲ καὶ αὐταὶ πρὸ τοῦ φθινοπώρου. Ὅσας δὲ κτείνουσιν αἱ χρησταὶ μέλιτται, πειρῶνται μὲν ἔξω τοῦ σμήνους τοῦτο πράττειν· ἐὰν δ’ ἔσω τις ἀποθάνῃ, ἐξάγουσιν ὁμοίως.

Οἱ δὲ φῶρες καλούμενοι κακουργοῦσι μὲν καὶ (625b.) τὰ παρ’ αὐτοῖς κηρία, εἰσέρχονται δέ, ἐὰν λάθωσι, καὶ εἰς τὰ ἀλλότρια· ἐὰν δὲ ληφθῶσι, θνήσκουσιν. Ἔργον δ’ ἐστὶ λαθεῖν· ἐπί τε γὰρ εἰσόδῳ ἑκάστῃ φύλακές εἰσιν, αὐτός τε ἐὰν εἰσελθὼν λάθῃ, διὰ τὸ ὑπερπεπλῆσθαι οὐ δύναται πέτεσθαι, ἀλλὰ πρὸ τοῦ σμήνους κυλίεται, ὥστ’ ἔργον ἐστὶν αὐτῷ ἐκφυγεῖν.

Οἱ δὲ βασιλεῖς αὐτοὶ μὲν οὐχ ὁρῶνται ἔξω ἄλλως ἢ μετ’ ἀφέσεως· ἐν δὲ ταῖς ἀφέσεσιν αἱ λοιπαὶ περὶ τοῦτον συνεσπειραμένοι φαίνονται. Ὅταν δ’ ἄφεσις μέλλῃ γίνεσθαι, φωνὴ μονῶτις καὶ ἴδιος γίνεται ἐπί τινας ἡμέρας, καὶ πρὸ δύο ἢ τριῶν ἡμερῶν ὀλίγαι πέτονται περὶ τὸ σμῆνος· εἰ δὲ γίνεται καὶ ὁ βασιλεὺς ἐν ταύταις, οὐκ ὦπταί πω διὰ τὸ μὴ ῥᾴδιον εἶναι. Ὅταν δ’ ἀθροισθῶσιν, ἀποπέτονται καὶ χωρίζονται καθ’ ἕκαστον τῶν βασιλέων αἱ ἄλλαι· ἐὰν δὲ τύχωσιν ὀλίγαι πολλαῖς ἐγγὺς καθεζόμεναι, μετανίστανται αἱ ὀλίγαι πρὸς τὰς πολλάς, καὶ τὸν βασιλέα ὃν ἀπέλιπον, ἐὰν συνακολουθήσῃ, διαφθείρουσιν. Τὰ μὲν οὖν περὶ τὴν ἀπόλειψιν καὶ ἄφεσιν τοῦτον συμβαίνει γίνεσθαι τὸν τρόπον.

Εἰσὶ δ’ αὐταῖς τεταγμέναι ἐφ’ ἕκαστον τῶν ἔργων, οἷον αἱ μὲν ἀνθοφοροῦσιν, αἱ δ’ ὑδροφοροῦσιν, αἱ δὲ λεαίνουσι καὶ κατορθοῦσι τὰ κηρία. Φέρει δ’ ὕδωρ, ὅταν τεκνοτροφῇ. Πρὸς σάρκα δ’ οὐδενὸς καθίζει, οὐδ’ ὀψοφαγεῖ. Χρόνος δ’ αὐταῖς οὐκ ἔστιν εἰθισμένος ἀφ’ ὅτου ἄρχονται ἐργάζεσθαι· ἀλλ’ ἐὰν τἀπιτήδεια ἔχωσι καὶ εὖ διάγωσι, μᾶλλον ἐν ὥρᾳ τοῦ ἔτους ἐγχειροῦσι τῇ ἐργασίᾳ, καὶ ὅταν εὐδία ᾖ, συνεχῶς ἐργάζονται. Καὶ εὐθὺς δὲ νέα οὖσα, ὅταν ἐκδύῃ, ἐργάζεται τριταία, ἐὰν ἔχῃ τροφήν. Καὶ ὅταν ἑσμὸς προκάθηται, ἀποτρέπονται ἔνιαι ἐπὶ τροφήν, εἶτ’ ἐπανέρχονται πάλιν.

Ἐν δὲ τοῖς εὐθηνοῦσι τῶν σμηνῶν ἐκλείπει ὁ γόνος τῶν μελιττῶν περὶ τετταράκονθ’ ἡμέρας μόνον τὰς μετὰ χειμερινὰς τροπάς. Ἐπειδὰν δ’ ηὐξημένοι ὦσιν οἱ νεοττοί, τροφὴν αὐτοῖς παραθεῖσαι καταχρίουσιν· ὅταν δ’ ᾖ δυνατός, αὐτὸς διελὼν τὸ κάλυμμα ἐξέρχεται. Τὰ δὲ γινόμενα θηρία ἐν τοῖς σμήνεσι καὶ λυμαινόμενα τὰ κηρία αἱ μὲν χρησταὶ μέλιτται ἐκκαθαίρουσιν, αἱ δ’ ἕτεραι διὰ κακίαν περιορῶσιν (626a.) ἀπολλύμενα τὰ ἔργα αὐτῶν.

Ὅταν δὲ τὰ κηρία ἐξαιρῶσιν οἱ μελιττουργοί, ἀπολείπουσιν αὐταῖς τροφὴν διὰ χειμῶνος, ἣ ἐὰν μὲν διαρκὴς ᾖ, σώζεται τὸ σμῆνος, εἰ δὲ μή, ἐὰν μὲν χειμὼν ᾖ, αὐτοῦ θνήσκουσιν, εὐδιῶν δ’ οὐσῶν ἐκλείπουσι τὸ σμῆνος. Τροφῇ δὲ χρῶνται μέλιτι καὶ θέρους καὶ χειμῶνος· τίθενται δὲ καὶ ἄλλην τροφὴν ἐμφερῆ τῷ κηρῷ τὴν σκληρότητα, ἣν ὀνομάζουσί τινες σανδαράκην.

Ἀδικοῦσι δ’ αὐτὰς μάλιστα οἵ τε σφῆκες καὶ οἱ αἰγίθαλοι καλούμενοι τὰ ὄρνεα, ἔτι δὲ χελιδὼν καὶ μέροψ. Θηρεύουσι δὲ καὶ οἱ τελματιαῖοι βάτραχοι πρὸς τὸ ὕδωρ αὐτὰς ἀπαντώσας· διόπερ καὶ τούτους οἱ μελισσεῖς ἐκ τῶν τελμάτων, ἀφ’ ὧν ὑδρεύονται αἱ μέλιτται, θηρεύουσι, καὶ τὰς σφηκίας καὶ τὰς χελιδόνας τὰς πλησίον τῶν σμηνῶν ἐξαιροῦσι, καὶ τὰς τῶν μερόπων νεοττιάς. Οὐδὲν δὲ φεύγουσι τῶν ζῴων ἀλλ’ ἢ ἑαυτάς. Ἡ δὲ μάχη αὐτῶν ἐστὶ καὶ πρὸς αὑτὰς καὶ πρὸς τοὺς σφῆκας· καὶ ἔξω μὲν οὔτ’ ἀλλήλας ἀδικοῦσιν οὔτε τῶν ἄλλων οὐδέν, τὰ δὲ πρὸς τῷ σμήνει ἀποκτείνουσιν, ὧν ἂν κρατήσωσιν.

Αἱ δὲ τύπτουσαι ἀπόλλυνται διὰ τὸ μὴ δύνασθαι τὸ κέντρον ἄνευ τοῦ ἐντέρου ἐξαιρεῖσθαι· πολλάκις γὰρ σώζεται, ἐὰν ὁ πληγεὶς ἐπιμελῆται καὶ τὸ κέντρον ἐκθλίψῃ· τὸ δὲ κέντρον ἀποβαλοῦσα ἡ μέλιττα ἀποθνήσκει. Κτείνουσι δὲ βάλλουσαι τὰ μεγάλα τῶν ζῴων, οἷον ἵππος ἤδη ἀπέθανεν ὑπὸ μελιττῶν. Ἥκιστα δὲ χαλεπαίνουσιν οἱ ἡγεμόνες καὶ τύπτουσιν.

Τὰς δ’ ἀποθνησκούσας τῶν μελιττῶν ἐκκομίζουσιν ἔξω. Καὶ τἆλλα δὲ καθαριώτατόν ἐστι τὸ ζῷον· διὸ καὶ τὸ περίττωμα πολλάκις ἀφιᾶσιν ἀποπετόμεναι, διὰ τὸ δυσῶδες εἶναι. Δυσχεραίνουσι δ’, ὥσπερ εἴρηται, ταῖς δυσώδεσιν ὀσμαῖς καὶ ταῖς τῶν μύρων· διὸ καὶ τοὺς χρωμένους αὐτοῖς τύπτουσιν.

Ἀπόλλυνται δὲ διά τ’ ἄλλα συμπτώματα, καὶ ὅταν οἱ ἡγεμόνες πολλοὶ γενόμενοι ἕκαστος αὐτῶν μέρος ἀπαγάγῃ. Ἀπόλλυσι δὲ καὶ ὁ φρῦνος τὰς μελίττας· ἐπὶ τὰς εἰσόδους γὰρ ἐλθὼν φυσᾷ τε καὶ ἐπιτηρῶν ἐκπετομένας κατεσθίει· ὑπὸ μὲν οὖν τῶν μελιττῶν οὐδὲν δύναται κακὸν πάσχειν, ὁ δ’ ἐπιμελόμενος (626b.) τῶν σμηνῶν κτείνει αὐτόν.

Τὸ δὲ γένος τὸ τῶν μελιττῶν ὃ εἴρηται ὅτι πονηρόν τε καὶ τραχέα τὰ κηρία ἐργάζεται, εἰσί τινες τῶν μελιττουργῶν οἵ φασι τὰς νέας μάλιστα τοῦτο ποιεῖν δι’ ἀνεπιστημοσύνην· νέαι δ’ εἰσὶν αἱ ἐπέτειοι. Οὐχ ὁμοίως δ’ οὐδὲ κεντοῦσιν αἱ νέαι· διὸ οἱ ἑσμοὶ φέρονται· εἰσὶ γὰρ νέων μελιττῶν. Ὅταν δ’ ὑπολίπῃ τὸ μέλι, τοὺς κηφῆνας ἐκβάλλουσι, καὶ παραβάλλουσι σῦκα καὶ τὰ γλυκέα αὐταῖς.

Τῶν δὲ μελιττῶν αἱ μὲν πρεσβύτεραι εἴσω ἐργάζονται, καὶ δασεῖαί εἰσι διὰ τὸ εἴσω μένειν, αἱ δὲ νέαι ἔξωθεν φέρουσι καὶ εἰσὶ λειότεραι. Καὶ τοὺς κηφῆνας δ’ ἀποκτείνουσιν, ὅταν μηκέτι χωρῇ αὐταῖς ἐργαζομέναις· εἰσὶ δ’ ἐν μυχῷ τοῦ σμήνους.

Ἤδη δὲ νοσήσαντός τινος σμήνους ἦλθόν τινες ἐπ’ ἀλλότριον, καὶ μαχόμεναι νικῶσαι ἐξέφερον τὸ μέλι· ἐπεὶ δ’ ἀπέκτεινεν ὁ μελιττουργός, οὕτως ἐπεξῄεσαν αἱ ἕτεραι καὶ ἠμύνοντο, καὶ τὸν ἄνθρωπον οὐκ ἔτυπτον. Τὰ δὲ νοσήματα ἐμπίπτει μάλιστα εἰς τὰ εὐθηνοῦντα τῶν σμηνῶν, ὅ τε καλούμενος κλῆρος· τοῦτο γίνεται ἐν τῷ ἐδάφει σκωλήκια μικρά, ἀφ’ ὧν αὐξανομένων ὥσπερ ἀράχνια κατίσχει ὅλον τὸ σμῆνος, καὶ σήπεται τὰ κηρία· ἄλλο δὲ νόσημα οἷον ἀργία τις γίνεται τῶν μελιττῶν καὶ δυσωδία τῶν σμηνῶν. Νομὴ δὲ ταῖς μελίτταις τὸ θύμον· ἄμεινον δὲ τὸ λευκὸν τοῦ ἐρυθροῦ. Τόπος δ’ ἐν τῷ πνίγει μὴ ἀλεεινός, ἐν δὲ τῷ χειμῶνι ἀλεεινός. Νοσοῦσι δὲ μάλιστα, ὅταν ἐρυσιβώδη ἐργάζωνται ὕλην. Ὅταν δ’ ἄνεμος ᾖ μέγας, φέρουσι λίθον ἐφ’ ἑαυταῖς ἕρμα πρὸς τὸ πνεῦμα. Πίνουσι δ’, ἂν μὲν ᾖ ποταμὸς πλησίον, οὐδαμόθεν ἄλλοθεν ἢ ἐντεῦθεν, θέμεναι τὸ ἄχθος πρῶτον· ἐὰν δὲ μὴ ᾖ, ἑτέρωθεν πίνουσαι ἀνεμοῦσι τὸ μέλι, καὶ εὐθὺς ἐπ’ ἔργον πορεύονται.

Τῇ δὲ τοῦ μέλιτος ἐργασίᾳ διττοὶ καιροί εἰσίν, ἔαρ καὶ μετόπωρον· ἥδιον δὲ καὶ λευκότερον καὶ τὸ σύνολον κάλλιόν ἐστι τὸ ἐαρινὸν τοῦ μετοπωρινοῦ. Μέλι δὲ κάλλιον γίνεται ἐκ νέου κηροῦ καὶ ἐκ μόσχου· τὸ δὲ πυρρὸν αἴσχιον διὰ τὸ κηρίον· διαφθείρεται γὰρ ὥσπερ οἶνος ὑπ’ ἀγγείου· διὸ δεῖ ξηραίνειν (627a.) αὐτό. Ὅταν δὲ τὸ θύμον ἀνθῇ καὶ πλῆρες γίνηται τὸ κηρίον, οὐ πήγνυται τοῦτο. Ἔστι δὲ καλὸν τὸ χρυσοειδές· τὸ δὲ λευκὸν οὐκ ἐκ θύμου εἰλικρινοῦς, ἀγαθὸν δὲ πρὸς ὀφθαλμοὺς καὶ ἕλκη. Τοῦ δὲ μέλιτος τὸ μὲν ἀσθενὲς ἀεὶ ἄνω ἐπιπολάζει, ὃ δεῖ ἀφαιρεῖν, τὸ δὲ καθαρὸν κάτω.

Ὅταν δ’ ἡ ὕλη ἀνθῇ, κηρὸν ἐργάζονται· διὸ ἐκ τοῦ σίμβλου τότ’ ἐξαιρετέον τὸν κηρόν· ἐργάζονται γὰρ εὐθύς. Ἀφ’ ὧν δὲ φέρουσιν, ἔστι τάδε, ἀτρακτυλλίς, μελίλωτον, ἀσφόδελος, μυρρίνη, φλεώς, ἄγνος, σπάρτον. Ὅταν δὲ τὸ θύμον ἐργάζωνται, ὕδωρ μιγνύουσι πρὶν τὸ κηρίον καταλείφειν. Ἀφοδεύουσι δ’ αἱ μέλιτται πᾶσαι ἢ ἀποπετόμεναι, ὥσπερ εἴρηται, ἢ εἰς ἓν κηρίον.

Εἰσὶ δ' αἱ μικραὶ ἐργάτιδες μᾶλλον τῶν μεγάλων, ὥσπερ εἴρηται, ἔχουσι δὲ τὰ πτερὰ περιτετριμμένα καὶ χροιὰν μέλαιναν, καὶ ἐπικεκαυμέναι· αἱ δὲ φαναὶ καὶ λαμπραί, ὥσπερ γυναῖκες ἀργαί.

Δοκοῦσι δὲ χαίρειν αἱ μέλιτται καὶ τῷ κρότῳ, διὸ καὶ κροτοῦντές φασιν ἀθροίζειν αὐτὰς εἰς τὸ σμῆνος ὀστράκοις τε καὶ ψήφοις· ἔστι μέντοι ἄδηλον ὅλως εἴ τι ἀκούουσιν, καὶ πότερον δι' ἡδονὴν τοῦτο ποιοῦσιν ἢ διὰ φόβον.

Ἐξελαύνουσι δὲ καὶ τὰς ἀργὰς αἱ μέλιτται καὶ τὰς μὴ φειδομένας. Διῄρηνται δὲ τὰ ἔργα, ὥσπερ εἴρηται πρότερον, καὶ αἱ μὲν κηρὸν ἐργάζονται, αἱ δὲ τὸ μέλι, αἱ δ' ἐριθάκην· καὶ αἱ μὲν πλάττουσι κηρία, αἱ δὲ ὕδωρ φέρουσιν εἰς τοὺς κυττάρους καὶ μιγνύουσι τῷ μέλιτι, αἱ δ' ἐπ' ἔργον ἔρχονται. Ὄρθριαι δὲ σιωπῶσιν, ἕως ἂν μία ἐγείρῃ βομβήσασα δὶς ἢ τρίς· τότε δ' ἐπ' ἔργον ἀθρόαι πέτονται, καὶ ἐλθοῦσαι πάλιν θορυβοῦσι τὸ πρῶτον, κατὰ μικρὸν δ' ἧττον, ἕως ἂν μία περιπετομένη βομβήσῃ, ὥσπερ σημαίνουσα καθεύδειν· εἶτ' ἐξαπίνης σιωπῶσιν.

Διαγινώσκεται δ' ἰσχύειν τὸ σμῆνος τῷ τὸν ψόφον εἶναι πολὺν καὶ κινεῖσθαι ἐξιούσας καὶ εἰσιούσας· τότε γὰρ σχαδόνας ἐργάζονται.

Πεινῶσι δὲ μάλισθ' ἡνίκ' ἂν ἄρχωνται ἐκ τοῦ χειμῶνος. Ἀργότεραι δὲ γίνονται, ἐὰν πλεῖόν τις καταλίπῃ μέλι βλίττων· ἀλλὰ δεῖ πρὸς τὸ πλῆθος καταλείπειν τὰ κηρία· ἀθυμότερον δ' (627b.) ἐργάζονται κἂν ἔλαττω καταλειφθῇ. Ἀργότεραι δὲ γίνονται κἂν μέγα τὸ κυψέλιον ᾖ· ἀθυμότερον γὰρ πονοῦσιν. Βλίττεται δὲ σμῆνος χοᾶ ἢ τρία ἡμίχοα, τὰ δ' εὐθηνοῦντα δύο χοᾶς ἢ πέντε ἡμίχοα· τρεῖς δὲ χοᾶς ὀλίγα.

Πολέμιον δὲ πρόβατον ταῖς μελίτταις, καὶ οἱ σφῆκες, ὥσπερ εἴρηται καὶ πρότερον· θηρεύουσι δὲ τούτους οἱ μελιττουργοί, λοπάδα τιθέντες καὶ κρέας εἰς αὐτὴν ἐμβάλλοντες· ὅταν δὲ πολλοὶ ἐμπίπτωσιν, ἐπὶ τὸ πῦρ πωμάσαντες ἐπιτιθέασιν. Κηφῆνες δ' ὀλίγοι ἐνόντες ὠφελοῦσι τὸ σμῆνος· ἐργατικωτέρας γὰρ ποιοῦσι τὰς μελίττας.

Προγινώσκουσι δὲ καὶ χειμῶνα καὶ ὕδωρ αἱ μέλιτται· σημεῖον δέ, οὐκ ἀποπέτονται γὰρ ἀλλ' ἐν τῇ εὐδίᾳ αὐτοῦ ἀνειλοῦνται, ᾧ γινώσκουσιν οἱ μελιττουργοὶ ὅτι χειμῶνα προσδέχονται. Ὅταν δὲ κρέμωνται ἐξ ἀλλήλων ἐν τῷ σμήνει, σημεῖον γίνεται τοῦτο ὅτι ἀπολείψει τὸ σμῆνος. Ἀλλὰ καταφυσῶσι τὸ σμῆνος οἴνῳ γλυκεῖ οἱ μελιττουργοί, ὅταν τοῦτ' αἴσθωνται.

Φυτεύειν δὲ συμφέρει περὶ τὰ σμήνη ἀχράδας, κυάμους, πόαν Μηδικήν, Συρίαν, ὤχρους, μυρρίνην, μήκωνα, ἕρπυλλον, ἀμυγδαλῆν.

Γινώσκουσι δέ τινες τῶν μελιττουργῶν τὰς ἑαυτῶν ἐν τῷ νομῷ ἄλευρα καταπάσαντες.

Ἐὰν δ’ ἔαρ ὄψιον γένηται ἢ αὐχμός, καὶ ὅταν ἐρυσίβη, ἐλάττον’ ἐργάζονται αἱ μέλιτται τὸν γόνον.

Κεφάλαιο 40

Τὰ μὲν οὖν περὶ τὰς μελίττας τοῦτον ἔχει τὸν τρόπον, τῶν δὲ σφηκῶν ἐστὶ δύο γένη. Τούτων δ’ οἱ μὲν ἄγριοι σπάνιοι, γίνονται δ’ ἐν τοῖς ὄρεσι, καὶ τίκτουσιν οὐ κατὰ γῆς ἀλλ’ ἐν ταῖς δρυσί, τὴν μὲν μορφὴν μείζους καὶ προμηκέστεροι καὶ μελαγχρῶτες τῶν ἑτέρων μᾶλλον, ποικίλοι δὲ καὶ ἔγκεντροι πάντες καὶ ἀλκιμώτεροι, καὶ τὸ πλῆγμα ὀδυνηρότερον αὐτῶν ἢ ἐκείνων· καὶ γὰρ τὸ κέντρον ἀνάλογον μεῖζον τὸ τούτων. Οὗτοι μὲν οὖν διετίζουσι, καὶ ὁρῶνται καὶ τοῦ χειμῶνος ἐκ δρυῶν κοπτομένων ἐκπετόμενοι, ζῶσι δὲ φωλοῦντες τὸν χειμῶνα· ἡ δὲ διατριβὴ ἐν τοῖς ξύλοις. Εἰσὶ δ’ αὐτῶν οἱ μὲν μῆτραι οἱ δ’ ἐργάται, ὥσπερ καὶ τῶν ἡμερωτέρων.

Τίς δ’ ἡ φύσις τοῦ ἐργάτου καὶ τῆς μήτρας, ἐπὶ τῶν (628a.) ἡμερωτέρων ἔσται δῆλον. Ἔστι γὰρ καὶ τῶν ἡμέρων σφηκῶν δύο γένη, οἱ μὲν ἡγεμόνες, οὓς καλοῦσι μήτρας, οἱ δ’ ἐργάται. Εἰσὶ δὲ μείζους οἱ ἡγεμόνες πολὺ καὶ πραότεροι. Καὶ οἱ μὲν ἐργάται οὐ διετίζουσιν, ἀλλὰ πάντες ἀποθνήσκουσιν, ὅταν χειμὼν ἐπιπέσῃ (φανερὸν δ’ ἐστὶ τοῦτο· τοῦ γὰρ χειμῶνος ἀρχομένου μὲν μωροὶ γίνονται οἱ ἐργάται αὐτῶν, περὶ δὲ τροπὰς οὐ φαίνονται ὅλως), οἱ δ’ ἡγεμόνες οἱ καλούμενοι μῆτραι ὁρῶνται δι’ ὅλου τοῦ χειμῶνος καὶ κατὰ γῆς φωλεύουσιν· ἀροῦντες γὰρ καὶ σκάπτοντες ἐν τῷ χειμῶνι μήτρας μὲν πολλοὶ ἑωράκασιν, ἐργάτας δ’ οὐδείς.

Ἡ δὲ γένεσις τῶν σφηκῶν ἐστὶ τοιάδε· οἱ ἡγεμόνες ὅταν λάβωσι τόπον εὐσκεπῆ ἐπιόντος τοῦ θέρους, πλάττονται τὰ κηρία καὶ συνίστανται οὓς καλοῦσι σφηκωνεῖς, ἱστοὺς μικρούς, οἷον τετραθύρους ἢ ἐγγὺς τούτων, ἐν οἷς σφῆκες γίνονται καὶ οὐ μῆτραι. Τούτων δ’ αὐξηθέντων πάλιν μετὰ τούτους ἄλλους μείζους συνίστανται, καὶ πάλιν τούτων αὐξηθέντων ἑτέρους, ὥστε τοῦ μετοπώρου τελευτῶντος πλεῖστα καὶ μέγιστα γίνεσθαι σφηκία, ἐν οἷς ὁ ἡγεμών, ἡ καλουμένη μήτρα, οὐκέτι σφῆκας γεννᾷ ἀλλὰ μήτρας. Γίνονται δ’ οὗτοι ἄνω ἐπὶ τοῦ σφηκίου ἐπιπολῆς μείζους σκώληκες ἐν θυρίσι συνεχέσι τέτταρσιν ἢ μικρῷ πλείοσιν, παραπλησίως δ’ ὥσπερ ἐν τοῖς κηρίοις τὰ τῶν ἡγεμόνων.

Ἐπειδὰν δὲ γένωνται οἱ ἐργάται σφῆκες ἐν τοῖς κηρίοις, οὐκέτι οἱ ἡγεμόνες ἐργάζονται, ἀλλ’ οἱ ἐργάται αὐτοῖς τὴν τροφὴν εἰσφέρουσιν· φανερὸν δ’ ἐστὶ τοῦτο τῷ μηκέτι τοὺς ἡγεμόνας ἐκπέτεσθαι τῶν ἐργατῶν, ἀλλ’ ἔνδον μένοντας ἡσυχάζειν. Πότερον δ’ οἱ περυσινοὶ ἡγεμόνες, ὅταν νέους ποιήσωσιν ἡγεμόνας, ἀποθνήσκουσιν ὑπὸ τῶν νέων σφηκῶν, καὶ τοῦθ’ ὁμοίως συμβαίνει, ἢ καὶ πλείω χρόνον δύνανται ζῆν, οὐδὲν ὦπταί πω· οὐδὲ γῆρας οὔτε μήτρας οὔτε τῶν ἀγρίων σφηκῶν οὐδείς πω ὦπται ἑωρακώς, οὐδ’ ἄλλο τοιοῦτον οὐδὲν πάθος.

Ἔστι δ’ ἡ μήτρα πλατὺ καὶ βαρύ, καὶ παχύτερον καὶ μεῖζον τοῦ σφηκός, καὶ πρὸς τὴν πτῆσιν διὰ τὸ βάρος οὐκ ἄγαν ἰσχυρόν, οὐδὲ δύνανται ἐπὶ [τὸ] πολὺ πέτεσθαι· διὸ καὶ κάθηνται ἐν τοῖς σφηκίοις ἀεί, συμπλάττουσαι καὶ διοικοῦσαι τὰ ἔνδον. Ἐν δὲ τοῖς πλείστοις σφηκίοις ἔνεισιν αἱ μῆτραι καλούμεναι. Ἀμφισβητεῖται δὲ (628b.) πότερον ἔγκεντροί εἰσιν ἢ ἄκεντροι· ἐοίκασι δ’, ὥσπερ οἱ τῶν μελιττῶν ἡγεμόνες, ἔχειν μέν, οὐκ ἐξιέναι δ’ οὐδὲ βάλλειν.

Τῶν δὲ σφηκῶν οἱ μὲν ἄκεντροί εἰσιν ὥσπερ κηφῆνες, οἱ δ’ ἔχουσι κέντρον. Εἰσὶ δ’ οἱ ἄκεντροι ἐλάττους καὶ ἀμενηνότεροι, καὶ οὐκ ἀμύνονται, οἱ δ’ ἔχοντες τὰ κέντρα μείζους καὶ ἄλκιμοι· καὶ καλοῦσι τούτους ἔνιοι μὲν ἄρρενας, τοὺς δ’ ἀκέντρους θηλείας. Πρὸς δὲ τὸν χειμῶνα ἀποβάλλειν δοκοῦσι πολλοὶ τῶν ἐχόντων τὰ κέντρα· αὐτόπτῃ δ’ οὔπω ἐντετυχήκαμεν.

Γίνονται δ’ οἱ σφῆκες μᾶλλον ἐν τοῖς αὐχμοῖς καὶ ἐν ταῖς χώραις ταῖς τραχείαις, γίνονται δ’ ὑπὸ γῆν, καὶ τὰ κηρία πλάττουσιν ἐκ φορυτοῦ καὶ γῆς, ἀπὸ μιᾶς ἀρχῆς ἕκαστον ὥσπερ ἀπὸ ῥίζης. Τροφῇ δὲ χρῶνται μὲν καὶ ἀπ’ ἀνθῶν τινῶν καὶ καρπῶν, τὴν δὲ πλείστην ἀπὸ ζῳοφαγίας.

Ὠμμένοι δ’ εἰσὶν ὀχευόμενοι ἤδη καὶ τῶν ἄλλων τινές· εἰ δ’ ἄκεντροι ἄμφω ἢ κέντρα ἔχοντες, ἢ ὁ μὲν ὁ δ’ οὔ, οὔπω ὦπται. Καὶ τῶν ἀγρίων ὀχευόμενοι ὠμμένοι, καὶ ὁ ἕτερος ἔχων κέντρον· περὶ θατέρου δ’ οὐκ ὤφθη.

Ὁ δὲ γόνος οὐ δοκεῖ ἐκ τοῦ τόκου γίνεσθαι, ἀλλ’ εὐθὺς μείζων εἶναι ἢ ὡς σφηκὸς τόκος. Ἐὰν δὲ λάβῃ τις τῶν ποδῶν σφῆκα καὶ τοῖς πτεροῖς ἐᾷ βομβεῖν, προσπέτονται οἱ ἄκεντροι, οἱ δὲ τὰ κέντρα ἔχοντες οὐ προσπέτονται· ᾧ τινὲς τεκμηρίῳ χρῶνται ὡς τῶν μὲν ἀρρένων ὄντων τῶν δὲ θηλειῶν. Ἁλίσκονται δ’ ἐν τοῖς σπηλαίοις τοῦ χειμῶνος καὶ ἔχοντες ἔνιοι κέντρα καὶ οὐκ ἔχοντες.

Ἐργάζονται δ’ οἱ μὲν μικρὰ καὶ ὀλίγα σφηκία, <οἱ δὲ πολλὰ καὶ μεγάλα>. Αἱ δὲ μῆτραι καλούμεναι ἁλίσκονται τραπείσης τῆς ὥρας, αἱ πολλαὶ περὶ τὰς πτελέας· συλλέγουσι γὰρ τὰ γλίσχρα καὶ κομμιώδη. Γεγένηται δέ που μητρῶν πλῆθος γενομένων τῷ ἔμπροσθεν ἔτει πολλῶν σφηκῶν καὶ ἐπομβρίας. Θηρεύονται δὲ περὶ τοὺς κρημνοὺς καὶ τὰ ῥήγματα τῆς γῆς τὰ εἰς ὀρθόν, καὶ πάντες φαίνονται ἔχοντες κέντρα.

Κεφάλαιο 41

Τὰ μὲν οὖν περὶ τοὺς σφῆκας τοῦτον ἔχει τὸν τρόπον.

Αἱ δ’ ἀνθρῆναι ζῶσι μὲν οὐκ ἀνθολογούμεναι ὥσπερ αἱ μέλιτται, ἀλλὰ τὰ πολλὰ σαρκοφαγοῦσαι (διὸ καὶ περὶ τὴν κόπρον διατρίβουσιν· θηρεύουσι γὰρ τὰς μεγάλας μυίας, καὶ ὅταν καταλάβωσιν, ἀφελοῦσαι τὴν κεφαλὴν ἀποπέτονται (629a.) φέρουσαι τὸ σῶμα τὸ λοιπόν), ἅπτονται δὲ καὶ τῆς γλυκείας ὀπώρας. Τροφῇ μὲν οὖν χρῶνται τῇ εἰρημένῃ, ἔχουσι δ’ ἡγεμόνας ὥσπερ αἱ μέλιτται καὶ οἱ σφῆκες· καὶ οἱ ἡγεμόνες οὗτοι μείζονές εἰσι τῷ μεγέθει κατὰ λόγον πρὸς τὰς ἀνθρήνας ἢ ὁ τῶν σφηκῶν πρὸς τοὺς σφῆκας καὶ ὁ τῶν μελιττῶν πρὸς τὰς μελίττας. Διατρίβει δ’ ἔσω καὶ οὗτος, ὥσπερ ὁ τῶν σφηκῶν ἡγεμών. Ποιοῦσι δὲ τὸ σμῆνος ὑπὸ γῆν αἱ ἀνθρῆναι, ἐκφέρουσαι τὴν γῆν ὥσπερ οἱ μύρμηκες· ἀφεσμὸς γάρ, ὥσπερ τῶν μελιττῶν, οὐ γίνεται οὔτε τούτων οὔτε τῶν σφηκῶν, ἀλλ’ ἀεὶ ἐπιγινόμεναι νεώτεραι αὐτοῦ μένουσι καὶ τὸ σμῆνος μεῖζον ποιοῦσιν ἐκφέρουσαι τὸν χοῦν. Γίνεται δὲ μεγάλα τὰ σμήνη· ἤδη γὰρ εὐθηνοῦντος σμήνους κόφινοι τρεῖς καὶ τέτταρες ἐξῃρηνται κηρίων. Οὐδὲ τροφήν, ὥσπερ αἱ μέλιτται, ἀποτίθενται, ἀλλὰ φωλοῦσι τὸν χειμῶνα, αἱ δὲ πλεῖσται ἀποθνήσκουσιν· εἰ δὲ καὶ πᾶσαι, οὔπω δῆλον.

Οἱ δ’ ἡγεμόνες πλείους ἑνὸς οὐ γίνονται ἐν τοῖς σμήνισιν, ὥσπερ ἐν τοῖς τῶν μελιττῶν, οἳ διασπῶσι τὰ σμήνη τῶν μελιττῶν. Ὅταν δὲ πλανηθῶσί τινες τῶν ἀνθρηνῶν ἀπὸ τοῦ σμήνους, συστραφεῖσαι πρός τινα ὕλην ποιοῦσι κηρία, οἷάπερ καὶ ὁρᾶται ἐπιπολῆς ὄντα πολλάκις, καὶ ἐν τούτῳ ἐργάζονται ἡγεμόνα ἕνα· οὗτος δ’ ἐπὰν ἐξέλθῃ καὶ αὐξήσῃ, ἀπάγει λαβὼν καὶ κατοικίζει μεθ’ αὑτοῦ εἰς σμῆνος.

Περὶ δ’ ὀχείας τῶν ἀνθρηνῶν οὐδὲν ὦπταί πω, οὐδὲ πόθεν γίνεται ὁ γόνος. Ἐν μὲν οὖν ταῖς μελίτταις ἄκεντροί εἰσι καὶ οἱ κηφῆνες καὶ οἱ βασιλεῖς, καὶ τῶν σφηκῶν ἔνιοι ἄκεντροί εἰσι, καθάπερ εἴρηται πρότερον· αἱ δ’ ἀνθρῆναι πᾶσαι φαίνονται κέντρον ἔχουσαι. Ἐπισκεπτέον δὲ μᾶλλον καὶ περὶ τοῦ ἡγεμόνος, εἰ κέντρον ἔχει ἢ μή.

Κεφάλαιο 42

Οἱ δὲ βομβύλιοι τίκτουσιν ὑπὸ πέτρας ἐπ’ αὐτῆς τῆς γῆς, θυρίσι δυσὶν ἢ μικρῷ πλείοσιν· εὑρίσκεται δὲ καὶ μέλιτος ἀρχὴ φαύλου τινὸς ἐν τούτοις.

Ἡ δὲ τενθρηδὼν προσεμφερὴς μέν ἐστι τῇ ἀνθρήνῃ, ποικίλον δέ, καὶ τὸ πλάτος ὅμοιον τῇ μελίττῃ· λίχνον δ’ ὂν καὶ πρὸς τὰ μαγειρεῖα καὶ τοὺς ἰχθύας καὶ τὴν τοιαύτην ἀπόλαυσιν κατὰ μόνας προσπέταται· ἐκτίκτει δὲ κατὰ γῆς ὥσπερ οἱ σφῆκες, (629b.) πολύχουν δ’ ἐστί, καὶ τὸ τενθρήνιον αὐτῶν πολὺ μεῖζον ἢ τῶν σφηκῶν καὶ προμηκέστερον. Τὰ μὲν οὖν περὶ τὴν τῶν μελιττῶν καὶ τῶν σφηκῶν καὶ τῶν ἄλλων τῶν τοιούτων ἐργασίαν καὶ τὸν βίον τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 43

Περὶ δὲ τὰ ἤθη τῶν ζῴων, ὥσπερ εἴρηται καὶ πρότερον, ἔστι θεωρῆσαι διαφορὰς πρὸς ἀνδρίαν μὲν μάλιστα καὶ δειλίαν, ἔπειτα καὶ πρὸς πραότητα καὶ ἀγριότητα καὶ αὐτῶν τῶν ἀγρίων. Καὶ γὰρ ὁ λέων ἐν τῇ βρώσει μὲν χαλεπώτατός ἐστι, μὴ πεινῶν δὲ καὶ βεβρωκὼς πραότατος.

Ἔστι δὲ τὸ ἦθος οὐχ ὑπόπτης οὐδενὸς οὐδ’ ὑφορώμενος οὐδέν, πρός τε τὰ σύντροφα καὶ συνήθη σφόδρα φιλοπαίγμων καὶ στερκτικός. Ἐν δὲ ταῖς θήραις ὁρώμενος μὲν οὐδέποτε φεύγει οὐδὲ πτήσσει, ἀλλ’ ἐὰν καὶ διὰ πλῆθος ἀναγκασθῇ τῶν θηρευόντων ὑπαγαγεῖν βάδην ὑποχωρεῖ καὶ κατὰ σκέλος, κατὰ βραχὺ ἐπιστρεφόμενος· ἐὰν μέντοι ἐπιλάβηται δασέος, φεύγει ταχέως, ἕως ἂν καταστῇ εἰς φανερόν· τότε δὲ πάλιν ὑπάγει βάδην. Ἐν δὲ τοῖς ψιλοῖς ἐάν ποτ’ ἀναγκασθῇ εἰς φανερὸν διὰ τὸ πλῆθος φεύγειν, τρέχει κατατείνας καὶ οὐ πηδᾷ. Τὸ δὲ δρόμημα συνεχῶς ὥσπερ κυνός ἐστι κατατεταμένον· διώκων μέντοι ἐπιρρίπτει ἑαυτόν, ὅταν ᾖ πλησίον.

Ἀληθῆ δὲ καὶ τὰ λεγόμενα, τό τε φοβεῖσθαι μάλιστα τὸ πῦρ, ὥσπερ καὶ Ὅμηρος ἐποίησεν “καιόμεναί τε δεταί, τάς τε τρεῖ ἐσσύμενός περ,” καὶ τὸ τὸν βάλλοντα τηρήσαντα ἵεσθαι ἐπὶ τοῦτον· ἐὰν δέ τις βάλλῃ μὲν μή, ἐνοχλῇ δ’ αὐτόν, ἐὰν ἐπαΐξας συλλάβῃ, ἀδικεῖ μὲν οὐδὲν οὐδὲ βλάπτει τοῖς ὄνυξι, σείσας δὲ καὶ φοβήσας ἀφίησι πάλιν.

Πρὸς δὲ τὰς πόλεις ἔρχονται μάλιστα καὶ τοὺς ἀνθρώπους ἀδικοῦσιν, ὅταν γένωνται πρεσβῦται, διά τε τὸ γῆρας ἀδύνατοι θηρεύειν ὄντες καὶ διὰ τὸ πεπονηκέναι τοὺς ὀδόντας.

Ἔτη δὲ ζῶσι πολλά, καὶ ὁ ληφθεὶς λέων χωλὸς πολλοὺς τῶν ὀδόντων εἶχε κατεαγότας, ᾧ τεκμηρίῳ ἐχρῶντό τινες ὅτι πόλλ’ ἔτη ζῶσιν· τοῦτο γὰρ οὐκ ἂν συμπεσεῖν μὴ πολυχρονίῳ ὄντι.

Γένη δ’ ἐστὶ λεόντων δύο· τούτων δ’ ἐστὶ τὸ μὲν στρογγυλώτερον καὶ οὐλοτριχώτερον δειλότερον, τὸ δὲ μακρότερον καὶ εὐθύτριχον ἀνδρειότερον. Φεύγουσι δ’ ἐνίοτε (630a.) κατατείναντες τὴν κέρκον ὥσπερ κύνες. Ἤδη δ’ ὦπται λέων καὶ ὑἳ ἐπιτίθεσθαι μέλλων, καὶ ὡς εἶδεν ἀντιφρίξαντα, φεύγων. Ἔστι δὲ πρὸς τὰς πληγὰς εἰς μὲν τὰ κοῖλα ἀσθενής, κατὰ δὲ τὸ ἄλλο σῶμα δέχεται πολλὰς καὶ κεφαλὴν ἔχει ἰσχυράν. Ὅσα δ’ ἂν δάκῃ ἢ τοῖς ὄνυξιν ἑλκώσῃ, ἐκ τῶν ἑλκῶν ἰχῶρες ῥέουσιν ὠχροὶ σφόδρα καὶ ἐκ τῶν ἐπιδέσμων καὶ σπόγγων ὑπ’ οὐδενὸς δυνάμενοι ἐκκλύζεσθαι· ἡ δὲ θεραπεία ἡ αὐτὴ καὶ τῶν κυνοδήκτων ἑλκῶν.

Φιλάνθρωποι δ’ εἰσὶ καὶ οἱ θῶες, καὶ οὔτ’ ἀδικοῦσι τοὺς ἀνθρώπους οὔτε φοβοῦνται σφόδρα, πολεμοῦσι δὲ τοῖς κυσὶ καὶ τοῖς λέουσιν· διὸ ἐν τῷ αὐτῷ τόπῳ οὐ γίνονται. Ἄριστοι δ’ οἱ μικροὶ τῶν θώων. Γένη δ’ αὐτῶν οἱ μέν φασιν εἶναι δύο, οἱ δὲ τρία· οὐ δοκεῖ δὲ πλείω εἶναι, ἀλλ’ ὥσπερ τῶν ἰχθύων καὶ τῶν ὀρνέων καὶ τῶν τετραπόδων ἔνια, καὶ οἱ θῶες μεταβάλλουσι κατὰ τὰς ὥρας, καὶ τό τε χρῶμα ἕτερον τοῦ χειμῶνος καὶ τοῦ θέρους ἴσχουσι, καὶ τοῦ μὲν θέρους λεῖοι γίνονται τοῦ δὲ χειμῶνος δασεῖς.

Κεφάλαιο 44

Ὁ δὲ βόνασος γίνεται μὲν ἐν τῇ Παιονίᾳ ἐν τῷ ὄρει τῷ Μεσσαπίῳ, ὃ ὁρίζει τὴν Παιονικὴν καὶ τὴν Μαιδικὴν χώραν, καλοῦσι δ’ αὐτὸν οἱ Παίονες μόναπον. Τὸ δὲ μέγεθός ἐστιν ἡλίκον ταῦρος, καὶ ἔστιν ὀγκωδέστερον ἢ βοῦς· οὐ γὰρ πρόμηκές ἐστιν. Τὸ δὲ δέρμα αὐτοῦ κατέχει εἰς ἑπτάκλινον ἀποταθέν. Καὶ τὸ ἄλλο δ’ εἶδος ὅμοιον βοΐ, πλὴν χαίτην ἔχει μέχρι τῆς ἀκρωμίας ὥσπερ ἵππος· μαλακωτέρα δ’ ἡ θρὶξ τῆς τοῦ ἵππου, καὶ προσεσταλμένη μᾶλλον.

Χρῶμα δ’ ἔχει τοῦ τριχώματος ξανθόν· βαθεῖα δὲ καὶ μέχρι τῶν ὀφθαλμῶν καθήκουσα ἡ χαίτη ἐστὶ καὶ πυκνή. Τὸ δὲ χρῶμα ἔχει τι μέσον τεφροῦ καὶ πυρροῦ, οὐχ οἷον αἱ παρῶαι ἵπποι καλούμεναι, ἀλλ’ αὐχμηροτέραν τὴν τρίχα <ἄνωθεν>, κάτωθεν ἐριώδη· μέλανες δ’ ἢ πυρροὶ σφόδρα οὐ γίνονται. Φωνὴν δ’ ὁμοίαν ἔχουσι βοΐ, κέρατα δὲ γαμψά, κεκαμμένα πρὸς ἄλληλα καὶ ἄχρηστα πρὸς τὸ ἀμύνεσθαι, τῷ μεγέθει σπιθαμιαῖα ἢ μικρῷ μείζω, πάχος δ’ ὥστε χωρῆσαι μὴ πολλῷ ἔλαττον ἡμίχουν ἑκάτερον· ἡ δὲ μελανία καλὴ καὶ λιπαρὰ τοῦ κέρατος.

Τὸ δὲ προκόμιον καθήκει (630b.) ἐπὶ τοὺς ὀφθαλμούς, ὥστ’ εἰς τὸ πλάγιον παρορᾶν μᾶλλον ἢ εἰς τὸ πρόσθεν. Ὀδόντας δὲ τοὺς ἄνωθεν οὐκ ἔχει, ὥσπερ οὐδὲ βοῦς οὐδ’ ἄλλο τῶν κερατοφόρων οὐδέν, σκέλη δὲ δασέα· καὶ ἔστι διχαλόν· κέρκον δ’ ἐλάττω ἢ κατὰ τὸ μέγεθος, ὁμοίαν τῇ τοῦ βοός. Καὶ ἀναρρίπτει τὴν κόνιν καὶ ὀρύττει ὥσπερ ταῦρος. Δέρμα δ’ ἔχει πρὸς τὰς πληγὰς ἰσχυρόν. Ἔστι δ’ ἡδύκρεων, διὸ καὶ θηρεύουσιν αὐτό. Ὅταν δὲ πληγῇ, φεύγει, καὶ ὑπομένει ὅταν ἐξατονῇ. Ἀμύνεται δὲ λακτίζων καὶ προσαφοδεύων καὶ εἰς τέτταρας ὀργυιὰς ἀφ’ ἑαυτοῦ ῥίπτων· ῥᾳδίως δὲ χρῆται τούτῳ καὶ πολλάκις, καὶ ἐπικαίει ὥστε ἀποψήχεσθαι τὰς τρίχας τῶν κυνῶν. Τεταραγμένου μὲν οὖν καὶ φοβουμένου τοῦτο ποιεῖ ἡ κόπρος, ἀταράκτου δ’ ὄντος οὐκ ἐπικαίει.

Ἡ μὲν οὖν ἰδέα τοῦ θηρίου καὶ ἡ φύσις τοιαύτη τίς ἐστιν· ὅταν δ’ ὥρα ᾖ τοῦ τίκτειν, ἀθρόοι τίκτουσιν ἐν τοῖς ὄρεσιν. Περὶ δὲ τὸν τόπον ἀφοδεύουσι πρότερον πρὶν τεκεῖν, καὶ ποιοῦσιν οἷον περίβολον· προΐεται γὰρ τὸ θηρίον πολύ τι πλῆθος τούτου τοῦ περιττώματος.

Κεφάλαιο 45

Πάντων δὲ τιθασσότατον καὶ ἡμερώτατον τῶν ἀγρίων ἐστὶν ὁ ἐλέφας· πολλὰ γὰρ καὶ παιδεύεται καὶ ξυνίησιν, ἐπεὶ καὶ προσκυνεῖν διδάσκονται τὸν βασιλέα. Ἔστι δὲ καὶ εὐαίσθητον καὶ τῇ συνέσει τῇ ἄλλῃ ὑπερβάλλον. Ὃ δ' ἂν ὀχεύσῃ καὶ ἔγκυον ποιήσῃ, τούτου πάλιν οὐχ ἅπτεται.

Ζῆν δέ φασι τὸν ἐλέφαντα οἱ μὲν ἔτη διακόσια, οἱ δ' ἑκατὸν εἴκοσι, καὶ τὴν θήλειαν ἴσα σχεδὸν τῷ ἄρρενι, ἀκμάζειν δὲ περὶ ἔτη ἑξήκοντα, πρὸς δὲ τοὺς χειμῶνας καὶ τὰ ψύχη δύσριγον εἶναι. Ἔστι δὲ τὸ ζῷον παραποτάμιον, οὐ ποτάμιον.

Ποιεῖται δὲ καὶ διὰ τοῦ ὕδατος τὴν πορείαν, ἕως τούτου δὲ προέρχεται ἕως ἂν ὁ μυκτὴρ ὑπερέχῃ αὐτοῦ· ἀναφυσᾷ γὰρ διὰ τούτου καὶ τὴν ἀναπνοὴν ποιεῖται. Νεῖν δ' οὐ πάνυ δύναται διὰ τὸ τοῦ σώματος βάρος.

Κεφάλαιο 46

Οἱ δὲ κάμηλοι οὐκ ἀναβαίνουσιν ἐπὶ τὰς μητέρας, ἀλλὰ κἂν βιάζηταί τις, οὐ θέλουσιν. Ἤδη γάρ ποτε ἐπεὶ οὐκ ἦν ὀχεῖον, ὁ ἐπιμελητὴς περικαλύψας τὴν μητέρα ἐφῆκε τὸν πῶλον· ὡς δ’ ὀχεύοντος ἀπέπεσε, τότε μὲν ἀπετέλεσε τὴν συνουσίαν, μικρὸν δ’ ὕστερον δακὼν τὸν καμηλίτην (631a.) ἀπέκτεινεν. Λέγεται δὲ καὶ τῷ Σκυθῶν βασιλεῖ γενέσθαι ἵππον γενναίαν, ἐξ ἧς ἅπαντας ἀγαθοὺς γίνεσθαι τοὺς ἵππους· τούτων ἐκ τοῦ ἀρίστου βουλόμενον γεννῆσαι καὶ τῆς μητρὸς προσαγαγεῖν, ἵν’ ὀχεύσῃ· τὸν δ’ οὐ θέλειν· περικαλυφθείσης δὲ λαθόντα ἀναβῆναι· ὡς δ’ ὀχεύσαντος ἀπεκαλύφθη τὸ πρόσωπον τῆς ἵππου, ἰδόντα τὸν ἵππον φεύγειν καὶ ῥῖψαι ἑαυτὸν κατὰ τῶν κρημνῶν.

Κεφάλαιο 47

Τῶν δὲ θαλαττίων πλεῖστα λέγεται σημεῖα περὶ τοὺς δελφῖνας πραότητος καὶ ἡμερότητος, καὶ δὴ καὶ πρὸς παῖδας ἔρωτες καὶ ἐπιθυμίαι, καὶ περὶ Τάραντα καὶ Καρίαν καὶ ἄλλους τόπους. Καὶ περὶ Καρίαν δὲ ληφθέντος δελφῖνος καὶ τραύματα λαβόντος ἀθρόον ἐλθεῖν λέγεται πλῆθος δελφίνων εἰς τὸν λιμένα, μέχριπερ ὁ ἁλιεὺς ἀφῆκεν· τότε δὲ πάλιν ἅμα πάντες ἀπῆλθον. Καὶ τοῖς μικροῖς δελφῖσιν ἀκολουθεῖ τις ἀεὶ τῶν μεγάλων φυλακῆς χάριν. Ἤδη δ' ὦπται δελφίνων μεγάλων ἀγέλη ἅμα καὶ μικρῶν· τούτων δ' ἀπολειπόμενοί τινες δύο οὐ πολὺ ἐφάνησαν δελφινίσκον μικρὸν τεθνηκότα, ὅτ' εἰς βυθὸν φέροιτο, ὑπονέοντες καὶ μετεωρίζοντες τῷ νώτῳ οἷον κατελεοῦντες, ὥστε μὴ καταβρωθῆναι ὑπό τινος τῶν ἄλλων θηρίων.

Λέγεται δὲ καὶ περὶ ταχυτῆτος ἄπιστα τοῦ ζῴου· ἁπάντων γὰρ δοκεῖ εἶναι ζῴων τάχιστον, καὶ τῶν ἐνύδρων καὶ τῶν χερσαίων, καὶ ὑπεράλλονται δὲ πλοίων μεγάλων ἱστούς. Μάλιστα δὲ τοῦτ' αὐτοῖς συμβαίνει, ὅταν διώκωσί τινα ἰχθὺν τροφῆς χάριν· τότε γάρ, ἐὰν ἀποφεύγῃ, συνακολουθοῦσιν εἰς βυθὸν διὰ τὸ πεινῆν, ὅταν δ' αὐτοῖς μακρὰ γίνηται ἡ ἀναστροφή, κατέχουσι τὸ πνεῦμα ὥσπερ ἀναλογισάμενοι, καὶ συστρέψαντες ἑαυτοὺς φέρονται ὥσπερ τόξευμα, τῇ ταχυτῆτι τὸ μῆκος διελθεῖν βουλόμενοι πρὸς τὴν ἀναπνοήν, καὶ ὑπεράλλονται τοὺς ἱστούς, ἐὰν παρατυγχάνῃ που πλοῖον. Ταὐτὸν δὲ ποιοῦσι καὶ οἱ κατακολυμβηταί, ὅταν εἰς βυθὸν ἑαυτοὺς ἀφῶσιν· κατὰ τὴν ἑαυτῶν γὰρ δύναμιν καὶ οὗτοι ἀναφέρονται (631b.) συστρέψαντες.

Διατρίβουσι δὲ μετ' ἀλλήλων κατὰ συζυγίας οἱ ἄρρενες ταῖς θηλείαις. Διαπορεῖται δὲ περὶ αὐτῶν διὰ τί ἐξοκέλλουσιν εἰς τὴν γῆν· ποιεῖν γάρ φασι τοῦτ' αὐτοὺς ἐνίοτε, ὅταν τύχωσι, δι' οὐδεμίαν αἰτίαν.

Κεφάλαιο 48

Ὥσπερ δὲ τὰς πράξεις κατὰ τὰ πάθη συμβαίνει ποιεῖσθαι πᾶσι τοῖς ζῴοις, οὕτω πάλιν καὶ τὰ ἤθη μεταβάλλουσι κατὰ τὰς πράξεις, πολλάκις δὲ καὶ τῶν μορίων ἔνια, οἷον ἐπὶ τῶν ὀρνίθων συμβαίνει. Αἵ τε γὰρ ἀλεκτορίδες ὅταν νικήσωσι τοὺς ἄρρενας, κοκκύζουσί τε μιμούμεναι τοὺς ἄρρενας καὶ ὀχεύειν ἐπιχειροῦσι, καὶ τό τε κάλλαιον ἐξαίρεται αὐταῖς καὶ τὸ οὐροπύγιον, ὥστε μὴ ῥᾳδίως ἂν ἐπιγνῶναι ὅτι θήλειαί εἰσιν· ἐνίαις δὲ καὶ πλῆκτρά τινα μικρὰ ἐπανέστη.

Ἤδη δὲ καὶ τῶν ἀρρένων τινὲς ὤφθησαν ἀπολομένης τῆς θηλείας αὐτοὶ περὶ τοὺς νεοττοὺς τὴν τῆς θηλείας ποιούμενοι σκευωρίαν, περιάγοντές τε καὶ ἐκτρέφοντες οὕτως ὥστε μήτε κοκκύζειν ἔτι μήτ’ ὀχεύειν ἐπιχειρεῖν. Γίνονται δὲ καὶ θηλυδρίαι ἐκ γενετῆς τῶν ὀρνίθων τινὲς οὕτως ὥστε καὶ ὑπομένειν τοὺς ἐπιχειροῦντας ὀχεύειν.

Κεφάλαιο 49

Μεταβάλλει δὲ τὰ ζῷα οὐ μόνον τὰς μορφὰς ἔνια καὶ τὸ ἦθος κατὰ τὰς ἡλικίας καὶ τὰς ὥρας, ἀλλὰ καὶ ἐκτεμνόμενα. Ἐκτέμνεται δὲ τῶν ζῴων ὅσα ἔχει ὄρχεις.

Ἔχουσι δ’ οἱ μὲν ὄρνιθες τοὺς ὄρχεις ἐντὸς καὶ τὰ ᾠοτόκα τῶν τετραπόδων πρὸς τῇ ὀσφύϊ, τὰ δὲ ζῳοτόκα καὶ πεζὰ τὰ μὲν πλεῖστα ἐκτός, τὰ δ’ ἐντός, πάντα δὲ πρὸς τῷ τέλει τῆς γαστρός.

Ἐκτέμνονται δ’ οἱ μὲν ὄρνιθες κατὰ τὸ οὐροπύγιον, καθ’ ὃ συμπίπτουσιν ὀχεύοντες· ἐνταῦθα γὰρ ἂν ἐπικαύσῃ τις δυσὶν ἢ τρισὶ σιδηρίοις, ἐὰν μὲν ἤδη τέλειον ὄντα, τό τε κάλλαιον ἔξωχρον γίνεται καὶ οὐκέτι κοκκύζει οὐδ’ ἐπιχειρεῖ ὀχεύειν, ἐὰν δ’ ἔτι νεοττὸν ὄντα, οὐδὲ γίνεται τούτων οὐδὲν αὐξανομένου. Τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ ἀνθρώπων· ἐὰν μὲν γὰρ παῖδας ὄντας πηρώσῃ τις, οὔτε αἱ ὑστερογενεῖς ἐπιγίνονται τρίχες οὔθ’ ἡ φωνὴ μεταβάλλει, (632a.) ἀλλ’ ὀξεῖα διατελεῖ· ἂν δ’ ἤδη ἡβῶντας, αἱ μὲν ὑστερογενεῖς τρίχες ἀπολείπουσι πλὴν τῶν ἐπὶ τῆς ἥβης (αὗται δ’ ἐλάττους μέν, μένουσι δέ), αἱ δ’ ἐκ γενετῆς τρίχες οὐκ ἀπολείπουσιν· οὐδεὶς γὰρ γίνεται εὐνοῦχος φαλακρός.

Μεταβάλλει δὲ καὶ ἡ φωνὴ ἐπὶ τῶν τετραπόδων τῶν ἐκτεμνομένων ἁπάντων εἰς τὸ θῆλυ. Τὰ μὲν οὖν ἄλλα τετράποδα ἐὰν μὴ νέα ἐκτέμνηται, διαφθείρεται· ἐπὶ δὲ τῶν κάπρων μόνων οὐδὲν διαφέρει. Πάντα δ’ ἐὰν μὲν νέα ἐκτμηθῇ, μείζω γίνεται τῶν ἀτμήτων καὶ γλαφυρώτερα, ἐὰν δὲ καθεστηκότα ἤδη, οὐκέτι αὐξάνεται ἐπὶ πλεῖον.

Οἱ δ’ ἔλαφοι ἐὰν μὲν μή πω τὰ κέρατα ἔχοντες διὰ τὴν ἡλικίαν ἐκτμηθῶσιν, οὐκέτι φύουσι κέρατα· ἐὰν δ’ ἔχοντας ἐκτέμῃ τις, τό τε μέγεθος ταὐτὸν μένει τῶν κεράτων, καὶ οὐκ ἀποβάλλουσιν.

Οἱ μὲν οὖν μόσχοι ἐκτέμνονται ἐνιαύσιοι, εἰ δὲ μή, αἰσχίους γίνονται καὶ ἐλάττους· οἱ δὲ δαμάλαι ἐκτέμνονται τὸν τρόπον τοῦτον· κατακλίνοντες καὶ ἀποτέμνοντες τῆς ὀσχέας κάτωθεν τοὺς ὄρχεις ἀποθλίβουσιν, εἶτα ἀναστέλλουσι τὰς ῥίζας ἄνω ὡς μάλιστα, καὶ τὴν τομὴν φριξὶ βύουσιν, ὅπως ὁ ἰχὼρ ῥέῃ ἔξω· καὶ ἐὰν φλεγμαίνῃ, κατακαύσαντες τὴν ὀσχέαν ἐπιπάττουσιν.

Οἱ δ’ ἐνόρχαι τῶν βοῶν ἐὰν ἐκτμηθῶσι, τὸ φανερὸν συγγεννῶσιν.

Ἐκτέμνεται δὲ καὶ ἡ καπρία τῶν θηλειῶν ὑῶν, ὥστε μηκέτι δεῖσθαι ὀχείας ἀλλὰ πιαίνεσθαι ταχέως. Ἐκτέμνεται δὲ νηστεύσασα δύο ἡμέρας, ὅταν κρεμάσωσι τῶν ὀπισθίων σκελῶν. Τέμνουσι δὲ τὸ ἦτρον, ᾖ τοῖς ἄρρεσιν οἱ ὄρχεις μάλιστα φύονται· ἐνταῦθα γὰρ ἐπὶ ταῖς μήτραις ἐπιπέφυκεν ἡ καπρία, ἧς μικρὸν ἀποτέμνοντες συρράπτουσιν.

Ἐκτέμνονται δὲ καὶ αἱ κάμηλοι αἱ θήλειαι, ὅταν εἰς πόλεμον χρῆσθαι αὐταῖς βούλωνται, ἵνα μὴ ἐν γαστρὶ λάβωσιν. Κέκτηνται δ’ ἔνιοι τῶν ἄνω καμήλους καὶ τρισχιλίας. Θέουσι δὲ θᾶσσον τῶν Νησαίων ἵππων πολύ, ἐὰν θέωσι, διὰ τὸ μέγεθος τοῦ ὀρέγματος. Ὅλως δὲ μακρότερα γίνεται τὰ ἐκτεμνόμενα ζῷα τῶν ἀτμήτων.

Ὠφελοῦνται δὲ τὰ ζῷα καὶ χαίρουσι καὶ (632b.) μηρυκάζοντα ὥσπερ ἐσθίοντα ὅσα μηρυκάζει. Μηρυκάζει δὲ τὰ μὴ ἀμφώδοντα, οἷον βόες καὶ πρόβατα καὶ αἶγες. Ἐπὶ δὲ τῶν ἀγρίων οὐδέν πω συνῶπται, ὅσα μὴ συντρέφεται ἐνίοτε, οἷον ἔλαφος· αὕτη δὲ μηρυκάζει. Πάντα δὲ κατακείμενα μηρυκάζουσι μᾶλλον. Μάλιστα δὲ τοῦ χειμῶνος μηρυκάζουσιν, τά τε κατ’ οἰκίαν τρεφόμενα σχεδὸν ἑπτὰ μῆνας τοῦτο ποιεῖ· τὰ δ’ ἀγελαῖα καὶ ἧττον καὶ ἐλάττονα χρόνον μηρυκάζει διὰ τὸ νέμεσθαι ἔξω.

Μηρυκάζει δὲ καὶ τῶν ἀμφωδόντων ἔνια, οἷον οἵ τε μύες οἱ Ποντικοί, καὶ ἄλλοι ἰχθύες καὶ ὃν καλοῦσιν ἔνιοι ἀπὸ τοῦ ἔργου μήρυκα.

Ἔστι δὲ τὰ μὲν μακροσκελῆ τῶν ζῴων ὑγροκοίλια, τὰ δ’ εὐρυστήθη ἐμετικὰ μᾶλλον, καὶ ἐπὶ τῶν τετραπόδων καὶ ἐπ’ ὀρνίθων καὶ ἐπ’ ἀνθρώπων ὡς ἐπὶ τὸ πολύ.

Κεφάλαιο 49B

Τῶν δ’ ὀρνέων πολλὰ μεταβάλλουσι κατὰ τὰς ὥρας καὶ τὸ χρῶμα καὶ τὴν φωνήν, οἷον ὁ κόττυφος ἀντὶ μέλανος ξανθός, καὶ τὴν φωνὴν ἴσχει ἀλλοίαν· ἐν μὲν γὰρ τῷ θέρει ᾄδει, τοῦ δὲ χειμῶνος παταγεῖ καὶ φθέγγεται θορυβῶδες. Μεταβάλλει δὲ καὶ ἡ κίχλη τὸ χρῶμα· τοῦ μὲν γὰρ χειμῶνος ψαρὰ τοῦ δὲ θέρους ποικίλα τὰ περὶ τὸν αὐχένα ἴσχει· τὴν μέντοι φωνὴν οὐδὲν μεταβάλλει.

Ἡ δ’ ἀηδὼν ᾄδει μὲν συνεχῶς ἡμέρας καὶ νύκτας δεκαπέντε, ὅταν τὸ ὄρος ἤδη δασύνηται· μετὰ δὲ ταῦτα ᾄδει μέν, συνεχῶς δ’ οὐκέτι. Τοῦ δὲ θέρους προϊόντος ἄλλην ἀφίησι φωνὴν καὶ οὐκέτι παντοδαπὴν οὐδὲ ταχεῖαν καὶ ἐπιστρεφῆ ἀλλ’ ἁπλῆν, καὶ τὸ χρῶμα μεταβάλλει, καὶ ἔν γ’ Ἰταλίᾳ τὸ ὄνομα ἕτερον καλεῖται περὶ τὴν ὥραν ταύτην. Φαίνεται δ’ οὐ πολὺν χρόνον· φωλεῖ γάρ.

Μεταβάλλουσι δὲ καὶ οἱ ἐρίθακοι καὶ οἱ καλούμενοι φοινίκουροι ἐξ ἀλλήλων· ἔστι δ’ ὁ μὲν ἐρίθακος χειμερινόν, οἱ δὲ φοινίκουροι θερινοί, διαφέρουσι δ’ ἀλλήλων οὐδὲν ὡς εἰπεῖν ἀλλ’ ἢ τῇ χρόᾳ μόνον.

Ὡσαύτως δὲ καὶ αἱ συκαλίδες καὶ οἱ μελαγκόρυφοι· καὶ γὰρ οὗτοι μεταβάλλουσιν εἰς ἀλλήλους. Γίνεται δ’ ἡ μὲν συκαλὶς περὶ τὴν ὀπώραν, ὁ δὲ μελαγκόρυφος εὐθέως μετὰ (633a.) τὸ φθινόπωρον. Διαφέρουσι δὲ καὶ οὗτοι οὐδὲν ἀλλήλων πλὴν τῇ χρόᾳ καὶ τῇ φωνῇ. Ὅτι δ’ ὁ αὐτός ἐστιν ὄρνις, ἤδη ὦπται περὶ τὴν μεταβολὴν ἑκάτερον τὸ γένος τούτων, οὔπω δὲ τελέως μεταβεβληκότα οὐδ’ ἐν θατέρῳ εἴδει ὄντα. Οὐδὲν δ’ ἄτοπον εἰ ἐπὶ τούτων αἱ φωναὶ μεταβάλλουσιν ἢ τὰ χρώματα, ἐπεὶ καὶ ἡ φάττα τοῦ μὲν χειμῶνος οὐ φθέγγεται (πλὴν ἤδη ποτὲ εὐδίας ἐκ χειμῶνος σφοδροῦ γενομένης ἐφθέγξατο καὶ ἐθαυμαστώθη ὑπὸ τῶν ἐμπείρων), ἀλλ’ ὅταν ἔαρ γένηται, τότε ἄρχεται φωνεῖν. Τὸ δ’ ὅλον τὰ ὄρνεα καὶ μάλιστα καὶ πλείστας ἀφίησι φωνάς, ὅταν ὦσι περὶ τὴν ὀχείαν.

Μεταβάλλει δὲ καὶ ὁ κόκκυξ τὸ χρῶμα καὶ τῇ φωνῇ οὐ σαφηνίζει, ὅταν μέλλῃ ἀφανίζεσθαι· ἀφανίζεται δ’ ὑπὸ κύνα, φανερὸς δὲ γίνεται ἀπὸ τοῦ ἔαρος ἀρξάμενος μέχρι κυνὸς ἐπιτολῆς. Ἀφανίζεται δὲ καὶ ἣν καλοῦσί τινες οἰνάνθην ἀνίσχοντος τοῦ σειρίου, δυομένου δὲ φαίνεται· φεύγει δ’ ὁτὲ μὲν τὰ ψύχη ὁτὲ δὲ τὴν ἀλέαν.

Μεταβάλλει δὲ καὶ ὁ ἔποψ τὸ χρῶμα καὶ τὴν ἰδέαν, ὥσπερ πεποίηκεν Αἰσχύλος ἐν τοῖσδε·

Τοῦτον δ’ ἐπόπτην ἔποπα τῶν αὑτοῦ κακῶν πεποικίλωκε,
κἀποδηλώσας ἔχει θρασὺν πετραῖον ὄρνιν ἐν παντευχίᾳ,
ὃς ἦρι μὲν φαίνοντι διαπάλλει πτερόν κίρκου λεπάργου.
Δύο γὰρ οὖν μορφὰς φανεῖ, παιδός τε χαὐτοῦ νηδύος μιᾶς ἄπο.
Νέας δ’ ὀπώρας ἡνίκ’ ἂν ξανθῇ στάχυς,
στικτή νιν αὖθις ἀμφινωμήσει πτέρυξ.
Ἀεὶ δὲ μίσει τῶνδ’ ἄπ’ ἄλλον εἰς τόπον δρυμοὺς ἐρήμους καὶ πάγους ἀποικίσει.

Εἰσὶ δὲ τῶν ὀρνίθων οἱ μὲν κονιστικοί, οἱ δὲ λοῦσται, οἱ δ’ οὔτε κονιστικοὶ οὔτε λοῦσται. Ὅσοι μὲν μὴ πτητικοὶ (633b.) ἀλλ’ ἐπίγειοι, κονιστικοί, οἷον ἀλεκτορίς, πέρδιξ, ἀτταγήν, κορύδαλος, φασιανός· τῶν δ’ εὐθυωνύχων ἔνιοι, καὶ ὅσοι περὶ ποταμὸν ἢ ἕλη ἢ θάλατταν διατρίβουσι, λοῦνται· οἱ δ’ ἄμφω, καὶ κονίονται καὶ λοῦνται, οἷον περιστερὰ καὶ στρουθός· τῶν δὲ γαμψωνύχων οἱ πολλοὶ οὐδέτερον.

Ταῦτα μὲν οὖν τοῦτον ἔχει τὸν τρόπον, ἴδιον δ’ ἐνίοις συμβαίνει τῶν ὀρνιθίων τὸ ἀποψοφεῖν, οἷον καὶ ταῖς τρυγόσιν· ποιοῦνται δὲ καὶ περὶ τὴν ἕδραν κίνησιν οἱ τοιοῦτοι ἰσχυρὰν ἅμα τῇ φωνῇ.

Βιβλίο 10

ΥΠΕΡ ΤΟΥ ΜΗ ΓΕΝΝΑΝ

Προϊούσης δὲ τῆς ἡλικίας ἀνδρὶ καὶ γυναικί, τοῦ μὴ γεννᾶν ἀλλήλοις συνόντας τὸ αἴτιον ὁτὲ μὲν ἐν ἀμφοῖν ἐστίν, ὁτὲ δ’ ἐν θατέρῳ μόνον. Πρῶτον μὲν οὖν ἐπὶ τοῦ θήλεος δεῖ θεωρεῖν τὰ περὶ τὰς ὑστέρας ὅπως ἔχει, ἵν’ εἰ μὲν ἐν ταύταις τὸ αἴτιον, αὗται τυγχάνωσι θεραπείας, εἰ δὲ μὴ ἐν ταύταις, περὶ ἕτερόν τι τῶν αἰτίων ποιῶνται τὴν ἐπιμέλειαν.

Ἔστι δ’, ὥσπερ καὶ περὶ ἄλλο μέρος, φανερὸν εἰ ὑγιαίνει, ὅταν τὸ ἔργον τὸ αὑτοῦ ἱκανῶς ἀποτελῇ καὶ ἄλυπόν τ’ ᾖ καὶ μετὰ τὰς ἐργασίας ἄκοπον, οἷον ὀφθαλμὸς ὅταν λήμην τε μηδεμίαν ποιῇ καὶ ὁρᾷ καὶ μετὰ τὴν ὅρασιν μὴ ταράττηται μηδ’ ἀδυνατῇ ὁρᾶν πάλιν. Οὕτω καὶ ὑστέρα ἡ πόνον τε μὴ παρέχουσα, καὶ ὃ ἐκείνης ἐστί, τοῦθ’ ἱκανῶς ἀπεργαζομένη, καὶ μετὰ τὰ ἔργα μὴ ἀδύνατος ἀλλ’ ἄκοπος.

Λέγεται δὲ καὶ μὴ καλῶς ἔχουσαν τὴν ὑστέραν ὅμως πρὸς τὸ ἔργον τὸ αὑτῆς ἔχειν καλῶς καὶ ἀλύπως, ἂν μὴ ταύτης χεῖρον ὃ ἔργον ἐστὶν αὑτῆς ἔχῃ, ὥσπερ ὄμμα οὐδὲν κωλύει αὐτὸ ὁρᾶν ἀκριβῶς, μὴ ἔχοντος τοῦ ὀφθαλμοῦ καλῶς πάντα τὰ μόρια, ἢ εἰ φῦμά τι ἔνεστιν. Ὁμοίως δὲ καὶ ὑστέρα, εἰ εὖ ἔχει τοῦ ἐπικαίρου τόπου, οὐδὲν ἂν πρὸς τοῦτο (634a.) βλάπτοιτο.

Δεῖ δὴ τὴν ἔχουσαν καλῶς ὑστέραν πρῶτον μὲν τῷ τόπῳ μὴ ἐν ἄλλῳ καὶ ἄλλῳ εἶναι, ἀλλ’ ὁμοίως τῇ θέσει, πλὴν γίνεσθαι τὸ πορρώτερον ἄνευ πάθους καὶ λύπης, καὶ μηδὲν ἀναισθητοτέρας εἶναι θιγγανομένας. Τοῦτο δὲ κρίνειν οὐ χαλεπόν. Ὅτι δὲ δεῖ τοιαύτας εἶναι, ἐκ τῶνδε φανερόν.

Εἴτε γὰρ μὴ πλησίον προσίασιν, οὐκ ἔσονται ἀνασπαστικαί· πόρρω γὰρ αὐταῖς ἔσται ὁ τόπος ὅθεν δεῖ ἀναλαβεῖν.

Εἰ δὲ μή, εἰ πλησίον μένουσι καὶ μὴ οἷαι ἐπανιέναι πορρωτέρω, κωφότεραι ἔσονται, lt;τῷ> διαθιγγάνεσθαι ἀεί, ὥστε μὴ ταχὺ ἀνοίγεσθαι· δεῖ lt;δὲ> τοῦτο σφόδρα ποιεῖν καὶ εὐηκόους εἶναι.

Ταῦτά τε οὖν χρὴ ὑπάρχειν, ὅσαις τε μὴ ὑπάρχει, αὗται θεραπείας δέονται τινός, καὶ τὰ καταμήνια γίνεσθαι καλῶς, τοῦτο δ’ ἐστὶ δι’ ἴσων χρόνων καὶ μὴ πεπλανημένως, ὑγιαίνοντος τοῦ σώματος. Σημαίνει γὰρ οὕτω γινόμενα καλῶς ἔχειν ἀνοίγεσθαι καὶ δέχεσθαι τὴν ἐκ τοῦ σώματος ὑγρότητα, ὅταν τὸ σῶμα διδῷ. Ὅταν δὲ πλεονάκις ἢ ἐλαττονάκις ἢ πεπλανημένως ἀφιῶσι, τοῦ ἄλλου σώματος μὴ συναιτίου ὄντος ἀλλ' ὑγιαίνοντος, ἀνάγκη τοῦτο συμβαίνειν δι' αὐτάς.

Ἢ διὰ κωφότητα οὐκ ἀνοίγονται ἐν τοῖς καιροῖς, ὥστ' ὀλίγα δέχονται, ἢ μᾶλλον ἐπισπῶνται τὸ ὑγρὸν διά τινα φλεγμασίαν αὐτῶν, ὥστε θεραπείας σημαίνουσι δεόμεναι, ὥσπερ καὶ ὀφθαλμοὶ καὶ κύστις καὶ κοιλία καὶ τἆλλα· πάντες γὰρ οἱ τόποι φλεγμαίνοντες ἕλκουσιν ὑγρότητα τοιαύτην, ἣ πέφυκεν ἐκκρίνεσθαι εἰς ἕκαστον τόπον, ἀλλ' οὐ τοιαύτη ἢ τοσαύτη. Ὁμοίως δὲ καὶ ἡ ὑστέρα πλείω ἀποδιδοῦσα σημαίνει φλεγματικόν τι πάθος, ἐὰν ὅμοια μὲν πλείω δ' ἀποδιδῷ.

Ἐὰν δ' ἀνόμοια καὶ σεσημμένα μᾶλλον, οἷα ταῖς ὑγιαινούσαις προέρχεται, τοῦτο μὲν ἤδη πάθος καὶ ἐπίδηλον γίνεται. Ἀνάγκη γὰρ καὶ πόνους τινὰς ἐπισημαίνειν ἐχούσης ὡς οὐ δεῖ.

Ταῖς δ' ὑγιαινούσαις τὰ λευκὰ καὶ σεσημμένα προέρχεται, ταῖς μὲν καὶ ἀρχομένων, ταῖς δὲ πλείσταις ληγόντων τῶν καταμηνίων. Ὅσαις μὲν οὖν σεσημμένα μᾶλλον γίνεται ἢ ταῖς ὑγιαινούσαις, ἢ ἄτακτα, πλείω ἢ ἐλάττω, μᾶλλον δέονται θεραπείας ὡς ἐμποδιζόντων πρὸς τὴν τέκνωσιν. Ὅσαις δὲ τοῖς χρόνοις μόνον ἀνωμάλοις καὶ μὴ δι' ἴσου, ἧττον μὲν διακωλυτικὸν τὸ πάθος, διασημαίνει μέντοι τῆς ὑστέρας τὴν ἕξιν κινουμένην καὶ οὐκ ἀεὶ ὁμοίως μένουσαν. Ἔστι δὲ τοῦτο τὸ πάθος οἷον μὲν βλάψαι τὰς εὐφυεῖς πρὸς τὴν σύλληψιν, οὐ μέντοι νόσος, ἀλλὰ τοιοῦτόν τι πάθος οἷον καθίστασθαι καὶ ἄνευ θεραπείας, ἂν (634b.) μή τι προσεξαμαρτάνῃ αὐτή.

Ἐὰν δὲ μεταβάλλωσι τῇ τάξει ἢ τῷ πλήθει, τοῦ ἄλλου σώματος μὴ ὁμοίως ἔχοντος ἀλλ' ὁτὲ μὲν ὑγροτέρου ὁτὲ δὲ ξηροτέρου, οὐδὲν αἴτιαι αἱ ὑστέραι, ἀλλὰ δεῖ καὶ ἀκολουθεῖν αὐτὰς τῇ τοῦ σώματος ἕξει, δεχομένας καὶ ἀφιείσας κατὰ λόγον. Ἐὰν μὲν οὖν ὑγιαίνοντος τοῦ σώματος μεταβάλλοντος δὲ τοῦτο ποιῶσιν, οὐδὲν αὗται δέονται θεραπείας.

Ἐὰν δὲ νοσοῦντος ἢ ἐλάττω ἀποδιδῶσι διὰ τὸ ἄλλοθί που ἀναλίσκεσθαι τὸ περίττωμα, ᾗ κάμνει τὸ σῶμα, ἢ πλείω ἀφιῶσι διὰ τὸ δεῦρο ἐξερεύγεσθαι τὸ σῶμα, οὐδὲ τοῦτο σημαίνει αὐτάς γε τὰς ὑστέρας δεῖσθαι θεραπείας, ἀλλὰ τὸ σῶμα. Ὡς ὅσαις συμμεταβάλλει ταῖς ἕξεσι τοῦ σώματος τὰ γυναικεῖα, δηλοῖ ὅτι οὐδὲν αἴτιον ἐν ταῖς ὑστέραις ἐστίν, ὅτι ὑγιαίνουσαι διατελοῦσιν.

Αὗται δ' αὐτῶν ὁτὲ μὲν ἀρρωστότεραι, ὁτὲ δ' ἰσχύουσι μᾶλλον, καὶ ὁτὲ μὲν ὑγρότεραι ὁτὲ δὲ ξηρότεραι. Καὶ φοιτᾷ αὐταῖς, ὅταν μὲν πλεῖον τὸ σῶμα αὐτῶν, πλείω, ὅταν δ' ἔλαττον, ἐλάττω, καὶ ἐὰν μὲν ὑγρόν, ὑδαρέστερα, ἐὰν δὲ ξηρόν, ἐναιμότερα. Καὶ ἄρχονται μὲν ἐκ λευκῶν γαλακτοειδῶν, ἀνόσμων μενόντων· τὰ δὲ φοινικᾶ μέν, ἀπολήγοντα δὲ λευκότερα, ἐσχάτης καταλήξεως. Ὀσμὴν δ’ ἔχει τὰ λευκὰ ταῦτα οὐ σηπεδόνος, ἀλλὰ δριμυτέραν καὶ βαρυτέραν, οὔτε πύου. Καὶ ἄνευ μὲν τήξεως, μετὰ μέντοι θερμασίας, ὅταν οὗτος ᾖ ὁ τρόπος τῶν σημείων. Ὅσαις μὲν οὖν οὕτω συμβαίνει, ταύταις ἔχουσιν ὡς δεῖ τὰ περὶ τὰς ὑστέρας πρὸς τὴν τέκνωσιν.

Καὶ πρῶτον ταῦτα σκεπτέον, εἰ καλῶς ἔχει, μετὰ δὲ ταῦτα πῶς ἔχει τὸ στόμα τῶν ὑστερῶν. Δεῖ γὰρ εἰς ὀρθὸν ἔχειν· εἰ δὲ μή, οὐχ ἕλξουσιν εἰς αὐτὰς τὸ σπέρμα.

Εἰς τὸ πρόσθεν γὰρ αὐτῶν καὶ ἡ γυνὴ προΐεται, ὡς δῆλον, ὅταν ἐξονειρώττωσιν αὗται τελέως· τότε γὰρ οὗτος ὁ τόπος θεραπείας δεῖται αὐταῖς ὑγρανθείς, ὥσπερ εἰ ἀνδρὶ συνεγένοντο, ὡς προϊέμενον ἐνταῦθα καὶ τὸ παρὰ τοῦ ἀνδρός, εἰς τὸν αὐτὸν τόπον καὶ οὐχὶ εἰς τὰς ὑστέρας εἴσω. Ἀλλ’ ὅταν ἐνταῦθα προϊῶνται, ἐντεῦθεν σπῶσι τῷ πνεύματι, οἷον αἱ ῥῖνες, καὶ αἱ ὑστέραι τὸ σπέρμα. Διὸ καὶ παντὶ σχήματι συνοῦσαι κυΐσκονται, ὅτι εἰς τὸ πρόσθεν παντελῶς ἐχούσης γίνεται καὶ αὐταῖς καὶ τοῖς ἀνδράσιν ἡ πρόεσις τοῦ σπέρματος· εἰ δ’ εἰς αὐτήν, οὐκ ἂν πάντως συγγινόμεναι συνελάμβανον.

Ἐὰν δὲ μὴ εἰς ὀρθὸν βλέπωσιν αἱ ὑστέραι ἀλλ’ ἢ πρὸς τὰ ἰσχία ἢ πρὸς τὴν ὀσφὺν ἢ πρὸς τὸ ὑπογάστριον, (635a.) ἀδύνατον συλλαβεῖν διὰ τὴν προειρημένην αἰτίαν, ὅτι ἀνελέσθαι οὐκ ἂν δύναιντο τὸ σπέρμα. Ἐὰν μὲν οὖν ἰσχυρῶς τῇ φύσει οὕτως ἔχωσιν ἢ ὑπὸ νόσου, ἀνίατον τὸ πάθος· ἐὰν δ’ ᾖ ῥῆγμα ἢ φύσει ἢ ὑπὸ τῆς νόσου διὰ φλεγμασίαν συσπασάσης, ἐπὶ θάτερα αὐτῇ τὸ πάθος.

Ταῖς δὲ μελλούσαις ἐγκύοις ἔσεσθαι δεῖ, καθάπερ εἴρηται, τὸ στόμα εἰς ὀρθὸν εἶναι, καὶ πρὸς τούτοις ἀνοίγεσθαι καλῶς. Λέγω δὲ τὸ καλῶς τοιοῦτον ὅπως, ὅταν ἄρχηται τὰ γυναικεῖα, θιγγανόμενον ἔσται τὸ στόμα μαλακώτερον ἢ πρότερον, καὶ μὴ διεστομωμένον φανερῶς. Ἀλλ’ εἰ .... οὕτως ἔχοντος, τὰ πρῶτα σημεῖα τὰ λευκὰ φοιτάτω. Ὅταν δὲ σαρκικώτερα ᾖ τὴν χρόαν τὰ σημεῖα, φανερῶς ἔσται ἀνεστομωμένη ἄνευ ἀλγήματος, κἂν θιγγάνῃ κἂν μὴ θιγγάνῃ, καὶ μήτε κωφότητα μήτε στόμα ἀλλοιότερον αὐτὸ αὐτοῦ. Ληξάντων δὲ τῶν γυναικείων διεστομωμένον ἔστω σφόδρα καὶ ξηρόν, ἀλλὰ μὴ σκληρόν, ἡμέραν ὅλην καὶ ἡμίσειαν ἢ καὶ δύο ἡμέρας. Ταῦτα γὰρ σημαίνει οὕτω γινόμενα ὅτι καλῶς ἔχουσιν αἱ ὑστέραι καὶ ποιοῦσι τὸ αὐτῶν ἔργον, τῷ μὲν μὴ εὐθὺς ἀνεστομῶσθαι ἀλλὰ μαλακὸν τὸ στόμα γίνεσθαι, ὅτι ἅμα τῷ ἄλλῳ σώματι λυομένῳ λύονται, καὶ οὐκ ἐμποδίζουσι, καὶ ἀφιᾶσι πρῶτον τὰ ἀπ’ αὐτοῦ τοῦ στόματος, ὅταν δὲ πλείω τὸ σῶμα προΐηται, ἀναστομοῦνται· ὅπερ ἐστὶ στόματος ὑγιεινῶς ἔχοντος.

Παυσαμένων δὲ τῶν σημείων, τῷ μὴ εὐθὺς συμπίπτειν σημαίνουσιν ὅτι, ἂν ἀπορήσῃ, κεναὶ καὶ ξηραὶ γίνονται καὶ διψηραὶ καὶ οὐκ ἔχουσι λείψανα περὶ τὴν δίοδον.

Προσσπαστικαὶ οὖν οὖσαι σημαίνουσι καλῶς ἔχειν πρὸς τὸ συλλαβεῖν πλησιάσαντος, ὅταν οὕτως ἔχωσιν ἄνευ ἄλγους καὶ μετὰ ἀναισθησίας. Τό τε μὴ ἀλλοιότερον ἔχειν τὸ στόμα ἀγαθόν· καὶ γὰρ τοῦτο σημαίνει ὅτι οὐδέν ἐστιν ὃ κωλύει μὴ συμμύειν αὐτὰς ὅταν δέῃ.

Περὶ μὲν οὖν τὸ στόμα τῶν ὑστερῶν ἐκ τούτων ἡ σκέψις ἐστίν, εἰ ἔχει ὡς δεῖ ἢ μή. Περὶ αὐτὴν δὲ τὴν ὑστέραν δεῖ συμβαίνειν τοιαῦτα μετὰ τὴν κάθαρσιν, πρῶτον μὲν ἐν τοῖς ὕπνοις ὡς συγγινομένην τῷ ἀνδρὶ καὶ προϊεμένην, ὡς ἂν εἰ παρεπλησίαζε, ῥᾳδίως· ἂν τοῦτο φαίνηται πλεονάκις πάσχουσα, ἄμεινον. Καὶ ἀνισταμένην ὁτὲ μὲν δεῖσθαι θεραπείας οἵας ὅταν πλησιάσῃ ἀνδρί, ὁτὲ δὲ ξηρασίας.

Τὴν δὲ ξηρότητα ταύτην μὴ συνεχῆ, ἀλλ᾽ ὕστερον μετὰ τὴν ἔγερσιν ἐξυγραίνεσθαι ὁτὲ μὲν θᾶττον ὁτὲ δ᾽ ὀψιαίτερον καὶ ὅσον εἰς ἥμισυ τῆς ἡμέρας βραχείας προελθούσης. Ἡ δ᾽ ὑγρότης (635b.) ἔστω τοιαύτη οἵα ὅταν πλεσιάσῃ τῷ ἀνδρί. Πάντα γὰρ ταῦτα σημαίνει δεκτικὴν τὴν ὑστέραν εἶναι τοῦ διδομένου, καὶ προσσπαστικὰς τὰς κοτυληδόνας, καὶ καθεκτικὰς ὧν λαμβάνουσι, καὶ ἀκούσας ἀφιείσας.

Ἔτι φύσας ἐγγίνεσθαι ἄνευ πάθους, ὥσπερ ἡ κοιλία, καὶ ἀφιέναι, καὶ μεγάλας γινομένας καὶ ἐλάττους αὐτῶν, ἄνευ νόσου· καὶ γὰρ ταῦτ᾽ ἀποδηλοῖ αὐτάς, ὅτι οὐδὲν στερεώτεραι τοῦ δέοντός εἰσιν, οὐδὲ κωφαὶ οὔτε φύσει οὔτε νόσῳ, ἀλλὰ δύνανται, ὡς ἂν δέξωνται, αὐξανομένῳ παρέχειν χώραν. Ἔχουσι δὲ καὶ διάτασιν.

Ὅταν δὲ τοῦτο μὴ γίνηται, ἢ πυκνότεραί εἰσιν ἢ ἀναισθητότεραι ἢ φύσει ἢ νόσῳ. Διὸ καὶ οὐ δύνανται τρέφειν, ἀλλὰ καὶ διαφθείρουσι τὰ ἔμβρυα, ἐὰν μὲν σφόδρα τοιαῦται ὦσιν, ἔτι μικρὰ ὄντα, ἐὰν δ᾽ ἧττον, μείζω· ἐὰν δὲ πάνυ ἠρέμα, φαυλότερα ἐκτρέφουσι τὰ ἔκγονα καὶ οἷον ἐν ἀγγείῳ φαύλῳ τραφέντα.

Ἔτι δὲ θιγγανομένης τὰ ἐπὶ δεξιὰ καὶ τὰ ἐπ᾽ ἀριστερὰ ὁμαλὰ αὐτῆς εἶναι, καὶ τἆλλα τούτοις ὁμοίως.

Καὶ ἐν τῇ πρὸς τὸν ἄνδρα συνουσίᾳ μεταξὺ ὑγραίνεσθαι, μὴ πολλάκις δὲ μηδὲ σφόδρα. Ἔστι δὲ τοῦτο τὸ πάθος οἷον ἵδρωμα τοῦ τόπου, ὥσπερ καὶ τῷ στόματι σιάλου πολλαχοῦ μὲν καὶ πρὸς τὴν φορὰν τῶν σιτίων, καὶ ὅταν λαλῶμεν καὶ ἐργαζώμεθα αὐτοὶ πλέον· καὶ τοῖς ὄμμασι δακρύομεν πρὸς τὰ λαμπρότερα ὁρῶντες, καὶ ὑπὸ ψύχους καὶ θερμότητος ἰσχυροτέρας, ἧς κρατεῖ τὰ μόρια ταῦτα, ὅταν τύχῃ ὑγροτέρως ἔχοντα. Οὕτω καὶ αἱ ὑστέραι ὑγραίνονται ἐργαζόμεναι, ὅταν τύχωσιν ὑγροτέρας διαθέσεως. Πάσχουσι δὲ τοῦτο τὸ πάθος καὶ αἱ μάλιστα καλῶς πεφυκυῖαι. Διὸ θεραπείας ἀεὶ δέονται αἱ γυναῖκες ἢ πλείονος ἢ ἐλάττονος, ὥσπερ καὶ τὸ στόμα πτύσεως. Ἀλλ' ἐνίαις τοσαύτη ὑγρασία γίνεται, ὥστε μὴ δύνασθαι καθαρὸν τὸ τοῦ ἀνδρὸς ἀνασπάσαι διὰ τὴν σύμμιξιν τῆς γινομένης ἀπὸ τῆς γυναικὸς ὑγρότητος.

Πρὸς δὲ τούτοις τοῖς πάθεσι καὶ τοσόνδε δεῖ κατανοεῖν τί συμβαίνει, ὅταν δόξῃ ἐν τῷ ὕπνῳ πλησιάσαι τῷ ἀνδρί, πῶς ἔχουσα ἐξανίσταται, οἷον εἰ ἀσθενεστέρα, καὶ εἰ ἀεί, ἢ ὁτὲ μὲν ὁτὲ δ' οὔ, ἢ ἐνίοτε καὶ ἰσχυροτέρα· εἰ δὲ μὴ ξηροτέρα τὸ πρῶτον, εἶτα ἐφυγραίνεται. Δεῖ γὰρ ταῦτα συμβαίνειν τῇ γονίμῳ γυναικί. Τὸ μὲν γὰρ ἐκλύεσθαι σημαίνει προετικὸν εἶναι τὸ σῶμα σπέρματος ἀεί, τήν τ' ἐκποιοῦσαν ποιεῖ †καὶ σωματωδῶν δ' οὐσῶν† ἀσθενεστέραν. Τὸ δ' ἀνόσως τοῦτο πάσχειν σημεῖον ὅτι κατὰ φύσιν καὶ ὃν δεῖ τρόπον ἡ ἄφοδος τούτου γίνεται· εἰ γὰρ μή, νοσώδης (636a.) ἦν ἡ ἀρρωστία. Τὸ δέ ποτε καὶ ἰσχύειν μᾶλλον, καὶ ξηρὰν εἶναι τὴν ὑστέραν, εἶτ' ἐφυγραίνεσθαι, σημεῖον ὅτι πᾶν τὸ σῶμα λαμβάνει καὶ ἀφανίζει, καὶ οὐ μόνον ἡ ὑστέρα καὶ τὸ σῶμα ἰσχύει. Πνεύματί τε γὰρ ἕλκει ἡ ὑστέρα τὸ προσελθὸν ἔξωθεν αὐτῇ, ὥσπερ πρότερον εἴρηται. Οὐ γὰρ εἰς αὐτὴν προΐεται, ἀλλ' οὗ καὶ ὁ ἀνήρ. Ὅσα δὲ πνεύματι, πάντα ἰσχύϊ ἐργάζεται. Ὥστε δῆλον ὅτι καὶ τὸ σῶμα προσσπαστικὸν τῆς τοιαύτης.

Εἰσὶ δέ τινες αἳ πάσχουσί τι τοιοῦτον ὃ καλοῦσιν ἐξανεμοῦσθαι· δεῖ δὴ καὶ τοῦτο μὴ πάσχειν. Ἔστι δὲ τὸ τοιοῦτον πάθος· ὅταν συγγένωνται τῷ ἀνδρί, οὔτε προϊέμεναι δῆλαι τὸ σπέρμα οὔτε κυΐσκονται, διὸ καὶ καλεῖται ἐξανεμοῦσθαι.

Αἴτιον δὲ τοῦ πάθους ἡ ὑστέρα, ὅταν ᾖ λίαν ξηρά· ἑλκύσασα γὰρ πρὸς αὑτὴν τὸ ὑγρὸν ἀφίησιν ἔξω· τὸ δὲ κατασκελετεύεται, καὶ μικρόν τι γινόμενον ἐξ αὐτῆς ἀπέπεσέ τε καὶ ἔλαθε διὰ μικρότητα ἐξιόν. Καὶ ὅταν μὲν τοῦτο σφόδρα πάθῃ ἡ ὑστέρα καὶ γένηται ὑπέρξηρος, ταχύ τ' ἀπέβαλε καὶ ταχὺ δῆλον γίνεται ὅτι οὐ κύει· ἐὰν δὲ μὴ σφόδρα ταχέως ταῦτα ποιῇ, ἐν τῷ μεταξὺ χρόνῳ δοκεῖ κύειν, ὃ ἂν ἔχῃ αὐτὴ πρὸς αὑτήν, ἕως ἂν ἀποβάλῃ. Καὶ ὅμοια συμβαίνει ταχὺ ταύταις πάθη οἷα ταῖς ὀρθῶς κυούσαις, καὶ ἐὰν γίνηται πολὺς χρόνος, αἴρεται ἡ ὑστέρα, ὥστε φανερῶς δοκεῖ κύειν, ἕως ἂν ἀποπέσῃ· τότε δ' ὁμοία ἐγένετο οἵα πρὸ τοῦ ἦν. Ἀναφέρουσι δὲ τοῦτο τὸ πάθος εἰς τὸ δαιμόνιον. Ὅ ἐστι θεραπευτόν, ἐὰν μὴ φύσει τοιαύτη ᾖ σφόδρα πάσχουσα τὸ πάσχον. Σημεῖον δὲ τοῦ μὴ τοιαύτας εἶναι, ἐὰν φαίνωνται μὴ προϊέμεναι, ὅταν λάβωσι παρὰ τοῦ ἀνδρός, καὶ μὴ συλλάβωσιν.

Κωλύονται δὲ καὶ ἐὰν σπάσμα ἔχωσιναἱ ὑστέραι. Γίνονται δὲ σπάσματα ἐν ταῖς ὑστέραις ἢ φλεγμασίᾳ διατεινομένης τῆς ὑστέρας, ἢ ἐν τῷ τόκῳ πληρώματος πολλοῦ ἐξαπίνης ἐπιπεσόντος καὶ μὴ ἀνοιγομένου τοῦ στόματος· τότε ὑπὸ τῆς διατάσεως γίνεται σπάσμα. Σημεῖον δὲ τοῦ μὴ ἔχειν σπάσμα, ἐὰν μὴ φαίνηται εἰς φλεγμασίαν ἀφικνουμένη ἐν τοῖς αὐτῆς ἔργοις ἡ ὑστέρα· ἔχουσα γὰρ σπάσμα φλεγμαίνοι ἄν ποτε.

Ἔτι δ' ἐὰν φῦμα ἐπὶ τοῦ στόματος ᾖ, πολλὰ ἑλκωθέντος, ἐμποδίζει πρὸς τὰς συλλήψεις. Σημεῖον δὲ καὶ τοῦ ταῦτα μὴ ἔχειν, ἐὰν φαίνηται ἀνοιγομένη καλῶς ἡ ὑστέρα καὶ συμμύουσα, ὅταν γένηται αὐταῖς τὰ γυναικεῖα καὶ αἱ πρὸς τὸν ἄνδρα (636b.) χρήσεις.

Ἔτι ἔστιν αἷς πως τὸ στόμα συμφύεται, ταῖς μὲν ἐκ γενετῆς ταῖς δὲ διὰ νόσον. Γίνεται δὲ τοῦτο καὶ ἰατὸν καὶ ἀνίατον. Οὐ χαλεπὸν δὲ τοῦτο γνῶναι, ἐὰν ᾖ· οὐ γὰρ οἷόν τ' οὔτε λαμβάνειν οὐδὲν ὧν δεῖ οὔτε προΐεσθαι. Ἐὰν οὖν φαίνηται καὶ δεχομένη παρὰ τοῦ ἀνδρὸς καὶ ἀφιεῖσα, δῆλον ὅτι οὐκ ἂν ἐνσχεθείη τῷ πάθει.

Ὅσαις δὲ τούτων μηδὲν ἐμπόδιον ᾖ, ἀλλ' ἔχουσιν ὃν τρόπον δεῖν εἴρηται ἔχειν, ἂν μὴ ὁ ἀνὴρ αἴτιος ᾖ τῆς ἀτεκνίας, ἀμφότεροι μὲν δύνανται τεκνοῦσθαι, πρὸς ἀλλήλους δ' ἐὰν μὴ ὦσι σύμμετροι τῷ ἅμα προΐεσθαι ἀλλὰ πολὺ διαφωνῶσιν, οὐκ ἔσονται τέκνα τούτοις.

Τοῦ μὲν οὖν εἰδέναι τὰ τοῦ ἀνδρὸς αἴτια ἔστι μὲν καὶ ἄλλα σημεῖα λαβεῖν· ἃ δὲ ῥᾴω μάλιστ' ἂν φαίνοιτο, πρὸς ἄλλας πλησιάζων καὶ γεννῶν.

Τῷ δὲ πρὸς ἀλλήλους μὴ συνδρόμως ἔχειν, πάντων τῶν εἰρημένων ὑπαρξάντων, οὐ γεννῶσιν. Δηλοῖ γὰρ ὅτι τοῦτο αἴτιον μόνον. Εἴπερ γὰρ καὶ ἡ γυνὴ συμβάλλεται εἰς τὸ σπέρμα καὶ τὴν γένεσιν, δῆλον ὅτι δεῖ ἰσοδρομῆσαι παρ' ἀμφοῖν. Ἐὰν οὖν ὁ μὲν ταχὺ ἐκποιήσῃ ἡ δὲ μόλις (τὰ γὰρ πολλὰ αἱ γυναῖκες βραδύτεραι), τοῦτο κωλύει· διὸ καὶ συζευγνύμενοι οὐ γεννῶντες μετ' ἀλλήλων, γεννῶσιν ὅταν ἐντύχωσιν ἰσοδρομοῦσι πρὸς τὴν συνουσίαν. Εἰ γὰρ ἡ μὲν ὀργῶσα καὶ παρεσκευασμένη εἴη καὶ ἐννοίας ἔχουσα ἐπιτηδείας, ὁ δὲ προλελυπημένος καὶ κατεψυγμένος, ἀνάγκη τότε ἰσοδρομῆσαι αὐτοὺς ἀλλήλοις.

Ἔτι δ' ἐνίοτε γυναιξὶ καὶ ἐξονειρωξάσαις καὶ ἀνδράσιν ἀφροδισιάσασι συμβαίνει εὐρωστοτέροις εἶναι, μὴ ἰσχύϊ ἀλλ' ὑγιείᾳ. Γίνεται δὲ τοῦτο, ὅταν πολὺ τὸ σπέρμα ᾖ ἠθροισμένον ἐπὶ τὸν τόπον ὅθεν προΐενται. Ἐὰν οὖν τότε ἀπέλθῃ, οὐδὲν ἀσθενέστεραι γίνονται· οὐ γὰρ ἀεὶ ἐκλύονται ἀπελθόντων, ὅταν ἱκανὰ ᾖ τὰ λειπόμενα· οὐδ' ἂν εἰ ἐκεῖνα ἄχρηστα ᾖ ἅμα καὶ ῥᾴω, οἷον πλησμονῆς ἀπαλλαγέντα· διὸ οὐκ ἰσχύϊ εὐρωστότεραι ἀλλὰ κουφότητι

γίνονται. Ἀλλ’ ὅταν ἀπὸ τοσούτων ἐπίῃ ὧν τὸ σῶμα δεῖται, τότε ἀσθενεστέρας ποιεῖ.

Παύεται δὲ ταχύ, ἂν ἄλλως τις ὑγιάνῃ τὸ σῶμα καὶ ἐν ἡλικίᾳ ᾖ, ἢ ταχὺ σπερμοποιεῖ· τῶν γὰρ αὐξανομένων τοῦτ’ ἐστὶ ταχὺ καὶ τῶν αὐξητῶν. Καὶ λανθάνουσι τότε μάλιστα

κυϊσκόμεναι. Οὐ γὰρ οἴονται συνειληφέναι, ἐὰν μὴ αἴσθωνται προιέμεναι ..... δὲ τυγχάνουσιν ὑπολαμβάνουσαι ὡς δεῖ ἀπ’ ἀμφοῖν συμπεσεῖν ἅμα, καὶ ἀπὸ τῆς γυναικὸς καὶ ἀπὸ τοῦ ἀνδρός. Μάλιστα δὲ λανθάνει, ὅσαι οἴονται ἀδύνατον εἶναι (637a.) συλλαβεῖν, ἐὰν μὴ ξηρανθῶσι καὶ ἐπιδήλως ἀφανισθῇ τὸ δοθέν. Συμβαίνει δ’ ἐνίοτε πλέον προΐεσθαι καὶ αὐτὴν καὶ τὸν ἄνδρα οὗ ἂν δύνηται ἀφανίσαι καὶ τοῦ ἱκανοῦ. Ὅταν οὖν σπάσῃ μὲν ἱκανόν, λειφθῇ δὲ πολύ, τότε λανθάνουσι κυϊσκόμεναι. Ὅτι δὲ τοιοῦτον ἐνδέχεται γίνεσθαι καὶ οὐκ ἐξ ἅπαντος γίνεται τὸ πάθος, δηλοῖ ὅσα τῶν ζῴων ἀπὸ μιᾶς ὀχείας πολλὰ τίκτει, καὶ ἡ τῶν διδύμων γένεσις, ὅταν ἀπὸ μιᾶς γένηται· δῆλον γὰρ ὅτι ἐξ οὐχ ἅπαντος ἐγένετο, ἀλλὰ μέρος τι αὐτοῦ ἔλαβεν ὁ τόπος, τὸ δὲ περιελείπετο πολλαπλάσιον. Ἔτι εἰ πολλὰ ἀπὸ μιᾶς ὀχείας γίνεται, ὅπερ φαίνεται ἐπὶ τῶν ὑῶν καὶ τῶν διδύμων ἐνίοτε γινόμενον, δῆλον ὅτι οὐκ ἀπὸ παντὸς ἔρχεται τὸ σπέρμα τοῦ σώματος, ἀλλ’ ἐφ’ ἑκάστου εἴδους ἐμερίζετο. Ἀπὸ παντὸς μὲν γὰρ ἐνδέχεται ἀποχωρισθῆναι, καὶ τὸ πᾶν εἰς πολλά. Ὥστε ἅμα ..... καὶ κατὰ μέρος ἀδύνατον.

Ἔτι ἡ γυνὴ προΐεται εἰς τὸ πρόσθεν τοῦ στόματος τῶν ὑστερῶν, οὗ καὶ ὁ ἀνήρ, ὅταν πλησιάσῃ. Ἐντεῦθεν γὰρ σπᾷ τῷ πνεύματι, ὥσπερ τοῖς στόμασιν ἢ τοῖς μυκτῆρσιν. Πάντα γὰρ ὅσα μὴ ὀργάνοις προσάγεται, ἢ φύσιν ἔχει ἀνωθεῖν κοῦφα ὄντα, ἢ πνεύματι ἕλκονται ἐκ τούτου τοῦ τόπου. Διὸ ἐπιμελοῦνται ὅπως γένηται ξηρὸς οὕτως, ὥσπερ πρὶν τοῦτο συμβαίνειν.

Πέφυκε δ’ οὕτως ἡ ὁδός, δι’ ἧς ἔρχεται, ταῖς γυναιξίν. Ἔχουσι καυλόν, ὥσπερ καὶ οἱ ἄνδρες τὸ αἰδοῖον, ἀλλ’ ἐν τῷ σώματι. Ἀποπνέουσι lt;δὲ> διὰ τοῦτο μικρῷ τε πόρῳ ἀνωτέρω <ἢ> ᾗ οὐροῦσιν αἱ γυναῖκες. Διὸ καὶ ὅταν ὀργῶσιν ἀφροδισιασθῆναι, οὗτος ὁ τόπος οὐκ ἔχει ὁμοίως καὶ πρὶν ὀργᾶν. Ἀπὸ δὴ τούτου τοῦ καυλοῦ γίνεται ἔκπτωσις, καὶ τὸ ἔμπροσθεν τῆς ὑστέρας πολλῷ μεῖζον ἢ καθ’ ἣν εἰς ἐκεῖνον τὸν τόπον ἐκπίπτει. Ὅμοιον δ’ ἐστὶ τοῦτο κατὰ τοῦτο ταῖς ῥισίν· καὶ γὰρ αἱ ῥῖνες ἔχουσιν εἴσω εἰς τὸν φάρυγγα πόρον τινὰ καὶ εἰς τὸν ἔξω ἀέρα· οὕτω κἀκεῖνος καὶ ἔξω ἔχει πόρον μικρόν τε πάνυ καὶ στενόν, ὅσον πνεύματι ἔξοδον, τὸν δ’ εἰς τὸ πρόσθεν τῆς ὑστέρας εὐρύχωρον [εὖρουν] ὥσπερ αἱ ῥῖνες τὸν εἰς τὸν ἀέρα μείζω τοῦ εἰς τὸ στόμα καὶ φάρυγγα.

Ὁμοίως δὲ καὶ αἱ γυναῖκες μείζω τὸν εἰς τὸ ἔμπροσθεν τῶν ὑστερῶν πόρον ἔχουσι καὶ εὐρυχωρότερον τοῦ ἔξω.

Ὅ τι συμβάλλεται εἰς τοῦτο, ποιεῖ ..... τῶν αὐτῶν παθημάτων, ὅτι καὶ ἡ γυνὴ γόνιμον προίεται. Τὰ δ’ αὐτὰ αἴτια, ταὐτὰ συμβαίνει. Καὶ γὰρ οἷς ἢ νόσου ἢ θανάτου δοκεῖ ἑτέρου τὸ αἴτιον, θεωροῦσι τὸ (637b.) τελευταῖον ἐπὶ τὰς ἀρχάς, ὃ δεῖ ὁρᾶν. Τοῖς μὲν γὰρ ταῦτα αἴτια τὰ πρῶτα, τοῖς δ’ οὐδέν, τῶν δὲ τὰ μὲν τὰ δ’ οὔ.

Ἀποδίδωσιν οὖν κατὰ λόγον καὶ τὰ ἀποβαίνοντα· καὶ τοῖς μὲν διὰ πάντων συμβαίνει διελθεῖν τῶν αὐτῶν παθημάτων, τοῖς δὲ διὰ πολλῶν, οἷς πολλά, τοῖς δὲ δι’ ὀλίγων, τοῖς δὲ δι’ οὐδενός, ὅσοις μηδέν.

Φανερὰ δὲ τὰ ζῷά ἐστιν, ὅταν ὀχευθῆναι δέηται. Διώκει γὰρ τὰ ἄρρενα, οἷον αἱ ἀλεκτορίδες διώκουσι καὶ ὑφιζάνουσιν αὐταί, ἐὰν μὴ ὀργᾷ ὁ ἄρρην. Τοῦτο δὲ ποιεῖ καὶ ἄλλα ζῷα. Εἰ δὴ ταὐτὰ πάθη πᾶσι τοῖς ζῴοις φαίνεται ὄντα περὶ τὴν συνουσίαν, δῆλον ὅτι καὶ τὰ αἴτια συμβαίνοντα.

Ἀλλὰ μὴν ἥ γ’ ὄρνις οὐ μόνον τοῦ λαβεῖν ἐπιθυμίαν ἔχει, ἀλλὰ καὶ τοῦ προέσθαι. Σημεῖον δὲ τούτου· ἐὰν γὰρ μὴ παρῇ ὁ ἄρρην, πίπτει ὑπ’ ἄλλην καὶ ἔγκυος γίνεται καὶ τίκτει ὑπηνέμια, ὡς ἐπιθυμοῦσα καὶ τοῦ ἀφεῖναι τότε, καὶ ἀφεῖσα, lt;ὡς> ὅταν καὶ τῷ ἄρρενι ἀνὴρ συνῇ.

Ποιεῖ δὲ τοῦτο καὶ τἆλλα, ἐπειδὴ καὶ τῶν ᾀδουσῶν ἀκρίδων ἤδη τις ἐπειράθη τρέφουσα, ἔτι ἁπαλὰς λαβοῦσα· καὶ ἐγένοντο αὐτόματοι ἔγκυοι. Ἐκ δὴ τούτων δῆλον ὅτι συμβάλλεται εἰς τὸ σπέρμα πᾶν τὸ θῆλυ, εἴ γε καὶ ἐφ’ ἑνὸς γένους φαίνεται τοῦτο γινόμενον. Οὐδὲν γὰρ διαφέρει τὸ ᾠὸν τὸ ὑπηνέμιον τούτου, ἀλλὰ τῷ μὴ γεννᾶν ζῷον. Τοῦτο δ’ ὅτι καὶ παρ’ ἀμφοῖν ἦλθεν. Διὸ οὐδὲ τὰ ἀπὸ τοῦ ἄρρενος ἅπαντα γόνιμα φαίνεται, ἀλλ’ ἔνια ἄγονα, ὅταν μὴ ἐξ ἀμφοῖν ὡς δεῖ συναρμοσθῇ.

Ἔτι γυναῖκες ἐξονειρώττουσι, καὶ ταύταις γίνεται, ὡς ὅταν συγγένωνται ἀνδρί, ταὐτὰ παθήματα μετὰ τὸν ὀνειρωγμόν, διάλυσις καὶ ἀδυναμία. Δῆλον τοίνυν, εἰ ἐν τῷ ἐξονειρωγμῷ φαίνονται προϊέμεναι, καὶ τότε συμβάλλονται, ὅτι μετὰ τοὺς ἐξονειρωγμοὺς ὁ αὐτὸς τόπος ἀφυγραίνεται, καὶ θεραπείας δέονται τῆς αὐτῆς αὐταὶ ὑφ’ αὑτῶν, ὥσπερ ὅταν συγγένωνται ἀνδρί. Ὥστε φανερὸν ὅτι παρ’ ἀμφοῖν γίνεται πρόεσις τοῦ σπέρματος, εἰ μέλλει γόνιμον ἔσεσθαι.

Προΐενται δ’ οὐκ εἰς αὐτὰς αἱ ὑστέραι, ἀλλ’ ἔξω, οὗ καὶ ὁ ἀνήρ· εἶτ’ ἐκεῖθεν ἕλκει εἰς αὑτάς. Ὧν τὰ μὲν γεννᾷ ἀφ’ αὑτῶν τὰ θήλεα, οἷον ὄρνις τὰ ὑπηνέμια, τὰ δ’ οὐδέν, οἷον ἵπποι καὶ πρόβατα. Ἢ ὅτι ἡ μὲν ὄρνις εἰς τὴν ὑστέραν προΐεται, καὶ οὐκ ἔστιν ἔξω τόπος εἰς ὃν ἀφίησιν, οὐδ’ ὁ ἄρρην; Διὸ ἐὰν μὴ τύχῃ ὀχεύων, εἰς τὴν γῆν ἐκχεῖ. Τοῖς δὲ τετράποσιν ἔστιν ἔξω τόπος ἄλλος, εἰς ὃν καὶ τὸ θῆλυ (638a.) προΐεται καὶ τὸ ἄρρεν.

Ὅπερ τοῖς μὲν ἄλλοις μετὰ τῶν ἄλλων ὑγρῶν συγχεῖται, καὶ οὐ συνίσταται ἐν τῇ ὑστέρᾳ διὰ τὸ μὴ εἰσιέναι, τοῖς δ’ ὄρνισι λαβοῦσα ἡ ὑστέρα συμπέττει καὶ σῶμά τι ὅμοιον τἆλλα, πλὴν οὐ ζῷον, διότι δεῖ ἐξ ἀμφοῖν τὸ ζῷον εἶναι.

Ἔστι δ’ ἐνστῆναι εἰ ἀληθῆ λέγουσι φάσκουσαι, ὅταν ἐξονειρώττωσι, ξηραὶ ἀνίστασθαι. Δῆλον γὰρ ὅτι ἕλκει ἡ ὑστέρα ἄνωθεν, ὥστε διὰ τί οὐ γεννᾷ αὐτὰ καθ’ αὑτὰ τὰ θήλεα, ἐπείπερ καὶ μιχθὲν ἕλκει τὸ τοῦ ἄρρενος; Διὰ τί οὐχὶ καὶ ἀμιγὲς τὸ αὑτῆς ἕλκει, ὅπερ εἰς τὸ ἔξω διατείνει;

Αἷς γίνεται τοῦτο τὸ πάθος κυούσαις ἔτη πολλά. Τίκτουσι γὰρ ὃ καλοῦσι μύλην, οἷον συνέβη τινὶ γυναικί. Συγγενομένης τῷ ἀνδρὶ καὶ δοξάσης συλλαβεῖν ὅ τ’ ὄγκος ηὐξάνετο τῆς ὑστέρας καὶ τἆλλα ἐγίνετο τὸ πρῶτον κατὰ λόγον.

Ἐπεὶ δ’ ὁ χρόνος ἦν τοῦ τόκου, οὔτ’ ἔτικτεν οὔθ’ ὁ ὄγκος ἐλάττων ἐγίνετο, ἀλλ’ ἔτη τρία ἢ τέτταρα οὕτω διετέλεσεν, ἕως δυσεντερίας γενομένης καὶ κινδυνευσάσης αὐτῆς ἔτεκε σάρκα εὐμεγέθη, ἣν καλοῦσι μύλην. Ἐνίαις δὲ καὶ συγκαταγηράσκει τὸ πάθος καὶ συναποθνήσκει. Πότερον δὲ διὰ θερμότητα γίνεται τὸ πάθος τοῦτο, ὅταν τύχῃ ἡ ὑστέρα θερμὴ καὶ ξηρὰ οὖσα καὶ διὰ ταῦτα σπαστικὴ πρὸς αὑτήν, καὶ οὕτως ὥστ’ ἔστιν ἀνελέσθαι καὶ φυλάξαι πρὸς αὑτήν; Οὕτω γὰρ ἐχούσαις, ἐὰν μὴ μεμιγμένον ἐστὶ τὸ ἀπ’ ἀμφοῖν, ἀλλ’ ὥσπερ τὸ ὑπηνέμιον ἐνδέξαιτο ἀπὸ θατέρου, τότε γίνεται ἡ καλουμένη μύλη, οὔτε ζῷον, διὰ τὸ μὴ παρ’ ἀμφοῖν, οὔτ’ ἄψυχον, διὰ τὸ ἔμψυχον <τὸ> ληφθὲν εἶναι, ὥσπερ τὰ ὑπηνέμια.

Πολὺν δὲ χρόνον ἐμμένει διά τε τὴν τῆς ὑστέρας διάθεσιν, καὶ διότι ἡ μὲν ὄρνις πολλὰ εἰς αὑτὴν τίκτουσα, ὑπὸ τούτων τεινομένης τῆς ὑστέρας, προάγει καὶ τίκτει· καὶ ὅταν ἅπαξ οἰχθῇ, καὶ τὸ τελευταῖον ἐξέρχεται. Οὐ γάρ ἐστι τὸ εἶργον, ἀλλὰ καὶ τὸ σῶμα προετικὸν γενόμενον, ὅτε ἐπληροῦτο, οὐκέτι τὴν ὑστέραν ποιεῖ ἀντισπαστικήν. Ὅσα δὲ ζῳοφορεῖ, διὰ τὸ μεταβάλλειν τὴν δύναμιν αὐξανομένου καὶ ἄλλοτε ἀλλοίας δεῖσθαι τροφῆς, ἐπιφλεγμαίνουσά τι ἡ ὑστέρα ποιεῖ τακτὸν τὸν τόκον. Ἡ δὲ σάρξ, διὰ τὸ μὴ ζῷον εἶναι, ἀεὶ τῶν ὁμαλῶν.

Δεῖ γὰρ ὃ βαρύνει τὴν ὑστέραν οὐδὲν ποιεῖν φλεγμαίνειν. Ὡς ἐνίαις γε καὶ συναποθνήσκει τὸ πάθος, ἐὰν μή τι εὐτύχημα ἀσθενήματος συμβῇ, οἷον τῇ ληφθείσῃ ὑπὸ τῆς (638b.) δυσεντερίας.

Πότερον δ’ ὥσπερ εἴρηται, διὰ θερμότητα γίνεται τὸ πάθος ἢ μᾶλλον δι’ ὑγρότητα, ὅτι καὶ ἔστι τὸ πλήρωμα οἷον μύει, ἢ ὅταν μὴ οὕτως ᾖ ψυχρὰ ἡ ὑστέρα ὥστε ἀφεῖναι, μηδ’ οὕτω θερμὴ ὥστε πέψαι; Διὸ καὶ χρόνιον τὸ πάθος, ὥσπερ καὶ τὰ ἐν ἑψήσει πολὺν χρόνον διαμένει. Τὰ δ’ ἑψόμενα πέρας ἔχει καὶ ταχυτῆτα. Αἱ δὲ τοιαῦται ὑστέραι ἀκρόταται οὖσαι τὸν χρόνον ποιοῦσι πολύν. Ἔτι δὲ τὸ μὴ ζῷον εἶναι μὴ κινούμενον οὐ ποιεῖ τὴν ὠδῖνα· ἡ γὰρ κίνησις τῶν συνδέσμων ὠδίς ἐστιν, ἣν διὰ τὸ ζῆν <ποιεῖ> προΐεσθαι τὸ ἔμβρυον.

Καὶ ἡ σκληρότης δ’ ἡ γινομένη τοῦ πράγματος μωλύσεως ἔργον ἐστίν. Οὕτω γὰρ γίνεται σκληρὸν ὥστε πελέκει οὐ δύνανται διακόπτειν. Τὰ μὲν οὖν ἑφθὰ καὶ πάντα τὰ πεπεμμένα μαλακὰ γίνεται, τὰ δὲ μεμολυμμένα ἄπεπτα καὶ σκληρά.

Ὅτι πολλοὶ ἰατροὶ ἀγνοοῦντες δι’ ὁμοιότητα μύλας εἶναι τὸ πάθος λέγουσιν, ἂν μόνον ἴδωσι τάς τε κοιλίας ἐπαιρομένας ἄνευ ὕδρωπος καὶ τῶν ἐπιμηνίων σχέσιν, ὅταν χρονίζῃ τοῦτο τὸ πάθος. Τὸ δ’ οὐκ ἔστιν, ἀλλ’ ὀλιγάκις γίνονται αἱ γινόμεναι μύλαι. Ἄλλοτε μὲν σύρρους γίνεται ψυχρῶν καὶ ὑγρῶν περιττωμάτων καὶ ὑδαρῶν, ἄλλοτε δὲ παχυτέρων, εἰς τὸν περὶ τὴν κοιλίαν τόπον, ἐὰν τὴν φύσιν τοιαῦτα ᾖ ἢ τὴν ἕξιν. Ταῦτα γὰρ οὔτ’ ὀδυνηρὰν παρέχει οὔτε θερμότητα διὰ ψυχρότητα. Αὔξησιν δὲ λαβόντα τὰ μὲν μείζω τὰ δ’ ἐλάττω, οὐδεμίαν ἄλλην ἐπισπῶνται νόσον παρ’ ἑαυτά, ἀλλ’ ὥσπερ πήρωμά τι ἡσυχάζει. Ἡ δ’ ἀπόλειψις τῶν καταμηνίων γίνεται διὰ τὸ δεῦρο καταναλίσκεσθαι τὰ περιττώματα, ὥσπερ καὶ ὅταν θηλάζωνται· καὶ γὰρ ταύταις ἢ οὐ γίνεται ἢ ὀλίγα.

Ἔστι δ’ ὅτε καὶ εἰς τὸν μεταξὺ τόπον τῆς ὑστέρας καὶ τῆς κοιλίας συρρέον ἐκ τῆς σαρκὸς δοκεῖ μύλη εἶναι, οὐκ οὖσα. Ἔστι δ’ οὐ χαλεπὸν γνῶναι, ἂν μύλη ᾖ, θιγγάνοντα τῆς ὑστέρας. Ἐὰν γὰρ ᾖ εὐσταλὴς καὶ μὴ ἔχουσα αὔξησιν, δῆλον ὅτι οὐκ ἐν ἐκείνῃ τὸ πάθος. Ἐὰν δὲ τοιαύτη ᾖ οἷον ὅτε παιδίον ἔχει [μύλην], θερμή τε [καὶ ψυχρὰ] καὶ ξηρὰ ἔσται διὰ τὸ εἴσω τετράφθαι τὰ ὑγρά, καὶ τὸ στόμα τοιαύτη οἷον ὅταν κύωσιν. Ἐὰν δέ τι ἄλλο ᾖ ὁ ὄγκος, ἔσται ψυχρὰ θιγγανομένη καὶ οὐ ξηρά, καὶ ἀεὶ τὸ στόμα ὅμοιον.

Περὶ ζῴων μορίων (639a) Parts of Animals

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Βιβλίο 1

Κεφάλαιο 1

(639a.) Περὶ πᾶσαν θεωρίαν τε καὶ μέθοδον, ὁμοίως ταπεινοτέραν τε καὶ τιμιωτέραν, δύο φαίνονται τρόποι τῆς ἕξεως εἶναι, ὧν τὴν μὲν ἐπιστήμην τοῦ πράγματος καλῶς ἔχει προσαγορεύειν, τὴν δ’ οἷον παιδείαν τινά. Πεπαιδευμένου γάρ ἐστι κατὰ τρόπον τὸ δύνασθαι κρῖναι εὐστόχως τί καλῶς ἢ μὴ καλῶς ἀποδίδωσιν ὁ λέγων. Τοιοῦτον γὰρ δή τινα καὶ τὸν ὅλως πεπαιδευμένον οἰόμεθ’ εἶναι, καὶ τὸ πεπαιδεῦσθαι τὸ δύνασθαι ποιεῖν τὸ εἰρημένον. Πλὴν τοῦτον μὲν περὶ πάντων ὡς εἰπεῖν κριτικόν τινα νομίζομεν εἶναι ἕνα τὸν ἀριθμὸν ὄντα, τὸν δὲ περί τινος φύσεως ἀφωρισμένης· εἴη γὰρ ἄν τις ἕτερος τὸν αὐτὸν τρόπον τῷ εἰρημένῳ διακείμενος περὶ μόριον. Ὥστε δῆλον ὅτι καὶ τῆς περὶ φύσιν ἱστορίας δεῖ τινας ὑπάρχειν ὅρους τοιούτους πρὸς οὓς ἀναφέρων ἀποδέξεται τὸν τρόπον τῶν δεικνυμένων, χωρὶς τοῦ πῶς ἔχει τἀληθές, εἴτε οὕτως εἴτε ἄλλως. Λέγω δ’ οἷον πότερον δεῖ λαμβάνοντας μίαν ἑκάστην οὐσίαν περὶ ταύτης διορίζειν καθ’ αὑτήν, οἷον περὶ ἀνθρώπου φύσεως ἢ λέοντος ἢ βοὸς ἢ καί τινος ἄλλου καθ’ ἕκαστον προχειριζομένους, ἢ τὰ κοινῇ συμβεβηκότα πᾶσι κατά τι κοινὸν ὑποθεμένους. Πολλὰ γὰρ ὑπάρχει ταὐτὰ πολλοῖς γένεσιν ἑτέροις οὖσιν ἀλλήλων, οἷον ὕπνος, ἀναπνοή, αὔξησις, φθίσις, θάνατος, καὶ πρὸς τούτοις ὅσα τοιαῦτα τῶν λειπομένων παθῶν τε καὶ διαθέσεων· ἄδηλον γὰρ καὶ ἀδιόριστόν ἐστι λέγειν νῦν περὶ τούτων. Φανερὸν δ’ ὅτι καὶ κατὰ μέρος μὲν λέγοντες περὶ πολλῶν ἐροῦμεν πολλάκις ταὐτά· καὶ γὰρ ἵπποις καὶ κυσὶ καὶ ἀνθρώποις ὑπάρχει τῶν εἰρημένων ἕκαστον, ὥστε ἐὰν καθ’ ἕκαστον τῶν συμβεβηκότων λέγῃ τις, πολλάκις ἀναγκασθήσεται περὶ τῶν αὐτῶν λέγειν, ὅσα ταὐτὰ μὲν ὑπάρχει τοῖς εἴδει διαφέρουσι τῶν ζῴων, αὐτὰ δὲ μηδεμίαν ἔχει διαφοράν. Ἕτερα δὲ ἴσως ἐστὶν οἷς συμβαίνει τὴν μὲν κατηγορίαν ἔχειν τὴν αὐτήν, διαφέρειν (639b.) δὲ τῇ κατ’ εἶδος διαφορᾷ, οἷον ἡ τῶν ζῴων πορεία· οὐ γὰρ φαίνεται μία τῷ εἴδει· διαφέρει γὰρ πτῆσις καὶ νεῦσις καὶ βάδισις καὶ ἕρψις. Διὸ δεῖ μὴ διαλεληθέναι πῶς ἐπισκεπτέον, λέγω δὲ πότερον κοινῇ κατὰ γένος πρῶτον, εἶτα ὕστερον περὶ τῶν ἰδίων θεωρητέον, ἢ καθ’ ἕκαστον εὐθύς. Νῦν γὰρ οὐ διώρισται περὶ αὐτοῦ οὐδέ γε τὸ νῦν ῥηθησόμενον, οἷον πότερον καθάπερ οἱ μαθηματικοὶ τὰ περὶ τὴν ἀστρολογίαν δεικνύουσιν, οὕτω δεῖ καὶ τὸν φυσικὸν τὰ φαινόμενα πρῶτον τὰ περὶ τὰ ζῷα θεωρήσαντα καὶ τὰ μέρη τὰ περὶ ἕκαστον, ἔπειθ’ οὕτω λέγειν τὸ διὰ τί καὶ τὰς αἰτίας, ἢ ἄλλως πως.

Πρὸς δὲ τούτοις, ἐπεὶ πλείους ὁρῶμεν αἰτίας περὶ τὴν γένεσιν τὴν φυσικήν, οἷον τήν τε οὗ ἕνεκα καὶ τὴν ὅθεν ἡ ἀρχὴ τῆς κινήσεως, διοριστέον καὶ περὶ τούτων, ποία πρώτη καὶ δευτέρα πέφυκεν. Φαίνεται δὲ πρώτη, ἣν λέγομεν ἕνεκά τινος· λόγος γὰρ οὗτος, ἀρχὴ δ’ ὁ λόγος ὁμοίως ἔν τε τοῖς κατὰ τέχνην καὶ ἐν τοῖς φύσει συνεστηκόσιν. Ἢ γὰρ τῇ διανοίᾳ ἢ τῇ αἰσθήσει ὁρισάμενος ὁ μὲν ἰατρὸς τὴν ὑγίειαν, ὁ δ’ οἰκοδόμος τὴν οἰκίαν, ἀποδιδόασι τοὺς λόγους καὶ τὰς αἰτίας οὗ ποιοῦσιν ἑκάστου, καὶ διότι ποιητέον οὕτως. Μᾶλλον δ’ ἐστὶ τὸ οὗ ἕνεκα καὶ τὸ καλὸν ἐν τοῖς τῆς φύσεως ἔργοις ἢ ἐν τοῖς τῆς τέχνης. Τὸ δ’ ἐξ ἀνάγκης οὐ πᾶσιν ὑπάρχει τοῖς κατὰ φύσιν ὁμοίως, εἰς ὃ πειρῶνται πάντες σχεδὸν τοὺς λόγους ἀνάγειν, οὐ διελόμενοι ποσαχῶς λέγεται τὸ ἀναγκαῖον. Ὑπάρχει δὲ τὸ μὲν ἁπλῶς τοῖς ἀϊδίοις, τὸ δ’ ἐξ ὑποθέσεως καὶ τοῖς ἐν γενέσει πᾶσιν, ὥσπερ ἐν τοῖς τεχναστοῖς, οἷον οἰκίᾳ καὶ τῶν ἄλλων ὁτῳοῦν τῶν τοιούτων. Ἀνάγκη δὲ τοιάνδε τὴν ὕλην ὑπάρξαι, εἰ ἔσται οἰκία ἢ ἄλλο τι τέλος· καὶ γενέσθαι τε καὶ κινηθῆναι δεῖ τόδε πρῶτον, εἶτα τόδε, καὶ τοῦτον δὴ τὸν τρόπον ἐφεξῆς μέχρι τοῦ τέλους καὶ οὗ ἕνεκα γίνεται ἕκαστον καὶ ἔστιν. Ὡσαύτως δὲ καὶ ἐν τοῖς φύσει γιγνομένοις. Ἀλλ’ ὁ (640a.) τρόπος τῆς ἀποδείξεως καὶ τῆς ἀνάγκης ἕτερος ἐπί τε τῆς φυσικῆς καὶ τῶν θεωρητικῶν ἐπιστημῶν. Εἴρηται δ’ ἐν ἑτέροις περὶ τούτων. Ἡ γὰρ ἀρχὴ τοῖς μὲν τὸ ὄν, τοῖς δὲ τὸ ἐσόμενον· ἐπεὶ γὰρ τοιόνδε ἐστὶν ἡ ὑγίεια ἢ ὁ ἄνθρωπος, ἀνάγκη τόδ’ εἶναι ἢ γενέσθαι, ἀλλ’ οὐκ ἐπεὶ τόδ’ ἐστὶν ἢ γέγονεν, ἐκεῖνο ἐξ ἀνάγκης ἐστὶν ἢ ἔσται. Οὐδ’ ἔστιν εἰς ἀΐδιον συναρτῆσαι τῆς τοιαύτης ἀποδείξεως τὴν ἀνάγκην, ὥστε εἰπεῖν, ἐπεὶ τόδε ἐστίν, ὅτι τόδε ἐστίν. Διώρισται δὲ καὶ περὶ τούτων ἐν ἑτέροις, καὶ ποίοις ὑπάρχει καὶ ποῖα ἀντιστρέφει καὶ διὰ τίν’ αἰτίαν.

Δεῖ δὲ μὴ λεληθέναι καὶ πότερον προσήκει λέγειν, ὥσπερ οἱ πρότερον ἐποιοῦντο τὴν θεωρίαν, πῶς ἕκαστον γίγνεσθαι πέφυκε μᾶλλον ἢ πῶς ἔστιν. Οὐ γάρ τι μικρὸν διαφέρει τοῦτο ἐκείνου.

Ἔοικε δ’ ἐντεῦθεν ἀρκτέον εἶναι, καθάπερ καὶ πρότερον εἴπομεν, ὅτι πρῶτον τὰ φαινόμενα ληπτέον περὶ ἕκαστον γένος, εἶθ’ οὕτω τὰς αἰτίας τούτων λεκτέον, καὶ περὶ γενέσεως· μᾶλλον γὰρ τάδε συμβαίνει καὶ περὶ τὴν οἰκοδόμησιν, ἐπεὶ τοιόνδ’ ἐστὶ τὸ εἶδος τῆς οἰκίας, ἢ τοιόνδ’ ἐστὶν ἡ οἰκία, ὅτι γίνεται οὕτως. Ἡ γὰρ γένεσις ἕνεκα τῆς οὐσίας ἐστίν, ἀλλ’ οὐχ ἡ οὐσία ἕνεκα τῆς γενέσεως. Διόπερ Ἐμπεδοκλῆς οὐκ ὀρθῶς εἴρηκε λέγων ὑπάρχειν πολλὰ τοῖς ζῴοις διὰ τὸ συμβῆναι οὕτως ἐν τῇ γενέσει, οἷον καὶ τὴν ῥάχιν τοιαύτην ἔχειν, ὅτι στραφέντος καταχθῆναι συνέβη, ἀγνοῶν πρῶτον μὲν ὅτι δεῖ τὸ σπέρμα τὸ συνιστὰν ὑπάρχειν τοιαύτην ἔχον δύναμιν, εἶτα ὅτι τὸ ποιῆσαν πρότερον ὑπῆρχεν οὐ μόνον τῷ λόγῳ ἀλλὰ καὶ τῷ χρόνῳ· γεννᾷ γὰρ ὁ ἄνθρωπος ἄνθρωπον, ὥστε διὰ τὸ ἐκεῖνον τοιόνδ’ εἶναι ἡ γένεσις τοιάδε συμβαίνει τῳδί.

Ὁμοίως δὲ καὶ ἐπὶ τῶν αὐτομάτως δοκούντων γίνεσθαι, καθάπερ καὶ ἐπὶ τῶν τεχναστῶν· ἔνια γὰρ καὶ ἀπὸ ταὐτομάτου γίνεται ταὐτὰ τοῖς ἀπὸ τέχνης, οἷον ὑγίεια. Τῶν μὲν οὖν προϋπάρχει τὸ ποιητικὸν ὅμοιον, οἷον ἀνδριαντοποιητική· οὐ γὰρ γίνεται αὐτόματον. Ἡ δὲ τέχνη λόγος τοῦ ἔργου ὁ ἄνευ τῆς ὕλης ἐστίν. Καὶ τοῖς ἀπὸ <τέχνης τὰ ἀπὸ> τύχης ὁμοίως· ὡς γὰρ ἡ τέχνη ἔχει, οὕτω γίνεται. Διὸ μάλιστα μὲν λεκτέον ὡς ἐπειδὴ τοῦτ’ ἦν τὸ ἀνθρώπῳ εἶναι, διὰ τοῦτο ταῦτ’ ἔχει· οὐ γὰρ ἐνδέχεται εἶναι ἄνευ τῶν μορίων τούτων. Εἰ δὲ μή, ὅτι ἐγγύτατα τούτου, καὶ ἢ ὅλως (ὅτι ἀδύνατον ἄλλως) ἢ καλῶς γε (640b.) οὕτως. Ταῦτα δ’ ἕπεται. Ἐπεὶ δ’ ἐστὶ τοιοῦτον, τὴν γένεσιν ὡδὶ καὶ τοιαύτην συμβαίνειν ἀναγκαῖον. Διὸ γίνεται πρῶτον τῶν μορίων τόδε, εἶτα τόδε. Καὶ τοῦτον δὴ τὸν τρόπον ὁμοίως ἐπὶ πάντων τῶν φύσει συνισταμένων. Οἱ μὲν οὖν ἀρχαῖοι καὶ πρῶτοι φιλοσοφήσαντες περὶ φύσεως περὶ τῆς ὑλικῆς ἀρχῆς καὶ τῆς τοιαύτης αἰτίας ἐσκόπουν, τίς καὶ ποία τις, καὶ πῶς ἐκ ταύτης γίνεται τὸ ὅλον, καὶ τίνος κινοῦντος, οἷον νείκους ἢ φιλίας ἢ νοῦ ἢ τοῦ αὐτομάτου, τῆς δ’ ὑποκειμένης ὕλης τοιάνδε τινὰ φύσιν ἐχούσης ἐξ ἀνάγκης, οἷον τοῦ μὲν πυρὸς θερμήν, τῆς δὲ γῆς ψυχράν, καὶ τοῦ μὲν κούφην, τῆς δὲ βαρεῖαν. Οὕτως γὰρ καὶ τὸν κόσμον γεννῶσιν. Ὁμοίως δὲ καὶ περὶ τὴν τῶν ζῴων καὶ τῶν φυτῶν γένεσιν λέγουσιν, οἷον ὅτι ἐν τῷ σώματι ῥέοντος μὲν τοῦ ὕδατος κοιλίαν γενέσθαι καὶ πᾶσαν ὑποδοχὴν τῆς τε τροφῆς καὶ τοῦ περιττώματος, τοῦ δὲ πνεύματος διαπορευθέντος τοὺς μυκτῆρας ἀναρραγῆναι. Ὁ δ’ ἀὴρ καὶ τὸ ὕδωρ ὕλη τῶν σωμάτων ἐστίν· ἐκ τῶν τοιούτων γὰρ σωμάτων συνιστᾶσι τὴν φύσιν πάντες. Εἰ δ’ ἔστιν ὁ ἄνθρωπος καὶ τὰ ζῷα φύσει καὶ τὰ μόρια αὐτῶν, λεκτέον ἂν περὶ σαρκὸς εἴη καὶ ὀστοῦ καὶ αἵματος καὶ τῶν ὁμοιομερῶν ἁπάντων. Ὁμοίως δὲ καὶ τῶν ἀνομοιομερῶν, οἷον προσώπου, χειρός, ποδός, ᾗ τε τοιοῦτον ἕκαστόν ἐστιν αὐτῶν καὶ κατὰ ποίαν δύναμιν. Οὐ γὰρ ἱκανὸν τὸ ἐκ τίνων ἐστίν, οἷον πυρὸς ἢ γῆς, ὥσπερ κἂν εἰ περὶ κλίνης ἐλέγομεν ἤ τινος ἄλλου τῶν τοιούτων, ἐπειρώμεθα μᾶλλον ἂν διορίζειν τὸ εἶδος αὐτῆς ἢ τὴν ὕλην, οἷον τὸν χαλκὸν ἢ τὸ ξύλον· εἰ δὲ μή, τήν γε τοῦ συνόλου· κλίνη γὰρ τόδε ἐν τῷδε ἢ τόδε τοιόνδε, ὥστε κἂν περὶ τοῦ σχήματος εἴη λεκτέον, καὶ ποῖον τὴν ἰδέαν. Ἡ γὰρ κατὰ τὴν μορφὴν φύσις κυριωτέρα τῆς ὑλικῆς φύσεως. Εἰ μὲν οὖν τῷ σχήματι καὶ τῷ χρώματι ἕκαστόν ἐστι τῶν τε ζῴων καὶ τῶν μορίων, ὀρθῶς ἂν

Δημόκριτος λέγοι· φαίνεται γὰρ οὕτως ὑπολαβεῖν. Φησὶ γοῦν παντὶ δῆλον εἶναι οἷόν τι τὴν μορφήν ἐστιν ὁ ἄνθρωπος, ὡς ὄντος αὐτοῦ τῷ τε σχήματι καὶ τῷ χρώματι γνωρίμου. Καίτοι καὶ ὁ τεθνεὼς ἔχει τὴν αὐτὴν τοῦ σχήματος μορφήν, ἀλλ’ ὅμως οὐκ ἔστιν ἄνθρωπος. Ἔτι δ’ ἀδύνατον εἶναι χεῖρα ὁπωσοῦν διακειμένην, οἷον χαλκῆν ἢ ξυλίνην, πλὴν (641a.) ὁμωνύμως, ὥσπερ τὸν γεγραμμένον ἰατρόν. Οὐ γὰρ δυνήσεται ποιεῖν τὸ ἑαυτῆς ἔργον, ὥσπερ οὐδ’ αὐλοὶ λίθινοι τὸ ἑαυτῶν ἔργον, οὐδ’ ὁ γεγραμμένος ἰατρός. Ὁμοίως δὲ τούτοις οὐδὲ τῶν τοῦ τεθνηκότος μορίων οὐδὲν ἔτι τῶν τοιούτων ἐστί, λέγω δ’ οἷον ὀφθαλμός, χείρ. Λίαν οὖν ἁπλῶς εἴρηται, καὶ τὸν αὐτὸν τρόπον ὥσπερ ἂν εἰ τέκτων λέγοι περὶ χειρὸς ξυλίνης.

Οὕτως γὰρ καὶ οἱ φυσιολόγοι τὰς γενέσεις καὶ τὰς αἰτίας τοῦ σχήματος λέγουσιν· ὑπό τινων γὰρ ἐδημιουργήθησαν δυνάμεων. Ἀλλ’ ἴσως ὁ μὲν τέκτων ἐρεῖ πέλεκυν ἢ τρύπανον, ὁ δ’ ἀέρα καὶ γῆν, πλὴν βέλτιον ὁ τέκτων· οὐ γὰρ ἱκανὸν ἔσται αὐτῷ τὸ τοσοῦτον εἰπεῖν, ὅτι ἐμπεσόντος τοῦ ὀργάνου τὸ μὲν κοῖλον ἐγένετο τὸ δὲ ἐπίπεδον, ἀλλὰ διότι τὴν πληγὴν ἐποιήσατο τοιαύτην, καὶ τίνος ἕνεκα, ἐρεῖ τὴν αἰτίαν, ὅπως τοιόνδε ἢ τοιόνδε ποτὲ τὴν μορφὴν γένηται.

Δῆλον τοίνυν ὅτι οὐκ ὀρθῶς λέγουσι, καὶ ὅτι λεκτέον ὡς τοιοῦτον τὸ ζῷον, καὶ περὶ ἐκείνου, καὶ τί καὶ ποῖόν τι, καὶ τῶν μορίων ἕκαστον, ὥσπερ καὶ περὶ τοῦ εἴδους τῆς κλίνης. Εἰ δὴ τοῦτό ἐστι ψυχὴ ἢ ψυχῆς μέρος ἢ μὴ ἄνευ ψυχῆς (ἀπελθούσης γοῦν οὐκέτι ζῷόν ἐστιν, οὐδὲ τῶν μορίων οὐδὲν τὸ αὐτὸ λείπεται, πλὴν τῷ σχήματι μόνον, καθάπερ τὰ μυθευόμενα λιθοῦσθαι), εἰ δὴ ταῦτα οὕτως, τοῦ φυσικοῦ περὶ ψυχῆς ἂν εἴη λέγειν καὶ εἰδέναι, καὶ εἰ μὴ πάσης, κατ’ αὐτὸ τοῦτο καθ’ ὃ τοιοῦτο τὸ ζῷον, καὶ τί ἐστιν ἡ ψυχή, ἢ αὐτὸ τοῦτο τὸ μόριον, καὶ περὶ τῶν συμβεβηκότων κατὰ τὴν τοιαύτην αὐτῆς οὐσίαν, ἄλλως τε καὶ τῆς φύσεως διχῶς λεγομένης καὶ οὔσης τῆς μὲν ὡς ὕλης τῆς δ’ ὡς οὐσίας. Καὶ ἔστιν αὕτη καὶ ὡς ἡ κινοῦσα καὶ ὡς τὸ τέλος.

Τοιοῦτον δὲ τοῦ ζῴου ἤτοι πᾶσα ἡ ψυχὴ ἢ μέρος τι αὐτῆς. Ὥστε καὶ οὕτως ἂν λεκτέον εἴη τῷ περὶ φύσεως θεωρητικῷ περὶ ψυχῆς μᾶλλον ἢ περὶ τῆς ὕλης, ὅσῳ μᾶλλον ἡ ὕλη δι’ ἐκείνην φύσις ἐστὶν ἤ περ ἀνάπαλιν. Καὶ γὰρ κλίνη καὶ τρίπους τὸ ξύλον ἐστίν, ὅτι δυνάμει ταῦτά ἐστιν. Ἀπορήσειε δ’ ἄν τις εἰς τὸ νῦν λεχθὲν ἐπιβλέψας, πότερον περὶ πάσης ψυχῆς τῆς φυσικῆς ἐστι τὸ εἰπεῖν ἢ περί τινος. Εἰ γὰρ περὶ πάσης, οὐδεμία λείπεται παρὰ τὴν φυσικὴν ἐπιστήμην φιλοσοφία. Ὁ γὰρ νοῦς τῶν νοητῶν. Ὥστε περὶ (641b.) πάντων ἡ φυσικὴ γνῶσις ἂν εἴη· τῆς γὰρ αὐτῆς περὶ νοῦ καὶ τοῦ νοητοῦ θεωρῆσαι, εἴπερ πρὸς ἄλληλα, καὶ ἡ αὐτὴ θεωρία τῶν πρὸς ἄλληλα πάντων, καθάπερ καὶ περὶ αἰσθήσεως καὶ τῶν αἰσθητῶν. Ἢ οὐκ ἔστι πᾶσα ἡ ψυχὴ κινήσεως ἀρχή, οὐδὲ τὰ μόρια ἅπαντα, ἀλλ’ αὐξήσεως μὲν ὅπερ καὶ ἐν τοῖς φυτοῖς, ἀλλοιώσεως δὲ τὸ αἰσθητικόν, φορᾶς δ’ ἕτερόν τι καὶ οὐ τὸ νοητικόν· ὑπάρχει γὰρ ἡ φορὰ καὶ ἐν ἑτέροις τῶν ζῴων, διάνοια δ’ οὐδενί. Δῆλον οὖν ὡς οὐ περὶ πάσης ψυχῆς λεκτέον· οὐδὲ γὰρ πᾶσα ψυχὴ φύσις, ἀλλά τι μόριον αὐτῆς ἓν ἢ καὶ πλείω.

Ἔτι δὲ τῶν ἐξ ἀφαιρέσεως οὐδενὸς οἷόν τ’ εἶναι τὴν φυσικὴν θεωρητικήν, ἐπειδὴ ἡ φύσις ἕνεκά του ποιεῖ πάντα. Φαίνεται γάρ, ὥσπερ ἐν τοῖς τεχναστοῖς ἐστιν ἡ τέχνη, οὕτως ἐν αὐτοῖς τοῖς πράγμασιν ἄλλη τις ἀρχὴ καὶ αἰτία τοιαύτη, ἣν ἔχομεν καθάπερ τὸ θερμὸν καὶ τὸ ψυχρὸν ἐκ τοῦ παντός. Διὸ μᾶλλον εἰκὸς τὸν οὐρανὸν γεγενῆσθαι ὑπὸ τοιαύτης αἰτίας, εἰ γέγονε, καὶ εἶναι διὰ τοιαύτην αἰτίαν μᾶλλον ἢ τὰ ζῷα τὰ θνητά· τὸ γοῦν τεταγμένον καὶ τὸ ὡρισμένον πολὺ μᾶλλον φαίνεται ἐν τοῖς οὐρανίοις ἢ περὶ ἡμᾶς, τὸ δ’ ἄλλοτ’ ἄλλως καὶ ὡς ἔτυχε περὶ τὰ θνητὰ μᾶλλον. Οἱ δὲ τῶν μὲν ζῴων ἕκαστον φύσει φασὶν εἶναι καὶ γενέσθαι, τὸν δ’ οὐρανὸν ἀπὸ τύχης καὶ τοῦ αὐτομάτου τοιοῦτον συστῆναι, ἐν ᾧ ἀπὸ τύχης καὶ ἀταξίας οὐδ’ ὁτιοῦν φαίνεται. Πανταχοῦ δὲ λέγομεν τόδε τοῦδε ἕνεκα, ὅπου ἂν φαίνηται τέλος τι πρὸς ὃ ἡ κίνησις περαίνει μηδενὸς ἐμποδίζοντος. Ὥστε εἶναι φανερὸν ὅτι ἔστι τι τοιοῦτον, ὃ δὴ καὶ καλοῦμεν φύσιν. Οὐ γὰρ δὴ ὅ τι ἔτυχεν ἐξ ἑκάστου γίνεται σπέρματος, ἀλλὰ τόδε ἐκ τοῦδε, οὐδὲ σπέρμα τὸ τυχὸν ἐκ τοῦ τυχόντος σώματος.

Ἀρχὴ ἄρα καὶ ποιητικὸν τοῦ ἐξ αὐτοῦ τὸ σπέρμα. Φύσει γὰρ ταῦτα· φύεται γοῦν ἐκ τούτου. Ἀλλὰ μὴν ἔτι τούτου πρότερον τὸ οὗ τὸ σπέρμα· γένεσις μὲν γὰρ τὸ σπέρμα, οὐσία δὲ τὸ τέλος. Ἀμφοῖν δ’ ἔτι πρότερον, ἀφ’ οὗ ἐστι τὸ σπέρμα. Ἔστι γὰρ τὸ σπέρμα διχῶς, ἐξ οὗ τε καὶ οὗ· καὶ γὰρ ἀφ’ οὗ ἀπῆλθε, τούτου σπέρμα, οἷον ἵππου, καὶ τούτου ὃ ἔσται ἐξ αὐτοῦ, οἷον ὀρέως, τρόπον δ’ οὐ τὸν αὐτόν, ἀλλ’ ἑκατέρου τὸν εἰρημένον. Ἔτι δὲ δυνάμει τὸ σπέρμα· (642a.) δύναμις δ’ ὡς ἔχει πρὸς ἐντελέχειαν, ἴσμεν.

Εἰσὶν ἄρα δύ’ γὰρ γίνεται, ὅτι ἀνάγκη. Ἴσως δ’ ἄν τις ἀπορήσειε ποίαν λέγουσιν ἀνάγκην οἱ λέγοντες ἐξ ἀνάγκης· τῶν μὲν γὰρ δύο τρόπων οὐδέτερον οἷόν τε ὑπάρχειν, τῶν διωρισμένων ἐν τοῖς κατὰ φιλοσοφίαν. Ἔστι δ’ ἔν γε τοῖς ἔχουσι γένεσιν ἡ τρίτη· λέγομεν γὰρ τὴν τροφὴν ἀναγκαῖόν τι κατ’ οὐδέτερον τούτων τῶν τρόπων, ἀλλ’ ὅτι οὐχ οἷόν τ’ ἄνευ ταύτης εἶναι.

Τοῦτο δ’ ἐστὶν ὥσπερ ἐξ ὑποθέσεως· ὥσπερ γὰρ ἐπεὶ δεῖ σχίζειν τῷ πελέκει, ἀνάγκη σκληρὸν εἶναι, εἰ δὲ σκληρόν, χαλκοῦν ἢ σιδηροῦν, οὕτως καὶ ἐπεὶ τὸ σῶμα ὄργανον (ἕνεκά τινος γὰρ ἕκαστον τῶν μορίων, ὁμοίως δὲ καὶ τὸ ὅλον), ἀνάγκη ἄρα τοιονδὶ εἶναι καὶ ἐκ τοιωνδί, εἰ ἐκεῖνο ἔσται.

Ὅτι μὲν οὖν δύο τρόποι τῆς αἰτίας, καὶ δεῖ λέγοντας τυγχάνειν μάλιστα μὲν ἀμφοῖν, εἰ δὲ μή, δῆλόν γε πειρᾶσθαι ποιεῖν, καὶ ὅτι πάντες οἱ τοῦτο μὴ λέγοντες οὐδὲν ὡς εἰπεῖν περὶ φύσεως λέγουσιν· ἀρχὴ γὰρ ἡ φύσις μᾶλλον τῆς ὕλης.

Ἐνιαχοῦ δέ που αὐτῇ καὶ Ἐμπεδοκλῆς περιπίπτει, ἀγόμενος ὑπ' αὐτῆς τῆς ἀληθείας, καὶ τὴν οὐσίαν καὶ τὴν φύσιν ἀναγκάζεται φάναι τὸν λόγον εἶναι, οἷον ὀστοῦν ἀποδιδοὺς τί ἐστιν· οὔτε γὰρ ἕν τι τῶν στοιχείων λέγει αὐτὸ οὔτε δύο ἢ τρία οὔτε πάντα, ἀλλὰ λόγον τῆς μίξεως αὐτῶν. Δῆλον τοίνυν ὅτι καὶ ἡ σὰρξ τὸν αὐτὸν τρόπον ἐστί, καὶ τῶν ἄλλων τῶν τοιούτων μορίων ἕκαστον. Αἴτιον δὲ τοῦ μὴ ἐλθεῖν τοὺς προγενεστέρους ἐπὶ τὸν τρόπον τοῦτον, ὅτι τὸ τί ἦν εἶναι καὶ τὸ ὁρίσασθαι τὴν οὐσίαν οὐκ ἦν, ἀλλ' ἥψατο μὲν Δημόκριτος πρῶτος, ὡς οὐκ ἀναγκαίου δὲ τῇ φυσικῇ θεωρίᾳ, ἀλλ' ἐκφερόμενος ὑπ' αὐτοῦ τοῦ πράγματος, ἐπὶ Σωκράτους δὲ τοῦτο μὲν ηὐξήθη, τὸ δὲ ζητεῖν τὰ περὶ φύσεως ἔληξε, πρὸς δὲ τὴν χρήσιμον ἀρετὴν καὶ τὴν πολιτικὴν ἀπέκλιναν οἱ φιλοσοφοῦντες. Δεικτέον δ' οὕτως, οἷον ὅτι ἔστι μὲν ἡ ἀναπνοὴ τουδὶ χάριν, τοῦτο δὲ γίγνεται διὰ τάδε ἐξ ἀνάγκης. Ἡ δ' ἀνάγκη ὁτὲ μὲν σημαίνει ὅτι εἰ ἐκεῖνο ἔσται τὸ οὗ ἕνεκα, ταῦτα ἀνάγκη ἐστὶν ἔχειν, ὁτὲ δ' ὅτι ἔστιν οὕτως ἔχοντα καὶ πεφυκότα. Τὸ θερμὸν γὰρ ἀναγκαῖον ἐξιέναι καὶ πάλιν εἰσιέναι ἀντικροῦον, τὸν δ' ἀέρα εἰσρεῖν. Τοῦτο δ' ἤδη ἀναγκαῖόν ἐστιν. (642b.) Τοῦ ἐντὸς δὲ θερμοῦ ἀντικόπτοντος, ἐν τῇ ψύξει τοῦ θύραθεν ἀέρος ἡ εἴσοδος.

Ὁ μὲν οὖν τρόπος οὗτος ὁ τῆς μεθόδου, καὶ περὶ ὧν δεῖ λαβεῖν τὰς αἰτίας, ταῦτα καὶ τοιαῦτά ἐστιν.

Κεφάλαιο 2

Λαμβάνουσι δ’ ἔνιοι τὸ καθ’ ἕκαστον, διαιρούμενοι τὸ γένος εἰς δύο διαφοράς. Τοῦτο δ’ ἐστὶ τῇ μὲν οὐ ῥᾴδιον, τῇ δὲ ἀδύνατον. Ἐνίων γὰρ ἔσται διαφορὰ μία μόνη, τὰ δ’ ἄλλα περίεργα, οἷον ὑπόπουν, δίπουν, σχιζόπουν· αὕτη γὰρ μόνη κυρία. Εἰ δὲ μή, ταὐτὸν πολλάκις ἀναγκαῖον λέγειν.

Ἔτι δὲ προσήκει μὴ διασπᾶν ἕκαστον γένος, οἷον τοὺς ὄρνιθας τοὺς μὲν ἐν τῇδε, τοὺς δ’ ἐν ἄλλῃ διαιρέσει, καθάπερ ἔχουσιν αἱ γεγραμμέναι διαιρέσεις· ἐκεῖ γὰρ τοὺς μὲν μετὰ τῶν ἐνύδρων συμβαίνει διῃρῆσθαι, τοὺς δ’ ἐν ἄλλῳ γένει. Ταύτῃ μὲν οὖν τῇ ὁμοιότητι ὄρνις ὄνομα κεῖται, ἑτέρᾳ δ’ ἰχθύς.

Ἄλλαι δ’ εἰσὶν ἀνώνυμοι, οἷον τὸ ἔναιμον καὶ τὸ ἄναιμον· ἐφ’ ἑκατέρῳ γὰρ τούτων οὐ κεῖται ἓν ὄνομα. Εἴπερ οὖν μηδὲν τῶν ὁμογενῶν διασπαστέον, ἡ εἰς δύο διαίρεσις μάταιος ἂν εἴη· οὕτως γὰρ διαιροῦντας ἀναγκαῖον χωρίζειν καὶ διασπᾶν· τῶν πολυπόδων γάρ ἐστι τὰ μὲν ἐν τοῖς πεζοῖς τὰ δ’ ἐν τοῖς ἐνύδροις.

Κεφάλαιο 3

Ἔτι στερήσει μὲν ἀναγκαῖον διαιρεῖν, καὶ διαιροῦσιν οἱ διχοτομοῦντες. Οὐκ ἔστι δὲ διαφορὰ στερήσεως ᾗ στέρησις· ἀδύνατον γὰρ εἴδη εἶναι τοῦ μὴ ὄντος, οἷον τῆς ἀποδίας ἢ τοῦ ἀπτέρου ὥσπερ πτερώσεως καὶ ποδῶν. Δεῖ δὲ τῆς καθόλου διαφορᾶς εἴδη εἶναι· εἰ γὰρ μὴ ἔσται, διὰ τί ἂν εἴη τῶν καθόλου καὶ οὐ τῶν καθ' ἕκαστον; Τῶν δὲ διαφορῶν αἱ μὲν καθόλου εἰσὶ καὶ ἔχουσιν εἴδη, οἷον πτερότης· τὸ μὲν γὰρ ἄσχιστον τὸ δ' ἐσχισμένον ἐστὶ πτερόν. Καὶ ποδότης ὡσαύτως ἡ μὲν πολυσχιδής, ἡ δὲ δισχιδής, οἷον τὰ διχαλά, ἡ δ' ἀσχιδὴς καὶ ἀδιαίρετος, οἷον τὰ μώνυχα. Χαλεπὸν μὲν οὖν διαλαβεῖν καὶ εἰς τοιαύτας διαφορὰς ὧν ἔστιν εἴδη, ὥσθ' ὁτιοῦν ζῷον ἐν ταύταις ὑπάρχειν καὶ μὴ ἐν πλείοσι ταὐτόν, οἷον πτερωτὸν καὶ ἄπτερον (ἔστι γὰρ ἄμφω ταὐτόν, οἷον μύρμηξ καὶ λαμπυρὶς καὶ ἕτερά τινα), πάντων δὲ χαλεπώτατον ἢ ἀδύνατον εἰς τὰ ἀντικείμενα. Ἀναγκαῖον γὰρ τῶν καθ' ἕκαστον ὑπάρχειν τινὶ τῶν διαφορῶν ἑκάστην, ὥστε καὶ τὴν (643a.) ἀντικειμένην. Εἰ δὲ μὴ ἐνδέχεται τοῖς εἴδει διαφέρουσιν ὑπάρχειν εἶδός τι τῆς οὐσίας ἄτομον καὶ ἕν, ἀλλ' ἀεὶ διαφορὰν ἕξει (οἷον ὄρνις ἀνθρώπου· ἡ διποδία γὰρ ἄλλη καὶ διάφορος· κἂν εἰ ἔναιμα, τὸ αἷμα διάφορον, ἢ οὐδὲν τῆς οὐσίας τὸ αἷμα θετέον· εἰ δ' οὕτως ἐστίν, ἡ μία διαφορὰ δυσὶν ὑπάρξει)· εἰ δὲ τοῦτο, δῆλον ὅτι ἀδύνατον στέρησιν εἶναι διαφοράν. Ἔσονται δ' αἱ διαφοραὶ ἴσαι τοῖς ἀτόμοις ζῴοις, εἴπερ ἄτομά τε ταῦτα καὶ αἱ διαφοραὶ ἄτομοι, κοινὴ δὲ μὴ ἔστιν.

Εἰ δ' ἐνδέχεται μὴ ὑπάρχειν † .... καὶ κοινήν, ἄτομον δέ, δῆλον ὅτι κατά γε τὴν κοινὴν ἐν τῷ αὐτῷ ἐστιν, ἕτερα ὄντα τῷ εἴδει ζῷα. Ὥστ' ἀναγκαῖον, εἰ ἴδιοι αἱ διαφοραὶ εἰς ἃς ἅπαντα ἐμπίπτει τὰ ἄτομα, μηδεμίαν αὐτῶν εἶναι κοινήν.

Εἰ δὲ μή, ἕτερα ὄντα εἰς τὴν αὐτὴν βαδιεῖται. Δεῖ δ' οὔτε τὸ αὐτὸ καὶ ἄτομον εἰς ἑτέραν καὶ ἑτέραν ἰέναι διαφορὰν τῶν διῃρημένων, οὔτ' εἰς τὴν αὐτὴν ἕτερα, καὶ ἅπαντα εἰς ταύτας.

Φανερὸν τοίνυν ὅτι οὐκ ἔστι λαβεῖν τὰ ἄτομα εἴδη ὡς διαιροῦνται οἱ εἰς δύο διαιροῦντες τὰ ζῷα ἢ καὶ ἄλλο ὁτιοῦν γένος. Καὶ γὰρ κατ' ἐκείνους ἀναγκαῖον ἴσας τὰς ἐσχάτας εἶναι διαφορὰς τοῖς ζῴοις πᾶσι τοῖς ἀτόμοις τῷ εἴδει. Ὄντος γὰρ τοῦδέ τινος γένους, οὗ διαφοραὶ πρῶται τὰ λευκά, τούτων

δ’ ἑκατέρου ἄλλαι, καὶ οὕτως εἰς τὸ πρόσω ἕως τῶν ἀτόμων, αἱ τελευταῖαι τέτταρες ἔσονται ἢ ἄλλο τι πλῆθος τῶν ἀφ’ ἑνὸς διπλασιαζομένων· τοσαῦτα δὲ καὶ τὰ εἴδη. Ἔστι δ’ ἡ διαφορὰ τὸ εἶδος ἐν τῇ ὕλῃ. Οὔτε γὰρ ἄνευ ὕλης οὐδὲν ζῴου μόριον, οὔτε μόνη ἡ ὕλη· οὐ γὰρ πάντως ἔχον σῶμα ἔσται ζῷον, οὐδὲ τῶν μορίων οὐδέν, ὥσπερ πολλάκις εἴρηται. Ἔτι διαιρεῖν χρὴ τοῖς ἐν τῇ οὐσίᾳ καὶ μὴ τοῖς συμβεβηκόσι καθ’ αὑτό, οἷον εἴ τις τὰ σχήματα διαιροίη, ὅτι τὰ μὲν δυσὶν ὀρθαῖς ἴσας ἔχει τὰς γωνίας, τὰ δὲ πλείοσιν· συμβεβηκὸς γάρ τι τῷ τριγώνῳ τὸ δυσὶν ὀρθαῖς ἴσας ἔχειν τὰς γωνίας. Ἔτι τοῖς ἀντικειμένοις διαιρεῖν. Διάφορα γὰρ ἀλλήλοις τἀντικείμενα, οἷον λευκότης καὶ μελανία καὶ εὐθύτης καὶ καμπυλότης. Ἐὰν οὖν θάτερα διάφορα ᾖ, τῷ ἀντικειμένῳ διαιρετέον καὶ μὴ τὸ μὲν νεύσει τὸ δὲ χρώματι, πρὸς δὲ τούτοις τά γ’ ἔμψυχα τοῖς κοινοῖς ἔργοις τοῦ σώματος καὶ τῆς ψυχῆς, οἷον καὶ ἐν ταῖς ῥηθείσαις νῦν (643b.) πορευτικὰ καὶ πτηνά· ἔστι γάρ τινα γένη οἷς ἄμφω ὑπάρχει καὶ ἔστι πτηνὰ καὶ ἄπτερα, καθάπερ τὸ τῶν μυρμήκων γένος. Καὶ τῷ ἀγρίῳ καὶ τῷ ἡμέρῳ διαιρεῖσθαι· ὡσαύτως γὰρ ἂν δόξειε ταὐτὰ εἴδη διαιρεῖν. Πάντα γὰρ ὡς εἰπεῖν, ὅσα ἥμερα καὶ ἄγρια τυγχάνει ὄντα, οἷον ἄνθρωποι, ἵπποι, βόες, κύνες ἐν τῇ Ἰνδικῇ, ὕες, αἶγες, πρόβατα· ὧν ἕκαστον, εἰ μὲν ὁμώνυμον, οὐ διῄρηται χωρίς, εἰ δὲ ταῦτα ἓν εἴδει, οὐχ οἷόν τ’ εἶναι διαφορὰς τὸ ἄγριον καὶ τὸ ἥμερον.

Ὅλως δ’ ὁποιονοῦν διαφορᾷ μιᾷ διαιροῦντι τοῦτο συμβαίνειν ἀναγκαῖον. Ἀλλὰ δεῖ πειρᾶσθαι λαμβάνειν κατὰ γένη τὰ ζῷα, ὡς ὑφήγηνθ’ οἱ πολλοὶ διορίσαντες ὄρνιθος γένος καὶ ἰχθύος. Τούτων δ’ ἕκαστον πολλαῖς ὥρισται διαφοραῖς, οὐ κατὰ τὴν διχοτομίαν. Οὕτω μὲν γὰρ ἤτοι τὸ παράπαν οὐκ ἔστι λαβεῖν (τὸ αὐτὸ γὰρ εἰς πλείους ἐμπίπτει διαιρέσεις καὶ τὰ ἐναντία εἰς τὴν αὐτήν), ἢ μία μόνον διαφορὰ ἔσται, καὶ αὕτη ἤτοι ἁπλῆ, ἢ ἐκ συμπλοκῆς τὸ τελευταῖον ἔσται εἶδος. Ἐὰν δὲ μὴ διαφορᾶς λαμβάνῃ τὴν διαφοράν, ἀναγκαῖον ὥσπερ συνδέσμῳ τὸν λόγον ἕνα ποιοῦντας, οὕτω καὶ τὴν διαίρεσιν συνεχῆ ποιεῖν. Λέγω δ’ οἷον συμβαίνει τοῖς διαιρουμένοις τὸ μὲν ἄπτερον τὸ δὲ πτερωτόν, πτερωτοῦ δὲ τὸ μὲν ἥμερον τὸ δ’ ἄγριον, ἢ τὸ μὲν λευκὸν τὸ δὲ μέλαν· οὐ γὰρ διαφορὰ τοῦ πτερωτοῦ τὸ ἥμερον οὐδὲ τὸ λευκόν, ἀλλ’ ἑτέρας ἀρχὴ διαφορᾶς, ἐκεῖ δὲ κατὰ συμβεβηκός. Διὸ πολλαῖς τὸ ἓν εὐθέως διαιρετέον, ὥσπερ λέγομεν. Καὶ γὰρ οὕτως μὲν αἱ στερήσεις ποιήσουσι διαφοράν, ἐν δὲ τῇ διχοτομίᾳ οὐ ποιήσουσιν. Ὅτι δ’ οὐκ ἐνδέχεται τῶν καθ’ ἕκαστον εἰδῶν λαμβάνειν οὐδὲν διαιροῦσι δίχα τὸ γένος, ὥσπερ τινὲς ᾠήθησαν, καὶ ἐκ τῶνδε φανερόν. Ἀδύνατον γὰρ μίαν ὑπάρχειν διαφορὰν τῶν καθ’ ἕκαστον διαιρετῶν, ἐάν τε ἁπλᾶ λαμβάνῃ ἐάν τε συμπεπλεγμένα (λέγω δὲ ἁπλᾶ μέν, ἐὰν μὴ ἔχῃ διαφοράν, οἷον τὴν σχιζοποδίαν, συμπεπλεγμένα δέ, ἐὰν ἔχῃ, οἷον τὸ πολυσχιδὲς πρὸς τὸ σχιζόπουν. Τοῦτο γὰρ ἡ συνέχεια βούλεται τῶν ἀπὸ τοῦ γένους κατὰ τὴν διαίρεσιν διαφορῶν ὡς ἕν τι τὸ πᾶν ὄν, ἀλλὰ παρὰ τὴν λέξιν συμβαίνει δοκεῖν τὴν τελευταίαν μόνην εἶναι διαφοράν, οἷον τὸ πολυσχιδὲς ἢ τὸ δίπουν· τὸ δ’ ὑπόπουν (644a.) καὶ πολύπουν περίεργα). Ὅτι δ’ ἀδύνατον πλείους εἶναι τοιαύτας, δῆλον· ἀεὶ γὰρ βαδίζων ἐπὶ τὴν ἐσχάτην διαφορὰν ἀφικνεῖται, ἀλλ’ οὐκ ἐπὶ τὴν τελευταίαν καὶ τὸ εἶδος. Αὕτη δ’ ἐστὶν ἢ τὸ σχιζόπουν μόνον, ἢ πᾶσα ἡ σύμπλεξις, ἐὰν διαιρῆται ἄνθρωπον, οἷον εἴ τις συνθείη ὑπόπουν, δίπουν, σχιζόπουν. Εἰ δ’ ἦν ὁ ἄνθρωπος σχιζόπουν μόνον, οὕτως ἐγίγνετ’ ἂν αὕτη μία διαφορά. Νῦν δ’ ἐπειδὴ οὐκ ἔστιν, ἀνάγκη πολλὰς εἶναι μὴ ὑπὸ μίαν διαίρεσιν. Ἀλλὰ μὴν πλείους γε τοῦ αὐτοῦ οὐκ ἔστιν ὑπὸ μίαν διχοτομίαν εἶναι, ἀλλὰ μίαν κατὰ μίαν τελευτᾶν. Ὥστε ἀδύνατον ὁτιοῦν λαβεῖν τῶν καθ’ ἕκαστον ζῴων δίχα διαιρουμένους.

Κεφάλαιο 4

Ἀπορήσειε δ’ ἄν τις διὰ τί οὐκ ἄνωθεν ἑνὶ ὀνόματι ἐμπεριλαβόντες ἅμα ἓν γένος ἄμφω προσηγόρευσαν οἱ ἄνθρωποι, ὃ περιέχει τά τε ἔνυδρα καὶ τὰ πτηνὰ τῶν ζῴων. Ἔστι γὰρ ἔνια πάθη κοινὰ καὶ τούτοις καὶ τοῖς ἄλλοις ζῴοις ἅπασιν. Ἀλλ’ ὅμως ὀρθῶς διώρισται τοῦτον τὸν τρόπον. Ὅσα μὲν γὰρ διαφέρει τῶν γενῶν καθ’ ὑπεροχὴν καὶ τὸ μᾶλλον καὶ τὸ ἧττον, ταῦτα ὑπέζευκται ἑνὶ γένει, ὅσα δ’ ἔχει τὸ ἀνάλογον, χωρίς· λέγω δ’ οἷον ὄρνις ὄρνιθος διαφέρει τῷ μᾶλλον ἢ καθ’ ὑπεροχήν (τὸ μὲν γὰρ μακρόπτερον τὸ δὲ βραχύπτερον), ἰχθύες δ’ ὄρνιθος τῷ ἀνάλογον (ὃ γὰρ ἐκείνῳ πτερόν, θατέρῳ λεπίς). Τοῦτο δὲ ποιεῖν ἐπὶ πᾶσιν οὐ ῥᾴδιον· τὰ γὰρ πολλὰ ζῷα ἀνάλογον ταὐτὸ πέπονθεν. Ἐπεὶ δ’ οὐσίαι μέν εἰσι τὰ ἔσχατα εἴδη, ταῦτα δὲ κατὰ τὸ εἶδος ἀδιάφορα, οἷον Σωκράτης, Κορίσκος, ἀναγκαῖον ἢ τὰ καθόλου ὑπάρχοντα πρότερον εἰπεῖν ἢ πολλάκις ταὐτὸν λέγειν, καθάπερ εἴρηται. Τὰ δὲ καθόλου κοινά· τὰ γὰρ πλείοσιν ὑπάρχοντα καθόλου λέγομεν. Ἀπορίαν δ’ ἔχει περὶ πότερα δεῖ πραγματεύεσθαι. Ἧι μὲν γὰρ οὐσία τὸ τῷ εἴδει ἄτομον, κράτιστον, εἴ τις δύναιτο περὶ τῶν καθ’ ἕκαστον καὶ ἀτόμων τῷ εἴδει θεωρεῖν χωρίς, ὥσπερ περὶ ἀνθρώπου, οὕτω μὴ περὶ ὄρνιθος· ἔχει γὰρ εἴδη τὸ γένος τοῦτο· ἀλλὰ περὶ ὁτουοῦν ὄρνιθος τῶν ἀτόμων, οἷον ἢ στρουθὸς ἢ γέρανος ἤ τι τοιοῦτον.

Ἧι δὲ συμβήσεται λέγειν πολλάκις περὶ τοῦ αὐτοῦ πάθους διὰ τὸ κοινῇ πλείοσιν ὑπάρχειν, ταύτῃ δ’ ἐστὶν ὑπάτοπον καὶ (644b.) μακρὸν τὸ περὶ ἑκάστου λέγειν χωρίς.

Ἴσως μὲν οὖν ὀρθῶς ἔχει τὰ μὲν κατὰ γένη κοινῇ λέγειν, ὅσα λέγεται καλῶς ὡρισμένων τῶν ἀνθρώπων, καὶ ἔχει τε μίαν φύσιν κοινὴν καὶ εἴδη ἐν αὐτῷ μὴ πολὺ διεστῶτα, ὄρνις καὶ ἰχθῦς, καὶ εἴ τι ἄλλο ἐστὶν ἀνώνυμον μέν, τῷ γένει δ’ ὁμοίως περιέχει τὰ ἐν αὐτῷ εἴδη· ὅσα δὲ μὴ τοιαῦτα, καθ’ ἕκαστον, οἷον περὶ ἀνθρώπου καὶ εἴ τι τοιοῦτον ἕτερόν ἐστιν. Σχεδὸν δὲ τοῖς σχήμασι τῶν μορίων καὶ τοῦ σώματος ὅλου, ἐὰν ὁμοιότητα ἔχωσιν, ὥρισται τὰ γένη, οἷον τὸ τῶν ὀρνίθων γένος πρὸς αὐτὰ πέπονθε καὶ τὸ τῶν ἰχθύων καὶ τὰ μαλάκιά τε καὶ τὰ ὄστρεια. Τὰ γὰρ μόρια διαφέρουσι τούτων οὐ τῇ ἀνάλογον ὁμοιότητι, οἷον ἐν ἀνθρώπῳ καὶ ἰχθύϊ πέπονθεν ὀστοῦν πρὸς ἄκανθαν, ἀλλὰ μᾶλλον τοῖς σωματικοῖς πάθεσιν, οἷον μεγέθει μικρότητι, μαλακότητι σκληρότητι, λειότητι τραχύτητι καὶ τοῖς τοιούτοις, ὅλως δὲ τῷ μᾶλλον καὶ ἧττον. Πῶς μὲν οὖν ἀποδέχεσθαι δεῖ τὴν περὶ φύσεως μέθοδον, καὶ τίνα τρόπον γίνοιτ’ ἂν ἡ θεωρία περὶ αὐτῶν ὁδῷ καὶ ῥᾷστα, ἔτι δὲ περὶ διαιρέσεως, τίνα τρόπον ἐνδέχεται μετιοῦσι λαμβάνειν χρησίμως, καὶ διότι τὸ διχοτομεῖν τῇ μὲν ἀδύνατον τῇ δὲ κενόν, εἴρηται. Διωρισμένων δὲ τούτων περὶ τῶν ἐφεξῆς λέγωμεν, ἀρχὴν τήνδε ποιησάμενοι.

Κεφάλαιο 5

Τῶν οὐσιῶν ὅσαι φύσει συνεστᾶσι, τὰς μὲν ἀγενήτους καὶ ἀφθάρτους εἶναι τὸν ἅπαντα αἰῶνα, τὰς δὲ μετέχειν γενέσεως καὶ φθορᾶς. Συμβέβηκε δὲ περὶ μὲν ἐκείνας τιμίας οὔσας καὶ θείας ἐλάττους ἡμῖν ὑπάρχειν θεωρίας (καὶ γὰρ ἐξ ὧν ἄν τις σκέψαιτο περὶ αὐτῶν, καὶ περὶ ὧν εἰδέναι ποθοῦμεν, παντελῶς ἐστιν ὀλίγα τὰ φανερὰ κατὰ τὴν αἴσθησιν), περὶ δὲ τῶν φθαρτῶν φυτῶν τε καὶ ζῴων εὐποροῦμεν μᾶλλον πρὸς τὴν γνῶσιν διὰ τὸ σύντροφον· πολλὰ γὰρ περὶ ἕκαστον γένος λάβοι τις ἂν τῶν ὑπαρχόντων βουλόμενος διαπονεῖν ἱκανῶς. Ἔχει δ’ ἑκάτερα χάριν. Τῶν μὲν γὰρ εἰ καὶ κατὰ μικρὸν ἐφαπτόμεθα, ὅμως διὰ τὴν τιμιότητα τοῦ γνωρίζειν ἥδιον ἢ τὰ παρ’ ἡμῖν ἅπαντα, ὥσπερ καὶ τῶν ἐρωμένων τὸ τυχὸν καὶ μικρὸν μόριον κατιδεῖν ἥδιόν ἐστιν ἢ πολλὰ ἕτερα καὶ μεγάλα δι’ ἀκριβείας ἰδεῖν· (645a.) τὰ δὲ διὰ τὸ μᾶλλον καὶ πλείω γνωρίζειν αὐτῶν λαμβάνει τὴν τῆς ἐπιστήμης ὑπεροχήν, ἔτι δὲ διὰ τὸ πλησιαίτερα ἡμῶν εἶναι καὶ τῆς φύσεως οἰκειότερα ἀντικαταλλάττεταί τι πρὸς τὴν περὶ τὰ θεῖα φιλοσοφίαν. Ἐπεὶ δὲ περὶ ἐκείνων διήλθομεν λέγοντες τὸ φαινόμενον ἡμῖν, λοιπὸν περὶ τῆς ζωϊκῆς φύσεως εἰπεῖν, μηδὲν παραλιπόντας εἰς δύναμιν μήτε ἀτιμότερον μήτε τιμιώτερον. Καὶ γὰρ ἐν τοῖς μὴ κεχαρισμένοις αὐτῶν πρὸς τὴν αἴσθησιν κατὰ τὴν θεωρίαν ὅμως ἡ δημιουργήσασα φύσις ἀμηχάνους ἡδονὰς παρέχει τοῖς δυναμένοις τὰς αἰτίας γνωρίζειν καὶ φύσει φιλοσόφοις. Καὶ γὰρ ἂν εἴη παράλογον καὶ ἄτοπον, εἰ τὰς μὲν εἰκόνας αὐτῶν θεωροῦντες χαίρομεν ὅτι τὴν δημιουργήσασαν τέχνην συνθεωροῦμεν, οἷον τὴν γραφικὴν ἢ τὴν πλαστικήν, αὐτῶν δὲ τῶν φύσει συνεστώτων μὴ μᾶλλον ἀγαπῷμεν τὴν θεωρίαν, δυνάμενοί γε τὰς αἰτίας καθορᾶν. Διὸ δεῖ μὴ δυσχεραίνειν παιδικῶς τὴν περὶ τῶν ἀτιμοτέρων ζῴων ἐπίσκεψιν. Ἐν πᾶσι γὰρ τοῖς φυσικοῖς ἔνεστί τι θαυμαστόν· καὶ καθάπερ Ἡράκλειτος λέγεται πρὸς τοὺς ξένους εἰπεῖν τοὺς βουλομένους ἐντυχεῖν αὐτῷ, οἳ ἐπειδὴ προσιόντες εἶδον αὐτὸν θερόμενον πρὸς τῷ ἰπνῷ ἔστησαν (ἐκέλευε γὰρ αὐτοὺς εἰσιέναι θαρροῦντας· εἶναι γὰρ καὶ ἐνταῦθα θεούς), οὕτω καὶ πρὸς τὴν ζήτησιν περὶ ἑκάστου τῶν ζῴων προσιέναι δεῖ μὴ δυσωπούμενον ὡς ἐν ἅπασιν ὄντος τινὸς φυσικοῦ καὶ καλοῦ.

Τὸ γὰρ μὴ τυχόντως ἀλλ’ ἕνεκά τινος ἐν τοῖς τῆς φύσεως ἔργοις ἐστὶ καὶ μάλιστα· οὗ δ’ ἕνεκα συνέστηκεν ἢ γέγονε τέλους, τὴν τοῦ καλοῦ χώραν εἴληφεν. Εἰ δέ τις τὴν περὶ τῶν ἄλλων ζῴων θεωρίαν ἄτιμον εἶναι νενόμικε, τὸν αὐτὸν τρόπον οἴεσθαι χρὴ καὶ περὶ αὑτοῦ· οὐκ ἔστι γὰρ ἄνευ πολλῆς δυσχερείας ἰδεῖν ἐξ ὧν συνέστηκε τὸ τῶν ἀνθρώπων γένος, οἷον αἷμα, σάρκες, ὀστᾶ, φλέβες καὶ τὰ τοιαῦτα μόρια. Ὁμοίως τε δεῖ νομίζειν τὸν περὶ οὑτινοσοῦν τῶν μορίων ἢ τῶν σκευῶν διαλεγόμενον μὴ περὶ τῆς ὕλης ποιεῖσθαι τὴν μνήμην, μηδὲ ταύτης χάριν, ἀλλὰ τῆς ὅλης μορφῆς, οἷον καὶ περὶ οἰκίας, ἀλλὰ μὴ πλίνθων καὶ πηλοῦ καὶ ξύλων· καὶ τὸν περὶ φύσεως περὶ τῆς συνθέσεως καὶ τῆς ὅλης οὐσίας, ἀλλὰ μὴ περὶ τούτων ἃ μὴ συμβαίνει χωριζόμενά ποτε τῆς οὐσίας αὐτῶν. (645b.) Ἀναγκαῖον δὲ πρῶτον τὰ συμβεβηκότα διελεῖν περὶ ἕκαστον γένος, ὅσα καθ’ αὑτὰ πᾶσιν ὑπάρχει τοῖς ζῴοις, μετὰ δὲ ταῦτα τὰς αἰτίας αὐτῶν πειρᾶσθαι διελεῖν. Εἴρηται μὲν οὖν καὶ πρότερον ὅτι πολλὰ κοινὰ πολλοῖς ὑπάρχει τῶν ζῴων, τὰ μὲν ἁπλῶς, οἷον πόδες πτερὰ λεπίδες, καὶ πάθη δὴ τὸν αὐτὸν τρόπον τούτοις, τὰ δ’ ἀνάλογον. Λέγω δ’ ἀνάλογον, ὅτι τοῖς μὲν ὑπάρχει πλεύμων, τοῖς δὲ πλεύμων μὲν οὔ, ὃ δὲ τοῖς ἔχουσι πλεύμονα, ἐκείνοις ἕτερον ἀντὶ τούτου· καὶ τοῖς μὲν αἷμα, τοῖς δὲ τὸ ἀνάλογον τὴν αὐτὴν ἔχον δύναμιν ἥνπερ τοῖς ἐναίμοις τὸ αἷμα. Τὸ δὲ λέγειν χωρὶς περὶ ἑκάστων τῶν καθ’ ἕκαστα, καὶ ἔμπροσθεν εἴπομεν ὅτι πολλάκις συμβήσεται ταὐτὰ λέγειν, ἐπειδὰν λέγωμεν περὶ πάντων τῶν ὑπαρχόντων· ὑπάρχει δὲ πολλοῖς ταὐτά. Ταῦτα μὲν οὖν ταύτῃ διωρίσθω. Ἐπεὶ δὲ τὸ μὲν ὄργανον πᾶν ἕνεκά του, τῶν δὲ τοῦ σώματος μορίων ἕκαστον ἕνεκά του, τὸ δ’ οὗ ἕνεκα πρᾶξίς τις, φανερὸν ὅτι καὶ τὸ σύνολον σῶμα συνέστηκε πράξεώς τινος ἕνεκα πολυμεροῦς. Οὐ γὰρ ἡ πρίσις τοῦ πρίονος χάριν γέγονεν, ἀλλ’ ὁ πρίων τῆς πρίσεως· χρῆσις γάρ τις ἡ πρίσις ἐστίν. Ὥστε καὶ τὸ σῶμά πως τῆς ψυχῆς ἕνεκεν, καὶ τὰ μόρια τῶν ἔργων πρὸς ἃ πέφυκεν ἕκαστον. Λεκτέον ἄρα πρῶτον τὰς πράξεις τάς τε κοινὰς πάντων καὶ τὰς κατὰ γένος καὶ τὰς κατ’ εἶδος.

Λέγω δὲ κοινὰς μὲν αἳ πᾶσιν ὑπάρχουσι τοῖς ζῴοις, κατὰ γένος δέ, ὅσων παρ’ ἄλληλα τὰς διαφορὰς ὁρῶμεν καθ’ ὑπεροχὴν οὔσας, οἷον ὄρνιθα λέγω κατὰ γένος, ἄνθρωπον δὲ κατ’ εἶδος, καὶ πᾶν ὃ κατὰ τὸν καθόλου λόγον μηδεμίαν ἔχει διαφοράν. Τὰ μὲν γὰρ ἔχουσι τὸ κοινὸν κατ’ ἀναλογίαν, τὰ δὲ κατὰ γένος, τὰ δὲ κατ’ εἶδος. Ὅσαι μὲν οὖν πράξεις ἄλλων ἕνεκα, δῆλον ὅτι καὶ ὧν αἱ πράξεις τὸν αὐτὸν τρόπον διεστᾶσιν ὅνπερ αἱ πράξεις. Ὁμοίως δὲ κἂν εἴ τινες πρότεραι καὶ τέλος ἑτέρων πράξεων τυγχάνουσιν οὖσαι, τὸν αὐτὸν ἕξει τρόπον καὶ τῶν μορίων ἕκαστον, ὧν αἱ πράξεις αἱ τοιαῦται· καὶ τρίτον, ὧν ὄντων ἀναγκαῖον ὑπάρχειν. Λέγω δὲ πάθη καὶ πράξεις γένεσιν αὔξησιν ὀχείαν ἐγρήγορσιν ὕπνον πορείαν, καὶ ὁπόσ’ ἄλλα τοιαῦτα τοῖς ζῴοις ὑπάρχει· μόρια δὲ λέγω ῥῖνα ὀφθαλμὸν καὶ τὸ σύνολον πρόσωπον, ὧν ἕκαστον καλεῖται (646a.) μέλος. Ὁμοίως δὲ καὶ περὶ τῶν ἄλλων. Καὶ περὶ μὲν τοῦ τρόπου τῆς μεθόδου τοσαῦθ’ ἡμῖν εἰρήσθω· τὰς δ’ αἰτίας πειραθῶμεν εἰπεῖν περί τε τῶν κοινῶν καὶ τῶν ἰδίων, ἀρξάμενοι καθάπερ διωρίσαμεν, πρῶτον ἀπὸ τῶν πρώτων.

Βιβλίο 2

Κεφάλαιο 1

Ἐκ τίνων μὲν οὖν μορίων καὶ πόσων συνέστηκεν ἕκαστον τῶν ζῴων, ἐν ταῖς ἱστορίαις ταῖς περὶ αὐτῶν δεδήλωται σαφέστερον· δι’ ἃς δ’ αἰτίας ἕκαστον τοῦτον ἔχει τὸν τρόπον, ἐπισκεπτέον νῦν, χωρίσαντας καθ’ αὑτὰ τῶν ἐν ταῖς ἱστορίαις εἰρημένων.

Τριῶν δ’ οὐσῶν τῶν συνθέσεων πρώτην μὲν ἄν τις θείη τὴν ἐκ τῶν καλουμένων ὑπό τινων στοιχείων, οἷον γῆς ἀέρος ὕδατος πυρός. Ἔτι δὲ βέλτιον ἴσως ἐκ τῶν δυνάμεων λέγειν, καὶ τούτων οὐκ ἐξ ἁπασῶν, ἀλλ’ ὥσπερ ἐν ἑτέροις εἴρηται καὶ πρότερον. Ὑγρὸν γὰρ καὶ ξηρὸν καὶ θερμὸν καὶ ψυχρὸν ὕλη τῶν συνθέτων σωμάτων ἐστίν· αἱ δ’ ἄλλαι διαφοραὶ ταύταις ἀκολουθοῦσιν, οἷον βάρος καὶ κουφότης καὶ πυκνότης καὶ μανότης καὶ τραχύτης καὶ λειότης καὶ τἆλλα τὰ τοιαῦτα πάθη τῶν σωμάτων. Δευτέρα δὲ σύστασις ἐκ τῶν πρώτων ἡ τῶν ὁμοιομερῶν φύσις ἐν τοῖς ζῴοις ἐστίν, οἷον ὀστοῦ καὶ σαρκὸς καὶ τῶν ἄλλων τῶν τοιούτων. Τρίτη δὲ καὶ τελευταία κατ’ ἀριθμὸν ἡ τῶν ἀνομοιομερῶν, οἷον προσώπου καὶ χειρὸς καὶ τῶν τοιούτων μορίων. Ἐπεὶ δ’ ἐναντίως ἐπὶ τῆς γενέσεως ἔχει καὶ τῆς οὐσίας· τὰ γὰρ ὕστερα τῇ γενέσει πρότερα τὴν φύσιν ἐστί, καὶ πρῶτον τὸ τῇ γενέσει τελευταῖον· οὐ γὰρ οἰκία πλίνθων ἕνεκέν ἐστι καὶ λίθων, ἀλλὰ ταῦτα τῆς οἰκίας· ὁμοίως δὲ τοῦτ’ ἔχει καὶ περὶ τὴν ἄλλην ὕλην. Οὐ μόνον δὲ φανερὸν ὅτι τοῦτον ἔχει τὸν τρόπον ἐκ τῆς ἐπαγωγῆς, ἀλλὰ καὶ κατὰ τὸν λόγον· πᾶν γὰρ τὸ γινόμενον ἔκ τινος καὶ εἴς τι ποιεῖται τὴν γένεσιν, καὶ ἀπ’ ἀρχῆς ἐπ’ ἀρχήν, ἀπὸ τῆς πρώτης κινούσης καὶ ἐχούσης ἤδη τινὰ φύσιν ἐπί τινα μορφὴν ἢ τοιοῦτον ἄλλο τέλος· ἄνθρωπος γὰρ ἄνθρωπον καὶ φυτὸν γεννᾷ φυτὸν ἐκ τῆς περὶ ἕκαστον ὑποκειμένης ὕλης. Τῷ μὲν οὖν χρόνῳ προτέραν τὴν ὕλην (646b.) ἀναγκαῖον εἶναι καὶ τὴν γένεσιν, τῷ λόγῳ δὲ τὴν οὐσίαν καὶ τὴν ἑκάστου μορφήν. Δῆλον δ’ ἂν λέγῃ τις τὸν λόγον τῆς γενέσεως· ὁ μὲν γὰρ τῆς οἰκοδομήσεως λόγος ἔχει τὸν τῆς οἰκίας, ὁ δὲ τῆς οἰκίας οὐκ ἔχει τὸν τῆς οἰκοδομήσεως. Ὁμοίως δὲ τοῦτο συμβέβηκε καὶ ἐπὶ τῶν ἄλλων. Ὥστε τὴν μὲν τῶν στοιχείων ὕλην ἀναγκαῖον εἶναι τῶν ὁμοιομερῶν ἕνεκεν.

Ὕστερα γὰρ ἐκείνων ταῦτα τῇ γενέσει, τούτων δὲ τὰ ἀνομοιομερῆ· ταῦτα γὰρ ἤδη τὸ τέλος ἔχει καὶ τὸ πέρας, ἐπὶ τοῦ τρίτου λαβόντα τὴν σύστασιν ἀριθμοῦ, καθάπερ ἐπὶ πολλῶν συμβαίνει τελειοῦσθαι τὰς γενέσεις.

Ἐξ ἀμφοτέρων μὲν οὖν τὰ ζῷα συνέστηκε τῶν μορίων τούτων, ἀλλὰ τὰ ὁμοιομερῆ τῶν ἀνομοιομερῶν ἕνεκέν ἐστιν· ἐκείνων γὰρ ἔργα καὶ πράξεις εἰσίν, οἷον ὀφθαλμοῦ καὶ μυκτῆρος καὶ τοῦ προσώπου παντὸς καὶ δακτύλου καὶ χειρὸς καὶ παντὸς τοῦ βραχίονος. Πολυμόρφων δὲ τῶν πράξεων καὶ τῶν κινήσεων ὑπαρχουσῶν τοῖς ζῴοις ὅλοις τε καὶ τοῖς μορίοις τοῖς τοιούτοις, ἀναγκαῖον ἐξ, ὧν σύγκεινται, τὰς δυνάμεις ἀνομοίας ἔχειν· πρὸς μὲν γάρ τινα μαλακότης χρήσιμος πρὸς δέ τινα σκληρότης, καὶ τὰ μὲν τάσιν ἔχειν τὰ δὲ κάμψιν. Τὰ μὲν οὖν ὁμοιομερῆ κατὰ μέρος διείληφε τὰς δυνάμεις τὰς τοιαύτας (τὸ μὲν γὰρ αὐτῶν ἐστι μαλακὸν τὸ δὲ σκληρόν, καὶ τὸ μὲν ὑγρὸν τὸ δὲ ξηρόν, καὶ τὸ μὲν γλίσχρον τὸ δὲ κραῦρον), τὰ δ’ ἀνομοιομερῆ κατὰ πολλὰς καὶ συγκειμένας ἀλλήλαις· ἑτέρα γὰρ πρὸς τὸ πιέσαι τῇ χειρὶ χρήσιμος δύναμις καὶ πρὸς τὸ λαβεῖν. Διόπερ ἐξ ὀστῶν καὶ νεύρων καὶ σαρκὸς καὶ τῶν ἄλλων τῶν τοιούτων συνεστήκασι τὰ ὀργανικὰ τῶν μορίων, ἀλλ’ οὐκ ἐκεῖνα ἐκ τούτων. Ὡς μὲν οὖν ἕνεκά τινος διὰ ταύτην τὴν αἰτίαν ἔχει περὶ τούτων τὸν εἰρημένον τρόπον· ἐπεὶ δὲ ζητεῖται καὶ πῶς ἀναγκαῖον ἔχειν οὕτως, φανερὸν ὅτι προυπῆρχεν οὕτω πρὸς ἄλληλα ἔχοντα ἐξ ἀνάγκης. Τὰ μὲν γὰρ ἀνομοιομερῆ ἐκ τῶν ὁμοιομερῶν ἐνδέχεται συνεστάναι, καὶ ἐκ πλειόνων καὶ ἑνός, οἷον ἔνια τῶν σπλάγχνων· πολύμορφα γὰρ τοῖς σχήμασιν, ἐξ ὁμοιομεροῦς ὄντα σώματος ὡς εἰπεῖν ἁπλῶς. Τὰ δ’ ὁμοιομερῆ ἐκ τούτων ἀδύνατον· τὸ γὰρ ὁμοιομερὲς πόλλ’ ἂν εἴη ἀνομοιομερῆ. Διὰ μὲν οὖν (647a.) ταύτας τὰς αἰτίας τὰ μὲν ἁπλᾶ καὶ ὁμοιομερῆ, τὰ δὲ σύνθετα καὶ ἀνομοιομερῆ τῶν μορίων ἐν τοῖς ζῴοις ἐστίν.

Ὄντων δὲ τῶν μὲν ὀργανικῶν μερῶν τῶν δ’ αἰσθητηρίων ἐν τοῖς ζῴοις, τῶν μὲν ὀργανικῶν ἕκαστον ἀνομοιομερές ἐστιν, ὥσπερ εἶπον πρότερον, ἡ δ’ αἴσθησις ἐγγίγνεται πᾶσιν ἐν τοῖς ὁμοιομερέσι, διὰ τὸ τῶν αἰσθήσεων ὁποιανοῦν ἑνός τινος εἶναι γένους, καὶ τὸ αἰσθητήριον ἑκάστου δεκτικὸν εἶναι τῶν αἰσθητῶν. Πάσχει δὲ τὸ δυνάμει ὂν ὑπὸ τοῦ ἐνεργείᾳ ὄντος, ὥστε ἐστὶ τὸ αὐτὸ τῷ γένει καὶ ἐκεῖνο ἓν καὶ τοῦτο ἕν. Καὶ διὰ τοῦτο χεῖρα μὲν ἢ πρόσωπον ἢ τῶν τοιούτων τι μορίων οὐδεὶς ἐγχειρεῖ λέγειν τῶν φυσιολόγων τὸ μὲν εἶναι γῆν, τὸ δ’ ὕδωρ, τὸ δὲ πῦρ· τῶν δ’ αἰσθητηρίων ἕκαστον πρὸς ἕκαστον ἐπιζευγνύουσι τῶν στοιχείων, τὸ μὲν ἀέρα φάσκοντες εἶναι τὸ δὲ πῦρ. Οὔσης δὲ τῆς αἰσθήσεως ἐν τοῖς ἁπλοῖς μέρεσιν εὐλόγως μάλιστα συμβαίνει τὴν ἁφὴν ἐν ὁμοιομερεῖ μὲν ἥκιστα δ’ ἁπλῷ τῶν αἰσθητηρίων ἐγγίνεσθαι· μάλιστα γὰρ αὕτη δοκεῖ πλειόνων εἶναι γενῶν, καὶ πολλὰς ἔχειν ἐναντιώσεις τὸ ὑπὸ ταύτην αἰσθητόν, θερμὸν ψυχρόν, ξηρὸν ὑγρὸν καὶ ἔτι ἄλλα τοιαῦτα· καὶ τὸ τούτων αἰσθητήριον, ἡ σάρξ, καὶ τὸ ταύτῃ ἀνάλογον σωματωδέστατόν ἐστι τῶν αἰσθητηρίων. Ἐπεὶ δ’ ἀδύνατον εἶναι ζῷον ἄνευ αἰσθήσεως, καὶ διὰ τοῦτο ἂν εἴη ἀναγκαῖον ἔχειν τοῖς ζῴοις ἔνια μόρια ὁμοιομερῆ· ἡ μὲν γὰρ αἴσθησις ἐν τούτοις, αἱ δὲ πράξεις διὰ τῶν ἀνομοιομερῶν ὑπάρχουσιν αὐτοῖς.

Τῆς δ’ αἰσθητικῆς δυνάμεως καὶ τῆς κινούσης τὸ ζῷον καὶ τῆς θρεπτικῆς ἐν ταὐτῷ μορίῳ τοῦ σώματος οὔσης, καθάπερ ἐν ἑτέροις εἴρηται πρότερον, ἀναγκαῖον τὸ ἔχον πρῶτον μόριον τὰς τοιαύτας ἀρχάς, ᾗ μέν ἐστι δεκτικὸν πάντων τῶν αἰσθητῶν, τῶν ἁπλῶν εἶναι μορίων, ᾗ δὲ κινητικὸν καὶ πρακτικόν, τῶν ἀνομοιομερῶν. Διόπερ ἐν μὲν τοῖς ἀναίμοις ζῴοις τὸ ἀνάλογον, ἐν δὲ τοῖς ἐναίμοις ἡ καρδία τοιοῦτόν ἐστιν· διαιρεῖται μὲν γὰρ εἰς ὁμοιομερῆ καθάπερ τῶν ἄλλων σπλάγχνων ἕκαστον, διὰ δὲ τὴν τοῦ σχήματος μορφὴν ἀνομοιομερές ἐστιν.

Ταύτῃ δ’ ἠκολούθηκε καὶ τῶν ἄλλων τῶν καλουμένων σπλάγχνων ἕκαστον. Ἐκ τῆς αὐτῆς γὰρ ὕλης συνεστᾶσιν· αἱματικὴ (647b.) γὰρ ἡ φύσις πάντων αὐτῶν διὰ τὸ τὴν θέσιν ἔχειν ἐπὶ πόροις φλεβικοῖς καὶ διαλήψεσιν. Καθάπερ οὖν ῥέοντος ὕδατος ἰλύς, τἆλλα σπλάγχνα τῆς διὰ τῶν φλεβῶν ῥύσεως τοῦ αἵματος οἷον προχεύματά ἐστιν· ἡ δὲ καρδία, διὰ τὸ τῶν φλεβῶν ἀρχὴ εἶναι καὶ ἔχειν ἐν αὐτῇ τὴν δύναμιν τὴν δημιουργοῦσαν τὸ αἷμα πρώτην, εὔλογον, ἐξ οἵας δέχεται τροφῆς, ἐκ τοιαύτης συνεστάναι καὶ αὐτήν. Διότι μὲν οὖν αἱματικὰ τὴν μορφὴν τὰ σπλάγχνα ἐστίν, εἴρηται, καὶ διότι τῇ μὲν ὁμοιομερῆ τῇ δ’ ἀνομοιομερῆ.

Κεφάλαιο 2

Τῶν δ’ ὁμοιομερῶν μορίων ἐν τοῖς ζῴοις ἐστὶ τὰ μὲν μαλακὰ καὶ ὑγρά, τὰ δὲ σκληρὰ καὶ στερεά, ὑγρὰ μὲν ἢ ὅλως ἢ ἕως ἂν ᾖ ἐν τῇ φύσει, οἷον αἷμα, ἰχώρ, πιμελή, στέαρ, μυελός, γονή, χολή, γάλα ἐν τοῖς ἔχουσι, σάρξ, καὶ τὰ τούτοις ἀνάλογον· οὐ γὰρ ἅπαντα τὰ ζῷα τούτων τῶν μορίων τέτευχεν, ἀλλ’ ἔνια τῶν ἀνάλογον τούτων τισίν. Τὰ δὲ ξηρὰ καὶ στερεὰ τῶν ὁμοιομερῶν ἐστιν, οἷον ὀστοῦν ἄκανθα νεῦρον φλέψ. Καὶ γὰρ τῶν ὁμοιομερῶν ἡ διαίρεσις ἔχει διαφοράν· ἔστι γὰρ ὡς ἐνίων τὸ μέρος ὁμώνυμον τῷ ὅλῳ, ἔστι δ’ ὡς οὐχ ὁμώνυμον, οἷον φλεβὸς φλέψ, ἀλλὰ προσώπου πρόσωπον οὐδαμῶς. Πρῶτον μὲν οὖν καὶ τοῖς ὑγροῖς μορίοις καὶ τοῖς ξηροῖς πολλοὶ τρόποι τῆς αἰτίας εἰσίν. Τὰ μὲν γὰρ ὡς ὕλη τῶν μερῶν τῶν ἀνομοιομερῶν ἐστιν (ἐκ τούτων γὰρ συνέστηκεν ἕκαστον τῶν ὀργανικῶν μερῶν, ἐξ ὀστῶν καὶνεύρων καὶ σαρκῶν καὶ ἄλλων τοιούτων συμβαλλομένων τὰ μὲν εἰς τὴν οὐσίαν τὰ δ’ εἰς τὴν ἐργασίαν), τὰ δὲ τροφὴ τούτοις τῶν ὑγρῶν ἐστι (πάντα γὰρ ἐξ ὑγροῦ λαμβάνει τὴν αὔξησιν), τὰ δὲ περιττώματα συμβέβηκεν εἶναι τούτων, οἷον τήν τε τῆς ξηρᾶς τροφῆς ὑπόστασιν καὶ τὴν τῆς ὑγρᾶς τοῖς ἔχουσι κύστιν.

Αὐτῶν δὲ τούτων αἱ διαφοραὶ πρὸς ἄλληλα τοῦ βελτίονος ἕνεκέν εἰσιν, οἷον τῶν τε ἄλλων καὶ αἵματος πρὸς αἷμα· τὸ μὲν γὰρ λεπτότερον τὸ δὲ παχύτερον καὶ τὸ μὲν καθαρώτερόν ἐστι τὸ δὲ θολερώτερον, ἔτι δὲ τὸ μὲν ψυχρότερον τὸ δὲ θερμότερον ἔν τε τοῖς μορίοις τοῦ ἑνὸς ζῴου (τὸ γὰρ ἐν τοῖς ἄνω μέρεσι πρὸς τὰ κάτω μόρια διαφέρει ταύταις ταῖς διαφοραῖς) καὶ ἑτέρῳ πρὸς ἕτερον. Καὶ ὅλως (648a.) τὰ μὲν ἔναιμα τῶν ζῴων ἐστί, τὰ δ’ ἀντὶ τοῦ αἵματος ἔχει ἕτερόν τι μόριον τοιοῦτον. Ἔστι δ’ ἰσχύος μὲν ποιητικώτερον τὸ παχύτερον αἷμα καὶ θερμότερον, αἰσθητικώτερον δὲ καὶ νοερώτερον τὸ λεπτότερον καὶ ψυχρότερον. Τὴν αὐτὴν δ’ ἔχει διαφορὰν καὶ τῶν ἀνάλογον ὑπαρχόντων πρὸς τὸ αἷμα· διὸ καὶ μέλιτται καὶ ἄλλα τοιαῦτα ζῷα φρονιμώτερα τὴν φύσιν ἐστὶν ἐναίμων πολλῶν, καὶ τῶν ἐναίμων τὰ ψυχρὸν ἔχοντα καὶ λεπτὸν αἷμα φρονιμώτερα τῶν ἐναντίων ἐστίν.

Ἄριστα δὲ τὰ θερμὸν ἔχοντα καὶ λεπτὸν καὶ καθαρόν· ἅμα γὰρ πρός τε ἀνδρείαν τὰ τοιαῦτα καὶ πρὸς φρόνησιν ἔχει καλῶς. Διὸ καὶ τὰ ἄνω μόρια πρὸς τὰ κάτω ταύτην ἔχει τὴν διαφοράν, καὶ πρὸς τὸ θῆλυ αὖ τὸ ἄρρεν, καὶ τὰ δεξιὰ πρὸς τὰ ἀριστερὰ τοῦ σώματος. Ὁμοίως δὲ καὶ περὶ τῶν ἄλλων καὶ τῶν τοιούτων μορίων καὶ τῶν ἀνομοιομερῶν ὑποληπτέον ἔχειν τὴν διαφοράν, τὰ μὲν πρὸς τὸ βέλτιον ἢ χεῖρον, τὰ δὲ πρὸς τὰ ἔργα καὶ τὴν οὐσίαν ἑκάστῳ τῶν ζῴων, οἷον ἐχόντων ὀφθαλμοὺς ἀμφοτέρων τὰ μέν ἐστι σκληρόφθαλμα τὰ δ᾿ ὑγρόφθαλμα, καὶ τὰ μὲν οὐκ ἔχει βλέφαρα τὰ δ᾿ ἔχει πρὸς τὸ τὴν ὄψιν ἀκριβεστέραν εἶναι.

Ὅτι δ᾿ ἀναγκαῖον ἔχειν ἢ αἷμα ἢ τὸ τούτῳ τὴν αὐτὴν ἔχον φύσιν, καὶ τίς ἐστιν ἡ τοῦ αἵματος φύσις, πρῶτον διελομένοις περὶ θερμοῦ καὶ ψυχροῦ, οὕτω καὶ περὶ τούτου θεωρητέον τὰς αἰτίας. Πολλῶν γὰρ ἡ φύσις ἀνάγεται πρὸς ταύτας τὰς ἀρχάς, καὶ πολλοὶ διαμφισβητοῦσι ποῖα θερμὰ καὶ ποῖα ψυχρὰ τῶν ζῴων ἢ τῶν μορίων. Ἔνιοι γὰρ τὰ ἔνυδρα τῶν πεζῶν θερμότερά φασιν εἶναι, λέγοντες ὡς ἐπανισοῖ τὴν ψυχρότητα τοῦ τόπου ἡ τῆς φύσεως αὐτῶν θερμότης, καὶ τὰ ἄναιμα τῶν ἐναίμων καὶ τὰ θήλεα τῶν ἀρρένων, οἷον Παρμενίδης τὰς γυναῖκας τῶν ἀνδρῶν θερμοτέρας εἶναί φησι καὶ ἕτεροί τινες, ὡς διὰ τὴν θερμότητα καὶ πολυαιμούσαις γινομένων τῶν γυναικείων, Ἐμπεδοκλῆς δὲ τοὐναντίον· ἔτι δ᾿ αἷμα καὶ χολὴν οἱ μὲν θερμὸν ὁποτερονοῦν εἶναί φασιν αὐτῶν, οἱ δὲ ψυχρόν. Εἰ δ᾿ ἔχει τοσαύτην τὸ θερμὸν καὶ τὸ ψυχρὸν ἀμφισβήτησιν, τί χρὴ περὶ τῶν ἄλλων ὑπολαβεῖν; Ταῦτα γὰρ ἡμῖν ἐναργέστατα τῶν περὶ τὴν αἴσθησιν.

Ἔοικε δὲ διὰ τὸ πολλαχῶς λέγεσθαι τὸ θερμότερον ταῦτα (648b.) συμβαίνειν· ἕκαστος γὰρ δοκεῖ τι λέγειν τἀναντία λέγων.

Διὸ δεῖ μὴ λανθάνειν πῶς δεῖ τῶν φύσει συνεστώτων τὰ μὲν θερμὰ λέγειν τὰ δὲ ψυχρὰ καὶ τὰ μὲν ξηρὰ τὰ δ᾿ ὑγρά, ἐπεὶ ὅτι γ᾿ αἴτια ταῦτα σχεδὸν καὶ θανάτου καὶ ζωῆς ἔοικεν εἶναι φανερόν, ἔτι δ᾿ ὕπνου καὶ ἐγρηγόρσεως καὶ ἀκμῆς καὶ γήρως καὶ νόσου καὶ ὑγιείας, ἀλλ᾿ οὐ τραχύτητες καὶ λειότητες οὐδὲ βαρύτητες καὶ κουφότητες οὐδ᾿ ἄλλο τῶν τοιούτων οὐδὲν ὡς εἰπεῖν. Καὶ τοῦτ᾿ εὐλόγως συμβέβηκεν· καθάπερ γὰρ ἐν ἑτέροις εἴρηται πρότερον, ἀρχαὶ τῶν φυσικῶν στοιχείων αὗταί εἰσι, θερμὸν καὶ ψυχρὸν καὶ ξηρὸν καὶ ὑγρόν.

Πότερον οὖν ἁπλῶς λέγεται τὸ θερμὸν ἢ πλεοναχῶς; Δεῖ δὴ λαβεῖν τί ἔργον τοῦ θερμοτέρου, ἢ πόσα, εἰ πλείω. Ἕνα μὲν δὴ τρόπον λέγεται μᾶλλον θερμὸν ὑφ᾿ οὗ μᾶλλον θερμαίνεται τὸ ἁπτόμενον, ἄλλως δὲ τὸ μᾶλλον αἴσθησιν ἐμποιοῦν ἐν τῷ θιγγάνειν, καὶ τοῦτ᾿, ἐὰν μετὰ λύπης. Ἔστι δ᾿ ὅτε δοκεῖ τοῦτ᾿ εἶναι ψεῦδος· ἐνίοτε γὰρ ἡ ἕξις αἰτία τοῦ ἀλγεῖν αἰσθανομένοις. Ἔτι τὸ τηκτικώτερον τοῦ τηκτοῦ καὶ τοῦ καυστοῦ καυστικώτερον. Ἔτι ἐὰν ᾖ τὸ μὲν πλέον τὸ δ᾿ ἔλαττον τὸ αὐτό, τὸ πλέον τοῦ ἐλάττονος θερμότερον.

Πρὸς δὲ τούτοις δυοῖν τὸ μὴ ταχέως ψυχόμενον ἀλλὰ βραδέως θερμότερον, καὶ τὸ θᾶττον θερμαινόμενον τοῦ θερμαινομένου βραδέως θερμότερον εἶναι τὴν φύσιν φαμέν, ὡς τὸ μὲν ἐναντίον, ὅτι πόρρω, τὸ δ' ὅμοιον, ὅτι ἐγγύς. Λέγεται μὲν οὖν εἰ μὴ πλεοναχῶς, ἀλλὰ τοσαυταχῶς ἕτερον ἑτέρου θερμότερον· τούτους δὲ τοὺς τρόπους ἀδύνατον ὑπάρχειν τῷ αὐτῷ πάντας.

Θερμαίνει μὲν γὰρ μᾶλλον τὸ ζέον ὕδωρ τῆς φλογός, καίει δὲ καὶ τήκει τὸ καυστὸν καὶ τηκτὸν ἡ φλόξ, τὸ δ' ὕδωρ οὐδέν. Ἔτι θερμότερον μὲν τὸ ζέον ὕδωρ ἢ πῦρ ὀλίγον, ψύχεται δὲ καὶ θᾶττον καὶ μᾶλλον τὸ θερμὸν ὕδωρ μικροῦ πυρός· οὐ γὰρ γίνεται ψυχρὸν πῦρ, ὕδωρ δὲ γίνεται πᾶν. Ἔτι θερμότερον μὲν κατὰ τὴν ἁφὴν τὸ ζέον ὕδωρ, ψύχεται δὲ θᾶττον καὶ πήγνυται τοῦ ἐλαίου. Ἔτι τὸ αἷμα κατὰ μὲν τὴν ἁφὴν θερμότερον ὕδατος καὶ ἐλαίου, πήγνυται δὲ θᾶττον.

Ἔτι λίθοι καὶ σίδηρος καὶ τὰ τοιαῦτα θερμαίνεται μὲν βραδύτερον ὕδατος, καίει δὲ θερμανθέντα μᾶλλον. Πρὸς δὲ τούτοις τῶν λεγομένων θερμῶν τὰ μὲν ἀλλοτρίαν ἔχει τὴν (649a.) θερμότητα τὰ δ' οἰκείαν, διαφέρει δὲ τὸ θερμὸν εἶναι οὕτως ἢ ἐκείνως πλεῖστον· ἐγγὺς γὰρ τοῦ κατὰ συμβεβηκὸς εἶναι θερμὸν ἀλλὰ μὴ καθ' αὑτὸ θάτερον αὐτῶν, ὥσπερ ἂν εἴ τις λέγοι, εἰ συμβεβηκὸς εἴη τῷ πυρέττοντι εἶναι μουσικῷ, τὸν μουσικὸν εἶναι θερμότερον ἢ τὸν μεθ' ὑγιείας θερμόν. Ἐπεὶ δ' ἐστὶ τὸ μὲν καθ' αὑτὸ θερμὸν τὸ δὲ κατὰ συμβεβηκός, ψύχεται μὲν βραδύτερον τὸ καθ' αὑτό, θερμαίνει δὲ μᾶλλον πολλάκις τὴν αἴσθησιν τὸ κατὰ συμβεβηκός· καὶ πάλιν καίει μὲν μᾶλλον τὸ καθ' αὑτὸ θερμόν, οἷον ἡ φλὸξ τοῦ ὕδατος τοῦ ζέοντος, θερμαίνει δὲ κατὰ τὴν ἁφὴν τὸ ζέον μᾶλλον, τὸ κατὰ συμβεβηκὸς θερμόν. Ὥστε φανερὸν ὅτι τὸ κρῖναι δυοῖν πότερον θερμότερον οὐχ ἁπλοῦν· ὡδὶ μὲν γὰρ τόδε ἔσται θερμότερον, ὡδὶ δὲ θάτερον. Ἔνια δὲ τῶν τοιούτων οὐδ' ἔστιν ἁπλῶς εἰπεῖν ὅτι θερμὸν ἢ μὴ θερμόν. Ὃ μὲν γάρ ποτε τυγχάνει ὂν τὸ ὑποκείμενον, οὐ θερμόν, συνδυαζόμενον δὲ θερμόν, οἷον εἴ τις θεῖτο ὄνομα ὕδατι ἢ σιδήρῳ θερμῷ.

Τοῦτον γὰρ τὸν τρόπον τὸ αἷμα θερμόν ἐστιν. Καὶ ποιεῖ δὲ φανερὸν ἐν τοῖς τοιούτοις ὅτι τὸ ψυχρὸν φύσις τις ἀλλ' οὐ στέρησίς ἐστιν, ἐν ὅσοις τὸ ὑποκείμενον κατὰ πάθος θερμόν ἐστιν. Τάχα δὲ καὶ ἡ τοῦ πυρὸς φύσις, εἰ ἔτυχε, τοιαύτη τίς ἐστιν· ἴσως γὰρ τὸ ὑποκείμενόν ἐστιν ἢ καπνὸς ἢ ἄνθραξ, ὧν τὸ μὲν ἀεὶ θερμόν (ἀναθυμίασις γὰρ ὁ καπνός), ὁ δ' ἄνθραξ ἀποσβεσθεὶς ψυχρός. Ἔλαιον δὲ καὶ πεύκη γένοιτ' ἂν ψυχρά. Ἔχει δὲ θερμότητα καὶ τὰ πυρωθέντα πάντα σχεδόν, οἷον κονία καὶ τέφρα, καὶ τὰ ὑποστήματα τῶν ζῴων, καὶ τῶν περιττωμάτων ἡ χολή, τῷ ἐμπεπυρεῦσθαι καὶ ἐγκαταλελεῖφθαί τι ἐν αὐτοῖς θερμόν. Ἄλλον δὲ τρόπον θερμὸν πεύκη καὶ τὰ πίονα, τῷ ταχὺ μεταβάλλειν εἰς ἐνέργειαν πυρός. Δοκεῖ δὲ τὸ θερμὸν καὶ πηγνύναι καὶ τήκειν.

Ὅσα μὲν οὖν ὕδατος μόνον, ταῦτα πήγνυσι τὸ ψυχρόν, ὅσα δὲ γῆς, τὸ πῦρ· καὶ τῶν θερμῶν πήγνυται ὑπὸ ψυχροῦ ταχὺ μὲν ὅσα γῆς μᾶλλον, καὶ ἀλύτως, λυτῶς δ’, ὅσα ὕδατος.

Ἀλλὰ περὶ μὲν τούτων ἐν ἑτέροις διώρισται σαφέστερον, ποῖα τὰ πηκτά, καὶ πήγνυται διὰ τίνας αἰτίας. Τὸ δὲ τί θερμὸν καὶ ποῖον θερμότερον, ἐπειδὴ λέγεται πλεοναχῶς, (649b.) οὐ τὸν αὐτὸν τρόπον ὑπάρξει πᾶσιν, ἀλλὰ προσδιοριστέον ὅτι καθ’ αὐτὸ μὲν τόδε, κατὰ συμβεβηκὸς δὲ πολλάκις θάτερον, ἔτι δὲ δυνάμει μὲν τοδί, τοδὶ δὲ κατ’ ἐνέργειαν, καὶ τόνδε μὲν τὸν τρόπον τοδί, τῷ μᾶλλον τὴν ἁφὴν θερμαίνειν, τοδὶ δὲ τῷ φλόγα ποιεῖν καὶ πυροῦν. Λεγομένου δὲ τοῦ θερμοῦ πολλαχῶς, ἀκολουθήσει δῆλον ὅτι καὶ τὸ ψυχρὸν κατὰ τὸν αὐτὸν λόγον. Καὶ περὶ μὲν θερμοῦ καὶ ψυχροῦ καὶ τῆς ὑπεροχῆς αὐτῶν διωρίσθω τὸν τρόπον τοῦτον.

Κεφάλαιο 3

Ἐχόμενον δὲ καὶ περὶ ξηροῦ καὶ ὑγροῦ διελθεῖν ἀκολούθως τοῖς εἰρημένοις. Λέγεται δὲ ταῦτα πλεοναχῶς, οἷον τὰ μὲν δυνάμει τὰ δ’ ἐνεργείᾳ. Κρύσταλλος γὰρ καὶ πᾶν τὸ πεπηγὸς ὑγρὸν λέγεται ξηρὸν μὲν ἐνεργείᾳ καὶ κατὰ συμβεβηκός, ὄντα δυνάμει καὶ καθ’ αὑτὰ ὑγρά, γῆ δὲ καὶ τέφρα καὶ τὰ τοιαῦτα μιχθέντα ὑγρῷ ἐνεργείᾳ μὲν ὑγρὰ καὶ κατὰ συμβεβηκός, καθ’ αὑτὰ δὲ καὶ δυνάμει ξηρά· διακριθέντα δὲ ταῦτα τὰ μὲν ὕδατος ἀναπληστικὰ καὶ ἐνεργείᾳ καὶ δυνάμει ὑγρά, τὰ δὲ γῆς ἅπαντα ξηρά. Καὶ τὸ κυρίως καὶ ἁπλῶς ξηρὸν τοῦτον μάλιστα λέγεται τὸν τρόπον.

Ὁμοίως δὲ καὶ θάτερα τὰ ὑγρὰ κατὰ τὸν αὐτὸν λόγον ἔχει τὸ κυρίως καὶ ἁπλῶς, καὶ ἐπὶ θερμῶν καὶ ψυχρῶν.

Τούτων δὲ διωρισμένων φανερὸν ὅτι τὸ αἷμα ὡδὶ μὲν ἔστι θερμόν, οἷόν τι ἦν αὐτῷ τὸ αἵματι εἶναι (καθαπερεὶ ὀνόματί τινι σημαίνοιμεν τὸ ζέον ὕδωρ, οὕτω λέγεται), τὸ δ’ ὑποκείμενον καὶ ὅ ποτε ὂν αἷμά ἐστιν, οὐ θερμόν· καὶ καθ’ αὑτό ἐστι μὲν ὡς θερμόν ἐστιν, ἔστι δ’ ὡς οὔ. Ἐν μὲν γὰρ τῷ λόγῳ ὑπάρξει αὐτοῦ ἡ θερμότης, ὥσπερ ἐν τῷ τοῦ λευκοῦ ἀνθρώπου τὸ λευκόν· ᾗ δὲ κατὰ πάθος τὸ αἷμα, οὐ καθ’ αὑτὸ θερμόν. Ὁμοίως δὲ καὶ περὶ ξηροῦ καὶ ὑγροῦ. Διὸ καὶ ἐν τῇ φύσει τῶν τοιούτων τὰ μὲν θερμὰ καὶ ὑγρὰ χωριζόμενα δὲ πήγνυται καὶ ψυχρὰ φαίνεται, οἷον τὸ αἷμα, τὰ δὲ θερμὰ καὶ πάχος ἔχοντα καθάπερ ἡ χολή, χωριζόμενα δ’ ἐκ τῆς φύσεως τῶν ἐχόντων τοὐναντίον πάσχει· ψύχεται γὰρ καὶ ὑγραίνεται· τὸ μὲν γὰρ αἷμα ξηραίνεται μᾶλλον, ὑγραίνεται δ’ ἡ ξανθὴ χολή. Τὸ δὲ μᾶλλον καὶ ἧττον μετέχειν τῶν ἀντικειμένων ὡς ὑπάρχοντα δεῖ τιθέναι τούτοις. Πῶς μὲν οὖν (650a.) θερμὸν καὶ πῶς ὑγρόν, καὶ πῶς τῶν ἐναντίων ἡ φύσις τοῦ αἵματος κεκοινώνηκεν, εἴρηται σχεδόν.

Ἐπεὶ δ’ ἀνάγκη πᾶν τὸ αὐξανόμενον λαμβάνειν τροφήν, ἡ δὲ τροφὴ πᾶσιν ἐξ ὑγροῦ καὶ ξηροῦ, καὶ τούτων ἡ πέψις γίνεται καὶ ἡ μεταβολὴ διὰ τῆς τοῦ θερμοῦ δυνάμεως, καὶ τὰ ζῷα πάντα καὶ τὰ φυτά, κἂν εἰ μὴ δι’ ἄλλην αἰτίαν, ἀλλὰ διὰ ταύτην ἀναγκαῖον ἔχειν ἀρχὴν θερμοῦ φυσικήν, καὶ ταύτην ὥσπερ † ... αἱ ἐργασίαι τῆς τροφῆς πλειόνων εἰσὶ μορίων. Ἡ μὲν γὰρ πρώτη φανερὰ τοῖς ζῴοις λειτουργία διὰ τοῦ στόματος οὖσα καὶ τῶν ἐν τούτῳ μορίων, ὅσων ἡ τροφὴ δεῖται διαιρέσεως. Ἀλλ’ αὕτη μὲν οὐδεμιᾶς αἰτία πέψεως, ἀλλ’ εὐπεψίας μᾶλλον· ἡ γὰρ εἰς μικρὰ διαίρεσις τῆς τροφῆς ῥᾴω ποιεῖ τῷ θερμῷ τὴν ἐργασίαν· ἡ δὲ τῆς ἄνω καὶ τῆς κάτω κοιλίας ἤδη μετὰ θερμότητος φυσικῆς ποιεῖται τὴν πέψιν. Ὥσπερ δὲ καὶ τὸ στόμα τῆς ἀκατεργάστου τροφῆς πόρος ἐστί, καὶ τὸ συνεχὲς αὐτῷ μόριον ὃ καλοῦσιν οἰσοφάγον, ὅσα τῶν ζῴων ἔχει τοῦτο τὸ μόριον, ἕως εἰς τὴν κοιλίαν, οὕτως καὶ ἄλλας ἀρχὰς δεῖ πλείους εἶναι, δι' ὧν ἅπαν λήψεται τὸ σῶμα τὴν τροφήν, ὥσπερ ἐκ φάτνης, ἐκ τῆς κοιλίας καὶ τῆς τῶν ἐντέρων φύσεως. Τὰ μὲν γὰρ φυτὰ λαμβάνει τὴν τροφὴν κατειργασμένην ἐκ τῆς γῆς ταῖς ῥίζαις (διὸ καὶ περίττωμα οὐ γίνεται τοῖς φυτοῖς· τῇ γὰρ γῇ καὶ τῇ ἐν αὐτῇ θερμότητι χρῆται ὥσπερ κοιλίᾳ), τὰ δὲ ζῷα πάντα μὲν σχεδόν, τὰ δὲ πορευτικὰ φανερῶς, οἷον γῆν ἐν αὑτοῖς ἔχει τὸ τῆς κοιλίας κύτος, ἐξ ἧς, ὥσπερ ἐκεῖνα ταῖς ῥίζαις, ταῦτα δεῖ τινι τὴν τροφὴν λαμβάνειν, ἕως τὸ τῆς ἐχομένης πέψεως λάβῃ τέλος. Ἡ μὲν γὰρ τοῦ στόματος ἐργασία παραδίδωσι τῇ κοιλίᾳ, παρὰ δὲ ταύτης ἕτερον ἀναγκαῖον λαμβάνειν, ὅπερ συμβέβηκεν· αἱ γὰρ φλέβες κατατείνονται διὰ τοῦ μεσεντερίου παράπαν, κάτωθεν ἀρξάμεναι μέχρι τῆς κοιλίας. Δεῖ δὲ ταῦτα θεωρεῖν ἔκ τε τῶν ἀνατομῶν καὶ τῆς φυσικῆς ἱστορίας.

Ἐπεὶ δὲ πάσης τροφῆς ἐστί τι δεκτικὸν καὶ τῶν γινομένων περιττωμάτων, αἱ δὲ φλέβες οἷον ἀγγεῖον αἵματός εἰσι, φανερὸν ὅτι τὸ αἷμα ἡ τελευταία τροφὴ τοῖς ζῴοις τοῖς ἐναίμοις ἐστί, τοῖς δ' ἀναίμοις τὸ ἀνάλογον. Καὶ διὰ τοῦτο μὴ λαμβάνουσί τε τροφὴν ὑπολείπει τοῦτο καὶ (650b.) λαμβάνουσιν αὐξάνεται, καὶ χρηστῆς μὲν οὔσης ὑγιεινόν, φαύλης δὲ φαῦλον. Ὅτι μὲν οὖν τὸ αἷμα τροφῆς ἕνεκεν ὑπάρχει τοῖς ἐναίμοις, φανερὸν ἐκ τούτων καὶ τῶν τοιούτων. Καὶ γὰρ διὰ τοῦτο θιγγανόμενον αἴσθησιν οὐ ποιεῖ, ὥσπερ οὐδ' ἄλλο τῶν περιττωμάτων οὐδέν. Οὐδ' ἡ τροφὴ καθάπερ σάρξ· αὕτη γὰρ θιγγανομένη ποιεῖ αἴσθησιν. Οὐ γὰρ συνεχές ἐστι τὸ αἷμα ταύτῃ οὐδὲ συμπεφυκός, ἀλλ' οἷον ἐν ἀγγείῳ τυγχάνει κείμενον ἔν τε τῇ καρδίᾳ καὶ ταῖς φλεψίν. Ὃν δὲ τρόπον λαμβάνει ἐξ αὐτοῦ τὰ μόρια τὴν αὔξησιν, ἔτι δὲ περὶ τροφῆς ὅλως, ἐν τοῖς περὶ γενέσεως καὶ ἐν ἑτέροις οἰκειότερόν ἐστι διελθεῖν. Νῦν δ' ἐπὶ τοσοῦτον εἰρήσθω (τοσοῦτον γὰρ χρήσιμον), ὅτι τὸ αἷμα τροφῆς ἕνεκα καὶ τροφῆς τῶν μορίων ἐστίν.

Κεφάλαιο 4

Τὰς δὲ καλουμένας ἶνας τὸ μὲν ἔχει αἷμα τὸ δ’ οὐκ ἔχει, οἷον τὸ τῶν ἐλάφων καὶ προκῶν. Διόπερ οὐ πήγνυται τὸ τοιοῦτον αἷμα· τοῦ γὰρ αἵματος τὸ μὲν ὑδατῶδες μᾶλλον ψυχρόν ἐστι, διὸ καὶ οὐ πήγνυται, τὸ δὲ γεῶδες πήγνυται συνεξατμίζοντος τοῦ ὑγροῦ· αἱ δ’ ἶνες γῆς εἰσιν. Συμβαίνει δ’ ἔνιά γε καὶ γλαφυρωτέραν ἔχειν τὴν διάνοιαν τῶν τοιούτων, οὐ διὰ τὴν ψυχρότητα τοῦ αἵματος, ἀλλὰ διὰ τὴν λεπτότητα μᾶλλον καὶ διὰ τὸ καθαρὸν εἶναι· τὸ γὰρ γεῶδες οὐδέτερον ἔχει τούτων. Εὐκινητοτέραν γὰρ ἔχουσι τὴν αἴσθησιν τὰ λεπτοτέραν ἔχοντα τὴν ὑγρότητα καὶ καθαρωτέραν. Διὰ γὰρ τοῦτο καὶ τῶν ἀναίμων ἔνια συνετωτέραν ἔχει τὴν ψυχὴν ἐνίων ἐναίμων, καθάπερ εἴρηται πρότερον, οἷον ἡ μέλιττα καὶ τὸ γένος τὸ τῶν μυρμήκων κἂν εἴ τι ἕτερον τοιοῦτόν ἐστιν. Δειλότερα δὲ τὰ λίαν ὑδατώδη. Ὁ γὰρ φόβος καταψύχει· προωδοποίηται οὖν τῷ πάθει τὰ τοιαύτην ἔχοντα τὴν ἐν τῇ καρδίᾳ κρᾶσιν· τὸ γὰρ ὕδωρ τῷ ψυχρῷ πηκτόν ἐστιν. Διὸ καὶ τἆλλα τὰ ἄναιμα δειλότερα τῶν ἐναίμων ἐστὶν ὡς ἁπλῶς εἰπεῖν, καὶ ἀκινητίζει τε φοβούμενα καὶ προΐεται περιττώματα καὶ μεταβάλλει ἔνια τὰς χρόας αὐτῶν. Τὰ δὲ πολλὰς ἔχοντα λίαν ἶνας καὶ παχείας γεωδέστερα τὴν φύσιν ἐστὶ καὶ θυμώδη τὸ ἦθος καὶ ἐκστατικὰ διὰ τὸν θυμόν. Θερμότητος γὰρ ποιητικὸν ὁ θυμός, τὰ δὲ στερεὰ θερμανθέντα μᾶλλον θερμαίνει τῶν ὑγρῶν· αἱ δ’ ἶνες στερεὸν (651a.) καὶ γεῶδες, ὥστε γίνονται οἷον πυρίαι ἐν τῷ αἵματι καὶ ζέσιν ποιοῦσιν ἐν τοῖς θυμοῖς. Διὸ οἱ ταῦροι καὶ οἱ κάπροι θυμώδεις καὶ ἐκστατικοί· τὸ γὰρ αἷμα τούτων ἰνωδέστατον, καὶ τό γε τοῦ ταύρου τάχιστα πήγνυται πάντων. Ἐξαιρουμένων δὲ τούτων τῶν ἰνῶν οὐ πήγνυται τὸ αἷμα· καθάπερ γὰρ ἐκ πηλοῦ εἴ τις ἐξέλοι τὸ γεῶδες, οὐ πήγνυται τὸ ὕδωρ. οὕτω καὶ τὸ αἷμα· αἱ γὰρ ἶνες γῆς. Μὴ ἐξαιρουμένων δὲ πήγνυται, οἷον ὑγρὰ γῆ ὑπὸ ψύχους· τοῦ γὰρ θερμοῦ ὑπὸ τοῦ ψυχροῦ ἐκθλιβομένου συνεξατμίζει τὸ ὑγρόν, καθάπερ εἴρηται πρότερον, καὶ πήγνυται οὐχ ὑπὸ θερμοῦ ἀλλ’ ὑπὸ ψυχροῦ ξηραινόμενον. Ἐν δὲ τοῖς σώμασιν ὑγρόν ἐστι διὰ τὴν θερμότητα τὴν ἐν τοῖς ζῴοις. Πολλῶν δ’ ἐστὶν αἰτία ἡ τοῦ αἵματος φύσις καὶ κατὰ τὸ ἦθος τοῖς ζῴοις καὶ κατὰ τὴν αἴσθησιν, εὐλόγως· ὕλη γάρ ἐστι παντὸς τοῦ σώματος· ἡ γὰρ τροφὴ ὕλη, τὸ δ’ αἷμα ἡ ἐσχάτη τροφή. Πολλὴν οὖν ποιεῖ διαφορὰν θερμὸν ὂν καὶ ψυχρὸν καὶ λεπτὸν καὶ παχὺ καὶ θολερὸν καὶ

καθαρόν. Ἰχὼρ δ’ ἐστὶ τὸ ὑδατῶδες τοῦ αἵματος διὰ τὸ μήπω πεπέφθαι ἢ διεφθάρθαι, ὥστε ὁ μὲν ἐξ ἀνάγκης ἰχώρ, ὁ δ’ αἵματος χάριν ἐστίν.

Κεφάλαιο 5

Πιμελὴ δὲ καὶ στέαρ διαφέρουσι μὲν ἀλλήλων κατὰ τὴν τοῦ αἵματος διαφοράν. Ἔστι γὰρ ἑκάτερον αὐτῶν αἷμα πεπεμμένον δι' εὐτροφίαν, καὶ τὸ μὴ καταναλισκόμενον εἰς τὸ σαρκῶδες μόριον τῶν ζῴων, εὔπεπτον δὲ καὶ εὐτραφές.

Δηλοῖ δὲ τὸ λιπαρὸν αὐτῶν· τῶν γὰρ ὑγρῶν τὸ λιπαρὸν κοινὸν ἀέρος καὶ πυρός ἐστιν. Διὰ τοῦτο οὐδὲν ἔχει τῶν ἀναίμων οὔτε πιμελὴν οὔτε στέαρ, ὅτι οὐδ' αἷμα. Τῶν δ' ἐναίμων τὰ μὲν σωματῶδες ἔχοντα τὸ αἷμα στέαρ ἔχει μᾶλλον. Τὸ γὰρ στέαρ γεῶδές ἐστι, διὸ πήγνυται καθάπερ καὶ τὸ ἰνῶδες, καὶ αὐτὸ καὶ οἱ ζωμοὶ οἱ τοιοῦτοι· ὀλίγον γὰρ ἔχει ὕδατος, τὸ δὲ πολὺ γῆς. Διὸ τὰ μὴ ἀμφώδοντα ἀλλὰ κερατώδη στέαρ ἔχει. Φανερὰ δ' ἡ φύσις αὐτῶν τοῦ τοιούτου στοιχείου πλήρης οὖσα τῷ κερατώδης εἶναι καὶ ἀστραγάλους ἔχειν· ἅπαντα γὰρ ξηρὰ καὶ γεηρὰ τὴν φύσιν ἐστίν. Τὰ δ' ἀμφώδοντα καὶ ἀκέρατα καὶ πολυσχιδῆ πιμελὴν ἔχει ἀντὶ στέατος, ἣ οὐ πήγνυται οὐδὲ θρύπτεται ξηραινομένη διὰ τὸ μὴ εἶναι γεώδη τὴν φύσιν αὐτῆς. Μέτρια μὲν οὖν ταῦτα ὄντα ἐν τοῖς μορίοις τῶν ζῴων ὠφελεῖ (πρὸς μὲν γὰρ αἴσθησιν οὐκ (651b.) ἐμποδίζει, πρὸς δ' ὑγίειαν καὶ δύναμιν ἔχει βοήθειαν), ὑπερβάλλοντα δὲ τῷ πλήθει φθείρει καὶ βλάπτει. Εἰ γὰρ πᾶν γένοιτο τὸ σῶμα πιμελὴ καὶ στέαρ, ἀπόλοιτ' ἄν. Ζῷον μὲν γάρ ἐστι κατὰ τὸ αἰσθητικὸν μόριον, ἡ δὲ σὰρξ καὶ τὸ ἀνάλογον αἰσθητικόν· τὸ δ' αἷμα, ὥσπερ εἴρηται καὶ πρότερον, οὐκ ἔχει αἴσθησιν, διὸ οὐδὲ πιμελὴ οὐδὲ στέαρ· αἷμα γὰρ πεπεμμένον ἐστίν. Ὥστ' εἰ πᾶν γένοιτο τὸ σῶμα τοιοῦτον, οὐκ ἂν ἔχοι οὐδεμίαν αἴσθησιν. Διὸ καὶ γηράσκει ταχέως τὰ λίαν πίονα· ὀλίγαιμα γὰρ ἅτε εἰς τὴν πιότητα ἀναλισκομένου τοῦ αἵματος, τὰ δ' ὀλίγαιμα ἤδη προωδοποίηται πρὸς τὴν φθοράν· ἡ γὰρ φθορὰ ὀλιγαιμία τίς ἐστι, καὶ τὸ ὀλίγον παθητικὸν καὶ ὑπὸ ψυχροῦ τοῦ τυχόντος καὶ ὑπὸ θερμοῦ.

Καὶ ἀγονώτερα δὴ τὰ πίονά ἐστι διὰ τὴν αὐτὴν αἰτίαν· ὃ γὰρ ἔδει ἐκ τοῦ αἵματος εἰς τὴν γονὴν ἰέναι καὶ τὸ σπέρμα, τοῦτ' εἰς τὴν πιμελὴν ἀναλίσκεται καὶ τὸ στέαρ· πεττόμενον γὰρ τὸ αἷμα γίνεται ταῦτα, ὥστε ἢ ὅλως οὐ γίνεται περίττωμα αὐτοῖς οὐδὲν ἢ ὀλίγον.

Κεφάλαιο 6

Καὶ περὶ μὲν αἵματος καὶ ἰχῶρος καὶ πιμελῆς καὶ στέατος, τί τέ ἐστιν ἕκαστον αὐτῶν καὶ διὰ τίνας αἰτίας, εἴρηται. Ἔστι δὲ καὶ ὁ μυελὸς αἵματός τις φύσις, καὶ οὐχ ὥσπερ οἴονταί τινες, τῆς γονῆς σπερματικὴ δύναμις. Δηλοῖ δ' ἐν τοῖς νέοις πάμπαν· ἅτε γὰρ ἐξ αἵματος συνεστώτων τῶν μορίων καὶ τῆς τροφῆς οὔσης τοῖς ἐμβρύοις αἵματος, καὶ ἐν τοῖς ὀστοῖς ὁ μυελὸς αἱματώδης ἐστίν· αὐξανομένων δὲ καὶ πεττομένων, καθάπερ καὶ τὰ μόρια μεταβάλλει καὶ τὰ σπλάγχνα τὰς χρόας (ὑπερβολῇ γὰρ αἱματῶδες καὶ τῶν σπλάγχνων ἕκαστόν ἐστιν ἔτι νέων ὄντων), οὕτω καὶ ὁ μυελός· καὶ τῶν μὲν πιμελωδῶν λιπαρὸς καὶ πιμελῇ ὅμοιος, ὅσοις δὲ μὴ πιμελῇ ὅμοιος ἀλλὰ στέαρ γίνεται τὸ αἷμα πεττόμενον, τούτοις δὲ στεατώδης. Διὸ τοῖς μὲν κερατοφόροις καὶ μὴ ἀμφώδουσι στεατώδης, τοῖς δ' ἀμφώδουσι καὶ πολυσχιδέσι πιμελώδης. Ἥκιστα δὲ τοιοῦτος ὁ ῥαχίτης ἐστὶ μυελὸς διὰ τὸ δεῖν αὐτὸν εἶναι συνεχῆ καὶ διέχειν διὰ πάσης τῆς ῥάχεως διῃρημένης κατὰ τοὺς σφονδύλους· λιπαρὸς δ' ὢν ἢ στεατώδης οὐκ ἂν ὁμοίως ἦν συνεχής, ἀλλ' ἢ θραυστὸς ἢ ὑγρός. Ἔνια δ' οὐκ ἔχει τῶν ζῴων ὡς ἀξίως εἰπεῖν μυελόν, ὅσων τὰ ὀστᾶ ἰσχυρὰ καὶ πυκνά, οἷον τὰ τοῦ (652a.) λέοντος· τούτου γὰρ τὰ ὀστᾶ, διὰ τὸ πάμπαν ἄσημον ἔχειν, δοκεῖ οὐκ ἔχειν ὅλως μυελόν. Ἐπεὶ δὲ τὴν μὲν τῶν ὀστῶν ἀνάγκη φύσιν ὑπάρχειν τοῖς ζῴοις, ἢ τὸ ἀνάλογον τοῖς ὀστοῖς, οἷον τοῖς ἐνύδροις τὴν ἄκανθαν, ἀναγκαῖον ἐνίοις ὑπάρχειν καὶ μυελόν, ἐμπεριλαμβανομένης τῆς τροφῆς ἐξ ἧς γίνεται τὰ ὀστᾶ. Ὅτι δ' ἡ τροφὴ πᾶσιν αἷμα, εἴρηται πρότερον. Εὐλόγως δὲ καὶ στεατώδεις οἱ μυελοὶ καὶ πιμελώδεις εἰσίν· διὰ γὰρ τὴν ἀλέαν τὴν γινομένην ὑπὸ τοῦ περιέχεσθαι τοῖς ὀστοῖς πέττεται τὸ αἷμα, ἡ δὲ καθ' αὑτὸ πέψις αἵματος στέαρ καὶ πιμελή ἐστιν. Καὶ ἐν τοῖς δὴ τὰ ὀστᾶ πυκνὰ ἔχουσι καὶ ἰσχυρὰ εὐλόγως ἐν τοῖς μὲν οὐκ ἔνεστι, τοῖς δ' ὀλίγος ἔνεστιν· εἰς γὰρ τὰ ὀστᾶ ἀναλίσκεται ἡ τροφή. Ἐν δὲ τοῖς μὴ ἔχουσιν ὀστᾶ ἀλλ' ἄκανθαν ὁ ῥαχίτης μόνος ἐστὶ μυελός· ὀλίγαιμά τε γὰρ φύσει ὑπάρχει ὄντα, καὶ κοίλη ἄκανθα μόνον ἡ τῆς ῥάχεώς ἐστιν. Διὸ ἐν ταύτῃ ἐγγίνεται· μόνη τε γὰρ ἔχει χώραν, καὶ μόνη δεῖται συνδέσμου διὰ τὰς διαλήψεις. Διὸ καὶ ὁ ἐνταῦθα μυελός, ὥσπερ εἴρηται, ἀλλοιότερός ἐστιν· διὰ τὸ ἀντὶ περόνης γὰρ γίνεσθαι γλίσχρος καὶ νευρώδης ἐστίν, ἵν' ἔχῃ τάσιν. Διὰ τί μὲν οὖν μυελὸν ἔχει τὰ ζῷα τὰ ἔχοντα μυελόν, εἴρηται· καὶ τί ἐστιν ὁ μυελός, ἐκ τούτων φανερόν, ὅτι τῆς αἱματικῆς τροφῆς τῆς εἰς ὀστᾶ καὶ ἄκανθαν μεριζομένης ἐστὶ τὸ ἐμπεριλαμβανόμενον περίττωμα πεφθέν.

Κεφάλαιο 7

Περὶ δ’ ἐγκεφάλου σχεδόν ἐστιν ἐχόμενον εἰπεῖν· πολλοῖς γὰρ καὶ ὁ ἐγκέφαλος δοκεῖ μυελὸς εἶναι καὶ ἀρχὴ τοῦ μυελοῦ διὰ τὸ συνεχῆ τὸν ῥαχίτην αὐτῷ ὁρᾶν μυελόν.

Ἔτι δὲ πᾶν τοὐναντίον αὐτῷ τὴν φύσιν ὡς εἰπεῖν· ὁ μὲν γὰρ ἐγκέφαλος ψυχρότατον τῶν ἐν τῷ σώματι μορίων, ὁ δὲ μυελὸς θερμὸς τὴν φύσιν· δηλοῖ δ’ ἡ λιπαρότης αὐτοῦ καὶ τὸ πῖον. Διὸ καὶ συνεχὴς ὁ ῥαχίτης τῷ ἐγκεφάλῳ ἐστίν· ἀεὶ γὰρ ἡ φύσις μηχανᾶται πρὸς τὴν ἑκάστου ὑπερβολὴν βοήθειαν τὴν τοῦ ἐναντίου παρεδρίαν, ἵνα ἀνισάζῃ τὴν θατέρου ὑπερβολὴν θάτερον. Ὅτι μὲν οὖν ὁ μυελὸς θερμόν ἐστι, δῆλον ἐκ πολλῶν· ἡ δὲ τοῦ ἐγκεφάλου ψυχρότης φανερὰ μὲν καὶ κατὰ τὴν θίξιν, ἔτι δ’ ἀναιμότατον τῶν ὑγρῶν τῶν ἐν τῷ σώματι πάντων (οὐδ’ ὁτιοῦν γὰρ αἵματος ἔχει ἐν αὐτῷ) καὶ (652b.) αὐχμηρότατον. Ἔστι δ’ οὔτε περίττωμα οὔτε τῶν συνεχῶν μορίων, ἀλλὰ ἴδιος ἡ φύσις, καὶ εὐλόγως τοιαύτη. Ὅτι μὲν οὖν οὐκ ἔχει συνέχειαν οὐδεμίαν πρὸς τὰ αἰσθητικὰ μόρια, δῆλον μὲν καὶ διὰ τῆς ὄψεως, ἔτι δὲ μᾶλλον τῷ μηδεμίαν ποιεῖν αἴσθησιν θιγγανόμενος, ὥσπερ οὐδὲ τὸ αἷμα οὐδὲ τὸ περίττωμα τῶν ζῴων. Ὑπάρχει δ’ ἐν τοῖς ζῴοις πρὸς τὴν τῆς φύσεως ὅλης σωτηρίαν. Οἱ μὲν γὰρ τοῦ ζῴου τὴν ψυχὴν τιθέασι πῦρ ἢ τοιαύτην τινὰ δύναμιν φορτικῶς τιθέντες· βέλτιον δ’ ἴσως φάναι ἐν τοιούτῳ τινὶ σώματι συνεστάναι. Τούτου δ’ αἴτιον ὅτι τοῖς τῆς ψυχῆς ἔργοις ὑπηρετικώτατον τῶν σωμάτων τὸ θερμόν ἐστιν· τὸ τρέφειν γὰρ καὶ κινεῖν ψυχῆς ἔργον ἐστί, ταῦτα δὲ διὰ ταύτης μάλιστα γίνεται τῆς δυνάμεως. Ὅμοιον οὖν τὸ τὴν ψυχὴν εἶναι φάναι πῦρ, καὶ τὸ πρίονα ἢ τρύπανον τὸν τέκτονα ἢ τὴν τεκτονικήν, ὅτι τὸ ἔργον περαίνεται ἐγγὺς ἀλλήλων οὖσιν. Ὅτι μὲν οὖν θερμότητος τὰ ζῷα μετέχειν ἀναγκαῖον, δῆλον ἐκ τούτων.

Ἐπεὶ δ’ ἄκαὶ τοῦ μέσου (τὴν γὰρ οὐσίαν ἔχει τοῦτο καὶ τὸν λόγον, τῶν δ’ ἄκρων ἑκάτερον οὐκ ἔχει χωρίς), διὰ ταύτην τὴν αἰτίαν πρὸς τὸν τῆς καρδίας τόπον καὶ τὴν ἐν αὐτῇ θερμότητα μεμηχάνηται τὸν ἐγκέφαλον ἡ φύσις, καὶ τούτου χάριν ὑπάρχει τοῦτο τὸ μόριον τοῖς ζῴοις, τὴν φύσιν ἔχον κοινὴν ὕδατος καὶ γῆς. Καὶ διὰ τοῦτο τὰ ἔναιμα ἔχει πάντα ἐγκέφαλον, τῶν δ’ ἄλλων οὐδὲν ὡς εἰπεῖν, πλὴν ὅτι κατὰ τὸ ἀνάλογον, οἷον ὁ πολύπους· ὀλιγόθερμα γὰρ πάντα διὰ τὴν ἀναιμίαν. Ὁ μὲν οὖν ἐγκέφαλος εὔκρατον ποιεῖ τὴν ἐν τῇ καρδίᾳ θερμότητα καὶ ζέσιν· ἵνα δὲ καὶ τοῦτο τὸ μόριον τυγχάνῃ μετρίας θερμότητος, ἀφ’ ἑκατέρας τῆς φλεβός, τῆς τε μεγάλης καὶ τῆς καλουμένης ἀορτῆς, τελευτῶσιν αἱ φλέβες εἰς τὴν μήνιγγα τὴν περὶ τὸν ἐγκέφαλον. Πρὸς δὲ τὸ τῇ θερμότητι μὴ βλάπτειν, ἀντὶ μὲν μεγάλων ὀλίγων πυκναὶ καὶ λεπταὶ φλέβες περιέχουσιν αὐτόν, ἀντὶ δὲ πολλοῦ καὶ παχέος αἵματος λεπτὸν καὶ καθαρόν. Διὸ καὶ τὰ ῥεύματα τοῖς σώμασιν ἐκ τῆς κεφαλῆς ἐστι τὴν ἀρχήν, ὅσοις ἂν ᾖ τὰ περὶ τὸν ἐγκέφαλον ψυχρότερα τῆς συμμέτρου κράσεως· ἀναθυμιωμένης γὰρ διὰ τῶν φλεβῶν ἄνω τῆς (653a.) τροφῆς τὸ περίττωμα ψυχόμενον διὰ τὴν τοῦ τόπου τούτου δύναμιν ῥεύματα ποιεῖ φλέγματος καὶ ἰχῶρος. Δεῖ δὲ λαβεῖν, ὡς μεγάλῳ παρεικάζοντα μικρόν, ὁμοίως συμβαίνειν ὥσπερ τὴν τῶν ὑετῶν γένεσιν· ἀναθυμιωμένης γὰρ ἐκ τῆς γῆς τῆς ἀτμίδος καὶ φερομένης ὑπὸ τοῦ θερμοῦ πρὸς τὸν ἄνω τόπον, ὅταν ἐν τῷ ὑπὲρ τῆς γῆς γένηται ἀέρι ὄντι ψυχρῷ, συνίσταται πάλιν εἰς ὕδωρ διὰ τὴν ψύξιν καὶ ῥεῖ κάτω πρὸς τὴν γῆν. Ἀλλὰ περὶ μὲν τούτων ἐν ταῖς τῶν νόσων ἀρχαῖς ἁρμόττει λέγειν, ἐφ’ ὅσον τῆς φυσικῆς φιλοσοφίας ἐστὶν εἰπεῖν περὶ αὐτῶν· ποιεῖ δὲ καὶ τὸν ὕπνον τοῖς ζῴοις τοῦτοτὸ μόριον τοῖς ἔχουσιν ἐγκέφαλον, τοῖς δὲ μὴ ἔχουσι τὸ ἀνάλογον. Καταψῦχον γὰρ τὴν ἀπὸ τῆς τροφῆς τοῦ αἵματος ἐπίρρυσιν, ἢ καὶ διά τινας ὁμοίας αἰτίας ἄλλας, βαρύνει τε τὸν τόπον (διὸ τὴν κεφαλὴν καρηβαροῦσιν οἱ ὑπνώσσοντες) καὶ κάτω ποιεῖ τὸ θερμὸν ὑποφεύγειν μετὰ τοῦ αἵματος. Διὸ πλεῖον ἀθροιζόμενον ἐπὶ τὸν κάτω τόπον ἀπεργάζεται τὸν ὕπνον, καὶ τὸ δύνασθαι ἑστάναι ὀρθὰ ἀφαιρεῖται, ὅσα τῶν ζῴων ὀρθὰ τὴν φύσιν ἐστί, τῶν δ’ ἄλλων τὴν ὀρθότητα τῆς κεφαλῆς· περὶ ὧν εἴρηται καθ’ αὑτὰ ἔν τε τοῖς περὶ αἰσθήσεως καὶ περὶ ὕπνου διωρισμένοις.

Ὅτι δ’ ἐστὶν ὁ ἐγκέφαλος κοινὸς ὕδατος καὶ γῆς, δηλοῖ τὸ συμβαῖνον περὶ αὐτόν· ἑψόμενος γὰρ γίνεται ξηρὸς καὶ σκληρός, καὶ λείπεται τὸ γεῶδες ἐξατμισθέντος τοῦ ὕδατος ὑπὸ τῆς θερμότητος, ὥσπερ τὰ τῶν χεδρόπων ἑψήματα καὶ τῶν ἄλλων καρπῶν, διὰ τὸ γῆς εἶναι τὸ πλεῖστον μέρος, ἐξιόντος τοῦ μιχθέντος ὑγροῦ· καὶ γὰρ ταῦτα γίνεται σκληρὰ καὶ γεηρὰ πάμπαν. Ἔχει δὲ τῶν ζῴων ἐγκέφαλον πλεῖστον ἄνθρωπος ὡς κατὰ μέγεθος, καὶ τῶν ἀνθρώπων οἱ ἄρρενες τῶν θηλειῶν· καὶ γὰρ τὸν περὶ τὴν καρδίαν καὶ τὸν πλεύμονα τόπον θερμότατον καὶ ἐναιμότατον. Διὸ καὶ μόνον ἐστὶ τῶν ζῴων ὀρθόν· ἡ γὰρ τοῦ θερμοῦ φύσις ἐνισχύουσα ποιεῖ τὴν αὔξησιν ἀπὸ τοῦ μέσου κατὰ τὴν αὑτῆς φοράν. Πρὸς οὖν πολλὴν θερμότητα ἀντίκειται πλείων ὑγρότης καὶ ψυχρότης, καὶ διὰ τὸ πλῆθος ὀψιαίτατα πήγυνται τὸ περὶ τὴν κεφαλὴν ὀστοῦν, ὃ καλοῦσι βρέγμα τινές, διὰ τὸ πολὺν χρόνον τὸ θερμὸν ἀπατμίζειν· τῶν δ’ ἄλλων οὐδενὶ τοῦτο συμβαίνει τῶν ἐναίμων ζῴων. Καὶ ῥαφὰς δὲ πλείστας ἔχει περὶ τὴν (653b.) κεφαλήν, καὶ τὸ ἄρρεν πλείους τῶν θηλειῶν, διὰ τὴν αὐτὴν αἰτίαν, ὅπως ὁ τόπος εὔπνους ᾖ, καὶ μᾶλλον ὁ πλείων ἐγκέφαλος· ὑγραινόμενος γὰρ ἢ ξηραινόμενος μᾶλλον οὐ ποιήσει τὸ αὑτοῦ ἔργον, ἀλλ’ ἢ οὐ ψύξει ἢ πήξει, ὥστε νόσους καὶ παρανοίας ποιεῖν καὶ θανάτους· τὸ γὰρ ἐν τῇ καρδίᾳ θερμὸν καὶ ἡ ἀρχὴ συμπαθέστατόν ἐστι καὶ ταχεῖαν ποιεῖται τὴν αἴσθησιν μεταβάλλοντός τι καὶ πάσχοντος τοῦ περὶ τὸν ἐγκέφαλον αἵματος.

Περὶ μὲν οὖν τῶν συμφύτων τοῖς ζῴοις ὑγρῶν σχεδὸν εἴρηται περὶ πάντων· τῶν δ’ ὑστερογενῶν τά τε περιττώματα τῆς τροφῆς ἐστι, τό τε τῆς κύστεως ὑπόστημα καὶ τὸ τῆς κοιλίας, καὶ παρὰ ταῦτα γονὴ καὶ γάλα τοῖς πεφυκόσιν ἔχειν ἕκαστα τούτων. Τὰ μὲν οὖν τῆς τροφῆς περιττώματα περὶ τὴν τῆς τροφῆς σκέψιν καὶ θεωρίαν οἰκείους ἔχει τοὺς λόγους, τίσι τε τῶν ζῴων ὑπάρχει καὶ διὰ τίνας αἰτίας, τὰ δὲ περὶ σπέρματος καὶ γάλακτος ἐν τοῖς περὶ γενέσεως· τὸ μὲν γὰρ ἀρχὴ γενέσεως αὐτῶν ἐστι, τὸ δὲ χάριν γενέσεως.

Κεφάλαιο 8

Περὶ δὲ τῶν ἄλλων μορίων τῶν ὁμοιομερῶν σκεπτέον, καὶ πρῶτον περὶ σαρκὸς ἐν τοῖς ἔχουσι σάρκας, ἐν δὲ τοῖς ἄλλοις τὸ ἀνάλογον· τοῦτο γὰρ ἀρχὴ καὶ σῶμα καθ’ αὐτὸ τῶν ζῴων ἐστίν. Δῆλον δὲ καὶ κατὰ τὸν λόγον· τὸ γὰρ ζῷον ὁριζόμεθα τῷ ἔχειν αἴσθησιν, πρῶτον δὲ τὴν πρώτην· αὕτη δ’ ἐστὶν ἁφή, ταύτης δ’ αἰσθητήριον τὸ τοιοῦτον μόριόν ἐστιν, ἤτοι τὸ πρῶτον, ὥσπερ ἡ κόρη τῆς ὄψεως, ἢ τὸ δι’ οὗ συνειλημμένον, ὥσπερ ἂν εἴ τις προσλάβοι τῇ κόρῃ τὸ διαφανὲς πᾶν. Ἐπὶ μὲν οὖν τῶν ἄλλων αἰσθήσεων ἀδύνατόν τε καὶ οὐδὲν προὔργου τοῦτ’ ἦν ποιῆσαι τῇ φύσει, τὸ δ’ ἁπτικὸν ἐξ ἀνάγκης· μόνον γὰρ ἢ μάλιστα τοῦτ’ ἔστι σωματῶδες τῶν αἰσθητηρίων. Κατὰ δὲ τὴν αἴσθησιν φανερὸν πάντα τἆλλα τούτου χάριν ὄντα, λέγω δ’ οἷον ὀστᾶ καὶ δέρμα καὶ νεῦρα καὶ φλέβες, ἔτι δὲ τρίχες καὶ τὸ τῶν ὀνύχων γένος, καὶ εἴ τι τοιοῦτον ἕτερόν ἐστιν. Ἡ μὲν γὰρ τῶν ὀστῶν φύσις σωτηρίας ἕνεκεν μεμηχάνηται μαλακοῦ, σκληρὰ τὴν φύσιν οὖσα, ἐν τοῖς ἔχουσιν ὀστᾶ· ἐν δὲ τοῖς μὴ ἔχουσι τὸ ἀνάλογον, οἷον ἐν τοῖς ἰχθύσι τοῖς μὲν ἄκανθα τοῖς δὲ χόνδρος. Τὰ μὲν οὖν ἔχει τῶν ζῴων ἐντὸς τὴν τοιαύτην βοήθειαν, ἔνια δὲ τῶν (654a.) ἀναίμων ἐκτός, ὥσπερ τῶν τε μαλακοστράκων ἕκαστον, οἷον καρκίνοι καὶ τὸ τῶν καράβων γένος, καὶ τὸ τῶν ὀστρακοδέρμων ὡσαύτως, οἷον τὰ καλούμενα ὄστρεα· πᾶσι γὰρ τούτοις τὸ μὲν σαρκῶδες ἐντός, τὸ δὲ συνέχον καὶ φυλάττον ἐκτὸς τὸ γεῶδές ἐστιν· πρὸς γὰρ τῇ φυλακῇ τῆς συνεχείας, τῷ ἔχειν ὀλίγον αὐτῶν τὴν φύσιν θερμὸν ἀναίμων ὄντων, οἷον πνιγεύς τις περικείμενον τὸ ὄστρακον φυλάττει τὸ ἐμπεπυρευμένον θερμόν. Ἡ δὲ χελώνη καὶ τὸ τῶν ἑμύδων γένος ὁμοίως ἔχειν δοκεῖ τούτοις, ἕτερον ὂν γένος τούτων. Τὰ δ’ ἔντομα τῶν ζῴων καὶ τὰ μαλάκια τούτοις τ’ ἐναντίως καὶ αὑτοῖς ἀντικειμένως συνέστηκεν· οὐδὲν γὰρ ὀστῶδες ἔχειν ἔοικεν οὐδὲ γεηρὸν ἀποκεκριμένον, ὅ τι καὶ ἄξιον εἰπεῖν, ἀλλὰ τὰ μὲν μαλάκια σχεδὸν ὅλα σαρκώδη καὶ μαλακά, πρὸς δὲ τὸ μὴ εὔφθαρτον εἶναι τὸ σῶμα αὐτῶν, καθάπερ τὰ σαρκώδη, μεταξὺ σαρκὸς καὶ νεύρου τὴν φύσιν ἔχει. Μαλακὸν μὲν γὰρ ὥσπερ σάρξ ἐστιν, ἔχει δὲ τάσιν ὥσπερ νεῦρον· τὴν δὲ σχίσιν ἔχει τῆς σαρκὸς οὐ κατ’ εὐθυωρίαν ἀλλὰ κατὰ κύκλους διαιρετήν· οὕτως γὰρ ἂν ἔχον χρησιμώτατον ἂν εἴη πρὸς τὴν ἰσχύν. Ὑπάρχει δ’ ἐν αὐτοῖς καὶ τὸ ἀνάλογον ταῖς τῶν ἰχθύων ἀκάνθαις, οἷον ἐν μὲν ταῖς σηπίαις τὸ καλούμενον

σηπίον, ἐν δὲ ταῖς τευθίσι τὸ καλούμενον ξίφος. Τὰ δ’ αὖ τῶν πολυπόδων τοιοῦτον οὐδὲν ἔχει διὰ τὸ μικρὸν ἔχειν τὸ κύτος τὴν καλουμένην κεφαλήν, θάτερα δ’ εὐμήκη. Διὸ πρὸς τὴν ὀρθότητα αὐτῶν καὶ τὴν ἀκαμψίαν ὑπέγραψε ταῦτα ἡ φύσις, ὥσπερ τῶν ἐναίμων τοῖς μὲν ὀστοῦν τοῖς δ’ ἄκανθαν. Τὰ δ’ ἔντομα τούτοις τ’ ἐναντίως ἔχει καὶ τοῖς ἐναίμοις, καθάπερ εἴπομεν. Οὐδὲν γὰρ ἀφωρισμένον ἔχει σκληρόν, τὸ δὲ μαλακόν, ἀλλ’ ὅλον τὸ σῶμα σκληρόν, σκληρότητα δὲ τοιαύτην, ὀστοῦ μὲν σαρκωδεστέραν, σαρκὸς δ’ ὀστωδεστέραν καὶ γεωδεστέραν, πρὸς τὸ μὴ εὐδιαίρετον εἶναι τὸ σῶμα αὐτῶν.

Κεφάλαιο 9

Ἔχει δ’ ὁμοίως ἥ τε τῶν ὀστῶν καὶ ἡ τῶν φλεβῶν φύσις. Ἑκατέρα γὰρ αὐτῶν ἀφ’ ἑνὸς ἠργμένη συνεχής ἐστι, καὶ οὔτε ὀστοῦν ἐστιν καθ’ αὑτὸ οὐδέν, ἀλλ’ ἢ μόριον ὡς συνεχοῦς ἢ ἁπτόμενον καὶ προσδεδεμένον, ἵνα χρῆται ἡ φύσις (654b.) καὶ ὡς ἑνὶ καὶ συνεχεῖ καὶ ὡς δυσὶ καὶ διῃρημένοις πρὸς τὴν κάμψιν. Ὁμοίως δὲ καὶ φλὲψ οὐδεμία αὐτὴ καθ’ αὑτήν ἐστιν, ἀλλὰ πᾶσαι μόριον μιᾶς εἰσιν. Ὀστοῦν τε γὰρ εἴ τι κεχωρισμένον ἦν, τό τ’ ἔργον οὐκ ἂν ἐποίει οὗ χάριν ἡ τῶν ὀστῶν ἐστι φύσις (οὔτε γὰρ ἂν κάμψεως ἦν αἴτιον οὔτ’ ὀρθότητος οὐδεμιᾶς μὴ συνεχὲς ὂν ἀλλὰ διαλεῖπον), ἔτι τ’ ἔβλαπτεν ἂν ὥσπερ ἄκανθά τις ἢ βέλος ἐνὸν ταῖς σαρξίν. Εἴτε φλὲψ ἦν τις κεχωρισμένη καὶ μὴ συνεχὴς πρὸς τὴν ἀρχήν, οὐκ ἂν ἔσωζε τὸ ἐν αὑτῇ αἷμα· ἡ γὰρ ἀπ’ ἐκείνης θερμότης κωλύει πήγνυσθαι, φαίνεται δὲ καὶ σηπόμενον τὸ χωριζόμενον. Ἀρχὴ δὲ τῶν μὲν φλεβῶν ἡ καρδία, τῶν δ’ ὀστῶν ἡ καλουμένη ῥάχις τοῖς ἔχουσιν ὀστᾶ πᾶσιν, ἀφ’ ἧς συνεχὴς ἡ τῶν ἄλλων ὀστῶν ἐστι φύσις.

Ἡ γὰρ τὸ μῆκος καὶ τὴν ὀρθότητα συνέχουσα τῶν ζῴων ἡ ῥάχις ἐστίν. Ἐπεὶ δ’ ἀνάγκη κινουμένου τοῦ ζῴου κάμπτεσθαι τὸ σῶμα, μία μὲν διὰ τὴν συνέχειάν ἐστι, πολυμερὴς δὲ τῇ διαιρέσει τῶν σπονδύλων. Ἐκ δὲ ταύτης τοῖς ἔχουσι κῶλα συνεχῆ πρὸς αὐτήν, τὰ τούτων ὀστᾶ τῶν ἁρμονιῶν ἐστιν, ᾗ μὲν ἔχει τὰ κῶλα κάμψιν, συνδεδεμένα τε νεύροις, καὶ τῶν ἐσχάτων συναρμοττόντων τοῦ μὲν ὄντος κοίλου τοῦ δὲ περιφεροῦς, ἢ καὶ ἀμφοτέρων κοίλων, ἐν μέσῳ δὲ περιειληφότων, οἷον γόμφον, ἀστράγαλον, ἵνα γίγνηται κάμψις καὶ ἔκτασις· ἄλλως γὰρ ἢ ὅλως ἀδύνατον, ἢ οὐ καλῶς ἂν ἐποίουν τὴν τοιαύτην κίνησιν. Ἔνια δ’ αὐτῶν ὁμοίαν ἔχοντα τὴν ἀρχὴν τὴν θατέρου τῇ τελευτῇ θατέρου, συνδέδεται νεύροις. Καὶ χονδρώδη δὲ μόρια μεταξὺ τῶν κάμψεών εἰσιν, οἷον στοιβή, πρὸς τὸ ἄλληλα μὴ τρίβειν.

Περὶ δὲ τὰ ὀστᾶ αἱ σάρκες περιπεφύκασι, προσειλημμέναι λεπτοῖς καὶ ἰνώδεσι δεσμοῖς, ὧν ἕνεκεν τὸ τῶν ὀστῶν ἐστι γένος. Ὥσπερ γὰρ οἱ πλάττοντες ἐκ πηλοῦ ζῷον ἤ τινος ἄλλης ὑγρᾶς συστάσεως ὑφιστᾶσι τῶν στερεῶν τι σωμάτων, εἶθ’ οὕτω περιπλάττουσι, τὸν αὐτὸν τρόπον ἡ φύσις δεδημιούργηκεν ἐκ τῶν σαρκῶν τὸ ζῷον. Τοῖς μὲν οὖν ἄλλοις ὕπεστιν ὀστᾶ τοῖς σαρκώδεσι μορίοις, τοῖς μὲν κινουμένοις διὰ κάμψιν τούτου χάριν, τοῖς δ’ ἀκινήτοις φυλακῆς ἕνεκεν, οἷον αἱ συγκλείουσαι πλευραὶ τὸ στῆθος σωτηρίας (655a.) χάριν τῶν περὶ τὴν καρδίαν σπλάγχνων· τὰ δὲ περὶ τὴν κοιλίαν ἀνόστεα πᾶσιν, ὅπως μὴ κωλύῃ τὴν ἀνοίδησιν τὴν ἀπὸ τῆς τροφῆς γινομένην τοῖς ζῴοις ἐξ ἀνάγκης καὶ τοῖς θήλεσι τὴν ἐν αὐτοῖς τῶν ἐμβρύων αὔξησιν. Τὰ μὲν οὖν ζῳοτόκα τῶν ζῴων καὶ ἐν αὑτοῖς καὶ ἐκτὸς παραπλησίαν ἔχει τὴν τῶν ὀστῶν δύναμιν καὶ ἰσχυράν. Πολὺ γὰρ μείζω πάντα τὰ τοιαῦτα τῶν μὴ ζῳοτόκων ὡς κατὰ λόγον εἰπεῖν τῶν σωμάτων· ἐνιαχοῦ γὰρ πολλὰ γίνεται μεγάλα τῶν ζῳοτόκων, οἷον ἐν Λιβύῃ καὶ τοῖς τόποις τοῖς θερμοῖς καὶ τοῖς ξηροῖς. Τοῖς δὲ μεγάλοις ἰσχυροτέρων δεῖ τῶν ὑπερεισμάτων καὶ μειζόνων καὶ σκληροτέρων, καὶ τούτων αὐτῶν τοῖς βιαστικωτέροις. Διὸ τὰ τῶν ἀρρένων σκληρότερα ἢ τὰ τῶν θηλειῶν, καὶ τὰ τῶν σαρκοφάγων (ἡ τροφὴ γὰρ διὰ μάχης τούτοις), ὥσπερ τὰ τοῦ λέοντος· οὕτω γὰρ ἔχει ταῦτα σκληρὰν τὴν φύσιν ὥστ’ ἐξάπτεσθαι τυπτομένων καθάπερ ἐκ λίθων πῦρ. Ἔχει δὲ καὶ ὁ δελφὶς οὐκ ἀκάνθας ἀλλ’ ὀστᾶ· ζῳοτόκος γάρ ἐστιν. Τοῖς δ’ ἐναίμοις μὲν μὴ ζῳοτόκοις δὲ παραλλάττει κατὰ μικρὸν ἡ φύσις, οἷον τοῖς ὄρνισιν ὀστᾶ μέν, ἀσθενέστερα δέ. Τῶν δ’ ἰχθύων τοῖς μὲν ᾠοτόκοις ἄκανθα, καὶ τοῖς ὄφεσιν ἀκανθώδης ἐστὶν ἡ τῶν ὀστῶν φύσις, πλὴν τοῖς λίαν μεγάλοις· τούτοις δέ, δι’ ἅπερ καὶ τοῖς ζῳοτόκοις, πρὸς τὴν ἰσχὺν ἰσχυροτέρων δεῖ τῶν στερεωμάτων.

Τὰ δὲ καλούμενα σελάχη χονδράκανθα τὴν φύσιν ἐστίν· ὑγροτέραν τε γὰρ ἀναγκαῖον αὐτῶν εἶναι τὴν κίνησιν, ὥστε δεῖ καὶ τὴν τῶν ἐρεισμάτων μὴ κραῦρον εἶναι ἀλλὰ μαλακωτέραν, καὶ τὸ γεῶδες εἰς τὸ δέρμα πᾶν ἀνήλωκεν ἡ φύσις· ἅμα δὲ τὴν αὐτὴν ὑπεροχὴν εἰς πολλοὺς τόπους ἀδυνατεῖ διανέμειν ἡ φύσις. Ἔνεστι δὲ καὶ ἐν τοῖς ζῳοτόκοις πολλὰ τῶν ὀστῶν χονδρώδη, ἐν ὅσοις συμφέρει μαλακὸν εἶναι καὶ μυξῶδες τὸ στερεὸν διὰ τὴν σάρκα τὴν περικειμένην, οἷον συμβέβηκε περί τε τὰ ὦτα καὶ τοὺς μυκτῆρας· θραύεται γὰρ τὰ κραῦρα ταχέως ἐν τοῖς ἀπέχουσιν. Ἡ δὲ φύσις ἡ αὐτὴ χόνδρου καὶ ὀστοῦ ἐστι, διαφέρει δὲ τῷ μᾶλλον καὶ ἧττον· διὸ καὶ οὐδέτερον αὐξάνεται ἀποκοπέν. Οἱ μὲν οὖν ἐν τοῖς πεζοῖς ἀμύελοι χόνδροι κεχωρισμένῳ μυελῷ· τὸ γὰρ χωριζόμενον εἰς ἅπαν μεμιγμένον μαλακὴν ποιεῖ καὶ ζυμώδη τὴν τοῦ χόνδρου σύστασιν. Ἐν δὲ τοῖς σελάχεσιν ἡ ῥάχις (655b.) χονδρώδης μέν ἐστιν, ἔχει δὲ μυελόν· ἀντ’ ὀστοῦ γὰρ αὐτοῖς ὑπάρχει τοῦτο τὸ μόριον.

Σύνεγγυς δὲ κατὰ τὴν ἁφήν ἐστι τοῖς ὀστοῖς καὶ τὰ τοιάδε τῶν μορίων οἷον ὄνυχές τε καὶ ὁπλαὶ καὶ χηλαὶ καὶ κέρατα καὶ ῥύγχη τὰ τῶν ὀρνίθων. Πάντα δὲ ταῦτα βοηθείας ἔχουσι χάριν τὰ ζῷα· τὰ γὰρ ἐξ αὐτῶν συνεστηκότα ὅλα καὶ συνώνυμα τοῖς μορίοις, οἷον ὁπλή τε ὅλη καὶ κέρας ὅλον, μεμηχάνηται πρὸς τὴν σωτηρίαν ἑκάστοις. Ἐν τούτῳ δὲ τῷ γένει καὶ ἡ τῶν ὀδόντων ἐστὶ φύσις, τοῖς μὲν ὑπάρχουσα πρὸς ἓν ἔργον τὴν τῆς τροφῆς ἐργασίαν, τοῖς δὲ πρός τε τοῦτο καὶ πρὸς ἀλκήν, οἷον τοῖς καρχαρόδουσι καὶ χαυλιόδουσι πᾶσιν. Ἐξ ἀνάγκης δὲ πάντα ταῦτα γεώδη καὶ στερεὰν ἔχει τὴν φύσιν· ὅπλου γὰρ αὕτη δύναμις. Διὸ καὶ πάντα τὰ τοιαῦτα μᾶλλον ἐν τοῖς τετράποσιν ὑπάρχει ζῴοις τῶν ζῳοτόκων, διὰ τὸ γεωδεστέραν ἔχειν πάντα τὴν σύστασιν ἢ τὸ τῶν ἀνθρώπων γένος.

Ἀλλὰ καὶ περὶ τούτων καὶ τῶν ἐχομένων, οἷον δέρματος καὶ κύστεως καὶ ὑμένος καὶ τριχῶν καὶ πτερῶν καὶ τῶν ἀνάλογον τούτοις καὶ εἴ τι τοιοῦτόν ἐστι μέρος, ὕστερον ἅμα τοῖς ἀνομοιομερέσι θεωρητέον τὴν αἰτίαν αὐτῶν, καὶ τίνος ἕνεκεν ὑπάρχει τοῖς ζῴοις ἕκαστον· ἐκ τῶν ἔργων γὰρ γνωρίζειν, ὥσπερ κἀκεῖνα, καὶ ταῦτα ἀναγκαῖον ἂν εἴη. Ἀλλ’ ὅτι συνώνυμα τοῖς ὅλοις τὰ μέρη, τὴν τάξιν ἀπέλαβεν ἐν τοῖς ὁμοιομερέσι νῦν, Εἰσὶ δ’ ἀρχαὶ πάντων τούτων τό τε ὀστοῦν καὶ ἡ σάρξ. Ἔτι δὲ περὶ γονῆς καὶ γάλακτος ἀπελίπομεν ἐν τῇ περὶ τῶν ὑγρῶν καὶ ὁμοιομερῶν θεωρίᾳ· τοῖς γὰρ περὶ γενέσεως λόγοις ἁρμόττουσαν ἔχει τὴν σκέψιν· τὸ μὲν γὰρ αὐτῶν ἀρχή, τὸ δὲ τροφὴ τῶν γινομένων ἐστίν.

Κεφάλαιο 10

Νῦν δὲ λέγωμεν οἷον ἀπ’ ἀρχῆς πάλιν, ἀρξάμενοι πρῶτον ἀπὸ τῶν πρώτων. Πᾶσι γὰρ τοῖς ζῴοις τοῖς τελείοις δύο τὰ ἀναγκαιότατα μόριά ἐστιν, ᾗ τε δέχονται τὴν τροφὴν καὶ ᾗ τὸ περίττωμα ἀφήσουσιν· οὔτε γὰρ εἶναι οὔτε αὐξάνεσθαι ἐνδέχεται ἄνευ τροφῆς. Τὰ μὲν οὖν φυτά (καὶ γὰρ ταῦτα ζῆν φαμεν) τοῦ μὲν ἀχρήστου περιττώματος οὐκ ἔχει τόπον· ἐκ τῆς γῆς γὰρ λαμβάνει πεπεμμένην τὴν τροφήν, ἀντὶ δὲ τούτου προΐεται τὰ σπέρματα καὶ τοὺς καρπούς. Τρίτον δὲ μέρος ἐν πᾶσίν ἐστι τὸ τούτων μέσον, ἐν ᾧ ἡ ἀρχή ἐστιν ἡ τῆς ζωῆς. Ἡ μὲν οὖν τῶν φυτῶν (656a.) φύσις οὖσα μόνιμος οὐ πολυειδής ἐστι τῶν ἀνομοιομερῶν· πρὸς γὰρ ὀλίγας πράξεις ὀλίγων ὀργάνων ἡ χρῆσις· διὸ θεωρητέον καθ’ αὐτὰ περὶ τῆς ἰδέας αὐτῶν. Τὰ δὲ πρὸς τῷ ζῆν αἴσθησιν ἔχοντα πολυμορφοτέραν ἔχει τὴν ἰδέαν, καὶ τούτων ἕτερα πρὸ ἑτέρων μᾶλλον, καὶ πολυχουστέραν, ὅσων μὴ μόνον τοῦ ζῆν ἀλλὰ καὶ τοῦ εὖ ζῆν ἡ φύσις μετείληφεν.

Τοιοῦτο δ’ ἐστὶ τὸ τῶν ἀνθρώπων γένος· ἢ γὰρ μόνον μετέχει τοῦ θείου τῶν ἡμῖν γνωρίμων ζῴων, ἢ μάλιστα πάντων. Ὥστε διά τε τοῦτο, καὶ διὰ τὸ γνώριμον εἶναι μάλιστ’ αὐτοῦ τὴν τῶν ἔξωθεν μορίων μορφήν, περὶ τούτου λεκτέον πρῶτον. Εὐθὺς γὰρ καὶ τὰ φύσει μόρια κατὰ φύσιν ἔχει τούτῳ μόνῳ, καὶ τὸ τούτου ἄνω πρὸς τὸ τοῦ ὅλου ἔχει ἄνω· μόνον γὰρ ὀρθόν ἐστι τῶν ζῴων ἄνθρωπος. Τὸ μὲν οὖν ἔχειν τὴν κεφαλὴν ἄσαρκον ἐκ τῶν περὶ τὸν ἐγκέφαλον εἰρημένων ἀναγκαῖον συμβέβηκεν. Οὐ γὰρ ὥσπερ τινὲς λέγουσιν, ὅτι εἰ σαρκώδης ἦν, μακροβιώτερον ἂν ἦν τὸ γένος· ἀλλ’ εὐαισθησίας ἕνεκεν ἄσαρκον εἶναί φασιν· αἰσθάνεσθαι μὲν γὰρ τῷ ἐγκεφάλῳ, τὴν δ’ αἴσθησιν οὐ προσίεσθαι τὰ μόρια τὰ σαρκώδη λίαν. Τούτων δ’ οὐδέτερόν ἐστιν ἀληθές, ἀλλὰ πολύσαρκος μὲν ὁ τόπος ὢν ὁ περὶ τὸν ἐγκέφαλον τοὐναντίον ἂν ἀπειργάζετο οὗ ἕνεκα ὑπάρχει τοῖς ζῴοις ὁ ἐγκέφαλος (οὐ γὰρ ἂν ἐδύνατο καταψύχειν ἀλεαίνων αὐτὸς λίαν), τῶν τ’ αἰσθήσεων οὐκ αἴτιος οὐδεμιᾶς, ὅς γε ἀναίσθητος καὶ αὐτός ἐστιν ὥσπερ ὁτιοῦν τῶν περιττωμάτων. Ἀλλ’ οὐχ εὑρίσκοντες διὰ τίνα αἰτίαν ἔνιαι τῶν αἰσθήσεων ἐν τῇ κεφαλῇ τοῖς ζῴοις εἰσί, τοῦτο δ’ ὁρῶντες ἰδιαίτερον ὂν τῶν ἄλλων μορίων, ἐκ συλλογισμοῦ πρὸς ἄλληλα συνδυάζουσιν.

Ὅτι μὲν οὖν ἀρχὴ τῶν αἰσθήσεών ἐστιν ὁ περὶ τὴν καρδίαν τόπος, διώρισται πρότερον ἐν τοῖς περὶ αἰσθήσεως· καὶ διότι αἱ μὲν δύο φανερῶς ἠρτημέναι πρὸς τὴν καρδίαν εἰσίν, ἥ τε τῶν ἁπτῶν καὶ ἡ τῶν χυμῶν, τῶν δὲ τριῶν ἡ μὲν τῆς ὀσφρήσεως μέση, ἀκοὴ δὲ καὶ ὄψις μάλιστ’ ἐν τῇ κεφαλῇ διὰ τὴν τῶν αἰσθητηρίων φύσιν εἰσί, καὶ τούτων ἡ ὄψις πᾶσιν, ἐπεὶ ἥ γ’ ἀκοὴ καὶ ἡ ὄσφρησις ἐπὶ τῶν ἰχθύων καὶ τῶν τοιούτων ποιεῖ τὸ λεγόμενον φανερόν· ἀκούουσι μὲν γὰρ καὶ ὀσφραίνονται, αἰσθητήριον δ’ οὐδὲν ἔχουσι φανερὸν ἐν τῇ κεφαλῇ τούτων τῶν αἰσθητῶν. Ἡ δ’ ὄψις πᾶσι τοῖς ἔχουσιν εὐλόγως ἐστὶ περὶ τὸν (656b.) ἐγκέφαλον· ὁ μὲν γὰρ ὑγρὸς καὶ ψυχρός, ἡ δ’ ὕδωρ τὴν φύσιν ἐστίν· τοῦτο γὰρ τῶν διαφανῶν εὐφυλακτότατόν ἐστιν.

Ἔτι δὲ τὰς ἀκριβεστέρας τῶν αἰσθήσεων διὰ τῶν καθαρώτερον ἐχόντων τὸ αἷμα μορίων ἀναγκαῖον ἀκριβεστέρας γίνεσθαι· ἐκκόπτει γὰρ ἡ τῆς ἐν τῷ αἵματι θερμότητος κίνησις τὴν αἰσθητικὴν ἐνέργειαν· διὰ ταύτας τὰς αἰτίας ἐν τῇ κεφαλῇ τούτων τὰ αἰσθητήριά ἐστιν. Οὐ μόνον δ’ ἐστὶ τὸ ἔμπροσθεν ἄσαρκον, ἀλλὰ καὶ τὸ ὄπισθεν τῆς κεφαλῆς, διὰ τὸ πᾶσι τοῖς ἔχουσιν αὐτὴν ὀρθότατον δεῖν εἶναι τοῦτο τὸ μόριον· οὐδὲν γὰρ ὀρθοῦσθαι δύναται φορτίον ἔχον, ἦν δ’ ἂν τοιοῦτον, εἰ σεσαρκωμένην εἶχε τὴν κεφαλήν. Ἧι καὶ δῆλον ὅτι οὐ τῆς τοῦ ἐγκεφάλου αἰσθήσεως χάριν ἄσαρκος ἡ κεφαλή ἐστιν· τὸ γὰρ ὄπισθεν οὐκ ἔχει ἐγκέφαλον, ἄσαρκον δ’ ὁμοίως. Ἔχει δὲ καὶ τὴν ἀκοὴν εὐλόγως ἔνια τῶν ζῴων ἐν τῷ τόπῳ τῷ περὶ τὴν κεφαλήν· τὸ γὰρ κενὸν καλούμενον ἀέρος πλῆρές ἐστι, τὸ δὲ τῆς ἀκοῆς αἰσθητήριον ἀέρος εἶναί φαμεν. Ἐκ μὲν οὖν τῶν ὀφθαλμῶν οἱ πόροι φέρουσιν εἰς τὰς περὶ τὸν ἐγκέφαλον φλέβας· πάλιν δ’ ἐκ τῶν ὤτων ὡσαύτως πόρος εἰς τοὔπισθεν συνάπτει. Ἔστι δ’ οὔτ’ ἄναιμον οὐδὲν αἰσθητικὸν οὔτε τὸ αἷμα, ἀλλὰ τῶν ἐκ τούτου τι. Διόπερ οὐδὲν ἐν τοῖς ἐναίμοις ἄναιμον αἰσθητικόν, οὐδ’ αὐτὸ τὸ αἷμα· οὐδὲν γὰρ τῶν ζῴων μόριον. Ἔχει δ’ ἐν τῷ ἔμπροσθεν τὸν ἐγκέφαλον πάντα τὰ ἔχοντα τοῦτο τὸ μόριον, διὰ τὸ ἔμπροσθεν εἶναι ἐφ’ ὃ αἰσθάνεται, τὴν δ’ αἴσθησιν ἀπὸ τῆς καρδίας, ταύτην δ’ εἶναι ἐν τοῖς ἔμπροσθεν, καὶ τὸ αἰσθάνεσθαι διὰ τῶν ἐναίμων γίνεσθαι μορίων, φλεβῶν δ’ εἶναι κενὸν τὸ ὄπισθεν κύτος. Τέτακται δὲ τὸν τρόπον τοῦτον τὰ αἰσθητήρια τῇ φύσει καλῶς, τὰ μὲν τῆς ἀκοῆς ἐπὶ μέσης τῆς περιφερείας (ἀκούει γὰρ οὐ μόνον κατ’ εὐθυωρίαν ἀλλὰ πάντοθεν), ἡ δ’ ὄψις εἰς τὸ ἔμπροσθεν (ὁρᾷ γὰρ κατ’ εὐθυωρίαν, ἡ δὲ κίνησις εἰς τὸ ἔμπροσθεν, προορᾶν δὲ δεῖ ἐφ’ ὃ ἡ κίνησις). Ἡ δὲ τῆς ὀσφρήσεως μεταξὺ τῶν ὀμμάτων εὐλόγως. Διπλοῦν μὲν γάρ ἐστιν ἕκαστον τῶν αἰσθητηρίων διὰ τὸ διπλοῦν εἶναι τὸ σῶμα, τὸ μὲν δεξιὸν τὸ δ’ ἀριστερόν. Ἐπὶ μὲν οὖν τῆς ἁφῆς τοῦτ’ ἄδηλον· τούτου δ’ αἴτιον ὅτι οὐκ ἔστι τὸ πρῶτον αἰσθητήριον ἡ σὰρξ καὶ τὸ τοιοῦτον μόριον, ἄλλ’ ἐντός. Ἐπὶ δὲ τῆς γλώττης ἧττον μέν, μᾶλλον δ’ ἢ ἐπὶ τῆς ἁφῆς· ἔστι γὰρ οἷον ἁφή τις καὶ (657a.) αὕτη ἡ αἴσθησις. Ὅμως δὲ δῆλον καὶ ἐπὶ ταύτης· φαίνεται γὰρ ἐσχισμένη. Ἐπὶ δὲ τῶν ἄλλων αἰσθητηρίων φανερωτέρως ἐστὶν ἡ αἴσθησις διμερής· ὦτά τε γὰρ δύο καὶ ὄμματα καὶ ἡ τῶν μυκτήρων δύναμις διφυής ἐστιν. Ἄλλον οὖν ἂν τρόπον κειμένη καὶ διεσπασμένη, καθάπερ ἡ τῆς ἀκοῆς, οὐκ ἂν ἐποίει τὸ αὑτῆς ἔργον, οὐδὲ τὸ μόριον ἐν ᾧ ἐστιν· διὰ γὰρ τῆς ἀναπνοῆς ἡ αἴσθησις τοῖς ἔχουσι μυκτῆρας, τοῦτο δὲ τὸ μόριον κατὰ μέσον καὶ ἐν τοῖς ἔμπροσθέν ἐστιν. Διόπερ εἰς μέσον τῶν τριῶν αἰσθητηρίων συνήγαγεν ἡ φύσις τοὺς μυκτῆρας, οἷον ἐπὶ στάθμην θεῖσα μίαν ἐπὶ τὴν τῆς ἀναπνοῆς κίνησιν. Καλῶς δὲ καὶ τοῖς ἄλλοις ἔχει ταῦτα τὰ αἰσθητήρια ζῴοις πρὸς τὴν ἰδίαν φύσιν ἑκάστῳ.

Κεφάλαιο 11

Τὰ μὲν γὰρ τετράποδα ἀπηρτημένα ἔχει τὰ ὦτα καὶ ἄνωθεν τῶν ὀμμάτων, ὡς δόξειεν ἄν. Οὐκ ἔχει δέ, ἀλλὰ φαίνεται διὰ τὸ μὴ ὀρθὰ εἶναι τὰ ζῷα ἀλλὰ κύπτειν. Οὕτω δὲ τὸ πλεῖστον κινουμένων χρήσιμα μετεωρότερά τε ὄντα καὶ κινούμενα· δέχεται γὰρ στρεφόμενα πάντοθεν τοὺς ψόφους μᾶλλον.

Κεφάλαιο 12

Οἱ δ’ ὄρνιθες τοὺς πόρους μόνον ἔχουσι διὰ τὴν τοῦ δέρματος σκληρότητα, καὶ τὸ ἔχειν μὴ τρίχας ἀλλὰ πτερωτὰ εἶναι· οὐκ οὖν ἔχει τοιαύτην ὕλην ἐξ ἧς ἂν ἔπλασε τὰ ὦτα. Ὁμοίως δὲ καὶ τῶν τετραπόδων τὰ ᾠοτόκα καὶ φολιδωτά· ὁ γὰρ αὐτὸς ἁρμόσει καὶ ἐπ’ ἐκείνων λόγος. Ἔχει δὲ καὶ ἡ φώκη τῶν ζῳοτόκων οὐκ ὦτα ἀλλὰ πόρους ἀκοῆς, διὰ τὸ πεπηρωμένον εἶναι τετράπουν.

Κεφάλαιο 13

Καὶ οἱ μὲν ἄνθρωποι καὶ οἱ ὄρνιθες καὶ τὰ ζῳοτόκα καὶ τὰ ᾠοτόκα τῶν τετραπόδων φυλακὴν ἔχουσι τῆς ὄψεως, τὰ μὲν ζῳοτόκα βλέφαρα δύο, οἷς καὶ σκαρδαμύττουσι, τῶν δ' ὀρνίθων ἄλλοι τε καὶ οἱ βαρεῖς καὶ τὰ ᾠοτόκα τῶν τετραπόδων τῇ κάτω βλεφαρίδι μύουσιν· σκαρδαμύττουσι δ' οἱ ὄρνιθες ἐκ τῶν κανθῶν ὑμένι. Τοῦ μὲν οὖν φυλακὴν ἔχειν αἴτιον τὸ ὑγρὰ τὰ ὄμματα εἶναι, ἵνα ὀξὺ βλέπωσι τοῦτον τὸν τρόπον ὑπὸ τῆς φύσεως. Σκληρόδερμα γὰρ ὄντα ἀβλαβέστερα μὲν ἂν ἦν ὑπὸ τῶν ἔξωθεν προσπιπτόντων, οὐκ ὀξυωπὰ δέ. Τοῦ μὲν οὖν εὖ ἕνεκα λεπτὸν τὸ δέρμα τὸ περὶ τὴν κόρην ἐστί, τῆς δὲ σωτηρίας χάριν τὰ βλέφαρα· καὶ διὰ τοῦτο σκαρδαμύσσει τε πάντα καὶ μάλιστ' ἄνθρωπος, πάντα μὲν ὅπως τὰ προσπίπτοντα τοῖς βλεφάροις κωλύωσι (καὶ τοῦτο (657b.) οὐκ ἐκ προαιρέσεως, ἀλλ' ἡ φύσις ἐποίησε), πλειστάκις δ' ὁ ἄνθρωπος διὰ τὸ λεπτοδερμότατος εἶναι. Ἡ δὲ βλεφαρίς ἐστι δέρματι περιειλημμένη· διὸ καὶ οὐ συμφύεται οὔτε βλεφαρὶς οὔτε ἀκροποσθία, ὅτι ἄνευ σαρκὸς δέρματά ἐστιν. Τῶν δ' ὀρνίθων ὅσοι τῇ κάτω βλεφαρίδι μύουσι, καὶ τὰ ᾠοτόκα τῶν τετραπόδων, διὰ τὴν σκληρότητα τοῦ δέρματος τοῦ περὶ τὴν κεφαλὴν οὕτω μύουσιν. Οἱ μὲν γὰρ βαρεῖς τῶν πτερωτῶν διὰ τὸ μὴ πτητικοὶ εἶναι τὴν τῶν πτερῶν αὔξησιν εἰς τὴν τοῦ δέρματος παχύτητα τετραμμένην ἔχουσιν. Διὸ καὶ οὗτοι μὲν τῷ κάτω βλεφάρῳ μύουσι, περιστεραὶ δὲ καὶ τὰ τοιαῦτα ἀμφοῖν. Τὰ δὲ τετράποδα τῶν ᾠοτόκων φολιδωτά ἐστιν· ταῦτα δὲ σκληρότερα πάντα τριχός, ὥστε καὶ τὰ δέρματα τοῦ δέρματος. Τὸ μὲν οὖν περὶ τὴν κεφαλὴν σκληρόν ἐστιν αὐτοῖς, διόπερ οὐκ ἔχει βλέφαρον ἐκεῖθεν, τὸ δὲ κάτωθεν σαρκῶδες, ὥστ' ἔχειν τὸ βλέφαρον λεπτότητα καὶ τάσιν. Σκαρδαμύττουσι δ' οἱ βαρεῖς ὄρνιθες τούτῳ μὲν οὔ, τῷ δ' ὑμένι, διὰ τὸ βραδεῖαν εἶναι τὴν τούτου κίνησιν, δεῖν δὲ ταχεῖαν γίνεσθαι· ὁ δ' ὑμὴν τοιοῦτον. Ἐκ δὲ τοῦ κανθοῦ τοῦ παρὰ τοὺς μυκτῆρας σκαρδαμύττουσιν, ὅτι βέλτιον ἀπ' ἀρχῆς μιᾶς τὴν φύσιν εἶναι αὐτῶν, οὗτοι δ' ἔχουσιν ἀρχὴν τὴν πρὸς τὸν μυκτῆρα πρόσφυσιν· καὶ τὸ πρόσθιον ἀρχὴ τοῦ πλαγίου μᾶλλον. Τὰ δὲ τετράποδα καὶ ᾠοτόκα οὐ σκαρδαμύττει ὁμοίως, ὅτι οὐδ' ὑγρὰν αὐτοῖς ἀναγκαῖον ἔχειν καὶ ἀκριβῆ τὴν ὄψιν ἐπιγείοις οὖσιν. Τοῖς δ' ὄρνισιν ἀναγκαῖον· πόρρωθεν γὰρ ἡ χρῆσις τῆς ὄψεως. Διὸ καὶ τὰ γαμψώνυχα μὲν ὀξυωπά (ἄνωθεν γὰρ αὐτοῖς ἡ θεωρία τῆς τροφῆς, διὸ καὶ ἀναπέτονται ταῦτα μάλιστα τῶν ὀρνέων εἰς ὕψος), τὰ δ’ ἐπίγεια καὶ μὴ πτητικά, οἷον ἀλεκτρυόνες καὶ τὰ τοιαῦτα, οὐκ ὀξυωπά· οὐδὲν γὰρ αὐτὰ κατεπείγει πρὸς τὸν βίον.

Οἱ δ’ ἰχθύες καὶ τὰ ἔντομα καὶ τὰ σκληρόδερμα διαφέροντα μὲν ἔχουσι τὰ ὄμματα, βλέφαρον δ’ οὐδὲν αὐτῶν ἔχει. Τὰ μὲν γὰρ σκληρόδερμα ὅλως οὐκ ἔχει· ἡ δὲ τοῦ βλεφάρου χρῆσις ταχεῖαν καὶ δερματικὴν ἔχει τὴν ἐργασίαν· ἀλλ’ ἀντὶ ταύτης τῆς φυλακῆς πάντα σκληρόφθαλμά ἐστιν, οἷον βλέποντα διὰ τοῦ βλεφάρου προσπεφυκότος. Ἐπεὶ δ’ ἀναγκαῖον διὰ τὴν σκληρότητα ἀμβλύτερον βλέπειν, κινουμένους ἐποίησεν ἡ φύσις τοὺς ὀφθαλμοὺς τοῖς ἐντόμοις, καὶ μᾶλλον (658a.) ἔτι τοῖς σκληροδέρμοις, ὥσπερ ἔνια τῶν τετραπόδων τὰ ὦτα, ὅπως ὀξύτερον βλέπῃ στρέφοντα πρὸς τὸ φῶς καὶ δεχόμενα τὴν αὐγήν. Οἱ δ’ ἰχθύες ὑγρόφθαλμοι μέν εἰσιν.

Ἀναγκαία γὰρ τοῖς πολλὴν ποιουμένοις κίνησιν ἡ τῆς ὄψεως ἐκ πολλοῦ χρῆσις. Τοῖς μὲν οὖν πεζοῖς ὁ ἀὴρ εὐδίοπτος· ἐκείνοις δ’ ἐπεὶ τὸ ὕδωρ πρὸς μὲν τὸ ὀξὺ βλέπειν ἐναντίον, οὐκ ἔχει δὲ πολλὰ τὰ προσκρούσματα πρὸς τὴν ὄψιν ὥσπερ ὁ ἀήρ, διὰ μὲν τοῦτ’ οὐκ ἔχει βλέφαρον (οὐδὲν γὰρ ἡ φύσις ποιεῖ μάτην), πρὸς δὲ τὴν παχύτητα τοῦ ὕδατος ὑγρόφθαλμοί εἰσιν.

Κεφάλαιο 14

Βλεφαρίδας δ’ ἐπὶ τῶν βλεφάρων ἔχουσιν ὅσα τρίχας ἔχουσιν, ὄρνιθες δὲ καὶ τῶν φολιδωτῶν οὐδέν· οὐ γὰρ ἔχουσι τρίχας. Περὶ γὰρ τοῦ στρουθοῦ τοῦ Λιβυκοῦ τὴν αἰτίαν ὕστερον ἐροῦμεν· τοῦτο γὰρ ἔχει βλεφαρίδας τὸ ζῷον. Καὶ τῶν ἐχόντων τρίχας ἐπ’ ἀμφότερα οἱ ἄνθρωποι μόνον ἔχουσιν. Τὰ γὰρ τετράποδα τῶν ζῴων ἐν τοῖς ὑπτίοις οὐκ ἔχει τρίχας, ἀλλ’ ἐν τοῖς πρανέσι μᾶλλον· οἱ δ’ ἄνθρωποι τοὐναντίον ἐν τοῖς ὑπτίοις μᾶλλον ἢ ἐν τοῖς πρανέσιν. Σκέπης γὰρ χάριν αἱ τρίχες ὑπάρχουσι τοῖς ἔχουσιν· τοῖς μὲν οὖν τετράποσι τὰ πρανῆ δεῖται μᾶλλον τῆς σκέπης, τὰ δὲ πρόσθια τιμιώτερα μέν, ἀλλ’ ἀλεάζει διὰ τὴν κάμψιν· τοῖς δ’ ἀνθρώποις ἐπεὶ ἐξ ἴσου διὰ τὴν ὀρθότητα τὰ πρόσθια τοῖς ὀπισθίοις, τοῖς τιμιωτέροις ὑπέγραψεν ἡ φύσις τὴν βοήθειαν· ἀεὶ γὰρ ἐκ τῶν ἐνδεχομένων αἰτία τοῦ βελτιόνός ἐστιν. Καὶ διὰ τοῦτο τῶν τετραπόδων οὐθὲν οὔτε βλεφαρίδα ἔχει τὴν κάτωθεν, ἀλλ’ ὑπὸ τοῦτο τὸ βλέφαρον ἐνίοις παραφύονται μαναὶ τρίχες, οὔτ’ ἐν ταῖς μασχάλαις οὔτ’ ἐπὶ τῆς ἥβης, ὥσπερ τοῖς ἀνθρώποις. Ἀλλ’ ἀντὶ τούτων τὰ μὲν καθ’ ὅλον τὸ σῶμα πρανὲς δεδάσυνται ταῖς θριξίν, οἷον τὸ τῶν κυνῶν γένος, τὰ δὲ λοφιὰν ἔχει, καθάπερ ἵπποι καὶ τὰ τοιαῦτα τῶν ζῴων, τὰ δὲ χαίτην, ὥσπερ ὁ ἄρρην λέων.

Ἔτι δ’ ὅσα κέρκους ἔχει μῆκος ἐχούσας, καὶ ταύτας ἐπικεκόσμηκεν ἡ φύσις θριξί, τοῖς μὲν μικρὸν ἔχουσι τὸν στόλον μακραῖς, ὥσπερ τοῖς ἵπποις, τοῖς δὲ μακρὸν βραχείαις, καὶ κατὰ τὴν τοῦ ἄλλου σώματος φύσιν· πανταχοῦ γὰρ ἀποδίδωσι λαβοῦσα ἑτέρωθεν πρὸς ἄλλο μόριον. Ὅσοις δὲ τὸ σῶμα δασὺ λίαν (658b.) πεποίηκε, τούτοις ἐνδεῶς ἔχει τὰ περὶ τὴν κέρκον, οἷον ἐπὶ τῶν ἄρκτων συμβέβηκεν.

Τὴν δὲ κεφαλὴν ἄνθρωπός ἐστι τῶν ζῴων δασύτατον, ἐξ ἀνάγκης μὲν διὰ τὴν ὑγρότητα τοῦ ἐγκεφάλου καὶ διὰ τὰς ῥαφάς (ὅπου γὰρ ὑγρὸν καὶ θερμὸν πλεῖστον, ἐνταῦθ’ ἀναγκαῖον πλείστην εἶναι τὴν ἔκφυσιν), ἕνεκεν δὲ βοηθείας, ὅπως σκεπάζωσι φυλάττουσαι τὰς ὑπερβολὰς τοῦ τε ψύχους καὶ τῆς ἀλέας. Πλεῖστος δ’ ὢν καὶ ὑγρότατος ὁ τῶν ἀνθρώπων ἐγκέφαλος πλείστης καὶ τῆς φυλακῆς δεῖται· τὸ γὰρ ὑγρότατον καὶ ζεῖ καὶ ψύχεται μάλιστα, τὸ δ’ ἐναντίως ἔχον ἀπαθέστερόν ἐστιν. Ἀλλὰ περὶ μὲν τούτων παρεκβῆναι συμβέβηκεν ἐχομένοις τῆς περὶ τὰς βλεφαρίδας αἰτίας, διὰ τὴν συγγένειαν αὐτῶν, ὥστε περὶ τῶν λοιπῶν ἐν τοῖς οἰκείοις καιροῖς ἀποδοτέον τὴν μνείαν.

Κεφάλαιο 15

Αἱ δ’ ὀφρύες καὶ αἱ βλεφαρίδες ἀμφότεραι βοηθείας χάριν εἰσίν, αἱ μὲν ὀφρύες τῶν καταβαινόντων ὑγρῶν, ὅπως ἀποστέγωσιν οἷον ἀπογείσωμα τῶν ἀπὸ τῆς κεφαλῆς ὑγρῶν, αἱ δὲ βλεφαρίδες τῶν πρὸς τὰ ὄμματα προσπιπτόντων ἕνεκεν, οἷον τὰ χαρακώματα ποιοῦσί τινες πρὸ τῶν ἐρυμάτων.

Εἰσὶ δ’ αἱ μὲν ὀφρύες ἐπὶ συνθέσει ὀστῶν, διὸ καὶ δασύνονται πολλοῖς ἀπογηράσκουσιν οὕτως ὥστε δεῖσθαι κουρᾶς, αἱ δὲ βλεφαρίδες ἐπὶ πέρατι φλεβίων· ᾗ γὰρ τὸ δέρμα περαίνει, καὶ τὰ φλέβια πέρας ἔχει τοῦ μήκους. Ὥστ’ ἀναγκαῖον διὰ τὴν ἀπιοῦσαν ἰκμάδα σωματικὴν οὖσαν, ἂν μή τι τῆς φύσεως ἔργον ἐμποδίσῃ πρὸς ἄλλην χρῆσιν, καὶ διὰ τὴν τοιαύτην αἰτίαν ἐξ ἀνάγκης ἐν τοῖς τόποις τούτοις γίνεσθαι τρίχας.

Κεφάλαιο 16

Τοῖς μὲν οὖν ἄλλοις ζῴοις τοῖς τετράποσι καὶ ζῳοτόκοις οὐ πόρρω τρόπον τινὰ διέστηκεν ἀλλήλων τὸ τῆς ὀσφρήσεως αἰσθητήριον, ἀλλ' ὅσα μὲν ἔχει προμήκεις εἰς στενὸν ἀπηγμένας τὰς σιαγόνας, ἐν τῷ καλουμένῳ ῥύγχει καὶ τὸ τῶν μυκτήρων ἐνυπάρχει μόριον κατὰ τὸν ἐνδεχόμενον τρόπον, τοῖς δ' ἄλλοις μᾶλλον διηρθρωμένον ἐστὶ πρὸς τὰς σιαγόνας.

Ὁ δ' ἐλέφας ἰδιαίτατον ἔχει τοῦτο τὸ μόριον τῶν ἄλλων ζῴων· τό τε γὰρ μέγεθος καὶ τὴν δύναμιν ἔχει περιττή. Μυκτὴρ γάρ ἐστιν ᾧ τὴν τροφὴν προσάγεται, καθάπερ χειρὶ χρώμενος, πρὸς τὸ στόμα, τήν τε ξηρὰν καὶ (659a.) τὴν ὑγράν, καὶ τὰ δένδρα περιελίττων ἀνασπᾷ, καὶ χρῆται καθάπερ ἂν εἰ χειρί. Τὴν γὰρ φύσιν ἑλῶδες ἅμα τὸ ζῷόν ἐστι καὶ πεζόν, ὥστ' ἐπεὶ τὴν τροφὴν ἐξ ὑγροῦ συνέβαινεν ἔχειν, ἀναπνεῖν δ' ἀναγκαῖον πεζὸν ὂν καὶ ἔναιμον, καὶ μὴ ταχεῖαν ποιεῖσθαι τὴν μεταβολὴν ἐκ τοῦ ὑγροῦ πρὸς τὸ ξηρόν, καθάπερ ἔνια τῶν ζῳοτόκων καὶ ἐναίμων καὶ ἀναπνεόντων, τὸ γὰρ μέγεθος ὂν ὑπερβάλλον, ἀναγκαῖον ὁμοίως ἦν χρῆσθαι τῷ ὑγρῷ ὥσπερ καὶ τῇ γῇ.

Οἷον οὖν τοῖς κολυμβηταῖς ἔνιοι πρὸς τὴν ἀναπνοὴν ὄργανα πορίζονται, ἵνα πολὺν χρόνον ἐν τῇ θαλάττῃ μένοντες ἕλκωσιν ἔξωθεν τοῦ ὑγροῦ διὰ τοῦ ὀργάνου τὸν ἀέρα, τοιοῦτον ἡ φύσις τὸ τοῦ μυκτῆρος μέγεθος ἐποίησε τοῖς ἐλέφασιν. Διόπερ ἀναπνέουσιν ἄραντες ἄνω διὰ τοῦ ὕδατος τὸν μυκτῆρα, ἄν ποτε ποιῶνται δι' ὑγροῦ τὴν πορείαν· καθάπερ γὰρ εἴπομεν, μυκτήρ ἐστιν ἡ προβοσκὶς τοῖς ἐλέφασιν. Ἐπεὶ δ' ἀδύνατον ἦν εἶναι τὸν μυκτῆρα τοιοῦτον μὴ μαλακὸν ὄντα μηδὲ κάμπτεσθαι δυνάμενον (ἐνεπόδιζε γὰρ ἂν τῷ μήκει πρὸς τὸ λαβεῖν τὴν θύραθεν τροφήν, καθάπερ φασὶ τὰ κέρατα τοῖς ὀπισθονόμοις βουσίν· καὶ γὰρ ἐκείνους νέμεσθαί φασιν ὑποχωροῦντας πάλιν πυγηδόν) ὑπάρξαντος οὖν τοιούτου τοῦ μυκτῆρος, ἡ φύσις παρακαταχρῆται, καθάπερ εἴωθεν, ἐπὶ πλείονα τοῖς αὐτοῖς μορίοις, ἀντὶ τῆς τῶν προσθίων ποδῶν χρείας. Τούτους γὰρ τὰ πολυδάκτυλα τῶν τετραπόδων ἀντὶ χειρῶν ἔχουσιν, ἀλλ' οὐ μόνον ἕνεχ' ὑποστάσεως τοῦ βάρους· οἱ δ' ἐλέφαντες τῶν πολυδακτύλων εἰσί, καὶ οὔτε διχαλοὺς ἔχουσιν οὔτε μώνυχας τοὺς πόδας· ἐπεὶ δὲ τὸ μέγεθος πολὺ καὶ τὸ βάρος τὸ τοῦ σώματος, διὰ τοῦτο μόνον ἐρείσματός εἰσι χάριν, καὶ διὰ τὴν βραδυτῆτα καὶ τὴν ἀφυΐαν τῆς κάμψεως οὐ χρήσιμον πρὸς ἄλλο οὐδέν. Διὰ μὲν οὖν τὴν ἀναπνοὴν ἔχει μυκτῆρα, καθάπερ καὶ τῶν ἄλλων ἕκαστον τῶν ἐχόντων πλεύμονα ζῴων, διὰ δὲ τὴν ἐν τῷ ὑγρῷ διατριβὴν καὶ τὴν βραδυτῆτα τῆς ἐκεῖθεν μεταβολῆς δυνάμενον ἑλίττεσθαι καὶ μακρόν· ἀφῃρημένης δὲ τῆς τῶν ποδῶν χρήσεως, καὶ ἡ φύσις, ὥσπερ εἴπομεν, καταχρῆται καὶ πρὸς τὴν ἀπὸ τῶν ποδῶν γινομένην ἂν βοήθειαν τούτῳ τῷ μορίῳ.

Οἱ δ᾽ ὄρνιθες καὶ οἱ ὄφεις καὶ ὅσα (659b.) ἄλλ᾽ ἔναιμα καὶ ᾠοτόκα τῶν τετραπόδων, τοὺς μὲν πόρους ἔχουσι τῶν μυκτήρων πρὸ τοῦ στόματος, ὥστε δ᾽ εἰπεῖν μυκτῆρας, εἰ μὴ διὰ τὸ ἔργον, οὐκ ἔχουσι φανερῶς διηρθρωμένους· ἀλλ᾽ ἥ γε ὄρνις ὥστε μηθέν᾽ ἂν εἰπεῖν ἔχειν ῥῖνας. τοῦτο δὲ συμβέβηκεν, ὅτι ἀντὶ σιαγόνων ἔχει τὸ καλούμενον ῥύγχος. Αἰτία δὲ τούτων ἡ φύσις ἡ τῶν ὀρνίθων συνεστηκυῖα τοῦτον τὸν τρόπον. Δίπουν γάρ ἐστι καὶ πτερυγωτόν, ὥστ᾽ ἀνάγκη μικρὸν τὸ βάρος ἔχειν τὸ τοῦ αὐχένος καὶ τὸ τῆς κεφαλῆς, ὥσπερ καὶ τὸ στῆθος στενόν· ὅπως μὲν οὖν ᾖ χρήσιμον πρός τε τὴν ἀλκὴν καὶ διὰ τὴν τροφήν, ὀστῶδες ἔχουσι τὸ ῥύγχος, στενὸν δὲ διὰ τὴν μικρότητα τῆς κεφαλῆς. Ἐν δὲ τῷ ῥύγχει τοὺς πόρους ἔχουσι τῆς ὀσφρήσεως, μυκτῆρας δ᾽ ἔχειν ἀδύνατον. Περὶ δὲ τῶν ἄλλων ζῴων τῶν μὴ ἀναπνεόντων εἴρηται πρότερον δι᾽ ἣν αἰτίαν οὐκ ἔχουσι μυκτῆρας, ἀλλὰ τὰ μὲν διὰ τῶν βραγχίων, τὰ δὲ διὰ τοῦ αὐλοῦ, τὰ δ᾽ ἔντομα διὰ τοῦ ὑποζώματος αἰσθάνονται τῶν ὀσμῶν, καὶ πάντα τῷ συμφύτῳ πνεύματι τοῦ σώματος ὥσπερ κινεῖται· τοῦτο δ᾽ ὑπάρχει φύσει πᾶσι καὶ οὐ θύραθεν ἐπείσακτόν ἐστιν.

Ὑπὸ δὲ τοὺς μυκτῆρας ἡ τῶν χειλῶν ἐστι φύσις τοῖς ἔχουσι τῶν ἐναίμων ὀδόντας. Τοῖς γὰρ ὄρνισι, καθάπερ εἴπομεν, διὰ τὴν τροφὴν καὶ τὴν ἀλκὴν τὸ ῥύγχος ὀστῶδές ἐστιν· συνῆκται γὰρ εἰς ἓν ἀντ᾽ ὀδόντων καὶ χειλῶν, ὥσπερ ἂν εἴ τις ἀφελὼν ἀνθρώπου τὰ χείλη καὶ συμφύσας τοὺς ἄνωθεν ὀδόντας χωρὶς καὶ τοὺς κάτωθεν προαγάγοι μῆκος ποιήσας ἀμφοτέρωθεν εἰς στενόν· εἴη γὰρ ἂν τοῦτο ἤδη ῥύγχος ὀρνιθῶδες. Τοῖς μὲν οὖν ἄλλοις ζῴοις πρὸς σωτηρίαν τῶν ὀδόντων ἡ τῶν χειλῶν φύσις ἐστὶ καὶ πρὸς φυλακήν, διόπερ ὡς ἐκείνων μετέχουσι τοῦ ἀκριβῶς καὶ καλῶς ἢ τοὐναντίον, οὕτω καὶ τοῦ διηρθρῶσθαι τοῦτο τὸ μόριον ἔχουσιν· οἱ δ᾽ ἄνθρωποι μαλακὰ καὶ σαρκώδη καὶ δυνάμενα χωρίζεσθαι, φυλακῆς τε ἕνεκα τῶν ὀδόντων ὥσπερ καὶ τὰ ἄλλα, καὶ μᾶλλον ἔτι διὰ τὸ εὖ· πρὸς γὰρ τὸ χρῆσθαι τῷ λόγῳ καὶ ταῦτα. Ὥσπερ γὰρ τὴν γλῶτταν οὐχ ὁμοίαν τοῖς ἄλλοις ἐποίησεν ἡ φύσις, πρὸς ἐργασίας δύο καταχρησαμένη, καθάπερ εἴπομεν ποιεῖν αὐτὴν ἐπὶ πολλῶν, τὴν μὲν (660a.) γλῶτταν τῶν τε χυμῶν ἕνεκεν καὶ τοῦ λόγου, τὰ δὲ χείλη τούτου τε ἕνεκεν καὶ τῆς τῶν ὀδόντων φυλακῆς. Ὁ μὲν γὰρ λόγος ὁ διὰ τῆς φωνῆς ἐκ τῶν γραμμάτων σύγκειται, τῆς δὲ γλώττης μὴ τοιαύτης οὔσης μηδὲ τῶν χειλῶν ὑγρῶν οὐκ ἂν φθέγγεσθαι τὰ πλεῖστα τῶν γραμμάτων· τὰ μὲν γὰρ τῆς γλώττης εἰσὶ προσβολαί, τὰ δὲ συμβολαὶ τῶν χειλῶν. Ποίας δὲ ταῦτα καὶ πόσας καὶ τίνας ἔχει διαφοράς, δεῖ πυνθάνεσθαι παρὰ τῶν μετρικῶν. Ἀνάγκη δ’ ἦν εὐθὺς ἀκολουθῆσαι τούτων τῶν μορίων ἑκάτερον πρὸς τὴν εἰρημένην χρῆσιν εὐεργὰ καὶ τοιαύτην ἔχοντα τὴν φύσιν· διὸ σάρκινα. Μαλακωτάτη δ’ ἡ σὰρξ ἡ τῶν ἀνθρώπων ὑπῆρχεν. Τοῦτο δὲ διὰ τὸ αἰσθητικώτατον εἶναι τῶν ζῴων τὴν διὰ τῆς ἁφῆς αἴσθησιν.

Κεφάλαιο 17

Ὑπὸ δὲ τὸν οὐρανὸν ἐν τῷ στόματι ἡ γλῶττα τοῖς ζῴοις ἐστί, τοῖς μὲν πεζοῖς σχεδὸν ὁμοίως πᾶσι, τοῖς δ’ ἄλλοις ἀνομοίως καὶ αὐτοῖς πρὸς αὑτὰ καὶ πρὸς τὰ πεζὰ τῶν ζῴων.

Ὁ μὲν οὖν ἄνθρωπος ἀπολελυμένην τε καὶ μαλακωτάτην ἔχει μάλιστα τὴν γλῶτταν καὶ πλατεῖαν, ὅπως πρὸς ἀμφοτέρας ᾖ τὰς ἐργασίας χρήσιμος, πρός τε τὴν τῶν χυμῶν αἴσθησιν (ὁ γὰρ ἄνθρωπος εὐαισθητότατος τῶν ἄλλων ζῴων, καὶ ἡ μαλακὴ γλῶττα· ἁπτικωτάτη γάρ, ἡ δὲ γεῦσις ἁφή τίς ἐστιν), καὶ πρὸς τὴν τῶν γραμμάτων διάρθρωσιν καὶ πρὸς τὸν λόγον ἡ μαλακὴ καὶ πλατεῖα χρήσιμος· συστέλλειν γὰρ καὶ προβάλλειν παντοδαπῆ τοιαύτη οὖσα καὶ ἀπολελυμένη μάλιστ’ ἂν δύναιτο. Δηλοῖ δ’ ὅσοις μὴ λίαν ἀπολέλυται· ψελλίζονται γὰρ καὶ τραυλίζουσι, τοῦτο δ’ ἐστὶν ἔνδεια τῶν γραμμάτων. Ἔν τε τῷ πλατεῖαν εἶναι καὶ τὸ στενήν ἐστιν· ἐν γὰρ τῷ μεγάλῳ καὶ τὸ μικρόν, ἐν δὲ τῷ μικρῷ τὸ μέγα οὐκ ἔστιν. Διὸ καὶ τῶν ὀρνίθων οἱ μάλιστα φθεγγόμενοι γράμματα πλατυγλωττότεροι τῶν ἄλλων εἰσίν. Τὰ δ’ ἔναιμα καὶ ζῳοτόκα τῶν τετραπόδων βραχεῖαν τῆς φωνῆς ἔχει διάρθρωσιν· σκληράν τε γὰρ καὶ οὐκ ἀπολελυμένην ἔχουσι καὶ παχεῖαν τὴν γλῶτταν. Τῶν δ’ ὀρνίθων ἔνιοι πολύφωνοι, καὶ πλατυτέραν οἱ γαμψώνυχοι ἔχουσιν. Πολύφωνοι δ’ οἱ μικρότεροι. Καὶ χρῶνται τῇ γλώττῃ καὶ πρὸς ἑρμηνείαν ἀλλήλοις πάντες μέν, ἕτεροι δὲ τῶν ἑτέρων μᾶλλον, (660b.) ὥστ’ ἐπ’ ἐνίων καὶ μάθησιν εἶναι δοκεῖν παρ’ ἀλλήλων· εἴρηται δὲ περὶ αὐτῶν ἐν ταῖς ἱστορίαις ταῖς περὶ τῶν ζῴων.

Τῶν δὲ πεζῶν καὶ ᾠοτόκων καὶ ἐναίμων πρὸς μὲν τὴν τῆς φωνῆς ἐργασίαν ἄχρηστον τὰ πολλὰ τὴν γλῶτταν ἔχει καὶ προσδεδεμένην καὶ σκληράν, πρὸς δὲ τὴν τῶν χυμῶν γεῦσιν οἵ τ’ ὄφεις καὶ οἱ σαῦροι μακρὰν καὶ δικρόαν ἔχουσιν, οἱ μὲν ὄφεις οὕτω μακρὰν ὥστ’ ἐκτείνεσθαι ἐκ μικροῦ ἐπὶ πολύ, δικρόαν δὲ καὶ τὸ ἄκρον λεπτὸν καὶ τριχῶδες διὰ τὴν λιχνείαν τῆς φύσεως· διπλῆν γὰρ τὴν ἡδονὴν κτᾶται τῶν χυμῶν, ὥσπερ διπλῆν ἔχοντα τὴν τῆς γεύσεως αἴσθησιν. Ἔχει δὲ καὶ τὰ μὴ ἔναιμα τῶν ζῴων τὸ αἰσθητικὸν τῶν χυμῶν μόριον καὶ τὰ ἔναιμα πάντα· καὶ γὰρ ὅσα μὴ δοκεῖ τοῖς πολλοῖς ἔχειν, οἷον ἔνιοι τῶν ἰχθύων, καὶ οὗτοι τρόπον τινὰ γλίσχρον ἔχουσι, καὶ σχεδὸν παραπλησίως τοῖς ποταμίοις κροκοδείλοις. Οὐ φαίνονται δ’ οἱ πλεῖστοι

αὐτῶν ἔχειν διά τιν' αἰτίαν εὔλογον· ἀκανθώδης τε γάρ ἐστιν ὁ τόπος τοῦ στόματος πᾶσι τοῖς τοιούτοις, καὶ διὰ τὸ μικρὸν χρόνον εἶναι τὴν αἴσθησιν τοῖς ἐνύδροις τῶν χυμῶν, ὥσπερ καὶ ἡ χρῆσις αὐτῆς βραχεῖα, οὕτω βραχεῖαν ἔχουσιν αὐτῆς καὶ τὴν διάρθρωσιν. Ταχεῖα δ' ἡ δίοδος εἰς τὴν κοιλίαν διὰ τὸ μὴ οἷόν τ' εἶναι διατρίβειν ἐκχυμίζοντας· παρεμπίπτοι γὰρ ἂν τὸ ὕδωρ. Ὥστ' ἐὰν μή τις τὸ στόμα ἐπικλίνῃ, μὴ φαίνεσθαι ἀφεστηκὸς τοῦτο τὸ μόριον. Ἀκανθώδης δ' ἐστὶν οὗτος ὁ τόπος· σύγκειται γὰρ ἐκ τῆς συμψαύσεως τῶν βραγχίων, ὧν ἡ φύσις ἀκανθώδης ἐστίν. Τοῖς δὲ κροκοδείλοις συμβάλλεταί τι πρὸς τὴν τοῦ μορίου τούτου ἀναπηρίαν καὶ τὸ τὴν σιαγόνα τὴν κάτω ἀκίνητον ἔχειν. Ἔστι μὲν γὰρ ἡ γλῶττα τῇ κάτω συμφυής, οἱ δ' ἔχουσιν ὥσπερ ἀνάπαλιν τὴν ἄνω κάτω· τοῖς γὰρ ἄλλοις ἡ ἄνω ἀκίνητος. Πρὸς μὲν οὖν τῇ ἄνω οὐκ ἔχουσι τὴν γλῶτταν, ὅτι ἐναντίως ἂν ἔχοι πρὸς τὴν τῆς τροφῆς εἴσοδον, πρὸς δὲ τῇ κάτω, ὅτι ὥσπερ μετακειμένη ἡ ἄνω ἐστίν. Ἔτι δὲ καὶ συμβέβηκεν αὐτῷ πεζῷ ὄντι ζῆν ἰχθύων βίον, ὥστε καὶ διὰ τοῦτο ἀναγκαῖον ἀδιάρθρωτον αὐτὸν ἔχειν τοῦτο τὸ μόριον. Τὸν δ' οὐρανὸν σαρκώδη πολλοὶ καὶ τῶν ἰχθύων ἔχουσι, καὶ τῶν ποταμίων ἔνιοι σφόδρα σαρκώδη καὶ μαλακόν, οἷον οἱ καλούμενοι κυπρῖνοι, ὥστε δοκεῖν (661a.) τοῖς μὴ σκοποῦσιν ἀκριβῶς γλῶτταν ἔχειν ταύτῃ. Οἱ δ' ἰχθύες διὰ τὴν εἰρημένην αἰτίαν ἔχουσι μέν, οὐ σαφῆ δ' ἔχουσι τὴν διάρθρωσιν τῆς γλώττης. Ἐπεὶ δὲ τῆς τροφῆς χάριν τῆς ἐν τοῖς χυμοῖς ἐστιν εἰς αἴσθησιν μὲν τὸ γλωττοειδὲς μόριον, οὐ πάντῃ δ' ὁμοίως ἀλλὰ τῷ ἄκρῳ μάλιστα, διὰ τοῦτο τοῖς ἰχθύσι τοῦτ' ἀφώρισται μόνον. Ἐπιθυμίαν δ' ἔχει τροφῆς τὰ ζῷα πάντα ὡς ἔχοντα αἴσθησιν τῆς ἡδονῆς τῆς γινομένης ἐκ τῆς τροφῆς· ἡ γὰρ ἐπιθυμία τοῦ ἡδέος ἐστίν.

Ἀλλὰ τὸ μόριον οὐχ ὅμοιον τοῦτο πᾶσιν, ᾧ τὴν αἴσθησιν ποιοῦνται τῆς τροφῆς, ἀλλὰ τοῖς μὲν ἀπολελυμένον τοῖς δὲ προσπεφυκός, ὅσοις μηδὲν ἔργον ὑπάρχει φωνῆς, καὶ τοῖς μὲν σκληρὸν τοῖς δὲ μαλακὸν ἢ σαρκῶδες. Διὸ καὶ τοῖς μαλακοστράκοις, οἷον καράβοις καὶ τοῖς τοιούτοις, ἐντὸς ὑπάρχει τι τοῦ στόματος τοιοῦτον, καὶ τοῖς μαλακίοις, οἷον σηπίαις καὶ πολύποσιν. Τῶν δ' ἐντόμων ζῴων ἔνια μὲν ἐντὸς ἔχει τὸ τοιοῦτον μόριον, οἷον τὸ τῶν μυρμήκων γένος, ὡσαύτως δὲ καὶ τῶν ὀστρακοδέρμων πολλά· τὰ δ' ἐκτός, οἷον κέντρον, σομφὸν δὲ τὴν φύσιν καὶ κοῖλον, ὥσθ' ἅμα τούτῳ καὶ γεύεσθαι καὶ τὴν τροφὴν ἀνασπᾶν. Δῆλον δὲ τοῦτο ἐπί τε μυιῶν καὶ μελιττῶν καὶ πάντων τῶν τοιούτων, ἔτι δ' ἐπ' ἐνίων τῶν ὀστρακοδέρμων· ταῖς γὰρ πορφύραις τοσαύτην ἔχει δύναμιν τοῦτο τὸ μόριον ὥστε καὶ τῶν κογχυλίων διατρυπῶσι τὸ ὄστρακον, οἷον τῶν στρόμβων οἷς δελεάζουσιν αὐτάς. Ἔτι δ'

οἵ τε οἶστροι καὶ οἱ μύωπες οἱ μὲν τὰ τῶν ἀνθρώπων οἱ δὲ καὶ τὰ τῶν ἄλλων ζῴων δέρματα διαιροῦσιν. Ἐν μὲν οὖν τούτοις τοῖς ζῴοις ἡ γλῶττα τοιαύτη τὴν φύσιν ἐστίν, ὥσπερ ἀντιστρόφως ἔχουσα τῷ μυκτῆρι τῷ τῶν ἐλεφάντων· καὶ γὰρ ἐκείνοις πρὸς βοήθειαν ὁ μυκτήρ, καὶ τούτοις ἡ γλῶττα ἀντὶ κέντρου ἐστίν. Ἐπὶ δὲ τῶν ἄλλων ζῴων ἡ γλῶττα πάντων ἐστὶν οἵανπερ εἴπομεν.

Βιβλίο 3

Κεφάλαιο 1

Ἐχόμενον δὲ τῶν εἰρημένων ἡ τῶν ὀδόντων ἐστὶ φύσις τοῖς ζῴοις, καὶ τὸ στόμα τὸ περιεχόμενον ὑπὸ τούτων καὶ συνεστηκὸς ἐκ τούτων. Τοῖς μὲν οὖν ἄλλοις ἡ τῶν ὀδόντων (661b.) φύσις κοινὴ μὲν ἐπὶ τὴν τῆς τροφῆς ἐργασίαν ὑπάρχει, χωρὶς δὲ κατὰ γένη τοῖς μὲν ἀλκῆς χάριν, καὶ ταύτης διῃρημένης, ἐπί τε τὸ ποιεῖν καὶ τὸ μὴ πάσχειν· τὰ μὲν γὰρ ἀμφοῖν ἕνεκεν ἔχει, καὶ τοῦ μὴ παθεῖν καὶ τοῦ ποιεῖν, οἷον ὅσα σαρκοφάγα τῶν ἀγρίων τὴν φύσιν ἐστίν, τὰ δὲ βοηθείας χάριν, ὥσπερ πολλὰ τῶν ἀγρίων καὶ τῶν ἡμέρων. Ὁ δ’ ἄνθρωπος πρός τε τὴν κοινὴν χρῆσιν καλῶς ἔχει πεφυκότας, τοὺς μὲν προσθίους ὀξεῖς, ἵνα διαιρῶσι, τοὺς δὲ γομφίους πλατεῖς, ἵνα λεαίνωσιν. Ὁρίζουσι δ’ ἑκατέρους οἱ κυνόδοντες, μέσοι τὴν φύσιν ἀμφοτέρων ὄντες· τό τε γὰρ μέσον ἀμφοτέρων μετέχει τῶν ἄκρων, οἵ τε κυνόδοντες τῇ μὲν ὀξεῖς τῇ δὲ πλατεῖς εἰσιν. Ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων ζῴων, ὅσα μὴ πάντας ἔχουσιν ὀξεῖς. Μάλιστα δὲ καὶ τούτους τοιούτους καὶ τοσούτους πρὸς τὴν διάλεκτον· πολλὰ γὰρ πρὸς τὴν γένεσιν τῶν γραμμάτων οἱ πρόσθιοι τῶν ὀδόντων συμβάλλονται.

Ἔνια δὲ τῶν ζῴων, ὥσπερ εἴπομεν, τροφῆς χάριν ἔχει μόνον. Ὅσα δὲ καὶ πρὸς βοήθειάν τε καὶ πρὸς ἀλκήν, τὰ μὲν χαυλιόδοντας ἔχει, καθάπερ ὗς, τὰ δ’ ὀξεῖς καὶ ἐπαλλάττοντας, ὅθεν καρχαρόδοντα καλεῖται. Ἐπεὶ γὰρ ἐν τοῖς ὀδοῦσιν ἡ ἰσχὺς αὐτῶν, τοῦτο δὲ γίνοιτ’ ἂν διὰ τὴν ὀξύτητα, οἱ χρήσιμοι δὴ πρὸς τὴν ἀλκὴν ἐναλλὰξ ἐμπίπτουσιν, ὅπως μὴ ἀμβλύνωνται τριβόμενοι πρὸς ἀλλήλους. Οὐδὲν δὲ τῶν ζῴων ἐστὶν ἅμα καρχαρόδουν καὶ χαυλιόδουν, διὰ τὸ μηδὲν μάτην ποιεῖν τὴν φύσιν μηδὲ περίεργον· ἔστι δὲ τῶν μὲν διὰ πληγῆς ἡ βοήθεια, τῶν δὲ διὰ δήγματος. Διόπερ αἱ θήλειαι τῶν ὑῶν δάκνουσιν· οὐ γὰρ ἔχουσι χαυλιόδοντας. Καθόλου δὲ χρεὼν τι λαβεῖν, ὃ καὶ ἐπὶ τούτων καὶ ἐπὶ πολλῶν τῶν ὕστερον λεχθησομένων ἔσται χρήσιμον. Τῶν τε γὰρ πρὸς ἀλκήν τε καὶ βοήθειαν ὀργανικῶν μορίων ἕκαστα ἀποδίδωσιν ἡ φύσις τοῖς δυναμένοις χρῆσθαι μόνοις ἢ μᾶλλον, μάλιστα δὲ τῷ μάλιστα, οἷον κέντρον, πλῆκτρον, κέρατα, χαυλιόδοντας καὶ εἴ τι τοιοῦτον ἕτερον. Ἐπεὶ δὲ τὸ ἄρρεν ἰσχυρότερον καὶ θυμικώτερον, τὰ μὲν μόνα τὰ δὲ μᾶλλον ἔχει τὰ τοιαῦτα τῶν μορίων. Ὅσα μὲν γὰρ ἀναγκαῖον καὶ τοῖς θήλεσιν ἔχειν, οἷον τὰ πρὸς τὴν τροφήν, ἔχουσι μὲν ἧττον δ’ ἔχουσιν, ὅσα δὲ πρὸς μηδὲν τῶν ἀναγκαίων, οὐκ

ἔχουσιν. Καὶ (662a.) διὰ τοῦτο τῶν ἐλάφων οἱ μὲν ἄρρενες ἔχουσι κέρατα, αἱ δὲ θήλειαι οὐκ ἔχουσιν. Διαφέρει δὲ καὶ τὰ κέρατα τῶν θηλειῶν βοῶν καὶ τῶν ταύρων· ὁμοίως δὲ καὶ ἐν τοῖς προβάτοις. Καὶ πλῆκτρα τῶν ἀρρένων ἐχόντων αἱ πολλαὶ τῶν θηλειῶν οὐκ ἔχουσιν. Ὡσαύτως δ’ ἔχει τοῦτο καὶ ἐπὶ τῶν ἄλλων τῶν τοιούτων.

Οἱ δ’ ἰχθύες πάντες εἰσὶ καρχαρόδοντες, πλὴν τοῦ ἑνὸς τοῦ καλουμένου σκάρου· πολλοὶ δ’ ἔχουσι καὶ ἐν ταῖς γλώτταις ὀδόντας καὶ ἐν τοῖς οὐρανοῖς. Τούτου δ’ αἴτιον ὅτι ἀναγκαῖον ἐν ὑγροῖς οὖσι παρεισδέχεσθαι τὸ ὑγρὸν ἅμα τῇ τροφῇ, καὶ τοῦτο ταχέως ἐκπέμπειν. Οὐ γὰρ ἐνδέχεται λεαίνοντας διατρίβειν· εἰσρέοι γὰρ ἂν τὸ ὑγρὸν εἰς τὰς κοιλίας.

Διὰ τοῦτο πάντες εἰσὶν ὀξεῖς πρὸς τὴν διαίρεσιν. Πάλιν καὶ πολλοὶ καὶ πολλαχῇ, ἵνα ἀντὶ τοῦ λεαίνειν εἰς πολλὰ κερματίζωσι τῷ πλήθει. Γαμψοὶ δὲ διὰ τὸ τὴν ἀλκὴν σχεδὸν ἅπασαν αὐτοῖς διὰ τούτων εἶναι.

Ἔχει δὲ καὶ τὴν τοῦ στόματος φύσιν τὰ ζῷα τούτων τε τῶν ἔργων ἕνεκα καὶ ἔτι τῆς ἀναπνοῆς, ὅσα ἀναπνεῖ τῶν ζῴων καὶ καταψύχεται θύραθεν. Ἡ γὰρ φύσις αὐτὴ καθ’ αὑτήν, ὥσπερ εἴπομεν, τοῖς κοινοῖς πάντων μορίοις εἰς πολλὰ τῶν ἰδίων καταχρῆται, οἷον καὶ ἐπὶ τοῦ στόματος ἡ μὲν τροφὴ πάντων κοινόν, ἡ δ’ ἀλκή τινων ἴδιον καὶ ὁ λόγος ἑτέρων, ἔτι δὲ τὸ ἀναπνεῖν οὐ πάντων κοινόν. Ἡ δὲ φύσις ἅπαντα συνήγαγεν εἰς ἕν, ποιοῦσα διαφορὰν αὐτοῦ τοῦ μορίου πρὸς τὰς τῆς ἐργασίας διαφοράς. Διὸ τὰ μέν ἐστι συστομώτερα, τὰ δὲ μεγαλόστομα. Ὅσα μὲν γὰρ τροφῆς καὶ ἀναπνοῆς καὶ λόγου χάριν, συστομώτερα, τῶν δὲ βοηθείας χάριν τὰ μὲν καρχαρόδοντα πάντα ἀνερρωγότα. Οὔσης γὰρ αὐτοῖς τῆς ἀλκῆς ἐν τοῖς δήγμασι χρήσιμον τὸ μεγάλην εἶναι τὴν ἀνάπτυξιν τοῦ στόματος· πλείοσι γὰρ καὶ κατὰ μεῖζον δήξεται, ὅσονπερ ἂν ἐπὶ τὸ πλέον ἀνερρώγῃ τὸ στόμα. Ἔχουσι δὲ καὶ τῶν ἰχθύων οἱ δηκτικοὶ καὶ σαρκοφάγοι τοιοῦτον στόμα, οἱ δὲ μὴ σαρκοφάγοι μύουρον· τοιοῦτον γὰρ αὐτοῖς χρήσιμον, ἐκεῖνο δὲ ἄχρηστον.

Τοῖς δ’ ὄρνισίν ἐστι τὸ καλούμενον ῥύγχος στόμα· τοῦτο γὰρ ἀντὶ χειλῶν καὶ ὀδόντων ἔχουσιν. Διαφέρει δὲ τοῦτο κατὰ τὰς χρήσεις καὶ τὰς (662b.) βοηθείας. Τὰ μὲν γὰρ γαμψώνυχα καλούμενα διὰ τὸ σαρκοφαγεῖν καὶ μηδενὶ τρέφεσθαι καρπῷ γαμψὸν ἔχει τὸ ῥύγχος ἅπαντα· χρήσιμον γὰρ πρὸς τὸ κρατεῖν καὶ βιαστικώτερον τοιοῦτο πεφυκός. Ἡ δ’ ἀλκὴ ἐν τούτῳ τε καὶ τοῖς ὄνυξι, διὸ καὶ τοὺς ὄνυχας γαμψοτέρους ἔχουσιν. Τῶν δ’ ἄλλων ἑκάστῳ πρὸς τὸν βίον χρήσιμόν ἐστι τὸ ῥύγχος, οἷον τοῖς μὲν δρυοκόποις ἰσχυρὸν καὶ σκληρόν, καὶ κόραξι καὶ κορακώδεσι, τοῖς δὲ μικροῖς γλαφυρὸν πρὸς τὰς συλλογὰς τῶν καρπῶν καὶ τὰς λήψεις τῶν ζῳδαρίων. Ὅσα δὲ ποηφάγα καὶ ὅσα παρ’ ἕλη ζῇ, καθάπερ τὰ πλωτὰ καὶ στεγανόποδα, τὰ μὲν ἄλλον τρόπον χρήσιμον ἔχει τὸ ῥύγχος, τὰ δὲ πλατύρυγχα αὐτῶν ἐστιν· τοιούτῳ γὰρ ὄντι ῥᾳδίως δύνατ’ ὀρύσσειν, ὥσπερ καὶ τῶν τετραπόδων τὸ τῆς ὑός· καὶ γὰρ αὕτη ῥιζοφάγος. Ἔτι δ’ ἔχουσι καὶ τὰ ῥιζοφάγα τῶν ὀρνέων καὶ τῶν ὁμοιοβίων ἔνια τὰ ἄκρα τοῦ ῥύγχους κεχαραγμένα· ποηφάγοις γὰρ τούτοις οὖσι ποιεῖ ῥᾳδίως.

Περὶ μὲν οὖν τῶν ἄλλων μορίων τῶν ἐν τῇ κεφαλῇ σχεδὸν εἴρηται, τῶν ἀνθρώπων δὲ καλεῖται τὸ μεταξὺ τῆς κεφαλῆς καὶ τοῦ αὐχένος πρόσωπον, ἀπὸ τῆς πράξεως αὐτῆς ὀνομασθέν, ὡς ἔοικεν· διὰ γὰρ τὸ μόνον ὀρθὸν εἶναι τῶν ζῴων μόνον πρόσωθεν ὄπωπε καὶ τὴν φωνὴν εἰ̓ς τὸ πρόσω διαπέμπει.

Κεφάλαιο 2

Περὶ δὲ κεράτων λεκτέον· καὶ γὰρ ταῦτα πέφυκε τοῖς ἔχουσιν ἐν τῇ κεφαλῇ. Ἔχει δ’ οὐδὲν μὴ ζῳοτόκον. Καθ’ ὁμοιότητα δὲ καὶ μεταφορὰν λέγεται καὶ ἑτέρων τινῶν κέρατα· ἀλλ’ οὐδενὶ αὐτῶν τὸ ἔργον τοῦ κέρατος ὑπάρχει.

Βοηθείας γὰρ καὶ ἀλκῆς χάριν ἔχουσι τὰ ζῳοτόκα, ὃ τῶν ἄλλων τῶν λεγομένων ἔχειν κέρας οὐδενὶ συμβέβηκεν· οὐδὲν γὰρ χρῆται τοῖς κέρασιν οὔτ’ ἀμυνόμενον οὔτε πρὸς τὸ κρατεῖν, ἅπερ ἰσχύος ἐστὶν ἔργα. Ὅσα μὲν οὖν πολυσχιδῆ τῶν ζῴων, οὐδὲν ἔχει κέρας. Τούτου δ’ αἴτιον ὅτι τὸ μὲν κέρας βοηθείας αἴτιόν ἐστι, τοῖς δὲ πολυσχιδέσιν ὑπάρχουσιν ἕτεραι βοήθειαι· δέδωκε γὰρ ἡ φύσις τοῖς μὲν ὄνυχας, τοῖς δ’ ὀδόντας μαχητικούς, τοῖς δ’ ἄλλο τι μόριον ἱκανὸν ἀμύνειν.

Τῶν δὲ διχαλῶν τὰ μὲν πολλὰ κέρατα ἔχει πρὸς ἀλκήν, (663a.) καὶ τῶν μωνύχων ἔνια, τὰ δὲ καὶ πρὸς βοήθειαν. Ὅσοις δὲ μὴ δέδωκεν ἡ φύσις ἄλλην ἀλκὴν πρὸς σωτηρίαν, οἷον ταχυτῆτα σώματος, καθάπερ τοῖς ἵπποις βεβοήθηκεν, ἢ μέγεθος, ὥσπερ ταῖς καμήλοις· καὶ γὰρ μεγέθους ὑπερβολὴ τὴν ἀπὸ τῶν ἄλλων ζῴων φθορὰν ἱκανὴ κωλύειν, ὅπερ συμβέβηκε ταῖς καμήλοις, ἔτι δὲ μᾶλλον τοῖς ἐλέφασιν.

Τὰ δὲ χαυλιόδοντα, ὥσπερ καὶ τὸ τῶν ὑῶν γένος, διχαλόν. Ὅσοις δ’ ἄχρηστος πέφυκεν ἡ τῶν κεράτων ἐξοχή, τούτοις προστέθεικεν ἑτέραν βοήθειαν ἡ φύσις, οἷον ταῖς μὲν ἐλάφοις τάχος (τὸ γὰρ μέγεθος αὐτῶν καὶ τὸ πολυσχιδὲς μᾶλλον βλάπτει ἢ ὠφελεῖ), καὶ βουβάλοις δὲ καὶ δορκάσι (πρὸς ἔνια μὲν γὰρ ἀνθιστάμενα τοῖς κέρασιν ἀμύνονται, τὰ δὲ θηριώδη καὶ μάχιμα ἀποφεύγουσι), τοῖς δὲ βονάσοις (καὶ γὰρ τούτοις γαμψὰ τὰ κέρατα πέφυκε πρὸς ἄλληλα) τὴν τοῦ περιττώματος ἄφεσιν· τούτῳ γὰρ ἀμύνεται φοβηθέντα· καὶ ταύτῃ δὲ τῇ προέσει διασῴζεται ἕτερα. Ἅμα δ’ ἱκανὰς καὶ πλείους βοηθείας οὐ δέδωκεν ἡ φύσις τοῖς αὐτοῖς. Ἔστι δὲ τὰ πλεῖστα τῶν κερατοφόρων διχαλά, λέγεται δὲ καὶ μώνυχον, ὃν καλοῦσιν Ἰνδικὸν ὄνον. Τὰ μὲν οὖν πλεῖστα, καθάπερ καὶ τὸ σῶμα διῄρηται τῶν ζῴων οἷς ποιεῖται τὴν κίνησιν, δεξιὸν καὶ ἀριστερόν, καὶ κέρατα δύο πέφυκεν ἔχειν διὰ τὴν αἰτίαν ταύτην· ἔστι δὲ καὶ μονοκέρατα, οἷον ὅ τε ὄρυξ καὶ ὁ Ἰνδικὸς καλούμενος ὄνος. Ἔστι δ’ ὁ μὲν ὄρυξ διχαλόν, ὁ δ’ ὄνος μώνυχον. Ἔχει δὲ τὰ

μονοκέρατα τὸ κέρας ἐν τῷ μέσῳ τῆς κεφαλῆς· οὕτω γὰρ ἑκάτερον τῶν μερῶν μάλιστ’ ἂν ἔχοι κέρας ἕν· τὸ γὰρ μέσον ὁμοίως κοινὸν ἀμφοτέρων τῶν ἐσχάτων. Εὐλόγως δ’ ἂν δόξειε μονόκερων εἶναι τὸ μώνυχον τοῦ διχαλοῦ μᾶλλον· ὁπλὴ γὰρ καὶ χηλὴ τὴν αὐτὴν ἔχει κέρατι φύσιν, ὥσθ’ ἅμα καὶ τοῖς αὐτοῖς ἡ σχίσις γίνεται τῶν ὁπλῶν καὶ τῶν κεράτων.

Ἔτι δ’ ἡ σχίσις καὶ τὸ διχαλὸν κατ’ ἔλλειψιν τῆς φύσεώς ἐστιν, ὥστ’ εὐλόγως τοῖς μωνύχοις ἐν ταῖς ὁπλαῖς δοῦσα τὴν ὑπεροχὴν ἡ φύσις ἄνωθεν ἀφεῖλε καὶ μονόκερων ἐποίησεν.

Ὀρθῶς δὲ καὶ τὸ ἐπὶ τῆς κεφαλῆς ποιῆσαι τὴν τῶν κεράτων φύσιν, ἀλλὰ μὴ καθάπερ ὁ Αἰσώπου Μῶμος διαμέμφεται τὸν ταῦρον, ὅτι οὐκ ἐπὶ τοῖς ὤμοις ἔχει τὰ κέρατα, ὅθεν (663b.) τὰς πληγὰς ἐποιεῖτ’ ἂν ἰσχυροτάτας, ἀλλ’ ἐπὶ τοῦ ἀσθενεστάτου μέρους τῆς κεφαλῆς. Οὐ γὰρ ὀξὺ βλέπων ὁ Μῶμος ταῦτ’ ἐπετίμησεν. Ὥσπερ γὰρ καὶ εἰ ἑτέρωθί που τοῦ σώματος κέρατα ἐπεφύκει, βάρος ἂν παρεῖχεν ἄλλως οὐδὲν ὄντα χρήσιμα κἂν ἐμπόδια τῶν ἔργων πολλοῖς ἦν, οὕτως καὶ ἐπὶ τῶν ὤμων πεφυκότα. Οὐ γὰρ μόνον χρὴ σκοπεῖν πόθεν ἰσχυρότεραι αἱ πληγαί, ἀλλὰ καὶ πόθεν πορρώτεραι· ὥστ’ ἐπεὶ καὶ χεῖρας μὲν οὐκ ἔχουσιν, ἐπὶ δὲ τῶν ποδῶν ἀδύνατον, ἐν δὲ τοῖς γόνασιν ὄντα τὴν κάμψιν ἐκώλυεν ἄν, ἀναγκαῖον ὥσπερ νῦν ἔχουσιν, ἐπὶ τῆς κεφαλῆς ἔχειν. Ἅμα δὲ καὶ πρὸς τὰς ἄλλας κινήσεις τοῦ σώματος ἀνεμπόδιστα πέφυκεν οὕτω μάλιστα. Ἔστι δὲ τὰ κέρατα δι’ ὅλου στερεὰ τοῖς ἐλάφοις μόνοις, καὶ ἀποβάλλει μόνον, ἕνεκεν μὲν ὠφελείας κουφιζόμενον, ἐξ ἀνάγκης δὲ διὰ τὸ βάρος. Τῶν δ’ ἄλλων τὰ κέρατα μέχρι τινὸς κοῖλα, τὰ δ’ ἄκρα στερεὰ διὰ τὸ πρὸς τὰς πληγὰς τοῦτ’ εἶναι χρήσιμον. Ὅπως δὲ μηδὲ τὸ κοῖλον ἀσθενὲς ᾖ, πέφυκεν ἐκ τοῦ δέρματος, ἐν τούτῳ δ’ ἐνήρμοσται στερεὸν ἐκ τῶν ὀστῶν· οὕτω γὰρ καὶ τὰ κέρατα ἔχοντα πρὸς ἀλκήν τε χρησιμώτατ’ εἶναι, καὶ πρὸς τὸν ἄλλον βίον ἀνοχλότατα.

Τίνος μὲν οὖν ἕνεκεν ἡ τῶν κεράτων φύσις, εἴρηται, καὶ διὰ τίν’ αἰτίαν τὰ μὲν ἔχουσι τοιαῦτα, τὰ δ’ οὐκ ἔχουσιν· πῶς δὲ τῆς ἀναγκαίας φύσεως ἐχούσης τοῖς ὑπάρχουσιν ἐξ ἀνάγκης ἡ κατὰ τὸν λόγον φύσις ἕνεκά του κατακέχρηται, λέγωμεν. Πρῶτον μὲν οὖν τὸ σωματῶδες καὶ γεῶδες πλεῖον ὑπάρχει τοῖς μείζοσι τῶν ζῴων, κερατοφόρον δὲ μικρὸν πάμπαν οὐδὲν ἴσμεν· ἐλάχιστον γάρ ἐστι τῶν γνωριζομένων δορκάς. Δεῖ δὲ τὴν φύσιν θεωρεῖν εἰς τὰ πολλὰ βλέποντα· ἢ γὰρ ἐν τῷ παντὶ ἢ τῷ ὡς ἐπὶ τὸ πολὺ τὸ κατὰ φύσιν ἐστίν. Τὸ δ’ ὀστῶδες ἐν τοῖς σώμασι τῶν ζῴων γεῶδες ὑπάρχει· διὸ καὶ πλεῖστον ἐν τοῖς μεγίστοις ὡς ἐπὶ τὸ πολὺ βλέψαντας εἰπεῖν. Τὴν γοῦν τοιούτου σώματος περισσωματικὴν ὑπερβολὴν ἐν τοῖς μείζοσι τῶν ζῴων ὑπάρχουσαν ἐπὶ βοήθειαν καὶ τὸ συμφέρον καταχρῆται ἡ φύσις, καὶ τὴν ῥέουσαν ἐξ ἀνάγκης εἰς τὸν ἄνω τόπον τοῖς μὲν εἰς ὀδόντας καὶ χαυλιόδοντας ἀπένειμε, τοῖς δ' εἰς κέρατα. Διὸ τῶν κερατοφόρων οὐδέν ἐστιν ἄμφωδον· ἄνω γὰρ οὐκ ἔχει τοὺς προσθίους (664a.) ὀδόντας· ἀφελοῦσα γὰρ ἐντεῦθεν ἡ φύσις τοῖς κέρασι προσέθηκε, καὶ ἡ διδομένη τροφὴ εἰς τοὺς ὀδόντας τούτους εἰς τὴν τῶν κεράτων αὔξησιν ἀναλίσκεται. Τοῦ δὲ τὰς θηλείας ἐλάφους κέρατα μὲν μὴ ἔχειν, περὶ δὲ τοὺς ὀδόντας ὁμοίως τοῖς ἄρρεσιν, αἴτιον τὸ τὴν αὐτὴν εἶναι φύσιν ἀμφοῖν καὶ κερατοφόρον. Ἀφῄρηται δὲ τὰ κέρατα ταῖς θηλείαις διὰ τὸ χρήσιμα μὲν μὴ εἶναι μηδὲ τοῖς ἄρρεσιν, βλάπτεσθαι δ' ἧσσον διὰ τὴν ἰσχύν. Τῶν δ' ἄλλων ζῴων ὅσοις μὴ εἰς κέρατα ἀποκρίνεται τὸ τοιοῦτον μόριον τοῦ σώματος, ἐνίοις μὲν τῶν ὀδόντων αὐτῶν ἐπηύξησε τὸ μέγεθος κοινῇ πάντων, ἐνίοις δὲ χαυλιόδοντας ὥσπερ κέρατα ἐκ τῶν γνάθων ἐποίησεν.

Κεφάλαιο 3

Περὶ μὲν οὖν τῶν ἐν τῇ κεφαλῇ μορίων ταύτῃ διωρίσθω, ὑπὸ δὲ τὴν κεφαλὴν ὁ αὐχὴν πεφυκώς ἐστι τοῖς ἔχουσιν αὐχένα τῶν ζῴων. Οὐ γὰρ πάντα τοῦτο τὸ μόριον ἔχει. ἀλλὰ μόνα τὰ ἔχοντα ὧν χάριν ὁ αὐχὴν πέφυκεν· ταῦτα δ’ ἐστὶν ὅ τε φάρυγξ καὶ ὁ καλούμενος οἰσοφάγος. Ὁ μὲν οὖν φάρυγξ τοῦ πνεύματος ἕνεκεν πέφυκεν· διὰ τούτου γὰρ εἰσάγεται τὸ πνεῦμα τὰ ζῷα καὶ ἐκπέμπει ἀναπνέοντα καὶ ἐκπνέοντα. Διὸ τὰ μὴ ἔχοντα πλεύμονα οὐκ ἔχουσιν οὐδ’ αὐχένα, οἷον τὸ τῶν ἰχθύων γένος. Ὁ δ’ οἰσοφάγος ἐστὶ δι’ οὗ ἡ τροφὴ πορεύεται εἰς τὴν κοιλίαν· ὥσθ’ ὅσα μὴ ἔχει αὐχένα, οὐδ’ οἰσοφάγον ἐπιδήλως ἔχουσιν. Οὐκ ἀναγκαῖον δ’ ἔχειν τὸν οἰσοφάγον τῆς τροφῆς ἕνεκεν· οὐθὲν γὰρ παρασκευάζει πρὸς αὐτήν. Ἔτι δὲ μετὰ τὴν τοῦ στόματος θέσιν ἐνδέχεται κεῖσθαι τὴν κοιλίαν εὐθέως, τὸν δὲ πλεύμονα οὐκ ἐνδέχεται. Δεῖ γὰρ εἶναί τινα κοινὸν οἷον αὐλῶνα, δι’ οὗ μεριεῖται τὸ πνεῦμα κατὰ τὰς ἀρτηρίας εἰς τὰς σύριγγας, διμερῆ ὄντα· καὶ κάλλιστ’ ἂν οὕτως ἀποτελοῖ τὴν ἀναπνοὴν καὶ ἐκπνοήν. Τοῦ δ’ ὀργάνου τοῦ περὶ τὴν ἀναπνοὴν ἐξ ἀνάγκης ἔχοντος μῆκος, ἀναγκαῖον τὸν οἰσοφάγον εἶναι μεταξὺ τοῦ στόματος καὶ τῆς κοιλίας. Ἔστι δ’ ὁ μὲν οἰσοφάγος σαρκώδης, ἔχων νευρώδη τάσιν, νευρώδης μέν, ὅπως ἔχῃ διάτασιν εἰσιούσης τῆς τροφῆς, σαρκώδης δέ, ὅπως μαλακὸς ᾖ καὶ ἐνδιδῷ καὶ μὴ βλάπτηται τραχυνόμενος ὑπὸ τῶν κατιόντων.

Ἡ δὲ καλουμένη φάρυγξ καὶ ἀρτηρία συνέστηκεν ἐκ χονδρώδους σώματος· οὐ (664b.) γὰρ μόνον ἀναπνοῆς ἕνεκέν ἐστιν ἀλλὰ καὶ φωνῆς, δεῖ δὲ τὸ ψοφήσειν μέλλον λεῖον εἶναι καὶ στερεότητα ἔχειν. Κεῖται δ’ ἔμπροσθεν ἡ ἀρτηρία τοῦ οἰσοφάγου, καίπερ ἐμποδίζουσα αὐτὸν περὶ τὴν ὑποδοχὴν τῆς τροφῆς· ἐὰν γάρ τι παρεισρυῇ ξηρὸν ἢ ὑγρὸν εἰς τὴν ἀρτηρίαν, πνιγμοὺς καὶ πόνους καὶ βῆχας χαλεπὰς ἐμποιεῖ. Ὃ δὴ καὶ θαυμάσειεν ἄν τις τῶν λεγόντων ὡς ταύτῃ τὸ ποτὸν δέχεται τὸ ζῷον· συμβαίνει γὰρ φανερῶς τὰ λεχθέντα πᾶσιν, οἷς ἂν παραρρυῇ τι τῆς τροφῆς. Πολλαχῇ δὲ γελοῖον φαίνεται τὸ λέγειν ὡς ταύτῃ τὸ ποτὸν εἰσδέχεται τὰ ζῷα. Πόρος γὰρ οὐδείς ἐστιν εἰς τὴν κοιλίαν ἀπὸ τοῦ πλεύμονος, ὥσπερ ἐκ τοῦ στόματος ὁρῶμεν τὸν οἰσοφάγον. Ἔτι δ’ ἐν τοῖς ἐμέτοις καὶ ναυτίαις οὐκ ἄδηλον πόθεν τὸ ὑγρὸν φαίνεται πορευόμενον. Δῆλον δὲ καὶ ὅτι οὐκ εὐθέως εἰς τὴν κύστιν συλλέγεται τὸ ὑγρόν, ἀλλ’ εἰς τὴν κοιλίαν πρότερον· τὰ γὰρ τῆς κοιλίας περιττώματα φαίνεται χρωματίζειν ἡ ἰλὺς τοῦ μέλανος οἴνου· συμβέβηκε δὲ τοῦτο πολλάκις φανερὸν καὶ ἐπὶ τῶν εἰς τὴν κοιλίαν τραυμάτων. Ἀλλὰ γὰρ ἴσως εὔηθες τὸ τοὺς εὐήθεις τῶν λόγων λίαν ἐξετάζειν.

Ἡ δ’ ἀρτηρία τῷ διακεῖσθαι, καθάπερ εἴπομεν, ἐν τῷ πρόσθεν ὑπὸ τῆς τροφῆς ἐνοχλεῖται· ἀλλ’ ἡ φύσις πρὸς τοῦτο μεμηχάνηται τὴν ἐπιγλωσσίδα. Ταύτην δ’ οὐκ ἔχουσιν ἅπαντα τὰ ζῳοτοκοῦντα, ἀλλ’ ὅσα πλεύμονα ἔχει καὶ τὸ δέρμα τριχωτόν, καὶ μὴ φολιδωτὰ μηδὲ πτερωτὰ πέφυκεν. Τούτοις δ’ ἀντὶ τῆς ἐπιγλωττίδος συνάγεται καὶ διοίγεται ὁ φάρυγξ, ὅνπερ τρόπον ἐκείνοις ἐπιβάλλει τε καὶ ἀναπτύσσεται τοῦ πνεύματος τῇ εἰσόδῳ τε καὶ ἐξόδῳ ἀναπτυσσομένη, τῆς δὲ τροφῆς εἰσιούσης ἐπιπτυσσομένη, ἵνα μηθὲν παραρρυῇ παρὰ τὴν ἀρτηρίαν. Ἐὰν δέ τι πλημμεληθῇ παρὰ τὴν τοιαύτην κίνησιν καὶ προσφερομένης τῆς τροφῆς ἀναπνεύσῃ τις, βῆχας καὶ πνιγμοὺς ποιεῖ, καθάπερ εἴρηται. Οὕτω δὲ καλῶς μεμηχάνηται καὶ ἡ ταύτης καὶ ἡ τῆς γλώττης κίνησις, ὥστε τῆς τροφῆς ἐν μὲν τῷ στόματι λεαινομένης, παρ’ αὐτὴν δὲ διιούσης, τὴν μὲν ὀλιγάκις ὑπὸ τοὺς ὀδόντας πίπτειν, εἰς δὲ τὴν ἀρτηρίαν σπάνιόν τι παραρρεῖν. Οὐκ ἔχει δὲ τὰ λεχθέντα ζῷα τὴν (665a.) ἐπιγλωττίδα διὰ τὸ ξηρὰς εἶναι τὰς σάρκας αὐτῶν καὶ τὸ δέρμα σκληρόν, ὥστ’ οὐκ ἂν εὐκίνητον ἦν τὸ τοιοῦτον μόριον αὐτοῖς ἐκ τοιαύτης σαρκὸς καὶ ἐκ τοιούτου δέρματος συνεστηκός, ἀλλ’ αὐτῆς τῆς ἀρτηρίας τῶν ἐσχάτων θᾶσσον ἐγίνετ’ ἂν ἡ συναγωγὴ τῆς ἐκ τῆς οἰκείας σαρκὸς ἐπιγλωττίδος, ἣν ἔχουσι τὰ τριχωτά. Δι’ ἣν μὲν οὖν αἰτίαν τὰ μὲν ἔχει τῶν ζῴων τὰ δ’ οὐκ ἔχει, ταῦτ’ εἰρήσθω, καὶ διότι τῆς ἀρτηρίας τὴν φαυλότητα τῆς θέσεως ἰάτρευκεν ἡ φύσις, μηχανησαμένη τὴν καλουμένην ἐπιγλωττίδα.

Κεῖται δ’ ἔμπροσθεν ἡ φάρυγξ τοῦ οἰσοφάγου ἐξ ἀνάγκης. Ἡ μὲν γὰρ καρδία ἐν τοῖς ἔμπροσθεν καὶ ἐν μέσῳ κεῖται, ἐν ᾗ τὴν ἀρχήν φαμεν τῆς ζωῆς καὶ πάσης κινήσεώς τε καὶ αἰσθήσεως (ἐπὶ τὸ καλούμενον γὰρ ἔμπροσθεν ἡ αἴσθησις καὶ ἡ κίνησις· αὐτῷ γὰρ τῷ λόγῳ τούτῳ διώρισται τὸ ἔμπροσθεν καὶ ὄπισθεν), ὁ δὲ πλεύμων κεῖται οὗ ἡ καρδία καὶ περὶ ταύτην, ἡ δ’ ἀναπνοὴ διά τε τοῦτο καὶ διὰ τὴν ἀρχὴν τὴν ἐν τῇ καρδίᾳ ἐνυπάρχουσαν. Ἡ δ’ ἀναπνοὴ γίνεται τοῖς ζῴοις διὰ τῆς ἀρτηρίας· ὥστ’ ἐπεὶ τὴν καρδίαν ἐν τοῖς ἔμπροσθεν πρώτην ἀναγκαῖον κεῖσθαι, καὶ τὸν φάρυγγα καὶ τὴν ἀρτηρίαν πρότερον ἀναγκαῖον κεῖσθαι τοῦ οἰσοφάγου· τὰ μὲν γὰρ πρὸς τὸν πλεύμονα τείνει καὶ τὴν καρδίαν, ὁ δ’ εἰς τὴν κοιλίαν. Ὅλως δ’ ἀεὶ τὸ βέλτιον καὶ τιμιώτερον, ὅπου μή τι μεῖζον ἕτερον ἐμποδίζει, τοῦ μὲν ἄνω καὶ κάτω ἐν τοῖς μᾶλλόν ἐστιν ἄνω, τοῦ δ’ ἔμπροσθεν καὶ ὄπισθεν ἐν τοῖς ἔμπροσθεν, τοῦ δεξιοῦ δὲ καὶ ἀριστεροῦ ἐν τοῖς δεξιοῖς.

Κεφάλαιο 4

Καὶ περὶ μὲν αὐχένος τε καὶ οἰσοφάγου καὶ ἀρτηρίας εἴρηται, ἑπόμενον δ’ ἐστὶ περὶ σπλάγχνων εἰπεῖν.

Ταῦτα δ’ ἐστὶν ἴδια τῶν ἐναίμων, καὶ τοῖς μὲν ἅπανθ’ ὑπάρχει, τοῖς δ’ οὐχ ὑπάρχει. Τῶν δ’ ἀναίμων οὐδὲν ἔχει σπλάγχνον.

Δημόκριτος δ’ ἔοικεν οὐ καλῶς διαλαβεῖν περὶ αὐτῶν, εἴπερ ᾠήθη διὰ μικρότητα τῶν ἀναίμων ζῴων ἄδηλα εἶναι ταῦτα. Συνισταμένων γὰρ εὐθέως τῶν ἐναίμων καὶ πάμπαν ὄντων μικρῶν ἔνδηλα γίνεται καρδία τε καὶ ἧπαρ· φαίνεται γὰρ ἐν μὲν τοῖς ᾠοῖς ἐνίοτε τριταίοις οὖσι στιγμῆς (665b.) ἔχοντα μέγεθος, πάμμικρα δὲ καὶ ἐν τοῖς ἐκβολίμοις τῶν ἐμβρύων. Ἔτι δ’ ὥσπερ τῶν ἐκτὸς μορίων οὐ πᾶσι τῶν αὐτῶν χρῆσις, ἀλλ’ ἑκάστοις ἰδίᾳ πεπόρισται πρός τε τοὺς βίους καὶ τὰς κινήσεις, οὕτω καὶ τὰ ἐντὸς ἄλλα πέφυκεν ἄλλοις. Τὰ δὲ σπλάγχνα τῶν αἱματικῶν ἐστιν ἴδια, διὸ καὶ συνέστηκεν αὐτῶν ἕκαστον ἐξ αἱματικῆς ὕλης. Δῆλον δ’ ἐν τοῖς νεογνοῖς τούτων· αἱματωδέστερα γὰρ καὶ μέγιστα κατὰ λόγον διὰ τὸ εἶναι τὸ εἶδος τῆς ὕλης καὶ τὸ πλῆθος ἐμφανέστατον κατὰ τὴν πρώτην σύστασιν.

Καρδία μὲν οὖν ἅπασιν ὑπάρχει τοῖς ἐναίμοις· δι’ ἣν δ’ αἰτίαν, εἴρηται καὶ πρότερον· Αἷμα μὲν γὰρ ἔχειν τοῖς ἐναίμοις δῆλον ὡς ἀναγκαῖον· ὑγροῦ δ’ ὄντος τοῦ αἵματος ἀναγκαῖον ἀγγεῖον ὑπάρχειν, ἐφ’ ὃ δὴ καὶ φαίνεται μεμηχανῆσθαι τὰς φλέβας ἡ φύσις. Ἀρχὴν δὲ τούτων ἀναγκαῖον εἶναι μίαν· ὅπου γὰρ ἐνδέχεται, μίαν βέλτιον ἢ πολλάς. Ἡ δὲ καρδία τῶν φλεβῶν ἀρχή· φαίνονται γὰρ ἐκ ταύτης οὖσαι καὶ οὐ διὰ ταύτης, καὶ ἡ φύσις αὐτῆς φλεβώδης ὡς ὁμογενοῦς οὔσης.

Ἔχει δὲ καὶ ἡ θέσις αὐτῆς ἀρχικὴν χώραν· περὶ μέσον γάρ, μᾶλλον δ’ ἐν τῷ ἄνω ἢ κάτω καὶ ἔμπροσθεν ἢ ὄπισθεν· ἐν τοῖς γὰρ τιμιωτέροις τὸ τιμιώτερον καθίδρυκεν ἡ φύσις, οὗ μή τι κωλύει μεῖζον. Ἐμφανέστατον δὲ τὸ λεχθέν ἐστιν ἐπὶ τῶν ἀνθρώπων, βούλεται δὲ καὶ ἐν τοῖς ἄλλοις ὁμολόγως ἐν μέσῳ κεῖσθαι τοῦ ἀναγκαίου σώματος. Τούτου δὲ πέρας ᾗ τὰ περιττώματα ἀποκρίνεται· τὰ δὲ κῶλα πέφυκεν ἄλλοις ἄλλως, καὶ οὐκ ἔστι τῶν πρὸς τὸ ζῆν ἀναγκαίων, διὸ καὶ ἀφαιρουμένων ζῶσιν· δῆλον δ’ ὡς οὐδὲ προστιθέμενα φθείρει. Οἱ δ’ ἐν τῇ κεφαλῇ λέγοντες τὴν ἀρχὴν τῶν φλεβῶν οὐκ ὀρθῶς ὑπέλαβον. Πρῶτον μὲν γὰρ πολλὰς ἀρχὰς καὶ διεσπαρμένας

ποιοῦσιν, εἶτ᾽ ἐν τόπῳ ψυχρῷ. Δηλοῖ δὲ δύσριγος ὤν, ὁ δὲ περὶ τὴν καρδίαν τοὐναντίον. Ὥσπερ δ᾽ ἐλέχθη, διὰ μὲν τῶν ἄλλων σπλάγχνων διέχουσιν αἱ φλέβες, διὰ δὲ τῆς καρδίας οὐ διατείνει φλέψ· ὅθεν καὶ δῆλον ὅτι μόριον καὶ ἀρχὴ τῶν φλεβῶν ἐστιν ἡ καρδία. Καὶ τοῦτ᾽ εὐλόγως· μέσον γὰρ τὸ τῆς καρδίας ἐστὶ σῶμα πυκνὸν καὶ κοῖλον πεφυκός, ἔτι δὲ πλῆρες αἵματος (666a.) ὡς τῶν φλεβῶν ἐντεῦθεν ἠργμένων, κοῖλον μὲν πρὸς τὴν ὑποδοχὴν τοῦ αἵματος, πυκνὸν δὲ πρὸς τὸ φυλάσσειν τὴν ἀρχὴν τῆς θερμότητος. Ἐν ταύτῃ γὰρ μόνῃ τῶν σπλάγχνων καὶ τοῦ σώματος αἷμα ἄνευ φλεβῶν ἐστι, τῶν δ᾽ ἄλλων μορίων ἕκαστον ἐν ταῖς φλεψὶν ἔχει τὸ αἷμα. Καὶ τοῦτ᾽ εὐλόγως· ἐκ τῆς καρδίας γὰρ ἐποχετεύεται καὶ εἰς τὰς φλέβας, εἰς δὲ τὴν καρδίαν οὐκ ἄλλοθεν· αὕτη γάρ ἐστιν ἀρχὴ ἢ πηγὴ τοῦ αἵματος καὶ ὑποδοχὴ πρώτη. Ἐκ τῶν ἀνατομῶν δὲ κατάδηλα μᾶλλον ταῦτα, καὶ ἐκ τῶν γενέσεων· εὐθέως γάρ ἐστιν ἔναιμος πρώτη γινομένη τῶν μορίων ἁπάντων. Ἔτι δ᾽ αἱ κινήσεις τῶν ἡδέων καὶ τῶν λυπηρῶν καὶ ὅλως πάσης αἰσθήσεως ἐντεῦθεν ἀρχόμεναι φαίνονται καὶ πρὸς ταύτην περαίνουσαι. Οὕτω δ᾽ ἔχει καὶ κατὰ τὸν λόγον· ἀρχὴν γὰρ εἶναι δεῖ μίαν ὅπου ἐνδέχεται. Εὐφυέστατος δὲ τῶν τόπων ὁ μέσος· ἓν γὰρ τὸ μέσον καὶ ἐπὶ πᾶν ἐφικτὸν ὁμοίως ἢ παραπλησίως. Ἔτι δ᾽ ἐπεὶ οὔτε τῶν ἀναίμων οὐθὲν αἰσθητικὸν οὔτε τὸ αἷμα, δῆλον ὡς τὸ πρῶτον ἔχον ὡς ἐν ἀγγείῳ δ᾽ ἔχον ἀναγκαῖον εἶναι τὴν ἀρχήν. Οὐ μόνον δὲ κατὰ τὸν λόγον οὕτως ἔχειν φαίνεται, ἀλλὰ καὶ κατὰ τὴν αἴσθησιν· ἐν γὰρ τοῖς ἐμβρύοις εὐθέως ἡ καρδία φαίνεται κινουμένη τῶν μορίων καθάπερ εἰ ζῷον, ὡς ἀρχὴ τῆς φύσεως τοῖς ἐναίμοις οὖσα. Μαρτύριον δὲ τῶν εἰρημένων καὶ τὸ πᾶσι τοῖς ἐναίμοις ὑπάρχειν αὐτήν· ἀναγκαῖον γὰρ αὐτοῖς ἔχειν τὴν ἀρχὴν τοῦ αἵματος. Ὑπάρχει δὲ καὶ τὸ ἧπαρ πᾶσι τοῖς ἐναίμοις· ἀλλ᾽ οὐθεὶς ἂν ἀξιώσειεν αὐτὸ ἀρχὴν εἶναι οὔτε τοῦ ὅλου σώματος οὔτε τοῦ αἵματος· κεῖται γὰρ οὐδαμῶς πρὸς ἀρχοειδῆ θέσιν, ἔχει δ᾽ ὥσπερ ἀντίζυγον ἐν τοῖς μάλιστ᾽ ἀπηκριβωμένοις τὸν σπλῆνα. Ἔτι δ᾽ ὑποδοχὴν αἵματος οὐκ ἔχει ἐν ἑαυτῷ καθάπερ ἡ καρδία, ἀλλ᾽ ὥσπερ τὰ λοιπά, ἐν φλεβί. Ἔτι δὲ τείνει δι᾽ αὐτοῦ φλέψ, δι᾽ ἐκείνης δ᾽ οὐδεμία· πασῶν γὰρ τῶν φλεβῶν ἐκ τῆς καρδίας αἱ ἀρχαί. Ἐπεὶ οὖν ἀνάγκη μὲν θάτερον τούτων ἀρχὴν εἶναι, μὴ ἔστι δὲ τὸ ἧπαρ, ἀνάγκη τὴν καρδίαν εἶναι καὶ τοῦ αἵματος ἀρχήν. Τὸ μὲν γὰρ ζῷον αἰσθήσει ὥρισται, αἰσθητικὸν δὲ πρῶτον τὸ πρῶτον ἔναιμον, τοιοῦτον δ᾽ ἡ καρδία· καὶ γὰρ (666b.) ἀρχὴ τοῦ αἵματος καὶ ἔναιμον πρῶτον.

Ἔστι δ᾽ αὐτῆς τὸ ἄκρον ὀξὺ καὶ στερεώτερον, κεῖται δὲ πρὸς τῷ στήθει καὶ ὅλως ἐν τοῖς πρόσθεν τοῦ σώματος πρὸς τὸ μὴ καταψύχεσθαι αὐτό· πᾶσι γὰρ ἀσαρκότερον τὸ στῆθος, τὰ δὲ πρανῆ σαρκωδέστερα, διὸ πολλὴν ἔχει

σκέπην τὸ θερμὸν κατὰ τὸν νῶτον. Ἔστι δ’ ἡ καρδία τοῖς μὲν ἄλλοις ζῴοις κατὰ μέσον τοῦ στηθικοῦ τόπου, τοῖς δ’ ἀνθρώποις μικρὸν εἰς τὰ εὐώνυμα παρεγκλίνουσα πρὸς τὸ ἀνισοῦν τὴν κατάψυχιν τῶν ἀριστερῶν· μάλιστα γὰρ τῶν ἄλλων ζῴων ἄνθρωπος ἔχει κατεψυγμένα τὰ ἀριστερά. Ὅτι δὲ καὶ ἐν τοῖς ἰχθύσιν ὁμοίως ἡ καρδία κεῖται, πρότερον εἴρηται, καὶ διότι φαίνεται ἀνομοίως. Ἔχει δὲ πρὸς τὴν κεφαλὴν τὸ ὀξύ, ἔστι δ’ αὕτη τὸ πρόσθεν· ἐπὶ ταύτην γὰρ ἡ κίνησις. Ἔχει δὲ καὶ νεύρων πλῆθος ἡ καρδία, καὶ τοῦτ’ εὐλόγως· ἀπὸ ταύτης γὰρ αἱ κινήσεις, περαίνονται δὲ διὰ τοῦ ἕλκειν καὶ ἀνιέναι· δεῖ οὖν τοιαύτης ὑπηρεσίας καὶ ἰσχύος. Ἡ δὲ καρδία, καθάπερ εἴπομεν καὶ πρότερον, οἷον ζῷόν τι πέφυκεν ἐν τοῖς ἔχουσιν. Ἔστι δ’ ἀνόστεος πάντων ὅσα καὶ ἡμεῖς τεθεάμεθα, πλὴν τῶν ἵππων καὶ γένους τινὸς βοῶν· τούτοις δὲ διὰ τὸ μέγεθος οἷον ἐρείσματος χάριν ὀστοῦν ὕπεστι, καθάπερ καὶ τοῖς ὅλοις σώμασιν. Κοιλίας δ’ ἔχουσιν αἱ μὲν τῶν μεγάλων ζῴων τρεῖς, αἱ δὲ τῶν ἐλασσόνων δύο, μίαν δὲ πᾶσαι· δι’ ἣν δ’ αἰτίαν, εἴρηται. Δεῖ γὰρ εἶναι τόπον τινὰ τῆς καρδίας καὶ ὑποδοχὴν τοῦ πρώτου αἵματος. Ὅτι δὲ πρῶτον ἐν τῇ καρδίᾳ γίνεται τὸ αἷμα, πολλάκις εἰρήκαμεν, διὰ τὸ τὰς ἀρχηγοὺς φλέβας δύο εἶναι, τήν τε μεγάλην καλουμένην καὶ τὴν ἀορτήν.

Ἑκατέρας γὰρ οὔσης ἀρχῆς τῶν φλεβῶν, καὶ διαφορὰς ἐχουσῶν, περὶ ὧν ὕστερον ἐροῦμεν, βέλτιον καὶ τὰς ἀρχὰς αὐτῶν κεχωρίσθαι· τοῦτο δ’ ἂν εἴη διαφόρου ὄντος τοῦ αἵματος καὶ κεχωρισμένου. Διόπερ ἐν οἷς ἐνδέχεται, δύ’ εἰσὶν ὑποδοχαί. Ἐνδέχεται δ’ ἐν τοῖς μεγάλοις· τούτων γὰρ ἔχουσι καὶ αἱ καρδίαι μέγεθος. Ἔτι δὲ βέλτιον τρεῖς εἶναι τὰς κοιλίας, ὅπως ᾖ μία ἀρχὴ κοινή· τὸ δὲ μέσον καὶ περιττὸν ἀρχή· ὥστε μεγέθους δεῖ μείζονος αὐταῖς ἀεί, διόπερ αἱ μέγισται τρεῖς ἔχουσι μόναι. Τούτων δὲ πλεῖστον μὲν αἷμα (667a.) καὶ θερμότατον ἔχουσιν αἱ δεξιαί (διὸ καὶ τῶν μερῶν θερμότερα τὰ δεξιά), ἐλάχιστον δὲ καὶ ψυχρότερον αἱ ἀριστεραί, μέσον δ’ αἱ μέσαι τῷ πλήθει καὶ θερμότητι, καθαρώτατον δέ· δεῖ γὰρ τὴν ἀρχὴν ὅτι μάλιστ’ ἠρεμεῖν, τοιαύτη δ’ ἂν εἴη καθαροῦ τοῦ αἵματος ὄντος, τῷ πλήθει δὲ καὶ θερμότητι μέσου. Ἔχουσι δὲ καὶ διαίρεσίν τινα αἱ καρδίαι παραπλησίαν ταῖς ῥαφαῖς. Οὐκ εἰσὶ δὲ συναφεῖς ὥς τινος ἐκ πλειόνων συνθέτου ἀλλά, καθάπερ εἴπομεν, διαρθρώσει μᾶλλον.

Εἰσὶ δὲ τῶν μὲν αἰσθητικῶν ἀρθρωδέστεραι, τῶν δὲ νωθροτέρων ἀναρθρότεραι, καθάπερ αἱ τῶν ὑῶν.

Αἱ δὲ διαφοραὶ τῆς καρδίας κατὰ μέγεθός τε καὶ μικρότητα καὶ σκληρότητα καὶ μαλακότητα τείνουσί πῃ καὶ πρὸς τὰ ἤθη. Τὰ μὲν γὰρ ἀναίσθητα σκληρὰν ἔχει τὴν καρδίαν καὶ πυκνήν, τὰ δ’ αἰσθητικὰ μαλακωτέραν· καὶ τὰ μὲν μεγάλας ἔχοντα τὰς καρδίας δειλά, τὰ δὲ ἐλάσσους καὶ μέσας θαρραλεώτερα.

Τὸ γὰρ συμβαῖνον πάθος ὑπὸ τοῦ φοβεῖσθαι προϋπάρχει τούτοις, διὰ τὸ μὴ ἀνάλογον ἔχειν τὸ θερμὸν τῇ καρδίᾳ, μικρὸν δ’ ὂν ἐν μεγάλοις ἀμαυροῦσθαι, καὶ τὸ αἷμα ψυχρότερον εἶναι. Μεγάλας δὲ τὰς καρδίας ἔχουσι, λαγώς, ἔλαφος, μῦς, ὕαινα, ὄνος, πάρδαλις, γαλῆ, καὶ τἆλλα σχεδὸν πάνθ’ ὅσα φανερῶς δειλὰ ἢ διὰ φόβον κακοῦργα. Παραπλησίως δὲ καὶ ἐπὶ τῶν φλεβῶν καὶ ἐπὶ τῶν κοιλιῶν ἔχει· ψυχραὶ γὰρ αἱ μεγάλαι φλέβες καὶ κοιλίαι. Ὥσπερ γὰρ ἐν μικρῷ καὶ ἐν μεγάλῳ οἰκήματι τὸ ἴσον πῦρ ἧσσον ἐν τοῖς μείζοσι θερμαίνει, οὕτω κἀν τούτοις τὸ θερμόν· ἀγγεῖα γὰρ καὶ ἡ φλὲψ καὶ ἡ κοιλία. Ἔτι δ’ αἱ ἀλλότριαι κινήσεις ἕκαστον τῶν θερμῶν καταψύχουσιν, ἐν δὲ ταῖς εὐρυχωρεστέραις τὸ πνεῦμα πλεῖον καὶ ἐνισχύει μᾶλλον· διὸ τῶν μεγαλοκοιλίων οὐδὲν οὐδὲ τῶν μεγαλοφλέβων πῖόν ἐστι κατὰ σάρκα, ἀλλὰ πάντα ἢ τὰ πλεῖστα τῶν τοιούτων ἀδηλόφλεβα καὶ μικροκοίλια φαίνεται.

Μόνον δὲ τῶν σπλάγχνων καὶ ὅλως τῶν ἐν τῷ σώματι μορίων ἡ καρδία χαλεπὸν πάθος οὐδὲν ὑποφέρει, καὶ τοῦτ’ εὐλόγως· φθειρομένης γὰρ τῆς ἀρχῆς οὐκ ἔστιν ἐξ οὗ γένοιτ’ ἂν βοήθεια τοῖς ἄλλοις ἐκ ταύτης ἠρτημένοις. Σημεῖον δὲ τοῦ μηθὲν ἐπιδέχεσθαι πάθος τὴν καρδίαν τὸ ἐν μηδενὶ τῶν θυομένων (667b.) ἱερείων ὦφθαι τοιοῦτον πάθος περὶ αὐτὴν ὥσπερ ἐπὶ τῶν ἄλλων σπλάγχνων. Οἵ τε γὰρ νεφροὶ πολλάκις φαίνονται λίθων μεστοὶ καὶ φυμάτων καὶ δοθιήνων καὶ τὸ ἧπαρ, ὡσαύτως δὲ καὶ ὁ πλεύμων, μάλιστα δὲ ὁ σπλήν. Πολλὰ δὲ καὶ ἕτερα παθήματα συμβαίνοντα περὶ αὐτὰ φαίνεται, ἥκιστα δὲ τοῦ μὲν πλεύμονος περὶ τὴν ἀρτηρίαν, τοῦ δ’ ἥπατος περὶ τὴν σύναψιν τῇ μεγάλῃ φλεβί, καὶ ταῦτ’ εὐλόγως· ταύτῃ γὰρ μάλιστα κοινωνοῦσι τῇ καρδίᾳ. Ὅσα δὲ διὰ νόσον καὶ τοιαῦτα πάθη φαίνεται τελευτῶντα τῶν ζῴων, τούτοις ἀνατεμνομένοις φαίνεται περὶ τὴν καρδίαν νοσώδη πάθη.

Καὶ περὶ μὲν τῆς καρδίας, ποία τις, καὶ τίνος ἕνεκεν καὶ διὰ τίν’ αἰτίαν ὑπάρχει τοῖς ἔχουσιν τοσαῦτ’ εἰρήσθω.

Κεφάλαιο 5

Ἑπόμενον δ’ ἂν εἴη καὶ περὶ φλεβῶν εἰπεῖν, τῆς τε μεγάλης καὶ τῆς ἀορτῆς· αὗται γὰρ ἐκ τῆς καρδίας πρῶται δέχονται τὸ αἷμα, αἱ δὲ λοιπαὶ τούτων ἀποφυάδες εἰσίν. Ὅτι μὲν οὖν τοῦ αἵματος χάριν εἰσί, πρότερον εἴρηται· τό τε γὰρ ὑγρὸν ἅπαν ἀγγείου δεῖται, καὶ τὸ φλεβῶν γένος ἀγγεῖον, τὸ δ’ αἷμα ἐν ταύταις· διότι δὲ δύο καὶ ἀπὸ μιᾶς ἀρχῆς καθ’ ἅπαν τὸ σῶμα διατείνουσι, λέγωμεν. Τοῦ μὲν οὖν εἰς μίαν ἀρχὴν συντελεῖν καὶ ἀπὸ μιᾶς αἴτιον τὸ μίαν ἔχειν πάντα τὴν αἰσθητικὴν ψυχὴν ἐνεργείᾳ, ὥστε καὶ τὸ μόριον ἓν τὸ ταύτην ἔχον πρώτως, ἐν μὲν τοῖς ἐναίμοις κατὰ δύναμιν καὶ κατ’ ἐνέργειαν, τῶν δ’ ἀναίμων ἐνίοις κατ’ ἐνέργειαν μόνον. Διὸ καὶ τὴν τοῦ θερμοῦ ἀρχὴν ἀναγκαῖον ἐν τῷ αὐτῷ τόπῳ εἶναι· αὕτη δ’ ἐστὶν αἰτία καὶ τῷ αἵματι τῆς ὑγρότητος καὶ τῆς θερμότητος. Διὰ μὲν οὖν τὸ ἐν ἑνὶ εἶναι μορίῳ τὴν αἰσθητικὴν ἀρχὴν καὶ τὴν τῆς θερμότητος καὶ ἡ τοῦ αἵματος ἀπὸ μιᾶς ἐστιν ἀρχῆς, διὰ δὲ τὴν τοῦ αἵματος ἑνότητα καὶ ἡ τῶν φλεβῶν ἀπὸ μιᾶς. Δύο δ’ εἰσὶ διὰ τὸ τὰ σώματα εἶναι διμερῆ τῶν ἐναίμων καὶ πορευτικῶν· ἐν πᾶσι γὰρ τούτοις διώρισται τὸ ἔμπροσθεν καὶ τὸ ὄπισθεν καὶ τὸ δεξιὸν καὶ τὸ ἀριστερὸν καὶ τὰ ἄνω καὶ τὸ κάτω. Ὅσῳ δὲ τιμιώτερον καὶ ἡγεμονικώτερον τὸ ἔμπροσθεν τοῦ ὄπισθεν, τοσούτῳ καὶ ἡ μεγάλη φλὲψ τῆς ἀορτῆς.

Ἡ μὲν γὰρ ἐν τοῖς ἔμπροσθεν, ἡ δ’ ἐν τοῖς ὄπισθεν κεῖται, καὶ τὴν μὲν ἅπαντ’ ἔχει τὰ ἔναιμα φανερῶς, (668a.) τὴν δ’ ἔνια μὲν ἀμυδρῶς ἔνια δ’ ἀφανῶς. Τοῦ δ’ εἰς τὸ πᾶν διαδεδόσθαι τὸ σῶμα τὰς φλέβας αἴτιον τὸ παντὸς εἶναι τοῦ σώματος ὕλην τὸ αἷμα, τοῖς δ’ ἀναίμοις τὸ ἀνάλογον, ταῦτα δ’ ἐν φλεβὶ καὶ τῷ ἀνάλογον κεῖσθαι. Πῶς μὲν οὖν τρέφεται τὰ ζῷα καὶ ἐκ τίνος καὶ τίνα τρόπον ἀναλαμβάνουσιν ἐκ τῆς κοιλίας, ἐν τοῖς περὶ γενέσεως λόγοις μᾶλλον ἁρμόζει σκοπεῖν καὶ λέγειν. Συνισταμένων δὲ τῶν μορίων ἐκ τοῦ αἵματος, καθάπερ εἴπομεν, εὐλόγως ἡ τῶν φλεβῶν ῥύσις διὰ παντὸς τοῦ σώματος πέφυκεν· δεῖ γὰρ καὶ τὸ αἷμα διὰ παντὸς καὶ παρὰ πᾶν εἶναι, εἴπερ τῶν μορίων ἕκαστον ἐκ τούτου συνέστηκεν. Ἔοικε δ’ ὥσπερ ἔν τε τοῖς κήποις αἱ ὑδραγωγίαι κατασκευάζονται ἀπὸ μιᾶς ἀρχῆς καὶ πηγῆς εἰς πολλοὺς ὀχετοὺς καὶ ἄλλους ἀεὶ πρὸς τὸ πάντῃ μεταδιδόναι, καὶ ἐν ταῖς οἰκοδομίαις παρὰ πᾶσαν τὴν τῶν θεμελίων ὑπογραφὴν λίθοι παραβέβληνται διὰ τὸ τὰ μὲν κηπευόμενα φύεσθαι ἐκ τοῦ ὕδατος, τοὺς δὲ θεμελίους ἐκ τῶν

λίθων οἰκοδομεῖσθαι, τὸν αὐτὸν τρόπον καὶ ἡ φύσις τὸ αἷμα διὰ παντὸς ὠχέτευκε τοῦ σώματος, ἐπειδὴ παντὸς ὕλη πέφυκε τοῦτο. Γίνεται δὲ κατάδηλον ἐν τοῖς μάλιστα καταλελεπτυσμένοις οὐθὲν γὰρ ἄλλο φαίνεται παρὰ τὰς φλέβας, καθάπερ ἐπὶ τῶν ἀμπελίνων τε καὶ συκίνων φύλλων καὶ ὅσ᾽ ἄλλα τοιαῦτα· καὶ γὰρ τούτων αὐαινομένων φλέβες λείπονται μόνον.

Τούτων δ᾽ αἴτιον ὅτι τὸ αἷμα καὶ τὸ ἀνάλογον τούτῳ δυνάμει σῶμα καὶ σὰρξ ἢ τὸ ἀνάλογόν ἐστιν· καθάπερ οὖν ἐν ταῖς ὀχετείαις αἱ μέγισται τῶν τάφρων διαμένουσιν, αἱ δ᾽ ἐλάχισται πρῶται καὶ ταχέως ὑπὸ τῆς ἰλύος ἀφανίζονται, πάλιν δ᾽ ἐκλειπούσης φανεραὶ γίνονται, τὸν αὐτὸν τρόπον καὶ τῶν φλεβῶν αἱ μὲν μέγισται διαμένουσιν, αἱ δ᾽ ἐλάχισται γίνονται σάρκες ἐνεργείᾳ, δυνάμει δ᾽ εἰσὶν οὐδὲν ἧσσον φλέβες.

Διὸ καὶ σῳζομένων τῶν σαρκῶν καθ᾽ ὁτιοῦν αἷμα ῥεῖ διαιρουμένων· καίτοι ἄνευ μὲν φλεβὸς οὐκ ἔστιν αἷμα, φλέβιον δ᾽ οὐδὲν δῆλον, ὥσπερ οὐδ᾽ ἐν τοῖς ὀχετοῖς αἱ τάφροι πρὶν ἢ τὴν ἰλὺν ἐξαιρεθῆναι.

Ἐκ μειζόνων δ᾽ εἰς ἐλάσσους αἱ φλέβες ἀεὶ προέρχονται, ἕως τοῦ γενέσθαι τοὺς πόρους ἐλάσσους (668b.) τῆς τοῦ αἵματος παχύτητος· δι᾽ ὧν τῷ μὲν αἵματι δίοδος οὐκ ἔστι, τῷ δὲ περιττώματι τῆς ὑγρᾶς ἰκμάδος, ὃν καλοῦμεν ἱδρῶτα, καὶ τοῦτο διαθερμανθέντος τοῦ σώματος καὶ τῶν φλεβίων ἀναστομωθέντων. Ἤδη δέ τισιν ἱδρῶσαι συνέβη αἱματώδει περιττώματι διὰ καχεξίαν, τοῦ μὲν σώματος ῥυάδος καὶ μανοῦ γενομένου, τοῦ δ᾽ αἵματος ἐξυγρανθέντος δι᾽ ἀπεψίαν, ἀδυνατούσης τῆς ἐν τοῖς φλεβίοις θερμότητος πέσσειν δι᾽ ὀλιγότητα. Εἴρηται γὰρ ὅτι πᾶν τὸ κοινὸν γῆς καὶ ὕδατος παχύνεται πεσσόμενον, ἡ δὲ τροφὴ καὶ τὸ αἷμα μικτὸν ἐξ ἀμφοῖν. Ἀδυνατεῖ δὲ πέσσειν ἡ θερμότης οὐ μόνον διὰ τὴν αὑτῆς ὀλιγότητα ἀλλὰ καὶ διὰ πλῆθος καὶ ὑπερβολὴν τῆς εἰσφερομένης τροφῆς· γίνεται δὲ πρὸς ταύτην ὀλίγη. Ἡ δ᾽ ὑπερβολὴ δισσή· καὶ γὰρ τῷ ποσῷ καὶ τῷ ποιῷ. Οὐ γὰρ πᾶν ὁμοίως εὔπεπτον.

Ῥεῖ δὲ μάλιστα τὸ αἷμα κατὰ τοὺς εὐρυχωρεστάτους τῶν πόρων· διόπερ ἐκ τῶν μυκτήρων καὶ τῶν οὔλων καὶ τῆς ἕδρας, ἐνίοτε δὲ καὶ ἐκ τοῦ στόματος αἱμορροΐδες ἄπονοι γίνονται, καὶ οὐχ ὥσπερ ἐκ τῆς ἀρτηρίας μετὰ βίας.

Διεστῶσαι δ᾽ ἄνωθεν ἥ τε μεγάλη φλὲψ καὶ ἡ ἀορτή, κάτω δ᾽ ἐναλλάσσουσαι συνέχουσι τὸ σῶμα.

Προϊοῦσαι γὰρ σχίζονται κατὰ τὴν διφυΐαν τῶν κώλων, καὶ ἡ μὲν ἐκ τοῦ ἔμπροσθεν εἰς τοὔπισθεν προέρχεται, ἡ δ᾽ ἐκ τοῦ ὄπισθεν εἰς τοὔμπροσθεν, καὶ συμβάλλουσιν εἰς ἕν· ὥσπερ γὰρ ἐν τοῖς πλεκομένοις ἐγγίνεται τὸ συνεχὲς μᾶλλον, οὕτω καὶ διὰ τῆς τῶν φλεβῶν ἐναλλάξεως συνδεῖται τῶν

σωμάτων τὰ πρόσθια τοῖς ὄπισθεν. Ὁμοίως δὲ καὶ ἀπὸ τῆς καρδίας ἐν τοῖς ἄνω τόποις συμβαίνει. Τὸ δὲ μετ’ ἀκριβείας ὡς ἔχουσιν αἱ φλέβες πρὸς ἀλλήλας, ἔκ τε τῶν ἀνατομῶν δεῖ θεωρεῖν καὶ ἐκ τῆς ζωϊκῆς ἱστορίας. Καὶ περὶ μὲν φλεβῶν καὶ καρδίας εἰρήσθω, περὶ δὲ τῶν ἄλλων σπλάγχνων σκεπτέον κατὰ τὴν αὐτὴν μέθοδον.

Κεφάλαιο 6

Πλεύμονα μὲν οὖν ἔχει διὰ τὸ πεζὸν εἶναί τι γένος τῶν ζῴων. Ἀναγκαῖον μὲν γὰρ γίνεσθαι τῷ θερμῷ κατάψυξιν, ταύτης δὲ δεῖται θύραθεν τὰ ἔναιμα τῶν ζῴων· θερμότερα (669a.) γάρ. Τὰ δὲ μὴ ἔναιμα καὶ τῷ συμφύτῳ πνεύματι δύναται καταψύχειν. Ἀνάγκη δὲ καταψύχειν ἔξωθεν ἢ ὕδατι ἢ ἀέρι. Διόπερ τῶν μὲν ἰχθύων οὐδεὶς ἔχει πλεύμονα, ἀλλ’ ἀντὶ τούτου βράγχια, καθάπερ εἴρηται ἐν τοῖς περὶ ἀναπνοῆς· ὕδατι γὰρ ποιεῖται τὴν κατάψυξιν, τὰ δ’ ἀναπνέοντα τῷ ἀέρι, διόπερ πάντα τὰ ἀναπνέοντα ἔχει πλεύμονα. Ἀναπνεῖ δὲ τὰ μὲν πεζὰ πάντα, ἔνια δὲ καὶ τῶν ἐνύδρων, οἷον φάλαινα καὶ δελφὶς καὶ τὰ ἀναφυσῶντα κήτη πάντα. Πολλὰ γὰρ τῶν ζῴων ἐπαμφοτερίζει τὴν φύσιν, καὶ τῶν τε πεζῶν καὶ τὸν ἀέρα δεχομένων διὰ τὴν τοῦ σώματος κρᾶσιν ἐν ὑγρῷ διατελεῖ τὸν πλεῖστον χρόνον, καὶ τῶν ἐν τῷ ὑγρῷ μετέχει τοσοῦτον ἔνια τῆς πεζῆς φύσεως ὥστ’ ἐν τῷ πνεύματι αὐτῶν εἶναι τὸ τέλος τοῦ ζῆν. Τοῦ δ’ ἀναπνεῖν ὁ πλεύμων ὄργανόν ἐστι, τὴν μὲν ἀρχὴν τῆς κινήσεως ἔχων ἀπὸ τῆς καρδίας, ποιῶν δ’ εὐρυχωρίαν τῇ εἰσόδῳ τοῦ πνεύματος διὰ τὴν αὑτοῦ σομφότητα καὶ τὸ μέγεθος· αἰρομένου γὰρ εἰσρεῖ τὸ πνεῦμα, συνιόντος δ’ ἐξέρχεται πάλιν. Τὸ δὲ πρὸς τὴν ἅλσιν εἶναι τὸν πλεύμονα τῆς καρδίας οὐκ εἴρηται καλῶς· ἐν ἀνθρώπῳ τε γὰρ συμβαίνει μόνον ὡς εἰπεῖν τὸ τῆς πηδήσεως διὰ τὸ μόνον ἐν ἐλπίδι γίνεσθαι καὶ προσδοκίᾳ τοῦ μέλλοντος, ἀπέχει τ’ ἐν τοῖς πλείστοις πολὺν τόπον καὶ κεῖται τὴν θέσιν ἀνωτέρω τοῦ πλεύμονος, ὥστε μηδὲν συμβάλλεσθαι τὸν πλεύμονα πρὸς τὴν ἅλσιν τῆς καρδίας.

Διαφέρει δὲ ὁ πλεύμων πολὺ τοῖς ζῴοις. Τὰ μὲν γὰρ ἔναιμον ἔχει καὶ μέγαν, τὰ δ’ ἐλάττω καὶ σομφόν, τὰ μὲν ζῳοτόκα διὰ τὴν θερμότητα τῆς φύσεως μείζω καὶ πολύαιμον, τὰ δ’ ᾠοτόκα ξηρὸν καὶ μικρόν, δυνάμενον δὲ μέγα διίστασθαι ἐν τῷ ἐμφυσᾶσθαι, ὥσπερ τὰ τετράποδα μὲν ᾠοτόκα δὲ τῶν πεζῶν, οἷον οἵ τε σαῦροι καὶ αἱ χελῶναι καὶ πᾶν τὸ τοιοῦτον γένος, ἔτι δὲ πρὸς τούτοις ἡ τῶν πτηνῶν φύσις καὶ καλουμένων ὀρνίθων. Πάντων γὰρ τούτων σομφὸς ὁ πλεύμων καὶ ὅμοιος ἀφρῷ· καὶ γὰρ ὁ ἀφρὸς ἐκ πολλοῦ μικρὸς γίνεται συγχεόμενος, καὶ ὁ τούτων πλεύμων μικρὸς καὶ ὑμενώδης. Διὸ καὶ ἄδιψα καὶ ὀλιγόποτα ταῦτα πάντα, καὶ δύναται πολὺν ἐν τῷ ὑγρῷ ἀνέχεσθαι χρόνον· ἅτε γὰρ ὀλίγον ἔχοντα θερμὸν ἱκανῶς ἐπὶ πολὺν χρόνον καταψύχεται ὑπ᾽ αὐτῆς τῆς τοῦ πλεύμονος (669b.) κινήσεως, οὔσης ἀερώδους καὶ κενῆς. Συμβέβηκε δὲ καὶ τὰ μεγέθη τούτων ἐλάττω τῶν ζῴων ὡς ἐπίπαν εἰπεῖν· τὸ γὰρ θερμὸν αὐξητικόν· ἡ δὲ πολυαιμία θερμότητος σημεῖον.

Ἔτι δ᾽ ὀρθοῖ τὰ σώματα μᾶλλον, διόπερ ἄνθρωπος μὲν τῶν ἄλλων ὀρθότατον, τὰ δὲ ζῳοτόκα τῶν ἄλλων τετραπόδων· οὐδὲν γὰρ ὁμοίως τρωγλοδυτεῖ τῶν ζῳοτόκων, οὔτ᾽ ἄπουν οὔτε πεζεῦον. Ὅλως μὲν οὖν ὁ πλεύμων ἐστὶν ἀναπνοῆς χάριν, ἄναιμος δὲ καὶ τοιοῦτος γένους τινὸς ἕνεκεν ζῴων· ἀλλ᾽ ἀνώνυμον τὸ κοινὸν ἐπ᾽ αὐτῶν, καὶ οὐχ ὥσπερ ὁ ὄρνις ὠνόμασται ἐπί τινος γένους. Διὸ ὥσπερ τὸ ὄρνιθι εἶναι ἔκ τινός ἐστι, καὶ ἐκείνων ἐν τῇ οὐσίᾳ ὑπάρχει τὸ πλεύμονα ἔχειν.

Κεφάλαιο 7

Δοκεῖ δὲ τῶν σπλάγχνων τὰ μὲν εἶναι μονοφυῆ, καθάπερ καρδία καὶ πλεύμων, τὰ δὲ διφυῆ, καθάπερ νεφροί, τὰ δ’ ἀπορεῖται ποτέρως ἔχει. Φανείη γὰρ ἂν ἐπαμφοτερίζειν τούτοις τὸ ἧπαρ καὶ ὁ σπλήν· καὶ γὰρ ὡς μονοφυὲς ἑκάτερον, καὶ ὡς ἀνθ’ ἑνὸς δύο παραπλησίαν ἔχοντα τὴν φύσιν. Ἔστι δὲ πάντα διφυῆ. Τὸ δ’ αἴτιον ἡ τοῦ σώματος διάστασις διφυὴς μὲν οὖσα, πρὸς μίαν δὲ συντελοῦσα ἀρχήν· τὸ μὲν γὰρ ἄνω καὶ κάτω, τὸ δ’ ἔμπροσθεν καὶ ὄπισθεν τὸ δὲ δεξιὸν καὶ ἀριστερόν ἐστιν. Διόπερ καὶ ὁ ἐγκέφαλος βούλεται διμερὴς εἶναι πᾶσι καὶ τῶν αἰσθητηρίων ἕκαστον. Κατὰ τὸν αὐτὸν δὲ λόγον ἡ καρδία ταῖς κοιλίαις. Ὁ δὲ πλεύμων ἔν τε τοῖς ᾠοτόκοις τοσοῦτον διέστηκεν ὥστε δοκεῖν δύ’ ἔχειν αὐτὰ πλεύμονας. Οἱ δὲ νεφροὶ καὶ παντὶ δῆλοι. Κατὰ δὲ τὸ ἧπαρ καὶ τὸν σπλῆνα δικαίως ἄν τις ἀπορήσειεν. Τούτου δ’ αἴτιον ὅτι ἐν μὲν τοῖς ἐξ ἀνάγκης ἔχουσι σπλῆνα δόξειεν ἂν οἷον νόθον εἶναι ἧπαρ ὁ σπλήν, ἐν δὲ τοῖς μὴ ἐξ ἀνάγκης ἔχουσιν, ἀλλὰ πάμμικρον ὥσπερ σημείου χάριν, ἐναργῶς διμερὲς τὸ ἧπάρ ἐστιν, καὶ τὸ μὲν εἰς τὰ δεξιά, τὸ δ’ ἔλαττον εἰς τἀριστερὰ βούλεται τὴν θέσιν ἔχειν. Οὐ μὴν ἀλλὰ καὶ ἐν τοῖς ᾠοτόκοις ἧττον μὲν ἢ ἐπὶ τούτων φανερόν, ἐνίοις δὲ κἀκεῖ ὥσπερ ἔν τισι ζῳοτόκοις ἐπιδήλως διέστηκεν, οἷον κατά τινας τόπους οἱ δασύποδες δύο δοκοῦσιν ἥπατ’ ἔχειν, καθάπερ τῶν ἰχθύων ἕτεροί τέ τινες καὶ οἱ σελαχώδεις.

Διὰ δὲ τὸ τὴν θέσιν ἔχειν τὸ ἧπαρ ἐν τοῖς δεξιοῖς μᾶλλον (670a.) ἡ τοῦ σπληνὸς γέγονε φύσις, ὥστ’ ἀναγκαῖον μέν πως, μὴ λίαν δ’ εἶναι πᾶσι τοῖς ζῴοις. Τοῦ μὲν οὖν διφυῆ τὴν φύσιν εἶναι τῶν σπλάγχνων αἴτιον, ὥσπερ εἴπομεν, τὸ δύ’ εἶναι τὸ δεξιὸν καὶ τὸ ἀριστερόν· ἑκάτερον γὰρ ζητεῖ τὸ ὅμοιον. Ὥσπερ καὶ αὐτὰ βούλεται παραπλησίαν καὶ διδύμην ἔχειν τὴν φύσιν, καθάπερ ἐκεῖνα δίδυμα μέν, συνήρτηται δ’ εἰς ἕν, καὶ τῶν σπλάγχνων ὁμοίως ἕκαστον. Ἔστι δὲ σπλάγχνα τὰ κάτω τοῦ ὑποζώματος κοινῇ μὲν πάντα τῶν φλεβῶν χάριν, ὅπως οὖσαι μετέωροι μένωσι τῷ τούτων συνδέσμῳ πρὸς τὸ σῶμα. Καθάπερ ἄγκυραι γὰρ βέβληνται πρὸς τὸ σῶμα διὰ τῶν ἀποτεταμένων μορίων· ἀπὸ μὲν τῆς μεγάλης φλεβός, πρὸς τὸ ἧπαρ καὶ τὸν σπλῆνα (τούτων γὰρ τῶν σπλάγχνων ἡ φύσις οἷον ἧλοι πρὸς τὸ σῶμα προσλαμβάνουσιν αὐτήν, εἰς μὲν τὰ πλάγια τοῦ σώματος τό θ’ ἧπαρ καὶ ὁ σπλὴν τὴν φλέβα τὴν μεγάλην-ἀπὸ ταύτης γὰρ εἰς αὐτὰ μόνα διατείνουσι φλέβες-εἰς δὲ τὰ ὄπισθεν οἱ νεφροί)· πρὸς δ’ ἐκείνους οὐ μόνον ἀπὸ τῆς μεγάλης φλεβὸς ἀλλὰ καὶ ἀπὸ τῆς ἀορτῆς τείνει φλὲψ εἰς ἑκάτερον. Ταῦτα δὴ συμβαίνει διὰ τούτων τῇ συστάσει τῶν ζῴων· καὶ τὸ μὲν ἧπαρ καὶ ὁ σπλὴν βοηθεῖ πρὸς τὴν πέψιν τῆς τροφῆς (ἔναιμα γὰρ ὄντα θερμὴν ἔχει τὴν φύσιν), οἱ δὲ νεφροὶ πρὸς τὸ περίττωμα τὸ εἰς τὴν κύστιν ἀποκρινόμενον. Καρδία μὲν οὖν καὶ ἧπαρ πᾶσιν ἀναγκαῖα τοῖς ζῴοις, ἡ μὲν διὰ τὴν τῆς θερμότητος ἀρχήν (δεῖ γὰρ εἶναί τινα οἷον ἑστίαν, ἐν ᾗ κείσεται τῆς φύσεως τὸ ζωπυροῦν, καὶ τοῦτο εὐφύλακτον, ὥσπερ ἀκρόπολις οὖσα τοῦ σώματος), τὸ δ’ ἧπαρ τῆς πέψεως χάριν. Πάντα δὲ δεῖται τὰ ἔναιμα δυοῖν τούτοιν, διόπερ ἔχει πάντα τὰ ἔναιμα δύο τὰ σπλάγχνα ταῦτα μόνον· ὅσα δ’ ἀναπνεῖ, καὶ πλεύμονα τρίτον. Ὁ δὲ σπλὴν κατὰ συμβεβηκὸς ἐξ ἀνάγκης ὑπάρχει τοῖς ἔχουσιν, ὥσπερ καὶ τὰ περιττώματα, τό τ’ ἐν τῇ κοιλίᾳ καὶ τὸ περὶ τὴν κύστιν. Διόπερ ἔν τισιν ἐκλείπει κατὰ τὸ μέγεθος, ὥσπερ τῶν τε πτερωτῶν ἐνίοις, ὅσα θερμὴν ἔχει τὴν κοιλίαν, οἷον περιστερὰ ἱέραξ ἰκτῖνος, καὶ ἐπὶ τῶν ᾠοτόκων (670b.) δὲ καὶ τετραπόδων ὁμοίως (μικρὸν γὰρ πάμπαν ἔχουσιν), καὶ πολλοῖς τῶν λεπιδωτῶν· ἅπερ καὶ κύστιν οὐκ ἔχει διὰ τὸ τρέπεσθαι τὸ περίττωμα διὰ μανῶν τῶν σαρκῶν εἰς πτερὰ καὶ λεπίδας. Ὁ γὰρ σπλὴν ἀντισπᾷ ἐκ τῆς κοιλίας τὰς ἰκμάδας τὰς περιττευούσας, καὶ δύναται συμπέττειν αἱματώδης ὤν. Ἂν δὲ τὸ περίττωμα πλεῖον ᾖ ἢ ὀλιγόθερμος ὁ σπλήν, νοσακερὰ γίνεται πλήρη τροφῆς· καὶ διὰ τὴν ἐνταῦθα παλίρροιαν τῆς ὑγρότητος πολλοῖς αἱ κοιλίαι σκληραὶ γίνονται σπληνιῶσιν, ὥσπερ τοῖς λίαν οὐρητικοῖς, διὰ τὸ ἀντιπερισπᾶσθαι τὰς ὑγρότητας. Οἷς δὲ ὀλίγη περίττωσις γίνεται, καθάπερ τοῖς ὀρνέοις καὶ τοῖς ἰχθύσι, τὰ μὲν οὐ μέγαν ἔχει, τὰ δὲ σημείου χάριν. Καὶ ἐν τοῖς τετράποσι δὲ τοῖς ᾠοτόκοις μικρὸς καὶ στιφρὸς καὶ νεφρώδης ὁ σπλήν ἐστι, διὰ τὸ τὸν πλεύμονα σομφὸν εἶναι καὶ ὀλιγοποτεῖν καὶ τὸ περιγινόμενον περίττωμα τρέπεσθαι εἰς τὸ σῶμα καὶ τὰς φολίδας, ὥσπερ εἰς τὰ πτερὰ τοῖς ὄρνισιν. Ἐν δὲ τοῖς κύστιν ἔχουσι καὶ τὸν πλεύμονα ἔναιμον ὑγρός ἐστι διά τε τὴν εἰρημένην αἰτίαν καὶ διὰ τὸ τὴν φύσιν τὴν τῶν ἀριστερῶν ὅλως ὑγροτέραν εἶναι καὶ ψυχροτέραν. Διῄρηται γὰρ τῶν ἐναντίων ἕκαστον πρὸς τὴν συγγενῆ συστοιχίαν, οἷον δεξιὸν ἐναντίον ἀριστερῷ καὶ θερμὸν ἐναντίον ψυχρῷ· καὶ σύστοιχα γὰρ ἀλλήλοις εἰσὶ τὸν εἰρημένον τρόπον.

Οἱ δὲ νεφροὶ τοῖς ἔχουσιν οὐκ ἐξ ἀνάγκης, ἀλλὰ τοῦ εὖ καὶ καλῶς ἕνεκεν ὑπάρχουσιν· τῆς γὰρ περιττώσεως χάριν τῆς εἰς τὴν κύστιν ἀθροιζομένης εἰσὶ κατὰ τὴν ἰδίαν φύσιν, ἐν ὅσοις πλεῖον ὑπόστημα γίνεται τὸ τοιοῦτον, ὅπως βέλτιον ἀποδιδῷ ἡ κύστις τὸ αὑτῆς ἔργον. Ἐπεὶ δὲ τῆς αὐτῆς ἕνεκα χρείας τούς τε νεφροὺς συμβέβηκεν ἔχειν τὰ ζῷα καὶ τὴν κύστιν, λεκτέον περὶ κύστεως νῦν, ὑπερβάντας τὸν ἐφεξῆς τῶν μορίων ἀριθμόν· περὶ γὰρ φρενῶν οὐδέν πω διώρισται, τοῦτο δέ τι τῶν περὶ τὰ σπλάγχνα μορίων ἐστίν.

Κεφάλαιο 8

Κύστιν δ’ οὐ πάντ’ ἔχει τὰ ζῷα, ἀλλ’ ἔοικεν ἡ φύσις βουλομένη ἀποδιδόναι τοῖς ἔχουσι τὸν πλεύμονα ἔναιμον (671a.) μόνον, τούτοις δ’ εὐλόγως. Διὰ γὰρ τὴν ὑπεροχὴν τῆς φύσεως, ἣν ἔχουσιν ἐν τῷ μορίῳ τούτῳ, διψητικά τε ταῦτ’ ἐστὶ μάλιστα τῶν ζῴων, καὶ δεῖται τροφῆς οὐ μόνον ξηρᾶς ἀλλὰ καὶ τῆς ὑγρᾶς πλείονος, ὥστ’ ἐξ ἀνάγκης καὶ περίττωμα γίνεσθαι πλεῖον καὶ μὴ τοσοῦτον μόνον ὅσον ὑπὸ τῆς κοιλίας πέττεσθαι καὶ ἐκκρίνεσθαι μετὰ τοῦ ταύτης περιττώματος. Ἀνάγκη τοίνυν εἶναί τι δεκτικὸν καὶ τούτου τοῦ περιττώματος. Διόπερ ὅσα πλεύμονα ἔχει τοιοῦτον ἅπαντ’ ἔχει κύστιν· ὅσα δὲ μὴ τοιοῦτον, ἀλλ’ ἢ ὀλιγόποτά ἐστι διὰ τὸ τὸν πλεύμονα ἔχειν σομφόν, ἢ ὅλως τὸ ὑγρὸν προσφέρεται οὐ ποτοῦ χάριν ἀλλὰ τροφῆς, οἷον τὰ ἔντομα καὶ οἱ ἰχθύες, ἔτι δὲ πτερωτά ἐστιν ἢ λεπιδωτὰ ἢ φολιδωτά, ταῦτα δι’ ὀλιγότητά τε τῆς τοῦ ὑγροῦ προσφορᾶς καὶ διὰ τὸ τρέπεσθαι εἰς ταῦτα τὸ περιγιγνόμενον τοῦ περιττώματος οὐδὲν ἔχει τούτων κύστιν, πλὴν αἱ χελῶναι τῶν φολιδωτῶν.

Καὶ ἐνταῦθ’ ἡ φύσις κεκολόβωται μόνον. Αἴτιον δ’ ὅτι αἱ μὲν θαλάττιαι σαρκώδη καὶ ἔναιμον ἔχουσι τὸν πλεύμονα, καὶ ὅμοιον τῷ βοείῳ, αἱ δὲ χερσαῖαι μείζω ἢ κατὰ λόγον. Ἔτι δὲ διὰ τὸ ὀστρακῶδες καὶ πυκνὸν εἶναι τὸ περιέχον οὐ διαπνέοντος τοῦ ὑγροῦ διὰ μανῶν τῶν σαρκῶν, οἷον τοῖς ὄρνισι καὶ τοῖς ὄφεσι καὶ τοῖς ἄλλοις τοῖς φολιδωτοῖς, ὑπόστασις γίνεται τοσαύτη ὥστε δεῖσθαι τὴν φύσιν αὐτῶν ἔχειν τι μόριον δεκτικὸν καὶ ἀγγειῶδες. Κύστιν μὲν οὖν ταῦτα μόνον τῶν τοιούτων ἔχει διὰ ταύτην τὴν αἰτίαν, ἡ μὲν θαλαττία μεγάλην, αἱ δὲ χερσαῖαι μικρὰν πάμπαν.

Κεφάλαιο 9

Ὁμοίως δ’ ἔχει καὶ περὶ νεφρῶν. Οὐδὲ γὰρ νεφροὺς οὔτε τῶν πτερωτῶν καὶ λεπιδωτῶν οὐδὲν ἔχει οὔτε τῶν φολιδωτῶν, πλὴν αἱ θαλάττιαι χελῶναι καὶ αἱ χερσαῖαι· ἀλλ’ ὡς τῆς εἰς τοὺς νεφροὺς τεταγμένης σαρκὸς οὐκ ἐχούσης χώραν ἀλλὰ διεσπαρμένης εἰς πολλά, πλατέα νεφροειδῆ ἐν ἐνίοις τῶν ὀρνίθων ἐστίν. Ἡ δ’ ἑμὺς οὔτε κύστιν οὔτε νεφροὺς ἔχει· διὰ τὴν μαλακότητα γὰρ τοῦ χελωνίου εὐδιάπνουν γίνεται τὸ ὑγρόν. Ἡ μὲν οὖν ἑμὺς διὰ ταύτην τὴν αἰτίαν οὐκ ἔχει τῶν μορίων οὐδέτερον· τοῖς δ’ ἄλλοις ζῴοις τοῖς ἔχουσιν ἔναιμον, ὥσπερ εἴρηται, τὸν πλεύμονα πᾶσι συμβέβηκεν ἔχειν (671b.) νεφρούς. Καταχρῆται γὰρ ἡ φύσις ἅμα τῶν τε φλεβῶν χάριν καὶ πρὸς τὴν τοῦ ὑγροῦ περιττώματος ἔκκρισιν· φέρει γὰρ εἰς αὐτοὺς πόρος ἐκ τῆς μεγάλης φλεβός. Ἔχουσι δ’ οἱ νεφροὶ πάντες κοῖλον, ἢ πλεῖον ἢ ἔλαττον, πλὴν οἱ τῆς φώκης· οὗτοι δ’ ὅμοιοι τοῖς βοείοις ὄντες στερεώτατοι πάντων εἰσίν. Ὅμοιοι δὲ καὶ οἱ τοῦ ἀνθρώπου τοῖς βοείοις· εἰσὶ γὰρ ὥσπερ συγκείμενοι ἐκ πολλῶν νεφρῶν μικρῶν καὶ οὐχ ὁμαλεῖς, ὥσπερ οἱ τῶν προβάτων καὶ τῶν ἄλλων τῶν τετραπόδων. Διὸ καὶ τὸ ἀρρώστημα τοῖς ἀνθρώποις δυσαπάλλακτον αὐτῶν ἐστιν, ἂν ἅπαξ νοσήσωσιν· συμβαίνει γὰρ ὥσπερ πολλοὺς νεφροὺς νοσούντων χαλεπωτέραν εἶναι τὴν ἴασιν ἢ τῶν ἕνα νοσούντων. Ὁ δ’ ἀπὸ τῆς φλεβὸς τείνων πόρος οὐκ εἰς τὸ κοῖλον τῶν νεφρῶν κατατελευτᾷ ἀλλ’ εἰς τὸ σῶμα καταναλίσκεται τῶν νεφρῶν· διόπερ ἐν τοῖς κοίλοις αὐτῶν οὐκ ἐγγίνεται αἷμα, οὐδὲ πήγνυται τελευτώντων. Ἐκ δὲ τοῦ κοίλου τῶν νεφρῶν φέρουσι πόροι ἄναιμοι εἰς τὴν κύστιν δύο νεανικοί, ἐξ ἑκατέρου εἷς, καὶ ἄλλοι ἐκ τῆς ἀορτῆς ἰσχυροὶ καὶ συνεχεῖς. Ταῦτα δ’ ἔχει τὸν τρόπον τοῦτον, ὅπως ἐκ μὲν τῆς φλεβὸς τὸ περίττωμα τῆς ὑγρότητος βαδίζῃ εἰς τοὺς νεφρούς, ἐκ δὲ τῶν νεφρῶν ἡ γιγνομένη ὑπόστασις διηθουμένων τῶν ὑγρῶν διὰ τοῦ σώματος τῶν νεφρῶν εἰς τὸ μέσον συρρέῃ, οὗ τὸ κοῖλον οἱ πλεῖστοι ἔχουσιν αὐτῶν· διὸ καὶ δυσωδέστατον τοῦτο τῶν σπλάγχνων ἐστίν. Ἐκ δὲ τοῦ μέσου διὰ τούτων τῶν πόρων εἰς τὴν κύστιν ἤδη μᾶλλον ὡς περίττωμα ἀποκρίνεται. Καθώρμισται δ’ ἡ κύστις ἐκ τῶν νεφρῶν· τείνουσι γάρ, ὥσπερ εἴρηται, πόροι ἰσχυροὶ πρὸς αὐτήν· οἱ μὲν οὖν νεφροὶ διὰ ταύτας τὰς αἰτίας εἰσί, καὶ τὰς δυνάμεις ἔχουσι τὰς εἰρημένας.

Ἐν πᾶσι δὲ τοῖς ἔχουσι νεφροὺς ὁ δεξιὸς ἀνωτέρω τοῦ ἀριστεροῦ ἐστιν·

διὰ γὰρ τὸ τὴν κίνησιν εἶναι ἐκ τῶν δεξιῶν καὶ ἰσχυροτέραν διὰ ταῦτ’ εἶναι τὴν φύσιν τὴν τῶν δεξιῶν, δεῖ προοδοποιήσασθαι διὰ τὴν κίνησιν πρὸς τὸ ἄνω πάντα τὰ μόρια μᾶλλον, ἐπεὶ καὶ τὴν ὀφρὺν τὴν δεξιὰν αἴρουσι μᾶλλον καὶ ἐπικεκαμμένην ἔχουσι τῆς ἀριστερᾶς μᾶλλον. Καὶ διὰ τὸ ἀνεσπάσθαι ἀνώτερον τὸν δεξιὸν νεφρὸν τὸ ἧπαρ ἅπτεται τοῦ δεξιοῦ νεφροῦ ἐν πᾶσιν· ἐν τοῖς δεξιοῖς γὰρ τὸ ἧπαρ.

(672a.) Ἔχουσι δ’ οἱ νεφροὶ μάλιστα τῶν σπλάγχνων πιμελήν, ἐξ ἀνάγκης μὲν διὰ τὸ διηθεῖσθαι τὸ περίττωμα διὰ τῶν νεφρῶν· τὸ γὰρ λειπόμενον αἷμα καθαρὸν ὂν εὔπεπτόν ἐστι, τέλος δ’ εὐπεψίας αἱματικῆς πιμελὴ καὶ στέαρ ἐστίν.

Ὥσπερ γὰρ ἐν τοῖς πεπυρωμένοις ξηροῖς, οἷον τῇ τέφρᾳ, ἐγκαταλείπεταί τι πῦρ, οὕτω καὶ ἐν τοῖς πεπεμμένοις ὑγροῖς· ἐγκαταλείπεται γάρ τι τῆς εἰργασμένης θερμότητος μόριον. Διόπερ τὸ λιπαρὸν κοῦφόν ἐστι καὶ ἐπιπολάζει ἐν τοῖς ὑγροῖς. Ἐν αὐτοῖς μὲν οὖν οὐ γίνεται τοῖς νεφροῖς διὰ τὸ πυκνὸν εἶναι τὸ σπλάγχνον, ἔξω δὲ περιίσταται πιμελὴ μὲν ἐν τοῖς πιμελώδεσι, στέαρ δ’ ἐν τοῖς στεατώδεσιν· ἡ δὲ διαφορὰ τούτων εἴρηται πρότερον ἐν ἑτέροις. Ἐξ ἀνάγκης μὲν οὖν πιμελώδεις γίνονται διὰ ταύτην τὴν αἰτίαν ἐκ τῶν συμβαινόντων ἐξ ἀνάγκης τοῖς ἔχουσι νεφρούς, ἕνεκα δὲ σωτηρίας καὶ τοῦ θερμὴν εἶναι τὴν φύσιν τὴν τῶν νεφρῶν.

Ἔσχατοί τε γὰρ ὄντες ἀλέας δέονται πλείονος· τὸ μὲν γὰρ νῶτον σαρκῶδές ἐστιν, ὅπως ᾖ προβολὴ τοῖς περὶ τὴν καρδίαν σπλάγχνοις, ἡ δ’ ὀσφὺς ἄσαρκος (ἄσαρκοι γὰρ αἱ καμπαὶ πάντων)· ἀντὶ σαρκὸς οὖν ἡ πιμελὴ πρόβλημα γίνεται τοῖς νεφροῖς. Ἔτι δὲ διακρίνουσι καὶ πέττουσι τὴν ὑγρότητα μᾶλλον πίονες ὄντες· τὸ γὰρ λιπαρὸν θερμόν, πέττει δ’ ἡ θερμότης. Διὰ ταύτας μὲν οὖν τὰς αἰτίας οἱ νεφροὶ πιμελώδεις εἰσίν, ἐν πᾶσι δὲ τοῖς ζῴοις ὁ δεξιὸς ἀπιμελώτερός ἐστιν. Αἴτιον δὲ τὸ τὴν φύσιν ξηρὰν εἶναι τὴν τῶν δεξιῶν καὶ κινητικωτέραν· ἡ δὲ κίνησις ἐναντία· τήκει γὰρ τὸ πῖον μᾶλλον. Τοῖς μὲν οὖν ἄλλοις ζῴοις συμφέρει τε τοὺς νεφροὺς ἔχειν πίονας, καὶ πολλάκις ἔχουσιν ὅλους περίπλεως· τὸ δὲ πρόβατον ὅταν τοῦτο πάθῃ, ἀποθνήσκει. Ἀλλ’ ἂν καὶ πάνυ πίονες ὦσιν, ὅμως ἐλλείπει τι, ἂν μὴ κατ’ ἀμφοτέρους, ἀλλὰ κατὰ τὸν δεξιόν. Αἴτιον δὲ τοῦ μόνον ἢ μάλιστα τοῦτο συμβαίνειν ἐπὶ τῶν προβάτων, ὅτι τοῖς μὲν πιμελώδεσιν ὑγρὸν τὸ πῖον, ὥστ’ οὐχ ὁμοίως ἐγκατακλειόμενα τὰ πνεύματα ποιεῖ τὸν πόνον. Τοῦ δὲ σφακελισμοῦ τοῦτ’ αἴτιόν ἐστιν· διὸ καὶ τῶν ἀνθρώπων τοῖς πονοῦσι τοὺς νεφρούς, καίπερ τοῦ πιαίνεσθαι συμφέροντος, ὅμως ἂν λίαν γίνωνται πίονες, ὀδύναι θανατηφόροι συμβαίνουσιν. Τῶν δ’ ἄλλων τοῖς (672b.) στεατώδεσιν ἧττον πυκνὸν τὸ στέαρ ἢ τοῖς προβάτοις.

Καὶ τῷ πλήθει πολὺ τὰ πρόβατα ὑπερβάλλει· γίνεται γὰρ περίνεφρα τάχιστα τῶν ζῴων τὰ πρόβατα πάντων. Ἐγκατακλειομένης οὖν τῆς ὑγρότητος καὶ τῶν πνευμάτων διὰ τὸν σφακελισμὸν ἀναιροῦνται ταχέως· διὰ γὰρ τῆς ἀορτῆς καὶ τῆς φλεβὸς εὐθὺς ἀπαντᾷ τὸ πάθος πρὸς τὴν καρδίαν· οἱ δὲ πόροι συνεχεῖς ἀπὸ τούτων τῶν φλεβῶν εἰσι πρὸς τοὺς νεφρούς.

Κεφάλαιο 10

Περὶ μὲν οὖν τῆς καρδίας καὶ πλεύμονος εἴρηται, καὶ περὶ ἥπατος καὶ σπληνὸς καὶ νεφρῶν.

Τυγχάνει δὲ ταῦτα κεχωρισμένα ἀλλήλων τῷ διαζώματι. Τοῦτο δὲ τὸ διάζωμα καλοῦσί τινες φρένας· ὃ διορίζει τόν τε πλεύμονα καὶ τὴν καρδίαν. Καλεῖται δὲ τοῦτο τὸ διάζωμα ἐν τοῖς ἐναίμοις, ὥσπερ καὶ εἴρηται, φρένες. Ἔχει δὲ πάντα τὰ ἔναιμα αὐτό, καθάπερ καρδίαν καὶ ἧπαρ. Τούτου δ’ αἴτιον ὅτι τοῦ διορισμοῦ χάριν ἐστὶ τοῦ τε περὶ τὴν κοιλίαν τόπου καὶ τοῦ περὶ τὴν καρδίαν, ὅπως ἡ τῆς αἰσθητικῆς ψυχῆς ἀρχὴ ἀπαθὴς ᾖ καὶ μὴ ταχὺ καταλαμβάνηται διὰ τὴν ἀπὸ τῆς τροφῆς γινομένην ἀναθυμίασιν καὶ τὸ πλῆθος τῆς ἐπεισάκτου θερμότητος. Ἐπὶ γὰρ τοῦτο διέλαβεν ἡ φύσις, οἷον παροικοδόμημα ποιήσασα καὶ φραγμὸν τὰς φρένας, καὶ διεῖλε τό τε τιμιώτερον καὶ τὸ ἀτιμότερον, ἐν ὅσοις ἐνδέχεται διελεῖν τὸ ἄνω καὶ κάτω· τὸ μὲν γὰρ ἄνω ἐστὶν οὗ ἕνεκεν καὶ βέλτιον, τὸ δὲ κάτω τὸ τούτου ἕνεκεν καὶ ἀναγκαῖον, τὸ τῆς τροφῆς δεκτικόν. Ἔστι δὲ τὸ διάζωμα πρὸς μὲν τὰς πλευρὰς σαρκωδέστερον καὶ ἰσχυρότερον, κατὰ μέσον δ’ ὑμενωδέστερον· οὕτω γὰρ πρὸς τὴν ἰσχὺν καὶ τὴν τάσιν χρησιμώτερον. Διότι δὲ πρὸς τὴν θερμότητα τὴν κάτωθεν οἷον παραφυάδες εἰσί, σημεῖον ἐκ τῶν συμβαινόντων· ὅταν γὰρ διὰ τὴν γειτνίασιν ἑλκύσωσιν ὑγρότητα θερμὴν καὶ περιττωματικήν, εὐθὺς ἐπιδήλως ταράττει τὴν διάνοιαν καὶ τὴν αἴσθησιν, διὸ καὶ καλοῦνται φρένες ὡς μετέχουσαί τι τοῦ φρονεῖν. Αἱ δὲ μετέχουσι μὲν οὐδέν, ἐγγὺς δ’ οὖσαι τῶν μετεχόντων ἐπίδηλον ποιοῦσι τὴν μεταβολὴν τῆς διανοίας. Διὸ καὶ λεπταὶ κατὰ μέσον εἰσίν, οὐ μόνον ἐξ ἀνάγκης, ὅτι σαρκώδεις οὔσας τὰ πρὸς τὰς πλευρὰς ἀναγκαῖον εἶναι σαρκωδεστέρας, ἀλλ’ ἵν’ ὅτι ὀλιγίστης μετέχωσιν ἰκμάδος· σαρκώδεις γὰρ ἂν οὖσαι (673a.) καὶ εἶχον καὶ εἷλκον μᾶλλον ἰκμάδα πολλήν.

Ὅτι δὲ θερμαινόμεναι ταχέως ἐπίδηλον ποιοῦσι τὴν αἴσθησιν, σημαίνει καὶ τὸ περὶ τοὺς γέλωτας συμβαῖνον. Γαργαλιζόμενοί τε γὰρ ταχὺ γελῶσι, διὰ τὸ τὴν κίνησιν ἀφικνεῖσθαι ταχὺ πρὸς τὸν τόπον τοῦτον, θερμαίνουσαν δ’ ἠρέμα, ποιεῖν ὅμως ἐπίδηλον καὶ κινεῖν τὴν διάνοιαν παρὰ τὴν προαίρεσιν.

Τοῦ δὲ γαργαλίζεσθαι μόνον ἄνθρωπον αἴτιον ἥ τε λεπτότης τοῦ δέρματος καὶ τὸ μόνον γελᾶν τῶν ζῴων ἄνθρωπον. Ὁ δὲ γαργαλισμὸς γέλως ἐστὶ διὰ

κινήσεως τοιαύτης τοῦ μορίου τοῦ περὶ τὴν μασχάλην. Συμβαίνειν δέ φασι καὶ περὶ τὰς ἐν τοῖς πολέμοις πληγὰς εἰς τὸν τόπον τὸν περὶ τὰς φρένας γέλωτα διὰ τὴν ἐκ τῆς πληγῆς γινομένην θερμότητα. Τοῦτο γὰρ μᾶλλόν ἐστιν ἀξιοπίστων ἀκοῦσαι λεγόντων ἢ τὸ περὶ τὴν κεφαλήν, ὡς ἀποκοπεῖσα φθέγγεται τῶν ἀνθρώπων. Λέγουσι γάρ τινες ἐπαγόμενοι καὶ τὸν Ὅμηρον, ὡς διὰ τοῦτο ποιήσαντος· φθεγγομένη δ’ ἄρα τοῦγε κάρη κονίῃσιν ἐμίχθη· ἀλλ’ οὐ, φθεγγομένου. Περὶ δὲ Καρίαν οὕτω τὸ τοιοῦτον διεπίστευσαν ὥστε καὶ κρίσιν ἐποιήσαντο περί τινος τῶν ἐγχωρίων.

Τοῦ γὰρ ἱερέως τοῦ Ὁπλοσμίου Διὸς ἀποθανόντος, ὑφ’ ὅτου δὲ δὴ ἀδήλως, ἔφασάν τινες ἀκοῦσαι τῆς κεφαλῆς ἀποκεκομμένης λεγούσης πολλάκις· ἐπ’ ἀνδρὸς ἄνδρα Κερκιδᾶς ἀπέκτεινεν. Διὸ καὶ ζητήσαντες ᾧ ὄνομα ἦν ἐν τῷ τόπῳ Κερκιδᾶς, ἔκριναν. Ἀδύνατον δὲ φθέγγεσθαι κεχωρισμένης τῆς ἀρτηρίας, καὶ ἄνευ τῆς ἐκ τοῦ πλεύμονος κινήσεως. Παρά τε τοῖς βαρβάροις, παρ’ οἷς ἀποτέμνουσι ταχέως τὰς κεφαλάς, οὐδέν πω τοιοῦτον συμβέβηκεν. Ἔτι δ’ ἐπὶ τῶν ἄλλων ζῴων διὰ τίν’ αἰτίαν οὐ γίνεται; Τὸ μὲν γὰρ τοῦ γέλωτος πληγεισῶν τῶν φρενῶν εἰκότως· οὐδὲν γὰρ γελᾷ τῶν ἄλλων. Προϊέναι δέ ποι τὸ σῶμα τῆς κεφαλῆς ἀφῃρημένης οὐδὲν ἄλογον, ἐπεὶ τά γ’ ἄναιμα καὶ ζῇ πολὺν χρόνον· δεδήλωται δὲ περὶ τῆς αἰτίας αὐτῶν ἐν ἑτέροις.

Τίνος μὲν οὖν ἕνεκέν ἐστιν ἕκαστον τῶν σπλάγχνων, εἴρηται. Γέγονε δ’ ἐξ ἀνάγκης ἐπὶ τοῖς ἐντὸς πέρασι τῶν φλεβῶν· ἐξιέναι τε γὰρ ἰκμάδα ἀναγκαῖον, καὶ ταύτην αἱματικήν, (673b.) ἐξ ἧς συνισταμένης καὶ πηγνυμένης γίνεσθαι τὸ σῶμα τῶν σπλάγχνων. Διόπερ αἱματικά, καὶ αὐτοῖς μὲν ὁμοίαν ἔχουσι τὴν τοῦ σώματος φύσιν, τοῖς δ’ ἄλλοις ἀνομοίαν.

Κεφάλαιο 11

Πάντα δὲ τὰ σπλάγχνα ἐν ὑμένι ἐστίν· προβολῆς τε γὰρ δεῖ πρὸς τὸ ἀπαθῆ εἶναι, καὶ ταύτης ἐλαφρᾶς, ὁ δ’ ὑμὴν τὴν φύσιν τοιοῦτος· πυκνὸς μὲν γὰρ ὥστ’ ἀποστέγειν, ἄσαρκος δὲ ὥστε μὴ ἕλκειν μηδ’ ἔχειν ἰκμάδα, λεπτὸς δ’, ὅπως κοῦφος ᾖ καὶ μηδὲν ποιῇ βάρος. Μέγιστοι δὲ καὶ ἰσχυρότατοι τῶν ὑμένων εἰσὶν οἵ τε περὶ τὴν καρδίαν καὶ περὶ τὸν ἐγκέφαλον, εὐλόγως· ταῦτα γὰρ δεῖται πλείστης φυλακῆς. Ἡ μὲν γὰρ φυλακὴ περὶ τὰ κύρια, ταῦτα δὲ κύρια μάλιστα τῆς ζωῆς.

Κεφάλαιο 12

Ἔχουσι δ’ ἔνια μὲν τῶν ζῴων πάντα τὸν ἀριθμὸν αὐτῶν, ἔνια δ’ οὐ πάντα· ποῖα δὲ ταῦτα καὶ διὰ τίν’ αἰτίαν, εἴρηται πρότερον. Καὶ τῶν ἐχόντων δὲ ταῦτα διαφέρουσιν· οὐ γὰρ ὁμοίας οὔτε τὰς καρδίας ἔχουσι πάντα τὰ ἔχοντα καρδίαν, οὔτε τῶν ἄλλων ὡς εἰπεῖν οὐδέν.

Τό τε γὰρ ἧπαρ τοῖς μὲν πολυσχιδές ἐστι, τοῖς δὲ μονοφυέστερον, πρῶτον αὐτῶν τῶν ἐναίμων καὶ ζῳοτόκων· ἔτι δὲ μᾶλλον καὶ πρὸς ταῦτα καὶ πρὸς ἄλληλα διαφέρει τά τε τῶν ἰχθύων καὶ τῶν τετραπόδων καὶ ᾠοτόκων. Τὸ δὲ τῶν ὀρνίθων μάλιστα προσεμφερὲς τῷ τῶν ζῳοτόκων ἐστὶν ἥπατι· καθαρὸν γὰρ καὶ ἔναιμον τὸ χρῶμα αὐτῶν ἐστι καθάπερ κἀκείνων.

Αἴτιον δὲ τὸ τὰ σώματα τούτων εὐπνούστατα εἶναι καὶ μὴ πολλὴν ἔχειν φαύλην περίττωσιν. Διόπερ ἔνια καὶ οὐκ ἔχει χολὴν τῶν ζῳοτόκων· τὸ γὰρ ἧπαρ συμβάλλεται πολὺ μέρος πρὸς εὐκρασίαν τοῦ σώματος καὶ ὑγίειαν· ἐν μὲν γὰρ τῷ αἵματι μάλιστα τὸ τούτων τέλος, τὸ δ’ ἧπαρ αἱματικώτατον μετὰ τὴν καρδίαν τῶν σπλάγχνων. Τὰ δὲ τῶν τετραπόδων καὶ ᾠοτόκων καὶ τῶν ἰχθύων ἔνωχρα τῶν πλείστων, ἐνίων δὲ καὶ φαῦλα παντελῶς, ὥσπερ καὶ τὰ σώματα φαύλης τετύχηκε κράσεως, οἷον φρύνης καὶ χελώνης καὶ τῶν ἄλλων τῶν τοιούτων.

Σπλῆνα δ’ ἔχει τὰ μὲν κερατοφόρα καὶ διχαλὰ στρογγύλον, καθάπερ αἲξ καὶ πρόβατον καὶ τῶν ἄλλων ἕκαστον, εἰ μή τι διὰ μέγεθος εὐαυξέστερον ἔχει κατὰ μῆκος, οἷον ὁ τοῦ βοὸς (674a.) πέπονθεν· τὰ δὲ πολυσχιδῆ πάντα μακρόν, οἷον ὗς καὶ ἄνθρωπος καὶ κύων, τὰ δὲ μώνυχα μεταξὺ τούτων καὶ μικτόν· τῇ μὲν γὰρ πλατὺν ἔχει τῇ δὲ στενόν, οἷον ἵππος καὶ ὀρεὺς καὶ ὄνος.

Κεφάλαιο 13

Οὐ μόνον δὲ διαφέρει τὰ σπλάγχνα τῆς σαρκὸς τῷ ὄγκῳ τοῦ σώματος, ἀλλὰ καὶ τῷ τὴν μὲν ἔξω τὰ δ’ ἔσω τὴν θέσιν ἔχειν. Αἴτιον δ’ ὅτι τὴν φύσιν ἔχει κοινωνοῦσαν ταῖς φλεψί, καὶ τὰ μὲν τῶν φλεβῶν χάριν, τὰ δ’ οὐκ ἄνευ φλεβῶν ἐστιν.

Κεφάλαιο 14

Ὑπὸ δὲ τὸ ὑπόζωμα κεῖται ἡ κοιλία τοῖς ζῴοις, τοῖς μὲν ἔχουσιν οἰσοφάγον ᾗ τελευτᾷ τοῦτο τὸ μόριον, τοῖς δὲ μὴ ἔχουσιν εὐθὺς πρὸς τῷ στόματι· τῆς δὲ κοιλίας ἐχόμενον τὸ καλούμενον ἔντερον. Δι’ ἣν δ’ αἰτίαν ἔχει ταῦτα τὰ μόρια τῶν ζῴων ἕκαστον, φανερὸν πᾶσιν. Καὶ γὰρ δέξασθαι τὴν εἰσελθοῦσαν τροφὴν καὶ τὴν ἐξικμασμένην ἀναγκαῖον ἐκπέμψαι, καὶ μὴ τὸν αὐτὸν τόπον εἶναι τῆς τε ἀπέπτου καὶ τοῦ περιττώματος, εἶναί τέ τινα δεῖ τόπον ἐν ᾧ μεταβάλλει. Τὸ μὲν γὰρ τὴν εἰσελθοῦσαν ἕξει μόριον, τὸ δὲ τὸ περίττωμα τὸ ἄχρηστον· ὥσπερ δὲ χρόνος ἕτερος ἑκατέρου τούτων, ἀναγκαῖον διειλῆφθαι καὶ τοῖς τόποις. Ἀλλὰ περὶ μὲν τούτων ἐν τοῖς περὶ τὴν γένεσιν καὶ τὴν τροφὴν οἰκειότερός ἐστιν ὁ διορισμός· περὶ δὲ τῆς διαφορᾶς τῆς κοιλίας καὶ τῶν συντελῶν μορίων νῦν ἐπισκεπτέον. Οὔτε γὰρ τοῖς μεγέθεσιν οὔτε τοῖς εἴδεσιν ὁμοίας ἔχουσιν ἀλλήλοις τὰ ζῷα. Ἀλλ’ ὅσα μέν ἐστιν αὐτῶν ἀμφώδοντα τῶν ἐναίμων καὶ τῶν ζῳοτόκων, μίαν ἔχει κοιλίαν, οἷον ἄνθρωπος καὶ κύων καὶ λέων καὶ τἆλλα ὅσα πολυδάκτυλα, καὶ ὅσα μώνυχα, οἷον ἵππος ὀρεὺς ὄνος, καὶ ὅσα διχαλὰ μὲν ἀμφώδοντα δέ, οἷον ὗς, πλὴν εἰ μή τι διὰ μέγεθος τοῦ σώματος καὶ τὴν τῆς τροφῆς δύναμιν, οὖσαν οὐκ εὔπεπτον ἀλλ’ ἀκανθώδη καὶ ξυλικήν, ἔχει πλείους, οἷον κάμηλος, ὥσπερ καὶ τὰ κερατοφόρα.

Τὰ γὰρ κερατοφόρα οὐκ ἔστιν ἀμφώδοντα· διὰ τοῦτο δὲ καὶ ἡ κάμηλος οὐ τῶν ἀμφωδόντων ἐστίν, ἀκέρατος οὖσα, διὰ τὸ ἀναγκαιότερον εἶναι αὐτῇ τὴν κοιλίαν ἔχειν τοιαύτην ἢ τοὺς προσθίους ὀδόντας. Ὥστ’ ἐπεὶ ταύτην ὁμοίαν ἔχει (674b.) τοῖς μὴ ἀμφώδουσι, καὶ τὰ περὶ τοὺς ὀδόντας ὁμοίως ἔχει αὐτῇ, ὡς οὐδὲν ὄντας προέργου. Ἅμα δὲ καὶ ἐπεὶ ἡ τροφὴ ἀκανθώδης, τὴν δὲ γλῶτταν ἀνάγκη σαρκώδη εἶναι, πρὸς σκληρότητα τοῦ οὐρανοῦ κατακέχρηται τῷ ἐκ τῶν ὀδόντων γεώδει ἡ φύσις. Καὶ μηρυκάζει δ’ ἡ κάμηλος ὥσπερ τὰ κερατοφόρα, διὰ τὸ τὰς κοιλίας ὁμοίας ἔχειν τοῖς κερατοφόροις. Τούτων δ’ ἕκαστον πλείους ἔχει κοιλίας, οἷον πρόβατον βοῦς αἲξ ἔλαφος καὶ τἆλλα τὰ τοιαῦτα τῶν ζῴων, ὅπως ἐπειδὴ τῆς ἐργασίας ἐλλείπει περὶ τὴν τροφὴν ἡ λειτουργία ἡ τοῦ στόματος διὰ τὴν ἔνδειαν τῶν ὀδόντων, ἡ τῶν κοιλιῶν ἑτέρα πρὸς ἑτέρας δεχομένη τὴν τροφήν, ἡ μὲν ἀκατέργαστον, ἡ δὲ κατειργασμένην μᾶλλον, ἡ δὲ πάμπαν, ἡ δὲ λείαν. Διὸ τὰ τοιαῦτα τῶν ζῴων πλείους ἔχει τόπους καὶ μόρια. Καλοῦνται δὲ ταῦτα κοιλία καὶ κεκρύφαλος καὶ ἐχῖνος καὶ ἤνυστρον. Ὃν δ’ ἔχει τρόπον ταῦτα πρὸς ἄλληλα τῇ θέσει καὶ τοῖς εἴδεσιν, ἔκ τε τῆς ἱστορίας τῆς περὶ τὰ ζῷα δεῖ θεωρεῖν, καὶ ἐκ τῶν ἀνατομῶν.

Διὰ τὴν αὐτὴν δ’ αἰτίαν καὶ τὸ τῶν ὀρνίθων γένος ἔχει διαφορὰν περὶ τὸ τῆς τροφῆς δεκτικὸν μόριον. Ἐπεὶ γὰρ οὐδὲ ταῦτα ὅλως τὴν τοῦ στόματος ἀποδίδωσι λειτουργίαν (ἀνόδοντα γάρ) καὶ οὔτε ᾧ διαιρήσει, οὔτε ᾧ λεανεῖ τὴν τροφὴν ἔχουσι, διὰ τοῦτο τὰ μὲν πρὸ τῆς κοιλίας ἔχουσι τὸν καλούμενον πρόλοβον ἀντὶ τῆς τοῦ στόματος ἐργασίας, οἱ δὲ τὸν οἰσοφάγον πλατύν, ἢ πρὸ τῆς κοιλίας αὐτοῦ μέρος τι ὀγκῶδες ἐν ᾧ προθησαυρίζουσι τὴν ἀκατέργαστον τροφήν, ἢ τῆς κοιλίας αὐτῆς τι ἐπανεστηκός, οἱ δ’ αὐτὴν τὴν κοιλίαν ἰσχυρὰν καὶ σαρκώδη πρὸς τὸ δύνασθαι πολὺν χρόνον θησαυρίζειν καὶ πέττειν ἀλείαντον οὖσαν τὴν τροφήν· τῇ δυνάμει γὰρ καὶ τῇ θερμότητι τῆς κοιλίας ἡ φύσις ἀναλαμβάνει τὴν τοῦ στόματος ἔνδειαν. Εἰσὶ δέ τινες οἳ τούτων οὐδὲν ἔχουσιν, ἀλλὰ τὸν πρόλοβον μακρόν, ὅσα μακροσκελῆ καὶ ἕλεια, διὰ τὴν τῆς τροφῆς ὑγρότητα. Αἴτιον δ’ ὅτι ἡ τροφὴ πᾶσι τούτοις εὐλέαντος, ὥστε συμβαίνειν διὰ ταῦτα τῶν τοιούτων τὰς κοιλίας εἶναι ὑγρὰς διὰ τὴν ἀπεψίαν καὶ τὴν τροφήν.

(675a.) Τὸ δὲ τῶν ἰχθύων γένος ἔχει μὲν ὀδόντας, τούτους δὲ καρχαρόδοντας σχεδὸν ὡς εἰπεῖν πάντας· ὀλίγον γάρ τί ἐστι γένος τὸ μὴ τοιοῦτον, οἷον ὁ καλούμενος σκάρος, ὃς δὴ καὶ δοκεῖ μηρυκάζειν εὐλόγως διὰ ταῦτα μόνος· καὶ γὰρ τὰ μὴ ἀμφώδοντα κερατοφόρα δὲ μηρυκάζει. Ὀξεῖς δὲ πάντες ἔχουσιν, ὥστε διελεῖν μὲν δύνανται, φαύλως δὲ διελεῖν· ἐνδιατρίβειν γὰρ οὐχ οἷόν τε χρονίζοντας. Διόπερ οὐδὲ πλατεῖς ἔχουσιν ὀδόντας, οὐδ’ ἐνδέχεται λεαίνειν· μάτην ἂν οὖν εἶχον. Ἔτι δὲ στόμαχον οἱ μὲν ὅλως οὐκ ἔχουσιν, οἱ δὲ βραχύν. Ἀλλὰ πρὸς τὴν βοήθειαν τῆς πέψεως οἱ μὲν ὀρνιθώδεις ἔχουσι τὰς κοιλίας καὶ σαρκώδεις, οἷον κεστρεύς, οἱ δὲ πολλοὶ παρὰ τὴν κοιλίαν ἀποφυάδας πυκνάς, ἵν’ ἐν ταύταις ὥσπερ ἐν προλακκίοις θησαυρίζοντες συσσήπωσι καὶ πέττωσι τὴν τροφήν. Ἔχουσι δ’ ἐναντίως οἱ ἰχθύες τοῖς ὄρνισι τὰς ἀποφυάδας· οἱ μὲν γὰρ ἰχθύες ἄνω πρὸς τῇ κοιλίᾳ, τῶν δ’ ὀρνίθων οἱ ἔχοντες ἀποφυάδας κάτω πρὸς τῷ τέλει τοῦ ἐντέρου. Ἔχουσι δ’ ἀποφυάδας ἔνια καὶ τῶν ζῳοτόκων ἐντερικὰς κάτω διὰ τὴν αὐτὴν αἰτίαν. Τὸ δὲ τῶν ἰχθύων γένος ἅπαν, διὰ τὸ ἐνδεεστέρως ἔχειν τὰ περὶ τὴν τῆς τροφῆς ἐργασίαν, ἀλλ’ ἄπεπτα διαχωρεῖν, λαίμαργον πρὸς τὴν τροφήν ἐστι, καὶ τῶν ἄλλων δὲ πάντων ὅσα εὐθυέντερα· ταχείας γὰρ γινομένης τῆς διαχωρήσεως, καὶ διὰ ταῦτα βραχείας οὔσης τῆς ἀπολαύσεως, ταχεῖαν ἀναγκαῖον γίνεσθαι πάλιν καὶ τὴν ἐπιθυμίαν. Τὰ δ’ ἀμφώδοντα ὅτι μὲν μικρὰν ἔχει κοιλίαν, εἴρηται πρότερον, εἰς διαφορὰς δὲ πίπτουσι δύο πᾶσαι σχεδόν· τὰ μὲν γὰρ τῇ τῆς κυνὸς ὁμοίαν ἔχουσι κοιλίαν, τὰ δὲ τῇ τῆς ὑός· ἔστι δὲ ἡ μὲν τῆς ὑὸς μείζων καί τινας ἔχουσα μετρίας πλάκας πρὸς τὸ χρονιωτέραν γίνεσθαι τὴν πέψιν, ἡ δὲ τῆς κυνὸς μικρὰ τὸ μέγεθος καὶ οὐ πολὺ τοῦ ἐντέρου ὑπερβάλλουσα καὶ λεία τὰ ἐντός.

Μετὰ δὲ τὴν κοιλίαν ἡ τῶν ἐντέρων ἔγκειται φύσις πᾶσι τοῖς ζῴοις. Ἔχει δὲ διαφορὰς πολλάς, καθάπερ ἡ κοιλία, καὶ τοῦτο τὸ μόριον. Τοῖς μὲν γὰρ ἁπλοῦν ἐστι καὶ ὅμοιον ἀναλυόμενον, τοῖς δ’ ἀνόμοιον· ἐνίοις μὲν γὰρ εὐρύτερον τὸ πρὸς τῇ κοιλίᾳ, τὸ δὲ πρὸς τῷ τέλει στενώτερον (διόπερ αἱ κύνες μετὰ πόνου προΐενται τὴν τοιαύτην περίττωσιν), τοῖς (675b.) δὲ πλείοσιν ἄνωθεν στενώτερον, πρὸς τῷ τέλει δ’ εὐρύτερον. Μείζω δὲ καὶ ἀναδιπλώσεις ἔχοντα πολλὰς τὰ τῶν κερατοφόρων ἐστί, καὶ οἱ ὄγκοι τῆς κοιλίας τούτοις μείζους καὶ τῶν ἐντέρων διὰ τὸ μέγεθος· πάντα γὰρ ὡς εἰπεῖν μεγάλα τὰ κερατοφόρα διὰ τὴν κατεργασίαν τὴν τῆς τροφῆς. Πᾶσι δὲ τοῖς μὴ εὐθυεντέροις προϊοῦσιν εὐρύτερον γίνεται τὸ μόριον τοῦτο, καὶ τὸ καλούμενον κόλον ἔχουσι, καὶ τοῦ ἐντέρου τυφλόν τι καὶ ὀγκῶδες, εἶτ’ ἐκ τούτου πάλιν στενώτερον καὶ εἰλιγμένον. Τὸ δὲ μετὰ τοῦτο εὐθὺ πρὸς τὴν ἔξοδον διατείνει τοῦ περιττώματος, καὶ τοῖς μὲν τοῦτο τὸ μόριον, ὁ καλούμενος ἀρχός, κνισσώδης ἐστί, τοῖς δ’ ἀπίμελος.

Πάντα δὲ ταῦτα μεμηχάνηται τῇ φύσει πρὸς τὰς ἁρμοττούσας ἐργασίας περὶ τὴν τροφὴν καὶ τοῦ γινομένου περιττώματος. Προϊόντι γὰρ καὶ καταβαίνοντι τῷ περιττώματι εὐρυχωρία γίνεται, καὶ πρὸς τὸ μεταβάλλειν ἱσταμένῳ τοῖς εὐχιλοτέροις τῶν ζῴων καὶ πλείονος δεομένοις τροφῆς, διὰ τὸ μέγεθος ἢ τὴν θερμότητα τῶν τόπων. Εἶτ’ ἐντεῦθεν πάλιν, ὥσπερ ἀπὸ τῆς ἄνω κοιλίας δέχεται στενώτερον ἔντερον, οὕτως ἐκ τοῦ κώλου καὶ τῆς εὐρυχωρίας ἐν τῇ κάτω κοιλίᾳ πάλιν εἰς στενώτερον ἔρχεται καὶ εἰς τὴν ἕλικα τὸ περίττωμα ἐξικμασμένον πάμπαν, ὅπως ταμιεύηται ἡ φύσις καὶ μὴ ἀθρόος ᾖ ἡ ἔξοδος τοῦ περιττώματος. Ὅσα μὲν οὖν εἶναι δεῖ τῶν ζῴων σωφρονέστερα πρὸς τὴν τῆς τροφῆς ποίησιν εὐρυχωρίας μὲν οὐκ ἔχει μεγάλας κατὰ τὴν κάτω κοιλίαν, ἕλικας δ’ ἔχει πλείους καὶ οὐκ εὐθυέντερά ἐστιν. Ἡ μὲν γὰρ εὐρυχωρία ποιεῖ πλήθους ἐπιθυμίαν, ἡ δ’ εὐθύτης ταχυτῆτα ἐπιθυμίας· διόπερ ὅσα τῶν ζῴων ἢ ἁπλᾶς ἔχει ἢ εὐρυχώρους τὰς ὑποδοχάς, τὰ μὲν εἰς πλῆθος γαστρίμαργα τὰ δ’ εἰς τάχος ἐστίν. Ἐπεὶ δ’ ἐν τῇ ἄνω μὲν κοιλίᾳ κατὰ τὴν πρώτην εἴσοδον τῆς τροφῆς νεαρὰν ἀναγκαῖον εἶναι τὴν τροφήν, κάτω δὲ προϊοῦσαν κοπρώδη καὶ ἐξικμασμένην, ἀναγκαῖον εἶναί τι καὶ τὸ μεταξύ, ἐν ᾧ μεταβάλλει καὶ οὔτ’ ἔτι πρόσφατος οὔτ’ ἤδη κόπρος.

Διὰ τοῦτο πάντα τὰ τοιαῦτα ζῷα τὴν καλουμένην ἔχει νῆστιν καὶ ἐν τῷ μετὰ τὴν κοιλίαν ἐντέρῳ τῷ λεπτῷ· τοῦτο γὰρ μεταξὺ τῆς τ’ ἄνω, ἐν ᾗ τὸ ἄπεπτον, καὶ τῆς κάτω, ἐν ᾗ τὸ ἄχρηστον ἤδη περίττωμα. Γίνεται δ’ ἐν πᾶσι μέν, δήλη δ’ (676a.) ἐν τοῖς μείζοσι καὶ νηστεύσασιν ἀλλ’ οὐκ ἐδηδοκόσιν.

Τότε γὰρ ἤδη μεταίχμιον γίνεται τῶν τόπων ἀμφοτέρων, ἐδηδοκότων δὲ μικρὸς ὁ καιρὸς τῆς μεταβολῆς. Τοῖς μὲν οὖν θήλεσι γίνεται ὅπου ἂν τύχῃ τοῦ ἄνω ἐντέρου ἡ νῆστις· οἱ δ’ ἄρρενες ἔχουσι πρὸ τοῦ τυφλοῦ καὶ τῆς κάτω κοιλίας.

Κεφάλαιο 15

Ἔχουσι δὲ τὴν καλουμένην πυετίαν τὰ μὲν πολυκοίλια πάντα, τῶν δὲ μονοκοιλίων δασύπους. Ἔχει δὲ τὰ ἔχοντα τῶν πολυκοιλίων τὴν πυετίαν οὔτ' ἐν τῇ μεγάλῃ κοιλίᾳ οὔτ' ἐν τῷ κεκρυφάλῳ οὔτ' ἐν τῷ τελευταίῳ τῷ ἠνύστρῳ, ἀλλ' ἐν τῷ μεταξὺ τοῦ τελευταίου καὶ δύο τῶν πρώτων, ἐν τῷ καλουμένῳ ἐχίνῳ. Ἔχει δὲ ταῦτα πάντα πυετίαν διὰ τὴν παχύτητα τοῦ γάλακτος· τὰ δὲ μονοκοίλια οὐκ ἔχει, λεπτὸν γὰρ τὸ γάλα τῶν μονοκοιλίων. Διὸ τῶν μὲν κερατοφόρων πήγνυται, τῶν δ' ἀκεράτων οὐ πήγνυται τὸ γάλα. Τῷ δὲ δασύποδι γίγνεται πυετία διὰ τὸ νέμεσθαι ὀπώδη πόαν· ὁ γὰρ τοιοῦτος χυμὸς συνίστησιν ἐν τῇ κοιλίᾳ τὸ γάλα τοῖς ἐμβρύοις. Διότι δὲ τῶν πολυκοιλίων ἐν τῷ ἐχίνῳ γίνεται ἡ πυετία, εἴρηται [ἐν τοῖς προβλήμασιν].

Βιβλίο 4

Κεφάλαιο 1

Τὸν αὐτὸν δὲ τρόπον ἔχει τὰ περὶ τὰ σπλάγχνα καὶ τὴν κοιλίαν καὶ τῶν εἰρημένων μορίων ἕκαστον τοῖς τετράποσι μὲν ᾠοτόκοις δὲ τῶν ζῴων καὶ τοῖς ἄποσιν, οἷον τοῖς ὄφεσιν.

Καὶ γὰρ ἡ τῶν ὄφεων φύσις ἐστὶ συγγενὴς τούτοις· ὁμοία γάρ ἐστι σαύρῳ μακρῷ εἰ καὶ ἄποδι. Τούτοις δὲ καὶ τοῖς ἰχθύσι πάντα παραπλήσια, πλὴν τὰ μὲν ἔχει πλεύμονα διὰ τὸ πεζεύειν, οἱ δ’ οὐκ ἔχουσιν, ἀλλὰ βράγχια ἀντὶ τοῦ πλεύμονος. Κύστιν δὲ οὔτε οἱ ἰχθύες ἔχουσιν οὔτε τούτων οὐδὲν πλὴν χελώνης· τρέπεται γὰρ εἰς τὰς φολίδας τὸ ὑγρὸν ὀλιγοπότων ὄντων διὰ τὴν ἀναιμότητα τοῦ πλεύμονος, καθάπερ τοῖς ὄρνισιν εἰς τὰ πτερά. Καὶ ἐπιλευκαίνει δὲ τὸ περίττωμα πᾶσι καὶ τούτοις, ὥσπερ καὶ τοῖς ὄρνισιν· διόπερ ἐν τοῖς ἔχουσι κύστιν ἐξελθόντος τοῦ περιττώματος ὑφίσταται ἁλμυρὶς γεώδης ἐν τοῖς ἀγγείοις· τὸ γὰρ γλυκὺ καὶ πότιμον ἀναλίσκεται διὰ κουφότητα εἰς τὰς σάρκας. Τῶν δ’ (676b.) ὄφεων οἱ ἔχεις πρὸς τοὺς ἄλλους ἔχουσι τὴν αὐτὴν διαφορὰν ἣν καὶ ἐν τοῖς ἰχθύσι τὰ σελάχη πρὸς τοὺς ἄλλους· ζῳοτοκοῦσι γὰρ ἔξω καὶ τὰ σελάχη καὶ οἱ ἔχεις, ἐν αὑτοῖς ᾠοτοκήσαντα πρῶτον. Μονοκοίλια δὲ πάντα τὰ τοιαῦτά ἐστι, καθάπερ τἆλλα τὰ ἀμφώδοντα· καὶ σπλάγχνα δὲ πάμπαν μικρὰ ἔχει, ὥσπερ τἆλλα τὰ μὴ ἔχοντα κύστιν. Οἱ δ’ ὄφεις διὰ τὴν τοῦ σώματος μορφήν, οὖσαν μακρὰν καὶ στενήν, καὶ τὰ σχήματα τῶν σπλάγχνων ἔχουσι διὰ ταῦτα μακρὰ καὶ τοῖς τῶν ἄλλων ζῴων ἀνόμοια, διὰ τὸ καθάπερ ἐν τύπῳ τὰ σχήματα αὐτῶν πλασθῆναι διὰ τὸν τόπον. Ἐπίπλοον δὲ καὶ μεσεντέριον καὶ τὰ περὶ τὴν τῶν ἐντέρων φύσιν, ἔτι δὲ τὸ διάζωμα καὶ τὴν καρδίαν πάντ’ ἔχει τὰ ἔναιμα τῶν ζῴων, πλεύμονα δὲ καὶ ἀρτηρίαν πάντα πλὴν τῶν ἰχθύων. Καὶ τὴν θέσιν δὲ τῆς ἀρτηρίας καὶ τοῦ οἰσοφάγου πάντα τὰ ἔχοντα ὁμοίως ἔχει διὰ τὰς εἰρημένας αἰτίας πρότερον.

Κεφάλαιο 2

Ἔχει δὲ καὶ χολὴν τὰ πολλὰ τῶν ἐναίμων ζῴων, τὰ μὲν ἐπὶ τῷ ἥπατι, τὰ δ’ ἀπηρτημένην ἐπὶ τοῖς ἐντέροις, ὡς οὖσαν οὐχ ἧττον ἐκ τῆς κάτω κοιλίας τὴν φύσιν αὐτῆς. Δῆλον δὲ μάλιστα ἐπὶ τῶν ἰχθύων· οὗτοι γὰρ ἔχουσί τε πάντες, καὶ οἱ πολλοὶ πρὸς τοῖς ἐντέροις, ἔνιοι δὲ παρ’ ὅλον τὸ ἔντερον παρυφασμένην, οἷον ἡ ἀμία· καὶ τῶν ὄφεων οἱ πλεῖστοι τὸν αὐτὸν τρόπον. Διόπερ οἱ λέγοντες τὴν φύσιν τῆς χολῆς αἰσθήσεώς τινος εἶναι χάριν, οὐ καλῶς λέγουσι. Φασὶ γὰρ εἶναι διὰ τοῦτο, ὅπως τῆς ψυχῆς τὸ περὶ τὸ ἧπαρ μόριον δάκνουσα μὲν συνιστῇ, λυομένη δ’ ἵλεων ποιῇ. Τὰ μὲν γὰρ ὅλως οὐκ ἔχει χολήν, οἷον ἵππος καὶ ὀρεὺς καὶ ὄνος καὶ ἔλαφος καὶ πρόξ. Οὐκ ἔχει δὲ οὐδὲ ἡ κάμηλος ἀποκεκριμένην, ἀλλὰ φλεβία χολώδη μᾶλλον. Οὐκ ἔχει δ’ οὐδ’ ἡ φώκη χολήν, οὐδὲ τῶν θαλαττίων δελφίς. Ἐν δὲ τοῖς γένεσι τοῖς αὐτοῖς τὰ μὲν ἔχειν φαίνεται, τὰ δ’ οὐκ ἔχειν, οἷον ἐν τῷ τῶν μυῶν. Τούτων δ’ ἐστὶ καὶ ὁ ἄνθρωπος· ἔνιοι μὲν γὰρ φαίνονται ἔχοντες χολὴν ἐπὶ τοῦ ἥπατος, ἔνιοι δ’ οὐκ ἔχοντες. Διὸ καὶ γίνεται ἀμφισβήτησις περὶ ὅλου τοῦ γένους· οἱ γὰρ ἐντυχόντες ὁποτερωσοῦν ἔχουσι περὶ πάντων ὑπολαμβάνουσιν ὡς ἁπάντων ἐχόντων. Συμβαίνει δὲ τὸ τοιοῦτον καὶ περὶ τὰ πρόβατα καὶ τὰς αἶγας· τὰ μὲν γὰρ πλεῖστα (677a.) τούτων ἔχει χολήν· ἀλλ’ ἐνιαχοῦ μὲν τοσαύτην ὥστε δοκεῖν τέρας εἶναι τὴν ὑπερβολὴν, οἷον ἐν Νάξῳ, ἐνιαχοῦ δὲ οὐκ ἔχουσιν, οἷον ἐν Χαλκίδι τῆς Εὐβοίας κατά τινα τόπον τῆς χώρας αὐτῶν. Ἔτι δ’, ὥσπερ εἴρηται, ἡ τῶν ἰχθύων ἀπήρτηται πολὺ τοῦ ἥπατος. Οὐκ ὀρθῶς δ’ ἐοίκασιν οἱ περὶ Ἀναξαγόραν ὑπολαμβάνειν ὡς αἰτίαν οὖσαν τῶν ὀξέων νοσημάτων· ὑπερβάλλουσαν γὰρ ἀπορραίνειν πρός τε τὸν πλεύμονα καὶ τὰς φλέβας καὶ τὰ πλευρά. Σχεδὸν γὰρ οἷς ταῦτα συμβαίνει τὰ πάθη τῶν νόσων, οὐκ ἔχουσι χολήν, ἔν τε ταῖς ἀνατομαῖς ἂν ἐγίνετο τοῦτο φανερόν· ἔτι δὲ τὸ πλῆθος τό τ’ ἐν τοῖς ἀρρωστήμασιν ὑπάρχον καὶ τὸ ἀπορραινόμενον ἀσύμβλητον. Ἀλλ’ ἔοικεν ἡ χολή, καθάπερ καὶ ἡ κατὰ τὸ ἄλλο σῶμα γινομένη περίττωμά τι εἶναι ἢ σύντηξις, οὕτω καὶ ἡ ἐπὶ τῷ ἥπατι χολὴ περίττωμα εἶναι καὶ οὐχ ἕνεκά τινος, ὥσπερ καὶ ἡ ἐν τῇ κοιλίᾳ καὶ ἐν τοῖς ἐντέροις ὑπόστασις. Κατάχρηται μὲν οὖν ἐνίοτε ἡ φύσις εἰς τὸ ὠφέλιμον καὶ τοῖς περιττώμασιν, οὐ μὴν διὰ τοῦτο δεῖ ζητεῖν πάντα ἕνεκα τίνος, ἀλλά τινων ὄντων τοιούτων ἕτερα ἐξ ἀνάγκης συμβαίνει διὰ ταῦτα πολλά.

Ὅσοις μὲν οὖν ἡ τοῦ ἥπατος σύστασις ὑγιεινή ἐστι καὶ ἡ τοῦ αἵματος φύσις γλυκεῖα ἡ εἰς τοῦτ’ ἀποκρινομένη, ταῦτα μὲν ἢ πάμπαν οὐκ ἴσχει χολὴν ἐπὶ τοῦ ἥπατος, ἢ ἔν τισι φλεβίοις, ἢ τὰ μὲν τὰ δ’ οὔ. Διὸ καὶ τὰ ἥπατα τὰ τῶν ἀχόλων εὔχρω καὶ γλυκερά ἐστιν ὡς ἐπίπαν εἰπεῖν, καὶ τῶν ἐχόντων χολὴν τὸ ὑπὸ τῇ χολῇ τοῦ ἥπατος γλυκύτατόν ἐστιν.

Τῶν δὲ συνισταμένων ἐξ ἧττον καθαροῦ αἵματος τοῦτ’ ἔστιν ἡ χολὴ τὸ γινόμενον περίττωμα. Ἐναντίον τε γὰρ τῇ τροφῇ τὸ περίττωμα βούλεται εἶναι καὶ τῷ γλυκεῖ τὸ πικρόν, καὶ τὸ αἷμα γλυκὺ τὸ ὑγιαῖνον. Φανερὸν οὖν ὅτι οὔ τινος ἕνεκα, ἀλλ’ ἀποκάθαρμά ἐστιν ἡ χολή. Διὸ καὶ χαριέστατα λέγουσι τῶν ἀρχαίων οἱ φάσκοντες αἴτιον εἶναι τοῦ πλείω ζῆν χρόνον τὸ μὴ ἔχειν χολήν, βλέψαντες ἐπὶ τὰ μώνυχα καὶ τὰς ἐλάφους· ταῦτα γὰρ ἄχολά τε καὶ ζῇ πολὺν χρόνον.

Ἔτι δὲ καὶ τὰ μὴ ἑωραμένα ὑπ’ ἐκείνων ὅτι οὐκ ἔχει χολήν, οἷον δελφὶς καὶ κάμηλος, καὶ ταῦτα τυγχάνει μακρόβια ὄντα.

Εὔλογον γὰρ τὴν τοῦ ἥπατος φύσιν ἐπίκαιρον οὖσαν, καὶ ἀναγκαίαν πᾶσι τοῖς ἐναίμοις ζῴοις αἰτίαν εἶναι, ποιάν τιν’ (677b.) οὖσαν, τοῦ ζῆν ἐλάττω ἢ πλείω χρόνον. Καὶ τὸ τούτου μὲν τοῦ σπλάγχνου εἶναι περίττωμα τοιοῦτον, τῶν δ’ ἄλλων μηδενός, κατὰ λόγον ἐστίν. Τῇ μὲν γὰρ καρδίᾳ τοιοῦτον οὐδένα πλησιάζειν οἷόν τε χυμόν (οὐδὲν γὰρ δέχεται βίαιον πάθος), τῶν δ’ ἄλλων οὐδὲν σπλάγχνων ἀναγκαῖόν ἐστι τοῖς ζῴοις, τὸ δ’ ἧπαρ μόνον· διόπερ καὶ τοῦτο συμβαίνει περὶ αὐτὸ μόνον. Ἄτοπόν τε τὸ μὴ πανταχοῦ νομίζειν, ὅπου ἄν τις ἴδῃ φλέγμα ἢ τὸ ὑπόστημα τῆς κοιλίας, περίττωμα εἶναι, ὁμοίως δὲ δῆλον ὅτι καὶ χολὴν καὶ μὴ διαφέρεσθαι τοῖς τόποις.

Κεφάλαιο 3

Καὶ περὶ μὲν χολῆς, διὰ τίν’ αἰτίαν τὰ μὲν ἔχει τὰ δ’ οὐκ ἔχει τῶν ζῴων, εἴρηται. Περὶ δὲ μεσεντερίου καὶ ἐπιπλόου λοιπὸν εἰπεῖν. Ταῦτα γὰρ ἐν τῷ τόπῳ τούτῳ καὶ μετὰ τῶν μορίων ἐστὶ τούτων. Ἔστι δὲ τὸ μὲν ἐπίπλοον ὑμὴν τοῖς μὲν στέαρ ἔχουσι στεατώδης, τοῖς δὲ πιμελὴν πιμελώδης. Ποῖα δ’ ἐστὶν ἑκάτερα τούτων εἴρηται πρότερον. Ἦρκται δὲ τὸ ἐπίπλοον ὁμοίως τοῖς τε μονοκοιλίοις καὶ τοῖς πολυκοιλίοις ἀπὸ μέσης τῆς κοιλίας κατὰ τὴν ὑπογεγραμμένην οἷον ῥαφήν. Ἐπέχει δὲ τό τε λοιπὸν τῆς κοιλίας καὶ τὸ τῶν ἐντέρων πλῆθος ὁμοίως τοῖς ἐναίμοις, ἔν τε τοῖς πεζοῖς καὶ τοῖς ἐνύδροις ζῴοις.

Ἡ μὲν οὖν γένεσις ἐξ ἀνάγκης συμβαίνει τοιαύτη τοῦ μορίου τούτου· ξηροῦ γὰρ καὶ ὑγροῦ μίγματος θερμαινομένου τὸ ἔσχατον ἀεὶ δερματῶδες γίνεται καὶ ὑμενῶδες, ὁ δὲ τόπος οὗτος τοιαύτης πλήρης ἐστὶ τροφῆς. Ἔτι δὲ διὰ πυκνότητα τοῦ ὑμένος τὸ διηθούμενον τῆς αἱματώδους τροφῆς ἀναγκαῖον λιπαρὸν εἶναι (τοῦτο γὰρ λεπτότατον) καὶ διὰ τὴν θερμότητα τὴν περὶ τὸν τόπον συμπεττόμενον ἀντὶ σαρκώδους καὶ αἱματώδους συστάσεως στέαρ γίνεσθαι καὶ πιμελήν.

Ἡ μὲν οὖν γένεσις τοῦ ἐπιπλόου συμβαίνει κατὰ τὸν λόγον τοῦτον, καταχρῆται δ’ ἡ φύσις αὐτῷ πρὸς τὴν εὐπεψίαν τῆς τροφῆς, ὅπως ῥᾷον πέττῃ καὶ θᾶττον τὰ ζῷα τὴν τροφήν· τὸ μὲν γὰρ θερμὸν πεπτικόν, τὸ δὲ πῖον θερμόν, τὸ δ’ ἐπίπλοον πῖον Καὶ διὰ τοῦτο ἀπὸ μέσης ἦρκται τῆς κοιλίας, ὅτι τὸ ἐπ’ ἐκεῖνο μέρος συμπέττει τὸ παρακείμενον ἧπαρ. Καὶ περὶ μὲν τοῦ ἐπιπλόου εἴρηται.

Κεφάλαιο 4

Τὸ δὲ καλούμενον μεσεντέριόν ἐστι μὲν ὑμήν, διατείνει δὲ συνεχὲς ἀπὸ τῆς τῶν ἐντέρων παρατάσεως εἰς τὴν φλέβα (678a.) τὴν μεγάλην καὶ τὴν ἀορτήν, πλῆρες ὂν φλεβῶν πολλῶν καὶ πυκνῶν, αἳ τείνουσιν ἀπὸ τῶν ἐντέρων εἴς τε τὴν μεγάλην φλέβα καὶ τὴν ἀορτήν. Τὴν μὲν οὖν γένεσιν ἐξ ἀνάγκης οὖσαν εὑρήσομεν ὁμοίως τοῖς ἄλλοις μορίοις· διὰ τίνα δ’ αἰτίαν ὑπάρχει τοῖς ἐναίμοις, φανερόν ἐστιν ἐπισκοποῦσιν. Ἐπεὶ γὰρ ἀναγκαῖον τὰ ζῷα τροφὴν λαμβάνειν θύραθεν, καὶ πάλιν ἐκ ταύτης γίνεσθαι τὴν ἐσχάτην τροφήν, ἐξ ἧς ἤδη διαδίδοται εἰς τὰ μόρια (τοῦτο δὲ τοῖς μὲν ἀναίμοις ἀνώνυμον, τοῖς δ’ ἐναίμοις αἷμα καλεῖται), δεῖ τι εἶναι δι’ οὗ εἰς τὰς φλέβας ἐκ τῆς κοιλίας οἷον διὰ ῥιζῶν πορεύσεται ἡ τροφή. Τὰ μὲν οὖν φυτὰ τὰς ῥίζας ἔχει εἰς τὴν γῆν (ἐκεῖθεν γὰρ λαμβάνει τὴν τροφήν), τοῖς δὲ ζῴοις ἡ κοιλία καὶ ἡ τῶν ἐντέρων δύναμις γῆ ἐστιν, ἐξ ἧς δεῖ λαμβάνειν τὴν τροφήν· διόπερ ἡ τοῦ μεσεντερίου φύσις ἐστίν, οἷον ῥίζας ἔχουσα τὰς δι’ αὐτῆς φλέβας. Οὗ μὲν οὖν ἕνεκα τὸ μεσεντέριόν ἐστιν, εἴρηται· τίνα δὲ τρόπον λαμβάνει τὴν τροφήν, καὶ πῶς εἰσέρχεται διὰ τῶν φλεβῶν ἀπὸ τῆς εἰσιούσης τροφῆς εἰς τὰ μόρια ταῦτα τὸ διαδιδόμενον εἰς τὰς φλέβας, ἐν τοῖς περὶ τὴν γένεσιν τῶν ζῴων λεχθήσεται καὶ τὴν τροφήν.

Τὰ μὲν οὖν ἔναιμα τῶν ζῴων πῶς ἔχει μέχρι τῶν διωρισμένων μορίων, καὶ διὰ τίνας αἰτίας, εἴρηται. Περὶ δὲ τῶν εἰς τὴν γένεσιν συντελούντων, οἷς δοκεῖ διαφέρειν τὸ θῆλυ τοῦ ἄρρενος, ἐχόμενον μέν ἐστι καὶ λοιπὸν τῶν εἰρημένων· ἀλλ’ ἐπειδὴ περὶ γενέσεως λεκτέον, ἁρμόττον ἐστὶ καὶ περὶ τούτων ἐν τῇ περὶ ἐκείνων θεωρίᾳ διελθεῖν.

Κεφάλαιο 5

Τὰ δὲ καλούμενα μαλάκια καὶ μαλακόστρακα πολλὴν ἔχει πρὸς ταῦτα διαφοράν· εὐθὺς γὰρ τὴν τῶν σπλάγχνων ἅπασαν οὐκ ἔχει φύσιν. Ὁμοίως δ' οὐδὲ τῶν ἄλλων ἀναίμων οὐδέν.

Ἔστι δὲ δύο γένη λοιπὰ τῶν ἀναίμων, τά τε ὀστρακόδερμα καὶ τὸ τῶν ἐντόμων γένος. Ἐξ οὗ γὰρ συνέστηκεν ἡ τῶν σπλάγχνων φύσις, οὐδὲν τούτων ἔχει αἷμα διὰ τὸ τῆς οὐσίας αὐτῶν εἶναί τι τοιοῦτον πάθος αὐτῆς· ὅτι γάρ ἐστι τὰ μὲν ἔναιμα τὰ δ' ἄναιμα, ἐν τῷ λόγῳ ἐνυπάρξει τῷ ὁρίζοντι τὴν οὐσίαν αὐτῶν. Ἔτι δ' ὧν ἕνεκεν ἔχουσι τὰ σπλάγχνα τὰ ἔναιμα τῶν ζῴων, οὐδὲν ὑπάρξει τοῖς τοιούτοις· οὔτε γὰρ (678b.) φλέβας ἔχουσιν οὔτε κύστιν οὔτ' ἀναπνέουσιν, ἀλλὰ μόνον ἀναγκαῖον ἔχειν αὐτοῖς τὸ ἀνάλογον τῇ καρδίᾳ. Τὸ γὰρ αἰσθητικὸν ψυχῆς καὶ τὸ τῆς ζωῆς αἴτιον ἀρχῇ τινι τῶν μορίων καὶ τοῦ σώματος ὑπάρχει πᾶσι τοῖς ζῴοις. Τὰ δὲ πρὸς τὴν τροφὴν μόρια ἔχει καὶ ταῦτα ἐξ ἀνάγκης πάντα· οἱ δὲ τρόποι διαφέρουσι διὰ τοὺς τόπους ἐν οἷς λαμβάνουσι τὴν τροφήν.

Ἔχουσι δὲ τὰ μὲν μαλάκια περὶ τὸ καλούμενον στόμα δύο ὀδόντας, καὶ ἐν τῷ στόματι ἀντὶ γλώττης σαρκῶδές τι, ᾧ κρίνουσι τὴν ἐν τοῖς ἐδεστοῖς ἡδονήν. Ὁμοίως δὲ καὶ τὰ μαλακόστρακα τούτοις τοὺς πρώτους ὀδόντας ἔχει καὶ τὸ ἀνάλογον τῇ γλώττῃ σαρκῶδες. Ἔτι δὲ καὶ τὰ ὀστρακόδερμα πάντα τὸ τοιοῦτον ἔχει μόριον διὰ τὴν αὐτὴν αἰτίαν τοῖς ἐναίμοις, πρὸς τὴν τῆς τροφῆς αἴσθησιν. Ὁμοίως δὲ καὶ τὰ ἔντομα τὰ μὲν τὴν ἐξιοῦσαν ἐπιβοσκίδα τοῦ στόματος, οἷον τό τε τῶν μελιττῶν γένος καὶ τὸ τῶν μυιῶν, ὥσπερ εἴρηται καὶ πρότερον· ὅσα δὲ μὴ ἔστιν ἐμπροσθόκεντρα, ἐν τῷ στόματι ἔχει τὸ τοιοῦτον μόριον, οἷον τὸ τῶν μυρμήκων γένος, καὶ εἴ τι τοιοῦτον ἕτερον. Ὀδόντας δὲ τὰ μὲν ἔχει τούτων, ἀλλοιοτέρους δέ, καθάπερ τό τε τῶν μυρμήκων καὶ τὸ τῶν μελιττῶν γένος, τὰ δ' οὐκ ἔχει, ὅσα ὑγρᾷ χρῆται τῇ τροφῇ· πολλὰ γὰρ τῶν ἐντόμων οὐ τροφῆς ἔχει χάριν τοὺς ὀδόντας ἀλλ' ἀλκῆς. Τῶν δὲ ὀστρακοδέρμων τὰ μέν, ὥσπερ ἐλέχθη καὶ ἐν τοῖς κατ' ἀρχὰς λόγοις, τὴν καλουμένην ἔχει γλῶτταν ἰσχυράν, οἱ δὲ κόχλοι καὶ ὀδόντας δύο, καθάπερ τὰ μαλακόστρακα.

Μετὰ δὲ τὸ στόμα τοῖς μαλακίοις ἐστὶ στόμαχος μακρός, τούτου δ' ἐχόμενος πρόλοβος οἷός περ τοῖς ὄρνισιν, εἶτα συνεχὴς κοιλία καὶ ταύτης ἐχόμενον ἔντερον ἁπλοῦν μέχρι τῆς ἐξόδου. Ταῖς μὲν οὖν σηπίαις καὶ τοῖς πολύποσιν ὅμοια καὶ τοῖς σχήμασι καὶ τῇ ἁφῇ τὰ περὶ τὴν κοιλίαν· ταῖς δὲ καλουμέναις τευθίσι δύο μὲν ὁμοίως αἱ κοιλιώδεις εἰσὶν ὑποδοχαί, ἧττον δὲ προλοβώδης ἡ ἑτέρα, καὶ τοῖς σχήμασιν ἐκείνων διαφέρουσι διὰ τὸ καὶ τὸ σῶμα πᾶν ἐκ μαλακωτέρας συνεστάναι σαρκός. Ταῦτα δ' ἔχει τὰ μόρια τοῦτον τὸν τρόπον διὰ τὴν αὐτὴν αἰτίαν ὥσπερ καὶ οἱ ὄρνιθες· οὐδὲ γὰρ τούτων οὐδὲν ἐνδέχεται λεαίνειν τὴν τροφήν, διόπερ ὁ πρόλοβός ἐστι πρὸ τῆς κοιλίας. Πρὸς βοήθειαν δὲ καὶ σωτηρίαν ἔχει ταῦτα τὸν καλούμενον θολόν, ἐν χιτῶνι ὑμενώδει (679a.) προσπεφυκότα, τὴν ἔξοδον ἔχοντι καὶ τὸ πέρας ᾗπερ ἀφιᾶσι τὸ περίττωμα τῆς κοιλίας κατὰ τὸν καλούμενον αὐλόν· οὗτος δ' ἐστὶν ἐν τοῖς ὑπτίοις.

Ἔχει μὲν οὖν πάντα τὰ μαλάκια τοῦτο τὸ μόριον ἴδιον, μάλιστα δ' ἡ σηπία καὶ πλεῖστον. Ὅταν γὰρ φοβηθῶσι καὶ δείσωσιν, οἷον φράγμα πρὸ τοῦ σώματος ποιοῦνται τὴν τοῦ ὑγροῦ μελανίαν καὶ θόλωσιν. Αἱ μὲν οὖν τευθίδες καὶ πολύποδες ἔχουσιν ἄνωθεν τὸν θολὸν ἐπὶ τῇ μύτιδι μᾶλλον, ἡ δὲ σηπία πρὸς τῇ κοιλίᾳ κάτω· πλείω γὰρ ἔχει διὰ τὸ χρῆσθαι μᾶλλον. Τοῦτο δ' αὐτῇ συμβαίνει διὰ τὸ πρόσγειον μὲν εἶναι τὸν βίον αὐτῆς, μὴ ἔχειν δὲ ἄλλην βοήθειαν, ὥσπερ ὁ πολύπους τὰς πλεκτάνας ἔχει χρησίμους καὶ τὴν τοῦ χρώματος μεταβολήν, ἣ συμβαίνει αὐτῷ, ὥσπερ καὶ ἡ τοῦ θολοῦ πρόεσις, διὰ δειλίαν. Ἡ δὲ τευθὶς πελάγιόν ἐστι τούτων μόνον. Πλείω μὲν οὖν ἔχει ἡ σηπία παρὰ τοῦτο τὸν θολόν, κάτωθεν δὲ διὰ τὸ πλείω· ῥᾴδιον γὰρ προΐεσθαι καὶ πόρρωθεν ἀπὸ τοῦ πλείονος. Γίνεται δ' ὁ θολός, καθάπερ τοῖς ὄρνισιν ὑπόστημα τὸ λευκὸν ἐπὶ τοῦ περιττώματος γεῶδες, οὕτω καὶ τούτοις ὁ θολὸς διὰ τὸ μηδὲ ταῦτ' ἔχειν κύστιν· ἀποκρίνεται γὰρ τὸ γεωδέστατον εἰς αὐτόν, καὶ τῇ σηπίᾳ πλεῖστον διὰ τὸ πλεῖστον ἔχειν γεῶδες. Σημεῖον δὲ τὸ σηπίον τοιοῦτον ὄν· τοῦτο γὰρ ὁ μὲν πολύπους οὐκ ἔχει, αἱ δὲ τευθίδες χονδρῶδες καὶ λεπτόν· δι' ἣν δ' αἰτίαν τὰ μὲν οὐκ ἔχει τὰ δ' ἔχει, καὶ ποῖόν τι τούτων ἔχει ἑκάτερον, εἴρηται. Ἀναίμων δ' ὄντων καὶ διὰ τοῦτο κατεψυγμένων καὶ φοβητικῶν, ὥσπερ ἐνίοις ὅταν δείσωσιν ἡ κοιλία ταράττεται, τοῖς δ' ἐκ τῆς κύστεως ῥεῖ περίττωσις, καὶ τούτοις τοῦτο συμβαίνει μὲν ἐξ ἀνάγκης ἀφιέναι διὰ δειλίαν, ὥσπερ ἐκ κύστεως τοῖς ἐπουροῦσιν, ἡ δὲ φύσις ἅμα τῷ τοιούτῳ περιττώματι καταχρῆται πρὸς βοήθειαν καὶ σωτηρίαν αὐτῶν.

Ἔχουσι δὲ καὶ τὰ μαλακόστρακα, τά τε καραβοειδῆ καὶ οἱ καρκίνοι, δύο μὲν ὀδόντας τοὺς πρώτους, καὶ μεταξὺ τὴν σάρκα τὴν γλωσσοειδῆ, ὥσπερ εἴρηται καὶ πρότερον, εὐθὺς δ' ἐχόμενον τοῦ στόματος στόμαχον μικρὸν κατὰ μέγεθος τῶν σωμάτων, τὰ μείζω πρὸς τὰ ἐλάττω· τούτου δὲ κοιλίαν ἐχομένην, ἐφ’ ἧς οἵ τε κάραβοι καὶ ἔνιοι τῶν καρκίνων ὀδόντας ἔχουσιν ἑτέρους διὰ τὸ τοὺς ἄνω μὴ διαιρεῖν ἱκανῶς, ἀπὸ δὲ τῆς κοιλίας ἔντερον ἁπλοῦν κατ’ εὐθὺ μέχρι πρὸς τὴν (679b.) ἔξοδον τοῦ περιττώματος.

Ἔχει δὲ καὶ τῶν ὀστρακοδέρμων ἕκαστον ταῦτα τὰ μόρια, τὰ μὲν διηρθρωμένα μᾶλλον τὰ δ’ ἧττον. Ἐν δὲ τοῖς μείζοσι διαδηλότερά ἐστιν ἕκαστα τούτων. Οἱ μὲν οὖν κόχλοι καὶ ὀδόντας ἔχουσι σκληροὺς καὶ ὀξεῖς, ὥσπερ εἴρηται πρότερον, καὶ τὸ μεταξὺ σαρκῶδες ὁμοίως τοῖς μαλακίοις καὶ μαλακοστράκοις, καὶ τὴν προβοσκίδα, καθάπερ εἴρηται, μεταξὺ κέντρου καὶ γλώττης, τοῦ δὲ στόματος ἐχόμενον οἷον ὀρνιθώδη τινὰ πρόλοβον, τούτου δ’ ἐχόμενον στόμαχον· τούτου δ’ ἔχεται ἡ κοιλία, ἐν ᾗ ἡ καλουμένη μήκων, ἀφ’ ἧς συνεχές ἐστιν ἔντερον ἁπλῆν τὴν ἀρχὴν ἔχον ἀπὸ τῆς μήκωνος· ἔστι γὰρ ἐν πᾶσι τοῖς ὀστρακηροῖς περίττωμα τοῦτο τὸ μάλιστα δοκοῦν εἶναι ἐδώδιμον. Ἔχει δ’ ὁμοίως τῷ κόχλῳ καὶ τἆλλα τὰ στρομβώδη, οἷον πορφύραι καὶ κήρυκες.

Ἔστι δὲ γένη καὶ εἴδη πολλὰ τῶν ὀστρακοδέρμων· τὰ μὲν γὰρ στρομβώδη ἐστίν, ὥσπερ τὰ νῦν εἰρημένα, τὰ δὲ δίθυρα, τὰ δὲ μονόθυρα. Τρόπον δέ τινα καὶ τὰ στρομβώδη διθύροις ἔοικεν· ἔχει γὰρ ἐπιπτύγματ’ ἐπὶ τῷ φανερῷ τῆς σαρκὸς πάντα τὰ τοιαῦτα ἐκ γενετῆς, οἷον αἵ τε πορφύραι καὶ κήρυκες καὶ οἱ νηρεῖται καὶ πᾶν τὸ τοιοῦτον γένος, πρὸς βοήθειαν. Ἧι γὰρ μὴ προβέβληται τὸ ὄστρακον, ῥᾴδιον ταύτῃ βλάπτεσθαι ὑπὸ τῶν θύραθεν προσπιπτόντων. Τὰ μὲν οὖν μονόθυρα διὰ τὸ προσπεφυκέναι σῴζεται τῷ πρανὲς ἔχειν τὸ ὄστρακον, καὶ γίνεται ἀλλοτρίῳ φράγματι τρόπον τινὰ δίθυρον, οἷον αἱ καλούμεναι λεπάδες· τὰ δὲ δίθυρα, οἷον κτένες καὶ μύες, τῷ συνάγειν, τὰ δὲ στρομβώδη τούτῳ τῷ ἐπικαλύμματι, ὥσπερ δίθυρα γινόμενα ἐκ μονοθύρων.

Ὁ δ’ ἐχῖνος μάλιστα πάντων ἀλεωρὰν ἔχει· κύκλῳ γὰρ τὸ ὄστρακον συνηρεφὲς καὶ κεχαρακωμένον ταῖς ἀκάνθαις. Ἴδιον δ’ ἔχει τῶν ὀστρακοδέρμων τοῦτο, καθάπερ εἴρηται πρότερον.

Τῶν δὲ μαλακοστράκων καὶ τῶν ὀστρακοδέρμων συνέστηκεν ἡ φύσις τοῖς μαλακίοις ἀντικειμένως· τοῖς μὲν γὰρ ἔξω τὸ σαρκῶδες, τοῖς δ’ ἐντός, ἐκτὸς δὲ τὸ γεῶδες. Ὁ δ’ ἐχῖνος οὐδὲν ἔχει σαρκῶδες. Πάντα μὲν οὖν ἔχει, καθάπερ εἴρηται, καὶ τἆλλα τὰ ὀστρακόδερμα στόμα τε καὶ τὸ γλωττοειδὲς καὶ τὴν κοιλίαν καὶ τοῦ περιττώματος τὴν ἔξοδον, διαφέρει δὲ τῇ θέσει καὶ τοῖς μεγέθεσιν. Ὃν δὲ (680a.) τρόπον ἔχει τούτων ἕκαστον, ἔκ τε τῶν ἱστοριῶν τῶν περὶ τὰ ζῷα θεωρείσθω καὶ ἐκ τῶν ἀνατομῶν· τὰ μὲν γὰρ τῷ λόγῳ τὰ δὲ πρὸς τὴν ὄψιν αὐτῶν σαφηνίζειν δεῖ μᾶλλον.

Ἰδίως δ’ ἔχουσι τῶν ὀστρακοδέρμων οἵ τ’ ἐχῖνοι καὶ τὸ τῶν καλουμένων τηθύων γένος. Ἔχουσι δ’ οἱ ἐχῖνοι ὀδόντας μὲν πέντε καὶ μεταξὺ τὸ σαρκῶδες ὥσπερ ἐπὶ πάντων ἐστὶ τῶν εἰρημένων, ἐχόμενον δὲ τούτου στόμαχον, ἀπὸ δὲ τούτου τὴν κοιλίαν εἰς πολλὰ διῃρημένην, ὡσπερανεὶ πολλὰς τοῦ ζῴου κοιλίας ἔχοντος. Κεχωρισμέναι μὲν γάρ εἰσι καὶ πλήρεις περιττώματος, ἐξ ἑνὸς δ’ ἤρτηνται τοῦ στομάχου καὶ τελευτῶσι πρὸς μίαν ἔξοδον τὴν τοῦ περιττώματος. Παρὰ δὲ τὴν κοιλίαν σαρκῶδες μὲν οὐδὲν ἔχουσιν, ὥσπερ εἴρηται, τὰ δὲ καλούμενα ᾠὰ πλείω τὸν ἀριθμὸν ἐν ὑμένι χωρὶς ἕκαστον, καὶ κύκλῳ ἀπὸ τοῦ στόματος μέλαν’ ἄττα διεσπαρμένα χύδην, ἀνώνυμα. Ὄντων δὲ πλειόνων γενῶν (οὐ γὰρ ἓν εἶδος τῶν ἐχίνων πάντων ἐστί) πάντες μὲν ἔχουσι ταῦτα τὰ μόρια, ἀλλ’ οὐκ ἐδώδιμα πάντες τὰ καλούμενα ᾠά, καὶ μικρὰ πάμπαν ἔξω τῶν ἐπιπολαζόντων. Ὅλως δὲ τοῦτο καὶ περὶ τἆλλα συμβέβηκε τὰ ὀστρακόδερμα· καὶ γὰρ αἱ σάρκες οὐχ ὁμοίως ἐδώδιμοι πάντων, καὶ τὸ περίττωμα, ἡ καλουμένη μήκων, ἐνίων μὲν ἐδώδιμος, ἐνίων δ’ οὐκ ἐδώδιμος. Ἔστι δὲ τοῖς στρομβώδεσιν ἐν τῇ ἑλίκῃ τοῦτο, τοῖς δὲ μονοθύροις ἐν τῷ πυθμένι, οἷον ταῖς λεπάσι, τοῖς δὲ διθύροις πρὸς τῇ συναφῇ.

Τὸ δ’ ᾠὸν καλούμενον ἐν τοῖς δεξιοῖς, ἐν δὲ τοῖς ἐπὶ θάτερα ἡ ἔξοδος τοῦ περιττώματος τοῖς διθύροις. Καλεῖται δ’ ᾠὸν οὐκ ὀρθῶς ὑπὸ τῶν καλούντων· τοῦτο γάρ ἐστιν οἷον τοῖς ἐναίμοις, ὅταν εὐθηνῶσιν, ἡ πιότης. Διὸ καὶ γίνεται κατὰ τούτους τοὺς καιροὺς τοῦ ἐνιαυτοῦ, ἐν οἷς εὐθηνοῦσιν, ἔν τε τῷ ἔαρι καὶ τῷ μετοπώρῳ. Ἐν γὰρ τῷ ψύχει καὶ ταῖς ἀλέαις πονοῦσι πάντα τὰ ὀστρακόδερμα, καὶ φέρειν οὐ δύνανται τὰς ὑπερβολάς. Σημεῖον δὲ τὸ συμβαῖνον ἐπὶ τῶν ἐχίνων· εὐθύς τε γὰρ γινόμενοι ἔχουσι καὶ ἐν ταῖς πανσελήνοις μᾶλλον, οὐ διὰ τὸ νέμεσθαι καθάπερ τινὲς οἴονται μᾶλλον, ἀλλὰ διὰ τὸ ἀλεεινοτέρας εἶναι τὰς νύκτας διὰ τὸ φῶς τῆς σελήνης. Δύσριγα γὰρ ὄντα διὰ τὸ ἄναιμα εἶναι δέονται ἀλέας. Διὸ καὶ ἐν τῷ θέρει μᾶλλον πανταχοῦ εὐθηνοῦσιν, πλὴν οἱ ἐν τῷ Πυρραίῳ εὐρίπῳ· ἐκεῖνοι δ’ οὐχ ἧττον (680b.) τοῦ χειμῶνος. Αἴτιον δὲ τὸ νομῆς εὐπορεῖν τότε μᾶλλον, ἀπολειπόντων τῶν ἰχθύων τοὺς τόπους κατὰ ταύτην τὴν ὥραν. Ἔχουσι δ’ οἱ ἐχῖνοι πάντες ἴσα τε τῷ ἀριθμῷ τὰ ᾠὰ καὶ περιττά· πέντε γὰρ ἔχουσιν, τοσούτους δὲ καὶ τοὺς ὀδόντας καὶ τὰς κοιλίας. Αἴτιον δ’ ὅτι τὸ ᾠόν ἐστι, καθάπερ εἴρηται πρότερον, οὐκ ᾠὸν ἀλλὰ τοῦ ζῴου εὐτροφία.

Γίνεται δὲ τοῦτο ἐπὶ θάτερα μόνον ἐν τοῖς ὀστρέοις, τὸ καλούμενον ᾠόν. Ταὐτὸ δὲ τοῦτό ἐστι καὶ τὸ ἐν τοῖς ἐχίνοις.

Ἐπεὶ τοίνυν ἐστὶ σφαιροειδὴς ὁ ἐχῖνος, καὶ οὐχ ὥσπερ ἐπὶ τῶν ἄλλων ὀστρέων τοῦ σώματος κύκλος εἷς, ὁ δ’ ἐχῖνος οὐ τῇ μὲν τοιοῦτος τῇ δ’ οὔ, ἀλλὰ πάντῃ ὅμοιος (σφαιροειδὴς γάρ), ἀνάγκη καὶ τὸ ᾠὸν ὁμοίως ἔχειν. Οὐ γάρ ἐστιν, ὥσπερ τοῖς ἄλλοις, τὸ κύκλῳ ἀνόμοιον. Ἐν μέσῳ γὰρ ἡ κεφαλὴ πᾶσιν αὐτοῖς· τὸ δ’ ἄνω τὸ τοιοῦτον μόριον. Ἀλλὰ μὴν οὐδὲ συνεχὲς οἷόν τ’ εἶναι τὸ ᾠόν· οὐδὲ γὰρ τοῖς ἄλλοις, ἀλλ’ ἐπὶ θάτερα τοῦ κύκλου μόνον. Ἀνάγκη τοίνυν, ἐπεὶ τοῦτο μὲν ἁπάντων κοινόν, ἴδιον δ’ ἐκείνου εἶναι τὸ σῶμα σφαιροειδές, μὴ εἶναι ἄρτια τὰ ᾠά. Κατὰ διάμετρον γὰρ ἂν ἦν, διὰ τὸ ὁμοίως δεῖν ἔχειν τὸ ἔνθεν καὶ ἔνθεν, εἰ ἦν ἄρτια καὶ κατὰ διάμετρον. Οὕτως δ’ ἐχόντων ἐπ’ ἀμφότερα ἂν τοῦ κύκλου εἶχον τὸ ᾠόν. Τοῦτο δ’ οὐκ ἦν οὐδ’ ἐπὶ τῶν ἄλλων ὀστρέων. Ἐπὶ θάτερα γὰρ τῆς περιφερείας ἔχουσι τὰ ὄστρεα καὶ οἱ κτένες τὸ τοιοῦτον μόριον. Ἀνάγκη τοίνυν τρία ἢ πέντε εἶναι ἢ ἄλλον τιν’ ἀριθμὸν περιττόν. Εἰ μὲν οὖν τρία εἶχε, πόρρω λίαν <ἂν> ἦν, εἰ δὲ πλείω τῶν πέντε, συνεχὲς ἄν. Τούτων δὲ τὸ μὲν οὐ βέλτιον, τὸ δ’ οὐκ ἐνδεχόμενον. Ἀνάγκη ἄρα πέντ’ αὐτοὺς ἔχειν τὰ ᾠά. Διὰ τὴν αὐτὴν δ’ αἰτίαν καὶ ἡ κοιλία τοιαύτη ἔσχισται καὶ τὸ τῶν ὀδόντων τοσοῦτόν ἐστι πλῆθος. Ἕκαστον γὰρ τῶν ᾠῶν, οἷον σῶμά τι τοῦ ζῴου ὄν, πρὸς τὸν τρόπον τὸν τῆς ζωῆς ὅμοιον ἔχειν ἀναγκαῖον· ἐντεῦθεν γὰρ ἡ αὔξησις. Μιᾶς μὲν γὰρ οὔσης ἢ πόρρω ἂν ἦσαν, ἢ πᾶν ἂν κατεῖχε τὸ κύτος, ὥστε καὶ δυσκίνητον εἶναι τὸν ἐχῖνον καὶ μὴ πληροῦσθαι τῆς τροφῆς τὸ ἀγγεῖον· πέντε δ’ ὄντων τῶν διαλειμμάτων ἀνάγκη πρὸς ἑκάστῳ οὖσαν πενταχῇ διῃρῆσθαι. Διὰ τὴν αὐτὴν δ’ αἰτίαν καὶ τὸ τῶν ὀδόντων ἐστὶ τοσοῦτον πλῆθος. Τὸ γὰρ ὅμοιον οὕτως ἂν ἡ φύσις εἴη ἀποδεδωκυῖα τοῖς εἰρημένοις (681a.) μορίοις. Διότι μὲν οὖν περιττὰ καὶ τοσαῦτα τὸν ἀριθμὸν ἔχει ὁ ἐχῖνος τὰ ᾠά, εἴρηται· διότι δὲ οἱ μὲν πάμπαν μικρὰ οἱ δὲ μεγάλα, αἴτιον τὸ θερμοτέρους εἶναι τὴν φύσιν τούτους· πέττειν γὰρ τὸ θερμὸν δύναται τὴν τροφὴν μᾶλλον, διόπερ περιττώματος πλήρεις οἱ ἄβρωτοι μᾶλλον.

Καὶ παρασκευάζει κινητικωτέρους ἡ τῆς φύσεως θερμότης, ὥστε νέμεσθαι καὶ μὴ μένειν ἑδραίους. Σημεῖον δὲ τούτου τὸ ἔχειν τοὺς τοιούτους ἀεί τι ἐπὶ τῶν ἀκανθῶν ὡς κινουμένους πυκνά· χρῶνται γὰρ ποσὶ ταῖς ἀκάνθαις.

Τὰ δὲ τήθυα μικρὸν τῶν φυτῶν διαφέρει τὴν φύσιν, ὅμως δὲ ζωτικώτερα τῶν σπόγγων· οὗτοι γὰρ πάμπαν ἔχουσι φυτοῦ δύναμιν. Ἡ γὰρ φύσις μεταβαίνει συνεχῶς ἀπὸ τῶν ἀψύχων εἰς τὰ ζῷα διὰ τῶν ζώντων μὲν οὐκ ὄντων δὲ ζῴων, οὕτως ὥστε δοκεῖν πάμπαν μικρὸν διαφέρειν θατέρου θάτερον τῷ σύνεγγυς ἀλλήλοις. Ὁ μὲν οὖν σπόγγος, ὥσπερ εἴρηται, καὶ τῷ ζῆν προσπεφυκὼς μόνον, ἀπολυθεὶς δὲ μὴ ζῆν, ὁμοίως ἔχει τοῖς φυτοῖς παντελῶς. Τὰ δὲ καλούμενα ὁλοθούρια καὶ οἱ πλεύμονες, ἔτι δὲ καὶ ἕτερα τοιαῦτ’ ἐν τῇ θαλάττῃ μικρὸν διαφέρει τούτων τῷ ἀπολελύσθαι· αἴσθησιν μὲν γὰρ οὐδεμίαν ἔχει, ζῇ δὲ ὥσπερ ὄντα φυτὰ ἀπολελυμένα. Ἔστι δὲ καὶ ἐν τοῖς ἐπιγείοις φυτοῖς ἔνια τοιαῦτα, ἃ καὶ ζῇ καὶ γίνεται τὰ μὲν ἐν ἑτέροις φυτοῖς, τὰ δὲ καὶ ἀπολελυμένα, οἷον καὶ τὸ ἐκ τοῦ Παρνασσοῦ καλούμενον ὑπό τινων ἐπίπετρον· τοῦτο γὰρ ζῇ πολὺν χρόνον κρεμάμενον ἄνω ἐπὶ τῶν παττάλων. Ἔστι δ’ ὅτε καὶ τὰ τήθυα, καὶ εἴ τι τοιοῦτον ἕτερον γένος, τῷ μὲν προσπεφυκὸς ζῆν μόνον φυτῷ παραπλήσιον, τῷ δ’ ἔχειν τι σαρκῶδες δόξειεν ἂν ἔχειν τιν’ αἴσθησιν· ἄδηλον δὲ τοῦτο ποτέρως θετέον. Ἔχει δὲ τοῦτο τὸ ζῷον δύο πόρους καὶ μίαν διαίρεσιν, ᾗ τε δέχεται τὴν ὑγρότητα τὴν εἰς τροφήν, καὶ ᾗ πάλιν διαπέμπει τὴν ὑπολειπομένην ἰκμάδα· περίττωμα γὰρ οὐδέν ἐστι δῆλον ἔχον, ὥσπερ τἆλλα τὰ ὀστρακόδερμα. Διὸ μάλιστα καὶ τοῦτο, κἂν εἴ τι ἄλλο τοιοῦτον τῶν ζῴων, φυτικὸν δίκαιον καλεῖν· οὐδὲ γὰρ τῶν φυτῶν οὐδὲν ἔχει περίττωμα. Διὰ μέσου δὲ λεπτὸν διάζωμα, ἐν ᾧ τὸ κύριον ὑπάρχειν εὔλογον τῆς ζωῆς.

Ἃς δὲ καλοῦσιν οἱ μὲν κνίδας οἱ δὲ ἀκαλήφας, ἔστι μὲν (681b.) οὐκ ὀστρακόδερμα, ἀλλ’ ἔξω πίπτει τῶν διῃρημένων γενῶν, ἐπαμφοτερίζει δὲ τοῦτο καὶ φυτῷ καὶ ζῴῳ τὴν φύσιν.

Τῷ μὲν γὰρ ἀπολύεσθαι καὶ προσπίπτειν πρὸς τὴν τροφὴν ἐνίας αὐτῶν ζῳϊκόν ἐστι, καὶ τῷ αἰσθάνεσθαι τῶν προσπιπτόντων. Ἔτι δὲ καὶ τῇ τοῦ σώματος τραχύτητι χρῆται πρὸς τὴν σωτηρίαν· τῷ δ’ ἀτελὲς εἶναι καὶ προσφύεσθαι ταχέως ταῖς πέτραις τῷ γένει τῶν φυτῶν παραπλήσιον, καὶ τῷ περίττωμα μηδὲν ἔχειν φανερόν, στόμα δ’ ἔχειν. Ὅμοιον δὲ τούτῳ καὶ τὸ τῶν ἀστέρων ἐστὶ γένος· καὶ γὰρ τοῦτο προσπῖπτον ἐκχυμίζει πολλὰ τῶν ὀστρέων, τοῖς τ’ ἀπολελυμένοις τῶν εἰρημένων ζῴων, οἷον τοῖς τε μαλακίοις καὶ τοῖς μαλακοστράκοις. Ὁ δ’ αὐτὸς λόγος καὶ περὶ τῶν ὀστρακοδέρμων.

Τὰ μὲν οὖν μόρια τὰ περὶ τὴν τροφήν, ἅπερ ἀναγκαῖον πᾶσιν ὑπάρχειν, ἔχει τὸν προειρημένον τρόπον, δεῖ δὲ δηλονότι καὶ τῶν τοῖς ἐναίμοις ὑπαρχόντων κατὰ τὸ κύριον τῶν αἰσθήσεων ἔχειν ἀνάλογόν τι μόριον· τοῦτο γὰρ δεῖ πᾶσιν ὑπάρχειν τοῖς ζῴοις. Ἔστι δὲ τοῦτο τοῖς μὲν μαλακίοις ἐν ὑμένι κείμενον ὑγρόν, δι’ οὗπερ ὁ στόμαχος τέταται κατὰ τὴν κοιλίαν, προσπέφυκε δὲ πρὸς τὰ πρανῆ μᾶλλον, καὶ καλεῖται μύτις ὑπό τινων. Τοιοῦτον δ’ ἕτερον καὶ τοῖς μαλακοστράκοις ἐστί, καὶ καλεῖται κἀκεῖνο μύτις. Ἔστι δ’ ὑγρὸν καὶ σωματῶδες ἅμα τοῦτο τὸ μόριον, τείνει δὲ δι’ αὐτοῦ, καθάπερ εἴρηται, διὰ μέσου μὲν ὁ στόμαχος. Εἰ γὰρ ἦν μεταξὺ τούτου καὶ τοῦ πρανοῦς, οὐκ ἂν ἠδύνατο λαμβάνειν ὁμοίως διάστασιν εἰσιούσης τροφῆς διὰ τὴν τοῦ νώτου σκληρότητα. Ἐπὶ δὲ τῆς μύτιδος τὸ ἔντερον ἔξωθεν, καὶ ὁ θολὸς πρὸς τῷ ἐντέρῳ, ὅπως ὅτι πλεῖστον ἀπέχῃ τῆς εἰσόδου καὶ τὸ δυσχερὲς ἄποθεν ᾖ τοῦ βελτίονος καὶ τῆς ἀρχῆς. Ὅτι δ’ ἐστὶ τὸ ἀνάλογον τῇ καρδίᾳ τοῦτο τὸ μόριον, δηλοῖ ὁ τόπος (οὗτος γάρ ἐστιν ὁ αὐτός) καὶ ἡ γλυκύτης τῆς ὑγρότητος, ὡς οὖσα πεπεμμένη καὶ αἱματώδης. Ἐν δὲ τοῖς ὀστρακοδέρμοις ἔχει μὲν τὸν αὐτὸν τρόπον τὸ κύριον τῆς αἰσθήσεως, ἧττον δ’ ἐπίδηλον. Πλὴν δεῖ ζητεῖν ἀεὶ περὶ μεσότητα ταύτην τὴν ἀρχήν, ὅσα μὲν μόνιμα, τοῦ δεχομένου μορίου τὴν τροφήν, καὶ δι’ οὗ ποιεῖται τὴν ἀπόκρισιν ἢ τὴν σπερματικὴν ἢ τὴν περιττωματικήν, ὅσα δὲ καὶ πορευτικὰ (682a.) τῶν ζῴων, ἀεὶ τῷ μέσῳ τῶν δεξιῶν καὶ τῶν ἀριστερῶν.

Τοῖς δ’ ἐντόμοις τὸ μὲν τῆς τοιαύτης ἀρχῆς μόριον, ὥσπερ ἐν τοῖς πρώτοις ἐλέχθη λόγοις, μεταξὺ κεφαλῆς καὶ τοῦ περὶ τὴν κοιλίαν ἐστὶ κύτους. Τοῦτο δὲ τοῖς μὲν πολλοῖς ἐστιν ἕν, τοῖς δὲ πλείω, καθάπερ τοῖς ἰουλώδεσι καὶ μακροῖς· διόπερ διατεμνόμενα ζῇ. Βούλεται μὲν γὰρ ἡ φύσις ἐν πᾶσι μόνον ἓν ποιεῖν τὸ τοιοῦτον, οὐ δυναμένη δ’ ἐνεργείᾳ ποιεῖ μόνον ἕν, δυνάμει δὲ πλείω· δῆλον δ’ ἐν ἑτέροις ἑτέρων μᾶλλον.

Τὰ δὲ πρὸς τὴν τροφὴν μόρια οὐ πᾶσιν ὁμοίως, ἀλλὰ διαφορὰν ἔχει πολλήν. Ἐντὸς γὰρ τοῦ στόματος ἐνίοις μέν ἐστι τὸ καλούμενον κέντρον, ὡσπερανεὶ σύνθετον καὶ ἔχον γλώττης καὶ χειλῶν ἅμα δύναμιν. Τοῖς δὲ μὴ ἔχουσιν ἔμπροσθεν τὸ κέντρον ἐστὶν ἐντὸς τῶν ὀδόντων τοιοῦτον αἰσθητήριον. Τούτου δ’ ἐχόμενον πᾶσιν ἔντερον εὐθὺ καὶ ἁπλοῦν μέχρι τῆς ἐξόδου τοῦ περιττώματος· ἐνίοις δὲ τοῦτο ἑλίκην ἔχει. Τὰ δὲ κοιλίαν μετὰ τὸ στόμα, ἀπὸ δὲ τῆς κοιλίας τὸ ἔντερον εἱλιγμένον, ὅπως ὅσα βρωτικώτερα καὶ μείζω τὴν φύσιν, ὑποδοχὴν ἔχῃ πλείονος τροφῆς. Τὸ δὲ τῶν τεττίγων γένος ἰδίαν ἔχει μάλιστα τούτων φύσιν· τὸ γὰρ αὐτὸ μόριον ἔχει στόμα καὶ γλῶτταν συμπεφυκός, δι’ οὗ καθαπερεὶ διὰ ῥίζης δέχεται τὴν τροφὴν ἀπὸ τῶν ὑγρῶν· Πάντα μὲν οὖν ἐστιν ὀλιγότροφα τὰ ἔντομα τῶν ζῴων, οὐχ οὕτω διὰ μικρότητα ὡς διὰ ψυχρότητα (τὸ γὰρ θερμὸν καὶ δεῖται τροφῆς καὶ πέττει τὴν τροφὴν ταχέως, τὸ δὲ ψυχρὸν ἄτροφον), μάλιστα δὲ τὸ τῶν τεττίγων γένος. Ἱκανὴ γὰρ τροφὴ τῷ σώματι ἡ ἐκ τοῦ σώματος ὑπομένουσα ὑγρότης, καθάπερ τοῖς ἐφημέροις ζῴοις (γίνεται δὲ ταῦτα περὶ τὸν Πόντον), πλὴν ἐκεῖνα μὲν ζῇ μιᾶς ἡμέρας χρόνον, ταῦτα δὲ πλειόνων μὲν ἡμερῶν, ὀλίγων δὲ τούτων.

Ἐπεὶ δὲ περὶ τῶν ἐντὸς ὑπαρχόντων μορίων τοῖς ζῴοις εἴρηται, πάλιν περὶ τῶν λοιπῶν τῶν ἐκτὸς ἐπανιτέον.

Ἀρκτέον δ’ ἀπὸ τῶν νῦν εἰρημένων, ἀλλ’ οὐκ ἀφ’ ὧν ἀπελίπομεν, ὅπως ἀπὸ τούτων διατριβὴν ἐλάττω ἐχόντων ἐπὶ τῶν τελείων καὶ ἐναίμων ζῴων ὁ λόγος σχολάζῃ μᾶλλον.

Κεφάλαιο 6

Τὰ μὲν οὖν ἔντομα τῶν ζῴων οὐ πολυμερῆ μὲν τὸν ἀριθμόν ἐστιν, ὅμως δ’ ἔχει καὶ πρὸς ἄλληλα διαφοράς.

Πολύποδα μὲν γάρ ἐστι πάντα διὰ τὸ πρὸς τὴν βραδυτῆτα (682b.) καὶ κατάψυξιν τῆς φύσεως τὴν πολυποδίαν ἀνυτικωτέραν αὐτοῖς ποιεῖν τὴν κίνησιν· καὶ μάλιστα πολύποδα τὰ μάλιστα κατεψυγμένα διὰ τὸ μῆκος, οἷον τὸ τῶν ἰούλων γένος. Ἔτι δὲ διὰ τὸ ἀρχὰς ἔχειν πλείονας αἵ τ’ ἐντομαί εἰσι καὶ πολύποδα κατὰ ταῦτ’ ἐστίν. Ὅσα δ’ ἐλάττονας ἔχει πόδας, πτηνὰ ταῦτ’ ἐστὶ πρὸς τὴν ἔλλειψιν τὴν τῶν ποδῶν.

Αὐτῶν δὲ τῶν πτηνῶν ὧν μέν ἐστιν ὁ βίος νομαδικὸς καὶ διὰ τὴν τροφὴν ἀναγκαῖον ἐκτοπίζειν, τετράπτερά τέ ἐστι καὶ τὸν τοῦ σώματος ἔχει κοῦφον ὄγκον, οἷον αἵ τε μέλιτται καὶ τὰ σύμφυλα ζῷα ταύταις· δύο γὰρ ἐφ’ ἑκάτερα πτερὰ τοῦ σώματος ἔχουσιν. Ὅσα δὲ μικρὰ τῶν τοιούτων, δίπτερα, καθάπερ τὸ τῶν μυιῶν γένος. Τὰ δὲ βραχέα καὶ τοῖς βίοις ἑδραῖα πολύπτερα μὲν ὁμοίως ταῖς μελίτταις ἐστίν, ἔχει δ’ ἔλυτρα τοῖς πτεροῖς, οἷον αἵ τε μηλολόνθαι καὶ τὰ τοιαῦτα τῶν ἐντόμων, ὅπως σῴζῃ τὴν τῶν πτερῶν δύναμιν. Ἑδραίων γὰρ ὄντων εὐδιάφθορα μᾶλλόν ἐστι τῶν εὐκινήτων, διόπερ ἔχει φραγμὸν πρὸ αὐτῶν. Καὶ ἄσχιστον δὲ τούτων ἐστὶ τὸ πτερὸν καὶ ἄκαυλον· οὐ γάρ ἐστι πτερὸν ἀλλ’ ὑμὴν δερματικός, ὃς διὰ ξηρότητα ἐξ ἀνάγκης ἀφίσταται τοῦ σώματος αὐτῶν ψυχομένου τοῦ σαρκώδους.

Ἔντομα δ’ ἐστὶ διά τε τὰς εἰρημένας αἰτίας, καὶ ὅπως σῴζηται δι’ ἀπάθειαν συγκαμπτόμενα· συνελίττεται γὰρ τὰ μῆκος ἔχοντ’ αὐτῶν, τοῦτο δ’ οὐκ ἂν ἐγίνετ’ αὐτοῖς μὴ οὖσιν ἐντόμοις. Τὰ δὲ μὴ ἑλικτὰ αὐτῶν σκληρύνεται μᾶλλον συνιόντα ἐς τὰς τομάς. Δῆλον δὲ τοῦτο γίνεται θιγγανόντων, οἷον ἐπὶ τῶν καλουμένων κανθάρων· φοβηθέντα γὰρ ἀκινητίζει, καὶ τὸ σῶμα γίνεται σκληρὸν αὐτοῖς. Ἀναγκαῖον δ’ ἐντόμοις αὐτοῖς εἶναι· τοῦτο γὰρ ἐν τῇ οὐσίᾳ αὐτῶν ὑπάρχει τὸ πολλὰς ἔχειν ἀρχάς, καὶ ταύτῃ προσέοικε τοῖς φυτοῖς. Ὥσπερ γὰρ τὰ φυτά, καὶ ταῦτα διαιρούμενα δύναται ζῆν, πλὴν ταῦτα μὲν μέχρι τινός, ἐκεῖνα δὲ καὶ τέλεια γίνεται τὴν φύσιν καὶ δύο ἐξ ἑνὸς καὶ πλείω τὸν ἀριθμόν.

Ἔχει δ’ ἔνια τῶν ἐντόμων καὶ κέντρα πρὸς βοήθειαν τῶν βλαπτόντων. Τὸ μὲν οὖν κέντρον τοῖς μὲν ἔμπροσθέν ἐστι τοῖς δ’ ὄπισθεν, τοῖς μὲν ἔμπροσθεν

κατὰ τὴν γλῶτταν, τοῖς δ’ ὄπισθεν κατὰ τὸ οὐραῖον. Ὥσπερ γὰρ τοῖς ἐλέφασι τὸ τῶν ὀσμῶν αἰσθητήριον γεγένηται χρήσιμον πρός τε τὴν (683a.) ἀλκὴν καὶ τὴν τῆς τροφῆς χρῆσιν, οὕτως τῶν ἐντόμων ἐνίοις τὸ κατὰ τὴν γλῶτταν τεταγμένον· αἰσθάνονταί τε γὰρ τούτῳ τῆς τροφῆς καὶ ἀναλαμβάνουσι καὶ προσάγονται αὐτήν. Ὅσα δὲ μὴ ἔστιν αὐτῶν ἐμπροσθόκεντρα, ὀδόντας ἔχει τὰ μὲν ἐδωδῆς χάριν, τὰ δὲ τοῦ λαμβάνειν καὶ προσάγεσθαι τὴν τροφήν, οἷον οἵ τε μύρμηκες καὶ τὸ τῶν μελιττῶν πασῶν γένος. Ὅσα δὲ ὀπισθόκεντρά ἐστι, διὰ τὸ θυμὸν ἔχειν ὅπλον ἔχει τὸ κέντρον. Ἔχουσι δὲ τὰ μὲν ἐν ἑαυτοῖς τὰ κέντρα, καθάπερ αἱ μέλιτται καὶ οἱ σφῆκες, διὰ τὸ πτηνὰ εἶναι. Λεπτὰ μὲν γὰρ ὄντα καὶ ἔξω εὔφθαρτα <ἂν> ἦν. Εἰ δ’ ἀπεῖχεν ὥσπερ τοῖς σκορπίοις, βάρος ἂν παρεῖχεν. Τοῖς δὲ σκορπίοις πεζοῖς οὖσι καὶ κέρκον ἔχουσιν ἀναγκαῖον ἐπὶ ταύτῃ ἔχειν τὸ κέντρον, ἢ μηθὲν χρήσιμον εἶναι πρὸς τὴν ἀλκήν.

Δίπτερον δ’ οὐθέν ἐστιν ὀπισθόκεντρον. Διὰ τὸ ἀσθενῆ γὰρ καὶ μικρὰ εἶναι δίπτερά ἐστιν· ἱκανὰ γὰρ τὰ μικρὰ αἴρεσθαι ὑπὸ τῶν ἐλαττόνων τὸν ἀριθμόν. Διὰ ταὐτὸ δὲ τοῦτο καὶ ἔμπροσθεν ἔχει τὸ κέντρον· ἀσθενῆ γὰρ ὄντα μόλις δύναται τοῖς ἔμπροσθεν τύπτειν. Τὰ δὲ πολύπτερα, διὰ τὸ μείζω τὴν φύσιν εἶναι, πλειόνων τετύχηκε πτερῶν καὶ ἰσχύει τοῖς ὄπισθεν μορίοις. Βέλτιον δ’ ἐνδεχομένου μὴ ταὐτὸ ὄργανον ἐπὶ ἀνομοίας ἔχειν χρήσεις, ἀλλὰ τὸ μὲν ἀμυντικὸν ὀξύτατον, τὸ δὲ γλωττικὸν σομφὸν καὶ σπαστικὸν τῆς τροφῆς. Ὅπου γὰρ ἐνδέχεται χρῆσθαι δυσὶν ἐπὶ δύ’ ἔργα καὶ μὴ ἐμποδίζειν πρὸς ἕτερον, οὐδὲν ἡ φύσις εἴωθε ποιεῖν ὥσπερ ἡ χαλκευτικὴ πρὸς εὐτέλειαν ὀβελισκολύχνιον. Ἀλλ’ ὅπου μὴ ἐνδέχεται, καταχρῆται τῷ αὐτῷ ἐπὶ πλείω ἔργα.

Τοὺς δὲ πόδας τοὺς προσθίους μείζους ἔνια τούτων ἔχει, ὅπως ἐπειδὴ διὰ τὸ σκληρόφθαλμα εἶναι οὐκ ἀκριβῆ τὴν ὄψιν ἔχουσι, τὰ προσπίπτοντα τοῖς προσθίοις ἀποκαθαίρωσι σκέλεσιν· ὅπερ καὶ φαίνονται ποιοῦσαι αἵ τε μυῖαι καὶ τὰ μελιττώδη τῶν ζῴων· ἀεὶ γὰρ χαρακίζουσι τοῖς προσθίοις σκέλεσιν. Τὰ δ’ ὀπίσθια μείζω τῶν μέσων διά τε τὴν βάδισιν καὶ πρὸς τὸ αἴρεσθαι ῥᾷον ἀπὸ τῆς γῆς ἀναπετόμενα. Ὅσα δὲ πηδητικὰ αὐτῶν, ἔτι μᾶλλον τοῦτο φανερόν, οἷον αἵ τ’ ἀκρίδες καὶ τὸ τῶν ψυλλῶν γένος· ὅταν γὰρ κάμψαντ’ ἐκτείνῃ πάλιν, ἀναγκαῖον ἀπὸ τῆς γῆς ἦρθαι. Οὐκ ἔμπροσθεν δ’ ἀλλ’ ὄπισθεν μόνον ἔχουσι τὰ πηδαλιώδη αἱ ἀκρίδες.

(683b.) Τὴν γὰρ καμπὴν ἀναγκαῖον εἴσω κεκλάσθαι, τῶν δὲ προσθίων κώλων οὐδέν ἐστι τοιοῦτον. Ἑξάποδα δὲ τὰ τοιαῦτα πάντ’ ἐστὶ σὺν τοῖς ἁλτικοῖς μορίοις.

Κεφάλαιο 7

Τῶν δὲ ὀστρακοδέρμων οὐκ ἔστι τὸ σῶμα πολυμερές. Τούτου δ’ αἴτιον τὸ μόνιμον αὐτῶν εἶναι τὴν φύσιν· πολυμερέστερα γὰρ ἀναγκαῖον εἶναι τῶν ζῴων τὰ κινητικὰ διὰ τὸ εἶναι αὐτῶν πράξεις· ὀργάνων γὰρ δεῖται πλειόνων τὰ πλειόνων μετέχοντα κινήσεων. Τούτων δὲ τὰ μὲν ἀκίνητα πάμπαν ἐστί, τὰ δὲ μικρᾶς μετέχει κινήσεως· ἀλλ’ ἡ φύσις πρὸς σωτηρίαν αὐτοῖς τὴν τῶν ὀστράκων σκληρότητα περιέθηκεν. Εἰσὶ δὲ τὰ μὲν μονόθυρα τὰ δὲ δίθυρα αὐτῶν τὰ δὲ στρομβώδη, καθάπερ εἴρηται πρότερον. Καὶ τούτων τὰ μὲν ἑλίκην ἔχοντα, οἷον κήρυκες, τὰ δὲ σφαιροειδῆ μόνον, καθάπερ τὸ τῶν ἐχίνων γένος. Καὶ τῶν διθύρων τὰ μέν ἐστιν ἀναπτυκτά, οἷον κτένες καὶ μύες (ἐπὶ θάτερα γὰρ συγκέκλεισται, ὥστε ἀνοίγεσθαι ἐπὶ θάτερα καὶ συγκλείεσθαι), τὰ δ’ ἐπ’ ἄμφω συμπέφυκεν, οἷον τὸ τῶν σωλήνων γένος. Ἅπαντα δὲ τὰ ὀστρακόδερμα, καθάπερ τὰ φυτά, κάτω τὴν κεφαλὴν ἔχει. Τούτου δ’ αἴτιον ὅτι κάτωθεν λαμβάνει τὴν τροφήν, ὥσπερ τὰ φυτὰ ταῖς ῥίζαις. Συμβαίνει οὖν αὐτοῖς τὰ μὲν κάτω ἄνω ἔχειν, τὰ δ’ ἄνω κάτω. Ἐν ὑμένι δ’ ἐστί, δι’ οὗ διηθεῖ τὸ πότιμον καὶ λαμβάνει τὴν τροφήν. Ἔχει δὲ κεφαλὴν μὲν πάντα, τὰ δὲ τοῦ σώματος μόρια παρὰ τὸ τῆς τροφῆς δεκτικὸν ἀνώνυμα τἆλλα.

Κεφάλαιο 8

Τὰ δὲ μαλακόστρακα πάντα καὶ πορευτικά, διὸ ποδῶν ἔχει πλῆθος. Ἔστι δὲ γένη μὲν τέτταρα τὰ μέγιστ’ αὐτῶν, οἵ τε καλούμενοι κάραβοι καὶ ἀστακοὶ καὶ καρίδες καὶ καρκίνοι. Τούτων δ’ ἑκάστου πλείω εἴδη ἐστὶ διαφέροντα οὐ μόνον κατὰ τὴν μορφὴν ἀλλὰ καὶ κατὰ τὸ μέγεθος πολύ· τὰ μὲν γὰρ μεγάλα τὰ δὲ μικρὰ πάμπαν αὐτῶν ἐστιν.

Τὰ μὲν οὖν καρκινώδη καὶ καραβώδη παρόμοι’ ἐστὶ τῷ χηλὰς ἔχειν ἀμφότερα. Ταύτας δ’ οὐ πορείας ἔχουσι χάριν, ἀλλὰ πρὸς τὸ λαβεῖν καὶ κατασχεῖν ἀντὶ χειρῶν. Διὸ καὶ κάμπτουσιν ἐναντίως ταύτας τοῖς ποσίν· τοὺς μὲν γὰρ ἐπὶ τὸ κοῖλον τὰς δ’ ἐπὶ τὸ περιφερὲς κάμπτουσι καὶ ἑλίσσουσιν.

Οὕτως γὰρ χρήσιμαι πρὸς τὸ λαβοῦσαι προσφέρεσθαι τὴν (684a.) τροφήν. Διαφέρουσι δ’ ᾗ οἱ μὲν κάραβοι ἔχουσιν οὐράν, οἱ δὲ καρκίνοι οὐκ ἔχουσιν οὐράν. Τοῖς μὲν γὰρ διὰ τὸ νευστικοῖς εἶναι χρήσιμος ἡ οὐρά (νέουσι γὰρ ἀπερειδόμενοι οἷον πλάταις αὐταῖς), τοῖς δὲ καρκίνοις οὐδὲν χρήσιμον διὰ τὸ πρόσγειον εἶναι τὸν βίον αὐτῶν καὶ εἶναι τρωγλοδύτας.

Ὅσοι δ’ αὐτῶν πελάγιοί εἰσι, διὰ τοῦτο πολὺ ἀργοτέρους ἔχουσι τοὺς πόδας αὐτῶν πρὸς τὴν πορείαν, οἷον αἵ τε μαῖαι καὶ οἱ Ἡρακλεωτικοὶ καλούμενοι καρκίνοι, ὅτι ὀλίγῃ κινήσει χρῶνται, ἀλλ’ ἡ σωτηρία αὐτοῖς τῷ ὀστρειώδεις εἶναι γίνεται· διὸ αἱ μὲν μαῖαι λεπτοσκελεῖς, οἱ δὲ Ἡρακλεωτικοὶ μικροσκελεῖς εἰσιν. Οἱ δὲ πάμπαν μικροὶ καρκίνοι οἳ ἁλίσκονται ἐν τοῖς μικροῖς ἰχθυδίοις, ἔχουσι τοὺς τελευταίους πλατεῖς πόδας, ἵνα πρὸς τὸ νεῖν αὐτοῖς χρήσιμοι ὦσιν, ὥσπερ πτερύγια ἢ πλάτας ἔχοντες τοὺς πόδας. Αἱ δὲ καρίδες τῶν μὲν καρκινοειδῶν διαφέρουσι τῷ ἔχειν κέρκον, τῶν δὲ καραβοειδῶν διὰ τὸ μὴ ἔχειν χηλάς· ἃς οὐκ ἔχουσι διὰ τὸ πλείους ἔχειν πόδας· ἐνταῦθα γὰρ ἡ ἐκεῖθεν ἀνήλωται αὔξησις. Πλείους δ’ ἔχουσι πόδας ὅτι μὴ νευστικώτερά ἐστιν ἢ πορευτικώτερα. Τὰ δ’ ἐν τοῖς ὑπτίοις μόρια καὶ περὶ τὴν κεφαλὴν τὰ μὲν εἰς τὸ δέξασθαι τὸ ὕδωρ καὶ ἀφεῖναι ἔχουσι βραγχοειδῆ· πλακωδέστερα δὲ τὰ κάτω αἱ θήλειαι τῶν ἀρρένων καράβων ἔχουσι, καὶ τὰ ἐν τῷ ἐπιπτύγματι δασύτερα αἱ θήλειαι καρκίνοι τῶν ἀρρένων, διὰ τὸ ἐκτείνειν τὰ ᾠὰ πρὸς αὐτά, ἀλλὰ μὴ ἄποθεν, ὥσπερ οἱ ἰχθύες καὶ τἆλλα τὰ τίκτοντα· εὐρυχωρέστερα γὰρ ὄντα καὶ μείζω χώραν ἔχει τοῖς ᾠοῖς μᾶλλον. Οἱ μὲν οὖν κάραβοι καὶ οἱ καρκίνοι πάντες τὴν δεξιὰν ἔχουσι χηλὴν μείζω καὶ ἰσχυροτέραν· τοῖς γὰρ δεξιοῖς πάντα πέφυκε τὰ ζῷα δρᾶν μᾶλλον, ἡ δὲ φύσις ἀποδίδωσιν ἀεὶ τοῖς χρῆσθαι δυναμένοις ἕκαστον ἢ μόνως ἢ μᾶλλον, οἷον χαυλιόδοντας καὶ ὀδόντας καὶ κέρατα καὶ πλῆκτρα καὶ πάντα τὰ τοιαῦτα μόρια, ὅσα πρὸς βοήθειαν καὶ ἀλκήν εἰσιν. Οἱ δ' ἀστακοὶ μόνοι, ὁποτέραν ἂν τύχωσιν, ἔχουσι μείζω τῶν χηλῶν, καὶ αἱ θήλειαι καὶ οἱ ἄρρενες.

Αἴτιον δὲ τοῦ μὲν ἔχειν χηλὰς ὅτι ἐν τῷ γένει εἰσὶ τῷ ἔχοντι χηλάς. Τοῦτο δ' ἀτάκτως ἔχουσιν, ὅτι πεπήρωνται, καὶ οὐ (684b.) χρῶνται ἐφ' ὃ πεφύκασιν, ἀλλὰ πορείας χάριν. Καθ' ἕκαστον δὲ τῶν μορίων, τίς ἡ θέσις αὐτῶν καὶ τίνες διαφοραὶ πρὸς ἄλληλα, τῶν τ' ἄλλων καὶ τίνι διαφέρει τὰ ἄρρενα τῶν θηλειῶν, ἔκ τε τῶν ἀνατομῶν θεωρείσθω καὶ ἐκ τῶν ἱστοριῶν τῶν περὶ τὰ ζῷα.

Κεφάλαιο 9

Τῶν δὲ μαλακίων περὶ μὲν τῶν ἐντὸς εἴρηται πρότερον, ὥσπερ καὶ περὶ τῶν ἄλλων ζῴων. Ἐκτὸς δ’ ἔχει τό τε τοῦ σώματος κύτος, ἀδιόριστον ὄν, καὶ τούτου πόδας ἔμπροσθεν περὶ τὴν κεφαλήν, ἐντὸς μὲν τῶν ὀφθαλμῶν, περὶ δὲ τὸ στόμα καὶ τοὺς ὀδόντας. Τὰ μὲν οὖν ἄλλα ζῷα τὰ ἔχοντα πόδας τὰ μὲν ἔμπροσθεν ἔχει καὶ ὄπισθεν, τὰ δ’ ἐκ τοῦ πλαγίου, ὥσπερ τὰ πολύποδα καὶ ἄναιμα τῶν ζῴων. Τοῦτο δὲ τὸ γένος ἰδίως τούτων· πάντας γὰρ ἔχουσι τοὺς πόδας ἐπὶ τὸ καλούμενον ἔμπροσθεν. Τούτου δ’ αἴτιον ὅτι συνῆκται αὐτῶν τὸ ὄπισθεν πρὸς τὸ ἔμπροσθεν, ὥσπερ τῶν ὀστρακοδέρμων τοῖς στρομβώδεσιν.

Ὅλως γὰρ τὰ ὀστρακόδερμα ἔχει τῇ μὲν ὁμοίως τοῖς μαλακοστράκοις, τῇ δὲ τοῖς μαλακίοις. Ἧι μὲν γὰρ ἔξωθεν τὸ γεῶδες ἐντὸς δὲ τὸ σαρκῶδες, τοῖς μαλακοστράκοις, τὸ δὲ σχῆμα τοῦ σώματος ὃν τρόπον συνέστηκε, τοῖς μαλακίοις, τρόπον μέν τινα πάντα, μάλιστα δὲ τῶν στρομβωδῶν τὰ ἔχοντα τὴν ἑλίκην. Ἀμφοτέρων γὰρ τοῦτον ἔχει τὸν τρόπον ἡ φύσις, ὥσπερ εἴ τις νοήσειεν ἐπ’ εὐθείας, καθάπερ συμβέβηκεν ἐπὶ τῶν τετραπόδων ζῴων καὶ τῶν ἀνθρώπων, πρῶτον μὲν ἐπὶ τῷ ἄκρῳ τῷ ἄνω στόμα τι τῆς εὐθείας κατὰ τὸ Α, ἔπειτα τὸ Β τὸν στόμαχον, τὸ δὲ Γ τὴν κοιλίαν· ἀπὸ δὲ τοῦ ἐντέρου μέχρι τῆς διεξόδου τοῦ περιττώματος, ᾗ τὸ Δ.

Τοῦτον μὲν οὖν τὸν τρόπον ἔχει τοῖς ἐναίμοις ζῴοις· καὶ περὶ τοῦτό ἐστιν ἡ κεφαλὴ καὶ ὁ θώραξ καλούμενος. Τὰ δὲ λοιπὰ μόρια τούτων τε χάριν καὶ ἕνεκα τῆς κινήσεως προσέθηκεν ἡ φύσις, οἷον τά τε πρόσθια κῶλα καὶ τὰ ὄπισθεν. Βούλεται δὲ καὶ τοῖς μαλακοστράκοις καὶ τοῖς ἐντόμοις ἥ γ’ εὐθυωρία τῶν ἐντοσθιδίων τὸν αὐτὸν ἔχειν τρόπον, κατὰ δὲ τὰς ὑπηρεσίας τὰς ἔξωθεν κινητικὰς διαφέρει τῶν ἐναίμων. Τὰ δὲ μαλάκιά τε καὶ στρομβώδη τῶν ὀστρακοδέρμων ἔχει αὑτοῖς μὲν παραπλησίως, τούτοις δ’ (685a.) ἀντεστραμμένως. Κέκαμπται γὰρ ἡ τελευτὴ πρὸς τὴν ἀρχήν, ὥσπερ ἂν εἴ τις τὴν εὐθεῖαν ἐφ’ ἧς τὸ Ε κάμψας προσαγάγοι τὸ Δ πρὸς τὸ Α. Οὕτως γὰρ κειμένων νῦν τῶν ἐντοσθίων, περίκειται τοῖς μὲν μαλακίοις τὸ κύτος, ὃ καλεῖται μόνον ἐπὶ τῶν πολυπόδων κεφαλή· τοῖς δ’ ὀστρακοδέρμοις τὸ τοιοῦτόν ἐστιν ὁ στρόμβος. Διαφέρει δὲ οὐδὲν ἄλλο πλὴν ὅτι τοῖς μὲν μαλακὸν τὸ πέριξ, τοῖς δὲ σκληρὸν περὶ τὸ σαρκῶδες περιέθηκεν ἡ φύσις, ὅπως σῴζηται διὰ τὴν δυσκινησίαν· καὶ διὰ τοῦτο τὸ περίττωμα τοῖς τε μαλακίοις ἐξέρχεται περὶ τὸ στόμα καὶ τοῖς στρομβώδεσι, πλὴν τοῖς μὲν μαλακίοις κάτωθεν, τοῖς δὲ στρομβώδεσιν ἐκ τοῦ πλαγίου.

Διὰ ταύτην μὲν οὖν τὴν αἰτίαν τοῖς μαλακίοις οἱ πόδες τοῦτον ἔχουσι τὸν τρόπον, καὶ ὑπεναντίως ἢ τοῖς ἄλλοις.

Ἔχουσι δ᾽ ἀνομοίως αἱ σηπίαι καὶ αἱ τευθίδες τοῖς πολύποσι διὰ τὸ νευστικαὶ μόνον εἶναι, τοὺς δὲ καὶ πορευτικούς. Αἱ μὲν γὰρ τοὺς ἄνωθεν τῶν ποδῶν μικροὺς ἔχουσι, καὶ τούτων τοὺς ἐσχάτους δύο μείζους, τοὺς δὲ λοιποὺς τῶν ὀκτὼ δύο κάτωθεν μεγίστους τούτων. Ὥσπερ γὰρ τοῖς τετράποσι τὰ ὀπίσθια ἰσχυρότερα κῶλα, καὶ ταύταις μέγιστοι οἱ κάτωθεν· τὸ γὰρ φορτίον οὗτοι ἔχουσι καὶ κινοῦσι μάλιστα, καὶ οἱ ἔσχατοι δύο μείζους τῶν μέσων, ὅτι τούτοις συνυπηρετοῦσιν.

Ὁ δὲ πολύπους τοὺς ἐν μέσῳ τέτταρας μεγίστους. Πόδας μὲν οὖν πάντα ἔχουσι ταῦτα ὀκτώ, ἀλλ᾽ αἱ μὲν σηπίαι καὶ αἱ τευθίδες βραχεῖς, τὰ δὲ πολυποδώδη μεγάλους. Τὸ γὰρ κύτος τοῦ σώματος αἱ μὲν μέγα ἔχουσιν οἱ δὲ μικρόν, ὥστε τοῖς μὲν ἀφεῖλεν ἀπὸ τοῦ σώματος, πρὸς δὲ τὸ μῆκος τῶν ποδῶν προσέθηκεν ἡ φύσις, ταῖς δ᾽ ἀπὸ τῶν ποδῶν λαβοῦσα τὸ σῶμα ηὔξησεν. Διόπερ τοῖς μὲν οὐ μόνον πρὸς τὸ νεῖν χρήσιμοι οἱ πόδες ἀλλὰ καὶ πρὸς τὸ βαδίζειν, ταῖς δ᾽ ἄχρηστοι· μικροὶ γάρ, τὸ δὲ κύτος μέγα ἔχουσιν. Ἐπεὶ δὲ βραχεῖς ἔχουσι τοὺς πόδας καὶ ἀχρήστους πρὸς τὸ ἀντιλαμβάνεσθαι καὶ μὴ ἀντισπᾶσθαι ἀπὸ τῶν πετρῶν, ὅταν κλύδων ᾖ καὶ χειμών, καὶ πρὸς τὸ τὰ ἄποθεν προσάγεσθαι, διὰ ταῦτα προβοσκίδας ἔχουσι δύο μακράς, αἷς ὁρμοῦσί τε καὶ ἀποσαλεύουσιν ὥσπερ πλοῖον ὅταν χειμὼν ᾖ, καὶ τὰ ἄποθεν (685b.) θηρεύουσι καὶ προσάγονται ταύταις αἵ τε σηπίαι καὶ αἱ τευθίδες. Οἱ δὲ πολύποδες οὐκ ἔχουσι τὰς προβοσκίδας διὰ τὸ τοὺς πόδας αὐτοῖς εἶναι πρὸς ταῦτα χρησίμους.

Ὅσοις δὲ κοτυληδόνες πρὸς τοῖς ποσὶ καὶ πλεκτάναι πρόσεισι, δύναμιν ἔχουσι καὶ σύνθεσιν τοιαύτην οἵανπερ τὰ πλεγμάτια οἷς οἱ ἀτροὶ οἱ ἀρχαῖοι τοὺς δακτύλους ἐνέβαλλον· οὕτως καὶ ἐκ τῶν ἰνῶν πεπλεγμέναι εἰσίν, αἷς ἕλκουσι τὰ σαρκία καὶ τὰ ἐνδιδόντα. Περιλαμβάνει μὲν γὰρ χαλαρὰ ὄντα· ὅταν δὲ συντείνῃ, πιέζει καὶ ἔχεται τοῦ ἐντὸς θιγγάνοντος παντός. Ὥστ᾽ ἐπεὶ ἄλλο οὐκ ἔστιν ᾧ προσάξονται, ἀλλ᾽ ἢ τὰ μὲν τοῖς ποσὶ τὰ δὲ ταῖς προβοσκίσι, ταύτας ἔχουσι πρὸς ἀλκὴν καὶ τὴν ἄλλην βοήθειαν ἀντὶ χειρῶν. Τὰ μὲν οὖν ἄλλα δικότυλά ἐστι, γένος δέ τι πολυπόδων μονοκότυλον. Αἴτιον δὲ τὸ μῆκος καὶ ἡ λεπτότης τῆς φύσεως αὐτῶν· μονοκότυλον γὰρ ἀναγκαῖον εἶναι τὸ στενόν. Οὐκ οὖν ὡς βέλτιστον ἔχουσιν, ἀλλ᾽ ὡς ἀναγκαῖον διὰ τὸν ἴδιον λόγον τῆς οὐσίας.

Πτερύγιον δ’ ἔχουσι ταῦτα πάντα κύκλῳ περὶ τὸ κῦτος. Τοῦτο δ’ ἐπὶ μὲν τῶν ἄλλων συναπτόμενον καὶ συνεχές ἐστι, καὶ ἐπὶ τῶν μεγάλων τευθῶν· αἱ δ’ ἐλάττους καὶ καλούμεναι τευθίδες πλατύτερόν τε τοῦτο ἔχουσι καὶ οὐ στενόν, ὥσπερ αἱ σηπίαι καὶ οἱ πολύποδες, καὶ τοῦτ’ ἀπὸ μέσου ἠργμένον, καὶ οὐ κύκλῳ διὰ παντός. Τοῦτο δ’ ἔχουσιν ὅπως νέωσι καὶ πρὸς τὸ διορθοῦν, ὥσπερ τοῖς μὲν πτηνοῖς τὸ ὀρροπύγιον, τοῖς δ’ ἰχθύσι τὸ οὐραῖον. Ἐλάχιστον δὲ τοῦτο καὶ ἥκιστα ἐπίδηλον τοῖς πολύποσίν ἐστι διὰ τὸ μικρὸν ἔχειν τὸ κῦτος καὶ διορθοῦσθαι τοῖς ποσὶν ἱκανῶς.

Περὶ μὲν οὖν τῶν ἐντόμων καὶ μαλακοστράκων καὶ ὀστρακοδέρμων καὶ μαλακίων εἴρηται, καὶ περὶ τῶν ἐντὸς μορίων καὶ τῶν ἐκτός.

Κεφάλαιο 10

Πάλιν δ’ ἐξ ὑπαρχῆς περὶ τῶν ἐναίμων καὶ ζῳοτόκων ἐπισκεπτέον, ἀρξαμένοις ἀπὸ τῶν ὑπολοίπων καὶ πρότερον εἰρημένων μορίων· τούτων δὲ διορισθέντων περὶ τῶν ἐναίμων καὶ ᾠοτόκων τὸν αὐτὸν τρόπον ἐροῦμεν.

Τὰ μὲν οὖν μόρια τὰ περὶ τὴν κεφαλὴν τῶν ζῴων εἴρηται πρότερον, καὶ τὰ περὶ τὸν καλούμενον αὐχένα καὶ τράχηλον.

Ἔχει δὲ κεφαλὴν πάντα τὰ ἔναιμα ζῷα· τῶν δ’ ἀναίμων (686a.) ἐνίοις ἀδιόριστον τοῦτο τὸ μόριον, οἷον τοῖς καρκίνοις.

Αὐχένα οὖν τὰ μὲν ζῳοτόκα πάντ’ ἔχει, τῶν δ’ ᾠοτόκων τὰ μὲν ἔχει, τὰ δ’ οὐκ ἔχει· ὅσα μὲν γὰρ πλεύμονα ἔχει, καὶ αὐχένα ἔχει, τὰ δὲ μὴ ἀναπνέοντα θύραθεν οὐκ ἔχει τοῦτο τὸ μόριον. Ἔστι δ’ ἡ μὲν κεφαλὴ μάλιστα τοῦ ἐγκεφάλου χάριν· ἀνάγκη γὰρ τοῦτο τὸ μόριον ἔχειν τοῖς ἐναίμοις, καὶ ἐν ἀντικειμένῳ τόπῳ τῆς καρδίας, διὰ τὰς εἰρημένας πρότερον αἰτίας. Ἐξέθετο δ’ ἡ φύσις ἐν αὐτῇ καὶ τῶν αἰσθήσεων ἐνίας διὰ τὸ σύμμετρον εἶναι τὴν τοῦ αἵματος κρᾶσιν καὶ ἐπιτηδείαν πρός τε τὴν τοῦ ἐγκεφάλου ἀλέαν καὶ πρὸς τὴν τῶν αἰσθήσεων ἡσυχίαν καὶ ἀκρίβειαν. Ἔτι δὲ τρίτον μόριον ὑπέθηκε τὸ τὴν τῆς τροφῆς εἴσοδον δημιουργοῦν· ἐνταῦθα γὰρ ὑπέκειτο συμμέτρως μάλιστα. Οὔτε γὰρ ἄνωθεν κεῖσθαι τῆς καρδίας καὶ τῆς ἀρχῆς ἐνεδέχετο τὴν κοιλίαν, οὔτε κάτωθεν οὔσης ὃν τρόπον ἔχει νῦν, ἐνεδέχετο τὴν εἴσοδον ἔτι κάτω εἶναι τῆς καρδίας· πολὺ γὰρ τὸ μῆκος ἦν τοῦ σώματος, καὶ πόρρω λίαν τῆς κινούσης ἀρχῆς καὶ πεττούσης.

Ἡ μὲν οὖν κεφαλὴ τούτων χάριν ἐστίν, ὁ δ’ αὐχὴν τῆς ἀρτηρίας χάριν· πρόβλημα γάρ ἐστι, καὶ σῴζει ταύτην καὶ τὸν οἰσοφάγον κύκλῳ περιέχων. Τοῖς μὲν οὖν ἄλλοις ἐστὶ καμπτὸς καὶ σφονδύλους ἔχων, οἱ δὲ λύκοι καὶ λέοντες μονοστοῦν τὸν αὐχένα ἔχουσιν· ἔβλεψε γὰρ ἡ φύσις ὅπως πρὸς τὴν ἰσχὺν χρήσιμον αὐτὸν ἔχωσι μᾶλλον ἢ πρὸς τὰς ἄλλας βοηθείας.

Ἐχόμενα δὲ τοῦ αὐχένος καὶ τῆς κεφαλῆς τά τε πρόσθια κῶλα τοῖς ζῴοις ἐστὶ καὶ θώραξ. Ὁ μὲν οὖν ἄνθρωπος ἀντὶ σκελῶν καὶ ποδῶν τῶν προσθίων βραχίονας καὶ τὰς καλουμένας ἔχει χεῖρας. Ὀρθὸν μὲν γάρ ἐστι μόνον τῶν ζῴων διὰ τὸ τὴν φύσιν αὐτοῦ καὶ τὴν οὐσίαν εἶναι θείαν· ἔργον δὲ τοῦ θειοτάτου τὸ νοεῖν καὶ φρονεῖν· τοῦτο δ’ οὐ ῥᾴδιον πολλοῦ τοῦ ἄνωθεν ἐπικειμένου σώματος· τὸ γὰρ βάρος δυσκίνητον ποιεῖ τὴν διάνοιαν καὶ τὴν κοινὴν αἴσθησιν. Διὸ πλείονος γινομένου τοῦ βάρους καὶ τοῦ σωματώδους ἀνάγκη ῥέπειν τὰ σώματα πρὸς τὴν γῆν, ὥστε πρὸς τὴν ἀσφάλειαν ἀντὶ βραχιόνων καὶ χειρῶν τοὺς προσθίους πόδας ὑπέθηκεν ἡ φύσις τοῖς τετράποσιν. Τοὺς μὲν γὰρ ὀπισθίους δύο πᾶσιν ἀναγκαῖον τοῖς πορευτικοῖς ἔχειν, τὰ δὲ (686b.) τοιαῦτα τετράποδα ἐγένετο οὐ δυναμένης φέρειν τὸ βάρος τῆς ψυχῆς.

Πάντα γάρ ἐστι τὰ ζῷα νανώδη τἆλλα παρὰ τὸν ἄνθρωπον· νανῶδες γάρ ἐστιν οὗ τὸ μὲν ἄνω μέγα, τὸ δὲ φέρον τὸ βάρος καὶ πεζεῦον μικρόν. Ἄνω δ’ ἐστὶν ὁ καλούμενος θώραξ, ἀπὸ τῆς κεφαλῆς μέχρι τῆς ἐξόδου τοῦ περιττώματος. Τοῖς μὲν οὖν ἀνθρώποις τοῦτο πρὸς τὸ κάτω σύμμετρον, καὶ πολλῷ ἔλαττόν ἐστι τελειουμένοις· νέοις δ’ οὖσι τοὐναντίον τὰ μὲν ἄνω μέγαλα, τὸ δὲ κάτω μικρόν. Διὸ καὶ ἕρπουσι, βαδίζειν δ’ οὐ δύνανται. Τὸ δὲ πρῶτον οὐδ’ ἕρπουσιν, ἀλλ’ ἀκινητίζουσιν· νάνοι γάρ εἰσι τὰ παιδία πάντα. Προϊοῦσι δὲ τοῖς μὲν ἀνθρώποις αὔξεται τὰ κάτωθεν· τοῖς δὲ τετράποσι τοὐναντίον τὰ κάτω μέγιστα τὸ πρῶτον, προϊόντα δ’ αὔξεται ἐπὶ τὸ ἄνω, τοῦτο δ’ ἐστὶ τὸ ἀπὸ τῆς ἕδρας ἐπὶ τὴν κεφαλὴν κύτος. Διὸ καὶ τῷ ὕψει οἱ πῶλοι τῶν ἵππων οὐδὲν ἢ μικρὸν ἐλάττους εἰσί, καὶ νέοι μὲν ὄντες θιγγάνουσι τῷ ὄπισθεν σκέλει τῆς κεφαλῆς, πρεσβύτεροι δ’ ὄντες οὐ δύνανται. Τὰ μὲν οὖν μώνυχα καὶ διχηλὰ τοῦτον ἔχει τὸν τρόπον, τὰ δὲ πολυδάκτυλα καὶ ἀκέρατα νανώδη μέν ἐστιν, ἧττον δὲ τούτων· διὸ καὶ τὴν αὔξησιν πρὸς τὰ ἄνω τὰ κάτω κατὰ λόγον ποιεῖται τῆς ἐλλείψεως. Ἔστι δὲ καὶ τὸ τῶν ὀρνίθων καὶ τὸ τῶν ἰχθύων γένος καὶ πᾶν τὸ ἔναιμον, ὥσπερ εἴρηται, νανῶδες. Διὸ καὶ ἀφρονέστερα πάντα τὰ ζῷα τῶν ἀνθρώπων ἐστίν. Καὶ γὰρ τῶν ἀνθρώπων, οἷον τά τε παιδία πρὸς τοὺς ἄνδρας καὶ αὐτῶν τῶν ἐν ἡλικίᾳ οἱ νανώδεις τὴν φύσιν, ἐὰν καί τιν’ ἄλλην δύναμιν ἔχωσι περιττήν, ἀλλὰ τῷ τὸν νοῦν ἔχειν ἐλλείπουσιν. Αἴτιον δ’ ὥσπερ εἴρηται πρότερον, ὅτι ἡ τῆς ψυχῆς ἀρχὴ πολλῷ δὴ δυσκίνητός ἐστι καὶ σωματώδης.

Ἔτι δ’ ἐλάττονος γινομένης τῆς αἰρούσης θερμότητος καὶ τοῦ γεώδους πλείονος, τά τε σώματα ἐλάττονα τῶν ζῴων ἐστὶ καὶ πολύποδα, τέλος δ’ ἄποδα γίγνεται καὶ τεταμένα πρὸς τὴν γῆν. Μικρὸν δ’ οὕτω προβαίνοντα καὶ τὴν ἀρχὴν ἔχουσι κάτω, καὶ τὸ κατὰ τὴν κεφαλὴν μόριον τέλος ἀκίνητόν ἐστι καὶ ἀναίσθητον, καὶ γίνεται φυτόν, ἔχον τὰ μὲν ἄνω κάτω, τὰ δὲ κάτω ἄνω· αἱ γὰρ ῥίζαι τοῖς φυτοῖς στόματος καὶ (687a.) κεφαλῆς ἔχουσι δύναμιν, τὸ δὲ σπέρμα τοὐναντίον· ἄνω γὰρ καὶ ἐπ’ ἄκροις γίνεται τοῖς πτόρθοις. Δι’ ἣν μὲν οὖν αἰτίαν τὰ μὲν δίποδα τὰ δὲ πολύποδα τὰ δ’ ἄποδα τῶν ζῴων ἐστί, καὶ διὰ τίν’ αἰτίαν τὰ μὲν φυτὰ τὰ δὲ ζῷα γέγονεν, εἴρηται, καὶ διότι μόνον ὀρθόν ἐστι τῶν ζῴων ὁ ἄνθρωπος.

Ὀρθῷ δ’ ὄντι τὴν φύσιν οὐδεμία χρεία σκελῶν τῶν ἐμπροσθίων, ἀλλ’ ἀντὶ τούτων βραχίονας καὶ χεῖρας ἀποδέδωκεν ἡ φύσις. Ἀναξαγόρας μὲν οὖν φησι διὰ τὸ χεῖρας ἔχειν φρονιμώτατον εἶναι τῶν ζῴων ἄνθρωπον· εὔλογον δὲ διὰ τὸ φρονιμώτατον εἶναι χεῖρας λαμβάνειν. Αἱ μὲν γὰρ χεῖρες ὄργανόν εἰσιν, ἡ δὲ φύσις ἀεὶ διανέμει, καθάπερ ἄνθρωπος φρόνιμος, ἕκαστον τῷ δυναμένῳ χρῆσθαι. Προσήκει γὰρ τῷ ὄντι αὐλητῇ δοῦναι μᾶλλον αὐλοὺς ἢ τῷ αὐλοὺς ἔχοντι προσθεῖναι αὐλητικήν· τῷ γὰρ μείζονι καὶ κυριωτέρῳ προσέθηκε τοὔλαττον, ἀλλ’ οὐ τῷ ἐλάττονι τὸ τιμιώτερον καὶ μεῖζον. Εἰ οὖν οὕτως βέλτιον, ἡ δὲ φύσις ἐκ τῶν ἐνδεχομένων ποιεῖ τὸ βέλτιστον, οὐ διὰ τὰς χεῖράς ἐστιν ὁ ἄνθρωπος φρονιμώτατος, ἀλλὰ διὰ τὸ φρονιμώτατον εἶναι τῶν ζῴων ἔχει χεῖρας. Ὁ γὰρ φρονιμώτατος πλείστοις ἂν ὀργάνοις ἐχρήσατο καλῶς, ἡ δὲ χεὶρ ἔοικεν εἶναι οὐχ ἓν ὄργανον ἀλλὰ πολλά· ἔστι γὰρ ὡσπερεὶ ὄργανον πρὸ ὀργάνων. Τῷ οὖν πλείστας δυναμένῳ δέξασθαι τέχνας τὸ ἐπὶ πλεῖστον τῶν ὀργάνων χρήσιμον τὴν χεῖρα ἀποδέδωκεν ἡ φύσις. Ἀλλ’ οἱ λέγοντες ὡς συνέστηκεν οὐ καλῶς ὁ ἄνθρωπος ἀλλὰ χείριστα τῶν ζῴων (ἀνυπόδητόν τε γὰρ αὐτὸν εἶναί φασι καὶ γυμνὸν καὶ οὐκ ἔχοντα ὅπλον πρὸς τὴν ἀλκήν) οὐκ ὀρθῶς λέγουσιν.

Τὰ μὲν γὰρ ἄλλα μίαν ἔχει βοήθειαν, καὶ μεταβάλλεσθαι ἀντὶ ταύτης ἑτέραν οὐκ ἔστιν, ἀλλ’ ἀναγκαῖον ὥσπερ ὑποδεδεμένον ἀεὶ καθεύδειν καὶ πάντα πράττειν, καὶ τὴν περὶ τὸ σῶμα ἀλεωρὰν μηδέποτε καταθέσθαι, μηδὲ μεταβάλλεσθαι ὃ δὴ ἐτύγχανεν ὅπλον ἔχων. Τῷ δὲ ἀνθρώπῳ τάς τε βοηθείας (687b.) πολλὰς ἔχειν, καὶ ταύτας ἀεὶ ἔξεστι μεταβάλλειν, ἔτι δ’ ὅπλον οἷον ἂν βούληται καὶ ὅπου ἂν βούληται ἔχειν. Ἡ γὰρ χεὶρ καὶ ὄνυξ καὶ χηλὴ καὶ κέρας γίνεται καὶ δόρυ καὶ ξίφος καὶ ἄλλο ὁποιονοῦν ὅπλον καὶ ὄργανον· πάντα γὰρ ἔσται ταῦτα διὰ τὸ πάντα δύνασθαι λαμβάνειν καὶ ἔχειν.

Ταύτῃ δὲ συμμεμηχανῆσθαι καὶ τὸ εἶδος τῇ φύσει τῆς χειρός. Διαιρετὴ γὰρ καὶ πολυσχιδής· ἔνι γὰρ ἐν τῷ διαιρετὴν εἶναι καὶ συνθετὴν εἶναι, ἐν τούτῳ δ’ ἐκεῖνο οὐκ ἔστιν. Καὶ χρῆσθαι ἑνὶ καὶ δυοῖν καὶ πολλαχῶς ἔστιν. Καὶ αἱ καμπαὶ τῶν δακτύλων καλῶς ἔχουσι πρὸς τὰς λήψεις καὶ πιέσεις.

Καὶ ἐκ πλαγίου εἷς, καὶ οὗτος βραχὺς καὶ παχὺς ἀλλ’ οὐ μακρός· ὥσπερ γὰρ εἰ μὴ ἦν χεὶρ ὅλως, οὐκ ἂν ἦν λῆψις, οὕτως κἂν εἰ μὴ ἐκ πλαγίου οὗτος ἦν. Οὗτος γὰρ κάτωθεν ἄνω πιέζει, ὅπερ οἱ ἕτεροι ἄνωθεν κάτω· δεῖ δὲ τοῦτο συμβαίνειν, εἰ μέλλει ἰσχυρῶς ὥσπερ σύναμμα ἰσχυρὸν συνδεῖν, ἵνα ἰσάζῃ εἷς ὢν πολλοῖς. Καὶ βραχὺς διά τε τὴν ἰσχὺν καὶ διότι οὐδὲν ὄφελος εἰ μακρός. Καὶ ὁ ἔσχατος δὲ μικρὸς ὀρθῶς, καὶ ὁ μέσος μακρός, ὥσπερ κώπη μεσόνεως·

μάλιστα γὰρ τὸ λαμβανόμενον ἀνάγκη περιλαμβάνεσθαι κύκλῳ κατὰ τὸ μέσον πρὸς τὰς ἐργασίας. Καὶ διὰ τοῦτο καλεῖται μέγας μικρὸς ὤν, ὅτι ἄχρηστοι ὡς εἰπεῖν οἱ ἄλλοι ἄνευ τούτου. Εὖ δὲ καὶ τὸ τῶν ὀνύχων μεμηχάνηται· τὰ μὲν γὰρ ἄλλα ζῷα ἔχει καὶ πρὸς χρῆσιν αὐτούς, τοῖς δ' ἀνθρώποις ἐπικαλυπτήρια· σκέπασμα γὰρ τῶν ἀκρωτηρίων εἰσίν.

Αἱ δὲ καμπαὶ τῶν βραχιόνων ἔχουσι πρός τε τὴν τῆς τροφῆς προσαγωγὴν καὶ πρὸς τὰς ἄλλας χρήσεις ἐναντίως τοῖς τετράποσιν. Ἐκείνοις μὲν γὰρ ἀναγκαῖον εἴσω κάμπτειν τὰ ἐμπρόσθια κῶλα· χρῶνται γὰρ ποσίν, ἵν' ᾖ χρήσιμα πρὸς τὴν πορείαν, ἐπεὶ θέλει γε κἀκείνων τοῖς πολυδακτύλοις οὐ μόνον πρὸς τὴν πορείαν χρήσιμ' εἶναι τὰ ἔμπροσθεν σκέλη, ἀλλὰ καὶ ἀντὶ χειρῶν, ὥσπερ καὶ φαίνεται χρώμενα· καὶ γὰρ (688a.) λαμβάνουσι καὶ ἀμύνονται τοῖς προσθίοις. Τὰ δὲ μώνυχα τοῖς ὀπισθίοις· οὐ γὰρ ἔχει αὐτοῖς τὰ πρόσθια σκέλη ἀνάλογον τοῖς ἀγκῶσι καὶ ταῖς χερσίν. Τῶν δὲ πολυδακτύλων ἔνια καὶ διὰ τοῦτο καὶ πενταδακτύλους ἔχει τοὺς προσθίους πόδας, τοὺς δ' ὄπισθεν τετραδακτύλους, οἷον λέοντες καὶ λύκοι, ἔτι δὲ κύνες καὶ παρδάλεις· ὁ γὰρ πέμπτος ὥσπερ ὁ τῆς χειρὸς γίνεται μέγας πέμπτος. Τὰ δὲ μικρὰ τῶν πολυδακτύλων καὶ τοὺς ὀπισθίους ἔχει πενταδακτύλους διὰ τὸ ἑρπυστικὰ εἶναι, ὅπως τοῖς ὄνυξι πλείοσιν οὖσιν ἀντιλαμβανόμενα ῥᾷον ἀνέρπῃ πρὸς τὸ μετεωρότερον καὶ ὑπὲρ κεφαλῆς.

Μεταξὺ δὲ τῶν ἀγκώνων τοῖς ἀνθρώποις, τοῖς δ' ἄλλοις τῶν ἐμπροσθίων σκελῶν, τὸ καλούμενον στῆθός ἐστι, τοῖς μὲν ἀνθρώποις ἔχον πλάτος εὐλόγως (οὐ γὰρ κωλύουσιν οἱ ἀγκῶνες ἐκ πλαγίου προσκείμενοι τοῦτον εἶναι τὸν τόπον πλατύν), τοῖς δὲ τετράποσι διὰ τὴν ἐπὶ τὸ πρόσθιον τῶν κώλων ἔκτασιν ἐν τῷ πορεύεσθαι καὶ μεταβάλλειν τὸν τόπον στενὸν τοῦτ' ἔστι τὸ μόριον. Καὶ διὰ τοῦτο τὰ μὲν τετράποδα τῶν ζῴων οὐκ ἔχει μαστοὺς ἐν τῷ τόπῳ τούτῳ· τοῖς δ' ἀνθρώποις διὰ τὴν εὐρυχωρίαν καὶ τὸ σκεπάζεσθαι δεῖν τὰ περὶ τὴν καρδίαν, διὰ τοῦτο ὑπάρχοντος τοῦ τόπου σαρκώδους οἱ μαστοὶ διήρθρωνται, σαρκώδεις ὄντες τοῖς μὲν ἄρρεσι διὰ τὴν εἰρημένην αἰτίαν, ἐπὶ δὲ τῶν θηλειῶν παρακέχρηται καὶ πρὸς ἕτερον ἔργον ἡ φύσις, ὅπερ φαμὲν αὐτὴν πολλάκις ποιεῖν· ἀποτίθεται γὰρ ἐνταῦθα τοῖς γεννωμένοις τροφήν.

Δύο δ' εἰσὶν οἱ μαστοὶ διὰ τὸ δύο τὰ μόρια εἶναι, τό τ' ἀριστερὸν καὶ τὸ δεξιόν. Καὶ σκληρότεροι μέν, διωρισμένοι δὲ διὰ τὸ καὶ τὰς πλευρὰς συνάπτεσθαι μὲν ἀλλήλας κατὰ τὸν τόπον τοῦτον, μὴ ἐπίπονον δ' εἶναι τὴν φύσιν αὐτῶν.

Τοῖς δ' ἄλλοις ζῴοις ἐν μὲν τῷ στήθει μεταξὺ τῶν σκελῶν ἀδύνατόν ἐστιν ἔχειν τοὺς μαστούς (ἐμποδίζοιεν μὲν γὰρ ἂν πρὸς τὴν πορείαν), ἔχουσι δ’ ἤδη πολλοὺς τρόπους. Τὰ μὲν γὰρ ὀλιγοτόκα καὶ μώνυχα καὶ κερατοφόρα ἐν τοῖς μηροῖς ἔχουσι τοὺς μαστούς, καὶ τούτους δύο, τὰ δὲ πολυτόκα ἢ πολυσχιδῆ τὰ μὲν περὶ τὴν γαστέρα πλαγίους καὶ πολλούς, οἷον ὗς καὶ κύων, τὰ δὲ δύο μόνους, περὶ μέσην μέντοι (688b.) γαστέρα, οἷον λέγων. Τούτου δ’ αἴτιον οὐχ ὅτι ὀλιγοτόκον, ἐπεὶ τίκτει ποτὲ πλείω δυοῖν, ἀλλ’ ὅτι οὐ πολυγάλακτον· ἀναλίσκει γὰρ εἰς τὸ σῶμα τὴν λαμβανομένην τροφήν, λαμβάνει δὲ σπάνιον διὰ τὸ σαρκοφάγον εἶναι. Ὁ δ’ ἐλέφας δύο μόνον ἔχει, τούτους δ’ ὑπὸ ταῖς μασχάλαις τῶν ἐμπροσθίων σκελῶν. Αἴτιον δὲ τοῦ μὲν δύο ἔχειν ὅτι μονοτόκον ἐστί, τοῦ δὲ μὴ ἐν τοῖς μηροῖς ὅτι πολυσχιδές (οὐδὲν γὰρ ἔχει πολυσχιδὲς ἐν τοῖς μηροῖς), ἄνω δὲ πρὸς ταῖς μασχάλαις, ὅτι πρῶτοι οὗτοι τῶν μαστῶν τοῖς πολλοὺς ἔχουσι μαστούς, καὶ ἱμῶνται γάλα πλεῖστον. Σημεῖον δὲ τὸ ἐπὶ τῶν ὑῶν συμβαῖνον· τοῖς γὰρ πρώτοις γενομένοις τῶν χοίρων τοὺς πρώτους παρέχουσι μαστούς· ᾧ οὖν τὸ πρῶτον γιγνόμενον ἓν μόνον ἐστί, τούτῳ τοὺς μαστοὺς ἀναγκαῖον ἔχειν τοὺς πρώτους· πρῶτοι δ’ εἰσὶν οἱ ὑπὸ ταῖς μασχάλαις. Ὁ μὲν οὖν ἐλέφας διὰ ταύτην τὴν αἰτίαν δύο ἔχει καὶ ἐν τούτῳ τῷ τόπῳ, τὰ δὲ πολυτόκα περὶ τὴν γαστέρα. Τούτου δ’ αἴτιον ὅτι πλειόνων δεῖ μαστῶν τοῖς πλείω μέλλουσιν ἐκτρέφειν· ἐπεὶ οὖν ἐπὶ πλάτος οὐχ οἷον τε ἀλλ’ ἢ δύο μόνους ἔχειν διὰ τὸ δύο εἶναι τό τ’ ἀριστερὸν καὶ τὸ δεξιόν, ἐπὶ μῆκος ἀναγκαῖον ἔχειν· ὁ δὲ μεταξὺ τόπος τῶν ἔμπροσθεν σκελῶν καὶ τῶν ὄπισθεν ἔχει μῆκος μόνον. Τὰ δὲ μὴ πολυσχιδῆ ἀλλ’ ὀλιγοτόκα ἢ κερατοφόρα καὶ ἐν τοῖς μηροῖς ἔχει τοὺς μαστούς, οἷον ἵππος ὄνος κάμηλος (ταῦτα γὰρ μονοτόκα, καὶ τὰ μὲν μώνυχα, τὸ δὲ διχηλόν), ἔτι δ’ ἔλαφος καὶ βοῦς καὶ αἲξ καὶ τἆλλα πάντα τὰ τοιαῦτα. Αἴτιον δ’ ὅτι τούτοις ἡ αὔξησις ἐπὶ τὸ ἄνω τοῦ σώματός ἐστιν. Ὥσθ’ ὅπου συλλογὴ καὶ περιουσία γίνεται τοῦ περιττώματος καὶ αἵματος (οὗτος δ’ ὁ τόπος ἐστὶν ὁ κάτω καὶ περὶ τὰς ἐκροάς), ἐνταῦθα ἐποίησεν ἡ φύσις τοὺς μαστούς. Ὅπου γὰρ κίνησις γίνεται τῆς τροφῆς, ἐντεῦθεν καὶ λαβεῖν ἐστιν αὐτοῖς δυνατόν. Ἄνθρωπος μὲν οὖν καὶ ὁ θῆλυς καὶ ὁ ἄρρην ἔχει μαστούς, ἐν δὲ τοῖς ἄλλοις ἔνια τῶν ἀρρένων οὐκ ἔχει, οἷον ἵπποι οἱ μὲν οὐκ ἔχουσιν οἱ δ’ ἔχουσιν, ὅσοι ἐοίκασι τῇ μητρί.

Καὶ περὶ μὲν μαστῶν εἴρηται, μετὰ δὲ τὸ στῆθος ὁ περὶ τὴν κοιλίαν ἐστὶ τόπος, ἀσύγκλειστος ταῖς πλευραῖς διὰ τὴν εἰρημένην ἔμπροσθεν αἰτίαν, ὅπως μὴ ἐμποδίζωσι μήτε (689a.) τὴν ἀνοίδησιν τῆς τροφῆς, ἣν ἀναγκαῖον συμβαίνειν θερμαινομένης αὐτῆς, μήτε τὰς ὑστέρας τὰς περὶ τὴν κύησιν. Τέλος δὲ τοῦ καλουμένου θώρακός ἐστι τὰ μόρια τὰ περὶ τὴν τῆς περιττώσεως ἔξοδον, τῆς τε ξηρᾶς καὶ τῆς ὑγρᾶς.

Καταχρῆται δ’ ἡ φύσις τῷ αὐτῷ μορίῳ ἐπί τε τὴν τῆς ὑγρᾶς ἔξοδον περιττώσεως καὶ περὶ τὴν ὀχείαν, ὁμοίως ἔν τε τοῖς θήλεσι καὶ τῶν ἀρρένων, ἔξω τινῶν ὀλίγων πᾶσι τοῖς ἐναίμοις, ἐν δὲ τοῖς ζῳοτόκοις πᾶσιν. Αἴτιον δ’ ὅτι ἡ γονὴ ὑγρόν ἐστί τι καὶ περίττωμα· τοῦτο δὲ νῦν μὲν ὑποκείσθω, ὕστερον δὲ δειχθήσεται περὶ αὐτοῦ. Τὸν αὐτὸν δὲ τρόπον καὶ ἐν τοῖς θήλεσι τά τε καταμήνια, καὶ ᾗ προΐενται τὴν γονήν· διορισθήσεται δὲ καὶ περὶ τούτων ὕστερον, νῦν δὲ ὑποκείσθω μόνον ὅτι περίττωμα καὶ τὰ καταμήνια τοῖς θήλεσιν· ὑγρὰ δὲ τὴν φύσιν τὰ καταμήνια καὶ ἡ γονή, ὥστε τῶν αὐτῶν καὶ τῶν ὁμοίων εἰς ταῦτα τὰ μόρια τὴν ἔκκρισιν εἶναι κατὰ λόγον ἐστίν. Ἐντὸς δὲ πῶς ἔχει, καὶ πῇ διαφέρουσι τά τε περὶ τὸ σπέρμα καὶ τὰ περὶ τὴν κύησιν, ἔκ τε τῆς ἱστορίας τῆς περὶ τὰ ζῷα φανερὸν καὶ τῶν ἀνατομῶν, καὶ ὕστερον λεχθήσεται ἐν τοῖς περὶ γενέσεως. Ὅτι δ’ ἔχει καὶ τὰ σχήματα τῶν μορίων τούτων πρὸς τὴν ἐργασίαν ἀναγκαίως, οὐκ ἄδηλον. Ἔχει δὲ διαφορὰς τὸ τῶν ἀρρένων ὄργανον κατὰ τὰς τοῦ σώματος διαφοράς. Οὐ γὰρ ὁμοίως ἅπαντα νευρώδη τὴν φύσιν ἐστίν. Ἔτι δὲ μόνον τοῦτο τῶν μορίων ἄνευ νοσερᾶς μεταβολῆς αὔξησιν ἔχει καὶ ταπείνωσιν· τούτων γὰρ τὸ μὲν χρήσιμον πρὸς τὸν συνδυασμόν, τὸ δὲ πρὸς τὴν τοῦ ἄλλου σώματος χρείαν· ἀεὶ γὰρ ὁμοίως ἔχοντα ἐνεπόδιζεν ἄν. Συνέστηκε δὲ τὴν φύσιν ἐκ τοιούτων τὸ μόριον τοῦτο ὥστε δύνασθαι ταῦτ’ ἀμφότερα συμβαίνειν· τὸ μὲν γὰρ ἔχει νευρῶδες τὸ δὲ χονδρῶδες, διόπερ συνιέναι τε δύναται καὶ ἔκτασιν ἔχειν καὶ πνεύματός ἐστι δεκτικόν. Τὰ μὲν οὖν θήλεα τῶν τετραπόδων πάντ’ ἐστὶν ὀπισθουρητικὰ διὰ τὸ πρὸς τὴν ὀχείαν οὕτως εἶναι αὐτοῖς χρησίμην τὴν θέσιν, τῶν δ’ ἀρρένων ὀλίγα ἐστὶν ὀπισθουρητικά, οἷον λὺγξ λέων κάμηλος δασύπους· μώνυχον δ’ οὐδέν ἐστιν ὀπισθουρητικόν.

(689b.) Τὰ δ’ ὄπισθεν καὶ τὰ περὶ τὰ σκέλη τοῖς ἀνθρώποις ἰδίως ἔχει πρὸς τὰ τετράποδα. Κέρκον δ’ ἔχει πάντα σχεδόν, οὐ μόνον τὰ ζῳοτόκα ἀλλὰ καὶ τὰ ᾠοτόκα· καὶ γὰρ ἂν μὴ μέγεθος αὐτοῖς ἔχον ᾖ τοῦτο τὸ μόριον, ἀλλὰ σημείου γ’ ἕνεκεν ἔχουσί τινα στόλον. Ὁ δ’ ἄνθρωπος ἄκερκον μέν ἐστιν, ἰσχία δ’ ἔχει, τῶν δὲ τετραπόδων οὐδέν. Ἔτι δὲ καὶ τὰ σκέλη ὁ μὲν ἄνθρωπος σαρκώδη καὶ μηροὺς καὶ κνήμας, τὰ δ’ ἄλλα πάντ’ ἄσαρκα ἔχει, οὐ μόνον τὰ ζῳοτόκα ἀλλ’ ὅλως ὅσα σκέλη ἔχει τῶν ζῴων· νευρώδη γὰρ ἔχει καὶ ὀστώδη καὶ ἀκανθώδη. Τούτων δ’ αἰτία μία τίς ἐστιν ὡς εἰπεῖν ἁπάντων, διότι μόνον ἐστὶν ὀρθὸν τῶν ζῴων ἄνθρωπος. Ἵν’ οὖν φέρῃ ῥᾳδίως τἄνω κοῦφα ὄντα, ἀφελοῦσα τὸ σωματῶδες ἀπὸ τῶν ἄνω πρὸς τὰ κάτω τὸ βάρος ἡ φύσις προσέθηκεν· διόπερ τὰ ἰσχία σαρκώδη ἐποίησε καὶ μηροὺς καὶ γαστροκνημίας. Ἅμα δὲ τήν τε τῶν ἰσχίων φύσιν καὶ πρὸς τὰς ἀναπαύσεις ἀπέδωκε χρήσιμον· τοῖς μὲν γὰρ τετράποσιν ἄκοπον τὸ ἑστάναι, καὶ οὐ κάμνουσι τοῦτο ποιοῦντα συνεχῶς (ὥσπερ γὰρ κατακείμενα διατελεῖ ὑποκειμένων τεττάρων ἐρεισμάτων), τοῖς δ’ ἀνθρώποις οὐ ῥᾴδιον ὀρθῶς ἑστῶσι διαμένειν, ἀλλὰ δεῖται τὸ σῶμα ἀναπαύσεως καὶ καθέδρας.

Ὁ μὲν οὖν ἄνθρωπος ἰσχία τ’ ἔχει τὰ σκέλη σαρκώδη διὰ τὴν εἰρημένην αἰτίαν, καὶ διὰ ταῦτα ἄκερκον (ἥ τε γὰρ ἐκεῖ τροφὴ πορευομένη εἰς ταῦτα ἀναλίσκεται, καὶ διὰ τὸ ἔχειν ἰσχία ἀφῄρηται ἡ τῆς οὐρᾶς ἀναγκαία χρῆσις), τὰ δὲ τετράποδα καὶ τἆλλα ζῷα ἐξ ἐναντίας· νανώδεσι γὰρ οὖσι πρὸς τὸ ἄνω τὸ βάρος καὶ τὸ σωματῶδες ἐπίκειται πᾶν, ἀφῃρημένον ἀπὸ τῶν κάτωθεν· διόπερ ἀνίσχια καὶ σκληρὰ τὰ σκέλη ἔχουσιν.

Ὅπως δ’ ἐν φυλακῇ καὶ σκέπῃ ᾖ τὸ λειτουργοῦν μόριον τὴν ἔξοδον τοῦ περιττώματος, τὴν καλουμένην οὐρὰν καὶ κέρκον αὐτοῖς ἀπέδωκεν ἡ φύσις, ἀφελομένη τῆς εἰς τὰ σκέλη γιγνομένης τροφῆς. Ὁ δὲ πίθηκος διὰ τὸ τὴν μορφὴν ἐπαμφοτερίζειν καὶ μηδετέρων τ’ εἶναι καὶ ἀμφοτέρων, διὰ τοῦτ’ οὔτε οὐρὰν ἔχει οὔτ’ ἰσχία, ὡς μὲν δίπους ὢν οὐράν, ὡς δὲ τετράπους ἰσχία. Τῶν δὲ καλουμένων κέρκων διαφοραί (690a.) τ’ εἰσὶ πλείους καὶ ἡ φύσις παρακαταχρῆται καὶ ἐπὶ τούτων, οὐ μόνον πρὸς φυλακὴν καὶ σκέπην τῆς ἕδρας, ἀλλὰ καὶ πρὸς ὠφέλειαν καὶ χρῆσιν τοῖς ἔχουσιν.

Οἱ δὲ πόδες τοῖς μὲν τετράποσι διαφέρουσιν· τὰ μὲν γὰρ μώνυχα αὐτῶν ἐστι τὰ δὲ διχηλὰ τὰ δὲ πολυσχιδῆ, μώνυχα μὲν ὅσοις διὰ μέγεθος καὶ τὸ πολὺ γεῶδες ἔχειν ἀντὶ κεράτων καὶ ὀδόντων εἰς τὴν τοῦ ὄνυχος φύσιν τὸ τοιοῦτον μόριον ἔλαβεν ἀπόκρισιν, καὶ διὰ πλῆθος ἀντὶ πλειόνων ὀνύχων εἷς ὄνυξ ἡ ὁπλή ἐστιν.

Καὶ ἀστράγαλον δὲ διὰ τοῦτο οὐκ ἔχουσιν ὡς ἐπὶ τὸ πολὺ εἰπεῖν, διὰ τὸ δυσκινητοτέραν εἶναι τὴν καμπὴν τοῦ ὄπισθεν σκέλους ἀστραγάλου ἐνόντος· θᾶττον γὰρ ἀνοίγεται καὶ κλείεται τὰ μίαν ἔχοντα γωνίαν ἢ πλείους, ὁ δ’ ἀστράγαλος γόμφος ὢν ὥσπερ ἀλλότριον κῶλον ἐμβέβληται τοῖς δυσί, βάρος μὲν παρέχον, ποιοῦν δ’ ἀσφαλεστέραν τὴν βάσιν. Διὰ γὰρ τοῦτο καὶ ἐν τοῖς ἐμπροσθίοις οὐκ ἔχουσιν ἀστράγαλον τὰ ἔχοντα ἀστράγαλον, ἀλλ’ ἐν τοῖς ὄπισθεν, ὅτι δεῖ ἐλαφρὰ εἶναι τὰ ἡγούμενα καὶ εὔκαμπτα, τὸ δ’ ἀσφαλὲς καὶ τὴν τάσιν ἐν τοῖς ὄπισθεν. Ἔτι δὲ πρὸς τὸ ἀμύνεσθαι ἐμβριθεστέραν ποιεῖ τὴν πληγήν· τὰ δὲ τοιαῦτα τοῖς ὄπισθεν χρῆται κώλοις, λακτίζοντα τὸ λυποῦν. Τὰ δὲ διχηλὰ ἔχει ἀστράγαλον (κουφότερα γὰρ τὰ ὄπισθεν), καὶ διὰ τὸ ἔχειν ἀστράγαλον καὶ οὐ μώνυχά ἐστιν, ὡς τὸ ἐκλεῖπον ὀστῶδες ἐκ τοῦ ποδὸς ἐν τῇ κάμψει μένον. Τὰ δὲ πολυδάκτυλα οὐκ ἔχει ἀστράγαλον· οὐ γὰρ ἂν ἦν πολυδάκτυλα, ἀλλὰ τοσοῦτον ἐσχίζετο τὸ πλάτος ὅσον ἐπέχει ὁ ἀστράγαλος. Διὸ καὶ τῶν ἐχόντων αὐτὸν τὰ πλείω διχηλά.

Ὁ δ’ ἄνθρωπος πόδας μεγίστους ἔχει τῶν ζῴων ὡς κατὰ μέγεθος, εὐλόγως· μόνον γὰρ ἕστηκεν ὀρθόν, ὥστε τοὺς μέλλοντας δύ’ ὄντας ἕξειν πᾶν τὸ τοῦ σώματος βάρος δεῖ μῆκος ἔχειν καὶ πλάτος. Καὶ τὸ τῶν δακτύλων δὴ μέγεθος ἐναντίως ἔχει ἐπί τε τῶν ποδῶν καὶ τῶν χειρῶν κατὰ λόγον· τῶν μὲν γὰρ τὸ λαμβάνειν ἔργον καὶ πιέζειν, ὥστε δεῖ μακροὺς (690b.) ἔχειν (τῷ γὰρ καμπτομένῳ μέρει περιλαμβάνει ἡ χείρ), τῶν δὲ τὸ βεβηκέναι ἀσφαλῶς, ὥστε τοῦτο δεῖ τὸ μόριον εἶναι νομίζειν τὸ ἄσχιστον τοῦ ποδὸς τῶν δακτύλων. Ἐσχίσθαι δὲ βέλτιον ἢ ἄσχιστον εἶναι τὸ ἔσχατον· ἅπαν γὰρ ἂν συμπαθὲς ἦν ἑνὸς μορίου πονήσαντος, ἐσχισμένων δ’ εἰς δακτύλους τοῦτ’ οὐ συμβαίνει ὁμοίως. Ἔτι δὲ καὶ βραχεῖς ὄντες ἧττον συμβλάπτοιντο· διὸ πολυσχιδεῖς οἱ πόδες τῶν ἀνθρώπων, οὐ μακροδάκτυλοι δ’ εἰσίν. Τὸ δὲ τῶν ὀνύχων γένος διὰ τὴν αὐτὴν αἰτίαν καὶ ἐπὶ τῶν χειρῶν ἔχουσιν· δεῖ γὰν σκέπεσθαι τὰ ἀκρωτήρια μάλιστα διὰ τὴν ἀσθένειαν.

Κεφάλαιο 11

Περὶ μὲν οὖν τῶν ἐναίμων ζῴων καὶ ζῳοτόκων καὶ πεζῶν εἴρηται σχεδὸν περὶ πάντων.

Τῶν δ’ ἐναίμων ζῴων ᾠοτόκων δὲ τὰ μέν ἐστι τετράποδα τὰ δ’ ἄποδα. Τοιοῦτον δ’ ἓν μόνον γένος ἐστὶν ἄπουν, τὸ τῶν ὄφεων· ἡ δ’ αἰτία τῆς ἀποδίας αὐτῶν εἴρηται ἐν τοῖς περὶ τῆς πορείας τῶν ζῴων διωρισμένοις. Τὰ δ’ ἄλλα παραπλησίαν ἔχει τὴν μορφὴν τοῖς τετράποσι καὶ ᾠοτόκοις.

Ἔχει δὲ τὰ ζῷα ταῦτα κεφαλὴν μὲν καὶ τὰ ἐν αὐτῇ μόρια διὰ τὰς αὐτὰς αἰτίας τοῖς ἄλλοις τοῖς ἐναίμοις ζῴοις, καὶ γλῶτταν ἐν τῷ στόματι πλὴν τοῦ ποταμίου κροκοδείλου· οὗτος δ’ οὐκ ἂν δόξειεν ἔχειν, ἀλλὰ τὴν χώραν μόνον. Αἴτιον δ’ ὅτι τρόπον μέν τινα ἅμα χερσαῖος καὶ ἔνυδρός ἐστιν· διὰ μὲν οὖν τὸ χερσαῖος εἶναι ἔχει χώραν γλώττης, διὰ δὲ τὸ ἔνυδρος ἄγλωττος. Οἱ γὰρ ἰχθύες, καθάπερ εἴρηται πρότερον, οἱ μὲν οὐ δοκοῦσιν ἔχειν, ἂν μὴ σφόδρα ἀνακλίνῃ τις, οἱ δ’ ἀδιάρθρωτον ἔχουσιν. Αἴτιον δ’ ὅτι ὀλίγη ἦν χρεία τούτοις τῆς γλώττης διὰ τὸ μὴ ἐνδέχεσθαι μασᾶσθαι μηδὲ προγεύεσθαι, ἀλλ’ ἐν τῇ καταπόσει γίνεσθαι τὴν αἴσθησιν καὶ τὴν ἡδονὴν πᾶσι τούτοις τῆς τροφῆς. Ἡ μὲν γὰρ γλῶττα τῶν χυμῶν ποιεῖ τὴν αἴσθησιν, τῶν δὲ ἐδεστῶν ἐν τῇ καθόδῳ ἡ ἡδονή· καταπινομένων γὰρ αἰσθάνονται τῶν λιπαρῶν καὶ θερμῶν καὶ τῶν ἄλλων τῶν τοιούτων. Ἔχει μὲν οὖν καὶ τὰ ζῳοτόκα ταύτην τὴν αἴσθησιν, καὶ σχεδὸν τῶν (691a.) πλείστων ὄψων καὶ ἐδεστῶν ἐν τῇ καταπόσει τῇ τάσει τοῦ οἰσοφάγου γίνεται ἡ χάρις. Διὸ οὐχ οἱ αὐτοὶ περὶ τὰ πόματα καὶ τοὺς χυμοὺς ἀκρατεῖς εἰσι καὶ τὰ ὄψα καὶ τὴν ἐδωδήν, ἀλλὰ τοῖς μὲν ἄλλοις ζῴοις καὶ ἡ κατὰ τὴν γεῦσιν ὑπάρχει αἴσθησις, ἐκείνοις δ’ ὡσπερανεὶ ἡ ἑτέρα. Τῶν δὲ τετραπόδων καὶ ᾠοτόκων οἱ σαῦροι, ὥσπερ οἱ ὄφεις, δικρόαν ἔχουσι τὴν γλῶτταν καὶ ἐπ’ ἄκρου τριχώδη πάμπαν, καθάπερ εἴρηται πρότερον. Ἔχουσι δὲ καὶ αἱ φῶκαι δικρόαν τὴν γλῶτταν· διὸ καὶ λίχνα πάντα τὰ ζῷά ἐστι ταῦτα. Ἔστι δὲ καὶ καρχαρόδοντα τὰ τετράποδα τῶν ᾠοτόκων, ὥσπερ οἱ ἰχθύες.

Τὰ δ’ αἰσθητήρια πάντα ὁμοίως ἔχουσι τοῖς ἄλλοις ζῴοις, οἷον τῆς ὀσφρήσεως μυκτῆρας καὶ ὄψεως ὀφθαλμοὺς καὶ ἀκοῆς ὦτα, πλὴν οὐκ ἐπανεστηκότα, καθάπερ οὐδ’ οἱ ὄρνιθες, ἀλλὰ τὸν πόρον μόνον. Αἴτιον δ’ ἀμφοτέροις ἡ τοῦ δέρματος σκληρότης· τὰ μὲν γὰρ πτερωτὰ αὐτῶν ἐστι, ταῦτα δὲ πάντα φολιδωτά, ἔστι δ’ ἡ φολὶς ὅμοιον χώρᾳ λεπίδος, φύσει δὲ σκληρότερον. Δηλοῖ δ’ ἐπὶ τῶν χελωνῶν τοῦτο καὶ ἐπὶ τῶν μεγάλων ὄφεων καὶ τῶν ποταμίων κροκοδείλων· ἰσχυρότεραι γὰρ γίνονται τῶν ὀστῶν ὡς οὖσαι τοιαῦται τὴν φύσιν.

Οὐκ ἔχουσι δὲ τὰ ζῷα ταῦτα τὴν ἄνω βλεφαρίδα, ὥσπερ οὐδ’ οἱ ὄρνιθες, ἀλλὰ τῇ κάτω μύουσι διὰ τὴν αἰτίαν τὴν εἰρημένην ἐπ’ ἐκείνων. Τῶν μὲν οὖν ὀρνίθων ἔνιοι καὶ σκαρδαμύττουσιν ὑμένι ἐκ τῶν κανθῶν, ταῦτα δὲ τὰ ζῷα οὐ σκαρδαμύττει· σκληροφθαλμότερα γάρ ἐστι τῶν ὀρνίθων. Αἴτιον δ’ ὅτι ἐκείνοις χρησιμωτέρα ἡ ὀξυωπία πτηνοῖς οὖσι πρὸς τὸν βίον, τούτοις δ’ ἧττον· τρωγλόδυτα γὰρ πάντα τὰ τοιαῦτά ἐστιν.

Εἰς δύο δὲ διῃρημένης τῆς κεφαλῆς, τοῦ τε ἄνω μορίου καὶ τῆς σιαγόνος τῆς κάτω, ἄνθρωπος μὲν οὖν καὶ τὰ ζῳοτόκα τῶν τετραπόδων καὶ ἄνω καὶ κάτω κινοῦσι τὰς σιαγόνας καὶ εἰς τὸ πλάγιον, οἱ δ’ ἰχθύες καὶ ὄρνιθες καὶ τὰ ᾠοτόκα τῶν τετραπόδων εἰς τὸ ἄνω καὶ κάτω μόνον. Αἴτιον δ’ ὅτι ἡ μὲν τοιαύτη κίνησις χρήσιμος εἰς τὸ δακεῖν καὶ (691b.) διελεῖν, ἡ δ’ εἰς τὸ πλάγιον ἐπὶ τὸ λεαίνειν. Τοῖς μὲν οὖν ἔχουσι γομφίους χρήσιμος ἡ εἰς τὸ πλάγιον κίνησις, τοῖς δὲ μὴ ἔχουσιν οὐδὲν χρήσιμος, διόπερ ἀφῄρηται πάντων τῶν τοιούτων· οὐδὲν γὰρ ποιεῖ περίεργον ἡ φύσις. Τὰ μὲν οὖν ἄλλα πάντα κινεῖ τὴν σιαγόνα τὴν κάτω, ὁ δὲ ποτάμιος κροκόδειλος μόνος τὴν ἄνω. Τούτου δ’ αἴτιον ὅτι πρὸς τὸ λαβεῖν καὶ κατασχεῖν ἀχρήστους ἔχει τοὺς πόδας· μικροὶ γάρ εἰσι πάμπαν. Πρὸς οὖν ταύτας τὰς χρείας ἀντὶ ποδῶν τὸ στόμα ἡ φύσις χρήσιμον αὐτῷ ἐποίησεν. Πρὸς δὲ τὸ κατασχεῖν ἢ λαβεῖν, ὁποτέρωθεν ἂν ᾖ ἡ πληγὴ ἰσχυροτέρα, ταύτῃ χρησιμωτέρα κινουμένη ἐστίν· ἡ δὲ πληγὴ ἰσχυροτέρα ἀεὶ ἄνωθεν ἢ κάτωθεν. Ἐπεὶ οὖν ἀμφοτέρων μὲν διὰ τοῦ στόματος ἡ χρῆσις, καὶ τοῦ λαβεῖν καὶ τοῦ δακεῖν, ἀναγκαιοτέρα δ’ ἡ τοῦ κατασχεῖν μήτε χεῖρας ἔχοντι μήτε πόδας εὐφυεῖς, χρησιμώτερον τὴν ἄνωθεν κινεῖν σιαγόνα ἢ τὴν κάτωθεν αὐτοῖς. Διὰ τὸ αὐτὸ δὲ καὶ οἱ καρκίνοι τὸ ἄνωθεν τῆς χηλῆς κινοῦσι μόριον, ἀλλ’ οὐ τὸ κάτωθεν· ἀντὶ χειρὸς γὰρ ἔχουσι τὰς χηλάς, ὥστε πρὸς τὸ λαβεῖν ἀλλ’ οὐ πρὸς τὸ διελεῖν χρήσιμον δεῖ εἶναι τὴν χηλήν. Τὸ δὲ διελεῖν καὶ δακεῖν ὀδόντων ἔργον ἐστίν. Τοῖς μὲν οὖν καρκίνοις καὶ τοῖς ἄλλοις ὅσοις ἐνδέχεται σχολαίως ποιεῖσθαι τὴν λῆψιν διὰ τὸ μὴ ἐν ὑγρῷ εἶναι τὴν χρῆσιν τοῦ στόματος, διῄρηται, καὶ λαμβάνουσι μὲν χερσὶν ἢ ποσί, διαιροῦσι δὲ τῷ στόματι καὶ δάκνουσιν· τοῖς δὲ κροκοδείλοις ἐπ’ ἀμφότερα χρήσιμον τὸ στόμα πεποίηκεν ἡ φύσις, κινουμένων οὕτω τῶν σιαγόνων.

Ἔχουσι δὲ καὶ αὐχένα πάντα τὰ τοιαῦτα διὰ τὸ πλεύμονα ἔχειν· δέχονται γὰρ τὸ πνεῦμα διὰ τῆς ἀρτήριας μῆκος ἐχούσης. Ἐπεὶ δὲ τὸ μεταξὺ κεφαλῆς καὶ ὤμων κέκληται αὐχήν, ἥκιστα τῶν τοιούτων ὁ ὄφις δόξειεν ἂν ἔχειν αὐχένα, ἀλλὰ τὸ ἀνάλογον τῷ αὐχένι, εἴ γε δεῖ τοῖς εἰρημένοις ἐσχάτοις διορίζειν τὸ μόριον τοῦτο. Ἴδιον δὲ πρὸς τὰ συγγενῆ τῶν ζῴων ὑπάρχει τοῖς ὄφεσι τὸ στρέφειν τὴν κεφαλὴν (692a.) εἰς τοὔπισθεν ἠρεμοῦντος τοῦ σώματος τοῦ λοιποῦ.

Τούτου δ’ αἴτιον ὅτι καθάπερ τὰ ἔντομα ἑλικτόν ἐστιν, ὥστε εὐκάμπτους καὶ χονδρώδεις τοὺς σπονδύλους ἔχειν. Ἐξ ἀνάγκης μὲν οὖν διὰ ταύτην τὴν αἰτίαν τοῦτο συμβέβηκεν αὐτοῖς, πρὸς δὲ τὸ βέλτιον φυλακῆς τε ἕνεκα τῶν ὄπισθεν βλαπτόντων· μακρὸν γὰρ ὂν καὶ ἄπουν ἀφυές ἐστι πρός τε τὴν στροφὴν καὶ πρὸς τὴν τῶν ὄπισθεν τήρησιν. Οὐδὲν γὰρ ὄφελος αἴρειν, στρέφειν δὲ μὴ δύνασθαι τὴν κεφαλήν.

Ἔχουσι δὲ τὰ τοιαῦτα καὶ τῷ στήθει ἀνάλογον μόριον. Μαστοὺς δ’ οὔτ’ ἐνταῦθα οὔτ’ ἐν τῷ ἄλλῳ σώματι ἔχουσιν· ἔχει δ’ οὐδεὶς οὐδ’ ὄρνις οὐδ’ ἰχθύς. Τούτου δ’ αἴτιον τὸ μηδὲ γάλα ἔχειν τούτων μηδέν· ὁ δὲ μαστὸς ὑποδοχὴ καὶ ὥσπερ ἀγγεῖόν ἐστι γάλακτος. Ἔχει δ’ οὐδὲ ταῦτα οὔτ’ ἄλλο τῶν μὴ ζῳοτοκούντων ἐν αὑτοῖς οὐδὲν γάλα, διότι ᾠοτοκοῦσιν, ἐν δὲ τῷ ᾠῷ ἐγγίνεται ἡ γαλακτώδης ὑπάρχουσα ἐν τοῖς ζῳοτόκοις τροφή. Σαφέστερον δὲ περὶ αὐτῶν λεχθήσεται ἐν τοῖς περὶ γενέσεως. Περὶ δὲ τῆς τῶν καμπύλων κάμψεως ἐπέσκεπται πρόσθεν ἐν τοῖς περὶ πορείας κοινῇ πᾶσιν.

Ἔχουσι δὲ καὶ κέρκον τὰ τοιαῦτα, τὰ μὲν μείζω, τὰ δὲ ἐλάττω, ὑπὲρ ἧς τὴν αἰτίαν καθόλου πρότερον εἰρήκαμεν.

Ἰσχνότατος δ’ ὁ χαμαιλέων τῶν ᾠοτόκων καὶ πεζῶν ἐστι πάντων· ὀλιγαιμότατος γάρ ἐστιν. Αἴτιον δὲ τὸ τῆς ψυχῆς ἦθός ἐστιν αὐτοῦ· διὰ γὰρ τὸν φόβον γίνεται πολύμορφος.

Κατάψυξις γὰρ ὁ φόβος δι’ ὀλιγαιμίαν καὶ δι’ ἔνδειάν ἐστι θερμότητος. Καὶ περὶ μὲν τῶν ἐναίμων ζῴων τῶν τ’ ἀπόδων (692b.) καὶ τετραπόδων, ὅσα τε μόρια αὐτῶν ἐστιν ἐκτὸς καὶ διὰ τίν’ αἰτίαν, εἴρηται σχεδόν.

Κεφάλαιο 12

Ἐν δὲ τοῖς ὄρνισιν ἡ πρὸς ἄλληλα διαφορὰ ἐν τῇ τῶν μορίων ἐστὶν ὑπεροχῇ καὶ ἐλλείψει καὶ κατὰ τὸ μᾶλλον καὶ ἧττον. Εἰσὶ γὰρ αὐτῶν οἱ μὲν μακροσκελεῖς οἱ δὲ βραχυσκελεῖς, καὶ τὴν γλῶτταν οἱ μὲν πλατεῖαν ἔχουσιν οἱ δὲ στενήν· ὡσαύτως δὲ καὶ ἐπὶ τῶν ἄλλων μορίων. Ἰδίᾳ δ’ ἐπ’ ὀλίγον διαφέρουσιν ἀλλήλων τοῖς μορίοις· πρὸς δὲ τὰ ἄλλα ζῷα καὶ τῇ μορφῇ τῶν μορίων διαφέρουσιν.

Πτερωτοὶ μὲν οὖν ἅπαντές εἰσιν, καὶ τοῦτ’ ἴδιον ἔχουσι τῶν ἄλλων. Τὰ γὰρ μόρια τῶν ζῴων τὰ μέν ἐστι φολιδωτὰ τὰ δὲ λεπιδωτὰ τυγχάνουσιν ὄντα, οἱ δ’ ὄρνιθες πτερωτοί.

Καὶ τὸ πτερὸν σχιστὸν καὶ οὐχ ὅμοιον τῷ εἴδει τοῖς ὁλοπτέροις· τῶν μὲν γὰρ ἄσχιστον τῶν δὲ σχιστόν ἐστι, καὶ τὸ μὲν ἄκαυλον, τὸ δ’ ἔχει καυλόν. Ἔχουσι δὲ καὶ ἐν τῇ κεφαλῇ περιττὴν καὶ ἴδιον τὴν τοῦ ῥύγχους φύσιν πρὸς τἆλλα. Τοῖς μὲν γὰρ ἐλέφασιν ὁ μυκτὴρ ἀντὶ χειρῶν, τῶν δ’ ἐντόμων ἐνίοις ἀντὶ στόματος ἡ γλῶττα, τούτοις δ’ ἀντὶ ὀδόντων καὶ χειρῶν τὸ ῥύγχος ὄστινον. Περὶ δὲ τῶν αἰσθητηρίων εἴρηται πρόσθεν.

Αὐχένα δὲ τεταμένον ἔχει τῇ φύσει καὶ διὰ τὴν αὐτὴν αἰτίαν ἥνπερ καὶ τἆλλα· καὶ τοῦτον τὰ μὲν βραχὺν τὰ δὲ μακρόν, καὶ σχεδὸν ἀκόλουθον τοῖς σκέλεσι τὰ πλεῖστα. Τὰ μὲν γὰρ μακροσκελῆ μακρόν, τὰ δὲ βραχυσκελῆ βραχὺν ἔχει τὸν αὐχένα χωρὶς τῶν στεγανοπόδων. Τὰ μὲν γὰρ εἰ εἶχε (693a.) βραχὺν ἐπὶ σκέλεσι μακροῖς, οὐκ ἂν ὑπηρέτει αὐτοῖς ὁ αὐχὴν πρὸς τὴν ἀπὸ τῆς γῆς νομήν, τοῖς δ’ εἰ μακρὸς ἦν ἐπὶ βραχέσιν. Ἔτι τοῖς κρεωφάγοις αὐτῶν ὑπεναντίον τὸ μῆκος πρὸς τὸν βίον· ὁ γὰρ μακρὸς αὐχὴν ἀσθενής· τοῖς δ’ ὁ βίος ἐκ τοῦ κρατεῖν ἐστιν. Διόπερ οὐδὲν τῶν γαμψωνύχων μακρὸν ἔχει τὸν αὐχένα. Τὰ δὲ στεγανόποδα καὶ διῃρημένους μὲν ἔχοντα τοὺς πόδας σεσιμωμένους δέ, ὡς ἐν τῷ αὐτῷ γένει ὄντα τοῖς στεγανόποσι, τὸν μὲν αὐχένα μακρὸν ἔχουσιν (χρήσιμος γὰρ τοιοῦτος ὢν πρὸς τὴν τροφὴν τὴν ἐκ τοῦ ὑγροῦ), τὰ δὲ σκέλη πρὸς τὴν νεῦσιν βραχέα.

Διαφορὰν δ’ ἔχει καὶ τὰ ῥύγχη κατὰ τοὺς βίους. Τὰ μὲν γὰρ εὐθὺ ἔχει τὰ δὲ γαμψόν, εὐθὺ μὲν ὅσα τροφῆς ἕνεκεν, γαμψὸν δὲ τὸ ὠμοφάγον. Χρήσιμον γὰρ πρὸς τὸ κρατεῖν τὸ τοιοῦτον, τὴν δὲ τροφὴν ἀναγκαῖον ἀπὸ ζῴων πορίζεσθαι.

Ὅσων δὲ ὁ βίος ἕλειος καὶ ποηφάγος, πλατὺ τὸ ῥύγχος ἔχουσιν· πρός τε γὰρ τὴν ὄρυξιν χρήσιμον τὸ τοιοῦτον καὶ πρὸς τὴν τῆς τροφῆς σπάσιν καὶ κουράν. Ἔνια δὲ μακρὸν ἔχει τὸ ῥύγχος τῶν τοιούτων ὥσπερ καὶ τὸν αὐχένα διὰ τὸ λαμβάνειν τὴν τροφὴν ἐκ τοῦ βάθους. Καὶ τὰ πολλὰ τῶν τοιούτων καὶ τῶν στεγανοπόδων ἢ ἁπλῶς ἢ κατὰ τὸ μόριον ταὐτὸ θηρεύοντα ζῇ τῶν ἐν τῷ ὑγρῷ ἔνια ζῳδαρίων· καὶ γίνεται τοῖς τοιούτοις ὁ μὲν αὐχὴν καθάπερ ἁλιευταῖς ὁ κάλαμος, τὸ δὲ ῥύγχος οἷον ὁρμιὰ καὶ τὸ ἄγκιστρον.

Τὰ δὲ πρανῆ τοῦ σώματος καὶ τὰ ὕπτια καὶ τὰ τοῦ καλουμένου θώρακος ἐπὶ τῶν τετραπόδων, ὁλοφυὴς ὁ τόπος ἐπὶ τῶν ὀρνίθων ἐστίν. Ἀπηρτημένας γὰρ ἀπὸ τῶν βραχιόνων καὶ τῶν σκελῶν τῶν προσθίων ἔχουσι τὰς πτέρυγας, ἴδιόν (693b.) τι μόριον· διόπερ ἀντὶ ὠμοπλάτης τὰ τελευταῖα ἐπὶ τοῦ νώτου τῶν πτερύγων ἔχουσιν. Σκέλη δὲ καθάπερ ἄνθρωπος δύο, κεκαμμένα καθάπερ τὰ τετράποδα εἴσω, καὶ οὐχ ὥσπερ ἄνθρωπος ἔξω· τὰς δὲ πτέρυγας, ὡς τὰ πρόσθια σκέλη τῶν τετραπόδων, ἐπὶ τὸ περιφερές. Δίπουν δ᾽ ἐξ ἀνάγκης ἐστίν· τῶν γὰρ ἐναίμων ἡ τοῦ ὄρνιθος οὐσία, ἅμα δὲ καὶ πτερυγωτός. Τὰ δ᾽ ἔναιμα οὐ κινεῖται πλείοσιν ἢ τέτταρσι σημείοις. Τὰ μὲν οὖν ἀπηρτημένα μόρια, τέτταρα, ὥσπερ τοῖς ἄλλοις τοῖς πεζοῖς καὶ τοῖς πορευτικοῖς, ἔστι καὶ τοῖς ὄρνισιν, ἀλλὰ τοῖς μὲν βραχίονες καὶ σκέλη τέτταρα ὑπάρχει, τοῖς δ᾽ ὄρνισιν ἀντὶ τῶν προσθίων σκελῶν ἢ βραχιόνων πτερύγιον κοινόν ἐστιν (κατὰ ταύτας γὰρ τονικοί εἰσι, τῷ δ᾽ ὄρνιθι ἐν τῇ οὐσίᾳ τὸ πτητικόν ἐστιν), ὥστε λείπεται αὐτοῖς ἐξ ἀνάγκης δίποσιν εἶναι. Οὕτω γὰρ τέτταρσι σημείοις κινήσονται μετὰ τῶν πτερύγων.

Στῆθος δ᾽ ἔχουσιν ἅπαντες ὀξὺ καὶ σαρκῶδες, ὀξὺ μὲν πρὸς τὴν πτῆσιν (τὰ γὰρ πλατέα, πολὺν ἀέρα ὠθοῦντα δυσκίνητά ἐστι), σαρκῶδες δέ, διότι τὸ ὀξὺ ἀσθενὲς μὴ πολλὴν ἔχον σκέπην. Ὑπὸ δὲ τὸ στῆθος κοιλία μέχρι πρὸς τὴν ἔξοδον τοῦ περιττώματος καὶ τὴν τῶν σκελῶν καμπήν, καθάπερ τοῖς τετράποσι καὶ τοῖς ἀνθρώποις. Μεταξὺ μὲν οὖν τῶν πτερύγων καὶ τῶν σκελῶν ταῦτα τὰ μόριά ἐστιν.

Ὀμφαλὸν δ᾽ ἐν μὲν τῇ γενέσει ἅπαντα ἔχει ὅσαπερ ζῳοτοκεῖται ἢ ᾠοτοκεῖται, τῶν δ᾽ ὀρνίθων αὐξηθέντων ἄδηλος. Δῆλον δ᾽ ἐν τοῖς περὶ γένεσιν. Εἰς γὰρ τὸ ἔντερον ἡ σύμφυσις γίνεται, καὶ οὐχ ὥσπερ τοῖς ζῳοτόκοις τῶν φλεβῶν τι μόριόν ἐστιν.

Ἔτι τῶν ὀρνίθων οἱ μὲν πτητικοὶ καὶ τὰς πτέρυγας ἔχουσι (694a.) μεγάλας καὶ ἰσχυράς, οἷον οἱ γαμψώνυχες καὶ οἱ ὠμοφάγοι· ἀνάγκη γὰρ πτητικοῖς εἶναι διὰ τὸν βίον, ὥσθ᾽ ἕνεκα τούτου καὶ πλῆθος ἔχουσι πτερῶν καὶ τὰς πτέρυγας μεγάλας. Ἔστι δ᾽ οὐ μόνον τὰ γαμψώνυχα ἀλλὰ καὶ ἄλλα γένη ὀρνίθων πτητικά, ὅσοις ἡ σωτηρία ἐν τῇ ταχυτῆτι τῆς πτήσεως ἢ ἐκτοπιστικά. Ἔνια δ’ οὐ πτητικὰ τῶν ὀρνίθων ἐστὶν ἀλλὰ βαρέα, οἷς ὁ βίος ἐπίγειος καὶ ἔστι καρποφάγα ἢ πλωτὰ καὶ περὶ ὕδωρ βιοτεύουσιν. Ἔστι δὲ τὰ μὲν τῶν γαμψωνύχων σώματα μικρὰ ἄνευ τῶν πτερύγων διὰ τὸ εἰς ταύτας ἀναλίσκεσθαι τὴν τροφὴν εἰς τὰ ὅπλα καὶ τὴν βοήθειαν· τοῖς δὲ μὴ πτητικοῖς τοὐναντίον τὰ σώματα ὀγκώδη, διὸ βαρέα ἐστίν.

Ἔχουσι δ’ ἔνιοι τῶν βαρέων βοήθειαν ἀντὶ τῶν πτερύγων τὰ καλούμενα πλῆκτρα ἐπὶ τοῖς σκέλεσιν. Ἅμα δὲ οἱ αὐτοὶ οὐ γίνονται πλῆκτρα ἔχοντες καὶ γαμψώνυχες· αἴτιον δ’ ὅτι οὐδὲν ἡ φύσις ποιεῖ περίεργον. Ἔστι δὲ τοῖς μὲν γαμψωνύχοις καὶ πτητικοῖς ἄχρηστα τὰ πλῆκτρα· χρήσιμα γάρ ἐστιν ἐν ταῖς πεζαῖς μάχαις· διὸ ὑπάρχει ἐνίοις τῶν βαρέων.

Τούτοις δ’ οὐ μόνον ἄχρηστοι ἀλλὰ καὶ βλαβεροὶ οἱ γαμψοὶ ὄνυχες τῷ ἐμπήγνυσθαι ὑπεναντίοι πρὸς τὴν πορείαν ὄντες. Διὸ καὶ γαμψώνυχα πάντα χαλεπῶς πορεύεται καὶ ἐπὶ πέτραις οὐ καθιζάνουσιν· ὑπεναντία γὰρ αὐτοῖς πρὸς ἀμφότερα ἡ τῶν ὀνύχων φύσις. Ἐξ ἀνάγκης δὲ τοῦτο περὶ τὴν γένεσιν συμβέβηκεν· τὸ γὰρ γεῶδες ἐν τῷ σώματι καὶ θερμὸν χρήσιμα μόρια γίνεται πρὸς τὴν ἀλκήν. Ἄνω μὲν ῥυὲν ῥύγχους ἐποίησε σκληρότητα ἢ μέγεθος, ἂν δὲ κάτω ῥυῇ, πλῆκτρα ἰσχυρὰ ἐν τοῖς σκέλεσιν ἢ ἐπὶ τῶν ποδῶν ὀνύχων μέγεθος καὶ ἰσχύν.

Ἅμα δ’ ἄλλοθι καὶ ἄλλοθι ἕκαστα τούτων οὐ ποιεῖ. Διασπωμένη γὰρ ἀσθενὴς γίνεται ἡ φύσις τούτου τοῦ (694b.) περιττώματος· τοῖς δὲ σκελῶν κατασκευάζει μῆκος, ἐνίοις δ’ ἀντὶ τούτων συμπληροῖ τὸ μεταξὺ τῶν ποδῶν. Καὶ διὰ τοῦτο ὡς ἀναγκαῖον οἱ πλωτοὶ τῶν ὀρνίθων οἱ μὲν ἁπλῶς εἰσι στεγανόποδες, οἱ δὲ διῃρημένην μὲν ἔχουσι τὴν καθ’ ἕκαστα τῶν δακτύλων φύσιν, πρὸς ἑκάστῳ δ’ αὐτῶν προσπέφυκεν οἷον πλάτη καθ’ ὅλον συνεχής. Ἐξ ἀνάγκης μὲν οὖν ταῦτα συμβαίνει διὰ ταύτας τὰς αἰτίας· ὡς δὲ διὰ τὸ βέλτιον ἔχουσι τοιούτους τοὺς πόδας τοῦ βίου χάριν, ἵνα ζῶντες ἐν ὑγρῷ καὶ τῶν πτερῶν ἀχρείων ὄντων τοὺς πόδας χρησίμους ἔχωσι πρὸς τὴν νεῦσιν. Γίνονται γὰρ ὥσπερ κῶπαι εἰσπλέουσι τὰ πτερύγια τοῖς ἰχθύσιν· διὸ καὶ ἐὰν τῶν μὲν τὰ πτερύγια σφαλῇ, τῶν δὲ τὰ μεταξὺ τῶν ποδῶν, οὐκέτι νέουσιν. Ἔνιοι δὲ μακροσκελεῖς τῶν ὀρνίθων εἰσίν. Αἴτιον δ’ ὅτι ὁ βίος τῶν τοιούτων ἕλειος· τὰ γὰρ ὄργανα πρὸς τὸ ἔργον ἡ φύσις ποιεῖ, ἀλλ’ οὐ τὸ ἔργον πρὸς τὰ ὄργανα. Διὰ μὲν οὖν τὸ μὴ πλωτὰ εἶναι οὐ στεγανόποδά ἐστι, διὰ δὲ τὸ ἐν ὑπείκοντι εἶναι τὸν βίον μακροσκελῆ καὶ μακροδάκτυλα, καὶ τὰς καμπὰς ἔχουσι πλείους ἐν τοῖς δακτύλοις οἱ πολλοὶ αὐτῶν. Ἐπεὶ δὲ οὐ πτητικὰ μέν, ἐκ τῆς δ’ αὐτῆς ὕλης ἐστὶ πάντα, ἡ εἰς τὸ οὐροπύγιον αὐτοῖς τροφὴ εἰς τὰ σκέλη καταναλισκομένη ταῦτα ηὔξησεν. Διὸ καὶ ἐν τῇ πτήσει ἀντ’ οὐροπυγίου χρῶνται αὐτοῖς· πέτονται γὰρ ἀποτείνοντες εἰς τὸ ὄπισθεν· οὕτω γὰρ αὐτοῖς χρήσιμα τὰ σκέλη, ἄλλως δὲ ἐμποδίζοιεν ἄν.

Ἔνια δὲ βραχέα σκέλη πρὸς τῇ γαστρὶ ἔχοντα πέτανται. Τοῖς μὲν γὰρ αὐτῶν οὐκ ἐμποδίζουσιν οἱ πόδες οὕτω, τοῖς δὲ γαμψώνυξι καὶ πρὸ ἔργου εἰσὶ πρὸς τὴν ἁρπαγήν. Τῶν δ’ ἐχόντων ὀρνίθων τὸν αὐχένα μακρὸν οἱ μὲν παχύτερον ἔχοντες πέτανται ἐκτεταμένῳ τῷ αὐχένι, οἱ δὲ λεπτὸν καὶ μακρὸν συγκεκαμμένῳ· ἐπιπεταμένοις γὰρ διὰ τὴν σκέπην ἧττον εὔθρυπτόν ἐστιν.

(695a.) Ἰσχίον δ’ ἔχουσι μὲν οἱ ὄρνιθες πάντες ᾗ οὐκ ἂν δόξαιεν ἔχειν, ἀλλὰ δύο μηροὺς ἴσχειν διὰ τὸ τοῦ ἰσχίου μῆκος· ὑποτέταται γὰρ μέχρι μέσης τῆς γαστρός. Αἴτιον δ’ ὅτι δίπουν ἐστὶ τοῦτο τὸ ζῷον, οὐκ ὀρθόν, ὡς εἴ γε εἶχε καθάπερ ἐν τοῖς ἀνθρώποις ἢ τοῖς τετράποσιν, ἀπὸ τῆς ἕδρας βραχὺ τὸ ἰσχίον καὶ τὸ σκέλος εὐθὺς ἐχόμενον, ἠδυνάτει ἂν ὀρθὸν ἑστάναι. Ὁ μὲν γὰρ ἄνθρωπος ὀρθόν, τοῖς δὲ τετράποσι πρὸς τὸ βάρος σκέλη ἐμπρόσθια ὑπερήρεισται.

Οἱ δ’ ὄρνιθες οὐκ ὀρθοὶ μὲν διὰ τὸ νανώδεις εἶναι τὴν φύσιν, σκέλη δ’ ἐμπρόσθια οὐκ ἔχουσιν (διὰ τοῦτο πτέρυγας ἔχουσιν ἀντ’ αὐτῶν)· ἀντὶ δὲ τούτου μακρὸν ἡ φύσις τὸ ἰσχίον ποιήσασα εἰς μέσον προσήρεισεν· ἐντεῦθεν δὲ ὑπέθηκε τὰ σκέλη, ὅπως ἰσορρόπου ὄντος τοῦ βάρους ἔνθεν καὶ ἔνθεν πορεύεσθαι δύνηται καὶ μένῃ. Δι’ ἣν μὲν οὖν αἰτίαν δίπουν ἐστὶν οὐκ ὀρθὸν ὂν εἴρηται. Τοῦ δ’ ἄσαρκα τὰ σκέλη εἶναι ἡ αὐτὴ αἰτία καὶ ἐπὶ τῶν τετραπόδων, ὑπὲρ ἧς καὶ πρόσθεν εἴρηται.

Τετραδάκτυλος δ’ ἐστὶ πᾶς ὄρνις σχιζόπους ὁμοίως καὶ στεγανόπους. Περὶ γὰρ τοῦ στρουθοῦ τοῦ Λιβυκοῦ ὕστερον ἐροῦμεν ὅτι διχηλός, ἅμα τοῖς λοιποῖς ἐναντιώμασιν οἷς ἔχει πρὸς τὸ τῶν ὀρνίθων γένος. Τούτων δὲ τοὺς μὲν τρεῖς ἔχει πρόσθεν, ἕνα δ’ ὄπισθεν πρὸς ἀσφάλειαν ἀντὶ πτέρνης.

Καὶ τῶν μακροσκελῶν λείπει τοῦτο κατὰ μέγεθος, οἷον συμβέβηκεν ἐπὶ τῆς κρεκός, πλείους δ’ οὐκ ἔχουσι δακτύλους.

Ἐπὶ μὲν οὖν τῶν ἄλλων οὕτως ἡ τῶν δακτύλων ἔχει θέσις, ἡ δ’ ἴυγξ δύο μόνον ἔχει τοὺς ὄπισθεν καὶ δύο τοὺς ἔμπροσθεν. Αἴτιον δ’ ὅτι ἧττόν ἐστιν αὐτῆς τὸ σῶμα προπετὲς ἐπὶ τὸ πρόσθεν ἢ τὸ τῶν ἄλλων. Ὄρχεις δ’ ἔχουσι μὲν πάντες οἱ ὄρνιθες, ἐντὸς δ’ ἔχουσιν· ἡ δ’ αἰτία ἐν τοῖς περὶ τὰς γενέσεις λεχθήσεται τῶν ζῴων. Τὰ μὲν οὖν τῶν ὀρνίθων μόρια (695b.) τὸν τρόπον ἔχει τοῦτον.

Κεφάλαιο 13

Τὸ δὲ τῶν ἰχθύων γένος ἔτι μᾶλλον κεκολόβωται τῶν ἐκτὸς μορίων. Οὔτε γὰρ σκέλη οὔτε χεῖρας οὔτε πτέρυγας ἔχουσιν (εἴρηται δὲ περὶ τούτων ἡ αἰτία πρότερον), ἀλλ’ ὅλον ἀπὸ τῆς κεφαλῆς τὸ κύτος συνεχές ἐστι μέχρι τῆς οὐρᾶς. Ταύτην δ’ οὐχ ὁμοίαν ἔχουσι πάντες, ἀλλὰ τὰ μὲν παραπλησίαν, τῶν δὲ πλατέων ἔνια ἀκανθώδη καὶ μακράν. Ἡ ἐκεῖθεν γὰρ αὔξησις γίνεται εἰς τὸ πλάτος, οἷόν ἐστι νάρκαις καὶ τρυγόσι καὶ εἴ τι τοιοῦτον ἄλλο σέλαχός ἐστιν. Τῶν μὲν οὖν τοιούτων ἀκανθῶδες καὶ μακρὸν τὸ οὐραῖόν ἐστιν, ἐνίων δὲ σαρκῶδες μὲν βραχὺ δὲ διὰ τὴν αὐτὴν αἰτίαν δι’ ἥνπερ ταῖς νάρκαις· διαφέρει γὰρ οὐδέν, ἢ βραχὺ μὲν σαρκωδέστερον δὲ, ἢ μακρὸν μὲν ἀσαρκότερον δ’ εἶναι. Ἐπὶ δὲ τῶν βατράχων τὸ ἐναντίον συμβέβηκεν· διὰ γὰρ τὸ μὴ σαρκῶδες εἶναι τὸ πλάτος αὐτῶν τὸ ἐμπρόσθιον, ὅσον ἀφῄρηται σαρκῶδες, πρὸς τὸ ὄπισθεν αὐτὸ ἔθηκεν ἡ φύσις καὶ τὴν οὐράν.

Οὐκ ἔχουσι δὲ ἀπηρτημένα κῶλα οἱ ἰχθύες, διὰ τὸ νευστικὴν εἶναι τὴν φύσιν αὐτῶν κατὰ τὸν τῆς οὐσίας λόγον, ἐπεὶ οὔτε περίεργον οὐδὲν οὔτε μάτην ἡ φύσις ποιεῖ. Ἐπεὶ δ’ ἔναιμά ἐστι κατὰ τὴν οὐσίαν, διὰ μὲν τὸ νευστικὰ εἶναι πτερύγια ἔχει, διὰ δὲ τὸ μὴ πεζεύειν οὐκ ἔχει πόδας· ἡ γὰρ τῶν ποδῶν πρόσθεσις πρὸς τὴν ἐπὶ τῷ πεδίῳ κίνησιν χρήσιμός ἐστιν. Ἅμα δὲ πτερύγια τέτταρα καὶ πόδας οὐχ οἷόν τε ἔχειν, οὐδ’ ἄλλο κῶλον τοιοῦτον οὐδέν· ἔναιμα γάρ. Οἱ δὲ κορδύλοι βράγχια ἔχοντες πόδας ἔχουσιν· πτερύγια γὰρ οὐκ ἔχουσιν, ἀλλὰ τὴν οὐρὰν μανώδη καὶ πλατεῖαν. Ἔχουσι δὲ τῶν ἰχθύων ὅσοι μὴ πλατεῖς, καθάπερ βάτος καὶ τρυγών, τέτταρα πτερύγια, δύο μὲν ἐν τοῖς πρανέσι, δύο δ’ ἐν τοῖς (696a.) ὑπτίοις. Πλείω δὲ τούτων οὐδείς· ἄναιμοι γὰρ ἂν ἦσαν. Τούτων δὲ τὰ μὲν ἐν τῷ πρανεῖ σχεδὸν πάντες ἔχουσι, τὰ δ’ ἐν τοῖς ὑπτίοις ἔνιοι τῶν μακρῶν καὶ πάχος ἐχόντων οὐκ ἔχουσιν, οἷον ἔγχελυς καὶ γόγγρος καὶ κεστρέων τι γένος τὸ ἐν τῇ λίμνῃ τῇ ἐν Σιφαῖς. Ὅσα δ’ ἐστὶ μακροφυέστερα καὶ ὀφιώδη μᾶλλον, οἷον σμύραινα, οὐδὲν ἔχουσι πτερύγιον ἁπλῶς, ἀλλὰ ταῖς καμπαῖς κινοῦνται, χρώμεναι τῷ ὑγρῷ ὥσπερ οἱ ὄφεις τῇ γῇ· τοῦτον γὰρ τὸν τρόπον οἱ ὄφεις νέουσιν ὅνπερ ἐπὶ τῆς γῆς ἕρπουσιν. Αἰτία δὲ τοῦ μὴ ἔχειν τοὺς ὀφιώδεις τῶν ἰχθύων πτερύγια ἥπερ καὶ τῶν ὄφεων τοῦ ἄποδας εἶναι. Τὸ δ’ αἴτιον ἐν τοῖς περὶ πορείας καὶ κινήσεως τῶν ζῴων εἴρηται. Ἢ γὰρ κακῶς ἂν ἐκινοῦντο, τέτταρσι σημείοις κινούμενα.

Εἴτε γὰρ σύνεγγυς εἶχον τὰ πτερύγια, μόγις ἂν ἐκινοῦντο, εἴτε πόρρω, διὰ τὸ πολὺ μεταξύ. Εἰ δὲ πλείω τὰ κινητικὰ σημεῖα εἶχον, ἄναιμα ἂν ἦν. Ἡ δ' αὐτὴ αἰτία καὶ ἐπὶ τῶν δύο μόνον ἐχόντων πτερύγια ἰχθύων· ὀφιώδη γάρ ἐστι καὶ εὐμηκέστερα, καὶ χρῆται τῇ κάμψει ἀντὶ τῶν δύο πτερυγίων. Διὸ καὶ ἐν τῷ ξηρῷ ἕρπουσι καὶ ζῶσι πολὺν χρόνον, καὶ τὰ μὲν οὐκ εὐθύ, τὰ δ' οἰκεῖα τῆς πεζῆς ὄντα φύσεως ἧττον ἀσπαρίζει. Αὐτῶν δὲ τῶν πτερυγίων τὰ ἐν τοῖς πρανέσιν ἔχει τὰ δύο ἔχοντα πτερύγια μόνον, ὅσα μὴ κωλύεται διὰ τὸ πλάτος. Τὰ δ' ἔχοντα, πρὸς τῇ κεφαλῇ ἔχει, διὰ τὸ μὴ ἔχειν μῆκος ἐν τῷ τόπῳ, ᾧ ἀντὶ τούτων κινήσεται· ἐπὶ γὰρ τὴν οὐρὰν πρόμηκες τὸ τῶν τοιούτων ἐστὶν ἰχθύων σῶμα. Οἱ δὲ βάτοι καὶ τὰ τοιαῦτα ἀντὶ τῶν πτερυγίων τῷ ἐσχάτῳ πλάτει νέουσιν. Ἡ δὲ νάρκη καὶ ὁ βάτραχος τὰ ἐν τῷ πρανεῖ κάτω διὰ τὸ πλάτος τῶν ἄνω, τὰ δ' ἐν τοῖς ὑπτίοις πρὸς τῇ κεφαλῇ. Οὐ γὰρ κωλύει κινεῖσθαι τὸ πλάτος, ἀλλ' ἀντὶ τοῦ ἄνω ἐλάττω ταῦτα τῶν ἐν τῷ πρανεῖ ἔχει. Ἡ δὲ νάρκη πρὸς τῇ οὐρᾷ ἔχει τὰ δύο πτερύγια· ἀντὶ δὲ τῶν δύο τῷ πλάτει χρῆται ὡς δυσὶ πτερυγίοις ἑκατέρῳ τῷ ἡμικυκλίῳ.

Περὶ δὲ τῶν ἐν τῇ κεφαλῇ μορίων καὶ αἰσθητηρίων εἴρηται πρότερον. Ἴδιον δ' ἔχει τὸ τῶν ἰχθύων γένος πρὸς τἆλλα (696b.) τὰ ἔναιμα ζῷα τὴν τῶν βραγχίων φύσιν· δι' ἣν δ' αἰτίαν, εἴρηται ἐν τοῖς περὶ ἀναπνοῆς. Καὶ ἔχει δὲ τὰ ἔχοντα βράγχια τὰ μὲν ἐπικαλύμματα τοῖς βραγχίοις, τὰ δὲ σελάχη πάντα (χονδράκανθα γάρ) ἀκάλυπτα. Αἴτιον δ' ὅτι οἱ μὲν ἀκανθώδεις εἰσί, τὸ δ' ἐπικάλυμμα ἀκανθῶδες, τὰ δὲ σελάχη πάντα χονδράκανθα. Ἔτι δ' αἱ κινήσεις τῶν μὲν νωθραὶ διὰ τὸ μὴ ἀκανθώδη εἶναι μηδὲ νευρώδη, τῶν δὲ ἀκανθωδῶν ταχεῖα· τοῦ δ' ἐπικαλύμματος ταχεῖαν δεῖ γίνεσθαι τὴν κίνησιν· ὥσπερ γὰρ πρὸς ἐκπνοὴν ἡ τῶν βραγχίων ἐστὶ φύσις. Διὰ τοῦτο τοῖς σελαχώδεσι καὶ αὐτῶν τῶν πόρων ἡ συναγωγὴ γίνεται τῶν βραγχίων, καὶ οὐ δεῖ ἐπικαλύμματος, ὅπως γίγνηται ταχεῖα. Οἱ μὲν οὖν αὐτῶν ἔχουσι πολλὰ βράγχια οἱ δ' ὀλίγα, καὶ οἱ μὲν διπλᾶ οἱ δ' ἁπλᾶ· τὸ δ' ἔσχατον ἁπλοῦν οἱ πλεῖστοι. Τὴν δ' ἀκρίβειαν ἐκ τῶν ἀνατομῶν περὶ τούτων καὶ ἐν ταῖς ἱστορίαις ταῖς περὶ τὰ ζῷα δεῖ θεωρεῖν. Αἴτιον δὲ τοῦ πλήθους καὶ τῆς ὀλιγότητος τὸ τοῦ ἐν τῇ καρδίᾳ θερμοῦ πλῆθος καὶ ὀλιγότης· θάττω γὰρ καὶ ἰσχυροτέραν τὴν κίνησιν δεῖ εἶναι τοῖς πλείω ἔχουσι θερμότητα. Τὰ δὲ πλείω καὶ διπλᾶ βράγχια τοιαύτην ἔχει τὴν φύσιν μᾶλλον τῶν ἁπλῶν καὶ ἐλαττόνων. Διὸ καὶ ἔνια αὐτῶν ἔξω ζῆν δύναται πολὺν χρόνον, τῶν ἐχόντων ἐλάττω καὶ ἧττον ἐγκρατῆ τὰ βράγχια, οἷον ἔγχελυς καὶ ὅσα ὀφιώδη· οὐ γὰρ πολλῆς δέονται καταψύξεως.

Ἔχει δὲ καὶ περὶ τὸ στόμα διαφοράς. Τὰ μὲν γὰρ κατ' ἀντικρὺ ἔχει τὸ στόμα καὶ εἰς τὸ πρόσθεν, τὰ δ’ ἐν τοῖς ὑπτίοις, οἷον οἵ τε δελφῖνες καὶ τὰ σελαχώδη· καὶ ὕπτια στρεφόμενα λαμβάνει τὴν τροφήν. Φαίνεται δ’ ἡ φύσις οὐ μόνον σωτηρίας ἕνεκεν ποιῆσαι τοῦτο τῶν ἄλλων ζῴων (ἐν γὰρ τῇ στρέψει σῴζεται τἆλλα βραδυνόντων· πάντα γὰρ τὰ τοιαῦτα ζῳοφάγα ἐστίν), ἀλλὰ καὶ πρὸς τὸ μὴ ἀκολουθεῖν τῇ λαιμαργίᾳ τῇ περὶ τὴν τροφήν· ῥᾷον γὰρ λαμβάνοντα διεφθείρετ’ ἂν διὰ τὴν πλήρωσιν ταχέως. Πρὸς δὲ τούτοις περιφερῆ καὶ λεπτὴν ἔχοντα τὴν τοῦ ῥύγχους φύσιν οὐχ οἷόν τ’ εὐδιαίρετον ἔχειν. Ἔτι δὲ καὶ τῶν ἄνω τὸ στόμα ἐχόντων (697a.) τὰ μὲν ἀνερρωγὸς ἔχει τὸ στόμα τὰ δὲ μύουρον, ὅσα μὲν σαρκοφάγα, ἀνερρωγός, ὥσπερ τὰ καρχαρόδοντα, διὰ τὸ ἐν τῷ στόματι εἶναι τοῖς τοιούτοις τὴν ἰσχύν, ὅσα δὲ μὴ σαρκοφάγα, μύουρον.

Τὸ δὲ δέρμα οἱ μὲν λεπιδωτὸν ἔχουσιν αὐτῶν (ἡ δὲ λεπὶς διὰ λαμπρότητα καὶ λεπτότητα τοῦ σώματος ἀφίσταται), οἱ δὲ τραχύ, οἷον ῥίνη καὶ βάτος καὶ τὰ τοιαῦτα· ἐλάχιστα δὲ τὰ λεῖα. Τὰ δὲ σελάχη ἀλεπίδωτα μὲν τραχέα δ’ ἐστὶ διὰ τὸ χονδράκανθα εἶναι· τὸ γὰρ γεῶδες ἐκεῖθεν ἡ φύσις εἰς τὸ δέρμα κατανήλωκεν.

Ὄρχεις δ’ οὐδεὶς ἔχει ἰχθὺς οὔτ’ ἐκτὸς οὔτ’ ἐντός, οὐδ’ ἄλλο τι τῶν ἀπόδων οὐδέν, διὸ οὐδ’ οἱ ὄφεις. Πόρον δὲ τοῦ περιττώματος καὶ τῶν περὶ τὴν γένεσιν τὸν αὐτόν, καθάπερ καὶ τἆλλα ᾠοτόκα πάντα καὶ τετράποδα, διὰ τὸ μὴ ἔχειν κύστιν μηδὲ γίνεσθαι περίττωμ’ αὐτοῖς ὑγρόν. Τὸ μὲν οὖν τῶν ἰχθύων γένος πρὸς τἆλλα ζῷα ταύτας ἔχει τὰς διαφοράς.

Οἱ δὲ δελφῖνες καὶ αἱ φάλαιναι καὶ πάντα τὰ τοιαῦτα τῶν κητῶν βράγχια μὲν οὐκ ἔχουσιν, αὐλὸν δὲ διὰ τὸ πλεύμονα ἔχειν· δεχόμενα γὰρ κατὰ τὸ στόμα τὴν θάλατταν ἀφιᾶσι κατὰ τὸν αὐλόν. Ἀνάγκη μὲν γὰρ δέξασθαι τὸ ὑγρὸν διὰ τὸ λαμβάνειν τὴν τροφὴν ἐν τῷ ὑγρῷ· δεξάμενα δ’ ἀφιέναι ἀναγκαῖον. Τὰ μὲν οὖν βράγχιά ἐστι χρήσιμα τοῖς μὴ ἀναπνέουσιν· δι’ ἣν δ’ αἰτίαν, εἴρηται ἐν τοῖς περὶ ἀναπνοῆς· ἀδύνατον γὰρ ἅμα τὸ αὐτὸ ἀναπνεῖν καὶ βράγχια ἔχειν· ἀλλὰ πρὸς τὴν ἄφεσιν τοῦ ὕδατος ἔχουσι τὸν αὐλόν. Κεῖται δ’ αὐτοῖς οὗτος πρὸ τοῦ ἐγκεφάλου· διελάμβανε γὰρ ἂν ἀπὸ τῆς ῥάχεως αὐτόν. Αἴτιον δὲ τοῦ πλεύμονα ταῦτα ἔχειν καὶ ἀναπνεῖν, ὅτι τὰ μεγάλα τῶν ζῴων πλείονος δεῖται θερμότητος, ἵνα κινῆται. Διὸ ὁ πλεύμων ἔγκειται αὐτοῖς θερμότητος ὢν πλήρης αἱματικῆς. Ἔστι δὲ ταῦτα τρόπον τινὰ πεζὰ καὶ ἔνυδρα· τὸν μὲν γὰρ ἀέρα δέχεται ὡς πεζά, ἄποδα δ’ ἐστὶ καὶ λαμβάνει ἐκ τοῦ ὑγροῦ τὴν τροφὴν ὥσπερ τὰ ἔνυδρα.

(697b.) Καὶ αἱ φῶκαι δὲ καὶ αἱ νυκτερίδες διὰ τὸ ἐπαμφοτερίζειν αἱ μὲν τοῖς ἐνύδροις καὶ πεζοῖς, αἱ δὲ τοῖς πτηνοῖς καὶ πεζοῖς, διὰ τοῦτο ἀμφοτέρων τε μετέχουσι, καὶ οὐδετέρων. Αἵ τε γὰρ φῶκαι ὡς μὲν ἔνυδροι πόδας ἔχουσιν, ὡς δὲ πεζαὶ πτέρυγας (τοὺς γὰρ ὄπισθεν πόδας ἰχθυώδεις ἔχουσι πάμπαν, ἔτι δὲ τοὺς ὀδόντας πάντας καρχαρόδοντας καὶ ὀξεῖς)· καὶ αἱ νυκτερίδες ὡς μὲν πτηνὰ ἔχουσι πόδας, ὡς δὲ τετράποδα οὐκ ἔχουσι, καὶ οὔτε κέρκον ἔχουσιν οὔτ' οὐροπύγιον, διὰ μὲν τὸ πτηνὰ εἶναι κέρκον· διὰ δὲ τὸ πεζὰ οὐροπύγιον. Συμβέβηκε δ' αὐταῖς τοῦτ' ἐξ ἀνάγκης· εἰσὶ γὰρ δερμόπτεροι, οὐδὲν δ' ἔχει οὐροπύγιον μὴ σχιζόπτερον· ἐκ τοιούτου γὰρ πτεροῦ γίνεται τὸ οὐροπύγιον. Ἡ δὲ κέρκος καὶ ἐμπόδιος ἂν ἦν ὑπάρχουσα ἐν τοῖς πτεροῖς.

Κεφάλαιο 14

Τὸν αὐτὸν δὲ τρόπον καὶ ὁ στρουθὸς ὁ Λιβυκός· τὰ μὲν γὰρ ὄρνιθος ἔχει, τὰ δὲ ζῴου τετράποδος. Ὡς μὲν γὰρ οὐκ ὢν τετράπους πτερὰ ἔχει, ὡς δ’ οὐκ ὢν ὄρνις οὔτε πέταται μετεωριζόμενος, καὶ τὰ πτερὰ οὐ χρήσιμα πρὸς πτῆσιν ἀλλὰ τριχώδη. Ἔτι δὲ ὡς μὲν τετράπους ὢν βλεφαρίδας ἔχει τὰς ἄνωθεν καὶ ψιλός ἐστι τὰ περὶ τὴν κεφαλὴν καὶ τὰ ἄνω τοῦ αὐχένος, ὥστε τριχωδεστέρας ἔχειν τὰς βλεφαρίδας, ὡς δ’ ὄρνις ὢν τὰ κάτωθεν ἐπτέρωται, καὶ δίπους μέν ἐστιν ὡς ὄρνις, διχαλὸς δ’ ὡς τετράπους· οὐ γὰρ δακτύλους ἔχει ἀλλὰ χηλάς. Τούτου δ’ αἴτιον ὅτι τὸ μέγεθος οὐκ ὄρνιθος ἔχει ἀλλὰ τετράποδος. Ἐλάχιστον γὰρ ἀναγκαῖον εἶναι τὸ μέγεθος ὡς καθόλου εἰπεῖν τὸ τῶν ὀρνίθων· οὐ γὰρ ῥᾴδιον πολὺν ὄγκον κινεῖσθαι σώματος μετέωρον.

Περὶ μὲν οὖν μορίων, διὰ τίν’ αἰτίαν ἕκαστόν ἐστιν ἐν τοῖς ζῴοις, εἴρηται περὶ πάντων τῶν ζῴων καθ’ ἕκαστον. Τούτων δὲ διωρισμένων ἐφεξῆς ἐστι τὰ περὶ τὰς γενέσεις αὐτῶν διελθεῖν.

Περὶ ζῴων κινήσεως (698a) Movement of Animals

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Κεφάλαιο 1

(698a.) Περὶ δὲ κινήσεως τῆς τῶν ζῴων, ὅσα μὲν αὐτῶν περὶ ἕκαστον ὑπάρχει γένος, καὶ τίνες διαφοραί, καὶ τίνες αἰτίαι τῶν καθ’ ἕκαστον συμβεβηκότων αὐτοῖς, ἐπέσκεπται περὶ ἁπάντων ἐν ἑτέροις· ὅλως δὲ περὶ τῆς κοινῆς αἰτίας τοῦ κινεῖσθαι κίνησιν ὁποιανοῦν (τὰ μὲν γὰρ πτήσει ινεῖται τὰ δὲ νεύσει τὰ δὲ πορείᾳ τῶν ζῴων, τὰ δὲ κατ’ ἄλλους τρόπους τοιούτους) ἐπισκεπτέον νῦν. ὅτι μὲν οὖν ἀρχὴ τῶν ἄλλων κινήσεων τὸ αὐτὸ ἑαυτὸ κινοῦν, τούτου δὲ τὸ ἀκίνητον, καὶ ὅτι τὸ πρῶτον κινοῦν ἀναγκαῖον ἀκίνητον εἶναι, διώρισται πρότερον, ὅτεπερ καὶ περὶ κινήσεως ἀϊδίου, πότερον ἔστιν ἢ οὐκ ἔστι, καὶ εἰ ἔστι, τίς ἐστιν. δεῖ δὲ τοῦτο μὴ μόνον τῷ λόγῳ λαβεῖν, ἀλλὰ καὶ ἐπὶ τῶν καθ’ ἕκαστα καὶ τῶν αἰσθητῶν, δι’ ἅπερ καὶ τοὺς καθόλου ζητοῦμεν λόγους, καὶ ἐφ’ ὧν ἐφαρμόττειν οἰόμεθα δεῖν αὐτούς. φανερὸν γὰρ καὶ ἐπὶ τούτων ὅτι ἀδύνατον κινεῖσθαι μηδενὸς ἠρεμοῦντος, πρῶτον μὲν οὖν ἐν αὐτοῖς τοῖς ζῴοις· δεῖ γάρ, ἂν κινῆταί τι τῶν μορίων, ἠρεμεῖν τι· καὶ διὰ τοῦτο αἱ καμπαὶ τοῖς ζῴοις εἰσίν. ὥσπερ γὰρ κέντρῳ χρῶνται ταῖς καμπαῖς, καὶ γίνεται τὸ ὅλον μέρος, ἐν ᾧ ἡ καμπή, καὶ ἓν καὶ δύο, καὶ εὐθὺ καὶ κεκαμμένον, μεταβάλλον δυνάμει καὶ ἐνεργείᾳ διὰ τὴν καμπήν. καμπτομένου δὲ καὶ κινουμένου τὸ μὲν κινεῖται σημεῖον τὸ δὲ μένει τῶν ἐν ταῖς καμπαῖς, ὥσπερ ἂν εἰ τῆς διαμέτρου ἡ μὲν Α καὶ ἡ Δ μένοι, ἡ δὲ Β κινοῖτο, καὶ γίνοιτο ἡ ΑΓ. ἀλλ’ ἐνταῦθα μὲν δοκεῖ πάντα τρόπον ἀδιαίρετον εἶναι τὸ κέντρον (καὶ γὰρ τὸ κινεῖσθαι, ὥς φασί, πλάττουσιν ἐπ’ αὐτῶν· οὐ γὰρ κινεῖσθαι τῶν μαθηματικῶν οὐδέν), τὰ δ’ ἐν ταῖς καμπαῖς δυνάμει καὶ ἐνεργείᾳ γίνεται ὁτὲ (698b.) μὲν ἓν ὁτὲ δὲ διαιρετά. ἀλλ’ οὖν ἀεὶ ἡ ἀρχή, ἠρεμεῖ κινουμένου τοῦ μορίου τοῦ κάτωθεν, οἷον τοῦ μὲν βραχίονος κινουμένου τὸ ὠλέκρανον, ὅλου δὲ τοῦ κώλου ὁ ὦμος, καὶ τῆς μὲν κνήμης τὸ γόνυ, ὅλου δὲ τοῦ σκέλους τὸ ἰσχίον. ὅτι μὲν οὖν καὶ ἐν αὐτῷ ἕκαστόν τι δεῖ ἔχειν ἠρεμοῦν, ὅθεν ἡ ἀρχὴ τοῦ κινουμένου ἔσται, καὶ πρὸς ὃ ἀπερειδόμενον καὶ ὅλον ἀθρόον κινηθήσεται καὶ κατὰ μέρος, φανερόν.

Κεφάλαιο 2

Ἀλλὰ πᾶσα ἡ ἐν αὐτῷ ἠρεμία ὅμως ἄκυρος, ἂν μή τι ἔξωθεν ᾖ ἁπλῶς ἠρεμοῦν καὶ ἀκίνητον. ἄξιον δ’ ἐπιστήσαντας ἐπισκέψασθαι περὶ τοῦ λεχθέντος· ἔχει γὰρ τὴν θεωρίαν οὐ μόνον ὅσον ἐπὶ τὰ ζῷα συντείνουσαν, ἀλλὰ καὶ πρὸς τὴν τοῦ παντὸς κίνησιν καὶ φοράν. ὥσπερ γὰρ καὶ ἐν αὐτῷ δεῖ τι ἀκίνητον εἶναι, εἰ μέλλει κινεῖσθαι, οὕτως ἔτι μᾶλλον ἔξω δεῖ τι εἶναι τοῦ ζῴου ἀκίνητον, πρὸς ὃ ἀπερειδόμενον κινεῖται τὸ κινούμενον. εἰ γὰρ ὑποδώσει ἀεί, οἷον τοῖς ἑμύσι τοῖς ἐν τῇ γῇ, ἢ τοῖς ἐν τῇ ἄμμῳ πορευομένοις, οὐ πρόεισιν, οὐδ’ ἔσται οὔτε πορεία, εἰ μὴ ἡ γῆ μένοι, οὔτε πτῆσις ἢ νεῦσις, εἰ μὴ ὁ ἀὴρ ἢ ἡ θάλαττα ἀντερείδοι. ἀνάγκη δὲ τοῦτο ἕτερον εἶναι τοῦ κινουμένου, καὶ ὅλον ὅλου, καὶ μόριον μηδὲν εἶναι τοῦ κινουμένου τὸ οὕτως ἀκίνητον· εἰ δὲ μή, οὐ κινηθήσεται. μαρτύριον δὲ τούτου τὸ ἀπορούμενον, διὰ τί ποτε τὸ πλοῖον ἔξωθεν μέν, ἄν τις ὠθῇ τῷ κοντῷ τὸν ἱστὸν ἤ τι ἄλλο προσβάλλων μόριον, κινεῖ ῥᾳδίως, ἐὰν δ’ ἐν αὐτῷ τις ὢν τῷ πλοίῳ τοῦτο πειρᾶται πράττειν, οὐκ ἂν κινήσειεν οὐδ’ ἂν ὁ Τιτυὸς οὐθ’ ὁ Βορέας πνέων ἔσωθεν ἐκ τοῦ πλοίου, εἰ τύχοι πνέων τὸν τρόπον τοῦτον ὅνπερ οἱ γραφεῖς ποιοῦσιν· ἐξ αὑτοῦ γὰρ τὸ πνεῦμα ἀφιέντα γράφουσιν. ἐάν τε γὰρ ἠρέμα (699a.) ῥιπτῇ τὸ πνεῦμά τις ἐάν τ’ ἰσχυρῶς οὕτως ὥστ’ ἄνεμον ποιεῖν τὸν μέγιστον, ἐάν τε ἄλλο τι ᾖ τὸ ῥιπτούμενον ἢ ὠθούμενον, ἀνάγκη πρῶτον μὲν πρὸς ἠρεμοῦν τι τῶν αὑτοῦ μορίων ἀπερειδόμενον ὠθεῖν, εἶτα πάλιν τοῦτο τὸ μόριον, ἢ αὐτὸ ἢ οὗ τυγχάνει μόριον ὄν, πρὸς τῶν ἔξωθέν τι ἀποστηριζόμενον μένειν. ὁ δὲ τὸ πλοῖον ὠθῶν ἐν τῷ πλοίῳ αὐτὸς ὢν καὶ ἀποστηριζόμενος πρὸς τὸ πλοῖον εὐλόγως οὐ κινεῖ τὸ πλοῖον διὰ τὸ ἀναγκαῖον εἶναι πρὸς ὃ ἀποστηρίζεται μένειν· συμβαίνει δ’ αὐτῷ τὸ αὐτὸ ὅ τε κινεῖ καὶ πρὸς ὃ ἀποστηρίζεται. ἔξωθεν δ’ ὠθῶν ἢ ἕλκων κινεῖ· οὐθὲν γὰρ μέρος ἡ γῆ τοῦ πλοίου.

Κεφάλαιο 3

Ἀπορήσειε δ’ ἄν τις, ἆρ’ εἴ τι κινεῖ τὸν ὅλον οὐρανόν, εἶναι θέλει ἀκίνητον, καὶ τοῦτο μηθὲν εἶναι τοῦ οὐρανοῦ μόριον μηδ’ ἐν τῷ οὐρανῷ. εἴτε γὰρ αὐτὸ κινούμενον κινεῖ αὐτόν, ἀνάγκη τινὸς ἀκινήτου θιγγάνον κινεῖν, καὶ τοῦτο μηδὲν εἶναι μόριον τοῦ κινοῦντος· εἴτ’ εὐθὺς ἀκίνητόν ἐστι τὸ κινοῦν, ὁμοίως οὐδὲν ἔσται τοῦ κινουμένου μόριον. καὶ τοῦτό γ’ ὀρθῶς λέγουσιν οἱ λέγοντες, ὅτι κύκλῳ φερομένης τῆς σφαίρας οὐδ’ ὁτιοῦν μένει μόριον· ἢ γὰρ ἂν ὅλην ἀναγκαῖον ἦν μένειν, ἢ διασπᾶσθαι τὸ συνεχὲς αὐτῆς. ἀλλ’ ὅτι τοὺς πόλους οἴονταί τινα δύναμιν ἔχειν, οὐθὲν ἔχοντας μέγεθος ἀλλ’ ὄντας ἔσχατα καὶ στιγμάς, οὐ καλῶς. πρὸς γὰρ τῷ μηδεμίαν οὐσίαν εἶναι τῶν τοιούτων μηδενός, καὶ κινεῖσθαι τὴν μίαν κίνησιν ὑπὸ δυοῖν ἀδύνατον· τοὺς δὲ πόλους δύο ποιοῦσιν. ὅτι μὲν οὖν ἔχει τι καὶ πρὸς τὴν ὅλην φύσιν οὕτως ὥσπερ ἡ γῆ πρὸς τὰ ζῷα καὶ τὰ κινούμενα δι’ αὐτῶν, ἐκ τῶν τοιούτων ἄν τις διαπορήσειεν. οἱ δὲ μυθικῶς τὸν Ἄτλαντα ποιοῦντες ἐπὶ τῆς γῆς ἔχοντα τοὺς πόδας δόξαιεν ἂν ἀπὸ διανοίας εἰρηκέναι τὸν μῦθον, ὡς τοῦτον ὥσπερ διάμετρον ὄντα καὶ στρέφοντα τὸν οὐρανὸν περὶ τοὺς πόλους· τοῦτο δ’ ἂν συμβαίνῃ καὶ κατὰ λόγον διὰ τὸ τὴν γῆν μένειν, ἀλλὰ τοῖς ταῦτα λέγουσιν ἀναγκαῖον φάναι μηδὲν εἶναι μόριον αὐτὴν τοῦ παντός, πρὸς δὲ τούτοις δεῖ τὴν ἰσχὺν ἰσάζειν τοῦ κινοῦντος καὶ τὴν τοῦ μένοντος.

ἔστι γάρ τι πλῆθος ἰσχύος καὶ δυνάμεως καθ’ ἣν μένει τὸ μένον, ὥσπερ καὶ καθ’ ἣν κινεῖ τὸ κινοῦν· καὶ ἔστι τις ἀναλογία ἐξ ἀνάγκης, ὥσπερ τῶν ἐναντίων κινήσεων, οὕτω καὶ τῶν ἠρεμιῶν. καὶ αἱ μὲν ἴσαι ἀπαθεῖς ὑπ’ ἀλλήλων, (699b.) κρατοῦνται δὲ κατὰ τὴν ὑπεροχήν. διόπερ εἴτ’ Ἄτλας εἴτε τι τοιοῦτόν ἐστιν ἕτερον τὸ κινοῦν τῶν ἐντός, οὐδὲν μᾶλλον ἀντερείδειν δεῖ τῆς μονῆς ἣν ἡ γῆ τυγχάνει μένουσα· ἢ κινηθήσεται ἡ γῆ ἀπὸ τοῦ μέσου καὶ ἐκ τοῦ αὐτῆς τόπου. ὡς γὰρ τὸ ὠθοῦν ὠθεῖ, οὕτω τὸ ὠθούμενον ὠθεῖται, καὶ ὁμοίως κατ’ ἰσχύν.

κινεῖ δὲ τὸ ἠρεμοῦν πρῶτον, ὥστε μᾶλλον καὶ πλείων ἡ ἰσχὺς ἢ ὁμοία καὶ ἴση τῆς ἠρεμίας. ὡσαύτως δὲ καὶ ἡ τοῦ κινουμένου μέν, μὴ κινοῦντος δέ. τοσαύτην οὖν δεήσει τὴν δύναμιν εἶναι τῆς γῆς ἐν τῷ ἠρεμεῖν ὅσην ὅ τε πᾶς οὐρανὸς ἔχει καὶ τὸ κινοῦν αὐτόν. εἰ δὲ τοῦτο ἀδύνατον, ἀδύνατον καὶ τὸ κινεῖσθαι τὸν οὐρανὸν ὑπό τινος τοιούτου τῶν ἐντός.

Κεφάλαιο 4

Ἔστι δέ τις ἀπορία περὶ τὰς κινήσεις τῶν τοῦ οὐρανοῦ μορίων, ἣν ὡς οὖσαν οἰκείαν τοῖς εἰρημένοις ἐπισκέψαιτ’ ἄν τις.

ἐὰν γάρ τις ὑπερβάλλῃ τῇ δυνάμει τῆς κινήσεως τὴν τῆς γῆς ἠρεμίαν, δῆλον ὅτι κινήσει αὐτὴν ἀπὸ τοῦ μέσου. καὶ ἡ ἰσχὺς δ’ ἀφ’ ἧς αὕτη ἡ δύναμις, ὅτι οὐκ ἄπειρος, φανερόν· οὐδὲ γὰρ ἡ γῆ ἄπειρος, ὥστ’ οὐδὲ τὸ βάρος αὐτῆς. ἐπεὶ δὲ τὸ ἀδύνατον λέγεται πλεοναχῶς (οὐ γὰρ ὡσαύτως τήν τε φωνὴν ἀδύνατόν φαμεν εἶναι ὁραθῆναι καὶ τοὺς ἐπὶ τῆς σελήνης ὑφ’ ἡμῶν· τὸ μὲν γὰρ ἐξ ἀνάγκης, τὸ δὲ πεφυκὸς ὁρᾶσθαι οὐκ ὀφθήσεται), τὸν δ’ οὐρανὸν ἄφθαρτον εἶναι καὶ ἀδιάλυτον οἰόμεθα μὲν ἐξ ἀνάγκης [εἶναι], συμβαίνει δὲ κατὰ τοῦτον τὸν λόγον οὐκ ἐξ ἀνάγκης· (πέφυκε γὰρ καὶ ἐνδέχεται εἶναι κίνησιν μείζω καὶ ἀφ’ ἧς ἠρεμεῖ ἡ γῆ καὶ ἀφ’ ἧς κινοῦνται τὸ πῦρ καὶ τὸ ἄνω σῶμα)· εἰ μὲν οὖν εἰσὶν ὑπερέχουσαι κινήσεις, διαλυθήσεται ταῦτα ὑπ’ ἀλλήλων· εἰ δὲ μὴ εἰσὶ μέν, ἐνδέχεται δ’ εἶναι (ἄπειρον γὰρ οὐκ ἐνδέχεται διὰ τὸ μηδὲ σῶμα ἐνδέχεσθαι ἄπειρον εἶναι), ἐνδέχοιτ’ ἂν διαλυθῆναι τὸν οὐρανόν. τί γὰρ κωλύει τοῦτο συμβῆναι, εἴπερ μὴ ἀδύνατον; οὐκ ἀδύνατον δέ, εἰ μὴ τἀντικείμενον ἀναγκαῖον. ἀλλὰ περὶ μὲν τῆς ἀπορίας ταύτης ἕτερος ἔστω λόγος· ἆρα δὲ δεῖ τι ἀκίνητον εἶναι καὶ ἠρεμοῦν ἔξω τοῦ κινουμένου, μηδὲν ὂν ἐκείνου μόριον, ἢ οὔ; καὶ τοῦτο πότερον καὶ ἐπὶ τοῦ παντὸς οὕτως ὑπάρχειν ἀναγκαῖον; ἴσως γὰρ ἂν δόξειεν ἄτοπον εἶναι, εἰ ἡ ἀρχὴ τῆς κινήσεως ἐντός. διὸ δόξειεν ἂν τοῖς οὕτως ὑπολαμβάνουσιν εὖ εἰρῆσθαι Ὁμήρῳ

ἀλλ’ οὐκ ἂν ἐρύσαιτ’ ἐξ οὐρανόθεν πεδίονδε (700a.)
Ζῆν’ ὕπατον πάντων, οὐδ’ εἰ μάλα πολλὰ κάμοιτε·
πάντες δ’ ἐξάπτεσθε θεοὶ πᾶσαί τε θέαιναι.

τὸ γὰρ ὅλως ἀκίνητον ὑπ’ οὐδενὸς ἐνδέχεται κινηθῆναι. ὅθεν λύεται καὶ ἡ πάλαι λεχθεῖσα ἀπορία, πότερον ἐνδέχεται ἢ οὐκ ἐνδέχεται διαλυθῆναι τὴν τοῦ οὐρανοῦ σύστασιν, εἰ ἐξ ἀκινήτου ἤρτηται ἀρχῆς. ἐπὶ δὲ τῶν ζῴων οὐ μόνον τὸ οὕτως ἀκίνητον δεῖ ὑπάρχειν, ἀλλὰ καὶ ἐν αὐτοῖς τοῖς κινουμένοις κατὰ τόπον ὅσα κινεῖ αὐτὰ αὑτά. δεῖ γὰρ αὐτοῦ τὸ μὲν ἠρεμεῖν τὸ δὲ κινεῖσθαι, πρὸς ὃ ἀπερειδόμενον τὸ κινούμενον κινήσεται, οἷον ἄν τι κινῇ τῶν μορίων· ἀπερείδεται γὰρ θάτερον ὡς πρὸς μένον θάτερον. περὶ δὲ τῶν

ἀψύχων ὅσα κινεῖται ἀπορήσειεν ἄν τις, πότερον ἅπαντ’ ἔχει ἐν ἑαυτοῖς καὶ τὸ ἠρεμοῦν καὶ τὸ κινοῦν, καὶ πρὸς τῶν ἔξω τι ἠρεμούντων ἀπερείδεσθαι ἀνάγκη καὶ ταῦτα, ἢ ἀδύνατον, οἷον πῦρ ἢ γῆν ἢ τῶν ἀψύχων τι, ἀλλ’ ὑφ’ ὧν ταῦτα κινεῖται πρώτων. πάντα γὰρ ὑπ’ ἄλλου κινεῖται τὰ ἄψυχα, ἀρχὴ δὲ πάντων τῶν οὕτως κινουμένων τὰ αὐτὰ αὑτὰ κινοῦντα. τῶν δὲ τοιούτων περὶ μὲν τῶν ζῴων εἴρηται· τὰ γὰρ τοιαῦτα πάντα ἀνάγκη καὶ ἐν αὑτοῖς ἔχειν τὸ ἠρεμοῦν, καὶ ἔξω πρὸς ὃ ἀπερείσεται. εἰ δέ τι ἐστὶν ἀνωτέρω καὶ πρώτως κινοῦν, ἄδηλον, καὶ ἄλλος λόγος περὶ τῆς τοιαύτης ἀρχῆς. τὰ δὲ ζῷα ὅσα κινεῖται, πάντα πρὸς τὰ ἔξω ἀπερειδόμενα κινεῖται, καὶ ἀναπνέοντα καὶ ἐκπνέοντα. οὐδὲν γὰρ διαφέρει μέγα ῥῖψαι βάρος ἢ μικρόν, ὅπερ ποιοῦσιν οἱ πτύοντες καὶ βήττοντες καὶ οἱ εἰσπνέοντες καὶ ἐκπνέοντες.

Κεφάλαιο 5

Πότερον δ’ ἐν τῷ αὐτῷ αὑτὸ κινοῦντι κατὰ τόπον μόνῳ δεῖ τι μένειν, ἢ καὶ ἐν τῷ ἀλλοιουμένῳ αὐτῷ ὑφ’ αὑτοῦ καὶ αὐξανομένῳ; περὶ δὲ γενέσεως τῆς ἐξ ἀρχῆς καὶ φθορᾶς ἄλλος λόγος· εἰ γάρ ἐστιν ἥνπερ φαμὲν πρώτην κίνησιν γενέσεως καὶ φθορᾶς, αὕτη αἰτία ἂν εἴη, καὶ τῶν ἄλλων δὲ κινήσεων ἴσως πασῶν. ὥσπερ δ’ ἐν τῷ ὅλῳ, καὶ ἐν τῷ ζῴῳ κίνησις πρώτη αὕτη, ὅταν τελεωθῇ· ὥστε καὶ αὐξήσεως, εἴ ποτε γίνεται, αὐτὸ αὑτῷ αἴτιον καὶ ἀλλοιώσεως, εἰ δὲ μή, οὐκ ἀνάγκη. αἱ δὲ πρῶται αὐξήσεις καὶ ἀλλοιώσεις ὑπ’ ἄλλου γίνονται καὶ δι’ ἑτέρων· γενέσεως δὲ καὶ φθορᾶς (700b.) οὐδαμῶς οἷόν τε αὐτὸ αἴτιον εἶναι αὑτῷ οὐδέν. προϋπάρχειν γὰρ δεῖ τὸ κινοῦν τοῦ κινουμένου καὶ τὸ γεννῶν τοῦ γεννωμένου· αὐτὸ δ’ αὑτοῦ πρότερον οὐδέν ἐστιν.

Κεφάλαιο 6

Περὶ μὲν οὖν ψυχῆς, εἴτε κινεῖται εἴτε μή, καὶ εἰ κινεῖται, πῶς κινεῖται, πρότερον εἴρηται ἐν τοῖς διωρισμένοις περὶ αὐτῆς. ἐπεὶ δὲ τὰ ἄψυχα πάντα κινεῖται ὑφ’ ἑτέρου, περὶ δὲ τοῦ πρώτου κινουμένου καὶ ἀεὶ κινουμένου, τίνα τρόπον κινεῖται, καὶ πῶς κινεῖ τὸ πρῶτον κινοῦν, διώρισται πρότερον ἐν τοῖς περὶ τῆς πρώτης φιλοσοφίας, λοιπόν ἐστι θεωρῆσαι πῶς ἡ ψυχὴ κινεῖ τὸ σῶμα, καὶ τίς ἡ ἀρχὴ τῆς τοῦ ζῴου κινήσεως. τῶν γὰρ ἄλλων παρὰ τὴν τοῦ ὅλου κίνησιν τὰ ἔμψυχα αἴτια τῆς κινήσεως, ὅσα μὴ κινεῖται ὑπ’ ἀλλήλων διὰ τὸ προσκόπτειν ἀλλήλοις. διὸ καὶ πέρας ἔχουσιν αὐτῶν πᾶσαι αἱ κινήσεις· καὶ γὰρ καὶ αἱ τῶν ἐμψύχων. πάντα γὰρ τὰ ζῷα καὶ κινεῖ καὶ κινεῖται ἕνεκά τινος, ὥστε τοῦτ’ ἔστιν αὐτοῖς πάσης τῆς κινήσεως πέρας, τὸ οὗ ἕνεκα. ὁρῶμεν δὲ τὰ κινοῦντα τὸ ζῷον διάνοιαν καὶ φαντασίαν καὶ προαίρεσιν καὶ βούλησιν καὶ ἐπιθυμίαν. ταῦτα δὲ πάντα ἀνάγεται εἰς νοῦν καὶ ὄρεξιν. καὶ γὰρ ἡ φαντασία καὶ ἡ αἴσθησις τὴν αὐτὴν τῷ νῷ χώραν ἔχουσιν· κριτικὰ γὰρ πάντα, διαφέρουσι δὲ κατὰ τὰς εἰρημένας ἐν ἄλλοις διαφοράς. βούλησις δὲ καὶ θυμὸς καὶ ἐπιθυμία πάντα ὄρεξις, ἡ δὲ προαίρεσις κοινὸν διανοίας καὶ ὀρέξεως· ὥστε κινεῖ πρῶτον τὸ ὀρεκτὸν καὶ τὸ διανοητόν. οὐ πᾶν δὲ τὸ διανοητόν, ἀλλὰ τὸ τῶν πρακτῶν τέλος. διὸ τὸ τοιοῦτόν ἐστι τῶν ἀγαθῶν τὸ κινοῦν, ἀλλ’ οὐ πᾶν τὸ καλόν· ᾗ γὰρ ἕνεκα τούτου ἄλλο, καὶ ᾗ τέλος ἐστὶ τῶν ἄλλου τινὸς ἕνεκα ὄντων, ταύτῃ κινεῖ. δεῖ δὲ τιθέναι καὶ τὸ φαινόμενον ἀγαθὸν ἀγαθοῦ χώραν ἔχειν, καὶ τὸ ἡδύ· φαινόμενον γάρ ἐστιν ἀγαθόν. ὥστε δῆλον ὅτι ἔστι μὲν ᾗ ὁμοίως κινεῖται τὸ ἀεὶ κινούμενον ὑπὸ τοῦ ἀεὶ κινοῦντος καὶ τῶν ζῴων ἕκαστον, ἔστι δ’ ᾗ ἄλλως, διὸ καὶ τὰ μὲν ἀεὶ κινεῖται, ἡ δὲ τῶν ζῴων κίνησις ἔχει πέρας. τὸ δὲ ἀΐδιον καλόν, καὶ τὸ ἀληθῶς καὶ τὸ πρώτως ἀγαθὸν καὶ μὴ ποτὲ μὲν ποτὲ δὲ μή, θειότερον καὶ τιμιώτερον ἢ ὥστ’ εἶναι πρότερόν <τι>. τὸ μὲν οὖν πρῶτον οὐ κινούμενον κινεῖ, ἡ δ’ (701a.) ὄρεξις καὶ τὸ ὀρεκτικὸν κινούμενον κινεῖ. τὸ δὲ τελευταῖον τῶν κινουμένων οὐκ ἀνάγκη κινεῖν οὐδέν. φανερὸν δ’ ἐκ τούτων καὶ ὅτι εὐλόγως ἡ φορὰ τελευταία τῶν γινομένων ἐν τοῖς κινουμένοις· κινεῖται γὰρ καὶ πορεύεται τὸ ζῷον ὀρέξει ἢ προαιρέσει, ἀλλοιωθέντος τινὸς κατὰ τὴν αἴσθησιν ἢ τὴν φαντασίαν.

Κεφάλαιο 7

Πῶς δὲ νοῶν ὁτὲ μὲν πράττει ὁτὲ δ’ οὐ πράττει, καὶ κινεῖται, ὁτὲ δ’ οὐ κινεῖται; ἔοικε παραπλησίως συμβαίνειν καὶ περὶ τῶν ἀκινήτων διανοουμένοις καὶ συλλογιζομένοις. ἀλλ’ ἐκεῖ μὲν θεώρημα τὸ τέλος (ὅταν γὰρ τὰς δύο προτάσεις νοήσῃ, τὸ συμπέρασμα ἐνόησε καὶ συνέθηκεν), ἐνταῦθα δ’ ἐκ τῶν δύο προτάσεων τὸ συμπέρασμα γίνεται ἡ πρᾶξις, οἷον ὅταν νοήσῃ ὅτι παντὶ βαδιστέον ἀνθρώπῳ, αὐτὸς δ’ ἄνθρωπος, βαδίζει εὐθέως, ἂν δ’ ὅτι οὐδενὶ βαδιστέον νῦν ἀνθρώπῳ, αὐτὸς δ’ ἄνθρωπος, εὐθὺς ἠρεμεῖ· καὶ ταῦτα ἄμφω πράττει, ἂν μή τι κωλύῃ ἢ ἀναγκάζῃ. ποιητέον μοι ἀγαθόν, οἰκία δ’ ἀγαθόν· ποιεῖ οἰκίαν εὐθύς. σκεπάσματος δέομαι, ἱμάτιον δὲ σκέπασμα· ἱματίου δέομαι. οὗ δέομαι, ποιητέον· ἱματίου δέομαι· ἱμάτιον ποιητέον. καὶ τὸ συμπέρασμα, τὸ ἱμάτιον ποιητέον, πρᾶξίς ἐστιν. πράττει δ’ ἀπ’ ἀρχῆς. εἰ ἱμάτιον ἔσται, ἀνάγκη εἶναι τόδε πρῶτον, εἰ δὲ τόδε, τόδε· καὶ τοῦτο πράττει εὐθύς. ὅτι μὲν οὖν ἡ πρᾶξις τὸ συμπέρασμα, φανερόν· αἱ δὲ προτάσεις αἱ ποιητικαὶ διὰ δύο εἰδῶν γίνονται, διά τε τοῦ ἀγαθοῦ καὶ διὰ τοῦ δυνατοῦ. ὥσπερ δὲ τῶν ἐρωτώντων ἔνιοι, οὕτω τὴν ἑτέραν πρότασιν τὴν δήλην οὐδ’ ἡ διάνοια ἐφιστᾶσα σκοπεῖ οὐδέν· οἷον εἰ τὸ βαδίζειν ἀγαθὸν ἀνθρώπῳ, ὅτι αὐτὸς ἄνθρωπος, οὐκ ἐνδιατρίβει. διὸ καὶ ὅσα μὴ λογισάμενοι πράττομεν, ταχὺ πράττομεν. ὅταν ἐνεργήσῃ γὰρ ἢ τῇ αἰσθήσει πρὸς τὸ οὗ ἕνεκα ἢ τῇ φαντασίᾳ ἢ τῷ νῷ, οὗ ὀρέγεται, εὐθὺς ποιεῖ· ἀντ’ ἐρωτήσεως γὰρ ἢ νοήσεως ἡ τῆς ὀρέξεως γίνεται ἐνέργεια. ποτέον μοι, ἡ ἐπιθυμία λέγει· τοδὶ δὲ ποτόν, ἡ αἴσθησις εἶπεν ἢ ἡ φαντασία ἢ ὁ νοῦς· εὐθὺς πίνει. οὕτως μὲν οὖν ἐπὶ τὸ κινεῖσθαι καὶ πράττειν τὰ ζῷα ὁρμῶσι, τῆς μὲν ἐσχάτης αἰτίας τοῦ κινεῖσθαι ὀρέξεως οὔσης, ταύτης δὲ γινομένης ἢ δι’ αἰσθήσεως ἢ διὰ φαντασίας καὶ νοήσεως. τῶν δ’ ὀρεγομένων πράττειν τὰ μὲν δι’ ἐπιθυμίαν ἢ θυμὸν τὰ δὲ (701b.) δι’ ὄρεξιν ἢ βούλησιν τὰ μὲν ποιοῦσι, τὰ δὲ πράττουσιν. ὥσπερ δὲ τὰ αὐτόματα κινεῖται μικρᾶς κινήσεως γινομένης, λυομένων τῶν στρεβλῶν καὶ κρουόντων ἀλλήλας τὰς στρέβλας, καὶ τὸ ἁμάξιον, ὅπερ ὀχούμενον αὐτὸ κινεῖ εἰς εὐθύ, καὶ πάλιν κύκλῳ κινεῖται τῷ ἀνίσους ἔχειν τοὺς τροχούς (ὁ γὰρ ἐλάττων ὥσπερ κέντρον γίνεται, καθάπερ ἐν τοῖς κυλίνδροις), οὕτω καὶ τὰ ζῷα κινεῖται. ἔχει γὰρ ὄργανα τοιαῦτα τήν τε τῶν νεύρων φύσιν καὶ τὴν τῶν ὀστῶν, τὰ μὲν ὡς ἐκεῖ τὰ ξύλα καὶ ὁ σίδηρος, τὰ δὲ νεῦρα ὡς αἱ στρέβλαι· ὧν λυομένων καὶ ἀνιεμένων κινοῦνται. ἐν μὲν οὖν τοῖς αὐτομάτοις καὶ τοῖς ἁμαξίοις οὐκ ἔστιν ἀλλοίωσις, ἐπεὶ εἰ ἐγίνοντο ἐλάττους οἱ ἐντὸς τροχοὶ καὶ πάλιν μείζους, κἂν κύκλῳ τὸ αὐτὸ ἐκινεῖτο· ἐν δὲ τῷ ζῴῳ δύναται τὸ αὐτὸ καὶ μεῖζον καὶ ἔλαττον γίνεσθαι καὶ τὰ σχήματα μεταβάλλειν, αὐξανομένων τῶν μορίων διὰ θερμότητα καὶ πάλιν συστελλομένων διὰ ψύξιν καὶ ἀλλοιουμένων. ἀλλοιοῦσι δ’ αἱ φαντασίαι καὶ αἱ αἰσθήσεις καὶ αἱ ἔννοιαι. αἱ μὲν γὰρ αἰσθήσεις εὐθὺς ὑπάρχουσιν ἀλλοιώσεις τινὲς οὖσαι, ἡ δὲ φαντασία καὶ ἡ νόησις τὴν τῶν πραγμάτων ἔχουσι δύναμιν· τρόπον γάρ τινα τὸ εἶδος τὸ νοούμενον τὸ τοῦ θερμοῦ ἢ ψυχροῦ ἢ ἡδέος ἢ φοβεροῦ τοιοῦτον τυγχάνει ὂν οἷόν περ καὶ τῶν πραγμάτων ἕκαστον, διὸ καὶ φρίττουσι καὶ φοβοῦνται νοήσαντες μόνον. ταῦτα δὲ πάντα πάθη καὶ ἀλλοιώσεις εἰσίν. ἀλλοιουμένων δ’ ἐν τῷ σώματι τὰ μὲν μείζω τὰ δ’ ἐλάττω γίνεται. ὅτι δὲ μικρὰ μεταβολὴ γινομένη ἐν ἀρχῇ μεγάλας καὶ πολλὰς ποιεῖ διαφορὰς ἄποθεν, οὐκ ἄδηλον· οἷον τοῦ οἴακος ἀκαριαῖόν τι μεθισταμένου πολλὴ ἡ τῆς πρώρας γίνεται μετάστασις. ἔτι δὲ κατὰ θερμότητα ἢ ψύξιν ἢ κατ’ ἄλλο τι τοιοῦτον πάθος ὅταν γένηται ἀλλοίωσις περὶ τὴν καρδίαν, καὶ ἐν ταύτῃ κατὰ μέγεθος ἐν ἀναισθήτῳ μορίῳ, πολλὴν ποιεῖ τοῦ σώματος διαφορὰν ἐρυθήμασι καὶ ὠχρότησι καὶ φρίκαις καὶ τρόμοις καὶ τοῖς τούτων ἐναντίοις.

Κεφάλαιο 8

Ἀρχὴ μὲν οὖν, ὥσπερ εἴρηται, τῆς κινήσεως τὸ ἐν τῷ πρακτῷ διωκτὸν καὶ φευκτόν· ἐξ ἀνάγκης δ’ ἀκολουθεῖ τῇ νοήσει καὶ τῇ φαντασίᾳ αὐτῶν θερμότης καὶ ψύξις. τὸ μὲν γὰρ λυπηρὸν φευκτόν, τὸ δ’ ἡδὺ διωκτόν (ἀλλὰ λανθάνει περὶ τὰ μικρὰ τοῦτο συμβαῖνον), ἔστι δὲ τὰ λυπηρὰ (702a.) καὶ ἡδέα πάντα σχεδὸν μετὰ ψύξεώς τινος καὶ θερμότητος. τοῦτο δὲ δῆλον ἐκ τῶν παθημάτων. θάρρη γὰρ καὶ φόβοι καὶ ἀφροδισιασμοὶ καὶ τἆλλα σωματικὰ λυπηρὰ καὶ ἡδέα τὰ μὲν κατὰ μόριον μετὰ θερμότητος ἢ ψύξεώς ἐστι, τὰ δὲ καθ’ ὅλον τὸ σῶμα· μνῆμαι δὲ καὶ ἐλπίδες, οἷον εἰδώλοις χρώμεναι τοῖς τοιούτοις, ὁτὲ μὲν ἧττον ὁτὲ δὲ μᾶλλον αἰτίαι τῶν αὐτῶν εἰσιν. ὥστ’ εὐλόγως ἤδη δημιουργεῖται τὰ ἐντὸς καὶ τὰ περὶ τὰς ἀρχὰς τῶν ὀργανικῶν μορίων μεταβάλλοντα ἐκ πεπηγότων ὑγρὰ καὶ ἐξ ὑγρῶν πεπηγότα καὶ μαλακὰ καὶ σκληρὰ ἐξ ἀλλήλων. τούτων δὲ συμβαινόντων τὸν τρόπον τοῦτον, καὶ ἔτι τοῦ παθητικοῦ καὶ ποιητικοῦ τοιαύτην ἐχόντων τὴν φύσιν οἵαν πολλαχοῦ εἰρήκαμεν, ὁπόταν συμβῇ ὥστ’ εἶναι τὸ μὲν ποιητικὸν τὸ δὲ παθητικόν, καὶ μηδὲν ἀπολίπῃ αὐτῶν ἑκάτερον τῶν ἐν τῷ λόγῳ, εὐθὺς τὸ μὲν ποιεῖ τὸ δὲ πάσχει. διὰ τοῦτο δ’ ἅμα ὡς εἰπεῖν νοεῖ ὅτι πορευτέον καὶ πορεύεται, ἂν μή τι ἐμποδίζῃ ἕτερον. τὰ μὲν γὰρ ὀργανικὰ μέρη παρασκευάζει ἐπιτηδείως τὰ πάθη, ἡ δ’ ὄρεξις τὰ πάθη, τὴν δ’ ὄρεξιν ἡ φαντασία· αὕτη δὲ γίνεται ἢ διὰ νοήσεως ἢ δι’ αἰσθήσεως.

ἅμα δὲ καὶ ταχὺ διὰ τὸ <τὸ> ποιητικὸν καὶ παθητικὸν τῶν πρὸς ἄλληλα εἶναι τὴν φύσιν. τὸ δὲ κινοῦν πρῶτον τὸ ζῷον ἀνάγκη εἶναι ἔν τινι ἀρχῇ. ἡ δὲ καμπὴ ὅτι μέν ἐστι ἀρχὴ τοῦ δὲ τελευτή, εἴρηται. διὸ καὶ ἔστι μὲν ὡς ἑνί, ἔστι δ’ ὡς δυσὶ χρῆται ἡ φύσις αὐτῇ. ὅταν γὰρ κινῆται ἐντεῦθεν, ἀνάγκη τὸ μὲν ἠρεμεῖν τῶν σημείων τῶν ἐσχάτων, τὸ δὲ κινεῖσθαι· ὅτι γὰρ πρὸς ἠρεμοῦν δεῖ ἀπερείδεσθαι τὸ κινοῦν, εἴρηται πρότερον. κινεῖται μὲν οὖν καὶ οὐ κινεῖ τὸ ἔσχατον τοῦ βραχίονος, τῆς δ’ ἐν τῷ ὠλεκράνῳ κάμψεως τὸ μὲν κινεῖται τὸ ἐν αὐτῷ τῷ ὅλῳ κινουμένῳ, ἀνάγκη δ’ εἶναί τι καὶ ἀκίνητον, ὃ δή φαμεν δυνάμει μὲν ἓν εἶναι σημεῖον, ἐνεργείᾳ δὲ γίνεσθαι δύο· ὥστ’ εἰ τὸ ζῷον ἦν ὁ βραχίων, ἐνταῦθ’ ἄν που ἦν ἡ ἀρχὴ τῆς ψυχῆς ἡ κινοῦσα. ἐπεὶ δ’ ἐνδέχεται καὶ πρὸς τὴν χεῖρα ἔχειν τι οὕτως τῶν ἀψύχων, οἷον εἰ κινοίη τὴν βακτηρίαν ἐν τῇ χειρί, φανερὸν ὅτι οὐκ ἂν εἴη ἐν οὐδετέρῳ ἡ ψυχὴ τῶν ἐσχάτων, οὔτ’ ἐν τῷ ἐσχάτῳ τοῦ κινουμένου οὔτ’ ἐν τῇ ἑτέρᾳ ἀρχῇ. καὶ γὰρ τὸ ξύλον ἔχει καὶ (702b.) ἀρχὴν καὶ τέλος πρὸς τὴν χεῖρα. ὥστε διά γε τοῦτο, εἰ μὴ καὶ ἐν τῇ βακτηρίᾳ ἡ κινοῦσα ἀπὸ τῆς ψυχῆς ἀρχὴ ἔνεστιν, οὐδ’ ἐν τῇ χειρί· ὁμοίως γὰρ ἔχει καὶ τὸ ἄκρον τῆς χειρὸς πρὸς τὸν καρπόν, καὶ τοῦτο τὸ μέρος πρὸς τὸ ὠλέκρανον. οὐδὲν γὰρ διαφέρει τὰ προσπεφυκότα τῶν μή· γίνεται γὰρ ὥσπερ ἀφαιρετὸν μέρος ἡ βακτηρία. ἀνάγκη ἄρα ἐν μηδεμιᾷ εἶναι ἀρχῇ, ἥ ἐστιν ἄλλου τελευτή, μηδὲ εἴ τι ἐστὶν ἕτερον ἐκείνου ἐξωτέρω, οἷον τοῦ μὲν τῆς βακτηρίας ἐσχάτου ἐν τῇ χειρὶ ἡ ἀρχή, τούτου δ’ ἐν τῷ καρπῷ. εἰ δὲ μηδ’ ἐν τῇ χειρί, ὅτι ἀνωτέρω ἔτι, ἡ ἀρχὴ οὐδ’ ἐνταῦθα· ἔτι γὰρ τοῦ ὠλεκράνου μένοντος κινεῖται ἅπαν τὸ κάτω συνεχές.

Κεφάλαιο 9

Ἐπεὶ δ’ ὁμοίως ἔχει ἀπὸ τῶν ἀριστερῶν καὶ ἀπὸ τῶν δεξιῶν, καὶ ἅμα τἀναντία κινεῖται, ὥστε μὴ εἶναι τῷ ἠρεμεῖν τὸ δεξιὸν κινεῖσθαι τὸ ἀριστερὸν μηδ’ αὖ τῷ τοῦτο ἐκεῖνο, ἀεὶ δ’ ἐν τῷ ἀνωτέρω ἀμφοτέρων ἡ ἀρχή, ἀνάγκη ἐν τῷ μέσῳ εἶναι τὴν ἀρχὴν τῆς ψυχῆς τῆς κινούσης· ἀμφοτέρων γὰρ τῶν ἄκρων τὸ μέσον ἔσχατον. ὁμοίως δ’ ἔχει πρὸς τὰς κινήσεις τοῦτο καὶ τὰς ἀπὸ τοῦ ἄνω καὶ κάτω, οἷον τὰς ἀπὸ τῆς κεφαλῆς πρὸς τὰ ἀπὸ τῆς ῥάχεως τοῖς ἔχουσι ῥάχιν. καὶ εὐλόγως δὲ τοῦτο συμβέβηκεν· καὶ γὰρ τὸ αἰσθητικὸν ἐνταῦθα εἶναί φαμεν, ὥστ’ ἀλλοιουμένου διὰ τὴν αἴσθησιν τοῦ τόπου τοῦ περὶ τὴν ἀρχὴν καὶ μεταβάλλοντος τὰ ἐχόμενα συμμεταβάλλει ἐκτεινόμενά τε καὶ συναγόμενα τὰ μόρια, ὥστ’ ἐξ ἀνάγκης διὰ ταῦτα γίνεσθαι τὴν κίνησιν τοῖς ζῴοις. τὸ δὲ μέσον τοῦ σώματος μέρος δυνάμει μὲν ἕν, ἐνεργείᾳ δ’ ἀνάγκη γίνεσθαι πλείω· καὶ γὰρ ἅμα κινεῖται τὰ κῶλα ἀπὸ τῆς ἀρχῆς, καὶ θατέρου ἠρεμοῦντος θάτερον κινεῖται. λέγω δ’ οἷον ἐπὶ τῆς ΑΒΓ τὸ Β κινεῖται, κινεῖ δὲ τὸ Α. ἀλλὰ μὴν δεῖ γέ τι ἠρεμεῖν, εἰ μέλλει τὸ μὲν κινεῖσθαι τὸ δὲ κινεῖν. ἓν ἄρα δυνάμει ὂν τὸ Α ἐνεργείᾳ δύο ἔσται, ὥστ’ ἀνάγκη μὴ στιγμὴν ἀλλὰ μέγεθός τι εἶναι. ἀλλὰ μὴν ἐνδέχεται τὸ Γ ἅμα τῷ Β κινεῖσθαι, ὥστ’ ἀνάγκη ἀμφοτέρας τὰς ἀρχὰς τὰς ἐν τῷ Α κινουμένας κινεῖν. δεῖ τι ἄρα εἶναι παρὰ ταύτας ἕτερον τὸ κινοῦν, καὶ μὴ κινούμενον. ἀπερείδοιντο μὲν γὰρ ἂν τὰ ἄκρα καὶ αἱ ἀρχαὶ αἱ ἐν τῷ Α πρὸς ἀλλήλας κινουμένων, ὥσπερ ἂν εἴ τινες τὰ (703a.) νῶτα ἀντερείδοντες κινοῖεν τὰ σκέλη. ἀλλὰ τὸ κινοῦν ἄμφω <ἀκίνητον> ἀναγκαῖον εἶναι, τοῦτο δ’ ἐστὶν ἡ ψυχή, ἕτερον μὲν οὖσα | τοῦ μεγέθους τοῦ τοιούτου, ἐν τούτῳ δ’ οὖσα.

Κεφάλαιο 10

Κατὰ μὲν οὖν τὸν λόγον τὸν λέγοντα τὴν αἰτίαν τῆς κινήσεως ἐστὶν ἡ ὄρεξις τὸ μέσον, ὃ κινεῖ κινούμενον· ἐν δὲ τοῖς ἐμψύχοις σώμασι δεῖ τι εἶναι σῶμα τοιοῦτον. τὸ μὲν οὖν κινούμενον μὲν μὴ πεφυκὸς δὲ κινεῖν δύναται πάσχειν κατ' ἀλλοτρίαν δύναμιν· τὸ δὲ κινοῦν ἀναγκαῖον ἔχειν τινὰ δύναμιν καὶ ἰσχύν. πάντα δὲ φαίνεται τὰ ζῷα καὶ ἔχοντα πνεῦμα σύμφυτον καὶ ἰσχύοντα τούτῳ. τίς μὲν οὖν ἡ σωτηρία τοῦ συμφύτου πνεύματος, εἴρηται ἐν ἄλλοις· τοῦτο δὲ πρὸς τὴν ἀρχὴν τὴν ψυχικὴν ἔοικεν ὁμοίως ἔχειν ὥσπερ τὸ ἐν ταῖς καμπαῖς σημεῖον, τὸ κινοῦν καὶ κινούμενον, πρὸς τὸ ἀκίνητον. ἐπεὶ δ' ἡ ἀρχὴ τοῖς μὲν ἐν τῇ καρδίᾳ τοῖς δ' ἐν τῷ ἀνάλογον, διὰ τοῦτο καὶ τὸ πνεῦμα τὸ σύμφυτον ἐνταῦθα φαίνεται ὄν. πότερον μὲν οὖν ταὐτόν ἐστι τὸ πνεῦμα ἀεὶ ἢ γίνεται ἀεὶ ἕτερον, ἔστω ἄλλος λόγος (ὁ αὐτὸς γάρ ἐστι καὶ περὶ τῶν ἄλλων μορίων)· φαίνεται δ' εὐφυῶς ἔχον πρὸς τὸ κινητικὸν εἶναι καὶ παρέχειν ἰσχύν. τὰ δ' ἔργα τῆς κινήσεως ὦσις καὶ ἕλξις, ὥστε δεῖ τὸ ὄργανον αὐξάνεσθαί τε δύνασθαι καὶ συστέλλεσθαι. τοιαύτη δ' ἐστὶν ἡ τοῦ πνεύματος φύσις· καὶ γὰρ ἀβίαστος συστελλομένη, καὶ βιαστικὴ καὶ ὠστικὴ διὰ τὴν αὐτὴν αἰτίαν, καὶ ἔχει καὶ βάρος πρὸς τὰ πυρώδη καὶ κουφότητα πρὸς τὰ ἐναντία. δεῖ δὲ τὸ μέλλον κινεῖν μὴ ἀλλοιώσει τοιοῦτον εἶναι· κρατεῖ γὰρ κατὰ τὴν ὑπεροχὴν τὰ φυσικὰ σώματα ἀλλήλων, τὸ μὲν κοῦφον κάτω ὑπὸ τοῦ βαρυτέρου ἀπονικώμενον, τὸ δὲ βαρὺ ἄνω ὑπὸ τοῦ κουφοτέρου. ᾧ μὲν οὖν κινεῖ κινουμένῳ μορίῳ ἡ ψυχή, εἴρηται, καὶ δι' ἣν αἰτίαν· ὑποληπτέον δὲ συνεστάναι τὸ ζῷον ὥσπερ πόλιν εὐνομουμένην. ἔν τε γὰρ τῇ πόλει ὅταν ἅπαξ συστῇ ἡ τάξις, οὐδὲν δεῖ κεχωρισμένου μονάρχου, ὃν δεῖ παρεῖναι παρ' ἕκαστον τῶν γινομένων, ἀλλ' αὐτὸς ἕκαστος ποιεῖ τὰ αὑτοῦ ὡς τέτακται, καὶ γίνεται τόδε μετὰ τόδε διὰ τὸ ἔθος· ἔν τε τοῖς ζῴοις τὸ αὐτὸ τοῦτο διὰ τὴν φύσιν γίνεται καὶ τῷ πεφυκέναι ἕκαστον οὕτω συστάντων ποιεῖν τὸ αὑτοῦ ἔργον, ὥστε μηδὲν δεῖν ἐν ἑκάστῳ εἶναι ψυχήν, ἀλλ' ἔν τινι ἀρχῇ τοῦ σώματος οὔσης τἆλλα (703b.) ζῆν μὲν τῷ προσπεφυκέναι, ποιεῖν δὲ τὸ ἔργον τὸ αὑτῶν διὰ τὴν φύσιν.

Κεφάλαιο 11

Πῶς μὲν οὖν κινεῖται τὰς ἑκουσίους κινήσεις τὰ ζῷα, καὶ διὰ τίνας αἰτίας, εἴρηται· κινεῖται δέ τινας καὶ ἀκουσίους ἔνια τῶν μερῶν, τὰς δὲ πλείστας οὐχ ἑκουσίους. λέγω δ’ ἀκουσίους μὲν οἷον τὴν τῆς καρδίας τε καὶ τὴν τοῦ αἰδοίου (πολλάκις γὰρ φανέντος τινός, οὐ μέντοι κελεύσαντος τοῦ νοῦ κινοῦνται), οὐχ ἑκουσίους δ’ οἷον ὕπνον καὶ ἐγρήγορσιν καὶ ἀναπνοήν, καὶ ὅσαι ἄλλαι τοιαῦταί εἰσιν. οὐθενὸς γὰρ τούτων κυρία ἁπλῶς ἐστιν οὔθ’ ἡ φαντασία οὔθ’ ἡ ὄρεξις, ἀλλ’ ἐπειδὴ ἀνάγκη ἀλλοιοῦσθαι τὰ ζῷα φυσικὴν ἀλλοίωσιν, ἀλλοιουμένων δὲ τῶν μορίων τὰ μὲν αὔξεσθαι τὰ δὲ φθίνειν, ὥστ’ ἤδη κινεῖσθαι καὶ μεταβάλλειν τὰς πεφυκυίας ἔχεσθαι μεταβολὰς ἀλλήλων. αἰτίαι δὲ τῶν κινήσεων θερμότητές τε καὶ ψύξεις, αἵ τε θύραθεν καὶ αἱ ἐντὸς ὑπάρχουσαι φυσικαί. καὶ αἱ παρὰ τὸν λόγον δὴ γινόμεναι κινήσεις τῶν ῥηθέντων μορίων ἀλλοιώσεως συμπεσούσης γίνονται. (ἡ γὰρ νόησις καὶ ἡ φαντασία, ὥσπερ εἴρηται πρότερον, τὰ ποιητικὰ τῶν παθημάτων προσφέρουσι· τὰ γὰρ εἴδη τῶν ποιητικῶν προσφέρουσι.) μάλιστα δὲ τῶν μορίων ταῦτα ποιεῖ ἐπιδήλως διὰ τὸ ὥσπερ ζῷον κεχωρισμένον ἑκάτερον εἶναι τῶν μορίων. [τούτου δ’ αἴτιον ὅτι ἔχουσιν ὑγρότητα ζωτικήν.] ἡ μὲν οὖν καρδία φανερὸν δι’ ἣν αἰτίαν· τὰς γὰρ ἀρχὰς ἔχει τῶν αἰσθήσεων· τὸ δὲ μόριον τὸ γεννητικὸν ὅτι τοιοῦτόν ἐστι, σημεῖον· καὶ γὰρ ἐξέρχεται ἐξ αὐτοῦ ὥσπερ ζῷόν τι ἡ τοῦ σπέρματος δύναμις. αἱ δὲ κινήσεις τῇ τε ἀρχῇ ἀπὸ τῶν μορίων καὶ τοῖς μορίοις ἀπὸ τῆς ἀρχῆς εὐλόγως συμβαίνουσι, καὶ πρὸς ἀλλήλας οὕτως ἀφικνοῦνται. δεῖ γὰρ νοῆσαι τὸ Α ἀρχήν. αἱ οὖν κινήσεις καθ’ ἕκαστον στοιχεῖον τῶν ἐπιγεγραμμένων ἐπὶ τὴν ἀρχὴν ἀφικνοῦνται, καὶ ἀπὸ τῆς ἀρχῆς κινουμένης καὶ μεταβαλλούσης, ἐπειδὴ πολλὰ δυνάμει ἐστίν, ἡ μὲν τοῦ Β ἀρχὴ ἐπὶ τὸ Β, ἡ δὲ τοῦ Γ ἐπὶ τὸ Γ, ἡ δ’ ἀμφοῖν ἐπ’ ἄμφω. ἀπὸ δὲ τοῦ Β ἐπὶ τὸ Γ τῷ ἀπὸ μὲν τοῦ Β ἐπὶ τὸ Α ἐλθεῖν ὡς ἐπ’ ἀρχήν, ἀπὸ δὲ τοῦ Α ἐπὶ τὸ Γ ὡς ἀπ’ ἀρχῆς. ὅτι δὲ ὁτὲ μὲν ταὐτὰ νοησάντων γίνεται ἡ κίνησις ἡ παρὰ τὸν λόγον ἐν τοῖς μορίοις, ὁτὲ δ’ οὔ, αἴτιον τὸ ὁτὲ (704a.) μὲν ἐνυπάρχειν τὴν παθητικὴν ὕλην ὁτὲ δὲ μὴ τοσαύτην ἢ τοιαύτην ἀφικνοῦνται. δεῖ γὰρ νοῆσαι τὸ Α ἀρχήν. αἱ οὖν κινήσεις καθ’ ἕκαστον στοιχεῖον τῶν ἐπιγεγραμμένων ἐπὶ τὴν ἀρχὴν ἀφικνοῦνται, καὶ ἀπὸ τῆς ἀρχῆς κινουμένης καὶ μεταβαλλούσης, ἐπειδὴ πολλὰ δυνάμει ἐστίν, ἡ μὲν τοῦ Β ἀρχὴ ἐπὶ τὸ Β, ἡ δὲ τοῦ Γ ἐπὶ τὸ Γ, ἡ δ’ ἀμφοῖν ἐπ’ ἄμφω. ἀπὸ δὲ τοῦ Β ἐπὶ τὸ Γ τῷ ἀπὸ μὲν τοῦ Β ἐπὶ τὸ Α ἐλθεῖν ὡς ἐπ’ ἀρχήν, ἀπὸ δὲ τοῦ Α ἐπὶ τὸ Γ ὡς ἀπ’ ἀρχῆς. ὅτι δὲ ὁτὲ μὲν ταὐτὰ νοησάντων γίνεται ἡ κίνησις ἡ παρὰ τὸν λόγον ἐν τοῖς μορίοις, ὁτὲ δ’ οὔ, αἴτιον τὸ ὁτὲ (704a.) μὲν ἐνυπάρχειν τὴν παθητικὴν ὕλην ὁτὲ δὲ μὴ τοσαύτην ἢ τοιαύτην.

Περὶ μὲν οὖν τῶν μορίων ἑκάστου τῶν ζῴων, καὶ περὶ (704b.) ψυχῆς, ἔτι δὲ περὶ αἰσθήσεως καὶ ὕπνου καὶ μνήμης καὶ τῆς κοινῆς κινήσεως, εἰρήκαμεν τὰς αἰτίας· λοιπὸν δὲ περὶ γενέσεως εἰπεῖν.

Περὶ πορείας ζῴων (704a) Progression of Animals

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Κεφάλαιο 1

(704a.) Περὶ δὲ τῶν χρησίμων μορίων τοῖς ζῴοις πρὸς τὴν κίνησιν τὴν κατὰ τόπον ἐπισκεπτέον διὰ τίνα αἰτίαν τοιοῦτόν ἐστιν ἕκαστον αὐτῶν καὶ τίνος ἕνεκεν ὑπάρχει αὐτοῖς, ἔτι δὲ περὶ τῶν διαφορῶν τῶν τε πρὸς ἄλληλα τοῖς τοῦ αὐτοῦ καὶ ἑνὸς ζῴου μορίοις καὶ πρὸς τὰ τῶν ἄλλων τῶν τῷ γένει διαφόρων. πρῶτον δὲ λάβωμεν περὶ ὅσων ἐπισκεπτέον. ἔστι δὲ αὐτῶν ἓν μὲν πόσοις ἐλαχίστοις τὰ ζῷα κινεῖται σημείοις, ἔπειτα διὰ τί τὰ μὲν ἔναιμα τέτταρσι τὰ δ’ ἄναιμα πλείοσι, καὶ καθόλου δὲ διὰ τίν’ αἰτίαν τὰ μὲν ἄποδα τὰ δὲ δίποδα τὰ δὲ τετράποδα τὰ δὲ πολύποδα τῶν ζῴων ἐστί, καὶ διὰ τί πάντα ἀρτίους ἔχει τοὺς πόδας, ὅσαπερ ἔχει πόδας αὐτῶν, ὅλως δ’ οἷς κινεῖται σημείοις, ἄρτια ταῦτ’ ἐστιν· ἔτι δὲ διὰ τίν’ αἰτίαν ἄνθρωπος μὲν καὶ ὄρνις δίπους, οἱ δ’ ἰχθύες ἄποδές εἰσι· καὶ τὰς κάμψεις ὅ τε ἄνθρωπος καὶ ὁ ὄρνις δίποδες ὄντες ἐναντίας ἔχουσι τῶν σκελῶν (ὁ μὲν γὰρ ἄνθρωπος ἐπὶ τὴν περιφέρειαν κάμπτει τὸ σκέλος, ὁ δ’ ὄρνις ἐπὶ τὸ κοῖλον. καὶ ὁ ἄνθρωπος αὐτὸς ἑαυτῷ ἐναντίως τὰ σκέλη καὶ τοὺς βραχίονας· τοὺς μὲν γὰρ ἐπὶ τὸ κοῖλον, τὰ δὲ γόνατα ἐπὶ τὴν περιφέρειαν κάμπτει. καὶ τὰ τετράποδα τὰ ζῳοτόκα τοῖς τ’ ἀνθρώποις ἐναντίως κάμπτει καὶ αὐτὰ αὑτοῖς· τὰ μὲν γὰρ πρόσθια σκέλη ἐπὶ τὸ (704b.) κυρτὸν τῆς περιφερείας κάμπτει, τὰ δ’ ὀπίσθια ἐπὶ τὸ κοῖλον. ἔτι δὲ τῶν τετραπόδων ὅσα μὴ ζῳοτοκεῖ ἀλλ’ ᾠοτοκεῖ, ἰδίως καὶ εἰς τὸ πλάγιον κάμπτει) πρὸς δὲ τούτοις διὰ τίν’ αἰτίαν τὰ τετράποδα κινεῖται κατὰ διάμετρον· περὶ δὴ πάντων τούτων, καὶ ὅσα ἄλλα συγγενῆ τούτοις, τὰς αἰτίας θεωρητέον. ὅτι μὲν οὖν οὕτω ταῦτα συμβαίνει, δῆλον ἐκ τῆς ἱστορίας τῆς φυσικῆς, διότι δέ, νῦν σκεπτέον.

Κεφάλαιο 2

Ἀρχὴ δὲ τῆς σκέψεως ὑποθεμένοις οἷς εἰώθαμεν χρῆσθαι πολλάκις πρὸς τὴν μέθοδον τὴν φυσικήν, λαβόντες τὰ τοῦτον ἔχοντα τὸν τρόπον ἐν πᾶσι τοῖς τῆς φύσεως ἔργοις, τούτων δ’ ἓν μέν ἐστιν ὅτι ἡ φύσις οὐθὲν ποιεῖ μάτην, ἀλλ’ ἀεὶ ἐκ τῶν ἐνδεχομένων τῇ οὐσίᾳ περὶ ἕκαστον γένος ζῴου τὸ ἄριστον· διόπερ εἰ βέλτιον ὡδί, οὕτως καὶ ἔχει κατὰ φύσιν. ἔτι τὰς διαστάσεις τοῦ μεγέθους, πόσαι καὶ ποῖαι ποίοις ὑπάρχουσι, δεῖ λαβεῖν. εἰσὶ γὰρ διαστάσεις μὲν ἕξ, συζυγίαι δὲ τρεῖς, μία μὲν τὸ ἄνω καὶ τὸ κάτω, δευτέρα δὲ τὸ ἔμπροσθεν καὶ τὸ ὄπισθεν, τρίτη δὲ τὸ δεξιὸν καὶ τὸ ἀριστερόν. πρὸς δὲ τούτοις ὅτι τῶν κινήσεων τῶν κατὰ τόπον ἀρχαὶ ὦσις καὶ ἕλξις. καθ’ αὑτὰς μὲν οὖν αὗται, κατὰ συμβεβηκὸς δὲ κινεῖται τὸ φερόμενον ὑπ’ ἄλλου· οὐ (705a.) γὰρ αὐτὸ δοκεῖ κινεῖν αὑτό, ἀλλ’ ὑπ’ ἄλλου κινεῖσθαι τὸ ὑπό τινος φερόμενον.

Κεφάλαιο 3

Τούτων δὲ διωρισμένων λέγωμεν τὰ τούτων ἐφεξῆς. τῶν δὴ ζῴων ὅσα μεταβάλλει κατὰ τόπον, τὰ μὲν ἀθρόῳ παντὶ τῷ σώματι μεταβάλλει, καθάπερ τὰ ἁλλόμενα, τὰ δὲ μορίοις, καθάπερ τῶν πορευομένων ἕκαστον. ἐν ἀμφοτέραις δὲ ταῖς μεταβολαῖς ταύταις ἀεὶ μεταβάλλει τὸ κινούμενον ἀποστηριζόμενον πρὸς τὸ ὑποκείμενον αὐτῷ. διόπερ ἐάν τε ὑποφέρηται τοῦτο θᾶττον ἢ ὥστ' ἔχειν ἀπερείσασθαι τὸ ποιούμενον ἐπ' αὐτοῦ τὴν κίνησιν, ἐάν θ' ὅλως μηδεμίαν ἔχῃ τοῖς κινουμένοις ἀντέρεισιν, οὐθὲν ἐπ' αὐτοῦ δύναται κινεῖν ἑαυτό. καὶ γὰρ τὸ ἁλλόμενον καὶ πρὸς αὐτὸ ἀπερειδόμενον τὸ ἄνω καὶ πρὸς τὸ ὑπὸ τοὺς πόδας ποιεῖται τὴν ἅλσιν· ἔχει γάρ τινα ἀντέρεισιν πρὸς ἄλληλα τὰ μόρια ἐν ταῖς καμπαῖς, καὶ ὅλως τὸ πιέζον πρὸς τὸ πιεζόμενον. διὸ καὶ οἱ πένταθλοι ἅλλονται πλέον ἔχοντες τοὺς ἁλτῆρας ἢ μὴ ἔχοντες, καὶ οἱ θέοντες θᾶττον θέουσι παρασείοντες τὰς χεῖρας· γίνεται γάρ τις ἀπέρεισις ἐν τῇ διατάσει πρὸς τὰς χεῖρας καὶ τοὺς καρπούς. ἀεὶ δὲ τὸ κινούμενον δυσὶν ἐλαχίστοις χρώμενον ὀργανικοῖς μέρεσι ποιεῖται τὴν μεταβολήν, τῷ μὲν ὡσπερανεὶ θλίβοντι, τῷ δὲ θλιβομένῳ. τὸ μὲν γὰρ μένον θλίβεται διὰ τὸ φέρειν, τὸ δ' αἱρόμενον τείνεται τῷ φέροντι τὸ φορτίον. διόπερ ἀμερὲς οὐδὲν οὕτω κινηθῆναι δυνατόν· οὐ γὰρ ἔχει τήν τε τοῦ πεισομένου καὶ τὴν τοῦ ποιήσοντος ἐν αὐτῷ διάληψιν.

Κεφάλαιο 4

Ἐπεὶ δ’ εἰσὶν αἱ διαστάσεις τὸν ἀριθμὸν ἕξ, αἷς ὁρίζεσθαι πέφυκε τὰ ζῷα, τό τε ἄνω καὶ κάτω καὶ τὸ ἔμπροσθεν καὶ τὸ ὄπισθεν, ἔτι δὲ τὸ δεξιὸν καὶ τὸ ἀριστερόν, τὸ μὲν ἄνω καὶ κάτω μόριον πάντ’ ἔχει τὰ ζῶντα. οὐ μόνον γὰρ ἐν τοῖς ζῴοις ἐστὶ τὸ ἄνω καὶ κάτω, ἀλλὰ καὶ ἐν τοῖς φυτοῖς. διείληπται δ’ ἔργῳ, καὶ οὐ θέσει μόνον τῇ πρός τε τὴν γῆν καὶ τὸν οὐρανόν. ὅθεν μὲν γὰρ ἡ τῆς τροφῆς διάδοσις καὶ ἡ αὔξησις ἑκάστοις, ἄνω τοῦτ’ ἐστι· πρὸς ὃ δ’ (705b.) ἔσχατον αὕτη περαίνει, τοῦτο κάτω. τὸ μὲν γὰρ ἀρχή τις, τὸ δὲ πέρας· ἀρχὴ δὲ τὸ ἄνω. καίτοι δόξειέ γ’ ἂν τοῖς φυτοῖς οἰκεῖον εἶναι τὸ κάτω μᾶλλον· οὐχ ὁμοίως γὰρ ἔχει τῇ θέσει τὸ ἄνω καὶ κάτω τούτοις καὶ τοῖς ζῴοις. ἔχει δὲ πρὸς μὲν τὸ ὅλον οὐχ ὁμοίως, κατὰ δὲ τὸ ἔργον ὁμοίως. αἱ γὰρ ῥίζαι εἰσὶ τὸ ἄνω τοῖς φυτοῖς· ἐκεῖθεν γὰρ ἡ τροφὴ διαδίδοται τοῖς φυομένοις, καὶ λαμβάνει ταύταις αὐτήν, καθάπερ τὰ ζῷα τοῖς στόμασιν. ὅσα δὲ μὴ μόνον ζῇ ἀλλὰ καὶ ζῷά ἐστι, τοῖς τοιούτοις ὑπάρχει τό τε ἔμπροσθεν καὶ τὸ ὄπισθεν. αἴσθησιν γὰρ ἔχει ταῦτα πάντα, ὁρίζεται δὲ κατὰ ταύτην τό τε ὄπισθεν καὶ τὸ ἔμπροσθεν· ἐφ’ ὃ μὲν γὰρ ἡ αἴσθησις πέφυκε καὶ ὅθεν ἐστὶν ἑκάστοις, ἔμπροσθεν ταῦτ’ ἐστι, τὰ δ’ ἀντικείμενα τούτοις ὄπισθεν. ὅσα δὲ τῶν ζῴων μὴ μόνον αἰσθήσεως κοινωνεῖ, ἀλλὰ δύναται ποιεῖσθαι τὴν κατὰ τόπον μεταβολὴν αὐτὰ δι’ αὑτῶν, ἐν τούτοις δὴ διώρισται πρὸς τοῖς λεχθεῖσι τό τ’ ἀριστερὸν καὶ τὸ δεξιὸν ὁμοίως τοῖς πρότερον εἰρημένοις, ἔργῳ τινὶ καὶ οὐ θέσει διωρισμένον ἑκάτερον αὐτῶν· ὅθεν μὲν γάρ ἐστι τοῦ σώματος ἡ τῆς κατὰ τόπον μεταβολῆς ἀρχὴ φύσει, τοῦτο μὲν δεξιὸν ἑκάστων, τὸ δ’ ἀντικείμενον καὶ τούτῳ πεφυκὸς ἀκολουθεῖν ἀριστερόν. τοῦτο δὲ διήρθρωται μᾶλλον ἑτέροις ἑτέρων. ὅσα μὲν γὰρ ὀργανικοῖς μέρεσι χρώμενα (λέγω δ’ οἷον ποσὶν ἢ πτέρυξιν ἤ τινι ἄλλῳ τοιούτῳ) τὴν εἰρημένην μεταβολὴν ποιεῖται, περὶ μὲν τὰ τοιαῦτα μᾶλλον διήρθρωται τὸ λεχθέν· ὅσα δὲ μὴ τοιούτοις μορίοις, αὐτῷ δὲ τῷ σώματι διαλήψεις ποιούμενα προέρχεται, καθάπερ ἔνια τῶν ἀπόδων, οἷον οἵ τε ὄφεις καὶ τὸ τῶν καμπῶν γένος, καὶ πρὸς τούτοις ἃ καλοῦσι ἔντερα γῆς, ὑπάρχει μὲν καὶ ἐν τούτοις τὸ λεχθέν, οὐ μὴν διασεσάφηταί γ’ ὁμοίως. ὅτι δ’ ἐκ τῶν δεξιῶν ἡ ἀρχὴ τῆς κινήσεώς ἐστι, σημεῖον καὶ τὸ φέρειν τὰ φορτία πάντας ἐπὶ τοῖς ἀριστεροῖς· οὕτως γὰρ ἐνδέχεται κινεῖσθαι τὸ φέρον, λελυμένου τοῦ κινήσοντος.

διὸ καὶ ἀσκωλιάζουσι ῥᾶον ἐπὶ τοῖς ἀριστεροῖς· κινεῖν γὰρ (706a.) πέφυκε τὸ δεξιόν, κινεῖσθαι δὲ τὸ ἀριστερόν· ὥστε καὶ τὸ φορτίον οὐκ ἐπὶ τῷ κινήσοντι ἀλλ' ἐπὶ τῷ κινησομένῳ δεῖ ἐπικεῖσθαι· ἐὰν δ' ἐπὶ τῷ κινοῦντι καὶ τῇ ἀρχῇ τῆς κινήσεως ἐπιτεθῇ, ἤτοι ὅλως οὐ κινήσεται ἢ χαλεπώτερον. σημεῖον δ' ὅτι ἀπὸ τῶν δεξιῶν ἡ ἀρχὴ τῆς κινήσεως καὶ αἱ προβολαί· πάντες γὰρ τὰ ἀριστερὰ προβάλλονται, καὶ ἑστῶτες προβεβλήκασι τὰ ἀριστερὰ μᾶλλον, ἂν μὴ ἀπὸ τύχης συμβῇ. οὐ γὰρ τῷ προβεβηκότι κινοῦνται, ἀλλὰ τῷ ἀποβεβηκότι· καὶ ἀμύνονται τοῖς δεξιοῖς. διὰ ταύτην δὲ τὴν αἰτίαν καὶ τὰ δεξιὰ ταὐτά ἐστι πάντων. ὅθεν μὲν γὰρ ἡ ἀρχὴ τῆς κινήσεως, τὸ αὐτὸ πᾶσι καὶ ἐν τῷ αὐτῷ τὴν θέσιν ἔχει κατὰ φύσιν· δεξιὸν δ' ἐστὶν ὅθεν ἡ ἀρχὴ τῆς κινήσεώς ἐστι. καὶ διὰ τοῦτο τὰ στρομβώδη τῶν ὀστρακοδέρμων δεξιὰ πάντ' ἐστιν. οὐ γὰρ ἐπὶ τὴν ἑλίκην κινεῖται, ἀλλ' ἐπὶ τὸ καταντικρὺ πάντα προέρχονται, οἷον πορφύραι καὶ κήρυκες. κινουμένων οὖν πάντων ἀπὸ τῶν δεξιῶν, κἀκείνων ἐπὶ ταὐτὰ κινουμένων ἑαυτοῖς, ἀνάγκη πάντα δεξιὰ εἶναι ὁμοίως. ἀπολελυμένα δ' ἔχουσι τὰ ἀριστερὰ τῶν ζῴων μάλιστα ἄνθρωποι διὰ τὸ κατὰ φύσιν ἔχειν μάλιστα τῶν ζῴων· φύσει δὲ βέλτιον τὸ δεξιὸν τοῦ ἀριστεροῦ κεχωρισμένον. διὸ καὶ τὰ δεξιὰ ἐν τοῖς ἀνθρώποις μάλιστα δεξιά ἐστι. διωρισμένων δὲ τῶν δεξιῶν εὐλόγως τὰ ἀριστερὰ ἀκινητότερά ἐστι, καὶ ἀπολελυμένα μάλιστα ἐν τούτοις. καὶ αἱ ἄλλαι δ' ἀρχαὶ μάλιστα κατὰ φύσιν καὶ διωρισμέναι ἐν τῷ ἀνθρώπῳ ὑπάρχουσι, τό τ' ἄνω καὶ τὸ ἔμπροσθεν.

Κεφάλαιο 5

ὅσοις μὲν οὖν τὸ ἄνω καὶ τὸ ἔμπροσθεν διώρισται, καθάπερ τοῖς ἀνθρώποις καὶ τοῖς ὄρνισι, ταῦτα μὲν δίποδα. (τῶν δὲ τεττάρων τὰ δύο σημεῖα τοῖς μὲν πτέρυγες τοῖς δὲ χεῖρες καὶ βραχίονές εἰσιν), ὅσα δ' ἐπὶ τὸ αὐτὸ τὸ πρόσθεν ἔχει καὶ τὸ ἄνω, τετράποδα καὶ πολύποδα καὶ ἄποδα. καλῶ γὰρ πόδα μέρος ἐπὶ σημείῳ πεζῷ κινητικῷ κατὰ τόπον· καὶ γὰρ τὸ ὄνομα ἐοίκασιν εἰληφέναι ἀπὸ τοῦ πέδου οἱ πόδες. ἔνια δ' ἐπὶ τὸ αὐτὸ ἔχει τὸ πρόσθιον καὶ (706b.) τὸ ὀπίσθιον, οἷον τά τε μαλάκια καὶ τὰ στρομβώδη τῶν ὀστρακοδέρμων· εἴρηται δὲ περὶ αὐτῶν πρότερον ἐν ἑτέροις.

τριῶν δ' ὄντων τόπων, τοῦ ἄνω καὶ μέσου καὶ κάτω, τὰ μὲν δίποδα τὸ ἄνω πρὸς τὸ τοῦ ὅλου ἄνω ἔχει, τὰ δὲ πολύποδα ἢ ἄποδα πρὸς τὸ μέσον, τὰ δὲ φυτὰ πρὸς τὸ κάτω. αἴτιον δ' ὅτι τὰ μὲν ἀκίνητα, πρὸς τὴν τροφὴν δὲ τὸ ἄνω, ἡ δὲ τροφὴ ἐκ τῆς γῆς. τὰ δὲ τετράποδα ἐπὶ τὸ μέσον καὶ τὰ πολύποδα καὶ ἄποδα διὰ τὸ μὴ ὀρθὰ εἶναι· τὰ δὲ δίποδα πρὸς τὸ ἄνω διὰ τὸ ὀρθὰ εἶναι, μάλιστα δ' ὁ ἄνθρωπος· μάλιστα γὰρ κατὰ φύσιν ἐστὶ δίπους. εὐλόγως δὲ καὶ αἱ ἀρχαί εἰσιν ἀπὸ τούτων τῶν μορίων· ἡ μὲν γὰρ ἀρχὴ τίμιον, τὸ δ' ἄνω τοῦ κάτω καὶ τὸ πρόσθεν τοῦ ὄπισθεν καὶ τὸ δεξιὸν τοῦ ἀριστεροῦ τιμιώτερον. καλῶς δ' ἔχει καὶ τὸ ἀνάπαλιν λέγειν περὶ αὐτῶν, ὡς διὰ τὸ τὰς ἀρχὰς ἐν τούτοις εἶναι ταῦτα τιμιώτερα τῶν ἀντικειμένων μορίων ἐστίν.

Κεφάλαιο 6

Ὅτι μὲν οὖν ἐκ τῶν δεξιῶν ἡ τῆς κινήσεώς ἐστιν ἀρχή, φανερὸν ἐκ τῶν εἰρημένων. ἐπεὶ δ’ ἀνάγκη παντὸς συνεχοῦς, οὗ τὸ μὲν κινεῖται τὸ δ’ ἠρεμεῖ, ὅλου δυναμένου κινεῖσθαι ἑστῶτος θατέρου, ᾗ ἄμφω κινεῖται τὰς ἐναντίας κινήσεις, εἶναι τὸ κοινόν, καθ’ ὃ συνεχῆ ταῦτ’ ἐστιν ἀλλήλοις, κἀνταῦθ’ ὑπάρχειν τὴν ἀρχὴν τῆς ἑκατέρου τῶν μερῶν κινήσεως, ὁμοίως δὲ καὶ τῆς στάσεως δηλονότι, καθ’ ὅσας τῶν λεχθεισῶν ἀντιθέσεων ἰδία κίνησις ὑπάρχει τῶν ἀντικειμένων μερῶν ἑκατέρῳ, πάντα ταῦτα κοινὴν ἀρχὴν ἔχει κατὰ τὴν τῶν εἰρημένων μερῶν σύμφυσιν, λέγω δὲ τῶν τε δεξιῶν καὶ τῶν ἀριστερῶν καὶ τῶν ἄνω καὶ κάτω καὶ τῶν ἔμπροσθεν καὶ τῶν ὄπισθεν. κατὰ μὲν οὖν τὸ ἔμπροσθεν καὶ τὸ ὄπισθεν διάληψις οὐκ ἔστι τοιαύτη περὶ τὸ κινοῦν ἑαυτό, διὰ τὸ μηθενὶ φυσικὴν ὑπάρχειν κίνησιν εἰς τὸ ὄπισθεν, μηδὲ διορισμὸν ἔχειν τὸ κινούμενον, καθ’ ὃν τὴν ἐφ’ ἑκάτερα τούτων μεταβολὴν ποιεῖται· κατὰ δὲ τὸ δεξιόν γε καὶ ἀριστερὸν καὶ τὸ ἄνω καὶ τὸ κάτω ἔστι. διὸ τῶν ζῴων ὅσα μέρεσιν (707a.) ὀργανικοῖς χρώμενα προέρχεται, τῇ μὲν τοῦ ἔμπροσθεν καὶ ὄπισθεν διαφορᾷ οὐκ ἔχει διωρισμένα ταῦτα, ταῖς δὲ λοιπαῖς, ἀμφοτέραις μέν, προτέρᾳ δὲ τῇ κατὰ τὸ δεξιὸν καὶ ἀριστερὸν διοριζούσῃ, διὰ τὸ τὴν μὲν ἐν τοῖς δυσὶν εὐθέως ἀναγκαῖον εἶναι ὑπάρχειν, τὴν δ’ ἐν τοῖς τέτταρσι πρώτοις.

ἐπεὶ οὖν τό τε ἄνω καὶ τὸ κάτω καὶ τὸ δεξιὸν καὶ ἀριστερὸν τῇ αὐτῇ ἀρχῇ καὶ κοινῇ συνήρτηται πρὸς αὑτά (λέγω δὲ ταύτην τὴν τῆς κινήσεως κυρίαν), δεῖ δ’ ἐν ἅπαντι τῷ μέλλοντι κατὰ τρόπον ποιεῖσθαι τὴν ἀφ’ ἑκάστου κίνησιν ὡρίσθαι πως καὶ τετάχθαι ταῖς ἀποστάσεσι ταῖς πρὸς τὰς ῥηθείσας ἀρχάς (τάς τε ἀντιστοίχους καὶ τὰς συστοίχους τῶν ἐν τοῖς μέρεσι τούτοις) τὸ τῶν λεχθεισῶν κινήσεων ἁπασῶν αἴτιον, (αὕτη δ’ ἐστὶν ἀφ’ ἧς ἀρχῆς κοινῆς τῶν ἐν τῷ ζῴω ἥ τε τοῦ δεξιοῦ καὶ ἀριστεροῦ κίνησίς ἐστιν, ὁμοίως δὲ καὶ ἡ τοῦ ἄνω καὶ κάτω) ταύτην δ’ ἔχειν ἑκάστῳ ᾗ παραπλησίως πρὸς ἑκάστην τῶν ἐν τοῖς ῥηθεῖσι μέρεσιν ἀρχῶν, δῆλον οὖν ὡς ἢ μόνοις ἢ μάλιστα τούτοις ὑπάρχει τῶν ζῴων ἡ κατὰ τόπον κίνησις, ἃ δυσὶν ἢ τέτταρσι ποιεῖται σημείοις τὴν κατὰ τόπον μεταβολήν.

Κεφάλαιο 7

ὥστ’ ἐπεὶ σχεδὸν τοῖς ἐναίμοις τοῦτο μάλιστα συμβέβηκε, φανερὸν ὅτι πλείοσί τε σημείοις τεττάρων οὐθὲν οἷόν τε κινεῖσθαι τῶν ἐναίμων ζῴων, καὶ εἴ τι τέτταρσι σημείοις κινεῖσθαι πέφυκε μόνον, ἀναγκαῖον τοῦτ’ εἶναι ἔναιμον. ὁμολογεῖ δὲ τοῖς λεχθεῖσι καὶ τὰ συμβαίνοντα περὶ τὰ ζῷα. τῶν μὲν γὰρ ἐναίμων οὐδὲν εἰς πλείω διαιρούμενον δύναται ζῆν οὐθένα χρόνον ὡς εἰπεῖν, τῆς τε κατὰ τόπον κινήσεως, καθ’ ἣν ἐκινεῖτο συνεχὲς ὂν καὶ μὴ διῃρημένον, οὐ δύναται κοινωνεῖν· τῶν δ’ ἀναίμων τε καὶ πολυπόδων ἔνια διαιρούμενα δύναται ζῆν πολὺν χρόνον ἑκάστῳ τῶν μερῶν, καὶ κινεῖσθαι τὴν αὐτὴν ἥνπερ καὶ πρὶν διαιρεθῆναι κίνησιν, οἷον αἵ τε καλούμεναι σκολόπενδραι καὶ ἄλλα τῶν ἐντόμων καὶ προμήκων· πάντων γὰρ τούτων καὶ (707b.) τὸ ὄπισθεν μέρος ἐπὶ τὸ αὐτὸ ποιεῖται τὴν πορείαν τῷ ἔμπροσθεν. αἴτιον δὲ τοῦ διαιρούμενα ζῆν ὅτι, καθάπερ ἂν εἴ τι συνεχὲς ἐκ πολλῶν εἴη ζῴων συγκείμενον, οὕτως ἕκαστον αὐτῶν συνέστηκε. φανερὸν δὲ τοῦτο ἐκ τῶν πρότερον εἰρημένων, διότι τοῦτον ἔχει τὸν τρόπον. δυσὶ γὰρ ἢ τέτταρσι κινεῖσθαι πέφυκε σημείοις τὰ μάλιστα συνεστηκότα κατὰ φύσιν, ὁμοίως δὲ καὶ τῶν ἐναίμων ὅσα ἄποδά ἐστι. καὶ γὰρ ταῦτα κινεῖται τέτταρσι σημείοις, δι’ ὧν τὴν κίνησιν ποιεῖται. δυσὶ γὰρ χρώμενα προέρχεται καμπαῖς· τὸ γὰρ δεξιὸν καὶ ἀριστερὸν τὸ πρόσθιον καὶ ὀπίσθιον ἐν τῷ πλάτει ἐστὶν ἐν ἑκατέρᾳ τῇ καμπῇ αὐτοῖς, ἐν μὲν τῷ πρὸς τὴν κεφαλὴν μέρει τὸ πρόσθιον σημεῖον δεξιόν τε καὶ ἀριστερόν, ἐν δὲ τῷ πρὸς τὴν οὐρὰν τὰ ὀπίσθια σημεῖα. δοκεῖ δὲ δυοῖν σημείοιν κινεῖσθαι, τῇ τ’ ἔμπροσθεν ἁφῇ καὶ τῇ ὕστερον.

αἴτιον δ’ ὅτι στενὸν κατὰ πλάτος ἐστίν, ἐπεὶ καὶ ἐν τούτοις τὸ δεξιὸν ἡγεῖται, καὶ ἀνταποδίδωσι κατὰ τὸ ὄπισθεν, ὥσπερ ἐν τοῖς τετράποσι. τῶν δὲ κάμψεων αἴτιον τὸ μῆκος· ὥσπερ γὰρ οἱ μακροὶ τῶν ἀνθρώπων λορδοὶ βαδίζουσι, καὶ τοῦ δεξιοῦ ὤμου εἰς τὸ πρόσθεν ἡγουμένου (τὸ γὰρ ἀριστερὸν ἰσχίον εἰς | τοὔπισθεν μᾶλλον ἀποκλίνει, καὶ τὸ μέσον κοῖλον γίνεται καὶ λορδόν) οὕτω δεῖ νοεῖν καὶ τοὺς ὄφεις κινουμένους ἐπὶ τῇ γῇ λορδούς. σημεῖον δ’ ὅτι ὁμοίως κινοῦνται τοῖς τετράποσιν· ἐν μέρει γὰρ μεταβάλλουσι τὸ κοῖλον καὶ τὸ κυρτόν. ὅταν γὰρ τὸ ἀριστερὸν πάλιν τῶν προσθίων ἡγήσηται, ἐξ ἐναντίας πάλιν τὸ κοῖλον γίνεται· τὸ γὰρ δεξιὸν ἐντὸς πάλιν γίνεται.

σημεῖον δεξιὸν πρόσθιον ἐφ’ οὗ Α, ἀριστερὸν ἐφ’ οὗ Β, ὀπίσθιον ἀριστερὸν ἐφ’ οὗ Γ, δεξιὸν ἐφ’ οὗ Δ. οὕτω δὲ κινοῦνται τῶν μὲν χερσαίων οἱ ὄφεις, τῶν δ’ ἐνύδρων αἱ ἐγχέλεις καὶ οἱ γόγγροι καὶ αἱ μύραιναι, καὶ τῶν ἄλλων ὅσα ἔχει τὴν μορφὴν ὀφιωδεστέραν. πλὴν ἔνια μὲν τῶν ἐνύδρων τῶν τοιούτων οὐδὲν ἔχει πτερύγιον, οἷον αἱ μύραιναι, ἀλλὰ χρῆται τῇ (708a.) θαλάττῃ ὥσπερ οἱ ὄφεις τῇ γῇ καὶ τῇ θαλάττῃ (νέουσι γὰρ οἱ ὄφεις ὁμοίως καὶ ὅταν κινῶνται ἐπὶ τῆς γῆς)· τὰ δὲ δύ’ ἔχει πτερύγια μόνον, οἷον οἵ τε γόγγροι καὶ αἱ ἐγχέλυες καὶ γένος τι κεστρέων, οἳ γίνονται ἐν τῇ λίμνῃ τῇ ἐν Σιφαῖς. καὶ διὰ τοῦτο ταῖς καμπαῖς ἐλάττοσι κινοῦνται ἐν τῷ ὑγρῷ ἢ ἐν τῇ γῇ τὰ ζῆν εἰωθότα ἐν τῇ γῇ, καθάπερ τὸ τῶν ἐγχελύων γένος. οἱ δὲ δύο πτερύγια ἔχοντες τῶν κεστρέων τῇ καμπῇ ἀνισάζουσιν ἐν τῷ ὑγρῷ τὰ τέτταρα σημεῖα.

Κεφάλαιο 8

τοῖς δ’ ὄφεσιν αἴτιον τῆς ἀποδίας τό τε τὴν φύσιν μηθὲν ποιεῖν μάτην, ἀλλὰ πάντα πρὸς τὸ ἄριστον ἀποβλέπουσαν ἑκάστῳ <ἐκ> τῶν ἐνδεχομένων, διασώζουσαν ἑκάστου τὴν ἰδίαν | οὐσίαν καὶ τὸ τί ἦν αὐτῷ εἶναι· ἔτι δὲ καὶ τὸ πρότερον ἡμῖν εἰρημένον, τὸ τῶν ἐναίμων μηθὲν οἷόν τ’ εἶναι πλείοσι κινεῖσθαι σημείοις ἢ τέτταρσιν. ἐκ τούτων γὰρ φανερὸν ὅτι τῶν ἐναίμων ὅσα κατὰ τὸ μῆκος ἀσύμμετρά ἐστι πρὸς τὴν ἄλλην τοῦ σώματος φύσιν, καθάπερ οἱ ὄφεις, οὐθὲν αὐτῶν οἷόν θ’ ὑπόπουν εἶναι. πλείους μὲν γὰρ τεττάρων οὐχ οἷόν τε αὐτὰ πόδας ἔχειν (ἄναιμα γὰρ ἂν ἦν), ἔχοντα δὲ δύο πόδας ἢ τέτταρας σχεδὸν ἦν ἂν ἀκίνητα πάμπαν· οὕτω βραδεῖαν ἀναγκαῖον εἶναι καὶ ἀνωφελῆ τὴν κίνησιν.

Ἅπαν δὲ τὸ ὑπόπουν ἐξ ἀνάγκης ἀρτίους ἔχει τοὺς πόδας· ὅσα μὲν γὰρ ἅλσει χρώμενα μόνον ποιεῖται τὴν κατὰ τόπον μεταβολήν, οὐθὲν ποδῶν πρός γε τὴν τοιαύτην δεῖται κίνησιν· ὅσα δὲ χρῆται μὲν ἅλσει, μή ἐστι δ’ αὐτοῖς αὐτάρκης αὕτη ἡ κίνησις ἀλλὰ καὶ πορείας προσδέονται, δῆλον ὡς τοῖς μὲν βέλτιον τοῖς δ’ ὅλως ἀδύνατον πορεύεσθαι. [διότι πᾶν ζῷον ἀναγκαῖον ἀρτίους ἔχειν τοὺς πόδας.] οὔσης γὰρ τῆς τοιαύτης μεταβολῆς κατὰ μέρος, ἀλλ’ οὐκ ἀθρόῳ παντὶ τῷ σώματι καθάπερ τῆς ἅλσεως, ἀναγκαῖόν ἐστι τοῖς μὲν μένειν μεταβαλλόντων τῶν ποδῶν τοῖς δὲ κινεῖσθαι, καὶ τοῖς ἀντικειμένοις τούτων ποιεῖν ἑκάτερον, μεταβάλλον ἀπὸ τῶν κινουμένων ἐπὶ τὰ μένοντα τὸ βάρος. διόπερ οὔτε τρισὶ (708b.) μὲν οὐθὲν οὔθ’ ἑνὶ χρώμενον βαδίζειν οἷόν τε· τὸ μὲν γὰρ οὐθὲν ὅλως ὑπόστημα ἔχει ἐφ’ ᾧ τὸ τοῦ σώματος ἕξει βάρος, τὸ δὲ κατὰ τὴν ἑτέραν ἀντίθεσιν μόνην, ὥστ’ ἀναγκαῖον αὐτὸ οὕτως ἐπιχειροῦν κινεῖσθαι πίπτειν. ὅσα δὲ πολύποδά ἐστιν, οἷον αἱ σκολόπενδραι, τούτοις δυνατὸν μὲν καὶ ἀπὸ περιττῶν ποδῶν πορείαν γίνεσθαι, καθάπερ φαίνεται ποιούμενα καὶ νῦν, ἄν τις αὐτῶν ἕνα πηρώσῃ τῶν ποδῶν, διὰ τὸ τὴν τῶν ἀντιστοίχων ποδῶν κολόβωσιν ἰᾶσθαι τῷ λοιπῷ πλήθει τῶν ἐφ’ ἑκάτερα ποδῶν· γίνεται γὰρ τούτοις οἷον ἔφελξις τοῦ πεπηρωμένου μορίου τοῖς ἄλλοις [ἀλλ’ οὐ βάδισις].

οὐ μὴν ἀλλὰ φανερόν γε ὅτι βέλτιον ἂν καὶ ταῦτα ποιοῖτο τὴν μεταβολὴν ἀρτίους ἔχοντα τοὺς πόδας, καὶ μηθενὸς ἐλλείποντος, ἀλλ’ ἀντιστοίχους ἔχοντα τοὺς πόδας· οὕτω γὰρ <ἂν> αὐτῶν ἀνισάζειν τε δύναιντο τὸ βάρος καὶ μὴ ταλαντεύειν ἐπὶ θάτερα μᾶλλον, εἰ ἀντίστοιχα ἐρείσματ’ ἔχοι καὶ μὴ κενὴν τὴν ἑτέραν χώραν τῶν ἀντικειμένων. προβαίνει δ’ ἀφ’ ἑκατέρου τῶν μερῶν ἐναλλὰξ πορευόμενον· οὕτω γὰρ εἰς ταὐτὸ τῷ ἐξ ἀρχῆς σχήματι γίνεται ἡ κατάστασις.

Κεφάλαιο 9

Ὅτι μὲν οὖν ἀρτίους ἔχει τοὺς πόδας πάντα, καὶ διὰ τίν’ αἰτίαν εἴρηται· ὅτι δ’ εἰ μηθὲν ἦν ἠρεμοῦν, οὐκ ἂν ἦν κάμψις οὐδ’ εὔθυνσις, ἐκ τῶνδε δῆλον. ἔστι γὰρ κάμψις μὲν ἡ ἐξ εὐθέος ἢ εἰς περιφερὲς ἢ εἰς γωνίαν μεταβολή, εὔθυνσις δ’ ἡ ἐκ θατέρου τούτων εἰς εὐθύ. ἐν ἁπάσαις δὲ ταῖς εἰρημέναις μεταβολαῖς ἀνάγκη πρὸς ἓν σημεῖον τὴν κάμψιν ἢ τὴν εὔθυνσιν γίνεσθαι. ἀλλὰ μὴν κάμψεώς γε μὴ οὔσης οὔτ’ ἂν πορεία οὔτε νεῦσις οὔτε πτῆσις ἦν. τὰ μὲν γὰρ ὑπόποδα ἐπειδὴ ἐν ἑκατέρῳ τῶν ἀντικειμένων σκελῶν ἐν μέρει ἵσταται καὶ τὸ βάρος ἴσχει, ἀναγκαῖον θατέρου προβαίνοντος θατέρου ποιεῖσθαι κάμψιν. ἴσα τε γὰρ πέφυκεν ἔχειν τῷ μήκει τὰ ἀντίστοιχα κῶλα, καὶ ὀρθὸν δεῖ εἶναι τὸ ὑφεστὸς τῷ βάρει, οἷον κάθετον πρὸς τὴν γῆν. ὅταν δὲ προβαίνῃ, (709a.) γίνεται ἡ ὑποτείνουσα καὶ δυναμένη τὸ μένον μέγεθος καὶ τὴν μεταξύ. ἐπεὶ δ’ ἴσα τὰ κῶλα, ἀνάγκη κάμψαι τὸ μένον, ἢ ἐν τῷ γόνατι ἢ ἐν τῇ κάμψει, οἷον εἴ τι ἀγόνατον εἴη τῶν βαδιζόντων. σημεῖον δ’ ὅτι οὕτως ἔχει· εἰ γάρ τις ἐν γῇ **** βαδίζοι παρὰ τοῖχον, ἡ γραφομένη ἔσται οὐκ εὐθεῖα ἀλλὰ σκολιά, διὰ τὸ ἐλάττω μὲν κάμπτοντος γίνεσθαι τὴν γραφομένην, μείζω δ’ ἱσταμένου καὶ ἐξαίροντος.

ἐνδέχεται μέντοι κινεῖσθαι καὶ μὴ ἔχοντος καμπὴν τοῦ σκέλους, ὥσπερ τὰ παιδία ἕρπουσι. καὶ περὶ τῶν ἐλεφάντων ὁ παλαιὸς ἦν λόγος τοιοῦτος, οὐκ ἀληθὴς ὤν. κινεῖται δὲ καὶ τὰ τοιαῦτα κάμψεως γινομένης ἐν ταῖς ὠμοπλάταις ἢ τοῖς ἰσχίοις. ἀλλ’ ὀρθὸν οὐδὲν δύναιτ’ ἂν πορευθῆναι συνεχῶς καὶ ἀσφαλῶς, κινηθείη δ’ ἂν οἷον ἐν ταῖς παλαίστραις οἱ διὰ τῆς κόνεως προϊόντες ἐπὶ τῶν γονάτων· πολὺ γὰρ τὸ ἄνω μέρος, ὥστε δεῖ μακρὸν εἶναι τὸ κῶλον· εἰ δὲ τοῦτο, κάμψιν ἀναγκαῖον εἶναι. ἐπεὶ γὰρ ἕστηκε πρὸς ὀρθήν, εἰ ἄκαμπτον ἔσται τὸ κινούμενον εἰς τὸ πρόσθεν, ἢ καταπεσεῖται ἐλάττονος τῆς ὀρθῆς γινομένης, ἢ οὐ προβήσεται.

εἰ γὰρ ὀρθοῦ ὄντος θατέρου σκέλους θάτερον ἔσται προβεβηκός, μεῖζον ἔσται, ἴσον ὄν· δυνήσεται γὰρ τοῦτο τό τ’ ἠρεμοῦν καὶ τὴν ὑποτείνουσαν. ἀνάγκη ἄρα κάμπτεσθαι τό τε προϊόν, καὶ κάμψαν ἅμα ἐκτείνειν θάτερον, ἐκκλίνειν τε καὶ διαβεβηκέναι καὶ ἐπὶ τῆς καθέτου μένειν· ἰσοσκελὲς γὰρ γίνεται τρίγωνον τὰ κῶλα, καὶ ἡ κεφαλὴ γίνεται κατώτερον, ὅταν κάθετος ᾖ ἐφ’ ἧς βέβηκε. τὰ δ’ ἄποδα τὰ μὲν κυμαίνοντα προέρχεται (τοῦτο δὲ διττῶς συμβαίνει· τὰ μὲν γὰρ ἐπὶ τῆς γῆς, καθάπερ οἱ ὄφεις, τὰς καμπὰς ποιεῖται, τὰ δ’ εἰς τὸ ἄνω, ὥσπερ αἱ κάμπαι), ἡ δὲ κύμανσις καμπή ἐστι· τὰ δ’ ἰλυσπάσει χρώμενα, καθάπερ τὰ καλούμενα γῆς ἔντερα καὶ βδέλλαι. ταῦτα γὰρ τῷ μὲν ἡγουμένῳ προέρχεται, τὸ δὲ λοιπὸν σῶμα πᾶν πρὸς τοῦτο συνάγουσι, καὶ τοῦτον τὸν τρόπον εἰς τόπον ἐκ τόπου μεταβάλλουσι. φανερὸν δ’ ὅτι εἰ μὴ αἱ δύο τῆς μιᾶς μείζους ἦσαν, οὐκ ἂν ἐδύναντο (709b.) κινεῖσθαι τὰ κυμαίνοντα τῶν ζῴων. ἐκταθείσης γὰρ τῆς καμπῆς, εἰ ἴσην κατεῖχεν, οὐθὲν ἂν προῄεσαν· νῦν δ’ ὑπερβάλλει ἐκταθεῖσα, καὶ ἠρεμήσαντος τούτου ἐπάγει τὸ λοιπόν. ἐν ἁπάσαις δὲ ταῖς λεχθείσαις μεταβολαῖς τὸ κινούμενον ὁτὲ μὲν ἐκτεινόμενον εἰς εὐθὺ προέρχεται, ὁτὲ δὲ συγκαμπτόμενον, τοῖς μὲν ἡγουμένοις μέρεσιν εὐθὺ γινόμενον, τοῖς δ’ ἑπομένοις συγκαμπτόν. ποιεῖται δὲ καὶ τὰ ἁλλόμενα πάντα τὴν κάμψιν ἐν τῷ ὑποκειμένῳ μέρει τοῦ σώματος, καὶ τοῦτον τὸν τρόπον ἔχοντα ἅλλεται. καὶ τὰ πετόμενα δὲ καὶ τὰ νέοντα, τὰ μὲν τὰς πτέρυγας εὐθύνοντα καὶ κάμπτοντα πέταται, τὰ δὲ τοῖς πτερυγίοις, καὶ τούτων τὰ μὲν τέτταρσι τὰ δὲ δυσίν, ὅσα προμηκέστερα τὴν μορφήν, ὥσπερ τὸ τῶν ἐγχελύων γένος· τὴν δὲ λοιπὴν κίνησιν ἀντὶ τῶν δύο πτερυγίων τῷ λοιπῷ τοῦ σώματος καμπτόμενα νεῖ, καθάπερ εἴρηται πρότερον. οἱ δὲ πλατεῖς τῶν ἰχθύων τῇ μὲν τῷ πλάτει χρῶνται τοῦ σώματος ἀντὶ πτερυγίων, τῇ δὲ πτερυγίοις δυσί. τὰ δὲ πάμπαν πλατέα, καθάπερ ὁ βάτος, αὐτοῖς τοῖς πτερυγίοις καὶ ταῖς ἐσχάταις τοῦ σώματος περιφερείαις εὐθύνοντα καὶ κάμπτοντα ποιεῖται τὴν νεῦσιν.

Κεφάλαιο 10

Ἀπορήσειε δ’ ἄν τις ἴσως πῶς κινοῦνται τέτταρσι σημείοις οἱ ὄρνιθες, ἢ πετόμενοι ἢ πορευόμενοι, ὡς εἰρημένου ὅτι πάντα τὰ ἔναιμα κινεῖται τέτταρσιν. οὐκ εἴρηται δέ, ἀλλ’ ὅτι οὐ πλείοσιν. οὐ μὴν ἀλλ’ οὔτ’ ἂν πέτεσθαι δύναιντο ἀφαιρεθέντων τῶν κώλων οὔτε πορεύεσθαι τῶν πτερύγων ἀφαιρεθεισῶν, ἐπεὶ οὐδ’ ἄνθρωπος βαδίζειν μὴ κινῶν τι τοὺς ὤμους. ἀλλὰ πάντα γε, καθάπερ εἴρηται, κάμψει καὶ ἐκτάσει ποιεῖται τὴν μεταβολήν· ἅπαντα γὰρ εἰς τὸ ὑποκείμενον μέχρι τινὸς οἷον εἰς ὑπεῖκον προέρχεται, ὥστ’ ἀναγκαῖον, εἰ μὴ καὶ κατ’ ἄλλο μόριον γίνεται ἡ κάμψις, ἀλλ’ ὅθεν γε ἡ ἀρχὴ τοῖς μὲν ὁλοπτέροις τοῦ πτεροῦ, τοῖς δ’ ὄρνισι τῆς πτέρυγος, τοῖς δ’ ἄλλοις τοῦ ἀνάλογον μορίου, καθάπερ τοῖς ἰχθύσι. τοῖς δ’, ὥσπερ οἱ ὄφεις, ἐν ταῖς (710a.) καμπαῖς τοῦ σώματός ἐστιν ἡ ἀρχὴ τῆς κάμψεως. τὸ δ’ ὀρροπύγιόν ἐστι τοῖς πτηνοῖς πρὸς τὸ κατευθύνειν τὴν πτῆσιν, καθάπερ τὰ πηδάλια τοῖς πλοίοις. ἀναγκαῖον δὲ καὶ ταῦτα ἐν τῇ προσφύσει κάμπτειν. διόπερ τά τε ὁλόπτερα καὶ τῶν σχιζοπτέρων οἷς τὸ ὀρροπύγιον ἀφυῶς ἔχει πρὸς τὴν εἰρημένην χρῆσιν, οἷον τοῖς τε ταῴς καὶ τοῖς ἀλεκτρυόσι καὶ ὅλως τοῖς μὴ πτητικοῖς, οὐκ εὐθυποροῦσι· τῶν μὲν γὰρ ὁλοπτέρων ἁπλῶς οὐθὲν ἔχει ὀρροπύγιον, ὥστε καθάπερ ἀπήδαλον πλοῖον φέρεται, καὶ ὅπου ἂν τύχῃ ἕκαστον αὐτῶν προσπίπτει, ὁμοίως <δὲ> τά τε κολεόπτερα, οἷον κάνθαροι καὶ μηλολόνθαι, καὶ τὰ ἀνέλυτρα, οἷον μέλιτται καὶ σφῆκες. καὶ τοῖς μὴ πτητικοῖς ἀχρεῖον τὸ ὀρροπύγιόν ἐστιν, οἷον τοῖς τε πορφυρίωσι καὶ ἐρωδιοῖς καὶ πᾶσι τοῖς πλωτοῖς· ἀλλ’ ἀντὶ τοῦ ὀρροπυγίου πέτανται τοὺς πόδας ἀποτείνοντα, καὶ χρῶνται ἀντ’ ὀρροπυγίου τοῖς σκέλεσι πρὸς τὸ κατευθύνειν τὴν πτῆσιν. βραδεῖα δ’ ἡ πτῆσις τῶν ὁλοπτέρων ἐστὶ καὶ ἀσθενὴς διὰ τὸ μὴ κατὰ λόγον ἔχειν τὴν τῶν πτερῶν φύσιν πρὸς τὸ τοῦ σώματος βάρος, ἀλλὰ τὸ μὲν πολύ, τὰ δὲ μικρὰ καὶ ἀσθενῆ. ὥσπερ ἂν οὖν εἰ ὁλκαδικὸν πλοῖον ἐπιχειροίη κώπαις ποιεῖσθαι τὸν πλοῦν, οὕτω ταῦτα τῇ πτήσει χρῆται. καὶ ἡ ἀσθένεια δὲ αὐτῶν τε τῶν πτερῶν καὶ ἡ τῆς ἐκφύσεως συμβάλλεταί τι πρὸς τὸ λεχθέν. τῶν δ’ ὀρνίθων τῷ μὲν ταῷ τὸ ὀρροπύγιον ὁτὲ μὲν διὰ τὸ μέγεθος ἄχρηστον, ὁτὲ δὲ διὰ τὸ ἀποβάλλειν οὐθὲν ὠφελεῖ. ὑπεναντίως δ’ ἔχουσιν οἱ ὄρνιθες τοῖς ὁλοπτέροις τὴν τῶν πτερῶν φύσιν, μάλιστα δ’ οἱ τάχιστα αὐτῶν πετόμενοι. τοιοῦτοι δ’ οἱ γαμψώνυχες· τούτοις γὰρ ἡ ταχυτὴς τῆς πτήσεως χρήσιμος πρὸς τὸν βίον.

ἀκόλουθα δ’ αὐτῶν ἔοικεν εἶναι καὶ τὰ λοιπὰ μόρια τοῦ σώματος πρὸς τὴν ὠκεῖαν κίνησιν, κεφαλὴ μὲν ἁπάντων μικρὰ καὶ αὐχὴν οὐ παχύς, στῆθος δ’ ἰσχυρὸν καὶ ὀξύ, ὀξὺ μὲν πρὸς τὸ εὔτονον εἶναι, καθάπερ ἂν εἰ πλοίου πρώρα λεμβώδους, ἰσχυρὸν δὲ τῇ φύσει τῆς σαρκός, ἵν’ ἀπωθεῖν τε (710b.) δύνηται τὸν προσπίπτοντα ἀέρα· καὶ τοῦτο δρᾷ ῥᾳδίως καὶ μὴ μετὰ πόνου· τὰ δ’ ὄπισθεν κοῦφα καὶ συνήκοντα πάλιν εἰς στενόν, ἵν’ ἐπακολουθῇ τοῖς ἔμπροσθεν, μὴ σύροντα τὸν ἀέρα διὰ τὸ πλάτος.

Κεφάλαιο 11

Καὶ περὶ μὲν τούτων διωρίσθω τὸν τρόπον τοῦτον, τὸ δὲ μέλλον ζῷον ὀρθὸν βαδιεῖσθαι διότι δίπουν τε ἀναγκαῖόν ἐστιν εἶναι, καὶ τὰ μὲν ἄνω μέρη τοῦ σώματος κουφότερα ἔχειν τὰ δ᾽ ὑφεστῶτα τούτοις βαρύτερα, δῆλον· μόνως γὰρ ἂν οὕτως ἔχον οἷόν τ᾽ εἴη φέρειν ἑαυτὸ ῥᾳδίως. διόπερ ἄνθρωπος μόνον ὀρθὸν τῶν ζῴων ὢν τὰ σκέλη κατὰ λόγον ἔχει πρὸς τὰ ἄνω τοῦ σώματος μέγιστα τῶν ὑποπόδων καὶ ἰσχυρότατα. δῆλον δὲ ποιεῖ τοῦτο καὶ τὸ συμβαῖνον τοῖς παιδίοις· οὐ γὰρ δύναται βαδίζειν ὀρθὰ διὰ τὸ πάντα νανώδη εἶναι καὶ | μείζω καὶ ἰσχυρότερα ἔχειν ἢ κατὰ λόγον τὰ ἄνω μέρη τοῦ σώματος τῶν κάτωθεν. προϊούσης δὲ τῆς ἡλικίας αὔξησιν λαμβάνει τὰ κάτω μᾶλλον, μέχρι οὗπερ ἂν λάβωσι τὸ προσῆκον μέγεθος, καὶ ποιοῦνται τότε τοῖς σώμασι τὴν βάδισιν τὴν ὀρθήν. οἱ δ᾽ ὄρνιθες κοῦφοι ὄντες δίποδές εἰσι διὰ τὸ ὄπισθεν αὐτοῖς τὸ βάρος εἶναι, καθάπερ ἐργάζονται τοὺς ἵππους τοὺς χαλκοῦς τοὺς τὰ πρόσθια ᾐρκότας τῶν σκελῶν. αἴτιον δὲ μάλιστα τοῦ δίποδας ὄντας δύνασθαι ἑστάναι τὸ ἔχειν τὸ ἰσχίον ὅμοιον μηρῷ καὶ τηλικοῦτον ὥστε δοκεῖν δύο μηροὺς ἔχειν, τόν τ᾽ ἐν τῷ σκέλει πρὸ τῆς καμπῆς καὶ τὸν πρὸς τοῦτο τὸ μέρος ἀπὸ τῆς ἕδρας· ἔστι δ᾽ οὐ μηρὸς ἀλλ᾽ ἰσχίον. εἰ γὰρ μὴ τηλικοῦτον ἦν, οὐκ ἂν ἦν ὄρνις δίπους. ὥσπερ γὰρ τοῖς ἀνθρώποις καὶ τοῖς τετράποσι ζῴοις, εὐθὺς ἂν ἦν ἀπὸ βραχέος ὄντος τοῦ ἰσχίου ὁ μηρὸς καὶ τὸ ἄλλο σκέλος· λίαν οὖν ἂν ἦν τὸ σῶμα πᾶν προπετὲς αὐτῶν. νῦν δὲ μακρὸν ὂν μέχρι ὑπὸ μέσην παρατείνει τὴν γαστέρα, ὥστ᾽ ἐντεῦθεν τὰ σκέλη ὑπερηρεισμένα φέρει τὸ σῶμα πᾶν. φανερὸν δ᾽ ἐκ τούτων καὶ ὅτι ὀρθὸν οὐκ ἐνδέχεται τὸν ὄρνιθα εἶναι ὥσπερ τὸν ἄνθρωπον. ἡ γὰρ τῶν πτερῶν φύσις ὡς ἔχουσι τὸ σῶμα νῦν (711a.) οὕτως αὐτοῖς χρήσιμός ἐστιν, ὀρθοῖς δ᾽ οὖσιν ἄχρηστος ἂν ἦν, ὥσπερ γράφουσι τοὺς ἔρωτας ἔχοντας πτέρυγας. ἅμα γὰρ τοῖς εἰρημένοις δῆλον ὅτι οὐδ᾽ ἄνθρωπον, οὐδ᾽ εἰ ἄλλο τι τοιοῦτόν ἐστι τὴν μορφήν, δυνατὸν εἶναι πτερωτόν, οὐ μόνον ὅτι πλείοσι σημείοις κινήσεται ἢ τέτταρσιν ἔναιμον ὄν, ἀλλ᾽ ὅτι ἄχρηστος αὐτοῖς ἡ τῶν πτερύγων ἕξις κατὰ φύσιν κινουμένοις· ἡ δὲ φύσις οὐδὲν ποιεῖ παρὰ φύσιν.

Κεφάλαιο 12

Ὅτι μὲν οὖν εἰ μὴ κάμψις ἦν ἐν τοῖς σκέλεσιν ἢ ἐν ταῖς ὠμοπλάταις καὶ ἰσχίοις, οὐθὲν οἷόν τ' ἦν ἂν τῶν ἐναίμων καὶ ὑποπόδων προβαίνειν, εἴρηται πρότερον, καὶ ὅτι κάμψις οὐκ ἂν ἦν μηδενὸς ἠρεμοῦντος, ὅτι τε ἐναντίως οἵ τε ἄνθρωποι δίποδες ὄντες καὶ οἱ ὄρνιθες τὴν τῶν σκελῶν ποιοῦνται κάμψιν, ἔτι δὲ τὰ τετράποδα ὑπεναντίως καὶ αὑτοῖς καὶ τοῖς ἀνθρώποις. οἱ μὲν γὰρ ἄνθρωποι τοὺς μὲν βραχίονας κάμπτουσιν ἐπὶ τὰ κοῖλα, τὰ δὲ σκέλη ἐπὶ τὸ κυρτόν, τὰ δὲ τετράποδα τὰ μὲν πρόσθια σκέλη ἐπὶ τὸ κυρτόν, τὰ δ' ὀπίσθια ἐπὶ τὸ κοῖλον· ὁμοίως δὲ καὶ οἱ ὄρνιθες. αἴτιον δ' ὅτι ἡ φύσις οὐδὲν δημιουργεῖ μάτην, ὥσπερ εἴρηται πρότερον, ἀλλὰ πάντα πρὸς τὸ βέλτιστον ἐκ τῶν ἐνδεχομένων.

ὥστ' ἐπεὶ πᾶσιν ὅσοις ὑπάρχει κατὰ φύσιν ἡ κατὰ τόπον μεταβολὴ τοῖν σκελοῖν, ἑστῶτος μὲν ἑκάστου τὸ βάρος ἐν τούτῳ ἐστί, κινουμένοις δ' εἰς τὸ πρόσθεν δεῖ τὸν πόδα τὸν ἡγούμενον τῇ θέσει κοῦφον εἶναι, συνεχοῦς δὲ τῆς πορείας γινομένης αὖθις ἐν τούτῳ τὸ βάρος ἀπολαμβάνειν, δῆλον ὡς ἀναγκαῖον ἐκ τοῦ κεκάμφθαι τὸ σκέλος αὖθις εὐθὺ γίνεσθαι μένοντος τοῦ τε κατὰ τὸν προωσθέντα πόδα σημείου καὶ τῆς κνήμης. τοῦτο δὲ συμβαίνειν ἅμα καὶ προϊέναι τὸ ζῷον εἰς τὸ ἔμπροσθεν μὲν ἔχοντος τὴν καμπὴν τοῦ ἡγουμένου σκέλους δυνατόν, εἰς τοὔπισθεν δ' ἀδύνατον. οὕτω μὲν γὰρ προενεχθέντος τοῦ σώματος ἡ ἔκτασις τοῦ σκέλους ἔσται, ἐκείνως δ' ἀνενεχθέντος. ἔτι δ' εἰς τὸ ὄπισθεν μὲν τῆς καμπῆς οὔσης διὰ δύο κινήσεων ἐγίγνετ' ἂν ἡ τοῦ ποδὸς θέσις ὑπεναντίων τε (711b.) αὐταῖς, καὶ τῆς μὲν εἰς τὸ ὄπισθεν τῆς δὲ εἰς τὸ ἔμπροσθεν· ἀναγκαῖον γὰρ ἐν τῇ συγκάμψει τοῦ σκέλους τοῦ μὲν μηροῦ τὸ ἔσχατον εἰς τοὔπισθεν προάγειν, τὴν δὲ κνήμην ἀπὸ τῆς καμπῆς εἰς τὸ ἔμπροσθεν τὸν πόδα κινεῖν· εἰς τὸ ἔμπροσθεν δὲ τῆς καμπῆς οὔσης, οὔθ' ὑπεναντίαις κινήσεσι μιᾷ τε τῇ εἰς τὸ ἔμπροσθεν ἡ λεχθεῖσα πορεία συμβήσεται. ὁ μὲν οὖν ἄνθρωπος δίπους ὢν καὶ τὴν κατὰ τόπον μεταβολὴν κατὰ φύσιν τοῖς σκέλεσι ποιούμενος διὰ τὴν εἰρημένην αἰτίαν κάμπτει εἰς τὸ ἔμπροσθεν τὰ σκέλη, τοὺς δὲ βραχίονας ἐπὶ τὸ κοῖλον εὐλόγως· ἄχρηστοι γὰρ ἂν ἦσαν καμπτόμενοι εἰς τοὐναντίον πρός τε τὴν τῶν χειρῶν χρῆσιν καὶ πρὸς τὴν τῆς τροφῆς λῆψιν. τὰ δὲ τετράποδα καὶ τὰ ζῳοτόκα τὰ μὲν ἔμπροσθεν σκέλη, ἐπειδὴ ἡγεῖταί τε τῆς πορείας αὐτῶν καὶ

ἔστι ταῦτ᾽ ἐν τῷ μέρει τῷ ἔμπροσθεν τοῦ σώματος, ἀνάγκη κάμπτειν ἐπὶ τὴν περιφέρειαν διὰ τὴν αὐτὴν αἰτίαν ἥνπερ καὶ οἱ ἄνθρωποι· κατὰ γὰρ τοῦτο ὁμοίως ἔχουσι. διόπερ καὶ τὰ τετράποδα κάμπτουσιν εἰς τὸ πρόσθεν τὸν εἰρημένον τρόπον.

καὶ γὰρ οὕτως μὲν αὐτῶν τῆς κάμψεως γινομένης ἐπὶ πολὺ δυνήσονται τοὺς πόδας μετεωρίζειν· ἐναντίως δὲ κάμπτοντες μικρὸν ἀπὸ τῆς γῆς ἂν αὐτοὺς ἐμετεώριζον διὰ τὸ τόν τε μηρὸν ὅλον καὶ τὴν καμπήν, ἀφ᾽ ἧς ἡ κνήμη πέφυκεν, ὑπὸ τῇ γαστρὶ γίγνεσθαι προϊόντος αὐτοῦ. τῶν δ᾽ ὄπισθεν σκελῶν εἰ μὲν ἦν εἰς τὸ ἔμπροσθεν ἡ κάμψις, τῶν ποδῶν ὁ μετεωρισμὸς ὁμοίως ἂν αὐτοῖς εἶχε τοῖς προσθίοις (ἐπὶ βραχὺ γὰρ ἂν ἐγίγνετο καὶ τούτοις κατὰ τὴν ἄρσιν τῶν σκελῶν, τοῦ τε μηροῦ καὶ τῆς καμπῆς ἀμφοτέρων ὑπὸ τὸν τῆς γαστρὸς τόπον ὑποπιπτόντων), εἰ δ᾽ εἰς τὸ ὄπισθεν, καθάπερ καὶ νῦν κάμπτουσιν, οὐθὲν ἐμπόδιον αὐτοῖς γίγνεται πρὸς τὴν πορείαν ἐν τῇ τοιαύτῃ κινήσει τῶν ποδῶν. ἔτι τοῖς γε θηλαζομένοις αὐτῶν καὶ πρὸς τὴν τοιαύτην λειτουργίαν ἀναγκαῖον ἢ βέλτιόν γ᾽ οὕτω κεκάμφθαι τὰ σκέλη· οὐ γὰρ ῥᾴδιον τὴν κάμψιν ποιουμένων ἐντὸς ὑφ᾽ αὐτὰ ἔχειν τὰ τέκνα καὶ σκεπάζειν.

Κεφάλαιο 13

(712a.) Ὄντων δὲ τεττάρων τρόπων τῆς κάμψεως κατὰ τοὺς συνδέσμους (ἀνάγκη γὰρ κάμπτειν ἢ ἐπὶ τὸ κοῖλον καὶ τὰ πρόσθια καὶ τὰ ὀπίσθια, καθάπερ ἐφ’ οἷς Α, ἢ ἐπὶ τοὐναντίον ἐπὶ τὸ κυρτόν, καθάπερ ἐφ’ οἷς Β, ἢ ἀντεστραμμένως μὴ ἐπὶ τὰ αὐτά, ἀλλὰ τὰ μὲν πρόσθια ἐπὶ τὸ κυρτόν, τὰ δ’ ὀπίσθια ἐπὶ τὸ κοῖλον, καθάπερ ἐφ’ οἷς τὸ Γ, ἢ τοὐναντίον τούτοις τὰ μὲν κυρτὰ πρὸς ἄλληλα, τὰ δὲ κοῖλα ἐκτός, καθάπερ ἔχει ἐφ’ οἷς τὸ Δ), ὡς μὲν ἔχει ἐφ’ οἷς τὸ Α ἢ τὸ Β, οὐθὲν κάμπτεται οὔτε τῶν διπόδων οὔτε τῶν τετραπόδων, ὡς δὲ τὸ Γ, τὰ τετράποδα, ὡς δὲ τὸ Δ, τῶν μὲν τετραπόδων οὐθὲν πλὴν ἐλέφας, ὁ δ’ ἄνθρωπος τοὺς βραχίονας καὶ τὰ σκέλη· τοὺς μὲν γὰρ ἐπὶ τὸ κοῖλον κάμπτει, τὰ δὲ σκέλη ἐπὶ τὸ κυρτόν. ἀεὶ δ’ ἐναλλὰξ ἐναντίως ἔχει τὰ κῶλα τὰς κάμψεις τοῖς ἀνθρώποις, οἷον τὸ ὠλέκρανον ἐπὶ τὸ κοῖλον, ὁ δὲ καρπὸς ἐπὶ τὸ κυρτόν, καὶ πάλιν ὁ ὦμος ἐπὶ τὸ κυρτόν· ὡσαύτως δὲ καὶ ἐπὶ τῶν σκελῶν ὁ μηρὸς ἐπὶ τὸ κοῖλον, τὸ δὲ γόνυ ἐπὶ τὸ κυρτόν, ὁ δὲ πούς τοὐναντίον ἐπὶ τὸ κοῖλον. καὶ τὰ κάτω δὴ πρὸς τὰ ἄνω φανερὸν ὅτι ἐναντίως· ἡ γὰρ ἀρχὴ ὑπεναντίως, ὁ μὲν ὦμος ἐπὶ τὸ κυρτόν, ὁ δὲ μηρὸς ἐπὶ τὸ κοῖλον· διὸ καὶ ὁ μὲν πούς ἐπὶ τὸ κοῖλον, ὁ δὲ καρπὸς τῆς χειρὸς ἐπὶ τὸ κυρτόν.

Κεφάλαιο 14

Αἱ μὲν οὖν κάμψεις τῶν σκελῶν τοῦτόν τε τὸν τρόπον ἔχουσι καὶ διὰ τὰς αἰτίας τὰς εἰρημένας, κινεῖται δὲ τὰ ὀπίσθια πρὸς τὰ ἔμπροσθεν κατὰ διάμετρον· μετὰ γὰρ τὸ δεξιὸν τῶν ἔμπροσθεν τὸ ἀριστερὸν τῶν ὄπισθεν κινοῦσιν, εἶτα τὸ ἀριστερὸν τῶν ἔμπροσθεν, μετὰ δὲ τοῦτο τὸ δεξιὸν τῶν ὄπισθεν. αἴτιον δ’ ὅτι εἰ μὲν τὰ ἔμπροσθεν ἅμα καὶ πρῶτον, διέσπαστο ἂν ἢ καὶ προπετὴς ἂν ἐγίνετο ἡ βάδισις καὶ οἷον ἐφελκομένοις τοῖς ὄπισθεν. ἔτι δ’ οὐ πορεία ἀλλὰ ἅλσις τὸ τοιοῦτον· χαλεπὸν δὲ συνεχῆ ποιεῖσθαι τὴν μεταβολὴν ἁλλόμενα. σημεῖον δέ· ταχὺ γὰρ ἀπαγορεύουσι καὶ νῦν τῶν ἵππων ὅσοι τὸν τρόπον τοῦτον ποιοῦνται τὴν κίνησιν, οἷον οἱ πομπεύοντες. χωρὶς μὲν οὖν τοῖς ἔμπροσθεν καὶ (712b.) ὄπισθεν διὰ ταῦτα οὐ ποιοῦνται τὴν κίνησιν. εἰ δὲ τοῖς δεξιοῖς ἀμφοτέροις πρώτοις, ἔξω ἂν ἐγίγνοντο τῶν ἐρεισμάτων καὶ ἔπιπτον ἄν. εἰ δὴ ἀνάγκη μὲν ἢ τούτων τῶν τρόπων ὁποτερονοῦν ποιεῖσθαι τὴν κίνησιν ἢ κατὰ διάμετρον, μὴ ἐνδέχεται δ’ ἐκείνων μηδέτερον, ἀνάγκη κινεῖσθαι κατὰ διάμετρον· οὕτω γὰρ κινούμενα ὥσπερ εἴρηται οὐδέτερα τούτων οἷόν τε πάσχειν. καὶ διὰ τοῦτο οἱ ἵπποι καὶ ὅσα τοιαῦτα, ἵσταται προβεβηκότα κατὰ διάμετρον, καὶ οὐ τοῖς δεξιοῖς ἢ τοῖς ἀριστεροῖς ἀμφοτέροις ἅμα. τὸν αὐτὸν δὲ τρόπον καὶ ὅσα πλείους πόδας ἔχει τεττάρων ποιεῖται τὴν κίνησιν· ἀεὶ γὰρ ἐν τοῖς τέτταρσι τοῖς ἐφεξῆς τὰ ὀπίσθια πρὸς τὰ ἔμπροσθεν κινεῖται κατὰ διάμετρον· δῆλον δ’ ἐπὶ τοῖς βραδέως κινουμένοις. καὶ οἱ καρκίνοι δὲ τὸν αὐτὸν τρόπον κινοῦνται· τῶν πολυπόδων γάρ εἰσιν. ἀεὶ γὰρ καὶ οὗτοι κατὰ διάμετρον κινοῦνται, ἐφ’ ὅπερ ἂν ποιῶνται τὴν πορείαν. ἰδίως γὰρ τοῦτο τὸ ζῷον ποιεῖται τὴν κίνησιν· μόνον γὰρ οὐ κινεῖται ἐπὶ τὸ πρόσθεν τῶν ζῴων, ἀλλ’ ἐπὶ τὸ πλάγιον. ἀλλ’ ἐπεὶ τοῖς ὄμμασι διώρισται τὸ πρόσθιον, ἡ φύσις πεποίηκεν ἀκολουθεῖν δυναμένους τοὺς ὀφθαλμοὺς τοῖς κώλοις· κινοῦνται γὰρ εἰς τὸ πλάγιον αὐτοῖς, ὥστε τρόπον τινὰ καὶ τοὺς καρκίνους κινεῖσθαι διὰ τοῦτ’ ἐπὶ τὸ ἔμπροσθεν.

Κεφάλαιο 15

Οἱ δ’ ὄρνιθες τὰ σκέλη καθάπερ τὰ τετράποδα κάμπτουσι. τρόπον γάρ τινα παραπλησίως ἡ φύσις αὐτῶν ἔχει· τοῖς γὰρ ὄρνισιν αἱ πτέρυγες ἀντὶ τῶν προσθίων σκελῶν εἰσι. διὸ καὶ κεκαμμέναι τὸν αὐτόν εἰσι τρόπον ὥσπερ ἐκείνοις τὰ πρόσθια σκέλη, ἐπεὶ τῆς ἐν τῇ πορείᾳ κινήσεως τούτοις ἀπὸ τῶν πτερύγων ἡ κατὰ φύσιν ἀρχὴ τῆς μεταβολῆς ἐστι· πτῆσις γάρ ἐστιν ἡ τούτων οἰκεία κίνησις. διόπερ ἀφαιρεθεισῶν τούτων οὔθ’ ἑστάναι οὔτε προϊέναι δύναιτ’ ἂν οὐθεὶς | ὄρνις. ἔτι δίποδος ὄντος καὶ οὐκ ὀρθοῦ, καὶ τὰ ἔμπροσθεν μέρη τοῦ σώματος κουφότερα ἔχοντος, ἢ ἀναγκαῖον ἢ βέλτιον πρὸς τὸ ἑστάναι δύνασθαι τὸν μηρὸν οὕτως ὑποκείμενον ἔχειν ὡς νῦν ἔχει, λέγω δ’ ὅτι εἰς τὸ ὄπισθεν πεφυκότα.

ἀλλὰ μὴν εἰ δεῖ τοῦτον ἔχειν τὸν τρόπον, ἀνάγκη τὴν (713a.) κάμψιν ἐπὶ τὸ κοῖλον γίνεσθαι τοῦ σκέλους, καθάπερ τοῖς τετράποσιν ἐπὶ τῶν ὀπισθίων, διὰ τὴν αὐτὴν αἰτίαν ἥνπερ εἴπομεν ἐπὶ τῶν τετραπόδων καὶ ζῳοτόκων. ὅλως δὲ οἵ τε ὄρνιθες καὶ τὰ ὁλόπτερα τῶν πετομένων καὶ τὰ ἐν τῷ ὑγρῷ νευστικά, ὅσα αὐτῶν δι’ ὀργάνων τὴν ἐπὶ τοῦ ὑγροῦ ποιεῖται πορείαν, οὐ χαλεπὸν ἰδεῖν ὅτι βέλτιον ἐκ πλαγίου τὴν τῶν εἰρημένων μερῶν πρόσφυσιν ἔχειν, καθάπερ καὶ φαίνεται νῦν ὑπάρχειν αὐτοῖς ἐπί τε τῶν ὀρνίθων καὶ τῶν ὁλοπτέρων. ταὐτὸ δὲ τοῦτο καὶ ἐπὶ τῶν ἰχθύων· τοῖς μὲν γὰρ ὄρνισιν αἱ πτέρυγες, τοῖς δ’ ἐνύδροις τὰ πτερύγια. [τὰ δὲ πτίλα τοῖς ὁλοπτέροις ἐκ τοῦ πλαγίου προσπέφυκεν.] οὕτω γὰρ ἂν τάχιστα καὶ ἰσχυρότατα <συστέλλοντα καὶ> διαστέλλοντα τὰ μὲν τὸν ἀέρα τὰ δὲ | τὸ ὑγρὸν ποιοῖτο τὴν κίνησιν· εἰς γὰρ τὸ ἔμπροσθεν καὶ τὰ | ὄπισθεν μόρια τοῦ σώματος ἐπακολουθοίη <ἂν> ὑπείκοντι φερόμενα τὰ μὲν ἐν τῷ ὑγρῷ τὰ δ’ ἐν τῷ ἀέρι. τὰ δὲ τρωγλόδυτα τῶν τετραπόδων καὶ ᾠοτόκων, οἷον οἵ τε κροκόδειλοι καὶ σαῦροι καὶ ἀσκαλαβῶται καὶ ἑμύδες τε καὶ χελῶναι, πάντα ἐκ τοῦ πλαγίου προσπεφυκότα τὰ σκέλη ἔχει καὶ ἐπὶ τῇ γῇ κατατεταμένα, καὶ κάμπτει εἰς τὸ πλάγιον, διὰ τὸ οὕτω χρήσιμα εἶναι πρὸς τὴν τῆς ὑποδύσεως ῥᾳστώνην καὶ πρὸς τὴν ἐπὶ τοῖς ᾠοῖς ἐφεδρείαν καὶ φυλακήν. ἔξω δ’ ὄντων αὐτῶν, ἀναγκαῖον τοὺς μηροὺς προσστέλλοντα καὶ ὑποτιθέμενα ὑφ’ αὐτὰ τὸν μετεωρισμὸν τοῦ ὅλου σώματος ποιεῖσθαι. τούτου δὲ γινομένου κάμπτειν αὐτὰ οὐχ οἷόν τε ἄλλως ἢ ἔξω.

Κεφάλαιο 16

Τὰ δ’ ἄναιμα τῶν ὑποπόδων ὅτι μὲν πολύποδά ἐστι καὶ οὐθὲν αὐτῶν τετράπουν, πρότερον ἡμῖν εἴρηται· διότι δ’ αὐτῶν ἀναγκαῖον ἦν τὰ σκέλη πλὴν τῶν ἐσχάτων ἔκ τε τοῦ πλαγίου προσπεφυκέναι καὶ εἰς τὸ ἄνω τὰς καμπὰς ἔχειν, καὶ αὐτὰ ὑπόβλαισα εἶναι εἰς τὸ ὄπισθεν, φανερόν.

ἁπάντων γὰρ τῶν τοιούτων ἀναγκαῖόν ἐστι τὰ μέσα τῶν σκελῶν καὶ ἡγούμενα εἶναι καὶ ἑπόμενα. εἰ οὖν ὑπ’ αὐτοῖς ἦν, (713b.) ἔδει αὐτὰ καὶ εἰς τὸ ἔμπροσθεν καὶ εἰς τὸ ὄπισθεν τὴν καμπὴν ἔχειν, διὰ μὲν τὸ ἡγεῖσθαι εἰς τὸ ἔμπροσθεν, διὰ δὲ τὸ ἀκολουθεῖν εἰς τὸ ὄπισθεν. ἐπεὶ δ’ ἀμφότερα συμβαίνειν ἀναγκαῖον αὐτοῖς, διὰ τοῦτο βεβλαίσωταί τε καὶ εἰς τὸ πλάγιον ἔχει τὰς καμπάς, πλὴν τῶν ἐσχάτων· ταῦτα δ’ ὥσπερ πέφυκε μᾶλλον, τὰ μὲν ὡς ἑπόμενα τὰ δ’ ὡς ἡγούμενα. ἔτι δὲ κέκαμπται τὸν τρόπον τοῦτον καὶ διὰ τὸ πλῆθος τῶν σκελῶν· ἧττον γὰρ ἂν οὕτως ἐν τῇ πορείᾳ ἐμπόδιά τε αὐτὰ αὑτοῖς εἴη καὶ προσκόπτοι. ἡ δὲ βλαισότης αὐτοῖς ἐστι διὰ τὸ τρωγλοδυτικὰ εἶναι πάντα ἢ τὰ πλεῖστα· οὐ γὰρ οἷόν τε ὑψηλὰ εἶναι τὰ ζῶντα τὸν τρόπον τοῦτον. οἱ δὲ καρκίνοι τῶν πολυπόδων περιττότατα πεφύκασιν· οὔτε γὰρ εἰς τὸ | πρόσθεν ποιοῦνται τὴν πορείαν πλὴν ὥσπερ εἴρηται πρότερον, | πολλούς τε τοὺς ἡγουμένους <πόδας> ἔχουσι μόνοι τῶν ζῴων. τούτου δ’ αἴτιον ἡ σκληρότης τῶν ποδῶν, καὶ ὅτι οὐ χρῶνται νεύσεως χάριν αὐτοῖς ἀλλὰ πορείας· πεζεύοντα γὰρ διατελοῦσι. πάντων μὲν οὖν τῶν πολυπόδων εἰς τὸ πλάγιον αἱ καμπαί, ὥσπερ καὶ τῶν τετραπόδων ὅσα τρωγλόδυτα· τοιαῦτα δ’ ἐστὶν οἷον σαῦραι καὶ κροκόδειλοι καὶ τὰ πολλὰ τῶν ᾠοτοκούντων. αἴτιον δ’ ὅτι τρωγλοδυτεῖ τὰ μὲν τοῖς τόκοις, τὰ δὲ καὶ τῷ βίῳ παντί.

Κεφάλαιο 17

ἀλλὰ τῶν μὲν ἄλλων βλαισοῦνται τὰ κῶλα διὰ τὸ μαλακὰ εἶναι, τῶν δὲ καράβων ὄντων σκληροδέρμων οἱ πόδες εἰσὶν ἐπὶ τῷ νεῖν καὶ οὐ τοῦ βαδίζειν χάριν· τῶν δὲ καρκίνων ἡ κάμψις εἰς τὸ πλάγιον, καὶ οὐ βεβλαίσωται ὥσπερ τοῖς τε ᾠοτόκοις τῶν τετραπόδων καὶ τοῖς ἀναίμοις καὶ πολύποσι διὰ τὸ σκληρόδερμα εἶναι τὰ κῶλα καὶ ὀστρακώδη, ὄντι οὐ νευστικῷ καὶ τρωγλοδύτῃ· πρὸς τῇ γῇ γὰρ ὁ βίος. καὶ στρογγύλος δὲ τὴν μορφήν, καὶ οὐκ ἔχων ὀρροπύγιον ὥσπερ ὁ κάραβος· πρὸς τὴν νεῦσιν γὰρ τοῖς καράβοις χρήσιμον, ὁ δ’ οὐ νευστικός. καὶ ὅμοιον δὴ τῷ ὄπισθεν τὸ πλάγιον ἔχει μόνος, διὰ τὸ πολλοὺς ἔχειν τοὺς ἡγεμόνας πόδας. τούτου δ’ αἴτιον (714a.) ὅτι οὐ κάμπτει εἰς τὸ πρόσθεν οὐδὲ βεβλαίσωται. τοῦ δὲ μὴ βεβλαισῶσθαι τὸ αἴτιον πρότερον εἴρηται, ἡ σκληρότης καὶ τὸ ὀστρακῶδες τοῦ δέρματος. ἀνάγκη δὴ διὰ ταῦτα πᾶσί τε προηγεῖσθαι καὶ εἰς τὸ πλάγιον, εἰς μὲν τὸ πλάγιον ὅτι εἰς τὸ πλάγιον ἡ κάμψις, πᾶσι δ’ ὅτι ἐνεπόδιζον ἂν οἱ ἠρεμοῦντες πόδες τοῖς κινουμένοις. οἱ δὲ ψηττοειδεῖς τῶν ἰχθύων, ὥσπερ οἱ ἑτερόφθαλμοι βαδίζουσιν, οὕτω νέουσι· διέστραπται γὰρ αὐτῶν ἡ φύσις. οἱ δὲ στεγανόποδες τῶν ὀρνίθων νέουσι τοῖς ποσί, καὶ διὰ μὲν τὸ τὸν ἀέρα δέχεσθαι καὶ ἀναπνεῖν δίποδές εἰσι, διὰ δὲ τὸ ἐν ὑγρῷ τὸν βίον ἔχειν στεγανόποδες· ἀντὶ πτερυγίων γὰρ χρήσιμοι οἱ πόδες αὐτοῖς τοιοῦτοι ὄντες. ἔχουσι δὲ τὰ σκέλη οὐχ ὥσπερ οἱ ἄλλοι κατὰ μέσον, ἀλλ’ ὄπισθεν μᾶλλον· βραχυσκελῶν γὰρ αὐτῶν ὄντων ὄπισθεν ὄντα πρὸς τὴν νεῦσιν χρήσιμα. βραχυσκελεῖς δ’ εἰσὶν οἱ τοιοῦτοι διὰ τὸ ἀπὸ τοῦ μήκους τῶν σκελῶν ἀφελοῦσαν τὴν φύσιν προσθεῖναι τοῖς ποσί, καὶ ἀντὶ τοῦ μήκους πάχος ἀποδοῦναι τοῖς σκέλεσι καὶ πλάτος τοῖς ποσί· χρήσιμοι γὰρ πλατεῖς ὄντες μᾶλλον ἢ μακροὶ πρὸς τὸ ἀποβιάζεσθαι τὸ ὑγρόν, ὅταν νέωσιν.

Κεφάλαιο 18

Εὐλόγως δὲ καὶ τὰ μὲν πτηνὰ πόδας ἔχει, οἱ δ’ ἰχθύες ἄποδες· τοῖς μὲν γὰρ ὁ βίος ἐν τῷ ξηρῷ, μετέωρον δ’ ἀεὶ μένειν ἀδύνατον, ὥστ’ ἀνάγκη πόδας ἔχειν· τοῖς δ’ ἰχθύσιν ἐν τῷ ὑγρῷ ὁ βίος, καὶ τὸ ὕδωρ δέχονται, οὐ (714b.) τὸν ἀέρα. τὰ μὲν οὖν πτερύγια χρήσιμα πρὸς τὸ νεῖν, οἱ δὲ πόδες ἄχρηστοι. εἰ δ’ ἄμφω εἶχον, ἄναιμοι ἂν ἦσαν.

ὁμοίως δ’ ἔχουσιν οἱ ὄρνιθες τρόπον τινὰ τοῖς ἰχθύσι. τοῖς μὲν γὰρ ὄρνισιν ἄνω αἱ πτέρυγές εἰσι, τοῖς δὲ πτερύγια δύο ἐν τῷ πρανεῖ· καὶ τοῖς μὲν ἐν τοῖς ὑπτίοις οἱ πόδες, τοῖς δὲ ἔν τε τοῖς ὑπτίοις καὶ ἐγγὺς τῶν πρανῶν πτερύγια τοῖς πλείστοις· καὶ οἱ μὲν ὀρροπύγιον ἔχουσιν, οἱ δ’ οὐραῖον.

Κεφάλαιο 19

Περὶ δὲ τῶν ὀστρακοδέρμων ἀπορήσειεν ἄν τις τίς ἡ κίνησις, καὶ εἰ μὴ ἔχουσι δεξιὸν καὶ ἀριστερόν, πόθεν κινοῦνται· φαίνονται δὲ κινούμενα. ἢ ὥσπερ ἀνάπηρον δεῖ τιθέναι πᾶν τὸ τοιοῦτον γένος, καὶ κινεῖσθαι ὁμοίως οἷον εἴ τις ἀποκόψειε τῶν ὑποπόδων τὰ σκέλη, ὥσπερ ἡ φώκη καὶ ἡ κίνησις, καὶ εἰ μὴ ἔχουσι δεξιὸν καὶ ἀριστερόν, πόθεν κινοῦνται· φαίνονται δὲ κινούμενα. ἢ ὥσπερ ἀνάπηρον δεῖ τιθέναι πᾶν τὸ τοιοῦτον γένος, καὶ κινεῖσθαι ὁμοίως οἷον εἴ τις ἀποκόψειε τῶν ὑποπόδων τὰ σκέλη, ὥσπερ ἡ φώκη καὶ ἡ νυκτερίς· καὶ γὰρ ταῦτα τετράποδα, κακῶς δ’ ἐστί. τὰ δ’ ὀστρακόδερμα κινεῖται μέν, κινεῖται δὲ παρὰ φύσιν· οὐ γάρ ἐστι κινητικά, ἀλλ’ ὡς μὲν μόνιμα καὶ προσπεφυκότα κινητικά, ὡς δὲ πορευτικὰ μόνιμα. ἔχουσι δὲ φαύλως καὶ οἱ καρκίνοι τὰ δεξιά, ἐπεὶ ἔχουσί γε. δηλοῖ δ’ ἡ χηλή· μείζων γὰρ καὶ ἰσχυροτέρα ἡ δεξιά, ὡς βουλομένων διωρίσθαι τῶν ἀριστερῶν καὶ τῶν δεξιῶν.

Τὰ μὲν οὖν περὶ τῶν μορίων, τῶν τ’ ἄλλων αὐτῶν καὶ τῶν περὶ τὴν πορείαν τῶν ζῴων καὶ περὶ πᾶσαν τὴν κατὰ τόπον μεταβολήν, τοῦτον ἔχει τὸν τρόπον· τούτων δὲ διωρισμένων ἐχόμενόν ἐστι θεωρῆσαι περὶ ψυχῆς.

Περὶ ζῴων γενέσως (715a) Generation of Animals

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Βιβλίο 1

Κεφάλαιο 1

(715a.) Ἐπεὶ δὲ περὶ τῶν ἄλλων μορίων εἴρηται τῶν ἐν τοῖς ζῴοις καὶ κοινῇ καὶ καθ’ ἕκαστον γένος περὶ τῶν ἰδίων χωρίς, τίνα τρόπον διὰ τὴν τοιαύτην αἰτίαν ἐστὶν ἕκαστον, λέγω δὲ ταύτην τὴν ἕνεκά του· ὑπόκεινται γὰρ αἰτίαι τέτταρες, τό τε οὗ ἕνεκα ὡς τέλος καὶ ὁ λόγος τῆς οὐσίας (ταῦτα μὲν οὖν ὡς ἕν τι σχεδὸν ὑπολαβεῖν δεῖ), τρίτον δὲ καὶ τέταρτον ἡ ὕλη καὶ ὅθεν ἡ ἀρχὴ τῆς κινήσεως-περὶ μὲν οὖν τῶν ἄλλων εἴρηται (ὅ τε γὰρ λόγος καὶ τὸ οὗ ἕνεκα ὡς τέλος ταὐτὸν καὶ ἡ ὕλη τοῖς ζῴοις τὰ μέρη· παντὶ μὲν τῷ ὅλῳ τὰ ἀνομοιομερῆ, τοῖς δ’ ἀνομοιομερέσι τὰ ὁμοιομερῆ, τούτοις δὲ τὰ καλούμενα στοιχεῖα τῶν σωμάτων), λοιπὸν δὲ τῶν μὲν μορίων τὰ πρὸς τὴν γένεσιν συντελοῦντα τοῖς ζῴοις περὶ ὧν οὐθὲν διώρισται πρότερον, περὶ αἰτίας δὲ τῆς κινούσης τίς ἀρχή. τὸ δὲ περὶ ταύτης σκοπεῖν καὶ τὸ περὶ τῆς γενέσεως τῆς ἑκάστου τρόπον τινὰ ταὐτόν ἐστιν· διόπερ ὁ λόγος εἰς ἓν συνήγαγε, τῶν μὲν περὶ τὰ μόρια τελευταῖα ταῦτα, τῶν δὲ περὶ γενέσεως τὴν ἀρχὴν ἐχομένην τούτων τάξας.

Τῶν δὴ ζῴων τὰ μὲν ἐκ συνδυασμοῦ γίγνεται θήλεος καὶ ἄρρενος, ἐν ὅσοις γένεσι τῶν ζῴων ἐστὶ τὸ θῆλυ καὶ τὸ ἄρρεν· οὐ γὰρ ἐν πᾶσίν ἐστιν, ἀλλ’ ἐν μὲν τοῖς ἐναίμοις ἔξω ὀλίγων ἅπασι τὸ μὲν ἄρρεν τὸ δὲ θῆλυ τελειωθέν ἐστι, τῶν δ’ ἀναίμων τὰ μὲν ἔχει τὸ θῆλυ καὶ τὸ ἄρρεν ὥστε τὰ ὁμογενῆ γεννᾶν, τὰ δὲ γεννᾷ μέν, οὐ μέντοι τά γε ὁμογενῆ· τοιαῦτα δ’ ἐστὶν ὅσα γίγνεται μὴ ἐκ ζῴων συνδυαζομένων ἀλλ’ ἐκ γῆς σηπομένης καὶ περιττωμάτων. ὡς δὲ κατὰ παντὸς εἰπεῖν, ὅσα μὲν κατὰ τόπον μεταβλητικὰ τῶν ζῴων †ὄντα τὰ μὲν νευστικὰ τὰ δὲ πτηνὰ τὰ δὲ πεζευτικὰ τοῖς σώμασιν, ἐν πᾶσι τούτοις ἐστὶ τὸ θῆλυ καὶ τὸ ἄρρεν, οὐ μόνον τοῖς ἐναίμοις ἀλλ’ ἐνίοις καὶ ἀναίμοις. καὶ τούτων τοῖς μὲν καθ’ ὅλον (715b.) τὸ γένος οἷον τοῖς μαλακίοις καὶ τοῖς μαλακοστράκοις, ἐν δὲ τῷ τῶν ἐντόμων γένει τὰ πλεῖστα. τούτων δ’ αὐτῶν ὅσα μὲν ἐκ συνδυασμοῦ γίγνεται τῶν συγγενῶν ζῴων καὶ αὐτὰ γεννᾷ κατὰ τὴν συγγένειαν· ὅσα δὲ μὴ ἐκ ζῴων ἀλλ’ ἐκ σηπομένης τῆς ὕλης, ταῦτα δὲ γεννᾷ μὲν ἕτερον δὲ γένος, καὶ τὸ γιγνόμενον οὔτε θῆλύ ἐστιν οὔτε ἄρρεν· τοιαῦτα δ’ ἐστὶν ἔνια τῶν ἐντόμων. καὶ τοῦτο συμβέβηκεν εὐλόγως· εἰ γὰρ ὅσα μὴ γίγνεται ἐκ ζῴων, ἐκ τούτων ἐγίγνετο ζῷα συνδυαζομένων, εἰ μὲν ὁμογενῆ, καὶ τὴν ἐξ ἀρχῆς τοιαύτην ἔδει τῶν τεκνωσάντων εἶναι γένεσιν (τοῦτο δ’ εὐλόγως ἀξιοῦμεν· φαίνεται γὰρ συμβαῖνον οὕτως ἐπὶ τῶν ἄλλων ζῴων), εἰ δ’ ἀνόμοια μὲν δυνάμενα δὲ συνδυάζεσθαι, πάλιν ἐκ τούτων ἑτέρα τις ἂν ἐγίγνετο φύσις καὶ πάλιν ἄλλη τις ἐκ τούτων, καὶ τοῦτ’ ἐπορεύετ’ ἂν εἰς ἄπειρον. ἡ δὲ φύσις φεύγει τὸ ἄπειρον· τὸ μὲν γὰρ ἄπειρον ἀτελές, ἡ δὲ φύσις ἀεὶ ζητεῖ τέλος. ὅσα δὲ μὴ πορευτικὰ καθάπερ τὰ ὀστρακόδερμα τῶν ζῴων καὶ τὰ ζῶντα τῷ προσπεφυκέναι, διὰ τὸ παραπλησίαν αὐτῶν εἶναι τὴν οὐσίαν τοῖς φυτοῖς, ὥσπερ οὐδ’ ἐν ἐκείνοις οὐδ’ ἐν τούτοις ἐστὶ τὸ θῆλυ καὶ τὸ ἄρρεν ἀλλ’ ἤδη καθ’ ὁμοιότητα καὶ κατ’ ἀναλογίαν λέγεται· μικρὰν γάρ τινα τοιαύτην ἔχει διαφοράν. καὶ γὰρ ἐν τοῖς φυτοῖς ὑπάρχει τὰ μὲν καρποφόρα δένδρα τοῦ αὐτοῦ γένους, τὰ δ’ αὐτὰ μὲν οὐ φέρει καρπόν, συμβάλλεται δὲ τοῖς φέρουσι πρὸς τὸ πέττειν, οἷον συμβαίνει περὶ τὴν συκῆν καὶ τὸν ἐρινεόν.

Ἔστι δὲ καὶ ἐπὶ τῶν φυτῶν τὸν αὐτὸν τρόπον· τὰ μὲν γὰρ ἐκ σπέρματος γίγνεται τὰ δ’ ὥσπερ αὐτοματιζούσης τῆς φύσεως. γίγνεται γὰρ ἢ τῆς γῆς σηπομένης ἢ μορίων τινῶν ἐν τοῖς φυτοῖς· ἔνια γὰρ αὐτὰ μὲν οὐ συνίσταται καθ’ αὐτὰ χωρίς, ἐν ἑτέροις δ’ ἐγγίγνεται δένδρεσιν οἷον ὁ ἰξός.

(716a.) Περὶ μὲν οὖν φυτῶν αὐτὰ καθ’ αὐτὰ χωρὶς ἐπισκεπτέον.

Κεφάλαιο 2

Περὶ δὲ τῶν ἄλλων ζῴων τῆς γενέσεως λεκτέον κατὰ τὸν ἐπιβάλλοντα λόγον καθ’ ἕκαστον αὐτῶν, ἀπὸ τῶν εἰρημένων συνείροντας. καθάπερ γὰρ εἴπομεν τῆς γενέσεως ἀρχὰς ἄν τις οὐχ ἥκιστα θείη τὸ θῆλυ καὶ τὸ ἄρρεν, τὸ μὲν ἄρρεν ὡς τῆς κινήσεως καὶ τῆς γενέσεως ἔχον τὴν ἀρχήν, τὸ δὲ θῆλυ ὡς ὕλης. τοῦτο δὲ μάλιστ’ ἄν τις πιστεύσειε θεωρῶν πῶς γίγνεται τὸ σπέρμα καὶ πόθεν· ἐκ τούτου μὲν γὰρ τὰ φύσει γιγνόμενα συνίσταται, τοῦτο δὲ πῶς ἀπὸ τοῦ θήλεος καὶ τοῦ ἄρρενος συμβαίνει γίγνεσθαι δεῖ μὴ λανθάνειν. τῷ γὰρ ἀποκρίνεσθαι τὸ τοιοῦτον μόριον ἀπὸ τοῦ θήλεος καὶ τοῦ ἄρρενος καὶ ἐν τούτοις τὴν ἀπόκρισιν εἶναι καὶ ἐκ τούτων, διὰ τοῦτο τὸ θῆλυ καὶ τὸ ἄρρεν ἀρχαὶ τῆς γενέσεώς εἰσιν. ἄρρεν μὲν γὰρ λέγομεν ζῷον τὸ εἰς ἄλλο γεννῶν, θῆλυ δὲ τὸ εἰς αὑτό· διὸ καὶ ἐν τῷ ὅλῳ τὴν τῆς γῆς φύσιν ὡς θῆλυ καὶ μητέρα νομίζουσιν, οὐρανὸν δὲ καὶ ἥλιον ἤ τι τῶν ἄλλων τῶν τοιούτων ὡς γεννῶντας καὶ πατέρας προσαγορεύουσιν.

Τὸ δ’ ἄρρεν καὶ τὸ θῆλυ διαφέρει κατὰ μὲν τὸν λόγον τῷ δύνασθαι ἕτερον ἑκάτερον, κατὰ δὲ τὴν αἴσθησιν μορίοις τισίν· κατὰ μὲν τὸν λόγον τῷ τὸ ἄρρεν μὲν εἶναι τὸ δυνάμενον γεννᾶν εἰς ἕτερον, καθάπερ ἐλέχθη πρότερον, τὸ δὲ θῆλυ τὸ εἰς αὑτό, καὶ ἐξ οὗ γίγνεται ἐνυπάρχον ἐν τῷ γεννῶντι τὸ γεννώμενον. ἐπεὶ δὲ δυνάμει διώρισται καὶ ἔργῳ τινί, δεῖται δὲ πρὸς πᾶσαν ἐργασίαν ὀργάνων, ὄργανα δὲ ταῖς δυνάμεσι τὰ μέρη τοῦ σώματος, ἀναγκαῖον εἶναι καὶ πρὸς τὴν τέκνωσιν καὶ πρὸς τὸν συνδυασμὸν μόρια, καὶ ταῦτα διαφέροντ’ ἀλλήλων καθὸ τὸ ἄρρεν διοίσει τοῦ θήλεος. εἰ γὰρ καὶ καθ’ ὅλου λέγεται τοῦ ζῴου τοῦ μὲν τὸ θῆλυ τοῦ δὲ τὸ ἄρρεν, ἀλλ’ οὐ κατὰ πᾶν γε αὐτὸ θῆλυ καὶ ἄρρεν ἐστὶν ἀλλὰ κατά τινα δύναμιν καὶ κατά τι μόριον, ὥσπερ καὶ ὁρατικὸν καὶ πορευτικόν, -ὅπερ καὶ φαίνεται κατὰ τὴν αἴσθησιν. τοιαῦτα δὲ τυγχάνει μόρια ὄντα τοῦ μὲν θήλεος αἱ καλούμεναι ὑστέραι τοῦ δ’ ἄρρενος τὰ περὶ τοὺς ὄρχεις καὶ τοὺς περινέους ἐν πᾶσι τοῖς ἐναίμοις· τὰ μὲν γὰρ ὄρχεις ἔχει αὐτῶν τὰ δὲ τοὺς τοιούτους πόρους. εἰσὶ δὲ διαφοραὶ τοῦ θήλεος καὶ (716b.) τοῦ ἄρρενος καὶ ἐν τοῖς ἀναίμοις ὅσα αὐτῶν ἔχει ταύτην τὴν ἐναντίωσιν, διαφέρει δ’ ἐν τοῖς ἐναίμοις τὰ μέρη τὰ πρὸς τὴν μίξιν τοῖς σχήμασιν. δεῖ δὲ νοεῖν ὅτι μικρᾶς ἀρχῆς μετακινουμένης πολλὰ συμμεταβάλλειν εἴωθε τῶν μετὰ τὴν ἀρχήν. δῆλον δὲ τοῦτο ἐπὶ τῶν ἐκτεμνομένων· τοῦ γεννητικοῦ γὰρ μορίου διαφθειρομένου μόνον ὅλη σχεδὸν ἡ μορφὴ συμμεταβάλλει τοσοῦτον ὥστε ἢ θῆλυ δοκεῖν εἶναι ἢ μικρὸν ἀπολείπειν, ὡς οὐ κατὰ τὸ τυχὸν μόριον οὐδὲ κατὰ τὴν τυχοῦσαν δύναμιν θῆλυ ὂν καὶ ἄρρεν τὸ ζῷον. φανερὸν οὖν ὅτι ἀρχή τις οὖσα φαίνεται τὸ θῆλυ καὶ τὸ ἄρρεν· πολλὰ γοῦν συμμεταβάλλει μεταβαλλόντων ᾗ θῆλυ καὶ ἄρρεν, ὡς ἀρχῆς μεταπιπτούσης.

Κεφάλαιο 3

Ἔχει δὲ τὰ περὶ τοὺς ὄρχεις καὶ τὰς ὑστέρας οὐχ ὁμοίως πᾶσι τοῖς ἐναίμοις ζῴοις, καὶ πρῶτόν γε τὰ περὶ τοὺς ὄρχεις τοῖς ἄρρεσιν· τὰ μὲν γὰρ ὅλως ὄρχεις οὐκ ἔχει τῶν τοιούτων ζῴων, οἷον τό τε τῶν ἰχθύων γένος καὶ τὸ τῶν ὄφεων, ἀλλὰ πόρους μόνον δύο σπερματικούς· τὰ δ’ ἔχει μὲν ὄρχεις, ἐντὸς δ’ ἔχει τούτους πρὸς τῇ ὀσφύι κατὰ τὴν τῶν νεφρῶν χώραν, ἀπὸ δὲ τούτων ἑκατέρου πόρον ὥσπερ ἐν τοῖς μὴ ἔχουσιν ὄρχεις, συνάπτοντας εἰς ἓν καθάπερ καὶ ἐπ’ ἐκείνων, οἷον οἵ τε ὄρνιθες πάντες καὶ τὰ ᾠοτοκοῦντα τετράποδα τῶν δεχομένων τὸν ἀέρα καὶ πνεύμονα ἐχόντων. καὶ γὰρ ταῦτα πάντα ἐντὸς ἔχει πρὸς τῇ ὀσφύι τοὺς ὄρχεις καὶ δύο πόρους ἀπὸ τούτων ὁμοίως τοῖς ὄφεσιν, οἷον σαῦροι καὶ χελῶναι καὶ τὰ φολιδωτὰ πάντα. τὰ δὲ ζῳοτόκα πάντα μὲν ἐν τῷ ἔμπροσθεν ἔχει τοὺς ὄρχεις, ἀλλ’ ἔνια αὐτῶν ἔσω πρὸς τῷ τέλει τῆς γαστρὸς οἷον ὁ δελφίς, καὶ οὐ πόρους ἀλλ’ αἰδοῖον ἀπὸ τούτων περαῖνον εἰς τὸ ἔξω καθάπερ οἱ βόες, -τὰ δ’ ἔξω, καὶ τούτων τὰ μὲν ἀπηρτημένους ὥσπερ ἄνθρωπος, τὰ δὲ πρὸς τῇ ἕδρᾳ καθάπερ οἱ ὕες. διώρισται δὲ περὶ αὐτῶν ἀκριβέστερον ἐν ταῖς ἱστορίαις ταῖς περὶ τῶν ζῴων.

Αἱ δ’ ὑστέραι πᾶσι μέν εἰσι διμερεῖς καθάπερ καὶ οἱ ὄρχεις τοῖς ἄρρεσι δύο πᾶσιν· ταύτας δ’ ἔχουσι τὰ μὲν πρὸς τοῖς ἄρθροις, καθάπερ αἵ τε γυναῖκες καὶ πάντα τὰ ζῳοτοκοῦντα μὴ μόνον θύραζε ἀλλὰ καὶ ἐν αὑτοῖς καὶ (717a.) οἱ ἰχθύες ὅσοι ᾠοτοκοῦσιν εἰς τοὐμφανές, -τὰ δὲ πρὸς τῷ ὑποζώματι, καθάπερ οἵ τ’ ὄρνιθες πάντες καὶ τῶν ἰχθύων οἱ ζῳοτοκοῦντες. ἔχουσι δὲ δικρόας καὶ τὰ μαλακόστρακα τὰς ὑστέρας καὶ τὰ μαλάκια, καὶ τὰ καλούμενα τούτων ᾠὰ τοὺς περιέχοντας ὑμένας ὑστερικοὺς ἔχει. μάλιστα δὲ ἀδιόριστον ἐπὶ τῶν πολυπόδων ἐστίν, ὥστε δοκεῖν μίαν εἶναι· τούτου δ’ αἴτιον ὁ τοῦ σώματος ὄγκος πάντῃ ὅμοιος ὤν. δικρόαι δὲ καὶ αἱ τῶν ἐντόμων εἰσὶν ἐν τοῖς μέγεθος ἔχουσιν· ἐν δὲ τοῖς ἐλάττοσιν ἄδηλοι διὰ μικρότητα τοῦ σώματος.

Τὰ μὲν οὖν εἰρημένα μόρια τοῖς ζῴοις τοῦτον ἔχει τὸν τρόπον.

Κεφάλαιο 4

Περὶ δὲ τῆς ἐν τοῖς ἄρρεσι διαφορᾶς τῶν σπερματικῶν ὀργάνων εἴ τις μέλλει θεωρήσειν τὰς αἰτίας δι’ ἅς εἰσιν, ἀνάγκη λαβεῖν πρῶτον τίνος ἕνεκεν ἡ τῶν ὄρχεών ἐστι σύστασις. εἰ δὴ πᾶν ἡ φύσις ἢ διὰ τὸ ἀναγκαῖον ποιεῖ ἢ διὰ τὸ βέλτιον, κἂν τοῦτο τὸ μόριον εἴη διὰ τούτων θάτερον. ὅτι μὲν τοίνυν οὐκ ἀναγκαῖον πρὸς τὴν γένεσιν φανερόν· πᾶσι γὰρ ἂν ὑπῆρχε τοῖς γεννῶσι, νῦν δ’ οὔθ’ οἱ ὄφεις ἔχουσιν ὄρχεις οὔθ’ οἱ ἰχθύες· ὠμμένοι γάρ εἰσι συνδυαζόμενοι καὶ πλήρεις ἔχοντες θοροῦ τοὺς πόρους. λείπεται τοίνυν βελτιόνός τινος χάριν. ἔστι δὲ τῶν μὲν πλείστων ζῴων ἔργον σχεδὸν οὐθὲν ἄλλο πλὴν ὥσπερ τῶν φυτῶν σπέρμα καὶ καρπός. ὥσπερ δ’ ἐν τοῖς περὶ τὴν τροφὴν τὰ εὐθυέντερα λαβρότερα πρὸς τὴν ἐπιθυμίαν τὴν τῆς τροφῆς, οὕτω καὶ τὰ μὴ ἔχοντα ὄρχεις πόρους δὲ μόνον ἢ ἔχοντα μὲν ἐντὸς δ’ ἔχοντα, πάντα ταχύτερα πρὸς τὴν ἐνέργειαν τῶν συνδυασμῶν. ἃ δὲ δεῖ σωφρονέστερα εἶναι, ὥσπερ ἐκεῖ οὐκ εὐθυέντερα, καὶ ἐνταῦθ’ ἕλικας ἔχουσιν οἱ πόροι πρὸς τὸ μὴ λάβρον μηδὲ ταχεῖαν εἶναι τὴν ἐπιθυμίαν. οἱ δ’ ὄρχεις εἰσὶ πρὸς τοῦτο μεμηχανημένοι· τοῦ γὰρ σπερματικοῦ περιττώματος στασιμωτέραν ποιοῦσι τὴν κίνησιν, ἐν μὲν τοῖς ζῳοτόκοις οἷον ἵπποις τε καὶ τοῖς ἄλλοις τοῖς τοιούτοις καὶ ἐν ἀνθρώποις σώζοντες τὴν ἐπαναδίπλωσιν (ὃν δὲ τρόπον ἔχει αὕτη ἐκ τῶν ἱστοριῶν τῶν περὶ τὰ ζῷα δεῖ θεωρεῖν)· οὐθὲν γάρ εἰσι μόριον τῶν πόρων οἱ ὄρχεις ἀλλὰ πρόσκεινται-καθάπερ τὰς λαιὰς προσάπτουσιν αἱ ὑφαίνουσαι τοῖς ἱστοῖς-ἀφαιρουμένων (717b.) γὰρ αὐτῶν ἀνασπῶνται οἱ πόροι ἐντός, ὥστ’ οὐ δύνανται γεννᾶν τὰ ἐκτεμνόμενα, ἐπεὶ εἰ μὴ ἀνεσπῶντο ἐδύναντο ἄν, - καὶ ἤδη ταῦρός τις μετὰ τὴν ἐκτομὴν εὐθέως ὀχεύσας ἐπλήρωσε διὰ τὸ μήπω τοὺς πόρους ἀνεσπάσθαι. τοῖς δ’ ὄρνισι καὶ τοῖς ᾠοτόκοις τῶν τετραπόδων δέχονται τὴν σπερματικὴν περίττωσιν, ὥστε βραδυτέραν εἶναι τὴν ἔξοδον ἢ τοῖς ἰχθύσιν. φανερὸν δ’ ἐπὶ τῶν ὀρνίθων· περὶ γὰρ τὰς ὀχείας πολὺ μείζους ἴσχουσι τοὺς ὄρχεις, καὶ ὅσα γε τῶν ὀρνέων καθ’ ὥραν μίαν ὀχεύει, ὅταν ὁ χρόνος οὗτος παρέλθῃ οὕτω μικροὺς ἔχουσιν ὥστε σχεδὸν ἀδήλους εἶναι, περὶ δὲ τὴν ὀχείαν σφόδρα μεγάλους. θᾶττον μὲν οὖν ὀχεύουσι τὰ ἐντὸς ἔχοντα· καὶ γὰρ τὰ ἐκτὸς ἔχοντα οὐ πρότερον τὸ σπέρμα ἀφίησι πρὶν ἀνασπάσαι τοὺς ὄρχεις.

Κεφάλαιο 5

Ἔτι δὲ τὸ ὄργανον τὸ πρὸς τὸν συνδυασμὸν τὰ μὲν τετράποδα ἔχει· ἐνδέχεται γὰρ αὐτοῖς ἔχειν-τοῖς δ’ ὄρνισι καὶ τοῖς ἄποσιν οὐκ ἐνδέχεται διὰ τὸ τῶν μὲν τὰ σκέλη ὑπὸ μέσην εἶναι τὴν γαστέρα, τὰ δ’ ὅλως ἀσκελῆ εἶναι, τὴν δὲ τοῦ αἰδοίου φύσιν ἠρτῆσθαι ἐντεῦθεν καὶ τῇ θέσει κεῖσθαι ἐνταῦθα (διὸ καὶ ἐν τῇ ὁμιλίᾳ ἡ σύντασις γίγνεται τῶν σκελῶν· τό τε γὰρ ὄργανον νευρῶδες καὶ ἡ φύσις τῶν σκελῶν νευρώδης)· ὥστ’ ἐπεὶ τοῦτ’ οὐκ ἐνδέχεται ἔχειν ἀνάγκη καὶ ὄρχεις ἢ μὴ ἔχειν ἢ μὴ ἐνταῦθ’ ἔχειν· τοῖς γὰρ ἔχουσιν ἡ αὐτὴ θέσις ἀμφοτέρων αὐτῶν.

Ἔτι δὲ τοῖς γε τοὺς ὄρχεις ἔχουσιν ἔξω διὰ τῆς κινήσεως θερμαινομένου τοῦ αἰδοίου προέρχεται τὸ σπέρμα συναθροισθέν, ἀλλ’ οὐχ ὡς ἕτοιμον ὂν εὐθὺς θιγοῦσιν ὥσπερ τοῖς ἰχθύσιν.

Πάντα δ’ ἔχει τὰ ζῳοτόκα τοὺς ὄρχεις ἐν τῷ πρόσθεν, <ἢ ἔσω> ἢ ἔξω πλὴν ἐχίνου· οὗτος δὲ πρὸς τῇ ὀσφύι μόνος διὰ τὴν αὐτὴν αἰτίαν δι’ ἥνπερ καὶ οἱ ὄρνιθες· ταχὺν γὰρ ἀναγκαῖον γίγνεσθαι τὸν συνδυασμὸν αὐτῶν· οὐ γὰρ ὥσπερ τὰ ἄλλα τετράποδα ἐπὶ τὰ πρανῆ ἐπιβαίνει ἀλλ’ ὀρθοὶ μίγνυνται διὰ τὰς ἀκάνθας.

Δι’ ἣν μὲν οὖν αἰτίαν ἔχουσι τὰ ἔχοντα ὄρχεις εἴρηται, καὶ δι’ ἣν αἰτίαν τὰ μὲν ἔξω τὰ δ’ ἐντός.

Κεφάλαιο 6

Ὅσα δὲ μὴ ἔχει, καθάπερ εἴρηται, διά τε τὸ μὴ εὖ ἀλλὰ τὸ ἀναγκαῖον μόνον οὐκ ἔχει τοῦτο τὸ μόριον, καὶ διὰ τὸ ἀναγκαῖον εἶναι ταχεῖαν γίγνεσθαι τὴν ὀχείαν· τοιαύτη δ’ ἐστὶν ἡ τῶν ἰχθύων φύσις καὶ ἡ τῶν ὄφεων. οἱ (718a.) μὲν γὰρ ἰχθύες ὀχεύονται παραπίπτοντες καὶ ἀπολύονται ταχέως. ὥσπερ γὰρ ἐπὶ τῶν ἀνθρώπων καὶ πάντων τῶν τοιούτων ἀνάγκη κατασχόντας τὸ πνεῦμα προΐεσθαι τὴν γονήν, τοῦτο δ’ ἐκείνοις συμβαίνει μὴ δεχομένοις τὴν θάλατταν, εἰσὶ δὲ εὔφθαρτοι τοῦτο μὴ ποιοῦντες· οὔκουν δεῖ ἐν τῷ συνδυασμῷ τὸ σπέρμα πέττειν αὐτοὺς ὥσπερ τὰ πεζὰ καὶ ζῳοτόκα, ἀλλ’ ὑπὸ τῆς ὥρας τὸ σπέρμα πεττόμενον ἀθρόον ἔχουσιν ὥστε μὴ ἐν τῷ θιγγάνειν ἀλλήλων πέττειν ἀλλὰ προΐεσθαι πεπεμμένον. διὸ ὄρχεις οὐκ ἔχουσιν ἀλλ’ εὐθεῖς καὶ ἁπλοῦς τοὺς πόρους, οἷον μικρὸν μόριον τοῖς τετράποσιν ὑπάρχει περὶ τοὺς ὄρχεις· τῆς γὰρ ἐπαναδιπλώσεως τοῦ πόρου τὸ μὲν ἔναιμον μέρος ἐστὶ τὸ δ’ ἄναιμον, ὃ δέχεται <τὸ ὑγρὸν> καὶ δι’ οὗ ἤδη σπέρμα ὂν πορεύεται, ὥσθ’ ὅταν ἐνταῦθα ἔλθῃ ἡ γονὴ ταχεῖα καὶ τούτοις γίγνεται ἡ ἀπόλυσις. τοῖς δ’ ἰχθύσι τοιοῦτος ὁ πόρος πᾶς ἐστιν οἷος ἐπὶ τῶν ἀνθρώπων καὶ τῶν τοιούτων ζῴων κατὰ τὸ ἕτερον μέρος τῆς ἐπαναδιπλώσεως.

Κεφάλαιο 7

Οἱ δὲ ὄφεις ὀχεύονται περιελιττόμενοι ἀλλήλοις, οὐκ ἔχουσι δ’ ὄρχεις οὐδ’ αἰδοῖον ὥσπερ εἴρηται πρότερον, -αἰδοῖον μὲν ὅτι οὐδὲ σκέλη, ὄρχεις δὲ διὰ τὸ μῆκος-ἀλλὰ πόρους ὥσπερ οἱ ἰχθύες· διὰ γὰρ τὸ εἶναι αὐτῶν προμήκη τὴν φύσιν, εἰ ἔτι ἐπίστασις ἐγίγνετο περὶ τοὺς ὄρχεις ἐψύχετ’ ἂν ἡ γονὴ διὰ τὴν βραδυτῆτα. ὅπερ συμβαίνει καὶ ἐπὶ τῶν μέγα τὸ αἰδοῖον ἐχόντων· ἀγονώτεροι γάρ εἰσι τῶν μετριαζόντων διὰ τὸ μὴ γόνιμον εἶναι τὸ σπέρμα τὸ ψυχρόν, ψύχεσθαι δὲ τὸ φερόμενον λίαν μακράν. δι’ ἣν μὲν οὖν αἰτίαν τὰ μὲν ὄρχεις ἔχει τὰ δ’ οὐκ ἔχει τῶν ζῴων εἴρηται.

Περιπλέκονται δ’ ἀλλήλοις οἱ ὄφεις διὰ τὴν ἀφυΐαν τῆς παραπτώσεως. μικρῷ γὰρ προσαρμόττοντες μορίῳ λίαν μακροὶ ὄντες οὐκ εὐσυνάρμοστοί εἰσιν· ἐπεὶ οὖν οὐκ ἔχουσι μόρια οἷς περιλήψονται, ἀντὶ τούτου τῇ ὑγρότητι χρῶνται τοῦ σώματος περιελιττόμενοι ἀλλήλοις. διὸ καὶ δοκοῦσι βραδύτερον ἀπολύεσθαι τῶν ἰχθύων, οὐ μόνον διὰ τὸ μῆκος τῶν πόρων ἀλλὰ καὶ διὰ τὴν περὶ ταῦτα σκευωρίαν.

Κεφάλαιο 8

Τοῖς δὲ θήλεσι τὰ περὶ τὰς ὑστέρας ἀπορήσειεν ἄν τις ὃν τρόπον ἔχει· πολλαὶ γὰρ ὑπεναντιώσεις ὑπάρχουσιν αὐτοῖς. οὔτε γὰρ τὰ ζῳοτοκοῦντα ὁμοίως ἔχει πάντα, ἀλλ’ ἄνθρωποι μὲν καὶ τὰ πεζὰ πάντα κάτω πρὸς τοῖς ἄρθροις, (718b.) τὰ δὲ σελάχη <τὰ> ζῳοτοκοῦντα ἄνω πρὸς τῷ ὑποζώματι, - οὔτε τὰ ᾠοτοκοῦντα, ἀλλ’ οἱ μὲν ἰχθύες κάτω καθάπερ ἄνθρωπος καὶ τὰ ζῳοτοκοῦντα τῶν τετραπόδων, οἱ δ’ ὄρνιθες ἄνω καὶ ὅσα ᾠοτοκεῖ τῶν τετραπόδων. οὐ μὴν ἀλλ’ ἔχουσι καὶ αὗται αἱ ὑπεναντιώσεις κατὰ λόγον. πρῶτον μὲν γὰρ τὰ ᾠοτοκοῦντα ᾠοτοκεῖ διαφερόντως· τὰ μὲν γὰρ ἀτελῆ προΐεται τὰ ᾠὰ οἷον οἱ ἰχθύες· ἔξω γὰρ ἐπιτελεῖται καὶ λαμβάνει αὔξησιν τὰ τῶν ἰχθύων. αἴτιον δ’ ὅτι πολύγονα ταῦτα καὶ τοῦτ’ ἔργον αὐτῶν ὥσπερ τῶν φυτῶν· εἰ οὖν ἐν αὑτοῖς ἐτελεσιούργουν ἀναγκαῖον ὀλίγα τῷ πλήθει εἶναι· νῦν δὲ τοσαῦτα ἴσχουσιν ὥστε δοκεῖν ᾠὸν εἶναι τὴν ὑστέραν ἑκατέραν ἔν γε τοῖς μικροῖς ἰχθυδίοις· ταῦτα γὰρ πολυγονώτατά ἐστιν ὥσπερ καὶ ἐπὶ τῶν ἄλλων τῶν ἀνάλογον τούτοις ἐχόντων τὴν φύσιν, καὶ ἐν φυτοῖς καὶ ἐν ζῴοις· ἡ γὰρ τοῦ μεγέθους αὔξησις τρέπεται εἰς τὸ σπέρμα τούτοις. οἱ δ’ ὄρνιθες καὶ τὰ τετράποδα τῶν ᾠοτόκων τέλεια ᾠὰ τίκτουσιν, ἃ δεῖ πρὸς τὸ σώζεσθαι σκληρόδερμα εἶναι (μαλακόδερμα γὰρ ἕως ἂν αὔξησιν ἔχῃ ἐστίν), τὸ δ’ ὄστρακον γίγνεται ὑπὸ θερμότητος ἐξικμαζούσης τὸ ὑγρὸν ἐκ τοῦ γεώδους. ἀναγκαῖον οὖν θερμὸν εἶναι τὸν τόπον ἐν ᾧ τοῦτο συμβήσεται. τοιοῦτος δ’ ὁ περὶ τὸ ὑπόζωμα· καὶ γὰρ τὴν τροφὴν πέττει οὗτος. εἰ οὖν τὰ ᾠὰ ἀνάγκη ἐν τῇ ὑστέρᾳ εἶναι καὶ τὴν ὑστέραν ἀνάγκη πρὸς τῷ ὑποζώματι εἶναι τοῖς τέλεια τὰ ᾠὰ τίκτουσι, τοῖς δ’ ἀτελῆ κάτω· πρὸ ὁδοῦ γὰρ οὕτως ἔσται. καὶ πέφυκε δὲ μᾶλλον ἡ ὑστέρα κάτω εἶναι ἢ ἄνω, ὅπου μή τι ἐμποδίζει ἕτερον ἔργον τῆς φύσεως· κάτω γὰρ αὐτῆς καὶ τὸ πέρας ἐστίν· ὅπου δὲ τὸ πέρας καὶ τὸ ἔργον-αὕτη δ’ οὗ τὸ ἔργον.

Κεφάλαιο 9

Ἔχει δὲ καὶ τὰ ζῳοτοκοῦντα πρὸς ἄλληλα διαφοράν. τὰ μὲν γὰρ οὐ μόνον θύραζε ζῳοτοκεῖ ἀλλὰ καὶ ἐν αὑτοῖς, οἷον ἄνθρωποί τε καὶ ἵπποι καὶ κύνες καὶ πάντα τὰ τρίχας ἔχοντα, καὶ τῶν ἐνύδρων δὲ δελφῖνές τε καὶ φάλαιναι καὶ τὰ τοιαῦτα κήτη.

Κεφάλαιο 10

Τὰ δὲ σελάχη καὶ οἱ ἔχεις θύραζε μὲν ζῳοτοκοῦσιν, ἐν αὑτοῖς δ’ ᾠοτοκοῦσι πρῶτον. ᾠοτοκοῦσι δὲ τέλειον ᾠόν· οὕτω γὰρ γεννᾶται ἐκ τοῦ ᾠοῦ τὸ ζῷον, ἐξ ἀτελοῦς δὲ οὐθέν. θύραζε δὲ οὐκ ᾠοτοκοῦσι διὰ τὸ ψυχρὰ τὴν φύσιν εἶναι καὶ οὐχ ὥς τινές φασι θερμά.

Κεφάλαιο 11

μαλακόδερμα γοῦν τὰ ᾠὰ γεννῶσιν· διὰ γὰρ τὸ εἶναι ὀλιγόθερμα οὐ ξηραίνει αὐτῶν ἡ φύσις τὸ ἔσχατον. διὰ μὲν οὖν τὸ ψυχρὰ εἶναι μαλακόδερμα (719a.) γεννῶσι, διὰ δὲ τὸ μαλακόδερμα οὐ θύραζε· διεφθείρετο γὰρ ἄν. ὅταν δὲ ζῷον ἐκ τοῦ ᾠοῦ γίγνηται, τὸν αὐτὸν τρόπον τὰ πλεῖστα γίγνεται ὅνπερ ἐν τοῖς ὀρνιθίοις, καὶ καταβαίνει κάτω καὶ γίγνεται ζῷα πρὸς τοῖς ἄρθροις καθάπερ καὶ ἐν τοῖς ἐξ ἀρχῆς εὐθὺς ζῳοτοκοῦσιν. διὸ καὶ τὴν ὑστέραν τὰ τοιαῦτα ἔχει ἀνομοίαν καὶ τοῖς ζῳοτόκοις καὶ τοῖς ᾠοτόκοις διὰ τὸ ἀμφοτέρων μετέχειν τῶν εἰδῶν· καὶ γὰρ πρὸς τῷ ὑποζώματι ἔχουσι καὶ κάτω παρήκουσαν πάντα τὰ σελαχώδη. δεῖ δὲ καὶ περὶ ταύτης καὶ περὶ τῶν ἄλλων ὑστερῶν, ὃν τρόπον ἔχουσιν, ἔκ τε τῶν ἀνατομῶν τεθεωρηκέναι καὶ τῶν ἱστοριῶν. ὥστε διὰ μὲν τὸ ᾠοτόκα εἶναι τελείων ᾠῶν ἄνω ἔχει, διὰ δὲ τὸ ζῳοτοκεῖν κάτω, καὶ ἀμφοτέρων μετειλήφασιν.

Τὰ δ' εὐθὺς ζῳοτοκοῦντα πάντα κάτω· οὐ γὰρ ἐμποδίζει τῆς φύσεως οὐδὲν ἔργον οὐδὲ διττογονεῖ. πρὸς δὲ τούτοις ἀδύνατον ζῷα γίγνεσθαι πρὸς τῷ ὑποζώματι· τὰ μὲν γὰρ ἔμβρυα βάρος ἔχειν ἀναγκαῖον καὶ κίνησιν, ὁ δὲ τόπος ἐπίκαιρος ὢν τοῦ ζῆν οὐκ ἂν δύναιτο ταῦθ' ὑπενεγκεῖν. ἔτι δ' ἀνάγκη δυστοκίαν εἶναι διὰ τὸ μῆκος τῆς φορᾶς, ἐπεὶ καὶ νῦν ἐπὶ τῶν γυναικῶν ἐὰν περὶ τὸν τόκον ἀνασπάσωσι χασμησάμεναι ἤ τι τοιοῦτον ποιήσασαι δυστοκοῦσιν. καὶ κεναὶ δ' οὖσαι αἱ ὑστέραι ἄνω προσιστάμεναι πνίγουσιν· καὶ γὰρ ἀνάγκη τὰς μελλούσας ζῷον ἕξειν ἰσχυροτέρας εἶναι, διὸ σαρκώδεις εἰσὶν αἱ τοιαῦται πᾶσαι, αἱ δὲ πρὸς τῷ ὑποζώματι ὑμενώδεις. καὶ ἐπ' αὐτῶν δὲ τῶν διγονίαν ποιουμένων ζῴων φανερὸν τοῦτο συμβαῖνον· τὰ μὲν γὰρ ᾠὰ ἄνω καὶ ἐν τῷ πλαγίῳ ἴσχουσι, τὰ δὲ ζῷα ἐν τῷ κάτω μέρει τῆς ὑστέρας.

Δι' ἣν μὲν οὖν αἰτίαν ὑπεναντίως ἔχουσι τὰ περὶ τὰς ὑστέρας ἐνίοις τῶν ζῴων, καὶ ὅλως διὰ τί τοῖς μὲν κάτω τοῖς δὲ ἄνω πρὸς τῷ ὑποζώματί εἰσιν εἴρηται.

Κεφάλαιο 12

Διότι δὲ τὰς μὲν ὑστέρας ἔχουσι πάντα ἐντός, τοὺς δ’ ὄρχεις τὰ μὲν ἐντὸς τὰ δ’ ἐκτός, αἴτιον τοῦ μὲν τὰς ὑστέρας ἐντὸς εἶναι πᾶσιν ὅτι ἐν ταύταις ἐστὶ τὸ γιγνόμενον ὃ δεῖται φυλακῆς καὶ σκέπης καὶ πέψεως, ὁ δ’ ἐκτὸς τοῦ σώματος τόπος εὔβλαπτος καὶ ψυχρός. οἱ δ’ ὄρχεις τοῖς μὲν ἐκτὸς τοῖς δ’ ἐντός ** διὰ τὸ (719b.) δεῖσθαι καὶ τούτους σκέπης καὶ καλύμματος πρός τε σωτηρίαν καὶ πρὸς τὴν τοῦ σπέρματος πέψιν· ἀδύνατον γὰρ ἐψυγμένους καὶ πεπηγότας ἀνασπᾶσθαι καὶ προΐεσθαι τὴν γονήν. διόπερ ὅσοις ἐν φανερῷ εἰσιν οἱ ὄρχεις ἔχουσι σκέπην δερματικὴν τὴν καλουμένην ὀσχέαν· ὅσοις δ’ ἡ τοῦ δέρματος φύσις ὑπεναντιοῦται διὰ σκληρότητα πρὸς τὸ μὴ περιληπτικὴν εἶναι μηδὲ μαλθακὴν [καὶ δερματικήν], οἷον τοῖς τ’ ἰχθυῶδες ἔχουσι τὸ δέρμα καὶ τοῖς φολιδωτόν, τούτοις δ’ ἀναγκαῖον ἐντὸς ἔχειν. διόπερ οἵ τε δελφῖνες καὶ ὅσα τῶν κητωδῶν ὄρχεις ἔχουσιν ἐντὸς ἔχουσι, καὶ τὰ ᾠοτόκα καὶ τετράποδα τῶν φολιδωτῶν. καὶ τὸ τῶν ὀρνίθων δὲ δέρμα σκληρὸν ὥστε κατὰ μέγεθος ἀσύμμετρον εἶναι περιλαβεῖν, καὶ ταύτην αἰτίαν εἶναι πᾶσι τούτοις πρὸς ταῖς εἰρημέναις πρότερον ἐκ τῶν περὶ τὰς ὀχείας συμβαινόντων ἀναγκαίων. διὰ τὴν αὐτὴν δ’ αἰτίαν καὶ ὁ ἐλέφας καὶ ὁ ἐχῖνος ἔχουσιν ἐντὸς τοὺς ὄρχεις· οὐδὲ γὰρ τούτοις εὐφυὲς τὸ δέρμα πρὸς τὸ χωριστὸν ἔχειν τὸ σκεπαστικὸν μόριον.

Κεῖνται δὲ καὶ τῇ θέσει ὑπεναντίως αἱ ὑστέραι τοῖς τε ζῳοτοκοῦσιν ἐν αὑτοῖς καὶ τοῖς ᾠοτοκοῦσι θύραζε, καὶ τούτων τοῖς τε τὰς ὑστέρας ἔχουσι κάτω καὶ τοῖς πρὸς τῷ ὑποζώματι, οἷον τοῖς ἰχθύσι πρός τε τοὺς ὄρνιθας καὶ τὰ ᾠοτόκα τῶν τετραπόδων, καὶ τοῖς κατ’ ἀμφοτέρους τοὺς τρόπους γεννῶσιν, ἐν αὑτοῖς μὲν ᾠοτοκοῦσιν εἰς δὲ τὸ φανερὸν ζῳοτοκοῦσιν.

τὰ μὲν γὰρ ζῳοτοκοῦντα καὶ ἐν αὑτοῖς καὶ ἐκτὸς ἐπὶ τῆς γαστρὸς ἔχει τὰς ὑστέρας, οἷον ἄνθρωπος καὶ βοῦς καὶ κύων καὶ τἆλλα τὰ τοιαῦτα· πρὸς γὰρ τὴν τῶν ἐμβρύων σωτηρίαν καὶ αὔξησιν συμφέρει μηθὲν ἐπεῖναι βάρος ἐπὶ ταῖς ὑστέραις.

Κεφάλαιο 13

Ἔστι δὲ καὶ ἕτερος ὁ πόρος δι’ οὗ ἥ τε ξηρὰ περίττωσις ἐξέρχεται καὶ δι’ οὗ ἡ ὑγρὰ τούτοις πᾶσιν. διὸ ἔχουσιν αἰδοῖα τὰ τοιαῦτα πάντα καὶ τὰ ἄρρενα καὶ τὰ θήλεα καθ’ ἃ ἐκκρίνεται τὸ περίττωμα τὸ ὑγρὸν καὶ τοῖς μὲν ἄρρεσι τὸ σπέρμα τοῖς δὲ θήλεσι τὸ κύημα. οὗτος δ’ ἐπάνω καὶ ἐν τοῖς προσθίοις ὑπάρχει ὁ πόρος τοῦ τῆς ξηρᾶς τροφῆς. [ὅσα δ’ ᾠοτοκεῖ μὲν ἀτελὲς δ’ ᾠόν, οἷον ὅσοι τῶν ἰχθύων ᾠοτοκοῦσιν, (720a.) οὗτοι δ’ οὐχ ὑπὸ τῇ γαστρὶ ἀλλὰ πρὸς τῇ ὀσφύι ἔχουσι τὰς ὑστέρας· οὔτε γὰρ ἐμποδίζει ἡ τοῦ ᾠοῦ αὔξησις διὰ τὸ ἔξω τελειοῦσθαι καὶ προϊέναι τὸ αὐξανόμενον.] ὅ τε πόρος ὁ αὐτός ἐστι καὶ ἐν τοῖς μὴ ἔχουσι γεννητικὸν αἰδοῖον τῷ τῆς ξηρᾶς τροφῆς, πᾶσι τοῖς ᾠοτόκοις καὶ τοῖς ἔχουσιν αὐτῶν κύστιν, οἷον ταῖς χελώναις· τῆς γενέσεως γὰρ ἕνεκεν, οὐ τῆς τοῦ ὑγροῦ περιττώματος ἐκκρίσεως εἰσὶ διττοὶ οἱ πόροι· διὰ δὲ τὸ ὑγρὰν εἶναι τὴν φύσιν τοῦ σπέρματος καὶ ἡ τῆς ὑγρᾶς τροφῆς περίττωσις κεκοινώνηκε τοῦ αὐτοῦ πόρου. δῆλον δὲ τοῦτο ἐκ τοῦ σπέρμα μὲν πάντα φέρειν τὰ ζῷα, περίττωμα δὲ μὴ πᾶσι γίγνεσθαι ὑγρόν.

Ἐπεὶ οὖν δεῖ καὶ τοὺς τῶν ἀρρένων πόρους τοὺς σπερματικοὺς ἐρηρεῖσθαι καὶ μὴ πλανᾶσθαι καὶ τοῖς θήλεσι τὰς ὑστέρας, τοῦτο δ’ ἀναγκαῖον ἢ πρὸς τὰ πρόσθια τοῦ σώματος ἢ πρὸς τὰ πρανῆ συμβαίνειν, τοῖς μὲν ζῳοτόκοις διὰ τὰ ἔμβρυα ἐν τοῖς προσθίοις αἱ ὑστέραι τοῖς δ’ ᾠοτόκοις πρὸς τῇ ὀσφύι καὶ τοῖς πρανέσιν· ὅσα δ’ ᾠοτοκήσαντα ἐν αὑτοῖς ζῳοτοκεῖ ἐκτός, ταῦτα δ’ ἀμφοτέρως ἔχει διὰ τὸ μετειληφέναι ἀμφοτέρων καὶ εἶναι καὶ ζῳοτόκα καὶ ᾠοτόκα· τὰ μὲν γὰρ ἄνω τῆς ὑστέρας καὶ ᾗ γίγνεται τὰ ᾠὰ ὑπὸ τὸ ὑπόζωμα πρὸς τῇ ὀσφύι ἐστὶ καὶ τοῖς πρανέσι, †προϊούσης δὲ κάτω ἐπὶ τῇ γαστρί· ταύτῃ γὰρ ζῳοτοκεῖ ἤδη. ὁ δὲ πόρος εἷς καὶ τούτοις τῆς τε ξηρᾶς περιττώσεως καὶ τῆς ὀχείας· οὐθὲν γὰρ ἔχει τούτων αἰδοῖον, καθάπερ εἴρηται πρότερον, ἀπηρτημένον. ὁμοίως δ’ ἔχουσι καὶ οἱ τῶν ἀρρένων πόροι, καὶ τῶν ἐχόντων καὶ τῶν μὴ ἐχόντων ὄρχεις, ταῖς τῶν ᾠοτόκων ὑστέραις· πᾶσι γὰρ πρὸς τοῖς πρανέσι προσπεφύκασι καὶ κατὰ τὸν τόπον τῆς ῥάχεως· δεῖ μὲν γὰρ μὴ πλανᾶσθαι ἀλλ’ ἑδραίους εἶναι, τοιοῦτος δ’ ὁ ὄπισθεν τόπος· οὗτος γὰρ τὸ συνεχὲς παρέχει καὶ τὴν στάσιν. τοῖς μὲν οὖν ἐντὸς ἔχουσι τοὺς ὄρχεις εὐθὺς ἐρηρεισμένοι εἰσὶν [ἅμα τοῖς πόροις] καὶ τοῖς ἐκτὸς δ’ ὁμοίως· εἶτ’ ἀπαντῶσιν εἰς ἓν πρὸς τὸν τοῦ αἰδοίου τόπον. ὁμοίως δὲ καὶ τοῖς δελφῖσιν οἱ πόροι ἔχουσιν· ἀλλὰ τοὺς ὄρχεις ἔχουσι κεκρυμμένους ὑπὸ τὸ περὶ τὴν γαστέρα κύτος.

Πῶς μὲν οὖν ἔχουσι τῇ θέσει περὶ τὰ μόρια τὰ (720b.) συντελοῦντα πρὸς τὴν γένεσιν καὶ διὰ τίνας αἰτίας εἴρηται.

Κεφάλαιο 14

Τῶν δ’ ἄλλων ζῴων τῶν ἀναίμων οὐχ ὁ αὐτὸς τρόπος τῶν μορίων τῶν πρὸς τὴν γένεσιν συντελούντων οὔτε τοῖς ἐναίμοις οὔθ’ ἑαυτοῖς. ἔστι δὲ γένη τέτταρα τὰ λοιπά, ἓν μὲν τὸ τῶν μαλακοστράκων, δεύτερον δὲ τὸ τῶν μαλακίων, τρίτον δὲ τὸ τῶν ἐντόμων, καὶ τέταρτον τὸ τῶν ὀστρακοδέρμων (τούτων δὲ περὶ μὲν πάντων ἄδηλον, τὰ δὲ πλεῖστα ὅτι οὐ συνδυάζεται φανερόν· τίνα δὲ συνίσταται τρόπον ὕστερον λεκτέον).

Τὰ δὲ μαλακόστρακα συνδυάζεται μὲν ὥσπερ τὰ ὀπισθουρητικά, ὅταν τὸ μὲν ὕπτιον τὸ δὲ πρανὲς ἐπαλλάξῃ τὰ οὐραῖα· τοῖς γὰρ ὑπτίοις πρὸς τὰ πρανῆ ἐπιβαίνειν ἐμποδίζει τὰ οὐραῖα μακρὰν ἔχοντα τὴν ἀπάρτησιν τῶν πτερυγίων. ἔχουσι δ’ οἱ μὲν ἄρρενες λεπτοὺς πόρους θορικούς, αἱ δὲ θήλειαι ὑστέρας ὑμενώδεις παρὰ τὸ ἔντερον ἔνθεν καὶ ἔνθεν ἐσχισμένας ἐν αἷς ἐγγίγνεται τὸ ᾠόν.

Κεφάλαιο 15

Τὰ δὲ μαλάκια συμπλέκεται μὲν κατὰ τὸ στόμα ἀντερείδοντα καὶ διαπτύττοντα τὰς πλεκτάνας, συμπλέκεται δὲ τὸν τρόπον τοῦτον ἐξ ἀνάγκης· ἡ γὰρ φύσις παρὰ τὸ στόμα τὴν τελευτὴν τοῦ περιττώματος συνήγαγε κάμψασα, καθάπερ εἴρηται πρότερον [ἐν τοῖς περὶ τῶν μορίων λόγοις]. ἔχει δ’ ἡ θήλεια μὲν ὑστερικὸν μόριον φανερῶς ἐν ἑκάστῳ τούτων τῶν ζῴων· ᾠὸν γὰρ ἴσχει τὸ μὲν πρῶτον ἀδιόριστον, ἔπειτα διακρινόμενον γίγνεται πολλὰ καὶ ἀποτίκτει ἕκαστον τούτων ἀτελές, καθάπερ καὶ οἱ ᾠοτοκοῦντες τῶν ἰχθύων. ὁ δὲ πόρος ὁ αὐτὸς τοῦ περιττώματος καὶ τοῦ ὑστερικοῦ μορίου καὶ τοῖς μαλακοστράκοις καὶ τούτοις, †ἔστι γὰρ ᾗ τὸν θολὸν ἀφίησι διὰ τοῦ πόρου. ταῦτα δ’ ἐστὶν† ἐν τοῖς ὑπτίοις τοῦ σώματος ᾗ τὸ κέλυφος ἀφέστηκε καὶ ἡ θάλαττα εἰσέρχεται· διὸ ὁ συνδυασμὸς κατὰ τοῦτο γίγνεται τῷ ἄρρενι πρὸς τὴν θήλειαν· ἀναγκαῖον γάρ, εἴπερ ἀφίησί τι ὁ ἄρρεν εἴτε σπέρμα εἴτε μόριον εἴτε ἄλλην τινὰ δύναμιν, κατὰ τὸν ὑστερικὸν πόρον πλησιάζειν. ἡ δὲ τῆς πλεκτάνης τοῦ ἄρρενος διὰ τοῦ αὐλοῦ δίεσις ἐπὶ τῶν πολυπόδων, ᾗ φασιν ὀχεύειν πλεκτάνῃ οἱ ἁλιεῖς, συμπλοκῆς χάριν ἐστὶν ἀλλ’ οὐχ ὡς ὀργάνου χρησίμου πρὸς τὴν γένεσιν· ἔξω γάρ ἐστι τοῦ πόρου καὶ τοῦ σώματος. ἐνίοτε δὲ συνδυάζονται καὶ ἐπὶ τὰ πρανῆ τὰ (721a.) μαλάκια· πότερον δὲ γενέσεως χάριν ἢ δι’ ἄλλην αἰτίαν οὐθὲν ὦπταί πω.

Κεφάλαιο 16

Τῶν δ’ ἐντόμων τὰ μὲν συνδυάζεται καὶ ἡ γένεσις αὐτῶν ἐστιν ἐκ ζῴων συνωνύμων καθάπερ ἐπὶ τῶν ἐναίμων, οἷον αἵ τε ἀκρίδες καὶ οἱ τέττιγες καὶ τὰ φαλάγγια καὶ οἱ σφῆκες καὶ οἱ μύρμηκες, -τὰ δὲ συνδυάζεται μὲν καὶ γεννῶσιν, οὐχ ὁμογενῆ δ’ αὑτοῖς ἀλλὰ σκώληκας μόνον, οὐδὲ γίγνονται ἐκ ζῴων ἀλλ’ ἐκ σηπομένων ὑγρῶν, τὰ δὲ ξηρῶν, οἷον αἵ τε ψύλλαι καὶ αἱ μυῖαι καὶ αἱ κανθαρίδες, -τὰ δ’ οὔτ’ ἐκ ζῴων γίγνονται οὔτε συνδυάζονται καθάπερ ἐμπίδες τε καὶ κώνωπες καὶ πολλὰ τοιαῦτα γένη. τῶν δὲ συνδυαζομένων ἐν τοῖς πλείστοις τὰ θήλεα μείζω τῶν ἀρρένων ἐστίν. πόρους δὲ τὰ ἄρρενα θορικοὺς οὐ φαίνονται ἔχοντα. ἀφίησι δὲ ὡς ἐπὶ τὸ πλεῖστον εἰπεῖν τὸ ἄρρεν εἰς τὸ θῆλυ οὐδὲν μόριον ἀλλὰ τὸ θῆλυ εἰς τὸ ἄρρεν κάτωθεν ἄνω. τεθεώρηται δὲ τοῦτο ἐπὶ πολλῶν, [καὶ περὶ τοῦ ἀναβαίνειν ὡσαύτως] τοὐναντίον δ’ ἐπ’ ὀλίγων· ὥστε δὲ γένει διελεῖν οὔπω συνεώραται. σχεδὸν δὲ τοῦτο καὶ ἐπὶ τῶν ᾠοτόκων ἰχθύων τῶν πλείστων ἐστὶ καὶ ἐπὶ τῶν τετραπόδων καὶ ᾠοτόκων· τὰ γὰρ θήλεα μείζω τῶν ἀρρένων ἐστὶ διὰ τὸ συμφέρειν πρὸς τὸν γιγνόμενον αὐτοῖς ὑπὸ τῶν ᾠῶν ὄγκον ἐν τῇ κυήσει. τοῖς δὲ θήλεσιν αὐτῶν τὸ ταῖς ὑστέραις ἀνάλογον μόριον ἐσχισμένον ἐστὶ παρὰ τὸ ἔντερον, ὥσπερ καὶ τοῖς ἄλλοις, ἐν ᾧ ἐγγίγνεται τὰ κυήματα. δῆλον δὲ τοῦτο ἐπί τε τῶν ἀκρίδων καὶ ὅσα μέγεθος αὐτῶν ἔχει, συνδυάζεσθαι πεφυκότων· τὰ γὰρ πλεῖστα μικρὰ λίαν τῶν ἐντόμων ἐστίν.

Τὰ μὲν οὖν περὶ τὴν γένεσιν ὄργανα τοῖς ζῴοις περὶ ὧν οὐκ ἐλέχθη πρότερον, τοῦτον ἔχει τὸν τρόπον· τῶν δ’ ὁμοιομερῶν ἀπελείφθη περὶ γονῆς καὶ γάλακτος, περὶ ὧν καιρός ἐστιν εἰπεῖν, περὶ μὲν γονῆς ἤδη περὶ δὲ γάλακτος ἐν τοῖς ἐχομένοις.

Κεφάλαιο 17

Τὰ μὲν γὰρ προΐεται φανερῶς σπέρμα τῶν ζῴων οἷον ὅσα αὐτῶν ἔναιμα τὴν φύσιν ἐστί, τὰ δ’ ἔντομα καὶ τὰ μαλάκια ποτέρως ἄδηλον. ὥστε τοῦτο θεωρητέον πότερον πάντα προΐεται σπέρμα τὰ ἄρρενα ἢ οὐ πάντα, καὶ εἰ μὴ πάντα, διὰ τίν’ αἰτίαν τὰ μὲν τὰ δ’ οὔ· καὶ τὰ θήλεα δὲ πότερον συμβάλλεται σπέρμα τι ἢ οὔ, (721b.) καὶ εἰ μὴ σπέρμα, πότερον οὐδ’ ἄλλο οὐθέν, ἢ συμβάλλεται μέν τι, οὐ σπέρμα δέ. ἔτι δὲ καὶ τὰ προϊέμενα σπέρμα τί συμβάλλεται διὰ τοῦ σπέρματος πρὸς τὴν γένεσιν σκεπτέον καὶ ὅλως τίς ἐστιν ἡ τοῦ σπέρματος φύσις καὶ ἡ τῶν καλουμένων καταμηνίων, ὅσα ταύτην τὴν ὑγρότητα προΐεται τῶν ζῴων.

Δοκεῖ δὲ πάντα γίγνεσθαι ἐκ σπέρματος, τὸ δὲ σπέρμα ἐκ τῶν γεννώντων. διὸ τοῦ αὐτοῦ λόγου ἐστὶ πότερον καὶ τὸ θῆλυ καὶ τὸ ἄρρεν προΐενται ἄμφω ἢ θάτερον μόνον, καὶ πότερον ἀπὸ παντὸς ἀπέρχεται τοῦ σώματος ἢ οὐκ ἀπὸ παντός· εὔλογον γὰρ εἰ μὴ ἀπὸ παντός, μηδ’ ἀπ’ ἀμφοτέρων τῶν γεννώντων. διόπερ ἐπισκεπτέον, ἐπειδή φασί τινες ἀπὸ παντὸς ἀπιέναι τοῦ σώματος, περὶ τούτου πῶς ἔχει πρῶτον. ἔστι δὲ σχεδὸν οἷς ἄν τις χρήσαιτο τεκμηρίοις, [ὡς ἀφ’ ἑκάστου τῶν μορίων ἀπιόντος τοῦ σπέρματος] τέτταρα, πρῶτον μὲν ἡ σφοδρότης τῆς ἡδονῆς· μᾶλλον γὰρ ἡδὺ πλέον ταὐτὸ γιγνόμενον πάθος, πλέον δὲ τὸ πᾶσι τοῖς μορίοις ἢ τὸ ἑνὶ ἢ ὀλίγοις συμβαῖνον αὐτῶν. ἔτι τὸ ἐκ κολοβῶν κολοβὰ γίγνεσθαι· διὰ μὲν γὰρ τὸ τοῦ μορίου ἐνδεὲς εἶναι οὐ βαδίζειν σπέρμα ἐντεῦθέν φασιν, ὅθεν δ’ ἂν μὴ ἔλθῃ τοῦτο συμβαίνειν μὴ γίγνεσθαι. πρὸς δὲ τούτοις αἱ μοιότητες πρὸς τοὺς γεννήσαντας· γίγνονται γὰρ ἐοικότες ὥσπερ καὶ ὅλον τὸ σῶμα καὶ μόρια μορίοις· εἴπερ οὖν καὶ τῷ ὅλῳ αἴτιον τῆς ὁμοιότητος τὸ ἀφ’ ὅλου ἐλθεῖν τὸ σπέρμα, καὶ τοῖς μορίοις αἴτιον ἂν εἴη τὸ ἀφ’ ἑκάστου τι τῶν μορίων ἐλθεῖν. ἔτι δὲ καὶ εὔλογον ἂν εἶναι δόξειεν, ὥσπερ καὶ τοῦ ὅλου ἐστί τι ἐξ οὗ γίγνεται πρῶτον οὕτω καὶ τῶν μορίων ἑκάστου, ὥστ’ εἰ ἐκείνου σπέρμα καὶ τῶν μορίων ἑκάστου εἴη ἄν τι σπέρμα ἴδιον.

πιθανὰ δὲ καὶ τὰ τοιαῦτα μαρτύρια ταύταις ταῖς δόξαις· οὐ γὰρ μόνον τὰ σύμφυτα προσεοικότες γίγνονται τοῖς γονεῦσιν οἱ παῖδες ἀλλὰ καὶ τὰ ἐπίκτητα· οὐλάς τε γὰρ ἐχόντων τῶν γεννησάντων ἤδη τινὲς ἔσχον ἐν τοῖς αὐτοῖς τόποις τῶν ἐκγόνων τὸν τύπον τῆς οὐλῆς, καὶ στίγμα ἔχοντος ἐν τῷ βραχίονι τοῦ πατρὸς ἐπεσήμηνεν ἐν Χαλκηδόνι τῷ τέκνῳ συγκεχυμένον μέντοι καὶ οὐ διηρθρωμένον τὸ γράμμα. ὅτι μὲν οὖν ἀπὸ παντὸς ἔρχεται τὸ σπέρμα σχεδὸν ἐκ τούτων (722a.) μάλιστα πιστεύουσί τινες.

Κεφάλαιο 18

Φαίνεται δ’ ἐξετάζουσι τὸν λόγον τοὐναντίον μᾶλλον· τά τε γὰρ εἰρημένα λύειν οὐ χαλεπόν, καὶ πρὸς τούτοις ἄλλα συμβαίνει λέγειν ἀδύνατα. πρῶτον μὲν οὖν ὅτι οὐθὲν σημεῖον ἡ ὁμοιότης τοῦ ἀπιέναι ἀπὸ παντός, ὅτι καὶ φωνὴν καὶ ὄνυχας καὶ τρίχας ὅμοιοι γίγνονται καὶ τὴν κίνησιν, ἀφ’ ὧν οὐθὲν ἀπέρχεται. ἔνια δ’ οὐκ ἔχουσί πω ὅταν γεννῶσιν, οἷον τρίχωσιν πολιῶν ἢ γενείου. ἔτι τοῖς ἄνωθεν γονεῦσιν ἐοίκασιν ἀφ’ ὧν οὐθὲν ἀπῆλθεν· ἀποδιδόασι γὰρ διὰ πολλῶν γενεῶν αἱ ὁμοιότητες, οἷον καὶ ἐν Ἤλιδι ἡ τῷ Αἰθίοπι συγγενομένη· οὐ γὰρ ἡ θυγάτηρ ἐγένετο ἀλλ’ ὁ ἐκ ταύτης Αἰθίοψ. καὶ ἐπὶ τῶν φυτῶν δὲ ὁ αὐτὸς λόγος· δῆλον γὰρ ὅτι καὶ τούτοις ἀπὸ πάντων ἂν τῶν μερῶν τὸ σπέρμα γίγνοιτο. πολλὰ δὲ τὰ μὲν οὐκ ἔχει, τὰ δὲ καὶ ἀφέλοι τις ἄν, τὰ δὲ προσφύεται. ἔτι οὐδ’ ἀπὸ τῶν περικαρπίων ἀπέρχεται· καίτοι καὶ ταῦτα γίγνεται τὴν αὐτὴν ἔχοντα μορφήν.

Ἔτι πότερον ἀπὸ τῶν ὁμοιομερῶν μόνον ἀπέρχεται ἀφ’ ἑκάστου οἷον ἀπὸ σαρκὸς καὶ ὀστοῦ καὶ νεύρου, ἢ καὶ ἀπὸ τῶν ἀνομοιομερῶν οἷον προσώπου καὶ χειρός; εἰ μὲν γὰρ ἀπ’ ἐκείνων μόνον-ἐοίκασι δὲ μᾶλλον ταῦτα τοῖς γονεῦσι [τὰ ἀνομοιομερῆ οἷον πρόσωπον καὶ χεῖρας καὶ πόδας]· εἴπερ οὖν μηδὲ ταῦτα τῷ ἀπὸ παντὸς ἀπελθεῖν, τί κωλύει μηδ’ ἐκεῖνα τῷ ἀπὸ παντὸς ἀπελθεῖν ὅμοια εἶναι ἀλλὰ δι’ ἄλλην αἰτίαν; εἰ δ’ ἀπὸ τῶν ἀνομοιομερῶν μόνον -οὔκουν ἀπὸ πάντων. προσήκει δὲ μᾶλλον ἀπ’ ἐκείνων· πρότερα γὰρ ἐκεῖνα καὶ σύγκειται τὰ ἀνομοιομερῆ ἐξ ἐκείνων, καὶ ὥσπερ πρόσωπον καὶ χεῖρας γίγνονται ἐοικότες οὕτω καὶ σάρκας καὶ ὄνυχας. εἰ δ’ ἀπ’ ἀμφοτέρων, τίς ὁ τρόπος ἂν εἴη τῆς γενέσεως; σύγκειται γὰρ ἐκ τῶν ὁμοιομερῶν τὰ ἀνομοιομερῆ ὥστε τὸ ἀπὸ τούτων ἀπιέναι τὸ ἀπ’ ἐκείνων ἂν εἴη ἀπιέναι καὶ τῆς συνθέσεως· ὥσπερ κἂν εἰ ἀπὸ τοῦ γεγραμμένου· ὀνόματος ἀπῄει τι, εἰ μὲν ἀπὸ παντός, κἂν ἀπὸ τῶν συλλαβῶν ἑκάστης, εἰ δ’ ἀπὸ τούτων, ἀπὸ τῶν στοιχείων καὶ τῆς συνθέσεως. ὥστ’ εἴπερ ἐκ πυρὸς καὶ τῶν τοιούτων σάρκες καὶ ὀστᾶ συνεστᾶσιν, ἀπὸ τῶν στοιχείων ἂν εἴη μᾶλλον· ἀπὸ γὰρ τῆς συνθέσεως πῶς ἐνδέχεται; ἀλλὰ (722b.) μὴν ἄνευ γε ταύτης οὐκ ἂν εἴη ὅμοια. ταύτην δ’ εἴ τι δημιουργεῖ ὕστερον, τοῦτ’ ἂν εἴη τὸ τῆς ὁμοιότητος αἴτιον ἀλλ’ οὐ τὸ ἀπελθεῖν ἀπὸ παντός.

Ἔτι εἰ μὲν διεσπασμένα τὰ μέρη ἐν τῷ σπέρματι πῶς ζῇ; εἰ δὲ συνεχῆ ζῷον ἂν εἴη μικρόν. καὶ τὰ τῶν αἰδοίων πῶς; οὐ γὰρ ὅμοιον τὸ ἀπιὸν ἀπὸ τοῦ ἄρρενος καὶ τοῦ θήλεος.

Ἔτι εἰ ἀπ' ἀμφοτέρων ὁμοίως ἀπὸ πάντων ἀπέρχεται, δύο γίγνεται ζῷα· ἑκατέρου γὰρ ἅπαντα ἕξει. διὸ καὶ Ἐμπεδοκλῆς ἔοικεν, εἴπερ οὕτω λεκτέον, μάλιστα λέγειν ὁμολογούμενα τούτῳ τῷ λόγῳ [τό γε τοσοῦτον, ἀλλ' εἴπερ ἑτέρᾳ πῃ, οὐ καλῶς]· φησὶ γὰρ ἐν τῷ ἄρρενι καὶ τῷ θήλει οἷον σύμβολον ἐνεῖναι, ὅλον δ' ἀπ' οὐδετέρου ἀπιέναι, ἀλλὰ διέσπασται μελέων φύσις, ἡ μὲν ἐν ἀνδρός ... διὰ τί γὰρ τὰ θήλεα οὐ γεννᾷ ἐξ αὑτῶν εἴπερ ἀπὸ παντός τε ἀπέρχεται καὶ ἔχει ὑποδοχήν; ἀλλ' ὡς ἔοικεν ἢ οὐκ ἀπέρχεται ἀπὸ παντὸς ἢ οὕτως ὥσπερ ἐκεῖνος λέγει, οὐ ταὐτὰ ἀφ' ἑκατέρου, διὸ καὶ δέονται τῆς ἀλλήλων συνουσίας. ἀλλὰ καὶ τοῦτ' ἀδύνατον. ὥσπερ γὰρ καὶ μεγάλα ὄντ' ἀδύνατον διεσπασμένα σώζεσθαι καὶ ἔμψυχα εἶναι, καθάπερ Ἐμπεδοκλῆς γεννᾷ ἐπὶ τῆς Φιλότητος λέγων·

ᾗ πολλαὶ μὲν κόρσαι ἀναύχενες ἐβλάστησαν,

εἶθ' οὕτω συμφύεσθαί φησιν, τοῦτο δὲ φανερὸν ὅτι ἀδύνατον· οὔτε γὰρ μὴ ψυχὴν ἔχοντα οὔτε μὴ ζωήν τινα δύναιτ' ἂν σώζεσθαι, οὔτε ὥσπερ ζῷα ὄντα πλείω συμφύεσθαι ὥστ' εἶναι πάλιν ἕν. ἀλλὰ μὴν τοῦτον τὸν τρόπον συμβαίνει λέγειν τοῖς ἀπὸ παντὸς ἀπιέναι φάσκουσιν, ὥσπερ τότε ἐν τῇ γῇ ἐπὶ τῆς Φιλότητος, οὕτω τούτοις ἐν τῷ σώματι. ἀδύνατον γὰρ συνεχῆ τὰ μόρια γίγνεσθαι καὶ ἀπιέναι εἰς ἕνα τόπον συνιόντα. εἶτα πῶς καὶ διέσπασται τὰ ἄνω καὶ κάτω καὶ δεξιὰ καὶ ἀριστερὰ καὶ πρόσθια καὶ ὀπίσθια; πάντα γὰρ ταῦτα ἄλογά ἐστιν.

Ἔτι δὲ τὰ μέρη τὰ μὲν δυνάμει τὰ δὲ πάθεσι διώρισται, τὰ μὲν ἀνομοιομερῆ τῷ δύνασθαί τι ποιεῖν οἷον γλῶττα καὶ χείρ, τὰ δ' ὁμοιομερῆ σκληρότητι καὶ μαλακότητι καὶ τοῖς ἄλλοις τοῖς τοιούτοις πάθεσιν. οὐ πάντως οὖν ἔχον αἷμα οὐδὲ σάρξ. δῆλον τοίνυν ὅτι ἀδύνατον τὸ ἀπελθὸν εἶναι συνώνυμον τοῖς μέρεσιν, οἷον αἷμα ἀπὸ (723a.) αἵματος ἢ σάρκα ἀπὸ σαρκός. ἀλλὰ μὴν εἴ γ' ἐξ ἑτέρου τινὸς ὄντος αἷμα γίγνεται οὐδ' ἂν τῆς ὁμοιότητος αἴτιον εἴη, ὡς λέγουσιν οἱ φάσκοντες οὕτω, τὸ ἀπελθεῖν ἀπὸ πάντων τῶν μορίων· ἱκανὸν γὰρ ἀφ' ἑνὸς ἀπιέναι μόνον εἴπερ μὴ ἐξ αἵματος αἷμα γίγνεται. διὰ τί γὰρ οὐκ ἂν καὶ ἅπαντα ἐξ ἑνὸς γίγνοιτο; ὁ αὐτὸς γὰρ λόγος ἔοικεν εἶναι οὗτος τῷ Ἀναξαγόρου, τῷ μηθὲν γίγνεσθαι τῶν ὁμοιομερῶν· πλὴν ἐκεῖνος μὲν ἐπὶ πάντων, οὗτοι δ' ἐπὶ τῆς γενέσεως τῶν ζῴων τοῦτο ποιοῦσιν. ἔπειτα τίνα τρόπον αὐξηθήσεται ταῦτα τὰ ἀπελθόντα ἀπὸ παντός; Ἀναξαγόρας μὲν γὰρ εὐλόγως φησὶ σάρκας ἐκ τῆς τροφῆς προσιέναι ταῖς σαρξίν· τοῖς δὲ ταῦτα μὲν μὴ λέγουσιν ἀπὸ παντὸς δ' ἀπιέναι φάσκουσι, πῶς ἑτέρου προσγενομένου ἔσται μεῖζον εἰ μὴ μεταβάλλει τὸ προσελθόν; ἀλλὰ μὴν εἴ γε δύναται μεταβάλλειν τὸ προσελθόν, διὰ τί οὐκ εὐθὺς ἐξ ἀρχῆς τὸ σπέρμα τοιοῦτόν ἐστιν ὥστ' ἐξ αὐτοῦ δυνατὸν εἶναι γίγνεσθαι αἷμα καὶ σάρκας, ἀλλὰ μὴ αὐτὸ εἶναι ἐκεῖνο καὶ αἷμα καὶ σάρκας; οὐ γὰρ δὴ οὐδὲ τοῦτο ἐνδέχεται λέγειν ὡς τῇ κατακεράσει αὐξάνεται ὕστερον οἷον οἶνος ὕδατος προσεγχυθέντος· αὐτὸ γὰρ ἂν πρῶτον μάλιστα ἦν ἕκαστον ἄκρατον ὄν· νῦν δὲ ὕστερον μᾶλλον καὶ σὰρξ καὶ ὀστοῦν καὶ τῶν ἄλλων ἕκαστόν ἐστι μορίων. τοῦ δὲ σπέρματος φάναι τι νεῦρον εἶναι καὶ ὀστοῦν λίαν ἐστὶν ὑπὲρ ἡμᾶς τὸ λεγόμενον.

Πρὸς δὲ τούτοις εἰ τὸ θῆλυ καὶ τὸ ἄρρεν ἐν τῇ κυήσει διαφέρει καθάπερ Ἐμπεδοκλῆς λέγει· ἐν δ' ἐχύθη καθαροῖσι· τὰ μὲν τελέθουσι γυναῖκες, ψύχεος ἀντιάσαντα .., φαίνονται δ' οὖν μεταβάλλουσαι καὶ γυναῖκες καὶ ἄνδρες, ὥσπερ ἐξ ἀγόνων γόνιμοι οὕτω καὶ ἐκ θηλυτόκων ἀρρενοτόκοι, ὡς οὐκ ἐν τῷ ἀπελθεῖν ἀπὸ παντὸς ἢ μὴ τῆς αἰτίας οὔσης ἀλλ' ἐν τῷ σύμμετρον ἢ ἀσύμμετρον εἶναι τὸ ἀπὸ τῆς γυναικὸς καὶ τοῦ ἀνδρὸς ἀπιόν, ἢ καὶ δι' ἄλλην τινὰ τοιαύτην αἰτίαν. δῆλον τοίνυν, εἰ τοῦτο θήσομεν οὕτως ὅτι οὐ τῷ ἀπελθεῖν ἀπό τινος τὸ θῆλυ, ὥστ' οὐδὲ τὸ μέρος ὃ ἔχει ἴδιον τό τε ἄρρεν καὶ τὸ θῆλυ, εἴπερ τὸ αὐτὸ σπέρμα καὶ θῆλυ καὶ ἄρρεν δύναται γίγνεσθαι ὡς οὐκ ὄντος τοῦ μορίου ἐν τῷ σπέρματι. τί οὖν διαφέρει ἐπὶ τούτου λέγειν ἢ (723b.) ἐπὶ τῶν ἄλλων μορίων; εἰ γὰρ μηδ' ἀπὸ τῆς ὑστέρας σπέρμα γίγνεται ὁ αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων ἂν εἴη μορίων.

Ἔτι ἔνια γίγνεται τῶν ζῴων οὔτ' ἐξ ὁμογένων οὔτε τῷ γένει διαφόρων, οἷον αἱ μυῖαι καὶ τὰ γένη τῶν καλουμένων ψυλλῶν· ἐκ δὲ τούτων γίγνεται μὲν ζῷα οὐκέτι δ' ὅμοια τὴν φύσιν, ἀλλὰ γένος τι σκωλήκων. δῆλον οὖν ὅτι οὐκ ἀπὸ παντὸς μέρους ἀπιόντος γίγνονται ὅσα ἑτερογενῆ· ὅμοια γὰρ ἂν ἦν εἴπερ τοῦ ἀπὸ παντὸς ἀπιέναι σημεῖόν ἐστιν ἡ ὁμοιότης.

Ἔτι ἀπὸ μιᾶς συνουσίας καὶ τῶν ζῴων ἔνια γεννᾷ πολλά (τὰ δὲ φυτὰ καὶ παντάπασιν· δῆλον γὰρ ὅτι ἀπὸ μιᾶς κινήσεως τὸν ἐπέτειον πάντα φέρει καρπόν)· καίτοι πῶς δυνατὸν εἰ ἀπὸ παντὸς ἀπεκρίνετο τὸ σπέρμα; μίαν γὰρ ἀπόκρισιν ἀπὸ μιᾶς ἀναγκαῖον γίγνεσθαι συνουσίας καὶ μιᾶς διακρίσεως. ἐν δὲ ταῖς ὑστέραις χωρίζεσθαι ἀδύνατον· ἤδη γὰρ ὥσπερ ἀπὸ ζῴου, οὐ σπέρματος εἴη ἡ διαχώρισις.

Ἔτι τὰ ἀποφυτευόμενα ἀφ' αὐτοῦ φέρει σπέρμα· δῆλον οὖν ὅτι καὶ πρὶν ἀποφυτευθῆναι ἀπὸ τοῦ αὐτοῦ μεγέθους ἔφερε τὸν καρπόν, καὶ οὐκ ἀπὸ παντὸς τοῦ φυτοῦ ἀπῄει τὸ σπέρμα.

Μέγιστον δὲ τούτων τεκμήριον τεθεωρήκαμεν ἱκανῶς ἐπὶ τῶν ἐντόμων.

καὶ γὰρ εἰ μὴ ἐν πᾶσιν, ἀλλ’ ἐπὶ τῶν πλείστων ἐν τῇ ὀχείᾳ τὸ θῆλυ εἰς τὸ ἄρρεν μέρος τι αὐτοῦ ἀποτείνει· διὸ καὶ τὴν ὀχείαν, καθάπερ εἴπομεν πρότερον, οὕτω ποιοῦνται· τὰ γὰρ κάτωθεν εἰς τὰ ἄνω φαίνεται ἐναφιέντα, οὐκ ἐν πᾶσιν ἀλλ’ ἐν τοῖς πλείστοις τῶν τεθεωρημένων. ὥστε φανερὸν ἂν εἴη ὅτι οὐδ’ ὅσα προΐεται γονὴν τῶν ἀρρένων, οὐ τὸ ἀπὸ παντὸς ἀπιέναι τῆς γενέσεως αἴτιόν ἐστιν, ἀλλ’ ἄλλον τινὰ τρόπον περὶ οὗ σκεπτέον ὕστερον. καὶ γὰρ εἴπερ τὸ ἀπὸ παντὸς ἀπιέναι συνέβαινεν, ὥσπερ φασίν, οὐθὲν ἔδει ἀπὸ πάντων ἀξιοῦν ἀπιέναι ἀλλὰ μόνον ἀπὸ τοῦ δημιουργοῦντος, οἷον ἀπὸ τοῦ τέκτονος ἀλλὰ μὴ ἀπὸ τῆς ὕλης. νῦν δ’ ὅμοιον λέγουσιν ὥσπερ κἂν εἰ ἀπὸ τῶν ὑποδημάτων· σχεδὸν γὰρ ὅμοιος υἱὸς τῷ πατρὶ ὅμοια φορεῖ.

Ὅτι δ’ ἡδονὴ σφοδροτέρα γίγνεται ἐν τῇ ὁμιλίᾳ τῇ τῶν ἀφροδισίων, οὐ τὸ ἀπὸ παντὸς ἀπιέναι αἴτιον ἀλλ’ ὅτι κνησμός ἐστιν ἰσχυρός· διὸ καὶ εἰ πολλάκις συμβαίνει ἡ ὁμιλία αὕτη ἧττον γίγνεται (724a.) τὸ χαίρειν τοῖς πλησιάζουσιν. ἔτι πρὸς τῷ τέλει ἡ χαρά, ἔδει δὲ ἐν ἑκάστῳ τῶν μορίων, καὶ μὴ ἅμα ἀλλ’ ἐν μὲν τοῖς πρότερον ἐν δὲ τοῖς ὕστερον.

Τοῦ δ’ ἐκ κολοβῶν γίγνεσθαι κολοβὰ ἡ αὐτὴ αἰτία καὶ διὰ τί ὅμοια τοῖς γονεῦσιν. γίγνεται δὲ καὶ οὐ κολοβὰ ἐκ κολοβῶν, ὥσπερ καὶ ἀνόμοια τοῖς τεκνώσασιν· περὶ ὧν ὕστερον τὴν αἰτίαν θεωρητέον· τὸ γὰρ πρόβλημα τοῦτ’ ἐκείνοις ταὐτόν ἐστιν.

Ἔτι εἰ τὸ θῆλυ μὴ προΐεται σπέρμα τοῦ αὐτοῦ λόγου μηδ’ ἀπὸ παντὸς ἀπιέναι. κἂν εἰ μὴ ἀπὸ παντὸς ἀπέρχεται, οὐθὲν ἄλογον τὸ μηδ’ ἀπὸ τοῦ θήλεος ἀλλ’ ἄλλον τινὰ τρόπον αἴτιον εἶναι τὸ θῆλυ τῆς γενέσεως. περὶ οὗ ἐχόμενόν ἐστιν ἐπισκέψασθαι ἐπειδὴ φανερὸν ὅτι οὐκ ἀπὸ πάντων ἀποκρίνεται τὸ σπέρμα τῶν μορίων.

Ἀρχὴ δὲ καὶ ταύτης τῆς σκέψεως καὶ τῶν ἑπομένων πρῶτον λαβεῖν περὶ σπέρματος τί ἐστιν· οὕτω γὰρ καὶ περὶ τῶν ἔργων αὐτοῦ καὶ τῶν περὶ αὐτὸ συμβαινόντων ἔσται μᾶλλον εὐθεώρητον. βούλεται δὲ τοιοῦτον τὴν φύσιν εἶναι τὸ σπέρμα ἐξ οὗ τὰ κατὰ φύσιν συνιστάμενα γίγνεται πρώτου, †οὐ τῷ ἐξ ἐκείνου τι εἶναι τὸ ποιοῦν οἷον τοῦ ἀνθρώπου· γίγνεται γὰρ ἐκ τούτου ὅτι τοῦτό ἐστι τὸ σπέρμα.† ἐπεὶ δὲ πολλαχῶς γίγνεται ἄλλο ἐξ ἄλλου-ἕτερον γὰρ τρόπον ὡς ἐξ ἡμέρας φαμὲν νὺξ γίγνεται καὶ ἐκ παιδὸς ἀνήρ, ὅτι τόδε μετὰ τόδε· ἄλλον δὲ τρόπον ὡς ἐκ χαλκοῦ ἀνδριὰς καὶ ἐκ ξύλου κλίνη καὶ τἆλλα ὅσα ὡς ἐξ ὕλης γίγνεσθαι τὰ γιγνόμενα λέγομεν, ἔκ τινος ἐνυπάρχοντος καὶ σχηματισθέντος τὸ ὅλον ἐστίν. ἕτερον δὲ τρόπον ὡς ἐκ μουσικοῦ ἄμουσος καὶ ὡς ἐξ ὑγιοῦς κάμνων καὶ ὅλως ὡς τὸ ἐναντίον ἐκ τοῦ ἐναντίου. ἔτι δὲ παρὰ ταῦτα ὡς Ἐπίχαρμος ποιεῖ τὴν ἐποικοδόμησιν, ἐκ τῆς διαβολῆς ἡ λοιδορία, ἐκ δὲ ταύτης ἡ μάχη· ταῦτα δὲ πάντα ἔκ τινος ἡ ἀρχὴ τῆς κινήσεως. τῶν δὲ τοιούτων ἐνίων μὲν ἐν αὐτοῖς ἡ ἀρχὴ τῆς κινήσεώς ἐστιν οἷον καὶ ἐν τοῖς νῦν εἰρημένοις (μέρος γάρ τι ἡ διαβολὴ τῆς πάσης ταραχῆς ἐστιν), ἐνίων δ’ ἔξω οἷον αἱ τέχναι τῶν δημιουργουμένων καὶ ὁ λύχνος τῆς καιομένης οἰκίας.

Τὸ δὲ σπέρμα φανερὸν ὅτι δυοῖν τούτοιν ἐν θατέρῳ ἐστίν· ἢ γὰρ ὡς ἐξ ὕλης αὐτοῦ ἢ ὡς ἐκ πρώτου κινήσαντός (724b.) ἐστι τὸ γιγνόμενον. οὐ γὰρ δὴ ὡς τόδε μετὰ τόδε οἷον ἐκ τῶν Παναθηναίων ὁ πλοῦς, οὐδ’ ὡς ἐξ ἐναντίου· φθειρομένου τε γὰρ γίγνεται τὸ ἐναντίον ἐκ τοῦ ἐναντίου, καὶ ἕτερόν τι δεῖ ὑποκεῖσθαι ἐξ οὗ ἔσται πρώτου ἐνυπάρχοντος. τοῖν δυοῖν δὴ ληπτέον ἐν ποτέρῳ θετέον τὸ σπέρμα, πότερον ὡς ὕλην καὶ πάσχον ἢ ὡς εἶδός τι καὶ ποιοῦν, ἢ καὶ ἄμφω. ἅμα γὰρ ἴσως δῆλον ἔσται καὶ πῶς ἡ ἐξ ἐναντίων γένεσις ὑπάρχει πᾶσι τοῖς ἐκ τοῦ σπέρματος· φυσικὴ γὰρ καὶ ἡ ἐκ τῶν ἐναντίων γένεσις· τὰ μὲν γὰρ ἐξ ἐναντίων γίγνεται, ἄρρενος καὶ θήλεος, τὰ δ’ ἐξ ἑνὸς μόνου, οἷον τά τε φυτὰ καὶ τῶν ζῴων ἔνια ἐν ὅσοις μή ἐστι διωρισμένον τὸ ἄρρεν καὶ τὸ θῆλυ χωρίς.

[[Γονὴ μὲν οὖν τὸ ἀπὸ τοῦ γεννῶντος καλεῖται ἀπιόν, ὅσα συνδυάζεσθαι πέφυκε, τὸ πρῶτον ἔχον ἀρχὴν γενέσεως, σπέρμα δὲ τὸ ἐξ ἀμφοτέρων τὰς ἀρχὰς ἔχον τῶν συνδυασθέντων (οἷον τά τε τῶν φυτῶν καὶ ἐνίων ζῴων ἐν οἷς μὴ κεχώρισται τὸ θῆλυ καὶ τὸ ἄρρεν), ὥσπερ τὸ γιγνόμενον ἐκ θήλεος καὶ ἄρρενος πρῶτον μίγμα οἷον κύημά τι ὂν ἢ ᾠόν· καὶ γὰρ ταῦτα ἤδη ἔχει τὸ ἐξ ἀμφοῖν.

Σπέρμα δὲ καὶ καρπὸς διαφέρει τῷ ὕστερον καὶ πρότερον· καρπὸς μὲν γὰρ τῷ ἐξ ἄλλου εἶναι, σπέρμα δὲ τῷ ἐκ τούτου ἄλλο, ἐπεὶ ἄμφω γε ταὐτόν ἐστιν.

Ἡ δὲ τοῦ λεγομένου σπέρματος φύσις ἡ πρώτη, πάλιν λεκτέα τίς ἐστιν.]]

Ἀνάγκη δὴ πᾶν ὃ ἂν λαμβάνωμεν ἐν τῷ σώματι ἢ μέρος εἶναι τῶν κατὰ φύσιν, καὶ τοῦτο ἢ τῶν ἀνομοιομερῶν ἢ τῶν ὁμοιομερῶν, -ἢ τῶν παρὰ φύσιν οἷον φῦμα, ἢ περίττωμα ἢ σύντηγμα ἢ τροφήν. (λέγω δὲ περίττωμα μὲν τὸ τῆς τροφῆς ὑπόλειμμα, σύντηγμα δὲ τὸ ἀποκριθὲν ἐκ τοῦ αὐξήματος ὑπὸ τῆς παρὰ φύσιν ἀναλύσεως). ὅτι μὲν οὖν οὐκ ἂν εἴη μέρος φανερόν· ὁμοιομερὲς μὲν γάρ ἐστιν, ἐκ δὲ τούτου οὐθὲν σύγκειται ὥσπερ ἐκ νεύρου καὶ σαρκός. ἔτι δὲ οὐδὲ κεχωρισμένον, τὰ δ’ ἄλλα πάντα μέρη. ἀλλὰ μὴν οὐδὲ τῶν παρὰ φύσιν οὐδὲ πήρωμα· ἐν ἅπασί τε γὰρ ὑπάρχει, καὶ ἡ φύσις ἐκ τούτου γίγνεται. ἡ δὲ τροφὴ φανερῶς ἐπείσακτον. ὥστ’ ἀνάγκη ἢ σύντηγμα ἢ περίττωμα εἶναι. οἱ μὲν οὖν ἀρχαῖοι ἐοίκασιν οἰομένοις εἶναι σύντηγμα· τὸ γὰρ ἀπὸ παντὸς ἀπιέναι φάναι διὰ τὴν θερμότητα τὴν ἀπὸ τῆς (725a.)

κινήσεως συντήγματος ἔχει δύναμιν. τὰ δὲ συντήγματα τῶν παρὰ φύσιν τι, ἐκ δὲ τῶν παρὰ φύσιν οὐθὲν γίγνεται τῶν κατὰ φύσιν. ἀνάγκη ἄρα περίττωμα εἶναι. ἀλλὰ μὴν περίττωμά γε πᾶν ἢ ἀχρήστου τροφῆς ἐστιν ἢ χρησίμης. ἄχρηστον μὲν οὖν λέγω ἀφ' ἧς μηθὲν ἔτι συντελεῖται εἰς τὴν φύσιν ἀλλ' ἀναλισκομένου πλέονος μάλιστα κακοῦται, τὴν δὲ χρησίμην τὴν ἐναντίαν. ὅτι μὲν δὴ τοιοῦτον περίττωμα οὐκ ἂν εἴη φανερόν· τοῖς γὰρ κάκιστα διακειμένοις δι' ἡλικίαν ἢ νόσον πλεῖστον ἐνυπάρχει τοιοῦτον, σπέρμα δὲ ἥκιστα· ἢ γὰρ ὅλως οὐκ ἔχουσιν ἢ οὐ γόνιμον διὰ τὸ μίγνυσθαι ἄχρηστον περίττωμα καὶ νοσηματικόν.

Χρησίμου ἄρα περιττώματος μέρος τί ἐστι τὸ σπέρμα. χρησιμώτατον δὲ τὸ ἔσχατον καὶ ἐξ οὗ ἤδη γίγνεται ἕκαστον τῶν μορίων. ἔστι γὰρ τὸ μὲν πρότερον τὸ δ' ὕστερον. τῆς μὲν οὖν πρώτης ροφῆς περίττωμα φλέγμα καὶ εἴ τι ἄλλο τοιοῦτον· καὶ γὰρ τὸ φλέγμα τῆς χρησίμου τροφῆς περίττωμά ἐστιν· σημεῖον δ' ὅτι μιγνύμενον τροφῇ καθαρᾷ τρέφει καὶ πονοῦσι καταναλίσκεται. τὸ δὲ τελευταῖον ἐκ πλείστης τροφῆς ὀλίγιστον γίγνεται. ἐννοεῖν δὲ δεῖ ὅτι μικρῷ αὐξάνεται τὰ ζῷα καὶ τὰ φυτὰ τῷ καθ' ἡμέραν· παμμίκρου γὰρ ἂν προστιθεμένου τοῦ αὐτοῦ ὑπερέβαλλε τὸ μέγεθος.

Τοὐναντίον ἄρα ἢ οἱ ἀρχαῖοι ἔλεγον λεκτέον. οἱ μὲν γὰρ τὸ ἀπὸ παντὸς ἀπιόν, ἡμεῖς δὲ τὸ πρὸς ἅπαντ' ἰέναι πεφυκὸς σπέρμα ἐροῦμεν, καὶ οἱ μὲν σύντηγμα, φαίνεται δὲ περίττωμα μᾶλλον. εὐλογώτερον γὰρ ὅμοιον εἶναι τὸ προσιὸν ἔσχατον καὶ τὸ περιγιγνόμενον τοῦ τοιούτου, οἷον τοῖς γραφεῦσι τοῦ ἀνδρεικέλου πολλάκις περιγίγνεται ὅμοιον τῷ ἀναλωθέντι. συντηκόμενον δὲ φθείρεται πᾶν καὶ ἐξίσταται τῆς φύσεως. τεκμήριον δὲ τοῦ μὴ σύντηγμα εἶναι ἀλλὰ περίττωμα μᾶλλον τὸ τὰ μεγάλα τῶν ζῴων ὀλιγοτόκα εἶναι, τὰ δὲ μικρὰ πολύγονα. σύντηγμα μὲν γὰρ πλέον ἀναγκαῖον εἶναι τοῖς μεγάλοις, περίττωμα δ' ἔλαττον· εἰς γὰρ τὸ σῶμα μέγα ὂν ἀναλίσκεται τὸ πλεῖστον τῆς τροφῆς ὥστ' ὀλίγον γίγνεται τὸ περίττωμα. ἔτι τόπος συντήγματι μὲν οὐθεὶς ἀποδέδοται κατὰ φύσιν ἀλλὰ ῥεῖ ὅπου ἂν εὐοδήσῃ τοῦ σώματος, τοῖς δὲ κατὰ φύσιν (725b.) περιττώμασι πᾶσιν, οἷον τῆς τροφῆς τῆς ξηρᾶς ἡ κάτω κοιλία καὶ τῆς ὑγρᾶς ἡ κύστις καὶ τῆς χρησίμης ἡ ἄνω κοιλία, καὶ τοῖς σπερματικοῖς ὑστέραι καὶ αἰδοῖα καὶ μαστοί· εἰς τούτους γὰρ ἀθροίζεται καὶ συρρεῖ. καὶ μαρτύρια τὰ συμβαίνοντα ὅτι τὸ εἰρημένον σπέρμα ἐστίν· ταῦτα δὲ συμβαίνει διὰ τὸ τὴν φύσιν εἶναι τοῦ περιττώματος τοιαύτην· ἥ τε γὰρ ἔκλυσις ἐλαχίστου ἀπελθόντος τούτου γίγνεται ἐπίδηλος, ὡς στερισκόμενα τὰ σώματα τοῦ ἐκ τῆς τροφῆς γιγνομένου τέλους. (ὀλίγοις δέ τισιν ἐν μικρῷ χρόνῳ κατὰ τὰς ἡλικίας κουφίζει τοῦτ' ἀπιὸν ὅταν πλεονάσῃ, καθάπερ ἡ πρώτη τροφὴ ἂν ὑπερβάλλῃ τῷ πλήθει· καὶ γὰρ ταύτης ἀπιούσης τὰ σώματ’ εὐημερεῖ μᾶλλον. ἔτι ὅταν συναπίῃ ἄλλα περιττώματα· οὐ γὰρ μόνον σπέρμα τὸ ἀπιὸν ἀλλὰ καὶ ἕτεραι μεμιγμέναι δυνάμεις τούτοις συναπέρχονται, αὗται δὲ νοσώδεις, -διὸ ἐνίων γε καὶ ἄγονόν ποτε γίγνεται τὸ ἀποχωροῦν διὰ τὸ ὀλίγον ἔχειν τὸ σπερματικόν. ἀλλὰ τοῖς πλείστοις καὶ ὡς ἐπὶ τὸ πολὺ εἰπεῖν συμβαίνει ἐκ τῶν ἀφροδισιασμῶν ἔκλυσις καὶ ἀδυναμία μᾶλλον διὰ τὴν εἰρημένην αἰτίαν.) ἔτι οὐκ ἐνυπάρχει σπέρμα οὔτ’ ἐν τῇ πρώτῃ ἡλικίᾳ οὔτ’ ἐν τῷ γήρᾳ οὔτ’ ἐν ταῖς ἀρρωστίαις, ἐν μὲν τῷ κάμνειν διὰ τὴν ἀδυναμίαν, ἐν δὲ τῷ γήρᾳ διὰ τὸ μὴ πέττειν τὸ ἱκάνον τὴν φύσιν, νέοις δ’ οὖσι διὰ τὴν αὔξησιν· φθάνει γὰρ ἀναλισκόμενον πᾶν· ἐν ἔτεσι γὰρ πέντε σχεδὸν ἐπί γε τῶν ἀνθρώπων ἥμισυ λαμβάνειν δοκεῖ τὸ σῶμα τοῦ μεγέθους τοῦ ἐν τῷ ἄλλῳ χρόνῳ γιγνομένου ἅπαντος.

Πολλοῖς δὲ συμβαίνει καὶ ζῴοις καὶ φυτοῖς καὶ γένεσι πρὸς γένη διαφορὰ περὶ ταῦτα κἀν τῷ γένει τῷ αὐτῷ τοῖς ὁμοειδέσι πρὸς ἄλληλα, οἷον ἀνθρώπῳ πρὸς ἄνθρωπον καὶ ἀμπέλῳ πρὸς ἄμπελον. τὰ μὲν γὰρ πολύσπερμα τὰ δ’ ὀλιγόσπερμά ἐστι, τὰ δ’ ἄσπερμα πάμπαν, οὐ δι’ ἀσθένειαν ἀλλ’ ἐνίοις γε διὰ τοὐναντίον· καταναλίσκεται γὰρ εἰς τὸ σῶμα οἷον τῶν ἀνθρώπων ἐνίοις· εὐεκτικοὶ γὰρ ὄντες καὶ γιγνόμενοι πολύσαρκοι ἢ πιότεροι μᾶλλον ἧττον προΐενται σπέρμα καὶ ἧττον ἐπιθυμοῦσι τοῦ ἀφροδισιάζειν. ὅμοιον δὲ καὶ τὸ περὶ τὰς τραγώσας ἀμπέλους πάθος αἳ διὰ τὴν τροφὴν ἐξυβρίζουσιν (ἐπεὶ καὶ οἱ (726a.) τράγοι πίονες ὄντες ἧττον ὀχεύουσιν, διὸ καὶ προλεπτύνουσιν αὐτούς· καὶ τὰς ἀμπέλους τραγᾶν ἀπὸ τοῦ πάθους τῶν τράγων καλοῦσιν). καὶ οἱ πίονες δὲ ἀγονώτεροι φαίνονται εἶναι τῶν μὴ πιόνων, καὶ γυναῖκες καὶ ἄνδρες διὰ τὸ τοῖς εὐτραφέσι πεττόμενον τὸ περίττωμα γίγνεσθαι πιμελήν· ἔστι γὰρ καὶ ἡ πιμελὴ περίττωμα δι’ εὐβοσίαν ὑγιεινόν.

Ἔνια δ’ ὅλως οὐδὲ φέρει σπέρμα οἷον ἰτέα καὶ αἴγειρος. εἰσὶ μὲν οὖν καὶ †ἕτεραι αἰτίαι τούτου τοῦ πάθους. καὶ γὰρ δι’ ἀδυναμίαν οὐ πέττουσι καὶ διὰ δύναμιν ἀναλίσκουσιν ὥσπερ εἴρηται. ὁμοίως δὲ καὶ πολύχοά ἐστι καὶ πολύσπερμα τὰ μὲν διὰ δύναμιν τὰ δὲ δι’ ἀδυναμίαν· [[πολὺ γὰρ καὶ ἄχρηστον περίττωμα συμμίγνυται, ὥστ’ ἐνίοις γίγνεσθαι καὶ ἀρρώστημα ὅταν αὐτῶν μὴ εὐοδήσῃ ἡ ἀποκάθαρσις. καὶ ἔνιοι μὲν ὑγιάζονται, οἱ δὲ καὶ ἀναιροῦνται. συντήκονται γὰρ ταύτῃ ὥσπερ καὶ εἰς τὸ οὖρον· ἤδη γὰρ καὶ τοῦτ’ ἀσθένημα συνέβη τισίν.

Ἔτι ὁ πόρος ὁ αὐτὸς τῷ περιττώματι καὶ τῷ σπέρματι· καὶ ὅσοις μὲν ἀμφοῖν γίγνεται περίττωμα, καὶ τῆς ὑγρᾶς καὶ τῆς ξηρᾶς τροφῆς, ᾗπερ ἡ τοῦ ὑγροῦ ταύτῃ καὶ ἡ τῆς γονῆς γίγνεται ἀπόκρισις (ὑγροῦ γὰρ περίττωμά ἐστιν·

ἡ γὰρ τροφὴ πάντων ὑγρὰ μᾶλλον), οἷς δὲ μή ἐστιν αὕτη, κατὰ τὴν τῆς ξηρᾶς ὑποστάσεως ἀποχώρησιν. ἔτι ἡ μὲν σύντηξις ἀεὶ νοσώδης, ἡ δὲ τοῦ περιττώματος ἀφαίρεσις ὠφέλιμος· ἡ δὲ τοῦ σπέρματος ἀποχώρησις ἐπαμφοτερίζει διὰ τὸ προσλαμβάνειν <τι> τῆς μὴ χρησίμου τροφῆς. εἰ δέ γ' ἦν σύντηξις, ἀεὶ ἔβλαπτεν ἄν· νῦν δ' οὐ ποιεῖ τοῦτο.]]

Ὅτι μὲν οὖν περίττωμά ἐστι τὸ σπέρμα χρησίμου τροφῆς καὶ τῆς ἐσχάτης, εἴτε πάντα προΐεται σπέρμα εἴτε μή, ἐν τοῖς προειρημένοις φανερόν.

Κεφάλαιο 19

Μετὰ δὲ ταῦτα διοριστέον περίττωμά τε ποίας τροφῆς καὶ περὶ καταμηνίων· γίγνεται γάρ τισι καταμήνια τῶν ζῳοτόκων. διὰ τούτων γὰρ φανερὸν ἔσται καὶ περὶ τοῦ θήλεος πότερον προΐεται σπέρμα ὥσπερ τὸ ἄρρεν καὶ ἔστιν μίγμα τὸ γιγνόμενον ἐκ δυοῖν σπερμάτοιν, ἢ οὐθὲν σπέρμα ἀποκρίνεται ἀπὸ τοῦ θήλεος· καὶ εἰ μηθέν, πότερον οὐδὲ ἄλλο οὐθὲν συμβάλλεται εἰς τὴν γένεσιν ἀλλὰ μόνον παρέχει τόπον, ἢ συμβάλλεταί τι, καὶ (726b.) τοῦτο πῶς καὶ τίνα τρόπον.

Ὅτι μὲν οὖν ἐστιν ἐσχάτη τροφὴ τὸ αἷμα τοῖς ἐναίμοις, τοῖς δ' ἀναίμοις τὸ ἀνάλογον, εἴρηται πρότερον· ἐπεὶ δὲ καὶ ἡ γονὴ περίττωμά ἐστι τροφῆς καὶ τῆς ἐσχάτης, ἤτοι αἷμα ἂν εἴη ἢ τὸ ἀνάλογον ἢ ἐκ τούτων τι. ἐπεὶ δ' ἐκ τοῦ αἵματος πεττομένου καὶ μεριζομένου πως γίγνεται τῶν μορίων ἕκαστον, τὸ δὲ σπέρμα πεφθὲν μὲν ἀλλοιότερον ἀποκρίνεται τοῦ αἵματος, ἄπεπτον δ' ὄν, καὶ ὅταν τις προσβιάζηται πλεονάκις χρώμενος τῷ ἀφροδισιάζειν ἐνίοις αἱματῶδες ἤδη προελήλυθεν, φανερὸν ὅτι τῆς αἱματικῆς ἂν εἴη περίττωμα τροφῆς τὸ σπέρμα τῆς εἰς τὰ μέρη διαδιδομένης τελευταίας. καὶ διὰ τοῦτο μεγάλην ἔχει δύναμιν-καὶ γὰρ ἡ τοῦ καθαροῦ καὶ ὑγιεινοῦ αἵματος ἀποχώρησις ἐκλυτικόν-καὶ τὸ ὅμοια γίγνεσθαι τὰ ἔκγονα τοῖς γεννήσασιν εὔλογον· ὅμοιον γὰρ τὸ προσελθὸν πρὸς τὰ μέρη τῷ ὑπολειφθέντι. ὥστε τὸ σπέρμα ἐστὶ τὸ τῆς χειρὸς ἢ τὸ τοῦ προσώπου ἢ ὅλου τοῦ ζῴου ἀδιορίστως χεὶρ ἢ πρόσωπον ἢ ὅλον ζῷον· καὶ οἷον ἐκείνων ἕκαστον ἐνεργείᾳ τοιοῦτον τὸ σπέρμα δυνάμει, ἢ κατὰ τὸν ὄγκον τὸν ἑαυτοῦ, ἢ ἔχει τινὰ δύναμιν ἐν ἑαυτῷ (τοῦτο γὰρ οὔπω δῆλον ἡμῖν ἐκ τῶν διωρισμένων πότερον τὸ σῶμα τοῦ σπέρματός ἐστι τὸ αἴτιον τῆς γενέσεως ἢ ἔχει τινὰ ἕξιν καὶ ἀρχὴν κινήσεως γεννητικήν)· οὐδὲ γὰρ ἡ χεὶρ οὐδ' ἄλλο τῶν μορίων οὐθὲν ἄνευ ψυχικῆς ἢ ἄλλης τινὸς δυνάμεώς ἐστι χεὶρ οὐδὲ μόριον οὐθὲν ἀλλὰ μόνον ὁμώνυμον.

[[Φανερὸν δὲ καὶ ὅτι ὅσοις σύντηξις γίγνεται σπερματικὴ καὶ τοῦτο περίττωμά ἐστιν. συμβαίνει δὲ τοῦτο ὅταν ἀναλύηται εἰς τὸ προελθόν, ὥσπερ ὅταν ἀποπέσῃ τὸ ἐναλειφθὲν τοῦ κονιάματος εὐθύς· ταὐτὸν γάρ ἐστι τὸ ἀπελθὸν τῷ πρώτῳ προστεθέντι. τὸν αὐτὸν τρόπον καὶ τὸ τελευταῖον περίττωμα τῷ πρώτῳ συντήγματι ταὐτόν ἐστιν.]] καὶ περὶ μὲν τούτων διωρίσθω τὸν τρόπον τοῦτον.

Ἐπεὶ δ’ ἀναγκαῖον καὶ τῷ ἀσθενεστέρῳ γίγνεσθαι περίττωμα πλεῖον καὶ ἧττον πεπεμμένον, τοιοῦτον δ’ ὂν ἀναγκαῖον εἶναι αἱματώδους ὑγρότητος πλῆθος, ἀσθενέστερον δὲ τὸ ἐλάττονος θερμότητος κοινωνοῦν κατὰ φύσιν, τὸ δὲ θῆλυ ὅτι τοιοῦτον εἴρηται πρότερον, ἀναγκαῖον καὶ τὴν ἐν τῷ θήλει γιγνομένην αἱματώδη (727a.) ἀπόκρισιν περίττωμα εἶναι. γίγνεται δὲ τοιαύτη ἡ τῶν καλουμένων καταμηνίων ἔκκρισις.

Ὅτι μὲν τοίνυν ἐστὶ τὰ καταμήνια περίττωμα καὶ ὅτι ἀνάλογον ὡς τοῖς ἄρρεσιν ἡ γονὴ οὕτω τοῖς θήλεσι τὰ καταμήνια φανερόν, ὅτι δ’ ὀρθῶς εἴρηται σημεῖα τὰ συμβαίνοντα περὶ αὐτά. κατὰ γὰρ τὴν αὐτὴν ἡλικίαν τοῖς μὲν ἄρρεσιν ἄρχεται ἐγγίγνεσθαι γονὴ καὶ ἀποκρίνεται, τοῖς δὲ θήλεσι ῥήγνυται τὰ καταμήνια καὶ φωνήν τε μεταβάλλουσι καὶ ἐπισημαίνει τὰ περὶ τοὺς μαστούς, -καὶ παύεται τῆς ἡλικίας ληγούσης τοῖς μὲν τὸ δύνασθαι γεννᾶν τοῖς δὲ τὰ καταμήνια. ἔτι δὲ καὶ τὰ τοιάδε σημεῖα ὅτι περίττωμά ἐστιν αὕτη ἡ ἔκκρισις τοῖς θήλεσιν. ὡς γὰρ ἐπὶ τὸ πολὺ οὔθ’ αἱμορροΐδες γίγνονται ταῖς γυναιξὶν οὔτ’ ἐκ τῶν ῥινῶν ῥύσις αἵματος οὔτε τι ἄλλο μὴ τῶν καταμηνίων ἱσταμένων· ἐάν τε συμβῇ τι τούτων χείρους γίγνονται αἱ καθάρσεις ὡς μεθισταμένης εἰς ταῦτα τῆς ἀποκρίσεως. ἔτι δὲ οὔτε φλεβώδεις ὁμοίως γλαφυρώτερά τε καὶ λειότερα τὰ θήλεα τῶν ἀρρένων ἐστὶ διὰ τὸ συνεκκρίνεσθαι τὴν εἰς ταῦτα περίττωσιν ἐν τοῖς καταμηνίοις. τὸ δ’ αὐτὸ τοῦτο δεῖ νομίζειν αἴτιον εἶναι καὶ τοῦ τοὺς ὄγκους ἐλάττους εἶναι τῶν σωμάτων τοῖς θήλεσιν ἢ τοῖς ἄρρεσιν ἐν τοῖς ζῳοτοκοῦσιν· ἐν τούτοις γὰρ ἡ τῶν καταμηνίων γίγνεται ῥύσις θύραζε μόνοις, καὶ τούτων ἐπιδηλότατα ἐν ταῖς γυναιξίν· πλείστην γὰρ ἀφίησιν ἀπόκρισιν γυνὴ τῶν ζῴων. διόπερ ἐπιδηλοτάτως ἀεὶ ὠχρόν τέ ἐστι καὶ ἀδηλόφλεβον, καὶ τὴν ἔλλειψιν πρὸς τοὺς ἄρρενας ἔχει τοῦ σώματος φανεράν.

Ἐπεὶ δὲ τοῦτ’ ἔστιν ὃ γίγνεται τοῖς θήλεσιν ὡς ἡ γονὴ τοῖς ἄρρεσιν, δύο δ’ οὐκ ἐνδέχεται σπερματικὰς ἅμα γίγνεσθαι ἀποκρίσεις, φανερὸν ὅτι τὸ θῆλυ οὐ συμβάλλεται σπέρμα εἰς τὴν γένεσιν. εἰ μὲν γὰρ σπέρμα ἦν τὰ καταμήνια οὐκ ἂν ἦν· νῦν δὲ διὰ τὸ ταῦτα γίγνεσθαι ἐκεῖνο οὐκ ἔστιν.

Διότι μὲν οὖν ὥσπερ τὸ σπέρμα καὶ τὰ καταμήνια περίττωμά ἐστιν εἴρηται· λάβοι δ’ ἄν τις εἰς τοῦτο μαρτύρια ἔνια τῶν συμβαινόντων τοῖς ζῴοις. τά τε γὰρ πίονα ἧττόν ἐστι σπερματικὰ τῶν ἀπιμέλων, ὥσπερ εἴρηται πρότερον (αἴτιον δ’ ὅτι καὶ ἡ πιμελὴ περίττωμά ἐστι καθάπερ τὸ σπέρμα, καὶ πεπεμμένον αἷμα, ἀλλ’ οὐ τὸν αὐτὸν τρόπον τῷ σπέρματι. ὥστ’ εὐλόγως εἰς τὴν πιμελὴν (727b.) ἀνηλωμένης τῆς περιττώσεως ἐλλείπει τὰ περὶ τὴν γονήν), τῶν τε ἀναίμων τὰ μαλάκια καὶ τὰ μαλακόστρακα περὶ τὴν κύησίν ἐστιν ἄριστα· διὰ τὸ ἄναιμα γὰρ εἶναι καὶ μὴ γίγνεσθαι πιμελὴν ἐν αὐτοῖς τὸ ἀνάλογον αὐτοῖς τῇ πιμελῇ ἀποκρίνεται εἰς τὸ περίττωμα τὸ σπερματικόν. σημεῖον δ' ὅτι οὐ τοιοῦτον σπέρμα προΐεται τὸ θῆλυ οἷον τὸ ἄρρεν, οὐδὲ μιγνυμένων ἀμφοῖν γίγνεται, ὥσπερ τινές φασιν, ὅτι πολλάκις τὸ θῆλυ συλλαμβάνει οὐ γενομένης αὐτῇ τῆς ἐν τῇ ὁμιλίᾳ ἡδονῆς· καὶ γιγνομένης πάλιν οὐδὲν ἧττον, καὶ ἰσοδρομησάντων [παρὰ] τοῦ ἄρρενος καὶ τοῦ θήλεος οὐθὲν γεννᾶται ἐὰν μὴ ἡ τῶν καλουμένων καταμηνίων ἰκμὰς ὑπάρχῃ σύμμετρος. διὸ οὔτε ὅλως μὴ γιγνομένων αὐτῶν γεννᾷ τὸ θῆλυ οὔτε γιγνομένων ὅταν ἐξικμάζῃ ὡς ἐπὶ τὸ πολύ, ἀλλὰ μετὰ τὴν κάθαρσιν. ὁτὲ μὲν γὰρ οὐκ ἔχει τροφὴν οὐδ' ὕλην ἐξ ἧς δυνήσεται συστῆσαι τὸ ζῷον ἡ ἀπὸ τοῦ ἄρρενος ἐνυπάρχουσα ἐν τῇ γονῇ δύναμις, ὁτὲ δὲ συνεκκλύζεται διὰ τὸ πλῆθος. ὅταν δὲ γενομένων ἀπέλθῃ τὸ ὑπολειφθὲν συνίσταται. ὅσαι δὲ μὴ γιγνομένων τῶν καταμηνίων συλλαμβάνουσιν, ἢ μεταξὺ γιγνομένων ὕστερον δὲ μή, αἴτιον ὅτι ταῖς μὲν τοσαύτη γίγνεται ἰκμὰς ὅση μετὰ τὴν κάθαρσιν ὑπολείπεται ταῖς γονίμοις, πλείων δ' οὐ γίγνεται περίττωσις ὥστε καὶ θύραζε ἀπελθεῖν, -ταῖς δὲ μετὰ τὴν κάθαρσιν συμμύει τὸ στόμα τῶν ὑστερῶν. ὅταν οὖν πολὺ μὲν τὸ ἀπεληλυθὸς ᾖ, ἔτι δὲ γίγνηται μὲν κάθαρσις, μὴ τοσαύτη δὲ ὥστε συνεξικμάζειν τὸ σπέρμα, τότε πλησιάζουσαι συλλαμβάνουσιν.

οὐδὲν δὲ ἄτοπον τὸ συνειληφυίαις ἔτι γίγνεσθαι· καὶ γὰρ ὕστερον μέχρι τινὸς φοιτᾷ τὰ καταμήνια, ὀλίγα δὲ καὶ οὐ διὰ παντός. ἀλλὰ τοῦτο μὲν νοσηματῶδες, διόπερ ὀλίγαις καὶ ὀλιγάκις συμβαίνει· τὰ δ' ὡς ἐπὶ τὸ πολὺ γιγνόμενα μάλιστα κατὰ φύσιν ἐστίν.

Ὅτι μὲν οὖν συμβάλλεται τὸ θῆλυ εἰς τὴν γένεσιν τὴν ὕλην, τοῦτο δ' ἐστὶν ἐν τῇ καταμηνίων συστάσει, τὰ δὲ καταμήνια περίττωμα, δῆλον.

Κεφάλαιο 20

Ὃ δ᾽ οἴονταί τινες σπέρμα συμβάλλεσθαι ἐν τῇ συνουσίᾳ τὸ θῆλυ διὰ τὸ γίγνεσθαι παραπλησίαν τε χαρὰν ἐνίοτε αὐταῖς τῇ τῶν ἀρρένων καὶ ἅμα ὑγρὰν ἀπόκρισιν, οὐκ ἔστιν ἡ ὑγρασία αὕτη σπερματικὴ (728a.) ἀλλὰ τοῦ τόπου ἴδιος ἑκάσταις. ἔστι γὰρ τῶν ὑστερῶν ἔκκρισις καὶ ταῖς μὲν γίγνεται ταῖς δ᾽ οὔ· γίγνεται μὲν γὰρ ταῖς λευκοχρόοις καὶ θηλυκαῖς ὡς ἐπὶ τὸ πολὺ εἰπεῖν, οὐ γίγνεται δὲ ταῖς μελαίναις καὶ ἀρρενωποῖς. τὸ δὲ πλῆθος αἷς γίγνεται ἐνίοτε οὐ κατὰ σπέρματος πρόεσίν ἐστιν, ἀλλὰ πολὺ ὑπερβάλλει. ἔτι δὲ καὶ ἐδέσματα ἕτερα ἑτέρων ποιεῖ πολλὴν διαφορὰν τοῦ γίγνεσθαι τὴν ἔκκρισιν ἢ ἐλάττω ἢ πλείω τὴν τοιαύτην, οἷον ἔνια τῶν δριμέων ἐπίδηλον ποιεῖ εἰς πλῆθος τὴν ἀπόκρισιν.

Τὸ δὲ συμβαίνειν ἡδονὴν ἐν τῇ συνουσίᾳ οὐ μόνον τοῦ σπέρματος προϊεμένου ἐστὶν ἀλλὰ καὶ πνεύματος ἐξ οὗ συνισταμένου ἀποσπερματίζει. δῆλον δ᾽ ἐπὶ τῶν παίδων τῶν μήπω δυναμένων προΐεσθαι, ἐγγὺς δὲ τῆς ἡλικίας ὄντων, καὶ τῶν ἀγόνων ἀνδρῶν· γίγνεται γὰρ πᾶσι τούτοις ἡδονὴ ξυομένοις. καὶ τοῖς γε διεφθαρμένοις τὴν γένεσιν ἔστιν ὅτε ἀναλύονται αἱ κοιλίαι διὰ τὸ ἀποκρίνεσθαι περίττωμα εἰς τὴν κοιλίαν οὐ δυνάμενον πεφθῆναι καὶ γενέσθαι σπέρμα.

Ἔοικε δὲ καὶ τὴν μορφὴν γυναικὶ παῖς, καὶ ἔστιν ἡ γυνὴ ὥσπερ ἄρρεν ἄγονον· ἀδυναμίᾳ γάρ τινι τὸ θῆλύ ἐστι τῷ μὴ δύνασθαι πέττειν ἐκ τῆς τροφῆς σπέρμα τῆς ὑστάτης (τοῦτο δ᾽ ἐστὶν ἢ αἷμα ἢ τὸ ἀνάλογον ἐν τοῖς ἀναίμοις) διὰ ψυχρότητα τῆς φύσεως. ὥσπερ οὖν ἐν ταῖς κοιλίαις διὰ τὴν ἀπεψίαν γίγνεται διάρροια οὕτως ἐν ταῖς φλεψὶν αἵ τ᾽ ἄλλαι αἱμορροΐδες καὶ αἱ τῶν καταμηνίων· καὶ γὰρ αὕτη αἱμορροΐς ἐστιν, ἀλλ᾽ ἐκεῖναι μὲν διὰ νόσον αὕτη δὲ φυσική.

Ὥστε φανερὸν ὅτι εὐλόγως γίγνεται ἐκ τούτου ἡ γένεσις. ἔστι γὰρ τὰ καταμήνια σπέρμα οὐ καθαρὸν ἀλλὰ δεόμενον ἐργασίας, ὥσπερ ἐν τῇ περὶ τοὺς καρποὺς γενέσει, ὅταν ᾖ μήπω διηττημένη, ἔνεστι μὲν ἡ τροφή, δεῖται δ᾽ ἐργασίας πρὸς τὴν κάθαρσιν. διὸ καὶ μιγνυμένη ἐκείνη μὲν τῇ γονῇ, αὕτη δὲ καθαρᾷ τροφῇ, ἡ μὲν γεννᾷ ἡ δὲ τρέφει.

Σημεῖον δὲ τοῦ τὸ θῆλυ μὴ προΐεσθαι σπέρμα καὶ τὸ γίγνεσθαι ἐν τῇ ὁμιλίᾳ τὴν ἡδονὴν τῇ ἁφῇ κατὰ τὸν αὐτὸν τόπον τοῖς ἄρρεσιν· καίτοι οὐ προΐενται τὴν ἰκμάδα ταύτην ἐντεῦθεν. ἔτι δ’ οὐ πᾶσι γίγνεται τοῖς θήλεσιν αὕτη ἡ ἔκκρισις ἀλλὰ τοῖς αἱματικοῖς, καὶ οὐδὲ τούτοις πᾶσιν ἀλλ’ ὅσων αἱ ὑστέραι μὴ πρὸς τῷ ὑποζώματί εἰσι μηδ’ ᾠοτοκοῦσιν, ἔτι δ’ (728b.) οὐδὲ τοῖς αἷμα μὴ ἔχουσιν ἀλλὰ τὸ ἀνάλογον· ὅπερ γὰρ ἐν ἐκείνοις τὸ αἷμα, ἐν τούτοις ἑτέρα ὑπάρχει σύγκρισις. τοῦ δὲ μήτε τούτοις γίγνεσθαι κάθαρσιν μήτε τῶν αἷμα ἐχόντων τοῖς εἰρημένοις, [τοῖς κάτω ἔχουσι καὶ μὴ ᾠοτοκοῦσιν] αἰτία ἡ ξηρότης τῶν σωμάτων, ὀλίγον λείπουσα τὸ περίττωμα καὶ τοσοῦτον ὅσον εἰς τὴν γένεσιν ἱκανὸν μόνον, ἔξω δὲ μὴ προϊέσθαι. ὅσα δὲ ζῳοτόκα ἄνευ ᾠοτοκίας (ταῦτα δ’ ἐστὶν ἄνθρωπος καὶ τῶν τετραπόδων ὅσα κάμπτει τὰ ὀπίσθια σκέλη ἐντός· ταῦτα μὲν γὰρ πάντα ζῳοτοκεῖ ἄνευ ᾠοτοκίας) τούτοις δὲ γίγνεται μὲν πᾶσιν, πλὴν εἴ τι πεπήρωται ἐν τῇ γενέσει οἷον ὀρεύς, οὐ μὴν ἐπιπολάζουσί γε αἱ καθάρσεις ὥσπερ ἀνθρώποις. δι’ ἀκριβείας δέ, πῶς συμβαίνει ταῦτα περὶ ἕκαστον τῶν ζῴων, γέγραπται ἐν ταῖς περὶ τὰ ζῷα ἱστορίαις. πλείστη δὲ γίγνεται κάθαρσις τῶν ζῴων ταῖς γυναιξί, καὶ τοῖς ἄρρεσι πλείστη τοῦ σπέρματος πρόεσις κατὰ λόγον τοῦ μεγέθους. αἴτιον δ’ ἡ τοῦ σώματος σύστασις ὑγρὰ καὶ θερμὴ οὖσα· ἀναγκαῖον γὰρ ἐν τῷ τοιούτῳ γίγνεσθαι πλείστην περίττωσιν. ἔτι δὲ οὐδὲ τὰ τοιαῦτ’ ἔχει ἐν τῷ σώματι μέρη εἰς ἃ τρέπεται ἡ περίττωσις ὥσπερ ἐν τοῖς ἄλλοις· οὐ γὰρ ἔχει οὔτε τριχῶν πλῆθος κατὰ τὸ σῶμα οὔτε ὀστῶν καὶ κεράτων καὶ ὀδόντων ἐκκρίσεις.

Σημεῖον δ’ ὅτι ἐν τοῖς καταμηνίοις τὸ σπέρμα ἐστίν· ἅμα γάρ, ὥσπερ εἴρηται πρότερον, τοῖς ἄρρεσι γίγνεται τὸ περίττωμα τοῦτο καὶ τοῖς θήλεσι τὰ καταμήνια ἐπισημαίνει ἐν τῇ αὐτῇ ἡλικίᾳ, ὡς καὶ ἅμα διισταμένων τῶν τόπων τῶν δεκτικῶν ἑκατέρου τοῦ περιττώματος· καὶ ἀραιουμένων ἑκατέρων τῶν πλησίον τόπων ἐξανθεῖ ἡ τῆς ἥβης τρίχωσις. μελλόντων δὲ διίστασθαι οἱ τόποι ἀνοιδοῦσιν ὑπὸ τοῦ πνεύματος, τοῖς μὲν ἄρρεσιν ἐπιδηλότερον περὶ τοὺς ὄρχεις, ἐπισημαίνει δὲ καὶ περὶ τοὺς μαστούς, τοῖς δὲ θήλεσι περὶ τοὺς μαστοὺς μᾶλλον· ὅταν γὰρ δύο δακτύλους ἀρθῶσι τότε γίγνεται τὰ καταμήνια ταῖς πλείσταις.

Ἐν ὅσοις μὲν οὖν τῶν ζωὴν ἐχόντων μὴ κεχώρισται τὸ θῆλυ καὶ τὸ ἄρρεν, τούτοις μὲν τὸ σπέρμα οἷον κύημά ἐστιν. λέγω δὲ κύημα τὸ πρῶτον μίγμα ἐκ θήλεος καὶ ἄρρενος. διὸ καὶ ἐξ ἑνὸς σπέρματος ἓν σῶμα γίγνεται οἷον ἐξ ἑνὸς πυροῦ εἷς πυθμήν, ὥσπερ ἐξ ἑνὸς ᾠοῦ ἓν ζῷον (τὰ γὰρ δίδυμα τῶν (729a.) ᾠῶν δύο ᾠά ἐστιν). ἐν ὅσοις δὲ τῶν γενῶν διώρισται τὸ θῆλυ καὶ τὸ ἄρρεν, ἐν τούτοις ἀφ’ ἑνὸς σπέρματος ἐνδέχεται πολλὰ γίγνεσθαι ζῷα, ὡς διαφέροντος τῇ φύσει τοῦ σπέρματος ἐν τοῖς φυτοῖς τε καὶ ζῴοις. σημεῖον δέ, ἀπὸ μιᾶς γὰρ ὀχείας πλείω γίγνεται ἐν τοῖς πλείω δυναμένοις γεννᾶν ἑνός. ᾗ καὶ δῆλον ὅτι οὐκ ἀπὸ παντὸς ἔρχεται ἡ γονή· οὔτε γὰρ ἂν κεχωρισμένα ἀπὸ τοῦ αὐτοῦ μέρους εὐθὺς ἀπεκρίνετο οὔτε ἅμα ἐλθόντα εἰς τὰς ὑστέρας ἐκεῖ διεχωρίζετο· ἀλλὰ συμβαίνει ὥσπερ εὔλογον, ἐπειδὴ τὸ μὲν ἄρρεν παρέχεται τό τε εἶδος καὶ τὴν ἀρχὴν τῆς κινήσεως τὸ δὲ θῆλυ τὸ σῶμα καὶ τὴν ὕλην, οἷον ἐν τῇ τοῦ γάλακτος πήξει τὸ μὲν σῶμα τὸ γάλα ἐστίν, ὁ δὲ ὀπὸς ἢ ἡ πυετία τὸ τὴν ἀρχὴν ἔχον τὴν συνιστᾶσαν, οὕτω τὸ ἀπὸ τοῦ ἄρρενος ἐν τῷ θήλει μεριζόμενον. δι' ἣν δ' αἰτίαν μερίζεται ἔνθα μὲν εἰς πλείω ἔνθα δ' εἰς ἐλάττω ἔνθα δὲ μοναχῶς ἕτερος ἔσται λόγος. ἀλλὰ διὰ τὸ μηθέν γε διαφέρειν τῷ εἴδει, ἀλλ' ἐὰν μόνον σύμμετρον ᾖ τὸ διαιρούμενον πρὸς τὴν ὕλην, καὶ μήτε ἔλαττον ὥστε μὴ πέττειν μηδὲ συνιστάναι, μήτε πλεῖον ὥστε ξηρᾶναι, πλείω οὕτω γεννᾶται. ἐκ δὲ τοῦ συνιστάντος πρώτου, ἐξ ἑνὸς ἤδη ἓν γίγνεται μόνον.

ὅτι μὲν οὖν τὸ θῆλυ εἰς τὴν γένεσιν γονὴν μὲν οὐ συμβάλλεται, συμβάλλεται δέ τι καὶ τοῦτ' ἔστιν ἡ τῶν καταμηνίων σύστασις καὶ τὸ ἀνάλογον ἐν τοῖς ἀναίμοις, ἔκ τε τῶν εἰρημένων δῆλον καὶ κατὰ τὸν λόγον καθόλου σκοπουμένοις. ἀνάγκη γὰρ εἶναι τὸ γεννῶν καὶ ἐξ οὗ, καὶ τοῦτ' ἂν καὶ ἓν ᾖ, τῷ γε εἴδει διαφέρειν καὶ τῷ τὸν λόγον αὐτῶν εἶναι ἕτερον, ἐν δὲ τοῖς κεχωρισμένας ἔχουσι τὰς δυνάμεις καὶ τὰ σώματα καὶ τὴν φύσιν ἑτέραν εἶναι τοῦ τε ποιοῦντος καὶ τοῦ πάσχοντος. εἰ οὖν τὸ ἄρρεν ἐστὶν ὡς κινοῦν καὶ ποιοῦν, τὸ δὲ θῆλυ [ᾗ θῆλυ] ὡς παθητικόν, εἰς τὴν τοῦ ἄρρενος γονὴν τὸ θῆλυ ἂν συμβάλλοιτο οὐ γονὴν ἀλλ' ὕλην. ὅπερ καὶ φαίνεται συμβαῖνον· κατὰ γὰρ τὴν πρώτην ὕλην ἐστὶν ἡ τῶν καταμηνίων φύσις.

Κεφάλαιο 21

Καὶ περὶ μὲν τούτων διωρίσθω τὸν τρόπον τοῦτον. ἅμα δ’ ἐκ τούτων φανερόν, περὶ ὧν ἐχόμενόν ἐστιν ἐπισκέψασθαι, (729b.) πῶς ποτε συμβάλλεται εἰς τὴν γένεσιν τὸ ἄρρεν καὶ πῶς αἴτιόν ἐστι τοῦ γιγνομένου τὸ σπέρμα τὸ ἀπὸ τοῦ ἄρρενος, πότερον ὡς ἐνυπάρχον καὶ μόριον ὂν εὐθὺς τοῦ γιγνομένου σώματος, μιγνύμενον τῇ ὕλῃ τῇ παρὰ τοῦ θήλεος, ἢ τὸ μὲν σῶμα οὐθὲν κοινωνεῖ τοῦ σπέρματος, ἡ δ’ ἐν αὐτῷ δύναμις καὶ κίνησις· αὕτη μὲν γάρ ἐστιν ἡ ποιοῦσα, τὸ δὲ συνιστάμενον καὶ λαμβάνον τὴν μορφὴν τὸ τοῦ ἐν τῇ θήλει περιττώματος λοιπόν. κατά τε δὴ τὸν λόγον οὕτω φαίνεται καὶ ἐπὶ τῶν ἔργων. καθόλου τε γὰρ ἐπισκοποῦσιν οὐ φαίνεται γιγνόμενον ἓν ἐκ τοῦ παθητικοῦ καὶ τοῦ ποιοῦντος ὡς ἐνυπάρχοντος ἐν τῷ γιγνομένῳ τοῦ ποιοῦντος, οὐδ’ ὅλως δὴ ἐκ τοῦ κινουμένου καὶ κινοῦντος. ἀλλὰ μὴν τό γε θῆλυ ᾗ θῆλυ παθητικόν, τὸ δ’ ἄρρεν ᾗ ἄρρεν ποιητικὸν καὶ ὅθεν ἡ ἀρχὴ τῆς κινήσεως. ὥστε ἂν ληφθῇ τὰ ἄκρα ἑκατέρων, ᾗ τὸ μὲν ποιητικὸν καὶ κινοῦν τὸ δὲ παθητικὸν καὶ κινούμενον, οὐκ ἔστιν ἐκ τούτων τὸ γιγνόμενον ἕν, ἀλλ’ ἢ οὕτως ὡς ἐκ τοῦ τέκτονος καὶ ξύλου ἡ κλίνη ἢ ὡς ἐκ τοῦ κηροῦ καὶ τοῦ εἴδους ἡ σφαῖρα. δῆλον ἄρα ὅτι οὔτ’ ἀνάγκη ἀπιέναι τι ἀπὸ τοῦ ἄρρενος, οὔτ’ εἴ τι ἀπέρχεται διὰ τοῦτο ἐκ τούτου ὡς ἐνυπάρχοντος τὸ γεννώμενόν ἐστιν ἀλλ’ ὡς ἐκ κινήσαντος καὶ τοῦ εἴδους, ὡς καὶ ἀπὸ τῆς ἰατρικῆς ὁ ὑγιασθείς. συμβαίνει δ’ ὁμολογούμενα τῷ λόγῳ καὶ ἐπὶ τῶν ἔργων. διὰ τοῦτο γὰρ ἔνια τῶν ἀρρένων καὶ συνδυαζομένων τοῖς θήλεσιν οὐδὲ μόριον οὐθὲν φαίνεται προϊέμενα εἰς τὸ θῆλυ ἀλλὰ τοὐναντίον τὸ θῆλυ εἰς τὸ ἄρρεν, οἷον συμβαίνει ἐν ἐνίοις τῶν ἐντόμων. ὃ γὰρ τοῖς προϊεμένοις ἀπεργάζεται τὸ σπέρμα ἐν τῷ θήλει, τούτοις ἡ ἐν τῷ ζῴῳ αὐτῷ θερμότης καὶ δύναμις ἀπεργάζεται, εἰσφέροντος τοῦ θήλεος τὸ δεκτικὸν τοῦ περιττώματος μόριον.

καὶ διὰ τοῦτο τὰ τοιαῦτα τῶν ζῴων συμπλέκεται μὲν πολὺν χρόνον, διαλυθέντα δὲ γεννᾷ ταχέως. συνδεδύασται γὰρ μέχρις οὗ ἂν συστήσῃ, ὥσπερ ἡ γονή· διαλυθέντα δὲ προΐεται τὸ κύημα ταχέως· γεννᾷ γὰρ ἀτελές· σκωληκοτοκεῖ γὰρ πάντα τὰ τοιαῦτα.

Μέγιστον δὲ σημεῖον τὸ συμβαῖνον περὶ τοὺς ὄρνιθας καὶ τὸ τῶν ἰχθύων γένος τῶν ᾠοτόκων τοῦ μήτε ἀπὸ πάντων ἰέναι τὸ σπέρμα τῶν μορίων, μήτε (730a.) προΐεσθαι τὸ ἄρρεν τοιοῦτόν τι όριον ὃ ἔσται ἐνυπάρχον τῷ γεννηθέντι ἀλλὰ μόνον τῇ δυνάμει τῇ ἐν τῇ γονῇ ζῳοποιεῖν, ὥσπερ εἴπομεν ἐπὶ τῶν ἐντόμων ἐν οἷς τὸ θῆλυ προΐεται εἰς τὸ ἄρρεν. ἐάν τε γὰρ ὑπηνέμια τύχῃ κύουσα ἡ ὄρνις, ἐὰν μετὰ ταῦτα ὀχεύηται μήπω μεταβεβληκότος τοῦ ᾠοῦ ἐκ τοῦ ὠχρὸν ὅλον εἶναι εἰς τὸ λευκαίνεσθαι, γόνιμα γίγνεται ἀντὶ ὑπηνεμίων· ἐάν τε ὑφ' ἑτέρου ὠχευμένη <ᾖ> καὶ ἔτι ὠχροῦ ὄντος, κατὰ τὸν ὕστερον ὀχεύσαντα τὸ γένος ἀποβαίνει πᾶν τὸ τῶν νεοττῶν. διὸ ἔνιοι τοῦτον τὸν τρόπον τῶν περὶ τὰς ὄρνιθας τὰς γενναίας σπουδαζόντων ποιοῦσι μεταβάλλοντες τὰ πρῶτα ὀχεῖα καὶ τὰ ὕστερα, ὡς οὐ συμμιγνύμενον καὶ ἐνυπάρχον, οὐδ' ἀπὸ παντὸς ἐλθὸν τὸ σπέρμα· ἀπ' ἀμφοῖν γὰρ ἂν ἦλθεν, ὥστ' εἶχεν ἂν δὶς ταὐτὰ μέρη. ἀλλὰ τῇ δυνάμει τὸ τοῦ ἄρρενος σπέρμα τὴν ἐν τῷ θήλει ὕλην καὶ τροφὴν ποιάν τινα κατασκευάζει. τοῦτο γὰρ ἐνδέχεται ποιεῖν τὸ ὕστερον ἐπεισελθὸν ἐκ τοῦ θερμᾶναι καὶ πέψαι· λαμβάνει γὰρ τροφὴν τὸ ᾠὸν ἕως ἂν αὐξάνηται.

τὸ δ' αὐτὸ συμβαίνει καὶ περὶ τὴν τῶν ἰχθύων γένεσιν τῶν ᾠοτοκουμένων. ὅταν γὰρ ἀποτέκῃ τὰ ᾠὰ ἡ θήλεια, ὁ ἄρρην ἐπιρραίνει τὸν θορόν· καὶ ὧν μὲν ἂν ἐφάψηται, γόνιμα ταῦτα γίγνεται τὰ ᾠά, ὧν δ' ἂν μή, ἄγονα, ὡς οὐκ εἰς τὸ ποσὸν συμβαλλομένου τοῖς ζῴοις τοῦ ἄρρενος ἀλλ' εἰς τὸ ποιόν.

Ὅτι μὲν οὖν οὔτ' ἀπὸ παντὸς ἀπέρχεται τὸ σπέρμα τοῖς προϊεμένοις σπέρμα τῶν ζῴων, οὔτε τὸ θῆλυ πρὸς τὴν γένεσιν οὕτω συμβάλλεται τοῖς συνισταμένοις ὡς τὸ ἄρρεν, ἀλλὰ τὸ μὲν ἄρρεν ἀρχὴν κινήσεως τὸ δὲ θῆλυ τὴν ὕλην, δῆλον ἐκ τῶν εἰρημένων. διὰ γὰρ τοῦτο οὔτ' αὐτὸ καθ' αὑτὸ γεννᾷ τὸ θῆλυ· δεῖται γὰρ ἀρχῆς καὶ τοῦ κινήσοντος καὶ διοριοῦντος (ἀλλ' ἐνίοις γε τῶν ζῴων οἷον ταῖς ὄρνισι μέχρι τινὸς ἡ φύσις δύναται γεννᾶν· αὗται γὰρ συνιστᾶσι μέν, ἀτελῆ δὲ συνιστᾶσι τὰ καλούμενα ὑπηνέμια ᾠά),

Κεφάλαιο 22

ἥ τε γένεσις ἐν τῷ θήλει συμβαίνει τῶν γιγνομένων, ἀλλ’ οὐκ εἰς τὸ ἄρρεν οὔτ’ αὐτὸ τὸ ἄρρεν προΐεται τὴν γονὴν οὔτε τὸ θῆλυ, ἀλλ’ ἄμφω εἰς τὸ θῆλυ συμβάλλονται τὸ παρ’ αὐτῶν (730b.) γιγνόμενον, διὰ τὸ ἐν τῷ θήλει εἶναι τὴν ὕλην ἐξ ἧς ἐστι τὸ δημιουργούμενον. καὶ εὐθὺς τὴν μὲν ἀθρόον ὑπάρχειν ἀναγκαῖον ἐξ ἧς συνίσταται τὸ κύημα τὸ πρῶτον, τὴν δ’ ἐπιγίγνεσθαι ἀεὶ τῆς ὕλης ἵν’ αὐξάνηται τὸ κυούμενον. ὥστ’ ἀνάγκη ἐν τῷ θήλει ὑπάρχειν τὸν τόκον· καὶ γὰρ πρὸς τῷ ξύλῳ ὁ τέκτων καὶ πρὸς τῷ πηλῷ ὁ κεραμεύς, καὶ ὅλως πᾶσα ἡ ἐργασία καὶ ἡ κίνησις ἡ ἐσχάτη πρὸς τῇ ὕλῃ οἷον ἡ οἰκοδόμησις ἐν τοῖς οἰκοδομουμένοις. λάβοι δ’ ἄν τις ἐκ τούτων καὶ τὸ ἄρρεν πῶς συμβάλλεται πρὸς τὴν γένεσιν· οὐδὲ γὰρ τὸ ἄρρεν ἅπαν προΐεται σπέρμα, ὅσα τε προΐεται τῶν ἀρρένων, οὐθὲν μόριον τοῦτ’ ἔστι τοῦ γιγνομένου κυήματος, ὥσπερ οὐδ’ ἀπὸ τοῦ τέκτονος πρὸς τὴν τῶν ξύλων ὕλην οὔτ’ ἀπέρχεται οὐθέν, οὔτε μόριον οὐθέν ἐστιν ἐν τῷ γιγνομένῳ τῆς τεκτονικῆς, ἀλλ’ ἡ μορφὴ καὶ τὸ εἶδος ἀπ’ ἐκείνου ἐγγίγνεται διὰ τῆς κινήσεως ἐν τῇ ὕλῃ, καὶ ἡ μὲν ψυχὴ ἐν ᾗ τὸ εἶδος καὶ ἡ ἐπιστήμη κινοῦσι τὰς χεῖρας ἤ τι μόριον ἕτερον ποιάν τινα κίνησιν, ἑτέραν μὲν ἀφ’ ὧν τὸ γιγνόμενον ἕτερον, τὴν αὐτὴν δὲ ἀφ’ ὧν τὸ αὐτό, αἱ δὲ χεῖρες τὰ ὄργανα, τὰ δ’ ὄργανα τὴν ὕλην. ὁμοίως δὲ καὶ ἡ φύσις ἡ ἐν τῷ ἄρρενι τῶν σπέρμα προϊεμένων χρῆται τῷ σπέρματι ὡς ὀργάνῳ καὶ ἔχοντι κίνησιν ἐνεργείᾳ, ὥσπερ ἐν τοῖς κατὰ τέχνην γιγνομένοις τὰ ὄργανα κινεῖται· ἐν ἐκείνοις γάρ πως ἡ κίνησις τῆς τέχνης. ὅσα μὲν οὖν προΐεται σπέρμα συμβάλλεται τοῦτον τὸν τρόπον εἰς τὴν γένεσιν· ὅσα δὲ μὴ προΐεται ἀλλ’ ἐναφίησι τὸ θῆλυ εἰς τὸ ἄρρεν τῶν αὑτοῦ τι μορίων, ὅμοιον ἔοικε ποιοῦντι ὥσπερ ἂν εἰ τὴν ὕλην κομίσειέ τις πρὸς τὸν δημιουργόν. δι’ ἀσθένειαν γὰρ τῶν τοιούτων ἀρρένων οὐθὲν δι’ ἑτέρων οἷα τε ποιεῖν ἡ φύσις, ἀλλὰ μόλις αὐτῆς προσεδρευούσης ἰσχύουσιν αἱ κινήσεις, καὶ ἔοικε τοῖς πλάττουσιν, οὐ τοῖς τεκταινομένοις· οὐ γὰρ δι’ ἑτέρου θιγγάνουσα δημιουργεῖ τὸ συνιστάμενον ἀλλ’ αὐτὴ τοῖς αὐτῆς μορίοις.

Κεφάλαιο 23

Ἐν μὲν οὖν τοῖς ζῴοις πᾶσι τοῖς πορευτικοῖς κεχώρισται τὸ θῆλυ τοῦ ἄρρενος, καὶ ἔστιν ἕτερον ζῷον θῆλυ καὶ ἕτερον ἄρρεν, τῷ δὲ εἴδει ταὐτόν, οἷον ἄνθρωπος ἢ ἵππος (731a.) ἀμφότερα· ἐν δὲ τοῖς φυτοῖς μεμιγμέναι αὗται αἱ δυνάμεις εἰσί, καὶ οὐ κεχώρισται τὸ θῆλυ τοῦ ἄρρενος. διὸ καὶ γεννᾷ αὐτὰ ἐξ αὑτῶν καὶ προΐεται οὐ γονὴν ἀλλὰ κύημα τὰ καλούμενα σπέρματα. καὶ τοῦτο καλῶς λέγει Ἐμπεδοκλῆς ποιήσας· οὕτω δ᾽ ᾠοτοκεῖ μακρὰ δένδρεα· πρῶτον ἐλαίας ... τό τε γὰρ ᾠὸν κύημά ἐστι, καὶ ἔκ τινος αὐτοῦ γίγνεται τὸ ζῷον, τὸ δὲ λοιπὸν τροφή, καὶ ἐκ τοῦ σπέρματος ἐκ μέρους γίγνεται τὸ φυόμενον, τὸ δὲ λοιπὸν τροφὴ γίγνεται τῷ βλαστῷ καὶ τῇ ῥίζῃ τῇ πρώτῃ. τρόπον δέ τινα ταὐτὰ συμβαίνει καὶ ἐν τοῖς κεχωρισμένον ἔχουσι ζῴοις τὸ θῆλυ καὶ τὸ ἄρρεν. ὅταν γὰρ δεήσῃ γεννᾶν γίγνεται ἀχώριστον ὥσπερ ἐν τοῖς φυτοῖς, καὶ βούλεται ἡ φύσις αὐτῶν ἓν γίγνεσθαι· ὅπερ ἐμφαίνεται κατὰ τὴν ὄψιν μιγνυμένων καὶ συνδυαζομένων [ἕν τι ζῷον γίγνεσθαι ἐξ ἀμφοῖν].

Καὶ τὰ μὲν μὴ προϊέμενα σπέρμα πολὺν χρόνον συμπεπλέχθαι πέφυκεν ἕως ἂν συστήσῃ τὸ κύημα, οἷον τὰ συνδυαζόμενα τῶν ἐντόμων· τὰ δ᾽ ἕως ἂν ἀποπέμψῃ τι τῶν ἐπεισάκτων αὐτοῦ μορίων, ὃ συστήσει τὸ κύημα ἐν πλείονι χρόνῳ, οἷον ἐπὶ τῶν ἐναίμων. τὰ μὲν γὰρ ἡμέρας τι μόριον συνέχεται, ἡ δὲ γονὴ ἐν ἡμέραις συνίστησι πλείοσιν· προέμενα δὲ τὸ τοιοῦτον ἀπολύεται. καὶ ἀτεχνῶς ἔοικε τὰ ζῷα ὥσπερ φυτὰ εἶναι διῃρημένα, οἷον εἴ τις κἀκεῖνα, ὅτε σπέρμα ἐξενέγκειεν, διαλύσειε καὶ χωρίσειεν εἰς τὸ ἐνυπάρχον θῆλυ καὶ ἄρρεν.

Καὶ ταῦτα πάντα εὐλόγως ἡ φύσις δημιουργεῖ. τῆς μὲν γὰρ τῶν φυτῶν οὐσίας οὐθέν ἐστιν ἄλλο ἔργον οὐδὲ πρᾶξις οὐδεμία πλὴν ἡ τοῦ σπέρματος γένεσις, ὥστ᾽ ἐπεὶ τοῦτο διὰ τοῦ θήλεος γίγνεται καὶ τοῦ ἄρρενος συνδεδυασμένων, μίξασα ταῦτα διέθηκε μετ᾽ ἀλλήλων· διὸ ἐν τοῖς φυτοῖς ἀχώριστον τὸ θῆλυ καὶ τὸ ἄρρεν. ἀλλὰ περὶ μὲν τούτων ἐν ἑτέροις ἐπέσκεπται, τοῦ δὲ ζῴου οὐ μόνον τὸ γεννῆσαι ἔργον (τοῦτο μὲν γὰρ κοῖνον τῶν ζώντων πάντων), ἀλλὰ καὶ γνώσεώς τινος πάντα μετέχουσι, τὰ μὲν πλείονος τὰ δ᾽ ἐλάττονος τὰ δὲ πάμπαν μικρᾶς. αἴσθησιν γὰρ ἔχουσιν, ἡ δ᾽ αἴσθησις γνῶσίς τις. ταύτης δὲ τὸ τίμιον καὶ ἄτιμον πολὺ διαφέρει σκοποῦσι πρὸς φρόνησιν καὶ πρὸς τὸ τῶν ἀψύχων γένος. πρὸς (731b.) μὲν γὰρ τὸ φρονεῖν ὥσπερ οὐδὲν εἶναι δοκεῖ τὸ κοινωνεῖν ἁφῆς καὶ γεύσεως μόνον, πρὸς δὲ φυτὸν ἢ λίθον θαυμάσιον· ἀγαπητὸν γὰρ ἂν δόξειε καὶ ταύτης τυχεῖν τῆς γνώσεως ἀλλὰ μὴ κεῖσθαι τεθνεὸς καὶ μὴ ὄν. διαφέρει δ’ αἰσθήσει τὰ ζῷα τῶν ζώντων μόνον. ἐπεὶ δ’ ἀνάγκη καὶ ζῆν, ἐὰν ᾖ ζῷον, ὅταν δεήσῃ ἀποτελεῖν τὸ τοῦ ζῶντος ἔργον, τότε συνδυάζεται καὶ μίγνυται καὶ γίγνεται ὥσπερ ἂν εἰ φυτόν, καθάπερ εἴπομεν.

Τὰ δ’ ὀστρακόδερμα τῶν ζῴων μεταξὺ ὄντα τῶν ζῴων καὶ τῶν φυτῶν, ὡς ἐν ἀμφοτέροις ὄντα τοῖς γένεσιν οὐδετέρων ποιεῖ τὸ ἔργον· ὡς μὲν γὰρ φυτὸν οὐκ ἔχει τὸ θῆλυ καὶ τὸ ἄρρεν καὶ οὐ γεννᾷ εἰς ἕτερον, ὡς δὲ ζῷον οὐ φέρει ἐξ αὑτοῦ καρπὸν ὥσπερ τὰ φυτά, ἀλλὰ συνίσταται καὶ γεννᾶται ἔκ τινος συστάσεως γεοειδοῦς καὶ ὑγρᾶς. ἀλλὰ περὶ μὲν τῆς τούτων γενέσεως ὕστερον λεκτέον.

Βιβλίο 2

Κεφάλαιο 1

Τὸ δὲ θῆλυ καὶ τὸ ἄρρεν ὅτι μέν εἰσιν ἀρχαὶ γενέσεως εἴρηται πρότερον, καὶ τίς ἡ δύναμις καὶ ὁ λόγος τῆς οὐσίας αὐτῶν· διὰ τί δὲ γίγνεται καὶ ἔστι τὸ μὲν θῆλυ τὸ δ’ ἄρρεν, ὡς μὲν ἐξ ἀνάγκης καὶ τοῦ πρώτου κινοῦντος καὶ ὁποίας ὕλης, προϊόντα πειρᾶσθαι δεῖ φράζειν τὸν λόγον, ὡς δὲ διὰ τὸ βέλτιον καὶ τὴν αἰτίαν τὴν ἕνεκά τινος ἄνωθεν ἔχει τὴν ἀρχήν. ἐπεὶ γάρ ἐστι τὰ μὲν ἀΐδια καὶ θεῖα τῶν ὄντων, τὰ δ’ ἐνδεχόμενα καὶ εἶναι καὶ μὴ εἶναι, τὸ δὲ καλὸν καὶ τὸ θεῖον αἴτιον ἀεὶ κατὰ τὴν αὑτοῦ φύσιν τοῦ βελτίονος ἐν τοῖς ἐνδεχομένοις, τὸ δὲ μὴ ἀΐδιον ἐνδεχόμενόν ἐστι καὶ εἶναι <καὶ μὴ εἶναι> καὶ μεταλαμβάνειν καὶ τοῦ χείρονος καὶ τοῦ βελτίονος· βέλτιον δὲ ψυχὴ μὲν σώματος, τὸ δ’ ἔμψυχον τοῦ ἀψύχου διὰ τὴν ψυχὴν καὶ τὸ εἶναι τοῦ μὴ εἶναι καὶ τὸ ζῆν τοῦ μὴ ζῆν, -διὰ ταύτας τὰς αἰτίας γένεσις ζῴων ἐστίν· ἐπεὶ γὰρ ἀδύνατος ἡ φύσις τοῦ τοιούτου γένους ἀΐδιος εἶναι, καθ’ ὃν ἐνδέχεται τρόπον, κατὰ τοῦτόν ἐστιν ἀΐδιον τὸ γιγνόμενον. ἀριθμῷ μὲν οὖν ἀδύνατον-ἡ γὰρ οὐσία τῶν ὄντων ἐν τῷ καθ’ ἕκαστον· τοιοῦτον δ’ εἴπερ ἦν ἀΐδιον ἂν ἦν-εἴδει δ’ ἐνδέχεται. διὸ γένος ἀεὶ (732a.) ἀνθρώπων καὶ ζῴων ἐστὶ καὶ φυτῶν. ἐπεὶ δὲ τούτων ἀρχὴ τὸ θῆλυ καὶ τὸ ἄρρεν ἕνεκα τῆς γενέσεως ἂν εἴη τὸ θῆλυ καὶ τὸ ἄρρεν ἐν τοῖς <ἔχ>ουσιν. βελτίονος δὲ καὶ θειοτέρας τὴν φύσιν οὔσης τῆς αἰτίας τῆς κινούσης πρώτης-ᾗ ὁ λόγος ὑπάρχει καὶ τὸ εἶδος-τῆς ὕλης, βέλτιον καὶ τὸ κεχωρίσθαι τὸ κρεῖττον τοῦ χείρονος. διὰ τοῦτ’ ἐν ὅσοις ἐνδέχεται καὶ καθ’ ὅσον ἐνδέχεται κεχώρισται τοῦ θήλεος τὸ ἄρρεν· βέλτιον γὰρ καὶ θειότερον ἡ ἀρχὴ τῆς κινήσεως ᾗ τὸ ἄρρεν ὑπάρχει τοῖς γιγνομένοις-ὕλη δὲ τὸ θῆλυ. συνέρχεται δὲ καὶ μίγνυται πρὸς τὴν ἐργασίαν τῆς γενέσεως τῷ θήλει τὸ ἄρρεν· αὕτη γὰρ κοινὴ ἀμφοτέροις.

Κατὰ μὲν οὖν τὸ μετέχειν τοῦ θήλεος καὶ τοῦ ἄρρενος ζῇ (διὸ καὶ τὰ φυτὰ μετέχει ζωῆς), κατὰ δὲ τὴν αἴσθησιν τὸ τῶν ζῴων ἐστὶ γένος. τούτων δὲ σχεδὸν ἐν πᾶσι τοῖς πορευτικοῖς κεχώρισται τὸ θῆλυ καὶ τὸ ἄρρεν διὰ τὰς εἰρημένας αἰτίας· καὶ τούτων τὰ μέν, ὥσπερ ἐλέχθη, προΐεται σπέρμα, τὰ δ’ οὐ προΐεται ἐν τῷ συνδυασμῷ. τούτου δ’ αἴτιον ὅτι τὰ τιμιώτερα καὶ αὐταρκέστερα τὴν φύσιν ἐστίν, ὥστε μεγέθους μετειληφέναι. τοῦτο δ’ οὐκ ἄνευ θερμότητος ψυχικῆς· ἀνάγκη γὰρ τὸ μεῖζον ὑπὸ πλείονος κινεῖσθαι δυνάμεως, τὸ δὲ θερμὸν κινητικόν. διόπερ ὡς ἐπὶ τὸ πᾶν βλέψαντας εἰπεῖν τὰ ἔναιμα μείζω τῶν ἀναίμων καὶ τὰ πορευτικὰ τῶν μονίμων ζῴων· ἅπερ προΐεται σπέρμα διὰ τὴν θερμότητα καὶ τὸ μέγεθος.

Καὶ περὶ μὲν ἄρρενος καὶ θήλεος δι᾽ ἣν αἰτίαν ἐστὶν ἑκάτερον εἴρηται.

Τῶν δὲ ζῴων τὰ μὲν τελεσιουργεῖ καὶ ἐκπέμπει θύραζε ὅμοιον ἑαυτῷ, οἷον ὅσα ζῳοτοκεῖ εἰς τοὐμφανές, τὰ δὲ ἀδιάρθρωτον ἐκτίκτει καὶ οὐκ ἀπειληφὸς τὴν αὑτοῦ μορφήν. τῶν δὲ τοιούτων τὰ μὲν ἔναιμα ᾠοτοκεῖ, τὰ δ᾽ ἄναιμα σκωληκοτοκεῖ. διαφέρει δ᾽ ᾠὸν καὶ σκώληξ· ᾠὸν μὲν γάρ ἐστιν ἐξ οὗ γίγνεται τὸ γιγνόμενον ἐκ μέρους (τὸ δὲ λοιπόν ἐστι τροφὴ τῷ γιγνομένῳ), σκώληξ δ᾽ ἐξ οὗ τὸ γιγνόμενον ὅλου ὅλον γίγνεται. τῶν δὲ εἰς τὸ φανερὸν ὅμοιον ἀποτελούντων ζῷον καὶ ζῳοτοκούντων τὰ μὲν εὐθὺς ἐν αὑτοῖς ζῳοτοκεῖ, οἷον ἄνθρωπος καὶ ἵππος καὶ βοῦς καὶ τῶν θαλαττίων δὲ δελφὶς καὶ τἆλλα τὰ τοιαῦτα, τὰ δ᾽ ἐν αὑτοῖς ᾠοτοκήσαντα (732b.) πρῶτον οὕτω ζῳοτοκεῖ θύραζε, οἷον τὰ σελάχη καλούμενα. τῶν δ᾽ ᾠοτοκούντων τὰ μὲν τέλειον προΐεται τὸ ᾠόν, οἷον ὄρνιθες καὶ ὅσα τετράποδα ᾠοτοκεῖ καὶ ὅσα ἄποδα οἷον σαῦροι καὶ χελῶναι καὶ τῶν ὄφεων τὸ πλεῖστον γένος (τὰ γὰρ τούτων ᾠὰ ὅταν ἐξέλθῃ οὐκέτι λαμβάνει αὔξησιν), -τὰ δ᾽ ἀτελῆ, οἷον οἵ τ᾽ ἰχθύες καὶ τὰ μαλακόστρακα καὶ τὰ μαλάκια καλούμενα· τούτων γὰρ τὰ ᾠὰ αὐξάνεται ἐξελθόντα.

Πάντα δὲ τὰ ζῳοτοκοῦντα ἢ ᾠοτοκοῦντα ἔναιμά ἐστιν, καὶ τὰ ἔναιμα ἢ ζῳοτοκεῖ ἢ ᾠοτοκεῖ, ὅσα μὴ ὅλως ἄγονά ἐστιν. τῶν δ᾽ ἀναίμων τὰ ἔντομα σκωληκοτοκεῖ, ὅσα ἢ ἐκ συνδυασμοῦ γίγνεται ἢ αὐτὰ συνδυάζεται. ἔστι γὰρ ἔνια τοιαῦτα τῶν ἐντόμων ἃ γίγνεται μὲν αὐτόματα, ἔστι δὲ θήλεα καὶ ἄρρενα, καὶ ἐκ συνδυαζομένων γίγνεταί τι αὐτῶν, ἀτελὲς μέντοι τὸ γιγνόμενον· ἡ δ᾽ αἰτία εἴρηται πρότερον ἐν ἑτέροις.

Συμβαίνει δὲ πολλὴ ἐπάλλαξις τοῖς γένεσιν· οὔτε γὰρ τὰ δίποδα πάντα ζῳοτοκεῖ (οἱ γὰρ ὄρνιθες ᾠοτοκοῦσιν) οὔτ᾽ ᾠοτοκεῖ πάντα (ὁ γὰρ ἄνθρωπος ζῳοτοκεῖ) οὔτε τὰ τετράποδα πάντα ᾠοτοκεῖ (ἵππος γὰρ καὶ βοῦς καὶ ἄλλα μυρία ζῳοτοκεῖ) οὔτε ζῳοτοκεῖ πάντα (σαῦροι γὰρ καὶ κροκόδειλοι καὶ ἄλλα πολλὰ ᾠοτοκοῦσιν). οὐδ᾽ ἐν τῷ πόδας ἔχειν ἢ μὴ ἔχειν διαφέρει· καὶ γὰρ ἄποδα ζῳοτοκεῖ οἷον οἱ ἔχεις καὶ τὰ σελάχη, τὰ δ᾽ ᾠοτοκεῖ οἷον τὸ τῶν ἰχθύων γένος καὶ τὰ τῶν ἄλλων ὄφεων· καὶ τῶν πόδας ἐχόντων καὶ ᾠοτοκεῖ πολλὰ καὶ ζῳοτοκεῖ οἷον τὰ εἰρημένα τετράποδα. καὶ ἐν αὑτοῖς δὲ ζῳοτοκεῖ καὶ δίποδα οἷον ἄνθρωπος, καὶ ἄποδα οἷον φάλλαινα καὶ δελφίς. ταύτῃ μὲν οὖν οὐκ ἔστι διελεῖν, οὐδ᾽ αἴτιον τῆς διαφορᾶς ταύτης οὐθὲν τῶν πορευτικῶν ὀργάνων, ἀλλὰ ζῳοτοκεῖ μὲν τὰ τελεώτερα τὴν φύσιν τῶν ζῴων καὶ μετέχοντα καθαρωτέρας ἀρχῆς· οὐθὲν γὰρ ζῳοτοκεῖ ἐν αὑτῷ μὴ δεχόμενον τὸ πνεῦμα καὶ ἀναπνέον.

τελεώτερα δὲ τὰ θερμότερα τὴν φύσιν καὶ ὑγρότερα καὶ μὴ γεώδη. τῆς δὲ θερμότητος τῆς φυσικῆς ὅρος ὁ πνεύμων ὅσων ἔναιμός ἐστιν· ὅλως μὲν γὰρ τὰ ἔχοντα πνεύμονα τῶν μὴ ἐχόντων θερμότερα, τούτων δ’ αὐτῶν τὰ μὴ σομφὸν ἔχοντα μηδὲ στιφρὸν μηδ’ ὀλίγαιμον ἀλλ’ ἔναιμον (733a.) καὶ μαλακόν. ὥσπερ δὲ τὸ μὲν ζῷον τέλειον τὸ δ’ ᾠὸν καὶ ὁ σκώληξ ἀτελές, οὕτω τὸ τέλειον ἐκ τοῦ τελείου γίγνεσθαι πέφυκεν. τὰ δὲ θερμότερα μὲν διὰ τὸ ἔχειν πνεύμονα ξηρότερα δὲ τὴν φύσιν, ἢ τὰ ψυχρότερα μὲν ὑγρότερα δέ-τὰ μὲν ᾠοτοκεῖ τέλειον ᾠόν, τὰ δ’ ᾠοτοκήσαντα ζῳοτοκεῖ ἐν αὑτοῖς. οἱ μὲν γὰρ ὄρνιθες καὶ τὰ φολιδωτὰ διὰ μὲν θερμότητα τελεσιουργοῦσι, διὰ δὲ ξηρότητα ᾠοτοκοῦσι, -τὰ δὲ σελάχη θερμὰ μὲν ἧττον τούτων ὑγρὰ δὲ μᾶλλον ὥστε μετέχει ἀμφοτέρων· καὶ γὰρ ᾠοτοκεῖ καὶ ζῳοτοκεῖ ἐν αὑτοῖς-ᾠοτοκεῖ μὲν ὅτι ψυχρά, ζῳοτοκεῖ δ’ ὅτι ὑγρά· ζωτικὸν γὰρ τὸ ὑγρόν, πορρωτάτω δὲ τοῦ ἐμψύχου τὸ ξηρόν. ἐπεὶ δ’ οὔτε πτερωτὰ οὔτε φολιδωτὰ οὔτε λεπιδωτά ἐστιν-ἃ σημεῖα ξηρᾶς μᾶλλον καὶ γεώδους φύσεως-μαλακὸν τὸ ᾠὸν γεννῶσιν· ὥσπερ γὰρ οὐδ’ ἐν αὑτῷ οὐδ’ ἐν τῷ ᾠῷ ἐπιπολάζει τὸ γεηρόν. καὶ διὰ τοῦτο εἰς αὑτὰ ᾠοτοκεῖ· θύραζε γὰρ ἂν ἰὸν διεφθείρετο τὸ ᾠὸν οὐκ ἔχον προβολήν.

Τὰ δὲ καὶ ψυχρὰ καὶ ξηρὰ μᾶλλον ᾠοτοκεῖ μέν, ἀτελὲς δὲ τὸ ᾠόν, καὶ σκληρόδερμον δὲ διὰ τὸ γεηρὰ εἶναι καὶ ἀτελὲς προΐεσθαι ἵνα σώζηται φυλακὴν ἔχον τὸ ὀστρακῶδες. οἱ μὲν οὖν ἰχθύες λεπιδωτοὶ ὄντες καὶ τὰ μαλακόστρακα γεηρὰ ὄντα σκληρόδερμα τὰ ᾠὰ γεννᾷ. τὰ δὲ μαλάκια ὥσπερ αὐτὰ γλίσχρα τὴν τοῦ σώματός ἐστι φύσιν οὕτω σώζει ἀτελῆ προϊέμενα τὰ ᾠά· προΐεται γὰρ γλισχρότητα περὶ τὸ κύημα πολλήν.

Τὰ δ’ ἔντομα πάντα σκωληκοτοκεῖ. ἔστι δ’ ἅπαντα ἄναιμα τὰ ἔντομα, διὸ καὶ τὰ σκωληκοτοκοῦντα θύραζε. τὰ δ’ ἄναιμα οὐ πάντα σκωληκοτοκεῖ ἁπλως· ἐπαλλάττουσι γὰρ ἀλλήλοις τά τ’ ἔντομα [καὶ] τὰ σκωληκοτοκοῦντα καὶ τὰ ἀτελῆ τίκτοντα τὰ ᾠά, οἷον οἵ τ’ ἰχθύες οἱ λεπιδωτοὶ καὶ τὰ μαλακόστρακα καὶ τὰ μαλάκια. τούτων μὲν γὰρ τὰ ᾠὰ σκωληκώδη ἐστίν (αὔξησιν γὰρ λαμβάνει θύραζε), ἐκείνων δ’ οἱ σκώληκες γίγνονται προϊόντες ᾠοειδεῖς· ὃν δὲ τρόπον ἐν τοῖς ὕστερον διοριοῦμεν.

Δεῖ δὲ νοῆσαι ὡς εὖ καὶ ἐφεξῆς τὴν γένεσιν ἀποδίδωσιν ἡ φύσις. τὰ μὲν γὰρ (733b.) τελεώτερα καὶ θερμότερα τῶν ζῴων τέλειον ἀποδίδωσι τὸ τέκνον κατὰ τὸ ποιόν (κατὰ δὲ τὸ ποσὸν ὅλως οὐθὲν τῶν ζῴων· πάντα γὰρ γενόμενα λαμβάνει αὔξησιν), καὶ γεννᾷ δὴ ταῦτα ζῷα ἐν αὑτοῖς εὐθύς. τὰ δὲ δεύτερα ἐν αὑτοῖς μὲν οὐ γεννᾷ τέλεια εὐθύς (ζῳοτοκεῖ γὰρ ᾠοτοκήσαντα πρῶτον), θύραζε δὲ ζῳοτοκεῖ. τὰ δὲ ζῷον μὲν οὐ τέλειον γεννᾷ, ᾠὸν δὲ γεννᾷ καὶ τοῦτο τέλειον τὸ ᾠόν. τὰ δ’ ἔτι τούτων ψυχροτέραν ἔχοντα τὴν φύσιν ᾠὸν μὲν γεννᾷ, οὐ τέλειον δὲ ᾠὸν ἀλλ’ ἔξω τελειοῦται καθάπερ τὸ τῶν λεπιδωτῶν ἰχθύων γένος καὶ τὰ μαλακόστρακα καὶ τὰ μαλάκια. τὸ δὲ πέμπτον γένος καὶ ψυχρότατον οὐδ’ ᾠοτοκεῖ ἐξ αὑτοῦ ἀλλὰ καὶ τὸ τοιοῦτον ἔξω συμβαίνει πάθος αὐτῷ ὥσπερ εἴρηται· τὰ γὰρ ἔντομα σκωληκοτοκεῖ τὸ πρῶτον, προελθὼν δ’ ᾠώδης γίγνεται ὁ σκώληξ (ἡ γὰρ χρυσαλλὶς καλουμένη δύναμιν ᾠοῦ ἔχει), εἶτ’ ἐκ τούτου γίγνεται ζῷον ἐν τῇ τρίτῃ μεταβολῇ λαβὸν τὸ τῆς γενέσεως τέλος.

Τὰ μὲν οὖν οὐ γίγνεται τῶν ζῴων ἀπὸ σπέρματος, ὥσπερ ἐλέχθη καὶ πρότερον, -τὰ δ’ ἔναιμα πάντα γίγνεται ἀπὸ σπέρματος ὅσα ἐκ συνδυασμοῦ γίγνεται, προϊεμένου τοῦ ἄρρενος εἰς τὸ θῆλυ γονὴν ἧς εἰσελθούσης τὰ ζῷα συνίσταται καὶ λαμβάνει τὴν οἰκείαν μορφήν, τὰ μὲν ἐν αὐτοῖς τοῖς ζῴοις ὅσα ζῳοτοκεῖ τὰ δ’ ἐν ᾠοῖς * * * καὶ σπέρμασι καὶ τοιαύταις ἄλλαις ἀποκρίσεσιν.

Περὶ ὧν ἐστιν ἀπορία πλείων, πῶς ποτε γίγνεται ἐκ τοῦ σπέρματος τὸ φυτὸν ἢ τῶν ζῴων ὁτιοῦν. ἀνάγκη γὰρ τὸ γιγνόμενον καὶ ἔκ τινος γίγνεσθαι καὶ ὑπό τινος καί τι. ἐξ οὗ μὲν οὖν ἐστιν ἡ ὕλη ἣν ἔνια μὲν ζῷα ἔχει πρώτην ἐν αὑτοῖς λαβόντα ἐκ τοῦ θήλεος, οἷον ὅσα μὴ ζῳοτοκεῖται ἀλλὰ σκωληκοτοκεῖται ἢ ᾠοτοκεῖται, τὰ δὲ μέχρι πόρρω ἐκ τοῦ θήλεος λαμβάνει διὰ τὸ θηλάζειν, ὥσπερ ὅσα ζῳοτοκεῖται μὴ μόνον ἐκτὸς ἀλλὰ καὶ ἐντός. ἐξ οὗ μὲν οὖν γίγνεται ἡ τοιαύτη ὕλη ἐστίν. ζητεῖται δὲ νῦν οὐκ ἐξ οὗ ἀλλ’ ὑφ’ οὗ γίγνεται τὰ μόρια· ἤτοι γὰρ τῶν ἔξωθέν τι ποιεῖ ἢ ἐνυπάρχον τι ἐν τῇ γονῇ καὶ σπέρματι, καὶ τοῦτ’ (734a.) ἔστιν ἢ μέρος τι ψυχῆς ἢ ψυχή, ἢ ἔχον ἂν εἴη ψυχήν.

τὸ μὲν οὖν τῶν ἔξωθέν τι ποιεῖν ἕκαστον ἢ τῶν σπλάγχνων ἢ τῶν ἄλλων μερῶν ἄλογον ἂν δόξειεν· κινεῖν τε γὰρ μὴ ἁπτόμενον ἀδύνατον καὶ μὴ κινοῦντος πάσχειν τι ὑπὸ τούτου. ἐν αὐτῷ ἄρα τῷ κυήματι ἐνυπάρχει τι ἤδη, ἢ αὐτοῦ μόριον ἢ κεχωρισμένον. τὸ μὲν οὖν ἄλλο τι εἶναι κεχωρισμένον ἄλογον· γεννηθέντος γὰρ τοῦ ζῴου πότερον φθείρεται ἢ ἐμμένει; ἀλλ’ οὐδὲν τοιοῦτον φαίνεται ἐνὸν ὃ οὐ μόριον τοῦ ὅλου ἢ φυτοῦ ἢ ζῴου ἐστίν. ἀλλὰ μὴν καὶ τὸ φθείρεσθαί γε ποιῆσαν εἴτε πάντα τὰ μέρη εἴτε τι ἄτοπον· τὰ λοιπὰ γὰρ τί ποιήσει; εἰ γὰρ ἐκεῖνο μὲν τὴν καρδίαν, εἶτ’ ἐφθάρη, αὕτη δ’ ἕτερον, τοῦ αὐτοῦ λόγου ἢ πάντα φθείρεσθαι ἢ πάντα μένειν. σώζεται ἄρα· αὐτοῦ ἄρα μόριόν ἐστιν ὃ εὐθὺς ἐνυπάρχει ἐν τῷ σπέρματι. εἰ δὲ δὴ μὴ ἔστι τῆς ψυχῆς μηθὲν ὃ μὴ τοῦ σώματός ἐστιν ἔν τινι μορίῳ, καὶ ἔμψυχον ἄν τι εἴη

μόριον εὐθύς.

Τὰ οὖν ἄλλα πῶς; ἢ γάρ τοι ἅμα πάντα γίγνεται τὰ μόρια οἷον καρδία πνεύμων ἧπαρ ὀφθαλμὸς καὶ τῶν ἄλλων ἕκαστον, ἢ ἐφεξῆς ὥσπερ ἐν τοῖς καλουμένοις Ὀρφέως ἔπεσιν· ἐκεῖ γὰρ ὁμοίως φησὶ γίγνεσθαι τὸ ζῷον τῇ τοῦ δικτύου πλοκῇ. ὅτι μὲν οὖν οὐχ ἅμα καὶ τῇ αἰσθήσει ἐστὶ φανερόν· τὰ μὲν γὰρ φαίνεται ἐνόντα ἤδη τῶν μορίων τὰ δ' οὔ. ὅτι δ' οὐ διὰ μικρότητα οὐ φαίνεται δῆλον· μείζων γὰρ τὸ μέγεθος ὢν ὁ πνεύμων τῆς καρδίας ὕστερον φαίνεται τῆς καρδίας ἐν τῇ ἐξ ἀρχῆς γενέσει. ἐπεὶ δὲ τὸ μὲν πρότερον τὸ δ' ὕστερον, πότερον θάτερον ποιεῖ θάτερον καὶ ἔστι διὰ τὸ ἐχόμενον, ἢ μᾶλλον μετὰ τόδε γίγνεται τόδε; λέγω δ' οἷον οὐχ ἡ καρδία γενομένη ποιεῖ τὸ ἧπαρ, τοῦτο δ' ἕτερόν τι, ἀλλὰ τόδε μετὰ τόδε, ὥσπερ μετὰ τὸ παῖς ἀνὴρ γίγνεται ἀλλ' οὐχ ὑπ' ἐκείνου. λόγος δὲ τούτου ὅτι ὑπὸ τοῦ ἐντελεχείᾳ ὄντος τὸ δυνάμει ὂν γίγνεται ἐν τοῖς φύσει ἢ τέχνῃ γιγνομένοις, ὥστε δέοι ἂν τὸ εἶδος καὶ τὴν μορφὴν ἐν ἐκείνῳ εἶναι οἷον ἐν τῇ καρδίᾳ τὸ τοῦ ἥπατος. καὶ ἄλλως δ' ἄτοπος καὶ πλασματίας ὁ λόγος.

Ἀλλὰ μὴν καὶ τὸ ἐν τῷ σπέρματι εὐθὺς ἐνυπάρχειν τι μόριον τοῦ ζῴου ἢ φυτοῦ γεγενημένον-εἶτε δυνάμενον ποιεῖν τἆλλα εἴτε μή- ἀδύνατον εἰ πᾶν ἐκ σπέρματος καὶ γονῆς γίγνεται. δῆλον γὰρ ὅτι ὑπὸ τοῦ τὸ σπέρμα ποιήσαντος ἐγένετο, εἴπερ εὐθὺς (734b.) ἐνυπάρχει. ἀλλὰ σπέρμα δεῖ γενέσθαι πρότερον, καὶ τοῦτ' ἔργον τοῦ γεννῶντος· οὐθὲν ἄρα οἷόν τε μόριον ὑπάρχειν. οὐκ ἄρα ἔχει τὸ ποιοῦν τὰ μόρια ἐν αὑτῷ. ἀλλὰ μὴν οὐδ' ἔξω· ἀνάγκη δὲ τούτων εἶναι θάτερον.

Πειρατέον δὴ ταῦτα λύειν· ἴσως γάρ τι τῶν εἰρημένων ἐστὶν οὐχ ἁπλοῦν, οἷον πῶς ποτε ὑπὸ τοῦ ἔξω οὐκ ἐνδέχεται γίγνεσθαι. ἔστι μὲν γὰρ ὡς ἐνδέχεται, ἔστι δ' ὡς οὔ. τὸ μὲν οὖν τὸ σπέρμα λέγειν ἢ ἀφ' οὗ τὸ σπέρμα οὐθὲν διαφέρει ᾗ ἔχει τὴν κίνησιν ἐν ἑαυτῷ ἣν ἐκεῖνο ἐκίνει. ἐνδέχεται δὲ τόδε μὲν τόδε κινῆσαι, τόδε δὲ τόδε, καὶ εἶναι οἷον τὰ αὐτόματα τῶν θαυμάτων. ἔχοντα γάρ πως ὑπάρχει δύναμιν τὰ μόρια ἠρεμοῦντα· ὧν τὸ πρῶτον ὅταν τι κινήσῃ τῶν ἔξωθεν εὐθὺς τὸ ἐχόμενον γίγνεται ἐνεργείᾳ. ὥσπερ οὖν ἐν τοῖς αὐτομάτοις τρόπον μέν τινα ἐκεῖνο κινεῖ οὐχ ἁπτόμενον νῦν οὐθενός, ἁψάμενον μέντοι· ὁμοίως δὲ καὶ ἀφ' οὗ τὸ σπέρμα ἢ τὸ ποιῆσαν τὸ σπέρμα, ἁψάμενον μέν τινος, οὐχ ἁπτόμενον δ' ἔτι· τρόπον δέ τινα ἡ ἐνοῦσα κίνησις ὥσπερ ἡ οἰκοδόμησις τὴν οἰκίαν.

Ὅτι μὲν οὖν ἔστι τι ὃ ποιεῖ, οὐχ οὕτως δὲ ὡς τόδε τι οὐδ' ἐνυπάρχον ὡς τετελεσμένον τὸ πρῶτον, δῆλον.

Πῶς δέ ποτε ἕκαστον γίγνεται ἐντεῦθεν δεῖ λαβεῖν, ἀρχὴν ποιησαμένους

πρῶτον μὲν ὅτι ὅσα φύσει γίγνεται ἢ τέχνῃ ὑπ’ ἐνεργείᾳ ὄντος γίγνεται ἐκ τοῦ δυνάμει τοιούτου. τὸ μὲν οὖν σπέρμα τοιοῦτον, καὶ ἔχει κίνησιν καὶ ἀρχὴν τοιαύτην ὥστε παυομένης τῆς κινήσεως γίγνεσθαι ἕκαστον τῶν μορίων καὶ ἔμψυχον. οὐ γάρ ἐστι πρόσωπον μὴ ἔχον ψυχὴν οὐδὲ σάρξ, ἀλλὰ φθαρέντα ὁμωνύμως λεχθήσεται τὸ μὲν εἶναι πρόσωπον τὸ δὲ σάρξ, ὥσπερ κἂν εἰ ἐγίγνετο λίθινα ἢ ξύλινα. ἅμα δὲ τὰ ὁμοιομερῆ γίγνεται καὶ τὰ ὀργανικά· καὶ ὥσπερ οὐδ’ ἂν πέλεκυν οὐδ’ ἄλλο ὄργανον φήσαιμεν ἂν ποιῆσαι τὸ πῦρ μόνον οὕτως οὐδὲ πόδα οὐδὲ χεῖρα. τὸν αὐτὸν δὲ τρόπον οὐδὲ σάρκα· καὶ γὰρ ταύτης ἔργον τί ἐστιν. σκληρὰ μὲν οὖν καὶ μαλακὰ καὶ γλίσχρα καὶ κραῦρα καὶ ὅσα ἄλλα τοιαῦτα πάθη ὑπάρχει τοῖς ἐμψύχοις μορίοις θερμότης καὶ ψυχρότης ποιήσειεν ἄν, τὸν δὲ λόγον ᾧ ἤδη τὸ μὲν σὰρξ τὸ δ’ ὀστοῦν οὐκέτι, ἀλλ’ ἡ κίνησις ἡ ἀπὸ τοῦ γεννήσαντος τοῦ ἐντελεχείᾳ ὄντος ὅ ἐστι δυνάμει ἐξ οὗ γίγνεται, ὥσπερ καὶ ἐπὶ τῶν γιγνομένων κατὰ τέχνην· σκληρὸν μὲν γὰρ καὶ μαλακὸν τὸν σίδηρον ποιεῖ τὸ θερμὸν (735a.) καὶ τὸ ψυχρόν, ἀλλὰ ξίφος ἡ κίνησις ἡ τῶν ὀργάνων ἔχουσα λόγον [τὸν] τῆς τέχνης. ἡ γὰρ τέχνη ἀρχὴ καὶ εἶδος τοῦ γιγνομένου, ἀλλ’ ἐν ἑτέρῳ· ἡ δὲ τῆς φύσεως κίνησις ἐν αὐτῷ ἀφ’ ἑτέρας οὖσα φύσεως τῆς ἐχούσης τὸ εἶδος ἐνεργείᾳ.

Πότερον δ’ ἔχει ψυχὴν τὸ σπέρμα ἢ οὔ; ὁ αὐτὸς λόγος καὶ περὶ τῶν μορίων· οὔτε γὰρ ψυχὴ ἐν ἄλλῳ οὐδεμία ἔσται πλὴν ἐν ἐκείνῳ οὗ γ’ ἐστίν, οὔτε μόριον ἔσται μὴ μετέχον ἀλλ’ ἢ ὁμωνύμως ὥσπερ τεθνεῶτος ὀφθαλμός. δῆλον οὖν ὅτι καὶ ἔχει καὶ ἔστι δυνάμει. ἐγγυτέρω δὲ καὶ πορρωτέρω αὐτὸ αὑτοῦ ἐνδέχεται εἶναι δυνάμει, ὥσπερ ὁ καθεύδων γεωμέτρης τοῦ ἐγρηγορότος πορρωτέρω καὶ οὗτος τοῦ θεωροῦντος. ταύτης μὲν οὖν οὐθὲν μόριον αἴτιον τῆς γενέσεως ἀλλὰ τὸ πρῶτον κινῆσαν ἔξωθεν. οὐθὲν γὰρ αὐτὸ ἑαυτὸ γεννᾷ· ὅταν δὲ γένηται αὔξει ἤδη αὐτὸ ἑαυτό. διόπερ πρῶτόν τι γίγνεται καὶ οὐχ ἅμα πάντα. τοῦτο δὲ γίγνεσθαι ἀνάγκη πρῶτον ὃ αὐξήσεως ἀρχὴν ἔχει· εἴτε γὰρ φυτὸν εἴτε ζῷον ὁμοίως τοῦτο πᾶσιν ὑπάρχει τὸ θρεπτικόν. τοῦτο δ’ ἔστι τὸ γεννητικὸν ἑτέρου οἷον αὐτό· τοῦτο γὰρ παντὸς φύσει τελείου ἔργον καὶ ζῴου καὶ φυτοῦ· ἀνάγκη δὲ διὰ τόδε ὅτι ὅταν τι γένηται αὐξάνεσθαι ἀνάγκη. ἐγέννησε μὲν τοίνυν τὸ συνώνυμον οἷον ἄνθρωπος ἄνθρωπον, αὔξεται δὲ δι’ ἑαυτοῦ. αὐτὸ ἄρα τι ὂν αὔξει· εἰ δὴ ἕν τι καὶ τοῦτο πρῶτον, τοῦτο ἀνάγκη γίγνεσθαι πρῶτον. ὥστ’ εἰ ἡ καρδία πρῶτον ἔν τισι ζῴοις γίγνεται, ἐν δὲ τοῖς μὴ ἔχουσι καρδίαν τὸ ταύτῃ ἀνάλογον, ἐκ ταύτης ἂν εἴη ἡ ἀρχὴ τοῖς ἔχουσι, τοῖς δ’ ἄλλοις ἐκ τοῦ ἀνάλογον.

Τί μὲν οὖν ἐστιν αἴτιον ὡς ἀρχὴ τῆς περὶ ἕκαστον γενέσεως, κινοῦν πρῶτον καὶ δημιουργοῦν, εἴρηται πρὸς τὰ διαπορηθέντα πρότερον.

Κεφάλαιο 2

Περὶ δὲ τῆς τοῦ σπέρματος φύσεως ἀπορήσειεν ἄν τις. τὸ γὰρ σπέρμα ἐξέρχεται μὲν ἐκ τοῦ ζῴου παχὺ καὶ λευκόν, ψυχόμενον δὲ γίγνεται ὑγρὸν ὥσπερ ὕδωρ καὶ τὸ χρῶμα ὕδατος. ἄτοπον δὴ ἂν δόξειεν· οὐ γὰρ παχύνεται ὕδωρ θερμῷ, τὸ δ' ἔσωθεν ἐκ θερμοῦ ἐξέρχεται παχύ, ψυχόμενον δὲ γίγνεται ὑγρόν. καίτοι πήγνυταί γε τὰ ὑδατώδη· τὸ δὲ σπέρμα οὐ πήγνυται τιθέμενον ἐν τοῖς πάγοις ὑπαίθριον ἀλλ' ὑγραίνεται ὡς ὑπὸ τοῦ ἐναντίου παχυνθέν. ἀλλὰ μὴν οὐδ' ὑπὸ θερμοῦ παχύνεσθαι εὔλογον. ὅσα γὰρ (735b.) γῆς πλεῖον ἔχει, ταῦτα συνίσταται καὶ παχύνεται ἑψόμενα οἷον καὶ τὸ γάλα. ἔδει οὖν ψυχόμενον στερεοῦσθαι. νῦν δ' οὐθὲν γίγνεται στερεὸν ἀλλὰ πᾶν ὥσπερ ὕδωρ. ἡ μὲν οὖν ἀπορία αὕτη ἐστίν· εἰ μὲν γὰρ ὕδατος-τὸ ὕδωρ οὐ φαίνεται παχυνόμενον ὑπὸ τοῦ θερμοῦ, τὸ δ' ἐξέρχεται παχὺ καὶ θερμὸν καὶ ἐκ θερμοῦ τοῦ σώματος· εἰ δὲ γῆς ἢ μικτὸν γῆς καὶ ὕδατος οὐκ ἔδει ὑγρὸν πᾶν γίγνεσθαι [καὶ ὕδωρ]. ἢ οὐ πάντα τὰ συμβαίνοντα διῃρήκαμεν; οὐ γὰρ μόνον παχύνεται τὸ ἐξ ὕδατος καὶ γεώδους συνιστάμενον ὑγρὸν ἀλλὰ καὶ τὸ ἐξ ὕδατος καὶ πνεύματος, οἷον καὶ ὁ ἀφρὸς γίγνεται παχύτερος καὶ λευκός, καὶ ὅσῳ ἂν ἐλάττους καὶ ἀδηλότεραι αἱ πομφόλυγες ὦσι τοσούτῳ καὶ λευκότερος καὶ στιφρότερος ὁ ὄγκος φαίνεται. τὸ δ' αὐτὸ καὶ τὸ ἔλαιον πάσχει· παχύνεται γὰρ τῷ πνεύματι μιγνύμενον· διὸ καὶ τὸ λευκαινόμενον παχύτερον γίγνεται, τοῦ ἐνόντος ὑδατώδους ὑπὸ τοῦ θερμοῦ διακρινομένου καὶ γιγνομένου πνεύματος. καὶ ἡ μολύβδαινα μιγνυμένη ὕδατι καὶ ἐλαίῳ καὶ τριβομένη ἐξ ὀλίγου τε πολὺν ὄγκον ποιεῖ καὶ ἐξ ὑγροῦ στιφρὸν καὶ ἐκ μέλανος λευκόν. αἴτιον δ' ὅτι ἐγκαταμίγνυται πνεῦμα ὃ τόν τε ὄγκον ποιεῖ καὶ τὴν λευκότητα διαφαίνει, ὥσπερ ἐν τῷ ἀφρῷ καὶ τῇ χιόνι· καὶ γὰρ ἡ χιών ἐστιν ἀφρός. καὶ αὐτὸ τὸ ὕδωρ ἐλαίῳ μιγνύμενον γίγνεται παχὺ καὶ λευκόν· καὶ γὰρ ὑπὸ τῆς τρίψεως ἐγκατακλείεται πνεῦμα, καὶ αὐτὸ τὸ ἔλαιον ἔχει πνεῦμα πολύ· ἔστι γὰρ οὔτε γῆς οὔτε ὕδατος ἀλλὰ πνεύματος τὸ λιπαρόν. διὸ καὶ ἐπὶ τῷ ὕδατι ἐπιπολάζει· ὁ γὰρ ἐν αὐτῷ ὢν ἀὴρ ὥσπερ ἐν ἀγγείῳ φέρει ἄνω καὶ ἐπιπολάζει καὶ αἴτιος τῆς κουφότητός ἐστιν. καὶ ἐν τοῖς ψύχεσι δὲ καὶ πάγοις παχύνεται τὸ ἔλαιον, πήγνυται δ' οὔ· διὰ μὲν γὰρ θερμότητα οὐ πήγνυται (ὁ γὰρ ἀὴρ θερμὸν καὶ ἄπηκτον), διὰ δὲ τὸ συνίστασθαι αὐτὸν καὶ πυκνοῦσθαι [ὥσπερ] ὑπὸ τοῦ ψύχους παχύτερον γίγνεται τὸ ἔλαιον.

διὰ ταύτας τὰς αἰτίας καὶ τὸ σπέρμα ἔσωθεν μὲν ἐξέρχεται στιφρὸν καὶ λευκόν, ὑπὸ τῆς ἐντὸς θερμότητος πνεῦμα πολὺ ἔχον θερμόν, ἐξελθόντος δὲ ὅταν ἀποπνεύσῃ τὸ θερμὸν καὶ ὁ ἀὴρ ψυχθῇ ὑγρὸν γίγνεται καὶ μέλαν· λείπεται γὰρ τὸ ὕδωρ καὶ εἴ τι μικρὸν γεῶδες, ὥσπερ ἐν φλέγματι, καὶ ἐν τῷ σπέρματι ξηραινομένῳ.

Ἔστι μὲν οὖν τὸ σπέρμα (736a.) κοινὸν πνεύματος καὶ ὕδατος, τὸ δὲ πνεῦμά ἐστι θερμὸς ἀήρ· διὸ ὑγρὸν τὴν φύσιν ὅτι ἐξ ὕδατος. Κτησίας γὰρ ὁ Κνίδιος ἃ περὶ τοῦ σπέρματος τῶν ἐλεφάντων εἴρηκε φανερός ἐστιν ἐψευσμένος. φησὶ γὰρ οὕτω σκληρύνεσθαι ξηραινόμενον ὥστε γίγνεσθαι ἠλέκτρῳ ὅμοιον. τοῦτο δ’ οὐ γίγνεται· μᾶλλον μὲν γὰρ ἕτερον ἑτέρου σπέρμα γεωδέστερον ἀναγκαῖον εἶναι, καὶ μάλιστα τοιοῦτον ὅσοις πολὺ γεῶδες ὑπάρχει κατὰ τὸν ὄγκον τοῦ σώματος, παχὺ δὲ καὶ λευκὸν διὰ τὸ μεμῖχθαι πνεῦμα. καὶ γὰρ λευκόν ἐστι τὸ σπέρμα πάντων· Ἡρόδοτος γὰρ οὐκ ἀληθῆ λέγει φάσκων μέλαιναν εἶναι τὴν τῶν Αἰθιόπων γονήν, ὥσπερ ἀναγκαῖον ὂν τῶν τὴν χρόαν μελάνων εἶναι πάντα μέλανα, καὶ ταῦθ’ ὁρῶν καὶ τοὺς ὀδόντας αὐτῶν ὄντας λευκούς. αἴτιον δὲ τῆς λευκότητος τοῦ σπέρματος ὅτι ἐστὶν ἡ γονὴ ἀφρός, ὁ δ’ ἀφρὸς λευκόν, καὶ μάλιστα τὸ ἐξ ὀλιγίστων συγκείμενον μορίων καὶ οὕτω μικρῶν ὥσπερ ἑκάστης ἀοράτου τῆς πομφόλυγος οὔσης, ὅπερ συμβαίνει καὶ ἐπὶ τοῦ ὕδατος καὶ τοῦ ἐλαίου μιγνυμένων καὶ τριβομένων, καθάπερ ἐλέχθη πρότερον.

Ἔοικε δὲ οὐδὲ τοὺς ἀρχαίους λανθάνειν ἀφρώδης ἡ τοῦ σπέρματος οὖσα φύσις· τὴν γοῦν κυρίαν θεὸν τῆς μίξεως ἀπὸ τῆς δυνάμεως ταύτης προσηγόρευσαν.

Ἡ μὲν οὖν αἰτία τῆς λεχθείσης ἀπορίας εἴρηται, φανερὸν δὲ ὅτι διὰ τοῦτ’ οὐδὲ πήγνυται· ὁ γὰρ ἀὴρ ἄπηκτος.

Κεφάλαιο 3

Τούτου δ’ ἐχόμενόν ἐστιν ἀπορῆσαι καὶ εἰπεῖν, εἰ τῶν προϊεμένων εἰς τὸ θῆλυ γονὴν μηθὲν μόριόν ἐστι τὸ εἰσελθὸν τοῦ γιγνομένου κυήματος, ποῦ τρέπεται τὸ σωματῶδες αὐτοῦ, εἴπερ ἐργάζεται τῇ δυνάμει τῇ ἐνούσῃ ἐν αὐτῷ. διορίσαι δὲ δεῖ πότερον μεταλαμβάνει τὸ συνιστάμενον ἐν τῷ θήλει ἀπὸ τοῦ εἰσελθόντος τι ἢ οὐθέν, καὶ περὶ ψυχῆς καθ’ ἣν λέγεται ζῷον (ζῷον δ’ ἐστὶ κατὰ τὸ μόριον τῆς ψυχῆς τὸ αἰσθητικόν) πότερον ἐνυπάρχει τῷ σπέρματι καὶ τῷ κυήματι ἢ οὔ, καὶ πόθεν. οὔτε γὰρ ὡς ἄψυχον ἂν θείη τις τὸ κύημα κατὰ πάντα τρόπον ἐστερημένον ζωῆς· οὐδὲν γὰρ ἧττον τά τε σπέρματα καὶ τὰ κυήματα τῶν ζῴων ζῇ τῶν φυτῶν, καὶ γόνιμα μέχρι τινός ἐστιν. ὅτι μὲν οὖν τὴν θρεπτικὴν ἔχουσι ψυχὴν φανερόν (δι’ ὅτι δὲ ταύτην πρῶτον ἀναγκαῖόν ἐστι λαβεῖν ἐκ τῶν περὶ ψυχῆς διωρισμένων ἐν ἄλλοις (736b.) φανερόν), προϊόντα δὲ καὶ τὴν αἰσθητικὴν καθ’ ἣν ζῷον * * *· οὐ γὰρ ἅμα γίγνεται ζῷον καὶ ἄνθρωπος οὐδὲ ζῷον καὶ ἵππος, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων ζῴων· ὕστατον γὰρ γίγνεται τὸ τέλος, τὸ δ’ ἴδιόν ἐστι τὸ ἑκάστου τῆς γενέσεως τέλος. διὸ καὶ περὶ νοῦ, πότε καὶ πῶς μεταλαμβάνει καὶ πόθεν τὰ μετέχοντα ταύτης τῆς ἀρχῆς, ἔχει τ’ ἀπορίαν πλείστην καὶ δεῖ προθυμεῖσθαι κατὰ δύναμιν λαβεῖν καὶ καθ’ ὅσον ἐνδέχεται.

Τὴν μὲν οὖν θρεπτικὴν ψυχὴν τὰ σπέρματα καὶ τὰ κυήματα τὰ μήπω χωριστὰ δῆλον ὅτι δυνάμει μὲν ἔχοντα θετέον, ἐνεργείᾳ δ’ οὐκ ἔχοντα πρὶν ἢ καθάπερ τὰ χωριζόμενα τῶν κυημάτων ἕλκει τὴν τροφὴν καὶ ποιεῖ τὸ τῆς τοιαύτης ψυχῆς ἔργον· πρῶτον μὲν γὰρ ἅπαντ’ ἔοικε ζῆν τὰ τοιαῦτα φυτοῦ βίον. ἑπομένως δὲ δῆλον ὅτι καὶ περὶ τῆς αἰσθητικῆς λεκτέον ψυχῆς καὶ περὶ τῆς νοητικῆς· πάσας γὰρ ἀναγκαῖον δυνάμει πρότερον ἔχειν ἢ ἐνεργείᾳ. ἀναγκαῖον δὲ ἤτοι μὴ οὔσας πρότερον ἐγγίγνεσθαι πάσας ἢ πάσας προϋπαρχούσας ἢ τὰς μὲν τὰς δὲ μή, καὶ ἐγγίγνεσθαι ἢ ἐν τῇ ὕλῃ μὴ εἰσελθούσας ἐν τῷ τοῦ ἄρρενος σπέρματι ἢ ἐνταῦθα μὲν ἐκεῖθεν ἐλθούσας, ἐν δὲ τῷ ἄρρενι ἢ θύραθεν ἐγγιγνομένας ἁπάσας ἢ μηδεμίαν ἢ τὰς μὲν τὰς δὲ μή.

ὅτι μὲν τοίνυν οὐχ οἷόν τε πάσας προϋπάρχειν φανερόν ἐστιν ἐκ τῶν τοιούτων· ὅσων γάρ ἐστιν ἀρχῶν ἡ ἐνέργεια σωματική, δῆλον ὅτι ταύτας ἄνευ σώματος ἀδύνατον ὑπάρχειν, οἷον βαδίζειν ἄνευ ποδῶν· ὥστε καὶ θύραθεν εἰσιέναι ἀδύνατον· οὔτε γὰρ αὐτὰς καθ’ αὑτὰς εἰσιέναι οἷόν τε ἀχωρίστους οὔσας οὔτ’ ἐν σώματι εἰσιέναι· τὸ γὰρ σπέρμα περίττωμα μεταβαλλούσης τῆς τροφῆς ἐστιν. λείπεται δὴ τὸν νοῦν μόνον θύραθεν ἐπεισιέναι καὶ θεῖον εἶναι μόνον· οὐθὲν γὰρ αὐτοῦ τῇ ἐνεργείᾳ κοινωνεῖ <ἡ> σωματικὴ ἐνέργεια.

Πάσης μὲν οὖν ψυχῆς δύναμις ἑτέρου σώματος ἔοικε κεκοινωνηκέναι καὶ θειοτέρου τῶν καλουμένων στοιχείων· ὡς δὲ διαφέρουσι τιμιότητι αἱ ψυχαὶ καὶ ἀτιμίᾳ ἀλλήλων οὕτω καὶ ἡ τοιαύτη διαφέρει φύσις. πάντων μὲν γὰρ ἐν τῷ σπέρματι ἐνυπάρχει ὅπερ ποιεῖ γόνιμα εἶναι τὰ σπέρματα, τὸ καλούμενον θερμόν. τοῦτο δ’ οὐ πῦρ οὐδὲ τοιαύτη δύναμίς ἐστιν ἀλλὰ τὸ ἐμπεριλαμβανόμενον ἐν τῷ σπέρματι καὶ ἐν τῷ ἀφρώδει πνεῦμα καὶ ἡ ἐν τῷ πνεύματι φύσις, ἀνάλογον οὖσα τῷ (737a.) τῶν ἄστρων στοιχείῳ. διὸ πῦρ μὲν οὐθὲν γεννᾷ ζῷον, οὐδὲ φαίνεται συνιστάμενον ἐν πυρουμένοις οὔτ’ ἐν ὑγροῖς οὔτ’ ἐν ξηροῖς οὐθέν· ἡ δὲ τοῦ ἡλίου θερμότης καὶ ἡ τῶν ζῴων οὐ μόνον ἡ διὰ τοῦ σπέρματος, ἀλλὰ κἄν τι περίττωμα τύχῃ τῆς φύσεως ὂν ἕτερον, ὅμως ἔχει καὶ τοῦτο ζωτικὴν ἀρχήν. ὅτι μὲν οὖν ἡ ἐν τοῖς ζῴοις θερμότης οὔτε πῦρ οὔτε ἀπὸ πυρὸς ἔχει τὴν ἀρχὴν ἐκ τῶν τοιούτων ἐστὶ φανερόν.

Τὸ δὲ τῆς γονῆς σῶμα ἐν ᾧ συναπέρχεται †τὸ σπέρμα† τὸ τῆς ψυχικῆς ἀρχῆς, τὸ μὲν χωριστὸν ὂν σώματος ὅσοις ἐμπεριλαμβάνεταί τι θεῖον (τοιοῦτος δ’ ἐστὶν ὁ καλούμενος νοῦς) τὸ δ’ ἀχώριστον, -τοῦτο τὸ σῶμα τῆς γονῆς διαλύεται καὶ πνευματοῦται φύσιν ἔχον ὑγρὰν καὶ ὑδατώδη. διόπερ οὐ δεῖ ζητεῖν ἀεὶ θύραζε αὐτὸ ἐξιέναι, οὐδὲ μόριον οὐθὲν εἶναι τῆς συστάσης μορφῆς ὥσπερ οὐδὲ τὸν ὀπὸν τὸν τὸ γάλα συνιστάντα· καὶ γὰρ οὗτος μεταβάλλει καὶ μόριον οὐθέν ἐστι τῶν συνισταμένων ὄγκων.

Περὶ μὲν οὖν ψυχῆς πῶς ἔχει τὰ κυήματα καὶ ἡ γονὴ καὶ πῶς οὐκ ἔχει διώρισται· δυνάμει μὲν γὰρ ἔχει, ἐνεργείᾳ δ’ οὐκ ἔχει.

Τοῦ δὲ σπέρματος ὄντος περιττώματος καὶ κινουμένου κίνησιν τὴν αὐτὴν καθ’ ἥνπερ τὸ σῶμα αὐξάνεται μεριζομένης τῆς ἐσχάτης τροφῆς, ὅταν ἔλθῃ εἰς τὴν ὑστέραν συνίστησι καὶ κινεῖ τὸ περίττωμα τὸ τοῦ θήλεος τὴν αὐτὴν κίνησιν ἥνπερ αὐτὸ τυγχάνει κινούμενον κἀκεῖνο. καὶ γὰρ ἐκεῖνο περίττωμα, καὶ πάντα τὰ μόρια ἔχει δυνάμει, ἐνεργείᾳ δ’ οὐθέν. καὶ γὰρ τὰ τοιαῦτ’ ἔχει μόρια δυνάμει ᾗ διαφέρει τὸ θῆλυ τοῦ ἄρρενος. ὥσπερ γὰρ καὶ ἐκ πεπηρωμένων ὁτὲ μὲν γίγνεται πεπηρωμένα ὁτὲ δ’ οὔ, οὕτω καὶ ἐκ θήλεος ὁτὲ μὲν θῆλυ ὁτὲ δ’ οὒ ἀλλ’ ἄρρεν. τὸ γὰρ θῆλυ ὥσπερ ἄρρεν ἐστὶ πεπηρωμένον καὶ τὰ καταμήνια σπέρμα, οὐ καθαρὸν δέ· ἓν γὰρ οὐκ ἔχει μόνον· τὴν τῆς ψυχῆς ἀρχήν. καὶ διὰ τοῦτο ὅσοις ὑπηνέμια γίγνεται τῶν ζῴων ἀμφοτέρων ἔχει τὰ μέρη τὸ συνιστάμενον ᾠόν, ἀλλὰ τὴν ἀρχὴν οὐκ ἔχει, διὸ οὐ γίγνεται ἔμψυχον· ταύτην γὰρ τὸ τοῦ ἄρρενος ἐπιφέρει σπέρμα. ὅταν δὲ μετάσχῃ τοιαύτης ἀρχῆς τὸ περίττωμα τὸ τοῦ θήλεος κύημα γίγνεται.

[[Τοῖς δ' ὑγροῖς μὲν σωματώδεσι δὲ θερμαινομένοις περιίσταται-καθάπερ καὶ ἐν τοῖς ἑψήμασι ψυχομένοις-τὸ περίξηρον. πάντα (737b.) δὲ τὰ σώματα συνέχει τὸ γλίσχρον· ὅπερ καὶ προϊοῦσι καὶ μείζοσι γιγνομένοις ἡ τοῦ νεύρου λαμβάνει φύσις ἥπερ συνέχει τὰ μόρια τῶν ζῴων, ἐν μὲν τοῖς οὖσα νεῦρον ἐν δὲ τοῖς τὸ ἀνάλογον. τῆς δ' αὐτῆς μορφῆς ἐστι καὶ δέρμα καὶ φλὲψ καὶ ὑμὴν καὶ πᾶν τὸ τοιοῦτον γένος· διαφέρει γὰρ ταῦτα τῷ μᾶλλον καὶ ἧττον καὶ ὅλως ὑπεροχῇ καὶ ἐλλείψει.]]

Κεφάλαιο 4

Τῶν δὲ ζῴων τὰ μὲν ἀτελεστέραν ἔχοντα τὴν φύσιν, ὅταν γένηται κύημα τέλειον ζῷον δὲ μήπω τέλειον, θύραζε προΐεται· δι’ ἃς δ’ αἰτίας εἴρηται πρότερον. τέλειον δ’ ἤδη τότ’ ἐστὶν ὅταν τὸ μὲν ἄρρεν ᾖ τὸ δὲ θῆλυ τῶν κυημάτων- ἐν ὅσοις ἐστὶν αὕτη ἡ διαφορὰ τῶν γιγνομένων· ἔνια γὰρ οὔτε θῆλυ γεννᾷ οὔτ’ ἄρρεν, ὅσα μηδ’ αὐτὰ γίγνεται ἐκ θήλεος καὶ ἄρρενος μηδ’ ἐκ ζῴων μιγνυμένων. καὶ περὶ μὲν τῆς τούτων γενέσεως ὕστερον ἐροῦμεν.

Τὰ δὲ ζῳοτοκοῦντα ἐν αὑτοῖς τὰ τέλεια τῶν ζῴων, μέχρι περ ἂν οὗ γεννήσῃ ζῷον καὶ θύραζε ἐκπέμψῃ, ἔχει συμφυὲς ἐν αὑτῷ τὸ γιγνόμενον ζῷον.

Ὅσα δὲ θύραζε μὲν ζῳοτοκεῖ ἐν αὑτοῖς δ’ ᾠοτοκεῖ τὸ πρῶτον, ὅταν γεννήσῃ τὸ ᾠὸν τέλειον, τούτων ἐνίων μὲν ἀπολύεται τὸ ᾠὸν ὥσπερ τῶν θύραζε ᾠοτοκούντων καὶ τὸ ζῷον ἐκ τοῦ ᾠοῦ γίγνεται ἐν τῷ θήλει, ἐνίων δ’ ὅταν καταναλωθῇ ἡ ἐν τῷ ᾠῷ τροφὴ τελειοῦται ἀπὸ τῆς ὑστέρας, καὶ διὰ τοῦτο οὐκ ἀπολύεται τὸ ᾠὸν ἀπὸ τῆς ὑστέρας. ταύτην δ’ ἔχουσι τὴν διαφορὰν οἱ σελαχώδεις ἰχθύες περὶ ὧν ὕστερον καθ’ αὑτὰ λεκτέον.

Νῦν δ’ ἀπὸ τῶν πρώτων ἀρκτέον πρῶτον· ἔστι δὲ τὰ τέλεια ζῷα πρῶτα, τοιαῦτα δὲ τὰ ζῳοτοκοῦντα καὶ τούτων ἄνθρωπος πρῶτον.

Ἡ μὲν οὖν ἀπόκρισις γίγνεται πᾶσι τοῦ σπέρματος ὥσπερ ἄλλου τινὸς περιττώματος. φέρεται γὰρ ἕκαστον εἰς τὸν οἰκεῖον τόπον οὐθὲν ἀποβιαζομένου τοῦ πνεύματος οὐδ’ ἄλλης αἰτίας τοιαύτης ἀναγκαζούσης, ὥσπερ τινές φασιν ἕλκειν τὰ αἰδοῖα φάσκοντες ὥσπερ τὰς σικύας τῷ τε πνεύματι βιαζομένων-ὥσπερ ἐνδεχόμενον ἄλλοθί που πορευθῆναι μὴ βιασαμένων ἢ ταύτην τὴν περίττωσιν ἢ τὴν τῆς ὑγρᾶς ἢ ξηρᾶς τροφῆς, ὅτι τὰς ἐξόδους αὐτῶν ἠθροισμένῳ τῷ πνεύματι συνεκκρίνουσιν. τοῦτο δὲ κοινὸν κατὰ πάντων ὅσα δεῖ κινῆσαι· διὰ γὰρ τοῦ τὸ πνεῦμα κατασχεῖν (738a.) ἡ ἰσχὺς ἐγγίγνεται, ἐπεὶ καὶ ἄνευ ταύτης τῆς βίας ἐκκρίνεται τὰ περιττώματα καὶ καθεύδουσιν ἂν ἄνετοί τε καὶ πλήρεις περιττώματος οἱ τόποι τύχωσιν ὄντες. ὅμοιον δὲ κἂν εἴ τις φαίη τοῖς φυτοῖς ὑπὸ τοῦ πνεύματος ἑκάστοτε τὰ σπέρματα ἀποκρίνεσθαι πρὸς τοὺς τόπους πρὸς οὓς εἴωθε φέρειν τὸν καρπόν. ἀλλὰ τούτου μὲν αἴτιον, ὥσπερ εἴρηται, τὸ πᾶσιν εἶναι μόρια δεκτικὰ τοῖς περιττώμασι τοῖς τ’ ἀχρήστοις, †οἷον τῇ τε ξηρᾷ καὶ τῇ ὑγρᾷ,† καὶ τῷ αἵματι τὰς καλουμένας φλέβας.

Τοῖς μὲν οὖν θήλεσι περὶ τὸν τῶν ὑστερῶν τόπον, σχιζομένων ἄνωθεν τῶν δύο φλεβῶν τῆς τε μεγάλης καὶ τῆς ἀορτῆς, πολλαὶ καὶ λεπταὶ φλέβες τελευτῶσιν εἰς τὰς ὑστέρας, ὧν ὑπερπληρουμένων ἐκ τῆς τροφῆς καὶ τῆς φύσεως διὰ ψυχρότητα πέττειν οὐ δυναμένης, ἐκκρίνεται διὰ λεπτοτάτων φλεβῶν εἰς τὰς ὑστέρας, οὐ δυναμένων διὰ τὴν στενοχωρίαν δέχεσθαι τὴν ὑπερβολὴν τοῦ πλήθους, καὶ γίγνεται τὸ πάθος οἷον αἱμορροΐς. ἀκριβῶς μὲν οὖν ἡ περίοδος οὐ τέτακται ταῖς γυναιξί, βούλεται δὲ φθινόντων γίγνεσθαι τῶν μηνῶν εὐλόγως· ψυχρότερα γὰρ τὰ σώματα τῶν ζῴων ὅταν καὶ τὸ περιέχον συμβαίνῃ γίγνεσθαι τοσοῦτον, αἱ δὲ τῶν μηνῶν σύνοδοι ψυχραὶ διὰ τὴν τῆς σελήνης ἀπόλειψιν, διόπερ καὶ χειμερίους συμβαίνει τὰς συνόδους εἶναι τῶν μηνῶν μᾶλλον ἢ τὰς μεσότητας. μεταβεβληκότος μὲν οὖν εἰς αἷμα τοῦ περιττώματος βούλεται γίγνεσθαι τὰ καταμήνια κατὰ τὴν εἰρημένην περίοδον, μὴ πεπεμμένου δὲ κατὰ μικρὸν ἀεί τι ἀποκρίνεται· διὸ τὰ λευκὰ μικροῖς ἔτι καὶ παιδίοις οὖσι γίγνεται τοῖς θήλεσιν. μετριάζουσαι μὲν οὖν ἀμφότεραι αὗται αἱ ἀποκρίσεις τῶν περιττωμάτων τὰ σώματα σώζουσιν, ἅτε γιγνομένης καθάρσεως τῶν περιττωμάτων ἃ τοῦ νοσεῖν αἴτια τοῖς σώμασιν· μὴ γιγνομένων δὲ ἢ πλειόνων γιγνομένων βλάπτει· ποιεῖ γὰρ ἢ νόσους ἢ τῶν σωμάτων καθαίρεσιν, διὸ καὶ τὰ λευκὰ συνεχῶς γιγνόμενα καὶ πλεονάζοντα τὴν αὔξησιν ἀφαιρεῖται τῶν παιδίων.

Ἐξ ἀνάγκης μὲν οὖν ἡ περίττωσις αὕτη γίγνεται τοῖς θήλεσι διὰ τὰς εἰρημένας αἰτίας· μὴ δυναμένης τε γὰρ πέττειν τῆς φύσεως ἀνάγκη περίττωμα γίγνεσθαι μὴ μόνον τῆς ἀχρήστου τροφῆς ἀλλὰ καὶ lt;τοῦ αἵματος> ἐν ταῖς φλεψίν, ὑπερβάλλειν τε πληθύοντα κατὰ τὰς λεπτοτάτας φλέβας. ἕνεκα (738b.) δὲ τοῦ βελτίονος καὶ τοῦ τέλους ἡ φύσις καταχρῆται πρὸς τὸν τόπον τοῦτον τῆς γενέσεως χάριν ὅπως οἷον ἔμελλε τοιοῦτον γένηται ἕτερον· ἤδη γὰρ ὑπάρχει δυνάμει γε ὂν τοιοῦτον οἵουπέρ ἐστι σώματος ἀπόκρισις.

Τοῖς μὲν οὖν θήλεσιν ἅπασιν ἀναγκαῖον γίγνεσθαι περίττωμα, τοῖς μὲν αἱματικοῖς πλεῖον καὶ τούτων ἀνθρώπῳ πλεῖστον· ἀνάγκη δὲ καὶ τοῖς ἄλλοις ἀθροίζεσθαί τινα σύστασιν εἰς τὸν ὑστερικὸν τόπον. τὸ δ’ αἴτιον ὅτι τοῖς θ’ αἱματικοῖς πλεῖον καὶ τούτων ὅτι πλεῖστον τοῖς ἀνθρώποις εἴρηται πρότερον. τοῦ δ’ ἐν μὲν τοῖς θήλεσι πᾶσιν ὑπάρχειν περίττωμα τοιοῦτον, ἐν δὲ τοῖς ἄρρεσι μὴ πᾶσιν-ἔνια γὰρ οὐ προΐεται γονήν, ἀλλ’ ὥσπερ τὰ προϊέμενα τῇ ἐν τῇ γονῇ κινήσει δημιουργεῖ τὸ συνιστάμενον ἐκ τῆς ἐν τοῖς θήλεσιν ὕλης, οὕτω τὰ τοιαῦτα [ἐν] τῇ ἐν αὐτοῖς κινήσει ἐν τῷ μορίῳ τούτῳ ὅθεν ἀποκρίνεται τὸ σπέρμα ταὐτὸ ποιεῖ καὶ συνίστησιν. τοῦτο δ' ἐστὶν ὁ τόπος ὁ περὶ τὸ ὑπόζωμα πᾶσι τοῖς ἔχουσιν· ἀρχὴ γὰρ τῆς φύσεως ἡ καρδία καὶ τὸ ἀνάλογον, τὸ δὲ κάτω προσθήκη καὶ τούτου χάριν. -αἴτιον δὴ τοῦ τοῖς μὲν ἄρρεσι μὴ πᾶσιν εἶναι περίττωμα γεννητικὸν τοῖς δὲ θήλεσι πᾶσιν, ὅτι τὸ ζῷον σῶμα ἔμψυχόν ἐστιν. ἀεὶ δὲ παρέχει τὸ μὲν θῆλυ τὴν ὕλην τὸ δ' ἄρρεν τὸ δημιουργοῦν· ταύτην γὰρ αὐτῶν φαμεν ἔχειν τὴν δύναμιν ἑκάτερον, καὶ τὸ εἶναι τὸ μὲν θῆλυ τὸ δ' ἄρρεν τοῦτο. ὥστε τὸ μὲν θῆλυ ἀναγκαῖον παρέχειν σῶμα καὶ ὄγκον, τὸ δ' ἄρρεν οὐκ ἀναγκαῖον· οὔτε γὰρ τὰ ὄργανα ἀνάγκη ἐνυπάρχειν ἐν τοῖς γιγνομένοις οὔτε τὸ ποιοῦν. ἔστι δὲ τὸ μὲν σῶμα ἐκ τοῦ θήλεος ἡ δὲ ψυχὴ ἐκ τοῦ ἄρρενος· ἡ γὰρ ψυχὴ οὐσία σώματός τινός ἐστιν. καὶ διὰ τοῦτο ὅσα τῶν μὴ ὁμογενῶν μίγνυται θῆλυ καὶ ἄρρεν (μίγνυται δὲ ὧν ἴσοι οἱ χρόνοι καὶ ἐγγὺς αἱ κυήσεις, καὶ τὰ μεγέθη τῶν σωμάτων μὴ πολὺ διέστηκεν), τὸ μὲν πρῶτον κατὰ τὴν ὁμοιότητα γίγνεται κοινὸν ἀμφοτέρων, οἷον τὰ γιγνόμενα ἐξ ἀλώπεκος καὶ κυνὸς καὶ πέρδικος καὶ ἀλεκτρυόνος, προϊόντος δὲ τοῦ χρόνου καὶ ἐξ ἑτέρων ἕτερα γιγνόμενα τέλος ἀποβαίνει κατὰ τὸ θῆλυ τὴν μορφήν, ὥσπερ τὰ σπέρματα τὰ ξενικὰ κατὰ τὴν χώραν· αὕτη γὰρ ἡ τὴν ὕλην παρέχουσα καὶ τὸ σῶμα τοῖς σπέρμασίν ἐστιν. καὶ διὰ τοῦτο τοῖς μὲν θήλεσι τὸ μόριον τὸ δεκτικὸν οὐ πόρος ἐστίν, ἀλλ' ἔχουσι διάστασιν αἱ (739a.) ὑστέραι· τοῖς δ' ἄρρεσι πόροι τοῖς σπέρμα προϊεμένοις, ἄναιμοι δ' οὗτοι.

Τῶν δὲ περιττωμάτων ἕκαστον ἅμα ἔν τε τοῖς οἰκείοις τόποις ἐστὶ καὶ γίγνεται περίττωμα· πρότερον δ' οὐθέν, ἂν μή τι βίᾳ πολλῇ καὶ παρὰ φύσιν.

Δι' ἣν μὲν οὖν αἰτίαν ἀποκρίνεται τὰ περιττώματα τὰ γεννητικὰ τοῖς ζῴοις εἴρηται.

Ὅταν δ' ἔλθῃ τὸ σπέρμα ἀπὸ τοῦ ἄρρενος τῶν σπέρμα προϊεμένων συνίστησι τὸ καθαρώτατον τοῦ περιττώματος-τὸ γὰρ πλεῖστον ἄχρηστον καὶ ἐν τοῖς καταμηνίοις ἐστὶν ὑγρὸν <ὄν>, ὥσπερ καὶ τῆς τοῦ ἄρρενος γονῆς τὸ ὑγρότατον καὶ τῆς εἰσάπαξ προέσεως· καὶ ἡ προτέρα τῆς ὑστέρας ἄγονος μᾶλλον τοῖς πλείστοις· ἐλάττω γὰρ ἔχει θερμότητα ψυχικὴν διὰ τὴν ἀπεψίαν, τὸ δὲ πεπεμμένον πάχος ἔχει καὶ σεσωμάτωται μᾶλλον.

Ὅσαις δὲ μὴ γίγνεται θύραζέ τις πρόεσις ἢ τῶν γυναικῶν ἢ τῶν ἄλλων ζῴων διὰ τὸ μὴ ἐνυπάρχειν ἄχρηστον περίττωμα πολὺ ἐν τῇ ἀποκρίσει τῇ τοιαύτῃ, τοσοῦτόν ἐστι τὸ ἐγγιγνόμενον ὅσον τὸ ὑπολειπόμενον τοῖς θύραζε προϊεμένοις ζῴοις, ὃ συνίστησιν ἡ τοῦ ἄρρενος δύναμις ἡ ἐν τῷ σπέρματι τῷ ἀποκρινομένῳ, ἢ εἰς τὸ ἄρρεν ἐλθόντος τοῦ ἀνάλογον μορίου ταῖς ὑστέραις, ὅπερ ἔν τισι τῶν ἐντόμων φαίνεται συμβαῖνον.

Ὅτι δ’ ἡ γιγνομένη ὑγρότης μετὰ τῆς ἡδονῆς τοῖς θήλεσιν οὐδὲν συμβάλλεται εἰς τὸ κύημα εἴρηται πρότερον. μάλιστα δ’ ἂν δόξειεν ὅτι καθάπερ τοῖς ἄρρεσι γίγνεται καὶ ταῖς γυναιξὶ νύκτωρ ὃ καλοῦσιν ἐξονειρώττειν. ἀλλὰ τοῦτο σημεῖον οὐθέν· γίγνεται γὰρ καὶ τοῖς νέοις τῶν ἀρρένων τοῖς μέλλουσι μὲν μηθὲν δὲ προϊεμένοις ἢ τοῖς ἔτι προϊεμένοις ἄγονον.

Ἄνευ μὲν οὖν τῆς τοῦ ἄρρενος προέσεως ἐν τῇ συνουσίᾳ ἀδύνατον συλλαβεῖν καὶ ἄνευ τῆς τῶν γυναικείων περιττώσεως ἢ θύραζε προελθούσης ἢ ἐντὸς ἱκανῆς οὔσης. οὐ συμβαινούσης μέντοι τῆς εἰωθυίας γίγνεσθαι τοῖς θήλεσιν ἡδονῆς περὶ τὴν ὁμιλίαν τὴν τοιαύτην συλλαμβάνουσιν, ἂν τύχῃ ὁ τόπος γ’ ὀργῶν καὶ καταβεβηκυῖαι αἱ ὑστέραι κάτω. ἀλλ’ ὡς ἐπὶ τὸ πολὺ συμβαίνει ἐκείνως διὰ τὸ μὴ συμμεμυκέναι τὸ στόμα γιγνομένης τῆς ἐκκρίσεως, μεθ’ ἧς εἴωθε γίγνεσθαι καὶ τοῖς ἄρρεσιν ἡ ἡδονὴ καὶ ταῖς γυναιξίν· οὕτω δ’ ἔχοντος εὐοδεῖται μᾶλλον καὶ τῷ τοῦ ἄρρενος σπέρματι.

Ἡ δ’ ἄφεσις οὐκ ἐντὸς γίγνεται καθάπερ οἴονταί τινες (στενὸν γὰρ τὸ στόμα τῶν ὑστερῶν), ἀλλ’ εἰς τὸ πρόσθεν οὗπερ τὸ θῆλυ (739b.) προΐεται τὴν ἐν ἐνίαις αὐτῶν ἰκμάδα γιγνομένην, ἐνταῦθα καὶ τὸ ἄρρεν προΐεται [ἐάν τις ἐξικμάσῃ]. ὁτὲ μὲν οὖν μένει τοῦτον ἔχουσα τὸν τόπον, ὁτὲ δέ, ἂν τύχῃ συμμέτρως ἔχουσα καὶ θερμὴ διὰ τὴν κάθαρσιν ἡ ὑστέρα, εἴσω σπᾷ. σημεῖον δέ· καὶ γὰρ τὰ πρόσθετα ὑγρὰ προστεθέντα ἀφαιρεῖται ξηρά· ἔτι δὲ ὅσα τῶν ζῴων πρὸς τῷ ὑποζώματι ἔχει τὰς ὑστέρας καθάπερ ὄρνις καὶ τῶν ἰχθύων οἱ ζῳοτοκοῦντες, ἀδύνατον ἐκεῖ μὴ σπᾶσθαι τὸ σπέρμα ἀλλ’ ἀφεθὲν ἐλθεῖν.

ἕλκει δὲ τὴν γονὴν ὁ τόπος διὰ τὴν θερμότητα τὴν ὑπάρχουσαν. καὶ ἡ τῶν καταμηνίων δὲ ἔκκρισις καὶ συνάθροισις ἐμπυρεύει θερμότητα ἐν τῷ μορίῳ τούτῳ, ὥστε καθάπερ τὰ κωνικὰ τῶν ἀγγείων ὅταν θερμῷ διακλυσθῇ σπᾷ τὸ ὕδωρ εἰς αὐτὰ καταστρεφομένου τοῦ στόματος. καὶ τοῦτον μὲν τὸν τρόπον γίγνεται σπάσις, ὡς δέ τινες λέγουσι τοῖς ὀργανικοῖς πρὸς τὴν συνουσίαν μορίοις οὐ γίγνεται κατ’ οὐθένα τρόπον.

ἀνάπαλιν δὲ συμβαίνει καὶ τοῖς λέγουσι προΐεσθαι καὶ τὴν γυναῖκα σπέρμα· προϊεμέναις γὰρ ἔξω συμβαίνει ταῖς ὑστέραις πάλιν εἴσω σπᾶν, εἴπερ μιχθήσεται τῇ γονῇ τῇ τοῦ ἄρρενος. τὸ δ’ οὕτω γίγνεσθαι περίεργον, ἡ δὲ φύσις οὐδὲν ποιεῖ περίεργον.

Ὅταν δὲ συστῇ ἡ ἐν ταῖς ὑστέραις ἀπόκρισις τοῦ θήλεος ὑπὸ τῆς τοῦ ἄρρενος γονῆς, παραπλήσιον ποιούσης ὥσπερ ἐπὶ τοῦ γάλακτος τῆς πυετίας- καὶ γὰρ ἡ πυετία γάλα ἐστὶ θερμότητα ζωτικὴν ἔχον ἣ τὸ ὅμοιον εἰς ἓν ἄγει καὶ συνίστησι, καὶ ἡ γονὴ πρὸς τὴν τῶν καταμηνίων φύσιν ταὐτὸ πέπονθεν· ἡ γὰρ αὐτὴ φύσις ἐστὶ γάλακτος καὶ καταμηνίων-συνιόντος δὴ τοῦ σωματώδους ἐκκρίνεται τὸ ὑγρὸν καὶ περιίστανται κύκλῳ ξηραινομένων τῶν γεηρῶν ὑμένες, καὶ ἐξ ἀνάγκης καὶ ἕνεκά τινος· καὶ γὰρ θερμαινομένων ξηραίνεσθαι ἀναγκαῖον τὰ ἔσχατα καὶ ψυχομένων, καὶ δεῖ μὴ ἐν ὑγρῷ τὸ ζῷον εἶναι ἀλλὰ κεχωρισμένον. καλοῦνται δὲ τούτων οἱ μὲν ὑμένες τὰ δὲ χόρια, διαφέροντα τῷ μᾶλλον καὶ ἧττον· ὁμοίως δ᾽ ἐνυπάρχουσιν ἔν τε τοῖς ᾠοτόκοις ταῦτα καὶ τοῖς ζῳοτόκοις.

Ὅταν δὲ συστῇ τὸ κύημα ἤδη παραπλήσιον ποιεῖ τοῖς σπειρομένοις. ἡ μὲν γὰρ ἀρχὴ καὶ ἐν τοῖς σπέρμασιν ἐν αὐτοῖς ἐστιν ἡ πρώτη· ὅταν δ᾽ αὕτη ἀποκριθῇ ἐνοῦσα δυνάμει πρότερον, ἀπὸ ταύτης ἀφίεται ὅ τε βλαστὸς καὶ ἡ ῥίζα. αὕτη δ᾽ ἐστὶν ᾗ τὴν τροφὴν (740a.) λαμβάνει· δεῖται γὰρ αὐξήσεως τὸ φυτόν. οὕτω καὶ ἐν τῷ κυήματι τρόπον τινὰ πάντων ἐνόντων τῶν μορίων δυνάμει ἡ ἀρχὴ πρὸ ὁδοῦ μάλιστα ἐνυπάρχει. διὸ ἀποκρίνεται πρῶτον ἡ καρδία ἐνεργείᾳ. καὶ τοῦτο οὐ μόνον ἐπὶ τῆς αἰσθήσεως δῆλον (συμβαίνει γὰρ οὕτως) ἀλλὰ καὶ ἐπὶ τοῦ λόγου· ὅταν γὰρ ἀπ᾽ ἀμφοῖν ἀποκριθῇ δεῖ αὐτὸ αὐτὸ διοικεῖν τὸ γενόμενον καθάπερ ἀποικισθὲν τέκνον ἀπὸ πατρός. ὥστε δεῖ ἀρχὴν ἔχειν ἀφ᾽ ἧς καὶ ὕστερον ἡ διακόσμησις τοῦ σώματος γίγνεται τοῖς ζῴοις. εἰ γὰρ ἔξωθέν ποτ᾽ ἔσται καὶ ὕστερον ἐνεσομένη οὐ μόνον διαπορήσειεν ἄν τις τὸ πότε, ἀλλ᾽ ὅτι ἀνάγκη, ὅταν ἕκαστον χωρίζηται τῶν μορίων, ταύτην ὑπάρχειν πρῶτον ἐξ ἧς καὶ ἡ αὔξησις ὑπάρχει καὶ ἡ κίνησις τοῖς ἄλλοις μορίοις. διόπερ ὅσοι λέγουσιν, ὥσπερ Δημόκριτος, τὰ ἔξω πρῶτον διακρίνεσθαι τῶν ζῴων, ὕστερον δὲ τὰ ἐντός, οὐκ ὀρθῶς λέγουσιν, ὥσπερ ξυλίνων ἢ λιθίνων ζῴων· τὰ μὲν γὰρ τοιαῦτ᾽ οὐκ ἔχει ἀρχὴν ὅλως, τὰ δὲ ζῷα πάντ᾽ ἔχει καὶ ἐντὸς ἔχει. διὸ πρῶτον ἡ καρδία φαίνεται διωρισμένη πᾶσι τοῖς ἐναίμοις· ἀρχὴ γὰρ αὕτη καὶ τῶν ὁμοιομερῶν καὶ τῶν ἀνομοιομερῶν. ἤδη γὰρ ἀρχὴν ταύτην ἄξιον ἀκοῦσαι τοῦ ζῴου καὶ τοῦ συστήματος ὅταν δέηται τροφῆς· τὸ γὰρ δὴ ὂν αὐξάνεται. τροφὴ δὲ ζῴου ἡ ἐσχάτη αἷμα καὶ τὸ ἀνάλογον, τούτων δ᾽ ἀγγεῖον αἱ φλέβες· διὸ ἡ καρδία καὶ τούτων ἀρχή. δῆλον δὲ τοῦτο ἐκ τῶν ἱστοριῶν καὶ τῶν ἀνατομῶν.

Ἐπεὶ δὲ δυνάμει μὲν ἤδη ζῷον ἀτελὲς δέ, ἄλλοθεν ἀναγκαῖον λαμβάνειν τὴν τροφήν· διὸ χρῆται τῇ ὑστέρᾳ καὶ τῇ ἐχούσῃ ὥσπερ γῇ φυτόν, τοῦ λαμβάνειν τροφὴν ἕως ἂν τελεωθῇ πρὸς τὸ εἶναι ἤδη ζῷον δυνάμει πορευτικόν. διὸ ἐκ τῆς καρδίας τὰς δύο φλέβας πρώτας ἡ φύσις ὑπέγραψεν· ἀπὸ δὲ τούτων φλέβια ἀπήρτηται πρὸς τὴν ὑστέραν ὁ καλούμενος ὀμφαλός. ἔστι γὰρ ὁ ὀμφαλὸς φλέψ, τοῖς μὲν μία τοῖς δὲ πλείους τῶν ζῴων. περὶ δὲ ταύτας κέλυφος δερματικὸν [ὁ καλούμενος ὀμφαλὸς] διὰ τὸ δεῖσθαι σωτηρίας καὶ σκέπης τὴν τῶν φλεβῶν ἀσθένειαν. αἱ δὲ φλέβες οἷον ῥίζαι πρὸς τὴν ὑστέραν συνάπτουσι, δι' ὧν λαμβάνει τὸ κύημα τὴν τροφήν. τούτου γὰρ χάριν ἐν ταῖς ὑστέραις μένει τὸ ζῷον, ἀλλ' οὐχ ὡς Δημόκριτός φησιν ἵνα διαπλάττηται τὰ μόρια κατὰ τὰ μόρια τῆς ἐχούσης. τοῦτο γὰρ ἐπὶ τῶν (740b.) ᾠοτοκούντων φανερόν· ἐκεῖνα γὰρ ἐν τοῖς ᾠοῖς λαμβάνει τὴν διάκρισιν κεχωρισμένα τῆς μήτρας.

Ἀπορήσειε δ' ἄν τις εἰ τὸ αἷμα μὲν τροφή ἐστιν, ἡ δὲ καρδία πρώτη γίγνεται ἔναιμος οὖσα, [τὸ δ' αἷμα τροφή,] ἡ δὲ τροφὴ θύραθεν, πόθεν εἰσῆλθεν ἡ πρώτη τροφή; ἢ τοῦτ' οὐκ ἀληθὲς ὡς πᾶσα θύραθεν, ἀλλ' εὐθὺς ὥσπερ ἐν τοῖς τῶν φυτῶν σπέρμασιν ἔνεστί τι τοιοῦτον τὸ φαινόμενον πρῶτον γαλακτῶδες, οὕτω καὶ ἐν τῇ ὕλῃ τῶν ζῴων τὸ περίττωμα τῆς συστάσεως τροφή ἐστιν.

Ἡ μὲν οὖν αὔξησις τῷ κυήματι γίγνεται διὰ τοῦ ὀμφαλοῦ τὸν αὐτὸν τρόπον ὅνπερ διὰ τῶν ῥιζῶν τοῖς φυτοῖς, καὶ τοῖς ζῴοις αὐτοῖς ὅταν ἀπολυθῶσιν ἐκ τῆς ἐν αὑτοῖς τροφῆς· περὶ ὧν ὕστερον λεκτέον κατὰ τοὺς οἰκείους τῶν λόγων καιρούς. ἡ δὲ διάκρισις γίγνεται τῶν μορίων οὐχ ὥς τινες ὑπολαμβάνουσι διὰ τὸ πεφυκέναι φέρεσθαι τὸ ὅμοιον πρὸς τὸ ὅμοιον (πρὸς γὰρ πολλαῖς ἄλλαις αἷς ὁ λόγος οὗτος ἔχει δυσχερείαις συμβαίνει χωρὶς ἕκαστον γίγνεσθαι τῶν μορίων τῶν ὁμοιομερῶν, οἷον ὀστᾶ καθ' αὑτὰ καὶ νεῦρα καὶ τὰς σάρκας καθ' αὑτάς, εἴ τις ἀποδέξαιτο ταύτην τὴν αἰτίαν)· ἀλλ' ὅτι τὸ περίττωμα τὸ τοῦ θήλεος δυνάμει τοιοῦτόν ἐστιν οἷον φύσει τὸ ζῷον καὶ ἔνεστι δυνάμει τὰ μόρια ἐνεργείᾳ δ' οὐθέν, διὰ ταύτην τὴν αἰτίαν γίγνεται ἕκαστον αὐτῶν, καὶ ὅτι τὸ ποιητικὸν καὶ τὸ παθητικὸν ὅταν θίγωσιν, ὃν τρόπον ἐστὶ τὸ μὲν ποιητικὸν τὸ δὲ παθητικόν (τὸν δὲ τρόπον λέγω τὸ ὥς καὶ οὗ καὶ ὅτε), εὐθὺς τὸ μὲν ποιεῖ τὸ δὲ πάσχει. ὕλην μὲν οὖν παρέχει τὸ θῆλυ, τὴν δ' ἀρχὴν τῆς κινήσεως τὸ ἄρρεν. ὥσπερ δὲ τὰ ὑπὸ τῆς τέχνης γιγνόμενα γίγνεται διὰ τῶν ὀργάνων- ἔστι δ' ἀληθέστερον εἰπεῖν διὰ τῆς κινήσεως αὐτῶν· αὕτη δ' ἐστὶν ἡ ἐνέργεια τῆς τέχνης, ἡ δὲ τέχνη μορφὴ τῶν γιγνομένων ἐν ἄλλῳ-οὕτως ἡ τῆς θρεπτικῆς ψυχῆς δύναμις, ὥσπερ καὶ ἐν αὐτοῖς τοῖς ζῴοις καὶ τοῖς φυτοῖς ὕστερον ἐκ τῆς τροφῆς ποιεῖ τὴν αὔξησιν, χρωμένη οἷον ὀργάνοις θερμότητι καὶ ψυχρότητι (ἐν γὰρ τούτοις ἡ κίνησις ἐκείνης, καὶ λόγῳ τινὶ ἕκαστον γίγνεται), οὕτω καὶ ἐξ ἀρχῆς συνίστησι τὸ φύσει γιγνόμενον. ἡ γὰρ αὐτή ἐστιν ὕλη ᾗ αὐξάνεται καὶ ἐξ ἧς συνίσταται τὸ πρῶτον, ὥστε καὶ ἡ ποιοῦσα δύναμις ταὐτὸ τῷ ἐξ ἀρχῆς· μείζων δὲ αὕτη ἐστίν. εἰ οὖν αὕτη ἐστὶν ἡ θρεπτικὴ ψυχή, αὕτη ἐστὶ καὶ ἡ γεννῶσα· καὶ τοῦτ' ἔστιν ἡ (741a.) φύσις ἡ ἑκάστου ἐνυπάρχουσα καὶ ἐν φυτοῖς καὶ ἐν ζῴοις πᾶσιν, τὰ δ’ ἄλλα μόρια τῆς ψυχῆς τοῖς μὲν ὑπάρχει τοῖς δ’ οὐχ ὑπάρχει τῶν ζώντων.

Ἐν μὲν οὖν τοῖς φυτοῖς οὐ κεχώρισται τὸ θῆλυ τοῦ ἄρρενος· ἐν δὲ τοῖς ζῴοις ἐν οἷς κεχώρισται προσδεῖται τὸ θῆλυ τοῦ ἄρρενος.

Κεφάλαιο 5

Καίτοι τις ἀπορήσειεν ἂν διὰ τίν’ αἰτίαν· εἴπερ ἔχει τὸ θῆλυ τὴν αὐτὴν ψυχὴν καὶ ἡ ὕλη τὸ περίττωμα τὸ τοῦ θήλεός ἐστι, τί προσδεῖται τοῦ ἄρρενος ἀλλ’ οὐκ αὐτὸ ἐξ αὑτοῦ γεννᾷ τὸ θῆλυ; αἴτιον δ’ ὅτι διαφέρει τὸ ζῷον τοῦ φυτοῦ αἰσθήσει· ἀδύνατον δὲ πρόσωπον ἢ χεῖρα ἢ σάρκα εἶναι ἢ ἄλλο τι μόριον μὴ ἐνούσης αἰσθητικῆς ψυχῆς ἢ ἐνεργείᾳ ἢ δυνάμει καὶ ἤ πῃ ἢ ἁπλῶς· ἔσται γὰρ οἷον νεκρὸς ἢ νεκροῦ μόριον. εἰ οὖν τὸ ἄρρεν ἐστὶ τὸ τῆς τοιαύτης ποιητικὸν ψυχῆς, ὅπου κεχώρισται τὸ θῆλυ καὶ τὸ ἄρρεν ἀδύνατον τὸ θῆλυ αὐτὸ ἐξ αὑτοῦ γεννᾶν ζῷον· τὸ γὰρ εἰρημένον ἦν τὸ ἄρρεν εἶναι· ἐπεὶ ὅτι γ’ ἔχει λόγον ἡ λεχθεῖσα ἀπορία φανερὸν ἐπὶ τῶν ὀρνίθων τῶν τὰ ὑπηνέμια τικτόντων ὅτι δύναται μέχρι γέ τινος τὸ θῆλυ γεννᾶν. ἔτι δ’ ἔχει καὶ τοῦτο ἀπορίαν πῶς τις αὐτῶν τὰ ᾠὰ φήσει ζῆν· οὔτε γὰρ οὕτως ὡς τὰ γόνιμα ᾠὰ ἐνδέχεται (ἐγίγνετο γὰρ ἂν ἐξ αὐτῶν ἐνεργείᾳ ἔμψυχον) οὔθ’ οὕτως ὥσπερ ξύλον ἢ λίθος. ἔστι γὰρ καὶ τούτων τῶν ᾠῶν φθορά τις ὡς μετεχόντων τρόπον τινὰ ζωῆς πρότερον. δῆλον οὖν ὅτι ἔχει τινὰ δυνάμει ψυχήν.

ποίαν οὖν ταύτην; ἀνάγκη δὴ τὴν ἐσχάτην. αὕτη δ’ ἐστὶν ἡ θρεπτική· αὕτη γὰρ ὑπάρχει πᾶσιν ὁμοίως ζῴοις τε καὶ φυτοῖς. διὰ τί οὖν οὐκ ἀποτελεῖ τὰ μόρια καὶ τὸ ζῷον; ὅτι δεῖ αἰσθητικὴν αὐτὰ ἔχειν ψυχήν· οὐ γάρ ἐστιν ὥσπερ φυτοῦ τὰ μόρια τῶν ζῴων. διὸ δεῖται τῆς τοῦ ἄρρενος κοινωνίας· κεχώρισται γὰρ ἐν τούτοις τὸ ἄρρεν. ὅπερ καὶ συμβαίνει· τὰ γὰρ ὑπηνέμια γίγνεται γόνιμα ἐὰν ἔν τινι καιρῷ τὸ ἄρρεν ἐποχεύσῃ. ἀλλὰ περὶ μὲν τῆς τούτων αἰτίας ὕστερον διορισθήσεται.

Εἰ δ’ ἐστί τι γένος ὃ θῆλυ μέν ἐστιν, ἄρρεν δὲ μὴ ἔχει κεχωρισμένον, ἐνδέχεται τοῦτο ζῷον ἐξ αὑτοῦ γεννᾶν. ὅπερ ἀξιοπίστως μὲν οὐ συνῶπται μέχρι γε τοῦ νῦν, ποιεῖ δὲ διστάζειν ἐν τῷ γένει τῷ τῶν ἰχθύων· τῶν γὰρ καλουμένων ἐρυθρίνων ἄρρην μὲν οὐθεὶς ὦπταί πω, θήλειαι δὲ καὶ κυημάτων πλήρεις. ἀλλὰ τούτων μὲν οὔπω πεῖραν ἔχομεν ἀξιόπιστον· οὔτε δὲ θήλεα οὔτε ἄρρενα καὶ ἐν τῷ τῶν ἰχθύων (741b.) γένει ἐστίν, οἷον αἵ τ’ ἐγχέλεις καὶ γένος τι κεστρέων περὶ τοὺς τελματιαίους ποταμούς. ἐν ὅσοις δὲ κεχώρισται τὸ θῆλυ καὶ τὸ ἄρρεν ἀδύνατον αὐτὸ καθ’ αὑτὸ τὸ θῆλυ γεννᾶν εἰς τέλος· τὸ γὰρ ἄρρεν μάτην ἂν ἦν, ἡ δὲ φύσις οὐδὲν ποιεῖ μάτην. διόπερ ἐν τοῖς τοιούτοις ἀεὶ τὸ ἄρρεν ἐπιτελεῖ τὴν γένεσιν. ἐμποιεῖ γὰρ τοῦτο τὴν αἰσθητικὴν ψυχὴν ἢ δι’ αὑτοῦ ἢ διὰ τῆς γονῆς.

Ἐνυπαρχόντων δ’ ἐν τῇ ὕλῃ δυνάμει τῶν μορίων, ὅταν ἀρχὴ γένηται κινήσεως ὥσπερ ἐν τοῖς αὐτομάτοις θαύμασι συνείρεται τὸ ἐφεξῆς· καὶ ὃ βούλονται λέγειν τινὲς τῶν φυσικῶν, τὸ “φέρεσθαι εἰς τὸ ὅμοιον”- λεκτέον οὐχ ὡς τόπον μεταβάλλοντα τὰ μόρια κινεῖσθαι ἀλλὰ μένοντα καὶ ἀλλοιούμενα μαλακότητι καὶ σκληρότητι καὶ χρώμασι καὶ ταῖς ἄλλαις ταῖς τῶν ὁμοιομερῶν διαφοραῖς, γιγνόμενα ἐνεργείᾳ ἃ ὑπῆρχεν ὄντα δυνάμει πρότερον.

Γίγνεται δὲ πρῶτον ἡ ἀρχή. αὕτη δ’ ἐστὶν ἡ καρδία τοῖς ἐναίμοις, τοῖς δ’ ἄλλοις τὸ ἀνάλογον, ὥσπερ εἴρηται πολλάκις. καὶ τοῦτο φανερὸν οὐ μόνον κατὰ τὴν αἴσθησιν ὅτι γίγνεται πρῶτον ἀλλὰ καὶ περὶ τὴν τελευτήν· ἀπολείπει γὰρ τὸ ζῆν ἐντεῦθεν τελευταῖον, -συμβαίνει δ’ ἐπὶ πάντων τὸ τελευταῖον γενόμενον πρῶτον ἀπολείπειν τὸ δὲ πρῶτον τελευταῖον, ὥσπερ τῆς φύσεως διαυλοδρομούσης καὶ ἀνελιττομένης ἐπὶ τὴν ἀρχὴν ὅθεν ἦλθεν. ἔστι γὰρ ἡ μὲν γένεσις ἐκ τοῦ μὴ ὄντος εἰς τὸ ὄν, ἡ δὲ φθορὰ ἐκ τοῦ ὄντος πάλιν εἰς τὸ μὴ ὄν.

Κεφάλαιο 6

Γίνεται δὲ μετὰ τὴν ἀρχήν, ὥσπερ ἐλέχθη, τὰ ἐντὸς πρότερον τῶν ἐκτός. φαίνεται δὲ πρότερα τὰ μέγεθος ἔχοντα τῶν ἐλαττόνων, οὐδ’ ἔνια γιγνόμενα πρότερον. πρῶτον δὲ τὰ ἄνω διαρθροῦται τοῦ διαζώματος καὶ διαφέρει μεγέθει· τὸ δὲ κάτω καὶ ἔλαττον καὶ ἀδιοριστότερον. καὶ τοῦτο γίγνεται ἐν πᾶσιν ὅσοις τὸ ἄνω καὶ τὸ κάτω διώρισται, πλὴν ἐν τοῖς ἐντόμοις· τούτων δ’ ἐν τοῖς σκωληκοτοκουμένοις ἐπὶ τὸ ἄνω ἡ αὔξησις γίγνεται· τὸ γὰρ ἄνω ἐξ ὑπαρχῆς ἔλαττον. ἀδιόριστον δὲ καὶ τὸ ἄνω καὶ τὸ κάτω τοῖς μαλακίοις τῶν πορευτικῶν μόνοις. τὸ δὲ λεχθὲν συμβαίνει καὶ ἐπὶ τῶν φυτῶν, τὸ προτερεῖν τῇ γενέσει τὸ ἄνω κύτος τοῦ κάτωθεν· τὰς γὰρ ῥίζας πρότερον ἀφιᾶσι τὰ σπέρματα τῶν πτόρθων.

Διορίζεται δὲ τὰ μέρη τῶν ζῴων πνεύματι, οὐ μέντοι οὔτε τῷ τῆς γεννώσης οὔτε τῷ αὑτοῦ καθάπερ τινὲς τῶν (742a.) φυσικῶν φασιν. φανερὸν δὲ τοῦτο ἐπὶ τῶν ὀρνίθων καὶ τῶν ἰχθύων καὶ τῶν ἐντόμων· τὰ μὲν γὰρ χωρισθέντα τῆς γεννώσης γίγνεται ἐξ ᾠοῦ ἐν ᾧ λαμβάνει τὴν διάρθρωσιν, τὰ δ’ ὅλως οὐκ ἀναπνεῖ τῶν ζῴων, σκωληκοτοκεῖται δὲ καὶ ᾠοτοκεῖται· τὰ δ’ ἀναπνέοντα καὶ ἐν τῇ μήτρᾳ λαμβάνοντα τὴν διάρθρωσιν οὐκ ἀναπνεῖ πρὶν ἢ ὁ πνεύμων λάβῃ τέλος· διαρθροῦται δὲ καὶ οὗτος καὶ τὰ ἔμπροσθεν μόρια πρὶν ἀναπνεῖν. ἔτι δ’ ὅσα πολυσχιδῆ τῶν τετραπόδων, οἷον κύων λέων λύκος ἀλώπηξ θώς, πάντα τυφλὰ γεννᾷ, καὶ διίσταται τὸ βλέφαρον γενομένων ὕστερον. ὥστε δῆλον ὅτι τὸν αὐτὸν τρόπον καὶ ἐν τοῖς ἄλλοις πᾶσι καθάπερ καὶ τὸ ποιὸν καὶ τὸ ποσὸν γίγνεται δυνάμει προϋπάρχον, ἐνεργείᾳ δ’ ὕστερον, ὑπὸ τῶν αὐτῶν αἰτίων ὑφ’ ὧνπερ καὶ τὸ ποιὸν διορίζεται-καὶ γίγνεται δύο ἐξ ἑνός. πνεῦμα δ’ ὑπάρχειν ἀναγκαῖον ὅτι ὑγρὸν καὶ θερμόν, τοῦ μὲν ποιοῦντος τοῦ δὲ πάσχοντος.

Τῶν δ’ ἀρχαίων τινὲς φυσιολόγων τί μετὰ τί γίγνεται τῶν μορίων ἐπειράθησαν λέγειν, οὐ λίαν ἐμπειρικῶς ἔχοντες τῶν συμβαινόντων. τῶν γὰρ μορίων ὥσπερ καὶ ἐπὶ τῶν ἄλλων πέφυκεν ἕτερον ἑτέρου πρότερον. τὸ δὲ πρότερον ἤδη πολλαχῶς ἐστιν· τό τε γὰρ οὗ ἕνεκα καὶ τὸ τούτου ἕνεκα διαφέρει, καὶ τὸ μὲν τῇ γενέσει πρότερον αὐτῶν ἐστι τὸ δὲ τῇ οὐσίᾳ. δύο δὲ διαφορὰς ἔχει καὶ τὸ τούτου ἕνεκα· τὸ μὲν γάρ ἐστιν ὅθεν ἡ κίνησις, τὸ δὲ ᾧ χρῆται τὸ οὗ ἕνεκα.

λέγω δ’ οἷον τό τε γεννητικὸν καὶ τὸ ὀργανικὸν τῷ γεννωμένῳ· τούτων γὰρ τὸ μὲν ὑπάρχειν δεῖ πρότερον, τὸ ποιητικόν, οἷον τὸ διδάξαν τοῦ μανθάνοντος, τοὺς δ’ αὐλοὺς ὕστερον τοῦ μανθάνοντος αὐλεῖν· περίεργον γὰρ μὴ ἐπισταμένοις αὐλεῖν ὑπάρχειν αὐλούς· τριῶν δ’ ὄντων-ἑνὸς μὲν τοῦ τέλους ὃ λέγομεν εἶναι οὗ ἕνεκα, δευτέρου δὲ τῶν τούτου ἕνεκα τῆς ἀρχῆς τῆς κινητικῆς καὶ γεννητικῆς (τὸ γὰρ ποιητικὸν καὶ γεννητικόν, ᾗ τοιαῦτα, πρὸς τὸ ποιούμενόν ἐστι καὶ γεννώμενον), τρίτου δὲ τοῦ χρησίμου καὶ ᾧ χρῆται τὸ τέλος-πρῶτον μὲν ὑπάρχειν ἀναγκαῖόν τι μόριον ἐν ᾧ ἡ ἀρχὴ τῆς κινήσεως (καὶ γὰρ εὐθὺς τοῦτο τὸ μόριόν ἐστι τοῦ τέλους ἓν καὶ κυριώτατον), ἔπειτα μετὰ τοῦτο τὸ ὅλον καὶ τὸ τέλος, τρίτον δὲ καὶ τελευταῖον τὰ ὀργανικὰ τούτοις μέρη πρὸς ἐνίας χρήσεις.

ὥστ’ εἴ τι τοιοῦτόν ἐστιν ὅπερ ἀναγκαῖον ὑπάρχειν ἐν τοῖς (742b.) ζῴοις, τὸ πάσης ἔχον τῆς φύσεως ἀρχὴν καὶ τέλος, τοῦτο γίγνεσθαι πρῶτον ἀναγκαῖον, ᾗ μὲν κινητικὸν πρῶτον, ᾗ δὲ μόριον τοῦ τέλους μετὰ τοῦ ὅλου. ὥστε τῶν μορίων τῶν ὀργανικῶν ὅσα μέν ἐστι γεννητικὰ τὴν φύσιν, ἀεὶ πρότερον δεῖ ὑπάρχειν αὐτά (ἄλλου γὰρ ἕνεκά ἐστιν ὡς ἀρχή), ὅσα δὲ μὴ τοιαῦτα τῶν ἄλλου ἕνεκα ὕστερον. διὸ οὐ ῥᾴδιον διελεῖν πότερα πρότερα τῶν μορίων, ὅσα ἄλλου ἕνεκα ἢ οὗ ἕνεκα ταῦτα. παρεμπίπτει γὰρ τὰ κινητικὰ τῶν μορίων πρότερον ὄντα τῇ γενέσει τοῦ τέλους, τὰ δὲ κινητικὰ πρὸς τὰ ὀργανικὰ διελεῖν οὐ ῥᾴδιον. καίτοι κατὰ ταύτην τὴν μέθοδον δεῖ ζητεῖν τί γίγνεται μετὰ τί· τὸ γὰρ τέλος ἐνίων μὲν ὕστερον ἐνίων δὲ πρότερον. καὶ διὰ τοῦτο πρῶτον μὲν τὸ ἔχον τὴν ἀρχὴν γίγνεται μόριον, εἶτ’ ἐχόμενον τὸ ἄνω κύτος. διὸ τὰ περὶ τὴν κεφαλὴν καὶ τὰ ὄμματα μέγιστα κατ’ ἀρχὰς φαίνεται τοῖς ἐμβρύοις, τὰ δὲ κάτω τοῦ ὀμφαλοῦ, οἷον τὰ κῶλα, μικρά. τοῦ γὰρ ἄνω τὰ κάτω ἕνεκεν καὶ οὔτε μόρια τοῦ τέλους οὔτε γεννητικὰ αὐτοῦ.

Οὐ καλῶς δὲ λέγουσιν οὐδὲ τοῦ διὰ τί τὴν ἀνάγκην ὅσοι λέγουσι ὅτι οὕτως ἀεὶ γίγνεται, καὶ ταύτην εἶναι νομίζουσιν ἀρχὴν ἐν αὐτοῖς, ὥσπερ Δημόκριτος ὁ Ἀβδηρίτης, ὅτι τοῦ μὲν ἀεὶ καὶ ἀπείρου οὐκ ἔστιν ἀρχή, τὸ δὲ διὰ τί ἀρχή, τὸ δ’ ἀεὶ ἄπειρον, ὥστε τὸ ἐρωτᾶν τὸ διὰ τί περὶ τῶν τοιούτων τινὸς τὸ ζητεῖν εἶναί φησι τοῦ ἀπείρου ἀρχήν. καίτοι κατὰ τοῦτον τὸν λόγον καθ’ ὃν ἀξιοῦσι τὸ διὰ τί μὴ ζητεῖν, οὐθενὸς ἀπόδειξις ἔσται τῶν ἀϊδίων· φαίνεται δ’ οὖσα πολλῶν, τῶν μὲν γιγνομένων ἀεὶ τῶν δ’ ὄντων, ἐπεὶ καὶ τὸ τρίγωνον ἔχειν δυσὶν ὀρθαῖς ἴσας ἀεὶ καὶ τὸ τὴν διάμετρον ἀσύμμετρον εἶναι πρὸς τὴν πλευρὰν ἀΐδιον, ἀλλ’ ὅμως ἐστὶν αὐτῶν αἰτιόν τι καὶ ἀπόδειξις. τὸ μὲν οὖν μὴ πάντων ἀξιοῦν ζητεῖν ἀρχὴν λέγεται καλῶς, τὸ δὲ τῶν ὄντων ἀεὶ καὶ γιγνομένων πάντων οὐ καλῶς, ἀλλ’ ὅσαι τῶν ἀϊδίων ἀρχαὶ τυγχάνουσιν οὖσαι· τῆς γὰρ ἀρχῆς ἄλλη γνῶσις καὶ οὐκ ἀπόδειξις. ἀρχὴ δ’ ἐν μὲν τοῖς ἀκινήτοις τὸ τί ἐστιν, ἐν δὲ τοῖς γιγνομένοις ἤδη πλείους-τρόπον δ’ ἄλλον καὶ οὐ πᾶσαι τὸν αὐτόν-ὧν μία τὸν ἀριθμὸν ὅθεν ἡ κίνησίς ἐστιν. διὸ πάντα τὰ ἔναιμα καρδίαν ἔχει πρῶτον ὥσπερ ἐλέχθη κατ’ ἀρχάς· ἐν δὲ τοῖς ἄλλοις τὸ ἀνάλογον γίγνεται τῇ (743a.) καρδίᾳ πρῶτον.

Ἐκ δὲ τῆς καρδίας αἱ φλέβες διατεταμέναι, καθάπερ οἱ τοὺς κανάβους γράφοντες ἐν τοῖς τοίχοις· τὰ γὰρ μέρη περὶ ταύτας ἐστίν, ἅτε γιγνόμενα ἐκ τούτων. ἡ δὲ γένεσίς ἐστιν τῶν ὁμοιομερῶν ὑπὸ ψύξεως καὶ θερμότητος· συνίσταται γὰρ καὶ πήγνυται τὰ μὲν ψυχρῷ τὰ δὲ θερμῷ. περὶ δὲ τῆς τούτων διαφορᾶς εἴρηται πρότερον ἐν ἑτέροις, ποῖα λυτὰ ὑγρῷ καὶ πυρὶ καὶ ποῖα ἄλυτα ὑγρῷ καὶ ἄτηκτα πυρί. διὰ μὲν οὖν τῶν φλεβῶν καὶ τῶν ἐν ἑκάστοις πόρων διαπιδύουσα ἡ τροφή, καθάπερ ἐν τοῖς ὠμοῖς κεραμίοις τὸ ὕδωρ, γίγνονται σάρκες ἢ τὸ ταύταις ἀνάλογον ὑπὸ τοῦ ψυχροῦ συνιστάμεναι, διὸ καὶ λύονται ὑπὸ πυρός. ὅσα δὲ γεηρὰ λίαν τῶν ἀνατελλόντων, ὀλίγην ἔχοντα ὑγρότητα καὶ θερμότητα, ταῦτα δὲ ψυχόμενα ἐξατμίζοντος τοῦ ὑγροῦ μετὰ τοῦ θερμοῦ γίγνεται σκληρὰ καὶ γεώδη τὴν μορφήν, οἷον ὄνυχες καὶ κέρατα καὶ ὁπλαὶ καὶ ῥύγχη· διὸ μαλάττεται μὲν πυρί, τήκεται δ’ οὐθέν, ἀλλ’ ἔνια τοῖς ὑγροῖς, οἷον τὰ κελύφη τῶν ᾠῶν.

Ὑπὸ δὲ τῆς ἐντὸς θερμότητος τά τε νεῦρα καὶ τὰ ὀστᾶ γίγνεται ξηραινομένης τῆς ὑγρότητος. διὸ καὶ ἄλυτά ἐστι τὰ ὀστᾶ ὑπὸ τοῦ πυρὸς καθάπερ κέραμος· οἷον γὰρ ἐν καμίνῳ ὠπτημένα ἐστὶν ὑπὸ τῆς ἐν τῇ γενέσει θερμότητος. αὕτη δὲ οὔτε ὅ τι ἔτυχε ποιεῖ σάρκα ἢ ὀστοῦν οὔθ’ ὅπου ἔτυχεν οὔθ’ ὁπότ’ ἔτυχεν, ἀλλὰ τὸ πεφυκὸς καὶ οὗ πέφυκε καὶ ὅτε πέφυκεν. οὔτε γὰρ τὸ δυνάμει ὂν ὑπὸ τοῦ μὴ τὴν ἐνέργειαν ἔχοντος κινητικοῦ ἔσται, οὔτε τὸ τὴν ἐνέργειαν ἔχον ποιήσει ἐκ τοῦ τυχόντος, ὥσπερ οὔτε κιβωτὸν μὴ ἐκ ξύλου ὁ τέκτων ποιήσειεν ἄν, οὔτ’ ἄνευ τούτου κιβωτὸς ἔσται ἐκ τῶν ξύλων.

Ἡ δὲ θερμότης ἐνυπάρχει ἐν τῷ σπερματικῷ περιττώματι τοσαύτην καὶ τοιαύτην ἔχουσα τὴν κίνησιν καὶ τὴν ἐνέργειαν ὅση σύμμετρος εἰς ἕκαστον τῶν μορίων. καθ’ ὅσον δ’ ἂν ἐλλείπῃ ἢ ὑπερβάλλῃ ἢ χεῖρον ἀποτελεῖ ἢ ἀνάπηρον τὸ γιγνόμενον, παραπλησίως τοῖς ἔξω συνισταμένοις διὰ τῆς ἑψήσεως πρὸς τροφῆς ἀπόλαυσιν ἤ τινα ἄλλην ἐργασίαν. ἀλλ’ ἐνταῦθα μὲν ἡμεῖς τὴν τῆς θερμότητος συμμετρίαν εἰς τὴν κίνησιν παρασκευάζομεν, ἐκεῖ δὲ δίδωσιν ἡ φύσις ἡ τοῦ γεννῶντος. τοῖς δὲ αὐτομάτως γιγνομένοις ἡ τῆς ὥρας αἰτία κίνησις καὶ θερμότης.

Ἡ δὲ ψύξις στέρησις θερμότητός ἐστιν. χρῆται δ’ ἀμφοτέροις ἡ φύσις ἔχουσι μὲν δύναμιν ἐξ ἀνάγκης ὥστε (743b.) τὸ μὲν τοδὶ τὸ δὲ τοδὶ ποιεῖν, ἐν μέντοι τοῖς γιγνομένοις ἕνεκά τινος συμβαίνει τὸ μὲν ψύχειν αὐτῶν τὸ δὲ θερμαίνειν καὶ γίγνεσθαι τῶν μορίων ἕκαστον, τὴν μὲν σάρκα μαλακὴν τῇ μὲν ἐξ ἀνάγκης ποιούντων τοιαύτην τῇ δ’ ἕνεκά τινος, τὸ δὲ νεῦρον ξηρὸν καὶ ἑλκτὸν τὸ δ’ ὀστοῦν ξηρὸν καὶ θραυστόν.

Τὸ δὲ δέρμα ξηραινομένης τῆς σαρκὸς γίγνεται καθάπερ ἐπὶ τοῖς ἑψήμασιν ἡ καλουμένη γραῦς. οὐ μόνον δὲ διὰ τὸ ἔσχατον συμβαίνει αὐτοῦ ἡ γένεσις ἀλλὰ καὶ διότι ἐπιπολάζει τὸ γλίσχρον διὰ τὸ μὴ δύνασθαι ἐξατμίζειν. ἐν μὲν οὖν τοῖς ἄλλοις αὐχμηρὸν τὸ γλίσχρον (διὸ ὀστρακόδερμα καὶ μαλακόστρακα τὰ ἔσχατά ἐστι τῶν ἀναίμων ζῴων), ἐν δὲ τοῖς ἐναίμοις τὸ γλίσχρον λιπαρώτερόν ἐστιν. καὶ τούτων ὅσα μὴ γεώδη τὴν φύσιν ἔχει λίαν, ἀθροίζεται τὸ πιμελῶδες ὑπὸ τὴν τοῦ δέρματος σκέπην, ὡς τοῦ δέρματος γιγνομένου ἐκ τῆς τοιαύτης γλισχρότητος· ἔχει γάρ τινα γλισχρότητα τὸ λιπαρόν. πάντα δὲ ταῦτα, καθάπερ εἴπομεν, λεκτέον γίγνεσθαι τῇ μὲν ἐξ ἀνάγκης τῇ δ’ οὐκ ἐξ ἀνάγκης ἀλλ’ ἕνεκά τινος.

Πρῶτον μὲν οὖν τὸ ἄνω κύτος ἀφορίζεται κατὰ τὴν γένεσιν, τὸ δὲ κάτω προϊόντος τοῦ χρόνου λαμβάνει τὴν αὔξησιν ἐν τοῖς ἐναίμοις. ἅπαντα δὲ ταῖς περιγραφαῖς διορίζεται πρότερον, ὕστερον δὲ λαμβάνει τὰ χρώματα καὶ τὰς μαλακότητας καὶ τὰς σκληρότητας, ἀτεχνῶς ὥσπερ ἂν ὑπὸ ζωγράφου τῆς φύσεως δημιουργούμενα· καὶ γὰρ οἱ γραφεῖς ὑπογράψαντες ταῖς γραμμαῖς οὕτως ἐναλείφουσι τοῖς χρώμασι τὸ ζῷον.

Διὰ μὲν οὖν τὸ τὴν ἀρχὴν ἐν τῇ καρδίᾳ τῶν αἰσθήσεων εἶναι καὶ τοῦ ζῴου παντὸς αὕτη γίγνεται πρῶτον, -διὰ δὲ τὴν θερμότητα τὴν ταύτης, ᾗ τελευτῶσιν αἱ φλέβες ἄνω, τὸ ψυχρὸν συνίστησιν ἀντίστροφον τῇ θερμότητι τῇ περὶ τὴν καρδίαν τὸν ἐγκέφαλον. διόπερ τὰ περὶ τὴν κεφαλὴν λαμβάνει συνεχῆ τὴν γένεσιν μετὰ τὴν καρδίαν, καὶ μεγέθει τῶν ἄλλων διαφέρει· πολὺς γὰρ καὶ ὑγρὸς ἐξ ἀρχῆς ὁ ἐγκέφαλος.

Ἔχει δ’ ἀπορίαν τὸ περὶ τοὺς ὀφθαλμοὺς συμβαῖνον τῶν ζῴων. μέγιστοι μὲν γὰρ ἐξ ἀρχῆς φαίνονται καὶ πεζοῖς καὶ πλωτοῖς καὶ πτηνοῖς, τελευταῖοι δὲ συνίστανται τῶν μορίων· ἐν τῷ μεταξὺ γὰρ χρόνῳ συμπίπτουσιν. αἴτιον δ’ ὅτι τὸ τῶν ὀφθαλμῶν αἰσθητήριόν ἐστι μέν, ὥσπερ καὶ τὰ ἄλλα αἰσθητήρια, ἐπὶ πόρων· ἀλλὰ τὸ μὲν τῆς ἁφῆς καὶ (744a.) γεύσεως εὐθύς ἐστιν ἢ σῶμα ἢ τοῦ σώματός τι τῶν ζῴων, ἡ δ’ ὄσφρησις καὶ ἡ ἀκοὴ πόροι συνάπτοντες πρὸς τὸν ἀέρα τὸν θύραθεν, πλήρεις συμφύτου πνεύματος, περαίνοντες δὲ πρὸς τὰ φλέβια τὰ περὶ τὸν ἐγκέφαλον τείνοντα ἀπὸ τῆς καρδίας· ὁ δ’ ὀφθαλμὸς σῶμα μόνον ἴδιον ἔχει τῶν αἰσθητηρίων. ἔστι δ’ ὑγρὸν καὶ ψυχρὸν καὶ οὐ προϋπάρχον ἐν τῷ τόπῳ-καθάπερ καὶ τὰ ἄλλα μόρια δυνάμει, ἔπειτ’ ἐνεργείᾳ γιγνόμενα ὕστερον-ἀλλ’ ἀπὸ τῆς περὶ τὸν ἐγκέφαλον ὑγρότητος ἀποκρίνεται τὸ καθαρώτατον διὰ τῶν πόρων οἳ φαίνονται φέροντες ἀπ’ αὐτῶν πρὸς τὴν μήνιγγα τὴν περὶ τὸν ἐγκέφαλον. τούτου δὲ τεκμήριον· οὔτε γὰρ ἄλλο μόριον ὑγρὸν καὶ ψυχρόν ἐστιν ἐν τῇ κεφαλῇ παρὰ τὸν ἐγκέφαλον, τό τ’ ὄμμα ψυχρὸν καὶ ὑγρόν. ἐξ ἀνάγκης οὖν ὁ τόπος λαμβάνει μέγεθος τὸ πρῶτον, συμπίπτει δ’ ὕστερον.

καὶ γὰρ περὶ τὸν ἐγκέφαλον συμβαίνει τὸν αὐτὸν τρόπον· τὸ γὰρ πρῶτον ὑγρὸς καὶ πολύς, ἀποπνέοντος δὲ καὶ πεττομένου σωματοῦταί τε μᾶλλον καὶ συμπίπτει καὶ ὁ ἐγκέφαλος [καὶ τὰ σώματα] καὶ τὸ μέγεθος τὸ τῶν ὀμμάτων. ἐξ ἀρχῆς δὲ διὰ μὲν τὸν ἐγκέφαλον ἡ κεφαλὴ μεγίστη, διὰ δὲ τὸ ὑγρὸν τὸ ἐν τοῖς ὄμμασιν οἱ ὀφθαλμοὶ μεγάλοι φαίνονται. τελευταῖοι δὲ λαμβάνουσι τέλος διὰ τὸ καὶ τὸν ἐγκέφαλον συνίστασθαι μόλις· ὀψὲ γὰρ παύεται τῆς ψυχρότητος καὶ τῆς ὑγρότητος, ἐπὶ πάντων μὲν τῶν ἐχόντων, μάλιστα δ’ ἐπὶ τῶν ἀνθρώπων. διὰ γὰρ τοῦτο καὶ τὸ βρέγμα τῶν ὀστῶν γίγνεται τελευταῖον· ἤδη γὰρ γεγενημένων θύραζε τῶν ἐμβρύων μαλακόν ἐστι τοῦτο τὸ ὀστοῦν τοῖς παιδίοις. αἴτιον δὲ τοῦ μάλιστ’ ἐπὶ τῶν ἀνθρώπων τοῦτο συμβαίνειν ὅτι τὸν ἐγκέφαλον ὑγρότατον ἔχουσι καὶ πλεῖστον τῶν ζῴων, τούτου δ’ αἴτιον ὅτι καὶ τὴν ἐν τῇ καρδίᾳ θερμότητα καθαρωτάτην.

δηλοῖ δὲ τὴν εὐκρασίαν ἡ διάνοια· φρονιμώτατον γάρ ἐστι τῶν ζῴων ἄνθρωπος. ἀκρατῆ δὲ καὶ τὰ παιδία μέχρι πόρρω τῆς κεφαλῆς ἐστι διὰ τὸ βάρος τὸ περὶ τὸν ἐγκέφαλον.

ὁμοίως δὲ καὶ τῶν μορίων ὅσα δεῖ κινεῖν· ἡ γὰρ ἀρχὴ τῆς κινήσεως ὀψὲ κρατεῖ τῶν ἄνωθεν καὶ τελευταίων ὅσων ἡ κίνησις μὴ συνήρτηται πρὸς αὐτήν, ὥσπερ τῶν κώλων. τοιοῦτον δ’ ἐστὶ μόριον τὸ βλέφαρον. ἐπεὶ δ’ οὐθὲν ποιεῖ περίεργον οὐδὲ μάτην ἡ φύσις δῆλον ὡς οὐδ’ ὕστερον οὐδὲ πρότερον· ἔσται γὰρ τὸ γεγονὸς ἢ μάτην ἢ περίεργον. ὥσθ’ ἅμ’ ἀνάγκη τὰ (744b.) βλέφαρα διαχωρίζεσθαί τε καὶ δύνασθαι κινεῖν. ὀψὲ μὲν οὖν διὰ τὸ πλῆθος τῆς περὶ τὸν ἐγκέφαλον πέψεως τελειοῦται τὰ ὄμματα τοῖς ζῴοις, τελευταῖα δὲ διὰ τὸ σφόδρα κρατούσης τῆς κινήσεως εἶναι τὸ κινεῖν καὶ τὰ οὕτω πόρρω τῆς ἀρχῆς καὶ ἀπεψυγμένα τῶν μορίων. δηλοῖ δὲ τὰ βλέφαρα τοιαύτην ἔχοντα τὴν φύσιν· ἂν γὰρ καὶ ὁποσονοῦν βάρος γένηται περὶ τὴν κεφαλὴν δι’ ὕπνον ἢ μέθην ἢ ἄλλο τι τῶν τοιούτων οὐ δυνάμεθα τὰ βλέφαρα αἴρειν, οὕτω βάρος αὐτῶν ἐχόντων μικρόν. περὶ μὲν οὖν ὀφθαλμῶν εἴρηται πῶς γίγνονται καὶ δι’ ὅ τι καὶ διὰ τίν’ αἰτίαν τελευταίαν λαμβάνουσι τὴν διάρθρωσιν.

Τῶν δ’ ἄλλων γίγνεται μορίων ἕκαστον ἐκ τῆς τροφῆς, τὰ μὲν τιμιώτατα καὶ μετειληφότα τῆς κυριωτάτης ἀρχῆς ἐκ τῆς πεπεμμένης καὶ καθαρωτάτης καὶ πρώτης τροφῆς, τὰ δ’ ἀναγκαῖα μόρια καὶ τούτων ἕνεκεν ἐκ τῆς χείρονος καὶ τῶν ὑπολειμμάτων καὶ περιττωμάτων. ὥσπερ γὰρ οἰκονόμος ἀγαθὸς καὶ ἡ φύσις οὐθὲν ἀποβάλλειν εἴωθεν ἐξ ὧν ἔστι ποιῆσαί τι χρηστόν. ἐν δὲ ταῖς οἰκονομίαις τῆς γιγνομένης τροφῆς ἡ μὲν βελτίστη τέτακται τοῖς ἐλευθέροις, ἡ δὲ χείρων καὶ τὸ περίττωμα ταύτης <τοῖς> οἰκέταις, τὰ δὲ χείριστα καὶ τοῖς συντρεφομένοις διδόασι ζῴοις. καθάπερ οὖν εἰς τὴν αὔξησιν ὁ †θύραθεν ταῦτα ποιεῖ νοῦς οὕτως ἐν τοῖς γιγνομένοις αὐτοῖς ἡ φύσις ἐκ μὲν τῆς καθαρωτάτης ὕλης σάρκας καὶ τῶν ἄλλων αἰσθητηρίων τὰ σώματα συνίστησιν, ἐκ δὲ τῶν περιττωμάτων ὀστᾶ καὶ νεῦρα καὶ τρίχας, ἔτι δ’ ὄνυχας καὶ ὁπλὰς καὶ πάντα τὰ τοιαῦτα· διὸ τελευταῖα ταῦτα λαμβάνει τὴν σύστασιν ὅταν ἤδη γίγνηται περίττωμα τῆς φύσεως.

Ἡ μὲν οὖν τῶν ὀστῶν φύσις ἐν τῇ πρώτῃ συστάσει γίγνεται τῶν μορίων ἐκ τῆς σπερματικῆς περιττώσεως, καὶ τῶν ζῴων αὐξανομένων ἐκ τῆς φυσικῆς τροφῆς λαμβάνει τὴν αὔξησιν ἐξ ἧσπερ τὰ μόρια τὰ κύρια, ταύτης μέντοι αὐτῆς τὰ ὑπολείμματα καὶ τὰ περιττωματικά. γίγνεται γὰρ ἐν παντὶ τὸ πρῶτον καὶ τὸ δεύτερον τῆς τροφῆς, τὸ μὲν θρεπτικὸν τὸ δ’ αὐξητικόν· θρεπτικὸν μὲν ὃ τὸ εἶναι παρέχεται τῷ τε ὅλῳ καὶ τοῖς μορίοις, αὐξητικὸν δὲ τὸ εἰς μέγεθος ποιοῦν τὴν ἐπίδοσιν· περὶ ὧν ὕστερον διοριστέον μᾶλλον. τὸν αὐτὸν δὲ τρόπον τοῖς ὀστοῖς καὶ τὰ νεῦρα συνίσταται καὶ ἐκ τῶν αὐτῶν, ἐκ τῆς σπερματικῆς περιττώσεως καὶ τῆς θρεπτικῆς.

(745a.) ὄνυχες δὲ καὶ τρίχες καὶ ὁπλαὶ καὶ κέρατα καὶ ῥύγχη καὶ τὰ πλῆκτρα τῶν ὀρνίθων καὶ εἴ τι τοιοῦτον ἕτερόν ἐστι μόριον ἐκ τῆς ἐπικτήτου τροφῆς καὶ τῆς αὐξητικῆς, ἥν τε παρὰ τοῦ θήλεος ἐπικτᾶται καὶ [τῆς] θύραθεν. καὶ διὰ τοῦτο τὰ μὲν ὀστᾶ μέχρι τινὸς λαμβάνει τὴν αὔξησιν· ἔστι γάρ τι πᾶσι τοῖς ζῴοις πέρας τοῦ μεγέθους, διὸ καὶ τῆς τῶν ὀστῶν αὐξήσεως. εἰ γὰρ ταῦτ’ εἶχεν αὔξησιν ἀεὶ καὶ τῶν ζῴων ὅσα ἔχει ὀστοῦν ἢ τὸ ἀνάλογον ηὐξάνετ’ ἂν ἕως ἔζη· τοῦ γὰρ μεγέθους ὅρος ἐστὶ ταῦτα τοῖς ζῴοις. δι’ ἣν μὲν οὖν αἰτίαν οὐκ ἀεὶ λαμβάνουσιν αὔξησιν λεκτέον ὕστερον· τρίχες δὲ καὶ τὰ συγγενῆ τούτοις ἕως ἂν ὑπάρχωσιν αὐξάνονται, καὶ μᾶλλον ἐν νόσοις καὶ τῶν σωμάτων γηρασκόντων καὶ φθινόντων διὰ τὸ λείπεσθαι περίττωμα πλεῖον, ἐλάττονος εἰς τὰ κύρια δαπανωμένου διὰ τὸ γῆρας καὶ τὰς νόσους, ἐπεί γ’ ὅταν ὑπολείπῃ καὶ τοῦτο διὰ τὴν ἡλικίαν καὶ αἱ τρίχες ὑπολείπουσιν. τὰ δ’ ὀστᾶ τοὐναντίον· συμφθίνει γὰρ τῷ σώματι καὶ τοῖς μέρεσιν. αὐξάνονται δ’ αἱ τρίχες καὶ τεθνεώτων, οὐ μέντοι γίγνονταί γ’ ἐξ ὑπαρχῆς.

Περὶ δ’ ὀδόντων ἀπορήσειεν ἄν τις. εἰσὶ γὰρ τὴν μὲν φύσιν τὴν αὐτὴν ἔχοντες τοῖς ὀστοῖς καὶ γίγνονται ἐκ τῶν ὀστῶν, ὄνυχες δὲ καὶ τρίχες καὶ κέρατα καὶ τὰ τοιαῦτα ἐκ τοῦ δέρματος, διὸ καὶ συμμεταβάλλουσι τῷ δέρματι τὰς χρόας· λευκά τε γὰρ καὶ μέλανα γίγνονται καὶ παντοδαπὰ κατὰ τὴν τοῦ δέρματος χρόαν, οἱ δ' ὀδόντες οὐθέν· ἐκ γὰρ τῶν ὀστῶν εἰσιν, ὅσα γε τῶν ζῴων ἔχει ὀδόντας καὶ ὀστᾶ. αὐξάνονται δὲ διὰ βίου μόνοι τῶν ἄλλων ὀστῶν· τοῦτο δὲ δῆλον ἐπὶ τῶν παρακλινόντων ὀδόντων τὴν ἁφὴν τὴν ἀλλήλων.

αἴτιον δὲ τῆς αὐξήσεως ὡς μὲν ἕνεκά του διὰ τὸ ἔργον· ταχὺ γὰρ ἂν κατετρίβοντο μὴ γιγνομένης τινὸς ἐπιρρύσεως, ἐπεὶ καὶ νῦν ἐνίοις γηράσκουσι τοῖς βρωτικοῖς μὲν μὴ μεγάλους δ' ἔχουσι κατατρίβονται πάμπαν· πλείονι γὰρ λόγῳ καθαιροῦνται τῆς αὐξήσεως. διὸ καὶ τοῦτο εὖ μεμηχάνηται πρὸς τὸ συμβαῖνον ἡ φύσις· συνάγει γὰρ εἰς τὸ γῆρας καὶ τὴν τελευτὴν τὴν ὑπόλειψιν τῶν ὀδόντων. εἰ δ' ἦν μυριετὴς ὁ βίος ἢ χιλιετής, παμμεγέθεις τ' ἂν ἔδει γίγνεσθαι τοὺς ἐξ ἀρχῆς καὶ φύεσθαι πολλάκις· καὶ γὰρ εἰ συνεχῆ τὴν (745b.) αὔξησιν εἶχον, ὅμως ἂν ἄχρηστοι λεαινόμενοι πρὸς τὴν ἐργασίαν ἦσαν. οὗ μὲν οὖν ἕνεκα λαμβάνουσι τὴν αὔξησιν εἴρηται· συμβαίνει δὲ μηδὲ τὴν αὐτὴν ἔχειν φύσιν τοῖς ἄλλοις ὀστοῖς τοὺς ὀδόντας· τὰ μὲν γὰρ ἐν τῇ πρώτῃ συστάσει γίγνεται πάντα καὶ οὐθὲν ὕστερον, οἱ δ' ὀδόντες ὕστερον. διὸ καὶ πάλιν δύνανται φύεσθαι ἐκπεσόντες· ἅπτονται γὰρ ἀλλ' οὐ συμπεφύκασι τοῖς ὀστοῖς. ἐκ μέντοι τῆς τροφῆς τῆς εἰς τὰ ὀστᾶ διαδιδομένης γίγνονται, διὸ τὴν αὐτὴν ἔχουσι φύσιν, καὶ τότε ὅταν ἐκεῖνα ἔχῃ ἤδη τὸν ἀριθμὸν τὸν αὐτῶν. τὰ μὲν οὖν ἄλλα ζῷα ἔχοντα γίγνεται ὀδόντας καὶ τὸ ἀνάλογον τοῖς ὀδοῦσιν, ἐὰν μή τι γίγνηται παρὰ φύσιν, διὰ τὸ ἀπολύεσθαι τῆς γενέσεως τετελεσμένα τοῦ ἀνθρώπου μᾶλλον· ὁ δ' ἄνθρωπος, ἂν μή τι συμβῇ παρὰ φύσιν, οὐκ ἔχων. δι' ἣν δ' αἰτίαν οἱ μὲν γίγνονται τῶν ὀδόντων καὶ ἐκπίπτουσιν οἱ δ' οὐκ ἐκπίπτουσιν ὕστερον λεχθήσεται.

Διότι δ' ἐκ περιττώματός ἐστι τὰ τοιαῦτα τῶν μορίων, διὰ τοῦτ' ἄνθρωπος ψιλότατόν τε κατὰ τὸ σῶμα τῶν ζῴων πάντων ἐστὶ καὶ ὄνυχας ἐλαχίστους ἔχει ὡς κατὰ μέγεθος· ἐλάχιστον γὰρ ἔχει περίττωμα γεῶδες· ἔστι δὲ περίττωμα μὲν τὸ ἄπεπτον, τὸ δὲ γεηρὸν ἐν τοῖς σώμασι πάντων ἀπεπτότατον.

Πῶς μὲν οὖν ἕκαστον συνίσταται τῶν μορίων εἴρηται, καὶ τί τῆς γενέσεως αἴτιον.

Κεφάλαιο 7

Ἔχει δὲ τὴν αὔξησιν τὰ ζῳοτοκούμενα τῶν ἐμβρύων ὥσπερ ἐλέχθη πρότερον διὰ τῆς τοῦ ὀμφαλοῦ προσφύσεως. ἐπεὶ γὰρ ἔνεστιν ἐν τοῖς ζῴοις καὶ ἡ θρεπτικὴ δύναμις τῆς ψυχῆς, ἀφίησιν εὐθὺς οἷον ῥίζαν τὸν ὀμφαλὸν εἰς τὴν ὑστέραν. ἔστι δὲ ὁ ὀμφαλὸς ἐν κελύφει φλέβες, τοῖς μὲν μείζοσι πλείους οἷον βοῒ καὶ τοῖς τοιούτοις, τοῖς δὲ μέσοις δύο, μία δὲ τοῖς ἐλαχίστοις. διὰ δὲ τούτου λαμβάνει τὴν τροφὴν αἱματικήν· αἱ γὰρ ὑστέραι πέρατα φλεβῶν πολλῶν εἰσιν. τὰ μὲν οὖν μὴ ἀμφώδοντα πάντα καὶ τῶν ἀμφωδόντων ὅσων ἡ ὑστέρα μὴ μίαν φλέβα μεγάλην ἔχει διατείνουσαν ἀλλ’ ἀντὶ μιᾶς πυκνὰς πολλάς, ταῦτα ἐν ταῖς ὑστέραις ἔχει τὰς καλουμένας κοτυληδόνας <πρὸς ἃς ὁ ὀμφαλὸς συνάπτει καὶ προσπέφυκεν· ἀποτέτανται γὰρ αἱ φλέβες αἱ διὰ τοῦ ὀμφαλοῦ ἔνθεν καὶ ἔνθεν καὶ σχίζονται πάντῃ κατὰ τὴν ὑστέραν· ᾗ δὲ περαίνουσι ταύτῃ γίγνονται αἱ κοτυληδόνες> τὸ μὲν περιφερὲς ἔχουσαι πρὸς τὴν ὑστέραν τὸ δὲ κοῖλον πρὸς τὸ ἔμβρυον. μεταξὺ δὲ τῆς ὑστέρας καὶ τοῦ ἐμβρύου τὸ χόριον καὶ οἱ ὑμένες εἰσίν.

(746a.) αἱ δὲ κοτυληδόνες αὐξανομένου καὶ τελεουμένου τοῦ ἐμβρύου γίγνονται ἐλάττους καὶ τέλος ἀφανίζονται τελεωθέντος. εἰς τοῦτο γὰρ προεκτίθεται τοῖς ἐμβρύοις ἡ φύσις τὴν αἱματικὴν τροφὴν τῆς ὑστέρας ὥσπερ εἰς μαστούς, καὶ διὰ τὸ ἀθροίζεσθαι κατὰ μικρὸν ἐκ πολλῶν οἷον ἐξάνθημα καὶ φλεγμασία γίγνεται τὸ σῶμα τὸ τῆς κοτυληδόνος. ἕως μὲν ἂν οὖν ἔλαττον ᾖ τὸ ἔμβρυον, οὐ δυνάμενον πολλὴν λαμβάνειν τροφήν, δῆλαί εἰσι καὶ μείζονες, αὐξηθέντος δὲ συμπίπτουσιν.

Τὰ δὲ πολλὰ τῶν κολοβῶν ζῴων καὶ ἀμφωδόντων οὐκ ἔχει κοτυληδόνας ἐν ταῖς ὑστέραις, ἀλλ’ ὁ ὀμφαλὸς εἰς φλέβα τείνει μίαν, αὕτη δὲ τέταται διὰ τῆς ὑστέρας ἔχουσα μέγεθος. ἐπεὶ δὲ τὰ μὲν μονοτόκα τὰ δὲ πολυτόκα τῶν τοιούτων ἐστὶ ζῴων, καὶ τὰ πλείω τῶν ἐμβρύων τὸν αὐτὸν ἔχει τρόπον τῷ ἑνί. δεῖ δὲ ταῦτα θεωρεῖν ἔκ τε τῶν παραδειγμάτων τῶν ἐν ταῖς ἀνατομαῖς καὶ τῶν ἐν ταῖς ἱστορίαις γεγραμμένων. πεφύκασι γὰρ τὰ ζῷα ἐκ τοῦ ὀμφαλοῦ, ὁ δ’ ὀμφαλὸς ἐκ τῆς φλεβὸς ἐφεξῆς ἀλλήλοις, ὡσπερανεὶ παρ’ ὀχετὸν τὴν φλέβα ῥέουσαν· περὶ δὲ ἕκαστον τῶν ἐμβρύων οἵ θ’ ὑμένες καὶ τὸ χόριόν ἐστιν.

Οἱ δὲ λέγοντες τρέφεσθαι τὰ παιδία ἐν ταῖς ὑστέραις διὰ τοῦ σαρκίδιόν τι

βδάλλειν οὐκ ὀρθῶς λέγουσιν· ἐπί τε γὰρ τῶν ἄλλων ζῴων ταὐτὸν συνέβαινεν ἄν, νῦν δ' οὐ φαίνεται (θεωρῆσαι γὰρ τοῦτο ῥᾴδιον διὰ τῶν ἀνατομῶν), καὶ περὶ ἅπαντα τὰ ἔμβρυα καὶ τὰ πτηνὰ καὶ τὰ πλωτὰ καὶ τὰ τῶν πεζῶν ὁμοίως λεπτοὶ περιέχουσιν ὑμένες χωρίζοντες ἀπό τε τῆς ὑστέρας καὶ τῶν ἐγγιγνομένων ὑγρῶν ἐν οἷς οὔτ' αὐτοῖς ἔνεστι τοιοῦτον οὐθέν, οὔτε διὰ τούτων οὐθενὸς ἐνδέχεται ποιεῖσθαι τὴν ἀπόλαυσιν· τὰ δ' ᾠοτοκούμενα πάντα ὅτι λαμβάνει τὴν αὔξησιν χωρισθέντα τῆς μήτρας ἔξω φανερόν, <ὥστε λέγουσιν οὐκ ὀρθῶς οἱ λέγοντες οὕτως ὥσπερ Δημόκριτος>.

Γίγνεται δὲ ὁ συνδυασμὸς τοῖς ζῴοις κατὰ φύσιν μὲν τοῖς ὁμογενέσιν, οὐ μὴν ἀλλὰ καὶ τοῖς μὲν σύνεγγυς τὴν φύσιν ἔχουσιν οὐκ ἀδιαφόροις δὲ τῷ εἴδει, ἐὰν τά τε μεγέθη παραπλήσια ᾖ καὶ οἱ χρόνοι ἴσοι ὦσι τῆς κυήσεως. σπάνια μὲν οὖν γίγνεται τὰ τοιαῦτα ἐπὶ τῶν ἄλλων, γίγνεται δὲ καὶ ἐπὶ κυνῶν καὶ ἀλωπέκων καὶ λύκων <καὶ θώων>· καὶ οἱ Ἰνδικοὶ δὲ κύνες ἐκ θηρίου τινὸς κυνώδους γεννῶνται καὶ κυνός. καὶ ἐπὶ τῶν (746b.) ὀρνίθων δὲ τῶν ὀχευτικῶν ὦπται τοῦτο συμβαῖνον, οἷον ἐπὶ περδίκων καὶ ἀλεκτορίδων· καὶ τῶν γαμψωνύχων οἱ ἱέρακες δοκοῦσιν οἱ διαφέροντες τῷ εἴδει μίγνυσθαι πρὸς ἀλλήλους· καὶ ἐπ' ἄλλων δέ τινων ὀρνέων ἔχει τὸν αὐτὸν τρόπον. ἐπὶ δὲ τῶν θαλαττίων οὐθὲν ἀξιόλογον ἑώραται, δοκοῦσι δὲ μάλιστα οἱ ῥινοβάται καλούμενοι γίγνεσθαι ἐκ ῥίνης καὶ βάτου συνδυαζομένων. λέγεται δὲ καὶ τὸ περὶ τῆς Λιβύης παροιμιαζόμενον ὡς ἀεί τι τῆς Λιβύης τρεφούσης καινόν, διὰ τὸ μίγνυσθαι καὶ τὰ μὴ ὁμόφυλα ἀλλήλοις λεχθῆναι τοῦτο· διὰ γὰρ τὴν σπάνιν τοῦ ὕδατος ἀπαντῶντα πάντα πρὸς ὀλίγους τόπους τοὺς ἔχοντας νάματα μίγνυσθαι καὶ τὰ μὴ ὁμογενῆ.

Τὰ μὲν οὖν ἄλλα τῶν ἐκ τοιαύτης μίξεως γιγνομένων συνδυαζόμενα φαίνεται πάλιν ἀλλήλοις καὶ μιγνύμενα καὶ δυνάμενα τό τε θῆλυ καὶ τὸ ἄρρεν γεννᾶν, οἱ δ' ὀρεῖς ἄγονοι μόνοι τῶν τοιούτων· οὔτε γὰρ ἐξ ἀλλήλων οὔτ' ἄλλοις μιγνύμενοι γεννῶσιν. ἔστι δὲ τὸ πρόβλημα καθόλου μὲν διὰ τίν' αἰτίαν ἄγονον ἢ ἄρρεν ἢ θῆλύ ἐστιν· εἰσὶ γὰρ καὶ γυναῖκες καὶ ἄνδρες ἄγονοι καὶ τῶν ἄλλων ζῴων ἐν τοῖς γένεσιν ἑκάστοις, οἷον ἵπποις καὶ προβάτοις. ἀλλὰ τοῦτο τὸ γένος ὅλον ἄγονόν ἐστι, τὸ τῶν ἡμιόνων. τὰ δ' αἴτια τῆς ἀγονίας ἐπὶ μὲν τῶν ἄλλων πλείω συμβαίνει· καὶ γὰρ ἐκ γενετῆς ὅταν πηρωθῶσι τοὺς τόπους τοὺς πρὸς τὴν μίξιν χρησίμους ἄγονοι γίγνονται καὶ γυναῖκες καὶ ἄνδρες ὥστε τὰς μὲν μὴ ἡβᾶν τοὺς δὲ μὴ γενειᾶν ἀλλ' εὐνουχίας διατελεῖν ὄντας· τοῖς δὲ προϊούσης τῆς ἡλικίας ταὐτὸν συμβαίνει πάσχειν, ὁτὲ μὲν δι' εὐτροφίαν τῶν σωμάτων (ταῖς μὲν γὰρ πιοτέραις γιγνομέναις τοῖς δ' εὐεκτικωτέροις εἰς τὸ σῶμα καταναλίσκεται τὸ περίττωμα τὸ σπερματικόν, καὶ ταῖς μὲν οὐ γίγνεται καταμήνια τοῖς δὲ γονή), ὁτὲ δὲ διὰ νόσον οἱ μὲν ὑγρὸν καὶ ψυχρὸν προΐενται, ταῖς δὲ γυναιξὶν αἱ καθάρσεις φαῦλαι καὶ πλήρεις νοσηματικῶν περιττωμάτων. πολλοῖς δὲ καὶ πολλαῖς καὶ διὰ πηρώματα τοῦτο συμβαίνει τὸ πάθος περὶ τὰ μόρια καὶ τοὺς τόπους τοὺς πρὸς τὴν ὁμιλίαν χρησίμους. γίγνεται δὲ τὰ μὲν ἰατὰ τὰ δ’ ἀνίατα τῶν τοιούτων, μάλιστα δὲ διατελοῦσιν ἄγονα <τὰ> κατὰ τὴν πρώτην σύστασιν τοιαῦτα γενόμενα· (747a.) γίγνονται γὰρ γυναῖκές τε ἀρρενωποὶ καὶ ἄνδρες θηλυκοί, καὶ ταῖς μὲν οὐ γίγνεται τὰ καταμήνια τοῖς δὲ τὸ σπέρμα λεπτὸν καὶ ψυχρόν. διόπερ εὐλόγως βασανίζεται ταῖς πείραις τό γε τῶν ἀνδρῶν, εἰ ἄγονον, ἐν τῷ ὕδατι· ταχὺ γὰρ διαχεῖται τὸ λεπτὸν καὶ ψυχρὸν ἐπιπολῆς, τὸ δὲ γόνιμον εἰς βυθὸν χωρεῖ· θερμὸν μὲν γὰρ τὸ πεπεμμένον ἐστί, πέπεπται δὲ τὸ συνεστηκὸς καὶ πάχος ἔχον. τὰς δὲ γυναῖκας βασανίζουσι τοῖς τε προσθέτοις, ἐὰν δικνῶνται αἱ ὀσμαὶ πρὸς τὸ πνεῦμα τὸ θύραζε κάτωθεν ἄνω, καὶ τοῖς ἐγχρίστοις εἰς τοὺς ὀφθαλμοὺς χρώμασιν ἂν χρωματίζωσι τὸ ἐν τῷ στόματι πτύελον.

ταῦτα γὰρ οὐ συμβαίνοντα δηλοῖ τὸ σῶμα τοὺς πόρους δι’ ὧν ἀποκρίνεται τὸ περίττωμα συγκεχυμένους ἔχειν καὶ συμπεφυκότας. ὅ τε γὰρ περὶ τοὺς ὀφθαλμοὺς τόπος τῶν περὶ τὴν κεφαλὴν σπερματικώτατός ἐστιν. δηλοῖ δ’ ἐν ταῖς ὁμιλίαις μετασχηματιζόμενος ἐπιδήλως μόνος, καὶ τοῖς χρωμένοις πλείοσιν ἀφροδισίοις ἐνδιδόασι τὰ ὄμματα φανερῶς. αἴτιον δ’ ὅτι ἡ τῆς γονῆς φύσις ὁμοίως ἔχει τῇ τοῦ ἐγκεφάλου· ὑδατώδης γάρ ἐστιν ἡ ὕλη αὐτῆς, ἡ δὲ θερμότης ἐπίκτητος. καὶ αἱ σπερματικαὶ καθάρσεις ἀπὸ τοῦ ὑποζώματός εἰσιν· ἡ γὰρ ἀρχὴ τῆς φύσεως ἐντεῦθεν, ὥστε δικνεῖσθαι πρὸς τὸν θώρακα τὰς κινήσεις ἀπὸ τῶν ἄρθρων· αἱ δ’ ἐκ τοῦ θώρακος ὀσμαὶ πᾶσαι ποιοῦσιν αἴσθησιν διὰ τῆς ἀναπνοῆς.

Κεφάλαιο 8

Ἐν μὲν οὖν τοῖς ἀνθρώποις καὶ τοῖς ἄλλοις γένεσιν, ὥσπερ εἴρηται πρότερον, κατὰ μέρος ἡ τοιαύτη συμβαίνει πήρωσις, τὸ δὲ τῶν ἡμιόνων γένος ὅλον ἄγονόν ἐστιν. περὶ δὲ τῆς αἰτίας, ὡς μὲν λέγουσιν Ἐμπεδοκλῆς καὶ Δημόκριτος-λέγων ὁ μὲν οὐ σαφῶς Δημόκριτος δὲ γνωρίμως μᾶλλον-οὐ καλῶς εἰρήκασιν. λέγουσι γὰρ ἐπὶ πάντων ὁμοίως τὴν ἀπόδειξιν τῶν παρὰ τὴν συγγένειαν συνδυαζομένων. Δημόκριτος μὲν γάρ φησι διεφθάρθαι τοὺς πόρους τῶν ἡμιόνων ἐν ταῖς ὑστέραις διὰ τὸ μὴ ἐκ συγγενῶν γενέσθαι τὴν ἀρχὴν τῶν ζῴων. συμβαίνει δ’ ἐφ’ ἑτέρων ζῴων τοῦτο μὲν ὑπάρχειν, γεννᾶν δὲ μηδὲν ἧττον-καίτοι χρῆν, εἴπερ αἴτιον τοῦτ’ ἦν τῆς ἀγονίας, ἄγονα καὶ τἆλλ’ εἶναι τὰ μιγνύμενα τὸν τρόπον τοῦτον. Ἐμπεδοκλῆς δ’ αἰτιᾶται τὸ μίγμα τὸ τῶν σπερμάτων γίγνεσθαι πυκνὸν ἐκ (747b.) μαλακῆς τῆς γονῆς οὔσης ἑκατέρας· συναρμόττειν γὰρ τὰ κοῖλα τοῖς πυκνοῖς ἀλλήλων, ἐκ δὲ τῶν τοιούτων γίγνεσθαι ἐκ μαλακῶν σκληρὸν ὥσπερ τῷ καττιτέρῳ μιχθέντα τὸν χαλκόν- λέγων οὔτ’ ἐπὶ τοῦ χαλκοῦ καὶ τοῦ καττιτέρου τὴν αἰτίαν ὀρθῶς (εἴρηται δ’ ἐν τοῖς Προβλήμασι περὶ αὐτῶν) οὔθ’ ὅλως ἐκ γνωρίμων ποιούμενος τὰς ἀρχάς. τὰ γὰρ κοῖλα καὶ τὰ στερεὰ ἁρμόττοντα ἀλλήλοις πῶς ποιεῖ τὴν μίξιν οἷον οἴνου καὶ ὕδατος; τοῦτο γὰρ ὑπὲρ ἡμᾶς ἐστι τὸ λεγόμενον· πῶς γὰρ δεῖ λαβεῖν τὰ κοῖλα τοῦ οἴνου καὶ τοῦ ὕδατος λίαν ἐστὶ παρὰ τὴν αἴσθησιν. ἔτι δ’ ἐπειδὴ συμβαίνει καὶ ἐξ ἵππων γίγνεσθαι ἵππον καὶ ἐξ ὄνων ὄνον καὶ ἐξ ἵππου καὶ ὄνου ἡμίονον, ἀμφοτέρως ἄρρενος καὶ θήλεος ὁποτερουοῦν ὄντος, διὰ τί ἐκ μὲν τούτων γίγνεται πυκνὸν οὕτως ὥστ’ ἄγονον εἶναι τὸ γενόμενον, ἐκ δὲ ἵππου θήλεος καὶ ἄρρενος ἢ ὄνου θήλεος καὶ ἄρρενος οὐ γίγνεται ἄγονον; καίτοι μαλακὸν καὶ τὸ τοῦ ἄρρενος ἵππου ἐστὶ καὶ τὸ τοῦ θήλεος, μίγνυται δὲ καὶ ὁ θῆλυς ἵππος καὶ ὁ ἄρρην τῷ ὄνῳ, καὶ τῷ ἄρρενι καὶ τῷ θήλει. καὶ διὰ τοῦτο γίγνονται ἄγονα ἐξ ἀμφοτέρων, ὥς φησιν, ὅτι ἐξ ἀμφοῖν ἕν τι γίγνεται <πυκνόν>, μαλακῶν ὄντων τῶν σπερμάτων. ἔδει οὖν καὶ τὸ ἐξ ἵππου ἄρρενος καὶ θήλεος γιγνόμενον. εἰ μὲν γὰρ θάτερον ἐμίγνυτο μόνον ἐνῆν ἂν λέγειν ὅτι θάτερον αἴτιον τοῦ μὴ γεννᾶν οὐχ ὅμοιον ὂν τῇ τοῦ ὄνου γονῇ· νῦν δ’ οἵᾳπερ οὔσῃ ἐκείνῃ μίγνυται τοιαύτῃ καὶ τῇ τοῦ συγγενοῦς. ἔτι δ’ ἡ μὲν ἀπόδειξις κατ’ ἀμφοτέρων εἴρηται ὁμοίως καὶ τοῦ θήλεος καὶ τοῦ ἄρρενος, -γεννᾷ δ’ ὁ ἄρρην ἑπταέτης ὢν μόνος ὥς φασιν, ἀλλ’ ἡ θήλεια ἄγονος ὅλως, καὶ αὕτη τῷ μὴ ἐκτρέφειν εἰς τέλος, ἐπεὶ ἤδη κύημα ἔσχεν ἡμίονος.

Ἴσως δὲ μᾶλλον ἂν δόξειεν ἀπόδειξις εἶναι πιθανὴ τῶν εἰρημένων λογική-λέγω δὲ λογικὴν διὰ τοῦτο ὅτι ὅσῳ καθόλου μᾶλλον πορρωτέρω τῶν οἰκείων ἐστὶν ἀρχῶν. ἔστι δὲ τοιαύτη τις· εἰ γὰρ ἐξ ὁμοειδῶν ἄρρενος καὶ θήλεος ὁμοειδὲς γίγνεσθαι πέφυκε τοῖς γεννήσασιν ἄρρεν ἢ θῆλυ, οἷον ἐκ κυνὸς ἄρρενος καὶ θήλεος κύων ἄρρην ἢ θήλεια, καὶ ἐξ ἑτέρων τῷ εἴδει ἕτερον τῷ εἴδει, οἷον εἰ κύων ἕτερον λέοντος, καὶ ἐκ κυνὸς ἄρρενος καὶ λέοντος θήλεος ἕτερον καὶ ἐκ λέοντος ἄρρενος καὶ κυνὸς θήλεος ἕτερον· ὥστ’ ἐπειδὴ (748a.) γίγνεται ἡμίονος ἄρρην καὶ θῆλυς ἀδιαφόρων ὄντων τῷ εἴδει ἀλλήλοις, γίγνεται δ’ ἐξ ἵππου καὶ ὄνον ἡμίονος, ἕτερα δ’ ἐστὶ τῷ εἴδει ταῦτα καὶ οἱ ἡμίονοι, ἀδύνατον γενέσθαι ἐξ ἡμιόνων· ἕτερον γὰρ γένος οὐχ οἷόν τε διὰ τὸ ἐξ ἄρρενος καὶ θήλεος τῶν ὁμοειδῶν ταὐτὸ γίγνεσθαι τῷ εἴδει, ἡμίονος δ’ ὅτι ἐξ ἵππου καὶ ὄνου γίγνεται ἑτέρων ὄντων τῷ εἴδει, ἐκ δὲ τῶν ἑτέρων τῷ εἴδει ἕτερον ἐτέθη γίγνεσθαι ζῷον. οὗτος μὲν οὖν ὁ λόγος καθόλου λίαν καὶ κενός· οἱ γὰρ μὴ ἐκ τῶν οἰκείων ἀρχῶν λόγοι κενοί, ἀλλὰ δοκοῦσιν εἶναι τῶν πραγμάτων οὐκ ὄντες. οἱ γὰρ ἐκ τῶν ἀρχῶν τῶν γεωμετρικῶν γεωμετρικοί, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· τὸ δὲ κενὸν δοκεῖ μὲν εἶναί τι, ἔστι δ’ οὐθέν.

οὐκ ἀληθὲς δέ, ὅτι πολλὰ τῶν μὴ <ἐξ> ὁμοειδῶν γενομένων γίγνεται γόνιμα καθάπερ ἐλέχθη πρότερον. τοῦτον μὲν οὖν τὸν τρόπον οὔτε περὶ τῶν ἄλλων δεῖ ζητεῖν οὔτε περὶ τῶν φυσικῶν· ἐκ δὲ τῶν ὑπαρχόντων τῷ γένει τῷ τῶν ἵππων καὶ τῷ τῶν ὄνων θεωρῶν ἄν τις μᾶλλον λάβοι τὴν αἰτίαν, ὅτι πρῶτον μὲν ἑκάτερον αὐτῶν ἐστι μονοτόκον ἐκ τῶν συγγενῶν ζῴων, ἔπειτ’ οὐ συλληπτικὰ τὰ θήλεα ἐκ τῶν ἀρρένων ἀεί, διόπερ τοὺς ἵππους διαλείποντες ὀχεύουσι [διὰ τὸ μὴ δύνασθαι συνεχῶς φέρειν]. ἀλλ’ ἡ μὲν ἵππος οὐ καταμηνιώδης ἀλλ’ ἐλάχιστον προΐεται τῶν τετραπόδων· ἡ δ’ ὄνος οὐ δέχεται τὴν ὀχείαν ἀλλ’ ἐξουρεῖ τὸν γόνον, διὸ μαστιγοῦσιν ἀκολουθοῦντες. ἔτι δὲ ψυχρὸν [τὸ] ζῷον ὁ ὄνος ἐστί, διόπερ ἐν τοῖς χειμερινοῖς οὐ θέλει γίγνεσθαι τόποις διὰ τὸ δύσριγον εἶναι τὴν φύσιν, οἷον περὶ Σκύθας καὶ τὴν ὅμορον χώραν, οὐδὲ περὶ Κελτοὺς τοὺς ὑπὲρ τῆς Ἰβηρίας· ψυχρὰ γὰρ καὶ αὕτη ἡ χώρα. διὰ ταύτην δὲ τὴν αἰτίαν καὶ τὰ ὀχεῖα ἐπιβάλλουσι τοῖς ὄνοις οὐχ ὥσπερ τοῖς ἵπποις κατ’ ἰσημερίαν ἀλλὰ περὶ τροπὰς θερινάς, ὅπως ἐν ἀλεεινῇ γίγνηται ὥρᾳ τὰ πωλία· ἐν τῇ αὐτῇ γὰρ γίγνεται ἐν ᾗ ἂν ὀχευθῇ· ἐνιαυτὸν γὰρ κύει καὶ ἵππος καὶ ὄνος. ὄντος δ’ ὥσπερ εἴρηται ψυχροῦ τὴν φύσιν καὶ τὴν γονὴν ἀναγκαῖον εἶναι τοῦ τοιούτου ψυχράν. σημεῖον δὲ τούτου· διὰ τοῦτο γάρ, ἐὰν μὲν ἵππος ἀναβῇ ἐπὶ ὠχευμένην ὑπὸ ὄνου οὐ διαφθείρει τὴν τοῦ ὄνου ὀχείαν, ὁ δ’ ὄνος ἐὰν ἐπαναβῇ διαφθείρει τὴν τοῦ ἵππου διὰ ψυχρότητα τὴν τοῦ σπέρματος.

(748b.) ὅταν μὲν οὖν ἀλλήλοις μιχθῶσι σώζεται διὰ τὴν θατέρου θερμότητα· θερμότερον γὰρ τὸ ἀπὸ τοῦ ἵππου ἀποκρινόμενον· ἡ μὲν γὰρ τοῦ ὄνου ψυχρὰ καὶ ἡ ὕλη καὶ ἡ γονή, ἡ δὲ τοῦ ἵππου θερμοτέρα. ὅταν δὲ μιχθῇ ἢ θερμὸν ἐπὶ ψυχρὸν ἢ ψυχρὸν ἐπὶ θερμὸν συμβαίνει αὐτὸ μὲν τὸ ἐκ τούτων κύημα γενόμενον σώζεσθαι καὶ ταῦτ’ ἐξ ἀλλήλων εἶναι γόνιμα, τὸ δ’ ἐκ τούτων μηκέτι γόνιμον ἀλλ’ ἄγονον εἰς τελειογονίαν.

Ὅλως δ’ ὑπάρχοντος ἑκατέρου εὐφυοῦς πρὸς ἀγονίαν, τῷ τε γὰρ ὄνῳ ὑπάρχει τὰ ἄλλα τὰ εἰρημένα, καὶ ἐὰν μὴ μετὰ τὸν βόλον τὸν πρῶτον ἄρξηται γεννᾶν οὐκέτι γεννᾷ τὸ παράπαν· οὕτως ἐπὶ μικροῦ ἔχεται τὸ ἄγονον εἶναι τὸ σῶμα τῶν ὄνων. ὁμοίως δὲ καὶ ὁ ἵππος· εὐφυὴς γὰρ πρὸς ἀγονίαν καὶ τοσοῦτον λείπει τοῦ ἄγονος εἶναι ὅσον τὸ γενέσθαι τὸ ἐκ τούτου ψυχρότερον· τοῦτο δὲ γίγνεται ὅταν μιχθῇ τῇ τοῦ ὄνου ἀποκρίσει. καὶ ὁ ὄνος δὲ ὡσαύτως μικροῦ δεῖν κατὰ τὸν οἰκεῖον συνδυασμὸν ἄγονον γεννᾷ, ὥστε ὅταν προσγένηται τὸ παρὰ φύσιν, εἰ τότε ἑνὸς μόλις γεννητικὸν ἐξ ἀλλήλων ἦν, τὸ ἐκ τούτων ἔτι μᾶλλον ἄγονον καὶ παρὰ φύσιν οὐθενὸς δεήσει τοῦ ἄγονον εἶναι ἀλλ’ ἐξ ἀνάγκης ἔσται ἄγονον.

Συμβαίνει δὲ καὶ τὰ σώματα τῶν ἡμιόνων μεγάλα γίγνεσθαι διὰ τὸ τὴν ἀπόκρισιν τὴν εἰς τὰ καταμήνια τρέπεσθαι εἰς τὴν αὔξησιν. ἐπεὶ δ’ ἐνιαύσιος ὁ τοκετὸς τῶν τοιούτων οὐ μόνον συλλαβεῖν δεῖ τὴν ἡμίονον ἀλλὰ καὶ ἐκθρέψαι· τοῦτο δ’ ἀδύνατον μὴ γιγνομένων καταμηνίων. ταῖς δ’ ἡμιόνοις οὐ γίγνεται, ἀλλὰ τὸ μὲν ἄχρηστον μετὰ τοῦ περιττώματος τοῦ ἐκ τῆς κύστεως ἐκκρίνεται (διόπερ οὐδὲ τῶν ἄρθρων οἱ ἡμίονοι οἱ ἄρρενες ὀσφραίνονται τῶν θηλειῶν ὥσπερ τἆλλα τὰ μώνυχα, ἀλλ’ αὐτοῦ τοῦ περιττώματος), τὰ δ’ ἄλλα τρέπεται εἰς τὴν τοῦ σώματος αὔξησιν καὶ τὸ μέγεθος. ὥστε συλλαβεῖν μὲν ἐνδέχεταί ποτε τὴν θήλειαν, ὅπερ ἤδη φαίνεται γεγονός, ἐκθρέψαι δὲ καὶ ἐξενεγκεῖν εἰς τέλος ἀδύνατον. ὁ δ’ ἄρρην ποτὲ γεννήσειεν ἂν διά τε τὸ θερμότερον εἶναι τοῦ θήλεος φύσει τὸ ἄρρεν καὶ διὰ τὸ μὴ συμβάλλεσθαι πρὸς τὴν μίξιν σῶμα μηδὲν τὸ ἄρρεν. τὸ δ’ ἀποτελεσθὲν γίγνεται γίννος. τοῦτο δ’ ἐστὶν ἡμίονος ἀνάπηρος· καὶ γὰρ ἐκ τοῦ ἵππου καὶ τοῦ ὄνου γίγνονται γίννοι ὅταν νοσήσῃ τὸ κύημα (749a.) ἐν τῇ ὑστέρᾳ. ἔστι γὰρ ὁ γίννος ὥσπερ τὰ μετάχοιρα ἐν τοῖς χοίροις· καὶ γὰρ ἐκεῖ τὸ πηρωθὲν ἐν τῇ ὑστέρᾳ καλεῖται μετάχοιρον, γίγνεται δὲ τοιοῦτος ὃς ἂν τύχῃ τῶν χοίρων. ὁμοίως δὲ γίγνονται καὶ οἱ πυγμαῖοι· καὶ γὰρ οὗτοι πηροῦνται τὰ μέρη καὶ τὸ μέγεθος ἐν τῇ κυήσει καί εἰσιν ὥσπερ μετάχοιρα καὶ γίννοι.

Βιβλίο 3

Κεφάλαιο 1

Περὶ μὲν οὖν τῆς τῶν ἡμιόνων ἀτεκνίας εἴρηται καὶ περὶ τῶν ζῳοτοκούντων καὶ θύραζε καὶ ἐν αὑτοῖς· ἐν δὲ τοῖς ᾠοτοκοῦσι τῶν ἐναίμων τῇ μὲν παραπλησίως ἔχει τὰ περὶ τὰς γενέσεις αὐτοῖς τε καὶ τοῖς πεζοῖς καὶ ταὐτόν τι λαβεῖν ἔστι περὶ πάντων, τῇ δ’ ἔχει διαφορὰς καὶ πρὸς ἄλληλα καὶ πρὸς τὰ πεζὰ τῶν ζῴων. γίγνεται μὲν οὖν ἀπὸ συνδυασμοῦ πάντα ὅλως καὶ προϊεμένου γονὴν εἰς τὸ θῆλυ τοῦ ἄρρενος· τῶν δ’ ᾠοτόκων αἱ μὲν ὄρνιθες προΐενται τέλειον ᾠὸν καὶ σκληρόδερμον, ἐὰν μή τι πηρωθῇ διὰ νόσον, καὶ πάντα δίχροα τὰ τῶν ὀρνίθων ἐστίν, τῶν δ’ ἰχθύων οἱ μὲν σελαχώδεις, ὥσπερ εἴρηται πολλάκις, ἐν αὑτοῖς ᾠοτοκήσαντες ζῳοτοκοῦσι μεταστάντος τοῦ ᾠοῦ ἐξ ἄλλου τόπου τῆς ὑστέρας εἰς ἄλλον, μαλακόδερμον δὲ τὸ ᾠὸν καὶ ὁμόχρων ἐστὶν αὐτῶν. εἷς δὲ μόνος οὐ ζῳοτοκεῖ τῶν τοιούτων ἐν αὑτῷ, ὁ καλούμενος βάτραχος· περὶ οὗ τὴν αἰτίαν ὕστερον λεκτέον. οἱ δὲ ἄλλοι ὅσοιπερ ᾠοτοκοῦσι τῶν ἰχθύων μονόχρων μὲν προΐενται τὸ ᾠόν, ἀτελὲς δὲ τοῦτο· λαμβάνει γὰρ ἔξω τὴν αὔξησιν διὰ τὴν αὐτὴν αἰτίαν δι’ ἥνπερ καὶ τὰ ἔσω τελειούμενα τῶν ᾠῶν.

Περὶ μὲν οὖν τῶν ὑστερῶν τίνας ἔχουσι διαφορὰς καὶ διὰ τίνας αἰτίας εἴρηται πρότερον. καὶ γὰρ τῶν ζῳοτοκούντων τὰ μὲν ἄνω πρὸς τῷ ὑποζώματι ἔχει τὰς ὑστέρας τὰ δὲ κάτω πρὸς τοῖς ἄρθροις· ἄνω μὲν τὰ σελαχώδη, κάτω δὲ τὰ καὶ ἐν αὑτοῖς ζῳοτοκοῦντα καὶ θύραζε οἷον ἄνθρωπος καὶ ἵππος καὶ τῶν ἄλλων ἕκαστον τῶν τοιούτων. καὶ τῶν ᾠοτοκούντων τὰ μὲν κάτω καθάπερ τῶν ἰχθύων οἱ ᾠοτοκοῦντες, τὰ δ’ ἄνω καθάπερ οἱ ὄρνιθες.

Συνίσταται μὲν οὖν κυήματα τοῖς ὄρνισι καὶ αὐτόματα, ἃ καλοῦσιν (749b.) ὑπηνέμια καὶ ζεφύριά τινες, γίγνεται δὲ ταῦτα τοῖς μὴ πτητικοῖς μηδὲ γαμψώνυξι τῶν ὀρνίθων ἀλλὰ τοῖς πολυγόνοις διὰ τὸ πολὺ περίττωμα ταῦτ’ ἔχειν (τοῖς δὲ γαμψώνυξιν εἰς τὰς πτέρυγας καὶ τὰ πτερὰ τρέπεσθαι τὴν τοιαύτην ἀπόκρισιν, τὸ δὲ σῶμα μικρὸν ἔχειν καὶ ξηρόν τε καὶ θερμόν), τὴν δ’ ἀπόκρισιν τὴν καταμηνιώδη καὶ τὴν γονὴν περίττωμα εἶναι· ἐπεὶ οὖν καὶ ἡ τῶν πτερῶν φύσις καὶ ἡ τοῦ σπέρματος γίγνεται ἐκ περιττώσεως οὐ δύναται ἡ φύσις ἐπ’ ἀμφότερα πολυχοεῖν. διὰ τὴν αὐτὴν δὲ ταύτην αἰτίαν καὶ τὰ μὲν γαμψώνυχα οὔτ’ ὀχευτικά ἐστιν οὔτε πολύγονα, τὰ δὲ βαρέα καὶ τῶν πτητικῶν ὅσων τὰ σώματα ὀγκώδη lt;πολύγονα>, καθάπερ περιστερᾶς καὶ τῶν τοιούτων. τοῖς μὲν γὰρ βαρέσι καὶ μὴ πτητικοῖς οἷον ἀλεκτορίσι καὶ πέρδιξι καὶ τοῖς ἄλλοις τοῖς τοιούτοις πολὺ γίγνεται περίττωμα τοιοῦτον· διὸ τά τε ἄρρενα αὐτῶν ὀχευτικὰ καὶ τὰ θήλεα προΐεται πολλὴν ὕλην καὶ τίκτει τῶν τοιούτων τὰ μὲν πολλὰ τὰ δὲ πολλάκις, πολλὰ μὲν οἷον ἀλεκτορὶς καὶ πέρδιξ καὶ στρουθὸς ὁ Λιβυκός, τὰ δὲ περιστερώδη πολλὰ μὲν οὔ, πολλάκις δέ· μεταξὺ γάρ ἐστι ταῦτα τῶν γαμψωνύχων καὶ τῶν βαρέων· πτητικὰ μὲν γάρ ἐστιν ὥσπερ τὰ γαμψώνυχα, πλήθη δ' ἔχει τοῦ σώματος ὥσπερ τὰ βαρέα, ὥστε διὰ μὲν τὸ πτητικὰ εἶναι καὶ ἐνταῦθα τρέπεσθαι τὸ περίττωμα ὀλίγα τίκτουσι, διὰ δὲ τὸ πλῆθος τοῦ σώματος καὶ διὰ τὸ θερμὴν ἔχειν τὴν κοιλίαν καὶ πεπτικωτάτην, πρὸς δὲ τούτοις καὶ διὰ τὸ ῥᾳδίως πορίζεσθαι τὴν τροφήν, τὰ δὲ γαμψώνυχα χαλεπῶς, πολλάκις.

Ὀχευτικὰ δὲ καὶ πολύγονα καὶ τὰ μικρὰ τῶν ὀρνέων ἐστὶ καθάπερ ἐνίοτε καὶ τῶν φυτῶν· ἡ γὰρ εἰς τὸ σῶμα αὔξησις γίγνεται περίττωμα σπερματικόν. διὸ καὶ τῶν ἀλεκτορίδων αἱ Ἀδριανικαὶ πολυτοκώταταί εἰσιν· διὰ γὰρ μικρότητα τοῦ σώματος εἰς τὴν τέκνωσιν καταναλίσκεται ἡ τροφή. καὶ αἱ ἀγεννεῖς τῶν γενναίων πολυτοκώτεραι· ὑγρότερα γὰρ τὰ σώματα αὐτῶν καὶ ὀγκωδέστερα, τῶν δὲ ἰσχνότερα καὶ ξηρότερα· ὁ γὰρ θυμὸς ὁ γενναῖος ἐν τοῖς τοιούτοις γίγνεται σώμασι μᾶλλον. ἔτι δὲ καὶ ἡ τῶν σκελῶν λεπτότης καὶ ἀσθένεια συμβάλλεται πρὸς τὸ τὴν φύσιν τῶν τοιούτων (750a.) ὀχευτικὴν εἶναι καὶ πολύγονον, καθάπερ καὶ ἐπὶ τῶν ἀνθρώπων· ἡ γὰρ εἰς τὰ κῶλα τροφὴ τρέπεται τοῖς τοιούτοις εἰς περίττωμα σπερματικόν· ὃ γὰρ ἐκεῖθεν ἀφαιρεῖ ἡ φύσις προστίθησιν ἐνταῦθα. τὰ δὲ γαμψώνυχα τὴν βάσιν ἰσχυρὰν ἔχει καὶ τὰ σκέλη πάχος ἔχοντα διὰ τὸν βίον· ὥστε διὰ πάσας ταύτας τὰς αἰτίας οὔτ' ὀχευτικά ἐστιν οὔτε πολύγονα.

μάλιστα δὲ ἡ κεγχρηῒς πολύγονον· μόνον γὰρ σχεδὸν τοῦτο καὶ πίνει τῶν γαμψωνύχων, ἡ δ' ὑγρότης καὶ ἡ σύμφυτος καὶ ἡ ἐπακτὸς σπερματικὸν μετὰ τῆς ὑπαρχούσης αὐτῇ θερμότητος. τίκτει δ' οὐδ' αὕτη πολλὰ λίαν, ἀλλὰ τέτταρα τὸ πλεῖστον.

Ὁ δὲ κόκκυξ ὀλιγοτόκον ἐστὶν οὐκ ὢν γαμψώνυχος ὅτι ψυχρὸς τὴν φύσιν ἐστίν (δηλοῖ δ' ἡ δειλία τοῦ ὀρνέου), τὸ δὲ σπερματικὸν ζῷον δεῖ θερμὸν καὶ ὑγρὸν εἶναι. ὅτι δὲ δειλὸν φανερόν· ὑπό τε γὰρ τῶν ὀρνέων διώκεται πάντων καὶ ἐν ἀλλοτρίαις τίκτει νεοττιαῖς.

Τὰ δὲ περιστερώδη δύο ὡς τὰ πολλὰ τίκτειν εἴωθεν· οὔτε γὰρ μονοτόκοι εἰσίν (οὐθεὶς γὰρ μονοτόκος ὄρνις πλὴν ὁ κόκκυξ, καὶ οὗτος ἐνίοτε διτοκεῖ) οὔτε πολλὰ τίκτουσιν ἀλλὰ πολλάκις δύο ἢ τρία τὰ πλεῖστα γεννῶσι, τὰ δὲ πολλὰ δύο· οὗτοι γὰρ οἱ ἀριθμοὶ μεταξὺ τοῦ ἑνὸς καὶ πολλῶν.

Ὅτι δὲ τοῖς πολυγόνοις τρέπεται εἰς τὸ σπέρμα ἡ τροφὴ φανερὸν ἐκ τῶν συμβαινόντων. τῶν τε γὰρ δένδρων τὰ πολλὰ πολυκαρπήσαντα λίαν ἐξαυαίνεται μετὰ τὴν φοράν, ὅταν μὴ ὑπολειφθῇ τῷ σώματι τροφή, καὶ τὰ ἐπέτεια ταὐτὸ πάσχειν ἔοικεν, οἷον τά τε χεδροπὰ καὶ ὁ σῖτος καὶ τἆλλα τὰ τοιαῦτα· τὴν γὰρ τροφὴν ἀναλίσκουσιν εἰς τὸ σπέρμα πᾶσαν· ἔστι γὰρ πολύσπερμον τὸ γένος αὐτῶν. καὶ τῶν ἀλεκτορίδων ἔνιαι πολυτοκήσασαι λίαν οὕτως ὥστε καὶ δύο τεκεῖν ἐν ἡμέρᾳ μετὰ τὴν πολυτοκίαν ἀπέθανον. ὥσπερ ὑπέρινοι γὰρ γίγνονται ταῦτα, καὶ οἱ ὄρνιθες καὶ τὰ φυτά· τοῦτο δ' ἐστὶ τὸ πάθος ὑπερβολὴ περιττώματος ἐκκρίσεως. αἴτιον δὲ τὸ τοιοῦτον πάθος καὶ τῷ λέοντι τῆς ἀγονίας τῆς ὕστερον· τὸ μὲν γὰρ πρῶτον τίκτει πέντε ἢ ἕξ, εἶτα τῷ ὑστέρῳ ἔτει τέτταρας, πάλιν δὲ τρεῖς σκύμνους, εἶτα τὸν ἐχόμενον ἀριθμὸν ἕως ἑνός, εἶτ' οὐθέν, ὡς ἐξαναλισκομένου τοῦ περιττώματος καὶ ἅμα τῆς ἡλικίας ληγούσης φθίνοντος τοῦ (750b.) σπέρματος.

Τίσι μὲν οὖν γίγνεται τὰ ὑπηνέμια τῶν ὀρνίθων, ἔτι δὲ ποῖοι πολύγονοι καὶ ὀλιγόγονοι αὐτῶν καὶ διὰ τίνας αἰτίας εἴρηται.

Γίγνεται δὲ τὰ ὑπηνέμια, καθάπερ εἴρηται καὶ πρότερον, διὰ τὸ ὑπάρχειν ἐν τῷ θήλει τὴν ὕλην τὴν σπερματικήν, τοῖς δ' ὀρνέοις μὴ γίγνεσθαι τὴν τῶν καταμηνίων ἀπόκρισιν ὥσπερ τοῖς ζῳοτόκοις τοῖς ἐναίμοις· πᾶσι γὰρ τούτοις γίγνεται, τοῖς μὲν πλείων τοῖς δ' ἐλάττων τοῖς δὲ τοσαύτη τὸ πλῆθος ὥστε ὅσον γε ἐπισημαίνειν. ὁμοίως δ' οὐδὲ τοῖς ἰχθύσι καθάπερ <οὐδὲ> τοῖς ὄρνισιν· διὸ καὶ τούτοις γίγνεται μὲν ἄνευ ὀχείας σύστασις κυημάτων ὁμοίως καὶ τοῖς ὄρνισιν, ἧττον δ' ἐπιδήλως· ψυχροτέρα γὰρ ἡ φύσις αὐτῶν. ἡ δὲ γιγνομένη τοῖς ζῳοτόκοις ἀπόκρισις τῶν καταμηνίων συνίσταται τοῖς ὄρνισι κατὰ τοὺς ἱκνουμένους χρόνους τοῦ περιττώματος, καὶ διὰ τὸ τὸν τόπον εἶναι θερμὸν τὸν πρὸς τῷ διαζώματι τελειοῦται τοῖς μεγέθεσιν, πρὸς δὲ τὴν γένεσιν ἀτελῆ καὶ ταῦτα καὶ τὰ τῶν ἰχθύων ὁμοίως ἄνευ τῆς τοῦ ἄρρενος γονῆς· ἡ δ' αἰτία τούτων εἴρηται πρότερον. οὐ γίγνεται δὲ τὰ ὑπηνέμια τοῖς πτητικοῖς τῶν ὀρνίθων διὰ τὴν αὐτὴν αἰτίαν δι' ἥνπερ οὐδὲ πολυτοκεῖ τὰ τοιαῦτα· τοῖς γὰρ γαμψώνυξιν ὀλίγον τὸ περίττωμα καὶ προσδέονται τοῦ ἄρρενος πρὸς τὴν ὁρμὴν τῆς τοῦ περιττώματος ἐκκρίσεως. πλείω δὲ τὰ ὑπηνέμια γίγνεται τῶν γονίμων ᾠῶν, ἐλάττω δὲ τὸ μέγεθος διὰ μίαν αἰτίαν καὶ τὴν αὐτήν· διὰ μὲν γὰρ τὸ ἀτελῆ εἶναι ἐλάττω τὸ μέγεθος, διὰ δὲ τὸ τὸ μέγεθος ἔλαττον πλείω τὸν ἀριθμόν. καὶ ἧττον δὲ ἡδέα διὰ τὸ ἀπεπτότερα εἶναι· ἐν πᾶσι γὰρ τὸ πεπεμμένον γλυκύτερον.

Ὅτι μὲν οὖν οὔτε τὰ τῶν ὀρνίθων οὔτε τὰ τῶν ἰχθύων τελειοῦται πρὸς τὴν γένεσιν ἄνευ τῶν ἀρρένων ἱκανῶς ὦπται, περὶ δὲ τοῦ γίγνεσθαι καὶ ἐν τοῖς ἰχθύσι κυήματα ἄνευ τῶν ἀρρένων οὐχ ὁμοίως, μάλιστα δ' ἐπὶ τῶν ποταμίων ἑώραται συμβαῖνον· ἔνιοι γὰρ εὐθὺς ἔχοντες ᾠὰ φαίνονται, καθάπερ ἐν ταῖς ἱστορίαις γέγραπται περὶ αὐτῶν. ὅλως δ' ἔν γε τοῖς ὄρνισιν οὐδὲ τὰ γιγνόμενα διὰ τῆς ὀχείας ᾠὰ θέλει ὡς ἐπὶ τὸ πολὺ λαμβάνειν αὔξησιν ἐὰν μὴ ὀχεύηται ἡ ὄρνις συνεχῶς. τούτου δ' αἴτιον ὅτι καθάπερ ἐπὶ τῶν γυναικῶν τὸ πλησιάζειν τοῖς ἄρρεσι κατασπᾷ τὴν (751a.) τῶν γυναικείων ἀπόκρισιν (ἕλκει γὰρ τὸ ὑγρὸν ἡ ὑστέρα θερμανθεῖσα καὶ οἱ πόροι ἀναστομοῦνται), τοῦτο συμβαίνει καὶ ἐπὶ τῶν ὀρνίθων ἐπιόντος κατὰ μικρὸν τοῦ καταμηνιώδους περιττώματος, ὃ θύραζε μὲν οὐκ ἀποκρίνεται διὰ τὸ ὀλίγον εἶναι καὶ πρὸς τῷ διαζώματι ἄνω τὰς ὑστέρας, συλλείβεται δ' εἰς αὐτὴν τὴν ὑστέραν. τοῦτο γὰρ αὔξει τὸ ᾠόν-ὥσπερ τὰ ἔμβρυα τὰ τῶν ζῳοτόκων διὰ τοῦ ὀμφαλοῦ-τὸ ἐπιρρέον διὰ τῆς ὑστέρας, ἐπεὶ ὅταν ἅπαξ ὀχευθῇ τὰ ὄρνεα, πάντα σχεδὸν ἀεὶ διατελεῖ ᾠὰ ἔχοντα, μικρὰ δὲ πάμπαν. διὸ καὶ περὶ τῶν ὑπηνεμίων τινὲς εἰώθασι λέγειν ὡς οὐ γιγνομένων ἀλλ' ὡς ὑπολειμμάτων ἐκ προτέρας ὀχείας ὄντων. τοῦτο δ' ἐστὶ ψεῦδος· ὦπται γὰρ ἱκανῶς καὶ ἐπὶ νεοττίδων ἀλεκτορίδος καὶ χηνὸς γιγνόμενα ὑπηνέμια ἄνευ ὀχείας. ἔτι δὲ αἱ πέρδικες αἱ θήλειαι, αἵ τ' ἀνόχευτοι καὶ αἱ ὠχευμέναι τῶν εἰς τὰς θήρας ἀγομένων, ὀσμώμεναι τοῦ ἄρρενος καὶ ἀκούουσαι τῆς φωνῆς αἱ μὲν πληροῦνται αἱ δὲ τίκτουσι παραχρῆμα. τοῦ δὲ πάθους αἴτιον ταὐτὸν ὅπερ ἐπὶ τῶν ἀνθρώπων καὶ τῶν τετραπόδων· ἐὰν γὰρ ὀργῶντα τύχῃ τὰ σώματα πρὸς τὴν ὁμιλίαν, τὰ μὲν ἰδόντα τὰ δὲ μικρᾶς γενομένης θίξεως προΐεται σπέρμα.

τὰ δὲ τοιαῦτα τῶν ὀρνέων ὀχευτικὰ καὶ πολύσπερμα τὴν φύσιν ἐστίν, ὥστε μικρᾶς δεῖσθαι κινήσεως ὅταν ὀργῶντα τύχῃ καὶ γίγνεσθαι ταχὺ τὴν ἔκκρισιν αὐτοῖς, ὥστε τοῖς μὲν ἀνοχεύτοις ὑπηνέμια συνίστασθαι τοῖς δ' ὠχευμένοις αὐξάνεσθαι καὶ τελειοῦσθαι ταχέως.

Τῶν δὲ θύραζε ᾠοτοκούντων οἱ μὲν ὄρνιθες προΐενται τὸ ᾠὸν τέλειον, οἱ δ' ἰχθύες ἀτελές, ἀλλ' ἔξω λαμβάνει τὴν αὔξησιν, καθάπερ εἴρηται καὶ πρότερον. αἴτιον δ' ὅτι πολύγονόν ἐστι τὸ τῶν ἰχθύων γένος· ἀδύνατον οὖν ἔσω πολλὰ λαμβάνειν τέλος, διόπερ ἀποτίκτουσιν ἔξω. ταχεῖα δ' ἡ πρόεσις· αἱ γὰρ ὑστέραι πρὸς τοῖς ἄρθροις τῶν θύραζε ᾠοτοκούντων ἰχθύων.

Ἔστι δὲ τὰ μὲν τῶν ὀρνίθων δίχροα, τὰ δὲ τῶν ἰχθύων μονόχροα πάντων. τῆς δὲ διχροίας τὴν αἰτίαν ἴδοι τις ἂν ἐκ τῆς δυνάμεως ἑκατέρου τῶν μορίων, τοῦ τε λευκοῦ καὶ τοῦ ὠχροῦ. γίγνεται μὲν γὰρ ἡ ἀπόκρισις ἐκ τοῦ αἵματος (οὐθὲν γὰρ ἄναιμον ᾠοτοκεῖ ζῷον), τὸ (751b.) δ' αἷμα ὅτι ἐστὶν ὕλη τοῖς σώμασιν εἴρηται πολλάκις. τὸ μὲν οὖν ἐστιν ἐγγύτερον αὐτοῦ τῆς μορφῆς τῶν γιγνομένων, τὸ θερμόν· τὸ δὲ γεωδέστερον τὴν τοῦ σώματος παρέχεται σύστασιν καὶ πορρώτερόν ἐστιν. διόπερ ὅσα δίχροά ἐστι τῶν ᾠῶν, τὴν μὲν ἀρχὴν τὸ ζῷον λαμβάνει ἐκ τοῦ λευκοῦ τῆς γενέσεως (ἐν γὰρ τῷ θερμῷ ἡ ψυχικὴ ἀρχή) τὴν δὲ τροφὴν ἐκ τοῦ ὠχροῦ. τοῖς μὲν οὖν τὴν φύσιν θερμοτέροις τῶν ζῴων διακέκριται χωρὶς ἐξ οὗ τε ἡ ἀρχὴ γίγνεται καὶ ἐξ οὗ τρέφεται, καὶ τὸ μὲν λευκόν ἐστι τὸ δ’ ὠχρόν, καὶ πλέον ἀεὶ τὸ λευκὸν καὶ καθαρὸν τοῦ ὠχροῦ καὶ γεώδους· τοῖς δ’ ἧττον θερμοῖς καὶ ὑγροτέροις τὸ ὠχρὸν πλέον καὶ ὑγρότερον. ὅπερ συμβαίνει ἐπὶ τῶν λιμναίων ὀρνέων· ὑγροτέροι γὰρ τὴν φύσιν καὶ ψυχρότεροι τῶν πεζευόντων εἰσὶν ὀρνέων, ὥστε καὶ τὰ ᾠὰ τῶν τοιούτων πολλὴν ἔχει τὴν καλουμένην λέκιθον καὶ ἧττον ὠχρὰν διὰ τὸ ἧττον ἀποκεκρίσθαι τὸ λευκόν. τὰ δ’ ἤδη καὶ ψυχρὰ τὴν φύσιν τῶν ᾠοτοκούντων καὶ ἔτι ὑγρὰ μᾶλλον (τοιοῦτον δ’ ἐστὶ τὸ τῶν ἰχθύων γένος) οὐδ’ ἀποκεκριμένον ἔχει τὸ λευκὸν διά τε μικρότητα καὶ διὰ τὸ πλῆθος τοῦ ψυχροῦ καὶ γεώδους· διόπερ γίγνεται μονόχροα πάντα τὰ τῶν ἰχθύων καὶ ὡς μὲν ὠχρὰ λευκά, ὡς δὲ λευκὰ ὠχρά.

τὰ δὲ τῶν ὀρνέων καὶ τὰ ὑπηνέμια ἔχει ταύτην τὴν δίχροιαν· ἔχει γὰρ ἐξ οὗ ἑκάτερον ἔσται τῶν μορίων-καὶ ὅθεν ἡ ἀρχὴ καὶ ὅθεν ἡ τροφή-ἀλλὰ ταῦτ’ ἀτελῆ καὶ προσδεόμενα τοῦ ἄρρενος· γίγνεται γὰρ τὰ ὑπηνέμια γόνιμα ἐὰν ἔν τινι καιρῷ ὀχευθῇ ὑπὸ τοῦ ἄρρενος. οὐκ ἔστι δὲ τῆς διχροίας αἴτιον τὸ ἄρρεν καὶ τὸ θῆλυ-ὡς τοῦ μὲν λευκοῦ ὄντος ἀπὸ τοῦ ἄρρενος τοῦ δ’ ὠχροῦ ἀπὸ τοῦ θήλεος-ἀλλ’ ἄμφω γίγνεται ἀπὸ τοῦ θήλεος, ἀλλὰ τὸ μὲν ψυχρὸν τὸ δὲ θερμόν. ἐν ὅσοις μὲν οὖν ἐστι πολὺ τὸ θερμὸν ἀποκρίνεται, ἐν ὅσοις δ’ ὀλίγον οὐ δύναται· διὸ μονόχροα τὰ κυήματα, καθάπερ εἴρηται, τὰ τῶν τοιούτων. ἡ δὲ γονὴ συνέστησε μόνον· καὶ διὰ τοῦτο τὸ μὲν πρῶτον φαίνεται λευκὸν καὶ μικρὸν τὸ κύημα ἐν τοῖς ὄρνισι, προϊὸν δὲ ὠχρὸν ἅπαν, συμμιγνυμένου ἀεὶ πλείονος αἱματώδους· τέλος δ’ ἀποκρινομένου τοῦ θερμοῦ κύκλῳ περιίσταται τὸ (752a.) λευκὸν ὥσπερ ὑγροῦ ζέοντος ὁμοίως πάντῃ· τὸ γὰρ λευκὸν φύσει μὲν ὑγρόν, ἔχει δ’ ἐν αὑτῷ τὴν θερμότητα τὴν ψυχικήν· διὸ κύκλῳ ἀποκρίνεται, τὸ δ’ ὠχρὸν καὶ γεῶδες ἐντός. κἂν πολλὰ συνεράσας τις ᾠὰ εἰς κύστιν ἤ τι τοιοῦτον ἕψῃ πυρὶ μὴ θάττονα ποιοῦντι τὴν τοῦ θερμοῦ κίνησιν ἢ τὴν ἐν τοῖς ᾠοῖς διάκρισιν, ὥσπερ ἐν ἑνὶ ᾠῷ καὶ τὸ ἐκ πάντων τῶν ᾠῶν σύστημα τὸ μὲν ὠχρὸν ἐν μέσῳ γίγνεται, κύκλῳ δὲ λευκόν.

Διότι μὲν οὖν τὰ μὲν μονόχροα τὰ δὲ δίχροα τῶν ᾠῶν εἴρηται.

Κεφάλαιο 2

Ἀποκρίνεται δ’ ἐν τοῖς ᾠοῖς ἡ τοῦ ἄρρενος ἀρχὴ καθ’ ὃ προσπέφυκε τῇ ὑστέρᾳ τὸ ᾠόν, καὶ γίγνεται δὴ ἀνόμοιον τὸ δίχροον ᾠὸν καὶ οὐ πάμπαν στρογγύλον ἀλλ’ ἐπὶ θάτερα ὀξύτερον διὰ τὸ διαφέρειν δεῖν τοῦ λευκοῦ ἐν ᾧ ἔχει τὴν ἀρχήν. διόπερ σκληρότερον ταύτῃ τὸ ᾠὸν ἢ κάτωθεν· σκεπάζειν γὰρ δεῖ καὶ φυλάττειν τὴν ἀρχήν. καὶ διὰ τοῦτο ἐξέρχεται ὕστερον τοῦ ᾠοῦ τὸ ὀξύ· τὸ γὰρ προσπεφυκὸς ὕστερον ἐξέρχεται, κατὰ τὴν ἀρχὴν δὲ προσπέφυκεν, ἐν τῷ ὀξεῖ δ’ ἡ ἀρχή. τὸν αὐτὸν δ’ ἔχει τρόπον καὶ ἐν τοῖς τῶν φυτῶν σπέρμασιν· προσπέφυκε γὰρ ἡ ἀρχὴ τοῦ σπέρματος τὰ μὲν ἐν τοῖς κλάδοις τὰ δ’ ἐν τοῖς κελύφεσι τὰ δ’ ἐν τοῖς περικαρπίοις. δῆλον δ’ ἐπὶ τῶν χεδροπῶν· ᾗ γὰρ συνῆπται τὸ δίθυρον τῶν κυάμων καὶ τῶν τοιούτων σπερμάτων ταύτῃ προσπέφυκεν· ἡ δ’ ἀρχὴ ἐνταῦθα τοῦ σπέρματος.

Ἀπορήσειε δ’ ἄν τις περὶ τῆς αὐξήσεως τῶν ᾠῶν τίνα τρόπον ἐκ τῆς ὑστέρας συμβαίνει. τὰ μὲν γὰρ ζῷα διὰ τοῦ ὀμφαλοῦ λαμβάνει τὴν τροφήν, τὰ δ’ ᾠὰ διὰ τίνος; ἐπειδήπερ οὐχ ὥσπερ οἱ σκώληκες αὐτὰ δι’ αὑτῶν λαμβάνει τὴν αὔξησιν. εἰ δ’ ἔστι τι δι’ οὗ προσπέφυκε, τοῦτο ποῦ τρέπεται τελεωθέντος; οὐ γὰρ συνεξέρχεται καθάπερ ὁ ὀμφαλὸς τοῖς ζῴοις· γίγνεται γὰρ τὸ πέριξ ὄστρακον τελεωθέντος. τὸ μὲν οὖν εἰρημένον ὀρθῶς ζητεῖται· λανθάνει δ’ ὅτι τὸ γιγνόμενον ὄστρακον τὸ πρῶτον μαλακὸς ὑμήν ἐστιν, τελεωθέντος δὲ γίγνεται σκληρὸν καὶ κραῦρον, οὕτω συμμέτρως ὥστ’ ἐξέρχεται μὲν ἔτι μαλακόν (πόνον γὰρ ἂν παρεῖχε τικτόμενον), ἐξελθὸν δ’ εὐθὺς πήγνυται ψυχθέν, συνεξατμίζοντος τοῦ ὑγροῦ (752b.) ταχὺ δι’ ὀλιγότητα, λειπομένου δὲ τοῦ γεώδους. τούτου δή τι τοῦ ὑμένος κατ’ ἀρχὰς ὀμφαλῶδές ἐστι κατὰ τὸ ὀξὺ καὶ ἀπέχει ἔτι μικρῶν ὄντων οἷον αὐλός. φανερὸν δ’ ἐστὶν ἐν τοῖς ἐκβολίμοις τῶν μικρῶν ᾠῶν· ἐὰν γὰρ βρεχθῇ ἢ ἄλλως πως ῥιγώσασα ἐκβάλῃ ἡ ὄρνις ἔτι αἱματῶδές τε φαίνεται τὸ κύημα καὶ ἔχον δι’ ἑαυτοῦ στόλον μικρὸν ὀμφαλώδη. μείζονος δὲ γιγνομένου περιτείνεται μᾶλλον οὗτος καὶ ἐλάττων γίγνεται. τελεωθέντος δὲ τὸ ὀξὺ τοῦ ᾠοῦ τοῦτο συμβαίνει τὸ πέρας. ὑπὸ δὲ τούτῳ ὁ ἐντὸς ὑμὴν ὃς ὁρίζει τὸ λευκὸν καὶ τὸ ὠχρὸν ἀπὸ τούτου. τελειωθέντος δ’ ἀπολύεται ὅλον τὸ ᾠὸν καὶ οὐ φαίνεται εὐλόγως ὁ ὀμφαλός· αὐτοῦ γάρ ἐστι τοῦ ἐσχάτου τὸ ἄκρον.

Ἡ δ’ ἔξοδος τοὐναντίον γίγνεται τοῖς ᾠοῖς ἢ τοῖς ζῳοτοκουμένοις· τοῖς μὲν γὰρ ἐπὶ κεφαλὴν καὶ τὴν ἀρχήν, τῷ δ’ ᾠῷ γίγνεται ἡ ἔξοδος οἷον ἐπὶ πόδας. τούτου δ’ αἴτιον τὸ εἰρημένον ὅτι προσπέφυκε κατὰ τὴν ἀρχήν.

Ἡ δὲ γένεσις ἐκ τοῦ ᾠοῦ συμβαίνει τοῖς ὄρνισιν ἐπῳαζούσης καὶ συμπεττούσης τῆς ὄρνιθος, ἀποκρινομένου μὲν τοῦ ζῴου ἐκ μέρους τοῦ ᾠοῦ, τὴν δ’ αὔξησιν λαμβάνοντος καὶ τελειουμένου ἐκ τοῦ λοιποῦ μέρους· ἡ γὰρ φύσις ἅμα τήν τε τοῦ ζῴου ὕλην ἐν τῷ ᾠῷ τίθησι καὶ τὴν ἱκανὴν τροφὴν πρὸς τὴν αὔξησιν· ἐπεὶ γὰρ οὐ δύναται τελειοῦν ἐν αὑτῇ ἡ ὄρνις συνεκτίκτει τὴν τροφὴν ἐν τῷ ᾠῷ. τοῖς μὲν γὰρ ζῳοτοκουμένοις ἐν ἄλλῳ μορίῳ γίγνεται ἡ τροφή, τὸ καλούμενον γάλα ἐν τοῖς μαστοῖς· τοῖς δ’ ὄρνισι τοῦτο ποιεῖ ἡ φύσις ἐν τοῖς ᾠοῖς, τοὐναντίον μέντοι ἢ οἵ τε ἄνθρωποι οἴονται καὶ Ἀλκμαίων φησὶν ὁ Κροτωνιάτης. οὐ γὰρ τὸ λευκόν ἐστι γάλα ἀλλὰ τὸ ὠχρόν· τοῦτο γάρ ἐστιν ἡ τροφὴ τοῖς νεοττοῖς-οἱ δ’ οἴονται τὸ λευκὸν διὰ τὴν ὁμοιότητα τοῦ χρώματος.

Γίγνεται μὲν οὖν ἐπῳαζούσης, ὥσπερ εἴρηται, τῆς ὄρνιθος ὁ νεοττός· οὐ μὴν ἀλλὰ κἂν ἡ ὥρα ᾖ εὔκρατος ἢ ὁ τόπος ἀλεεινὸς ἐν ᾧ ἂν κείμενα τυγχάνωσιν ἐκπέττεται καὶ τὰ τῶν ὀρνίθων καὶ τὰ τῶν τετραπόδων καὶ ᾠοτόκων-πάντα γὰρ εἰς τὴν γῆν ἐκτίκτει, καὶ συμπέττονται ὑπὸ τῆς ἐν τῇ γῇ θερμότητος· ὅσα δ’ ἐπῳάζει φοιτῶντα τῶν ᾠοτόκων καὶ τετραπόδων ταῦτα ποιεῖ μᾶλλον φυλακῆς χάριν.

Τὸν αὐτὸν δὲ τρόπον γίγνεται (753a.) τά τε τῶν ὀρνίθων ᾠὰ καὶ τὰ τῶν ζῴων τῶν τετραπόδων· καὶ γὰρ σκληρόδερμα καὶ δίχροα, καὶ πρὸς τῷ διαζώματι συνίσταται καθάπερ καὶ τὰ τῶν ὀρνίθων, καὶ τἆλλα ταὐτὰ πάντα συμβαίνει καὶ ἐντὸς καὶ ἐκτὸς ὥστε ἡ αὐτὴ θεωρία περὶ τῆς αἰτίας ἐστὶ πάντων. ἀλλὰ τὰ μὲν τῶν τετραπόδων δι’ ἰσχὺν ἐκπέττεται ὑπὸ τῆς ὥρας, τὰ δὲ τῶν ὀρνέων ἐπικηρότερα, καὶ δεῖται τῆς τεκούσης. ἔοικε δὲ καὶ ἡ φύσις βούλεσθαι τὴν τῶν τέκνων αἴσθησιν ἐπιμελητικὴν παρασκευάζειν· ἀλλὰ τοῖς μὲν χείροσι τοῦτ’ ἐμποιεῖ μέχρι τοῦ τεκεῖν μόνον, τοῖς δὲ καὶ περὶ τὴν τελείωσιν, ὅσα δὲ φρονιμώτερα καὶ περὶ τὴν ἐκτροφήν. τοῖς δὲ δὴ μάλιστα κοινωνοῦσι φρονήσεως καὶ πρὸς τελειωθέντα γίγνεται συνήθεια καὶ φιλία, καθάπερ τοῖς τε ἀνθρώποις καὶ τῶν τετραπόδων ἐνίοις, τοῖς δ’ ὄρνισι μέχρι τοῦ γεννῆσαι καὶ ἐκθρέψαι· διόπερ καὶ μὴ ἐπῳάζουσαι αἱ θήλειαι ὅταν τέκωσι διατίθενται χεῖρον, ὥσπερ ἑνός τινος στερισκόμεναι τῶν συμφύτων.

Τελειοῦται δ’ ἐν τοῖς ᾠοῖς τὰ ζῷα θᾶττον ἐν ταῖς ἀλεειναῖς ἡμέραις· συνεργάζεται γὰρ ἡ ὥρα· καὶ γὰρ ἡ πέψις θερμότητός ἐστιν. ἥ τε γὰρ γῆ συμπέττει τῇ θερμότητι καὶ ἡ ἐπῳάζουσα ταὐτὸ τοῦτο δρᾷ· προσεγχεῖ γὰρ τὸ ἐν αὑτῇ θερμόν. καὶ διαφθείρεται δὲ τὰ ᾠὰ καὶ γίγνεται τὰ καλούμενα οὔρια μᾶλλον κατὰ τὴν θερμὴν ὥραν εὐλόγως· ὥσπερ γὰρ καὶ οἱ οἶνοι ἐν ταῖς ἀλέαις ὀξύνονται ἀνατρεπομένης τῆς ἰλύος (τοῦτο γὰρ αἴτιον τῆς διαφθορᾶς) καὶ ἐν τοῖς ᾠοῖς ἡ λέκιθος· τοῦτο γὰρ ἐν ἀμφοτέροις τὸ γεῶδες, διὸ καὶ ἀναθολοῦται καὶ ὁ οἶνος μιγνυμένης τῆς ἰλύος καὶ τὰ διαφθειρόμενα ᾠὰ τῆς λεκίθου.

Τοῖς μὲν οὖν πολυτόκοις συμβαίνει τὸ τοιοῦτον εὐλόγως (οὐ γὰρ ῥᾴδιον τὴν ἁρμόττουσαν πᾶσιν ἀποδιδόναι θερμασίαν, ἀλλὰ τοῖς μὲν ἐλλείπειν τοῖς δὲ πλεονάζειν καὶ ἀναθολοῦν οἷον σήπουσαν), -τοῖς δὲ γαμψώνυξιν ὀλιγοτόκοις οὖσιν οὐδὲν ἧττον συμβαίνει τοῦτο· πολλάκις μὲν γὰρ καὶ τοῖν δυοῖν θάτερον οὔριον γίγνεται, τὸ δὲ τρίτον ὡς εἰπεῖν ἀεί· θερμὰ γὰρ ὄντα τὴν φύσιν οἷον ὑπερζεῖν ποιεῖ τὴν ὑγρότητα τὴν ἐν τοῖς ᾠοῖς. ἔχει γὰρ δὴ καὶ τὴν φύσιν ἐναντίαν τό τε ὠχρὸν καὶ τὸ λευκόν. τὸ μὲν γὰρ (753b.) ὠχρὸν ἐν τοῖς πάγοις πήγνυται, θερμαινόμενον δὲ ὑγραίνεται· διὸ καὶ συμπεττόμενον ἐν τῇ γῇ ἢ ὑπὸ τοῦ ἐπῳάζειν ὑγραίνεται, καὶ τοιοῦτον ὂν γίγνεται τροφὴ τοῖς συνισταμένοις ζῴοις. πυρούμενον δὲ καὶ ὀπτώμενον οὐ γίγνεται σκληρὸν διὰ τὸ εἶναι τὴν φύσιν γεῶδες οὕτως ὥσπερ κηρός· καὶ διὰ τοῦτο θερμαινόμενα μᾶλλον †ἐὰν ᾖ μὴ† ἐξ ὑγροῦ περιττώματος διοροῦται καὶ γίγνεται οὔρια. τὸ δὲ λευκὸν ὑπὸ μὲν τῶν πάγων οὐ πήγνυται ἀλλ’ ὑγραίνεται μᾶλλον (τὸ δ’ αἴτιον εἴρηται πρότερον), πυρούμενον δὲ γίγνεται στερεόν· διὸ καὶ πεττόμενον περὶ τὴν γένεσιν τῶν ζῴων παχύνεται. ἐκ τούτου γὰρ συνίσταται τὸ ζῷον, τὸ δ’ ὠχρὸν τροφὴ γίγνεται, καὶ τοῖς ἀεὶ συνισταμένοις τῶν μορίων ἐντεῦθεν ἡ αὔξησις. διὸ καὶ διώρισται τό τε ὠχρὸν καὶ τὸ λευκὸν χωρὶς ὑμέσιν ὡς ἔχοντα τὴν φύσιν ἑτέραν. δι’ ἀκριβείας μὲν οὖν, ὃν τρόπον ἔχουσι ταῦτα πρὸς ἄλληλα κατ’ ἀρχάς τε τῆς γενέσεως καὶ συνισταμένων τῶν ζῴων, ἔτι δὲ περί τε ὑμένων καὶ περὶ ὀμφαλῶν ἐκ τῶν ἐκ ταῖς ἱστορίαις γεγραμμένων δεῖ θεωρεῖν· πρὸς δὲ τὴν παροῦσαν σκέψιν ἱκανὸν φανερὸν εἶναι τοσοῦτον, ὅτι συστάσης πρώτης τῆς καρδίας καὶ τῆς μεγάλης φλεβὸς ἀπὸ ταύτης ἀφορισθείσης δύο ὀμφαλοὶ ἀπὸ τῆς φλεβὸς τείνουσιν, ὁ μὲν εἰς τὸν ὑμένα τὸν περιέχοντα τὸ ὠχρόν, ὁ δ’ ἕτερος εἰς τὸν ὑμένα τὸν χοριοειδῆ ὃς κύκλῳ περιέχει τὸ ζῷον· ἔστι δ’ οὗτος περὶ τὸν ὑμένα τὸν τοῦ ὀστράκου. διὰ μὲν οὖν θατέρου λαμβάνει τὴν ἐκ τοῦ ὠχροῦ τροφήν, τὸ δ’ ὠχρὸν γίγνεται πλεῖον· ὑγρότερον γὰρ γίγνεται θερμαινόμενον. δεῖ γὰρ τὴν τροφὴν σωματώδη οὖσαν ὑγρὰν εἶναι καθάπερ τοῖς φυτοῖς, ζῇ δὲ τὸ πρῶτον καὶ τὰ ἐν τοῖς ᾠοῖς γιγνόμενα καὶ τὰ ἐν τοῖς ζῴοις φυτοῦ βίον· τῷ πεφυκέναι γὰρ ἔκ τινος λαμβάνει τὴν πρώτην αὔξησιν καὶ τροφήν. ὁ δ’ ἕτερος ὀμφαλὸς τείνει εἰς τὸ περιέχον χόριον. δεῖ γὰρ ὑπολαβεῖν τὰ ᾠοτοκούμενα τῶν ζῴων πρὸς μὲν τὸ ὠχρὸν οὕτως ἔχειν [τὸν νεοττὸν] ὥσπερ πρὸς τὴν μητέρα τὰ ζῳοτοκούμενα ἔμβρυα ὅταν ἐν τῇ μητρὶ ᾖ (ἐπεὶ γὰρ οὐκ ἐκτρέφονταί γε ἐν τῇ μητρὶ τὰ ᾠοτοκούμενα ἐκλαμβάνει τι μέρος αὐτῆς), πρὸς δὲ τὸν ἐξωτάτω ὑμένα τὸν αἱματώδη ὡς πρὸς τὴν ὑστέραν. ἅμα (754a.) δὲ περί τε τὸ ὠχρὸν καὶ τὸ χόριον τὸ ἀνάλογον τῇ ὑστέρᾳ τὸ ὄστρακον τοῦ ᾠοῦ περιπέφυκεν, ὥσπερ ἂν εἴ τις περιθείη περί τε τὸ ἔμβρυον αὐτὸ καὶ περὶ τὴν μητέρα ὅλην. ἔχει δ’ οὕτως διότι δεῖ τὸ ἔμβρυον ἔν τε τῇ ὑστέρᾳ εἶναι καὶ πρὸς τῇ μητρί. ἐν μὲν οὖν τοῖς ζῳοτοκουμένοις ἡ ὑστέρα ἐν τῇ μητρί ἐστιν, ἐν δὲ τοῖς ᾠοτοκουμένοις ἀνάπαλιν, ὥσπερ ἂν εἴ τις εἴποι τὴν μητέρα ἐν τῇ ὑστέρᾳ εἶναι· τὸ γὰρ ἀπὸ τῆς μητρὸς γιγνόμενον, ἡ τροφή, τὸ ὠχρόν ἐστιν. αἴτιον δ’ ὅτι ἡ ἐκτροφὴ οὐκ ἐν τῇ μητρί ἐστιν.

Αὐξανομένων δὲ πρότερον ὁ ὀμφαλὸς συμπίπτει ὁ πρὸς τὸ χόριον διότι ταύτῃ δεῖ τὸ ζῷον ἐξελθεῖν, τὸ δὲ λοιπὸν τοῦ ὠχροῦ καὶ ὁ ὀμφαλὸς ὁ εἰς τὸ ὠχρὸν ὕστερον· δεῖ γὰρ ἔχειν τροφὴν εὐθὺς τὸ γενόμενον· οὔτε γὰρ ἀπὸ τῆς μητρὸς τιτθεύεται, δι’ αὑτοῦ τε οὐκ εὐθὺς δύναται πορίζεσθαι τὴν τροφήν· διόπερ ἐντὸς εἰσέρχεται τὸ ὠχρὸν μετὰ τοῦ ὀμφαλοῦ καὶ περιφύεται ἡ σάρξ.

Τὰ μὲν οὖν ἐκ τῶν τελείων ᾠῶν γιγνόμενα θύραζε τοῦτον γίγνεται τὸν τρόπον ἐπί τε τῶν ὀρνίθων καὶ τῶν τετραπόδων ὅσα ᾠοτοκεῖ τὸ ᾠὸν [τὸ] σκληρόδερμον. διάδηλα δὲ ταῦτα μᾶλλον ἐπὶ τῶν μειζόνων· ἐν γὰρ τοῖς ἐλάττοσιν ἀφανῆ διὰ μικρότητα τῶν ὄγκων ἐστίν.

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Ἔτι δ’ ἐστὶν ᾠοτόκον τὸ τῶν ἰχθύων γένος. τούτων δὲ τὰ μὲν ἔχοντα κάτω τὴν ὑστέραν ἀτελὲς ᾠὸν τίκτει διὰ τὴν προειρημένην αἰτίαν, τὰ δὲ καλούμενα σελάχη τῶν ἰχθύων ἐν αὑτοῖς μὲν ᾠοτοκεῖ τέλειον ᾠὸν ἔξω δὲ ζῳοτοκεῖ, πλὴν ἑνὸς ὃν καλοῦσι βάτραχον· οὗτος δ’ ᾠοτοκεῖ θύραζε τέλειον ᾠὸν μόνος. αἰτία δ’ ἡ τοῦ σώματος φύσις· τήν τε γὰρ κεφαλὴν πολλαπλασίαν ἔχει τοῦ λοιποῦ σώματος καὶ ταύτην ἀκανθώδη καὶ σφόδρα τραχεῖαν. διόπερ οὐδ’ ὕστερον εἰσδέχεται τοὺς νεοττοὺς οὐδ’ ἐξ ἀρχῆς ζῳοτοκεῖ· τὸ γὰρ μέγεθος καὶ ἡ τραχύτης τῆς κεφαλῆς ὥσπερ καὶ εἰσελθεῖν κωλύει οὕτω καὶ ἐξελθεῖν. ἐπεὶ δὲ μαλακόδερμόν ἐστι τὸ ᾠὸν τὸ τῶν σελαχῶν (οὐ γὰρ δύνανται σκληρύνειν καὶ ξηραίνειν τὸ πέριξ· ψυχρότεροι γὰρ τῶν ὀρνίθων εἰσίν), τὸ τῶν βατράχων ᾠὸν μόνον στερεόν ἐστι καὶ στιφρὸν πρὸς τὴν ἔξω σωτηρίαν, τὰ δὲ τῶν ἄλλων ὑγρὰ καὶ μαλακὰ τὴν φύσιν· (754b.) σκεπάζεται γὰρ ἐντὸς τῷ σώματι τῷ τῆς ἐχούσης.

Ἡ δὲ γένεσις ἐκ τοῦ ᾠοῦ τοῖς τε βατράχοις ἔξω τελειουμένοις καὶ τοῖς ἐντὸς ἡ αὐτή, τούτοις δὲ καὶ τοῖς τῶν ὀρνίθων τῇ μὲν ὁμοία τῇ δὲ διάφορός ἐστιν. πρῶτον μὲν γὰρ οὐκ ἔχουσι τὸν ἕτερον ὀμφαλὸν τὸν εἰς τὸ χόριον τείνοντα ὅ ἐστιν ὑπὸ τὸ περιέχον ὄστρακον, τούτου δ’ αἴτιον ὅτι τὸ πέριξ ὄστρακον οὐκ ἔχουσιν· οὐδὲν γὰρ αὐτοῖς χρήσιμον· σκεπάζει γὰρ ἡ μήτηρ, τὸ δ’ ὄστρακόν ἐστι τοῖς ἐκτικτομένοις ᾠοῖς ἀλεωρὰ πρὸς τὰς θύραθεν βλάβας. ἔπειθ’ ἡ γένεσις ἐξ ἄκρου μέν ἐστι τοῦ ᾠοῦ καὶ τούτοις ἀλλ’ οὐχ ᾗ προσπέφυκε πρὸς τὴν ὑστέραν· οἱ γὰρ ὄρνιθες ἐκ τοῦ ὀξέος γίγνονται, ταύτῃ δ’ ἦν ἡ τοῦ ᾠοῦ πρόσφυσις. αἴτιον δ’ ὅτι τὸ μὲν τῶν ὀρνίθων χωρίζεται τῆς ὑστέρας, τῶν δὲ τοιούτων οὐ πάντων ἀλλὰ τῶν πλείστων πρὸς τῇ ὑστέρᾳ προσπέφυκε τὸ ᾠὸν τέλειον. ἐπ’ ἄκρῳ δὲ γιγνομένου τοῦ ζῴου καταναλίσκεται τὸ ᾠὸν ὥσπερ καὶ ἐπὶ τῶν ὀρνίθων καὶ τῶν ἄλλων τῶν ἀπολελυμένων, καὶ τέλος πρὸς τῇ ὑστέρᾳ ὁ ὀμφαλὸς προσπέφυκε τῶν ἤδη τελείων.

ὁμοίως δ’ ἔχει καὶ ὅσων ἀπολέλυται τὰ ᾠὰ τῆς ὑστέρας· ἐνίοις γὰρ αὐτῶν ὅταν τέλειον γένηται τὸ ᾠὸν ἀπολύεται. Ἀπορήσειαν ἂν οὖν τις διὰ τί διαφέρουσιν αἱ γενέσεις τοῖς ὄρνισι κατὰ τοῦτο καὶ τοῖς ἰχθύσιν. αἴτιον δ’ ὅτι τὰ μὲν τῶν ὀρνίθων κεχωρισμένον ἔχει τὸ λευκὸν καὶ τὸ ὠχρόν, τὰ δὲ τῶν ἰχθύων μονόχροα, καὶ πάντῃ μεμιγμένον τὸ τοιοῦτον ὥστ’ οὐθὲν κωλύει ἐξ ἐναντίας ἔχειν τὴν ἀρχήν· οὐ γὰρ μόνον κατὰ τὴν πρόσφυσίν ἐστι τοιοῦτον ἀλλὰ καὶ καταντικρύ, τὴν δὲ τροφὴν ῥᾷον ἕλκειν ἐκ τῆς ὑστέρας πόροις τισὶν ἀπὸ ταύτης τῆς ἀρχῆς. δῆλον δ’ ἐπὶ τῶν μὴ ἀπολυομένων ᾠῶν· ἐν ἐνίοις γὰρ τῶν σελαχῶν οὐκ ἀπολύεται τῆς ὑστέρας τὸ ᾠὸν ἀλλ’ ἐχόμενον μεταχωρεῖ κάτω πρὸς τὴν ζῳοτοκίαν, ἐν οἷς τελεωθὲν τὸ ζῷον ἔχει τὸν ὀμφαλὸν ἐκ τῆς ὑστέρας ἀνηλωμένου τοῦ ᾠοῦ. φανερὸν οὖν ὅτι καὶ πρότερον ἔτεινον οἱ πόροι τοῦ ᾠοῦ ἔτι ὄντος περὶ ἐκεῖνο πρὸς τὴν ὑστέραν. τοῦτο δὲ συμβαίνει, καθάπερ εἴπομεν, ἐν τοῖς γαλεοῖς τοῖς λείοις.

Διαφέρει μὲν οὖν ἡ γένεσις κατὰ ταῦτα τῶν ἰχθύων τοῖς ὄρνισι καὶ διὰ τὰς εἰρημένας αἰτίας· τὰ δ’ ἄλλα συμβαίνει τὸν (755a.) αὐτὸν τρόπον. τόν τε γὰρ ὀμφαλὸν ἔχουσι τὸν ἕτερον ὡσαύτως, ὥσπερ οἱ ὄρνιθες πρὸς τὸ ὠχρὸν οὕτως οἱ ἰχθύες πρὸς τὸ ὅλον ᾠόν (οὐ γάρ ἐστιν αὐτοῦ τὸ μὲν λευκὸν τὸ δ’ ὠχρὸν ἀλλὰ μονόχρων πᾶν), καὶ τρέφονται ἐκ τούτου, καταναλισκομένου τε ἐπέρχεται καὶ περιφύεται ἡ σὰρξ ὁμοίως.

Περὶ μὲν οὖν τῶν ἐν αὑτοῖς μὲν ᾠοτοκούντων τέλειον ᾠὸν θύραζε δὲ ζῳοτοκούντων τούτου ἔχει τὸν τρόπον ἡ γένεσις,

Κεφάλαιο 4

οἱ δὲ πλεῖστοι τῶν ἄλλων ἰχθύων ἐκτὸς ᾠοτοκοῦσιν, ἀτελὲς δ' ᾠὸν πάντες πλὴν βατράχου· περὶ δὲ τούτου τὸ αἴτιον εἴρηται πρότερον. εἴρηται δὲ καὶ περὶ τῶν ἀτελῆ τικτόντων τὸ αἴτιον. Ἡ δὲ γένεσις καὶ τούτων ἡ μὲν ἐκ τοῦ ᾠοῦ τὸν αὐτὸν ἔχει τρόπον ὅνπερ καὶ τῶν σελαχῶν τῶν ἐντὸς ᾠοτοκούντων, πλὴν ἥ γ' αὔξησις ταχεῖα καὶ ἐκ μικρῶν καὶ τὸ ἔσχατον τοῦ ᾠοῦ σκληρότερον. ἡ δὲ τοῦ ᾠοῦ αὔξησις ὁμοία τοῖς σκώληξίν ἐστιν· καὶ γὰρ τὰ σκωληκοτοκοῦντα τῶν ζῴων μικρὸν ἀποτίκτει τὸ πρῶτον, τοῦτο δ' αὐξάνεται δι' αὑτοῦ καὶ οὐ διὰ πρόσφυσιν οὐδεμίαν. τὸ δ' αἴτιον παραπλήσιον ὅπερ ἐπὶ τῆς ζύμης· καὶ γὰρ ἡ ζύμη ἐκ μικρᾶς μεγάλη γίγνεται τοῦ μὲν στερεωτέρου ὑγραινομένου τοῦ δ' ὑγροῦ πνευματουμένου. δημιουργεῖ δὲ τοῦτο ἡ τοῦ ψυχικοῦ θερμοῦ φύσις ἐν τοῖς ζῴοις, ἐν δὲ ταῖς ζύμαις ἡ τοῦ χυμοῦ τοῦ συγκραθέντος θερμότης. αὐξάνεται μὲν οὖν τὰ ᾠὰ ἐξ ἀνάγκης μὲν διὰ ταύτην τὴν αἰτίαν (ἔχει γὰρ περίττωμα ζυμῶδες), χάριν δὲ τοῦ βελτίονος· ἐν ταῖς ὑστέραις γὰρ ἀδύνατον αὐτοῖς λαμβάνειν ὅλην τὴν αὔξησιν διὰ τὴν τῶν ζῴων πολυτοκίαν τούτων. διὰ τοῦτο γὰρ καὶ μικρὰ πάμπαν ἀποκρίνεται καὶ ταχεῖαν λαμβάνει τὴν αὔξησιν, μικρὰ μὲν διὰ τὸ στενοχωρῆ τὴν ὑστέραν εἶναι πρὸς τὸ πλῆθος τῶν ᾠῶν, ταχὺ δ' ὅπως μὴ χρονιζόντων ἐν τῇ γενέσει περὶ τὴν αὔξησιν φθείρηται τὸ γένος, ἐπεὶ καὶ νῦν τὰ πολλὰ φθείρεται τῶν ἐκτικτομένων κυημάτων. διόπερ πολύγονόν ἐστι τὸ γένος τὸ τῶν ἰχθύων· ἀναμάχεται γὰρ ἡ φύσις τῷ πλήθει τὴν φθοράν. εἰσὶ δέ τινες οἳ διαρρήγνυνται τῶν ἰχθύων, οἷον ἡ καλουμένη βελόνη, διὰ τὸ μέγεθος τῶν ᾠῶν· αὕτη γὰρ ἀντὶ τοῦ πολλὰ μεγάλα τὰ κυήματα ἴσχει· τοῦ γὰρ πλήθους ἡ φύσις ἀφελοῦσα προσέθηκε πρὸς τὸ μέγεθος.

Ὅτι μὲν οὖν αὐξάνεταί τε καὶ δι' ἣν αἰτίαν τὰ (755b.) τοιαῦτα τῶν ᾠῶν εἴρηται.

Κεφάλαιο 5

Ὅτι δ’ ᾠοτοκοῦσι καὶ οὗτοι οἱ ἰχθύες σημεῖον τὸ καὶ τοὺς ζῳοτοκοῦντας τῶν ἰχθύων οἷον τὰ σελάχη ᾠοτοκεῖν ἐν αὑτοῖς πρῶτον· δῆλον γὰρ ὅτι τὸ γένος ὅλον ἐστὶν ᾠοτόκον τὸ τῶν ἰχθύων. τέλος μέντοι οὐθὲν λαμβάνει τῶν τοιούτων ᾠῶν ὅσων ἐστὶ τὸ μὲν θῆλυ τὸ δ’ ἄρρεν καὶ γίγνονται ἐξ ὀχείας, ἐὰν μὴ ἐπιρράνῃ ὁ ἄρρην τὸν θορόν.

Εἰσὶ δέ τινες οἵ φασι πάντας εἶναι τοὺς ἰχθῦς θήλεις ἔξω τῶν σελαχῶν, οὐκ ὀρθῶς λέγοντες· οἴονται γὰρ διαφέρειν τῶν νομιζομένων ἀρρένων τοὺς θήλεις αὐτῶν ὥσπερ τῶν φυτῶν ἐν ὅσοις τὸ μὲν καρποφορεῖ τὸ δ’ ἄκαρπόν ἐστιν, οἷον ἐλάα καὶ κότινος καὶ συκῆ καὶ ἐρινεός· ὁμοίως δὲ καὶ τοὺς ἰχθῦς πλὴν τῶν σελαχῶν-τούτοις γὰρ οὐκ ἀμφισβητοῦσιν. καίτοι ὡσαύτως τε διάκεινται οἱ ἄρρενες περὶ τὰ θορικὰ οἵ τε σελαχώδεις καὶ οἱ ἐν τῷ γένει τῷ τῶν ᾠοτόκων, καὶ σπέρμα κατὰ τὴν ὥραν φαίνεται ἀμφοῖν ἐκθλιβόμενον.

ἔχουσι δὲ καὶ ὑστέρας αἱ θήλειαι· ἔδει δ’ οὐ μόνον τοὺς ᾠοτοκοῦντας ἀλλὰ καὶ τοὺς ἄλλους ἔχειν μέν, ἀλλὰ διαφερούσας τῶν ᾠοτοκούντων [ὥσπερ αἱ ἡμίονοι ἐν τῷ γένει τῷ τῶν λοφούρων] εἴπερ ἦν θῆλυ τὸ γένος πᾶν ἀλλ’ ἄτεκνοί τινες αὐτῶν. νῦν δ’ οἱ μὲν ἔχουσι θορικὰ οἱ δ’ ὑστέρας, καὶ ἐν ἅπασιν ἔξω δυοῖν, ἐρυθρίνου καὶ χάννης, αὕτη ἐστὶν ἡ διαφορά· οἱ μὲν γὰρ θορικὰ ἔχουσιν οἱ δ’ ὑστέρας. ἡ δ’ ἀπορία δι’ ἣν οὕτως ὑπολαμβάνουσιν εὔλυτος τὸ συμβαῖνον ἀκούσασιν. οὐθὲν γὰρ τῶν ὀχευομένων πολλά φασι τίκτειν, λέγοντες ὀρθῶς· ὅσα γὰρ ἐξ αὑτῶν γεννᾷ τέλεια ἢ ζῷα ἢ ᾠὰ οὐ πολυτοκεῖ οὕτως ὥσπερ οἱ ᾠοτοκοῦντες τῶν ἰχθύων· ἄπλετον γάρ τι τὸ τούτων πλῆθος τῶν ᾠῶν ἐστιν. ἀλλὰ τοῦτο οὐχὶ συνεωράκεσαν ὅτι οὐχ ὁμοιοτρόπως τοῖς τῶν ὀρνίθων ἔχει τὰ περὶ τὰ ᾠὰ τῶν ἰχθύων. οἱ μὲν γὰρ ὄρνιθες καὶ τῶν τετραπόδων ὅσα ᾠοτοκεῖ, καὶ εἴ τι τῶν σελαχωδῶν, τέλειον ᾠὸν γεννῶσι, καὶ οὐ λαμβάνει ἐξελθὸν αὔξησιν, -οἱ δ’ ἰχθύες ἀτελῆ, καὶ λαμβάνει θύραζε τὰ ᾠὰ τὴν αὔξησιν. ἔτι καὶ ἐπὶ τῶν μαλακίων τὸν αὐτὸν ἔχει τρόπον καὶ ἐπὶ τῶν μαλακοστράκων ἃ καὶ συνδυαζόμενα ὁρᾶται διὰ τὸ χρόνιον εἶναι τὸν συνδυασμὸν αὐτῶν· καὶ τούτων φανερόν ἐστι τὸ μὲν ἄρρεν ὄν, τὸ δ’ ἔχον ὑστέραν. ἄτοπον δὲ καὶ τὸ μὴ ἐν παντὶ <τῷ> γένει ταύτην (756a.) εἶναι τὴν δύναμιν, ὥσπερ ἐν τοῖς ζῳοτόκοις τὸ μὲν ἄρρεν τὸ δὲ θῆλυ. αἴτιον δὲ τοῖς ἐκείνως λέγουσι τῆς ἀγνοίας τὸ τὰς διαφορὰς μὴ δήλας εἶναι παντοδαπὰς οὔσας περί τε τὰς ὀχείας τῶν ζῴων καὶ τὰς γενέσεις, ἀλλ’ ἐξ ὀλίγων θεωροῦντας οἴεσθαι δεῖν ἔχειν ὁμοίως ἐπὶ πάντων.

Διὸ καὶ οἱ λέγοντες τὰς κυήσεις εἶναι ἐκ τοῦ ἀνακάπτειν τὸ σπέρμα τοὺς θήλεις τῶν ἰχθύων οὐ κατανενοηκότες ἔνια λέγουσιν οὕτως. ὑπὸ τὸν αὐτὸν γὰρ καιρὸν οἵ τ’ ἄρρενες τὸν θορὸν καὶ αἱ θήλειαι τὰ ᾠὰ ἔχουσι, καὶ ὅσῳ ἂν ᾖ ἐγγυτέρω ἡ θήλεια τοῦ τίκτειν τότε πλείων καὶ ὑγρότερος ὁ θορὸς ἐν τῷ ἄρρενι ἐγγίνεται. καὶ ὥσπερ ἡ αὔξησις κατὰ τὸν αὐτὸν χρόνον τοῦ θοροῦ ἐν τῷ ἄρρενι καὶ τοῦ ᾠοῦ ἐν τῇ θηλείᾳ οὕτω καὶ ἡ ἄφεσις συμβαίνει· οὔτε γὰρ αἱ θήλειαι ἀθρόα ἐκτίκτουσιν ἀλλὰ κατὰ μικρόν, οὔθ’ οἱ ἄρρενες ἀθρόον ἀφιᾶσι τὸν θορόν. καὶ ταῦτα πάντα συμβαίνει κατὰ λόγον· ὥσπερ γὰρ καὶ τὸ τῶν ὀρνέων γένος ἐν ἐνίοις ἴσχει μὲν ᾠὰ ἄνευ κυήσεως-ὀλίγα δὲ καὶ ὀλιγάκις, ἀλλ’ ἐξ ὀχείας τὰ πολλά-τοῦτ’ αὐτὸ συμβαίνει καὶ ἐπὶ τῶν ἰχθύων, ἧττον δέ. ἄγονα δὲ καὶ ἀμφοτέροις γίγνεται τὰ αὐτόματα ἐὰν μὴ ἐπιρράνῃ τὸ ἄρρεν, ἐν ὅσοις γένεσιν αὐτῶν καὶ τὸ ἄρρεν ἐστίν. τοῖς μὲν οὖν ὄρνισι διὰ τὸ τέλεια ἐξιέναι τὰ ᾠὰ ἔτι ἐντὸς ὄντων ἀνάγκη τοῦτο συμβῆναι· τοῖς δ’ ἰχθύσι διὰ τὸ ἀτελῆ καὶ ἔξω λαμβάνειν τὴν αὔξησιν πᾶσιν, εἰ καὶ μηlt;δὲν> ἐντὸς ἐξ ὀχείας γένηται γόνιμον, ὅμως τὰ ἔξω ἐπιρραινόμενα σώζεται, καὶ ἐνταῦθα ἀναλίσκεται ὁ θορὸς τοῖς ἄρρεσιν. διὸ καὶ συγκαταβαίνει ἐλαττούμενος ἅμα τοῖς ᾠοῖς τοῖς ἐν τοῖς θήλεσιν· ἀεὶ γὰρ τοῖς ἐκτικτομένοις ἐπιρραίνουσι παρακολουθοῦντες. ὥστε ἄρρενες μὲν καὶ θήλεις εἰσὶ καὶ ὀχεύονται πάντες, εἰ μὴ ἔν τινι γένει ἀδιόριστόν ἐστι τὸ θῆλυ καὶ τὸ ἄρρεν, καὶ ἄνευ τῆς τοῦ ἄρρενος γονῆς οὐ γίγνεται τῶν τοιούτων οὐθέν.

Συμβάλλεται δὲ πρὸς τὴν ἀπάτην αὐτοῖς καὶ τὸ ταχὺν εἶναι τὸν συνδυασμὸν τῶν τοιούτων ἰχθύων ὥστε πολλοὺς λανθάνειν καὶ τῶν ἁλιέων· οὐθεὶς γὰρ αὐτῶν οὐθὲν τηρεῖ τοιοῦτον τοῦ γνῶναι χάριν, ἀλλ’ ὅμως ὠμμένος ὁ συνδυασμός ἐστιν. τὸν αὐτὸν γὰρ τρόπον οἵ (756b.) τε δελφῖνες ὀχεύονται παραπίπτοντες καὶ οἱ ἰχθύες ὅσοις ἐμποδίζει τὸ οὐραῖον, ἀλλὰ τῶν μὲν δελφίνων χρονιωτέρα ἡ ἀπόλυσίς ἐστι, τῶν δὲ τοιούτων ἰχθύων ταχεῖα. διόπερ ταύτην οὐχ ὁρῶντες, τὰς δ’ ἀνακάψεις τοῦ θοροῦ καὶ τῶν ᾠῶν, καὶ οἱ ἁλιεῖς περὶ τῆς κυήσεως τῶν ἰχθύων τὸν εὐήθη λέγουσι λόγον καὶ τεθρυλημένον ὅνπερ καὶ Ἡρόδοτος ὁ μυθολόγος, ὡς κυϊσκομένων τῶν ἰχθύων ἐκ τοῦ ἀνακάπτειν τὸν θορόν, οὐ συνορῶντες ὅτι τοῦτ’ ἔστιν ἀδύνατον. ὁ γὰρ πόρος ὁ διὰ τοῦ στόματος εἰσιὼν εἰς τὴν κοιλίαν φέρει ἀλλ’ οὐκ εἰς τὰς ὑστέρας· καὶ τὸ μὲν εἰς τὴν κοιλίαν ἐλθὸν ἀνάγκη τροφὴν γίγνεσθαι (καταπέττεται γάρ), αἱ δ’ ὑστέραι φαίνονται πλήρεις ᾠῶν, -ἃ πόθεν εἰσῆλθεν;

Κεφάλαιο 6

Ὁμοίως δὲ καὶ περὶ τὴν τῶν ὀρνίθων γένεσιν ἔχει. εἰσὶ γάρ τινες οἳ λέγουσι κατὰ τὸ στόμα μίγνυσθαι τούς τε κόρακας καὶ τὴν ἶβιν καὶ τῶν τετραπόδων τίκτειν κατὰ τὸ στόμα τὴν γαλῆν. ταῦτα γὰρ καὶ Ἀναξαγόρας καὶ τῶν ἄλλων τινὲς φυσικῶν λέγουσι λίαν ἁπλῶς καὶ ἀσκέπτως λέγοντες, περὶ μὲν οὖν τῶν ὀρνίθων ἐκ συλλογισμοῦ διαψευδόμενοι τῷ τὴν μὲν ὀχείαν ὀλιγάκις ὁρᾶσθαι τὴν τῶν κοράκων, τὴν δὲ τοῖς ῥύγχεσι πρὸς ἄλληλα κοινωνίαν πολλάκις ἣν πάντα ποιεῖται τὰ κορακώδη τῶν ὀρνέων· δῆλον δὲ τοῦτο ἐπὶ τῶν τιθασευομένων κολοιῶν. τὸ δ’ αὐτὸ τοῦτο ποιεῖ καὶ τὸ τῶν περιστερῶν γένος· ἀλλὰ διὰ τὸ καὶ ὀχευόμενα φαίνεσθαι, διὰ τοῦτο ταύτης οὐ τετυχήκασι τῆς φήμης.

τὸ δὲ κορακῶδες γένος οὐκ ἔστιν ἀφροδισιαστικόν (ἔστι γὰρ τῶν ὀλιγογόνων), ἐπεὶ ὦπταί γ’ ἤδη καὶ τοῦτο ὀχευόμενον. τὸ δὲ δὴ μὴ συλλογίζεσθαι πῶς εἰς τὰς ὑστέρας ἀφικνεῖται τὸ σπέρμα διὰ τῆς κοιλίας πεττούσης ἀεὶ τὸ ἐγγιγνόμενον καθάπερ τὴν τροφήν, ἄτοπον. ὑστέρας δ’ ἔχουσι καὶ ταῦτα τὰ ὄρνεα, καὶ ᾠὰ φαίνεται πρὸς τοῖς ὑποζώμασιν. καὶ ἡ γαλῆ καθάπερ τἆλλα τετράποδα τὸν αὐτὸν τρόπον ἔχει ἐκείνοις τὰς ὑστέρας- ἐξ ὧν εἰς τὸ στόμα πῇ βαδιεῖται τὸ ἔμβρυον; ἀλλὰ διὰ τὸ τίκτειν πάμπαν μικρὰ τὴν γαλῆν καθάπερ καὶ τἆλλα σχιζόποδα, περὶ ὧν (757a.) ὕστερον ἐροῦμεν, τῷ δὲ στόματι πολλάκις μεταφέρειν τοὺς νεοττούς, ταύτην πεποίηκε τὴν δόξαν.

Εὐηθικῶς δὲ καὶ λίαν διεψευσμένοι καὶ οἱ περὶ τρόχου καὶ ὑαίνης λέγοντες. φασὶ γὰρ τὴν μὲν ὕαιναν πολλοί, τὸν δὲ τρόχον Ἡρόδωρος ὁ Ἡρακλεώτης δύο αἰδοῖα ἔχειν, ἄρρενος καὶ θήλεος, καὶ τὸν μὲν τρόχον αὐτὸν αὐτὸν ὀχεύειν, τὴν δ’ ὕαιναν ὀχεύειν καὶ ὀχεύεσθαι παρ’ ἔτος. ὦπται γὰρ ἡ ὕαινα ἓν ἔχουσα αἰδοῖον· ἐν ἐνίοις γὰρ τόποις οὐ σπάνις τῆς θεωρίας· ἀλλ’ ἔχουσιν αἱ ὕαιναι ὑπὸ τὴν κέρκον ὁμοίαν γραμμὴν τῷ τοῦ θήλεος αἰδοίῳ. ἔχουσι μὲν οὖν καὶ οἱ ἄρρενες καὶ αἱ θήλειαι τὸ τοιοῦτον σημεῖον, ἀλλ’ ἁλίσκονται οἱ ἄρρενες μᾶλλον· διὸ τοῖς ἐκ παρόδου θεωροῦσι ταύτην ἐποίησε τὴν δόξαν. ἀλλὰ περὶ μὲν τούτων ἅλις τὰ εἰρημένα.

Κεφάλαιο 7

Περὶ δὲ τῆς τῶν ἰχθύων γενέσεως ἀπορήσειεν ἄν τις διὰ τίνα ποτὲ αἰτίαν τῶν μὲν σελαχωδῶν οὔθ’ αἱ θήλειαι τὰ κυήματα οὔθ’ οἱ ἄρρενες ἀπορραίνοντες ὁρῶνται τὸν θορόν, τῶν δὲ μὴ ζῳοτόκων καὶ αἱ θήλειαι τὰ ᾠὰ καὶ οἱ ἄρρενες τὸν θορόν. αἴτιον δ’ ὅτι τὸ γένος οὐ πολύσπερμον ὅλως τὸ τῶν σελαχωδῶν· καὶ ἔτι αἵ γε θήλειαι πρὸς τῷ διαζώματι τὰς ὑστέρας ἔχουσιν. τὰ γὰρ ἄρρενα τῶν ἀρρένων καὶ τὰ θήλεα τῶν θηλειῶν ὁμοίως διαφέρουσιν· ὀλιγοχούστεροι γὰρ πρὸς τὴν γονὴν οἱ σελαχώδεις εἰσίν. τὸ δ’ ἄρρεν γένος ἐν τοῖς ᾠοτόκοις, καθάπερ αἱ θήλειαι τὰ ᾠὰ διὰ πλῆθος ἀποτίκτουσιν, οὕτως ἐκεῖνοι ἀπορραίνουσιν· πλείω γὰρ ἔχουσι θορὸν ἢ ὅσον πρὸς τὴν ὀχείαν ἱκανόν· μᾶλλον γὰρ βούλεται ἡ φύσις δαπανᾶν τὸν θορὸν πρὸς τὸ συναύξειν τὰ ᾠά, ὅταν ἀποτέκῃ ἡ θήλεια, ἢ πρὸς τὴν ἐξ ἀρχῆς σύστασιν. καθάπερ γὰρ ἔν τε τοῖς ἄνω καὶ τοῖς ὑπογύοις εἴρηται λόγοις, τὰ μὲν τῶν ὀρνέων ᾠὰ τελειοῦται ἐντός, τὰ δὲ τῶν ἰχθύων ἐκτός. τρόπον γάρ τινα ἔοικε τοῖς σκωληκοτοκοῦσιν· ἔτι γὰρ ἀτελέστερον προΐεται τὸ κύημα τὰ σκωληκοτόκα τῶν ζῴων. ἀμφοτέροις δὲ τὴν τελείωσιν καὶ τοῖς τῶν ὀρνίθων ᾠοῖς καὶ τοῖς τῶν ἰχθύων ποιεῖ τὸ ἄρρεν, ἀλλὰ τοῖς μὲν τῶν ὀρνίθων ἐντός (τελειοῦται γὰρ ἐντός), τοῖς δὲ τῶν ἰχθύων ἐκτὸς διὰ τὸ ἔξω προΐεσθαι ἀτελές, ἐπεὶ συμβαίνει γε ἐπ’ ἀμφοτέρων (757b.) ταὐτόν.

Τῶν μὲν οὖν ὀρνίθων τά τε ὑπηνέμια γίγνεται γόνιμα, καὶ τὰ προωχευμένα ὑφ’ ἑτέρου γένους τῶν ἀρρένων μεταβάλλει τὴν φύσιν εἰς τὸν ὕστερον ὀχεύοντα. καὶ τὰ οἰκεῖα δέ, †ἀναύξητα ὄντα ἂν διαλείπῃ τὴν ὀχείαν, ὅταν ὀχευθῇ† πάλιν ποιεῖ ταχείαν λαμβάνειν τὴν αὔξησιν-οὐ μέντοι κατὰ πάντα τὸν χρόνον, ἀλλ’ ἐάνπερ πρότερον γένηται ἡ ὀχεία πρὶν μεταβαλεῖν εἰς τὴν τοῦ λευκοῦ ἀπόκρισιν. τοῖς δὲ τῶν ἰχθύων οὐθὲν ὥρισται τοιοῦτον ἀλλὰ πρὸς τὸ σώζεσθαι ταχέως ἐπιρραίνουσιν οἱ ἄρρενες. αἴτιον δ’ ὅτι οὐ δίχροα ταῦτα· διόπερ οὐχ ὥρισται τοιοῦτος καιρὸς τούτοις οἷος ἐπὶ τῶν ὀρνίθων. τοῦτο δὲ συμβέβηκεν εὐλόγως· ὅταν γὰρ τὸ λευκὸν ἀφωρισμένον ᾖ καὶ τὸ ὠχρὸν ἀπ’ ἀλλήλων, ἔχει ἤδη τὴν ἀπὸ τοῦ ἄρρενος ἀρχήν (ταύτην γὰρ συμβάλλεται τὸ ἄρρεν). τὰ μὲν οὖν ὑπηνέμια λαμβάνει τὴν γένωσιν μέχρι τοῦ ἐνδεχομένου αὐτοῖς· τελεωθῆναι μὲν γὰρ εἰς ζῷον ἀδύνατον (δεῖ γὰρ αἰσθήσεως), τὴν δὲ θρεπτικὴν δύναμιν τῆς ψυχῆς ἔχει καὶ τὰ θήλεα καὶ τὰ ἄρρενα καὶ πάντα τὰ ζῶντα, καθάπερ εἴρηται πολλάκις· διόπερ αὐτὸ τὸ ᾠὸν ὡς μὲν φυτοῦ κύημα τέλειόν ἐστιν, ὡς δὲ ζῴου ἀτελές. εἰ μὲν οὖν μὴ ἐνῆν ἄρρεν ἐν τῷ γένει αὐτῶν, ἐγίγνετ’ ἂν ὥσπερ καὶ ἐπί tlt;ιν>ων ἰχθύων-εἴπερ ἔστι τι τοιοῦτον γένος οἷον ἄνευ ἄρρενος γεννᾶν· εἴρηται δὲ περὶ αὐτῶν καὶ πρότερον ὅτι οὔ πω ὦπται ἱκανῶς-νῦν δ’ ἐστὶν ἐν πᾶσι τοῖς ὄρνισι τὸ μὲν θῆλυ τὸ δ’ ἄρρεν, ὥσθ’ ᾗ μὲν φυτὸν τετελέωκεν (διόπερ οὐ μεταβάλλει πάλιν μετὰ τὴν ὀχείαν) ᾗ δ’ οὐ φυτὸν οὐ τετελέωκεν, οὐδ’ ἀποβαίνει ἐξ αὐτοῦ ἕτερον οὐθέν· οὔτε γὰρ ὡς φυτὸν ἁπλῶς οὔθ’ ὡς ζῷον ἐκ συνδυασμοῦ γέγονεν. τὰ δ’ ἐξ ὀχείας μὲν γενόμενα ᾠὰ διακεκριμένα δ’ εἰς τὸ λευκὸν γίγνεται κατὰ τὸ πρῶτον ὀχεῦσαν· ἔχει γὰρ ἀμφοτέρας ἤδη τὰς ἀρχάς.

Κεφάλαιο 8

Τὸν αὐτὸν δὲ τρόπον καὶ τὰ μαλάκια ποιεῖται τὸν τόκον οἷον σηπίαι καὶ τὰ τοιαῦτα, καὶ τὰ μαλακόστρακα οἷον κάραβοι καὶ τὰ συγγενῆ τούτοις· τίκτει γὰρ ἐξ ὀχείας καὶ ταῦτα καὶ συνδυαζόμενον τὸ ἄρρεν τῷ θήλει πολλάκις ὦπται. διόπερ οὐδ’ ἱστορικῶς οὐδὲ ταύτῃ φαίνονται λέγοντες οἱ (758a.) φάσκοντες τοὺς ἰχθῦς πάντας εἶναι θήλεις καὶ τίκτειν οὐκ ἐξ ὀχείας· τὸ γὰρ ταῦτα μὲν ἐξ ὀχείας οἴεσθαι ἐκεῖνα δὲ μὴ θαυμαστόν, εἴ τε τοῦτ’ ἐλελήθει σημεῖον ἀπειρίας. γίγνεται δὲ ὁ συνδυασμὸς τούτων χρονιώτερος πάντων, ὥσπερ τῶν ἐντόμων, εὐλόγως· ἄναιμα γάρ ἐστι, διόπερ ψυχρὰ τὴν φύσιν.

Ταῖς μὲν οὖν σηπίαις καὶ ταῖς τευθίσι δύο τὰ ᾠὰ φαίνεται διὰ τὸ διηρθρῶσθαι τὴν ὑστέραν καὶ φαίνεσθαι δικρόαν· τὸ δὲ τῶν πολυπόδων ἓν ᾠόν. αἴτιον δ’ ἡ μορφὴ στρογγύλη τὴν ἰδέαν οὖσα καὶ σφαιροειδής· ἡ γὰρ σχίσις ἄδηλος πληρωθείσης ἐστίν. δικρόα δὲ καὶ ἡ τῶν καράβων ἐστὶν ὑστέρα. ἀποτίκτουσι δὲ τὸ κύημα ἀτελὲς καὶ ταῦτα πάντα διὰ τὴν αὐτὴν αἰτίαν. τὰ μὲν οὖν καραβώδη τὰ θήλεα πρὸς αὑτὰ ποιεῖται τὸν τόκον (διόπερ μείζους ἔχει τὰς πλάκας τὰ θήλεα αὐτῶν ἢ τὰ ἄρρενα, φυλακῆς χάριν τῶν ᾠῶν), τὰ δὲ μαλάκια ἔξω. καὶ τοῖς μὲν θήλεσι τῶν μαλακίων ἐπιρραίνει ὁ ἄρρην καθάπερ οἱ ἄρρενες ἰχθύες τοῖς ᾠοῖς, καὶ γίγνεται συνεχὲς καὶ κολλῶδες· τοῖς δὲ καραβώδεσιν οὔτ’ ὦπται τοιοῦτον οὔτ’ εὔλογον· ὑπό τε γὰρ τῇ θηλείᾳ τὸ κύημα καὶ σκληρόδερμόν ἐστι, καὶ λαμβάνει αὔξησιν καὶ ταῦτα καὶ τὰ τῶν μαλακίων ἔξω, καθάπερ καὶ τὰ τῶν ἰχθύων.

Προσπέφυκε δ’ ἡ γιγνομένη σηπία τοῖς ᾠοῖς κατὰ τὸ πρόσθιον· ταύτῃ γὰρ ἐνδέχεται μόνον· ἔχει γὰρ μόνον ἐπὶ ταὐτὸ τὸ ὀπίσθιον μέρος καὶ τὸ πρόσθιον. τὸ δὲ σχῆμα τῆς θέσεως ὃν ἔχει γιγνόμενα τρόπον δεῖ θεωρεῖν ἐκ τῶν ἱστοριῶν.

Κεφάλαιο 9

Περὶ μὲν οὖν τῶν ἄλλων ζῴων τῆς γενέσεως εἴρηται, καὶ πεζῶν καὶ πλωτῶν καὶ πτηνῶν· περὶ δὲ τῶν ἐντόμων καὶ τῶν ὀστρακοδέρμων λεκτέον κατὰ τὴν ὑφηγημένην μέθοδον. εἴπωμεν δὴ πρῶτον περὶ τῶν ἐντόμων. ὅτι μὲν οὖν τὰ μὲν ἐξ ὀχείας γίγνεται τῶν τοιούτων τὰ δ’ αὐτόματα πρότερον ἐλέχθη, πρὸς δὲ τούτοις ὅτι σκωληκοτοκεῖ καὶ διὰ τίν’ αἰτίαν σκωληκοτοκεῖ. σχεδὸν γὰρ ἔοικε πάντα τρόπον τινὰ σκωληκοτοκεῖν τὸ πρῶτον· τὸ γὰρ ἀτελέστατον κύημα τοιοῦτόν ἐστιν, ἐν πᾶσι δὲ καὶ τοῖς ζῳοτοκοῦσι καὶ τοῖς ᾠοτοκοῦσι τέλειον ᾠὸν τὸ κύημα τὸ πρῶτον ἀδιόριστον ὂν λαμβάνει τὴν αὔξησιν· τοιαύτη δ’ ἐστὶν ἡ τοῦ σκώληκος φύσις. μετὰ δὲ τοῦτο τὰ μὲν ᾠοτοκεῖ τὸ κύημα τέλειον τὰ δ’ ἀτελές, ἔξω (758b.) δὲ γίγνεται τέλειον, καθάπερ ἐπὶ τῶν ἰχθύων εἴρηται πολλάκις. τὰ δ’ ἐν αὑτοῖς ζῳοτοκοῦντα τρόπον τινὰ μετὰ τὸ σύστημα τὸ ἐξ ἀρχῆς ᾠοειδὲς γίγνεται· περιέχεται γὰρ τὸ ὑγρὸν ὑμένι λεπτῷ, καθάπερ ἂν εἴ τις ἀφέλοι τὸ τῶν ᾠῶν ὄστρακον· διὸ καὶ καλοῦσι τὰς τότε γιγνομένας τῶν κυημάτων φθορὰς ἐκρύσεις.

Τὰ δ’ ἔντομα καὶ γεννᾷ τὰ γεννῶντα σκώληκας, καὶ τὰ γιγνόμενα μὴ δι’ ὀχείας ἀλλ’ αὐτόματα ἐκ τοιαύτης γίγνεται πρῶτον συστάσεως. δεῖ γὰρ καὶ τὰς κάμπας εἶδός τι τιθέναι σκώληκος, καὶ τὰ τῶν ἀραχνίων. καίτοι δόξειεν ἂν ᾠοῖς ἐοικέναι διὰ τὴν τοῦ σχήματος περιφέρειαν καὶ τούτων [δὲ] ἔνια καὶ πολλὰ τῶν ἄλλων· ἀλλ’ οὐ τῷ σχήματι λεκτέον οὐδὲ τῇ μαλακότητι καὶ σκληρότητι (καὶ γὰρ σκληρὰ τὰ κυήματα γίγνεται ἐνίων) ἀλλὰ τῷ ὅλον μεταβάλλειν καὶ μὴ ἐκ μορίου τινὸς γίγνεσθαι τὸ ζῷον. προελθόντα δὲ πάντα τὰ σκωληκώδη καὶ τοῦ μεγέθους λαβόντα τέλος οἷον ᾠὸν γίγνεται· σκληρύνεταί τε γὰρ περὶ αὐτὰ τὸ κέλυφος καὶ ἀκινητίζουσι κατὰ τοῦτον τὸν καιρόν.

δῆλον δὲ τοῦτο ἐν τοῖς σκώληξι τοῖς τῶν μελιττῶν καὶ σφηκῶν καὶ ταῖς κάμπαις. τούτου δ’ αἴτιον ὅτι ἡ φύσις ὡσπερανεὶ πρὸ ὥρας ᾠοτοκεῖ διὰ τὴν ἀτέλειαν τὴν αὑτῆς, ὡς ὄντος τοῦ σκώληκος ἔτι ἐν αὐξήσει ᾠοῦ μαλακοῦ. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων συμβαίνει πάντων τῶν μὴ ἐξ ὀχείας γιγνομένων ἐν ἐρίοις ἤ τισιν ἄλλοις τοιούτοις καὶ τῶν ἐν τοῖς ὕδασιν. πάντα γὰρ μετὰ τὴν τοῦ σκώληκος φύσιν ἀκινητίσαντα καὶ τοῦ κελύφους περιξηρανθέντος, μετὰ ταῦτα τούτου ῥαγέντος ἐξέρχεται καθάπερ ἐξ ᾠοῦ ζῷον ἐπιτελεσθὲν ἐπὶ τῆς τρίτης γενέσεως, ὧν τὰ [πλεῖστα] πτερωτὰ <πλείω> τῶν πεζῶν ἐστιν.

Κατὰ λόγον δὲ συμβαίνει καὶ τὸ θαυμασθὲν ἂν δικαίως ὑπὸ πολλῶν· αἵ τε γὰρ κάμπαι λαμβάνουσαι τὸ πρῶτον τροφὴν μετὰ ταῦτα οὐκέτι λαμβάνουσιν, ἀλλ’ ἀκινητίζουσιν αἱ καλούμεναι ὑπό τινων χρυσαλλίδες, καὶ τῶν σφηκῶν οἱ σκώληκες καὶ τῶν μελιττῶν *** μετὰ ταῦτα αἱ καλούμεναι νύμφαι γίγνονται, καὶ τοιοῦτον οὐδὲν ἔχουσιν. καὶ γὰρ ἡ τῶν ᾠῶν φύσις ὅταν λάβῃ τέλος ἀναυξής ἐστι, τὸ δὲ πρῶτον αὐξάνεται καὶ λαμβάνει τροφὴν ἕως ἂν διορισθῇ καὶ γένηται τέλειον ᾠόν. τῶν δὲ σκωλήκων οἱ μὲν ἔχουσιν ἐν ἑαυτοῖς τὸ τοιοῦτον ὅθεν τρεφομένοις ἐπιγίγνεται (759a.) τὸ τοιοῦτον περίττωμα, <οἷον> οἱ τῶν μελιττῶν καὶ σφηκῶν, οἱ δὲ λαμβάνουσι θύραθεν, ὥσπερ αἵ τε κάμπαι καὶ τῶν ἄλλων τινὲς σκωλήκων.

Διότι μὲν οὖν τριγενῆ τε γίγνεται τὰ τοιαῦτα καὶ δι’ ἣν αἰτίαν ἐκ κινουμένων ἀκινητίζει πάλιν εἴρηται· γίγνεται δὲ τὰ μὲν ἐξ ὀχείας αὐτῶν καθάπερ οἵ τε ὄρνιθες καὶ τὰ ζῳοτόκα καὶ τῶν ἰχθύων οἱ πλεῖστοι, τὰ δ’ αὐτόματα καθάπερ ἔνια τῶν φυομένων.

Κεφάλαιο 10

Ἡ δὲ τῶν μελιττῶν γένεσις ἔχει πολλὴν ἀπορίαν. εἴπερ γάρ ἐστι καὶ περὶ τοὺς ἰχθῦς τοιαύτη τις γένεσις ἐνίων ὥστ’ ἄνευ ὀχείας γεννᾶν, τοῦτο συμβαίνειν ἔοικε καὶ περὶ τὰς μελίττας ἐκ τῶν φαινομένων. ἀνάγκη γὰρ ἤτοι φέρειν αὐτὰς ἄλλοθεν τὸν γόνον ὥσπερ τινές φασι-καὶ τοῦτον ἢ φυόμενον αὐτόματον ἢ ἄλλου τινὸς ζῴου τίκτοντος-ἢ γεννᾶν αὐτάς· ἢ τὸν μὲν φέρειν τὸν δὲ γεννᾶν (καὶ γὰρ τοῦτο λέγουσί τινες ὡς τὸν τῶν κηφήνων μόνων φέρουσι γόνον)· καὶ γεννᾶν ἢ ὀχευομένας ἢ ἀνοχεύτους· καὶ ὀχευομένας γεννᾶν ἤτοι ἕκαστον γένος καθ’ αὑτό, ἢ ἕν τι αὐτῶν τἆλλα, ἢ συνδυαζόμενον ἄλλο γένος ἄλλῳ, -λέγω δ’ οἷον μελίττας μὲν γίγνεσθαι ἐκ μελιττῶν συνδυαζομένων, κηφῆνας δ’ ἐκ κηφήνων καὶ τοὺς βασιλεῖς ἐκ τῶν βασιλέων, ἢ πάντα τἆλλα ἐξ ἑνὸς οἷον ἐκ τῶν καλουμένων βασιλέων καὶ ἡγεμόνων, ἢ ἐκ τῶν κηφήνων καὶ τῶν μελιττῶν· φασὶ γάρ τινες τοὺς μὲν ἄρρενας εἶναι τὰς δὲ θηλείας, οἱ δὲ τὰς μὲν μελίττας ἄρρενας τοὺς δὲ κηφῆνας θήλεις.

Ταῦτα δ’ ἐστὶ πάντα ἀδύνατα συλλογιζομένοις τὰ μὲν ἐκ τῶν συμβαινόντων ἰδίᾳ περὶ τὰς μελίττας, τὰ δ’ ἐκ τῶν κοινοτέρων τοῖς ἄλλοις ζῴοις. εἴτε γὰρ μὴ τίκτουσαι φέρουσιν ἄλλοθεν ἔδει γίγνεσθαι μελίττας, καὶ μὴ φερουσῶν τῶν μελιττῶν, ἐν τοῖς τόποις ἐξ ὧν τὸ σπέρμα φέρουσιν. διὰ τί γὰρ μετενεχθέντος μὲν ἔσται, ἐκεῖ δ’ οὐκ ἔσται; προσήκει γὰρ οὐδὲν ἧττον, εἴτε φυόμενον ἐν τοῖς ἄνθεσιν αὐτόματον εἴτε ζῴου τινὸς τίκτοντος. κἂν εἴ γε ζῴου τινὸς ἑτέρου τὸ σπέρμα ἦν, ἐκεῖνο ἔδει γίγνεσθαι ἐξ αὐτοῦ ἀλλὰ μὴ μελίττας. ἔτι δὲ τὸ μὲν μέλι κομίζειν εὔλογον (τροφὴ γάρ), τὸ δὲ τὸν γόνον ἀλλότριον ὄντα καὶ μὴ τροφὴν ἄτοπον. τίνος γὰρ χάριν; πάντα γὰρ ὅσα πραγματεύεται περὶ τὰ τέκνα περὶ τὸν φαινόμενον οἰκεῖον (759b.) διαπονεῖται γόνον.

Ἀλλὰ μὴν οὐδὲ τὰς μὲν μελίττας θηλείας εἶναι τοὺς δὲ κηφῆνας ἄρρενας εὔλογον· οὐδενὶ γὰρ τὸ πρὸς ἀλκὴν ὅπλον τῶν θηλειῶν ἀποδίδωσιν ἡ φύσις, εἰσὶ δ’ οἱ μὲν κηφῆνες ἄκεντροι, αἱ δὲ μέλιτται πᾶσαι κέντρον ἔχουσιν. οὐδὲ τοὐναντίον εὔλογον, τὰς μὲν μελίττας ἄρρενας τοὺς δὲ κηφῆνας θήλεις· οὐδὲν γὰρ τῶν ἀρρένων εἴωθε διαπονεῖσθαι περὶ τὰ τέκνα, νῦν δ’ αἱ μέλιτται τοῦτο ποιοῦσιν. ὅλως δ’ ἐπειδὴ φαίνεται ὁ μὲν τῶν κηφήνων γόνος ἐγγιγνόμενος καὶ μηθενὸς ὄντος κηφῆνος, ὁ δὲ τῶν μελιττῶν οὐκ ἐγγιγνόμενος ἄνευ τῶν βασιλέων (διὸ καί φασί τινες τὸν τῶν κηφήνων φέρεσθαι μόνον), δῆλον ὡς οὐκ ἐξ ὀχείας γίγνονται, οὔτ' ἐξ ἑκατέρου τοῦ γένους αὐτοῦ αὐτῷ συνδυαζομένου οὔτ' ἐκ μελιττῶν καὶ κηφήνων. τό τε τοῦτον φέρειν μόνον διά τε τὰ εἰρημένα ἀδύνατον, καὶ οὐκ εὔλογον μὴ περὶ πᾶν τὸ γένος αὐτῶν ὅμοιόν τι συμβαίνειν πάθος. ἀλλὰ μὴν οὐδ' αὐτὰς τὰς μελίττας ἐνδέχεται τὰς μὲν ἄρρενας εἶναι τὰς δὲ θηλείας· ἐν πᾶσι γὰρ διαφέρει τοῖς γένεσι τὸ θῆλυ καὶ τὸ ἄρρεν. κἂν ἐγέννων αὑταὶ αὑτάς· νῦν δ' οὐ φαίνεται γιγνόμενος ὁ γόνος αὐτῶν ἐὰν μὴ ἐνῶσιν οἱ ἡγεμόνες, ὥς φασιν. κοινὸν δὲ καὶ πρὸς τὴν ἐξ ἀλλήλων γένεσιν καὶ πρὸς τὴν ἐκ τῶν κηφήνων, καὶ χωρὶς καὶ μετ' ἀλλήλων, τὸ μηδέποτε ὦφθαι ὀχευόμενον μηθὲν αὐτῶν· εἰ δ' ἦν ἐν αὐτοῖς τὸ μὲν θῆλυ τὸ δ' ἄρρεν πολλάκις ἂν τοῦτο συνέβαινεν. λείπεται δ', εἴπερ ἐξ ὀχείας γίγνεται, τοὺς βασιλεῖς γεννᾶν συνδυαζομένους.

Ἀλλ' οἱ κηφῆνες φαίνονται γιγνόμενοι καὶ μὴ ἐνόντων ἡγεμόνων, ὧν οὔτε φέρειν οἷόν τε τὸν γόνον τὰς μελίττας οὔτε γεννᾶν αὐτὰς ὀχευομένας. λείπεται δή, καθάπερ φαίνεται συμβαῖνον ἐπί τινων ἰχθύων, τὰς μελίττας ἄνευ ὀχείας γεννᾶν τοὺς κηφῆνας, τῷ μὲν γεννᾶν οὔσας θηλείας, ἐχούσας δ' ἐν αὑταῖς ὥσπερ τὰ φυτὰ καὶ τὸ θῆλυ καὶ τὸ ἄρρεν. διὸ καὶ τὸ πρὸς τὴν ἀλκὴν ἔχουσιν ὄργανον· οὐ γὰρ δεῖ θῆλυ καλεῖν ἐν ᾧ ἄρρεν μή ἐστι κεχωρισμένον. εἰ δ' ἐπὶ τῶν κηφήνων τοῦτο φαίνεται συμβαῖνον καὶ γιγνόμενοι μὴ ἐξ ὀχείας, ἤδη καὶ κατὰ τῶν μελιττῶν καὶ τῶν βασιλέων τὸν αὐτὸν ἀναγκαῖον εἶναι λόγον καὶ μὴ γεννᾶσθαι ἐξ ὀχείας. εἰ μὲν οὖν ἄνευ τῶν βασιλέων ἐφαίνετ' ἐγγιγνόμενος ὁ γόνος (760a.) τῶν μελιττῶν, κἂν τὰς μελίττας ἀναγκαῖον ἦν ἐξ αὑτῶν ἄνευ ὀχείας γίγνεσθαι. νῦν δ' ἐπειδὴ τοῦτ' οὔ φασιν οἱ περὶ τὴν θεραπείαν τούτων τῶν ζῴων ὄντες, λείπεται τοὺς βασιλεῖς καὶ αὑτοὺς γεννᾶν καὶ τὰς μελίττας.

Ὄντος δὴ περιττοῦ τοῦ γένους καὶ ἰδίου τοῦ τῶν μελιττῶν καὶ ἡ γένεσις αὐτῶν ἴδιος εἶναι φαίνεται. τὸ μὲν γὰρ γεννᾶν τὰς μελίττας ἄνευ ὀχείας εἴη ἂν καὶ ἐπ' ἄλλων ζῴων συμβαῖνον, ἀλλὰ τὸ μὴ τὸ αὐτὸ γένος γεννᾶν ἴδιον· οἱ γὰρ ἐρυθρῖνοι γεννῶσιν ἐρυθρίνους καὶ αἱ χάνναι χάννας. αἴτιον δ' ὅτι καὶ αὐταὶ γεννῶνται αἱ μέλιτται οὐχ ὥσπερ αἱ μυῖαι καὶ τὰ τοιαῦτα τῶν ζῴων ἀλλ' ἐξ ἑτέρου μὲν συγγενοῦς δὲ γένους· γίγνονται γὰρ ἐκ τῶν ἡγεμόνων. διὸ καὶ ἔχει ἀνάλογόν πως ἡ γένεσις αὐτῶν· οἱ μὲν γὰρ ἡγεμόνες μεγέθει μὲν ὅμοιοί εἰσι τοῖς κηφῆσι, τῷ δὲ κέντρον ἔχειν ταῖς μελίτταις· αἱ μὲν οὖν μέλιτται κατὰ τοῦτ' ἐοίκασιν αὐτοῖς, οἱ δὲ κηφῆνες κατὰ τὸ μέγεθος· ἀνάγκη γάρ τι παραλλάττειν, εἰ μὴ δεῖ ἀεὶ τὸ αὐτὸ γένος ἐξ ἑκάστου γίγνεσθαι (τοῦτο δ' ἀδύνατον· πᾶν γὰρ ἂν τὸ γένος ἡγεμόνες ἦσαν). αἱ μὲν οὖν μέλιτται κατὰ τὴν δύναμιν αὐτοῖς ὡμοίωνται καὶ τῷ τίκτειν, οἱ δὲ κηφῆνες κατὰ τὸ μέγεθος. [εἰ δ’ εἶχον καὶ κέντρον ἡγεμόνες ἂν ἦσαν. νῦν δὲ τοῦτο λείπεται τῆς ἀπορίας· οἱ γὰρ ἡγεμόνες ἀμφοτέροις ἐοίκασιν ἐν τῷ αὐτῷ τοῖς γένεσι, τῷ μὲν κέντρον ἔχειν ταῖς μελίτταις τῷ δὲ μεγέθει τοῖς κηφῆσιν.] ἀναγκαῖον δὲ καὶ τοὺς ἡγεμόνας γίγνεσθαι ἔκ τινος. ἐπεὶ οὖν οὔτ’ ἐκ τῶν μελιττῶν οὔτ’ ἐκ τῶν κηφήνων αὐτοῖς ἀναγκαῖον καὶ αὑτοὺς γεννᾶν.

γίγνονται δ’ ἐπὶ τέλει οἱ κύτταροι αὐτῶν καὶ οὐ πολλοὶ τὸν ἀριθμόν. ὥστε συμβαίνει τοὺς μὲν ἡγεμόνας γεννᾶν μὲν καὶ αὑτούς, γεννᾶν δὲ καὶ ἄλλο τι γένος (τοῦτο δ’ ἐστὶ τὸ τῶν μελιττῶν), τὰς δὲ μελίττας ἄλλο μέν τι γεννᾶν, τοὺς κηφῆνας, αὑτὰς δὲ μηκέτι γεννᾶν, ἀλλὰ τοῦτ’ ἀφῃρῆσθαι αὐτῶν. ἐπεὶ δ’ ἀεὶ τὸ κατὰ φύσιν ἔχει τάξιν, διὰ τοῦτο τῶν κηφήνων ἀναγκαῖον καὶ τὸ ἄλλο τι γένος γεννᾶν ἀφῃρῆσθαι. ὅπερ καὶ φαίνεται συμβαῖνον· αὐτοὶ μὲν γὰρ γίγνονται, ἄλλο δ’ οὐθὲν γεννῶσιν ἀλλ’ ἐν τῷ τρίτῳ ἀριθμῷ πέρας ἔσχεν ἡ γένεσις. καὶ οὕτω δὴ συνέστηκε τῇ φύσει (760b.) καλῶς ὥστ’ αἰεὶ διαμένειν ὄντα τὰ γένη καὶ μηδὲν ἐλλείπειν, μὴ πάντων γεννώντων. εὔλογον δὲ καὶ τοῦτο συμβαίνειν, ἐν μὲν ταῖς εὐετηρίαις μέλι καὶ κηφῆνας γίγνεσθαι πολλούς, ἐν δὲ ταῖς ἐπομβρίαις ὅλως γόνον πολύν. αἱ μὲν γὰρ ὑγρότητες περίττωμα ποιοῦσι πλεῖον ἐν τοῖς σώμασι τῶν ἡγεμόνων, αἱ δ’ εὐετηρίαι ἐν τοῖς τῶν μελιττῶν· ἐλάττω γὰρ ὄντα τῷ μεγέθει δεῖται τῆς εὐετηρίας μᾶλλον. εὖ δὲ καὶ τὸ τοὺς βασιλεῖς ὥσπερ πεποιημένους ἐπὶ τέκνωσιν ἔσω μένειν ἀφειμένους τῶν ἀναγκαίων ἔργων, καὶ μέγεθος δὲ ἔχειν ὥσπερ ἐπὶ τεκνοποιίαν συστάντος τοῦ σώματος αὐτῶν· τούς τε κηφῆνας ἀργοὺς ἅτ’ οὐδὲν ἔχοντας ὅπλον πρὸς τὸ διαμάχεσθαι περὶ τῆς τροφῆς καὶ διὰ τὴν βραδυτῆτα τὴν τοῦ σώματος.

αἱ δὲ μέλιτται μέσαι [τὸ μέγεθός] εἰσιν ἀμφοῖν (χρήσιμοι γὰρ οὕτω πρὸς τὴν ἐργασίαν), καὶ ἐργάτιδες ὡς καὶ τέκνα τρέφουσαι καὶ πατέρας. ὁμολογούμενον δ’ ἐστὶ καὶ τὸ ἐπακολουθεῖν τοῖς βασιλεῦσι τῷ τὴν γένεσιν ἐκ τούτων εἶναι τὴν τῶν μελιττῶν (εἰ γὰρ μηθὲν τοιοῦτον ὑπῆρχεν, οὐκ εἶχε λόγον τὰ συμβαίνοντα περὶ τὴν ἡγεμονίαν αὐτῶν), καὶ τὸ τοὺς μὲν ἐᾶν μηθὲν ἐργαζομένους ὡς γονεῖς, τοὺς δὲ κηφῆνας κολάζειν ὡς τέκνα· κάλλιον γὰρ τὰ τέκνα κολάζειν καὶ ὧν μηθέν ἐστιν ἔργον. τὸ δὲ τὰς μελίττας γεννᾶν πολλὰς αὐτοὺς ὄντας ὀλίγους τοὺς ἡγεμόνας παραπλήσιον ἔοικε συμβαίνειν τῇ γενέσει τῇ τῶν λεόντων, οἳ τὸ πρῶτον πέντε γεννήσαντες ὕστερον ἐλάττω γεννῶσι καὶ τέλος ἕν, εἶτ’ οὐδέν. οἱ δ’ ἡγεμόνες τὸ μὲν πρῶτον πλῆθος, ὕστερον δ’ ὀλίγους αὑτούς, κἀκείνων μὲν ἐλάττω τὸν γόνον, αὐτῶν δ’ ἐπεὶ τοῦ πλήθους ἀφεῖλε, τὸ μέγεθος αὐτοῖς ἀπέδωκεν ἡ φύσις.

Ἐκ μὲν οὖν τοῦ λόγου τὰ περὶ τὴν γένεσιν τῶν μελιττῶν τοῦτον ἔχειν φαίνεται τὸν τρόπον καὶ ἐκ τῶν συμβαίνειν δοκούντων περὶ αὐτάς· οὐ μὴν εἴληπταί γε τὰ συμβαίνοντα ἱκανῶς, ἀλλ' ἐάν ποτε ληφθῇ τότε τῇ αἰσθήσει μᾶλλον τῶν λόγων πιστευτέον, καὶ τοῖς λόγοις ἐὰν ὁμολογούμενα δεικνύωσι τοῖς φαινομένοις.

[[Πρὸς δὲ τὸ μὴ ἐξ ὀχείας γίγνεσθαι σημεῖον καὶ τὸ τὸν γόνον φαίνεσθαι μικρὸν ἐν τοῖς τοῦ κηρίου κυτταρίοις· ὅσα δ' ἐξ ὀχείας τῶν ἐντόμων γεννᾶται συνδυάζεται (761a.) μὲν πολὺν χρόνον, τίκτει δὲ ταχέως καὶ μέγεθος ἔχον σκωληκοειδές.]]

Περὶ δὲ τὴν γένεσιν τὴν τῶν συγγενῶν ζῴων αὐταῖς, οἷον ἀνθρηνῶν τε καὶ σφηκῶν, τρόπον τιν' ἔχει παραπλησίως πᾶσιν, ἀφῄρηται δὲ τὸ περιττὸν εὐλόγως· οὐ γὰρ ἔχουσιν οὐθὲν θεῖον ὥσπερ τὸ γένος τὸ τῶν μελιττῶν. γεννῶσι μὲν γὰρ αἱ μῆτραι καλούμεναι καὶ τὰ πρῶτα συμπλάττουσι τῶν κηρίων, ὀχευόμεναι δὲ γεννῶσιν ὑπ' ἀλλήλων· ὦπται γὰρ πολλάκις ὁ συνδυασμὸς αὐτῶν. πόσας δ' ἔχουσι διαφορὰς ἢ πρὸς ἄλληλα τῶν τοιούτων γενῶν ἕκαστον ἢ πρὸς τὰς μελίττας ἐκ τῶν περὶ τὰς ἱστορίας ἀναγεγραμμένων δεῖ θεωρεῖν.

Κεφάλαιο 11

Καὶ περὶ μὲν τῶν ἐντόμων τῆς γενέσεως εἴρηται πάντων, περὶ δὲ τῶν ὀστρακοδέρμων λεκτέον.

Ἔχει δὲ καὶ τούτων τὰ περὶ τὴν γένεσιν τῇ μὲν ὁμοίως τῇ δ’ οὐχ ὁμοίως τοῖς ἄλλοις. καὶ τοῦτ’ εὐλόγως συμβαίνει· πρὸς μὲν γὰρ τὰ ζῷα φυτοῖς ἐοίκασι πρὸς δὲ τὰ φυτὰ ζῴοις, ὥστε τρόπον μέν τινα ἀπὸ σπέρματος φαίνεσθαι γιγνόμενα, τρόπον δ’ ἄλλον οὐκ ἀπὸ σπέρματος, καὶ τῇ μὲν αὐτόματα τῇ δ’ ἀφ’ αὐτῶν, ἢ τὰ μὲν οὕτως τὰ δ’ ἐκείνως. διὰ δὲ τὸ τοῖς φυτοῖς ἀντίστροφον ἔχειν τὴν φύσιν, διὰ τοῦτο ἐν μὲν τῇ γῇ τῶν ὀστρακοδέρμων οὐθὲν ἢ μικρόν τι γίγνεται γένος, οἷον τὸ τῶν κοχλιῶν κἂν εἴ τι τοιοῦτον ἕτερον μὲν σπάνιον δέ, ἐν δὲ τῇ θαλάττῃ καὶ τοῖς ὁμοίοις ὑγροῖς πολλὰ καὶ παντοδαπὴν ἔχοντα μορφήν. τὸ δὲ τῶν φυτῶν γένος ἐν μὲν τῇ θαλάττῃ καὶ τοῖς τοιούτοις μικρὸν καὶ πάμπαν ὡς εἰπεῖν οὐθέν, ἐν δὲ τῇ γῇ τὰ τοιαῦτα γίγνεται πάντα· τὴν γὰρ φύσιν ἀνάλογον ἔχει, καὶ διέστηκεν ὅσῳ ζωτικώτερον τὸ ὑγρὸν τοῦ ξηροῦ καὶ γῆς ὕδωρ τοσοῦτον ἡ τῶν ὀστρακοδέρμων φύσις τῆς τῶν φυτῶν, ἐπεὶ βούλεταί γε ὡς τὰ φυτὰ πρὸς τὴν γῆν οὕτως ἔχειν τὰ ὀστρακόδερμα πρὸς τὸ ὑγρόν, ὡς ὄντα τὰ μὲν φυτὰ ὡσπερανεὶ ὄστρεα χερσαῖα τὰ δὲ ὄστρεα ὡσπερανεὶ φυτὰ ἔνυδρα.

Διὰ τοιαύτην δ’ αἰτίαν καὶ πολύμορφα τὰ ἐν τῷ ὑγρῷ μᾶλλόν ἐστι τῶν ἐν τῇ γῇ· τό τε γὰρ ὑγρὸν εὐπλαστοτέραν ἔχει τὴν φύσιν τῆς γῆς καὶ σωματικὴν οὐ πολλῷ ἧττον, καὶ μάλιστα τὰ ἐν τῇ θαλάττῃ τοιαῦτα· (761b.) τὸ μὲν γὰρ πότιμον γλυκὺ μὲν καὶ τρόφιμον, ἧττον δὲ σωματῶδες καὶ ψυχρόν ἐστιν. διόπερ ὅσα ἄναιμα καὶ μὴ θερμὰ τὴν φύσιν οὐ γίγνεται ἐν ταῖς λίμναις οὐδὲ τῶν ἁλμυρῶν ἐν τοῖς ποτιμωτέροις ἀλλ’ ἧττον, οἷον τὰ ὀστρακόδερμα καὶ τὰ μαλάκια καὶ τὰ μαλακόστρακα (πάντα γὰρ ἄναιμα καὶ ψυχρὰ ταῦτα τὴν φύσιν ἐστίν), ἐν δὲ ταῖς λιμνοθαλάτταις καὶ πρὸς ταῖς ἐκβολαῖς τῶν ποταμῶν γίγνονται· ζητοῦσι γὰρ ἅμα τήν τ’ ἀλέαν καὶ τὴν τροφήν, ἡ δὲ θάλαττα ὑγρά τε καὶ σωματώδης πολλῷ μᾶλλον τοῦ ποτίμου καὶ θερμὴ τὴν φύσιν ἐστί, καὶ κεκοινώνηκε πάντων τῶν μορίων, ὑγροῦ καὶ πνεύματος καὶ γῆς, ὥστε καὶ πάντων μετέχειν τῶν καθ’ ἕκαστον γιγνομένων ἐν τοῖς τόποις ζῴων. τὰ μὲν γὰρ φυτὰ θείη τις ἂν γῆς, ὕδατος δὲ τὰ ἔνυδρα, τὰ δὲ πεζὰ ἀέρος· τὸ δὲ μᾶλλον καὶ ἧττον καὶ ἐγγύτερον καὶ πορρώτερον πολλὴν ποιεῖ καὶ θαυμαστὴν διαφοράν. τὸ δὲ τέταρτον γένος οὐκ ἐπὶ τούτων τῶν τόπων δεῖ ζητεῖν· καίτοι βούλεταί γέ τι κατὰ τὴν τοῦ πυρὸς εἶναι τάξιν· τοῦτο γὰρ τέταρτον ἀριθμεῖται τῶν σωμάτων. ἀλλὰ τὸ μὲν πῦρ ἀεὶ φαίνεται τὴν μορφὴν οὐκ ἰδίαν ἔχον, ἀλλ’ ἐν ἑτέρῳ τῶν σωμάτων· ἢ γὰρ ἀὴρ ἢ καπνὸς ἢ γῆ φαίνεται τὸ πεπυρωμένον. ἀλλὰ δεῖ τὸ τοιοῦτον γένος ζητεῖν ἐπὶ τῆς σελήνης· αὕτη γὰρ φαίνεται κοινωνοῦσα τῆς τετάρτης ἀποστάσεως. ἀλλὰ περὶ μὲν τούτων ἄλλος ἂν εἴη λόγος.

Ἡ δὲ τῶν ὀστρακοδέρμων συνίσταται φύσις τῶν μὲν αὐτόματος, ἐνίων δὲ προϊεμένων τινὰ δύναμιν ἀφ’ αὑτῶν, πολλάκις δὲ γιγνομένων καὶ τούτων ἀπὸ συστάσεως αὐτομάτου. δεῖ δὴ λαβεῖν τὰς γενέσεις τὰς τῶν φυτῶν. τούτων γὰρ γίγνεται τὰ μὲν ἀπὸ σπέρματος τὰ δ’ ἀπὸ σπαραγμάτων ἀποφυτευομένων, ἔνια δὲ τῷ παραβλαστάνειν, οἷον τὸ τῶν κρομμύων γένος. τοῦτον μὲν οὖν οἱ μύες γίγνονται τὸν τρόπον· παραφύονται γὰρ ἐλάττους ἀεὶ παρὰ τὴν ἀρχήν. κήρυκες δὲ καὶ πορφύραι καὶ τὰ λεγόμενα κηριάζειν οἷον ἀπὸ σπερματικῆς φύσεως προΐενται μυξώδεις ὑγρότητας. σπέρμα δ’ οὐθὲν τούτων δεῖ νομίζειν ἀλλὰ κατὰ τὸν εἰρημένον τρόπον μετέχειν τῆς ὁμοιότητος τοῖς φυτοῖς· διὸ καὶ γίγνεται πλῆθος τῶν τοιούτων ὅταν ἅπαξ (762a.) γένηταί τι. πάντα μὲν γὰρ ταῦτα καὶ αὐτόματα συμβαίνει γίγνεσθαι, κατὰ λόγον δὲ καὶ ὑπαρξάντων συνίστασθαι μᾶλλον. περιγίγνεσθαι γάρ τι περίττωμα πρὸς ἑκάστῳ τῆς ἀρχῆς εὔλογον ἀφ’ ἧς παραβλαστάνει τῶν παραφυομένων ἕκαστον. ἐπεὶ δὲ παραπλησίαν ἔχει τὴν δύναμιν ἡ τροφὴ καὶ τὸ ταύτης περίττωμα, τῶν κηριαζόντων ὁμοίαν εἰκός ἐστιν εἶναι τῇ ἐξ ἀρχῆς συστάσει οὐσίαν· διόπερ εὔλογον γίγνεσθαι καὶ ἐκ ταύτης.

Ὅσα δὲ μήτε παραβλαστάνει μήτε κηριάζει, τούτων δὲ πάντων ἡ γένεσις αὐτόματός ἐστιν. πάντα δὲ τὰ συνιστάμενα τὸν τρόπον τοῦτον καὶ ἐν γῇ καὶ ἐν ὕδατι φαίνεται γιγνόμενα μετὰ σήψεως καὶ μιγνυμένου τοῦ ὀμβρίου ὕδατος· ἀποκρινομένου γὰρ τοῦ γλυκέος εἰς τὴν συνισταμένην ἀρχὴν τὸ περιττεῦον τοιαύτην λαμβάνει μορφήν. γίγνεται δ’ οὐθὲν σηπόμενον ἀλλὰ πεττόμενον· ἡ δὲ σῆψις καὶ τὸ σαπρὸν περίττωμα τοῦ πεφθέντος ἐστίν· οὐθὲν γὰρ ἐκ παντὸς γίγνεται καθάπερ οὐδ’ ἐν τοῖς ὑπὸ τῆς τέχνης δημιουργουμένοις- οὐθὲν γὰρ ἂν ἔδει ποιεῖν-νῦν δὲ τὸ μὲν ἡ τέχνη τῶν ἀχρήστων ἀφαιρεῖ, τὸ δ’ ἡ φύσις.

Γίγνονται δ’ ἐν γῇ καὶ ἐν ὑγρῷ τὰ ζῷα καὶ τὰ φυτὰ διὰ τὸ ἐν γῇ μὲν ὕδωρ ὑπάρχειν ἐν δ’ ὕδατι πνεῦμα, ἐν δὲ τούτῳ παντὶ θερμότητα ψυχικήν, ὥστε τρόπον τινὰ πάντα ψυχῆς εἶναι πλήρη· διὸ συνίσταται ταχέως ὁπόταν ἐμπεριληφθῇ. ἐμπεριλαμβάνεται δὲ καὶ γίγνεται θερμαινομένων τῶν σωματικῶν ὑγρῶν οἷον ἀφρώδης πομφόλυξ. αἱ μὲν οὖν διαφοραὶ τοῦ τιμιώτερον εἶναι τὸ γένος καὶ ἀτιμότερον τὸ συνιστάμενον ἐν τῇ περιλήψει τῆς ἀρχῆς τῆς ψυχικῆς ἐστιν. τούτου δὲ καὶ οἱ τόποι αἴτιοι καὶ τὸ σῶμα τὸ περιλαμβανόμενον. ἐν δὲ τῇ θαλάττῃ πολὺ τὸ γεῶδες ἔνεστιν· διόπερ ἐκ τῆς τοιαύτης συστάσεως ἡ τῶν ὀστρακοδέρμων γίγνεται φύσις, κύκλῳ μὲν τοῦ γεώδους σκληρυνομένου καὶ πηγνυμένου τὴν αὐτὴν πῆξιν τοῖς ὀστοῖς καὶ τοῖς κέρασι (πυρὶ γὰρ ἄτηκτα ταῦτ’ ἐστίν), ἐντὸς δὲ περιλαμβανομένου τοῦ τὴν ζωὴν ἔχοντος σώματος.

Μόνον δὲ τῶν τοιούτων συνδυαζομένων ἑώραται τὸ τῶν κοχλιῶν γένος. εἰ δ’ ἐκ τοῦ συνδυασμοῦ ἡ γένεσις αὐτῶν ἐστιν ἢ μὴ οὔπω συνῶπται ἱκανῶς.

Ζητήσειε δ’ ἄν τις βουλόμενος ὀρθῶς ζητεῖν τί (762b.) τὸ κατὰ τὴν ὑλικὴν ἀρχὴν συνιστάμενόν ἐστιν ἐν τοῖς τοιούτοις. ἐν μὲν γὰρ τοῖς θήλεσι περίττωμά τι τοῦ ζῴου τοῦτ’ ἔστιν, ὃ ἡ παρὰ τοῦ ἄρρενος ἀρχὴ κινοῦσα, δυνάμει τοιοῦτον ὂν οἷον ἀφ’ οὗπερ ἦλθεν, ἀποτελεῖ τὸ ζῷον. ἐνταῦθα δὲ τί δεῖ λέγειν τὸ τοιοῦτον, καὶ πόθεν καὶ τίς ἡ κινοῦσα ἀρχὴ ἡ κατὰ τὸ ἄρρεν; δεῖ δὴ λαβεῖν ὅτι καὶ ἐν τοῖς ζῴοις τοῖς γεννῶσιν ἐκ τῆς εἰσιούσης τροφῆς ἡ ἐν τῷ ζῴῳ θερμότης ἀποκρίνουσα καὶ συμπέττουσα ποιεῖ τὸ περίττωμα, τὴν ἀρχὴν τοῦ κυήματος. ὁμοίως δὲ καὶ ἐν τοῖς φυτοῖς, πλὴν ἐν μὲν τούτοις καὶ ἔν τισι τῶν ζῴων οὐθὲν προσδεῖται τῆς τοῦ ἄρρενος ἀρχῆς (ἔχει γὰρ ἐν αὑτοῖς μεμιγμένην), τὸ δὲ τῶν πλείστων ζῴων περίττωμα προσδεῖται. τροφὴ δ’ ἐστὶ τοῖς μὲν ὕδωρ καὶ γῆ, τοῖς δὲ τὰ ἐκ τούτων, ὥσθ’ ὅπερ ἡ ἐν τοῖς ζῴοις θερμότης ἐκ τῆς τροφῆς ἀπεργάζεται, τοῦθ’ ἡ τῆς ὥρας ἐν τῷ περιέχοντι θερμότης ἐκ θαλάττης καὶ γῆς συγκρίνει πέττουσα καὶ συνίστησιν. τὸ δ’ ἐναπολαμβανόμενον ἢ ἀποκρινόμενον ἐν τῷ πνεύματι τῆς ψυχικῆς ἀρχῆς κύημα ποιεῖ καὶ κίνησιν ἐντίθησιν. ἡ μὲν οὖν τῶν φυτῶν τῶν ἀπὸ ταὐτομάτου γιγνομένων σύστασις ὁμοειδής ἐστιν· ἔκ τινος γὰρ μορίου γίγνεται, καὶ τὸ μὲν ἀρχὴ τὸ δὲ τροφὴ γίγνεται ἡ πρώτη τοῖς ἐκφυομένοις. -τὰ δὲ τῶν ζῴων σκωληκοτοκεῖται, καὶ τῶν ἀναίμων ὅσα μὴ ἀπὸ ζῴων γίγνεται καὶ τῶν ἐναίμων, οἷον γένος τι κεστρέων καὶ ἄλλων ποταμίων ἰχθύων, ἔτι δὲ τὸ τῶν ἐγχέλεων γένος· ἅπαντα γὰρ ταῦτα καίπερ ὀλίγαιμον ἔχοντα τὴν φύσιν ὅμως ἔναιμά ἐστι, καὶ καρδίαν ἔχουσι τὴν ἀρχὴν τὴν τῶν μορίων αἱματικήν. τὰ δὲ καλούμενα γῆς ἔντερα σκώληκος ἔχει φύσιν, ἐν οἷς ἐγγίγνεται τὸ σῶμα τὸ τῶν ἐγχέλεων. διὸ καὶ περὶ τῆς τῶν ἀνθρώπων καὶ τετραπόδων γενέσεως ὑπολάβοι τις ἄν, εἴπερ ἐγίγνοντό ποτε γηγενεῖς ὥσπερ φασί τινες, δύο τρόπων τούτων γίγνεσθαι τὸν ἕτερον· ἢ γὰρ ὡς σκώληκος συνισταμένου τὸ πρῶτον ἢ ἐξ ᾠῶν. -ἀναγκαῖον γὰρ ἢ ἐν αὑτοῖς ἔχειν τὴν τροφὴν εἰς τὴν αὔξησιν (τὸ δὲ τοιοῦτον κύημα σκώληξ ἐστίν) ἢ λαμβάνειν ἄλλοθεν, τοῦτο δ’ ἢ ἐκ τῆς γεννώσης ἢ ἐκ μορίου τοῦ κυήματος· ὥστ’ εἰ θάτερον ἀδύνατον, ἐπιρρεῖν ἐκ τῆς γῆς ὥσπερ ἐν τοῖς ἄλλοις (763a.) ζῴοις ἐκ τῆς μητρός, ἀναγκαῖον ἐκ μορίου λαμβάνειν τοῦ κυήματος· τὴν δὲ τοιαύτην ἐξ ᾠοῦ λέγομεν εἶναι γένεσιν.

-ὅτι μὲν οὖν, εἴπερ ἦν τις ἀρχὴ τῆς γενέσεως πᾶσι τοῖς ζῴοις, εὔλογον τοῖν δυοῖν τούτοιν εἶναι τὴν ἑτέραν φανερόν· ἧττον δ’ ἔχει λόγον ἐκ τῶν ᾠῶν· οὐθενὸς γὰρ τοιαύτην ὁρῶμεν ζῴου γένεσιν ἀλλὰ τὴν ἑτέραν, καὶ τῶν ἐναίμων τῶν ῥηθέντων καὶ τῶν ἀναίμων. τοιαῦτα δ’ ἐστὶ τῶν τ’ ἐντόμων ἔνια καὶ τὰ ὀστρακόδερμα περὶ ὧν ὁ λόγος· οὐ γὰρ ἐκ μορίου γίγνονταί τινος ὥσπερ τὰ ᾠοτοκούμενα, ποιοῦνται δὲ καὶ τὴν αὔξησιν ὁμοίως τοῖς σκώληξιν. ἐπὶ τὰ ἄνω γὰρ καὶ τὴν ἀρχὴν αὐξάνονται οἱ σκώληκες· ἐν τῷ κάτω γὰρ ἡ τροφὴ τοῖς ἄνω. καὶ τοῦτό γε ὁμοίως ἔχει τοῖς ἐκ τῶν ᾠῶν, πλὴν ἐκεῖνα μὲν καταναλίσκει πᾶν, ἐν δὲ τοῖς σκωληκοτοκουμένοις ὅταν αὐξηθῇ ἐκ τῆς ἐν τῷ κάτω μορίῳ συστάσεως τὸ ἄνω μόριον, οὕτως ἐκ τῆς ὑπολοίπου διαρθροῦται τὸ κάτωθεν. αἴτιον δ’ ὅτι καὶ ὕστερον ἡ τροφὴ ἐν τῷ μορίῳ τῷ ὑπὸ τὸ ὑπόζωμα γίγνεται πᾶσιν. ὅτι δὲ τοῦτον τὸν τρόπον ποιεῖται τὰ σκωληκώδη τὴν αὔξησιν δῆλον ἐπὶ τῶν μελιττῶν καὶ τῶν τοιούτων· κατ’ ἀρχὰς γὰρ τὸ μὲν κάτω μόριον μέγα ἔχουσι τὸ δ’ ἄνω μικρόν. καὶ ἐπὶ τῶν ὀστρακοδέρμων δὲ τὸν αὐτὸν τρόπον ἔχει τὰ περὶ τὴν αὔξησιν. φανερὸν δὲ καὶ τοῦτ’ ἐπὶ τῶν στρομβωδῶν <ἐν> ταῖς ἑλίκαις· ἀεὶ γὰρ αὐξανομένων γίγνονται μείζους ἐπὶ τὸ πρόσθιον καὶ τὴν καλουμένην κεφαλήν.

Ὃν μὲν οὖν τρόπον ἔχει ἡ γένεσις καὶ τούτων καὶ τῶν ἄλλων τῶν αὐτομάτων εἴρηται σχεδόν.

Ὅτι δὲ συνίσταται αὐτόματα πάντα τὰ ὀστρακόδερμα φανερὸν ἐκ τῶν τοιούτων ὅτι πρός τε τοῖς πλοίοις γίγνεται σηπομένης τῆς ἀφρώδους ἰλύος, καὶ πολλαχοῦ οὗ πρότερον οὐθὲν ὑπῆρχε τοιοῦτον, ὕστερον δι’ ἔνδειαν ὑγροῦ τοῦ τόπου βορβορωθέντος ἐγένετο τὰ καλούμενα λιμνόστρεα τῶν ὀστρακηρῶν, οἷον περὶ Ῥόδον παραβαλόντος ναυτικοῦ στόλου καὶ ἐκβληθέντων κεραμίων εἰς τὴν θάλατταν, χρόνου γενομένου καὶ βορβόρου περὶ αὐτὰ συναλισθέντος ὄστρεα εὑρίσκοντ’ ἐν αὐτοῖς. ὅτι δ’ οὐδ’ ἀφίησι τὰ τοιαῦτα οὐθὲν ἀφ’ αὑτῶν γεννητικὸν τεκμήριον· (763b.) ἐπεὶ γὰρ Χῖοί τινες ἐκ Πύρρας τῆς ἐν Λέσβῳ τῶν ὀστρέων διεκόμισαν ζῶντα καὶ εἰς τόπους τινὰς τῆς θαλάττης εὐριπώδεις καὶ ὁμόρρους ἀφεῖσαν, πλείω μὲν τῷ χρόνῳ οὐδὲν ἐγένετο, τὸ δὲ μέγεθος εἰς αὔξησιν ἐπέδωκε πολύ. τὰ δὲ λεγόμενα ᾠὰ οὐθὲν συμβάλλεται πρὸς τὴν γένεσιν ἀλλ’ ἐστὶν εὐτροφίας σημεῖον, οἷον ἐν τοῖς ἐναίμοις ἡ πιότης· διὸ καὶ πρὸς τὴν ἐδωδὴν γίγνεται εὔχυμα κατὰ τοὺς καιροὺς τούτους.

σημεῖον δ’ ὅτι τὰ τοιαῦτα ἀεὶ ἔχουσιν, οἷον αἱ πίνναι καὶ οἱ κήρυκες καὶ αἱ πορφύραι, πλὴν ὁτὲ μὲν μείζω ὁτὲ δ’ ἐλάττω. ἔνια δ’ οὐκ ἀεί, ἀλλὰ τοῦ μὲν ἔαρος ἔχουσι, προβαινούσης δὲ φθίνει τῆς ὥρας καὶ τέλος ἀφανίζεται πάμπαν, οἷον οἵ τε κτένες καὶ οἱ μύες καὶ τὰ καλούμενα λιμνόστρεα· ἡ γὰρ ὥρα αὕτη συμφέρει τοῖς σώμασιν αὐτῶν. τοῖς δὲ συμβαίνει τοιοῦτον οὐδὲν ἐπίδηλον, οἷον τοῖς τηθύοις. τὰ δὲ καθ’ ἕκαστα περὶ τούτων καὶ ἐν οἷς γίγνονται τόποις ἐκ τῆς ἱστορίας θεωρείσθω.

Βιβλίο 4

Κεφάλαιο 1

Περὶ μὲν οὖν τῆς γενέσεως τῆς τῶν ζῴων εἴρηται καὶ κοινῇ καὶ χωρὶς περὶ πάντων. ἐπεὶ δ’ ἐν τοῖς τελειοτάτοις αὐτῶν ἐστι τὸ θῆλυ καὶ τὸ ἄρρεν κεχωρισμένον, καὶ ταύτας τὰς δυνάμεις ἀρχάς φαμεν εἶναι πάντων καὶ ζῴων καὶ φυτῶν, ἀλλὰ τὰ μὲν αὐτὰς ἀχωρίστους ἔχει τὰ δὲ κεχωρισμένας, λεκτέον περὶ τῆς γενέσεως τῆς τούτων πρῶτον· ἔτι γὰρ ἀτελῶν ὄντων ἐν τῷ γένει διορίζεται τὸ θῆλυ καὶ τὸ ἄρρεν. πότερον δὲ καὶ πρὶν δήλην τὴν διαφορὰν εἶναι πρὸς τὴν αἴσθησιν ἡμῶν τὸ μὲν θῆλυ τὸ δ’ ἄρρεν ἐστίν, ἐν τῇ μητρὶ λαβόντα τὴν διαφορὰν ἢ πρότερον, ἀμφισβητεῖται.

φασὶ γὰρ οἱ μὲν ἐν τοῖς σπέρμασιν εἶναι ταύτην τὴν ἐναντίωσιν εὐθύς, οἷον Ἀναξαγόρας καὶ ἕτεροι τῶν φυσιολόγων· γίγνεσθαί τε γὰρ ἐκ τοῦ ἄρρενος τὸ σπέρμα, τὸ δὲ θῆλυ παρέχειν τὸν τόπον, καὶ εἶναι τὸ μὲν ἄρρεν ἐκ τῶν δεξιῶν τὸ δὲ θῆλυ ἐκ τῶν ἀριστερῶν, καὶ τῆς ὑστέρας τὰ μὲν ἄρρενα ἐν τοῖς (764a.) δεξιοῖς εἶναι τὰ δὲ θήλεα ἐν τοῖς ἀριστεροῖς. οἱ δ’ ἐν τῇ μήτρᾳ, καθάπερ Ἐμπεδοκλῆς· τὰ μὲν γὰρ εἰς θερμὴν ἐλθόντα τὴν ὑστέραν ἄρρενα γίγνεσθαί φησι τὰ δ’ εἰς ψυχρὰν θήλεα, τῆς δὲ θερμότητος καὶ τῆς ψυχρότητος τὴν τῶν καταμηνίων αἰτίαν εἶναι ῥύσιν, ἢ ψυχροτέραν οὖσαν ἢ θερμοτέραν καὶ παλαιοτέραν ἢ προσφατωτέραν. Δημόκριτος δὲ ὁ Ἀβδηρίτης ἐν μὲν τῇ μητρὶ γίγνεσθαί φησι τὴν διαφορὰν τοῦ θήλεος καὶ τοῦ ἄρρενος, οὐ μέντοι διὰ θερμότητά γε ἢ ψυχρότητα τὸ μὲν γίγνεσθαι θῆλυ τὸ δ’ ἄρρεν ἀλλ’ ὁποτέρου ἂν κρατήσῃ τὸ σπέρμα τὸ ἀπὸ τοῦ μορίου ἐλθὸν ᾧ διαφέρουσιν ἀλλήλων τὸ θῆλυ καὶ τὸ ἄρρεν.

τοῦτο γὰρ ὡς ἀληθῶς Ἐμπεδοκλῆς ῥᾳθυμότερον ὑπείληφεν οἰόμενος ψυχρότητι καὶ θερμότητι διαφέρειν μόνον ἀλλήλων, ὁρῶν ὅλα τὰ μόρια μεγάλην ἔχοντα διαφορὰν τήν τε τῶν αἰδοίων καὶ τὴν τῆς ὑστέρας. εἰ γὰρ πεπλασμένων τῶν ζῴων, τοῦ μὲν τὰ μόρια ἔχοντος τὰ τοῦ θήλεος τοῦ δὲ τὰ τοῦ ἄρρενος, καθάπερ εἰς κάμινον εἰς τὴν ὑστέραν τεθείη, τὸ μὲν ἔχον ὑστέραν εἰς θερμὴν τὸ δὲ μὴ ἔχον εἰς ψυχράν, ἔσται θῆλυ τὸ οὐκ ἔχον ὑστέραν καὶ ἄρρεν τὸ ἔχον. τοῦτο δ’ ἀδύνατον. ὥστε ταύτῃ γε βέλτιον ἂν λέγοι Δημόκριτος· ζητεῖ γὰρ ταύτης τῆς γενέσεως τὴν διαφορὰν καὶ πειρᾶται λέγειν-εἰ δὲ καλῶς ἢ μὴ καλῶς ἕτερος λόγος. ἀλλὰ μὴν κἂν εἰ τῶν μορίων τῆς διαφορᾶς αἴτιον ἡ θερμότης καὶ ἡ ψυχρότης τοῦτο λεκτέον ἦν τοῖς ἐκείνως λέγουσιν· τοῦτο γάρ ἐστιν ὡς εἰπεῖν τὸ λέγειν περὶ γενέσεως ἄρρενος καὶ θήλεος· τοῦτο γὰρ διαφέρει φανερῶς. οὐ μικρὸν δὲ ἔργον τὸ ἀπ’ ἐκείνης τῆς ἀρχῆς περὶ τῆς γενέσεως τούτων τῶν μορίων τὴν αἰτίαν συναγαγεῖν, ὡς ἀναγκαῖον ἀκολουθεῖν ψυχομένῳ μὲν τῷ ζῴῳ γίγνεσθαι τοῦτο τὸ μόριον ἣν καλοῦσιν ὑστέραν, θερμαινομένῳ δὲ μὴ γίγνεσθαι. τὸν αὐτὸν δὲ τρόπον καὶ περὶ τῶν εἰς τὴν ὁμιλίαν συντελούντων μορίων· καὶ γὰρ ταῦτα διαφέρει καθάπερ εἴρηται πρότερον.

Ἔτι δὲ γίγνεται δίδυμα θῆλυ καὶ ἄρρεν ἅμα ἐν τῷ αὐτῷ μορίῳ πολλάκις τῆς ὑστέρας-καὶ τοῦθ’ ἱκανῶς τεθεωρήκαμεν ἐκ τῶν ἀνατομῶν ἐν πᾶσι τοῖς ζῳοτοκοῦσι, καὶ ἐν τοῖς πεζοῖς καὶ ἐν τοῖς ἰχθύσιν· περὶ ὧν εἰ μὲν μὴ συνεωράκει εὐλόγως ἡμάρτανε ταύτην τὴν αἰτίαν εἰπών, εἰ δ’ (764b.) ἑωρακώς, ἄτοπον τὸ ἔτι νομίζειν αἰτίαν εἶναι τὴν τῆς ὑστέρας θερμότητα ἢ ψυχρότητα· ἄμφω γὰρ ἂν ἐγίγνετο ἢ θήλεα ἢ ἄρρενα, νῦν δὲ τοῦτ’ οὐχ ὁρῶμεν συμβαῖνον.

Λέγοντί τε τὰ μόρια διεσπάσθαι τοῦ γιγνομένου (τὰ μὲν γὰρ ἐν τῷ ἄρρενί φησιν εἶναι τὰ δ’ ἐν τῷ θήλει, διὸ καὶ τῆς ἀλλήλων ὁμιλίας ἐπιθυμεῖν) ἀναγκαῖον καὶ τῶν τοιούτων διῃρῆσθαι τὸ μέγεθος καὶ γίγνεσθαι σύνοδον, ἀλλ’ οὐ διὰ ψύξιν ἢ θερμασίαν. ἀλλὰ περὶ μὲν τῆς τοιαύτης αἰτίας τοῦ σπέρματος τάχ’ ἂν εἴη πολλὰ λέγειν· ὅλως γὰρ ἔοικεν ὁ τρόπος τῆς αἰτίας πλασματώδης εἶναι. εἰ δ’ ἐστὶ περὶ σπέρματος οὕτως ἔχον ὥσπερ τυγχάνομεν εἰρηκότες, καὶ μήτ’ ἀπὸ παντὸς ἀπέρχεται μήθ’ ὅλως τὸ ἀπὸ τοῦ ἄρρενος παρέχει τοῖς γιγνομένοις ὕλην μηδεμίαν, καὶ πρὸς τοῦτον καὶ πρὸς Δημόκριτον καὶ εἴ τις ἄλλος οὕτω τυγχάνει λέγων ὁμοίως ἀπαντητέον. οὔτε γὰρ διεσπασμένον ἐνδέχεται τὸ σῶμα τοῦ σπέρματος εἶναι, τὸ μὲν ἐν τῷ θήλει τὸ δ’ ἐν τῷ ἄρρενι, καθάπερ Ἐμπεδοκλῆς φησιν εἰπών· ἀλλὰ διέσπασται μελέων φύσις, ἡ μὲν ἐν ἀνδρός ... οὔτ’ ἐξ ἑκατέρου πᾶν ἀποκρινόμενον τῷ κρατῆσαί τι μέρος ἄλλου μέρους γίγνεσθαι τὸ μὲν θῆλυ τὸ δ’ ἄρρεν.

ὅλως δὲ τό γε τὴν τοῦ μέρους ὑπεροχὴν κρατήσασαν ποιεῖν θῆλυ βέλτιον μὲν ἢ μηθὲν φροντίσαντα τὸ θερμὸν αἰτιᾶσθαι μόνον, τὸ μέντοι συμβαίνειν ἅμα καὶ τὴν τοῦ αἰδοίου μορφὴν ἑτέραν δεῖται λόγου πρὸς τὸ συνακολουθεῖν ἀεὶ ταῦτ’ ἀλλήλοις. εἰ γὰρ ὅτι σύνεγγυς, καὶ τῶν λοιπῶν ἕκαστον ἔδει μορίων ἀκολουθεῖν-ἑτέρῳ γὰρ ἕτερον ἐγγὺς τῶν νικώντων-ὥστε ἅμα θῆλύ τ’ ἂν ἦν καὶ τῇ μητρὶ ἐοικὸς ἢ ἄρρεν καὶ τῷ πατρί.

ἔτι ἄτοπον καὶ τὸ μόνον ταῦτ’ οἴεσθαι δεῖν γίγνεσθαι τὰ μόρια καὶ μὴ τὸ σύνολον μεταβεβληκέναι σῶμα, καὶ μάλιστα καὶ πρῶτον τὰς φλέβας περὶ ἃς

ὡς περὶ ὑπογραφὴν τὸ σῶμα περίκειται τὸ τῶν σαρκῶν. ἃς οὐ διὰ τὴν ὑστέραν εὔλογον γενέσθαι ποιάς τινας, ἀλλὰ μᾶλλον δι’ ἐκείνας τὴν ὑστέραν· ὑποδοχὴ γὰρ αἵματός τινος ἑκάτερον, προτέρα δ’ ἡ τῶν φλεβῶν. τὴν δὲ κινοῦσαν ἀρχὴν ἀναγκαῖον ἀεὶ προτέραν εἶναι καὶ τῆς γενέσεως αἰτίαν τῷ ποιὰν εἶναί τινα. συμβαίνει μὲν οὖν ἡ διαφορὰ τῶν μερῶν τούτων πρὸς ἄλληλα τοῖς θήλεσι καὶ τοῖς ἄρρεσιν, ἀλλ’ οὐκ ἀρχὴν οἰητέον οὐδ’ αἰτίαν (765a.) εἶναι ταύτην ἀλλ’ ἑτέραν, κἂν εἰ μηθὲν ἀποκρίνεται σπέρμα μήτε ἀπὸ τοῦ θήλεος μήτ’ ἀπὸ τοῦ ἄρρενος, ἀλλ’ ὅπως δή ποτε συνίσταται [τὸ σπέρμα] τὸ γιγνόμενον.

Ὁ δ’ αὐτὸς λόγος καὶ πρὸς τοὺς λέγοντας τὸ μὲν ἄρρεν ἀπὸ τῶν δεξιῶν εἶναι τὸ δὲ θῆλυ ἀπὸ τῶν ἀριστερῶν, ὅσπερ καὶ πρὸς Ἐμπεδοκλέα καὶ πρὸς Δημόκριτον. εἴτε γὰρ μηδεμίαν ὕλην συμβάλλεται τὸ ἄρρεν οὐθὲν ἂν λέγοιεν οἱ λέγοντες οὕτως· εἴτε καὶ συμβάλλεται καθάπερ φασίν, ὁμοίως ἀναγκαῖον ἀπαντᾶν καὶ πρὸς τὸν Ἐμπεδοκλέους λόγον ὃς διορίζει τὸ θῆλυ πρὸς τὸ ἄρρεν θερμότητι καὶ ψυχρότητι τῆς ὑστέρας.

οἱ δὲ τὸ αὐτὸ τοῦτο ποιοῦσι τοῖς δεξιοῖς καὶ τοῖς ἀριστεροῖς ὁρίζοντες, ὁρῶντες διαφέροντα τὸ θῆλυ καὶ τὸ ἄρρεν καὶ μορίοις ὅλοις-ὧν διὰ τίν’ αἰτίαν ὑπάρξει τοῖς ἐκ τῶν ἀριστερῶν, τοῖς δ’ ἐκ τῶν δεξιῶν οὐχ ὑπάρξει τὸ σῶμα τὸ τῆς ὑστέρας; ἂν γὰρ ἔλθῃ μὲν μὴ σχῇ δὲ τοῦτο τὸ μόριον, ἔσται θῆλυ οὐκ ἔχον ὑστέραν καὶ ἄρρεν ἔχον, ἂν τύχῃ. ἔτι δ’ ὅπερ εἴρηται καὶ πρότερον, ὦπται καὶ θῆλυ ἐν τῷ δεξιῷ μέρει τῆς ὑστέρας καὶ ἄρρεν ἐν τῷ ἀριστερῷ καὶ ἄμφω ἐν τῷ αὐτῷ μέρει, καὶ τοῦτ’ οὐχ ὅτι ἅπαξ ἀλλὰ πλεονάκις [ἢ τὸ ἄρρεν μὲν ἐν τοῖς δεξιοῖς τὸ θῆλυ δ’ ἐν τοῖς ἀριστεροῖς· οὐχ ἧττον δὲ ἀμφότερα γίγνεται ἐν τοῖς δεξιοῖς]. παραπλησίως δέ τινες πεπεισμένοι τούτοις εἰσὶ καὶ λέγουσιν ὡς τὸν δεξιὸν ὄρχιν ἀποδουμένοις ἢ τὸν ἀριστερὸν συμβαίνει τοῖς ὀχεύουσιν ἀρρενοτοκεῖν ἢ θηλυτοκεῖν· οὕτω γὰρ καὶ Λεωφάνης ἔλεγεν. ἐπί τε τῶν ἐκτεμνομένων τὸν ἕτερον ὄρχιν τὸ αὐτὸ τοῦτο συμβαίνειν τινές φασιν, οὐκ ἀληθῆ λέγοντες ἀλλὰ μαντευόμενοι τὸ συμβησόμενον ἐκ τῶν εἰκότων καὶ προλαμβάνοντες ὡς οὕτως ἔχον πρὶν γιγνόμενον οὕτως ἰδεῖν, ἔτι δ’ ἀγνοοῦντες ὡς οὐθὲν συμβάλλεται πρὸς τὴν γένεσιν τῆς ἀρρενογονίας καὶ θηλυγονίας τὰ μόρια ταῦτα τοῖς ζῴοις. τούτου δὲ σημεῖον ὅτι πολλὰ τῶν ζῴων αὐτά τε θήλεα καὶ ἄρρενά ἐστι, καὶ γεννᾷ τὰ μὲν θήλεα τὰ δ’ ἄρρενα ὄρχεις οὐκ ἔχοντα, καθάπερ τὰ μὴ ἔχοντα πόδας, οἷον τό τε τῶν ἰχθύων γένος καὶ τὸ τῶν ὄφεων.

Τὸ μὲν οὖν θερμότητα καὶ ψυχρότητα αἰτίαν οἴεσθαι τοῦ ἄρρενος καὶ τοῦ θήλεος καὶ τὸ τὴν ἀπόκρισιν ἀπὸ τῶν δεξιῶν (765b.) γίγνεσθαι ἢ τῶν

ἀριστερῶν ἔχει τινὰ λόγον· θερμότερα γὰρ τὰ δεξιὰ τοῦ σώματος τῶν ἀριστερῶν καὶ τὸ σπέρμα τὸ πεπεμμένον θερμότερον, τοιοῦτον δὲ τὸ συνεστός, γονιμώτερον δὲ τὸ συνεστὸς μᾶλλον. ἀλλὰ λίαν τὸ λέγειν οὕτω πόρρωθέν ἐστιν ἅπτεσθαι τῆς αἰτίας, δεῖ δ' ὅτι μάλιστα προσάγειν ἐκ τῶν ἐνδεχομένων ἐγγὺς τῶν πρώτων αἰτίων.

Περὶ μὲν οὖν ὅλου τε τοῦ σώματος καὶ τῶν μορίων, τί τε ἕκαστόν ἐστι καὶ διὰ τίν' αἰτίαν εἴρηται πρότερον ἐν ἑτέροις. ἀλλ' ἐπεὶ τὸ ἄρρεν καὶ τὸ θῆλυ διώρισται δυνάμει τινὶ καὶ ἀδυναμίᾳ· τὸ μὲν γὰρ δυνάμενον πέττειν καὶ συνιστάναι τε καὶ ἐκκρίνειν σπέρμα ἔχον τὴν ἀρχὴν τοῦ εἴδους ἄρρεν (λέγω δ' ἀρχὴν οὐ τὴν τοιαύτην ἐξ ἧς ὥσπερ ὕλης γίγνεται τοιοῦτον οἷον τὸ γεννῶν, ἀλλὰ τὴν κινοῦσαν πρώτην, ἐάν τ' ἐν αὑτῷ ἐάν τ' ἐν ἄλλῳ τοῦτο δύνηται ποιεῖν), τὸ δὲ δεχόμενον μὲν ἀδυνατοῦν δὲ συνιστάναι καὶ ἐκκρίνειν θῆλυ-ἔτι εἰ πᾶσα πέψις ἐργάζεται θερμῷ, ἀνάγκη καὶ τῶν ζῴων τὰ ἄρρενα τῶν θήλεων θερμότερα εἶναι. διὰ γὰρ ψυχρότητα καὶ ἀδυναμίαν πολυαιμεῖ κατὰ τόπους τινὰς τὸ θῆλυ μᾶλλον, καὶ ἔστιν αὐτὸ τοὐναντίον σημεῖον ἢ δι' ἥνπερ αἰτίαν οἴονταί τινες τὸ θῆλυ θερμότερον εἶναι τοῦ ἄρρενος, διὰ τὴν τῶν καταμηνίων πρόεσιν· τὸ μὲν γὰρ αἷμα θερμόν, τὸ δὲ πλεῖον ἔχον μᾶλλον. ὑπολαμβάνουσι δὲ τοῦτο γίγνεσθαι τὸ πάθος δι' ὑπερβολὴν αἵματος καὶ θερμότητος, ὥσπερ ἐνδεχόμενον αἷμα εἶναι πᾶν ὁμοίως, ἄνπερ μόνον ὑγρὸν ᾖ καὶ τὴν χρόαν αἱματῶδες, καὶ οὐκ ἔλαττον γιγνόμενον καὶ καθαρώτερον τοῖς εὐτροφοῦσιν. οἱ δ' ὥσπερ τὸ κατὰ τὴν κοιλίαν περίττωμα, τὸ πλεῖον τοῦ ἐλάττονος οἴονται σημεῖον εἶναι θερμῆς φύσεως μᾶλλον. καίτοι τοὐναντίον ἐστίν· ὥσπερ γὰρ καὶ ἐκ τῆς πρώτης τροφῆς ἐκ πολλῆς ὀλίγον ἀποκρίνεται τὸ χρήσιμον ἐν ταῖς περὶ τοὺς καρποὺς ἐργασίαις, καὶ τέλος οὐθὲν μέρος τὸ ἔσχατον πρὸς τὸ πρῶτον πλῆθός ἐστιν, οὕτω πάλιν καὶ ἐν τῷ σώματι διαδεχόμενα τὰ μέρη ταῖς ἐργασίαις τὸ τελευταῖον πάμπαν μικρὸν ἐξ ἁπάσης γίγνεται τῆς τροφῆς. τοῦτο δὲ ἐν μέν τισιν αἷμά ἐστιν ἐν δέ τισι τὸ ἀνάλογον.

Ἐπεὶ δὲ τὸ μὲν δύναται τὸ δ' ἀδυνατεῖ ἐκκρῖναι τὸ περίττωμα καθαρόν, ἁπάσῃ δὲ δυνάμει ὄργανόν τί ἐστι, καὶ (766a.) τῇ χεῖρον ἀποτελούσῃ ταὐτὸ καὶ τῇ βέλτιον, τὸ δὲ θῆλυ καὶ τὸ ἄρρεν πλεοναχῶς λεγομένου τοῦ δυνατοῦ καὶ τοῦ ἀδυνάτου τοῦτον ἀντίκειται τὸν τρόπον, ἀνάγκη ἄρα καὶ τῷ θήλει καὶ τῷ ἄρρενι εἶναι ὄργανον· τῷ μὲν οὖν ἡ ὑστέρα τῷ δ' ὁ περίνεός ἐστιν. ἅμα δ' ἡ φύσις τήν τε δύναμιν ἀποδίδωσιν ἑκάστῳ καὶ τὸ ὄργανον· βέλτιον γὰρ οὕτως. διὸ ἕκαστοι οἱ τόποι ἅμα ταῖς ἐκκρίσεσι γίγνονται καὶ ταῖς δυνάμεσιν, ὥσπερ οὔτ' ὄψις ἄνευ ὀφθαλμῶν οὔτ' ὀφθαλμὸς τελειοῦται ἄνευ ὄψεως, καὶ κοιλία καὶ κύστις ἅμα τῷ δύνασθαι τὰ περιττώματα γίγνεσθαι. ὄντος δὲ τοῦ αὐτοῦ ἐξ οὗ τε γίγνεται καὶ αὔξεται-τοῦτο δ’ ἐστὶν ἡ τροφή-ἕκαστον ἂν γίγνοιτο τῶν μορίων ἐκ τοιαύτης ὕλης ἧς δεκτικόν ἐστι καὶ τοιούτου περιττώματος. ἔτι δὲ γίγνεται πάλιν ὥς φαμεν ἐκ τοῦ ἐναντίου πως.

τρίτον δὲ πρὸς τούτοις ληπτέον ὅτι εἴπερ ἡ φθορὰ εἰς τοὐναντίον, καὶ τὸ μὴ κρατούμενον ὑπὸ τοῦ δημιουργοῦντος ἀνάγκη μεταβάλλειν εἰς τοὐναντίον. τούτων δ’ ὑποκειμένων ἴσως ἂν ἤδη μᾶλλον εἴη φανερὸν δι’ ἣν αἰτίαν γίγνεται τὸ μὲν θῆλυ τὸ δ’ ἄρρεν. ὅταν γὰρ μὴ κρατῇ ἡ ἀρχὴ μηδὲ δύνηται πέψαι δι’ ἔνδειαν θερμότητος μηδ’ ἀγάγῃ εἰς τὸ ἴδιον εἶδος τὸ αὑτοῦ ἀλλὰ ταύτῃ ἡττηθῇ, ἀνάγκη εἰς τοὐναντίον μεταβάλλειν. ἐναντίον δὲ τῷ ἄρρενι τὸ θῆλυ καὶ ταύτῃ ᾗ τὸ μὲν ἄρρεν τὸ δὲ θῆλυ. ἐπεὶ δ’ ἔχει διαφορὰν ἐν τῇ δυνάμει, ἔχει καὶ τὸ ὄργανον διαφέρον ὥστ’ εἰς τοιοῦτον μεταβάλλει. ἑνὸς δὲ μορίου ἐπικαίρου μεταβάλλοντος ὅλη ἡ σύστασις τοῦ ζῴου πολὺ τῷ εἴδει διαφέρει. ὁρᾶν δ’ ἔξεστιν ἐπὶ τῶν εὐνούχων οἳ ἑνὸς μορίου πηρωθέντος τοσοῦτον ἐξαλλάττουσι τῆς ἀρχαίας μορφῆς καὶ μικρὸν ἐλλείπουσι τοῦ θήλεος τὴν ἰδέαν. τούτου δ’ αἴτιον ὅτι ἔνια τῶν μορίων ἀρχαί εἰσιν-ἀρχῆς δὲ κινηθείσης πολλὰ ἀνάγκη μεθίστασθαι τῶν ἀκολουθούντων.

Εἰ οὖν τὸ μὲν ἄρρεν ἀρχή τις καὶ αἴτιον-ἔστι δ’ ἄρρεν ᾗ δύναταί τι, θῆλυ δὲ ᾗ ἀδυνατεῖ-τῆς δὲ δυνάμεως ὅρος καὶ τῆς ἀδυναμίας τὸ πεπτικὸν εἶναι ἢ μὴ πεπτικὸν τῆς ὑστάτης τροφῆς, ὃ ἐν μὲν τοῖς ἐναίμοις αἷμα καλεῖται ἐν δὲ τοῖς ἄλλοις τὸ ἀνάλογον, τούτου δὲ τὸ αἴτιον ἐν τῇ ἀρχῇ καὶ τῷ μορίῳ τῷ ἔχοντι τὴν τῆς φυσικῆς θερμότητος ἀρχήν, ἀναγκαῖον ἄρα ἐν τοῖς ἐναίμοις συνίστασθαι (766b.) καρδίαν καὶ ἢ ἄρρεν ἔσεσθαι ἢ θῆλυ τὸ γιγνόμενον, ἐν δὲ τοῖς ἄλλοις γένεσιν οἷς ὑπάρχει τὸ θῆλυ καὶ τὸ ἄρρεν τὸ τῇ καρδίᾳ ἀνάλογον. ἡ μὲν οὖν ἀρχὴ τοῦ θήλεος καὶ τοῦ ἄρρενος καὶ ἡ αἰτία αὕτη καὶ ἐν τούτῳ ἐστίν. θῆλυ δ’ ἤδη καὶ ἄρρεν ἐστὶν ὅταν ἔχῃ καὶ τὰ μόρια οἷς διαφέρει τὸ θῆλυ τοῦ ἄρρενος· οὐ γὰρ καθ’ ὁτιοῦν μέρος ἄρρεν οὐδὲ θῆλυ ὥσπερ οὐδ’ ὁρῶν καὶ ἀκοῦον.

Ἀναλαβόντες δὲ πάλιν λέγομεν ὅτι τὸ μὲν σπέρμα ὑπόκειται περίττωμα τροφῆς ὂν τὸ ἔσχατον (ἔσχατον δὲ λέγω τὸ πρὸς ἕκαστον φερόμενον, διὸ καὶ ἔοικε τὸ γεννώμενον τῷ γεννήσαντι· οὐθὲν γὰρ διαφέρει ἀφ’ ἑκάστου τῶν μορίων ἀπελθεῖν ἢ πρὸς ἕκαστον προσελθεῖν-ὀρθότερον δ’ οὕτως). διαφέρει δὲ τὸ τοῦ ἄρρενος σπέρμα ὅτι ἔχει ἀρχὴν ἐν ἑαυτῷ τοιαύτην οἵαν κινεῖν †καὶ ἐν τῷ ζῴῳ† καὶ διαπέττειν τὴν ἐσχάτην τροφήν, τὸ δὲ τοῦ θήλεος ὕλην μόνον.

κρατῆσαν μὲν οὖν εἰς αὑτὸ ἄγει, κρατηθὲν δ’ εἰς τοὐναντίον μεταβάλλει ἢ εἰς φθοράν. ἐναντίον δὲ τῷ ἄρρενι τὸ θῆλυ, θῆλυ δὲ τῇ ἀπεψίᾳ καὶ τῇ ψυχρότητι τῆς αἱματικῆς τροφῆς. ἡ δὲ φύσις ἑκάστῳ τῶν περιττωμάτων ἀποδίδωσι τὸ δεκτικὸν μόριον. τὸ δὲ σπέρμα περίττωμα, τοῦτο δὲ τοῖς μὲν θερμοτέροις καὶ ἄρρεσι τῶν ἐναίμων εὔογκον τῷ πλήθει, διὸ τὰ δεκτικὰ μόρια πόροι ταύτης τῆς περιττώσεώς εἰσι τοῖς ἄρρεσιν· τοῖς δὲ θήλεσι δι’ ἀπεψίαν πλῆθος αἱματικόν (ἀκατέργαστον γάρ), ὥστε καὶ μόριον δεκτικὸν ἀναγκαῖον εἶναί τι, καὶ εἶναι τοῦτο ἀνόμοιον καὶ μέγεθος ἔχειν. διὸ τῆς ὑστέρας τοιαύτη ἡ φύσις ἐστίν. τούτῳ δὲ τὸ θῆλυ διαφέρει τῷ μορίῳ τοῦ ἄρρενος.

Κεφάλαιο 2

Διὰ τίνα μὲν οὖν αἰτίαν γίγνεται τὸ μὲν θῆλυ τὸ δ’ ἄρρεν εἴρηται.

Τεκμήρια δὲ τὰ συμβαίνοντα τοῖς εἰρημένοις. τά τε γὰρ νέα θηλυτόκα μᾶλλον τῶν ἀκμαζόντων, καὶ τὰ πρεσβύτερα μᾶλλον· τοῖς μὲν γὰρ οὔπω τέλειον τὸ θερμὸν τοῖς δ’ ἀπολείπει. καὶ τὰ μὲν ὑγρότερα τῶν σωμάτων καὶ γυναικικώτερα θηλυγόνα μᾶλλον, καὶ τὰ σπέρματα τὰ ὑγρὰ τῶν συνεστηκότων. πάντα γὰρ ταῦτα γίγνεται δι’ ἔνδειαν θερμότητος φυσικῆς, καὶ τὸ βορείοις ἀρρενοτοκεῖν μᾶλλον ἢ νοτίοις· <ὑγρότερα γὰρ τὰ σώματα νοτίοις> (34b) ὥστε καὶ περιττωματικώτερα. τὸ δὲ πλεῖον περίττωμα δυσπεπτότερον· διὸ τοῖς μὲν ἄρρεσιν ὑγρότερον τὸ (767a.) σπέρμα, ταῖς δὲ γυναιξὶν ἡ τῶν καταμηνίων ἔκκρισις.

Καὶ τὸ γίγνεσθαι δὲ τὰ καταμήνια κατὰ φύσιν φθινόντων τῶν μηνῶν μᾶλλον διὰ τὴν αὐτὴν αἰτίαν συμβαίνει. ψυχρότερος γὰρ ὁ χρόνος οὗτος τοῦ μηνὸς καὶ ὑγρότερος διὰ τὴν φθίσιν καὶ τὴν ἀπόλειψιν τῆς σελήνης· ὁ μὲν γὰρ ἥλιος ἐν ὅλῳ τῷ ἐνιαυτῷ ποιεῖ χειμῶνα καὶ θέρος, ἡ δὲ σελήνη ἐν τῷ μηνί (τοῦτο δ’ οὐ διὰ τὰς τροπάς, ἀλλὰ τὸ μὲν αὐξανομένου συμβαίνει τοῦ φωτὸς τὸ δὲ φθίνοντος). φασὶ δὲ καὶ οἱ νομεῖς διαφέρειν πρὸς θηλυγονίαν καὶ ἀρρενογονίαν οὐ μόνον ἐὰν συμβαίνῃ τὴν ὀχείαν γίγνεσθαι βορείοις ἢ νοτίοις ἀλλὰ κἂν ὀχευόμενα βλέπῃ πρὸς νότον ἢ βορέαν· οὕτω μικρὰν ἐνίοτε ῥοπὴν αἰτίαν γίγνεσθαι τῆς ψυχρότητος καὶ θερμότητος, ταῦτα δὲ τῆς γενέσεως.

Διέστηκε μὲν οὖν ὅλως πρὸς ἄλληλα τό τε θῆλυ καὶ τὸ ἄρρεν πρὸς τὴν ἀρρενογονίαν καὶ θηλυγονίαν διὰ τὰς εἰρημένας αἰτίας, οὐ μὴν ἀλλὰ καὶ δεῖ συμμετρίας πρὸς ἄλληλα· πάντα γὰρ τὰ γιγνόμενα κατὰ τέχνην ἢ φύσιν λόγῳ τινί ἐστιν. τὸ δὲ θερμὸν λίαν μὲν κρατοῦν ξηραίνει τὰ ὑγρά, πολὺ δὲ ἐλλεῖπον οὐ συνίστησιν, ἀλλὰ δεῖ πρὸς τὸ δημιουργούμενον ἔχειν τοῦτον τὸν τοῦ μέσου λόγον· εἰ δὲ μή, καθάπερ ἐν τοῖς ἑψομένοις προσκάει μὲν τὸ πλεῖον πῦρ, οὐχ ἕψει δὲ τὸ ἔλαττον, ἀμφοτέρως δὲ συμβαίνει μὴ τελειοῦσθαι τὸ γιγνόμενον, οὕτω καὶ ἐν τῇ τοῦ ἄρρενος μίξει καὶ τοῦ θήλεος δεῖ τῆς συμμετρίας. καὶ διὰ τοῦτο πολλοῖς καὶ πολλαῖς συμβαίνει μετ’ ἀλλήλων μὲν μὴ γεννᾶν, διαζευχθεῖσι δὲ γεννᾶν, καὶ ὁτὲ μὲν νέοις ὁτὲ δὲ πρεσβυτέροις οὖσι ταύτας γίγνεσθαι τὰς ὑπεναντιώσεις, ὁμοίως περί τε γένεσιν καὶ ἀγονίαν καὶ ἀρρενογονίαν καὶ θηλυγονίαν. διαφέρει δὲ καὶ χώρα χώρας εἰς ταῦτα καὶ ὕδωρ ὕδατος διὰ τὰς αὐτὰς αἰτίας· ποιὰ γάρ τις ἡ τροφὴ γίγνεται μάλιστα καὶ τοῦ σώματος ἡ διάθεσις διά τε τὴν κρᾶσιν τοῦ περιεστῶτος ἀέρος καὶ τῶν εἰσιόντων, μάλιστα δὲ διὰ τὴν τοῦ ὕδατος τροφήν· τοῦτο γὰρ πλεῖστον εἰσφέρονται, καὶ ἐν πᾶσίν ἐστι τροφὴ τοῦτο, καὶ ἐν τοῖς ξηροῖς. διὸ καὶ τὰ ἀτέραμνα ὕδατα καὶ ψυχρὰ τὰ μὲν ἀτεκνίαν ποιεῖ τὰ δὲ θηλυτοκίαν.

Κεφάλαιο 3

Αἱ δ’ αὐταὶ αἰτίαι καὶ τοῦ τὰ μὲν ἐοικότα γίγνεσθαι τοῖς τεκνώσασι τὰ δὲ μὴ ἐοικότα, καὶ τὰ μὲν πατρὶ τὰ (767b.) δὲ μητρὶ κατά τε ὅλον τὸ σῶμα καὶ κατὰ μόριον ἕκαστον, καὶ μᾶλλον αὐτοῖς ἢ τοῖς προγόνοις, καὶ τούτοις ἢ τοῖς τυχοῦσι, καὶ τὰ μὲν ἄρρενα μᾶλλον τῷ πατρὶ τὰ δὲ θήλεα τῇ μητρί, τὰ δ’ οὐθενὶ τῶν συγγενῶν ὅμως δ’ ἀνθρώπῳ γέ τινι, τὰ δ’ οὐδ’ ἀνθρώπῳ τὴν ἰδέαν ἀλλ’ ἤδη τέρατι. καὶ γὰρ ὁ μὴ ἐοικὼς τοῖς γονεῦσιν ἤδη τρόπον τινὰ τέρας ἐστίν· παρεκβέβηκε γὰρ ἡ φύσις ἐν τούτοις ἐκ τοῦ γένους τρόπον τινά. ἀρχὴ δὲ πρώτη τὸ θῆλυ γίγνεσθαι καὶ μὴ ἄρρεν-ἀλλ’ αὕτη μὲν ἀναγκαία τῇ φύσει· δεῖ γὰρ σώζεσθαι τὸ γένος τῶν κεχωρισμένων κατὰ τὸ θῆλυ καὶ τὸ ἄρρεν, ἐνδεχομένου δὲ μὴ κρατεῖν ποτε τοῦ ἄρρενος, ἢ διὰ νεότητα ἢ γῆρας ἢ δι’ ἄλλην τινὰ αἰτίαν τοιαύτην, ἀνάγκη γίγνεσθαι θηλυτοκίαν ἐν τοῖς ζῴοις. τὸ δὲ τέρας οὐκ ἀναγκαῖον πρὸς τὴν ἕνεκά του καὶ τὴν τοῦ τέλους αἰτίαν, ἀλλὰ κατὰ συμβεβηκὸς ἀναγκαῖον, ἐπεὶ τήν γ’ ἀρχὴν ἐντεῦθεν δεῖ λαμβάνειν. εὐπέπτου μὲν γὰρ οὔσης τῆς περιττώσεως ἐν τοῖς καταμηνίοις τῆς σπερματικῆς καθ’ αὑτὴν ποιήσει τὴν μορφὴν ἡ τοῦ ἄρρενος κίνησις· τὸ γὰρ γονὴν λέγειν ἢ κίνησιν τὴν αὔξουσαν ἕκαστον τῶν μορίων οὐθὲν διαφέρει, οὐδὲ τὴν αὔξουσαν ἢ τὴν συνιστᾶσαν ἐξ ἀρχῆς· ὁ γὰρ αὐτὸς λόγος τῆς κινήσεως. ὥστε κρατούσης μὲν ἄρρεν τε ποιήσει καὶ οὐ θῆλυ, καὶ ἐοικὸς τῷ γεννῶντι ἀλλ’ οὐ τῇ μητρί· μὴ κρατῆσαν δέ, καθ’ ὁποίαν ἂν μὴ κρατήσῃ δύναμιν, τὴν ἔλλειψιν ποιεῖ κατ’ αὐτήν. λέγω δ’ ἑκάστην δύναμιν τόνδε τὸν τρόπον· τὸ γεννῶν ἐστιν οὐ μόνον ἄρρεν ἀλλὰ καὶ τοῖον ἄρρεν οἷον Κορίσκος ἢ Σωκράτης, καὶ οὐ μόνον Κορίσκος ἐστὶν ἀλλὰ καὶ ἄνθρωπος. καὶ τοῦτον δὴ τὸν τρόπον τὰ μὲν ἐγγύτερον τὰ δὲ πορρώτερον ὑπάρχει τῷ γεννῶντι καθὸ γεννητικόν, ἀλλ’ οὐ κατὰ συμβεβηκὸς οἷον εἰ γραμματικὸς ὁ γεννῶν ἢ γείτων τινός. ἀεὶ δ’ ἰσχύει πρὸς τὴν γένεσιν μᾶλλον τὸ ἴδιον καὶ τὸ καθ’ ἕκαστον. ὁ γὰρ Κορίσκος καὶ ἄνθρωπός ἐστι καὶ ζῷον, ἀλλ’ ἐγγύτερον τοῦ ἰδίου τὸ ἄνθρωπος ἢ τὸ ζῷον. γεννᾷ δὲ καὶ τὸ καθ’ ἕκαστον καὶ τὸ γένος, ἀλλὰ μᾶλλον τὸ καθ’ ἕκαστον· τοῦτο γὰρ ἡ οὐσία. καὶ γὰρ τὸ γιγνόμενον γίγνεται μὲν καὶ ποιόν τι, ἀλλὰ καὶ τόδε τι-καὶ τοῦθ’ ἡ οὐσία. διόπερ ἀπὸ τῶν δυνάμεων ὑπάρχουσιν αἱ κινήσεις ἐν τοῖς σπέρμασι πάντων τῶν τοιούτων, δυνάμει δὲ καὶ τῶν προγόνων, μᾶλλον δὲ τοῦ ἐγγύτερον ἀεὶ (768a.) τῶν καθ’ ἕκαστόν τινος· λέγω δὲ καθ’ ἕκαστον τὸν Κορίσκον καὶ τὸν Σωκράτην. ἐπεὶ δ’ ἐξίσταται πᾶν οὐκ εἰς τὸ τυχὸν ἀλλ’ εἰς τὸ ἀντικείμενον, καὶ τὸ ἐν τῇ γενέσει μὴ κρατούμενον ἀναγκαῖον ἐξίστασθαι καὶ γίγνεσθαι τὸ ἀντικείμενον καθ’ ἣν δύναμιν οὐκ ἐκράτησε τὸ γεννῶν καὶ κινοῦν. ἐὰν μὲν οὖν ᾗ ἄρρεν θῆλυ γίγνεται, ἐὰν δὲ ᾗ Κορίσκος ἢ Σωκράτης οὐ τῷ πατρὶ ἐοικὸς ἀλλὰ τῇ μητρὶ γίγνεται· ἀντίκειται γὰρ ὥσπερ τῷ ὅλως πατρὶ μήτηρ καὶ τῷ καθ’ ἕκαστον γεννῶντι ἡ καθ’ ἕκαστον γεννῶσα. ὁμοίως δὲ καὶ κατὰ τὰς ἐχομένας δυνάμεις· ἀεὶ γὰρ εἰς τὸν ἐχόμενον μεταβαίνει μᾶλλον τῶν προγόνων, καὶ ἐπὶ πατέρων καὶ ἐπὶ μητέρων. ἔνεισι δ’ αἱ μὲν ἐνεργείᾳ τῶν κινήσεων αἱ δὲ δυνάμει, ἐνεργείᾳ μὲν αἱ τοῦ γεννῶντος καὶ τοῦ καθόλου οἷον ἀνθρώπου καὶ ζῴου, δυνάμει δὲ αἱ τοῦ θήλεος καὶ τῶν προγόνων. μεταβάλλει μὲν οὖν ἐξιστάμενον πρὸς τὰ ἀντικείμενα, λύονται δὲ αἱ κινήσεις αἱ δημιουργοῦσαι εἰς τὰς ἐγγύς, οἷον ἡ τοῦ γεννῶντος ἂν λυθῇ κίνησις ἐλαχίστῃ διαφορᾷ μεταβαίνει εἰς τὴν τοῦ πατρός, δεύτερον δ’ εἰς τὴν τοῦ πάππου· καὶ τοῦτον δὴ τὸν τρόπον [καὶ ἐπὶ τῶν ἀρρένων] καὶ ἐπὶ τῶν θηλειῶν ἡ τῆς γεννώσης εἰς τὴν τῆς μητρός, ἐὰν δὲ μὴ εἰς ταύτην εἰς τὴν τῆς τήθης· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄνωθεν.

Μάλιστα μὲν οὖν πέφυκεν ᾗ ἄρρεν καὶ ᾗ πατὴρ ἅμα κρατεῖν καὶ κρατεῖσθαι· μικρὰ γὰρ ἡ διαφορὰ ὥστ’ οὐκ ἔργον ἅμα συμβῆναι ἀμφότερα· ὁ γὰρ Σωκράτης ἀνὴρ τοιόσδε τις. διὸ ὡς ἐπὶ τὸ πολὺ τὰ μὲν ἄρρενα τῷ πατρὶ ἔοικεν τὰ δὲ θήλεα τῇ μητρί, ἅμα γὰρ εἰς ἄμφω ἔκστασις ἐγένετο· ἀντίκειται δὲ τῷ μὲν ἄρρενι τὸ θῆλυ τῷ δὲ πατρὶ ἡ μήτηρ, ἡ δ’ ἔκστασις εἰς τὰ ἀντικείμενα. ἐὰν δ’ ἡ μὲν ἀπὸ τοῦ ἄρρενος κρατήσῃ κίνησις ἡ δ’ ἀπὸ τοῦ Σωκράτους μὴ κρατήσῃ, ἢ αὕτη μὲν ἐκείνη δὲ μή, τότε συμβαίνει γίγνεσθαι ἄρρενά τε μητρὶ ἐοικότα καὶ θήλεα πατρί. ἐὰν δὲ λυθῶσιν αἱ κινήσεις, καὶ ᾗ μὲν ἄρρεν μείνῃ, ἡ δὲ τοῦ Σωκράτους λυθῇ εἰς τὴν τοῦ πατρός, ἔσται ἄρρεν τῷ πάππῳ ἐοικὸς ἢ τῶν ἄλλων τινὶ τῶν ἄνωθεν προγόνων κατὰ τοῦτον τὸν λόγον· κρατηθέντος δὲ ᾗ ἄρρεν θῆλυ ἔσται καὶ ἐοικὸς μάλιστα μὲν τῇ μητρί, ἐὰν δὲ καὶ αὕτη λυθῇ ἡ κίνησις μητρὶ μητρὸς ἢ ἄλλῃ τινὶ τῶν ἄνωθεν ἔσται (768b.) ἡ ὁμοιότης κατὰ τὸν αὐτὸν λόγον. ὁ δ’ αὐτὸς τρόπος καὶ ἐπὶ τῶν μορίων· καὶ γὰρ τῶν μορίων τὰ μὲν τῷ πατρὶ ἔοικε πολλάκις τὰ δὲ τῇ μητρὶ τὰ δὲ τῶν προγόνων τισίν· ἔνεισι γὰρ καὶ τῶν μορίων αἱ μὲν ἐνεργείᾳ κινήσεις αἱ δὲ δυνάμει, καθάπερ εἴρηται πολλάκις. καθόλου δὲ δεῖ λαβεῖν ὑποθέσεις, μίαν μὲν τὴν εἰρημένην ὅτι ἔνεισι τῶν κινήσεων αἱ μὲν δυνάμει αἱ δ’ ἐνεργείᾳ, ἄλλας δὲ δύο ὅτι κρατούμενον μὲν ἐξίσταται εἰς τὸ ἀντικείμενον, λυόμενον δὲ εἰς τὴν ἐχομένην κίνησιν, καὶ ἧττον μὲν λυόμενον εἰς τὴν ἐγγὺς μᾶλλον δὲ εἰς τὴν πορρώτερον. τέλος δ’ οὕτω συγχέονται ὥστε μηθενὶ ἐοικέναι τῶν οἰκείων καὶ συγγενῶν ἀλλὰ λείπεσθαι τὸ κοινὸν μόνον καὶ εἶναι ἄνθρωπον. τούτου δ’ αἴτιον ὅτι πᾶσιν ἀκολουθεῖ τοῦτο τοῖς καθ’ ἕκαστον· καθόλου γὰρ ὁ ἄνθρωπος, ὁ δὲ Σωκράτης πατὴρ καὶ ἡ μήτηρ ἥτις ποτ’ ἦν τῶν καθ’ ἕκαστον.

Αἴτιον δὲ τοῦ μὲν λύεσθαι τὰς κινήσεις ὅτι τὸ ποιοῦν καὶ πάσχει ὑπὸ τοῦ πάσχοντος, οἷον τὸ τέμνον ἀμβλύνεται ὑπὸ τοῦ τεμνομένου καὶ τὸ θερμαῖνον ψύχεται ὑπὸ τοῦ θερμαινομένου, καὶ ὅλως τὸ κινοῦν ἔξω τοῦ πρώτου ἀντικινεῖταί τινα κίνησιν οἷον τὸ ὠθοῦν ἀντωθεῖται πως καὶ ἀντιθλίβεται τὸ θλῖβον, ἐνίοτε δὲ καὶ ὅλως ἔπαθε μᾶλλον ἢ ἐποίησεν, καὶ ἐψύχθη μὲν τὸ θερμαῖνον ἐθερμάνθη δὲ τὸ ψῦχον, ὁτὲ μὲν οὐθὲν ποιῆσαν ὁτὲ δὲ ἧττον ἢ παθόν· εἴρηται δὲ περὶ αὐτῶν ἐν τοῖς περὶ τοῦ ποιεῖν καὶ πάσχειν διωρισμένοις, ἐν ποίοις ὑπάρχει τῶν ὄντων τὸ ποιεῖν καὶ πάσχειν.

Ἐξίσταται δὲ τὸ πάσχον καὶ οὐ κρατεῖται ἢ δι’ ἔλλειψιν δυνάμεως τοῦ πέττοντος καὶ κινοῦντος ἢ διὰ πλῆθος καὶ ψυχρότητα τοῦ πεττομένου καὶ διοριζομένου· τῇ μὲν γὰρ κρατοῦν τῇ δὲ οὐ κρατοῦν ποιεῖ πολύμορφον τὸ συνιστάμενον, οἷον ἐπὶ τῶν ἀθλητῶν συμβαίνει διὰ τὴν πολυφαγίαν· διὰ πλῆθος γὰρ τροφῆς οὐ δυναμένης τῆς φύσεως κρατεῖν ὥστ’ ἀνάλογον αὔξειν καὶ διαμένειν ὁμοίαν τὴν μορφήν, ἀλλοῖα γίγνεται τὰ μέρη καὶ σχεδὸν ἐνίοθ’ οὕτως ὥστε μηθὲν ἐοικέναι τῷ πρότερον. παραπλήσιον δὲ τούτῳ καὶ τὸ νόσημα τὸ καλούμενον σατυριᾶν· καὶ γὰρ ἐν τούτῳ διὰ ῥεύματος [ἢ πνεύματος] ἀπέπτου πλῆθος εἰς μόρια τοῦ προσώπου παρεμπεσόντος ἄλλου ζῴου καὶ σατύρου φαίνεται τὸ πρόσωπον.

(769a.) Διὰ τίνα μὲν οὖν αἰτίαν θήλεα καὶ ἄρρενα γίγνεται, καὶ τὰ μὲν ἐοικότα τοῖς γονεῦσι, θήλεά τε θήλεσι καὶ ἄρρενα ἄρρεσι, τὰ δ’ ἀνάπαλιν θήλεά τε τῷ πατρὶ καὶ ἄρρενα τῇ μητρί, καὶ ὅλως τὰ μὲν τοῖς προγόνοις ἔοικε τὰ δ’ οὐθενί, καὶ ταῦτα καὶ καθ’ ὅλον τὸ σῶμα καὶ τῶν μορίων ἕκαστον, διώρισται περὶ πάντων.

Εἰρήκασι δέ τινες τῶν φυσιολόγων καὶ ἕτεροι περὶ τούτων διὰ τίν’ αἰτίαν ὅμοια καὶ ἀνόμοια γίγνεται τοῖς γονεῦσιν· δύο δὴ τρόπους λέγουσι τῆς αἰτίας. ἔνιοι μὲν γάρ φασιν ἀφ’ ὁποτέρου ἂν ἔλθῃ σπέρμα πλέον τούτῳ γίγνεσθαι μᾶλλον ἐοικός, ὁμοίως παντί τε πᾶν καὶ μέρει μέρος, ὡς ἀπιόντος ἀφ’ ἑκάστου τῶν μορίων σπέρματος· ἂν δ’ ἴσον ἔλθῃ ἀφ’ ἑκατέρου τούτων οὐδετέρῳ γίγνεσθαι ὅμοιον. εἰ δὲ τοῦτ’ ἔστι ψεῦδος καὶ μὴ ἀπὸ παντὸς ἀπέρχεται δῆλον ὡς οὐδὲ τῆς ὁμοιότητος καὶ ἀνομοιότητος αἴτιον ἂν εἴη τὸ λεχθέν. ἔτι δὲ πῶς ἅμα θῆλυ μὲν πατρὶ ἐοικὸς ἄρρεν δὲ μητρὶ ἐοικὸς οὐκ εὐπόρως δύνανται διορίζειν· οἱ μὲν γὰρ ὥσπερ Ἐμπεδοκλῆς λέγοντες ἢ Δημόκριτος περὶ τοῦ θήλεος καὶ ἄρρενος τὴν αἰτίαν ἄλλον τρόπον ἀδύνατα λέγουσιν· οἱ δὲ τῷ πλεῖον ἢ ἔλαττον ἀπιέναι ἀπὸ τοῦ ἄρρενος ἢ θήλεος, διὰ τοῦτο γίγνεσθαι τὸ μὲν θῆλυ τὸ δ' ἄρρεν, οὐκ ἂν ἔχοιεν ἀποδεῖξαι τίνα τρόπον τό τε θῆλυ τῷ πατρὶ ἐοικὸς ἔσται καὶ τὸ ἄρρεν τῇ μητρί· ἅμα γὰρ ἐλθεῖν πλεῖον ἀπ' ἀμφοτέρων ἀδύνατον. ἔτι δὲ διὰ τίν' αἰτίαν ἐοικὸς γίγνεται τοῖς προγόνοις ὡς ἐπὶ τὸ πολὺ καὶ τοῖς ἄποθεν; οὐ γὰρ ἀπ' ἐκείνων γ' ἀπελήλυθεν οὐθὲν τοῦ σπέρματος.

Ἀλλὰ μᾶλλον οἱ τὸν λειπόμενον τρόπον λέγοντες περὶ τῆς ὁμοιότητος καὶ τἆλλα βέλτιον καὶ τοῦτο λέγουσιν. εἰσὶ γάρ τινες οἵ φασι τὴν γονὴν μίαν οὖσαν οἷον πανσπερμίαν εἶναί τινα πολλῶν· ὥσπερ οὖν εἴ τις κεράσειε πολλοὺς χυμοὺς εἰς ἓν ὑγρὸν κἄπειτ' ἐντεῦθεν λαμβάνοι, καὶ δύναιτ' ἂν λαμβάνειν μὴ ἴσον ἀεὶ ἀφ' ἑκάστου, ἀλλ' ὁτὲ μὲν τοῦ τοιοῦδε πλεῖον ὁτὲ δὲ τοῦ τοιοῦδε, ὁτὲ δὲ τοῦ μὲν λαβεῖν τοῦ δὲ μηθὲν λαβεῖν-τοῦτο συμβαίνειν καὶ ἐπὶ τῆς γονῆς πολυμιγοῦς οὔσης· ἀφ' οὗ γὰρ ἂν τῶν γεννώντων πλεῖστον ἐγγένηται, τούτῳ γίγνεσθαι τὴν μορφὴν ἐοικός. οὗτοσδὲ ὁ λόγος οὐ σαφὴς μὲν καὶ πλασματίας ἐστὶ πολλαχῇ, (769b.) βούλεται δὲ καὶ βέλτιον λέγειν μὴ ἐνεργείᾳ ὑπάρχειν ἀλλὰ κατὰ δύναμιν ἣν λέγει πανσπερμίαν· ἐκείνως μὲν γὰρ ἀδύνατον, οὕτως δὲ δυνατόν.

Οὐ ῥᾴδιον δὲ οὐδὲ τρόπον ἕνα τῆς αἰτίας ἀποδιδόντας τὰς αἰτίας εἰπεῖν περὶ πάντων· τοῦ τε γίγνεσθαι θῆλυ καὶ ἄρρεν, καὶ διὰ τί τὸ μὲν θῆλυ τῷ πατρὶ πολλάκις <ὅμοιον> τὸ δ' ἄρρεν τῇ μητρί, καὶ πάλιν τῆς πρὸς τοὺς προγόνους ὁμοιότητος, ἔτι δὲ διὰ τίν' αἰτίαν ὁτὲ μὲν ἄνθρωπος μὲν τούτων δ' οὐθενὶ προσόμοιος, ὁτὲ δὲ προϊὸν οὕτω τέλος οὐδὲ ἄνθρωπος ἀλλὰ ζῷόν τι μόνον φαίνεται τὸ γιγνόμενον, ἃ δὴ καὶ λέγεται τέρατα.

Καὶ γὰρ ἐχόμενον τῶν εἰρημένων ἐστὶν εἰπεῖν περὶ τῶν τοιούτων τὰς αἰτίας. τέλος γὰρ τῶν μὲν κινήσεων λυομένων τῆς δ' ὕλης οὐ κρατουμένης μένει τὸ καθόλου μάλιστα-τοῦτο δ' ἐστὶ τὸ ζῷον. τὸ δὲ γιγνόμενον κριοῦ κεφαλήν φασιν ἢ βοὸς ἔχειν καὶ ἐν τοῖς ἄλλοις ὁμοίως ἑτέρου ζῴου, μόσχον παιδὸς κεφαλὴν ἢ πρόβατον βοός. ταῦτα δὲ πάντα συμβαίνει μὲν διὰ τὰς προειρημένας αἰτίας, ἔστι δ' οὐθὲν ὧν λέγουσιν ἀλλ' ἐοικότα μόνον-ὅπερ γίγνεται καὶ μὴ πεπηρωμένων. διὸ πολλάκις οἱ σκώπτοντες εἰκάζουσι τῶν μὴ καλῶν ἐνίους τοὺς μὲν αἰγὶ φυσῶντι πῦρ τοὺς δ' οἰῒ κυρίττοντι. φυσιογνώμων δέ τις ἀνῆγε πάσας εἰς δύο ζῴων ἢ τριῶν ὄψεις, καὶ συνέπειθε πολλάκις λέγων. ὅτι δ' ἐστὶν ἀδύνατον γίγνεσθαι τέρας τοιοῦτον, ἕτερον ἐν ἑτέρῳ ζῷον, δηλοῦσιν οἱ χρόνοι τῆς κυήσεως πολὺ διαφέροντες ἀνθρώπου καὶ προβάτου καὶ κυνὸς καὶ βοός· ἀδύνατον δ’ ἕκαστον γενέσθαι μὴ κατὰ τοὺς οἰκείους χρόνους.

Τὰ μὲν οὖν τοῦτον τὸν τρόπον λέγεται τῶν τεράτων, τὰ δὲ τῷ πολυμερῆ τὴν μορφὴν ἔχειν, πολύποδα καὶ πολυκέφαλα γιγνόμενα.

Πάρεγγυς δ’ οἱ λόγοι τῆς αἰτίας καὶ παραπλήσιοι τρόπον τινά εἰσιν οἵ τε περὶ τῶν τεράτων καὶ οἱ περὶ τῶν ἀναπήρων ζῴων· καὶ γὰρ τὸ τέρας ἀναπηρία τίς ἐστιν.

Κεφάλαιο 4

Δημόκριτος μὲν οὖν ἔφησε γίγνεσθαι τὰ τέρατα διὰ τὸ δύο γονὰς πίπτειν, τὴν μὲν πρότερον ὁρμήσασαν lt;καὶ μὴ ἐξελθοῦσαν> τὴν δ' ὕστερον καὶ ταύτην [ἐξελθοῦσαν] ἐλθεῖν εἰς τὴν ὑστέραν, ὥστε συμφύεσθαι καὶ ἐπαλλάττειν τὰ μόρια. ταῖς δ' ὄρνισιν ἐπεὶ συμβαίνει ταχεῖαν γίγνεσθαι τὴν ὀχείαν ἀεί, τά τ' ᾠὰ καὶ τὴν χρόαν αὐτῶν ἐπαλλάττειν φησίν. εἰ δὲ συμβαίνει ἐξ ἑνὸς (770a.) σπέρματος πλείω γίγνεσθαι καὶ μιᾶς συνουσίας, ὅπερ φαίνεται, βέλτιον μὴ κύκλῳ περιιέναι παρέντας τὴν σύντομον· τοῖς γὰρ τοιούτοις μάλιστ' ἀναγκαῖον τοῦτο συμβαίνειν ὅταν μὴ διακριθῶσιν ἀλλ' ἅμα τὰ σπέρματα ἔλθωσιν. εἰ μὲν οὖν αἰτιάσασθαι δεῖ τὴν ἀπὸ τοῦ ἄρρενος γονήν, τοῦτον ἂν τὸν τρόπον εἴη λεκτέον· ὅλως δὲ μᾶλλον τὴν αἰτίαν οἰητέον ἐν τῇ ὕλῃ καὶ τοῖς συνισταμένοις κυήμασιν εἶναι. διὸ καὶ γίγνονται τὰ τοιαῦτα τῶν τεράτων ἐν μὲν τοῖς μονοτόκοις σπάνια πάμπαν, ἐν δὲ τοῖς πολυτόκοις μᾶλλον, καὶ μάλιστ' ἐν ὄρνισι, τῶν δ' ὀρνίθων ἐν ταῖς ἀλεκτορίσιν· αὗται γὰρ πολυτοκοῦσιν οὐ μόνον τῷ πολλάκις τίκτειν ὥσπερ τὸ τῶν περιστερῶν γένος ἀλλὰ καὶ τῷ πολλὰ ἅμα ἔχειν κυήματα καὶ πᾶσαν ὥραν ὀχεύεσθαι. διόπερ καὶ πολλὰ δίδυμα τίκτουσιν· συμφύεται γὰρ διὰ τὸ πλησίον ἀλλήλων εἶναι τὰ κυήματα καθάπερ ἐνίοτε πολλὰ τῶν περικαρπίων. τούτων δὲ ὅσων μὲν ἂν αἱ λέκιθοι διορίζωνται κατὰ τὸν ὑμένα, δύο γίγνονται νεοττοὶ κεχωρισμένοι περιττὸν οὐδὲν ἔχοντες, -ὅσων δὲ συνεχεῖς καὶ μὴ διείργει μηθέν, ἐκ τούτων οἱ νεοττοὶ γίγνονται τερατώδεις, σῶμα μὲν καὶ κεφαλὴν μίαν ἔχοντες σκέλη δὲ τέτταρα καὶ πτέρυγας διὰ τὸ τὰ μὲν ἄνωθεν ἐκ τοῦ λευκοῦ γίγνεσθαι καὶ πρότερον, ταμιευομένης ἐκ τῆς λεκίθου τῆς τροφῆς αὐτοῖς, τὸ δὲ κάτω μόριον ὑστερίζειν μέν, τὴν δὲ τροφὴν εἶναι μίαν καὶ ἀδιόριστον.

Ἤδη δὲ καὶ ὄφις ὦπται δικέφαλος διὰ τὴν αὐτὴν αἰτίαν· ᾠοτοκεῖ γὰρ καὶ πολυτοκεῖ καὶ τοῦτο τὸ γένος. σπανιώτερον δὲ τὸ τερατῶδες ἐπ' αὐτῶν διὰ τὸ σχῆμα τῆς ὑστέρας· στοιχηδὸν γὰρ κεῖται τὸ πλῆθος τῶν ᾠῶν διὰ τὸ μῆκος αὐτῆς. καὶ περὶ τὰς μελίττας καὶ τοὺς σφῆκας οὐδὲν γίγνεται τοιοῦτον· ἐν κεχωρισμένοις γὰρ κυτταρίοις ὁ τόκος ἐστὶν αὐτῶν. περὶ δὲ τὰς ἀλεκτορίδας τοὐναντίον συμβέβηκεν, ᾗ καὶ δῆλον ὡς ἐν τῇ ὕλῃ τὴν αἰτίαν δεῖ νομίζειν τῶν τοιούτων· καὶ γὰρ τῶν ἄλλων ἐν τοῖς πολυτόκοις μᾶλλον. διὸ ἐν ἀνθρώπῳ ἧττον· ὡς γὰρ ἐπὶ τὸ πολὺ μονοτόκον ἐστὶ καὶ τελειογόνον, ἐπεὶ καὶ τούτων ἐν οἷς τόποις πολύγονοι αἱ γυναῖκές εἰσι τοῦτο συμβαίνει μᾶλλον, οἷον περὶ Αἴγυπτον. ἐν δὲ ταῖς αἰξὶ καὶ τοῖς προβάτοις γίγνεται μᾶλλον· πολυτοκώτερα γάρ ἐστιν. ἔτι δὲ μᾶλλον ἐν τοῖς πολυσχιδέσιν· πολυτόκα γάρ ἐστι τὰ (770b.) τοιαῦτα τῶν ζῴων καὶ οὐ τελειογόνα, καθάπερ ἡ κύων· τὰ γὰρ πολλὰ τίκτει τυφλὰ τούτων. δι’ ἣν δ’ αἰτίαν τοῦτο συμβαίνει καὶ δι’ ἣν αἰτίαν πολυτοκοῦσιν ὕστερον λεκτέον. ἀλλὰ προωδοποίηται τῇ φύσει πρὸς τὸ τερατοτοκεῖν τῷ μὴ γεννᾶν ὅμοια διὰ τὴν ἀτέλειαν· ἔστι δὲ καὶ τὸ τέρας τῶν ἀνομοίων. διόπερ ἐπαλλάττει τοῦτο τὸ σύμπτωμα τοῖς τοιούτοις τὴν φύσιν. ἐν γὰρ τούτοις μάλιστα γίγνεται καὶ τὰ μετάχοιρα καλούμενα. ταῦτα δ’ ἐστὶ κατά τι πεπονθότα τερατῶδες· τὸ γὰρ ἐκλείπειν ἢ προσεῖναί τι τερατῶδες. ἔστι γὰρ τὸ τέρας τῶν παρὰ φύσιν τι, παρὰ φύσιν δ’ οὐ πᾶσαν ἀλλὰ τὴν ὡς ἐπὶ τὸ πολύ· περὶ γὰρ τὴν ἀεὶ καὶ τὴν ἐξ ἀνάγκης οὐθὲν γίγνεται παρὰ φύσιν, ἀλλ’ ἐν τοῖς ὡς ἐπὶ τὸ πολὺ μὲν οὕτω γιγνομένοις ἐνδεχομένοις δὲ καὶ ἄλλως, ἐπεὶ καὶ τούτων ἐν ὅσοις συμβαίνει παρὰ τὴν τάξιν μὲν ταύτην, ἀεὶ μέντοι μὴ τυχόντως, ἧττον εἶναι δοκεῖ τέρας διὰ τὸ καὶ τὸ παρὰ φύσιν εἶναι τρόπον τινὰ κατὰ φύσιν, ὅταν μὴ κρατήσῃ τὴν κατὰ τὴν ὕλην ἡ κατὰ τὸ εἶδος φύσις. διόπερ οὔτε τὰ τοιαῦτα τέρατα λέγουσιν οὔτ’ ἐν τοῖς ἄλλοις ἐν ὅσοις εἴωθέ τι γίγνεσθαι, καθάπερ ἐν τοῖς περικαρπίοις. ἔστι γάρ τις ἄμπελος ἣν καλοῦσί τινες κάπνεον, ἣν ἂν ἐνέγκῃ μέλανας βότρυας οὐ κρίνουσι τέρας διὰ τὸ πλειστάκις εἰωθέναι ταύτην τοῦτο ποιεῖν. αἴτιον δ’ ὅτι μεταξὺ λευκῆς ἐστι τὴν φύσιν καὶ μελαίνης ὥστ’ οὐ πόρρωθεν ἡ μετάβασις οὐδ’ ὡσπερανεὶ παρὰ φύσιν· οὐ γὰρ εἰς ἄλλην φύσιν. ἐν δὲ τοῖς πολυτόκοις ταῦτα συμβαίνει διὰ τὸ τὴν πολυτοκίαν ἐμποδίζειν τὰς τελειώσεις ἀλλήλων καὶ τὰς κινήσεις τὰς γεννητικάς.

Περὶ δὲ τῆς πολυτοκίας καὶ τοῦ πλεονασμοῦ τοῦ τῶν μερῶν, καὶ τῆς ὀλιγοτοκίας καὶ μονοτοκίας καὶ τῆς ἐνδείας τῶν μερῶν ἀπορήσειεν ἄν τις. γίγνεται γὰρ ἐνίοτε τὰ μὲν πλείους ἔχοντα δακτύλους τὰ δ’ ἕνα μόνον, καὶ περὶ τὰ ἄλλα μέρη τὸν αὐτὸν τρόπον· καὶ γὰρ πλεονάζει καὶ κολοβὰ γίγνεται. τὰ δὲ καὶ δύο ἔχοντα αἰδοῖα, τὸ μὲν ἄρρενος τὸ δὲ θήλεος, καὶ ἐν ἀνθρώποις καὶ μάλιστα περὶ τὰς αἶγας· γίγνονται γὰρ ἃς καλοῦσι τραγαίνας διὰ τὸ θήλεος καὶ ἄρρενος ἔχειν αἰδοῖον-ἤδη δὲ καὶ κέρας αἲξ ἔχουσα ἐγένετο πρὸς τῷ σκέλει. γίγνονται δὲ μεταβολαὶ καὶ (771a.) πηρώσεις <καὶ πλεονασμοὶ> καὶ περὶ τὰ ἐντὸς μόρια τῷ ἢ μὴ ἔχειν ἔνια ἢ κεκολοβωμένα ἔχειν καὶ πλείω καὶ μεθεστῶτα τοὺς τόπους.

καρδίαν μὲν οὖν οὐθὲν πώποτε ἐγένετο ζῷον οὐκ ἔχον, σπλῆνα δ’ οὐκ ἔχον καὶ δύο ἔχον, καὶ νεφρὸν ἕνα· ἧπαρ δ’ οὐκ ἔχον μὲν οὐθέν, οὐχ ὅλον δὲ ἔχον. ταῦτα δὲ πάντα ἐν τοῖς τελειωθεῖσι καὶ ζῶσιν. εὑρίσκεται καὶ χολὴν οὐκ ἔχοντα, πεφυκότα ἔχειν· τὰ δὲ πλείους ἔχοντα μιᾶς. ἤδη δ’ ἐγένετο καὶ μεθεστηκότα κατὰ τόπον-τὸ μὲν ἧπαρ ἐν τοῖς ἀριστεροῖς, ὁ δὲ σπλὴν ἐν τοῖς δεξιοῖς. καὶ ταῦτα μὲν ἔν γε τετελεσμένοις ὦπται τοῖς ζῴοις ὥσπερ εἴρηται· ἐν δὲ τοῖς τικτομένοις ἔχοντα πολλὴν καὶ παντοδαπὴν ταραχήν. τὰ μὲν οὖν μικρὸν παρεκβαίνοντα τὴν φύσιν ζῆν εἴωθεν, τὰ δὲ πλεῖον οὐ ζῆν ὅταν ἐν τοῖς κυρίοις τοῦ ζῆν γένηται τὸ παρὰ φύσιν.

Ἡ δὲ σκέψις ἐστὶν ἡ περὶ τούτων πότερον τὴν αὐτὴν αἰτίαν δεῖ νομίζειν τῆς μονοτοκίας καὶ τῆς ἐνδείας τῶν μερῶν καὶ τοῦ πλεονασμοῦ καὶ τῆς πολυτοκίας ἢ μὴ τὴν αὐτήν.

Πρῶτον μὲν οὖν διὰ τί τὰ μέν ἐστι πολυτόκα τὰ δὲ μονοτόκα, τοῦτ’ ἄν τις δόξειεν εὐλόγως θαυμάζειν. τὰ γὰρ μέγιστα μονοτόκα τῶν ζῴων ἐστίν, οἷον ἐλέφας κάμηλος ἵππος καὶ τὰ μώνυχα· τούτων δὲ τὰ μὲν μείζω τῶν ἄλλων, τὰ δὲ πολὺ διαφέρει κατὰ τὸ μέγεθος. κύων δὲ καὶ λύκος καὶ τὰ πολυσχιδῆ πάντα πολυτόκα σχεδόν, καὶ τὰ μικρὰ τῶν τοιούτων οἷον τὸ τῶν μυῶν γένος. τὰ δὲ δίχηλα ὀλιγοτόκα πλὴν ὑός· αὕτη δὲ τῶν πολυτόκων ἐστίν. εὔλογον γὰρ τὰ μὲν μεγάλα πλείω δύνασθαι γεννᾶν καὶ σπέρμα φέρειν πλεῖον. αἴτιον δ’ αὐτὸ τὸ θαυμαζόμενον τοῦ μὴ θαυμάζειν· διὰ γὰρ τὸ μέγεθος οὐ πολυτοκοῦσιν· ἡ γὰρ τροφὴ καταναλίσκεται τοῖς τοιούτοις εἰς τὴν αὔξησιν τοῦ σώματος-τοῖς δ’ ἐλάττοσιν ἀπὸ τοῦ μεγέθους ἡ φύσις ἀφελοῦσα πρὸς τὸ περίττωμα προστίθησι τὸ σπερματικὸν τὴν ὑπεροχήν. ἔτι δὲ τὸ γεννῆσαν σπέρμα πλεῖον μὲν τὸ τοῦ μείζονος ἀναγκαῖον εἶναι, μικρὸν δὲ τὸ τῶν ἐλαττόνων.

πολλὰ μὲν οὖν μικρὰ γένοιτ’ ἂν ἐν ταὐτῷ, μεγάλα δὲ πολλὰ χαλεπόν. τοῖς δὲ μέσοις μεγέθεσι τὸ μέσον ἀπέδωκεν ἡ φύσις. τοῦ μὲν οὖν τὰ μὲν εἶναι μεγάλα τῶν ζῴων τὰ δ’ ἐλάττω τὰ δὲ μέσα πρότερον εἰρήκαμεν τὴν αἰτίαν· (771b.) μονοτόκα δέ, τὰ δ’ ὀλιγοτόκα, τὰ δὲ πολυτόκα τῶν ζῴων ἐστίν. ὡς μὲν ἐπὶ τὸ πολὺ τὰ μὲν μώνυχα μονοτόκα, τὰ δὲ δίχηλα ὀλιγοτόκα, τὰ δὲ πολυσχιδῆ πολυτόκα. τούτου δ’ αἴτιον ὅτι ὡς ἐπὶ τὸ πολὺ τὰ μεγέθη διώρισται κατὰ τὰς διαφορὰς ταύτας. οὐ μὴν ἔχει γ’ οὕτως ἐπὶ πάντων· αἴτιον γὰρ μέγεθος καὶ μικρότης τῶν σωμάτων τῆς ὀλιγοτοκίας καὶ πολυτοκίας ἀλλ’ οὐ τὸ μώνυχον ἢ πολυσχιδὲς ἢ δίχηλον εἶναι τὸ γένος. τούτου δὲ μαρτύριον· ὁ γὰρ ἐλέφας μέγιστον τῶν ζῴων, ἔστι δὲ πολυσχιδές, ἥ τε κάμηλος δίχηλον τῶν λοιπῶν μέγιστον ὄν. οὐ μόνον δ’ ἐν τοῖς πεζοῖς ἀλλὰ καὶ ἐν τοῖς πτηνοῖς καὶ ἐν τοῖς πλωτοῖς τὰ μὲν μεγάλα ὀλιγοτόκα ἐστὶ τὰ δὲ μικρὰ πολυτόκα διὰ

τὴν αὐτὴν αἰτίαν. ὁμοίως δὲ καὶ τῶν φυτῶν οὐ τὰ μέγιστα φέρει πλεῖστον καρπόν.

Διὰ τί μὲν οὖν τῶν ζῴων τὰ μὲν πολυτόκα τὰ δ’ ὀλιγοτόκα τὰ δὲ μονοτόκα τὴν φύσιν ἐστὶν εἴρηται-τῆς δὲ νῦν ῥηθείσης ἀπορίας μᾶλλον ἄν τις εὐλόγως θαυμάσειεν ἐπὶ τῶν πολυτοκούντων, ἐπειδὴ φαίνεται πολλάκις ἀπὸ μιᾶς ὀχείας κυϊσκόμενα τὰ τοιαῦτα τῶν ζῴων. τὸ δὲ σπέρμα τὸ τοῦ ἄρρενος, -εἴτε συμβάλλεται πρὸς τὴν ὕλην μόριον γιγνόμενον τοῦ κυήματος καὶ τῷ τοῦ θήλεος σπέρματι μιγνύμενον, εἴτε καὶ μὴ τοῦτον τὸν τρόπον ἀλλ’ ὥσπερ φαμὲν συνάγον καὶ δημιουργοῦν τὴν ὕλην τὴν ἐν τῷ θήλει καὶ τὸ περίττωμα τὸ σπερματικόν, καθάπερ ὁ ὀπὸς τὴν ὑγρότητα τοῦ γάλακτος, -διὰ τίνα ποτ’ αἰτίαν οὐχ ἓν ἀποτελεῖ ζῷον μέγεθος ἔχον, ὥσπερ ἐνταῦθα ὁ ὀπὸς οὐ κεχώρισται τῷ συνιστάναι ποσόν τι, ἀλλ’ ὅσῳπερ ἂν εἰς πλεῖον ἔλθῃ καὶ πλείων τοσούτῳ τὸ πηγνύμενόν ἐστι μεῖζον; τὸ μὲν οὖν ἕλκειν φάναι τοὺς τόπους τῆς ὑστέρας τὸ σπέρμα καὶ διὰ τοῦτο πλείω γίγνεσθαι, διὰ τὸ τῶν τόπων πλῆθος καὶ τὰς κοτυληδόνας οὐχ ἓν οὔσας, οὐθέν ἐστιν· ἐν ταὐτῷ γὰρ γίγνονται τόπῳ ὑστέρας δύο πολλάκις, ἐν δὲ τοῖς πολυτόκοις ὅταν πληρωθῇ τῶν ἐμβρύων ἐφεξῆς κείμενα φαίνεται. τοῦτο δὲ δῆλον ἐκ τῶν ἀνατομῶν ἐστιν. ἀλλ’ ὥσπερ καὶ τελειουμένων τῶν ζῴων ἔστιν ἑκάστου τι μέγεθος καὶ ἐπὶ τὸ μεῖζον καὶ ἐπὶ τὸ ἔλαττον, ὧν οὔτ’ ἂν μεῖζον γένοιτο οὔτ’ ἔλαττον, ἀλλ’ ἐν τῷ μεταξὺ διαστήματι τοῦ μεγέθους λαμβάνουσι πρὸς ἄλληλα τὴν ὑπεροχὴν καὶ τὴν (772a.) ἔλλειψιν, καὶ γίγνεται <ὁ μὲν> μείζων ὁ δ’ ἐλάττων ἄνθρωπος καὶ τῶν ἄλλων ζῴων ὁτιοῦν, -οὕτω καὶ ἐξ ἧς γίγνεται ὕλης σπερματικῆς οὐκ ἔστιν ἀόριστος οὔτ’ ἐπὶ τὸ πλεῖον οὔτ’ ἐπὶ τὸ ἔλαττον ὥστ’ ἐξ ὁποσησοῦν γίγνεσθαι τῷ πλήθει. ὅσα γοῦν τῶν ζῴων διὰ τὴν εἰρημένην αἰτίαν πλεῖον προΐεται περίττωμα ἢ εἰς ἑνὸς ζῴου ἀρχήν, οὐκ ἐνδέχεται ἐκ ταύτης ἓν γίγνεσθαι πάσης ἀλλὰ τοσαῦτα ὅσα τοῖς μεγέθεσιν ὥρισται τοῖς ἱκνουμένοις, οὐδὲ τὸ τοῦ ἄρρενος σπέρμα ἢ ἡ δύναμις ἡ ἐν τῷ σπέρματι οὐθὲν συστήσει πλεῖον ἢ ἔλαττον τοῦ πεφυκότος.

ὁμοίως τ’ εἰ πλεῖον σπέρμα ἀφίησι τὸ ἄρρεν ἢ δυνάμεις πλείους ἐν διαιρουμένῳ τῷ σπέρματι, οὐθὲν ποιήσει μεῖζον τὸ πλεῖστον ἀλλὰ καὶ τοὐναντίον διαφθερεῖ καταξηραῖνον. οὐδὲ γὰρ τὸ πῦρ θερμαίνει τὸ ὕδωρ μᾶλλον, ὅσῳπερ ἂν ᾖ πλεῖον, ἀλλ’ ἔστιν ὅρος τις τῆς θερμότητος, ἧς ὑπαρχούσης ἐὰν αὔξῃ τις τὸ πῦρ, θερμὸν μὲν οὐκέτι γίγνεται μᾶλλον, ἐξατμίζει δὲ μᾶλλον καὶ τέλος ἀφανίζεται καὶ γίγνεται ξηρόν. ἐπεὶ δὲ φαίνεται συμμετρίας δεῖσθαί τινος πρὸς ἄλληλα τό τε περίττωμα τὸ τοῦ θήλεος καὶ τὸ παρὰ τοῦ ἄρρενος (ὅσα προΐεται σπέρμα τῶν ἀρρένων), τὰ

πολυτόκα τῶν ζῴων εὐθὺς ἀφίησι τὸ μὲν ἄρρεν δυνάμενον πλείω συνιστάναι μεριζόμενον, τὸ δὲ θῆλυ τοσοῦτον ὥστε πλείους γίγνεσθαι συστάσεις. τὸ δ’ ἐπὶ τοῦ γάλακτος παράδειγμα λεχθὲν οὐχ ὅμοιόν ἐστιν· ἡ μὲν γὰρ τοῦ σπέρματος θερμότης οὐ μόνον συνίστησι ποσὸν ἀλλὰ καὶ ποιόν τι, ἡ δ’ ἐν τῷ ὀπῷ καὶ τῇ πυετίᾳ τὸ ποσὸν μόνον. τοῦ μὲν οὖν πολλὰ γίγνεσθαι τὰ κυήματα καὶ μὴ συνεχὲς ἓν ἐκ πάντων ἐν τοῖς πολυτόκοις τοῦτ’ αὐτὸ αἴτιον ὅτι οὐκ ἐξ ὁποσουοῦν γίγνεται κύημα, ἀλλ’ ἐάν τε ὀλίγον ᾖ οὐκ ἔσται, ἐάν τε πολὺ λίαν· ὥρισται γὰρ ἡ δύναμις καὶ τοῦ πάσχοντος καὶ τῆς θερμότητος τῆς ποιούσης. ὁμοίως δὲ καὶ ἐν τοῖς μονοτόκοις καὶ μεγάλοις τῶν ζῴων οὐ πολλὰ γίγνεται ἐκ πολλοῦ περιττώματος· καὶ γὰρ ἐν ἐκείνοις ἐκ ποσοῦ τινος ποσόν τι τὸ ἐργαζόμενόν ἐστιν. οὐ προΐεται μὲν οὖν πλείω τοιαύτην ὕλην διὰ τὴν προειρημένην αἰτίαν· ἣν δὲ προΐεται τοσαύτη κατὰ φύσιν ἐστὶν ἐξ ἧς ἓν γίγνεται κύημα μόνον. ἐὰν δέ ποτε πλεῖον ἔλθῃ διτοκεῖ τότε. διὸ καὶ δοκεῖ τερατώδη τὰ τοιαῦτ’ εἶναι μᾶλλον, ὅτι γίγνεται παρὰ τὸ ὡς ἐπὶ τὸ πολὺ καὶ τὸ εἰωθός.

Ὁ δὲ (772b.) ἄνθρωπος ἐπαμφοτερίζει πᾶσι τοῖς γένεσιν· καὶ γὰρ μονοτοκεῖ καὶ ὀλιγοτοκεῖ καὶ πολυτοκεῖ ποτε, μάλιστα δὲ μονοτόκον τὴν φύσιν ἐστί-διὰ μὲν τὴν ὑγρότητα τοῦ σώματος καὶ θερμότητα πολυτόκον (τοῦ γὰρ σπέρματος ἡ φύσις ὑγρὰ καὶ θερμή), διὰ δὲ τὸ μέγεθος ὀλιγοτόκον καὶ μονοτόκον. διὰ δὲ τοῦτο καὶ τοὺς τῆς κυήσεως χρόνους μόνῳ τῶν ζῴων ἀνωμάλους εἶναι συμβέβηκεν. τοῖς μὲν γὰρ ἄλλοις εἷς ἐστιν ὁ χρόνος, τοῖς δ’ ἀνθρώποις πλείους· καὶ γὰρ ἑπτάμηνα καὶ δεκάμηνα γεννῶνται καὶ κατὰ τοὺς μεταξὺ χρόνους· καὶ γὰρ τὰ ὀκτάμηνα ζῇ μέν, ἧττον δέ. τὸ δ’ αἴτιον ἐκ τῶν νῦν λεχθέντων συνίδοι τις ἄν, εἴρηται δὲ περὶ αὐτῶν ἐν τοῖς Προβλήμασιν. καὶ περὶ μὲν τούτων διωρίσθω τὸν τρόπον τοῦτον.

Τῶν δὲ πλεοναζόντων μορίων παρὰ φύσιν τὸ αὐτὸ αἴτιον καὶ τῆς διδυμοτοκίας. ἤδη γὰρ ἐν τοῖς κυήμασι συμβαίνει τὸ αἴτιον ἐὰν πλείων ὕλη συστῇ ἢ κατὰ τὴν τοῦ μορίου φύσιν· τότε γὰρ συμβαίνει μὲν μόριον μεῖζον τῶν ἄλλων ἔχειν, οἷον δάκτυλον ἢ χεῖρα ἢ πόδα ἤ τι τῶν ἄλλων ἀκρωτηρίων ἢ μελῶν, ἢ σχισθέντος τοῦ κυήματος πλείω γίγνεσθαι καθάπερ ἐν τοῖς ποταμοῖς αἱ δῖναι· καὶ γὰρ ἐν τούτοις τὸ φερόμενον ὑγρὸν καὶ κίνησιν ἔχον ἂν ἀντικρούσῃ, δύο ἐξ ἑνὸς γίγνονται συστάσεις ἔχουσαι τὴν αὐτὴν κίνησιν· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν κυημάτων συμβαίνει. προσφύεται δὲ μάλιστα μὲν πλησίον ἀλλήλων, ἐνίοτε δὲ καὶ πόρρω διὰ τὴν γιγνομένην ἐν τῷ κυήματι κίνησιν, μάλιστα δὲ διὰ τὸ τὴν τῆς ὕλης ὑπεροχὴν ὅθεν ἀφῃρέθη ἐκεῖ ἀποδιδόναι, τὸ δ’ εἶδος ἔχειν ὅθεν ἐπλεόνασεν.

Ὅσα δὲ συμβαίνει τοιαῦτα ὥστε δύο ἔχειν αἰδοῖα, τὸ μὲν ἄρρενος τὸ δὲ θήλεος, ἀεὶ μὲν τῶν πλεοναζόντων γίγνεται τὸ μὲν κύριον τὸ δ' ἄκυρον τῷ κατὰ τὴν τροφὴν ἀεὶ ἀμαυροῦσθαι ἅτε παρὰ φύσιν ὄν, προσπέφυκε δ' ὥσπερ τὰ φύματα· καὶ γὰρ ταῦτα λαμβάνει τροφὴν καίπερ ὄντα ὑστερογενῆ καὶ παρὰ φύσιν. γίγνεται δὲ κρατήσαντος μὲν τοῦ δημιουργοῦντος ὅμοια δύο καὶ κρατηθέντος ὅλως· ἂν δὲ τῇ μὲν κρατήσῃ τῇ δὲ κρατηθῇ, τὸ μὲν θῆλυ τὸ δὲ ἄρρεν· οὐθὲν γὰρ διαφέρει τοῦτο λέγειν ἐπὶ τῶν μορίων ἢ ἐπὶ τοῦ ὅλου δι' ἣν αἰτίαν γίγνεται τὸ μὲν θῆλυ τὸ δ' ἄρρεν. ὅσα δ' ἐλλείποντα γίγνεται τῶν τοιούτων μορίων οἷον ἀκρωτηρίου τινὸς ἢ τῶν ἄλλων μελῶν, τὴν αὐτὴν δεῖ νομίζειν αἰτίαν ἥνπερ καὶ ἐὰν ὅλον τὸ (773a.) γιγνόμενον ἀμβλωθῇ-ἀμβλώσεις δὲ γίγνονται πολλαὶ τῶν κυημάτων.

Διαφέρουσι δ' αἱ μὲν παραφύσεις τῆς πολυτοκίας τὸν εἰρημένον τρόπον, τὰ δὲ τέρατα τούτων τῷ τὰ πολλὰ αὐτῶν εἶναι σύμφυσιν. ἔνια δὲ καὶ τοῦτον τὸν τρόπον, ἐὰν ἐπὶ μειζόνων γένωνται καὶ κυριωτέρων μορίων, οἷον ἔνια ἔχει δύο σπλῆνας καὶ πλείους νεφρούς. ἔτι δὲ μεταστάσεις τῶν μορίων παρατρεπομένων τῶν κινήσεών εἰσι καὶ τῆς ὕλης μεθισταμένης. ἓν δ' εἶναι τὸ ζῷον τὸ τερατῶδες ἢ πλείω συμπεφυκότα δεῖ νομίζειν κατὰ τὴν ἀρχήν, οἷον εἰ τοιοῦτόν ἐστιν ἡ καρδία μόριον, τὸ μὲν μίαν ἔχον καρδίαν ἓν ζῷον, τὰ δὲ πλεονάζοντα μόρια παραφύσεις, τὰ δὲ πλείω ἔχοντα δύο μὲν εἶναι, συμπεφυκέναι δὲ διὰ τὴν τῶν κυημάτων σύναψιν.

Συμβαίνει δὲ πολλάκις καὶ τῶν οὐ δοκούντων ἀναπήρων εἶναι ζῴων πολλοῖς ἤδη τετελειωμένοις τοὺς μὲν συμπεφυκέναι τῶν πόρων τοὺς δὲ παρεκτετράφθαι. καὶ γὰρ θήλεσί τισιν ἤδη τὸ στόμα τῶν ὑστερῶν συμπεφυκὸς διετέλεσεν, ἤδη δ' ὥρας οὔσης τῶν καταμηνίων καὶ πόνων ἐπιγιγνομένων ταῖς μὲν αὐτόματον ἐρράγη ταῖς δ' ὑπὸ ἀτρῶν διῃρέθη· τὰς δὲ διαφθαρῆναι συνέπεσεν ἢ βίᾳ γενομένης τῆς ῥήξεως ἢ γενέσθαι μὴ δυναμένης. καὶ τῶν παίδων ἐνίοις οὐ κατὰ τὸ αὐτὸ συνέπεσε τὸ πέρας τοῦ αἰδοίου καὶ ὁ πόρος ᾗ διέρχεται τὸ περίττωμα τὸ ἐκ τῆς κύστεως ἀλλ' ὑποκάτωθεν· διὸ καὶ καθήμενοι οὐροῦσι, τῶν δὲ ὄρχεων ἀνεσπασμένων ἄνω δοκοῦσι τοῖς ἄποθεν ἅμα θήλεος ἔχειν αἰδοῖον καὶ ἄρρενος. ἤδη δὲ καὶ ὁ τῆς ξηρᾶς τροφῆς πόρος συμπεφυκὼς ἐπί τινων ζῴων γέγονε, καὶ προβάτων καὶ ἄλλων, ἐπεὶ καὶ βοῦς ἐν Περίνθῳ ἐγένετο ᾗ διὰ τῆς κύστεως λεπτὴ διηθουμένη τροφὴ διεχώρει, καὶ ἀνατμηθέντος τοῦ ἀρχοῦ ταχὺ πάλιν συνεφύετο, καὶ οὐκ ἐπεκράτουν διαιροῦντες.

Περὶ μὲν οὖν ὀλιγοτοκίας καὶ πολυτοκίας καὶ περὶ παραφύσεως τῶν πλεοναζόντων [ἢ ἐλλειπόντων] μορίων, ἔτι δὲ περὶ τῶν τερατωδῶν εἴρηται.

Κεφάλαιο 5

Τῶν δὲ ζῴων τὰ μὲν ὅλως οὐκ ἐπικυΐσκεται τὰ δ’ ἐπικυΐσκεται, καὶ τῶν ἐπικυϊσκομένων τὰ μὲν δύναται τὰ κυήματα ἐκτρέφειν, τὰ δὲ ποτὲ μὲν ποτὲ δ’ οὔ. τοῦ δὲ μὴ ἐπικυΐσκεσθαι αἴτιον ὅτι (773b.) μονοτόκα ἐστίν. τά τε γὰρ μώνυχα οὐκ ἐπικυΐσκεται καὶ τὰ τούτων μείζονα· διὰ γὰρ τὸ μέγεθος τὸ περίττωμα ἀναλίσκεται εἰς τὸ κύημα. πᾶσι γὰρ ὑπάρχει μέγεθος τούτοις σώματος, τῶν δὲ μεγάλων καὶ τὰ ἔμβρυα μεγάλα κατὰ λόγον ἐστίν· διὸ καὶ τὸ τῶν ἐλεφάντων ἔμβρυον ἡλίκον μόσχος ἐστίν. τὰ δὲ πολυτόκα ἐπικυΐσκεται διὰ τὸ καὶ τῶν πλειόνων τοῦ ἑνὸς εἶναι θατέρῳ θάτερον ἐπικύημα. τούτων δ’ ὅσα μὲν μέγεθος ἔχει, καθάπερ ἄνθρωπος, ἐὰν μὲν ἡ ἑτέρα ὀχεία τῆς ἑτέρας γένηται πάρεγγυς, ἐκτρέφει τὸ ἐπικυηθέν· ἤδη γὰρ ὦπται τὸ τοιοῦτον συμβεβηκός. αἴτιον δὲ τὸ εἰρημένον· καὶ γὰρ ἐν τῇ μιᾷ συνουσίᾳ πλεῖον τὸ ἀπιόν ἐστι σπέρμα, ὃ μερισθὲν ποιεῖ πολυτοκεῖν, ὧν ὑστερίζει θάτερον.

ὅταν δ’ ἤδη τοῦ κυήματος ηὐξημένου συμβῇ γίγνεσθαι τὴν ὀχείαν ἐπικυΐσκεται μέν ποτε, ὀλιγάκις μέντοι διὰ τὸ τὴν ὑστέραν συμμύειν ὡς τὰ πολλὰ μέχρι τῶν κυουμένων ταῖς γυναιξίν. ἂν δὲ συμβῇ ποτε (καὶ γὰρ τοῦτ’ ἤδη γέγονεν), οὐ δύναται τελειοῦν, ἀλλὰ κυήματ’ ἐκπίπτει παραπλήσια τοῖς καλουμένοις ἐκτρώμασιν. ὥσπερ γὰρ ἐπὶ τῶν μονοτόκων διὰ τὸ μέγεθος εἰς τὸ προϋπάρχον τὸ περίττωμα τρέπεται πᾶν, οὕτω καὶ τούτοις, πλὴν ἐκείνοις μὲν εὐθύς, τούτοις δ’ ὅταν αὐξηθῇ τὸ ἔμβρυον· τότε γὰρ ἔχουσι παραπλησίως τοῖς μονοτόκοις. ὁμοίως δὲ διὰ τὸ τὸν ἄνθρωπον φύσει πολυτόκον εἶναι, καὶ περιεῖναί τι τῷ μεγέθει τῆς ὑστέρας καὶ τοῦ περιττώματος, μὴ μέντοι τοσοῦτον ὥστε ἕτερον ἐκτρέφειν, μόνα τῶν ζῴων ὀχείαν ἐπιδέχεται κυοῦντα γυνὴ καὶ ἵππος, ἡ μὲν διὰ τὴν εἰρημένην αἰτίαν ἡ δ’ ἵππος διά τε τὴν τῆς φύσεως στερρότητα καὶ τὸ περιεῖναί τι τῆς ὑστέρας μέγεθος, πλέον μὲν ἢ τῷ ἑνί, ἔλαττον δὲ ἢ ὥστε ἄλλο ἐπικυΐσκεσθαι τέλειον. ἔστι δὲ φύσει ἀφροδισιαστικὸν διὰ τὸ ταὐτὸ πεπονθέναι τοῖς στερροῖς· ἐκεῖνά τε γὰρ τοιαῦτ’ ἐστὶ διὰ τὸ μὴ γίγνεσθαι κάθαρσιν (τοῦτο δ’ ἐστὶν ὥσπερ τοῖς ἄρρεσι τὸ ἀφροδισιάσαι) καὶ αἱ ἵπποι αἱ θήλειαι ἥκιστα προΐενται κάθαρσιν.

ἐν πᾶσι δὲ τοῖς ζῳοτοκοῦσι τὰ στερρὰ τῶν θηλέων ἀφροδισιαστικὰ διὰ τὸ παραπλησίως ἔχειν τοῖς ἄρρεσιν ὅταν συνειλεγμένον μὲν ᾖ τὸ σπέρμα, μὴ ἀποκρινόμενον δέ. τοῖς (774a.) γὰρ θήλεσιν ἡ τῶν καταμηνίων κάθαρσις σπέρματος ἔξοδός ἐστιν· ἔστι γὰρ τὰ καταμήνια σπέρμα ἄπεπτον ὥσπερ εἴρηται πρότερον. διὸ καὶ τῶν γυναικῶν ὅσαι πρὸς τὴν ὁμιλίαν ἀκρατεῖς τὴν τοιαύτην, ὅταν πολυτοκήσωσι παύονται τῆς πτοήσεως· ἐκκεκριμένη γὰρ ἡ σπερματικὴ περίττωσις οὐκέτι ποιεῖ τῆς ὁμιλίας ταύτης ἐπιθυμίαν. ἐν δὲ τοῖς ὄρνισιν αἱ θήλειαι τῶν ἀρρένων ἧττόν εἰσιν ἀφροδισιαστικαὶ διὰ τὸ πρὸς τῷ ὑποζώματι τὰς ὑστέρας ἔχειν, τὰ δ’ ἄρρενα τοὐναντίον· ἀνεσπασμένους γὰρ ἔχει τοὺς ὄρχεις ἐντός, ὥστ’ ἂν ᾖ τι γένος τῶν τοιούτων ὀρνίθων φύσει σπερματικὸν ἀεὶ δεῖσθαι τῆς ὁμιλίας ταύτης. τοῖς μὲν οὖν θήλεσι τὸ κάτω καταβαίνειν τὰς ὑστέρας, τοῖς δ’ ἄρρεσι τὸ ἀνασπᾶσθαι τοὺς ὄρχεις συμβαίνει πρὸ ὁδοῦ πρὸς τὴν ὀχείαν.

Δι’ ἣν μὲν οὖν αἰτίαν τὰ μὲν οὐκ ἐπικυΐσκεται παντελῶς τὰ δ’ ἐπικυΐσκεται μέν, τὰ δὲ κυήματα ἐκτρέφει ὁτὲ μὲν ὁτὲ δ’ οὔ, καὶ διὰ τίν’ αἰτίαν τὰ μὲν ἀφροδισιαστικὰ τὰ δ’ οὐκ ἀφροδισιαστικὰ τῶν τοιούτων ἐστίν, εἴρηται.

Ἔνια δὲ τῶν ἐπικυϊσκομένων καὶ πολὺν χρόνον διαλειπούσης τῆς ὀχείας δύναται τὰ κυήματα ἐκτρέφειν, ὅσων σπερματικόν τε τὸ γένος ἐστὶ καὶ μὴ τὸ σῶμα μέγεθος ἔχει καὶ τῶν πολυτόκων ἐστίν· διὰ μὲν γὰρ τὸ πολυτοκεῖν εὐρυχωρίαν ἔχει τῆς ὑστέρας, διὰ δὲ τὸ σπερματικὸν εἶναι πολὺ προΐεται περίττωμα τῆς καθάρσεως· διὰ δὲ τὸ μὴ τὸ σῶμα μέγεθος ἔχειν ἀλλὰ πλείονι λόγῳ τὴν κάθαρσιν ὑπερβάλλειν τῆς εἰς τὸ κύημα τροφῆς δύναταί τε συνίστασθαι ζῷα καὶ ὕστερον καὶ ταῦτ’ ἐκτρέφειν. ἔτι δ’ αἱ ὑστέραι τῶν τοιούτων οὐ συμμεμύκασι διὰ τὸ περιεῖναι περίττωμα τῆς καθάρσεως. τοῦτο δὲ καὶ ἐπὶ γυναικῶν ἤδη συμβέβηκεν· γίγνεται γάρ τισι κυούσαις κάθαρσις καὶ διὰ τέλους. ἀλλὰ ταύταις μὲν παρὰ φύσιν (διὸ βλάπτει τὸ κύημα), τοῖς δὲ τοιούτοις τῶν ζῴων κατὰ φύσιν· οὕτω γὰρ τὸ σῶμα συνέστηκεν ἐξ ἀρχῆς, οἷον τὸ τῶν δασυπόδων· τοῦτο γὰρ ἐπικυΐσκεται τὸ ζῷον· οὔτε γὰρ τῶν μεγάλων ἐστὶ πολυτόκον τε (πολυσχιδὲς γάρ, τὰ δὲ πολυσχιδῆ πολυτόκα) καὶ σπερματικόν. δηλοῖ δ’ ἡ δασύτης· ὑπερβάλλει γὰρ τοῦ τριχώματος τὸ πλῆθος· καὶ γὰρ ὑπὸ τοὺς πόδας καὶ ἐντὸς τῶν γνάθων τοῦτ’ ἔχει τρίχας μόνον τῶν ζῴων. ἡ δὲ δασύτης σημεῖον (774b.) πλήθους περιττώματός ἐστι, διὸ καὶ τῶν ἀνθρώπων οἱ δασεῖς ἀφροδισιαστικοὶ καὶ πολύσπερμοι μᾶλλόν εἰσι τῶν λείων. ὁ μὲν οὖν δασύπους τὰ μὲν τῶν κυημάτων ἀτελῆ πολλάκις ἔχει, τὰ δὲ προΐεται τετελειωμένα τῶν τέκνων.

Κεφάλαιο 6

Τῶν δὲ ζῳοτόκων τὰ μὲν ἀτελῆ προΐεται ζῷα τὰ δὲ τετελειωμένα, τὰ μὲν μώνυχα τετελειωμένα καὶ τὰ δίχηλα, τῶν δὲ πολυσχιδῶν ἀτελῆ τὰ πολλά. τούτου δ’ αἴτιον ὅτι τὰ μὲν μώνυχα μονοτόκα ἐστί, τὰ δὲ δίχηλα ἢ μονοτόκα ἢ διτόκα ὡς ἐπὶ τὸ πολύ, ῥᾴδιον δὲ τὰ ὀλίγα ἐκτρέφειν. τῶν δὲ πολυσχιδῶν ὅσα ἀτελῆ τίκτει πάντα πολυτόκα· διὸ νέα μὲν ὄντα δύναται τὰ κυήματα τρέφειν, ὅταν δ’ αὐξηθῇ καὶ λάβῃ μέγεθος οὐ δυναμένου τοῦ σώματος ἐκτρέφειν προΐεται καθάπερ τὰ σκωληκοτόκα τῶν ζῴων. καὶ γὰρ τούτων τὰ μὲν ἀδιάρθρωτα σχεδὸν γεννᾷ καθάπερ ἀλώπηξ ἄρκτος λέων, παραπλησίως δ’ ἔνια καὶ τῶν ἄλλων· τυφλὰ δὲ πάντα σχεδόν, οἷον ταῦτά τε καὶ ἔτι κύων λύκος θώς. μόνον δὲ πολυτόκον ὂν ἡ ὗς τελειοτοκεῖ, καὶ ἐπαλλάττει τοῦτο μόνον· πολυτοκεῖ μὲν γὰρ ὡς τὰ πολυσχιδῆ, δίχηλον δ’ ἐστὶ καὶ μώνυχον· εἰσὶ γάρ που μώνυχες ὕες. πολυτοκεῖ μὲν οὖν διὰ τὸ τὴν εἰς τὸ μέγεθος τροφὴν εἰς τὴν σπερματικὴν ἀποκρίνεσθαι περίττωσιν· τοῦτο γὰρ ὡς μώνυχον ὂν οὐκ ἔχει μέγεθος, ἅμα δὲ καὶ μᾶλλον-ὥσπερ ἀμφισβητοῦν τῇ φύσει τῇ τῶν μωνύχων-δίχηλόν ἐστιν. διὰ μὲν οὖν τοῦτο καὶ μονοτοκεῖ ποτε καὶ διτοκεῖ καὶ πολυτοκεῖ τὰ πλεῖστα, ἐκτρέφει δ’ εἰς τέλος διὰ τὴν τοῦ σώματος εὐβοσίαν· ἔχει γὰρ ὡς πίειρα γῆ φυτοῖς ἱκανὴν καὶ δαψιλῆ τροφήν.

Τίκτουσι δ’ ἀτελῆ καὶ τυφλὰ καὶ τῶν ὀρνίθων τινὲς ὅσοι πολυτοκοῦσιν αὐτῶν μὴ σωμάτων ἔχοντες μέγεθος οἷον κορώνη κίττα στρουθοὶ χελιδόνες, καὶ τῶν ὀλιγοτοκούντων ὅσα μὴ δαψιλῆ τροφὴν συνεκτίκτει τοῖς τέκνοις οἷον φάττα καὶ τρυγὼν καὶ περιστερά. καὶ διὰ τοῦτο τῶν χελιδόνων ἐάν τις ἔτι νέων ὄντων ἐκκεντήσῃ τὰ ὄμματα πάλιν ὑγιάζονται· γιγνομένων γὰρ ἀλλ’ οὐ γεγενημένων φθείρονται, διόπερ φύονται καὶ βλαστάνουσιν ἐξ ἀρχῆς. ὅλως δὲ προτερεῖ μὲν τῆς τελειογονίας διὰ τὴν ἀδυναμίαν τοῦ ἐκτρέφειν, ἀτελῆ δὲ γίγνεται διὰ τὸ προτερεῖν. δῆλον δὲ τοῦτο καὶ ἐπὶ τῶν ἑπταμήνων· διὰ (775a.) γὰρ τὸ ἀτελῆ εἶναι πολλάκις ἔνια αὐτῶν γίγνεται οὐδὲ τοὺς πόρους ἔχοντά πω διηρθρωμένους, οἷον ὤτων καὶ μυκτήρων, ἀλλ’ ἐπαυξανομένοις διαρθροῦται, καὶ βιοῦσι πολλὰ τῶν τοιούτων.

Γίγνεται δὲ ἀνάπηρα μᾶλλον ἐν τοῖς ἀνθρώποις τὰ ἄρρενα τῶν θηλέων, ἐν δὲ τοῖς ἄλλοις οὐθὲν μᾶλλον. αἴτιον δ’ ὅτι ἐν τοῖς ἀνθρώποις πολὺ διαφέρει τὸ ἄρρεν τοῦ θήλεος τῇ θερμότητι τῆς φύσεως, διὸ κινητικώτερά ἐστι

κυούμενα τὰ ἄρρενα τῶν θηλέων· διὰ δὲ τὸ κινεῖσθαι θραύεται μᾶλλον· εὔφθαρτον γὰρ τὸ νέον διὰ τὴν ἀσθένειαν. διὰ τὴν αὐτὴν δὲ ταύτην αἰτίαν καὶ τελειοῦται τὰ θήλεα τοῖς ἄρρεσιν οὐχ ὁμοίως ἐν ταῖς γυναιξίν, <ἐν δὲ τοῖς ἄλλοις ζῴοις ὁμοίως· οὐθὲν γὰρ ὑστερεῖ τὸ θῆλυ πλέον τοῦ ἄρρενος ὥσπερ ἐν ταῖς γυναιξίν·gt; ἐν μὲν γὰρ τῇ μητρὶ ἐν πλείονι χρόνῳ διακρίνεται τὸ θῆλυ τοῦ ἄρρενος, ἐξελθόντων δὲ πάντα πρότερον ἐπιτελεῖται οἷον ἥβη καὶ ἀκμὴ καὶ γῆρας τοῖς θήλεσιν ἢ τοῖς ἄρρεσιν· ἀσθενέστερα γάρ ἐστι καὶ ψυχρότερα τὰ θήλεα τὴν φύσιν, καὶ δεῖ ὑπολαμβάνειν ὥσπερ ἀναπηρίαν εἶναι τὴν θηλύτητα φυσικήν. ἔσω μὲν οὖν διακρίνεται διὰ τὴν ψυχρότητα βραδέως (ἡ γὰρ διάκρισις πέψις ἐστί, πέττει δ’ ἡ θερμότης, εὔπεπτον δὲ τὸ θερμότερον), ἐκτὸς δὲ διὰ τὴν ἀσθένειαν ταχὺ συνάπτει πρὸς τὴν ἀκμὴν καὶ τὸ γῆρας· πάντα γὰρ τὰ ἐλάττω πρὸς τὸ τέλος ἔρχεται θᾶττον ὥσπερ καὶ ἐν τοῖς κατὰ τέχνην ἔργοις καὶ ἐν τοῖς ὑπὸ φύσεως συνισταμένοις. διὰ τὸ εἰρημένον δ’ αἴτιον καὶ ἐν τοῖς ἀνθρώποις τὰ διδυμοτοκούμενα θῆλυ καὶ ἄρρεν ἧττον σώζεται, ἐν δὲ τοῖς ἄλλοις οὐθὲν ἧττον· τοῖς μὲν γὰρ παρὰ φύσιν τὸ ἰσοδρομεῖν, οὐκ ἐν ἴσοις χρόνοις γιγνομένης τῆς διακρίσεως ἀλλ’ ἀνάγκη τὸ ἄρρεν ὑστερεῖν ἢ τὸ θῆλυ προτερεῖν, ἐν δὲ τοῖς ἄλλοις οὐ παρὰ φύσιν. συμβαίνει δὲ καὶ διαφορὰ περὶ τὰς κυήσεις ἐπί τε τῶν ἀνθρώπων καὶ ἐπὶ τῶν ἄλλων ζῴων· τὰ μὲν γὰρ εὐθηνεῖ μᾶλλον τοῖς σώμασι τὸν πλεῖστον χρόνον, τῶν δὲ γυναικῶν αἱ πολλαὶ δυσφοροῦσι περὶ τὴν κύησιν. ἔστι μὲν οὖν αἴτιόν τι τούτων καὶ διὰ τὸν βίον· ἑδραῖαι γὰρ οὖσαι πλείονος γέμουσι περιττώματος, ἐπεὶ ἐν οἷς ἔθνεσι πονητικὸς ὁ τῶν γυναικῶν βίος οὔθ’ ἡ κύησις ὁμοίως ἐπίδηλός ἐστι, τίκτουσί τε ῥᾳδίως κἀκεῖ καὶ πανταχοῦ αἱ εἰωθυῖαι πονεῖν· ἀναλίσκει γὰρ ὁ πόνος τὰ περιττώματα, ταῖς δ’ ἑδραίαις ἐνυπάρχει πολλὰ τοιαῦτα διὰ τὴν ἀπονίαν καὶ τὸ μὴ γίγνεσθαι καθάρσεις κυούσαις, ἥ τε ὠδὶς (775b.) ἐπίπονός ἐστιν· ὁ δὲ πόνος γυμνάζει τὸ πνεῦμα ὥστε δύνασθαι κατέχειν ἐν ᾧ τὸ τίκτειν ἐστὶ ῥᾳδίως ἢ χαλεπῶς. ἔστι μὲν οὖν ὥσπερ εἴρηται καὶ ταῦτα συμβαλλόμενα πρὸς τὴν διαφορὰν τοῦ πάθους τοῖς ἄλλοις ζῴοις καὶ ταῖς γυναιξί, μάλιστα δ’ ὅτι τοῖς μὲν αὐτῶν ὀλίγη γίγνεται κάθαρσις τοῖς δ’ οὐκ ἐπίδηλος ὅλως, ταῖς δὲ γυναιξὶ πλείστη τῶν ζῴων, ὥστε μὴ γιγνομένης τῆς ἐκκρίσεως διὰ τὴν κύησιν ταῖς μὲν ταραχὴν παρέχει· καὶ γὰρ μὴ κυούσαις ὅταν αἱ καθάρσεις μὴ γίγνωνται νόσοι συμβαίνουσιν, καὶ τὸ πρῶτον δὲ ταράττονται συλλαβοῦσαι μᾶλλον αἱ πλεῖσται τῶν γυναικῶν· τὸ γὰρ κύημα κωλύειν μὲν δύναται τὰς καθάρσεις, διὰ μικρότητα δὲ οὐδὲν ἀναλίσκει πλῆθος τοῦ περιττώματος τὸ πρῶτον, ὕστερον δὲ κουφίζει μεταλαμβάνον· ἐν δὲ τοῖς ἄλλοις ζῴοις διὰ τὸ ὀλίγον εἶναι σύμμετρον γίγνεται πρὸς τὴν αὔξησιν τῶν ἐμβρύων, καὶ ἀναλισκομένων τῶν περιττωμάτων τῶν ἐμποδιζόντων τὴν τροφὴν εὐημερεῖ τοῖς σώμασι μᾶλλον. καὶ ἐν τοῖς ἐνύδροις τὸν αὐτὸν τρόπον καὶ ἐν τοῖς ὄρνισιν. ἤδη δὲ μεγάλων γιγνομένων τῶν κυημάτων, ὅσοις μηκέτι συμβαίνει ἡ εὐτροφία τῶν σωμάτων, αἴτιον τὸ τὴν αὔξησιν τοῦ κυήματος δεῖσθαι πλείονος ἢ τῆς περιττωματικῆς τροφῆς. ὀλίγαις δέ τισι τῶν γυναικῶν βέλτιον ἔχειν τὰ σώματα συμβαίνει κυούσαις-αὗται δ' εἰσὶν ὅσαις μικρὰ τὰ περιττώματα ἐν τῷ σώματι ὥστε καταναλίσκεσθαι μετὰ τῆς εἰς τὸ ἔμβρυον τροφῆς.

Κεφάλαιο 7

Περὶ δὲ τῆς καλουμένης μύλης ῥητέον ἣ γίγνεται μὲν ὀλιγάκις ταῖς γυναιξί, γίγνεται δέ τισι τοῦτο τὸ πάθος κυούσαις. τίκτουσι γὰρ ὃ καλοῦσι μύλην. ἤδη γὰρ συνέβη τινὶ γυναικὶ συγγενομένῃ τῷ ἀνδρὶ καὶ δοξάσῃ συλλαβεῖν, τὸ μὲν πρῶτον ὅ τε ὄγκος ηὐξάνετο τῆς γαστρὸς καὶ τἆλλα ἐγίγνετο κατὰ λόγον, ἐπεὶ δὲ ὁ χρόνος ἦν τοῦ τόκου οὔτ' ἔτικτεν οὔτε ὁ ὄγκος ἐλάττων ἐγίγνετο, ἀλλ' ἔτη τρία ἢ τέτταρα οὕτω διετέλει ἕως δυσεντερίας γενομένης καὶ κινδυνεύσασα ὑπ' αὐτῆς ἔτεκε σάρκα ἣν καλοῦσι μύλην. ἐνίαις δὲ καὶ συγκαταγηράσκει τοῦτο τὸ πάθος καὶ συναποθνήσκει. τὰ δὲ θύραζε ἐξιόντα τῶν τοιούτων γίγνεται σκληρὰ οὕτως ὥστε μόλις διακόπτεσθαι καὶ σιδήρῳ. περὶ μὲν οὖν τῆς τοῦ πάθους αἰτίας εἴρηται ἐν τοῖς Προβλήμασιν· πάσχει γὰρ ταὐτὸν τὸ κύημα (776a.) ἐν τῇ μήτρᾳ ὅπερ ἐν τοῖς ἑψομένοις τὰ μωλυνόμενα, καὶ οὐ διὰ θερμότητα, ὥσπερ τινές φασιν, ἀλλὰ μᾶλλον δι' ἀσθένειαν θερμότητος (ἔοικε γὰρ ἡ φύσις ἀσθενεῖν καὶ οὐ δύνασθαι τελειῶσαι οὐδ' ἐπιθεῖναι τῇ γενέσει πέρας· διὸ καὶ συγκαταγηράσκει ἢ πολὺν ἐμμένει χρόνον· οὔτε γὰρ ὡς τετελεσμένον οὔθ' ὡς πάμπαν ἀλλότριον ἔχει τὴν φύσιν)· τῆς γὰρ σκληρότητος ἡ ἀπεψία αἰτία· ἀπεψία γάρ τις καὶ ἡ μώλυνσίς ἐστιν.

Ἀπορίαν δ' ἔχει διὰ τί ποτ' ἐν τοῖς ἄλλοις οὐχὶ γίγνεται ζῴοις, εἰ μή τι πάμπαν λέληθεν. αἴτιον δὲ δεῖ νομίζειν ὅτι μόνον ὑστερικόν ἐστιν ἡ γυνὴ τῶν ἄλλων ζῴων καὶ περὶ τὰς καθάρσεις πλεονάζει καὶ οὐ δύναται πέττειν αὐτάς· ὅταν οὖν ἐκ δυσπέπτου ἰκμάδος συστῇ τὸ κύημα τότε γίγνεται ἡ καλουμένη μύλη ἐν ταῖς γυναιξὶν εὐλόγως ἢ μάλιστα ἢ μόναις.

Κεφάλαιο 8

Τὸ δὲ γάλα γίγνεται τοῖς θήλεσιν ὅσα ζῳοτοκεῖ ἐν αὑτοῖς χρήσιμον μὲν εἰς τὸν χρόνον τὸν τοῦ τόκου· τῆς γὰρ τροφῆς χάριν αὐτὸ τῆς θύραζε ἐποίησεν ἡ φύσις τοῖς ζῴοις ὥστ’ οὔτ’ ἐλλείπειν αὐτὸ ἐν τῷ χρόνῳ τούτῳ οὐθὲν οὔθ’ ὑπερβάλλειν οὐθέν· ὅπερ καὶ φαίνεται συμπῖπτον ἂν μή τι γένηται παρὰ φύσιν. τοῖς μὲν οὖν ἄλλοις ζῴοις διὰ τὸ τὸν χρόνον ἕνα τῆς κυήσεως εἶναι πρὸς τοῦτον ἀπαντᾷ τὸν καιρὸν ἡ πέψις αὐτοῦ· τοῖς δ’ ἀνθρώποις ἐπεὶ πλείους οἱ χρόνοι κατὰ τὸν πρῶτον ἀναγκαῖον ὑπάρχειν· διὸ πρὸ τῶν ἑπτὰ μηνῶν ἄχρηστον τὸ γάλα ταῖς γυναιξί, τότε δ’ ἤδη γίγνεται χρήσιμον. εὐλόγως δὲ συμβαίνει καὶ διὰ τὴν ἐξ ἀνάγκης αἰτίαν πεπεμμένον εἰς τοὺς τελευταίους χρόνους· τὸ μὲν γὰρ πρῶτον ἡ τοῦ τοιούτου περιττώματος ἀπόκρισις εἰς τὴν τῶν ἐμβρύων ἀναλίσκεται γένεσιν· πάντων δ’ ἡ τροφὴ τὸ γλυκύτατον καὶ πεπεμμένον, ὥστ’ ἀφαιρουμένης τῆς τοιαύτης δυνάμεως ἀνάγκη τὸ λοιπὸν ἁλμυρὸν γίγνεσθαι καὶ δύσχυμον.

τελεουμένων δὲ τῶν κυημάτων πλέον τε τὸ περίττωμα τὸ περιγιγνόμενον (ἔλαττον γὰρ τὸ ἀναλισκόμενον) καὶ γλυκύτερον, οὐκ ἀφαιρουμένου ὁμοίως τοῦ εὐπέπτου. οὐ γὰρ ἔτι εἰς πλάσιν τοῦ ἐμβρύου γίγνεται ἡ δαπάνη ἀλλ’ εἰς μικρὰν αὔξησιν, ὥσπερ ἑστηκὸς ἤδη διὰ τὸ τέλος ἔχειν τὸ ἔμβρυον· ἔστι γάρ (776b.) τις καὶ κυήματος τελείωσις. διόπερ ἐξέρχεται καὶ μεταβάλλει τὴν γένεσιν ὡς ἔχον τὰ αὑτοῦ καὶ οὐκέτι λαμβάνει τὸ μὴ αὑτοῦ, ἐν ᾧ καιρῷ γίγνεται τὸ γάλα χρήσιμον.

Εἰς δὲ τὸν ἄνω τόπον καὶ τοὺς μαστοὺς συλλέγεται διὰ τὴν ἐξ ἀρχῆς τάξιν τῆς συστάσεως. τὸ μὲν γὰρ ἄνω τοῦ ὑποζώματος τὸ κύριον τῆς ζωῆς ἐστι, τὸ δὲ κάτω τῆς τροφῆς καὶ τοῦ περιττώματος, ὅπως ὅσα πορευτικὰ τῶν ζῴων ἐν αὑτοῖς ἔχοντα τὴν τῆς τροφῆς αὐτάρκειαν μεταβάλλῃ τοὺς τόπους. ἐντεῦθεν δὲ καὶ ἡ σπερματικὴ περίττωσις ἀποκρίνεται διὰ τὴν εἰρημένην αἰτίαν ἐν τοῖς κατ’ ἀρχὰς λόγοις. ἔστι δὲ τό τε τῶν ἀρρένων περίττωμα καὶ τὰ καταμήνια τοῖς θήλεσιν αἱματικῆς φύσεως. τούτου δ’ ἀρχὴ καὶ τῶν φλεβῶν ἡ καρδία· αὕτη δ’ ἐν τοῖς μορίοις τούτοις. διὸ πρῶτον ἐνταῦθα ἀναγκαῖον γίγνεσθαι τὴν μεταβολὴν ἐπίδηλον τῆς τοιαύτης περιττώσεως. διόπερ αἵ τε φωναὶ μεταβάλλουσι καὶ τῶν ἀρρένων καὶ τῶν θηλειῶν ὅταν ἄρχωνται σπέρμα φέρειν (ἡ γὰρ ἀρχὴ τῆς φωνῆς ἐντεῦθεν· ἀλλοία δὲ γίγνεται ἀλλοίου γιγνομένου τοῦ κινοῦντος), καὶ τὰ περὶ τοὺς μαστοὺς αἴρεται καὶ τοῖς ἄρρεσιν ἐπιδήλως, μᾶλλον δὲ τοῖς θήλεσιν· διὰ γὰρ τὸ κάτω τὴν ἔκκρισιν γίγνεσθαι πολλὴν κενὸς ὁ τόπος γίγνεται ὁ τῶν μαστῶν αὐταῖς καὶ σομφός- ὁμοίως δὲ καὶ τοῖς κάτω τοὺς μαστοὺς ἔχουσιν. γίγνεται μὲν οὖν ἐπίδηλος καὶ ἡ φωνὴ καὶ τὰ περὶ τοὺς μαστοὺς καὶ ἐν τοῖς ἄλλοις ζῴοις τοῖς ἐμπείροις περὶ ἕκαστον γένος, ἐπὶ δὲ τῶν ἀνθρώπων διαφέρει πλεῖστον. αἴτιον δὲ τὸ πλείστην εἶναι τὴν περίττωσιν τοῖς θήλεσι τούτοις τῶν θηλέων καὶ τοῖς ἄρρεσι τῶν ἀρρένων ὡς κατὰ μέγεθος [ταῖς μὲν τὴν τῶν καταμηνίων, τοῖς δὲ τὴν τοῦ σπέρματος πρόεσιν]. ὅταν οὖν μὴ λαμβάνῃ μὲν τὸ ἔμβρυον τὴν τοιαύτην ἀπόκρισιν, κωλύῃ δὲ θύραζε βαδίζειν, ἀναγκαῖον εἰς τοὺς κενοὺς τόπους ἀθροίζεσθαι τὸ περίττωμα πᾶν, ὅσοιπερ ἂν ὦσιν ἐπὶ τῶν αὐτῶν πόρων. ἔστι δ’ ἑκάστοις τοιοῦτος ὁ τῶν μαστῶν τόπος δι’ ἀμφοτέρας τὰς αἰτίας ἕνεκά τε τοῦ βελτίστου γεγονὼς τοιοῦτος καὶ ἐξ ἀνάγκης· ἐνταῦθα δὲ ἤδη συνίσταται καὶ γίγνεται πεπεμμένη τροφὴ τοῖς ζῴοις. τῆς δὲ πέψεως ἔστι μὲν λαβεῖν τὴν εἰρημένην αἰτίαν, ἔστι δὲ καὶ (777a.) τὴν ἐναντίαν· εὔλογον γὰρ καὶ μεῖζον ὂν τὸ ἔμβρυον πλείω λαμβάνειν τροφὴν ὥστε ἔλαττον περιγίγνεσθαι περὶ τὸν χρόνον τοῦτον· πέττεται δὲ θᾶττον τὸ ἔλαττον.

Ὅτι μὲν οὖν ἐστι τὸ γάλα τὴν αὐτὴν ἔχον φύσιν τῇ ἀποκρίσει ἐξ ἧς γίγνεται ἕκαστον, δῆλον, εἴρηται δὲ καὶ πρότερον. ἡ γὰρ αὐτὴ ὕλη ἥ τε τρέφουσα καὶ ἐξ ἧς συνιστᾷ τὴν γένεσιν ἡ φύσις. ἔστι δὲ τοῦτο ἡ αἱματικὴ ὑγρότης τοῖς ἐναίμοις· τὸ γὰρ γάλα πεπεμμένον αἷμά ἐστιν ἀλλ’ οὐ διεφθαρμένον. Ἐμπεδοκλῆς δ’ ἢ οὐκ ὀρθῶς ὑπελάμβανεν ἢ οὐκ εὖ μετήνεγκε ποιήσας ὡς τὸ γάλα μηνὸς ἐν ὀγδοάτου δεκάτῃ πύον ἔπλετο λευκόν. σαπρότης γὰρ καὶ πέψις ἐναντίον, τὸ δὲ πύον σαπρότης τίς ἐστιν, τὸ δὲ γάλα τῶν πεπεμμένων. οὐ γίγνονται δὲ οὔτε θηλαζομέναις αἱ καθάρσεις κατὰ φύσιν οὔτε συλλαμβάνουσι θηλαζόμεναι· κἂν συλλάβωσιν, ἀποσβέννυται τὸ γάλα διὰ τὸ τὴν αὐτὴν εἶναι φύσιν τοῦ γάλακτος καὶ τῶν καταμηνίων· ἡ δὲ φύσις οὐ δύναται πολυχοεῖν οὕτως ὥστ’ ἐπαμφοτερίζειν, ἀλλ’ ἂν ἐπὶ θάτερα γένηται ἡ ἀπόκρισις ἀναγκαῖον ἐπὶ θάτερα ἐκλείπειν, ἐὰν μὴ γίγνηταί τι βίαιον καὶ παρὰ τὸ ὡς ἐπὶ τὸ πολύ. τοῦτο δ’ ἤδη παρὰ φύσιν· ἐν γὰρ τοῖς μὴ ἀδυνάτοις ἄλλως ἔχειν ἀλλ’ ἐνδεχομένοις τὸ κατὰ φύσιν ἐστὶ τὸ ὡς ἐπὶ τὸ πολύ.

Καλῶς δὲ διώρισται τοῖς χρόνοις καὶ ἡ γένεσις ἡ τῶν ζῴων· ὅταν γὰρ διὰ τὸ μέγεθος μηκέτι ἱκανὴ ᾖ τῷ κυουμένῳ ἡ διὰ τοῦ ὀμφαλοῦ τροφή, ἅμα τὸ γάλα γίγνεται χρήσιμον πρὸς τὴν γιγνομένην τροφήν, καὶ οὐκ εἰσιούσης διὰ τοῦ ὀμφαλοῦ τροφῆς συμπίπτουσιν αὗται αἱ φλέβες περὶ ἃς ὁ καλούμενος ὀμφαλός ἐστι χιτών, καὶ διὰ ταῦτα καὶ τότε συμβαίνει θύραζε ἡ ἔξοδος.

Κεφάλαιο 9

Ἐπὶ κεφαλὴν δ’ ἡ γένεσίς ἐστι τοῖς ζῴοις πᾶσιν ἡ κατὰ φύσιν διὰ τὸ τὰ ἄνω τοῦ ὀμφαλοῦ μείζω ἔχειν ἢ τὰ κάτω. καθάπερ οὖν ἐν ζυγοῖς ἠρτημένα ἐξ αὐτοῦ ῥέπει ἐπὶ τὸ βάρος· ἔχει δὲ τὰ μείζω πλεῖον βάρος.

Κεφάλαιο 10

Οἱ δὲ χρόνοι τῆς κυήσεως ἑκάστῳ τῶν ζῴων ὡρισμένοι τυγχάνουσιν ὡς μὲν ἐπὶ τὸ πολὺ κατὰ τοὺς βίους· τῶν γὰρ χρονιωτέρων καὶ τὰς γενέσεις εὔλογον εἶναι χρονιωτέρας. οὐ μὴν τοῦτό γ’ ἐστὶν αἴτιον ἀλλ’ ὡς ἐπὶ τὸ πολὺ τοῦτο (777b.) συμβέβηκεν· τὰ γὰρ μείζω καὶ τελειότερα τῶν ἐναίμων ζῴων καὶ ζῶσι πολὺν χρόνον-οὐ μέντοι τὰ μείζω πάντα μακροβιώτερα. πάντων γὰρ ἄνθρωπος πλεῖστον ζῇ χρόνον πλὴν ἐλέφαντος, ὅσων ἀξιόπιστον ἔχομεν τὴν πεῖραν· ἔλαττον δ’ ἐστὶ τὸ γένος τὸ τῶν ἀνθρώπων ἢ τὸ τῶν λοφούρων καὶ πολλῶν ἄλλων. αἴτιον δὲ τοῦ μὲν εἶναι μακρόβιον ὁτιοῦν ζῷον τὸ κεκρᾶσθαι παραπλησίως πρὸς τὸν περιέχοντα ἀέρα, καὶ δι’ ἄλλα συμπτώματ’ ἄττα φυσικὰ περὶ ὧν ὕστερον ἐροῦμεν, -τῶν δὲ χρόνων τῶν περὶ τὴν κύησιν τὸ μέγεθος τῶν γεννωμένων· οὐ γὰρ ῥᾴδιον ἐν ὀλίγῳ χρόνῳ λαμβάνειν τὴν τελείωσιν τὰς μεγάλας συστάσεις οὔτε ζῴων οὔτε τῶν ἄλλων ὡς εἰπεῖν οὐθενός. διόπερ ἵπποι καὶ τὰ συγγενῆ ζῷα τούτοις ἐλάττω ζῶντα χρόνον κυεῖ γε πλείω χρόνον· τῶν μὲν γὰρ ἐνιαύσιος ὁ τόκος τῶν δὲ δεκάμηνος ὁ πλεῖστος. διὰ τὴν αὐτὴν δ’ αἰτίαν πολυχρόνιος καὶ ὁ τῶν ἐλεφάντων ἐστὶ τόκος· διετὴς γὰρ ἡ κύησις διὰ τὴν ὑπερβολὴν τοῦ μεγέθους.

Εὐλόγως δὲ πάντων οἱ χρόνοι καὶ τῶν κυήσεων καὶ γενέσεων καὶ τῶν βίων μετρεῖσθαι βούλονται κατὰ φύσιν περιόδοις. λέγω δὲ περίοδον ἡμέραν καὶ νύκτα καὶ μῆνα καὶ ἐνιαυτὸν καὶ τοὺς χρόνους τοὺς μετρουμένους τούτοις, ἔτι δὲ τὰς τῆς σελήνης περιόδους. εἰσὶ δὲ περίοδοι σελήνης πανσέληνός τε καὶ φθίσις καὶ τῶν μεταξὺ χρόνων αἱ διχοτομίαι· κατὰ γὰρ ταύτας συμβάλλει πρὸς τὸν ἥλιον· ὁ γὰρ μεὶς κοινὴ περίοδός ἐστιν ἀμφοτέρων. ἔστι δὲ ἡ σελήνη ἀρχὴ διὰ τὴν πρὸς τὸν ἥλιον κοινωνίαν καὶ τὴν μετάληψιν τὴν τοῦ φωτός· γίγνεται γὰρ ὥσπερ ἄλλος ἥλιος ἐλάττων· διὸ συμβάλλεται εἰς πάσας τὰς γενέσεις καὶ τελειώσεις. αἱ γὰρ θερμότητες καὶ ψύξεις μέχρι συμμετρίας τινὸς ποιοῦσι τὰς γενέσεις, μετὰ δὲ ταῦτα τὰς φθοράς· τούτων δ’ ἔχουσι τὸ πέρας καὶ τῆς ἀρχῆς καὶ τῆς τελευτῆς αἱ τούτων κινήσεις τῶν ἄστρων. ὥσπερ γὰρ καὶ θάλατταν καὶ πᾶσαν ὁρῶμεν τὴν τῶν ὑγρῶν φύσιν ἱσταμένην καὶ μεταβάλλουσαν κατὰ τὴν τῶν πνευμάτων κίνησιν καὶ στάσιν, τὸν δ’ ἀέρα καὶ τὰ πνεύματα κατὰ τὴν τοῦ ἡλίου καὶ τῆς σελήνης περίοδον, οὕτω καὶ τὰ ἐκ τούτων φυόμενα καὶ τὰ ἐν τούτοις ἀκολουθεῖν ἀναγκαῖον· (778a.) κατὰ λόγον γὰρ ἀκολουθεῖν καὶ τὰς τῶν ἀκυροτέρων περιόδους ταῖς τῶν κυριωτέρων. βίος γάρ τις καὶ πνεύματός ἐστι καὶ γένεσις καὶ φθίσις. τῆς δὲ τῶν ἄστρων τούτων περιφορᾶς τάχ’ ἂν ἕτεραί τινες εἶεν ἀρχαί. βούλεται μὲν οὖν ἡ φύσις τοῖς τούτων ἀριθμοῖς ἀριθμεῖν τὰς γενέσεις καὶ τὰς τελευτάς, οὐκ ἀκριβοῖ δὲ διά τε τὴν τῆς ὕλης ἀοριστίαν καὶ διὰ τὸ γίγνεσθαι πολλὰς ἀρχὰς αἳ τὰς γενέσεις τὰς κατὰ φύσιν καὶ τὰς φθορὰς ἐμποδίζουσαι πολλάκις αἴτιαι τῶν παρὰ φύσιν συμπιπτόντων εἰσίν.

Περὶ μὲν οὖν τῆς ἔσωθεν τροφῆς τῶν ζῴων καὶ τῆς θύραζε γενέσεως εἴρηται, καὶ χωρὶς περὶ ἑκάστου καὶ κοινῇ περὶ πάντων.

Βιβλίο 5

Κεφάλαιο 1

Περὶ δὲ τῶν παθημάτων οἷς διαφέρουσι τὰ μόρια τῶν ζῴων θεωρητέον νῦν. λέγω δὲ τὰ τοιαῦτα παθήματα τῶν μορίων οἷον γλαυκότητα ὀμμάτων καὶ μελανίαν, καὶ φωνῆς ὀξύτητα καὶ βαρύτητα, καὶ χρώματος [ἢ σώματος] καὶ τριχῶν ἢ πτερῶν διαφοράς. τυγχάνει δὲ τῶν τοιούτων ἔνια μὲν ὅλοις ὑπάρχοντα τοῖς γένεσιν, ἐνίοις δ’ ὅπως ἔτυχεν, οἷον μάλιστ’ ἐπὶ τῶν ἀνθρώπων τοῦτο συμβέβηκεν. ἔτι δὲ κατὰ τὰς τῶν ἡλικιῶν μεταβολὰς τὰ μὲν ὁμοίως πᾶσιν ὑπάρχει τοῖς ζῴοις τὰ δ’ ὑπεναντίως, ὥσπερ περί τε φωνὰς καὶ περὶ τριχῶν χρόας· τὰ μὲν γὰρ οὐ πολιοῦται πρὸς τὸ γῆρας ἐπιδήλως, ὁ δ’ ἄνθρωπος μάλιστα τοῦτο πάσχει τῶν ἄλλων ζῴων. καὶ τὰ μὲν εὐθὺς ἀκολουθεῖ γενομένοις, τὰ δὲ προϊούσης τῆς ἡλικίας γίγνεται δῆλα καὶ γηρασκόντων.

Περὶ δὲ τούτων καὶ τῶν τοιούτων πάντων οὐκέτι τὸν αὐτὸν τρόπον δεῖ νομίζειν εἶναι τῆς αἰτίας. ὅσα γὰρ μὴ τῆς φύσεως ἔργα κοινῇ μηδ’ ἴδια τοῦ γένους ἑκάστου, τούτων οὐθὲν ἕνεκά του τοιοῦτον οὔτ’ ἐστιν οὔτε γίγνεται. ὀφθαλμὸς μὲν γὰρ ἕνεκά του, γλαυκὸς δ’ οὐχ ἕνεκά του πλὴν ἂν ἴδιον ᾖ τοῦ γένους τοῦτο τὸ πάθος. οὔτε δ’ ἐπ’ ἐνίων πρὸς τὸν λόγον συντείνει τὸν τῆς οὐσίας, ἀλλ’ ὡς ἐξ ἀνάγκης γιγνομένων εἰς τὴν ὕλην καὶ τὴν (778b.) κινήσασαν ἀρχὴν ἀνακτέον τὰς αἰτίας. ὥσπερ γὰρ ἐλέχθη κατ’ ἀρχὰς ἐν τοῖς πρώτοις λόγοις, οὐ διὰ τὸ γίγνεσθαι ἕκαστον ποιόν τι, διὰ τοῦτο ποιόν τί ἐστιν ὅσα τεταγμένα καὶ ὡρισμένα ἔργα τῆς φύσεώς ἐστιν, ἀλλὰ μᾶλλον διὰ τὸ εἶναι τοιαδὶ γίγνεται τοιαῦτα· τῇ γὰρ οὐσίᾳ ἡ γένεσις ἀκολουθεῖ καὶ τῆς οὐσίας ἕνεκά ἐστιν, ἀλλ’ οὐχ αὕτη τῇ γενέσει. οἱ δ’ ἀρχαῖοι φυσιολόγοι τοὐναντίον ᾠήθησαν· τούτου δ’ αἴτιον ὅτι οὐχ ἑώρων πλείους οὔσας τὰς αἰτίας, ἀλλὰ μόνον τὴν τῆς ὕλης καὶ τὴν τῆς κινήσεως-καὶ ταύτας ἀδιορίστως· τῆς δὲ τοῦ λόγου καὶ τῆς τοῦ τέλους ἀνεπισκέπτως εἶχον.

Ἔστι μὲν οὖν ἕκαστον ἕνεκά του, γίγνεται δ’ ἤδη διά τε ταύτην τὴν αἰτίαν καὶ διὰ τὰς λοιπὰς ὅσαπερ ἐν τῷ λόγῳ ἐνυπάρχει τῷ ἑκάστου ἤ ἐστιν ἕνεκά του ἢ οὗ ἕνεκα. τῶν δὲ μὴ τοιούτων ὅσων ἐστὶ γένεσις, ἤδη τούτων τὸ αἴτιον ἐν τῇ κινήσει δεῖ καὶ τῇ γενέσει ζητεῖν ὡς ἐν αὐτῇ τῇ συστάσει τὴν διαφορὰν λαμβανόντων. ὀφθαλμὸν μὲν γὰρ ἐξ ἀνάγκης ἕξει (τοιόνδε γὰρ ζῷον ὑπόκειται ὄν), τοιόνδε δὲ ὀφθαλμὸν ἐξ ἀνάγκης μέν, οὐ τοιαύτης δ’ ἀνάγκης ἀλλ’ ἄλλον τρόπον, ὅτι τοιονδὶ ἢ τοιονδὶ ποιεῖν πέφυκε καὶ πάσχειν.

Διωρισμένων δὲ τούτων λέγωμεν περὶ τῶν ἐφεξῆς συμβαινόντων. πρῶτον μὲν οὖν ὅταν γένωνται τὰ παιδία πάντων, μάλιστα τῶν ἀτελlt;ῆ τικτόντ>ων, καθεύδειν εἴωθε διὰ τὸ καὶ ἐν τῇ μήτρᾳ, ὅταν λάβῃ πρῶτον αἴσθησιν, καθεύδοντα διατελεῖν. ἔχει δ’ ἀπορίαν περὶ τῆς ἐξ ἀρχῆς γενέσεως πότερον ἐγρήγορσις ὑπάρχει τοῖς ζῴοις πρότερον ἢ ὕπνος. διὰ γὰρ τὸ φαίνεσθαι προϊούσης τῆς ἡλικίας ἐγειρόμενα μᾶλλον εὔλογον τοὐναντίον ἐν τῇ ἀρχῇ τῆς γενέσεως ὑπάρχειν, τὸν ὕπνον. ἔτι δὲ διὰ τὸ τὴν μετάβασιν ἐκ τοῦ μὴ εἶναι εἰς τὸ εἶναι διὰ τοῦ μεταξὺ γίγνεσθαι· ὁ δ’ ὕπνος εἶναι δοκεῖ τὴν φύσιν τῶν τοιούτων οἷον τοῦ ζῆν καὶ τοῦ μὴ ζῆν μεθόριον, καὶ οὔτε μὴ εἶναι παντελῶς ὁ καθεύδων οὔτ’ εἶναι. τῷ γὰρ ἐγρηγορέναι τὸ ζῆν μάλισθ’ ὑπάρχει διὰ τὴν αἴσθησιν. εἰ δ’ ἐστὶν ἀναγκαῖον ἔχειν αἴσθησιν τὸ ζῷον, καὶ τότε πρῶτόν ἐστι ζῷον ὅταν αἴσθησις γένηται πρῶτον, τὴν μὲν ἐξ ἀρχῆς διάθεσιν οὐχ ὕπνον ἀλλ’ ὅμοιον ὕπνῳ δεῖ νομίζειν, οἵανπερ ἔχει καὶ τὸ τῶν φυτῶν γένος· (779a.) καὶ γὰρ συμβέβηκε κατὰ τοῦτον τὸν χρόνον τὰ ζῷα φυτοῦ βίον ζῆν-τοῖς δὲ φυτοῖς ὑπάρχειν ὕπνον ἀδύνατον· οὐθεὶς γὰρ ὕπνος ἀνέγερτος, τὸ δὲ τῶν φυτῶν πάθος τὸ ἀνάλογον τῷ ὕπνῳ ἀνέγερτον-καθεύδειν μὲν οὖν τὰ ζῷα τὸν πλείω χρόνον ἀναγκαῖον διὰ τὸ τὴν αὔξησιν καὶ τὸ βάρος ἐπικεῖσθαι τοῖς ἄνω τόποις (εἰρήκαμεν δὲ τὴν αἰτίαν τοῦ καθεύδειν τοιαύτην οὖσαν ἐν ἑτέροις)· ἀλλ’ ὅμως ἐγειρόμενα φαίνεται καὶ ἐν τῇ μήτρᾳ (δῆλον δὲ γίγνεται τοῦτο ἐν ταῖς ἀνατομαῖς καὶ ἐν τοῖς ᾠοτοκουμένοις), εἶτ’ εὐθὺς καθεύδουσι καὶ καταφέρονται πάλιν. διόπερ καὶ ἐξελθόντα τὸν πολὺν διάγει χρόνον καθεύδοντα.

Καὶ ἐγρηγορότα μὲν οὐ γελᾷ τὰ παιδία, καθεύδοντα δὲ καὶ δακρύει καὶ γελᾷ. συμβαίνουσι γὰρ καὶ καθεύδουσιν αἰσθήσεις τοῖς ζῴοις, οὐ μόνον τὰ καλούμενα ἐνύπνια ἀλλὰ καὶ παρὰ τὸ ἐνύπνιον, καθάπερ τοῖς ἀνισταμένοις καθεύδουσι καὶ πολλὰ πράττουσιν ἄνευ τοῦ ἐνυπνιάζειν. εἰσὶ γάρ τινες οἳ καθεύδοντες ἀνίστανται καὶ πορεύονται βλέποντες ὥσπερ ἐγρηγορότες. τούτοις γὰρ γίγνεται τῶν συμβαινόντων αἴσθησις, οὐκ ἐγρηγορόσι μέν, οὐ μέντοι ὡς ἐνύπνιον. τὰ δὲ παιδία ἐοίκασιν, ὥσπερ ἀνεπιστήμονα τοῦ ἐγρηγορέναι, διὰ συνήθειαν ἐν τῷ καθεύδειν αἰσθάνεσθαι καὶ ζῆν. προϊόντος δὲ τοῦ χρόνου καὶ τῆς αὐξήσεως εἰς τὸ κάτω μεταβαινούσης ἐγείρονταί τε μᾶλλον ἤδη καὶ τὸν πλείω χρόνον οὕτω διάγουσιν. μᾶλλον δὲ τῶν ἄλλων ζῴων ἐν ὕπνῳ τὸ πρῶτον διατελοῦσιν· ἀτελέστατα γὰρ γεννᾶται τῶν τετελεσμένων καὶ τὴν αὔξησιν ἔχοντα μάλιστα ἐπὶ τὸ ἄνω μέρος τοῦ σώματος.

Γλαυκότερα δὲ τὰ ὄμματα τῶν παιδίων εὐθὺς γενομένων ἐστὶ πάντων, ὕστερον δὲ μεταβάλλει πρὸς τὴν ὑπάρχειν μέλλουσαν φύσιν αὐτοῖς· ἐπὶ δὲ τῶν ἄλλων ζῴων οὐ συμβαίνει τοῦτ᾽ ἐπιδήλως. τούτου μὲν οὖν αἴτιον τὸ μονόχροα τὰ ὄμματα τῶν ἄλλων εἶναι μᾶλλον, οἷον οἱ βόες μελανόφθαλμοι, τὸ δὲ τῶν προβάτων ὑδαρὲς πάντων, τῶν δὲ χαροπὸν ὅλον τὸ γένος ἢ γλαυκόν, ἔνια δ᾽ αἰγωπὰ καθάπερ καὶ τὸ τῶν αἰγῶν αὐτὸ πλῆθος. τὰ δὲ τῶν ἀνθρώπων ὄμματα πολύχροα συμβέβηκεν εἶναι· καὶ γὰρ γλαυκοὶ καὶ χαροποὶ καὶ μελανόφθαλμοί (779b.) τινές εἰσιν, οἱ δ᾽ αἰγωποί. ὥστε τὰ μὲν ἄλλα ὥσπερ οὐδ᾽ ἀλλήλων διαφέρουσιν οὕτως οὐδ᾽ αὐτὰ αὑτῶν· οὐ γὰρ πέφυκε πλείους μιᾶς ἴσχειν χρόας. μάλιστα δὲ τῶν ἄλλων ζῴων ἵππος πολύχρων ἐστίν· καὶ γὰρ ἑτερόγλαυκοί τινες αὐτῶν γίγνονται. τοῦτο δὲ τῶν μὲν ἄλλων οὐθὲν πάσχει ζῴων ἐπιδήλως, ἄνθρωποι δὲ γίγνονταί τινες ἑτερόγλαυκοι.

Τοῦ μὲν οὖν τἆλλα ζῷα νέα ὄντα καὶ πρεσβύτερα μηθὲν ἐπίδηλον μεταβάλλειν, ἐπὶ δὲ τῶν παιδίων τοῦτο συμβαίνειν, ἱκανὴν οἰητέον αἰτίαν εἶναι καὶ ταύτην ὅτι τῶν μὲν μονόχρων τῶν δὲ πολύχρων τὸ μόριόν ἐστιν· τοῦ δὲ γλαυκότερα καὶ μὴ χρόαν ἄλλην ἴσχειν αἴτιον ὅτι ἀσθενέστερα τὰ μόρια τῶν νέων, ἀσθένεια δέ τις ἡ γλαυκότης.

Δεῖ δὲ λαβεῖν καθόλου περὶ τῆς διαφορᾶς τῶν ὀμμάτων διὰ τίν᾽ αἰτίαν τὰ μὲν γλαυκὰ τὰ δὲ χαροπὰ τὰ δ᾽ αἰγωπὰ τὰ δὲ μελανόμματ᾽ ἐστίν. τὸ μὲν οὖν ὑπολαμβάνειν τὰ μὲν γλαυκὰ πυρώδη, καθάπερ Ἐμπεδοκλῆς φησι, τὰ δὲ μέλανα πλεῖον ὕδατος ἔχειν ἢ πυρός, καὶ διὰ τοῦτο τὰ μὲν ἡμέρας οὐκ ὀξὺ βλέπειν, τὰ γλαυκά, δι᾽ ἔνδειαν ὕδατος, θάτερα δὲ νύκτωρ δι᾽ ἔνδειαν πυρός, οὐ λέγεται καλῶς, εἴπερ μὴ πυρὸς τὴν ὄψιν θετέον ἀλλ᾽ ὕδατος πᾶσιν. ἔτι δ᾽ ἐνδέχεται τῶν χρωμάτων τὴν αἰτίαν ἀποδοῦναι καὶ κατ᾽ ἄλλον τρόπον, ἀλλ᾽ εἴπερ ἐστὶν ὥσπερ ἐλέχθη πρότερον ἐν τοῖς περὶ τὰς αἰσθήσεις καὶ τούτων ἔτι πρότερον ἐν τοῖς περὶ ψυχῆς διωρισμένοις, καὶ ὅτι ὕδατος καὶ δι᾽ ἣν αἰτίαν ὕδατος ἀλλ᾽ οὐκ ἀέρος ἢ πυρὸς τὸ αἰσθητήριον τοῦτ᾽ ἔστι, ταύτην αἰτίαν ὑποληπτέον εἶναι τῶν εἰρημένων. οἱ μὲν γὰρ ἔχουσι τῶν ὀφθαλμῶν πλέον ὑγρόν, οἱ δ᾽ ἔλαττον τῆς συμμέτρου κινήσεως, οἱ δὲ σύμμετρον. τὰ μὲν οὖν ἔχοντα τῶν ὀμμάτων πολὺ τὸ ὑγρὸν μελανόμματά ἐστι διὰ τὸ μὴ εὐδίοπτ᾽ εἶναι τὰ πολλά, γλαυκὰ δὲ τὰ ὀλίγον, καθάπερ φαίνεται καὶ ἐπὶ τῆς θαλάττης· τὸ μὲν γὰρ εὐδίοπτον αὐτῆς γλαυκὸν φαίνεται, τὸ δ᾽ ἧττον ὑδατῶδες, τὸ δὲ μὴ διωρισμένον διὰ βάθος μέλαν καὶ κυανοειδές. τὰ δὲ μεταξὺ τῶν ὀμμάτων τούτων τῷ μᾶλλον ἤδη διαφέρει καὶ ἧττον.

Τὴν δ᾽ αὐτὴν αἰτίαν οἰητέον καὶ τοῦ τὰ μὲν γλαυκὰ μὴ εἶναι ὀξυωπὰ τῆς ἡμέρας, τὰ δὲ (780a.) μελανόμματα τῆς νυκτός. τὰ μὲν γὰρ γλαυκὰ δι᾽

ὀλιγότητα τοῦ ὑγροῦ κινεῖται μᾶλλον ὑπὸ τοῦ φωτὸς καὶ τῶν ὁρατῶν ᾗ ὑγρὸν καὶ ᾗ διαφανές. ἔστι δ' ἡ τούτου τοῦ μορίου κίνησις ὅρασις ᾗ διαφανὲς ἀλλ' οὐχ ᾗ ὑγρόν. τὰ δὲ μελανόμματα διὰ πλῆθος τοῦ ὑγροῦ ἧττον κινεῖται. ἀσθενὲς γὰρ τὸ νυκτερινὸν φῶς· ἅμα γὰρ καὶ δυσκίνητον ἐν τῇ νυκτὶ ὅλως γίγνεται τὸ ὑγρόν. δεῖ δὲ οὔτε μὴ κινεῖσθαι αὐτὸ οὔτε μᾶλλον ἢ ᾗ διαφανές· ἐκκρούει γὰρ ἡ ἰσχυροτέρα κίνησις τὴν ἀσθενεστέραν. διὸ καὶ ἀπὸ τῶν ἰσχυρῶν χρωμάτων μεταβάλλοντες οὐχ ὁρῶσι, καὶ ἐκ τοῦ ἡλίου εἰς τὸ σκότος ἰόντες· ἰσχυρὰ γὰρ οὖσα ἡ ἐνυπάρχουσα κίνησις κωλύει τὴν θύραθεν-καὶ ὅλως οὔτε σθένουσα οὔτε ἀσθενὴς ὄψις τὰ λαμπρὰ δύναται ὁρᾶν διὰ τὸ πάσχειν τι μᾶλλον καὶ κινεῖσθαι τὸ ὑγρόν. δηλοῖ δὲ καὶ τὰ ἀρρωστήματα τῆς ὄψεως ἑκατέρας. τὸ μὲν γὰρ γλαύκωμα γίγνεται μᾶλλον τοῖς γλαυκοῖς, οἱ δὲ νυκτάλωπες καλούμενοι τοῖς μελανοφθάλμοις. ἔστι δὲ τὸ μὲν γλαύκωμα ξηρότης τις [μᾶλλον] τῶν ὀμμάτων, διὸ καὶ συμβαίνει μᾶλλον γηράσκουσιν· ξηραίνεται γὰρ ὥσπερ καὶ τὸ ἄλλο σῶμα καὶ ταῦτα τὰ μόρια πρὸς τὸ γῆρας· ὁ δὲ νυκτάλωψ ὑγρότητος πλεονασμός, διὸ τοῖς νεωτέροις γίγνεται μᾶλλον· ὑγρότερος γὰρ ὁ ἐγκέφαλος τούτων. ἡ δὲ μέση τοῦ πολλοῦ καὶ τοῦ ὀλίγου ὑγροῦ βελτίστη ὄψις· οὔτε γὰρ ὡς ὀλίγη οὖσα διὰ τὸ ταράττεσθαι ἐμποδίζει τὴν τῶν χρωμάτων κίνησιν, οὔτε διὰ τὸ πλῆθος παρέχει δυσκινησίαν.

Οὐ μόνον δὲ τὰ εἰρημένα αἴτια τοῦ ἀμβλὺ ἢ ὀξὺ ὁρᾶν ἀλλὰ καὶ ἡ τοῦ δέρματος φύσις τοῦ ἐπὶ τῇ κόρῃ καλουμένῃ· δεῖ γὰρ αὐτὸ διαφανὲς εἶναι, τοιοῦτον δ' ἀναγκαῖον εἶναι τὸ λεπτὸν καὶ λευκὸν καὶ ὁμαλόν-λεπτὸν μὲν ὅπως ἡ θύραθεν εὐθυπορῇ κίνησις, ὁμαλὸν δ' ὅπως μὴ ἐπισκιάζῃ ῥυτιδούμενον (καὶ γὰρ διὰ τοῦθ' οἱ γέροντες οὐκ ὀξὺ ὁρῶσιν· ὥσπερ γὰρ καὶ τὸ ἄλλο δέρμα καὶ τὸ τοῦ ὄμματος ῥυτιδοῦταί τε καὶ παχύτερον γίγνεται γηράσκουσιν), λευκὸν δὲ διὰ τὸ τὸ μέλαν μὴ εἶναι διαφανές· αὐτὸ γὰρ τοῦτ' ἔστι τὸ μέλαν, τὸ μὴ διαφαινόμενον. διόπερ οὐδ' οἱ λαμπτῆρες δύνανται φαίνειν ἐὰν ὦσιν ἐκ τοιούτου δέρματος.

Ἐν μὲν οὖν τῷ γήρᾳ καὶ ταῖς νόσοις (780b.) διὰ ταύτας τὰς αἰτίας οὐκ ὀξὺ βλέπουσι, τὰ δὲ παιδία δι' ὀλιγότητα τοῦ ὑγροῦ γλαυκὰ φαίνεται τὸ πρῶτον. ἑτερόγλαυκοι δὲ γίγνονται μάλιστα οἱ ἄνθρωποι καὶ οἱ ἵπποι διὰ τὴν αὐτὴν αἰτίαν δι' ἥνπερ ὁ μὲν ἄνθρωπος πολιοῦται μόνον, τῶν δ' ἄλλων ἵππος μόνος ἐπιδήλως γηράσκων λευκαίνεται τὰς τρίχας. ἥ τε γὰρ πολιότης ἀσθένειά τίς ἐστι τοῦ ὑγροῦ τοῦ ἐν τῷ ἐγκεφάλῳ καὶ ἀπεψία, καὶ ἡ γλαυκότης· τὸ γὰρ λίαν λεπτὸν ἢ λίαν παχὺ τὴν αὐτὴν ἔχει δύναμιν-τὸ μὲν τῷ ὀλίγῳ τὸ δὲ τῷ πολλῷ ὑγρῷ. ὅταν οὖν μὴ δύνηται ἀπαρτίσαι ἡ φύσις ὁμοίως ἢ πέψασα τὸ ἐν ἀμφοτέροις ὑγρὸν ἢ μὴ πέψασα, ἀλλὰ τὸ μὲν τὸ δὲ μή, τότε συμβαίνει γίγνεσθαι ἑτερογλαύκους.

Περὶ δὲ τοῦ τὰ μὲν ὀξυωπὰ εἶναι τῶν ζῴων τὰ δὲ μὴ δύο τρόποι τῆς αἰτίας εἰσίν. διχῶς γὰρ λέγεται τὸ ὀξὺ σχεδόν, καὶ περὶ τὸ ἀκούειν καὶ τὸ ὀσφραίνεσθαι ὁμοίως τοῦτ᾽ ἔχει. λέγεται γὰρ ὀξὺ ὁρᾶν ἓν μὲν τὸ πόρρωθεν δύνασθαι ὁρᾶν, ἓν δὲ τὸ τὰς διαφορὰς ὅτι μάλιστα διαισθάνεσθαι τῶν ὁρωμένων. ταῦτα δ᾽ οὐχ ἅμα συμβαίνει τοῖς αὐτοῖς. ὁ γὰρ αὐτὸς ἐπηλυγασάμενος τὴν χεῖρα ἢ δι᾽ αὐλοῦ βλέπων τὰς μὲν διαφορὰς οὐθὲν μᾶλλον οὐδ᾽ ἧττον κρινεῖ τῶν χρωμάτων, ὄψεται δὲ πορρώτερον· οἱ γοῦν ἐκ τῶν ὀρυγμάτων καὶ φρεάτων ἐνίοτε καὶ ἀστέρας ὁρῶσιν. ὥστ᾽ εἴ τι τῶν ζῴων ἔχει μὲν προβολὴν τοῦ ὄμματος πολλήν, τὸ δ᾽ ἐν τῇ κόρῃ ὑγρὸν μὴ καθαρὸν μηδὲ σύμμετρον τῇ κινήσει τῇ θύραθεν μηδὲ τὸ ἐπιπολῆς δέρμα λεπτόν, τοῦτο περὶ μὲν τὰς διαφορὰς οὐκ ἀκριβώσει τῶν χρωμάτων, πόρρωθεν δ᾽ ἔσται ὁρατικὸν [ὥσπερ εἰ καὶ ἐγγύθεν] μᾶλλον τῶν τὸ μὲν ὑγρὸν καθαρὸν ἐχόντων καὶ τὸ σκέπασμα αὐτοῦ, μὴ ἐχόντων δ᾽ ἐπισκύνιον πρὸ τῶν ὀμμάτων μηθέν. -τοῦ μὲν γὰρ οὕτως ὀξὺ ὁρᾶν ὥστε διαισθάνεσθαι τὰς διαφορὰς ἐν αὐτῷ τῷ ὄμματί ἐστιν ἡ αἰτία· ὥσπερ γὰρ ἐν ἱματίῳ καθαρῷ καὶ αἱ μικραὶ κηλῖδες ἔνδηλοι γίγνονται οὕτω καὶ ἐν τῇ καθαρᾷ ὄψει καὶ αἱ μικραὶ κινήσεις δῆλαι καὶ ποιοῦσιν αἴσθησιν.

τοῦ δὲ τὰ πόρρωθεν ὁρᾶν καὶ τὴν ἀπὸ τῶν πόρρωθεν ὁρατῶν ἀφικνεῖσθαι κίνησιν ἡ θέσις αἰτία τῶν ὀφθαλμῶν· τὰ μὲν γὰρ ἐξόφθαλμα οὐκ εὐωπὰ πόρρωθεν, τὰ δ᾽ ἐντὸς ἔχοντα (781a.) τὰ ὄμματα ἐν κοίλῳ κείμενα ὁρατικὰ τῶν πόρρωθεν διὰ τὸ τὴν κίνησιν μὴ σκεδάννυσθαι εἰς ἀχανὲς ἀλλ᾽ εὐθυπορεῖν.

οὐθὲν γὰρ διαφέρει τὸ λέγειν ὁρᾶν, ὥσπερ τινές φασι, τῷ τὴν ὄψιν ἐξιέναι (ἂν γὰρ μὴ ᾖ τι πρὸ τῶν ὀμμάτων, διασκεδαννυμένην ἀνάγκη ἐλάττω προσπίπτειν τοῖς ὁρωμένοις καὶ ἧττον τὰ πόρρωθεν ὁρᾶν), ἢ τὸ τῇ ἀπὸ τῶν ὁρωμένων κινήσει ὁρᾶν. ὁμοίως γὰρ ἀνάγκη καὶ τὴν ὄψιν τῇ κινήσει ὁρᾶν. μάλιστα μὲν οὖν ἑωρᾶτο ἂν τὰ πόρρωθεν εἰ ἀπὸ τῆς ὄψεως εὐθὺς συνεχὴς ἦν πρὸς τὸ ὁρώμενον οἷον αὐλός· οὐ γὰρ ἂν διελύετο ἡ κίνησις ἡ ἀπὸ τῶν ὁρατῶν· εἰ δὲ μή, ὅσῳπερ ἂν ἐπὶ πλέον ἐπέχῃ τοσούτῳ ἀκριβέστερον τὰ πόρρωθεν ὁρᾶν ἀνάγκη.

Καὶ τῆς μὲν τῶν ὀμμάτων διαφορᾶς ἔστωσαν αὗται αἱ αἰτίαι.

Κεφάλαιο 2

Τὸν αὐτὸν δὲ τρόπον ἔχει καὶ περὶ τὴν ἀκοὴν καὶ τὴν ὄσφρησιν· ἓν μὲν γάρ ἐστι τοῦ ἀκριβῶς ἀκούειν καὶ ὀσφραίνεσθαι τὸ τὰς διαφορὰς τῶν ὑποκειμένων αἰσθητῶν ὅτι μάλιστα αἰσθάνεσθαι πάσας, ἓν δὲ τὸ πόρρωθεν καὶ ἀκούειν καὶ ὀσφραίνεσθαι. τοῦ μὲν οὖν τὰς διαφορὰς κρίνειν καλῶς τὸ αἰσθητήριον αἴτιον, ὥσπερ ἐπὶ τῆς ὄψεως, ἂν ᾖ καθαρὸν αὐτό τε καὶ ἡ περὶ αὐτὸ μῆνιγξ. [[οἱ γὰρ πόροι τῶν αἰσθητηρίων πάντων, ὥσπερ εἴρηται ἐν τοῖς περὶ αἰσθήσεως, τείνουσι πρὸς τὴν καρδίαν, τοῖς δὲ μὴ ἔχουσι καρδίαν πρὸς τὸ ἀνάλογον. ὁ μὲν οὖν τῆς ἀκοῆς, ἐπεί ἐστι τὸ αἰσθητήριον ἀέρος, ᾗ τὸ πνεῦμα τὸ σύμφυτον ποιεῖται ἐνίοις μὲν τὴν σφύξιν τοῖς δὲ τὴν ἀναπνοὴν καὶ εἰσπνοήν, ταύτῃ περαίνει· διὸ καὶ ἡ μάθησις γίγνεται τῶν λεγομένων ὥστ' ἀντιφθέγγεσθαι τὸ ἀκουσθέν· οἷς γὰρ ἡ κίνησις εἰσῆλθε διὰ τοῦ αἰσθητηρίου τοιαύτη πάλιν, οἷον ἀπὸ χαρακτῆρος τοῦ αὐτοῦ καὶ ἑνός, διὰ τῆς φωνῆς γίγνεται ἡ κίνησις ὥσθ' ὃ ἤκουσε τοῦτ' εἰπεῖν. καὶ χασμώμενοι καὶ ἐκπνέοντες ἧττον ἀκούουσιν ἢ εἰσπνέοντες διὰ τὸ ἐπὶ τῷ πνευματικῷ μορίῳ τὴν ἀρχὴν τοῦ αἰσθητηρίου εἶναι τοῦ τῆς ἀκοῆς, καὶ σείεσθαι καὶ κινεῖσθαι ἅμα κινοῦντος τοῦ ὀργάνου τὸ πνεῦμα· κινεῖται γὰρ κινοῦν τὸ ὄργανον. καὶ ἐν ταῖς ὑγραῖς ὥραις καὶ κράσεσι συμβαίνει τὸ αὐτὸ πάθος * * * καὶ τὰ ὦτα πληροῦσθαι δοκεῖ πνεύματος (781b.) διὰ τὸ γειτνιᾶν †τῇ ἀρχῇ τοῦ πνευματικοῦ τόπου†. ἡ μὲν οὖν περὶ τὰς διαφορὰς ἀκρίβεια τῆς κρίσεως καὶ τῶν ψόφων καὶ τῶν ὀσμῶν ἐν τῷ τὸ αἰσθητήριον καθαρὸν εἶναι καὶ τὸν ὑμένα τὸν ἐπιπολῆς ἐστιν· πᾶσαι γὰρ αἱ κινήσεις διάδηλοι καθάπερ ἐπὶ τῆς ὄψεως καὶ ἐπὶ τῶν τοιούτων συμβαίνουσιν]].

καὶ τὸ πόρρωθεν δὲ αἰσθάνεσθαι, τὰ δὲ μὴ αἰσθάνεσθαι, ὁμοίως συμβαίνει ὥσπερ ἐπὶ τῆς ὄψεως. τὰ γὰρ ἔχοντα πρὸ τῶν αἰσθητηρίων ἐπὶ πολὺ οἷον ὀχετοὺς διὰ τῶν μορίων, ταῦτα πόρρωθεν αἰσθητικά ἐστιν. διὸ ὅσων οἱ μυκτῆρες μακροί, οἷον τῶν Λακωνικῶν κυνιδίων, ὀσφραντικά· ἄνω γὰρ ὄντος τοῦ αἰσθητηρίου αἱ πόρρωθεν κινήσεις οὐ διασπῶνται ἀλλ' εὐθυποροῦσιν, ὥσπερ τοῖς ἐπηλυγαζομένοις πρὸ τῶν ὀμμάτων. ὁμοίως δὲ καὶ ὅσοις τὰ ὦτα μακρὰ καὶ ἀπογεγειссωμένα πόρρωθεν, οἷα ἔχουσιν ἔνια τῶν τετραπόδων, καὶ ἔσω τὴν ἑλίκην μακράν· καὶ γὰρ ταῦτα ἐκ πολλοῦ λαμβάνοντα τὴν κίνησιν ἀποδίδωσι πρὸς τὸ αἰσθητήριον.

Τὴν μὲν οὖν πόρρωθεν ἀκρίβειαν τῶν αἰσθήσεων ἥκιστα ὡς εἰπεῖν ἄνθρωπος ἔχει ὡς κατὰ μέγεθος τῶν ζῴων, τὴν δὲ περὶ τὰς διαφορὰς μάλιστα πάντων εὐαίσθητον. αἴτιον δ’ ὅτι τὸ αἰσθητήριον καθαρὸν καὶ ἥκιστα γεῶδες καὶ σωματῶδες, καὶ φύσει λεπτοδερμότατον τῶν ζῴων ὡς κατὰ μέγεθος ἄνθρωπός ἐστιν.

Εὐλόγως δ’ ἀπείργασται ἡ φύσις καὶ τὰ περὶ τὴν φώκην· τετράπουν γὰρ ὂν καὶ ζῳοτόκον οὐκ ἔχει ὦτα ἀλλὰ πόρους μόνον. αἴτιον δ’ ὅτι ἐν ὑγρῷ αὐτῇ ὁ βίος. τὸ γὰρ τῶν ὤτων μόριον πρόσκειται τοῖς πόροις πρὸς τὸ σώζειν τὴν τοῦ πόρρωθεν ἀέρος κίνησιν· οὐθὲν οὖν χρήσιμόν ἐστιν αὐτῇ, ἀλλὰ καὶ τοὐναντίον ἀπεργάζοιτ’ ἂν δεχόμενα εἰς αὑτὰ ὑγροῦ πλῆθος.

Καὶ περὶ μὲν ὄψεως καὶ ἀκοῆς καὶ ὀσφρήσεως εἴρηται.

Κεφάλαιο 3

Τὰ δὲ τριχώματα διαφέρουσι καὶ πρὸς αὑτὰ τοῖς ἀνθρώποις κατὰ τὰς ἡλικίας καὶ πρὸς τὰ γένη τῶν ἄλλων ζῴων, ὅσαπερ ἔχει τρίχας αὐτῶν. ἔχει δ' ὅσαπερ ἐν αὑτοῖς ζῳοτοκεῖ πάντα σχεδόν· καὶ γὰρ τὰ ἀκανθώδεις ἔχοντα τῶν τοιούτων τριχῶν εἶδός τι ὑποληπτέον, οἷον τάς τε τῶν χερσαίων ἐχίνων καὶ εἴ τι ἄλλο τοιοῦτόν ἐστι (782a.) τῶν ζῳοτόκων. εἰσὶ δὲ διαφοραὶ τῶν τριχῶν κατά τε σκληρότητα καὶ μαλακότητα καὶ κατὰ μῆκος καὶ βραχύτητα καὶ εὐθύτητα καὶ οὐλότητα καὶ πλῆθος καὶ ὀλιγότητα, πρὸς δὲ τούτοις καὶ κατὰ τὰς χρόας, κατά τε λευκότητα καὶ μελανίαν καὶ τὰς μεταξὺ τούτων. ἐνίαις δὲ τούτων τῶν διαφορῶν καὶ κατὰ τὰς ἡλικίας διαφέρουσι νέα τε καὶ παλαιούμενα, μάλιστα δὲ τοῦτ' ἐπίδηλον ἐπὶ τῶν ἀνθρώπων· καὶ γὰρ δασύνεται μᾶλλον πρεσβύτερα γιγνόμενα καὶ φαλακροῦνται τῆς κεφαλῆς ἔνιοι τὰ πρόσθεν. καὶ παῖδες μὲν ὄντες οὐ γίγνονται φαλακροί, -οὐδ' αἱ γυναῖκες· οἱ δ' ἄνδρες προϊούσης ἤδη τῆς ἡλικίας. καὶ πολιοῦνται δὲ τὰς κεφαλὰς γηράσκοντες οἱ ἄνθρωποι, τῶν δ' ἄλλων ζῴων οὐθενὶ τοῦθ' ὡς εἰπεῖν γίγνεται ἐπίδηλον, μάλιστα δ' ἵππῳ τῶν ἄλλων. καὶ φαλακροῦνται μὲν οἱ ἄνθρωποι τὰ ἔμπροσθεν τῆς κεφαλῆς, πολιοὶ δὲ πρῶτον γίγνονται τοὺς κροτάφους· φαλακροῦται δ' οὐθεὶς οὔτε τούτους οὔτε τὰ ὄπισθεν τῆς κεφαλῆς. ὅσα δὲ τῶν ζῴων μὴ ἔχει τρίχας ἀλλὰ τὸ ἀνάλογον αὐταῖς, οἷον ὄρνιθες μὲν πτερὰ τὸ δὲ τῶν ἰχθύων γένος λεπίδας, καὶ τούτοις συμβαίνει τῶν τοιούτων παθημάτων ἔνια κατὰ τὸν αὐτὸν λόγον.

Τίνος μὲν οὖν ἕνεκα τὸ τῶν τριχῶν ἡ φύσις ἐποίησε γένος τοῖς ζῴοις εἴρηται πρότερον ἐν ταῖς αἰτίαις ταῖς περὶ τὰ μέρη τῶν ζῴων· τίνων δ' ὑπαρχόντων καὶ διὰ τίνας ἀνάγκας συμβαίνει τούτων ἕκαστον δηλῶσαι τῆς μεθόδου τῆς νῦν ἐστιν.

Παχύτητος μὲν οὖν καὶ λεπτότητος αἴτιόν ἐστι μάλιστα τὸ δέρμα· τοῖς μὲν γὰρ παχὺ τοῖς δὲ λεπτὸν καὶ τοῖς μὲν μανὸν τοῖς δὲ πυκνόν ἐστιν. ἔτι δὲ συναίτιον καὶ τῆς ἐνούσης ὑγρότητος ἡ διαφορά· τοῖς μὲν γὰρ ὑπάρχει λιπαρὰ τοῖς δ' ὑδατώδης. ὅλως μὲν γὰρ ἡ τοῦ δέρματος φύσις ὑπόκειται γεώδης· ἐπιπολῆς γὰρ οὖσα ἐξατμίζοντος τοῦ ὑγροῦ στερεὰ γίγνεται καὶ γεώδης, αἱ δὲ τρίχες καὶ τὸ ἀνάλογον αὐταῖς οὐκ ἐκ τῆς σαρκὸς γίγνονται ἀλλ' ἐκ τοῦ δέρματος ἐξατμίζοντος καὶ ἀναθυμιωμένου ἐν αὐτοῖς τοῦ ὑγροῦ.

διὸ παχεῖαι μὲν ἐκ τοῦ παχέος λεπταὶ δὲ ἐκ τοῦ λεπτοῦ δέρματος γίγνονται. ἂν μὲν οὖν ᾖ τὸ δέρμα μανότερον καὶ παχύτερον, παχεῖαι διά τε τὸ πλῆθος τοῦ γεώδους καὶ (782b.) διὰ τὸ μέγεθος τῶν πόρων εἰσίν· ἂν δὲ πυκνότερον, λεπταὶ διὰ τὴν στενότητα τῶν πόρων. ἔτι δ' ἂν ᾖ ἡ ἰκμὰς ὑδατώδης ταχὺ ἀναξηραινομένης οὐ λαμβάνουσι μέγεθος αἱ τρίχες, ἂν δὲ λιπαρὰ τοὐναντίον· οὐ γὰρ εὐξήραντον τὸ λιπαρόν. διόπερ ὅλως μὲν τὰ παχυδερμότερα παχυτριχώτερα τῶν ζῴων, οὐ μέντοι τὰ μάλιστα μᾶλλον διὰ τὰς εἰρημένας αἰτίας, οἷον τὸ τῶν ὑῶν γένος πρὸς τὸ τῶν βοῶν πέπονθε καὶ πρὸς ἐλέφαντα καὶ πρὸς πολλὰ τῶν ἄλλων. διὰ τὴν αὐτὴν δ' αἰτίαν καὶ αἱ ἐν τῇ κεφαλῇ τρίχες τοῖς ἀνθρώποις παχύταται· τοῦ γὰρ δέρματος τοῦτο παχύτατον καὶ ἐπὶ πλείστῃ ὑγρότητι, ἔτι δ' ἔχει μανότητα πολλήν. αἴτιον δὲ καὶ τοῦ μακρὰς [ἢ βραχείας] τὰς τρίχας <ἔχειν> τὸ μὴ εὐξήραντον εἶναι τὸ ἐξατμίζον ὑγρόν. τοῦ δὲ μὴ εὐξήραντον εἶναι δύ' αἰτίαι, τό τε ποσὸν καὶ τὸ ποιόν· ἄν τε γὰρ πολὺ ᾖ τὸ ὑγρὸν οὐκ εὐξήραντον, καὶ ἂν λιπαρόν. καὶ διὰ τοῦτο τοῖς ἀνθρώποις αἱ ἐκ τῆς κεφαλῆς τρίχες μακρόταται· ὁ γὰρ ἐγκέφαλος ὑγρὸς καὶ ψυχρὸς ὢν πολλὴν παρέχει δαψίλειαν τοῦ ὑγροῦ.

Εὐθύτριχα δὲ καὶ οὐλότριχα γίγνεται διὰ τὴν ἐν ταῖς θριξὶν ἀναθυμίασιν. ἂν μὲν γὰρ ᾖ καπνώδης, θερμὴ οὖσα καὶ ξηρὰ οὔλην τὴν τρίχα ποιεῖ. κάμπτεται γὰρ διὰ τὸ δύο φέρεσθαι φοράς· τὸ μὲν γὰρ γεῶδες κάτω τὸ δὲ θερμὸν ἄνω φέρεται. εὐκάμπτου δ' οὔσης δι' ἀσθένειαν στρέφεται· τοῦτο δ' ἐστὶν οὐλότης τριχός. ἐνδέχεται μὲν οὖν οὕτω λαβεῖν τὴν αἰτίαν, ἐνδέχεται δὲ καὶ διὰ τὸ ὀλίγον ἔχειν τὸ ὑγρόν, πολὺ δὲ τὸ γεῶδες ὑπὸ τοῦ περιέχοντος ξηραινομένας συσπᾶσθαι. κάμπτεται γὰρ τὸ εὐθὺ ἐὰν ἐξατμίζηται καὶ συντρέχει ὥσπερ ἐπὶ τοῦ πυρὸς καιομένη θρίξ, ὡς οὔσης τῆς οὐλότητος συσπάσεως δι' ἔνδειαν ὑγροῦ ὑπὸ τῆς τοῦ περιέχοντος θερμότητος. σημεῖον δ' ὅτι καὶ σκληρότεραι αἱ οὖλαι τρίχες τῶν εὐθειῶν εἰσιν· τὸ γὰρ ξηρὸν σκληρόν. εὐθύτριχα δὲ ὅσα ὑγρότητ' ἔχει πολλήν· ῥέον γὰρ ἀλλ' οὐ στάζον προέρχεται ἐν ταύταις τὸ ὑγρόν. καὶ διὰ τοῦτο οἱ μὲν ἐν τῷ Πόντῳ Σκύθαι καὶ Θρᾷκες εὐθύτριχες· καὶ γὰρ αὐτοὶ ὑγροὶ καὶ ὁ περιέχων αὐτοὺς ἀὴρ ὑγρός· Αἰθίοπες δὲ καὶ οἱ ἐν τοῖς θερμοῖς (783a.) οὐλότριχες· ξηροὶ γὰρ οἱ ἐγκέφαλοι καὶ ὁ ἀὴρ ὁ περιέχων.

Ἔστι δ' ἔνια τῶν παχυδέρμων λεπτότριχα διὰ τὴν εἰρημένην αἰτίαν πρότερον· ὅσῳ γὰρ ἂν λεπτότεροι οἱ πόροι ὦσιν τοσούτῳ λεπτοτέρας ἀναγκαῖον γίγνεσθαι τὰς τρίχας. διὸ τὸ τῶν προβάτων γένος τοιαύτας ἔχει τὰς τρίχας· τὸ γὰρ ἔριον τριχῶν πλῆθός ἐστιν. ἔστι δ' ἔνια τῶν ζῴων ἃ μαλακὴν μὲν ἔχει τὴν τρίχα, ἧττον δὲ λεπτήν, οἷον τὸ τῶν δασυπόδων πρὸς τὸ τῶν προβάτων πέπονθεν. τῶν γὰρ τοιούτων ἐπιπολῆς ἡ θρὶξ τοῦ δέρματος. διὸ μῆκος οὐκ ἴσχει ἀλλὰ συμβαίνει παραπλήσιον ὥσπερ τὰ ἀπὸ τῶν λίνων ξυόμενα· καὶ γὰρ ταῦτα μῆκος μὲν οὐθὲν ἴσχει, μαλακὰ δ’ ἐστὶ καὶ οὐ δέχεται πλοκήν. τὰ δ’ ἐν τοῖς ψυχροῖς πρόβατα τοὐναντίον πέπονθε τοῖς ἀνθρώποις· οἱ μὲν γὰρ Σκύθαι μαλακότριχες, τὰ δὲ πρόβατα τὰ Σαυροματικὰ σκληρότριχα. τούτου δ’ αἴτιον ταὐτὸ καὶ ἐπὶ τῶν ἀγρίων πάντων. ἡ γὰρ ψυχρότης σκληρύνει διὰ τὸ ξηραίνειν πηγνύουσα· ἐκθλιβομένου γὰρ τοῦ θερμοῦ συνεξατμίζει τὸ ὑγρὸν καὶ γίγνονται καὶ αἱ τρίχες καὶ τὸ δέρμα γεῶδες καὶ σκληρόν. αἴτιον δὲ τοῖς μὲν ἀγρίοις ἡ θυραυλία τοῖς δ’ ὁ τόπος τοιοῦτος ὤν. σημεῖον δὲ καὶ τὸ ἐπὶ τῶν ποντίων ἐχίνων συμβαῖνον οἷς χρῶνται πρὸς τὰς στραγγουρίας. καὶ γὰρ οὗτοι διὰ τὸ ἐν ψυχρᾷ εἶναι τῇ θαλάττῃ διὰ τὸ βάθος (καθ’ ἑξήκοντα γὰρ καὶ ἔτι πλειόνων γίγνονται ὀργυιῶν) αὐτοὶ μὲν μικροί, τὰς δὲ ἀκάνθας μεγάλας ἔχουσι καὶ σκληράς- μεγάλας μὲν διὰ τὸ ἐνταῦθα τὴν τοῦ σώματος τετράφθαι αὔξησιν (ὀλιγόθερμοι γὰρ ὄντες καὶ οὐ πέττοντες τὴν τροφὴν πολὺ περίττωμα ἔχουσιν, αἱ δ’ ἄκανθαι καὶ αἱ τρίχες καὶ τὰ τοιαῦτα γίγνονται ἐκ περιττώματος), σκληρὰς δὲ καὶ λελιθωμένας διὰ τὴν ψυχρότητα καὶ τὸν πάγον. τὸν αὐτὸν δὲ τρόπον καὶ τἆλλα τὰ φυόμενα σκληρότερα συμβαίνει γίγνεσθαι καὶ γεωδέστερα καὶ λιθωδέστερα τὰ ἐν τοῖς προσβόρροις τῶν πρὸς νότον καὶ τὰ προσήνεμα τῶν ἐν κοίλοις· ψύχεται γὰρ πάντα μᾶλλον καὶ ἐξατμίζει τὸ ὑγρόν. σκληρύνει μὲν οὖν καὶ τὸ θερμὸν καὶ τὸ ψυχρόν· ἐξατμίζεσθαι γὰρ ὑπ’ ἀμφοτέρων συμβαίνει τὸ ὑγρόν, ὑπὸ μὲν τοῦ θερμοῦ καθ’ αὑτὸ ὑπὸ δὲ τοῦ ψυχροῦ κατὰ συμβεβηκός (μετὰ τοῦ θερμοῦ γὰρ συνεξέρχεται· οὐθὲν γὰρ ὑγρὸν ἄνευ θερμοῦ). ἀλλὰ τὸ μὲν ψυχρὸν (783b.) οὐ μόνον σκληρύνει ἀλλὰ καὶ πυκνοῖ, τὸ δὲ θερμὸν μανότερον ποιεῖ.

Διὰ τὴν αὐτὴν δ’ αἰτίαν καὶ πρεσβυτέρων γιγνομένων τοῖς μὲν τρίχας ἔχουσι σκληρότεραι γίγνονται αἱ τρίχες τοῖς δὲ πτερωτοῖς καὶ λεπιδωτοῖς τὰ πτερὰ καὶ αἱ λεπίδες. τὰ γὰρ δέρματα γίγνεται σκληρότερα καὶ παχύτερα πρεσβυτέρων γιγνομένων· ξηραίνεται γάρ, καὶ τὸ γῆράς ἐστι κατὰ τοὔνομα γεηρὸν διὰ τὸ ἀπολείπειν τὸ θερμὸν καὶ μετ’ αὐτοῦ τὸ ὑγρόν.

Φαλακροῦνται δ’ ἐπιδήλως οἱ ἄνθρωποι μάλιστα τῶν ζῴων. ἔστι δέ τι καθόλου τὸ τοιοῦτον πάθος· καὶ γὰρ τῶν φυτῶν τὰ μὲν ἀείφυλλα τὰ δὲ φυλλοβολεῖ, καὶ τῶν ὀρνίθων οἱ φωλεύοντες ἀποβάλλουσι τὰ πτερά. τοιοῦτον δέ τι πάθος καὶ ἡ φαλακρότης ἐστὶν ἐπὶ τῶν ἀνθρώπων ὅσοις συμβαίνει φαλακροῦσθαι· κατὰ μέρος μὲν γὰρ ἀπορρεῖ καὶ τὰ φύλλα τοῖς φυτοῖς πᾶσι καὶ τὰ πτερὰ καὶ αἱ τρίχες τοῖς ἔχουσιν, ὅταν δ’ ἀθρόον γένηται τὸ πάθος λαμβάνει τὰς εἰρημένας ἐπωνυμίας· φαλακροῦσθαί τε γὰρ λέγεται καὶ φυλλορροεῖν <καὶ πτερορρυεῖν>. αἴτιον δὲ τοῦ πάθους ἔνδεια ὑγρότητος θερμῆς, τοιοῦτον δὲ μάλιστα τῶν ὑγρῶν τὸ λιπαρόν· διὸ καὶ τῶν φυτῶν τὰ λιπαρὰ ἀείφυλλα μᾶλλον. ἀλλὰ περὶ μὲν τούτων ἐν ἄλλοις τὸ αἴτιον λεκτέον· καὶ γὰρ ἄλλα συναίτια τούτου τοῦ πάθους αὐτοῖς. γίγνεται δὲ τοῖς μὲν φυτοῖς ἐν τῷ χειμῶνι τὸ πάθος (αὕτη γὰρ ἡ μεταβολὴ κυριωτέρα τῆς ἡλικίας) καὶ τοῖς φωλεύουσι δὲ τῶν ζῴων (καὶ γὰρ ταῦτα ἧττον τῶν ἀνθρώπων ὑγρὰ καὶ θερμὰ τὴν φύσιν ἐστίν)· οἱ δ᾽ ἄνθρωποι ταῖς ἡλικίαις χειμῶνα καὶ θέρος ἄγουσιν. διὸ πρὶν ἀφροδισιάζειν οὐ γίγνεται φαλακρὸς οὐδείς· τότε δὲ τοῖς τοιούτοις τὴν φύσιν μᾶλλον. φύσει γάρ ἐστιν ὁ ἐγκέφαλος ψυχρότατον τοῦ σώματος, ὁ δ᾽ ἀφροδισιασμὸς καταψύχει· καθαρᾶς γὰρ καὶ φυσικῆς θερμότητος ἀπόκρισίς ἐστιν. εὐλόγως οὖν ὁ ἐγκέφαλος αἰσθάνεται πρῶτον· τὰ γὰρ ἀσθενῆ καὶ φαύλως ἔχοντα μικρᾶς αἰτίας καὶ ῥοπῆς ἐστιν. ὥστ᾽ ἄν τις ἀναλογίσηται ὅτι αὐτός τε ὀλιγόθερμος ὁ ἐγκέφαλος, ἔτι δ᾽ ἀναγκαῖον τὸ πέριξ δέρμα τοιοῦτον εἶναι μᾶλλον, καὶ τούτου τὴν τῶν τριχῶν φύσιν ὅσῳ πλεῖστον ἀφέστηκεν, εὐλόγως ἂν δόξειε τοῖς σπερματικοῖς περὶ ταύτην τὴν ἡλικίαν συμβαίνειν φαλακροῦσθαι. διὰ τὴν αὐτὴν δ᾽ αἰτίαν καὶ τῆς κεφαλῆς τὸ (784a.) πρόσθιον μόνον γίγνονται φαλακροὶ καὶ τῶν ζῴων οἱ ἄνθρωποι μόνοι-τὸ μὲν πρόσθιον ὅτι ἐνταῦθα ὁ ἐγκέφαλος, τῶν δὲ ζῴων μόνον ὅτι πολὺ πλεῖστον ἔχει ἐγκέφαλον καὶ μάλιστα ὑγρὸν ὁ ἄνθρωπος. καὶ αἱ γυναῖκες οὐ φαλακροῦνται· παραπλησία γὰρ ἡ φύσις τῇ τῶν παιδίων· ἄγονα γὰρ σπερματικῆς ἐκκρίσεως ἀμφότερα. καὶ εὐνοῦχος οὐ γίγνεται φαλακρὸς διὰ τὸ εἰς τὸ θῆλυ μεταβάλλειν. καὶ τὰς ὑστερογενεῖς τρίχας ἢ οὐ φύουσιν ἢ ἀποβάλλουσιν, ἂν τύχωσιν ἔχοντες οἱ εὐνοῦχοι, πλὴν τῆς ἥβης· καὶ γὰρ αἱ γυναῖκες τὰς μὲν οὐκ ἔχουσι τὰς δ᾽ ἐπὶ τῇ ἥβῃ φύουσιν. ἡ δὲ πήρωσις αὕτη ἐκ τοῦ ἄρρενος εἰς τὸ θῆλυ μεταβολή ἐστιν.

Τοῦ δὲ τὰ μὲν φωλεύοντα πάλιν δασύνεσθαι καὶ τὰ φυλλοβολήσαντα πάλιν φύειν φύλλα, τοῖς δὲ φαλακροῖς μὴ ἀναφύεσθαι πάλιν, αἴτιον ὅτι τοῖς μὲν αἱ ὧραι τροπαί εἰσι τοῦ σώματος μᾶλλον, ὥστ᾽ ἐπεὶ μεταβάλλουσιν αὗται μεταβάλλει καὶ τὸ φύειν καὶ τὸ ἀποβάλλειν τοὺς μὲν τὰ πτερὰ καὶ τὰς τρίχας, τὰ δὲ φύλλα τὰ φυτά. τοῖς δ᾽ ἀνθρώποις κατὰ τὴν ἡλικίαν γίγνεται χειμὼν καὶ θέρος καὶ ἔαρ καὶ μετόπωρον, ὥστ᾽ ἐπεὶ αἱ ἡλικίαι οὐ μεταβάλλουσιν οὐδὲ τὰ πάθη τὰ διὰ ταύτας μεταβάλλει, καίπερ τῆς αἰτίας ὁμοίας οὔσης.

Καὶ περὶ μὲν τἆλλα πάθη τὰ τῶν τριχῶν σχεδὸν εἴρηται.

Κεφάλαιο 4

Τῶν δὲ χρωμάτων αἴτιον τοῖς μὲν ἄλλοις ζῴοις καὶ τοῦ μονόχροα εἶναι καὶ τοῦ ποικίλα ἡ τοῦ δέρματος φύσις· τοῖς δ’ ἀνθρώποις οὐδὲν πλὴν τῶν πολιῶν, οὐ τῶν διὰ γῆρας ἀλλὰ τῶν διὰ νόσον· ἐν γὰρ τῇ καλουμένῃ λεύκῃ λευκαὶ γίγνονται αἱ τρίχες-ἂν δ’ αἱ τρίχες ὦσι λευκαὶ <διὰ γῆρας> οὐκ ἀκολουθεῖ τῷ δέρματι ἡ λευκότης. αἴτιον δ’ ὅτι ἐκ τοῦ δέρματος φύονται· ἐκ νενοσηκότος οὖν καὶ λευκοῦ τοῦ δέρματος καὶ ἡ θρὶξ συννοσεῖ, νόσος δὲ τριχὸς πολιότης ἐστίν. ἡ δὲ δι’ ἡλικίαν τῶν τριχῶν πολιότης γίγνεται δι’ ἀσθένειαν καὶ ἔνδειαν θερμότητος. καὶ γὰρ ἡλικία πᾶσα ῥέπει ἀποκλίνοντος τοῦ σώματος ἐν τῷ γήρᾳ ἐπὶ ψύξιν· τὸ γὰρ γῆρας ψυχρὸν καὶ ξηρόν ἐστιν. δεῖ δὲ νοῆσαι τὴν εἰς ἕκαστον μόριον ἀφικνουμένην τροφὴν ὅτι πέττει μὲν ἡ ἐν ἑκάστῳ οἰκεία (784b.) θερμότης, ἀδυνατούσης δὲ φθείρεται καὶ πήρωσις γίγνεται ἢ νόσος.

ἀκριβέστερον δὲ περὶ τῆς τοιαύτης αἰτίας ὕστερον λεκτέον ἐν τοῖς περὶ αὐξήσεως καὶ τροφῆς. ὅσοις οὖν τῶν ἀνθρώπων ὀλιγόθερμός ἐστιν ἡ τῶν τριχῶν φύσις καὶ πλείων ἡ εἰσιοῦσα ὑγρότης ἐστί, τῆς οἰκείας θερμότητος ἀδυνατούσης πέττειν σήπεται ὑπὸ τῆς ἐν τῷ περιέχοντι θερμότητος. γίγνεται δὲ σῆψις ὑπὸ θερμότητος μὲν πᾶσα, οὐ τῆς συμφύτου δέ, ὥσπερ εἴρηται ἐν ἑτέροις. ἔστι δ’ ἡ σῆψις καὶ ὕδατος καὶ γῆς καὶ τῶν σωματικῶν πάντων τῶν τοιούτων, διὸ καὶ τῆς γεώδους ἀτμίδος οἷον ὁ λεγόμενος εὐρώς· καὶ γὰρ ὁ εὐρώς ἐστι σαπρότης γεώδους ἀτμίδος. ὥστε καὶ ἡ ἐν ταῖς θριξὶ τοιαύτη οὖσα τροφὴ οὐ πεττομένη σήπεται, καὶ γίγνεται ἡ καλουμένη πολιά. λευκὴ δὲ ὅτι καὶ ὁ εὐρὼς μόνον τῶν σαπρῶν ὡς εἰπεῖν λευκόν ἐστιν. αἴτιον δὲ τούτου ὅτι πολὺν ἔχει ἀέρα· πᾶσα γὰρ ἡ γεώδης ἀτμὶς ἀέρος ἔχει δύναμιν παχέος.

ὥσπερ γὰρ ἀντεστραμμένον τῇ πάχνῃ ὁ εὐρώς ἐστιν· ἂν μὲν γὰρ παγῇ ἡ ἀνιοῦσα ἀτμὶς πάχνη γίγνεται, ἐὰν δὲ σαπῇ εὐρώς. διὸ καὶ ἐπιπολῆς ἐστιν ἄμφω· ἡ γὰρ ἀτμὶς ἐπιπολῆς. καὶ εὖ δὴ οἱ ποιηταὶ ἐν ταῖς κωμῳδίαις μεταφέρουσι σκώπτοντες τὰς πολιὰς καλοῦντες γήρως εὐρῶτα καὶ πάχνην. τὸ μὲν γὰρ τῷ γένει τὸ δὲ τῷ εἴδει ταὐτόν ἐστιν, ἡ μὲν πάχνη τῷ γένει (ἀτμὶς γὰρ ἄμφω), ὁ δὲ εὐρὼς τῷ εἴδει (σῆψις γὰρ ἄμφω). σημεῖον δ’ ὅτι τοιοῦτόν ἐστιν· καὶ γὰρ ἐκ νόσων πολλοῖς πολιαὶ ἀνέφυσαν, ὕστερον δ’ ὑγιασθεῖσι μέλαιναι ἀντὶ τούτων. αἴτιον δ’ ὅτι ἐν τῇ ἀρρωστίᾳ, ὥσπερ καὶ τὸ ὅλον σῶμα ἐν ἐνδείᾳ φυσικῆς θερμότητός ἐστιν, οὕτω καὶ τῶν ἄλλων μορίων καὶ τὰ πάνυ μικρὰ μετέχει τῆς ἀρρωστίας ταύτης. περίττωμα δὲ πολὺ ἐγγίγνεται ἐν τοῖς σώμασι καὶ ἐν τοῖς μορίοις· διόπερ ἡ ἐν ταῖς σαρξὶν ἀπεψία ποιεῖ τὰς πολιάς. ὑγιάναντες δὲ καὶ ἰσχύσαντες πάλιν μεταβάλλουσι καὶ γίγνονται ὥσπερ ἐκ γερόντων νέοι· διὸ καὶ τὰ πάθη συμμεταβάλλουσιν. ὀρθῶς δ’ ἔχει καὶ λέγειν τὴν μὲν νόσον γῆρας ἐπίκτητον, τὸ δὲ γῆρας νόσον φυσικήν· ποιοῦσι γοῦν νόσοι τινὲς ταὐτὰ ἅπερ καὶ τὸ γῆρας.

Τοὺς δὲ κροτάφους πολιοῦνται πρῶτον. τὰ μὲν γὰρ ὄπισθεν (785a.) κενὰ ὑγρότητός ἐστι διὰ τὸ μὴ ἔχειν ἐγκέφαλον, τὸ δὲ βρέγμα πολλὴν ἔχει ὑγρότητα-τὸ δὲ πολὺ οὐκ εὔσηπτον. αἱ δ’ ἐν τοῖς κροτάφοις τρίχες οὔθ’ οὕτως ὀλίγον ἔχουσιν ὑγρὸν ὥστε πέττειν οὔτε πολὺ ὥστε μὴ σήπεσθαι· μέσος γὰρ ὢν ὁ τόπος ἀμφοτέρων ἐκτὸς ἀμφοτέρων τῶν παθῶν ἐστιν.

Περὶ μὲν οὖν τῆς τῶν ἀνθρώπων πολιότητος εἴρηται τὸ αἴτιον.

Κεφάλαιο 5

Τοῖς δ’ ἄλλοις ζῴοις τοῦ μὴ γίγνεσθαι διὰ τὴν ἡλικίαν ταύτην τὴν μεταβολὴν ἐπιδήλως τὸ αὐτὸ αἴτιον ὅπερ εἴρηται καὶ ἐπὶ τῆς φαλακρότητος· ὀλίγον γὰρ ἔχουσι καὶ <ἧττον> ὑγρὸν τὸν ἐγκέφαλον ὥστε μὴ ἐξαδυνατεῖν τὸ θερμὸν πρὸς τὴν πέψιν. τοῖς δ’ ἵπποις πάντων ἐπισημαίνει μάλιστα ὧν ἴσμεν ζῴων ὅτι λεπτότατον τὸ ὀστοῦν ὡς κατὰ μέγεθος ἔχουσι τὸ περὶ τὸν ἐγκέφαλον τῶν ἄλλων. τεκμήριον δ’ ὅτι καίριος ἡ πληγὴ εἰς τὸν τόπον τοῦτον γίγνεται αὐτοῖς· διὸ καὶ Ὅμηρος οὕτως ἐποίησεν· ἵνα τε πρῶται τρίχες ἵππων κρανίῳ ἐμπεφύασι, μάλιστα δὲ καίριόν ἐστιν.

ῥᾳδίως οὖν ἐπιρρεούσης τῆς ὑγρότητος διὰ τὴν λεπτότητα τοῦ ὀστοῦ, τῆς δὲ θερμότητος ἐλλειπούσης διὰ τὴν ἡλικίαν, ἐπιπολιοῦνται αἱ τρίχες αὗται. καὶ αἱ πυρραὶ δὲ θᾶττον πολιοῦνται τρίχες τῶν μελαινῶν· ἔστι γὰρ καὶ ἡ πυρρότης ὥσπερ ἀρρωστία τριχός, τὰ δ’ ἀσθενῆ γηράσκει πάντα θᾶττον. μελαντέρας δὲ γίγνεσθαι γηρασκούσας λέγεται τὰς γεράνους. αἴτιον δ’ ἂν εἴη τοῦ πάθους τὸ φύσει λεπτοτέραν αὐτῶν εἶναι τὴν τῶν πτερῶν φύσιν, πλέον τε γηρασκόντων εἶναι τὸ ὑγρὸν ἐν τοῖς πτεροῖς ἢ ὥστε εὔσηπτον εἶναι.

Ὅτι δὲ γίγνεται ἡ πολιὰ σήψει τινὶ καὶ ὅτι οὐκ ἔστιν, ὥσπερ οἴονταί τινες, αὔανσις, σημεῖον [τοῦ προτέρου ῥηθέντος] τὸ τὰς σκεπαζομένας τρίχας πίλοις ἢ καλύμμασι πολιοῦσθαι θᾶττον (τὰ γὰρ πνεύματα κωλύει τὴν σῆψιν, ἡ δὲ σκέπη ἄπνοιαν ποιεῖ) καὶ τὸ βοηθεῖν τὴν ἄλειψιν τὴν τοῦ ὕδατος καὶ τοῦ ἐλαίου μιγνυμένων. τὸ μὲν γὰρ ὕδωρ ψύχει, τὸ δ’ ἔλαιον μιγνύμενον κωλύει ξηραίνεσθαι ταχέως· τὸ γὰρ ὕδωρ εὐξήραντον. ὅτι δ’ οὐκ ἔστιν αὔανσις, οὐδ’ ὥσπερ ἡ πόα αὐαινομένη λευκαίνεται οὕτω καὶ ἡ θρίξ, σημεῖον ὅτι φύονται εὐθέως ἔνιαι πολιαί· αὖον δ’ οὐθὲν φύεται. λευκαίνονται δὲ καὶ ἐπ’ ἄκρου πολλαί· ἐν γὰρ τοῖς ἐσχάτοις καὶ λεπτοτάτοις ἐλαχίστη θερμότης (785b.) ἐγγίγνεται.

Τοῖς δ’ ἄλλοις ζῴοις ὅσοις γίγνονται λευκαὶ αἱ τρίχες, φύσει ἀλλ’ οὐ πάθει συμβαίνει γίγνεσθαι τοῦτο. αἴτιον δὲ τῶν χρωμάτων τὸ δέρμα τοῖς ἄλλοις· τῶν μὲν γὰρ λευκῶν λευκὸν τὸ δέρμα, τῶν δὲ μελάνων μέλαν, τῶν δὲ ποικίλων καὶ γιγνομένων ἐκ συμμίξεως τῇ μὲν λευκὸν τῇ δὲ μέλαν φαίνεται ὄν. ἐπὶ δὲ τῶν ἀνθρώπων οὐθὲν αἴτιον τὸ δέρμα· καὶ γὰρ οἱ λευκοὶ σφόδρα μελαίνας ἔχουσιν. αἴτιον δ’ ὅτι λεπτότατον πάντων δέρμα ὁ ἄνθρωπος ἔχει ὡς κατὰ μέγεθος, διόπερ οὐθὲν ἰσχύει πρὸς τὴν τῶν τριχῶν μεταβολήν, ἀλλὰ διὰ τὴν ἀσθένειαν τὸ δέρμα καὶ μεταβάλλει αὐτὸ τὴν χρόαν καὶ γίγνεται ὑπὸ ἡλίων καὶ πνευμάτων μελάντερον· αἱ δὲ τρίχες οὐθὲν συμμεταβάλλουσιν. ἐν δὲ τοῖς ἄλλοις τὸ δέρμα χώρας ἔχει δύναμιν διὰ τὸ πάχος· διὸ αἱ μὲν τρίχες κατὰ τὸ δέρμα μεταβάλλουσι, τὰ δὲ δέρματα οὐθὲν κατὰ τὰ πνεύματα καὶ τὸν ἥλιον.

Κεφάλαιο 6

Τῶν δὲ ζῴων τὰ μέν ἐστι μονόχροα (λέγω δὲ μονόχροα ὧν τὸ γένος ὅλον ἓν χρῶμα ἔχει οἷον λέοντες πυρροὶ πάντες, καὶ τοῦτο καὶ ἐπ' ὀρνίθων καὶ ἐπ' ἰχθύων ἐστὶ καὶ τῶν ἄλλων ζῴων ὁμοίως), τὰ δὲ πολύχροα μέν, ὁλόχροα δέ (λέγω δὲ ὧν τὸ σῶμα ὅλον τὴν αὐτὴν ἔχει χρόαν, οἷον βοῦς ἐστιν ὅλος λευκὸς ἢ ὅλος μέλας), τὰ δὲ ποικίλα. τοῦτο δὲ διχῶς, τὰ μὲν τῷ γένει, ὥσπερ πάρδαλις καὶ ταὼς καὶ τῶν ἰχθύων ἔνιοι οἷον αἱ καλούμεναι θρᾷτται, - τῶν δὲ τὸ μὲν γένος ἅπαν οὐ ποικίλον, γίγνονται δὲ ποικίλοι οἷον βόες καὶ αἶγες, καὶ ἐν τοῖς ὄρνισιν οἷον αἱ περιστεραί· καὶ ἄλλα δὲ γένη τὸ αὐτὸ πάσχει τῶν ὀρνίθων. μεταβάλλει δὲ τὰ ὁλόχροα πολλῷ μᾶλλον τῶν μονοχρόων, καὶ εἰς τὴν ἀλλήλων χρόαν τὴν ἁπλῆν, οἷον ἐκ λευκῶν μέλανα καὶ ἐκ μελάνων λευκά, καὶ μεμιγμένα ἐξ ἀμφοτέρων, διὰ τὸ ὅλῳ τῷ γένει ὑπάρχειν ἐν τῇ φύσει τὸ μὴ μίαν ἔχειν χρόαν· εὐκίνητον γὰρ ὑπάρχει ἐπ' ἀμφότερα τὸ γένος ὥστε καὶ εἰς ἄλληλα μεταβάλλειν καὶ ποικίλλεσθαι μᾶλλον. τὰ δὲ μονόχροα τοὐναντίον· οὐ γὰρ μεταβάλλει ἂν μὴ διὰ πάθος, καὶ τοῦτο σπάνιον· ἤδη γὰρ ὦπται καὶ πέρδιξ λευκὴ καὶ κόραξ καὶ στρουθὸς καὶ ἄρκτος. συμβαίνει

δὲ ταῦτα ὅταν ἐν τῇ γενέσει διαστραφῇ· εὔφθαρτον γὰρ (786a.) καὶ εὐκίνητον τὸ μικρόν, τὸ δὲ γιγνόμενον τοιοῦτον· ἐν μικρῷ γὰρ ἡ ἀρχὴ τοῖς γιγνομένοις.

Μάλιστα δὲ μεταβάλλουσι καὶ τὰ φύσει ὁλόχροα μὲν ὄντα τῷ γένει δὲ πολύχροα διὰ τὰ ὕδατα· τὰ μὲν γὰρ θερμὰ λευκὴν ποιεῖ τὴν τρίχα τὰ δὲ ψυχρὰ μέλαιναν ὥσπερ καὶ ἐπὶ τῶν φυτῶν. αἴτιον δ' ὅτι τὰ θερμὰ πνεύματος πλέον ἔχει ἢ ὕδατος, ὁ δ' ἀὴρ διαφαινόμενος λευκότητα ποιεῖ καθάπερ καὶ τὸν ἀφρόν. διαφέρει μὲν οὖν, ὥσπερ καὶ τὰ δέρματα τὰ διὰ πάθος λευκὰ τῶν διὰ τὴν φύσιν, οὕτω καὶ ἐν ταῖς θριξὶν ἥ τε διὰ νόσον καὶ ἡλικίαν, καὶ ἡ διὰ φύσιν λευκότης τῶν τριχῶν τῷ τὸ αἴτιον ἕτερον εἶναι· τὰς μὲν γὰρ ἡ φυσικὴ θερμότης ποιεῖ λευκὰς τὰς δ' ἡ ἀλλοτρία. τὸ δὲ λευκὸν ὁ ἀτμιδώδης ἀὴρ παρέχεται ἐγκατακλειόμενος ἐν πᾶσιν. διὸ καὶ ὅσα μὴ μονόχροά ἐστι τὰ ὑπὸ τὴν γαστέρα πάντα λευκότερά ἐστιν. καὶ γὰρ θερμότερα καὶ ἡδυκρεώτερα πάντα τὰ λευκὰ ὡς εἰπεῖν ἐστι διὰ τὴν αὐτὴν αἰτίαν· ἡ μὲν γὰρ πέψις γλυκέα ποιεῖ, τὴν δὲ πέψιν τὸ θερμόν. ἡ δ' αὐτὴ αἰτία καὶ τῶν μονοχρόων μὲν μελάνων δ' ἢ λευκῶν· θερμότης γὰρ καὶ ψυχρότης αἰτία τῆς φύσεως τοῦ δέρματος καὶ τῶν τριχῶν· ἔχει γὰρ ἕκαστον τῶν μορίων θερμότητα οἰκείαν.

Ἔτι δ’ αἱ γλῶτται διαφέρουσι τῶν ἁπλῶν τε καὶ ποικίλων καὶ τῶν ἁπλῶν μὲν διαφερόντων δέ, οἷον λευκῶν καὶ μελάνων. αἴτιον δὲ τὸ εἰρημένον πρότερον, ὅτι τὰ δέρματα ποικίλα τῶν ποικίλων, καὶ τῶν λευκοτρίχων καὶ τῶν μελανοτρίχων τῶν μὲν λευκὰ τῶν δὲ μέλανα. τὴν δὲ γλῶτταν δεῖ ὑπολαβεῖν ὥσπερ ἓν μόριον τῶν ἐξωτερικῶν εἶναι, μὴ ὅτι ἐν τῷ στόματι σκεπάζεται, ἀλλ’ οἷον χεῖρα ἢ πόδα· ὥστ’ ἐπεὶ τῶν ποικίλων τὸ δέρμα οὐ μονόχρων, καὶ τοῦ ἐπὶ τῇ γλώττῃ δέρματος τοῦτ’ αἴτιον.

Μεταβάλλουσι δὲ τὰ χρώματα καὶ τῶν ὀρνίθων τινὲς καὶ τῶν τετραπόδων τῶν ἀγρίων ἔνια κατὰ τὰς ὥρας. αἴτιον δ’ ὅτι ὥσπερ οἱ ἄνθρωποι κατὰ τὴν ἡλικίαν μεταβάλλουσι, τοῦτ’ ἐκείνοις συμβαίνει κατὰ τὰς ὥρας· μείζων γὰρ διαφορὰ αὕτη τῆς κατὰ τὴν ἡλικίαν τροπῆς.

Εἰσὶ δὲ καὶ τὰ παμφαγώτερα ποικιλώτερα ὡς ἐπὶ τὸ πλεῖστον εἰπεῖν εὐλόγως, οἷον αἱ μέλιτται (786b.) μονόχροα μᾶλλον ἢ αἱ ἀνθρῆναι καὶ σφῆκες· εἰ γὰρ αἱ τροφαὶ αἴτιαι τῆς μεταβολῆς, εὐλόγως αἱ ποικίλαι τροφαὶ παντοδαπωτέρας ποιοῦσι τὰς κινήσεις καὶ τὰ περιττώματα τῆς τροφῆς, ἐξ ὧν καὶ τρίχες καὶ πτερὰ καὶ δέρματα γίγνεται.

Καὶ περὶ μὲν χρωμάτων καὶ τριχῶν διωρίσθω τὸν τρόπον τοῦτον.

Κεφάλαιο 7

Περὶ δὲ φωνῆς, ὅτι τὰ μὲν βαρύφωνα τῶν ζῴων ἐστὶ τὰ δ’ ὀξύφωνα, τὰ δ’ εὔτονα καὶ πρὸς ἀμφοτέρας ἔχοντα τὰς ὑπερβολὰς συμμέτρως, ἔτι δὲ τὰ μὲν μεγαλόφωνα τὰ δὲ μικρόφωνα καὶ λειότητι καὶ τραχύτητι καὶ εὐκαμψίᾳ καὶ ἀκαμψίᾳ διαφέροντα ἀλλήλων, ἐπισκεπτέον διὰ τίνας αἰτίας ὑπάρχει τούτων ἕκαστον. περὶ μὲν οὖν ὀξύτητος καὶ βαρύτητος τὴν αὐτὴν αἰτίαν οἰητέον εἶναι ἥνπερ ἐπὶ τῆς μεταβολῆς ἣν μεταβάλλει νέα ὄντα καὶ πρεσβύτερα. τὰ μὲν γὰρ ἄλλα πάντα νεώτερα ὄντα ὀξύτερον φθέγγεται, τῶν δὲ βοῶν οἱ μόσχοι βαρύτερον. τὸ δ’ αὐτὸ συμβαίνει καὶ ἐπὶ τῶν ἀρρένων καὶ θηλειῶν· ἐν μὲν γὰρ τοῖς ἄλλοις γένεσι τὸ θῆλυ ὀξύτερον φθέγγεται τοῦ ἄρρενος (μάλιστα δ’ ἐπίδηλον ἐπὶ τῶν ἀνθρώπων τοῦτο· μάλιστα γὰρ τούτοις ταύτην τὴν δύναμιν ἀποδέδωκεν ἡ φύσις διὰ τὸ λόγῳ χρῆσθαι μόνους τῶν ζῴων, τοῦ δὲ λόγου ὕλην εἶναι τὴν φωνήν), ἐπὶ δὲ τῶν βοῶν τοὐναντίον· βαρύτερον γὰρ αἱ θήλειαι φθέγγονται τῶν ταύρων. -τίνος μὲν οὖν ἕνεκα φωνὴν ἔχει τὰ ζῷα καὶ τί ἐστι φωνὴ καὶ ὅλως ὁ ψόφος, τὰ μὲν ἐν τοῖς περὶ αἰσθήσεως εἴρηται τὰ δ’ ἐν τοῖς περὶ ψυχῆς. ἐπεὶ δὲ βαρὺ μέν ἐστιν ἐν τῷ βραδεῖαν εἶναι τὴν κίνησιν, ὀξὺ δ’ ἐν τῷ ταχεῖαν, τοῦ δὴ βραδέως ἢ ταχέως πότερον τὸ κινοῦν αἴτιον ἢ τὸ κινούμενον, ἔχει τινὰ ἀπορίαν. φασὶ γάρ τινες τὸ μὲν πολὺ βραδέως κινεῖσθαι τὸ δ’ ὀλίγον ταχέως, καὶ ταύτην αἰτίαν εἶναι τοῦ τὰ μὲν βαρύφωνα εἶναι τὰ δ’ ὀξύφωνα, λέγοντες μέχρι τινὸς καλῶς, ὅλως δ’ οὐ καλῶς. τῷ μὲν γὰρ γένει ὀρθῶς ἔοικε λέγεσθαι τὸ βαρὺ ἐν μεγέθει τινὶ εἶναι τοῦ κινουμένου. εἰ γὰρ τοῦτο, καὶ μικρὸν καὶ βαρὺ φθέγξασθαι οὐ ῥᾴδιον, ὁμοίως δὲ οὐδὲ μέγα καὶ ὀξύ. καὶ δοκεῖ γενναιοτέρας εἶναι φύσεως ἡ βαρυφωνία, καὶ ἐν τοῖς (787a.) μέλεσι τὸ βαρὺ τῶν συντόνων βέλτιον· τὸ γὰρ βέλτιον ἐν ὑπεροχῇ, ἡ δὲ βαρύτης ὑπεροχή τις. ἀλλ’ ἐπειδή ἐστιν ἕτερον τὸ βαρὺ καὶ τὸ ὀξὺ ἐν φωνῇ μεγαλοφωνίας καὶ μικροφωνίας (ἔστι γὰρ καὶ ὀξύφωνα μεγαλόφωνα, καὶ μικρόφωνα βαρύφωνα ὡσαύτως), ὁμοίως δὲ καὶ κατὰ τὸν μέσον τόνον τούτων-περὶ ὧν τίνι ἄν τις ἄλλῳ διορίσειεν (λέγω δὲ μεγαλοφωνίαν καὶ μικροφωνίαν) ἢ πλήθει καὶ ὀλιγότητι τοῦ κινουμένου; εἰ οὖν κατὰ τὸν λεγόμενον ἔσται διορισμὸν τὸ ὀξὺ καὶ βαρύ, συμβήσεται τὰ αὐτὰ εἶναι βαρύφωνα καὶ μεγαλόφωνα καὶ ὀξύφωνα καὶ μικρόφωνα. τοῦτο δὲ ψεῦδος.

αἴτιον δ’ ὅτι τὸ μέγα καὶ τὸ μικρὸν καὶ τὸ πολὺ καὶ τὸ ὀλίγον τὰ μὲν ἁπλῶς λέγεται τὰ δὲ πρὸς ἄλληλα. μεγαλόφωνα μὲν οὖν ἐστιν ἐν τῷ πολὺ ἁπλῶς εἶναι τὸ κινούμενον, μικρόφωνα δὲ ἐν τῷ ὀλίγον, βαρύφωνα δὲ καὶ ὀξύφωνα ἐν τῷ πρὸς ἄλληλα ταύτην ἔχειν τὴν διαφοράν. ἐὰν μὲν γὰρ ὑπερέχῃ τὸ κινούμενον τῆς τοῦ κινοῦντος ἰσχύος, ἀνάγκη βραδέως φέρεσθαι τὸ φερόμενον, ἂν δ’ ὑπερέχηται, ταχέως. τὸ δ’ ἰσχῦον διὰ τὴν ἰσχὺν ὁτὲ μὲν πολὺ κινοῦν βραδεῖαν ποιεῖ τὴν κίνησιν, ὁτὲ δὲ διὰ τὸ κρατεῖν ταχεῖαν. κατὰ τὸν αὐτὸν δὲ λόγον καὶ τῶν κινούντων τὰ ἀσθενῆ τὰ μὲν πλείω κινοῦντα τῆς δυνάμεως βραδεῖαν ποιεῖ τὴν κίνησιν, τὰ δὲ δι’ ἀσθένειαν ὀλίγον κινοῦντα ταχεῖαν.

Αἱ μὲν οὖν αἰτίαι τῶν ἐναντιώσεων αὗται τοῦ μήτε πάντα τὰ νέα ὀξύφωνα εἶναι μήτε βαρύφωνα, μήτε τὰ πρεσβύτερα, μήτε τὰ ἄρρενα καὶ θήλεα, πρὸς δὲ τούτοις καὶ τοῦ τοὺς κάμνοντας ὀξὺ φθέγγεσθαι καὶ τοὺς εὖ τὸ σῶμα ἔχοντας, ἔτι δὲ καὶ γέροντας γιγνομένους μᾶλλον ὀξυφωνοτέρους γίγνεσθαι τῆς ἡλικίας ἐναντίας οὔσης τῇ τῶν νέων.

Τὰ μὲν οὖν πλεῖστα νεώτερα ὄντα καὶ τὰ θήλεα δι’ ἀδυναμίαν ὀλίγον κινοῦντα ἀέρα ὀξύφωνά ἐστιν· ταχὺ γὰρ ὁ ὀλίγος φέρεται, τὸ δὲ ταχὺ ὀξὺ ἐν φωνῇ. οἱ δὲ μόσχοι καὶ αἱ βόες αἱ θήλειαι, οἱ μὲν διὰ τὴν ἡλικίαν αἱ δὲ διὰ τὴν φύσιν τῆς θηλύτητος, οὐκ ἰσχυρὸν ἔχουσι τὸ μόριον ᾧ κινοῦσι, πολὺ δὲ κινοῦντα (787b.) βαρύφθογγά ἐστιν· βαρὺ γὰρ τὸ βραδέως φερόμενον, ὁ δὲ πολὺς ἀὴρ φέρεται βραδέως. πολὺν δὲ κινοῦσι ταῦτα, τὰ δ’ ἄλλ’ ὀλίγον, διὰ τὸ τὸ ἀγγεῖον δι’ οὗ πρῶτον φέρεται τὸ πνεῦμα τούτοις μὲν διάστημ’ ἔχειν μέγα καὶ πολὺν ἀναγκάζεσθαι ἀέρα κινεῖν, τοῖς δ’ ἄλλοις εὐταμίευτον εἶναι. προϊούσης δὲ τῆς ἡλικίας ἰσχύει μᾶλλον τοῦτο τὸ μόριον τὸ κινοῦν ἐν ἑκάστοις, ὥστε μεταβάλλουσιν εἰς τοὐναντίον, καὶ τὰ μὲν ὀξύφωνα βαρυφωνότερα γίγνεται αὐτὰ αὐτῶν, τὰ δὲ βαρύφωνα ὀξυφωνότερα· διόπερ οἱ ταῦροι ὀξυφωνότεροι τῶν μόσχων καὶ τῶν θηλειῶν βοῶν. ἔστι μὲν οὖν πᾶσιν ἡ ἰσχὺς ἐν τοῖς νεύροις, διὸ καὶ τὰ ἀκμάζοντα ἰσχύει μᾶλλον· ἄναρθρα γὰρ τὰ νέα μᾶλλον καὶ ἄνευρα. ἔτι δὲ τοῖς ἐν νέοις οὔπω ἐπιτέταται, τοῖς δὲ γεγηρακόσιν ἤδη ἀνεῖται ἡ συντονία· διὸ ἄμφω ἀσθενῆ καὶ ἀδύνατα πρὸς τὴν κίνησιν. μάλιστα δ’ οἱ ταῦροι νευρώδεις, καὶ ἡ καρδία· διόπερ σύντονον ἔχουσι τοῦτο τὸ μόριον ᾧ κινοῦσι τὸ πνεῦμα ὥσπερ χορδὴν τεταμένην νευρίνην. δηλοῖ δὲ τοιαύτη τὴν φύσιν οὖσα ἡ καρδία τῶν βοῶν τῷ καὶ ὀστοῦν ἐγγίγνεσθαι ἐν ἐνίαις αὐτῶν· τὰ δ’ ὀστᾶ ζητεῖ τὴν τοῦ νεύρου φύσιν.

Ἐκτεμνόμενα δὲ πάντα εἰς τὸ θῆλυ μεταβάλλει, καὶ διὰ τὸ ἀνίεσθαι τὴν ἰσχὺν τὴν νευρώδη ἐν τῇ ἀρχῇ ὁμοίαν ἀφίησι φωνὴν τοῖς θήλεσιν. ἡ δ’ ἄνεσις παραπλησία γίγνεται ὥσπερ ἂν εἴ τις χορδὴν κατατείνας σύντονον ποιήσειε τῷ ἐξάψαι τι βάρος, οἷον δὴ ποιοῦσιν αἱ τοὺς ἱστοὺς ὑφαίνουσαι· καὶ γὰρ αὗται τὸν στήμονα κατατείνουσι προσάπτουσαι τὰς καλουμένας λαιάς. οὕτω γὰρ καὶ ἡ τῶν ὄρχεων φύσις προσήρτηται πρὸς τοὺς σπερματικοὺς πόρους, οὗτοι δ’ ἐκ τῆς φλεβὸς ἧς ἡ ἀρχὴ ἐκ τῆς καρδίας πρὸς αὐτῷ τῷ κινοῦντι τὴν φωνήν. διὸ καὶ τῶν σπερματικῶν πόρων μεταβαλλόντων πρὸς τὴν ἡλικίαν ἐν ᾗ ἤδη δύνανται τὸ σπέρμα ἐκκρίνειν συμμεταβάλλει καὶ τοῦτο τὸ μόριον. τούτου δὲ μεταβάλλοντος καὶ ἡ φωνὴ μεταβάλλει, μᾶλλον μὲν τοῖς ἄρρεσιν, συμβαίνει δὲ ταὐτὸ καὶ ἐπὶ τῶν θηλειῶν ἀλλ’ ἀδηλότερον, καὶ γίγνεται ὃ (788a.) καλοῦσί τινες τραγίζειν, ὅταν ἀνώμαλος ᾖ ἡ φωνή. μετὰ δὲ ταῦτα καθίσταται εἰς τὴν τῆς ἐπιούσης ἡλικίας βαρύτητα ἢ ὀξυφωνίαν. ἀφαιρουμένων δὲ τῶν ὄρχεων ἀνίεται ἡ κατάτασις τῶν πόρων ὥσπερ ἀπὸ τῆς χορδῆς καὶ τοῦ στήμονος ἀφαιρουμένου τοῦ βάρους. τούτου δ’ ἀνιεμένου καὶ ἡ ἀρχὴ ἡ κινοῦσα τὴν φωνὴν ἐκλύεται κατὰ τὸν αὐτὸν λόγον. διὰ μὲν οὖν ταύτην τὴν αἰτίαν τὰ ἐκτεμνόμενα μεταβάλλει εἰς τὸ θῆλυ τήν τε φωνὴν καὶ τὴν ἄλλην μορφὴν διὰ τὸ συμβαίνειν ἀνίεσθαι τὴν ἀρχὴν ἐξ ἧς ὑπάρχει τῷ σώματι ἡ συντονία, ἀλλ’ οὐχ ὥσπερ τινὲς ὑπολαμβάνουσιν αὐτοὺς τοὺς ὄρχεις εἶναι σύναμμα πολλῶν ἀρχῶν-ἀλλὰ μικραὶ μεταστάσεις μεγάλων αἰτίαι γίγνονται, οὐ δι’ αὑτάς, ἀλλ’ ὅταν συμβαίνῃ ἀρχὴν συμμεταβάλλειν. αἱ γὰρ ἀρχαὶ μεγέθει οὖσαι μικραὶ τῇ δυνάμει μεγάλαι εἰσίν· τοῦτο γάρ ἐστι τὸ ἀρχὴν εἶναι, τὸ αὐτὴν μὲν αἰτίαν εἶναι πολλῶν, ταύτης δ’ ἄλλο ἄνωθεν μηθέν.

Τῷ δὲ φύσει τὰ μὲν τοιαῦτα συνίστασθαι τῶν ζῴων ὥστε βαρύφωνα εἶναι τὰ δ’ ὀξύφωνα συμβάλλεται καὶ ἡ θερμότης τοῦ τόπου καὶ ἡ ψυχρότης. τὸ μὲν γὰρ θερμὸν πνεῦμα διὰ παχύτητα ποιεῖ βαρυφωνίαν, τὸ δὲ ψυχρὸν διὰ λεπτότητα τοὐναντίον. δῆλον δὲ τοῦτο καὶ ἐπὶ τῶν αὐλῶν· οἱ γὰρ θερμοτέρῳ τῷ πνεύματι χρώμενοι καὶ τοιοῦτον προϊέμενοι οἷον οἱ αἰάζοντες βαρύτερον αὐλοῦσιν. τῆς δὲ τραχυφωνίας αἴτιον καὶ τοῦ λείαν εἶναι τὴν φωνὴν καὶ πάσης τῆς τοιαύτης ἀνωμαλίας τὸ τὸ μόριον καὶ τὸ ὄργανον δι’ οὗ φέρεται ἡ φωνὴ ἢ τραχὺ ἢ λεῖον εἶναι ἢ ὅλως ὁμαλὸν ἢ ἀνώμαλον (δῆλον δ’ ὅταν ὑγρότης τις ὑπάρχῃ περὶ τὴν ἀρτηρίαν ἢ τραχύτης γένηται ὑπό τινος πάθους· τότε γὰρ καὶ ἡ φωνὴ γίγνεται ἀνώμαλος)-τῆς δ’ εὐκαμψίας <καὶ τῆς ἀκαμψίας> ἂν μαλακὸν ἢ σκληρὸν ᾖ τὸ ὄργανον· τὸ μὲν γὰρ μαλακὸν δύναται ταμιεύεσθαι καὶ παντοδαπὸν γίγνεσθαι, τὸ δὲ σκληρὸν οὐ δύναται. καὶ τὸ μὲν μαλακὸν καὶ μικρὸν δύναται καὶ μέγα φθέγγεσθαι, διὸ καὶ ὀξὺ καὶ βαρύ· ταμιεύεται γὰρ ῥᾳδίως τοῦ πνεύματος, καὶ αὐτὸ γιγνόμενον ῥᾳδίως μέγα καὶ μικρόν· ἡ δὲ σκληρότης ἀταμίευτον.

Περὶ μὲν οὖν φωνῆς (788b.) ὅσα μὴ πρότερον ἐν τοῖς περὶ αἰσθήσεως διώρισται καὶ ἐν τοῖς περὶ ψυχῆς τοσαῦτ’ εἰρήσθω.

Κεφάλαιο 8

Περὶ δὲ ὀδόντων, ὅτι μὲν οὐχ ἑνὸς χάριν οὐδὲ πάντα τοῦ αὐτοῦ ἕνεκα τὰ ζῷα ἔχουσιν ἀλλὰ τὰ μὲν διὰ τὴν τροφὴν τὰ δὲ καὶ πρὸς ἀλκὴν καὶ πρὸς τὸν ἐν τῇ φωνῇ λόγον, εἴρηται πρότερον· διότι δ’ οἱ μὲν πρόσθιοι γίγνονται πρότερον οἱ δὲ γόμφιοι ὕστερον, καὶ οὗτοι μὲν οὐκ ἐκπίπτουσιν ἐκεῖνοι δ’ ἐκπίπτουσι καὶ φύονται πάλιν, τοῖς περὶ γενέσεως λόγοις τὴν αἰτίαν συγγενῆ δεῖ νομίζειν.

Εἴρηκε μὲν οὖν περὶ αὐτῶν καὶ Δημόκριτος, οὐ καλῶς δ’ εἴρηκεν· οὐ γὰρ ἐπὶ πάντων σκεψάμενος καθόλου λέγει τὴν αἰτίαν. φησὶ γὰρ ἐκπίπτειν μὲν διὰ τὸ πρὸ ὥρας γίγνεσθαι τοῖς ζῴοις· ἀκμαζόντων γὰρ ὡς εἰπεῖν φύεσθαι κατά γε φύσιν, τοῦ δὲ πρὸ ὥρας γίγνεσθαι τὸ θηλάζειν αἰτιᾶται. καίτοι θηλάζει γε καὶ ὗς, οὐκ ἐκβάλλει δὲ τοὺς ὀδόντας· ἔτι δὲ τὰ καρχαρόδοντα θηλάζει μὲν πάντα, οὐκ ἐκβάλλει δ’ ἔνια αὐτῶν πλὴν τοὺς κυνόδοντας, οἷον οἱ λέοντες. τοῦτο μὲν οὖν ἥμαρτε καθόλου λέγων οὐ σκεψάμενος τὸ συμβαῖνον ἐπὶ πάντων. δεῖ δὲ τοῦτο ποιεῖν· ἀνάγκη γὰρ τὸν λέγοντα καθόλου τι λέγειν περὶ πάντων. ἐπεὶ δὲ τὴν φύσιν ὑποτιθέμεθα, ἐξ ὧν ὁρῶμεν ὑποτιθέμενοι, οὔτ’ ἐλλείπουσαν οὔτε μάταιον οὐθὲν ποιοῦσαν τῶν ἐνδεχομένων περὶ ἕκαστον, ἀνάγκη δὲ τοῖς μέλλουσι λαμβάνειν τροφὴν μετὰ τὴν [τοῦ γάλακτος] ἀπογαλάκτισιν ἔχειν ὄργανα πρὸς τὴν ἐργασίαν τῆς τροφῆς-εἰ οὖν συνέβαινεν, ὡς ἐκεῖνος λέγει, πρὸς ἥβην, ἐνέλειπεν ἂν ἡ φύσις τῶν ἐνδεχομένων αὐτῇ τι ποιεῖν, καὶ τὸ τῆς φύσεως ἔργον ἐγίγνετ’ ἂν παρὰ φύσιν. τὸ γὰρ βίᾳ παρὰ φύσιν, βίᾳ δέ φησι συμβαίνειν τὴν γένεσιν τῶν ὀδόντων. ὅτι μὲν οὖν τοῦτ’ οὐκ ἀληθὲς φανερὸν ἐκ τούτων καὶ τοιούτων ἄλλων.

Γίγνονται δὲ πρότερον οὗτοι τῶν πλατέων, πρῶτον μὲν ὅτι καὶ τὸ ἔργον τὸ τούτων πρότερον (πρότερον γάρ ἐστι τοῦ λεᾶναι τὸ διελεῖν, εἰσὶ δ’ ἐκεῖνοι μὲν ἐπὶ τῷ λεαίνειν οὗτοι δ’ ἐπὶ τῷ διαιρεῖν), ἔπειθ’ ὅτι τὸ ἔλαττον, κἂν ἅμα ὁρμηθῇ, θᾶττον γίγνεσθαι πέφυκε τοῦ μείζονος. εἰσὶ δ’ ἐλάττους οὗτοι τῷ (789a.) μεγέθει τῶν γομφίων [καὶ] τῷ τὸ ὀστοῦν τῆς σιαγόνος ἐκεῖ μὲν πλατὺ εἶναι, πρὸς δὲ τῷ στόματι στενόν. ἐκ μὲν οὖν τοῦ μείζονος πλείω ἀναγκαῖον ἐπιρρεῖν τροφήν, ἐκ δὲ τοῦ στενωτέρου ἐλάττω.

Τὸ δὲ θηλάζειν αὐτὸ μὲν οὐθὲν συμβάλλεται, ἡ δὲ τοῦ γάλακτος θερμότης ποιεῖ θᾶττον βλαστάνειν τοὺς ὀδόντας. σημεῖον δ’ ὅτι καὶ αὐτῶν τῶν θηλαζόντων τὰ θερμοτέρῳ γάλακτι χρώμενα τῶν παιδίων ὀδοντοφυεῖ θᾶττον· αὐξητικὸν γὰρ τὸ θερμόν.

Ἐκπίπτουσι δὲ γενόμενοι τοῦ μὲν βελτίονος χάριν, ὅτι ταχὺ ἀμβλύνεται τὸ ὀξύ· δεῖ οὖν ἑτέρους διαδέχεσθαι πρὸς τὸ ἔργον. τῶν δὲ πλατέων οὐκ ἔστιν ἀμβλύτης ἀλλὰ τῷ χρόνῳ τριβόμενοι λεαίνονται μόνον. ἐξ ἀνάγκης δ’ ἐκπίπτουσιν ὅτι τῶν μὲν ἐν πλατείᾳ τῇ σιαγόνι καὶ ἰσχυρῷ ὀστῷ αἱ ῥίζαι εἰσί, τῶν δὲ προσθίων ἐν λεπτῷ, διὸ ἀσθενεῖς καὶ εὐκίνητοι. φύονται δὲ πάλιν ὅτι ἐν φυομένῳ ἔτι τῷ ὀστῷ ἡ ἐκβολὴ γίγνεται καὶ ἔτι ὥρας οὔσης γίγνεσθαι ὀδόντας. τούτου δὲ σημεῖον ὅτι καὶ οἱ πλατεῖς φύονται πολὺν χρόνον· οἱ γὰρ τελευταῖοι ἀνατέλλουσι περὶ τὰ εἴκοσιν ἔτη, ἐνίοις δ’ ἤδη καὶ γηράσκουσι γεγένηται οἱ ἔσχατοι παντελῶς διὰ τὸ πολλὴν εἶναι τροφὴν ἐν τῇ εὐρυχωρίᾳ τοῦ ὀστοῦ. τὸ δὲ πρόσθιον διὰ τὴν λεπτότητα ταχὺ (789b.) λαμβάνει τέλος, καὶ οὐ γίγνεται περίττωμα ἐν αὐτῷ ἀλλ’ εἰς τὴν αὔξησιν ἀναλίσκεται ἡ τροφὴ τὴν οἰκείαν.

Δημόκριτος δὲ τὸ οὗ ἕνεκεν ἀφεὶς λέγειν πάντα ἀνάγει εἰς ἀνάγκην οἷς χρῆται ἡ φύσις-οὖσι μὲν τοιούτοις, οὐ μὴν ἀλλ’ ἕνεκά τινος οὖσι καὶ τοῦ περὶ ἕκαστον βελτίονος χάριν. ὥστε γίγνεσθαι μὲν οὐθὲν κωλύει οὕτω καὶ ἐκπίπτειν, ἀλλ’ οὐ διὰ ταῦτα ἀλλὰ διὰ τὸ τέλος· ταῦτα δ’ ὡς κινοῦντα καὶ ὡς ὄργανα καὶ ὡς ὕλη αἴτια, ἐπεὶ καὶ τὸ τῷ πνεύματι ἐργάζεσθαι τὰ πολλὰ εἰκὸς ὡς ὀργάνῳ-οἷον γὰρ ἔνια πολύχρηστά ἐστι τῶν περὶ τὰς τέχνας, ὥσπερ ἐν τῇ χαλκευτικῇ ἡ σφύρα καὶ ὁ ἄκμων, οὕτω καὶ τὸ πνεῦμα ἐν τοῖς φύσει συνεστῶσιν. ὅμοιον δ’ ἔοικε τὸ λέγειν τὰ αἴτια ἐξ ἀνάγκης κἂν εἴ τις διὰ τὸ μαχαίριον οἴοιτο τὸ ὕδωρ ἐξεληλυθέναι μόνον τοῖς ὑδρωπιῶσιν, ἀλλ’ οὐ διὰ τὸ ὑγιαίνειν οὗ ἕνεκα τὸ μαχαίριον ἔτεμεν.

Περὶ μὲν οὖν ὀδόντων, διότι οἱ μὲν ἐκπίπτουσι καὶ γίγνονται πάλιν οἱ δ’ οὔ, καὶ ὅλως διὰ τίν’ αἰτίαν γίγνονται εἴρηται. εἴρηται δὲ καὶ περὶ τῶν ἄλλων τῶν κατὰ τὰ μόρια παθημάτων ὅσα γίγνεσθαι συμβαίνει μὴ ἕνεκά του ἀλλ’ ἐξ ἀνάγκης καὶ διὰ τὴν αἰτίαν τὴν κινητικήν.

Περι Χρωματων (791a) On Colours

[791a] Ἁπλᾶ τῶν χρωμάτων ἐστὶν ὅσα τοῖς στοιχείοις συνακολουθεῖ, οἷον πυρὶ καὶ ἀέρι καὶ ὕδατι καὶ γῇ. ἀὴρ μὲν γὰρ καὶ ὕδωρ καθ’ ἑαυτὰ τῇ φύσει λευκά, τὸ δὲ πῦρ καὶ ὁ ἥλιος ξανθά. καὶ ἡ γῆ δ’ ἐστὶ φύσει λευκή, παρὰ δὲ τὴν βαφὴν πολύχρους φαίνεται. δῆλον δ’ ἐπὶ τῆς τέφρας τοῦτ’ ἐστίν· ἐκκαυθέντος γὰρ τοῦ τὴν βαφὴν πεποιηκότος ὑγροῦ λευκὴ γίνεται, οὐ παντελῶς δὲ διὰ τὸ τῷ καπνῷ βεβάφθαι μέλανι ὄντι. διὸ καὶ ἡ κονία ξανθὴ γίνεται, τοῦ φλογοειδοῦς καὶ μέλανος ἐπιχρώζοντος τὸ ὕδωρ. τὸ δὲ μέλαν χρῶμα συνακολουθεῖ τοῖς στοιχείοις εἰς ἄλληλα μεταβαλλόντων. τὰ δ’ ἄλλα ἐκ τούτων εὐσύνοπτα τῇ μίξει κεραννυμένων ἀλλήλοις γίνεται. τὸ δὲ σκότος ἐκλείποντος τοῦ φωτὸς γίνεται. τριχῶς γὰρ τὸ μέλαν ἡμῖν φαίνεται. ἢ γὰρ ὅλως τὸ μὴ ὁρώμενόν ἐστι τῇ φύσει μέλαν (ἁπάντων γὰρ τῶν τοιούτων ἀνακλᾶταί τι φῶς μέλαν), ἢ ἀφ’ ὧν μηδὲν ὅλως φέρεται φῶς πρὸς τὰς ὄψεις· τὸ γὰρ μὴ ὁρώμενον, ὅταν ὁ περιέχων τόπος ὁρᾶται, φαντασίαν ποιεῖ μέλανος. φαίνεται δὲ καὶ τὰ τοιαῦτα ἡμῖν ἅπαντα μέλανα, ἀφ’ ὅσων ἀραιὸν καὶ ὀλίγον ἰσχυρῶς ἀνακλᾶται τὸ φῶς. διὸ καὶ αἱ σκιαὶ φαίνονται μέλαιναι. ὁμοίως δὲ καὶ τὸ ὕδωρ, ὅταν τραχυνθῇ, καθάπερ ἡ τῆς θαλάττης φρίκη· διὰ γὰρ τὴν τραχύτητα τῆς ἐπιφανείας ὀλίγων τῶν αὐγῶν προσπιπτουσῶν καὶ διασπωμένου τοῦ φωτός, τὸ σκιερὸν μέλαν φαίνεται. καὶ τὸ νέφος, ὅταν ᾖ πυκνὸν ἰσχυρῶς, διὰ τοῦτο. κατὰ τὰ αὐτὰ δὲ τούτοις καὶ τὸ ὕδωρ καὶ ὁ ἀήρ, ὅταν ᾖ μὴ παντελῶς διαδῦνον τὸ φῶς. καὶ γὰρ ταῦτα εἶναι δοκεῖ μέλανα, βάθος ἔχοντα, διὰ τὸ παντελῶς ἀραιὰς ἀνακλᾶσθαι [791b] τὰς ἀκτῖνας· τὰ γὰρ μεταξὺ μόρια τοῦ φωτὸς αὐτῶν ἅπαντα εἶναι δοκεῖ μέλανα διὰ τὸ σκότος. ὅτι δὲ τὸ σκότος οὐ χρῶμα ἀλλὰ στέρησίς ἐστι φωτός, οὐ χαλεπὸν ἐξ ἄλλων τε πολλῶν καταμαθεῖν, καὶ μάλιστα ἐκ τοῦ μηδὲ αἰσθητὸν εἶναι τὸ πηλίκον καὶ ποῖόν τι τῷ σχήματι τετύχηκεν ὂν τὸ σκότος, καθάπερ ἐπὶ τῶν ἄλλων ὁρατῶν. τὸ δὲ φῶς ὅτι πυρός ἐστι χρῶμα, δῆλον ἐκ τοῦ μηδεμίαν ἄλλην ἢ ταύτην ἔχον εὑρίσκεσθαι χρόαν, καὶ διὰ τὸ μόνον τοῦτο δι’ ἑαυτοῦ ὁρατὸν γίνεσθαι, τὰ δ’ ἄλλα διὰ τούτου. ἐπισκεπτέον δὲ τοῦτο. ἔνια γὰρ οὐκ

ὄντα πῦρ οὐδὲ πυρὸς εἴδη τὴν φύσιν φῶς ποιεῖν φαίνεται. εἰ μὴ ἄρα τὸ μὲν τοῦ πυρὸς χρῶμα φῶς ἐστίν, οὐ μέντοι καὶ τὸ φῶς πυρός ἐστι χρῶμα μόνου, ἀλλ’ ἐνδέχεται μὴ μόνῳ μὲν ὑπάρχειν τῷ πυρὶ τὴν χρόαν ταύτην, εἶναι μέντοι χρῶμα τὸ φῶς αὐτοῦ. οὐδενὶ γοῦν ἄλλῳ τὴν ὅρασιν αὐτοῦ συμβαίνει γίνεσθαι πλὴν τῷ φωτί, καθάπερ καὶ τὴν τῶν ἄλλων σωμάτων ἁπάντων τῇ τοῦ σώματος φαντασίᾳ. τὸ δὲ μέλαν χρῶμα συμβαίνει γίνεσθαι, ὅταν ὁ ἀὴρ καὶ τὸ ὕδωρ ὑπὸ τοῦ πυρὸς διακαυθῇ, διὸ καὶ πάντα τὰ καόμενα μελαίνεται, καθάπερ ξύλα καὶ ἄνθρακες σβεσθέντος τοῦ πυρός, καὶ ὁ ἐκ τοῦ κεράμου καπνὸς ἐκκρινομένου τοῦ ἐνυπάρχοντος ἐν τῷ κεράμῳ ὑγροῦ καὶ καομένου. διὸ καὶ τοῦ καπνοῦ γίνεται μελάντατος ὁ ἀπὸ τῶν πιόνων καὶ λιπαρῶν, οἷον ἐλαίου καὶ πίττης καὶ δᾳδός, διὰ τὸ μάλιστα ταῦτα κάεσθαι καὶ συνέχειαν ποιεῖν. μέλανα δὲ καὶ ταῦτα γίνεται, δι’ ὅσων ῥεῖ τὸ ὕδωρ, ὅταν βρυωθέντων πρῶτον ἀναξηρανθῇ τὸ ὑγρόν, καθάπερ καὶ τὰ ἐν τοῖς τοίχοις κονιάματα. ὁμοίως δὲ καὶ οἱ [792a] καθ’ ὕδατος λίθοι· καὶ γὰρ οὗτοι βρυωθέντες, ὕστερον ἀποξηραινόμενοι τῷ χρώματι γίνονται μέλανες. τὰ μὲν οὖν ἁπλᾶ τῶν χρωμάτων ταῦτα καὶ τοσαῦτά ἐστιν.

Τὰ δ’ ἄλλα ἐκ τούτων τῇ κράσει καὶ τῷ μᾶλλον καὶ ἧττον γιγνόμενα πολλὰς καὶ ποικίλας ποιεῖ χρωμάτων φαντασίας. κατὰ μὲν τὸ μᾶλλον καὶ ἧττον, ὥσπερ τὸ φοινικοῦν καὶ τὸ ἁλουργές, κατὰ δὲ τὴν κρᾶσιν, ὥσπερ τὸ λευκὸν καὶ τὸ μέλαν, ὅταν μιχθέντα φαιοῦ ποιήσῃ φαντασίαν. διὸ τὸ μέλαν καὶ σκιερὸν τῷ φωτὶ μιγνύμενον φοινικοῦν. τὸ γὰρ μέλαν μιγνύμενον τῷ τε τοῦ ἡλίου καὶ τῷ ἀπὸ τοῦ πυρὸς φωτὶ θεωροῦμεν ἀεὶ γιγνόμενον φοινικοῦν, καὶ τὰ μέλανα πυρωθέντα πάντα εἰς χρῶμα μεταβάλλοντα φοινικοῦν· αἵ τε γὰρ καπνώδεις φλόγες καὶ οἱ ἄνθρακες, ὅταν ὦσι διακεκαυμένοι, φαίνονται χρῶμα ἔχοντες φοινικοῦν. τὸ δ’ ἁλουργὲς εὐανθὲς μὲν γίνεται καὶ λαμπρόν, ὅταν τῷ μετρίῳ λευκῷ καὶ σκιερῷ κραθῶσιν ἀσθενεῖς αἱ τοῦ ἡλίου αὐγαί. διὸ καὶ περὶ ἀνατολὰς καὶ δύσεις ὁ ἀὴρ πορφυροειδὴς ἔστιν ὅτε φαίνεται, περὶ ἀνατολὴν καὶ δύσιν ὄντος τοῦ ἡλίου· ἀσθενεῖς γὰρ οὖσαι τότε μάλιστα πρὸς σκιερὸν ὄντα τὸν ἀέρα προσβάλλουσιν. φαίνεται δὲ καὶ ἡ θάλαττα πορφυροειδής, ὅταν τὰ κύματα μετεωριζόμενα κατὰ τὴν ἔγκλισιν σκιασθῇ· πρὸς γὰρ τὸν ταύτης κλισμὸν ἀσθενεῖς αἱ τοῦ ἡλίου αὐγαὶ προσβάλλουσαι ποιοῦσι φαίνεσθαι τὸ χρῶμα ἁλουργές. ὃ καὶ ἐπὶ τῶν πτερωμάτων θεωρεῖται γιγνόμενον· ἐντεινόμενα γάρ πως πρὸς τὸ φῶς ἁλουργὲς ἔχει τὸ χρῶμα. ἐλάττονος δὲ τοῦ φωτὸς προσβάλλοντος ζοφερόν, ὃ καλοῦσιν ὄρφνιον· πολὺ δὲ καὶ τῷ πρώτῳ μέλανι κραθὲν φοινικοῦν. εὐανθὲς δ’ ὂν καὶ στίλβον εἰς τὸ φλογοειδὲς χρῶμα μεταβάλλει. κατὰ γὰρ τὴν πρὸς ἄλληλα κρᾶσιν οὕτως ληπτέον, ἐξ ὑποκειμένου τεθεωρημένου χρώματος ποιοῦντας τὴν μίξιν, ἀλλὰ μὴ πάντων ὁμοίαν γένεσιν ποιοῦντας. ἔστι γὰρ τῶν χρωμάτων οὐχ ἁπλᾶ μέν, λόγον δ’ ἔχει πρός τινα τὸν αὐτὸν τῶν συνθέτων ὅνπερ τὰ ἁπλᾶ πρὸς ἑαυτά, διὰ τὸ τὰ ἁπλᾶ πρὸς μίξιν ἑνὸς ἔχειν, [792b] καὶ μὴ εὔσημον ἐν τῷ παντί, καὶ προστεθεωρημένον κατασκευάζειν ὁμοίως. τὴν γὰρ τοῦ ἁλουργοῦ ἢ φοινικιοῦ κρᾶσιν λέγοντας ἀνάγκη ὁμοίως τοῖς ἐκ τούτων μιγνυμένοις καὶ ποιοῦσιν ἄλλην χρόαν τὴν γένεσιν διηγεῖσθαι, καὶ μὴ ὁμοίαν ἔμφασιν ποιεῖν. διόπερ ἐκ τοῦ προκατεσκευασμένου ληπτέον καὶ θεωρητέον τὴν κρᾶσιν, οἷον ὅτι τὸ οἰνωπὸν χρῶμα γίνεται, ὅταν ἀκράτῳ τῷ μέλανι καὶ στίλβοντι κραθῶσιν αὐγαὶ ἠεροειδεῖς, ὥσπερ καὶ αἱ τῶν βοτρύων ῥᾶγες· καὶ γὰρ τούτων οἰνωπὸν φαίνεται τὸ χρῶμα ἐν τῷ πεπαίνεσθαι· μελαινομένων γὰρ τὸ φοινικοῦν εἰς τὸ ἁλουργὲς μεταβάλλει. κατὰ δὲ τὸν ὑποδεδειγμένον τρόπον θεωρητέον πάσας τὰς τῶν χρωμάτων διαφοράς, ἐκ κινήσεως τὴν ὁμοιότητα λαμβάνοντας κατ’ αὐτὸ τὸ φαινόμενον, τὴν ἐν ἑκάστῳ μίξιν ὁμοιοῦντας καὶ ἐπὶ τῶν κατὰ μέρος ἐν γενέσει τινὶ καὶ κράσει ποιούντων φαντασίαν, καὶ πίστιν προσφερομένους. δεῖ δὲ καὶ πάντων τούτων ποιεῖσθαι τὴν θεωρίαν μὴ καθάπερ οἱ ζωγράφοι τὰ χρώματα ταῦτα κεραννύντας, ἀλλ’ ἀπὸ τῶν εἰρημένων τὰς ἀνακλωμένας αὐγὰς πρὸς ἀλλήλας συμβάλλοντας· μάλιστα γὰρ δύναιτ’ ἄν τις κατὰ φύσιν θεωρῆσαι τὰς τῶν χρωμάτων κράσεις. τὰς δὲ πίστεις καὶ τὰ ὅμοια δεῖ ἐν οἷς ἡ γένεσις ἔσται φανερὰ τῶν χρωμάτων. ταῦτα δὲ μάλιστά ἐστι τό τ’ ἀπὸ τοῦ ἡλίου φῶς καὶ τὸ ἀπὸ τοῦ πυρὸς καὶ ὁ ἀὴρ καὶ τὸ ὕδωρ· κεραννύμενα γὰρ τῷ μᾶλλον καὶ ἧττον ταῦτα μάλιστα πάσας ὡς εἰπεῖν τὰς χρόας ἀποτελεῖ. ἐπιληπτέον δὲ καὶ ἀπὸ τῶν ἄλλων χρωμάτων ταῖς αὐγαῖς κεραννυμένων τὴν ὁμοιότητα· οἱ γὰρ ἄνθρακες καὶ ὁ καπνὸς καὶ ὁ ἰὸς καὶ τὸ θεῖον καὶ τὰ πτερώματα κεραννύμενα τὰ μὲν ταῖς τοῦ ἡλίου αὐγαῖς, τὰ δὲ ταῖς τοῦ πυρός, πολλὰς καὶ ποικίλας ποιοῦσι μεταβολὰς χρωμάτων. τὰ δὲ καὶ τῇ πέψει θεωρητέον, γινόμενα ἐν φυτοῖς καὶ καρποῖς καὶ τριχώμασι καὶ πτερώμασι καὶ τοῖς τοιούτοις πᾶσιν.

Δεῖ δὲ μὴ λανθάνειν τὸ πολυειδὲς καὶ τὸ ἄπειρον τῶν χρωμάτων, διὰ πόσα συμβαίνει γίνεσθαι. εὑρήσομεν γὰρ [793a] ἤτοι διὰ τὸ τῷ φωτὶ καὶ ταῖς σκιαῖς ἀνίσως καὶ ἀνωμάλως λαμβάνεσθαι· καὶ γὰρ αἱ σκιαὶ καὶ τὸ φῶς κατὰ τὸ μᾶλλον καὶ ἧττον πολὺ διαφέρουσιν αὑτῶν, ὥστε καὶ καθ’ αὑτὰς καὶ μετὰ τῶν χρωμάτων μιγνύμεναι ποιοῦσι μεταβολὰς χρωμάτων, ἢ τῷ τὰ κεραννύμενα τῷ πλήθει καὶ ταῖς δυνάμεσι διαφέρειν, ἢ τῷ λόγους ἔχειν μὴ τοὺς αὐτούς. πολλὰς γὰρ καὶ τὸ ἁλουργὲς ἔχει διαφορὰς καὶ τὸ φοινικιοῦν καὶ τὸ λευκὸν καὶ τῶν ἄλλων ἕκαστον καὶ κατὰ τὸ μᾶλλον καὶ ἧττον καὶ κατὰ τὴν πρὸς ἄλληλα μίξιν καὶ εἰλικρίνειαν αὐτῶν. ποιεῖ δὲ διαφορὰν καὶ τὸ λαμπρὸν ἢ στίλβον εἶναι τὸ μιγνύμενον ἢ τοὐναντίον αὐχμηρὸν καὶ ἀλαμπές. ἔστι δὲ τὸ στίλβον οὐκ ἄλλο τι ἢ συνέχεια φωτὸς καὶ πυκνότης. τὸ γὰρ χρυσοειδὲς γίνεται, ὅταν τὸ ξανθὸν καὶ τὸ ἡλιῶδες πυκνωθὲν ἰσχυρῶς στίλβῃ. διὸ καὶ οἱ τῶν περιστερῶν τράχηλοι καὶ τῶν ὑδάτων οἱ σταλαγμοὶ φαίνονται χρυσοειδεῖς τοῦ φωτὸς ἀνακλωμένου. ἔστι δὲ ἃ λειούμενα τρίψει καὶ δυνάμεσί τισιν ἀλλοίας ἴσχει καὶ ποικίλας χρόας, ὥσπερ καὶ ὁ ἄργυρος παρατριβόμενος καὶ χρυσὸς καὶ χαλκὸς καὶ σίδηρος. καί τινα γένη λίθων διαφόρους ποιεῖ χρόας, καθάπερ καὶ ... μέλαιναι γὰρ οὖσαι λευκὰς γράφουσι γραμμάς, διὰ τὸ πάντων τῶν τοιούτων τὰς μὲν ἐξ ἀρχῆς συστάσεις ἐκ μικρῶν εἶναι μορίων καὶ πυκνῶν καὶ μελάνων, ὑπὸ δὲ τῆς ἐν τῇ γενέσει βαφῆς ἁπάντων τῶν πόρων κεχρωσμένων δι’ ὧν διελήλυθεν αὐτῶν ἡ βαφή, ἄλλην ἐσχηκέναι τὴν τοῦ χρώματος φαντασίαν. ὁ δ’ ἀποτριβόμενος ἀπ’ αὐτῶν οὐκέτι γίνεται χρυσοειδὴς οὐδὲ χαλκοειδὴς οὐδ’ ἄλλην οὐδεμίαν τοιαύτην ἔχων χροιάν, ἀλλὰ πάντως μέλας, διὰ τὸ τοὺς μὲν πόρους παρατριβομένων αὐτῶν ἀναρρήγνυσθαι, δι’ ὧν ἡ βαφὴ διελήλυθε, φύσει δὲ καὶ τῶν αὐτῶν εἶναι. τοῦ γὰρ προτέρου χρώματος οὐκέτι ὄντος ἡμῖν φανεροῦ παρὰ τὸ διασπᾶσθαι τὴν βαφήν, τὸ κατὰ φύσιν ὑπάρχον αὐτοῖς χρῶμα ὁρῶμεν· διὸ καὶ πάντα φαίνεται μέλανα. ἐν δὲ τῷ παρατρίβεσθαι πρὸς ὁμαλὲς καὶ λεῖον ἕκαστον τούτων, καθάπερ καὶ πρὸς τὰς [793b] βασάνους, ἀποβάλλοντα ἀπολαμβάνει πάλιν τὴν χρόαν ἐν τῇ συνάψει καὶ συνεχείᾳ, τὸ τῆς βαφῆς διαφαινόμενον. ἐπὶ δὲ τῶν καυστῶν καὶ διαλυομένων καὶ τηκομένων ἐν τῷ πυρὶ ταῦτα πλείστας ἔχει χρόας, ὅσων ὁ καπνός ἐστι λεπτὸς καὶ ἀεροειδὴς καὶ τὰ χρώματα σκιώδη, ὥσπερ ὅ τε ἀπὸ τοῦ θείου καὶ τῶν ἰωμένων χαλκείων, καὶ ὅσα ἐστὶ πυκνὰ καὶ λεῖα, καθάπερ ὁ ἄργυρος. ἐπὶ δὲ τῶν ἄλλων ὅσα σκιώδεις ἔχει τὰς χρόας καὶ λειότητος μετέχει, ὥσπερ τὸ ὕδωρ καὶ τὰ νέφη καὶ τὰ πτερώματα τῶν ὀρνίθων· καὶ γὰρ ταῦτα διά τε τὴν λειότητα καὶ τὰς προσπιπτούσας αὐγάς, ἄλλοτε ἄλλως κεραννυμένας, ποιεῖ διαφόρους τὰς χρόας, καθάπερ καὶ τὸ σκότος. τῶν δὲ χρωμάτων οὐδὲν ὁρῶμεν εἰλικρινὲς οἷόν ἐστιν, ἀλλὰ πάντα κεκραμένα ἐν ἑτέροις· καὶ γὰρ ἂν μηδενὶ τῶν ἄλλων, ταῖς γε τοῦ φωτὸς αὐγαῖς καὶ ταῖς σκιαῖς κεραννύμενα ἀλλοῖα, καὶ οὐχ οἷά ἐστι, φαίνεται. διὸ καὶ τὰ ἐν σκιᾷ θεωρούμενα καὶ ἐν φωτὶ καὶ ἡλίῳ, καὶ σκληρᾷ αὐγῇ ἢ μαλακῇ, καὶ κατὰ τὰς ἐγκλίσεις οὕτως ἢ οὕτως ἔχοντι, καὶ κατὰ τὰς ἄλλας διαφοράς, ἀλλοῖα φαίνεται. καὶ ταῖς πρὸς τῷ πυρὶ καὶ τῇ σελήνῃ, καὶ ταῖς τῶν λύχνων αὐγαῖς, διὸ καὶ τὸ φῶς ἑκάστου τούτων ἀλλοιοτέραν ἔχει χρόαν. καὶ τῇ πρὸς ἄλληλα δὲ μίξει τῶν χρωμάτων·

δι’ ἀλλήλων γὰρ φερόμενα χρώζεται. τὸ γὰρ φῶς ὅταν προσπεσὸν ὑπό τινων χρωσθῇ, καὶ γένηται φοινικιοῦν ἢ ποῶδες, καὶ τὸ ἀνακλασθὲν προσπέσῃ πρὸς ἕτερόν τι χρῶμα, πάλιν ὑπ’ ἐκείνου κεραννύμενον ἄλλην τινὰ λαμβάνει τοῦ χρώματος κρᾶσιν. καὶ τοῦτο πάσχον συνεχῶς μὲν οὐκ αἰσθητῶς δὲ ἐνίοτε παραγίνεται πρὸς τὰς ὄψεις ἐκ πολλῶν μὲν κεκραμένον χρωμάτων, ἑνὸς δέ τινος τῶν μάλιστα ἐπικρατούντων ποιοῦν τὴν αἴσθησιν. διὸ καὶ καθ’ ὕδατος ὑδατοειδῆ μᾶλλον φαίνεται, καὶ τὰ ἐν τοῖς κατόπτροις ὁμοίας ἔχοντα χρόας ταῖς τῶν κατόπτρων. ὃ καὶ περὶ τὸν ἀέρα οἰητέον συμβαίνειν. ὥστε ἐκ τριῶν εἶναι τὰς χρόας ἁπάσας μεμιγμένας, τοῦ φωτός, καὶ δι’ ὧν φαίνεται τὸ φῶς, οἷον τοῦ τε ὕδατος [794a] καὶ τοῦ ἀέρος, καὶ τρίτου τῶν ὑποκειμένων χρωμάτων, ἀφ’ ὧν ἀνακλᾶσθαι συμβαίνει τὸ φῶς. τὸ δὲ λευκὸν καὶ διαφανὲς ὅταν μὲν ἀραιὸν ᾖ σφόδρα, φαίνεται τῷ χρώματι ἀεροειδές· ἐπὶ δὲ τῶν πυκνῶν ἐπὶ πάντων ἐπιφαίνεταί τις ἀχλύς, καθάπερ ἐπὶ τοῦ ὕδατος καὶ ὑάλου καὶ τοῦ ἀέρος, ὅταν ᾖ παχύς. τῶν γὰρ αὐγῶν διὰ τὴν πυκνότητα πανταχόθεν ἐκλειπουσῶν, οὐ δυνάμεθα τὰ ἐντὸς αὐτῶν ἀκριβῶς διορᾶν. ὁ δ’ ἀὴρ ἐγγύθεν μὲν θεωρούμενος οὐδὲν ἔχειν φαίνεται χρῶμα (διὰ γὰρ τὴν ἀραιότητα ὑπὸ τῶν αὐγῶν κρατεῖται, χωριζόμενος ὑπ’ αὐτῶν πυκνοτέρων οὐσῶν καὶ διαφαινομένων δι’ αὐτοῦ), ἐν βάθει δὲ θεωρουμένου, ἐγγυτάτω φαίνεται τῷ χρώματι κυανοειδὴς διὰ τὴν ἀραιότητα. ᾗ γὰρ λείπει τὸ φῶς, ταύτῃ σκότῳ διειλημμένος φαίνεται κυανοειδής. ἐπιπυκνωθεὶς δέ, καθάπερ καὶ τὸ ὕδωρ, πάντων λευκότατόν ἐστιν.

Τὰ δὲ βαπτόμενα πάντα τὰς χρόας ἀπὸ τῶν βαπτόντων λαμβάνει. πολλὰ μὲν γὰρ τοῖς ἄνθεσι βάπτεται τοῖς φυομένοις, πολλὰ δὲ ῥίζαις, πολλὰ δὲ φλοιοῖς ἢ ξύλοις ἢ φύλλοις ἢ καρποῖς. ἔτι δὲ πολλὰ μὲν γῇ, πολλὰ δ’ ἀφρῷ, πολλὰ δὲ καὶ μελαντηρίᾳ. τὰ δὲ καὶ τοῖς τῶν ζῴων χυλοῖς, καθάπερ καὶ τὸ ἁλουργὲς τῇ πορφύρᾳ. τὰ δὲ οἴνῳ, τὰ δὲ καπνῷ, τὰ δὲ κονίᾳ, τὰ δὲ θαλάττῃ, ὥσπερ τὰ τριχώματα τῶν θαλαττίων· καὶ γὰρ ταῦτα πάντα ὑπὸ τῆς θαλάττης γίγνονται πυρρά. καὶ ὅλως ὅσα χρόας ἰδίας ἔχει. ἀεὶ γὰρ ἀπὸ πάντων αὐτῶν, ἅμα τῷ τε ὑγρῷ καὶ θερμῷ τῶν χρωμάτων συνεισιόντων εἰς τοὺς τῶν βαπτομένων πόρους, ὅταν ἀποξηρανθῇ, τὰς ἀπ’ ἐκείνων χρόας λαμβάνει. διὸ καὶ πολλάκις αὐτῶν ἐκπλύνεται, τῶν ἀνθῶν ἐκ τῶν πόρων ἐκρυέντων. πολλὰς δὲ καὶ αἱ στύψεις ἐν τῇ βαφῇ ποιοῦσι διαφορὰς καὶ μίξεις, καὶ τὰ πάθη τῶν βαπτομένων, ὥσπερ καὶ ἐπὶ τῆς κράσεως εἴρηται πρότερον. βάπτεται δὲ καὶ τὰ μέλανα τῶν ἐρίων, οὐ μὴν ὁμοίως γε τῷ χρώματι γίγνεται λαμπρά, διὰ τὸ βάπτεσθαι τοὺς πόρους αὐτῶν εἰς τοὺς τῶν ἀνθῶν εἰσιόντας, τὰ δὲ μεταξὺ [794b] διαστήματα τῆς τριχὸς μηδεμίαν λαμβάνειν βαφήν.

ταῦτα λευκὰ μὲν ὄντα, καὶ παρ’ ἄλληλα κείμενα τοῖς χρώμασι, ποιεῖ πάντα φαίνεσθαι τὰ ἄνθη λαμπρότερα· τὰ μέλανα δὲ τοὐναντίον σκιερὰ καὶ ζοφώδη. διὸ καὶ τὸ καλούμενον ὄρφνιον εὐανθέστερον γίνεται τῶν μελάνων ἢ τῶν λευκῶν· οὕτω γὰρ ἀκρατέστερον αὐτῶν φαίνεται τὸ ἄνθος, κεραννύμενον ταῖς τοῦ μέλανος αὐγαῖς. καθ’ αὑτὸ μὲν γὰρ τὸ μεταξὺ διάστημα τῶν πόρων οὐχ ὁρᾶται διὰ σμικρότητα, καθάπερ οὐδὲ καττίτερος τῷ χαλκῷ κραθείς, οὐδὲ τῶν ἄλλων οὐθὲν τῶν τοιούτων. τῶν δὲ βαπτομένων τὰ χρώματα ἀλλοιοῦται διὰ τὰς εἰρημένας αἰτίας.

Τὰ δὲ τριχώματα καὶ τὰ πτερώματα καὶ τὰ ἄνθη καὶ οἱ καρποὶ καὶ τὰ φυτὰ πάντα ὅτι μὲν ἅμα τῇ πέψει πάσας τὰς τῶν χρωμάτων λαμβάνει μεταβολάς, φανερὸν ἐκ πολλῶν· τίνες δέ εἰσιν ἑκάστοις τῶν φυομένων ἀρχαὶ τῶν χρωμάτων, καὶ ποίας τὰς μεταβολὰς ἐκ ποίων λαμβάνουσι, καὶ δι’ ἃς αἰτίας ταῦτα πάσχει, κἂν εἴ τινας ἄλλας ἀπορίας αὐτοῖς συμβαίνει παρακολουθεῖν, περὶ πάντων τούτων ἐπισκεπτέον ἐκ τῶν τοιούτων. ἐν πᾶσι δὴ τοῖς φυτοῖς ἀρχὴ τὸ ποῶδές ἐστι τῶν χρωμάτων· καὶ γὰρ οἱ βλαστοὶ καὶ τὰ φύλλα καὶ οἱ καρποὶ γίνονται κατ’ ἀρχὰς ποώδεις. ἴδοι δ’ ἄν τις τοῦτο καὶ ἐπὶ τῶν ὑομένων ὑδάτων· ὅπου ἂν πλείονα χρόνον συστῇ τὸ ὕδωρ, πάλιν ἀποξηραινόμενον γίνεται τῷ χρώματι ποῶδες. κατὰ λόγον δὲ συμβαίνει καὶ τὸ πρῶτον ἐν πᾶσι τοῖς φυομένοις τοῦτο συνίστασθαι τῶν χρωμάτων. τὰ γὰρ ὕδατα πάντα χρονιζόμενα κατ’ ἀρχὰς μὲν γίνεται χλωρά, κεραννύμενα ταῖς τοῦ ἡλίου αὐγαῖς, κατὰ μικρὸν δὲ μελαινόμενα, πάλιν μιγνύμενα τῷ χλωρῷ, γίνεται ποώδη. τὸ γὰρ ὑγρόν, ὥσπερ εἴρηται, καθ’ ἑαυτὸ παλαιούμενον καὶ καταξηραινόμενον μελαίνεται, καθάπερ καὶ τὰ ἐν ταῖς δεξαμεναῖς κονιάματα· καὶ γὰρ τούτων ὅσα μέν ἐστιν ἀεὶ καθ’ ὕδατος, ταῦτα μὲν ἅπαντα γίγνεται μέλανα διὰ τὸ καθ’ αὑτὰ μὴ ξηραίνεσθαι διαψυχόμενον τὸ ὑγρόν, ὅσον δ’ [795a] ἀπαντλούμενον ἡλιοῦται, τὸ μὲν ποῶδες γίνεται διὰ τὸ τὸ ξανθὸν τῷ μέλανι κεράννυσθαι. μᾶλλον μὲν οὖν τοῦ ὑγροῦ μελαινομένου τὸ ποῶδες γίνεται κατακορὲς ἰσχυρῶς καὶ πρασοειδές. διὸ καὶ πάντων οἱ παλαιοὶ βλαστοὶ πολὺ μᾶλλόν εἰσι τῶν νέων μέλανες· οἱ δὲ ξανθότεροι διὰ τὸ μήπω τὸ ὑγρὸν ἐν αὐτοῖς μελαίνεσθαι. τῆς γὰρ αὐξήσεως αὐτῶν βραδυτέρας γιγνομένης, καὶ τῆς ὑγρασίας πολὺν χρόνον ἐμμενούσης, διὰ τὸ ψυχόμενον ἰσχυρῶς μελαίνεσθαι τὸ ὑγρόν, γίνεται πρασοειδὲς ἀκράτῳ τῷ μέλανι κεραννύμενον. ἐν ὅσοις δὲ τὸ ὑγρὸν μὴ μίγνυται ταῖς τοῦ ἡλίου αὐγαῖς, τούτων διαμένει τὸ χρῶμα λευκόν, ἐὰν μὴ χρονιζόμενον καὶ καταξηραινόμενον μελανθῇ πρότερον. διὸ καὶ τὰ μὲν ὑπὲρ γῆς χλωρὰ πάντων τῶν φυομένων τὸ πρῶτόν ἐστι, τὰ δὲ κατὰ γῆς, καυλοὶ καὶ ῥίζαι λευκαί. καὶ οἱ βλαστοὶ κατὰ γῆς μὲν ὄντες εἰσὶ λευκοί, περιαιρεθείσης δὲ τῆς γῆς τὸ μὲν ἐξ ἀρχῆς, ὡς προείρηται, πάντες γίγνονται ποιώδεις διὰ τὸ καὶ τὴν ὑγρασίαν τὴν διὰ τῶν βλαστῶν εἰς αὐτοὺς διηθουμένην τοιαύτην ἔχειν τὴν τοῦ χρώματος φύσιν, καὶ ταχέως αὐτὴν εἰς τὴν αὔξησιν καταναλίσκεσθαι τὴν τῶν καρπῶν· ὅταν δὲ μηκέτι αὐξάνωνται διὰ τὸ μὴ κρατεῖν ἤδη τὸ θερμὸν τῆς ἐπιρρεούσης τροφῆς, ἀλλὰ καὶ τοὐναντίον ἀναλύηται τὸ ὑγρὸν ὑπὸ τῆς θερμότητος. ὅταν δὲ πεπαίνωνται οἱ καρποὶ πάντες, καὶ τῆς ὑπαρχούσης ἐν αὐτοῖς ὑγρασίας συνεψομένης ὑπό τε τοῦ ἡλίου καὶ τῆς τοῦ ἀέρος θερμότητος ἕκαστοι ἀπολαμβάνουσι τὰς ἀπὸ τῶν φυτῶν χρόας, καθάπερ καὶ τὰ βαπτόμενα τῶν ἀνθῶν. διὸ κατὰ μικρὸν χρώζονται, καὶ μάλιστα αὐτῶν τὰ πρὸς τὸν ἥλιον ἐστραμμένα καὶ τὴν ἀλέαν. ὥστε καὶ τὰς χρόας αὐτῶν ἅμα ταῖς ὥραις ἁπάντων μεταβάλλειν. φανερὸν δὲ τοῦτο ἐστίν· οἱ γὰρ τοῦ ποώδους χρώματος ἅπαντες ἤδη πεπαινόμενοι μεταβάλλουσιν εἰς τὸ κατὰ φύσιν χρῶμα. καὶ γὰρ λευκοὶ καὶ μέλανες καὶ φαιοὶ καὶ ξανθοὶ καὶ μελανοειδεῖς καὶ σκιοειδεῖς καὶ [795b] φοινικιοῖ καὶ οἰνωποὶ καὶ κροκοειδεῖς καὶ σχεδὸν ἁπάσας ἔχοντες γίγνονται τὰς τῶν χρωμάτων διαφοράς. ἐπεὶ δὲ τὰ πλεῖστα γίνεται τῶν χρωμάτων πλειόνων κεραννυμένων ἀλλήλοις, φανερὸν ὅτι καὶ τὰς ἐν τοῖς φυτοῖς χρόας ἀνάγκη τὰς αὐτὰς ἔχειν κράσεις· διὰ γὰρ τούτων τὸ ὑγρὸν διηθούμενον, καὶ μεθ’ ἑαυτοῦ συνεκκλύζον, ἁπάσας λαμβάνει τὰς τῶν χρωμάτων δυνάμεις. καὶ τούτου συνεψομένου περὶ τὰς τῶν καρπῶν πέψεις ὑπό τε τοῦ ἡλίου καὶ τῆς τοῦ ἀέρος θερμότητος, ἕκαστα καθ’ ἑαυτὰ συνίσταται τῶν χρωμάτων, τὰ μὲν θᾶττον τὰ δὲ βραδύτερον, καθάπερ συμβαίνει καὶ περὶ τὴν βαφὴν τὴν τῆς πορφύρας. καὶ γὰρ ταύτην ὅταν κόψαντες ἅπασαν ἐξ αὐτῆς τὴν ὑγρασίαν ἐκκλύσωσι, καὶ ταύτην ἐγχέαντες ἕψωσιν ἐν ταῖς χύτραις, τὸ μὲν πρῶτον οὐδὲν ὅλως ἐν τῇ βαφῇ τῶν χρωμάτων φανερόν ἐστι διὰ τὸ κατὰ μικρὸν ἕκαστον αὐτῶν τοῦ ὑγροῦ συνεψομένου μᾶλλον καὶ τῶν ἔτι ὑπαρχόντων ἐν αὐτοῖς χρωμάτων μιγνυμένων ἀλλήλοις πολλὰς καὶ ποικίλας λαμβάνειν διαφοράς· καὶ γὰρ μέλαν καὶ λευκὸν καὶ ὄρφνιον καὶ ἀεροειδὲς καὶ τότε ἅπαν γίνεται συνεψηθέντων, ὥστε διὰ τὴν κρᾶσιν μηκέτι καθ’ αὑτὸ μηδὲν τῶν ἄλλων χρωμάτων φανερὸν εἶναι. τὸ δ’ αὐτὸ τοῦτο συμβαίνει καὶ ἐπὶ τῶν καρπῶν. ἐν πολλοῖς γὰρ διὰ τὸ μὴ πάσας ἅμα γίνεσθαι τὰς τῶν χρωμάτων πέψεις, ἀλλὰ τὰ μὲν αὐτῶν συνίστασθαι πρότερον τὰ δ’ ὕστερον, ἐξ ἑτέρων εἰς ἕτερα μεταβάλλουσιν, ὥσπερ καὶ οἱ βότρυες καὶ οἱ φοίνικες. καὶ γὰρ τούτων ἔνιοι τὸ μὲν πρῶτον γίνονται φοινικοῖ, τοῦ δὲ μέλανος ἐν αὐτῷ συνισταμένου μεταβάλλουσι πάλιν εἰς τὸ οἰνωπόν· τὸ δὲ τελευταῖον γίνονται κυανοειδεῖς, ὅταν ἤδη καὶ τὸ φοινικιοῦν πολλῷ καὶ ἀκράτῳ τῷ μέλανι μιχθῇ. τὰ γὰρ ὕστερον ἐπιγινόμενα τῶν χρωμάτων, ὅταν κρατήσῃ, τὰς προτέρας χρόας ἐξαλλάττει. μάλιστα δὲ τοῦτο ἐπὶ τῶν μελάνων καρπῶν φανερόν ἐστιν· σχεδὸν γὰρ αὐτῶν οἱ πλεῖστοι, καθάπερ [796a] εἴρηται, κατ' ἀρχὰς μὲν ἐκ τοῦ ποώδους μεταβάλλοντες μικρὸν ἐπιφοινικίζουσι καὶ γίνονται πυρροί, ταχὺ δὲ μεθίστανται πάλιν ἐκ τοῦ πυρροῦ καὶ ἀκράτου τοῦ μέλανος ἐν τοῖς τοιούτοις ἐνυπάρχοντος. δηλοῖ δέ· καὶ γὰρ τὰ κλήματα καὶ τὰ ἔρια καὶ τὰ φύλλα πάντων ἐστὶ τῶν τοιούτων μέλανα διὰ τὸ πλείστην ἐν αὐτοῖς ὑπάρχειν τὴν τοιαύτην χρόαν, ἐπεὶ διότι γε τῶν καρπῶν οἱ μέλανες ἀμφοτέρων τῶν χρωμάτων μετέχουσι, φανερόν ἐστιν· πάντων γὰρ ὁ χυλὸς γίνεται τῶν τοιούτων οἰνωπός. τὰ δὲ χρώματα ἐν τῇ γενέσει προτερεῖ τὰ φοινικιᾶ τῶν μελάνων. δηλοῖ δέ· καὶ γὰρ τὰ ὑπὸ τοὺς σταλαγμοὺς ἐδάφη, καὶ ὅλως ὅπου συμβαίνει γίνεσθαι μετρία ὑδάτων ἔκρυσις ἐν τόποις σκιεροῖς, ἅπαντα μεταβάλλει πρῶτον ἐκ τοῦ ποώδους εἰς τὸ φοινικιοῦν χρῶμα, καὶ γίνεται τὸ ἔδαφος ὡς ἂν αἵματος ἀρτίως ἐπεσφαγμένου κατὰ τὸν τόπον τοῦτον, καθ' ὃν ἂν λάβῃ τὸ ποῶδες τῶν χρωμάτων τὴν πέψιν· τὸ δὲ τελευταῖον καὶ τοῦτο μέλαν ἰσχυρῶς γίνεται καὶ κυανοειδές. ὅπερ συμβαίνει καὶ ἐπὶ τῶν καρπῶν. ὅτι δὲ χρωμάτων ὕστερον ἐπιγινομένων, ὅταν κρατῆται τὰ πρότερον, τὸ χρῶμα τῶν καρπῶν μεταβάλλει, καὶ διὰ τῶν τοιούτων ῥᾴδιον συνιδεῖν. καὶ γὰρ τῆς ῥοιᾶς ὁ καρπὸς καὶ τὰ τῶν ῥόδων φύλλα κατ' ἀρχὰς μὲν γίνεται λευκά, τὸ δὲ τελευταῖον ἤδη χρωζομένων ἐν αὐτοῖς τῶν χυλῶν ὑπὸ τῆς πέψεως ἀποχραίνεται, καὶ μεταβάλλει πάλιν εἰς τὸ τοῦ ἁλουργοῦ χρῶμα καὶ τὸ φοινικιοῦν. τὰ δὲ καὶ πλείους ἐπ' αὐτοῖς ἔχει χρόας, καθάπερ καὶ ἐπὶ τῆς μήκωνος ὁ ὀπὸς καὶ τῆς ἐλαίας ὁ ἀμόργης· καὶ γὰρ οὗτος τὸ μὲν πρῶτον γίνεται λευκός, καθάπερ καὶ ὁ τῆς ῥοιᾶς καρπός, λευκανθεὶς δὲ πάλιν εἰς τὸ φοινικιοῦν μεταβάλλει χρῶμα, τὸ δὲ τελευταῖον πολλῷ τῷ μέλανι κραθεὶς γίνεται κυανοειδής. διὸ καὶ τὰ τῆς μήκωνος φύλλα τὰ μὲν ἄνω ἔχει φοινικιοῦντα παρὰ τὸ γίνεσθαι ταχεῖαν αὐτῶν τὴν ἔκπεψιν, τὰ δὲ πρὸς ταῖς ἀρχαῖς μέλανα, ἤδη τούτου τοῦ [796b] χρώματος ἐν αὐτοῖς ἐπικρατοῦντος, ὥσπερ καὶ ἐπὶ τοῦ καρποῦ· καὶ γὰρ τὸ τελευταῖον γίνεται μέλας. ἐν ὅσοις δ' ὑπάρχει τῶν φυτῶν ἓν χρῶμα μόνον, οἷον τὸ λευκὸν ἢ τὸ μέλαν ἢ τὸ φοινικιοῦν ἢ τὸ ἁλουργές, τούτων δὲ πάντων οἱ καρποὶ διαμένουσιν ἀεὶ τὴν αὐτὴν ἔχοντες τοῦ χρώματος φύσιν, ὅταν ἅπαξ ἐκ τοῦ ποώδους εἰς ἄλλην χρόαν μεταβάλλωσιν. τὰ δ' ἄνθη τοῖς καρποῖς ἐπ' ἐνίων μὲν ὁμόχροα συμβαίνει γίνεσθαι, καθάπερ ἔχει καὶ ἐπὶ τῆς ῥοιᾶς· καὶ γὰρ ὁ καρπὸς αὐτῆς γίνεται φοινικιοῦς καὶ τὸ ἄνθος· ἐπ' ἐνίων δὲ πολὺ τῷ χρώματι διαφέρει, οἷον ἐπί τε τῆς δάφνης καὶ τοῦ κιττοῦ· τὸ μὲν γὰρ ἄνθος ἐστὶν αὐτῶν ἁπάντων ξανθόν, ὁ δὲ καρπὸς τῶν μὲν μέλας τῶν δὲ φοινικιοῦς. ὁμοίως δ’ ἔχει καὶ ἐπὶ τῆς μηλέας· καὶ γὰρ ταύτης τὸ μὲν ἄνθος ἐστὶ λευκὸν ἐπιπορφυρίζον, ὁ δὲ καρπὸς ξανθός. τῆς δὲ μήκωνος τὸ μὲν ἄνθος φοινικιοῦν, ὁ δὲ καρπὸς ὁ μὲν μέλας ὁ δὲ λευκός, παρὰ τὸ καὶ τὰς πέψεις τῶν ἐνυπαρχόντων ἐν αὐτοῖς χυλῶν κατ’ ἄλλους γίνεσθαι χρόνους. ῥᾴδιον δὲ τοῦτο ἐκ πολλῶν συνιδεῖν· καὶ γὰρ τῶν καρπῶν ἔνιοι, καθάπερ εἴρηται, πολλὰς διαφορὰς ἅμα τῇ πέψει λαμβάνουσιν. διὸ καὶ τὰς ὀσμὰς καὶ τοὺς χυλοὺς πολὺ διαφόρους συμβαίνει τοῖς ἄνθεσι καὶ τοῖς καρποῖς συνακολουθεῖν. ἔτι δὲ μᾶλλον τοῦτό ἐστιν ἐπ’ αὐτῶν τῶν ἀνθῶν φανερόν· τοῦ γὰρ αὐτοῦ φύλλου τὸ μέν ἐστι μέλαν τὸ δὲ φοινικιοῦν, ἐνίων δὲ τὸ μέν τι λευκὸν τὸ δὲ πορφυροειδές. οὐχ ἥκιστα δὲ τοῦτο φανερόν ἐστιν ἐπὶ τῆς ἴριδος· πολλὰς γὰρ ἔχει καὶ τοῦτο τὸ ἄνθος ἐν αὐτῷ ποικιλίας παρὰ τὰς τῆς πέψεως διαφοράς, ὥσπερ καὶ τῶν βοτρύων, ὅταν ἤδη πεπαινόμενοι τυγχάνωσιν. διὸ καὶ πάντων μάλιστα συμβαίνει πέττεσθαι τῶν ἀνθῶν τὰ ἄκρα, τὰ δὲ πρὸς ταῖς ἀρχαῖς ἀχρούστερα γίνεται πολλῷ. σχεδὸν γὰρ ἐνίων ὥσπερ ἐκκάεται τὸ ὑγρὸν πρότερον ἢ λαβεῖν τὴν οἰκείαν πέψιν. διὸ καὶ τὰ μὲν ἄνθη τῷ χρώματι διαμένει, οἱ δὲ καρποὶ πεττόμενοι μεταβάλλουσιν· τὰ μὲν γὰρ διὰ [797a] μικρότητα τῆς τροφῆς ταχέως ἐκπέττεται, οἱ δὲ καρποὶ διὰ τὸ πλῆθος τῆς ὑγρασίας εἰς πάσας ἅμα τῇ πέψει τὰς κατὰ φύσιν χρόας μεταβάλλουσιν. φανερὸν δὲ τοῦτο ἐστί, καθάπερ εἴρηται πρότερον, καὶ ἐπὶ τῶν βαπτομένων ἀνθῶν. τὰ μὲν γὰρ ἐξ ἀρχῆς, ὅταν βάπτοντες τὴν πορφύραν καθιῶσι τὰς αἱματίδας, ὄρφνιαι γίνονται καὶ μέλαιναι καὶ ἀεροειδεῖς· τοῦ δ’ ἄνθους συνεψηθέντος ἱκανῶς ἁλουργὲς γίνεται εὐανθὲς καὶ λαμπρόν. ὥστ’ ἀνάγκη καὶ τῶν ἀνθῶν ὁμοίως πολλὰ τοῖς χρώμασι τῶν καρπῶν διαλλάττειν, καὶ τὰ μὲν ὑπερβαίνειν τὰ δὲ ἀπολείπειν τῶν κατὰ φύσιν χρωμάτων, διὰ τὸ τῶν μὲν ἀτελῆ τῶν δὲ τελείαν γίνεσθαι τὴν πέψιν. τὰ μὲν οὖν ἄνθη καὶ τοὺς καρποὺς διὰ ταύτας τὰς αἰτίας συμβαίνει τοῖς χρώμασιν ἀλλήλων διαφέρειν· τὰ δὲ φύλλα τῶν πλείστων δένδρων τὸ τελευταῖον γίνεται ξανθὰ διὰ τὸ τῆς τροφῆς ὑπολειπούσης φθάνειν αὐτὰ καταξηραινόμενα πρότερον ἢ μεταβάλλειν εἰς τὸ κατὰ φύσιν χρῶμα, ἐπεὶ καὶ τῶν ἀπορρεόντων καρπῶν ἔνιοι γίνονται τῷ χρώματι ξανθοὶ διὰ τὸ καὶ τούτων τῆς πέψεως πρότερον τὴν τροφὴν ὑπολείπειν. ἔτι δὲ ὅ τε σῖτος καὶ τὰ φυόμενα πάντα· καὶ γὰρ ταῦτα τὸ τελευταῖον γίνεται ξανθά. τὸ γὰρ ὑγρὸν ἐν αὐτοῖς οὐκέτι μελαινόμενον διὰ τὸ καταξηραίνεσθαι ταχέως ποιεῖ τὴν τοῦ χρώματος μεταβολήν. μελαινόμενον γὰρ καὶ τῷ χλωρῷ κεραννύμενον γίνεται, καθάπερ εἴρηται, ποῶδες· ἀσθενεστέρου δὲ τοῦ μέλανος ἀεὶ γινομένου, πάλιν κατὰ μικρὸν εἰς τὸ χλωρὸν μεταβάλλει χρῶμα, καὶ τὸ τελευταῖον γίνεται ξανθόν, ἐπεὶ τά γε τῆς ἀπίου φύλλα καὶ τῆς ἀνδράχνης καί τινων ἄλλων πεττόμενα γίνεται φοινικιᾶ. πλὴν ὅσα καὶ τούτων καταξηραίνεται ταχέως, ταῦτα γίνεται ξανθὰ διὰ τὸ τούτων πρὸ τῆς πέψεως τὴν τροφὴν ὑπολείπειν. τὰς μὲν οὖν τῶν φυτῶν διαφορὰς μάλιστα εὔλογον συμβαίνειν διὰ τὰς εἰρημένας αἰτίας.

Γίνεται δὲ καὶ τὰ τριχώματα καὶ τὰ πτερώματα καὶ τὰ δέρματα καὶ ἵππων καὶ βοῶν καὶ προβάτων καὶ ἀνθρώπων καὶ τῶν ἄλλων ζῴων ἁπάντων καὶ λευκὰ καὶ [797b] φαιὰ καὶ πυρρὰ καὶ μέλανα διὰ τὴν αὐτὴν αἰτίαν, λευκὰ μὲν ὅταν ἔτι ὑπὸ τῆς πέψεως τὸ ὑγρὸν τὸ οἰκεῖον ἔχον χρῶμα καταξηρανθῇ, μέλανα δὲ τοὐναντίον ὅταν αὐτῶν ἐν τῇ γενέσει τὸ περὶ τὸν χρῶτα ὑγρόν, καθάπερ ἐν τοῖς ἄλλοις ἅπασι, παλαιούμενον καὶ χρονιζόμενον διὰ τὸ πλῆθος μελανθῇ· πάντων γὰρ τῶν τοιούτων ὅ τε χρὼς καὶ τὰ δέρματα γίνεται μέλανα. φαιὰ δὲ καὶ πυρρὰ καὶ ξανθὰ καὶ τὰς ἄλλας ἔχοντα χρόας, ὅσα φθάνει καταξηραινόμενα πρότερον ἢ τελέως ἐν αὐτοῖς μεταβάλλειν εἰς τὸ μέλαν χρῶμα τὸ ὑγρόν. οἷς δ’ ἂν ἀνωμάλως τοῦτο συμβῇ, καὶ τὰ χρώματα τοιαῦτα γίνεται ποικίλα. διὸ καὶ πάντα τοῖς δέρμασι καὶ τῷ χρώματι συνακολουθεῖ, ἐπεὶ καὶ τῶν ἀνθρώπων τῶν ἐμπύρρων καὶ τὰ τριχώματα γίνεται λευκόπυρρα, τῶν δὲ μελάνων μέλανα· κἂν κατὰ μέρος τι τοῦ σώματος ἐξανθήσῃ λεύκη, καὶ τὰς τρίχας ἴσχουσιν ἅπαντες λευκὰς κατὰ τὸν τόπον τοῦτον, καθάπερ καὶ τὰ ποικίλα τῶν ζῴων. οὕτως ἅπαντα τὰ τριχώματα καὶ τὰ πτερώματα τοῖς δέρμασι συνακολουθεῖ, καὶ τὰ κατὰ μέρος καὶ τὰ κατὰ σῶμα ὅλον. ὁμοίως δὲ τούτοις ὁπλαὶ καὶ χηλαὶ καὶ ῥύγχη καὶ κέρατα· καὶ γὰρ ταῦτα τῶν μὲν μελάνων γίνεται μέλανα, τῶν δὲ λευκῶν λευκά, διὰ τὸ καὶ τούτοις ἅπασι διὰ τοῦ δέρματος τὴν τροφὴν εἰς τὴν ἐκτὸς περιοχὴν διηθεῖσθαι. ὅτι δὲ τοῦτό ἐστιν αἴτιον, οὐ χαλεπὸν ἐκ πολλῶν συνιδεῖν. τῶν τε γὰρ παιδίων ἁπάντων αἱ κεφαλαὶ κατ’ ἀρχὰς μὲν γίνονται πυρραὶ διὰ τὴν ὀλιγότητα τῆς τροφῆς. φανερὸν δὲ τοῦτό ἐστιν· καὶ γὰρ ἀσθενεῖς αἱ τρίχες καὶ ἀραιαὶ καὶ βραχεῖαι τὸ πρῶτον ἅπασιν ἐπιγίνονται τοῖς παιδίοις. προϊούσης δὲ τῆς ἡλικίας μελαίνονται πάλιν χρωζομένοις αὐτοῖς διὰ τὸ πλῆθος τῆς ἐπιρρεούσης τροφῆς. ὁμοίως δὲ καὶ περὶ τὴν ἥβην καὶ τὸ γένειον, ὅταν ἄρχωνται τὸ πρῶτον ἡβᾶν καὶ γενειᾶν, καὶ αὗται γίνονται κατ’ ἀρχὰς μὲν πυρραὶ ταχέως διὰ τὴν ὀλιγότητα τῆς ὑγρασίας ἐν αὐταῖς καταξηραινομένης, τῆς τροφῆς δὲ πλέον ἐπὶ τὸν τόπον ἐπιφερομένης μελαίνονται πάλιν. αἱ δὲ ἐπὶ τοῦ σώματος πλεῖστον χρόνον πυρραὶ διαμένουσι διὰ τὴν ἔνδειαν τῆς τροφῆς, [798a] ἐπεὶ καθ’ ὃν ἂν χρόνον αὐξηθῶσι, καὶ ταύτας ὁμοίως συμβαίνει μελαίνεσθαι καθάπερ καὶ τὰς ἐπὶ τῆς ἥβης καὶ τῆς κεφαλῆς. φανερὸν δ’ ἐστίν· καὶ γὰρ ὅσα μῆκος ἔχει τῶν τριχωμάτων, ὡς τὸ πολύ ἐστι τὰ μὲν πρὸς τῷ σώματι μελάντερα, τὰ δὲ πρὸς τοῖς ἄκροις ξανθότερα. καὶ αἱ μὲν τῶν προβάτων καὶ ἵππων καὶ ἀνθρώπων, διὰ τὸ τὴν τροφὴν ἐλαχίστην αὐτοῖς ἐπὶ τούτους φέρεσθαι τοὺς τόπους, καὶ καταξηραίνεσθαι ταχέως. γίνονται δὲ καὶ τὰ πτερώματα τῶν μελάνων ὀρνίθων τὰ μὲν πρὸς τῷ σώματι μελάντερα πάντων, τὰ δὲ πρὸς τοῖς ἄκροις ξανθότερα. τὸν αὐτὸν δὲ τρόπον τοῦτον καὶ τὰ περὶ τὸν τράχηλον, καὶ ὅλως ὅσα βραχεῖαν τὴν τροφὴν λαμβάνει. δῆλον δέ· καὶ γὰρ πρὸ τῆς πολιώσεως ἅπαντα τὰ τριχώματα μεταβάλλει καὶ γίνεται πυρρὰ διὰ τὸ πάλιν τὴν τροφὴν ὑπολείπουσαν καταξηραίνεσθαι ταχέως. τὸ δὲ τελευταῖον λευκά, πρότερον ἢ μελανθῆναι τὸ ὑγρόν, τῆς τροφῆς ἐν αὐτοῖς ἐκπεττομένης. μάλιστα δὲ τοῦτο ἐπὶ τῶν ὑποζυγίων φανερόν ἐστιν· πάντων γὰρ τὰ τριχώματα γίνεται λευκά. τῶν γὰρ τόπων οὐ δυναμένων ὁμοίως ἐπισπᾶσθαι τὴν τροφὴν διὰ τὴν ἀσθένειαν τὴν τοῦ θερμοῦ, ταχέως καταξηραινόμενον τὸ ὑγρὸν γίνεται λευκόν. καὶ τὰ περὶ τοὺς κροτάφους μάλιστα πάντων πολιοῦνται, καὶ ὅλως περὶ τοὺς ἀσθενεῖς καὶ πεπονηκότας τῶν τόπων. παρὸ καὶ παρὰ πάντα μάλιστα εἰς τοῦτο τὸ χρῶμα μεταβάλλει, ὅταν τὴν φύσιν παραλλάξῃ τὴν οἰκείαν. καὶ γὰρ λαγὼς ἤδη γέγονε λευκός, καὶ μέλας δέ ποτε πέφηνε καὶ ἔλαφος καὶ ἄρκτος, ὁμοίως δὲ τούτοις καὶ ὄρτυξ καὶ πέρδιξ καὶ χελιδών. ὅταν γὰρ ἀσθενήσωσι τῇ γενέσει, πάντα τὰ τοιαῦτα διὰ τὴν ὀλιγότητα τῆς τροφῆς πρὸ ὥρας ἐκπεττόμενα γίνεται λευκά. οὕτως καὶ τὰ τῶν παίδων εὐθὺς καὶ τὰς κεφαλὰς ἴσχει λευκὰς καὶ τὰ βλέφαρα καὶ τὰς ὀφρῦς, ὥσπερ καὶ τῶν ἄλλων ἑκάστῳ πρὸς τὸ γῆρας φανερῶς ἅπασι δι’ ἀσθένειαν καὶ ὀλιγότητα [τῆς τροφῆς] συμβαίνει τὸ πάθος. διὸ [798b] καὶ τὰ πλεῖστα τῶν ζῴων ἀσθενέστερα γίνεται τὰ λευκὰ τῶν μελάνων· πρότερον γὰρ ἢ τὴν αὔξησιν αὐτῶν τελειωθῆναι διὰ τὴν ὀλιγότητα τῆς τροφῆς ἐκπεττόμενα γίνεται λευκά, καθάπερ καὶ τῶν καρπῶν ὅσοι νενοσηκότες τυγχάνουσιν· καὶ γὰρ οὗτοι πολὺ μᾶλλον δι’ ἀσθένειαν ἐκπέττονται. ὅσα δὲ γίνεται λευκά, πολὺ διαφέροντα ἐκ τῶν ἄλλων, οἷον ἵπποι καὶ κύνες. τὰ δὲ τοιαῦτα μεταβάλλει πάντα ἐκ τοῦ κατὰ φύσιν χρώματος εἰς τὸ λευκὸν διὰ τὴν εὐτροφίαν. τὸ γὰρ ὑγρὸν ἐν τοῖς τοιούτοις οὐ χρονιζόμενον, ἀλλ’ ἀναλισκόμενον διὰ τὴν αὔξησιν, οὐ γίνεται μέλαν. τὰ πλεῖστα γάρ ἐστι τῶν τοιούτων ὑγρὰ καὶ εὔσαρκα διὰ τὴν εὐτροφίαν. διόπερ οὐδὲ μεταβάλλει τὰ λευκὰ τῶν τριχωμάτων. φανερὸν δὲ τοῦτο ἐστίν· καὶ γὰρ τὰ μέλανα πρότερον τῆς πολιώσεως γίνεται πυρρά, ἤδη τῆς τροφῆς ἐν αὐτοῖς ὑπολειπούσης καὶ μᾶλλον ἐκπεττομένης, τὸ δὲ τελευταῖον λευκά. καίτοι τινὲς ὑπολαμβάνουσι μέλανα γίνεσθαι πάντα διὰ τὸ συγκάεσθαι τὴν τροφὴν αὐτῶν ὑπὸ τοῦ θερμοῦ καθάπερ καὶ τὸ αἷμα καὶ τῶν ἄλλων ἕκαστον, διαμαρτάνοντες. ἔνια γὰρ καὶ τῶν ζῴων εὐθὺς ἐν ἀρχῇ γίνεται μέλανα, οἷον κύνες καὶ αἶγες καὶ βόες, καὶ ὅλως ὅσων τὰ δέρματα καὶ τὰ τριχώματα κατ᾽ ἀρχὰς ἔχει τροφήν, προϊούσης δὲ τῆς ἡλικίας ἧττον. καίτοι γε οὐκ ἐχρῆν, ἀλλὰ πάντων ἔδει καὶ τὰ τριχώματα μελαίνεσθαι κατὰ τὴν ἀκμήν, καθ᾽ ὃν ἂν χρόνον μάλιστα αὐτῶν ἰσχύῃ καὶ τὸ θερμόν, καὶ μᾶλλον ἅπαντα πολιοῦσθαι κατ᾽ ἀρχάς. πολὺ γὰρ ἁπάντων ἀπὸ πρώτης ἀσθενέστερόν τι γίνεται τὸ θερμὸν ἢ καθ᾽ ὃν χρόνον ἄρχεται τὰ τριχώματα αὐτῶν λευκαίνεσθαι. φανερὸν δὲ τοῦτο ἐστὶ καὶ ἐπὶ τῶν λευκῶν, ἔνια μὲν γὰρ εὐθὺς ἴσχει τὸ χρῶμα λευκότατον, ὅσα καὶ τούτων πλείστην ἔχει κατ᾽ ἀρχὰς τροφήν, καὶ μὴ πρὸ ὥρας ἐν αὐτῇ καταξηραίνεται τὸ ὑγρόν· προϊούσης δὲ τῆς ἡλικίας ξανθά, τροφῆς αὐτοῖς ἐλάττονος ὕστερον ἐπιρρεούσης. τὰ δὲ ἐν ἀρχῇ μὲν γίνεται ξανθά, κατὰ δὲ τὴν ἀκμὴν λευκότατα, [799a] καθάπερ καὶ τῶν ὀρνίθων μεταβάλλουσι τὰ χρώματα πάλιν τῆς τροφῆς ἐν αὐτοῖς ὑπολειπούσης. δηλοῖ δέ· πάντα γὰρ αὐτὰ γίνεται ξανθὰ καὶ περὶ τὸν τράχηλον, καὶ ὅλως ὅσα σπανίζει τροφῆς τῆς ἐν αὐτοῖς ὑπολειπούσης. δῆλον δέ· ὥσπερ γὰρ καὶ τὸ πυρρὸν εἰς τὸ μέλαν μεταβάλλει καὶ τὸ μέλαν πάλιν εἰς τὸ πυρρόν, οὕτω καὶ τὸ λευκὸν εἰς τὸ ξανθόν. συμβαίνει δὲ τοῦτο καὶ ἐπὶ τῶν φυτῶν· ἔνια γὰρ ἐκ τῆς ὑστέρας πέψεως ἀνατρέχει πάλιν ἐπὶ τὴν προτέραν. μάλιστα δὲ τοῦτο καὶ ἐπὶ τῆς ῥοιᾶς φανερόν ἐστιν. τὸ μὲν γὰρ ἐξ ἀρχῆς οἱ κόκκοι γίνονται φοινικοῖ, καὶ τὰ φύλλα, δι᾽ ὀλιγότητα τῆς τροφῆς ἐκπεττομένης· ὕστερον δὲ πάλιν μεταβάλλουσιν εἰς τὸ ποῶδες χρῶμα, πολλῆς τροφῆς ἐπιρρεούσης καὶ τῆς πέψεως οὐχ ὁμοίως δυναμένης κρατεῖν· τὸ τελευταῖον δὲ πεττομένης ἤδη τῆς τροφῆς πάλιν γίνεται τὸ χρῶμα φοινικιοῦν. καθόλου δὲ εἰπεῖν καὶ περὶ τῶν ἄλλων τριχωμάτων καὶ πτερωμάτων, ἅπαντα λαμβάνει τὰς μεταβολάς, οἷς μέν, καθάπερ εἴρηται, τῆς τροφῆς ἐν αὐτοῖς ὑπολειπούσης, οἷς δὲ τοὐναντίον πλεοναζούσης. διόπερ ἄλλα κατ᾽ ἄλλους χρόνους τῆς ἡλικίας καὶ λευκότατα καὶ μελάντατα γίνεται τῶν τριχωμάτων, ἐπεὶ [799b] καὶ τῶν κοράκων τὰ πτερώματα τὸ τελευταῖον εἰς τὸ ξανθὸν χρῶμα μεταβάλλει, τῆς τροφῆς ἐν αὐτοῖς ὑπολειπούσης. τῶν δὲ τριχωμάτων οὐδὲν οὔτε φοινικιοῦν οὔθ᾽ ἁλουργὲς οὔτε πράσινον οὔτε ἄλλην οὐδεμίαν ἔχον τοιαύτην γίνεται χρόαν, διὰ τὸ πάντα τὰ τοιαῦτα χρώματα γίνεσθαι μιγνυμένων αὐτοῖς τῶν τοῦ ἡλίου αὐγῶν, ἔτι δὲ τῶν τριχωμάτων ἁπάντων τῶν ὑγρῶν ἐντὸς τῆς σαρκὸς συμβαίνειν τὰς μεταβολάς, καὶ μηδεμίαν αὐτὰ λαμβάνειν μίξιν. δῆλον δ᾽ ἐστίν· καὶ γὰρ τῶν πτερωμάτων τὸ μὲν ἐξ ἀρχῆς οὐδὲν γίνεται τῷ χρώματι τοιοῦτον, ἀλλὰ καὶ τὰ ποικίλα τῶν ὀρνέων πάνθ’ ὡς εἰπεῖν μέλανα, οἷον ὅ τε ταὼς καὶ ἡ περιστερὰ καὶ ἡ χελιδών· ὕστερον δὲ λαμβάνει πάσας τὰς τοιαύτας ποικιλίας, ἤδη τῆς πέψεως αὐτῶν ἔξω τοῦ σώματος γιγνομένης, ἔν τε τοῖς πτερώμασι καὶ τοῖς καλαίοις· ὥστε συμβαίνει, καθάπερ καὶ ἐπὶ τῶν φυτῶν, καὶ τούτων ἔξω τοῦ σώματος γίγνεσθαι τὴν τῶν χρωμάτων πέψιν. διὸ καὶ τὰ λοιπὰ τῶν ζῴων, τά τ’ ἔνυδρα καὶ τὰ ἑρπετὰ καὶ τὰ κογχύλια, παντοδαπὰς ἴσχει χρωμάτων μορφάς, πολλῆς καὶ τούτοις τῆς πέψεως γινομένης. τὴν μὲν οὖν περὶ τὰ χρώματα θεωρίαν μάλιστ’ ἄν τις ἐκ τῶν εἰρημένων δύναιτο συνιδεῖν.

Εκ του περι Ακουστων (800a) On Things Heard

[800a] Τὰς δὲ φωνὰς ἁπάσας συμβαίνει γίγνεσθαι καὶ τοὺς ψόφους ἢ τῶν σωμάτων ἢ τοῦ ἀέρος πρὸς τὰ σώματα προσπίπτοντος, οὐ τῷ τὸν ἀέρα σχηματίζεσθαι, καθάπερ οἴονταί τινες, ἀλλὰ τῷ κινεῖσθαι παραπλησίως αὐτὸν συστελλόμενον καὶ ἐκτεινόμενον καὶ καταλαμβανόμενον, ἔτι δὲ συγκρούοντα διὰ τὰς τοῦ πνεύματος καὶ τῶν χορδῶν γιγνομένας πληγάς. ὅταν γὰρ τὸν ἐφεξῆς ἀέρα πλήξῃ τὸ πνεῦμα τὸ ἐμπῖπτον αὐτῷ, ὁ ἀὴρ ἤδη φέρεται βίᾳ, τὸν ἐχόμενον αὐτοῦ προωθῶν ὁμοίως, ὥστε πάντῃ τὴν φωνὴν διατείνειν τὴν αὐτήν, ἐφ’ ὅσον συμβαίνει γίγνεσθαι καὶ τοῦ ἀέρος τὴν κίνησιν. διαχεῖται γὰρ ἐπὶ πλέονα ἡ βία τῆς κινήσεως αὐτοῦ γιγνομένης, ὥσπερ καὶ τὰ πνεύματα τὰ ἀπὸ τῶν ποταμῶν καὶ ἀπὸ τῆς χώρας ἀποπνέοντα. τῶν δὲ φωνῶν τυφλαὶ μέν εἰσι καὶ νεφώδεις ὅσαι τυγχάνουσιν αὐτοῦ καταπεπνιγμέναι· λαμπραὶ δὲ οὖσαι πόρρω διατείνουσι, καὶ πάντα πληροῦσι τὸν συνεχῆ τόπον. ἀναπνέομεν δὲ τὸν μὲν ἀέρα πάντες τὸν αὐτόν, τὸ δὲ πνεῦμα καὶ τὰς φωνὰς ἐκπέμπομεν ἀλλοίας διὰ τὰς τῶν ὑποκειμένων ἀγγείων διαφοράς, δι’ ὧν ἑκάστου τὸ πνεῦμα περαιοῦται [τὰ] πρὸς τὸν ἔξω τόπον. ταῦτα δέ ἐστιν ἥ τε ἀρτηρία καὶ ὁ πνεύμων καὶ τὸ στόμα. πλείστην μὲν οὖν διαφορὰν ἀπεργάζονται τῆς φωνῆς αἵ τε τοῦ ἀέρος πληγαὶ καὶ οἱ τοῦ στόματος σχηματισμοί. φανερὸν δ’ ἐστίν· καὶ γὰρ τῶν φθόγγων αἱ διαφοραὶ πᾶσαι γίγνονται διὰ ταύτην τὴν αἰτίαν, καὶ τοὺς αὐτοὺς ὁρῶμεν μιμουμένους καὶ ἵππων φωνὰς καὶ βατράχων καὶ ἀηδόνων καὶ γεράνων καὶ τῶν ἄλλων ζῴων σχεδὸν ἁπάντων, τῷ αὐτῷ χρωμένους πνεύματι καὶ ἀρτηρίᾳ, παρὰ τὸ τὸν ἀέρα διαφόρως ἐκπέμπειν αὐτοὺς ἐκ τοῦ στόματος. πολλὰ δὲ καὶ τῶν ὀρνέων, ὅταν ἀκούσωσι, μιμοῦνται τὰς τῶν ἄλλων φωνὰς διὰ τὴν εἰρημένην αἰτίαν. ὁ δὲ πνεύμων ὅταν ᾖ μικρὸς καὶ πυκνὸς καὶ σκληρός, οὔτε δέχεσθαι τὸν ἀέρα δύναται πολὺν εἰς αὑτὸν οὔτε ἐκπέμπειν πάλιν ἔξω, οὐδὲ τὴν πληγὴν ἰσχυρὰν οὐδὲ εὔρωστον ποιεῖσθαι τὴν τοῦ πνεύματος. διὰ γὰρ τὸ εἶναι σκληρὸς καὶ πυκνὸς καὶ συνδεδεμένος οὐ δύναται λαμβάνειν τὴν διαστολὴν ἐπὶ πολὺν τόπον, οὐδὲ πάλιν ἐκ πολλοῦ διαστήματος συνάγων

[800b] ἑαυτὸν ἐκθλίβειν βίᾳ τὸ πνεῦμα, καθάπερ οὐδ’ ἡμεῖς ταῖς φύσαις, ὅταν ὦσι σκληραὶ καὶ μήτε διαστέλλεσθαι μήτε πιέζεσθαι δύνωνται ῥᾳδίως. τοῦτο γάρ ἐστι τὸ ποιοῦν τὴν τοῦ πνεύματος πληγὴν εὔρωστον, ὅταν ὁ πνεύμων ἐκ πολλοῦ διαστήματος συνάγων αὐτὸν ἐκθλίβῃ τὸν ἀέρα βιαίως. δῆλον δὲ τοῦτ’ ἐστίν· οὐδὲ γὰρ τῶν ἄλλων μορίων οὐθὲν ἐκ μικρᾶς ἀποστάσεως δύναται ποιεῖσθαι τὴν πληγὴν ἰσχυράν. οὔτε γὰρ τῷ σκέλει δυνατόν ἐστιν οὔτε τῇ χειρὶ πατάξαι σφοδρῶς οὐδὲ ἀπορρῖψαι πόρρω τὸ πληγέν, ἐὰν μή τις αὐτῶν ἑκατέρῳ ἐκ πολλοῦ λάβῃ τῆς πληγῆς τὴν ἀπόστασιν. εἰ δὲ μή, σκληρὰ μὲν ἡ πληγὴ γίγνεται διὰ τὴν συντονίαν, ἐκβιάζεσθαι δὲ οὐ δύναται πόρρω τὸ πληγέν, ἐπεὶ οὔθ’ οἱ καταπέλται μακρὰν δύνανται βάλλειν οὔθ’ ἡ σφενδόνη οὔτε τόξον, ἂν ᾖ σκληρὸν καὶ μὴ δύνηται κάμπτεσθαι, μηδὲ τὴν ἀναγωγὴν ἡ νευρὰ λαμβάνειν ἐπὶ πολὺν τόπον. ἐὰν δὲ μέγας ὁ πνεύμων ᾖ καὶ μαλακὸς καὶ εὔτονος, πολὺν τὸν ἀέρα δύναται δέχεσθαι, καὶ τοῦτον ἐκπέμπειν πάλιν, ταμιευόμενος ὡς ἂν βούληται διὰ τὴν μαλακότητα καὶ διὰ τὸ ῥᾳδίως αὐτὸν συστέλλειν. ἡ δὲ ἀρτηρία μακρὰ μὲν ὅταν ᾖ καὶ στενή, χαλεπῶς ἐκπέμπουσιν ἔξω τὴν φωνὴν καὶ μετὰ βίας πολλῆς διὰ τὸ μῆκος τῆς τοῦ πνεύματος φορᾶς. φανερὸν δ’ ἐστίν· πάντα γὰρ τὰ τοὺς τραχήλους ἔχοντα μακροὺς φθέγγονται βιαίως, οἷον οἱ χῆνες καὶ γέρανοι καὶ ἀλεκτρυόνες. μᾶλλον δὲ τοῦτο καταφανές ἐστιν ἐπὶ τῶν αὐτῶν· πάντες γὰρ χαλεπῶς πληροῦσι τοὺς βόμβυκας καὶ μετὰ συντονίας πολλῆς διὰ τὸ μῆκος τῆς ἀποστάσεως. ἔτι δὲ τὸ πνεῦμα διὰ τὴν στενοχωρίαν ὅταν ἐντὸς θλιβόμενον εἰς τὸν ἔξω τόπον ἐκπέσῃ, παραχρῆμα διαχεῖται καὶ σκεδάννυται, καθάπερ καὶ τὰ ῥεύματα φερόμενα διὰ τῶν εὐρίπων, ὥστε μὴ δύνασθαι τὴν φωνὴν συμμένειν μηδὲ διατείνειν ἐπὶ πολὺν τόπον. ἅμα δὲ καὶ δυσταμίευτον ἀνάγκη πάντων τῶν τοιούτων εἶναι τὸ πνεῦμα καὶ μὴ ῥᾳδίως ὑπηρετεῖν. ὅσων δέ ἐστι μέγα τὸ διάστημα τῆς ἀρτηρίας, τῶν δὲ τοιούτων ἔξω μὲν περαιοῦσθαι συμβαίνει τὸ πνεῦμα ῥᾳδίως, ἐντὸς δὲ φερόμενον διαχεῖσθαι διὰ τὴν εὐρυχωρίαν, καὶ τὴν φωνὴν γίνεσθαι κενὴν καὶ μὴ συνεστῶσαν, ἔτι δὲ [801a] μὴ δύνασθαι διαιρεῖσθαι τῷ πνεύματι τοὺς τοιούτους διὰ τὸ μὴ συνερείδεσθαι τὴν ἀρτηρίαν αὐτῶν. ὅσων δ’ ἐστὶν ἀνωμάλως καὶ μὴ πάντοθεν ἔχει τὴν διάστασιν ὁμοίαν, τούτους ἀναγκαῖον ἁπασῶν μετέχειν τῶν δυσχερειῶν. καὶ γὰρ ἀνωμάλως αὐτοῖς ἀνάγκη τὸ πνεῦμα ὑπηρετεῖν καὶ θλίβεσθαι καὶ καθ’ ἕτερον τόπον διαχεῖσθαι πάλιν. βραχείας δὲ τῆς ἀρτηρίας οὔσης ταχὺ μὲν ἀνάγκη τὸ πνεῦμα ἐκπέμπειν καὶ τὴν πληγὴν ἰσχυροτέραν γίνεσθαι τὴν τοῦ ἀέρος, πάντας δὲ τοὺς τοιούτους ὀξύτερον φωνεῖν διὰ τὸ τάχος τῆς τοῦ πνεύματος φορᾶς. οὐ μόνον δὲ συμβαίνει τὰς τῶν ἀγγείων

διαφοράς, ἀλλὰ καὶ τὰ πάθη πάντα τὰς φωνὰς ἀλλοιοῦν. ὅταν μὲν γὰρ ὦσιν ὑγρασίας πλήρη πολλῆς ὅ τε πνεύμων καὶ ἡ ἀρτηρία, διασπᾶται τὸ πνεῦμα καὶ οὐ δύναται περαιοῦσθαι εἰς τὸν ἔξω τόπον συνεχῶς διὰ τὸ προσκόπτειν καὶ γίνεσθαι παχὺν καὶ ὑγρὸν καὶ δυσκίνητον, καθάπερ καὶ περὶ τοὺς κατάρρους καὶ τὰς μέθας. ἐὰν δὲ ξηρὸν ᾖ τὸ πνεῦμα παντελῶς, σκληροτέρα ἡ φωνὴ γίγνεται καὶ διεσπασμένη· συνέχει γὰρ ἡ νοτίς, ὅταν ᾖ λεπτή, τὸν ἀέρα, καὶ ποιεῖ τινὰ τῆς φωνῆς ἁπλότητα. τῶν μὲν οὖν ἀγγείων αἱ διαφοραὶ καὶ τῶν παθῶν τῶν περὶ αὐτὰ γιγνομένων τοιαύτας ἕκασται τὰς φωνὰς ἀποτελοῦσιν. αἱ δὲ φωναὶ δοκοῦσι μὲν εἶναι καθ’ οὓς ἂν ἕκασται γίγνωνται τόπους, ἀκούομεν δὲ πασῶν αὐτῶν, ὅταν ἡμῖν προσπέσωσι πρὸς τὴν ἀκοήν. ὁ γὰρ ὠσθεὶς ὑπὸ τῆς πληγῆς ἀὴρ μέχρι μέν τινος φέρεται συνεχής, ἔπειτα κατὰ μικρὸν ἀεὶ διακινεῖται μᾶλλον, καὶ τούτῳ γιγνώσκομεν πάντας τοὺς ψόφους καὶ τοὺς πόρρω γιγνομένους καὶ τοὺς ἐγγύς. δῆλον δ’ ἐστίν· ὅταν γάρ τις λαβὼν κέραμον ἢ αὐλὸν ἢ σάλπιγγα, προσθείς τε ἑτέρῳ πρὸς τὴν ἀκοήν, διὰ τούτων λαλῇ, πᾶσαι δοκοῦσιν αἱ φωναὶ παντελῶς εἶναι πλησίον τῆς ἀκοῆς διὰ τὸ μὴ σκεδάννυσθαι τὸν ἀέρα φερόμενον, ἀλλὰ διατηρεῖσθαι τὴν φωνὴν ὁμοίαν ὑπὸ τοῦ περιέχοντος ὀργάνου. καθάπερ οὖν καὶ ἐπὶ τῆς γραφῆς, ὅταν τις τοῖς χρώμασι τὸ μὲν ὅμοιον ποιήσῃ τῷ πόρρω τὸ δὲ τῷ πλήσιον, τὸ μὲν ἡμῖν ἀνακεχωρηκέναι δοκεῖ τῆς γραφῆς τὸ δὲ προέχειν, ἀμφοτέρων αὐτῶν ὄντων ἐπὶ τῆς αὐτῆς ἐπιφανείας. οὕτω καὶ ἐπὶ τῶν ψόφων καὶ τῆς φωνῆς, ὅταν ἡ μὲν ἤδη διαλελυμένη προσπίπτῃ πρὸς τὴν ἀκοὴν ἡ δέ τις συνεχής, ἀμφοτέρων αὐτῶν ἀφικνουμένων πρὸς τὸν αὐτὸν τόπον, ἡ μὲν ἀφεστηκέναι πόρρω δοκεῖ τῆς ἀκοῆς ἡ δ’ εἶναι σύνεγγυς, διὰ τὸ τὴν μέντοι πόρρωθεν [801b] ὁμοίαν εἶναι, τὴν δὲ πλησίον. σαφεῖς δὲ μάλιστα αἱ φωναὶ γίγνονται παρὰ τὴν ἀκρίβειαν τὴν τῶν φθόγγων. ἀδύνατον γὰρ μὴ τελέως τούτων διηρθρωμένων τὰς φωνὰς εἶναι σαφεῖς, καθάπερ καὶ τὰς τῶν δακτυλίων σφραγῖδας, ὅταν μὴ διατυπωθῶσιν ἀκριβῶς. διόπερ οὔτε τὰ παιδία δύνανται διαλέγεσθαι σαφῶς, οὔτε οἱ μεθύοντες, οὔτε οἱ γέροντες, οὔθ’ ὅσοι φύσει τραυλοὶ τυγχάνουσιν ὄντες, οὔθ’ ὅλως ὅσων εἰσὶν αἱ γλῶτται καὶ τὰ στόματα δυσκίνητα. ὥσπερ γὰρ καὶ τὰ χαλκεῖα καὶ τὰ κέρατα συνηχοῦντα ποιεῖ τοὺς ἀπὸ τῶν ὀργάνων φθόγγους σαφεστέρους, οὕτως καὶ ἐπὶ τῆς διαλέκτου πολλὴν ἀσάφειαν ἀπεργάζεται τὰ ἐκπίπτοντα τῶν πνευμάτων ἐκ τοῦ στόματος, ὅταν μὴ διατυπωθῶσιν ὁμοίως. οὐ μόνον δὲ ἑαυτῶν τινὰ παρεμφαίνουσιν ἀσάφειαν, ἀλλὰ καὶ τοὺς διηρθρωμένους τῶν φθόγγων ἐμποδίζουσιν, ἀνομοίας αὐτῶν γιγνομένης τῆς περὶ τὴν ἀκοὴν κινήσεως. διὸ καὶ μᾶλλον ἑνὸς ἀκούοντες συνίεμεν ἢ πολλῶν ἅμα ταὐτὰ λεγόντων, καθάπερ καὶ ἐπὶ τῶν χορδῶν· καὶ πολὺ ἧττον, ὅταν προσαυλῇ τις ἅμα καὶ κιθαρίζῃ, διὰ τὸ συγχεῖσθαι τὰς φωνὰς ὑπὸ τῶν ἑτέρων. οὐχ ἥκιστα δὲ τοῦτο ἐπὶ τῶν συμφωνιῶν φανερόν ἐστιν· ἀμφοτέρους γὰρ ἀποκρύπτεσθαι τοὺς ἤχους συμβαίνει ὑπ' ἀλλήλων. ἀσαφεῖς μὲν οὖν φωναὶ γίγνονται διὰ τὰς εἰρημένας αἰτίας, λαμπραὶ δὲ γίνονται καθάπερ ἐπὶ τῶν χρωμάτων· καὶ γὰρ ἐκεῖ τὰ μάλιστα δυνάμενα τὰς ὄψεις κινεῖν, ταῦτα εἶναι συμβαίνει τῶν χρωμάτων λαμπρότατα. τὸν αὐτὸν τρόπον τῶν φωνῶν ταύτας ὑποληπτέον εἶναι λαμπροτάτας, ὅσαι μάλιστα δύνανται προσπίπτουσαι κινεῖν τὴν ἀκοήν. τοιαῦται δέ εἰσιν αἱ σαφεῖς καὶ πυκναὶ καὶ καθαραὶ καὶ πόρρω δυνάμεναι διατείνειν· καὶ γὰρ ἐν τοῖς ἄλλοις αἰσθητοῖς ἅπασι τὰ ἰσχυρότερα καὶ πυκνότερα καὶ καθαρώτερα σαφεστέρας ποιεῖ τὰς αἰσθήσεις. δῆλον δέ· τὸ γὰρ τελευταῖον αἱ φωναὶ πᾶσαι γίγνονται κωφαί, τοῦ ἀέρος ἤδη διαχεομένου. δῆλον δ' ἐστὶ κἀπὶ τῶν αὐλῶν. τὰ γὰρ ἔχοντα τῶν δευτέρων τὰς γλώττας πλαγίας μαλακωτέραν μὲν ἀποδίδωσι τὴν φωνήν, οὐχ ὁμοίως δὲ λαμπράν· τὸ γὰρ πνεῦμα φερόμενον εὐθέως εἰς εὐρυχωρίαν ἐμπίπτει, καὶ οὐκέτι φέρεται σύντονον οὐδὲ συνεστηκός, ἀλλὰ διεσκεδασμένον. ἐν δὲ ταῖς σκληροτέραις γλώτταις ἡ φωνὴ γίνεται σκληροτέρα καὶ λαμπροτέρα, ἂν πιέσῃ τις αὐτὰς μᾶλλον τοῖς χείλεσι, διὰ τὸ φέρεσθαι τὸ πνεῦμα βιαιότερον. αἱ μὲν οὖν λαμπραὶ τῶν φωνῶν γίγνονται διὰ τὰς εἰρημένας αἰτίας· [802a] παρὸ καὶ δοκοῦσιν οὐ χείρους εἶναι τῶν λευκῶν αἱ καλούμεναι φαιαί. πρὸς γὰρ τὰ πάθη καὶ τὰς πρεσβυτέρας ἡλικίας μᾶλλον ἁρμόττουσιν αἱ τραχύτεραι καὶ μικρὸν ὑποσυγκεχυμέναι καὶ μὴ λίαν ἔχουσαι τὸ λαμπρὸν ἐκφανές. ἅμα δὲ καὶ διὰ τὴν συντονίαν οὐχ ὁμοίως εἰσὶν εὐπειθεῖς. τὸ γὰρ βίᾳ φερόμενον δυσταμίευτον. οὔτε γὰρ ἐπιτεῖναι ῥᾴδιον, ὡς βούλεταί τις, οὔτε ἀνιέναι. ἐπὶ δὲ τῶν αὐλῶν γίγνονται αἱ φωναὶ λαμπραί, καὶ τῶν ἄλλων ὀργάνων, ὅταν τὸ ἐκπῖπτον πνεῦμα πυκνὸν ᾖ καὶ σύντονον. ἀνάγκη γὰρ καὶ τοῦ ἔξωθεν ἀέρος τοιαύτας γίγνεσθαι τὰς πληγάς, καὶ μάλιστα τὰς φωνὰς οὕτω διαπέμπεσθαι συνεστώσας πρὸς τὴν ἀκοήν, ὥσπερ καὶ τὰς ὀσμὰς καὶ τὸ φῶς καὶ τὰς θερμότητας. καὶ γὰρ πάντα ταῦτα ἀραιότερα φαινόμενα πρὸς τὴν αἴσθησιν ἀσημότερα γίγνεται, καθάπερ καὶ οἱ χυλοὶ κραθέντες τῷ ὕδατι καὶ ἑτέροις χυλοῖς. τὸ γὰρ ἑαυτοῦ παρέχον αἴσθησιν ἀσαφεῖς ἑκάστῳ ποιεῖ τὰς δυνάμεις. ἀπὸ δὲ τῶν ἄλλων ὀργάνων οἱ τῶν κεράτων ἦχοι πυκνοὶ καὶ συνεχεῖς πρὸς τὸν ἀέρα προσπίπτοντες ποιοῦσι τὰς φωνὰς ἀμαυράς· διὸ δεῖ τὸ κέρας τὴν φύσιν ἔχειν τῆς αὐξήσεως ὁμαλὴν καὶ λείαν καὶ μὴ ταχέως ἐκδεδραμηκυῖαν. ἀνάγκη γὰρ μαλακώτερα καὶ χαυνότερα γίγνεσθαι τὰ τοιαῦτα τῶν κεράτων, ὥστε τοὺς ἤχους διασπᾶσθαι καὶ μὴ συνεχεῖς ἐκπίπτειν δι' αὐτῶν μηδὲ γεγωνεῖν ὁμοίως διὰ τὴν μαλακότητα καὶ τὴν ἀραιότητα τῶν πόρων. μηδὲ πάλιν εἶναι δυσαυξῆ τὴν φύσιν, μηδὲ τὴν σύμφυσιν ἔχειν πυκνὴν καὶ σκληρὰν καὶ δύσφορον· καθ’ ὅ τι γὰρ ἂν προσκόψῃ φερόμενος ὁ ἦχος, αὐτοῦ λαμβάνει τὴν κατάπαυσιν καὶ οὐκέτι περαιοῦται πρὸς τὸν ἔξω τόπον, ὥστε κωφοὺς καὶ ἀνωμάλους ἐκπίπτειν τοὺς ἤχους ἐκ τῶν τοιούτων κεράτων. ὅτι δὲ ἡ φορὰ γίγνεται κατὰ τὴν εὐθυπορίαν, φανερόν ἐστιν ἐπὶ τῶν ἱστῶν καὶ ὅλως ἐπὶ τῶν ξύλων τῶν μεγάλων, ὅταν αὐτὰ βασανίζωσιν. ὅταν γὰρ κρούσωσιν ἐκ τοῦ ἑτέρου ἄκρου, κατὰ τὸ ἕτερον ὁ ἦχος φέρεται συνεχής, ἐὰν μή τι ἔχῃ σύντριμμα τὸ ξύλον· εἰ δὲ μή, μέχρι τούτου προελθὼν αὐτοῦ καταπαύεται διασπασθείς. περικάμπτει δὲ καὶ τοὺς ὄζους, καὶ οὐ δυνατὸς δι’ αὐτῶν εὐθυπορεῖν. κατάδηλον δὲ τοῦτό ἐστι καὶ ἐπὶ τῶν χαλκείων, ὅταν ῥινῶσι τὰς ἀπηρτημένας στολίδας τῶν ἀνδριάντων ἢ τὰ πτερύγια, τῷ συμμύειν· διὸ ῥοῖζον καὶ πολὺν ἦχον ἀφιᾶσι καὶ ψόφον. ἂν δέ τις αὐτὰ ταινίᾳ διαδήσῃ, παύεσθαι συμβαίνει τὸν ἦχον· ἕως γὰρ τούτου προελθὼν ὁ τρόμος, ὅταν προσκόψῃ πρὸς τὸ μαλακόν, αὐτοῦ ποιεῖται [802b] τὴν κατάπαυσιν. πολὺ δὲ καὶ ἡ ὄπτησις ἡ τῶν κεράτων συμβάλλεται καὶ πρὸς εὐφωνίαν. μᾶλλον μὲν γὰρ κατοπτηθέντα παραπλήσιον τὸν ἦχον ἔχουσι τῷ κεράμῳ διὰ τὴν σκληρότητα καὶ τὴν σύγκαυσιν· ἐὰν δέ τις αὐτὰ καταδεέστερον ὀπτήσῃ, ἁπαλώτερον μὲν ἀφίησι διὰ τὴν μαλακότητα τὸν ἦχον, οὐ δύναται δὲ γεγωνεῖν ὁμοίως. διὸ καὶ τὰς ἡλικίας ἐκλέγονται· τὰ μὲν γὰρ τῶν γερόντων ἐστὶ ξηρὰ καὶ πεπωρωμένα καὶ χαῦνα, τὰ δὲ τῶν νέων ἁπαλὰ παντελῶς καὶ πολλὴν ἔχοντα ἐν αὐτοῖς ὑγρασίαν. δεῖ δὲ εἶναι, καθάπερ εἴρηται, τὸ κέρας ξηρὸν καὶ πυκνὸν ὁμαλῶς καὶ εὐθύπορον καὶ λεῖον. οὕτω γὰρ ἂν μάλιστα συμβαίνοι καὶ τοὺς ἤχους πυκνοὺς καὶ λείους καὶ ὁμαλοὺς φέρεσθαι δι’ αὐτῶν, καὶ τοῦ ἔξωθεν ἀέρος τὰς πληγὰς γίγνεσθαι τοιαύτας, ἐπεὶ καὶ τῶν χορδῶν εἰσὶν αἱ λειόταται βέλτισται καὶ τοῖς πᾶσιν ὁμαλώταται, καὶ τὴν κατεργασίαν ἔχουσι πάντοθεν ὁμοίαν, καὶ τὰς συμβολὰς ἀδήλους τὰς τῶν νεύρων· οὕτω γὰρ συμβαίνει καὶ ταύτας ποιεῖσθαι τὰς τοῦ ἀέρος πληγὰς ὁμοιοτάτας. δεῖ δὲ καὶ τῶν αὐλῶν εἶναι τὰς γλώττας πυκνὰς καὶ λείας καὶ ὁμαλάς, ὅπως ἂν καὶ τὸ πνεῦμα διαπορεύηται δι’ αὐτῶν λεῖον καὶ ὁμαλὸν καὶ μὴ διεσπασμένον. διὸ καὶ τὰ βεβρεγμένα τῶν ζευγῶν καὶ τὰ πεπωκότα τὸ σίαλον εὐφωνότερα γίγνεται, τὰ δὲ ξηρὰ κακόφωνα. ὁ γὰρ ἀὴρ διὰ ὑγροῦ καὶ λείου φέρεται μαλακὸς καὶ ὁμαλός. δῆλον δέ· καὶ γὰρ αὐτὸ τὸ πνεῦμα, ὅταν ἔχῃ νοτίδα, πολὺ ἧττον προσκόπτει πρὸς τὰ ζεύγη καὶ διασπᾶται· τὸ δὲ ξηρὸν μᾶλλον ἀντιλαμβάνεται καὶ τὴν πληγὴν ποιεῖται σκληροτέραν διὰ τὴν βίαν. αἱ μὲν οὖν διαφοραὶ τῶν ἤχων γίγνονται διὰ τὰς εἰρημένας αἰτίας. σκληραὶ δ’ εἰσὶ τῶν φωνῶν ὅσαι βιαίως πρὸς τὴν ἀκοὴν προσπίπτουσι· διὸ καὶ μάλιστα παρέχουσι τὸν τόνον. τοιαῦται δ’ εἰσὶν αἱ δυσκινητότεραι καὶ μετὰ πλείστης φερόμεναι βίας· τὸ γὰρ ὑπεῖκον ταχέως οὐ δύναται τὴν πληγὴν ὑπομένειν, ἀλλ’ ἀποπηδᾷ πρότερον. δῆλον δέ· τὰ γὰρ ὑπέρογκα τῶν βελῶν βιαιοτάτην φέρεται τὴν φοράν, καὶ τὰ ῥεύματα φερόμενα διὰ τῶν εὐρίπων· καὶ γὰρ ταῦτα γίγνεται σφοδρότατα περὶ αὐτὰς τὰς στενοχωρίας οὐ δυνάμενα ταχέως ὑπείκειν, ἀλλὰ ὑπὸ πολλῆς ὠθούμενα βίας. ὁμοίως δὲ τοῦτο συμβαίνει καὶ περὶ τὰς φωνὰς καὶ τοὺς ψόφους. φανερὸν δ’ ἐστίν· πάντες γὰρ οἱ βίαιοι γίγνονται σκληροί, καθάπερ καὶ τῶν κιβωτίων καὶ τῶν στροφέων, ὅταν ἀνοίγωνται βιαίως, καὶ τοῦ χαλκοῦ καὶ τοῦ σιδήρου. καὶ γὰρ ἀπὸ τῶν ἀκμόνων γίγνεται σκληρὸς [803a] καὶ μαλακός, ὅταν ἐλαύνωσι κατεψυγμένον καὶ σκληρὸν ἤδη τὸν σίδηρον. ἔτι δὲ ἀπὸ τῆς ῥίνης, ὅταν ῥινῶσι καὶ χαράττωσι τὰ σιδήρια καὶ τοὺς πρίονας, ἐπεὶ καὶ τῶν βροντῶν αἱ βιαιόταται γίγνονται σκληρόταται καὶ τῶν ὑδάτων τὰ καλούμενα ῥαγδαῖα τὴν βίαν. ἡ μὲν γὰρ ταχυτὴς τοῦ πνεύματος ποιεῖ τὴν φωνὴν ὀξεῖαν, ἡ δὲ βία σκληράν. διόπερ οὐ μόνον συμβαίνει τοὺς αὐτοὺς ὁτὲ μὲν ὀξυτέραν ὁτὲ δὲ βαρυτέραν, ἀλλὰ καὶ σκληροτέραν καὶ μαλακωτέραν. καίτοι τινὲς ὑπολαμβάνουσι διὰ τὴν σκληρότητα τῶν ἀρτηριῶν τὰς φωνὰς γίγνεσθαι σκληράς, διαμαρτάνοντες· τοῦτο μὲν γὰρ βραχύ τι συμβάλλεται παντελῶς, ἀλλ’ ἡ τοῦ πνεύματος γιγνομένη πληγὴ βιαίως ὑπὸ τοῦ πνεύμονος. ὥσπερ γὰρ καὶ τὰ σώματα τῶν μέν ἐστιν ὑγρὰ καὶ μαλακὰ τῶν δὲ σκληρὰ καὶ σύντονα, τὸν αὐτὸν τρόπον καὶ ὁ πνεύμων. διόπερ τῶν μὲν μαλακὸν ἐκπίπτει τὸ πνεῦμα, τῶν δὲ σκληρὸν καὶ βίαιον, ἐπεὶ διότι γε τὴν ἀρτηρίαν αὐτὴν μικράν τινα συμβαίνει παρέχεσθαι δύναμιν, ῥᾴδιον συνιδεῖν. ὀυδεμία γάρ ἐστιν ἀρτηρία σκληρὰ τοῖς αὐλοῖς ὁμοίως· ἀλλ’ οὐθὲν ἧττον δι’ αὐτοῦ καὶ διὰ τούτων φερομένου τοῦ πνεύματος οἱ μὲν μαλακῶς αὐλοῦσιν οἱ δὲ σκληρῶς. δῆλον δὲ τοῦτ’ ἐστὶ καὶ ἐπ’ αὐτῆς τῆς αἰσθήσεως· καὶ γὰρ ἂν ἐπιτείνῃ τις τὸ πνεῦμα βιαιότερον, εὐθέως ἡ φωνὴ γίγνεται σκληροτέρα διὰ τὴν βίαν, κἂν ᾖ μαλακωτέρα. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῆς σάλπιγγος· διὸ καὶ πάντες, ὅταν κωμάζωσιν, ἀνιᾶσιν ἐν τῇ σάλπιγγι τὴν τοῦ πνεύματος συντονίαν, ὅπως ἂν ποιῶσι τὸν ἦχον ὡς μαλακώτατον. φανερὸν δ’ ἐστὶ καὶ ἐπὶ τῶν ὀργάνων. καὶ γὰρ αἱ κατεστραμμέναι χορδαί, καθάπερ εἴρηται, τὰς φωνὰς ποιοῦσι σκληροτέρας, καὶ τὰ κατωπτημένα τῶν κεράτων. κἄν τις ἅπτηται τῶν χορδῶν ταῖς χερσὶ βιαίως καὶ μὴ μαλακῶς, ἀνάγκη καὶ τὴν ἀνταπόδοσιν αὐτὰς οὕτω πάλιν ποιεῖσθαι βιαιοτέραν. αἱ δὲ ἧττον κατεστραμμέναι καὶ τὰ ὠμότερα τῶν κεράτων τὰς φωνὰς ποιεῖ μαλακωτέρας, καὶ τὰ μακρότερα τῶν ὀργάνων. αἱ γὰρ τοῦ ἀέρος πληγαὶ καὶ βραδύτεραι καὶ μαλακώτεραι γίγνονται διὰ τὰ μήκη τῶν τόπων, αἱ δ' ἐπὶ τῶν βαρυτέρων σκληρόταται διὰ τὴν κατάτασιν τῶν χορδῶν. δῆλον δ' ἐστίν· καὶ γὰρ αὐτοῦ τοῦ ὀργάνου σκληροτέρας συμβαίνει γίγνεσθαι τὰς φωνάς, ὅταν μὴ κατὰ μέσον τις ἅπτηται τῶν χορδῶν, διὰ τὸ μᾶλλον αὐτῶν τὰ πρὸς αὐτῷ τῷ ζυγῷ καὶ τῷ χορδοτόνῳ κατατετάσθαι. συμβαίνει δὲ καὶ τὰ ναρθήκινα τῶν ὀργάνων τὰς φωνὰς ἔχειν ἁπαλωτέρας· οἱ γὰρ ἦχοι [803b] πρὸς μαλακὸν προσπίπτοντες οὐχ ὁμοίως ἀποπηδῶσι μετὰ βίας. τραχύνεσθαι δὲ συμβαίνει τὰς φωνάς, ὅταν ἡ πληγὴ μὴ μία γένηται τοῦ ἀέρος παντός, ἀλλὰ πολλαχῇ κατὰ μικρὰ διεσπασμένη. καθ' αὑτὸ γὰρ ἕκαστον τῶν τοῦ ἀέρος μορίων προσπῖπτον πρὸς τὴν ἀκοήν, ὡς ἂν ἀπὸ πληγῆς ἑτέρας ὄν, διεσπασμένην ποιεῖ τὴν αἴσθησιν, ὥστε τὴν μὲν διαλείπειν τὴν φωνήν, τὴν δὲ προσπίπτειν βιαιότερον, καὶ γίγνεσθαι τὴν ἁφὴν τῆς ἀκοῆς ἀνομοίαν, ὥσπερ καὶ ὅταν τι τῶν τραχέων ἡμῖν προσπίπτῃ πρὸς τὸν χρῶτα. μάλιστα δὲ τοῦτο συμφανές ἐστιν ἐπὶ τῆς ῥίνης· διὰ γὰρ τὸ τὴν τοῦ ἀέρος πληγὴν ἅμα γίγνεσθαι κατὰ μικρὰ καὶ πολλά, τραχεῖς οἱ ψόφοι προσπίπτουσιν ἀπ' αὐτῶν πρὸς τὴν ἀκοήν, καὶ μᾶλλον, ὅταν πρὸς σκληρόν τι παρατρίβωνται, καθάπερ καὶ ἐπὶ τῆς ἁφῆς· τὰ γὰρ σκληρὰ καὶ τραχέα βιαιότερον ποιεῖται τὴν αἴσθησιν. δῆλον δὲ τοῦτό ἐστι καὶ ἐπὶ τῶν ῥευμάτων· τοῦ γὰρ ἐλαίου γίνεται πολὺ πάντων τῶν ὑγρῶν ὁ ψόφος ἀδηλότερος διὰ τὴν συνέχειαν τὴν τῶν μορίων. λεπταὶ δ' εἰσὶ τῶν φωνῶν, ὅταν ὀλίγον ᾖ τὸ πνεῦμα τὸ ἐκπῖπτον. διὸ καὶ τῶν παιδίων γίγνονται λεπταί, καὶ τῶν γυναικῶν καὶ τῶν εὐνούχων, ὁμοίως δὲ καὶ τῶν διαλελυμένων διὰ νόσον ἢ πόνον ἢ ἀτροφίαν· οὐ δύνανται γὰρ πολὺ τὸ πνεῦμα διὰ τὴν ἀσθένειαν ἐκπέμπειν. δῆλον δ' ἐστὶ καὶ ἐπὶ τῶν χορδῶν· ἀπὸ γὰρ τῶν λεπτῶν καὶ τὰ φωνία γίγνεται λεπτὰ καὶ στενὰ καὶ τριχώδη, διὰ τὸ καὶ τοῦ ἀέρος τὴν πληγὴν γίγνεσθαι κατὰ στενόν. οἵας γὰρ ἂν τὰς ἀρχὰς ἔχωσι τῆς κινήσεως αἱ τοῦ ἀέρος πληγαί, τοιαύτας καὶ τὰς φωνὰς συμβαίνει γίγνεσθαι προσπιπτούσας πρὸς τὴν ἀκοήν, οἷον ἀραιὰς ἢ πυκνάς, ἢ μαλακὰς ἢ σκληράς, ἢ λεπτὰς ἢ παχείας. ἀεὶ γὰρ ὁ ἕτερος ἀὴρ τὸν ἕτερον κινῶν ὡσαύτως ποιεῖ τὴν φωνὴν ἅπασαν ὁμοίαν, καθάπερ ἔχει καὶ ἐπὶ τῆς ὀξύτητος καὶ τῆς βαρύτητος· καὶ γὰρ τὰ τάχη τὰ τῆς πληγῆς τὰ ἕτερα τοῖς ἑτέροις συνακολουθοῦντα διαφυλάττει τὰς φωνὰς ταῖς ἀρχαῖς ὁμοίως. αἱ δὲ πληγαὶ γίνονται μὲν τοῦ ἀέρος ὑπὸ τῶν χορδῶν πολλαὶ καὶ κεχωρισμέναι, διὰ δὲ μικρότητα τοῦ μεταξὺ χρόνου τῆς ἀκοῆς οὐ δυναμένης συναισθάνεσθαι τὰς διαλείψεις, μία καὶ συνεχὴς ἡμῖν ἡ φωνὴ φαίνεται, καθάπερ καὶ ἐπὶ τῶν χρωμάτων· καὶ γὰρ τούτων τὰ διεστηκότα δοκεῖ πολλάκις ἡμῖν συνάπτειν ἀλλήλοις, ὅταν φέρωνται ταχέως. τὸ δὲ αὐτὸ συμβαίνει τοῦτο καὶ περὶ τὰς συμφωνίας. διὰ γὰρ τὸ περισυγκαταλαμβάνεσθαι τοὺς ἑτέρους ἤχους ὑπὸ τῶν ἑτέρων, καὶ γίγνεσθαι τὰς καταπαύσεις αὐτῶν ἅμα, [804a] λανθάνουσιν ἡμᾶς αἱ μεταξὺ γιγνόμεναι φωναί. πλεονάκις μὲν γὰρ ἐν πάσαις ταῖς συμφωνίαις ὑπὸ τῶν ὀξυτέρων φθόγγων αἱ τοῦ ἀέρος γίγνονται πληγαὶ διὰ τὸ τάχος τῆς κινήσεως· τὸν δὲ τελευταῖον τῶν ἤχων ἅμα συμβαίνει προσπίπτειν ἡμῖν πρὸς τὴν ἀκοὴν καὶ τὸν ἀπὸ τῆς βραδυτέρας γιγνόμενον. ὥστε τῆς ἀκοῆς οὐ δυναμένης αἰσθάνεσθαι, καθάπερ εἴρηται, τὰς μεταξὺ φωνάς, ἅμα δοκοῦμεν ἀμφοτέρων τῶν φθόγγων ἀκούειν συνεχῶς. παχεῖαι δ’ εἰσὶ τῶν φωνῶν τοὐναντίον, ὅταν ᾖ τὸ πνεῦμα πολὺ καὶ ἀθρόον ἐκπῖπτον· διὸ καὶ τῶν ἀνδρῶν εἰσὶ παχύτεραι καὶ τῶν τελείων αὐλῶν, καὶ μᾶλλον ὅταν πληρώσῃ τις αὐτοὺς τοῦ πνεύματος. φανερὸν δ’ ἐστίν· καὶ γὰρ ἂν πιέσῃ τις τὰ ζεύγη, μᾶλλον ὀξυτέρα ἡ φωνὴ γίγνεται καὶ λεπτοτέρα. κἂν κατασπάσῃ τις τὰς σύριγγας, κἂν δὲ ἐπιλάβῃ, παμπλείων ὁ ὄγκος γίγνεται τῆς φωνῆς διὰ τὸ πλῆθος τοῦ πνεύματος, καθάπερ καὶ ἀπὸ τῶν παχυτέρων χορδῶν. παχεῖαι δὲ γίγνονται καὶ τῶν τραγιζόντων καὶ τῶν βραγχιώντων, καὶ μετὰ τοὺς ἐμέτους, διὰ τὴν τραχύτητα τῆς ἀρτηρίας καὶ διὰ τὸ μὴ ὑπεξάγειν ἀλλ’ αὐτοῦ προσκόπτουσαν ἀνειλεῖσθαι τὴν φωνὴν καὶ λαμβάνειν ὄγκον, καὶ μάλιστα διὰ τὴν ὑγρότητα τοῦ σώματος. λιγυραὶ δ’ εἰσὶ τῶν φωνῶν αἱ λεπταὶ καὶ πυκναί, καθάπερ καὶ ἐπὶ τῶν τεττίγων καὶ τῶν ἀκρίδων καὶ αἱ τῶν ἀηδόνων, καὶ ὅλως ὅσαις λεπταῖς οὔσαις μηθεὶς ἀλλότριος ἦχος παρακολουθεῖ. ὅλως γὰρ οὐκ ἔστιν οὔτ’ ἐν ὄγκῳ φωνῆς τὸ λιγυρόν, οὔτ’ ἐν τόνοις ἀνιεμένοις καὶ βαρέσιν, οὔτ’ ἐν ταῖς τῶν φθόγγων ἁφαῖς, ἀλλὰ μᾶλλον ὀξύτητι καὶ λεπτότητι καὶ ἀκριβείᾳ. διὸ καὶ τῶν ὀργάνων τὰ λεπτὰ καὶ σύντονα καὶ μὴ ἔχοντα κέρας τὰς φωνὰς ἔχει λιγυρωτέρας· ὁ γὰρ ἀπὸ τῶν ὑδάτων ἦχος, καὶ ὅλως ὅταν ἀπό τινος γιγνόμενος παρακολουθῇ, συνέχει τὴν ἀκρίβειαν τὴν τῶν φθόγγων. σαθραὶ δ’ εἰσὶ καὶ παρερρυηκυῖαι τῶν φωνῶν ὅσαι μέχρι τινὸς φερόμεναι συνεχεῖς διασπῶνται. φανερώτατον δὲ τοῦτ’ ἐστὶν ἐπὶ τοῦ κεράμου· πᾶς γὰρ ὁ ἐκ πληγῆς ῥαγεὶς ποιεῖ τὸν ἦχον σαθρόν, διασπωμένης τῆς κινήσεως κατὰ τὴν πληγήν, ὥστε μηκέτι γίγνεσθαι τοὺς ἐκπίπτοντας ἤχους συνεχεῖς. ὁμοίως δὲ τοῦτο συμβαίνει καὶ ἐπὶ τῶν ἐρρωγότων κεράτων καὶ ἐπὶ τῶν χορδῶν τῶν παρανενευρισμένων. ἐπὶ πάντων γὰρ τῶν τοιούτων μέχρι μέν [804b] τινος ὁ ἦχος φέρεται συνεχής, ἔπειτα διασπᾶται, καθ’ ὅ τι ἂν ᾖ μὴ συνεχὲς τὸ ὑποκείμενον, ὥστε μὴ μίαν γίγνεσθαι πληγὴν ἀλλὰ διεσπασμένην, καὶ φαίνεσθαι τὸν ἦχον σαθρόν. σχεδὸν γὰρ παραπλήσιαι τυγχάνουσιν οὖσαι ταῖς τραχείαις· πλὴν ἐκεῖναι μέν εἰσιν ἀπ’ ἀλλήλων κατὰ μικρὰ μέρη διεσπασμέναι, τῶν δὲ σαθρῶν αἱ πλεῖσται τὰς μὲν ἀρχὰς ἔχουσι συνεχεῖς, ἔπειτ' εἰς πλείω μέρη τὴν διαίρεσιν λαμβάνουσιν. δασεῖαι δ' εἰσὶ τῶν φωνῶν ὅσαις ἔσωθεν τὸ πνεῦμα εὐθέως συνεκβάλλομεν μετὰ τῶν φθόγγων, ψιλαὶ δ' εἰσὶ τοὐναντίον ὅσαι γίγνονται χωρὶς τῆς τοῦ πνεύματος ἐκβολῆς. ἀπορρήγνυσθαι δὲ συμβαίνει τὰς φωνάς, ὅταν μηκέτι δύνωνται τὸν ἀέρα μετὰ πληγῆς ἐκπέμπειν, ἀλλ' ὁ περὶ τὸν πνεύμονα τόπος αὐτῶν ὑπὸ τῆς διαστάσεως ἐκλυθῇ. ὥσπερ γὰρ καὶ τὰ σκεύη καὶ τοὺς ὤμους ἐκλύεσθαι συμβαίνει τὸ τελευταῖον συντόνως, οὕτως καὶ τὸν περὶ τὸν πνεύμονα τόπον. κοῦφον γὰρ ἔξω φέρεσθαι τὸ πνεῦμα διὰ τὸ μὴ γίνεσθαι βίαιον αὐτοῦ τὴν πληγήν· ἅμα δὲ καὶ διὰ τὸ τετραχύνθαι τὴν ἀρτηρίαν αὐτῶν ἰσχυρῶς, οὐ δύναται τὸ πνεῦμα ἔξω φέρεσθαι συνεχές, ἀλλὰ διεσπασμένον, ὡς ἀπερρωγυίας γίγνεσθαι τὰς φωνὰς αὐτῶν. καί τινες οἴονται διὰ τὴν τοῦ πνεύμονος γλισχρότητα τὸ πνεῦμα οὐ δύνασθαι περαιοῦσθαι περὶ τὸν ἔξω τόπον, διαμαρτάνοντες· φθέγγονται μὲν γὰρ ἀλλ' οὐ δύνανται γεγωνεῖν διὰ τὸ μὴ γίνεσθαι μετὰ συντονίας τὴν τοῦ ἀέρος πληγήν, ἀλλὰ μόνον φωνοῦσιν, ὡς ἂν ἀπ' αὐτοῦ τοῦ φάρυγγος τὸ πνεῦμα βιαζόμενον. τῶν δ' ἰσχνοφώνων οὔτε περὶ τὰς φλέβας οὔτε περὶ τὰς ἀρτηρίας ἐστὶ τὸ πάθος, ἀλλὰ περὶ τὴν κίνησιν τῆς γλώττης. χαλεπῶς γὰρ αὐτὴν μεταφέρουσιν, ὅταν ἕτερον δέῃ φθόγγον εἰπεῖν. διὸ καὶ πολὺν χρόνον τὸ αὐτὸ ῥῆμα λέγουσιν, οὐ δυνάμενοι τὸ ἑξῆς εἰπεῖν, ἀλλὰ συνεχῶς τῆς κινήσεως καὶ τοῦ πνεύμονος αὐτῶν ἐπὶ τὴν αὐτὴν ὁρμὴν φερομένου διὰ τὸ πλῆθος καὶ τὴν βίαν τοῦ πνεύματος. ὥσπερ γὰρ καὶ τὸ σῶμα ὅλον τῶν τρεχόντων βιαίως χαλεπόν ἐστιν ἐκ τῆς ὁρμῆς εἰς ἄλλην κίνησιν μεταστῆσαι, τὸν αὐτὸν τρόπον καὶ κατὰ μέρος. διὸ καὶ πολλάκις τὸ μὲν ἑξῆς εἰπεῖν οὐ δύνανται, τὸ δὲ μετὰ τοῦτο λέγουσι ῥᾳδίως, ὅταν ἄλλην ποιήσωνται τῆς κινήσεως ἀρχήν. δῆλον δ' ἐστίν· καὶ γὰρ τοῖς ὀργιζομένοις τοῦτο συμβαίνει πολλάκις διὰ τὸ βίαιον αὐτῶν γίγνεσθαι τὴν τοῦ πνεύματος φοράν.

Φυσιογνωμονικα (805a) Physiognomonics

[805a] Ὅτι αἱ διάνοιαι ἕπονται τοῖς σώμασι, καὶ οὐκ εἰσὶν αὐταὶ καθ’ ἑαυτὰς ἀπαθεῖς οὖσαι τῶν τοῦ σώματος κινήσεων. τοῦτο δὲ δῆλον πάνυ γίνεται ἔν τε ταῖς μέθαις καὶ ἐν ταῖς ἀρρωστίαις· πολὺ γὰρ ἐξαλλάττουσαι φαίνονται αἱ διάνοιαι ὑπὸ τῶν τοῦ σώματος παθημάτων. καὶ τοὐναντίον δὴ τοῖς τῆς ψυχῆς παθήμασι τὸ σῶμα συμπάσχον φανερὸν γίνεται περί τε τοὺς ἔρωτας καὶ τοὺς φόβους τε καὶ τὰς λύπας καὶ τὰς ἡδονάς. ἔτι δὲ ἐν τοῖς φύσει γινομένοις μᾶλλον ἄν τις συνίδοι ὅτι οὕτως ἔχει πρὸς ἄλληλα σῶμά τε καὶ ψυχὴ συμφυῶς ὥστε τῶν πλείστων ἀλλήλοις αἴτια γίνεσθαι παθημάτων. οὐδὲν γὰρ πώποτε ζῷον γεγένηται τοιοῦτον ὃ τὸ μὲν εἶδος ἔσχεν ἑτέρου ζῴου, τὴν δὲ διάνοιαν ἄλλου, ἀλλ’ ἀεὶ τοῦ αὐτοῦ τό τε σῶμα καὶ τὴν ψυχήν, ὥστε ἀναγκαῖον ἕπεσθαι τῷ τοιῷδε σώματι τοιάνδε διάνοιαν. ἔτι δὲ καὶ τῶν ἄλλων ζῴων οἱ περὶ ἕκαστον ἐπιστήμονες ἐκ τῆς ἰδέας δύνανται θεωρεῖν, ἱππικοί τε ἵππους καὶ κυνηγέται κύνας. εἰ δὲ ταῦτα ἀληθῆ εἴη (ἀεὶ δὲ ταῦτα ἀληθῆ ἐστίν), εἴη ἂν φυσιογνωμονεῖν. οἱ μὲν οὖν προγεγενημένοι φυσιογνώμονες κατὰ τρεῖς τρόπους ἐπεχείρησαν φυσιογνωμονεῖν, ἕκαστος καθ’ ἕνα. οἱ μὲν γὰρ ἐκ τῶν γενῶν τῶν ζῴων φυσιογνωμονοῦσι, τιθέμενοι καθ’ ἕκαστον γένος εἶδός τι ζῴου καὶ διάνοιαν. οἱ δ’ ἐπὶ τούτοις σῶμά τι, εἶτα τὸν ὅμοιον τῷ σώματι σῶμα ἔχοντα καὶ τὴν ψυχὴν ὁμοίαν ὑπελάμβανον. ἄλλοι δέ τινες τοῦτο μὲν ἐποίουν, οὐκ ἐξ ἁπάντων δὲ τῶν ζῴων ἐδοκίμαζον, ἀλλ’ ἐξ αὐτοῦ τοῦ τῶν ἀνθρώπων γένους, διελόμενοι κατὰ τὰ ἔθνη, ὅσα διέφερε τὰς ὄψεις καὶ τὰ ἤθη, οἷον Αἰγύπτιοι καὶ Θρᾷκες καὶ Σκύθαι, ὁμοίως τὴν ἐκλογὴν τῶν σημείων ἐποιοῦντο. οἱ δέ τινες ἐκ τῶν ἠθῶν τῶν ἐπιφαινομένων, οἵᾳ διαθέσει ἕπεται ἕκαστον ἦθος, τῷ ὀργιζομένῳ, τῷ φοβουμένῳ, τῷ ἀφροδισιάζοντι, καὶ τῶν ἄλλων δὴ παθημάτων ἑκάστῳ. ἔστι δὲ κατὰ πάντας τούτους τοὺς τρόπους φυσιογνωμονεῖν, καὶ ἔτι κατ’ ἄλλους, καὶ τὴν ἐκλογὴν τῶν σημείων ἀνομοίως ποιεῖσθαι. οἱ μὲν οὖν κατὰ [805b] τὰ ἤθη μόνον φυσιογνωμονοῦντες ἁμαρτάνουσιν, πρῶτον μὲν ὅτι ἔνιοι οὐχ οἱ αὐτοὶ ὄντες τὰ ἐπὶ τῶν προσώπων ἤθη τὰ αὐτὰ ἔχουσιν, οἷον ὅ τε ἀνδρεῖος καὶ ὁ ἀναιδὴς

τὰ αὐτὰ ἔχουσι, τὰς διανοίας πολὺ κεχωρισμένοι, δεύτερον δὲ ὅτι κατὰ χρόνους τινὰς τὰ ἤθη οὐ τὰ αὐτὰ ἀλλ᾽ ἑτέρων ἔχουσιν· δυσανίοις τε γὰρ οὖσιν ἐνίοτε συνέβη τὴν ἡμέραν ἡδέως διαγαγεῖν καὶ τὸ ἦθος λαβεῖν τὸ τοῦ εὐθύμου, καὶ τοὐναντίον εὔθυμον λυπηθῆναι, ὥστε τὸ ἦθος τὸ ἐπὶ τοῦ προσώπου μεταβαλεῖν. ἔτι πρὸς τούτοις περὶ ὀλίγων ἄν τις τοῖς ἐπιφαινομένοις τεκμαίροιτο. οἱ δ᾽ ἐκ τῶν θηρίων φυσιογνωμονοῦντες οὐκ ὀρθῶς τὴν ἐκλογὴν τῶν σημείων ποιοῦνται. οὐ γὰρ δὴ ἑκάστου τῶν ζῴων τὴν ἰδέαν διεξελθόντα ἔστιν εἰπεῖν ὅτι, ὃς ἂν ὅμοιος τούτῳ τὸ σῶμα ᾖ, καὶ τὴν ψυχὴν ὅμοιος ἔσται. πρῶτον μὲν γὰρ ὡς ἁπλῶς εἰπεῖν οὕτως ὅμοιον θηρίῳ ἄνθρωπον οὐδεὶς ἂν εὕροι, ἀλλὰ προσεοικότα μέν τι. ἔτι πρὸς τούτοις τὰ ζῷα ὀλίγα μὲν τὰ ἴδια ἔχει σημεῖα, πολλὰ δὲ τὰ κοινά· ὥστε ἐπειδὰν ὅμοιός τις ᾖ μὴ κατὰ τὸ ἴδιον ἀλλὰ κατὰ τὸ κοινόν, τί μᾶλλον οὗτος λέοντι ἢ ἐλάφῳ ὁμοιότερος; εἰκὸς γὰρ τὰ μὲν ἴδια τῶν σημείων ἴδιόν τι σημαίνειν, τὰ δὲ κοινὰ κοινόν. τὰ μὲν οὖν κοινὰ τῶν σημείων οὐδὲν ἂν διασαφηθείη τῷ φυσιογνωμονοῦντι. εἰ δέ τις τὰ ἴδια ἑκάστου τῶν θηρίων ἐκλέξειεν, οὐκ ἂν ἔχοι ἀποδοῦναι οὗ ἐστὶ ταῦτα σημεῖα. εἰκὸς γὰρ τοῦ ἰδίου, ἴδιον δὲ οὐδενὸς οὐδὲν τῶν ζῴων τῶν φυσιογνωμονουμένων ἔν γε τῇ διανοίᾳ ἔχοι ἄν τις λαβεῖν· οὔτε γὰρ ἀνδρεῖον μόνον ὁ λέων ἐστίν, ἀλλὰ καὶ ἄλλα πολλά, οὔτε δειλὸν ὁ λαγωός, ἀλλὰ καὶ ἄλλα μυρία. εἰ οὖν μήτε τὰ κοινὰ σημεῖα ἐκλέξαντι σαφές τι γίνεται μήτε τὰ ἴδια, οὐκ ἂν εἴη καθ᾽ ἕκαστον τῶν ζῴων σκέπτεσθαι, ἀλλ᾽ ἐξ ἀνθρώπων τὴν ἐκλογὴν ποιητέον τῶν τὸ αὐτὸ πάθος πασχόντων, οἷον, ἂν μὲν ἀνδρείου ἐπισκοπῇ τις τὰ σημεῖα, τὰ ἀνδρεῖα τῶν ζῴων εἰς ἓν λαβόντα δεῖ ἐξετάσαι, ποῖα παθήματα τούτοις μὲν ἅπασιν ὑπάρχει, τῶν δὲ ἄλλων ζῴων οὐδενὶ συμβέβηκεν. εἰ γὰρ [806a] οὕτω τις ἐκλέξειεν, ὅτι ταῦτά ἐστι τὰ σημεῖα ἀνδρείας τοῖς προκριθεῖσι ζῴοις, μὴ μόνον ἀνδρείας κοινὸν ὑπάρχειν πάθημα τῶν ἐν τῇ διανοίᾳ, ἀλλὰ καὶ ἄλλο τι· οὕτω δ᾽ ἂν ἀπορήσειε πότερον ἀνδρείας ἢ θατέρου τὰ σημεῖά ἐστιν. ἀλλὰ δεῖ ἐκ πλείστων τε ἐκλέγεσθαι ζῴων, καὶ μηδὲν πάθος κοινὸν ἐχόντων ἐν τῇ διανοίᾳ ἄλλο τι, οὗ ἂν τὰ σημεῖα σκοπῇ. ὅσα μὲν οὖν τῶν σημείων μόνιμά ἐστι, μόνιμον ἄν τι καὶ σημαίνοι· ὅσα δὲ ἐπιγινόμενά τε καὶ ἀπολείποντα, πῶς ἂν τὸ σημεῖον ἀληθὲς εἴη τοῦ ἐν τῇ διανοίᾳ μὴ μένοντος; εἰ μὲν γὰρ μόνιμον ἐπιγινόμενόν τε καὶ ἀπολεῖπον σημεῖόν τις ὑπολάβοι, ἐνδέχοιτο μὲν ἂν αὐτὸ ἀληθὲς εἶναι, οὐ μὴν ἐπιεικὲς ἂν εἴη, μὴ ἀεὶ τῷ πράγματι παρεπόμενον. ὅσα δὲ παθήματα ἐγγινόμενα τῇ ψυχῇ μηδέν τι ἐνδιαλλάττει τὰ σημεῖα τὰ ἐν τῷ σώματι, οἷς χρῆται ὁ φυσιογνώμων, οὐκ ἂν εἴη τὰ τοιαῦτα γνωρίσματα τῇ τέχνῃ, οἷον τὰ περὶ τὰς δόξας καὶ τὰς ἐπιστήμας ἰατρὸν ἢ κιθαριστὴν οὐκ ἐνδέχεται γνωρίζειν· ὁ γὰρ μαθὼν ὅ τι μάθημα, οὐδὲν ἐξήλλαξε τῶν σημείων οἷς χρῆται ὁ φυσιογνώμων.

Δεῖ δὴ οὖν ὁρίσαι περὶ ποῖα ἄττα ἐστὶν ἡ φυσιογνωμονία, ἐπειδὴ οὐ περὶ πάντα, καὶ ἐκ τίνων ἕκαστα σημεῖα λαμβάνεται, ἔπειτ' ἐφεξῆς καθ' ἓν ἕκαστον περὶ τῶν ἐπιφανεστέρων δηλῶσαι. ἡ μὲν οὖν φυσιογνωμονία ἐστί, καθάπερ καὶ τοὔνομα αὐτῆς λέγει, περὶ τὰ φυσικὰ παθήματα τῶν ἐν τῇ διανοίᾳ, καὶ τῶν ἐπικτήτων ὅσα παραγινόμενα μεθίστησι τῶν σημείων τῶν φυσιογνωμονουμένων. ὁποῖα δὲ ταῦτά ἐστιν, ὕστερον δηλωθήσεται. ἐξ ὧν δὲ γενῶν τὰ σημεῖα λαμβάνεται, νῦν ἐρῶ, καὶ ἔστιν ἅπαντα· ἔκ τε γὰρ τῶν κινήσεων φυσιογνωμονοῦσι, καὶ ἐκ τῶν σχημάτων, καὶ ἐκ τῶν χρωμάτων, καὶ ἐκ τῶν ἠθῶν τῶν ἐπὶ τοῦ προσώπου ἐμφαινομένων, καὶ ἐκ τῶν τριχωμάτων, καὶ ἐκ τῆς λειότητος, καὶ ἐκ τῆς φωνῆς, καὶ ἐκ τῆς σαρκός, καὶ ἐκ τῶν μερῶν, καὶ ἐκ τοῦ τύπου ὅλου τοῦ σώματος. καθόλου μὲν οὖν τοιαῦτά ἐστιν ἃ λέγουσιν οἱ φυσιογνώμονες περὶ ὅλων τῶν γενῶν ἐν οἷς ἐστὶ τὰ σημεῖα. εἰ μὲν οὖν ἀσαφὴς ἢ μὴ εὔσημος ἦν ἡ τοιαύτη διέξοδος, ἀπέχρησεν ἂν τὰ εἰρημένα. νυνὶ δ' ἴσως βέλτιόν ἐστι καθ' ἕκαστον περὶ πάντων, ὅσα ἐπιφανῆ παρὰ τῶν φυσιογνωμονουμένων, [806b] ἀκριβέστερον φράσαι, τά τε σημεῖα λέγοντα, οἷά τ' ἐστὶν ἕκαστα καὶ ἐπὶ τί ἀναφέρεται, ὅσα μὴ ἐν τοῖς προειρημένοις δεδήλωται. αἱ μὲν οὖν χροιαὶ σημαίνουσιν αἱ μὲν ὀξεῖαι θερμὸν καὶ ὕφαιμον, αἱ δὲ λευκέρυθροι εὐφυΐαν, ὅταν ἐπὶ λείου χρωτὸς συμβῇ τοῦτο τὸ χρῶμα. τὰ δὲ τριχώματα τὰ μὲν μαλακὰ δειλόν, τὰ δὲ σκληρὰ ἀνδρεῖον. τοῦτο δὲ τὸ σημεῖον εἴληπται ἐξ ἁπάντων τῶν ζῴων. δειλότατον μὲν γάρ ἐστιν ἔλαφος λαγωὸς πρόβατα, καὶ τὴν τρίχα μαλακωτάτην ἔχει· ἀνδρειότατον δὲ λέων, ὗς ἄγριος, καὶ τρίχα σκληροτάτην φέρει. ἔστι δὲ καὶ ἐν τοῖς ὄρνισι τὸ αὐτὸ τοῦτο ἰδεῖν· καθόλου τε γὰρ ὅσοι μὲν σκληρὸν τὸ πτερὸν ἔχουσιν, ἀνδρεῖοι, ὅσοι δὲ μαλακόν, δειλοί, καὶ κατὰ μέρη ἔστι ταὐτὸ τοῦτο ἰδεῖν ἔν τε τοῖς ὄρτυξι καὶ ἐν τοῖς ἀλεκτρυόσιν. ὁμοίως δὲ καὶ ἐπὶ τῶν γενῶν τῶν ἀνθρώπων ταὐτὸ τοῦτο συμπίπτει· οἱ μὲν γὰρ ὑπὸ ταῖς ἄρκτοις οἰκοῦντες ἀνδρεῖοί τέ εἰσι καὶ σκληρότριχες, οἱ δὲ πρὸς μεσημβρίαν δειλοί τε καὶ μαλακὸν τρίχωμα φέρουσιν. ἡ δὲ δασύτης ἡ περὶ τὴν κοιλίαν λαλιὰν σημαίνει. τοῦτο δὲ ἀναφέρεται εἰς τὸ γένος τῶν ὀρνίθων· ἴδιον γὰρ ὄρνιθος τῶν περὶ τὸ σῶμα ἡ δασύτης ἡ περὶ τὴν κοιλίαν, τῶν δὲ περὶ διάνοιαν ἡ λαλιά. ἡ δὲ σὰρξ ἡ μὲν σκληρὰ καὶ εὐεκτικὴ φύσει ἀναίσθητον σημαίνει, ἡ δὲ λεία καὶ εὐφυέα καὶ ἀβέβαιον, ἐὰν μὴ ἐπ' ἰσχυροῦ σώματος καὶ τὰ ἀκρωτήρια ἐγκρατῆ ἔχοντος τοῦτο συμβῇ. αἱ δὲ κινήσεις αἱ μὲν νωθραὶ μαλακὴν διάνοιαν, αἱ δὲ ὀξεῖαι ἔνθερμον. ἐπὶ δὲ τῆς φωνῆς ἡ μὲν βαρεῖα καὶ ἐπιτεινομένη ἀνδρεῖον, ἡ δὲ ὀξεῖα καὶ ἀνειμένη δειλόν. τὰ δὲ σχήματα καὶ τὰ παθήματα τὰ ἐπιφαινόμενα ἐπὶ τῶν προσώπων κατὰ τὰς ὁμοιότητας λαμβάνεται τῷ πάθει. ὅταν γὰρ πάσχῃ τι, γίνεται οἷον εἰ τοιοῦτον ἔχει ὅταν τις ὀργίζηται, ὀργίλον τὸ σημεῖον τοῦ αὐτοῦ γένους. τὸ δὲ ἄρρεν τοῦ θήλεος μεῖζον καὶ ἰσχυρότερον, καὶ τὰ ἀκρωτήρια τοῦ σώματος ἰσχυρότερα καὶ λιπαρώτερα καὶ εὐεκτικώτερα καὶ βελτίω κατὰ πάσας τὰς ἀρετάς. ἰσχυρότερα δὲ τῶν ἐπὶ τοῖς μέρεσι σημείων ἐστὶ τὰ ἐν τοῖς ἤθεσι τοῖς ἐν τοῖς ἐπιφαινομένοις λαμβανόμενα καὶ τὰ κατὰ τὰς κινήσεις καὶ τὰ σχήματα. ὅλως δὲ τὸ ἑνὶ μὲν πιστεύειν [807a] τῶν σημείων εὔηθες· ὅταν δὲ πλείω συμφωνοῦντα καθ’ ἑνὸς λάβῃ, μᾶλλον ἤδη κατὰ τὸ εἰκὸς ἄν τις ὑπολαμβάνοι ἀληθῆ εἶναι τὰ σημεῖα. ἔστι δὲ ἄλλος τρόπος καθ’ ὃν ἄν τις φυσιογνωμονοίη· οὐδεὶς μέντοι ἐπικεχείρηκεν. οἷον εἰ ἀνάγκη ἐστὶ τὸν ὀργίλον καὶ τὸν δυσάνιον καὶ μικρὸν τὸ ἦθος φθονερὸν εἶναι, εἰ καὶ μή ἐστι φθονεροῦ σημεῖα, ἐξ ἐκείνων δὲ τῶν προτέρων ἐνδέχοιτο ἂν τῷ φυσιογνώμονι καὶ τὸν φθονερὸν εὑρίσκειν, μάλιστα μὲν ἂν ὁ τοιοῦτος ἴδιος τρόπος εἴη τοῦ πεφιλοσοφηκότος. τὸ γὰρ δύνασθαι τινῶν ὄντων ἀναγκαῖον εἶναι, ἴδιον ὑπολαμβάνοιμεν φιλοσοφίας· ὅπερ ἐστὶν ὅτε ἐναντιοῦται τούτῳ κατὰ τὰ πάθη φυσιογνωμονεῖν καὶ τὰ κακά.

Περὶ φωνῆς κατὰ μὲν τὸ πάθος ἐπισκοπῶν ὀξεῖαν οἰηθείη ἄν τις δυεῖν ἕνεκεν τιθέναι τοῦ θυμοειδοῦς. ὁ γὰρ ἀγανακτῶν καὶ ὀργιζόμενος ἐπιτείνειν εἴωθε τὸν φθόγγον καὶ ὀξὺ φθέγγεσθαι, ὁ δὲ ῥαθύμως διακείμενος τόν τε τόνον ἀνίησι καὶ βαρὺ φθέγγεται. τῶν δ’ αὖ ζῴων τὰ μὲν ἀνδρεῖα βαρύφωνά ἐστι, τὰ δὲ δειλὰ ὀξύφωνα, λέων μὲν καὶ ταῦρος, καὶ κύων ὑλακτικός, καὶ τῶν ἀλεκτρυόνων οἱ εὔψυχοι βαρύφωνοι φθέγγονται· ἔλαφος δὲ καὶ λαγὼς ὀξύφωνά ἐστιν. ἀλλ’ ἴσως καὶ ἐν τούτοις κρεῖσσόν ἐστι μὴ ἐν τῷ βαρεῖαν ἢ ὀξεῖαν εἶναι τὴν φωνὴν αὐτῶν ἀνδρεῖον ἢ δειλὸν τιθέναι, ἀλλ’ ἐν τῷ τὴν μὲν ἐρρωμένην ἀνδρείου τὴν δὲ ἀνειμένην καὶ ἀσθενῆ δειλοῦ ὑποληπτέον εἶναι. ἔστι δὲ κράτιστον, ὅταν τὰ σημεῖα μὴ ὁμολογούμενα ἀλλ’ ὑπεναντιούμενα, μηδὲν τιθέναι, εἰ μή ἐστι τῶν διῃρημένων ποῖα ποίων πιστότερα, καὶ μάλιστα μὲν εἰς εἴδη ἀλλὰ μὴ εἰς ὅλα τὰ γένη ἀναφέρειν. ὁμοιότερα γάρ ἐστι τῷ ζητουμένῳ· οὐ γὰρ ὅλον τὸ γένος τῶν ἀνθρώπων φυσιογνωμονοῦμεν, ἀλλά τινα τῶν ἐν τῷ γένει.

Ἀνδρείου σημεῖα τρίχωμα σκληρόν, τὸ σχῆμα τοῦ σώματος ὀρθόν, ὀστᾶ καὶ πλευραὶ καὶ τὰ ἀκρωτήρια τοῦ σώματος ἰσχυρὰ καὶ μεγάλα, καὶ κοιλία πλατεῖα καὶ προσεσταλμένη· ὠμοπλάται πλατεῖαι καὶ διεστηκυῖαι, οὔτε λίαν συνδεδεμέναι οὔτε παντάπασιν ἀπολελυμέναι· τράχηλος ἐρρωμένος, οὐ σφόδρα σαρκώδης· τὸ στῆθος σαρκῶδές τε καὶ πλατύ, ἰσχίον προσεσταλμένον, γαστροκνημίαι κάτω [807b] προσεσπασμέναι· ὄμμα χαροπόν, οὔτε λίαν ἀνεπτυγμένον οὔτε παντάπασι συμμύον· αὐχμηρότερον τὸ χρῶμα τὸ ἐπὶ τοῦ σώματος· ὀξὺ μέτωπον, εὐθύ, οὐ μέγα, ἰσχνόν, οὔτε λεῖον οὔτε παντάπασι ῥυτιδῶδες. δειλοῦ σημεῖα τριχωμάτιον μαλακόν, τὸ σῶμα συγκεκαθικός, οὐκ ἐπισπερχής· αἱ δὲ γαστροκνημίαι ἄνω ἀνεσπασμέναι· περὶ τὸ πρόσωπον ὕπωχρος· ὄμματα ἀσθενῆ καὶ σκαρδαμύττοντα, καὶ τὰ ἀκρωτήρια τοῦ σώματος ἀσθενῆ, καὶ μικρὰ σκέλη, καὶ χεῖρες λεπταὶ καὶ μακραί· ὀσφὺς δὲ μικρὰ καὶ ἀσθενής· τὸ σχῆμα σύντονον ἐκ ταῖς κινήσεσιν· οὐκ ἰταμὸς ἀλλ’ ὕπτιος καὶ τεθαμβηκώς· τὸ ἦθος τὸ ἐπὶ τοῦ προσώπου εὐμετάβολον, κατηφής. εὐφυοῦς σημεῖα σὰρξ ὑγροτέρα καὶ ἁπαλωτέρα, οὐκ εὐεκτικὴ οὐδὲ πιμελώδης σφόδρα· τὰ περὶ τὰς ὠμοπλάτας καὶ τράχηλον ἰσχνότερα, καὶ τὰ περὶ τὸ πρόσωπον, καὶ σύνδετα τὰ περὶ τὰς ὠμοπλάτας, καὶ τὰ κάτω ἀφειμένα· εὔλυτα τὰ περὶ τὰς πλευράς· καὶ τὸν νῶτον ἀσαρκότερος· τὸ σῶμα λευκέρυθρον καὶ καθαρόν· τὸ δερμάτιον λεπτόν, τριχωμάτιον μὴ λίαν σκληρὸν μηδὲ λίαν μέλαν, ὄμμα χαροπόν, ὑγρόν. ἀναισθήτου σημεῖα τὰ περὶ τὸν αὐχένα καὶ τὰ σκέλη σαρκώδη καὶ συμπεπλεγμένα καὶ συνδεδεμένα, κοτύλη στρογγύλη, ὠμοπλάται ἄνω ἀνεσπασμέναι, μέτωπον μέγα περιφερὲς σαρκῶδες, ὄμμα χλωρὸν κωφόν, κνῆμαι περὶ σφυρὸν παχεῖαι σαρκώδεις στρογγύλαι, σιαγόνες μεγάλαι σαρκώδεις, ὀσφὺς σαρκώδης, σκέλη μακρά, τράχηλος παχύς, πρόσωπον σαρκῶδες, ὑπόμακρον ἱκανῶς. τὰς δὲ κινήσεις καὶ τὸ σχῆμα καὶ τὸ ἦθος τὸ ἐπὶ τοῦ προσώπου ἐπιφαινόμενον κατὰ τὰς ὁμοιότητας ἀναλαμβάνει. ἀναιδοῦς σημεῖα ὀμμάτιον ἀνεπτυγμένον καὶ λαμπρόν, βλέφαρα ὕφαιμα καὶ παχέα· μικρὸν ἔγκυρτος· ὠμοπλάται ἄνω ἐπῃρμέναι· τῷ σχήματι μὴ ὀρθὸς ἀλλὰ μικρῷ προπετέστερος, ἐν ταῖς κινήσεσιν ὀξύς, ἐπίπυρρος τὸ σῶμα· τὸ χρῶμα ὕφαιμον· στρογγυλοπρόσωπος· τὸ στῆθος ἀνεσπασμένον. κοσμίου σημεῖα. ἐν ταῖς κινήσεσι βραδύς, καὶ διάλεκτος βραδεῖα καὶ φωνὴ πνευματώδης καὶ ἀσμενής, ὀμμάτιον ἀλαμπὲς μέλαν καὶ μήτε λίαν ἀνεπτυγμένον μήτε παντάπασι συμμεμυκός, σκαρδαμυκτικὸν βραδέως· τὰ μὲν γὰρ ταχέως [808a] σκαρδαμύττοντα τῶν ὀμμάτων τὰ μὲν δειλὸν τὰ δὲ θερμὸν σημαίνει. εὐθύμου σημεῖα μέτωπον εὐμέγεθες καὶ σαρκῶδες καὶ λεῖον, τὰ περὶ τὰ ὄμματα ταπεινότερα. καὶ ὑπνωδέστερον τὸ πρόσωπον φαίνεται, μήτε δεδορκὸς μήτε σύννουν. ἔν τε ταῖς κινήσεσι βραδὺς ἔστω καὶ ἀνειμένος· τῷ σχήματι καὶ τῷ ἤθει τῷ ἐπὶ τοῦ προσώπου μὴ ἐπισπερχὴς ἀλλὰ ἀγαθὸς φαινέσθω. ἀθύμου σημεῖα. τὰ ῥυτιδώδη τῶν προσώπων καὶ ἰσχνὰ ὄμματα κατακεκλασμένα, ἅμα δὲ καὶ τὰ κεκλασμένα τῶν ὀμμάτων, δύο σημαίνει, τὸ μὲν μαλακὸν καὶ θῆλυ, τὸ δὲ κατηφὲς καὶ ἄθυμον. ἐν τῷ σχήματι ταπεινὸς καὶ ταῖς κινήσεσιν ἀπηγορευκώς. κιναίδου σημεῖα ὄμμα κατακεκλασμένον, γονύκροτος· ἐγκλίσεις τῆς κεφαλῆς εἰς τὰ δεξιά· αἱ φοραὶ τῶν χειρῶν ὕπτιαι καὶ ἔκλυτοι, καὶ βαδίσεις διτταί, ἡ μὲν περινεύοντος, ἡ δὲ κρατοῦντος τὴν ὀσφύν· καὶ τῶν ὀμμάτων περιβλέψεις, οἷος ἂν εἴη Διονύσιος ὁ σοφιστής. πικροῦ σημεῖα τὸ πρόσωπον σεσηρός· μελανόχρως, ἰσχνός· τὰ περὶ τὸ πρόσωπον διεξυσμένα, τὸ πρόσωπον ῥυτιδῶδες ἄσαρκον· εὐθύθριξ καὶ μελάνθριξ. θυμώδους σημεῖα. ὀρθὸς τὸ σῶμα, τῷ σχήματι εὔπλευρος, εὔθυμος, ἐπίπυρρος· ὠμοπλάται διεστηκυῖαι καὶ μεγάλαι καὶ πλατεῖαι· ἀκρωτήρια μεγάλα καὶ ἐγκρατῆ· λεῖος καὶ περὶ τὰ στήθη καὶ περὶ βουβῶνας, εὐπώγων· εὐαυξὴς ὁ περίδρομος τῶν τριχῶν, κάτω κατεληλυθώς. πραέος σημεῖα. ἰσχυρὸς τὸ εἶδος, εὔσαρκος· ὑγρὰ σὰρξ καὶ πολλή· εὐμεγέθης καὶ σύμμετρος· ὕπτιος τῷ σχήματι· ὁ περίδρομος τῶν τριχῶν ἀνεσπασμένος. εἴρωνος σημεῖα πίονα τὰ περὶ τὸ πρόσωπον, καὶ τὰ περὶ τὰ ὄμματα ῥυτιδώδη· ὑπνῶδες τὸ πρόσωπον τῷ ἤθει φαίνεται. μικροψύχου σημεῖα. μικρομελής, μικρογλάφυρος, ἰσχνός, μικρόμματος καὶ μικροπρόσωπος, οἷος ἂν εἴη Κορίνθιος ἢ Λευκάδιος. φιλόκυβοι γαλεαγκῶνες καὶ ὀρχησταί. φιλολοίδοροι οἷς τὸ ἄνω χεῖλος μετέωρον· καὶ τὰ εἴδη προπετεῖς, ἐπίπυρροι. ἐλεήμονες ὅσοι γλαφυροὶ καὶ λευκόχροοι καὶ λιπαρόμματοι καὶ τὰ ῥινία ἄνωθεν διεξυσμένοι, καὶ ἀεὶ δακρύουσιν. οἱ αὐτοὶ οὗτοι καὶ φιλογύναιοι καὶ θηλυγόνοι καὶ περὶ τὰ ἤθη ἐρωτικοὶ καὶ ἀειμνήμονες καὶ εὐφυεῖς καὶ ἔνθερμοι. τούτων δὲ σημεῖα [808b] εἴρηται. ἐλεήμων ὁ σοφὸς καὶ δειλὸς καὶ κόσμιος, ἀνελέητος ἀμαθὴς καὶ ἀναιδής. ἀγαθοὶ φαγεῖν οἷς τὸ ἀπὸ τοῦ ὀμφαλοῦ πρὸς στῆθος μεῖζόν ἐστιν ἢ τὸ ἐντεῦθεν πρὸς τὸν αὐχένα. λάγνου σημεῖα. λευκόχρως καὶ δασὺς εὐθείαις θριξὶ καὶ παχείαις καὶ μελαίναις· καὶ οἱ κρόταφοι δασεῖς εὐθείαις θριξί· λιπαρὸν τὸ ὀμμάτιον καὶ μάργον. φίλυπνοι οἱ τὰ ἄνω μείζω ἔχοντες καὶ γυπώδεις καὶ θερμοί, εὐεκτικὴν σάρκα ἔχοντες, καὶ γλαφυροὶ τὰ εἴδη, καὶ δασεῖς τὰ περὶ τὴν κοιλίαν. μνήμονες οἱ τὰ ἄνω ἐλάττονα ἔχοντες καὶ γλαφυρὰ καὶ σαρκωδέστερα.

Δοκεῖ δέ μοι ἡ ψυχὴ καὶ τὸ σῶμα συμπαθεῖν ἀλλήλοις· καὶ ἡ τῆς ψυχῆς ἕξις ἀλλοιουμένη συναλλοιοῖ τὴν τοῦ σώματος μορφήν, πάλιν τε ἡ τοῦ σώματος μορφὴ ἀλλοιουμένη συναλλοιοῖ τὴν τῆς ψυχῆς ἕξιν. ἐπειδὴ γάρ ἐστι ψυχῆς τὸ ἀνιᾶσθαί τε καὶ εὐφραίνεσθαι, καταφανὲς ὅτι οἱ ἀνιώμενοι σκυθρωπότεροί εἰσι καὶ οἱ εὐφραινόμενοι ἱλαροί. εἰ μὲν οὖν ἦν τῆς ψυχῆς λελυμένης ἔτι τὴν ἐπὶ τοῦ σώματος μορφὴν μένειν, ἣν μὲν ἂν καὶ οὕτως ἡ ψυχή τε καὶ τὸ σῶμα συμπαθῇ, οὐ μέντοι συνδιατελοῦντα ἀλλήλοις. νῦν δὲ καταφανὲς ὅτι ἑκάτερον ἑκατέρῳ ἕπεται. μάλιστα μέντοι ἐκ τοῦδε δῆλον γένοιτο. μανία γὰρ δοκεῖ εἶναι περὶ ψυχήν, καὶ οἱ ἰατροὶ φαρμάκοις καθαίροντες τὸ σῶμα καὶ διαίταις τισὶ πρὸς αὐτοῖς χρησάμενοι ἀπαλλάττουσι τὴν ψυχὴν τῆς μανίας. ταῖς δὴ τοῦ σώματος θεραπείαις καὶ ἅμα ἥ τε τοῦ σώματος μορφὴ λέλυται καὶ ἡ ψυχὴ μανίας ἀπήλλακται. ἐπειδὴ οὖν ἅμα ἀμφότερα λύονται, δῆλον ὅτι συνδιατελοῦσιν ἀλλήλοις. συμφανὲς δὲ καὶ ὅτι ταῖς δυνάμεσι τῆς ψυχῆς ὅμοιαι αἱ μορφαὶ τοῖς σώμασιν ἐπιγίνονται, ὥστ' ἐστὶν ἅπαντα ἐν τοῖς ζῴοις τοῦ αὐτοῦ τινὸς δηλωτικά. πολλὰ δὲ καὶ ὧν διαπράττεται τὰ ζῷα, τὰ μὲν ἴδια ἑκάστου γένους πάθη τῶν ζῴων ἐστί, τὰ δὲ κοινά. ἐπὶ μὲν οὖν τοῖς ἰδίοις ἔργοις τῆς ψυχῆς ἴδια τὰ πάθη κατὰ τὸ σῶμα, ἐπὶ δὲ τοῖς κοινοῖς τὰ κοινά. κοινὰ μὲν οὖν ἐστὶν ὕβρις τε καὶ ἡ περὶ τὰ ἀφροδίσια ἔκστασις. τῶν μὲν οὖν λοφούρων κοινόν ἐστιν ὕβρις, τῶν δὲ ὄνων τε καὶ συῶν ἡ περὶ τὰ ἀφροδίσια ἕξις. ἴδιον δ' ἐστὶν ἐπὶ μὲν τῶν κυνῶν τὸ λοίδορον, ἐπὶ δὲ τῶν ὄνων τὸ ἄλυπον. ὡς μὲν [809a] οὖν τὸ κοινόν τε καὶ τὸ ἴδιον χρὴ διελέσθαι, εἴρηται. δεῖ μέντοι πρὸς ἅπαντα πολλῆς συνηθείας, εἰ μέλλει τις αὐτὸς ἔσεσθαι ἱκανὸς περὶ τούτων ἕκαστα λέγειν. ἐπειδὴ γὰρ τὰ ὁρώμενα ἐπὶ τῶν σωμάτων λέγεται ἀναφέρεσθαι ἐπὶ τὰς ὁμοιότητας τάς τε ἀπὸ τῶν ζῴων καὶ τὰς ἀπὸ τῶν πράξεων γινομένας, καὶ ἰδέαι τινὲς ἄλλαι ἀπὸ θερμοτήτων καὶ ἀπὸ ψυχροτήτων γίνονται, ἔστι τε τούτων ἔνια τῶν ἐπιφαινομένων ἐπί τε τοῖς σώμασι μικραῖς διαφοραῖς κεχρημένα καὶ τῷ αὐτῷ ὀνόματι προσαγορευόμενα, οἷον αἵ τε ἀπὸ φόβων ὠχρότητες καὶ ἀπὸ πόνων (αὗται γὰρ ὀνόματί τε τῷ αὐτῷ κέχρηνται, καὶ διαφορὰν μικρὰν ἔχουσι πρὸς ἀλλήλας), μικρᾶς δὲ οὔσης τῆς διαφορᾶς οὐ ῥᾴδιον γινώσκειν ἀλλὰ ἢ ἐκ τῆς συνηθείας τῆς μορφῆς τὴν ἐπιπρέπειαν εἰληφότα, ἔστι μὲν οὖν καὶ τάχιστος καὶ ἄριστος ὁ ἀπὸ τῆς ἐπιπρεπείας, καὶ ἔστι γε οὕτως τούτῳ χρώμενον πολλὰ διαγινώσκειν. καὶ οὐ μόνον καθόλου χρήσιμον ἐστιν, ἀλλὰ καὶ πρὸς τὴν τῶν σημείων ἐκλογήν· ἕκαστον γὰρ τῶν ἐκλεγομένων καὶ πρέπειν δεῖ τοιοῦτον οἷον τὸ ἐκλεγόμενον θέλει. ἔτι τε κατὰ τὴν ἐκλογὴν τῶν σημείων, καὶ τῷ συλλογισμῷ, ᾧ δεῖ χρῆσθαι ὅπου ἄν τι τύχῃ, προστιθέντας τοῖς προσοῦσι τὰ προσήκοντα, οἷον εἰ ἀναιδής τε εἴη καὶ μικρολόγος, καὶ κλέπτης ἂν εἴη καὶ ἀνελεύθερος, καὶ κλέπτης μὲν ἑπομένως τῇ ἀναιδείᾳ, τῇ δὲ μικρολογίᾳ ἀνελεύθερος. ἐπὶ μὲν οὖν τῶν τοιούτων ἑκάστου δεῖ τοῦτον τὸν τρόπον προσαρμόζοντα τὴν μέθοδον ποιεῖσθαι.

Νυνὶ δὲ πρῶτον πειράσομαι τῶν ζῴων διελέσθαι, ὁποῖα αὐτῶν προσήκει διαλλάττειν πρὸς τὸ εἶναι ἀνδρεῖα καὶ δειλὰ καὶ δίκαια καὶ ἄδικα. διαιρετέον δὲ τὸ τῶν ζῴων γένος εἰς δύο μορφάς, εἰς ἄρσεν καὶ θῆλυ, προσάπτοντα τὸ πρέπον ἑκατέρᾳ μορφῇ. ἔστι δὲ ὅμοια. ἐπιχειροῦμεν οὖν τρέφειν τῶν θηρίων προσηνέστερα καὶ μαλακώτερα τὰς ψυχὰς τὰ θήλεα τῶν ἀρρένων, ἧττόν τε ῥωμαλεούμενα, τάς τε τροφὰς καὶ τὰς χειροηθείας μᾶλλον προσδεχόμενα. ὥστε τοιαῦτα ὄντα εἴη που ἂν ἀθυμότερα τῶν ἀρρένων. καταφανὲς δὲ τοῦτο ἐξ ἡμῶν πού ἐστιν, ὅτι ἐπὰν ὑπὸ θυμοῦ κρατηθῶμεν, δυσπαραπιστότεροί τε, καὶ μάλιστα ἐρρώμεθα πρὸς τὸ μηδαμῇ μηδὲν εἶξαι, ἐπὶ τὸ βιάζεσθαι δὲ καὶ πρᾶξαι φερόμεθα, πρὸς ὃ ἂν ὁ θυμὸς ὁρμήσῃ. δοκεῖ δέ μοι καὶ κακουργότερα γίνεσθαι τὰ θήλεα τῶν ἀρρένων, καὶ προπετέστερά τε καὶ ἀναλκέστερα. [809b] αἱ μὲν οὖν γυναῖκες καὶ τὰ περὶ ἡμᾶς τρεφόμενα καὶ πάνυ που φανερὰ ὄντα· τὰ δὲ περὶ τὴν ὕλην πάντες ὁμολογοῦσιν οἱ νομεῖς τε καὶ θηρευταὶ ὅτι τοιαῦτά ἐστιν οἷα προείρηται. ἀλλὰ μὴν καὶ τόδε δῆλον, ὅτι ἕκαστον ἐν ἑκάστῳ γένει θῆλυ ἄρρενος μικροκεφαλώτερόν ἐστι καὶ στενοπροσωπότερον καὶ λεπτοτραχηλότερον, καὶ τὰ στήθη ἀσθενέστερα ἔχει, καὶ ἀπλευρότερά ἐστι, τά τε ἰσχία καὶ τοὺς μηροὺς περισαρκότερα τῶν ἀρρένων, γονύκροτα δὲ καὶ τὰς κνήμας λεπτὰς ἔχοντα, τούς τε πόδας κομψοτέρους, τήν τε τοῦ σώματος ὅλην μορφὴν ἡδίω μάλιστ' ἂν ἢ γενναιοτέραν, ἀνευρότερα δὲ καὶ μαλακώτερα, ὑγροτέραις σαρξὶ κεχρημένα. τὰ δὲ ἄρρενα τούτοις ἅπασιν ἐναντία, τὴν φύσιν ἀνδρειοτέραν καὶ δικαιοτέραν εἶναι γένει, τὴν δὲ τοῦ θήλεος δειλοτέραν καὶ ἀδικωτέραν. τούτων οὕτως ἐχόντων, φαίνεται τῶν ζῴων ἁπάντων λέων τελεώτατα μετειληφέναι τῆς τοῦ ἄρρενος ἰδέας. ἔστι γὰρ ἔχων στόμα εὐμέγεθες, τὸ δὲ πρόσωπον τετραγωνότερον, οὐκ ἄγαν ὀστῶδες, τὴν ἄνω τε γένυν οὐ προεξεστηκυῖαν ἀλλὰ ἰσορροποῦσαν τῇ κάτω, ῥῖνα δὲ παχυτέραν ἢ λεπτοτέραν, χαροποὺς ὀφθαλμοὺς ἐγκοίλους, οὐ σφόδρα περιφερεῖς οὔτε ἄγαν προμήκεις, μέγεθος δὲ μέτριον, ὀφρὺν εὐμεγέθη, μέτωπον τετράγωνον, ἐκ μέσου ὑποκοιλότερον, πρὸς δὲ τὰς ὀφρῦς καὶ τὴν ῥῖνα ὑπὸ τοῦ μετώπου οἷον νέφος ἐπανεστηκός. ἄνωθεν δὲ τοῦ μετώπου κατὰ τὴν ῥῖνα ἔχει τρίχας ἐκκλινεῖς οἷον ἂν ἄσιλον, κεφαλὴν μετρίαν, τράχηλον εὐμήκη, πάχει σύμμετρον, θριξὶ ξανθαῖς κεχρημένον, οὐ φριξαῖς οὔτε ἄγαν ἀπεστραμμέναις· τὰ περὶ τὰς κλεῖδας εὐλυτώτερα μᾶλλον ἢ συμπεφραγμένα· ὤμους ῥωμαλέους, καὶ στῆθος νεανικόν, καὶ τὸ μετάφρενον πλατὺ καὶ εὔπλευρον καὶ εὔνωτον ἐπιεικῶς· ζῷον ἀσαρκότερον τὰ ἰσχία καὶ τοὺς μηρούς· σκέλη ἐρρωμένα καὶ νευρώδη, βάσιν τε νεανικήν, καὶ ὅλον τὸ σῶμα ἀρθρῶδες καὶ νευρῶδες, οὔτε λίαν σκληρὸν οὔτε λίαν ὑγρόν. βαδίζον δὲ βραδέως, καὶ μεγάλα διαβαῖνον, καὶ διασαλεῦον ἐν τοῖς ὤμοις, ὅταν πορεύηται. τὰ μὲν οὖν περὶ τὸ σῶμα τοιοῦτον· τὰ δὲ περὶ τὴν ψυχὴν δοτικὸν καὶ ἐλεύθερον, μεγαλόψυχον καὶ φιλόνικον, καὶ πραῢ καὶ δίκαιον καὶ φιλόστοργον πρὸς ἃ ἂν ὁμιλήσῃ. ἡ δὲ πάρδαλις τῶν ἀνδρείων εἶναι δοκούντων θηλυμορφότερόν ἐστιν, ὅτι μὴ κατὰ τὰ σκέλη· τούτοις δὲ συνεργεῖ καί τι ἔργον ῥώμης ἀπεργάζεται. ἔστι γὰρ ἔχον πρόσωπον μικρόν, στόμα μέγα, ὀφθαλμοὺς μικρούς, [810a] ἐκλεύκους, ἐγκοίλους, αὐτοὺς δὲ περιπολαιοτέρους· μέτωπον προμηκέστερον, πρὸς τὰ ὦτα περιφερέστερον ἢ ἐπιπεδώτερον· τράχηλον μακρὸν ἄγαν καὶ λεπτόν, στῆθος ἄπλευρον, καὶ μακρὸν νῶτον, ἰσχία σαρκώδη καὶ μηρούς, τὰ δὲ περὶ τὰς λαγόνας καὶ γαστέρα ὁμαλὰ μᾶλλον· τὸ δὲ χρῶμα ποικίλον, καὶ ὅλον ἄναρθρόν τε καὶ ἀσύμμετρον. ἡ μὲν οὖν τοῦ σώματος ἰδέα τοιαύτη, τὰ δὲ περὶ τὴν ψυχὴν μικρὸν καὶ ἐπίκλοπον καὶ ὅλως εἰπεῖν δολερόν. τὰ μὲν οὖν ἐκπρεπέστερα μετειληφότα ζῷα τῶν δοκούντων ἀνδρείων εἶναι τῆς τε τοῦ ἄρρενος ἰδέας καὶ τῆς τοῦ θήλεος εἴρηται. τὰ δ’ ἄλλα οἷα τυγχάνει, ῥᾴδιον ἤδη μετιέναι. ὅσα δὲ πρὸς τὸ φυσιογνωμονῆσαι συνιδεῖν ἁρμόττει ἀπὸ τῶν ζῴων, ἐν τῇ τῶν σημείων ἐκλογῇ ῥηθήσεται.

Ἡ δὲ ἐκλογὴ τῶν σημείων ἡ κατὰ τοὺς ἀνθρώπους ὧδε λαμβάνεται. ὅσοις οἱ πόδες εὐφυεῖς τε καὶ μεγάλοι διηρθρωμένοι τε καὶ νευρώδεις, ἐρρωμένοι τὰ περὶ τὴν ψυχήν· ἀναφέρεται ἐπὶ τὸ ἄρρεν γένος. ὅσοι δὲ τοὺς πόδας μικροὺς στενοὺς ἀνάρθρους ἔχουσιν, ἡδίους τε ἰδεῖν ἢ ῥωμαλεωτέρους, μαλακοὶ τὰ περὶ τὴν ψυχήν· ἀναφέρεται ἐπὶ τὸ θῆλυ γένος. οἷς τῶν ποδῶν οἱ δάκτυλοι καμπύλοι, ἀναιδεῖς, καὶ ὅσοις ὄνυχες καμπύλαι· ἀναφέρεται ἐπὶ τοὺς ὄρνεις τοὺς γαμψώνυχας. οἷς τῶν ποδῶν τὰ δάκτυλα συμπεφραγμένα ἐστί, δειμαλέοι· ἀναφέρεται ἐπὶ τοὺς ὄρτυγας τοὺς στενόποδας τῶν λιμναίων. ὅσοις τὰ περὶ τὰ σφυρὰ νευρώδη τε καὶ διηρθρωμένα ἐστίν, εὔρωστοι τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ ἄρρεν γένος. ὅσοι τὰ σφυρὰ σαρκώδεις καὶ ἄναρθροι, μαλακοὶ τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ θῆλυ γένος. ὅσοι τὰς κνήμας ἔχουσιν ἠρθρωμένας τε καὶ νευρώδεις καὶ ἐρρωμένας, εὔρωστοι τὴν ψυχήν· ἀναφέρεται ἐπὶ τὸ ἄρρεν. ὅσοι δὲ τὰς κνήμας λεπτὰς νευρώδεις ἔχουσι, λάγνοι· ἀναφέρεται ἐπὶ τοὺς ὄρνιθας. ὅσοι τὰς κνήμας περιπλέους σφόδρα ἔχουσιν, οἷον ὀλίγου διαρρηγνυμένας, βδελυροὶ καὶ ἀναιδεῖς· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν. οἱ γονύκροτοι κίναιδοι· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν. οἱ τοὺς μηροὺς ὀστώδεις καὶ νευρώδεις ἔχοντες εὔρωστοι· ἀναφέρεται ἐπὶ τὸ ἄρρεν. οἱ δὲ τοὺς μηροὺς ὀστώδεις καὶ περιπλέους ἔχοντες μαλακοί· ἀναφέρεται [810b] ἐπὶ τὸ θῆλυ.

ὅσοι δὲ πῦγα ὀξεῖαν ὀστώδη ἔχουσιν, εὔρωστοι, ὅσοι δὲ σαρκώδη πίονα ἔχουσι, μαλακοί. ὅσοι δὲ ἔχουσιν ὀλίγην σάρκα, οἷον ἀπωμοργμένα, κακοήθεις· ἀναφέρεται ἐπὶ τοὺς πιθήκους. οἱ ζωνοὶ φιλόθηροι· ἀναφέρεται ἐπὶ τοὺς λέοντας καὶ τοὺς κύνας. ἴδοι δ’ ἄν τις καὶ τῶν κυνῶν τοὺς φιλοθηροτάτους ζωνοὺς ὄντας. οἷς τὰ περὶ τὴν κοιλίαν λαπαρά, εὔρωστοι· ἀναφέρεται ἐπὶ τὸ ἄρρεν. ὅσοι δὲ μὴ λαπαροί, μαλακοί· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν. ὅσοις τὸ νῶτον εὐμέγεθές τε καὶ ἐρρωμένον, εὔρωστοι τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ ἄρρεν. ὅσοι δὲ τὸ νῶτον στενὸν καὶ ἀσθενὲς ἔχουσι, μαλακοί· ἀναφέρεται ἐπὶ τὸ θῆλυ. οἱ εὔπλευροι εὔρωστοι τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ ἄρρεν. οἱ δὲ ἄπλευροι μαλακοὶ τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ θῆλυ. ὅσοι δὲ ἐκ τῶν πλευρῶν περίογκοί εἰσιν, οἷον πεφυσημένοι, λάλοι καὶ μωρολόγοι· ἀναφέρεται ἐπὶ τοὺς βοῦς ἢ ἐπὶ τοὺς βατράχους. ὅσοι δὲ τὸ ἀπὸ τοῦ ὀμφαλοῦ πρὸς τὸ ἀκροστήθιον μεῖζον ἔχουσιν ἢ τὸ ἀπὸ τοῦ ἀκροστηθίου πρὸς τὸν τράχηλον, βοροὶ καὶ ἀναίσθητοι, βοροὶ μὲν ὅτι τὸ τεῦχος μέγα ἔχουσιν ᾧ δέχονται τὴν τροφήν, ἀναίσθητοι δὲ ὅτι στενώτερον τὸν τόπον ἔχουσιν αἱ αἰσθήσεις, συνενωμένον τε τῷ τὴν τροφὴν δεχομένῳ, ὥστε τὰς αἰσθήσεις βεβαρύνθαι διὰ τὰς τῶν σιτίων πληρώσεις ἢ ἐνδείας. ὅσοι δὲ τὰ στηθία ἔχουσι μεγάλα καὶ διηρθρωμένα, εὔρωστοι τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ ἄρρεν. ὅσοι δὲ τὸ μετάφρενον ἔχουσι μέγα καὶ εὔσαρκον καὶ ἀρθρῶδες, εὔρωστοι τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ ἄρρεν. ὅσοι δ’ ἀσθενὲς καὶ ἄσαρκον καὶ ἄναρθρον, μαλακοὶ τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ θῆλυ. ὅσοις δὲ τὸ μετάφρενον κυρτόν ἐστι σφόδρα οἵ τε ὦμοι πρὸς τὸ στῆθος συνηγμένοι, κακοήθεις· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν, ὅτι ἀφανίζεται τὰ ἔμπροσθεν προσήκοντα φαίνεσθαι. ὅσοι δὲ τὸ μετάφρενον ὕπτιον ἔχουσι, χαῦνοι καὶ ἀνόητοι· ἀναφέρεται ἐπὶ τοὺς ἵππους. ἐπεὶ δὲ οὔτε κυρτὸν σφόδρα δεῖ εἶναι οὔτε κοῖλον, τὸ μέσον ζητητέον τοῦ εὖ πεφυκότος. ὅσοις αἱ ἐπωμίδες ἐξηρθρωμέναι καὶ οἱ ὦμοι, εὔρωστοι τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ ἄρρεν. ὅσοις δὲ οἱ ὦμοι ἀσθενεῖς, ἄναρθροι, μαλακοὶ τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ θῆλυ. [811a] ταὐτὰ λέγω ἅπερ περὶ ποδῶν καὶ μηρῶν. ὅσοις ὦμοι εὔλυτοί εἰσιν, ἐλεύθεροι τὰς ψυχάς· ἀναφέρεται δὲ ἀπὸ τοῦ φαινομένου, ὅτι πρέπει τῇ φαινομένῃ μορφῇ ἐλευθεριότης. ὅσοις δὲ οἱ ὦμοι δύσλυτοι συνεσπασμένοι, ἀνελεύθεροι· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν. οἷς τὰ περὶ τὰς κλεῖδας εὔλυτα, αἰσθητικοί· εὐλύτων γὰρ ὄντων τῶν περὶ τὰς κλεῖδας εὐκόλως τὴν κίνησιν τῶν αἰσθήσεων δέχονται. οἷς δὲ τὰ περὶ τὰς κλεῖδας συμπεφραγμένα ἐστίν, ἀναίσθητοι· δυσλύτων γὰρ ὄντων τῶν περὶ τὰς κλεῖδας ἐξαδυνατοῦσι τὴν κίνησιν παραδέχεσθαι τῶν αἰσθήσεων. ὅσοι τὸν τράχηλον παχὺν ἔχουσιν, εὔρωστοι τὰς ψυχάς· ἀναφέρεται ἐπὶ τὸ ἄρρεν. ὅσοι δὲ λεπτόν, ἀσθενεῖς· ἀναφέρεται ἐπὶ τὸ θῆλυ. οἷς τράχηλος παχὺς καὶ πλέως, θυμοειδεῖς· ἀναφέρεται ἐπὶ τοὺς θυμοειδεῖς ταύρους. οἷς δὲ εὐμεγέθης μὴ ἄγαν παχύς, μεγαλόψυχοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἷς λεπτὸς μακρός, δειλοί· ἀναφέρεται ἐπὶ τοὺς ἐλάφους. οἷς δὲ βραχὺς ἄγαν, ἐπίβουλοι· ἀναφέρεται ἐπὶ τοὺς λύκους. οἷς τὰ χείλη λεπτὰ καὶ ἐπ’ ἄκραις ταῖς συγχειλίαις χαλαρά, ὡς ἐπὶ τοῦ ἄνω χείλους πρὸς τὸ κάτω ἐπιβεβλῆσθαι τὸ πρὸς τὰς συγχειλίας, μεγαλόψυχοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. ἴδοι δ’ ἄν τις τοῦτο καὶ ἐπὶ τῶν μεγάλων καὶ εὐρώστων κυνῶν. οἷς τὰ χείλη λεπτὰ σκληρά, κατὰ τοὺς κυνόδοντας τὸ ἐπανεστηκός, οἱ οὕτως ἔχοντες εὐγενεῖς· ἀναφέρεται ἐπὶ τοὺς ὗς. οἱ δὲ τὰ χείλη ἔχοντες παχέα καὶ τὸ ἄνω τοῦ κάτω προκρεμώμενον μωροί· ἀναφέρεται ἐπὶ τοὺς ὄνους τε καὶ πιθήκους. ὅσοι δὲ τὸ ἄνω χεῖλος καὶ τὰ οὖλα προεστηκότα ἔχουσι, φιλολοίδοροι· ἀναφέρεται ἐπὶ τοὺς κύνας. οἱ δὲ τὴν ῥῖνα ἄκραν παχεῖαν ἔχοντες ῥάθυμοι· ἀναφέρεται ἐπὶ τοὺς βοῦς. οἱ δὲ τὴν ῥῖνα ἀκρόθεν παχεῖαν ἔχοντες ἀναίσθητοι· ἀναφέρεται ἐπὶ τοὺς ὗς. οἱ τὴν ῥῖνα ἄκραν ὀξεῖαν ἔχοντες δυσόργητοι· ἀναφέρεται ἐπὶ τοὺς κύνας. οἱ δὲ τὴν ῥῖνα περιφερῆ ἔχοντες ἄκραν, ἀμβλεῖαν δέ, μεγαλόψυχοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἱ δὲ τὴν ῥῖνα ἄκραν λεπτὴν ἔχοντες ὀρνιθώδεις. οἱ ἐπίγρυπον ἀπὸ τοῦ μετώπου εὐθὺς ἀγομένην ἀναιδεῖς· ἀναφέρεται ἐπὶ τοὺς κόρακας. οἱ δὲ γρυπὴν ἔχοντες καὶ τοῦ μετώπου διηρθρωμένην μεγαλόψυχοι· ἀναφέρεται ἐπὶ τοὺς ἀετούς. οἱ δὲ τὴν ῥῖνα ἔγκοιλον ἔχοντες τὰ πρὸ τοῦ μετώπου περιφερῆ, τὴν δὲ περιφέρειαν [811b] ἄνω ἀνεστηκυῖαν, λάγνοι· ἀναφέρεται ἐπὶ τοὺς ἀλεκτρυόνας. οἱ δὲ σιμὴν ἔχοντες λάγνοι· ἀναφέρεται ἐπὶ τοὺς ἐλάφους. οἷς δὲ οἱ μυκτῆρες ἀναπεπταμένοι, θυμώδεις· ἀναφέρεται ἐπὶ τὸ πάθος τὸ ἐν τῷ θυμῷ γινόμενον. οἱ τὸ πρόσωπον σαρκῶδες ἔχοντες ῥάθυμοι· ἀναφέρεται ἐπὶ τοὺς βοῦς. οἱ τὰ πρόσωπα ἰσχνὰ ἔχοντες ἐπιμελεῖς, οἱ δὲ σαρκώδη δειλοί· ἀναφέρεται ἐπὶ τοὺς ὄνους καὶ τὰς ἐλάφους. οἱ μικρὰ τὰ πρόσωπα ἔχοντες μικρόψυχοι· ἀναφέρεται ἐπὶ αἴλουρον καὶ πίθηκον. οἷς τὰ πρόσωπα μεγάλα, νωθροί· ἀναφέρεται ἐπὶ τοὺς ὄνους καὶ βοῦς. ἐπεὶ δὲ οὔτε μικρὸν οὔτε μέγα δεῖ εἶναι, ἡ μέση ἕξις εἴη ἀν τούτων ἐπιεικής. οἷς δὲ τὸ πρόσωπον φαίνεται μικροπρεπές, ἀνελεύθεροι· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν. οἷς τὸ ἀπὸ τῶν ὀφθαλμῶν οἷον κύστιδες προκρέμανται, οἰνόφλυγες. ἀναφέρεται ἐπὶ τὸ πάθος· ἔστι γὰρ τοῖς σφόδρα ἐμπεπτωκόσι τὰ πρὸ τῶν ὀφθαλμῶν οἷον κύστιδες. ἐφεστήκασι, φίλυπνοι· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι τοῖς ἐξ ὕπνου ἀνεστηκόσιν ἐπικρέμαται τὰ ἐπὶ τοῖς ὀφθαλμοῖς. οἱ τοὺς ὀφθαλμοὺς μικροὺς ἔχοντες μικρόψυχοι· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν καὶ ἐπὶ πίθηκον. οἱ δὲ μεγαλόφθαλμοι νωθροί· ἀναφέρεται ἐπὶ τοὺς βοῦς. τὸν ἄρα εὖ φύντα δεῖ μήτε μικροὺς μήτε μεγάλους ἔχειν τοὺς ὀφθαλμούς. οἱ δὲ κοίλους ἔχοντες κακοῦργοι· ἀναφέρεται ἐπὶ πίθηκον. ὅσοι ἐξόφθαλμοι, ἀβέλτεροι· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειάν τε καὶ τοὺς ὄνους. ἐπεὶ δὲ οὔτε ἐξόφθαλμον οὔτε κοιλόφθαλμον δεῖ εἶναι, ἡ μέση ἕξις ἂν κρατοίη. ὅσοις ὀφθαλμοὶ μικρὸν ἐγκοιλότεροι, μεγαλόψυχοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἷς δ' ἐπὶ πλεῖον, πραεῖς· ἀναφέρεται ἐπὶ τοὺς βοῦς. οἱ τὸ μέτωπον μικρὸν ἔχοντες ἀμαθεῖς· ἀναφέρεται ἐπὶ τοὺς ὗς. οἱ δὲ μέγα ἄγαν ἔχοντες νωθροί· ἀναφέρεται ἐπὶ τοὺς βοῦς. οἱ δὲ περιφερὲς ἔχοντες ἀναίσθητοι· ἀναφέρεται ἐπὶ τοὺς ὄνους. οἱ μακρότερον ἐπίπεδον ἔχοντες ἀναίσθητοι· ἀναφέρεται ἐπὶ τοὺς κύνας. οἱ δὲ τετράγωνον σύμμετρον τῷ μετώπῳ ἔχοντες μεγαλόψυχοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἱ δὲ συννεφὲς ἔχοντες αὐθάδεις· ἀναφέρεται ἐπὶ ταῦρον καὶ λέοντα. οἱ δ' ἀτενὲς ἔχοντες κόλακες· ἀναφέρεται ἐπὶ τὸ γιγνόμενον πάθος. ἴδοι δ' ἄν τις ἐπὶ τῶν κυνῶν, ὅτι οἱ κύνες ἐπειδὰν θωπεύωσι, γαληνὲς τὸ μέτωπον ἔχουσιν. ἐπειδὴ οὖν ἥ τε [812a] συννεφὴς ἕξις αὐθάδειαν ἐμφαίνει ἥ τε γαληνὴ κολακείαν, ἡ μέση ἂν τούτων ἕξις εὐαρμόστως ἔχοι. οἱ σκυθρωπὰ μέτωπα ἔχοντες δυσάνιοι· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι οἱ ἀνιώμενοι σκυθρωποί εἰσιν. οἱ δὲ κατηφεῖς ὀδύρται· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι οἱ ὀδυρόμενοι κατηφεῖς. οἱ τὴν κεφαλὴν μεγάλην ἔχοντες αἰσθητικοί· ἀναφέρεται ἐπὶ τοὺς κύνας. οἱ δὲ μικρὰν ἀναίσθητοι· ἀναφέρεται ἐπὶ τοὺς ὄνους. οἱ τὰς κεφαλὰς φοξοὶ ἀναιδεῖς· ἀναφέρεται ἐπὶ τοὺς γαμψώνυχας. οἱ τὰ ὦτα μικρὰ ἔχοντες πιθηκώδεις, οἱ δὲ μεγάλα ὀνώδεις· ἴδοι δ' ἄν τις καὶ τῶν κυνῶν τοὺς ἀρίστους μέτρια ἔχοντας ὦτα.

Οἱ ἄγαν μέλανες δειλοί· ἀναφέρεται ἐπὶ τοὺς Αἰγυπτίους, Αἰθίοπας. οἱ δὲ λευκοὶ ἄγαν δειλοί· ἀναφέρεται ἐπὶ τὰς γυναῖκας. τὸ δὲ πρὸς ἀνδρείαν συντελοῦν χρῶμα μέσον δεῖ τούτων εἶναι. οἱ ξανθοὶ εὔψυχοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἱ πυρροὶ ἄγαν πανοῦργοι· ἀναφέρεται ἐπὶ τὰς ἀλώπεκας. οἱ δὲ ἔνωχροι καὶ τεταραγμένοι τὸ χρῶμα δειλοί· ἀναφέρεται ἐπὶ τὸ πάθος τὸ ἐκ τοῦ φόβου γιγνόμενον. οἱ δὲ μελίχλωροι ἀπεψυγμένοι εἰσίν· τὰ δὲ ψυχρὰ δυσκίνητα· δυσκινήτων δὲ ὄντων τῶν κατὰ τὸ σῶμα εἶεν ἂν βραδεῖς. οἷς τὸ χρῶμα ἐρυθρόν, ὀξεῖς, ὅτι πάντα τὰ κατὰ τὸ σῶμα ὑπὸ κινήσεως ἐκθερμαινόμενα ἐρυθραίνεται. οἷς δὲ τὸ χρῶμα φλογοειδές, μανικοί, ὅτι τὰ κατὰ τὸ σῶμα σφόδρα ἐκθερμανθέντα φλογοειδῆ χροιὰν ἴσχει· οἱ δὲ ἄκρως θερμανθέντες μανικοὶ ἂν εἴησαν. οἷς δὲ περὶ τὰ στήθη ἐπιφλεγές ἐστι τὸ χρῶμα, δυσόργητοι· ἀναφέρεται ἐπὶ τὸ πάθος· τοῖς γὰρ ὀργιζομένοις ἐπιφλέγεται τὰ περὶ τὰ στήθη. οἷς τὰ περὶ τὸν τράχηλον καὶ τοὺς κροτάφους αἱ φλέβες κατατεταμέναι εἰσί, δυσόργητοι· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι τοῖς ὀργιζομένοις ταῦτα συμβαίνει. οἷς τὸ πρόσωπον ἐπιφοινίσσον ἐστίν, αἰσχυντηλοί εἰσιν· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι τοῖς αἰσχυνομένοις ἐπιφοινίσσεται τὸ πρόσωπον. οἷς αἱ γνάθοι ἐπιφοινίσσουσιν, οἰνόφλυγες· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι τοῖς μεθύουσιν ἐπιφοινίσσουσιν αἱ γνάθοι. οἷς δὲ οἱ ὀφθαλμοὶ ἐπιφοινίσσουσιν, ἐκστατικοὶ ὑπὸ ὀργῆς· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι οἱ ὑπ' ὀργῆς ἐξεστηκότες ἐκφοινίσσονται τοὺς ὀφθαλμούς. οἷς δὲ οἱ ὀφθαλμοὶ [812b] ἄγαν μέλανες, δειλοί· ἡ γὰρ ἄγαν μελαίνη χρόα ἐφάνη δειλίαν σημαίνουσα. οἱ δὲ μὴ ἄγαν μέλανες ἀλλὰ κλίνοντες πρὸς τὸ ξανθὸν χρῶμα εὔψυχοι. οἷς δὲ οἱ ὀφθαλμοὶ γλαυκοὶ ἢ λευκοί, δειλοί· ἐφάνη γὰρ τὸ λευκὸν χρῶμα δειλίαν σημαῖνον. οἱ δὲ μὴ γλαυκοὶ ἀλλὰ χαροποὶ εὔψυχοι· ἀναφέρεται ἐπὶ λέοντα καὶ ἀετόν. οἷς δὲ οἰνωποί, μάργοι· ἀναφέρεται ἐπὶ τὰς αἶγας. οἷς δὲ πυρώδεις, ἀναιδεῖς· ἀναφέρεται ἐπὶ τοὺς κύνας. οἱ ὠχρόμματοι ἐντεταραγμένους ἔχοντες τοὺς ὀφθαλμοὺς δειλοί· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι οἱ φοβηθέντες ἔνωχροι γίνονται χρώματι οὐχ ὁμαλῷ. οἱ δὲ τοὺς ὀφθαλμοὺς στιλπνοὺς ἔχοντες λάγνοι· ἀναφέρεται ἐπὶ τοὺς ἀλεκτρυόνας καὶ κόρακας.

Οἱ δασείας ἔχοντες τὰς κνήμας λάγνοι· ἀναφέρεται ἐπὶ τοὺς τράγους. οἱ δὲ περὶ τὰ στήθη καὶ τὴν κοιλίαν ἄγαν δασέως ἔχοντες οὐδέποτε πρὸς τοῖς αὐτοῖς διατελοῦσιν· ἀναφέρεται ἐπὶ τοὺς ὄρνιθας, ὅτι ταῦτα τὰ στήθη καὶ τὴν κοιλίαν δασυτάτην ἔχουσιν. οἱ τὰ στήθη ψιλὰ ἄγαν ἔχοντες ἀναιδεῖς· ἀναφέρεται ἐπὶ τὰς γυναῖκας. ἐπειδὴ οὖν οὔτε ἄγαν δασέα δεῖ εἶναι οὔτε ψιλά, ἡ μέση ἕξις κρατίστη. οἱ τοὺς ὤμους δασεῖς ἔχοντες οὐδέποτε πρὸς τοῖς αὐτοῖς διατελοῦσιν· ἀναφέρεται ἐπὶ τοὺς ὄρνιθας. οἱ τὸν νῶτον δασὺν ἔχοντες ἄγαν ἀναιδεῖς· ἀναφέρεται ἐπὶ τὰ θηρία. οἱ δὲ τὸν αὐχένα ὄπισθεν δασὺν ἔχοντες ἐλευθέριοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἱ δὲ ἀκρογένειοι εὔψυχοι· ἀναφέρεται ἐπὶ τοὺς κύνας. οἱ δὲ συνόφρυες δυσάνιοι· ἀναφέρεται ἐπὶ τὴν τοῦ πάθους ὁμοιότητα. οἱ δὲ τὰς ὀφρῦς κατεσπασμένοι πρὸς τῆς ῥινός, ἀνεσπασμένοι δὲ πρὸς τὸν κρόταφον εὐήθεις· ἀναφέρεται ἐπὶ τοὺς σῦς. οἱ φριξὰς τὰς τρίχας ἔχοντες ἐπὶ τῆς κεφαλῆς δειλοί· ἀναφέρεται ἐπὶ τὸ πάθος, ὅτι καὶ οἱ ἔκφοβοι γιγνόμενοι φρίσσουσιν. οἱ τὰς τρίχας σφόδρα οὔλας ἔχοντες δειλοί· ἀναφέρεται ἐπὶ τοὺς Αἰθίοπας. ἐπειδὴ οὖν αἵ τε φριξαὶ καὶ αἱ σφόδρα οὖλαι δειλίαν ἀναφέρουσιν, αἱ ἄκρουλοι ἂν εἶεν πρὸς εὐψυχίαν ἄγουσαι· ἀναφέρεται δὲ καὶ ἐπὶ τὸν λέοντα. οἱ τοῦ μετώπου τὸ πρὸς τῇ κεφαλῇ ἀναστεῖλον ἔχοντες ἐλευθέριοι· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἱ ἐπὶ τῆς κεφαλῆς προσπεφυκυίας ἔχοντες τὰς τρίχας ἐπὶ τοῦ μετώπου κατὰ τὴν ῥῖνα ἀνελεύθεροι· ἀναφέρεται [813a] ἐπὶ τὴν ἐπιπρέπειαν, ὅτι δουλοπρεπὲς τὸ φαινόμενον.

Μακροβάμων καὶ βραδυβάμων εἴη ἂν νωθρεπιθέτης τελεστικός, ὅτι τὸ μακρὰ βαίνειν ἀνυστικόν, τὸ βραδέως δὲ μελλητικόν. βραχυβάμων βραδυβάμων νωθρεπιθέτης οὐ τελεστικός, ὅτι τὸ βραχέα βαίνειν καὶ βραδέως οὐκ ἀνυστικόν. μακροβάμων ταχυβάμων οὐκ ἐπιθετικός, τελεστικός, ὅτι τὸ μὲν τάχος τελεστικόν, ἡ δὲ μακρότης οὐκ ἀνυστικόν. βραχυβάμων ταχυβάμων ἐπιθετικός, οὐ τελεστικός. περὶ δὲ χειρὸς καὶ πήχεος καὶ βραχίονος φορᾶς, αἱ αὐταὶ ἀναφέρονται. οἱ δὲ τοῖς ὤμοις ἐπισαλεύοντες ὀρθοῖς ἐκτεταμένοις γαλεαγκῶνες· ἀναφέρεται ἐπὶ τοὺς ἵππους. οἱ τοῖς ὤμοις ἐπενσαλεύοντες ἐγκεκυφότες μεγαλόφρονες· ἀναφέρεται ἐπὶ τοὺς λέοντας. οἱ δὲ τοῖς ποσὶν ἐξεστραμμένοις πορευόμενοι καὶ ταῖς κνήμαις θηλείαις· ἀναφέρεται ἐπὶ τὰς γυναῖκας. οἱ δὲ τοῖς σώμασι περικλώμενοι καὶ ἐντριβόμενοι κόλακες· ἀναφέρεται ἐπὶ τὸ πάθος. οἱ ἐγκλινόμενοι εἰς τὰ δεξιὰ ἐν τῷ πορεύεσθαι κίναιδοι· ἀναφέρεται ἐπὶ τὴν ἐπιπρέπειαν. οἱ εὐκινήτους τοὺς ὀφθαλμοὺς ἔχοντες ὀξεῖς, ἁρπαστικοί· ἀναφέρεται ἐπὶ τοὺς ἱέρακας. οἱ σκαρδαμύκται δειλοί, ὅτι ἐν τοῖς ὄμμασι πρῶτα τρέπονται. οἱ κατιλλαντιωρίαν τε, καὶ οἷς τὸ ἕτερον βλέφαρον ἐπιβέβηκε τοῖς ὀφθαλμοῖς, κατὰ μέσον τῆς ὄψεως ἑστηκυίας, καὶ οἱ ὑπὸ βλέφαρα τὰ ἄνω τὰς ὀψίας ἀνάγοντες, μαλακόν τε βλέποντες, καὶ οἱ τὰ βλέφαρα ἐπιβεβληκότες, ὅλως τε πάντες οἱ μαλακόν τε καὶ διακεχυμένον βλέποντες, ἀναφέρονται ἐπὶ τὴν ἐπιπρέπειαν καὶ τὰς γυναῖκας. οἱ τοὺς ὀφθαλμοὺς διὰ συχνοῦ χρόνου κινοῦντες, ἔχοντές τε βάμμα λευκώματος ἐπὶ τῷ ὀφθαλμῷ, ὡς προσεστηκότας, ἐννοητικοί· ἂν γὰρ πρός τινι ἐννοίᾳ σφόδρα γένηται ἡ ψυχή, ἵσταται καὶ ἡ ὄψις.

Οἱ μέγα φωνοῦντες βαρύτονον ὑβρισταί· ἀναφέρεται ἐπὶ τοὺς ὄνους. ὅσοι δὲ φωνοῦσιν ἀπὸ βαρέος ἀρξάμενοι, τελευτῶσι δὲ εἰς ὀξύ, δυσθυμικοί, ὀδύρται· ἀναφέρεται ἐπὶ τοὺς βοῦς καὶ ἐπὶ τὸ πρέπον τῇ φωνῇ. ὅσοι δὲ ταῖς φωναῖς ἀξείαις μαλακαῖς κεκλασμέναις διαλέγονται, κίναιδοι· ἀναφέρεται [813b] ἐπὶ τὰς γυναῖκας καὶ ἐπὶ τὴν ἐπιπρέπειαν. ὅσοι βαρύτονον φωνοῦσι μέγα, μὴ πεπλεγμένον, ἀναφέρεται ἐπὶ τοὺς εὐρώστους κύνας καὶ ἐπὶ τὴν ἐπιπρέπειαν. ὅσοι μαλακὸν ἄτονον φωνοῦσι, πραεῖς· ἀναφέρεται ἐπὶ τὰς ὄϊς. ὅσοι δὲ φωνοῦσιν ὀξὺ καὶ ἐγκεκραγός, μάργοι· ἀναφέρεται ἐπὶ τὰς αἶγας.

Οἱ μικροὶ ἄγαν ὀξεῖς· τῆς γὰρ τοῦ αἵματος φορᾶς μικρὸν τόπον κατεχούσης καὶ αἱ κινήσεις ταχὺ ἄγαν ἀφικνοῦνται ἐπὶ τὸ φρονοῦν. οἱ δὲ ἄγαν μεγάλοι βραδεῖς· τῆς γὰρ τοῦ αἵματος φορᾶς μέγαν τόπον κατεχούσης αἱ κινήσεις βραδέως ἀφικνοῦνται ἐπὶ τὸ φρονοῦν. ὅσοι τῶν μικρῶν ξηραῖς σαρξὶ κεχρημένοι εἰσὶν ἢ καὶ χρώμασιν, ἃ διὰ θερμότητα τοῖς σώμασιν ἐπιγίνονται, οὐδὲν ἀποτελοῦσιν· οὔσης γὰρ τῆς φορᾶς ἐν μικρῷ καὶ ταχείας διὰ τὸ πυρῶδες, οὐδέποτε κατὰ ταὐτόν ἐστι τὸ φρονεῖν, ἀλλὰ ἄλλοτ' ἐπ' ἄλλων, πρὶν τὸ ὑπερέχον περᾶναι. ὅσοι δὲ τῶν μεγάλων ὑγραῖς σαρξὶ κεχρημένοι, ἢ καὶ χρώμασιν ἃ διὰ ψυχρότητα ἐγγίνονται, οὐδὲν ἐπιτελοῦσιν· οὔσης γὰρ τῆς φορᾶς ἐν μεγάλῳ τόπῳ καὶ βραδείας διὰ τὴν ψυχρότητα, οὐ συνανύει ἀφικνουμένην ἐπὶ τὸ φρονοῦν. ὅσοι δὲ τῶν μικρῶν ὑγραῖς σαρξὶ κεχρημένοι εἰσὶ καὶ χρώμασι διὰ ψυχρότητα, γίνονται ἐπιτελεστικοί· οὔσης γὰρ τῆς κινήσεως ἐν μικρῷ, τὸ δυσκίνητον τῆς κράσεως συμμετρίαν παρέσχε τὸ πρῶτον ἐπιτελεῖν. ὅσοι δὲ τῶν μεγάλων ξηραῖς σαρξὶ κεχρημένοι εἰσὶ καὶ χρώμασι διὰ θερμότητα, γίνονται ἐπιτελεστικοὶ καὶ αἰσθητικοί· τὴν γὰρ τοῦ μεγέθους ὑπερβολὴν σαρκῶν τε καὶ χρώματος ἡ θερμότης ἠκέσατο, ὥστε σύμμετρον εἶναι πρὸς τὸ ἐπιτελεῖν. τὰ μὲν οὖν μεγέθεσιν ὑπερβάλλοντα τῶν σωμάτων ἢ σμικρότησιν ἐλλείποντα, ὡς τυχόντα ἐπιτελεστικά ἐστι καὶ ὡς ἀτελῆ, εἴρηται. ἡ δὲ τούτων μέση φύσις πρὸς τὰς αἰσθήσεις κρατίστη καὶ τελεστικωτάτη, οἷς ἂν ἐπιθῆται· αἱ γὰρ κινήσεις οὐ διὰ πολλοῦ οὖσαι ῥᾳδίως ἀφικνοῦνται πρὸς τὸν νοῦν· οὖσαί τε οὐ κατὰ μικρὸν ὑπερχωροῦσιν. ὥστε τὸν τελεώτατον πρὸς τὸ ἐπιτελεῖν τε ἃ ἂν προθῆται καὶ αἰσθάνεσθαι μέλλοντα μέτριον δεῖ εἶναι τὸ μέγεθος. οἱ ἀσύμμετροι πανοῦργοι· [814a] ἀναφέρεται ἐπὶ τὸ πάθος καὶ τὸ θῆλυ. εἰ γὰρ οἱ ἀσύμμετροι πανοῦργοι, οἱ σύμμετροι δίκαιοι ἂν εἴησαν καὶ ἀνδρεῖοι. τὴν δὲ τῆς συμμετρίας ἀναφορὰν πρὸς τὴν τῶν σωμάτων εὐαγωγίαν καὶ εὐφυΐαν ἀνοιστέον, ἀλλ' οὐ πρὸς τὴν τοῦ ἄρρενος ἰδέαν, ὥσπερ ἐν ἀρχῇ διῃρέθη. καλῶς δ' ἔχει καὶ πάντα τὰ σημεῖα, ὅσα προείρηται, ἀναφέρειν ἐπὶ τὴν ἐπιπρέπειαν καὶ εἰς ἄρρεν καὶ θῆλυ· ταῦτα γὰρ τελεωτάτην διαίρεσιν διῄρηται, καὶ ἐδείχθη ἄρρεν θήλεος δικαιότερον καὶ ἀνδρειότερον καὶ ὅλως εἰπεῖν ἄμεινον. ἐν ἁπάσῃ δὲ [814b] τῇ τῶν σημείων ἐκλογῇ ἕτερα ἑτέρων σημεῖα μᾶλλον δηλοῦσιν ἐναργῶς τὸ ὑποκείμενον. ἐναργέστερα δὲ τὰ ἐν ἐπικαιροτάτοις τόποις ἐγγινόμενα. ἐπικαιρότατος δὲ τόπος ὁ περὶ τὰ ὄμματά τε καὶ τὸ μέτωπον καὶ κεφαλὴν καὶ πρόσωπον, δεύτερος δὲ ὁ περὶ τὰ στήθη καὶ ὤμους, ἔπειτα περὶ τὰ σκέλη τε καὶ πόδας· τὰ δὲ περὶ τὴν κοιλίαν ἥκιστα. ὅλως δὲ εἰπεῖν οὗτοι οἱ τόποι ἐναργέστατα σημεῖα παρέχονται, ἐφ' ὧν καὶ φρονήσεως πλείστης ἐπιπρέπεια γίνεται.

Περι Θαυμασιων Ακουσματων (830a) On Marvellous Things Heard

1 Ἐν τῇ Παιονίᾳ φασὶν ἐν τῷ ὄρει τῷ Ἡσαίνῳ καλουμένῳ, ὃ τὴν Παιονικὴν καὶ τὴν Μαιδικὴν ὁρίζει, εἶναί τι θηρίον τὸ καλούμενον βόλινθον, ὑπὸ δὲ τῶν Παιόνων μόναιπον. τοῦτον λέγουσι τὴν μὲν ὅλην φύσιν παραπλήσιον εἶναι βοΐ, διαφέρειν δὲ τῷ μεγέθει καὶ τῇ εὐρωστίᾳ, προσέτι δὲ καὶ τῇ χαίτῃ• ἔχει γὰρ ἀπὸ τοῦ αὐχένος, ὥσπερ ὁ ἵππος, κατατείνουσαν βαθεῖαν σφόδρα, καὶ ἀπὸ τῆς κορυφῆς ἕως τῶν ὀφθαλμῶν. τὰ δὲ κέρατα οὐχ ὥσπερ οἱ βόες, ἀλλὰ κατεστραμμένα, καὶ τὸ ὀξὺ κάτω παρὰ τὰ ὦτα• χωρεῖν δὲ αὐτὰ ἡμιχόου πλεῖον ἑκάτερον αὐτῶν, καὶ μέλανα σφόδρα εἶναι, διαστίλβειν δὲ ὡσανεὶ λελεπισμένα. ὅταν δὲ ἐκδαρῇ τὸ δέρμα, κατέχειν τόπον ὀκτακλίνου. ἡνίκα δὲ πληγῇ, φεύγει, κἂν ἐξαδυνατοῦν μένει. ἔστι δὲ ἡδύκρεων. ἀμύνεται δὲ λακτίζον καὶ προσαφοδεῦον ὡς ἐπὶ τέτταρας ὀργυιάς• ῥᾳδίως δὲ χρῆται τούτῳ καὶ πολλάκις τῷ εἴδει, καὶ ἐπικαίει δ᾽ ὥστ᾽ ἀποψήχεσθαι τὰς τρίχας τῶν κυνῶν. τεταραγμένου μὲν οὖν τοῦτο ποιεῖν φασὶ τὸν ἄφοδον, ἀταράχου δὲ μὴ ἐπικαίειν. ὅταν δὲ τίκτωσι, πλείους γενόμενοι καὶ συναχθέντες ἅμα πάντες οἱ μέγιστοι τίκτουσι καὶ κύκλῳ προσαφοδεύουσι• πολὺ γάρ τι τούτου τοῦ περιττώματος τὸ θηρίον προΐεται.

p240 2 bΤοὺς ἐν Ἀραβίᾳ φασὶ καμήλους μὴ ἀναβαίνειν ἐπὶ τὰς μητέρας, ἀλλὰ κἂν βιάσηταί τις, οὐ θέλουσι. καὶ γάρ ποτε λέγεται, ἐπεὶ οὐκ ἦν ὀχεῖον, τὸν ἐπιμελητὴν καλύψαντα ἐφεῖναι τὸν πῶλον. ὁ δὲ τὸ ὀχεύειν1 τότε μέν, ὡς ἔοικε, συνετέλεσε, μικρῷ δ᾽ ὕστερον δάκνων τὸν καμηλίτην ἀπέκτεινεν.

3 Τοὺς κόκκυγάς φασι τοὺς ἐν Ἑλίκῃ, ὅταν μέλλωσι τίκτειν, μὴ ποιεῖν νεοττιάν, ἀλλ᾽ ἐν ταῖς τῶν φαττῶν ἢ ταῖς τῶν τρυγόνων ἐντίκτειν, καὶ μήτ᾽ ἐπῳάζειν μήτ᾽ ἐκκολάπτειν μήτε τρέφειν αὐτούς• ἀλλ᾽ ὅταν γεννηθῇ ὁ νεοττὸς καὶ ἐκτραφῇ, μεθ᾽ ὧν ἂν οὗτος συνῇ, τούτους ἐκ τῆς νεοττιᾶς ἐκβάλλειν. γίγνεται δ᾽, ὡς ἔοικε, μέγας καὶ καλός, ὥστε ῥᾳδίως κατακρατεῖν τῶν λοιπῶν. τούτῳ δὲ χαίρειν φασὶ καὶ τὰς φάττας οὕτως ὥστε καὶ αὐτὰς συνεκβάλλειν ἐκείνῳ τοὺς ἰδίους νεοττούς.

4 Αἱ ἐν Κρήτῃ αἶγες ὅταν τοξευθῶσι, ζητοῦσιν, ὡς ἔοικε, τὸ δίκταμον τὸ ἐκεῖ φυόμενον. ὅταν γὰρ φάγωσιν, εὐθὺς ἐκβάλλουσι τὰ τοξεύματα.

5 Φασί τινας ἐν Ἀχαΐᾳ τῶν ἐλάφων, ὅταν ἀποβάλωσι τὰ κέρατα, εἰς τοιούτους τόπους ἔρχεσθαι ὥστε μὴ ῥᾳδίως εὑρεθῆναι. τοῦτο δὲ ποιεῖν διὰ τὸ μὴ ἔχειν ᾧ ἀμυνοῦνται, 831aκαὶ διὰ τὸ πονεῖν τοὺς τόπους ὅθεν τὰ κέρατα ἀπέβαλον. πολλαῖς δὲ καὶ κισσὸν ἐπιπεφυκότα ἐν τῷ τῶν κεράτων τόπῳ ὁρᾶσθαι.

6 Ἐν Ἀρμενίᾳ φάρμακόν τί φασι φύεσθαι ὃ καλεῖται παρδάλειον. τούτῳ οὖν, ὅταν ὀφθῇ πάρδαλις, χρίσαντες τὸ ἱερεῖον ἀφιᾶσιν. ἡ δὲ ὅταν ἅψηται αὐτοῦ, ζητεῖ, ὡς ἔοικε, τὴν τοῦ ἀνθρώπου κόπρον. διὸ καὶ οἱ κυνηγοὶ εἰς ἀγγεῖον αὐτὴν p242ἐμβαλόντες ἔκ τινος δένδρου κρεμῶσιν, ἵνα προσαλλομένη καὶ ὑπέρκοτος γενομένη ὑπ᾽ αὐτοῦ παραλυθῇ καὶ ὑποχείριος γένηται.

7 Ἐν Αἰγύπτῳ δὲ τοὺς τροχίλους φασὶν εἰσπετομένους εἰς τὰ στόματα τῶν κροκοδείλων καθαίρειν αὐτῶν τοὺς ὀδόντας, τὰ σαρκία τὰ ἐνεχόμενα τοῖς ῥύγχεσιν ἐξέλκοντας• τοὺς δ᾽ ἥδεσθαι καὶ μηδὲν βλάπτειν αὐτούς.

8 Τοὺς ἐν Βυζαντίῳ φασὶν ἐχίνους αἰσθάνεσθαι ὅτε βόρεια καὶ νότια πνεῖ πνεύματα, καὶ μεταβάλλειν εὐθὺς τὰς ὀπάς, καὶ ὅταν μὲν ᾖ νότια, ἐκ τοῦ ἐδάφους τὰς ὀπὰς ποιεῖσθαι, ὅταν δὲ βόρεια, ἐκ τῶν τοίχων.

9 Αἱ ἐν Κεφαλληνίᾳ αἶγες οὐ πίνουσιν, ὡς ἔοικεν, ὥσπερ καὶ τἆλλα τετράποδα, καθ᾽ ἡμέραν δὲ πρὸς τὸ πέλαγος ἀντία τὰ πρόσωπα ποιήσασαι χάσκουσιν εἰσδεχόμεναι τὰ πνεύματα.

10 Φασὶν ἐν Συρίᾳ τῶν ἀγρίων ὄνων ἕνα ἀφηγεῖσθαι τῆς ἀγέλης, ἐπειδὰν δέ τις νεώτερος ὢν τῶν πώλων ἐπί τινα θήλειαν ἀναβῇ, τὸν ἀφηγούμενον θυμοῦσθαι, καὶ διώκειν ἕως τούτου ἕως ἂν καταλάβῃ τὸν πῶλον, καὶ ὑποκύψας ἐπὶ τὰ ὀπίσθια σκέλη τῶν στόματι ἀποσπάσῃ τὰ αἰδοῖα.

11 Τὰς χελώνας λέγουσιν, ὅταν ἔχεως φάγωσιν, ἐπεσθίειν τὴν ὀρίγανον, ἐὰν δὲ μὴ θᾶττον εὕρῃ, ἀποθνῄσκειν. πολλοὺς δ᾽ ἀποπειράζοντας τῶν ἀγραυλούντων εἰ τοῦτ᾽ ἀληθές ἐστιν, ὅταν ἴδωσιν αὐτὴν τοῦτο πράττουσαν, ἐκτίλλειν τὴν ὀρίγανον• τοῦτο δὲ ὅταν ποιήσωσι, μετὰ μικρὸν αὐτὴν ὁρᾶσθαι ἀποθνήσκουσαν.

12 bΤὸ τῆς ἴκτιδος λέγεται αἰδοῖον εἶναι οὐχ ὅμοιον τῇ φύσει τῶν λοιπῶν ζῴων, ἀλλὰ στερεὸν p244διὰ παντὸς οἷον ὀστοῦν, ὅπως ἄν ποτε διακειμένη τύχῃ. φασὶ δὲ στραγγουρίας αὐτὸ φάρμακον εἶναι ἐν τοῖς ἀρίστοις, καὶ δίδοσθαι ἐπιξυόμενον.

13 Τὸν δρυοκολάπτην φασὶ τὸ ὄρνεον ἐπὶ τῶν δένδρων βαδίζειν ὥσπερ

τοὺς ἀσκαλαβώτας, καὶ ὕπτιον καὶ ἐπὶ τὴν γαστέρα. νέμεσθαι δὲ λέγεται καὶ τοὺς ἐκ τῶν δένδρων σκώληκας, καὶ οὕτω σφόδρα κατὰ βάθους ὀρύττειν τὰ δένδρα ζητοῦντα τοὺς σκώληκας ὥστε καὶ καταβάλλειν αὐτά.

14 Φασὶ τοὺς πελεκᾶνας τὰς ἐν τοῖς ποταμοῖς γινομένας κόγχας ὀρύττοντας καταπίνειν, ἔπειτα ὅταν πλῆθος εἰσφρήσωσιν αὐτῶν, ἐξεμεῖν, εἶθ᾽ οὕτως τὰ μὲν κρέα ἐσθίειν τῶν κόγχων, τῶν δ᾽ ὀστράκων μὴ ἅπτεσθαι.

15 Ἐν Κυλλήνῃ φασὶ τῆς Ἀρκαδίας τοὺς κοσσύφους λευκοὺς γίνεσθαι, ἄλλοθι δ᾽ οὐδαμῆ, καὶ φωνὰς ποικίλας προΐεσθαι, ἐκπορεύεσθαί τε πρὸς τὴν σελήνην. τὴν δ᾽ ἡμέραν εἴ τις ἐπιχειροίη, σφόδρα δυσθηράτους εἶναι.

16 Λέγεται δ᾽ ὑπό τινων μέλι τὸ καλούμενον ἄνθινον περὶ Μῆλον καὶ Κνίδον γίνεσθαι εὐῶδες μὲν τῇ ὀσμῇ, ὀλιγοχρόνιον δέ, ἐν τούτῳ δὲ καὶ τὴν ἐριθάκην γίνεσθαι.

17 Περὶ Καππαδοκίαν ἔν τισι τόποις ἄνευ κηρίου φασὶν ἐργάζεσθαι τὸ μέλι, γίνεσθαι δὲ τὸ πάχος ὅμοιον ἐλαίῳ.

18 Ἐν Τραπεζοῦντι τῇ ἐν τῷ Πόντῳ γίνεται τὸ ἀπὸ τῆς πύξου μέλι βαρύοσμον• καί φασι τοῦτο τοὺς μὲν ὑγιαίνοντας ἐξιστάναι, τοὺς δ᾽ ἐπιλήπτους καὶ τελέως ἀπαλλάττειν.

19 Φασὶ δὲ καὶ ἐν Λυδίᾳ ἀπὸ τῶν δένδρων τὸ μέλι συλλέγεσθαι πολύ, καὶ ποιεῖν ἐξ αὐτοῦ τοὺς p246ἐνοικοῦντας ἄνευ κηροῦ τροχίσκους, καὶ ἀποτέμνοντας χρῆσθαι διὰ τρίψεως σφοδροτέρας. γίνεται μὲν οὖν καὶ ἐν Θρᾴκῃ, οὐχ οὕτω δὲ στερεόν, ἀλλ᾽ ὡσανεὶ ἀμμῶδες. ἅπαν δὲ μέλι πηγνύμενον τὸν ἴσον ἔχειν ὄγκον φασίν, οὐχ ὥσπερ τὸ ὕδωρ καὶ τἄλλα ὑγρά.

20 832aἩ Χαλκιδικὴ πόα καὶ τὰ ἀμύγδαλα χρησιμώτατα πρὸς τὸ μέλι ποιεῖν• πλεῖστον γὰρ γόνον φασὶν ἐξ αὐτῶν γίνεσθαι.

21 Τὰς μελίττας λέγουσιν ὑπὸ μύρου καροῦσθαι καὶ οὐκ ἀνέχεσθαι τὴν ὀσμήν• ἔνιοι δὲ λέγουσι μάλιστα τοὺς μεμυρισμένους τύπτειν.

22 Ἐν Ἰλλυριοῖς φασὶ τοὺς Ταυλαντίους καλουμένους ἐκ τοῦ μέλιτος ποιεῖν οἶνον. ὅταν δὲ τὰ κηρία ἐκθλίψωσιν, ὕδωρ ἐπιχέοντες ἕψουσιν ἐν λέβητι ἕως ἂν ἐκλίπῃ τὸ ἥμισυ, ἔπειτα εἰς κεράμια ἐκχέαντες [καὶ ἡμίσεα ποιήσαντες] τιθέασιν εἰς σανίδας• ἐν ταύταις δέ φασι ζεῖν πολὺν χρόνον, καὶ γίνεσθαι οἰνῶδες καὶ ἄλλως ἡδὺ καὶ εὔτονον. ἤδη δέ τισι καὶ τῶν ἐν Ἑλλάδι συμβεβηκέναι λέγουσι τοῦτο, ὥστε μηδὲν διαφέρειν οἴνου παλαιοῦ• καὶ ζητοῦντας ὕστερον τὴν κρᾶσιν μὴ δύνασθαι εὑρεῖν.

23 Περὶ Θετταλίαν μνημονεύουσιν ὄφεις ζῳογονηθῆναι τοσούτους ὥστε, εἰ μὴ ὑπὸ τῶν πελαργῶν ἀνῃροῦντο, ἐκχωρῆσαι ἂν αὐτούς. διὸ δὴ καὶ τιμῶσι τοὺς πελαργούς, καὶ κτενεῖν οὐ νόμος• καὶ ἐάν τις κτείνῃ, ἔνοχος τοῖς αὐτοῖς

γίνεται οἷσπερ καὶ ὁ ἀνδροφόνος.

24 Ὡσαύτως καὶ ἐν Λακεδαίμονι κατά τινας χρόνους μνημονεύεται γενέσθαι τοσοῦτον πλῆθος ὄφεων ὥστε διὰ σπανοσιτίαν καὶ τροφῇ τοὺς p248Λάκωνας χρῆσθαι αὐτοῖς• ὅθεν καὶ τὴν Πυθίαν φασὶ προσαγορεῦσαι αὐτοὺς ὀφιοδείρους.

25 Ἐν Κύπρῳ τῇ νήσῳ λέγεται τοὺς μῦς τὸν σίδηρον ἐσθίειν.

26 Φασὶ δὲ καὶ τοὺς Χάλυβας ἔν τινι ὑπερκειμένῳ αὐτοῖς νησιδίῳ τὸ χρυσίον συμφορεῖσθαι παρὰ πλειόνων. διὸ δὴ καὶ τοὺς ἐν τοῖς μετάλλοις ἀνασχίζουσιν, ὡς ἔοικεν.

27 Λέγεται δὲ ἐκ Σούσων εἰς Μηδίαν ἰοῦσιν ἐν τῷ δευτέρῳ σταθμῷ σκορπίων ἄπλετόν τι πλῆθος γίνεσθαι. διὸ καὶ ὁ βασιλεὺς ὁ Περσῶν, ὅτε διοδεύοι, τρεῖς ἡμέρας ἔμενε, πᾶσι τοῖς αὐτοῦ συντάσσων ἐκθηρεύειν• τῷ δὲ πλείστους θηρεύσαντι ἆθλον ἐδίδου.

28 bἘν Κυρήνῃ δέ φασιν οὐχ ἓν εἶναι μύων γένος, ἀλλὰ πλείω καὶ διάφορα καὶ ταῖς μορφαῖς καὶ ταῖς χρόαις• ἐνίους γὰρ πλατυπροσώπους, ὥσπερ αἱ γαλαῖ, γίγνεσθαι, τινὰς δὲ ἐχινώδεις, οὓς καλοῦσιν ἐχίνας.

29 Περὶ Κιλικίαν δέ φασιν εἶναι ὕδατος συστρεμμάτιον, εἰς ὃ τὰ πεπνιγμένα τῶν ὀρνέων καὶ τῶν λοιπῶν ζῴων ὅταν ἀποβαφῇ, πάλιν ἀναβιοῖ.

30 Ἐν δὲ Σκύθαις τοῖς καλουμένοις Γελωνοῖς φασὶ θηρίον τι γίνεσθαι, σπάνιον μὲν ὑπερβολῇ, ὃ ὀνομάζεται τάρανδος• λέγεται δὲ τοῦτο μεταβάλλειν τὰς χρόας τῆς τριχὸς καθ᾽ ὃν ἂν καὶ τόπον ᾖ. διὰ δὲ τοῦτο εἶναι δυσθήρατον [καὶ διὰ τὴν μεταβολήν] καὶ γὰρ δένδρεσι καὶ τόποις, καὶ ὅλως ἐν οἷς ἂν ᾖ, τοιοῦτον τῇ χροιᾷ γίνεσθαι. θαυμασιώτατον δὲ τὸ τὴν τρίχα μεταβάλλειν• τὰ γὰρ λοιπὰ τὸν χρῶτα, οἷον ὅ τε χαμαιλέων καὶ ὁ πολύπους. p250τὸ δὲ μέγεθος ὡσανεὶ βοῦς. τοῦ δὲ προσώπου τὸν τύπον ὅμοιον ἔχει ἐλάφῳ.

31 Λέγεται δέ τινα ἐν Ἀβύδῳ παρακόψαντα τῇ διανοίᾳ καὶ εἰς τὸ θέατρον ἐρχόμενον ἐπὶ πολλὰς ἡμέρας θεωρεῖν, ὡς ὑποκρινομένων τινῶν, καὶ ἐπισημαίνεσθαι• καὶ ὡς κατέστη τῆς παρακοπῆς, ἔφησεν ἐκεῖνον αὐτῷ τὸν χρόνον ἥδιστα βεβιῶσθαι.

32 Καὶ ἐν Τάραντι δέ φασιν οἰνοπώλην τινὰ τὴν μὲν νύκτα μαίνεσθαι, τὴν δ᾽ ἡμέραν οἰνοπωλεῖν. καὶ γὰρ τὸ κλειδίον τοῦ οἰκήματος πρὸς τῷ ζωνίῳ διεφύλαττε, πολλῶν δ᾽ ἐπιχειρούντων παρελέσθαι καὶ λαβεῖν οὐδέποτε ἀπώλεσεν.

33 Ἐν Τήνῳ τῇ νήσῳ φασὶν εἶναι φιάλιον σύγκραμα ἔχον, ἐξ οὗ πῦρ ἀνάπτουσι πάνυ ῥᾳδίως. καὶ ἐν Βιθυνίᾳ δὲ τῆς Θρᾴκης ἐν τοῖς μετάλλοις

γίνεται ὁ καλούμενος σπίνος, ἐξ οὗ φασὶ πῦρ ἀνάπτεσθαι.

34 Ἐν δὲ Λιπάρᾳ τῇ νήσῳ λέγουσιν εἶναί τινα εἰσπνοήν, εἰς ἣν ἐὰν κρύψωσι χύτραν, ἐμβαλόντες ὃ ἂν ἐθέλωσιν ἕψουσιν.

35 833aἜστι δὲ καὶ ἐν Μηδίᾳ καὶ ἐν Ψιττακηνῇ τῆς Περσίδος πυρὰ καιόμενα, τὸ μὲν ἐν Μηδίᾳ ὀλίγον, τὸ δ᾽ ἐν Ψιττακηνῇ πολὺ καὶ καθαρὸν τῇ φλογί• διὸ καὶ μαγειρεῖα πρὸς αὐτῷ κατεσκεύασεν ὁ Περσῶν βασιλεύς. ἄμφω δ᾽ ἐν ὁμαλοῖς τόποις καὶ οὐκ ἐν ὑψηλοῖς. ταῦτα δὲ καὶ νύκτωρ καὶ μέθ᾽ ἡμέραν φανερά, τὰ δὲ περὶ Παμφυλίαν νύκτωρ μόνον.

36 Φασὶ δὲ καὶ περὶ Ἀτιτανίαν, πρὸς τοῖς ὁρίοις τῆς Ἀπολλωνιάτιδος, εἶναί τινα πέτραν ἐξ ἧς τὸ μὲν ἀνιὸν πῦρ οὐ φανερόν ἐστιν, ἐπειδὰν δὲ ἔλαιον ἐπιχυθῇ ἐπ᾽ αὐτήν, ἐκφλογοῦται.

p252 37 Λέγεται δὲ καὶ τὰ ἔξω στηλῶν Ἡρακλείων καίεσθαι, τὰ μὲν διὰ παντός, τὰ δὲ νύκτωρ μόνον, ὡς ὁ Ἄννωνος περίπλους ἱστορεῖ. καὶ τὸ ἐν Λιπάρᾳ δὲ φανερὸν καὶ φλογῶδες, οὐ μὴν ἡμέρας, ἀλλὰ νύκτωρ μόνον. εἶναι δὲ καὶ ἐν Πιθηκούσαις φασὶ πυρῶδες μὲν καὶ θερμὸν ἐκτόπως, οὐ μὴν καιόμενον.

38 Τὸ δ᾽ ἐν τῇ Λιπάρᾳ ποτὲ καὶ ἐκλιπεῖν φησὶ Ξενοφάνης ἐπ᾽ ἔτη ἑκκαίδεκα, τῷ δὲ ἑβδόμῳ ἐπανελθεῖν. τὸν δ᾽ ἐν τῇ Αἴτνῃ ῥύακα οὔτε φλογώδη φασὶν οὔτε συνεχῆ, ἀλλὰ διὰ πολλῶν ἐνῶν γίνεσθαι.

39 Λέγεται δὲ καὶ περὶ Λυδίαν ἀναζέσαι πῦρ πάμπληθες, καὶ καίεσθαι ἐφ᾽ ἡμέρας ἑπτά.

40 Θαυμαστὸν δὲ τὸ ἐν Σικελίᾳ περὶ τὸν ῥύακα γινόμενον• τὸ γὰρ πλάτος ἐστὶ τὸ τῆς τοῦ πυρὸς ἀναζέσεως τεσσαράκοντα σταδίων, τὸ δὲ ὕψος δι᾽ οὗ φέρεται, τριῶν.

41 Φασὶ δὲ τὸν ἐν τῇ Θρᾴκῃ λίθον τὸν καλούμενον σπίνον διακοπέντα καίεσθαι, καὶ συντεθέντα πρὸς ἑαυτόν, ὥσπερ τὴν σμαρίλην, οὕτως κἀκεῖνον εἰς ἑαυτὸν τεθέντα καὶ ἐπιρραινόμενον ὕδατι καίεσθαι. τὸ δ᾽ αὐτὸ ποιεῖν καὶ τὸν μαριέα.

42 Περὶ Φιλίππους τῆς Μακεδονίας εἶναι λέγουσι μέταλλα, ἐξ ὧν τὰ ἐκβαλλόμενα ἀποσύρματα αὐξάνεσθαί φασι καὶ φύειν χρυσίον, καὶ τοῦτ᾽ εἶναι φανερόν.

43 bΦασὶ δὲ καὶ ἐν Κύπρῳ περὶ τὸν καλούμενον Τυρρίαν χαλκὸν ὅμοιον γίγνεσθαι. κατακόψαντες γάρ, ὡς ἔοικεν, εἰς μικρὰ σπείρουσιν αὐτόν• εἶθ᾽ ὑδάτων ἐπιγενομένων αὐξάνεται καὶ ἐξανίησι καὶ οὕτως συνάγεται.

p254 44 Φασὶ δὲ καὶ ἐν Μήλῳ τῇ νήσῳ ἐν τοῖς ἐξορυσσομένοις τόποις τῆς γῆς πάλιν ἀναπληρώματα γίγνεσθαι.

45 Περὶ Παιονίαν λέγουσιν, ὅταν συνεχεῖς ὄμβροι γένωνται, εὑρίσκεσθαι περιτηκομένης τῆς γῆς χρυσὸν τὸν καλούμενον ἄπυρον. λέγουσι δ᾽ ἐν τῇ Παιονίᾳ οὕτω χρυσίζειν τὴν γῆν ὥστε πολλοὺς εὑρηκέναι καὶ ὑπὲρ μνᾶν χρυσίου ὁλκήν. τῷ δὲ βασιλεῖ τινά φασιν εὑρόντα ἀνενεγκεῖν δύο βώλους, τὸν μὲν τρεῖς μνᾶς ἄγοντα, τὸν δὲ πέντε• οὕς φασιν ἐπὶ τῆς τραπέζης αὐτῷ παρακεῖσθαι, καὶ ἐπ᾽ ἐκείνων πρῶτον, εἴ τι ἐσθίει, ἀπάρχεσθαι.

46 Φασὶ δὲ καὶ ἐν Βάκτροις τὸν Ὦξον ποταμὸν καταφέρειν βωλία χρυσοῦ πλήθει πολλά, καὶ ἐν Ἰβηρίᾳ δὲ τὸν καλούμενον Θεόδωρον ποταμὸν ἐκβράσσειν τε πολὺ περὶ τὰ χείλη χρυσίον, ὁμοίως δὲ καὶ καταφέρειν.

47 Λέγουσι δὲ καὶ ἐν Πιερίᾳ τῆς Μακεδονίας ἄσημόν τι χρυσίον κατορωρυγμένον ὑπὸ τῶν ἀρχαίων βασιλέων, χασμάτων τεττάρων ὄντων, ἐξ ἑνὸς αὐτῶν ἀναφῦναι χρυσίον τὸ μέγεθος σπιθαμιαῖον.

48 Λέγεται δὲ ἰδιαιτάτην εἶναι γένεσιν σιδήρου τοῦ Χαλυβικοῦ καὶ τοῦ Ἀμισηνοῦ. συμφύεται γάρ, ὥς γε λέγουσιν, ἐκ τῆς ἄμμου τῆς καταφερομένης ἐκ τῶν ποταμῶν. ταύτην δ᾽ οἱ μὲν ἁπλῶς φασὶ πλύναντας καμινεύειν, οἱ δὲ τὴν ὑπόστασιν τὴν γενομένην ἐκ τῆς πλύσεως πολλάκις πλυθεῖσαν συγκαίειν, παρεμβάλλειν δὲ τὸν πυρίμαχον καλούμενον λίθον• εἶναι δ᾽ ἐν τῇ χώρᾳ πολύν. οὗτος δ᾽ ὁ σίδηρος πολὺ τῶν ἄλλων γίνεται καλλίων. εἰ δὲ μὴ ἐν μιᾷ καμίνῳ ἐκαίετο, οὐδὲν ἕν, ὡς ἔοικε, p256διέφερε τἀργυρίου. μόνον δέ φασιν αὐτὸν ἀνίωτον εἶναι, οὐ πολὺν δὲ γίνεσθαι.

49 834aΦασὶ δὲ καὶ ἐν Ἰνδοῖς τὸν χαλκὸν οὕτως εἶναι λαμπρὸν καὶ καθαρὸν καὶ ἀνίωτον, ὥστε μὴ διαγινώσκεσθαι τῇ χρόᾳ πρὸς τὸν χρυσόν, ἀλλ᾽ ἐν τοῖς Δαρείου ποτηρίοις βατιακὰς εἶναί τινας καὶ πλείους, ἃς εἰ μὴ τῇ ὀσμῇ, ἄλλως οὐκ ἦν διαγνῶναι πότερόν εἰσι χαλκαῖ ἢ χρυσαῖ.

50 Τὸν κασσίτερον τὸν Κελτικὸν τήκεσθαί φασι πολὺ τάχιον μολύβδου. σημεῖον δὲ τῆς εὐτηξίας, ὅτι τήκεσθαι δοκεῖ καὶ ἐν τῷ ὕδατι• χρώζει γοῦν, ὡς ἔοικε, ταχύ. τήκεται δὲ καὶ ἐν τοῖς ψύχεσιν, ὅταν γένηται πάγη, ἐγκατακλειομένου ἐντός, ὥς φασί, καὶ συνωθουμένου τοῦ θερμοῦ τοῦ ἐνυπάρχοντος αὐτῷ διὰ τὴν ἀσθένειαν.

51 Ἐν τῷ Πανθείῳ ἐστὶν ἐλαία, καλεῖται δὲ καλλιστέφανος• ταύτης πάντα τὰ φύλλα ταῖς λοιπαῖς ἐλαίαις ἐναντία πέφυκεν• ἔξω γὰρ ἀλλ᾽ οὐκ ἐντὸς ἔχει τὰ χλωρά. ἀφίησί τε τοὺς πτόρθους ὥσπερ ἡ μύρτος εἰς τοὺς στεφάνους συμμέτρως. ἀπὸ ταύτης φυτὸν λαβὼν ὁ Ἡρακλῆς ἐφύτευσεν Ὀλυμπίασιν, ἀφ᾽ ἧς οἱ στέφανοι τοῖς ἀθληταῖς δίδονται. ἔστι δὲ αὕτη παρὰ τὸν Ἰλισσὸν ποταμόν, σταδίους ἑξήκοντα τοῦ ποταμοῦ ἀπέχουσα• περιῳκοδόμηται δέ, καὶ ζημία μεγάλη τῷ θιγόντι αὐτῆς ἐστίν. ἀπὸ ταύτης δὲ τὸ φυτὸν λαβόντες

ἐφύτευσαν Ἠλεῖοι ἐν Ὀλυμπίᾳ, καὶ τοὺς στεφάνους ἀπ᾽ αὐτῆς ἔδωκαν.

52 Ἐν τοῖς περὶ Λυδίαν μετάλλοις τοῖς περὶ Πέργαμον, ἃ δὴ καὶ Κροῖσος εἰργάσατο, πολέμου τινὸς γενομένου κατέφυγον οἱ ἐργαζόμενοι ἐπ᾽ αὐτά, τοῦ δὲ στομίου ἐποικοδομηθέντος ἀπεπνίγησαν• p258καὶ ὕστερον χρόνῳ πολλῷ τῶν μετάλλων ἀνακαθαρθέντων εὑρέθη οἷς ἐχρῶντο ἀγγείοις πρὸς τὰς ὑπὸ χεῖρα χρείας ἀπολελιθωμένα, οἷον ἀμφορεῖς καὶ τὰ τοιουτότροπα. ταῦτα δὴ πεπληρωμένα οὗ τινὸς ἔτυχον ὑγροῦ ἐλελίθωτο, καὶ προσέτι τὰ ὀστᾶ τῶν ἀνθρώπων.

53 Ἐν τῇ Ἀσκανίᾳ λίμνῃ οὕτω νιτρῶδές ἐστι τὸ ὕδωρ ὥστε τὰ ἱμάτια οὐδενὸς ἑτέρου ῥύμματος προσδεῖσθαι• κἂν πλείω χρόνον ἐν τῷ ὕδατι ἐάσῃ τις, διαπίπτει.

54 Περὶ τὴν Ἀσκανίαν λίμνην Πυθόπολίς ἐστι κώμη ἀπέχουσα Κίου ὡς σταδίους ἑκατὸν εἴκοσι, ἐν ᾗ τοῦ χειμῶνος ἀναξηραίνεται πάντα τὰ φρέατα ὥστε μὴ ἐνδέχεσθαι βάψαι τὸ ἀγγεῖον, bτοῦ δὲ θέρους πληροῦται ἕως τοῦ στόματος.

55 Ὁ πορθμὸς ὁ μεταξὺ Σικελίας καὶ Ἰταλίας αὔξεται καὶ φθίνει ἅμα τῷ σεληνίῳ.

56 Καὶ διότι ἐπὶ τῆς ὁδοῦ τῆς εἰς Συρακούσας κρήνη ἐστὶν ἐν λειμῶνι οὔτε μεγάλη οὔτε ὕδωρ ἔχουσα πολύ• συναπαντήσαντος δὲ εἰς τὸν τόπον ὄχλου πολλοῦ παρέσχεν ὕδωρ ἄφθονον.

57 Ἔστι δὲ καὶ κρήνη τις ἐν Παλικοῖς τῆς Σικελίας, ὡς δεκάκλινος• αὕτη δ᾽ ἀναρρίπτει ὕδωρ εἰς ὕψος ἓξ πήχεις, ὥστε ὑπὸ τῶν ἰδόντων νομίζεσθαι κατακλυσθήσεσθαι τὸ πεδίον• καὶ πάλιν εἰς ταὐτὸ καθίσταται. ἔστι δὲ καὶ ὅρκος, ὃς ἅγιος αὐτόθι δοκεῖ εἶναι• ὅσα γὰρ ὄμνυσί τις, γράψας εἰς πινακίδιον ἐμβάλλει εἰς τὸ ὕδωρ. ἐὰν μὲν οὖν εὐορκῇ, ἐπιπολάζει τὸ πινακίδιον• ἐὰν δὲ μὴ εὐορκῇ, τὸ μὲν πινακίδιον βαρὺ γενόμενον ἀφανίζεσθαί φασι, τὸν δ᾽ ἄνθρωπον πίμπρασθαι. διὸ δὴ λαμβάνειν p260τὸν ἱερέα παρ᾽ αὐτοῦ ἐγγύας ὑπὲρ τοῦ καθαίρειν τινὰ τὸ ἱερόν.

58 Δημόνησος ἡ Καλχηδονίων2 νῆσος ἀπὸ Δημονήσου τοῦ πρώτου ἐργασαμένου τὴν ἐπωνυμίαν εἴληφεν• ἔχει δ᾽ ὁ τόπος κυανοῦ τὸ μέταλλον καὶ χρυσοκόλλης. ταύτης δ᾽ ἡ καλλίστη πρὸς χρυσίον εὑρίσκει τιμήν• καὶ γὰρ φάρμακον ὀφθαλμῶν ἐστίν. ἔστι δὲ αὐτόθι χαλκὸς κολυμβητὴς ἐν δυοῖν ὀργυιαῖς τῆς θαλάσσης• ὅθεν ὁ ἐν Σικυῶνί ἐστιν ἀνδριὰς ἐν τῷ ἀρχαίῳ νεῷ τοῦ Ἀπόλλωνος καὶ ἐν Φενεῷ οἱ ὀρείχαλκοι καλούμενοι. ἐπιγέγραπται δ᾽ αὐτοῖς "Ἡρακλῆς Ἀμφιτρύωνος Ἦλιν ἑλὼν ἀνέθηκεν." αἱρεῖ δὲ τὴν Ἦλιν ἡγουμένης κατὰ χρησμὸν γυναικός, ἧς τὸν πατέρα Αὐγείαν ἀπέκτεινεν. οἱ δὲ

τὸν χαλκὸν ὀρύττοντες ὀξυδερκέστατοι γίνονται, καὶ οἱ βλεφαρίδας μὴ ἔχοντες φύουσι• παρὸ καὶ οἱ ἰατροὶ τῷ ἄνθει τοῦ χαλκοῦ καὶ τῇ τέφρᾳ τῇ Φρυγίᾳ χρῶνται πρὸς τοὺς ὀφθαλμούς.

59 Ἔστι δὲ αὐτόθι σπήλαιον ὃ καλεῖται γλαφυρόν• ἐν δὲ τούτῳ κίονες πεπήγασιν ἀπό τινων σταλαγμῶν. ἀποδηλοῖ δὲ τοῦτο ἐν τῇ συναγωγῇ τῇ πρὸς τὸ ἔδαφος• ἔστι γὰρ ταύτῃ στενώτατον.

60 835aἘκ τοῦ ζεύγους δὲ τῶν ἀετῶν θάτερον τῶν ἐγγόνων ἁλιαίετος γίνεται παραλλάξ, ἕως ἂν σύζυγα γένηται. ἐκ δὲ ἁλιαιέτων φήνη γίνεται, ἐκ δὲ τούτων περκνοὶ καὶ γῦπες• οὗτοι δ᾽ οὐκέτι διορίζουσι περὶ τοὺς γῦπας, ἀλλὰ γεννῶσι τοὺς μεγάλους γῦπας• οὗτοι δ᾽ εἰσὶν ἄγονοι. σημεῖον δὲ τοῦτο, διότι νεοττιὰν οὐδεὶς ἑώρακε γυπὸς μεγάλου.

61 Θαυμαστὸν δέ τί φασιν ἐν Ἰνδοῖς περὶ τὸν ἐκεῖ μόλυβδον συμβαίνειν• ὅταν γὰρ τακεὶς εἰς ὕδωρ καταχυθῇ ψυχρόν, ἐκπηδᾶν ἐκ τοῦ ὕδατος.

p262 62 Φασὶ τὸν Μοσσύνοικον χαλκὸν λαμπρότατον καὶ λευκότατον εἶναι, οὐ παραμιγνυμένου αὐτῷ κασσιτέρου, ἀλλὰ γῆς τινὸς αὐτοῦ γινομένης καὶ συνεψομένης αὐτῷ. λέγουσι δὲ τὸν εὑρόντα τὴν κρᾶσιν μηδένα διδάξαι• διὸ τὰ προγεγονότα ἐν τοῖς τόποις χαλκώματα διάφορα, τὰ δ᾽ ἐπιγιγνόμενα οὐκέτι.

63 Ἐν τῷ Πόντῳ λέγουσι τοῦ χειμῶνος τῶν ὀρνέων τινὰ εὑρίσκεσθαι φωλεύοντα, οὔτε ἀφοδεύοντα, οὔτε δὲ ὅταν τὰ πτερὰ αὐτῶν τίλλωσιν, αἰσθάνεσθαι, οὔτε ὅταν ἐπὶ τὸν ὀβελίσκον ἀναπαρῇ. ἀλλ᾽ ὅταν ὑπὸ τοῦ πυρὸς διακαυθῇ. πολλοὺς δὲ καὶ τῶν ἰχθύων λέγουσι περικοπέντας καὶ περιτμηθέντας μὴ αἰσθάνεσθαι, ἀλλ᾽ ὅταν ὑπὸ τοῦ πυρὸς διαθερμανθῶσιν.

64 Ἡ μέλιττα δοκεῖ τὰς τροπὰς σημαίνειν τῷ ἐπὶ τὰ ἔργα βαδίζειν, ᾧ καὶ οἱ μελιττοπόλοι σημείῳ χρῶνται• ἠρεμία γὰρ αὐτῶν γίνεται. δοκοῦσι δὲ καὶ οἱ τέττιγες ᾄδειν μετὰ τροπάς.

65 Φασὶ δὲ καὶ τὸν ἐχῖνον ἄσιτον διαμένειν ἄχρι ἐνιαυτοῦ.

66 Τὸν δὲ γαλεώτην, ὅταν ἐκδύσηται τὸ δέρμα, καθάπερ οἱ ὄφεις, ἐπιστραφέντα καταπίνειν• τηρεῖσθαι γὰρ ὑπὸ τῶν ἰατρῶν διὰ τὸ χρήσιμον εἶναι τοῖς ἐπιληπτικοῖς.

67 Λέγουσι δὲ καὶ τὸ τῆς ἄρκτου στέαρ, ὅταν διαπεπηγὸς ᾖ διὰ τὸν χειμῶνα, καθ᾽ ὃν ἂν χρόνον ἐκείνη φωλεύῃ, αὐξάνεσθαι καὶ ὑπεραίρειν τὰ ἀγγεῖα ἐν οἷς ἂν ᾖ.

68 Ἐν Κυρήνῃ φασὶ τοὺς ὄντας βατράχους ἀφώνους τὸ παράπαν εἶναι. καὶ ἐν Μακεδονίᾳ ἐν τῇ τῶν Ἠμαθιωτῶν χώρᾳ τοὺς σῦς εἶναι μώνυχας.

p264 69 bἘν Καππαδοκίᾳ φασὶν ἡμιόνους εἶναι γονίμους καὶ ἐν Κρήτῃ αἰγείρους καρποφόρους.

70 Φασὶ δὲ καὶ ἐν Σερίφῳ τοὺς βατράχους οὐκ ᾄδειν• ἐὰν δὲ εἰς ἄλλον τόπον μετενεχθῶσιν, ᾄδουσιν.

71 Ἐν Ἰνδοῖς ἐν τῷ Κέρατι καλουμένῳ ἰχθύδιά φασι γίνεσθαι ἃ ἐν τῷ ξηρῷ πλανᾶται καὶ πάλιν ἀποτρέχει εἰς τὸν ποταμόν.

72 Φασὶ δὲ καὶ περὶ Βαβυλῶνά τινες ἰχθύας τινὰς μένειν ἐν ταῖς τρώγλαις ταῖς ἐχούσαις ὑγρότητα ξηραινομένου τοῦ ποταμοῦ• τούτους ἐξιόντας ἐπὶ τὰς ἅλως νέμεσθαι, καὶ βαδίζειν ἐπὶ τῶν πτερύγων, καὶ ἀνακινεῖν τὴν οὐράν• καὶ ὅταν διώκωνται, φεύγειν καὶ εἰσδύντας ἀντιπροσώπως ἵστασθαι• πολλάκις γὰρ προσιέναι τινὰς καὶ ἐρεθίζειν. ἔχουσι δὲ τὴν κεφαλὴν ὁμοίαν βατράχῳ θαλαττίῳ, τὸ δὲ ἄλλο σῶμα κωβιῷ, βραγχία δὲ ὥσπερ καὶ οἱ ἄλλοι ἰχθύες.

73 Ἐν Ἡρακλείᾳ δὲ τῇ ἐν τῷ Πόντῳ καὶ ἐν Ῥηγίῳ γίνεσθαί φασιν ὀρυκτοὺς ἰχθῦς, τούτους δὲ μάλιστα κατὰ τὰ ποτάμια καὶ τὰ ἔνυδρα χωρία. συμβαίνειν δέ ποτε ἀναξηραινομένων τῶν χωρίων κατά τινας χρόνους συστέλλεσθαι κατὰ γῆς, εἶτα μᾶλλον ἀναξηραινομένης διώκοντας τὴν ὑγρότητα διίεσθαι εἰς τὴν ἰλύν,3 εἶτα ξηραινομένης διαμένειν ἐν τῇ ἰκμάδι, ὥσπερ τὰ ἐν ταῖς φωλεαῖς διαρκοῦντα. ὅταν δὲ ἀνασκάπτωνται πρὶν ἢ τὰ ὕδατα ἐπιγενέσθαι, τότε κινεῖσθαι.

74 Φασὶ δὲ καὶ περὶ Παφλαγονίαν τοὺς ὀρυκτοὺς γίνεσθαι ἰχθῦς κατὰ βάθους, τούτους δὲ τῇ ἀρετῇ ἀγαθούς, οὔτε ὑδάτων φανερῶν πλησίον p266ὄντων οὔτε ποταμῶν ἐπιρρεόντων, ἀλλ᾽ αὐτῆς ζῳογονούσης τῆς γῆς.

75 Τὰς ἐν Ἠπείρῳ ἐλάφους κατορύττειν φασὶ τὸ δεξιὸν κέρας, ὅταν ἀποβάλωσι, καὶ εἶναι πρὸς πολλὰ χρήσιμον.

76 Καὶ τὴν λύγκα δέ φασι τὸ οὖρον κατακαλύπτειν διὰ τὸ πρὸς ἄλλα τε χρήσιμον εἶναι καὶ τὰς σφραγῖδας.

77 Φασὶ δὲ καὶ τὴν φώκην ἐξεμεῖν τὴν πυτίαν, ὅταν ἁλίσκηται• εἶναι δὲ φαρμακῶδες καὶ τοῖς ἐπιλήπτοις χρήσιμον.

78 Λέγεται δὲ περὶ τὴν Ἰταλίαν ἐν τῷ Κιρκαίῳ ὄρει φάρμακόν τι φύεσθαι θανάσιμον, ὃ τοιαύτην ἔχει τὴν δύναμιν ὥστε, ἂν προσρανθῇ τινί, παραχρῆμα πίπτειν ποιεῖ, 836aκαὶ τὰς τρίχας τὰς ἐν τῷ σώματι ἀπομαδᾶν, καὶ τὸ σύνολον τοῦ σώματος διαρρεῖν τὰ μέλη, ὥστε τὴν ἐπιφάνειαν τοῦ σώματος εἶναι τῶν ἀπολλυμένων ἐλεεινήν. τοῦτο δέ φασι μέλλοντας διδόναι Κλεωνύμῳ τῷ Σπαρτιάτῃ Αὖλον τὸν Πευκέστιον καὶ Γάϊον φωραθῆναι, καὶ ἐξετασθέντας ὑπὸ Ταραντίνων θανατωθῆναι.

79 Ἐν τῇ Διομηδείᾳ νήσῳ, ἣ κεῖται ἐν τῷ Ἀδρίᾳ, φασὶν ἱερόν τι εἶναι τοῦ Διομήδους θαυμαστόν τε καὶ ἅγιον, περὶ δὲ τὸ ἱερὸν κύκλῳ περικαθῆσθαι

ὄρνιθας μεγάλους τοῖς μεγέθεσι, καὶ ῥύγχη ἔχοντας μεγάλα καὶ σκληρά. τούτους λέγουσιν, ἐὰν μὲν Ἕλληνες ἀποβαίνωσιν εἰς τὸν τόπον, ἡσυχίαν ἔχειν, ἐὰν δὲ τῶν βαρβάρων τινὲς τῶν περιοίκων, ἀνίπτασθαι καὶ αἰωρουμένους καταράσσειν αὐτοὺς εἰς τὰς κεφαλὰς αὐτῶν, καὶ τοῖς ῥύγχεσι τιτρώσκοντας ἀποκτείνειν. μυθεύεται δὲ τούτους γενέσθαι ἐκ τῶν ἑταίρων τῶν τοῦ Διομήδους, p268ναυαγησάντων μὲν αὐτῶν περὶ τὴν νῆσον, τοῦ δὲ Διομήδους δολοφονηθέντος ὑπὸ τοῦ Αἰνέου τοῦ τότε βασιλέως τῶν τόπων ἐκείνων γενομένου.

80 Παρὰ τοῖς Ὀμβρικοῖς φασὶ τὰ βοσκήματα τίκτειν τρὶς τοῦ ἐνιαυτοῦ, καὶ τοὺς καρποὺς αὐτοῖς τὴν γῆν πολλαπλασίους ἀνίεσθαι τῶν καταβαλλομένων• εἶναι δὲ καὶ τὰς γυναῖκας πολυγόνους καὶ σπανίως ἓν τίκτειν, τὰς δὲ πλείστας δύο καὶ τρία.

81 Ἐν ταῖς Ἠλεκτρίσι νήσοις, αἳ κεῖνται ἐν τῷ μυχῷ τοῦ Ἀδρίου, φασὶν εἶναι δύο ἀνδριάντας ἀνακειμένους, τὸν μὲν κασσιτέρινον τὸν δὲ χαλκοῦν, εἰργασμένους τὸν ἀρχαῖον τρόπον. λέγεται δὲ τούτους Δαιδάλου εἶναι ἔργα, ὑπόμνημα τῶν πάλαι, ὅτε Μίνω φεύγων ἐκ Σικελίας καὶ Κρήτης εἰς τούτους τοὺς τόπους παρέβαλε. ταύτας δὲ τὰς νήσους φασὶ προκεχωκέναι τὸν Ἠριδανὸν ποταμόν. ἔστι δὲ καὶ λίμνη, ὡς ἔοικε, πλησίον τοῦ ποταμοῦ, ὕδωρ ἔχουσα θερμόν• ὀσμὴ δ᾽ ἀπ᾽ αὐτῆς βαρεῖα καὶ χαλεπὴ ἀποπνεῖ, καὶ οὔτε ζῷον οὐδὲν πίνει ἐξ αὐτῆς οὔτε ὄρνεον ὑπερίπταται, ἀλλὰ πίπτει καὶ ἀποθνήσκει. bἔχει δὲ τὸν μὲν κύκλον σταδίων διακοσίων, τὸ δὲ εὖρος ὡς δέκα. μυθεύουσι δὲ οἱ ἐγχώριοι Φαέθοντα κεραυνωθέντα πεσεῖν εἰς ταύτην τὴν λίμνην. εἶναι δ᾽ ἐν αὐτῇ αἰγείρους πολλάς, ἐξ ὧν ἐκπίπτειν τὸ καλούμενον ἤλεκτρον. τοῦτο δὲ λέγουσιν ὅμοιον εἶναι κόμμι, ἀποσκληρύνεσθαι δὲ ὡσανεὶ λίθον, καὶ συλλεγόμενον ὑπὸ τῶν ἐγχωρίων διαφέρεσθαι εἰς τοὺς Ἕλληνας. εἰς ταύτας οὖν τὰς νήσους Δαίδαλόν φασιν ἐλθεῖν, καὶ κατασχόντα αὐτὰς ἀναθεῖναι ἐν μιᾷ αὐτῶν τὴν αὑτοῦ εἰκόνα, καὶ τὴν τοῦ υἱοῦ Ἰκάρου ἐν τῇ ἑτέρᾳ. ὕστερον δ᾽ ἐπιπλευσάντων ἐπ᾽ αὐτοὺς Πελασγῶν p270τῶν ἐκπεσόντων ἐξ Ἄργους φυγεῖν τὸν Δαίδαλον, καὶ ἀφικέσθαι εἰς Ἴκαρον τὴν νῆσον.

82 Ἐν τῇ Σικελίᾳ περὶ τὴν καλουμένην Ἔνναν σπήλαιόν τι λέγεται εἶναι, περὶ ὃ κύκλῳ πεφυκέναι φασὶ τῶν τε ἄλλων ἀνθέων πλῆθος ἀνὰ πᾶσαν ὥραν, πολὺ δὲ μάλιστα τῶν ἴων ἀπέραντόν τινα τόπον συμπεπληρῶσθαι, ἃ τὴν σύνεγγυς χώραν εὐωδίας πληροῖ, ὥστε τοὺς κυνηγοῦντας, τῶν κυνῶν κρατουμένων ὑπὸ τῆς ὀδμῆς, ἐξαδυνατεῖν τοὺς λαγὼς ἰχνεύειν. διὰ δὲ τούτου τοῦ χάσματος ἀσυμφανής ἐστιν ὑπόνομος, καθ᾽ ὅν φασι τὴν ἁρπαγὴν

ποιήσασθαι τὸν Πλούτωνα τῆς Κόρης. εὑρίσκεσθαι δέ φασιν ἐν τούτῳ τῷ τόπῳ πυροὺς οὔτε τοῖς ἐγχωρίοις ὁμοίους οἷς χρῶνται οὔτε ἄλλοις ἐπεισάκτοις, ἀλλ᾽ ἰδιότητά τινα μεγάλην ἔχοντας. καὶ τούτῳ σημειοῦνται τὸ πρώτως παρ᾽ αὐτοῖς φανῆναι πύρινον καρπόν. ὅθεν καὶ τῆς Δήμητρος ἀντιποιοῦνται, φάμενοι παρ᾽ αὐτοῖς τὴν θεὸν γεγονέναι.

83 Ἐν Κρήτῃ λύκους καὶ ἄρκτους τούς τ᾽ ἔχεις, ὁμοίως δὲ καὶ τὰ παραπλήσια τούτοις θηρία οὔ φασι γίνεσθαι διὰ τὸ τὸν Δία γενέσθαι ἐν αὐτῇ.

84 Ἐν τῇ θαλάσσῃ τῇ ἔξω Ἡρακλείων στηλῶν φασὶν ὑπὸ Καρχηδονίων νῆσον εὑρεθῆναι ἐρήμην, ἔχουσαν ὕλην τε παντοδαπὴν καὶ ποταμοὺς πλωτούς, καὶ τοῖς λοιποῖς καρποῖς θαυμαστήν, ἀπέχουσαν δὲ πλειόνων ἡμερῶν πλοῦν• ἐν ᾗ ἐπιμισγομένων τῶν Καρχηδονίων πολλάκις διὰ τὴν εὐδαιμονίαν, ἐνίων γε μὴν καὶ οἰκούντων, 837aτοὺς προεστῶτας τῶν Καρχηδονίων ἀπείπασθαι θανάτῳ ζημιοῦν τοὺς εἰς αὐτὴν πλευσομένους, καὶ τοὺς ἐνοικοῦντας πάντας ἀφανίσαι, ἵνα μὴ διαγγέλλωσι, p272μηδὲ πλῆθος συστραφὲν ἐπ᾽ αὐτῶν ἐπὶ τὴν νῆσον κυρίας τύχῃ καὶ τὴν τῶν Καρχηδονίων εὐδαιμονίαν ἀφέληται.

85 Ἐκ τῆς Ἰταλίας φασὶν ἕως τῆς Κελτικῆς καὶ Κελτολιγύων καὶ Ἰβήρων εἶναί τινα ὁδὸν Ἡράκλειαν καλουμένην, δι᾽ ἧς ἐάν τε Ἕλλην ἐάν τε ἐγχώριός τις πορεύηται, τηρεῖσθαι ὑπὸ τῶν παροικούντων, ὅπως μηδὲν ἀδικηθῇ• τὴν γὰρ ζημίαν ἐκτίνειν καθ᾽ οὓς ἂν γένηται τὸ ἀδίκημα.

86 Φασὶ δὲ παρὰ τοῖς Κελτοῖς φάρμακον ὑπάρχειν τὸ καλούμενον ὑπ᾽ αὐτῶν τοξικόν• ὃ λέγουσιν οὕτω ταχεῖαν ποιεῖν τὴν φθορὰν ὥστε τῶν Κελτῶν τοὺς κυνηγοῦντας, ὅταν ἔλαφον ἢ ἄλλο τι ζῷον τοξεύσωσιν, ἐπιτρέχοντας ἐκ σπουδῆς ἐκτέμνειν τῆς σαρκὸς τὸ τετρωμένον πρὸ τοῦ τὸ φάρμακον διαδῦναι, ἅμα μὲν τῆς προσφορᾶς ἕνεκα, ἅμα δὲ ὅπως μὴ σαπῇ τὸ ζῷον. εὑρῆσθαι δὲ τούτῳ λέγουσιν ἀντιφάρμακον τὸν τῆς δρυὸς φλοιόν• οἱ δ᾽ ἕτερόν τι φύλλον, ὃ καλοῦσι κοράκιον διὰ τὸ κατανοηθῆναι ὑπ᾽ αὐτῶν κόρακα, γευσάμενον τοῦ φαρμάκου καὶ κακῶς διατιθέμενον, ἐπὶ τὸ φύλλον ὁρμήσαντα τοῦτο καὶ καταπιόντα παύσασθαι τῆς ἀλγηδόνος.

87 Ἐν τῇ Ἰβηρίᾳ λέγουσι τῶν δρυμῶν ἐμπρησθέντων ὑπό τινων ποιμένων, καὶ τῆς γῆς διαθερμανθείσης ὑπὸ τῆς ὕλης, φανερῶς ἀργύρῳ ῥεῦσαι τὴν χώραν, καὶ μετὰ χρόνον σεισμῶν ἐπιγενομένων καὶ τῶν τόπων ῥαγέντων πάμπληθες συναχθῆναι ἀργύριον, ὃ δὴ καὶ τοῖς Μασσαλιώταις πρόσοδον ἐποίησεν οὐ τὴν τυχοῦσαν.

88 Ἐν ταῖς Γυμνησίαις ταῖς κειμέναις νήσοις κατὰ τὴν Ἰβηρίαν, ἃς μετὰ τὰς λεγομένας ἑπτὰ p274μεγίστας λέγουσιν εἶναι, φασὶν ἔλαιον μὴ γίνεσθαι

ἐξ ἐλαιῶν, ἐκ δὲ τῆς τερμίνθου κομιδῇ πολὺ καὶ εἰς πάντα ἁρμόττον. λέγουσι δὲ οὕτω τοὺς οἰκοῦντας αὐτὰς Ἴβηρας καταγύνους εἶναι ὥστε ἀντὶ ἑνὸς σώματος θηλυκοῦ διδόναι τοῖς ἐμπόροις τέτταρα καὶ πέντε σώματα ἄρρενα. bστρατευόμενοι δὲ παρὰ Καρχηδονίοις τοὺς μισθοὺς ὅταν λάβωσιν, ἄλλο μέν, ὡς ἔοικεν, οὐδὲν ἀγοράζουσι, γυναῖκας δέ. οὐ γὰρ χρυσίον οὐδὲ ἀργύριον ἔξεστι παρ᾽ αὐτοῖς οὐδένα ἔχειν. ἐπιλέγεται δέ τι τοιοῦτον ἐπὶ τῷ κωλύειν χρήματα εἰσάγειν αὐτούς, ὅτι τὴν στρατείαν Ἡρακλῆς ἐποιήσατο ἐπὶ τὴν Ἰβηρίαν διὰ τοὺς τῶν ἐνοικούντων πλούτους.

89 Ἐν τῇ τῶν Μασσαλιωτῶν χώρᾳ περὶ τὴν Λιγυστικήν φασιν εἶναί τινα λίμνην, ταύτην δὲ ἀναζεῖν καὶ ὑπερχεῖσθαι, καὶ τοσούτους ἰχθῦς ἐκβάλλειν τὸ πλῆθος ὥστε μὴ πιστεύειν. ἐπειδὰν δὲ οἱ ἐτησίαι πνεύσωσιν, ἐπιχώννυσθαι τὸ ἔδαφος ἐπ᾽ αὐτήν, καὶ τοιοῦτον κονιορτὸν γίνεσθαι αὐτόθι, καὶ ἀποστερεοῦσθαι τὴν ἐπιφάνειαν αὐτῆς ὡσανεὶ ἔδαφος. τοῖς δὲ τριόδουσι διακόπτοντας τοὺς ἐγχωρίους ἑτοίμως ὅσους ἂν βούλωνται ἰχθύας ἐξαίρειν ἐξ αὐτῆς.

90 Λέγεται δέ τινας τῶν Λιγύων οὕτω σφενδονᾶν εὖ ὥστε, ὅταν πλείους ἴδωσιν ὄρνιθας, διερεθίζεσθαι πρὸς ἀλλήλους ποῖον ἕκαστος παρασκευάζεται βαλεῖν, ὡς ἑτοίμως ἁπάντων τευξομένων.

91 Ἴδιον δέ φασι καὶ τοῦτο παρ᾽ αὐτοῖς εἶναι• αἱ γυναῖκες ἅμα ἐργαζόμεναι τίκτουσιν, καὶ τὸ παιδίον ὕδατι περικλύσασαι παραχρῆμα σκάπτουσι p276καὶ σκάλλουσι καὶ τἆλλα οἰκονομοῦσιν ἃ καὶ μὴ τικτούσαις αὐταῖς ἦν πρακτέον.

92 Θαῦμα δὲ καὶ τοῦτο παρὰ τοῖς Λίγυσι• φασὶ γὰρ παρ᾽ αὐτοῖς ποταμὸν εἶναι οὗ τὸ ῥεῦμα αἴρεται μετέωρον καὶ ῥεῖ, ὥστε τοὺς πέραν μὴ ὁρᾶσθαι.

93 Ἐν δὲ τῇ Τυρρηνίᾳ λέγεταί τις νῆσος Αἰθάλεια ὀνομαζομένη, ἐν ᾗ ἐκ τοῦ αὐτοῦ μετάλλου πρότερον μὲν χαλκὸς ὠρύσσετο, ἐξ οὗ φασὶ πάντα κεχαλκευμένα παρ᾽ αὐτοῖς εἶναι, ἔπειτα μηκέτι εὑρίσκεσθαι, χρόνου δὲ διελθόντος πολλοῦ φανῆναι ἐκ τοῦ αὐτοῦ μετάλλου σίδηρον, ᾧ νῦν ἔτι χρῶνται Τυρρηνοὶ οἱ τὸ καλούμενον Ποπλώνιον οἰκοῦντες.

94 Ἔστι δέ τις ἐν τῇ Τυρρηνίᾳ πόλις Οἰναρέα καλουμένη, ἣν ὑπερβολῇ φασὶν ὀχυρὰν εἶναι• ἐν γὰρ μέσῃ αὐτῇ λόφος ἐστὶν ὑψηλός, τριάκοντα σταδίους ἀνέχων ἄνω, καὶ κάτω ὕλην παντοδαπὴν καὶ ὕδατα. 838aφοβουμένους οὖν τοὺς ἐνοικοῦντας λέγουσι μή τις τύραννος γένηται, προΐστασθαι αὐτῶν τοὺς ἐκ τῶν οἰκετῶν ἠλευθερωμένους• καὶ οὗτοι ἄρχουσιν αὐτῶν, κατ᾽ ἐνιαυτὸν δ᾽ ἄλλους ἀντικαθιστάναι τοιούτους.

95 Ἐν τῇ Κύμῃ τῇ περὶ τὴν Ἰταλίαν δείκνυταί τις, ὡς ἔοικε, θάλαμος

κατάγειος Σιβύλλης τῆς χρησμολόγου, ἣν πολυχρονιωτάτην γενομένην παρθένον διαμεῖναί φασιν, οὖσαν μὲν Ἐρυθραίαν, ὑπό τινων δὲ τὴν Ἰταλίαν κατοικούντων Κυμαίαν, ὑπὸ δέ τινων Μελάγκραιραν καλουμένην. τοῦτον δὲ τὸν τόπον λέγεται κυριεύεσθαι ὑπὸ Λευκανῶν. εἶναι δὲ λέγουσιν ἐν ἐκείνοις τοῖς τόποις περὶ τὴν Κύμην ποταμόν τινα Κετὸν ὀνομαζόμενον, εἰς ὅν φασι τὸν πλείω χρόνον τὸ ἐμβληθὲν πρῶτον περιφύεσθαι καὶ τέλος ἀπολιθοῦσθαι.

p278 96 Ἀλκιμένει τῷ Συβαρίτῃ φασὶ κατασκευασθῆναι ἱμάτιον τοιοῦτον τῇ πολυτελείᾳ, ὥστε προτίθεσθαι αὐτὸ ἐπὶ Λακινίῳ τῇ πανηγύρει τῆς Ἥρας, εἰς ἣν συμπορεύονται πάντες Ἰταλιῶται, τῶν τε δεικνυμένων μάλιστα πάντων ἐκεῖνο θαυμάζεσθαι• οὗ φασὶ κυριεύσαντα Διονύσιον τὸν πρεσβύτερον ἀποδόσθαι Καρχηδονίοις ἑκατὸν καὶ εἴκοσι ταλάντων. ἦν δ᾽ αὐτὸ μὲν ἁλουργές, τῷ δὲ μεγέθει πεντεκαιδεκάπηχυ, ἑκατέρωθεν δὲ διείληπτο ζῳδίοις ἐνυφασμένοις, ἄνωθεν μὲν Σούσοις, κάτωθεν δὲ Πέρσαις• ἀνὰ μέσον δὲ ἦν Ζεύς, Ἥρα, Θέμις, Ἀθηνᾶ, Ἀπόλλων, Ἀφροδίτη. παρὰ δ᾽ ἑκάτερον πέρας Ἀλκιμένης ἦν, ἑκατέρωθεν δὲ Σύβαρις.

97 Περὶ τὴν ἄκραν τὴν Ἰαπυγίαν φασὶν ἔκ τινος τόπου, ἐν ᾧ συνέβη γενέσθαι, ὡς μυθολογοῦσιν, Ἡρακλεῖ πρὸς γίγαντας μάχην, ῥεῖν ἰχῶρα πολὺν καὶ τοιοῦτον ὥστε διὰ τὸ βάρος τῆς ὀσμῆς ἄπλουν εἶναι τὴν κατὰ τὸν τόπον θάλασσαν. λέγουσι δὲ πολλαχοῦ τῆς Ἰταλίας Ἡρακλέους εἶναι πολλὰ μνημόσυνα ἐν ταῖς ὁδοῖς ἃς ἐκεῖνος ἐπορεύθη. περὶ δὲ Πανδοσίαν τῆς Ἰαπυγίας ἴχνη τοῦ θεοῦ δείκνυται, ἐφ᾽ ἃ οὐδενὶ ἐπιβατέον.

98 b Ἔστι καὶ περὶ ἄκραν Ἰαπυγίαν λίθος ἁμαξιαῖος, ὃν ὑπ᾽ ἐκείνου ἀρθέντα μετατεθῆναί φασιν, ἀφ᾽ ἑνὸς δὲ δακτύλου κινεῖσθαι συμβέβηκεν.

99 Ἐν τῇ τῶν Ὀρχομενίων πόλει τῇ ἐν Βοιωτοῖς φανῆναί φασιν ἀλώπεκα, ἣν κυνὸς διώκοντος εἰσδῦναι εἴς τινα ὑπόνομον, καὶ τὸν κύνα συνεισδῦναι αὐτῇ, καὶ ὑλακτοῦντα ἦχον μέγαν ποιεῖν ὡσανεὶ εὐρυχωρίας τινὸς ὑπαρχούσης αὐτῷ• τοὺς δὲ κυνηγέτας ἔννοιαν λαβόντας δαιμονίαν, ἀναρρήξαντας τὴν εἴσδυσιν συνῶσαι καὶ αὐτούς• ἰδόντας p280δὲ διά τινων ὀπῶν εἰσερχόμενον ἔσω τὸ φῶς, εὐσυνόπτως τὰ λοιπὰ θεάσασθαι, καὶ ἐλθόντας ἀπαγγεῖλαι τοῖς ἄρχουσιν.

100 Ἐν τῇ Σαρδοῖ τῇ νήσῳ κατασκευάσματά φασιν εἶναι εἰς τὸν Ἑλληνικὸν τρόπον διακείμενα τὸν ἀρχαῖον, ἄλλα τε πολλὰ καὶ καλὰ καὶ θόλους περισσοῖς τοῖς ῥυθμοῖς κατεξεσμένους• τούτους δ᾽ ὑπὸ Ἰολάου τοῦ Ἰφικλέους κατασκευασθῆναι, ὅτε τοὺς Θεσπιάδας τοὺς ἐξ Ἡρακλέους παραλαβὼν ἔπλευσεν εἰς ἐκείνους τοὺς τόπους ἐποικήσων, ὡς κατὰ συγγένειαν αὐτῷ τὴν Ἡρακλέους προσήκοντας διὰ τὸ πάσης τῆς πρὸς

ἑσπέραν κύριον Ἡρακλέα γενέσθαι. αὕτη δὲ ἡ νῆσος, ὡς ἔοικεν, ἐκαλεῖτο μὲν πρότερον Ἰχνοῦσσα διὰ τὸ ἐσχηματίσθαι τῇ περιμέτρῳ ὁμοιότατα ἀνθρωπίνῳ ἴχνει, εὐδαίμων δὲ καὶ πάμφορος ἔμπροσθεν λέγεται εἶναι• τὸν γὰρ Ἀρισταῖον, ὅν φασι γεωργικώτατον εἶναι ἐπὶ τῶν ἀρχαίων, τοῦτον αὐτῶν ἄρξαι μυθολογοῦσιν, ὑπὸ μεγάλων ὀρνέων ἔμπροσθεν καὶ πολλῶν κατεχομένων. νῦν μὲν οὖν οὐκέτι φέρει τοιοῦτον οὐδὲν διὰ τὸ κυριευθεῖσαν ὑπὸ Καρχηδονίων ἐκκοπῆναι πάντας τοὺς χρησίμους εἰς προσφορὰν καρπούς, καὶ θάνατον τὴν ζημίαν τοῖς ἐγχωρίοις τετάχθαι, ἐάν τις τῶν τοιούτων τι ἀναφυτεύῃ.

101 Ἐν μιᾷ τῶν ἑπτὰ νήσων τῶν Αἰόλου καλουμένων, ἣ καλεῖται Λιπάρα, τάφον εἶναι μυθολογοῦσι, περὶ οὗ καὶ ἄλλα μὲν πολλὰ καὶ τερατώδη λέγουσι, τοῦτο δ᾽ ὅτι οὐκ ἀσφαλές ἐστι προσελθεῖν πρὸς ἐκεῖνον τὸν τόπον τῆς νυκτός, συμφωνοῦσιν• ἐξακούεσθαι γὰρ τυμπάνων καὶ κυμβάλων ἦχον γέλωτά τε μετὰ θορύβου καὶ κροτάλων ἐναργῶς. p282839aλέγουσι δέ τι τερατωδέστερον γεγονέναι περὶ τὸ σπήλαιον• πρὸ ἡμέρας γὰρ ἐγκοιμηθῆναί τινα ἐν αὐτῷ οἰνωμένον, καὶ τοῦτον ὑπὸ τῶν οἰκετῶν ζητούμενον ἐφ᾽ ἡμέρας τρεῖς διατελέσαι, τῇ δὲ τετάρτῃ εὑρεθέντα ὡς νεκρὸν ἀποκομισθῆναι ὑπὸ τῶν οἰκείων εἰς τὸν ἴδιον τάφον, καὶ τῶν νομιζομένων τυχόντα πάντων ἐξαίφνης ἀναστῆναι, καὶ διηγεῖσθαι τὰ καθ᾽ ἑαυτὸν συμβεβηκότα. τοῦτο μὲν οὖν ἡμῖν φαίνεται μυθωδέστερον• ὅμως μέντοι ἔδει μὴ παραλιπεῖν ἀμνημόνευτον αὐτό, τῶν περὶ τὸν τόπον ἐκεῖνον τὴν ἀναγραφὴν ποιούμενον.

102 Περὶ τὴν Κύμην τὴν ἐν Ἰταλίᾳ λίμνη ἐστὶν ἡ προσαγορευομένη ἄορνος, αὐτὴ μέν, ὡς ἔοικεν, οὐκ ἔχουσά τι θαυμαστόν• περικεῖσθαι γὰρ λέγουσι περὶ αὐτὴν λόφους κύκλῳ, τὸ ὕψος οὐκ ἐλάσσους τριῶν σταδίων, καὶ αὐτὴν εἶναι τῷ σχήματι κυκλοτερῆ, τὸ βάθος ἔχουσαν ἀνυπέρβλητον. ἐκεῖνο δὲ θαυμάσιον φαίνεται• ὑπερκειμένων γὰρ αὐτῇ πυκνῶν δένδρων, καί τινων ἐν αὐτῇ κατακεκλιμένων, οὐδὲν ἔστιν ἰδεῖν φύλλον ἐπὶ τοῦ ὕδατος ἐφεστηκός, ἀλλ᾽ οὕτω καθαρώτατόν ἐστι τὸ ὕδωρ ὥστε τοὺς θεωμένους θαυμάζειν. περὶ δὲ τὴν ἀπέχουσαν ἤπειρον αὐτῆς οὐ πολὺ θερμὸν ὕδωρ πολλαχόθεν ἐκπίπτει, καὶ ὁ τόπος ἅπας καλεῖται Πυριφλεγέθων. ὅτι δὲ οὐδὲν διίπταται ὄρνεον αὐτήν, ψεῦδος• οἱ γὰρ παραγενόμενοι λέγουσι πλῆθός τι κύκνων ἐν αὐτῇ γίνεσθαι.

103 Φασὶ τὰς Σειρηνούσας νήσους κεῖσθαι μὲν ἐν τῇ Ἰταλίᾳ περὶ τὸν πορθμὸν ἐπ᾽ αὐτῆς τῆς ἄκρας, ὃς κεῖται πρὸ τοῦ προπεπτωκότος τόπου καὶ διαλαμβάνοντος τοῖς κόλποις τόν τε περιέχοντα τὴν Κύμην καὶ τὸν διειληφότα τὴν Ποσειδωνίαν p284καλουμένην• ἐν ᾧ καὶ νεὼς αὐτῶν ἵδρυται,

καὶ τιμῶνται καθ’ ὑπερβολὴν ὑπὸ τῶν περιοίκων θυσίαις ἐπιμελῶς• ὧν καὶ τὰ ὀνόματα μνημονεύοντες καλοῦσι τὴν μὲν Παρθενόπην, τὴν δὲ Λευκωσίαν, τὴν δὲ τρίτην Λίγειαν.

104 bΛέγεται δὲ μεταξὺ τῆς Μεντορικῆς καὶ τῆς Ἰστριανῆς ὄρος τι εἶναι τὸ καλούμενον Δέλφιον, ἔχον λόφον ὑψηλόν. ἐπὶ τοῦτον τὸν λόφον ὅταν ἀναβαίνωσιν οἱ Μέντορες οἱ ἐπὶ τοῦ Ἀδρίου οἰκοῦντες, ἀποθεωροῦσιν, ὡς ἔοικε, τὰ εἰς τὸν Πόντον εἰσπλέοντα πλοῖα. εἶναι δὲ καί τινα τόπον ἐν τοῖς ἀνὰ μέσον διαστήμασιν, εἰς ὃν ἀγορᾶς κοινῆς γινομένης πωλεῖσθαι παρὰ μὲν τῶν ἐκ τοῦ Πόντου ἐμπόρων ἀναβαινόντων τὰ Λέσβια καὶ Χῖα καὶ Θάσια, παρὰ δὲ τῶν ἐκ τοῦ Ἀδρίου τοὺς Κερκυραϊκοὺς ἀμφορεῖς.

105 Φασὶ δὲ καὶ τὸν Ἴστρον ῥέοντα ἐκ τῶν Ἑρκυνίων καλουμένων δρυμῶν σχίζεσθαι, καὶ τῇ μὲν εἰς τὸν Πόντον ῥεῖν, τῇ δὲ εἰς τὸν Ἀδρίαν ἐκβάλλειν. σημεῖον δὲ οὐ μόνον ἐν τοῖς νῦν καιροῖς ἑωράκαμεν, ἀλλὰ καὶ ἐπὶ τῶν ἀρχαίων μᾶλλον, οἷον τὰ ἐκεῖ ἄπλωτα εἶναι• καὶ γὰρ Ἰάσονα τὸν μὲν εἴσπλουν κατὰ Κυανέας, τὸν δὲ ἐκ τοῦ Πόντου ἔκπλουν κατὰ τὸν Ἴστρον ποιήσασθαί φασι• καὶ φέρουσιν ἄλλα τε τεκμήρια οὐκ ὀλίγα, καὶ κατὰ μὲν τὴν χώραν βωμοὺς ὑπὸ τοῦ Ἰάσονος ἀνακειμένους δεικνύουσιν, ἐν δὲ μιᾷ τῶν νήσων τῶν ἐν τῷ Ἀδρίᾳ ἱερὸν Ἀρτέμιδος ὑπὸ Μηδείας ἱδρυμένον. ἔτι δὲ λέγουσιν ὡς οὐκ ἂν παρέπλευσε τὰς Πλαγκτὰς καλουμένας, εἰ μὴ ἐκεῖθεν ἀπέπλει. καὶ ἐν τῇ Αἰθαλείᾳ δὲ νήσῳ, τῇ κειμένῃ ἐν τῷ Τυρρηνικῷ πελάγει, ἄλλα τε δεικνύουσι μνημεῖα p286τῶν ἀριστέων καὶ τὸ ἐπὶ τῶν ψήφων δὲ λεγόμενον• παρὰ γὰρ τὸν αἰγιαλὸν ψήφους φασὶν εἶναι ποικίλας, ταύτας δ’ οἱ Ἕλληνες οἱ τὴν νῆσον οἰκοῦντες λέγουσι τὴν χροιὰν λαβεῖν ἀπὸ τῶν στλεγγισμάτων ὧν ἐποιοῦντο ἀλειφόμενοι• ἀπὸ ἐκείνων γὰρ τῶν χρόνων οὔτε πρότερον ἑωρᾶσθαι μυθολογοῦσι τοιαύτας ψήφους οὔθ’ ὕστερον ἐπιγενομένας. ἔτι δὲ τούτων φανερώτερα σημεῖα λέγουσιν, ὅτι οὐ διὰ τῶν Συμπληγάδων ἐγένετο ὁ ἔκπλους, αὐτῷ τῷ ποιητῇ ἐν ἐκείνοις τοῖς τόποις μάρτυρι χρώμενοι. τὴν γὰρ δυσχέρειαν τοῦ κινδύνου ἐμφανίζοντα λέγειν ὅτι οὐκ ἔστι παραπλεῦσαι τὸν τόπον,

ἀλλά θ’ ὁμοῦ πίνακάς τε νεῶν καὶ σώματα φωτῶν
κύμαθ’ ἁλὸς φορέουσι πυρός τ’ ὀλοοῖο θύελλαι.

840aπερὶ μὲν οὖν τὰς Κυανέας οὐ λέγεται πῦρ ἀναπέμπειν, περὶ δὲ τὸν πορθμὸν τὸν διαλαμβάνοντα τὴν Σικελίαν, ἐφ’ ἑκάτερα κειμένων τῶν τοῦ πυρὸς ἀναφυσημάτων, καὶ τῆς τε νήσου συνεχῶς καιομένης, καὶ τοῦ περὶ τὴν Αἴτνην ῥεύματος πολλάκις τὴν χώραν ἐπιδεδραμηκότος.

106 Ἐν Τάραντι ἐναγίζειν κατά τινας χρόνους φασὶν Ἀτρείδαις καὶ

Τυδείδαις καὶ Αἰακίδαις καὶ Λαερτιάδαις, καὶ Ἀγαμεμνονίδαις δὲ χωρὶς θυσίαν ἐπιτελεῖν ἐν ἄλλῃ ἡμέρᾳ ἰδίᾳ, ἐν ᾗ νόμιμον εἶναι ταῖς γυναιξὶ μὴ γεύσασθαι τῶν ἐκείνοις θυομένων. ἔστι δὲ καὶ Ἀχιλλέως νεὼς παρ᾽ αὐτοῖς. λέγεται δὲ μετὰ τὸ παραλαβεῖν τοὺς Ταραντίνους Ἡράκλειαν τὸν τόπον καλεῖσθαι ὃν νῦν κατοικοῦσιν, ἐν δὲ τοῖς ἄνω χρόνοις τῶν Ἰώνων κατεχόντων Πλεῖον• ἔτι δὲ ἐκείνων ἔμπροσθεν ὑπὸ τῶν Τρώων τῶν κατασχόντων αὐτὴν Σίγειον ὠνομάσθαι.

p288 107 Παρὰ δὲ τοῖς Συβαρίταις λέγεται Φιλοκτήτην τιμᾶσθαι. κατοικῆσαι γὰρ αὐτὸν ἐκ Τροίας ἀνακομισθέντα τὰ καλούμενα Μύκαλλα τῆς Κροτωνιάτιδος, ἅ φασιν ἀπέχειν ἑκατὸν εἴκοσι σταδίων, καὶ ἀναθεῖναι ἱστοροῦσι τὰ τόξα τὰ Ἡράκλεια αὐτὸν εἰς τὸ τοῦ Ἀπόλλωνος τοῦ ἁλίου. ἐκεῖθεν δέ φασι τοὺς Κροτωνιάτας κατὰ τὴν ἐπικράτειαν ἀναθεῖναι αὐτὰ εἰς τὸ Ἀπολλώνιον τὸ παρ᾽ αὐτοῖς. λέγεται δὲ καὶ τελευτήσαντα ἐκεῖ κεῖσθαι αὐτὸν παρὰ τὸν ποταμὸν τὸν Σύβαριν, βοηθήσαντα Ῥοδίοις τοῖς μετὰ Τληπολέμου εἰς τοὺς ἐκεῖ τόπους ἀπενεχθεῖσι καὶ μάχην συνάψασι πρὸς τοὺς ἐνοικοῦντας τῶν βαρβάρων ἐκείνην τὴν χώραν.

108 Περὶ δὲ τὴν Ἰταλίαν τὴν καλουμένην Γαργαρίαν, ἐγγὺς Μεταποντίου, Ἀθηνᾶς ἱερὸν εἶναί φασιν Ἑλληνίας, ἔνθα τὰ τοῦ Ἐπειοῦ λέγουσιν ἀνακεῖσθαι ὄργανα, ἃ εἰς τὸν δούρειον ἵππον ἐποίησεν, ἐκείνου τὴν ἐπωνυμίαν ἐπιθέντος. φανταζομένην γὰρ αὐτῷ τὴν Ἀθηνᾶν κατὰ τὸν ὕπνον ἀξιοῦν ἀναθεῖναι τὰ ὄργανα, καὶ διὰ τοῦτο βραδυτέρας τυγχάνοντα τῆς ἀναγωγῆς εἰλεῖσθαι ἐν τῷ τόπῳ, μὴ δυνάμενον ἐκπλεῦσαι• ὅθεν Ἑλληνίας Ἀθηνᾶς τὸ ἱερὸν προσαγορεύεσθαι.

109 bΛέγεται περὶ τὸν ὀνομαζόμενον τῆς Δαυνίας τόπον ἱερὸν εἶναι Ἀθηνᾶς Ἀχαΐας καλούμενον, ἐν ᾧ δὴ πελέκεις χαλκοῦς καὶ ὅπλα τῶν Διομήδους ἑταίρων καὶ αὐτοῦ ἀνακεῖσθαι. ἐν τούτῳ τῷ τόπῳ φασὶν εἶναι κύνας οἳ τοὺς ἀφικνουμένους τῶν Ἑλλήνων οὐκ ἀδικοῦσιν, ἀλλὰ σαίνουσιν ὥσπερ τοὺς συνηθεστάτους. πάντες δὲ οἱ Δαύνιοι καὶ οἱ πλησιόχωροι αὐτοῖς μελανειμονοῦσι, καὶ ἄνδρες καὶ γυναῖκες, διὰ ταύτην, ὡς ἔοικε, τὴν αἰτίαν. p290τὰς γὰρ Τρῳάδας τὰς ληφθείσας αἰχμαλώτους καὶ εἰς ἐκείνους τοὺς τόπους ἀφικομένας, εὐλαβηθείσας μὴ πικρᾶς δουλείας τύχωσιν ὑπὸ τῶν ἐν ταῖς πατρίσι προϋπαρχουσῶν τοῖς Ἀχαιοῖς γυναικῶν, λέγεται τὰς ναῦς αὐτῶν ἐμπρῆσαι, ἵν᾽ ἅμα μὲν τὴν προσδοκωμένην δουλείαν ἐκφύγωσιν, ἅμα δ᾽ ὅπως μετ᾽ ἐκείνων μένειν ἀναγκασθέντων συναρμοσθεῖσαι κατάσχωσιν αὐτοὺς ἄνδρας. πάνυ δὲ καὶ τῷ ποιητῇ καλῶς πέφρασται περὶ αὐτῶν• ἑλκεσιπέπλους γὰρ καὶ βαθυκόλπους κἀκείνας, ὡς ἔοικεν, ἰδεῖν ἔστιν.

110 Ἐν δὲ τοῖς Πευκετίνοις εἶναί φασιν Ἀρτέμιδος ἱερόν, ἐν ᾧ τὴν διωνομασμένην ἐν ἐκείνοις τοῖς τόποις χαλκῆν ἕλικα ἀνακεῖσθαι λέγουσιν, ἔχουσαν ἐπίγραμμα “Διομήδης Ἀρτέμιδι.” μυθολογεῖται δ᾽ ἐκεῖνον ἐλάφῳ περὶ τὸν τράχηλον περιθεῖναι, τὴν δὲ περιφῦναι, καὶ τοῦτον τὸν τρόπον εὑρισκομένην ὑπὸ Ἀγαθοκλέους ὕστερον τοῦ βασιλέως Σικελιωτῶν εἰς τὸ τοῦ Διὸς ἱερὸν ἀνατεθῆναί φασιν.

111 Ἐν τῇ ἄκρᾳ τῆς Σικελίας τῇ καλουμένῃ Πελωριάδι τοσοῦτον γίνεσθαι κρόκον, ὥστε παρὰ τισὶ μὲν τῶν ἐν ἐκείνοις τοῖς τόποις κατοικούντων μὴ γνωρίζεσθαι Ἑλλήνων ποῖόν τί ἐστι τὸ ἄνθος, ἐπὶ δὲ τῆς Πελωριάδος ἁμάξας κατακομίζειν μεγάλας τοὺς βουλομένους, καὶ κατὰ τὴν ἐαρινὴν ὥραν τὰς στρωμνὰς καὶ τὰς σκηνὰς ἐκ κρόκου κατασκευάζειν.

112 Φησὶν εἶναι ὁ Πολύκριτος ὁ τὰ Σικελικὰ γεγραφὼς ἐν ἔπεσιν ἔν τινι τόπῳ τῆς μεσογείου λιμνίον τι ἔχον ὅσον ἀσπίδος τὸ περίμετρον, τοῦτο δ᾽ ἔχει ὕδωρ διαυγὲς μὲν μικρῷ δὲ θολερώτερον. p292841aεἰς τοῦτ᾽ οὖν ἐάν τις εἰσβῇ λούσασθαι χρείαν ἔχων, αὔξεται εἰς εὖρος, ἐὰν δὲ καὶ δεύτερος,4 μᾶλλον πλατύνεται• τὸ δὲ πέρας ἕως εἰς πεντήκοντα ἀνδρῶν ὑποδοχὴν μεῖζον γενόμενον διευρύνεται. ἐπειδὰν δὲ τοῦτον τὸν ἀριθμὸν λάβῃ, ἐκ βάθους πάλιν ἀνοιδοῦν ἐκβάλλειν μετέωρα τὰ σώματα τῶν λουομένων ἔξω ἐπὶ τὸ ἔδαφος• ὡς δ᾽ ἂν τοῦτο γένηται, εἰς τὸ ἀρχαῖον πάλιν σχῆμα τῆς περιμέτρου καθίσταται. οὐ μόνον δ᾽ ἐπὶ ἀνθρώπων τοῦτο περὶ αὐτὸ γίνεται, ἀλλὰ καὶ ἐάν τι τετράπουν εἰσβῇ, τὸ αὐτὸ πάσχει.

113 Ἐν δὲ τῇ ἐπικρατείᾳ τῶν Καρχηδονίων φασὶν ὄρος εἶναι ὃ καλεῖται Οὐράνιον, παντοδαπῆς μὲν ὕλης γέμον, πολλοῖς δὲ διαπεποικιλμένον ἄνθεσιν, ὥστε τοὺς συνεχεῖς τόπους ἐπὶ πολὺ μεταλαμβάνοντας τῆς εὐωδίας αὐτοῦ ἡδίστην τινὰ τοῖς ὁδοιποροῦσι προσβάλλειν τὴν ἀναπνοήν. πρὸς δὴ τοῦτον τὸν τόπον κρήνην ἐλαίου φασὶν εἶναι, τὴν δὲ ὀσμὴν ἔχειν τῆς κέδρου τοῖς ἀποπτίσμασιν ὁμοίαν. δεῖν δέ φασι τὸν προσιόντα πρὸς αὐτὴν ἁγνὸν εἶναι, καὶ τούτου γινομένου πλεῖον ἀναβλύζειν αὐτὴν τὸ ἔλαιον, ὥστε ἀσφαλῶς ἀρύεσθαι.

114 Φασὶ καὶ ταύτης τῆς κρήνης πλησίον εἶναί τινα πέτραν αὐτοφυῆ, μεγάλην τῷ μεγέθει. ταύτην οὖν λέγουσιν, ἐπειδὰν μὲν ᾖ θέρος, φλόγα ἀναπέμπειν πυρός, χειμῶνος δὲ γενομένου ἐκ τοῦ αὐτοῦ τόπου κρουνὸν ὕδατος ἀναρραίνειν οὕτω ψυχροῦ ὥστε χιόνι συμβαλλόμενον μηδὲν διαφέρειν. καὶ τοῦτό φασιν οὐκ ἀπόκρυφον οὐδὲ μικρὸν χρόνον φαίνεσθαι, ἀλλὰ τὸ μὲν πῦρ ἀνιέναι τὴν θερείαν ὅλην, τὸ δὲ ὕδωρ πάντα τὸν χειμῶνα.

115 Λέγεται δὲ καὶ περὶ τὴν τῶν Σιντῶν καὶ p294Μαιδῶν χώραν

καλουμένην τῆς Θρᾴκης ποταμόν τινα εἶναι Πόντον προσαγορευόμενον, ἐν ᾧ καταφέρεσθαί τινας λίθους οἳ καίονται καὶ τοὐναντίον πάσχουσι τοῖς ἐκ τῶν ξύλων ἄνθραξι• ῥιπιζόμενοι γὰρ σβέννυνται ταχέως, ὕδατι δὲ ῥαινόμενοι ἀναλάμπουσι καὶ ἀνάπτουσι κάλλιον. παραπλησίαν δὲ ἀσφάλτῳ, ὅταν καίωνται, καὶ πονηρὰν οὕτως ὀσμὴν καὶ δριμεῖαν ἔχουσιν bὥστε μηδὲν τῶν ἑρπετῶν ὑπομένειν ἐν τῷ τόπῳ καιομένων αὐτῶν.

116 Εἶναι δέ φασι καὶ τόπον τινὰ παρ᾽ αὐτοῖς οὐ λίαν μικρόν, ἀλλ᾽ ὡς ἂν εἴκοσί που σταδίων, ὃς φέρει κριθὰς αἷς οἱ μὲν ἄνθρωποι χρῶνται, οἱ δ᾽ ἵπποι καὶ βόες οὐκ ἐθέλουσιν αὐτὰς ἐσθίειν, οὐδ᾽ ἄλλο οὐδέν. ἀλλ᾽ οὐδὲ τῶν ὑῶν οὐδὲ τῶν κυνῶν οὐδεμία τολμᾷ γεύσασθαι τῆς κόπρου τῶν ἀνθρώπων, οἵτινες ἂν ἐκ τῶν κριθῶν τούτων μᾶζαν φαγόντες ἢ ἄρτον ἀφοδεύωσι, τῷ θνήσκειν.

117 Ἐν δὲ Σκοτούσαις τῆς Θετταλίας φασὶν εἶναι κρηνίδιόν τι μικρόν, ἐξ οὗ ῥεῖ τοιοῦτον ὕδωρ ὃ τὰ μὲν ἕλκη καὶ θλάσματα ταχέως ὑγιεινὰ ποιεῖ καὶ τῶν ἀνθρώπων καὶ τῶν ὑποζυγίων, ἐὰν δέ τις ξύλον μὴ παντάπασι συντρίψας ἀλλὰ σχίσας ἐμβάλῃ, συμφύεται καὶ πάλιν εἰς τὸ αὐτὸ καθίσταται.

118 Περὶ δὲ τὴν Θρᾴκην τὴν ὑπὲρ Ἀμφίπολιν φασὶ γίνεσθαί τι τερατῶδες καὶ ἄπιστον τοῖς μὴ τεθεαμένοις. ἐξιόντες γὰρ οἱ παῖδες ἐκ τῶν κωμῶν καὶ τῶν ἐγγὺς χωρίων ἐπὶ θήραν τῶν ὀρνιθαρίων συνθηρεύειν παραλαμβάνουσι τοὺς ἱέρακας, καὶ τοῦτο ποιοῦσιν οὕτως. ἐπειδὰν προέλθωσιν εἰς τόπον ἐπιτήδειον, καλοῦσι τοὺς ἱέρακας ὀνομαστὶ κεκραγότες• οἱ δ᾽ ὅταν ἀκούσωσι τῶν παίδων τὴν p296φωνήν, παραγινόμενοι κατασοβοῦσι τοὺς ὄρνιθας• οἱ δὲ δεδιότες ἐκείνους καταφεύγουσιν εἰς τοὺς θάμνους, ὅπου αὐτοὺς οἱ παῖδες ξύλοις τύπτοντες λαμβάνουσιν. ὃ δὲ πάντων ἄν τις μάλιστα θαυμάσειεν• οἱ μὲν γὰρ ἱέρακες ὅταν αὐτοί τινα λάβωσι τῶν ὀρνίθων, καταβάλλουσι τοῖς θηρεύουσιν, οἱ δὲ παῖδες ἁπάντων τῶν ἁλόντων μέρος τι τοῖς ἱέραξιν ἀποδόντες ἀπέρχονται.

119 Θαυμαστὸν δέ τι καὶ παρὰ τοῖς Ἑνετοῖς φασὶ γίνεσθαι. ἐπὶ γὰρ τὴν χώραν αὐτῶν πολλάκις κολοιῶν ἀναριθμήτους μυριάδας ἐπιφέρεσθαι καὶ τὸν σῖτον αὐτῶν σπειράντων καταναλίσκειν• οἷς τοὺς Ἑνετοὺς πρὸ τοῦ ἐφίπτασθαι μέλλειν ἐπὶ τὰ μεθόρια τῆς γῆς προτιθέναι δῶρα, παντοδαπῶν καρπῶν καταβάλλοντας σπέρματα, ὧν ἐὰν μὲν γεύσωνται οἱ κολοιοί, 842aοὐχ ὑπερβαίνουσιν ἐπὶ τὴν χώραν αὐτῶν, ἀλλ᾽ οἴδασιν οἱ Ἑνετοὶ ὅτι ἔσονται ἐν εἰρήνῃ• ἐὰν δὲ μὴ γεύσωνται, ὡσεὶ πολεμίων ἔφοδον αὐτοῖς γινομένην οὕτω προσδοκῶσιν.

120 Ἐν δὲ τῇ Χαλκιδικῇ τῇ ἐπὶ Θρᾴκης πλησίον Ὀλύνθου φασὶν εἶναι

Κανθαρώλεθρον ὀνομαζόμενον τόπον, μικρῷ μείζονα τὸ μέγεθος ἅλω, εἰς ὃν τῶν μὲν ἄλλων ζῴων ὅταν τι ἀφίκηται, πάλιν ἀπέρχεται, τῶν δὲ κανθάρων τῶν ἐλθόντων οὐδείς, ἀλλὰ κύκλῳ περιιόντες τὸ χωρίον λιμῷ τελευτῶσιν.

121 Ἐν δὲ Κύκλωψι τοῖς Θρᾳξὶ κρηνίδιόν ἐστιν ὕδωρ ἔχον ὃ τῇ μὲν ὄψει καθαρὸν καὶ διαφανὲς καὶ τοῖς ἄλλοις ὅμοιον, ὅταν δὲ πίῃ τι ζῷον ἐξ αὐτοῦ, παραχρῆμα διαφθείρεται.

122 Φασὶ δὲ καὶ ἐν τῇ Κραστωνίᾳ παρὰ τὴν Βισαλτῶν χώραν τοὺς ἁλισκομένους λαγὼς δύο ἥπατα ἔχειν, καὶ τόπον τινὰ εἶναι ὅσον πλεθριαῖον, p298εἰς ὃν ὅ τι ἂν εἰσέλθῃ ζῷον ἀποθνήσκει. ἔστι δὲ καὶ ἄλλο αὐτόθι ἱερὸν Διονύσου μέγα καὶ καλόν, ἐν ᾧ τῆς ἑορτῆς καὶ τῆς θυσίας οὔσης λέγεται, ὅταν μὲν ὁ θεὸς εὐετηρίαν μέλλῃ ποιεῖν, ἐπιφαίνεσθαι μέγα σέλας πυρός, καὶ τοῦτο πάντας ὁρᾶν τοὺς περὶ τὸ τέμενος διατρίβοντας, ὅταν δ᾽ ἀκαρπίαν, μὴ φαίνεσθαι τοῦτο τὸ φῶς, ἀλλὰ σκότος ἐπέχειν τὸν τόπον ὥσπερ καὶ τὰς ἄλλας νύκτας.

123 Ἐν Ἤλιδι λέγουσιν εἶναί τι οἴκημα σταδίους ἀπέχον ὀκτὼ μάλιστα τῆς πόλεως, εἰς ὃ τιθέασι τοῖς Διονυσίοις λέβητας χαλκοῦς τρεῖς κενούς. τοῦτο δὲ ποιήσαντες παρακαλοῦσι τῶν Ἑλλήνων τῶν ἐπιδημούντων τὸν βουλόμενον ἐξετάσαι τὰ ἀγγεῖα καὶ τοῦ οἴκου κατασφραγίζεσθαι τὰς θύρας. καὶ ἐπειδὰν μέλλωσιν ἀνοίγειν, ἐπιδείξαντες τοῖς πολίταις καὶ τοῖς ξένοις τὰς σφραγῖδας, οὕτως ἀνοίγουσιν. οἱ δ᾽ εἰσελθόντες εὑρίσκουσι τοὺς μὲν λέβητας οἴνου πλήρεις, τὸ δὲ ἔδαφος καὶ τοὺς τοίχους ὑγιεῖς, ὥστε μηδεμίαν εἶναι ὑποψίαν λαβεῖν ὡς τέχνῃ τινὶ κατασκευάζουσιν. εἶναι δέ φασι παρ᾽ αὐτοῖς καὶ ἰκτίνους, οἳ παρὰ μὲν τῶν διὰ τῆς ἀγορᾶς τὰ κρέα φερόντων ἁρπάζουσι, bτῶν δὲ ἱεροθύτων οὐχ ἅπτονται.

124 Ἐν Κορωνείᾳ δὲ τῆς Βοιωτίας λέγεται τοὺς ἀσπάλακας τὰ ζῷα μὴ δύνασθαι ζῆν μηδ᾽ ὀρύσσειν τὴν γῆν, τῆς λοιπῆς Βοιωτίας πολὺ πλῆθος ἐχούσης.

125 Ἐν Λουσοῖς δὲ τῆς Ἀρκαδίας κρήνην εἶναί τινά φασιν, ἐν ᾗ χερσαῖοι μύες γίνονται καὶ κολυμβῶσι, τὴν δίαιταν ἐν ἐκείνῃ ποιούμενοι. λέγεται δ᾽ αὐτὸ τοῦτο καὶ ἐν Λαμψάκῳ εἶναι.

126 Ἐν δὲ Κράννωνι τῆς Θετταλίας φασὶ δύο κόρακας εἶναι μόνους ἐν τῇ πόλει. οὗτοι ὅταν p300ἐκνεοττεύσωσιν, ἑαυτοὺς μέν, ὡς ἔοικεν, ἐκτοπίζουσιν, ἑτέρους δὲ τοσούτους τῶν ἐξ αὑτῶν γενομένων ἀπολείπουσιν.

127 Ἐν δὲ Ἀπολλωνίᾳ τῇ πλησίον κειμένῃ τῆς τῶν Ἀτλαντίνων χώρας φασὶ γίγνεσθαι ἄσφαλτον ὀρυκτὴν καὶ πίσσαν, τὸν αὐτὸν τρόπον ἐκ τῆς γῆς ἀναπηδῶσαν τοῖς ὕδασιν, οὐδὲν διαφέρουσαν τῆς Μακεδονικῆς, μελαντέραν

δὲ καὶ παχυτέραν πεφυκέναι ἐκείνης. οὐ πόρρω δὲ τούτου τοῦ χωρίου πῦρ ἐστὶ καιόμενον πάντα τὸν χρόνον, ὡς φασὶν οἱ κατοικοῦντες περὶ τὴν χώραν ἐκείνην. ὁ δὲ καιόμενος τόπος ἐστὶν οὐ πολύς, ὡς ἔοικεν, ἀλλ᾽ ὅσον μάλιστα πεντακλίνου τὸ μέγεθος. ὄζει δὲ θείου καὶ στυπτηρίας, καὶ πέφυκε περὶ αὐτὸν πόα τε βαθεῖα, ὃ καὶ θαυμάσειεν ἄν τις μάλιστα, καὶ δένδρα μεγάλα, οὐκ ἀπέχοντα τοῦ πυρὸς πήχεις τέσσαρας. καίεται δὲ συνεχῶς περὶ Λυκίαν καὶ Μεγάλην πόλιν τὴν ἐν Πελοποννήσῳ.

128 Λέγεται δὲ καὶ ἐν Ἰλλυριοῖς τίκτειν τὰ βοσκήματα δὶς τοῦ ἐνιαυτοῦ, καὶ τὰ πλεῖστα διδυμοτοκεῖν, καὶ πολλὰ δὲ τρεῖς ἢ τέσσαρας ἐρίφους τίκτειν, ἔνια δὲ καὶ πέντε καὶ πλείους, ἔτι δὲ γάλακτος ἀφιέναι ῥᾳδίως τρία ἡμίχοα. λέγουσι δὲ καὶ τὰς ἀλεκτορίδας οὐχ ὥσπερ παρὰ τοῖς ἄλλοις ἅπαξ τίκτειν, ἀλλὰ δὶς ἢ τρὶς τῆς ἡμέρας.

129 Λέγεται δὲ καὶ ἐν Παιονίᾳ τοὺς βοῦς τοὺς ἀγρίους πολὺ μεγίστους ἁπάντων τῶν ἐν τοῖς λοιποῖς ἔθνεσι γίγνεσθαι, καὶ τὰ κέρατα αὐτῶν χωρεῖν τέσσαρας χόας, ἐνίων δὲ καὶ πλεῖον.

130 843aΠερὶ δὲ τοῦ πορθμοῦ τῆς Σικελίας καὶ ἄλλοι μὲν πλείους γεγράφασι, καὶ οὗτος δέ φησι συμβαίνειν τερατῶδες. ἐκ γὰρ τοῦ Τυρρηνικοῦ p302πελάγους πολλῷ ῥοίζῳ φερόμενον τὸν κλύδωνα προσβάλλειν πρὸς ἀμφότερα τὰ ἀκρωτήρια, τὸ μὲν τῆς Σικελίας, τὸ δὲ τῆς Ἰταλίας, τὸ προσαγορευόμενον Ῥήγιον, καὶ φερόμενον ἐκ μεγάλου πελάγους εἰς στενὸν συγκλείεσθαι, τούτου δὲ γινομένου κῦμα μετέωρον αἴρειν σὺν πολλῷ βρόμῳ ἐπὶ πάνυ πολὺν τόπον τῆς ἄνω φορᾶς, ὥστε τοῖς μακρὰν ἀπέχουσι σύνοπτον εἶναι τὸν μετεωρισμόν, οὐχ ὅμοιον φαινόμενον θαλάσσης ἀναφορᾷ, λευκὸν δὲ καὶ ἀφρῶδες, παραπλήσιον δὲ τοῖς συρμοῖς τοῖς γινομένοις ἐν τοῖς ἀνυπερβλήτοις χειμῶσι. καὶ ποτὲ μὲν ἀλλήλοις συμπίπτειν ἐπ᾽ ἀμφοτέρων τῶν ἀκρωτηρίων τοὺς κλύδωνας, καὶ ποιεῖν συγκλυσμὸν ἄπιστον μὲν διηγεῖσθαι, ἀνυπομόνητον δὲ τῇ ὄψει θεάσασθαι• ποτὲ δὲ διισταμένους ἐκ τῆς πρὸς ἀλλήλους συρράξεως οὕτω βαθεῖαν καὶ φρικώδη τὴν ἄποψιν ποιεῖν τοῖς ἐξ ἀνάγκης θεωμένοις, ὥστε πολλοὺς μὲν μὴ κρατεῖν ἑαυτῶν, ἀλλὰ πίπτειν σκοτουμένους ὑπὸ δέους. ἐπειδὰν δὲ προσπεσὸν τὸ κῦμα πρὸς ὁποτερονοῦν τῶν τόπων καὶ μετεωρισθὲν ἕως τῶν ἄκρων πάλιν εἰς τὴν ὑπορρέουσαν θάλασσαν κατενεχθῇ, τότε δὴ πάλιν σὺν πολλῷ μὲν βρυχηθμῷ μεγάλαις δὲ καὶ ταχείαις δίναις τὴν θάλασσαν ἀναζεῖν καὶ μετεωρίζεσθαι κυκωμένην ἐκ βυθῶν, παντοδαπὰς δὲ χρόας μεταλλάσσειν• ποτὲ μὲν γὰρ ζοφεράν, ποτὲ δὲ κυανῆν, πολλάκις δὲ πορφυρίζουσαν διαφαίνεσθαι. τὸν δὲ δρόμον καὶ τὸ μῆκος αὐτῆς, ἔτι δὲ πρὸς τούτοις τὴν ἀνάρροιαν, οὐδὲ ἀκούειν

οὐδὲν ἑρπετὸν οὔθ᾽ ὁρᾶν ὑπομένειν, φεύγειν δὲ πάντα πρὸς τὰς ὑποκειμένας ὑπωρείας. λήγοντος δὲ τοῦ κλύδωνος τὰς δίνας μετεώρους φέρεσθαι ποικίλας οὕτω τὰς ἀναστροφὰς ποιουμένας, ὥστε p304δοκεῖν πρηστήρων ἤ τινων ἄλλων μεγάλων ὄφεων σπειράματι παρομοίους τὰς κινήσεις ἀποτελεῖν.

131 bΦασὶν οἰκοδομούντων Ἀθηναίων τὸ τῆς Δήμητρος ἱερὸν τῆς ἐν Ἐλευσῖνι περιεχομένην στήλην πέτραις εὑρεθῆναι χαλκῆν, ἐφ᾽ ἧς ἐπεγέγραπτο “Δηϊόπης τόδε σῆμα”, ἣν οἱ μὲν λέγουσι Μουσαίου εἶναι γυναῖκα, τινὲς δὲ Τριπτολέμου μητέρα γενέσθαι.

132 Ἐν μιᾷ τῶν Αἰόλου προσαγορευομένων νήσων πλῆθός τί φασι γενέσθαι φοινίκων, ὅθεν καὶ Φοινικώδη καλεῖσθαι. οὐκ ἂν οὖν εἴη τὸ λεγόμενον ὑπὸ Καλλισθένους ἀληθές, ὅτι ἀπὸ Φοινίκων τῆς Συρίας τῶν τὴν παραλίαν οἰκούντων τὸ φυτὸν ἔλαβε τὴν προσηγορίαν. ἀλλὰ καὶ αὐτοὺς τοὺς Φοίνικας ὑπὸ τῶν Ἑλλήνων φασί τινες [φοίνικας] προσαγορευθῆναι διὰ τὸ πρώτους πλέοντας τὴν θάλασσαν, ᾗ ἂν ἀποβαίησαν, πάντας ἀποκτείνειν καὶ φονεύειν. καὶ κατὰ γλῶσσαν δ᾽ ἐστὶ τὴν Περραιβῶν τὸ αἱμάξαι φοινίξαι.

133 Τῆς καλουμένης Αἰνιακῆς χώρας περὶ τὴν ὀνομαζομένην Ὑπάτην λέγεται παλαιά τις στήλη εὑρεθῆναι, ἣν οἱ Αἰνιᾶνες τίνος ἦν εἰδέναι βουλόμενοι, ἔχουσαν ἐπιγραφὴν ἀρχαίοις γράμμασιν, ἀπέστειλαν εἰς Ἀθήνας τινὰς κομίζοντας αὐτήν. πορευομένων δὲ διὰ τῆς Βοιωτίας, καί τισι τῶν ξένων ὑπὲρ τῆς ἀποδημίας ἀνακοινουμένων, λέγεται αὐτοὺς εἰσαχθῆναι εἰς τὸ καλούμενον Ἰσμήνιον ἐν Θήβαις• ἐκεῖθεν γὰρ μάλιστα ἂν εὑρεθῆναι τὴν τῶν γραμμάτων ἐπιγραφήν, λέγοντες εἶναί τινα ἀναθήματα ὁμοίους ἔχοντα τοὺς ῥυθμοὺς τῶν γραμμάτων ἀρχαῖα. ὅθεν αὐτούς φασιν ἀπὸ τῶν p306γνωριζομένων τὴν εὕρεσιν ποιησαμένους τῶν ἐπιζητουμένων, ἀναγράψαι τούσδε τοὺς στίχους•

Ἡρακλέης τεμένισσε Κυθήρᾳ Φερσεφαάσσῃ,
Γηρυόνεως5 ἀγέλας ἐλάων ἠδ᾽ Ἐρύθειαν ἄγων.
τὰς μ᾽6 ἐδάμασσε πόθῳ Πασιφάεσσα θεά.
τῇδε δέ μοι τέκνῳ τῷ δ᾽ Ἐρύθοντα7 δάμαρ
νυμφογενὴς Ἐρύθη• δὴ τόδ᾽ ἔδωκα πέδον
μναμόσυνον φιλίας, φηγῷ ὕπο σκιερᾷ.

844aτούτῳ τῷ ἐπιγράμματι ἐπεχώρησε καὶ ὁ τόπος ἐκεῖνος Ἔρυθος καλούμενος, καὶ ὅτι ἐκεῖθεν τὰς βοῦς καὶ οὐκ ἐξ Ἐρυθείας ἤγαγεν• οὐδὲ γὰρ ἐν τοῖς κατὰ Λιβύην καὶ Ἰβηρίαν τόποις οὐδαμοῦ τὸ ὄνομά φασι λέγεσθαι τῆς Ἐρυθείας.

134 Τῆς δὲ Λιβύης ἐν Ἰτύκῃ τῇ καλουμένῃ, ἣ κεῖται μέν, ὡς λέγουσιν, ἐν

τῷ κόλπῳ τῷ μεταξὺ Ἑρμαίας καὶ τῆς Ἵππου ἄκρας, ἐπέκεινα δὲ Καρχηδόνος ὡς σταδίους διακοσίους (ἣ καὶ πρότερον κτισθῆναι λέγεται ὑπὸ Φοινίκων αὐτῆς τῆς Καρχηδόνος ἔτεσι διακοσίοις ὀγδοήκοντα ἑπτά, ὡς ἀναγέγραπται ἐν ταῖς Φοινικικαῖς ἱστορίαις), γίνεσθαί φασιν ἅλας ὀρυκτούς, ἐπὶ τρεῖς ὀργυιὰς τὸ βάθος, τῇ ὄψει λευκοὺς καὶ οὐ στερεούς, ἀλλ᾽ ὁμοίους τῷ γλισχροτάτῳ γλοιῷ• καὶ ὅταν ἀνενεχθῶσιν εἰς τὸν ἥλιον, ἀποστερεοῦσθαι καὶ γίνεσθαι ὁμοίους τῷ Παρίῳ λίθῳ. γλύφεσθαι δὲ ἐξ αὐτῶν λέγουσι ζῴδια καὶ ἄλλα σκεύη.

135 Τοὺς πρώτους τῶν Φοινίκων ἐπὶ Ταρτησσὸν πλεύσαντας λέγεται τοσοῦτον ἀργύριον ἀντιφορτίσασθαι, ἔλαιον καὶ ἄλλον ναυτικὸν ῥῶπον εἰσαγαγόντας, ὥστε μηκέτι ἔχειν δύνασθαι μήτε ἐπιδέξασθαι τὸν ἄργυρον, ἀλλ᾽ ἀναγκασθῆναι ἀποπλέοντας p308ἐκ τῶν τόπων τά τε ἄλλα πάντα ἀργυρᾶ οἷς ἐχρῶντο κατασκευάσασθαι, καὶ δὴ καὶ τὰς ἀγκύρας πάσας.

136 Λέγουσι τοὺς Φοίνικας τοὺς κατοικοῦντας τὰ Γάδειρα καλούμενα, ἔξω πλέοντας Ἡρακλείων στηλῶν ἀπηλιώτῃ ἀνέμῳ ἡμέρας τέτταρας, παραγίνεσθαι εἴς τινας τόπους ἐρήμους, θρύου καὶ φύκους πλήρεις, οὓς ὅταν μὲν ἄμπωτις ᾖ μὴ βαπτίζεσθαι, ὅταν δὲ πλημμύρα, κατακλύζεσθαι, ἐφ᾽ ὧν εὑρίσκεσθαι ὑπερβάλλον θύννων πλῆθος, καὶ τοῖς μεγέθεσιν ἄπιστον καὶ τοῖς πάχεσιν, ὅταν ἐποκείλωσιν• οὓς ταριχεύοντες καὶ συντιθέντες εἰς ἀγγεῖα διακομίζουσιν εἰς Καρχηδόνα. ὧν Καρχηδόνιοι μόνων οὐ ποιοῦνται τὴν ἐξαγωγήν, ἀλλὰ διὰ τὴν ἀρετὴν ἣν ἔχουσι κατὰ τὴν βρῶσιν αὐτοὶ καταναλίσκουσιν.

137 bἘν τῇ Πηδασίᾳ τῆς Καρίας θυσία τῷ Διὶ συντελεῖται, ἐν ᾗ πέμπουσιν αἶγά τινα, περὶ ἣν θαυμαστόν τί φασι γίγνεσθαι. βαδίζουσα γὰρ ἐκ Πηδάσων σταδίους ἑβδομήκοντα δι᾽ ὄχλου πολλοῦ τοῦ θεωροῦντος οὔτε διαταράττεται κατὰ τὴν πορείαν οὔτ᾽ ἐκτρέπεται τῆς ὁδοῦ, δεδεμένη δὲ σχοινίῳ προπορεύεται τοῦ τὴν ἱερωσύνην ἔχοντος. θαυμαστὸν δ᾽ ἐστὶ καὶ τὸ δύο κόρακας εἶναι διὰ τέλους περὶ τὸ τοῦ Διὸς ἱερόν, ἄλλον δὲ μηδένα προσιέναι πρὸς τὸν τόπον, καὶ τὸν ἕτερον αὐτῶν ἔχειν τὸ πρόσθεν τοῦ τραχήλου λευκόν.

138 Ἐν Ἰλλυριοῖς δὲ τοῖς Ἀρδιαίοις καλουμένοις, παρὰ τὰ μεθόρια τῶν Αὐταριατῶν κἀκείνων, φασὶν ὄρος εἶναι μέγα, τούτου δὲ πλησίον ἄγκος, ὅθεν ὕδωρ ἀναπηδᾶν, οὐ πᾶσαν ὥραν ἀλλὰ τοῦ ἦρος, πολὺ τῷ πλήθει, ὃ λαμβάνοντες τὰς μὲν p310ἡμέρας ἐν τῷ στεγνῷ φυλάττουσι, τὰς δὲ νύκτας εἰς τὴν αἰθρίαν τιθέασι. καὶ πέντε ἢ ἓξ ἡμέρας τοῦτο ποιησάντων αὐτῶν πήγνυται τὸ ὕδωρ, καὶ γίνεται κάλλιστον ἅλας, ὃ ἕνεκεν τῶν βοσκημάτων

μάλιστα διατηροῦσιν• οὐ γὰρ εἰσάγονται πρὸς αὐτοὺς ἅλες διὰ τὸ κατοικεῖν πόρρω αὐτοὺς θαλάσσης καὶ εἶναι αὐτοὺς ἀμίκτους. πρὸς οὖν τὰ βοσκήματα πλείστην αὐτοῦ χρείαν ἔχουσιν• ἁλίζουσι γὰρ αὐτὰ δὶς τοῦ ἐνιαυτοῦ. ἐὰν δὲ μὴ ποιήσωσι τοῦτο, συμβαίνει αὐτοῖς ἀπόλλυσθαι τὰ πλεῖστα τῶν βοσκημάτων.

139 Ἐν Ἄργει δέ φασι γίνεσθαι ἀκρίδος τι γένος ὃ καλεῖται σκορπιομάχον. ὅταν γὰρ ἴδῃ τάχιστα σκορπίον, ἀνθίσταται αὐτῷ• ὡσαύτως δὲ καὶ ὁ σκορπίος ἐκείνῃ. καὶ κύκλῳ περιιοῦσα τρίζει περὶ αὐτόν• τὸν δὲ τὸ κέντρον ἐπαίροντα ἀντιπεριάγειν ἐν τῷ αὐτῷ τόπῳ, εἶτα κατὰ μικρὸν ἀνιέναι τὸ κέντρον, καὶ τέλος ὅλον ἐκτείνεσθαι, τῆς ἀκρίδος κύκλῳ τρεχούσης. τὰ τελευταῖα δὲ προσελθοῦσα κατεσθίει αὐτὸν ἡ ἀκρίς. ἀγαθὸν δέ φασιν εἶναι καὶ πρὸς τὰς πληγὰς τοῦ σκορπίου ἐπιφαγεῖν αὐτήν.

140 Τοὺς ἐν Νάξῳ σφῆκάς φασιν, ὅταν φάγωσι τοῦ ἔχεως (προσφιλὴς δ᾽ αὐτοῖς ἡ σάρξ, ὡς ἔοικεν, ἐστίν), ἐπειδάν τινα κεντήσωσι, περιωδύνους οὕτω ποιεῖν ὥστε χαλεπωτέραν φαίνεσθαι τῆς πληγῆς τῶν ἔχεων.

141 845aΦασὶ τὸ Σκυθικὸν φάρμακον, ᾧ ἀποβάπτουσι τοὺς ὀϊστούς, συντίθεσθαι ἐξ ἐχίδνης. τηροῦσι δέ, ὡς ἔοικεν, οἱ Σκύθαι τὰς ἤδη ζῳοτοκούσας, καὶ λαβόντες αὐτὰς τήκουσιν ἡμέρας τινάς. ὅταν δὲ ἱκανῶς αὐτοῖς δοκῇ σεσῆφθαι πᾶν, τὸ τοῦ ἀνθρώπου αἷμα εἰς χυτρίδιον ἐγχέοντες p312εἰς τὰς κοπρίας κατορύττουσι πωμάσαντες. ὅταν δὲ καὶ τοῦτο σαπῇ, τὸ ὑφιστάμενον ἐπάνω τοῦ αἵματος, ὃ δή ἐστιν ὑδατῶδες, μιγνύουσι τῷ τῆς ἐχίδνης ἰχῶρι, καὶ οὕτω ποιοῦσι θανάσιμον.

142 Ἐν Κουρίῳ τῆς Κύπρου ὄφεών τι γένος εἶναί φασιν, ὃ τὴν δύναμιν ὁμοίαν ἔχει τῇ ἐν Αἰγύπτῳ ἀσπίδι, πλὴν ὅτι τοῦ χειμῶνος ἐὰν δάκῃ, οὐδὲν ἐργάζεται, εἴτε δι᾽ ἄλλην τινὰ αἰτίαν, εἴτε διότι τὸ ζῷον δυσκίνητον γίνεται ὑπὸ τοῦ ψύχους ἀποπηγνύμενον καὶ τελέως ἀδύνατον, ἐὰν μὴ θερμανθῇ.

143 Ἐν Κέῳ φασὶν εἶναί τι γένος ἀχέρδου, ὑφ᾽ ἧς ἐάν τις πληγῇ τῇ ἀκάνθῃ, ἀποθνήσκει.

144 Ἐν Μυσίᾳ φασὶν ἄρκτων τι γένος εἶναι λευκόν, αἳ ὅταν κυνηγῶνται, ἀφιᾶσι τοιαύτην πνοὴν ὥστε τῶν κυνῶν τὰς σάρκας σήπειν, ὡσαύτως δὲ καὶ τῶν λοιπῶν θηρίων, ἀβρώτους τε ποιεῖν. ἐὰν δέ τις καὶ βιάσηται καὶ ἐγγίσῃ, ἀφιᾶσιν ἐκ τοῦ στόματος φλέγμα πάμπολύ τι, ὡς ἔοικεν, ὃ προσφυσᾷ πρὸς τὰ πρόσωπα τῶν κυνῶν, ὡσαύτως δὲ καὶ τῶν ἀνθρώπων, ὥστε καὶ ἀποπνίγειν καὶ ἀποτυφλοῦν.

145 Ἐν δὲ τῇ Ἀραβίᾳ ὑαινῶν τι γένος φασὶν εἶναι, ὃ ἐπειδὰν προΐδῃ τι θηρίον ἢ ἀνθρώπου ἐπιβῇ ἐπὶ τὴν σκιάν, ἀφωνίαν ἐργάζεται καὶ πῆξιν

τοιαύτην ὥστε μὴ δύνασθαι κινεῖν τὸ σῶμα. τοῦτο δὲ ποιεῖν καὶ ἐπὶ τῶν κυνῶν.

146 Κατὰ δὲ Συρίαν εἶναί τί φασι ζῷον ὃ καλεῖται λεοντοφόνον• ἀποθνήσκει γὰρ ὁ λέων, ὡς ἔοικεν, ὅταν αὐτοῦ φάγῃ. ἑκὼν μὲν οὖν τοῦτο οὐ ποιεῖ, ἀλλὰ φεύγει τὸ ζῷον• ὅταν δὲ συλλαβόντες αὐτὸ οἱ κυνηγέται καὶ ὀπτήσαντες ὥσπερ ἄλφιτα λευκὰ p314περιπάσσσωσιν ἄλλῳ ζῴῳ, γευσάμενοι8 ἀπόλλυσθαί φασι παραχρῆμα. κακοῖ καὶ προσουροῦν τὸν λέοντα τοῦτο τὸ ζῷον.

147 bΛέγεται καὶ τοὺς γῦπας ὑπὸ τῆς τῶν μύρων ὀσμῆς ἀποθνήσκειν, ἐάν τις αὐτοὺς χρίσῃ ἢ δῷ τι μεμυρισμένον φαγεῖν. ὡσαύτως δὲ καὶ τοὺς κανθάρους ὑπὸ τῆς τῶν ῥόδων ὀσμῆς.

148 Καὶ ἐν Σικελίᾳ δέ φασι καὶ ἐν Ἰταλίᾳ τοὺς γαλεώτας θανάσιμον ἔχειν τὸ δῆγμα, καὶ οὐχ ὥσπερ τοὺς παρ᾽ ἡμῖν ἀσθενὲς καὶ μαλακόν. εἶναι δὲ καὶ μυῶν γένος ἐφιπτάμενον, ὃ ὅταν δάκῃ, ἀποθνήσκειν ποιεῖ.

149 Ἐν δὲ τῇ Μεσοποταμίᾳ τῆς Συρίας φασὶ καὶ ἐν Ἰστροῦντι ὀφείδιά τινα γίγνεσθαι, ἃ τοὺς ἐγχωρίους οὐ δάκνει, τοὺς ξένους δὲ ἀδικεῖ σφόδρα.

150 Περὶ δὲ τὸν Εὐφράτην καὶ τελείως φασὶ τοῦτο γίγνεσθαι. πολλοὺς γὰρ φαίνεσθαι περὶ τὰ χείλη τοῦ ποταμοῦ καὶ διανέοντας ἐφ᾽ ἑκάτερα, ὥστε τῆς δείλης ἐνταῦθα θεωρουμένους ἅμα τῇ ἡμέρᾳ ἐπὶ θατέρου μέρους φαίνεσθαι, καὶ τοὺς ἀναπαυομένους τῶν μὲν Σύρων μὴ δάκνειν, τῶν δ᾽ Ἑλλήνων μὴ ἀπέχεσθαι.

151 Ἐν Θεσσαλίᾳ φασὶ τὸν ἱερὸν καλούμενον ὄφιν πάντας ἀπολλύειν, οὐ μόνον ἐὰν δάκῃ, ἀλλὰ καὶ ἐὰν θίγῃ. διὸ καὶ ὅταν φανῇ καὶ τὴν φωνὴν ἀκούσωσι (φαίνεται δὲ σπανίως), φεύγουσι καὶ οἱ ὄφεις καὶ οἱ ἔχεις καὶ τἆλλα πάντα θηρία. τῷ δὲ μεγέθει οὐκ ἔστι μέγας ἀλλὰ μέτριος. ἐν Τήνῳ δέ ποτέ φασιν αὐτὸν τῇ πόλει κατὰ Θετταλίαν ἀναιρεθῆναι ὑπὸ γυναικός, γενέσθαι δὲ τὸν θάνατον τοιόνδε. γυναῖκα κύκλον γράψασαν καὶ τὰ φάρμακα θεῖσαν εἰσβῆναι εἰς τὸν κύκλον, αὐτὴν καὶ p316τὸν υἱόν, εἶτα μιμεῖσθαι τὴν φωνὴν τοῦ θηρίου• τὸ δ᾽ ἀντᾴδειν καὶ προσιέναι. ᾄδοντος δὲ καταδαρθεῖν τὴν γυναῖκα, καὶ ἐγγυτέρω προσιόντος μᾶλλον, ὥστε μὴ δύνασθαι κρατεῖν τοῦ ὕπνου. τὸν δ᾽ υἱὸν παρακαθήμενον ἐγείρειν τύπτοντα, κελευούσης ἐκείνης, καὶ λέγειν ὅτι ἐὰν μὲν καθυπνώσῃ, ἀπολεῖται καὶ αὐτὴ καὶ ἐκεῖνος, ἐὰν δὲ βιάσηται καὶ προσαγάγηται τὸ θηρίον, σωθήσονται. ὡς δὲ προσῆλθεν ὁ ὄφις εἰς τὸν κύκλον, αὖον εὐθὺς γενέσθαι αὐτόν.

152 Λέγεται περὶ τὰ Τύανα ὕδωρ εἶναι ὁρκίου Διός (καλοῦσι δὲ αὐτὸ Ἀσβαμαῖον), οὗ πηγὴ ἀναδίδοται πάνυ ψυχρά, παφλάζει δὲ ὥσπερ οἱ

λέβητες. 846ατοῦτο εὐόρκοις μὲν ἡδύ τε καὶ ἵλεων, ἐπιόρκοις δὲ παρὰ πόδας ἡ δίκη. ἀποσκήπτει γὰρ καὶ εἰς ὀφθαλμοὺς καὶ εἰς χεῖρας καὶ εἰς πόδας, ἁλίσκονταί τε ὑδέροις καὶ φθόαις• καὶ οὐδὲ πρόσθεν ἀπελθεῖν δυνατόν, ἀλλ᾽ αὐτόθι ἔχονται καὶ ὀλοφύρονται πρὸς τῷ ὕδατι, ὁμολογοῦντες ἃ ἐπιώρκησαν.

153 Ἀθήνησί φασι τὸν ἱερὸν τῆς ἐλαίας θαλλὸν ἐν ἡμέρᾳ μιᾷ βλαστῆσαι καὶ πλείονα γενέσθαι, ταχὺ δὲ αὖ πάλιν συστέλλεσθαι.

154 Τῶν ἐν Αἴτνῃ κρατήρων ἀναρραγέντων καὶ ἀνὰ τὴν γῆν φερομένων ἔνθα καὶ ἔνθα χειμάρρου δίκην, τὸ τῶν εὐσεβῶν γένος ἐτίμησε τὸ δαιμόνιον. περικαταληφθέντων γὰρ ὑπὸ τοῦ ῥεύματος διὰ τὸ βαστάζειν γέροντας ἐπὶ τῶν ὤμων γονεῖς καὶ σώζειν, πλησίον αὐτῶν γενόμενον τὸ τοῦ πυρὸς ῥεῦμα ἐξεσχίσθη, παρέτρεψέ τε τοῦ φλογμοῦ τὸ μὲν ἔνθα τὸ δὲ ἔνθα, καὶ ἐτήρησεν ἀβλαβεῖς ἅμα τοῖς γονεῦσι τοὺς νεανίσκους.

p318 155 Λέγεται τὸν ἀγαλματοποιὸν Φειδίαν κατασκευάζοντα τὴν ἐν ἀκροπόλει Ἀθηνᾶν ἐν μεσότητι ταύτης τῆς ἀσπίδος τὸ ἑαυτοῦ πρόσωπον ἐντυπώσασθαι, καὶ συνδῆσαι τῷ ἀγάλματι διά τινος ἀφανοῦς δημιουργίας, ὥστ᾽ ἐξ ἀνάγκης, εἴ τις βούλοιτο αὐτὸ περιαιρεῖν, τὸ σύμπαν ἄγαλμα λύειν τε καὶ συγχεῖν.

156 Φασὶν ὡς ἀνδριὰς ὁ τοῦ Βίτυος ἐν Ἄργει ἀπέκτεινε <τὸν αἴτιον> τοῦ θανάτου τῷ Βίτυϊ, θεωροῦντι ἐμπεσών. ἔοικεν οὖν οὐκ εἰκῇ τὰ τοιαῦτα γίνεσθαι.

157 Φασὶ τοὺς κύνας μόνον διώκειν τὰ θηρία πρὸς τὰς κορυφὰς τῶν Μελάνων καλουμένων ὀρῶν, ἀλλ᾽ ἀναστρέφειν, ὅταν ἄχρι τούτων διώκωσιν.

158 Ἐν τῷ Φάσιδι ποταμῷ γεννᾶσθαι ῥάβδον ὀνομαζομένην λευκόφυλλον, ἣν οἱ ζηλότυποι τῶν ἀνδρῶν δρεπόμενοι ῥίπτουσι περὶ τὸν παρθένιον θάλαμον, καὶ ἀνόθευτον τηροῦσι τὸν γάμον.

159 Ἐν δὲ τῷ Τίγριδι γίνεσθαί φασι λίθον μωδῶν κεκλημένον βαρβαρικῶς, τῇ χρόᾳ πάνυ λευκόν, ὃν ἐὰν κατέχῃ τις, ὑπὸ θηρίων οὐδὲν ἀδικεῖται.

160 Ἐν δὲ τῷ Σκαμάνδρῳ γίνεσθαί φασι βοτάνην σίστρον καλουμένην, bπαραπλησίαν ἐρεβίνθῳ, κόκκους δ᾽ ἔχει σειομένους, ὅθεν τὴν προσηγορίαν ἔλαβε• ταύτην τοὺς κατέχοντας μήτε δαιμόνιον μήτε φαντασίαν ἡντιναοῦν φοβεῖσθαι.

161 Περὶ Λιβύην ἄμπελός ἐστιν ἣν καλοῦσι μαινομένην τινές, ἣ τῶν καρπῶν τοὺς μὲν πεπαίνει, τοὺς δ᾽ ὀμφακώδεις ἔχει, τοὺς δ᾽ ἀνθοῦντας καὶ βραχύν τινα χρόνον.

162 Περὶ τὸ Σίπυλον ὄρος γίνεσθαί φασι λίθον p320παρόμοιον κυλίνδρῳ,

ὃν οἱ εὐσεβεῖς υἱοὶ ὅταν εὕρωσιν, ἐν τῷ τεμένει τῆς μητρὸς τῶν θεῶν τιθέασι, καὶ οὐδέποτε χάριν ἀσεβείας ἁμαρτάνουσιν, ἀλλ᾽ ἀεί εἰσι φιλοπάτορες.

163 Ἐν ὄρει Τηϋγέτῳ γίνεσθαι βοτάνην καλουμένην χαρισίαν, ἣν γυναῖκες ἔαρος ἀρχομένου τοῖς τραχήλοις περιάπτουσι, καὶ ὑπὸ τῶν ἀνδρῶν συμπαθέστερον ἐρῶνται.

164 Ὄθρυς ὄρος ἐστὶ Θετταλίας, ὃ φέρει ὄφεις τοὺς λεγομένους σῆπας, οἳ οὐκ ἔχουσι μίαν χροιάν, ἀλλ᾽ ἀεὶ ὁμοιοῦνται τῷ χώρῳ ἐν ᾧ οἰκοῦσι. τινὲς δὲ αὐτῶν ὅμοιον ἔχουσι τὸ χρῶμα τοῖς κόχλοις τῆς γῆς. ἄλλοις δὲ χλοάζουσά ἐστιν ἡ φολίς. ὅσοι δὲ αὐτῶν ἐν ψαμάθοις διατρίβουσι, ταύταις ἐξομοιοῦνται κατὰ τὸ χρῶμα. δάκνοντες δὲ ἐμποιοῦσι δίψος. ἔστι δὲ αὐτῶν τὸ δῆγμα οὐ τραχὺ καὶ ἔμπυρον, ἀλλὰ κακόηθες.

165 Τοῦ περκνοῦ ἔχεως τῇ ἐχίδνῃ συγγινομένου, ἡ ἔχιδνα ἐν τῇ συνουσίᾳ τὴν κεφαλὴν ἀποκόπτει. διὰ τοῦτο καὶ τὰ τέκνα, ὥσπερ τὸν θάνατον τοῦ πατρὸς μετερχόμενα, τὴν γαστέρα τῆς μητρὸς διαρρήγνυσιν.

166 Ἐν τῷ Νείλῳ ποταμῷ γεννᾶσθαι λίθον φασὶ κυάμῳ παρόμοιον, ὃν ἂν κύνες ἴδωσιν, οὐχ ὑλακτοῦσι. συντελεῖ δὲ καὶ τοῖς δαιμονί τινι γενομένοις κατόχοις• ἅμα γὰρ τῷ προστεθῆναι ταῖς ῥισὶν ἀπέρχεται τὸ δαιμόνιον.

167 Ἐν δὲ τῷ Μαιάνδρῳ ποταμῷ τῆς Ἀσίας λίθον φασὶ σώφρονα καλούμενον κατ᾽ ἀντίφρασιν• ὃν ἐάν τις εἴς τινος ἐμβάλῃ κόλπον, ἐμμανὴς γίνεται καὶ φονεύει τινὰ τῶν συγγενῶν.

168 Ῥῆνος καὶ Ἴστρος οἱ ποταμοὶ ὑπ᾽ ἄρκτον p322ῥέουσιν, ὁ μὲν Γερμανοὺς ὁ δὲ Παίονας παραμείβων• καὶ θέρους μὲν ναυσίπορον ἔχουσι τὸ ῥεῖθρον, τοῦ δὲ χειμῶνος παγέντες ὑπὸ κρύους ἐν πεδίου σχήματι καθιππεύονται.

169 Περὶ τὴν Θούριον πόλιν δύο ποταμούς φασιν εἶναι, Σύβαριν καὶ Κρᾶθιν. ὁ μὲν οὖν Σύβαρις τοὺς πίνοντας ἀπ᾽ αὐτοῦ πτυρτικοὺς εἶναι ποιεῖ, ὁ δὲ Κρᾶθις τοὺς ἀνθρώπους ξανθότριχας λουομένους.

170 Ἐν δὲ Εὐβοίᾳ δύο ποταμοὺς εἶναι, ὧν ἀφ᾽ οὗ μὲν τὰ πίνοντα πρόβατα λευκὰ γίνονται• ὃς ὀνομάζεται Κέρβης• ὁ δὲ Νηλεύς, ὃς μέλανα ποιεῖ.

171 847aΠαρὰ Λυκόρμᾳ ποταμῷ γεννᾶσθαι βοτάνην λόγχῃ παρόμοιον, συντελοῦσαν πρὸς ἀμβλυωπίαν ἄριστα.

172 Τὴν ἐν Συρακούσαις τῆς Σικελίας πηγὴν Ἀρέθουσαν διὰ πενταετηρίδος κινεῖσθαι λέγουσιν.

173 Ἐν ὄρει Βερεκυνθίῳ γεννᾶσθαι λίθον καλούμενον μάχαιραν, ὃν ἐὰν εὕρῃ τις τῶν μυστηρίων τῆς Ἑκάτης ἐπιτελουμένων ἐμμανὴς γίνεται, ὡς Εὔδοξός φησιν.

174 Ἐν ὄρει δὲ Τμώλῳ γεννᾶσθαι λίθον παρόμοιον κισσήρει, ὃς τετράκις τῆς ἡμέρας ἀλλάσσει τὴν χρόαν• βλέπεσθαι δὲ ὑπὸ παρθένων τῶν μὴ τῷ χρόνῳ φρονήσεως μετεχουσῶν.

175 bἘν Ἀρτέμιδος Ὀρθωσίας βωμῷ ταῦρον ἵστασθαι χρύσειον, ὃς κυνηγῶν εἰσελθόντων φωνὴν ἐπαφίησιν.

176 Ἐν Αἰτωλοῖς φασὶν ὁρᾶν τοὺς ἀσπάλακας ἀμυδρῶς, καὶ οὐδὲ σιτεῖσθαι γῆν ἀλλ᾽ ἀκρίδας.

177 Τοὺς ἐλέφαντάς φασι κύειν ἔτη δύο, οἱ δὲ μῆνας ὀκτωκαίδεκα• ἐν δὲ τῇ ἐκτέξει δυστοκεῖν.

p324 178 Δημάρατον Τιμαίου τοῦ Λοκροῦ ἀκουστὴν νοσήσαντα ἄφωνόν φασιν ἐπὶ δέκα γενέσθαι ἡμέρας• ἐν δὲ τῇ ἑνδεκάτῃ ἀνανήψας βραδέως ἐκ τῆς παρακοπῆς ἔφησεν ἐκεῖνον τὸν χρόνον ἥδιστα αὑτῷ βεβιῶσθαι.

Μηχανικα (847a) Mechanics

[847a] Θαυμάζεται τῶν μὲν κατὰ φύσιν συμβαινόντων, ὅσων ἀγνοεῖται τὸ αἴτιον, τῶν δὲ παρὰ φύσιν, ὅσα γίνεται διὰ τέχνην πρὸς τὸ συμφέρον τοῖς ἀνθρώποις. ἐν πολλοῖς γὰρ ἡ φύσις ὑπεναντίον πρὸς τὸ χρήσιμον ἡμῖν ποιεῖ· ἡ μὲν γὰρ φύσις ἀεὶ τὸν αὐτὸν ἔχει τρόπον καὶ ἁπλῶς, τὸ δὲ χρήσιμον μεταβάλλει πολλαχῶς. ὅταν οὖν δέῃ τι παρὰ φύσιν πρᾶξαι, διὰ τὸ χαλεπὸν ἀπορίαν παρέχει καὶ δεῖται τέχνης. διὸ καὶ καλοῦμεν τῆς τέχνης τὸ πρὸς τὰς τοιαύτας ἀπορίας βοηθοῦν μέρος μηχανήν. καθάπερ γὰρ ἐποίησεν Ἀντιφῶν ὁ ποιητής, οὕτω καὶ ἔχει· τέχνῃ γὰρ κρατοῦμεν, ὧν φύσει νικώμεθα. τοιαῦτα δέ ἐστιν ἐν οἷς τά τε ἐλάττονα κρατεῖ τῶν μειζόνων, καὶ τὰ ῥοπὴν ἔχοντα μικρὰν κινεῖ βάρη μεγάλα, καὶ πάντα σχεδὸν ὅσα τῶν προβλημάτων μηχανικὰ προσαγορεύομεν. ἔστι δὲ ταῦτα τοῖς φυσικοῖς προβλήμασιν οὔτε ταὐτὰ πάμπαν οὔτε κεχωρισμένα λίαν, ἀλλὰ κοινὰ τῶν τε μαθηματικῶν θεωρημάτων καὶ τῶν φυσικῶν· τὸ μὲν γὰρ ὣς διὰ τῶν μαθηματικῶν δῆλον, τὸ δὲ περὶ ὃ διὰ τῶν φυσικῶν. περιέχεται δὲ τῶν ἀπορουμένων [847b] ἐν τῷ γένει τούτῳ τὰ περὶ τὸν μοχλόν. ἄτοπον γὰρ εἶναι δοκεῖ τὸ κινεῖσθαι μέγα βάρος ὑπὸ μικρᾶς ἰσχύος, καὶ ταῦτα μετὰ βάρους πλείονος· ὃ γὰρ ἄνευ μοχλοῦ κινεῖν οὐ δύναταί τις, τοῦτο ταὐτὸ βάρος, προσλαβὼν ἔτι τὸ τοῦ μοχλοῦ βάρος, κινεῖ θᾶττον. πάντων δὲ τῶν τοιούτων ἔχει τῆς αἰτίας τὴν ἀρχὴν ὁ κύκλος. καὶ τοῦτο εὐλόγως συμβέβηκεν· ἐκ μὲν γὰρ θαυμασιωτέρου συμβαίνειν τι θαυμαστὸν οὐδὲν ἄτοπον, θαυμασιώτατον δὲ τὸ τἀναντία γίνεσθαι μετ’ ἀλλήλων. ὁ δὲ κύκλος συνέστηκεν ἐκ τοιούτων· εὐθὺς γὰρ ἐκ κινουμένου τε γεγένηται καὶ μένοντος, ὧν ἡ φύσις ἐστὶν ὑπεναντία ἀλλήλοις. ὥστ’ ἐνταῦθα ἔστιν ἐπιβλέψασιν ἧττον θαυμάζειν τὰς συμβαινούσας ὑπεναντιώσεις περὶ αὐτόν. πρῶτον μὲν γὰρ τῇ περιεχούσῃ γραμμῇ τὸν κύκλον, πλάτος οὐθὲν ἐχούσῃ, τἀναντία πως προσεμφαίνεται, τὸ κοῖλον καὶ τὸ κυρτόν. ταῦτα δὲ διέστηκεν ἀλλήλων ὃν τρόπον τὸ μέγα καὶ τὸ μικρόν· ἐκείνων τε γὰρ μέσον τὸ ἴσον καὶ τούτων τὸ εὐθύ. διὸ μεταβάλλοντα εἰς ἄλληλα τὰ μὲν ἀναγκαῖον ἴσα γενέσθαι πρότερον ἢ τῶν [848a] ἄκρων ὁποτερονοῦν, τὴν δὲ γραμμὴν εὐθεῖαν, ὅταν ἐκ κυρτῆς εἰς κοῖλον ἢ πάλιν ἐκ ταύτης γίνηται κυρτὴ καὶ περιφερής. ἓν μὲν οὖν τοῦτο τῶν ἀτόπων ὑπάρχει περὶ τὸν κύκλον, δεύτερον δὲ ὅτι ἅμα κινεῖται τὰς ἐναντίας κινήσεις· ἅμα γὰρ εἰς τὸν ἔμπροσθεν κινεῖται τόπον καὶ τὸν ὄπισθεν. ἥ τε γράφουσα γραμμὴ τὸν κύκλον ὡσαύτως ἔχει· ἐξ οὗ γὰρ ἄρχεται τόπου τὸ πέρας αὐτῆς, εἰς τὸν αὐτὸν

τοῦτον τόπον ἔρχεται πάλιν· συνεχῶς γὰρ κινουμένης αὐτῆς τὸ ἔσχατον πάλιν ἀπῆλθε πρῶτον, ὥστε καὶ φανερὸν ὅτι μετέβαλεν ἐντεῦθεν. διό, καθάπερ εἴρηται πρότερον, οὐδὲν ἄτοπον τὸ πάντων εἶναι τῶν θαυμάτων αὐτὸν ἀρχήν. τὰ μὲν οὖν περὶ τὸν ζυγὸν γινόμενα εἰς τὸν κύκλον ἀνάγεται, τὰ δὲ περὶ τὸν μοχλὸν εἰς τὸν ζυγόν, τὰ δ' ἄλλα πάντα σχεδὸν τὰ περὶ τὰς κινήσεις τὰς μηχανικὰς εἰς τὸν μοχλόν. ἔτι δὲ διὰ τὸ μιᾶς οὔσης τῆς ἐκ τοῦ κέντρου γραμμῆς μηθὲν ἕτερον ἑτέρῳ φέρεσθαι τῶν σημείων τῶν ἐν αὐτῇ ἰσοταχῶς, ἀλλ' ἀεὶ τὸ τοῦ μένοντος πέρατος πορρώτερον ὂν θᾶττον, πολλὰ τῶν θαυμαζομένων συμβαίνει περὶ τὰς κινήσεις τῶν κύκλων· περὶ ὧν ἐν τοῖς ἑπομένοις προβλήμασιν ἔσται δῆλον. διὰ δὲ τὸ τὰς ἐναντίας κινήσεις ἅμα κινεῖσθαι τὸν κύκλον, καὶ τὸ μὲν ἕτερον τῆς διαμέτρου τῶν ἄκρων, ἐφ' οὗ τὸ A, εἰς τοὔμπροσθεν κινεῖσθαι, θάτερον δέ, ἐφ' οὗ τὸ B, εἰς τοὔπισθεν, κατασκευάζουσί τινες ὥστ' ἀπὸ μιᾶς κινήσεως πολλοὺς ὑπεναντίους ἅμα κινεῖσθαι κύκλους, ὥσπερ οὓς ἀνατιθέασιν ἐν τοῖς ἱεροῖς ποιήσαντες τροχίσκους χαλκοῦς τε καὶ σιδηροῦς. εἰ γὰρ εἴη τοῦ AB κύκλου ἁπτόμενος ἕτερος κύκλος ἐφ' οὗ ΓΔ, τοῦ κύκλου τοῦ ἐφ' οὗ AB κινουμένης τῆς διαμέτρου εἰς τοὔμπροσθεν, κινηθήσεται ἡ ΓΔ εἰς τοὔπισθεν τοῦ κύκλου τοῦ ἐφ' οὗ A, κινουμένης τῆς διαμέτρου περὶ τὸ αὐτό. εἰς τοὐναντίον ἄρα κινηθήσεται ὁ ἐφ' οὗ ΓΔ κύκλος τῷ ἐφ' οὗ τὸ AB· καὶ πάλιν αὐτὸς τὸν ἐφεξῆς, ἐφ' οὗ EZ, εἰς τοὐναντίον αὐτῷ κινήσει διὰ τὴν αὐτὴν αἰτίαν. τὸν αὐτὸν δὲ τρόπον κἂν πλείους ὦσι, τοῦτο ποιήσουσιν ἑνὸς μόνου κινηθέντος. ταύτην οὖν λαβόντες ὑπάρχουσαν ἐν τῷ κύκλῳ τὴν φύσιν οἱ δημιουργοὶ κατασκευάζουσιν ὄργανον κρύπτοντες τὴν ἀρχήν, ὅπως ᾖ τοῦ μηχανήματος φανερὸν μόνον τὸ θαυμαστόν, τὸ δ' αἴτιον ἄδηλον.

[848b] Πρῶτον μὲν οὖν τὰ συμβαίνοντα περὶ τὸν ζυγὸν ἀπορεῖται, διὰ τίνα αἰτίαν ἀκριβέστερά ἐστι τὰ ζυγὰ τὰ μείζω τῶν ἐλαττόνων. τούτου δὲ ἀρχή, διὰ τί ποτε ἐν τῷ κύκλῳ ἡ πλεῖον ἀφεστηκυῖα γραμμὴ τοῦ κέντρου τῆς ἐγγὺς τῇ αὐτῇ ἰσχύϊ κινουμένης θᾶττον φέρεται τῆς ἐλάττονος; τὸ γὰρ θᾶττον λέγεται διχῶς· ἄν τε γὰρ ἐν ἐλάττονι χρόνῳ ἴσον τόπον διεξέλθῃ, θᾶττον εἶναι λέγομεν, καὶ ἐὰν ἐν ἴσῳ πλείω. ἡ δὲ μείζων ἐν ἴσῳ χρόνῳ γράφει μείζονα κύκλον· ὁ γὰρ ἐκτὸς μείζων τοῦ ἐντός. αἴτιον δὲ τούτων ὅτι φέρεται δύο φορὰς ἡ γράφουσα τὸν κύκλον. ὅταν μὲν οὖν ἐν λόγῳ τινὶ φέρηται, ἐπ' εὐθείας ἀνάγκη φέρεσθαι τὸ φερόμενον, καὶ γίνεται διάμετρος αὐτὴ τοῦ σχήματος ὃ ποιοῦσιν αἱ ἐν τούτῳ τῷ λόγῳ συντεθεῖσαι γραμμαί. ἔστω γὰρ ὁ λόγος ὃν φέρεται τὸ φερόμενον, ὃν ἔχει ἡ AB πρὸς τὴν AΓ· καὶ τὸ μὲν AΓ φερέσθω πρὸς τὸ B, ἡ δὲ AB ὑποφερέσθω πρὸς τὴν HΓ· ἐνηνέχθω δὲ τὸ μὲν

Α πρὸς τὸ Δ, ἡ δὲ ἐφ’ ᾗ ΑΒ πρὸς τὸ Ε. εἰ οὖν ἐπὶ τῆς φορᾶς ὁ λόγος ἦν ὃν ἡ ΑΒ ἔχει πρὸς τὴν ΑΓ, ἀνάγκη καὶ τὴν ΑΔ πρὸς τὴν ΑΕ τοῦτον ἔχειν τὸν λόγον. ὅμοιον ἄρα ἐστὶ τῷ λόγῳ τὸ μικρὸν τετράπλευρον τῷ μείζονι, ὥστε καὶ ἡ αὐτὴ διάμετρος αὐτῶν, καὶ τὸ Α ἔσται πρὸς Ζ. τὸν αὐτὸν δὴ τρόπον δειχθήσεται κἂν ὁπουοῦν διαληφθῇ ἡ φορά· αἰεὶ γὰρ ἔσται ἐπὶ τῆς διαμέτρου. φανερὸν οὖν ὅτι τὸ κατὰ τὴν διάμετρον φερόμενον ἐν δύο φοραῖς ἀνάγκη τὸν τῶν πλευρῶν φέρεσθαι λόγον. εἰ γὰρ ἄλλον τινά, οὐκ οἰσθήσεται κατὰ τὴν διάμετρον. ἐὰν δὲ ἐν μηδενὶ λόγῳ φέρηται δύο φορὰς κατὰ μηδένα χρόνον, ἀδύνατον εὐθεῖαν εἶναι τὴν φοράν. ἔστω γὰρ εὐθεῖα. τεθείσης οὖν ταύτης διαμέτρου, καὶ παραπληρωθεισῶν τῶν πλευρῶν, ἀνάγκη τὸν τῶν πλευρῶν λόγον φέρεσθαι τὸ φερόμενον· τοῦτο γὰρ δέδεικται πρότερον. οὐκ ἄρα ποιήσει εὐθεῖαν τὸ ἐν μηδενὶ λόγῳ φερόμενον μηδένα χρόνον. ἐὰν γάρ τινα λόγον ἐνεχθῇ ἐν χρόνῳ τινί, τοῦτον ἀνάγκη τὸν χρόνον εὐθεῖαν εἶναι φορὰν διὰ τὰ προειρημένα. ὥστε περιφερὲς γίνεται, δύο φερόμενον φορὰς ἐν μηθενὶ λόγῳ μηθένα χρόνον. ὅτι μὲν τοίνυν ἡ τὸν κύκλον γράφουσα φέρεται δύο φορὰς ἅμα, φανερὸν ἔκ τε τούτων, καὶ ὅτι τὸ φερόμενον κατ’ εὐθεῖαν ἐπὶ τὴν κάθετον ἀφικνεῖται, [849a] ὥστε εἶναι πάλιν αὐτὴν ἀπὸ τοῦ κέντρου κάθετον. ἔστω κύκλος ὁ ΑΒΓ, τὸ δ’ ἄκρον τὸ ἐφ’ οὗ Β φερέσθω ἐπὶ τὸ Δ· ἀφικνεῖται δέ ποτε ἐπὶ τὸ Γ. εἰ μὲν οὖν ἐν τῷ λόγῳ ἐφέρετο ὃν ἔχει ἡ ΒΔ πρὸς τὴν ΔΓ, ἐφέρετο ἂν τὴν διάμετρον τὴν ἐφ’ ᾗ ΒΓ. νῦν δέ, ἐπείπερ ἐν οὐδενὶ λόγῳ, ἐπὶ τὴν περιφέρειαν φέρεται τὴν ἐφ’ ᾗ ΒΕΓ. ἐὰν δὲ δυοῖν φερομένοιν ἀπὸ τῆς αὐτῆς ἰσχύος τὸ μὲν ἐκκρούοιτο πλεῖον τὸ δὲ ἔλαττον, εὔλογον βραδύτερον κινηθῆναι τὸ πλεῖον ἐκκρουόμενον τοῦ ἔλαττον ἐκκρουομένου· ὃ δοκεῖ συμβαίνειν ἐπὶ τῆς μείζονος καὶ ἐλάττονος τῶν ἐκ τοῦ κέντρου γραφουσῶν τοὺς κύκλους. διὰ γὰρ τὸ ἐγγύτερον εἶναι τοῦ μένοντος τῆς ἐλάττονος τὸ ἄκρον ἢ τὸ τῆς μείζονος, ὥσπερ ἀντισπώμενον εἰς τοὐναντίον, ἐπὶ τὸ μέσον βραδύτερον φέρεται τὸ τῆς ἐλάττονος ἄκρον. πάσῃ μὲν οὖν κύκλον γραφούσῃ τοῦτο συμβαίνει, καὶ φέρεται τὴν μὲν κατὰ φύσιν κατὰ τὴν περιφέρειαν, τὴν δὲ παρὰ φύσιν εἰς τὸ πλάγιον καὶ τὸ κέντρον. μείζω δ’ ἀεὶ τὴν παρὰ φύσιν ἡ ἐλάττων φέρεται· διὰ γὰρ τὸ ἐγγύτερον εἶναι τοῦ κέντρου τοῦ ἀντισπῶντος κρατεῖται μᾶλλον. ὅτι δὲ μεῖζον τὸ παρὰ φύσιν κινεῖται ἡ ἐλάττων τῆς μείζονος τῶν ἐκ τοῦ κέντρου γραφουσῶν τοὺς κύκλους, ἐκ τῶνδε δῆλον. ἔστω κύκλος ἐφ’ οὗ ΒΓΔΕ, καὶ ἄλλος ἐν τούτῳ ἐλάττων, ἐφ’ οὗ ΧΝΜΞ, περὶ τὸ αὐτὸ κέντρον τὸ Α· καὶ ἐκβεβλήσθωσαν αἱ διάμετροι, ἐν μὲν τῷ μεγάλῳ, ἐφ’ ὧν ΓΔ καὶ ΒΕ, ἐν δὲ τῷ ἐλάττονι αἱ ΜΧ ΝΞ· καὶ τὸ ἑτερόμηκες παραπεπληρώσθω, τὸ ΔΨΡΓ. εἰ δὴ ἡ ΑΒ γράφουσα κύκλον ἥξει ἐπὶ τὸ αὐτὸ ὅθεν ὡρμήθη ἐπὶ τὴν ΑΕ, δῆλον ὅτι φέρεται πρὸς αὐτήν. ὁμοίως δὲ καὶ ἡ ΑΧ πρὸς τὴν ΑΧ ἥξει. βραδύτερον δὲ φέρεται ἡ ΑΧ τῆς ΑΒ, ὥσπερ εἴρηται, διὰ τὸ γίνεσθαι μείζονα τὴν ἔκκρουσιν καὶ ἀντισπᾶσθαι μᾶλλον τὴν ΑΧ. ἤχθω δὲ ἡ ΑΘΗ, καὶ ἀπὸ τοῦ Θ κάθετος ἐπὶ τὴν ΑΒ ἡ ΘΖ ἐν τῷ κύκλῳ, καὶ πάλιν ἀπὸ τοῦ Θ ἤχθω παρὰ τὴν ΑΒ ἡ ΘΩ, καὶ ἡ ΩΥ ἐπὶ τὴν ΑΒ κάθετον, καὶ ἡ ΗΚ. αἱ δὴ ἐφ’ ὧν ΩΥ καὶ ΘΖ ἴσαι. ἡ ἄρα ΒΥ ἐλάττων τῆς ΧΖ· αἱ γὰρ ἴσαι εὐθεῖαι ἐπ’ ἀνίσους κύκλους ἐμβληθεῖσαι πρὸς ὀρθὰς τῇ διαμέτρῳ ἔλαττον τμῆμα ἀποτέμνουσι τῆς διαμέτρου ἐν τοῖς μείζοσι κύκλοις, ἔστι δὲ ἡ ΩΥ ἴση τῇ ΘΖ. ἐν ὅσῳ [849b] δὴ χρόνῳ ἡ ΑΘ τὴν ΧΘ ἐνηνέχθη, ἐν τοσούτῳ χρόνῳ ἐν τῷ κύκλῳ τῷ μείζονι μείζονα τῆς ΒΩ ἐνήνεκται τὸ ἄκρον τῆς ΒΑ. ἡ μὲν γὰρ κατὰ φύσιν φορὰ ἴση, ἡ δὲ παρὰ φύσιν ἐλάττων· ἡ δὲ ΒΥ τῆς ΖΧ. δεῖ δὲ ἀνάλογον εἶναι, ὡς τὸ κατὰ φύσιν πρὸς τὸ κατὰ φύσιν, τὸ παρὰ φύσιν πρὸς τὸ παρὰ φύσιν. μείζονα ἄρα περιφέρειαν διελήλυθε τὴν ΗΒ τῆς ΩΒ. ἀνάγκη δὲ τὴν ΗΒ ἐν τούτῳ τῷ χρόνῳ διεληλυθέναι· ἐνταῦθα γὰρ ἔσται, ὅταν ἀνάλογον ἀμφοτέρως συμβαίνῃ τὸ παρὰ φύσιν πρὸς τὸ κατὰ φύσιν. εἰ δὴ μεῖζόν ἐστι τὸ κατὰ φύσιν ἐν τῇ μείζονι, καὶ τὸ παρὰ φύσιν μᾶλλον ἂν ἐνταῦθα συμπίπτοι μοναχῶς, ὥστε τὸ Β ἐνηνέχθαι ἂν τὴν ΒΗ ἐν τῷ ἐφ’ οὗ Χ σημεῖον. ἐνταῦθα γὰρ κατὰ φύσιν μὲν γίνεται τῷ Β σημείῳ τὸ κέντρον (ἔστι γὰρ αὐτὴ ἀπὸ τοῦ Η κάθετος), παρὰ φύσιν δὲ ἐς τὸ ΚΒ. ἔστι δὲ ὡς τὸ ΗΚ πρὸς τὸ ΚΒ, τὸ ΘΖ πρὸς τὸ ΖΧ. φανερὸν δὲ ἐὰν ἐπιζευχθῶσιν ἀπὸ τῶν ΒΧ ἐπὶ τὰ ΗΘ. εἰ δὲ ἐλάττων ἢ μείζων τῆς ΗΒ ἔσται, ἣν ἠνέχθη τὸ Β, οὐχ ὁμοίως ἔσται οὐδὲ ἀνάλογον ἐν ἀμφοῖν τὸ κατὰ φύσιν πρὸς τὸ παρὰ φύσιν. δι’ ἣν μὲν τοίνυν αἰτίαν ἀπὸ τῆς αὐτῆς ἰσχύος φέρεται θᾶττον τὸ πλέον ἀπέχον τοῦ κέντρου σημεῖον, δῆλον διὰ τῶν εἰρημένων· διότι δὲ τὰ μὲν μείζω ζυγὰ ἀκριβέστερά ἐστι τῶν ἐλαττόνων, φανερὸν ἐκ τούτων. γίνεται γὰρ τὸ μὲν σπάρτον κέντρον (μένει γὰρ τοῦτο), τὸ δὲ ἐπὶ ἑκάτερον μέρος τῆς πλάστιγγος αἱ ἐκ τοῦ κέντρου. ἀπὸ οὖν τοῦ αὐτοῦ βάρους ἀνάγκη θᾶττον κινεῖσθαι τὸ ἄκρον τῆς πλάστιγγος, ὅσῳ ἂν πλεῖον ἀπέχῃ τοῦ σπάρτου, καὶ ἔνια μὲν μὴ δῆλα εἶναι ἐν τοῖς μικροῖς ζυγοῖς πρὸς τὴν αἴσθησιν ἐπιτιθέμενα βάρη, ἐν δὲ τοῖς μεγάλοις δῆλα οὐθὲν γὰρ κωλύει ἔλαττον κινηθῆναι μέγεθος ἢ ὥστε εἶναι τῇ ὄψει φανερόν. ἐπὶ δὲ τῆς μεγάλης πλάστιγγος ποιεῖ ὁρατὸν τὸ αὐτὸ βάρος μέγεθος. ἔνια δὲ δῆλα μὲν ἐπ’ ἀμφοῖν ἐστίν, ἀλλὰ πολλῷ μᾶλλον ἐπὶ τῶν μειζόνων διὰ τὸ πολλῷ μεῖζον γίνεσθαι τὸ μέγεθος τῆς ῥοπῆς ὑπὸ τοῦ αὐτοῦ βάρους ἐν τοῖς μείζοσι. καὶ διὰ τοῦτο τεχνάζουσιν οἱ ἁλουργοπῶλαι πρὸς τὸ παρακρούεσθαι ἱστάντες, τό τε σπάρτον οὐκ ἐν μέσῳ τιθέντες, καὶ μόλυβδον τῆς φάλαγγος εἰς θάτερον μέρος ἐγχέοντες, ἢ τοῦ ξύλου τὸ πρὸς τὴν ῥίζαν πρὸς ὃ βούλονται ῥέπειν ποιοῦντες, ἢ ἐὰν ἔχῃ ὄζον· βαρύτερον [850a] γὰρ ἐν ᾧ μέρος ἡ ῥίζα τοῦ ξύλου ἐστίν, ὁ δὲ ὄζος ῥίζα τίς ἐστιν.

Διὰ τί, ἐὰν μὲν ἄνωθεν ᾖ τὸ σπαρτίον, ὅταν κάτωθεν ῥέψαντος ἀφέλῃ τὸ βάρος, πάλιν ἀναφέρεται τὸ ζυγόν, ἐὰν δὲ κάτωθεν ὑποστῇ, οὐκ ἀναφέρεται ἀλλὰ μένει; ἢ διότι ἄνωθεν μὲν τοῦ σπαρτίου ὄντος πλεῖον τοῦ ζυγοῦ γίνεται τὸ ἐπέκεινα τῆς καθέτου; τὸ γὰρ σπαρτίον ἐστὶ κάθετος. ὥστε ἀνάγκη ἐστὶ κάτω ῥέπειν τὸ πλέον, ἕως ἂν ἔλθῃ ἡ δίχα διαιροῦσα τὸ ζυγὸν ἐπὶ τὴν κάθετον αὐτήν, ἐπικειμένου τοῦ βάρους ἐν τῷ ἀνεσπασμένῳ μορίῳ τοῦ ζυγοῦ. ἔστω ζυγὸν ὀρθὸν ἐφ’ οὗ ΒΓ, σπαρτίον δὲ τὸ ΑΔ. ἐκβαλλόμενον δὴ τοῦτο κάτω κάθετος ἔσται ἐφ’ ἧς ἡ ΑΔΜ. ἐὰν οὖν ἐπὶ τὸ Β ἡ ῥοπὴ ἐπιτεθῇ, ἔσται τὸ μὲν Β οὗ τὸ Ε, τὸ δὲ Γ οὗ τὸ Ζ, ὥστε ἡ δίχα διαιροῦσα τὸ ζυγὸν πρῶτον μὲν ἦν ἡ ΔΜ τῆς καθέτου αὐτῆς, ἐπικειμένης δὲ τῆς ῥοπῆς ἔσται ἡ ΔΘ· ὥστε τοῦ ζυγοῦ ἐφ’ ᾧ ΕΖ τὸ ἔξω τῆς καθέτου τῆς ἐφ’ ἧς ΑΒ, τοῦ ἐν ᾧ ΦΠ, μείζω τοῦ ἡμίσεος. ἐὰν οὖν ἀφαιρεθῇ τὸ βάρος ἀπὸ τοῦ Ε, ἀνάγκη κάτω φέρεσθαι τὸ Ζ· ἔλαττον γάρ ἐστι τὸ Ε. ἐὰν μὲν οὖν ἄνω τὸ σπαρτίον ἔχῃ, πάλιν διὰ τοῦτο ἀναφέρεται τὸ ζυγόν. ἐὰν δὲ κάτωθεν ᾖ τὸ ὑποκείμενον, τοὐναντίον ποιεῖ· πλεῖον γὰρ γίνεται τοῦ ἡμίσεος τοῦ ζυγοῦ τὸ κάτω μέρος ἢ ὡς ἡ κάθετος διαιρεῖ ὥστε οὐκ ἀναφέρεται· κουφότερον γὰρ τὸ ἐπηρτημένον. ἔστω ζυγὸν τὸ ἐφ’ οὗ ΝΞ, τὸ ὀρθόν, κάθετος δὲ ἡ ΚΛΜ. δίχα δὴ διαιρεῖται τὸ ΝΞ. ἐπιτεθέντος δὲ βάρους ἐπὶ τὸ Ν, ἔσται τὸ μὲν Ν οὗ τὸ Ο, τὸ δὲ Ξ οὗ τὸ Ρ, ἡ δὲ ΚΛ οὗ τὸ ΛΘ, ὥστε μεῖζόν ἐστι τὸ ΚΟ τοῦ ΛΡ τῷ ΘΚΛ. καὶ ἀφαιρεθέντος οὖν τοῦ βάρους ἀνάγκη μένειν· ἐπίκειται γὰρ ὥσπερ βάρος ἡ ὑπεροχὴ ἡ τοῦ ἡμίσεος τοῦ ἐν ᾧ τὸ Κ.

Διὰ τί κινοῦσι μεγάλα βάρη μικραὶ δυνάμεις τῷ μοχλῷ, ὥσπερ ἐλέχθη καὶ κατ’ ἀρχήν, προσλαβόντι βάρος ἔτι τὸ τοῦ μοχλοῦ; ῥᾷον δὲ τὸ ἔλαττόν ἐστι κινῆσαι βάρος, ἔλαττον δέ ἐστιν ἄνευ τοῦ μοχλοῦ. ἢ ὅτι αἴτιόν ἐστιν ὁ μοχλός, ζυγὸν [ὢν] κάτωθεν ἔχον τὸ σπαρτίον καὶ εἰς ἄνισα διῃρημένον; τὸ γὰρ ὑπομόχλιον ἀντὶ σπαρτίου γίνεται· μένει γὰρ ἄμφω ταῦτα, ὥσπερ τὸ κέντρον. ἐπεὶ δὲ θᾶττον ὑπὸ τοῦ ἴσου βάρους κινεῖται ἡ μείζων τῶν ἐκ τοῦ κέντρου, ἔστι δὲ τρία τὰ περὶ τὸν μοχλόν, τὸ μὲν ὑπομόχλιον, σπάρτον καὶ κέντρον, δύο δὲ βάρη, ὅ τε κινῶν καὶ τὸ κινούμενον· ὃ [850b] οὖν τὸ κινούμενον βάρος πρὸς τὸ κινοῦν, τὸ μῆκος πρὸς τὸ μῆκος ἀντιπέπονθεν. αἰεὶ δὲ ὅσῳ ἂν μεῖζον ἀφεστήκῃ τοῦ ὑπομοχλίου, ῥᾷον κινήσει. αἰτία δέ ἐστιν ἡ προλεχθεῖσα, ὅτι ἡ πλεῖον ἀπέχουσα ἐκ τοῦ κέντρου μείζονα κύκλον γράφει. ὥστε ἀπὸ τῆς αὐτῆς ἰσχύος πλέον μεταστήσεται τὸ κινοῦν τὸ πλεῖον τοῦ ὑπομοχλίου ἀπέχον. ἔστω μοχλὸς ἐφ’ οὗ ΑΒ, βάρος δὲ ἐφ’ ᾧ τὸ Γ, τὸ δὲ κινοῦν ἐφ’ ᾧ τὸ Δ, ὑπομόχλιον ἐφ’ ᾧ τὸ Ε, τὸ δὲ ἐφ’ ᾧ τὸ Δ κινῆσαν ἐφ’ ᾧ τὸ Η, κινούμενον δὲ τὸ ἐφ’ οὗ Γ, βάρος ἐφ’ οὗ Κ.

Διὰ τί οἱ μεσόνεοι μάλιστα τὴν ναῦν κινοῦσιν; ἢ διότι ἡ κώπη μοχλός ἐστιν; ὑπομόχλιον μὲν γὰρ ὁ σκαλμὸς γίνεται (μένει γὰρ δὴ τοῦτο), τὸ δὲ βάρος ἡ θάλαττα, ἣν ἀπωθεῖ ἡ κώπη· ὁ δὲ κινῶν τὸν μοχλὸν ὁ ναύτης ἐστίν. ἀεὶ δὲ πλέον βάρος κινεῖ, ὅσῳ ἂν πλέον ἀφεστήκῃ τοῦ ὑπομοχλίου ὁ κινῶν τὸ βάρος· μείζων γὰρ οὕτω γίνεται ἡ ἐκ τοῦ κέντρου, ὁ δὲ σκαλμὸς ὑπομόχλιον ὢν κέντρον ἐστίν. ἐν μέσῃ δὲ τῇ νηῒ πλεῖστον τῆς κώπης ἐντός ἐστιν· καὶ γὰρ ἡ ναῦς ταύτῃ εὐρυτάτη ἐστίν, ὥστε πλεῖον ἐπ’ ἀμφότερα ἐνδέχεσθαι μέρος τῆς κώπης ἑκατέρου τοίχου ἐντὸς εἶναι τῆς νεώς. κινεῖται μὲν οὖν ἡ ναῦς διὰ τὸ ἀπερειδομένης τῆς κώπης εἰς τὴν θάλασσαν τὸ ἄκρον τῆς κώπης τὸ ἐντὸς προϊέναι εἰς τὸ πρόσθεν, τὴν δὲ ναῦν προσδεδεμένην τῷ σκαλμῷ συμπροϊέναι, ᾗ τὸ ἄκρον τῆς κώπης. ᾗ γὰρ πλείστην θάλασσαν διαιρεῖ ἡ κώπη, ταύτῃ ἀνάγκη μάλιστα προωθεῖσθαι· πλείστην δὲ διαιρεῖ ᾗ πλεῖστον μέρος ἀπὸ τοῦ σκαλμοῦ τῆς κώπης ἐστίν. διὰ τοῦτο οἱ μεσόνεοι μάλιστα κινοῦσιν· μέγιστον γὰρ ἐν μέσῃ νηῒ τὸ ἀπὸ τοῦ σκαλμοῦ τῆς κώπης τὸ ἐντός ἐστιν.

Διὰ τί τὸ πηδάλιον μικρὸν ὄν, καὶ ἐπ’ ἐσχάτῳ τῷ πλοίῳ, τοσαύτην δύναμιν ἔχει ὥστε ὑπὸ μικροῦ οἴακος καὶ ἑνὸς ἀνθρώπου δυνάμεως, καὶ ταύτης ἠρεμαίας, μεγάλα κινεῖσθαι μεγέθη πλοίων; ἢ διότι καὶ τὸ πηδάλιόν ἐστι μοχλός, καὶ μοχλεύει ὁ κυβερνήτης. ᾗ μὲν οὖν προσήρμοσται τῷ πλοίῳ, γίνεται ὑπομόχλιον, τὸ δὲ ὅλον πηδάλιον ὁ μοχλός, τὸ δὲ βάρος ἡ θάλασσα, ὁ δὲ κυβερνήτης ὁ κινῶν. οὐ κατὰ πλάτος δὲ λαμβάνει τὴν θάλασσαν, ὥσπερ ἡ κώπη, τὸ πηδάλιον. οὐ γὰρ εἰς τὸ πρόσθεν κινεῖ τὸ πλοῖον, ἀλλὰ κινούμενον κλίνει, πλαγίως τὴν θάλατταν δεχόμενον. ἐπεὶ γὰρ τὸ βάρος ἦν ἡ θάλασσα, τοὐναντίον ἀπερειδόμενον κλίνει τὸ πλοῖον. τὸ γὰρ ὑπομόχλιον εἰς τοὐναντίον στρέφεται, [851a] ἡ θάλασσα δὲ ἐντός· ἐκεῖνο δὲ εἰς τὸ ἐκτός. τούτῳ δὲ ἀκολουθεῖ τὸ πλοῖον διὰ τὸ συνδεδέσθαι. ἡ μὲν οὖν κώπη κατὰ πλάτος τὸ βάρος ὠθοῦσα καὶ ὑπ’ ἐκείνου ἀντωθουμένη εἰς τὸ εὐθὺ προάγει· τὸ δὲ πηδάλιον, ὥσπερ κάθηται πλάγιον, τὴν εἰς τὸ πλάγιον, ἢ δεῦρο ἢ ἐκεῖ, ποιεῖ κίνησιν. ἐπ’ ἄκρου δὲ καὶ οὐκ ἐν μέσῳ κεῖται, ὅτι ῥᾷστον τὸ κινούμενον κινῆσαι ἀπ’ ἄκρου κινοῦν. τάχιστα γὰρ φέρεται τὸ πρῶτον μέρος διὰ τὸ ὥσπερ ἐν τοῖς φερομένοις ἐπὶ τέλει λήγειν τὴν φοράν, οὕτω καὶ τοῦ συνεχοῦς ἐπὶ τέλους ἀσθενεστάτη ἐστὶν ἡ φορά. εἰ δὲ ἀσθενεστάτη, ῥᾳδία ἐκκρούειν. διά τε δὴ ταῦτα ἐν τῇ πρύμνῃ τὸ πηδάλιόν ἐστι, καὶ ὅτι ἐνταῦθα μικρᾶς κινήσεως γενομένης πολλῷ μεῖζον τὸ διάστημα ἐπὶ τῷ ἐσχάτῳ γίνεται, διὰ τὸ τὴν ἴσην γωνίαν ἐπὶ μείζονα καθῆσθαι, καὶ ὅσῳ ἂν μείζους ὦσιν αἱ περιέχουσαι. δῆλον δὲ ἐκ τούτου καὶ δι' ἣν αἰτίαν μᾶλλον προέρχεται εἰς τοὐναντίον τὸ πλοῖον ἢ ἡ τῆς κώπης πλάτη· τὸ αὐτὸ γὰρ μέγεθος τῇ αὐτῇ ἰσχύϊ κινούμενον ἐν ἀέρι πλέον ἢ ἐν τῷ ὕδατι πρόεισιν. ἔστω γὰρ ἡ Α Β κώπη, τὸ δὲ Γ ὁ σκαλμός, τὸ δὲ Α τὸ ἐν τῷ πλοίῳ, ἡ ἀρχὴ τῆς κώπης, τὸ δὲ Β τὸ ἐν τῇ θαλάττῃ. εἰ δὴ τὸ Α οὗ τὸ Δ μετακεκίνηται, τὸ Β οὐκ ἔσται οὗ τὸ Ε· ἴση γὰρ ἡ Β Ε τῇ ΑΔ. ἴσον οὖν μετακεχωρηκὸς ἔσται. ἀλλ' ἦν ἔλαττον. ἔσται δὴ οὗ τὸ Ζ ἢ τὸ Θ. ἄρα τοίνυν τὴν ΑΒ, καὶ οὐχ ἡ τὸ Γ, καὶ κάτωθεν. ἐλάττων γὰρ ἡ ΒΖ τῆς ΑΔ, ὥστε καὶ ἡ ΘΖ τῆς ΔΘ· ὅμοια γὰρ τὰ τρίγωνα. καθεστηκὸς δὲ ἔσται καὶ τὸ μέσον, τὸ ἐφ' οὗ Γ· εἰς τοὐναντίον γὰρ τῷ ἐν τῇ θαλάττῃ ἄκρῳ τῷ Β μεταχωρεῖ, ᾗπερ τὸ ἐν τῷ πλοίῳ ἄκρον τὸ Α μὴ ἐχώρει οὗ τὸ Δ. ὥστε μετακινηθήσεται τὸ πλοῖον, καὶ ἐκεῖ οὗ ἡ ἀρχὴ τῆς κώπης μεταφέρεται. τὸ δ' αὐτὸ καὶ τὸ πηδάλιον ποιεῖ, πλὴν ὅτι εἰς τὸ πρόσθεν οὐδὲν συμβάλλεται τῷ πλοίῳ, ὥσπερ ἐλέχθη ἐπὶ ἄνω, ἀλλὰ μόνον τὴν πρύμναν εἰς τὸ πλάγιον ἀπωθεῖ ἔνθα ἢ ἔνθα· εἰς τοὐναντίον γὰρ ἡ πρῷρα οὕτω νεύει. ᾗ μὲν δὴ τὸ πηδάλιον προσέζευκται, δεῖ οἷόν τι τοῦ κινουμένου μέσον νοεῖν, καὶ ὥσπερ ὁ σκαλμὸς τῇ κώπῃ· τὸ δὲ μέσον ὑποχωρεῖ, ᾗ ὁ οἴαξ μετακινεῖται. ἐὰν μὲν εἴσω ἄγῃ, καὶ ἡ πρύμνα δεῦρο μεθέστηκεν· ἡ δὲ πρῷρα εἰς τοὐναντίον νεύει· ἐν γὰρ τῷ αὐτῷ οὔσης τῆς πρῴρας τὸ πλοῖον μεθέστηκεν ὅλον.

Διὰ τί, ὅσῳ ἂν ἡ κεραία ἀνωτέρα ᾖ, θᾶττον πλεῖ τὰ πλοῖα τῷ αὐτῷ ἱστίῳ καὶ τῷ αὐτῷ πνεύματι; ἢ διότι γίνεται ὁ μὲν ἱστὸς μοχλός, ὑπομόχλιον δὲ τὸ ἑδώλιον ἐν ᾧ [851b] ἐμπέπηγεν, ὃ δὲ δεῖ κινεῖν βάρος, τὸ πλοῖον, τὸ δὲ κινοῦν τὸ ἐν τῷ ἱστίῳ πνεῦμα. εἰ δ' ὅσῳ ἂν πορρώτερον ᾖ τὸ ὑπομόχλιον, ῥᾷον κινεῖ καὶ θᾶττον ἡ αὐτὴ δύναμις τὸ αὐτὸ βάρος, ἡ οὖν κεραία ἀνώτερον ἀγομένη καὶ τὸ ἱστίον πορρώτερον ποιεῖ τοῦ ἑδωλίου ὑπομοχλίου ὄντος.

Διὰ τί, ὅταν ἐξ οὐρίας βούλωνται διαδραμεῖν μὴ οὐρίου τοῦ πνεύματος ὄντος, τὸ μὲν πρὸς τὸν κυβερνήτην τοῦ ἱστίου μέρος στέλλονται, τὸ δὲ πρὸς τὴν πρῷραν ποδιαῖον ποιησάμενοι ἐφιᾶσιν; ἢ διότι ἀντισπᾶν τὸ πηδάλιον πολλῷ μὲν ὄντι τῷ πνεύματι οὐ δύναται, ὀλίγῳ δέ, ὃ ὑποστέλλονται. προάγει μὲν οὖν τὸ πνεῦμα, εἰς οὔριον δὲ καθίστησι τὸ πηδάλιον, ἀντισπῶν καὶ μοχλεῦον τὴν θάλατταν. ἅμα δὲ καὶ οἱ ναῦται μάχονται τῷ πνεύματι· ἀνακλίνουσι γὰρ ἐπὶ τὸ ἐναντίον ἑαυτούς.

Διὰ τί τὰ στρογγύλα καὶ περιφερῆ τῶν σχημάτων εὐκινητότερα; τριχῶς δὲ ἐνδέχεται τὸν κύκλον κυλισθῆναι· ἢ γὰρ κατὰ τὴν ἁψῖδα, συμμεταβάλλοντος τοῦ κέντρου, ὥσπερ ὁ τροχὸς ὁ τῆς ἁμάξης κυλίεται· ἢ περὶ τὸ κέντρον μόνον, ὥσπερ αἱ τροχιλέαι, τοῦ κέντρου μένοντος· ἢ παρὰ τὸ ἐπίπεδον, τοῦ κέντρου μένοντος, ὥσπερ ὁ κεραμεικὸς τροχὸς κυλίνδεται. εἰ μὲν δὴ τάχιστα τὰ τοιαῦτα, διά τε τὸ μικρῷ ἅπτεσθαι τοῦ ἐπιπέδου, ὥσπερ ὁ κύκλος κατὰ στιγμήν, καὶ διὰ τὸ μὴ προσκόπτειν· ἀφέστηκε γὰρ τῆς γῆς ἡ γωνία. καὶ ἔτι ᾧ ἂν ἀπαντήσῃ σώματι, πάλιν τούτου κατὰ μικρὸν ἅπτεται. εἰ δ’ εὐθύγραμμον ἦν, τῇ εὐθείᾳ ἐπὶ πολὺ ἥπτετο ἂν τοῦ ἐπιπέδου. ἔτι ᾗ ῥέπει ἐπὶ τὸ βάρος, ταύτῃ κινεῖ ὁ κινῶν. ὅταν μὲν γὰρ πρὸς ὄρθιον ἡ διάμετρος ᾖ τοῦ κύκλου τῷ ἐπιπέδῳ, ἁπτομένου τοῦ κύκλου κατὰ στιγμὴν τοῦ ἐπιπέδου, ἴσον τὸ βάρος ἐπ’ ἀμφότερα διαλαμβάνει ἡ διάμετρος· ὅταν δὲ κινῆται, εὐθὺς πλέον ἐφ’ ᾧ κινεῖται, ὥσπερ ῥέπον. ἐντεῦθεν εὐκινητότερον τῷ ὠθοῦντι εἰς τοὔμπροσθεν· ἐφ’ ὃ γὰρ ῥέπει ἕκαστον, εὐκίνητόν ἐστιν, εἴπερ καὶ τὸ ἐπὶ τὸ ἐναντίον τῆς ῥοπῆς δυσκίνητον. ἔτι λέγουσί τινες ὅτι καὶ ἡ γραμμὴ ἡ τοῦ κύκλου ἐν φορᾷ ἐστὶν ἀεί, ὥσπερ τὰ μένοντα, διὰ τὸ ἀντερείδειν, οἷον καὶ τοῖς μείζοσι κύκλοις ὑπάρχει πρὸς τοὺς ἐλάττονας. θᾶττον γὰρ ὑπὸ τῆς ἴσης ἰσχύος κινοῦνται οἱ μείζους καὶ τὰ βάρη κινοῦσι, διὰ τὸ ῥοπήν τινα ἔχειν τὴν γωνίαν τὴν τοῦ μείζονος κύκλου πρὸς τὴν τοῦ ἐλάττονος, καὶ εἶναι ὅπερ ἡ διάμετρος πρὸς τὴν διάμετρον. ἀλλὰ μὴν πᾶς κύκλος μείζων πρὸς [852a] ἐλάττονα· ἄπειροι γὰρ οἱ ἐλάττονες. εἰ δὲ καὶ πρὸς ἕτερον ἔχει ῥοπὴν ὁ κύκλος, ὁμοίως δὲ εὐκίνητος, καὶ ἄλλην ἂν ἔχοι ῥοπὴν ὁ κύκλος καὶ τὰ ὑπὸ κύκλου κινούμενα, κἂν μὴ τῇ ἁψῖδι ἅπτηται τοῦ ἐπιπέδου, ἀλλ’ ἢ παρὰ τὸ ἐπίπεδον, ἢ ὡς αἱ τροχιλέαι· καὶ γὰρ οὕτως ἔχοντα ῥᾷστα κινοῦνται καὶ κινοῦσι τὸ βάρος. ἢ οὐ τῷ κατὰ μικρὸν ἅπτεσθαι καὶ προσκρούειν, ἀλλὰ δι’ ἄλλην αἰτίαν. αὕτη δέ ἐστιν ἡ εἰρημένη πρότερον, ὅτι ἐκ δύο φορῶν γεγένηται ὁ κύκλος, ὥστε μίαν αὐτῶν αἰεὶ ἔχειν ῥοπήν, καὶ οἷον φερόμενον αὐτὸν αἰεὶ κινοῦσιν οἱ κινοῦντες, ὅταν κινῶσι κατὰ τὴν περιφέρειαν ὁπωσοῦν. φερομένην γὰρ αὐτὴν κινοῦσιν· τὴν μὲν γὰρ εἰς τὸ πλάγιον αὐτοῦ κίνησιν ὠθεῖ τὸ κινοῦν, τὴν δὲ ἐπὶ τῆς διαμέτρου αὐτὸς κινεῖται.

Διὰ τί τὰ διὰ τῶν μειζόνων κύκλων αἱρόμενα καὶ ἑλκόμενα ῥᾷον καὶ θᾶττον κινοῦμεν; οἷον καὶ αἱ τροχιλέαι αἱ μείζους τῶν ἐλαττόνων, καὶ αἱ σκυτάλαι ὁμοίως. ἢ διότι ὅσῳ ἂν μείζων ἡ ἐκ τοῦ κέντρου ᾖ, ἐν τῷ ἴσῳ χρόνῳ πλέον κινεῖται χωρίον, ὥστε καὶ τοῦ ἴσου βάρους ἐπόντος ποιήσει τὸ αὐτό, ὥσπερ εἴπομεν καὶ τὰ μείζω ζυγὰ τῶν ἐλαττόνων ἀκριβέστερα εἶναι. τὸ μὲν γὰρ σπαρτίον ἐστὶ κέντρον, τοῦ δὲ ζυγοῦ αἱ ἐπὶ τάδε τοῦ σπαρτίου αἱ ἐκ τοῦ κέντρου.

Διὰ τί ῥᾷον, ὅταν ἄνευ βάρους ᾖ, κινεῖται τὸ ζυγόν, ἢ ἔχον βάρος; ὁμοίως δὲ καὶ τροχὸς ἢ ἄλλο τοιοῦτο τὸ βαρύτερον μὲν μεῖζον δὲ τοῦ ἐλάττονος καὶ κουφοτέρου. ἢ ὅτι οὐ μόνον εἰς τοὐναντίον τὸ βαρύ, ἀλλὰ καὶ εἰς τὸ πλάγιον δυσκίνητόν ἐστιν. ἐναντίον γὰρ τῇ ῥοπῇ κινῆσαι χαλεπῶς, ἐφ' ὃ δὲ ῥέπει, ῥᾳδίως· εἰς δὲ τὸ πλάγιον οὐ ῥέπει.

Διὰ τί ἐπὶ τῶν σκυτάλων ῥᾷον τὰ φορτία κομίζεται ἢ ἐπὶ τῶν ἁμαξῶν, ἐχουσῶν τῶν μὲν μεγάλους τροχούς, τῶν δὲ μικρούς; ἢ διότι ἐπὶ τῶν σκυτάλων οὐδεμίαν ἔχει πρόσκοψιν, τὸ δὲ ἐπὶ τῶν ἁμαξῶν τὸν ἄξονα, καὶ προσκόπτει αὐτῷ· ἔκ τε γὰρ τῶν ἄνωθεν πιέζει αὐτὸν καὶ ἐκ τῶν πλαγίων. τὸ δὲ ἐπὶ τῶν σκυτάλων ἐπὶ δύο τούτων κινεῖται, τῇ τε κάτω χώρᾳ ὑποκειμένῃ καὶ τῷ βάρει τῷ ἐπικειμένῳ· ἐπ' ἀμφοτέρων γὰρ τούτων κυλίεται τῶν τόπων ὁ κύκλος καὶ φερόμενος ὠθεῖται.

Διὰ τί πορρωτέρω τὰ βέλη φέρεται ἀπὸ τῆς σφενδόνης ἢ ἀπὸ τῆς χειρός; καίτοι κρατεῖ γε ὁ βάλλων τῇ χειρὶ [852b] μᾶλλον ἢ ἀπαρτήσας τὸ βάρος. καὶ ἔτι οὕτω μὲν δύο βάρη κινεῖ, τό τε τῆς σφενδόνης καὶ τὸ βέλος, ἐκείνως δὲ τὸ βέλος μόνον. πότερον ὅτι ἐν μὲν τῇ σφενδόνῃ κινούμενον τὸ βέλος ῥίπτει ὁ βάλλων (περιαγαγὼν γὰρ κύκλῳ πολλάκις ἀφίησιν), ἐκ δὲ τῆς χειρὸς ἀπὸ τῆς ἠρεμίας ἡ ἀρχή· πάντα δὲ εὐκινητότερα κινούμενα ἢ ἠρεμοῦντα. ἢ διά τε τοῦτο, καὶ διότι ἐν μὲν τῷ σφενδονᾶν ἡ μὲν χεὶρ γίνεται κέντρον, ἡ δὲ σφενδόνη ἡ ἐκ τοῦ κέντρου· ὅσῳ ἂν ᾖ μείζων ἡ ἀπὸ τοῦ κέντρου, κινεῖται θᾶττον. ἡ δὲ ἀπὸ τῆς χειρὸς βολὴ πρὸς τὴν σφενδόνην βραχεῖα ἐστίν.

Διὰ τί ῥᾷον κινοῦνται περὶ τὸ αὐτὸ ζυγὸν οἱ μείζους τῶν ἐλαττόνων κόλλοπες, καὶ οἱ αὐτοὶ ὄνοι οἱ λεπτότεροι ὑπὸ τῆς αὐτῆς ἰσχύος τῶν παχυτέρων; ἢ διότι ὁ μὲν ὄνος καὶ τὸ ζυγὸν κέντρον ἐστίν, τὰ δὲ ἀπέχοντα μεγέθη αἱ ἐκ τοῦ κέντρου; θᾶττον δὲ κινοῦνται καὶ πλέον ἀπὸ τῆς αὐτῆς ἰσχύος αἱ τῶν μειζόνων κύκλων ἢ αἱ τῶν ἐλαττόνων· ὑπὸ τῆς αὐτῆς γὰρ ἰσχύος θᾶττον μεθίσταται τὸ ἄκρον τὸ πορρώτερον τοῦ κέντρου. διὸ πρὸς μὲν τὸ ζυγὸν τοὺς κόλλοπας ὄργανα ποιοῦνται, οἷς ῥᾷον στρέφουσιν· ἐν δὲ τοῖς λεπτοῖς ὄνοις πλεῖον γίνεται τὸ ἔξω τοῦ ξύλου, αὕτη δὲ γίνεται ἡ ἐκ τοῦ κέντρου.

Διὰ τί τὸ αὐτὸ μέγεθος ξύλον ῥᾷον κατεάσσεται περὶ τὸ γόνυ, ἐὰν ἴσον ἀποστήσας τῶν ἄκρων ἐχόμενος καταγνύῃ, ἢ παρὰ τὸ γόνυ ἐγγὺς ὄντος· καὶ ἐὰν πρὸς τὴν γῆν ἐρείσας καὶ τῷ ποδὶ προσβὰς πόρρωθεν τῇ χειρὶ καταγνύῃ, ἢ ἐγγύθεν; ἢ διότι ἔνθα μὲν τὸ γόνυ κέντρον, ἔνθα δὲ ὁ πούς. ὅσῳ δ' ἂν πορρώτερον ᾖ τοῦ κέντρου, ῥᾷον κινεῖται ἅπαν. κινηθῆναι δὲ ἀνάγκη καταγνύμενον.

Διὰ τί περὶ τοὺς αἰγιαλοὺς αἱ καλούμεναι κρόκαι στρογγύλαι εἰσίν, ἐκ μακρῶν τῶν λίθων καὶ ὀστράκων τὸ ἐξ ὑπαρχῆς ὄντων; ἢ διότι τὰ πλεῖον ἀπέχοντα τοῦ μέσου ἐν ταῖς κινήσεσι θᾶττον φέρεται. τὸ μὲν γὰρ μέσον γίνεται κέντρον, τὸ δὲ διάστημα ἡ ἐκ τοῦ κέντρου. ἀεὶ δὲ ἡ μείζων ἀπὸ τῆς ἴσης κινήσεως μείζω γράφει κύκλον. τὸ δ' ἐν ἴσῳ χρόνῳ μείζω διεξιὸν θᾶττον φέρεται. τὰ δὲ φερόμενα θᾶττον ἐκ τοῦ ἴσου ἀποστήματος σφοδρότερον τύπτει. τὰ δὲ τύπτοντα μᾶλλον καὶ αὐτὰ τύπτεται μᾶλλον. ὥστε ἀνάγκη θραύεσθαι αἰεὶ τὰ πλέον ἀπέχοντα τοῦ μέσου. τοῦτο δὲ πάσχοντα ἀνάγκη γίνεσθαι περιφερῆ. ταῖς δὲ κρόκαις διὰ [853a] τὴν τῆς θαλάττης κίνησιν, διὰ τὸ μετὰ τῆς θαλάττης κινεῖσθαι, συμβαίνει ἀεὶ ἐν κινήσει εἶναι καὶ κυλιομέναις προσκόπτειν. τοῦτο δὲ ἀνάγκη μάλιστα συμβαίνειν αὐτοῖς τοῖς ἄκροις.

Διὰ τί, ὅσῳ ἂν ᾖ μακρότερα τὰ ξύλα, τοσούτῳ ἀσθενέστερα γίνεται, καὶ κάμπτεται αἰρόμενα μᾶλλον, κἂν ᾖ τὸ μὲν βραχύ, ὅσον δίπηχυ, λεπτόν, τὸ δὲ ἑκατὸν πηχῶν παχύ; ἢ διότι μοχλὸς γίνεται καὶ βάρος καὶ ὑπομόχλιον ἐν τῷ αἴρεσθαι τοῦ ξύλου τὸ μῆκος; τὸ μὲν γὰρ πρῶτον μέρος αὐτοῦ, ὃ ἡ χεὶρ αἴρει, οἷον ὑπομόχλιον γίνεται, τὸ δ' ἐπὶ τῷ ἄκρῳ βάρος. ὥστε ὅσῳ ἂν ᾖ μακρότερον τὸ ἀπὸ τοῦ ὑπομοχλίου, τοσούτῳ ἀνάγκη κάμπτεσθαι μᾶλλον· ὅσῳ γὰρ ἂν πλέον ἀπέχῃ τοῦ ὑπομοχλίου, τοσούτῳ ἀνάγκη κάμπτεσθαι μεῖζον. ἀνάγκη οὖν αἴρεσθαι τὰ ἄκρα τοῦ μοχλοῦ. ἐὰν οὖν ᾖ καμπτόμενος ὁ μοχλός, ἀνάγκη αὐτὸν κάμπτεσθαι μᾶλλον αἰρόμενον. ὅπερ συμβαίνει ἐπὶ τῶν ξύλων τῶν μακρῶν· ἐν δὲ τοῖς βραχέσιν ἐγγὺς τὸ ἔσχατον τοῦ ὑπομοχλίου γίνεται τοῦ ἠρεμοῦντος.

Διὰ τί τῷ σφηνὶ ὄντι μικρῷ μεγάλα βάρη διίσταται καὶ μεγέθη σωμάτων, καὶ θλῖψις ἰσχυρὰ γίνεται; ἢ διότι ὁ σφὴν δύο μοχλοί εἰσιν ἐναντίοι ἀλλήλοις, ἔχει δὲ ἑκάτερος τὸ μὲν βάρος τὸ δὲ ὑπομόχλιον, ὃ καὶ ἀνασπᾷ ἢ πιέζει. ἔτι δὲ ἡ τῆς πληγῆς φορὰ τὸ βάρος, ὃ τύπτει καὶ κινεῖ, ποιεῖ μέγα· καὶ διὰ τὸ κινούμενον κινεῖν τῇ ταχυτῆτι ἰσχύει ἔτι πλέον. μικρῷ δὲ ὄντι μεγάλαι δυνάμεις ἀκολουθοῦσι· διὸ λανθάνει κινῶν παρὰ τὴν ἀξίαν τοῦ μεγέθους. ἔστω σφὴν ἐφ' ᾧ ΑΒΓ, τὸ δὲ σφηνούμενον ΔΕΗΖ. μοχλὸς δὴ γίνεται ἡ ΑΒ, βάρος δὲ τὸ τοῦ Β κάτωθεν, ὑπομόχλιον δὲ τὸ ΖΔ. ἐναντίος δὲ τούτῳ μοχλὸς τὸ ΒΓ. ἡ δὲ ΑΓ κοπτομένη ἑκατέρᾳ τούτων χρῆται μοχλῷ· ἀνασπᾷ γὰρ τὸ Β.

Διὰ τί, ἐάν τις δύο τροχιλέας ποιήσας ἐπὶ δυσὶ ξύλοις συμβάλλουσιν ἑαυτοῖς ἐναντίως αὐταῖς κύκλῳ περιβάλῃ καλῴδιον, ἔχον τὸ ἄρτημα ἐκ θατέρου τῶν ξύλων, θάτερον δὲ ᾖ προσερηρεισμένον ἢ προστεθειμένον κατὰ τὰς τροχαλίας, ἐὰν ἕλκῃ τις τῇ ἀρχῇ τοῦ καλωδίου, μεγάλα βάρη προσάγει, κἂν ᾖ μικρὰ ἡ ἕλκουσα ἰσχύς; ἢ διότι τὸ αὐτὸ βάρος ἀπὸ ἐλάττονος ἰσχύος, εἰ μοχλεύεται, ἐγείρεται, ἢ ἀπὸ χειρός; ἡ δὲ τροχιλέα τὸ αὐτὸ ποιεῖ τῷ μοχλῷ,

[853b] ὥστε ἡ μία ῥᾷον ἕλξει, καὶ ἀπὸ μιᾶς ὁλκῆς τοῦ κατὰ χεῖρα πολὺ ἕλξει βαρύτερον. τοῦτο δ’ αἱ δύο τροχαλίαι πλέον ἢ διπλασίῳ τάχει αἴρουσαι. ἔλαττον γὰρ ἔτι ἡ ἑτέρα ἕλκει ἢ εἰ αὐτὴ καθ’ ἑαυτὴν εἷλκεν, ὅταν παρὰ τῆς ἑτέρας ἐπιβληθῇ τὸ σχοινίον· ἐκείνη γὰρ ἔτι ἔλαττον ἐποίησε τὸ βάρος. καὶ οὕτως ἐὰν εἰς πλείους ἐπιβάλληται τὸ καλώδιον, ἐν ὀλίγαις τροχιλέαις πολλὴ γίνεται διαφορά, ἢ ὥστε ὑπὸ τῆς πρώτης τοῦ βάρους ἕλκοντος τέτταρας μνᾶς, ὑπὸ τῆς τελευταίας ἕλκεσθαι πολλῷ ἐλάττω. καὶ ἐν τοῖς οἰκοδομικοῖς ἔργοις ῥᾳδίως κινοῦσι μεγάλα βάρη· μεταφέρουσι γὰρ ἀπὸ τῆς αὐτῆς τροχιλέας ἐφ’ ἑτέραν, καὶ πάλιν ἀπ’ ἐκείνης εἰς ὄνους καὶ μοχλούς· τοῦτο δὲ ταὐτόν ἐστι τῷ ποιεῖν πολλὰς τροχιλέας.

Διὰ τί, ἐὰν μέν τις ἐπιθῇ ἐπὶ τὸ ξύλον πέλεκυν μέγαν καὶ φορτίον μέγα ἐπ’ αὐτῷ, οὐ διαιρεῖ τὸ ξύλον, ὅ τι καὶ λόγου ἄξιον· ἐὰν δὲ ἄρας τὸν πέλεκύν τις πατάξῃ αὐτῷ, διασχίζει, ἔλαττον βάρος ἔχοντος τοῦ τύπτοντος πολὺ μᾶλλον ἢ τοῦ ἐπικειμένου καὶ πιεζοῦντος; ἢ διότι πάντα τῇ κινήσει ἐργάζεται, καὶ τὸ βαρὺ τὴν τοῦ βάρους κίνησιν λαμβάνει μᾶλλον κινούμενον ἢ ἠρεμοῦν; ἐπικείμενον οὖν οὐ κινεῖται τὴν τοῦ βάρους κίνησιν, φερόμενον δὲ ταύτην τε καὶ τὴν τοῦ τύπτοντος. ἔτι δὲ καὶ γίνεται σφὴν ὁ πέλεκυς· ὁ δὲ σφὴν μικρὸς ὢν μεγάλα διίστησι διὰ τὸ εἶναι ἐκ δύο μοχλῶν ἐναντίως συγκειμένων.

Διὰ τί αἱ φάλαγγες τὰ κρέα ἱστᾶσιν ἀπὸ μικροῦ ἀρτήματος μεγάλα βάρη, τοῦ ὅλου ἡμιζυγίου ὄντος; οὗ μὲν γὰρ τὸ βάρος ἐντίθεται, κατήρτηται μόνον ἡ πλάστιγξ, ἐπὶ θάτερον δὲ ἡ φάλαγξ ἐστὶ μόνον. ἢ ὅτι ἅμα συμβαίνει ζυγὸν καὶ μοχλὸν εἶναι τὴν φάλαγγα; ζυγὸν μὲν γάρ, ᾗ τῶν σπαρτίων ἕκαστον γίνεται τὸ κέντρον τῆς φάλαγγος. τὸ μὲν οὖν ἐπὶ θάτερα ἔχει πλάστιγγα, τὸ δὲ ἐπὶ θάτερα ἀντὶ τῆς πλάστιγγος τὸ σφαίρωμα, ὃ τῷ ζυγῷ ἔγκειται, ὥσπερ εἴ τις τὴν ἑτέραν πλάστιγγα καὶ τὸν σταθμὸν ἐπιθείη ἐπὶ τὸ ἄκρον τῆς πλάστιγγος· δῆλον γὰρ ὅτι ἕλκει τοσοῦτον βάρος ἐν τῇ ἑτέρᾳ κείμενον πλάστιγγι. ὅπως δὲ τὸ ἓν ζυγὸν πολλὰ ᾖ ζυγά, τοιαῦτα τὰ σπαρτία πολλὰ ἔγκειται ἐν τῷ τοιούτῳ ζυγῷ, ὧν ἑκάστου τὸ ἐπὶ τάδε ἐπὶ τὸ σφαίρωμα τὸ ἥμισυ τῆς φάλαγγός ἐστι, καὶ ὁ σταθμὸς δι’ ἴσου τῶν ἀπ’ ἀλλήλων τῶν σπαρτίων κινουμένων, ὥστε συμμετρεῖσθαι πόσον βάρος [854a] ἕλκει τὸ ἐν τῇ πλάστιγγι κείμενον· ὥστε γινώσκειν, ὅταν ὀρθὴ ἡ φάλαγξ ᾖ, ἀπὸ ποίου σπάρτου πόσον βάρος ἔχει ἡ πλάστιγξ, καθάπερ εἴρηται. ὅλως μέν ἐστι τοῦτο ζυγόν, ἔχον μίαν μὲν πλάστιγγα, ἐν ᾗ ἵσταται τὸ βάρος, τὴν δ’ ἑτέραν, ἐν ᾗ τὸ σταθμὸν ἐν τῇ φάλαγγι. διὸ σφαίρωμά ἐστιν ἡ φάλαγξ ἐπὶ θάτερον. τοιοῦτον δὲ ὂν πολλὰ ζυγά ἐστι, καὶ τοσαῦτα ὅσαπέρ ἐστι τὰ σπαρτία. ἀεὶ δὲ τὸ ἐγγύτερον σπαρτίον τῆς πλάστιγγος καὶ τοῦ ἱσταμένου βάρους μεῖζον ἕλκει βάρος, διὰ τὸ γίνεσθαι τὴν μὲν φάλαγγα πᾶσαν μοχλὸν ἀνεστραμμένον (ὑπομόχλιον μὲν γὰρ τὸ σπαρτίον ἕκαστον ἄνωθεν ὄν, τὸ δὲ βάρος τὸ ἐνὸν ἐν τῇ πλάστιγγι), ὅσῳ δ’ ἂν μακρότερον ᾖ τὸ μῆκος τοῦ μοχλοῦ τοῦ ἀπὸ τοῦ ὑπομοχλίου, τοσούτῳ ἐκεῖ μὲν ῥᾷον κινεῖ, ἐνταῦθα δὲ σήκωμα ποιεῖ, καὶ ἵστησι τὸ πρὸς τὸ σφαίρωμα βάρος τῆς φάλαγγος.

Διὰ τί οἱ ἰατροὶ ῥᾷον ἐξαιροῦσι τοὺς ὀδόντας προσλαμβάνοντες βάρος τὴν ὀδοντάγραν ἢ τῇ χειρὶ μόνῃ ψιλῇ; πότερον διὰ τὸ μᾶλλον ἐξολισθαίνειν διὰ τῆς χειρὸς τὸν ὀδόντα ἢ ἐκ τῆς ὀδοντάγρας; ἢ μᾶλλον ὀλισθαίνει τῆς χειρὸς ὁ σίδηρος, καὶ οὐ περιλαμβάνει αὐτὸν κύκλῳ· μαλθακὴ γὰρ οὖσα ἡ σὰρξ τῶν δακτύλων καὶ προσμένει μᾶλλον καὶ περιαρμόττει. ἀλλ’ ὅτι ἡ ὀδοντάγρα δύο μοχλοί εἰσιν ἀντικείμενοι, ἓν τὸ ὑπομόχλιον ἔχοντες τὴν σύναψιν τῆς θερμαστρίδος· τοῦ ῥᾷον οὖν κινῆσαι χρῶνται τῷ ὀργάνῳ πρὸς τὴν ἐξαίρεσιν. ἔστω γὰρ τῆς ὀδοντάγρας τὸ μὲν ἕτερον ἄκρον ἐφ’ ᾧ τὸ Α, τὸ δὲ ἕτερον, τὸ Β, ὃ ἐξαιρεῖ· ὁ δὲ μοχλὸς ἐφ’ ᾧ ΑΔΖ, ὁ δὲ ἄλλος μοχλὸς ἐφ’ ᾧ Β ΓΕ, ὑπομόχλιον δὲ τὸ ΓΘΔ· ὁ δὲ ὀδοὺς ἐφ’ οὗ Ι σύναψις· ὁ δὲ τὸ βάρος. ἑκατέρῳ οὖν τῶν ΒΖ καὶ ἅμα λαβὼν κινεῖ. ὅταν δὲ κινήσῃ, ἐξεῖλε ῥᾷον τῇ χειρὶ ἢ τῷ ὀργάνῳ.

Διὰ τί τὰ κάρυα ῥᾳδίως καταγνύουσιν ἄνευ πληγῆς ἐν τοῖς ὀργάνοις ἃ ποιοῦσι πρὸς τὸ καταγνύναι αὐτά; πολλὴ γὰρ ἀφαιρεῖται ἰσχὺς ἡ τῆς φορᾶς καὶ βίας. ἔτι δὲ σκληρῷ καὶ βαρεῖ συνθλίβων θᾶττον ἂν κατάξαι ἢ ξυλίνῳ καὶ κούφῳ τῷ ὀργάνῳ. ἢ διότι οὕτως ἐπ’ ἀμφότερα θλίβεται ὑπὸ δύο μοχλῶν τὸ κάρυον, τῷ δὲ μοχλῷ ῥᾳδίως διαιρεῖται τὰ βάρη; τὸ γὰρ ὄργανον ἐκ δύο σύγκειται μοχλῶν, ὑπομόχλιον ἐχόντων τὸ αὐτό, τὴν συναφὴν ἐφ’ ἧς τὸ Α. ὥσπερ [854b] οὖν εἰ ἦσαν ἐκβεβλημέναι, ὑφ’ ὧν κινουμένων εἰς τὰ τῶν ΓΔ ἄκρα αἱ ΕΖ συνήγοντο ῥᾳδίως ἀπὸ μικρᾶς ἰσχύος· ἣν οὖν ἐν τῇ πληγῇ τὸ βάρος ἐποίει, ταύτην ἡ κρείττων ταύτης, ἡ τὸ ΕΓ καὶ ΖΔ, μοχλοὶ ὄντες ποιοῦσι· τῇ ἄρσει γὰρ εἰς τοὐναντίον αἴρονται, καὶ θλίβοντες καταγνύουσι τὸ ἐφ’ ᾧ Κ. δι’ αὐτὸ δὲ τοῦτο καὶ ὅσῳ ἂν ἐγγύτερον ᾖ τῆς Α τὸ Κ, συντρίβεται θᾶττον· ὅσῳ γὰρ ἂν πλεῖον ἀπέχῃ τοῦ ὑπομοχλίου ὁ μοχλός, ῥᾷον κινεῖ καὶ πλεῖον ἀπὸ τῆς ἰσχύος τῆς αὐτῆς. ἔστιν οὖν τὸ μὲν Α ὑπομόχλιον, ἡ δὲ ΔΑΖ μοχλός, καὶ ἡ ΓΑΕ. ὅσῳ ἂν οὖν τὸ Κ ἐγγυτέρω ᾖ τῆς γωνίας τῶν Α, τοσούτῳ ἐγγύτερον γίνεται τῆς συναφῆς τῶν Α· τοῦτο δέ ἐστι τὸ ὑπομόχλιον. ἀνάγκη τοίνυν ἀπὸ τῆς αὐτῆς ἰσχύος συναγούσης τὸ ΖΕ αἴρεσθαι πλέον. ὥστε ἐπεί ἐστιν ἐξ ἐναντίας ἡ ἄρσις, ἀνάγκη θλίβεσθαι μᾶλλον· τὸ δὲ μᾶλλον θλιβόμενον κατάγνυται θᾶττον.

Διὰ τί φερομένων δύο φορὰς ἐν τῷ ῥόμβῳ τῶν ἄκρων σημείων ἀμφοτέρων, οὐ τὴν ἴσην ἑκάτερον αὐτῶν εὐθεῖαν διέρχεται, ἀλλὰ πολλαπλασίαν θάτερον; ὁ αὐτὸς δὲ λόγος καὶ διὰ τί τὸ ἐπὶ τῆς πλευρᾶς φερόμενον ἐλάττω διέρχεται τῆς πλευρᾶς. τὸ μὲν γὰρ τὴν διάμετρον τὴν ἐλάττω, ἡ δὲ τὴν πλευρὰν τὴν μείζω, καὶ ἡ μὲν μίαν, τὸ δὲ δύο φέρεται φοράς. φερέσθω γὰρ ἐπὶ τῆς ΑΒ τὸ μὲν Α πρὸς τὸ Β, τὸ δὲ Β πρὸς τὸ Δ τῷ αὐτῷ τάχει· φερέσθω δὲ καὶ ἡ ΑΒ ἐπὶ τῆς ΑΓ παρὰ τὴν ΓΔ τῷ αὐτῷ τάχει τούτοις. ἀνάγκη δὴ τὸ μὲν Α ἐπὶ τῆς ΑΔ διαμέτρου φέρεσθαι, τὸ δὲ Β ἐπὶ τῆς ΒΓ, καὶ ἅμα διεληλυθέναι ἑκατέραν, καὶ τὴν ΑΒ τὴν ΑΓ πλευράν. ἐνηνέχθω γὰρ τὸ μὲν Α τὴν ΑΕ, ἡ δὲ Α Β τὴν ΑΖ, καὶ ἔστω ἐκβεβλημένη ἡ ΖΗ παρὰ τὴν ΑΒ, καὶ ἀπὸ τοῦ Ε πεπληρώσθω. ὅμοιον οὖν γίνεται τὸ παραπληρωθὲν τῷ ὅλῳ. ἴση ἄρα ἡ ΑΖ τῇ ΑΕ, ὥστε τὸ Α ἐπὶ τῆς πλευρᾶς ἐνήνεκται τῆς ΑΕ. ἡ δὲ ΑΒ τὴν ΑΖ εἴη ἂν ἐνηνεγμένη. ἔσται ἄρα ἐπὶ τῆς διαμέτρου κατὰ τὸ Θ. καὶ αἰεὶ δὲ ἀνάγκη αὐτὸ φέρεσθαι κατὰ τὴν διάμετρον. καὶ ἅμα ἡ πλευρὰ ἡ ΑΒ τὴν πλευρὰν τὴν ΑΓ δίεισι, καὶ τὸ Α τὴν διάμετρον δίεισι τὴν ΑΔ. ὁμοίως δὲ δειχθήσεται καὶ τὸ Β ἐπὶ τῆς ΑΓ διαμέτρου φερόμενον. ἴση γάρ ἐστιν ἡ ΒΕ τῇ ΒΗ. παραπληρωθέντος οὖν ἀπὸ τοῦ Η, ὅμοιόν ἐστι τῷ ὅλῳ τὸ ἐντός. καὶ τὸ Β ἐπὶ τῆς διαμέτρου ἔσται κατὰ τὴν σύναψιν τῶν πλευρῶν, καὶ ἅμα δίεισιν ἥ [855a] τε πλευρὰ τὴν πλευρὰν καὶ τὸ Β τὴν ΒΓ διάμετρον. ἅμα ἄρα καὶ τὸ Β τὴν πολλαπλασίαν τῆς ΑΒ δίεισι καὶ ἡ πλευρὰ τὴν ἐλάττονα πλευράν, τῷ αὐτῷ τάχει φερόμενα, καὶ ἡ πλευρὰ μείζω τοῦ Α διελήλυθε μίαν φορὰν φερομένη. ὅσῳ γὰρ ἂν ὀξύτερος γένηται ὁ ῥόμβος, ἡ μὲν διάμετρος ἡ ἐλάττων γίνεται, ἡ δὲ ΒΓ μείζων, ἡ δὲ πλευρὰ τῆς ΒΓ ἐλάττων. ἄτοπον γάρ, ὥσπερ ἐλέχθη, τὸ δύο φορὰς φερόμενον ἐνίοτε βραδύτερον φέρεσθαι τοῦ μίαν, καὶ ἀμφοτέρων ἰσοταχῶν σημείων δοθέντων μείζω διεξιέναι θάτερον. αἴτιον δὲ ὅτι τοῦ μὲν ἀπὸ τῆς ἀμβλείας φερομένου σχεδὸν ἐναντίαι ἀμφότεραι γίνονται, ἥν τε αὐτὴ φέρεται καὶ ἣν ὑπὸ τῆς πλευρᾶς ὑποφέρεται, τοῦ δὲ ἀπὸ τῆς ὀξείας συμβαίνει φέρεσθαι ἐπὶ τὸ αὐτό. συνεπουρίζει γὰρ ἡ τῆς πλευρᾶς τὴν ἐπὶ τῆς διαμέτρου· καὶ ὅσῳ ἂν τὴν μὲν ὀξυτέραν ποιήσῃ, τὴν δὲ ἀμβλυτέραν, ἡ μὲν βραδυτέρα ἔσται, ἡ δὲ θάττων. αἱ μὲν γὰρ ἐναντιώτεραι γίνονται διὰ τὸ ἀμβλυτέραν γίνεσθαι τὴν γωνίαν, αἱ δὲ μᾶλλον ἐπὶ τὰ αὐτὰ διὰ τὸ συνάγεσθαι τὰς γραμμάς. τὸ μὲν γὰρ Β σχεδὸν ἐπὶ τὸ αὐτὸ φέρεται κατ’ ἀμφοτέρας τὰς φοράς· συνεπουρίζεται οὖν ἡ ἑτέρα, καὶ ὅσῳ ἂν ὀξυτέρα γίνηται ἡ γωνία, τοσούτῳ μᾶλλον. τὸ Α δὲ ἐπὶ τοὐναντίον· αὐτὸ μὲν γὰρ πρὸς τὸ Β φέρεται, ἡ δὲ πλευρὰ ὑποφέρει αὐτὸ πρὸς τὸ Δ. καὶ ὅσῳ ἂν ἀμβλυτέρα ἡ γωνία ᾖ, ἐναντιώτεραι αἱ φοραὶ γίνονται· εὐθυτέρα γὰρ ἡ γραμμὴ γίνεται. εἰ δ’ ὅλως εὐθεῖα γένοιτο, παντελῶς ἂν εἴησαν ἐναντίαι. ἡ δὲ πλευρὰ ὑπ’ οὐθενὸς κωλύεται μίαν φερομένη φοράν. εὐλόγως οὖν τὴν μείζω διέρχεται.

Ἀπορεῖται διὰ τί ποτε ὁ μείζων κύκλος τῷ ἐλάττονι κύκλῳ ἴσην ἐξελίττεται γραμμήν, ὅταν περὶ τὸ αὐτὸ κέντρον τεθῶσι; χωρὶς δὲ ἐκκυλιόμενοι, ὥσπερ τὸ μέγεθος αὐτῶν πρὸς τὸ μέγεθος ἔχει, οὕτως καὶ αἱ γραμμαὶ αὐτῶν γίνονται πρὸς ἀλλήλας. ἔτι δὲ ἑνὸς καὶ τοῦ αὐτοῦ κέντρου ὄντος ἀμφοῖν, ὁτὲ μὲν τηλικαύτη γίνεται ἡ γραμμὴ ἣν ἐκκυλίονται, ἡλίκην ὁ ἐλάττων κύκλος καθ’ αὑτὸν ἐκκυλίεται, ὁτὲ δὲ ὅσην ὁ μείζων. ὅτι μὲν οὖν μείζω ἐκκυλίεται ὁ μείζων, φανερόν. γωνία μὲν γὰρ δοκεῖ κατὰ τὴν αἴσθησιν εἶναι ἡ περιφέρεια ἑκάστου τῆς οἰκείας διαμέτρου, ἡ τοῦ μείζονος κύκλου μείζων, ἡ δὲ τοῦ ἐλάττονος ἐλάττων, ὥστε τὸν αὐτὸν τοῦτον ἕξουσι λόγον, καθ’ ἃς ἐξεκυλίσθησαν [855b] αἱ γραμμαὶ πρὸς ἀλλήλας κατὰ τὴν αἴσθησιν. ἀλλὰ μὴν καὶ ὅτι τὴν ἴσην ἐκκυλίονται, ὅταν περὶ τὸ αὐτὸ κέντρον κείμενοι ὦσι, δῆλον· καὶ οὕτως γίνεται ὁτὲ μὲν ἴση τῇ γραμμῇ ἣν ὁ μείζων κύκλος ἐκκυλίεται, ὁτὲ δὲ ἐλάττων. ἔστω γὰρ κύκλος ὁ μείζων μὲν ἐφ’ οὗ τὰ ΔΖΓ, ὁ δὲ ἐλάττων ἐφ’ οὗ τὰ ΕΗΒ, κέντρον δὲ ἀμφοῖν τὸ Α· καὶ ἣν μὲν ἐξελίττεται καθ’ αὑτὸν ὁ μέγας, ἡ ἐφ’ ἧς ΖΙ ἔστω, ἣν δὲ ὁ ἐλάττων καθ’ αὑτόν, ἡ ἐφ’ ἧς ΗΚ, ἴση τῇ ΑΖ. ἐὰν δὴ κινῶ τὸν ἐλάττονα, τὸ αὐτὸ κέντρον κινῶ, ἐφ’ οὗ τὸ Α· ὁ δὲ μέγας προσηρμόσθω. ὅταν οὖν ἡ ΑΒ ὀρθὴ γένηται πρὸς τὴν ΗΚ, ἅμα καὶ ἡ ΑΓ γίνεται ὀρθὴ πρὸς τὴν ΖΛ, ὥστε ἔσται ἴσην ἀεὶ διεληλυθυῖα, τὴν μὲν ΗΚ, ἐφ’ ᾧ ΗΒ περιφέρεια, τὴν δὲ ΖΛ ἡ ἐφ’ ἧς ΖΓ. εἰ δὲ τὸ τέταρτον μέρος ἴσην ἐξελίττεται, δῆλον ὅτι καὶ ὁ ὅλος κύκλος τῷ ὅλῳ κύκλῳ ἴσην ἐξελιχθήσεται, ὥστε ὅταν ἡ ΒΗ γραμμὴ ἔλθῃ ἐπὶ τὸ Κ, καὶ ἡ ΖΓ ἔσται περιφέρεια ἐπὶ τῆς ΖΛ, καὶ ὁ κύκλος ὅλος ἐξειλιγμένος. ὁμοίως δὲ καὶ ἐὰν τὸν μέγαν κινῶ, ἐναρμόσας τὸν μικρόν, τοῦ αὐτοῦ κέντρου ὄντος, ἅμα τῇ ΑΓ ἡ ΑΒ κάθετος καὶ ὀρθὴ ἔσται, ἡ μὲν πρὸς τὴν ΖΙ, ἡ δὲ πρὸς τὴν ΗΘ. ὥστε ὅταν ἴσην ἡ μὲν τῇ ΗΘ ἔσται διεληλυθυῖα, ἡ δὲ τῇ ΖΙ, καὶ γένηται ὀρθὴ πάλιν ἡ ΖΑ πρὸς τὴν ΖΛ, καὶ ἡ ΑΓ ὀρθὴ πάλιν, ὡς τὸ ἐξ ἀρχῆς ἔσονται ἐπὶ τῶν ΘΙ. τὸ δὲ μήτε στάσεως γινομένης τὸ μεῖζον τῷ ἐλάττονι, ὥστε μένειν τινὰ χρόνον ἐπὶ τοῦ αὐτοῦ σημείου· κινοῦνται γὰρ συνεχῶς ἄμφω ἀμφοτεράκις. μὴ ὑπερπηδῶντος τοῦ ἐλάττονος μηθὲν σημεῖον, τὸν μὲν μείζω τῷ ἐλάττονι ἴσην διεξιέναι, τὸν δὲ τῷ μείζονι, ἄτοπον. ἔτι δὲ μιᾶς κινήσεως οὔσης ἀεὶ τὸ κέντρον τὸ κινούμενον ὁτὲ μὲν τὴν μεγάλην ὁτὲ δὲ τὴν ἐλάττονα ἐκκυλίεσθαι θαυμαστόν. τὸ γὰρ αὐτὸ τῷ αὐτῷ τάχει φερόμενον ἴσην πέφυκε διεξιέναι· τῷ αὐτῷ δὲ τάχει ἴσην ἐστὶ κινεῖν ἀμφοτεράκις. ἀρχὴ δὲ ληπτέα ἥδε περὶ τῆς αἰτίας αὐτῶν, ὅτι ἡ αὐτὴ δύναμις καὶ ἴση τὸ μὲν βραδύτερον κινεῖ μέγεθος, τὸ δὲ ταχύτερον. εἰ δή τι εἴη ὃ μὴ πέφυκεν ὑφ’ ἑαυτοῦ κινεῖσθαι, ἐὰν τοῦτο ἅμα καὶ αὐτὸ κινῇ τὸ πεφυκὸς κινεῖσθαι, βραδύτερον κινηθήσεται ἢ εἰ αὐτὴ καθ’ αὑτὴν ἐκινεῖτο. καὶ ἐὰν μὲν πεφυκὸς ᾖ κινεῖσθαι, μὴ συγκινῆται δὲ μηθέν, ὡσαύτως ἕξει. καὶ ἀδύνατον δὴ κινεῖσθαι πλέον ἢ τὸ κινοῦν· οὐ γὰρ τὴν αὑτοῦ κινεῖται κίνησιν, ἀλλὰ [856a] τὴν τοῦ κινοῦντος. εἴη δὴ κύκλος ὁ μὲν μείζων τὸ Α, ὁ δὲ ἐλάττων ἐφ’ ᾧ Β. εἰ ὠθοίη δ’ ὁ ἐλάττων τὸν μείζω, μὴ κυλιομένου αὐτοῦ, φανερὸν ὅτι τοσοῦτον δίεισι τῆς εὐθείας ὁ μείζων, ὅσον ἐώσθη ὑπὸ τοῦ ἐλάττονος. τοσοῦτον δέ γε ἐώσθη ὅσον ὁ μικρὸς ἐκινήθη. ἴσην ἄρα τῆς εὐθείας διεληλύθασιν. ἀνάγκη τοίνυν καὶ εἰ κυλιόμενος ὁ ἐλάττων τὸν μείζω ὠθοίη, κυλισθῆναι μὲν ἅμα τῇ ὤσει, τοσοῦτον δ’ ὅσον ὁ ἐλάττων ἐκυλίσθη, εἰ μηθὲν αὐτὸς τῇ αὐτῇ κινήσει κινεῖται. ὡς γὰρ καὶ ὅσον ἐκίνει, τοσοῦτον κεκινῆσθαι ἀνάγκη τὸ κινούμενον ὑπ’ ἐκείνου. ἀλλὰ μὴν ὅ τε κύκλος τοσοῦτον ἐκίνησε τὸ αὐτό, κύκλῳ τε καὶ ποδιαίαν (ἔστω γὰρ τοσοῦτον ὃ ἐκινήθη), καὶ ὁ μέγας ἄρα τοσοῦτον ἐκινήθη. ὁμοίως δὲ κἂν ὁ μέγας τὸν μικρὸν κινήσῃ, ἔσται κεκινημένος ὁ μικρὸς ὡς καὶ ὁ μείζων. καθ’ αὑτὸν μὲν δὴ κινηθεὶς ὁποτεροσοῦν, ἐάν τε ταχὺ ἐάν τε βραδέως· τῷ αὐτῷ δὲ τάχει εὐθὺς ὅσην ὁ μείζων πέφυκεν ἐξελιχθῆναι γραμμήν. ὅπερ καὶ ποιεῖ τὴν ἀπορίαν, ὅτι οὐκέτι ὁμοίως ποιοῦσιν ὅταν συναρμοσθῶσιν. τὸ δ’ ἔστιν, εἰ ὁ ἕτερος ὑπὸ τοῦ ἑτέρου κινεῖται οὐχ ἣν πέφυκεν, οὐδὲ τὴν αὑτοῦ κίνησιν. οὐθὲν γὰρ διαφέρει περιθεῖναι καὶ ἐναρμόσαι ἢ προσθεῖναι ὁποτερονοῦν ὁποτέρῳ· ὁμοίως γάρ, ὅταν ὁ μὲν κινῇ ὁ δὲ κινῆται ὑπὸ τούτου, ὅσον ἂν κινῇ ἅτερος, τοσοῦτον κινηθήσεται ἅτερος. ὅταν μὲν οὖν προσκείμενον κινῇ ἢ προσκρεμάμενον, οὐκ ἀεὶ κυλίει τις· ὅταν δὲ περὶ τὸ αὐτὸ κέντρον τεθῶσιν, ἀνάγκη κυλίεσθαι ἀεὶ τὸν ἕτερον ὑπὸ τοῦ ἑτέρου. ἀλλ’ οὐθὲν ἧττον οὐ τὴν αὑτοῦ κίνησιν ἅτερος κινεῖται, ἀλλ’ ὥσπερ ἂν εἰ μηδεμίαν εἶχε κίνησιν. κἂν ἔχῃ, μὴ χρῆται δ’ αὐτῇ, ταὐτὸ συμβαίνει. ὅταν μὲν οὖν ὁ μέγας κινῇ ἐνδεδεμένον τὸν μικρόν, ὁ μικρὸς κινεῖται ὅσηνπερ οὗτος· ὅταν δὲ ὁ μικρός, πάλιν ὁ μέγας ὅσην οὗτος. χωριζόμενος δὲ ἑκάτερος αὑτὸν κινεῖ αὐτός. ὅτι δὲ τοῦ αὐτοῦ κέντρου ὄντος καὶ κινοῦντος τῷ αὐτῷ τάχει συμβαίνει ἄνισον διεξιέναι αὐτοὺς γραμμήν, παραλογίζεται ὁ ἀπορῶν σοφιστικῶς. τὸ αὐτὸ μὲν γάρ ἐστι κέντρον ἀμφοῖν, ἀλλὰ κατὰ συμβεβηκός, ὡς μουσικὸν καὶ λευκόν· τὸ γὰρ εἶναι ἑκατέρου κέντρου τῶν κύκλων οὐ τῷ αὐτῷ χρῆται. ὅταν μὲν οὖν ὁ κινῶν ᾖ ὁ μικρός, ὡς ἐκείνου κέντρον καὶ ἀρχή, ὅταν δὲ ὁ μέγας, ὡς ἐκείνου. οὔκουν τὸ αὐτὸ κινεῖ ἁπλῶς, ἀλλ’ ἔστιν ὥς.

Διὰ τί τὰς κλίνας ποιοῦσι διπλασιοπλεύρους, τὴν μὲν [856b] ἓξ ποδῶν καὶ μικρῷ μείζω πλευράν, τὴν δὲ τριῶν; καὶ διὰ τί ἐντείνουσιν οὐ κατὰ διάμετρον; ἢ τὸ μὲν μέγεθος τηλικαύτας, ὅπως τοῖς σώμασιν ὦσι σύμμετροι; γίνονται γὰρ οὕτω διπλασιόπλευροι, τετραπήχεις μὲν τὸ μῆκος, διπήχεις δὲ τὸ πλάτος. ἐντείνουσι δὲ οὐ κατὰ διάμετρον ἀλλ' ἀπ' ἐναντίας, ὅπως τά τε ξύλα ἧττον διασπᾶται· τάχιστα γὰρ σχίζεται κατὰ φύσιν διαιρούμενα ταύτῃ, καὶ ἑλκόμενα πονεῖ μάλιστα. ἔτι ἐπειδὴ δεῖ βάρος δύνασθαι τὰ σπαρτία φέρειν, οὕτως ἧττον πονέσει λοξοῖς τοῖς σπαρτίοις ἐπιτιθεμένου τοῦ βάρους ἢ πλαγίοις. ἔτι δὲ ἔλαττον οὕτω σπαρτίον ἀναλίσκεται. ἔστω γὰρ κλίνη ἡ ΑΖΗΙ, καὶ δίχα διῃρήσθω ἡ ΖΗ κατὰ τὸ Β. ἴσα δὴ τρυπήματά ἐστιν ἐν τῇ ΖΒ καὶ ἐν τῇ ΖΑ. καὶ γὰρ αἱ πλευραὶ ἴσαι εἰσίν· ἡ γὰρ ὅλη ΖΗ διπλασία ἐστίν. ἐντείνουσι δ' ὡς γέγραπται, ἀπὸ τοῦ Α ἐπὶ τὸ Β, εἶτα οὗ τὸ Γ, εἶτα οὗ τὸ Δ, εἶτα οὗ τὸ Θ, εἶτα οὗ τὸ Ε. καὶ οὕτως ἀεί, ἕως ἂν εἰς γωνίαν καταστρέψωσιν ἄλλην· δύο γὰρ ἔχουσι γωνίαι τὰς ἀρχὰς τοῦ σπαρτίου. ἴσα δέ ἐστι τὰ σπαρτία κατὰ τὰς κάμψεις, τό τε ΑΒ καὶ ΒΓ τῷ ΓΔ καὶ ΔΘ. καὶ τὰ ἄλλα δὲ τὰ τοιαῦτά ἐστιν, ὅτι οὕτως ἔχει ἡ αὐτὴ ἀπόδειξις. ἡ μὲν γὰρ ΑΒ τῇ ΕΘ ἴση· ἴσαι γάρ εἰσιν αἱ πλευραὶ τοῦ ΒΗΚ Α χωρίου, καὶ τὰ τρυπήματα ἴσα διέστηκεν. ἡ δὲ ΒΗ ἴση τῇ ΚΑ· ἡ γὰρ Β γωνία ἴση τῇ Η. ἐν ἴσοις γὰρ ἡ μὲν ἐκτός, ἡ δὲ ἐντός· καὶ ἡ μὲν Β ἐστὶν ἡμίσεια ὀρθῆς· ἡ γὰρ ΖΒ ἴση τῇ ΖΑ· καὶ γωνία δὲ ἡ κατὰ τὸ Ζ ὀρθή. ἡ δὲ Β γωνία ἴση τῇ κατὰ τὸ Η· ἡ γὰρ κατὰ τὸ Ζ ὀρθή, ἐπειδὴ διπλασιόπλευρον τὸ ἑτερόμηκες καὶ πρὸς μέσον κέκλασται. ὥστε ἡ ΑΓ τῇ ΕΗ ἴση. ταύτῃ δὲ ἡ ΚΘ· παράλληλος γάρ. ὥστε ἡ ΒΓ ἴση τῇ ΚΘ. ἡ δὲ ΓΕ τῇ ΔΘ. ὁμοίως δὲ καὶ αἱ ἄλλαι δείκνυνται ὅτι ἴσαι εἰσὶν αἱ κατὰ τὰς κάμψεις δύο ταῖς δυσίν. ὥστε δῆλον ὅτι τὰ τηλικαῦτα σπαρτία ὅσον τὸ ΑΒ, τέσσαρα τοσαῦτ' ἔνεστιν ἐν τῇ κλίνῃ· ὅσον δ' ἐστὶ τὸ πλῆθος τῶν ἐν τῇ ΖΗ πλευρᾷ τρυπημάτων, καὶ ἐν τῷ ἡμίσει τῷ ΖΒ τὰ ἡμίση. ὥστε ἐν τῇ ἡμισείᾳ κλίνῃ τηλικαῦτα μεγέθη σπαρτίων ἐστὶν ὅσον τῷ ΒΑ ἔνεστι, τοσαῦτα δὲ τὸ πλῆθος ὅσαπερ ἐν τῷ ΒΗ τρυπήματα. ταῦτα δὲ οὐδὲν διαφέρει λέγειν ἢ ὅσα ἐν τῇ ΑΖ καὶ ΒΖ τὰ συνάμφω. εἰ δὲ κατὰ διάμετρον ἐνταθῇ τὰ σπαρτία, ὡς ἐν τῇ ΑΒΓΔ κλίνῃ ἔχει, τὰ ἡμίσεά εἰσιν οὐ τοσαῦτα [857a] ὅσα αἱ πλευραὶ ἀμφοῖν, αἱ ΑΖ ΖΗ· τὰ ἴσα δέ, ὅσα ἐν τῷ ΖΒΖΑ τρυπήματα ἔνεστιν. μείζονες δέ εἰσιν αἱ ΑΖ ΒΖ δύο οὖσαι τῆς ΑΒ. ὥστε καὶ τὸ σπαρτίον μεῖζον τοσούτῳ ὅσον αἱ πλευραὶ ἄμφω μείζους εἰσὶ τῆς διαμέτρου.

Διὰ τί χαλεπώτερον τὰ μακρὰ ξύλα ἀπ' ἄκρου φέρειν ἐπὶ τῷ ὤμῳ ἢ κατὰ τὸ μέσον, ἴσου τοῦ βάρους ὄντος; πότερον ὅτι σαλευομένου τοῦ ξύλου τὸ ἄκρον κωλύει φέρειν, μᾶλλον ἀντισπῶν τῇ σαλεύσει τὴν φοράν; ἢ κἂν μηθὲν κάμπτηται μηδ' ἔχῃ πολὺ μῆκος, ὅμως χαλεπώτερον φέρειν ἀπ' ἄκρου; ἀλλ' ὅτι καὶ ῥᾷον αἴρεται ἀπ' ἄκρου ἢ ἐκ μέσου, διὰ τὸ αὐτὸ καὶ φέρειν οὕτω ῥᾴδιον. αἴτιον δὲ ὅτι ἐκ μέσου μὲν αἰρόμενον ἀεὶ ἐπικουφίζει ἄλληλα τὰ ἄκρα, καὶ θάτερον μέρος τὸ ἐπὶ θάτερον εὖ αἴρει. ὥσπερ γὰρ κέντρον γίνεται τὸ μέσον, ᾗ ἔχει τὸ αἶρον ἢ φέρον. εἰς τὸ ἄνω οὖν κουφίζεται ἑκάτερον τῶν ἄκρων εἰς τὸ κάτω ῥέπον. ἀπὸ δὲ τοῦ ἄκρου αἰρόμενον ἢ φερόμενον οὐ ποιεῖ τοῦτο, ἀλλ’ ἅπαν τὸ βάρος ῥέπει ἐφ’ ἓν μέσον, εἰς ὅπερ αἴρεται ἢ φέρεται. ἔστω μέσον ἐφ’ οὗ Α, ἄκρα ΒΓ. αἰρομένου οὖν ἢ φερομένου κατὰ τὸ Α, τὸ μὲν Β κάτω ῥέπον ἄνω αἴρει τὸ Γ, τὸ δὲ Γ κάτω ῥέπον τὸ Β ἄνω αἴρει· ἅμα δὲ αἰρόμενα ἄνω ποιεῖ ταῦτα.

Διὰ τί, ἐὰν ᾖ λίαν μακρὸν τὸ αὐτὸ βάρος, χαλεπώτερον φέρειν ἐπὶ τοῦ ὤμου, κἂν μέσον φέρῃ τις, ἢ ἐὰν ἔλαττον ᾖ; πάλαι ἐλέχθη ὡς οὐκ ἔστιν αἴτιον ἡ σάλευσις· ἀλλ’ ἡ σάλευσις νῦν αἰτιόν ἐστιν. ὅταν γὰρ ᾖ μακρότερον, τὰ ἄκρα σαλεύεται, ὥστε εἴη ἂν καὶ τὸν φέροντα χαλεπώτερον φέρειν μᾶλλον. αἴτιον δὲ τοῦ σαλεύεσθαι μᾶλλον, ὅτι τῆς αὐτῆς κινήσεως οὔσης μεθίσταται τὰ ἄκρα, ὅσῳπερ ἂν ᾖ μακρότερον τὸ ξύλον. ὁ μὲν γὰρ ὦμος κέντρον, ἐφ’ οὗ τὸ Α (μένει γὰρ τοῦτο), αἱ δὲ ΑΒ καὶ ΑΓ αἱ ἐκ τοῦ κέντρου. ὅσῳ δ’ ἂν ᾖ μεῖζον τὸ ἐκ τοῦ κέντρου ἢ τὸ ΑΒ ἢ καὶ τὸ ΑΓ, πλέον μεθίσταται μέγεθος. δέδεικται δὲ τοῦτο πρότερον.

Διὰ τί ἐπὶ τοῖς φρέασι τὰ κηλώνεια ποιοῦσι τοῦτον τὸν τρόπον; προστιθέασι γὰρ βάρος ἐν τῷ ξύλῳ τὸν μόλιβδον, ὄντος βάρους τοῦ κάδου αὐτοῦ, καὶ κενοῦ καὶ πλήρους ὄντος. ἢ ὅτι ἐν δυσὶ χρόνοις διῃρημένου τοῦ ἔργου (βάψαι γὰρ δεῖ, καὶ τοῦτ’ ἄνω ἑλκύσαι) συμβαίνει καθιέναι μὲν κενὸν ῥᾳδίως, [857b] αἴρειν δὲ πλήρη χαλεπῶς; λυσιτελεῖ οὖν μικρῷ βραδύτερον εἶναι τὸ καταγαγεῖν πρὸς τὸ πολὺ κουφίσαι τὸ βάρος ἀνάγοντι. τοῦτο οὖν ποιεῖ ἐπ’ ἄκρῳ τῷ κηλωνείῳ ὁ μόλιβδος προσκείμενος ἢ ὁ λίθος. καθιμῶντι μὲν γὰρ γίνεται βάρος μεῖζον ἢ εἰ μόνον κενὸν δεῖ κατάγειν τὸν κάδον· ὅταν δὲ πλήρης ᾖ, ἀνάγει ὁ μόλιβδος, ἢ ὅ τι ἂν ᾖ τὸ προσκείμενον βάρος. ὥστ’ ἐστὶ ῥᾷον αὐτῷ τὰ ἄμφω ἢ ἐκείνῳ.

Διὰ τί, ὅταν φέρωσιν ἐπὶ ξύλου ἤ τινος τοιούτου δύο ἄνθρωποι ἴσον βάρος, οὐχ ὁμοίως θλίβονται, ἐὰν μὴ ἐπὶ τῷ μέσῳ ᾖ τὸ βάρος, ἀλλὰ μᾶλλον ὅσῳ ἂν ἐγγύτερον ᾖ τῶν φερόντων; ἢ διότι μοχλὸς μὲν γίνεται οὕτως ἐχόντων τὸ ξύλον, τὸ δὲ βάρος ὑπομόχλιον, ὁ δὲ ἐγγύτερος τοῦ βάρους τῶν φερόντων τὸ βάρος τὸ κινούμενον, ἅτερος δὲ τῶν φερόντων τὸ βάρος ὁ κινῶν. ὅσῳ γὰρ πλέον ἀπέχει τοῦ βάρους, τοσούτῳ ῥᾷον κινεῖ, καὶ θλίβει μᾶλλον τὸν ἕτερον εἰς τὸ κάτω, ὥσπερ ἀντερείδοντος τοῦ βάρους τοῦ ἐπικειμένου καὶ γινομένου ὑπομοχλίου. ἐν μέσῳ δὲ ὑποκειμένου τοῦ βάρους, οὐδὲν μᾶλλον ἅτερος θατέρῳ γίνεται βάρος, οὐδὲ κινεῖ, ἀλλ’ ὁμοίως ἑκάτερος ἑκατέρῳ γίνεται βάρος.

Διὰ τί οἱ ἀνιστάμενοι πάντες πρὸς ὀξεῖαν γωνίαν τῷ μηρῷ ποιήσαντες τὴν κνήμην ἀνίστανται, καὶ τῷ θώρακι πρὸς τὸν μηρόν; εἰ δὲ μή, οὐκ ἂν δύναιντο ἀναστῆναι. πότερον ὅτι τὸ ἴσον ἠρεμίας πανταχοῦ αἴτιον, ἡ δὲ ὀρθὴ γωνία τοῦ ἴσου, καὶ ποιεῖ στάσιν· διὸ καὶ φέρεται πρὸς ὁμοίας γωνίας τῇ περιφερείᾳ τῆς γῆς. οὐ γὰρ ὅτι καὶ πρὸς ὀρθὴν ἔσται τῷ ἐπιπέδῳ. ἢ ὅτι ἀνιστάμενος γίνεται ὀρθός, ἀνάγκη δὲ τὸν ἑστῶτα κάθετον εἶναι πρὸς τὴν γῆν. εἰ οὖν μέλλει ἔσεσθαι πρὸς ὀρθήν, τοῦτο δέ ἐστι τὸ τὴν κεφαλὴν ἔχειν κατὰ τοὺς πόδας, καὶ γίνεσθαι δὴ ὅτε ἀνίσταται. ὅταν μὲν οὖν καθήμενος ᾖ, παράλληλον ἔχει τὴν κεφαλὴν καὶ τοὺς πόδας, καὶ οὐκ ἐπὶ μιᾶς εὐθείας. ἡ κεφαλὴ Α ἔστω, θώραξ ΑΒ, μηρὸς ΒΓ, κνήμη ΓΔ. πρὸς ὀρθὴν δὲ γίνεται ὅ τε θώραξ [ἐφ’ ὧν ΑΒ] τῷ μηρῷ καὶ ὁ μηρὸς τῇ κνήμῃ οὕτως καθημένῳ. ὥστε οὕτως ἔχοντα ἀδύνατον ἀναστῆναι. ἀνάγκη δὲ ἐγκλῖναι τὴν κνήμην καὶ ποιεῖν τοὺς πόδας ὑπὸ τὴν κεφαλήν. τοῦτο δὲ ἔσται, ἐὰν ἡ ΓΔ ἐφ’ ἧς τὰ ΓΖ γένηται, καὶ ἅμα ἀναστῆναι συμβήσεται, καὶ ἔχειν ἐπὶ [858a] τῆς αὐτῆς ἴσης τὴν κεφαλήν τε καὶ τοὺς πόδας. ἡ δὲ ΓΖ ὀξεῖαν ποιεῖ γωνίαν πρὸς τὴν ΒΓ.

Διὰ τί ῥᾶον κινεῖται τὸ κινούμενον ἢ τὸ μένον, οἷον τὰς ἁμάξας θᾶττον κινουμένας ὑπάγουσιν ἢ ἀρχομένας; ἢ ὅτι χαλεπώτατον μὲν τὸ εἰς τοὐναντίον κινούμενον κινῆσαι βάρος; ἀφαιρεῖται γάρ τι τῆς τοῦ κινοῦντος δυνάμεως, κἂν πολὺ θᾶττον ᾖ· ἀνάγκη γὰρ βραδυτέραν γίνεσθαι τὴν ὦσιν τοῦ ἀντωθουμένου. δεύτερον δέ, ἐὰν ἠρεμῇ· ἀντιτείνει γὰρ καὶ τὸ ἠρεμοῦν. τὸ δὲ κινούμενον ἐπὶ τὸ αὐτὸ τῷ ὠθοῦντι ὅμοιον ποιεῖ ὥσπερ ἂν εἰ αὐξήσειέ τις τὴν τοῦ κινοῦντος δύναμιν καὶ ταχυτῆτα· ὃ γὰρ ὑπ’ ἐκείνου ἂν ἔπασχε, τοῦτο αὐτὸ ποιεῖ εἰς τὸ πρὸ ὁδοῦ κινούμενον.

Διὰ τί παύεται φερόμενα τὰ ῥιφέντα; πότερον ὅταν λήγῃ ἡ ἰσχὺς ἡ ἀφεῖσα, ἢ διὰ τὸ ἀντισπᾶσθαι, ἢ διὰ τὴν ῥοπήν, ἐὰν κρείττων ᾖ τῆς ἰσχύος τῆς ῥιψάσης; ἢ ἄτοπον τὸ ταῦτ’ ἀπορεῖν, ἀφέντα τὴν ἀρχήν.

Διὰ τί φέρεταί τι οὐ τὴν αὑτοῦ φοράν, μὴ ἀκολουθοῦντος καὶ ὠθοῦντος τοῦ ἀφέντος; ἢ δῆλον ὅτι ἐποίησε τοιοῦτον τὸ πρῶτον ὡς θάτερον ὠθεῖν, καὶ τοῦθ’ ἕτερον· παύεται δέ, ὅταν μηκέτι δύνηται ποιεῖν τὸ προωθοῦν τὸ φερόμενον ὥστε ὠθεῖν, καὶ ὅταν τὸ τοῦ φερομένου βάρος ῥέπῃ μᾶλλον τῆς εἰς τὸ πρόσθεν δυνάμεως τοῦ ὠθοῦντος.

Διὰ τί οὔτε τὰ ἐλάττονα οὔτε τὰ μεγάλα πόρρω φέρεται ῥιπτούμενα, ἀλλὰ δεῖ συμμετρίαν τινὰ ἔχειν πρὸς τὸν ῥιπτοῦντα; πότερον ὅτι ἀνάγκη τὸ ῥιπτούμενον καὶ ὠθούμενον ἀντερείδειν ὅθεν ὠθεῖται; τὸ δὲ μηθὲν ὑπεῖκον διὰ μέγεθος ἢ μηδὲν ἀντερεῖσαν δι’ ἀσθένειαν οὐ ποιεῖ ῥῖψιν οὐδὲ ὦσιν. τὸ μὲν οὖν πολὺ ὑπερβάλλον τῆς ἰσχύος τῆς ὠθούσης οὐθὲν ὑπείκει, τὸ δὲ πολὺ ἀσθενέστερον οὐδὲν ἀνερείδει. ἢ ὅτι τοσοῦτον φέρεται τὸ φερόμενον, ὅσον ἂν ἀέρα κινήσῃ εἰς βάθος; τὸ δὲ μηδὲν κινούμενον οὐδ’ ἂν κινήσειεν οὐδέν. συμβαίνει δὴ ἀμφότερα τούτοις ἔχειν. [858b] τό τε γὰρ σφόδρα μέγα καὶ τὸ σφόδρα μικρὸν ὥσπερ οὐθὲν κινούμενά ἐστι· τὸ μὲν γὰρ αὐτὸ καθ’ ἓν κινεῖ, τὸ δ’ οὐθὲν κινεῖται.

Διὰ τί τὰ φερόμενα ἐν τῷ δινουμένῳ ὕδατι εἰς τὸ μέσον τελευτῶντα φέρονται ἅπαντα; πότερον ὅτι μέγεθος ἔχει τὸ φερόμενον, ὥστε ἐν δυσὶ κύκλοις εἶναι, τῷ μὲν ἐλάττονι τῷ δὲ μείζονι, ἑκάτερον αὐτοῦ τῶν ἄκρων. ὥστε περισπᾷ ὁ μείζων διὰ τὸ φέρεσθαι θᾶττον, καὶ πλάγιον ἀπωθεῖ αὐτὸ εἰς τὸν ἐλάττω. ἐπεὶ δὲ πλάτος ἔχει τὸ φερόμενον, καὶ οὗτος πάλιν τὸ αὐτὸ ποιεῖ, καὶ ἀπωθεῖ εἰς τὸν ἐντός, ἕως ἂν εἰς τὸ μέσον ἔλθῃ. καὶ τότε μένει διὰ τὸ ὁμοίως ἔχειν πρὸς ἅπαντας τοὺς κύκλους τὸ φερόμενον, διὰ τὸ μέσον· καὶ γὰρ τὸ μέσον ἴσον ἀπέχει ἐν ἑκάστῳ τῶν κύκλων. ἢ ὅτι ὅσων μὲν μὴ κρατεῖ ἡ φορὰ τοῦ δινουμένου ὕδατος διὰ τὸ μέγεθος, ἀλλ’ ὑπερέχει τῇ βαρύτητι τῆς τοῦ κύκλου ταχυτῆτος, ἀνάγκη ὑπολείπεσθαι καὶ βραδύτερον φέρεσθαι. βραδύτερον δὲ ὁ ἐλάττων κύκλος φέρεται· τὸ αὐτὸ γὰρ ἐν ἴσῳ χρόνῳ ὁ μέγας τῷ μικρῷ στρέφεται κύκλῳ, ὅταν ὦσι περὶ τὸ αὐτὸ μέσον. ὥστε εἰς τὸν ἐλάττονα κύκλον ἀναγκαῖον ἀπολείπεσθαι, ἕως ἂν ἐπὶ τὸ μέσον ἔλθῃ. ὅσων δὲ πρότερον κρατεῖ ἡ φορά, λήγουσα ταὐτὸ ποιήσει. δεῖ γὰρ τὸν μὲν εὐθύ, τὸν δὲ ἕτερον κρατεῖν τῇ ταχυτῆτι τοῦ βάρους, ὥστε εἰς τὸν ἐντὸς ἀεὶ κύκλον ὑπολείπεσθαι πᾶν. ἀνάγκη γὰρ αὐτὸ ἐντὸς ἢ ἐκτὸς κινεῖσθαι τὸ μὴ κρατούμενον. ἐν αὐτῷ δὴ τοίνυν ἐν ᾧ ἐστίν, ἀδύνατον φέρεσθαι τὸ μὴ κρατούμενον. ἔτι δὲ ἧττον ἐν τῷ ἐκτός· θάττων γὰρ ἡ φορὰ τοῦ ἐκτὸς κύκλου. λείπεται δὲ εἰς τὸν ἐντὸς τὸ μὴ κρατούμενον μεθίστασθαι. ἀεὶ δὲ ἕκαστον ἐπιδίδωσιν εἰς τὸ μὴ κρατεῖσθαι. ἐπεὶ δὲ πέρας τοῦ μὴ κινεῖσθαι ποιεῖ τὸ εἰς μέσον ἐλθεῖν, μένει δὲ τὸ κέντρον μόνον, ἅπαντα ἀνάγκη εἰς τοῦτο δὴ ἀθροίζεσθαι.

Προβληματα (859a) Problems

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ΚΖ. ΟΣΑ ΠΕΡΙ ΦΟΒΟΝ ΚΑΙ ΑΝΔΡΕΙΑΝ.
ΚΗ. ΟΣΑ ΠΕΡΙ ΣΩΦΡΟΣΥΝΗΝ ΚΑΙ ΑΚΟΛΑΣΙΑΝ, ΚΑΙ ΕΓΚΡΑΤΕΙΑΝ ΚΑΙ ΑΚΡΑΣΙΑΝ.
ΚΘ. ΟΣΑ ΠΕΡΙ ΔΙΚΑΙΟΣΥΝΗΝ ΚΑΙ ΑΔΙΚΙΑΝ.
Λ. ΟΣΑ ΠΕΡΙ ΦΡΟΝΗΣΙΝ ΚΑΙ ΝΟΥΝ ΚΑΙ ΣΟΦΙΑΝ.

ΛΑ. ΟΣΑ ΠΕΡΙ ΟΦΘΑΛΜΟΥΣ.
ΛΒ. ΟΣΑ ΠΕΡΙ ΩΤΑ.
ΛΓ. ΟΣΑ ΠΕΡΙ ΜΥΚΤΗΡΑ.
ΛΔ. ΟΣΑ ΠΕΡΙ ΤΟ ΣΤΟΜΑ ΚΑΙ ΤΑ ΕΝ ΑΥΤΩ.
ΛΕ. ΟΣΑ ΠΕΡΙ ΤΑ ΥΠΟ ΤΗΝ ΑΦΗΝ.
ΛϚ. ΟΣΑ ΠΕΡΙ ΠΡΟΣΩΠΟΝ.
ΛΖ. ΟΣΑ ΠΕΡΙ ΟΛΟΝ ΤΟ ΣΩΜΑ.
ΛΗ. ΟΣΑ ΠΕΡΙ ΧΡΟΑΝ.

Α. ΟΣΑ ΙΑΤΡΙΚΑ.

[859a] Διὰ τί αἱ μεγάλαι ὑπερβολαὶ νοσώδεις; ἢ ὅτι ὑπερβολὴν ἢ ἔλλειψιν ποιοῦσιν; τοῦτο δὲ ἦν ἡ νόσος.

Διὰ τί [δὲ] τὰς νόσους ὑγιάζουσιν πολλάκις, ὅταν πολὺ ἐκστῇ τις; καὶ ἐνίων ἰατρῶν τοιαύτη ἡ τέχνη· ὑπερβολαῖς γὰρ ἰῶνται οἴνου ἢ ὕδατος ἢ ἅλμης ἢ σίτου ἢ λιμοῦ. ἢ ὅτι ἐναντία ἀλλήλοις τὰ τὴν νόσον ποιοῦντα· εἰς τὸ μέσον οὖν ἄγει θάτερον ἑκάτερα.

Διὰ τί αἱ τῶν ὡρῶν μεταβολαὶ καὶ πνεύματα ἐπιτείνουσιν ἢ παύουσι καὶ κρίνουσι τὰς νόσους καὶ ποιοῦσιν; ἢ ὅτι θερμαὶ καὶ ψυχραί εἰσι καὶ ὑγραὶ καὶ ξηραί, αἱ δὲ νόσοι τούτων εἰσὶν ὑπερβολαί, ἡ δὲ ὑγεία ἰσότης. ἐὰν οὖν δι’ ὑγρότητα καὶ ψύξιν, ἡ ἐναντία ὥρα παύει· ἐὰν δὲ ἐναντία ὥρα ἔχηται, ἡ ὁμοία κρᾶσις ἐπιγενομένη ἐπέτεινε καὶ ἀνεῖλεν. διὰ ταῦτα δὲ καὶ νοσίζουσι τοὺς ὑγιαίνοντας, ὅτι μεταβάλλουσαι λύουσι τὴν κρᾶσιν· ἅμα γὰρ ταῖς οἰκείαις ὥραις καὶ ἡλικίαις καὶ τόποις αὐξάνεται. διὸ δεῖ ἐν ταῖς μεταβολαῖς μάλιστα διακυβερνᾶν. ὃ δὲ καθόλου περὶ τῶν ὡρῶν εἴρηται, καὶ κατὰ μέρος τὸ αὐτὸ αἴτιον. αἱ γὰρ τῶν πνευμάτων μεταβολαὶ καὶ τῶν ἡλικιῶν καὶ τόπων ὥρας τινός εἰσι μεταβολαί. διὸ καὶ ταῦτα ἐπιτείνει καὶ παύει καὶ κρίνει καὶ ποιεῖ, ὥσπερ αἱ ὧραι, καὶ ἐπιτολαὶ τῶν ἄστρων, ὥσπερ Ὠρίων καὶ Ἀρκτοῦρος καὶ Πλειὰς καὶ Κύων, ὥσπερ πνευμάτων καὶ ὑδάτων καὶ εὐδιῶν καὶ χειμώνων καὶ ἀλέας.

Διὰ τί ἐν ταῖς μεταβολαῖς τῶν ὡρῶν ἐμέτοις οὐ δεῖ χρῆσθαι; ἢ ἵνα μὴ γένηται συντάραξις διαφόρων γινομένων τῶν περιττωμάτων διὰ τὰς μεταβολάς.

[859b] Διὰ τί καὶ οἱ κιβδηλιῶντες καὶ ὑπὸ λιμοῦ τοὺς πόδας οἰδοῦσιν; ἢ διὰ τὴν σύντηξιν ἀμφότεροι; συντήκονται δὲ οἱ μὲν διὰ λιμὸν διὰ τὸ ὅλως μὴ λαμβάνειν τροφήν, οἱ δὲ κιβδηλιῶντες διὰ τὸ μηδὲν ἀπολαύειν ἧς λαμβάνουσι τροφῆς.

Διὰ τί τῶν ἀπὸ χολῆς νοσημάτων ἐν τῷ θέρει (πυρέττουσι γὰρ μάλιστα ἐν τῷ θέρει) τὰ ὀξέα ἀπὸ χολῆς ὄντα ἐν τῷ χειμῶνι γίνεται μᾶλλον; ἢ ὅτι μετὰ πυρετοῦ ὄντα ὀξέα ἐστὶ διὰ τὸ βίαια εἶναι, ἡ δὲ βία παρὰ φύσιν. ὑγραινομένων γάρ τινων τόπων θερμὴ φλεγμασία γίνεται· ἡ δὲ φλεγμασία ὑπερβολὴ θερμότητος οὖσα ποιεῖ τοὺς πυρετούς. ἐν μὲν οὖν τῷ θέρει ξηραὶ καὶ θερμαί εἰσιν αἱ νόσοι, ἐν δὲ τῷ χειμῶνι ὑγραὶ καὶ θερμαί, διὸ ὀξεῖαι· ταχέως γὰρ ἀναιροῦσιν· οὐ γὰρ θέλει πέττεσθαι διὰ τὸ πλῆθος τοῦ περιττώματος.

Διὰ τί ποτε ὁ λοιμὸς μόνη τῶν νόσων μάλιστα τοὺς πλησιάζοντας τοῖς θεραπευομένοις προσαναπίμπλησιν; ἢ ὅτι μόνη τῶν νόσων κοινή ἐστιν ἅπασιν, ὥστε διὰ τοῦτο πᾶσιν ἐπιφέρει τὸν λοιμόν, ὅσοι φαύλως ἔχοντες προϋπάρχουσιν. καὶ γὰρ διὰ τὸ ὑπέκκαυμα τῆς νόσου τῆς παρὰ τῶν θεραπευομένων γινομένης ταχέως ὑπὸ τοῦ πράγματος ἁλίσκονται.

Διὰ τί τοῦ χειμῶνος βορείου γενομένου, ἐὰν τὸ ἔαρ ἔπομβρον γένηται καὶ νότιον, τὸ θέρος νοσῶδες γίνεται πυρετοῖς καὶ ὀφθαλμίαις; ἢ ὅτι τά τε σώματα ἐκδέχεται τὸ θέρος πολλὴν ἔχοντα ἀλλοτρίαν ὑγρότητα, καὶ ἡ γῆ καὶ ὁ τόπος ἐν ᾧ ἂν οἰκῶσι, γίνεται ἔφυδρος καὶ τοιοῦτος οἷοι λέγονται οἱ ἀεὶ νοσώδεις τόποι; πρῶτον μὲν οὖν ὀφθαλμίαι γίνονται τηκομένης τῆς περὶ τὴν κεφαλὴν περιττώσεως, ἔπειτα πυρετοί. [860a] δεῖ γὰρ νοῆσαι ὅτι τὸ αὐτὸ καὶ θερμότατον γίνεται καὶ ψυχρότατον, οἷον ὕδωρ καὶ λίθος ὁ μὲν ζεῖ, τὸ δὲ κάει μᾶλλον. ἔν τε οὖν ἀέρι πνίγη γίνεται θερμαινομένου τοῦ ἀέρος διὰ πάχος, καὶ ἐν τοῖς σώμασιν ὡσαύτως πνίγη καὶ καύματα, τὸ δὲ ἐν σώματι καῦμα πυρετός ἐστιν, ἐν δὲ ὀφθαλμοῖς ὀφθαλμίαι. ὅλως δὲ καὶ ἡ μεταβολὴ ἰσχυρὰ οὖσα τὰ σώματα φθείρει, ὅταν τοῦ ἔαρος ὑγροῦ ὄντος εὐθὺς ἐπιλαμβάνῃ τὸ θέρος θερμὸν ὂν καὶ ξηρόν. ἔτι δὲ χαλεπώτερον, ἐὰν καὶ τὸ θέρος ἔπομβρον γένηται. ἔχει γὰρ ὁ ἥλιος ὕλην ἣν ποιήσει ζεῖν καὶ ἐν τοῖς σώμασι καὶ ἐν τῇ γῇ καὶ ἀέρι· διὸ γίνονται πυρετοὶ καὶ ὀφθαλμίαι.

Διὰ τί, ἐὰν ὁ χειμὼν νότιος γένηται καὶ ἔπομβρος, τὸ δὲ ἔαρ αὐχμηρὸν καὶ βόρειον, νοσῶδες γίνεται καὶ τὸ ἔαρ καὶ τὸ θέρος; ἢ ὅτι ἐν μὲν τῷ χειμῶνι διὰ τὴν ἀλέαν καὶ ὑγρότητα ὁμοίως τὰ σώματα διάκειται τῇ ὥρᾳ; ὑγρὰ γὰρ ἀνάγκη εἶναι καὶ οὐ συνεστηκότα. οὕτω δὲ ἐχόντων, τὸ ἔαρ ψυχρὸν ὂν ἔπηξε καὶ ἐσκλήρυνεν αὐτὰ διὰ τὸν αὐχμόν, ὥστε ταῖς μὲν κυούσαις ὁ τόκος ὁ ἐαρινὸς εἰς ἐκτρώσεις γίνεται διὰ τὴν θερμασίαν καὶ τὸν σφακελισμὸν τὸν γινόμενον ὑπὸ τῆς ξηρᾶς ψυχρότητος, ἅτε οὐκ ἐκκρινομένης τῆς ὑγρότητος, τὰ δὲ κυόμενα παιδία ἀσθενῆ γίνεται καὶ πηρὰ διὰ τὴν ὑπερβολὴν τοῦ ψύχους· συμβέβηκε γὰρ τότε γεννώμενα [ἐν εὐδίᾳ] καὶ συστῆναι καὶ τραφῆναι ἐν τῇ τεκούσῃ. τοῖς δὲ ἄλλοις, ἅτε ἐν τῷ ἔαρι οὐκ ἀποκαθαρθέντος τοῦ φλέγματος τὴν ὑπερβολήν, ὃ συμβαίνει ὅταν ἀλεεινὸν γένηται, ἀλλὰ διὰ ψῦχος συστάντος, ὅταν ἐπιλάβῃ τὸ θέρος καὶ ἡ ἀλέα τήκουσα βίᾳ, τοῖς μὲν χολώδεσι καὶ ξηροῖς, διὰ τὸ μὴ διερὰ εἶναι τὰ σώματα αὐτοῖς ἀλλὰ τὴν φύσιν αὖον ἔχειν, γίνονται μὲν ὑγρότητες, αὗται δὲ λεπταί, ὥστε ὀφθαλμίαις ξηραῖς ἁλίσκονται, οἱ δὲ φλεγματώδεις βράγχοις καὶ εἰς τὸν πνεύμονα κατάρροις. ταῖς γυναιξὶ δὲ δυσεντερίαι γίνονται διὰ τὴν ὑγρότητα καὶ ψυχρότητα τῆς φύσεως, τοῖς δὲ γεραιτέροις ἀποπληξίαι, ὅταν ἀθρόον λυθὲν ὑγρὸν ἐπιπέσῃ καὶ δι᾽ ἀσθένειαν τοῦ συμφύτου θερμοῦ παγῇ.

Διὰ τί, ἐὰν μὲν τὸ θέρος αὐχμηρὸν γένηται καὶ βόρειον, τὸ δὲ μετόπωρον ἐναντίον, ὑγρὸν καὶ νότιον, ἐν τῷ χειμῶνι κεφαλαλγίαι τε γίνονται καὶ βράγχοι καὶ βῆχες, [860b] καὶ τελευτῶσιν εἰς φθίσεις; ἢ ὅτι λαμβάνει ὕλην πολλὴν ὁ χειμών, ὥστ᾽ αὐτῷ ἔργον ἐστὶ πῆξαι τὴν ὑγρότητα καὶ φλέγμα ποιῆσαι; ἐν μὲν οὖν ταῖς κεφαλαῖς ὅταν ὑγρασία γένηται, βάρη ποιεῖ, ἐὰν δὲ ᾖ πολλὴ καὶ ψυχρά, σφακελισμούς· ἐὰν δὲ διὰ πλῆθος μὴ πήξῃ, ῥεῖ εἰς τὸν ἐχόμενον τόπον, ὅθεν αἱ βῆχες καὶ οἱ βράγχοι καὶ αἱ φθόαι γίνονται.

Διὰ τί, ἐὰν βόρειον γένηται τὸ θέρος καὶ αὐχμῶδες, καὶ τὸ μετόπωρον, συμφέρει τοῖς φλεγματώδεσι καὶ ταῖς γυναιξίν; ἢ ὅτι ἡ φύσις ἐπὶ θάτερα ἀμφοῖν ὑπερβάλλει, ὥστε εἰς τοὐναντίον ἡ ὥρα ἑλκύσασα καθίστησιν εἰς τὴν εὐκρασίαν· καὶ παραχρῆμά τε ὑγιαίνουσιν, ἐὰν μή τι δι᾽ ἑαυτοὺς ἁμαρτάνωσι, καὶ εἰς τὸν χειμῶνα οὐχ ὑγροὶ ἀφικνοῦνται, ἔχοντες ὑπεκκαύματα τῷ ψύχει.

Διὰ τί τοῖς χολώδεσι νοσῶδές ἐστι τὸ βόρειον καὶ αὐχμῶδες θέρος καὶ μετόπωρον; ἢ ὅτι ἐπὶ ταὐτὸ ῥέπει αὐτοῖς τὸ σῶμα καὶ αἱ ὧραι, ὥστε ὥσπερ πῦρ ἐπὶ πυρὶ γίνεται. ξηραινομένων γὰρ τῶν σωμάτων, καὶ τοῦ γλυκυτάτου μὲν ἐξικμαζομένου ἐξ αὐτῶν, ὑπερθερμαινομένων δὲ λίαν, ἀνάγκη διὰ μὲν τὰς συντήξεις ὀφθαλμίας ξηρὰς γίνεσθαι, διὰ δὲ τὸ χολῶδες τοὺς ὑπολειπομένους εἶναι χυμούς, ὑπερθερμαινομένων δὲ καὶ τούτων πυρετοὺς ὀξεῖς γίνεσθαι ἅτε ὑπ᾽ ἀκράτου τῆς χολῆς, ἐνίοις δὲ μανίας, οἷς ἂν μέλαινα χολὴ φύσει ἐνῇ· αὕτη γὰρ ἐπιπολάζει ἀναξηραινομένων τῶν ἐναντίων χυμῶν.

Διὰ τί τὸ τὰ ὕδατα μεταβάλλειν νοσῶδές φασιν εἶναι, τὸ δὲ τὸν ἀέρα οὔ; ἢ ὅτι τοῦτο γίνεται τροφή, καὶ ἔχοντες καὶ ἀπολελαυκότες τοῦ ὕδατος ἀπέρχονται, τοῦ δὲ ἀέρος οὐδέν; ἔτι ὕδατος μὲν πολλὰ εἴδη ἐστὶ καὶ διάφορα καθ᾽ αὑτά, ἀέρος δὲ οὔ, ὥστε καὶ τοῦτο αἴτιον. ἐν μὲν γὰρ τῷ ἀέρι σχεδὸν τῷ αὐτῷ συμβαίνει διατελεῖν καὶ ἀποδημοῦντας, ἐν δὲ ὕδασιν ἄλλοις· διὸ καλῶς δοκεῖ νοσώδης ἡ τοῦ ὕδατος μεταβολὴ εἶναι.

Διὰ τί μᾶλλον ἡ τοῦ ὕδατος ἢ ἡ τῶν σιτίων μεταβολὴ νοσώδης; ἢ ὅτι πλεῖστον ἀναλίσκομεν τὸ ὕδωρ; ἔν τε γὰρ τοῖς σιτίοις ὑπάρχει καὶ ὄψοις, καὶ ἐν τῷ πόματι τὸ πλεῖστον ὕδωρ.

[861a] Διὰ τί ἡ μεταβολὴ νοσώδης; ἢ ὅτι πᾶσα μὲν ἡ μεταβολὴ καὶ ὥρας

καὶ ἡλικίας εὐκίνητον. εὐκίνητα γὰρ τὰ ἄκρα, οἷον καὶ αἱ ἀρχαὶ καὶ αἱ τελευταί. ὥστε καὶ αἱ τροφαὶ ἕτεραι οὖσαι ἀλλήλας φθείρουσιν· αἱ μὲν γὰρ ἄρτι, αἱ δὲ οὔπω προσπεφύκασιν. ἔτι δὲ ὥσπερ ἡ ποικίλη τροφὴ νοσώδης (ταραχώδης γὰρ καὶ οὐ μία πέψις), οὕτω συμβαίνει μεταβάλλουσι τὸ ὕδωρ ποικίλῃ πόματος χρῆσθαι τῇ τροφῇ· καὶ ἡ τοιαύτη τροφὴ κυριωτέρα τῆς ξηρᾶς ἐστὶ τῷ πλεῖστον εἶναι καὶ ἐξ αὐτῶν τῶν σιτίων τὸ ὑγρὸν γίνεσθαι τροφήν.

Διὰ τί ἡ τῶν ὑδάτων μεταβολὴ τοῖς ἔχουσι φθεῖρας ποιεῖ πολλοὺς ἔχειν; ἢ ὅτι ἀπεψία γινομένη τοῦ ὑγροῦ διὰ τὴν ταραχήν, ἣ γίνεται διὰ τὴν ποικιλίαν τοῦ ὕδατος πυκνὰ μεταβάλλουσιν, ὑγρότητα ἐμποιεῖ, καὶ μάλιστα ἐν τῷ ἐπιτηδείως ὑπάρχοντι τόπῳ; ὁ δὲ ἐγκέφαλος ὑγρός· διὸ καὶ ἡ κεφαλὴ ἀεὶ μάλιστα. δηλοῖ δέ, ὅτι αἱ τρίχες ἔνεισι μάλιστα ἐν αὐτῇ. ἡ δὲ τοῦ τόπου τούτου ὑγρότης φθειρῶν ποιητική. δηλοῖ δὲ ἐπὶ τῶν παίδων· ὑγροκέφαλοί τε γάρ εἰσι, καὶ πολλάκις ἢ κορυζῶσιν ἢ αἷμα ποιεῖ ῥεῖν, καὶ φθεῖρας πλείους οἱ ἐν ταύτῃ τῇ ἡλικίᾳ ἔχουσιν.

Διὰ τί ἀπὸ Πλειάδος μέχρι ζεφύρου οἱ τὰς μακρὰς νόσους κάμνοντες μάλιστα ἀναιροῦνται, καὶ οἱ γέροντες μᾶλλον τῶν νέων; πότερον ὅτι δύο ἐστὶ τὰ φθαρτικώτατα, ὑπερβολή τε καὶ ψῦχος; τὸ γὰρ ζῆν θερμόν, ἡ δὲ ὥρα αὕτη ἄμφω ταῦτ᾽ ἔχει· ψυχρά τε γάρ ἐστι, καὶ ἀκμαιότατος ὁ χειμών· τὸ λοιπὸν γὰρ ἔαρ ἐστίν. ἢ ὅτι ὁμοίως μὲν διάκεινται τοῖς γέρουσι τῶν καμνόντων οἱ τὰς μακρὰς κάμνοντες ἀσθενείας; οἷον γὰρ ἤδη γῆρας ἡ μακρὰ ἀσθένεια συμβαίνει· τὸ γὰρ σῶμα ἀμφοῖν ξηρὸν καὶ ψυχρόν ἐστι, τῶν μὲν δι᾽ ἡλικίαν, τῶν δὲ διὰ νόσον. ὁ δὲ χειμὼν καὶ οἱ πάγοι ὑπερβολή ἐστι ψυχρότητος καὶ ξηρότητος. μικρᾶς οὖν δεομένοις αὐτοῖς ῥοπῆς γίνεται οἷον πῦρ ἐπὶ πυρὶ ὁ χειμών, καὶ φθείρει διὰ ταῦτα.

Διὰ τί ἐν τοῖς ἑλώδεσι τὰ μὲν ἐν τῇ κεφαλῇ ἕλκη ταχὺ ὑγιάζεται, τὰ δὲ ἐν ταῖς κνήμαις μόλις; ἢ ὅτι βαρεῖα ἡ ὑγρότης διὰ τὸ γεώδης εἶναι, τὰ δὲ βαρέα εἰς τὸ κάτω ἀποχωρεῖ; τὰ μὲν οὖν ἄνω ἔκκριτα διὰ τὸ ἀποκεχωρηκέναι εἰς τὰ κάτω, τὰ δὲ κάτω πολλῆς γέμει περιττώσεως καὶ εὐσήπτου.

[861b] Διὰ τί, ἐὰν τοῦ χειμῶνος γενομένου βορείου καὶ τοῦ ἔαρος νοτίου καὶ ἐπόμβρου τὸ θέρος λίαν αὐχμηρὸν γένηται, θανατῶδες γίνεται τὸ μετόπωρον πᾶσι, μάλιστα δὲ τοῖς παιδίοις, καὶ τοῖς ἄλλοις δὲ δυσεντερίαι καὶ τεταρταῖοι χρόνιοι γίνονται ἐν αὐτῷ; ἢ ὅτι μετρίου μὲν ἐπιγενομένου ὕδατος θερινοῦ καταψυχθὲν τὸ ζέον ὑγρὸν ἐν ἡμῖν λωφᾷ, ὅσον ἠθροίσθη ἐν τῷ ἦρι γενομένῳ [τῷ] ὑγρῷ; εἰ δὲ μή, τὰ μὲν παιδία διὰ τὸ ὑγρὰ εἶναι φύσει καὶ θερμὰ ὑπερζεῖ τῷ πάθει, διὰ τὸ μὴ καταψυχθῆναι. ὅσα δὲ μὴ τοῦ θέρους, τοῦ

μετοπώρου ὅσον ἐκζεῖ. αἱ δὲ περιττώσεις ἐὰν μὴ εὐθὺς ἀνέλωσι, περὶ πνεύμονα καὶ ἀρτηρίαν γινόμεναι - ἄνω γὰρ πρῶται συνίστανται διὰ τὸ ὑπὸ τοῦ ἀέρος ἡμᾶς θερμαίνεσθαι· διὰ γὰρ ταῦτα καὶ ὀφθαλμίαι πυρετῶν πρότερον γίνονται ἐν τῷ νοσερῷ θέρει. ἐὰν οὖν μὴ ἐν τοῖς ἄνω, καθάπερ εἴρηται, τὰ περιττώματα εὐθὺς ἀνέλῃ, καταβαίνουσιν εἰς τὰς κοιλίας ἄπεπτα ὄντα, τοῦτο δέ ἐστι δυσεντερία, διὰ τὸ μὴ ἐκκρίνεσθαι ὑπὸ πλήθους τὸ ὑγρόν. καὶ ἐὰν παύσωνται, τεταρταῖοι γίνονται τοῖς σωζομένοις· ἡ γὰρ τοῦ ἀπέπτου ὑπόστασις μονιμωτάτη ἐστὶ καὶ σύντονος γίνεται τῷ σώματι, καθάπερ ἡ μέλαινα χολή.

Διὰ τί, ἐὰν τὸ θέρος ἔπομβρον γένηται καὶ νότιον, καὶ τὸ μετόπωρον, ὁ χειμὼν νοσερὸς γίνεται; ἢ ὅτι σφόδρα ὑγρὰ τὰ σώματα ὁ χειμὼν λαμβάνει, καὶ ἡ μεταβολὴ ἔτι μεγάλη γίνεται ἐξ ἀλέας πολλῆς καὶ οὐκ ἐκ προσαγωγῆς, διὰ τὸ καὶ τὸ μετόπωρον γίνεσθαι ἀλεεινόν, ὥστε τοῖς μὲν γίνεσθαι ἀνάγκη τὰ ὀξέα νοσήματα, μὴ ἀραιοῖς οὖσι· τοῖς γὰρ τοιούτοις ἄνω μᾶλλον τὰ ὑγρὰ περιττώματα ἀθροίζεται, διὰ τὸ τούτους μὲν τοὺς τόπους ἔχειν χώραν, τοὺς δὲ κάτω ἑτέρους εἶναι. οἱ οὖν ὄντες πυκνόσαρκοι οὐ πολλὰ περιττώματα δέχονται. ψυχομένης οὖν τῆς περιττώσεως τῆς ἐν τοῖς ἄνω μέρεσι τοῦ σώματος, ὥσπερ τοῖς οἰνωμένοις ὅταν ῥιγῶσι, τὰ εἰρημένα νοσήματα συμβαίνει γίνεσθαι. τοῖς δὲ ἀραιοτέροις πυρετῶν γινομένων, τοὺς ἀπὸ πλείστης ἀπεψίας γινομένους πυρετοὺς καύσους συμβαίνει γίνεσθαι, διὰ τὸ τοῖς τοιούτοις ἐσκεδάσθαι μὲν μᾶλλον κατὰ πᾶν τὸ σῶμα τὰ ὑγρὰ ἢ τοῖς πυκνοσάρκοις, συνισταμένης δὲ τῆς σαρκὸς αὐτῶν ὑπὸ τοῦ χειμῶνος θερμαινόμενα τὰ ὑγρὰ πυρετοὺς ποιεῖν. ἡ γὰρ παντὸς τοῦ σώματος ὑπερβάλλουσα [862a] θερμότης ἐστὶ πυρετός· ἐπιτεινομένη δὲ διὰ τὸ πλῆθος τῆς ἐνυπαρχούσης αὐτοῖς ὑγρότητος καῦσος γίνεται.

Διὰ τί, ὅταν ἐκ γῆς ἀτμὸς ἀνίῃ πολὺς ὑπὸ τοῦ ἡλίου, τὸ ἔτος λοιμῶδες γίνεται; ἢ ὅτι ὑγρὸν ἀνάγκη καὶ ἔπομβρον τὸ ἔτος σημαίνειν, καὶ τὴν γῆν ὑγρὰν ἀνάγκη εἶναι; οἷον οὖν ἐν ἑλώδει τόπῳ ἡ οἴκησις γίνεται. νοσώδης δὲ ἡ τοιαύτη ἐστίν. καὶ τὰ σώματα δὴ τότε ἀνάγκη περίττωμα πολὺ ἔχειν, ὥστε ἐν τῷ θέρει ἔχειν ὕλην νοσώδη.

Διὰ τί γίνεται τὰ ἔτη νοσώδη, ὅταν γένηται φορὰ τῶν μικρῶν βατράχων τῶν φρυνοειδῶν; ἢ ὅτι ἕκαστον εὐσθενεῖ ἐν τῇ οἰκείᾳ χώρᾳ τῆς φύσεως; καὶ ταῦτα δὴ φύσει ἐστὶν ὑγρά, ὥστε ἔπομβρον καὶ ὑγρὸν σημαίνει τὸν ἐνιαυτὸν γίνεσθαι. τὰ δὲ τοιαῦτα ἔτη νοσώδη ἐστίν· ὑγρὰ γὰρ τὰ σώματα ὄντα πολὺ ἔχει τὸ περίττωμα, ὅ ἐστι τῶν νόσων αἴτιον. Διὰ τί οἱ νότοι οἱ ξηροὶ καὶ μὴ ὑδατώδεις πυρετώδεις εἰσίν; ἢ ὅτι ὑγρότητα καὶ θέρμην ἀλλοτρίαν ποιοῦσιν;

εἰσὶ γὰρ ὑγροὶ καὶ θερμοὶ φύσει. τοῦτο δ’ ἐστὶ πυρετῶδες· ὁ γὰρ πυρετὸς ἐξ ἀμφοτέρας τῆς τούτων ἐστὶν ὑπερβολῆς. ὅταν μὲν οὖν ἄνευ ὕδατος πνέωσι, ταύτην ἐν ἡμῖν ποιοῦσι τὴν διάθεσιν, ὅταν δὲ ἅμα ὕδατι, τὸ ὕδωρ καταψύχει ἡμᾶς. οἱ δὲ ἐκ θαλάττης νότοι καὶ συμφέρουσι τοῖς φυτοῖς· ἐψυγμένοι γὰρ ἀπὸ τῆς θαλάττης ἀφικνοῦνται πρὸς αὐτά. αἱ δ’ ἐρυσίβαι γίνονται ὑπὸ ὑγρότητος καὶ θέρμης ἀλλοτρίας.

Διὰ τί ἐν τοῖς νότοις βαρύτερον ἔχουσι καὶ ἀδυνατώτερον οἱ ἄνθρωποι; ἢ ὅτι ἐξ ὀλίγου πολὺ ὑγρὸν γίνεται, διατηκόμενον διὰ τὴν ἀλέαν, καὶ ἐκ πνεύματος κούφου ὑγρὸν βαρύ; ἔτι δὲ ἡ δύναμις ἡμῶν ἐν τοῖς ἄρθροις ἐστί, ταῦτα δὲ ἀνίεται ὑπὸ τῶν νοτίων. δηλοῦσι δὲ οἱ ψόφοι τῶν κεκολλημένων. τὸ γὰρ γλίσχρον ἐν τοῖς ἄρθροις πεπηγὸς μὲν κινεῖσθαι κωλύει ἡμᾶς, ὑγρὸν δὲ λίαν ὂν συντείνεσθαι.

Διὰ τί ἀρρωστοῦσι μὲν μᾶλλον τοῦ θέρους, ἀποθνήσκουσι δὲ μᾶλλον οἱ ἀρρωστοῦντες τοῦ χειμῶνος; ἢ ὅτι τοῦ χειμῶνος διὰ τὴν πυκνότητα ἐντὸς τῶν σωμάτων συνεσταλμένου τοῦ θερμοῦ, καὶ πονοῦντες μᾶλλον, εἰ μὴ πέττοιμεν, τῶν ἐν ἡμῖν συνισταμένων περιττωμάτων, ἰσχυρὰν ἀνάγκη τὴν ἀρχὴν [862b] εἶναι τῆς νόσου; τοιαύτην δὲ οὖσαν φθαρτικὴν εἰκός ἐστιν αὐτὴν εἶναι. ἐν δὲ τῷ θέρει, μανοῦ καὶ κατεψυγμένου παντὸς τοῦ σώματος καὶ ἐκλελυμένου πρὸς τοὺς πόνους ὄντος, ἀρχὰς νόσων ἀνάγκη πλείους μὲν γίνεσθαι διά τε κόπους καὶ ἀπεψίαν τῶν εἰσφερομένων (καὶ γὰρ οἱ νέοι καρποὶ τότε εἰσίν), ἀλλ’ οὐχ οὕτως ἰσχυράς, διὸ εὐβοήθητοι.

Διὰ τί μετὰ τὰς τροπὰς ἀμφοτέρας μέχρι ἑκατὸν ἡμερῶν ἀποθνήσκουσι μάλιστα; ἢ ὅτι ἄχρι τοσούτου ἑκατέρα ἡ ὑπερβολὴ διέχει, ἥ τε τοῦ θερμοῦ καὶ τοῦ ψυχροῦ; ἡ δὲ ὑπερβολὴ τοῖς ἀσθενέσι ποιεῖ τὰς νόσους καὶ τὰς φθοράς.

Διὰ τί τὸ ἔαρ καὶ τὸ φθινόπωρον νοσώδη; ἢ ὅτι αἱ μεταβολαὶ νοσώδεις; τὸ δὲ μετόπωρον τοῦ ἔαρος νοσωδέστερον, ὅτι μᾶλλον τοῦ θερμοῦ ψυχομένου ἢ τοῦ ψυχροῦ θερμαινομένου νοσοῦμεν. ἐν μὲν οὖν τῷ ἔαρι τὸ ψυχρὸν θερμαίνεται, ἐν δὲ τῷ μετοπώρῳ τὸ θερμὸν ψύχεται.

Διὰ τί ἐν τῷ χειμῶνι ἐλάττω μὲν τὰ ἀρρωστήματα ἢ ἐν τῷ θέρει, θανάσιμα δὲ μᾶλλον; ἢ ὅτι ἐν μὲν τῷ θέρει ἀπὸ μικρᾶς προφάσεως τὰ ἀρρωστήματα, ἐν δὲ τῷ χειμῶνι οὔ; πεπτικώτεροι γὰρ καὶ ὑγιεινότεροι ἡμῶν αὐτῶν, ὥστε εἰκότως τὰ ἀπὸ μείζονος προφάσεως γινόμενα μείζω καὶ ἀναιρετικώτερα. ταὐτὸ δὲ τοῦτο καὶ ἐπὶ τῶν ἀθλητῶν καὶ ὅλως ἐπὶ τῶν ὑγιεινῶς διακειμένων ὁρῶμεν· ἢ γὰρ οὐ λαμβάνονται νόσῳ, ἢ ταχὺ συναπίασι· μεγάλης γὰρ αἰτίας δέονται.

Διὰ τί τοῦ μὲν φθινοπώρου καὶ τοῦ χειμῶνος οἱ καῦσοι μᾶλλον γίνονται ἐν ταῖς ψυχραῖς ὥραις, τοῦ δὲ θέρους τὰ ῥίγη ἐνοχλεῖ καυμάτων ὄντων; ἢ ὅτι τῶν κατὰ τὸν ἄνθρωπον ἡ χολὴ μέν ἐστι θερμόν, τὸ δὲ φλέγμα ψυχρόν; ἐν μὲν οὖν τῷ θέρει τὸ ψυχρὸν ἀναλύεται, καὶ διαχυθὲν ῥίγη καὶ τρόμους παρασκευάζει· ἐν δὲ τῷ χειμῶνι τὸ θερμὸν ὑπὸ τῆς ὥρας κρατεῖται κατεψυγμένον. οἱ δὲ καῦσοι μᾶλλον ἐνοχλοῦσι τοῦ χειμῶνος καὶ τοῦ φθινοπώρου, ὅτι διὰ τὸ ψῦχος τὸ θερμὸν εἴσω συστέλλεται, ὁ δὲ καῦσος ἔσωθέν ἐστι καὶ οὐκ ἐπιπολῆς· εἰκότως οὖν οἱ καῦσοι ταύτην τὴν ὥραν γίνονται. καταμάθοι δ’ ἄν τις τοῦτο ἀκριβέστερον ἐπὶ τῶν ψυχρολουτρούντων τοῦ χειμῶνος καὶ τῶν τοῦ χειμῶνος λουομένων τῷ θερμῷ, ὅτι οἱ μὲν τῷ ψυχρῷ λουόμενοι, ἀπορριγώσαντες ὀλίγον χρόνον ἕως λούονται, τὴν λοιπὴν ἡμέραν [863a] οὐδὲν πάσχουσιν ὑπὸ τοῦ ψυχροῦ, οἱ δὲ τῷ θερμῷ ὕδατι χρησάμενοι δυσριγοτέρως διάγουσι. τῶν μὲν γὰρ τῷ ψυχρῷ λουομένων πυκνοῦται ἡ σὰρξ καὶ συστέλλεται εἴσω τὸ θερμόν, τῶν δὲ θερμολουτρούντων ἡ σὰρξ ἀραιοῦται καὶ τὸ θερμὸν ἕως τοῦ ἔξω τόπου περισπᾶται.

Τίς καταπλάσματος ἀρετή; ἢ διὰ τὸ χυτικὸν εἶναι κἂν ἱδρῶτα ποιοῖ καὶ ἀποπνοήν;

Τῷ δῆλον ὅταν ἔμπυον; ἢ ἐὰν καταχεομένου τοῦ θερμοῦ ἀλλαγῇ, ἔμπυον, εἰ δὲ μή, οὔ;

Ποῖα δεῖ καίειν ἢ ποῖα δεῖ τέμνειν; ἢ ὅσα μὲν ἔχει στόμα μέγα καὶ οὐ ταχὺ συμφύεται, ταῦτα καίειν δεῖ, ὅπως ἡ ἐσχάρα ἐκεῖ πέσῃ; οὕτω γὰρ οὐκ ἔσται ὕπουλα.

Τίς ἐναίμου ἀρετή; ἢ τὸ ξηραντικὸν εἶναι καὶ τῆς ἐπιούσης περιττώσεως σταλτικὸν ἄνευ ἐσχαρώσεως καὶ σήψεως τῆς σαρκός; οὕτω γὰρ ἂν ἀφλέγμαντον εἴη καὶ συμφυτικόν. μὴ ἐπιρρέοντος μὲν γὰρ ἀφλέγμαντον ἔσται, ξηρὸν δὲ ὂν συμφύσεται· ἕως δ’ ἂν ὑγρορροῇ, οὐ συμφύσεται. διὰ τοῦτο οὖν δριμέα τὰ πλεῖστα, ὥστε ἀποστύφειν.

Ποῖα τέμνειν δεῖ καὶ ποῖα καίειν, καὶ ποῖα οὔ, ἀλλὰ φαρμάκοις; ἢ τὰ μὲν ἐπὶ ταῖς μασχάλαις καὶ βουβῶσι φαρμάκῳ; μετὰ γὰρ διαίρεσιν τὰ μὲν ἐπίπονα, τὰ δὲ ἐπικίνδυνα. καίειν δὲ τὰ πλατέα τῶν φυμάτων καὶ πολὺ πρόβλημα ἔχοντα, καὶ ἐν φλεβώδεσι καὶ μὴ εὐσάρκοις. τέμνειν δὲ τὰ εἰς ὀξὺ συνηγμένα καὶ τὰ μὴ ἐν στερεοῖς.

Διὰ τί, ἐὰν χαλκῷ τις τμηθῇ, ῥᾷον ὑγιάζεται ἢ σιδήρῳ; πότερον ὅτι λειότερον, ὥσθ’ ἧττον σπαράττει καὶ ποιεῖ πληγήν; ἢ εἴπερ ἀκμὴν μᾶλλον ὁ σίδηρος λαμβάνει, ῥάων καὶ ἀπαθεστέρα ἡ διαίρεσις; ἀλλὰ μὴν φαρμακῶδες ὁ χαλκός, ἡ δὲ ἀρχὴ ἰσχυρά. τὸ οὖν εὐθὺς ἅμα τῇ τομῇ θᾶττον τὸ φάρμακον ποιεῖ τὴν σύμφυσιν.

Διὰ τί δὲ καὶ τὰ διὰ χαλκοῦ καύματα θᾶττον ὑγιάζεται; ἢ ὅτι μανότερον καὶ ἧττον σωματικόν, ἐν δὲ τοῖς στερεωτέροις πλείων ἡ θερμότης.

Πότερον ἡ πτισάνη κουφοτέρα ἡ κριθίνη καὶ βελτίων πρὸς τὰ ἀρρωστήματα ἢ ἡ πυρίνη; δοκεῖ γάρ τισιν αὕτη [863b] σημεῖον ποιουμένοις τοὺς μεταχειριζομένους, ὅτι πολὺ εὐχρούστεροι οἱ περὶ τὴν τῶν ἀλεύρων ἐργασίαν ἢ τὴν τῶν ἀλφίτων. εἶθ’ ὅτι ὑγροτέρα ἡ κριθή, τὸ δὲ ὑγρότερον πλέονος πέψεως. ἢ οὐθὲν κωλύει ἔνια ἔχειν δυσπεπτότερα καὶ ἔνια πρὸς κουφότητα χρησιμώτερα; οὐ γὰρ μόνον ὑγροτέρα ἐστὶν ἡ κριθὴ τοῦ πυροῦ, ἀλλὰ καὶ ψυχροτέρα. δεῖ δὲ τὸ ῥόφημα καὶ τὸ προσφερόμενον τοιοῦτον εἶναι τῷ πυρέττοντι, ὃ τροφήν τε βραχεῖαν ποιήσει καὶ καταψύξει. ἡ δὲ πτισάνη τοῦτο ἔχει ἡ κριθίνη· διὰ γὰρ τὸ ὑγρότερον ἢ σωματωδέστερον εἶναι ὀλίγον δίδωσι, καὶ τοῦτο ψυκτικόν.

Διὰ τί τὴν αἱμωδίαν παύει ἡ ἀνδράχνη καὶ ἅλες; ἢ ὅτι ἡ μὲν ὑγρότητά τινα ἔχει; φανερὰ δὲ αὕτη μασωμένοις τε, καὶ ἐὰν συνθλασθῇ χρόνον τινά· ἕλκεται γὰρ ἡ ὑγρότης. τὸ δὴ γλίσχρον εἰσδυόμενον ἐξάγει τὸ ὀξύ. καὶ γὰρ ὅτι συγγενής, ἡ ὀξύτης σημαίνει· ἔχει γάρ τινα ὀξύτητα ὁ χυμός. ὁ δὲ ἃλς συντήκων ἐξάγει καὶ τὴν ὀξύτητα. διὰ τί οὖν ἡ κονία καὶ τὸ νίτρον οὔ; ἢ ὅτι στύφει καὶ οὐ τήκει;

Διὰ τί τοὺς μὲν θερινοὺς κόπους λουτρῷ ἰᾶσθαι δεῖ, τοὺς δὲ χειμερινοὺς ἀλείμματι; ἢ τοὺς μὲν ἀλείμματι διὰ τὰς φρίκας καὶ τὰς γινομένας μεταβολάς; θέρμῃ γὰρ λύειν δεῖ, ἢ ποιήσει ἀλεάζειν· τὸ δ’ ἔλαιον θερμόν. ἐν δὲ τῷ θέρει καθυγραίνειν· ἡ γὰρ ὥρα ξηρά, καὶ οὐ φοβεραὶ αἱ φρῖκαι διὰ τὴν εἰς ἀλέαν ἔκκλισιν. ὀλιγοσιτία δὲ καὶ κωθωνισμὸς θέρους, τὸ μὲν ὅλως, τὸ δὲ μᾶλλον, ὁ μὲν πότος θέρους ὅλως διὰ τὴν ξηρότητα, ἡ δὲ ὀλιγοσιτία κοινὸν μέν, μᾶλλον δὲ θέρους· ἐκθερμαίνεται γὰρ διὰ τὴν ὥραν ὑπὸ τῶν σιτίων.

Διὰ τί τῶν φαρμάκων τὰ μὲν τὴν κοιλίαν λύει, τὴν δὲ κύστιν οὔ, τὰ δὲ τὴν μὲν κύστιν λύει, τὴν κοιλίαν δὲ οὔ; ἢ ὅσα μὲν ἐστιν ὑγρὰ τὴν φύσιν καὶ ὕδατος μεστά, ταῦτα ἂν ᾖ φαρμακώδη, λύει τὴν κύστιν; ἐκεῖ γὰρ ὑφίσταται τὰ ἄπεπτα τῶν ὑγρῶν· ὑποδοχὴ γάρ ἐστιν ἡ κύστις τοῦ μὴ πεττομένου ὑγροῦ ἐν τῇ κοιλίᾳ, ὃ οὐ μένει, ἀλλὰ πρὶν ποιῆσαί τι ἢ παθεῖν ὑποχωρεῖ. ὅσα δὲ ἐκ γῆς τὴν φύσιν ἐστίν, [864a] ἂν ᾖ φαρμακώδη, ταῦτα δὲ τὴν κοιλίαν λύει· εἰς ταύτην γὰρ ἡ φορὰ τῶν γεωδῶν. ὥστε ἂν ᾖ κινητικόν, ταράττει.

Διὰ τί δὲ τὰ μὲν τὴν ἄνω κοιλίαν τὰ δὲ τὴν κάτω κινεῖ, οἷον ἐλλέβορος μὲν τὴν ἄνω, σκαμμωνία δὲ τὴν κάτω, τὰ δὲ ἄμφω, οἷον ἐλατήριον καὶ τῆς θαψίας ὁ ὀπός; ἢ ὅτι τὰ μέν ἐστι θερμὰ τὰ δὲ ψυχρὰ τῶν φαρμάκων τῶν τὴν κοιλίαν κινούντων, ὥστε τὰ μὲν διὰ τὴν θερμότητα εὐθὺς ἐν τῇ ἄνω κοιλίᾳ ὄντα φέρεται ἐξ αὐτῆς πρὸς τὸν ἄνω τόπον, κἀκεῖθεν συντήξαντα μάλιστα μὲν τὰ ἀλλοτριώτατα καὶ ἥκιστα συμπεφυκότα, ἂν δὲ ἰσχυρὸν ᾖ τὸ φάρμακον ἢ πλέον δοθῇ τῆς φύσεως, ἀνάγει εἰς τὴν ἄνω κοιλίαν ταῦτά τε καὶ ἐάν τι περίττωμα ᾖ, καὶ διὰ τὴν θερμότητα ταράττον τὸ πνεῦμα πολὺ γινόμενον ὑπ' αὐτοῦ, προσιστὰν τοὺς ἐμέτους ποιεῖ. τὰ δὲ ψυχρὰ τὴν φύσιν αὐτῶν διὰ βάρος καὶ πρὶν παθεῖν τι ἢ ποιῆσαι κάτω φέρεται, κἀκεῖθεν ὁρμῶντα τὸ αὐτὸ δρᾷ τοῖς ἄνω· κατὰ γὰρ τοὺς πόρους ἀνιόντα ἐκεῖθεν, καὶ κινήσαντα ὧν ἂν κρατήσῃ περιττωμάτων καὶ συντηγμάτων, λαβόντα τὴν αὐτὴν ἄγει ὁδόν. ὅσα δὲ ἀμφοῖν μετέχει καὶ ἐστὶ μικτὰ τῶν φαρμακωδῶν ἐκ θερμοῦ καὶ ψυχροῦ, ταῦτα δὲ δι' ἑκατέραν τὴν δύναμιν ἀπεργάζεται ἄμφω, ὥσπερ καὶ νῦν παρασκευάζουσιν οἱ ἰατροὶ μιγνύντες ἀλλήλοις.

Διὰ τί τὰ φάρμακα καθαίρει, ἄλλα δὲ πικρότερα ὄντα καὶ στρυφνότερα καὶ τοῖς ἄλλοις τοῖς τοιούτοις ὑπερβάλλοντα οὐ καθαίρει; ἢ διότι οὐ διὰ τὰς τοιαύτας δυνάμεις καθαίρει, ἀλλ' ὅτι ἄπεπτά ἐστιν; ὅσα γὰρ δι' ὑπερβολὴν θερμότητος ἢ ψυχρότητος, μικρὰ ὄντα τοὺς ὄγκους, ἄπεπτά ἐστι καὶ οἷα κρατεῖν ἀλλὰ μὴ κρατεῖσθαι ὑπὸ τῆς τῶν ζῴων θερμότητος, εὐδιάχυτα ὄντα ὑπὸ τῶν δύο κοιλιῶν, ταῦτα φάρμακά ἐστιν. ὅταν γὰρ εἰς τὴν κοιλίαν εἰσέλθωσι καὶ διαχυθῶσι, φέρονται καθ' οὕσπερ ἡ τροφὴ πόρους εἰς τὰς φλέβας, οὐ πεφθέντα δὲ ἀλλὰ κρατήσαντα ἐκπίπτει φέροντα τὰ ἐμπόδια αὐτοῖς· καὶ καλεῖται τοῦτο κάθαρσις. χαλκὸς δὲ καὶ ἄργυρος καὶ τὰ τοιαῦτα ἄπεπτα μέν ἐστιν ὑπὸ τῆς τῶν ζῴων θερμότητος, ἀλλ' οὐκ εὐδιάχυτα ταῖς κοιλίαις. ἔλαιον δὲ καὶ μέλι καὶ γάλα καὶ τὰ [864b] τοιαῦτα τῆς τροφῆς καθαίρει, ἀλλ' οὐ τῷ ποιῷ ἀλλὰ τῷ ποσῷ· ὅταν γὰρ διὰ πλῆθος ἄπεπτα γένηται, τότε καθαίρει, ἄνπερ καθαίρῃ. διὰ δύο γὰρ αἰτίας ἄπεπτά ἐστιν, διὰ τὸ ποιὰ αὐτὰ εἶναι ἢ διὰ τὸ ποσά. διόπερ οὐ φάρμακόν ἐστιν οὐδὲν τῶν εἰρημένων· οὐδὲ γὰρ διὰ δύναμιν καθαίρει. στρυφνότης δὲ καὶ πικρότης συμβέβηκε τοῖς φαρμάκοις καὶ δυσωδία τῷ ἐναντίον εἶναι τῇ τροφῇ τὸ φάρμακον. τὸ μὲν γὰρ πεφθὲν ὑπὸ τῆς φύσεως, τοῦτο προσφύεται τοῖς σώμασι καὶ καλεῖται τροφή· τὸ δὲ μὴ πεφυκὸς κρατεῖσθαι, εἰσιὸν δὲ εἰς τὰς φλέβας καὶ δι' ὑπερβολὴν θερμότητος ἢ ψυχρότητος ταράττον, αὕτη δὲ φαρμάκου φύσις ἐστίν.

Διὰ τί τὸ μὲν πέπερι πολὺ μὲν ὂν τὴν κύστιν λύει, ὀλίγον δὲ τὴν κοιλίαν, ἡ δὲ σκαμμωνία πολλὴ οὖσα τὴν κοιλίαν λύει, ὀλίγη δὲ καὶ παλαιὰ τὴν κύστιν; ἢ διότι ἑκάτερον ἑκατέρας ἐστὶ κινητικώτερα; τὸ μὲν γὰρ πέπερι οὐρητικόν ἐστιν, ἡ δὲ σκαμμωνία καθαρτικόν. τὸ μὲν οὖν πέπερι πολὺ μὲν ὂν φέρεται εἰς τὴν κύστιν καὶ οὐ διαχεῖται εἰς τὴν κοιλίαν, ὀλίγον δὲ ὂν κρατηθὲν διαλύει καὶ γίνεται φάρμακον αὐτῆς. ἡ δὲ σκαμμωνία πολλὴ μὲν οὖσα εἰς τοῦτο κρατεῖται ὥστε διαχυθῆναι, διαχυθεῖσα δὲ γίνεται φάρμακον διὰ τὴν εἰρημένην ἐν τοῖς ἀνωτέρω αἰτίαν· ὀλίγη δὲ οὖσα μετὰ τοῦ ποτοῦ ἀναπίνεται εἰς τοὺς πόρους, καὶ ταχὺ πρὶν ταράξαι καταφέρεται εἰς τὴν κύστιν, καὶ ἐκεῖ τῇ αὑτῆς δυνάμει ἀπάγει τὰ περιττώματα καὶ τὰ συντήγματα ὅσα ἐξ ἐπιπολῆς ἐστίν. ἡ δὲ πολλή, ὥσπερ εἴρηται, διὰ τὴν ἰσχὺν πολὺν χρόνον ἐμμείνασα κατάγει πολλὴν κάθαρσιν καὶ γεώδη.

Διὰ τί τὰς αὐτὰς φλεγμασίας οἱ μὲν ψύχοντες ὑγιάζουσιν, οἱ δὲ θερμαίνοντες πέττουσιν; ἀλλ’ οἱ μὲν ἀλλοτρίᾳ θερμότητι, οἱ δὲ καταψύχοντες τὴν οἰκείαν συνάγουσιν.

Διὰ τί μεταβάλλειν δεῖ τὰ καταπλάσματα; ἢ ὅτι ὡς μᾶλλον αἰσθάνηται; τὰ γὰρ συνήθη ὥσπερ ἐπὶ τῶν ἐδεσμάτων οὐκέτι φάρμακα ἀλλὰ τροφὴ γίνεται, οὕτω καὶ ἐπὶ τῶν τοιούτων.

Διὰ τί ὑγιεινὸν τὸ τῆς τροφῆς μὲν ὑποστέλλεσθαι, [865a] πονεῖν δὲ πλείω; ἢ ὅτι τοῦ νοσεῖν αἴτιον περιττώματος πλῆθος, τοῦτο δὲ γίνεται, ἡνίκα τροφῆς ὑπερβολὴ ἢ πόνων ἔνδεια.

Διὰ τί τὰ φάρμακα καὶ τὰ πικρὰ ὡς ἐπὶ τὸ πολὺ καὶ τὰ δυσώδη καθαίρει; ἢ ὅτι ἅπαντα τὰ δυσώδη καὶ πικρὰ ἄπεπτά ἐστι; διὸ καὶ τὰ φάρμακα πικρὰ καὶ δυσώδη· τῷ γὰρ ἄπεπτα εἶναι καὶ κινητικὰ μετὰ πικρότητος φάρμακά ἐστιν. καὶ ἐὰν δοθῇ πλείω, διαφθείρει. ὅσα δέ, κἂν μικρὰ δοθῇ, διαφθαρτικά, ταῦτα οὐ φάρμακα λέγεται εἶναι ἀλλὰ θανατηφόρα. οὐδ’ ὅσα μὴ τῷ ποιῷ καθαίρει, οὐκ ἔστι φάρμακα. καὶ γὰρ τῆς τροφῆς πολλὰ μὲν ταὐτὸ ποιεῖ, ἐὰν ποσὰ δοθῇ, οἷον γάλα, ἔλαιον, γλεῦκος· ἅπαντα δὲ ταῦτα διὰ τὸ μὴ εἶναι εὔπεπτα καθαίρει, καὶ τούτοις οἷς μὴ εὔπεπτα καθαίρει, καὶ τούτους. ἔστι γὰρ ἄλλα ἄλλοις εὔπεπτα καὶ δύσπεπτα. διὸ οὐ πᾶσι ταὐτὰ φαρμακώδη, ἀλλ’ ἐνίοις ἴδια. ὅλως γὰρ τὸ φάρμακον δεῖ οὐ μόνον μὴ πέττεσθαι ἀλλὰ καὶ κινητικὸν εἶναι, ὥσπερ καὶ τὸ γυμνάσιον ἔξωθεν ἧκον ἢ ἔσωθεν τῇ κινήσει ἐκκρίνει τὰ ἀλλότρια.

Διὰ τί τὰ μὲν εὐώδη οὐρητικὰ καὶ σπέρματα καὶ φυτά; ἢ ὅτι θερμὰ καὶ εὔπεπτα, τὰ δὲ τοιαῦτα οὐρητικά· ταχὺ γὰρ λεπτύνει ἡ ἐνοῦσα θερμότης, καὶ ἡ ὀσμὴ οὐ σωματώδης, ἐπεὶ καὶ τὰ ὀσμώδη, οἷον σκόροδα, διὰ τὴν θερμότητα οὐρητικά, μᾶλλον μέντοι συντηκτικά· θερμὰ δὲ τὰ εὐώδη σπέρματα.

Διὰ τί δεῖ πρὸς μὲν τὰ μὴ καθαρὰ καὶ φαῦλα τῶν ἑλκῶν ξηροῖς καὶ δριμέσι καὶ στρυφνοῖς χρῆσθαι φαρμάκοις, πρὸς δὲ τὰ καθαρὰ καὶ ὑγιαζόμενα ὑγροῖς καὶ μόνοις; ἢ διότι ἀπὸ μὲν τῶν μὴ καθαρῶν δεῖ ἀφαιρεῖν τι; τοῦτο δ’ ἐστὶν ὑγρότης ἀλλοτρία, ἣν ἀφαιρεῖν δεῖ. τὰ δηκτικὰ δὲ καὶ δριμέα καὶ στρυφνὰ τοιαῦτα, καὶ τὸ ξηρὸν μᾶλλον τοῦ ὑγροῦ. τὰ δὲ καθαρὰ συνεπουλώσεως δεῖται μόνον.

Διὰ τί συμφέρει πρὸς τὰ ἀπὸ φλέγματος νοσήματα λαγνεία; ἢ ὅτι τὸ σπέρμα περιττώσεως ἀπόκρισις καὶ φύσει ὅμοιον φλέγματι, ὥστε ἀφαιροῦσα πολὺ φλεγματῶδες ὠφελεῖ ἡ συνουσία. πότερον δὲ τροφὴν προσφέρειν ἀρχομένῳ βέλτιον ἢ ὕστερον; ἢ ἀρχομένῳ, ὅπως μὴ προεξησθενηκότι ἡ φλεγμασία ἐπιπίπτῃ; ἢ οὖν ἀπισχναντέον εὐθύς, ἢ οὕτω προσοιστέον· ἀναλαμβάνειν χρὴ πρῶτον τοῖς ῥοφήμασι· [865b] πραότερα γὰρ καὶ λειότερα καὶ εὐτηκτότερα, καὶ ἐκδέξασθαι τὴν τροφὴν ἐκ τούτου ῥᾴδιόν ἐστιν ἀσθενεῖ σώματι. οὐ γὰρ ἐν τῇ κοιλίᾳ δεῖ παθεῖν τὰ σῖτα πρῶτον, διαχυθῆναί τε καὶ θερμανθῆναι μετὰ πόνου τῷ σώματι ταῦτα πέπονθεν.

Διὰ τί δεῖ σκοπεῖν τὰ περὶ τὸ οὖρον σημεῖα, ἀπολαμβάνοντα τὴν οὔρησιν, εἰ ἤδη πέπεπται, ἢ μὴ μᾶλλον καὶ συνεχῶς οὐροῦντα; ἢ διότι σημεῖον μὲν τοῦ πεπέφθαι, ἐὰν ᾖ πυρρόν; τοῦτο δὲ γίνεται μᾶλλον διαλαμβάνουσιν. ἢ διότι ἔνοπτρον γίνεται ἅπαν μᾶλλον ὑγρὸν χρόας ὀλίγον ἢ πολὺ ὄν; ἐν μὲν γὰρ τῷ πολλῷ ὑγρῷ τὰ σχήματα ἐνορᾶται, ἐν δὲ τῷ ὀλίγῳ τὰ χρώματα, οἷον καὶ ἐπὶ τῆς δρόσου καὶ τῶν ῥανίδων καὶ ἐπὶ τῶν δακρύων τῶν ἐπὶ ταῖς βλεφαρίσι. συνεχῶς μὲν οὖν ἀφιέμενον γίνεται πλεῖον, διασπώμενον δὲ δέχεται μᾶλλον· ὥστε κἂν ᾖ αὐτὸ τοιοῦτον ἤδη διὰ τὴν πέψιν, καὶ φαίνεται μᾶλλον τῆς ἀνακλάσεως γινομένης καὶ ἐνόπτρου ἔνοπτον διὰ τὴν διαίρεσιν.

ὅτι οὐ δεῖ πυκνοῦν τὴν σάρκα πρὸς ὑγείαν, ἀλλ’ ἀραιοῦν· ὥσπερ γὰρ πόλις ὑγιεινὴ καὶ τόπος εὔπνους (διὸ καὶ ἡ θάλασσα ὑγιεινή), οὕτω καὶ σῶμα τὸ εὔπνουν μᾶλλον ὑγιεινόν. δεῖ γὰρ ἢ μὴ ὑπάρχειν μηθὲν περίττωμα, ἢ τούτου ὡς τάχιστα ἀπαλλάττεσθαι, καὶ ἀεὶ οὕτως ἔχειν τὸ σῶμα ὥστε λαμβάνον εὐθὺς ἐκκρίνειν τὴν περίττωσιν, καὶ εἶναι ἐν κινήσει καὶ μὴ ἠρεμεῖν. τὸ μὲν γὰρ μένον σήπει, ὥσπερ ὕδωρ τὸ μὴ κινούμενον, σηπόμενον δὲ νοσοποιεῖ· τὸ δὲ ἐκκρινόμενον πρὸ τοῦ διαφθαρῆναι χωρίζεται. τοῦτο οὖν πυκνουμένης μὲν τῆς σαρκὸς οὐ γίνεται (ὡσπερεὶ γὰρ ἐμφράττονται οἱ πόροι), ἀραιουμένης δὲ συμβαίνει. διὸ καὶ οὐ δεῖ ἐν τῷ ἡλίῳ γυμνὸν βαδίζειν· συνίσταται γὰρ ἡ σὰρξ καὶ κομιδῇ ἀποσαρκοῦται, καὶ ὑγρότερον τὸ σῶμα γίνεται· τὸ μὲν γὰρ ἐντὸς διαμένει, τὸ δ’ ἐπιπολῆς ἀπαλλάττεται, ὥσπερ καὶ τὰ κρέα τὰ ὀπτὰ τῶν ἑφθῶν μᾶλλον. οὐδὲ τὰ στήθη γυμνὰ ἔχοντα βαδίζειν· ἀπὸ γὰρ τῶν ἄριστα ᾠκοδομημένων τοῦ σώματος ὁ ἥλιος ἀφαιρεῖ, ἃ ἥκιστα δεῖται ἀφαιρέσεως, ἀλλὰ μᾶλλον τὰ ἐντός. ἐκεῖθεν μὲν οὖν διὰ τὸ πόρρω εἶναι, ἐὰν μὴ μετὰ πόνου, οὐκ ἔστιν ἱδρῶτα ἀγαγεῖν, ἀπὸ τούτου δὲ διὰ τὸ πρόχειρον ῥᾴδιον.

Διὰ τί ποτε τοῖς χιμέτλοις καὶ τὸ ψυχρὸν ὕδωρ [866a] συμφέρει καὶ τὸ θερμόν; ἢ ὅτι τὰ χίμετλα δι' ὑπερβολὴν γίνεται ὑγροῦ; τὸ μὲν οὖν ψυχρὸν συνίστησι καὶ τραχύνει τὸ ὑγρόν, τὸ δὲ θερμὸν ἐκπνευματοῖ καὶ ἔξοδον ποιεῖ τῷ πνεύματι, ἀραιοῦν τὴν σάρκα.

Διὰ τί τὸ ψυχρὸν καὶ ποιεῖ καὶ παύει τὰ χίμετλα, καὶ τὸ θερμὸν τὰ πυρίκαυστα; ἢ διὰ τὸ αὐτό; ποιεῖ μὲν συντήκοντα, παύει δὲ μᾶλλον ξηραίνοντα.

Ἐν τοῖς πυρετοῖς διδόναι δεῖ τὸ ποτὸν πολλάκις καὶ κατ' ὀλίγον. τὸ μὲν γὰρ πολὺ παραρρεῖ, τὸ δὲ ὀλίγον μὲν πολλάκις δὲ διαβρέχει καὶ εἰς τὰς σάρκας χωρεῖ. οἷα γὰρ τὰ ἐν τῇ γῇ, ἐὰν μὲν κατὰ πολὺ ἔλθῃ τὸ ὕδωρ, παραρρεῖ, ἐὰν δὲ κατ' ὀλίγον, βρέχει μόνον, τὸ αὐτὸ καὶ ἐν τοῖς πυρετοῖς. τὰ γὰρ ῥέοντα ὕδατα ἐάν τις κατ' ὀλίγον ἄγῃ, ὁ ὀχετὸς ἐκπίνει· ἐὰν δὲ τὸ ἴσον ἀθρόον ἄγῃ, ὅπου ἂν ἄγῃ, χωρεῖ. ἔπειτα κατακείσθω ἀκίνητος ὡς μάλιστα, ἀκίνητος μέν, ὅτι καὶ τὸ πῦρ φανερῶς, ἐάν τις μὴ κινῇ, καταμαραίνεται. πρὸς πνεῦμα δὲ μὴ κατακείσθω, διότι ὁ ἄνεμος τὸ πῦρ ἐξεγείρει καὶ ῥιπτιζόμενον τὸ πῦρ ἐξ ὀλίγου πολὺ γίνεται. περιστέλλεσθαι δὲ τούτου ἕνεκεν, ὅτι πυρὶ ἐὰν ἀναπνοὴν μὴ διδῷς, σβέννυται. καὶ τὰ ἱμάτια μὴ ἀπογυμνούσθω, ἕως ἂν νοτὶς ἐγγένηται· τὸ φανερὸν γὰρ πῦρ τὸ ὑγρὸν σβέννυσιν. κατὰ ταῦτα δὲ καὶ ἐν τῇ φύσει. ἐπὶ δὲ τῶν διαλειπόντων πυρετῶν προπαρασκευάζειν δεῖ καὶ ἐκλύοντα, καὶ πυριάματα πρὸς τοὺς πόδας παρατιθέντα, καὶ περιεσταλμένον ἀναπαύεσθαι, ὅπως ὅτι θερμότατος ᾖ πρὸ τοῦ τὴν λῆψιν εἶναι. καὶ γὰρ ὅπου πολὺ πῦρ, λύχνος οὐ δυνήσεται καίεσθαι· τὸ γὰρ πῦρ τὸ πολὺ τὸ ὀλίγον ἄγει πρὸς ἑαυτό. τούτου ἕνεκα πολὺ πῦρ ἐν τῷ σώματι παρασκευάζειν δεῖ, ὅτι ὀλίγον ὁ πυρετὸς πῦρ ἔχει, ὥστε τὸ πολὺ πῦρ τὸ ὀλίγον πρὸς ἑαυτὸ ἄγει.

Τεταρταίοις πυρετοῖς δεῖ μὴ λεπτύνειν, ἀλλὰ πῦρ ἐν τοῖς σώμασιν ἐμποιεῖν εἰσάγοντα. δεῖ δὲ καὶ τοῖς γυμνασίοις χρῆσθαι. ᾗ δὲ ἡμέρᾳ ἡ λῆψις, λουσάμενον ὕπνον μὴ ζητεῖν. διὰ δὲ τοῦτο καὶ συμφέρει θερμαίνουσα δίαιτα, ὅτι ἀσθενὴς ὁ τεταρταῖος πυρετός· εἰ γὰρ μὴ ἦν ἀσθενής, οὐκ ἂν τεταρταῖος ἐγένετο. ὁρᾷς; ὅπου πῦρ πολύ, λύχνος οὐ δύναται καίεσθαι· τὸ γὰρ πολὺ τὸ ὀλίγον πρὸς ἑαυτὸ [866b] ἁρπάζει. τούτου δ' ἕνεκεν πολὺ πῦρ ἐν τῷ σώματι ἐμποιεῖν, ὅτι ὀλίγον ὁ πυρετὸς πῦρ ἔχει. ἔστι δὲ τὸ καθ' ἡμέραν διαίτημα τὸ μὲν πῦρ τὸ δὲ νοτίδα εἰς τὸ σῶμα εἰσάγοντα. εἰσὶ δὲ νόσοι αἱ μὲν ἀπὸ πυρός, αἱ δὲ ἀπὸ νοτίδος. ἰατρεύονται δὲ αἱ μὲν ἀπὸ πυρὸς νόσοι νοτίδι, αἱ δὲ ἀπὸ νοτίδος πυρί· νοτίδα γὰρ ξηραίνει.

Β. ΟΣΑ ΠΕΡΙ ΙΔΡΩΤΑ.

Διὰ τί οὔτε συντείνουσιν οὔτε κατέχουσι τὸ πνεῦμα γίνεται ἱδρώς, ἀλλὰ μᾶλλον ἀνιεῖσιν; ἢ ὅτι τὸ πνεῦμα κατεχόμενον πληροῖ τὰς φλέβας, ὥστε κωλύει ἐξιέναι, ὥσπερ τὸ ὕδωρ τὸ ἐκ τῶν κλεψυδρῶν, ὅταν πλήρεις οὔσας ἐπιλάβῃ τις. ὅταν δὲ ἐξέλθῃ, πολὺς γίνεται διὰ τὸ ἐν αὐτῇ ἐπιληψίᾳ ἀθροισθῆναι κατὰ μικρόν.

Διὰ τί οὐχ ἱδροῦσι τὰ ἐν θερμῷ ὕδατι μέρη, οὐδ’ ἂν θερμὰ ᾖ; ἢ διότι κωλύει τὸ ὕδωρ τήκεσθαι, ὁ δὲ ἱδρὼς τὸ κακῶς προσῳκοδομημένον ἐστὶν ἐν τῇ σαρκί, ὃ κωλύει τήκεσθαι, ὅταν ἐκκρίνηται διὰ θερμότητα.

Διὰ τί ὁ ἱδρὼς ἁλμυρόν; ἢ διότι γίνεται ὑπὸ κινήσεως καὶ θερμότητος, ἀποκρινούσης ὅσον ἀλλότριον ἔνεστιν ἐν τῇ προσφύσει τῆς τροφῆς πρὸς αἷμα καὶ τὰς σάρκας; τοῦτο γὰρ τάχιστα ἀφίσταται διὰ τὸ μὴ οἰκεῖον εἶναι καὶ ἔξω ἐξικμάζει. ἁλμυρὸς δ’ ἐστὶ διὰ τὸ τὸ γλυκύτατον καὶ κουφότατον εἰς τὸ σῶμα ἀνηλῶσθαι, τὸ δὲ ἀλλοτριώτατον καὶ ἀπεπτότατον ἀπολύεσθαι. τὸ τοιοῦτον δὲ ἐν μὲν τῇ κάτω ὑποστάσει οὖρον καλεῖται, ἐν δὲ σαρκὶ ἱδρώς· ἄμφω δὲ ἁλμυρὰ διὰ τὴν αὐτὴν αἰτίαν.

Διὰ τί τὰ ἄνω ἱδροῦσι μᾶλλον τῶν κάτω; πότερον τὸ θερμὸν ἄνω καὶ ἀνέρχεται καὶ ἔστιν ἄνω, τοῦτο δὲ ἄνω φέρει τὸ ὑγρόν; ἢ ὅτι πνεῦμα ποιεῖ τὸν ἱδρῶτα, τοῦτο δὲ ἐν τοῖς ἄνω; ἢ διότι ἄπεπτον ὑγρὸν ὁ ἱδρώς ἐστι, τοιοῦτο δὲ ἐν τοῖς ἄνω; ἡ γὰρ κρᾶσις ἄνω.

Διὰ τί τὰς χεῖρας γυμναζομένοις μάλιστα ἱδρὼς γίνεται, ἐὰν τὰ ἄλλα ὁμοιοσχημονῶμεν; ἢ διότι ἰσχύομεν μάλιστα τούτῳ τῷ τόπῳ; τούτῳ γὰρ τὸ πνεῦμα κατέχομεν τῷ ἔγγιστα τοῦ ἰσχύοντος· πονοῦντες δὲ μᾶλλον ἰσχύομεν· οὕτω δὲ ἔχοντες τὸ πνεῦμα μᾶλλον κατέχομεν. [867a] εἶτα καὶ τῇ τριβομένῃ συμπονοῦμεν μᾶλλον ἢ ὅταν ἄλλο μέρος τριβώμεθα· τῇ γὰρ καθέξει τοῦ πνεύματος καὶ τριβόμενοι γυμναζόμεθα καὶ τρίβοντες.

Διὰ τί ὁ ἱδρὼς ἐκ τῆς κεφαλῆς ἢ οὐκ ὄζει ἢ ἧττον τοῦ ἐκ τοῦ σώματος; ἢ ὅτι εὔπνους ὁ τῆς κεφαλῆς τόπος; δηλοῖ δὲ μανὸς ὢν τῇ τῶν τριχῶν ἐκφύσει. δυσώδεις δὲ οἱ τόποι καὶ τὰ ἐν αὐτοῖς γίνεται, ὅσα μὴ εὔπνοα.

Διὰ τί οἱ γυμναζόμενοι ἐὰν διαναπαυσάμενοι παλαίωσιν, μᾶλλον ἱδροῦσιν ἢ ἐὰν συνεχῶς; ἢ διὰ τὸ ἀθροίζεσθαι διαναπαυομένων· ἔπειτα τοῦτον τὸν ἱδρῶτα ἐξάγει ὕστερον ἡ πάλη. ἡ δὲ συνεχὴς ἀναξηραίνει ὥσπερ ὁ ἥλιος.

Διὰ τί μᾶλλον ἱδροῦσιν, ὅταν μὴ διὰ πολλοῦ χρόνου χρῶνται ταῖς ἀφιδρώσεσιν; ἢ διότι οἱ ἱδρῶτες γίνονται οὐ μόνον δι' ὑγρότητα, ἀλλὰ καὶ διὰ τὸ τοὺς πόρους ἀνεῷχθαι μᾶλλον καὶ ἀραιὰ τὰ σώματα εἶναι; τοῖς μὲν οὖν μὴ χρωμένοις συμμεμύκασιν οἱ πόροι, τοῖς χρωμένοις δ' ἀναστομοῦνται.

Διὰ τί τοῦ ἡλίου μᾶλλον θερμαίνοντος τοὺς γυμνοὺς ἢ τοὺς ἀμπεχομένους, ἱδροῦσι μᾶλλον οἱ ἀμπεχόμενοι; πότερον ὅτι τοὺς πόρους συμμύειν ποιεῖ ἐκκαίων ὁ ἥλιος; ἢ διότι τὰς ἀτμίδας ξηραίνει; ἀμπεχομένοις δὲ ταῦτα ἧττον συμβαίνει.

Διὰ τί ἱδροῦσι μάλιστα τὰ πρόσωπα; ἢ ὅσα ἀραιὰ καὶ ὑγρὰ μάλιστα, διὰ δὲ τούτων ὁ ἱδρὼς διαπορεύεται. δοκεῖ δὲ πηγὴ εἶναι ἡ κεφαλὴ τοῦ ὑγροῦ· διὸ καὶ αἱ τρίχες, διὰ τὸ πολὺ ὑγρόν. ὁ δὲ τόπος ἀραιὸς καὶ ἰσχνός· δίεισιν ἄρα κατὰ φύσιν.   Διὰ τί οὔτ' ἀθρόου ὄντος τοῦ πυρὸς μᾶλλον ἱδροῦσιν, οὔτ' ἐλάττονος ἀεί, ἀλλὰ πλείονος ἐπεισφερομένου; οἱ γὰρ ἐν τοῖς πυριατηρίοις ἱδροῦσι μᾶλλον ἢ εὐθὺς εἰ εἴη τοσοῦτον. ἢ ὅτι τὸ σύμμετρον ἕκαστον ἐργάζεται; οὐκοῦν εἰ τοσοῦτον ποιεῖ, τὸ πλεῖον οὐ ποιήσει πλεῖον ἢ μᾶλλον τοὐναντίον, ὅτι τῷ σύμμετρον εἶναι ἐργάζεται τὸ ἔργον. διὰ μὲν οὖν τοῦτο οὐχὶ πρὸς πλεῖον μᾶλλον ἱδροῦσι, διὰ δὲ τὸ πρὸς ἕκαστον ἄλλην εἶναι συμμετρίαν, καὶ τὸ πεποιηκὸς μηκέτι ποιεῖν προστιθεμένου μᾶλλον. οὐ γὰρ ταὐτὸ προοδοποιεῖται εἰς ἕκαστον καὶ ἐπιτηδείως ἔχειν παρασκευάζει, καὶ ἤδη τοῦτο ἐργάζεται, ἀλλ' ἕτερον. τὸ μὲν οὖν ὀλίγον μᾶλλον ἢ πολὺ προωδοποίησε καὶ παρεσκεύασε τὸ σῶμα πρὸς [867b] τὸ ἱδροῦν· ἄλλης δὲ δεῖ συμμετρίας καὶ πλείονος πρὸς τὸ ποιῆσαι. τοῦτο δὲ οὐκέτι ποιεῖ ὃ πεποίηκεν, ἀλλὰ μετ' αὐτὸ ὕστερον, ἄλλο τῆς συμμετρίας γινόμενον.

Διὰ τί ἀποστλεγγισαμένοις μᾶλλον ῥεῖ ὁ ἱδρὼς ἢ ἐῶσιν ἐπιμεῖναι; πότερον διὰ τὸ καταψύχεσθαι ὑπὸ τοῦ ἔξω; ἢ ὅτι ὥσπερ πῶμα γίνεται ὁ ἔξω ἱδρὼς ἐπὶ τοῖς πόροις, ὥστε κωλύει τοῦ ἔσωθεν τὴν ὁρμήν.

Διὰ τί τὸ πήγανον δυσώδεις τοὺς ἱδρῶτας ποιεῖ, καὶ ἔνια τῶν μύρων; ἢ ὅτι ὧν ἐν τῇ ὀσμῇ βαρύτης ἔνι, ταῦτα κεραννύμενα ταῖς περιττωματικαῖς ὑγρότησι κακωδεστέραν ποιεῖ τὴν ὀσμήν;

Διὰ τί ἱδροῦμεν τὸν νῶτον μᾶλλον ἢ τὰ πρόσθεν; ἢ ὅτι ἐν μὲν τῷ πρόσθεν ἐστὶ τόπος ἐντός, εἰς ὃν ἀποχετεύεται τὸ ὑγρόν, ἐν δὲ τῷ ὄπισθεν οὐκ ἔστιν, ἀλλ' ἔξω τὴν ἔκκρισιν ἀναγκαῖον γίνεσθαι. τὸ δ' αὐτό ἐστιν αἴτιον καὶ ὅτι τὴν κοιλίαν ἧττον ἱδροῦμεν ἢ τὸ στῆθος. ἔτι δὲ ὅτι μᾶλλον διαφυλακτικόν ἐστι τοῦ ἱδρῶτος τὰ νῶτα καὶ τὰ ὄπισθεν ἢ τὰ πρόσθεν διὰ τὸ μᾶλλον τὰ ἔμπροσθεν τῶν ὄπισθεν ἀποψύχεσθαι. ὅπερ ἐστὶν αἴτιον καὶ τοῦ τὰς μασχάλας ἱδροῦν τάχιστα καὶ μάλιστα· ἥκιστα γὰρ ψύχονται. ἔτι δὲ σαρκωδέστερά ἐστι τὰ περὶ τὸν νῶτον τῶν πρόσθεν, ὥστε ὑγρότερα. πλείων δὲ ὑγρότης ἐστὶν ἐν τοῖς ὄπισθεν· ὁ γὰρ μυελὸς κατὰ τὴν ῥάχιν ὢν ὑγρασίαν πολλὴν παρέχει.

Διὰ τί ἐφ’ ἃ κατακείμεθα, οὐχ ἱδροῦμεν; ἢ ὅτι θερμὸς ὢν ὁ τόπος ᾧ ἁπτόμεθα, κωλύει διεξιέναι τὸν ἱδρῶτα· ἀναξηραίνει γὰρ αὐτόν. ἔτι δὲ θλίβεται, θλιβόμενον δὲ διαχεῖται τὸ αἷμα, οὗ συμβαίνοντος καταψύχεται μᾶλλον. σημεῖον δὲ ἡ νάρκη· κατάψυξίς τε γάρ ἐστι τὸ πάθος, καὶ γίνεται ἐκ θλίψεως ἢ πληγῆς.

Διὰ τί οἱ καθεύδοντες μᾶλλον ἱδροῦσιν; ἢ διὰ τὴν ἀντιπερίστασιν; ἀθροισθὲν γὰρ τὸ θερμὸν ἐντὸς ἐξελαύνει τὸ ὑγρόν.

Διὰ τί τὸ πρόσωπον μάλιστα ἱδροῦσιν ἀσαρκότατον ὄν; ἢ ὅτι εὐίδρωτα μὲν ὅσα ὕφυγρα καὶ ἀραιά, ἡ δὲ κεφαλὴ τοιαύτη; ὑγρότητα γὰρ οἰκείαν ἔχει πλείστην. δηλοῦσι δὲ αἱ φλέβες τείνουσαι ἐντεῦθεν, καὶ οἱ κατάρροι ἐξ αὐτῆς, καὶ ὁ ἐγκέφαλος ὑγρός, καὶ οἱ πόροι πολλοί. σημεῖον δὲ αἱ τρίχες ὅτι πολλοὶ οἱ πόροι εἰσί, περαίνοντες [868a] ἔξω. οὔκουν ἐκ τῶν κάτω ὁ ἱδρὼς ἀλλ’ ἐκ τῆς κεφαλῆς γίνεται. διὸ ἱδροῦσι καὶ πρῶτον καὶ μάλιστα τὸ μέτωπον· ὑπόκειται γὰρ πρῶτον· τὸ δὲ ὑγρὸν κάτω ῥεῖ ἀλλ’ οὐκ ἄνω.

Διὰ τί οἱ ἱδροῦντες ἐὰν ψυχθῶσιν ἢ ὕδατι ἢ πνεύματι, ναυτιῶσιν; πότερον τὸ ὑγρὸν ψυχθὲν ἔστη ἀθρόον, ἔμπροσθεν οὐκ ἠρεμοῦν διὰ τὸ ῥεῖν; ἢ καὶ τὸ πνεῦμα διιὸν ἔξω γινόμενον ἱδρὼς διὰ τὴν ψύξιν, τοῦτο ἔσω ψυχθὲν πρὶν ἐξελθεῖν ὑγρὸν ἐγένετο, καὶ προσπεσὸν ποιεῖ τὴν ναυτίαν;

Διὰ τί ποτε ἐκ τῆς κεφαλῆς καὶ τῶν ποδῶν μάλιστα οἱ ἱδρῶτες γίνονται θερμαινομένων; ἢ ὅτι τὸ θερμαινόμενον ἐφέλκει ἐφ’ ἑαυτὸ τὸ ὑγρόν, τὸ δὲ ὑγρὸν οὐκ ἔχει ὅπῃ καταναλίσκηται διὰ τὸ εἶναι τοὺς τόπους τούτους ὀστώδεις. ἐκπίπτει οὖν ἔξω.

Διὰ τί οἱ πονοῦντες, ὅταν παύσωνται, ἱδροῦσιν; ἔδει γάρ, εἴπερ ὁ πόνος αἴτιος, ὅταν πονῶσιν. πότερον ὅτι πονούντων μὲν ὑπὸ τοῦ πνεύματος αἱ φλέβες ἐμφυσώμεναι τοὺς πόρους συμμεμυκέναι ποιοῦσι, παυσαμένων δὲ συνίζουσιν, ὥστε δι’ εὐρυτέρων γινομένων τῶν πόρων ῥᾷον διέρχεται τὸ ὑγρόν. ἢ ὅτι πονούντων μὲν ἀποκρίνει ἡ κίνησις ἐκ τοῦ συμπεφυκότος ὑγροῦ πνεῦμα, καὶ διὰ θερμότητα τὴν ἀπὸ τῆς κινήσεως γίνεται τὸ ὑγρὸν πνεῦμα ἐπιπολῆς· ὅταν δὲ παύσηται πονῶν, ἅμα καὶ ἡ θερμότης λήγει, καὶ ἐκ τοῦ πνεύματος πυκνουμένου ὑγρότης γίνεται, ὁ καλούμενος ἱδρώς.

Πότερον δεῖ μᾶλλον τοῦ θέρους παρασκευάζειν τὸ ἱδροῦν ἢ τοῦ χειμῶνος; ἢ ὅτε μᾶλλον ὑγροὶ καὶ χαλεπώτεροι ἄνευ ἐπιμελείας γένοιντ’ ἄν, ὥστε τοῦ χειμῶνος ἂν δέοι μᾶλλον, ᾗ μεγάλη ἡ μεταβολὴ καὶ τὰ περιττώματα οὐ συνεκπέττεται. πάλιν ψυχθέντος ἔτι παρὰ φύσιν τὸ τοῦ χειμῶνος. δῆλον ἄρα ὅτι τοῦ θέρους μᾶλλον. καὶ γὰρ τὰ ὑγρὰ σήπεται μᾶλλον ἅπαντα τοῦ θέρους· διὸ τότε δεῖ ἀπαντλεῖν. διὰ τοῦτο δὲ καὶ οἱ ἀρχαῖοι πάντες οὕτως ἔλεγον.

Διὰ τί ἀεὶ τοῦ σώματος ῥέοντος καὶ τῆς ἀπορροῆς γινομένης ἐκ τῶν περιττωμάτων οὐ κουφίζεται τὸ σῶμα, ἐὰν μὴ ἀφιδρώσῃ; ἢ ὅτι ἐλάττων ἡ ἔκκρισις. ὅταν γὰρ ἐξ ὑγροῦ μεταβάλλῃ εἰς ἀέρα, πλεῖον γίνεται ἐξ ἐλάττονος· [868b] τὸ γὰρ ὑγρὸν διακρινόμενον πλεῖον. ὥστε πλείονι χρόνῳ ἡ ἔκκρισις. διά τε τοῦτο καὶ ὅτι δι’ ἐλαττόνων πόρων ἡ ἔκκρισίς ἐστιν. ἔτι τὸ γλίσχρον καὶ τὸ κολλῶδες μετὰ μὲν τοῦ ὑγροῦ ἐκκρίνεται διὰ τὴν κατάμιξιν, μετὰ δὲ τοῦ πνεύματος ἀδυνατεῖ. μάλιστα δὲ τοῦτ’ ἐστὶ τὸ λυποῦν. διὸ καὶ οἱ ἔμετοι τῶν ἱδρώτων κουφίζουσι μᾶλλον, ὅτι συνεξάγουσι τοῦτο ἅτε παχύτεροι καὶ σωματωδέστεροι ὄντες. καὶ ὅτι τῇ μὲν σαρκὶ πόρρω ὁ τόπος οὗτος, ἐν ᾧ τὸ γλίσχρον καὶ τὸ κολλῶδες, ὥστε ἔργον μεταστῆσαι, τῇ δὲ κοιλίᾳ ἐγγύς· ἢ γὰρ ἐν αὐτῇ ἐγγίνεται ἢ πλησίον· διὸ καὶ δυσεξάγωγον ἄλλως.

Διὰ τί ἧττον ἱδροῦσιν ἐν αὐτῷ τῷ πονεῖν ἢ ἀνέντες; ἢ ὅτι πονοῦντες μὲν ποιοῦσι, πεπονηκότες δὲ πεποιήκασιν; εἰκότως οὖν ἐκκρίνεται πλέον· ὁτὲ μὲν γὰρ γίνεται, ὁτὲ δὲ ἐστίν. ἢ ὅτι πονούντων μὲν συγκλείονται τῆς σαρκὸς οἱ πόροι διὰ τὴν κάθεξιν τοῦ πνεύματος, ὅταν δ’ ἀνῶσιν, ἀνοίγονται; διὸ καὶ τὸ πνεῦμα κατέχοντες ἧττον ἱδροῦσιν.

Διὰ τί οὐχὶ ὅταν τροχάζωμεν, ὁ ἱδρὼς πλείων, καὶ ὅταν ἐν κινήσει ᾖ τὸ σῶμα, ἀλλ’ ὅταν παύσωνται; ἢ ὅτι τότε μὲν ὥσπερ ὑπὸ τῆς χειρὸς ἢ ἄλλου τινὸς ἔστιν ὕδωρ ῥέον ἀποφρᾶξαι πανταχόθεν συναθροιζόμενον, ὅταν δὲ ἀφεθῇ, πλέον ἢ ὅσον ἐξ ἀρχῆς. ὡς δὲ ὑπὸ τῆς χειρός, οὕτω καὶ ὑπὸ τοῦ πνεύματος ἔστιν ἀποληφθῆναι, ὥσπερ ἐν τῇ κλεψύδρᾳ, καὶ πάλιν πρὸς τὴν κύστιν· ἀπολαμβάνει γὰρ ἐντός. ὁμοίως οὖν πολλῆς κινήσεως οὔσης τὸ πνεῦμα ἐναπολαμβάνεται· διὸ καὶ αἱ φλέβες διατείνονται τοῦ ὑγροῦ οὐ δυναμένου ἐξιέναι. ἀπολαμβανόμενον δὲ ἀθρόον τὸ ὑγρόν, ὅταν ἀνεθῇ τὸ πνεῦμα, ἀθρόον ἐξέρχεται.

Διὰ τί, ὅταν πίωσιν, ἧττον ἱδροῦσιν ἐπιφαγόντες; ἢ διότι τὰ σιτία ἐπισπᾶται μὲν τὴν ὑγρότητα καθαπερεὶ σπόγγος ἐμπεσών, ἔστι δὲ κωλῦσαι τὴν ὁρμὴν οὐ μικρὸν μέρος, ὥσπερ ἐν τοῖς ῥεύμασι, τὸ ἐπιλαβεῖν τοὺς πόρους προσενεγκάμενον τὴν τροφήν.

Διὰ τί οἱ ἀγωνιῶντες ἱδροῦσι τοὺς πόδας, τὸ δὲ πρόσωπον οὔ; μᾶλλον γὰρ εὔλογον, ὅταν πᾶν ἱδρῶσι τὸ σῶμα, τότε μᾶλλον καὶ τοὺς πόδας· ψυχρότατος γὰρ ὁ τόπος, διὸ ἥκιστα ἱδροῦσιν. καὶ οἱ ἰατροὶ ἐν ταῖς ἀρρωστίαις μάλιστα περιστέλλειν τοὺς πόδας παραγγέλλουσιν, ὅτι εὔψυκτοί εἰσιν, [869a] ὥστε ἀρχὴν ῥαδίως ῥίγους ποιοῦσι καὶ τῷ ἄλλῳ σώματι. ἢ ὅτι καὶ ἡ ἀγωνία ἐστὶ θερμότητος οὐ μετάστασις ὥσπερ ἐν τῷ φόβῳ ἐκ τῶν ἄνω τόπων εἰς τοὺς κάτω (διὸ καὶ αἱ κοιλίαι λύονται τῶν φοβουμένων) ἀλλ' αὔξησις θερμοῦ, ὥσπερ ἐν τῷ θυμῷ; καὶ γὰρ ὁ θυμὸς ζέσις τοῦ θερμοῦ ἐστὶ τοῦ περὶ τὴν καρδίαν· καὶ ὁ ἀγωνιῶν οὐ διὰ φόβον καὶ διὰ ψύξιν πάσχει, ἀλλὰ διὰ τὸ μέλλον.

Διὰ τί τὸ πρόσωπον ἐξέρυθροι γίνονται, οὐχ ἱδροῦσι δέ; ἢ διὰ τὸ μᾶλλον θερμαίνεσθαι, ὥστε τὸ μὲν ἐν τῷ προσώπῳ ὑγρὸν ξηραίνει ἡ θερμότης ἐπιπολάζουσα, τὸ δὲ ἐν τοῖς ποσὶ συντήκει διὰ τὸ ἐλάττων μὲν εἶναι, πλείων δὲ τῆς ἐμφύτου καὶ προϋπαρχούσης.

Διὰ τί καθεύδοντες ἱδροῦσι μᾶλλον ἢ ἐγρηγορότες; ἢ ὅτι ἔσωθεν ἡ ἀρχὴ τοῦ ἱδρῶτος, θερμότερα δὲ τὰ ἐντός, ὥστε καὶ ἐκκρίνει διαχέουσα ἡ ἐντὸς θερμότης τὸ ἐντὸς ὑγρόν. ὅτι ἀεὶ ἔοικεν ἀπορρεῖν τι τοῦ σώματος, ἀλλὰ διὰ τὸ μηθὲν εἶναι πρὸς ὃ προσπῖπτον ἁλισθήσεται λανθάνει. σημεῖον δέ· τὰ γὰρ κοῖλα τοῦ σώματος ἀεὶ ἱδροῖ.

Διὰ τί ἐν τοῖς πυριατηρίοις μᾶλλον ἱδροῦσιν, ὅταν ᾖ ψῦχος; ἢ ὅτι τὸ θερμὸν οὐ βαδίζει ἔξω διὰ τὴν τοῦ ψυχροῦ περίστασιν (κωλύεται γὰρ ὑπὸ τούτου), ἀλλ' ἐντὸς κατειλούμενον καὶ μένον διαλύει τὰ ἐν ἡμῖν ὑγρά, καὶ ἱδρῶτα ποιεῖ ἐξ αὐτῶν.

Διὰ τί ὠφελιμώτερός ἐστιν ὁ ἱδρώς, κἂν ἐλάττων ἐπέλθῃ, ὁ γυμνοῦ τροχάζοντος γενόμενος ἢ ὁ ἐν ἱματίῳ; ἢ τὸ μὲν πονεῖν τοῦ μὴ πονεῖν βέλτιόν ἐστι καθόλου, καὶ ὁ ἱδρὼς δὲ ὁ μετὰ πόνου τοῦ ἄνευ πόνου βελτίων ἐστί, καὶ ὁ μᾶλλον δὲ μετὰ πόνου τοῦ ἧττον βελτίων; μᾶλλον δ' ἐστὶ μετὰ πόνου ὁ γυμνοῦ τροχάζοντος γινόμενος. ἐὰν γὰρ μὴ πολλῇ συντονίᾳ τροχάσῃ, οὐ δύναται ἱδρῶσαι γυμνὸς ὤν· ἐν ἱματίῳ γὰρ κἂν πάνυ μετρίως τροχάσῃ, ταχὺ ἱδροῖ διὰ τὴν ἀπὸ τοῦ ἱματίου ἀλέαν. καὶ εὐχρούστεροι δὲ γίνονται οἱ γυμνοὶ τρέχοντες τοῦ θέρους τῶν ἐν ἱματίοις, ὅτι ὥσπερ ἅπαντες οἱ ἐν τοῖς εὐπνουστέροις τόποις οἰκοῦντες εὐχρούστεροί εἰσι τῶν ἐν τοῖς καταπεπνιγμένοις οἰκούντων, οὕτω καὶ αὐτὸς αὑτοῦ ὁ ἄνθρωπος, ὅταν ὥσπερ ἐν εὐπνοίᾳ ᾖ, τότε εὐχρούστερός ἐστιν ἢ ὅταν καταπεπνιγμένος ᾖ καὶ περιεχόμενος ὑπό τινος ἀλέας πολλῆς, ὃ συμβαίνει μᾶλλον [869b] τῷ ἐν ἱματίῳ τρέχοντι. διὰ ταῦτα δὲ καὶ οἱ πολὺν χρόνον καθεύδοντες ἀχρούστεροί εἰσι τῶν μέτριον χρόνον καθευδόντων· καταπέπνικται γὰρ καὶ ὁ καθεύδων.

Διὰ τί οἱ ἀγωνιῶντες ἱδροῦσι τοὺς πόδας, τὸ δὲ πρόσωπον οὔ, ἐν τῷ ἄλλῳ βίῳ ἱδρούντων ἡμῶν μάλιστα μὲν τὸ πρόσωπον, ἥκιστα δὲ τοὺς πόδας; ἢ ὅτι ἡ ἀγωνία φόβος τίς ἐστι πρὸς ἀρχὴν ἔργου, ὁ δὲ φόβος κατάψυξις τῶν ἄνω· διὸ καὶ ὠχριῶσι τὰ πρόσωπα οἱ ἀγωνιῶντες. κινοῦνται δὲ καὶ σκαίρουσι τοῖς ποσίν· ποιοῦσι γὰρ τοῦτο οἱ ἀγωνιῶντες καὶ καθάπερ γυμνάζονται· διόπερ εἰκότως ἱδροῦσι ταῦτα οἷς πονοῦσιν. καὶ τρίβουσι δὲ τὰς χεῖρας καὶ συγκαθιᾶσι καὶ ἐκτείνονται καὶ ἐξάλλονται καὶ οὐδέποτε ἠρεμοῦσιν· ὁρμητικοὶ γάρ εἰσι πρὸς τὸ ἔργον διὰ τὸ τὸ θερμὸν αὐτῶν ἠθροῖσθαι εἰς τὸν περὶ τὸ στῆθος τόπον ὄντα εὐσωματωδέστερον· ὅθεν πάντῃ διάττοντος αὐτοῦ τε καὶ τοῦ αἵματος συμβαίνει πυκνὴν καὶ ποικίλην γίνεσθαι κίνησιν. μάλιστα δὲ ἱδροῦσι τοὺς πόδας, ὅτι οὗτοι μὲν συνεχῶς πονοῦσι, τὰ δὲ ἄλλα μέρη τοῦ σώματος ἀναπαύσεως τυγχάνει ταῖς τῶν σχημάτων καὶ κινήσεων μεταβολαῖς.

Διὰ τί ἐν τοῖς πυριατηρίοις οὔτε ἀθρόου τοῦ πυρὸς ὄντος μᾶλλον ἱδροῦσιν, οὔτ’ ἐλάττονος ἀεὶ γινομένου, ἀλλὰ πλείονος; ἐπεισφερομένου γὰρ τὰ πυριατήρια μᾶλλον ἱδροῦσιν ἢ εἴπερ εὐθὺς ἐξ ἀρχῆς τοσοῦτον ἦν τὸ πῦρ. ἢ τὸ μὲν πολὺ ἐκ πρώτης ξηρὰν λαμβάνον τὴν ἐπιπολῆς σάρκα καὶ δέρμα καίει καὶ ὀστρακοῖ, γενομένη δὲ τοιαύτη τέγγει τοὺς ἱδρῶτας. τὸ δὲ ὀλίγον μᾶλλον τὴν σάρκα ἀνιὲν αὐτήν τε ἀραιοῖ, καὶ τὰ ἐντὸς καθάπερ ὀργάζει πρὸς τὴν διάκρισιν καὶ ἐξαγωγήν. οὕτω δ’ ἐχούσης αὐτῆς, ἐπεισενεχθὲν πλέον πῦρ καὶ εἰσδυόμενον εἰς βάθος τῆς σαρκὸς δι’ ἀραιότητα ἐξατμίζει τε τὰ προμαλαχθέντα ὑγρά, καὶ τὰ λεπτὰ αὐτῶν ἀποκρῖνον ἐξάγει μετὰ τοῦ πνεύματος.

Πότερον δεῖ μᾶλλον τοῦ θέρους παρασκευάζειν τὸ ἱδροῦν ἢ τοῦ χειμῶνος; ἢ τοῦ μὲν χειμῶνος συστελλόμενον ἐντὸς τὸ θερμὸν ἐκπέττει καὶ πνευματοῖ τὰ ἐν ἡμῖν ὑγρά, διὸ πάντων αὐτῶν ἢ τῶν πλείστων ἀναλισκομένων οὐδὲν δεῖται συγγενοῦς ἀποκρίσεως. τοῦ δὲ θέρους δι’ ἀραιᾶς τῆς σαρκὸς ἐκπίπτοντος τοῦ θερμοῦ ἧττον πέττεται τὰ ἐν ἡμῖν ὑγρά· διὸ δεῖται ἀπαντλήσεως. ἐμμείναντα γὰρ διὰ τὴν [870a] ὥραν σήπεται καὶ νοσοποιεῖ. σήπεται γὰρ πᾶν τὸ σηπόμενον ὑπ’ ἀλλοτρίου θερμοῦ, ὑπὸ δὲ τοῦ οἰκείου πέττεται. ἐν μὲν οὖν τῷ θέρει τὸ ἀλλότριον ἰσχύει, διὸ σήπεται πάντα μᾶλλον ἐν αὐτῷ, ἐν δὲ τῷ χειμῶνι τὸ οἰκεῖον, διὸ οὐ σήπει ὁ χειμών.

Διὰ τί τῶν ἱδρώτων γινομένων ὑπὸ τῆς ἐντὸς θερμασίας ἢ ὑπὸ τῆς ἐκτὸς προσπιπτούσης, πρὸς ἐνίων ἱδρώτων φρίττομεν; ἢ διότι ὑπὸ μὲν τῆς ἐντὸς θερμασίας ὅταν ἐκπίπτωσιν ἐκ πολλοῦ τόπου εἰς ὀλίγον, συστελλομένοις πρὸς τὴν περιοχὴν παντελῶς τὰς τοῦ θερμοῦ περιόδους ἀποφράττουσιν, εἶτα ἡ φρίκη ἐγγίνεται; ἔτι τῆς σαρκὸς παντελῶς διαβρόχου γινομένης καὶ τοῦ θερμοῦ διεξιόντος. ἡ δὲ ἐκτὸς θερμασία προσπίπτουσα ἀραιοῖ τὸν χρῶτα πρῶτον· εἶτα τὸ ἐντὸς τῆς φύσεως θερμὸν ἀποκρινάμενον τὴν φρίκην ἐποίησεν.

Διὰ τί τῶν ἱδρώτων οἱ θερμοὶ κρίνονται βελτίους εἶναι τῶν ψυχρῶν; ἢ ὅτι πᾶς μὲν ἱδρὼς περιττώματός τινος ἔκκρισίς ἐστιν, εἰκὸς δὲ τὸ μὲν ὀλίγον περίττωμα ἐκθερμαίνεσθαι, τὸ δὲ πλεῖον μὴ ὁμοίως, ὥστε ὁ ψυχρὸς ἱδρὼς πολλοῦ περιττώματος ἂν εἴη σημεῖον· διὸ καὶ μακροτέρας τὰς νόσους δηλοῖ.

Διὰ τί τῶν ἱδρώτων διὰ θερμασίαν γινομένων πρὸς τὸ πολὺ πῦρ ἧττον ἱδροῦμεν; ἢ διότι ἤτοι σφόδρα θερμαινομένου τοῦ σώματος εἰς πνεύματα ὑγρὰ διαλύεται, ἢ ἐκπίπτοντος τοῦ ὑγροῦ καὶ ταχὺ περιξηραινομένου τὴν αἴσθησιν οὐ λαμβάνομεν;

Διὰ τί τοῦ ἡλίου μᾶλλον θερμαίνοντος, ἐὰν μηδὲν περίβλημα ἔχωμεν, ἱδρῶτες γίνονται τοῖς ἱματίοις περιστελλομένοις; καὶ περὶ τούτου ταὐτὰ ἐροῦμεν τῷ προτέρῳ.

Διὰ τί τῶν ὀξειῶν κινήσεων μᾶλλον θερμαίνειν δοκουσῶν, τῶν δὲ νωθρῶν ἧττον, αἱ πρὸς τὸ σιμὸν πορεῖαι νωθρότεραι οὖσαι ἱδρῶτάς τε μᾶλλον ἐκκρίνουσι καὶ τὸ πνεῦμα προσιστᾶσιν, ὡς θερμαίνουσαι μᾶλλον τῶν κατάντων; ἢ ὅτι τοῖς βάρεσιν εἰς τὸ κάτω φέρεσθαι κατὰ φύσιν ἐστίν, εἰς δὲ τὸ ἄνω παρὰ φύσιν. ἡ οὖν τοῦ θερμοῦ φύσις ἡ φέρουσα ἡμᾶς πρὸς μὲν τὰ κατάντη οὐθὲν συμπονεῖ, πρὸς δὲ τὰ σιμὰ φορτηγοῦσα διατελεῖ. ὥστε διὰ μὲν τὴν τοιαύτην κίνησιν ἐκθερμαίνεται, καὶ μᾶλλον τοὺς ἱδρῶτας ἐκκρίνει, καὶ τὸ πνεῦμα προσίστησιν. συμβάλλεται δέ τι [870b] ἐν ταῖς πορείαις καὶ ἡ τοῦ σώματος σύγκαμψις πρὸς τὸ μὴ εὐθυπορεῖν τὸ πνεῦμα προσιστᾶσα.

Διὰ τί τῶν ἱδρώτων γινομένων, ὅσῳ ἂν ἐπιβάλληταί τις μᾶλλον, οὐχ οἱ τὰ πλεῖστα τῶν ἱματίων ἐπιβαλλόμενοι ἱδροῦσιν; καὶ περὶ τούτου ταὐτὰ ἐροῦμεν τῷ ἐπάνω.

Διὰ τί τῶν σωμάτων ξηροτέρων ὄντων τοῦ θέρους ἢ τοῦ χειμῶνος ἱδρωτικωτέρως διακείμεθα τοῦ θέρους; ἢ ὅτι τοῦ μὲν θέρους ἀραιῶν τῶν σωμάτων ὄντων τὸ τῆς φύσεως θερμὸν οὐ πολὺ κατέχεται; διαλύει οὖν τὰ ὑγρὰ εἰς πνεῦμα. τοῦ δὲ χειμῶνος πεπυκνωμένων ἐκτὸς τῶν σωμάτων, πολὺ κατειλημμένον τὸ τῆς φύσεως θερμὸν εἰς πνεῦμα οὐ διαλύει τὰ ὑγρά. ἔτι δὲ καὶ τοῦ μὲν θέρους πολὺ προσφερόμεθα τὸ ὑγρόν, τοῦ δὲ χειμῶνος τοὐναντίον.

Διὰ τί οἱ ἀπὸ τοῦ αὐτομάτου γινόμενοι τοῖς ὑγιαίνουσιν ἱδρῶτες φαυλότεροι δοκοῦσιν εἶναι τῶν ὑπὸ τῶν πόνων; ἢ ὅτι οἱ μὲν πόνοι ἀπαντλοῦντες ἀεὶ τὸ περιττεῦον ὑγρὸν ξηροτέραν τὴν σάρκα παρασκευάζουσιν, ὥστε τὰς κοιλίας τῶν πόρων ὑγιεινὰς εἶναι καὶ τῇ τοῦ θερμοῦ ἠθίσει μηδεμίαν ἔμφραξιν γίνεσθαι, οἱ δ’ αὐτόματοι μὲν προσαγορευόμενοι ἱδρῶτες, γινόμενοι δ’ ἐξ ἀνάγκης, ὅταν ὑπὸ πλείονος ὑγρασίας συγχεομένων τῶν τῆς φύσεως πόρων τὰ θερμὰ μὴ παντελῶς καταλαμβάνηται, ἀλλ’ ἔτι ἀπομάχεσθαι καὶ ἐκκρίνειν αὐτὸ δύνηται, εὐλόγως νόσου σημεῖα φαίνεται. τότε γὰρ ὑπὸ πλείονος ὑγρασίας ἢ τοῦ συμμέτρου κατὰ φύσιν ψύχεται, ἥ τε σὰρξ δίομβρος γενομένη τὴν κακίστην πρὸς ὑγείαν διάθεσιν λαμβάνει.

Διὰ τί τοῦ χειμῶνος ἱδρῶτες ἧσσον γίνονται, καὶ ἡμεῖς οὐχ ὁμοίως παρασκευάζειν βουλόμεθα, ὑγροτέρων ὄντων τῶν σωμάτων τοῦ χειμῶνος; ἢ ἧσσον μὲν ἱδροῦμεν, ὅτι τὰ ὑγρὰ τοῦ χειμῶνος πέπηγε καὶ συνέστηκε σφόδρα· δυσδιαλυτώτερα οὖν. οὐχ ὑπολαμβάνομεν δὲ δεῖν ἱδρωτοποιεῖσθαι τοῦ χειμῶνος, διότι ἡ τοιαύτη διάθεσις ὑγιεινή, ὁ δὲ τοὺς ἱδρῶτας ἐμποιῶν τήκει καὶ συγχεῖ τὴν ἕξιν· ἔτι τε καὶ ἀραιοτέραν τοῦ προσήκοντος ἐμποιῶν τό τε ἐντὸς θερμὸν ἀποκρίνων ἔλαττον ποιεῖ, ὥστε μὴ ὁμοίως δύνασθαι τῷ περιέχοντι ψυχρῷ ἀντιτετάχθαι· τό τε ἐκτὸς ὑγρὸν ῥᾳδιέστερον παρεμπεσεῖται τοῖς σώμασιν, ἀραιῶν τῶν πόρων διὰ τὰς ἱδρωτοποιίας ὄντων.

Γ. ΟΣΑ ΠΕΡΙ ΟΙΝΟΠΟΣΙΑΝ ΚΑΙ ΜΕΘΗΝ.

[871a] Διὰ τί οἱ μεθύοντες θερμοῦ ὄντος τοῦ οἴνου δύσριγοί εἰσι, καὶ τάχιστα ἁλίσκονται ὑπὸ πλευρίτιδος καὶ τῶν τοιούτων; ἢ διότι πολὺ ὑγρὸν ἐὰν ψυχθῇ, πολὺ ψυχρὸν γίνεται, ὥστε κρατεῖν τῆς φυσικῆς θερμότητος; γίνεται γὰρ ὅμοιον ὥσπερ ἂν εἰ ἐσθὴς βεβρεγμένη εἴη ὑγρῷ ψυχρῷ, οὕτως ἡ σὰρξ ἔνδοθεν.

Διὰ τί οὐχ οἱ σφόδρα μεθύοντες παροινοῦσιν, ἀλλ’ οἱ ἀκροθώρακες μάλιστα; ἢ ὅτι οὔθ’ οὕτως ὀλίγον πεπώκασιν ὥστε ὁμοίως ἔχειν τοῖς νήφουσιν, οὔθ’ οὕτως ὥστε διαλύεσθαι, ὅπερ πάσχουσιν οἱ πολὺ πεπωκότες; ἔτι οἱ μὲν νήφοντες μᾶλλον ὀρθῶς κρίνουσιν, οἱ δὲ σφόδρα μεθύοντες οὐδ’ ἐγχειροῦσι κρίνειν· οἱ δὲ ἀκροθώρακες κρίνουσι μὲν διὰ τὸ μὴ σφόδρα μεθύειν, κακῶς δὲ διὰ τὸ μὴ νήφειν, καὶ ταχὺ τῶν μὲν καταφρονοῦσιν, ὑπὸ τῶν δὲ ὀλιγωρεῖσθαι δοκοῦσιν.

Διὰ τί μᾶλλον κραιπαλῶσιν οἱ ἀκρατέστερον πίνοντες ἢ οἱ ὅλως ἄκρατον; πότερον διὰ τὴν λεπτότητα ὁ κεκραμένος μᾶλλον εἰσδύεται εἰς πλείους τόπους καὶ στενωτέρους, ὁ δὲ ἄκρατος ἧττον, ὥστε δυσεξαγωγότερος ὁ κεκραμένος; ἢ διότι ἐλάττω πίνουσιν ἄκρατον διὰ τὸ μὴ δύνασθαι, καὶ ἀπεμοῦσι μᾶλλον; ἔτι δὲ συμπέττει τὰ λοιπὰ θερμότερος ὤν, καὶ αὐτὸς αὑτόν· ὁ δὲ ὑδαρὴς τοὐναντίον.

Διὰ τί τῶν οἰνοφλύγων τὸ σπέρμα οὐ γόνιμον ὡς ἐπὶ τὸ πολύ; ἢ ὅτι ἡ κρᾶσις τοῦ σώματος ἐξύγρανται; τὰ δὲ ὑγρὰ σπέρματα οὐ γόνιμα, ἀλλὰ τὰ συνεστῶτα καὶ πάχος ἔχοντα.

Διὰ τί οἱ οἰνόφλυγες τρέμουσι, καὶ μᾶλλον ὅσῳ ἂν ἀκρατοποτῶσιν; ἔστι δὲ ὁ μὲν οἶνος θερμαντικόν, ὁ δὲ τρόμος γίνεται μάλιστα ἀπὸ ψυχροῦ, διὸ οἱ ῥιγῶντες μάλιστα τρέμουσιν. πολλοῖς δ’ ἤδη χρωμένοις μόνον ἀκράτῳ τροφῆς χάριν τρόμοι ἰσχυροὶ συνέβησαν, ὥστε ἀπορρίπτειν τοὺς θλίβοντας, καὶ τῷ θερμῷ ὕδατι λουόμενοι ἀναισθήτως εἶχον. ἢ ὅτι γίνεται μὲν ὁ τρόμος διὰ κατάψυξιν, γίνεται δὲ ἢ περιισταμένου ἐντὸς τοῦ θερμοῦ διὰ τὸ ἐκτὸς ψῦχος, οἷον τοῦ χειμῶνος, ἢ σβεννυμένου τοῦ κατὰ φύσιν θερμοῦ, σβεννυμένου μὲν τῷ ἐναντίῳ, ἢ διὰ χρόνον, οἷον γῆρας, ἢ τῇ τοῦ ἀλλοτρίου θερμοῦ ὑπερβολῇ, ὃ συμβαίνει τῷ ἐν τῷ ἡλίῳ ἢ πυρὶ καιομένῳ. συμβαίνει δὲ τοῦτο καὶ τοῖς τῷ ἀκράτῳ οἴνῳ χρωμένοις. ὢν γὰρ θερμός, ὅταν ὑπερτείνηται

[871b] δυνάμει τῇ τοῦ σώματος οἰκείᾳ θερμότητι μιγνύμενος, ἀποσβέννυσιν αὐτό· σβεσθέντος δὲ καὶ ψυχθέντος τοῦ σώματος συμβαίνει τοὺς τρόμους γίνεσθαι. ἔστι δὲ καὶ παρὰ πάντα τὰ εἰρημένα ἄλλος τρόπος καταψύξεως. ἀναιρεθείσης δὲ τῆς ὕλης, ᾗ τὸ θερμὸν ἑκάστῳ τρέφεται, συμβαίνει καὶ τὸ θερμὸν φθείρεσθαι. τοῦτο δὲ ἐπὶ μὲν τῶν ἀψύχων ἐπὶ τοῦ λύχνου ἐστὶ φανερόν (τοῦ γὰρ ἐλαίου ἀναλωθέντος συμβαίνει σβέννυσθαι τὸ φῶς), ἐπὶ δὲ τῶν ἐμψύχων τό τε γῆρας ταὐτὸ ποιεῖ τοῦτο καὶ τῶν νόσων αἱ μακραὶ καὶ συντηκτικαί. ἀναιρουμένης γὰρ ἢ λεπτυνομένης τῆς τοῦ θερμοῦ τροφῆς ἐκλύειν αὐτὸ συμβαίνει. ὑγρῷ μὲν γὰρ τρέφεται τὸ θερμόν, τούτῳ δὲ οὐ τῷ τυχόντι, ἀλλὰ λείῳ καὶ πλείονι. διὸ τοῖς νοσοῦσι τὰς εἰρημένας νόσους καὶ πρεσβυτέροις φθειρομένου τοῦ τοιούτου καὶ ἀλλοιουμένου (δριμὺ γὰρ καὶ αὐχμηρὸν ἀντὶ λείου καὶ λιπαροῦ γίνεται) συμβαίνει ἐκλείπειν αὐτό. σημεῖον δὲ τῶν εἰρημένων ἐστὶν αἱ γινόμεναι βοήθειαι τοῖς μαράνσει τὸν βίον ἐκλείπουσιν· ὅ τι γὰρ ἂν ἐπιστάξῃ τις αὐτοῖς τῶν τροφωδῶν ὑγρῶν, προσαναφέρεσθαι συμβαίνει τὸ δὲ ὀπτικὸν αὐτῶν, ὡς τῇ τοῦ τοιούτου ἐκλείψει γινομένης τῆς διαλύσεως. ἔοικε δὲ τοῖς ἀκρατοποτοῦσι τοῦτ’ εἶναι αἴτιον. ὧν γὰρ θερμὸς ὁ οἶνος μετὰ τῆς φύσει ὑπαρχούσης θερμότητος μᾶλλον ἀναλίσκει τὰ ἐν τῷ σώματι ὑπάρχοντα ἐφόδια τῷ οἰκείῳ θερμῷ. διὸ συμβαίνει τοὺς μὲν ὑδρωπικοὺς αὐτῶν γίνεσθαι, τοὺς δὲ ῥευματικούς, τοὺς δὲ εἰς τὴν κοιλίαν. τά τε γὰρ λοιπὰ αὐτοῖς ὑγρὰ δριμέα ἐστί, καὶ τὰ εἰσιόντα δι’ ἀσθένειαν τοῦ οἰκείου θερμοῦ ἁπαλὰ ὄντα οὐ παχύνεται. ἀσθενὲς δέ ἐστι τὸ θερμὸν τῷ τὴν ὕλην εἶναι τοιαύτην ἐν ᾧ ἔτι σώζεται, καθάπερ τὸ καλάμινον πῦρ· καὶ γὰρ τοῦτο διὰ τὴν τῆς ὕλης ἀσθένειαν ἀσθενέστερόν ἐστι τοῦ ξυλίνου.

Διὰ τί οἱ μεθύοντες θερμοῦ ὄντος τοῦ οἴνου δύσριγοί εἰσι, καὶ τάχιστα ἁλίσκονται ὑπὸ πλευρίτιδος καὶ τῶν τοιούτων νόσων; ἢ ὅτι τὸ πολὺ ὑγρὸν ἐὰν ψυχθῇ, πολὺ ψυχρὸν γίνεται, ὥστε κρατεῖν τῆς φυσικῆς θερμότητος, πάντα δὲ τὰ ὑγρότερα θερμότερά ἐστι τὴν φύσιν. σημεῖον δέ· θερμαίνεται μὲν γὰρ τοῖς ἐκτός, ὑγραίνεται δὲ οὔ. εἰ δ’ ἧττόν ἐστι θερμά, καὶ ἀπολείπει δῆλον ὅτι θᾶττον αὐτὰ ἡ θερμότης ἢ ὑγρότης, ὥστε λειφθέντων ψυχρῶν ὑγρῶν [872a] εἰκότως ῥιγοῦσί τε μᾶλλον οἱ μεθύοντες καὶ τὰ τοῦ ῥίγους οἰκεῖα πάσχουσι πάθη.

Διὰ τί οἱ μὲν παῖδες θερμοὶ ὄντες οὐ φίλοινοί εἰσι, Σκύθαι δὲ καὶ οἱ ἄνδρες οἱ ἀνδρεῖοι θερμοὶ ὄντες φίλοινοι; ἢ ὅτι οἱ μὲν θερμοὶ ὄντες καὶ ξηροί (ἡ γὰρ τοῦ ἀνδρὸς ἕξις τοιαύτη), οἱ δὲ παῖδες ὑγροὶ καὶ θερμοί. ἡ δὲ φιλοποσία ἐστὶν ἐπιθυμία ὑγροῦ τινός. ἡ οὖν ὑγρότης κωλύει διψητικοὺς εἶναι τοὺς παῖδας· ἔνδεια γάρ τις ἐστὶν ἡ ἐπιθυμία.

Διὰ τί μεθύοντες μᾶλλον διαισθανόμεθα τὰ ἁλυκὰ καὶ τὰ μοχθηρὰ ὕδατα, νήφοντες δὲ ἧττον; ἢ ὅτι τὸ οἰκεῖον ὑπὸ τοῦ οἰκείου ἐστὶν ἀπαθές, καὶ τὸ ὁμοίως διακείμενον, τὰ δὲ ἐναντία τῶν ἐναντίων ἐστὶν αἰσθητικώτατα. ὁ μὲν οὖν μεθύων γλυκεῖς ἐν αὐτῷ χυμοὺς ἔχει (τοιοῦτο γὰρ ὁ οἶνος δοκεῖ), καὶ τῶν φαύλων χυμῶν αἰσθητικώτερός ἐστιν, ὁ δὲ νήφων δριμεῖς καὶ ἁλυκούς. τῆς τροφῆς οὖν πεπεμμένης οἱ περιττωματικοὶ ἐπιπολάζουσιν. οὗτοί τε οὖν εἰσὶν ἀπαθεῖς ὑπὸ τῶν ὁμοίων, καὶ τὸν ἔχοντα ποιοῦσιν.

Διὰ τί τοῖς μεθύουσι σφόδρα κύκλῳ πάντα φαίνεται φέρεσθαι, καὶ ἤδη ἁπτομένης τῆς μέθης ἀθρεῖν τὰ πόρρω οὐ δύνανται; διὸ καὶ σημεῖον τῆς μέθης αὐτὸ ποιοῦνταί τινες. ἢ ὅτι κινεῖται ὑπὸ τῆς θερμότητος τοῦ οἴνου ἡ ὄψις πυκνάκις; διαφέρει οὖν οὐθὲν τὴν ὄψιν κινεῖν ἢ τὸ ὁρώμενον· ταὐτὸ γὰρ ποιεῖ πρὸς τὸ φαίνεσθαι τὰ εἰρημένα. ἐπεὶ δὲ καὶ περὶ τὰ πλησίον ὄντα διαψεύδεσθαι τὴν ὄψιν συμβαίνει τῶν μεθυόντων, καὶ περὶ τὰ πόρρω μᾶλλον εἰκὸς ταῦτα πάσχειν. διόπερ ἐκεῖνα μὲν ὅλως οὐχ ὁρᾶται, τὰ δ’ ἐγγὺς οὐκ ἐν ᾧ τόπῳ ἐστὶν ὁρᾷ. κύκλῳ δὲ φαίνεται φέρεσθαι, καὶ οὐκ ἐγγὺς καὶ πόρρω, ὅτι εἰς μὲν τὸ πόρρω διά τε τὴν κύκλῳ κίνησιν ἀδυνατωτέρα ἐστὶ φέρεσθαι ἡ ὄψις. ἅμα γὰρ τἀναντία ποιεῖν οὐ ῥᾴδιον. ἔστι δὲ ἡ μὲν πόρρω ἐπιθυμία σφοδρά, ἡ δὲ κύκλῳ ἐν ᾧ τοὔνομα σημαίνει σχήματι. διά τε οὖν τὰ εἰρημένα πόρρω οὐ φέρεται· καὶ εἰ φέροιτο τὸ ἐγγὺς καὶ πόρρω, οὐκ ἂν ταὖθ’ ὁρῴη. ἀπολείποι γὰρ ἂν ἐν θατέρῳ χρόνῳ αὐτῶν τὸ ὁρώμενον ἐν ταὐτῷ τόπῳ, ἀπολείπων δὲ οὐκ ἂν ὁρῴη. κύκλῳ δὲ φέρεται διὰ τὸ ὑπάρχον σχῆμα τῆς ὄψεως. ἔστι γὰρ κῶνος, οὗ ἡ βάσις κύκλος, ἐν ᾧ κινουμένη ὁρᾷ μὲν τοῦτο διὰ [872b] τὸ μηδέποτε ἀπολείπειν αὐτό, διέψευσται δὲ τῷ τόπῳ διὰ τὸ μὴ τὴν αὐτὴν ὄψιν ἐπιβάλλειν ἐπ’ αὐτό. ταὐτὸν γὰρ ἂν ἦν ἢ τοῦτο πρὸς τὴν ὄψιν κινεῖν ἢ τὴν ὄψιν πρὸς τοῦτο.

Διὰ τί τοῖς μεθύουσιν ἐνίοτε πολλὰ φαίνεται τὸ ἓν ὁρῶσιν; ἢ καθάπερ εἴρηται, κινουμένης τῆς ὄψεως συμβαίνει μηθένα χρόνον τὴν αὐτὴν ἐπὶ ταὐτοῦ ἠρεμεῖν ὄψιν; τὸ δ’ ἐν ταὐτῷ χρόνῳ ἑτέρως ὁρώμενον ὀψιαίτερον εἶναι δοκεῖ· ἁφῇ γὰρ ὄψεως ὁρᾶται τὸ ὁρώμενον, ἅπτεσθαι δὲ πλείοσιν ἅμα τοῦ αὐτοῦ ἀδύνατον. ὄντος δὲ ἀναισθήτου τοῦ μεταξὺ χρόνου, ἐν ᾧ ἡ ὄψις ἥπτετο καὶ παρήλλαττε τὸ ὁρώμενον, εἷς εἶναι δοκεῖ χρόνος ἐν ᾧ τε ἧπται καὶ παρήλλαχεν· ὥστ’ ἐν τῷ αὐτῷ χρόνῳ ταὐτοῦ πλειόνων ἁπτομένων ὄψεων πλείω δοκεῖ εἶναι τὰ ὁρώμενα, διὰ τὸ ταῦτα κατὰ τὸν αὐτὸν τρόπον ἀδύνατον εἶναι ἅπτεσθαι.

Διὰ τί οἱ μεθύοντες ἀφροδισιάζειν ἀδύνατοί εἰσιν; ἢ ὅτι δεῖ τινὰ τόπον ἐκθερμανθῆναι μᾶλλον τοῦ ἄλλου σώματος, τοῦτο δὲ ποιεῖν διὰ τὸ πλῆθος τῆς ἐν ὅλῳ τῷ σώματι θερμασίας ἀδυνατοῦσιν· ἀποσβέννυται γὰρ τὸ ὑπὸ τῆς κινήσεως γινόμενον θερμὸν ὑπὸ τοῦ περιέχοντος μᾶλλον, ὅτι πολύ ἐστιν ἐν αὐτοῖς τὸ ὑγρὸν καὶ ἄπεπτον. ἔτι δὲ τὸ σπέρμα ἐκ τροφῆς, τροφὴ δὲ πᾶσα πέττεται· ἧς πληρωθέντες ὁρμητικοί εἰσι πρὸς τὰ ἀφροδίσια. διὸ καὶ κελεύουσί τινες πρὸς τὴν πρᾶξιν τὴν τοιαύτην ἀριστᾶν μὲν πολύ, δειπνεῖν δὲ ὀλίγον, ἵνα ᾖ αὐτοῖς ἐλάττω τὰ ἄπεπτα τῶν πεπεμμένων.

Διὰ τί ὁ γλυκὺς καὶ ἄκρατος καὶ ὁ κυκεὼν μεταξὺ διαπινόμενοι ἐν τοῖς πότοις νήφειν ποιοῦσιν; καὶ διὰ τί ἧττον μεθύσκονται ταῖς μεγάλαις κωθωνιζόμενοι; ἢ πάντων τὸ αὐτὸ αἴτιόν ἐστιν, ἡ παράκρουσις τοῦ ἐπιπολῆς θερμοῦ; τὸ γὰρ μεθύειν ἐστίν, ὅταν ᾖ τὸ θερμὸν ἐν τοῖς περὶ τὴν κεφαλὴν τόποις.

Διὰ τί τοῦ γλυκέος ἐπιπολαστικοῦ ὄντος, ἐάν τις μεθύων ἤδη ἐπιπίῃ γλυκύ, καταπέττεται ὁ ἐνυπάρχων οἶνος καὶ ἧττον ἐνοχλεῖ; ἢ ὅτι τὸ μὲν γλυκὺ λεαντικόν τέ ἐστι καὶ γλίσχρον (ἐμφράττει οὖν τοὺς πόρους), τὸ δὲ αὐστηρὸν τραχυντικόν· καὶ τὸ μὲν εὐπετῆ ποιεῖ τῷ θερμῷ τὴν ἀναφοράν, ὁ δὲ γλυκὺς στέγει αὐτό, τοὺς πόρους ἐμφράττων. [873a] ὅτι δὲ τῶν ἄνω θερμανθέντων ἐστὶν ἡ μέθη, εἴρηται. ἔτι δὲ ὁ μὲν γλυκὺς ἄνοδμος, ὁ δὲ αὐστηρὸς οὔ· ὀσμὴ δὲ πᾶσα βαρύνει κεφαλήν.

Διὰ τί ἀπὸ τοῦ κεκραμένου μὲν ἀκρατεστέρου δὲ ἕωθεν μᾶλλον πονοῦσι τὴν κεφαλὴν ἢ ἀπὸ τοῦ ἀκράτου; ἢ ὅτι ὁ μὲν ἄκρατος παχυμερὴς ὢν εἰς τοὺς περὶ τὴν κεφαλὴν πόρους στενοὺς ὄντας αὐτὸς μὲν οὐκ εἰσπίπτει, ἡ δὲ δύναμις αὐτοῦ, ἡ ὀσμὴ καὶ θερμότης· ὁ δὲ κεκραμένος μιχθεὶς λεπτῷ τῷ ὕδατι αὐτὸς εἰσδύεται, ἔχων δὲ σῶμα, καὶ τῆς δυνάμεως πολὺ τῆς τοῦ ἀκράτου, δυσπεπτότερός ἐστιν. τά τε γὰρ ὑγρὰ πάντων δυσπεπτότατα, καὶ τὰ σώματα τῶν ἐν αὐτοῖς δυνάμεων.

Διὰ τί μᾶλλον δύνανται πιεῖν εἰς μέθην οἱ ἀγύμναστοι τῶν γεγυμνασμένων, καὶ ῥᾷον ἀπαλλάττουσιν; ἢ ὅτι οἱ ἔχοντες περίττωμα καὶ ὑγρὸν ἐν αὐτοῖς οὐρητικοὶ γίνονται· ὅπερ ποιεῖ δύνασθαι πίνειν καὶ ὕστερον κούφως ἔχειν διὰ τὸ μὴ ἐμμένειν πολὺ ὑγρὸν οἰνῶδες. οἱ μὲν οὖν ἀγύμναστοι ὑγροὶ καὶ περιττωματικοί εἰσιν, οἱ δὲ γεγυμνασμένοι ξηροί, ὥστ᾽ εἰς τὸ σῶμα τούτοις ἡ ὑγρότης ἡ οἰνηρὰ ἀφικνεῖται. εὐθύς τε οὖν ἀντισπᾷ τῇ οὐρήσει ἡ φορὰ αὕτη, καὶ ὕστερον ἐμμένον τὸ ὑγρὸν τοῦτο ἐν τῷ σώματι βάρος ποιεῖ.

Διὰ τί ὁ οἶνος καὶ τετυφωμένους ποιεῖ καὶ μανικούς; ἐναντία γὰρ ἡ διάθεσις· ὁ μὲν γὰρ μᾶλλον ἤδη ἐν κινήσει, ὁ δὲ ἧττον. ἢ ὥσπερ Χαιρήμων εἶπε, “τῶν χρωμένων γὰρ τοῖς τρόποις κεράννυται.” τἀναντία οὖν ποιεῖ οὐ ταὐτὰ ἀλλὰ τὰ μὴ ὁμοίως ἔχοντα, ὥσπερ καὶ τὸ πῦρ τὰ μὲν ξηραίνει τὰ δὲ ὑγραίνει, ἀλλ’ οὐ ταὐτά, καὶ τήκει τὸν κρύσταλλον καὶ πήγνυσι τοὺς ἅλας. καὶ ὁ οἶνος (ὑγρὸς γάρ ἐστι τὴν φύσιν) τοὺς μὲν βραδυτέρους ἐπιτείνει καὶ θάττους ποιεῖ, τοὺς δὲ θάττους ἐκλύει. διὸ ἔνιοι τῶν μελαγχολικῶν τῇ φύσει ἐν ταῖς κραιπάλαις ἐκλελυμένοι γίνονται πάμπαν. ὥσπερ γὰρ τὸ λουτρὸν τοὺς μὲν συνδεδεμένους τὸ σῶμα καὶ σκληροὺς εὐκινήτους ποιεῖ, τοὺς δὲ εὐκινήτους καὶ ὑγροὺς ἐκλύει, οὕτως ὁ οἶνος, ὥσπερ λούων τὰ ἐντός, ἀπεργάζεται τοῦτο.

Διὰ τί ἡ κράμβη παύει τὴν κραιπάλην; ἢ ὅτι τὸν [873b] μὲν χυλὸν γλυκὺν καὶ ῥυπτικὸν ἔχει (διὸ καὶ κλύζουσιν αὐτῷ τὴν κοιλίαν οἱ ἰατροί), αὐτὴ δ’ ἐστὶ ψυχρά. σημεῖον δέ· πρὸς γὰρ τὰς σφοδρὰς διαρροίας χρῶνται αὐτῇ οἱ ἰατροί, ἕψοντες σφόδρα καὶ ἀποξυλίζοντες καὶ ψύχοντες. συμβαίνει δὴ τῶν κραιπαλώντων τὸν μὲν χυλὸν αὐτῆς εἰς τὴν κοιλίαν κατασπᾶν τὰ ἐν αὐτοῖς ὑγρά, οἰνηρὰ καὶ ἄπεπτα ὄντα, αὐτὴν δὲ ὑπολειπομένην ἐν τῇ ἄνω κοιλίᾳ ψύχειν τὸ σῶμα. ψυχομένου δὲ ὑγρὰ λεπτὰ συμβαίνει εἰς τὴν κύστιν φέρεσθαι. ὥστε κατ’ ἀμφότερα τῶν ὑγρῶν ἐκκρινομένων διὰ τοῦ σώματος, καὶ καταψυχομένου, εἰκότως ἀκραίπαλοι γίνονται· ὁ γὰρ οἶνος ὑγρὸς καὶ θερμός ἐστιν. ἔτι δὲ συμβαίνει τῶν ὑγρῶν κατασπωμένων καὶ ἐκκρινομένων κάτω καὶ πνεῦμα ἐπάγεσθαι αὐτοῖς, ὅπερ μόνον ἀπὸ τοῦ οἴνου εἰς τὴν κεφαλὴν φερόμενον τὸν κάρον καὶ τὴν κραιπάλην ποιεῖ. κάτω δὲ ὁρμήσαντος καὶ καταψυχομένου τοῦ σώματος διὰ τὰ εἰρημένα, λύεται ὁ τῆς κραιπάλης πόνος. ἔστι γὰρ ἡ κραιπάλη ζέσις τις καὶ φλεγμασία λήγουσα. λυπεῖ δὲ μᾶλλον τῆς μέθης, ὅτι ἐκείνη μὲν ἐξίστησιν, ἡ δὲ κραιπάλη ἐν αὑτοῖς οὖσι τὸν πόνον παρέχει· καθάπερ οὖν καὶ ὑπὸ τῶν πυρετῶν οἱ λαμβανόμενοι παίζουσι μᾶλλον ἢ ἀλγοῦσι, παρ’ αὑτοῖς δὲ γενόμενοι οἱ αὐτοί, κουφισθέντες τοῦ πάθους, ἀλγοῦσιν. ταὐτὰ γὰρ καὶ ἐπὶ τῆς κραιπάλης καὶ ἐπὶ τῆς μέθης συμβαίνει.

Διὰ τί μᾶλλον ἐμετιᾶν ποιεῖ ὁ ὑδαρὴς οἶνος ἢ τὸ ὕδωρ καὶ ὁ ἄκρατος; ἢ ὅτι ἐμεῖν μὲν μάλιστα ποιεῖ τὰ ἐπιπολαστικὰ καὶ ὅσα ἀηδῆ ἐστίν. ἔστι δὲ ὁ μὲν οἶνος κατακρουστικός, τὸ δὲ ὕδωρ λεπτὸν καὶ οὐκ ἀηδές. διὰ μὲν οὖν τὸ λεπτὸν [καὶ οὐκ ἀηδὲς] εἶναι κάτω διέρχεται ταχύ, διὰ δὲ τὸ μὴ ἀηδὲς οὐ ποιεῖ καρδιώττειν. ὁ δὲ κεκραμένος λίαν οὐκ ἔστι λεπτὸς ὥστε διαρρεῖν ταχύ, διὰ δὲ τὸ μικρὸν ἔχειν οἴνου ἀηδής ἐστιν· ταράττει γὰρ τὴν αἴσθησιν τῷ πλείους ἐν αὐτῇ τὰς κινήσεις ἐμποιεῖν, τήν τ’ ἀπὸ τοῦ οἴνου καὶ τοῦ ὕδατος· αἰσθηταὶ γὰρ ἄμφω γίνονται. ὁ δ’ εὔκρατος τὴν μὲν τοῦ ὕδατος αἴσθησιν ἀφανίζει, οἴνου δὲ μαλακοῦ ποιεῖ αἴσθησιν· διὸ ἡδέως πίνεται. ἀηδὴς δὲ ὢν ὁ ὑδαρὴς οἶνος ἐπιπολαστικός ἐστι· τὸ δὲ τοιοῦτον ἐμετικόν ἐστιν.

Διὰ τί μεθύοντες μᾶλλον διαισθανόμεθα τὰ ἁλυκὰ [874a] καὶ τὰ μοχθηρὰ ὕδατα, νήφοντες δ’ ἧττον; ἢ ὅτι τὰ λυπηρὰ μᾶλλον δῆλα τοῖς μὴ ἐπιθυμοῦσι, τοὺς δ’ ἐπιθυμοῦντας διαλανθάνει; ὁ μὲν οὖν ἡδέως ἔχων ὁμοίως τῷ ἐπιθυμοῦντι ἔχει, ὁ δὲ νήφων οὕτως ἔχει· ὁ δὲ μεθύων πλήρης.

Διὰ τί τοῖς μεθύουσι σφόδρα κύκλῳ πάντα φαίνεται φέρεσθαι, καὶ ἤδη ἁπτομένης μᾶλλον τῆς μέθης ἀριθμεῖν τὰ πόρρω οὐ δύνανται; διὸ καὶ σημεῖον τῆς μέθης ποιοῦνται αὐτό τινες. ἢ ὅτι κινεῖται ὑπὸ τῆς θερμότητος τοῦ οἴνου ἡ ὄψις πυκνάκις; ὥσπερ οὖν ὅταν ὑποθῇ τις ὑπὸ τὸν ὀφθαλμόν, δύο φαίνεται, οὕτω καὶ τοῖς μεθύουσιν. οὐδὲν γὰρ διαφέρει, ἐὰν μὲν ὑποθῇ, κινῇ δὲ τὴν ὄψιν, οὐδ’ ἐὰν ἔξωθεν ἢ ἔσωθεν· ἀμφοτέρως γὰρ τὸ αὐτὸ πάσχει ἡ ὄψις. ὥστε οὐ δόξει μένειν τὸ ὁρώμενον, καὶ τὸ πόρρωθεν ἔτι μᾶλλον· ἔτι γὰρ ἧττον κρατεῖ ἀποτεινομένης τῆς ὄψεως, καὶ πλέον τὸ διάστημα ἐπὶ τῷ ἄκρῳ ποιεῖ ἡ ἐγγὺς αὕτη κίνησις. ἂν δὲ σφόδρα κινῆται καὶ ὁμαλῶς ἄνω καὶ κάτω, ἧττον κρατήσει τοῦ πόρρω. πάντα δὲ ἀποτεινόμενα κύκλῳ φέρεται, οἷον οἱ ὀϊστοὶ καὶ τὰ καταρτώμενα. καὶ ἡ ὄψις οὖν δι’ ἀσθένειαν ταὐτὸ πάσχει ὥσπερ ἂν εἰ πόρρω ἐφέρετο. διαφέρει δ’ οὐδὲν τὴν ὄψιν κινεῖν ἢ τὸ ὁρώμενον· ταὐτὸ γὰρ ποιεῖ πρὸς τὸ φαίνεσθαι.

Διὰ τί, ὅταν ἀθρόως πίνωσι, ξηρότεραι αἱ κοιλίαι γίνονται, ὅτε δεῖ ὑγραίνεσθαι μᾶλλον ὑπὸ τοῦ πλείονος; ἢ ὅτι τοῦ μὲν πολλοῦ καὶ ἀθρόου οὐ κρατεῖ ἡ κοιλία, ἀλλ’ εἰς τὸν αὐτοῦ ἔρχεται τόπον ἀπαθές; ἔστι δὲ ὑγροῦ τόπος ἀπέπτου ἡ κύστις. τοῦ δὲ ὀλίγου κρατεῖ καὶ πέττει, ὥστε μένον ὑγραίνει.

Διὰ τί μᾶλλον κραιπαλῶσιν οἱ εὔκρατον πίνοντες ἢ οἱ ἄκρατον; ἢ διὰ τὴν λεπτότητα εἰς πλείους τόπους ὁ κεκραμένος εἰσέρχεται, καθάπερ ἐν τοῖς ἱματίοις, καὶ ἔστι δυσεξαγωγότερος· τὸ δὲ ὕδωρ λεπτομερέστερον μέν, ἀλλ’ εὐέξοδον. ἢ διότι ἔλαττον πίνουσιν ἄκρατον διὰ τὸ μὴ δύνασθαι, καὶ μᾶλλον ἀπεμοῦσιν; ἔτι δὲ συμπέττει τὰ λοιπά. ταὐτὸ δ’ ἐστὶ πρόβλημα.

Διὰ τί ὑπὸ τοῦ ἀκράτου ἀποθνήσκουσιν, ἐάν τις προϊσχνάνας πολὺ πίῃ; καὶ μὴ προϊσχνάναντες δὲ πολλοὶ τῶν φιλοπότων ἀθρόον πολὺ πίνοντες ξηροὶ γίνονται· δοκεῖ γὰρ ὅ τε οἶνος τῶν θερμῶν εἶναι τὴν φύσιν καὶ τὸ ζῆν, τὸ δὲ [874b] ἀποθνήσκειν κατάψυξις. ἢ ὥσπερ καὶ ἀπὸ τοῦ κωνείου, σβεννυμένου κατὰ μικρὸν τοῦ θερμοῦ τοῦ οἰκείου. ἀλλὰ τρόπον ἕτερον· τὸ μὲν γὰρ τῇ ψυχρότητι πήγνυσι τὸ ὑγρὸν καὶ θερμόν, ὁ δ’ οἶνος τῇ θερμότητι τῇ αὑτοῦ μαραίνει τὴν φυσικὴν θερμότητα. ὥσπερ οὖν ὑπὸ τοῦ πολλοῦ πυρὸς καὶ ἡλίου τὸ ὀλίγον πῦρ ἀποσβέννυται, οὕτως ἡ ἐν τοῖς σώμασι θερμότης ὑπὸ τῆς ἐν τῷ οἴνῳ, ἐὰν ὑπερβάλλῃ.

Διὰ τί οἱ μεθύοντες ἀριδάκρυοι μᾶλλον; ἢ ὅτι θερμοὶ καὶ ὑγροὶ γίνονται· ἀκρατεῖς οὖν εἰσίν, ὥστε ὑπὸ μικρῶν κινεῖσθαι.

Διὰ τί ἧττον μεθύσκονται ταῖς μεγάλαις κωθωνιζόμενοι; πάντων γὰρ ταὐτὸ αἴτιον ἡ κατάκρουσις, τουτέστιν ἐπιπολῆς. τὸ μὲν γὰρ μεθύειν ἐν τοῖς περὶ κεφαλὴν τόποις. ἢ ὅτι δεῖ πρὸς τοὺς ὕπνους ὑγρότητα ἐνυπάρχειν θερμήν; αὕτη γὰρ εὔπεπτος. ἂν δὲ μὴ ἐνῇ ὑγρότης ὀλίγη ἢ δύσπεπτος, οὐ γίνεται ὕπνος. διὸ ἐν τοῖς κόποις καὶ μετὰ τὰ σιτία καὶ τοὺς πότους ὑπνωτικώτατοι γίνονται ὑπὸ τῆς θέρμης. τοῖς δὲ μελαγχολικοῖς καὶ τοῖς μεγάλας πυρίας ἀγρυπνία, τοῖς μὲν ὅτι κατέψυκται τὸ ὑγρόν, τοῖς δὲ ὅτι οὐκ ἔστιν ἢ ὀλίγον. φανερὸν οὖν ὅτι εἰς ταῦτα βλεπτέον καθ’ ἕτερον τῶν παθῶν.

Διὰ τί οἱ οἰνόφλυγες τρέμουσι, καὶ μᾶλλον ὅσῳ ἂν ἀκρατοποτῶσιν; ἔστι δὲ ὁ μὲν οἶνος θερμαντικός, ὁ δὲ τρόμος γίνεται μάλιστα ὑπὸ ψυχροῦ, διὸ οἱ ῥιγῶντες μάλιστα τρέμουσιν. πολλοῖς δ’ ἤδη χρωμένοις μόνῳ ἀκράτῳ τροφῆς χάριν τρόμοι τε ἰσχυροὶ συνέβησαν, ὥστε ἀπορρίπτειν τοὺς θλίβοντας, καὶ τῷ θερμῷ ὕδατι λουόμενοι ἀναισθήτως εἶχον. ἕτεροι δὲ τοῦτον τὸν τρόπον διαιτώμενοι, καὶ τρίψεσι χρώμενοι καὶ τροφῇ κρέασι, πρὸς ἀποπληκτικὰς ἀρρωστίας ἤλασαν· οἷς τρόμοι μὲν διὰ τὴν ἀκινησίαν ἧττον ἐνέπιπτον, πόνος δὲ ἰσχυρὸς καὶ τὸ μὴ δύνασθαι ἡσυχάζειν. ἔτι τοῦ μὲν τρόμου αἰτία ἡ ψυχρότης· φαίνονται γάρ, ὥσπερ εἴρηται, οἵ τε ῥιγῶντες τοῦτο πάσχοντες καὶ οἱ σφόδρα γέροντες. ἀμφοτέρων δὲ τούτων τῶν μὲν τὸ πάθος ψυχρόν, τῶν δὲ ἡ ἡλικία· ὁ δὲ οἶνος θερμαντικώτατος, ὥσθ’ ὑπεναντίον ἄν τι συμβαίνοι. ἢ οὐθὲν κωλύει γίνεσθαι ταὐτὸ ὑπὸ ἐναντίων, μὴ ὡσαύτως δὲ ποιούντων, οἷον καὶ ὑπὸ τῶν πάγων ἀποκάεται καὶ ὑπὸ θερμοῦ, ὅταν ὁ πάγος ἀθρόον ποιήσῃ τὸ [875a] θερμόν· ὥστ’ ἔστι μὲν ὡς ὑπ’ ἐναντίων τὸ πάθος τὸ αὐτὸ συμβαίνειν, ἔστι δὲ ὡς ὑπὸ τοῦ αὐτοῦ τὸ αὐτό. ὁ δὲ τρόμος γίνεται μὲν ὑπ’ ἐνδείας θερμοῦ, οὐ παντὸς ἀλλὰ τοῦ οἰκείου. φθείρεται δὲ τὸ θερμὸν ἢ μαράνσει ἢ σβέσει, σβέσει μὲν ὑπὸ τῶν ἐναντίων, ὑπὸ ψυχροῦ καὶ ὑγροῦ, μαράνσει δὲ ἐνδείᾳ τροφῆς, οἷον οἱ λύχνοι, ὅταν μὴ ἔχωσιν ὑπέκκαυμα μηδ’ ἔλαιον· ἢ ὑπὸ θερμοῦ ἀλλοτρίου, οἷον τὸ πῦρ ἐν τῷ ἡλίῳ καὶ οἱ λύχνοι παρὰ τῷ πυρί. οἱ μὲν οὖν ῥιγῶντες ὑπὸ ψυχροῦ σβεννυμένου τοῦ θερμοῦ τρέμουσιν. διὸ καὶ τοῖς προσχεομένοις τὸ θερμὸν αἱ φρῖκαι γίνονται· ἐγκατακλειόμενον γὰρ τὸ ψυχρὸν εἴσω καὶ ἀντιπεριιστάμενον ἵστησι τὰς τρίχας· καὶ τῷ ἀρχομένῳ πυρέττειν τὸ γινόμενον ῥῖγος δι’ ὁμοίαν αἰτίαν γίνεται. ἐν δὲ τῷ γήρᾳ τὸ θερμὸν μαραίνεται τῆς τροφῆς ὑπολειπούσης. τροφὴ μὲν γὰρ ὑγρὸν τῷ θερμῷ, τὸ δὲ γῆρας ψυχρόν. οἱ δὲ οἰνόφλυγες μαραινομένης μὲν τῆς οἰκείας θερμότητος τρέμουσι, κἂν εἴ τινες ἄλλοι τοῦτο πάσχουσι διὰ τὸν οἶνον, οὐ τὸν αὐτὸν δὲ τρόπον τοῖς διὰ γῆρας, ἀλλ’ ἔτι τρίτος ἦν τρόπος τῆς τοῦ θερμοῦ φθορᾶς. ὅταν γὰρ ὑπερβάλλοντι χρῶνται ἐν τῷ σώματι, πολλὴ οὖσα ἡ θερμότης ἢ ἀποσβέννυσιν ἢ ἀσθενῆ ποιεῖ τὴν οἰκείαν θερμότητα ᾗ ἰσχύομεν· ἔστι γὰρ ὅταν μὴ κρατῇ τὸ κινοῦν τοῦ κινουμένου, οἷον ὅταν ξύλον μακρὸν καὶ μέγα μὴ εὐκρατῶς ἔχῃ τις, τὸ ἄκρον τρέμει. γίνεται δὲ τοῦτο ἢ τῷ τὸ ἐχόμενον μεῖζον εἶναι ἢ τῷ τὸ κινοῦν ἔλαττον. συμβαίνει δὲ σβεννυμένου τοῦ θερμοῦ (δοκεῖ γὰρ αἴτιον τοῦτο εἶναι τοῦ κινεῖσθαι τοῖς ζῴοις) μὴ κρατεῖν τὴν φύσιν. σημεῖον δ’ ὅτι διὰ ψυχρότητα γίνεται τὸ πάθος τοῖς οἰνόφλυξι καὶ τοῖς πρεσβύταις, ὅτι ἄνευ ῥίγους γίνεται ὁ τρόμος.

Διὰ τί ὁ ἀκροθώραξ μᾶλλον παροινεῖ τοῦ μᾶλλον μεθύοντος καὶ τοῦ νήφοντος; ἢ ὅτι ὁ μὲν νήφων εὖ κρίνει, ὁ δὲ παντάπασι μεθύων διὰ τὸ τὰς αἰσθήσεις ἐπιπεπλασμένας εἶναι, οὐ δυνάμενος τὸ βάρος φέρειν, οὐ κρίνει· οὐ κρίνων δὲ οὐ παροινεῖ. ὁ δὲ ἀκροθώραξ κρίνει τε καὶ διὰ τὸν οἶνον κακῶς κρίνει, ὥστε παροινεῖ· ὥσπερ καὶ Σάτυρον τὸν Κλαζομένιον ὄντα φιλολοίδορον, φεύγοντα δίκην, ἵνα ὑπὲρ τοῦ πράγματος λέγῃ καὶ μὴ λοιδορῆται, τὰ ὦτα ἐπέπλασαν, ἵνα μὴ ἀκούων εἰς λοιδορίαν τρέπηται· παυομένου δὲ τοῦ ἀντιδίκου ἀφεῖλον· μικρὰ δὲ ἀκούσας ἔτι λέγοντος οὐκ ἀπέσχετο ἀλλὰ κακῶς ἔλεγε, διὰ τὸ αἰσθάνεσθαι μὲν κακῶς δὲ κρίνειν.

[875b] Διὰ τί πρὸς τὸν γλυκὺν οἶνον ἡδίω ὄντα οὐ γίνονται οἰνόφλυγες; ἢ ὅτι οὐκ ἴδιον χυμὸν ἔχει ὁ γλυκύς, ἀλλ’ ἀλλότριον; φιλόγλυκυς οὖν μᾶλλον ἢ φίλοινος ἔσται ὁ κεκρατημένος.

Διὰ τί οἱ οἰνόφλυγες ὑπὸ τοῦ ἡλίου θερμαινόμενοι μάλιστα χαίρουσιν; ἢ ὅτι δέονται πέψεως; ἔτι δὲ καὶ διὰ τὸ κατεψῦχθαι· διὸ καὶ αἱ ἀποπληξίαι καὶ αἱ ἀποναρκώσεις τάχιστα μετὰ τοὺς πότους γίνονται.

Διὰ τί τοῖς μεθύουσιν ἐνίοτε πολλὰ φαίνεται τὸ ἓν ὁρῶσιν; ἢ ὅτι αἱ ἀρχαὶ τῶν ὄψεων ἔσω μὲν κινοῦνται ὑπὸ τοῦ οἴνου, καθάπερ ἡ ὅλη κεφαλή, κινουμένων δὲ τῶν ἀρχῶν οὐκ εἰς ταὐτὸ συμβάλλουσιν αἱ ὄψεις, ἀλλ’ οἷον ἐπὶ μέρος ἑκάτερον τοῦ ὁρωμένου· διὸ δύο φαίνεται. ταὐτὸ δὴ τοῦτο γίνεται καὶ ἐάν τις κάτωθεν πιέσῃ τὴν ὄψιν· ἐκίνησε γὰρ τὴν ἀρχὴν τῆς ὄψεως, ὥστε μηκέτι εἰς ταὐτὸ συμβάλλειν τῇ ἑτέρᾳ. ἡ μὲν οὖν τοιαύτη κίνησις ἔξωθεν γίνεται, ἡ δὲ ἀπὸ τοῦ οἴνου ἔσωθεν. διαφέρει δ’ οὐθέν· ταὐτὰ γὰρ ποιήσει ὁπωσοῦν κινηθεῖσα.

Διὰ τί τῶν μεθυόντων ἡ γλῶττα πταίει; πότερον ὅτι καθάπερ τὸ ὅλον σῶμα ἐν τῇ μέθῃ σφάλλεται, οὕτω καὶ ἡ γλῶττα σφαλλομένη πταίει καὶ οὐ δύναται τὴν λέξιν διαρθροῦν; ἢ σπογγώδης ἐστὶν ἡ τῆς γλώττης σάρξ· βρεχομένη οὖν ἐξαίρεται· τούτου δὲ συμβαίνοντος διὰ τὸ πάχος τὸ ἀπὸ τοῦ ὄγκου δυσκινητοτέρα οὖσα οὐ δύναται διακριβοῦν. ἢ διότι οὔτε ἐν τῷ ὑγρῷ δυνάμεθα λαλεῖν διὰ τὴν ἀπουσίαν τοῦ ἀέρος, οὔθ’ ὅταν εἰς τὸ στόμα λάβωμεν ὑγρόν; ἐν τῇ μέθῃ οὖν ἐν ὑγρῷ πολλῷ τῆς γλώττης οὔσης οὐκ ἀκριβοῦμεν· τὸ δὲ μὴ ἀκριβοῦν ἐστὶ τὸ πταίειν. ἢ διότι ἐν ταῖς μέθαις ἡ ψυχὴ συμπαθὴς γινομένη πταίει; τῆς ψυχῆς οὖν τοῦτο πασχούσης εἰκὸς καὶ τὴν γλῶτταν ταὐτὸ πάσχειν· ἀπ’ ἐκείνης γὰρ ἡ τοῦ λέγειν ἀρχή. διὸ καὶ χωρὶς τῆς μέθης, ὅταν ἡ ψυχὴ πάθῃ τι, συμπάσχει καὶ ἡ γλῶττα, οἷον τῶν φοβουμένων.

Διὰ τί οἱ οἰνόφλυγες καὶ οἱ περὶ τὴν θάλατταν χαίρουσιν ἡλίῳ; ἢ διότι οἱ μὲν οἰνόφλυγες δέονται πέψεως, καὶ ἅμα συμβαίνει τινὰς τόπους κατεψῦχθαι; διὸ καὶ ἀποπληξίαι καὶ ἀποναρκώσεις μετὰ τοὺς πότους. οἱ δὲ θαλάττιοι διὰ τὸ ἀεὶ ἐν ὑγρῷ εἶναι τοῦτο ποιοῦσιν.

Διὰ τί οἱ μεθύοντες ἀδύνατοι ἀφροδισιάζειν; ἢ ὅτι δεῖ μᾶλλόν τινα τόπον ἐκθερμανθῆναι τοῦ ἄλλου σώματος, [876a] οἱ δὲ διὰ τὸ πλῆθος τῆς θερμασίας ἀδυνατοῦσιν. ἀποσβέννυται οὖν τὸ ἀπὸ τῆς κινήσεως, θερμὸν γινόμενον ὑπὸ τοῦ περιέχοντος. ἢ διότι δεῖ μὲν ἐκθερμανθῆναι τοὺς κάτω τόπους, ὁ δ’ οἶνος ἄνω πέφυκε φέρεσθαι, ὥστε ἐκεῖ ποιεῖ τὴν θερμασίαν, ἐντεῦθεν δὲ ἀπάγει. καὶ μετὰ τὰ σιτία ἥκιστα ἀφροδισιαστικοί, καὶ κελεύουσιν ἀριστᾶν μὲν πολὺ δειπνεῖν δὲ ὀλίγον· ἀπέπτων μὲν γὰρ ὄντων ἄνω φέρεται, πεπεμμένων δὲ κάτω τὸ θερμὸν καὶ τὸ ὑγρόν· ἡ δὲ τοῦ σπέρματος γένεσις ἐκ τούτων. καὶ οἱ κοπιῶντες ἐξονειρώττουσιν, ὅτι ὑγρὸς καὶ θερμὸς ὁ κόπος· ἐὰν οὖν ἐν τῷ τόπῳ τούτῳ γένηται ἡ περίττωσις, συμβαίνει ἐξονειρώττειν. διὰ ταὐτὸ δὲ καὶ ἐπὶ τοῖς ἀρρωστήμασιν, ὅσοις γίνεται, συμβαίνει. καὶ τοῖς φοβουμένοις καὶ τοῖς ἀποθνήσκουσι συμβαίνει ὡσαύτως.

Διὰ τί νέοι ὄντες ἐνουροῦσι μᾶλλον, ὅταν μεθυσθῶσιν, ἢ πρεσβύτεροι; ἢ διὰ τὸ θερμοὺς καὶ ὑγροὺς εἶναι πολὺ τὸ συρρυὲν γίνεται περίττωμα, διὰ τὸ μὴ ἀναλίσκειν τὸ σῶμα τὸ ὑγρόν, ὥστε ὑπερχεῖται· πρεσβυτέροις δὲ γινομένοις διὰ ξηρότητα τὴν ὑπερβολὴν ἀντισπᾷ τὸ σῶμα. ἢ ὅτι μᾶλλον ὑπνωτικώτεροί εἰσιν οἱ νέοι τῶν πρεσβυτέρων; διὸ τοὺς μὲν νέους καθύπνους ὄντας λανθάνει ἡ ὁρμὴ τοῦ οὔρου ἐκπίπτουσα πρὶν διεγερθῆναι, τοὺς δὲ πρεσβυτέρους οὔ, καθάπερ οὐδὲ τῶν ἔξωθεν κινήσεων οὐδὲν ἧττόν τι λανθάνει αὐτοὺς ἢ τοὺς νέους. δῆλον δέ· καὶ γὰρ αὐτοὶ οἱ νέοι ἐν τοῖς βαθυτάτοις ὕπνοις μάλιστα ἐνουροῦσιν.

Διὰ τί τὸ ἔλαιον πρὸς τὰς μέθας συμφέρει, καὶ τοῦ δύνασθαι πίνειν τὸ καταρροφεῖν; ἢ διότι οὐρητικόν ἐστι καὶ τῷ πόματι προοδοποιεῖ;

Δ. ΟΣΑ ΠΕΡΙ ΑΦΡΟΔΙΣΙΑ.

Διὰ τί ὁ ἀφροδισιάζων καὶ ὁ ἀποθνήσκων ἀναβάλλει τὰ ὄμματα, καθεύδων δὲ καταβάλλει; ἢ διότι ἄνωθεν τὸ θερμὸν ἐξιὸν ἀναστρέφει ἵνα περ ὁρμᾷ· ἐν δὲ τῷ ὕπνῳ κάτω συνάγεται, διὸ ῥέπει κάτω; συγκλείονται δὲ οἱ ὀφθαλμοὶ παρὰ τὸ μὴ ὑπάρχειν ἔτι νοτίδα.

Διὰ τί τῶν πλείοσιν ἀφροδισίοις χρωμένων ἐπιδηλότατα ἐνδίδωσι τὰ ὄμματα καὶ τὰ ἰσχία, τὰ μὲν ἐγγὺς ὄντα, τὰ δὲ πόρρω; πότερον ὅτι καὶ ἐν αὐτῇ τῇ συνουσίᾳ ἐπιδηλότατα συμπονεῖ ταῦτα τῇ ἐργασίᾳ συνιόντα περὶ [876b] τὴν πρόεσιν τοῦ σπέρματος; συνεκθλίβεται οὖν μάλιστα ἐντεῦθεν ὅσον εὔτηκτον τῆς τροφῆς ἔνεστι διὰ τὴν θλῖψιν. ἢ διότι παραθερμαινόμενα τήκεται μάλιστα· ὁ δὲ ἀφροδισιασμὸς θερμότητα ἐργάζεται. μάλιστα δὲ ταῦτα θερμαίνεται, ἃ κινεῖται ἐν τῇ ἐργασίᾳ. οἱ δὲ ὀφθαλμοὶ καὶ τὰ περὶ τὴν ἕδραν ἐπιδήλως συμπονεῖ. οὔτε γὰρ μὴ συναγαγόντι τὰ περὶ τὴν ἕδραν ἐνδέχεται προέσθαι, οὔτε μὴ τῶν ὀφθαλμῶν καταβληθέντων· τὰ μὲν γὰρ περὶ τὴν ἕδραν συνιόντα θλίβει, οἷον ἐκ κύστεως τῇ χειρὶ τὸ ὑγρόν, ἡ δὲ τῶν ὀφθαλμῶν συναγωγὴ τὰ ἀπὸ τοῦ ἐγκεφάλου. ὅτι δὲ μεγάλην ἔχουσι τὰ ὄμματα τὴν δύναμιν καὶ ὁ τόπος αὐτῶν πρὸς γένεσιν, δηλοῖ ἡ τῶν ἀτέκνων καὶ γονίμων γυναικῶν τοῖς ἐναλείμμασι πεῖρα, ὡς δέον ταύτῃ διελθεῖν εἰς τὸ σπέρμα δύναμιν. πίονα δὲ ἄμφω τυγχάνει ὄντα πάντων ἀεί, ἀρχός τε καὶ ὄμματα· διὰ μὲν οὖν τὴν συνεργίαν κοινωνεῖ τῆς θερμασίας, διὰ δὲ ταύτην λεπτύνεται καὶ συναποκρίνεται πολὺ εἰς τὸ σπέρμα. οὔτε γάρ, ἂν μὴ πῖον ᾖ, ὁμοίως γρύσει ἡ θερμότης, οὔτε πῖον ὂν μὴ συμπονοῦν, οἷον ἐν τῇ κοιλίᾳ· ἀλλὰ οἱ νεφροὶ τῶν ἄλλων μάλιστα αἰσθάνονται διὰ τὴν γειτνίασιν. καὶ αὐτὴ δὲ ἡ τοῦ σπέρματος πάροδος παρὰ τοὺς τόπους τούτους οὖσα ἐπιδηλότατα ἱκανή ἐστι λεπτύνειν· ἀφαιρεῖ γάρ, ἀλλ' οὐ προστίθησι πλησιάζουσα.

Διὰ τί καὶ οἱ ἀφροδισιάζοντες καὶ οἱ εὐνοῦχοι οὐ χρώμενοι ἀφροδισίοις ὁμοίως ἀμφότεροι τὰ ὄμματα πρὸς ὀξυωπίαν βλάπτονται; ἢ ὅτι τοῖς μὲν διὰ λαγνείαν, τοῖς δὲ διὰ τὴν πήρωσιν τὰ ἄνω ξηρὰ γίνεται μᾶλλον τοῦ δέοντος, ἐπιδηλότατα δ' ἐν τούτοις, ὅσων τὸ ἔργον ἐστὶν ἀκριβές· ἡ δ' ὄψις τοιοῦτον. κατασπωμένων δὲ τῶν ὑγρῶν τὰ ἄνω ξηραίνεται. ὁ μὲν οὖν ἀφροδισιασμὸς δῆλον ὅτι τοῦτο ποιεῖ· τοῖς δὲ εὐνούχοις τά τε σκέλη οἰδεῖ καὶ αἱ κοιλίαι εὔλυτοι ὡς κάτω μεθισταμένου τοῦ ὑγροῦ.

Διὰ τί ἄνθρωπος μόνον, ὅταν ἄρχηται δύνασθαι ἀφροδισιάζειν, ἡβᾷ, τῶν δὲ ἄλλων ζῴων ὅσα τρίχας ἔχει οὐθέν; ἢ ἐπειδὴ κατὰ τὰς ἡλικίας μεταβάλλει τὰ ζῷα εἰς τοὐναντίον; φωνή τε γὰρ βαρεῖα ἐξ ὀξείας γίνεται, καὶ δασύνεται ἐκ ψιλῶν· δῆλον οὖν ὡς καὶ τὰ ἐκ γενετῆς δασέα ζῷα ψιλοῖτ’ ἂν, οὐ δασύνοιτο, σπερματικὰ γινόμενα. οὐ πάσχει δὲ τοῦτο διὰ τὸ τὰ σπερμαίνοντα ξηρότερα γίνεσθαι καὶ [877a] ἀραιότερα, ἐξ ὧν θρὶξ φύεται. δῆλον δὲ ἐκ τοῦ μὴ ἐν ταῖς οὐλαῖς φύεσθαι τρίχας· στεγαναὶ γὰρ αἱ οὐλαί, ἀλλ’ οὐκ ἀραιαί. μηδὲ τοῖς παιδίοις καὶ γυναιξίν· ὑγρὰ γὰρ καὶ ἄμφω, ἀλλ’ οὐ ξηρά.

Διὰ τί ἡ ἀνυποδησία οὐ συμφέρει πρὸς ἀφροδισιασμούς; ἢ ὅτι τὸ μέλλον ἀφροδισιάζειν σῶμα δεῖ τὰ ἐντὸς θερμὸν εἶναι καὶ ὑγρόν; τοιοῦτον δὲ ἐν τοῖς ὕπνοις μᾶλλον ἢ ἐν τῷ ἐγρηγορέναι· διὸ καὶ ταχὺ καὶ ἄνευ ἐργασίας οἱ ἐξονειρωγμοὶ γίνονται, ἐγρηγοροῦσι δὲ μετὰ πόνου. ἅμα δὲ τὸ σῶμα τοιοῦτον καὶ οἱ πόδες ὑγρότεροι καὶ θερμότεροι· σημεῖον δέ, ὅτι καθευδόντων θερμοί, ὡς ἅμα τοῖς ἐντὸς οὕτως ἔχοντες. ἡ δ’ ἀνυποδησία τοὐναντίον ποιεῖ· ξηραίνει γὰρ καὶ ψύχει. ὥστ’, εἴτε ἀδύνατον μὴ θερμῶν ὄντων ἀφροδισιάσαι εἴτε χαλεπόν, ἀνάγκη ἀσύμφορον εἶναι πρὸς τὴν τῶν ἀφροδισίων χρῆσιν.

Διὰ τί ἐκλύεται μάλιστα τῶν ζῴων ἀφροδισιάσας ἄνθρωπος; ἢ διότι πλεῖστον προΐεται σπέρμα κατὰ λόγον τοῦ σώματος; διὰ τί δὲ πλεῖστον προΐεται; ἢ ὅτι ἥκιστα ἐκπονεῖ τὴν τροφὴν καὶ φύσει ὑγρὸν καὶ θερμόν ἐστι τῶν ζῴων μάλιστα; ὧν τὸ μὲν ποιεῖ σπέρμα πολύ, τὸ δὲ τὴν φύσιν σπερματικὴν ποιεῖ· καὶ γὰρ τὸ σπέρμα τοιοῦτόν ἐστιν, ἕως ἂν σώζηται.

Διὰ τί τοῦ ἀφροδισιάζειν γινομένου διὰ θερμότητα, τοῦ δὲ φόβου ὄντος ψυκτικοῦ καὶ τοῦ ἀποθνήσκειν, ἐνίοις, ὅταν γένωνται ἐν τούτοις τοῖς πάθεσι, σπέρμα προέρχεται; ἢ ὅτι ψυχομένων ἐνίων τόπων ἕτεροι ὑποθερμαίνονται, τήν τε οἰκείαν ἔχοντες θερμότητα καὶ δεχόμενοι τὴν τῶν καταψυχομένων τόπων; ὥστε καταψυχομένων μὲν συμβαίνει, οὐ διὰ τὸ ψύχεσθαι μέντοι, ἀλλὰ διὰ τὸ θερμαίνεσθαι. δῆλον δὲ καὶ τῇ ὄψει· τῶν γὰρ φοβουμένων τὰ ἄνω λειφαιμεῖ, τὰ δὲ κάτω ὑγραίνεται, καὶ κοιλία καὶ κύστις λύεται. ὑπιὸν οὖν τὸ θερμὸν ἐν μὲν τῷ φόβῳ κάτω, ἐν δὲ τῷ θανάτῳ κάτωθεν ἄνω, ἐξυγραῖνον τῇ θερμότητι ποιεῖ τὴν τοῦ σπέρματος ἔξοδον.

Διὰ τί οὐ δεῖ μὴ ὀργῶντα οὔτε ἀφροδισιάζειν οὔτε ἐμεῖν οὔτε πτάρνυσθαι οὔτε φῦσαν ἀφιέναι; ἢ ὅτι μὴ ὀργῶντες ὁμοίως ἔχομεν τοῖς ἐκ τῆς γῆς ἀνασπωμένοις, οἷς προσεκσπᾶταί τι ἀλλότριον ἢ ἐγκαταλείπεται ἀποσπασθέν; ἅπαν δὲ ὃ δεῖ μὲν ἐξαρθῆναι, κολοβὸν δὲ ὑπολείπεται, [877b] πλείω χρόνον παρέξει πόνον. ἐάν τέ τις κινήσῃ τι ἀλλότριον, τοῦτο πόνον παρέξει, οὐκ ἐν τῇ αὑτοῦ χώρᾳ ὄν· ἃ συμβήσεται τοῖς μὴ ὀργῶσι ποιοῦσί τι τῶν εἰρημένων.

Διὰ τί νήστεις θᾶττον ἀφροδισιάζουσιν; ἢ διότι οἱ πόροι κενώτεροι οἱ τοῦ σώματος νήστεσι, πλήρεσι δὲ πλήρεις· κωλύουσιν οὖν τὴν εἰς τὸ σπέρμα ὑγρότητα διεξιέναι. δῆλον δὲ ἐπὶ τῆς κύστεως· οὐ γὰρ δύνανται πλήρους οὔσης ταχὺ ἀφροδισιάζειν.

Διὰ τί οἱ νέοι ὅταν πρῶτον ἀφροδισιάζειν ἄρχωνται, αἷς ἂν ὁμιλήσωσι, μετὰ τὴν πρᾶξιν μισοῦσιν; ἢ διὰ τὸ μεγάλην γίνεσθαι τὴν μεταβολήν; τῆς γὰρ συμβαινούσης ὕστερον ἀηδίας μεμνημένοι, ὡς αἰτίαν ᾗ ἐπλησίασαν φεύγουσιν.

Διὰ τί οἱ ἱππεύοντες συνεχῶς ἀφροδισιαστικώτεροι γίνονται; ἢ ὅτι διὰ τὴν θερμότητα καὶ τὴν κίνησιν ταὐτὸ πάσχουσιν ὅπερ ἐν τῇ ὁμιλίᾳ; διὸ καὶ τῇ τῆς ἐπεχούσης ἡλικίας ἐπιδόσει περὶ τὰ αἰδοῖα μείζω τὰ μόρια ταῦτα γίνεται. ἀεὶ οὖν τῇ κινήσει ταύτῃ χρωμένων εὔροα τὰ σώματα γίνεται καὶ προωδοπεποιημένα πρὸς τὸν ἀφροδισιασμόν.

Διὰ τί, ὅταν ἄρξωνται ἀφροδισιάζειν δύνασθαι, οἱ χρῶτες ὄζουσι, πρότερον δ’ οὐκ ὄζουσι πρὸ ἥβης οὔτε οἱ ἄνδρες οὔτε αἱ γυναῖκες; ἢ ὅτι τὰ ἄπεπτα τούς τε χυμοὺς ἀεὶ χείρους ἔχει (ἢ γὰρ ὀξυτέρους ἢ ἁλμυρωτέρους ἢ πικροτέρους) καὶ τὰς ὀσμὰς δυσωδεστέρας, τὰ δὲ πεπεμμένα ἢ γλυκεῖς ἢ ἧττον ἀγλευκεῖς, καὶ τὰς ὀσμὰς εὐωδεστέρας ἢ ἧττον δυσώδεις; τοῦτο δ’ ἐστὶ δῆλον ἐπὶ πάντων θεωμένοις καὶ φυτῶν καὶ ζῴων. ἀφαιρεθέντων δὴ τῶν εὐπέπτων, τὰ ὑπολειπόμενα ἄπεπτα, οἷον δὴ καὶ ἐπὶ τῆς τέφρας ἀναλωθέντος τοῦ γλυκέος πικρὰ ἡ κονία, καὶ ὁ ἱδρὼς ἁλμυρός. πέττει δὲ ἡ φυσικὴ θερμότης τὸ σπέρμα, ὃ μικρὸν ὂν πολλὴν ἔχει δύναμιν· ἐκ πολλοῦ γὰρ ὀλίγον συγκεκεφαλαίωται. διὸ ὅταν ἀπέλθῃ, ἐκλύονται ὡς ἐπὶ τὸ πολὺ μᾶλλον καὶ καταψύχονται· ὥστε ἀπεπτότεροι οἱ χυμοὶ γίνονται μᾶλλον, ἀναστομουμένων τῶν πόρων διὰ τὴν ἔκκρισιν αὐτοῦ. ἁλμυρώτεροι οὖν οἱ τῶν παίδων ἱδρῶτες καὶ δυσωδέστεροι διὰ τὴν ἀπεψίαν· καὶ ἐὰν τύχῃ τοιαύτη ἡ φύσις οὖσα ὥστε δυσώδη ἔχειν τὴν ὑπόστασιν τοῦ ἱδρῶτος, τούτοις μᾶλλον ἐπισημαίνει καὶ ἐν τοῖς τόποις τούτοις μάλιστα, οἷον μασχάλῃ, ἐν ᾧ μάλιστα καὶ τοῖς ἄλλοις.

[878a] Διὰ τί, ἐὰν μὲν ἐκ τοῦ σπέρματος τοῦ ἡμετέρου γένηται τὸ ζῷον, τοῦτο ἡμέτερον ἔκγονόν ἐστιν, ἐὰν δὲ ἐξ ἄλλου τινὸς ἢ μέρους ἢ ἀποκρίσεως, οὐχ ἡμέτερον; γίνεται γὰρ σηπομένων πολλὰ καὶ ἐκ τοῦ σπέρματος. τί δὴ οὖν, ἐὰν μὲν τοιοῦτον οἷον ἡμεῖς, ἡμέτερον, ἐὰν δὲ

ἀλλότριον, οὔ; ἢ γὰρ ἅπαντα προσήκει ἢ οὐθέν. ἢ πρῶτον μέν, ὅτι οὕτω μὲν ἐξ ἡμετέρου γίνεται, ἐκείνως δὲ ἐξ ἀλλοτρίου, ὅσα ἐξ ἀποκαθάρματος γίνεται καὶ ἐκκρίσεως; καὶ ὅλως οὐθὲν τῶν τοῦ ζῴου ζῷον γεννᾷ ἀλλ' ἢ τὸ σπέρμα. τὸ δὲ βλάπτον καὶ τὸ κακὸν οὐθενός ἐστιν οἰκεῖον, οὐδὲ τὸ ἀλλότριον· οὐ γὰρ ταὐτὸ τούτου τι εἶναι καὶ τούτου ἀλλότριον ἢ ἕτερον ἢ κακόν. αἱ δὲ ἐκκρίσεις καὶ σήψεις οὐχ ἡμέτερα, ἀλλ' ἕτερα καὶ ἀλλότρια τῆς φύσεως ἡμῶν εἰσίν. οὐ γὰρ ὅσα ἐν τῷ σώματι γίνεται, τοῦ σώματος θετέον, ἐπεὶ καὶ φύματα γίνεται, ἃ αἴρουσι καὶ ἐκβάλλουσιν. καὶ ὅλως ὅσα παρὰ φύσιν, πάντα ἀλλότρια· παρὰ φύσιν δὲ πολλὰ καὶ τῶν συγγινομένων ἐστίν. εἰ οὖν ἐκ μόνου τούτου τῶν ἡμετέρων γίνεται ζῷον, ὀρθῶς ἂν τὸ ἐκ τούτου γινόμενον ἔκγονον ἡμέτερον εἴη μόνον. καὶ ἐκ τοῦ σπέρματος δὲ ἄν τι ἄλλο γένηται, οἷον σκώληξ σαπέντος, ἢ καὶ ἐν τῇ μήτρᾳ διαφθαρέντος, οἷον ἃ λέγεται τέρατα, οὐκ ἔκγονα λεκτέον. ὅλως γὰρ ἐκ διεφθαρμένου γινόμενα οὐκέτι ἐξ ἡμετέρου ὄντος γίνεται, ἀλλ' ἐξ ἀλλοτρίου, ὥσπερ τὰ ἐκ τῶν ἀποκρίσεων, οἷον τὸ ἐκ τῆς κόπρου. σημεῖον δὲ ὅτι ἐκ διεφθαρμένου πάντα τὰ τοιαῦτα γίνεται· μὴ ἐκ διαφθειρομένου γὰρ τοιοῦτον πέφυκε γίνεσθαι οἷον ἂν ᾖ ἐξ οὗ τὸ σπέρμα, ἐὰν ἐξ ἵππου, ἵππος, ἐὰν δὲ ἐξ ἀνθρώπου, ἄνθρωπος. καὶ αὐτό τε οὐ τιμῶμεν τὸ σπέρμα, οὐδὲ πᾶν τὸ ἐν τῇ γενέσει περαινόμενον. καὶ γὰρ ὑγρὸν καὶ ὄγκος τις καὶ σὰρξ γίνεται. ποτὲ δέ, διὰ τὸ μήπω ἔχειν τὴν φύσιν, ἀλλ' ἢ τοσοῦτον μόνον τῆς φύσεως, ὅτι οὕτω διάκειται ὥστε γενέσθαι ἐξ αὐτοῦ τοιοῦτον οἷον ἡμεῖς· ἐκ δὲ διεφθαρμένου οὐδὲ τοιοῦτον. διὰ ταῦτα οὔτε ἐξ ἑτέρου τῶν ἐν ἡμῖν οὔτε ἐκ τούτου διεφθαρμένου ἢ ἀτελῶς ἔχοντος τὸ ἔκγονόν ἐστιν ἡμέτερον.

Διὰ τί ἐν τῷ ὕδατι ἧττον δύνανται ἀφροδισιάζειν οἱ ἄνθρωποι; ἢ ὅτι ἐν ὕδατι οὐθὲν τήκεται, ὅσα ὑπὸ πυρὸς τήκεται, οἷον μόλιβδος ἢ κηρός· ἡ δὲ γονὴ τηκομένη φαίνεται πυρί· πρὶν μὲν γὰρ ἡ τρῖψις ἐκθερμάνῃ, οὐ τήκεται. οἱ δὲ ἰχθύες οὐ τρίψει ὀχεύουσιν.

[878b] Διὰ τί τὸ ἀφροδισιάζειν ἥδιστον, καὶ πότερον ἐξ ἀνάγκης ἢ ἕνεκά τινος ὑπάρχει τοῖς ζῴοις; ἢ ἡδὺ μέν ἐστιν ἤτοι διὰ τὸ ἀπὸ παντὸς τοῦ σώματος ἀπιέναι τὸ σπέρμα, ὥσπερ τινές φασιν, ἢ καὶ ἀπὸ παντὸς μὲν μὴ ἀπιέναι, διὰ δὲ τοιούτου εἰς ὃ πάντες συντείνουσιν οἱ πόροι τῶν φλεβῶν; οὔσης οὖν τῆς ἡδονῆς ὁμοίας τῆς ἐν τῷ κνησμῷ, τοῦτο συμβαίνει γίνεσθαι ὥσπερ δι' ὅλου τοῦ σώματος. ὁ δὲ κνησμὸς ἡδύς ἐστιν, ὑγροῦ ἔξοδος πνευματώδους ἐγκατακεκλεισμένου παρὰ φύσιν. ἡ δὲ γονὴ τοιούτου εἰς τὸ κατὰ φύσιν ἔξοδος. ἔστι δὲ καὶ ἐξ ἀνάγκης ἡδὺ καὶ ἕνεκά τινος, ἐξ ἀνάγκης μὲν ὅτι ἡ εἰς τὸ κατὰ φύσιν ὁδὸς ἡδύ ἐστιν, ἐὰν ᾖ αἰσθητή, ἕνεκα δέ τινος ἵνα

γένεσις ἢ ζῴων· διὰ γὰρ τὴν ἡδονὴν μᾶλλον ὁρμᾷ πρὸς τὴν μῖξιν τὰ ζῷα.

Διὰ τί ἡ λαγνεία πρὸς νοσήματ’ ἔνια τῶν ἀπὸ φλέγματος συμφέρει; ἢ ὅτι περιττώματός ἐστιν ἔξοδος, ὥστε συνεκκρίνεται πολλὴ περίττωσις; τὸ δὲ φλέγμα περίττωμα.

Διὰ τί τὰ ἀφροδίσια τὴν κοιλίαν ψύχει καὶ ξηραίνει; ἢ ψύχει μέν, ὅτι ἐκκρίνεται τὸ θερμὸν ἐν τῇ μίξει; ξηραίνει δὲ ἡ μῖξις· ἐξατμίζεται γὰρ τοῦ θερμοῦ ἐξιόντος, ἐξέρχεται δὲ ψυχομένου. ἔτι καὶ ἡ θερμότης ἐν τῇ ὁμιλίᾳ ξηραίνει.

Διὰ τί, ὅσοις αἱ βλεφαρίδες ῥέουσι, λάγνοι; ἢ διὰ τὸ αὐτὸ καὶ διότι οἱ φαλακροί; ἔστι γὰρ μόρια ἄμφω ταῦτα τοῦ αὐτοῦ. ἔστι δὲ τὸ αἴτιον· ὁπόσαι πρεσβυτέρου γινομένου μὴ αὐξάνονται τῶν συγγενικῶν τριχῶν, ἅπασαι τοῦτο πάσχουσιν ἐν ταῖς λαγνείαις. κεφαλὴ γὰρ καὶ ὀφρὺς καὶ βλεφαρὶς συγγενικαὶ τρίχες. τούτων δὲ μόνον ἐνίοις αἱ ὀφρύες δασύνονται πρεσβυτέροις γινομένοις (δι’ ἣν δὲ αἰτίαν, εἴρηται ἐν ἄλλοις), αἱ ἕτεραι δὲ διὰ τὸ αὐτὸ ἄμφω λείπουσιν. αἴτιον δὲ ὅτι καταψύχει τὰ ἄνω ἡ λαγνεία ὀλίγαιμα ὄντα, ὥστε οὐ πέττει τὴν τροφὴν ὁ τόπος· οὐ λαμβάνουσαι δὲ τροφὴν ἐκρέουσιν αἱ τρίχες.

Διὰ τί οὐρητιῶντες οὐ δύνανται ἀφροδισιάζειν; ἢ ὅτι πλήρεις γίνονται οἱ πόροι; τὸ δὲ πλῆρες ὑγροῦ οὐ δέχεται ἄλλο ὑγρόν.

Διὰ τί αἱ ἰξίαι τοὺς ἔχοντας κωλύουσι γεννᾶν, καὶ ἀνθρώπους καὶ τῶν ἄλλων ζῴων ὅ τι ἂν ἔχῃ; ἢ ὅτι ἡ ἰξία γίνεται μεταστάντος πνεύματος· διὸ καὶ ὠφελεῖ πρὸς τὰ μελαγχολικά. ἔστι δὲ καὶ ὁ ἀφροδισιασμὸς μετὰ πνεύματος [879a] ἐξόδου. εἰ οὖν ὁδοποιεῖται ἡ ὁρμὴ γινομένου αὐτοῦ, οὐ ποιεῖ ὁρμᾶν τὸ σπέρμα, ἀλλὰ καταψύχεται· μαραίνει οὖν τὴν συντονίαν τοῦ αἰδοίου.

Διὰ τί οἱ ἀφροδισιάζοντες ἐκλύονται καὶ ἀσθενέστεροι γίνονται ὡς ἐπὶ τὸ πολύ; πότερον διὰ τὸ ἀπὸ πάντων ἔκκρισιν εἶναι τὸ σπέρμα, ὥστε οἷον οἰκοδομήματος αἱ ἁρμονίαι, καὶ τοῦ σώματος οὕτω σειομένη ἡ σύνθεσίς ἐστι τῷ ἀπεληλυθέναι τι, οἷον εἰ τὸ αἷμα ἐξέλθοι ἢ πᾶν ὅ τι ἄλλο μέρος. οὕτω σφόδρα ἐπίκαιρον τὸ ἐξιόν ἐστι, καὶ ὃ ἐκ πολλῆς γίνεται τροφῆς ὀλίγον, οἷον τὸ ἀμύλιον ἐκ τοῦ σταιτός.

Διὰ τί οἱ ἀφροδισιάζοντες καὶ οὐρητιῶντες ἐντείνουσιν; ἢ ὅτι πληρουμένων τῶν πόρων ὑγρότητος, τὸ σπέρμα ὑπεξιὸν ἐν ἐλάττονι τόπῳ πλείονά τε ὄγκον ποιεῖ καὶ αἴρει; ἐπίκειται γὰρ τὸ αἰδοῖον ἐπὶ τοῖς πόροις.

Διὰ τί ἡ σύντασις γίνεται τοῦ αἰδοίου καὶ ἡ αὔξησις; ἢ διὰ δύο, διά τε τὸ βάρος ἐπιγίνεσθαι ἐν τῷ ὄπισθεν τῶν ὄρχεων αἴρεσθαι (ὑπομόχλιον γὰρ οἱ ὄρχεις γίνονται) καὶ διὰ τὸ πνεύματος πληροῦσθαι τοὺς πόρους. ἢ τοῦ ὑγροῦ αὐξανομένου καὶ μεθισταμένου ἢ ἐξ ὑγροῦ γινομένου ὁ ὄγκος μείζων γίνεται; τὰ λίαν δὲ μεγάλα ἧττον αἴρεται διὰ τὸ πορρωτέρω τὸ βάρος τοῦ ὑπομοχλίου γίνεσθαι.

Διὰ τί οἱ ἀφροδισιάζοντες ἢ οἱ τοιοῦτοι δυσώδεις, οἱ δὲ παῖδες οὔ; καὶ τοῦ καλουμένου γράσου ὄζουσιν. ἢ τῶν πνευμάτων, ὥσπερ εἴρηται, τὰ μὲν τῶν παιδίων πέττει τὸ ὑγρὸν καὶ τοὺς ἱδρῶτας, οἱ δὲ τῶν ἀνδρῶν ἄπεπτοι;

Διὰ τί ἐν τῷ θέρει οἱ μὲν ἄνδρες ἧττον δύνανται ἀφροδισιάζειν αἱ δὲ γυναῖκες μᾶλλον, καθάπερ καὶ ὁ ποιητὴς λέγει ἐπὶ τῷ σκολύμῳ “μαχλόταται δὲ γυναῖκες, ἀφαυρότατοι δέ τοι ἄνδρες.” πότερον ὅτι οἱ ὄρχεις καθίενται μᾶλλον ἢ ἐν τῷ χειμῶνι; ἀνάγκη δέ, εἰ μέλλει ἀφροδισιάζειν, ἀνασπάσαι. ἢ ὅτι αἱ θερμαὶ φύσεις ἐν τῷ θέρει συμπίπτουσιν ὑπερβάλλοντος τοῦ θερμοῦ, αἱ δὲ ψυχραὶ θάλπουσιν; ἔστι δὲ ὁ μὲν ἀνὴρ ξηρὸς καὶ θερμός, ἡ δὲ γυνὴ ψυχρὰ καὶ ὑγρά. τοῦ μὲν οὖν ἀνδρὸς ἠμαύρωται ἡ δύναμις, τῶν δὲ θάλλει ἐπανισουμένη τῷ ἐναντίῳ.

Διὰ τί ἔνιοι ἀφροδισιαζόμενοι χαίρουσι, καὶ οἱ μὲν ἅμα δρῶντες, οἱ δ’ οὔ; ἢ ὅτι ἔστιν ἑκάστῃ περιττώσει τόπος [879b] εἰς ὃν πέφυκεν ἀποκρίνεσθαι κατὰ φύσιν, καὶ πόνου ἐγγινομένου τὸ πνεῦμα ἐξιὸν ἀνοιδεῖν ποιεῖ, καὶ συνεκκρίνει αὐτήν, οἷον τὸ μὲν οὖρον εἰς κύστιν, ἡ δ’ ἐξικμασμένη τροφὴ εἰς κοιλίαν, τὸ δὲ δάκρυον εἰς ὄμματα, μύξαι δ’ εἰς μυκτῆρας, αἷμα δὲ εἰς φλέβας. ὁμοίως δὴ τούτοις καὶ ἡ γονὴ εἰς ὄρχεις καὶ αἰδοῖα. οἷς δὴ οἱ πόροι μὴ κατὰ φύσιν ἔχουσιν, ἀλλ’ ἢ διὰ τὸ ἀποτυφλωθῆναι τοὺς εἰς τὸ αἰδοῖον, οἷον συμβαίνει τοῖς εὐνούχοις καὶ εὐνουχίαις, ἢ καὶ ἄλλως, εἰς τὴν ἕδραν συρρεῖ ἡ τοιαύτη ἰκμάς· καὶ γὰρ διεξέρχεται ταύτῃ. σημεῖον δ’ ἐν τῇ συνουσίᾳ ἡ συναγωγὴ τοῦ τοιούτου τόπου καὶ ἡ σύντηξις τῶν περὶ τὴν ἕδραν. ἐὰν οὖν ὑπερβάλλῃ τις τῇ λαγνείᾳ, τούτοις ἐνταῦθα συνέρχεται, ὥστε ὅταν ἡ ἐπιθυμία γένηται, τοῦτ’ ἐπιθυμεῖ τῆς τρίψεως εἰς ὃ συλλέγεται. ἡ δ’ ἐπιθυμία καὶ ἀπὸ σιτίων καὶ ἀπὸ διανοίας γίνεται. ὅταν γὰρ κινηθῇ ὑφ’ ὁτουοῦν, ἐνταῦθα τὸ πνεῦμα συντρέχει, καὶ τὸ τοιοῦτο περίττωμα συρρεῖ οὗ πέφυκεν. κἂν μὲν λεπτὸν ᾖ ἢ πνευματῶδες, τούτου ἐξελθόντος, ὥσπερ αἱ συντάσεις τοῖς παισὶ καὶ τοῖς ἐν ἡλικία, ἐνίοτε οὐθενὸς ὑγροῦ ἐκκριθέντος, παύονται. ὅταν δὲ κατασβεσθῇ τὸ ὑγρόν. ἐὰν δὲ μηδέτερον τούτων πάθῃ, ἐπιθυμεῖ ἕως ἄν τι τούτων συμβῇ. οἱ δὲ φύσει θηλυδρίαι οὕτω συνεστᾶσιν ὥστ’ ἐκεῖ μὲν μὴ ἐκκρίνεσθαι ἢ ὀλίγην, οὗπερ τοῖς ἔχουσι κατὰ φύσιν ἐκκρίνεται, εἰς δὲ τὸν τόπον τοῦτον. αἴτιον δὲ ὅτι παρὰ φύσιν συνεστᾶσιν· ἄρσενες γὰρ ὄντες οὕτω διάκεινται ὥστε ἀνάγκη τὸν τόπον τοῦτον πεπηρῶσθαι αὐτῶν. πήρωσις δὲ ἡ μὲν ὅλως ποιεῖ φθόρον, ἡ δὲ διαστροφήν.

ἐκείνη μὲν οὖν οὐκ ἔστιν· γυνὴ γὰρ ἂν ἐγένετο. ἀνάγκη ἄρα παρεστράφθαι καὶ ἄλλοθί που ὁρμᾶν τῆς γονικῆς ἐκκρίσεως. διὸ καὶ ἄπληστοι, ὥσπερ αἱ γυναῖκες· ὀλίγη γὰρ ἡ ἰκμάς, καὶ οὐ βιάζεται ἐξιέναι, καὶ καταψύχεται ταχύ. καὶ ὅσοις μὲν ἐπὶ τὴν ἕδραν, οὗτοι πάσχειν ἐπιθυμοῦσιν, ὅσοις δ' ἐπ' ἀμφότερα, οὗτοι καὶ δρᾶν καὶ πάσχειν· ἐφ' ὁπότερα δὲ πλεῖον, τούτου μᾶλλον ἐπιθυμοῦσιν. ἐνίοις δὲ γίνεται καὶ ἐξ ἔθους τὸ πάθος τοῦτο. ὅσα γὰρ ἂν ποιῶσι, συμβαίνει αὐτοῖς χαίρειν καὶ προΐεσθαι τὴν γονὴν οὕτως. ἐπιθυμοῦσιν οὖν ποιεῖν οἷς ἂν ταῦτα γίνηται, καὶ μᾶλλον τὸ ἔθος ὥσπερ φύσις γίνεται. διὰ τοῦτο ὅσοι ἂν μὴ πρὸ ἥβης ἀλλὰ περὶ ἥβην ἐθισθῶσιν ἀφροδισιάζεσθαι, [880a] διὰ τὸ γίνεσθαι αὐτοῖς ἐν τῇ χρείᾳ τὴν μνήμην, ἅμα δὲ τῇ μνήμῃ τὴν ἡδονήν, διὰ δὲ τὸ ἔθος ὥσπερ πεφυκότες ἐπιθυμοῦσι πάσχειν· τὰ μέντοι πολλὰ καὶ τὸ ἔθος ὥσπερ πεφυκόσι γίνεται. ἐὰν δὲ τύχῃ λάγνος ὢν καὶ μαλακός, καὶ θᾶττον ἕκαστα τούτων συμβαίνει.

Διὰ τί μάλιστ' αἰσχύνονται ὁμολογεῖν οἱ ἐπιθυμοῦντες ἀφροδισιάζεσθαι, ἀλλ' οὐ πιεῖν οὐδὲ φαγεῖν οὐδὲ ἄλλο τῶν τοιούτων οὐδέν; ἢ ὅτι τῶν μὲν πλείστων ἀναγκαῖαι αἱ ἐπιθυμίαι, ἔνια δὲ καὶ ἀναιρεῖ τοὺς μὴ τυγχάνοντας· ἡ δὲ τῶν ἀφροδισίων ἐκ περιουσίας ἐστίν.

Διὰ τί οἱ μὲν ἄνδρες τοῦ χειμῶνος, αἱ δὲ γυναῖκες τοῦ θέρους ὁρμητικώτεραι πρὸς τὰ ἀφροδίσια; ἢ ὅτι οἱ μὲν ἄνδρες θερμοὶ μᾶλλον καὶ ξηροὶ τὰς φύσεις, αἱ δὲ γυναῖκες ὑγραὶ καὶ κατεψυγμέναι; τοῖς μὲν οὖν τὸ ὑγρὸν καὶ τὸ θερμὸν αὔταρκες πρὸς τὴν ὁρμὴν τοῦ χειμῶνος (ἡ δὲ τοῦ σπέρματος γένεσις ἐκ τούτων), ταῖς δὲ τὸ θερμὸν ἔλαττον καὶ τὸ ὑγρόν ἐστι πεπηγὸς διὰ τὴν ἔνδειαν τοῦ πυρός· τοῦτο δὲ θέρους. ταῖς μὲν οὖν σύμμετρον τὸ θερμόν, τοῖς δὲ πλέον τοῦ ἱκανοῦ· τὸ γὰρ ἄγαν πολὺ ἐκλύει τῆς δυνάμεως. διὸ καὶ τὰ παιδία τοῦ θέρους λεπτότερα· συμβαίνει γὰρ πῦρ ἐπὶ πῦρ φέρειν.

Διὰ τί ὅσοι θερμοὶ τὴν φύσιν, ἐὰν ἰσχυροὶ ὦσι καὶ εὐτραφεῖς, ἐὰν μὴ ἀφροδισιάσωσι, χολή τε προΐσταται αὐτοῖς πολλάκις καὶ ἔκπικρον ὑποχωρεῖ καὶ φλέγμα ἁλμυρὸν γίνεται, καὶ ἀλλοχροοῦσιν; ἢ ὅτι μετὰ τοῦ σπέρματος ἀεὶ περίττωμα συναπέρχεται; διὸ καὶ ἐνίοις τῶν πνευματικῶν ἰχθύων πλύντρου ὄζει ἡ γονή. ἀφροδισιάζουσι μὲν οὖν τοῦτο συναπέρχεται, ὥστ' οὐ λυπεῖ· μὴ ἁπτομένοις δὲ τῆς ὁμιλίας τὸ περίττωμα ἐκπικροῦται ἢ ἁλμυρὸν γίνεται.

Διὰ τί ἀφροδισιαστικοὶ οἱ μελαγχολικοί; ἢ ὅτι πνευματώδεις, τὸ δὲ σπέρμα πνεύματος ἔξοδός ἐστιν. οἷς οὖν πολὺ τὸ τοιοῦτον, ἀνάγκη πολλάκις ἐπιθυμεῖν τούτους ἀποκαθαίρεσθαι· κουφίζονται γάρ.

Διὰ τί καὶ οἱ ὄρνιθες καὶ οἱ δασεῖς ἄνθρωποι λάγνοι; πότερον ὅτι ὑγρότητα ἔχουσι πολλήν; ἢ οὔ (τὸ γὰρ θῆλυ ὑγρὸν μέν, ἀλλ’ οὐ δασύ), ἀλλ’ ὅτι ἀμφότεραι αἱ φύσεις πεπτικαὶ πολλῆς ὑγρότητος διὰ θερμότητα; σημεῖον δὲ αἱ τρίχες καὶ τὰ πτερά. ἢ ὅτι πολὺ τὸ ὑγρόν, καὶ κρατεῖται ὑπὸ τοῦ θερμοῦ; οὔτε γὰρ ἂν μὴ πολλῆς οὔσης τῆς ὑγρότητος [880b] οὔτε μὴ κρατουμένης ἐξεφύετο τοῖς μὲν αἱ τρίχες τοῖς δὲ τὰ πτερά. τὸ δὲ σπέρμα γίνεται ἐν τοῖς τοιούτοις πλεῖστον καὶ τόποις καὶ ὥραις, οἷον ἐν τῷ ἔαρι· ἡ γὰρ φύσις αὐτοῦ ὑγρὰ καὶ θερμή. διὰ ταὐτὸ δὲ καὶ οἱ ὄρνιθες λάγνοι καὶ οἱ χωλοί· ἡ γὰρ τροφὴ ἀμφοτέροις κάτω μὲν ὀλίγη διὰ τὴν ἀναπηρίαν τῶν σκελῶν, εἰς δὲ τὸν ἄνω τόπον ἔρχεται καὶ εἰς σπέρμα συγκρίνεται.

Διὰ τί, ἐὰν ἀφροδισιάζῃ ὁ ἄνθρωπος, οἱ ὀφθαλμοὶ ἀσθενοῦσι μάλιστα; ἢ δῆλον ὅτι ἀπολείποντος τοῦ ὑγροῦ τοῦτο γίνεται; τεκμήριον δ’ ὅτι ἡ γονὴ ψυχρά ἐστιν· οὐ γὰρ γίνεται ὑγρά, ἐὰν μὴ διαθερμάνῃ τὰ θερμά. οὐδὲ δεῖται τήξεως· κέχυται γὰρ ἐν τῷ ἀνθρώπῳ ὥσπερ τὸ αἷμα.

Ε. ΟΣΑ ΑΠΟ ΚΟΠΟΥ.

Διὰ τί μακροὶ μὲν ὄντες οἱ περίπατοι ἐν τοῖς ὁμαλέσι κοπιαρώτεροί εἰσι τῶν ἀνωμάλων, βραχεῖς δὲ ἀκοπώτεροις ἢ ὅτι ἥ τε πολλὴ κίνησις ποιεῖ κόπον καὶ ἡ ἰσχυρά. τοιαύτη δὲ ἡ σπασματώδης, πολλὴ δὲ ἡ συνεχὴς καὶ μία. ἐν μὲν οὖν τοῖς ἀνάντεσιν, ἐὰν ᾖ μακρά, ἀνάπαυσις γίνεται ἡ μεταβολή, καὶ οὐ μακρὰ ἡ κίνησις, οὐδὲ ἵππων αὐτῶν, διὰ τὴν μεταβολήν· ἐν δὲ τοῖς ὁμαλέσιν ἡ ὁμοιότης τοῦ σχήματος οὐ διαλαμβάνει οὐδὲ ἀναπαύει τὰ μέρη, ἀλλὰ συνεργάζεται πρὸς τὸ συνεχῆ τὴν κίνησιν εἶναι. ὅταν δὲ ᾖ βραχεῖα, διὰ μὲν τὸ πλῆθος τῆς κινήσεως ἐν τοῖς ἐπιπέδοις οὐ γίνεται κόπος· ἐν δὲ τοῖς ἀνάντεσιν διὰ τὸ τὴν μεταβολὴν ἰσχυρὰν γίνεσθαι καὶ ἐναντίαν, ὁτὲ μὲν ἄνω ὁτὲ δὲ κάτω, ποιεῖ κόπον. τοιαύτη δέ, ὡς φαμέν, ἐν τοῖς ἀνάντεσιν, ἐν δὲ τοῖς πεδινοῖς τοὐναντίον.

Διὰ τί τοῖς λειποψυχοῦσι καὶ τοῖς ἐκ τῶν γυμνασίων διαλυομένοις ἐλάττους τε οἱ ὄγκοι καὶ ὀξύτεραι δοκοῦσιν εἶναι αἱ φωναί; ἢ ὅτι αἵ τε φωναὶ ἐλάττους φαινόμεναι ὀξύτεραι φαίνονται (σημεῖον δὲ ὅτι μιμούμενοι τοὺς πόρρωθεν ὀξὺ φθέγγονται) καὶ οἱ ὄγκοι ἐλάττους;

Διὰ τί ἡ γαστὴρ μόνον λεπτύνεται τῶν γυμναζομένων; ἢ ὅτι πλείστη ἡ πιμελὴ περὶ τὴν γαστέρα;

Διὰ τί τὸ πῖον τετριμμένον γίνεται τοῖς πονοῦσιν; ἢ διότι τὸ πῖον τήκεται θερμαινόμενον, ἡ δὲ κίνησις θερμαίνει, ἡ δὲ σὰρξ οὐ τήκεται.

Διὰ τί δὲ τὰ περὶ τὴν κοιλίαν πιότατα; πότερον ὅτι [881a] ἐγγύς ἐστι τῆς τροφῆς; ἐν ὅσῳ οὖν τἆλλα παρ’ ἐκείνης λαμβάνει, αὐτὴ πολλάκις λαμβάνει. ἢ ὅτι ἥκιστα πονεῖ· καμπὰς γὰρ οὐκ ἔχει.

Διὰ τί οἱ κόποι μᾶλλον παύονται, ὅταν τις τῷ ἐλαίῳ ὕδωρ συμμίξας ἀνατρίψηται; ἢ ὅτι μᾶλλον εἰσδύεται τὸ ἔλαιον μετὰ τοῦ ὕδατος; ἐὰν δὲ αὐτὸ καθ’ αὑτὸ ᾖ, οὐχ ὁμοίως παρεισδύνει διὰ τὸ ἐπιπολαστικὸν εἶναι. μᾶλλον οὖν μαλάττεται τὸ σῶμα εἰσδυομένου, ἐπεὶ τὸ ἔλαιόν ἐστι φύσει θερμόν, τὰ δὲ θερμὰ καὶ ξηραίνει καὶ σκληρύνει, πρὸς δὲ τοὺς κόπους ἀξύμφορόν ἐστιν ἡ ξηρασία καὶ ἡ σκληρότης· μετὰ δὲ τοῦ ὕδατος ἀνατριφθὲν ἧττον ξηραίνει.

Διὰ τί τοῖς κοπιῶσι προστάττουσιν ἐμεῖν, εἴπερ ὁ ἔμετος κοπῶδές ἐστιν; ἢ κόπος γίνεται ὀστῶν θλωμένων καὶ πιεζομένων καὶ κοπιωμένων, ταῦτα δὲ ὑπὸ τῶν ἐκτός τινος πάσχοι ἂν ἢ τῶν ἐν τῷ σώματι, καὶ τοῦτο διττῶς· ἢ γὰρ σαρκῶν ὑπερτεινουσῶν τὴν δύναμιν αὐτῶν, ἢ σώματος μιχθέντος συχνοῦ τῷ ἄλλῳ σώματι, χώραν οἰκείαν οὐκ ἔχοντος, οἷα τὰ περιττώματά ἐστιν. πάντα γὰρ τὰ ἐκτὸς ἡμῖν περιαπτόμενα βάρη κοπωδέστερα τῶν τοῦ σώματος μερῶν, κἂν τύχῃ σταθμῷ ὄντα αὐτῶν ἐλαφρότερα. σημεῖον δὲ τῶν εἰρημένων· οἱ γὰρ πλεῖον βεβρωκότες καὶ πεπωκότες, ἔλαττον πονήσαντες ἢ νήστεις ὄντες, μᾶλλον κοπιῶσι διὰ τὸ μὴ τὴν οἰκείαν χώραν ἔχειν τὰ σιτία ὄντα ἄπεπτα. ἐπεὶ δὲ ὁ κόπος σύντηξιν ποιεῖ, ἡ δὲ σύντηξις περίττωμά ἐστι, τοῦτό ἐστιν ὃ τὸν κόπον ἐν ἡμῖν ποιεῖ, πλανώμενον ἀτάκτως καὶ προσπῖπτον ὀστοῖς τε καὶ νεύροις καὶ τοῖς ἐντὸς τῆς σαρκὸς ἀραιοῖς οὖσι καὶ ἀνεῳγμένοις. ὁ οὖν ἔμετος ἐξάγων αὐτὸ ὃν αἴτιον τοῦ κόπου, εἰκότως ἀκόπους ποιεῖ· λείπει γὰρ οἷον ἦν ἐν ἀρχῇ τοῦ πόνου τὸ σῶμα. κοπῶδες δ᾽ ἐστὶν ὁ ἔμετος οὐ τῇ τῆς γινομένης ἐν αὐτῷ κινήσεως ὑπερβολῇ, ἀλλ᾽ ὅταν συμβῇ μὴ καλῶς ἐξεμέσαι· λειφθέντων γὰρ πολλῶν σιτίων, καὶ περιττωμάτων τούτοις ἐνόντων, τὸν τοῦ ἐμέτου κόπον γίνεσθαι συμβαίνει, καθάπερ ἐπὶ τῶν πεπληρωμένων εἴρηται. εἰ οὖν μηδ᾽ ἐκείνοις ὁ πόνος ἐστὶ τοῦ κόπου αἴτιος, ἀλλὰ τὸ οὕτως ἔχοντας πονῆσαι, οὐδ᾽ ἂν τοῖς μὴ ἐξαιροῦσι τὰ σιτία ὁ ἔμετος εἴη τοῦ κόπου αἴτιος· χρῆν γὰρ πᾶσι τοῖς ἐμοῦσι γίνεσθαι κόπον, γίνονται δὲ ἀκοπώτεροι πολλοὶ ἐμέσαντες.

Διὰ τί κοπιαρώτερόν ἐστι τῷ βραχίονι τὸ διὰ κενῆς [881b] ῥίπτειν ἢ λιθάζοντα; ἢ ὅτι σπασμωδέστερον τὸ διὰ κενῆς ἐστίν; οὐ γὰρ ἀπερείδεται πρὸς οὐδέν, ὥσπερ ὁ βάλλων πρὸς τὸ ἐν τῇ χειρὶ βέλος. ὁμοίως δὲ τούτῳ καὶ ὁ πένταθλος πρὸς τοὺς ἁλτῆρας καὶ ὁ θέων παρασείων πρὸς τὰς χεῖρας. διὸ ὁ μὲν μεῖζον ἅλλεται ἔχων ἢ μὴ ἔχων ἁλτῆρας, ὁ δὲ θᾶττον θεῖ παρασείων ἢ μὴ παρασείων.

Διὰ τί ἡ ταχυδρομία καὶ ἐπ᾽ ἀνθρώπου καὶ ἐπὶ τῶν ἄλλων ζῴων νοσηματικοὺς ποιεῖ τὰ περὶ τὴν κεφαλήν; καίτοι ὅλως ὁ δρόμος κατασπᾶν δοκεῖ κάτω τὰ περιττώματα, ὥσπερ ὁ περίπατος· διὸ καὶ παχύνονται τὰ σκέλη οἱ πολλὰ περιπατοῦντες, ὅτι εἰς τὰ κάτω ὑπονοστεῖ ἄνωθεν καὶ ἡ τροφὴ καὶ τὰ περιττώματα. ἢ ἡ μὲν κίνησις ταὐτὸ ποιεῖ, ἀλλ᾽ ἡ ταχεῖα διὰ τὴν συντονίαν καὶ τὴν ἀπνευστίαν ἐκθερμαίνει τὴν κεφαλήν, καὶ τὰς φλέβας ἐμφυσᾷ τὰς ἐν αὐτῇ, καὶ σπαστικὰς τῶν θύραθεν ποιεῖ δυνάμεων, οἷον ψύχους καὶ ἀλέας καὶ τῶν ἐκ τοῦ θώρακος, ὧν εἰσιόντων νοσεῖν ἀναγκαῖον τὸν τόπον ἐστίν.

Διὰ τί κοπιῶσι μὲν μᾶλλον ἐν τοῖς ὁμαλοῖς ἢ ἐν τοῖς ἀνωμάλοις τόποις, θᾶττον δὲ βαδίζουσι τὴν ὁμαλὴν ὁδὸν ἢ τὴν ἀνώμαλον; ἢ ὅτι ἀκοπώτερον μέν ἐστι τὸ μὴ ἀεὶ ἐν τῷ αὐτῷ σχήματι ποιεῖσθαι τὴν κίνησιν, ὃ συμβαίνει ἐν τῇ ἀνωμάλῳ πορείᾳ μᾶλλον; θᾶττον δὲ πορεύονται, ὅτι ἧττον παρὰ φύσιν κινοῦνται. ἐν μὲν οὖν τῷ ὁμαλῷ μικρὰ ἡ ἄρσις καὶ θέσις καὶ πυκνή ἐστιν, ἐν δὲ τῷ ἀνωμάλῳ τοὐναντίον. ἔστι δὲ τὸ αἴρειν παρὰ φύσιν· βίᾳ γάρ ἐστι πᾶσα ἄρσις. τὸ δὲ παρ' ἑκάστην βάσιν γινόμενον μικρὸν πολὺ γίνεται παρὰ πολλάς.

Διὰ τί τὰ ἐπίπεδα κοπιαρώτερα ἐγκατακεῖσθαι τῶν κοίλων ἐστίν; ἢ διὰ τὸ αὐτὸ καὶ τὰ κυρτὰ τῶν ἐπιπέδων; ἐφ' ἕνα γὰρ τόπον συναθροιζόμενον τὸ βάρος ἐν τῇ καθέδρᾳ ἢ κατακλίσει τῇ θλίψει ποιεῖ πόνον. τὸ μὲν οὖν κυρτὸν τοῦ εὐθέος, τοῦτο δὲ τοῦ κοίλου μᾶλλον τοιοῦτόν ἐστι· τὸ γὰρ σῶμα ἡμῶν ἐστὶ περιφερέστερον ἢ εὐθύτερον, τῶν δὲ τοιούτων κατὰ πλέον ἅπτεται τὰ κοῖλα ἢ τὰ ἐπίπεδα. διὰ ταῦτα δὲ καὶ τὰ ἐνδιδόντα τῶν μὴ ἐνδιδόντων ἀκοπώτερά ἐστι καὶ ἐγκατακλιθῆναι καὶ ἐνέζεσθαι.

Διὰ τί οἱ βραχεῖς περίπατοι κοπώδεις εἰσίν; ἢ ὅτι ἀνώμαλοί εἰσι; πολλάκις γὰρ ἵστασθαι ποιοῦσιν. τὸ δ' ἐκ τοῦ ἐναντίου εἰς τοὐναντίον πυκνὰ μεταβάλλειν κοπῶδές [882a] ἐστι· συνήθειαν γὰρ οὐδετέρῳ ποιεῖ, ὅ ἐστιν ἄκοπον. ἀμφοῖν δ' ἅμα οὐκ ἐνδέχεται συνήθειαν γίνεσθαι.

Διὰ τί οἱ ἐπὶ τῶν ἵππων ὀχούμενοι, ὅσῳ ἂν μᾶλλον θέῃ ὁ ἵππος, τοσούτῳ μᾶλλον δακρύουσι τὰ ὄμματα; πότερον διὰ τὸ ψυχρότερον εἶναι τὸν ἀεὶ προσπίπτοντα ἀέρα, ὅσῳ ἂν ἐλάττω χρόνον ἅπτηται τοῦ σώματος, ὅπερ ἐπὶ τῶν γυμνῶν θεόντων συμβαίνει; τὸ δὲ ψῦχος δάκρυον ποιεῖ. ἢ διὰ τοὐναντίον; καὶ γὰρ τὸ θερμὸν ποιεῖ δακρύειν, οἷον ὁ ἥλιος· ἡ δὲ κίνησις θερμότητα ποιεῖ. ἢ διὰ τὴν ὑπὸ τοῦ ἀέρος πληγήν; ὡς γὰρ οἱ ἄνεμοι ταράττουσιν οἱ ἐξ ἐναντίας τὰ ὄμματα, οὕτως ὁ ἀὴρ προσπίπτων, ὅσῳ ἂν θᾶττον ἐλαύνῃ, τοσούτῳ μᾶλλον ποιεῖ τὴν πληγὴν μαλακήν.

Διὰ τί τὰ μὲν ἄλλα τριβόμενα σαρκοῦνται μέρη, ἡ δὲ γαστὴρ λεπτοτέρα γίνεται; ἢ οὐδὲ αὐτὴ ἐκ προσαγωγῆς, ἀλλὰ στιφροτέρα; οὐ μὴν ἀλλ' οὐχ ὁμοίως γε καὶ ἡ σάρξ, διὸ καὶ τὸ πρόβλημά ἐστιν. ὅλως γὰρ ἐν τοῖς γυμνασίοις καὶ πόνοις μάλιστα λεπτύνεται ἡ γαστήρ. αἴτιον δ' ὅτι τὰ πίονα θερμαινόμενα τήκεται, καὶ τὰ φύσει τάσιν ἔχοντα μᾶλλον. τὸ δὲ δέρμα ἐστὶ φύσει ἔχον τάσιν· ἀλλὰ διὰ τὸ πιαίνεσθαι τάχιστα ἀεί τινα ἔχει πιότητα, ἐὰν μὴ κάμνῃ τινὰ νόσον. αἴτιον δὲ τούτου ὅτι ἐγγύς ἐστι τῆς τροφῆς. ἐπεὶ οὖν ὅλως ἡ πιμελὴ οὐκ ἔστι φύσει ἀλλ' ἐπίκτητον, καὶ οὐ τῶν ἀναγκαίων μερῶν ὥσπερ ἡ σάρξ, καὶ ἡ τῶν γυμνασίων κίνησις καὶ ἡ τῆς τρίψεως θερμαίνουσαι τήκουσιν αὐτὴν καὶ τὴν τροφὴν ἐκπλεονάζουσαν νέμουσι τοῖς ἄλλοις μορίοις. διὸ αἱ μὲν καθέδραι τὴν κοιλίαν πιαίνουσι, τὸ δ' ἄλλο σῶμα λεπτύνουσιν, αἱ δὲ κινήσεις καὶ αἱ τρίψεις τὴν μὲν κοιλίαν λεπτύνουσι, τὸ δ' ἄλλο σῶμα παχύνουσιν.

Διὰ τί ἐκ τῶν μακρῶν καὶ σφοδρῶν ὁδῶν καὶ δρόμων, ὅταν στῇ τις ἐπ' ἄκρων τῶν δακτύλων, σείονται τῶν ποδῶν αἱ πτέρναι καὶ σπᾶται κάτω προπετῶς; ἢ διὰ τὴν συνέχειαν καὶ σφοδρότητα τῆς κινήσεως οὐκ ἀναπαύεται ὁ σεισμὸς τῷ ἀνθρώπῳ τῶν νεύρων; τοῦ μὲν γὰρ ὅλου σώματος κρατεῖ ἡ ψυχὴ πολλάκις, μορίων δ' οὔ, ὁπόταν πως κινηθῇ, οἷον καὶ καρδίας καὶ αἰδοίου. αἴτιον δ' ὅτι πνεῦμα πολὺ περὶ τὰ νεῦρα ἐκκαίεται, ὃ οὐχ ἅμα ἐκψύχεται στάντι. τοῦτο οὖν σεῖον ὥσπερ ὑποσπῶν τῇ κινήσει κατασπᾷ τε, καὶ τοῦ πορρωτάτω ἥκιστα ποιεῖ κρατεῖν· τοιοῦτον δὲ αἱ πτέρναι, οἷον τοῖς ὀργιζομένοις τὸ κάτω χεῖλος.

[882b] Διὰ τί οἱ μὴ σφόδρα συντόνως τρέχοντες ἐν τῷ ῥυθμῷ ἀναπνέουσιν; πότερον ὅτι πᾶς ῥυθμὸς ὡρισμένῃ μετρεῖται κινήσει, τοιαύτη δ' ἐστὶν ἡ δι' ἴσου οὖσα, ὅπερ οἱ τροχάζοντες ποιοῦσιν. ἅμα οὖν ἀρχόμενοι τροχάζειν ἀναπνέουσιν, ὥστε τὴν ἀναπνοὴν δι' ἴσου γινομένην, διὰ τὸ τῇ ἴσῃ κινήσει μετρεῖσθαι, ῥυθμὸν ποιεῖν. ἢ ὅτι πᾶσα μὲν ἁπλῶς ἀναπνοὴ δι' ἴσου γίνεται τοῖς κατὰ φύσιν αὐτῇ χρωμένοις καὶ μὴ κατέχουσιν; καθημένοις μὲν οὖν καὶ βαδίζουσι μετρίας οὔσης τῆς τοῦ σώματος κινήσεως, οὐκ εὔδηλος ὁ ῥυθμὸς γίνεται· συντόνως δὲ τρέχουσιν, οὐ παρακολουθούσης τῇ κινήσει τῆς αἰσθήσεως, οὐ δυνάμεθα συνορᾶν τὸν τῆς ἀναπνοῆς ῥυθμόν. ἐν δὲ τῷ μετρίως τροχάζειν μέτρον ἡ κίνησις αἰσθητὸν τῆς ἀναπνοῆς ποιοῦσα τὸν ῥυθμὸν δηλοῖ.

Διὰ τί ἐν τῷ τροχάζειν ἐκπνευματοῦσθαι δοκεῖ ἡμῖν ὁ ἀήρ; πότερον ὅτι κινούμενοι διὰ τοῦ τροχάζειν τὸν συνεχῆ τοῖς σώμασιν ἡμῶν ἀέρα κινοῦμεν, ὅ ἐστι πνεῦμα; διόπερ οὐ δοκεῖ μόνον, ἀλλὰ καὶ κατ' ἀλήθειαν ἐκπνευματοῦται ὁ ἀήρ. ἢ διότι τροχάζοντες προσκόπτομεν τῷ ἀέρι, τούτου δὲ συμβαίνοντος μᾶλλον αἴσθησιν λαμβάνομεν τοῦ ἀέρος διὰ τῆς κινήσεως. εἰκότως οὖν ἡμῖν ἐκπνευματοῦσθαι δοκεῖ· τοῦτο γὰρ συμβαίνει διὰ τὴν φοράν.

Διὰ τί μᾶλλον θέοντες ἢ βαδίζοντες πίπτουσιν; ἢ ὅτι μᾶλλον πρὶν κινεῖσθαι αἴρουσιν; τὸ γὰρ θέειν τοῦ βαδίζειν τούτῳ διαφέρει.

Διὰ τί ποτε ἀναβαίνοντες μὲν τὰ γόνατα πονοῦμεν, καταβαίνοντες δὲ τοὺς μηρούς; ἢ ὅτι ὅταν μὲν ἀναβαίνωμεν, ἀναρριπτοῦμεν ἄνω τὸ σῶμα, καὶ ἡ σπάσις πολλὴ τοῦ σώματος καὶ ἡ ἀπὸ τῶν γονάτων γίνεται, διὸ πονοῦμεν τὰ γόνατα· ἐν δὲ τοῖς κατάντεσι, διὰ τὸ ὑποφέρεσθαι τοῖς σκέλεσι, τοῖς μηροῖς ἀποστηριζόμενοι πονοῦμεν αὐτούς. εἶθ' ἅπαν τὸ παρὰ φύσιν γινόμενον πόνον καὶ λύπην παρασκευάζει. ἔστι δὲ τὸ κατὰ φύσιν τοῖς μὲν γόνασιν ἡ εἰς τὸ πρόσθεν κλάσις, τοῖς δὲ μηροῖς ἡ εἰς τοὔπισθεν. ἐν μὲν οὖν τοῖς ἀνάντεσι τὰ γόνατα κλᾶται εἰς τοὔπισθεν διὰ τὸ ἀποστηρίζεσθαι βούλεσθαι, ἐν τοῖς κατάντεσι δ’ οἱ μηροὶ εἰς τοὔμπροσθεν κλῶνται διὰ τὸ προπετὲς ἡμῶν εἶναι τὸ σῶμα.

Διὰ τί ποτε ἐν ταῖς ὁδοῖς τῶν μηρῶν τὸ μέσον μάλιστα πονοῦμεν; ἢ ὅτι παντὸς μακροῦ καὶ ἑνὸς ὄντος, ἐστηριγμένου δέ, τοῦ μέσου ὁ πόνος μάλιστα γίνεται; διὸ καὶ κατάγνυται [883a] μάλιστα ἐντεῦθεν. ὁ δὲ μηρός ἐστι τοιοῦτον· διὸ καὶ τὸ μέσον αὐτοῦ μάλιστα πονοῦμεν.

Διὰ τί οἱ ὑγροὶ ταχὺ πνίγονται πονήσαντες καὶ ὑπὸ τοῦ καύματος; ἢ ὅτι ἐκθερμαινόμενον τὸ ὑγρὸς ἀὴρ γίνεται, καὶ κάει μᾶλλον τὸ πλέον; ὅταν οὖν μὴ δύνηται ὑπεξάγειν διὰ τὸ πλῆθος, οὐ γίνεται κατάψυξις, ὥστε ταχὺ ἐκπυροῦται ὑπὸ τοῦ συμφύτου καὶ ἐπικτήτου θερμοῦ. διὸ καὶ οἱ γινόμενοι ἱδρῶτες τοῖς γυμναζομένοις καὶ ὅλως τοῖς πονοῦσι καὶ ἡ τοῦ πνεύματος ἔξοδος ὠφέλιμον· διακρινομένου γὰρ καὶ λεπτυνομένου τοῦ ὑγροῦ πνεῦμα γίνεται.

Διὰ τί τὰ σύμμετρα τῶν σωμάτων κάμνει τε πολλάκις καὶ ἀπαλλάττει ῥᾷον; ἢ διὰ ταὐτὸ ἄμφω; ὁμαλὸν γὰρ τὸ σύμμετρον, τὸ δὲ ὁμαλὸν ὁμοπαθέστερον· ἐὰν οὖν τι πονήσῃ μέρος, εὐθὺς συμπονεῖ τὸ ὅλον. τὸ δὲ ἀσύμμετρον, ἅτε μᾶλλον ἀπηρτημένον, οὐ συναπολαύει τῶν μερῶν. κάμνει μὲν οὖν πολλάκις διὰ τοῦτο, ῥᾷον δὲ ἀπαλλάττει, ὅτι πᾶν κοινωνεῖ τὸ σῶμα· εἰς πλείω γὰρ διανεμόμενον τὸ πάθος γίνεται ἀσθενέστερον, ὥστε εὐαπαλλακτότερον. τὸ δὲ ἀσύμμετρον, ἅτε οὐ κοινωνοῦν τοῖς μέρεσιν, ἐλαττονάκις μὲν κάμνει, χαλεπώτερον δὲ ἀπαλλάττει· σφοδρὸν γὰρ τὸ πάθος.

Διὰ τί κοπιῶσι μὲν μᾶλλον ἐν τοῖς ὁμαλοῖς ἢ ἐν τοῖς ἀνωμάλοις, θᾶττον δὲ βαδίζουσι τὴν ὁμαλὴν ἢ τὴν ἀνώμαλον; ἢ ὅτι ἀκοπώτερον μὲν τὸ μὴ ἀεὶ ἐν τῇ ἀνωμάλῳ πορείᾳ μᾶλλον, θᾶττον δὲ πορεύονται, ὅπου ἐν τῷ ἴσῳ χρόνῳ ἐλάττων ἡ ἀναφορά. ἐν μὲν οὖν τῷ ὁμαλῷ μικρὰ ἡ ἄρσις καὶ πυκνή, ἐν δὲ τῷ ἀνωμάλῳ τοὐναντίον. τὸ δὲ παρ’ ἑκάστην βάσιν γινόμενον πολὺ γίνεται παρὰ πολλάς.

Διὰ τί καταβαίνοντες μὲν τὰ κατάντη τοὺς μηροὺς μάλιστα πονοῦμεν, ἀναβαίνοντες δὲ τὰς κνήμας; ἢ ὅτι ἀναβαίνοντες μὲν τῷ αἴρειν τὸ σῶμα; ἅπαν γὰρ γίνεται φορτίον τὸ σῶμα. ᾧ οὖν ἅπαν ἐπίκειται καὶ ᾧ αἴρομεν, τοῦτο μάλιστα πονεῖ. ἡ δὲ κνήμη τοῦτο. ἔσχατον γάρ, μῆκος ἔχον, καὶ οὐχ ὥσπερ ὁ ποὺς πλάτος ἔχει· διὸ σαλεύεται. ὥστε οἷον τῷ ὤμῳ τὰ βάρη κινοῦμεν, καὶ ἐπὶ τούτῳ ἔχομεν. τοιγαροῦν καὶ πονοῦμεν τὸν ὦμον μάλιστα. καταβαίνοντες δὲ τῷ ἐμπίπτειν τὸ σῶμα κάτω καὶ προωθεῖν παρὰ φύσιν ὁ πόνος ἐστίν, ὥστε ᾧ μάλιστα ἐμπίπτει καὶ σαλεύει, τοῦτο παρέχει τὸν πόνον. ἡ μὲν οὖν κνήμη μένει, τὸ δὲ βάρος ὁ θώραξ γίνεται· ὁ δὲ μηρὸς δέχεταί τε καὶ σαλεύεται διὰ τὸ μῆκός τε ἔχειν καὶ στρέφεσθαι ἄνωθεν, ᾗ ὁ θώραξ ἐμπίπτει.

Διὰ τί πλείων δοκεῖ ἡ ὁδὸς εἶναι, ὅταν μὴ εἰδότες βαδίζωμεν πόση τις, ἢ ὅταν εἰδότες, ἐὰν τἆλλα ὁμοίως ἔχοντες τύχωμεν; ἢ ὅτι τὸ εἰδέναι πόση τὸ εἰδέναι ἐστὶ τὸν ἀριθμὸν αὐτοῦ· καὶ πλεῖον ἀεὶ τὸ ἀόριστον τοῦ ὡρισμένου; ὥσπερ οὖν εἰ ᾔδει ὅτι τοσήδε, πεπερασμένην ἀνάγκη εἶναι, οὕτω καὶ εἰ μὴ οἶδεν, ὡς ἀντιστρέφοντος παραλογίζεται ἡ ψυχή, καὶ φαίνεται εἶναι ἄπειρος. ἔτι τὸ ποσὸν ὡρισμένον καὶ τὸ ὡρισμένον ποσόν. ὅταν τοίνυν μὴ φαίνηται ὡρισμένον, ὥσπερ ἄπειρον φαίνεται εἶναι, διὰ τὸ τὸ πεφυκὸς ὡρίσθαι, ἐὰν μὴ ᾖ ὡρισμένον, ἄπειρον εἶναι, ὥστε καὶ τὸ φαινόμενον μὴ ὡρίσθαι φαίνεσθαι ἀνάγκη πως ἀπέραντον.

Διὰ τί τοὺς μηροὺς μᾶλλον ἢ τὰς κνήμας κοπιῶσιν; πότερον ὅτι ἐγγὺς τοῦ τόπου τοῦ ἔχοντος τὸ περίττωμα, ὥστε ἂν ὑπερβάλλῃ διὰ τὴν κίνησιν τῇ θερμότητι, συσπῶσιν οἱ μηροὶ μᾶλλον καὶ πλεῖον ἢ αἱ κνῆμαι; ἢ διὰ τὸ συμφυὲς εἶναι μᾶλλον τοὺς μηρούς; μάλιστα γὰρ πονοῦσι τῇ τοῦ συνεχοῦς διαστάσει. καὶ γὰρ ἂν μηδὲν ἔχοντες περίττωμα κοπιάσωσιν, ὅμως τοὺς μηροὺς καὶ τὴν ὀσφὺν πονοῦσι μᾶλλον. ἢ ὅτι καθάπερ οἱ βουβῶνες γίνονται πληγέντες διὰ τὴν συνάρτησιν τῶν φλεβῶν καὶ νεύρων, οὕτω καὶ οὗτος; ἐγγυτέρω δὲ τῆς ἀρχῆς ὁ μηρός. ἢ διότι μᾶλλον ἐν τῷ αὐτῷ σχήματι ὁ μηρὸς τῆς κνήμης; τοῦτο δὲ κοπιαρώτερον. ἢ ὅτι σαρκώδης, ὥστε πολὺ τὸ κατὰ φύσιν ἔχον ἐν αὐτῷ;

Διὰ τί ἐνίοις, ὅταν πονήσωσιν, ἕλκη ἐκφύουσιν; ἢ ὅταν τὸ σῶμα ἀκάθαρτον ᾖ, ἡ κίνησις θερμαίνουσα καὶ ἄλλα περιττώματα συνεξικμάζει μετὰ τοῦ ἱδρῶτος; παχέα δὲ ὄντα καὶ χυμοὺς ἔχοντα μοχθηρούς, ὀξεῖς καὶ πικροὺς καὶ ἁλμυρούς, τὰ περιττώματα ἐκκρίνεσθαι μὲν οὐ δύναται διὰ πάχος, ἐξαίρεται δὲ διὰ τῆς σαρκὸς καὶ ἐξελκοῖ διὰ πικρότητα τοῦ χυμοῦ.

Διὰ τί τοῖς ἐκ τῶν γυμνασίων καὶ φαρμακοποσιῶν οὐκ εὐθὺς προσφέρουσι τροφήν; ἢ διότι καθαίρεται τὸ σῶμα ἔτι, καὶ οὐκ ἀναπέπαυται πονοῦν, καὶ ἀποκέκριται τὰ περιττώματα;

Διὰ τί χαλεπώτερον θεῖν ἢ βαδίζειν; ἢ ὅτι πλεῖον φορτίον φέρει ὁ θέων; ὅταν γὰρ ᾖ μετέωρος, ἅπαν ἐφ’ αὐτῷ ἔχει. ὁ δὲ βαδίζων, οἷον οἱ ἐπὶ τοῖς τειχίοις ἀναπαυόμενοι, ἐπιθεὶς ἔχει ἐπὶ τῷ ἠρεμοῦντι.

[884a] Διὰ τί ἐκ τῶν γυμνασίων οὐ πεινῶσιν εὐθύς; πότερον διὰ τὴν ὑπόλειψιν τῆς συντήξεως, ἕως ἀντιπεφθῇ; ἢ διὰ τὸ πνεῦμα ὃ ποιεῖ ὁ πόνος ἐκ

τοῦ ὑγροῦ; ἢ διὰ τὴν δίψαν ἣ γίνεται ἐκ τοῦ θερμαίνεσθαι πονοῦντας; πάντα γὰρ συμβαίνει ταῦτα.

Διὰ τί ἐξονειρωκτικοί εἰσιν οἱ κοπιῶντες καὶ φθισιῶντες; ἢ ὅτι ὅλως ἐξονειρωκτικοὶ οἱ θερμοὶ καὶ ὑγροί; τὸ γὰρ σπέρμα τοιοῦτόν ἐστι τὴν φύσιν. τὸ τοιοῦτο δὲ ἐξ οὕτω διακειμένων μάλιστα γίνεται, ὅταν ἡ ἀπὸ τοῦ ὕπνου θερμότης προσγένηται· μικρᾶς γὰρ ῥοπῆς τὰ σώματα δεῖται, καὶ ταύτης ἔσωθεν ἀλλ' οὐκ ἔξωθεν. οἱ δὲ φθισικοὶ καὶ κοπιῶντες οὕτω διάκεινται· οἱ μὲν γὰρ κοπιῶντες διὰ τὸν κόπον καὶ τὴν κίνησιν συντήγματος θερμοῦ πλήρεις εἰσίν, οἱ δὲ φθισικοὶ διὰ τὸν κατάρρουν καὶ τὴν γινομένην θέρμην ὑπὸ τῆς φλεγμασίας.

Διὰ τί τὸ ἀριστερὸν σκέλος χαλεπώτερον τρίβεσθαι ὑφ' ἑαυτοῦ πολὺν χρόνον ἢ τὸ δεξιόν; ἢ ὅτι τοῖς δεξιοῖς πονεῖν δυνάμεθα; ἐν δὲ τοῖς παρὰ φύσιν ἡ τοῦ ἀριστεροῦ σκέλους τρῖψις ἐξεστραμμένως γίνεται. τὰ δὲ παρὰ φύσιν ποιούμενα χαλεπά. τῇ δὲ ἀριστερᾷ τὰ δεξιὰ οὐθὲν ἐπίδηλον διὰ τὸ μηθετέρως ἰσχύειν.

Διὰ τί ὑγιεινὸν τὸ τροφῆς μὲν ὑποστέλλεσθαι, πονεῖν δὲ πλείω; ἢ ὅτι τοῦ νοσεῖν αἴτιον περιττώματος πλῆθος; τοῦτο δὲ γίνεται ἢ διὰ τροφῆς ὑπερβολὴν ἢ διὰ πόνων ἔνδειαν.

Διὰ τί οὐ δεῖ πυκνοῦν τὴν σάρκα πρὸς ὑγίειαν, ἀλλ' ἀραιοῦν; ὥσπερ γὰρ πόλις ὑγιεινὴ καὶ τόπος εὔπνους (διὸ καὶ ἡ θάλαττα ὑγιεινή), οὕτω καὶ σῶμα τὸ εὔπνουν μᾶλλον ὑγιεινόν. δεῖ γὰρ ἢ μὴ ὑπάρχειν μηθὲν περίττωμα, ἢ τούτου ὡς τάχιστα ἀπαλλάττεσθαι· καὶ δεῖ οὕτως ἔχειν τὰ σώματα ὥστε λαμβάνοντα εὐθὺς ἐκκρίνειν τὴν περίττωσιν, καὶ εἶναι ἐν κινήσει καὶ μὴ ἠρεμεῖν. τὸ μὲν γὰρ μένον σήπεται, ὥσπερ ὕδωρ, τὸ δὲ σηπόμενον καὶ μὴ κινούμενον νοσοποιεῖ· τὸ δ' ἐκκρινόμενον πρὸ τοῦ διαφθαρῆναι χωρίζεται. τοῦτ' οὖν πυκνουμένης μὲν τῆς σαρκὸς οὐ γίνεται (ὡσπερεὶ γὰρ ἐμφράττονται οἱ πόροι), ἀραιουμένης δὲ συμβαίνει. διὸ καὶ οὐ δεῖ ἐν τῷ ἡλίῳ γυμνὸν βαδίζειν· συνίσταται γὰρ ἡ σάρξ, καὶ κομιδῇ ἀποσαρκοῦνται, καὶ ὑγρότερον τὸ σῶμα γίνεται. τὸ μὲν γὰρ ἐντὸς δὴ μένει, τὸ δ' [884b] ἐπιπολῆς ἀπαλλάττεται, ὥσπερ καὶ τὰ κρέα τὰ ἑφθὰ τῶν ὀπτῶν μᾶλλον. οὐδὲ τὰ στήθη γυμνὰ ἔχοντα βαδίζειν· ἀπὸ γὰρ τῶν ἄριστα ᾠκοδομημένων ὁ ἥλιος ἀφαιρεῖ, ὃ ἥκιστα δεῖται ἀφαιρέσεως, ἀλλὰ μᾶλλον τὰ ἐντός. ἐκεῖθεν μὲν οὖν διὰ τὸ πόρρω εἶναι, ἂν μὴ μετὰ πόνου, οὐκ ἔστιν ἱδρῶτ' ἀναγαγεῖν, ἀπὸ τούτου δὲ διὰ τὸ πρόχειρον εἶναι ῥᾴδιον.

Διὰ τί κοπώδεις οἱ βραχεῖς τῶν περιπάτων; ἢ ὅτι πολλάκις συνίστανται καὶ οὐχ ὁμαλῶς κινοῦνται περὶ τὰς καμπάς; τὸ δὲ τοιοῦτον κοπῶδες.

Διὰ τί ἑστηκότες ἐν τῷ ἡλίῳ μᾶλλον θερμαίνονται ἢ κινούμενοι, καὶ ταῦτα τῆς κινήσεως θερμαντικῆς οὔσης; ἢ οὐ πᾶσα κίνησις θερμαίνει, ἀλλ' ἐνία ψύχει, οἷον καὶ ἐπὶ τῶν τὰς χύτρας τὰς ἑψημένας φυσώντων καὶ κινούντων συμβαίνει. εἰ οὖν ἑστηκότι μὲν προσμένει τὸ θερμόν, προσμένον δὲ μᾶλλον θερμαίνει ἢ κινούμενον (ἀεὶ γὰρ τὸ σῶμα ἴδιον ἡμῶν ἀτμίδα τινὰ χλιαρὰν ἀφίησιν ἀφ' ἑαυτοῦ, ἣ θερμαίνει τὸν ἐγγὺς ἀέρα ὥσπερ δαλὸς παρών), ἠρεμούντων μὲν ἡμῶν θερμὸς γίνεται ὁ περιέχων ἡμᾶς ἀὴρ διὰ τὰ εἰρημένα, κινουμένων δὲ πνεῦμα γίνεται, ὃ καταψύχει ἡμᾶς· πᾶν γὰρ πνεῦμα ψυχρόν ἐστιν.

Διὰ τί οἱ ἐπὶ τῶν ἵππων ὀχούμενοι, ὅσῳ ἂν θᾶττον θέῃ ὁ ἵππος, τοσούτῳ μᾶλλον δακρύουσι τὰ ὄμματα, καὶ οἱ πεζοί, ὅσῳ ἂν μᾶλλον τρέχωσιν; πότερον διὰ τὸ ψυχρὸν εἶναι τὸν προσπίπτοντα ἀέρα; τὸ γὰρ ψῦχος δακρύειν ποιεῖ· συστέλλον γὰρ καὶ πυκνοῦν τὴν σάρκα ἐκκαθαίρει τὸ ὑγρόν. ἢ διὰ τοὐναντίον; τὸ γὰρ θερμὸν ποιεῖ ἱδρῶτας, τὸ δὲ δάκρυον ἱδρώς τίς ἐστι. διὸ καὶ γίνονται ὑπὸ θερμασίας ἄμφω ταῦτα, καὶ ἁλυκά ἐστιν ὁμοίως. ἡ δὲ κίνησις θερμότητα ποιεῖ. ἢ διὰ τὴν ὑπὸ τοῦ ἀέρος πληγήν; ὡς γὰρ οἱ ἄνεμοι ταράττουσιν οἱ ἐξ ἐναντίας τὰ ὄμματα, οὕτω καὶ ὁ ἀὴρ ὁ προσπίπτων, ὅσῳ ἂν θᾶττον ἐλαύνῃ ἢ αὐτὸς τρέχῃ, τοσούτῳ μᾶλλον ποιεῖ πληγὴν μαλακήν, δι' ἣν γίνεται δακρύειν, ἀραιουμένων τῶν τοῦ ὀφθαλμοῦ πόρων ὑπὸ τῆς πληγῆς· πᾶσα γὰρ πληγὴ διαιρετικόν ἐστιν ἢ θλαστικόν.

Διὰ τί δεῖ τοὺς μὲν θερινοὺς κόπους λουτρῷ ἰᾶσθαι, τοὺς δὲ χειμερινοὺς ἀλείμματι; ἢ τούτους μὲν διὰ τὰς φρίκας καὶ τὰς γινομένας μεταβολὰς θερμῷ δεῖ λύειν, ὃ ποιήσει ἀλεάζειν (τὸ δὲ ἔλαιον θερμόν)· ἐν δὲ τῷ θέρει καθυγραίνειν. [885a] ἡ γὰρ ὥρα ξηρά, καὶ οὐ γίνονται φρῖκαι διὰ τὴν ἀλέαν. ὀλιγοσιτία δὲ καὶ κωθωνισμὸς θέρους, τὸ μὲν ὅλως, τὸ δὲ μᾶλλον, ὁ μὲν πότος θέρους ὅλως διὰ τὴν ξηρότητα, ἡ δὲ ὀλιγοσιτία κοινὸν μέν, μᾶλλον δὲ θέρους· ἐκθερμαίνεται γὰρ μᾶλλον διὰ τὴν ὥραν ὑπὸ τῶν σιτίων.

Διὰ τί οἱ θένοντες εὐτόνως μάλιστα λαμβάνουσι σπάσματα, ὅταν τις θέουσιν αὐτοῖς ὑποστῇ; ἢ ὅτι ταῦτα μάλιστα διασπᾶται, ἃ εἰς τοὐναντίον τε καὶ ἰσχυρῶς ἕλκεται καὶ κινεῖται; ὅταν οὖν θέοντος καὶ σφοδρῶς ὠθουμένων τῶν μορίων εἰς τὸ πρόσθεν ὑποστῇ τις, συμβαίνει ἅμα ἀντισπᾶν εἰς τοὐναντίον, ἔτι φερομένων εἰς τοὔμπροσθεν, ὥστε ἡ σπάσις τοσούτῳ ἰσχυροτέρα γίνεται, ὅσῳ ἂν θέωσι σφοδρότερον.

Διὰ τί τῶν περιπάτων οἱ κατὰ τὰς ὁδοὺς ἀκοπώτεροί εἰσιν, οἱ ἀνώμαλοι τῶν εὐθέων; ἢ διὰ τὸ τὴν φορὰν ὀρθὴν εἶναι κατὰ φύσιν παντὶ τῷ σώματι; οἱ δ' ἐν τοῖς ὁμαλοῖς τῶν ἀνωμάλων κοπιωδέστεροι· τοῖς γὰρ αὐτοῖς μέρεσι τοὺς πόνους παρέχουσιν, οἱ δ’ ἐν τοῖς ἀνωμάλοις διαμερίζουσι μᾶλλον εἰς ἅπαν τὸ σῶμα. αἱ δὲ ἀλέαι μᾶλλον ἰσχνοῦσι τῶν ἐν τοῖς ψύχεσιν· τοῖς γὰρ ἔξω μέρεσι πλείονα τὸν πόνον παρέχονται, διὸ καὶ τοὺς ἱδρῶτας ἐμποιοῦντες ἰσχναίνουσιν. οἱ δ’ ἐν τοῖς ψύχεσι στιφροτέραν τὴν σάρκα ποιοῦσι καὶ τῶν σιτίων ἐπιθυμητικωτέρους· τοῖς γὰρ ἔσω μέρεσι τὴν αὔξησιν τοῦ θερμοῦ ποιοῦνται, καὶ δυσκινήτων γινομένων ὑπὸ τοῦ ψύχους τὸν μὲν ἔσω τόπον καθαίρουσι, τὴν θερμασίαν αὐξάνοντες ἐν αὐτῷ, τὴν δὲ σάρκα στερεὰν ποιοῦσιν, οὐ δυνάμενοι κρατεῖν διὰ πάσης αὐτῆς. ὁμοίως οἱ ἀνάντεις τῶν κατάντων ἐπιπονώτεροι καὶ ἰσχναντικώτεροι. οἱ μὲν γὰρ ἀνάντεις τὴν ὀσφὺν μάλιστα ποιοῦσι πονεῖν, οἱ δὲ κατάντεις τοὺς μηρούς· τοῖς γὰρ μηροῖς τὸ βάρος πᾶν ἐμπῖπτον κόπους εἴωθε παρέχειν. ἄνω γὰρ παρὰ φύσιν ὑπὸ τοῦ θερμοῦ βίᾳ φερόμενος ἐκθερμαίνει. διὸ τούς τε ἱδρῶτας ἐμποιοῦσι, καὶ τὸ πνεῦμα μετεωρίζοντες ἰσχναίνουσι, καὶ τὴν ὀσφὺν ὀδυνῶσιν· τὰ γὰρ σκέλη χαλεπῶς ἀναγόμενα τὴν ὀσφὺν κάμπτουσί τε καὶ ἀνασπῶσιν, ὑφ’ ὧν ἀναγκάζονται μάλιστα πονεῖν. οἱ δ’ ἐν ἀντιτύποις περίπατοι τοῖς τε μυσὶ καὶ τοῖς τεταμένοις τῶν σκελῶν παρέχουσι κόπους· συντάσεις γὰρ ἐμποιοῦσι τοῖς νεύροις καὶ τοῖς μυσί, βιαίας [885b] γενομένης τῆς ἀπερείσεως αὐτοῖς. οἱ δ’ ἐν τοῖς μαλακοῖς τοῖς ἄρθροις κοπιώδεις εἰσίν· τῶν γὰρ ἄρθρων πυκνὰς τὰς κάμψεις ποιοῦσιν, ἅτε ἐνδιδούσης τῆς βάσεως. τὸ δ’ αὐτό ἐστι πρόβλημα.

Διὰ τί πρὸς τὰ σιμὰ χαλεπῶς βαδίζομεν; ἢ διότι πᾶσα πορεία ἐξ ἄρσεως καὶ θέσεως συντελεῖται; τὸ μὲν οὖν ἆραι παρὰ φύσιν, τὸ δὲ θεῖναι κατὰ φύσιν, τὸ δὲ προσθεῖναι μεσότης· ἐν δὲ τῷ πρὸς τὰ σιμὰ βαδίζειν πολὺ τὸ παρὰ φύσιν.

Διὰ τί οἱ ἀφ’ ἵππων ἧττον πίπτουσιν; ἢ διὰ τὸ φοβεῖσθαι φυλάττονται μᾶλλον;

Ϛ. ΟΣΑ ΕΚ ΤΟΥ ΠΩΣ ΚΕΙΣΘΑΙ ΚΑΙ ΕΣΧΗΜΑΤΙΣΘΑΙ ΣΥΜΒΑΙΝΕΙ.

Διὰ τί ἡ καθέδρα τοὺς μὲν παχύνει τῶν ἀνθρώπων, τοὺς δὲ ἰσχναίνει; πότερον ὅτι αἱ ἕξεις διαφέρουσιν; οἱ μὲν γὰρ θερμοί εἰσιν, οἱ δὲ ψυχροί. οἱ μὲν οὖν θερμοὶ παχύνονται (κρατεῖ γὰρ τὸ σῶμα τῆς τροφῆς διὰ τὴν θερμασίαν)· οἱ δ' ἐψυγμένοι, διὰ τὸ δεῖσθαι ἐπεισάκτου θερμότητος καὶ τοῦτο πάσχειν μάλιστα τὸ σῶμα ὑπὸ τῶν κινήσεων, οὐ δύνανται πέττειν ἠρεμοῦντες. ἢ ὅτι οἱ μὲν περιττωματικοί εἰσι, καὶ δέονται κινήσεως ἣ ἀναλώσει ταῦτα, οἱ δὲ οὔ;

Διὰ τί δεῖ ποιεῖν διάτασιν τῶν μερῶν, ὃ ποιεῖ ὁ γυμναζόμενος; ἢ ὅτι δεῖ τῷ οἰκείῳ πνεύματι καθαίρεσθαι τοὺς πόρους;

Διὰ τί συγκεκαμμένον βέλτιον κατακεῖσθαι, καὶ πολλοί γε παραγγέλλουσι τοῦτο καὶ τῶν ἰατρῶν; ἢ ὅτι ἀλεαίνουσα ἡ κοιλία θᾶττον πέττει; οὕτω δὲ ἀλεαίνει μᾶλλον. ἔτι δεῖ τοῖς πνεύμασι τόπον διδόναι εἰς ὃν ἀπερείσονται· οὕτω γὰρ ἥκιστα λυπήσουσιν αἱ φῦσαι. διὰ τοῦτο γὰρ καὶ ἰξίαι καὶ τὰ ἄλλα ἀποστήματα ὑγιεινόν, ὅτι ἔχουσι κοιλίας εἰς ἃς ἀποδέχονται τὰ πνεύματα. ἐκτεταμένου μὲν οὖν οὐ γίνεται κοιλία (ἅπαντα γὰρ τὸν τόπον τὰ σπλάγχνα κατέχει), συγκαμφθέντος δὲ γίνεται.

Διὰ τί ἀνισταμένοις ἴλιγγος μᾶλλον γίνεται ἢ καθίζουσιν; ἢ διότι ἠρεμοῦσι τὸ ὑγρὸν εἰς ἓν μόριον ἀθρόον ἀποκλίνει; διὸ καὶ τὰ ὠμὰ ᾠὰ οὐ δύναται δινεῖσθαι, ἀλλὰ καταπίπτει. κινούμενον δὲ τὸ ὑγρὸν ὁμοίως ἔχει. ἀνίστανται μὲν [886a] οὖν ἠρεμήσαντες, ὅτε οὕτως διάκεινται· καθιζάνουσι δὲ ἐν κινήσει γενόμενοι, ὅτε ὁμαλῶς ἔχει τὸ ὑγρὸν καὶ ἐσκέδασται.

Διὰ τί ἐπὶ τὰ δεξιὰ κατακειμένοις μᾶλλον ἐπέρχεται ὕπνος; πότερον ὅτι ἐναντίως ἔχοντες ἐγρηγόρασι καὶ καθεύδουσιν; ἐπεὶ οὖν ἐγρηγορότες ἐπὶ τὰ ἀριστερὰ κατάκεινται, τοὐναντίον ἔσται ἐπ' ἄλλης ἀρχῆς καὶ τῆς ἐναντίας. ἢ ὅτι ἀκινησία ὁ ὕπνος; τὰ οὖν κινητικὰ μέρη δεῖ ἠρεμεῖν, τὰ δὲ δεξιὰ κινητικά. οὕτω δὲ κατακειμένων οἷον δέδεται ἀρχή τις ἐπεγερτική.

Διὰ τί ναρκῶσιν; καὶ διὰ τί χεῖρας καὶ πόδας μᾶλλον; ἢ ὅτι κατάψυξίς ἐστιν ἡ νάρκη; διὰ στέρησιν γὰρ αἵματος γίνεται καὶ μετάστασιν. ἀσαρκότατα δὲ ταῦτα καὶ νευρωδέστατα, μάλιστα δὲ οἱ πόδες. ὥστε προοδοποιεῖται ὑπὸ τῆς φύσεως πρὸς τὸ καταψύχεσθαι ταχέως.

Διὰ τί κατακείμεθα μὲν ἐπὶ τὰ ἀριστερὰ ἡδέως, καθεύδομεν δὲ ἐπὶ τὰ δεξιὰ μᾶλλον; πότερον ὅτι ἀποστραφέντες πρὸς τὸ φῶς οὐ βλέπομεν; ἐν γὰρ τῷ σκότει θᾶττον ὕπνος λαμβάνει. ἢ διότι ἐγρηγόραμεν κατακείμενοι ἐπὶ τοῖς ἀριστεροῖς, καὶ αἱ χρήσεις ἡμῖν οὕτω πρόχειροι, ὥστε πρὸς τὸ ἐναντίον σχῆμα πρὸ ἔργου; παρακαλεῖ δὲ ἕκαστον πρὸς τὸ ἔργον τὸ σχῆμα μᾶλλον.

Ζ. ΟΣΑ ΕΚ ΣΥΜΠΑΘΕΙΑΣ.

Διὰ τί τοῖς χασμωμένοις ἀντιχασμῶνται ὡς ἐπὶ τὸ πολύ; ἢ διότι, ἐὰν ἀναμνησθῶσιν ὀργῶντες, ἐνεργοῦσι, μάλιστα δὲ τὰ εὐκίνητα, οἷον οὐροῦσιν. ἡ δὲ χάσμη πνεῦμα καὶ ὑγροῦ κίνησίς ἐστιν. πρόχειρον οὖν, ἐὰν μόνον νοήσῃ· ἔστι γὰρ πλησίον.

Διὰ τί, ἐὰν μέν τινα ἴδωμεν τὴν χεῖρα ἐκτείνοντα ἢ τὸν πόδα ἢ ἄλλο τι τῶν τοιούτων, οὐκ ἀντιποιοῦμεν τὸ αὐτό, ἐὰν δὲ χασμώμενον, ἀντιχασμώμεθα; ἢ οὐδὲ τοῦτο ἀεί, ἀλλ’ ἐὰν ὀργῶν τύχῃ τὸ σῶμα καὶ οὕτω διακείμενον ὥστε τὸ ὑγρὸν ἀναθερμαίνεσθαι; τότε γὰρ ἡ μνήμη τὴν κίνησιν ποιεῖ, ὥσπερ καὶ πρὸς ἀφροδίσια καὶ ἐδωδήν· τὸ γὰρ ποιῆσαν μνήμην εἶναι τὸ ἔχον ὁρμὴν πρὸς τὸ φαντασθὲν πάθος.

Διὰ τί, ἐπειδὰν πρὸς τὸ πῦρ στῶμεν, οὐρητιῶμεν, καὶ ἐὰν πρὸς ὕδωρ, οἷον ἐὰν πρὸς ποταμόν, οὐροῦσιν; ἢ ὅτι τὸ πᾶν [886b] ὕδωρ ὑπόμνησιν δίδωσι τῆς ἐν τῷ σώματι ὑγρότητος, καὶ ἐκκαλεῖται τὸ προσιόν; αὐτὸ δὲ τὸ πῦρ διαχαλᾷ τὸ πεπηγὸς ἐν τῷ σώματι, ὥσπερ ὁ ἥλιος τὴν χιόνα.

Διὰ τί ἀπὸ μὲν νόσων ἐνίων νοσοῦσιν οἱ πλησιάζοντες, ἀπὸ δὲ ὑγιείας οὐδεὶς ὑγιάζεται; ἢ ὅτι ἡ μὲν νόσος κίνησις, ἡ δὲ ὑγίεια ἠρεμία; ἡ μὲν οὖν κινεῖ, ἡ δ’ οὐθέν. ἢ διότι τὸ μὲν ἄκοντι τὸ δ’ ἑκόντι γίνεται; καὶ ἄρα τὰ ἀκούσια τῶν ἑκουσίων καὶ τῶν ἐκ προνοίας. διαφέρει.

Διὰ τί τῶν μὲν διὰ τῆς ἀκοῆς λυπηρῶν ἔνια φρίττειν ἡμᾶς ποιεῖ, οἷον πρίων ἀκονώμενος καὶ κίσηρις τεμνομένη καὶ λίθος ἀλούμενος, τὰ δὲ διὰ τῆς ὄψεως σημεῖα τῶν παθῶν αὐτὰ ἡμῖν τὰ πάθη ἐμποιεῖ; αἱμωδιῶμέν τε γὰρ τοὺς ὀξὺ ὁρῶντες ἐσθίοντας, καὶ τοὺς ἀπαγχομένους ἔνιοι ὁρῶντες ἐκψύχουσιν. ἢ διότι φωνὴ μὲν πᾶσα καὶ ψόφος πνεῦμα ἐστίν; τοῦτο δὲ εἰσδυόμενον ἡμῖν πέφυκε κινεῖν. κινήσει δὲ μᾶλλον ἢ διὰ μέγεθος ἢ διὰ πληγὴν σφοδροτέραν, ποιοῦν ἢ ἀλλοιοῦν τι τῶν ἐν ἡμῖν. τὰ μὲν οὖν μεγάλα καὶ λεῖα πνεύματα τὸν τῆς αἰσθήσεως τόπον τὸν αὐτὸν κινεῖ, διὸ καὶ ἡδύνει τὰ τοιαῦτα· τὰ δὲ τραχέα, πληγὴν ποιοῦντα σφοδράν, σείει τε τὸν τόπον καὶ πόρρω διαδίδωσι τῇ τῆς πληγῆς δυνάμει. διαδίδωσι δὲ καὶ τὰ ψυχρὰ πόρρω· δύναμις γάρ τίς ἐστιν ἡ ψυχρότης. αὕτη μὲν οὖν ὅτι φρίττειν ποιεῖ, εἴρηται. τὰ δὲ τραχέα τῷ πληγὴν ποιεῖν πυκνήν, προσκόπτοντα τῇ ἀρχῇ τῶν τριχῶν, ἀπωθεῖ αὐτὴν εἰς τοὐναντίον· ἀπωθουμένης δὲ ἀνάγκη τὴν κορυφὴν τῆς τριχὸς ἀνάπαλιν γίνεσθαι, διὸ συμβαίνει ἵστασθαι αὐτάς· πᾶσαι γὰρ νενεύκασι κάτω. ἡ δὲ φορὰ τοῦ διὰ τῆς ἀκοῆς πνεύματος εἰς τὸ σῶμα ἄνωθεν κάτω ἐστίν. ὄντων οὖν τραχέων τῶν εἰρημένων ψόφων, ἡ φρίκη γίνοιτ’ ἂν διὰ τὰ εἰρημένα. γίνονται δ’ αὗται μᾶλλον τῷ ἄλλῳ σώματι ἢ ἐν τῇ κεφαλῇ διὰ τὸ τὰς ἐνταῦθα τρίχας ἀσθενεστέρας εἶναι καὶ τὸ πάθος ἀσθενές. τῆς μὲν οὖν ἀκοῆς οὔσης ἀμβλυτέρας αἰσθήσεως ἢ τῆς ὄψεως, ἐπιπόλαια καὶ τὰ πάθη γίνεται ἀπ’ αὐτῆς· ἡ δὲ φρίκη τοιοῦτον, διὸ καὶ ἀπὸ πολλῶν καὶ ἀνομοίων γίνεται. τῆς δὲ ὄψεως ἐναργεστάτης οὔσης αἰσθήσεως, ἀνάλογον καὶ τὰ συμβαίνοντα γίνεται ἀπ’ αὐτῆς· διὸ ταῦτα μὲν τὰ ἀπὸ τῆς ἀληθείας πάθη συμβαίνει γίνεσθαι ἀπ’ αὐτῆς, ἐλαφρότερα [887a] δὲ τῆς ἀληθείας. ἀπὸ δὲ τῆς ἀκοῆς αὐτὰ μὲν οὔ, τὴν δ’ ἀπ’ αὐτῶν προσδοκίαν φρίττομεν· ἀλγεινοῦ γὰρ κακοῦ προσδοκία ἐστίν.

Διὰ τί χασμησαμένοις ἀντιχασμῶνται, καὶ ὅταν οὐροῦντα ἴδωσιν, οὐροῦσι, καὶ μάλιστα τὰ ὑποζύγια; ἢ διὰ τὴν μνήμην; ὅταν γὰρ μνησθῇ, κινεῖται τοῦτο τὸ μέρος. τοῖς μὲν οὖν ἀνθρώποις, διὰ τὸ εὐαισθητοτέροις εἶναι, ἰδοῦσιν εὐθὺς συμβαίνει καὶ κινεῖσθαι καὶ ἀναμιμνήσκεσθαι· τοῖς δὲ ὑποζυγίοις οὐκ αὔταρκες τὸ ἰδεῖν, ἀλλὰ προσδέονται καὶ ἄλλης αἰσθήσεως· διὸ καὶ ὀσφρανθέντα, ὅτι εὐκινητοτέρα αὕτη ἡ αἴσθησις τοῖς ἄνευ λόγου. καὶ διὰ τοῦτο εἰς τὸν αὐτὸν τόπον ἅπαντα οὐρεῖ, οὗ ἂν τὸ πρῶτον οὐρήσῃ. τότε γὰρ μάλιστα κινοῦνται, ὅταν ὀσφρανθῶσιν· ὀσφραίνονται δ’, ὅταν πλησιάσωσιν.

Διὰ τί, ἐπειδὰν τεμνόμενόν τινα ἴδωμεν ἢ καιόμενον ἢ στρεβλούμενον ἢ ἄλλο τι τῶν δεινῶν πάσχοντα, συναλγοῦμεν τῇ διανοίᾳ; ἢ ὅτι ἡ φύσις ἡμῖν κοινὴ ἅπασιν; συνήλγησεν οὖν, ἐπειδάν τι τοιοῦτον ἴδῃ, τῷ πάσχοντι διὰ τὴν οἰκειότητα. ἢ ὅτι ὥσπερ αἱ ῥῖνες καὶ αἱ ἀκοαὶ λαμβάνουσί τινας ἀπορροίας κατὰ τὰς οἰκείας δυνάμεις, οὕτω καὶ ἡ ὄψις αὐτὸ πάσχει καὶ ἀπὸ τῶν ἡδέων καὶ λυπηρῶν;

Διὰ τί ἀπὸ φθίσεως καὶ ὀφθαλμίας καὶ ψώρας οἱ πλησιάζοντες ἁλίσκονται, ἀπὸ δὲ ὕδρωπος καὶ πυρετῶν καὶ ἀποπληξίας οὐχ ἁλίσκονται, οὐδὲ τῶν ἄλλων; ἢ ἡ μὲν ὀφθαλμία, ὅτι εὐκινητότατον ὁ ὀφθαλμός, καὶ μάλιστα ὁμοιοῦται τῷ ὁρωμένῳ τῶν ἄλλων, οἷον κινεῖται ἀπὸ κινουμένου ὥστε καὶ ἀντιβλέπων τεταραγμένῳ ταράττεται μάλιστα; ἡ δὲ φθίσις, ὅτι πνεῦμα φαῦλον ποιεῖ καὶ βαρύ, τάχιστα δὲ τὰ νοσήματα ταῦτα ἅπτεται πάντων, ὅσα τούτου φθειρομένου γίνεται, οἷον τὰ λοιμώδη. ὁ δὲ πλησιάζων τοιοῦτον ἀναπνεῖ. νοσεῖ μὲν οὖν, ὅτι νοσῶδες· ἀπὸ μόνου δέ, ὅτι ἐκπνεῖ, νοσεῖ, οἱ δὲ ἄλλοι ἑτέραν· τὴν αὐτὴν δὲ νόσον, ὅτι ᾧ ἂν ἀσθενήσῃ, τούτῳ ἀναπνεῖ τοιοῦτον οἷον εἰ πεπονθὼς ἦν. ἡ δὲ ψώρα μᾶλλον τῶν ἄλλων, οἷον λέπρας καὶ τῶν τοιούτων, ὅτι ἐπιπολῆς τε καὶ γλίσχρον τὸ ἀπορρέον· τὰ γὰρ κνησμώδη τοιαῦτα. διὸ αὐτὰ τῷ ἐπιπολῆς γίνεσθαι καὶ γλίσχρον εἶναι ἅπτεται. τῶν δ’ ἄλλων τὰ μὲν οὐχ ἅπτεται διὰ τὸ μὴ ἐπιπολῆς γίνεσθαι, τὰ δὲ ὄντα ἐπιπολῆς, ὅτι προσμένει διὰ ξηρότητα.

[887b] Διὰ τί τὴν αἱμωδίαν παύει ἡ ἀνδράχνη καὶ ἅλες; ἢ ὅτι ἡ μὲν ὑγρότητά τινα ἔχει; φανερὰ δὲ αὕτη μασωμένοις τε, κἂν συντεθῇ χρόνον τινά· ἕλκεται γὰρ ἡ ὑγρότης. τὸ δὴ γλίσχρον εἰσδυόμενον ἐξάγει τὸ ὀξύ. καὶ γὰρ ὅτι συγγενὴς ἡ ὀξύτης σημαίνει· ἔχει γάρ τινα ὀξύτητα ὁ χυλός. ὁ δὲ ἅλς συντήκων ἐξάγει καὶ τὴν ὀξύτητα. διὰ τί οὖν ἡ κονία καὶ τὸ νίτρον οὔ; ἢ ὅτι στύφει καὶ οὐ τήκει;

Η. ΟΣΑ ΕΚ ΡΙΓΟΥΣ ΚΑΙ ΦΡΙΚΗΣ.

Διὰ τί οἱ ῥιγῶντες πελιδνοὶ γίνονται; ἢ διότι τὸ αἷμα πήγνυται διὰ τὸ ψῦχος, πηγνύμενον δὲ μελαίνεται διὰ τὴν ἀπουσίαν τοῦ θερμοῦ; τὸ δὲ λευκὸν τοῦ πυρός. διὸ καὶ τοῖς πρεσβύταις μάλιστα πελιδνοῦται ἡ σάρξ, ὅτι ἐλαχίστην ἔχει θερμότητα.

Διὰ τί οἱ ῥιγῶντες καθεύδειν οὐ δύνανται; ἢ διότι πάντες οἱ ῥιγῶντες μᾶλλον τὸ πνεῦμα κατέχουσιν, ὁ δὲ καθεύδων ἐκπνεῖ μᾶλλον ἢ εἰσπνεῖ, ὥστε χαλεπὸν ῥιγῶντα καθεύδειν· ἅμα γὰρ ποιεῖν τἀναντία ἀδύνατον.

Διὰ τί ἐν τῷ ψύχει ὀξύτεροι καὶ οἱ ἀσθενήσαντες καὶ οἱ λυπούμενοι καὶ οἱ ὀργιζόμενοι; ἢ στιφρότερον ποιεῖ τὸ καταψύχεσθαι;

Διὰ τί οἱ ἀθληταὶ δύσριγοι εὖ ἔχοντες; ἢ ὅτι καθαρὰ καὶ εὔπνους ἡ ἕξις καὶ ἀπίμελος; ἡ τοιαύτη δὲ εὐπαθεστάτη ὑπὸ τοῦ ἀέρος, ὅταν εὐδίοδός τε ᾖ καὶ μὴ ἔχῃ θερμότητα ἐν αὐτῇ· ἡ δὲ πιμελὴ θερμόν, ἂν μὴ δίυγρος.

Διὰ τί μάλιστα τὰ ἀκρωτήρια ῥιγῶσιν; ἢ διὰ στενότητα; καὶ οἱ πόροι ἐν αὐτοῖς στενοὶ ὄντες ὀλίγαιμοί εἰσιν, ὥστε καὶ ὀλιγόθερμοί εἰσι· τὸ γὰρ αἷμα θερμόν.

Διὰ τί, ἐὰν μετέωροι ὦσιν οἱ πόδες, μᾶλλον ῥιγοῦσιν; πότερον ὑποπνεῖ μᾶλλον; ἢ ὅτι ἐν ἐλάττονι γίνεται τὸ αἷμα κάτω, ὥστε τὸ ἄλλο εὐψυκτότερον ἐκλείποντος τοῦ θερμοῦ;

Διὰ τί οἱ παχεῖς σφόδρα ῥιγοῦσι, τῆς πιότητος θερμῆς οὔσης; ἢ διὰ τὸ μέγεθος τοῦ πάχους τοῦ μὲν ἔσωθεν θερμοῦ πόρρω γίνονται τὰ ἔσχατα, τοῦ δὲ ἔξω ψυχροῦ ἐγγύς;

Διὰ τί πταρέντες καὶ οὐρήσαντες φρίττουσιν; ἢ ὅτι κενοῦνται αἱ φλέβες ἐν ἀμφοτέροις, κενωθέντων δὲ ὁ ἀὴρ εἰσέρχεται ψυχρός, ὁ ποιῶν φρίττειν.

Διὰ τί μάλιστα βουλιμιῶσιν ἐπὶ τῷ ψύχει, καὶ τοῦ χειμῶνος μᾶλλον ἢ τοῦ θέρους; ἢ διότι ἡ μὲν βουλιμία γίνεται [888a] δι’ ἔνδειαν τῆς ξηρᾶς τροφῆς, ἐν δὲ τῷ ψύχει καὶ τῷ χειμῶνι συστελλομένου τοῦ ἐντὸς θερμοῦ εἰς ἐλάττω τοῦτο θᾶττον ὑπολείπει ἡ ἐντὸς τροφή· τούτου δὲ γινομένου μᾶλλον βουλιμιᾶν εἰκός. ἡ δ’ ἐν τῇ βουλιμίᾳ ἔκλυσις καὶ ἀδυναμία γίνεται συντήξεως γινομένης ἐν τῷ σώματι διὰ τὴν τοῦ θερμοῦ ἄθροισιν, ἧς ῥυείσης μὲν εἰς τὸν τῶν σιτίων τόπον αὐτὴ τροφὴ γίνεται τῷ σώματι, ἐὰν δ’ ἐπὶ τὰς ἀρχὰς τῆς ἀναπνοῆς ἔλθῃ, ἀφωνία καὶ ἀδυναμία συμβαίνει, ἀφωνία μὲν διὰ τὸ ἐμφράττεσθαι τὸν τοῦ πνεύματος πόρον, ἀδυναμία δὲ διὰ τὴν τοῦ σώματος ἀτροφίαν καὶ σύντηξιν. ταχεῖαι δὲ καὶ ἀπ’ ὀλίγων αἱ βοήθειαι γίνονται τοῖς τοιούτοις διὰ τὸ τὴν ἀρχὴν τοῦ πάθους ἔξωθεν γίνεσθαι. συστέλλον γὰρ τὸ ἐντὸς ψυχρὸν τὸ θερμὸν ἡμῶν ποιεῖ τὴν βουλιμίαν. καθάπερ οὖν ἐν τῷ φόβῳ τρέμοντες καὶ ὠχριῶντες, ἀφέντες τοῦ κινδύνου, παραχρῆμα οἱ αὐτοὶ γίνονται, οὕτω καὶ οἱ βουλιμιῶντες, μικρὰ προσενεγκάμενοι ἐξ ἄρτου, βίᾳ κινηθέντες ἐκ τῆς φύσεως, μὴ φθαρέντες δέ· ταχεῖα ἡ ἀποκάθαρσις γίνεται. ταὐτὸ γὰρ ἀντέτεινε τήν τε κατὰ φύσιν ἀγωγήν, καὶ καθίστησιν εἰς τὴν φύσιν. ἀφεῖναι οὖν μόνον αὐτὴν δεῖ, καὶ καθάπερ τῶν παιδίων τὰ ἀντιτείνοντα εἰς τοὔπισθεν τὰ σπαρτία· καὶ γὰρ ταῦτα ἀφεθέντων τῶν σπαρτίων εὐθὺς πεπτώκασιν ὕπτια.

Διὰ τί οἱ γεγυμνασμένοι δυσριγότεροι τῶν ἀγυμνάστων; πότερον ὅτι τὸ πῖον ὑπὸ τῶν πόνων ἐξῄρηται, τοῦτο δὲ ἀλέαν παρέχει· θερμὸν γὰρ τὸ λιπαρόν. ἢ ὅτι εὐπνούστερα τὰ σώματα καὶ ἀραιότερα διὰ τὸ τὸ πῖον καὶ τὸ περίττωμα ἐξῃρῆσθαι, ὥστε οὐδὲν ἀποστέγειν τὸ ψῦχος; ἢ διὰ τὴν τῶν πόρων ἀποστόμωσιν τοῖς ἱδρῶσιν οἷον πολλαὶ θύραι ἐξῄρηνται; φανερὸν δὲ ὅτι οὐχ ἡ αὐτὴ ἕξις πρὸς ὑγείαν καὶ ἰσχὺν συμφέρει· ἡ μὲν γὰρ πίων, ἡ δὲ ἀραιὰ φαίνεται οὖσα.

Διὰ τί φρίττουσι καὶ τῷ θερμῷ καὶ τῷ ψυχρῷ προσχεόμενοι; ἄτοπον γὰρ τὰ ἐναντία τοῦ αὐτοῦ εἶναι αἴτια. ἢ διότι ὑπὸ μὲν τοῦ ψυχροῦ προσχεόμενοι τὸ ἐντὸς θερμὸν σβεννύμενον ποιεῖ τὴν φρίκην, ὑπὸ δὲ τοῦ θερμοῦ τὸ ἐκτὸς ψυχρὸν ἀντιπεριιστάμενον εἰς ἓν καὶ ἀθροιζόμενον τῇ φυγῇ ἔσω; ὥστε ὑπὸ τοῦ αὐτοῦ ἄμφω γίνεται, ἀλλ’ ὁτὲ μὲν ὑπὸ τοῦ ἔσω, ὁτὲ δὲ ὑπὸ τοῦ ἔξωθεν.

Διὰ τί φρίττουσιν αἱ τρίχες ἐν τῷ δέρματι; ἢ ὅταν συσπάσωσι τὸ δέρμα, εἰκότως ἐξανέστησαν· συσπῶσι δὲ καὶ ὑπὸ ῥίγους καὶ ὑπ’ ἄλλων παθῶν.

[888b] Διὰ τί ἐν τῇ τελευταίᾳ προέσει τοῦ οὔρου φρίττομεν; ἢ ὅτι ἐνόντος μὲν τοῦ ὑγροῦ θερμοῦ πλήρεις ἥ τε κύστις καὶ οἱ περὶ αὐτὴν πόροι, ἐξελθόντος δὲ ἀέρος ψυχροῦ ἐνέπλησεν· οὐδὲν γὰρ κενὸν δεῖ εἶναι, ἀλλ’ ἢ ἀέρος ἢ σώματος πλῆρες. ἅτε οὖν εἰσεληλυθότος ψυχροῦ ἀέρος εἰκότως φρίττειν συμβαίνει.

Διὰ τί τῶν ῥιγώντων ἡ γλῶττα, καθάπερ τῶν μεθυόντων, πταίει; πότερον ὑπὸ τοῦ ψύχους πηγνυμένη καὶ σκληρυνομένη δυσκίνητος γίνεται, τούτου δὲ συμβαίνοντος οὐ δύναται σαφηνίζειν; ἢ τῶν ἐκτὸς πυκνουμένων διὰ τὸ ψῦχος εἴσω συρρυὲν τὸ ὑγρὸν ἐξυγραίνει τὴν γλῶτταν, διόπερ οὐ δύναται ἡ γλῶττα τὸ αὑτῆς ποιεῖν, καθάπερ εἴρηται καὶ ἐπὶ τῶν μεθυόντων. ἢ διὰ τὸν ἀπὸ τοῦ ῥίγους τρόμον ἀτάκτου τῆς κινήσεως οὔσης οὐ δύναται τὰ λεγόμενα διαρθροῦν ἡ γλῶττα· διόπερ καὶ πταίει.

Διὰ τί τῶν ῥιγώντων ὀρθαὶ αἱ ἐν τῷ σώματι τρίχες γίνονται; ἢ διότι ἀπὸ τῆς καταψύξεως τὸ θερμὸν εἰς τὸν ἐντὸς τόπον ἀθροίζεται, ἐκλείποντος δ’ ἐκ τῆς σαρκὸς τοῦ θερμοῦ συνίσταται μᾶλλον, συναγομένης δὲ ὀρθότεραι αἱ τρίχες γίνονται. ἢ διότι

Διὰ τί τοῦ χειμῶνος τρέχοντες μᾶλλον ῥιγῶμεν ἢ ἑστῶτες; ἢ ὅτι ὁ ἀὴρ ὁ περὶ τὸ σῶμα ἑστώτων μέν, ἐπειδὰν ἅπαξ συνθερμανθῇ, οὐκέτι ἐνοχλεῖ, τρεχόντων δὲ ἀεὶ ἄλλος καὶ ἄλλος προσπίπτει ψυχρὸς ὤν, διόπερ μᾶλλον ῥιγῶμεν; ἔτι δὲ καὶ κινούμενος ψυχρότερος γίνεται ὁ ἀήρ· τοῦτο δὲ ἐν τῷ τρέχειν μάλιστα συμπίπτει.

Διὰ τί ὑποφαύσκοντος μᾶλλον ψῦχος ἢ ἐγγυτέρω τοῦ ἡλίου ὄντος; ἢ ὅτι πλείων ὁ χρόνος τῆς τοῦ ἡλίου ἀπουσίας, ὥστε μᾶλλον ἀπέψυκται ἡ γῆ; ἢ ὅτι πρὸς ἡμέραν ἡ δρόσος πίπτει ὥσπερ πάχνη, ταῦτα δὲ ψυχρά; ἢ καὶ ταῦτα πίπτει διὰ τὸ κρατεῖσθαι τὸ ἀναφερόμενον θερμόν, κρατεῖται δὲ διὰ τὴν τοῦ ἡλίου ἀπουσίαν· διὸ καὶ πλεῖον μὲν ἀπέχοντος οὐ πίπτει, ἐγγυτέρω δὲ ὄντος πίπτει καὶ πήγνυται· διότι μᾶλλον ἀπέψυκται ὁ τόπος, πλείω χρόνον τοῦ ἡλίου ἀπόντος. ἢ ὅτι πρὸς ἡμέραν μᾶλλον τὰ ἐκ νυκτῶν πνεύματα τῆς ψύξεως; ἢ ἡμῖν δοκεῖ μᾶλλον εἶναι ψῦχος διὰ τὸ πεπέφθαι τὰ σιτία; κενώτεροι δὲ ὄντες δυσριγότεροι. σημεῖον δὲ τὸ μετὰ τοὺς ἐμέτους μάλιστα ῥιγοῦν.

Διὰ τί πονοῦσιν, ὅταν ῥιγῶντας πρὸς τὸ πῦρ φέρωσιν· ὅταν δὲ κατὰ μικρὸν χλιαίνωσιν, οὔ; ἢ ὅτι ὅλως ἐκ τῶν ἐναντίων [889a] τοὐναντίον γινόμενον μεγάλην ποιεῖ τὴν μεταβολήν; ὥσπερ ἐπὶ τῶν δένδρων, εἰ μὲν κατὰ μικρὸν κάμπτοι τις, οὐκ ἂν πονοῖ, εἰ δὲ σφοδρότερον καὶ μὴ κατὰ μικρόν, κλῶνται. εἰ οὖν τὸ ὅμοιον ὑπὸ τοῦ ὁμοίου ἀπαθές, τὸ δὲ θερμὸν τοῦ ῥιγῶντος εἴσω συνίσταται καὶ συνέρχεται, τὸ δὲ ὑγρὸν καταλείπεται καὶ τὸ ψυχρόν, τὸ δὲ ἐναντίον τοῦ ἐναντίου φθαρτικόν· ὥστε ἐὰν μὲν χλιαίνῃ, κατὰ μικρὸν ἐξέρχεται τὸ θερμὸν καὶ ἧττον πονεῖ, ἐὰν δὲ μὴ ἀναχλιάνῃ, προσάγει μᾶλλον.

Διὰ τί ψυχθέντες μᾶλλον ἀπὸ τῆς αὐτῆς θερμασίας καιόμεθα καὶ ἀλγοῦμεν; πότερον διὰ πυκνότητα στέγει ἡ σὰρξ τὸ προσπῖπτον θερμόν; διὸ μόλιβδος ἐρίου θερμότερος, ἢ βίαιος γίνεται τοῦ θερμοῦ ἡ δίοδος διὰ τὸ πεπηγέναι ὑπὸ τοῦ ψύχους τοὺς πόρους.

Διὰ τί οἱ ὀργιζόμενοι οὐ ῥιγῶσιν; ἢ ὅτι ἡ ὀργὴ τῇ δειλίᾳ ἐναντίον καὶ ὁ θυμός; ἔστι δὲ ἡ μὲν ὀργὴ ἀπὸ τοῦ πυρός· πολὺ γὰρ τὸ πῦρ κατέχοντες εἴσω χλιαίνονται. μάλιστα δ’ ἔστιν ἐπὶ τῶν παιδίων καταμαθεῖν. οἱ μὲν γὰρ ἄνδρες βλάπτονται, τὰ δὲ παιδία πρῶτον μὲν τὸ πνεῦμα πολὺ ἀναλαμβάνουσιν, εἶτα ἐρυθριῶσιν· πολὺ γὰρ εἴσω ὂν τὸ θερμὸν καὶ ἐξυγραῖνον ἐρυθριᾶν ποιεῖ, ἐπεὶ εἴ τις αὐτοῖς πολὺ τοῦ ψυχροῦ προσχέοι, παύσοιντ’ ἂν ὀργιζόμενοι· κατασβεσθείη γὰρ ἂν αὐτῶν τὸ θερμόν. οἱ δὲ δειλοὶ καὶ φοβούμενοι τοὐναντίον. ῥιγῶσί τε γὰρ καὶ ψυχροὶ καὶ ὠχροὶ γίνονται· ἐκλείπει γὰρ τὸ θερμὸν αὐτοῖς ἐκ τῶν ἐπιπολῆς τόπων.

Διὰ τί, ὅταν φρίξωμεν, αἱ τρίχες ὀρθαὶ ἵστανται; ἢ διὰ τὸ ἐν ὑγρῷ πεφυκέναι κατακεκλεῖσθαι; κρατεῖ γὰρ τοῦ ὑγροῦ τὸ βάθος τῆς τριχός. ἡ δὲ φρίκη γίνεται ὑπὸ τοῦ ψυχροῦ, τὸ δὲ ψῦχος κατὰ φύσιν πήγνυσι τὸ θερμόν. ὅταν οὖν μεταβάλλῃ τὸ ὑγρόν, ἐξ οὗ πεφύκασιν αἱ τρίχες, καὶ παγῇ, μεταβάλλειν εἰκὸς καὶ τὰς τρίχας. εἰς μὲν οὖν τοὐναντίον εἰ μεταβάλλουσιν, ἢ ἐν ταὐτῷ μένουσιν, ἢ ἐπικρατήσει πάλιν ἡ θρὶξ τοῦ ὑγροῦ· οὐκ εἰκὸς δὲ πεπηγότος καὶ πεπυκνωμένου τοῦ ὑγροῦ τὴν τρίχα τῷ βάρει κρατεῖν. εἰ δὲ μηδαμόσε κεκλίσθαι δυνατὸν τὴν τρίχα τῷ τὸ ὑγρὸν πεπηγέναι, λείπεται ἑστάναι ὀρθήν. ἢ διότι ὑπὸ τῆς καταψύξεως τὸ θερμὸν εἰς τὸν ἐντὸς τόπον ἀθροίζεται, ἐκλείποντος δὲ ἐκ τῆς σαρκὸς τοῦ θερμοῦ συνίσταται μᾶλλον ἡ σάρξ, συναγομένης δὲ ὀρθότεραι αἱ τρίχες γίνονται, καθάπερ ἐάν τις εἰς [889b] τὴν γῆν ἐμπήξας κάρφος ἢ ἄλλο τι συντάττῃ καὶ πάντοθεν συνάγῃ τὴν γῆν, μᾶλλον ὀρθοῦται ἢ ἐὰν ἐᾷ μὴ συνεστηκυῖαν.

Διὰ τί οἱ ῥιγῶντες μάλιστα οὐ καθεύδουσιν; ἢ διότι ὁ ῥιγῶν μᾶλλον κατέχει τὸ πνεῦμα ἢ ἐκπνεῖ, ὁ δὲ καθεύδων ἐκπνεῖ ἢ εἰσπνεῖ; ἐναντίως οὖν ποιεῖ ἔχειν τὸ ῥῖγος τῷ καθεύδειν.

Θ. ΟΣΑ ΠΕΡΙ ΥΠΩΠΙΑ ΚΑΙ ΟΥΛΑΣ ΚΑΙ ΜΩΛΩΠΑΣ.

Διὰ τί τοὺς μώλωπας κωλύει τὰ νεόδρατα δέρματα προστιθέμενα, καὶ μάλιστα κριῶν, καὶ ᾠὰ ἐπικαταγνύμενα; ἢ ὅτι ἄμφω κωλύει τὴν ἄθροισιν τοῦ ὑγροῦ καὶ τὴν ἔπαρσιν; τὸ γὰρ ἀφηλκωμένον ἕλκει ἐπαίρεται διὰ τὴν θερμασίαν· τά τε δὴ ᾠὰ διὰ τὴν γλισχρότητα κατακολλῶντα κωλύει ἐπαίρεσθαι, καθάπερ καὶ τὰ καύματα, ὥσπερ καὶ ἡ κόλλα, καὶ τὰ δέρματα τῇ τε γλισχρότητι προσκολλᾶται, καὶ ἅμα τῇ θερμότητι συμπέττει καὶ παύει τὴν φλεγμασίαν· οὐδὲ γὰρ ἀφαιροῦσιν ἡμερῶν τινῶν. ἐξάγειν δὲ βούλονται τὴν φλεγμασίαν καὶ οἱ τῷ ἁλὶ καὶ τῷ ὄξει τρίβοντες.

Διὰ τί ἐν μὲν τῷ ἄλλῳ σώματι αἱ οὐλαὶ μέλαιναι, ἐν δὲ τῷ ὀφθαλμῷ λευκαί; ἢ ὅτι ἐναντίαν χρόαν ἡ οὐλὴ λαμβάνει τῇ πρότερον, ὥσπερ πᾶν τὸ νενοσηκός; ἐν τῷ μέλανι δὲ τοῦ ὀφθαλμοῦ τὰ ἕλκη. οὐ μὴν οὐδὲ ἐν τῷ σώματι μέλαιναι εὐθύς, ἀλλ’ ἐξ ἀρχῆς λευκαί, οὐδὲ ἐν τῷ ὀφθαλμῷ ἀεὶ μέλαιναι, ἀλλ’ ἀποκαθίστανται τῷ χρόνῳ, ἢ ἁπλῶς ἢ εἰς τὸ μᾶλλον.

Διὰ τί ὁ νάρθηξ τὰ κύκλῳ τῆς πληγῆς ποιεῖ ἐρυθρά, τὸ δὲ μέσον λευκόν; πότερον ὅτι ἀποπιέζει τὸ αἷμα ἐκ τοῦ μέσου, καθὸ μάλιστα προσπίπτει περιφερὴς ὤν; ἢ ἔδει ἐπανιέναι διά γε τοῦτο πάλιν· ἀλλ’ αἵματος συνδρομὴ τὸ ἐρύθημά ἐστι, συνδρομὴ δ’ εἰς τὸν πληγέντα τόπον.

Διὰ τί τῷ μὲν νάρθηκι σφόδρα τυπτόμενον τὸ μέσον τῆς σαρκὸς λευκὸν γίνεται, τὸ δὲ κύκλῳ ἐρυθρόν, ξύλῳ δὲ ἐρυθρότερον τὸ μέσον; ἢ ὅτι ὁ μὲν νάρθηξ διὰ κουφότητα, ἐὰν σφόδρα πατάξῃ, τὸ ἐπιπολῆς διεσκέδασεν αἷμα, ὥστε ὅθεν μὲν ἐξέλιπε, λευκὸν φαίνεται, οὗ δὲ πλέον ἦλθεν, ἐρυθρότερον. οἰδησάσης δὲ τῆς πληγῆς, οὐ ταχέως ἀποκαθίσταται τὸ σκεδασθὲν αἷμα διὰ τὸ ὀλίγον τε εἶναι καὶ τὴν φορὰν εἰς τὸ πρόσαντες εἶναι· πλήθει γὰρ βιασθὲν δεῖ τὴν [890a] παρὰ φύσιν φορὰν ἐνεχθῆναι. διὰ δὲ τῶν σκληρῶν αἱ πληγαὶ διὰ τὸ βάρος καὶ τὴν ἰσχὺν θλῖψιν καὶ θλάσιν ποιοῦσιν. θλιβόμενον μὲν οὖν κοῖλον γίνεται, θλώμενον δὲ ἀραιόν· τομὴ γὰρ καὶ διαίρεσίς ἐστι μαλακὴ ἡ θλάσις. κοίλου δὲ καὶ ἀραιοῦ γενομένου τοῦ μέσου, φέρεται εἰς αὐτὸ ἐκ τῶν πέριξ ἐπιπολῆς αἷμα· κάτω τε γὰρ πέφυκε φέρεσθαι, καὶ εἰς τὰ ἀραιὰ τῷ εἴκειν αὐτά. ἀθροιζομένου δ’ ἐνταῦθα εἰκότως τοῦ αἵματος τοῦτο μὲν ἐρυθραίνει, ἃ δὲ ἀπολείπει, λευκαίνει.

Διὰ τί αἱ οὐλαὶ μέλαιναι τῶν σπληνιώντων; ἢ ὅτι αἷμα διεφθαρμένον ἔχουσι διὰ τὴν ἐκ τοῦ σπληνὸς σύμμιξιν νοσώδους αἵματος καὶ ὑδαροῦς; ἡ μὲν οὖν οὐλὴ τὸ δέρμα λεπτὸν καὶ ἐπιπόλαιον ἴσχει· τὸ δὲ αἷμα, διὰ τὸ ὑδαρὲς καὶ θερμὸν εἶναι μέλαν ὄν, τοιαύτην ποιεῖ τὴν οὐλὴν διαφαινόμενον· καὶ δὴ πλεονάκις ἡ οὐλὴ ἐν τούτῳ γίνεται μελαντέρα. γίνεται δὲ διὰ ταὐτό· δι' ἀσθένειαν γὰρ τοῦ δέρματος καταψύχεται τὸ αἷμα, καὶ ἐξατμίζοντος τοῦ θερμοῦ γίνεται μελάντερον. ὁμοίως δὲ καὶ τοῖς πρεσβύταις οἵ τε χρῶτες μελάντεροι γίνονται, καὶ αἱ οὐλαὶ αἱ συγγενεῖς μελάντεραι ἢ νέοις· οἷον ὑπώπιον γὰρ αὐτοῖς ἅπαν τὸ σῶμα οὐ διὰ λεπτότητα τοῦ δέρματος, ἀλλ' ὅτι τὸ θερμὸν ἐκλέλοιπεν.

Πότερον ὅσα τοῦ αὐτοῦ αἴτια, τὴν αὐτὴν ἔχει δύναμιν εἰς τὸ ποιεῖν ἢ οὔ; λέγω δὲ οἷον ἐπεὶ τὰ ὑπώπια καὶ ὁ χαλκὸς ἐξαίρει καὶ ἡ ῥαφανὶς καὶ ὁ κύαμος διαμασώμενος καὶ ὁ πνεύμων καὶ ἡ ἄργιλος καὶ ἕτερ' ἄττα, τῇ αὐτῇ δυνάμει, ἢ ὁ μὲν χαλκὸς τῷ ἰὸν εἶναι, τὸν δὲ ἰὸν φαρμακώδη, ὁ δὲ κύαμος καὶ ὁ πνεύμων καὶ ἡ ἄργιλος τῷ ἐπισπᾶν ἐφ' αὐτὰ διὰ μανότητα, ἄλλα δὲ δι' ἑτέρας αἰτίας; ἢ τὸ μὲν ἔσχατον ἐπὶ πάντων τῶν τοιούτων ταὐτό (πολλὰ γὰρ καὶ ἐναντία τούτοις, καθάπερ καὶ τὸ θερμὸν καὶ τὸ ψυχρόν), τὰ δὲ πρὸ τούτων οὐδὲν κωλύει ἕτερα.

Διὰ τί αἱ μὲν ἄλλαι οὐλαὶ μέλαιναι γίνονται, αἱ δὲ ἐν τῷ ὀφθαλμῷ λευκαί; ἢ διότι μεταβάλλουσιν ἐν ᾧ ἂν ὦσι πρὸς τὰς χροιάς, ἐν δὲ τῷ ὀφθαλμῷ μέλανι ὄντι γίνονται, ὥστε ἀνάγκη λευκὰς γίνεσθαι.

Διὰ τί ἀλγεινοτέρα ἡ πληγὴ τοῦ νάρθηκος ἢ ἐνίων σκληροτέρων, ἐάν τις κατὰ λόγον σκοπῇ τύπτων; εὐλογώτερον γὰρ τὴν τοῦ σκληροτέρου εἶναι ἀλγεινοτέραν· μᾶλλον γὰρ [890b] τύπτει. ἢ ὅτι ἡ σὰρξ ἀλγεῖ οὐ μόνον τυπτομένη ἀλλὰ καὶ τύπτουσα; ὑπὸ μὲν οὖν τῶν σκληρῶν τύπτεται μόνον (ὑπείκει γὰρ διὰ τὴν σκληρότητα αὐτῶν), ὑπὸ δὲ τοῦ νάρθηκος ἄμφω αὐτῇ συμβαίνει, τύπτεσθαί τε καὶ διὰ κουφότητα τοῦ βάρους τύπτειν μὴ εἴκουσαν, ὥστε διπλασία γίνεται ἡ πληγή.

Διὰ τί ἡ θαψία καὶ ὁ κύαθος τὰ ὑπώπια παύει, ἡ μὲν ἀρχόμενα, ὁ δὲ ὕστερον, ἐναντία ὄντα; ὁ μὲν γὰρ κύαθος ψυχρός, ὥσπερ καὶ ὁ ποιητής φησι "ψυχρὸν δ' ἕλε χαλκὸν ὀδοῦσιν", ἡ δὲ θαψία θερμὸν καὶ καυστικόν. ἢ ὁ μὲν κύαθος ὥσπερ τοῖς μικροψυχοῦσι τὸ ὕδωρ; ἀπαντῶσα γὰρ ἡ ψύξις κωλύει ἐξιέναι τὸ θερμὸν ἐκ τοῦ αἵματος ἐξ ἐπιπολῆς διὰ τὴν πληγὴν συνδραμόντος, καὶ ὅταν ἐξέλθῃ τὸ θερμόν, πηγνυμένου. ὥσπερ γὰρ ἂν εἰ ἔξω ὂν πήγνυται, καὶ ἐγγὺς τοῦ ἔξω τὸ αἷμα, ὅταν ᾖ ὑπὸ τὸ δέρμα, κωλυθέντος διεξιέναι τοῦ θερμοῦ, διὰ τὴν ψυχρότητα τοῦ χαλκοῦ πήγνυται, ἀλλὰ πάλιν διαχεῖται καὶ ἐπανέρχεται ὅθεν συνέδραμεν. ἡ δὲ θαψία θερμὴ οὖσα τὸ αὐτὸ ποιεῖ· κωλύει γὰρ πήγνυσθαι θερμὴ οὖσα.

Διὰ τί τὰ ὑπώπια διαλύεται προσέχουσι τὰ χαλκᾶ, οἷον κυάθους καὶ τὰ τοιαῦτα; ἢ διότι ψυχρὸν ὁ χαλκός ἐστιν; κωλύει οὖν τὸ θερμὸν ἐξιέναι ἐκ τοῦ συνιόντος αἵματος ὑπὸ τῆς πληγῆς, οὗ ἐξελθόντος ἐκ τοῦ ἐπιπολῆς γίνεται ὑπώπιον. διὸ καὶ ταχὺ δεῖ προστιθέναι πρὶν παγῆναι. καὶ ἡ θαψία δὲ μετὰ μέλιτος βοηθεῖ διὰ τὸ αὐτό· θερμὴ γὰρ οὖσα κωλύει ψύχεσθαι τὸ αἷμα.

Διὰ τί ποτε, ὅταν ἐν τῷ αὐτῷ τόπῳ πλεονάκις ἕλκος γένηται, ἡ οὐλὴ μέλαινα γίνεται; ἢ ὁπόταν γένηται ἕλκος, πᾶν ἀσθενές ἐστι τοῦτο, καὶ ὅσῳ ἂν πλεονάκις, τοσούτῳ μᾶλλον· τὸ δὲ ἀσθενὲς κατεψυγμένον καὶ ὑγρότητος πλῆρες; διὸ καὶ μέλαν φαίνεται, εἰ τὰ μεγάλα ἕλκη καὶ πολυχρόνια μελαίνας τὰς οὐλὰς ἴσχει. τὸ δὲ πολλάκις λαβεῖν ἕλκος οὐδὲν ἀλλ’ ἢ πολὺν χρόνον ἔχειν ἐστὶν ἕλκος.

Διὰ τί ποτε πρὸς τὰ ὑπώπια τοὺς κυάθους προστιθέμεθα; ἢ διότι, ὅταν πληγῶμεν, ὁ τόπος καταψύχεται, τὸ δὲ θερμὸν ὑποχωρεῖ. προστιθέμενος οὖν ὁ κύαθος, ψυχροῦ ὄντος τοῦ χαλκοῦ, διακωλύει τὸ θερμὸν ἐκπορεύεσθαι.

Διὰ τί ἐν ταῖς οὐλαῖς οὐ γίνονται τρίχες; ἢ ὅτι οἱ πόροι ἐπιτυφλοῦνται ἐξ ὧν αἱ τρίχες, καὶ παραλλάττουσιν;

[891a] Διὰ τί οἴδημα καὶ πελιώματα λαμβάνουσιν αἱ πληγαί; ἢ διότι κατὰ τοῦτον τὸν τόπον διασταλέντα τὰ ὑγρά, εἰς τοὺς πλησίον τόπους προσκόψαντα ἀποπάλλεται πάλιν καὶ τῇ κολλήσει ὑγρὸν συνήγαγεν; ἐὰν δὲ καὶ φλέβιά τινα ῥαγῇ, ὕφαιμος ἡ συνδρομὴ γίνεται.

I. ΕΠΙΤΟΜΗ ΦΥΣΙΚΩΝ.

Διὰ τί τὰ μὲν βήττει, τὰ δ’ οὔ, οἷον ἄνθρωπος μὲν βήττει, βοῦς δὲ οὔ; πότερον τῷ εἰς ἄλλο τι τρέπεσθαι τοῖς πλείστοις ζῴοις τὸ περίττωμα, ἀνθρώπῳ δὲ δεῦρο; ἢ ὅτι ἐγκέφαλον πλεῖστον καὶ ὑγρότατον ἔχει ὁ ἄνθρωπος, ἡ δὲ βὴξ καταρρέοντος γίνεται φλέγματος.

Διὰ τί ἀνθρώπῳ μόνῳ τῶν ζῴων αἷμα ῥεῖ ἐκ τῶν μυκτήρων; ἢ ὅτι ἐγκέφαλον ἔχει πλεῖστον καὶ ὑγρότατον, ἀφ’ οὗ αἱ φλέβες πληρούμεναι τοῦ περιττώματος διὰ τῶν πόρων προΐενται τὴν ῥύσιν; λεπτότερον γὰρ γίνεται τοῦ αἵματος τοῦ καθαροῦ τὸ νοσερόν, τοῦτο δέ ἐστι τὸ μιχθὲν τοῖς τοῦ ἐγκεφάλου περιττώμασι, καὶ ἔστι καθάπερ ἰχώρ.

Διὰ τί τῶν ζῴων τὰ μὲν ὑπὸ σάρκα, τὰ δὲ κατὰ σάρκα πίονά ἐστι, τὰ δὲ κατ’ ἀμφότερα; ἢ ὅσων μὲν πυκνὴ ἡ σάρξ, μεταξὺ τοῦ δέρματος καὶ τῆς σαρκὸς συστέλλεται ἡ ἰκμὰς διὰ τὸ ταύτῃ εἶναι τὸ δέρμα ἀφεστὸς φύσει· ἣ πεττομένη γίνεται πιμελή. ὅσα δὲ ἀραιοτέραν ἔχει τὴν σάρκα τό τε δέρμα προεστός, κατὰ σάρκα πίονα γίνεται. τὰ δὲ ἀμφοτέρως ἔχοντα ἐπ’ ἀμφότερα πιαίνεται.

Διὰ τί οἱ παῖδες καὶ αἱ γυναῖκες ἧττον ἔχουσι λεύκην τῶν ἀνδρῶν, καὶ τῶν μὲν γυναικῶν αἱ πρεσβύτιδες μᾶλλον; ἢ ὅτι ἡ λεύκη ἐστὶ πνεύματος ἔξοδος, ἔστι δὲ τὰ μὲν τῶν παίδων οὐκ εὔπνοα σώματα ἀλλὰ πυκνά, καὶ τὰ τῶν γυναικῶν ἧττον ἢ τὰ τῶν ἀνδρῶν· εἰς τὰ καταμήνια γὰρ τρέπεται· δηλοῖ δὲ ἡ λειότης τὴν πυκνότητα τῆς σαρκός. τὰ δὲ τῶν πρεσβυτέρων καὶ τῶν γραῶν εὔπνοα· μόνα γάρ, ὥσπερ τὰ παλαιὰ οἰκοδομήματα, διεστῶσαν ἔχει τὴν σύνθεσιν τῶν μορίων.

Διὰ τί ἄνθρωπος μόνον ἴσχει λεύκην; πότερον ὅτι λεπτοδερμότατον τῶν ζῴων ἐστίν, ἅμα δὲ καὶ πνευματωδέστερον; σημεῖον δέ, ὅτι ἡ λεύκη ἐν τοῖς λεπτοδερμοτάτοις μάλιστα καὶ πρῶτον γίνεται μέρεσιν. ἢ διὰ ταῦτά τε, καὶ [891b] ὅτι μόνον πολιοῦται τῶν ζῴων; ἐν γὰρ ταῖς λεύκαις πολιαὶ γίνονται αἱ τρίχες, ὥστε ἀδύνατον, ὅσα μὴ πολιοῦται, λεύκην ἴσχειν.

Διὰ τί αἶγες μὲν καὶ πρόβατα ἀμέλγονται πλεῖστον γάλα, οὐ μέγιστον σῶμα ἔχοντα, ἄνθρωπος δὲ καὶ βοῦς ἔλαττον ὡς κατὰ λόγον; πότερον ὅτι εἰς τὸ σῶμα ἀναλίσκεται, τοῖς δὲ ἄλλοις εἰς τὸ περίττωμα, τοῖς δὲ προβάτοις καὶ ταῖς αἰξὶ τὸ περιγινόμενον τοῦ περιττώματος γάλα γίνεται πᾶν; ἢ ὅτι πολυτοκώτερά ἐστι τῶν μεγάλων, ὥστε πλεῖον σπᾷ περίττωμα διὰ τὸ πλείω τρέφειν; ἢ δι' ἀσθένειαν τῶν σωμάτων πλεῖον περίττωμα γίνεται κύουσιν αὐτοῖς; τὸ δὲ γάλα γίνεται ἐκ τοῦ περιττώματος.

Διὰ τί τῶν ζῴων τὰ μέν, μεταβάλλοντα τὰ ὕδατα, μεταβάλλει τὰς χρόας καὶ ὅμοια γίνεται τοῖς ἐκεῖ, οἷον αἶγες, τὰ δὲ οὔ, οἷον ἄνθρωποι; καὶ ὅλως δὲ διὰ τί τὰ μὲν μεταβάλλει, τὰ δὲ οὔ, οἷον κόραξ οὐ μεταβάλλει; ἢ ὧν μὲν οὐ κρατεῖ ἡ φύσις τοῦ ὑγροῦ, ὥσπερ ἡ τῶν ὀρνέων (διὸ καὶ κύστιν οὐκ ἔχει), οὐ μεταβάλλει; καὶ διὰ τί οὐκ αὐτὰ ἀλλὰ τὰ ἔκγονα μεταβάλλει; ἢ ὅτι ἀσθενέστερα τὰ νέα τῶν γεννησάντων;

Διὰ τί τὰ ἄρσενα μείζω τῶν θηλειῶν ὡς ἐπίπαν ἐστίν; πότερον ὅτι θερμότερα, τοῦτο δὲ αὐξητικόν; ἢ ὅτι ὁλόκληρα, τὰ δὲ πεπήρωται; ἢ ὅτι τὰ μὲν ἐν πολλῷ χρόνῳ τελειοῦται, τὰ δὲ ἐν ὀλίγῳ;

Διὰ τί τὰ μὲν ταχυτόκα τῶν ζῴων ἐστί, τῶν δὲ πολυχρόνιος ἡ κύησις; ἢ ὅτι τὰ μακροβιώτερα βραδύτερον πέφυκε τελειοῦσθαι; ἔστι δὲ βραδυτόκα τὰ μακρόβια. οὐ μέντοι τὰ μάλιστα, οἷον ἵππος ἀνθρώπου βραδυτοκώτερον μέν, ὀλιγοχρονιώτερον δέ. τούτου δὲ αἴτιον ἡ σκληρότης τῶν ὑστερῶν· ὥσπερ γὰρ ἡ ξηρὰ γῆ οὐ ταχὺ ἐκτρέφει, οὕτω καὶ ἡ τοῦ ἵππου ὑστέρα.

Διὰ τί τοῖς ἄλλοις ζῴοις τὰ ἔκγονα μᾶλλον τὰς φύσεις ὁμοιοῦται ἢ τοῖς ἀνθρώποις; ἢ ὅτι ὁ μὲν ἄνθρωπος πολλαχῶς διατίθεται τὴν ψυχὴν κατὰ τὴν ὁμιλίαν, καθὼς δ' ἂν ὁ πατὴρ καὶ ἡ μήτηρ διατεθῶσιν, οὕτω ποικίλλεται καὶ τὰ τικτόμενα. τὰ δὲ ἄλλα ζῷα τὰ μὲν πλεῖστα πρὸς αὐτὸ τοῦτό εἰσιν. ἔτι δὲ οὐ πληροῦται ὡς ἐπὶ τὸ πολὺ διὰ ταύτην τὴν ἐπιθυμίαν.

[892a] Διὰ τί οἱ λευκοὶ ἄνθρωποι καὶ ἵπποι ὡς ἐπὶ τὸ πολὺ γλαυκοί; ἢ διότι τριῶν χρωμάτων ὄντων τοῖς ὄμμασι, μέλανος καὶ αἰγωποῦ καὶ γλαυκοῦ, τῷ τοῦ σώματος χρώματι καὶ τὸ τοῦ ὀφθαλμοῦ χρῶμα ἀκολουθεῖ, τοῦτο δέ ἐστι γλαυκότης.

Διὰ τίνα αἰτίαν οἱ νάνοι γίνονται; ἔτι δὲ μᾶλλον καθόλου, διὰ τί τὰ μὲν ὅλως μεγάλα, τὰ δὲ μικρά; εἶτα οὕτω σκεπτέον. δύο δὴ τὰ αἴτια· ἢ γὰρ ὁ τόπος ἢ ἡ τροφή. ὁ μὲν οὖν τόπος, ἐὰν ᾖ στενός, ἡ δὲ τροφή, ἐὰν ᾖ ὀλίγη, ὥσπερ καὶ ἤδη γεγενημένων πειρῶνται μικροὺς ποιεῖν, οἷον οἱ τὰ κυνίδια τρέφοντες ἐν τοῖς ὀρτυγοτροφείοις. ὅσοις μὲν οὖν ὁ τόπος αἴτιος, οὗτοι πυγμαῖοι γίνονται. τὰ μὲν γὰρ πλάτη καὶ τὰ μήκη ἔχοντες γίνονται κατὰ τὸ τῶν τεκόντων μέγεθος, μικροὶ δὲ ὅλως. τούτου δὲ αἴτιον, ὅτι διὰ τὴν στενότητα τοῦ τόπου συγκλώμεναι αἱ εὐθεῖαι καμπύλαι γίνονται. ὥσπερ οὖν οἱ ἐπὶ τῶν καπηλείων γραφόμενοι μικροὶ μέν εἰσι, φαίνονται δ' ἔχοντες πλάτη καὶ βάθη, ὁμοίως συμβαίνει καὶ τοῖς πυγμαίοις. ὅσοι δὲ διὰ τροφῆς ἔνδειαν ἀτελεῖς γίνονται, οὗτοι καὶ παιδαριώδη τὰ μέλη ἔχοντες φαίνονται, καὶ ἐνίους ἰδεῖν ἔστι μικροὺς μὲν σφόδρα, συμμέτρους δέ, ὥσπερ τὰ Μελιταῖα κυνίδια. αἴτιον δὲ ὅτι οὐχ ὡς ὁ τόπος ἡ φύσις ποιεῖ.

Διὰ τί τῶν ζῴων τὰ μὲν ἐξ ἀλλήλων γίνεται, τὰ δ’ ἔκ τινων συγκρινομένων ὁμοίως τῆς ἐξ ἀρχῆς γενέσεως αὐτοῖς ὑπαρξάσης; καθάπερ οἱ περὶ φύσεως λέγοντες λέγουσι καὶ τὴν ἐξ ἀρχῆς γένεσιν τῶν ζῴων γενέσθαι, διὰ τὰς μεταβολὰς καὶ μετακινήσεις τοῦ κόσμου καὶ τοῦ παντὸς οὕτω μεγάλας· καὶ νῦν εἴπερ μέλλει πάλιν ἔσεσθαι, τοιαύτας τινὰς ὑπάρξαι δεῖ κινήσεις; ἡ μὲν γὰρ ἀρχὴ παντὸς ἔργου μέγιστον· ἥμισυ γάρ· τὸ δὲ σπέρμα ἀρχή. τῶν μὲν οὖν μικρῶν ὅσα γίνεται μὴ ἐξ ἀλλήλων, αἴτιον τοιαῦτα γενέσθαι ὥσπερ ἐξ ἀρχῆς ἐγεννήθησαν ἡ τοῦ σπέρματος μικρότης· τοῦ γὰρ ἐλάττονος καὶ ἡ ἀρχὴ ἐλάττων. ὥστε ἱκαναὶ καὶ αἱ τούτου μεταβολαὶ πρὸς τὸ γεννῆσαι αὐτῷ τὸ σπέρμα. ὅπερ συμβαίνει· γίνονται γὰρ ἐν ταῖς μεταβολαῖς μάλιστα. τοῖς δὲ μείζοσι μείζονος δεῖ καὶ μεταβολῆς.

Διὰ τί τὰ μὲν πολύτεκνα τῶν ζῴων, οἷον ὗς, κύων, [892b] λαγώς, τὰ δὲ οὔ, οἷον ἄνθρωπος, λέων; ἢ ὅτι τὰ μὲν πολλὰς μήτρας καὶ τύπους ἔχει, ἃς καὶ πίμπλασθαι ἐπιθυμεῖ καὶ εἰς ἃ σχίζεται ἡ γονή, τὰ δὲ τοὐναντίον.

Διὰ τί ἐλάχιστον διάστημα τῶν ὀμμάτων ὁ ἄνθρωπος ἔχει τῶν ζῴων κατὰ μέγεθος; ἢ διότι μάλιστα κατὰ φύσιν ἔχει τῶν ἄλλων, ἡ δὲ αἴσθησις φύσει τὸ ἔμπροσθεν· ἐφ’ ὃ γὰρ ἡ κίνησις, τοῦτο δεῖ προορᾶν. ὅσῳ δ’ ἂν ᾖ πλεῖον τὸ διάστημα τῶν ὀμμάτων, τοσούτῳ μᾶλλον αἱ ὄψεις ἔσονται ἐν τῷ πλαγίῳ. εἰ οὖν ἔχειν δεῖ κατὰ φύσιν, ὅτι ὀλίγιστον δεῖ τὸ διάστημα εἶναι· οὕτω γὰρ εἰς τὸ πρόσθεν μάλιστα πορεύσεται. ἔτι δὲ τοῖς ἄλλοις ζῴοις, ἐπεὶ χεῖρας οὐκ ἔχουσιν, ἀναγκαῖον παρορᾶν εἰς τὰ πλάγια. διὸ πλεῖον διέστηκε τὰ ὄμματα αὐτῶν, καὶ μάλιστα τῶν προβάτων, διὰ τὸ μάλιστα ποιεῖσθαι τὴν πορείαν κύπτοντα.

Διὰ τί τὰ ἄλλα ζῷα τὰ μὲν οὐκ ἐξονειρώττει, τὰ δὲ ὀλιγάκις; πότερον ὅτι οὐδὲν ὕπτιον κατάκειται, ἐξονειρώττει δὲ οὐδὲν μὴ ὕπτιον; ἢ ὅτι οὐκ ἐνυπνιάζει τὰ ἄλλα ὁμοίως, ὁ δὲ ἐξονειρωγμὸς μετὰ φαντασίας γίνεται.

Διὰ τί τῶν ζῴων τὰ μὲν κινεῖ τὴν κεφαλήν, τὰ δὲ οὐ κινεῖ; ἢ ὅτι ἔνια οὐκ ἔχει αὐχένα; διὸ ταῦτα οὐ κινεῖ τὴν κεφαλήν.

Διὰ τί ἄνθρωπος πτάρνυται τῶν ζῴων μάλιστα; πότερον ὅτι τοὺς πόρους εὐρεῖς ἔχει δι’ ὧν τὸ πνεῦμα καὶ ὀσμὴ εἰσέρχεται; τούτοις γὰρ πνεύματος πληρουμένοις πτάρνυται. ὅτι δὲ εὐρεῖς, σημεῖον ὅτι ἥκιστα ὀσφραντικὸν τῶν ἄλλων ζῴων· ἀκριβέστεροι δὲ οἱ λεπτότεροι. εἰ οὖν εἰς μὲν τοὺς εὐρεῖς πλέον καὶ πλεονάκις εἰσέρχεται τὸ ὑγρόν, οὗ πνευματουμένου ὁ πταρμὸς γίνεται, τοιούτους δὲ μάλιστα τῶν ζῴων οἱ ἄνθρωποι ἔχουσι, πλειστάκις ἂν πτάρνοιντο εἰκότως. ἢ ὅτι ἐλάχιστοι κατὰ τὸ μῆκος οἱ μυκτῆρες, ὥστε τὸ θερμανθὲν ὑγρὸν ταχὺ δύναται πνεῦμα γίνεσθαι. ἐν δὲ τοῖς ἄλλοις διὰ μῆκος καταψύχεται πρότερον.

Διὰ τί ἡ γλῶττα οὐδενὸς πιερὰ τῶν ζῴων; ἢ ὅτι τὸ πῖον πυκνόν, ἡ δὲ γλῶττα ἀραιὰ φύσει ἐστίν, ὅπως τοὺς χυμοὺς γνωρίζῃ;

Διὰ τί τὰ θήλεα συντάσει οὐρεῖ, τὰ δὲ ἄρρενα οὔ; ἢ ὅτι πορρώτερόν ἐστιν ἡ κύστις ἡ τῶν θηλειῶν, καὶ εἰς βάθος καὶ εἰς μῆκος; μεταξὺ γὰρ αὐτῶν ἡ μήτρα τῆς ἕδρας καὶ [893a] στῆς κύστεως. ὥστε δεῖται βίας πλείονος τὸ ἐκπεμπόμενον διά γε τὴν ἀπόστασιν τῆς μήτρας. βιάζεται δὲ συντεῖνον τῷ πνεύματι.

Διὰ τί τῶν ζῴων ὅσα μὴ πέτεται, πάντα ἀποβάλλει τὰς χειμερινὰς τρίχας, πλὴν ὑός; καὶ γὰρ κύων ἀποβάλλει καὶ βοῦς. ἢ ὅτι θερμότατον ἡ ὗς ἐστί, καὶ ἐκ θερμοῦ πεφύκασιν αἱ τρίχες αὐτῇ; τοιοῦτον γάρ ἐστι τὸ λιπαρόν. τῶν μὲν οὖν ἄλλων ἢ διὰ τὸ ἀποψύχεσθαι τὸ ὑγρὸν ἀποπίπτουσιν, ἢ πέττειν τροφὴν οὐ δυναμένης τῆς οἰκείας θερμότητος, ἢ διὰ τὸ μηδὲν πάσχειν τὴν ὑγρότητα τὴν ἐν αὐτῇ, διὰ τὸ πέττεσθαι καλῶς τὴν τροφήν, οὐκ ἀποβάλλει τὰς τρίχας. ὁπότε γὰρ ἡ αἰτία τῆς ἀποβολῆς ἐστίν, ἱκανὴ ἡ πιότης κωλῦσαι. πρόβατα δὲ καὶ ἄνθρωποι διὰ πλῆθος καὶ πυκνότητα τῆς τριχὸς ἀπαθῆ ἐστίν· οὐ γὰρ διικνεῖται ἡ ψύξις εἰς βάθος, ὥστε πῆξαι τὴν ὑγρότητα ἢ πέψαι κωλῦσαι τὴν θερμότητα.

Διὰ τί τῶν μὲν προβάτων μαλακώτεραι αἱ τρίχες ἀναφύονται τιλλόμεναι, τῶν δὲ ἀνθρώπων σκληρότεραι; ἢ ὅτι τῶν μὲν προβάτων ἐκ τοῦ ἐπιπολῆς πεφύκασιν; διὸ καὶ ἀλύπως ἐκσπῶνται, μενούσης τῆς ἀρχῆς τῆς τροφῆς ἀδιαφθόρου, ἥ ἐστιν ἐν σαρκί. τὰ μὲν οὖν περιττώματα ἀνοιχθέντων ἐξατμίζει μᾶλλον, τὸ δὲ ἔριον σαρκὸς οἰκείαν τροφὴν λαμβάνει· σὰρξ δὲ μαλακοῖς καὶ γλυκέσι τρέφεται. αἱ δὲ τῶν ἀνθρώπων τρίχες ἐκ βάθους πεφυκυῖαι βίᾳ καὶ μετ’ ἀλγηδόνος ἐκσπῶνται. δῆλον δέ· ἐπισπῶνται γὰρ αἷμα. τραυματιζομένου οὖν τοῦ τόπου συμβαίνει αὐτὸν καὶ οὐλοῦσθαι. διὸ τέλος μὲν συμβαίνει γίνεσθαι τοῖς τιλλομένοις· ἕως δ’ ἂν ἀνίωσι τρίχες, σκληρὰς ἀνιέναι διὰ τὸ τὴν μὲν τροφώδη τῆς σαρκὸς ἐκλελοιπέναι πᾶσαν τροφήν, ἐκ περιττωμάτων δ’ αὐτὰς γίνεσθαι. σημεῖον δέ· τῶν μὲν γὰρ πρὸς μεσημβρίαν πάντων σκληραί εἰσιν αἱ τρίχες διὰ τὸ τὸ ἐκτὸς θερμὸν εἰς βάθος διικνούμενον ἐξατμίζειν τὴν εὔπεπτον τροφήν, τῶν δὲ ὑπὸ τὰς ἄρκτους μαλακαί· τούτοις γὰρ ἐπιπολῆς μᾶλλόν ἐστι τό θ’ αἷμα καὶ οἱ γλυκεῖς χυμοί· διὸ καὶ εὔχροοί εἰσιν.

Διὰ τί αἱ μὲν τῶν προβάτων τρίχες ὅσῳ ἂν μακρότεραι ὦσι, σκληρότεραι γίνονται, αἱ δὲ τῶν ἀνθρώπων μαλακώτεραι; ἢ ὅτι αἱ τῶν προβάτων, οἵαν εἴρηται τροφὴν ἔχουσαι, μακρὰν τῆς ἀρχῆς ἀπαρτώμεναι ἀτροφώτεραί εἰσι, καὶ ῥᾳδίως ἐξ αὐτῶν ἐξατμίζεται ὑπὸ τοῦ [893b] θερμοῦ ἡ ἐνυπάρχουσα τροφὴ δι’ εὐπεψίαν; ξηραινόμεναι δὲ ξηρότεραι γίνονται· τὸ γὰρ ὑγρὸν μαλακόν. αἱ δὲ τῶν ἀνθρώπων ἐλάττω μέν, μᾶλλον δὲ τῆς ἀρχῆς. πέττεται δὲ αὐταῖς μᾶλλον διὰ τὸ ἐλάττω εἶναι· πεττομένη δὲ μαλακωτέραν ποιεῖ τὴν τρίχα· πάντα γὰρ τὰ πεπεμμένα τῶν ἀπέπτων μαλακώτερά ἐστιν. ἐκ περιττώματος γὰρ πλείστου ἡ τοῦ ἀνθρώπου θρὶξ ἢ ἡ τοῦ προβάτου. σημεῖον δέ· τὰ γὰρ νέα πρόβατα τῶν παλαιῶν μαλακώτερα ἔχει τὰ ἔρια.

Διὰ τί οἱ ἄνθρωποι καὶ οἱ ὄρνιθες οἱ δασεῖς λάγνοι εἰσίν; ἢ ὅτι θερμοὶ καὶ ὑγροὶ τὴν φύσιν εἰσίν, δεῖ δὲ ἀμφοῖν πρὸς τὴν ὀχείαν. τὸ μὲν γὰρ θερμὸν ἐκκρίνει, τὸ δὲ ὑγρὸν ἐκκρίνεται. διὰ τὸ αὐτὸ δὲ καὶ οἱ χωλοὶ ἄνδρες· ἡ γὰρ τροφὴ αὐτοῖς ὀλίγη μὲν κάτω ἀφικνεῖται διὰ τὴν ἀναπηρίαν τῶν σκελῶν, εἰς δὲ τὸν ἐπάνω τόπον ἔρχεται πολλή, καὶ εἰς σπέρμα συγκρίνεται.

Διὰ τί ὁ ἄνθρωπος χαίτην οὐκ ἔχει; ἢ διότι πώγωνα ἔχει, ὥστε ἡ ἐκεῖ ἀπελθοῦσα τροφὴ τῆς τοιαύτης περιττώσεως εἰς τὰς σιαγόνας ἔρχεται;

Διὰ τί πάντα τὰ ζῷα ἀρτίους τοὺς πόδας ἔχει; ἢ ὅτι οὐκ ἐνδέχεται κινεῖσθαι μὴ ἑστηκότος τινός, ἂν μὴ ἅλληται; ἐπεὶ τοίνυν ἐκ δυοῖν τινοῖν κίνησιν ἀνάγκη τῇ πορείᾳ εἶναι, ἔκ τε κινήσεως καὶ στάσεως, ταῦτα δὲ δύο, καὶ ἄρτια ἤδη. καὶ τετράποδα, διότι πλείους· τοὺς μὲν γὰρ δύο κινεῖ, οἱ δὲ δύο ἑστήκασιν. καὶ οἱ ἕξ· καὶ τὰ ἄλλα δὲ δύο ἔτι· τούτων δὲ τὸ μὲν κινεῖται, τὸ δὲ ἕστηκεν.

Διὰ τί τοῖς μὲν ἵπποις καὶ τοῖς ὄνοις ἐκ τῶν οὐλῶν φύονται τρίχες, τοῖς δὲ ἀνθρώποις οὔ; ἢ διότι τοῖς μὲν ἄλλοις ζῴοις ἐστὶ τὸ δέρμα μέρος τῆς σαρκός, ἀνθρώπῳ δὲ καθάπερ πάθος σαρκός; δοκεῖ γὰρ αὐτῆς τὸ ἐπιπολῆς καταψυχόμενον στερεώτερον γίνεσθαι, καθάπερ τῶν ἑφθῶν ἀλεύρων αἱ γραῖαι καλούμεναι. ἐπεὶ οὖν κἀκεῖναί εἰσιν ἄλευρον ἑφθόν, καὶ τὸ τοῦ ἀνθρώπου καλούμενον δέρμα σὰρξ ἂν εἴη. τραυματισθέντος δὲ ἢ τριβέντος ἀνθρώπου μὲν τὴν σάρκα συμβαίνει πυκνοῦσθαι· διὸ ἠλλοιωμένης τῆς ἐπιπολῆς σαρκὸς οὐ τὴν αὐτὴν φύσιν λαμβάνει τὰ τραύματα ᾗπερ καὶ ἐκ γενετῆς· ἀλλοιωθείσης δ’ αὐτῆς μὴ γίνεσθαι ἔτι τὸ ἐξ αὐτῆς οὐθὲν ἄτοπον, καθάπερ καὶ ἐκ τῶν ἀλωπεκιῶν καλουμένων· καὶ γὰρ αὗται τῆς ἐπιπολῆς σαρκὸς φθοραὶ καὶ ἀλλοιώσεις εἰσίν. τῶν δὲ ὑποζυγίων τριβέντων καὶ ὑγιαζομένων [894a] πάλιν ἀναπληροῦται τὰ νενοσηκότα μέρη τοῦ σώματος τῶν αὐτῶν μέν, ἀσθενεστέρων δ’ ἢ ἐξ ἀρχῆς ἦν. ἐπεὶ δ’ ἐστὶ καὶ τὸ δέρμα μέρος αὐτῶν, γίνοιντό τε ἂν καὶ φύοιντο τρίχες (ἐκ δέρματος γὰρ φύονται τρίχες), λευκαὶ δὲ φύονται διὰ τὸ τὸ δέρμα ἀσθενέστερον γεγονέναι τοῦ ἐξ ἀρχῆς, καὶ τὴν λευκὴν ἀσθενεστάτην εἶναι τρίχα.

Διὰ τί ἐν μὲν τοῖς ἄλλοις ζῴοις διαμένει ὁμοίως τὰ δίδυμα θήλεα καὶ ἄρρενα ὄντα, ἐν δὲ τοῖς ἀνθρώποις οὔ; ἢ διότι τούτῳ ἀσθενῆ μάλιστα τὰ δίδυμα· μονοτόκον γάρ ἐστιν. ἐν δὲ τοῖς διδύμοις παρὰ φύσιν τὸ θῆλυ γίνεσθαι καὶ ἄρρεν, ὥστε ὃ μάλιστά ἐστι παρὰ φύσιν, τοῦτο καὶ ἀσθενέστατον.

Διὰ τί τοῖς μὲν ἵπποις καὶ τοῖς ὄνοις ἐκ τῶν οὐλῶν φύονται τρίχες, τοῖς δὲ ἀνθρώποις οὔ; ἢ διότι ἡ οὐλὴ κωλύει διὰ τὴν πύκνωσιν ἢ διὰ τὸ φθείρειν τὴν τροφήν; τοῖς μὲν οὖν ἀνθρώποις παντελῶς κωλύει διὰ τὴν ἀσθένειαν τῆς τριχός, τοῖς δὲ ἵπποις οὐκ ἐκώλυσε, διέφθειρε δέ.

Διὰ τί τοῖς ζῴοις ἄρτιοι πόδες; ἢ ὅτι παντὸς μὲν τοῦ κινουμένου ἀνάγκη τι ἠρεμεῖν, συνέβαινε δὲ περιττῶν ὄντων μὴ γίνεσθαι τοῦτο· ὅπερ κατὰ τὴν ἀντιστοιχίαν τῶν ποδῶν ἦν ἡ κίνησις.

Διὰ τί ἐλάττω χρόνον τὰ ζῷα καθεύδει ἢ ἐγρήγορεν, οὐ συνεχῶς δέ; ἢ διὰ τὸ μὴ ἅμα πᾶσαν πέττεσθαι τὴν περίττωσιν; ἀλλ' ὅταν τι πεφθῇ, κουφισθὲν διεγείρεται. καὶ πλεονάκις δ' ἐγείρονται, ὅσοις ψυχρὸς ὁ τόπος ὁ πέττων ἐστὶ τὴν περίττωσιν· ταχὺ γὰρ παύεται καὶ πολλάκις, ἡ δὲ διάπαυσις ἔγερσίς ἐστιν. ἡδὺ δέ, οὐδὲ εἰκός, διὰ τὸ ἀνάπαυσιν εἶναι φαίνεται. ἀλλ' οὐδ' ἐνταῦθα πλείω χρόνον ἡ ἀνάπαυσις γίνεται τῶν κατὰ φύσιν ἔργων· οὐδ' εἰ τὸ ἐσθίειν ἥδιον τοῦ μή, ὅμως πλείω χρόνον ἐσθίουσιν ἢ ἀσιτοῦσιν.

Διὰ τί τῶν ζῴων τὰ μὲν εὐθὺς ἀκολουθεῖ τοῖς γεννήσασι, τὰ δ' ὀψέ, οἷον ἄνθρωπος, ἢ μόλις, ἢ οὐδέποτε; ἢ διότι τὰ μὲν ταχὺ ἀπολαμβάνει τὸ γνωρίζειν, τὰ δ' ὀψέ; καὶ τὰ μὲν ἀναίσθητα τοῦ ὠφελοῦντος, τὰ δὲ ἔχει αἴσθησιν. ὅσα μὲν οὖν ἄμφω ἔχει ταῦτα (λέγω δ' οἷον καὶ αἴσθησιν τοῦ ὠφελοῦντος καὶ ἐπιτέλεσιν τοῦ σώματος), ἀκολουθεῖ, τὰ δὲ μὴ ἄμφω οὐ ποιεῖ τοῦτο· δεῖ γὰρ δύνασθαι καὶ διαισθάνεσθαι.

Διὰ τί λεύκη οὐ γίνεται τοῖς ἄλλοις ζῴοις; πότερον ὅτι τοῖς μὲν ἄλλοις νόσημα, τοῖς δὲ ἀνθρώποις γίνεται διάλευκα [894b] τὰ δέρματα καὶ αἱ τρίχες αὐτῶν; ἀλλ' ὅμως ἀπορήσειεν ἄν τις διὰ τί ὕστερον οὐ γίνεται ἀλλ' ἐκ γενετῆς ἡ ποικιλία. ἢ ὅτι τὰ δέρματα τῶν ἄλλων ζῴων σκληρά, ἄνθρωπος δὲ φύσει λεπτοδερμότατον; ἡ δὲ λεύκη πνεύματός ἐστιν ἔκκρισις, ὃ κωλύεται διὰ τὴν πυκνότητα ἐξιέναι τοῖς ἄλλοις ζῴοις τοῦ δέρματος.

Διὰ τί ἐν μὲν τῇ λεύκῃ πολιαὶ γίνονται, ὅπου δὲ πολιαί, οὐκ ἀεὶ λεύκη; ἢ διότι αἱ τρίχες ἐκ τοῦ δέρματος εἰσίν, ἡ δὲ πολιὰ ὥσπερ σαπρότης τις τῶν τριχῶν ἐστίν. ὅταν μὲν οὖν τὸ δέρμα κάμνῃ, ἀνάγκη καὶ τὴν τρίχα ἐξ ἐκείνου οὖσαν κάμνειν· ὅταν δὲ ἡ θρίξ, οὐκ ἀνάγκη τὸ δέρμα.

Διὰ τί τῶν ζῴων τὰ μὲν χαλεπά ἐστι μετὰ τὸν τόκον, οἷον κύων καὶ ὗς, τὰ δὲ οὐδὲν ἐπιδήλως, οἷον γυνή, πρόβατον; ἢ ὅτι ὅσα μὲν περιττωματικὰ πραέα; ἀπέρχεται γὰρ ἐν τῷ τόκῳ τὰ λυποῦντα. τούτοις δὲ ἀπὸ τῶν εὖ ἐχόντων γίνεται ἡ ἀφαίρεσις, ὥστε ἡ ἰσχνότης ποιεῖ διὰ τὴν ἕξιν τὴν ὀργήν, ὥσπερ καὶ αἱ ἀλεκτορίδες οὐ τεκοῦσαι χαλεπαί, ἀλλ᾽ ἐπῳάζουσαι, διὰ τὴν ἀσιτίαν.

Διὰ τί οἱ εὐνοῦχοι τὰ μὲν ἄλλα εἰς τὸ θῆλυ διαφθειρόμενοι μεταβάλλουσι· καὶ γὰρ φωνὴν θηλυκὴν ἴσχουσι καὶ ὀξύτητα καὶ ἀναρθρίαν, καὶ οὕτω σφόδρα μεταπίπτουσιν ὡς καὶ ἐν τοῖς ἄλλοις ζῴοις τὰ ἐκτεμνόμενα. ἐναντίως δ᾽ οἱ ταῦροι καὶ οἱ κριοὶ τὰ κέρατα ἴσχουσι, διότι καὶ τὰ θήλεα ἐναντίως αὐτῶν ἔχει. διὸ οἱ μὲν μείζω ἐκτεμνόμενοι ἴσχουσιν, οἱ δὲ ἐλάττω. τὸ δὲ μέγεθος μόνον οἱ εὐνοῦχοι εἰς τὸ ἄρρεν μεταβάλλουσιν· μείζους γὰρ γίνονται. ἔστι δὲ τοῦτο τοῦ ἄρρενος· τὰ γὰρ θήλεα ἐλάττω ἐστὶ τῶν ἀρρένων. ἢ οὐδὲ τοῦτο εἰς τὸ ἄρρεν, ἀλλ᾽ εἰς τὸ θῆλυ; οὐ γὰρ εἰς πᾶν τὸ μέγεθος, ἀλλ᾽ εἰς τὸ μῆκος μόνον, τὸ δὲ ἄρρεν καὶ εἰς πλάτος καὶ εἰς βάθος· τότε γὰρ τετελείωται. ἔτι δὲ ὡς ἔχει τὸ θῆλυ πρὸς τὸ ἄρρεν, οὕτως αὐτοῦ τοῦ θήλεος ἡ παρθένος πρὸς τὴν γυναῖκα· ἡ μὲν γὰρ ἤδη γενναία, ἡ δὲ οὔ. εἰς τὴν τούτων οὖν μεταβάλλει· ἐπὶ μῆκος γὰρ ταύταις ἡ αὔξησις. διὸ καὶ Ὅμηρος εὖ τὸ “μῆκος δ᾽ ἔπορ᾽ Ἄρτεμις ἁγνή,” ὡς διὰ τὴν παρθενίαν, ὃ εἶχε, δυναμένης δοῦναι. οὔκουν εἰς τὸ ἄρρεν κατὰ τὸ μέγεθος μεταβάλλει. οὐ γὰρ εἰς τὸ τέλειον μεταβάλλει. οἱ δὲ εὐνοῦχοι εἰς μέγεθος τὸ μῆκος ἐπιδιδόασιν.

Διὰ τί οἱ εὐνοῦχοι ἢ ὅλως οὐκ ἴσχουσιν ἢ ἧττον ἰξίας; [895a] ἢ ὅτι μεταβάλλουσι τὴν φύσιν ἐν τῇ ἐκτμήσει εἰς τὰ ἄγονα; τοιαῦτα δὲ παῖς καὶ γυνή, ὧν οὐδέτερον ἴσχει ἰξίας, εἰ μή τι σπάνιον γυνή.

Διὰ τί μᾶλλον ἄνθρωπος πολλὰς φωνὰς ἀφίησι, τὰ δὲ ἄλλα μίαν, ἀδιάφορα ὄντα τῷ εἴδει; καὶ τοῦ ἀνθρώπου μία φωνή, ἀλλὰ διάλεκτοι πολλαί.

Διὰ τί δὲ αὐτὴ ἄλλη, τοῖς δὲ ἄλλοις οὔ; ἢ ὅτι οἱ μὲν ἄνθρωποι γράμματα πολλὰ φθέγγονται, τῶν δὲ ἄλλων τὰ μὲν οὐδέν, ἔνια δὲ δύο ἢ τρία τῶν ἀφώνων; ταῦτα δὲ ποιεῖ μετὰ τῶν φωνηέντων τὴν διάλεκτον. ἔστι δὲ ὁ λόγος οὐ τὸ τῇ φωνῇ σημαίνειν, ἀλλὰ τοῖς πάθεσιν αὐτῆς, καὶ μὴ ὅτι ἀλγεῖν χαίρει. τὰ δὲ γράμματα πάθη ἐστὶ τῆς φωνῆς. ὁμοίως δὲ οἵ τε παῖδες καὶ τὰ θηρία δηλοῦσιν· οὐ γάρ πω οὐδὲ τὰ παιδία φθέγγονται τὰ γράμματα.

Διὰ τί μόνον τῶν ζῴων ἄνθρωπος γίνεται ἰσχνόφωνον; πότερον ὅτι καὶ ἐνεόν, ἡ δὲ ἰσχνοφωνία ἐνεότης ἐστίν; ἀλλὰ δὴ καὶ οὐδ᾽ ὅλως πεπλήρωται τοῦτο τὸ μόριον. ἢ ὅτι κοινωνεῖ μᾶλλον λόγου, τὰ δ’ ἄλλα φωνῆς; ἔστι δὲ ἡ ἰσχνοφωνία οὐ κατὰ τὸ ὄνομα ἓν ἢ οὐ συνεχῶς διεξιέναι.

Διὰ τί ἄνθρωπος γίνεται ἐκ γενετῆς χωλὸς μάλιστα τῶν ἄλλων ζῴων; πότερον ὅτι ἰσχυρὰ τῶν ἄλλων ἐστὶ σκέλη τῶν ζῴων; ὀστώδη γὰρ καὶ νευρώδη καὶ τετράποδα καὶ ὄρνιθες ἔχουσιν, οἱ δὲ ἄνθρωποι σαρκώδη· διὰ τὴν ἁπαλότητα οὖν θᾶττον πηροῦνται ἐν τῇ κινήσει. ἢ διότι μόνον τῶν ζῴων πολλοὺς ἔχει χρόνους τῆς γενέσεως; καὶ γὰρ ἑπτάμηνα καὶ ὀκτάμηνα καὶ δεκάμηνα γίνεται. τοῖς δ’ ἄλλοις εἷς χρόνος τῆς τελειώσεως γέγονεν οὐ διατρίψας· τοῖς δ’ ἀνθρώποις πολὺς ὁ χρόνος γίνεται τῆς ἐν πλήθει διατριβῆς, ὥστε κινουμένων διὰ τὸ ἁπαλὰ εἶναι καὶ θραύεται τὰ ἀκρωτήρια ἐν τῷ πλείονι χρόνῳ πλείω.

Διὰ τί οἱ εὐνοῦχοι ἑλκώδεις τὰς κνήμας ἴσχουσι καὶ σαπράς; πότερον ὅτι καὶ αἱ γυναῖκες, οἱ δ’ εὐνοῦχοι γυναικικοί; ἢ τοῦτο μὲν συμβέβηκεν, αἴτιον δὲ καὶ ταῖς γυναιξὶν ὅτι ἡ θερμότης κάτω ὁρμᾷ. δηλοῖ δὲ τὰ γυναικεῖα. διὸ οὔτε οἱ εὐνοῦχοι οὔτε γυναῖκες δασεῖς γίνονται, διὰ πολλὴν ὑγρότητα.

Διὰ τί τῶν ζῴων οὐθὲν λιθιᾷ ἀλλ’ ἢ ἄνθρωπος; ἢ ὅτι τῶν μὲν ὑποζυγίων καὶ τῶν πολυωνύχων οἱ πόροι τῆς κύστεως εὐρεῖς εἰσίν; ὅσα δὲ μὴ τὸ πρῶτον, ὕστερον δὲ ζῳοτοκεῖ [895b] ἐν αὑτοῖς, οἷον ἔνιοι τῶν ἰχθύων, τούτων δὲ οὐδὲν κύστιν ἔχει, ἀλλ’ εἰς τὴν κοιλίαν αὐτοῖς ἡ τοιαύτη συνθλίβεται ὑπόστασις, οἷον καὶ τοῖς ὄρνισιν, ὥστε ταχὺ καὶ διεξέρχεται κατὰ τὴν ἕδραν. ὁ δὲ ἄνθρωπος κύστιν τε ἔχει καὶ στενὸν τὸν καυλὸν ὡς κατὰ μέγεθος. διὰ μὲν οὖν τὸ ἔχειν τοῦτο τὸ μόριον συνθλίβεται τὸ γεῶδες εἰς τὴν κύστιν (διὸ καὶ χρώζονται αἱ ἀμίδες ὑπ’ αὐτοῦ), διὰ δὲ τὴν θερμότητα τοῦ τόπου συμπέττεται καὶ παχύνεται μᾶλλον, ἐμμένει δὲ καὶ αὐξάνεται διὰ τὴν στενότητα τοῦ οὐρητῆρος· οὐ γὰρ δυνάμενα τὰ γεώδη ὑποστήματα ῥᾳδίως ὑπεξιέναι, πρὸς ἄλληλα ὑποστρεφόμενα λίθος γίνεται.

Διὰ τί οὐκ ἐρεύγεται τὰ ὑποζύγια, οὐδὲ οἱ βόες καὶ τὰ κερατοφόρα, οὐδὲ οἱ ὄρνιθες; ἢ διὰ ξηρότητα τῆς κοιλίας; ταχὺ γὰρ ἀναλίσκεται τὸ ὑγρὸν καὶ διηθεῖται· ἐμμένοντος δὲ καὶ πνευματουμένου γίνεται ὁ ἐρευγμός. τοῖς δὲ λοφούροις διὰ μῆκος τοῦ αὐχένος εἰς τὸ κάτω ὁρμᾷ τὸ πνεῦμα, διὸ καὶ ἀποψοφοῦσι μάλιστα. οἱ ὄρνιθες δὲ καὶ τὰ κερατοφόρα οὐ ποιεῖ οὐδέτερον. οὐδὲ ἐρεύγονται δὲ ὅσα μηρυκάζει, διὰ τὸ πολλὰς ἔχειν κοιλίας καὶ τὸν καλούμενον κεκρύφαλον· διὰ πολλῶν οὖν γίνεται καὶ ἄνω καὶ κάτω τῷ πνεύματι ἡ πορεία, καὶ φθάνει ἀναλισκόμενον τὸ ὑγρὸν πρὶν ἐκπνευματωθῆναι καὶ ποιῆσαι ἢ ἐρυγεῖν ἢ ψοφῆσαι.

Διὰ τί, ὅσα μὲν ἥμερα τῶν ζῴων ἐστί, πάντως καὶ ἄγρια, ὅσα δὲ ἄγρια, οὐ πάντως ἥμερα; καὶ γὰρ ἄνθρωποί που φαίνονται ἄγριοι ὄντες καὶ κύνες ἐν Ἰνδοῖς καὶ ἵπποι ἄλλοθι, ἀλλ’ οὐ λέοντες ἥμεροι οὐδὲ παρδάλεις οὐδ’ ἔχεις οὐδ’ ἄλλα πολλά. ἢ ὅτι ῥᾷον τὸ φαῦλον καὶ γενέσθαι ἐξ ἀρχῆς καὶ μεταβαλεῖν εἰς αὐτό; ἡ γὰρ φύσις οὐχ ἡ πρώτη ἀλλ’ ἡ ἐν τέλει ἐργώδης τυχεῖν εὐθύς. διὸ πάντα καὶ τὰ ἥμερα ἄγρια γίνονται τὸ πρῶτον μᾶλλον ἢ ἥμερα, οἷον παιδίον ἢ ἀνὴρ παμφάγον καὶ τῷ θυμῷ ζῶν· ἀλλ’ ἀσθενέστερα. ὥσπερ οὖν καὶ ἐπὶ τῶν τῆς τέχνης ἔργων, οὕτως ἔχει καὶ ἐπὶ τῶν τῆς φύσεως ἔργων. καὶ γὰρ ἐπὶ τούτων πάντ’ ἐστὶ φαύλως εἰργασμένα, καὶ πλείω τὰ φαῦλα, κλίνη καὶ ἱμάτιον καὶ ἄλλ’ ὁτιοῦν. καὶ ὃ μέν ἐστι καλόν, λαβεῖν ἔστιν ἅπαν καὶ φαῦλον, ὃ δὲ φαῦλον, οὐ πᾶν καὶ καλόν, οἷον εἴ τις ἐπὶ τῶν ἀρχαίων γραφέων καὶ ἀνδριαντοποιῶν σκοπεῖ τὰ ἔργα· οὐ γὰρ ἦν πώποτε οὐδαμῇ γραφὴ σπουδαία οὐδὲ ἀνδριάς, φαῦλα δὲ ἦν. ὁμοίως δὲ καὶ ἡ φύσις φαῦλα μὲν πάντα [896a] ποιεῖ, καὶ πλείους καὶ πλείω, σπουδαῖα δ’ ἐλάττω, καὶ οὐ πάντα δύναται. τὸ δὲ ἥμερον βέλτιον, τὸ δὲ ἄγριον φαῦλον. φύσει δὲ οὐ τῇ ἐξ ἀρχῆς, ἀλλ’ ἐφ’ ἣν οἶμαι ῥᾷον, ποιεῖ σπουδαῖα καὶ ἥμερα. τὰ δὲ ἐναντία ἢ οὐδέποτε ἢ μόλις, καὶ ἔν τισι τόποις καὶ ἐν χρόνοις, ἢ ἀρτίου, ἢ ποτὲ ἔν τινι κράσει τοῦ ὅλου, γίνονται ἥμερα τὰ ζῷα πάντα. τὸ δ’ αὐτὸ καὶ ἐπὶ τῶν χυτῶν πάντων ἐστίν· ὅσα μὲν γὰρ ἥμερα, καὶ ἄγρια, οὐ πάντα δὲ δύναται ἡμεροῦσθαι, ἀλλ’ ὅμως εἰσὶν ἐν ἰδίᾳ χώρᾳ πρὸς πολλὰ ἰδίως ἐχούσῃ, ὥστε ἠμελημένα καὶ ἄγρια κρείττω καὶ ἡμερώτερα φύεσθαι τῶν ἐν ἄλλῃ γεωργουμένων.

Διὰ τί τοῖς μὲν ἀνθρώποις οἱ ὀμφαλοὶ μεγάλοι γίνονται, τοῖς δ’ ἄλλοις ζῴοις οὐ φανεροί; ἢ διότι τοῖς μὲν διὰ τὸ πολὺν χρόνον εἴσω μένειν ἀφαυαίνονται καὶ εὐθὺ τείνονται, ὅλον δ’ ἐπανοιδοῦσι τὰ ἕλκη, διὸ ἔνιοι τῶν ὀμφαλῶν καὶ αἰσχίους εἰσίν· ὁ δὲ ἄνθρωπος ἀτελὴς ἐξέρχεται, ὥστε ἔφυγροι καὶ ἄναιμοι οἱ ὀμφαλοὶ ἀκολουθοῦσιν. ὅτι δὲ τὰ μὲν τετελειωμένα τὰ δὲ ἀτελῆ ἐξέρχεται, σημεῖον ὅτι τὰ μὲν εὐθὺς δύναται ζῆν, τὰ δὲ παιδία ἐπιμελείας δεῖται.

Διὰ τί τὰ μὲν τῶν ζῴων ἅπαξ ὀχεύεται, τὰ δὲ πολλάκις, καὶ τὰ μὲν ὥρᾳ ἔτους, τὰ δ’ ὅτε ἔτυχεν, ἄνθρωπος μὲν ἀεί, τὰ δὲ ἄγρια οὐ πολλάκις, καὶ ὗς μὲν ἄγριος ἅπαξ, ἥμερος δὲ πολλάκις; ἢ διὰ τὴν τροφὴν καὶ ἀλέαν καὶ πόνον; ἐν πλησμονῇ γὰρ Κύπρις. ἔπειτα τὰ αὐτὰ ἄλλοθι μὲν ἅπαξ τίκτει, ἄλλοθι δὲ πλεονάκις, οἷον τὰ πρόβατα ἐν Μαγνησίᾳ καὶ Λιβύῃ τίκτει δίς. τὸ δ’ αἴτιον ἡ πολυχρονία τοῦ τόκου· οὐ γὰρ ἐπιθυμεῖ ὅταν πλησθῇ, ὥσπερ οὐδὲ τροφῆς τὰ πλήρη. τὰ δὲ κυοῦντα ἧττον ὀχείας ἐπιθυμεῖ διὰ τὸ μὴ γίνεσθαι τὴν κάθαρσιν.

Διὰ τί τῶν ἀνθρώπων οἱ ἀραιοὺς ἔχοντες τοὺς ὀδόντας βραχύβιοι ὡς ἐπὶ τὸ πολύ; ἢ ὅτι σημεῖον τοῦ τὸ ὀστοῦν πυκνὸν εἶναι; ὡς ὁ ἐγκέφαλος ἀσθενὴς οὐκ εὒπνοῶν, ὥστε ὑγρὸς ὢν τὴν φύσιν ταχὺ σήπεται. καὶ γὰρ τὰ ἄλλα μὴ κινούμενα καὶ ἀπατμίζοντα. διὸ καὶ ἄνθρωπος τὴν κεφαλὴν δασύτατον, καὶ τὸ ἄρρεν τοῦ θήλεος μακροβιώτερον διὰ τὰς ῥαφάς. δεῖ δὲ ἰδεῖν καὶ ἐπὶ τῶν ἄλλων.

Διὰ τί δέ, ὅσοι τὴν διὰ τῆς χειρὸς τομὴν ἔχουσι δι’ ὅλης, μακροβιώτεροι; ἢ διότι τὰ ἄναρθρα βραχυβιώτατα, ὡς τὰ ἔνυγρα; εἰ δὲ τὰ ἄναρθρα βραχύβια, δῆλον ὅτι τὰ ἠρθρωμένα τοὐναντίον. τοιαῦτα δὲ ὧν καὶ τὰ φύσει ἄναρθρα μάλιστα ἤρθρωται· τῆς δὲ χειρὸς τὸ εἴσω ἀναρθρότατον.

Διὰ τί τῶν ζῴων ἄνθρωπος ἢ μόνον ἢ μάλιστα διαστρέφεται; ἢ ὅτι ἢ μόνον ἢ μάλιστα ληπτὸν ἐν τῇ νηπιότητι γίνεται, ὅτε καὶ διαστρέφεσθαι συμβαίνει πᾶσιν.

Διὰ τί τῶν ζῴων ἄνθρωπος μάλιστα καπνίζεται; ἢ ὅτι μάλιστα δακρύει, ἡ δὲ κάπνισις μετὰ δακρύου;

Διὰ τί ἵππος ἵππῳ χαίρει καὶ ἐπιθυμεῖ, ἄνθρωπος δὲ ἀνθρώπῳ, καὶ ὅλως δὲ τὰ συγγενῆ τοῖς συγγενέσι καὶ ὁμοίοις; οὐ γὰρ δὴ ὁμοίως ὅτι πᾶν ζῷον καλόν, ἡ δὲ ἐπιθυμία τοῦ καλοῦ. ἔδει οὖν τὸ καλὸν ἥδιον εἶναι. νῦν δὲ μᾶλλον οὐ πᾶν κάλλος ἡδύ, τὸ καλὸν καὶ τὸ ἡδύ. οὐδὲ πᾶσιν ἡ ἡδονὴ ἢ τὸ καλὸν ἡδύ, οἷον φαγεῖν ἢ πιεῖν ἐστὶν ἥδιον ἑτέρῳ καὶ ἀφροδισιάσαι ἄλλῳ. διότι μὲν οὖν ἕκαστον τῷ συγγενεῖ μιγνύμενον μάλιστα καὶ ἥδιστα ἀφροδισιάζει, ἄλλο πρόβλημα· ὅτι δὲ καὶ κάλλιστον, οὐκέτι ἀληθές. ἀλλὰ ἡμεῖς τὸ εἰς τὴν συνουσίαν ἡδύ, ὅτι ὃ μὲν καλόν, ὅτι ἐπιθυμοῦντες χαίρομεν ὁρῶντες. καίτοι καὶ ἐπὶ τῶν ἄλλων ἐπιθυμιῶν ἔχει ὁμοίως· διψῶντες γὰρ ἥδιον ὁρῶσι τὸ πόμα. τὸ μὲν οὖν πρὸς χρείαν τινὰ καλόν, οὗ καὶ μάλιστα ἐπιθυμοῦμεν, τοῦτο δοκεῖ ἥδιστον εἶναι, τὸ δὲ καθ’ αὑτὸ οὐκέτι οὕτως. σημεῖον δὲ τούτου· δοκοῦσι γὰρ ἡμῖν καὶ ἄνδρες καλοὶ εἶναι, πρὸς τὴν συνουσίαν βλέψασιν. ἆρ’ οὖν οὕτως ὥστε καὶ ἡσθῆναι ὁρῶσι μᾶλλον τῶν εἰς συνουσίαν; οὐδέν γε κωλύει, εἰ μὴ ἐπιθυμοῦντες τύχοιμεν. οὕτω δὲ πόμα κάλλιον· εἰ γὰρ διψῶντες τύχοιμεν, ἥδιον ὀψόμεθα.

Διὰ τί ποτε τοῦ μὲν ἀνθρώπου τὰ ἔμπροσθεν δασύτερα τῶν ὄπισθέν ἐστι, τῶν δὲ τετραπόδων τὰ ὄπισθεν; ἢ ὅτι πάντα τὰ δίποδα τὰ ἔμπροσθεν ἔχει δασύτερα; οἱ γὰρ ὄρνιθες τὸν αὐτὸν τρόπον τοῖς ἀνθρώποις ἔχουσιν. ἢ τὰ ἀσθενέστερα μᾶλλον ἀεὶ σκεπάζειν ἡ φύσις εἴωθεν, ἀσθενὲς δὲ ἕκαστόν ἐστί τινα τρόπον. τῶν δὲ τετραπόδων ἁπάντων τὰ ὄπισθεν ἀσθενέστερά ἐστι τῶν ἔμπροσθεν διὰ τὸν τόπον· ὑπὸ γὰρ τῶν ψυχῶν καὶ καυμάτων μᾶλλον δυνατά ἐστι πάσχειν· τῶν δὲ ἀνθρώπων τὰ ἔμπροσθεν ἀσθενέστερά ἐστι καὶ τὸ αὐτὸ πέπονθεν.

[897a] Διὰ τί ἄνθρωπος τῶν ζῴων μάλιστα πτάρνυται; ἢ ὅτι καὶ κορυζᾷ μάλιστα; τούτου δ’ αἴτιόν ἐστιν ὅτι τοῦ θερμοῦ ὄντος περὶ τὴν καρδίαν καὶ πεφυκότος ἄνω φέρεσθαι τοῖς μὲν ἄλλοις ζῴοις ἡ κατὰ φύσιν αὐτοῦ φορά ἐστιν ἐπὶ τοὺς ὤμους, ἐντεῦθεν δὲ ἐξ ἀνακλάσεως σχιζόμενον τὸ μὲν ἐπὶ τὸν τράχηλον καὶ τὴν κεφαλὴν φέρεται αὐτοῦ, τὸ δὲ εἰς τὴν ῥάχιν καὶ τὴν ὀσφύν, διὰ τὸ ἐπὶ τῆς αὐτῆς εὐθείας εἶναι ταῦτα πάντα καὶ παρὰ τὴν βάσιν. φερόμενον δὲ ὁμοίως τὸ σῶμα καὶ τὰ ὑγρὰ μερίζει εἰς αὐτὰ ὁμαλῶς· ἕπεται γὰρ τὰ ὑγρὰ τῷ θερμῷ. διὸ οὐδὲ πάνυ κορυζᾷ τὰ τετράποδα ζῷα, οὐδὲ πτάρνυται· ὁ γὰρ πταρμὸς ἢ πνεύματος ἀθρόου φορά ἐστιν, ὑγρῶν ἐξατμιζόντων τι μᾶλλον τοῦ σώματος, ἢ ὑγρῶν ἀπέπτων. διὸ πρὸ τῶν κατάρρων γίνεται, ἃ οὐ συμβαίνει τοῖς ἄλλοις ζῴοις, διὰ τὸ τὴν τοῦ θερμοῦ φορὰν ὁμαλίζειν ἐν αὐτῷ εἰς τὸ πρόσθεν καὶ ὄπισθεν. τοῦ δὲ ἀνθρώπου πρὸς ὀρθῇ πεφυκότος τῇ βάσει, καθάπερ τὰ φυτά, συμβαίνει τοῦ θερμοῦ φορὰν ἐπὶ τὴν κεφαλὴν γίνεσθαι πλείστην καὶ σφοδροτάτην. φερόμενόν τε ἐνταῦθα ἀραιοῖ καὶ θερμαίνει τοὺς περὶ αὐτὴν πόρους. ὄντες δὲ τοιοῦτοι δεκτικοὶ γίνονται τῶν ὑγρῶν μᾶλλον ἢ οἱ κάτω τῆς καρδίας πόροι. ὅταν οὖν συμβῇ ἐξυγρανθῆναι μᾶλλον τοῦ δέοντος καὶ καταψυγῆναι, ἔξωθεν συμβαίνει τὸ θερμόν, τροφήν τε ἔχον καὶ συστελλόμενον ἐντός, αὔξεσθαι, αὐξανόμενον δὲ φέρεσθαι ἐπὶ τὴν κεφαλὴν καὶ τοὺς ἐν αὐτῇ πόρους· εἰς οὓς ἀκολουθοῦντα τὰ ὑγρά, ὄντα λεπτὰ καὶ ἄπεπτα, πληροῖ αὐτοὺς καὶ τοὺς κατάρρους ποιεῖ, καὶ πταρμοὺς ὁμοίως. ἐν γὰρ ταῖς ἀρχαῖς τῶν κατάρρων τὸ θερμὸν προαναφερόμενον τοῦ ὑγροῦ, καὶ πνευματοῦν τοὺς πόρους, τῇ τ’ ἐκβολῇ τοῦ πνεύματος τοὺς πταρμοὺς ποιεῖ καὶ τῇ πρὸ τῶν ὑγρῶν ἀναγωγῇ, ἅ ἐστι λεπτὰ καὶ δριμέα. διὸ καὶ συμβαίνει μετὰ τῶν τῆς κορύζης πταρμῶν ὑδατώδη ἀπομύττεσθαι. πάντων δὲ τούτων ὁρμησάντων τὰ συνεχῆ καὶ πάθος ἔχοντα ὑγρὰ ἐφίσταται αὐτοῖς, καὶ ἐμφράττει τοὺς περὶ τὴν κεφαλὴν καὶ τὴν ῥῖνα πόρους· ὀγκηρότερα γὰρ γινόμενα καὶ διατείνοντα ποιεῖ τοὺς περὶ τὴν κεφαλὴν πόνους. σημεῖον δὲ τὸ μήτ’ ἐκτὸς ἢ δι’ αὐτῶν πνεῦμα ἀφεῖσθαι. διὸ οὔτε πτάρνυνται οὔτε ὀσφραίνονται οἱ κορυζῶντες. οἱ δὲ ἄνευ κορύζης γινόμενοι διὰ μὲν τὰς αὐτὰς αἰτίας γίνονται, μικρὰς δὲ καὶ ἐλαφρὰς ἀρχὰς λαβόντες. ὥστε [897b] συναχθέντα τὰ ὑγρὰ τῷ θερμῷ, ἐκπνευματούμενα ὑπ’ αὐτοῦ δι’ ὀλιγότητα, εἰσπίπτει κατὰ τὰς ῥῖνας. ποιεῖ δὲ τὸν ψόφον τοῦ πνεύματος οὐχ ἧττον ἡ βία τῆς φορᾶς ἢ τὸ πλῆθος αὐτοῦ. ἐνεχθέντος γὰρ τοῦ θερμοῦ πρὸς ὀρθὴν πρὸς τὸν ἐγκέφαλον καὶ προσπεσόντος αὐτῷ, ἀνακλᾶται

ἐπὶ τὰς ῥῖνας διὰ τὸ τοὺς ταύτῃ πόρους ἐκτὸς ἀπὸ τοῦ ἐγκεφάλου διατείνειν. παρὰ φύσιν οὖν τῆς ἐκτὸς κλάσεως φορᾶς γινομένης ἐπὶ τὰς ῥῖνας τῷ πνεύματι, σφοδρὰν συμβαίνει γίνεσθαι· διὸ ποιεῖ τοὺς ψόφους. τῶν δὲ ἄλλων ζῴων συμβαίνει μάλιστα κορυζᾶν τοὺς ὄρνιθας διὰ τὸ μάλιστα ὁμοιόσχημον εἶναι ἀνθρώπῳ· ἧττον δὲ ἢ ἄνθρωπος πάσχει αὐτό, ὅτι τὰ πολλὰ κάτω ἔχει τὴν κεφαλὴν διὰ τὸ τὴν νομὴν ἀπὸ τῆς γῆς εἶναι.

Διὰ τί τὰ θαλάττια ζῷα τῶν ἐν τῇ γῇ μείζω καὶ εὐτραφέστερά ἐστιν; ἢ ὅτι ὁ ἥλιος καταδαπανῶν τὰ περιέχοντα τὴν γῆν ἀφαιρεῖται τὴν τροφήν; διὸ καὶ τὰ κατακεκλειμένα εὐτραφέστερά ἐστιν. πάντων οὖν τούτων ἀπήλλακται τὰ θαλάττια ζῷα.

Διὰ τί ποτε τὰ μὲν ἄλλα ζῷα πλεονάκις τὴν ξηρὰν τροφὴν ἢ τὴν ὑγρὰν προσάγεται, ὁ δὲ ἄνθρωπος τὴν ὑγρὰν ἢ τὴν ξηράν; ἢ ὅτι φύσει ὁ ἄνθρωπος θερμότατον; πλείστης οὖν καταψύξεως δεῖται.

Διὰ τί οἱ εὐνοῦχοι οὐ γίνονται φαλακροί; ἢ ὅτι πολὺν ἔχουσι τὸν ἐγκέφαλον; τοῦτο δὲ συμβέβηκεν αὐτοῖς διὰ τὸ μὴ συγγίνεσθαι ταῖς γυναιξίν· ἡ γὰρ γονή ἐστιν ἀπὸ τοῦ ἐγκεφάλου χωροῦσα διὰ τῆς ῥάχεως. διὰ τοῦτο δὲ οὐ δοκοῦσι καὶ οἱ βόες οἱ ἐκτομίαι μεγάλα τὰ κέρατα ἴσχειν, ὅταν ἐκτμηθῶσιν. δοκεῖ δὲ ἡ αὐτὴ αἰτία εἶναι καὶ ὅτι αἱ γυναῖκες καὶ οἱ παῖδες οὐκ εἰσὶ φαλακροί.

Διὰ τί τὰ μὲν εὐθὺς δύνανται δι’ αὑτῶν τρέφεσθαι μετὰ τὴν γένεσιν, τὰ δὲ οὔ; ἢ ὅσα ὀλιγοχρονιώτερα τῶν μνήμης δεκτικῶν; διὸ ἅπαντα καὶ τελευτᾷ θᾶττον.

Διὰ τί ποτε ὁ μὲν ἄνθρωπος πλείω τὴν ὑποχώρησιν ποιεῖται τὴν ὑγρὰν τῆς ξηρᾶς, οἱ δὲ ἵπποι καὶ οἱ ὄνοι τὴν ξηράν; ἢ διότι ταῦτα μὲν τὰ ζῷα πλείονι τροφῇ χρῆται τῇ ξηρᾷ, ὁ δὲ ἄνθρωπος ὑγρᾷ μᾶλλον ἢ τῇ ξηρᾷ; πᾶσα δὲ περίττωσις ἀπὸ τῆς τροφῆς ἐστί, καὶ ἀπὸ τῆς πλείονος πλείω. τὰ μὲν οὖν τῇ ὑγρᾷ μᾶλλον, τὰ δὲ τῇ ξηρᾷ πλείονι τροφῇ χρῆται· διότι τὰ μὲν τῶν ζῴων ἐστὶ φύσει [898a] ξηρά, τὰ δὲ ὑγρά. τὰ μὲν οὖν τῇ φύσει ξηρὰ τῆς ὑγρᾶς μᾶλλον ἐπιθυμεῖ (ταύτης γὰρ ἐνδεέστερά εἰσι), τὰ δὲ τῇ φύσει ὑγρὰ τῆς ξηρᾶς· ταύτης γὰρ ἐνδεέστερα καθέστηκεν.

Διὰ τί ὄρνιθες καὶ ἄνθρωποι καὶ τῶν ζῴων τὰ ἀνδρεῖα σκληρότερα; ἢ ὅτι ὁ θυμὸς μετὰ θερμότητος; ὁ γὰρ φόβος κατάψυξις. ὅσων οὖν τὸ αἷμα ἔνθερμόν ἐστι, καὶ ἀνδρεῖα καὶ θυμοειδῆ· τὸ δὲ αἷμα τροφή. ὅσα δὲ θερμῷ ἄρδεται τῶν φυομένων, σκληρότερα πάντα. Διὰ τί τέρατα τίκτουσι μάλιστα τὰ τετράποδα τὰ μὴ μεγάλα, ἄνθρωπος δὲ καὶ τὰ μεγάλα ἧττον, οἷον ἵπποι καὶ ὄνοι; ἢ ὅτι πολύγονα ταῦτα, οἷον κύνες καὶ ὕες καὶ αἶγες καὶ πρόβατα, πολὺ μᾶλλον τῶν μεγάλων, ἐκείνων δὲ τὰ μὲν ὅλως μονοτόκα, τὰ δὲ ὡς ἐπὶ τὸ πολύ. τὰ δὲ τέρατα γίνεται ἐπαλλαττόντων τῶν σπερμάτων ἀλλήλοις καὶ συγχεομένων ἐν τῇ ἐξόδῳ τῆς γονῆς ἢ ἐν τῇ μίξει τῇ ἐν τῇ ὑστέρᾳ τῆς θηλείας. διὸ καὶ ὄρνιθες αὐτὰ ποιοῦσιν· τὰ γὰρ ᾠὰ δίδυμα τίκτουσι, τὰ δὲ τέρατα ἐκ τῶν διδύμων γίνεται, ὧν ἡ λέκιθος τῷ ὑμένι οὐ διαιρεῖται.

Διὰ τί ἡ κεφαλὴ δασεῖα τῶν ἀνθρώπων μᾶλλον τοῦ ἄλλου σώματος καὶ οὐ κατὰ λόγον, τοῖς δὲ ἄλλοις ζῴοις τοὐναντίον; ἢ ὅτι καὶ τῶν ἄλλων τὰ μὲν εἰς ὀδόντας ἐκδίδωσι καθ’ ὑπερβολὴν τῆς τροφῆς, τὰ δὲ εἰς κέρατα, τὰ δὲ εἰς τρίχας; ὅσα μὲν εἰς κέρατα, ἧττον τὴν κεφαλὴν ἔχει δασεῖαν· ἐκεῖ γὰρ ἀνήλωται· ὅσα δὲ εἰς ὀδόντας, μᾶλλον μὲν τῶν κερατοφόρων (ἔχει γὰρ λοφιάν), ἧττον δὲ τῶν τοιούτων, οἷον ὀρνέων. ἔχουσι γὰρ ταῦτα καὶ τὴν τῶν ἀνθρώπων· ὃ ἐκείνοις πολλαχῇ διὰ πλῆθος, τοῦτο εἰς κεφαλὴν ἐκδίδωσιν· οὐδὲ γὰρ οὐδὲν ἔχει, οὐδὲ πολὺ οὕτως ὥστε πανταχῇ.

Διὰ τί ἄνθρωπος μόνος τῶν ζῴων πολιὰς ἔχει; ἢ ὅτι τὰ μὲν πλεῖστα τῶν ζῴων ῥυάδα τὴν τρίχα ἀνὰ πᾶν ἔτος ἔχει, οἷον ἵππος, βοῦς, ἔνια δὲ ῥυάδα μὲν οὐκ ἔχει, βραχύβια δέ εἰσι, καθάπερ πρόβατον καὶ ἄλλα· οὗ ἡ θρὶξ ὥσπερ οὐ γηράσκουσα οὐδὲ πολιοῦται. ὁ δὲ ἄνθρωπος οὔτε ῥυάδα ἔχει τὴν τρίχα, μακρόβιόν τέ ἐστιν, ὥστε ὑπὸ τοῦ χρόνου πολιοῦται.

Διὰ τί, ὅσοις τὰ ἀπὸ τοῦ ὀμφαλοῦ κάτω μείζονα ἢ [898b] τὰ πρὸς τὰ στήθη, βραχύβιοι καὶ ἀσθενεῖς; ἢ ὅτι ἡ κοιλία ψυχρὰ διὰ μικρότητα, ὥστε οὐ πεπτικὴ ἀλλὰ περιττωματική; οἱ δὲ τοιοῦτοι νοσακεροί.

Διὰ τί τὰ μὲν γίνεται τῶν ζῴων οὐ μόνον ἐξ ἀλλήλων ἀλλὰ καὶ αὐτόματα, τὰ δ’ ἐξ ἀλλήλων μόνον, οἷον ἄνθρωπος καὶ ἵππος; ἢ κἂν εἰ καὶ μὴ δι’ ἑτέρας αἰτίας, ἀλλ’ ὅτι τοῖς μὲν ὀλίγος ὁ χρόνος τῆς γενέσεως, ὥστε ἡ γεννητικὴ ὥρα ὑπερτείνει καὶ ἐνδέχεται γενέσθαι ἐν τῇ μεταβολῇ τῶν ὡρῶν, τῶν δὲ πολὺ ἡ γένεσις ὑπερτείνει. ἐνιαύσιοι γὰρ ἢ δεκάμηνοί εἰσιν· ὥστε ἀνάγκη γίνεσθαι ἢ ἐξ ἀλλήλων γίνεσθαι.

Διὰ τί τῶν Αἰθιόπων οἱ μὲν ὀδόντες λευκοί, καὶ λευκότεροι ἢ τῶν ἄλλων, οἱ δὲ ὄνυχες οὐκέτι; ἢ οἱ μὲν ὄνυχες, ὅτι καὶ τὸ δέρμα μέλαν, καὶ μελάντερον ἢ τῶν ἄλλων, οἱ δὲ ὄνυχες ἐκ τοῦ δέρματος φύονται. οἱ δὲ ὀδόντες λευκοὶ διὰ τί; ἢ ὅτι ἐξ ὧν τὸ ὑγρὸν ἐξάγει ὁ ἥλιος ἄνευ τοῦ ἐπιβάπτειν, λευκαίνεται, οἷον καὶ τὸν κηρόν; τὸ μὲν οὖν δέρμα ἐπιβάπτει, τοὺς δὲ ὀδόντας οὐκ ἐπιβάπτει, ἀλλὰ τὸ ὑγρὸν διὰ τὴν ἀλέαν ἐξατμίζεται ἐξ αὐτῶν.

Διὰ τί τὰ μὲν ἀφαιρουμένης τῆς κεφαλῆς ἀποθνήσκει εὐθὺς ἢ ταχύ, τὰ δὲ οὔ; ἢ ὅσα ἄναιμα καὶ ὀλιγότροφα, τοῦτο πάσχει; οὔτε τροφῆς γὰρ δεῖται ταχύ, οὔτε ἐγχεῖται αὐτῶν τὸ θερμὸν ἐν τῷ ὑγρῷ, ὧν ἄνευ οὐχ οἷόν τε ζῆν τοῖς ἐναίμοις. τούτοις δὲ οἷόν τέ ἐστιν· ἀπνευστὶ ζῆν γὰρ δύνανται πολὺ μᾶλλον. ἡ δὲ αἰτία ἐν ἑτέροις εἴρηται.

ΙΑ. ΟΣΑ ΠΕΡΙ ΦΩΝΗΣ.

Διὰ τί τῶν αἰσθήσεων ἐκ γενετῆς μάλιστα τὴν ἀκοὴν πηροῦνται; ἢ ὅτι ἀπὸ τῆς αὐτῆς ἀρχῆς εἶναι δόξειεν ἂν ἥ τε ἀκοὴ καὶ ἡ φωνή; ῥᾷστα δὲ δοκεῖ διαφθείρεσθαι ἡ διάλεκτος οὖσα εἶδος φωνῆς, καὶ χαλεπώτατα ἐπιτελεῖσθαι. σημεῖον δὲ ὅτι μετὰ τὸ γενέσθαι πολὺν χρόνον ἐνεοί ἐσμεν· τὸ μὲν γὰρ πρῶτον ὅλως οὐδὲ λαλοῦμεν οὐδέν, εἶτα ὀψέ ποτε ψελλίζομεν. διά τε τὸ τὴν διάλεκτον εὔφθαρτον εἶναι, τὴν αὐτὴν δὲ ἀρχὴν ἀμφοτέρων εἶναι καὶ τῆς διαλέκτου (φωνὴ γάρ τις καὶ τῆς ἀκοῆς ὥσπερ καὶ εἰ συμβεβηκότος), ῥᾷστα τῶν αἰσθήσεων φθείρεται, καὶ οὐ καθ’ αὑτήν, ἡ ἀκοή. τεκμήριον δὲ ἔστι καὶ ἐκ τῶν ἄλλων ζῴων λαβεῖν, ὅτι παντελῶς [899a] εὔφθαρτός ἐστιν ἡ ἀρχὴ τῆς διαλέκτου· λαλεῖ γὰρ οὐθὲν τῶν ἄλλων ζῴων πλὴν ἀνθρώπου, καὶ οὗτοι δὲ ὀψέ ποτε, καθάπερ εἴρηται.

Διὰ τί οἱ κωφοὶ πάντες διὰ τῶν ῥινῶν φθέγγονται; ἢ διὰ τὸ ἐγγὺς τοῦ εἶναι ἐνεοὺς εἶναι; οἱ δὲ ἐνεοὶ λαλοῦσι διὰ τῶν ῥινῶν· ταύτῃ γὰρ αὐτῶν ἐκπίπτει τὸ πνεῦμα διὰ τὸ τῷ στόματι μεμυκέναι. μεμύκασι δέ, ὅτι οὐθὲν εἰς φωνὴν χρῶνται τῇ γλώττῃ.

Διὰ τί μεγαλόφωνοι πάντες εἰσὶν οἱ θερμοὶ τὴν φύσιν; ἢ ὅτι ἀνάγκη καὶ ἀέρα πολὺν καὶ ψυχρὸν ἐν τούτοις εἶναι; ἕλκει γὰρ τὸ πνεῦμα τὸ θερμὸν πρὸς ἑαυτὸ καὶ ἀέρα, καὶ πλείω τὸ πλεῖον. ἡ δὲ μεγάλη φωνὴ γίνεται ἐν τῷ πολὺν ἀέρα κινεῖν, καὶ ὀξεῖα ἐν τῷ ταχέως· βαρεῖα δὲ ἡ ἐν τῷ βραδέως.

Διὰ τί οἱ κωφοὶ πάντες διὰ τῶν ῥινῶν φθέγγονται; ἢ διὰ τὸ βιαιότερον πνεῖν τοὺς κωφούς; ἐγγὺς γὰρ τοῦ ἐνεοὶ εἶναι εἰσίν. διίσταται οὖν τῶν μυκτήρων ὁ πόρος ὑπὸ τοῦ πνεύματος· οἱ τοιοῦτοι δὲ διὰ ῥινῶν φθέγγονται.

Διὰ τί εὐηκοώτερα τὰ τῆς νυκτός; ἢ ὅτι μᾶλλον ἠρεμία διὰ τὴν τοῦ θερμοτάτου ἀπουσίαν; διὸ καὶ ὡς ἐπὶ τὸ πολὺ ἀταρακτότερα. ὁ γὰρ ἥλιος ὁ κινῶν.

Διὰ τί πόρρωθεν αἱ φωναὶ ὀξύτεραι δοκοῦσιν εἶναι; οἱ γοῦν μιμούμενοι τοὺς σφόδρα πόρρω ὄντας καὶ βοῶντας ὀξὺ φθέγγονται καὶ ὅμοιον τοῖς ἀπηχοῦσιν, καὶ τῆς ἠχοῦς ὀξύτερος φαίνεται ὁ ψόφος. ἔστι δὲ πόρρω· ἀνακλᾶται γάρ. οὐκοῦν ἐπεὶ ὀξὺ μὲν ἐν ψόφῳ τὸ ταχύ, βαρὺ δὲ τὸ βραδύ, ἔδει βαρυτέρας πόρρωθεν φαίνεσθαι τὰς φωνάς. τὰ γὰρ αὖ φερόμενα πάντα βραδύτερον φέρεται ὅσῳ ἂν ἀπέχῃ τῆς ἀρχῆς πλεῖον, καὶ τέλος πίπτει. πότερ’ οὖν ὅτι οἱ μιμούμενοι ἀμενηνῇ τῇ φωνῇ μιμοῦνται, καὶ λεπτὴν τὴν πόρρωθεν φωνήν; λεπτὴ δὲ βαρεῖα οὐκ ἔστιν, οὐδὲ μικρὸν καὶ ἀμενηνὸν φθέγγεσθαι βαρὺ ἀλλ’ ὀξὺ ἀνάγκη. ἢ οὐ μόνον οἱ μιμούμενοι διὰ τοῦτο μιμοῦνται, ἀλλὰ καὶ οἱ ψόφοι αὐτοὶ ὀξύτεροι γίνονται; αἴτιον δὲ ὅτι ὁ ἀὴρ ὁ φερόμενος ποιεῖ τὸν ψόφον· καὶ ὥσπερ τὸ πρῶτον ψοφεῖ τὸ κινῆσαν τὸν ἀέρα, οὕτω δεῖ πάλιν ποιῆσαι τὸν ἀέρα ἀεὶ ἄλλον κινοῦντα εἶναι, τὸ δὲ κινούμενον. διὸ ὁ ψόφος συνεχής, ὅτι ἀεὶ ἐκδέχεται [899b] κινοῦντα κινῶν, ἕως ἂν ἀπομαρανθῇ, ὃ ἐπὶ τῶν σωμάτων ἐστὶ τὸ πεσεῖν, ὅταν μηκέτι δύνηται ὠθεῖν ὁ ἀὴρ ἔνθα μὲν τὸ βέλος ἔνθα δὲ τὸν ἀέρα. ἡ μὲν γὰρ φωνὴ γίνεται ἡ συνεχὴς ἀέρος ὠθουμένου ὑπ’ ἀέρος, τὸ δὲ βέλος φέρεται σώματος ὑπ’ ἀέρος κινουμένου. ἐνταῦθα μὲν οὖν ἀεὶ τὸ αὐτὸ φέρεται σῶμα, ἕως ἂν καταπέσῃ, ἐκεῖ δὲ ἀεὶ ἕτερος ἀήρ. καὶ πρῶτον ἐλάττω θᾶττον μὲν κινεῖται, ἐπ’ ὀλίγον δέ. διὸ πόρρω ὀξύτεραι καὶ λεπτότεραι αἱ φωναί. τὸ γὰρ θᾶττον ὀξύ, ὥσπερ καὶ διηπόρηται. ὥσπερ ἡ αὐτὴ αἰτία δι’ ἣν καὶ οἱ μὲν παῖδες καὶ οἱ κάμνοντες ὀξὺ φθέγγονται, οἱ δὲ ἄνδρες καὶ οἱ ὑγιαίνοντες βαρύ. τὸ δὲ τοῖς ἐγγὺς μὴ ἐπίδηλον εἶναι τὴν φωνὴν ἢ βαρυτέραν ἢ ὀξυτέραν γινομένην, καὶ ὅλως μὴ ὁμοίως ἔχειν τοῖς ῥιπτομένοις βάρεσιν, αἴτιον ὅτι τὸ μὲν ῥιφθὲν ἓν φέρεται ἀεὶ τὸ αὐτό, ὁ δὲ ψόφος ἀήρ ἐστιν ὠθούμενος ὑπὸ ἀέρος. διὸ καὶ τὸ μὲν εἰς ἓν πίπτει, ἡ δὲ φωνὴ πανταχῇ, ὥσπερ ἂν εἰ τὸ ῥιφθὲν ἅμα φερόμενον ἀπείρως θρυφθείη, καὶ ἔτι εἰς τοὔπισθεν.

Διὰ τί αἱ νεηλιφεῖς οἰκίαι μᾶλλον ἠχοῦσιν; ἢ ὅτι μᾶλλον ἀνάκλασις γίνεται διὰ τὴν λειότητα; λειότεραι δὲ διὰ τὸ ἀρραγὲς καὶ τὸ συνεχές. δεῖ δὲ μὴ παντελῶς ὑγρὰν ἀλλ’ ἤδη ξηρὰν λαμβάνειν· ἀπὸ πηλοῦ γὰρ οὐκ ἔστιν ἀνάκλασις. διὰ ταῦτα γὰρ καὶ τὰ κονιάματα μᾶλλον ἠχεῖ. συμβάλλεται δὲ ἴσως καὶ ἡ ἀκινησία τοῦ ἀέρος· ἀθρόος γὰρ ἰὼν μᾶλλον ἀποπλήττεται τὸν προσπίπτοντα.

Διὰ τί, ἐάν τις πίθον καὶ κεράμια κενὰ κατορύξῃ καὶ πωμάσῃ, μᾶλλον ἠχεῖ τὰ οἰκήματα, καὶ ἐὰν φρέαρ ἢ λάκκος ᾖ ἐν τῇ οἰκίᾳ; ἢ ὅτι ἐπεὶ ἀνάκλασις ἡ ἠχώ, δεῖ περιειλημμένον ἀθρόον εἶναι τὸν ἀέρα, καὶ ἔχειν πρὸς ὃ ἀνακλασθήσεται, προσπῖπτον πυκνὸν καὶ λεῖον; οὕτω γὰρ μάλιστα ἦχος γίνεται. τὸ μὲν οὖν φρέαρ καὶ ὁ λάκκος ἔχει τὴν στενότητα καὶ τὴν ἄθροισιν, οἱ δὲ πίθοι καὶ τὰ κεράμια καὶ τὴν πυκνότητα τῶν περιεχόντων, ὥστε ἐξ ἀμφοτέρων τὸ συμβαῖνον. καὶ γὰρ τὰ κοῖλα μᾶλλον ἠχεῖ· διὰ τοῦτο καὶ ὁ χαλκὸς μάλιστα τῶν ἄλλων. ὅτι δὲ κατορωρυγμένα, οὐθὲν ἄτοπον· ἡ γὰρ φωνὴ φέρεται κάτω οὐχ ἧττον. ὅλως δὲ πανταχῇ δοκεῖ καὶ κύκλῳ φέρεσθαι.

Διὰ τί δὲ μᾶλλον, ἐὰν κατορύξῃ τις, ἠχεῖ, ἢ ἐὰν μή; [900a] ἢ ὅτι περιστεγόμενα μᾶλλον εἰς αὐτὰ δέχεται καὶ κατέχει τὸν ἀέρα; συμβαίνει δὲ καὶ τὴν πληγὴν σφοδροτέραν γίνεσθαι.

Διὰ τί τὸ ὕδωρ τὸ ψυχρὸν ἐκ τοῦ αὐτοῦ ἀγγείου ἐκχεόμενον ὀξύτερον ποιεῖ τὸν ψόφον; ἢ ὅτι θάττων ἡ φορά; βαρύτερον γάρ. ἡ δὲ θάττων ὀξύτερον ποιεῖ τὸν ψόφον. τὸ δὲ θερμὸν καὶ τῇ μανότητι καὶ τῇ ἀναφορᾷ κουφίζει. παρόμοιον δὲ ὅτι καὶ αἱ δᾷδες καιόμεναι ἀσθενεστέραν τὴν πληγὴν ποιοῦσιν.

Διὰ τί τοῖς ἠγρυπνηκόσιν ἡ φωνὴ τραχυτέρα; ἢ διότι ὑγρότερον τὸ σῶμα διὰ τὴν ἀπεψίαν, καὶ οὐχ ἥκιστα περὶ τὸν ἄνω τόπον, διὸ καὶ βάρος ἐν τῇ κεφαλῇ· ὑγρότητός τε περὶ τὸν βρόγχον οὔσης ἀνάγκη καὶ τραχυτέραν εἶναι τὴν φωνήν. ἡ μὲν γὰρ τραχύτης διὰ τὴν ἀνωμαλίαν, ἡ δὲ βαρύτης διὰ τὴν ἔμφραξιν· βαρυτέρα γὰρ ἡ φορά.

Διὰ τί μετὰ τὰ σιτία τάχιστα ἀπορρήγνυται ἡ φωνή; ἢ ὅτι κοπτόμενος μὲν ὁ τόπος ἐκθερμαίνεται, θερμαινόμενος δὲ ἕλκει τὴν ὑγρότητα; πλείων δὲ αὕτη καὶ ἑτοιμοτέρα διὰ τὴν προσφοράν.

Διὰ τί οἱ κλαίοντες ὀξὺ φθέγγονται, οἱ δὲ γελῶντες βαρύ; ἢ ὅτι οἱ μὲν ὀλίγον κινοῦσι πνεῦμα δι’ ἀσθένειαν, οἱ δὲ σφοδρῶς, ὃ ποιεῖ ταχὺ φέρεσθαι τὸ πνεῦμα; τὸ δὲ ταχὺ ὀξύ· καὶ γὰρ ἀπὸ συντόνου τοῦ σώματος ῥιπτούμενον ταχὺ φέρεται. ὁ δὲ γελῶν τοὐναντίον διαλελυμένως· οἱ δὲ ἀσθενεῖς ὀξύ· ὀλίγον γὰρ ἀέρα κινοῦσιν· οἱ δὲ ἐπιπολῆς. ἔτι οἱ μὲν γελῶντες θερμὸν τὸ πνεῦμα ἀφιᾶσιν, οἱ δὲ κλαίοντες, ὥσπερ καὶ ἡ λύπη κατάψυξίς ἐστι τοῦ τόπου τοῦ περὶ τὰ στήθη, καὶ τὸ πνεῦμα ψυχρότερον ἀφιᾶσιν. τὸ μὲν οὖν θερμὸν πολὺν ἀέρα κινεῖ, ὥστε βραδέως φέρεσθαι, τὸ δὲ ψυχρὸν ὀλίγον. συμβαίνει δὲ τοῦτο καὶ ἐπὶ τῶν αὐλῶν· οἱ γὰρ θερμοὶ τῷ πνεύματι αὐλοῦντες πολὺ βαρύτερον αὐλοῦσιν.

Διὰ τί οἱ παῖδες καὶ τὰ ἄλλα τῶν ζῴων τὰ νέα ὀξύτερον φθέγγονται τῶν τελείων, καὶ ταῦτα τῆς ὀξύτητος σφοδρότητος οὔσης; ἢ ἡ φωνή ἐστιν ἀέρος κίνησις, καὶ ἡ θάττων ὀξυτέρα; ῥᾷον δὲ καὶ θᾶττον ὁ ὀλίγος τοῦ πολλοῦ κινεῖται ἀήρ. κινεῖται δὲ ἢ συγκρινόμενος ἢ διακρινόμενος ὑπὸ θερμοῦ. ἐπεὶ δὲ ἡ μὲν εἰσπνοή ἐστι ψυχροῦ εἰσαγωγή, συγκρίνοιτ’ ἂν ἐν αὐτῇ ὁ ἐν ἡμῖν ἀήρ· ἡ δὲ ἐκπνοή, θερμοῦ κινήσαντος ἀέρα, γίνοιτ’ ἂν ἡ φωνή· ἐκπνέοντες γάρ, οὐκ εἰσπνέοντες [900b] φωνοῦμεν. ἐπεὶ δὲ τὰ νέα θερμότερά ἐστι τῶν πρεσβυτέρων καὶ τοὺς ἐν αὐτοῖς πόρους στενωτέρους ἔχει, ἐλάττω ἂν ἀέρα ἔχοι ἐν ἑαυτοῖς. ὄντος δὲ τοῦ τε κινουμένου ἐλάττονος καὶ τοῦ κινοῦντος θερμοῦ πλείονος ἐν αὐτοῖς, θᾶττον ἂν δι’ ἄμφω ἡ κίνησις γένοιτο τοῦ ἀέρος· ἡ δὲ θάττων ὀξυφωνοτέρα ἂν εἴη διὰ τὰ προειρημένα.

Διὰ τί οἱ κλαίοντες ὀξὺ φθέγγονται, οἱ δὲ γελῶντες βαρύ; ἢ ὅτι οἱ μὲν

κλαίοντες συντείνοντες καὶ συνάγοντες τὸ στόμα φωνοῦσιν; τῇ τε δὴ συντονίᾳ κινεῖται ταχὺ ὁ ἐν αὐτοῖς ἀὴρ, καὶ τῷ διὰ στενοῦ τοῦ στόματος φέρεσθαι θᾶττον φέρεται· δι᾽ ἄμφω οὖν ὀξεῖα γίνεται ἡ φωνή. οἱ δὲ γελῶντες ἀνέντες τὸν τόνον γελῶσι καὶ κεχηνότες. ἐκπέμποντες οὖν διὰ τοῦτ᾽ εὐρέως καὶ βραδέως τὸν ἀέρα εἰκότως βαρυφωνοῦσιν.

Διὰ τί οἱ ἄγονοι, οἷον παῖδες, γυναῖκες, καὶ οἱ ἤδη γέροντες καὶ οἱ εὐνοῦχοι, ὀξὺ φθέγγονται, οἱ δὲ ἄνδρες βαρύ; ἢ καθάπερ ἡ γραμμὴ καὶ τὰ ἄλλα λεπτὰ ἓν διάστημα ἔχει, τὰ δὲ παχέα πλείω, οὕτω καὶ ἡ λεπτὴ φωνὴ ἓν ἂν ἔχοι διάστημα. ῥᾷον δὲ καὶ ποιῆσαι καὶ κινῆσαι ἐστὶν ἓν ἢ πλείω. ἐχόντων οὖν τῶν προειρημένων πνεῦμα ἀσθενές, κινεῖ αὐτῷ ἀέρα ὀλίγον. ἐλάχιστος δέ ἐστιν ὁ ἓν διάστημα ἔχων· ὃς ἔσται λεπτὸς διὰ τὰ προειρημένα. καὶ ἡ ἀπ᾽ αὐτοῦ φωνὴ γινομένη τοιαύτη· ἡ δὲ λεπτὴ φωνὴ ὀξεῖά ἐστιν. οἱ μὲν οὖν ἄγονοι διὰ ταῦτα ὀξύφωνοί εἰσιν· οἱ δὲ ἄνδρες ἰσχύοντες τῷ πνεύματι πολὺν ἀέρα κινοῦσι, πολὺς δὲ ὢν βραδέως ἂν κινοῖτο καὶ βαρεῖαν φωνὴν ποιεῖ. ἐποίει γὰρ ἥ τε λεπτὴ καὶ ἡ ταχεῖα κίνησις ὀξεῖαν φωνήν, ὧν οὐδέτερον ἐπὶ τοῦ ἀνδρὸς συμβαίνει γίνεσθαι.

Διὰ τί αἱ φωναὶ βαρύτεραι ἡμῖν εἰσὶ τοῦ χειμῶνος; ἢ ὅτι παχύτερος ὁ ἀήρ ἐστι τότε, καὶ ὁ ἐν ἡμῖν καὶ ὁ ἐκτός; παχυτέρου δὲ ὄντος βραδυτέρα ἡ κίνησις γίνεται, ὥστε ἡ φωνὴ βαρυτέρα. ἔτι ὑπνωτικώτεροί ἐσμεν τοῦ χειμῶνος ἢ τοῦ θέρους, καὶ καθεύδομεν πλείω χρόνον· ἐκ δὲ τῶν ὕπνων βαρύτεροί ἐσμεν. ἐν ᾧ οὖν πλείονα χρόνον καθεύδομεν ἢ ἐγρηγόραμεν (οὗτος δέ ἐστιν ὁ χειμών), ἐν τούτῳ ἂν εἴημεν βαρυφωνότεροι ἢ ἐν ᾧ τοὐναντίον. τοῦ γὰρ μεταξὺ τῆς ἐγέρσεως ὄντος ὀλίγου χρόνου, ἡ ἐν τῷ ὕπνῳ ἕξις γενομένη διαμένει πρὸς τὴν καθύπνωσιν.

Διὰ τί ἐκ τῶν πότων καὶ τῶν ἐμέτων καὶ ἐν τοῖς ψύχεσι [901a] βαρύτερον φθέγγονται; ἢ διὰ τὴν ἔμφραξιν τοῦ φάρυγγος τὴν γινομένην ὑπὸ τοῦ φλέγματος; ἐπικατασπᾷ γὰρ ῥευμάτιον εἰς αὐτόν· καὶ τοῖς μὲν ὁ ἔμετος ἢ ὁ πότος, τοῖς δὲ ἡ ὥρα καὶ τὸ συμπλήρωμα στενώτερον ποιεῖ τὸν φάρυγγα, ὥστε βραδυτέρα γίνεται ἡ φορὰ τοῦ πνεύματος. ἡ δὲ βραδεῖα φορὰ βαρεῖαν ποιεῖ τὴν φωνήν.

Διὰ τί ἐγγύθεν μὲν ἡ βαρυτέρα μᾶλλον ἐξακούεται, πόρρωθεν δὲ ἧττον; ἢ διότι ἡ βαρυτέρα φωνὴ πλείω μὲν ἀέρα κινεῖ, οὐκ εἰς μῆκος δέ; πόρρωθεν μὲν οὖν ἧττον ἀκούομεν, διότι ἐπ᾽ ἔλαττον κινεῖται, ἐγγύθεν δὲ μᾶλλον, διότι πλείων ἡμῖν ἀὴρ πρὸς τὸ αἰσθητήριον προσπίπτει. ἡ δὲ ὀξεῖα πόρρω ἀκούεται, ὅτι λεπτοτέρα ἐστί, τὸ δὲ λεπτὸν τὴν εἰς μῆκος αὔξησιν ἔχει. λέγοι δ᾽ ἄν τις ὅτι καὶ θάττων ἐστὶν ἡ ποιοῦσα αὐτὴν κίνησις. εἴη δ᾽ ἂν τοῦτο, εἰ

πυκνὸν μὲν στενὸν δ’ εἴη τὸ κινοῦν πνεῦμα τὸν ἀέρα. ὅ τε γὰρ ὀλίγος εὐκινητότερός ἐστιν ἀήρ (κινεῖται γὰρ ὀλίγος ὑπὸ τοῦ στενοῦ), καὶ τὸ πυκνὸν πλείους πληγὰς ποιεῖ, αἳ τὸν ψόφον ποιοῦσιν. ἰδεῖν δ’ ἔστι τοῦτο ἐπὶ τῶν ὀργάνων· αἱ γὰρ λεπτότεραι χορδαὶ ὀξύτεραί εἰσι, τῶν ἄλλων τῶν αὐτῶν ὑπαρχόντων αὐταῖς.

Διὰ τί ἡ φωνὴ ὀξυτέρα φαίνεται τοῖς μακροτέραν ἀφεστηκόσι, τοῦ ὀξέος ὄντος ἐν τῷ ταχέως φέρεσθαι; τὸ δὲ μακροτέρω φερόμενον βραδύτερον κινεῖται. ἢ ὅτι ἡ ὀξύτης τῆς φωνῆς οὐ μόνον ἐστὶν ἐν τῷ ταχέως κινεῖσθαι, ἀλλὰ καὶ ἐν τῷ λεπτότατον ψόφον γίνεσθαι· τοῖς δὲ μακροτέραν ἀφεστηκόσιν ἀεὶ λεπτοτέρα ἡ φωνὴ ἀφικνεῖται διὰ τὴν ὀλιγότητα τοῦ ἀέρος τοῦ κινουμένου. μαραίνεται γὰρ ἡ κίνησις, μαραινόμενος δὲ ὁ ἀριθμὸς μὲν εἰς τὸ ἓν τελευτᾷ, σῶμα δὲ εἰς διάστημα ἕν, ὅ ἐστιν ἐν σώματι λεπτότης. ὁμοίως δὲ [καὶ] ἐν φωνῇ.

Διὰ τί καὶ οἱ γεγυμνασμένοι καὶ οἱ ἀσθενεῖς ὀξὺ φθέγγονται; ἢ ὅτι οἱ μὲν ἀσθενεῖς ὀλίγον ἀέρα κινοῦσιν, ὁ δὲ ὀλίγος τοῦ πλείονος θᾶττον φέρεται· οἱ δὲ γεγυμνασμένοι ἰσχυρῶς κινοῦσι τὸν ἀέρα, ὁ δὲ ἰσχυρῶς κινούμενος ἀὴρ θᾶττον φέρεται. τὸ δὲ ταχὺ ἐν φορᾷ ἐν φωνῇ ὀξύ ἐστιν.

Διὰ τί τοῖς μετὰ τὰ σιτία κεκραγόσιν ἡ φωνὴ διαφθείρεται; [901b] καὶ πάντας ἂν ἴδοιμεν τοὺς φωνασκοῦντας, οἷον ὑποκριτὰς καὶ χορευτὰς καὶ τοὺς ἄλλους τοὺς τοιούτους, ἕωθέν τε καὶ νήστεις ὄντας τὰς μελέτας ποιουμένους. ἢ τὸ διαφθείρεσθαι τὴν φωνὴν οὐθὲν ἕτερόν ἐστιν ἢ τὸν τόπον διαφθείρεσθαι καθ’ ὃν τὸ πνεῦμα διεξέρχεται; διὸ καὶ οἱ βραγχιῶντες διαφθείρονται τὰς φωνάς, οὐ τῷ τὸ πνεῦμα γίνεσθαι χεῖρον, ὃ ποιεῖ τὴν φωνήν, ἀλλὰ τῷ τετραχύνθαι τὴν ἀρτηρίαν. ὑπὸ δὲ τῆς θερμασίας τῆς σφοδρᾶς μάλιστα τραχύνεσθαι πέφυκεν ὁ τόπος οὗτος. διὸ καὶ οὔθ’ οἱ πυρέττοντες οὔτε οἱ σφόδρα πεπυρεχότες εὐθὺς μετὰ τὴν ἄνεσιν τοῦ πυρετοῦ ᾄδειν δύνανται· τετράχυνται γὰρ ὁ φάρυξ αὐτοῖς διὰ τὴν θερμασίαν. ἀπὸ δὲ τῶν σιτίων εἰκὸς εἶναι τὸ πνεῦμα καὶ πολὺ καὶ θερμόν· τὸ δὲ τοιοῦτον εὔλογόν ἐστι διεξιὸν ἑλκοῦν τε καὶ τραχύνειν τὴν ἀρτηρίαν· τούτου δὲ συμβαίνοντος εἰκότως ἡ φωνὴ διαφθείρεται.

Διὰ τί, εἴπερ ἡ φωνή ἐστιν ἀήρ τις ἐσχηματισμένος καὶ φερόμενος, διαλύεται πολλάκις τὸ σχῆμα, ἡ δὲ ἠχώ, ἣ γίνεται πληγέντος τοῦ τοιούτου πρός τι στερεόν, οὐ διαλύεται αὕτη, ἀλλὰ σαφῶς ἀκούομεν αὐτῆς; ἢ ὅτι ἀνάκλασίς ἐστιν, ἀλλ’ οὐ κατάκλασις; οὕτω δὲ τό θ’ ὅλον διαμένει, καὶ δύο μέρη ὁμοιοσχήμονα ἐξ αὐτοῦ γίνεται· πρὸς ὁμοίαν γὰρ γωνίαν ἐστὶν ἡ ἀνάκλασις. διὸ καὶ ὁμοία γίνεται ἡ τῆς ἠχοῦς φωνὴ τῇ ἐξ ἀρχῆς.

Διὰ τί τῶν μὲν ἄλλων ζῴων τὰ νέα καὶ νήπια ὀξύτερον φθέγγονται τῶν τελείων, οἱ δὲ μόσχοι βαρύτερον τῶν τελείων βοῶν; ἢ ὅτι ἐν ἑκάστῳ γένει τὸ νήπιον ὅμοιόν ἐστι τῷ ἐν αὐτῷ θήλει; τῶν βοῶν δὲ αἱ θήλειαι βαρύτερον φθέγγονται τῶν ἀρρένων, οἱ δὲ μόσχοι ταύταις ὁμοιότεροί εἰσιν ἢ τοῖς ἄρρεσιν· τὰ δὲ ἄλλα τοὐναντίον.

Διὰ τί, ὅταν ἀχυρωθῶσιν αἱ ὀρχῆστραι, ἧττον οἱ χοροὶ γεγώνασιν; ἢ διὰ τὴν τραχύτητα προσπίπτουσα ἡ φωνὴ οὐ πρὸς λεῖον τὸ ἔδαφος ἧττον γίνεται μία, ὥστ᾽ ἐλάττων; οὐ γὰρ συνεχής. ὥσπερ καὶ τὸ φῶς ἐπὶ τῶν λείων μᾶλλον [φαίνει] διὰ τὸ μὴ διαλαμβάνεσθαι τοῖς ἐμποδίζουσιν.

[902a] Διὰ τί ποτε ὁ ἅλς, ὅταν εἰς πῦρ ἐμβληθῇ, ψοφεῖ; ἢ ὅτι ὁ ἅλς ὑγρὸν ἔχει οὐ πολύ, ὃ ὑπὸ τοῦ θερμοῦ ἐκπνευματούμενον καὶ βίᾳ ἐκπῖπτον σχίζει τὸν ἅλα; τὸ δὲ σχιζόμενον ἅπαν ψοφεῖ.

Διὰ τί ποτε τῶν παιδίων ἔνια, πρὶν ἥκειν τὴν ἡλικίαν ἐν ᾗ σαφηνίζειν ὥρα αὐτοῖς, φθεγξάμενα καὶ σαφῶς εἰπόντα πάλιν ὁμοίως διάγουσιν, ἕως ἂν ἔλθῃ ὁ εἰωθὼς χρόνος; ἃ δὴ πολλοὶ τέρατα νομίζουσιν εἶναι. ἤδη δ᾽ ἔνια λέγεται καὶ εὐθὺς γινόμενα φθέγξασθαι. ἢ ὅτι ὡς μὲν ἐπὶ πολὺ τὰ πλείω τε τῶν γινομένων γίνεται κατὰ φύσιν, διὸ ὀλίγοις τοῦτο συμβαίνει, καὶ φύσει ἅμα κατάλληλα τελειοῦται· διὸ καὶ ἀκούει τε ἅμα καὶ φωνεῖ καὶ ξυνίησι κατὰ τὴν ἀκοὴν καὶ λέγει καὶ σαφηνίζει. οὐ μὴν ἀλλὰ πολλάκις οὐκ ἀπαρτίζει τὰ αὐτά, ἀλλὰ τὰ μὲν ξυνίησι πρότερον ἢ τοῦτο τὸ μόριον ἀπολυθῆναι ᾧ διαλέγεται, τοῖς δὲ τοὐναντίον. ταῦτα μὲν οὖν οὐκ ἂν διαλεχθείη συνετῶς (ἃ γὰρ ἂν ἀκούσωσι, διαλέγονται)· ἀλλ᾽ ὅταν ἥκῃ καιρὸς ἀμφοῖν, ἀποδιδόασι τὸ κατὰ φύσιν. ὅσοις δὲ ἔμπροσθεν ἡ κατὰ τὴν ἀκοὴν αἴσθησις διακριβοῦται ἐν τῇ ψυχῇ, ᾧ πρώτῳ κινοῦσι τὴν φωνὴν καὶ ποιοῦσι λόγον, τούτοις ἐνίοτε γίνεται ἤδη ξυνιεῖσι πολλὰ καὶ δύναμίς τις τοῦ μορίου καὶ ἀπόλυσις, μάλιστα μὲν μετὰ ὕπνον τινά (τούτου δ᾽ αἴτιον ὅτι ὁ ὕπνος καὶ τὰ σώματα νωθρότερα ποιεῖ καὶ τὰ μόρια ἀναπαύσας), εἰ δὲ μή, καὶ ἄλλην μεταβολὴν λαβόντα τοιαύτην. πολλὰ δὲ ἔχομεν τοιαῦτα ποιεῖν, ἃ μικρῶν δεῖται καιρῶν· κἄπειτα οὐκέτι ὁμοίως ἔχει, ὅταν οὕτω τύχῃ τὸ μόριον ἔχον καὶ ἀπολυθέν· ὅταν ἐπιπολῆς ᾖ ἐν τῇ αἰσθήσει ὧν ἐκινήθη διάνοια, κατὰ τὴν ἀκοὴν τοῦτο ἐπανῆλθε καὶ ἐφθέγξατο. πολλάκις δὲ καὶ μέλη καὶ ῥήματα ἐπέρχεται οὐκ ἐκ προαιρέσεως ἡμῖν· ἀλλ᾽ ἐὰν τὸ πρῶτον προελόμενοι εἴπωμεν, ὕστερον ἄνευ προαιρέσεως λέγομεν ἢ ᾄδομεν, καὶ οὐ δύναται ἐκ τοῦ στόματος ἐξελθεῖν. οὕτω καὶ τοῖς παιδίοις, ὅταν συμβῇ τοῦτο λεπτόν, εἶτα πάλιν καταστῇ εἰς τὴν φύσιν ἐκεῖνο τὸ μόριον, ἕως ἂν ἡ ὥρα ἔλθῃ ἰσχῦσαι αὐτὸ καὶ ἀποκριθῆναι.

Διὰ τί ἔνια ψοφεῖ καὶ κινεῖται ἐξαίφνης, οἷον τὰ κιβώτια, οὐδενὸς αἰσθητοῦ κινοῦντος; καίτοι κρεῖττον γέγονε τὸ κινοῦν τοῦ κινουμένου. ὁ δὲ αὐτὸς λόγος καὶ φθορᾶς καὶ γήρως· ὑπὸ ἀναισθήτου γὰρ φθείρεται τὰ λεγόμενα ὑπὸ [902b] τοῦ χρόνου πάντα. ἢ ὅμοιον τοῦτο τοῖς σταλαγμοῖς καὶ τοῖς ὑπὸ τῶν ἐκφυομένων αἰρομένοις λίθοις; οὐ γὰρ τὸ τελευταῖον αἴρει ἢ κινεῖ, ἀλλὰ τὸ συνεχές. ἐπὶ δὲ τούτου συνέβη ἀναισθήτου ὄντος αἰσθητὴν γίνεσθαι τὴν κίνησιν. οὕτω δὲ καὶ τὸ περιεχόμενον αἰσθητοῖς χρόνοις κινεῖται καὶ διαιρεῖται εἰς ἀναίσθητα, τῷ δὲ παντὶ καὶ συνεχεῖ ἐκίνησε καὶ διέφθειρεν. συνεχὲς δέ ἐστιν οὐκ ἐν τῷ νῦν, ἀλλ’ ἐν τῷ ὡρισμένῳ χρόνῳ ὑπὸ τοῦ νῦν.

Διὰ τί οἱ χασμώμενοι ἧττον ἀκούουσιν; ἢ ὅτι τοῦ ἐξιόντος πνεύματος ἐν τῇ χάσμῃ πολὺ καὶ εἰς τὰ ὦτα χωρεῖ ἔσωθεν, ὥστε καὶ τῇ αἰσθήσει ἐπίδηλον εἶναι τὴν κίνησιν ἣν ποιεῖ περὶ τὴν ἀκοήν, μάλιστα δ’ ἐκ τῶν ὕπνων; ὁ δὲ ψόφος ἀὴρ ἢ πάθος ἀέρος ἐστίν. ἀντιπαίοντος οὖν τοῦ ἔσωθεν εἰσέρχεται ὁ ἔξωθεν ψόφος, καὶ ὑπὸ τῆς κινήσεως καὶ τοῦ ἔξωθεν ψόφου ἐκκρούεται ἡ κίνησις.

Διὰ τί ἰσχνόφωνοι παῖδες ὄντες μᾶλλον ἢ ἄνδρες; ἢ ὥσπερ καὶ τῶν χειρῶν καὶ τῶν ποδῶν ἀεὶ ἧττον κρατοῦσι παῖδες ὄντες, καὶ ὅσοι ἐλάττους οὐ δύνανται βαδίζειν, ὁμοίως καὶ τῆς γλώττης οἱ νεώτεροι οὐ δύνανται; ἐὰν δὲ παντάπασι μικροὶ ὦσιν, οὐδὲ φθέγγεσθαι δύνανται ἀλλ’ ἢ ὥσπερ τὰ θηρία, διὰ τὸ μὴ κρατεῖν. εἴη δ’ ἂν οὐ μόνον ἐπὶ τοῦ ἰσχνοφώνου, ἀλλὰ καὶ τραυλοὶ καὶ ψελλοί. ἡ μὲν οὖν τραυλότης τῷ γράμματός τινος μὴ κρατεῖν, καὶ τοῦτο οὐ τὸ τυχόν, ἡ δὲ ψελλότης τῷ ἐξαίρειν τι, ἢ γράμμα ἢ συλλαβήν, ἡ δὲ ἰσχνοφωνία ἀπὸ τοῦ μὴ δύνασθαι ταχὺ συνάψαι τὴν ἑτέραν συλλαβὴν πρὸς τὴν ἑτέραν. ἅπαντα δὲ δι’ ἀδυναμίαν· τῇ γὰρ διανοίᾳ οὐχ ὑπηρετεῖ ἡ γλῶττα. ταὐτὸ δὲ τοῦτο καὶ οἱ μεθύοντες πάσχουσι καὶ οἱ πρεσβῦται· ἧττον δὲ πάντα συμβαίνει.

Διὰ τί ἡ φωνὴ τρέμει καὶ τῶν ἀγωνιώντων καὶ τῶν δεδιότων; ἢ ὅτι σείεται ἡ καρδία τοῦ θερμοῦ ἐξιόντος; ἀμφοτεράκις δὲ πάσχουσι τοῦτο· καὶ γὰρ τοῖς ἀγωνιῶσι συμβαίνει καὶ τοῖς φοβουμένοις. σειομένης δὲ οὐ γίνεται μία ἡ πληγὴ ἀλλὰ πλείους, ὥσπερ ἡ τῶν παρανενευρισμένων χορδῶν.

Διὰ τί οἱ μὲν ἀγωνιῶντες βαρὺ φθέγγονται, οἱ δὲ φοβούμενοι ὀξύ; ἢ ὅτι τοῖς μὲν φοβουμένοις καταψύχεται ὁ τόπος ὁ περὶ τὴν καρδίαν, κάτω ὁρμῶντος τοῦ θερμοῦ, ὥστε ὀλίγον ἀέρα κινοῦσιν; ἡ γὰρ ἰσχὺς ἐν τῷ θερμῷ· τοῖς [903a] δὲ ἄνω φέρεται τὸ θερμόν, ὥσπερ τοῖς αἰσχυνομένοις· δι’ αἰσχύνην γὰρ καὶ ἀγωνιῶσιν. τοῖς δὲ αἰσχυνομένοις ἄνω φέρεται πρὸς τὸ πρόσωπον· σημεῖον δὲ ὅτι ἐξέρυθροι γίνονται μᾶλλον. συντήκει οὖν καὶ παχὺν ποιεῖ τὸν ἀέρα ᾧ φθέγγονται· ὁ δὲ τοιοῦτος βραδέως ὠθεῖται· τὸ δὲ βραδὺ ἐν φωνῇ βαρύ ἐστιν.

Διὰ τί εὐηκοωτέρα ἡ νὺξ τῆς ἡμέρας ἐστίν; πότερον ὥσπερ Ἀναξαγόρας φησί, διὰ τὸ τῆς μὲν ἡμέρας σίζειν καὶ ψοφεῖν τὸν ἀέρα θερμαινόμενον ὑπὸ τοῦ ἡλίου, τῆς δὲ νυκτὸς ἡσυχίαν ἔχειν ἅτε ἐκλελοιπότος τοῦ θερμοῦ, εἶναι δὲ μᾶλλον ἀκουστὸν μηθενὸς ὄντος ψόφου; ἢ ὅτι διὰ τοῦ κενωτέρου μᾶλλον ἀκουστόν ἐστιν ἢ διὰ τοῦ πλήρους; ἔστι δὲ τῆς μὲν ἡμέρας ὁ ἀὴρ πυκνὸς ἅτε πεπληρωμένος ὑπὸ τοῦ φωτὸς καὶ τῶν ἀκτίνων, τῆς δὲ νυκτὸς ἀραιότερος διὰ τὸ ἀπεληλυθέναι ἐξ αὐτοῦ τὸ πῦρ καὶ τὰς ἀκτῖνας, σώματα ὄντα. ἢ ὅτι τῆς μὲν ἡμέρας τὰ σώματα πρὸς πολλὰ τὴν διάνοιαν ἕλκει· διὸ οὐκ εὐκρινές ἐστι πρὸς τὴν ἀκοήν. καὶ τῷ πράττειν ἡμᾶς πάντα μᾶλλον ἐν τῇ ἡμέρᾳ ἢ τῇ νυκτί, καὶ αὐτὰ περὶ τὰς πράξεις ἐστίν. χωρισθεῖσα δὲ αἴσθησις διανοίας καθάπερ ἀναίσθητον πόνον ἔχει, ὥσπερ εἴρηται τὸ νοῦς ὁρᾷ καὶ νοῦς ἀκούει. νυκτὸς δὲ τῆς ὄψεως ἀργούσης καὶ τῆς διανοίας μᾶλλον ἠρεμούσης ὁ τῆς ἀκοῆς πόρος μᾶλλον ἀνεῳγμένος, καθάπερ τῆς ἡμέρας, δεκτικὸς μέν ἐστι τῶν ἤχων ὁμοίως, ἐξαγγελτικὸς δὲ μᾶλλον τῇ διανοίᾳ διὰ τὸ μήτε αὐτὴν ἐνεργεῖν μήθ’ ὑπὸ τῆς ὄψεως παρενοχλεῖσθαι, καθάπερ καὶ τῆς ἡμέρας.

Διὰ τί οἱ ἄγονοι, οἷον παῖδες καὶ γυναῖκες καὶ οἱ ἤδη γέροντες καὶ οἱ εὐνοῦχοι, ὀξὺ φθέγγονται, οἱ δὲ ἄνδρες βαρύτερον; ἢ δι’ ἀσθένειαν τοῦ κινοῦντος μορίου τὸν ἀέρα; ὀλίγον γὰρ τὸ ἀσθενὲς κινεῖ, ὁ δὲ ὀλίγος ταχὺ φέρεται, τὸ δὲ ταχὺ φερόμενον ὀξύ. ἢ διότι ὁ πόρος ὁ πρῶτος, δι’ οὗ ἡ φωνὴ φέρεται, τοῖς μὲν ἀγόνοις μικρός, ὥστε ὀλίγον ἐξ αὐτοῦ τὸ ὠθοῦν τὸν ἀέρα, ὀλίγος δὲ ὢν ταχὺ φέρεται δι’ εὐρέος τοῦ ἄνω φάρυγγος· ἀκμάζουσι δὲ καὶ ἀνδρουμένοις διίσταται οὗτος, ὥσπερ καὶ ἐπὶ τοὺς ὄρχεις, ὥστε καὶ πλείων ἐστὶν ὁ ὠθούμενος. βραδύτερον οὖν διιὼν βαρὺς γίνεται.

Διὰ τί οἱ ἰσχνόφωνοι οὐ δύνανται διαλέγεσθαι μικρόν; [903b] ἢ ὅτι ἴσχονται τοῦ φωνεῖν, ἐμποδίζοντός τινος; οὐκ ἴσης δὲ ἰσχύος οὐδ’ ὁμοίας κινήσεως, μὴ ἐμποδίζοντός τε τὴν κίνησιν μηδενὸς καὶ ἐμποδίζοντος, βιάσασθαι δεῖ. ἡ δὲ φωνὴ κίνησίς ἐστι· μεῖζον δὲ φθέγγονται μᾶλλον οἱ τῇ ἰσχύϊ χρώμενοι. ὥστ’ ἐπεὶ ἀνάγκη ἀποβιάζεσθαι τὸ κωλῦον, ἀνάγκη μεῖζον φθέγγεσθαι τοὺς ἰσχνοφώνους.

Διὰ τί δὲ ἀγωνιῶντες μὲν μᾶλλον ἰσχνόφωνοι γίνονται, ἐν δὲ ταῖς μέθαις ἧττον; ἢ ὅτι ἀποπληξίᾳ ὅμοιόν ἐστι τὸ πάθος μέρους τινὸς τῶν ἐντός, ὃ ἀδυνατοῦσι κινεῖν, ἐμποδίζοντος διὰ τὴν κατάψυξιν; ὁ μὲν οὖν οἶνος φύσει θερμὸς ὢν λύει τὴν κατάψυξιν μᾶλλον, ἡ δὲ ἀγωνία ποιεῖ· φόβος γάρ τις ἡ ἀγωνία, ὁ δὲ φόβος κατάψυξις.

Διὰ τί ἔξωθεν εἰς τὰς οἰκίας εἰσακούεται μᾶλλον ἢ ἔσωθεν ἔξω; ἢ ὅτι ἔσωθεν ὁ ψόφος διὰ τὸ ἀχανὲς εἶναι διασπᾶται, ὥστε οὐχ ἱκανὸν ἕκαστον μέρος ἀκουσθῆναι, ἢ ἧττον; ἔξωθεν δὲ ἔσω εἰς ἐλάττω τόπον καὶ ἀέρα ἑστῶτα ἡ φωνὴ βαδίζουσα ἀθρόα ἔρχεται, ὥστε μείζων οὖσα ἀκούεται μᾶλλον.

Διὰ τί οἱ ἰσχνόφωνοι μελαγχολικοί; ἢ ὅτι τὸ τῇ φαντασίᾳ ἀκολουθεῖν ταχέως τὸ μελαγχολικὸν εἶναι ἐστίν, οἱ δὲ ἰσχνόφωνοι τοιοῦτοι· προτερεῖ γὰρ ἡ ὁρμὴ τοῦ λέγειν τῆς δυνάμεως αὐτοῖς, ὡς θᾶττον ἀκολουθούσης τῆς ψυχῆς τῷ φανέντι. καὶ οἱ τραυλοὶ δὲ ὡσαύτως· βραχύτερα γὰρ τὰ μόρια ταῦτα τοῖς τοιούτοις. σημεῖον δέ· οἰνωμένοι γὰρ τοιοῦτοι γίνονται, ὅτε μάλιστα τοῖς φαινομένοις ἀκολουθοῦσι, καὶ οὐ τῷ οἴνῳ.

Διὰ τί τὰ πράσα συμφέρει πρὸς εὐφωνίαν, ἐπεὶ καὶ τοῖς πέρδιξιν; ἢ ὅτι καὶ τὰ σκόροδα ἑφθὰ λεαίνει, τὰ δὲ πράσα γλισχρότητα ἔχει τινά; ῥυπτικὸν δὲ τοῦ φάρυγγος.

Διὰ τί τὰ μὲν ἄλλα ὀξύτερον φθέγγεται σφοδρότερα ὄντα, ὁ δὲ ἄνθρωπος ἀσθενῶν; ἢ διότι ἐλάττω κινεῖ ἀέρα, οὗτος δὲ ταχὺ διέρχεται, τὸ δὲ ταχὺ ὀξὺν ποιεῖ τὸν ψόφον.

Διὰ τί ἀκούουσι μᾶλλον κατέχοντες τὸ πνεῦμα ἢ ἐκπνέοντες; διὸ καὶ ἐν ταῖς θήραις παραγγέλλουσιν ἑαυτοῖς μὴ πνευστιᾶν. πότερον ὅτι τὸ αἰσθητικὸν ἄνω ἔρχεται αἱρομένων τῶν φλεβῶν; καθευδόντων γὰρ κάτω· διὸ καὶ μᾶλλόν τε ἐκπνέουσι καθεύδοντες ἢ εἰσπνέουσι, καὶ ἀνήκοοί εἰσιν. [904a] ἢ καὶ τὸ αἷμα ἀνέρχεται ἐκπεπνευκότος, ὥστε κενοῦται τὰ ἄνω; ἀκούουσι δὲ τῷ κενῷ. ἢ ὅτι ὁ φυσιασμὸς ψόφος τίς ἐστιν, οὗτος δὲ ἐν τῷ ἐκπνεῖν γινόμενος κωλύει ἀκούειν.

Διὰ τί θᾶττον μὲν ψοφοῦσι καὶ πηδῶσιν οἱ μικροὶ ἅλες, μείζω δὲ ψοφοῦσι καὶ πηδῶσιν οἱ μεγάλοι; ἢ διότι οἱ μὲν ταχὺ σχίζονται (οὐ γὰρ πολὺ ὃ δεῖ διελθεῖν τῷ πυρί) διὰ τὴν μικρότητα, οἱ δὲ βραδέως· μεῖζον γὰρ ἔργον τὸ μεῖζον διασχίσαι ἢ τὸ μικρόν. ψοφεῖ δὲ ὁ μὲν μικρὸς μικρόν, ἡ γὰρ πληγὴ μικρά, ὁ δὲ μείζων μεγάλα, μεγάλη γὰρ ἡ πληγή· ὁ δὲ ψόφος πληγή ἐστιν. καὶ πηδᾷ δὲ μᾶλλον τὸ ἰσχυρότερον, ἂν πληγῇ· ἧττον γὰρ ἐνδίδωσιν.

Διὰ τί, ἐὰν εἰς πολὺ πῦρ ἐμβάλλῃ τις τὸ αὐτὸ μέγεθος ἁλός, ἧττον ψοφεῖ ἢ οὐ ψοφεῖ; ἢ ὅτι φθάνει κατακαυθεὶς πρὶν σχισθῆναι; καίεται μὲν γὰρ τῷ τὸ ὑγρὸν ἀναλωθῆναι, ψοφεῖ δὲ τῷ σχισθῆναι.

Διὰ τί οἱ χασμώμενοι ἧττον ἀκούουσιν; ἢ ὅτι τὸ πνεῦμα ἐναπολαμβάνουσιν, τὸ δὲ ἀπολαμβανόμενον πνεῦμα περὶ τὰ ὦτα ἀθροίζεται. σημεῖον δέ· ἐν γὰρ τοῖς ὠσὶ ψόφος γίνεται ὅταν χασμησώμεθα. τὸ δὲ ἀπολαμβανόμενον πνεῦμα κωλύει ἀκούειν. ἔτι δὲ καὶ φωνή τις γίνεται τῶν χασμωμένων· τοῦτο δὲ κωλυτικὸν τοῦ ἀκούειν. καὶ συμπιέζεσθαι ἀναγκαῖον τὰς ἀκοὰς διασπωμένου τοῦ στόματος.

Διὰ τί τῆς φωνῆς, ἐπειδὴ ῥύσις τίς ἐστι, φύσιν ἐχούσης ἄνω φέρεσθαι, μᾶλλόν ἐστιν εὐήκοος ἄνωθεν κάτω ἢ κάτωθεν ἄνω; ἢ ὅτι ἡ φωνὴ ἀήρ τίς ἐστι μεθ’ ὑγροῦ· βαρυνόμενος οὖν οὗτος ὑπὸ τοῦ ὑγροῦ φέρεται κάτω καὶ οὐκ ἄνω· τοῦ γὰρ ὑγροῦ κατὰ φύσιν ἡ κάτω φορά. διὸ τοῖς κάτω μᾶλλον ἀκούεται. ἢ τοῦτο μὲν ὑπὸ τῆς τοῦ ζῴου φωνῆς μόνον γίνεται (αὕτη γὰρ μεθ’ ὑγροῦ), τὸ δὲ συμβαῖνόν ἐστι καὶ ἐπὶ τῶν ἄλλων ψόφων; καθάπερ οὖν ἡ ὄψις, ἐὰν μὲν ἄνωθεν κάτω προσπέσῃ, τὴν ἀνάκλασιν ἄνω ποιεῖται, κάτωθεν δὲ ἄνω προσπεσοῦσα ἀνεκλάσθη κάτω, τὸν αὐτὸν τρόπον ἡ φωνὴ ἡ φύσιν ἔχουσα ἄνω φέρεσθαι, προσκόψασα τῷ ἐξ ἐναντίας ἀέρι, βιάζεσθαι μὲν οὐ δύναται πλείονα ὄντα καὶ βαρύτερον, ἀνακλασθεὶς δὲ ὁ κινηθεὶς ἀὴρ ἐπὶ τοὐναντίον ἠνέχθη κάτω, διὸ καταχεόμενος ἀκούεται κάτω μᾶλλον. τοιοῦτο δὲ καὶ τὸ περὶ τὴν ἠχὼ συμβαῖνον ἐστίν, ἀνάκλασις τῆς φωνῆς ἐπὶ τοὐναντίον.

[904b] Διὰ τί μεθυόντων μᾶλλον ἀπορρήγνυται ἡ φωνὴ ἢ νηφόντων; ἢ διὰ τὸ πεπληρῶσθαι ταχέως ἀπορρηγνύασι τὴν φωνήν; σημεῖον δὲ τούτου· οὔτε γὰρ οἱ χοροὶ μελετῶσιν ἐξ ἀρίστου οὔτε οἱ ὑποκριταί, ἀλλὰ νήστεις ὄντες. ἐν δὲ τῇ μέθῃ πληρέστεροι ὄντες εὐλόγως μᾶλλον ἀπορρήγνυνται τὰς φωνάς.

Διὰ τί ποτε τῶν ὀξυτέρων φωνῶν πορρώτερον ἀκούουσιν; ἢ διότι τὸ ὀξὺ ἐν φωνῇ ταχύ ἐστι, θᾶττον δὲ κινεῖται τὰ βίᾳ μᾶλλον φερόμενα, τὰ δὲ σφοδρότερον φερόμενα ἐπὶ πλέον φέρεται.

Διὰ τί κατέχοντες τὸ πνεῦμα μᾶλλον ἀκούομεν; ἢ ὅτι ἡ ἀνάπνευσις ψόφον τινὰ παρέχει. εἰκότως οὖν τότε μᾶλλον ἀκούομεν, ὅταν ἧττων ὁ ψόφος ᾖ· ἧττων γὰρ ὁ ψόφος, ὅταν κατέχωμεν τὸ πνεῦμα.

Διὰ τί τὸ μὲν φῶς οὐ διέρχεται διὰ τῶν πυκνῶν, λεπτότερον ὂν καὶ πόρρω ὂν καὶ θᾶττον, ὁ δὲ ψόφος διέρχεται; ἢ διότι τὸ μὲν φῶς κατ’ εὐθεῖαν φέρεται, ὥστε ἂν ἀντιφράξῃ τι τὴν εὐθυωρίαν, ὅλως ἀποκέκλεισται, ὁ δὲ ψόφος φέρεται καὶ οὐκ εὐθὺ διὰ τὸ πνεῦμα εἶναι; διὸ πανταχόθεν ψοφοῦντες ἀκούομεν, καὶ οὐ μόνον τῶν κατ’ εὐθυωρίαν τοῖς ὠσίν.

Διὰ τί ποτε οἱ μὲν γελῶντες βαρὺ φθέγγονται, οἱ δὲ κλαίοντες ὀξύ; ἢ διότι ἀπὸ τῶν συντόνων ὀξεῖα ἡ φωνή, τὸ δὲ ὀξύ ἐστιν ἀσθενές; ἄμφω δὲ ταῦτα μᾶλλον τοῖς κλαίουσιν ὑπάρχει· καὶ γὰρ συντέτανται μᾶλλον οἱ κλαίοντες καὶ ἀσθενέστεροί εἰσιν.

Διὰ τί, εἴπερ ἡ φωνὴ ἀήρ τις ἐσχηματισμένος ἐστί, φερομένη διαλύεται πολλάκις τὸ σχῆμα, ἡ δὲ ἠχώ, ἣ γίνεται πληγέντος τοῦ τοιούτου πρός τι στερεόν, οὐ διαλύεται, ἀλλὰ σαφῶς ἀκούομεν; ἢ διότι ἀνάκλασίς ἐστιν, οὐ κατάκλασις; τοῦτο δὲ ὅλον ἀφ' ὅλου. εἶτα τὸ πάθος ἀφ' ὁμοίου· ἀπὸ γὰρ τοῦ ἀέρος ἀνακλᾶται ἐν τῷ κοίλῳ, οὐκ ἀπὸ τοῦ κοίλου.

Διὰ τί ἑνός τε καὶ πολλῶν φθεγγομένων ἅμα οὔτε ἴσος ὁ φθόγγος, οὔτε ἐπὶ πλεῖον γεγωνόσιν ὡς κατὰ λόγον εἰς τὸ πόρρω; ἢ ὅτι ἕκαστος τὸν καθ' αὑτὸν ἀέρα προωθεῖ, ἀλλ' οὐ τὸν αὐτόν, πλὴν ἐπὶ μικρόν; ὅμοιον δὴ συμβαίνει ὥσπερ ἂν εἰ πολλοὶ μὲν εἶεν οἱ βάλλοντες, ἕκαστος μέντοι λίθῳ ἑτέρῳ, ἢ οἵ γε πλεῖστοι. οὔτε γὰρ ἐκεῖ πόρρω [905a] οὐθὲν ἀφίξεται βέλος, ἢ οὐ κατὰ λόγον, οὔτε ἐνταῦθα. οὐ γὰρ ἑνὸς ἡ τοσαύτη φωνὴ ἀλλὰ πολλῶν. ἐγγύθεν μὲν οὖν κατὰ λόγον πολλὴ φαίνεται ἡ φωνή (καὶ γὰρ τὰ βέλη πλείω τεύξεται τοῦ αὐτοῦ), πόρρωθεν δὲ οὐκέτι.

Διὰ τί ἀγωνιῶντες μὲν βαρύτερον φθέγγονται, φοβούμενοι δὲ ὀξύτερον; καίτοι καὶ ἡ αἰδὼς φόβος τίς ἐστιν. ἢ διαφέρει πολὺ τὸ πάθος; οἱ μὲν γὰρ αἰδούμενοι ἐρυθριῶσιν (ἡ δὲ ἀγωνία αἰσχύνη τίς ἐστιν), οἱ δὲ φοβούμενοι ὠχριῶσιν. φανερὸν οὖν ὅτι τοῖς μὲν φοβουμένοις ἐκλείπει ἄνωθεν τὸ θερμόν, ὥστε κινεῖ ἀσθενὲς ὂν ὀλίγον ἀέρα τὸ πνεῦμα, τὸ δὲ ὀλίγον ταχὺ φέρεται, τὸ δὲ ταχὺ ἐν φωνῇ τὸ ὀξύ· τοῖς δὲ αἰδουμένοις ἄνω ἔρχεται τὸ θερμὸν περὶ τὰ στήθη. σημεῖον δὲ ὅτι γίνονται ἐξέρυθροι. πολὺν δὲ κινεῖ ἀέρα ἡ πολλὴ δύναμις, τὸ δὲ πολὺ βραδέως φέρεται, τὸ δὲ βραδὺ ἐν φωνῇ βαρύ.

Διὰ τί ἰσχνόφωνοι γίνονται; ἢ αἴτιον ἡ κατάψυξις τοῦ τόπου ᾧ φθέγγονται, ἣ ὥσπερ ἀποπληξία τοῦ μέρους τούτου ἐστίν; διὸ καὶ θερμαινόμενοι ὑπὸ οἴνου καὶ τοῦ λέγειν συνεχῶς ῥᾷον συνείρουσι τὸν λόγον.

Διὰ τί μόνον τῶν ἄλλων ζῴων ἄνθρωπος γίνεται ἰσχνόφωνον; ἢ ὅτι λόγου κοινωνεῖ μόνον, τὰ δὲ ἄλλα φωνῆς; οἱ δὲ ἰσχνόφωνοι φωνοῦσι μέν, λόγον δὲ οὐ δύνανται συνείρειν.

Διὰ τί τοῦ μὲν χειμῶνος ὀξύτερον φθέγγονται καὶ νήφοντες, θέρους δὲ καὶ μεθύοντες βαρύτερον; ἢ ὅτι ὀξυτέρα μέν ἐστιν ἡ ταχυτέρα, ταχυτέρα δέ ἐστιν ἡ ἀπὸ συντεταμένου φωνή; τῶν δὲ νηφόντων καὶ ἐν τῷ χειμῶνι τὰ σώματα συνέστηκε μᾶλλον ἢ μεθυόντων καὶ ἐν τῷ θέρει· τὸ γὰρ θερμὸν καὶ αἱ ἀλέαι διαλύουσι τὰ σώματα.

Διὰ τί ἡ φωνὴ ὕστατον τελειοῦται τοῖς ἀνθρώποις τῶν φθεγγομένων; ἢ διότι πλείστας ἔχει διαφορὰς καὶ εἴδη; τὰ γὰρ ἄλλα ζῷα ἢ οὐθὲν γράμμα ἢ ὀλίγα διαλέγονται. τὸ δὲ ποικιλώτατον καὶ πλείστας ἔχον διαφορὰς ἀνάγκη ἐν πλείστῳ χρόνῳ ἀποτελεῖσθαι.

Διὰ τί ἡ μὲν ὄψις οὐ διέρχεται διὰ τῶν στερεῶν, ἡ δὲ φωνὴ διέρχεται; ἢ ὅτι τῆς μὲν ὄψεως μία φορὰ ἡ κατ’ εὐθεῖαν (σημεῖον δὲ αἵ τε τοῦ ἡλίου ἀκτῖνες, καὶ ὅτι ἐξ ἐναντίας μόνον ὁρῶμεν), τῆς δὲ φωνῆς πολλαί; ἀκούομεν γὰρ πανταχόθεν. ὅταν οὖν κωλυθῇ κατ’ εὐθεῖαν ἐκπίπτειν διὰ τὸ μὴ κατ’ ἀλλήλους εἶναι τοὺς πόρους, ἀδυνατεῖ διορᾶν.

[905b] ὁ δὲ ἀὴρ καὶ ἡ φωνή, ἅτε πανταχοῦ φερομένη, διὰ παντὸς διαπίπτει καὶ ἀκούεται. ἐν δὲ τοῖς ὑγροῖς αἱ μὲν ὄψεις διορῶσιν, αἱ δὲ φωναὶ οὐκ ἀκούονται ἢ μόλις, λεπτοτέρου ὄντος τοῦ ὑγροῦ ἢ τῆς γῆς, ὅτι οἱ πόροι μικροὶ καὶ πυκνοὶ καὶ κατ’ ἀλλήλους, ὥστε οὐ κωλύεται ἡ ὄψις εὐθυπορεῖν. διὰ τοῦτο καὶ διὰ μὲν τῆς ὑέλου διορᾶται πυκνῆς οὔσης, διὰ δὲ τοῦ νάρθηκος ἀραιοῦ ὄντος οὐ διορᾶται. ἔτι τῆς μὲν οἱ πόροι κατάλληλοι, τῶν δὲ παραλλάττοντες· οὐδὲν δ’ ὄφελος εἶναι μεγάλους, ἐὰν μὴ κατ’ εὐθεῖαν ὦσιν. ἡ δὲ φωνὴ οὐκ ἀκούεται, ὅτι ἐλάττω τὰ διάκενα τὰ ἐν τῷ ὕδατι τοῦ ἀέρος, ὥστε οὐ δύναται δέχεσθαι, οὐδὲ μεῖναι τὴν φωνήν, ἀλλὰ μόλις ἡ μετὰ φωνῆς. ἡ γὰρ φωνὴ ἀήρ τις. οὐ γὰρ ἅπαν τὸ μανότερον διιτικώτερον, ἂν μὴ καὶ οἱ πόροι ὦσιν ἁρμόττοντες τῷ διιόντι. ὥστ’ οὐδὲ συνιτικώτερον εἰς αὑτό, ἂν μὴ δεκτικοὶ ὦσιν οἱ πόροι τῶν σωμάτων. καίτοι τὸ μανὸν μαλακὸν καὶ δυνάμενον εἰς αὑτὸ συνιέναι. ἀλλ’ ἔνια κωλύεται διὰ τὴν μικρότητα τῶν πόρων, οἷον ἡ ὕελος· ταύτης γὰρ οὐ συνάγονται, μανοτέρας οὔσης τοῦ νάρθηκος, διὰ τὴν εἰρημένην αἰτίαν. ὁμοίως δὲ καὶ τὸ ὕδωρ καὶ εἴ τι ἄλλο τοιοῦτον. ὥστε καὶ τόδε φανερόν, διότι τοῦ μανοῦ καὶ μαλακοῦ ἢ αὐτοῦ ὄντος ἢ παραπλησίου τὴν φύσιν, οὐ τὸ μανότερον μᾶλλον συνάγεται εἰς αὑτό· ἡ γὰρ αὐτὴ αἰτία πάντων.

Διὰ τί γίνεται ἐλάττων μὲν ἡ φωνὴ ἐξαιρουμένων, ὁμοία δὲ τὸν χαρακτῆρα; ἢ ὅτι ἐμέμικτο αὐτοῖς; τὸ δὲ μεμιγμένον οὐ τῇ μέν ἐστι τῇ δὲ οὔ, ἀλλὰ πάντῃ. ὁμοίως οὖν πανταχόθεν ἐξαιρουμένων συνέρχεται ὁμοίως, ὥστ’ ἔλαττόν τε ἀνάγκη καὶ ὅμοιον εἶναι.

Διὰ τί ἰσχνόφωνοι γίνονται; πότερον διὰ θερμότητα προπετέστεροί εἰσιν, ὥστε προσπταίοντες ἐπίσχουσιν, ὥσπερ οἱ ὀργιζόμενοι; καὶ γὰρ οὗτοι πλήρεις ἄσθματος γίνονται. πολὺ μὲν οὖν τὸ πνεῦμα συμβαίνει. ἢ διὰ τὴν ζέσιν τοῦ θερμοῦ ἀσθμαίνουσιν, διὰ τὸ πολὺ εἶναι καὶ μὴ φθάνειν ὑπεξιὸν τῷ τῆς ἀναπνοῆς καιρῷ; ἢ μᾶλλον τοὐναντίον κατάψυξις ἢ θερμότης τοῦ τόπου ᾧ φθέγγονται, ὥσπερ ἀποπληξία τοῦ μέρους τούτου; διὸ καὶ θερμαινόμενοι ὑπὸ οἴνου καὶ τοῦ λέγειν συνεχῶς ῥᾷον συνείρουσι τὸν λόγον.

Διὰ τί τοῦ χειμῶνος αἱ φωναὶ βαρύτεραι; ἢ ὅτι παχύτερος ὁ ἀήρ, παχυτέρου δὲ ὄντος βραδυτέρα ἡ κίνησις, ὥσθ’ ἡ φωνὴ βαρυτέρα. ἢ διότι διὰ τῶν στέρνων βραδύτερον [906a] χωρεῖ ὁ ἀήρ, συμφράττεται δὲ τὸ περὶ τὸν φάρυγγα ὑπό τε τοῦ ψυχροῦ καὶ τοῦ ἐπιρρέοντος φλέγματος.

Διὰ τί τὰ παιδία καὶ αἱ γυναῖκες καὶ οἱ εὐνοῦχοι καὶ οἱ γέροντες φθέγγονται ὀξύ; ἢ ὅτι θάττων κίνησίς ἐστιν ἡ ὀξυτέρα; ἔστι δὲ τὸ αὐτὸ πλείονος δυσκινητότερον, ὥστε οἱ ἐν ἀκμῇ πλείω συνεπισπῶνται τὸν ἀέρα· οὗτος οὖν βραδύτερον ἰὼν βαρυτέραν παρασκευάζει τὴν φωνήν. ἐν δὲ τοῖς παιδίοις καὶ εὐνούχοις διὰ τὸ ἐλάττω ἔχειν ἐναντίως. τρέμειν δὲ τοὺς πρεσβύτας οὐ δυναμένους κρατεῖν, ὥσπερ τοῖς ἀδυνάτοις καὶ παιδίοις, ὅταν μακρὸν ξύλον λάβωσιν ἀπ’ ἄκρου, τὸ ἕτερον ἄκρον σείεται διὰ τὸ μὴ κρατεῖν. διὰ τοῦτο καὶ οἱ πρεσβῦται τρέμουσιν. τὸ αὐτὸ δὲ ὑποληπτέον καὶ ἐπὶ τῶν ἀγωνιώντων καὶ φοβουμένων καὶ ῥιγώντων αἴτιον τοῦ τρόμου τῆς φωνῆς. τοῦ γὰρ ἔχοντος τὴν φωνὴν τοιαύτην, τῶν τοιούτων παθῶν εἴσω περιεστηκότος τοῦ πλείστου, λοιπὸν ὀλίγον ὂν οὐ δύναται κρατεῖν τῆς φωνῆς· διὸ καὶ σείεται καὶ τρέμει. διὸ καὶ οἱ τεχνικοὶ τῶν συνειδότων ὅτι ἀγωνιῶσι μικρὸν διαλέγονται ἀπ’ ἀρχῆς, καὶ ἄχρι οὗ ἂν καταστῶσιν· μικρᾶς γὰρ οὔσης τῆς φωνῆς ῥᾶον κρατοῦσιν.

ΙΒ. ΟΣΑ ΠΕΡΙ ΤΑ ΕΥΩΔΗ.

Διὰ τί τῶν θυμιαμάτων ἧττον αἰσθάνονται πλησίον ὄντες; πότερον ὅτι ἀκρατεστέρα κερασθεῖσα ἡ ἀπόρροια τῷ ἀέρι ἡδίων, ὥσπερ ἡ σμύρνη τῶν ἰατρῶν; ἢ καὶ τοὐναντίον εἴη ἄν, ὥστε ἀφαιρεῖσθαι τὸ πῦρ τὴν ὀσμὴν διὰ τὸ καίειν; ἡ γὰρ ὀσμὴ θυμιωμένων. διὸ καὶ ἐπὶ τῶν ἀνθράκων οὐκ ὄζει, πορρώτερον δὲ καθαρώτερον φαίνεται καὶ λεπτότατον τοῦτο.

Διὰ τί αἱ ὀσμαὶ ἧττον εὐώδεις τῶν θυμιαμάτων καὶ τῶν ἀνθῶν ἐκ τοῦ ἐγγύς; πότερον ὅτι συναπέρχεται τῇ ὀσμῇ καὶ γῆς μόρια, ἃ προκαταφέρεται διὰ βάρος, ὥστε καθαρὰ πορρώτερον γίνεται ἡ ὀσμή; ἢ οὔτε ἐγγὺς οὔσης τῆς ἀρχῆς πλεῖστον γίνεται τὸ ῥέον, οὔτε λίαν πόρρω; τὸ μὲν γὰρ οὔπω πολύ, τὸ δὲ διασπᾶται.

Λέγεται γὰρ ὡς εὐώδη γίνεται τὰ δένδρα εἰς ἅπερ ἂν ἡ ἶρις κατασκήψῃ. πότερον οὖν ἀληθές ἐστιν ἢ ψεῦδος; καὶ εἰ ἀληθές, διὰ τίν' αἰτίαν εἴη τὸ συμβαῖνον; ὅτι μὲν [906b] οὖν οὔτε πάντα οὔτε ἀεί, δῆλον· πολλάκις γὰρ ἡ ἶρις μὲν γέγονε, τὰ δὲ δένδρα οὐθὲν ἐπίδηλα φαίνεται. ὅταν τε γένηται τοῦτο, οὐκ ἐν πάσῃ γίνεται ὕλῃ, ἐπεὶ συμβαίνει γέ ποτε· διὸ καὶ λέγεται. τὸ δ' αἴτιον κατὰ συμβεβηκὸς τῇ ἴριδι ἀποδοτέον, ἄλλως τε καὶ εἰ μή ἐστί τις φύσις ἡ ἶρις, ἀλλὰ τῆς ὄψεως πάθος ἀνακλωμένης. γίνεται δέ, ὥσπερ ἐλέχθη, οὐχ ὁπωσοῦν ἐχούσης τῆς ὕλης τὸ πάθος· οὔτε γὰρ ἐν τοῖς χλωροῖς δένδροις οὔτε ἐν τοῖς αὔοις, ἀλλ' ἐν τῇ ἐμπεπρησμένῃ ὕλῃ φασὶν οἱ νομεῖς μετὰ τὰ ἐπὶ τῇ ἴριδι ὕδατα γίνεσθαι ἐπίδηλον τὴν εὐωδίαν, καὶ μάλιστα οὗ ἂν ἀσπάλαθος ᾖ καὶ ῥάμνος καὶ ὧν τὰ ἄνθη εὐώδη ἐστίν. αἴτιον δὲ τῆς εὐωδίας ἐστίν, ὅπερ καὶ ἐπὶ τῆς γῆς· διαθέρμου γὰρ καὶ διακεκαυμένης οὔσης, ὃ ἂν ἐκφύσῃ, τὸ πρῶτον εὐῶδες ὄζει. τὰ γὰρ πυρούμενά πως τῶν ὑγρότητα ἐχόντων ὀλίγην εὐώδη γίνεται· πέττει γὰρ τὸ θερμὸν ταύτην. διὸ καὶ τῆς ὅλης γῆς εὐωδέστερα τὰ πρὸς τὸν ἥλιον τῶν πρὸς ἄρκτον ἐστίν. τούτων δὲ τὰ πρὸς ἕω τῶν πρὸς μεσημβρίαν, ὅτι γεώδης μᾶλλον ὁ τόπος ὁ περὶ τὴν Συρίαν καὶ Ἀραβίαν ἐστίν, ἡ δὲ Λιβύη ἀμμώδης καὶ ἄνικμος. δεῖ γὰρ μήτε πολλὴν εἶναι τὴν ἰκμάδα, ἄπεπτος γάρ ἐστιν ἡ πολλή, μήτε ἄνικμον, οὐ γὰρ γίνεται ἀτμίς. ὃ συμβαίνει καὶ περὶ τὴν νεόκαυστον ὕλην καὶ τὸ γένος τοιαύτην ὥστε ἔχειν εὐωδίαν σὺν αὐτῇ. δηλοῖ δὲ τοῖς ἄνθεσιν· ἀφίησι γὰρ ἐν τούτοις τὴν ὀσμήν. δοκεῖ δὲ ἐν οἷς ἂν ἐνσκήψῃ ἡ ἶρις γίνεσθαι, ὅτι οὐδὲν ἄνευ ὕδατος οἷόν τε γίνεσθαι· βραχεῖσά τε γὰρ ἡ ὕλη καὶ τῷ ἐνόντι θερμῷ πέψασα τὴν ἐν αὐτῇ γινομένην ἀτμίδα ἀφίησιν. οὔτε πολὺ τὸ ὕδωρ δεῖ εἶναι· ἐκκλύζει γὰρ τὸ πολὺ λίαν, καὶ σβέννυσι τὴν θερμότητα τὴν ἐνυπάρχουσαν ἀπὸ τῆς πυρώσεως. τὰ δὲ μετὰ τὴν ἶριν ὕδατα οὐ πολλὰ γίνεται ἀλλὰ μέτρια ὡς εἰπεῖν. καὶ ἐὰν πολλαὶ γίνωνται ἴριδες, οὐ πολὺ γίνεται, ἀλλὰ πολλάκις μὲν ὀλίγον δέ. διὸ εἰκότως τούτου γινομένου, οὐθὲν ἄλλο ὁρῶντες διάφορον πλὴν τὴν ἶριν, ταύτῃ τὴν αἰτίαν προσέθεσαν τῆς εὐωδίας.

Διὰ τί τὰ ἄνθη καὶ τὰ θυμιώμενα πόρρωθεν μᾶλλον ἥδιον ὄζει, ἐγγύθεν δὲ τὰ μὲν ποωδέστερον τὰ δὲ καπνωδέστερον; ἢ ὅτι ἡ ὀσμὴ θερμότης τίς ἐστι καὶ τὰ εὐώδη θερμά, τὸ δὲ θερμὸν κοῦφον, ὥστε διὰ μὲν τοῦτο πορρωτέρω [907a] διιόντων ἀμιγεστέρα γίνεται ἡ ὀσμὴ τῶν συμπαρεπομένων ὀσμῶν ἀπὸ τῶν φύλλων καὶ τοῦ καπνοῦ, ὄντος ὑδατώδους ἀτμοῦ, πλησίον δὲ ὄντων τὰ μεμιγμένα αὐτοῖς συνόζει ἐν οἷς ἐστίν.

Διὰ τί πάντα μᾶλλον ὄζει κινούμενα; ἢ ὅτι ἀναπίμπλησι πλείω ἀέρα ἢ ἡσυχάζοντα; διαπέμπεται οὖν ἡ ὀσμὴ θᾶττον οὕτω πρὸς τὴν αἴσθησιν ἡμῖν.

Διὰ τί τοῦ χειμῶνος ἧττον ὀσφραινόμεθα, καὶ ἐν τοῖς πάγεσιν ἥκιστα; ἢ ὅτι ὁ ἀὴρ ἀκινητότερός ἐστιν ἐν τῷ ψύχει; οὔκουν ἀφικνεῖται ὁμοίως ἡ κίνησις ἡ ἀπὸ τοῦ σώματος τοῦ τὴν ὀσμὴν ἔχοντος διὰ τὴν δυσκινησίαν τῆς ἀπορροῆς καὶ τοῦ ἀέρος ἐν ᾧ ἐστίν.

Διὰ τί δριμύτερον ὄζει τῶν ἀρωμάτων ἐπὶ τέφρας θυμιωμένων ἢ ἐπὶ τοῦ πυρός, καὶ μᾶλλον καὶ πλείω χρόνον τὴν αὐτῶν ὀσμὴν ἔχει ἐπὶ τῆς τέφρας θυμιώμενα; ἢ ὅτι ἀπεπτοτέρα ἐστὶν ἡ ὀσμὴ ἐπὶ τῆς τέφρας· διὸ καὶ πλείων. τὸ δὲ πῦρ παχὺ πέττον αὐτῶν τὴν δύναμιν, ἀλλοιοῖ τὴν ὀσμήν· ἡ γὰρ πέψις ἀλλοίωσίς ἐστι τοῦ πεττομένου.

Διὰ τί ἥδιον ὄζει τῶν ῥόδων ὧν ὁ ὀμφαλὸς τραχύς ἐστιν ἢ ὧν λεῖος; ἢ ὅτι μᾶλλον ὄζει ἡδὺ ὅσα τὴν φύσιν ἀπείληφε τὴν αὐτῶν; ἀκανθῶδες δὲ φύσει τὸ ῥόδον ἐστί, διὸ μᾶλλον ἔχον τὰ κατὰ φύσιν ἥδιστα ὄζει.

Διὰ τί αἱ ὀσμαὶ ἐγγύθεν ἧττον εὐώδεις καὶ θυμιαμάτων καὶ ἀνθῶν; ἢ ὅτι πλησίον μὲν συναποφέρεται τὸ γεῶδες, ὥστε κεραννύμενον ἀσθενεστέραν ποιεῖ τὴν δύναμιν, εἰς δὲ τὸ πόρρω καταφέρεται ἡ ὀδμή. διὰ ταῦτα δὲ καὶ τριφθέντα τὰ ἄνθη ἀπόλλυσι τὴν ὀσμήν.

Πότερον αἱ ὀσμαὶ καπνὸς ἢ ἀὴρ ἢ ἀτμίς; διαφέρει γάρ, ᾗ τὸ μὲν ὑπὸ τοῦ πυρός, τὸ δὲ καὶ ἄνευ τούτου γίνεται. καὶ πότερον ἀπὸ τῆς αἰσθήσεώς τι πρὸς ἐκεῖνα ἢ ἀπ’ ἐκείνων πρὸς τὴν αἴσθησιν ἀφικνεῖται, ἀεὶ κινοῦν τὸν πλησίον ἀέρα; καὶ εἰ ἀπ’ ἐκείνων ἀπορρεῖ, ἔδει ἔλαττον γίνεσθαι· καίτοι τὰ εὐωδέστατα ὁρῶμεν μάλιστα διαμένοντα.

Διὰ τί δριμύτερον ὄζει μᾶλλον τῶν ἀρωμάτων ἐπὶ τέφρας θυμιωμένων ἢ ἐπὶ τοῦ πυρός; ἢ διότι ἀπεπτοτέρα ἡ ὀσμὴ ἐπὶ τῆς τέφρας· διὸ καὶ πλείων; πολὺ οὖν καὶ τοῦ γεώδους συναναθυμιᾶται καὶ γίνεται καπνός· τὸ δὲ πῦρ φθάνει ἐκκαῖον τὸ γεῶδες αὐτῶν, ὥστε ἡ ὀσμὴ καθαρωτέρα [907b] καὶ εἰλικρινὴς ἀφικνεῖται ἄνευ τοῦ καπνοῦ. διὸ καὶ τριβόμενα ἧττον εὐώδη τὰ ἄνθη· τὸ γὰρ γεῶδες καὶ ἡ τρῖψις κινεῖ, καὶ ἡ βραδεῖα θερμότης οὐ φθείρει.

Διὰ τί τὰ εὐώδη οὐρητικὰ καὶ σπέρματα καὶ φυτά; ἢ ὅτι θερμὰ καὶ λεπτά, τὰ δὲ τοιαῦτα οὐρητικά; ταχὺ γὰρ λεπτύνει ἡ ἐνοῦσα θερμότης, καὶ ἡ ὀσμὴ οὐ σωματώδης, ἐπεὶ καὶ τὰ μὴ εὐώδη, οἷον σκόροδα, διὰ τὴν θερμότητα οὐρητικά, μᾶλλον μέντοι τηκτικά. θερμὰ δὲ τὰ εὐώδη σπέρματα, διότι ὅλως ἡ ὀσμὴ διὰ θερμότητα γίνεται. ἀλλὰ τὰ δυσώδη ἄπεπτά ἐστιν· δεῖ δὲ μὴ μόνον θερμὰ εἶναι ἀλλὰ καὶ εὔπεπτα, εἰ ἔσται οὐρητικά, ὅπως συγκατιόντα λεπτύνῃ τὰ ὑγρά.

Διὰ τί ποτε οἱ κεκραμένοι τῶν οἴνων θᾶττον τῶν ἀκράτων ὄζουσιν; ἢ ὅτι ὁ κεκραμένος ἀσθενέστερος τοῦ ἀκράτου ἐστίν; τὸ δὲ ἀσθενέστερον ὑπὸ πάντων ἐξίσταται τοῦ ἰσχυροτέρου. εἶτα ὁ κεκραμένος ἐστὶν εὐπετέστερος τοῦ ἀκράτου. εὐπετέστερον δέ ἐστιν ὑπάρξαι ᾠτινιοῦν, καὶ ἐκλαβεῖν τι τῶν μὴ ὑπαρχόντων. ὁ μὲν οὖν ἄκρατος ὀσμώδης ἐστίν, ὁ δὲ κεκραμένος ἄνοσμος.

ΙΓ. ΟΣΑ ΠΕΡΙ ΤΑ ΔΥΣΩΔΗ.

Διὰ τί τὸ μὲν οὖρον, ὅσῳ ἂν χρονίζηται ἐν τῷ σώματι, δυσωδέστερον γίνεται, ἡ δὲ κόπρος ἧττον; ἢ ὅτι ἡ μὲν ξηραίνεται μᾶλλον χρονιζομένη (τὸ δὲ ξηρὸν ἀσηπτότερον), τὸ δὲ οὖρον παχύνεται, πρόσφατόν τε ὂν ὁμοιότερον τῷ ἐξ ἀρχῆς ἐστὶ πόματι.

Διὰ τί τὰ δυσώδη τοῖς ἐδηδοκόσιν οὐ δοκεῖ ὄζειν; ἢ διὰ τὸ συντετρῆσθαι τὴν ὄσφρησιν τῷ στόματι κατὰ τὸν οὐρανὸν πλήρης ἡ αἴσθησις γίνεται ταχύ, καὶ τῆς τε ἔσω οὐκέθ' ὁμοίως αἰσθάνεται (τὸ γὰρ πρῶτον αἰσθάνονται πάντες, ὅταν δὲ ἅψωνται, οὐκέτι, ὥσπερ συμφυοῦς) καὶ ἡ ἔξωθεν ἡ ὁμοία ἀφανίζεται ὑπὸ τῆς ἔσω.

Διὰ τί τριβόμενα τὰ ἄνθη δυσωδέστερα; ἢ διότι συμμίγνυται τῇ ὀσμῇ τὸ γεῶδες τὸ ἐν τῷ ἄνθει.

Διὰ τί τῶν μὲν ζῴων οὐθὲν εὐῶδές ἐστιν ἔξω τῆς παρδάλεως (αὕτη δὲ καὶ αὐτοῖς τοῖς θηρίοις· φασὶ γὰρ αὐτῆς τὰ θηρία ἡδέως ὀσμᾶσθαι), φθειρόμενα δὲ καὶ δυσώδη ἐστίν, τῶν δὲ φυτῶν πολλὰ καὶ φθειρόμενα καὶ αὐαινόμενα ἔτι μᾶλλον εὐώδη γίνεται; πότερον ὅτι τῆς δυσωδίας αἴτιον ἀπεψία τις περιττώματος; διὸ καὶ οἱ ἱδρῶτες ἐνίοις καὶ ἐνίοτε τοιοῦτοί εἰσι, μάλιστα δὲ οἷς μὴ ἀεὶ τοιοῦτοι ἐκ τῶν νόσων γίνονται. καὶ αἱ φῦσαι δὲ καὶ οἱ ἐρυγμοὶ οἱ τῶν ἀπέπτων δυσώδεις εἰσίν. τὸ αὐτὸ δὲ αἴτιον καὶ τοῦ ἐν ταῖς σαρξὶ καὶ τῷ ἀνάλογον· λέγω δὲ ἀνάλογον τὸ ἀντὶ σαρκὸς τοῖς ἄλλοις ἐνυπάρχον ζῴοις. ἔστι γὰρ καὶ ἐνταῦθα περίττωμα ἐνίοις ἄπεπτον· τοῦτο οὖν ζώντων τε αἴτιον τῆς δυσωδίας ἐστὶ καὶ φθειρομένων σηπόμενον. διὸ καὶ τὰ πίονα καὶ ὀστᾶ καὶ τρίχες οὐ δυσώδη ἐστίν, ὅτι τὰ μὲν πέττεται, τὰ δὲ οὐκ ἔχει ὑγρότητα. τοῖς δὲ φυτοῖς οὐκ ἔνι περίττωμα. ἢ ἔστι μέν τι καὶ τούτοις, ἀλλ' ὅτι ξηρὰ καὶ θερμὰ τὰ φυτὰ τὴν φύσιν ἐστίν, ὥστε εὐπεπτοτέρα ἡ ἰκμὰς καὶ οὐ πηλώδης ἐστὶν αὐτῶν; δηλοῖ δὲ καὶ τῆς γῆς ἡ ἐν τοῖς θερμοῖς εὐώδης οὖσα, Συρία καὶ Ἀραβία, καὶ τὰ εὐώδη τἀκεῖθεν, ὅτι ξηρὰ καὶ θερμά ἐστιν· τὰ δὲ τοιαῦτα ἄσηπτα. τὰ δὲ ζῷα οὐ τοιαῦτά ἐστι καὶ θερμά, ὥστε αἵ τε περιττώσεις ἄπεπτοι καὶ δυσώδεις αὐτῶν εἰσί, καὶ διαφυσήσεις ὁμοίως· καὶ διαφθειρομένων σήπεται ἡ ὑγρότης, τῶν δὲ οὔ· οὐ γὰρ ἔχουσιν.

Διὰ τί τὰ δυσώδη θερμὰ ὄντα μᾶλλον δυσώδη ἐστὶν ἢ ἐψυγμένα; ἢ ὅτι ἐστὶν ἡ ὀσμὴ ἀτμὸς καὶ ἀπορροή τις; ὅ τ' οὖν ἀτμὸς ὑπὸ θερμοῦ γίνεται καὶ ἡ ἀπορροή· κίνησις γάρ τίς ἐστι, τὸ δὲ θερμὸν κινητικόν. τὸ δὲ ψυχρὸν τοὐναντίον στατικὸν καὶ συσταλτικὸν καὶ φορὸν δὲ κάτω, τὸ δὲ θερμὸν καὶ αἱ ὀσμαὶ πᾶσαι ἀνωφερεῖς διὰ τὸ ἐν ἀέρι τε εἶναι καὶ τὸ αἰσθητήριον αὐτῶν ἄνω εἶναι, μὴ κάτω· πρὸς γὰρ ἐγκέφαλον περαίνουσα ἡ ὀσμὴ αἴσθησιν ποιεῖ.

Διὰ τί, ἐάν τις σκόροδα φάγῃ, τὸ οὖρον ὄζει, ἄλλων δὲ ἐχόντων ἰσχυρὰν ὀσμὴν οὐκ ὄζει ἐδεσθέντων; πότερον, ὥσπερ τινὲς τῶν ἡρακλειτιζόντων φασὶν ὅτι ἀναθυμιᾶται, ὥσπερ ἐν τῷ ὅλῳ, καὶ ἐν τῷ σώματι, εἶτα πάλιν ψυχθὲν συνίσταται ἐκεῖ μὲν ὑγρόν, ἐνταῦθα δὲ οὖρον, ἡ ἐκ τῆς τροφῆς ἀναθυμίασις, ἐξ οὗ ἐγένετο αὕτη συμμιγνυμένη, ποιεῖ τὴν ὀσμήν; αὕτη γάρ ἐστιν, ὅταν μεταβάλλῃ. ἢ ἔδει καὶ τὰ ἄλλα τοῦτο ποιεῖν, ὅσα ἰσχυρὰς ὀσμὰς ἔχει· νῦν δὲ οὐ ποιεῖ. ἔτι συγκρινόμενα ἐκ τῆς ἀτμίδος οὐκ εἰς τὸ ἀρχαῖον ἔρχεται, οἷον οἶνος ἐξ οἴνου, ἀλλ’ οὐχ ὕδωρ, ὥστε [908b] καὶ τοῦτο ψεῦδος. ἀλλ’ ὅτι μόνον φυσητικὸν τῆς κάτω κοιλίας τῶν ὀσμὴν ἐχόντων ἰσχυρὰν ἅμα καὶ οὐρητικήν, τὰ δὲ ἄλλα ἄνω ποιεῖ, οἷον ἡ ῥάφανος, καὶ τὰ πνεύματα. ἢ οὐκ οὐρητικά. κάτω δὲ τρία ὑπάρχει ταῦτα· καὶ γὰρ οὐρητικόν, καὶ πνεῦμα ποιεῖ, καὶ τοῦτο κάτω. ὁ δὲ τόπος ὁ πέριξ τὰ αἰδοῖα καὶ τὴν κύστιν τῶν τοιούτων ἀπολαύει διὰ τὴν γειτνίασιν, καὶ ὅτι πνευματικός ἐστιν· δηλοῖ δὲ ἡ συντονία τοῦ αἰδοίου. δῆλον οὖν ὅτι ἀφικνεῖται τὸ περίττωμα εἰς τὴν κύστιν αὐτοῦ μάλιστα τῶν τοιούτων ἅμα τῷ πνεύματι, ὃ μιγνύμενον ποιεῖ τοῦ οὔρου τὴν ὀσμήν.

Διὰ τί τὰ στόματα μηδὲν ἐδηδοκότων ἀλλὰ νηστευσάντων ὄζει μᾶλλον (ὃ καλεῖται νηστείας ὄζειν), φαγόντων δὲ οὐκέτι, ὅτε ἔδει μᾶλλον; ἢ ὅτι κινουμένης τῆς κοιλίας θερμότερος ὁ ἀὴρ γινόμενος διὰ τὴν ἀκινησίαν σήπει τὸ πνεῦμα καὶ τὰ φλεγματώδη περιττώματα; ὅτι δὲ θερμότερος γίνεται, σημεῖον ὅτι καὶ δίψαν ποιεῖ ἡ νηστεία μᾶλλον. φαγόντων δὲ διὰ τὸ ἐλάττων εἶναι ἡ ὀσμὴ τῆς τῶν σιτίων παύεται· κρατεῖ γὰρ τῆς θερμότητος ἡ τῶν σιτίων θερμότης, ὥστε μηθὲν πάσχειν.

Διὰ τί ἡ μασχάλη δυσωδέστατον τῶν τόπων; πότερον ὅτι ἀπνούστατός ἐστιν; ἔστι δὲ ἡ δυσωδία ἐν τοῖς τοιούτοις μάλιστα, διὰ τὸ σῆψιν γίνεσθαι ὑπὸ τῆς ἡσυχίας τῆς ὑγρότητος· ἢ διότι ἀκίνητος καὶ ἀγύμναστος.

Διὰ τί οἱ τοῦ γράσου ὄζοντες, ὅταν ἀλείφωνται μύρῳ, δυσωδέστεροι γίνονται; ἢ διότι τοῦτο ἐπὶ πολλῶν γίνεται, οἷον ὀξὺ καὶ γλυκὺ συμμιχθὲν τὸ ὅλον γλυκύτερον ἐγένετο. εἶτα ἱδρώσαντες πάντες δυσωδέστεροί εἰσι, τὸ δὲ μύρον θερμαντικόν ἐστιν· ἱδρῶτας οὖν παρασκευάζει.

Διὰ τί τῶν ἐγκύρτων καὶ κυφοτέρων δυσοσμοτέρα καὶ βαρυτέρα ἡ ὀσμὴ τοῦ πνεύματος; ἢ διότι συγκέκλεισται ὁ τόπος ὁ περὶ τὸν πνεύμονα καὶ ἀνέσπασται ἐκ τῆς εὐθυωρίας, ὥστε οὐκ εὔπνους, ἀλλὰ σήπεται ἡ ἰκμὰς καὶ τὸ πνεῦμα μᾶλλον εἴσω ἐγκατακλειόμενον;

Διὰ τί τὰ πολλὰ τῶν μύρων συνεξιδρῶσαι δυσώδη, ἔνια δὲ ἡδίω ἢ οὐ χείρω; ἢ ὅσα μὲν τῇ κινήσει ἢ τῇ τρίψει μεταβάλλοντα, χείρω τὰ τοιαῦτα, ὅσα δὲ μή, τοὐναντίον; ἔστι δὲ ἔνια τοιαῦτα, ὥσπερ καὶ τῶν ἀνθῶν, ἐξ ὧν γίνονται [909a] αἱ εὐωδίαι, τὰ μὲν τριβόμενα ἢ θερμαινόμενα ἢ ξηραινόμενα φαῦλα, οἷον τὰ λευκόϊα, τὰ δὲ ὅμοια, οἷον τὰ ῥόδα. καὶ τῶν μύρων δὴ ὅσα ἐκ τοιούτων ἐστί, μεταβάλλει, τὰ δὲ οὔ· διὸ τὸ ῥόδινον ἥκιστα. καὶ δυσώδη δὲ φαίνεται μᾶλλον, ὅσων οἱ ἱδρῶτες δυσώδεις, καὶ διὰ τὸ μίγνυσθαι τῷ ἐναντίῳ, ὥσπερ τὸ μέλι μετὰ τοῦ ἁλὸς οὐ μᾶλλον γλυκὺ ἀλλ’ ἧττον.

Διὰ τί πάντα μᾶλλον ὄζει κινούμενα; ἢ διότι ἀναπίμπλησι τὸν ἀέρα; διαπέμπεται οὖν θᾶττον ἡ ὀσμὴ πρὸς τὴν αἴσθησιν.

ΙΔ. ΟΣΑ ΠΕΡΙ ΚΡΑΣΕΙΣ.

Διὰ τί θηριώδεις τὰ ἔθη καὶ τὰς ὄψεις οἱ ἐν ταῖς ὑπερβολαῖς ὄντες ἢ ψύχους ἢ καύματος; ἢ διὰ τὸ αὐτό; ἡ γὰρ ἀρίστη κρᾶσις καὶ τῇ διανοίᾳ συμφέρει, αἱ δὲ ὑπερβολαὶ ἐξιστᾶσι, καὶ ὥσπερ τὸ σῶμα διαστρέφουσιν, οὕτω καὶ τὴν τῆς διανοίας κρᾶσιν.

Διὰ τί ἐν τῷ Πόντῳ ὁ σῖτος ἐαθεὶς ἐν τῷ ψύχει πολλὰ ἔτη γίνεται ἄκοπος; ἢ ὅτι ἐξικμάζεται τὸ ἀλλότριον ὑγρὸν μετὰ τοῦ θερμοῦ, ὥσπερ ἐν ταῖς σταφυλαῖς; ἔνια μὲν γὰρ ὑπὸ τοῦ ψυχροῦ, ἔνια δὲ ἅμα τῷ θερμῷ.

Διὰ τί ἐν τῇ ψυχροτάτῃ χώρᾳ οἱ καῦσοι μᾶλλον γίνονται; ἢ διότι ἀντιπεριίστησι τὸ ψῦχος εἴσω τὴν θερμότητα; ἐν δὲ τῷ θέρει τοὐναντίον συμβαίνει, τὰ εἴσω ψυχρότερα. ὁ δὲ καῦσος πυρετὸς τῶν ἔξω κατεψυγμένων τὰ ἔσω θερμότητι ὑπερβάλλει.

Διὰ τί οἱ Αἰθίοπες καὶ οἱ Αἰγύπτιοι βλαισοί εἰσιν; ἢ διότι ὑπὸ θερμοῦ, ὥσπερ καὶ τὰ ξύλα διαστρέφεται ξηραινόμενα, οὕτω καὶ τὰ τῶν ζῴων σώματα; δηλοῦσι δὲ καὶ αἱ τρίχες· οὐλοτέρας γὰρ ἔχουσιν, ἡ δὲ οὐλότης ἐστὶν ὥσπερ βλαισότης τῶν τριχῶν.

Διὰ τί ἐν τοῖς νοτίοις μᾶλλον θηλυτοκοῦσιν αἱ ὀχεῖαι; ἢ ὅτι τὸ πλεῖον ὑγρὸν βραδύτερον παχύνεται; ἐν δὲ τοῖς νοτίοις διὰ τὴν ὑγρότητα τῆς κράσεως ὑγρότερον τὸ σπέρμα γίνεται.

Διὰ τί ἐν τοῖς ἑλώδεσι τὰ μὲν ἐν τῇ κεφαλῇ ἕλκη ταχὺ ὑγιάζεται, τὰ δὲ ἐν ταῖς κνήμαις μόλις; ἢ ὅτι βαρεῖα ἡ ὑγρότης διὰ τὸ γεώδης εἶναι, τὰ δὲ βαρέα εἰς τὸ κάτω ὑποχωρεῖ; τὰ μὲν οὖν ἄνω εὔπεπτα διὰ τὸ ὑποκεχωρηκέναι εἰς τὸ κάτω, τὰ δὲ κάτω πολλῆς γέμει τῆς περιττώσεως καὶ εὐσήπτου.

[909b] Διὰ τί οἱ μὲν ἐν τοῖς εὐπνόοις τόποις βραδέως γηράσκουσιν, οἱ δὲ ἐν τοῖς κοίλοις καὶ ἑλώδεσι ταχέως; ἢ τὸ γῆρας σηπεδών τίς ἐστι, σήπεται δὲ τὸ ἠρεμοῦν· τὸ δὲ ἐν κινήσει ὂν ἢ ὅλως ἀσαπὲς ἢ ἧττον τοῦτο πάσχει, οἷον τὸ ὕδωρ. ἐν μὲν οὖν τοῖς ὑψηλοῖς διὰ τὴν εὔπνοιαν ὁ ἀὴρ ἐν κινήσει ἐστίν, ἐν δὲ τοῖς κοίλοις μένει. ἔτι δὲ ἐκεῖ μὲν διὰ τὴν κίνησιν ἀεὶ καθαρὸς ὁ ἀὴρ καὶ ἕτερος γίνεται, ἐν δὲ τοῖς ἑλώδεσι μένει.

Διὰ τί οἱ μὲν ἐν τοῖς θερμοῖς τόποις δειλοί εἰσιν, οἱ δὲ ἐν τοῖς ψυχροῖς ἀνδρεῖοι; ἢ ὅτι ἐναντίως τοῖς τόποις καὶ ταῖς ὥραις ἡ φύσις ἔχει, διὰ τὸ ὁμοίως ἐχόντων ἀνάγκῃ διακαίεσθαι ταχέως. ἀνδρεῖοι δέ εἰσιν οἱ τὴν φύσιν θερμοί, δειλοὶ δὲ οἱ κατεψυγμένοι. συμβαίνει δὲ τοὺς μὲν ἐν τοῖς θερμοῖς ὄντας κατεψῦχθαι, τοὺς δὲ ἐν τοῖς ψυχροῖς ἐκτεθερμάνθαι τὴν φύσιν. μεγάλοι δὲ ἄμφω εἰσίν, οἱ μὲν ἐν τοῖς ψυχροῖς διὰ τὴν ἐν αὐτοῖς σύμφυτον θερμότητα, οἱ δ' ἐν τοῖς θερμοῖς διὰ τὴν ἐν τῷ τόπῳ· ἐν γὰρ τοῖς θερμοῖς καὶ ὑπὸ τοῦ θερμοῦ αὐξάνονται. τὸ δὲ ψῦχος πιλητικόν ἐστιν. ἅτε οὖν τῶν μὲν ἐν αὑτοῖς ἐχόντων τὴν ἀρχὴν τῆς αὐξήσεως σφοδράν, τῶν δὲ οὐ κωλυομένων ὑπὸ τῆς ἔξωθεν ψυχρότητος, εἰκότως ἐπὶ πολὺ τὴν αὔξησιν ἐπιδέχονται. οἱ δὲ περὶ ἡμᾶς ἧττον διὰ τὸ ἐλάττω τε ἔχειν τὴν ἀρχὴν ἐν αὑτοῖς, καὶ διὰ τὸ τοὺς ἐν τοῖς ψυχροῖς συμπιλεῖσθαι.

Διὰ τί μακρόβιοι μᾶλλόν εἰσιν οἱ ἐν τοῖς θερμοῖς τόποις οἰκοῦντες; ἢ διὰ τὸ ξηροτέραν ἔχειν τὴν φύσιν, τὸ δὲ ξηρότερον ἀσαπέστερον εἶναι καὶ πολυχρονιώτερον, τὸν δὲ θάνατον οἷον σῆψίν τινα εἶναι; ἢ διότι ὁ μὲν θάνατός ἐστι ψύξις τοῦ ἐντὸς θερμοῦ, καταψύχεται δὲ πᾶν ὑπὸ τοῦ περιέχοντος καὶ ψυχροτέρου; ἔστι δὲ ὁ περιέχων ἀὴρ ἐν μὲν τοῖς ἀλεεινοῖς τόποις θερμός, ἐν δὲ τοῖς ψυχροῖς ψυχρός, ὥστε θᾶττον καὶ μᾶλλον φθείρει τὸ ἐν αὐτοῖς θερμόν.

Διὰ τί οἱ ἐν τοῖς θερμοῖς τόποις μακροβιώτεροι; ἢ ὅτι μᾶλλον τὸ θερμὸν καὶ τὸ ὑγρὸν σώζουσιν; ὁ γὰρ θάνατος ἡ τούτων φθορά.

Διὰ τί ἐν τοῖς ἑλώδεσι τόποις ὑπνωδέστεροι γινόμεθα; ἢ διότι κατεψυγμένοι μᾶλλον ἐν αὐτοῖς ἐσμέν, ἡ δὲ κατάψυξις ἡσυχία τις οὖσα παρασκευάζει ὕπνον, ὁ δὲ ὕπνος ἐν τῷ ἡσυχάζειν παραγίνεται.

[910a] Διὰ τί οἱ ἐν τοῖς πλοίοις εὔχροοι, ἐπὶ ὕδατος διαιτώμενοι, μᾶλλον τῶν ἐν τοῖς ἕλεσιν; ἢ ἡ ὥρα καὶ τὸ εὔπνουν αἴτιον; ὠχροὺς δὲ τὸ ὕδωρ ποιεῖ, ὅταν σήπηται, ὃ πάσχει δι' ἀκινησίαν· διὸ ἐν τοῖς ἑλώδεσιν ὕπωχροι.

Διὰ τί ἐν τοῖς χειμερινοῖς χωρίοις πνίγη σφοδρὰ γίνεται πολλά, καὶ μᾶλλον ἢ ἐν τοῖς ἀλεεινοῖς; πότερον διὰ τὴν ὑγρότητα τοῦ ἀέρος; ἀπὸ γὰρ τῆς αὐτῆς θερμότητος ὕδωρ θερμότερον γίνεται τοῦ ἀέρος, ὥστε καὶ ὁ ἀὴρ ὑγρότερος τοῦ θερμοῦ. ἢ οὐδὲ ἔστι ξηρότερος ὁ ἀὴρ ἐν τοῖς τόποις τοῖς τοιούτοις, ἀλλὰ φαίνεται παρὰ τὸ ἐναντίον, ὥσπερ ὁ ἐκ νεφέλης ἥλιος παρὰ τὸ ἐκ τῆς σκιᾶς θιγγάνεσθαι.

Διὰ τί οἱ πρὸς μεσημβρίαν οἰκοῦντες μᾶλλόν εἰσι μελανόφθαλμοι; ἢ γλαυκὰ μέν ἐστι τὰ ὄμματα δι' ὑπερβολὴν τοῦ ἐντὸς θερμοῦ, μέλανα δὲ διὰ τὴν τούτου ἀπουσίαν, ὥσπερ καὶ Ἐμπεδοκλῆς φησίν. καθάπερ οὖν τῶν πρὸς ἄρκτον οἰκούντων γλαυκὰ τὰ ὄμματά ἐστι τῷ τὸ ἐντὸς θερμὸν κωλύεσθαι διεκπίπτειν διὰ τὸ ἐκτὸς ψυχρόν, οὕτω τῶν πρὸς μεσημβρίαν οἰκούντων τὸ μὲν ὑγρὸν διὰ τὸ περιέχον θερμὸν οὐκ ἐκπίπτει, τὸ δὲ θερμὸν μηδενὸς ἀντιφράττοντος ἐκπίπτει, τὸ δὲ λειπόμενον ὑγρὸν μέλαν ποιεῖ· τῇ γὰρ τοῦ φωτὸς ἀπουσίᾳ τὸ λειπόμενόν ἐστι σκοτῶδες. ἢ τοῖς τοῦ λοιποῦ σώματος χρώμασιν ὁμοιοῦται τὸ ἐν τῷ ὀφθαλμῷ χρῶμα; διὸ τῶν πρὸς ἄρκτον λευκῶν ὄντων γλαυκὰ τὰ ὄμματα (τοῦ γὰρ λευκοῦ τοῦτο ἐγγὺς τὸ χρῶμα), καὶ τῶν πρὸς μεσημβρίαν μελάνων ὄντων μέλανα καὶ τὰ ὄμματα.

Διὰ τί οἱ ἐν τοῖς θερμοῖς τόποις σοφώτεροί εἰσιν ἢ ἐν τοῖς ψυχροῖς; πότερον διὰ τὸ αὐτὸ δι’ ὅπερ καὶ οἱ γέροντες τῶν νέων; οἱ μὲν γὰρ διὰ τὴν ψυχρότητα τοῦ τόπου ἐπανιούσης τῆς φύσεως αὐτῶν θερμότεροί εἰσι πολύ, ὥστε λίαν μεθύουσιν ἐοίκασι, καὶ οὐκ εἰσὶ ζητητικοὶ ἀλλὰ ἀνδρεῖοι καὶ εὐέλπιδες· οἱ δὲ ἐν τοῖς ἀλεεινοῖς νήφουσι διὰ τὸ κατεψῦχθαι. πανταχοῦ δὲ οἱ φοβούμενοι τῶν θαρρούντων μᾶλλον ἐπιχειροῦσι ζητεῖν, ὥστε καὶ εὑρίσκουσι μᾶλλον. ἢ διὰ τὸ πολυχρονιώτερον τὸ γένος εἶναι τοῦτο, τοὺς δὲ ὑπὸ τοῦ κατακλυσμοῦ ἀπολέσθαι, ὥστε εἶναι καθάπερ νέους πρὸς γέροντας τοὺς ἐν τοῖς ψυχροῖς τόποις πρὸς τοὺς ἐν τοῖς θερμοῖς οἰκοῦντας.

Διὰ τί οἱ μὲν ἐν τοῖς θερμοῖς τόποις δειλοί εἰσιν, οἱ δὲ ἐν τοῖς ψυχροῖς ἀνδρεῖοι; ἢ ὅτι ἐναντίως τοῖς τόποις καὶ [910b] ταῖς ὥραις ἡ φύσις ἔχει, διὰ τὸ ὁμοίως ἐχόντων διακάεσθαι ἂν ταχέως; ἀνδρεῖοι δέ εἰσιν οἱ τὴν φύσιν θερμοί, δειλοὶ δὲ οἱ κατεψυγμένοι. συμβαίνει δὴ τοὺς μὲν ἐν τοῖς θερμοῖς ὄντας καταψύχεσθαι (ἀραιοῦ γὰρ ὄντος αὐτοῖς τοῦ σώματος τὸ θερμὸν αὐτῶν ἔξω διεκπίπτει), τοὺς δ’ ἐν τοῖς ψυχροῖς ἐκτεθερμάνθαι τὴν φύσιν διὰ τὸ ἐκ τοῦ ἐκτὸς ψύχους πυκνοῦσθαι τὴν σάρκα, πυκνουμένης δὲ ἐντὸς συστέλλεσθαι τὸ θερμόν.

ΙΕ. ΟΣΑ ΜΑΘΗΜΑΤΙΚΗΣ ΜΕΤΕΧΕΙ ΘΕΩΡΙΑΣ.

Διὰ τί διάμετρος καλεῖται μόνη τῶν δίχα διαιρουσῶν τὰ εὐθύγραμμα ἡ ἐκ γωνίας εἰς γωνίαν ἀχθεῖσα γραμμή; ἢ ὅτι διάμετρος δίχα διαιρεῖ, καθάπερ τοὔνομα ὑποσημαίνει, οὐ φθείρουσα τὸ μετρούμενον; ἡ μὲν οὖν κατὰ τὰς συνθέσεις διαιροῦσα (λέγω δὲ τὰς γωνίας) διάμετρος ἔσται· οὐ γὰρ φθείρει ἀλλὰ διαιρεῖ, καθάπερ οἱ τὰ στρατιωτικὰ σκεύη διαιροῦντες. ἡ δὲ κατὰ τὰς γραμμὰς σύνθετα τέμνουσα φθείρει· σύγκειται γὰρ τὸ εὐθύγραμμον κατὰ τὰς γωνίας.

Διὰ τί διάμετρος καλεῖται; ἢ διότι δίχα μόνη διαιρεῖ; ὥσπερ οὖν εἴ τις εἴποι διχάμετρός ἐστιν. καὶ διὰ τί μόνη τῶν δίχα τοῦτο καλεῖται. ἢ ὅτι κατὰ μέλη ᾗ κέκαμπται μόνη διαιρεῖ, αἱ δὲ ἄλλαι κατὰ πλευράς;

Διὰ τί πάντες ἄνθρωποι, καὶ βάρβαροι καὶ Ἕλληνες, εἰς τὰ δέκα καταριθμοῦσι, καὶ οὐκ εἰς ἄλλον ἀριθμόν, οἷον β´, γ´, δ´, ε´, εἶτα πάλιν ἐπαναδιπλοῦσιν, ἓν πέντε, δύο πέντε, ὥσπερ ἕνδεκα, δώδεκα; οὐδ’ αὖ ἐξωτέρω παυσάμενοι τῶν δέκα, εἶτα ἐκεῖθεν ἐπαναδιπλοῦσιν; ἔστι μὲν γὰρ ἕκαστος τῶν ἀριθμῶν ὁ ἔμπροσθεν καὶ ἓν ἢ δύο, καὶ οὗτος ἄλλος τις, ἀριθμοῦσι δ’ ὅμως ὁρίσαντες ἄχρι τῶν δέκα. οὐ γὰρ δὴ ἀπὸ τύχης γε αὐτὸ ποιοῦντες φαίνονται καὶ ἀεί· τὸ δὲ ἀεὶ καὶ ἐπὶ πάντων οὐκ ἀπὸ τύχης, ἀλλὰ φυσικόν. πότερον ὅτι τὰ δέκα τέλειος ἀριθμός; ἔχων γὰρ πάντα τὰ τοῦ ἀριθμοῦ εἴδη, ἄρτιον περιττόν, τετράγωνον κύβον, μῆκος ἐπίπεδον, πρῶτον σύνθετον. ἢ ὅτι ἀρχὴ ἡ δεκάς; ἓν γὰρ καὶ δύο καὶ τρία καὶ τέτταρα γίνεται δεκάς. ἢ ὅτι τὰ φερόμενα σώματα ἐννέα; ἢ ὅτι ἐν δέκα ἀναλογίαις τέτταρες κυβικοὶ ἀριθμοὶ ἀποτελοῦνται, ἐξ ὧν φασὶν ἀριθμῶν οἱ Πυθαγόρειοι τὸ πᾶν συνεστάναι; ἢ ὅτι πάντες ὑπῆρξαν ἄνθρωποι ἔχοντες δέκα δακτύλους; οἷον οὖν ψήφους ἔχοντες τοῦ οἰκείου [911a] ἀριθμοῦ, τούτῳ τῷ πλήθει καὶ τἆλλα ἀριθμοῦσιν. μόνοι δὲ ἀριθμοῦσι τῶν Θρᾳκῶν γένος τι εἰς τέτταρα, διὰ τὸ ὥσπερ τὰ παιδία μὴ δύνασθαι μνημονεύειν ἐπὶ πολύ, μηδὲ χρῆσιν μηδενὸς εἶναι πολλοῦ αὐτοῖς.

ὅτι ἡ γῆ κέντρον· ἀεὶ γὰρ ὅμοια τὰ φαινόμενα ἡμῖν σχήματα. δοκεῖ τοῦτο εἶναι, ἐὰν μὴ ἀπὸ τοῦ μέσου τις θεωρῇ, ἀλλ’ ὁτὲ μὲν τρίγωνα ὁτὲ δὲ τραπέζια ὁτὲ δὲ ἀλλοῖα ἐδόκει ἡ γῆ μέσον ἡμῖν, εἰ ἀπὸ τούτων ἕνι ἡμᾶς θεωρεῖν. οὔσης γὰρ σφαιροειδοῦς τῆς γῆς ταὐτὸ κέντρον τούτου καὶ τῆς γῆς

ἔσται. ἡμεῖς δὲ ἐπάνω τῆς γῆς οἰκοῦμεν, ὥστε οὐκ ἀπὸ τούτου, ἀλλὰ τὸ ἥμισυ τῆς διαμέτρου ἀφεστῶσιν ἡμῖν τοιαῦτα φαίνεται. τί οὖν κωλύει πλέονος γενομένου τοῦ διαστήματος διαμένειν τὴν τῶν σχημάτων φαντασίαν;

Διὰ τί τοῦ ἡλίου ὁμοτόνως φερομένου ἐν τῷ ἴσῳ χρόνῳ, οὐχ ἡ αὐτὴ αὔξησις καὶ φθίσις τῶν σκιῶν; ἢ ὅτι ἴσαι γίνονται αἱ γωνίαι πρὸς τὰ ὁρώμενα, αἱ ἀπὸ τῶν ἀκτίνων ὑπὸ ταῖς ἴσαις περιφερείαις; εἰ δ’ αὗται καὶ ἐμβαλλόμεναι ποιοῦσιν ἀκτῖνας ἐν τῷ τριγώνῳ, ὅπερ ἔχεται ὑπό τε τῆς πρώτης ἀκτῖνος καὶ τοῦ ὁρωμένου καὶ τῆς σκιᾶς. εἰ δ’ αἱ γωνίαι ἴσαι, ἀνάγκη τὴν πορρωτέρω γραμμὴν τοῦ ὁρωμένου μείζω εἶναι τῆς ἐγγυτέρω· τοῦτο γὰρ ἴσμεν. διῃρήσθω οὖν ἡ περιφέρεια εἰς ἴσα ὁσαοῦν πλήθει, ὁράσθω δὲ τὸ Θ. ὅταν οὖν ὁ ἥλιος ἐπὶ τοῦ Α προσλαβὼν τὸ Θ ποιήσῃ τινὰ σκιὰν ἐν τῷ ΘΑ, ἀνάγκη δὴ τὴν ἀκτῖνα ἐπὶ τὸ Α πίπτειν. ὅταν δ’ ἔλθῃ ἐπὶ τὸ Β, ἡ ἀπὸ τοῦ Β ἀκτὶς ἐντὸς τῆς ΘΑ πεσεῖται, καὶ ὅταν πάλιν ἐπὶ τὸ Γ μεταβῇ, ὡσαύτως· εἰ δὲ μή, εὐθεῖα εὐθείας διχῇ ἅψεται. ἐπεὶ οὖν ἴση ἡ ΑΒ τῇ ΒΓ, καὶ αἱ γωνίαι αἱ ὑπὸ ταύτης αἱ πρὸς τῷ Δ ἴσαι ἔσονται· πρὸς τῷ κέντρῳ γάρ. εἰ δὲ τῇ τοῦ Δ, καὶ ἐν τῷ τριγώνῳ· κατὰ κορυφὴν γὰρ ταύταις. ὥστ’ ἐπεὶ εἰς ἴσα διαιρεῖται ἡ γωνία, μείζων ἔσται ἡ ΔΕ τῆς ΕΖ τῇ ΔΘ. ὁμοίως δὲ καὶ αἱ ἄλλαι ἃς ποιοῦσιν αἱ ἀπὸ τῆς περιφερείας ἀκτῖνες. ἅμα δὲ δῆλον καὶ ὅτι κατὰ μεσημβρίαν ἐλαχίστην ἀναγκαῖον εἶναι τὴν σκιάν, καὶ ὅτι αἱ ἐπιδόσεις τότε ἐλάχισται. μάλιστα γὰρ καθ’ ἡμᾶς ὁ ἥλιος τῆς μεσημβρίας ἐστί, καὶ πνῖγος γίνεται διά τε τὴν εἰρημένην αἰτίαν, καὶ ὅτι ἀπνεύματος· ὅταν γὰρ διακρίνῃ τὸν πρὸς τῇ γῇ ἀέρα, πνεῦμα γίνεται. εἰ οὖν ἅμα ἐν ἀμφοτέροις [911b] τοῖς ἡμισφαιρίοις, εἰκότως ἂν αἱ μέσαι νύκτες καὶ ἡ μεσημβρία ἀπνεύματοι εἶεν.

Διὰ τί ὁ ἥλιος διὰ τῶν τετραπλεύρων διέχων οὐκ εὐθύγραμμα ποιεῖ τὰ σχήματα ἀλλὰ κύκλους, οἷον ἐν ταῖς ῥιψίν; ἢ ὅτι ἡ τῶν ὄψεων ἔκπτωσις κῶνός ἐστι, τοῦ δὲ κώνου κύκλος ἡ βάσις, ὥστε πρὸς ὃ ἂν προσπίπτωσιν αἱ τοῦ ἡλίου ἀκτῖνες, κυκλοτερεῖς φαίνονται. ἀναγκαῖον μὲν γάρ ἐστι καὶ τὸ ὑπὸ τοῦ ἡλίου σχῆμα ὑπ’ εὐθειῶν περιέχεσθαι, εἴπερ αἱ ἀκτῖνες εὐθεῖαι. ὅταν γὰρ εὐθεῖαι πρὸς εὐθεῖαν προσπίπτωσιν, εὐθύγραμμον ποιοῦσιν. ἐπὶ δὲ τῶν ἀκτίνων συμβαίνει τοῦτο· πρὸς εὐθεῖαν γὰρ προσπίπτουσι τὴν τοῦ ῥιπὸς γραμμήν, ἢ δι’ οὗ λάμπουσι, καὶ αὐταὶ εὐθεῖαί εἰσιν, ὥστε πρὸς εὐθεῖαν ἔσται ἡ ἔκπτωσις. ἀλλὰ διὰ τὸ ἀσθενεῖς εἶναι τὰς ἀποσχιζομένας ἀπὸ τῶν ὄψεων πρὸς τὰ ἄκρα τῶν εὐθειῶν, οὐχ ὁρᾶται τὰ ἐν ταῖς γωνίαις· ἀλλ’ ὅσον μὲν τῆς εὐθείας ἐνυπάρχει ἐν τῷ κώνῳ, ποιεῖ αὐτήν, τὸ δὲ λοιπὸν οὐ ποιεῖ, ἀλλὰ λανθάνουσιν αἱ ὄψεις ἐπιπίπτουσαι. πολλὰ γὰρ οὐχ ὁρῶμεν ἐφ’ ἃ δικνεῖται ἡ ὄψις, οἷον τὰ ἐν τῷ σκότει. ὅμοιον δὲ τούτῳ καὶ τὸ τὸ τετράγωνον πολυγωνοειδὲς φαίνεσθαι, ἐὰν δὲ πλέον ἀφιστῇ, κύκλον. ὄντος γὰρ κώνου τῆς τῶν ὄψεων ἐκπτώσεως, ἀφισταμένου τοῦ σχήματος εἰς τὸ πόρρω αἱ μὲν εἰς τὰς γωνίας ἀποσχιζόμεναι τῶν ὄψεων διὰ τὸ ἀσθενεῖς εἶναι καὶ ὀλίγαι οὐχ ὁρῶσι, πλέονος τοῦ ἀποστήματος γινομένου, αἱ δὲ εἰς τὸ μέσον προσπίπτουσαι, ἀθρόαι καὶ ἰσχυραὶ οὖσαι, διαμένουσιν. ἐγγὺς μὲν οὖν ὄντος τοῦ σχήματος δύνανται καὶ τὰ ἐν ταῖς γωνίαις ὁρᾶν, πόρρω δὲ αὐτοῦ γινομένου ἀδυνατοῦσιν. διὸ καὶ ἡ περιφερὴς ἀπαγομένη εὐθεῖα φαίνεται. καὶ ἡ σελήνη ὑπὸ εὐθειῶν δοκεῖ περιέχεσθαι τῇ ὀγδόῃ, ἐὰν μὴ κατὰ τὸ πλάτος ἀλλὰ κατὰ τὴν περιέχουσαν γραμμὴν αἱ ὄψεις προσπίπτωσιν. ἐγγὺς μὲν γὰρ οὔσης τῆς περιφερείας δύνανται διακρίνειν αἱ ὄψεις, ὅσῳ ἐγγύτερόν ἐστι θάτερον θατέρου μέρους τῆς περιφερείας· πόρρω δὲ γινομένης οὐ διαισθάνεται, ἀλλὰ δοκεῖ αὐτῇ ἐξ ἴσου εἶναι. διὸ καὶ εὐθεῖα φαίνεται.

Διὰ τί τῆς σελήνης σφαιροειδοῦς οὔσης εὐθεῖαν ὁρῶμεν, ὅταν ᾖ διχότομος; ἢ ὅτι ἐν τῷ αὐτῷ ἐπιπέδῳ ἡ ὄψις γίνεται καὶ ἡ τοῦ κύκλου περιφέρεια, ἣν ὁ ἥλιος ποιεῖ προσβάλλων τῇ σελήνῃ; ὅτε δὲ τοῦτο γένοιτο, εὐθεῖα γραμμὴ ἐφαίνετο [912a] ὁ ἥλιος. ἐπεὶ γὰρ ἀνάγκη τὸ προσβάλλον τὰς ὄψεις πρὸς τὴν σφαῖραν κύκλον ὁρᾶν, ἡ δὲ σελήνη σφαιροειδής, καὶ ὁ ἥλιος ὁρᾷ αὐτήν, κύκλος ἂν εἴη ὁ ὑπὸ τοῦ ἡλίου γινόμενος. οὗτος οὖν ὅταν μὲν ἐξ ἐναντίας ἡμῖν γένηται, ὅλος φαίνεται καὶ δοκεῖ πανσέληνος εἶναι· ὅταν δὲ παραλλάττῃ διὰ τὴν τοῦ ἡλίου μετάβασιν, ἡ περιφέρεια αὐτοῦ κατὰ τὴν ὄψιν γίνεται, ὥστε εὐθεῖα φαίνεται. τὸ δὲ ἕτερον μέρος περιφερές, ὅτι ἐξ ἐναντίας κεῖται τῇ ὄψει ἡμισφαίριον. τὸ δὲ τοιοῦτο ἐφαίνετο ἡμικύκλιον. ἀεὶ γὰρ ἡ σελήνη κατ’ ἀντικρύ ἐστι τῆς ὄψεως. ἀλλ’ ὅταν ὁ ἥλιος ἐπιβάλλῃ, οὐχ ὁρῶμεν, καὶ ἀναπληροῦται μετὰ τὴν ὀγδόην ἐκ τοῦ μέσου, ὅτι ἐπιπαρεξιὼν ὁ ἥλιος ἐκκλινέστερον ἡμῖν ποιεῖ τὸν κύκλον. οὕτω δὲ τιθέμενος πρὸς τὴν ὄψιν ὁ κύκλος κώνου τομῇ ἐμφερὴς ἐγένετο. μηνοειδὴς δὲ φαίνεται, ὅταν ὁ ἥλιος μεταβῇ. ὅταν γὰρ κατὰ τὰ ἔσχατα σημεῖα, καθ’ ἃ διχότομος φαίνεται, ὁ κύκλος ὁ τοῦ ἡλίου γένηται, περιφέρεια φαίνεται ἡ τοῦ κύκλου. οὐ γὰρ ἔτι κατ’ εὐθεῖάν ἐστι τῇ ὄψει, ἀλλὰ παραλλάττει. τούτου δὲ γινομένου, καὶ διὰ τῶν αὐτῶν σημείων τοῦ κύκλου ὄντος, ἀνάγκη μηνοειδῆ φαίνεσθαι. μέρος γάρ τι τοῦ κύκλου κατὰ τὴν ὄψιν εὐθύς ἐστι, τοῦ προτέρου ἐξ ἐναντίας ὄντος, ὥστε τοῦ λαμπροῦ ἀποτέμνεται· εἶθ’ οὕτως καὶ τὰ ἄκρα μένουσιν ἐν τῷ αὐτῷ, ὥστε ἀνάγκη μηνοειδῆ φαίνεσθαι. μᾶλλον δὲ καὶ ἧττον διὰ τὴν τοῦ ἡλίου κίνησιν. μεταβαίνοντος γὰρ τοῦ ἡλίου καὶ ὁ κύκλος ὃν ὁρᾷ ἐπιστρέφεται, ἐν τοῖς αὐτοῖς σημείοις ὤν· ἀπείρους γὰρ ἐγκλίσεις ἐγχωρεῖ αὐτὸν κλιθῆναι, εἴπερ γραφῆναι τοὺς μεγίστους κύκλους διὰ τῶν αὐτῶν σημείων ἀπείρους ἐνδέχεται.

Διὰ τί ὁ ἥλιος καὶ ἡ σελήνη σφαιροειδῆ ὄντα ἐπίπεδα φαίνεται; ἢ ὅτι πάντων ὅσων τὸ ἀπόστημα ἄδηλον, ὅτε πλεῖον ἢ ἔλαττον ἀφέστηκεν, ἐξ ἴσου φαίνονται; ὥστε καὶ ἐφ’ ἑνὸς μὲν μόρια δ’ ἔχοντος, ἂν μὴ τῇ χρόᾳ διαφέρῃ, ἀνάγκη τὰ μόρια ἐξ ἴσου φαίνεσθαι. τὸ δ’ ἐξ ἴσου ὁμαλὸν καὶ ἐπίπεδον ἀνάγκη δοκεῖν εἶναι.

Διὰ τί τὰς σκιὰς ποιεῖ ὁ ἥλιος ἀνίσχων καὶ δύνων μακράς, αἰρόμενος δὲ ἐλάττους, ἐπὶ τῆς μεσημβρίας δ’ ἐλαχίστας; ἢ ὅτι ἀνίσχων τὸ μὲν πρῶτον παράλληλον ποιήσει τὴν σκιὰν τῇ γῇ, καὶ ἄπειρον ὡς ἄνισον ὑπερτείνει, ἔπειτα μακράν· ἀεὶ δ’ ἐλάττω διὰ τὸ ἀεὶ τὴν ἀπὸ τοῦ ἀνωτέρου σημείου εὐθεῖαν ἐντὸς πίπτειν. γνώμων τὸ ΑΒ, ἥλιος οὗ τὸ Γ καὶ οὗ τὸ Δ· ἡ δὲ ἀπὸ τοῦ Γ ἀκτίς, ἐφ’ ἧς τὸ ΓΖ, ἐξωτέρω [912b] ἔσται τῆς ΓΕ. ἔστι δὲ σκιὰ ἡ μὲν ΒΕ ἀνωτέρω ὄντος τοῦ ἡλίου, ἡ δὲ ΒΖ κατωτάτω· ἐλαχίστη δέ, ὅσῳ ἀνωτάτω, ᾗ καὶ ὑπὲρ τῆς κεφαλῆς.

Διὰ τί αἱ ἀπὸ τῆς σελήνης σκιαὶ μείζους τῶν ἀπὸ τοῦ ἡλίου, ὅταν ἀπὸ τῆς αὐτῆς ὦσι καθέτου; ἢ διότι ἀνώτερος ὁ ἥλιος τῆς σελήνης; ἀνάγκη οὖν ἐντὸς πίπτειν τὴν ἀπὸ τοῦ ἀνωτέρω ἀκτῖνα. γνώμων ἐφ’ ᾧ ΑΔ, σελήνη Β, ἥλιος Γ. ἡ μὲν οὖν ἀπὸ τῆς σελήνης ἀκτὶς ΒΖ, ὥστε ἔσται σκιὰ ἡ τὸ ΔΖ· ἡ δὲ ἀπὸ τοῦ ἡλίου ἡ τὸ ΓΕ, ὥστε ἔσται σκιὰ ἐξ ἀνάγκης ἥττων· ἔσται γὰρ τὸ ΔΕ.

Διὰ τί ἐν ταῖς τοῦ ἡλίου ἐκλείψεσιν, ἐάν τις θεωρῇ διὰ κοσκίνου ἢ φύλλων, οἷον πλατάνου ἢ ἄλλου πλατυφύλλου, ἢ τοὺς δακτύλους τῆς ἑτέρας χειρὸς ἐπὶ τὴν ἑτέραν ἐπιζεύξας, μηνίσκοι αἱ αὐγαὶ ἐπὶ τῆς γῆς γίνονται; ἢ ὅτι ὥσπερ δι’ ὀπῆς ἐὰν λάμπῃ εὐγωνίου τὸ φῶς, στρογγύλον καὶ κῶνος γίνεται; αἴτιον δὲ ὅτι δύο γίνονται κῶνοι, ὅ τε ἀπὸ τοῦ ἡλίου πρὸς τὴν ὀπὴν καὶ ὁ ἐντεῦθεν πρὸς τὴν γῆν, καὶ συγκόρυφοι. ὅταν οὖν ἐχόντων οὕτως ἄνωθεν κύκλῳ ἀποτέμνηται, ἔσται μηνίσκος ἐξ ἐναντίας ἐπὶ τῆς γῆς τοῦ φωτός. ἀπὸ τοῦ μηνίσκου γὰρ τῆς περιφερείας γίνονται αἱ ἀκτῖνες, αἱ δὲ ἐν τοῖς δακτύλοις καὶ κοσκίνοις οἷον ὀπαὶ γίνονται· διὸ ἐπιδηλότερον γίνεται ἢ διὰ μεγάλων ὀπῶν. ἀπὸ δὲ τῆς σελήνης οὐ γίνονται, οὔτε ἐκλειπούσης οὔτε ἐν αὐξήσει οὔσης ἢ φθίσει, διὰ τὸ μὴ ἀκριβεῖς τὰς ἀπὸ τῶν ἄκρων αὐγὰς εἶναι, ἀλλὰ τῷ μέσῳ φαίνειν· ὁ δὲ μηνίσκος μικρὸν τὸ μέσον ἔχει.

Διὰ τί παρήλιος οὐ γίνεται οὔτε μεσουρανοῦντος τοῦ ἡλίου οὔθ’ ὑπὲρ τὸν ἥλιον οὔθ’ ὑπὸ τὸν ἥλιον, ἀλλ’ ἐκ πλαγίων μόνον; ἢ διότι παρήλιος γίνεται κλωμένης τῆς ὄψεως πρὸς τὸν ἥλιον, αὕτη δὲ τοῦ ἀέρος ἡ στάσις, ἐφ’ ἧς ἀνακλᾶται ἡ ὄψις, οὔτ’ ἐγγὺς ἂν γένοιτο τοῦ ἡλίου οὔτε πόρρω. ἐγγὺς μὲν γὰρ οὖσαν ὁ ἥλιος διαλύσει, πόρρω δὲ οὔσης ἡ ὄψις οὐκ ἀνακλασθήσεται· ἀπὸ γὰρ μικροῦ ἐνόπτρου πόρρω ἀνατεινομένη ἀσθενὴς γίνεται. διὸ καὶ ἅλως οὐ γίνεται. ἐξ ἐναντίας τοῦ ἡλίου μὲν οὖν ἐὰν γίνηται καὶ ἐγγύς, διαλύσει ὁ ἥλιος, ἐὰν δὲ πόρρω, ἐλάττων ἡ ὄψις προσπεσεῖται. ἐὰν δὲ ἐν τῷ πλαγίῳ, ἔστι τοσοῦτον ἀποστῆναι τὸ ἔνοπτρον ὥστε μήτε τὸν ἥλιον διαλῦσαι μήτε τὴν ὄψιν ἀθρόαν ἀνελθεῖν, διὰ τὸ ὑπὸ τὴν γῆν φέρεσθαι. ὑπὸ δὲ τὸν ἥλιον οὐ γίνεται διὰ τὸ πλησίον μὲν τῆς γῆς ὄντος διαλύεσθαι ἂν ὑπὸ [913a] τοῦ ἡλίου, ἄνω δὲ μεσουρανίου τὴν ὄψιν διασπᾶσθαι. καὶ ὅλως οὐδὲ ἐκ πλαγίας μεσουρανίου γίνεται, ὅτι ἡ ὄψις ὑπὸ τὴν γῆν ἐὰν λίαν φέρηται, ὀλίγη ἥξει εἰς τὸ ἔνοπτρον, ὥστε ἀνακλωμένη πᾶν ἔσται ἀσθενής.

Διὰ τί τῆς σκιᾶς τὸ ἄκρον τοῦ ἡλίου τρέμειν φαίνεται; οὐ γὰρ δὴ διὰ τὸ φέρεσθαι τὸν ἥλιον· ἀδύνατον γὰρ κινεῖσθαι εἰς τἀναντία, ὁ δὲ τρόμος τοιοῦτος. ἔτι δὲ ἄδηλος ἡ μετάβασις, ὥσπερ καὶ τοῦ ἡλίου αὐτοῦ. ἢ διὰ τὸ κινεῖσθαι τὰ ἐν τῷ ἀέρι; καλεῖται δὲ ξύσματα. φανερὰ δὲ ἔσται ἐν ταῖς ἀκτῖσι ταῖς διὰ τῶν θυρίδων· ταῦτα γὰρ κινεῖται κἂν νηνεμίᾳ. ἔκ τε οὖν τῆς σκιᾶς εἰς τὸ φῶς ἔκ τε τοῦ φωτὸς εἰς τὴν σκιὰν φερομένων ἀεί, καὶ ὁ ὅρος ὁ κοινὸς τοῦ φωτὸς καὶ τῆς σκιᾶς φαίνεται κινούμενος παρεγγύς. ᾗ γὰρ οἷον σκιὰν ποιοῦσιν, ᾗ δὲ φῶς, ἑκατέρωθεν μεταβάλλονται ταῦτα. ὥστε ἡ σκιὰ φαίνεται κινεῖσθαι, οὐ κινουμένη αὐτὴ οὕτως, ἀλλ’ ἐκεῖναι.

ΙϚ. ΟΣΑ ΠΕΡΙ ΤΑ ΑΨΥΧΑ.

Διὰ τί αἱ μὲν βάσεις τῶν πομφολύγων λευκαὶ ἐν τοῖς ὕδασι· καὶ ἐὰν ἐν ἡλίῳ τεθῶσι, σκιὰν οὐ ποιοῦσιν, ἀλλ’ ἡ μὲν ἄλλη πομφόλυξ σκιὰν ποιεῖ, ἡ δὲ βάσις οὐ ποιεῖ, ἀλλ’ ἡλίωται κύκλῳ. τὸ δὲ ἔτι θαυμασιώτερον, ὅτι οὐδ’ ἐάν τι τεθῇ ξύλον εἰς τὸ ὕδωρ ἐν τῷ ἡλίῳ, τέμνεται ὑπὸ τοῦ ὕδατος ταῦτα. ἢ οὐ γίνεται σκιά, ἀλλ’ ἡλίῳ διῄρηται ἡ σκιά; εἰ οὖν σκιά ἐστι τὸ μὴ ὁρώμενον, καὶ ὑπὸ τοῦ ἡλίου κύκλῳ ἂν ὁρῷτο ὁ ὄγκος. τοῦτο δὲ ὅτι ἀδύνατον, δείκνυται ἐν τοῖς ὀπτικοῖς· οὐδὲ γὰρ τὸ ἐλάχιστον ὑπὸ τοῦ μεγίστου ἐνδέχεται ὅλον περιοφθῆναι.

Διὰ τί αἱ πομφόλυγες ἡμισφαίρια; ἢ διὰ τὸ ὡς ἀπὸ κέντρου πρὸς τὸν ἀέρα φέρεσθαι ἄνω ὁμοίως πάντῃ; ἀνάγκη δὲ τοῦτο ἡμισφαίριον εἶναι. τὸ κάτω δὲ ἡμισφαίριον ἀποτέμνεται ὑπὸ τοῦ ἐπιπέδου τοῦ ὑδατώδους, ἐν ᾧ τὸ κέντρον ἐστίν.

Διὰ τί τοῖς ἄνισον τὸ βάθος ἔχουσι μεγέθεσιν, ἐάν τις τὸ κουφότερον κινῇ, κύκλῳ περιφέρεται τὸ βαλλόμενον, οἷον τοῖς μεμολιβδωμένοις ἀστραγάλοις συμβαίνει, ἄν τις βάλλῃ τὸ κουφότερον πρὸς αὑτὸν στρέψας μέρος; ἢ ὅτι τὸ βαρύτερον ἀδύνατον ἰσοδρομεῖν τῷ κουφοτέρῳ, ἀπὸ τῆς αὐτῆς ἰσχύος ῥιφθέν; ἐπεὶ δὲ ἀνάγκη μὲν πάμπαν κινεῖσθαι, [913b] ἐξ ἴσου δὲ ἀδύνατον, ὁμοταχῶς μὲν φερόμενα τὴν αὐτὴν οἰσθήσεται γραμμήν, θᾶττον δὲ θατέρου φερομένου κύκλον ἀνάγκη φέρεσθαι, ἐπειδὴ ἐν τούτῳ μόνῳ τῷ σχήματι ταὐτα ἀεὶ κατάλληλα ὄντα σημεῖα ἐν ταὐτῷ χρόνῳ ἀνίσους διέρχεται γραμμάς.

Διὰ τί τὰ πίπτοντα ἐπὶ τὴν γῆν καὶ ἀφαλλόμενα ὁμοίας γωνίας ποιεῖ πρὸς τὸ ἐπίπεδον ἐφ’ ἑκάτερα τοῦ σημείου ᾧ ἥψατο τοῦ ἐπιπέδου; ἢ ὅτι πάντα μὲν φύσει φέρεται πρὸς ὀρθήν; τὰ μὲν οὖν εἰς ὁμαλὲς πεσόντα, τῇ καθέτῳ καὶ τῇ διαμέτρῳ προσκρούσαντα τῷ ἐπιπέδῳ, τοσαύτας ποιεῖ γωνίας ἀφαλλόμενα διὰ τὸ τὴν μὲν διάμετρον ἴσα διαιρεῖν· τὰ δὲ εἰς τὰ πλάγια πίπτοντα, οὐ τῇ καθέτῳ προσκρούοντα τῷ χωρίῳ ἀλλὰ τῷ ἀνωτέρω τῆς καθέτου σημείῳ, συμβαίνει πάλιν ἀνωσθέντα ὑπὸ τοῦ πληγέντος τόπου εἰς τοὐναντίον φέρεσθαι, τὰ μὲν στρογγύλα, ὅτι ἐν αὑτῷ φερόμενα εἰς τοὐναντίον τῆς ἀπώσεως ἐξελίττεται, ἐάν τε ἠρεμῇ τὸ μέσον αὐτῶν ἐάν τε καὶ τόπον διαλλάττῃ· τὰ δ’ εὐθύγραμμα διά τε τὴν κάθετον αὐτὴν εἰς τοὔμπροσθεν προσηνέχθη ἐκκρούεσθαι, καθάπερ τοῖς τε ξυρουμένοις τὰ σκέλη συμβαίνει, καὶ ὧν τοὺς κολύθρους ὑφαρπάζουσιν. πάντες γὰρ οὗτοι εἰς τοὐναντίον καὶ ὄπισθεν ἐπιπίπτουσι, διὰ τὸ ἰσάζειν αὐτὰ τὴν κάθετον, μετέωρόν τε εἶναι καὶ εἰς τοὔμπροσθεν ἐκκρούεσθαι· τὰ γὰρ ἐναντία δηλονότι αὐτῆς ὄπισθέν τε καὶ κάτω συμβαίνει γίνεσθαι, κάτω δὲ φερόμενα βαρύτερα ἂν εἴη. ὃ οὖν τούτοις πτῶμα, τοῖς ἀφαλλομένοις φορὰν συμβαίνει γίνεσθαι. πρὸς ὀρθὴν μὲν οὖν οὐδέτερα αὐτῶν ἀφάλλεται διὰ τὸ τὴν μὲν κάθετον δίχα τῷ βάρει διαιρεῖν τὰ φερόμενα, καθέτους δὲ πλείους πρὸς ταὐτὸ ἐπίπεδον μὴ γίνεσθαι τεμνούσας αὐτάς· ὃ τούτοις συμβήσεται καθέτου γινομένης κατὰ τὴν ἔφαλσιν, ᾗ προσέκρουσε τῷ ἐπιπέδῳ τὸ φερόμενον, διχοτομεῖσθαι πάλιν ὑπ’ αὐτῆς αὐτὸ συμβήσεται, ὥστε ἀναγκαῖον τέμνεσθαι ὑπ’ αὐτῆς τὴν πρώτην κάθετον ὑφ’ ἧς ἐφέρετο. ἐπεὶ δ’ εἰς τοὐναντίον μὲν οἰσθήσεται, πρὸς ὀρθὴν δὲ οὐκ οἰσθήσεται, λοιπὸν ὀξεῖαν γίνεσθαι γωνίαν τὴν ἐπὶ θατέρῳ τοῦ προσπεσόντος τῷ ἐπιπέδῳ σημείου· ὅρος γάρ ἐστιν ἡ ὀρθὴ τῶν ἐναντίων γωνιῶν.

Διὰ τί ὁ μὲν κύλινδρος ὠσθεὶς εἰς εὐθύ τε φέρεται καὶ γράφει εὐθείας τοῖς ὁρίζουσιν αὐτὸν κύκλοις, ὁ δὲ κῶνος κύκλῳ περιφέρεται, τῆς κορυφῆς μενούσης, καὶ γράφει [914a] τὸν κύκλον τῷ ὁρίζοντι; κύκλῳ μὲν ἀμφότερα φέρεται, γράφει δ’ ἐν τῷ ἐπιπέδῳ ὁ μὲν κύλινδρος εὐθείας, ὁ δὲ κῶνος κύκλους, διὰ τὸ τοὺς μὲν ἐν τῷ κώνῳ ἀνίσους εἶναι κύκλους, φέρεσθαι δὲ ἀεὶ θᾶττον τὸν μείζονα τῶν περὶ τὸ αὐτὸ κέντρον. φερομένων δὲ ἀνίσως πάντων ἅμα τῶν ἐν τῷ κώνῳ κύκλων, συμβαίνει τοὺς ἐξωτάτω πλεῖστον ἐν ταὐτῷ χρόνῳ τόπον καὶ γραμμὴν φέρεσθαι· διὸ καὶ κύκλῳ φέρονται, γράφονταί τε γὰρ πάντες τῇ αὐτῇ εὐθείᾳ, καὶ τῆς εὐθείας κύκλῳ μὲν φερομένης οὐ πάντα τὰ ἐν αὐτῇ σημεῖα ἴσην ἐν ταὐτῷ χρόνῳ γράφει γραμμήν, εἰς εὐθὺ δὲ φέρει τὴν ἴσην. τοῦ δὲ κυλίνδρου πάντων ἴσων ὄντων τῶν κύκλων καὶ περὶ ταὐτὸ κέντρον, συμβαίνει τὰ ἅμα τοῦ ἐπιπέδου ἐν αὐτοῖς πάνθ’ ἁπτομένοις σημεῖα, φέρεσθαί τε ἰσοταχεῖς κυλιομένους διὰ τὸ τοὺς κυλίνδρους ἴσους εἶναι, καὶ ἥκειν ἐπὶ τὸ ἐπίπεδον πάλιν ἅμα ἐκκυλισθέντα ἕκαστον τὸν αὐτοῦ κύκλον, ὥστε καὶ τὰς ἐν τῷ ἐπιπέδῳ εὐθείας ἴσας γίνεσθαι· τῇ γὰρ αὐτῶν ἁφῇ αὐτὰς ἔγραψαν, ὄντες ἴσοι τε καὶ ἰσοταχεῖς, ἐγίνοντο δὲ εὐθεῖαι αἱ ὑπὸ τῆς αὐτῆς γραφεῖσαι γραμμῆς εἰς εὐθὺ φερομένης, ὥστε διὰ ταύτας εἰς εὐθὺ ἀναφέροιτο ὁ κύλινδρος. διαφέρει γὰρ οὐθέν, ᾗ ἡ πρώτη ἥψατο ὁ κύλινδρος τοῦ ἐπιπέδου γραμμῇ, ταύτῃ ἕλκειν ἐν τῷ ἐπιπέδῳ, ἢ ἐγκυλίειν αὐτό· ἀεὶ γὰρ ἴσην καὶ ὁμοίαν γραμμὴν τῶν ἐν τῷ κυλίνδρῳ συμβήσεται ἅπτεσθαι τοῦ ἐπιπέδου, ἑλκομένου τε καὶ κυλιομένου τοῦ κυλίνδρου.

Διὰ τί τῶν βιβλίων ἡ τομὴ οὖσα ἐπίπεδος καὶ εὐθεῖα, ἐὰν μέν τις τέμῃ παρὰ τὴν βάσιν, γίνεται εὐθεῖα ἀνελιττομένη, ἐὰν δὲ ἐγκλίνας, σκολιά; ἢ ὅτι συμβαίνει τῶν ἐν τῇ ἑτέρᾳ τομῇ κύκλων ἐν ταὐτῷ ἐπιπέδῳ ὄντων τὴν ἐγκεκλιμένην τομὴν μὴ παρακειμένην εἶναι, ἀλλ' ἐν τῇ μὲν πλεῖον τῇ δὲ ἔλαττον αὐτῆς ἀπέχειν, ὥστε ἐξελιττομένου οἱ μὲν ἐν ταὐτῷ ἐπιπέδῳ ὄντες κύκλοι, καὶ τὴν ἀρχὴν ἔχοντες ἐν ταὐτῷ ἐπιπέδῳ, τὴν ἐξ αὐτῶν ποιήσουσι γραμμὴν ἐξελιττόμενοι. ἔστι γὰρ ἡ γιγνομένη γραμμὴ ἐκ τῶν κύκλων οἵ εἰσιν ἐν ταὐτῷ ἐπιπέδῳ· ὥστε καὶ εὐθεῖα οὖσα ἐν ἐπιπέδῳ. ἥ τε τῆς λοξῆς τομῆς ἐξελιττομένη γραμμὴ οὐκ οὖσα παρὰ τὴν πρώτην, ἀλλὰ τῇ μὲν πλέον τῇ δὲ ἔλαττον αὐτῆς διεστηκυῖα διὰ τὸ καὶ τὴν τομὴν οὕτως ἔχειν πρὸς αὐτήν, οὐκ ἐν ἐπιπέδῳ ἔσται, ὥστε οὐδ' εὐθεῖα· τῆς γὰρ εὐθείας οὐκ ἔστι τὸ μὲν ἐν ἄλλῳ τὸ δὲ ἐν ἄλλῳ ἐπιπέδῳ.

[914b] Διὰ τί διαιρούμενα τὰ μεγέθη ἐλάττω φαίνεται πάντα τοῦ ὅλου; ἢ ὅτι διαιρούμενα μὲν ἀριθμὸν ἔχει πάντα, μεγέθει δὲ ἐλάττω ἐστὶ τοῦ ἑνός; τὸ μὲν γὰρ μέγα τῷ κατὰ συνέχειαν εἶναι καὶ ποσόν τι μέγα λέγεται, ὁ δὲ ἀριθμός τε πᾶς παντὸς μεγέθους ἀριθμοῦ μείζων. διόπερ εἰκὸς τὸ ὅλον διαιρεθέντων τῶν μερῶν μεῖζον φαίνεσθαι· τῶν αὐτῶν γὰρ ὄντων αὐτῶν τὸ μὲν ὅλον τὴν τοῦ μεγέθους ἔχει μᾶλλον φύσιν, συνεχὲς ὄν, τὰ δὲ μέρη τὴν τοῦ ἀριθμοῦ.

Τῶν περὶ τὴν κλεψύδραν συμβαινόντων τὸ μὲν ὅλον ἔοικεν εἶναι αἴτιον καθάπερ Ἀναξαγόρας λέγει· ὁ γὰρ ἀήρ ἐστιν αἴτιος, ἐναπολαμβανόμενος ἐν αὐτῇ, τοῦ μὴ εἰσιέναι τὸ ὕδωρ ἐπιληφθέντος τοῦ ἄλλου. οὐ μὴν ἁπλῶς γε αἴτιος· κἂν γάρ τις αὐτὴν πλαγίαν ἐνῇ εἰς τὸ ὕδωρ, ἐπιλαβὼν τὸν αὐλόν, εἴσεισι τὸ ὕδωρ. διόπερ οὐ λέγεται ὑπ' αὐτοῦ ἱκανῶς ᾗ αἴτιόν ἐστιν. ἔστι δὲ αἴτιον μέν, καθάπερ εἴρηται, ὁ ἀήρ· οὗτος δὲ ὠθούμενός τε καὶ καθ' ἑαυτὸν φερόμενος καὶ μὴ βιαζόμενος ἐπ' εὐθείας πέφυκε φέρεσθαι, καθάπερ καὶ ἄλλα στοιχεῖα. πλαγίας μὲν οὖν βαφείσης τῆς κλεψύδρας, διὰ τῶν ἐναντίων τοῖς ἐν τῷ ὕδατι τρυπημάτων ἐπ' εὐθείας μένων ὑπὸ τοῦ ὕδατος ἐξέρχεται, ὑποχωροῦντος δὲ αὐτοῦ τὸ ὕδωρ εἰσέρχεται· ὀρθῆς δὲ εἰς τὸ ὕδωρ βαφείσης τῆς κλεψύδρας, οὐ δυνάμενος πρὸς ὀρθὴν ὑποχωρεῖν διὰ τὸ πεφρᾶχθαι τὰ ἄνω, μένει περὶ τὰ πρῶτα τρυπήματα· ἄττεσθαι γὰρ εἰς αὐτὸν οὐ πέφυκεν. σημεῖον δ' ἐστὶ τοῦ εἴργειν δύνασθαι τὸ ὕδωρ ἀκινητίζοντα τὸν ἀέρα τὸ ἐπ' αὐτῆς γινόμενον τῆς κλεψύδρας. ἐὰν γάρ τις αὐτῆς αὐτὴν τὴν κωδίαν ἐμπλήσας ὕδατος, ἐπιλαβὼν τὸν αὐλόν, καταστρέψῃ ἐπὶ τὸν αὐλόν, οὐ φέρεται τὸ ὕδωρ διὰ τοῦ αὐλοῦ ἐπὶ στόμα. ἀνοιχθέντος δὲ τοῦ στόματος οὐκ εὐθὺς ἐκρεῖ κατὰ τὸν αὐλόν, ἀλλὰ μικροτέρῳ ὕστερον, ὡς οὐκ ὂν ἐπὶ τῷ στόματι τοῦ αὐλοῦ, ἀλλ’ ὕστερον διὰ τούτου φερόμενον ἀνοιχθέντος. πλήρους τε καὶ ὀρθῆς οὔσης τῆς κλεψύδρας, ἀνοιχθέντος τοῦ αὐλοῦ εὐθὺς ῥεῖ διὰ τοῦ ἠθμοῦ, διὰ τὸ ἐκείνου μὲν ἅπτεσθαι, τῶν δὲ ἄκρων τοῦ αὐλοῦ μὴ ἅπτεσθαι. οὐκ εἰσέρχεται μὲν οὖν τὸ ὕδωρ εἰς τὴν κλεψύδραν διὰ τὴν προειρημένην αἰτίαν, ἐξέρχεται δὲ ἀνοιχθέντος τοῦ αὐλοῦ διὰ τὸ τὸν ἐν αὐτῷ ἀέρα κινούμενον ἄνω καὶ κάτω πολλὴν κένωσιν ποιεῖν τοῦ ἐν τῇ κλεψύδρᾳ ὕδατος. ὠθούμενον δὲ κάτω καὶ αὐτὸ ῥέπον εἰς αὐτὸ εἰκότως ἐκρεῖ, βιαζόμενον τὸν ἐκτὸς [915a] τῆς κλεψύδρας ἀέρα κινούμενόν τε καὶ ὄντα ἴσον τῇ δυνάμει τῷ ἐπωθοῦντι αὐτὸν ἀέρι, τῇ δὲ ἀντερείσει ἀσθενέστερον ἐκείνου διὰ τὸ διὰ στενοῦ αὐτὸν τοῦ αὐλοῦ ῥέοντα θᾶττον καὶ σφοδρότερον ῥεῖν, καὶ προσπίπτειν τῷ ὕδατι. τοῦ δὲ πωμασθέντος τοῦ αὐλοῦ μὴ συρρεῖν τὸ ὕδωρ αἴτιον, ὅτι τὸ ὕδωρ εἰσιὸν εἰς τὴν κλεψύδραν ἐξωθεῖ βίᾳ τὸν ἀέρα ἐξ αὐτῆς. σημεῖον δέ ἐστι τὸ γινόμενον ἐν ταύτῃ πνεῦμα καὶ ἐρυγμός. εἰσιόντος δὲ τοῦ ὕδατος, βίᾳ ὠθοῦν συνεισπίπτει εἰς τὸν αὐλὸν αὐτοῦ, καθάπερ τὰ ἐκπιεστὰ ξύλα ἢ χαλκὸς τῇ διαιρέσει πιεζούμενος, μένει ἄνευ παντὸς ἄλλου συνδέσμου ... ἐκκρουσθῇ ἐκ τοῦ ἐναντίου, καθάπερ τοὺς κατεαγότας ὀπιούρους ἐν τοῖς ξύλοις ἐκκρούουσιν. συμβαίνει δὲ τοῦτο ἀνοιχθέντος τοῦ αὐλοῦ γίνεσθαι διὰ τὰ προειρημένα. ἢ οὖν διὰ ταῦτα εἰκός ἐστιν αὐτὸν μὴ ἐκρεῖν, ἢ ἐξιόντος βιαίου ἀέρος καὶ πνευματουμένου. δηλοῖ δὲ ὁ ψόφος ἐπισπᾶσθαι τῷ πνεύματι τὸ ὕδωρ ἄνω, ὥσπερ ἐπὶ πολλῶν συμβαίνει γίνεσθαι. ἐπισπώμενον δὲ καὶ συνεχὲς ὂν αὐτῷ πᾶν τὸ ὕδωρ μένει πιεζούμενον ὑπὸ τοῦ ἀέρος, ἕως ἂν ἀπωσθῇ πάλιν ὑπ’ αὐτοῦ. τῆς δὲ ἀρχῆς μενούσης, καὶ τὸ ἄλλο ἐξ αὐτῆς κρέμαται ὕδωρ ἓν καὶ συνεχές. εὔλογον δὲ τοῦτο γίνεσθαι· τοῦ γὰρ αὐτοῦ ἐστὶ κινῆσαί τε ἐκ τῆς οἰκείας χώρας τι, καὶ τοῦτο ἴσχειν, ὡς ἐκείνης, ἐν πλείονι δὲ χρόνῳ, ἐὰν ᾖ ὅμοια τῇ δυνάμει τό τε ἔχον καὶ τὸ ἐχόμενον, ἢ τὸ ἴσον κρεῖττον, ὅπερ ἐνταῦθα συμβαίνει· πνεῦμα γὰρ ὕδατός ἐστι κρεῖττον τῇ δυνάμει.

Διὰ τί τὰ μόρια τῶν φυτῶν καὶ τῶν ζῴων, ὅσα μὴ ὀργανικά, πάντα περιφερῆ, τῶν μὲν φυτῶν τὸ στέλεχος καὶ οἱ πτόρθοι, τῶν δὲ ζῴων κνῆμαι, μηροί, βραχίονες, θώραξ· τρίγωνον δὲ οὐδὲ πολύγωνον οὔτε ὅλον οὔτε μόριόν ἐστιν; πότερον, ὥσπερ Ἀρχύτας ἔλεγε, διὰ τὸ ἐν τῇ κινήσει τῇ φυσικῇ ἐνεῖναι τὴν τοῦ ἴσου ἀναλογίαν (κινεῖσθαι γὰρ ἀνάλογον πάντα), ταύτην δὲ μόνην εἰς αὑτὴν ἀνακάμπτειν, ὥστε κύκλους ποιεῖν καὶ στρογγύλα, ὅταν ἐγγένηται;

Διὰ τί ἐν τοῖς ἐσχάτοις ἀεὶ γίνεται περιφερῆ; ἢ ὅτι ἡ φύσις ἐκ τῶν ἐνδεχομένων πάντα ποιεῖ ὡς δυνατὸν ἄριστα καὶ κάλλιστα, τὸ δὲ σχῆμα τοῦτο κάλλιστον, τὸ αὐτὸ αὐτῷ ὁμοιότατον.

Διὰ τί, ἐὰν κύκλος ῥιφθῇ, τὸ μὲν πρῶτον εὐθεῖαν γράφει, παυόμενος δὲ ἕλικα, ἕως ἂν πέσῃ; ἢ εὐθεῖαν μὲν τὸ πρῶτον, ὅτι ὁμοίως ἔνθεν καὶ ἔνθεν ὁ ἀὴρ ἀπορθοῖ; ἴσης [915b] οὖν οὔσης τῆς ῥοπῆς ἔνθεν καὶ ἔνθεν, ἀνάγκη καὶ τὴν γραμμὴν τοιαύτην εἶναι, ἣ ἴσον διαιρεῖ τὸν τόπον ἔνθεν καὶ ἔνθεν· τοιαύτη δέ ἐστιν εὐθεῖα. ὅταν δὲ βρίσῃ ἐπὶ θάτερον μέρος δι’ ἀνωμαλίαν τοῦ περιισταμένου ἀέρος, οὐκέτι ἴσην γράφει τό τε ἐντὸς καὶ τὸ ἐκτὸς μέρος, ἀλλ’ ἀνάγκῃ περιφερῆ.

Διὰ τί τοῖς ἄνισον τὸ βάθος ἔχουσι μεγέθεσιν, ἐάν τις κουφότερον κινῇ τῶν μερῶν, κύκλῳ περιφέρεται τὸ βαλλόμενον, οἷον τοῖς μεμολιβδωμένοις ἀστραγάλοις συμβαίνει, ἐάν τις βάλλῃ τὸ κουφότερον πρὸς αὑτὸν στρέψας μέρος; ἢ ὅτι τὸ βαρύτερον ἀδύνατον ἰσοδρομεῖν τῷ κουφοτέρῳ ἀπὸ τῆς αὐτῆς ἰσχύος ῥιφθέν; ἐπεὶ δὲ ἀνάγκη μὲν κινεῖσθαι, ἐξ ἴσου δὲ καὶ ἐπ’ εὐθείας ἀδύνατον, ἀνάγκη εἰς τὸ ἐντὸς φερόμενον κύκλῳ φέρεσθαι· οἷον εἰ ὅλως τι ἦν αὐτοῦ ἀκίνητον διὰ βάρος ἐν μέσῳ, τὸ μὲν πρὸς τῷ ἀφιέντι εἰς τὸ πρόσθεν ἂν ἐκινήθη αὐτοῦ μέρος, τὸ δὲ ὑπ’ ἐκεῖνα πρὸς τὸν ἀφιέντα. ἐπεὶ δὲ κινεῖται μὲν τὸ πᾶν, ἔχει δὲ ἐν μέσῳ τὸ βάρος φερόμενον, ἀνάγκη ταὐτὸ τοῦτο ποιεῖν.

Διὰ τί τὰ φερόμενα ὅταν ἀντιπέσῃ, ἀφάλλεται εἰς τοὐναντίον ἢ πέφυκε φέρεσθαι, καὶ πρὸς ὁμοίας γωνίας; ἢ ὅτι οὐ μόνον ἐκείνην φέρεται τὴν φορὰν ἣν φέρεται κατὰ τὸ οἰκεῖον μέρος, ἀλλὰ καὶ τὴν ὑπὸ τοῦ ἀφιέντος γινομένην; ἡ μὲν οὖν οἰκεία παύεται, ὅταν εἰς τὸν οἰκεῖον ἔλθῃ τόπον (ἅπαν γὰρ ἠρεμεῖ ἐλθὸν εἰς ὃν φέρεται τόπον κατὰ φύσιν), καθ’ ἣν δ’ ἔχει ἀλλοτρίαν, ἀνάγκη ἔτι κινεῖσθαι, οὐκ εἰς τὸ πρόσθεν δὲ διὰ τὸ κωλύεσθαι, ἀλλ’ ἢ εἰς τὸ πλάγιον ἢ εἰς τὸ ὀρθόν. ἅπαντα δὲ ἀποπηδᾷ πρὸς ὁμοίας γωνίας διὰ τὸ φέρεσθαι μὲν ἐνταῦθα οὗ ἡ κίνησις φέρει, ἣν ἐποίησεν ὁ ἀφείς· ἐκεῖ δὲ πρὸς ὀξεῖαν ἢ πρὸς ὀρθὴν φέρεσθαι συμβαίνει. ἐπεὶ οὖν τὸ ἀντικροῦσαν κωλύει τὴν εἰς εὐθὺ κίνησιν, ὁμοίως κωλύει τὸ φερόμενον καὶ τὴν φορὰν αὐτοῦ. ὥσπερ οὖν ἐν τοῖς κατόπτροις τὸ ἄκρον τῆς εὐθείας οὗ ξυνέπεσεν ἡ ὄψις φαίνεται, καὶ ἐν τοῖς φερομένοις οὕτω τὸ ἐναντίον γίνεται· τοσαύτην γὰρ γωνίαν ἀπέωσται ὅση γίνεται ἡ κατὰ κορυφήν. δεῖ γὰρ νοῆσαι μετακινουμένην τὴν γωνίαν καὶ τὴν φοράν. τούτου δὲ γενομένου φανερὸν ὅτι πρὸς ὁμοίας γωνίας ἀνάγκη ἀφάλλεσθαι.

ΙΖ. ΟΣΑ ΠΕΡΙ ΕΜΨΥΧΑ.

Διὰ τί οἱ ἀσύμμετροι παρ’ ἀλλήλους θεωρούμενοι μείζους φαίνονται ἢ καθ’ αὑτοὺς μόνους; ἢ ὅτι τὸ σύμμετρόν ἐστιν [916a] ἕν, καὶ ἡ συμμετρία ὅτι μάλιστα ἓν ποιεῖ, τὸ δὲ ἓν ἀδιαίρετον βούλεται εἶναι, τὸ δὲ ἀδιαίρετον ἔλαττόν ἐστιν, ἡ δὲ συμμετρία κατὰ τὴν διαφορὰν πολλὰ ποιεῖ. καθ’ αὑτὰ μὲν οὖν θεωρούμενα μᾶλλον λανθάνει ποῖα ἄττα τὰ μεγέθη ἐστί, παρ’ ἄλληλα δὲ οὔ. τὸ μὲν οὖν ἀδιαίρετον ἓν φαίνεται, καὶ ἡ θεωρία μία ἐστὶν αὐτοῦ διὰ τὴν συμμετρίαν· τὸ δὲ ἀσύμμετρον ὡς πολλὰ ὂν θεωρίαν ποιεῖ πλείω, καὶ μείζω φαίνεται τῷ ἓν ὂν πολλὰ φαίνεσθαι· ἔχει γὰρ τήν τε τοῦ μεγέθους κατὰ τὴν συνέχειαν φύσιν, καὶ τὴν τοῦ ἀριθμοῦ κατὰ τὸ ἀνώμαλον τῶν μερῶν, διόπερ εἰκότως τὴν ἐξ ἀμφοῖν αὔξην ἔχον μεῖζον φαίνεται παρὰ τὸ ἁπλοῦν καὶ ἕν.

Διὰ τί ἐπὶ μῆκος μᾶλλον τὰ ζῷα καὶ τὰ φυτὰ φύεται; ἢ ὅτι τὸ μῆκος μὲν τρὶς αὔξεται, τὸ δὲ πλάτος δίς, τὸ δὲ βάθος ἅπαξ; ἔστι γὰρ μῆκος τὸ ἀπὸ τῆς ἀρχῆς πρῶτον, ὥστε μόνον τε αὔξεται, καὶ ἅμα τῷ πλάτει πάλιν γινόμενον, καὶ τρίτον ἅμα τῷ βάθει. τὸ δὲ πλάτος δίς, καθ’ ἑαυτό τε καὶ ἅμα τῷ μεγέθει.

Πῶς τὸ πρότερον καὶ τὸ ὕστερον δεῖ λαβεῖν; πότερον ὥσπερ ἡμῶν οἱ ἐπὶ Τροίας καὶ ἐκείνων οἱ πρὸ αὐτῶν καὶ ἀεὶ οἱ ἐπάνω πρότεροί εἰσιν; ἢ εἴπερ ἀρχή τίς ἐστι καὶ μέσον καὶ τέλος τοῦ παντός, καὶ ὅταν γηράσκων τις ἐπὶ τὸ πέρας ἔλθῃ καὶ πάλιν ἐπαναστρέψῃ ἐπὶ τὴν ἀρχήν, τὰ δὲ ἐγγυτέρω τῆς ἀρχῆς πρότερα, τί κωλύει ἡμᾶς ἐν τῷ πρὸς τὴν ἀρχὴν εἶναι μᾶλλον; εἰ δὲ τοῦτο, κἂν πρότεροι εἴημεν. ὥσπερ ἐπὶ τοῦ οὐρανοῦ καὶ ἑκάστου τῶν ἄστρων φορᾷ κύκλος τίς ἐστι, τί κωλύει καὶ τὴν γένεσιν καὶ τὴν ἀπώλειαν τῶν φθαρτῶν τοιαύτην εἶναι, ὥστε πάλιν ταῦτα γίνεσθαι καὶ φθείρεσθαι; καθάπερ καὶ φασὶ κύκλον εἶναι τὰ ἀνθρώπινα. τὸ μὲν δὴ τῷ ἀριθμῷ τοὺς αὐτοὺς ἀξιοῦν εἶναι ἀεὶ τοὺς γινομένους εὔηθες, τὸ δὲ τῷ εἴδει μᾶλλον ἄν τις ἀποδέξαιτο· ὥστε κἂν αὐτοὶ πρότεροι εἴημεν, καὶ θείη ἄν τις τὴν τοῦ εἱρμοῦ τάξιν τοιαύτην εἶναι ὡς πάλιν ἐπανακάμπτειν ἐπὶ τὴν ἀρχὴν καὶ συνεχὲς ποιεῖν καὶ ἀεὶ κατὰ ταὐτὰ ἔχειν. τοὺς γὰρ ἀνθρώπους φησὶν Ἀλκμαίων διὰ τοῦτο ἀπόλλυσθαι, ὅτι οὐ δύνανται τὴν ἀρχὴν τῷ τέλει προσάψαι, κομψῶς εἰρηκώς, εἴ τις ὡς τύπῳ φράζοντος αὐτοῦ ἀποδέχοιτο καὶ μὴ διακριβοῦν ἐθέλοι τὸ λεχθέν. εἰ δὴ κύκλος ἐστί, τοῦ δὲ κύκλου μήτε ἀρχὴ μήτε πέρας, οὐδ’ ἂν πρότεροι εἶεν τῷ ἐγγυτέρω τῆς ἀρχῆς εἶναι, οὔθ’ ἡμεῖς ἐκείνων οὔτ’ ἐκεῖνοι ἡμῶν.

ΙΗ. ΟΣΑ ΠΕΡΙ ΦΙΛΟΛΟΓΙΑΝ.

[916b] Διὰ τί τοὺς μέν, ἐὰν ἄρξωνται ἀναγινώσκειν, ὕπνος λαμβάνει καὶ μὴ βουλομένους, τοὺς δὲ βουλομένους προσεγρηγορέναι, ὅταν λάβωσι τὸ βιβλίον; ἢ ὅσοις μέν εἰσι πνευματικαὶ κινήσεις διὰ ψυχρότητα φύσεως ἢ μελαγχολικῶν χυμῶν, δι’ οὓς περίττωμα γίνεται πνευματικὸν ἄπεπτον διὰ ψυχρότητα, τούτοις ὅταν μὲν κινῆται ἡ διάνοια καὶ μὴ νοήσῃ ἐπιστήσασά τι, ἐκκρούεται τῇ ἑτέρᾳ κινήσει οὔσῃ καταψυκτικῇ, διὸ μᾶλλον καθεύδουσιν. ὅταν δὲ ἐρείσωσι πρός τι ἐν τῇ διανοίᾳ, ὅπερ ἡ ἀνάγνωσις ποιεῖ, κινοῦνται ὑπὸ τῆς θερμαντικῆς κινήσεως οὐκ ἐκκρουομένης ὑπ’ οὐδενός, ὥστε οὐ δύνανται καθεύδειν. τῶν δὲ κατὰ φύσιν ἐχόντων ὅταν στῇ πρὸς ἓν ἡ διάνοια καὶ μὴ μεταβάλλῃ πολλαχῇ ἰσχυροτάτη οὖσα, ἴσχεται καὶ τὰ ἄλλα ὅσα ἐστὶ περὶ τὸν τόπον τοῦτον, ὧν ἠρέμησις ὁ ὕπνος ἐστίν. ὅταν δὲ στῇ καὶ οἷον κοπιάσῃ ὁ νοῦς, βαρύνει τὴν κεφαλὴν ὢν ἐν αὐτῇ καὶ ποιεῖ τὸν ὕπνον. κινουμένης δὲ τῆς ψυχῆς κατὰ φύσιν οὐ καθεύδει· ζῇ γὰρ τότε μάλιστα. τὸ δ’ ἐγρηγορέναι τοῦ ζῆν αἴτιόν ἐστιν ἢ τὸ καθεύδειν.

Διὰ τί οἱ ἐριστικοὶ λόγοι γυμναστικοί εἰσιν; ἢ ὅτι ἔχουσι τὸ νικᾶν ἢ ἡττᾶσθαι πυκνόν. φιλονείκους οὖν εὐθὺς ποιοῦσιν· καὶ γὰρ νικῶντες διὰ τὸ χαίρειν προάγονται μᾶλλον ἐρίζειν καὶ ἡττώμενοι ὡς ἀναμαχούμενοι. καὶ οἱ ἐν τοῖς ἄλλοις ἀγῶσι ταὐτό· διὸ καὶ μαχόμενοι καὶ ἥττους ὄντες πολλάκις οὐ βούλονται διαλύεσθαι.

Διὰ τί τοῖς παραδείγμασι χαίρουσιν ἄνθρωποι ἐν ταῖς ῥητορείαις καὶ τοῖς λόγοις μᾶλλον τῶν ἐνθυμημάτων; ἢ ὅτι τῷ τε μανθάνειν χαίρουσι καὶ τῷ ταχύ, ῥᾶον δὲ διὰ τῶν παραδειγμάτων καὶ τῶν λόγων μανθάνουσιν· ἃ γὰρ ἴσασιν, ἔστι ταῦτα καὶ ἐπὶ μέρους, τὰ δὲ ἐνθυμήματα ἀπόδειξίς ἐστιν ἐκ τῶν καθόλου, ἃ ἧττον ἴσμεν ἢ τὰ μέρη. ἔτι οἷς ἂν μαρτυρῶσι πλείους, μᾶλλον πιστεύομεν, τὰ δὲ παραδείγματα καὶ οἱ λόγοι μαρτυρίαις ἐοίκασιν· αἱ δὲ διὰ τῶν μαρτύρων ῥᾴδιοι πίστεις. ἔτι τὸ ὅμοιον μανθάνουσιν ἡδέως, τὸ δὲ παράδειγμα καὶ οἱ μῦθοι τὸ ὅμοιον δεικνύουσιν.

Διὰ τί ῥήτορα μὲν καὶ στρατηγὸν καὶ χρηματιστὴν λέγομεν δεινόν, αὐλητὴν δὲ καὶ ὑποκριτὴν οὐ λέγομεν; ἢ ὅτι τῶν μὲν ἡ δύναμις ἄνευ πλεονεξίας (ἡδονῆς γὰρ στοχαστική ἐστι), τῶν δὲ πρὸς τὸ πλεονεκτεῖν· ῥήτωρ γὰρ καὶ στρατηγὸς [917a] καὶ χρηματιστὴς ἀγαθός ἐστιν ὁ δυνάμενος πλέον ἔχειν, ἡ δὲ δεινότης μάλιστα ἐν τῷ πλεονεκτεῖν ἐστίν.

Διὰ τί τὸν φιλόσοφον τοῦ ῥήτορος οἴονται διαφέρειν; ἢ ὅτι ὁ μὲν τί ἐστιν ἀδικία, ὁ δὲ ὡς ἄδικος ὁ δεῖνα, καὶ ὁ μὲν ὅτι τύραννος, ὁ δὲ οἷον ἡ τυραννίς.

Διὰ τί, ἅπερ ἂν τίνες προέλωνται, ἐνδιατρίβουσι τούτοις ἐνίοτε φαύλοις οὖσι μᾶλλον ἢ ἐν τοῖς σπουδαιοτέροις, οἷον θαυματοποιὸς ἢ μῖμος ἢ συρικτὴς μᾶλλον ἢ ἀστρονόμος ἢ ῥήτωρ εἶναι ἂν βούλοιτο ὁ ταῦτα προελόμενος. ἢ ὅτι βούλονται μὲν ἔνιοι τὰ σπουδαιότατα μεταχειρίζεσθαι, διὰ δὲ τὸ μὴ πιστεύειν ἑαυτοῖς ὡς δυνησομένοις, διὰ τοῦτο οὐ πράττουσιν; ἢ ὅτι ἐν οἷς οἴεται ἕκαστος κρατιστεύειν, ταῦτα προαιρεῖται· ὃ δὲ αἱρεῖται, καὶ ἐπὶ τοῦτ᾽ ἐπείξεται, νέμων τὸ πλεῖστον ἡμέρας αὐτῷ μέρος, ἵνα αὐτὸς αὑτοῦ τυγχάνει κράτιστος ὤν. ὅ τι δὲ ἄν τινες ἐξ ἀρχῆς προέλωνται καὶ οἷς ἂν συνεθισθῶσιν, οὐδὲ κρίνειν ἔτι δύνανται τὰ βελτίω· διέφθαρται γὰρ ἡ διάνοια διὰ φαύλας προαιρέσεις.

Διὰ τί τοὺς μέν, ἂν ἄρξωνται ἀναγινώσκειν, ὕπνος λαμβάνει καὶ μὴ βουλομένους, τοὺς δὲ οὐ βουλομένους ποιεῖ δύνασθαι, ὅταν λάβωσι βιβλίον; ἢ ὅσοις μέν εἰσι πνευματικαὶ κινήσεις διὰ ψυχρότητα φύσεως ἢ μελαγχολικῶν χυμῶν, δι᾽ οὓς περίττωμα γίνεται πνευματικὸν ἄπεπτον διὰ ψυχρότητα, τούτοις ὅταν μὲν κινῆται ἡ διάνοια καὶ μὴ νοῇ ἐπιστήσασά τι, ἐκκρούεται ἡ ἑτέρα κίνησις, διὸ μᾶλλον μεταβάλλοντες πολὺ τὴν διάνοιαν καθεύδουσιν· ἡττᾶται γὰρ ἡ πνευματική. ὅταν δὲ ἐρείσωσι πρός τι τὴν διάνοιαν, ὅπερ ἡ ἀνάγνωσις ποιεῖ, κινοῦνται ὑπὸ τῆς πνευματικῆς κινήσεως, οὐκ ἐκκρουομένης ὑπ᾽ οὐδενός, ὥστε οὐ δύνανται καθεύδειν. τῶν δὲ κατὰ φύσιν ἐχόντων ὅταν στῇ πρὸς ἓν ἡ διάνοια καὶ μὴ μεταβάλλῃ πολλαχῇ, ἵσταται καὶ τὰ ἄλλα ὅσα περὶ τὸν τόπον, ὧν ἠρέμησις ὁ ὕπνος ἐστίν. ἑνὸς γὰρ κυρίου στάντος, ὥσπερ ἐν τροπῇ, καὶ τὰ ἄλλα μόρια ἵστασθαι πέφυκεν. φύσει γὰρ ἄνω τὸ κοῦφον φέρεται, τὸ δὲ βαρὺ κάτω. ὅταν οὖν ἡ ψυχὴ κινῆται κατὰ φύσιν, οὐ καθεύδει· οὕτω γὰρ ἔχει. ὅταν δὲ στῇ καὶ οἷον κοπιάσῃ, ὁ μὲν νοῦς μεταβάλλει, καὶ ἄνω τὰ σωματώδη πρὸς τὴν κεφαλὴν ἰόντα ποιεῖ τὸν ὕπνον. δόξειε δ᾽ ἂν ἡ ἀνάγνωσις κωλύειν καθεύδειν. ἔστι δὲ οὐ διὰ τὸ νοεῖν (ὥρισται γὰρ τότε μᾶλλον ἡ ψυχή) ἀλλὰ διὰ τὸ μεταβάλλειν ἡ ἀγρυπνία, ἐπεὶ καὶ νοήσεις αἱ τοιαῦται [917b] ἄγρυπνοί εἰσιν, ἐν αἷς ζητεῖ ἡ ψυχὴ καὶ ἀπορεῖ, ἀλλ᾽ οὐκ ἐν αἷς ἀεὶ θεωρεῖ· ἐκεῖναι μὲν γὰρ ἀοριστεῖν ποιοῦσιν, αὗται δὲ οὔ.

Διὰ τί ἐν τοῖς ἐριστικοῖς οὐκ ἔνεστιν ἀδολεσχία; ἢ ὅτι συλλογισμός ἐστι φαινόμενος, ἐν ὀλίγοις δὲ ὁ συλλογισμός· καὶ ἐὰν μηκύνῃ, χρόνου γινομένου ὁ παραλογισμὸς δῆλος, καὶ ἔστιν ὃ ἔδωκεν ἀναλαβεῖν.

Διὰ τί ποτε τῶν ἱστοριῶν ἥδιον ἀκούομεν τῶν περὶ ἓν συνεστηκυιῶν ἢ τῶν περὶ πολλὰ πραγματευομένων; ἢ διότι τοῖς γνωριμωτέροις μᾶλλον προσέχομεν καὶ ἥδιον αὐτῶν ἀκούομεν· γνωριμώτερον δέ ἐστι τὸ ὡρισμένον τοῦ ἀορίστου. τὸ μὲν οὖν ἓν ὥρισται, τὰ δὲ πολλὰ τοῦ ἀπείρου μετέχει.

Διὰ τί ἡδόμεθα ἀκούοντες τὰ μήτε λίαν παλαιὰ μήτε κομιδῇ νέα; ἢ διότι τοῖς μὲν πόρρω ἀφ’ ἡμῶν ἀπιστοῦμεν, ἐφ’ οἷς δὲ ἀπιστοῦμεν, οὐχ ἡδόμεθα· τὰ δὲ ὥσπερ ἔτι αἰσθανόμεθα, καὶ περὶ τούτων ἀκούοντες οὐχ ἡδόμεθα.

ΙΘ. ΟΣΑ ΠΕΡΙ ΑΡΜΟΝΙΑΝ.

Διὰ τί οἱ πονοῦντες καὶ οἱ ἀπολαύοντες αὐλοῦνται; ἢ ἵνα οἱ μὲν ἧττον λυπῶνται, οἱ δὲ μᾶλλον χαίρωσιν.

Διὰ τί πορρωτέρω ὁ αὐτὸς τῇ αὐτῇ φωνῇ γεγωνεῖ μετ’ ἄλλων ᾄδων καὶ βοῶν ἢ μόνος; ἢ ὅτι τὸ ἀθρόως τι ποιεῖν ἢ θλίβειν ἢ ὠθεῖν οὐ τοσαυταπλάσιόν ἐστιν ὅσος ὁ ἀριθμός, ἀλλ’ ὥσπερ ἡ γραμμὴ ἡ δίπους οὐ διπλάσιον ἀλλὰ τετραπλάσιόν τι γράφει, οὕτω τὰ συντιθέμενα πλέον ἰσχύει κατὰ τὸν ἀριθμὸν ἢ ὅταν ᾖ διῃρημένα. ἀθρόων οὖν ὄντων μία γίνεται ἡ τῆς φωνῆς ἰσχὺς καὶ ἅμα ὠθεῖ τὸν ἀέρα, ὥστε πολλαπλάσιον προϊέναι· καὶ γὰρ ἡ ἐκ πάντων φωνὴ μιᾶς ἑκάστης πολλαπλάσιος.

Διὰ τί τὴν παρυπάτην ᾄδοντες μάλιστα ἀπορρήγνυνται, οὐχ ἧττον ἢ τὴν νήτην καὶ τὰ ἄνω, μετὰ δὲ διαστάσεως πλείονος; ἢ ὅτι χαλεπώτατα ταύτην ᾄδουσι, καὶ αὕτη ἀρχή; τὸ δὲ χαλεπὸν διὰ τὴν ἐπίτασιν καὶ πίεσιν τῆς φωνῆς· ἐν τούτοις δὲ πόνος· πονοῦντα δὲ μᾶλλον διαφθείρεται.

Διὰ τί δὲ ταύτην χαλεπῶς, τὴν δὲ ὑπάτην ῥᾳδίως; καίτοι δίεσις ἑκατέρας. ἢ ὅτι μετ’ ἀνέσεως ἡ ὑπάτη, καὶ ἅμα μετὰ τὴν σύστασιν ἐλαφρὸν τὸ ἄνω βάλλειν; διὰ ταὐτὸ δὲ ἔοικε καὶ τὰ πρὸς μίαν λεγόμενα πρὸς ταύτην ἢ παρανήτην. δεῖ γὰρ μετὰ συννοίας καὶ καταστάσεως οἰκειοτάτης [918a] τῷ ἤθει πρὸς τὴν βούλησιν. τοῦ δὲ δὴ μετὰ συμφωνίας τίς ἡ αἰτία;

Διὰ τί ἥδιον ἀκούουσιν ᾀδόντων ὅσα ἂν προεπιστάμενοι τυγχάνωσι τῶν μελῶν, ἢ ὧν μὴ ἐπίστανται; πότερον ὅτι μᾶλλον δῆλος ὁ τυγχάνων ὥσπερ σκοποῦ, ὅταν γνωρίζωσι τὸ ᾀδόμενον; τοῦτο δὲ ἡδὺ θεωρεῖν. ἢ ὅτι ἡδὺ τὸ μανθάνειν; τούτου δὲ αἴτιον ὅτι τὸ μὲν λαμβάνειν τὴν ἐπιστήμην, τὸ δὲ χρῆσθαι καὶ ἀναγνωρίζειν ἐστίν. ἔτι καὶ τὸ σύνηθες ἡδὺ μᾶλλον τοῦ ἀσυνήθους.

Διὰ τί ἡ παρακαταλογὴ ἐν ταῖς ᾠδαῖς τραγικόν; ἢ διὰ τὴν ἀνωμαλίαν; παθητικὸν γὰρ τὸ ἀνωμαλὲς καὶ ἐν μεγέθει τύχης ἢ λύπης. τὸ δὲ ὁμαλὲς ἔλαττον γοῶδες.

Διὰ τί οἱ ἀρχαῖοι ἑπταχόρδους ποιοῦντες ἁρμονίας τὴν ὑπάτην ἀλλ’ οὐ τὴν νήτην κατέλιπον; πότερον τοῦτο ψεῦδος (ἀμφοτέρας γὰρ κατέλιπον, τὴν δὲ τρίτην ἐξῄρουν) ἢ οὔ; ἀλλ’ ὅτι ἡ βαρυτέρα ἰσχύει τὸν τῆς ὀξυτέρας φθόγγον, ὥστε μᾶλλον ἡ ὑπάτη ἀπεδίδου τὸ ἀντίφωνον ἢ ἡ νήτη, ἐπεὶ τὸ ὀξὺ δυνάμεως μᾶλλον, τὸ δὲ βαρὺ ῥᾷον φθέγξασθαι.

Διὰ τί ἡ βαρεῖα τὸν τῆς ὀξείας ἰσχύει φθόγγον; ἢ ὅτι μεῖζον τὸ βαρύ; τῇ γὰρ ἀμβλείᾳ ἔοικε, τὸ δὲ τῇ ὀξείᾳ γωνίᾳ.

Διὰ τί ἥδιον τῆς μονῳδίας ἀκούομεν, ἐάν τις πρὸς αὐλὸν ἢ λύραν ᾄδῃ; καίτοι πρὸς χορδὰς καὶ τὸ αὐτὸ μέλος ᾄδουσιν ἀμφοτέρως· εἰ γὰρ ἔτι μᾶλλον τὸ αὐτό, πλέον ἔδει πρὸς πολλοὺς αὐλητάς, καὶ ἔτι ἥδιον εἶναι. ἢ ὅτι τυγχάνων δῆλος τοῦ σκοποῦ μᾶλλον, ὅταν πρὸς αὐτὸν ἢ λύραν; τὸ δὲ πρὸς πολλοὺς αὐλητὰς ἢ λύρας πολλὰς οὐχ ἥδιον, ὅτι ἀφανίζει τὴν ᾠδήν.

Διὰ τί, εἰ ἥδιον ἡ ἀνθρώπου φωνή, ἡ ἄνευ λόγου ᾄδοντος οὐχ ἡδίων ἐστίν, οἷον τερετιζόντων, ἀλλ' αὐλὸς ἢ λύρα; ἢ οὐδ' ἐκεῖ, ἐὰν μὴ μιμῆται, ὁμοίως ἡδύ; οὐ μὴν ἀλλὰ καὶ διὰ τὸ ἔργον αὐτό. ἡ μὲν γὰρ φωνὴ ἡδίων ἡ τοῦ ἀνθρώπου, κρουστικὰ δὲ μᾶλλον τὰ ὄργανα τοῦ στόματος. διὸ ἥδιον ἀκούειν ἢ τερετίζειν.

Διὰ τί ἡ ἀπηχοῦσα ὀξυτέρα; ἢ ὅτι ἔλαττον, ἀσθενεστέρα γινομένη;

Διὰ τί τῶν χορδῶν ἡ βαρυτέρα ἀεὶ τὸ μέλος λαμβάνει; ἂν γὰρ δέηται ᾆσαι τὴν παραμέσην σὺν ψιλῇ τῇ μέσῃ, γίνεται τὸ μέσον οὐθὲν ἧττον· ἐὰν δὲ τὴν μέσην δέον ἄμφω, ψιλὰ οὐ γίνεται. ἢ ὅτι τὸ βαρὺ μέγα ἐστίν, ὥστε κρατερόν; [918b] καὶ ἔνεστιν ἐν τῷ μεγάλῳ τὸ μικρόν· καὶ τῇ διαλήψει δύο νῆται ἐν τῇ ὑπάτῃ γίνονται.

Διὰ τί ἐν τῇ διὰ πασῶν τοῦ μὲν ὀξέος ἀντίφωνον γίνεται τὸ βαρύ, τούτου δὲ τὸ ὀξὺ οὔ; ἢ ὅτι μάλιστα μὲν ἐν ἀμφοῖν ἐστὶ τὸ ἀμφοῖν μέλος, εἰ δὲ μή, ἐν τῷ βαρεῖ· μεῖζον γάρ.

Διὰ τί λανθάνει τὸ διὰ πασῶν, καὶ δοκεῖ ὁμόφωνον εἶναι, οἷον ἐν τῷ φοινικίῳ καὶ ἐν τῷ ἀνθρώπῳ; τὰ γὰρ ἐν τοῖς ὀξέσιν ὄντα οὐχ ὁμόφωνα, ἀλλ' ἀνάλογον ἀλλήλοις διὰ πασῶν. ἢ ὅτι ὥσπερ ὁ αὐτὸς εἶναι δοκεῖ φθόγγος, διὰ τὸ ἀνάλογον ἰσότης ἐπὶ φθόγγων; τὸ δὲ ἴσον τοῦ ἑνός. ταὐτὸ δὲ τοῦτο καὶ ἐν ταῖς σύριγξιν ἐξαπατῶνται.

Διὰ τί οἱ μὲν νόμοι οὐκ ἐν ἀντιστρόφοις ἐποιοῦντο, αἱ δὲ ἄλλαι ᾠδαὶ αἱ χορικαί; ἢ ὅτι οἱ μὲν νόμοι ἀγωνιστῶν ἦσαν, ὧν ἤδη μιμεῖσθαι δυναμένων καὶ διατείνεσθαι ἡ ᾠδὴ ἐγίνετο μακρὰ καὶ πολυειδής; καθάπερ οὖν καὶ τὰ ῥήματα, καὶ τὰ μέλη τῇ μιμήσει ἠκολούθει ἀεὶ ἕτερα γινόμενα. μᾶλλον γὰρ τῷ μέλει ἀνάγκη μιμεῖσθαι ἢ τοῖς ῥήμασιν. διὸ καὶ οἱ διθύραμβοι, ἐπειδὴ μιμητικοὶ ἐγένοντο, οὐκέτι ἔχουσιν ἀντιστρόφους, πρότερον δὲ εἶχον. αἴτιον δὲ ὅτι τὸ παλαιὸν οἱ ἐλεύθεροι ἐχόρευον αὐτοί· πολλοὺς οὖν ἀγωνιστικῶς ᾄδειν χαλεπὸν ἦν, ὥστε ἐναρμόνια μέλη ἐνῆδον. μεταβάλλειν γὰρ πολλὰς μεταβολὰς τῷ ἑνὶ ῥᾷον ἢ τοῖς πολλοῖς, καὶ τῷ ἀγωνιστῇ ἢ τοῖς τὸ ἦθος φυλάττουσιν. διὸ ἁπλούστερα ἐποίουν αὐτοῖς τὰ μέλη. ἡ δὲ ἀντίστροφος ἁπλοῦν· ἀριθμὸς γάρ ἐστι καὶ ἑνὶ μετρεῖται. τὸ δ’ αὐτὸ αἴτιον καὶ διότι τὰ μὲν ἀπὸ τῆς σκηνῆς οὐκ ἀντίστροφα, τὰ δὲ τοῦ χοροῦ ἀντίστροφα· ὁ μὲν γὰρ ὑποκριτὴς ἀγωνιστὴς καὶ μιμητής, ὁ δὲ χορὸς ἧττον μιμεῖται.

Διὰ τί ἥδιον τὸ ἀντίφωνον τοῦ συμφώνου; ἢ ὅτι μᾶλλον διάδηλον γίνεται τὸ συμφωνεῖν ἢ ὅταν πρὸς τὴν συμφωνίαν ᾄδῃ; ἀνάγκη γὰρ τὴν ἑτέραν ὁμοφωνεῖν, ὥστε δύο πρὸς μίαν φωνὴν γινόμεναι ἀφανίζουσι τὴν ἑτέραν.

Διὰ τί πέντε οὐκ ᾄδουσιν ἀντίφωνα; ἢ ὅτι οὐχ ἡ αὐτὴ ἡ σύμφωνος τῇ συμφωνίᾳ, ὥσπερ ἐν τῷ διὰ πασῶν; ἐκείνη γὰρ ἐν τῷ βαρεῖ ἀνάλογον, ὡς ἡ ὀξεῖα ἐν τῷ ὀξεῖ. ὥσπερ οὖν ἡ αὐτή ἐστιν ἅμα καὶ ἄλλη. αἱ δὲ ἐν τῷ διὰ πέντε καὶ διὰ τεττάρων οὐκ ἔχουσιν οὕτως, ὥστε οὐκ ἐμφαίνεται ὁ τῆς ἀντιφώνου φθόγγος· οὐ γάρ ἐστιν ὁ αὐτός.

Διὰ τί ἡ διὰ πασῶν συμφωνία ᾄδεται μόνη; μαγαδίζουσι [919a] γὰρ ταύτην, ἄλλην δὲ οὐδεμίαν. ἢ ὅτι μόνη ἐξ ἀντιφώνων ἐστὶ χορδῶν, ἐν δὲ τοῖς ἀντιφώνοις καὶ τὴν ἑτέραν ἐὰν ᾄδῃ, τὸ αὐτὸ ποιεῖ; ἡ γὰρ μία τρόπον τινὰ τὰς ἀμφοτέρων ἔχει φωνάς, ὥστε καὶ μιᾶς ᾀδομένης ἐν ταύτῃ τῇ συμφωνίᾳ ᾄδεται ἡ συμφωνία, καὶ ἄμφω ᾄδοντες· ἢ τῆς μὲν ᾀδομένης τῆς δὲ αὐλουμένης ὥσπερ μίαν ἄμφω ᾄδουσιν. διὸ μόνη μελῳδεῖται, ὅτι μιᾶς ἔχει χορδῆς φωνὴν τὰ ἀντίφωνα.

Διὰ τί δὲ ταῖς ἀντιφώνοις τοῦτο μόναις ὑπάρχει; ἢ ὅτι μόναι ἴσον ἀπέχουσι τῆς μέσης; ἡ οὖν μεσότης ὁμοιότητά τινα ποιεῖ τῶν φθόγγων, καὶ ἔοικεν ἡ ἀκοὴ λέγειν ὅτι ἡ αὐτὴ καὶ ὅτι ἀμφότεραι ἔσχαται.

Διὰ τί, ἐὰν μέν τις τὴν μέσην κινήσῃ ἡμῶν, ἁρμόσας τὰς ἄλλας χορδάς, καὶ χρῆται τῷ ὀργάνῳ, οὐ μόνον ὅταν κατὰ τὸν τῆς μέσης γένηται φθόγγον, λυπεῖ καὶ φαίνεται ἀνάρμοστον, ἀλλὰ καὶ κατὰ τὴν ἄλλην μελῳδίαν· ἐὰν δὲ τὴν λιχανὸν ἤ τινα ἄλλον φθόγγον, τότε φαίνεται διαφέρειν μόνον, ὅταν κἀκείνῃ τις χρῆται; ἢ εὐλόγως τοῦτο συμβαίνει; πάντα γὰρ τὰ χρηστὰ μέλη πολλάκις τῇ μέσῃ χρῆται, καὶ πάντες οἱ ἀγαθοὶ ποιηταὶ πυκνὰ πρὸς τὴν μέσην ἀπαντῶσι, κἂν ἀπέλθωσι, ταχὺ ἐπανέρχονται, πρὸς δὲ ἄλλην οὕτως οὐδεμίαν. καθάπερ ἐκ τῶν λόγων ἐνίων ἐξαιρεθέντων συνδέσμων οὐκ ἔστιν ὁ λόγος Ἑλληνικός, οἷον τὸ τέ καὶ τὸ καί, ἔνιοι δὲ οὐθὲν λυποῦσι διὰ τὸ τοῖς μὲν ἀναγκαῖον εἶναι χρῆσθαι πολλάκις, εἰ ἔσται λόγος, τοῖς δὲ μή, οὕτω καὶ τῶν φθόγγων ἡ μέση ὥσπερ σύνδεσμός ἐστι, καὶ μάλιστα τῶν καλῶν, διὰ τὸ πλειστάκις ἐνυπάρχειν τὸν φθόγγον αὐτῆς.

Διὰ τί τῶν ᾀδόντων οἱ βαρύτερον ᾄδοντες τῶν ὀξὺ ᾀδόντων, ἐὰν ἀπᾴδωσι, μᾶλλον κατάδηλοι γίνονται; ὁμοίως δὲ καὶ τῷ ῥυθμῷ οἱ ἐν τῷ βαρυτέρῳ πλημμελοῦντες κατάδηλοι μᾶλλον. πότερον ὅτι πλείων ὁ χρόνος ὁ τοῦ βαρέος, οὗτος δὲ μᾶλλον αἰσθητός; ἢ ὅτι ἐν πλείονι χρόνῳ πλείω αἴσθησιν παρέχει, τὸ δὲ ταχὺ καὶ ὀξὺ λανθάνει διὰ τὸ τάχος.

Διὰ τί οἱ πολλοὶ μᾶλλον ᾄδοντες τὸν ῥυθμὸν σώζουσιν ἢ οἱ ὀλίγοι; ἢ ὅτι μᾶλλον πρὸς ἕνα τε καὶ ἡγεμόνα βλέπουσι, καὶ βαρύτερον ἄρχονται, ὥστε ῥᾷον τοῦ αὐτοῦ τυγχάνουσιν; ἐν γὰρ τῷ τάχει ἡ ἁμαρτία πλείων.

[919b] Διὰ τί διπλασία ἡ νήτη τῆς ὑπάτης; ἢ πρῶτον μὲν ὅτι ἐκ τοῦ ἡμίσεος ἡ χορδὴ ψαλλομένη καὶ ὅλη συμφωνοῦσα διὰ πασῶν; ὁμοίως δὲ ἔχει καὶ ἐπὶ τῶν συρίγγων· ἡ γὰρ διὰ τοῦ μέσου τῆς σύριγγος τρήματος φωνὴ τῇ δι’ ὅλης τῆς σύριγγος συμφωνεῖ διὰ πασῶν. ἔτι ἐν τοῖς ἄλλοις τῷ διπλασίῳ διαστήματι λαμβάνεται τὸ διὰ πασῶν, καὶ οἱ αὐλοτρῦπαι οὕτω λαμβάνουσιν. ὁμοίως δὲ καὶ τὸ διὰ πέντε τῷ ἡμιολίῳ, ὅτι οἱ τὰς σύριγγας ἁρμοττόμενοι εἰς μὲν τὴν ὑπάτην ἄκραν τὸν κηρὸν ἐμπλάττουσι, τὴν δὲ νήτην μέχρι τοῦ ἡμίσεος ἀναπληροῦσιν. ὁμοίως δὲ καὶ τὴν διὰ πέντε τῷ ἡμιολίῳ καὶ τὴν διὰ τεττάρων τῷ ἐπιτρίτῳ διαστήματι λαμβάνουσιν. ἔτι οἱ ἐν τοῖς τριγώνοις ψαλτηρίοις τῆς ἴσης ἐπιτάσεως γινομένης συμφωνοῦσι διὰ πασῶν, ἡ μὲν διπλασία οὖσα, ἡ δὲ ἡμίσεια τῷ μήκει.

Διὰ τί, ἐάν τις ψήλας τὴν νήτην ἐπιλάβῃ, ἡ ὑπάτη μόνη δοκεῖ ἀντηχεῖν; ἢ ὅτι συμφυὴς μάλιστα γίνεται τῷ φθόγγῳ ὁ ἀπὸ ταύτης ἦχος διὰ τὸ σύμφωνος εἶναι; τῷ οὖν συναυξάνεσθαι τῷ ὁμοίῳ φαίνεται μόνος, οἱ δὲ ἄλλοι διὰ μικρότητα ἀφανεῖς.

Διὰ τί μέση καλεῖται ἐν ταῖς ἁρμονίαις, τῶν δὲ ὀκτὼ οὐκ ἔστι μέσον; ἢ ὅτι ἑπτάχορδοι ἦσαν αἱ ἁρμονίαι τὸ παλαιόν, τὰ δὲ ἑπτὰ ἔχει μέσον.

Διὰ τί ἐπὶ τὸ ὀξὺ ἀπᾴδουσιν οἱ πλεῖστοι; πότερον ὅτι ῥᾷον ὀξὺ ᾆσαι ἢ βαρύ; ἢ ὅτι χεῖρον τοῦ βαρέος; ἁμαρτία δέ ἐστι τοῦ χείρονος πρᾶξις.

Διὰ τί τὸ ἀκουστὸν μόνον ἦθος ἔχει τῶν αἰσθητῶν; καὶ γὰρ ἐὰν ᾖ ἄνευ λόγου μέλος, ὅμως ἔχει ἦθος· ἀλλ’ οὐ τὸ χρῶμα οὐδὲ ἡ ὀσμὴ οὐδὲ ὁ χυμὸς ἔχει. ἢ ὅτι κίνησιν ἔχει μόνον οὐχί, ἣν ὁ ψόφος ἡμᾶς κινεῖ; τοιαύτη μὲν γὰρ καὶ τοῖς ἄλλοις ὑπάρχει· κινεῖ γὰρ καὶ τὸ χρῶμα τὴν ὄψιν· ἀλλὰ τῆς ἑπομένης τῷ τοιούτῳ ψόφῳ αἰσθανόμεθα κινήσεως. αὕτη δὲ ἔχει ὁμοιότητα ἔν τε τοῖς ῥυθμοῖς καὶ ἐν τῇ τῶν φθόγγων τάξει τῶν ὀξέων καὶ βαρέων, οὐκ ἐν τῇ μίξει. ἀλλ’ ἡ συμφωνία οὐκ ἔχει ἦθος. ἐν δὲ τοῖς ἄλλοις αἰσθητοῖς τοῦτο οὐκ ἔστιν. αἱ δὲ κινήσεις αὗται πρακτικαί εἰσιν, αἱ δὲ πράξεις ἤθους σημασία ἐστίν.

Διὰ τί νόμοι καλοῦνται οὓς ᾄδουσιν; ἢ ὅτι πρὶν ἐπίστασθαι γράμματα, ᾖδον τοὺς νόμους, ὅπως μὴ ἐπιλάθωνται, [920a] ὥσπερ ἐν Ἀγαθύρσοις ἔτι εἰώθασιν; καὶ τῶν ὑστέρων οὖν ᾠδῶν τὰς πρώτας τὸ αὐτὸ ἐκάλεσαν ὅπερ τὰς πρώτας.

Διὰ τί οἱ ῥυθμοὶ καὶ τὰ μέλη φωνὴ οὖσα ἤθεσιν ἔοικεν, οἱ δὲ χυμοὶ οὔ, ἀλλ' οὐδὲ τὰ χρώματα καὶ αἱ ὀσμαί; ἢ ὅτι κινήσεις εἰσὶν ὥσπερ καὶ αἱ πράξεις; ἤδη δὲ ἡ μὲν ἐνέργεια ἠθικὸν καὶ ποιεῖ ἦθος, οἱ δὲ χυμοὶ καὶ τὰ χρώματα οὐ ποιοῦσιν ὁμοίως.

Διὰ τί οὐδὲ ὑποδωριστὶ οὐδὲ ὑποφρυγιστὶ οὐκ ἔστιν ἐν τραγῳδίᾳ χορικόν; ἢ ὅτι οὐκ ἔχει ἀντίστροφον. ἀλλ' ἀπὸ σκηνῆς· μιμητικὴ γάρ.

Διὰ τί οἱ περὶ Φρύνιχον ἦσαν μᾶλλον μελοποιοί; ἢ διὰ τὸ πολλαπλάσια εἶναι τότε τὰ μέλη ἐν ταῖς τραγῳδίαις τῶν μέτρων;

Διὰ τί διὰ πασῶν καλεῖται, ἀλλ' οὐ κατὰ τὸν ἀριθμὸν δι' ὀκτώ, ὥσπερ καὶ διὰ τεττάρων καὶ διὰ πέντε; ἢ ὅτι ἑπτὰ ἦσαν αἱ χορδαὶ τὸ ἀρχαῖον, εἶτ' ἐξελὼν τὴν τρίτην Τέρπανδρος τὴν νήτην προσέθηκε, καὶ ἐπὶ τούτου ἐκλήθη διὰ πασῶν ἀλλ' οὐ δι' ὀκτώ· δι' ἑπτὰ γὰρ ἦν.

Διὰ τί εὐαρμοστότερον ἀπὸ τοῦ ὀξέος ἐπὶ τὸ βαρὺ ἢ ἀπὸ τοῦ βαρέος ἐπὶ τὸ ὀξύ; πότερον ὅτι τὸ ἀπὸ τῆς ἀρχῆς γίνεται ἄρχεσθαι; ἡ γὰρ μέση καὶ ἡγεμὼν ὀξυτάτη τοῦ τετραχόρδου. τὸ δὲ οὐκ ἀπ' ἀρχῆς ἀλλ' ἀπὸ τελευτῆς. ἢ ὅτι τὸ βαρὺ ἀπὸ τοῦ ὀξέος γενναιότερον καὶ εὐφωνότερον;

Διὰ τί δὶς μὲν δι' ὀξειῶν καὶ δὶς διὰ τεττάρων οὐ συμφωνεῖ, δὶς διὰ πασῶν δέ; ἢ ὅτι ἡ δὶς δι' ὀξειῶν οὐ δὶς διὰ τεττάρων ἐστίν, τὸ δὲ διὰ τεττάρων καὶ διὰ πέντε.

Διὰ τί ἡ διὰ πασῶν καλλίστη συμφωνία; ἢ ὅτι ἐν ὅλοις ὅροις οἱ ταύτης λόγοι εἰσίν, οἱ δὲ τῶν ἄλλων οὐκ ἐν ὅλοις; ἐπεὶ γὰρ διπλασία ἡ νήτη τῆς ὑπάτης, οἷα ἡ νήτη δύο, ἡ ὑπάτη ἕν, καὶ οἷα ἡ ὑπάτη δύο, ἡ νήτη τέσσαρα, καὶ ἀεὶ οὕτως. τῆς δὲ μέσης ἡμιόλια. τὸ γὰρ διὰ πέντε ἡμιόλιον οὐκ ἐν ὅλοις ἀριθμοῖς ἐστίν· οἷον γὰρ ἓν τὸ ἔλαττον, τὸ μεῖζον τοσοῦτον δὲ καὶ ἔτι τὸ ἥμισυ. ὥστε οὐχ ὅλα πρὸς ὅλα συγκρίνεται, ἀλλ' ἔπεστι μέρη. ὁμοίως δὲ καὶ ἐν τῷ διὰ τεττάρων ἔχει· τὸ γὰρ ἐπίτριτόν ἐστιν ὅσον τεμεῖν ὃ καὶ ἔτι ἓν τῶν τεττάρων ἐπίτριτόν ἐστιν. ἢ ὅτι τελεωτάτη ἐξ ἀμφοτέρων οὖσα, καὶ ὅτι μέτρον τῆς μελῳδίας διὰ παντὸς τοῦ φερομένου ἡ κατὰ μέσον κίνησις σφοδροτάτη, [920b] ἀρχομένου δὲ καὶ λήγοντος μαλακωτέρα; ὅτε δὲ σφοδροτάτη ἡ κίνησις, καὶ ἡ φωνὴ ὀξυτέρα τοῦ φερομένου. διὸ καὶ χορδαὶ ἐπιτεινόμεναι ὀξύτερον φθέγγονται· θᾶττον γὰρ ἡ κίνησις γίνεται. ἡ δὲ φωνὴ ἢ ἀέρος ἢ ἄλλου τινὸς φορά· τὴν ἀνὰ μέσον τὸν πόρον ὀξυτάτην δεῖ γίνεσθαι. ὥστε εἰ τοῦτο μὴ συμβαίνει, οὐκ ἂν εἴη φορά τινος. Διὰ τί, ἐὰν μὲν ἡ μέση κινηθῇ, καὶ αἱ ἄλλαι χορδαὶ ἠχοῦσι φθεγγόμεναι, ἐὰν δὲ αὖ ἡ μὲν μένῃ τῶν δ’ ἄλλων τις κινηθῇ, κινηθεῖσα μόνη φθέγγεται; ἢ ὅτι τὸ ἡρμόσθαι ἐστὶν ἁπάσαις, τὸ δὲ ἔχειν πως πρὸς τὴν μέσην ἁπάσαις, καὶ ἡ τάξις ἡ ἑκάστης ἤδη δι’ ἐκείνην; ἀρθέντος οὖν τοῦ αἰτίου τοῦ ἡρμόσθαι καὶ τοῦ συνέχοντος οὐκέτι ὁμοίως φαίνεται ὑπάρχειν. μιᾶς δὲ ἀναρμόστου οὔσης, τῆς δὲ μέσης μενούσης, εὐλόγως τὸ κατ’ αὐτὴν ἐκλειπόμενον· ταῖς γὰρ ἄλλαις ὑπάρχει τὸ ἡρμόσθαι.

Διὰ τί τοῦ ἐν φωνῇ ὀξέος ὄντος κατὰ τὸ ὀλίγον, τοῦ δὲ βαρέος κατὰ τὸ πολύ (τὸ μὲν γὰρ βαρὺ διὰ τὸ πλῆθος βαρύ, τὸ δὲ ὀξὺ δι’ ὀλιγότητα ταχύ), ἔργον μᾶλλον ᾄδειν τὰ ὀξέα ἢ τὰ βαρέα, καὶ ὀλίγοι τὰ ἄνω δύνανται ᾄδειν, καὶ οἱ νόμοι ὄρθιοι καὶ οἱ ὀξεῖς χαλεποὶ ᾆσαι διὰ τὸ ἀνατεταμένοι εἶναι; καίτοι ἔλαττον ἔργον τὸ ὀλίγον κινεῖν ἢ τὸ πολύ, ὥστε καὶ ἀέρα. ἢ οὐ ταὐτό γε ὀξύφωνον εἶναι φύσει καὶ τὸ ὀξὺ ᾄδειν, ἀλλὰ φύσει μὲν ὀξύφωνα ἅπαντα δι’ ἀσθένειαν, τῷ μὴ δύνασθαι πολὺν κινεῖν ἀέρα ἀλλ’ ὀλίγον, ὁ δ’ ὀλίγος ταχὺ φέρεται, ἐν δὲ τῷ ᾄδειν τὸ ὀξὺ δυνάμεως σημεῖον. τὸ μὲν γὰρ σφοδρῶς φερόμενον ταχὺ φέρεται, διὸ τὸ ὀξὺ δυνάμεως σημεῖον. διὸ καὶ οἱ ἑκτικοὶ ὀξύφωνοι. καὶ ἔργον τὰ ἄνω ᾄδειν· τὰ δὲ βαρέα κάτω.

Διὰ τί ῥυθμῷ καὶ μέλει καὶ ὅλως ταῖς συμφωνίαις χαίρουσι πάντες; ἢ ὅτι ταῖς κατὰ φύσιν κινήσεσι χαίρομεν κατὰ φύσιν; σημεῖον δὲ τὸ τὰ παιδία εὐθὺς γενόμενα χαίρειν αὐτοῖς. διὰ δὲ τὸ ἔθος τρόποις μελῶν χαίρομεν. ῥυθμῷ δὲ χαίρομεν διὰ τὸ γνώριμον καὶ τεταγμένον ἀριθμὸν ἔχειν, καὶ κινεῖν ἡμᾶς τεταγμένως· οἰκειοτέρα γὰρ ἡ τεταγμένη κίνησις φύσει τῆς ἀτάκτου, ὥστε καὶ κατὰ φύσιν μᾶλλον. σημεῖον δέ· πονοῦντες γὰρ καὶ πίνοντες καὶ ἐσθίοντες τεταγμένα σώζομεν καὶ αὔξομεν τὴν φύσιν καὶ τὴν δύναμιν, ἄτακτα δὲ φθείρομεν καὶ ἐξίσταμεν αὐτήν· [921a] αἱ γὰρ νόσοι τῆς τοῦ σώματος οὐ κατὰ φύσιν τάξεως κινήσεις εἰσίν. συμφωνίᾳ δὲ χαίρομεν, ὅτι κρᾶσίς ἐστι λόγον ἐχόντων ἐναντίων πρὸς ἄλληλα. ὁ μὲν οὖν λόγος τάξις, ὃ ἦν φύσει ἡδύ. τὸ δὲ κεκραμένον τοῦ ἀκράτου πᾶν ἥδιον, ἄλλως τε κἂν αἰσθητὸν ὂν ἀμφοῖν τοῖν ἄκροιν ἐξ ἴσου τὴν δύναμιν ἔχοι ἐν τῇ συμφωνίᾳ ὁ λόγος.

Διὰ τί ἥδιόν ἐστι τὸ σύμφωνον τοῦ ὁμοφώνου; ἢ καὶ τὸ μὲν ἀντίφωνον σύμφωνόν ἐστι διὰ πασῶν; ἐκ παίδων γὰρ νέων καὶ ἀνδρῶν γίνεται τὸ ἀντίφωνον, οἳ διεστᾶσι τοῖς τόνοις ὡς νήτη πρὸς ὑπάτην. συμφωνία δὲ πᾶσα ἡδίων ἁπλοῦ φθόγγου (δι’ ἃ δέ, εἴρηται), καὶ τούτων ἡ διὰ πασῶν ἡδίστη· τὸ ὁμόφωνον δὲ ἁπλοῦν ἔχει φθόγγον. μαγαδίζουσι δὲ ἐν τῇ διὰ πασῶν συμφωνίᾳ, ὅτι καθάπερ ἐν τοῖς μέτροις οἱ πόδες ἔχουσι πρὸς αὑτοὺς λόγον ἴσον πρὸς ἴσον ἢ δύο πρὸς ἓν ἢ καί τινα ἄλλον, οὕτω καὶ οἱ ἐν τῇ συμφωνίᾳ φθόγγοι λόγον ἔχουσι κινήσεως πρὸς αὑτούς. τῶν μὲν οὖν ἄλλων συμφωνιῶν ἀτελεῖς αἱ θατέρου καταστροφαί εἰσιν, εἰς ἥμισυ τελευτῶσαι· διὸ τῇ δυνάμει οὐκ ἴσαι εἰσίν. οὖσαι δὲ ἄνισοι, διαφορὰ τῇ αἰσθήσει, καθάπερ ἐν τοῖς χοροῖς, ἐν τῷ καταλύειν μεῖζον ἄλλων φθεγγομένοις ἐστίν. ἔτι δὲ ὑπάτῃ συμβαίνει τὴν αὐτὴν τελευτὴν τῶν ἐν τοῖς φθόγγοις περιόδων ἔχειν. ἡ γὰρ δευτέρα τῆς νεάτης πληγὴ τοῦ ἀέρος ὑπάτη ἐστίν. τελευτώσαις δ' εἰς ταὐτόν, οὐ ταὐτὸν ποιούσαις, ἓν καὶ κοινὸν τὸ ἔργον συμβαίνει γίνεσθαι, καθάπερ τοῖς ὑπὸ τὴν ᾠδὴν κρούουσιν· καὶ γὰρ οὗτοι τὰ ἄλλα οὐ προσαυλοῦντες, ἐὰν εἰς ταὐτὸν καταστρέφωσιν, εὐφραίνουσι μᾶλλον τῷ τέλει ἢ λυποῦσι ταῖς πρὸ τοῦ τέλους διαφοραῖς, τῷ τὸ ἐκ διαφόρων τὸ κοινόν, ἥδιστον ἐκ τοῦ διὰ πασῶν γίνεσθαι. τὸ δὲ μαγαδίζειν ἐξ ἐναντίων φωνῶν. διὰ ταῦτα ἐν τῇ διὰ πασῶν μαγαδίζουσιν.

Διὰ τί ἥδιον ἀκούουσιν ᾀδόντων ὅσα ἂν προεπιστάμενοι τύχωσι τῶν μελῶν, ἢ ἐὰν μὴ ἐπιστῶνται; πότερον ὅτι μᾶλλον δῆλός ἐστιν ὁ τυγχάνων ὥσπερ σκοποῦ, ὅταν γνωρίζωσι τὸ ᾀδόμενον; γνωριζόντων δὲ ἡδὺ θεωρεῖν. ἢ ὅτι συμπαθὴς ἐστιν ὁ ἀκροατὴς τῷ τὸ γνώριμον ᾄδοντι; συνᾴδει γὰρ αὐτῷ. ᾄδει δὲ πᾶς γεγηθὼς ὁ μὴ διά τινα ἀνάγκην ποιῶν τοῦτο.

[921b] Διὰ τί δὶς μὲν δι' ὀξειῶν ἢ δὶς διὰ τεττάρων οὐ συμφωνεῖ, δὶς διὰ πασῶν δέ; ἢ ὅτι τὸ μὲν διὰ πέντε ἐστὶν ἐν ἡμιολίῳ λόγῳ, τὸ δὲ διὰ τεττάρων ἐν ἐπιτρίτῳ; ὄντων δὲ ἡμιολίων τριῶν ἐξῆς ἀριθμῶν ἢ ἐπιτρίτων, οἱ ἄκροι πρὸς ἀλλήλους οὐδένα λόγον ἕξουσιν· οὔτε γὰρ ἐπιμόριοι οὔτε πολλαπλάσιοι ἔσονται. τὸ δὲ διὰ πασῶν ἐπειδή ἐστιν ἐν διπλασίῳ λόγῳ, δὶς τούτου γινομένου ἐν τετραπλασίῳ λόγῳ ἂν εἶεν οἱ ἄκροι πρὸς ἀλλήλους. ὥστ' ἐπεὶ συμφωνία εὔλογον ἐχόντων φθόγγον πρὸς ἀλλήλους ἐστί, λόγον δὲ οἱ μὲν τὸ δὶς διὰ πασῶν διάλειμμα ἔχοντες πρὸς ἀλλήλους φθόγγοι ἔχουσιν, οἱ δὲ τὸ δὶς διὰ τεττάρων ἢ δὶς διὰ πέντε οὐκ ἔχουσιν, οἱ μὲν δὶς διὰ πασῶν σύμφωνοι εἶεν ἄν, οἱ δ' ἕτεροι οὔ, διὰ τὰ εἰρημένα.

Διὰ τί, ἐάν τις ψήλας τὴν νήτην ἐπιλάβῃ, ἡ ὑπάτη μόνη δοκεῖ ὑπηχεῖν; ἢ ὅτι ἡ νεάτη λήγουσα καὶ μαραινομένη ὑπάτη γίνεται; σημεῖον δὲ τὸ ἀπὸ τῆς ὑπάτης τὴν νεάτην δύνασθαι ᾄδειν· ὡς γὰρ οὔσης αὐτῆς ᾠδῆς νεάτης, τὴν ὁμοιότητα λαμβάνουσιν ἀπ' αὐτῆς. ἐπεὶ δὲ καὶ ἠχὼ ᾠδή τίς ἐστιν, ἁφή ἐστι φωνῆς τῆς νεάτης ληγούσης, ἦχος ὢν ὁ αὐτὸς τῷ τῆς ὑπάτης φθόγγῳ κινεῖ, εἰκότως τῇ ὁμοιότητι τὴν ὑπάτην ἡ νήτη δοκεῖ κινεῖν. τὴν μὲν γὰρ νεάτην ἴσμεν οὗ κινεῖται ἐπιληφθεῖσα· τὴν δὲ ὑπάτην αὐτὴν ὁρῶντες ἀκατάληπτον οὖσαν, καὶ φθόγγου αὐτῆς ἀκούοντες, ταύτην οἰόμεθα ἠχεῖν· ὅπερ ἐπὶ πολλῶν ἡμῖν συμβαίνει, ἐφ' ὧν μήτε τῷ λογισμῷ μήτε τῇ αἰσθήσει δυνάμεθα εἰδῆσαι τὸ ἀκριβές. ἔτι εἰ πληγείσης τῆς νεάτης μάλιστα ἐντεταμένης συμβαίνει τὸν ζυγὸν κινεῖσθαι, οὐθὲν ἂν εἴη θαυμαστόν. κινηθέντος δὲ πάσας τὰς χορδὰς συγκινεῖσθαι καί τιν' ἦχον ποιεῖν οὐκ ἄλογον. ταῖς μὲν οὖν ἄλλαις ὁ τῆς νεάτης φθόγγος ἀλλότριός ἐστι καὶ λήγων καὶ ἀρχόμενος, τῇ δὲ ὑπάτῃ λήγων ὁ αὐτός. οὗ προστεθέντος τῇ ἰδίᾳ αὐτῆς κινήσει, ἐκείνης δόξαι πάντ' αὐτὸν εἶναι οὐθὲν ἄτοπον. ἔσται δὲ μείζων ἢ ὁ κοινὸς τῶν λοιπῶν χορδῶν ἦχος, ὅτι αἱ μὲν ὑπὸ τῆς νεάτης καθάπερ ὠσθεῖσαι μαλακῶς ἤχησαν, ἡ δὲ νεάτη πάσῃ τῇ αὐτῆς δυνάμει, οὖσα αὐτῶν σφοδροτάτη. ὥστε εἰκότως καὶ τὸ δευτερεῖον αὐτῆς κρεῖττον ἂν εἴη ἢ τὸ τῶν ἄλλων· ὥστε καὶ βραχείας κινεῖσθαι, ὡς αὐτῆς τε γεγενημένης.

[922a] Διὰ τί ἥδιον τῆς μονῳδίας ἐστὶν ἐάν τις πρὸς αὐλὸν ἢ λύραν ᾄδῃ; ἢ ὅτι πᾶν τὸ ἥδιον μιχθὲν ἡδίονι ἕν ἐστιν; ὁ δὲ αὐλὸς ἡδίων τῆς λύρας, ὥστε καὶ ἡ ᾠδὴ τούτῳ μιχθεῖσα ἢ λύρα ἡδίων ἂν εἴη, ἐπεὶ τὸ μεμιγμένον τοῦ ἀμίκτου ἥδιόν ἐστιν, ἐὰν ἀμφοῖν ἅμα τὴν αἴσθησίν τις λαμβάνῃ. οἶνος γὰρ ἡδίων τοῦ ὀξυμέλιτος διὰ τὸ μεμῖχθαι μᾶλλον αὐτοῖς τὰ ὑπὸ τῆς φύσεως μιχθέντα ἢ ὑφ' ἡμῶν. ἔστι γὰρ καὶ ὁ οἶνος μικτὸς ἐξ ὀξέος καὶ γλυκέος χυμοῦ. δηλοῦσι δὲ καὶ αἱ οἰνώδεις ῥοαὶ καλούμεναι. ἡ μὲν οὖν ᾠδὴ καὶ ὁ αὐλὸς μίγνυνται αὑτοῖς δι' ὁμοιότητα (πνεύματι γὰρ ἄμφω γίνεται)· ὁ δὲ τῆς λύρας φθόγγος, ἐπειδὴ οὐ πνεύματι γίνεται ἢ ἧττον αἰσθητὸν ἢ ὁ τῶν αὐλῶν, ἀμικτότερός ἐστι τῇ φωνῇ· ποιῶν δὲ διαφορὰν τῇ αἰσθήσει ἧττον ἡδύνει, καθάπερ ἐπὶ τῶν χυμῶν εἴρηται. ἔτι ὁ μὲν αὐλὸς πολλὰ τῷ αὑτοῦ ἤχῳ καὶ τῇ ὁμοιότητι συγκρύπτει τῶν τοῦ ᾠδοῦ ἁμαρτημάτων, οἱ δὲ τῆς λύρας φθόγγοι ὄντες ψιλοὶ καὶ ἀμικτότεροι τῇ φωνῇ, καθ' ἑαυτοὺς θεωρούμενοι καὶ ὄντες αὐτοῖς συμφανῆ ποιοῦσι τὴν τῆς ᾠδῆς ἁμαρτίαν, καθάπερ κανόνες ὄντες αὐτῶν. πολλῶν δὲ ἐν τῇ ᾠδῇ ἁμαρτανομένων, τὸ κοινὸν ἐξ ἀμφοῖν ἀναγκαῖον χεῖρον γίνεσθαι.

Διὰ τί τῶν μὲν ἑπτὰ μέση καλεῖται, τῶν δὲ ὀκτὼ οὐκ ἔστι μέσον; ἢ ὅτι ἑπτάχορδοι ἦσαν αἱ ἁρμονίαι τὸ παλαιόν, τὰ δὲ ἑπτὰ ἔχει μέσον; ἔτι ἐπειδὴ τῶν μεταξὺ τῶν ἄκρων τὸ μέσον μόνον ἀρχή τίς ἐστιν (ἔστι γὰρ τῶν θάτερον τῶν ἄκρων νευόντων ἔν τινι διαστήματι ἀνὰ μέσον ὂν ἀρχή), τοῦτ' ἔσται μέσον. ἐπεὶ δ' ἔσχατα μέσον ἐστὶν ἁρμονίας νεάτη καὶ ὑπάτη, τούτων δὲ ἀνὰ μέσον οἱ λοιποὶ φθόγγοι, ὧν ἡ μέση καλουμένη μόνη ἀρχή ἐστι θατέρου τετραχόρδου, δικαίως μέση καλεῖται. τῶν γὰρ μεταξύ τινων ἄκρων τὸ μέσον ἦν ἀρχὴ μόνον.

Διὰ τί οἱ πολλοὶ ᾄδοντες σώζουσι μᾶλλον τὸν ῥυθμὸν ἢ οἱ ὀλίγοι; ἢ ὅτι μᾶλλον πρὸς ἕνα τε καὶ ἡγεμόνα βλέπουσι, καὶ βραδύτερον ἄρχονται, ὥστε ῥᾷον τοῦ αὐτοῦ τυγχάνουσιν; ἐν μὲν γὰρ τῷ τάχει πλείων γίνεται ἡ ἁμαρτία, συμβαίνει δὲ τῷ ἡγεμόνι προσέχειν τοὺς πολλούς· ἰδιαζόμενος δὲ οὐδεὶς ἂν αὐτῶν διαλάμψειεν ὑπεράρας τὸ πλῆθος. ἐν δὲ τοῖς ὀλίγοις μᾶλλον διαλάμπουσιν· διὸ καθ’ αὑτοὺς ἐν αὑτοῖς μᾶλλον ἀγωνίζονται ἢ πρὸς τὸν ἡγεμόνα.

Διὰ τί ἐπὶ τὸ ὀξὺ ἀπᾴδουσιν οἱ πλεῖστοι; ἢ ὅτι ῥᾷον [922b] ὀξὺ ᾆσαι ἢ βαρύ; ᾄδουσι γοῦν ὀξὺ μᾶλλον, καὶ ἐν ᾧ ᾄδουσιν, ἁμαρτάνουσιν.

Διὰ τί οἱ ἀρχαῖοι ἑπταχόρδους ποιοῦντες τὰς ἁρμονίας τὴν ὑπάτην ἀλλ’ οὐ τὴν νήτην κατέλιπον; ἢ οὐ τὴν ὑπάτην ἀλλὰ τὴν νῦν παραμέσην καλουμένην ἀφῄρουν καὶ τὸ τονιαῖον διάστημα; ἐχρῶντο δὲ τῇ ἐσχάτῃ μέσῃ τοῦ ἐπὶ τὸ ὀξὺ πυκνοῦ· διὸ καὶ μέσην αὐτὴν προσηγόρευσαν. ἢ ὅτι ἦν τοῦ μὲν ἄνω τετραχόρδου τελευτή, τοῦ δὲ κάτω ἀρχή, καὶ μέσον εἶχε λόγον τόνῳ τῶν ἄκρων;

Διὰ τί οἱ ἐν τραγῳδίᾳ χοροὶ οὔθ’ ὑποδωριστὶ οὔθ’ ὑποφρυγιστὶ ᾄδουσιν; ἢ ὅτι μέλος ἥκιστα ἔχουσιν αὗται αἱ ἁρμονίαι, οὗ δεῖ μάλιστα τῷ χορῷ; ἦθος δὲ ἔχει ἡ μὲν ὑποφρυγιστὶ πρακτικόν, διὸ καὶ ἔν τε τῷ Γηρυόνῃ ἡ ἔξοδος καὶ ἡ ἐξόπλισις ἐν ταύτῃ πεποίηται, ἡ δὲ ὑποδωριστὶ μεγαλοπρεπὲς καὶ στάσιμον, διὸ καὶ κιθαρῳδικωτάτη ἐστὶ τῶν ἁρμονιῶν. ταῦτα δ’ ἄμφω χορῷ μὲν ἀνάρμοστα, τοῖς δὲ ἀπὸ σκηνῆς οἰκειότερα. ἐκεῖνοι μὲν γὰρ ἡρώων μιμηταί· οἱ δὲ ἡγεμόνες τῶν ἀρχαίων μόνοι ἦσαν ἥρωες, οἱ δὲ λαοὶ ἄνθρωποι, ὧν ἐστὶν ὁ χορός. διὸ καὶ ἁρμόζει αὐτῷ τὸ γοερὸν καὶ ἡσύχιον ἦθος καὶ μέλος· ἀνθρωπικὰ γάρ. ταῦτα δ’ ἔχουσιν αἱ ἄλλαι ἁρμονίαι, ἥκιστα δὲ αὐτῶν ἡ ὑποφρυγιστί· ἐνθουσιαστικὴ γὰρ καὶ βακχική. κατὰ μὲν οὖν ταύτην πάσχομέν τι· παθητικοὶ δὲ οἱ ἀσθενεῖς μᾶλλον τῶν δυνατῶν εἰσί, διὸ καὶ αὕτη ἁρμόττει τοῖς χοροῖς· κατὰ δὲ τὴν ὑποδωριστὶ καὶ ὑποφρυγιστὶ πράττομεν, ὃ οὐκ οἰκεῖόν ἐστι χορῷ. ἔστι γὰρ ὁ χορὸς κηδευτὴς ἄπρακτος· εὔνοιαν γὰρ μόνον παρέχεται οἷς πάρεστιν.

Διὰ τί τῶν τὴν συμφωνίαν ποιούντων φθόγγων ἐν τῷ βαρυτέρῳ τὸ μαλακώτερον; ἢ ὅτι τὸ μέλος τῇ μὲν αὑτοῦ φύσει μαλακόν ἐστι καὶ ἠρεμαῖον, τῇ δὲ τοῦ ῥυθμοῦ μίξει τραχὺ καὶ κινητικόν; ἐπεὶ δὲ ὁ μὲν βαρὺς φθόγγος μαλακὸς καὶ ἠρεμαῖός ἐστιν, ὁ δὲ ὀξὺς κινητικός, καὶ τῶν ταὐτὸ μέλος ἐχόντων εἴη ἂν μαλακώτερος ὁ βαρύτερος ἐν ταὐτῷ μέλει μᾶλλον· ἦν γὰρ τὸ μέλος αὐτῷ μαλακόν.

Διὰ τί ἴσων πίθων καὶ ὁμοίων ἐὰν μὲν ὁ ἕτερος κενὸς ᾖ, ὁ δὲ ἕτερος εἰς τὸ ἥμισυ διάμεστος, διὰ πασῶν συμφωνεῖ ἡ ἠχώ; ἢ ὅτι διπλασία γίνεται καὶ ἡ ἐκ τοῦ ἡμίσεος τῆς ἐκ τοῦ κενοῦ; τί γὰρ διαφέρει τοῦτο ἢ ἐπὶ τῶν συρίγγων;

δοκεῖ γὰρ ἡ θάττων κίνησις ὀξυτέρα εἶναι, ἐν δὲ τοῖς μείζοσι [923a] βραδύτερον ὁ ἀὴρ ἀπαντᾷ, καὶ ἐν τοῖς διπλασίοις τοσούτῳ, καὶ ἐν τοῖς ἄλλοις ἀνάλογον. συμφωνεῖ δὲ διὰ πασῶν καὶ ὁ διπλασίων ἀσκὸς πρὸς τὸν ἥμισυν.

Κ. ΟΣΑ ΠΕΡΙ ΘΑΜΝΟΥΣ ΚΑΙ ΛΑΧΑΝΩΔΗ.

Διὰ τί τὸ ἁλυκὸν ὕδωρ τὰ μὲν σέλινα δέχεται, τὸ δὲ πράσον οὔ; ἢ ὅτι τοῦ μὲν ἀσθενεῖς αἱ ῥίζαι, τοῦ δὲ ἰσχυραί; τὸ δὲ ἰσχυρότερον ἀπαθέστερον.

Διὰ τί λέγεται “μίνθην ἐν πολέμῳ μήτ’ ἔσθιε μήτε φύτευε;” ἢ ὅτι καταψύχει τὰ σώματα; δηλοῖ δὲ ἡ τοῦ σπέρματος φθορά. τοῦτο δὲ ὑπεναντίον πρὸς ἀνδρείαν καὶ θυμὸν ταὐτὸν ὂν τῷ γένει.

Διὰ τί ἔνια ἄνθος ἔχοντα ἄκαρπά ἐστιν, οἷον σίκυος καὶ κολόκυνθα καὶ ῥόα; ἢ οὐκ ἄκαρπα, ἀλλὰ ταῦτα καρπός ἐστιν; περικάρπιον γοῦν ἐστὶ τὸ ἀνθοῦν, ὁ δὲ σίκυος περικάρπιον.

Διὰ τί τῶν φυομένων τὰ μὲν ἑψανά, τὰ δὲ ὠμὰ βρωτά; ἢ ὅσων οἱ χυμοὶ μὴ εὐθὺς ἐδώδιμοι, τούτων πυρωθέντων γλυκύτεροι γίνονται ὑπὸ τοῦ θερμοῦ, ὅσων δὲ εὐθύς, καὶ ὠμὰ ἐδώδιμα;

Διὰ τί τὰ μὲν ἑψανά, τὰ δὲ ὀπτανά; ἢ ὅτι τὰ μὲν ὑγρότερα οὐ τοσοῦτον, τὰ δὲ ξηρότερα οὐ μᾶλλον ξηρανθῆναι δεῖ; ἑψόμενα δὲ πάντα ὑγρότερα καὶ μαλακώτερα. τὰ δὲ ἧττον ὑγρὰ ἂν πυρωθῇ, γίνεται ξηρά.

Διὰ τί δὲ τὰ μὲν ἄβρωτά ἐστι τὰ δὲ βρωτά; ἢ διὰ τοὺς χυμούς; ὅσα γὰρ καὶ ὠμὰ ἀπέπτους ἔχει καὶ πυρούμενα μὴ μεταβάλλει, ἄβρωτα. ὅσων δὲ βρωτὸς μὲν ὁ χυμὸς ἰσχυρότερος δέ, ταῦτα ἡδύσματά ἐστιν· τὰ γὰρ ἐν μικρῷ ἔχοντα πολλὴν δύναμιν τῶν βρωτῶν ἡδυντικὰ τῶν ἐν πολλῷ.

Διὰ τίνα αἰτίαν τὰ μὲν μέχρι σπέρματος τῶν φυτῶν ζῇ, εἶτα ἐνεγκόντα αὐαίνεται, οἷον ἡ πόα καὶ τὰ καλούμενα λάχανα, τὰ δὲ οὔ, ἀλλὰ πολλάκις φέρει; καὶ τῶν μέχρι σπέρματος ζώντων τὰ μὲν πολλὰ ἐπέτεια, τὸ δὲ ἱπποσέλινον τῷ ὑστέρῳ ἔτει φέρει καρπόν, καὶ ἐνέγκαν ἐξαυαίνεται; ἢ ἅπαντα μὲν μέχρι τούτου ἀκμάζει, ἕως ἂν κατὰ τὸ σπέρμα ἀκμάζῃ; ἐπεὶ καὶ οἱ ἄνθρωποι μέχρι τριάκοντα ἐτῶν ἐπιδιδόασιν, ὁτὲ μὲν τῷ πλήθει ὁτὲ δὲ τῇ παχύτητι. ὅταν δὲ μηκέτι δύνηται φέρειν, ὥσπερ ἐκεῖ, [923b] αὐαίνεται καὶ καταγηράσκει· τὰ δὲ βραδέως καὶ κατὰ λόγον. δι’ ἣν μὲν οὖν αἰτίαν τὰ μὲν βραχύβια τὰ δὲ μακρόβιά ἐστιν, ἄλλος ἔστω λόγος· ἐπεὶ δ’ ἔστι πᾶσιν ὅρος ἡ τοῦ σπέρματος τελείωσις, ἀνάγκη τοῖς μὲν βραχυβίοις ἅπαξ ἢ ὀλιγάκις ἐνεγκεῖν καρπόν, τοῖς δὲ μακροβίοις πολλάκις, ὥστε τὰ μὲν ἀσθενέστατα ἅπαξ ἐνέγκοι (διὸ ἀνάγκη αὐαίνεσθαι)· καὶ τούτων τὰ μὲν δυνάμενα ἐνιαυτῷ ἐπέτεια εἶναι, τὰ δέ, ὥσπερ τὸ ἱπποσέλινον, τῷ ὑστέρῳ ἔτει, ὥσπερ τὰ δένδρα καὶ τὰ φυτά.

Διὰ τί σελίνου, ἐάν τις περιορύξας μέχρι κάτω πρὸς τὰς ῥίζας περιβάλλῃ τῶν καχρυδίων, εἶτα ἄνωθεν τὴν γῆν, καὶ οὕτως ἄρδῃ, παμμεγέθεις γίνονται αἱ ῥίζαι; ἢ διότι τὸ καχρύδιον θερμὸν ὂν καὶ σομφὸν κατέχει μὲν σύνολκον τὴν τροφὴν καὶ οὐ προΐεται ἄνω, πέττει δὲ θερμὸν ὄν, ὥστε πολλὴν τὴν αὔξησιν γίνεσθαι;

Διὰ τί, ἐάν τις τὰς κολοκύνθας εὐθὺς μικρὰς οὔσας κρύψῃ τῇ γῇ ἢ τοὺς σικύους, μείζους γίνονται; ἢ διότι τὰ πνεύματα καὶ ὁ ἥλιος ξηραίνοντα ἀφαιροῦνται τὴν αὔξησιν, καὶ τοὺς ὄγκους ἐλάττους μὲν ποιοῦσι πάντων, στιφροτέρους δέ, ὥσπερ καὶ τῶν δένδρων τά τε ἐν προσηνέμοις καὶ ἑλώδεσι καὶ τὰ ἐν κοίλοις καὶ ἐφύδροις (τὰ μὲν γὰρ μεγάλα γίνονται καὶ σομφά, τὰ δὲ μικρὰ καὶ πυκνά)· ἐν δὲ τῇ γῇ κρυφθέντα ἐναντία πάσχοντα ἐναντίως ἀποβαίνει. ὁμοίως δὲ καὶ τὰ εἰς ἀγγεῖα τιθέμενα, σίκυοι εἰς νάρθηκας κοίλους ἢ καλυπτῆρας καὶ ῥοιαὶ καὶ μῆλα εἰς χύτρας, τὰ μὲν μεγάλα σομφὰ δέ, οἱ δὲ μικροὶ στερροὶ αὐξανόμενοι, μὴ εἰς ἀντίτυπον. αἰτία δὲ ἡ τροφὴ πλείων γινομένη διὰ τὸ μήτε ἀποπνεῖσθαι μήτε ξηραίνεσθαι· τὸ γὰρ ἀποστέγον κωλύει ταῦτα πάσχειν.

Διὰ τί τὰ σπέρματα τῶν δριμέων φυτῶν δριμύτερά ἐστιν ἢ αἱ ῥίζαι καὶ τὰ φύλλα; ἢ διότι ἐκ τοῦ σπέρματος γίνεται ἅπαντα, καὶ εἰς τὰ ἄλλα δίδοται μέρη ἐκ τούτου, οἱονεὶ ἐνυπάρχοντα, ὥς φασί τινες, καὶ οἱ χυμοὶ καὶ αἱ ὀσμαί, ἐπεὶ καὶ αἱ ὀσμαὶ ἴδιοι γίνονται ἅμα τοῖς σπέρμασιν ἅπασιν. εἰ οὖν ἐκ τούτου καὶ τοῖς ἄλλοις ἡ δριμύτης ὑπάρχει, εὔλογον καὶ αὐτὸ ὑπάρχειν μάλιστα.

Διὰ τί αἱ ῥαφανῖδες αἱ λεπταὶ δριμύτεραι; ἢ ὅτι αἱ μείζους διὰ τὸν χρόνον πεπεμμέναι μᾶλλον;

[924a] Διὰ τί ἡ κάππαρις οὐκ ἐθέλει ῥᾳδίως ἐν τοῖς ἐργασίμοις γίνεσθαι χωρίοις (πολλοὶ γὰρ πεπείρανται καὶ ῥίζας μεταφέροντες καὶ σπέρματα καταβάλλοντες· ἐνιαχοῦ γὰρ λυσιτελεῖ μᾶλλον τῶν ῥόδων), ἀλλὰ φύεται μάλιστα ἐπὶ τῶν τάφων, ὅτι ἀβατώτατος ὁ τόπος ἐστίν. περὶ δὲ δὴ τούτου καὶ ὅσα ἄλλα τοιαῦτα, δεῖ λαβεῖν ὅτι οὐχ ἅπαντα ἐκ τῆς αὐτῆς ὕλης γίνεται οὐδ' αὔξεται, ἀλλ' ἔνια ἐξ ἄλλων φθορᾶς καὶ ἐξ ἀρχῆς γίνεται καὶ αὐξάνεται, οἷον οἱ φθεῖρες καὶ αἱ τρίχες ἐν τῷ σώματι διαφθειρομένης τῆς τροφῆς, καὶ ἀεὶ τὸ χεῖρον ἔχοντος. ὥσπερ οὖν καὶ τῶν ἐν σώματι ἔνια γίνεται ἐκ περιττώματος τροφῆς, τοῦτο δ' ἐστὶν ἀπεψία, καὶ οὗ μὴ ἐδύνατο κρατῆσαι ἡ φύσις, τὰ μὲν προχειρότατα εἰς κύστιν καὶ κοιλίαν ἀποκρίνεται, ἐξ ἐνίων δὲ ζῷα γίνεται, διὸ καὶ αὐξάνονται ταῦτα ἐν γήρᾳ καὶ νόσοις, οὕτως ἐν τῇ γῇ τὰ μὲν ἐκ

πεπεμμένης τῆς τροφῆς γίνεται καὶ αὐξάνεται, τὰ δὲ ἐκ περιττωμάτων καὶ ἐναντίως ἐχόντων. ἡ δὲ γεωργία πέττει καὶ ἐνεργὸν ποιεῖ τὴν τροφήν· ἐξ ἧς συνίστανται οἱ ἥμεροι καρποί. ἃ μὲν οὖν ἐκ τοιαύτης γίνεται ἡμερότητος, ἥμερα καλεῖται διὰ τὸ ἀπὸ τέχνης ὠφελεῖσθαι ὥσπερ παιδευόμενα· ὅσα δὲ μὴ δύναται ἢ καὶ ἐξ ἐναντίως ἔχοντος συνίσταται, ταῦτα ἄγριά ἐστι καὶ οὐκ ἐθέλει γίνεσθαι ἐν γεωργησίμῳ. ἡ γὰρ γεωργία φέρει αὐτὰ παιδεύουσα· ἐκ γὰρ φθορᾶς γίνεται. ὧν καὶ ἡ κάππαρίς ἐστιν.

Διὰ τί, ἐάν τις ῥαφανίδων, ὅταν μάλιστα ἀκμάζωσι τοῦ χειμῶνος, ἀποτεμὼν τὰ φύλλα περισάξῃ τὴν γῆν καὶ καταπατήσῃ ὥστε ἀποστέγειν τὸ ὕδωρ, αὗται ἐν τῷ θέρει γίνονται ἄπλετοι τὸ πάχος; ἢ ὅτι τοῦ μὲν μὴ φθείρεσθαι τὸ περισεσάχθαι αἴτιον, κωλῦον τὸ ὕδωρ σήπειν; ἡ δὲ τροφή, ἣν ἄνω ἀφίει εἰς τὸν βλαστόν, εἰσέρχεται εἰς αὐτήν, ὥστε ἀνάγκη αὐτὴν μείζω γίνεσθαι ἢ ἀφιέναι παραβλαστάνουσαν ἄλλας ῥίζας, ὥσπερ τὰ κρόμμυα; καὶ γὰρ ταῦτα, ἐὰν μή τις ἐκτίλῃ ἐπέτεια ἀλλ’ ἐάσῃ τὸν χειμῶνα, πολλαπλάσια γίνεται. τὰ μὲν οὖν κρόμμυα τῶν παραβλαστανόντων ἐστίν, ἡ δὲ ῥάφανος οὔ, ὥστε ἀνάγκη αὐτὴν γίνεσθαι παχεῖαν διὰ τὸ πᾶσαν λαμβάνειν τὴν τροφήν.

Διὰ τί, ἐάν τις σικύους ἢ κολοκύνθας περὶ φρέαρ φυτεύσας, ὅταν ὡραῖοι ὦσι, καθεὶς εἰς τὸ φρέαρ ἀποστεγάσῃ, γίνονται δι’ ἔτους χλωροί; ἢ διότι ἥ τε ἀπὸ τοῦ ὕδατος ἀτμὶς ψύχουσα κωλύει ξηραίνεσθαι καὶ παρέχει θάλλοντα, καὶ [924b] τὸ ἀποστέγειν τούτους καὶ τὰ πνεύματα τρέφει τὰ ηὐξημένα; τοῦ δὲ διαμένειν αἴτιον τὸ ἔχειν τροφὴν ἐωμένων τῶν ῥιζῶν. καὶ γὰρ ἐάν τις ἀφελὼν τὴν βλάστην, ὅταν καρποφορήσωσι, καὶ ἀποτεμὼν περισάξῃ καὶ καταπατήσῃ τὴν γῆν περὶ τὰς ῥίζας, πρωΐμους οἴσει σικύους, ὡς δυναμένων σώζεσθαι τῶν ῥιζῶν· οὐ γὰρ ἔσται σίκυος τῶν προετείων. θᾶττον δὲ αὐτοὶ τῶν σπειρομένων οἴσουσι καρπὸν διὰ τὸ πολὺ προϋπάρχειν τοῦ ἔργου τῇ φύσει τὰς ῥίζας, τοῖς δὲ σπειρομένοις δεῖν γίνεσθαι τοῦτο πρῶτον, ἐν ᾗ περισάξεις ἀλέαν ποιεῖν, ὥστε σώζεσθαι καὶ θᾶττον ἐνιέναι βλαστόν. διὸ καὶ ἐάν τις χειμῶνος φυτεύσῃ σπέρμα σικύου ἐν ταλαρίσκοις καὶ ἄρδηται θερμῷ καὶ εἰς τὸν ἥλιον ἐκφέρῃ καὶ παρὰ πυρὶ τιθῇ, πρώϊμοι σφόδρα ἔσονται, ἐὰν ὡς ἔχει ἐν τοῖς ταλάροις εἰς τὴν ἱκνουμένην ὥραν εἰς τὴν γῆν φυτεύσῃ.

Διὰ τί ἀρδεύουσιν ἕωθεν ἢ νυκτὸς ἢ δείλης; πότερον ἵνα μὴ ὁ ἥλιος ἀναλώσῃ; ἢ ὅτι, ἐὰν ᾖ θερμὸν τὸ ὕδωρ, διαφθείρει τὰ ἀρδόμενα;

Διὰ τί τὰ εὐώδη οὐρητικά, καὶ σπέρματα καὶ φυτά; ἢ ὅτι θερμὰ καὶ εὔπεπτα, τὰ δὲ τοιαῦτα οὐρητικά· ταχὺ γὰρ λεπτύνει ἡ ἐνοῦσα θερμότης, καὶ ἡ ὀσμὴ οὐ σωματώδης, ἐπεὶ καὶ τὰ μὴ εὐώδη, οἷον σκόροδα, διὰ τὴν θερμότητα οὐρητικά, μᾶλλον μέντοι συντηκτικά. θερμὰ δὲ τὰ εὐώδη σπέρματα, διότι ὅλως ἡ ὀδμὴ διὰ θερμότητά τινα γίνεται· ἀλλὰ τὰ δυσώδη ἄπεπτά ἐστιν. δεῖ δὲ μὴ μόνον εἶναι θερμὰ ἀλλὰ καὶ εὔπεπτα, εἰ ἔσται οὐρητικά, ὅπως συγκατιόντα λεπτύνῃ τὰ ὑγρά.

Διὰ τί θᾶττον ἐκκαυλεῖ τῶν λαχάνων τὰ ἐκ παλαιοτέρου σπέρματος, οἷον τριετοῦς ἢ διετοῦς, ἢ τὰ ἐκ τῶν προσφάτων; ἢ ὅτι ὡς ἐπὶ τῶν ζῴων θᾶττον σπέρμα φέρει τὸ ἀκμάζον, οὕτω καὶ τῶν σπερμάτων τὰ μὲν λίαν παλαιὰ ἐξίκμασται τὴν δύναμιν, τὰ δὲ ἀσθενέστερα διὰ τὸ ἔτι ἔχειν περίττωμα μὴ οἰκεῖον, τὰ δὲ μέσα τῷ χρόνῳ ἰσχυρότατα ἀπεληλυθότος τοῦ ὑγροῦ· θᾶττον οὖν σπέρμα φέρει. τὸ δὲ ἐκκαυλεῖν τοῦτό ἐστιν· ἐκ γὰρ τοῦ καυλοῦ τὸ σπέρμα.

Διὰ τί πήγανον κάλλιστον καὶ πλεῖστον γίνεται, ἐάν τις ἐκφυτεύσῃ εἰς συκῆν; ἐκφυτεύεται δὲ περὶ τὸν φλοιὸν καὶ περιπλάττεται πηλῷ. ἢ ὅτι θερμότητος δέονται αἱ ῥίζαι τοῦ πηγάνου καὶ ἀλέας (διὸ καὶ τὴν τέφραν ἐάν τις περιβάλλῃ, ὀνίνανται), ἡ δὲ συκῆ θερμή ἐστιν. δηλοῖ δὲ καὶ ὁ [925a] ἀπὸς πάντων δριμύτατος ὤν, καὶ ὁ πολὺς καπνός. ἔχει οὖν τοιαύτην θερμότητα καὶ ἰκμάδα οἵαν καὶ ἡ τέφρα, ὥστε εἰ ἐκείνην ὀνίνησιν, ἀναγκαῖον καὶ ἐν τῇ συκῇ μάλιστα εὐσθενεῖν, ὅσῳ ἡ μὲν τέφρα οὐκ ἐπιρρεῖ, τὸ δ’ ἀπὸ τῆς συκῆς ἀεὶ ἐπιρρεῖ, οὐκ ἀναλισκομένου τοῦ ὑγροῦ τῇ συκῇ.

Διὰ τί ἔνια τῶν φυτῶν ἀεὶ κενὸν φέρει τὸν καυλόν; ἢ ὧν ἀνάγκη ἄλλο φύειν

Διὰ τί ἐν τῇ Ἀττικῇ οἱ μὲν ἄλλοι καρποὶ γλυκύτατοι γίνονται, τὸ δὲ θύμον δριμύτατον; καίτοι καὶ τοῦτο καρπός τίς ἐστιν ... ὥστε οὐ πολὺ ὑγρὸν τὰ φυόμενα ἔχει. ὅσα μὲν οὖν φύσει γλυκέα ἐστί, διὰ μετριότητα τοῦ ἐνυπάρχοντος ὑγροῦ, ὅταν ἀπάγῃ ὁ ἥλιος τὸ πλεῖστον, τὸ ὑπολειπόμενον ῥᾳδίως πέττεται· τὸ γὰρ πολὺ ἔργον πεπάνθαι, τὸ δὲ μέτριον ῥᾷον. ὥστε γίνονται οἱ φύσει γλυκεῖς γλυκύτεροι. ἐν δὲ τοῖς φύσει ξηροῖς τε καὶ μὴ γλυκέσι καρποῖς λείπεται δι’ ὀλιγότητα τὸ οἰκεῖον, τοῦτο δ’ ἐστὶν ἥκιστα γλυκύ· ἀφαιρεῖται γὰρ ὁ ἥλιος τὸ γλυκύτατον καὶ κουφότατον· οὗτοι δὲ οὐκ ἔχουσι περιττὸν ὑγρόν, ὥσπερ οἱ ἄλλοι καρποί.

Διὰ τί γλήχων καὶ τὰ λείρια καὶ τὰ κρόμμυα τὰ κρεμάμενα ὑπὸ τὰς τροπὰς ἀνθεῖ; ἢ ἐνυπάρχει αὐτοῖς τροφὴ ἄπεπτος, ἣ τοῦ μὲν χειμῶνος οὐ πέττεται διὰ τὸ ψῦχος, ὑπὸ δὲ τὰς τροπὰς πεττομένης διὰ τὴν ὥραν ἡ αὔξησις γίνεται; αὕτη δὲ διὰ τὸ μὴ ἔχειν ἐπίρρυσιν ταχὺ μαραίνεται. οὐ γάρ τινα ἔχουσα ἀρχὴν οὐδέ τινα ἐπίρρυσιν ἀποξηραίνεται, ὥσπερ Σκύθαις διὰ τὸ πολλὴν τὴν χιόνα γίνεσθαι συμβαίνει τὸν σῖτον μένειν καὶ ταχὺ ἀνατρέχειν.

Διὰ τί τὸ κρόμμυον μόνον οὕτως περιττῶς δάκνει τὼ ὀφθαλμώ (διὸ καὶ τοὔνομά φασι τοῦτ’ ἔχειν αὐτό, ὡς τὴν κόρην ποιεῖν συμμύειν), ἡ δὲ ὀρίγανος οὔ, οὐδ’ ἄλλα δριμέα ὄντα; καὶ γὰρ τὸ ἀνάρρινον μᾶλλον δάκνον οὐ ποιεῖ ὁμοίως δακρύειν προσφερόμενον, τὸ δὲ προσφερόμενον καὶ κατατρωγόμενον. ἢ ὅτι διαφοραὶ πολλαὶ ἀκολουθοῦσιν ἑκάστοις τῶν δριμέων, ἃ ποιεῖ τὴν ἰδίαν ἑκάστου δύναμιν; τὸ μὲν οὖν ἀνάρρινον διὰ τὸ θερμότερον εἶναι ξηραντικώτερόν ἐστι τῆς γινομένης ὑπ’ αὐτοῦ συντήξεως, ἐπεὶ ποιεῖ γε δάκρυον ἐσθίοντι· προσφερόμενον δὲ οὔ, ὅτι οὐκ ἀπατμίζει ἀπ’ αὐτοῦ λεπτόν τι· ξηρότερον γάρ ἐστι καὶ θερμότερον. ἡ δὲ ὀρίγανος [925b] καὶ τὰ τοιαῦτα θερμὰ ξηρά ἐστιν ἠρέμα. δεῖ δὲ τὸ μέλλον δάκρυον ποιήσειν δηκτικὸν καὶ ὑγρὸν εἶναι καὶ γλίσχρον. διὸ καὶ τὸ ἔλαιον ποιεῖ δακρύειν, ἀσθενῆ ἔχον δῆξιν· διὰ γλισχρότητα γὰρ καὶ λεπτότητα παραδῦνον ποιεῖ τὸν πόνον, καὶ τὴν σύντηξιν διὰ τὸν πόνον. τὸ δὲ κρόμμυον τοιαύτην ἔχει τὴν δύναμιν ὥστε καὶ τὸ ὑγρὸν καὶ τὴν ἀτμίδα αὐτοῦ θερμὴν καὶ λεπτὴν καὶ γλίσχραν εἶναι. ὥστε προσφερόμενον μέν, διὰ τὸ τὴν ἀτμίδα τοιαύτην εἶναι καὶ συναφιέναι ὑγρότητα λεπτήν, ποιεῖ δακρύειν, ἐσθιομένου δὲ ἡ ἀναθυμίασις διιοῦσα ... τὸ δὲ σκόροδον θερμὸν μὲν καὶ δριμύ ἐστι καὶ ὑγρότητα ἔχει, ἀλλ’ οὐ γλίσχρον· διὸ οὐ ποιεῖ δακρύειν.

Διὰ τί τὰ μύρτα ἐν τῇ χειρὶ θλιβέντα γλυκύτερα ἡμῖν δοκεῖ εἶναι τῶν μὴ τεθλιμμένων; ἢ καθάπερ καὶ αἱ ῥᾶγες τετρυγημέναι τῶν βοτρύων γλυκύτεραί εἰσι τῶν ἀτρυγήτων; ὑπὸ γὰρ τοῦ γλεύκους ὄντος φύσει ἡδέος αἱ μὲν τετρυγημέναι ῥᾶγες ὥσπερ ἐοίκασιν ἡδυσμέναι (ἀνάπλεῳ γάρ εἰσι καὶ ἔξωθεν), αἱ δ’ ἐπὶ τῶν βοτρύων ἀνήδυντοι. ὁμοίως οὖν καὶ ἐπὶ τῶν μύρτων φύσει γλυκέων καὶ τὴν γλυκύτητα ἐχόντων ἐντός. ὥσπερ αἱ ῥᾶγες οὖν, ὅταν θλιφθῇ, ἀναπίμπλαται ἀπὸ τῆς ἐντὸς γλυκύτητος καὶ ἔξωθεν διαφαίνεται γλυκύτερα ὄντα.

Διὰ τί τῶν τε μύρτων τὰ ἐλάττω ἀπυρηνότερά ἐστι, καὶ ἐν τοῖς φοίνιξι καὶ ἐπὶ τῶν βοτρύων, ἔνθα δ’ αἱ μικραὶ ῥᾶγες οὐκ ἔχουσιν ἢ ἐλάττους πυρῆνας; ἢ διὰ τὸ ἀτελέστερα εἶναι οὐκ ἔχει ἀποκεκριμένον; τέλος γὰρ ὁ πυρὴν ἔχει τὸ σπέρμα. διὰ τοῦτο δὲ καὶ ἐλάττους εἰσίν, ὡς ὄντα παραφυάδες καὶ ἀτελῆ. καὶ ἧττον δὲ γλυκέα τῶν ἐχόντων πυρῆνας· ἀπεπτότερα γάρ ἐστιν, ἡ δὲ πέψις τελείωσίς ἐστιν.

Διὰ τί τῶν περικαρπίων τὰ μὲν πικρότερα τὰ πρὸς τὴν ῥίζαν ἔχει, οἷον σίκυοι, τὰ δὲ πρὸς τὸ ἄκρον τὸ ἄνω, οἷον αἱ βάλανοι; ἢ ὅτι τῶν μὲν ταύτῃ ἄπεπτος ἡ τροφὴ διὰ τὸ ἐπιρρεῖν κατὰ τὴν ῥίζαν ἀεί· τὰ δὲ ξηρὰ φύσει ἐστίν, ὥστε ἀπαγομένου τοῦ γλυκέος ἐκ τοῦ ἄκρου καὶ πεπεμμένου ἤδη ξηραίνεται, καὶ λείπεται τὸ πικρὸν ὥσπερ οἱ ἅλες; ξηραινόμενον δὲ μᾶλλον πικρὸν γίνεται, καθάπερ ἐλαῖαι καὶ βάλανοι παλαιούμεναι πικραὶ γίνονται.

[926a] Διὰ τί ἔνια βλαστάνει οὐκ ἐν τῇ γῇ ὄντα ἀλλ' ἐκτετμημένα, τὰ δὲ κείμενα, οἷον οἱ τῶν κρίνων καυλοὶ καὶ σκόροδα καὶ κρόμμυα; ἢ ὅτι ἔχουσι τροφὴν ἅπαντα ἐν αὑτοῖς, ἀλλ' οὐκ ἐν ἀφωρισμένῳ τόπῳ οὐθὲν φυτόν; ἡ περιουσία οὖν ἐστὶ τῆς τροφῆς ἡ ποιοῦσα βλαστάνειν. δῆλον δέ· καὶ γὰρ καὶ αἱ σκίλλαι καὶ οἱ βολβοὶ ταὐτὸ ποιοῦσιν. αὔξεται δ' ἕκαστον οὐ τῷ ἔχειν, ἀλλ' ὅταν πεφθῇ καὶ διανεμηθῇ. ἔχει μὲν οὖν καὶ ἔμπροσθεν, αὔξεται δέ, ὅταν ἡ ὥρα ἔλθῃ ἐν ᾗ τοῦτο γίνεται πεττούσης ὥρας, οἷον καὶ τὰ τῶν κροκοδείλων ᾠά. συνεχὲς δὲ οὐκέτι, ὅτι οὐκ ἐπιρρεῖ ἄλλη τροφή.

Διὰ τί ποτε τὰ σκόροδα καὶ τὰ κρόμμυα ὅσῳ ἂν ξηρότερα φυτεύηται, τοσούτῳ βελτίω γίνεται, τὰ δὲ ἄλλα χείρω; ἢ ὅτι πάντα τὰ τοιαῦτα μάλιστα ὑγρασίας ἐστὶ πλήρη; εὔκρατα οὖν γίνεται τοῦτον τὸν τρόπον φυτευθέντα. καὶ ὅτι ἧττον σήπεται, ὅταν ξηρανθέντα φυτευθῇ.

Διὰ τί ποτε τὰ σκόροδα καὶ τὰ κρόμμυα μόνα τῶν φυτῶν κείμενα βλαστάνει; ἢ διότι ὑγρασίας ἐστὶ πλήρη καὶ τροφῆς; ἡ περιουσία οὖν ἐστὶ τῆς τροφῆς ἡ ποιοῦσα βλαστάνειν. δῆλον δέ· καὶ γὰρ αἱ σκίλλαι καὶ οἱ βολβοὶ ταὐτὸ ποιοῦσιν. αὔξεται δέ, ὅταν ἡ ὥρα ἔλθῃ ἑκάστῳ.

Διὰ τί τὰ τῷ ψυχρῷ ὕδατι ἀρδόμενα γλυκύτερα ἢ τὰ τῷ θερμῷ; πότερον ὅτι ἐγκατακλειόμενον τὸ θερμὸν ἁλμυρώτερον, ὥσπερ καὶ τὸ ἁλμυρώτερον θερμότερον, τὸ δὲ γλυκὺ ἐναντίον, ὥσπερ ψυχρόν. τροφὴ δὲ τοῖς λαχάνοις τὸ ὑγρόν, καὶ οἱ χυμοὶ ἐντεῦθεν.

Διὰ τί τὰ σκόροδα ὄζει μᾶλλον ἐγκαυλοῦντα ἢ νέα ὄντα; ἢ ὅτι νέων μὲν ὄντων ἔτι πολὺ ὑγρὸν ἀλλότριον ἐνὸν ἀφαιρεῖται τὴν δύναμιν αὐτῶν; ὅταν δὲ πεπανθῇ, ἐκκεκριμένου ἤδη τούτου, τότε τὴν οἰκείαν ἔχει ὀδμήν. αὕτη δέ ἐστι φύσει. ὁμοίως δὲ καὶ οἱ ἄλλοι καρποὶ οἱ πρόσφατοι ὄντες ὑδαρέστεροι. διὸ καὶ τὰ κρόμμυα ἧττον δριμέα τὰ νεώτερα.

Διὰ τί τῶν μυρρινῶν μὲν μὴ τεταριχευμένων τὰ μύρτα ἀπορρεῖ μᾶλλον τῶν φύλλων, ταριχευομένων δὲ τῷ φύκει τὰ μὲν φύλλα ἀπορρεῖ, τὰ δὲ μύρτα οὐκ ἀπορρεῖ; ἢ ἀταριχεύτων μὲν ὄντων οὕτως ἔχει διὰ τὴν φύσιν; ὅταν γὰρ πεπανθῇ, ἀπορρεῖν πέφυκε τὰ μύρτα. τοῦτο δὲ οὐ συμβαίνει κειμένων, ἀλλὰ μόνον κωλύει ἡ ἰκμὰς τοῦ φύκους μεταβάλλειν τὸ ἐν τῷ μύρτῳ ὑγρόν. τὰ δὲ φύλλα ἀποπίπτει [926b] τοὐναντίον αὐτῶν ξηραινομένων, τὸ δὲ φῦκος ξηραίνει ἁλμυρὸν ὄν. οὐ ταὐτὸ οὖν συμβαίνει ἐπί τε τῆς μυρρίνης οὖσι καὶ κειμένοις τοῖς φύλλοις.

Διὰ τί οἱ σίκυοι πέπονες ἄριστοι γίνονται ἐν τοῖς ἑλώδεσι πεδίοις, οὖσιν ἐνύγροις, οἷον περὶ Ὀρχομενὸν καὶ ἐν Αἰγύπτῳ; δοκεῖ δ’ ἔνυδρος αὕτη ἡ χώρα εἶναι. ἔστι δὲ τὰ ἑλώδη ἔνυδρα· οἱ δὲ σίκυοι αὐτοὶ ὑγρότεροι· διὸ καὶ οἱ κηπαῖοι φαῦλοι εἰσίν. πότερον ὅτι εἰς βάθος διὰ σκληρότητα τῆς γῆς ἀναγκάζονται φυτεύεσθαι; ἡ γὰρ πηλώδης καὶ πεδιὰς μάλιστα γίνεται σκληρά, οἱ δὲ εἰς βάθος φυτευθέντες βελτίους. ἢ διότι ξηρὰν δεῖ εἶναι τὴν γῆν διὰ τὸ αὐτὸ εἶναι ὑγρὸν φύσει; οὕτω γὰρ ἀντισπώμενον ἐπὶ τὸ μέσον ἥξει. ἡ δὲ ἑλωδεστέρα μὲν βαθεῖα δὲ τροφὴν ἴσχει καὶ διὰ τὸ βάθος τῆς γῆς καὶ διὰ τὸν τόπον, καὶ οὐχ ὑπερβάλλουσαν διὰ τὸ ξηραίνεσθαι τὴν γῆν πάλιν.

Διὰ τί τὸ πήγανον δυσώδεις τοὺς ἱδρῶτας ποιεῖ, καὶ ἔνια τῶν μύρων; ἢ ὅτι ὅσων ἐν τῇ ὀσμῇ βαρύτης ἔνι καὶ δριμύτης, ταῦτα κεραννύμενα ταῖς περιττωματικαῖς ὑγρότησι κακωδεστέραν ποιεῖ τὴν ὀσμήν;

Διὰ τί τὸ πήγανον βασκανίας φασὶ φάρμακον εἶναι; ἢ διότι βασκαίνεσθαι δοκοῦσι λάβρως ἐσθίοντες; ἢ ὑφορώμενοί τινας δυσχερείας καὶ περὶ τὰ προσφερόμενα ὑπόπτως ἔχοντες; ἐπιλέγουσι γοῦν, ὅταν τῆς αὐτῆς τραπέζης ἰδίᾳ τι προσφέρωνται, μεταδιδόντες, “ἵνα μὴ βασκάνῃς με.” ἅπαντες οὖν μετὰ ταραχῆς τῶν βρωμάτων προσοίσονται τὸ διδόμενον ὑγρὸν ἢ σιτίον, ὑφ’ ὧν ἢ καταλαμβανομένων ἢ ἀπεμουμένων μετεωρισθέντα τὰ σιτία συνεξέπεσε καὶ τὰ πνεύματα ὑπὸ τῶν ὑγρῶν πόνους καὶ στρόφους παρέχει. τὸ πήγανον οὖν προεδεσθέν, θερμαντικὸν ὂν τῇ φύσει, ἠραίωσε τὸ δεχόμενον ἀγγεῖον τὰ σιτία καὶ τὸ ἄλλο σῶμα. διὸ ἔξωθεν τὸ ἐγκαταλαμβανόμενον πνεῦμα συμβαίνει.

Διὰ τί ἡ ὀρίγανος ἐμβαλλομένη τῷ γλεύκει γλυκὺν ποιεῖ τὸν οἶνον; ἐμβάλλονται δὲ δύο κοτύλαι εἰς τὸν ἀμφορέα. ἢ ὅτι ἐξαίρει δι’ ὧν ἡ αὐστηρότης γίνεται, τὸ ὑδατῶδες καὶ τὸ τρυγῶδες ἀναδεχομένη τῇ ξηρότητι εἰς αὐτήν; σημεῖον δὲ ὅτι ἐκ τούτων τὸ αὐστηρόν· οἱ γὰρ οἶνοι ἧττον μαλακοί, ἐὰν ὕδωρ παραχεθῇ, καὶ ἐὰν ἐν τῇ τρυγὶ πλείω χρόνον ἐάσῃ τις. καὶ ὅταν ποιῶσι γλυκύ, ἡλιῶσι τὰς σταφυλὰς πολὺν χρόνον, καὶ ὁ ἥλιος ἀφαιρεῖ τὸ ὑδατῶδες καὶ [927a] τὸ λοιπὸν συμπέττει. ταὐτὸ δὲ τοῦτο ποιεῖ καὶ ἡ ὀρίγανος· ξηρὰ γὰρ καὶ θερμή, ὥστε εἰκότως διαμένει.

Διὰ τί αἱ μέλαιναι μυρρίναι πυκνοφυλλότεροί εἰσι τῶν λευκῶν μυρρινῶν; ἢ ὅτι ἀγριώτεραι τὸ γένος; σημεῖον δὲ ὅτι γίνονται ἐν τοῖς ἀγροῖς καὶ ἥκιστα μεταβάλλουσιν ὑπὸ τῆς ἐπιμελείας. τὰ δὲ ἄγρια πάντα πυκνοφυλλότερα· διὰ γὰρ τὸ ἧττον πέττειν τὸν καρπὸν εἰς τὰ φύλλα ἡ τροφὴ τρέπεται.

ΚΑ. ΟΣΑ ΠΕΡΙ ΑΛΦΙΤΑ ΚΑΙ ΜΑΖΑΝ ΚΑΙ ΤΑ ΟΜΟΙΑ.

Διὰ τί ἡ πτισάνη καὶ τὸ ἄλευρον ἐλαίου ἐπιχεομένου λευκότερα γίνεται; καίτοι τὸ ἔλαιον πυρρόν. ἢ ὅτι πέφυκε μιγνύμενον τῷ ὑγρῷ ἀφρίζειν; τοῦτο δὲ ἡ λευκότης. ἡ δὲ μῖξις τρίψει καὶ κινήσει. μίγνυται δὲ μᾶλλον τοῖς σωματικοῖς· ἐν δὲ τοῖς ἑψήμασι τοῦτο συμβαίνει, διὸ καὶ λευκότερα ποιεῖ.

Διὰ τί ἡ ἐκ τοῦ πυροῦ τροφὴ μάλιστα ἁρμόττει τοῖς σώμασι καὶ μᾶλλον τρόφιμος ἢ ἡ ἐκ τῶν κριθῶν; ἢ διότι μετρίαν ἔχει γλισχρότητα; δεῖ δὲ τὴν τροφὴν ἔχειν τοῦτο· προσφῦναι γὰρ δεῖ καὶ προσκολληθῆναι τῷ σώματι· οὗ αἴτιον τὸ γλίσχρον. ἀλλὰ ψαθυρώτερον· διὸ αἱ τετριμμέναι σφόδρα μᾶζαι τροφιμώτεραι τῶν ἀτρίπτων.

Διὰ τί τῶν μὲν ἀλεύρων τὰ πρῶτα, τῶν δὲ ἀλφίτων τὰ τελευταῖα λαμπρότερα; ἢ διότι τὸ μὲν καπυρὸν ὂν περιθραύεται, τὸ δὲ μαλακὸν ἐνθλίβεται; λαμπρότερον δὲ ἐν ἀμφοτέροις τὸ ἐντός.

Διὰ τί οἱ ἄρτοι λευκότεροι φαίνονται ψυχροὶ ὄντες ἢ θερμοί; ἢ διὰ τὴν αὐτὴν αἰτίαν τρόπον τινὰ καὶ τὸ ἔλαιον λευκότερον τοῦ προσφάτου τὸ παλαιόν; αἴτιον γὰρ τῆς μελανίας τὸ ὕδωρ, τοῦτο δὲ ἐν ἀμφοτέροις πλεῖον προσφάτοις οὖσιν· χρονιζομένοις δὲ διὰ τὸ ἐξατμίζειν λείπεται ἔλαττον τὸ ἐπιπολῆς. ἐξατμίζει δὲ τοῦ μὲν ἐλαίου ἢ ὁ χρόνος ἢ ὁ ἥλιος· ἐκ δὲ τῶν ἄρτων ψυχομένων τὸ θερμὸν ἐξιὸν ψυχρῶν μὲν ὄντων ἐξελήλυθεν, ἐν δὲ θερμοῖς οὖσιν ἔτι ἔνεστιν.

Διὰ τί οἱ ἄναλοι ἄρτοι πλείονα σταθμὸν ἔχουσι τῶν ἡλισμένων, τῶν ἁλῶν αὐτοῖς ἴσων ὑπαρχόντων; εἰκὸς δὲ ἦν τοὐναντίον· οἱ γὰρ ἅλες πρόσκεινταί τε καὶ βαρύτεροι τοῦ ὕδατός εἰσιν. ἢ ὅτι ξηραίνουσιν οἱ ἅλες; διὸ καὶ σώζεται ἄσηπτα τὰ τεταριχευμένα· ἀναλίσκεται γὰρ καὶ ξηραίνεται [927b] τὸ ὑγρὸν ὑπ’ αὐτῶν, ὃ σήπεται ὑπὸ τοῦ θερμοῦ. καὶ ἐν τῷ ἄρτῳ οὖν ἀναλίσκεται τὸ ὑγρὸν ὑπὸ τοῦ ἁλός, καὶ ἀποπνεῖ ἔξω. διὸ καὶ οἱ ἕωλοι ἄρτοι κουφότεροί εἰσι τῶν θερμῶν, ψυχρότεροι ὄντες. ἐν δὲ τοῖς μὴ ἡλισμένοις τοῦτο τὸ ὑγρὸν πλεῖον ἐνυπάρχον ποιεῖ βαρυτέρους αὐτούς.

Διὰ τί οἱ μὲν ψυχροὶ ἄρτοι ἂν βρεχθέντες ἅψωνται ἀλλήλων, οὐ συνέχονται, οἱ δὲ θερμοί; ἢ ὅτι οἱ μὲν ψυχροὶ μετὰ τῆς ἀτμίδος ἀφιᾶσι τὸ ἐν αὑτοῖς γλίσχρον ὑγρόν, οὗ ἐξελθόντος οὐ κολλῶνται (τὸ γὰρ ὕδωρ ᾧ ἐβρέχθησαν, ψαθυρώτερόν ἐστιν), οἱ δὲ θερμοὶ ἔχουσί τινα γλισχρότητα.

ὅταν μὲν οὖν βεβρεγμένων αὐτῶν ἡ ἀτμὶς ἐξίῃ, τὸ μὲν θερμὸν διαπνεῖ διὰ λεπτότητα, τὸ δὲ κολλῶδες συνεξιὸν αὐτῷ καὶ μιγνύμενον τῷ ὑγρῷ προσέρχεσθαι ποιεῖ ἐν αὐτοῖς.

Διὰ τί τῶν ἀλεύρων τὰ ἄλφιτα λαμπρότερά ἐστι, τῶν δὲ ἀλφίτων τὰ τελευταῖα; ἢ ὅτι τὸ μὲν ἄλφιτον καπυρὸν ὂν περιθραύεται, οἷον μάλιστα πάσχει πλεῖστον χρόνον κοπτόμενον, τὸ δὲ μαλακὸν καὶ λεπτὸν ἄλευρον, ὅ ἐστιν ἐντὸς τοῦ πυροῦ, ἐκθλίβεται πρῶτον. λαμπρότατον δέ ἐστιν ἐν ἀμφοτέροις τὸ ἐντός.

Διὰ τί ἡ μὲν μᾶζα ὅσῳ ἂν μᾶλλον τριφθῇ, δυσδιαχωρητοτέρα γίνεται, ὁ δὲ ἄρτος εὐδιαχωρητότερος; ἢ διὰ τὸ τριφθῆναι σφόδρα τὸ σταῖς μικρότερον γίνεται; τὸ δὲ γλίσχρον τοιοῦτόν ἐστιν, ὑπὸ δὲ τοῦ πυρὸς πάντοθεν ἐξῄρηται τὸ ὑγρὸν τοῦ ἄρτου, ὥστε ψαθυρώτερον γίνεται τοῦ ὑγροῦ ἐξαιρεθέντος ὅλως, ὅσῳ ἂν μᾶλλον τριφθῇ, διὰ τὸ ἐν τῇ τρίψει μικρομερέστερον γεγονέναι· τὸ δὲ ψαθυρὸν εὐπεπτότερόν ἐστιν. ἡ δὲ μᾶζα ὅσῳ ἂν μᾶλλον τριφθῇ, γλισχροτέρα γίνεται τοῦ ὑγροῦ μεμιγμένου· τὸ δὲ γλίσχρον οὐκ εὐδιαίρετον. τὰ δὲ τοιαῦτα δύσπεπτά ἐστιν· δεῖ γὰρ τὸ πεφθησόμενον διαιρεθῆναι εἰς μικρά.

Διὰ τί ἡ μὲν μᾶζα τριβομένη ἐλάττων γίνεται, τὸ δὲ σταῖς μεῖζον; ἢ ὅτι τὸ μὲν ἄλφιτον βρεχθὲν καὶ τριβόμενον συνίζει τῇ τοῦ ὑγροῦ κολλήσει διὰ τὸ ἀραιὸν εἶναι καὶ χονδρόν, τὸ δὲ ἄλευρον μετεωρίζεται διὰ τὸ πυκνὸν εἶναι σφόδρα; τὰ γὰρ πυκνὰ τριβόμενα θερμαίνεται, θερμαινόμενα δὲ καὶ πνευματούμενα μετεωρίζεται, καθάπερ καὶ ἡ σάρξ.

Διὰ τί δὲ πυρούμενον τὸ σταῖς μεῖζον γίνεται ἢ ἡ [928a] μᾶζα; ἢ ὅτι ἔχει ὑγρὸν οὐ κεχωρισμένον, ὥστε ἐξιέναι θερμαινόμενον διὰ τὴν τρῖψιν· ἐξ οὗ θερμαινομένου πνεῦμα γίνεται, ἐκ δὲ τοῦ πλείονος ὑγροῦ ἀνάγκη γίνεσθαι πλεῖον πνεῦμα.

Διὰ τί τοῦ μέλιτος κολλητικωτέρου ὄντος ἢ τοῦ ὕδατος, τὸ τῷ μελικράτῳ φυραθὲν ἄλευρον ψαθυρώτερον γίνεται, ὅταν ἑψηθῇ ἢ ὀπτηθῇ, ἢ τὸ τῷ ὕδατι; ἢ διότι τὸ μὲν ὑπὸ τοῦ πυρὸς πήγνυται καὶ συνίσταται, τὸ ὕδωρ, τὸ δὲ μέλι συνιστᾷ μὲν ἀλλ’ ἐπιξηραίνει, διὸ μᾶλλον ψαθυρὸν ποιεῖ· ἡ γὰρ ψαθυρότης ὑπὸ ξηρασίας γίνεται.

Διὰ τί οἱ δίπυροι ἄρτοι ψυχθέντες οὐ γίνονται σκληροί; ἢ ὅτι ἔχει τινὰ ἐν αὑτῷ ὁ πυρὸς γλυκὺν καὶ γλίσχρον χυμόν, ὅς ἐστιν αὐτοῦ καθάπερ ψυχή; σημεῖον δέ· ξηραινόμενος μὲν γὰρ ὅλως κενοῦται, νοτιῶν δὲ ἐκφύεται. τοῦ οὖν χυμοῦ τούτου ἐνυπάρχοντος καὶ ἐν τῷ ἀλεύρῳ καὶ μάλιστα τῷ καθαρωτάτῳ, σταιτὸς γενομένου τοῦ ἀλεύρου καὶ τριβομένου συμβαίνει αὐτό. σημεῖον δέ· ἑψόμενον γὰρ διαχωρητικώτερον γίνεται, ὀπτωμένου μὲν οὖν τὸ πρῶτον τοῦ ἄρτου, τὸ ψαθυρὸν καὶ ἐλαφρὸν τοῦ δὲ ὑγροῦ τοῦ ἐκ τοῦ ἄρτου ἀπατμίζει, καὶ τοῦ ἀλεύρου τὸ ἀχυρωδέστατον ἀποκαίεται. ἐξαιρεθέντος δὲ καὶ τριβομένου πάλιν τοῦ σταιτός, τό τε τοῦ ἀλεύρου λειότατον καὶ τοῦ ὑγροῦ γλισχρότατον λειπόμενα μίγνυται μᾶλλον ἑαυτοῖς, διά τε τὸ τοιαῦτα καὶ μᾶλλον γεγονέναι, καὶ διὰ τὴν πύρωσιν· βαφῇ γὰρ ἡ μῖξις αὐτῶν ὁμοία γίνεται, ὥστε γίνεσθαι τὸ ὕστερον τριφθὲν σταῖς ὅμοιον τῷ ἑψομένῳ ἀλεύρῳ. καὶ γὰρ ἐκεῖνο, τριφθέντος τοῦ σταιτὸς καὶ λειφθέντος τοῦ λεπτοτάτου ἀλεύρου καὶ τοῦ γλισχροτάτου ὑγροῦ, πυρωθὲν κολλῶδες γίνεται καὶ ἀνεξίκμαστον· τό τε γὰρ γλίσχρον δυσδιαίρετον, καὶ τὸ πυκνὸν οὐθὲν δι’ αὐτοῦ προΐεται. ὑγρότατον οὖν τοῦτο, καὶ διὰ πυρὸς πάσχει ἄρτος διὰ τὰ εἰρημένα· ἔχων δὲ ἀεὶ ὑγρότητα οὐ γίνεται σκληρός.

Διὰ τί τῆς τροφῆς καὶ τῆς ξηρᾶς καὶ τῆς ὑγρᾶς ἐνίοις δυνάμεθα πολὺν χρόνον χρῆσθαι, οἷον τῇ γινομένῃ τροφῇ ἐξ ἀλφίτων καὶ ἀλεύρων καὶ τοῖς οἴνοις τοῖς αὐστηροῖς καὶ ὕδατι, τοῖς δὲ οὐ δυνάμεθα, καὶ ταῦτα ἡδίοσιν οὖσιν; ἢ ὅτι τὰ μέν ἐστι τῶν προσφερομένων ἐπιπολαστικὰ καὶ τρόφιμα, ὥστε καὶ ὅταν κενωθῶσι, τῆς πρώτης τροφῆς ἀναλωθείσης ἔτι ἔνεστιν ἐν τῷ σώματι πολλὴ δύναμις, ὡς [928b] μὲν πρὸς τὴν πρώτην ἐργασίαν τοῦ σώματος πεφθεῖσα, ὡς δὲ πρὸς τὸ τέλος καὶ τὴν ἐκ διαδοχῆς γινομένην ἄπεπτος; τοιαῦτα δέ ἐστι καὶ τῶν ἡδέων τὰ πλεῖστα. τὰ μὲν γὰρ λιπαρὰ καὶ γλυκέα καὶ πίονα ἥδιστα δοκεῖ εἶναι γευομένοις ἡμῖν, ταῦτα δέ ἐστι πάντα τὰ τρόφιμα καὶ οὐκ ἄπεπτα καὶ ἐπιπολαστικά, ἐν ᾗ ἂν ᾖ διαφορᾷ· ὥστε ἔναυλον εἶναι τὴν δύναμιν, ἐάν τις αὐτῶν πληρωθῇ καὶ μὴ ταχὺ ἐκλίπῃ τὴν αἴσθησιν. οὐ γὰρ μόνον ἐν τῇ κοιλίᾳ ἐνόντων γίνεται ἡ πλήρωσις, ἀλλὰ καὶ διαδοθείσης τῆς τροφῆς ἐν ἄλλοις μέρεσιν. ἢ οὐ μόνον τοῦτο αἴτιον, ἀλλὰ καὶ τὸ τῇ φύσει ἔνια σύμμετρα εἶναι καὶ οἰκεῖα ἡμῖν; πάντα γὰρ τὰ τοιαῦτα διὰ τὸ κατὰ φύσιν εἶναι μᾶλλον προσίεται τὰ σώματα, τὰ δὲ παρὰ φύσιν ἧττον. ἄλλα τε ἄλλῃ κράσει ἁρμόττει, οἷον τὸ μέλι ταῖς μελίτταις κατὰ φύσιν ἐστὶν ὥστε προσφέρεσθαι μόνον· καίτοι ἀσθενεῖς γέ εἰσι τὴν δύναμιν. ὥστε δεῖ λείπειν τὸ ἀναλισκόμενον, ἀλλ’ εἶναι ἀνάλογον τὸ πλῆθος πρὸς τὴν ἰσχὺν τὴν ἀπὸ τῶν ἀνθρώπων· ὥστε ὅσα τῶν ἡδέων τοιαῦτά ἐστι, διὰ μὲν τὸ ἐν τῇ φύσει ἧττον ὑπάρχειν ἡδέα φαίνεται, ὀλίγον δὲ χρόνον· εἶτα πληροῖ ταχύ. τῶν δὲ κατὰ φύσιν ἀεὶ δέονται, ὥστε καὶ προσφερομένων συνεχῶς δι’ αὐτὰ οὐ τῶν ἡδίστων, ἀλλ’ ἑτέρων ἧττον πληροῦνται.

Διὰ τί τὰ αὐτὰ συνεθιζομένοις τε ἡδέα φαίνεται καὶ λίαν συνεχῶς προσφερομένοις οὐχ ἡδέα; τὸ δὲ ἔθος ἐστὶ τὸ πολλάκις καὶ συνεχῶς τι ποιεῖν.

ἢ ὅτι τὸ μὲν ἔθος ἕξιν δεκτικήν τινος ἐν ἡμῖν ποιεῖ, οὐ πλήρωσιν, τὸ δὲ συνεχῶς προσφέρεσθαί τι πληροῖ τὴν ἐπιθυμίαν, καὶ καθάπερ αἴτιον; ἔστι γάρ τι καὶ ἡ ἐπιθυμία. αἱ μὲν οὖν ἕξεις γυμναζόμεναι αὔξονται καὶ ἐπιδιδόασιν· τὰ δὲ ἀγγεῖα σαττόμενα οὐδὲν μείζω γίνεται. διόπερ τὸ μὲν ἔθος ὂν γυμνάσιον αὔξει τὴν δεκτικὴν ἕξιν· τὸ δὲ συνεχῶς προσφερόμενον σάττει μὲν καὶ πληροῖ τὴν ἐπιθυμίαν, ἧς πληρωθείσης οὐκέτι προσιέμεθα, αὔξει δὲ οὐθὲν αὐτὴν διὰ τὰ προειρημένα ἐπὶ τῆς σάξεως. ἔτι τὸ ἔθος οὐ τῷ ἀεὶ ἡδύνειν ἡδύ ἐστι (λυπεῖ γὰρ καὶ τὰ τοιαῦτα, ἐάν τις συνεχῶς ποιῇ) ἀλλὰ τῷ τὴν ἀρχὴν τοῦ ἔργου ἡδέως ἡμᾶς προσίεσθαι, καὶ πλείω χρόνον δύνασθαι ταὐτὸν ποιεῖν ἢ ἀσυνήθεις ὄντας. ἐν ᾧ οὖν καὶ τοῦτο λυπεῖ ἡδὺ ὄν, ἐν ταὐτῷ καὶ τὰ ἄλλα ἡδέα. συνεχῶς γὰρ γινόμενα ἢ προσφερόμενα ἀμφότερα λυπεῖ. [929a] αἴτιον δὲ τὸ μὴ ἀπείρους ἡμᾶς ἐν αὐτοῖς δυνάμεις ἔχειν τὰς δεκτικὰς καὶ ποιητικάς, ἀλλὰ πεπερασμένας, αἳ τυγχάνουσαι τοῦ συμμέτρου αὐταῖς (τοῦτο γὰρ συνεχῶς ἐστὶν αἰσθητὸν εἰς ἐπίδοσιν) αἱ μὲν πληροῦνται, αἱ δὲ ἀδυνατοῦσιν ἐνεργεῖν.

Διὰ τί τὸ μὲν σταῖς γίνεται τριβόμενον λευκόν, ἡ δὲ μᾶζα μελαντέρα; πότερον ὅτι ξηραίνεται μᾶλλον τὸ ἐπιπολῆς ἐν τῷ ἀλφίτῳ, οἷον ἐν ὑγρῷ θερμόν, ὃ ποιεῖ τὴν λευκότητα; ἢ διὰ τὸ πεπυρῶσθαι ἕλκει τὸ ὑγρὸν εἰς αὐτό, μεγαλομερέστερον ὄν.

Διὰ τί τὰ ἄλφιτα μᾶλλον τῷ ὕδατι συμμένει φυρόμενα ἢ τῷ ἐλαίῳ, ὄντι γλισχροτέρῳ; καίτοι κολλητικώτερον τὸ γλίσχρον, τὸ δὲ ἔλαιον τοῦ ὕδατος γλισχρότερον, ἢ ὅτι λεπτότερον τὸ ὕδωρ, ὥστε εἰσέρχεται εἰς ἅπαν καὶ μαλακὰ ποιεῖ, συμφύεταί τε μᾶλλον καὶ συνθλίβεται πρὸς ἄλληλα, καίτοι θλιβόμενα καὶ χωρὶς τῆς τρίψεως.

Διὰ τί οἱ ἄτριπτοι ἄρτοι καὶ οἱ σφόδρα τετριμμένοι ῥήγνυνται; ἢ ὅτι οἱ μὲν ἄτριπτοι διὰ τὸ ἀσύνδετοι εἶναι; ἡ γὰρ τρῖψις συνδεῖ· προωδοποίηνται οὖν τὸ ῥήγνυσθαι. ἔτι ἀμιγὲς καὶ πολὺ ἔχουσι τὸ ὑγρόν. οἱ δὲ τετριμμένοι σφόδρα λίαν εἰσὶ ξηροὶ διὰ τὸ ὀλίγον ἔχειν ὑγρόν· θερμαινομένων γὰρ πᾶν ἐξέρχεται. ὥστε ἄμφω διὰ τὸ πολὺ ὑγρὸν ἐξιέναι ῥήγνυνται· πολὺ γὰρ ἐν μὲν τοῖς ἀτρίπτοις ἁπλῶς ἔνεστιν, ἐν δὲ τοῖς τετριμμένοις πρὸς τὸ ὑπόλοιπον.

Διὰ τί κουφότερον τὸ φύραμα γίνεται ἢ ἄμφω, τό τε ὑγρὸν καὶ τὸ ἄλφιτον; πότερον ὅτι μιγνυμένων πνεῦμα συγκατακλείεται; ἢ ὅτι ὑπὸ τοῦ θερμοῦ τοῦ ἐν τοῖς ἀλφίτοις ἐξατμίζεται τοῦ ὕδατος, ὥστε ἔλαττον γίνεται τὸ μεμιγμένον; ὁ δὲ ἀήρ, εἰ καὶ μίγνυται, οὐθὲν ἂν κουφότερον ποιοῖ· ἔχει γὰρ βάρος καὶ ὁ ἀὴρ ἐν τῷ ἀέρι.

Διὰ τί μετὰ τοῦ ἀλφίτου πινόμενον τὸ γάλα καὶ ὁ γλυκὺς φαίνεται γλυκύτερα; πότερον παρὰ τὸ μὴ γλυκὺ μᾶλλον φαίνεται; τὸ γὰρ ἄλφιτον οὐ γλυκύ. ἢ ὅτι ἐνδιατρίβει τὸ ἄλφιτον ἔχον γλυκύτητα, ὥστε πλείονι χρόνῳ ἡ αἴσθησις.

Διὰ τί ἧττον ἄκρατον φαίνεται τὸ αὐτὸ πόμα μετὰ τοῦ ἀλφίτου πινόμενον; πότερον ἢ ὅτι κεράννυσιν ἄλλο ἔχον μετ’ ἄλλου; ἢ ὅτι ἀντιφράττει τῷ πόματι καὶ ἀφανίζει, ἀντισπῶν εἰς αὑτό;

[929b] Διὰ τί ὁ χόνδρος πλεῖον ὕδωρ δέχεται ἢ οἱ πυροὶ ἐξ ὧν ὁ τοιοῦτος ἐγένετο χόνδρος; ἢ ὅτι ἄλευρά πώς ἐστιν ὁ χόνδρος, τὰ δὲ ἄλευρα πλεῖον δέχεται. καὶ γὰρ γίνεται ὁ ὄγκος πλείων ἢ ὁ τῶν πυρῶν· σέσακται γὰρ καὶ τὰ ἐν τοῖς πυροῖς. τὰ δὲ πλείω χωρεῖ πλεῖον. καὶ τοῦτο καὶ ὅτι ἔχει θερμότητα καὶ τὰ ἄλευρα καὶ ὁ χόνδρος. τὸ δὲ θερμὸν καὶ ἕλκει μᾶλλον τὸ ὑγρόν, καὶ ἐξαναλίσκει ἐξατμίζον.

Διὰ τί τὸ ἄλευρον τριβόμενον μεῖζον πολὺ γίνεται ἢ τὸ ἄλφιτον κατὰ λόγον; ἢ ὅτι τὸ μὲν πολὺ ὕδωρ δέχεται, τὸ δὲ ὀλίγον; διὰ τί δὲ δέχεται πλεῖον; μᾶλλον γὰρ εἰκὸς τὸ ἄλφιτον· πεπύρωται γάρ, τὸ δὲ ἄπυρον· μᾶλλον δὲ ξηρὸν τὸ πεπυρωμένον. ἢ διότι τρῖψιν μᾶλλον δέχεται τὸ ἄλευρον; τούτου δὲ αἴτιον τὸ μικρομερέστερον εἶναι. ὥσπερ οὖν ὁσαπλάσιόν ἐστι δυνάμει τῇ μικρότητι, τοσαυταπλάσιον δέχεται τὸ ὕδωρ. κόλλῃ γὰρ χρῆται τῷ ὕδατι, ὥσπερ καὶ Ἐμπεδοκλῆς μετήνεγκεν ἐν τοῖς Περσικοῖς εἰπὼν “ἄλφιτον ὕδατι κολλήσας.” καὶ ἀναλίσκει πολὺ διὰ τοῦτο.

Διὰ τί δὲ καὶ πεπυρωμένον τὸ σταῖς μεῖζον γίνεται ἢ ἡ μᾶζα; ἢ ὅτι ἔχει ὑγρὸν οὐ κεχωρισμένον, ὥστε ἐξιέναι θερμαινόμενον, οὐ πνεῦμα γινόμενον, καὶ οὐ δυνάμενον ἐξιέναι ὁμοίως καὶ ἐν τῇ μάζῃ διὰ τὴν πυκνότητα τοῦ σταιτός; πυκνὸν γὰρ τὸ ἐκ μικρομερεστέρων. αἴρει οὖν, καὶ ποιεῖ τὸν ὄγκον. ἔτι δὲ καὶ πλεῖον ἔχει τὸ ὑγρόν, ἐξ οὗ θερμαινομένου πνεῦμα γίνεται· ἐκ δὲ τοῦ πλείονος ἀνάγκη γίνεσθαι πλεῖον.

Διὰ τί οἱ περὶ τὴν τῶν σιτίων ἐργασίαν, οἱ μὲν περὶ τὰς κριθὰς ἄχροοι γίνονται καὶ καταρροϊκοί, οἱ δὲ περὶ τοὺς πυροὺς εὐεκτικοί; ἢ διότι εὐπεπτότερος ὁ πυρὸς τῆς κριθῆς, διόπερ καὶ αἱ ἀπόρροιαι;

Διὰ τί ὁ ἄρτος, ἐὰν μέν τις αὐτὸν ὀπτᾷ, σκληρότερος γίνεται, ἐὰν δέ τις αὐτὸν χλιαίνῃ, ὑγρότερος ἄχρι τινός; ἢ ὅτι ὀπτωμένου αὐτοῦ τὸ ὑγρὸν ἐκπορεύεται; σκληρότερος οὖν γίνεται· ἐπιθερμαινομένου δὲ τὸ ὑγρὸν συσταθὲν διαχεῖται ὑπὸ τοῦ πυρός, διὸ ὑγρότεροι γίνονται.

Διὰ τί τὰ μὲν ἄλευρα ψυχόμενα ἧττον σάττεται, τὰ δὲ ἄλφιτα μᾶλλον; ἢ ὅτι τὰ μὲν μικρομερῆ οὐ διαλείπει χώραν, καὶ τὰ βαρέα τῇ θλίψει τὰ πλείω ἐλάττω κατέχει τὸ ἴσον; τὰ μὲν οὖν ἄλφιτα ἁδρά ἐστιν. ψυχόμενα οὖν ἐλάττω γίνεται, ὥστε τὸ ἔλαττον συμπιέζει τὸ πλέον. τὰ [930a] δὲ ἄλευρα ὑπάρχει μὲν μικρομερῆ ὄντα, ὥστε οὐ διὰ τοῦτο ψύχεται, ἀλλ’ ἵνα ᾖ κουφότερα καὶ μὴ σάττηται διὰ τὴν θλῖψιν· βαρύτερον γὰρ φύσει τὸ ἄλευρον τοῦ ἀλφίτου ἐστίν.

ΚΒ. ΟΣΑ ΠΕΡΙ ΟΠΩΡΑΝ.

Διὰ τί τὴν ὀπώραν ὕστερον ἢ πρότερον φαγοῦσιν οὐκ ἀνάλογον τοῖς αὐτοῖς ὁ ὄγκος τῆς πληρώσεως γίνεται; ἢ ὅτι βαρυτέρα ἐστὶν ἡ ὀπώρα τῶν σιτίων πολύ. δηλοῖ δὲ καὶ τὰ σῦκα, ἐὰν ὕστατα βρωθῇ· τελευταῖα γὰρ ἐμεῖται. ἐὰν μὲν οὖν πρῶτα, διὰ βάρος κάτω πορευόμενα εὐρυχωρίαν ἄνω ποιεῖ, ὥστε ῥᾳδίως δέχεσθαι τὸν ὄγκον τῶν σιτίων. ἀνάπαλιν δὲ εἰσελθόντα τὰ σιτία, διὰ τὸ μὴ κάτω φέρεσθαι, ταχὺ τοῦ ἄνω κενοῦ προσλαμβάνει.

Διὰ τί τῶν γλυκέων ὄντων ὁμοιοτέρων ἡμῖν ἢ τῶν δριμέων, θᾶττον πληρούμεθα ὑπὸ τῶν γλυκέων; εἰκὸς δὲ ἦν ἧττον· ὑπὸ γὰρ τῶν ὁμοίων ἧττον ἦν εἰκὸς πληροῦσθαι. ἢ ὅτι οὐχ ὁμοίως τό τε ἀγγεῖον πληροῦται ταχύ, ἐξ οὗ πληρούμεθα, καὶ τὸ τρεφόμενον, ἀλλ’ ἐνίοτε ἡ μὲν κοιλία πλήρης ἐστίν, οἷον τῶν διψώντων, τὸ δὲ δίψος οὐδὲν ἧττόν ἐστιν. οὐ γὰρ τῷ ταύτην εἶναι πλήρη παυόμεθα διψῶντες, ἀλλὰ τῷ ἕκαστον τῶν τοῦ σώματος τὸ αὑτῷ οἰκεῖον ἐσπακέναι, καὶ ὅταν ἐκεῖνα ἀπολάβῃ ἱκανῶς, τότε παυόμεθα διψῶντες. καὶ πεινῶντες δὲ ὡσαύτως.

Διὰ τί θᾶττον πληρούμεθα ἀπὸ τῶν γλυκέων ἢ ἀπὸ τῶν δριμέων; ἢ ὅτι θᾶττον παυόμεθα ἐπιθυμοῦντες τῶν γλυκέων; ἢ ὡς μὲν ἡ κοιλία πληροῦται, οὕτω καὶ ἡμεῖς ὑπὸ τῶν γλυκέων; οὐχ ὁμολογεῖται· ὅτι δὲ ἡ ἐπιθυμία θᾶττον ὑπ’ αὐτῶν πληροῦται, τοῦτ’ ἂν εἴη λεκτέον. ἢ ὅτι ἡ μὲν ἐπιθυμία ὡς ἁπλῶς εἰπεῖν ἔστι μὲν ἔνδεια, καὶ ὅταν μηκέτι ἔχωμεν τροφὴν ἢ ὀλίγην; τὰ μὲν οὖν δριμέα οὐκ ἔστι τρόφιμα, ἀλλὰ τροφὴν μὲν ὀλίγην ἔχει, τὸ δὲ περίττωμα πολύ. εἰκότως οὖν πολλὰ ταῦτα ζητοῦμεν ἐσθίειν, καὶ οὐκ ἐμπιπλάμεθα αὐτῶν τὴν ἐπιθυμίαν, διὰ τὸ ἔτι προσδεῖσθαι τροφῆς, ταῦτα δὲ μὴ ἔχειν τροφήν. τὰ δὲ γλυκέα ἅπαντά ἐστι τροφή, καὶ ἀπὸ μικρῶν τοιούτων πολλὴν λαμβάνει τὸ σῶμα. ὅταν οὖν ἀπολάβῃ πολλὴν τροφήν, οὐκέτι δύναται ἐσθίειν διὰ τὸ μὴ ὑποφέρειν. εἰκότως οὖν θᾶττον ὑπὸ τῶν γλυκέων πληρούμεθα.

Διὰ τί τὰ περικάρπια καὶ τὰ κρέα, καὶ ὅσα τοιαῦτα, [930b] ἐν τοῖς ἀσκοῖς ἄσηπτα γίνεται, ὅταν σφόδρα φυσηθῶσι, καὶ τὰ ἐν τοῖς ἀκριβῶς περιπωματιζομένοις ὡσαύτως; ἢ διότι σήπεται μὲν κινούμενα πάντα, τὰ δὲ πλήρη ἀκίνητα· ἀδύνατον γὰρ ἄνευ κενοῦ κινηθῆναι, ταῦτα δὲ πλήρη.

Διὰ τί μετὰ τὰ σαπρὰ τῶν περικαρπίων ὁ οἶνος πικρὸς φαίνεται πινόμενος; ἢ ὅτι τὴν πικρότητα ἔχει ἡ σαπρότης ἡ τοιαύτη; τὸ οὖν ἐπιμένον ἐπὶ τῇ γλώττῃ, μιγνύμενον τῷ πόματι καὶ διαχεόμενον, πικρὸν ποιεῖ τὸ πόμα. αὐτὸ δὲ καθ’ αὑτὸ ἧττον φαίνεται ἐσθιόμενον διὰ τὸ πολλῶν ἅπτεσθαι καὶ εἰς μικρὰ διανενεμῆσθαι τὸν τοιοῦτον χυμόν.

Διὰ τί τὰ τραγήματα ἐδεστέον; ἢ ἕνεκα τοῦ πιεῖν ἱκανόν; οὐ γὰρ μόνον ποτέον τῆς δίψης χάριν τῆς ἐπὶ τοῖς σιτίοις, ἀλλὰ καὶ μετὰ τὸ σιτίον.

Διὰ τί τὰ ὀπτὰ κάρυα ψυχθέντα χείρω γίνεται, καὶ ὁ ἄρτος δὲ καὶ ὁ βάλανος καὶ πολλὰ τῶν τοιούτων, θερμανθέντα δὲ πάλιν βελτίω; ἢ διότι ψυχθέντος μὲν πέπηγεν ὁ χυμός, ἀναχλιανθέντος δὲ πάλιν χεῖται; ἡ δὲ ἡδονὴ γίνεται διὰ τὸν χυμόν.

Διὰ τί ἐπὶ τῇ ἀπολαύσει τῆς ὀπώρας, οἷον σύκων καὶ τῶν τοιούτων, ἢ οἶνον ἄκρατον δεῖ ἐπιπίνειν ἢ ὕδωρ; ταῦτα δὲ ἐναντία. ἢ ὅτι ἡ ὀπώρα καὶ θερμή ἐστι καὶ ὑγρὰ διὰ τὴν γένεσιν; ἔχει γὰρ πολὺ πῦρ καὶ ὑγρότητα, ὥστε διὰ μὲν τὸ πῦρ οἷον ζέσιν ποιεῖ ὁ χυμὸς εἴσω, ὅπερ ἔξω τὸ γλεῦκος ποιεῖ. ἧττον δὲ ἔχει δύναμιν καὶ τὰ ἄλλα τὰ ἀκρόδρυα. τὸ δὲ τῆς ὑγρότητος πλῆθος ἀπεψίαν ποιεῖ. τὸ μὲν οὖν ὕδωρ διὰ τὴν ψυχρότητα σβεννύει τὴν ζέσιν, ὁ δὲ οἶνος διὰ τὴν θερμότητα ὡς ἐπὶ τὸ πολύ· ὥσπερ γὰρ πῦρ ἐνίοτε πυρός, ἐὰν ᾖ ἔλαττον, ἀφαιρεῖται τὴν ἰσχύν. μᾶλλον δὲ τῇ θερμότητι πεπτικός ἐστι τῆς ὑγρότητος, καὶ διὰ βάρος κατακρατεῖ τὸν τῆς ζέσεως ἐπιπολασμόν.

Διὰ τί τῶν ἰσχάδων γλυκύταται αἱ δίχα ἐσχισμέναι, οὔτε δὲ αἱ πολυσχιδεῖς οὔτε αἱ ἀσχιδεῖς; ἢ διότι ἐκ μὲν τῶν πολυσχιδῶν διαπέπνευκε καὶ ἐξίκμακε μετὰ τοῦ ὑγροῦ τὸ πλεῖστον τοῦ γλυκέος, ἐν δὲ ταῖς μεμυκυίαις πολὺ τὸ ὑδατῶδές ἐστι διὰ τὸ μὴ ἠτμικέναι. αἱ δ’ ἐσχισμέναι μέν, μὴ εἰς πολλὰ δέ, ἀμφοτέρων τούτων ἐκτός εἰσι τῶν παθημάτων.

Διὰ τί ταῖς καμίνοις ξηραινόμενα τὰ σῦκα σκληρότερα [931a] γίνεται, ἐὰν ψυχθῇ ἐν τῇ καμίνῳ, ἢ ἂν ἐξαιρεθέντα ψυχθῇ; ἢ ὅτι ἐν μὲν τῇ καμίνῳ ἐξατμίζει πᾶν τὸ ὑγρὸν ὑπὸ τοῦ θερμοῦ, ἔξω δὲ περιεστηκὼς ὁ ἀὴρ ψύχων κωλύει τὸ ὑγρὸν ἐξιέναι καὶ συνίστασθαι; μᾶλλον γὰρ ἐξατμίζει. ἔστι δὲ τὰ μὲν ξηρὰ σκληρά, τὰ δὲ ὑγρὰ μαλακά.

Διὰ τί παρὰ τὰ στρυφνὰ ὁ οἶνος καὶ τὸ ὕδωρ φαίνεται γλυκύτερα, οἷον ἐάν τις βαλάνους ἢ μύρτα ἤ τι τῶν τοιούτων διατράγῃ; ἢ εἰκότως, καθάπερ καὶ ἐπὶ τῶν ἄλλων; πᾶν γὰρ τὸ αὐτὸ παρὰ τὸ ἐναντίον μᾶλλον φαίνεται, οἱ δὲ τῶν ἐναντίων χυμοὶ ἀντικείμενοί πώς εἰσιν. ἢ ὅτι, καθάπερ ἐπὶ τῶν βαπτομένων, ὑπὸ τῶν στρυφνῶν ἡ γλῶττα προδιεργάζεται καὶ τοὺς πόρους ἀνοίγεται, ὥστε μᾶλλον διιέναι τὸ γλυκύ; καὶ γὰρ τὰ βαπτόμενα τούτου ἕνεκεν προβρέχουσιν ἐν τοῖς στρυφνοῖς, τῷ διεργασθὲν μᾶλλον δέχεσθαι τὴν βαφήν.

Διὰ τί τὰ γλυκέα ἧττον δοκεῖ γλυκέα εἶναι θερμὰ ὄντα ἢ ὅταν ψυχθῇ; πότερον ὅτι ἅμα δύο αἰσθήσεις γίνονται ἀμφοῖν, ὥστε ἡ τοῦ θερμοῦ ἐκκρούει τὴν ἑτέραν; ἢ ὅτι καὶ τὸ γλεῦκος θερμόν· ὥσπερ οὖν πῦρ γίνεται ἐπὶ πῦρ. κωλύει οὖν ἡ θερμότης. ἢ ὅτι τὸ πῦρ ἀφαιρεῖται τὰς δυνάμεις ἁπάντων διὰ τὸ κινητικὸν εἶναι. ἐγγυτέρω οὖν τοῦ μεταβάλλειν ἐστὶ θερμὰ ὄντα, ἀποψυχθέντα δὲ ἕστηκεν.

Διὰ τί ποτε τὰ ἄχυρα τὰ μὲν σκληρὰ πέττει, τὰ δὲ πεπεμμένα οὐ σήπει; ἢ ὅτι τὰ ἄχυρα θερμόν τε καὶ ὁλκόν ἐστιν; τῇ μὲν οὖν θερμότητι πέττει, τῷ δὲ ὁλκὸν εἶναι τὸν ἰχῶρα τὸν σηπόμενον δέχεται, διὸ οὐ σήπει.

Διὰ τί τὰ σῦκα μαλακὰ καὶ γλυκέα ὄντα λυμαίνεται τοὺς ὀδόντας; ἢ διὰ τὴν γλισχρότητα προσέρχεται τοῖς οὔλοις, καὶ παρεμπίπτει διὰ τῶν ὀδόντων εἰς τὰ διὰ μέσου διὰ τὸ μαλακὰ εἶναι, καὶ σῆψιν ποιεῖ ταχέως ἅτε θερμὰ ὄντα; τάχα δὲ ἴσως καὶ διὰ τὴν σκληρότητα τῶν κεγχραμίδων ἐν τῇ τούτων κατεργασίᾳ πονοῦσι ταχέως οἱ ὀδόντες.

ΚΓ. ΟΣΑ ΠΕΡΙ ΤΟ ΑΛΜΥΡΟΝ ΥΔΩΡ ΚΑΙ ΘΑΛΑΤΤΑΝ

Διὰ τί τὸ κῦμα οὐκ ἐπιγελᾷ ἐν τοῖς βαθέσι πελάγεσιν ἀλλ’ ἐν τοῖς μικροῖς καὶ βραχέσιν; ἢ ὅτι τὸ μικρὸν ὑγρὸν φερόμενον μᾶλλον διαιρεῖται ὑπὸ τοῦ πνεύματος ἢ τὸ πολύ;

Διὰ τί τὰ κύματα πρότερον φοιτᾷ ἐνίοτε τῶν ἀνέμων; ἢ ὅτι πρὸς τῇ ἀρχῇ τοῦ πνεύματος ἡ θάλαττα ὠσθεῖσα [931b] πρώτη τὴν ἐχομένην ἀεὶ ταὐτὸν ποιεῖ; διόπερ οὔσης αὐτῆς συνεχοῦς καθάπερ μιᾷ πληγῇ συνεχεῖ πάσαις γίνεται. τὸ δὲ ἐν ἑνὶ χρόνῳ γίνεται, ὥστε συμβαίνει τήν τε πρώτην καὶ τὴν ἐσχάτην ἅμα κινεῖσθαι. ὁ δὲ ἀὴρ οὐ πάσχει τοῦτο, ὅτι οὔτ’ ἐστὶν ἓν σῶμα συνεχές, τῷ πολλὰς πάντοθεν ἀντικρούσεις λαμβάνειν, αἳ πολλάκις κωλύουσι τὴν πρώτην καὶ νεανικωτάτην κίνησιν, τήν τε θάλασσαν οὐ ποιοῦσι τοῦτο διὰ τὸ βαρυτέραν καὶ δυσκινητοτέραν αὐτοῦ εἶναι.

Διὰ τί τὰ πλοῖα γέμειν δοκεῖ μᾶλλον ἐν τῷ λιμένι ἢ ἐν τῷ πελάγει, καὶ θεῖ δὲ θᾶττον ἐκ τοῦ πελάγους πρὸς τὴν γῆν ἢ ἀπὸ τῆς γῆς εἰς τὸ πέλαγος; ἢ ὅτι τὸ πλέον ὕδωρ ἀντερείδει μᾶλλον ἐκ τοῦ ὀλίγου, ἐν δὲ τῷ ὀλίγῳ δέδυκε, διὰ τὸ κρατεῖν αὐτοῦ μᾶλλον; ὠθεῖ γὰρ κάτω τὸ ὕδωρ ἄνωθεν. ἐν μὲν οὖν τῷ λιμένι ὀλίγη ἐστὶν ἡ θάλασσα, ἐν δὲ τῷ πελάγει βαθεῖα. ὥστε καὶ ἄγειν πλέον δόξει ἐν τῷ λιμένι καὶ κινήσεται χαλεπώτερον διὰ τὸ δεδυκέναι μᾶλλον καὶ ἧττον ἀντερείδειν τὸ ὕδωρ. ἐν τῷ πελάγει δὲ τἀναντία τούτων ἐστίν.

Διὰ τί, ὅταν τι ῥιφθῇ εἰς τὴν θάλατταν κυμαίνουσαν, οἷον ἡ ἄγκυρα, γαλήνη γίνεται; ἢ διότι ἵσταται ἡ θάλαττα τῷ φερομένῳ, μεθ’ οὗ ἀὴρ συγκαταφέρεται, ὃς ἐπ’ εὐθείας κάτω φερόμενος καὶ ἐνταῦθα ἐπισπασθεὶς συνεπισπᾶται τὸ ἐκ πλαγίου κινοῦν τὴν θάλατταν; ὁ δὲ κλύδων τῆς θαλάττης οὐκ ἄνωθεν κάτω γίνεται ἀλλ’ ἐπιπολῆς· οὗ λήξαντος γαλήνη γίνεται. ἔτι συνιοῦσα ἡ θάλασσα εἰς τὰ διαστάντα τῷ φερομένῳ δίνην ποιεῖ. ἡ δὲ δίνη κύκλῳ φέρεται. ἐπεὶ δὲ ἡ εὐθεῖα τοῦ κύκλου κατὰ σημεῖον ἅπτεται, τὰ δὲ κύματα ἐπ’ εὐθείας λοξῆς φέρεται, συμβαίνοι ἂν αὐτὰ τοῦ ἐξωτάτου τῆς δίνης κατὰ σημεῖον ἅπτεσθαι, διά τε τὰ εἰρημένα καὶ διὰ τὴν τῆς δίνης φοράν, ἣ προσιοῦσα ἀπωθεῖται αὐτά. ἀκύμου δὲ ὄντος τοῦ κατ’ αὐτὴν τόπου, γαλήνην ἐν τῇ ῥήξει αὐτῆς συμβαίνει γίνεσθαι, ὅτι συγκαταβὰς ὁ ἀὴρ τῷ ἐνεχθέντι κάτω, ἀναφερόμενος καὶ ὠθῶν ἄνω τὴν θάλατταν ὥσπερ πομφολυγοῖ αὐτήν· ἡ γὰρ πομφόλυξ ὑγροῦ ὑπ’ ἀέρος κάτωθεν ἀνωθουμένου ἐστίν. πομφόλυξ δὲ πᾶσα λεία καὶ γαληνός ἐστιν. σημεῖα δὲ τῶν εἰρημένων ἐστί· μετέωρος γὰρ ἡ κατὰ τὸ ἐνεχθὲν κάτω θάλαττα τῆς πέριξ γίνεται μικρὸν ὕστερον.

Διὰ τί ἐνίοτε πλοῖα θέοντα ἐν τῇ θαλάττῃ εὐδίας καταπίνεται [932a] καὶ ἀφανῆ γίνεται, ὥστε μηδὲ ναυάγιον ἀναπλεῖν; ἢ ὅταν ἀντρώδης τόπος ἐν τῇ ὑπὸ τὴν θάλατταν γῇ ῥαγῇ, ἅμα εἰς τὴν θάλατταν καὶ ἔσω ἀκολουθεῖ τῇ τοῦ πνεύματος φορᾷ; ὁμοίως δὲ καὶ πάντῃ φερομένη κύκλῳ φέρεται κάτω. τοῦτο δ’ ἔστι δῖνος. τὰ δὲ περὶ Μεσήνην ἐν τῷ πορθμῷ πάσχει μὲν τοῦτο διὰ τὸν ῥοῦν (γίνονται γὰρ αἱ δῖναι ὑπὸ τούτου) καὶ καταπίνεται εἰς βυθὸν διὰ ταῦτά τε, καὶ ὅτι θάλαττά τε βαθεῖα καὶ γῆ ὕπαντρος μέχρι πόρρω. φέρουσιν οὖν εἰς ταῦτα ἀποβιαζόμεναι αἱ δῖναι· διὸ οὐκ ἀναπλεῖ αὐτόθι τὰ ναυάγια. ὁ δὲ ῥοῦς γίνεται, ὅταν παυσαμένου τοῦ προτέρου ἀντιπνεύσῃ ἐπὶ τῆς θαλάττης ῥεούσης τῷ προτέρῳ πνεύματι, μάλιστα δὲ ὅταν νότος ἀντιπνεύσῃ. ἀντιπνέοντα γὰρ ἀλλήλοις τὰ ῥεύματα παρεκθλίβεται ὥσπερ ἐν τοῖς ποταμοῖς, καὶ γίνονται αἱ δῖναι. φέρεται δὲ ἑλιττομένη ἡ ἀρχὴ τῆς κινήσεως ἄνωθεν ἰσχυρὰ οὖσα. ἐπεὶ οὖν εἰς πλάγιον οὐκ ἔστιν ὁρμᾶν (ἀντωθεῖται γὰρ ὑπ’ ἀλλήλων), ἀνάγκη εἰς βάθος ὠθεῖσθαι, ὥστε καὶ ὃ ἂν ληφθῇ ὑπὸ τῆς δίνης, ἀνάγκη συγκαταφέρεσθαι. διὸ ἀνάσιμα τὰ πλοῖα ποιοῦνται ἤδη γὰρ ὀρθόν ποτε μινημονεύεται καταποθέν.

Διὰ τί ἡ θάλαττα λευκοτέρα ἡ ἐν τῷ Πόντῳ ἢ ἡ ἐν τῷ Αἰγαίῳ; πότερον διὰ τὴν ἀνάκλασιν τῆς ὄψεως τὴν γινομένην ἀπὸ τῆς θαλάττης εἰς τὸν ἀέρα; ὁ μὲν γὰρ περὶ τὸν Πόντον ἀὴρ παχὺς καὶ λευκός, ὥστε καὶ τῆς θαλάττης ἡ ἐπιφάνεια τοιαύτη φαίνεται, ὁ δὲ ἐν τῷ Αἰγαίῳ κυανοῦς διὰ τὸ μέχρι πόρρω εἶναι καθαρός, ὥστε καὶ ἡ θάλαττα ἀνταυγοῦσα τοιαύτη φαίνεται. ἢ ὅτι πᾶσαι αἱ λίμναι λευκότεραι τῆς θαλάττης; ὁ δὲ Πόντος ἐστὶ λιμνώδης διὰ τὸ πολλοὺς ποταμοὺς εἰς αὐτὸν ῥεῖν. αἱ δὲ λίμναι διαλευκότεραι τῆς θαλάττης καὶ τῶν ποταμῶν· γράφουσι γοῦν οἱ γραφεῖς τοὺς μὲν ποταμοὺς ὠχρούς, τὴν δὲ θάλατταν κυανέαν. ἢ ὅτι διὰ μὲν τοῦ ποτίμου διέρχεται ταχὺ ἡ ὄψις, καὶ οὐκ ἀνακλᾶται πρὸς τὸν ἀέρα, ἀπὸ δὲ τῆς θαλάσσης οὔ; οὔτ’ ἄνω ἀνακλᾶται διὰ τὸ μὴ λεῖον εἶναι τὸ ὕδωρ· κάτω δὲ ἀποκάμνει βαδίζουσα· διὸ μέλαινα φαίνεται. ἐν δὲ τοῖς λιμνώδεσιν ἐπιπολῆς ὄντος τοῦ ποτίμου, κάτω δὲ τοῦ ἁλμυροῦ, οὐ διέρχεται, ἀλλ’ ἀνακλᾶται πρὸς τὴν αὐγήν· διὸ φαίνεται λευκὴ ἡ ἐπιφάνεια αὐτῆς.

Διὰ τί ἡ θάλαττα τοῦ ποτίμου ὕδατος ἧττον ψυχρά, [932b] καὶ τὰ ἁλυκὰ τῶν γλυκέων; πότερον ὅτι πυκνότερον ἡ θάλαττα καὶ μᾶλλον σῶμα; τὰ δὲ τοιαῦτα ἧττον ψύχεται, ὥσπερ καὶ θερμαίνεται μᾶλλον· σωστικωτέρα γὰρ τοῦ θερμοῦ διὰ τὴν πυκνότητα. ἢ ὅτι λιπαρωτέρα ἡ θάλαττα; διὸ καὶ οὐ σβέννυσι τὴν φλόγα. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. τὸ δὲ λιπαρώτερον θερμότερον. ἢ ὅτι γῆς πολὺ ἔχει, ὥστε ξηρότερον; τὸ δὲ ξηρότερον θερμότερον.

Διὰ τί ἡ θάλαττα εὐδιοπτοτέρα τοῦ ποτίμου, παχυτέρα οὖσα; λεπτότερον γὰρ τὸ πότιμον τοῦ ἁλμυροῦ. ἢ οὐ τὸ λεπτὸν αἴτιον, ἀλλ' εὐθυωρίαι τῶν πόρων πλεῖσται καὶ μέγισταί εἰσιν; τὸ μὲν οὖν πότιμον πυκνὸν διὰ λεπτομέρειάν ἐστι, τὸ δὲ ἁλμυρὸν μεγάλα ἔχει τὰ διάκενα. ἢ ὅτι καθαρώτερον ἡ θάλαττα; γῆ μὲν γὰρ οὐκ ἔστιν, ἡ δὲ ἄμμος βαρεῖα οὖσα ὑφίσταται. τὰ δὲ πότιμα γεώδη. αὐτὴ δὲ ἐν τῷ μεταξὺ φερομένη ἀναθολοῦται ταχύ.

Διὰ τί ἐν τοῖς βορείοις εὐδιοπτοτέρα ἡ θάλαττα ἢ ἐν τοῖς νοτίοις; ἢ ὅτι ἐν τῇ γαλήνῃ χρῶμα ἔχει ἡ θάλαττα; λιπαρὸν γὰρ ἔνεστιν ἐν τῷ ἁλμυρῷ χυμῷ. σημεῖον δέ· ἐκκρίνεται γὰρ ἔλαιον ἐν ταῖς ἀλέαις. εὐδίας οὖν οὔσης καὶ ἀλεεινοτέρας τῆς θαλάττης διὰ κουφότητα, ἐπανθεῖ ἄνω ὁ τοιοῦτος χυμός. τοῖς δὲ βορείοις ἧττον διὰ τὸ ψῦχος. ἔστι δὲ τὸ ὕδωρ εὐδιοπτότερον τοῦ ἐλαίου· τὸ γὰρ ἔλαιον χρῶμα ἔχει, τὸ δὲ ὕδωρ ἄχροον παρεμφαινόμενον σαφεστέραν ποιεῖ τὴν ἔμφασιν.

Διὰ τί λουσάμενοι τῇ θαλάττῃ θᾶττον ξηραίνονται, βαρυτέρᾳ οὔσῃ τῶν ποτίμων; ἢ ὅτι παχυτέρα καὶ γεώδης ἡ θάλαττα; ὀλίγον οὖν ἔχουσα τὸ ὑγρὸν ξηρανίνεται θᾶττον.

Διὰ τί τὰ κύματα ἀνεμώδη; ἢ ὅτι σημεῖά ἐστι πνεύματος ἐσομένου; ἔστι γὰρ τὸ πνεῦμα σύνωσις ἀέρος. ἢ διὰ τὸ ἀεὶ προωθεῖσθαι γίνεται; προωθεῖ δὲ οὐ συνεχές πω ὂν τὸ πνεῦμα, ἀλλὰ ἀρχόμενον. τὸ μὲν δὴ πρῶτον ὥσπερ προεμαράνθη, ἄλλο δὲ τοῦτο προέωσε καὶ ἄλλην πυκνότητα ἤγαγεν καὶ ἀπεμαράνθη. ὥστε δῆλον, ὅταν ἤδη τὸ προωθούμενον παρῇ, ὅτι ἥξει καὶ τὸ κινοῦν· ἀρχόμενον γὰρ τοῦτο ποιεῖ.

Διὰ τί τὸ κῦμα προεκπίπτει τοῦ πνεύματος; ἢ ὅτι οὐχ ἅμα παύεται τὸ πνεῦμα [τὸ] πνέον καὶ ἡ θάλαττα κυμαίνουσα, ἀλλ' ὕστερον ἡ θάλαττα, ἐνδέχεται τὸ κινῆσαν [933a] πνεῦμα φθαρῆναι πρὸ τοῦ γενέσθαι αἰσθητόν. ὥστε οὐ πρότερον τὸ κῦμα πνεύματος, ἀλλὰ τὸ μὲν λανθάνει τὸ δὲ οὔ. ἢ οὐχὶ τὰ πνεύματα ἅμα πανταχοῦ πνεῖ, ἀλλ' ὅθεν ἡ ἀρχὴ πρότερον; ἅμα δὲ πνεῖ καὶ τὴν πλησίον θάλατταν κινεῖ, αὕτη δὲ τὴν ἐχομένην· καὶ οὕτως ἂν ἐνδέχοιτο πρότερον τὸ κῦμα ἐκπίπτειν. ὑπὸ γὰρ τῆς θαλάσσης καὶ οὐχ ὑπὸ τοῦ πνεύματος ἡ κίνησις ἡ θάττων τοῦ ἀέρος ἢ τῆς θαλάττης.

Διὰ τί ἐν τῇ θαλάττῃ μᾶλλον νεῖν δύνανται ἢ ἐν τοῖς ποταμοῖς; ἢ ὅτι ὁ νέων ἀεὶ ἐπιστηριζόμενος ἐν τῷ ὕδατι νεῖ, ἐν δὲ τῷ σωματωδεστέρῳ μᾶλλον ἀποστηρίζεσθαι δυνάμεθα, σωματωδέστερον δέ ἐστι τὸ θαλάττιον ὕδωρ τοῦ ποταμίου· παχύτερον γάρ ἐστι καὶ μᾶλλον ἀντερείδειν δυνάμενον.

Διὰ τί ποτε ἐν τῇ θαλάττῃ πλείω χρόνον διατελεῖν δύνανται ἢ ἐν τῷ ποταμῷ; ἢ διότι τὸ ποτάμιον ὕδωρ λεπτόν ἐστιν; μᾶλλον οὖν παρεισδυόμενον πνίγει.

Διὰ τί ἡ μὲν θάλαττα κάεται, τὸ δὲ ὕδωρ οὔ; ἢ κάεται μὲν κἀκεῖνο, ἡ δὲ θάλαττα ἧττον σβέννυσι τὸ πῦρ διὰ τὸ λιπαρωτέρα εἶναι; σημεῖον δὲ ὅτι λιπαρωτέρα· ἀπὸ γὰρ τῶν ἁλῶν ἔλαιον ἀφαιρεῖται. ἢ καὶ ἧττον δύνανται οἱ πόροι ἁρμόττειν τῷ πυρὶ διὰ τὸ παχύτεροι εἶναι, καὶ μᾶλλόν γε δή, ἅτε καὶ τῶν ἁλῶν ἐνυπαρχόντων; ὥσπερ οὖν τὸ ξηρὸν τοῦ ὑγροῦ ἧττον σβεστικόν, καὶ τὸ ξηρὸν μᾶλλον κατὰ λόγον καυστικόν ἐστι, καὶ ἕτερον ἑτέρου μᾶλλον, τῷ ἐγγυτέρω τοῦ θερμοῦ εἶναι, τὸ ξηρότερον δὲ τῇ θαλάττῃ· ἄμφω δὲ ταῦτα μᾶλλον ὑπάρχει.

Διὰ τί ἀπὸ μὲν τῆς θαλάττης οὐκ ἀποπνεῖ ἕωθεν ψυχρόν, ἀπὸ δὲ τῶν ποταμῶν; ἢ ὅτι ἡ μὲν θάλαττά ἐστιν ἐν ἀναπεπταμένοις τόποις, οἱ δὲ ποταμοὶ ἐν στενοῖς; ἡ μὲν οὖν ἀπὸ τῆς θαλάττης αὔρα εἰς πολὺν τόπον σκίδναται, ὥστε εἶναι ἀσθενής, ἡ δὲ ἀπὸ τῶν ποταμῶν ἀθρόως φέρεται καὶ μᾶλλον ἰσχύει, διὸ μᾶλλον εἰκότως φαίνεται ψυχρά. ἢ οὐ τοῦτό ἐστιν αἴτιον, ἀλλ’ οἱ μὲν ποταμοὶ ψυχροί εἰσιν, ἡ δὲ θάλαττα οὔτε θερμὴ οὔτε ψυχρά; γίνεται δὲ ἡ αὔρα καὶ ἡ ἀναπνοὴ θερμαινομένων ἢ ψυχομένων τῶν ὑγρῶν· ὁπότερον γὰρ ἂν τούτων πάσχῃ, ἐξαεροῦται, ἐξαερουμένου δὲ τοῦ ὕδατος ὁ ἀὴρ ὁ γινόμενος φέρεται, ὅ ἐστιν αὔρα. τὸ μὲν οὖν ἀπὸ τῶν ψυχρῶν ψυχρὸν εἰκότως ἀποπνεῖ, τὸ δὲ ἀπὸ τῶν σφόδρα θερμῶν ἀποπνέον ψύχεται καὶ γίνεται ψυχρόν. τοὺς μὲν οὖν ποταμοὺς ψυχροὺς [933b] ἅπαντας εὕροι τις ἄν, ἡ δὲ θάλαττα οὔτε ψυχρὰ οὔτε θερμὴ σφόδρα ἐστίν. οὔτε οὖν τὸ ἀποπνέον ψυχρὸν ἀπ’ αὐτῆς ἐστί, διὰ τὸ μὴ ψυχρὰν εἶναι, οὔτε ψύχεται ταχύ, διὰ τὸ μὴ θερμὴν εἶναι σφόδρα.

Διὰ τί ἐν τοῖς μείζοσι πελάγεσι βραδύτερον καθίσταται κύματα ἢ ἐν τοῖς βραχέσιν; ἢ ὅτι ἐκ τῆς πολλῆς κινήσεως βραδύτερον καθίσταται πᾶν ἢ ἐκ τῆς ὀλίγης; ἐν δὲ τοῖς μεγάλοις πελάγεσι πλείων ἡ ἄμπωτις γίνεται ἢ ἐν τοῖς βραχέσιν. οὐθὲν οὖν ἄλογον τὸ πλεῖον βραδύτερον καθίστασθαι.

Διὰ τί τὸ ἁλμυρὸν ὕδωρ ψυχρὸν μὲν οὐ πότιμον, θερμαινόμενον δὲ μᾶλλον γίνεται πότιμον, καὶ θερμὸν δὲ ὂν καὶ ἀποψυχόμενον; ἢ διότι εἰς τὸ ἐναντίον ἀπὸ τοῦ ἐναντίου πέφυκε μεταβάλλειν; ἔστι δὲ τὸ πότιμον τῷ ἁλμυρῷ ἀντικείμενον· καὶ θερμαινομένου μὲν ἀφέψεται τὸ ἁλμυρόν, ψυχομένου δὲ ὑφίσταται.

Διὰ τί τὰ πρὸς τῇ θαλάττῃ ὡς ἐπὶ τὸ πολὺ ὕδατα γλυκέα [ὕδατα] ἀλλ' οὐχ ἁλμυρά; ἢ διὰ τὸ ποτιμώτερα διηθούμενα γίνεσθαι; διηθεῖται δὲ τὸ ἐγγύτερον τῆς θαλάττης μᾶλλον.

Διὰ τί τὸ ἁλμυρὸν ὕδωρ οὐκ ἀπόρρυτόν ἐστιν; ἢ διότι τὸ μὲν βαρὺ στάσιμον, τὸ δὲ ἁλμυρὸν βαρύ; διὸ καὶ τὰ θερμὰ μόνα τῶν ἁλμυρῶν ὑδάτων ἀπόρρυτά ἐστιν. ἔχει γὰρ κουφότητα ἐν αὐτοῖς, ἣ κρατεῖ τῆς κατὰ τὴν ἁλμυρίδα βαρύτητος· τὸ γὰρ θερμὸν κουφότερόν ἐστιν. ἔτι τὰ μὲν ἀπόρρυτα διηθεῖται διὰ τῆς γῆς· ἠθουμένων δὲ ἀεὶ μάλιστα ὑφίσταται τὸ παχύτατον καὶ βαρύτατον, ἐκκρίνεται δὲ τὸ κοῦφον καὶ καθαρόν· ἔστι γὰρ τὸ μὲν ἁλμυρὸν βαρύ, τὸ δὲ γλυκὺ κοῦφον. διόπερ ἐστὶ γλυκέα τὰ ἀπόρρυτα. τὸ δ' αὐτὸ αἴτιόν ἐστι καὶ διὰ τί τὸ ἁλμυρὸν ὕδωρ κινούμενον καὶ μεταβάλλον γλυκύτερον γίνεται· κουφότερον γὰρ καὶ ἀσθενέστερον διὰ τὴν κίνησιν γίνεται.

Διὰ τί ἐν τῇ Λιβύῃ ἐὰν ὀρύξῃ τις παρὰ τὴν θάλατταν, τὸ πρῶτον πότιμον, εἶθ' ἁλμυρὸν γίνεται ταχύ, ἐν δὲ τοῖς ἄλλοις τόποις ἧττον ποιεῖ τοῦτο; πότερον ὅτι τὸ μὲν πρῶτον τὸ ὑπάρχον ὕδωρ ἐν τῷ τόπῳ καὶ τὸ πεπεμμένον ὑπὸ τῆς γῆς ἐστίν, ὅταν δὲ χρονισθῇ, ἡ θάλαττα προσδιηθουμένῃ διὰ τὸ πρόσφατον εἶναι ποιεῖ ἁλμυρώτερον; ἐν δὲ τοῖς ἄλλοις ἢ οὐκ ἔχει ἢ πολὺ ὕδωρ διὰ τὸ μὴ ξηραίνεσθαι τὸν τόπον.

[934a] Διὰ τί τοὺς ἅλας θᾶττον τήκει τὸ ἁλμυρὸν ὕδωρ ἢ τὸ πότιμον; ἢ διότι τὸ μὲν τήκεσθαί ἐστι τὸ ὑπὸ τοῦ ὑγροῦ θερμοῦ εἰσιόντος διαιρεῖσθαι, ὥστε ὑγρὸν εἶναι; οὐ τήκει δὲ ἢ τὰ ὅλως μὴ δυνάμενα εἰσιέναι, ἢ τὰ οὕτως ὥστε μὴ θιγγάνειν. μόλις δὲ τήκει τὰ ῥᾳδίως διεξιόντα· τὰ δ' ἐπιόντα βιαζόμενα, ταῦτα τάχιστα διαιρεῖ. οὐκ εἰσέρχεται δὲ τὰ λίαν μεγαλομερῆ· ὑπερέχει γὰρ τῶν πόρων. τὰ δὲ μικρομερέστερα διέρχεται οὐ ψαυόμενα. ἔστι δὲ τὸ μὲν πότιμον λεπτόν, τὸ δὲ ἁλμυρὸν παχύτερον. ὥστε τὸ μὲν ῥᾳδίως διὰ τὴν λεπτότητα διαδῦνον μόλις τήκει, τὸ δὲ εἰσέρχεται μὲν ἧττον δὲ διὰ τὸ μεγαλομερέστερον εἶναι διαιρεῖ, καὶ βιάζεται θᾶττον.

Διὰ τί τὸ ὕδωρ ἧττον φαίνεται λευκόν, ἐὰν κινῆται, οἷον καὶ ἡ φρίκη; διὸ καὶ Ὅμηρος ἀρχομένου φησὶ τοῦ πνεύματος "μελάνει δέ τε πόντος ὑπ' αὐτοῦ." ἢ διὰ δύο αἰτίας, ἐγγύθεν μὲν τῆς ὄψεως οὔσης, διὰ τὸ διιέναι τὴν ἄψιν μᾶλλον ἠρεμοῦντος, κινουμένου δὲ μὴ εὐθυπορεῖν· τὸ δὲ διαφανὲς λευκὸν φαίνεται. δι' οὗ γὰρ μὴ διέρχεται ἡ ὄψις, μέλαν φησὶν εἶναι. διὸ καὶ ὁ ἀὴρ πόρρωθεν μέλας φαίνεται, ὁ δὲ ἐγγὺς λευκός, καὶ θαλάττης τὸ μὲν ἐγγὺς λευκόν, τὸ δὲ πόρρωθεν κυανοῦν καὶ μέλαν. πόρρωθεν δέ, κινουμένης πως τῆς ὄψεως, καὶ τῷ διανακλᾶσθαι ἀθρόον τὴν ὄψιν, ἐὰν ἠρεμῇ πρὸς τὸ φῶς, κινουμένου δὲ μὴ δύνασθαι.

Διὰ τί ἐν τοῖς βαθέσι πελάγεσι τὸ κῦμα οὐκ ἐπιγελᾷ, ἀλλ’ ἐν τοῖς μικροῖς; πότερον ὅτι τὸ μικρὸν φερόμενον ὕδωρ διαιρεῖται ὑπὸ τοῦ ἀέρος μᾶλλον ἢ τὸ πολύ; διὸ θραύεται πατάξαν μᾶλλον. ἐν μὲν οὖν τῷ βαθεῖ πολὺ τὸ κινούμενον, ἐν δὲ τῷ βραχεῖ ὀλίγον.

Διὰ τί οἱ πρὸς νότον τόποι ἁλυκώτερα τὰ ὕδατα ἔχουσιν; ἢ διὰ τὸ τὴν θάλατταν ὑπὸ νότου ὠθεῖσθαι ὑπὸ τὴν γῆν κεράννυται;

Διὰ τί τῶν ὑδάτων τὸ ἁλμυρὸν ἐπὶ τῷ γλυκεῖ οἴνῳ μᾶλλον ἐπιπολάζει ἢ ἐπὶ τῷ αὐστηρῷ; πότερον ὅτι μᾶλλον ἔχει γῆν ὁ γλυκύς, ὥσπερ ἡ ἀσταφίς; ἢ ὅτι βαρύτερος καὶ γλισχρότερος ὁ γλυκύς, ὥσθ’ ἧττον μίγνυται, μὴ μιγνύμενος δὲ ἐφίσταται.

Διὰ τί ὅλως ἐφίσταται γεῶδες ὄν; ἡ γὰρ οἰκεία φορὰ κάτω. πότερον ὅτι μᾶλλον ἔχει γῆν ὁ γλυκύς; ἢ διὰ τὴν [934b] θερμότητα, καθάπερ οἱ ἅλες; ὅμοιον γὰρ ἐξανθήματι. ἢ δι’ ἄλλην αἰτίαν; εἰ γὰρ οὐ διὰ τοῦτο καὶ ἐπὶ τῷ γλυκεῖ μᾶλλον, οὐκ ἄλογον· θερμότατος γάρ.

Διὰ τί τὰ κύματα πρότερον φοιτᾷ ἐνίοτε τῶν ἀνέμων; ἢ διότι καὶ τελευτᾷ ὕστερον; τὸ γὰρ πρῶτον πνεῦμα ὡσανεὶ προδιαλύεται τοῦ ὠσθέντος κύματος· ἀφικνεῖται δὲ οὐκ αὐτὸ τὸ πρῶτον ὠσθέν, ἀλλ’ ἀεὶ ἡ ὦσις γίνεται τοῦ ἐχομένου.

Διὰ τί αἱ κυματωδέστεραι γαῖ στερραὶ γίνονται πολλάκις οὕτω σφόδρα ὥσπερ ἠδαφισμέναι; καὶ ἡ μὲν κυματώδης γῆ στερρά, ἡ δὲ ἄποθεν χαῦνος. ἢ διότι ἡ μικρὰ ἄμμος οὐ πόρρωθεν ἐκβάλλεται ὑπὸ τοῦ κύματος, ἀλλὰ ἡ μείζων μᾶλλον; ὥσπερ καὶ τῇ χειρὶ βάλλειν πόρρω οὐ τὸ ἐλάχιστον μάλιστα δυνατόν. ἔπειτα πολλῶν κυκωμένων τὰ ἐλάχιστα ἐμπίπτοντα πυκνοῖ. ἡ δὲ τοῦ κύματος λωφῶντος κίνησις ἐδαφίζει, κινεῖ δὲ οὐκέτι. διὰ μὲν οὖν τὸ τὰ μικρότατα μὴ πόρρω δύνασθαι πηδᾶν, ἐκ μικρῶν σφόδρα συντέθειται· διὰ δὲ τὸ πολλάκις κινεῖσθαι συνεχὲς γίνεται πιπτούσης ἄμμου, ἕως ἂν συναρμόσῃ· διὰ δὲ τὸ κῦμα τὸ τελευταῖον ἐδαφίζεται, καὶ τὸ ἠρέμα ὑγρὸν συγκολλᾷ. ἡ δὲ πόρρω ξηρά τε οὖσα διίσταται, καὶ ἐκ μειζόνων ἐστὶ λιθιδίων καὶ ἀνεδάφιστος.

Διὰ τί τῆς θαλάσσης τὰ ἄνω τῶν ἐν τῷ βάθει ἁλμυρώτερα καὶ θερμότερα; ὁμοίως δὲ καὶ ἐν τοῖς φρέασι τοῖς ποτίμοις τὸ ἐπιπολῆς ἁλμυρώτερον τοῦ εἰς βάθος· καίτοι ἔδει τὸ κατωτέρω· βαρύτερον γὰρ τὸ ἁλμυρόν. ἢ διότι ὁ ἥλιος καὶ ὁ ἀὴρ ἀνάγει ἀεὶ τὸ ἐλαφρότατον ἀπὸ τῶν ὑγρῶν; τὸ δὲ ποτιμώτερον ἀεὶ κουφότερον, μᾶλλον δὲ ἀπάγει ἀπὸ τῶν ἐγγυτέρω τόπων. ὥστε καὶ τῆς θαλάττης ἀπὸ τῶν ἐπιπολῆς καὶ τῶν ποτίμων ἀνάγκη τὸ λειπόμενον ἁλμυρώτερον εἶναι, ἀφ’ ὧν ἀνῆκται, ἢ ἀφ’ ὧν μηθὲν ἢ ἔλαττον τὸ γλυκύ. διὰ τοῦτο δὲ καὶ θερμότερα τὰ ἄνω· τὸ γὰρ ἁλμυρὸν θερμότερον τοῦ ποτίμου. διὸ καὶ φασί τινες τῶν ἡρακλειτιζόντων ἐκ μὲν τοῦ ποτίμου ξηραινομένου καὶ πηγνυμένου λίθους γίνεσθαι καὶ γῆν, ἐκ δὲ τῆς θαλάττης τὸν ἥλιον ἀναθυμιᾶσθαι.

Διὰ τί τῆς θαλάττης τὰ πρὸς τῇ γῇ γλυκύτερά ἐστιν; ἢ διότι ἐν τῇ κινήσει μᾶλλόν ἐστιν; κινούμενον δὲ τὸ ἁλμυρὸν γλυκύτερον γίνεται. ἢ ὅτι καὶ ἐν τῷ βάθει ἁλμυρώτερόν [935a] ἐστι τὸ ὕδωρ, τὰ δὲ πρὸς τῇ γῇ ἧττόν ἐστι βαθέα. διὸ καὶ τἀγχιβαθῆ ἁλμυρά ἐστι καὶ οὐχ ὁμοίως γλυκέα. τούτου δ’ αἴτιον ὅτι βαρὺ ὂν τὸ ἁλμυρὸν φέρεται μᾶλλον εἰς βάθος.

Διὰ τί ἡ θάλαττα μόνον τῶν ὑδάτων κάεται, τὰ δὲ πότιμα καὶ ποτάμια οὔ; πότερον ὅτι γῆν πολλὴν ἔχει; δηλοῦσι δὲ οἱ ἅλες. ἢ διότι λιπαρά; δηλοῖ δὲ τὸ ἐν τοῖς ἅλασιν ὑφιστάμενον ἔλαιον.

Διὰ τί ἐν ταῖς λίμναις ἄμμος οὐ γίνεται ἢ ἧττον ἢ ἐν τῇ θαλάττῃ καὶ τοῖς ποταμοῖς; ἢ ὅτι ἐν τῇ θαλάττῃ πέτραι γίνονται, καὶ ἡ γῆ ἐκκέκαυται μάλιστα; ἡ δὲ ἄμμος ἐστὶ πέτρα ἐψηγμένη εἰς μικρὰ καὶ ἐλάχιστα μόρια. ψήχεται δὲ διὰ τὴν πληγὴν τῶν κυμάτων. ἐν δὲ ταῖς λίμναις οὐ γίνονται ὁμοίως πέτραι καθαραί, οὐδὲ θραύονται ὁμοίως διὰ τὸ μὴ γίνεσθαι κύματα ὁμοίως. ἐν δὲ τοῖς ποταμοῖς μᾶλλον, ὅτι τὴν μὲν γῆν καταφέρουσι, τὰς δὲ πέτρας τῇ πληγῇ θραύουσιν.

Διὰ τί, ὅταν ἡ λίμνη ἢ κοπάσῃ ἢ ξηρὰ γένηται, ἀποκάεται ὁ σῖτος ἐν τῷ πεδίῳ μᾶλλον; πότερον ὅτι τὸ ὑγρὸν τὸ ἐν τῇ λίμνῃ ἀπατμίζον τῇ ἀτμίδι θερμαίνει τὸν ἀέρα, ὥστε ἐλάττους καὶ ἀσθενεστέρους ποιεῖ τοὺς πάγους ἢ ἐν τοῖς κοίλοις καὶ προσελώδεσι τόποις; ἢ ἐκ τῆς γῆς, ὥσπερ λέγεται, τὰ ψύχη ἄρχεται καὶ λανθάνει εἰσδυόμενα; ξηρᾶς οὖν οὔσης τῆς λίμνης, διὰ πλείονος τόπου ἡ ψυχρότης πλείων προσπίπτουσα πήγνυσι καὶ ἀποκάει μᾶλλον. ἐν δὲ ταῖς τοιαύταις χώραις τὰ ψύχη κάτωθεν γίνεται, ὥσπερ καὶ δοκεῖ. καίτοι ἡ γῆ θερμὴ τοῦ χειμῶνος· ἀλλὰ διὰ τὸ ἔφυγρον εἶναι κατέψυκται τὸ ἐπιπολῆς θερμὸν τὸ ἐν τῇ γῇ. τὸ γὰρ ὑγρὸν οὔτε οὕτω πόρρω ἐστὶν ὥστε μὴ ψύχεσθαι, διὰ τὴν ἐνοῦσαν θερμότητα ἐν τοῖς ὑγροῖς, οὔτε οὕτως ὀλίγον ὥστε μηθὲν ἰσχύειν, διὰ τὸ διάβροχον εἶναι τὴν γῆν. οἷον οὖν διὰ τὴν ψύξιν αὐτοῦ συμβαίνει ἐπὶ κρυστάλλου περιπατεῖν καὶ οἰκεῖν.

Διὰ τί ἡ θάλαττα ἁλμυρὰ καὶ πικρά ἐστιν; ἢ ὅτι ἐν τῇ θαλάττῃ πλείους εἰσὶν οἱ χυμοί; καὶ γὰρ τὸ ἁλμυρὸν καὶ τὸ πικρὸν ἅμα φαίνεται.

Διὰ τί τὰ ἐν τῇ θαλάττῃ ὄστρακα καὶ λίθοι στρογγύλα γίνεται; ἢ ὅτι ὁμοίως περιθραυόμενα τὰ ἔσχατα εἰς [935b] τὸ στρογγύλον σχῆμα ἔρχεται; τούτου γὰρ τὸ ἔσχατον ὅμοιον, ἡ δὲ θάλαττα πάντῃ κινοῦσα ὁμοίως περιθραύει.

Διὰ τί ἐνιαχοῦ, ἐάν τις ὀρύξῃ παρὰ τὴν θάλατταν, τὸ μὲν πρῶτον πότιμόν ἐστιν ὕδωρ, εἶθ' ἁλμυρὸν γίνεται; ἢ ὅτι αὐτῆς ἐστὶ τῆς θαλάττης τῆς διηθούσης ὑπὸ τὴν γῆν τὸ ὕδωρ; εἰκότως οὖν τὸ πρῶτόν ἐστι γλυκύ· ἐλαφρότερον γάρ ἐστι τὸ γλυκὺ τοῦ ἁλμυροῦ, καὶ ἡ θάλαττα ἔχει τι τοῦ γλυκέος, ὃ μιχθὲν τῇ γῇ μᾶλλον ἐπιπολάζει. τὸ δὲ ἁλμυρὸν διὰ τὸ βάρος καὶ διὰ τὸ τμητικὸν εἶναι κάτω φέρεται. εἴτε οὖν οὕτως εἴτε κατὰ τὰς φλέβας ἐκ τῆς ἠπείρου ῥεῖ ἐπὶ τὴν θάλατταν τὸ γλυκὺ ὕδωρ, εἰκότως ἂν ἐπιπολῆς εἴη τῆς θαλάττης, ᾗ μίγνυται αὐτῇ. ἀνοιχθέντων δὲ τῶν πόρων, ὕστερον διὰ πλῆθος τὸ ἁλυκὸν κρατοῦν τοιοῦτο πᾶν ποιεῖ. συμβαίνει γὰρ πεφραγμένων τῶν ἄνω πόρων ἄλλην ὁδὸν ζητεῖν τὸ ἐπιρρέον· ἀνοιχθέντων δὲ ἐνταῦθα πᾶν φέρεται, καθάπερ ἐπὶ τῶν τοῦ σώματος φλεβῶν.

Διὰ τί ἡ θάλαττα οὖσα βαρυτέρα τοῦ ποτίμου ὕδατος μᾶλλόν ἐστιν εὐδίοπτος; πότερον ὅτι λιπαρωτέρα; τὸ δὲ ἔλαιον ἐπιχυθὲν ποιεῖ μᾶλλον εὐδίοπτον. ἔχουσα δὲ ἐν αὑτῇ λίπος εἰκότως μᾶλλον εὐδίοπτός ἐστιν. ἢ οὐχ ἅπαν τὸ ἐλαφρότερον καὶ εὐδιοπτότερον; αὐτὸ γὰρ τὸ ἔλαιον ἐλαφρότερον τοῦ ὕδατος, εὐδιοπτότερον δὲ οὔ. ἢ οὐκ εὐδιοπτότερόν ἐστιν, ἀλλὰ φαίνεται; τὸ γὰρ πότιμον ὕδωρ ἀπὸ τῆς γῆς ἢ ἀπὸ ῥευμάτων ἐστίν, ἡ δὲ πηγὴ συναφίησι μετὰ τοῦ ὕδατος καὶ γῆν, ὥστε τῷ μὴ καθαρὰ εἶναι τὰ ῥεύματα συγκατάγει τὴν γῆν καὶ ἰλύν. αὕτη οὖν ἐστὶν ἡ αἰτία τοῦ ἧττον εἶναι εὐδίοπτον.

Διὰ τί οἱ νέοντες ἐν τῇ θαλάττῃ λαπαροὶ γίνονται; εἰ γὰρ ὅτι πονοῦσι, καὶ οἱ τροχιζόμενοι ἰσχυρὸν πονοῦσι πόνον καὶ οὐ λαπάττονται. ἢ ὅτι οὐ πᾶς πόνος ποιεῖ λάπαξιν, ἀλλ' ὁ μὴ ποιῶν σύντηξιν; ἡ δὲ ἐν τῇ θαλάττῃ διατριβὴ καὶ ὅλως δοκεῖ βρωτικωτέρους ποιεῖν καὶ λαπαρούς· θερμή τε γάρ ἐστι καὶ ξηρὰ ἡ ἀπ' αὐτῆς ἀτμίς.

Διὰ τί Πᾶσα λίμνη πότιμος οὖσα πλύνει καὶ ῥύπτει τὰ ἱμάτια; πλύνει μὲν γὰρ τὸ γλυκύ, ῥύπτει δὲ τὸ πικρόν, ἅμα δὲ οὐχ οἷόν τε ἔχειν ταῦτα. ἢ οὐ τῷ πικρὸν εἶναι οὐθὲν ῥύπτει, ἀλλ' ἡ γλισχρότης ῥυπτικόν; διὸ καὶ τὰ ἀκροκώλια καὶ ὅσα μυξώδη τοιαῦτα. ὥστε καὶ τῶν πικρῶν [936a] ὅσα τούτου μετέχει. ἐν δὲ τῇ λίμνῃ ταύτῃ συμβέβηκε τοῦτο, ὥστε τῆς νιτρώδους δυνάμεως τὸ μὲν πικρὸν ἐκκεκαῦσθαι, ἐμμένειν δὲ τὸ λιπαρὸν καὶ γλίσχρον. τούτῳ μὲν οὖν ῥύπτει, πλύνει δὲ τῷ ποτίμῳ αὐτῆς.

Διὰ τί τὸ γαληνίζον τῆς θαλάττης λευκὸν φαίνεται, τὸ δὲ κατάφορον μέλαν; ἢ ὅτι τὸ ἧττον ὁρώμενον μελάντερον μᾶλλον φαίνεται; ἧττον δὲ φαίνεται τὸ κινούμενον τοῦ ἠρεμοῦντος. ἢ διότι τὸ μὲν διαφαινόμενον λευκόν, τὸ δὲ μὴ διαφαινόμενον μέλαν; ἧττον δὲ διαφαίνεται τὸ κινούμενον.

ΚΔ. ΟΣΑ ΠΕΡΙ ΤΑ ΘΕΡΜΑ ΥΔΑΤΑ.

Διὰ τί τὸ θερμὸν ὕδωρ, ἐὰν ἐπικεχρισμένοι ὦσιν ἐλαίῳ, ἧττον θερμόν ἐστι καταχεόμενον, τοῦ ἐλαίου θερμοῦ ὄντος; ἢ διὰ τὸ λεαίνειν ὀλισθαίνει καὶ ἧττον ἐνδύνει;

Διὰ τί τὰ ὕδατα ἐν τοῖς φρέασι μετὰ μεσημβρίαν γίνεται τοῦ θέρους θερμά; ἢ διότι τηνικαῦτα ἤδη κεκράτηκε τὸ θερμὸν τὸν ἀέρα; πρὸ μεσημβρίας δὲ τὸ θερμὸν λύει τὸ ψυχρὸν καὶ παύει· οὐχ ἅμα δὲ πέπαυται καὶ κρατεῖ, ἀλλ’ ὅταν ἐπιχρονίσῃ.

Διὰ τί τὸ ὕδωρ θερμότερον ἐνίοτε τῆς φλογὸς γινόμενον οὐ κατακάει τὰ ξύλα, ἡ δὲ φλὸξ κατακάει; ἢ ὅτι ἡ μὲν φλὸξ λεπτομερές, καὶ τὸ ἀπ’ αὐτῆς πνεῦμα, τὸ δὲ ὕδωρ μεγαλομερές, ὥστε οὐκ εἰσδύεται; ἡ δὲ φλὸξ καὶ τὸ ἀπὸ τῶν ἀνθράκων διὰ λεπτότητα εἰσιὸν διαλύει.

Διὰ τί τὸ μὲν ὕδωρ τὸ ζέον οὐ τήκει, ἡ δὲ κοιλία τήκει; πότερον ὅτι τὸ μὲν θερμὸν τὸ ἐν τῇ κοιλίᾳ εἰσέρχεται διὰ λεπτότητα, τὸ δὲ ὕδωρ οὐκ εἰσέρχεται διὰ παχύτητα; ἢ διότι καὶ τὰ ἄλλα κωλύει τήκεσθαι τὸ ὑγρόν; οὐθὲν γὰρ ἐν ὑγρῷ τήκεται. ἐν δὲ τῇ κοιλίᾳ τὸ ὑγρὸν εἰς τὴν κύστιν ὑπονοστοῦν οὕτω λύει.

Διὰ τί τῶν ἀγγείων ὁ πυθμὴν οὐ κάει ἐνόντος τοῦ ὕδατος καὶ ζέοντος, ἀλλὰ καὶ φέρουσι τοῦ πυθμένος ἐχόμενοι, ἐξαιρεθέντος δὲ κάει; ἢ ὅτι σβέννυται τὸ ἐγγινόμενον θερμὸν ἐν τῷ πυθμένι ὑπὸ τοῦ ὕδατος; διὸ καὶ οὐ τήκεται τὰ τηκτά, ἂν μὴ ψόφος ἐμπέσῃ.

Διὰ τί οὐχ ὑπερζεῖ τοῦ χειμῶνος ὁμοίως καὶ τοῦ θέρους τὸ ὕδωρ, οὐ μόνον ὁμοίως θερμαινόμενον, ἀλλὰ καὶ μᾶλλον καὶ ὁμοίως θερμὸν ὄν, καὶ ἔτι μᾶλλον; ἢ διότι ἡ [936b] ὑπέρζεσίς ἐστιν ἡ ἀναβολὴ τῶν πομφολύγων; τὸ μὲν οὖν ὕδωρ αὐτὸ θερμαίνεται τότε οὐθὲν ἧττον ἢ τοῦ ψύχους, αἱ δὲ πομφόλυγες αἴρεσθαι οὐ δύνανται ὁμοίως διὰ τὸ τὸν περιέχοντα ἀέρα εἶναι ψυχρόν, ἀλλ’ ἐλάττους τε τὰ μεγέθη αἴρονται ὑπὸ τοῦ ψύχους θλιβόμεναι, καὶ διακόπτοντος τοῦ ἀέρος ταχὺ διαπίπτουσιν. ὥστε ἐλάττους τε τῷ ὄγκῳ καὶ τῷ πλήθει γίνονται τοῦ χειμῶνος, τοῦ δὲ θέρους τοὐναντίον. ἡ δὲ ὑπέρζεσις γίνεται διὰ τὸ πλῆθος καὶ τὸ μέγεθος τοῦ ἀφροῦ.

Διὰ τί τὸ μὲν θερμὸν ὕδωρ ῥυτιδοῖ, τὸ δὲ πῦρ θερμὸν ὂν οὔ; ἢ ὅτι τὸ μὲν πῦρ ποιεῖ πνεῦμα, ὥστε ὀγκοῖ; περιτείνεται γὰρ τὸ δέρμα. ἡ δὲ κάμψις

ῥυτίς ἐστιν.

Διὰ τί τῶν ἀγγείων οἱ πυθμένες θερμαινομένου τοῦ ὕδατος, ἕως ἂν ᾖ ψυχρὸν τὸ ὕδωρ, θερμότεροί εἰσιν; ἢ διότι ψυχροῦ μὲν ἔτι ὄντος τοῦ ὕδατος ἐγκατακλείεται τὸ θερμὸν καὶ ἀντιπεριίσταται εἴσω, κωλυόμενον ἐξιέναι, ὅταν δὲ διαθερμανθῇ τὸ ἐνὸν ὕδωρ, οὐκέτι ἀποστέγοντος ἀλλὰ διαπνέοντος καὶ ἐλάττονος γινομένου τοῦ πυρὸς ψυχρότερος γίνεται ὁ πυθμήν, ὁμοίως ὥσπερ καὶ τὰ βαλανεῖα· καὶ γὰρ ταῦτα τοῦ χειμῶνος θερμότερα ἢ τοῦ θέρους διὰ τὸ ἐγκατακλείεσθαι τὸ θερμὸν ἐν τῷ χειμῶνι μᾶλλον ἢ ἐν τῷ θέρει ὑπὸ τοῦ περιέχοντος ἀέρος ὄντος ψυχροῦ.

Διὰ τί τὸ μὲν ὕδωρ ζέον οὐκ ἐκπαφλάζει, τὸ δὲ ἔτνος καὶ ἡ φακῆ; καίτοι κουφότερον τὸ ὕδωρ τούτων, τὰ δὲ κοῦφα ῥᾷον ῥῖψαι πόρρω. ποιεῖ δὲ καὶ τὸ ἀργύριον ταὐτό, καὶ τοῦτο καθαιρόμενον· διὸ οἱ ἐν τῷ ἀργυροκοπείῳ καλλύνοντες κερδαίνουσιν· τὸ γὰρ διαρριπτούμενον συγκαλλύνοντες λαμβάνουσι τὰ λείψανα. ἢ διότι ποιεῖ μὲν τὸν ἐκπαφλασμὸν τὸ θερμὸν ἐξατμίζον καὶ βιαζόμενον τὰ ἀντικρούοντα τῇ κατὰ φύσιν αὑτοῦ φορᾷ; τὸ μὲν οὖν ὕδωρ διὰ κουφότητα καὶ λεπτότητα οὐκ ἀποβιάζεται, ὥστε οὐκ ἀθροίζεται πολὺ θερμόν, ἀλλὰ πρὶν ἁλισθῆναι φθάνει διακόψαν τὸ ἀεὶ προσελθόν. τὰ δὲ ἔχοντα ἐν αὑτοῖς σῶμα, οἷον τὰ ῥοφήματα ἢ ὁ ἄργυρος, διὰ βάρος τὸ σωματοειδὲς ἔχοντα πολύ, καὶ ἀνταπωθοῦντα διὰ τὸ ἀποβιάζεσθαι βίᾳ, ἐξιόντος ἀποσφαιρίζεται ᾗ ἂν κρατήσῃ τὸ θερμόν· οὐ γὰρ δίεισι διὰ πυκνότητα, ἀλλὰ κρατεῖ, ἕως ἂν ὑπὸ τοῦ ἐπιρρέοντος θερμοῦ ἀπορριφθῇ. γίνεται δὲ πληγή, οὐκ ὦσις, διὰ τὸ ταχὺ φέρεσθαι τὸ θερμὸν κάτωθεν ἄνω.

[937a] Διὰ τί τὰ μὲν ὀλίγον χρόνον ἐν τῷ θερμῷ βρεχόμενα ἀνοιδεῖ, τὰ δὲ πολὺν συμπίπτει καὶ γίνεται ῥυσά; ἢ διότι τὸ θερμὸν ἐκ πεπηγότος ὑγρὸν ποιεῖ, ἐκ δὲ ὑγροῦ πνεῦμα, τὰ δὲ πυκνὰ ἀραιοῖ; τὸ μὲν οὖν πρῶτον θερμαῖνον τὰ πεπηγότα ὑγρότερα ποιεῖ, καὶ ἐξ ὑγρῶν πνευματοποιοῦν ὀγκηρὰ ποιεῖ διαχέον· ὅταν δὲ μᾶλλον θερμαίνῃ τὸ πέριξ, ἀραιὸν ποιεῖ, ὥστε ἀποπνεῖται ἡ ἀτμίς, καὶ τὸ ὑγρὸν ξηραινόμενον συμπίπτειν ποιεῖ τοὺς ὄγκους. συμπιπτόντων δὲ ῥυσοῦται τὸ πέριξ δέρμα πάντων. ᾗ δὲ ἀνωμάλως, ταύτῃ ῥυσὸν γίνεται.

Διὰ τί ὑπὸ τῶν θερμῶν ὑδάτων μᾶλλον ἢ ὑπὸ τῶν ψυχρῶν πήγνυνται λίθοι; πότερον ὅτι τῇ τοῦ ὑγροῦ ἐκλείψει γίνεται λίθος, μᾶλλον δὲ ὑπὸ τοῦ θερμοῦ ἢ τοῦ ψυχροῦ ἐκλείπει τὸ ὑγρόν, καὶ ἀπολιθοῦται δὴ διὰ τὸ θερμόν, καθάπερ καὶ Ἐμπεδοκλῆς φησὶ τάς τε πέτρας καὶ τοὺς λίθους καὶ τὰ θερμὰ τῶν ὑδάτων γίνεσθαι. ἢ τὸ θερμὸν ἀπολιθοῖ· καὶ ὑπὸ τοῦ ψυχροῦ δὲ λιθοῦται διὰ τὸ τὴν ὑπερβολὴν τοῦ πάγου τὸ ὑγρὸν ἀναλίσκουσαν σκληρύνειν; δῆλον οὖν ἐκ τῆς ὑπερβολῆς καὶ τὸ ἁπλῶς.

Διὰ τί ἐν τῷ θερμῷ ὕδατι ἐὰν τὸν πόδα ἔχῃ τις, ἠρεμοῦντος μὲν ἧσσον δοκεῖ εἶναι θερμόν, ἐὰν δὲ κινηθῇ, θερμότερον; ἢ ὥσπερ καὶ ἐπὶ τοῦ σώματος, ἐὰν ἐν τῷ πνεύματι τροχάζῃ τις, ἀεὶ ὁ προϊστάμενος ἀὴρ ψυχρότερος· εἰς δὲ τὸ πορρώτερον εἰσιὼν μᾶλλον ἀσθάνεται.

Διὰ τί ἐν τῷ ἡλίῳ μᾶλλον ἢ τῇ σκιᾷ τὰ θερμὰ ψύχεται; πότερον ὅτι τὸ θερμὸν τὸ ἔλαττον ὑπὸ τοῦ πλείονος φθείρεται; ἢ ὅτι ἐν μὲν τῇ σκιᾷ τὸ ψυχρὸν περιεστηκὸς θλίβει τὸ ἐνὸν θερμὸν καὶ οὐκ ἐᾷ ἐπεξιέναι, ὥσπερ καὶ τοῖς θνήσκουσι ποιεῖ τὸ ψυχρὸν προσχεόμενον· ἐγκατακλείει γὰρ τὸ θερμὸν καὶ κωλύει ἐξιέναι· καὶ ὅλως τοῦ χειμῶνος ἅπασι συμβαίνει τὰ ἔσωθεν θερμότερα· ἐν δὲ τῷ ἡλίῳ οὐδενὸς ἀντιφράττοντος φέρεται καὶ θᾶττον ἀπολείπει.

Διὰ τί τὸ ἐν τῷ ἡλίῳ θερμαινόμενον ὕδωρ ὥστε λούεσθαι οὐκ ἔστιν ὑγιεινότερον; πότερον ὅτι διὰ τὸ ψύχεσθαι; καὶ ἔτι ἐπεὶ τὸ σωμάτιον φρίττειν ποιεῖ; ἢ ποιεῖ μὲν καὶ τοῦτο, ἀλλὰ κἂν πολλάκις λούηταί τις, νοσερόν ἐστιν; τὸ μὲν γὰρ θερμὸν ὅλως πεπτικόν ἐστι καὶ ξηραντικόν, τὸ δὲ ψυχρὸν σταλτικόν, ὥστε ἄμφω ποιεῖ τι ἀγαθόν. διὸ καὶ [937b] τὸ ὕδωρ καὶ τὸ ψυχρὸν λουομένοις καὶ τὸ θερμὸν τὸ ὑπὸ τοῦ πυρὸς χρήσιμον· τὸ δὲ ὑπὸ τοῦ ἡλίου διὰ τὴν ἀσθένειαν τῆς θερμότητος οὐδέτερον τούτων ποιεῖ, ἀλλὰ ὑγραίνει ὥσπερ τὸ τῆς σελήνης φῶς.

Διὰ τί τὸ ἐν τῷ ἡλίῳ θερμανθὲν ὕδωρ οὐκ ἀγαθόν; ἢ ὅτι τὰ ψυχόμενα ῥιγοῦν ποιεῖ;

Διὰ τί τὰ ἐν Μαγνησίᾳ καὶ τὰ ἐν Ἀταρνεῖ θερμὰ πότιμά ἐστιν; ἢ διότι ἐμβάλλει ὕδωρ πλεῖον ἀπορρέοντι τῷ θερμῷ, οὗ ἡ μὲν ἁλμυρότης ἀφανίζεται, ἡ δὲ θερμότης διαμένει;

Διὰ τί ἐν Μαγνησίᾳ τὰ θερμὰ τοῦ μὲν θερμὰ εἶναι ἐπαύσατο, ἁλμυρὸν δὲ ἦν τὸ ὕδωρ; ἢ πλεῖον ἐπεχύθη ἅμα ψυχρὸν ἐπὶ τὰς πηγὰς ἀλλότριον, καὶ ἐναπέσβεσε τὴν θερμότητα; ἡ δὲ γῆ ἁλμυρὰ μὲν ἦν, θερμὴ δὲ οὔ, διὰ τὸ πλῆθος τοῦ ὕδατος τοῦ ἐμβάλλοντος. ὅμοιον οὖν συνέβη τῷ διὰ τῆς τέφρας ὕδατι ἠθουμένῳ· καὶ γὰρ τοῦτο διὰ θέρμης ἠθούμενον ἐκείνην μὲν καταψύχει, καὶ αὐτὸ ψυχρὸν γίνεται, ἁλμυρόν τε καὶ πικρὸν διὰ τὴν τέφραν ἐστίν. ἐπεὶ δὲ τὸ προσιὸν ἠλλοτριωμένον ἐστί, δι’ ἄλλην αἰτίαν ἐκράτησεν ἡ θερμότης ἐνοῦσα ἐν τῇ γῇ τῆς ψυχρότητος τοῦ ὕδατος δι’ ὀλιγότητα, καὶ ἐγένετο πάλιν θερμά.

Διὰ τί τὰ ὅλα τῶν θερμῶν ὑδάτων ἁλμυρά; ἢ διότι τὰ πολλὰ διὰ γῆς ἠθεῖται στυπτηριώδους (δηλοῖ δὲ ἡ ὀσμὴ αὐτῶν) κεκαυμένης δέ; ἡ δὲ τέφρα πάντων ἁλμυρὰ καὶ θείου ὄζει. διὸ καὶ συγκάει οὕτως ὥσπερ ὁ κεραυνός. πολλὰ οὖν θερμά ἐστιν ἀπὸ ἐπισημάνσεως κεραυνῶν.

Διὰ τί τὰ θερμὰ λουτρὰ ἱερά; ἢ ὅτι ἀπὸ τῶν ἱερωτάτων γίνονται, θείου καὶ κεραυνοῦ;

ΚΕ. ΟΣΑ ΠΕΡΙ ΤΟΝ ΑΕΡΑ.

Διὰ τί ἐν τοῖς ἀσκοῖς τοῖς πεφυσημένοις ἐναπολαμβανόμενα τὰ μέλη πόνον παρέχει; πότερον διὰ τὴν πίεσιν τοῦ ἀέρος; ὥσπερ γὰρ οὐδὲ τοῖς ἔξωθεν πιέζουσι τὸν ἀσκὸν ἐνδίδωσιν ὁ ἀήρ, ἀλλ’ ἀπωθεῖ, οὕτω καὶ τὰ ἐντὸς ἐναπολαμβανόμενα θλίβει ὁ ἀήρ. ἢ διότι βίᾳ κατέχεται καὶ πεπίληται; ἔξω οὖν πάντῃ ὁρμῶν κατὰ φύσιν προσαπερείδεται πρὸς τὸ ἐντὸς ἀπειλημμένον σῶμα.

Διὰ τί ἐν τοῖς ἕλεσι τοῖς παρὰ τοὺς ποταμοὺς γίνονται οἱ καλούμενοι βούμυκοι, οὓς μυθολογοῦσι ταύρους ἱεροὺς [938a] εἶναι τοῦ θεοῦ; ἔστι δὲ τὸ γινόμενον ψόφος ὅμοιος φωνῇ ταύρου, ὥστε αἱ βόες οὕτω διατίθενται ἀκούουσαι ὥσπερ ταύρου μυκωμένου. ἢ ὅτι ὅσοι ποταμοὶ λιμνάζουσιν εἰς ἕλη, ἢ ὅσα ἕλη λιμνάζονται, ἢ ὑπὸ θαλάττης ἀντικρούονται, ἢ τὸ πνεῦμα ἀφιᾶσιν ἀθροώτερον, ἐν τοῖς τοιούτοις γίνεται τοῦτο; αἴτιον δὲ ὅτι αἱ κοιλίαι τῆς γῆς γίνονται. οὕτως οὖν κλυζόμενον τὸ ὕδωρ, διὰ τὸ ἐνεῖναι ῥεῦμα ἐν τῇ τοιαύτῃ λιμνασίᾳ, ἀπωθεῖται τὸν ἀέρα διὰ στενοῦ εἰς εὐρυτέραν κοιλίαν, οἷον εἴ τις εἰς ἀμφορέα κενὸν κατὰ τὸ στόμιον ποιοῖ ψόφον, μυκήματι ὅμοιον γίνεται· καὶ γὰρ ἡ μύκησις διὰ τοῦτο γίνεται τὸ σχῆμα τοῖς βουσίν. πολλὰς δὲ καὶ ἀτόπους φωνὰς ποιοῦσι τὰ σχήματα τῶν κοιλιῶν ἀνώμαλα ὄντα, ἐπεὶ καὶ ἀμφορέως τὸν πύνδακα ἐάν τις ἀφελὼν διὰ τοῦ πυθμένος τρίβῃ ἕλκων ἔσω καὶ ἔξω, εἰ τρίψει διὰ τοῦ καταδήματος, ψόφον ποιεῖ, ὥστε φεύγειν τὰ θηρία, ὅταν οἱ ὀπωροφύλακες κατασκευάσωσιν αὐτό.

Διὰ τί ὁ ἀὴρ οὐχ ὑγρός, ἁπτόμενος τοῦ ὕδατος; τῶν γὰρ ἄλλων οὐθὲν ὅ τι οὐχ ὑγρόν, ἂν ἅψηται. ἢ διότι τὸ ἔσχατον αὐτῶν ἅμα, τὸ δὲ ἐπίπεδον ἑκατέρου οὐχ ἕτερον; τὰ μὲν οὖν ἄλλα βαρύτερα, ὁ δὲ ἀὴρ οὐ ῥέπει κατωτέρω τοῦ ἐσχάτου. ἅπτεται μὲν οὖν, ὅτι οὐθὲν μεταξύ, οὐ βρέχεται δέ, ὅτι ἀεὶ ἄνωθεν τοῦ ὕδατος.

Διὰ τί μέσων νυκτῶν καὶ μεσημβρίας μάλιστα εὐδία γίνεται; ἢ διότι ἡ νηνεμία ἐστὶν ἀέρος στάσις, ἕστηκε δὲ μάλιστα, ὅταν κρατῇ ἢ κρατῆται, μαχόμενος δὲ κινεῖται. κρατεῖ μὲν οὖν μάλιστα μέσων νυκτῶν, κρατεῖται δὲ μεσημβρίας· τότε μὲν γὰρ ὁ ἥλιος πορρωτάτω, τότε δὲ ἐγγυτάτω γίνεται. ἔτι ἄρχεται τὰ πνεύματα ἢ περὶ ἕω ἢ περὶ δυσμάς, λήγει δὲ τὸ μὲν ἕωθεν, ὅταν κρατηθῇ, τὸ δὲ ἀπὸ δυσμῶν, ὅταν παύσηται κρατῶν. συμβαίνει οὖν τὰ μὲν μεσημβρίας παύεσθαι, τὰ δὲ μέσων νυκτῶν.

Διὰ τί ὑποφωσκούσης ἕω καὶ ἤδη πρωῒ μᾶλλόν ἐστι ψῦχος ἢ τῆς νυκτός, ἐγγυτέρω ὄντος τοῦ ἡλίου ἡμῶν; ἢ ὅτι πρὸς ἡμέραν δρόσος καὶ πάχνη πίπτει, ταῦτα δέ ἐστι ψυχρά· ὥσπερ οὖν ῥανθέντος τοῦ παντὸς τόπου ὑγρῷ ψυχρῷ γίνεται κατάψυξις.

Διὰ τί ἐν τῷ Πόντῳ καὶ ψύχη μάλιστα καὶ πνίγη; ἢ διὰ τὴν παχύτητα τοῦ ἀέρος; τοῦ μὲν γὰρ χειμῶνος οὐ δύναται διαθερμαίνεσθαι, τοῦ δὲ θέρους, ὅταν θερμανθῇ, [938b] κάει διὰ τὴν παχύτητα. ἡ δὲ αὐτὴ αἰτία καὶ διότι τὰ ἑλώδη τοῦ μὲν χειμῶνος ψυχρά, τοῦ δὲ θέρους θερμά. ἢ διὰ τὴν τοῦ ἡλίου φοράν; τοῦ μὲν γὰρ χειμῶνος πόρρω γίνεται, τοῦ δὲ θέρους ἐγγύς.

Διὰ τί τῆς νυκτὸς αἰθρία μᾶλλον ἢ μεθ’ ἡμέραν; ἢ καὶ τοῦ πνεύματος καὶ τῆς ταραχῆς ὁ ἥλιος αἴτιος; ταῦτα γὰρ κινήσεώς τινος γενομένης συμβαίνει γίνεσθαι. αἴτιον τοίνυν τὸ θερμόν. ὅταν οὖν τοῦτο μὴ παρῇ, ἠρεμεῖ τὸ πᾶν, καὶ αἰρομένου τοῦ ἡλίου μᾶλλον ἢ τοὐναντίον· καὶ τὸ “μήποτ’ ἀπ’ ἠπείρου” τοῦτ’ ἐστίν, ὅτι οὗ πλείστη κίνησις, ἐκεῖ ἥκιστα ἄν τι μένοι καὶ συσταίη, μὴ ὁμαλοῦ ὄντος καὶ κρατοῦντος τοῦ συνισταμένου. τοῦ μὲν δὴ χειμῶνος ἡ θάλαττα τοιοῦτον, τοῦ δὲ θέρους ἡ γῆ.

Διὰ τί, ὅταν διαχυθῇ τὸ ὑγρὸν εἰς ἀσκούς, οὐ μόνον τὸ ὑγρὸν δέχεται ὁ πίθος μετὰ τῶν ἀσκῶν, ἀλλὰ καὶ ἄλλο προσλαμβάνει; ἢ ὅτι ἐν τῷ ὑγρῷ ἐνυπάρχει ὁ ἀήρ; οὗτος οὖν ὅταν μὴ ἐν τῷ πίθῳ ἐνῇ, οὐ δύναται ἐκκρίνεσθαι διὰ τὸ μέγεθος τοῦ πίθου· ἐκ γὰρ τοῦ μείζονος χαλεπώτερον ἐκθλῖψαι ὁτιοῦν καὶ ὑγρὸν καὶ πνεῦμα, ὥσπερ καὶ ἐκ τῶν σπόγγων. ὅταν δὲ μερίζηται εἰς μικρά, ἐκθλίβεται ἐκ τοῦ ἀσκοῦ μετὰ τοῦ ἐνόντος, ὥσθ’ ἡ τοῦ ἀέρος χώρα κενὴ γίνεται, διὸ καὶ τοὺς ἀσκοὺς καὶ ἔτι ἄλλο ὑγρὸν δέχεται ὁ πίθος. καὶ μᾶλλον ἐπὶ τοῦ οἴνου τοῦτο γίνεται, ὅτι πλείων ἀὴρ ἐν τῷ οἴνῳ ἔνεστιν ἢ ἐν τῷ ὕδατι. ὅμοιον δὲ τούτῳ καὶ τὸ ταὐτὸ ἀγγεῖον τήν τε κονίαν καὶ τὸ ὕδωρ χωρεῖν ἅμα, ὅσον ἑκάτερον χωρὶς ἐγχεόμενον. ἔοικε γὰρ πολλὰ εἶναι τὰ διάκενα τῆς τέφρας. ἅτε οὖν λεπτότερον τὸ ὕδωρ διαδύνει μᾶλλον καὶ συσσάττει ἤδη ὥστε πυκνοῦσθαι, καὶ διὰ τὸ παρ’ ἕκαστον τῶν μερῶν εἶναι τὴν σάξιν (μᾶλλον γὰρ σάττεται κατὰ μικρὸν σαττόμενον ἅπαν ἢ ἀθρόον), τούτου δὲ γινομένου ὑποκαταβαίνειν τὴν κονίαν· ἅμα δὲ καὶ ἡ τέφρα εἰς αὑτὴν δέχεται τὸ ὑγρὸν διὰ τὸ ἔχειν κοιλίας. ἡ δὲ βαλλομένη τέφρα εἰς τὸ ὕδωρ θερμὴ οὖσα τέμνει αὐτὸ καὶ ἐξαεροῖ. καὶ πρότερον δὲ ὕδατος ἐγχυθέντος καὶ ὕστερον κονίας ἐμπιπτούσης τὸ αὐτὸ γίνεται, ὥστε καὶ τὸ ὕδωρ ἔχοι ἂν κοιλίας καὶ διάκενα αὐτὸ ἐν αὑτῷ. ἢ οὐ τὸ ὕδωρ τὸ δεχόμενον τὴν κονίαν, ἀλλ’ ἡ κονία τὸ ὕδωρ; τὸ γὰρ λεπτομερέστερον εἰκὸς εἶναι τὸ εἰσιόν. ἔτι καὶ ἐκ τῆς πείρας δῆλον. ὅταν γὰρ ἐπιπάττηται ἡ τέφρα, καθ’ ὃν ἂν [939a] τόπον ἐπιπάττηται, εἰς τοῦτον συρρεῖ τὸ ἄλλο ὕδωρ· ἔδει δὲ τὸ ἐναντίον, εἴπερ ἦν τὸ ὕδωρ τὸ δεχόμενον. ἢ οὐ συμβαίνει τοῦτο, ἐὰν πρότερον ἐγχυθῇ τὸ ὕδωρ καὶ σφόδρα διαμεστώσῃ· ἀλλ’ ἐὰν ὁτιοῦν ἐπιβληθῇ, ὑπερχεῖται. ἐὰν δ’ ἅπαξ ὑπερχυθῇ καὶ ἐπιπέσῃ ἡ τέφρα, ἤδη συμβαίνει· ἡ γὰρ τέφρα ἦν δεχομένη. ταὐτὸ δὲ τοῦτο καὶ ὅτι οἱ βόθυνοι τὴν ἐκβληθεῖσαν ἐξ αὐτῶν γῆν οὐ δέχονται· ἔοικε γὰρ δὴ ἀήρ τις προκαταλαμβάνων τὸν τόπον καὶ διὰ τοῦτο μὴ δέχεσθαι.

Διὰ τί ὁ ἀὴρ παχύτερος ὢν τοῦ φωτὸς διέρχεται διὰ τῶν στερεῶν; ἢ διότι τὸ μὲν φῶς κατ’ εὐθεῖαν φέρεται μόνον, διὸ καὶ διὰ τῶν ἀραιῶν οὐ διορᾷ ἡ ὄψις, οἷον κισήριδος; ἐπαλλάττουσι γὰρ οἱ πόροι· ἀλλ’ οὐκ ἐν τῇ ὑάλῳ. ὁ δὲ ἀὴρ οὐ κωλύεται διὰ τὸ μὴ εὐθυπορεῖν οὗ διέρχεται.

Διὰ τί ὁ ἀὴρ ψυχρὸς μὲν γίνεται διὰ τὸ ἅπτεσθαι τοῦ ὕδατος, δίυγρος δὲ οὔ, κἂν σφόδρα τις φυσᾷ εἰς τὸ ὕδωρ ὥστε κυμαίνειν; ὅτι δὲ ψυχρός, δηλοῖ μεθιστάμενος· ψύχει γὰρ ἀπὸ τῶν ὑδάτων. ἢ ὅτι ψυχρὸς μὲν πέφυκεν εἶναι καὶ θερμός, ὥστε μεταβάλλει τῇ ἁφῇ οὗ ἄν τινος ἅπτηται, ὑγρὸς δὲ οὐκέτι διὰ τὸ κουφότερος εἶναι· καὶ οὐδέ ποτε εἰς τὸ βάθος τοῦ ὕδατος ἔρχεται, ἀλλ’ ἀεὶ τοῦ ἐπιπέδου ἅπτεται, κἂν βιάζηται κάτω· καὶ τὸ ὕδωρ ἔτι κατωτέρω φέρεται, ὥστε μήποτε εἰς βάθος ἰέναι.

Διὰ τί ὁ ἐκ τῶν πομφολύγων καὶ κάτωθεν ἀνιὼν οὐ διερὸς ἐξέρχεται; ἢ διότι οὐκ ἐπιμένει τὸ ὑγρόν, ἀλλ’ ὀλισθαίνει τὸ ὕδωρ; τὸ δ’ ἐπὶ τῇ πομφόλυγι καὶ ἔλαττόν ἐστιν ἢ ὥστε διαιρεῖν.

Διὰ τί ὁ ἀὴρ οὐκ ἀναπίμπλησι, τὸ δὲ ὕδωρ; καὶ εἰς τὸν ἀέρα γὰρ μετατιθέμενον διερόν. ἢ ὅτι ὥσπερ οὐδὲ ὁ λίθος; οὐ γὰρ πᾶν ἐστὶν ἀναπληστικόν, ἀλλὰ τὸ γλίσχρον ἢ ὑγρόν.

ἢ ὅτι ὁ ἀὴρ ἄνω φέρεται; ὁ γὰρ ἀσκὸς ὅταν μὲν κενὸς ᾖ, κάτω φέρεται, ὅταν δὲ φυσηθῇ, ἄνω ἐπιμένει διὰ τὸ τοῦτον ἀναφέρειν. εἰ δὲ ὁ ἀὴρ ἀνακουφίζει καὶ κωλύει κάτω φέρεσθαι, διὰ τί βαρύτεροι γίνονται φυσηθέντες; καὶ πῶς, ὅτε μὲν βαρύτερός ἐστιν, ἐπιμένει, κουφότερος δὲ γενόμενος καταφέρεται;

Διὰ τί ὁ ἀὴρ οὐκ ἄνω φέρεται; εἰ γὰρ τὰ πνεύματα [939b] τούτου κινουμένου ὑπὸ τοῦ θερμοῦ γίνεται, πέφυκε δὲ τὸ πῦρ ἄνω φέρεσθαι, καὶ τὸ πνεῦμα εἰς τὸ ἄνω ἐβάδιζεν, εἴπερ τό τε κινοῦν εἰς τὸ ἄνω θεῖ καὶ τὸ κινούμενον οὕτω πέφυκε φέρεσθαι. νῦν δὲ φαίνεται λοξὴν τὴν φορὰν ποιούμενος.

Διὰ τί τὸ ἀφ’ ἕω ψυχρότερον ἢ τὸ ἀφ’ ἑσπέρας; ἢ ὅτι τὸ μὲν ἐγγύτερον μέσων νυκτῶν, τὸ δὲ μεσημβρίας; ἔστι δὲ ἡ μεσημβρία θερμότατον διὰ τὸ εἶναι ἐγγύτατον ἡλίου, αἱ δὲ μέσαι νύκτες ψυχρότεραι διὰ τὸ ἐναντίον.

Διὰ τί αἱ νύκτες τῶν ἡμερῶν ἐν ταῖς ἀλέαις πνιγηρότεραι; ἢ διὰ τὴν ἄπνοιαν; οἱ γὰρ ἐτησίαι καὶ πρόδρομοι τὰς νύκτας ἧττον πνέουσιν.

Διὰ τί τὰ ἐν τοῖς ἀσκοῖς ἄσηπτα φυσηθεῖσι, καὶ ἐν τοῖς περιπωματιζομένοις; ἢ διότι σήπεται μὲν κινούμενα, ἅπαντα δὲ τὰ πλήρη ἀκίνητα, ταῦτα δὲ πλήρη.

Διὰ τί τῆς αἰθρίας μᾶλλον ψῦχος γίνεται ἢ ἐπινεφέλων ὄντων; τὰ δὲ ἄστρα καὶ ὁ οὐρανὸς θερμός. ἢ ὅτι οὐθὲν ἀποστέγει ἐν τῇ αἰθρίᾳ τὴν ἀτμίδα, ἀλλὰ διαχεῖται· ἐν δὲ τοῖς ἐπινεφέλοις ἀποστέγεται; καὶ βορείων γε ἢ νοτίων διὰ τὸ αὐτό· ὁ μὲν γὰρ νότος ἄγει τὸ τοιοῦτον, ὁ δὲ ἀπωθεῖ. καὶ ἀτμίζειν δὲ φαίνεται βορείοις μᾶλλον ἢ νοτίοις, καὶ χειμῶνος ἢ θέρους. ἢ παρὰ τὸ ἀνόμοιον; ἢ ὅτι θερμοῦ ψυχομένου ἐστὶν ἡ ἀτμίς;

Διὰ τί ἀὴρ ὁ ἐλάττων θερμότερος τοῦ πλείονος; αἱ γὰρ στενοχωρίαι ἀλεεινότεραι. ἢ διότι κινεῖται μᾶλλον ὁ πολύς, ἡ δὲ κίνησις ποιεῖ ψυχρόν; σημεῖον δὲ τούτου, ὅτι κινούμενα ψύχεται τὰ θερμά.

Διὰ τί ὕδωρ μὲν καὶ γῆ σήπεται, ἀὴρ δὲ καὶ πῦρ οὐ σήπεται; ἢ ὅτι θερμότατον γίνεται τὸ σηπόμενον ἅπαν, πυρὸς δὲ οὐθὲν θερμότερον; ἢ ὅτι ψυχθῆναι δεῖ πρότερον, τὸ δὲ πῦρ ἀεὶ θερμόν, ὁ δὲ ἀὴρ πυρὸς πλήρης. σήπεται δὲ οὐθὲν θερμόν, ἀλλὰ ψυχθέν· γῆ δὲ καὶ ὕδωρ καὶ ἀὴρ καὶ θερμὰ καὶ ψυχρὰ γίνεται.

Διὰ τί τὰ ἐπινέφελα ἀλεεινότερα τῶν αἰθρίων; πότερον ὡς οἱ ἀρχαῖοι ἔλεγον, ὅτι τὰ ἄστρα ψυχρά; ἢ λίαν τοῦτό γε ἄτοπον, ἀλλὰ διότι ἀτμίζει; ἐπισημαντέον δὲ ὅτι ἐν νηνεμίᾳ ἡ δρόσος καὶ ἡ πάχνη γίνεται. ὅταν μὲν οὖν αἰθρία ᾖ, διαπνεῖ τὸ θερμόν, ὑφ’ οὗ ἀνάγεται τὸ ὑγρόν, ὥστε ψυχρὸς ὁ ἀήρ· διὸ καὶ δροσίζει ἀφιέμενον τὸ ὑγρὸν ἀπὸ τοῦ θερμοῦ. ὅταν δὲ ἐπινέφελον ᾖ, ἀποστέγεται, διὸ οὐ [940a] γίνεται δρόσος οὐδὲ πάχνη ὄντων ἐπινεφέλων. περὶ οὖν τὴν γῆν ὑπομένον τὸ θερμὸν ποιεῖ τὴν ἀλέαν.

Διὰ τί ἐν τοῖς ὑψηλοῖς τῶν οἴκων ὁ ἀὴρ διευριπίζει, καὶ μάλιστα ταῖς εὐδίαις; ἢ διότι ὁ ἀὴρ πολύκενός τίς ἐστι τὴν σύγκρισιν. ὅταν οὖν ἄρξηται εἴσω ῥεῖν, συγχωρεῖ ὁ ἐν τῷ οἰκήματι ἀὴρ καὶ συστέλλεται. τούτου δὲ συμπίπτοντος τῷ χρόνῳ πολυκενώτερος γίνεται ὁ ἔξωθεν, καὶ χώραν πολλὴν ἴσχει. εἰς ταύτην οὖν τὴν χώραν πίπτει ὁ ἐκ τοῦ οἰκήματος ἀήρ, ὢν πλησίον, καὶ φέρεται εἰς ταύτην τὴν χώραν διὰ τὸ κρέμασθαι καὶ τὴν τοῦ κενοῦ φύσιν μὴ δύνασθαι ἀντιστηρίζειν. κατὰ πολλὰ δὲ αὐτοῦ μέρη τούτου συμβαίνοντος, ἕπεται αὐτῷ ὁ πλησίον διὰ τὴν πρόσοψιν· εἶτα πολλοῦ ἔξωθεν φερομένου ὁ μὲν ἔσω τόπος πολύκενος γίνεται, ὁ δὲ ἔξω πυκνότερος, καὶ πάλιν ἔξωθεν εἴσω φέρεται. καὶ ταῦτα ἀλλάσσονται.

ΚϚ. ΟΣΑ ΠΕΡΙ ΤΟΥΣ ΑΝΕΜΟΥΣ.

Διὰ τί ὁ καικίας μόνος τῶν ἀνέμων ἐφ’ ἑαυτὸν ἄγει τὰ νέφη; ἢ ὅτι ἀφ’ ὑψηλοτέρων τόπων πνεῖ; ἔστι γὰρ τὰ πρὸς ἕω ὑψηλότερα τῶν πρὸς ἑσπέραν· σημεῖον δὲ τὸ τῆς πρὸς ἑσπέραν θαλάττης μέγεθος καὶ βάθος. πνέων δὲ ἄνωθεν εἰς τοὐναντίον γραμμὴν ποιεῖ τῇ φορᾷ τὰ κοῖλα πρὸς τὴν γῆν ἔχουσαν. προσπίπτων δέ, ὡς εἴρηται, τοῖς πρὸς ἑσπέραν τῆς γῆς τόποις, καὶ συστέλλων τὰ νέφη διὰ τὸ τῆς γραμμῆς σχῆμα, τῇ ἐκεῖθεν ἀνακλάσει ἐπ’ αὐτὸν ὠθεῖ αὐτά. ποιεῖ δὲ μόνος τοῦτο τῶν λοιπῶν τῷ τοὺς μὲν ὑψηλοτέρους τοὺς δ’ ἐναντίους εἶναι τόπους, πρὸς οὓς ἐκ τοῦ κάτωθεν ἢ ἐπ’ εὐθείας τὴν φορὰν γίνεσθαι συμβαίνει, τὰ κυρτὰ πρὸς τὴν γῆν ἐχούσης, ὥστε ἀνάκλασιν μὴ γίνεσθαι τοῦ πνεύματος τῷ μὴ πρὸς τὴν γῆν ἐχούσης ἀέρα ἔχειν τὴν τελευτὴν τῆς φορᾶς, ἐν ᾧ οὐδὲ νέφη ἐστὶ περὶ τὴν γῆν· τοῖς δὲ ἧττον κοίλοις καὶ τῷ ἀπηλιώτῃ τῷ μὴ εἶναι ὑγρόν. ὥστε οὐ συνιστὰς ἧττον καταφανής ἐστιν αὐτοῦ ποιῶν τοῦτο ὃ ποιεῖ.

Διὰ τί βορέαι μὲν ἐτήσιοι γίνονται, νότοι δὲ οὔ; ἢ γίνονται μὲν καὶ νότοι, ἀλλ’ οὐ συνεχεῖς, ὅτι πόρρω ἡμῶν ἡ ἀρχὴ τοῦ νότου ἐστίν, ὑπὸ δὲ τῷ βορέᾳ οἰκοῦμεν; ἔτι οἱ μὲν ἐτησίαι βορέαι καθεστηκότος τοῦ ἀέρος πνέουσι (θέρους [940b] γὰρ πνέουσιν), οἱ δὲ νότοι ἦρος, ὅθ’ ἧττον ἕστηκε τὰ περὶ τὸν ἀέρα. πρὸς δὲ τούτοις ὁ μὲν νότος ὑγρός, τῷ δ’ ὑγρῷ ὁ ἄνω τόπος ἀλλότριός ἐστιν· διὸ ταχὺ διαλύεται τὰ ἐν αὐτῷ συνιστάμενα ὑγρά. καὶ τὰ ὑγρὰ πλανητικά ἐστιν, ὥστε οὐ μένων ἐν ταὐτῷ τόπῳ συμμεθίστησι καὶ τὴν τοῦ ἀέρος κίνησιν. κινουμένου δὲ μὴ ἐν ταὐτῷ πνεύματα ἄλλα συμβαίνει γίνεσθαι· ἔστι γὰρ πνεῦμα ἀέρος κίνησις.

Διὰ τί νότος πνεῖ μετὰ πάχνην; ἢ διότι ἡ μὲν πάχνη γίνεται πέψεως γινομένης, μετὰ δὲ τὴν πέψιν καὶ τὴν ἀποκάθαρσιν ἡ μεταβολὴ εἰς τοὐναντίον γίνεται; ἐναντίον δὲ τῷ βορρᾷ νότος ἐστίν. διὰ ταὐτὸ δὲ καὶ μετὰ τὴν χιόνα πνεῖ νότος. ὅλως δὲ καὶ ἡ χιὼν καὶ ἡ χάλαζα καὶ τὸ ὕδωρ καὶ πᾶσα ἡ τοιαύτη ἀποκάθαρσις πέψεως σημεῖόν ἐστιν. διὸ καὶ μετὰ τὸν ὑετὸν καὶ τὰς τοιαύτας χειμασίας πίπτει τὰ πνεύματα.

Διὰ τί αἱ τροπαὶ πνέουσιν; ἢ διὰ τὸ αὐτὸ ὃ καὶ οἱ εὔριποι ῥέουσιν; μέχρι γὰρ τοῦ ῥεῖν καὶ ἡ θάλαττα φέρεται καὶ ὁ ἀήρ· εἶθ’ ὅταν ἀντιπέσῃ καὶ μηκέτι δύνηται τὰ ἀπόγεια προάγειν διὰ τὸ μὴ ἰσχυρὰν ἔχειν τὴν ἀρχὴν τῆς κινήσεως καὶ φορᾶς, πάλιν ἀνταποδίδωσιν.

Διὰ τί αἱ τροπαὶ ἐκ τῆς θαλάττης εἰσίν; ἢ ὅτι ἡ θάλαττα πλησίον; ἢ ὅτι ἐναντίον ἐστὶ τῇ ἀπογείᾳ ἡ τροπαία, καὶ ἔστιν ἡ τροπαία οἷον ἀναστροφὴ ἀπογείας. ἡ δὲ ἀπογεία τὸ ἐκ τῆς γῆς πρὸς τὴν θάλατταν πνεῦμα γινόμενον, ἡ δὲ τροπαία ἡ τούτου παλίρροια. ὥστε ἀνάγκη ἐκ θαλάττης εἶναι. [ἢ ἡ θάλαττά ἐστι] διὰ τὸ εἰς τὴν θάλατταν ἀθροισθῆναι τὸν ῥυέντα ἀέρα; τοῦ δὲ μὴ εἰς τὴν γῆν τοῦτο συνίστασθαι καὶ τοῦ ἀνακάμπτειν ἀπιὸν αἴτιον, ὅτι ἡ θάλαττα ἐν κοίλῳ ἐστίν· ὁ δὲ ἀήρ, ὥσπερ τὸ ὕδωρ, ῥεῖ ἀεὶ εἰς τὸ κοιλότατον.

Διὰ τί οἱ ἐκνεφίαι ὕδατος γενομένου θᾶττον παύονται; ἢ ὅτι αἱ κοιλίαι συμπίπτουσι τοῦ νέφους, ὕδατος γενομένου, ἐν αἷς ἡ ἀρχὴ τοῦ πνεύματος συνίσταται;

Διὰ τί οὐχ οἱ αὐτοὶ ἄνεμοι πανταχοῦ ὑέτιοί εἰσιν; ἢ ὅτι οὐχ οἱ αὐτοὶ πανταχοῦ πρὸς ὄρη ἀντιπνέουσιν, ἀλλ' ἕτεροι κεῖνται πρὸς ἕτερα ὄρη; οἷον γὰρ πρὸς ἀνάντη μόλις ῥεόντων, ἐνταῦθα ὑφίσταται μᾶλλον τὰ νέφη, οὗ ἀδυνατεῖ ἔτι προωθεῖν αὐτὰ ἄνεμος. ὑφιστάμενα δὲ καὶ πιεζόμενα ῥήγνυται.

[941a] Διὰ τί αἱ μὲν καθαραὶ δύσεις εὐδιεινὸν σημεῖον, αἱ δὲ τεταραγμέναι χειμερινόν; ἢ ὅτι χειμὼν γίνεται συνισταμένου καὶ πυκνουμένου τοῦ ἀέρος; ὅταν μὲν οὖν κρατῇ ὁ ἥλιος, διακρίνει καὶ αἰθριάζει αὐτόν, ὅταν δὲ κρατῆται, ἐπινεφῆ ποιεῖ. ἐὰν μὲν οὖν ἰσχυρὰ ᾖ ἡ σύστασις, εὐθὺς ἡμέρας γίνεται χειμών· ἐὰν δὲ ἀσθενεστέρα, μὴ παντάπασι δὲ κρατουμένη, τὸ συνιστάμενον ἐξωθεῖται πρὸς τὰς δύσεις. ἐνταῦθα δὲ μένει διὰ τὸ παχύτατον εἶναι τὸν περὶ τὴν γῆν ἀέρα τοῦ χειμῶνος. ταχὺ δὲ συνίσταται καὶ ὁ ἄλλος διὰ τὸ ἔχειν ἀρχὴν καὶ ἔρεισμα, ὃ δέξεται καὶ ἀθροίσει τὸ προσιὸν καθάπερ ὄρθρος· ὥσπερ γὰρ ἐν τροπῇ ἑνὸς ἀντιστάντος καὶ οἱ ἄλλοι μένουσιν, οὕτω καὶ ἐπὶ τοῦ ἀέρος. διὸ ταχὺ καὶ ἐξαίφνης ἐνίοτε γίνεται καὶ ἐπινέφελα. ὅταν οὖν αἱ δύσεις τεταραγμέναι ὦσι, σημεῖόν ἐστιν ἰσχυρὸν ὅτι οὐ κεκράτηκεν ὁ ἥλιος τῆς συστάσεως, πολὺν χρόνον ἐναντιούμενος αὐτῇ, ὥστε εἰκότως ἔστι συστῆναι πλέον. καὶ ἧττον δέ ἐστι φοβερόν, ὅταν προχειμάσαντος ἢ ὅταν ἐξ εὐδίας τοῦτο συμβῇ. ἐκείνως μὲν γὰρ ἔοικεν ὥσπερ ὑπόλειμμά τι εἶναι, οὕτω δὲ ἀρχὴ συστάσεως.

Διὰ τί λέγεται “οὔ ποτε νυκτερινὸς βορέας τρίτον ἵκετο φέγγος;” ἢ διότι ἀσθενῆ τὰ πνεύματα τὰ ἀπὸ τῆς ἄρκτου, ὅταν ᾖ νυκτερινά; σημεῖον γὰρ ὅτι οὐ πολὺς ὁ κινηθεὶς ἀήρ, τὸ τηνικαῦτα πνεῦσαι, ὅτε ὀλίγη θερμότης ὑπῆρχεν· ἡ δὲ ὀλίγη ὀλίγον ἐκίνει ἀέρα. τελευτᾷ δὲ ἐν τρισὶ πάντα, καὶ τὰ ἐλάχιστα ἐν τῇ πρώτῃ τριάδι, ὥστε καὶ τοῦτο τὸ πνεῦμα.

Διὰ τί ὁ βορέας πυκνότερον πνεῖ ἢ ὁ νότος; ἢ ὅτι ὁ μὲν βορέας γειτνιῶν τῇ οἰκουμένῃ οὐ λανθάνει ὀλιγοχρόνιος ὤν (ἅμα γὰρ πνεῖ καὶ πάρεστιν), ὁ δὲ νότος οὐκ ἀφικνεῖται διὰ τὸ πόρρωθεν πνεῖν.

Διὰ τί ὁ νότος ἧττον μετὰ χειμερινὰς νύκτας πνεῖ ἢ μεθ’ ἡμέρας; ἢ ὅτι καὶ τῆς νυκτὸς ὁ ἥλιος ἐγγύς ἐστι τῇ πρὸς νότον χώρᾳ, καὶ ἀλεεινότεραι αἱ νύκτες ἐκεῖ ἢ πρὸς ἄρκτον αἱ ἡμέραι; ὥστε πολὺς κινεῖται ὁ ἀήρ, καὶ οὐθὲν ἐλάττων ἢ μεθ’ ἡμέραν· ἀλλ’ αἱ θερμότεραι ἡμέραι κωλύουσι μᾶλλον πνεῖν, ξηραίνουσαι τὰς ὑγρότητας.

Διὰ τί ἐπὶ κυνὶ ὁ νότος πνεῖ, καὶ τοῦτο ὥσπερ τι ἄλλο γίνεται τεταγμένως; ἢ διότι θερμὰ τὰ κάτω, τοῦ ἡλίου πόρρω ὄντος, ὥστε πολλὴ ἡ ἀτμὶς γίνεται; καὶ πολλοὶ δὴ ἔπνεον, [941b] εἰ μὴ διὰ τοὺς ἐτησίας. νῦν δὲ οὗτοι κωλύουσιν. ἢ ὅτι ἐπὶ πᾶσι μὲν σημαίνει τοῖς ἄστροις δυομένοις ἢ ἐπιτέλλουσιν, οὐχ ἥκιστα δὲ ἐπὶ τούτῳ; δῆλον οὖν ὅτι πνεύματα μάλιστα ἐπὶ τούτῳ καὶ μετ’ αὐτόν. ἐπεὶ δὲ πνίγει, καὶ πνεύματα εἰκότως ἐπ’ αὐτῷ τὰ θερμότατα κινεῖται· ὁ δὲ νότος θερμός ἐστιν. ἐπεὶ δὲ εἴθισται μάλιστα ἐκ τῶν ἐναντίων εἰς τὰ ἐναντία μεταβάλλειν, πρὸ κυνὸς δὲ οἱ πρόδρομοι πνέουσιν ὄντες βορέαι, εἰκότως μετὰ κύνα νότος πνεῖ, ἐπειδὴ ἐπισημαίνει μέν, ἐπιτέλλουσι δὲ τοῖς ἄστροις. τὸ δὲ ἐπισημαίνειν ἐστὶ μεταβολὴν τοῦ ἀέρος ποιεῖν· μεταβάλλει δὲ πάντα εἰς τοὺς ἐναντίους ἢ τοὺς ἐπὶ δεξιὰ ἀνέμους τὰ πνεύματα. ἐπεὶ δὲ βορέας εἰς τοὺς ἐπιδεξίους μεταβάλλει, εἴη ἂν αὐτῷ λοιπὸν εἰς νότον μεταβάλλειν. ἔστι δὲ καὶ ἡ μετὰ τὰς χειμερινὰς τροπὰς πεντεκαιδεκάτη νότιος, διὰ τὸ τὰς μὲν τροπὰς ἀρχήν τινα εἶναι, κινεῖν δὲ τὸν κατ’ αὐτὴν μάλιστα ἀέρα τὸν ἥλιον, εἶναι δὲ ἐν ταύταις ταῖς τροπαῖς πρὸς νότον. καθάπερ οὖν καὶ τὰ ἀπ’ ἀνατολῆς κινῶν ἀπηλιώτας ἀνέμους ἤγειρεν, οὕτω καὶ τὰ ἀπὸ μεσημβρίας κινῶν νότους ἐγείρει. οὐκ εὐθὺ δὲ ἀπὸ τροπῶν ποιεῖ τοῦτο διὰ τὸ βραχυτάτας ποιεῖσθαι τὰς μεταστάσεις τότε, ἀλλ’ ἐν τῇ πεντεκαιδεκάτῃ διὰ τὸ τὸν χρόνον τοῦτον συμμέτρως ἔχειν τῇ κατὰ τὴν μετάστασιν πρώτῃ φαντασίᾳ· ὅλου γάρ ἐστι μέρος εὐσημότατον ὁ εἰρημένος χρόνος.

Διὰ τί ἐπὶ Ὠρίωνι γίνονται αἰόλοι μάλιστα αἱ ἡμέραι καὶ ἀκαιρίαι τῶν πνευμάτων; ἢ ὅτι ἐν μεταβολῇ ἀεὶ πάντα ἀοριστεῖ μάλιστα, ὁ δ’ Ὠρίων ἀνατέλλει μὲν ἐν ἀρχῇ ὀπώρας, δύνει δὲ χειμῶνος, ὥστε διὰ τὸ μήπω καθεστάναι μίαν ὥραν, ἀλλὰ τὴν μὲν γίνεσθαι τὴν δὲ παύεσθαι, διὰ ταῦτα ἀνάγκη καὶ τὰ πνεύματα ἀκατάστατα εἶναι διὰ τὸ ἐπαμφοτερίζειν τὰ ἐξ ἑκατέρας. καὶ χαλεπὸς δὴ λέγεται καὶ δύνων καὶ ἀνατέλλων ὁ Ὠρίων διὰ τὴν ἀοριστίαν τῆς ὥρας· ἀνάγκη γὰρ ταραχώδη εἶναι καὶ ἀνώμαλον.

Διὰ τί ὁ νυκτερινὸς βορέας τριταῖος λήγει; πότερον ὅτι ἀπὸ μικρᾶς καὶ ἀσθενοῦς ἀρχῆς, ἡ τρίτη δὲ κρίσιμος; ἢ ὅτι ἀθρόος ἡ ἔκχυσις, ὥσπερ τῶν ἐκνεφιῶν; ταχεῖα οὖν ἡ παῦλα.

Διὰ τί βορέαι πλεῖστοι πνέουσι τῶν ἀνέμων; ἢ διὰ τὸ πρὸς τούτῳ τὴν οἰκουμένην τῷ τόπῳ ὑποκεῖσθαι ὄντι ὑψηλῷ [942a] καὶ ἔξω τροπῶν καὶ πλήρει χιόνος, ἣ οὐδέποτε ἔνια ὄρη λείπει; τὸ πολὺ οὖν ὑγραινομένων τῶν πεπηγότων πολλάκις πνεῦμα γίνεται. τοῦτο δέ ἐστι βορέας, τὸ ἐκ τῶν ἀπὸ τῆς ἄρκτου τόπων πνεῦμα.

Διὰ τί οἱ νότοι πνέουσι μὲν χειμῶνος καὶ ἔαρος ἀρχομένου καὶ μετοπώρου λήγοντος, εἰσὶ δὲ κυματοειδεῖς καὶ συνεστραμμένοι, καὶ τοῖς ἐν Λιβύῃ ὁμοίως ψυχροὶ ὡς οἱ βορέαι ἐνταῦθα; ἢ διότι πλησίον τοῦ ἡλίου ὄντος ἀνάγκη κινεῖσθαι τὰ πνεύματα; ὁ δὲ ἥλιος τοῦ χειμῶνος πρὸς νότον φέρεται, καὶ τοῦ μὲν ἔαρος ἀρχομένου τοῦ δὲ μετοπώρου τελευτῶντος ἤδη θερμαίνει, τὸ δὲ θέρος πρὸς βορέαν φέρεται, ἐκείνους δὲ ἀπολείπει τοὺς τόπους. θερμὸς δέ ἐστι διὰ τὸ μίγνυσθαι τὸ πνεῦμα τῷ κατὰ Λιβύην ἀέρι θερμῷ ὄντι· καὶ διὰ τοῦτο μεγαλοκύμων νοτίζειν ποιεῖ τὸ θέρος, ἐμπίπτων εἰς τὴν θάλατταν.

Διὰ τί ὁ νότος δυσώδης; ἢ ὅτι ὑγρὰ καὶ θερμὰ ποιεῖ τὰ σώματα, ταῦτα δὲ σήπεται μάλιστα; οἱ δὲ ἐκ τῆς θαλάττης νότοι ἀγαθοὶ φυτοῖς· ἐκ θαλάττης γὰρ αὐτοῖς προσπίπτει. καὶ τῆς Ἀττικῆς τῷ Θριασίῳ πεδίῳ αἴτιον, διότι ἀπεψυγμένος ἀφικνεῖται. αἱ δ’ ἐρυσίβαι γίνονται ὑπὸ ὑγρότητος θερμῆς μὲν ἀλλοτρίας δέ.

Διὰ τί ἄνεμος γίνεται πρὸ τῶν ἐκλείψεων ὡς τὰ πολλά, ἀκρόνυχον μὲν πρὸ τῶν μεσονυκτίων ἐκλείψεων, μεσονύκτιον δὲ πρὸ τῶν ἑώων; ἢ διότι ἀμαυροῦται τὸ θερμὸν τὸ ἀπὸ τῆς σελήνης διὰ τὸ πλησίον ἤδη φορὰν εἶναι, ἐν ᾧ γενομένῳ ἔσται ἡ ἔκλειψις; ἀνιεμένου οὖν ᾧ κατείχετο ὁ ἀὴρ καὶ ἠρέμει, πάλιν κινεῖται καὶ γίνεται πνεῦμα τῆς ὀψιαίτερον ἐκλείψεως ὀψιαίτερον.

Διὰ τί ὁ νότος οὐκ ἀρχόμενος ἀλλὰ λήγων ὑέτιος; πότερον ὅτι πόρρωθεν συνάγει τὸν ἀέρα; γίνεται δὲ συνιστάντος τὸ ὕδωρ, συνίσταται δὲ ὕστερον ἢ ἄρχεται. ἢ ὅτι ἀρχομένου θερμός ἐστιν ὁ ἀὴρ ἔτι διὰ τὸ ἐκ τοιούτου ἐληλυθέναι, ἐπιχρονιζόμενος δὲ ψυχθεὶς συνίσταται μᾶλλον εἰς ὕδωρ.

Διὰ τί ὁ νότος, ὅταν μὲν ἐλάττων ᾖ, αἴθριός ἐστιν, ὅταν δὲ μέγας, νεφώδης καὶ χρονιώτερος; πότερον, ὥσπερ τινὲς λέγουσι, διὰ τὴν ἀρχήν; ἐὰν μὲν γὰρ ἀπ’ ἐλάττονος, αἴθριος, ἐὰν δὲ ἀπὸ πλείονος ὁρμήσῃ, νεφελώδης. ἢ ὅτι ἐλάττων ἀρχόμενός ἐστιν, ὥστε οὐ πολὺν ἀέρα ὠθεῖ, ἐπὶ [942b] τέλει δὲ εἴωθε γίνεσθαι μέγας. διὸ καὶ παροιμιάζονται “ἀρχομένου γε νότου καὶ λήγοντος βορέαο.”

Διὰ τί προΐεται τοῦ χειμῶνος ἀπὸ τῆς ἕω τὰ πνεύματα, τοῦ θέρους δὲ καὶ ἀφ’ ἑσπέρας; ἢ ὅτι ὅταν μηκέτι κρατῇ ὁ ἥλιος, ἀφιέμενος ὁ ἀὴρ ῥεῖ; δύνων τε οὖν καταλείπει νέφη, ἀφ’ ὧν οἱ ζέφυροι· καὶ ὅσον ἂν ἐπαγάγῃ ἐκείνοις τοῖς ἐν τῷ κάτω ἡμισφαιρίῳ οἰκοῦσιν, ἑωθινὸν πνεῦμα γίνεται. τἀναντία δέ, ὅταν δύνῃ ἐν τῷ κάτω μέρει, ἐκείνοις τε ζεφύρους ποιήσει καὶ ἐνταῦθα ἑωθινὸν πνεῦμα ἀπὸ τοῦ ἑπομένου ἀέρος αὐτῷ. διὰ τοῦτο κἂν καταλάβῃ ἄλλον ἄνεμον, μείζων γίνεται αἱρομένου, ὅτι προσέθηκεν.

Διὰ τί οἱ κύνες τὰ ἴχνη ἥκιστα εὑρίσκουσι ζεφύρου πνέοντος; ἢ διότι μάλιστα συγχεῖ διὰ τὸ συνεχέστατος εἶναι τῶν ἀνέμων καὶ μάλιστα ὑπὸ τὴν γῆν πνεῖν;

Διὰ τί, ὅταν ἀστέρες διάττωσιν, ἀνέμου σημεῖον; ἢ ὅτι ὑπὸ τοῦ πνεύματος φέρονται, καὶ πρότερον ἐκεῖ γίνεται πνεῦμα ἢ παρ’ ἡμῖν; διὸ καὶ ἀφ’ οὗ ἂν τόπου φέρωνται οἱ ἀστέρες, ἐν τούτῳ καὶ τὸ πνεῦμα γίνεται.

Διὰ τί μεγίστας νεφέλας τῶν ἀνέμων ὁ ζέφυρος ἄγει; ἢ διότι ἐκ πελάγους πνεῖ καὶ κατὰ τὴν θάλατταν; ἐκ πολλοῦ οὖν καὶ συνάγει.

Διὰ τί οἱ ἐπὶ τέλει ἄνεμοι μέγιστοι; ἢ ὅτι ὅταν ἀθρόοι ἐκπνεύσωσιν, ὀλίγον τὸ θερμόν;

Διὰ τί, ἐὰν περὶ ἰσημερίαν λὶψ πνεύσῃ, ὕδωρ γίνεται; ἢ ὅτι καθ’ ὃν ἂν ᾖ ὁ ἥλιος τόπον τοῦ κόσμου, τὰ ἐντεῦθεν πνεύματα κινεῖ; διὸ καὶ ἡ τῶν πνευμάτων περίστασις κατὰ τὴν τοῦ ἡλίου φορὰν γίνεται. ἐπεὶ δ’ ἡ ἰσημερία μεθόριόν ἐστι χειμῶνος καὶ θέρους, ὅταν συμβῇ τὸν ἥλιον κατὰ τὴν ἡμῖν φαινομένην ἰσημερίαν ὑπερβεβληκέναι ἢ ἐκλείπειν τοῦ ἀκριβοῦς ὅρου καὶ εἶναι μᾶλλον ἐν τοῖς χειμερίοις, συμβαίνει τοὺς ἐκ τούτου τοῦ μέρους ἀνέμους πνεῖν, ὧν ἐστὶ πρῶτος λίψ, ὢν ὑγρὸς φύσει. ὄντος δὲ τοῦ ἡλίου μᾶλλον ἐν τῷ χειμερίῳ μέρει τοῦ κόσμου, καὶ κινοῦντος τὰ ἐν αὐτῷ πνεύματα, τὰ χειμῶνος ἔργα συμβαίνει γίνεσθαι· τούτων δέ ἐστιν ὁ ὄμβρος. ἔτι δὲ ἐπειδὴ ἡ ἰσημερία ἐστὶ καθάπερ χειμὼν καὶ θέρος ἰσοκρατής, ἐὰν ὁποτερῳοῦν αὐτῶν τι προστεθῇ, εὔσημον τὴν ῥόπην ποιεῖ, καθάπερ ἐπὶ τῶν [943a] ἰσαζόντων ζυγῶν. ἐπεὶ δὲ ὁ λὶψ ἔκ τε τῆς χειμερίου τάξεώς ἐστι καὶ ὑγρὸς φύσει, προστεθεὶς ἐν τῇ ἰσημερίᾳ ῥοπὴν χειμῶνος ἐποίησε καὶ ὄμβρον· ὁ γὰρ ὄμβρος χειμών ἐστιν οἰκειότατος τῷ πνεύσαντι πνεύματι.

Διὰ τί ὁ νότος καὶ ὁ εὖρος θερμότεροι ὄντες τῶν ἐναντίων, ὁ μὲν τοῦ βορέου, ὁ δὲ τοῦ ζεφύρου, ὑδατωδέστεροί εἰσιν; καίτοι διὰ ψυχρότητα ὕδωρ ἐξ ἀέρος γίνεται. οὐ γὰρ διὰ τὸ ἀπωθεῖν τὸν βορέαν ἐντεῦθεν γίνεται τὰ νέφη· ὁ γὰρ ζέφυρος καὶ ὁ εὖρος ἀπάγουσιν ἄμφω (ὁμοίως γὰρ πλάγιοι), καὶ οἱ ἄλλοι δὲ πάντες, ὅθεν πνέουσιν. πότερον ὅτι ἀντιπερiίσταται τὸ ψυχρὸν εἴσω μᾶλλον, ὅταν ᾖ ἔξω τὸ θερμὸν μᾶλλον; ἢ ἔστι μέν τι καὶ διὰ τὸ ὅθεν πνέουσιν, αἰθρίους εἶναι; καὶ γὰρ εὖρος ἀπ' ἠοῦς ἐστίν. ἥδε δὲ ἡ χώρα πρὸς ἑσπέραν κεῖται, καὶ ζέφυρος. ἀλλὰ καὶ διότι πρότερον θερμαινόμενος ὁ ἀήρ, ὥσπερ καὶ τὰ ὕδατα, τάχιστα καὶ μάλιστα ψύχεται. φέρεται οὖν ὁ μὲν ἀπὸ τοῦ εὔρου ἀπ' ἀνατολῆς ἀὴρ θερμός, ὁ δὲ ἀπὸ τοῦ νότου ἀπὸ μεσημβρίας. ὅταν οὖν ἔλθωσιν εἰς τὸν ψυχρότερον τόπον, ταχὺ πήγνυνται καὶ συνίστανται εἰς ὕδωρ. καὶ μᾶλλον ὁ εὖρος ποιεῖ ὕδωρ, ὅτι ἀπὸ τοῦ ἡλίου μᾶλλον φέρει τὸν ἀέρα, καὶ ὁμοίως θερμόν. ὁ δὲ νότος λήγων ὑδατώδης, ὅτι ψυχρὸς ὁ πρῶτος φερόμενος ἀὴρ ἀπὸ τῆς θαλάττης, ὁ δὲ τελευταῖος διάθερμος ὢν ἀπὸ τῆς γῆς κομίζει. ἢ οὐ μόνον τοῦτ' αἴτιον, ἀλλ' ὅτι καὶ μείζων λήγων ὁ νότος γίνεται; διὸ καὶ ἡ παροιμία εἰς αὐτὸν "ἀρχομένου τε νότου." οἱ δὲ μείζους ψυχρότεροι. ὥστε πηγνύει ὕστερον τὰ νέφη. ἢ διὰ τοῦτο ὑδατωδέστερος ἢ ἀρχόμενος;

Διὰ τί οἱ ἄνεμοι ξηραίνουσι ψυχροὶ ὄντες; ἢ διότι ἀτμίζειν ποιοῦσιν οἱ ψυχρότεροι; διὰ τί δὲ μᾶλλον ἢ ὁ ἥλιος; ἢ διότι ἀπάγουσι τὴν ἀτμίδα, ὁ δὲ ἥλιος καταλείπει; ὑγραίνει μὲν οὖν μᾶλλον, ξηραίνει δὲ ἧττον.

Διὰ τί ὁ καικίας μόνος τῶν ἀνέμων ἐφ' ἑαυτὸν ἄγει τὰ νέφη, ὥσπερ καὶ ἡ παροιμία λέγει "ἕλκων ἐφ' αὑτὸν ὥσπερ καικίας νέφος." οἱ γὰρ ἄλλοι, ὅθεν ἂν πνέωσιν, ἐνταῦθα ἀναστέλλουσιν. πότερον αἴτιον ὅτι ἅμα ὁ ἐναντίος πνεῖ; ἢ οὐκ ἂν ἐλάνθανεν, ἀλλὰ πέφυκε τὸ πνεῦμα κύκλου γραμμὴν φέρεσθαι; οἱ μὲν οὖν ἄλλοι περὶ τὴν γῆν πνέουσιν· [943b] τοῦτο δὲ τὸ κοῖλον τῆς γραμμῆς πρὸς τὸν οὐρανὸν καὶ οὐκ ἐπὶ τὴν γῆν ἐστίν, ὥστε ἐπὶ τὴν ἀρχὴν πνέων ἐφ' ἑαυτὸν τὰ νέφη ἄγει.

Διὰ τί ἀπὸ μὲν τῆς θαλάττης οὐκ ἀποπνεῖ ἕωθεν ψυχρόν, ἀπὸ δὲ τῶν ποταμῶν; ἢ ὅτι ἡ μὲν θάλαττά ἐστιν ἐν ἀναπεπταμένοις τόποις, οἱ δὲ ποταμοὶ ἐν στενοῖς; ἡ οὖν ἀπὸ τῆς θαλάττης αὔρα εἰς πολὺν τόπον σκίδναται, ὥστε εἶναι ἀσθενής, ἡ δὲ ἀπὸ τῶν ποταμῶν ἀθρόως φέρεται καὶ μᾶλλον ἰσχύει, διὸ μᾶλλον εἰκότως φαίνεται ψυχρά. ἢ οὐ τοῦτ' ἐστὶν αἴτιον, ἀλλ' οἱ μὲν ποταμοὶ ψυχροί εἰσιν, ἡ δὲ θάλαττα οὔτε θερμὴ οὔτε ψυχρά; γίνεται δὲ ἡ αὔρα καὶ ἀποπνοὴ θερμαινομένων ἢ ψυχομένων· ὁπότερον γὰρ ἂν τούτων πάσχῃ, ἐξαεροῦται, ἐξαερουμένου δὲ τοῦ ὕδατος ὁ ἀὴρ γινόμενος φέρεται, ὅ ἐστιν αὔρα. τὸ μὲν οὖν ἀπὸ τῶν ψυχρῶν ψυχρὸν εἰκότως ἀποπνεῖ, τὰ δὲ ἀπὸ τῶν σφόδρα θερμῶν ἀποπνέοντα ψύχεται καὶ γίνεται ψυχρά. τοὺς μὲν οὖν ποταμοὺς ψυχροὺς ἅπαντας εὕροι τις ἄν, ἡ δὲ θάλαττα οὔτε ψυχρὰ οὔτε θερμὴ σφόδρα ἐστίν. οὔτε οὖν τὸ ἀποπνέον ψυχρὸν ἀπ' αὐτῆς ἐστί, διὰ τὸ μὴ ψυχρὰν εἶναι σφόδρα, οὔτε ψύχεται ταχύ, διὰ τὸ μὴ θερμὴν εἶναι σφόδρα.

Διὰ τί ὁ ζέφυρος εὐδιεινὸς καὶ ἥδιστος δοκεῖ εἶναι τῶν ἀνέμων, καὶ οἷον καὶ Ὅμηρος ἐν τῷ Ἠλυσίῳ πεδίῳ, “ἀλλ’ αἰεὶ ζεφύροιο διαπνείουσιν ἀῆται;” ἢ πρῶτον μὲν ὅτι ἔχει τὴν τοῦ ἀέρος κρᾶσιν; οὔτε γὰρ θερμὸς ὥσπερ οἱ ἀπὸ μεσημβρίας καὶ ἕω, οὔτε ψυχρὸς ὥσπερ οἱ ἀπὸ τῆς ἄρκτου, ἀλλ’ ἐν μεθορίῳ ἐπὶ τῶν ψυχρῶν καὶ θερμῶν πνευμάτων· γειτνιῶν δὲ ἀμφοῖν τῆς δυνάμεως αὐτῶν κοινωνεῖ, διὸ καὶ εὔκρατός ἐστι καὶ πνεῖ ἔαρος μάλιστα. ἔτι τὰ πνεύματα περιίσταται ἢ εἰς τἀναντία ἢ εἰς τὰ δεξιά. μετὰ οὖν τὸν βορέαν πνέων (ἐπὶ δεξιὰ γὰρ ὁ τόπος) εὐδοκιμεῖ, ὥσπερ παρὰ χαλεπὸν πρᾶος. καὶ ἅμα ὅταν ἀποχειμάσῃ, εὐδία εἴωθε γίνεσθαι ὡς ἐπὶ τὸ πολύ. ὁ δὲ βορέας χειμέριος ἄνεμος. [καὶ ὁ ἀπηλιώτης δὲ ἐν τῷ μέσῳ ὢν τῶν θερμῶν καὶ τῶν ψυχρῶν πνευμάτων ἧττον αὐτοῖς κοινωνεῖ. ἀπηλιώτης μὲν γὰρ πνέων τὰ πρὸς νότου πνεύματα κινεῖ (ἐνταῦθα γὰρ ἡ μετάστασις αὐτοῦ ἐστίν), κινῶν δὲ οὐ μίγνυται αὐτοῖς. ὁ δὲ ζέφυρος καὶ κινεῖται ὑπὸ τῶν νοτίων, καὶ [944a] πνέων κινεῖ τὰ βόρεια· τελευτᾷ γὰρ ἐνταῦθα ἡ περίοδος τῶν πνευμάτων. διὸ τῶν μὲν τὴν τελευτὴν τῶν δὲ τὴν ἀρχὴν ἔχων ἐν αὑτῷ δικαίως ἡδύς ἐστι καὶ δοκεῖ εἶναι.]

Διὰ τί ἐπὶ κυνὶ νότος πνεῖ; ἢ ὅτι ἐπὶ πᾶσι μὲν σημαίνει τοῖς ἄστροις δυομένοις ἢ ἐπιτέλλουσιν, οὐχ ἥκιστα δὲ ἐπὶ τούτῳ; δῆλον οὖν ὅτι πνεύματα μάλιστα ἐπὶ τούτῳ καὶ μετ’ αὐτόν. ἐπεὶ δὲ πνίγει, καὶ πνεύματα εἰκότως ἐπ’ αὐτῷ τὰ θερμότατα κινεῖται· ὁ δὲ νότος θερμός ἐστιν. ἐπεὶ δὲ - χρόνος. (p. 941b 423.)

Διὰ τί ὁ ζέφυρος πρὸς τὴν δείλην πνεῖ, πρωῒ δὲ οὔ; ἢ αἴτιος μέν ἐστιν ὡς ἐπὶ τὸ πολὺ τῶν πνευμάτων ὁ ἥλιος ἀνατέλλων καὶ δύνων; ὅταν γὰρ ὑγρὸν ὄντα τὸν ἀέρα διαθερμαίνων πέττῃ καὶ διακρίνῃ, εἰς πνεῦμα διακρίνει· ἐὰν δὲ ᾖ πνευματώδης ὁ ἀήρ, ἔτι μᾶλλον ἐκπνευματοῦται ὑπὸ τοῦ ἡλίου. ὅταν μὲν οὖν ἐπ’ ἀνατολῇ ᾖ ὁ ἥλιος, πόρρω ἐστὶ τοῦ ζεφύρου· ἀπὸ γὰρ δυσμῶν πνεῖ. ὅταν δὲ περὶ τὸ δύνειν ἤδη, τότε διακεκριμένον ἐστὶ τὸ πνεῦμα τελέως. ἀπὸ δὲ μέσου ἡμέρας καὶ πρὸς τὴν δείλην συμμετρότατα ἔχει πρὸς τὸ διαθερμᾶναι καὶ διακρῖναι. διὰ ταῦτα δὲ καὶ ὁ ἀπηλιώτης πρωῒ ἄρχεται πνεῖν· τοῦ γὰρ ὑπὲρ γῆς ἀέρος τῆς νυκτὸς ἐξυγραινομένου καὶ τῇ γῇ πλησιάσαντος διὰ βάρος, ἕωθεν διακρίνων αὐτὸν ὁ ἥλιος τὸν καθ’ αὑτὸν κινεῖ πρῶτον. τὸ δὲ ἀπὸ τοῦ ἡλίου πνεῦμα ἀνατέλλοντος ἐντεῦθεν ἀπηλιώτης καλεῖται.

Διὰ τί αἰρομένου τοῦ ἡλίου καὶ αὐξάνεται καὶ πίπτει τὰ πνεύματα; ἢ ὅτι τὸ πνεῦμά ἐστιν ἤτοι τοῦ ἀέρος ἢ τοῦ ἀναχυθέντος ὑγροῦ κίνησις; αὕτη δὲ ὅταν μὲν ἐλάττων ᾖ, ταχὺ καταναλίσκεται ὑπὸ τοῦ ἡλίου, ὥστε οὐ γίνεται πνεῦμα· ὅταν δὲ πλείων, κινεῖται μᾶλλον τοῦ ἡλίου ἀνατείλαντος· ὁ γὰρ ἥλιος ἀρχὴ τῶν κινήσεών ἐστιν.

Διὰ τί ὁ ζέφυρος τῆς δείλης πνεῖ; ἢ ἅπαντα τὰ πνεύματα τοῦ ἡλίου διαχέοντος τὸ ὑγρὸν γίνεται; τότε γὰρ συνεστηκός, ὅταν ἡ τοῦ θερμοῦ δύναμις πλησιάζῃ, ἐξάπτει. ὁ δὲ ζέφυρος ἀφ’ ἑσπέρας πνεῖ. εἰκότως οὖν τῆς δείλης γίνεται· τότε γὰρ ὁ ἥλιος εἰς τὸν τόπον αὐτοῦ ἀφικνεῖται. καὶ ὁ βορέας καὶ ὁ νότος διὰ τοῦτο πλειστάκις πνέουσιν, ὅτι τὸ ἐναντίον ὑπὸ τοῦ ἐναντίου κρατούμενον κατ’ εὐθυωρίαν ἥκιστα δύναται διαμένειν, ἀλλὰ μᾶλλον ἐκ τοῦ πλαγίου. [944b] ὁ μὲν οὖν νότος καὶ βορέας ἐκ τῶν ἐφ’ ἑκάτερα τόπων τῆς τοῦ ἡλίου φορᾶς πνέουσιν, οἱ δὲ ἄλλοι μᾶλλον ἐκ τοῦ κατ’ ἀντικρύ.

Πότερον τὸ πνεῦμα ἀπὸ πηγῆς τινὸς φέρεται ὥσπερ τὸ ὕδωρ, καὶ ταύτης οὐκ ἔστιν ἀνωτέρω αὐτὸ ἐνεχθῆναι, ἢ οὔ; καὶ πότερον ἀπὸ ἑνὸς σημείου ἢ ἀπὸ πλείονος τόπου; ἔνια μὲν οὖν ἐστὶν ὅμοια ἃ καὶ ἐπὶ τῶν ὑδάτων συμβαίνει γίνεσθαι. τό τε γὰρ ὕδωρ, ὅταν εἰς τὸ κάταντες φέρηται, θᾶττον ῥεῖ ἢ ὅταν ἐν τῷ ἐπιπέδῳ καὶ ὁμαλῷ λιμνάζῃ. ὁμοίως δὲ καὶ τὰ πνεύματα· ἐπὶ μὲν γὰρ τοῖς ἄκροις καὶ τοῖς ὑψηλοῖς ἀεὶ ἐν κινήσει ὁ ἀήρ, ἐν δὲ τοῖς κοίλοις ἠρεμεῖ πολλάκις καὶ ἄπνοια γίνεται. ἔτι ἐπὶ τοῖς σφόδρα ὑψηλοῖς ὄρεσιν οὐ γίνεται τὰ πνεύματα, οἷον ἐπὶ τῷ Ἄθῳ καὶ τοῖς ἄλλοις τοῖς τοιούτοις. σημεῖον δέ· ἃ γὰρ ἂν καταλείπωσιν οἱ τῷ προτέρῳ ἔτει θύοντες, εὑρίσκεσθαί φασι διαμένοντα τῷ ὑστέρῳ. δῆλον οὖν ὅτι ὥσπερ ἀπὸ πηγῆς τινὸς καὶ ἡ τοῦ πνεύματος φορὰ γίνεται. εἰς τὸ ἄνω οὖν οὐκέτι δύναται διικνεῖσθαι. διὰ τοῦτο οὖν ἐπὶ τοῖς ὑψηλοῖς τοῦτο συμβαίνει. ὁμοίως δ’ ἂν καὶ ἐπὶ τοῦ ὕδατος εἴη· οὔτε γὰρ ὕδωρ λάβρον οὔτε πνεῦμα ἐξαίσιον ἐν τοῖς ὑψηλοῖς φαίνεται γίνεσθαι.

Διὰ τί ποτε τοῦ μὲν νότου πνέοντος ἡ θάλαττα κυανέα γίνεται, τοῦ δὲ βορέου ζοφώδης; ἢ ὅτι ὁ βορέας ἧττον τὴν θάλατταν ταράττει, τὸ δὲ ἀτακτότερον ἅπαν μέλαν φαίνεται.

Διὰ τί οἱ νότοι μικρὰ μὲν πνέοντες οὐ ποιοῦσιν ἐπίνεψιν [ἤτοι συννέφειαν], μεγάλοι δὲ γενόμενοι ἐπινεφοῦσιν; ἢ διότι μικροὶ μὲν πνέοντες οὐ δύνανται πολλὰ νέφη ποιεῖν; ὀλίγον οὖν τόπον κατίσχουσιν. ὅταν δὲ μεγάλοι γίνωνται, πολλὰ ἀπωθοῦσι, διὸ καὶ δοκοῦσι μᾶλλον ἐπινεφεῖν.

Διὰ τί ὁ μὲν βορέας ἀρχόμενος μέγας, λήγων δὲ μικρός, ὁ δὲ νότος ἀρχόμενος μὲν μικρός, λήγων δὲ μέγας; ἢ ὅτι ὁ μὲν βορέας ἐγγὺς ἡμῶν, ὁ δὲ νότος πόρρω; ὁ μὲν οὖν ὅταν ἄρξηται, εὐθὺς παρ’ ἡμῖν, τοῦ δὲ ἅτε διὰ πολλοῦ χρόνου ἡ ἀρχὴ διασκεδάννυται, καὶ πρὸς ἡμᾶς μικρὸν ἐξικνεῖται αὐτῆς τὸ πρῶτον· τῆς δὲ τελευτῆς τοῦ μὲν αἰσθανόμεθα, τοῦ δὲ ὅλως οὐκ αἰσθανόμεθα. ὥστε εἰκότως ὁ μὲν ἀσθενὴς παυόμενος (ἀσθενὴς γὰρ ἡ τελευτὴ πάντων), ὁ δὲ οὔ· τῆς γὰρ τελευτῆς οὐκέτι αἰσθανόμεθα αὐτοῦ.

[945a] Διὰ τί οὗ μὲν κόλποι εἰσί, τροπαῖαι γίνονται, οὗ δὲ ἀναπεπταμένα πελάγη, οὐ γίνονται; ἢ διότι εἰς μὲν τοὺς κόλπους ῥέον οὐ διασπᾶται τὸ πνεῦμα μᾶλλον, ἀλλ’ ἀθρόον ἐπὶ πολὺ φέρεται, ἐν δὲ τοῖς ἀναπεπταμένοις ἐξ ἀρχῆς τε αἱ ἀπογέαι εὐθὺς διασπῶνται μᾶλλον, καὶ ὅταν ῥέωσι, ταὐτὸ πάσχουσι διὰ τὸ πολλαχῇ ἐξεῖναι ὁρμῆσαι· ἔστι γὰρ ἡ τροπαία ἀπόγεος ἀνάκλασις.

Διὰ τί λέγεται “ἀρχομένου τε νότου καὶ λήγοντος βορέαο;” ἢ διότι ὁ μὲν βορέας, διὰ τὸ ὑπείκειν ἡμᾶς αὐτῷ καὶ εἶναι τὴν οἴκησιν πρὸς ἄρκτον, εὐθὺς μέγα πνεῖ; ἅμα γὰρ ἄρχεται καὶ πάρεστιν. διὸ παυόμενος ἡδὺ πνεῖ· τότε γὰρ ἀσθενὴς πνεῖ. ὁ δὲ νότος διὰ τὸ πόρρωθεν ὕστερον μείζων ἀφικνεῖται.

Διὰ τί ἐν τοῖς νοτίοις βαρύτερον ἔχουσι καὶ ἀδυνατώτερον οἱ ἄνθρωποι; ἢ διότι ἐξ ὀλίγου πολὺ ὑγρὸν γίνεται, διατηκόμενον διὰ τὴν ἀλέαν, καὶ ἐκ πνεύματος κούφου ὑγρὸν βαρύ· εἶτα ἡ δύναμις ἀτονεῖ.

Διὰ τί ἐν τοῖς βορείοις βρωτικώτεροι ἢ ἐν τοῖς νοτίοις; ἢ διότι ψυχρότερα τὰ βόρεια;

Διὰ τί ὁ νότος οὐ πνεῖ κατ’ αὐτὴν τὴν Αἴγυπτον τὰ πρὸς θάλατταν, οὐδ’ ὅσον ἡμέρας δρόμον καὶ νυκτός· τὰ δὲ ὑπὲρ Μέμφεως καὶ ἀποσχόντι δρόμον ἡμέρας καὶ νυκτὸς λαμπρός· καὶ πρὸς ἑσπέραν οὐ πνεῖ, ὅσον δύο ἡμερῶν καὶ νυκτῶν δρόμον, τὰ δὲ πρὸς ἕω λίβες πνέουσιν; ἢ διότι κοίλη τὰ κάτω ἡ Αἴγυπτός ἐστι, διὸ ὑπερπίπτει αὐτῆς, ἄνω δὲ καὶ πόρρω ὑψηλότεροι οἱ τόποι.

Διὰ τί ὁ νότος ἀρχόμενος μὲν μικρός ἐστι, λήγων δὲ μείζων γίνεται, ὁ δὲ βορέας ἀνάπαλιν, διὸ καὶ ἡ παροιμία λέγει εὖ πλεῖν ἀρχομένου τε νότου καὶ λήγοντος βορέαο; ἢ διότι πρὸς ἄρκτον μᾶλλον ἢ πρὸς μεσημβρίαν οἰκοῦμεν, πνεῖ δὲ ὁ μὲν βορέας ἀπὸ τῆς ἄρκτου, ὁ δὲ νότος ἀπὸ τῆς μεσημβρίας. εἰκότως οὖν ὁ μὲν ἀρχόμενος εὐθὺς σφοδρὸς πρόσκειται τοῖς πλησίον τόποις μᾶλλον, καὶ μετὰ ταῦτα μεταλλάττει τὸ σφοδρὸν πρὸς ἐκείνους. ὁ δὲ νότος τοὐναντίον ἀρχόμενος μὲν τοῖς πρὸς μεσημβρίαν οἰκοῦσιν ἔγκειται, ἐπειδὰν δὲ παραλλάξῃ, τοῖς πρὸς ἄρκτον λαμπρὸς καταπνεῖ.

Διὰ τί λέγεται “εἰ δ’ ὁ νότος βορέαν προκαλέσσεται, αὐτίκα χειμών;” ἢ διότι ὁ νότος τοιοῦτός ἐστιν οἷος νεφέλας καὶ ὕδωρ πολὺ συναίρειν; ὅταν οὖν τοιαύτης τῆς καταστάσεως [945b] οὔσης ἐπιπνεύσῃ ὁ βορέας, πολλῆς αὐτῷ ὕλης ὑπαρχούσης πήγνυσι καὶ χειμῶνα ποιεῖ. διὸ λέγεται “εἰ βορρᾶς πηλὸν καταλήψεται, αὐτίκα χειμών.” ὁ δὲ πηλὸς καὶ ὅλως τὰ ὕδατα ὑπὸ τοῦ νότου ἢ μάλιστα ἢ πλειστάκις γίνεται.

Διὰ τί ἐπὶ μὲν τῷ νότῳ ταχὺς ὁ βορέας, ἐπὶ δὲ τούτῳ ὁ νότος οὐ ταχὺς ἐπιπίπτει; ἢ ὅτι τῷ μὲν ἐγγύθεν τῷ δὲ πόρρωθεν ἡ ἄφιξις; ἡ γὰρ οἴκησις πρὸς βορέαν ἡμῶν.

Διὰ τί τὰ πνεύματα ψυχρά ἐστιν, ὄντα ἀπὸ τῆς τοῦ θερμοῦ συγκινήσεως; ἢ οὐ πάντως ἡ ὑπὸ τοῦ θερμοῦ κίνησις θερμὴ γίνεται, ἐὰν μὴ τρόπον τινὰ γίνηται; ἀλλ' ἐὰν μὲν ἀθρόως ἐμπίπτῃ, καίει αὐτὸ τὸ ἀφιὲν θερμή· ἐὰν δὲ διὰ στενοῦ καὶ κατὰ μικρόν, αὐτὴ μὲν θερμή, ὁ δὲ ὑπὸ τούτου κινούμενος ἀήρ, οἷος ἄν ποτε τυγχάνῃ προϋπάρχων, τοιαύτην καὶ τὴν κίνησιν ἀπετέλεσεν, ὥσπερ καὶ ἐπὶ τοῦ σώματος. φασὶ γὰρ ἐκ τοῦ αὐτοῦ θερμὸν καὶ ψυχρὸν ἡμᾶς πνεῖν, τοῦτο δὲ οὐκ ἀληθές, ἀλλὰ τὸ μὲν ἐξιὸν θερμὸν ἀεί. σημεῖον δὲ τὸ ἐγγὺς προσαγαγόντι τοιοῦτον φαίνεσθαι. διαφέρει δὲ ἡ ἔκπτωσις αὐτοῦ. ἐὰν μὲν γὰρ διὰ πολλοῦ ἀφίωμεν χανόντες, θερμὸν φαίνεται διὰ τὸ αὐτοῦ αἰσθάνεσθαι, ἐὰν δὲ διὰ στενοῦ, σφοδρότερον γινόμενον ὠθεῖ τὸν πλησίον ἀέρα, κἀκεῖνος τὸν ἐχόμενον. ψυχροῦ δὲ ὄντος τοῦ ἀέρος καὶ ἡ κίνησις αὐτοῦ ψυχρὰ γίνεται. μήποτε δὲ καὶ ἐπὶ τῶν πνευμάτων τὸ αὐτὸ συμβαίνει, καὶ διὰ στενοῦ ἡ πρώτη κίνησις· εἶτ' ἐκεῖνον μὲν διήνεγκεν, ἕτερος δὲ ἀὴρ ἐπιρρεῖ. διὸ καὶ τοῦ μὲν θέρους θερμά, τοῦ δὲ χειμῶνος ψυχρὰ τὰ πνεύματα, ὅτι ἐν ἑκατέρῳ τοιοῦτος ὁ ἀὴρ ὁ προϋπάρχων· ἐπεὶ ὅτι γε οὔτε αὐτὸς ὑφ' ἑαυτοῦ κινούμενος ὁ ἀὴρ οὔτε ὑπὸ τοῦ θερμοῦ κρατούμενος φέρεται ταύτην τὴν φοράν, δῆλον οὐ μόνον τούτῳ ὅτι θερμαίνει τὰ πνεύματα πλείονος τοῦ θερμοῦ ἐνόντος, ἀλλὰ καὶ ἄνω ἐφέρετο. τὸ γὰρ πῦρ τοιοῦτον, τὸ δὲ ψυχρὸν κάτω πέφυκε φέρεσθαι. τὰ δὲ πνεύματα πλάγια εἰκότως· ἐπεὶ γὰρ τὸ μὲν ἄνω τὸ δὲ κάτω βιάζεται, καὶ οὐδέτερον κρατεῖ, μένειν δὲ οὐχ οἷόν τε, λοξὴν τὴν φορὰν εἰκότως γίνεσθαι.

Διὰ τί οἱ νότοι ἐν τῇ Λιβύῃ ψυχροί, ὥσπερ παρ' ἡμῖν οἱ βορέαι; ἢ πρῶτον μὲν διὰ τὸ ἐγγυτέρω εἶναι ἡμῖν τε κἀκείνοις τὰς ἀρχὰς τῶν πνευμάτων. εἰ γάρ, ὥσπερ εἴπομεν, διὰ στενοῦ γίνεται τὰ πνεύματα, τοῖς ἐγγυτέρω ψυχρότερα ἔσται διὰ τὴν σφοδρότητα τῆς κινήσεως· εἰς [946a] γὰρ τὸ πόρρω προϊούσης διαχεῖται. διὸ καὶ παρ' ἡμῖν οἱ βορέαι ψυχροί, ὅτι ἐγγυτέρω καὶ παντελῶς πρὸς τῇ ἄρκτῳ οἰκοῦμεν.

Διὰ τί οἱ νότοι οἱ ξηροὶ καὶ μὴ ὑδατώδεις πυρετώδεις; ἢ ὅτι ὑγρότητα θερμὴν ἀλλοτρίαν ἐμποιοῦσι τοῖς σώμασιν; εἰσὶ γὰρ ὑγροὶ καὶ θερμοὶ φύσει, τοῦτο δ' ἐστὶ πυρετῶδες· ὁ γὰρ πυρετὸς ὑπ' ἀμφοτέρων τούτων ἐστὶν ὑπερβολῆς. ὅταν μὲν οὖν ὑπὸ τοῦ ἡλίου ἄνευ ὕδατος πνέωσι, ταύτην τὴν τάξιν, ὅταν δὲ ἅμα τῷ ὕδατι, τὸ ὕδωρ καταψύχει.

Διὰ τί οἱ ἐτησίαι ταύτην δὴ τὴν ὥραν ἀεὶ καὶ τοσοῦτοι πνέουσιν; καὶ διὰ τί ληγούσης τῆς ἡμέρας λήγουσι καὶ τῆς νυκτὸς οὐ πνέουσιν; ἢ τοῦτο μὲν διὰ τὸ τὴν χιόνα τηκομένην παύεσθαι ὑπὸ τοῦ ἡλίου πρὸς ἑσπέραν καὶ τὴν νύκτα; ὅλως δὲ πνέουσιν, ὅταν ὁ ἥλιος κρατεῖν καὶ λύειν ἄρξηται τὸν πρὸς βορέαν πάγον. ἀρχομένου μὲν οὖν οἱ πρόδρομοι, ἤδη δὲ λυομένου οἱ ἐτησίαι.

Διὰ τί ὁ ζέφυρος λειότατός τε τῶν ἀνέμων καὶ ψυχρός, καὶ δύο ὥρας πνεῖ μάλιστα, ἔαρ τε καὶ μετόπωρον, καὶ πρὸς ἑσπέραν τῆς ἡμέρας, καὶ ἐπὶ τὴν γῆν μάλιστα; ἢ ψυχρὸς μὲν διὰ τὸ πνεῖν ἀπὸ τῆς θαλάττης καὶ πεδίων ἀναπεπταμένων; ἧττον μὲν οὖν ψυχρὸς τοῦ βορέου διὰ τὸ ἀφ’ ὕδατος πνευματουμένου καὶ μὴ χιόνος πνεῖν, ψυχρὸς δὲ διὰ τὸ μετὰ χειμῶνα, ἄρτι τοῦ ἡλίου κρατοῦντος, πνεῖν. καὶ μετοπώρου, ὅτι οὐκέτι κρατεῖ ὁ ἥλιος· οὐ γὰρ ὥσπερ ἐν γῇ ὑπομένει τὴν ὕλην, ἀλλὰ πλανᾶται διὰ τὸ ἐφ’ ὑγροῦ βεβηκέναι. καὶ ὁμαλὸς διὰ τὸ αὐτό· οὐ γὰρ ἀπὸ ὀρέων πνεῖ, οὐδὲ βίᾳ τηκομένου, ἀλλὰ ῥᾳδίως ὥσπερ δι’ αὐλῶνος ῥέων. τὰ μὲν γὰρ πρὸς βορέαν καὶ νότον ὀρεινά· πρὸς ἑσπέραν δὲ οὔτε ὄρος οὔτε γῆ ἐστίν, ἀλλὰ τὸ Ἀτλαντικὸν πέλαγος, ὥστε ἐπὶ τῆς γῆς φέρεται. καὶ πρὸς ἑσπέραν δὲ τῆς ἡμέρας πνεῖ διὰ τὸν τόπον· τότε γὰρ ὁ ἥλιος πλησιάζει τῷ τόπῳ. καὶ τῆς νυκτὸς παύεται διὰ τὸ ἐκλείπειν τὴν τοῦ ἡλίου κίνησιν.

Διὰ τί, ὅταν ὁ εὖρος πνεῖ, μείζω φαίνεται τὰ πάντα; ἢ ὅτι ζοφωδέστατον τὸν ἀέρα ποιεῖ;

Διὰ τί τὸν μὲν χειμῶνα πρωῒ ἀπὸ τῆς ἕω τὰ πνεύματα πνεῖ, τὸ δὲ θέρος δείλης καὶ ἀπὸ δυσμῶν ἡλίου; ἢ ὅτι ἃ ἡμῖν συμβαίνει τοῦ θέρους, ταῦτα τοῦ χειμῶνος τοῖς τὸ ἐναντίον τῆς γῆς ἡμισφαίριον οἰκοῦσιν, ἡμῖν δὲ τοῦ χειμῶνος πρωῒ καὶ ἀφ’ ἕω τὰ πνεύματα πνεῖ διὰ τὸ τὸν ἀέρα κάθυγρον [946b] ἐν τῇ νυκτὶ διακρίνεσθαι καὶ κινεῖσθαι τὸ πρωῒ ὑπὸ τοῦ ἡλίου, καὶ πρῶτον τὸν ἔγγιστα τοῦ ἡλίου. ποιεῖ δὲ τοῦτο ὁ ἥλιος καὶ πρὸ ἀνατολῆς· διὸ αὖραι οὐχ ἧττον πρὸ ἀνατολῆς πνέουσιν. ἐπειδὴ οὖν καὶ ἐφ’ ἑαυτὸν ἕλκει ὁ ἥλιος τὰ ὑγρὰ καὶ κινεῖ πρὸ ἀνατολῆς τοῦ χειμῶνος ὑγρὸν ὄντα τὸν παρ’ ἡμῖν ἀέρα, δῆλον ὡς καὶ ἐφ’ ἑαυτὸν ἂν ἕλκοι, ὢν ἐν τῷ κάτω ἡμισφαιρίῳ, καὶ δείλη ἐκείνοις ὃ ἡμῖν ἐστὶν ὄρθρος. ὥστε συμβαίνοι ἂν τὸν ὑπὸ τοῦ ἡλίου πρὸ ἀνατολῆς παρ’ ἡμῶν ἐφ’ ἑαυτὸν ἑλκόμενον ἀέρα, τοῦτον τοῖς κάτω γενέσθαι ζέφυρον καὶ δείλης πνεῖν. ὃ δὲ ἐν τῷ παρ’ ἡμῖν χειμῶνι, τῆς ἕω ἐκείνοις συμβαίνει, ὃ δὲ ἐν τῷ θέρει, τῆς δείλης ἡμῖν. ὅτε γὰρ παρ’ ἡμῖν θέρος, ἐκεῖ χειμών ἐστι, καὶ ἡ ἡμετέρα δείλη ἐκείνοις ὄρθρος. καθ’ ἣν ἐκείνοις μὲν αὔρας ἐξ ἑώας συμβαίνει πνεῖν, ἡμῖν δὲ ζεφύρους διὰ ταὐτὰ τοῖς προειρημένοις. τοῦ δὲ θέρους καὶ ἑῷαι μὲν οὐ πνέουσιν, ὅτι εἰς ξηρότερον ἔτι τὸν παρ’ ἡμῖν ἀέρα ὁ ἥλιος ἀνατέλλει διὰ τὸ ὀλίγον χρόνον αὐτοῦ ἀπογεγονέναι· ζέφυροι δὲ οὐ πνέουσι δείλης τοῦ χειμῶνος, ὅτι οὐδ’ ἐν τῷ κάτω ἡμισφαιρίῳ ἑῷοι ταύτην τὴν ὥραν διὰ τὰ προειρημένα, ὅθεν ὁ ἥλιος ἐφ’ ἑαυτὸν ἕλκων τὰ ὑγρὰ τὸν παρ’ ἡμῖν ζέφυρον ποιεῖ.

Διὰ τί ὁ ζέφυρος εὐδιεινὸς καὶ ἥδιστος δοκεῖ εἶναι τῶν ἀνέμων; ἢ ὅτι ἐν μεθορίῳ ἐστὶ τῶν θερμῶν καὶ ψυχρῶν πνευμάτων, γειτνιῶν δὲ ἀμφοῖν τῆς δυνάμεως αὐτῶν κοινωνεῖ· διὸ εὔκρατός ἐστιν. ὁ δὲ ἀπηλιώτης ἧττον κοινωνεῖ, ὢν ἐν τῷ μέσῳ τῶν αὐτῶν. ἀπηλιώτης μὲν γὰρ πνέων τὰ πρὸς νότον πνεύματα κινεῖ (ἐνταῦθα γὰρ ἡ μετάστασις αὐτοῦ ἐστίν), κινῶν δὲ οὐ μίγνυται αὐτοῖς. ὁ δὲ ζέφυρος καὶ κινεῖται ὑπὸ τῶν νότων καὶ πνέων κινεῖ τὰ βόρεια· τελευτᾷ γὰρ ἐνταῦθα ἡ περίοδος τῶν πνευμάτων. διὸ τῶν μὲν τὴν τελευτὴν τῶν δὲ τὴν ἀρχὴν ἔχων ἐν ἑαυτῷ δικαίως ἡδύς ἐστι καὶ δοκεῖ εἶναι.

Διὰ τί ἄλλοις ἄλλοι τῶν ἀνέμων ὑέτιοι, οἷον ἐν μὲν τῇ Ἀττικῇ καὶ ταῖς νήσοις ὁ Ἑλλησποντίας, ἐν Ἑλλησπόντῳ δὲ ὁ βορέας καὶ ἐν Κυρήνῃ, περὶ Λέσβον δὲ νότος; ἢ ὅπου ἂν ἄθροισις νεφῶν, ἐνταῦθα ὕδωρ; ἐνταῦθα γὰρ ἡ πύκνωσις ἀθροίζεται, ὅπου ἂν προκαθίζεσθαι ἔχῃ. διὸ καὶ ἐν τοῖς ὄρεσι μᾶλλον ὕει ἢ ὅπου ἂν τὸ πλῆθος ὑπεξάγειν δύνηται· περικαταλαμβανόμενον γὰρ πυκνοῦται· δεῖ δὲ τοῦτο γενέσθαι. καὶ ἐν ταῖς εὐδίαις μᾶλλον ὕει. ἐν Ἑλλησπόντῳ [947a] μὲν οὖν ἄνωθεν ὁ βορέας πολλὰ συνωθεῖ νέφη, πρὸς δὲ τὴν Ἀττικὴν καὶ τὰς νήσους ὁ Ἑλλησποντίας, ὥσπερ ὕλην ἔχων· καὶ γὰρ περιίσταται τὰ πολλὰ ἐκ τοῦ βορέου. περὶ δὲ Λέσβον ὁ εὖρος καὶ ὁ νότος ἐκ τοῦ πελάγους φέροντες πολλὰ νέφη προσβάλλει τῇ χώρᾳ. τὸν αὐτὸν τρόπον καὶ ἐπὶ τῶν ἄλλων.

Διὰ τί λέγεται “μή ποτ’ ἀπ’ ἠπείρου δείσῃς νέφος ἀλλ’ ἀπὸ πόντου χειμῶνος, θέρεος δὲ ἀπ’ ἠπείροιο μελαίνης;” ἢ διότι τοῦ μὲν χειμῶνος ἡ θάλαττα θερμοτέρα, ὥστε εἴ τι συνέστη, δῆλον ὅτι ἀπ’ ἀρχῆς ἰσχυρᾶς συνέστηκεν· ἐλύθη γὰρ ἂν διὰ τὸ ἀλεεινὸ εἶναι τὸν τόπον. τοῦ δὲ θέρους ἡ μὲν θάλαττα ψυχρά, καὶ τὰ πόντια πνεύματα, ἡ δὲ γῆ θερμή, ὥστε εἴ τι ἀπὸ τῆς γῆς φέρεται, διὰ μείζονος ἀρχῆς συνέστη· διελύθη γὰρ ἄν, εἰ ἀσθενὲς ἦν.

Διὰ τί ἐν τῇ Ἀρκαδίᾳ ὑψηλῇ οὔσῃ τὰ μὲν πνεύματα οὐθὲν ψυχρότερα τῶν παρὰ τοῖς ἄλλοις, ὅταν δὲ νηνεμία ᾖ καὶ ἐπινέφελα, ψυχρά, ὥσπερ ἐν τοῖς ὁμαλέσι τοῖς ἑλώδεσιν; ἢ ὅτι καὶ ἡ Ἀρκαδία ὁμοία γίνεται τοῖς ἑλώδεσιν· οὐ γὰρ ἔχει ἐξόδους τοῖς ὕδασιν εἰς θάλατταν, διὸ καὶ βάραθρα πολλὰ αὐτόθι ἐστίν. ὅταν μὲν οὖν ᾖ ἄνεμος, ἀπορριπίζει τὴν ἐκ τῆς γῆς ἀναθυμίασιν, οὖσαν ψυχράν· αὐτὰ δὲ τὰ πνεύματα οὐ ψυχρὰ διὰ τὸ ἀπὸ τῆς θαλάττης προσβάλλειν· ἐν δὲ ταῖς νηνεμίαις ἀνιοῦσα ἡ ἀτμὶς ἀπὸ τοῦ ἐμμένοντος ὕδατος ποιεῖ τὸ ψῦχος.

Διὰ τί, ἂν ἕωθεν πνεῖν ἄρξηται, διημερεύει μᾶλλον; ἢ διότι ἀρχομένου τοῦ ἡλίου σφοδροτάτη ἡ φορά, διὸ ἐκτείνεται τοιαύτη οὖσα. σημεῖον δὲ ὅτι ἰσχυρὰ ἡ σύστασις.

Διὰ τί βορέας τὴν ἡμέραν μὲν λαμπρός, τὴν δὲ νύκτα πίπτει; ἢ διότι γίνεται ἀπὸ πεπηγότος ὑετοῦ, ὅταν ἀναθυμιᾶται διὰ τὸν ἥλιον; πίπτει δὲ νυκτός, ὅτι οὐχ ἡ αὐτὴ γένεσις, ἀλλὰ τοὐναντίον ποιεῖ· τὰς γὰρ νύκτας ἐκπνεῖ, τὰς δὲ ἡμέρας ἧττον.

Διὰ τί τὰ ἀράχνια τὰ πολλὰ ὅταν φέρηται, πνεύματός ἐστι σημεῖα; πότερον ὅτι ἐργάζεται ὁ ἀράχνης ἐν ταῖς εὐδίαις, φέρεται δὲ διὰ τὸ ψυχόμενον τὸν ἀέρα συνιέναι πρὸς τὴν γῆν, τὸ δὲ ψύχεσθαι ἀρχὴ χειμῶνος· σημεῖον οὖν ἡ φορὰ τῶν ἀραχνίων. ἢ ὅτι μετὰ τὰ ὕδατα καὶ τοὺς χειμῶνας γίνεται τῶν ἀραχνίων ἀθρόα ἡ φορά, ἐν ταῖς εὐδίαις ἐργαζομένων, διὰ τὸ ἐν τῷ χειμῶνι μὴ φαίνεσθαι; [947b] δύσριγον γὰρ τόδε. καὶ φερόμενοι ὑπὸ τοῦ πνεύματος πολὺ ἐκπηνίζονται. μετὰ δὲ τὰ ὕδατα εἴωθε πνεύματα γίνεσθαι ὡς τὰ πολλά.

Διὰ τί οἱ βορέαι μεγάλοι τοῦ χειμῶνος ἐν τοῖς ψυχροῖς τόποις ἐπινέφελοι, ἔξω δὲ αἴθριοι; ἢ ὅτι ἅμα ψυχροί εἰσι καὶ μεγάλοι, ἐγγὺς δὲ μᾶλλον ψυχροί, ὥστε φθάνουσι πηγνύντες πρὶν ἀπῶσαι τὰ νέφη· ὅταν δὲ παγῇ, μένουσι διὰ βάρος. ἔξω δὲ τῷ μεγέθει ἐργάζονται μᾶλλον ἢ τῷ ψυχρῷ.

ΚΖ. ΟΣΑ ΠΕΡΙ ΦΟΒΟΝ ΚΑΙ ΑΝΔΡΕΙΑΝ.

Διὰ τί οἱ φοβούμενοι τρέμουσιν; ἢ διὰ τὴν κατάψυξιν; ἐκλείπει γὰρ τὸ θερμὸν καὶ συστέλλεται· διὸ καὶ αἱ κοιλίαι λύονται τοῖς πολλοῖς.

Διὰ τί οὖν καὶ διψῶσιν ἔνιοι, καθάπερ οἱ μέλλοντες κολάζεσθαι; οὐ γὰρ ἔδει καταψυχομένων. ἢ οὐκ ἐν ταὐτῷ τόπῳ ἡ κατάψυξις καὶ ἡ θερμότης, ἀλλ’ ἡ μὲν ἐν τῷ ἐπιπολῆς, ἔνθεν ἐκλείπει τὸ θερμόν, ἡ δὲ ἐν τῷ ἐντός, ὥστε ἐκθερμαίνει; σημεῖον δὲ καὶ τὸ λύεσθαι τὰς κοιλίας. ἀναξηραινομένου δὴ τοῦ κυρίου τόπου τὸ δίψος. ὅμοιον δὲ ἔοικεν ὥσπερ τοῖς ἠπιαλοῦσιν, οἳ ἅμα τῷ ῥιγοῦν διψῶσιν· οὐδὲ γὰρ ὁ αὐτὸς οὐδ’ ἐκεῖ τόπος ψύχεται καὶ θερμαίνεται.

Διὰ τί ἐν μὲν τοῖς θυμοῖς εἰς τὸ ἐντὸς ἀθροιζομένου τοῦ θερμοῦ διάθερμοι καὶ θαρραλέοι, ἐν δὲ τοῖς φόβοις ἀνάπαλιν; ἢ οὐκ εἰς τὸν αὐτὸν τόπον, ἀλλὰ τοῖς μὲν ὀργιζομένοις περὶ τὴν καρδίαν, διὸ καὶ θαρρητικοὶ καὶ ἐν ἐρυθήματι καὶ πνεύματος πλήρεις, ἄνω τῆς φορᾶς οὔσης, τοῖς δὲ φοβουμένοις κάτω συμφευγόντων τοῦ αἵματος καὶ τοῦ θερμοῦ, διὸ καὶ ἡ λύσις τῶν κοιλιῶν· ἐπεὶ καὶ ἡ τῆς καρδίας πήδησις οὐχ ὁμοία, ἀλλὰ τοῖς μὲν ὡς ἂν διὰ τὴν ἔκλειψιν πυκνὴ καὶ νυγματώδης, τοῖς δὲ ὡς ἂν ἀθροιζομένου πλείονος θερμοῦ· διὸ καὶ τὸ ἀναζεῖν καὶ τὸ ὀρίνεσθαι τὸν θυμὸν καὶ ταράττεσθαι, καὶ ὅσα τοιαῦτα λέγουσιν οὐ κακῶς ἀλλ’ οἰκείως. ἆρ’ οὖν καὶ διὰ τοῦτο τὸ δίψος, ἐπεὶ τό γε ξηρὸν πτύειν καὶ ὁ σαυσαρισμὸς καὶ τὰ τοιαῦτα γίνεται διὰ τὴν ἀναφορὰν τοῦ πνεύματος ἅμα καὶ θερμοῦ. καὶ τὸ δίψος δὲ δῆλον ὡς ἐκθερμαινομένου τοῦ σώματος. πῶς οὖν ὁ αὐτὸς τόπος ἀναξηραίνεται ἀμφοῖν, ᾧ διψῶμεν, καὶ τῷ φοβουμένῳ καὶ τῷ ὀργιζομένῳ; ὁ δὲ φόβος ὅτι διψητικόν, καὶ [948a] οἱ ἐν ταῖς τροπαῖς δηλοῦσιν· οὐδαμοῦ γὰρ οὕτω διψῶσιν. καὶ οἱ ἀγωνιῶντες δὲ σφόδρα· διὸ καὶ διακλύζονται καὶ ἐπιρροφοῦσι, καθάπερ Παρμένων ὁ ὑποκριτής. ἢ τούτοις μὲν οὐκ ἔστι δίψος, ἀλλὰ ξηρότης πεφευγότος τοῦ αἵματος, ὅθεν καὶ ὠχροί; σημεῖον δὲ τὸ μὴ πίνειν πολύ, ἀλλὰ καὶ βροχθίσαι. οἱ δ’ ἐν ταῖς τροπαῖς μετὰ πόνου. διὸ διψῶσι καὶ οἱ μέλλοντες κολάζεσθαι· καὶ οὐθὲν ἄτοπον. ἐν δὲ τοῖς πολεμικοῖς ἔνιοι καὶ τῶν ἀνδρείων, ὅταν διασκευασθῶσι, καὶ τρέμουσιν οὐκ ἐξεστηκότες ἀλλὰ θαρροῦντες· ὧν εἰώθασι μαστιγοῦν τὸ σῶμα πλατεῖ νάρθηκι, εἰ δὲ μή, ταῖς χερσὶν ἀναθερμανθέντες. ἔοικε δὴ διὰ τὴν ὀξύτητα καὶ τὴν φορὰν τοῦ θερμοῦ ἀνωμαλία τις εἶναι περὶ τὸ σῶμα ταραχώδης.

Διὰ τί οἱ ἀνδρεῖοι ὡς ἐπὶ τὸ πολὺ φίλοινοι; ἢ ὅτι οἱ ἀνδρεῖοι θερμοί, ἡ δὲ θερμότης περὶ τὰ στήθη. ἐνταῦθα γὰρ καὶ ὁ φόβος φαίνεται, γινόμενος κατάψυξίς τις. ὥστε περὶ τὴν καρδίαν ἧττον μὲν μένει, τοῖς δὲ πηδᾷ ψυχομένη. ὅσοι οὖν τὸν πνεύμονα ἔχουσιν ἔναιμον, θερμὸν ἔχουσι τοῦτον ὥσπερ οἰνωμένοι, ὥστε οὐ ψύχει ἡ φαντασία τοῦ δεινοῦ. οἱ δὲ τοιοῦτοι καὶ φιλοπόται. ἥ τε γὰρ τοῦ ποτοῦ ἐπιθυμία διὰ τὴν τούτου τοῦ μορίου θερμότητά ἐστιν (εἴρηται δὲ περὶ αὐτοῦ ἐν ἄλλοις) καὶ τοῦ παυστικοῦ ἡ ἐπιθυμία. ὁ δὲ οἶνος θερμὸς μὲν τὴν φύσιν, παύει δὲ τὴν δίψαν μᾶλλον τοῦ ὕδατος, καὶ μάλιστα τῶν αὐτῶν· δι’ ἣν αἰτίαν, εἴρηται ἐν ἄλλοις. διὸ καὶ οἱ ἐν τῇ περιπνευμονίᾳ καὶ οἱ μαινόμενοι ἀμφότεροι ἐπιθυμοῦσιν οἴνου· καίτοι τῶν μὲν διὰ τὴν θερμασίαν θερμὸς ὁ πνεύμων, τῶν δὲ διὰ τὴν ταραχήν. ἐπεὶ οὖν οἱ αὐτοὶ ὡς ἐπὶ τὸ πολὺ τῷ γένει διψητικοὶ καὶ ἀνδρεῖοι, οἴνου δὲ οἱ διψητικοὶ ἐπιθυμητικοί, οἱ δὲ τοιοῦτοι φιλοπόται, ἀναγκαῖον ὡς ἐπὶ τὸ πολὺ παρακολουθεῖν ἀλλήλοις τὰς φύσεις. διὸ καὶ οἱ οἰνωμένοι ἀνδρειότεροι τῶν μή.

Διὰ τί μάλιστα τὴν ἀνδρείαν τιμῶσιν αἱ πόλεις, οὐ βελτίστην οὖσαν τῶν ἀρετῶν; ἢ ὅτι διατελοῦσιν ἢ πολεμοῦντες ἢ πολεμούμενοι, αὕτη δὲ ἐν ἀμφοῖν χρησιμωτάτη ἐστίν. τιμῶσι δὲ οὐ τὰ βέλτιστα, ἀλλὰ τὰ αὑτοῖς βέλτιστα.

Διὰ τί οἱ φοβούμενοι μάλιστα τρέμουσι τὴν φωνὴν καὶ τὰς χεῖρας καὶ τὸ κάτω χεῖλος; ἢ διότι ἔκλειψίς ἐστι τὸ πάθος θερμοῦ ἐκ τῶν ἄνω τόπων· διὸ καὶ ὠχριῶσιν. διὰ μὲν οὖν τὸ ἐκ τοῦ στήθους ἡ φωνὴ τρέμει, ψυχομένου ᾧ κινεῖται. ὁμοίως δὲ καὶ αἱ χεῖρες· ἐκ τοῦ στήθους γὰρ ἤρτηνται. τὸ δὲ [948b] κάτω χεῖλος, ἀλλ’ οὐ τὸ ἄνωθεν, κάτω κρέμαται ᾗ ῥέπει· τὸ δὲ κάτωθεν ἄνω παρὰ φύσιν, ἀλλ’ ὑπὸ τοῦ θερμοῦ ἄνω ἠρεμεῖ· οὗ ὑφαιρουμένου διὰ τὸ ψύχεσθαι τρέμει. καὶ ἐν τοῖς θυμοῖς δὲ διὰ τὸ αὐτὸ ἀποκρεμάννυται τὸ χεῖλος. δῆλον δὲ ἐπὶ τῶν παιδίων· συνθεῖ γὰρ εἰς τὴν καρδίαν τὸ θερμόν.

Διὰ τί οἱ φοβούμενοι τρέμουσι, καὶ μάλιστα τὴν φωνὴν καὶ τοῦ σώματος τὰς χεῖρας καὶ τὸ κάτω χεῖλος; ἢ διότι ἐκ τούτου τοῦ τόπου ἐκλείπει τὸ θερμὸν ἐν ᾧ ἡ φωνή; τὸ δὲ χεῖλος καὶ τὰς χεῖρας, ὅτι εὐκινητότατα καὶ ἥκιστα ἔναιμα. καὶ προΐενται μὲν τὴν χολήν, συσπῶσι δὲ τὰ αἰδοῖα, προΐενται μὲν διὰ τὸ συντήκειν τὸ καταβαῖνον θερμόν, ἀνασπῶσι δέ, ὅτι ἔξωθεν φόβος· εἰς τοὐναντίον οὖν ἡ φυγή.

Διὰ τί οἱ φοβούμενοι καὶ διψῶσι καὶ ῥιγῶσιν; ταῦτα δὲ ἐναντία τὰ πάθη. ἢ ῥιγοῦσι μὲν ψυχόμενοι, διψῶσι δὲ θερμαινόμενοι; διότι ἐν τῷ φοβεῖσθαι τὸ θερμὸν ἐκλείπει καὶ τὸ ὑγρὸν ἐκ τῶν ἄνω τόπων. δηλοῖ δὲ τὸ χρῶμα καὶ αἱ κοιλίαι· τὸ μὲν γὰρ πρόσωπον ὠχρόν, αἱ δὲ κοιλίαι ἐνίοτε λύονται. διὰ μὲν οὖν τὸ ἐκλείπειν τὸ θερμὸν ἐκ τῶν ἄνωθεν τὸ ῥῖγος γίνεται, διὰ δὲ τὸ ὑγρὸν ἡ δίψα.

Διὰ τί τοῦ τε φόβου λύπης τινὸς ὄντος καὶ τῆς ἀλγηδόνος, οἱ μὲν ἀλγοῦντες ἀναβοῶσιν, οἱ δὲ φοβούμενοι σιωπῶσιν; ἢ οἱ μὲν ἀλγοῦντες κατέχουσι τὸ πνεῦμα (διὸ ἀθρόον ἐξιὸν μετὰ φωνῆς ἐξέρχεται), τῶν δὲ φοβουμένων κατέψυκται τὸ σῶμα καὶ τὸ θερμὸν κάτω ἐνήνεκται, ὃ ποιεῖ πνεύματα. ᾗ οὖν ἐνήνεκται μάλιστα, ἐνταῦθα καὶ ποιεῖ αὐτά. διὸ καὶ ἀποψοφοῦσιν οἱ φοβούμενοι. ἡ δὲ φωνή ἐστι φορὰ πνεύματος ἄνω πως καὶ διά τινων γινομένη. τοῦ δὲ τοὺς ἀλγοῦντας κατέχειν τὸ πνεῦμα αἴτιον, ὅτι ταῖς ἐνυπαρχούσαις ἡμῖν βοηθείαις φύσει εὐθὺς πάντες παθόντες ἄνευ λογισμοῦ χρώμεθα, καθάπερ καὶ τὰ ἄλλα ζῷα· τὰ μὲν γὰρ κέρασι, τὰ δὲ ὀδοῦσι, τὰ δὲ ὄνυξιν ἀμύνεται. πρὸς δὲ τὰ ἀλγήματα πάντα ἢ τὰ πλεῖστα βοηθεῖ ἡ θερμότης. ὃ ποιεῖ ὁ κατέχων τὸ πνεῦμα· θερμαίνει γὰρ καὶ ἐκπέττει τὸ ἄλγημα, συστέλλων ἐντὸς τὸ θερμὸν τῷ πνεύματι.

Διὰ τί τοῖς φοβουμένοις αἱ κοιλίαι λύονται καὶ οὐρητιῶσιν; ἢ τὸ θερμὸν τὸ ἐν ἡμῖν ἐστὶν ὥσπερ ζῷον; τοῦτ' οὖν φεύγει ὅ τι ἂν φοβηθῇ. ἔξωθεν οὖν γινομένων τῶν τε ὑπὸ τῆς ἀγωνίας φόβων καὶ τῶν τοιούτων, καὶ ἐκ τῶν ἄνωθεν εἰς τὰ κάτω καὶ ἐκ τῶν ἐπιπολῆς εἰς τὰ ἐντός, ἐκθερμαινόμενοι [949a] δὲ οἱ περὶ τὴν κοιλίαν τόποι καὶ τὴν κύστιν διαλύονται, καὶ ποιοῦσιν αὐτὰς εὐτρεπεῖς. καὶ γὰρ τὰ ἄνηθα καὶ τὰ ἀψίνθια, καὶ ὅσα οὐρητικά, θερμαντικά. ὁμοίως δὲ καὶ τὰ πρὸς τὴν κοιλίαν φάρμακα, τὰ κάτω θερμαντικά· καὶ τὰ μὲν τῶν εἰσενεχθέντων μόνων λυτικά, τὰ δὲ καὶ ἑτέραν σύντηξιν ποιεῖ, οἷον τὸ σκόροδον εἰς τὸ οὖρον. τὸ αὐτὸ δὲ τοῖς τοιούτοις ἡ ἐκ τῶν ἐπιπολῆς θερμασία εἰς τούτους τοὺς τόπους συνιοῦσα δρᾷ.

Διὰ τί οἱ φοβούμενοι συσπῶσι τὰ αἰδοῖα; εἰκὸς γὰρ ἦν τοὐναντίον, τοῦ θερμοῦ εἰς τοῦτον τὸν τόπον ἀθροιζομένου τῶν φοβουμένων, ἀνίεσθαι αὐτά. ἢ οἱ φοβούμενοι σχεδὸν ἅπαντες ὥσπερ ῥιγοῦντές εἰσιν; ἐκλελοιπότος οὖν ἐκ τῶν ἐπιπολῆς τοῦ θερμοῦ συσπῶσιν. διὸ καὶ βομβυλιάζουσιν οἱ δεινῶς δεδιότες. δοκεῖ δὲ συσπᾶν τὸ ἐπιπολῆς καὶ τὸ δέρμα τῶν ῥιγούντων, ἅτε τοῦ θερμοῦ ἐκκεκριμένου· διὸ καὶ φρίττουσιν. συσπᾶται δὲ καὶ ἡ ὀσχέα τοῦ αἰδοίου ἄνω, καὶ συνεφέλκονται καὶ οἱ ὄρχεις αὐτοῖς συστελλομένων. θᾶττον δὲ φαίνεται ἐπὶ τῶν ἀφροδισίων· ὁ γὰρ φόβος ἐκκρίνει, καὶ πολλοῖς τῶν ἀγωνιώντων καὶ τῶν περιφόβων συγκινεῖ ἡ τῆς γονῆς πρόεσις.

ΚΗ. ΟΣΑ ΠΕΡΙ ΣΩΦΡΟΣΥΝΗΝ ΚΑΙ ΑΚΟΛΑΣΙΑΝ, ΚΑΙ ΕΓΚΡΑΤΕΙΑΝ ΚΑΙ ΑΚΡΑΣΙΑΝ.

Διὰ τί ἔνιοι κάμνουσιν, ὅταν ἐθισθέντες ἀκολάστως ζῆν μὴ ἀκολάστως διαιτῶνται, οἷον Διονύσιος ὁ τύραννος, ἐπεὶ ἐν τῇ πολιορκίᾳ ἐπαύσατο πίνων ὀλίγον τινὰ χρόνον, εὐθὺς ἐφθισίασεν, ἕως πάλιν εἰς τὴν μέθην μετέβαλεν. ἢ μέγα μέν τι καὶ τὸ ἔθος ἐστὶν ἑκάστοις· φύσις γὰρ ἤδη γίνεται. καθάπερ ἂν ἰχθὺς ἐν ἀέρι ἢ ἄνθρωπος ἐν ὕδατι διατελῶν φαύλως ἂν ἴσχοι, οὕτω καὶ οἱ τὰ ἔθη μεταβάλλοντες χαλεπῶς ἀπαλλάττουσιν, καὶ τὸ πάλιν εἰς τὰ εἰωθότα ἐλθεῖν σωτηρία γίνεται αὐτοῖς ὥσπερ εἰς φύσεως κατάστασιν. ἔτι δὲ καὶ συντηκτικοὶ γίνονται, εἰωθότες τροφῇ χρῆσθαι δαψιλεῖ τῇ ἰδίᾳ· μὴ λαμβάνοντες γὰρ τὴν εἰωθυῖαν ὥσπερ ὅλως μὴ λαμβάνοντες διατίθενται. οὐ μὴν ἀλλὰ καὶ τὰ περιττώματα τροφῇ μεμιγμένα πολλῇ ἀφανίζεται, αὐτὰ δὲ ἐπιπολάζει μόνα ὄντα, καὶ φέρεται εἰς ὄμματα ἢ πνεύμονα· προσενεγκαμένοις δὲ τροφὴν κατακεραννύμενα ὑδαρῆ [949b] γίνεται καὶ ἀβλαβῆ. γίνεται δὲ τοῖς ἀκολάστως ζῶσι πλείω τὰ περιττώματα ἄχρι τινὸς λήξασι τοῦ εἰωθότος βίου, διὰ τὸ πολλὴν ἀκαταχώριστον ἐν αὐτοῖς ὕλην ὑπάρχειν ἐκ τοῦ προτέρου βίου, ἧς τηκομένης ὑπὸ τοῦ συμφύτου θερμοῦ, καθάπερ χιόνος πολλῆς, ῥεύματα ἁδρὰ συμβαίνει γίνεσθαι.

Διὰ τί κατὰ δύο μόνας αἰσθήσεις ἀκρατεῖς λέγομεν, οἷον ἁφὴν καὶ γεῦσιν; ἢ διὰ τὰς ἀπὸ τούτων γινομένας ἡδονὰς ἡμῖν καὶ τοῖς ἄλλοις ζῴοις; ἅτε οὖν κοιναὶ οὖσαι ἀτιμόταταί εἰσι, διὸ καὶ μάλιστα ἢ μόναι ἐπονείδιστοί εἰσιν. ὥστε τὸν ὑπὸ τούτων ἡττώμενον ψέγομεν καὶ ἀκρατῆ καὶ ἀκόλαστον εἶναι φαμέν, διὰ τὸ ὑπὸ τῶν χειρίστων ἡδονῶν ἡττᾶσθαι.

Διὰ τί ἀκρατεῖς λέγονται κατὰ τὰς ἐπιθυμίας μόνον, οὔσης τῆς ἀκρασίας καὶ περὶ τὴν ὀργήν; ἢ ὅτι ἀκρατὴς μέν ἐστιν ὁ παρὰ τὸν λόγον τι πράττων καὶ ἀκρασία ἡ παρὰ τὸν λόγον ἀγωγή, εἰσὶ δὲ αἱ μὲν ἐπιθυμίαι ὡς ἐπίπαν εἰπεῖν παρὰ τὸν λόγον, αἱ δὲ ὀργαὶ μετὰ λόγου, οὐχ ὡς κελεύσαντος τοῦ λόγου, ἀλλ' ὡς δηλώσαντος τὸν προπηλακισμὸν ἢ τὴν αἰτίαν.

Διὰ τί τὴν μὲν ἐγκράτειαν καὶ τὴν σωφροσύνην ἐπὶ τῶν νέων καὶ πλουσίων μάλιστα ἐξετάζομεν, τὴν δὲ δικαιοσύνην ἐπὶ τῶν πενήτων; ἢ ὅτι οὗ μάλιστα δεῖταί τις, εἰ τούτου ἀπέχεται, μᾶλλον θαυμάζοιτ' ἂν ἢ τῶν ἐναντίων; ὁ μὲν οὖν πένης εὐπορίας δεῖται, ὁ δὲ νέος καὶ πλούσιος ἀπολαύσεως.

Διὰ τί ἧττον ἀνέχονται διψῶντες ἢ πεινῶντες; πότερον ὅτι λυπηρότερον; σημεῖον δὲ τοῦ λυπηροτέρου, ὅτι ἥδιον τὸ διψῶντα πιεῖν ἢ πεινῶντα φαγεῖν. τὸ δὲ ἐναντίον τῷ ἡδεῖ λυπηρότερον. ἢ διότι μᾶλλον δεῖται τὸ θερμὸν τοῦ ὑγροῦ ἢ τὸ ξηρὸν ᾧ ζῶμεν; ἢ ὅτι δυοῖν ἡ δίψα ἐπιθυμία, ποτοῦ καὶ τροφῆς, ἡ δὲ πεῖνα ἑνὸς μόνου, τροφῆς;

Διὰ τί ἧττον καρτεροῦμεν διψῶντες ἢ πεινῶντες; ἢ διότι λυπούμεθα μᾶλλον; σημεῖον δὲ τῆς λύπης ἡ ἡδονὴ σφοδροτέρα. εἶτα ὁ μὲν διψῶν δυοῖν ἐνδεής, τροφῆς τε καὶ καταψύξεως (ἄμφω γὰρ ἔχει τὸ ποτόν), ὁ δὲ πεινῶν θατέρου μόνον.

Διὰ τί οἱ κατὰ τὴν τῆς ἁφῆς ἢ γεύσεως ἡδονήν, οὗ ἂν ὑπερβάλλωσιν, ἀκρατεῖς λέγονται; οἵ τε γὰρ περὶ τὰ [950a] ἀφροδίσια ἀκόλαστοι, οἵ τε περὶ τὰς τῆς τροφῆς ἀπολαύσεις. τῶν δὲ κατὰ τὴν τροφὴν ἀπ’ ἐνίων μὲν ἐν τῇ γλώττῃ τὸ ἡδύ, ἀπ’ ἐνίων δὲ ἐν τῷ λάρυγγι, διὸ καὶ Φιλόξενος γεράνου φάρυγγα εὔχετο ἔχειν. οἱ δὲ κατὰ τὴν ὄψιν καὶ τὴν ἀκοὴν οὐκέτι. ἢ διὰ τὸ τὰς ἀπὸ τούτων γινομένας ἡδονὰς κοινὰς εἶναι ἡμῖν καὶ τοῖς ἄλλοις ζῴοις; ἅτε οὖν οὖσαι κοιναὶ ἀτιμόταταί εἰσι καὶ μάλιστα ἢ μόναι ἐπονείδιστοι, ὥστε τὸν ὑπὸ τούτων ἡττώμενον ψέγομεν καὶ ἀκρατῆ καὶ ἀκόλαστον λέγομεν διὰ τὸ ὑπὸ τῶν χειρίστων ἡδονῶν ἡττᾶσθαι. οὐσῶν δὲ τῶν αἰσθήσεων πέντε, τά τε ἄλλα ζῷα ἀπὸ δύο μόνων τῶν προειρημένων ἥδεται, κατὰ δὲ τὰς ἄλλας ἢ ὅλως οὐχ ἥδεται ἢ κατὰ συμβεβηκὸς τοῦτο πάσχει. ὁρῶν μὲν γὰρ ὁ ὁρῶν, ἢ καὶ ὀσφραινόμενος, χαίρει ὅτι ἀπολαύει· καὶ ὅταν πληρωθῇ, οὐδὲ τὰ τοιαῦτα ἡδέα αὐτῷ, ὥσπερ οὐδὲ ἡμῖν ἡ τοῦ ταρίχου ὀδμή, ὅταν ἅδην ἔχωμεν τοῦ φαγεῖν. ὅταν δὲ ἐνδεεῖς ὦμεν, ἡδέα. ἡ δὲ τοῦ ῥόδου ἀεὶ ἡδεῖα.

Διὰ τί ἧττον κατέχουσι τὸν γέλωτα παρόντων τῶν γνωρίμων; ἢ ὅταν σφόδρα ἐξηρτημένον ᾖ τι, εὐκίνητόν ἐστιν; ἡ δ’ εὔνοια εἰπεῖν μᾶλλον γελοῖον, ὥστε κινεῖ.

ΚΘ. ΟΣΑ ΠΕΡΙ ΔΙΚΑΙΟΣΥΝΗΝ ΚΑΙ ΑΔΙΚΙΑΝ.

Διὰ τί μείζονος ὄντος ἀδικήματος, ἐάν τις βλάπτῃ εἰς τὸ μεῖζον ἀγαθόν, τῆς δὲ τιμῆς οὔσης μείζονος ἀγαθοῦ, ἡ τῶν χρημάτων ἀδικία μᾶλλον δοκεῖ, καὶ οἱ ἄδικοι μᾶλλον εἶναι δοκοῦσι περὶ τὰ χρήματα; ἢ διότι αἱροῦνται τὰ χρήματα μᾶλλον τῆς τιμῆς, καὶ πᾶσίν ἐστι κοινότατον, ἡ δὲ τιμὴ ὀλίγοις, καὶ ὀλιγάκις συμβαίνει ἡ χρῆσις αὐτῆς.

Διὰ τί παρακαταθήκην δεινότερον ἀποστερεῖν ἢ δάνειον; ἢ ὅτι αἰσχρὸν ἀδικεῖν φίλον. ὁ μὲν οὖν τὴν παρακαταθήκην ἀποστερῶν φίλον ἀδικεῖ· οὐδεὶς γὰρ παρακατατίθεται μὴ πιστεύων. οὗ δὲ τὸ χρέος, οὐ φίλος· οὐ γὰρ δανείζει, ἐὰν ᾖ φίλος, ἀλλὰ δίδωσιν. ἢ ὅτι μεῖζον τὸ ἀδίκημα· πρὸς γὰρ τῇ ζημίᾳ καὶ τὴν πίστιν παραβαίνει, δι’ ἥν, εἰ καὶ μηδὲν ἕτερον, δεῖ ἀπέχεσθαι τοῦ ἀδικεῖν. ἔτι τὸ μὴ τοῖς ἴσοις ἀμύνεσθαι φαῦλον· ὁ μὲν οὖν ἔδωκεν ὡς φίλῳ, ὁ δὲ ἀπεστέρησεν ὡς ἐχθρόν· ὁ δὲ δανείζων οὐχ ὡς φίλος ἔδωκεν. ἔτι τῶν μὲν ἡ δόσις φυλακῆς καὶ ἀποδόσεως χάριν, τῶν δὲ καὶ ὠφελείας· ἧττον δὲ ἀγανακτοῦμεν ἀποβάλλοντες, εἰ κέρδος θηρεύομεν, [950b] οἷον οἱ ἁλιεῖς τὰ δελέατα· προφανὴς γὰρ ὁ κίνδυνος. ἔτι παρακατατίθενται μὲν ὡς ἐπὶ τὸ πολὺ οἱ ἐπιβουλευόμενοι καὶ ἀτυχοῦντες, δανείζουσι δὲ οἱ εὐποροῦντες· δεινότερον δέ ἐστι τὸν ἀτυχοῦντα ἢ τὸν εὐτυχοῦντα ἀδικεῖν.

Διὰ τί ἐνίοις δικαστηρίοις τοῖς γένεσι μᾶλλον ἢ ταῖς διαθήκαις ψηφιοῦνται; ἢ ὅτι γένους μὲν οὐκ ἔστι καταψεύσασθαι, ἀλλὰ τὸ ὂν ἀποφαίνειν· διαθῆκαι δὲ πολλαὶ ψευδεῖς ἤδη ἐξηλέγχθησαν οὖσαι.

Διὰ τί ἡ πενία παρὰ τοῖς χρηστοῖς τῶν ἀνθρώπων μᾶλλον ἢ παρὰ τοῖς φαύλοις ἐστίν; ἢ διὰ τὸ ὑπὸ πάντων μισεῖσθαι καὶ ἐξελαύνεσθαι πρὸς τοὺς ἐπιεικεῖς καταφεύγει, οἰομένη μάλιστα παρὰ τούτοις σωτηρίας τυχεῖν καὶ διαμεῖναι· εἰ δὲ πρὸς πονηροὺς ἔλθοι, οὐκ ἂν διαμεῖναι ἐν τῇ αὐτῇ δυνάμει αὐτούς, ἀλλ’ ἢ κλέπτειν ἢ ληΐζεσθαι, ὧν γινομένων οὐκ ἂν ἔτι εἶναι αὐτὴν παρ’ αὐτοῖς. ἢ ὅτι τοὺς ἐπιεικεῖς οἴεται τῶν ἀνθρώπων ἄριστα ἂν αὐτῇ χρῆσθαι, καὶ ἥκιστα ἂν ὑβρισθῆναι ὑπ’ αὐτῶν. καθάπερ οὖν τὰς τῶν χρημάτων παρακαταθήκας πρὸς τοὺς ἐπιεικεῖς τιθέμεθα, οὕτω καὶ αὐτὴ ὑπὲρ αὑτῆς διατάττεται. ἢ ὅτι θήλεια οὖσα ἀπορωτέρα ἐστίν, ὥστε τῶν ἐπιεικῶν δεῖται. ἢ ὅτι αὐτὴ κακὸν οὖσα πρὸς τὸ κακὸν οὐκ ἂν ἔλθοι· εἰ γὰρ τὸ κακὸν ἕλοιτο, παντάπασιν ἂν δυσίατον εἴη.

Διὰ τί οὐχ ὁμοίως αἱ ἀδικίαι μείζους περὶ τὰ ῥήματα καὶ τὰ ἄλλα, οἷον ὁ μικρὸν εἰπὼν οὐκ ἂν καὶ τὸ ἀπόρρητον εἴποι, ἀλλ’ ὁ ἕνα προδοὺς καὶ πόλιν, ὥσπερ ὁ ὀβολὸν ἀποστερήσας καὶ τάλαντον; ἢ ὅτι ἀπὸ μείζονος ἀδικίας ἔνια ἐλάττω ἐστὶ δι’ ἀδυναμίαν.

Διὰ τί παρακαταθήκην αἰσχρὸν ἀποστερῆσαι μικρὰν ἢ πολὺ δανεισάμενον; ἢ ὅτι ὁ τὴν παρακαταθήκην ἀποστερῶν τὸν ὑπολαβόντα εἶναι αὐτὸν ἐπιεικῆ ἐξαπατᾷ; ἢ ὅτι ὁ τοῦτο κἂν ἐκεῖνο ποιήσειεν;

Διὰ τί ἄνθρωπος μάλιστα παιδείας μετέχων ζῴων ἁπάντων ἀδικώτατόν ἐστιν; ἢ ὅτι πλείστου λογισμοῦ κεκοινώνηκεν; μάλιστα οὖν τὰς ἡδονὰς καὶ τὴν εὐδαιμονίαν ἐξήτακεν· ταῦτα δ’ ἄνευ ἀδικίας οὐκ ἔστιν.

Διὰ τί ὁ πλοῦτος ὡς ἐπὶ τὸ πολὺ παρὰ τοῖς φαύλοις μᾶλλον ἢ τοῖς ἐπιεικέσιν ἐστίν; ἢ διότι τυφλὸς ὢν τὴν διάνοιαν οὐ δύναται κρίνειν οὐδὲ αἱρεῖσθαι τὸ βέλτιστον;

[951a] Διὰ τί δικαιότερον εἶναι νενόμισται τοῖς τετελευτηκόσιν ἢ τοῖς ζῶσιν ἐπαμύνειν; ἢ ὅτι οἱ μὲν ζῶντες δύναιντ’ ἂν αὐτοῖς ἐπαρκέσαι, ὁ δὲ τετελευτηκὼς οὐκέτι;

Διὰ τί ὑγιαίνοντι μὲν ὁ συνὼν οὐδὲν ὑγιέστερος γίνεται, οὐδὲ ἰσχυρῷ ἢ καλῷ εἰς τὰς ἕξεις ἐπιδίδωσιν οὐθέν, δικαίῳ δὲ καὶ σώφρονι καὶ ἀγαθῷ; ἢ διότι τὰ μὲν ἀμίμητα τὰ δὲ μιμητὰ τῇ ψυχῇ; ἀγαθὸς δὲ τῇ ψυχῇ, ὑγιὴς δὲ τῷ σώματι· ἐθίζεται οὖν χαίρειν ὀρθῶς καὶ λυπεῖσθαι. ὁ δὲ ὑγιεῖ συνὼν οὐκέτι· οὐ γὰρ ἐν τῷ τισὶ χαίρειν ἢ μὴ ὁ ὑγιής· οὐθὲν γὰρ τούτων ποιεῖ ὑγίειαν.

Διὰ τί δεινότερον γυναῖκα ἀποκτεῖναι ἢ ἄνδρα; καίτοι βέλτιον τὸ ἄρρεν τοῦ θήλεος φύσει. ἢ διότι ἀσθενέστερον, ὥστε ἐλάττω ἀδικεῖ. ἢ ὅτι οὐ νεανικὸν τὸ ἰσχυρίζεσθαι πρὸς τὸ πολὺ ἧττον;

Διὰ τί ποτε τῷ φεύγοντι ἐν τῷ δικαστηρίῳ τὴν δεξιὰν στάσιν διδόασιν; ἢ διότι ἐπανισοῦν βούλονται; πλεονεκτοῦντος οὖν τοῦ διώκοντος τὴν στάσιν τῷ φεύγοντι διδόασιν. εἶθ’ ὡς ἐπὶ τὸ πολὺ οἱ φεύγοντες παραφυλάττονται· ἐπὶ δεξιὰ δὲ ἡ φυλακὴ γίνεται, ἐὰν ὁ φεύγων ἔχῃ τὴν ἐν δεξιᾷ στάσιν.

Διὰ τί ποτε, ὅταν τῷ φεύγοντι καὶ τῷ διώκοντι φαίνωνται αἱ ψῆφοι ἴσαι, ὁ φεύγων νικᾷ; ἢ ὅτι ὁ μὲν φεύγων ἐν τῷ ἀγῶνι μόνον ἀκήκοεν αὐτοῦ πρὸς ἃ δεῖ αὐτὸν ἀπηγορεῖσθαι, καὶ τοὺς μάρτυρας παρασχέσθαι πρὸς τὰ κατηγορημένα ἔχεσθαι, εἴ τι μέλλουσιν ὠφεληθῆναι; οὐ ῥᾴδιον δὲ τὸ μαντεύσασθαί τινα ὧν δεῖ αὐτὸν παρασκευάσασθαι ἢ μάρτυρας ἢ ἄλλο τεκμήριον ὅτι οὐθὲν ἀδικεῖ. τῷ δὲ διώκοντι ἔστιν ὅπως βούλεται, καὶ πρὸ τοῦ τὴν δίκην κλητεύσασθαι, ἐνστήσασθαι τὸ πρᾶγμα, καὶ ἤδη κεκληκότα, πλασάμενον ὅ τι βούλεται πιθανόν, κατηγορεῖν αὐτοῦ. ὁρῶν δὴ κατὰ πάντα ταῦτα ἐλαττούμενον ὁ νομοθέτης τὸν φεύγοντα, προσέθετο τῷ φεύγοντι ὅ τι ἂν οἱ δικασταὶ ἀμφιδοξήσωσιν. ἀλλὰ μὴν καὶ τοῦτ' ἄν τις ἴδοι. ἐν γὰρ τοῖς φόβοις ὄντες πολλὰ παραλιμπάνουσιν ὧν αὐτοὺς ἔδει εἰπεῖν ἢ πρᾶξαι, οἱ δὲ φεύγοντες ἀεὶ ἐν μείζοσι κινδύνοις ὡς ἐπὶ τὸ πολὺ τυγχάνουσιν ὄντες, ὥστ' εἰ παραλιμπάνουσιν ὧν δεῖ αὐτούς, εἴπερ ἐξισοῦνται τοῖς δικαίοις, δῆλον ὅτι εἰ μὴ παρελίμπανον, ἐκράτουν ἄν. ἔτι δὲ ἕκαστος ἡμῶν μᾶλλον ἂν προέλοιτο τοῦ [951b] ἀδικοῦντος ἀποψηφίσασθαι ὡς οὐκ ἀδικεῖ ἢ τοῦ μὴ ἀδικοῦντος καταψηφίσασθαι ὡς ἀδικεῖ, οἷον εἴ τις φεύγει δουλείας ἢ ἀνδροφονίας. τούτων γὰρ ἑκάστου ὄντων, ἃ κατηγορεῖ αὐτῶν, μᾶλλον ἂν ἀποψηφίσασθαι ἑλοίμεθα ἢ μὴ ὄντων καταψηφίσασθαι. ἔστι γάρ, ὅταν τις ἀμφιδοξῇ, τὰ ἐλάττω τῶν ἁμαρτημάτων αἱρετέον. δεινὸν γὰρ καὶ τὸ τοῦ δούλου ὡς ἐλεύθερός ἐστι καταγνῶναι· πολὺ δὲ δινότερον, ὅταν τις τοῦ ἐλευθέρου ὡς δούλου καταψηφίσηται. ἔτι δὲ ἐὰν ὁ μὲν τύχῃ ἐγκαλῶν ὁ δὲ ἀμφισβητῶν ὑπὲρ ὁτουοῦν, οὐκ εὐθὺς οἰόμεθα δεῖν ἀποδοῦναι τῷ ἐγκαλοῦντι, ἀλλὰ νέμεσθαι τὸν κεκτημένον, ἕως ἂν κριθῇ. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν πλειόνων, ὅταν ἰσάζῃ τὸ πλῆθος τῶν τε φασκόντων ἀδικεῖν καὶ τῶν μὴ ὁμολογούντων, ὥσπερ ὅτε ἐξ ἀρχῆς ὁ μὲν ἐνεκάλει ὁ δὲ ἀπηρνεῖτο, οὐκ οἰόμεθα δεῖν τὸν νομοθέτην προστιθέναι τῷ ἐγκαλοῦντι, ἀλλὰ τὸν φεύγοντα κύριον εἶναι, ἕως ἂν ὑπεροχήν τινα ἔχῃ ὁ ἀδικῶν. ὁμοίως δὲ καὶ ἐπὶ τῶν κριτῶν, ἐπειδὴ οὐδεμίαν ὑπεροχὴν ἰσασθεισῶν τῶν ψήφων, κατὰ χώραν εἴασεν ὁ νομοθέτης ἔχειν. ἔτι δὲ τῶν μὲν ἀξιολόγων ἁμαρτημάτων μεγάλαι καὶ αἱ κολάσεις εἰσίν, ὥστε ἀδίκως μὲν καταψηφισαμένοις καὶ μὴ γνοῦσιν οὐκ ἔστιν ἐπανορθοῦσθαι καιρὸν λαβόντας· ἀπολύσασι δὲ παρὰ τὸ προσῆκον, εἰ μὲν οὕτως εὐλαβῶς ὥστε μηθὲν ἔτι ποτὲ ἁμαρτεῖν, τί ἂν καὶ μέγα ἡμαρτηκότες οἱ κριταὶ εἴησαν, τοιοῦτον ἄνθρωπον ἀπολύσαντες θανάτου; εἰ δέ τι ἐξ ὑστέρου ἁμαρτάνοι, δι' ἀμφότερα ἂν αὐτὸν κολάζεσθαι ἀξιοῖ. ἢ ὅτι ἀδικωτέρου μέν ἐστιν ἀνδρὸς ταῦτα ἀδικεῖν ἃ ἧττον εἰκός ἐστιν ἀδίκως ἐγκαλεῖσθαι; τὸ μὲν γὰρ ἀδικεῖν καὶ δι' ὀργὴν καὶ διὰ φόβον καὶ δι' ἐπιθυμίαν καὶ δι' ἄλλα πολλὰ γίνεται, καὶ οὐ μόνον ἐκ προνοίας· τὸ δὲ ἀδίκως ἐγκαλεῖν ὡς τὸ πολὺ ἐκ προνοίας ἐστίν. ὥστε ἐπεὶ ἴσαι αἱ ψῆφοι γεγόνασι, τὸ δὲ ἀδίκως τὸν ἐγκαλοῦντα ἐγκαλεῖν καὶ τὸν φεύγοντα ἀδικεῖν, φαύλου κριθέντος τοῦ ἀδίκως ἐγκαλοῦντος τὸ νικᾶν τῷ φεύγοντι ὁ νομοθέτης ἀπένειμεν. ἔτι δὲ καὶ αὐτοὶ οὕτως ἔχομεν πρὸς τοὺς θεράποντας, ὥστε ὅταν ὑποπτεύσωμέν τι αὐτοὺς ἡμαρτηκέναι καὶ μηθὲν ἀκριβὲς ἔχωμεν, ἀλλ' ὅμως αὐτοὺς ὑπολαμβάνωμεν πεπραχέναι, οὐκ εὐθὺς ἐπὶ τὸ κολάζειν ἐρχόμεθα· καὶ ἐὰν μηθὲν μᾶλλον [952a] δυνώμεθα ἐξετάσαι, ἀφίεμεν ταύτης τῆς αἰτίας. ἔτι μείζω μὲν ἀδικεῖ ὁ ἐκ προνοίας ἀδικῶν ἢ ὁ μὴ ἐκ προνοίας. ὁ μὲν δὴ συκοφαντῶν ἀεὶ ἐκ προνοίας ἀδικεῖ, ὁ δὲ ἕτερόν τι ἀδικῶν τὰ μὲν δι’ ἀνάγκην τὰ δὲ δι’ ἄγνοιαν, τὰ δὲ ὅπως ἔτυχεν ἀδικεῖν αὐτῷ συμπίπτει. ὅταν δὲ ἴσαι γένωνται αἱ ψῆφοι, ὁ μὲν διώκων κέκριται ὑπὸ τῶν ἡμίσεων ἐκ προνοίας ἀδικεῖν, ὁ δὲ φεύγων ὑπὸ τῶν λοιπῶν αὖ ἀδικεῖν μὲν οὐ μέντοι γε ἐκ προνοίας, ὥστε ἐπεὶ ἀδικεῖν μείζω κέκριται ὁ διώκων τοῦ φεύγοντος, εἰκότως ὁ νομοθέτης νικᾶν ἔκρινε τὸν τὰ ἐλάττω ἀδικοῦντα. ἔτι δὲ ἀεὶ μὲν ἀδικώτερός ἐστιν ὁ μὴ οἰόμενος λανθάνειν ὃν ἀδικεῖ καὶ ὅμως ἀδικῶν, ἢ ὁ οἰόμενος λανθάνειν. ὁ μὲν γὰρ ἀδίκως τινὶ ἐγκαλῶν οὐκ οἴεται λανθάνειν τοῦτον ὃν συκοφαντεῖ, οἱ δ’ ἄλλο τι ἀδικοῦντες ὡς ἐπὶ τὸ πολὺ οἰόμενοι λανθάνειν ὃν ἀδικοῦσιν ἐπιχειροῦσιν ἀδικεῖν, ὥστε ἀδικώτεροι ἂν κρίνοιντο οἱ διώκοντες ἢ οἱ φεύγοντες.

Διὰ τί ποτε, ἐὰν μέν τις ἐκ βαλανείου κλέψῃ ἢ ἐκ παλαίστρας ἢ ἐξ ἀγορᾶς ἢ τῶν τοιούτων τινός, θανάτῳ ζημιοῦται, ἐὰν δέ τις ἐξ οἰκίας, διπλοῦν τῆς ἀξίας τοῦ κλέμματος ἀποτίνει; ἢ ὅτι ἐν μὲν ταῖς οἰκίαις φυλάξαι ὁπωσοῦν ἔστιν· καὶ γὰρ ὁ τοῖχος ἰσχυρὸς καὶ κλεῖς ἐστί, καὶ οἰκέταις τοῖς ἐν τῇ οἰκίᾳ πᾶσιν ἐπιμελές ἐστιν ὅπως σώζηται τὰ ἐνόντα. ἐν δὲ τῷ βαλανείῳ, καὶ ἐν τοῖς οὕτω κοινοῖς οὖσιν ὥσπερ τὸ βαλανεῖον, ῥᾴδιον τῷ βουλομένῳ κακουργεῖν· οὐδὲν γὰρ ἰσχυρὸν ἔχουσι πρὸς τὴν φυλακὴν οἱ τιθέντες ἀλλ’ ἢ τὸ αὑτῶν ὄμμα, ὥστε ἂν μόνον τις παραβλέψῃ, ἐπὶ τῷ κλέπτοντι ἤδη γίνεται. διὸ ὁ νομοθέτης οὐχ ἱκανοὺς ὄντας ἡγησάμενος εἶναι φύλακας, τὸν νόμον αὐτοῖς ἐπέστησεν ἀπειλοῦντα σφοδρῶς ὡς οὐ βιωσομένοις ἐάν τι σφετερίζωνται τῶν ἀλλοτρίων. ἔτι δὲ εἰς μὲν τὴν οἰκίαν ἐπὶ τῷ κεκτημένῳ ἐστὶν ὅν τινα ἂν βούληται εἰσδέχεσθαι, καὶ ᾧ μὴ πιστεύει εἰσφέρεσθαι· τῷ δὲ ἐν τῷ βαλανείῳ θεμένῳ τι οὐκ ἔξεστιν οὐθένα κωλῦσαι οὔτε εἰσιέναι, οὔτε εἰσελθόντα μὴ παρὰ κλέπτην τὸ αὑτοῦ ἱμάτιον θέσθαι ἀποδύντα ἄν· ἀλλ’ ὡς οὐ βούλεται, ἐν τῷ αὐτῷ ἥ τε τοῦ κλέπτου ἐσθὴς καὶ ἡ τοῦ μέλλοντος ἀπολλύναι ἀναμεμιγμέναι κεῖνται. διὸ ὁ νομοθέτης τῷ μὲν ἑκόντι εἰσδεξαμένῳ τὸν κλέπτην καὶ αὐτῷ ἡματρηκότι [952b] οὐ λίαν μεγάλαις τιμωρίαις βεβοήθηκεν, τοῖς δὲ ἐξ ἀνάγκης κοινωνοῦσι τῆς εἰς τὸ βαλανεῖον εἰσόδου καὶ τῆς ἀναμίξεως μεγάλας τιμωρίας φανερός ἐστι καθιστὰς τοῖς κλέπτουσιν. ἔτι δὲ οἱ μὲν ἐν τοῖς οὕτω κοινοῖς οὖσι τῷ βουλομένῳ εἰσιέναι κλέπτοντες καταφανεῖς ἅπασι γίνονται ὅτι φανεροί εἰσιν, ὥστε περιγενόμενοι οὐδὲ καρπισμοῦ ἔτι χάριν ἐπιεικεῖς εἶναι δοκεῖν βούλονται, ὡς μάτην αὐτοῖς ὂν πρὸς τοὺς γνόντας πλάττεσθαι ὅτι ἐπιεικεῖς εἰσίν· καταφανῶς οὖν ἤδη πονηροὶ διατελοῦσιν ὄντες. οἱ δὲ ἑνὶ μόνῳ φανεροὶ γενόμενοι πρὸς τοὺς ἄλλους ἐπιχειροῦσι πείθειν, ἀποτίσαντές τι, ὅπως μὴ καταφανεῖς αὐτοὺς ποιήσῃ· διὸ οὐ παντελῶς ἂν εἶεν πονηροὶ διὰ τέλους, ἀνθ’ ὧν ὁ νομοθέτης ἐλάττω αὐτοῖς τὰ ἐπιζήμια ἐποίησεν. ἔτι δὲ τῶν ἁμαρτιῶν μάλιστα αἰσχύνουσι τὴν πόλιν αἱ ἐν τοῖς κοινοτάτοις συλλόγοις τε καὶ συνόδοις γινόμεναι, ὥσπερ καὶ τιμὴν φέρουσι πολὺ μάλιστα αἱ ἐν τῷ κοινῷ εὐταξίαι· καταφανεῖς γὰρ μάλιστα διὰ τῶν τοιούτων καὶ αὐτοῖς καὶ τοῖς ἄλλοις. συμβαίνει οὖν οὐ μόνον ἰδίᾳ τὸν ἀπολέσαντα βλάπτεσθαι ἐκ τῶν τοιούτων τινός, ἀλλὰ καὶ πρὸς τὴν πόλιν λοιδορίας γίνεσθαι. διὸ καὶ τὸν κλέψαντα ταῖς μείζοσι ζημίαις ἐκόλασε τῶν ἐξ οἰκίας τινὸς ἀφελομένων. ἔτι δὲ καὶ ὁ ἐξ οἰκίας τινὸς ἀπολέσας ἐν τοιούτῳ τόπῳ τυγχάνει ὤν, ὅθεν ῥᾴδιον μήτε παθόντα μήτε χλευασθέντα ὑπό τινων, οἴκοι ὄντα τὸ ἀτύχημα φέρειν. τῷ δ’ ἥ τε ἀποχώρησις ἐργώδης γεγυμνωμένῳ, προσέτι δὲ χλευάζεσθαι ὑπό τινων ὑπάρχει τοῖς πολλοῖς, ὃ πολὺ δυσχερέστερόν ἐστι τῆς ἀπωλείας. διὸ καὶ ὁ νομοθέτης μείζους αὐτοῖς ζημίας ἐνέγραψεν. ἔτι δὲ παραπλήσια τούτοις πολλὰ φαίνονται νενομοθετηκότες, οἷον καὶ ἐὰν μέν τις ἄρχοντα κακῶς εἴπῃ, μεγάλα τὰ ἐπιτίμια, ἐὰν δέ τις ἰδιώτην, οὐθέν. καὶ καλῶς· οἴεται γὰρ τότε οὐ μόνον εἰς τὸν ἄρχοντα ἐξαμαρτάνειν τὸν κακηγοροῦντα, ἀλλὰ καὶ εἰς τὴν πόλιν ὑβρίζειν. τὸν αὐτὸν δὲ τρόπον καὶ τὸν ἐν τῷ λιμένι κλέπτοντα οὐ μόνον τὸν ἰδιώτην βλάπτειν, ἀλλὰ καὶ τὴν πόλιν αἰσχύνειν. ὁμοίως δὲ καὶ ἐν τοῖς ἄλλοις, οὗ κοινῇ που συνερχόμεθα.

Διὰ τί ἐν τοῖς δικαστηρίοις ἐὰν ἴσαι γένωνται ψῆφοι τοῖς ἀντιδίκοις, ὁ φεύγων νικᾷ; ἢ ὅτι ὁ φεύγων ὑπὸ τοῦ [953a] διώκοντος οὐθὲν πέπονθεν, ἀλλ’ ἐν τοῖς ἴσοις αὐτῷ ἤδη ἔμελλε νικᾶν;

Διὰ τί ἐπὶ μὲν κλοπῇ θάνατος ἡ ζημία, ἐπὶ δὲ ὕβρει, μείζονι οὔσῃ ἀδικίᾳ, τίμησις τί χρὴ παθεῖν ἢ ἀποτῖσαι; ἢ διότι τὸ μὲν ὑβρίζειν ἀνθρώπινόν ἐστι πάθος, καὶ πάντες πλέον ἢ ἔλαττον αὐτοῦ μετέχουσι, τὸ δὲ κλέπτειν οὐ τῶν ἀναγκαίων; καὶ ὅτι ὁ κλέπτειν ἐπιχειρῶν καὶ ὑβρίζειν ἂν προέλοιτο.

Λ. ΟΣΑ ΠΕΡΙ ΦΡΟΝΗΣΙΝ ΚΑΙ ΝΟΥΝ ΚΑΙ ΣΟΦΙΑΝ.

Διὰ τί πάντες ὅσοι περιττοὶ γεγόνασιν ἄνδρες ἢ κατὰ φιλοσοφίαν ἢ πολιτικὴν ἢ ποίησιν ἢ τέχνας φαίνονται μελαγχολικοὶ ὄντες, καὶ οἱ μὲν οὕτως ὥστε καὶ λαμβάνεσθαι τοῖς ἀπὸ μελαίνης χολῆς ἀρρωστήμασιν, οἷον λέγεται τῶν τε ἡρωϊκῶν τὰ περὶ τὸν Ἡρακλέα. καὶ γὰρ ἐκεῖνος ἔοικε γενέσθαι ταύτης τῆς φύσεως, διὸ καὶ τὰ ἀρρωστήματα τῶν ἐπιληπτικῶν ἀπ’ ἐκείνου προσηγόρευον οἱ ἀρχαῖοι ἱερὰν νόσον. καὶ ἡ περὶ τοὺς παῖδας ἔκστασις καὶ ἡ πρὸ τῆς ἀφανίσεως ἐν Οἴτῃ τῶν ἑλκῶν ἔκφυσις γενομένη τοῦτο δηλοῖ· καὶ γὰρ τοῦτο γίνεται πολλοῖς ἀπὸ μελαίνης χολῆς. συνέβη δὲ καὶ Λυσάνδρῳ τῷ Λάκωνι πρὸ τῆς τελευτῆς γενέσθαι τὰ ἕλκη ταῦτα. ἔτι δὲ τὰ περὶ Αἴαντα καὶ Βελλεροφόντην, ὧν ὁ μὲν ἐκστατικὸς ἐγένετο παντελῶς, ὁ δὲ τὰς ἐρημίας ἐδίωκεν, διὸ οὕτως ἐποίησεν Ὅμηρος “αὐτὰρ ἐπεὶ καὶ κεῖνος ἀπήχθετο πᾶσι θεοῖσιν, ἤτοι ὁ καππεδίον τὸ Ἀλήϊον οἶος ἀλᾶτο, ὃν θυμὸν κατέδων, πάτον ἀνθρώπων ἀλεείνων.” καὶ ἄλλοι δὲ πολλοὶ τῶν ἡρώων ὁμοιοπαθεῖς φαίνονται τούτοις. τῶν δὲ ὕστερον Ἐμπεδοκλῆς καὶ Πλάτων καὶ Σωκράτης καὶ ἕτεροι συχνοὶ τῶν γνωρίμων. ἔτι δὲ τῶν περὶ τὴν ποίησιν οἱ πλεῖστοι. πολλοῖς μὲν γὰρ τῶν τοιούτων γίνεται νοσήματα ἀπὸ τῆς τοιαύτης κράσεως τῷ σώματι, τοῖς δὲ ἡ φύσις δήλη ῥέπουσα πρὸς τὰ πάθη. πάντες δ’ οὖν ὡς εἰπεῖν ἁπλῶς εἰσί, καθάπερ ἐλέχθη, τοιοῦτοι τὴν φύσιν. δεῖ δὴ λαβεῖν τὴν αἰτίαν πρῶτον ἐπὶ παραδείγματος προχειρισαμένους. ὁ γὰρ οἶνος ὁ πολὺς μάλιστα φαίνεται παρασκευάζειν τοιούτους οἵους λέγομεν τοὺς μελαγχολικοὺς εἶναι, καὶ πλεῖστα ἤθη ποιεῖν πινόμενος, οἷον ὀργίλους, φιλανθρώπους, ἐλεήμονας, ἰταμούς· ἀλλ’ οὐχὶ τὸ μέλι οὐδὲ τὸ γάλα οὐδὲ τὸ ὕδωρ οὐδ’ ἄλλο τῶν τοιούτων οὐδέν. ἴδοι δ’ ἄν τις ὅτι παντοδαποὺς ἀπεργάζεται, θεωρῶν ὡς μεταβάλλει τοὺς πίνοντας ἐκ προσαγωγῆς· παραλαβὼν [953b] γὰρ ἀπεψυγμένους ἐν τῷ νήφειν καὶ σιωπηλοὺς μικρῷ μὲν πλείων ποθεὶς λαλιστέρους ποιεῖ, ἔτι δὲ πλείων ῥητορικοὺς καὶ θαρραλέους, προϊόντας δὲ πρὸς τὸ πράττειν ἰταμούς, ἔτι δὲ μᾶλλον πινόμενος ὑβριστάς, ἔπειτα μανικούς, λίαν δὲ πολὺς ἐκλύει καὶ ποιεῖ μωρούς, ὥσπερ τοὺς ἐκ παίδων ἐπιλήπτους ἢ καὶ ἐχομένους τοῖς μελαγχολικοῖς ἄγαν. ὥσπερ οὖν ὁ εἷς ἄνθρωπος μεταβάλλει τὸ ἦθος πίνων καὶ χρώμενος τῷ οἴνῳ ποσῷ τινί, οὕτω καθ’ ἕκαστον τὸ ἦθος εἰσί τινες ἄνθρωποι. οἷος γὰρ οὗτος μεθύων νῦν ἐστίν, ἄλλος τις τοιοῦτος φύσει ἐστίν, ὁ μὲν λάλος, ὁ δὲ κεκινημένος, ὁ δὲ ἀρίδακρυς· ποιεῖ γάρ τινας καὶ τοιούτους, διὸ καὶ Ὅμηρος ἐποίησε "καί μέ φησι δάκρυ πλώειν βεβαρημένον οἴνῳ." καὶ γὰρ ἐλεήμονές ποτε γίνονται καὶ ἄγριοι καὶ σιωπηλοί· ἔνιοι γὰρ αὖ ἀποσιωπῶσι, καὶ μάλιστα τῶν μελαγχολικῶν ὅσοι ἐκστατικοί. ποιεῖ δὲ καὶ φιλητικοὺς ὁ οἶνος· σημεῖον δὲ ὅτι προάγεται ὁ πίνων καὶ τῷ στόματι φιλεῖν, οὓς νήφων οὐδ' ἂν εἷς φιλήσειεν ἢ διὰ τὸ εἶδος ἢ διὰ τὴν ἡλικίαν. ὁ μὲν οὖν οἶνος οὐ πολὺν χρόνον ποιεῖ περιττόν, ἀλλ' ὀλίγον, ἡ δὲ φύσις ἀεί, ἕως τις ἂν ᾖ· οἱ μὲν γὰρ θρασεῖς, οἱ δὲ σιωπηλοί, οἱ δὲ ἐλεήμονες, οἱ δὲ δειλοὶ γίνονται φύσει. ὥστε δῆλον ὅτι διὰ τὸ αὐτὸ ποιεῖ ὅ τε οἶνος καὶ ἡ φύσις ἑκάστου τὸ ἦθος· πάντα γὰρ κατεργάζεται τῇ θερμότητι ταμιευόμενα. ὅ τε δὴ χυμὸς καὶ ἡ κρᾶσις ἡ τῆς μελαίνης χολῆς πνευματικά ἐστιν· διὸ καὶ τὰ πνευματώδη πάθη καὶ τὰ ὑποχόνδρια μελαγχολικὰ οἱ ἰατροί φασιν εἶναι. καὶ ὁ οἶνος δὲ πνευματώδης τὴν δύναμιν. διὸ δή ἐστι τὴν φύσιν ὅμοια ὅ τε οἶνος καὶ ἡ κρᾶσις. δηλοῖ δὲ ὅτι πνευματώδης ὁ οἶνός ἐστιν ὁ ἀφρός· τὸ μὲν γὰρ ἔλαιον θερμὸν ὂν οὐ ποιεῖ ἀφρόν, ὁ δὲ οἶνος πολύν, καὶ μᾶλλον ὁ μέλας τοῦ λευκοῦ, ὅτι θερμότερος καὶ σωματωδέστερος. καὶ διὰ τοῦτο ὅ τε οἶνος ἀφροδισιαστικοὺς ἀπεργάζεται, καὶ ὀρθῶς Διόνυσος καὶ Ἀφροδίτη λέγονται μετ' ἀλλήλων εἶναι, καὶ οἱ μελαγχολικοὶ οἱ πλεῖστοι λάγνοι εἰσίν. ὅ τε γὰρ ἀφροδισιασμὸς πνευματώδης. σημεῖον δὲ τὸ αἰδοῖον, ὡς ἐκ μικροῦ ταχεῖαν ποιεῖται τὴν αὔξησιν διὰ τὸ ἐμφυσᾶσθαι. καὶ ἔτι πρὶν δύνασθαι προΐεσθαι σπέρμα, γίνεταί τις ἡδονὴ ἐπὶ παισὶν οὖσιν, ὅταν ἐγγὺς ὄντες τοῦ ἡβᾶν ξύωνται τὰ αἰδοῖα δι' ἀκολασίαν· γίνεται δὲ δῆλον διὰ τὸ πνεῦμα διεξιέναι διὰ τῶν πόρων, δι' ὧν ὕστερον τὸ ὑγρὸν φέρεται. ἥ τε ἔκχυσις τοῦ [954a] σπέρματος ἐν ταῖς ὁμιλίαις καὶ ἡ ῥῖψις ὑπὸ τοῦ πνεύματος ὠθοῦντος φανερὸν γίνεσθαι. ὥστε καὶ τῶν ἐδεσμάτων καὶ ποτῶν εὐλόγως ταῦτ' ἐστὶν ἀφροδισιαστικά, ὅσα πνευματώδη τὸν περὶ τὰ αἰδοῖα ποιεῖ τόπον. διὸ καὶ ὁ μέλας οἶνος οὐδενὸς ἧττον τοιούτους ἀπεργάζεται, οἷοι καὶ οἱ μελαγχολικοὶ πνευματώδεις. δῆλοι δ' εἰσὶν ἐπ' ἐνίων· σκληροὶ γὰρ οἱ πλείους τῶν μελαγχολικῶν, καὶ αἱ φλέβες ἐξέχουσιν· τούτου δ' αἴτιον οὐ τὸ τοῦ αἵματος πλῆθος, ἀλλὰ τοῦ πνεύματος. διότι δὲ οὐδὲ πάντες οἱ μελαγχολικοὶ σκληροὶ οὐδὲ μέλανες, ἀλλ' οἱ μᾶλλον κακόχυμοι, ἄλλος λόγος· περὶ οὗ δὲ ἐξ ἀρχῆς προειλόμεθα διελθεῖν, ὅτι ἐν τῇ φύσει εὐθὺς ὁ τοιοῦτος χυμὸς ὁ μελαγχολικὸς κεράννυται· θερμοῦ γὰρ καὶ ψυχροῦ κρᾶσίς ἐστιν· ἐκ τούτων γὰρ τῶν δυοῖν ἡ φύσις συνέστηκεν. διὸ καὶ ἡ μέλαινα χολὴ καὶ θερμότατον καὶ ψυχρότατον γίνεται. τὸ γὰρ αὐτὸ πάσχειν πέφυκε ταῦτ' ἄμφω, οἷον καὶ τὸ ὕδωρ ὂν ψυχρόν, ὅμως ἐὰν ἱκανῶς θερμανθῇ, οἷον τὸ ζέον, τῆς φλογὸς αὐτῆς θερμότερόν ἐστι, καὶ λίθος καὶ σίδηρος διάπυρα γενόμενα μᾶλλον θερμὰ γίνεται ἄνθρακος, ψυχρὰ ὄντα φύσει. εἴρηται δὲ σαφέστερον περὶ τούτων ἐν τοῖς περὶ πυρός. καὶ ἡ χολὴ δὲ ἡ μέλαινα φύσει ψυχρὰ καὶ οὐκ ἐπιπολαίως οὖσα, ὅταν μὲν οὕτως ἔχῃ ὡς εἴρηται, ἐὰν ὑπερβάλλῃ ἐν τῷ σώματι, ἀποπληξίας ἢ νάρκας ἢ ἀθυμίας ποιεῖ ἢ φόβους, ἐὰν δὲ ὑπερθερμανθῇ, τὰς μετ’ ᾠδῆς εὐθυμίας καὶ ἐκστάσεις καὶ ἐκζέσεις ἑλκῶν καὶ ἄλλα τοιαῦτα. τοῖς μὲν οὖν πολλοῖς ἀπὸ τῆς καθ’ ἡμέραν τροφῆς ἐγγινομένη οὐδὲν τὸ ἦθος ποιεῖ διαφόρους, ἀλλὰ μόνον νόσημά τι μελαγχολικὸν ἀπειργάσατο. ὅσοις δὲ ἐν τῷ φύσει συνέστη κρᾶσις τοιαύτη, εὐθὺς οὗτοι τὰ ἤθη γίνονται παντοδαποί, ἄλλος κατ’ ἄλλην κρᾶσιν· οἷον ὅσοις μὲν πολλὴ καὶ ψυχρὰ ἐνυπάρχει, νωθροὶ καὶ μωροί, ὅσοις δὲ λίαν πολλὴ καὶ θερμή, μανικοὶ καὶ εὐφυεῖς καὶ ἐρωτικοὶ καὶ εὐκίνητοι πρὸς τοὺς θυμοὺς καὶ τὰς ἐπιθυμίας, ἔνιοι δὲ καὶ λάλοι μᾶλλον. πολλοὶ δὲ καὶ διὰ τὸ ἐγγὺς εἶναι τοῦ νοεροῦ τόπου τὴν θερμότητα ταύτην νοσήμασιν ἁλίσκονται μανικοῖς ἢ ἐνθουσιαστικοῖς, ὅθεν Σίβυλλαι καὶ Βάκιδες καὶ οἱ ἔνθεοι γίνονται πάντες, ὅταν μὴ νοσήματι γένωνται ἀλλὰ φυσικῇ κράσει. Μαρακὸς δὲ ὁ Συρακούσιος καὶ ἀμείνων ἦν ποιητής, ὅτ’ ἐκσταίη. ὅσοις δ’ ἂν ἐπανθῇ τὴν ἄγαν θερμότητα [954b] πρὸς τὸ μέσον, οὗτοι μελαγχολικοὶ μέν εἰσι, φρονιμώτεροι δέ, καὶ ἧττον μὲν ἔκτοποι, πρὸς πολλὰ δὲ διαφέροντες τῶν ἄλλων, οἱ μὲν πρὸς παιδείαν, οἱ δὲ πρὸς τέχνας, οἱ δὲ πρὸς πολιτείαν. πολλὴν δὲ καὶ εἰς τοὺς κινδύνους ποιεῖ διαφορὰν ἡ τοιαύτη ἕξις τοῦ ἐνίοτε ἀνωμάλους εἶναι μὲν τοῖς φόβοις πολλοὺς τῶν ἀνδρῶν. ὡς γὰρ ἂν τύχωσι τὸ σῶμα ἔχοντες πρὸς τὴν τοιαύτην κρᾶσιν, διαφέρουσιν αὐτοὶ αὑτῶν. ἡ δὲ μελαγχολικὴ κρᾶσις, ὥσπερ καὶ ἐν ταῖς νόσοις ἀνωμάλους ποιεῖ, οὕτω καὶ αὐτὴ ἀνώμαλός ἐστιν· ὁτὲ μὲν γὰρ ψυχρά ἐστιν ὥσπερ ὕδωρ, ὁτὲ δὲ θερμή. ὥστε φοβερόν τι ὅταν εἰσαγγελθῇ, ἐὰν μὲν ψυχροτέρας οὔσης τῆς κράσεως τύχῃ, δειλὸν ποιεῖ· προωδοπεποίηκε γὰρ τῷ φόβῳ, καὶ ὁ φόβος καταψύχει. δηλοῦσι δὲ οἱ περίφοβοι· τρέμουσι γάρ. ἐὰν δὲ μᾶλλον θερμή, εἰς τὸ μέτριον κατέστησεν ὁ φόβος, καὶ ἐν αὑτῷ καὶ ἀπαθῆ. ὁμοίως δὲ καὶ πρὸς τὰς καθ’ ἡμέραν ἀθυμίας· πολλάκις γὰρ οὕτως ἔχομεν ὥστε λυπεῖσθαι, ἐφ’ ὅτῳ δέ, οὐκ ἂν ἔχοιμεν εἰπεῖν· ὁτὲ δὲ εὐθύμως, ἐφ’ ᾧ δ’, οὐ δῆλον. τὰ δὴ τοιαῦτα πάθη καὶ τὰ παλαιὰ λεχθέντα κατὰ μέν τι μικρὸν πᾶσι γίνεται· πᾶσι γὰρ μέμικταί τι τῆς δυνάμεως· ὅσοις δ’ εἰς βάθος, οὗτοι δ’ ἤδη ποιοί τινές εἰσι τὰ ἤθη. ὥσπερ γὰρ τὸ εἶδος ἕτεροι γίνονται οὐ τῷ πρόσωπον ἔχειν, ἀλλὰ τῷ ποιόν τι τὸ πρόσωπον, οἱ μὲν καλόν, οἱ δὲ αἰσχρόν, οἱ δὲ μηθὲν ἔχοντες περιττόν, οὗτοι δὲ μέσοι τὴν φύσιν, οὕτω καὶ οἱ μὲν μικρὰ μετέχοντες τῆς τοιαύτης κράσεως μέσοι εἰσίν, οἱ δὲ πλήθους ἤδη ἀνόμοιοι τοῖς πολλοῖς. ἐὰν μὲν γὰρ σφόδρα κατακορὴς ᾖ ἡ ἕξις, μελαγχολικοί εἰσι λίαν, ἐὰν δέ πως κραθῶσι, περιττοί. ῥέπουσι δ’, ἂν ἀμελῶσιν, ἐπὶ τὰ μελαγχολικὰ νοσήματα, ἄλλοι περὶ ἄλλο μέρος τοῦ σώματος· καὶ τοῖς μὲν ἐπιληπτικὰ ἀποσημαίνει, τοῖς δὲ ἀποπληκτικά, ἄλλοις δὲ ἀθυμίαι ἰσχυραὶ ἢ φόβοι, τοῖς δὲ θάρρη λίαν, οἷον καὶ Ἀρχελάῳ συνέβαινε τῷ Μακεδονίας βασιλεῖ. αἴτιον δὲ τῆς τοιαύτης δυνάμεως ἡ κρᾶσις, ὅπως ἂν ἔχῃ ψύξεώς τε καὶ θερμότητος. ψυχροτέρα μὲν γὰρ οὖσα τοῦ καιροῦ δυσθυμίας ποιεῖ ἀλόγους· διὸ αἵ τ’ ἀγχόναι μάλιστα τοῖς νέοις, ἐνίοτε δὲ καὶ πρεσβυτέροις. πολλοὶ δὲ καὶ μετὰ τὰς μέθας διαφθείρουσιν ἑαυτούς. ἔνιοι δὲ τῶν μελαγχολικῶν ἐκ τῶν πότων ἀθύμως διάγουσιν· σβέννυσι γὰρ ἡ τοῦ οἴνου θερμότης τὴν φυσικὴν θερμότητα. τὸ δὲ θερμὸν τὸ περὶ [955a] τὸν τόπον ᾧ φρονοῦμεν καὶ ἐλπίζομεν ποιεῖ εὐθύμους. καὶ διὰ τοῦτο πρὸς τὸ πίνειν εἰς μέθην πάντες ἔχουσι προθύμως, ὅτι πάντας ὁ οἶνος ὁ πολὺς εὐέλπιδας ποιεῖ, καθάπερ ἡ νεότης τοὺς παῖδας· τὸ μὲν γὰρ γῆρας δύσελπί ἐστιν, ἡ δὲ νεότης ἐλπίδος πλήρης. εἰσὶ δέ τινες ὀλίγοι οὓς πίνοντας δυσθυμίαι λαμβάνουσι, διὰ τὴν αὐτὴν αἰτίαν δι’ ἣν καὶ μετὰ τοὺς πότους ἐνίους. ὅσοις μὲν οὖν μαραινομένου τοῦ θερμοῦ αἱ ἀθυμίαι γίνονται, μᾶλλον ἀπάγχονται. διὸ καὶ οἱ νέοι ἢ καὶ οἱ πρεσβῦται μᾶλλον ἀπάγχονται· τὸ μὲν γὰρ γῆρας μαραίνει τὸ θερμόν, τῶν δὲ τὸ πάθος φυσικὸν ὂν καὶ αὐτὸ τὸ μαραινόμενον θερμόν. ὅσοις δὲ σβεννυμένου, ἐξαίφνης οἱ πλεῖστοι διαχρῶνται ἑαυτούς, ὥστε θαυμάζειν πάντας διὰ τὸ μηθὲν ποιῆσαι σημεῖον πρότερον. ψυχροτέρα μὲν οὖν γινομένη ἡ κρᾶσις ἡ ἀπὸ τῆς μελαίνης χολῆς, ὥσπερ εἴρηται, ποιεῖ ἀθυμίας παντοδαπάς, θερμοτέρα δὲ οὖσα εὐθυμίας. διὸ καὶ οἱ μὲν παῖδες εὐθυμότεροι, οἱ δὲ γέροντες δυσθυμότεροι. οἱ μὲν γὰρ θερμοί, οἱ δὲ ψυχροί· τὸ γὰρ γῆρας κατάψυξίς τις. συμβαίνει δὲ σβέννυσθαι ἐξαίφνης ὑπό τε τῶν ἐκτὸς αἰτιῶν, ὡς καὶ παρὰ φύσιν τὰ πυρωθέντα, οἷον ἄνθρακα ὕδατος ἐπιχυθέντος. διὸ καὶ ἐκ μέθης ἔνιοι ἑαυτοὺς διαχρῶνται· ἡ γὰρ ἀπὸ τοῦ οἴνου θερμότης ἐπείσακτός ἐστιν, ἧς σβεννυμένης συμβαίνει τὸ πάθος. καὶ μετὰ τὰ ἀφροδίσια οἱ πλεῖστοι ἀθυμότεροι γίνονται, ὅσοι δὲ περίττωμα πολὺ προΐενται μετὰ τοῦ σπέρματος, οὗτοι εὐθυμότεροι· κουφίζονται γὰρ περιττώματός τε καὶ πνεύματος καὶ θερμοῦ ὑπερβολῆς. ἐκεῖνοι δὲ ἀθυμότεροι πολλάκις· καταψύχονται γὰρ ἀφροδισιάσαντες διὰ τὸ τῶν ἱκανῶν τι ἀφαιρεθῆναι· δηλοῖ δὲ τοῦτο τὸ μὴ πολλὴν τὴν ἀπορροὴν γεγονέναι. ὡς οὖν ἐν κεφαλαίῳ εἰπεῖν, διὰ μὲν τὸ ἀνώμαλον εἶναι τὴν δύναμιν τῆς μελαίνης χολῆς ἀνώμαλοί εἰσιν οἱ μελαγχολικοί· καὶ γὰρ ψυχρὰ σφόδρα γίνεται καὶ θερμή. διὰ δὲ τὸ ἠθοποιὸς εἶναι (ἠθοποιὸν γὰρ τὸ θερμὸν καὶ ψυχρὸν μάλιστα τῶν ἐν ἡμῖν ἐστίν) ὥσπερ ὁ οἶνος πλείων καὶ ἐλάττων κεραννύμενος τῷ σώματι ποιεῖ τὸ ἦθος ποιούς τινας ἡμᾶς. ἄμφω δὲ πνευματικά, καὶ ὁ οἶνος καὶ ἡ μέλαινα χολή. ἐπεὶ δ’ ἔστι καὶ εὔκρατον εἶναι τὴν ἀνωμαλίαν καὶ καλῶς πως ἔχειν, καὶ ὅπου δεῖ θερμοτέραν εἶναι τὴν διάθεσιν καὶ πάλιν ψυχράν, ἢ τοὐναντίον διὰ τὸ ὑπερβολὴν ἔχειν, περιττοὶ μέν εἰσι πάντες οἱ μελαγχολικοί, οὐ διὰ νόσον, ἀλλὰ διὰ φύσιν.

[955b] Διὰ τί κατ’ ἐνίας μὲν τῶν ἐπιστημῶν ἕξιν ἔχειν λέγομεν, κατ’ ἐνίας δὲ οὔ; ἢ καθ’ ὅσας εὑρετικοί ἐσμεν, ἕξιν ἔχειν λεγόμεθα; τὸ γὰρ εὑρίσκειν ἀπὸ ἕξεως.

Διὰ τί τῶν ζῴων ὁ ἄνθρωπος φρονιμώτατον; πότερον ὅτι μικροκεφαλώτατον κατὰ λόγον τοῦ σώματος; ἢ ὅτι ἀνωμάλως ἐλάχιστον; διὰ γὰρ τοῦτο καὶ μικροκέφαλον, καὶ αὐτῶν οἱ τοιοῦτοι μᾶλλον τῶν μεγαλοκεφάλων φρονιμώτεροι.

Διὰ τί δοκεῖ ἡμῖν πλείων εἶναι ἡ ὁδός, ὅταν μὴ εἰδότες πόση τίς ἐστι βαδίζωμεν, μᾶλλον ἢ ὅταν εἰδότες, ἐὰν τὰ ἄλλα ὁμοίως τύχωμεν ἔχοντες; ἢ ὅτι τὸ εἰδέναι [πόση] ἐστὶν εἰδέναι τὸν ἀριθμόν; τὸ γὰρ ἄπειρον καὶ ἀναρίθμητον ταὐτόν, καὶ πλέον ἀεὶ τὸ ἄπειρον τοῦ ὡρισμένου. ὥσπερ οὖν εἰ ᾔδει ὅτι τοσήδε ἐστί, πεπερασμένην αὐτὴν ἀνάγκη εἶναι, οὕτως εἰ μὴ οἶδε πόση τίς ἐστιν, ὡς ἀντιστρέφοντος παραλογίζεται ἡ ψυχή, καὶ φαίνεται αὕτη εἶναι ἄπειρος, ἐπεὶ τὸ ποσὸν ὡρισμένον ἐστὶ καὶ τὸ ὡρισμένον ποσόν. ὅταν τοίνυν μὴ φαίνηται ὡρισμένον, ὥσπερ ἄπειρον δόξει εἶναι, διὰ τὸ τὸ πεφυκὸς ὡρίσθαι, ἂν μὴ ᾖ ὡρισμένον, ἄπειρον εἶναι, καὶ τὸ φαινόμενον μὴ ὡρίσθαι φαίνεσθαι ἀνάγκη πως ἀπέραντον.

Διὰ τί πρεσβύτεροι μὲν γινόμενοι μᾶλλον νοῦν ἔχομεν, νεώτεροι δὲ ὄντες θᾶττον μανθάνομεν; ἢ ὅτι ὁ θεὸς ὄργανα ἐν ἑαυτοῖς ἡμῖν δέδωκε δύο, ἐν οἷς χρησόμεθα τοῖς ἐκτὸς ὀργάνοις, σώματι μὲν χεῖρα, ψυχῇ δὲ νοῦν. ἔστι γὰρ καὶ ὁ νοῦς τῶν φύσει ἐν ἡμῖν ὥσπερ ὄργανον ὑπάρχων· αἱ δὲ ἄλλαι ἐπιστῆμαι καὶ τέχναι τῶν ὑφ’ ἡμῶν ποιητῶν εἰσίν, ὁ δὲ νοῦς τῶν φύσει. καθάπερ οὖν τῇ χειρὶ οὐκ εὐθὺς γενόμενοι χρώμεθα βέλτιστα, ἀλλ’ ὅταν ἡ φύσις αὐτὴν ἐπιτελέσῃ (προϊούσης γὰρ τῆς ἡλικίας ἡ χεὶρ μάλιστα δύναται ἀποτελεῖν τὸ ἑαυτῆς ἔργον), τὸν αὐτὸν τρόπον καὶ ὁ νοῦς τῶν φύσει οὐ εὐθὺς ἀλλ’ ἐπὶ γήρως ἡμῖν μάλιστα παραγίνεται καὶ τότε ἀποτελεῖται μάλιστα, ἂν μὴ ὑπό τινος πηρωθῇ, καθάπερ καὶ τὰ ἄλλα τὰ φύσει ὑπάρχοντα. ὕστερον δὲ τῆς τῶν χειρῶν δυνάμεως ὁ νοῦς παραγίνεται ἡμῖν, ὅτι καὶ τὰ τοῦ νοῦ ὄργανά ἐστι τῶν τῆς χειρός. ἔστι γὰρ νοῦ μὲν ὄργανον ἐπιστήμη (τούτῳ γάρ ἐστι χρήσιμος, καθάπερ αὐλοὶ αὐλητῇ), χειρῶν δὲ πολλὰ τῶν φύσει ὄντων· ἡ δὲ φύσις αὐτή τε ἐπιστήμης πρότερον, καὶ τὰ ὑπ’ αὐτῆς γινόμενα. ὧν δὲ τὰ ὄργανα πρότερα, καὶ τὰς δυνάμεις πρότερον εἰκὸς [956a] ἐγγίνεσθαι ἡμῖν· τούτοις γὰρ χρώμενοι ἕξιν λαμβάνομεν, καὶ ἔχει ὁμοίως τὸ ἑκάστου ὄργανον πρὸς αὐτό· καὶ ἀνάπαλιν, ὡς τὰ ὄργανα πρὸς ἄλληλα, οὕτω τὰ ὄργανα πρὸς αὐτά. ὁ μὲν οὖν νοῦς διὰ ταύτην τὴν αἰτίαν πρεσβυτέροις οὖσιν ἡμῖν μᾶλλον ἐγγίνεται. μανθάνομεν δὲ θᾶττον νεώτεροι ὄντες διὰ τὸ μηδέν πω ἐπίστασθαι. ὅταν δὲ ἐπιστώμεθα, οὐκέτι ὁμοίως δυνάμεθα. δυνάμεθα δὲ ἔχεσθαι, καθάπερ καὶ μνημονεύομεν μᾶλλον οἷς ἂν ἕωθεν πρῶτον ἐντυγχάνωμεν, ἔπειτα προϊούσης τῆς ἡμέρας οὐκέτι ὁμοίως διὰ τὸ πολλοῖς ἐντετυχηκέναι.

Διὰ τί ἀνθρώπῳ πειστέον μᾶλλον ἢ ἄλλῳ ζῴῳ; πότερον ὥσπερ Πλάτων Νεοκλεῖ ἀπεκρίνατο, ὅτι ἀριθμεῖν μόνον ἐπίσταται τῶν ἄλλων ζῴων; ἢ ὅτι θεοὺς νομίζει μόνον; ἢ ὅτι μιμητικώτατον; μανθάνειν γὰρ δύναται διὰ τοῦτο.

Διὰ τί οὐ χαίρομεν θεώμενοι οὐδὲ ἐλπίζοντες ὅτι τὸ τρίγωνον δύο ὀρθαῖς ἴσας ἔχει τὰς ἐντὸς γωνίας, οὐδὲ τῶν ἄλλων τῶν τοιούτων οὐθέν, εἰ μὴ τῇ θεωρίᾳ, αὕτη δὲ ὁμοίως ἐστὶν ἡδεῖα κἂν εἰ τρισὶν ὀρθαῖς ἢ πλείοσιν ἴσας ἔσχεν. ἀλλ’ ὅτι Ὀλυμπίᾳ ἐνικῶμεν, καὶ περὶ τῆς ναυμαχίας τῆς ἐν Σαλαμῖνι, χαίρομεν καὶ μεμνημένοι καὶ ἐλπίζοντες τοιαῦτα, ἀλλ’ οὐ τἀναντία τοῖς τοιούτοις. ἢ ὅτι ἐπὶ μὲν τοῖς τοιούτοις χαίρομεν ὡς γενομένοις ἢ οὖσιν, ἐπὶ δὲ τοῖς κατὰ φύσιν ὡς κατὰ ἀλήθειαν θεωρίας ἡδονήν, ὡς ἔχει, μόνην ἡμῖν ποιεῖν, τὰς δὲ πράξεις τὴν ἀπὸ τῶν συμβαινόντων ἀπ’ αὐτῶν. ἀνομοίων οὖν οὐσῶν τῶν πράξεων, καὶ τὰ ἀποβαίνοντα ἀπ’ αὐτῶν γίνεται τὰ μὲν λυπηρὰ τὰ δὲ ἡδέα· φεύγομεν δὲ καὶ διώκομεν καθ’ ἡδονὴν καὶ λύπην ἅπαντα.

Διὰ τί μέχρι ὑγείας πραγματεύονται οἱ ἰατροί; ἰσχναίνει γάρ, εἶτα ἐκ τούτου ξηραίνει, εἶτα ὑγείαν ἐποίησεν, εἶτα ἐνταῦθα ἔστη. πότερον οὐκ ἔστι δυνατὸν ἐκ τούτου γενέσθαι ἄλλο; ἢ εἰ δυνατόν, ἄλλης ἐπιστήμης, καὶ ἔσται ὅ τις ἐξ ὑγείας ποιήσει ἄλλο τι; εἰ δὴ γίνεται ἐκ τῶν ἐναντίων καὶ τῶν μεταξύ, δῆλον ὅτι ἀρρωστεῖ, ἢ ξηρότερος ἢ ὑγρότερος ἤ τι τοιοῦτον. ποιεῖ δὴ ἐκ ψύχους ἧττον σφόδρα, καὶ τέλεον ὡδὶ θερμὸν καὶ ὡδὶ ξηρὸν ἢ ὑγρὸν μεταβαῖνον ἐκ τῶν ἐναντίων, ἢ μεταξύ, ἕως ἂν ἔλθῃ εἰς τὸ οὕτως ἔχειν, ὃ ἦν τοῦ ὑγιαίνειν· ἔκ τε τούτου οὐ πέφυκεν ἄλλο τι ὂν ἢ τὸ μεταξύ. δύναται μὲν οὖν ποιῆσαι ὁ ἔχων. ὡς γὰρ ἦλθεν, ἀναλῦσαι δύναται καὶ ἀπελθεῖν, οὐ μὴν ἥ γε τέχνη τούτου ἐστίν. ἀεὶ γὰρ βέλτιον. ὥστε οὐδὲ ἄλλη, οὔτε αὐτὴ ποιήσει [956b] ἐξ ὑγείας ἄλλο τι· οὐθὲν γὰρ ἐγίνετο ἢ τὸ ἐναντίον τούτου, εἴπερ ἡ αὐτὴ ἐπιστήμη. οὕτω καὶ ἐπὶ οἰκίας οὐδὲν ποιήσειεν ἂν τοὐναντίον· οὐκ ἔστιν ἐν ἄλλῃ τέχνη ἐκ τούτου ποιήσουσα, πλὴν ὡς μέρους, οἷον ἡ σκυτικὴ ὑπόδημα ἐκ προσχίσματος. ἐξ ἑκατέρου γὰρ γίνεται διττῶς, ἢ συντιθεμένου ἢ φθειρομένου.

Διὰ τί τὸν φιλόσοφον τοῦ ῥήτορος οἴονται διαφέρειν; ἢ ὅτι ὁ μὲν φιλόσοφος περὶ αὐτὰ τὰ εἴδη τῶν πραγμάτων διατρίβει, ὁ δὲ περὶ τὰ μετέχοντα, οἷον ὁ μὲν τί ἐστιν ἀδικία, ὁ δὲ ὡς ἄδικος ὁ δεῖνα, καὶ ὁ μὲν τί ἡ τυραννίς, ὁ δὲ οἷόν τι ὁ τύραννος.

Διὰ τί οἱ Διονυσιακοὶ τεχνῖται ὡς ἐπὶ τὸ πολὺ πονηροί εἰσιν; ἢ ὅτι ἥκιστα λόγου σοφίας κοινωνοῦσι διὰ τὸ περὶ τὰς ἀναγκαίας τέχνας τὸ πολὺ μέρος τοῦ βίου εἶναι, καὶ ὅτι ἐν ἀκρασίαις τὸ πολὺ τοῦ βίου εἰσίν, τὰ δὲ καὶ ἐν ἀπορίαις; ἀμφότερα δὲ φαυλότητος παρασκευαστικά.

Διὰ τί οἱ ἐξ ἀρχῆς τῆς μὲν κατὰ τὸ σῶμα ἀγωνίας ἆθλόν τι προὔταξαν, σοφίας δὲ οὐθὲν ἔθηκαν; ἢ ὅτι ἐπιεικῶς δεῖ τοὺς κριτάς, ἃ παρὰ διάνοιάν ἐστιν, ἢ μηθὲν χείρους τῶν ἀγωνιστῶν εἶναι ἢ κρείττους; εἰ δὲ ἔδει σοφίᾳ τοὺς πρωτεύοντας ἀγωνίζεσθαι καὶ ἆθλον προὐτέτακτο, κριτῶν ἂν ἠπόρουν αὐτοῖς. ἐπὶ δὲ τῶν γυμνικῶν ἀγώνων ἅπαντός ἐστι κρῖναι, τῇ ὄψει μόνῃ θεασάμενον. ἔτι δὲ ὁ ἐξ ἀρχῆς κατασκευάζων οὐκ ἐβούλετο τοιαύτην ἀγωνίαν προθεῖναι τοῖς Ἕλλησιν, ἐξ ὧν ἔμελλον στάσεις καὶ ἔχθραι μεγάλαι ἔσεσθαι· οἷον οἱ ἄνθρωποι, ὅταν τις ἢ ἐκκριθῇ ἢ προσδεχθῇ εἴς τι τῶν κατὰ τὸ σῶμα ἀθλημάτων, οὐ πάντῃ χαλεπῶς φέρουσιν οὐδὲ εἰς ἔχθραν καθίστανται τοῖς κρίνουσιν, ὑπὲρ δὲ τοῦ φρονιμωτέρους ἢ μοχθηροτέρους εἶναι τοῖς κρίνουσι μάλιστα ὀργίζονται καὶ ἀγανακτοῦσιν. στασιῶδες δὲ καὶ μοχθηρὸν τὸ τοιοῦτόν ἐστιν. ἔτι δὲ δεῖ τῆς ἀγωνίας τὸ ἆθλον κρεῖττον εἶναι. ἐπὶ μὲν γὰρ τῶν γυμνικῶν ἀθλημάτων τὸ ἆθλον αἱρετώτερον καὶ βέλτιον τῆς ἀγωνίας· σοφίας δὲ τί ἂν ἆθλον βέλτιον γένοιτο;

Διὰ τί ἄλλο νοεῖ καὶ ποιεῖ ἄνθρωπος μάλιστα; ἢ ὅτι τῶν ἐναντίων ἡ αὐτὴ ἐπιστήμη; ἢ ὅτι ὁ μὲν νοῦς πολλῶν ἐστίν, ἡ δὲ ὄρεξις ἑνός; ὁ μὲν οὖν ἄνθρωπος τῷ νῷ τὰ πλεῖστα ζῇ, τὰ δὲ θηρία ὀρέξει καὶ θυμῷ καὶ ἐπιθυμίᾳ.

Διὰ τί φρόνιμοί τινες κτώμενοι οὐ χρώμενοι διατελοῦσιν; πότερον ὅτι τῷ ἔθει χρῶνται; ἢ διὰ τὸ ἐν ἐλπίδι ἡδύ;

ὅτι ἡ αἴσθησις καὶ ἡ διάνοια τῷ ἠρεμεῖν τὴν ψυχὴν ἐνεργεῖ· ὃ καὶ ἡ ἐπιστήμη δοκεῖ εἶναι, ὅτι τὴν ψυχὴν ἵστησιν· [957a] κινουμένης γὰρ καὶ φερομένης οὔτε αἰσθέσθαι οὔτε διανοηθῆναι δυνατόν. διὸ καὶ τὰ παιδία καὶ οἱ μεθύοντες καὶ οἱ μαινόμενοι ἀνόητοι· διὰ γὰρ τὸ πλῆθος τοῦ θερμοῦ τοῦ ἐνυπάρχοντος πλείστη κίνησις αὐτοῖς καὶ σφοδροτάτη συμβαίνει, ληγούσης δὲ ταύτης ἐμφρονέστεροι γίνονται· ἀταράχου γὰρ οὔσης τῆς διανοίας μᾶλλον ἐφιστάναι δύνανται αὐτήν. οἵ τ' ἐν τῷ καθεύδειν ἐνυπνιαζόμενοι ἱσταμένης τῆς διανοίας, καὶ καθ' ὅσον ἠρεμεῖ, ὀνειρώττουσιν. μάλιστα γὰρ ἐν τοῖς ὕπνοις ἡ ψυχὴ κινεῖται. περιισταμένου γὰρ τοῦ θερμοῦ ἐκ τοῦ ἄλλου σώματος εἰς τὸν ἐντὸς τόπον, τότε πλείστη καὶ σφοδροτάτη κίνησις ὑπάρχει, οὐχ ὥσπερ οἱ πολλοὶ ὑπολαμβάνουσι τότε ἠρεμεῖν καὶ καθ’ αὑτὴν εἶναι, καὶ μάλιστα ὅταν μηδὲν ἴδωσιν ἐνύπνιον. συμβαίνει δὲ τοὐναντίον· διὰ γὰρ τὸ ἐν πλείστῃ κινήσει εἶναι καὶ μηδὲ κατὰ μικρὸν ἠρεμεῖν, οὐδὲ διανοεῖσθαι δύναται. ἐν πλείστῃ δὲ κινήσει, ὅταν ἥδιστα καθεύδῃ, εἰκότως ἐστίν, ὅτι τότε μάλιστα καὶ πλεῖστον θερμὸν ἀθροίζεται εἰς τὸν εἴσω τόπον. ὅτι δὲ ἐν τῇ κινήσει οὖσα ἡ ψυχὴ οὐ μόνον ὕπαρ ἀλλ’ οὐδ’ ἐν τοῖς ὕπνοις δύναται διανοεῖσθαι, κἀκεῖνο σημεῖον· ἐν γὰρ τοῖς μετὰ τὴν πρόσεσιν τῶν σιτίων ὕπνοις ἥκιστα ἔστιν ἐνύπνια ὁρᾶν. τότε δὲ μάλιστα συμβαίνει κινεῖσθαι αὐτὴν διὰ τὴν ἐπεισενεχθεῖσαν τροφήν. τό τε ἐνύπνιόν ἐστιν, ὅταν διανοουμένοις καὶ πρὸ ὀμμάτων τιθεμένοις ὕπνος ἐπέλθῃ. διὸ καὶ ταῦτα μάλιστα ὁρῶμεν ἃ πράττομεν ἢ μέλλομεν ἢ βουλόμεθα· περὶ γὰρ τούτων μάλιστα πλειστάκις λογισμοὶ καὶ φαντασίαι ἐπιγίνονται. καὶ οἱ βελτίους βελτίω τὰ ἐνύπνια ὁρῶσι διὰ ταῦτα, ὅτι καὶ ἐγρηγορότες περὶ βελτιόνων διανοοῦνται, οἱ δὲ χεῖρον ἢ τὴν διάνοιαν ἢ τὸ σῶμα διακείμενοι χείρω. καὶ γὰρ ἡ τοῦ σώματος διάθεσις πρὸς τὴν τῶν ἐνυπνίων φαντασίαν συμβλητικόν· τοῦ γὰρ νοσοῦντος καὶ αἱ τῆς διανοίας προθέσεις φαῦλαι, καὶ ἔτι διὰ τὴν ἐν τῷ σώματι ταραχὴν ἐνοῦσαν ἡ ψυχὴ οὐ δύναται ἠρεμεῖν. οἱ δὲ μελαγχολικοὶ διὰ τοῦτο ἐξάττουσιν ἐν τοῖς ὕπνοις, ὅτι πλείονος τῆς θερμασίας οὔσης μᾶλλον τοῦ μετρίου ἡ ψυχὴ ἐν κινήσει, σφοδροτέρας δὲ τῆς κινήσεως οὔσης οὐ δύνανται καθεύδειν.

ΛΑ. ΟΣΑ ΠΕΡΙ ΟΦΘΑΛΜΟΥΣ.

Διὰ τί τρίψαντες τὸν ὀφθαλμὸν παυόμεθα τῶν πταρμῶν; ἢ ὅτι ἀναπνοὴ ταύτῃ γίνεται τῷ ὑγρῷ; δακρύει γὰρ ὁ ὀφθαλμὸς μετὰ τὴν τρῖψιν· ὁ δὲ πταρμὸς διὰ πλῆθος [957b] ὑγροῦ. ἢ ὅτι τὸ ἔλαττον θερμὸν φθείρεται ὑπὸ τοῦ πλείονος; ὁ δὲ ὀφθαλμὸς τριφθεὶς πλείω λαμβάνει θερμότητα τῆς ἐν τῇ ῥινί. διὰ τοῦτο δὲ κἂν τις αὐτὴν τὴν ῥῖνα τρίψῃ, παύεται ὁ πταρμός.

Διὰ τί τῷ ἑνὶ ὀφθαλμῷ ἀκριβέστερον ὁρῶσιν ἢ τοῖν δυοῖν; ἢ ὅτι πλείους οὖσαι κινήσεις τοῖν δυοῖν γίνονται, οἷον τοῖς διεστραμμένοις; οὔκουν μία ἡ κίνησις, τοῦ δὲ ἑνὸς ἁπλῆ. ἧττον οὖν ὁρῶσιν ἀκριβέστερον.

Διὰ τί ὀργιζόμενοι μὲν τοὺς ὀφθαλμοὺς μᾶλλον ἐπιδιδόασι πρὸς τὸ ἐρυθριᾶν, αἰσχυνόμενοι δὲ τὰ ὦτα; ἢ διότι οἱ μὲν καταψύχονται ἐν τῇ αἰδοῖ (ἐν ὀφθαλμοῖς γὰρ αἰδώς) ἀντιβλέπειν οὐ δύνανται; καὶ ἡ δειλία κατάψυξίς τίς ἐστιν ἐνταῦθα. μεθίσταται δὲ εἰς τοὐναντίον τῷ ἔμπροσθεν τὸ ὄπισθεν. τὰ δὲ ὦτα ἀντίκειται· διὸ καὶ μάλιστα ἐρυθριῶσιν αἰσχυνόμενοι. ἐν δὲ τῷ κνήθεσθαι ἐπὶ τὸ αἰσθητικώτερον καὶ κινητικώτερον ἡ βοήθεια ὡς ἀδικουμένου· φοβουμένοις γὰρ ἐνταῦθα ἐκλείπει μάλιστα.

Διὰ τί θατέρου καταληφθέντος ὀφθαλμοῦ ὁ ἕτερος ἀτενίζει μᾶλλον; ἢ διότι ἐκ ταὐτοῦ ἤρτηνται αἱ ἀρχαὶ τῶν ὀφθαλμῶν; θατέρου οὖν κινουμένου καὶ ἡ κοινὴ ἀρχὴ κινεῖται, ἐκείνης δὲ κινουμένης καὶ ὁ ἕτερος. ληφθέντος οὖν θατέρου ἡ κίνησις κινήσει αὐτόν, ὥστε δύναται ἀτενίζειν μᾶλλον.

Διὰ τί οἱ ἐκ γενετῆς τυφλοὶ οὐ γίνονται φαλακροί; ἢ ὅτι πημαίνει τὰ ὄμματα ὑγρότης οὖσα πολλὴ ἐν τῷ περὶ τὴν κεφαλὴν τόπῳ; διὸ τῶν ῥευματικῶν εἰς τοὺς ὀφθαλμοὺς τάς τε περὶ τοὺς κροτάφους φλέβας κάουσι, πυκνοῦντες τοὺς τῶν ὑγρῶν πόρους, καὶ ξύουσι τὴν κεφαλήν, διατέμνοντες τὸ ἐν αὐτῇ δέρμα. ἐπεὶ οὖν πημαίνει τοὺς ὀφθαλμοὺς τὸ ἐν αὐτῇ περίττωμα γινόμενον, κωλύοι ἂν αὐτοὺς ταὐτὸ τοῦτο ἐξ ἀρχῆς γίνεσθαι, πλέον συνιστάμενον ἐν αὐτῇ. ἐπεὶ δὲ ἐκ περιττωμάτων θρὶξ φύεται, τοῦτο δὲ ἐν τῇ τῶν τυφλῶν κεφαλῇ ἐκ γενετῆς ἐστὶ πολύ, εἰκότως οὐκ εἰσὶ φαλακροί.

Διὰ τί οἱ ἐξόφθαλμοι καπνίζονται μᾶλλον; ἢ ὅτι τάχιστα προσπίπτει πρὸς τὰ προέχοντα;

Διὰ τί εἰς μὲν τὰ δεξιὰ ἀμφοτέρας τὰς ὄψεις ἅμα διαστρέφειν δυνάμεθα, καὶ εἰς τὰ ἀριστερὰ καὶ πρὸς τὴν ῥῖνα, καὶ εἰς τὸ ἀριστερὸν δὲ ἢ τὸ δεξιὸν τὴν ἑτέραν, ἅμα δὲ εἰς τὸ δεξιὸν καὶ ἀριστερὸν ἀδυνατοῦμεν; ὁμοίως δὲ καὶ εἰς τὸ κάτω καὶ εἰς τὸ ἄνω· ἅμα μὲν γὰρ ἐπὶ ταὐτὸ δυνάμεθα, χωρὶς δὲ οὔ. ἢ ὅτι αἱ ὄψεις δύο οὖσαι ὁμοίως ἐξ ἑνὸς συνήρτηνται; [958a] ὅσα δὲ τοιαῦτα, ἄκρου θατέρου κινουμένου ἀνάγκη θάτερον ἀκολουθεῖν ἐπὶ ταὐτό. τῷ γὰρ ἑτέρῳ ἄκρῳ ἡ ἀρχὴ θάτερον ἄκρον. εἰ οὖν τὸ ἓν ἀδύνατον ἅμα εἰς τἀναντία κινεῖσθαι, ἀδύνατον καὶ τὰς ὄψεις. τὰ μὲν γὰρ ἄκρα εἰς τἀναντία ἂν κινοῖτο, εἰ τὸ μὲν ἄνω τὸ δὲ κάτω κινοῖτο, ἡ δὲ ἀρχὴ ἀμφοῖν ἂν ἀκολουθοίη· ὅπερ ἀδύνατον. ἡ δὲ διαστροφή ἐστι τῶν ὀμμάτων διὰ τὸ ἀρχὴν ἔχειν τὰς σφαίρας, καὶ μέχρι τοῦ στρέφεσθαι εἰς τὰ ἄνω καὶ κάτω καὶ εἰς πλάγιον. ὅταν οὖν ἔχουσαι ὡς ἂν ὁμοίως ἔχοιεν τῇ θέσει ἀλλήλαις, καὶ ἐν μέσῳ τοῦ ἐπὶ τὸ ἄνω καὶ κάτω κινεῖσθαι, καὶ εἰς πλάγιον ἐπὶ τοῦ αὐτοῦ σημείου ἑαυτῶν λάβωσι τὴν ὄψιν, αὗται μὲν ἀδιάστροφοί τε καὶ μάλιστα ἀκίνητοι τῇ θέσει· ὅσαι δὲ ἐπὶ ταὐτοῦ σημείου λάβωσι τὰς ὄψεις, ἀδιάστροφοι μέν εἰσι, διαφέρουσι δὲ ἀλλήλων. καίτοι κρύπτεται τοῦ μέλανός τι καὶ τοῖς ἄνω βάλλουσι τὰ λευκά, οἷον μελλέπταρμοι· ἕτεροι δὲ εἰς τὸ πλάγιον, ὥσπερ οἱ μανικοί, οἱ δὲ εἰς τοὺς μυκτῆρας, ὥσπερ τὰ τραγικὰ πρόσωπα καὶ οἱ στρυφνοί· σύννουν γὰρ τὸ βλέμμα. ὅσοι δὲ μήθ’ ὁμοίως κειμένων τῶν σφαιρῶν ἐπὶ ταὐτῷ σημείῳ ἔχουσι τὰς ὄψεις, ἢ ὁμοίως μὲν κειμένων μὴ ἐπὶ τῷ αὐτῷ δέ, οὗτοι διεστραμμένοι εἰσίν· διὸ ὑποβλέπουσι καὶ συνάγουσι τὰ ὄμματα. πειρῶνται γὰρ ἐπὶ ταὐτὸν καταστῆσαι σχῆμα τὴν σφαῖραν. ὥστε τὸν μὲν ἐῶσι, τὸν δὲ σχηματίζουσι τῶν ὀφθαλμῶν. ἐὰν γὰρ μὴ κατ’ αὐτὸ σημεῖον τεθῶσιν αἱ ὄψεις, ἀνάγκη διεστράφθαι. ὥσπερ γὰρ τοῖς ὑποβάλλουσιν ὑπὸ τὸν ὀφθαλμὸν [τὸ ἓν] δύο φαίνεται (καὶ γὰρ ἐκείνοις κεκίνηται ἡ ἀρχή), καὶ τούτοις ὁμοίως. ἐὰν μὲν οὖν ἄνω κινηθῇ ὁ ὀφθαλμός, τὸ πέρας κάτω τῆς ὄψεως γίνεται, ἐὰν δὲ κάτω, ἄνω τὸ πέρας. ἐν ἑνὶ δὲ ὀφθαλμῷ μεθισταμένῳ κινεῖσθαι μὲν τὸ ὁρώμενον δοκεῖ διὰ ταῦτα ἄνω ἢ κάτω, ὅτι καὶ ἡ ὄψις, δύο δὲ οὐ φαίνεται, ἂν μὴ δύο αἱ ὄψεις ὦσι, καὶ διαστρέφει. τοιαύτη μὲν τῷ ἑτεροφθάλμῳ γίνεται, ὥστε δύο φαίνεσθαι· κατὰ τὴν θέσιν δὲ γίνεται τῷ μὴ κατὰ μέσον τοῦ ὄμματος κεῖσθαι.

ὰ τί οἱ μύωπες μικρὰ γράμματα γράφουσιν; ἄτοπον γὰρ τὸ μὴ ὀξὺ ὁρῶντας ποιεῖν ἔργον ὀξὺ ὁρώντων. πότερον ὅτι μεγάλα φαίνεται τὰ μικρά, ἐὰν ᾖ ἐγγύς· οἱ δὲ προσάγοντες γράφουσιν; ἢ διὰ τὸ συνάγοντας τὰ βλέφαρα γράφειν; δι’ ἀσθένειαν γὰρ τῆς ὄψεως, ἂν μὲν ἀναπεπταμένοις [958b] γράφωσι τοῖς ὄμμασι, διασπωμένη ἡ ὄψις ἀμβλὺ ὁρᾷ, οὕτω δὲ ἀθρόως προσπίπτει· γωνίαν δὲ μικρὰν ποιοῦσα ἐξ ἀνάγκης ποιεῖ μικρὰ γράφειν.

Διὰ τί ὀφθαλμιάσαντες ἔνιοι ὀξύτερον ὁρῶσιν; ἢ διὰ τὸ ἀποκεκαθάρθαι τὰ ὄμματα; πολλάκις γὰρ ἡ ἔξω πυκνότης ἀποστέγει τὴν ὄψιν, ἀποδακρύσαντι δὲ λύεται. διὸ καὶ τὸ ἀποδάκνεσθαι συμφέρει, οἷον κρόμμυον· θάτερον δὲ πολέμιον, οἷον ὀρίγανον.

Διὰ τί τῇ μιᾷ ὄψει ἀπαθέστεροι; ἢ διότι ἔλαττον ἡ ψυχὴ πάσχει, ὥστε ἔλαττον τὸ πάθος.

Διὰ τί τοῖς διισταμένοις δύο φαίνεται; ἢ διότι οὐκ ἀφικνεῖται ἐπὶ τὸ αὐτὸ σημεῖον ἑκατέρου τῶν ὀμμάτων ἡ κίνησις; ὥσπερ οὖν δύο ὁρᾶν τὸ δὶς ὁρᾶν οἴεται ἡ ψυχή. ὅμοιον καὶ ἐπὶ τῶν δακτύλων τῆς ἐπαλλάξεως· δύο γὰρ τὸ ἓν δοκεῖ ὡς δὶς ἁπτομένῃ ἑνί.

Διὰ τί οὐ διαφέρουσιν αἱ αἰσθήσεις αἱ ἐν τοῖς δεξιοῖς τῶν ἀριστερῶν, ἐν δὲ τοῖς ἄλλοις πᾶσι κρείττω τὰ δεξιά; πότερον διὰ τὸ ἔθος, ὅτι εὐθὺς ὁμοίως ἀμφοῖν ἐθιζόμεθα αἰσθάνεσθαι; τὰ δὲ δεξιὰ τῷ ἔθει δοκεῖ διαφέρειν, ἐπεὶ ἐθισθεῖσιν ἀμφιδέξιοι γίνονται. ἢ ὅτι τὸ μὲν αἰσθάνεσθαι πάσχειν τί ἐστι, τὰ δὲ δεξιὰ διαφέρει τῷ ποιητικώτερα εἶναι καὶ ἀπαθέστερα τῶν ἀριστερῶν.

Διὰ τί ἐν μὲν τοῖς ἄλλοις κρείττω τὰ δεξιά, ἐν δὲ ταῖς αἰσθήσεσιν ὅμοια; ἢ διότι ταῦτα μὲν ὁμοίως ἐθιζόμεθα κατ’ ἀμφότερα τῷ ἔθει; ἔτι τὸ μὲν αἰσθάνεσθαι πάσχειν τί ἐστιν, ἡ δὲ τῶν δεξιῶν διαφορὰ τῷ εἰς τὸ ποιεῖν καὶ οὐκ εἰς τὸ πάσχειν.

Διὰ τί τὸ γυμνάζεσθαι ἀσύμφορον πρὸς ὀξυωπίαν; ἢ ὅτι ξηρὸν ποιεῖ τὸ ὄμμα ἡ γυμνασία, ὥσπερ καὶ τὸ ἄλλο σῶμα; ἡ δὲ ξηρότης σκληρύνει τὸ δέρμα πᾶν, ὥστε καὶ τὸ ἐπὶ τῇ κόρῃ. διὸ καὶ οἱ πρεσβῦται οὐκ ὀξὺ ὁρῶσιν· καὶ γὰρ τῶν γερόντων σκληρόδερμα, ἅμα δὲ καὶ ῥυσά, ὥστε ἐπικαλύπτεται ἡ ὄψις.

Διὰ τί οἱ μύωπες βλέπουσι μὲν οὐκ ὀξύ, γράφουσι δὲ μικρά; καίτοι τὸ μικρὸν ὀξὺ βλέποντος καθορᾶν ἐστίν. ἢ διότι ἀσθενῆ ἔχοντες τὴν ὄψιν συνάγουσι τὰ βλεφαρὰ εἰς μικρόν; ἀθρόα γὰρ ἐξιοῦσα ἡ ὄψις μᾶλλον ὁρᾷ, ἀναπεπταμένου δὲ τοῦ ὄμματος διασπᾶται. διὰ μὲν οὖν τὴν ἀσθένειαν συνάγουσι τὸ βλέφαρον, διὰ δὲ τὸ ἐκ μικροῦ ὁρᾶν μικρὸν [959a] μέγεθος ὁρῶσιν. ὅσον δὲ ὁρῶσι μέγεθος, τοσοῦτον καὶ γράφουσιν.

Διὰ τί οἱ μύωπες συνάγοντες τὰ βλέφαρα ὁρῶσιν; ἢ δι’ ἀσθένειαν τῆς ὄψεως, ὥσπερ καὶ οἱ πρὸς τὰ πόρρω τὴν χεῖρα προσάγοντες, οὕτω καὶ τὰ βλέφαρα πρὸς τὰ ἐγγὺς προστίθενται ὥσπερ χεῖρα; τοῦτο δὲ ποιοῦσιν, ἵνα ἀθροωτέρα ἡ ὄψις ἐξίῃ, δι’ ἐλάττονος ἐξιοῦσα, καὶ μὴ εὐθὺς ἐξ ἀναπεπταμένου ἐξιοῦσα διασπασθῇ. ὁρᾷ δὲ ἡ πλείων μεῖζον.

Διὰ τί εἰς τὸ πλάγιον κινοῦσι τὸν ὀφθαλμὸν οὐ φαίνεται δύο τὸ ἕν; ἢ ὅτι ἐπὶ τῆς αὐτῆς γίνεται γραμμῆς ἡ ἀρχή; δύο δὲ φαίνεται ταύτης μεταβαλλούσης ἄνω ἢ κάτω. εἰς δὲ πλάγιον οὐδὲν διαφέρει, ἐὰν μὴ ἅμα καὶ ἄνω. τί δὴ ἐπὶ μὲν τῆς ὄψεως ἔστιν ὥστε φαίνεσθαι τὸ ἓν δύο, ἄν πως τεθῶσιν οἱ ὀφθαλμοὶ πρὸς ἀλλήλους, ἐπὶ δὲ τῶν ἄλλων αἰσθήσεων οὐκ ἔστιν; ἢ καὶ ἐπὶ τῆς ἁφῆς γίνεται τῇ ἐπαλλάξει τῶν δακτύλων τὸ ἓν δύο; ἐπὶ δὲ τῶν ἄλλων οὐ γίνεται, ὅτι οὔτε ἔξω ἀποτεινομένων αἰσθάνεται, οὐδὲ δύο. γίνεται δὲ διὰ τοῦτο διόπερ καὶ ἐπὶ τῶν δακτύλων· μιμεῖται γὰρ τὴν ὄψιν.

Διὰ τί τοῦ μὲν ἄλλου σώματος τὰ ἀριστερὰ ἀσθενέστερα, τῶν δὲ ὀφθαλμῶν οὔ, ἀλλ' ὁμοίως ὀξύ; ἢ ὅτι τὰ μὲν δεξιὰ τῷ ποιητικὰ εἶναι διαφέρουσι, τῷ δὲ παθητικὰ οὐ διαφέρουσιν; αἱ δὲ ὄψεις παθητικαί.

Διὰ τί τῇ ὄψει πρὸς μὲν τὰ ἄλλα ἀτενίζοντες χεῖρον διατιθέμεθα, πρὸς δὲ τὰ χλωρὰ καὶ ποώδη, οἷον λάχανα καὶ τὰ τούτοις ὅμοια, βέλτιον; ἢ ὅτι πρὸς μὲν τὸ λευκὸν καὶ μέλαν ἥκιστα δυνάμεθα ἀτενίζειν (ἄμφω γὰρ λυμαίνεται τὴν ὄψιν), τὰ δὲ τοιαῦτα τῶν χρωμάτων μέσον ἔχει τούτων· διὸ μετρίως τῆς ὄψεως διατιθεμένης οὐδὲ ἐξαδυνατοῦμεν αὐτῇ, βέλτιον δὲ διατιθέμεθα. τάχα δὲ ἴσως καθάπερ ἐπὶ τῶν σωμάτων σφοδρότερον πονοῦντες χεῖρον ἔχομεν, τὸ μέσον δὲ βέλτιστα διατίθησι, τὸν αὐτὸν τρόπον καὶ τὴν ὄψιν. πρὸς μὲν γὰρ στερεὰ ἀτενίζοντες πονοῦμεν αὐτήν, πρὸς δὲ τὰ ὑγρὰ μηδενὸς ἀντιφράττοντος οὐ διαπονοῦμεν. τὰ δὲ χλωρὰ στερεά τε μετρίως, καὶ ὑγρὸν ἐν αὐτοῖς ἱκανόν. διὸ βλάπτει τε οὐθέν, καὶ διαναγκάζει τὴν ὄψιν πρὸς τούτοις εἶναι διὰ τὸ τὴν τοῦ χρώματος κρᾶσιν σύμμετρον ἔχειν πρὸς τὴν ὄψιν.

Διὰ τί τὰ μὲν ἄλλα ἀμφοτέροις τοῖς ὀφθαλμοῖς μᾶλλον ὁρῶμεν, τὸ δὲ εὐθὺ τὸ ἐπὶ τῶν στίχων τῷ ἑνὶ προσάγοντες πρὸς τὰ γράμματα μᾶλλον καθορῶμεν; ἢ ἀμφότεραι [959b] μὲν αἱ ὄψεις συμπίπτουσαι, καθάπερ λέγουσιν οἱ περὶ τὰ ὀπτικά, ταραχὴν παρέχουσιν, ἐπειδὰν δὲ τῇ μιᾷ θεωρῶμεν, πρὸς εὐθεῖαν τὴν ὄψιν, ὥσπερ πρὸς κανόνα, μᾶλλον φαίνεται τὸ εὐθύ.

Διὰ τί ὁ καπνὸς τοὺς ὀφθαλμοὺς μᾶλλον δάκνει; ἢ ὅτι μόνοι ἀσθενέστατοι; ἀεὶ γὰρ τὰ ἔσω τοῦ σώματος ἀσθενέστατα. σημεῖον δὲ ὅτι καὶ τὸ ὄξος καὶ ἕκαστον τῶν δριμέων τὴν μὲν ἔξω σάρκα οὐ δάκνει, τὴν δὲ ἐντός, ὅτι ἀραιοτάτη τοῦ σώματος καὶ μάλιστ' ἔχει πόρους· αἱ γὰρ ὄψεις διά τινων πόρων ἐκπίπτουσιν, ὥστε τὸ ἔσω δηκτικώτατον ἀπὸ τῆς σαρκὸς ἀποπίπτει. ὁμοίως δὲ καὶ τὸ κρόμμυον, καὶ ὅσα ἄλλα δάκνει τοὺς ὀφθαλμούς. τὸ δὲ ἔλαιον μάλιστα τῶν ὑγρῶν, ὅτι λεπτομερέστατον· τοιοῦτον δ' ὂν εἰσδύνει διὰ τῶν πόρων· τὸ δ' ὄξος ἐν φαρμάκῳ τῇ ἄλλῃ σαρκί.

Διὰ τί ὁ ὀφθαλμὸς μόνον τοῦ σώματος, ἀσθενέστατος ὤν, οὐ ῥιγοῖ; ἢ ὅτι πίων ἐστὶν ὁ ὀφθαλμός, σαρκὸς δὲ οὐθέν; τὰ δὲ τοιαῦτα ἄριγά ἐστιν. οὐ γὰρ δὴ ὅτι γε πῦρ ἐστὶν ἡ ὄψις, διὰ τοῦτο οὐ ῥιγοῖ· οὐ γὰρ τοιοῦτόν γέ ἐστι τὸ πῦρ ὥστε θερμαίνειν.

Διὰ τί δάκρυα, ἐὰν μὲν κλαίοντες ἀφίωμεν, θερμά ἐστιν, ἐὰν δὲ πονοῦντες τοὺς ὀφθαλμοὺς δακρύωμεν, ψυχρά; ἢ ὅτι τὸ μὲν ἄπεπτον ψυχρόν, τὸ δὲ πεπεμμένον θερμόν; ἡ δὲ μαλακία ὅλως πᾶσά ἐστιν ἐξ ἀπεψίας, καὶ τῶν τοὺς ὀφθαλμοὺς πονούντων ἄπεπτόν ἐστι τὸ δάκρυον· διὸ ψυχρόν. διὰ τοῦτο καὶ οἱ ἰατροὶ οἴονται σημεῖον εἶναι μεγάλης νόσου τοὺς ψυχροὺς ἱδρῶτας, τοὺς δὲ θερμοὺς τοὐναντίον ἀπαλλακτικούς. ὅταν μὲν γὰρ ᾖ τὸ περίττωμα πολύ, οὐ δύναται τὸ ἐντὸς θερμὸν πέττειν, ὥστε ἀνάγκη ψυχρὸν εἶναι· ὅταν δὲ ὀλίγον, κρατεῖ. γίνονται δὲ ἐκ τῶν περιττωμάτων αἱ ἀρρωστίαι.

Διὰ τί ποτε εὐκινήτων ὄντων τῶν δεξιῶν μερῶν ὁ ὀφθαλμὸς ὁ ἀριστερὸς μᾶλλον τοῦ δεξιοῦ συνάγεται; ἢ ὅτι τὰ ἀριστερὰ πάντα ὑγρότερα τῶν δεξιῶν ἐστί, τὰ δὲ ὑγρότερα μᾶλλον συνάγεσθαι πέφυκεν· εἶτα εἰς τὸ δεξιὸν μᾶλλον ἀποτελεῖν δύναται, τοῦ ἀριστεροῦ δυναμένου καὶ καθ’ αὑτό.

Διὰ τί ἀμφότεροι κατὰ ἀσθένειάν τινα τῶν ὀφθαλμῶν διακείμενοι, ὅ τε μύωψ καὶ ὁ πρεσβύτης, ὁ μὲν ἐγγὺς προσάγει, ἄν τι βούληται ἰδεῖν, ὁ δὲ πόρρω ἀπάγει; ἢ ὅτι οὐχ ὁμοία ἡ ἀσθένεια παρέπεται αὐτοῖς; ὁ μὲν γὰρ πρεσβύτης [960a] αὐτὸ ἰδεῖν ἀδύνατός ἐστιν· οὗ δὴ συμπίπτει ἡ ὄψις αὐτῷ, ἀπάγει τὸ θεώμενον, ἅτε καὶ μάλιστα μέλλων ὄψεσθαι· πόρρω δὲ συμπίπτει. ὁ δὲ αὐτὸ μὲν ὁρᾷ, ποῖα δὲ κοῖλα καὶ ποῖα ἐξέχοντα τοῦ ὁρωμένου, οὐκέτι δύναται κρίνειν, ἀλλὰ περὶ ταῦτα ἀπατᾶται. τὰ δὲ κοῖλα καὶ τὰ ἐξέχοντα μάλιστα τῇ αὐγῇ κρίνεται. πόρρωθεν μὲν οὖν οὐ δύναται τῇ αὐγῇ καταμαθεῖν πῶς ἐπιβάλλει ἐπὶ τὸ ὁρατόν· ἐγγύθεν δὲ μᾶλλον καταφανής ἐστιν.

Διὰ τί τῶν ζῴων ἄνθρωπος ἢ μόνον ἢ μάλιστα διαστρέφεται; ἢ ὅτι ἢ μόνον ἢ μάλιστα ἐπίληπτον ἐν τῇ νεότητι γίνεται, ὅτε καὶ διαστρέφεσθαι συμβαίνει πᾶσιν;

Διὰ τί οἱ ἄνθρωποι μόνοι τῶν ἄλλων ζῴων τὰ ὄμματα διαστρέφονται; πότερον διὰ τὸ ἐλάχιστον διάστημα εἶναι τῶν ὀμμάτων, καὶ ἐπ’ εὐθείας, ὥστε εὔδηλον σφόδρα γίνεται τὸ μὴ κατωρθωμένον. ἢ διότι τῶν ἄλλων μονόχροα τὰ ὄμματά ἐστι μᾶλλον· εἰ δ’ ἦν ἓν χρῶμά τι τοῦ ὄμματος, οὐκ ἦν διαστροφή. ἢ διότι μόνοι ἐν τῷ γένει ἐπίληπτοι γίνονται τῶν ζῴων, ἡ δ’ ἐπίληψις διαστροφὴν ποιεῖ, ὅταν γένηται, ὥσπερ καὶ τῶν ἄλλων μορίων· ἀλλ’ ἐνίοις ὀψὲ παντελῶς γίνεται ἡ διαστροφή, ὅσοις τὸ ἀρρώστημα.

Διὰ τί πρὸς τὸν λύχνον καὶ πρὸς τὸν ἥλιον προστησάμενοι τὴν χεῖρα πρὸ τοῦ φωτὸς μᾶλλον ὁρῶμεν; ἢ ὅτι τὸ ἀπὸ τοῦ ἡλίου καὶ λύχνου φῶς προσπῖπτον μὲν ἡμῶν πρὸς τὴν ὄψιν ἀσθενεστέραν ποιεῖ δι’ ὑπερβολήν; φθείρει γὰρ αὐτὰ καὶ τὰ συγγενῆ τῇ ὑπερβολῇ. εἰρχθέντα δὲ ὑπὸ τῆς χειρὸς τὴν μὲν ὄψιν οὐ πημαίνει, τὸ δὲ ὁρώμενον ὁμοίως ἐστὶν ἐν φωτί. διὸ ἡ μὲν μᾶλλον δρᾷ, τὸ δὲ ὁρώμενον οὐδὲν ἧττον ὁρᾶται.

Διὰ τί χεὶρ μὲν καὶ ποὺς διαφορὰν ἔχει πρὸς τὰ δεξιὰ τὰ ἀριστερά, ὄμμα δὲ καὶ ἀκοὴ οὔ; ἢ ὅτι τὰ στοιχεῖα τὰ εἰλικρινῆ ἀδιάφορα, ἐν δὲ τοῖς ἐκ τῶν στοιχείων ἡ διαφορά; αὗται δὲ αἱ αἰσθήσεις εἰσὶν ἐξ εἰλικρινῶν, ἡ μὲν ὄψις πυρός, ἡ δ’ ἀκοὴ ἀέρος.

ΛΒ. ΟΣΑ ΠΕΡΙ ΩΤΑ.

Διὰ τί τὰ ὦτα ὄντα ἀναιμότατα τοῦ προσώπου, ὅταν αἰσχύνωνται, ἐρυθριᾷ μάλιστα; πότερον ὅτι εἰς τὸ κενὸν μάλιστα πορεύεσθαι πέφυκε τὸ ἀλλότριον ὑγρόν, ὥστε ὅταν διαλυθῇ ὑπὸ τῆς θερμότητος, ἣ γίνεται αἰσχυνομένοις, συνέρχεται εἰς ταῦτα; ἢ διότι ἐπὶ τοῖς κροτάφοις ἐπίκεινται, [960b] εἰς οὓς τὸ ὑγρὸν ἀθροίζεται μάλιστα; αἰσχυνομένων δὲ εἰς τὸ πρόσωπον ἔρχεται ἡ ὑγρότης· διὸ καὶ ἐρυθριῶσιν. τοῦ δὲ προσώπου ἥκιστα βάθος ἔχει τὰ ὦτα· καὶ φύσει θερμότατα καὶ εὔχροα, ἐὰν μὴ ἀπηρτημένα πόρρωθεν ᾖ τῷ ψύχει. διὸ καὶ εὐχρούστατον τῶν ἐν τῷ προσώπῳ μορίων. ὥστε ὅταν σκεδασθῇ ἡ θερμότης, μάλιστα ἐπιπολῆς οὖσα ἐν τούτοις ποιεῖ ἐρυθριᾶν.

Διὰ τί τὰ ὦτα ἐν τῇ θαλάττῃ ῥήγνυται τοῖς κολυμβῶσιν; πότερον διὰ τὸ κατέχειν τὸ πνεῦμα πληρούμενον βιάζεται; ἢ εἰ τοῦτ’ αἴτιον, ἔδει καὶ ἐν τῷ ἀέρι. ἢ ὅτι μὴ ὑπεῖκον διακόπτεται θᾶττον, καὶ ἀπὸ σκληροτέρου ἢ μαλακοῦ; τὸ οὖν πεφυσημένον ἧττον ὑπείκει. τὰ δὲ ὦτα, ὥσπερ εἴρηται, ὑπὸ τοῦ κατέχεσθαι τὸ πνεῦμα ἐμφυσᾶται, ὥστε τὸ ὕδωρ, σκληρότερον ὂν τοῦ ἀέρος, προσπῖπτον διακόπτει.

Διὰ τί οἱ κολυμβηταὶ σπόγγους περὶ τὰ ὦτα καταδοῦνται; ἢ ἵνα ἡ θάλαττα βίᾳ ἰοῦσα μὴ ῥηγνύῃ τὰ ὦτα. οὕτω μὲν γὰρ οὐ γίνεται, ὥσπερ ἀφῃρημένων, πλήρη.

Διὰ τί ὁ ἐν τοῖς ὠσὶ ῥύπος πικρός ἐστιν; ἢ διότι ἱδρώς ἐστι σαπρός; ἔστιν οὖν ἁλμυρὸν σαπρόν. τὸ δὲ σαπρὸν ἁλμυρὸν πικρόν.

Διὰ τί οἱ σπογγεῖς διατέμνονται τὰ ὦτα καὶ τοὺς μυκτῆρας; ἢ ὅπως εὐπνούστεροι ὦσι; ταύτῃ γὰρ ἐξιέναι δοκεῖ τὸ πνεῦμα. ἀνατέμνουσι δὲ καὶ τὸν τόπον καὶ πρὸς εὔπνοιαν· πονεῖν γὰρ δή φασι μᾶλλον αὐτοὺς ἐν τῇ δυσπνοίᾳ, τῷ μὴ δύνασθαι προΐεσθαι θύραζε· ὅταν δὲ ὥσπερ ἐξεράσωσι, κουφίζονται. ἄτοπον οὖν εἰ μὴ δύνανται τυγχάνειν ἀναπνοῆς καταψύξεως χάριν· ἀλλ’ ἔοικε τοῦτο ἀναγκαιότερον εἶναι. ἢ εὐλόγως ὁ πόνος πλείων κατέχουσιν, ὀγκουμένων καὶ διατεινομένων; φαίνεται δὲ καὶ αὐτόματός τις εἶναι φορὰ τοῦ πνεύματος ἔξω· εἰ δὲ καὶ εἴσω, σκεπτέον. ἔοικε δέ· ὁμοίως γὰρ ἀναπνοὴν ποιοῦσι τοῖς κολυμβηταῖς λέβητα καταφέντες. οὐ πίμπλαται γὰρ οὗτος τοῦ ὕδατος, ἀλλὰ τηρεῖ τὸν ἀέρα. μετὰ βίας γὰρ ἡ κάθεσις. ὀρθὸν γὰρ ὁτιοῦν παρεγκλιθὲν εἰσρεῖ.

Διὰ τί ἔνιοι τὰ ὦτα σκαλεύοντες βήττουσιν; ἢ ὅτι ἐπὶ τοῦ αὐτοῦ πόρου τῷ πνεύμονι καὶ τῇ ἀρτηρίᾳ ἡ ἀκοή; σημεῖον δέ, ὅτι ἀναπηροῦνται καὶ γίνονται ἐνεοί. θερμαινομένου οὖν τῇ τρίψει συντήκεται ἐπὶ τὴν ἀρτηρίαν ἀπὸ τοῦ πόνου κάτωθεν ὑγρόν· ὃ ποιεῖ τὴν βῆχα.

Διὰ τί τὸ ἀριστερὸν οὖς θᾶττον συμφύεται ὡς ἐπὶ τὸ [961a] πολύ, ὅταν τρυπηθῇ; διὸ καὶ αἱ γυναῖκες τὸ μὲν ἄρρεν τὸ δὲ θῆλυ καλοῦσι τῶν ὤτων. ἢ ὅτι τὰ ἀριστερὰ ὑγρὰ καὶ θερμὰ μᾶλλον, συμφύεται δὲ τὰ τοιαῦτα μάλιστα. διὸ καὶ ἐν φυτοῖς τοῖς χλωροῖς ἡ σύμφυσις· καὶ τὰ τῶν νέων δὲ ἕλκη μᾶλλον συμφύεται ἢ τὰ τῶν πρεσβυτέρων. σημεῖον δὲ ὅτι ὑγρὰ μᾶλλον καὶ ὅλως θηλυκώτερα τὰ ἀριστερά.

Διὰ τί τοῖς μὲν αἰσχυνομένοις ἄκρα τὰ ὦτα ἐπιφοινίσσεται, τοῖς δὲ ὀργιζομένοις οἱ ὀφθαλμοί; ἢ ὅτι ἡ μὲν αἰδὼς ἐν ὀφθαλμοῖς κατάψυξίς τις μετὰ φόβου, ὥστε εἰκότως ἀπολείπει τὸ θερμὸν τοὺς ὀφθαλμούς· χωριζόμενον δὲ εἰς τὸν δεκτικώτατον φέρεται τόπον. τοιοῦτος δὲ ὁ ἐν τοῖς ἄκροις τῶν ὤτων· ὁ γὰρ ἄλλος ὀστώδης. ὀργιζομένοις δ’ ἐπανέρχεται τὸ θερμόν. μάλιστα δὲ γίνεται φανερὸν ἐν τοῖς ὀφθαλμοῖς διὰ τὴν χρόαν οὖσαν λευκήν.

Διὰ τί ὁ ἦχος ὁ ἐν τοῖς ὠσίν, ἐάν τις ψοφήσῃ, παύεται; ἢ ὅτι ὁ μείζων ψόφος τὸν ἐλάττω ἐκκρούεται;

Διὰ τί, ἐὰν εἰς τὸ οὖς ὕδωρ ἐγχυθῇ, ἔλαιον προσεγχέονται, οὐ δυναμένου τοῦ ἐνόντος ὑγροῦ ἐξελθεῖν δι’ ἄλλου ὑγροῦ; πότερον διὰ τὸ ἐπιπολῆς γίνεσθαι τὸ ἔλαιον τοῦ ὕδατος, καὶ διὰ γλισχρότητα αὐτοῦ ἔχεσθαι τὸ ὕδωρ ἐξιόντος τοῦ ἐλαίου, ἵνα συνεξίῃ τὸ ὕδωρ; ἢ ἵνα ὀλισθηροῦ τοῦ ὠτὸς γενομένου ἐξέλθῃ τὸ ὕδωρ; τὸ γὰρ ἔλαιον λεῖον ὂν ποιεῖ ὀλισθαίνειν.

Διὰ τί ἧττον ὦτα ῥήγνυται τοῖς κολυμβῶσιν, ἐὰν προσεγχέωσιν εἰς τὰ ὦτα ἔλαιον; ἢ τοῦ μὲν ῥήγνυσθαι τὰ ὦτα εἴρηται πρότερον ἡ αἰτία, τὸ δὲ ἔλαιον ἐγχυθὲν εἰς τὰ ὦτα τὴν ὕστερον θάλατταν ἀπολισθαίνειν ποιεῖ, καθάπερ ἐπὶ τῶν ἔξω τοῦ σώματος συμβαίνει τοῖς ἀληλιμμένοις. ὀλισθαίνουσα δὲ πληγὴν οὐ ποιεῖ εἰς τὸ ἐντὸς τοῦ ὠτός, διόπερ οὐ ῥήγνυσιν.

Διὰ τί τῶν ὤτων ἀναίμων ὄντων μάλιστα οἱ αἰσχυνόμενοι ἐρυθριῶσιν; ἢ ἕκαστον εἰς τὸ κενὸν ἑκάστου μάλιστα φέρεται; δοκεῖ δὲ τοῦ αἰσχυνομένου ἄνω θερμὸν φέρεσθαι τὸ αἷμα. εἰς οὖν τὸ κενώτατον ἐρυθριᾶν ποιεῖ. τὸ δ’ αὐτὸ τοῦτο καὶ ἐπὶ τῶν γνάθων. ἔτι δὲ καὶ ὅτι λεπτότατον τὸ δέρμα τὸ περιτεταμένον, μάλιστα δὴ φαίνεται δι’ αὐτά.

Διὰ τί οὐδεὶς χασμώμενος τὸ οὖς σκαλεύει; ἢ ὅτι ὅτε χασμᾶται, ἐμφυσᾶται καὶ ἡ μῆνιγξ, δι’ ἧς ἀκούει; σημεῖον δέ· ἥκιστα γὰρ ἀκούουσι χασμώμενοι. τὸ γὰρ πνεῦμα, ὥσπερ καὶ κατὰ τὸ στόμα, καὶ εἰς τὰ ὦτα ἐντὸς πορευόμενον, ἐξωθεῖται [961b] τὸν ὑμένα καὶ κωλύει τὸν ψόφον εἰσιέναι. ἐὰν οὖν οὕτως ἔχοντος ἅψηται τῆς ἀκοῆς ὡς σκαλεύειν, μάλιστ’ ἂν βλάψειεν· πρὸς ἀντιπῖπτον γὰρ ἡ πληγὴ γίνεται, καὶ οὐ πρὸς ὑπεῖκον τὸ τοῦ πνεύματος. τὸ δὲ δέρμα καὶ τὴν μήνιγγα ἀφεστάναι τῶν στερεῶν δῆλον. ὥστε πόνον μάλιστα οὕτω ποιεῖ, καὶ τραυματίζοι ἄν.

ΛΓ. ΟΣΑ ΠΕΡΙ ΜΥΚΤΗΡΑ.

Διὰ τί ὁ πταρμὸς λυγμὸν μὲν παύει, ἐρυγμὸν δὲ οὐ παύει; ἢ διότι οὐ τοῦ αὐτοῦ τόπου τὸ πάθος ἑκάτερον, ἀλλ’ ὁ μὲν ἐρυγμὸς κοιλίας, ὁ δὲ λυγμὸς τοῦ περὶ τὸν πνεύμονα κατάψυξις καὶ ἀπεψία πνεύματος καὶ ὑγροῦ; κοινωνοῦσι δὲ οἱ περὶ τὸν ἐγκέφαλον τόποι τῷ πνεύμονι, οἷον τοῖς ὠσίν. φανερὸν δέ· ἅμα γὰρ ἐνεοὶ καὶ κωφοὶ γίνονται, καὶ αἱ νόσοι ἀντιπεριίστανται αἱ τοῦ ὠτὸς εἰς τὰ τοῦ πνεύμονος πάθη. ἐνίοις δὲ σκαλεύουσι τὸ οὖς βῆχες ἐγγίνονται. τὸ δὲ περὶ τὸν πταρνύμενον τόπον εἶναι τῆς ῥινὸς κοινωνίαν τῷ πνεύμονι δηλοῖ ἡ ἀναπνοὴ κοινὴ οὖσα. ὥστε πτάρνυται μὲν θερμαινομένου αὐτοῦ· τῷ δὲ συμπάσχειν ὁ κάτω τόπος, ἐν ᾧ ἐστὶν ὁ λυγμός. ἡ δὲ θερμασία πέττει. διὸ ὄξος τε παύει λυγμὸν καὶ ἡ ἀπνευστία, ἐὰν ἠρεμαία ᾖ ἡ λύγξ. ἐκθερμαίνει γὰρ τὸ πνεῦμα κατεχόμενον. ὥστε καὶ ἐν τῷ πταρμῷ ἡ ἀντικατάσχεσις γενομένη τοῦ πνεύματος τοῦτο ποιεῖ, καὶ οἰκείως ἡ ἔκπνευσις γίνεται, καὶ ἐκ τοῦ ἄνω τόπου· ἀδύνατον γὰρ πτάρειν μὴ ἐκπνέοντα. ἡ οὖν ὁρμὴ ῥήγνυσι τὸ ἐγκατειλημμένον πνεῦμα, ὃ ποιεῖ τὸν λυγμόν.

Διὰ τί, ἐάν τις μέλλων πτάρνυσθαι τρίψῃ τὸν ὀφθαλμόν, ἧττον πτάρνυται; ἢ διότι τὸ ποιοῦν τὸν πταρμὸν θερμότης τίς ἐστιν, ἡ δὲ τρῖψις θερμότητα ποιεῖ, ἣ διὰ τὸ πλησίον εἶναι τῶν ὀφθαλμῶν τὸν τόπον ᾧ πτάρνυται, ἀφανίζει τὴν ἑτέραν, ὥσπερ τὸ ἔλαττον πῦρ ὑπὸ τοῦ πλείονος μαραινόμενον.

Διὰ τί δὶς πτάρνυται ὡς ἐπὶ τὸ πολύ, καὶ οὐχ ἅπαξ ἢ πλεονάκις; ἢ διότι δύο εἰσὶ μυκτῆρες; καθ’ ἕτερον οὖν διέσχισται τὸ φλέβιον, δι’ οὗ πνεῦμα ῥεῖ.

Διὰ τί πρὸς τὸν ἥλιον βλέψαντες πτάρνυνται μᾶλλον; ἢ διότι κινεῖ θερμαίνων· καθάπερ οὖν πτεροῖς θιγγάνοντες. ἀμφότεροι γὰρ τὸ αὐτὸ ποιοῦσιν· τῇ γὰρ κινήσει θερμαίνοντες ἐκ τοῦ ὑγροῦ θᾶττον πνεῦμα ποιοῦσιν. τούτου δὲ ἡ ἔξοδος πταρμός.

[962a] Διὰ τί λύγγα παύει πταρμὸς καὶ πνεύματος ἐπίσχεσις καὶ ὄξος; ἢ ὅτι ὁ μὲν πταρμός, διότι ἀντιπερίστασίς ἐστι τοῦ κάτω πνεύματος, ὥσπερ αἱ ἄνω φαρμακεῖαι πρὸς τὴν κάτω κοιλίαν; ἡ δὲ ἀπνευστία τὰς ἀσθενεῖς λύγγας, ὅτι ἡ μικρὰ ὁρμὴ τοῦ πνεύματος ἡ ἀνιοῦσα, ὥσπερ περὶ τὴν βῆχα, ἐάν τις κατάσχῃ, παύεται, οὕτω καὶ ἐνταῦθα καὶ κατέσπασε καὶ κατέπνιξε καὶ συναπεβιάσατο. τὸ δὲ ὄξος παύει, ὅτι τὸ περιεστὸς ὑγρὸν καὶ κωλῦον

ἀπερυγεῖν ἐπνευμάτωσε τῇ θερμασίᾳ. ἔστι γὰρ ἐρυγμὸς μέν, ὅταν πνευματωθῇ τὸ ἐν τῇ ἄνω κοιλίᾳ ὑγρὸν καὶ πεφθῇ, ἡ δὲ λύγξ, ὅταν ὑπὸ ὑγροῦ κατέχηται πνεῦμα περιττὸν περὶ τὸν πνευματικὸν τόπον. τοῦτο γὰρ ὁρμῶν καὶ μὴ δυνάμενον διακόψαι σπασμὸν ποιεῖ, ὁ δὲ σπασμὸς οὗτος καλεῖται λύγξ. καὶ διὰ τοῦτο ῥιγώσαντας λὺγξ λαμβάνει, ὅτι τὸ ψῦχος τὸ ὑγρὸν ποιεῖ συστὰν ἐκ τοῦ πνεύματος ἔτι· περιλαμβανόμενον δὲ τὸ ἄλλο πηδᾷ· οὗ ἡ κίνησις λυγμός ἐστιν. Διὰ τί ἐνίοις ὕδωρ ψυχρὸν προσχέομεν [καὶ] πρὸς τὸ πρόσωπον, ἡνίκα αἷμα ῥεῖ ἐκ τῶν μυκτήρων; ἢ ἀντιπερίσταται εἴσω τὸ θερμόν; ἂν οὖν ἐπιπολῆς τύχῃ αἷμα, ἐξυγραίνει μᾶλλον.

Διὰ τί τὸν μὲν πταρμὸν θεὸν ἡγούμεθα εἶναι, τὴν δὲ βῆχα ἢ τὴν κόρυζαν οὔ; ἢ διότι ἐκ τοῦ θειοτάτου τῶν περὶ ἡμᾶς τῆς κεφαλῆς, ὅθεν ὁ λογισμός ἐστι, γίνεται; ἢ ὅτι τὰ μὲν ἄλλα ἀπὸ νοσούντων γίνεται, τοῦτο δὲ οὔ;

Διὰ τί τρίψαντες τὸν ὀφθαλμὸν παυόμεθα τῶν πταρμῶν; ἢ ὅτι ἀνάπνοια ταύτῃ γίνεται τῷ ὑγρῷ; δακρύει γὰρ ὁ ὀφθαλμὸς μετὰ τρῖψιν, ὁ δὲ πταρμὸς διὰ πλῆθος ὑγρότητος. ἢ ὅτι τὸ ἔλαττον θερμὸν φθείρεται ὑπὸ τοῦ πλείονος, ὁ δὲ ὀφθαλμὸς τριφθεὶς πλείω λαμβάνει θερμότητα τῆς ἐν τῇ ῥινί. διὰ ταῦτα δὲ κἄν τις αὐτὴν τὴν ῥῖνα τρίψῃ, παύεται ὁ πταρμός.

Διὰ τί τῶν μὲν ἄλλων πνευμάτων αἱ ἔξοδοι, οἷον φύσης καὶ ἐρυγμοῦ, οὐχ ἱεραί, ἡ δὲ τοῦ πταρμοῦ ἱερά; πότερον ὅτι τριῶν τόπων ὄντων, κεφαλῆς καὶ θώρακος καὶ τῆς κάτω κοιλίας, ἡ κεφαλὴ θειότατον; ἔστι δὲ φῦσα μὲν ἀπὸ τῆς κάτω κοιλίας πνεῦμα, ἐρυγμὸς δὲ τῆς ἄνω, ὁ δὲ πταρμὸς τῆς κεφαλῆς. διὰ τὸ ἱερώτατον οὖν εἶναι τὸν τόπον καὶ τὸ πνεῦμα τὸ ἐντεῦθεν ὡς ἱερὸν προσκυνοῦσιν. ἢ ὅτι ἅπαντα τὰ πνεύματα σημαίνει τοὺς εἰρημένους τόπους βέλτιον ἔχειν ὡς ἐπὶ τὸ πολύ; μὴ διαχωρούντων γὰρ κουφίζει τὸ πνεῦμα διεξιόν, [962b] ὥστε καὶ ὁ πταρμὸς τὸν περὶ τὴν κεφαλὴν τόπον, ὅτι ὑγιαίνει καὶ δύναται πέττειν. ὅταν γὰρ κρατήσῃ ἡ ἐν τῇ κεφαλῇ θερμότης τὴν ὑγρότητα, τὸ πνεῦμα τότε γίνεται πταρμός. διὸ καὶ τοὺς ἐκθνήσκοντας κινοῦσι πταρμικῷ, ὡς ἐὰν μὴ τούτῳ δύνωνται πάσχειν, ἀσώτους ὄντας. ὥστε ὡς σημεῖον ὑγείας τοῦ ἀρρώστου καὶ ἱερωτάτου τόπου προσκυνοῦσιν ὡς ἱερόν, καὶ φήμην ἀγαθὴν ποιοῦνται.

Διὰ τί ἄνθρωπος πτάρνυται μάλιστα τῶν ἄλλων ζῴων; πότερον ὅτι τοὺς πόρους εὐρεῖς ἔχει, δι᾽ ὧν τὸ πνεῦμα καὶ ἡ ῥύμη εἰσέρχεται; τούτοις γὰρ πληρουμένοις πνεύματος πτάρνυται. ὅτι δ᾽ εὐρεῖς, σημεῖον ὅτι ἥκιστα ὀσφραντικὸν τῶν ζῴων. ἀκριβέστεροι δὲ οἱ λεπτοὶ πόροι. εἰ οὖν εἰς μὲν τοὺς εὐρεῖς πλεῖον καὶ πλεονάκις εἰσέρχεται τὸ ὑγρόν, οὗ πνευματουμένου ὁ πταρμὸς γίνεται, τοιούτους δὲ μάλιστα τῶν ζῴων οἱ ἄνθρωποι ἔχουσι, πλειστάκις ἂν πτάρνυντο εἰκότως, ὅσοις ἐλάχιστοι οἱ μυκτῆρες, ὥστε τὸ θερμανθὲν ὑγρὸν ταχὺ ἐξιέναι δύναται πνεῦμα γενόμενον· ἐν δὲ τοῖς ἄλλοις διὰ μῆκος καταψύχεται πρότερον.

Διὰ τί οἱ μὲν ἀπὸ μέσων νυκτῶν ἄχρι μέσης ἡμέρας οὐκ ἀγαθοὶ πταρμοί, οἱ δὲ ἀπὸ μέσης ἡμέρας ἄχρι μέσων νυκτῶν; ἢ ὅτι ὁ μὲν πταρμὸς μᾶλλον δοκεῖ ἐπισχεῖν τοὺς ἀρχομένους καὶ ἐν τῇ ἀρχῇ; διὸ ὅταν μέλλωσιν ἀρχομένοις συμβῆναι, μάλιστα ἀποτρεπόμεθα τοῦ πράττειν. ἡ μὲν οὖν ἠὼς καὶ τὸ ἀπὸ μέσων νυκτῶν οἷον ἀρχή τις· διὸ εὐλαβούμεθα πτάρειν, μὴ κωλύσωμεν ὡρμημένον. πρὸς δείλης δὲ καὶ ἐπὶ μέσας νύκτας οἷον τελευτή τις καὶ ἐναντίον ἐκείνῳ, ὥστε ἐν τῷ ἐναντίῳ ταὐτὸν αἱρετέον.

Διὰ τί οἱ πρεσβῦται χαλεπῶς πτάρνυνται; πότερον οἱ πόροι συμπεπτώκασι δι᾽ ὧν τὸ πνεῦμα; ἢ ὅτι αἴρειν τὰ ἄνω οὐκέτι δυνάμενοι ῥᾳδίως, εἶτα βίᾳ ἀφιᾶσι κάτω;

Διὰ τί, ἐάν τις ἀπνευστιάζῃ, ἡ λὺγξ παύεται; ἢ διότι ἡ μὲν ὑπὸ καταψύξεως γίνεται (διὸ καὶ οἱ φοβούμενοι καὶ οἱ ῥιγοῦντες λύζουσιν), κατεχόμενον δὲ τὸ πνεῦμα ἐκθερμαίνει τὸν ἐντὸς τόπον;

Διὰ τί οἱ κωφοὶ ἐκ τῶν μυκτήρων διαλέγονται ὡς ἐπὶ τὸ πολύ; ἢ ὅτι ὁ πνεύμων ἐστὶ τούτοις πεπονηκώς; τοῦτο γάρ ἐστιν ἡ κωφότης, πλήρωσις τοῦ τόπου τοῦ πνευμονικοῦ. οὔκουν ῥᾳδίως ἡ φωνὴ φέρεται, ἀλλ᾽ ὥσπερ τὸ πνεῦμα τῶν πνευστιώντων ἢ ἀσθμαινόντων δι᾽ ἀδυναμίαν ἀθρόον, οὕτως ἐκείνοις ἡ φωνή. βιάζεται οὖν καὶ διὰ τῶν μυκτήρων. βιαζομένη [963a] δὲ τῇ τρίψει ποιεῖ τὸν ἦχον. ἔστι γὰρ ἡ διὰ τῶν ῥινῶν διάλεκτος γινομένη, ὅταν τὸ ἄνω τῆς ῥινὸς εἰς τὸν οὐρανόν, ᾗ συντέτρηται, κοῖλον γένηται· ὥσπερ κώδων γὰρ ὑπηχεῖ, τοῦ κάτωθεν στενοῦ ὄντος.

Διὰ τί μόνον ὁ πταρμὸς ἡμῖν καθεύδουσιν οὐ γίνεται, ἀλλ᾽ ὡς εἰπεῖν ἅπαντα ἐγρηγορόσιν; ἢ ὅτι ὁ μὲν πταρμὸς γίνεται καὶ ὑπὸ θερμοῦ τινὸς κινήσαντος τὸν τόπον τοῦτον ἀφ᾽ οὗ γίνεται· διὸ καὶ ἀνακύπτομεν πρὸς τὸν ἥλιον, ὅταν βουλώμεθα πτάρειν· ὅτι καθευδόντων ἡμῶν ἀντιπερίσταται τὸ θερμὸν ἐντός. διὸ καὶ γίνεται τὰ κάτω θερμὰ τῶν καθευδόντων, καὶ τὸ πνεῦμα τὸ πολὺ αἴτιόν ἐστι τοῦ ἐξονειρώττειν ἡμᾶς. εἰκότως οὖν οὐ πταρνύμεθα· ἀπαλλαγέντος γὰρ τοῦ θερμοῦ τοῦ ἐκ τῆς κεφαλῆς, ὃ κινεῖν πέφυκε τὸ ἐνταῦθα ὑγρόν, οὗ ἐξαερουμένου γίνεται ὁ πταρμός, καὶ τὸ συμβαῖνον πάθος εἰκὸς μὴ γίνεσθαι. ἀποψοφοῦσι δὲ μᾶλλον ἢ πτάρνυνται, καὶ ἐρεύγονται καθεύδοντες ἢ ἐγρηγορότες, ὅτι ἐκθερμαινομένου τοῦ περὶ τὴν κοιλίαν τόπου ἐν τοῖς ὕπνοις μᾶλλον ἐκπνευματοῦσθαι συμβαίνει τὰ περὶ αὐτὴν ὑγρά, πνευματούμενα δὲ εἰς τοὺς ἔγγιστα τόπους φέρεσθαι. ἐνταῦθα γὰρ καὶ συναπωθεῖται ὑπὸ τοῦ ἐν τῷ ὕπνῳ γινομένου πνεύματος. καθεκτικώτερος γάρ ἐστιν ἢ προετικώτερος ὁ καθεύδων τοῦ πνεύματος, διὸ καὶ συστέλλει τὸ θερμὸν ἐντός. ὁ δὲ κατέχων τὸ πνεῦμα ὠθεῖ κάτω αὐτό· παρὰ φύσιν γάρ ἐστι τῷ πνεύματι ἡ κάτω φορά, διὸ καὶ χαλεπόν ἐστι κατέχειν τὸ πνεῦμα. τὸ δ’ αὐτὸ αἴτιον καὶ τοῦ καθεύδειν ἡμῖν ἐστίν. οὔσης γὰρ τῆς ἐγρηγόρσεως κινήσεως, ταύτης δ’ ἐν τοῖς αἰσθητηρίοις ἡμῶν γινομένης μάλιστα ἐν τῷ ἐγρηγορέναι ἡμᾶς, δῆλον ὡς καὶ ἠρεμούντων ἡμῶν καθεύδοιμεν ἄν. ἐπεὶ δὲ τὸ μὲν πῦρ κινητικόν ἐστι τῶν ἐν ἡμῖν μορίων, τοῦτο δ’ ἐν τῷ ὕπνῳ ἐντὸς περιίσταται, λιπὸν τὸν περὶ τὴν κεφαλὴν τόπον οὗ ἐστὶ τὸ αἰσθητήριον, ἠρεμοίη ἂν μάλιστα ἡμῶν τότε τὰ αἰσθητήρια· ὃ εἴη ἂν αἴτιον τοῦ καθεύδειν.

Διὰ τί πτάραντες καὶ οὐρήσαντες φρίττουσιν; ἢ ὅτι κενοῦνται αἱ φλέβες ἀμφοτέροις τούτοις τοῦ πρότερον ἐνυπάρχοντος ἀέρος θερμοῦ, κενωθέντων δὲ ἄλλος ἀὴρ ἔξωθεν εἰσέρχεται ψυχρότερος τοῦ προϋπάρχοντος ἐν ταῖς φλεψίν· τοιοῦτος δ’ εἰσιὼν ποιεῖ φρίττειν.

Διὰ τί τοὺς λυγμοὺς οἱ πταρμοὶ παύουσιν; ἢ ὅτι ὁ λυγμὸς οὐχ ὥσπερ οἱ ἐρυγμοὶ ἀπὸ τῆς τὰ σιτία δεχομένης κοιλίας ἐστὶν ἀλλ’ ἀπὸ τοῦ πνεύματος, συμβαίνει δὲ μάλιστα [963b] ἀπὸ καταψύξεως ἐκ ῥίγους καὶ λύπης καὶ φαρμακείας τῆς ἄνω μάλιστα γίνεσθαι. θερμὸς γὰρ ὢν φύσει ὁ τόπος, ὅταν καταψυχθῇ, οὐ προσίεται τὸ πνεῦμα πᾶν, ἀλλ’ ὥσπερ πομφόλυγας ποιεῖ· διὸ καὶ τὸ πνεῦμα κατασχοῦσι παύεται (ἐκθερμαίνεται γὰρ ὁ τόπος), καὶ τὸ ὄξος, θερμαντικὸν ὄν, προσφερόμενον. τοῦ δὴ θερμοῦ συμβαίνοντος ἀπὸ θερμασίας καὶ τοῦ ἐγκεφάλου, τῶν ἄνω τόπων εἰς τὸν πνεύμονα συντετρημένων, θερμοῦ τοῦ πνεύμονος ὄντος, ἥ τε πρὸ τοῦ πταρμοῦ κατοχὴ καὶ ἡ ἄνωθεν κατάκρουσις λύει τὸ πάθος.

Διὰ τί οἱ οὐλότριχες, καὶ οἷς ἐπέστραπται τὸ τρίχιον, ὡς ἐπὶ τὸ πολὺ σιμότεροι; ἢ εἴπερ ἡ οὐλότης ἐν παχύτητι, ἡ δὲ παχύτης μετὰ σκληρότητος, σκληρὸν δ’ ὂν τὸ αἷμα θερμόν, ἡ δὲ θερμότης οὐ ποιεῖ περίττωσιν, τὸ δὲ ὀστοῦν ἐκ περιττώματος, ὁ δὲ χόνδρος ὀστοῦν, εὐλόγως ἂν ἔκλειψις εἴη τοῦ μορίου; σημεῖον δὲ τὸ τὰ παιδία πάντα εἶναι σιμά.

ΛΔ. ΟΣΑ ΠΕΡΙ ΤΟ ΣΤΟΜΑ ΚΑΙ ΤΑ ΕΝ ΑΥΤῼ.

Διὰ τί οἱ μανοὺς ἔχοντες τοὺς ὀδόντας οὐ μακρόβιοι; ἢ ὅτι τὰ μακρόβια πλείους ἔχουσιν, οἷον τὰ ἄρσενα τῶν θηλειῶν, ἄνδρες γυναικῶν, πρόβατα προβάτων. οἱ οὖν ἀραιώδοντες ὥσπερ ἂν ἐλάττονας ἔχουσιν ὀδόντας ἐοίκασιν.

Διὰ τί οἱ ὀδόντες ἰσχυρότεροι τῶν σαρκῶν ὄντες ὅμως τοῦ ψυχροῦ αἰσθάνονται μᾶλλον; ἢ ὅτι ἐπὶ τοὺς πόρους προσπεφύκασιν, ἐν οἷς ὀλίγον ὂν τὸ θερμὸν ταχὺ ὑπὸ τοῦ ψυχροῦ κρατούμενον ποιεῖ τὴν ἀλγηδόνα;

Διὰ τί τοῦ ψυχροῦ μᾶλλον αἰσθάνονται οἱ ὀδόντες ἢ τοῦ θερμοῦ, ἡ δὲ σὰρξ τοὐναντίον; πότερον ὅτι ἡ μὲν σὰρξ τοῦ μέσου καὶ εὔκρατος, οἱ δὲ ὀδόντες ψυχροί, ὥστε τοῦ ἐναντίου μᾶλλον αἰσθητικοί; ἢ διότι λεπτῶν πόρων εἰσίν, ἐν οἷς μικρὸν τὸ θερμόν, ὥστε ταχὺ πάσχουσιν ὑπὸ τοῦ ἐναντίου; ἡ δὲ σὰρξ θερμόν, ὥστε οὐδὲν πάσχει ὑπὸ τοῦ ψυχροῦ, τοῦ δὲ θερμοῦ ταχὺ αἰσθάνεται· ὥσπερ γὰρ πῦρ ἐπὶ πυρὶ γίνεται.

Διὰ τί ἡ γλῶττα σημαντικὸν πολλῶν; καὶ γὰρ τῶν πυρετῶν ἐν τοῖς ὀξέσι νοσήμασι, καὶ ἐὰν χάλαζαι ἐνῶσιν· καὶ τῶν ποικίλων προβάτων ποικίλαι. ἢ ὅτι ὑγρότητος δεκτικόν, καὶ ἐπὶ τῷ πνεύμονι ἐπίκειται, οὗ ἡ ἀρχὴ ἐπὶ τῶν πυρετῶν. πολύχροα δὲ πάντα διὰ τὴν πολύχροιαν τῶν ὑγρῶν· βάπτεται δὲ πρῶτον δι᾽ οὗ πρῶτον ἠθεῖται· ἡ δὲ γλῶττα τοιοῦτον. αἵ τε χάλαζαι διὰ τὸ σομφὴν εἶναι συλλέγονται· ἔστι γὰρ ἡ χάλαζα οἱονεὶ ἴονθος ἄπεπτος ἐν τοῖς ἐντός.

[964a] Διὰ τί ἡ γλῶττα γλυκεῖα μὲν οὐ γίνεται, πικρὰ δὲ καὶ ἁλμυρὰ καὶ ὀξεῖα; ἢ ὅτι διαφθοραὶ ταῦτ᾽ ἐστί, τῆς δὲ φύσεως οὐκ αἰσθάνεται;

Διὰ τί, ὅσας ἂν χρόας ἔχῃ τὸ δέρμα, τοσαύτας ἔχει καὶ ἡ γλῶττα; πότερον ὅτι ἓν μέρος ἐστὶν ὥσπερ ἄλλο τι τῶν ἔξωθεν, ἀλλ᾽ ἐντὸς περιείληπται; διὰ δὲ τὸ λεπτὸν εἶναι ταύτῃ τὸ δέρμα καὶ ἡ μικρὰ ποικιλία ἐμφαίνεται. ἢ διότι τὸ ὕδωρ ἐστὶν ὃ ποιεῖ μεταβάλλειν τὰς χρόας; ἡ δὲ γλῶττα μάλιστα πάσχει ὑπὸ τοῦ πόματος.

Διὰ τί ἐκ τοῦ στόματος καὶ θερμὸν καὶ ψυχρὸν πνέουσιν; φυσῶσι μὲν γὰρ ψυχρόν, ἀάζουσι δὲ θερμόν. σημεῖον δὲ ὅτι θερμαίνει, ἐὰν πλησίον προσάγῃ τις τὴν χεῖρα τοῦ στόματος. ἢ ἀμφοτέρως ὁ ἀὴρ κινούμενος ψυχρός· ὁ δὲ φυσῶν κινεῖ τὸν ἀέρα οὐκ ἀθρόως, ἀλλὰ διὰ στενοῦ τοῦ στόματος· ὀλίγον οὖν ἐκπνέων πολὺν κινεῖ τὸν θύραθεν, ἐν ᾧ τὸ θερμὸν ὂν τὸ ἐκ τοῦ στόματος οὐ φαίνεται δι' ὀλιγότητα. ὁ δὲ ἀάζων ἀθρόον ἐκπνεῖ· διὸ θερμόν. ἔστι γὰρ φυσασμοῦ τῷ διαφέρειν τῇ συστροφῇ· ὁ δ' ἀασμὸς ἀθρόου ἔκπνευσις.

Διὰ τί, ἐὰν σφόδρα καὶ ἀθρόον ἐκπνεύσωσιν, ἀδυνατοῦσι πάλιν ἐκπνεῦσαι; ὁμοίως δὲ ἔχει καὶ ἐπὶ τοῦ ἀναπνεῦσαι· ἀδυνατοῦσι γὰρ δὶς ἐφεξῆς ποιεῖν αὐτό. ἢ ὅτι τὸ μὲν δίωσίς τίς ἐστι, τὸ δὲ συναγωγὴ τόπου· ἃ ἄχρι τινός ἐστι δυνατὰ γίνεσθαι. φανερὸν οὖν ὅτι ἐναλλὰξ ἀνάγκη ἄμφω γίνεσθαι, καὶ ἀδύνατον δὶς ἐφεξῆς.

Διὰ τί ἑτέρου τόπου ὄντος ᾗ τὰ σῖτα καὶ τὸ ποτὸν διεξέρχεται καὶ ᾗ ἀναπνέομεν, ἐὰν μείζω ψωμὸν καταπίωμεν, πνιγόμεθα; οὐδὲν δὴ ἄτοπον· οὐ γὰρ μόνον ἐάν τι ἐμπέσῃ εἰς τὸν τόπον τοῦτον, ἀλλὰ κἂν ἔτι φραχθῇ, οὕτω μᾶλλον πνιγόμεθα. ταῦτα δὲ παράλληλά ἐστι, καθ' ὅ τε τὰ σιτία δεχόμεθα καὶ καθ' ὃ ἀναπνέομεν. ὅταν οὖν ἐμπέσῃ μείζων ψωμός, καὶ ἡ ἀναπνοὴ συμφράττει, ὥστε μὴ εἶναι τῷ πνεύματι ἔξοδον.

Διὰ τί, ὅσοι τὴν διὰ χειρὸς τομὴν ἔχουσι δι' ὅλης, μακροβιώτατοι; ἢ διότι τὰ ἄναρθρα βραχύβια καὶ ἀσθενῆ; σημεῖον δὲ τῆς μὲν ἀσθενείας τὰ νέα, τῆς δὲ βραχυβιότητος τὰ ἔνυγρα. δῆλον ἄρα ὅτι τὰ ἠρθρωμένα τοὐναντίον. τοιαῦτα δέ, ὧν καὶ τὰ φύσει ἄναρθρα μάλιστα ἤρθρωται. τῆς δὲ χειρὸς τὸ ἔσω ἀναρθρότατον.

Διὰ τί ἐν τῷ μακρὸν ἀναπνεῖν ἑλκόντων μὲν εἴσω τὸ [964b] πνεῦμα συμπίπτει ἡ κοιλία, ἐκπνεόντων δὲ πληροῦται; πιθανὸν δ' ἐστὶ τοὐναντίον συμβαίνειν. ἢ ὅτι τῶν μὲν ἀναπνεόντων συμπιεζουμένη ταῖς πλευραῖς κάτω, καθάπερ αἱ φῦσαι, προσογκεῖν φαίνεται;

Διὰ τί ἀναπνέομεν; ἢ καθάπερ τὸ ὑγρὸν εἰς πνεῦμα διαλύεται, οὕτω καὶ τὸ πνεῦμα εἰς τὸ πῦρ; τὸ τῆς φύσεως οὖν θερμὸν ὅταν τὸ πολὺ τοῦ πνεύματος πῦρ ποιήσῃ, ἀλγηδόνα ἐμποιεῖ, τοῖς δὲ πόροις καὶ ὄγκον· διόπερ ἐξωθοῦμεν τὸ πῦρ μετὰ τοῦ πνεύματος. ὅταν δὲ ἐξέλθῃ τὸ πνεῦμα καὶ τὸ πῦρ, συμπιπτόντων τῶν πόρων καὶ καταψυχομένων ἀλγηδόνες γίνονται· ἕλκομεν οὖν τὸ πνεῦμα πάλιν. εἶτα ἀνοίξαντες τοῦ σώματος τοὺς πόρους καὶ βοηθήσαντες, πάλιν γίνεται τὸ πῦρ, καὶ πάλιν ἀλγοῦντες ἐκπέμπομεν, καὶ διὰ τέλους τοῦτο πράττομεν, καθάπερ καὶ σκαρδαμύσσομεν κατὰ τὸ καταψύχεσθαι τὸ περὶ τὸν ὀφθαλμὸν σῶμα καὶ ξηραίνεσθαι. καὶ βαδίζομεν οὖν προσέχοντες τῇ βαδίσει τὸν νοῦν, κυβερνωμένης δὲ τῆς διανοίας αὐτοῖς .... τοῦτον οὖν τὸν τρόπον καὶ τὰ περὶ τὴν ἀναπνοὴν ποιοῦμεν· μηχανώμενοι γὰρ τὸν ἀέρα ἕλκειν ἀναπνέομεν, καὶ πάλιν ἕλκομεν.

ΛΕ. ΟΣΑ ΠΕΡΙ ΤΑ ΥΠΟ ΤΗΝ ΑΦΗΝ.

Διὰ τί μᾶλλον φρίττομεν ἑτέρου θιγόντος πως ἢ αὐτοὶ ἡμῶν; ἢ ὅτι αἰσθητικωτέρα ἡ ἁφὴ τοῦ ἀλλοτρίου ἢ ἡ τοῦ οἰκείου; τὸ γὰρ συμφυὲς ἀναίσθητον. καὶ φοβερώτερον τὸ λάθρᾳ καὶ ἐξαπιναίως γινόμενον, ὁ δὲ φόβος κατάψυξις· ἡ δὲ ἀλλοτρία ἁφὴ πρὸς τὴν οἰκείαν ἄμφω ταῦτα ἔχει καὶ ὅλως δὲ παθητικὸν ἕκαστον πέφυκεν ἢ μᾶλλον ἢ μόνον ὑπ’ ἄλλου ἢ ὑφ’ αὑτοῦ, οἷον καὶ ἐπὶ τοῦ γαργαλίζεσθαι συμβαίνει.

Διὰ τί γαργαλίζονται τὰς μασχάλας καὶ τὰ ἐντὸς τῶν ποδῶν; ἢ διὰ τὴν λεπτότητα τοῦ δέρματος; καὶ ὧν ἀσυνήθης ἡ ἁφή, οἷον τούτων καὶ τοῦ ὠτός;

Διὰ τί φρίττουσιν οὐκ ἐπὶ τοῖς αὐτοῖς πάντες; ἢ ὅτι οὐδ’ ἐπὶ τοῖς αὐτοῖς πάντες ἡδόμεθα, ὥσπερ οὐδὲ λυπούμεθα ἐπὶ τοῖς αὐτοῖς πάντες; ὁμοίως δὴ οὐ φρίττομεν ἐπὶ τοῖς αὐτοῖς· ἔστι γὰρ ἡ αὐτὴ κατάψυξίς τις. διὸ οἱ μὲν τοῦ ἱματίου δακνομένου φρίττουσιν, οἱ δὲ πρίονος ἀκονουμένου ἢ ἑλκομένου, οἱ δὲ κισήρεως τεμνομένης, οἱ δὲ ὄνου λίθον ἀλοῦντος.

Διὰ τί τοῦ μὲν θέρους ὄντος θερμοῦ, τοῦ δὲ χειμῶνος ψυχροῦ, [965a] τὰ σώματα θιγγανόντων ψυχεινότερά ἐστι τοῦ θέρους ἢ τοῦ χειμῶνος; πότερον ὅτι ὁ ἱδρὼς καὶ ἡ ἴδισις καταψύχει τὰ σώματα, τοῦτο δ’ ἐν μὲν τῷ θέρει γίνεται, ἐν δὲ τῷ χειμῶνι οὔ. ἢ ὅτι ἀντιπερίσταται ἐναντίως τὸ ψυχρὸν καὶ τὸ θερμὸν τῇ ὥρᾳ, καὶ ἔσω φεύγει ἐν τῷ θέρει, διὸ καὶ ἱδρῶτα ἀνίησιν· ἐν δὲ τῷ χειμῶνι ἀποστέγει τὸ ψῦχος καὶ ἀτμίζει τὸ σῶμα ὥσπερ ἡ γῆ;

Διὰ τί φρίττουσιν αἱ τρίχες ἐν τῷ δέρματι; ἢ ὅταν σπάσωσι τὸ δέρμα, εἰκότως ἐξανέστησαν; συσπῶσι δὲ καὶ ὑπὸ ῥίγους καὶ ὑπ’ ἄλλων παθῶν.

Διὰ τί αὐτὸς αὑτὸν οὐθεὶς γαργαλίζει; ἢ ὅτι καὶ ὑπ’ ἄλλου ἧττον, ἐὰν προαίσθηται, μᾶλλον δ’, ἂν μὴ ὁρᾷ; ὥσθ’ ἥκιστα γαργαλισθήσεται, ὅταν μὴ λανθάνῃ τοῦτο πάσχων. ἔστι δὲ ὁ γέλως παρακοπή τις καὶ ἀπάτη. διὸ καὶ τυπτόμενοι εἰς τὰς φρένας γελῶσιν· οὐ γὰρ ὁ τυχὼν τόπος ἐστὶν ᾧ γελῶσιν. τὸ δὲ λαθραῖον ἀπατητικόν. διὰ τοῦτο καὶ γίνεται ὁ γέλως καὶ οὐ γίνεται ὑπ’ αὑτοῦ.

Διὰ τί ποτε τὰ χείλη μάλιστα γαργαλιζόμεθα; ἢ διότι δεῖ τὸ γαργαλιζόμενον μὴ πρόσω τοῦ αἰσθητικοῦ εἶναι; ἔστι δὲ τὰ χείλη περὶ τὸν τόπον τοῦτον μάλιστα. διὰ τοῦτο δὲ γαργαλίζεται τὰ χείλη τῶν περὶ τὴν κεφαλὴν τόπων, ἅ ἐστιν εὔσαρκα. εὐκινητότατα οὖν μάλιστά ἐστιν.

Διὰ τί, ἐάν τις τὸν περὶ τὰς μασχάλας τόπον κνήσῃ, ἐκγελῶσιν, ἐὰν δέ τινα ἄλλον, οὔ; ἢ διὰ τί πτερῷ τὰς ῥῖνας κνήσαντες πτάρνυνται; ἢ τόποι εἰσὶ τῶν φλεβίων, ὧν καταψυχομένων ἢ τοὐναντίον πασχόντων ὑγραίνονται; ἢ εἰς πνεῦμα ἐκ τοῦ ὑγροῦ διαλύεται; ὥσπερ ἐὰν τὰς ἐπὶ τοῦ τραχήλου πιέσῃ τις φλέβας, καθεύδουσιν. ἡ μὲν ἡδονὴ θερμασία τίς ἐστιν· τοῦτο δέ, ὅταν πλέον τὸ πνεῦμα ἐγγένηται, ἀθρόον ἔξω ἀφίεμεν. ὡσαύτως καὶ ἐπὶ πταρμῷ τῷ πτερῷ διαθερμάναντες καὶ κινήσαντες διελύσαμεν εἰς πνεῦμα· πλέονος δὲ γενομένου ἐξεώσαμεν.

Διὰ τί μετὰ τὰ σιτία φρίττομεν πολλάκις; ἢ ὅτι ψυχρὰ εἰσπορευόμενα ἀπὸ πρώτης κρατεῖ μᾶλλον τοῦ φυσικοῦ θερμοῦ ἢ κρατεῖται;

Διὰ τί τὸ περιαγόμενον ἐναλλὰξ τοῖς δακτύλοις δύο φαίνεται; ἢ διότι δυσὶν αἰσθητηρίοις ἁπτόμεθα; τοῖς γὰρ ἐντὸς τῶν δακτύλων, κατὰ φύσιν ἔχοντες τὴν χεῖρα, ἀμφοτέροις οὐ δυνατὸν εἰπεῖν.

ΛϚ. ΟΣΑ ΠΕΡΙ ΠΡΟΣΩΠΟΝ.

[965b] Διὰ τί τοῦ προσώπου τὰς εἰκόνας ποιοῦνται; πότερον ὅτι τοῦτο δηλοῖ ποῖοί τινες; ἢ ὅτι μάλιστα γινώσκεται;

Διὰ τί τὸ πρόσωπον ἰδίουσι μάλιστα, ἀσαρκότατον ὄν; ἢ διότι εὐΐδρωτα μὲν ὅσα ὕφυγρα καὶ ἀραιά, ἡ δὲ κεφαλὴ τοιαύτη; ὑγρότητα γὰρ οἰκείαν ἔχει πλείστην. δηλοῦσι δ’ αἱ φλέβες τείνουσαι ἐντεῦθεν, καὶ οἱ κατάρροι γινόμενοι ἐξ αὐτῆς, καὶ ὁ ἐγκέφαλος ὑγρός, καὶ οἱ πόροι πολλοί· σημεῖον δ’ αἱ τρίχες, ὅτι πολλοὶ πόροι εἰσὶ περαίνοντες ἔξω. οὔκουν ἐκ τῶν κάτω ὁ ἱδρώς, ἀλλ’ ἐκ τῆς κεφαλῆς γίνεται. διὸ ἰδίουσι καὶ πρῶτον μάλιστα τὸ μέτωπον· ὑπόκειται γὰρ τὸ πρῶτον. τὸ δ’ ὑγρὸν κάτω ῥεῖ, ἀλλ’ οὐκ ἄνω.

Διὰ τί ἐν τῷ προσώπῳ μάλιστα οἱ ἴονθοι; ἢ διότι μανὸς ὁ τόπος καὶ ὑγρότητα ἔχει; σημεῖον δὲ ἥ τε τῶν τριχῶν ἔκφυσις καὶ ἡ τῶν αἰσθήσεων δύναμις· ὁ δὲ ἴονθος ὥσπερ ἐξάνθημα ὑγρότητός τινος ἀπέπτου.

ΛΖ. ΟΣΑ ΠΕΡΙ ΟΛΟΝ ΤΟ ΣΩΜΑ.

Διὰ τί ἀεὶ τοῦ σώματος ῥέοντος, καὶ τῆς ἀπορροῆς γινομένης ἐκ τῶν περιττωμάτων, οὐ κουφίζεται τὸ σῶμα, ἐὰν μὴ ἰδίῃ; ἢ διότι ἐλάττων ἡ ἔκκρισις γίνεται; ὅταν γὰρ ἐξ ὑγροῦ μεταβάλλῃ εἰς ἀέρα, πλέον γίνεται ἐξ ἐλάττονος· τὸ γὰρ διακρινόμενον πλέον, ὥστε ἐν πλείονι χρόνῳ ἡ ἔκκρισις.

Διὰ τί δὲ τοῦτο; ἢ διότι δι’ ἐλαττόνων πόρων ἡ ἔξοδός ἐστιν; τὸ γὰρ γλίσχρον καὶ τὸ κολλῶδες μετὰ μὲν τοῦ ὑγροῦ ἐκκρίνεται διὰ τὴν κατάμιξιν, μετὰ δὲ τοῦ πνεύματος ἀδυνατεῖ. μάλιστα δὲ τοῦτ’ ἐστὶ τὸ λυποῦν. διὸ καὶ οἱ ἔμετοι τῶν ἱδρώτων κουφίζουσι μᾶλλον, ὅτι συνεξάγουσι τοῦτο, ἅτε παχύτεροι καὶ σωματωδέστεροι ὄντες. ἢ καὶ ὅτι τῇ μὲν σαρκὶ πόρρω οὗτος ὁ τόπος, ἐν ᾧ τὸ γλίσχρον καὶ κολλῶδες, ὥστε ἔργον μεταστῆσαι, τῇ δὲ κοιλίᾳ ἐγγύς; ἢ γὰρ ἐν ταύτῃ γίνεται ἢ πλησίον· διὸ καὶ δυσεξάγωγος ἄλλως.

Διὰ τί αἱ τρίψεις σαρκοῦσιν; ἢ ὅτι αὐξητικώτατον τῶν ἐν τῷ σώματι τὸ θερμόν ἐστιν; τοῦ μὲν γὰρ ἐνυπάρχοντος μείζους οἱ ὄγκοι γίνονται διὰ τὸ ἀεὶ αὐτὸ ἐν κινήσει εἶναι καὶ εἰς τὸ ἄνω φέρεσθαι καὶ πνευματοῦν τὰ ἐν [966a] ἡμῖν ὑγρά, ὃ ἐν τῇ τρίψει γίνεται· ἐκλείποντος δὲ φθίνει καὶ ἐλαττοῦται τὸ σῶμα. ἢ ὅτι ὀγκοτέρα τῆς τροφῆς γίνεται ἡ σὰρξ διὰ τὴν θερμασίαν; ἅπαν γὰρ τὸ θερμὸν ἐπισπαστικὸν τοῦ ὑγροῦ ἐστίν, ἡ δ’ εἰς τὴν σάρκα διαδιδομένη τροφὴ ὑγρά ἐστι, καὶ ἐπιδέχεται τὴν τροφὴν μᾶλλον διὰ τὴν ἀραίωσιν· ἀραιοτέρα γὰρ γινομένη μᾶλλον δύναται δέχεσθαι ὥσπερ σπογγιά. ἡ δὲ τρῖψις εὔπνουν καὶ ἀραιὰν ποιεῖ τὴν σάρκα, καὶ κωλύει συστάσεις γίνεσθαι κατὰ τὸ σῶμα. τούτου δὲ μὴ ὄντος οὐδὲ συντήξεις γίνονται· αἱ γὰρ ἀτροφίαι καὶ αἱ συντήξεις ἐκ τῶν ἀθροισθέντων εἰσίν. εὐπνούστερα δὲ καὶ ἀραιότερα καὶ ὁμαλέστερα γινόμενα εἰκὸς μᾶλλον ὀγκοῦσθαι. τῆς τε γὰρ τροφῆς δεκτικώτερα καὶ τῶν ἐκκρίσεων προετικώτερα γίνεται, ὅτι οὐ δεῖ πυκνοῦν τὴν σάρκα πρὸς ὑγίειαν, ἀλλ’ ἀραιοῦν· ὥσπερ γὰρ πόλις ὑγιεινή ἐστι καὶ τόπος εὔπνους (διὸ καὶ ἡ θάλαττα ὑγιεινή), οὕτω καὶ σῶμα τὸ εὔπνουν μᾶλλον ὑγιεινόν ἐστι τοῦ ἐναντίως ἔχοντος. δεῖ γὰρ ἢ μὴ ὑπάρχειν μηδέν, ἢ τούτου ὡς τάχιστα ἀπαλλάττεσθαι· καὶ δεῖ οὕτως ἔχειν τὸ σῶμα ὥστε λαμβάνον εὐθὺς ἐκκρίνειν τὴν περίττωσιν, καὶ εἶναι ἐν κινήσει ἀεὶ καὶ μηδέποτε ἠρεμεῖν. τὸ μὲν γὰρ μένον σήπεται, ὥσπερ καὶ ὕδωρ τὸ μὴ κινούμενον· σηπόμενον δὲ νόσον ποιεῖ· τὸ δὲ ἐκκρινόμενον πρὸ τοῦ διαφθαρῆναι χωρίζεται. τοῦτο οὖν πυκνουμένης μὲν τῆς σαρκὸς οὐ γίνεται (ὡσπερεὶ γὰρ ἐμφράττονται οἱ πόροι), ἀραιουμένης δὲ συμβαίνει. διὸ καὶ οὐ δεῖ ἐν τῷ ἡλίῳ γυμνὸν βαδίζειν (συνίσταται γὰρ ἡ σὰρξ καὶ κομιδῇ ἀποσαρκοῦται· τὸ μὲν γὰρ ἐντὸς ὑγρὸν διαμένει, τὸ δ’ ἐπιπολῆς ἀπαλλάττεται ἐξατμιζόμενον, ὥσπερ καὶ τὰ κρέα τὰ ὀπτὰ τῶν ἑφθῶν μᾶλλον τὰ ἐντὸς ὑγρά ἐστιν) οὐδὲ τὰ στήθη γυμνὰ ἔχοντα βαδίζειν ἐν ἡλίῳ (ἀπὸ γὰρ τῶν ἄριστα ᾠκοδομημένων τοῦ σώματος ὁ ἥλιος φέρει, ὃ ἥκιστα δεῖται ἀφαιρέσεως), ἀλλὰ μᾶλλον τὰ ἐντὸς ξηραντέον. ἐκεῖθεν μὲν οὖν διὰ τὸ πόρρω εἶναι, ἐὰν μὴ μετὰ πόνου, οὐκ ἔστιν ἱδρῶτα ἄγειν· ἀπὸ τούτων δὲ διὰ τὸ πρόχειρα εἶναι ῥᾴδιον ἀναλῶσαι τὸ ὑγρόν.

Διὰ τί ψυχθέντες ἀπὸ τῆς αὐτῆς θερμασίας καιόμεθα μᾶλλον καὶ ἀλγοῦμεν; πότερον διὰ τὴν πυκνότητα στέγει ἡ σὰρξ τὸ προσπῖπτον θερμόν; διὸ μόλιβδος ἐρίου θερμότερος. ἢ βίαιος γίνεται τοῦ θερμοῦ ἡ δίοδος διὰ τὸ πεπηγέναι ὑπὸ ψυχροῦ τὸ σῶμα;

[966b] Διὰ τί αἱ ξηροτριβίαι στερεὰν τὴν σάρκα παρασκευάζουσιν; ἢ ὅτι διὰ τὴν τρῖψιν τῆς θερμασίας ἐπιγινομένης τὸ ὑγρὸν καταναλίσκεται. πρὸς δὲ τούτοις ἡ σὰρξ τριβομένη πυκνοῦται· ἅπαντα δὲ ὅσα πλείονος τρίψεως τυγχάνει πυκνοῦται καὶ στερεὰ γίνεται. θεωρῆσαι δὲ τὸ τοιοῦτον ἔστιν ἐπὶ πολλῶν· τὸ γὰρ σταῖς ἢ πηλὸς ἢ ἄλλο τι τῶν τοιούτων, ἐὰν μὲν ὕδωρ ἐπιχέας ἕλκῃς, ὑγρὰ καὶ κλυδῶντα διαμένει, ἐὰν δὲ πλείω τρῖψιν προσάγῃς, πυκνοῦταί τε καὶ στερεοῦται ταχέως καὶ γλίσχρα γίνεται.

Διὰ τί αἱ τρίψεις μᾶλλον σαρκοῦσι τῶν δρόμων; ἢ ὅτι οἱ μὲν δρόμοι περιψύχουσι τὴν σάρκα καὶ οὐ δεκτικὴν τροφῆς παρασκευάζουσιν, ἀλλὰ τὰ μὲν συσσείεται κάτω, τὰ δ’ ἐπὶ πολλοῦ τοῦ φυσικοῦ θερμοῦ ἐπιτελουμένου παντελῶς λεπτυνόμενα εἰς πνεῦμα διακρίνεται; ἡ δὲ παλάμη τῇ τρίψει τὴν σάρκα ἀραιὰν καὶ δεκτικὴν αὐτῆς παρασκευάζει. καὶ ἡ ἔξωθεν δὲ ἁφὴ ἐναντιουμένη διὰ τῆς πιλήσεως τῇ φορᾷ αὐτὸν συνέχει μᾶλλον, καὶ ἀνάκλασιν τῆς σαρκὸς ποιεῖται.

ΛΗ. ΟΣΑ ΠΕΡΙ ΧΡΟΑΝ.

Διὰ τί τὸν μὲν κηρὸν καὶ τοὔλαιον λευκαίνει ὁ ἥλιος, τὴν δὲ σάρκα μελαίνει; ἢ ὅτι τὰ μὲν λευκαίνει ἀπάγων τὸ ὕδωρ (φύσει γὰρ τὸ ὑγρὸν μέλαν διὰ τὴν μῖξιν τοῦ γεώδους ὕδατος), τὴν δὲ σάρκα ἐπικαίει;

Διὰ τί οἱ ἁλιεῖς καὶ πορφυρεῖς καὶ ἁπλῶς οἱ τὴν θάλατταν ἐργαζόμενοι πυρροί εἰσιν; πότερον ὅτι ἡ θάλαττα θερμὴ καὶ αὐχμώδης ἐστὶ διὰ τὴν ἅλμην; τὸ δὲ τοιοῦτον πυρρὰς ποιεῖ τὰς τρίχας, καθάπερ ἥ τε κονία καὶ τὸ ἀρσενικόν. ἢ τὰ μὲν ἐκτὸς γίνονται θερμότεροι, τὰ δ’ ἐντὸς περιψύχονται διὰ τὸ βρεχομένων αὐτῶν ἀεὶ ξηραίνεσθαι ὑπὸ τοῦ ἡλίου τὰ πέριξ; τούτων δὲ τοῦτο πασχόντων αἱ τρίχες ξηραινόμεναι λεπτύνονται καὶ πυρροῦνται. καὶ πάντες δὲ οἱ πρὸς ἄρκτον πυρρότριχες καὶ λεπτότριχές εἰσιν.

Διὰ τί οἱ μὲν ἐν ἱματίῳ δρόμοι καὶ ἡ τοῦ ἐλαίου εἰς ἱμάτιον χρῖσις εὐχρους ποιεῖ, οἱ δὲ γυμνοὶ δρόμοι ἄχρους; ἢ ὅτι ἡ μὲν εὔπνοια εὔχροιαν ποιεῖ, ἡ δὲ κατάπνιξις τοὐναντίον. διὰ δὴ τὸ συνθερμαινόμενον τὸ ἐπιπολῆς ὑγρὸν μὴ διαψύχεσθαι ἄχροιαν ποιεῖ. ἄμφω δὲ ταὐτὸν ποιεῖ, ἡ ἐν τῷ ἱματίῳ ἴδισις καὶ ἡ εἰς τὸ ἱμάτιον ἄλειψις· ἐγκατακλείεται [967a] γὰρ ἡ θερμότης. οἱ δὲ γυμνοὶ δρόμοι ἄχρουν ποιοῦσι διὰ τοὐναντίον, ὅτι καταψύχει ὁ ἀὴρ τὰς συνισταμένας ἐκκρίσεις καὶ διαπνεῖ τὸ σῶμα. ἔτι τὸ ἔλαιον ὑγρὸν ὂν καὶ λεπτόν, ὑπαλειφθὲν καὶ τοὺς πόρους ἐμφρᾶττον, οὔτε τὸ ἐκ τοῦ σώματος ὑγρὸν καὶ πνεῦμα ἔξω ῥεῖν ἐᾷ, οὔτε τὸ ἐκτὸς πνεῦμα ἐντός. διὸ καταπνιγόμενα ἐν τῷ σώματι ὑγρὰ περιττώματα σηπόμενα ἄχροιαν ποιεῖ.

Διὰ τί ἡ εὔπνοια εὔχρους ποιεῖ; ἢ ὅτι ἄχροια ἔοικεν εἶναι οἷον σῆψίς τις χρωτός; ὅταν οὖν τὸ ἐπιπολῆς ὑγρὸν καὶ θερμὸν ᾖ, τοῦτο συμβαίνει χλωρὸν γίνεσθαι, ἐὰν μὴ ψυχθῇ καὶ ἀποπνεύσῃ τὸ θερμόν.

Διὰ τί οἱ μὲν ἱδρώσαντες ἐκ τῶν γυμνασίων εὔχροοί εἰσιν εὐθύς, οἱ δὲ ἀθληταὶ ἄχροοι; ἢ διότι ὑπὸ μὲν τοῦ μετρίου πόνου τὸ θερμὸν ἐκκάεται καὶ ἐπιπολάζει, ὑπὸ δὲ τῶν πολλῶν ἐξηθεῖται μετὰ τοῦ ἱδρῶτος καὶ τοῦ πνεύματος, ἀραιουμένου τοῦ σώματος ἐν τῷ πονεῖν; ὅταν μὲν οὖν ἐπιπολάσῃ τὸ θερμόν, εὔχροοι γίνονται, καθάπερ οἵ τε θερμαινόμενοι καὶ αἰσχυνόμενοι· ὅταν δὲ ἐκλίπῃ, ἄχροοι. οἱ μὲν οὖν ἰδιῶται μέτρια γυμνάζονται, οἱ δὲ ἀθληταὶ πολλά.

Διὰ τί μᾶλλον καίονται ὑπὸ τοῦ ἡλίου οἱ καθεζόμενοι τῶν γυμναζομένων; ἢ ὅτι οἱ ἐν κινήσει ὄντες ὥσπερ ῥιπίζονται ὑπὸ τοῦ πνεύματος διὰ τὸ κινεῖν τὸν ἀέρα, οἱ δὲ καθήμενοι οὐ πάσχουσι τοῦτο;

Διὰ τί ὁ μὲν ἥλιος ἐπικάει, τὸ δὲ πῦρ οὔ; ἢ διότι λεπτότερός ἐστιν ὁ ἥλιος, καὶ μᾶλλον δύναται διαδύεσθαι εἰς τὴν σάρκα; τὸ δὲ πῦρ, ἐὰν καὶ ἐπικαύσῃ, ἄνω μόνον ποιεῖ τὸ χρῶμα, τὰς φοῖδας καλουμένας· εἴσω δὲ οὐκ εἰσδύεται.

[967b] Διὰ τί τὸ πῦρ οὐ ποιεῖ μέλανας, ὁ δὲ ἥλιος ποιεῖ· τὸν δὲ κέραμον ποιεῖ, ὁ δὲ ἥλιος οὔ; ἢ οὐχ ὁμοίως ἑκάτερον ποιεῖ, ἀλλ’ ὁ μὲν ἐπικάων τὴν χρόαν μελαίνει, τὸ δὲ πῦρ τὸν κέραμον ἀναπιμπλᾷ, ᾗ ἀναφέρει ἀσβόλῳ. τοῦτο δ’ ἐστὶ λεπτῆς μαρίλης, ἀποθραυομένων ἅμα καὶ καομένων τῶν ἀνθράκων. τοὺς δ’ ἀνθρώπους ὁ μὲν ἥλιος μελαίνει, τὸ δὲ πῦρ οὔ, ὅτι τοῦ μὲν μαλθακὴ ἡ θερμότης, καὶ διὰ μικρομέρειαν δύναται τὸ δέρμα αὐτὸ κάειν· ὥστε διὰ μὲν τὸ τῆς σαρκὸς μὴ ἅπτεσθαι οὐκ ἀλγεινόν, διὰ δὲ τὸ κάειν μέλαν ποιεῖ. τὸ δὲ πῦρ ἢ οὐχ ἅπτεται ἢ εἴσω διέρχεται, ἐπεὶ μέλανα καὶ τὰ πυρίκαυστα γίνεται, ἀλλ’ οὐ μόνον ἐκεῖνον τὸν τόπον κάει οὗ ἡ χροιά.

Διὰ τί οἱ γηράσκοντες μελάντεροι γίνονται; ἢ ὅτι πᾶν σηπόμενον μελάντερον γίνεται, πλὴν εὐρῶτος; τοῦτο δ’ ἐστὶ γῆρας καὶ σαπρότης. ἔτι ἐπειδὴ τὸ αἷμα ξηραινόμενον μελάντερον γίνεται, εἰκότως ἂν μελάντεροι εἶεν οἱ πρεσβύτεροι· τοῦτο γάρ ἐστι τὸ χρῷζον ἡμῶν τὰ σώματα φυσικῶς.

Διὰ τί περὶ τὴν τῶν σιτίων ἐργασίαν, οἱ μὲν περὶ τὰς κριθὰς ἄχροοι γίνονται καὶ καταρροϊκοί, οἱ δὲ περὶ τοὺς πυροὺς εὐεκτικοί; ἢ διότι εὐπεπτότερος ὁ πυρὸς τῆς κριθῆς, ὥστε καὶ αἱ ἀπόρροιαι;

Διὰ τί ὁ μὲν ἥλιος τὸ μὲν ἔλαιον λευκαίνει, τὴν δὲ σάρκα μελαίνει; ἢ ὅτι τοῦ μὲν ἐλαίου ἀπάγει τὸ γεῶδες; τοῦτο δὲ ἦν τὸ μέλαν, ὥσπερ τὸ γεῶδες τοῦ οἴνου. τὴν δὲ σάρκα μελαίνει, ὅτι κάει· τὸ γὰρ γεῶδες καόμενον ἅπαν γίνεται μέλαν.

Περι Ατομων Γραμμων (968a) On Indivisible Lines

[968a] Ἆρά γ’ εἰσὶν ἄτομοι γραμμαί, καὶ ὅλως ἐν ἅπασι τοῖς ποσοῖς ἐστί τι ἀμερές, ὥσπερ ἔνιοί φασιν; εἰ γὰρ ὁμοίως ὑπάρχει τό τε πολὺ καὶ τὸ μέγα καὶ τὰ ἀντικείμενα τούτοις, τό τε ὀλίγον καὶ τὸ μικρόν, τὸ δ’ ἀπείρους σχεδὸν διαιρέσεις ἔχον οὐκ ἔστιν ὀλίγον ἀλλὰ πολύ, φανερὸν ὅτι πεπερασμένας ἕξει τὰς διαιρέσεις τὸ ὀλίγον καὶ τὸ μικρόν· εἰ δὲ πεπερασμέναι αἱ διαιρέσεις, ἀνάγκη τι εἶναι ἀμερὲς μέγεθος, ὥστε ἐν ἅπασιν ἐνυπάρξει τι ἀμερές, ἐπείπερ καὶ τὸ ὀλίγον καὶ τὸ μικρόν. ἔτι εἰ ἔστιν ἰδέα γραμμῆς, ἡ δ’ ἰδέα πρώτη τῶν συνωνύμων, τὰ δὲ μέρη πρότερα τοῦ ὅλου τὴν φύσιν, διαιρετὴ ἂν εἴη αὐτὴ ἡ γραμμή, τὸν αὐτὸν δὲ τρόπον καὶ τὸ τετράγωνον καὶ τὸ τρίγωνον καὶ τὰ ἄλλα σχήματα, καὶ ὅλως ἐπίπεδον αὐτὸ καὶ σῶμα· συμβήσεται γὰρ πρότερ’ ἄττα εἶναι τούτων. ἔτι εἰ σώματός ἐστι στοιχεῖα, τῶν δὲ στοιχείων μηδὲν πρότερον, τὰ δὲ μέρη τοῦ ὅλου πρότερα, ἀδιαίρετον ἂν εἴη τὸ πῦρ καὶ ὅλως τῶν τοῦ σώματος στοιχείων ἕκαστον, ὥστ’ οὐ μόνον ἐν τοῖς νοητοῖς ἀλλὰ καὶ ἐν τοῖς αἰσθητοῖς ἐστί τι ἀμερές. ἔτι δὲ κατὰ τὸν Ζήνωνος λόγον ἀνάγκη τι μέγεθος ἀμερὲς εἶναι, εἴπερ ἀδύνατον μὲν ἐν πεπερασμένῳ χρόνῳ ἀπείρων ἅψασθαι, καθ’ ἕκαστον ἁπτόμενον, ἀνάγκη δ’ ἐπὶ τὸ ἥμισυ πρότερον ἀφικνεῖσθαι τὸ κινούμενον, τοῦ δὲ μὴ ἀμεροῦς πάντως ἔστιν ἥμισυ. εἰ δὲ καὶ ἅπτεται τῶν ἀπείρων ἐν πεπερασμένῳ χρόνῳ τὸ ἐπὶ τῆς γραμμῆς φερόμενον, τὸ δὲ θᾶττον ἐν τῷ ἴσῳ χρόνῳ πλεῖον διανύει, ταχίστη δ’ ἡ τῆς διανοίας κίνησις, κἂν ἡ διάνοια τῶν ἀπείρων ἐφάπτοιτο καθ’ ἕκαστον [968b] ἐν πεπερασμένῳ χρόνῳ, ὥστε εἰ τὸ καθ’ ἕκαστον ἅπτεσθαι τὴν διάνοιαν ἀριθμεῖν ἐστίν, ἐνδέχεται ἀριθμεῖν τὰ ἄπειρα ἐν πεπερασμένῳ χρόνῳ. εἰ δὲ τοῦτο ἀδύνατον, εἴη ἄν τις ἄτομος γραμμή. ἔτι καὶ ἐξ ὧν αὐτοὶ οἱ ἐν τοῖς μαθήμασι λέγουσιν, εἴη ἄν τις ἄτομος γραμμή, ὡς φασίν, εἰ σύμμετροί εἰσιν αἱ τῷ αὐτῷ μέτρῳ μετρούμεναι· ὅσαι δ’ εἰσὶ σύμμετροι, πᾶσαί εἰσι μετρούμεναι. εἴη γὰρ ἄν τι μῆκος ᾧ πᾶσαι μετρηθήσονται. τοῦτο δ’ ἀνάγκη ἀδιαίρετον εἶναι. εἰ γὰρ διαιρετόν, καὶ τὰ μέρη μέτρου τινὸς ἔσται· σύμμετρα γὰρ τῷ ὅλῳ. ὥστε μέρους τινὸς εἴη διπλασία τὴν ἡμίσειαν, ἐπειδὴ τοῦτ’ ἀδύνατον ἂν εἴη

μέτρον. ὡσαύτως δὲ καὶ αἱ μετρούμεναι ἅπαξ ὑπ' αὐτοῦ, ὥσπερ πᾶσαι αἱ ἐκ τοῦ μέτρου σύνθετοι γραμμαί, ἐξ ἀμερῶν σύγκεινται. τὸ δ' αὐτὸ συμβήσεται κἀν τοῖς ἐπιπέδοις· πάντα γὰρ τὰ ἀπὸ τῶν ῥητῶν γραμμῶν σύμμετρα ἀλλήλοις, ὥστε ἔσται τὸ μέτρον αὐτῶν ἀμερές. ἀλλὰ μὴν εἴ τι τμηθήσεται μέτρον τινὰ τεταγμένην καὶ ὡρισμένην γραμμήν, οὐκ ἔσται οὔτε ῥητὴ οὔτ' ἄλογος, οὔτε τῶν ἄλλων οὐδεμία ὧν νῦν δὴ εἴρηται, οἷον ἀποτομὴν ἐκ δυοῖν ὀνομάτοιν· ἀλλὰ καθ' αὑτὰς μὲν οὐδέ τινας ἕξουσι φύσεις, πρὸς ἀλλήλας δὲ ἔσονται ῥηταὶ καὶ ἄλογοι. ἢ πρῶτον μὲν οὐκ ἀνάγκη τὸ ἀπείρους ἔχον διαιρέσεις μὴ εἶναι μικρὸν καὶ ὀλίγον· καὶ γὰρ τόπον καὶ μέγεθος καὶ ὅλως τὸ συνεχὲς μικρὸν μὲν λέγομεν, καὶ ἐφ' ὧν μὲν ἁρμόττει τὸ ὀλίγον, οὐ μὴν ἀλλ' ἀπείρους διαιρέσεις φαμὲν ἔχειν. ἔτι δ' εἰ ἐν τῷ συνθέτῳ γραμμαί, κατὰ τούτων τῶν ἀτόμων λέγεται [969a] τὸ μικρόν, καὶ ἄπειροι στιγμαὶ ἐνυπάρχουσιν. ᾗ δὲ γραμμή, διαίρεσις κατὰ στιγμήν, καὶ ὁμοίως καθ' ὁποιανοῦν ἀπείρους ἂν ἔχοι διαιρέσεις ἅπασα ἡ μὴ ἄτομος. ἔνιαι δὲ τούτων εἰς μακρὰ καὶ ἄπειροι οἱ λόγοι. πᾶσαν δὲ τμηθῆναι τὸν ἐπιταχθέντα δυνατὸν τὴν μὴ ἄτομον. ἔτι εἰ τὸ μέγα ἐκ μικρῶν τινῶν σύγκειται, ἢ οὐθὲν ἔσται τὸ μέγα, ἢ τὸ πεπερασμένας ἔχον διαιρέσεις οὐ μέγα ἔσται. τὸ γὰρ ὅλον τὰς τῶν μερῶν ἔχει διαιρέσεις ὁμοίως. εὔλογον δ' ἐστὶ τό τε σμικρὸν πεπερασμένας ἔχειν διαιρέσεις καὶ τὸ μέγα ἀπείρους, οὕτως ἀξιοῦσιν. ὥστε φανερὸν ὅτι οὐκ ἐν τούτῳ λέγοιτο τὸ μέγα καὶ τὸ μικρόν, τῷ πεπερασμένας ἔχειν καὶ ἀπείρους διαιρέσεις. εἰ δ' ὅτι καὶ ἐν ἀριθμοῖς τὸ ὀλίγον πεπερασμένας ἔχει διαιρέσεις, καὶ ἐν γραμμαῖς τις ἀξιοίη τὸ μικρόν, εὔηθες. ἐκεῖ μὲν γὰρ ἐξ ἀμερῶν τε ἡ γένεσις, καὶ ἔστι τι ὃ τῶν ἀριθμῶν ἀρχή ἐστι, καὶ πᾶς ὁ μὴ ἄπειρος πεπερασμένας ἔχει διαιρέσεις· ἐπὶ δὲ τῶν μεγεθῶν οὐχ ὁμοίως. οἱ δ' ἐν τοῖς εἴδεσι τὰς ἀτόμους κατασκευάζοντες τοὔλαττον ἴσως ἀξίωμα λαμβάνουσι τοῦ προκειμένου, τὸ τιθέναι τούτων ἰδέας· καὶ τρόπον τινὰ ταῦτ' ἀναιροῦσι δι' ὧν δεικνύουσιν. καὶ γὰρ διὰ τούτων τῶν λόγων ἀναιρεῖται τὰ εἴδη. πάλιν δὲ τῶν σωματικῶν στοιχείων εὔηθες τὸ ἀμερῆ ἀξιοῦν. εἰ γὰρ αὖ καὶ ἀποφαίνονταί τινες οὕτως, ἀλλὰ πρός γε τὴν ὑποκειμένην σκέψιν αὐτὸ τὸ ἐξ ἀρχῆς λαμβάνουσιν. μᾶλλον δὲ ὅσῳ μᾶλλον τὸ ἐξ ἀρχῆς δόξειαν ἀναλαμβάνεσθαι, τόσῳ μᾶλλον δοκεῖ διαιρετὸν εἶναι σῶμα καὶ μῆκος καὶ τοῖς ὄγκοις καὶ τοῖς διαστήμασιν. ὁ δὲ τοῦ Ζήνωνος λόγος οὐ συμβιβάζει οὐ συμπεπερασμένῳ χρόνῳ τῶν ἀπείρων ἅπτεσθαι τὸ φερόμενον ὡδὶ τὸν αὐτὸν τρόπον. ὁ γὰρ χρόνος καὶ τὸ μῆκος ἄπειρον καὶ πεπερασμένον λέγεται, καὶ τόσας ἔχει διαιρέσεις. οὐδὲ δὴ τὸ καθ' ἕκαστον ἅπτεσθαι τῶν ἀπείρων τὴν διάνοιαν οὐκ ἔστιν ἀριθμεῖν, εἰ ἄρα τις καὶ νοήσειεν οὕτως ἐφάπτεσθαι τῶν ἀπείρων τὴν διάνοιαν. ὅπερ ἴσως ἀδύνατον· οὐ γὰρ ἐν συνεχέσι καὶ [969b] ὑποκειμένοις ἡ τῆς διανοίας κίνησις, ὥσπερ ἡ τῶν φερομένων. εἰ δ’ οὖν καὶ ἐγχωρεῖ κινεῖσθαι οὕτως, οὐκ ἔστι τοῦτο ἀριθμεῖν· τὸ γὰρ ἀριθμεῖν ἐστὶ τὸ μετὰ ἐπιστάσεως. ἀλλ’ ἄτοπον ἴσως τὸ μὴ δυναμένους λύειν τὸν λόγον δουλεύειν τῇ ἀσθενείᾳ, καὶ προσεξαπατᾶν ἑαυτοὺς μείζους ἀπάτας, βοηθοῦντας τῇ ἀδυναμίᾳ. τὸ δ’ ἐπὶ τῶν συμμέτρων γραμμῶν, ὡς ὅτι αἱ πᾶσαι τῷ αὐτῷ τινὶ καὶ ἑνὶ μετροῦνται, κομιδῇ σοφιστικὸν καὶ ἥκιστα κατὰ τὴν ὑπόθεσιν τὴν ἐν τοῖς μαθήμασιν· οὔτε γὰρ ὑποτίθενται οὕτως, οὔτε χρήσιμον αὐτοῖς ἐστίν. ἅμα δὲ καὶ ἐναντίον πᾶσαν μὲν γραμμὴν σύμμετρον γίνεσθαι, πασῶν δὲ τῶν συμμέτρων κοινὸν μέτρον εἶναι ἀξιοῦν. ὥστε γελοῖον τὸ κατὰ τὰς ἐκείνων δόξας καὶ ἐξ ὧν αὐτοὶ λέγουσι φάσκοντες δείξειν, εἰς ἐριστικὸν ἅμα καὶ σοφιστικὸν ἐκκλίνειν λόγον, καὶ ταῦθ’ οὕτως ἀσθενῆ. πολλαχῇ γὰρ ἀσθενής ἐστι καὶ πάντα τρόπον διαφυγεῖν καὶ τὰ παράδοξα καὶ τοὺς ἐλέγχους. ἔτι δ’ ἄτοπον ἂν εἴη διὰ μὲν τὸν Ζήνωνος λόγον παραπεπεῖσθαί τινας ἀτόμους ποιεῖν γραμμάς, τῷ μὴ ἔχειν ἀντειπεῖν, διὰ δὲ τῆς εὐθείας εἰς τὴν ἡμιόλιον κίνησιν, ἣν ἀναγκαῖον εὐθὺς τέμνειν ἀπείρων μεταξὺ πιπτουσῶν περιφερειῶν καὶ διαστημάτων ὄντων, καὶ πάλιν διὰ τὴν τῶν ἴσων κύκλων εὔπειστον, ὅτι ἀνάγκη ἂν ὅτι κινηθῇ, μεῖζον ἡμικύκλιον κινεῖσθαι, καὶ ὅσα ἄλλα τοιαῦτα τεθεώρηται περὶ τὰς γραμμὰς μὴ οἷόν τε ἐνδέχεσθαι τοιαύτην δή τινα γενέσθαι κίνησιν ὥστ’ ἐφ’ ἑκάστην τῶν μεταξὺ μὴ πίπτειν πρότερον· πολὺ γὰρ ταῦτα μᾶλλον ὁμολογούμενα ἐκείνων. ὅτι μὲν οὖν ἔκ γε τῶν εἰρημένων λόγων οὔτ’ ἀναγκαῖον ἀτόμους εἶναι γραμμὰς οὔτε πιθανόν, φανερόν. ἔτι δὲ καὶ ἐκ τῶνδε γένοιτ’ ἂν φανερώτερον. πρῶτον μὲν ἐκ τῶν ἐν τοῖς μαθήμασι δεικνυμένων καὶ τιθεμένων, ἃ οὐ δίκαιον ἢ πιστοτέροις λόγοις κινεῖν. οὔτε γὰρ ὁ τῆς γραμμῆς οὔτε ὁ τῆς εὐθείας ὅρος ἐφαρμόσει τῇ ἀτόμῳ διὰ τὸ μήτε μεταξὺ τινῶν εἶναι μήτ’ ἔχειν μέσον. ἔπειτα πᾶσαι αἱ γραμμαὶ [970a] σύμμετροι ἔσονται. πᾶσαι γὰρ ὑπὸ τῶν ἀτόμων μετρηθήσονται, αἵ τε μήκει σύμμετροι καὶ αἱ δυνάμει. αἱ δὲ ἄτομοι σύμμετροι πᾶσαι μήκει· ἴσαι γάρ· ὥστε καὶ δυνάμει. εἰ δὲ τοῦτο, διαιρετὸν ἔσται τὸ τετράγωνον. ἔτι εἰ ἡ περὶ τὴν μείζω τὸ πλάτος ποιεῖ παραβαλλομένη, τὸ ἴσον τῶν ἀπὸ τῆς ἀτόμου καὶ τῆς ποδιαίας παραβαλλομένων περὶ τὴν δίπουν ἔλαττον ποιήσει τὸ πλάτος τῆς ἀμεροῦς· ἔσται ἔλαττον τὸ περὶ τῆς ἀτόμου. ἔτι εἰ ἐκ τριῶν δοθεισῶν εὐθειῶν συνίσταται τρίγωνον, καὶ ἐκ τῶν ἀτόμων συσταθήσεται. ἐν ἅπαντι δὲ ἰσοπλεύρῳ ἡ κάθετος ἐπὶ μέσην πίπτει, ὥστε καὶ ἐπὶ τὴν ἄτομον. ἔτι εἰ τὸ τετράγωνον τῶν ἀμερῶν διὰ μέσου ἐμπεσούσης καὶ καθέτου ἀχθείσης, ἡ τοῦ τετραγώνου πλευρὰ τὴν κάθετον δύναται καὶ τὴν ἡμίσειαν τῆς διαμέτρου, ὥστε οὐκ ἐλαχίστη. οὐδὲ διπλάσιον τὸ ἀπὸ τῆς διαμέτρου χωρίον ἔσται τοῦ ἀπὸ τῆς ἀτόμου. ἀφαιρεθέντος γὰρ τοῦ ἴσου ἡ λοιπὴ ἔσται ἐλάσσων τῆς ἀμεροῦς. εἰ γὰρ ἴσως τετραπλάσιον ἂν ἔγραψεν ἡ διάμετρος, ἄλλα δ’ ἄν τις καὶ ἕτερα τοιαῦτα συνάγοι· πᾶσι γὰρ ὡς εἰπεῖν ἐναντιοῦται τοῖς ἐν τοῖς μαθήμασιν. πάλιν τοῦ μὲν ἀμεροῦς μία ἡ σύναψις, γραμμῆς δὲ δύο· καὶ γὰρ ὅλη ὅλης ἅπτεται, καὶ κατὰ τὸ πέρας ἐξ ἐναντίας. ἔτι γραμμὴ προστεθεῖσα οὐ ποιεῖ μείζω τὴν ὅλην· τὰ γὰρ ἀμερῆ συντιθέμενα οὐ ποιήσει μεῖζον. ἔτι ἐκ δυοῖν ἀμεροῖν μηδὲν γίνεσθαι συνεχὲς διὰ τὸ πλείους διαιρέσεις ἔχειν ἅπαν τὸ συνεχές· ἅπασα δὲ γραμμὴ παρὰ τὴν ἄτομον συνεχὴς οὐκ ἂν εἴη γραμμὴ ἄτομος. ἔτι εἰ ἅπασα γραμμὴ παρὰ τῆς ἀτόμου καὶ ἴσα καὶ ἄνισα διαιρεῖται, καὶ μὴ ἐκ τριῶν ἀτόμων καὶ ὅλως περιττῶν, ὥστ’ ἀδιαίρετος ἡ ἄτομος. ὁμοίως δὲ κἂν εἰ δίχα τέμνεται· πᾶσα γὰρ ἡ ἐκ τῶν περιττῶν. εἰ δὲ δίχα μὲν μὴ πᾶσα τέμνεται ἀλλ’ ἡ ἐκ τῶν ἀρτίων, τὴν δὲ δίχα διαιρουμένην καὶ ὅσα δυνατὸν τέμνειν, διαιρεθήσεται καὶ οὕτως ἡ ἄτομος, ὅταν ἡ ἐκ τῶν ἀρτίων εἰς ἄνισα διαιρῆται. πάλιν εἰ τὸ κεκινημένον ἐν ᾧ [970b] χρόνῳ κινεῖται τὴν ὅλην ἐν τῷ ἡμίσει τὴν ἡμίσειαν κινηθήσεται, καὶ ἐν τῷ ἐλάττονι ἔλαττον ἢ τὴν ἡμίσειαν, ὥστ’ εἰ μὲν περιττῶν σύγκειται τῶν ἀτόμων τὸ μῆκος, ἀναιρεθήσεται ἡ μέση τομὴ τῶν ἀτόμων, εἴπερ ἐν τῷ ἡμίσει χρόνῳ τὸ ἥμισυ δίεισιν· ὁμοίως γὰρ ὅ τε χρόνος καὶ ἡ γραμμὴ τμηθήσεται. ὥστε οὐδεμία τῶν συγκειμένων τμηθήσεται εἰς ἴσα καὶ ἄνισα, οὐδ’ ὁμοίως τοῖς χρόνοις τμηθήσονται. οὐκ ἔσονται ἄτομοι γραμμαί. τὰ δὲ τοῦ αὐτοῦ λόγου ἐστί, καθάπερ ἐλέχθη, τὸ πάντα ταῦτα ποιεῖν ἐξ ἀμερῶν. ἔτι ἅπασα ἡ μὴ ἄπειρος δύο ἔχει πέρατα· γραμμὴ γὰρ ὥρισται τούτοις. ἡ δὲ ἄτομος οὐκ ἄπειρος, ὥστε ἕξει πέρας. διαιρετὴ ἄρα· τὸ γὰρ πέρας ἄλλο καὶ οὗ πέρας. ἢ ἔσται τις οὔτ’ ἄπειρος οὔτε πεπερασμένη γραμμὴ παρὰ ταύτας. ἔτι οὐκ ἐν ἁπάσῃ γραμμῇ στιγμὴ ἔσται. ἐν μὲν γὰρ τῇ ἀτόμῳ οὐκ ἔστιν· εἰ μὲν γὰρ μία μόνη, ὑπάρξει γραμμή, εἶτα στιγμή· εἰ δὲ πλείους, διαιρετὴ ἡ γραμμή. εἰ μὲν οὖν ἐν τῇ ἀτόμῳ μὴ ἐνυπάρχει στιγμή, οὐδ’ ὅλως ἐν γραμμῇ ἔσται· αἱ γὰρ ἄλλαι ἐκ τῶν ἀτόμων. ἔτι ἢ μηθὲν τῶν στιγμῶν ἔσται μεταξὺ ἢ γραμμή· εἰ δὲ μεταξὺ γραμμή, ἐν ἁπάσαις δὲ πλείους στιγμαί, οὐκ ἔσται ἄτομος. ἔτι οὐχ ἁπάσης ἔσται γραμμῆς τετράγωνον· ἕξει γὰρ μῆκος καὶ πλάτος, ὥστε διαιρετόν, ἐπεὶ τὸ μέν, τὸ δέ τι. εἰ δὲ τὸ τετράγωνον, καὶ ἡ γραμμή. ἔτι τὸ πέρας τῆς γραμμῆς στιγμὴ ἔσται, ἀλλ’ οὐ γραμμή. πέρας μὲν γάρ, τὸ ἔσχατον δὲ ἡ ἄτομος. εἰ γὰρ στιγμή, τὸ πέρας τῇ ἀτόμῳ ἔσται στιγμή, καὶ ἔσται γραμμὴ γραμμῆς στιγμῇ μείζων. εἰ δ’ ἐνυπάρχει τῇ ἀτόμῳ ἡ στιγμή, διὰ τὸ ταὐτὸ πέρας τῶν συνεχουσῶν γραμμῶν, ἔσται τι πέρας τῆς ἀμεροῦς. ὅλως τε τί διοίσει στιγμὴ γραμμῆς; οὐδὲν γὰρ ἴδιον ἕξει ἡ ἄτομος γραμμὴ παρὰ τὴν στιγμὴν πλὴν τοὔνομα. ἔτι ὁμοίως μένει ἐπίπεδον καὶ σῶμά ἐστιν ἄτομον. ἑνὸς γὰρ ὄντος ἀδιαιρέτου καὶ τἆλλα συνακολουθήσει διὰ τὸ θάτερον διῃρῆσθαι κατὰ θάτερον. σῶμα οὐκ ἔσται ἀδιαίρετον διὰ τὸ [971a] εἶναι ἐν αὐτῷ βάθος καὶ πλάτος, οὐδ’ ἂν γραμμὴ εἴη ἀδιαίρετος· σῶμα μὲν γὰρ κατ’ ἐπίπεδον, ἐπίπεδον δὲ κατὰ γραμμήν. ἐπεὶ δὲ οἵ τε λόγοι δι’ ὧν ἐπιχειροῦσι πείθειν ἀσθενεῖς εἰσί, καὶ ψευδεῖς ἐναντίαι δόξαι πᾶσαι τοῖς ἰσχύουσι πρὸς πίστιν, φανερὸν ὅτι οὐκ ἂν εἴη γραμμὴ ἄτομος. δῆλον δ’ ἐκ τούτων ὅτι οὐδ’ ἂν ἐκ στιγμῶν εἴη γραμμή. σχεδὸν γὰρ οἱ πλεῖστοι τῶν λόγων οἱ αὐτοὶ ἁρμόσουσιν. ἀνάγκη γὰρ διαιρεῖσθαι τὴν στιγμήν, ὅταν ἢ ἐκ περιττῶν τέμνηται ἴσα ἢ ἐξ ἀρτίων τὰ ἄνισα. καὶ τὸ τῆς γραμμῆς μέρος μὴ εἶναι γραμμήν, μηδὲ τὸ τοῦ ἐπιπέδου ἐπίπεδον. καὶ γραμμὴ δὲ γραμμῆς στιγμῇ εἶναι μείζων· ἐξ ὧν γὰρ σύγκειται, τούτοις καὶ ὑπερέξει. τοῦτο δ’ ὅτι ἀδύνατον, ἔκ τε τῶν ἐν τοῖς μαθήμασι δῆλον, καὶ ἔτι συμβήσεται τὴν στιγμὴν ἐν χρόνῳ δὴ εἶναι τὸ φερόμενον, εἴπερ τὴν μείζω μὲν ἐν πλείονι χρόνῳ, τὴν δ’ ἴσην ἐν ἴσῳ, ἡ δὲ τοῦ χρόνου ὑπεροχὴ χρόνος. ἀλλ’ ἴσως καὶ ὁ χρόνος ἐστὶν ἐκ τῶν νῦν, καὶ τοῦ αὐτοῦ λόγου λέγειν ἄμφω. εἰ δὴ τὸ νῦν ἀρχὴ καὶ πέρας τοῦ χρόνου καὶ ἡ γραμμὴ στιγμῆς, μή ἐστι δὲ συνεχὴς ἡ ἀρχὴ καὶ τὸ πέρας ἀλλ’ ἔχουσί τι μεταξύ, οὐκ ἂν εἴη οὔτε τὰ νῦν οὔτε στιγμαὶ ἀλλήλοις συνεχεῖς. ἔτι ἡ μὲν γραμμὴ μέγεθός τι, ἡ δὲ τῶν στιγμῶν σύνθεσις οὐδὲν ποιεῖ μεγέθος διὰ τὸ μηδ’ ἐπὶ πλείω τόπον ἔχειν. ὅταν γὰρ ἐπὶ γραμμὴν γραμμὴ τεθῇ καὶ ἐφαρμόσῃ, οὐδὲν γίνεται μεῖζον τὸ πλάτος. ἐν δὲ τῇ γραμμῇ καὶ στιγμαὶ ἐνυπάρχουσιν, οὐδ’ ἂν αἱ στιγμαὶ πλείω κατέχοιεν τόπον, ὥστε οὐκ ἂν ποιοῖεν μέγεθος. ἔτι εἰ ἅπαντα ἅπτεται παντὸς ἢ ὅλον ὅλου ἢ τινὶ τινὸς ἢ ὅλον τινός, ἡ δὲ στιγμὴ ἀμερὴς ὅλως ἅπτοιτο. τὸ δ’ ὅλον ὅλου ἁπτόμενον ἀνάγκη ἓν εἶναι. εἰ γάρ τι ἐστὶν ἢ θάτερον μή ἐστιν, οὐκ ἂν ὅλον ὅλου ἅπτοιτο. εἰ δ’ ἅμα ἐστὶ τὰ ἀμερῆ, τὸν αὐτὸν κατέχει τόπον πλείων ὂν καὶ πρότερον τὸ ἕν· τῶν γὰρ ἅμα [971b] ὄντων καὶ μὴ ἐχόντων ἐπέκτασιν κατὰ ταὐτὰ ὁ αὐτὸς ἀμφοῖν τόπος. τὸ δ’ ἀμερὲς οὐκ ἔχει διάστασιν, ὥστ’ οὐκ ἂν εἴη μέγεθος συνεχὲς ἐξ ἀμερῶν. οὐκ ἄρα οὔθ’ ἡ γραμμὴ ἐκ στιγμῶν οὔθ’ ὁ χρόνος ἐκ τῶν νῦν. ἔτι εἰ ἔστιν ἐκ στιγμῶν, ἅψεται στιγμὴ στιγμῆς· ἐὰν οὖν ἐκ τοῦ Κ ἐκβληθῇ ἡ ΑΒ καὶ ΓΔ, ἅψεται τοῦ Κ καὶ ἡ ἐν τῇ ΚΔ στιγμή. ὥστε καὶ ἄλλῳ τινί· τὸ γὰρ ἀμερὲς τοῦ ἀμεροῦς ὅλον ὅλου ἐφάπτεται. ὥστε τὸν αὐτὸν ἐφέξει τόπον τοῦ Κ, καὶ ἁπτόμεναι στιγμαὶ ἐν τῷ αὐτῷ τόπῳ ἀλλήλαις. εἰ δ’ ἐν τῷ αὐτῷ, καὶ ἅπτονται· τὰ γὰρ ἐν τῷ αὐτῷ τόπῳ ὄντα πρῶτα ἅπτεσθαι ἀναγκαῖον, εἶθ’ οὕτως εὐθεῖα εὐθείας ἅψεται κατὰ δύο στιγμάς. ἡ γὰρ ἐν τῇ ΑΚ στιγμὴ καὶ τῇ ΚΓ καὶ ἑτέρας ἅπτεται στιγμῆς. ὥστε ἡ ἐκ τῆς ΓΔ κατὰ πλείους ἅπτεται στιγμάς. ὁ αὐτὸς δὲ λόγος καὶ εἰ μὴ δι’ ἀλλήλων ἀλλ’ ὁπωσοῦν ἥψατο γραμμῆς. ἔτι καὶ ἡ τοῦ κύκλου τῆς εὐθείας ἅψεται κατὰ πλείω. τῆς γὰρ συναφῆς καὶ ἡ ἐν τῷ κύκλῳ καὶ ἡ ἐν τῇ εὐθείᾳ ἅπτεται καὶ ἀλλήλων. εἰ δὲ τοῦτο μὴ δυνατόν, οὐδὲ τὸ ἅπτεσθαι στιγμὴν στιγμῆς· εἰ δὲ μὴ ἅπτεσθαι, οὐδ’ εἶναι τὴν γραμμὴν στιγμήν· οὐδὲ γὰρ ἅπτεσθαι ἀναγκαῖον. ἔτι πῶς ποτὲ ἔσται εὐθεῖα γραμμὴ καὶ περιφερής; οὐδὲν γὰρ διοίσει ἡ σύναψις τῶν στιγμῶν ἐν τῇ εὐθείᾳ καὶ τῇ περιφερεῖ. τὸ γὰρ ἀμερὲς τοῦ ἀμεροῦς ὅλον ὅλου ἅπτεται, καὶ οὐκ ἔστιν ὅλως ἅπτεσθαι. εἰ οὖν αἱ μὲν γραμμαὶ διάφοροι, ἡ δὲ σύναψις ἀδιάφορος, οὐκ ἔσται δὴ γραμμὴ ἐκ τῆς συνάψεως, ὥστ’ οὐδ’ ἐκ στιγμῶν. ἔτι ἀναγκαῖον ἢ ἅπτεσθαι ἢ μὴ ἅπτεσθαι τὰς στιγμὰς ἀλλήλων. εἰ μὲν οὖν τὸ ἐφεξῆς ἅπτεσθαι ἀνάγκη, ὁ αὐτὸς ἔσται λόγος· εἰ δὲ ἐνδέχεται ἐφεξῆς τι εἶναι μὴ ἁπτόμενον, τὸ δὲ συνεχὲς οὐδὲν ἄλλο λέγομεν ἢ τὸ ἐξ ὧν ἐστὶν ἁπτομένων· ὥστε καὶ οὕτως ἀνάγκη τὰς στιγμὰς ἅπτεσθαι ἀλλήλων, ἢ εἶναι γραμμὴν συνεχῆ. [972a] ἔτι εἰ ἄτοπον στιγμὴ ἐπὶ στιγμῆς, ἵν’ ᾖ γραμμὴ καὶ ἐπὶ στιγμῇ, ἐπεὶ ἡ γραμμὴ ἐπίπεδον, ἀδύνατον τὰ εἰρημένα εἶναι. εἴτε γὰρ ἐφεξῆς αἱ στιγμαί εἰσι, τμηθήσεται ἡ γραμμὴ κατ’ οὐδετέραν τῶν στιγμῶν, ἀλλ’ ἀνὰ μέσον· εἴθ’ ἅπτονται, γραμμὴ ἔσται τῆς μιᾶς στιγμῆς χώρα. τοῦτο δ’ ἀδύνατον. ἔτι διαιροῖτ’ ἂν ἅπαντα καὶ ἀναλύοιτο εἰς στιγμάς, καὶ ἡ στιγμὴ μέρος σώματος, εἴπερ τὸ μὲν σῶμα ἐξ ἐπιπέδων, τὸ δ’ ἐπίπεδον ἐκ γραμμῶν, αἱ δὲ γραμμαὶ ἐκ στιγμῶν. εἰ δ’ ἐξ ὧν πρώτων ἐνυπαρχόντων ἕκαστά ἐστι, στοιχεῖά ἐστι ταῦτα, αἱ στιγμαὶ ἂν εἴησαν στοιχεῖα σωμάτων. ὥστε συνώνυμα στοιχεῖα οὐδέτερα τῷ εἴδει. φανερὸν οὖν ἐκ τῶν εἰρημένων ὅτι οὐκ ἔστι γραμμὴ ἐκ στιγμῶν. ἀλλ’ οὐδ’ ἀφαιρεθῆναι οἷόν τε στιγμὴν ἀπὸ γραμμῆς. εἰ γὰρ ἐνδέχεται ἀφαιρεθῆναι, καὶ προστεθῆναι δυνατόν· προστεθέντος δέ τινος τὸ προστεθὲν μεῖζον ἔσται τοῦ ἐξ ἀρχῆς, ἐὰν τοιοῦτον ᾖ τὸ προστιθέμενον ὥστε ἓν ὅλον ποιεῖν. ἔσται γραμμὴ γραμμῆς στιγμῇ μείζων. τοῦτο δ’ ἀδύνατον. ἀλλὰ καθ’ ἑαυτὴν μὲν οὐχ οἷόν τε, κατὰ συμβεβηκὸς δ’ ἐνδέχεται στιγμὴν ἀπὸ γραμμῆς ἀφελεῖν, τῷ ἐνυπάρχειν ἐν τῇ ἀφαιρουμένῃ γραμμῇ. εἰ τοῦ ὅλου ἀφαιρουμένου καὶ ἡ ἀρχὴ καὶ τὸ πέρας ἀφαιρεῖται, γραμμῆς δ’ ἦν ἡ ἀρχὴ καὶ τὸ πέρας στιγμή, καὶ γραμμῆς ἐγχωρεῖ ἀφαιρεῖν καὶ στιγμὴν ἐνδέχοιτο. αὕτη δ’ ἡ ἀφαίρεσις κατὰ συμβεβηκός. εἰ δὲ τὸ πέρας ἅπτεται, οὔτε πέρας ἢ αὐτοῦ ἢ τῶν ἐκείνου τινός. ἡ δὲ στιγμή, ᾗ πέρας γραμμῆς, ἅπτεται. ᾗ μὲν οὖν γραμμῆς ἔσται στιγμὴ μείζων, ἡ δὲ στιγμὴ ἐκ στιγμῶν· τῶν γὰρ ἁπτομένων οὐδὲν ἀνὰ μέσον. ὁ αὐτὸς λόγος καὶ ἐπὶ τῆς τομῆς, εἰ ἡ τομὴ στιγμῆς καὶ ἡ τομὴ ἅπτεταί τινος καὶ ἐπὶ στερεοῦ καὶ ἐπιπέδου· ὡσαύτως δὲ καὶ τὸ στερεὸν ἐξ ἐπιπέδων καὶ γραμμῶν. οὐκ ἀληθὲς δὲ κατὰ στιγμὴν εἰπεῖν, οὐδ’ ὅτι ἐλάχιστον τῶν ἐκ γραμμῆς εἰς τὸ ἐλάχιστον τῶν ἐνυπαρχόντων εἴρηται. τὸ δὲ ἐλάχιστον, ὧν ἐστὶν ἐλάχιστον, καὶ ἔλαττόν ἐστιν. [972b] ἐν δὲ τῇ γραμμῇ οὐδὲν ἄλλο ἢ στιγμαὶ καὶ γραμμαὶ ἐνυπάρχουσιν. ἡ δὲ γραμμὴ τῆς στιγμῆς οὐκ ἔστι μείζων· οὐδὲ γὰρ αὖ τὸ ἐπίπεδον τῆς γραμμῆς. ὥστ’ οὐκ ἔσται στιγμὴ τὸ ἐν γραμμῇ ἐλάχιστον. εἰ δὲ συμβλητὸν τῇ γραμμῇ ἡ στιγμή, τὸ δὲ ἐλάχιστον ἐν τρισὶ προσώποις, οὐκ ἔσται ἡ στιγμὴ τῶν ἐν τῇ γραμμῇ ἐλάχιστον. καὶ ἄλλ’ ἄττα ἐνυπάρχει παρὰ τὰς στιγμὰς καὶ τὰς γραμμὰς ἐν τῷ μήκει· οὐ γὰρ ἐκ στιγμῶν. εἰ δὲ τὸ ἐν τόπῳ ὂν ἡ στιγμὴ μῆκος ἢ ἐπίπεδον ἢ στερεὸν ἐκ τούτων τι, ἐξ ὧν δ’ ἐστὶν ἡ γραμμή, ἐκεῖνα ἐν τόπῳ (καὶ γὰρ ἡ γραμμή), καὶ μήτε σῶμα μήτ’ ἐπίπεδον μήτε ἐκ τούτων τι ἐνυπάρχει τῇ γραμμῇ, οὐκ ἔσται οὐθὲν ὅλως παρὰ τὰς στιγμὰς καὶ τὰς γραμμὰς ἐν τῷ μήκει. ἔτι εἰ τοῦ ἐν τόπῳ ὄντος τὸ μεῖζον λεγόμενον μῆκος ἡ ἐπιφάνεια στερεόν, ἡ δὲ στιγμὴ ἐν τόπῳ, τὸ δ’ ἐν τῷ μήκει ὑπάρχον παρὰ τὰς στιγμὰς καὶ τὰς γραμμὰς οὐθὲν τῶν προειρημένων, ὥστ’ οὐκ ἔσται ἡ στιγμὴ τῶν ἐνυπαρχόντων ἐλάχιστον. ἔτι εἰς ὃ ἐλάχιστόν τι τῶν ἐν τῇ οἰκίᾳ, μήτε τῆς οἰκίας συμβαλλομένης πρὸς αὐτὸ λέγεται· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· οὐδὲ τὸ ἐν γραμμῇ ἐλάχιστον πρὸς γραμμὴν συγκρινόμενον ἔσται. ὥστε οὐχ ἁρμόσει τὸ ἐλάχιστον, ἐπεὶ τὸ μὴ ὂν ἐν τῇ οἰκίᾳ μή ἐστι τῶν ἐν τῇ οἰκίᾳ ἐλάχιστον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ἐνδέχεται γὰρ στιγμὴν αὐτὴν καθ’ αὑτὴν εἶναι. οὐκ ἔσται κατὰ ταύτης ἀληθὲς εἰπεῖν ὅτι τὸ ἐν γραμμῇ ἐλάχιστον, ὅτι οὐκ ἔστιν ἡ στιγμὴ ἄρθρον ἀδιαίρετον. τὸ μὲν γὰρ ἄρθρον ἀεὶ δυοῖν ὅρος, ἡ δὲ στιγμὴ καὶ μιᾶς γραμμῆς ὅρος ἐστίν. ἔτι ἡ μὲν πέρας, τὸ δὲ διαίρεσίς ἐστι μᾶλλον. ἔτι ἡ γραμμὴ καὶ τὸ ἐπίπεδον ἄρθρα ἔσονται· ἀνάλογον γὰρ ἔχουσιν, ὅτι τὸ ἄρθρον διάφορόν πως ἐστίν, διὸ καὶ Ἐμπεδοκλῆς ἐποίησε διὸ δεῖ ὀρθῶς. ἡ δὲ στιγμὴ καὶ τὸ ἐν τοῖς ἀκινήτοις. ἔτι οὐδεὶς ἔχει ἄπειρα ἄρθρα ἐν τῷ σώματι ἢ τῇ χειρί, στιγμὰς δ’ ἀπείρους. ἔτι λίθου ἄρθρον οὐκ ἔστιν, οὐδ’ ἔχει, στιγμὰς δὲ ἔχει.

Ανεμων Θεσεισ και Προσηγοριαι-εκ των Αριστοτελουσ περι Σημειων (973a) The Situations and Names of Winds

[973a] Βορρᾶς. οὗτος ἐν μὲν Μαλλῷ Παγρεύς· πνεῖ γὰρ ἀπὸ κρημνῶν μεγάλων καὶ ὀρῶν διπλῶν παρ’ ἄλληλα κειμένων, ἃ καλεῖται Παγρικά. ἐν δὲ Καύνῳ Μέσης. ἐν δὲ Ῥόδῳ Καυνίας· πνεῖ γὰρ ἀπὸ Καύνου, ἐνοχλῶν τὸν λιμένα αὐτῶν τὸν ἀκανίαν. ἐν δὲ Ὀλβίᾳ τῇ κατὰ Μύγαλον τῆς Παμφυλίας Γαυρεύς· πνεῖ γὰρ ἀπὸ νήσου ἣ καλεῖται Γαυρίς. τινὲς δὲ αὐτὸν βορρᾶν οἴονται εἶναι, ἐν οἷς καὶ Λυρναντεῖς οἱ κατὰ Φασηλίδα. Καικίας. οὗτος ἐν μὲν Λέσβῳ καλεῖται Θηβάνας· πνεῖ γὰρ ἀπὸ Θήβης πεδίου τοῦ ὑπὲρ τὸν Ἐλαιατικὸν κόλπον τῆς Μυσίας, ἐνοχλεῖ δὲ τὸν Μιτυληναίων λιμένα, μάλιστα δὲ τὸν Μαλόεντα· παρὰ δὲ αἰκαυνίαις, ὃν ἄλλοι βορρᾶν οἴονται εἶναι. Ἀπηλιώτης. οὗτος ἐν μὲν Τριπόλει τῆς Φοινίκης Ποταμεὺς καλεῖται, πνεῖ δὲ ἐκ πεδίου ὁμοίου ἅλωνι μεγάλῃ, περιεχομένου ὑπό τε τοῦ Λιβάνου καὶ τοῦ Βαπύρου ὄρους· παρὸ καὶ Ποταμεὺς καλεῖται. ἐνοχλεῖ δὲ τὸ Ποσειδώνειον. ἐν δὲ τῷ Ἰσσικῷ κόλπῳ καὶ περὶ Ῥωσσὸν Συριάνδος· πνεῖ δὲ ἀπὸ τῶν Συρίων πυλῶν, ἃς διέστηκεν ὅ τε Ταῦρος καὶ Ταυρόσια ὄρη. ἐν δὲ τῷ Τριπολιτικῷ κόλπῳ Μαρσεύς, ἀπὸ Μάρσου κώμης. ἐν δὲ Προκοννήσῳ καὶ ἐν Τέῳ καὶ ἐν Κρήτῃ καὶ Εὐβοίᾳ καὶ Κυρήνῃ Ἑλλησποντίας. μάλιστα δὲ ἐνοχλεῖ τόν τε τῆς Εὐβοίας Καφηρέα καὶ τὸν Κυρηναῖον λιμένα, καλούμενον δὲ Ἀπολλωνίαν· πνεῖ δὲ ἀφ’ Ἑλλησπόντου. ἐν δὲ Σινώπῃ Βερεκυντίας ἀπὸ τῶν κατὰ Φρυγίαν τόπων πνέων. ἐν δὲ Σικελίᾳ Καταπορθμίας, πνέων [973b] ἀπὸ τοῦ πορθμοῦ. τινὲς δὲ αὐτὸν Καικίαν οἴονται εἶναι, Θηβάναν προσαγορεύοντες. Εὖρος. οὗτος ἐν μὲν Αἰγαῖς ταῖς κατὰ Συρίαν Σκοπελεὺς καλεῖται ἀπὸ τοῦ Ῥωσίων σκοπέλου, ἐν δὲ Κυρήνῃ Κάρβας ἀπὸ τῶν Καρβανῶν τῶν κατὰ Φοινίκην· διὸ καὶ τὸν αὐτὸν Φοινικίαν καλοῦσί τινες. εἰσὶ δὲ οἳ καὶ Ἀπηλιώτην νομίζουσιν εἶναι. Ὀρθόνοτος. τοῦτον οἱ μὲν Εὖρον, οἱ δὲ Ἀμνέα προσαγορεύουσιν. Νότος δὲ ὁμοίως παρὰ πᾶσι καλεῖται· τὸ δὲ ὄνομα διὰ τὸ νοσώδη εἶναι· ἔξω δὲ κάτομβρον, κατ’ ἀμφότερα δὲ νότον. Λευκόνοτος ὁμοίως· τὸ δὲ ὄνομα ἀπὸ τοῦ συμβαίνοντος· λευκαίνεται γὰρ ...

Λίψ. καὶ οὗτος τὸ ὄνομα ἀπὸ Λιβύης, ὅθεν πνεῖ. Ζέφυρος. καὶ οὗτος τόδε τὸ ὄνομα διὰ τὸ ἀφ’ ἑσπέρας πνεῖν. ἡ δὲ ἑσπέρα ... Ἰάπυξ. οὗτος ἐν Τάραντι Σκυλητῖνος ἀπὸ χωρίου Σκυλαντίμου. κατὰ δὲ οραλεοντο Φρυγίας. ὑπὸ δέ τινων Φαραγγίτης· πνεῖ γὰρ ἔκ τινος φάραγγος τῶν κατὰ τὸ Πηγαῖον. παρὰ πολλοῖς δὲ Ἀργέστης. Θρᾳκίας κατὰ μὲν Θρᾴκην Στρυμονίας (πνεῖ γὰρ ἀπὸ τοῦ Στρυμόνος ποταμοῦ), κατὰ δὲ τὴν Μεγαρικὴν Σκίρρων ἀπὸ τῶν Σκιρρωνίδων πετρῶν, ἐν δὲ Ἰταλίᾳ καὶ Σικελίᾳ Κίρκας διὰ τὸ πνεῖν ἀπὸ τοῦ Κιρκαίου. ἐν δὲ Εὐβοίᾳ καὶ Λέσβῳ Ὀλυμπίας, τὸ δὲ ὄνομα ἀπὸ τοῦ Πιερικοῦ Ὀλύμπου· ὀχλεῖ δὲ Πυρραίους. ὑπογέγραφα δέ σοι καὶ τὰς θέσεις αὐτῶν, ὡς κεῖνται καὶ πνέουσιν, ὑπογράψας τὸν τῆς γῆς κύκλον, ἵνα καὶ πρὸ ὀφθαλμῶν σοι τεθῶσιν.

Περι Ξενοφανουσ, περι Ζηνωνοσ, περι Γοργιου (974a)
On Melissus, Xenophanes, and Gorgias

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ΠΕΡΙ ΓΟΡΓΙΟΥ.

ΠΕΡΙ ΞΕΝΟΦΑΝΟΥΣ.

[974a] Ἀΐδιον εἶναί φησιν εἴ τί ἐστιν, εἴπερ μὴ ἐνδέχεται γενέσθαι μηδὲν ἐκ μηδενός. εἴτε γὰρ ἅπαντα γέγονεν εἴτε μὴ πάντα ἀΐδι’ ἀμφοτέρως. ἐξ οὐδενὸς γὰρ αὐτῶν ἂν γινόμενα. ἁπάντων τε γὰρ γινομένων οὐδὲν προϋπάρχειν· εἴτ’ ὄντων τινῶν ἀεὶ ἕτερα προσγίνοιτο, πλέον ἂν καὶ μεῖζον τὸ ἓν γεγονέναι. ᾧ δὴ πλέον καὶ μεῖζον, τοῦτο γενέσθαι ἂν ἐξ οὐδενός· τῷ γὰρ ἐλάττονι τὸ πλέον, ἣ δ’ ἐν τῷ μικροτέρῳ τὸ μεῖζον οὐχ ὑπάρχειν. ἀΐδιον δὲ ὂν ἄπειρον εἶναι, ὅτι οὐκ ἔχει ἀρχὴν ὅθεν ἐγένετο, οὐδὲ τελευτὴν εἰς ὃ γινόμενον ἐτελεύτησέ ποτε· πᾶν δὲ καὶ ἄπειρον ὂν εἶναι. εἰ γὰρ πλέον ἢ δύο εἴη, πέρατ’ ἂν εἶναι ταῦτα πρὸς ἄλληλα. ἓν δὲ ὅμοιον εἶναι πάντα· εἰ γὰρ ἀνόμοια πλείω ὄντα, οὐκ ἂν ἔτι ἓν θεῖναι ἀλλὰ πολλά. ἀΐδιον δὲ ὂν μέτριόν τε καὶ ὅμοιον πάντῃ ἀκίνητον εἶναι τὸ ἕν. οὐ γὰρ ἂν κινηθῆναι μὴ ἔς τι ὑποχωρῆσαν. ὑποχωρῆσαι δὲ ἀνάγκην εἶναι ἤτοι εἰς πλῆρες ἰὸν ἢ κενόν. τούτων δὲ τὸ μὲν οὐκ ἂν δέξασθαι τὸ πλῆρες, τὸ δὲ οὐκ εἶναι οὐδὲν [ἢ] τὸ κενόν. τοιοῦτο δὲ ὂν τὸ ἓν ἀνώδυνόν τε καὶ ἀνάλγητον ὑγιές τε καὶ ἄνοσον εἶναι, οὔτε μετακοσμούμενον θέσει, οὔτε ἑτεροιούμενον εἴδει, οὔτε μιγνύμενον ἄλλῳ. κατὰ πάντα γὰρ ταῦτα πολλά τε τὸ ἓν γίνεσθαι καὶ τὸ μὴ ὂν τεκνοῦσθαι καὶ τὸ ὂν φθείρεσθαι ἀναγκάζεσθαι. ταῦτα δὲ ἀδύνατα εἶναι. καὶ γὰρ εἰ τὸ μεμῖχθαί τι ἓν ἐκ πλειόνων λέγοιτο, καὶ εἴη πολλὰ κινούμενα εἰς ἄλληλα τὰ πράγματα, καὶ ἡ μῖξις ἡ ὡς ἐν ἑνὶ σύνθεσις εἴη τῶν πλειόνων, ἢ τῇ ἀπαλλάξει οἷον ἐπιπρόσθησις γίνοιτο τῶν μιχθέντων, ἐκείνους μὲν ἂν δι’ ἀλλήλων χωριζόντων εἶναι τὰ μιχθέντα, ἐπιπροσθήσεως δ’ οὔσης ἐν τῇ τρίψει γίνεσθαι ἂν ἕκαστον φανερόν, ἀφαιρουμένων [974b] τῶν πρώτων τὰ ὑπ’ ἄλληλα τεθέντα τῶν μιχθέντων· ὧν οὐδέτερον συμβαίνειν. διὰ τοῦτον δὲ τὸν τρόπον κἂν εἶναι πολλὰ κἂν ἡμῖν, ὡς τὸ φαίνεσθαι μόνως. ὥστ’ ἐπειδὴ οὐχ οἷόν θ’ οὕτως, οὐδὲ πολλὰ δυνατὸν εἶναι τὰ ὄντα, ἀλλὰ ταῦτα δοκεῖν οὐκ ὀρθῶς. πολλὰ γὰρ καὶ ἄλλα κατὰ τὴν αἴσθησιν φαντάζεσθαι ἅπασαν. λόγον δ’ οὔτ’ ἀναιρεῖ τὰ αὐτὰ γίνεσθαι, οὔτε πολλὰ εἶναι τὸ ὄν, ἀλλ’ ἀΐδιόν τε καὶ ἄπειρον καὶ πάντῃ ὅμοιον αὐτὸ αὐτῷ. ἆρ’ οὖν δεῖ πρῶτον μὲν μὴ πᾶσαν λαβόντα δόξαν ἄρχεσθαι, ἀλλ’ ἀεὶ μάλιστα ὂν βέβαιον. ὥστ’ εἰ μὲν ἅπαντα τὰ δοκοῦντα μὴ ὀρθῶς ὑπολαμβάνεται, οὐθὲν ἴσως προσήκει οὐδὲ τούτῳ προχρῆσθαι τῷ δόγματι, οὐκ ἄν ποτε οὐδὲν γένοιτο ἐκ μηδενός. μία γάρ τίς

ἐστι δόξα καὶ αὕτη τῶν οὐκ ὀρθῶν, ἣν ἐκ τοῦ αἰσθάνεσθαί πως ἐπὶ πολλῶν ὄντες ὑπειλήφαμεν. εἰ δὲ μὴ πάντα ἡμῖν ψευδῆ τὰ φαινόμενα, ἀλλὰ τινές εἰσι καὶ τούτων ὀρθαὶ ὑπολήψεις ἢ ἐπιδεῖξαι τὰς τοιαύτας ποιότητας μάλιστα δοκούσας ὀρθάς, ταύτας ληπτέον, ἃς ἀεὶ βεβαιοτέρας εἶναι δεῖ ἢ αἳ μέλλουσιν ἐξ ἐκείνων τῶν λόγων δειχθήσεσθαι. εἰ γὰρ καὶ εἶεν δύο δόξαι ὑπεναντίαι ἀλλήλαις, ὥσπερ οἴεται, εἰ μὴ πολλὰ γενέσθαι φησίν, ἀνάγκη εἶναι ἐκ μὴ ὄντων. εἰ δὲ τοῦτο μὴ οἷόν τε, οὐκ εἶναι τὰ ὄντα πολλά. γένοιτο γὰρ ἂν ὄν, ὅτι ἔστιν ἄπειρον εἶναι. εἰ δ' οὕτως, καὶ ἕν. ὁμοίως μὲν δὴ ἡμῖν ὁ ἀμφοτέρων π οὐδὲν μᾶλλόν τι ἕν, ἢ ὅτι πολλὰ δείκνυται. εἰ δὲ βέβαιος μᾶλλον ἡ ἑτέρα, ἀπὸ ταύτης ξυμπερανθέντα μᾶλλον δέδεικται. τυγχανόμενα δέ, ἔχοντος ἀμφοτέρας τὰς ὑπολήψεις ταύτας, καὶ κινούμενα μέν ἐστι τὰ ὄντα. ἀμφοῖν δὲ πιστὴ μᾶλλον αὕτη, καὶ θᾶττον ἂν προεῖντο πάντες ταύτην ἐκείνης τὴν δόξαν. ὥστ' εἰ καὶ συμβαίνει ἐναντίας [975a] εἶναι τὰς φάσεις, καὶ ἀδύνατον γίνεσθαί τε ἐκ μὴ ὄντος καὶ μὴ πολλὰ εἶναι τὰ πράγματα, ἐλέγχοιτο μὲν ἂν ὑπ' ἀλλήλων ταῦτα, ἀλλὰ τί μᾶλλον οὕτως ἂν ἔχοι; ἴσως τε κἂν φαίη τις τούτοις τἀναντία. οὔτε γὰρ δείξας ὅτι ὀρθὴ δόξα ἀφ' ἧς ἄρχεται, οὔτε μᾶλλον βέβαιον ἢ περὶ ἧς δείκνυσι λαβών, διελέχθη. μᾶλλον γὰρ λαμβάνεται εἰκὸς εἶναι γίνεσθαι ἐκ μὴ ὄντος ἢ μὴ πολλὰ εἶναι. λέγεταί τε καὶ σφόδρα ὑπὲρ αὐτῶν γίγνεσθαί τε τὰ μὴ ὄντα, καὶ μὴ γεγονέναι πολλὰ ἐκ μὴ ὄντων, καὶ οὐχ ὅτι οἱ τυγχάνοντες, ἀλλὰ καὶ τῶν δοξάντων εἶναι σοφῶν τινὲς εἰρήκασιν. αὐτίκα δ' Ἡσίοδος "πρῶτον μὲν πάντων" φησὶ "χάος ἐγένετ', αὐτὰρ ἔπειτα γαῖ' εὐρύστερνος, πάντων ἕδος ἀσφαλὲς αἰεί, ἠδ' ἔρος, ὃς πάντεσσι μεταπρέπει ἀθανάτοισιν." τὰ δ' ἄλλα φησὶ γενέσθαι, ταῦτα δ' ἐξ οὐδενός. πολλοὶ δὲ καὶ ἕτεροι εἶναι μὲν οὐδέν φασι, γίγνεσθαι δὲ πάντα, λέγοντες ἐξ οὐκ ὄντων γίνεσθαι τὰ γινόμενα. ὥστε τοῦτο μὲν δῆλον, ὅτι ἐνίοις γε δοκεῖ καὶ ἐξ οὐκ ὄντων ἂν γενέσθαι.

Ἀλλ' ἄρα εἰ μὲν δυνατά ἐστιν ἢ ἀδύνατα ἃ λέγει, ἐατέον. τὸ δὲ πότερον συμπεραίνεται αὐτὸ ἐξ ὧν λαμβάνει, ἢ οὐδὲν κωλύει καὶ ἄλλως ἔχειν, ἱκανῶς σκέψασθαι· ἕτερον γὰρ ἄν τι τοῦτ' ἴσως ἐκείνου εἴη. καὶ πρῶτον τεθέντος, ὃ πρῶτον λαμβάνει, μηδὲν γενέσθαι ἂν ἐκ μὴ ὄντος, ἆρα ἀνάγκη ἀγέννητα πάντα εἶναι, ἢ οὐδὲν κωλύει γεγονέναι ἕτερα ἐξ ἑτέρων, καὶ τοῦτο εἰς ἄπειρον ἰέναι; ἢ καὶ ἀνακάμπτει κύκλῳ, ὥστε τὸ ἕτερον ἐκ τοῦ ἑτέρου γεγονέναι, ἀεί τε οὕτως ὄντος τινός, καὶ ἀπειράκις ἑκάστου γεγενημένου ἐξ ἀλλήλων. ὥστε οὐδὲν ἂν κωλύοιτο ἅπαντα γεγονέναι, κειμένου τοῦ μηδὲν γενέσθαι ἂν ἐκ μὴ ὄντος, καὶ ἄπειρα ὄντα πρὸς ἐκεῖνον προσαγορεῦσαι οὐδὲν κωλύει τῶν τῷ ἑνὶ ἑπομένων ὀνομάτων. ἅπαντα γὰρ εἶναι καὶ λέγεσθαι καὶ ἐκεῖνος τῷ ἀπείρῳ προσάπτει. οὐδέν τε κωλύει, καὶ μὴ ἀπείρων ὄντων, κύκλῳ αὐτῶν εἶναι τὴν γένεσιν. ἔτι εἰ ἅπαντα γίγνεσθαι, ἔστι δὲ οὐδέν, ὥς τινες λέγουσιν, πῶς ἓν ἀΐδια εἴη; ἀλλὰ γὰρ τοῦ μὲν εἶναι ἕν τι ὡς ὄντος καὶ κειμένου διαλέγεται. εἰ γάρ, φησί, μὴ ἐγένετο, ἔστω δὲ ἀΐδια, ὡς δέον ὑπάρχειν τὸ εἶναι τοῖς πράγμασιν. ἔτι εἰ καὶ ὅτι μάλιστα μήτε τὸ μὴ ὂν ἐνδέχεται γενέσθαι μήτε ἀπολέσθαι τὸ μὴ ὄν, ὅμως τί κωλύει τὰ μὲν γενόμενα αὐτῶν εἶναι, τὰ δ' ἀΐδια, ὡς καὶ Ἐμπεδοκλῆς λέγει; [975b] ἅπαντα γὰρ κἀκεῖνος ταὐτὰ ὁμολογήσας, ὅτι ἔκ τε μὴ ὄντος ἀμήχανόν ἐστι γενέσθαι, τό τε ὂν ἐξόλλυσθαι ἀνήνυστον καὶ ἄπρηκτον, ἀεὶ γὰρ θήσεσθαι ὅπῃ κέ τις αἰὲν ἐρείδῃ, ὅμως τῶν ὄντων τὰ μὲν ἀΐδια εἶναί φησι, πῦρ καὶ ὕδωρ καὶ γῆν καὶ ἀέρα, τὰ δ' ἄλλα γίνεσθαί τε καὶ γεγονέναι ἐκ τούτων. οὐδεμία γὰρ ἑτέρα, ὡς οἴεται, γένεσίς ἐστι τοῖς οὖσιν, ἀλλὰ μόνον μῖξίς τε διάλλαξίς τε μιγέντων ἐστίν· φύσις δ' ἐπὶ τοῖς ὀνομάζεται ἀνθρώποισιν. τὴν δὲ γένεσιν προσιοῦσαν τοῖς ἀϊδίοις καὶ τῷ ὅτι γίνεσθαι λέγει, ἐπεὶ τοῦτό γε ἀδύνατον ᾤετο. πῶς γάρ, φήσει, καὶ ἔπαρξις ἴετο, παντί τε καὶ ποθὲν ἐλθόν; ἀλλὰ μισγομένων τε καὶ συντιθεμένων πυρὸς καὶ τῶν μετὰ πυρὸς γίγνεσθαι τὰ πολλά, διαλλαττομένων τε καὶ διακρινομένων φθείρεσθαι πάλιν, καὶ εἶναι τῇ μὲν μίξει πολλά τε καὶ τῇ διακρίσει, τῇ δὲ φύσει τέτταρ' ἄνευ τῶν αἰτίων, ἢ ἕν· ἢ εἰ καὶ ἄπειρα εὐθὺς εἴη ταῦτα, ἐξ ὧν συντιθεμένων γίγνεται, διακρινομένων δὲ φθείρεται, ὡς καὶ τὸν Ἀναξαγόραν φασί τινες λέγειν ἐξ ἀεὶ ὄντων καὶ ἀπείρων τὰ γινόμενα γίνεσθαι. κἂν οὕτως, οὐκ ἂν εἴη ἀΐδια πάντα, ἀλλὰ καὶ γιγνόμενα ἄττα καὶ γενόμενά τ' ἐξ ὄντων καὶ φθειρόμενα εἰς οὐσίας τινὰς ἄλλας. ἔτι οὐδὲν κωλύει μίαν τινὰ οὐσίαν τὸ πᾶν μορφήν, ὡς καὶ ὁ Ἀναξίμανδρος καὶ ὁ Ἀναξιμένης λέγουσιν, ὁ μὲν ὕδωρ εἶναι φάμενος τὸ πᾶν, ὁ δέ, ὁ Ἀναξιμένης, ἀέρα, καὶ ὅσοι ἄλλοι οὕτως εἶναι τὸ πᾶν ἓν ἠξιώκασιν. τοῦτο ἤδη σχήμασί τε καὶ πλήθεσι καὶ ὀλιγότητι, καὶ τῷ μανὸν ἢ πυκνὸν γίνεσθαι, πολλὰ καὶ ἄπειρα ὄντα τε καὶ γιγνόμενα ἀπεργάζεται τὸ ὅλον. φησὶ δὲ καὶ ὁ Δημόκριτος τὸ ὕδωρ τε καὶ τὸν ἀέρα ἕκαστόν τε τῶν πολλῶν, τοῦτο ὄν, ῥυθμῷ διαφέρειν. τί δὴ κωλύει καὶ οὕτως τὰ πολλὰ γίγνεσθαί τε καὶ ἀπόλλυσθαι, ἐξ ὄντος ἀεὶ ἐς ὂν μεταβάλλοντος ταῖς εἰρημέναις διαφοραῖς τοῦ ἑνός, καὶ οὐδὲν οὔτε πλέονος οὔτε ἐλάττονος γιγνομένου τοῦ ὅλου; ἔτι τί κωλύει ποτὲ μὲν ἐξ ἄλλων τὰ σώματα γίγνεσθαί τε καὶ ἀπόλλυσθαι πάλιν; εἰ δὲ καὶ ταῦτά τις συγχωροίη, καὶ εἴη τι καὶ ἀγένητον, τί μᾶλλον ἄπειρον δείκνυται; ἄπειρον γὰρ εἶναί φησιν, εἰ ἔστι μέν, μὴ γεγονέναι. πέρατα γὰρ εἶναι τὴν τῆς γενέσεως ἀρχήν τε καὶ τελευτήν. καίτοι τί κωλύει ἀγένητον ὂν ἔχειν πέρας ἐκ τῶν εἰρημένων; εἰ γὰρ ἐγένετο, ἀρχὴν ἔχειν ἀξιοῖ ταύτην

[976a] ὅθεν γίγνοιτο, εἰ γιγνόμενα. τί δὴ κωλύει, καὶ εἰ μὴ ἐγένετο, ἔχειν ἀρχήν; οὐ μέντοι γε ἐξ ἧς γε ἐγένετο, ἀλλὰ καὶ ἑτέραν, καὶ εἶναι περαίνοντα πρὸς ἄλληλα ἀΐδια ὄντα. ἔτι τί κωλύει τὸ μὲν ὅλον ἀγέννητον ὂν ἄπειρον εἶναι, τὰ δ' ἐν αὐτῷ γιγνόμενα πεπεράνθαι, ἔχοντ' ἀρχὴν καὶ τελευτὴν γενέσεως; ἔτι καὶ ὡς ὁ Παρμενίδης φησί, τί κωλύει καὶ τὸ πᾶν ἓν ὂν καὶ ἀγένητον ὅμως πεπεράνθαι, καὶ εἶναι πάντοθεν ἐγκύκλου σφαίρας ἐναλίγκιον ὄγκῳ, μέσσοθεν ἰσοπαλὲς πάντῃ· τὸ γὰρ οὔτε τι μεῖζον οὔτε τι βαιότερον εἶναι μέχρι ὅν ἐστι τῇ ἢ τῇ. ἔχον δὲ μέσον καὶ ἔσχατα, πέρας ἔχει ἀγέννητον ὄν, ἐπεὶ εἰ καί, ὡς αὐτὸς λέγει, ἕν ἐστι, καὶ τοῦτο σῶμα, ἔχει ἄλλα ἑαυτοῦ μέρη, εἰ τάδε ὅμοια πάντα. καὶ γὰρ ὅμοιον οὕτω λέγει τὸ πᾶν εἶναι οὐ... ἄλλῳ τινὶ ὃ περανθῆναι ὁρᾷς, ἐλέγχει εἴ τι ὅμοιον τὸ ἄπειρον. τό γε ὅμοιον ἑτέρῳ ὅμοιον, ὥστε δύο ἢ πλείω ὄντα οὐκ ἂν ἓν οὐδ' ἄπειρον εἶναι. ἀλλ' ἴσως τὸ ὅμοιον πρὸς αὐτὸ λέγει, καὶ φησὶν αὐτὸ ὅμοιον εἶναι πᾶν, ὅτι ὁμοιομερὲς ὕδωρ ὂν ἅπαν ἢ γῆ ἢ εἴ τι τοιοῦτον ἄλλο. δῆλος γὰρ οὕτος ἀξιῶν εἶναι ἓν τῶν διμερῶν ἕκαστον σῶμα ὄν, οὐκ ἄπειρόν ἔστιν. τὸ γὰρ ὅλον ἄπειρον, ὥστε ταῦτα περαίνει πρὸς ἄλληλα ἀγέννητα ὄντα. ἔτι εἰ ἀΐδιόν τε καὶ ἄπειρόν ἐστι, πῶς ἂν εἴη ἓν σῶμα ὄν; εἰ μὲν γὰρ ἀνομοίων ἀμερῶν εἴη, πολλά, καὶ αὐτὸς οὕτω γ' εἶναι ἀξιοῖ. εἰ δὲ ἅπαν ὕδωρ ἢ ἅπαν γῆ ἢ ὅ τι δὴ τὸ ὂν τοῦτ' ἐστί, πολλὰ ἂν ἔχοι μέρη, ὡς καὶ Ζήνων ἐπιχειρεῖ ὂν δεικνύναι τὸ οὕτως ὂν ἕν. εἴη οὖν ἂν καὶ πλείονα αὐτοῦ μέρη ἐλαττόνων τε καὶ μικροτέρων, ἀλλά τε πάντῃ ἂν ταύτῃ ἀλλοῖον εἴη οὐδενὸς προσγιγνομένου σώματος οὐδ' ἀπογιγνομένου. εἰ δὲ μήτε σῶμα μήτε πλάτος μήτε μῆκος ἔχον μηδέν, πῶς ἂν ἄπειρον ἂν εἴη; τί κωλύει πολλὰ καὶ ἐνάριθμα τοιαῦτα εἶναι; τί κωλύει καὶ πλείω ὄντα ἑνὸς μεγέθει ἄπειρα εἶναι; ὡς καὶ Ξενοφάνης ἄπειρον τό τε βάθος τῆς γῆς καὶ τοῦ ἀέρος φησὶν εἶναι. δηλοῖ δὲ καὶ ὁ Ἐμπεδοκλῆς· ἐπιτιμᾷ γὰρ ὡς λεγόντων τινῶν τοιαῦτα ἀδύνατα εἶναι, οὕτως ἐχόντων ξυμβαίνειν αὐτά, εἴπερ ἀπείρονα γῆς τε βάθη καὶ δαψιλὸς αἰθήρ, ὃς διὰ πολλῶν δὴ βροτέων ῥηθέντα ματαίως ἐκκέχυται στομάτων, ὀλίγον τοῦ παντὸς ἰδόντων. ἔτι ὂν ἓν οὐδὲν ἄτοπον εἰ μὴ πάντῃ ὅμοιόν ἐστιν. εἰ γάρ ἐστιν [976b] ὕδωρ ἅπαν ἢ πῦρ ἢ ὅ τι δὴ ἄλλο τοιοῦτον, οὐδὲν κωλύει πλείω εἰπεῖν τοῦ ὄντος ἑνός, εἰ δὴ δι' ἕκαστον ὅμοιον αὐτὸ ἑαυτῷ. καὶ γὰρ μανόν, τὸ δὲ πυκνὸν εἶναι, μὴ ὄντος ἐν τῷ μανῷ κενοῦ. οὐδὲν κωλύειν γάρ, τῷ μανῷ οὐκ ἔστιν ἔν τισι μέρεσι χωρὶς ἀποκεκριμένον τὸ κενόν, ὡς τὸ τοῦ ὅλου, τὸ μὲν εἶναι πυκνόν, καὶ τουτὶ δέ ἐστι μανὸν τὸ πᾶν οὕτως ἔχον· ἀλλ' ὁμοίως ἅπαν πλῆρες ὄν, ὁμοίως ἧττον πλῆρές ἐστι τοῦ πυκνοῦ. εἰ δὲ καὶ ἔστιν, ἀγέννητόν ἐστιν, καὶ διὰ τοῦτο δοθείη ἄπειρον εἶναι, καὶ μηδὲ ἐνδέχεσθαι ἄλλο καὶ ἄλλο ἄπειρον εἶναι. διὰ

τοῦτο καὶ ἐν τούτῳ ἤδη προσαγορευτέον καὶ ἀδύνατον· πῶς γὰρ ἂν τὸ ἄπειρον ὅσον ἢ τὸ κενὸν μὴ ὅλον ἂν οἷόν τε εἶναι; ἀκίνητον δ’ εἶναι φησίν, εἰ κενὸν μή ἐστιν· ἅπαντα γὰρ κινεῖσθαι τῷ ἀλλάττειν τόπον. πρῶτον μὲν οὖν τοῦτο πολλοῖς οὐ συνδοκεῖ, ἀλλ’ εἶναί τι κενόν, οὐ μέντοι τοῦτό γέ τι σῶμα εἶναι, ἀλλ’ οἷον καὶ ὁ Ἡσίοδος ἐν τῇ γενέσει πρῶτον τὸ χάος φησὶ γενέσθαι, ὡς δὲ χώραν πρῶτον ὑπάρχειν τοῖς οὖσιν. τοιοῦτον δέ τι καὶ τὸ κενὸν οἷον ἀγγεῖόν τι ἀνὰ μέσον εἶναι ζητοῦμεν. ἀλλὰ δὴ καὶ εἰ μή ἐστι κενόν, μηδέ τι ἧσσον ἂν κινοῖτο, ἐπεὶ καὶ Ἀναξαγόρας τὸ πρὸς αὐτὸ πραγματευθείς, καὶ οὐ μόνον ἀποχρῆσαν αὐτῷ ἀποφήνασθαι ὅτι οὐκ ἔστιν, ὅμως κινεῖσθαί φησι τὰ ὄντα, οὐκ ὄντος κενοῦ. ὁμοίως δὲ καὶ ὁ Ἐμπεδοκλῆς κινεῖσθαι μὲν ἀεί φησι συγκινούμενα τὸν ἅπαντα ἐνδελεχῶς χρόνον, οὐδὲν εἶναι λέγων ὡς τοῦ παντός, οὐδὲ κενεόν. πόθεν οὖν τί κ’ ἐπέλθοι; ὅταν δὲ εἰς μίαν μορφὴν συγκριθῇ, ὡς ἓν εἶναι, οὐδέν φησι τό γε κενεὸν πέλει οὐδὲ περισσόν. τί γὰρ κωλύει εἰς ἄλληλα φέρεσθαι καὶ περιίστασθαι ἅμα ὁτουοῦν εἰς ἄλλο, καὶ τούτου εἰς ἕτερον, καὶ εἰς τὸ πρῶτον, ἄλλου μεταβάλλοντος ἀεί. ἔτι καὶ τὴν ἐν τῷ αὐτῷ μένοντος τοῦ πράγματος τόπῳ τοῦ εἴδους μεταβολήν, ἣν ἀλλοίωσιν οἵ τ’ ἄλλοι κἀκεῖνος λέγει, [οὐδὲν] ἐκ τῶν εἰρημένων αὐτῷ κωλύει κινεῖσθαι τὰ πράγματα, ὅταν ἐκ λευκοῦ μέλαν ἢ ἐκ πικροῦ γένηται γλυκύ. οὐδὲν γὰρ τὸ μὴ εἶναι κενὸν ἢ μὴ δέχεσθαι τὸ πλῆρες ἀλλοιοῦσθαι κωλύει. ὥστε οὔτε ἅπαντα ἀΐδια οὔθ’ ἓν οὔτ’ ἄπειρον ἀνάγκη εἶναι, ἀλλ’ ἄπειρα πολλά. οὔτε ἕν θ’ ὅμοιον, οὔτ’ ἀκίνητον, οὔτ’ εἰ ἓν οὔτ’ εἰ πόλλ’ ἄττα. τούτων δὲ κειμένων καὶ μετακοσμεῖσθαι καὶ ἑτεροιοῦσθαι τὰ ὄντα οὐδὲν κωλύει ἐκ τῶν ὑπ’ ἐκείνῳ εἰρημένων, [977a] καὶ ἑνὸς ὄντος τοῦ παντὸς κινήσεως οὔσης, καὶ πλήθει καὶ ὀλιγότητι διαφέροντος, καὶ ἀλλοιουμένου οὐδενὸς προσγιγνομένου. εἰ δ’ ἄρα τινός, οὐ τοῦ σώματος, καὶ εἰ πολλὰ συμμισγομένων καὶ συνδιακρινομένων ἀλλήλοις. τὴν γὰρ μῖξιν οὔτ’ ἐπιπρόσθεσιν τοιαύτην εἶναι οὔτε σύνθεσιν εἰκὸς οἵαν λέγειν. ὥστε ἢ χωρὶς εὐθὺς εἶναι, ἢ καὶ ἀποστρεφθέντος ἐπίπροσθεν ἕτερα ἑτέρων φέρεσθαι χωρὶς ἀλλήλων ταῦτα, ἀλλ’ οὕτω συγκεῖσθαι ταχθέντα ὥστε ὁτιοῦν μιγνυμένου παρ’ ὁτιοῦν ᾧ μίγνυσθαι μέρος, οὕτως ὡς μὴ ἀναληφθῆναι συγκείμενα, ἀλλὰ μεμιγμένα, μηδ’ ὁποιαοῦν αὐτῷ μέρη. ἐπεὶ γὰρ οὐκ ἔστι σῶμα τὸ ἐλάχιστον, ἅπαν ἅπαντι μέρος μέμικται ὁμοίως καὶ τὸ ὅλον.

ΠΕΡΙ ΖΗΝΩΝΟΣ.

Ἀδύνατόν φησιν εἶναι, εἴ τι ἔστι, γενέσθαι, τοῦτο λέγων ἐπὶ τοῦ θεοῦ. ἀνάγκη γὰρ ἤτοι ἐξ ὁμοίων ἢ ἐξ ἀνομοίων γενέσθαι τὸ γενόμενον. δυνατὸν δὲ οὐδέτερον. οὔτε γὰρ ὅμοιον ὑφ’ ὁμοίου προσήκειν τεκνωθῆναι μᾶλλον ἢ τεκνῶσαι (ταὐτὰ γὰρ ἅπαντα τοῖς γε ἴσοις ἢ ὁμοίοις ὑπάρχειν πρὸς ἄλληλα) οὔτ’ ἂν ἐξ ἀνομοίου τὸ ἀνόμοιον γενέσθαι. εἰ γὰρ γίγνοιτο ἐξ ἀσθενεστέρου τὸ ἰσχυρότερον ἢ ἐξ ἐλάττονος τὸ μεῖζον ἢ ἐκ χείρονος τὸ κρεῖττον, ἢ τοὐναντίον τὰ χείρω ἐκ τῶν κρειττόνων, τὸ οὐκ ὂν ἐξ ὄντος ἂν γενέσθαι· ὅπερ ἀδύνατον. ἀΐδιον μὲν οὖν διὰ ταῦτ’ εἶναι τὸν θεόν. εἰ δ’ ἔστιν ὁ θεὸς ἁπάντων κράτιστον, ἕνα φησὶν αὐτὸν προσήκειν εἶναι. εἰ γὰρ δύο ἢ ἔτι πλείους εἶεν, οὐκ ἂν ἔτι κράτιστον καὶ βέλτιστον αὐτὸν εἶναι πάντων. ἕκαστος γὰρ ἂν θεὸς τῶν πολλῶν ὅμοιος ὢν τοιοῦτος εἴη. τοῦτο γὰρ θεὸν καὶ θεοῦ δύναμιν εἶναι, κρατεῖν, ἀλλὰ μὴ κρατεῖσθαι, καὶ πάντα κρατεῖσθαι εἶναι. ὥστε καθὸ μὴ κρείττων, κατὰ τοσοῦτον οὐκ εἶναι θεόν. πλειόνων οὖν ὄντων, εἰ μὲν εἶεν τὰ μὲν ἀλλήλων κρείττους τὰ δὲ ἥττους, οὐκ ἂν εἶναι θεούς· πεφυκέναι γὰρ θεὸν μὴ κρατεῖσθαι. ἴσων δὲ ὄντων, οὐκ ἂν ἔχειν θεὸν φύσιν δεῖν εἶναι κράτιστον· τὸ δὲ ἴσον οὔτε βέλτιον οὔτε χεῖρον εἶναι τοῦ ἴσου. ὥστ’ εἴπερ εἴη τε καὶ τοιοῦτον εἴη θεός, ἕνα μόνον εἶναι τὸν θεόν. οὐδὲ γὰρ οὐδὲ πάντα δύνασθαι ἂν ἃ βούλοιτο. οὐδὲ γὰρ ἂν δύνασθαι πλειόνων ὄντων ἕνα εἶναι μόνον. ἕνα δ’ ὄντα ὅμοιον εἶναι πάντῃ, ὁρᾶν τε καὶ ἀκούειν, τάς τε ἄλλας αἰσθήσεις ἔχοντα πάντῃ. εἰ γὰρ μή, κρατεῖν ἂν καὶ κρατεῖσθαι ὑπ’ ἀλλήλων τὰ μέρη θεοῦ ὄντα· ὅπερ ἀδύνατον. [977b] πάντῃ δ’ ὅμοιον ὄντα σφαιροειδῆ εἶναι· οὐ γὰρ τῇ μὲν τῇ δ’ οὐ τοιοῦτον εἶναι, ἀλλὰ πάντῃ. ἀΐδιον δ’ ὄντα καὶ ἕνα καὶ σφαιροειδῆ οὔτ’ ἄπειρον οὔτε πεπεράσθαι. ἄπειρον ὂ μὴ ὂν εἶναι· τοῦτο γὰρ οὔτε μέσον οὔτ’ ἀρχὴν καὶ τέλος οὔτ’ ἄλλο μέρος οὐδὲν ἔχειν, τοιοῦτον δ’ εἶναι τὸ ἄπειρον. οἷον δὲ τὸ μὴ ὄν, οὐκ ἂν εἶναι τὸ ὄν, περαίνειν δὲ πρὸς ἄλληλα, εἰ πλείω εἶεν. τὸ δὲ ἓν οὔτε τῷ οὐκ ὄντι οὔτε τοῖς πολλοῖς ὁμοιοῦσθαι· ἓν γὰρ οὐκ ἔχει πρὸς ὅ τι περανεῖ. τὸ δὲ τοιοῦτον ὂν ἕν, ὃν τὸν θεὸν εἶναι λέγει, οὔτε κινεῖσθαι οὔτε κινητὸν εἶναι. ἀκίνητον μὲν γὰρ εἶναι τὸ μὴ ὄν. οὔτε γὰρ ἂν εἰς αὐτὸ ἕτερον οὔτε ἐκεῖνο εἰς ἄλλο ἐλθεῖν. κινεῖσθαι δὲ τὰ πλείω ὄντα ἑνός. ἕτερον γὰρ εἰς ἕτερον δεῖν κινεῖσθαι. εἰς μὲν οὖν τὸ μὴ ὂν οὐδὲν ἂν κινηθῆναι· τὸ γὰρ μὴ ὂν οὐδαμῇ εἶναι. εἰ δὲ εἰς ἄλληλα μεταβάλλοι, πλείω αὐτὸν εἶναι ἑνός. διὰ ταῦτα δὴ κινεῖσθαι μὲν ἂν τὰ δύο ἢ πλείω ἑνός, ἠρεμεῖν δὲ καὶ ἀκίνητον εἶναι τὸ οὐδέν. τὸ δὲ ἓν οὔτε ἀτρεμεῖν οὔτε κινεῖσθαι· οὔτε γὰρ τῷ μὴ ὄντι οὔτε τοῖς πολλοῖς ὅμοιον εἶναι. κατὰ πάντα δὲ οὕτως ἔχειν τὸν θεόν, ἀΐδιόν τε καὶ ἕνα, ὅμοιόν τε καὶ σφαιροειδῆ ὄντα, οὔτε ἄπειρον οὔτε πεπερασμένον, οὔτε ἠρεμεῖν οὔτε ἀκίνητον εἶναι.

Πρῶτον μὲν οὖν λαμβάνει καὶ οὗτος τὸ γιγνόμενον γίγνεσθαι ἐξ ὄντος, ὥσπερ ὁ Μέλισσος. καίτοι τί κωλύει μήτ’ ἐξ ὁμοίου τὸ γιγνόμενον γίγνεσθαι, ἀλλ’ ἐκ μὴ ὄντος; ἔτι οὐδὲν μᾶλλον ὁ θεὸς ἀγέννητος ἢ καὶ τἆλλα πάντα, εἴπερ ἅπαντα ἐξ ὁμοίου ἢ ἀνομοίου γέγονεν· ὅπερ ἀδύνατον. ὥστε ἢ οὐδέν ἐστι παρὰ τὸν θεόν, ἢ καὶ τἆλλα ἀΐδια πάντα. ἔτι κράτιστον τὸν θεὸν λαμβάνει, τοῦτο δυνατώτατον καὶ βέλτιστον λέγων. οὐ δοκεῖ δὲ τοῦτο κατὰ τὸν νόμον, ἀλλὰ πολλὰ κρείττους εἶναι ἀλλήλων οἱ θεοί. οὐκ οὖν ἐκ τοῦ δοκοῦντος εἴληφε ταύτην κατὰ τοῦ θεοῦ τὴν ὁμολογίαν. τό τε κράτιστον εἶναι τὸν θεὸν οὐχ οὕτως ὑπολαμβάνων λέγεται ὡς πρὸς ἄλλο τι τοιαύτη ἡ τοῦ θεοῦ φύσις, ἀλλὰ πρὸς τὴν αὐτοῦ διάθεσιν, ἐπεί τοί γε πρὸς ἕτερον οὐδὲν ἂν κωλύοι μὴ τῇ αὐτοῦ ἐπιεικείᾳ καὶ ῥώμῃ ὑπερέχειν, ἀλλὰ διὰ τὴν τῶν ἄλλων ἀσθένειαν. θέλοι δ’ ἂν οὐδεὶς οὕτω τὸν θεὸν φάναι κράτιστον εἶναι, ἀλλ’ ὅτι αὐτὸς ἔχει ὡς οἷόν τε ἄριστα, καὶ οὐδὲν ἐκλείπει καὶ εὖ καὶ καλῶς ἔχειν αὐτῷ· ἅμα γὰρ ἴσως ἔχοντι κἀκεῖνο ἂν συμβαίη. οὕτω δὲ διακεῖσθαι καὶ πλείους αὐτοὺς ὄντας οὐδὲν κωλύει, ἅπαντας ὡς [978a] οἷόν τε ἄριστα διακειμένους, καὶ κρατίστους τῶν ἄλλων, οὐχ αὑτῶν ὄντας. ἔστι δ’, ὡς ἔοικε, καὶ ἄλλα. κράτιστον γὰρ εἶναι τὸν θεόν φησι, τοῦτο δέ τινι εἶναι ἀνάγκη, ἕνα τὰ πάντα ὁρᾶν καὶ ἀκούειν οὐδὲν προσήκει· οὐ γὰρ εἰ μὴ καὶ τῇδ’ ὁρᾷ, χεῖρον ὁρᾷ ταύτῃ, ἀλλ’ οὐχ ὁρᾷ. ἀλλ’ ἴσως τοῦτο βούλεται τὸ πάντῃ αἰσθάνεσθαι, ὅτι οὕτως ἂν βέλτιστα ἔχοι, ὅμοιος ὢν πάντῃ. ἔτι τοιοῦτος ὢν διὰ τί σφαιροειδὴς ἂν εἴη, ἀλλ’ οὐχ ὅτι ἑτέραν τινὰ μᾶλλον ἔχων ἰδέαν, ὅτι πάντῃ ἀκούει καὶ πάντῃ κρατεῖ; ὥσπερ γὰρ ὅταν λέγωμεν τὸ ψιμμύθιον ὅτι πάντα ἐστὶ λευκόν, οὐδὲν ἄλλο τι σημαίνομεν ἢ ὅτι ἐν ἅπασιν αὐτοῦ τοῖς μέρεσιν ἐγκέχρωσται ἡ λευκότης· τί δὴ κωλύει οὕτω κἀκεῖ τὸ πάντῃ ὁρᾶν καὶ ἀκούειν καὶ κρατεῖν λέγεσθαι, ὅτι ἅπαν ὃ ἄν τις αὐτοῦ λαμβάνῃ μέρος, τοῦτ’ ἔσται πεπονθός; ὥσπερ δὲ οὐδὲ τὸ ψιμμύθιον, οὐδὲ τὸν θεὸν ἀνάγκη διὰ τοῦτο εἶναι σφαιροειδῆ. ἔτι μήτε ἄπειρον μήτε πεπεράνθαι σῶμα γε ὂν καὶ ἔχον μέγεθος πῶς οἷόν τε, εἴπερ τοῦτ’ ἐστὶν ἄπειρον ὃ ἂν μὴ ἔχῃ πέρας δεκτικὸν ὂν πέρατος. πέρας δ’ ἐν μεγέθει καὶ πλήθει ἐγγίνεται, καὶ ἐν ἅπαντι τῷ ποσῷ, ὥστε ἂν μὴ ἔχῃ πέρας μέγεθος ὄν, ἄπειρόν ἐστιν. ἔτι δὲ σφαιροειδῆ ὄντα ἀνάγκη πέρας ἔχειν. ἔσχατα γὰρ ἔχει, εἴπερ μέσον ἔχει αὐτοῦ τοῦ πλεῖστον ἀπέχειν. μέσον δ’ ἔχει, σφαιροειδὲς ὄν· τοῦτο γάρ ἐστι σφαιροειδὲς ὃ ἐκ τοῦ μέσου ὁμοίως πρὸς τὰ ἔσχατα. σῶμα ἔσχατα ἢ πέρατα ἔχειν, οἷον διαφορεῖ. εἰ γὰρ καὶ τὸ μὴ ὂν ἁπλοῦν, οὐκ ἂν καὶ τὸ ὂν ἄπειρον. τί γὰρ κωλύει ἔνια ταὐτὰ λεχθῆναι κατὰ τοῦ ὄντος καὶ μὴ ὄντος; τό τε γὰρ ὂν οὐκ ὂν οὐδεὶς νῦν αἰσθάνεται, καὶ ὂν δέ τις οὐκ ἂν αἰσθάνοιτο νῦν· ἄμφω δὲ λεκτά, ὅπως διανοητά. οὐ λευκὸν δὲ τὸ μὴ ὄν· εἰ οὖν διὰ τοῦτο τὰ ὄντα πάντα λευκά, ὅπως μή τι ταὐτὸ κατὰ τοῦ ὄντος σημαίνωμεν καὶ μὴ ὄντος, ἢ οὐδὲν κωλύει καὶ τῶν ὄντων τι μὴ ὂν εἶναι λευκόν; οὕτω δὲ καὶ ἄλλην ἂν ἀπόφασιν δέξαιτο τὸ ἄπειρον, εἰ μὴ τὸ πάλαι λεχθέντι μᾶλλον, παρὰ τὸ μὴ ἔχειν ἢ μὴ ἔχειν ἐστὶν ἅπαν. ὥστε καὶ τὸ ὂν ἢ ἄπειρον ἢ πέρας ἔχον ἐστίν. ἴσως δὲ ἄτοπον καὶ τὸ προσάπτειν τῷ μὴ ὄντι ἀπειρίαν. οὐ γὰρ πᾶν, εἰ μὴ ἔχει πέρας, ἄπειρον λέγομεν, ὥσπερ οὐδ’ ἄνισον οὐκ ἂν φαῖμεν εἶναι τὸ μὴ ὄν. ἔτι οὐκ ἂν ἔχοι ὁ θεὸς πέρας εἷς ὤν, ἀλλ’ οὐ πρὸς θεόν. εἰ δὲ ἓν μόνον ἐστίν, ὁ θεὸς ἂν εἴη [978b] μόνον καὶ τὰ τοῦ θεοῦ μέρη. ἐπεὶ καὶ τοῦτ’ ἄτοπον, εἰ τοῖς πολλοῖς συμβέβηκε πεπεράνθαι πρὸς ἄλληλα, διὰ τοῦτο τὸ ἓν μὴ ἔχειν πέρας. πολλὰ γὰρ τοῖς πολλοῖς καὶ τῷ ἑνὶ ὑπάρχει ταὐτά, ἐπεὶ καὶ τὸ εἶναι κοινὸν αὐτοῖς ἐστίν. ἄτοπον οὖν ἴσως ἂν εἴη, εἰ διὰ τοῦτο μὴ φαῖμεν εἶναι τὸν θεόν, εἰ τὰ πολλά ἐστιν, ὅπως μὴ ὅμοιον ἔσται αὐτοῖς ταύτῃ. ἔτι τί κωλύει πεπεράνθαι καὶ ἔχειν πέρατα ἓν ὄντα τὸν θεόν; ὡς καὶ ὁ Παρμενίδης λέγει ἓν ὂν εἶναι αὐτὸν πάντοθεν εὐκύκλου σφαίρας ἐναλίγκιον ὄγκῳ, μεσσόθεν ἰσοπαλές. τὸ γὰρ πέρας τινὸς μὲν ἀνάγκη ἴσως εἶναι, οὐ μέντοι πρός τι γε, οὐδὲ ἀνάγκη τὸ ἔχον πέρας πρός τι ἔχειν πέρας, ὡς πεπερασμένον πρὸς τὸ μὴ ἐφεξῆς ἀπείρου, ἀλλ’ ἐστὶ τὸ πεπεράνθαι ἔσχατα ἔχειν, ἔσχατα δ’ ἔχον οὐκ ἀνάγκη πρός τι ἔχειν. ἐνίοις μὲν οὐ συμβαίνει πᾶν καὶ πεπεράνθαι. πάλιν περὶ τοῦ ἀκίνητον εἶναι τὸ ἓν καὶ τὸ ὄν, ὅτι καὶ τὸ ὂν κινεῖται, ἴσως ὁμοίως τοῖς ἔμπροσθεν ἄτοπον. καὶ ἔτι ἆρά γε οὐ ταὐτὸ ἄν τις ὑπολάβοι τὸ μὴ κινεῖσθαι καὶ τὸ ἀκίνητον εἶναι, ἀλλὰ τὸ μὲν ἀπόφασιν τοῦ κινεῖσθαι, ὥσπερ τὸ μὴ ἴσον, ὅπερ καὶ κατὰ τοῦ μὴ ὄντος, εἴπερ ἀληθές, τὸ δὲ ἀκίνητον τῷ ἔχειν πως ἤδη λέγεσθαι, ὥσπερ τὸ ἄνισον, καὶ ἐπὶ τῷ ἐναντίῳ τοῦ κινεῖσθαι τῷ ἠρεμεῖν, ὡς καὶ σχεδὸν οἱ ἀπὸ τοῦ α ἀποφάσεις ἐπὶ ἐναντίοις λέγονται. τὸ μὲν οὖν μὴ κινεῖσθαι ἀληθὲς ἐπὶ τοῦ μὴ ὄντος, τὸ δὲ ἠρεμεῖν οὐχ ὑπάρχει τῷ μὴ ὄντι. ὁμοίως δὲ οὐδὲ ἀκίνητον εἶναι σημαίνει ταὐτόν. ἀλλ’ οὗτος ἐπὶ τῷ ἠρεμεῖν αὐτῷ χρῆται, καὶ φησὶ τὸ μὴ ὂν ἠρεμεῖν, ὅτι οὐκ ἔχει μετάβασιν. ὅπερ τε καὶ ἐν τοῖς ἄνω εἴπομεν, ἄτοπον ἴσως, εἴ τι τῷ μὴ ὄντι προσάπτομεν, τοῦτο μὴ ἀληθὲς εἶναι κατὰ τοῦ ὄντος εἰπεῖν, ἄλλως τε κἂν ἀπόφασις ᾖ τὸ λεχθέν, των καὶ τὸ μὴ κινεῖσθαι μηδὲ μεταλαμβάνειν ἐστίν. πολλὰ γὰρ ἄν, καθάπερ καὶ ἐλέχθη, ἀφαιροῖτο τῶν ὄντων κατηγορεῖ. οὐδὲ γὰρ ἂν πολλὰ ἀληθὲς εἰπεῖν εἴη μὴ ἕν, εἴπερ καὶ τὸ μὴ ὂν ἐστὶ μὴ ἕν, εἴτε ἐπ᾽ ἐνίων τἀναντία ξυμβαίνειν δοκεῖ κατὰ τοσαύτας ἀποφάσεις· ὧν ἀνάγκη ἢ ἴσον ἢ ἄνισον, ἄν τι πλῆθος ᾖ, καὶ μὴ ὡς ἢ καὶ ἄρτιον ἢ περιττόν, ἂν ἀριθμὸς ᾖ. ὁμοίως δὲ ὡς καὶ τὸ ἠρεμεῖν ἢ κινεῖσθαι ἀνάγκη, ἂν σῶμα ᾖ. ἔτι εἰ καὶ διὰ τοῦτο μὴ κινεῖται ὁ θεός τε καὶ τὸ ἕν, ὅτι τὰ πολλὰ κινεῖται τῷ [979a] εἰς ἄλληλα ἰέναι, τί κωλύει καὶ τὸν θεὸν κινεῖσθαι εἰς ἄλλο; οὐδα τι μόνον, ἀλλ᾽ ὅτι εἷς μόνος θεός. εἰ δὲ καὶ αὐτός, τί κωλύει εἰς ἄλληλα κινουμένων τῶν μερῶν τοῦ ... κύκλῳ φε... θεόν; οὐ γὰρ δὴ τὸ τοιοῦτον ἕν, ὥσπερ ὁ Ζήνων πολλὰ εἶναι φύσει. αὐτὸς γὰρ σῶμα λέγει εἶναι τὸν θεόν, εἴτε τόδε τὸ πᾶν, εἴτε ὅ τι δήποτε αὐτὸ λέγων. ἀσώματος γὰρ ὢν πῶς ἂν σφαιροειδὴς εἴη ἐπιμόνως, ὅταν οὕτως οὔτ᾽ ἂν κινοῖτο οὔτ᾽ ἂν ἠρεμοῖ μηδαμοῦ γε ὤν; ἐπεὶ δὲ σῶμά ἐστι, τί ἂν αὐτὸ κωλύοι κινεῖσθαι ὡς ἐλέχθη;

ΠΕΡΙ ΓΟΡΓΙΟΥ.

Οὐκ εἶναί φησιν οὐδέν· εἰ δ’ ἔστιν, ἄγνωστον εἶναι· εἰ δὲ καὶ ἔστι καὶ γνωστόν, ἀλλ’ οὐ δηλωτὸν ἄλλοις. καὶ ὅτι μὲν οὐκ ἔστι, συνθεὶς τὰ ἑτέροις εἰρημένα, ὅσοι περὶ τῶν ὄντων λέγοντες τἀναντία, ὡς δοκοῦσιν, ἀποφαίνονται αὑτοῖς, οἱ μὲν ὅτι ἓν καὶ οὐ πολλά, οἱ δὲ αὖ ὅτι πολλὰ καὶ οὐχ ἕν, καὶ οἱ μὲν ὅτι ἀγένητα, οἱ δ’ ὡς γενόμενα ἐπιδεικνύντες ταῦτα, συλλογίζεται κατ’ ἀμφοτέρων. ἀνάγκη γάρ, φησίν, εἴ τί ἐστι, μήτε ἓν μήτε πολλὰ εἶναι, μήτε ἀγέννητα μήτε γενόμενα, οὐδὲν ἂν εἴη. εἰ γὰρ μὴ εἴη τι, τούτων ἂν θάτερα εἴη. ὅτι οὐκ ἔστιν οὔτε ἓν οὔτε πολλά, οὔτε ἀγέννητα οὔτε γενόμενα, τὰ μὲν ὡς Μέλισσος, τὰ δὲ ὡς Ζήνων ἐπιχειρεῖ δεικνύειν μετὰ τὴν πρώτην ἴδιον αὐτοῦ ἀπόδειξιν, ἐν ᾗ λέγει ὅτι οὐκ ἔστιν οὔτε εἶναι οὔτε μὴ εἶναι. εἰ μὲν γὰρ τὸ μὴ εἶναι ἔστι μὴ εἶναι, οὐδὲν ἂν ἧττον, τὸ μὴ ὂν τοῦ ὄντος εἴη. τό τε γὰρ μὴ ὄν ἐστι μὴ ὄν, καὶ τὸ ὂν ὄν, ὥστε οὐδὲν μᾶλλον ἢ εἶναι ἢ οὐκ εἶναι τὰ πράγματα. εἰ δ’ ὅμως τὸ μὴ εἶναί ἐστι, τὸ εἶναι, φησίν, οὐκ ἔστι τὸ ἀντικείμενον. εἰ γὰρ τὸ μὴ εἶναί ἐστι, τὸ εἶναι [ἢ] μὴ εἶναι προσήκει. ὥστε οὐκ ἂν οὕτως, φησίν, οὐδὲν ἂν εἴη, εἰ μὴ ταὐτόν ἐστιν εἶναί τε καὶ μὴ εἶναι. εἰ δὲ ταὐτό, καὶ οὕτως οὐκ ἂν εἴη οὐδέν· τό τε γὰρ μὴ ὂν οὐκ ἔστι καὶ τὸ ὄν, ἐπείπερ ταὐτὸ τῷ μὴ ὄντι. οὗτος μὲν οὖν ὁ αὐτὸς λόγος ἐκείνου.

Οὐδαμόθεν δὲ συμβαίνει ἐξ ὧν εἴρηκεν, μηδὲν εἶναι. ἃ γὰρ καὶ ἀποδείκνυσιν, οὕτως διαλέγεται. εἰ τὸ μὴ ὄν ἐστιν ἢ ἔστιν, ἁπλῶς εἰπεῖν εἴη, καὶ ἔστιν ὅμοιον μὴ ὄν. τοῦτο δὲ οὔτε φαίνεται οὕτως οὔτε ἀνάγκη, ἀλλ’ ὡσπερεὶ δυοῖν, ὄντος, τοῦ δ’ οὐκ ὄντος, τὸ μὲν ἔστι, τὸ δ’ οὐκ ἀληθές, ὅτι ἐστὶ [979b] τὸ μὲν μὴ ὄν. διότι οὖν οὐκ ἔστιν, οὔτε εἶναι οὔτε μὴ εἶναι τὰ ἄμφω οὔθ’ ἕτερον οὐκ ἔστιν. οὐδὲν γάρ, φησίν, εἴη ἂν τὸ μὴ εἶναι τοῦ εἶναι, εἴπερ εἴη τι καὶ τὸ μὴ εἶναι. οὐδείς φησιν εἶναι τὸ μὴ εἶναι οὐδαμῶς. εἰ δὲ καὶ ἔστι τὸ μὴ ὂν μὴ ὄν, οὐδ’ οὕτως ὁμοίως ἂν εἴη τὸ μὴ ὂν τῷ ὄντι· τὸ μὲν γάρ ἐστι μὴ ὄν, τὸ δὲ καὶ ἔστιν ἔτι. εἰ δὲ καὶ ἁπλῶς εἰπεῖν ἀληθές, ὡς δὴ θαυμάσιόν τ’ ἂν εἴη τὸ μὴ ὄν ἐστιν. ἀλλ’ εἰ δὴ οὕτω, πότερον μᾶλλον ξυμβαίνει τὰ πάντα εἶναι ἢ μὴ εἶναι; αὐτὸ γὰρ οὕτω γε τοὐναντίον ἔοικε γίνεσθαι. εἰ γὰρ τό τε μὴ ὄν ἐστι καὶ τὸ ὂν ὄν ἐστιν, ἅπαντά ἐστιν. καὶ γὰρ τὰ ὄντα καὶ τὰ μὴ ὄντα ἐστίν. οὐκ ἀνάγκη γάρ, εἰ τὸ μὴ ὄν ἐστι, καὶ τὸ ὂν μὴ εἶναι. εἰ δὴ καὶ οὕτω τις ξυγχωρεῖ, καὶ τὸ μὲν μὴ ὂν εἴη, τὸ δὲ ὂν μὴ εἴη, ὅμως οὐδὲν ἧττον εἴη ἄν· τὰ γὰρ μὴ ὄντα εἴη κατὰ τὸν ἐκείνου λόγον. εἰ δὲ ταὐτόν ἐστι καὶ τὸ εἶναι καὶ τὸ μὴ εἶναι, οὐδ’ οὕτως μᾶλλον οὐκ [εἴη] ἄν τι εἴη. ὡς γὰρ κἀκεῖνος λέγει, ὅτι εἰ ταὐτὸν μὴ ὂν καὶ ὄν, τό τε ὂν οὐκ ἔστι καὶ τὸ μὴ ὄν. ὥστε οὐδέν ἐστιν, ἀντιστρέψαντι ἔστιν ὁμοίως φάναι ὅτι πάντα ἐστίν. τό τε γὰρ μὴ ὄν ἐστι καὶ τὸ ὄν, ὥστε πάντα ἐστίν. μετὰ δὲ τοῦτον τὸν λόγον φησίν· εἰ δὲ ἔστιν, ἤτοι ἀγέννητον ἢ γενόμενον εἶναι. καὶ εἰ μὲν ἀγέννητον, ἄπειρον αὐτὸ τοῖς τοῦ Μελίσσου ἀξιώμασι λαμβάνει· τὸ δ’ ἄπειρον οὐκ ἂν εἶναί ποτε. οὔτε γὰρ ἐν αὑτῷ οὔτ’ ἂν ἐν ἄλλῳ εἶναι· δύο γὰρ ἂν οὕτως ἢ πλείω εἶναι, τό τε ἐνὸν καὶ τὸ ἐν ᾧ, μηδαμοῦ δὲ ὂν οὐδὲ εἶναι κατὰ τὸν Ζήνωνος λόγον περὶ τῆς χώρας. ἀγέννητον μὲν οὖν διὰ ταῦτ’ οὐκ εἶναι, οὐ μὴν οὐδὲ γενόμενον. γενέσθαι γοῦν οὐδὲν ἂν οὔτ’ ἐξ ὄντος οὔτ’ ἐκ μὴ ὄντος. εἰ γὰρ τὸ ὂν μεταπέσοι, οὐκ ἂν ἔτ’ εἶναι τὸ ὄν, ὥσπερ γ’ εἰ καὶ τὸ μὴ ὂν γένοιτο, οὐκ ἂν ἔτι εἴη μὴ ὄν. οὐδὲ μὴν οὐδ’ ἐξ ὄντος ἂν γενέσθαι. εἰ μὲν γὰρ μή ἐστι τὸ μὴ ὄν, οὐδὲν ἂν ἐκ μηδενὸς ἂν γενέσθαι· εἰ δ’ ἔστι τὸ μὴ ὄν, δι’ ἅπερ οὐδ’ ἐκ τοῦ ὄντος, διὰ ταῦτα οὐδ’ ἐκ τοῦ μὴ ὄντος γενέσθαι. εἰ οὖν ἀνάγκη μέν, εἴπερ ἔστι τι, ἤτοι ἀγέννητον εἶναι ἢ γενόμενον, ταῦτα δὲ ἀδύνατόν τι καὶ εἶναι. ἔτι εἴπερ ἔστιν, ἓν ἢ πλείω, φησίν, ἐστίν· εἴτε μήτε ἓν μήτε πολλά, οὐδὲν ἂν εἴη. καὶ ἓν μὲν ... καὶ ὅτι ἀσώματον ἂν εἴη τὸ ἕν η ἐνσχονμέν γε τῷ τοῦ Ζήνωνος λόγου. ἑνὸς δὲ ὄντος οὐδ’ ἂν ... εἶναι οὐδὲ μὴ ... μήτε πολλά. εἰ γὰρ μήτε ἓν μήτε [980a] πολλά ἐστιν, οὐδ’ ἂν κινηθῆναί φησιν. οὐδενὶ γὰρ κινηθείη, ἢ οὐκ ἂν ἔτι, ἢ ὡσαύτως ἔχον, ἀλλὰ τὸ μὲν οὐκ ἂν εἴη, τὸ δ’ οὐκ ὂν γεγονὸς εἴη. ἔτι δὲ ἢ κινεῖ ἢ κινεῖται, καὶ εἰ μεταφέρεται οὐ συνεχὲς ὄν, διήρηται τὸ ὄν, οὔτε τι ταύτῃ· ὥστε πάντῃ κινεῖται, πάντῃ διῄρηται. εἰ δ’ οὕτως, πάντα οὐκ ἔστιν. ἐκλιπὲς γὰρ ταύτῃ, φησίν, ᾗ διῄρηται, τοῦ ὄντος, ἀντὶ τοῦ κενοῦ τὸ διῃρῆσθαι λέγων, καθάπερ ἐν τοῖς Λευκίππου καλουμένοις λόγοις γέγραπται. εἰ μὲν οὖν οὐδέν, τὰς ἀποδείξεις λέγειν ἅπαντα. δεῖ γὰρ τὰ φρονούμενα εἶναι, καὶ τὸ μὴ ὄν, εἴπερ μή ἐστι, μηδὲ φρονεῖσθαι. εἰ δ’ οὕτως, οὐδὲν ἂν εἶναι ψεῦδος οὐδείς φησιν, οὐδ’ εἰ ἐν τῷ πελάγει φαίη ἁμιλλᾶσθαι ἅρματα. πάντα γὰρ ἂν ταῦτα εἴη. καὶ γὰρ τὰ ὁρώμενα καὶ ἀκουόμενα διὰ τοῦτό ἐστιν, ὅτι φρονεῖται ἕκαστα αὐτῶν· εἰ δὲ μὴ διὰ τοῦτο, ἀλλ’ ὥσπερ οὐδὲν μᾶλλον ἃ ὁρῶμεν ἐστίν, οὕτω μᾶλλον ἃ ὁρῶμεν ἢ διανοούμεθα. καὶ γὰρ ὥσπερ ἐκεῖ πολλοὶ ἂν ταῦτα ἴδοιεν, καὶ ἐνταῦθα πολλοὶ ἂν ταῦτα διανοηθείημεν. τὸ οὖν μᾶλλον δὴ τοιάδ’ ἐστί, ποῖα δὲ τἀληθῆ, ἄδηλον. ὥστε καὶ εἰ ἔστιν, ἡμῖν γε ἄγνωστα εἶναι τὰ πράγματα. εἰ δὲ καὶ γνωστά, πῶς ἄν τις, φησί, δηλώσειεν ἄλλῳ; ὃ γὰρ εἶδε, πῶς ἄν τις, φησί, τοῦτο εἴποι λόγῳ; ἢ πῶς ἂν ἐκείνῳ δῆλον ἀκούσαντι γίγνοιτο, μὴ ἰδόντι; [980b] ὥσπερ γὰρ οὐδὲ ἡ ὄψις τοὺς φθόγγους γιγνώσκει, οὕτως οὐδὲ ἡ ἀκοὴ τὰ χρώματα ἀκούει, ἀλλὰ φθόγγους· καὶ λέγει ὁ λέγων, ἀλλ' οὐ χρῶμα οὐδὲ πρᾶγμα. ὃ οὖν τις μὴ ἐννοεῖ, πῶς αἰτεῖ παρ' ἄλλου λόγῳ ἢ σημείῳ τινὶ ἑτέρου πράγματος ἐννοήσειεν, ἀλλ' ἢ ἐὰν μὲν χρῶμα ἰδών, ἐὰν δὲ μος. ἀρχὴν γὰρ οὐ λέγε γοει δὲ χρῶμα, ἀλλὰ λόγον, ὥστ' οὐδὲ διανοεῖσθαι χρῶμα ἔστιν, ἀλλ' ὁρᾶν, οὐδὲ ψόφον, ἀλλ' ἀκούειν. εἰ δὲ καὶ ἐνδέχεται, γινώσκει τε καὶ ἀναγινώσκει λέγων. ἀλλὰ πῶς ὁ ἀκούων τὸ αὐτὸ ἐννοήσει; οὐ γὰρ οἷόν τε τὸ αὐτὸ ἅμα ἐν πλείοσι καὶ χωρὶς οὖσιν εἶναι· δύο γὰρ ἂν εἴη τὸ ἕν. εἰ δὲ καὶ εἴη, φησίν, ἐν πλείοσι καὶ ταὐτόν, οὐδὲν κωλύει μὴ ὅμοιον φαίνεσθαι αὐτοῖς, μὴ πάντῃ ὁμοίοις ἐκείνοις οὖσιν καὶ ἐν τῷ αὐτῷ, εἴ τι ἐν τοιούτου εἴησαν, ἀλλ' οὐ δύο εἶεν. φαίνεται δὲ οὐδ' αὐτὸς αὑτῷ ὅμοια αἰσθανόμενος ἐν τῷ αὐτῷ χρόνῳ, ἀλλ' ἕτερα τῇ ἀκοῇ καὶ τῇ ὄψει, καὶ νῦν τε καὶ πάλαι διαφόρως. ὥστε σχολῇ ἄλλῳ πᾶν ταὐτὸ αἴσθοιτό τις. οὕτως οὐκ ἔστιν, ἕν ἐστι γνωστόν, οὐδεὶς ἂν αὐτὸ ἑτέρῳ δηλώσειεν, διά τε τὸ μὴ εἶναι τὰ πράγματα λεκτά, καὶ ὅτι οὐδεὶς ἕτερον ἑτέρῳ ταὐτὸν ἐννοεῖ. ἅπαντες δὲ καὶ οὕτως ἑτέρων ἀρχαιοτέρων εἰσὶν ἀπορίαι, ὥστε ἐν τῇ περὶ ἐκείνων σκέψει καὶ ταῦτα ἐξεταστέον.

Ψυχολογικά - Metaphysics

Μεταφυσικά (980a) Metaphysics

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[980a] Πάντες ἄνθρωποι τοῦ εἰδέναι ὀρέγονται φύσει. σημεῖον δ’ ἡ τῶν αἰσθήσεων ἀγάπησις· καὶ γὰρ χωρὶς τῆς χρείας ἀγαπῶνται δι’ αὑτάς, καὶ μάλιστα τῶν ἄλλων ἡ διὰ τῶν ὀμμάτων. οὐ γὰρ μόνον ἵνα πράττωμεν ἀλλὰ καὶ μηθὲν μέλλοντες πράττειν τὸ ὁρᾶν αἱρούμεθα ἀντὶ πάντων ὡς εἰπεῖν τῶν ἄλλων. αἴτιον δ’ ὅτι μάλιστα ποιεῖ γνωρίζειν ἡμᾶς αὕτη τῶν αἰσθήσεων καὶ πολλὰς δηλοῖ διαφοράς. φύσει μὲν οὖν αἴσθησιν ἔχοντα γίγνεται τὰ ζῷα, ἐκ δὲ ταύτης τοῖς μὲν αὐτῶν οὐκ ἐγγίγνεται μνήμη, τοῖς δ’ ἐγγίγνεται.

[980b] καὶ διὰ τοῦτο ταῦτα φρονιμώτερα καὶ μαθητικώτερα τῶν μὴ δυναμένων μνημονεύειν ἐστί, φρόνιμα μὲν ἄνευ τοῦ μανθάνειν ὅσα μὴ δύναται τῶν ψόφων ἀκούειν (οἷον μέλιττα κἂν εἴ τι τοιοῦτον ἄλλο γένος ζῴων ἔστι), μανθάνει δ’ ὅσα πρὸς τῇ μνήμῃ καὶ ταύτην ἔχει τὴν αἴσθησιν. τὰ μὲν οὖν ἄλλα ταῖς φαντασίαις ζῇ καὶ ταῖς μνήμαις, ἐμπειρίας δὲ μετέχει μικρόν· τὸ δὲ τῶν ἀνθρώπων γένος καὶ τέχνῃ καὶ λογισμοῖς. γίγνεται δ’ ἐκ τῆς μνήμης ἐμπειρία τοῖς ἀνθρώποις· αἱ γὰρ πολλαὶ μνῆμαι τοῦ αὐτοῦ πράγματος [981a] μιᾶς ἐμπειρίας δύναμιν ἀποτελοῦσιν. καὶ δοκεῖ σχεδὸν ἐπιστήμῃ καὶ τέχνῃ ὅμοιον εἶναι καὶ ἐμπειρία, ἀποβαίνει δ’ ἐπιστήμη καὶ τέχνη διὰ τῆς ἐμπειρίας τοῖς ἀνθρώποις· ἡ μὲν γὰρ ἐμπειρία τέχνην ἐποίησεν, ὡς φησὶ Πῶλος, ἡ δ’ ἀπειρία τύχην. γίγνεται δὲ τέχνη ὅταν ἐκ πολλῶν τῆς ἐμπειρίας ἐννοημάτων μία καθόλου γένηται περὶ τῶν ὁμοίων ὑπόληψις. τὸ μὲν γὰρ ἔχειν ὑπόληψιν ὅτι Καλλίᾳ κάμνοντι τηνδὶ τὴν νόσον τοδὶ συνήνεγκε καὶ Σωκράτει καὶ καθ’ ἕκαστον οὕτω πολλοῖς, ἐμπειρίας ἐστίν· τὸ δ’ ὅτι πᾶσι τοῖς τοιοῖσδε κατ’ εἶδος ἓν ἀφορισθεῖσι, κάμνουσι τηνδὶ τὴν νόσον, συνήνεγκεν, οἷον τοῖς φλεγματώδεσιν ἢ χολώδεσι [ἢ] πυρέττουσι καύσῳ, τέχνης. - πρὸς μὲν οὖν τὸ πράττειν ἐμπειρία τέχνης οὐδὲν δοκεῖ διαφέρειν, ἀλλὰ καὶ μᾶλλον ἐπιτυγχάνουσιν οἱ ἔμπειροι τῶν ἄνευ τῆς ἐμπειρίας λόγον ἐχόντων (αἴτιον δ’ ὅτι ἡ μὲν ἐμπειρία τῶν καθ’ ἕκαστόν ἐστι γνῶσις ἡ δὲ τέχνη τῶν καθόλου, αἱ δὲ πράξεις καὶ αἱ γενέσεις πᾶσαι περὶ τὸ καθ’ ἕκαστόν εἰσιν· οὐ γὰρ ἄνθρωπον ὑγιάζει ὁ ἰατρεύων ἀλλ’ ἢ κατὰ συμβεβηκός, ἀλλὰ Καλλίαν ἢ Σωκράτην ἢ τῶν ἄλλων τινὰ τῶν οὕτω λεγομένων ᾧ συμβέβηκεν ἀνθρώπῳ εἶναι· ἐὰν οὖν ἄνευ τῆς ἐμπειρίας ἔχῃ τις τὸν λόγον, καὶ τὸ καθόλου μὲν γνωρίζῃ τὸ δ’ ἐν τούτῳ καθ’ ἕκαστον ἀγνοῇ, πολλάκις

διαμαρτήσεται τῆς θεραπείας· θεραπευτὸν γὰρ τὸ καθ’ ἕκαστον)· ἀλλ’ ὅμως τό γε εἰδέναι καὶ τὸ ἐπαΐειν τῇ τέχνῃ τῆς ἐμπειρίας ὑπάρχειν οἰόμεθα μᾶλλον, καὶ σοφωτέρους τοὺς τεχνίτας τῶν ἐμπείρων ὑπολαμβάνομεν, ὡς κατὰ τὸ εἰδέναι μᾶλλον ἀκολουθοῦσαν τὴν σοφίαν πᾶσι· τοῦτο δ’ ὅτι οἱ μὲν τὴν αἰτίαν ἴσασιν οἱ δ’ οὔ. οἱ μὲν γὰρ ἔμπειροι τὸ ὅτι μὲν ἴσασι, διότι δ’ οὐκ ἴσασιν· οἱ δὲ τὸ διότι καὶ τὴν αἰτίαν γνωρίζουσιν. διὸ καὶ τοὺς ἀρχιτέκτονας περὶ ἕκαστον τιμιωτέρους καὶ μᾶλλον εἰδέναι νομίζομεν τῶν χειροτεχνῶν [981b] καὶ σοφωτέρους, ὅτι τὰς αἰτίας τῶν ποιουμένων ἴσασιν (τοὺς δ’, ὥσπερ καὶ τῶν ἀψύχων ἔνια ποιεῖ μέν, οὐκ εἰδότα δὲ ποιεῖ ἃ ποιεῖ, οἷον καίει τὸ πῦρ - τὰ μὲν οὖν ἄψυχα φύσει τινὶ ποιεῖν τούτων ἕκαστον τοὺς δὲ χειροτέχνας δι’ ἔθος), ὡς οὐ κατὰ τὸ πρακτικοὺς εἶναι σοφωτέρους ὄντας ἀλλὰ κατὰ τὸ λόγον ἔχειν αὐτοὺς καὶ τὰς αἰτίας γνωρίζειν. ὅλως τε σημεῖον τοῦ εἰδότος καὶ μὴ εἰδότος τὸ δύνασθαι διδάσκειν ἐστίν, καὶ διὰ τοῦτο τὴν τέχνην τῆς ἐμπειρίας ἡγούμεθα μᾶλλον ἐπιστήμην εἶναι· δύνανται γάρ, οἱ δὲ οὐ δύνανται διδάσκειν. ἔτι δὲ τῶν αἰσθήσεων οὐδεμίαν ἡγούμεθα εἶναι σοφίαν· καίτοι κυριώταταί γ’ εἰσὶν αὗται τῶν καθ’ ἕκαστα γνώσεις· ἀλλ’ οὐ λέγουσι τὸ διὰ τί περὶ οὐδενός, οἷον διὰ τί θερμὸν τὸ πῦρ, ἀλλὰ μόνον ὅτι θερμόν. τὸ μὲν οὖν πρῶτον εἰκὸς τὸν ὁποιανοῦν εὑρόντα τέχνην παρὰ τὰς κοινὰς αἰσθήσεις θαυμάζεσθαι ὑπὸ τῶν ἀνθρώπων μὴ μόνον διὰ τὸ χρήσιμον εἶναί τι τῶν εὑρεθέντων ἀλλ’ ὡς σοφὸν καὶ διαφέροντα τῶν ἄλλων· πλειόνων δ’ εὑρισκομένων τεχνῶν καὶ τῶν μὲν πρὸς τἀναγκαῖα τῶν δὲ πρὸς διαγωγὴν οὐσῶν, ἀεὶ σοφωτέρους τοὺς τοιούτους ἐκείνων ὑπολαμβάνεσθαι διὰ τὸ μὴ πρὸς χρῆσιν εἶναι τὰς ἐπιστήμας αὐτῶν. ὅθεν ἤδη πάντων τῶν τοιούτων κατεσκευασμένων αἱ μὴ πρὸς ἡδονὴν μηδὲ πρὸς τἀναγκαῖα τῶν ἐπιστημῶν εὑρέθησαν, καὶ πρῶτον ἐν τούτοις τοῖς τόποις οὗ πρῶτον ἐσχόλασαν· διὸ περὶ Αἴγυπτον αἱ μαθηματικαὶ πρῶτον τέχναι συνέστησαν, ἐκεῖ γὰρ ἀφείθη σχολάζειν τὸ τῶν ἱερέων ἔθνος. εἴρηται μὲν οὖν ἐν τοῖς ἠθικοῖς τίς διαφορὰ τέχνης καὶ ἐπιστήμης καὶ τῶν ἄλλων τῶν ὁμογενῶν· οὗ δ’ ἕνεκα νῦν ποιούμεθα τὸν λόγον τοῦτ’ ἐστίν, ὅτι τὴν ὀνομαζομένην σοφίαν περὶ τὰ πρῶτα αἴτια καὶ τὰς ἀρχὰς ὑπολαμβάνουσι πάντες· ὥστε, καθάπερ εἴρηται πρότερον, ὁ μὲν ἔμπειρος τῶν ὁποιανοῦν ἐχόντων αἴσθησιν εἶναι δοκεῖ σοφώτερος, ὁ δὲ τεχνίτης τῶν ἐμπείρων, χειροτέχνου δὲ ἀρχιτέκτων, [982a] αἱ δὲ θεωρητικαὶ τῶν ποιητικῶν μᾶλλον. ὅτι μὲν οὖν ἡ σοφία περί τινας ἀρχὰς καὶ αἰτίας ἐστὶν ἐπιστήμη, δῆλον.

Ἐπεὶ δὲ ταύτην τὴν ἐπιστήμην ζητοῦμεν, τοῦτ’ ἂν εἴη σκεπτέον, ἡ περὶ ποίας αἰτίας καὶ περὶ ποίας ἀρχὰς ἐπιστήμη σοφία ἐστίν. εἰ δὴ λάβοι τις τὰς ὑπολήψεις ἃς ἔχομεν περὶ τοῦ σοφοῦ, τάχ’ ἂν ἐκ τούτου φανερὸν γένοιτο μᾶλλον. ὑπολαμβάνομεν δὴ πρῶτον μὲν ἐπίστασθαι πάντα τὸν σοφὸν ὡς ἐνδέχεται, μὴ καθ’ ἕκαστον ἔχοντα ἐπιστήμην αὐτῶν· εἶτα τὸν τὰ χαλεπὰ γνῶναι δυνάμενον καὶ μὴ ῥᾴδια ἀνθρώπῳ γιγνώσκειν, τοῦτον σοφόν (τὸ γὰρ αἰσθάνεσθαι πάντων κοινόν, διὸ ῥᾴδιον καὶ οὐδὲν σοφόν)· ἔτι τὸν ἀκριβέστερον καὶ τὸν διδασκαλικώτερον τῶν αἰτιῶν σοφώτερον εἶναι περὶ πᾶσαν ἐπιστήμην· καὶ τῶν ἐπιστημῶν δὲ τὴν αὑτῆς ἕνεκεν καὶ τοῦ εἰδέναι χάριν αἱρετὴν οὖσαν μᾶλλον εἶναι σοφίαν ἢ τὴν τῶν ἀποβαινόντων ἕνεκεν, καὶ τὴν ἀρχικωτέραν τῆς ὑπηρετούσης μᾶλλον σοφίαν· οὐ γὰρ δεῖν ἐπιτάττεσθαι τὸν σοφὸν ἀλλ’ ἐπιτάττειν, καὶ οὐ τοῦτον ἑτέρῳ πείθεσθαι, ἀλλὰ τούτῳ τὸν ἧττον σοφόν. - τὰς μὲν οὖν ὑπολήψεις τοιαύτας καὶ τοσαύτας ἔχομεν περὶ τῆς σοφίας καὶ τῶν σοφῶν· τούτων δὲ τὸ μὲν πάντα ἐπίστασθαι τῷ μάλιστα ἔχοντι τὴν καθόλου ἐπιστήμην ἀναγκαῖον ὑπάρχειν (οὗτος γὰρ οἶδέ πως πάντα τὰ ὑποκείμενα), σχεδὸν δὲ καὶ χαλεπώτατα ταῦτα γνωρίζειν τοῖς ἀνθρώποις, τὰ μάλιστα καθόλου (πορρωτάτω γὰρ τῶν αἰσθήσεών ἐστιν), ἀκριβέσταται δὲ τῶν ἐπιστημῶν αἳ μάλιστα τῶν πρώτων εἰσίν (αἱ γὰρ ἐξ ἐλαττόνων ἀκριβέστεραι τῶν ἐκ προσθέσεως λεγομένων, οἷον ἀριθμητικὴ γεωμετρίας)· ἀλλὰ μὴν καὶ διδασκαλική γε ἡ τῶν αἰτιῶν θεωρητικὴ μᾶλλον (οὗτοι γὰρ διδάσκουσιν, οἱ τὰς αἰτίας λέγοντες περὶ ἑκάστου), τὸ δ’ εἰδέναι καὶ τὸ ἐπίστασθαι αὐτῶν ἕνεκα μάλισθ’ ὑπάρχει τῇ τοῦ μάλιστα ἐπιστητοῦ ἐπιστήμῃ (ὁ γὰρ τὸ ἐπίστασθαι δι’ αὑτὸ αἱρούμενος τὴν μάλιστα [982b] ἐπιστήμην μάλιστα αἱρήσεται, τοιαύτη δ’ ἐστὶν ἡ τοῦ μάλιστα ἐπιστητοῦ), μάλιστα δ’ ἐπιστητὰ τὰ πρῶτα καὶ τὰ αἴτια (διὰ γὰρ ταῦτα καὶ ἐκ τούτων τἆλλα γνωρίζεται ἀλλ’ οὐ ταῦτα διὰ τῶν ὑποκειμένων), ἀρχικωτάτη δὲ τῶν ἐπιστημῶν, καὶ μᾶλλον ἀρχικὴ τῆς ὑπηρετούσης, ἡ γνωρίζουσα τίνος ἕνεκέν ἐστι πρακτέον ἕκαστον· τοῦτο δ’ ἐστὶ τἀγαθὸν ἑκάστου, ὅλως δὲ τὸ ἄριστον ἐν τῇ φύσει πάσῃ. ἐξ ἁπάντων οὖν τῶν εἰρημένων ἐπὶ τὴν αὐτὴν ἐπιστήμην πίπτει τὸ ζητούμενον ὄνομα· δεῖ γὰρ ταύτην τῶν πρώτων ἀρχῶν καὶ αἰτιῶν εἶναι θεωρητικήν· καὶ γὰρ τἀγαθὸν καὶ τὸ οὗ ἕνεκα ἓν τῶν αἰτίων ἐστίν.

Ὅτι δ’ οὐ ποιητική, δῆλον καὶ ἐκ τῶν πρώτων φιλοσοφησάντων· διὰ γὰρ τὸ θαυμάζειν οἱ ἄνθρωποι καὶ νῦν καὶ τὸ πρῶτον ἤρξαντο φιλοσοφεῖν, ἐξ ἀρχῆς μὲν τὰ πρόχειρα τῶν ἀτόπων θαυμάσαντες, εἶτα κατὰ μικρὸν οὕτω προϊόντες καὶ περὶ τῶν μειζόνων διαπορήσαντες, οἷον περί τε τῶν τῆς σελήνης παθημάτων καὶ τῶν περὶ τὸν ἥλιον καὶ ἄστρα καὶ περὶ τῆς τοῦ παντὸς γενέσεως. ὁ δ’ ἀπορῶν καὶ θαυμάζων οἴεται ἀγνοεῖν (διὸ καὶ ὁ φιλόμυθος φιλόσοφός πώς ἐστιν· ὁ γὰρ μῦθος σύγκειται ἐκ θαυμασίων)· ὥστ’ εἴπερ διὰ τὸ φεύγειν τὴν ἄγνοιαν ἐφιλοσόφησαν, φανερὸν ὅτι διὰ τὸ εἰδέναι τὸ ἐπίστασθαι ἐδίωκον καὶ οὐ χρήσεώς τινος ἕνεκεν. μαρτυρεῖ δὲ αὐτὸ τὸ συμβεβηκός· σχεδὸν γὰρ πάντων ὑπαρχόντων τῶν ἀναγκαίων καὶ πρὸς ῥᾳστώνην καὶ διαγωγὴν ἡ τοιαύτη φρόνησις ἤρξατο ζητεῖσθαι. δῆλον οὖν ὡς δι’ οὐδεμίαν αὐτὴν ζητοῦμεν χρείαν ἑτέραν, ἀλλ’ ὥσπερ ἄνθρωπος, φαμέν, ἐλεύθερος ὁ αὑτοῦ ἕνεκα καὶ μὴ ἄλλου ὤν, οὕτω καὶ αὐτὴν ὡς μόνην οὖσαν ἐλευθέραν τῶν ἐπιστημῶν· μόνη γὰρ αὕτη αὑτῆς ἕνεκέν ἐστιν. διὸ καὶ δικαίως ἂν οὐκ ἀνθρωπίνη νομίζοιτο αὐτῆς ἡ κτῆσις· πολλαχῇ γὰρ ἡ φύσις δούλη τῶν ἀνθρώπων ἐστίν, ὥστε κατὰ Σιμωνίδην “θεὸς ἂν μόνος τοῦτ’ ἔχοι γέρας”, ἄνδρα δ’ οὐκ ἄξιον μὴ οὐ ζητεῖν τὴν καθ’ αὑτὸν ἐπιστήμην. εἰ δὴ λέγουσί τι οἱ ποιηταὶ καὶ πέφυκε φθονεῖν [983a] τὸ θεῖον, ἐπὶ τούτου συμβῆναι μάλιστα εἰκὸς καὶ δυστυχεῖς εἶναι πάντας τοὺς περιττούς. ἀλλ’ οὔτε τὸ θεῖον φθονερὸν ἐνδέχεται εἶναι, ἀλλὰ κατὰ τὴν παροιμίαν πολλὰ ψεύδονται ἀοιδοί, οὔτε τῆς τοιαύτης ἄλλην χρὴ νομίζειν τιμιωτέραν. ἡ γὰρ θειοτάτη καὶ τιμιωτάτη· τοιαύτη δὲ διχῶς ἂν εἴη μόνη· ἥν τε γὰρ μάλιστ’ ἂν ὁ θεὸς ἔχοι, θεία τῶν ἐπιστημῶν ἐστί, κἂν εἴ τις τῶν θείων εἴη. μόνη δ’ αὕτη τούτων ἀμφοτέρων τετύχηκεν· ὅ τε γὰρ θεὸς δοκεῖ τῶν αἰτίων πᾶσιν εἶναι καὶ ἀρχή τις, καὶ τὴν τοιαύτην ἢ μόνος ἢ μάλιστ’ ἂν ἔχοι ὁ θεός. ἀναγκαιότεραι μὲν οὖν πᾶσαι ταύτης, ἀμείνων δ’ οὐδεμία. - δεῖ μέντοι πως καταστῆναι τὴν κτῆσιν αὐτῆς εἰς τοὐναντίον ἡμῖν τῶν ἐξ ἀρχῆς ζητήσεων. ἄρχονται μὲν γάρ, ὥσπερ εἴπομεν, ἀπὸ τοῦ θαυμάζειν πάντες εἰ οὕτως ἔχει, καθάπερ ‹περὶ› τῶν θαυμάτων ταὐτόματα [τοῖς μήπω τεθεωρηκόσι τὴν αἰτίαν] ἢ περὶ τὰς τοῦ ἡλίου τροπὰς ἢ τὴν τῆς διαμέτρου ἀσυμμετρίαν (θαυμαστὸν γὰρ εἶναι δοκεῖ πᾶσι ‹τοῖς μήπω τεθεωρηκόσι τὴν αἰτίαν› εἴ τι τῷ ἐλαχίστῳ μὴ μετρεῖται)· δεῖ δὲ εἰς τοὐναντίον καὶ τὸ ἄμεινον κατὰ τὴν παροιμίαν ἀποτελευτῆσαι, καθάπερ καὶ ἐν τούτοις ὅταν μάθωσιν· οὐθὲν γὰρ ἂν οὕτως θαυμάσειεν ἀνὴρ γεωμετρικὸς ὡς εἰ γένοιτο ἡ διάμετρος μετρητή. τίς μὲν οὖν ἡ φύσις τῆς ἐπιστήμης τῆς ζητουμένης, εἴρηται, καὶ τίς ὁ σκοπὸς οὗ δεῖ τυγχάνειν τὴν ζήτησιν καὶ τὴν ὅλην μέθοδον.

Ἐπεὶ δὲ φανερὸν ὅτι τῶν ἐξ ἀρχῆς αἰτίων δεῖ λαβεῖν ἐπιστήμην (τότε γὰρ εἰδέναι φαμὲν ἕκαστον, ὅταν τὴν πρώτην αἰτίαν οἰώμεθα γνωρίζειν), τὰ δ’ αἴτια λέγεται τετραχῶς, ὧν μίαν μὲν αἰτίαν φαμὲν εἶναι τὴν οὐσίαν καὶ τὸ τί ἦν εἶναι (ἀνάγεται γὰρ τὸ διὰ τί εἰς τὸν λόγον ἔσχατον, αἴτιον δὲ καὶ ἀρχὴ τὸ διὰ τί πρῶτον), ἑτέραν δὲ τὴν ὕλην καὶ τὸ ὑποκείμενον, τρίτην δὲ ὅθεν ἡ ἀρχὴ τῆς κινήσεως, τετάρτην δὲ τὴν ἀντικειμένην αἰτίαν ταύτῃ, τὸ οὗ ἕνεκα καὶ τἀγαθόν (τέλος γὰρ γενέσεως καὶ κινήσεως πάσης τοῦτ’ ἐστίν), τεθεώρηται μὲν οὖν ἱκανῶς περὶ αὐτῶν ἡμῖν ἐν τοῖς περὶ φύσεως, [983b] ὅμως δὲ παραλάβωμεν καὶ τοὺς πρότερον ἡμῶν εἰς ἐπίσκεψιν τῶν ὄντων ἐλθόντας καὶ φιλοσοφήσαντας περὶ τῆς ἀληθείας. δῆλον γὰρ ὅτι κἀκεῖνοι λέγουσιν ἀρχάς τινας καὶ αἰτίας· ἐπελθοῦσιν οὖν ἔσται τι προὔργου τῇ μεθόδῳ τῇ νῦν· ἢ γὰρ ἕτερόν τι γένος εὑρήσομεν αἰτίας ἢ ταῖς νῦν λεγομέναις μᾶλλον πιστεύσομεν. - τῶν δὴ πρώτων φιλοσοφησάντων οἱ πλεῖστοι τὰς ἐν ὕλης εἴδει μόνας ᾠήθησαν ἀρχὰς εἶναι πάντων· ἐξ οὗ γὰρ ἔστιν ἅπαντα τὰ ὄντα καὶ ἐξ οὗ γίγνεται πρώτου καὶ εἰς ὃ φθείρεται τελευταῖον, τῆς μὲν οὐσίας ὑπομενούσης τοῖς δὲ πάθεσι μεταβαλλούσης, τοῦτο στοιχεῖον καὶ ταύτην ἀρχήν φασιν εἶναι τῶν ὄντων, καὶ διὰ τοῦτο οὔτε γίγνεσθαι οὐθὲν οἴονται οὔτε ἀπόλλυσθαι, ὡς τῆς τοιαύτης φύσεως ἀεὶ σωζομένης, ὥσπερ οὐδὲ τὸν Σωκράτην φαμὲν οὔτε γίγνεσθαι ἁπλῶς ὅταν γίγνηται καλὸς ἢ μουσικὸς οὔτε ἀπόλλυσθαι ὅταν ἀποβάλλῃ ταύτας τὰς ἕξεις, διὰ τὸ ὑπομένειν τὸ ὑποκείμενον τὸν Σωκράτην αὐτόν, οὕτως οὐδὲ τῶν ἄλλων οὐδέν· ἀεὶ γὰρ εἶναί τινα φύσιν ἢ μίαν ἢ πλείους μιᾶς ἐξ ὧν γίγνεται τἆλλα σωζομένης ἐκείνης. τὸ μέντοι πλῆθος καὶ τὸ εἶδος τῆς τοιαύτης ἀρχῆς οὐ τὸ αὐτὸ πάντες λέγουσιν, ἀλλὰ Θαλῆς μὲν ὁ τῆς τοιαύτης ἀρχηγὸς φιλοσοφίας ὕδωρ φησὶν εἶναι (διὸ καὶ τὴν γῆν ἐφ’ ὕδατος ἀπεφήνατο εἶναι), λαβὼν ἴσως τὴν ὑπόληψιν ταύτην ἐκ τοῦ πάντων ὁρᾶν τὴν τροφὴν ὑγρὰν οὖσαν καὶ αὐτὸ τὸ θερμὸν ἐκ τούτου γιγνόμενον καὶ τούτῳ ζῶν (τὸ δ’ ἐξ οὗ γίγνεται, τοῦτ’ ἐστὶν ἀρχὴ πάντων) - διά τε δὴ τοῦτο τὴν ὑπόληψιν λαβὼν ταύτην καὶ διὰ τὸ πάντων τὰ σπέρματα τὴν φύσιν ὑγρὰν ἔχειν, τὸ δ’ ὕδωρ ἀρχὴν τῆς φύσεως εἶναι τοῖς ὑγροῖς. εἰσὶ δέ τινες οἳ καὶ τοὺς παμπαλαίους καὶ πολὺ πρὸ τῆς νῦν γενέσεως καὶ πρώτους θεολογήσαντας οὕτως οἴονται περὶ τῆς φύσεως ὑπολαβεῖν· Ὠκεανόν τε γὰρ καὶ Τηθὺν ἐποίησαν τῆς γενέσεως πατέρας, καὶ τὸν ὅρκον τῶν θεῶν ὕδωρ, τὴν καλουμένην ὑπ’ αὐτῶν Στύγα [τῶν ποιητῶν]· τιμιώτατον μὲν γὰρ τὸ πρεσβύτατον, ὅρκος δὲ τὸ τιμιώτατόν ἐστιν. εἰ μὲν οὖν [984a] ἀρχαία τις αὕτη καὶ παλαιὰ τετύχηκεν οὖσα περὶ τῆς φύσεως ἡ δόξα, τάχ’ ἂν ἄδηλον εἴη, Θαλῆς μέντοι λέγεται οὕτως ἀποφήνασθαι περὶ τῆς πρώτης αἰτίας (Ἵππωνα γὰρ οὐκ ἄν τις ἀξιώσειε θεῖναι μετὰ τούτων διὰ τὴν εὐτέλειαν αὐτοῦ τῆς διανοίας)· Ἀναξιμένης δὲ ἀέρα καὶ Διογένης πρότερον ὕδατος καὶ μάλιστ’ ἀρχὴν τιθέασι τῶν ἁπλῶν σωμάτων, Ἵππασος δὲ πῦρ ὁ Μεταποντῖνος καὶ Ἡράκλειτος ὁ Ἐφέσιος, Ἐμπεδοκλῆς δὲ τὰ τέτταρα, πρὸς τοῖς εἰρημένοις γῆν προστιθεὶς τέταρτον (ταῦτα γὰρ ἀεὶ διαμένειν καὶ οὐ γίγνεσθαι ἀλλ’ ἢ πλήθει καὶ ὀλιγότητι, συγκρινόμενα καὶ διακρινόμενα εἰς ἕν τε καὶ ἐξ ἑνός)· Ἀναξαγόρας δὲ ὁ Κλαζομένιος τῇ μὲν ἡλικίᾳ πρότερος ὢν τούτου τοῖς δ' ἔργοις ὕστερος ἀπείρους εἶναί φησι τὰς ἀρχάς· σχεδὸν γὰρ ἅπαντα τὰ ὁμοιομερῆ καθάπερ ὕδωρ ἢ πῦρ οὕτω γίγνεσθαι καὶ ἀπόλλυσθαί φησι, συγκρίσει καὶ διακρίσει μόνον, ἄλλως δ' οὔτε γίγνεσθαι οὔτ' ἀπόλλυσθαι ἀλλὰ διαμένειν ἀΐδια. - ἐκ μὲν οὖν τούτων μόνην τις αἰτίαν νομίσειεν ἂν τὴν ἐν ὕλης εἴδει λεγομένην· προϊόντων δ' οὕτως, αὐτὸ τὸ πρᾶγμα ὡδοποίησεν αὐτοῖς καὶ συνηνάγκασε ζητεῖν· εἰ γὰρ ὅτι μάλιστα πᾶσα γένεσις καὶ φθορὰ ἔκ τινος ἑνὸς ἢ καὶ πλειόνων ἐστίν, διὰ τί τοῦτο συμβαίνει καὶ τί τὸ αἴτιον; οὐ γὰρ δὴ τό γε ὑποκείμενον αὐτὸ ποιεῖ μεταβάλλειν ἑαυτό· λέγω δ' οἷον οὔτε τὸ ξύλον οὔτε ὁ χαλκὸς αἴτιος τοῦ μεταβάλλειν ἑκάτερον αὐτῶν, οὐδὲ ποιεῖ τὸ μὲν ξύλον κλίνην ὁ δὲ χαλκὸς ἀνδριάντα, ἀλλ' ἕτερόν τι τῆς μεταβολῆς αἴτιον. τὸ δὲ τοῦτο ζητεῖν ἐστὶ τὸ τὴν ἑτέραν ἀρχὴν ζητεῖν, ὡς ἂν ἡμεῖς φαίημεν, ὅθεν ἡ ἀρχὴ τῆς κινήσεως. οἱ μὲν οὖν πάμπαν ἐξ ἀρχῆς ἁψάμενοι τῆς μεθόδου τῆς τοιαύτης καὶ ἓν φάσκοντες εἶναι τὸ ὑποκείμενον οὐθὲν ἐδυσχέραναν ἑαυτοῖς, ἀλλ' ἔνιοί γε τῶν ἓν λεγόντων, ὥσπερ ἡττηθέντες ὑπὸ ταύτης τῆς ζητήσεως, τὸ ἓν ἀκίνητόν φασιν εἶναι καὶ τὴν φύσιν ὅλην οὐ μόνον κατὰ γένεσιν καὶ φθοράν (τοῦτο μὲν γὰρ ἀρχαῖόν τε καὶ πάντες ὡμολόγησαν) ἀλλὰ καὶ κατὰ τὴν ἄλλην μεταβολὴν [984b] πᾶσαν· καὶ τοῦτο αὐτῶν ἴδιόν ἐστιν. τῶν μὲν οὖν ἓν φασκόντων εἶναι τὸ πᾶν οὐθενὶ συνέβη τὴν τοιαύτην συνιδεῖν αἰτίαν πλὴν εἰ ἄρα Παρμενίδῃ, καὶ τούτῳ κατὰ τοσοῦτον ὅσον οὐ μόνον ἓν ἀλλὰ καὶ δύο πως τίθησιν αἰτίας εἶναι· τοῖς δὲ δὴ πλείω ποιοῦσι μᾶλλον ἐνδέχεται λέγειν, οἷον τοῖς θερμὸν καὶ ψυχρὸν ἢ πῦρ καὶ γῆν· χρῶνται γὰρ ὡς κινητικὴν ἔχοντι τῷ πυρὶ τὴν φύσιν, ὕδατι δὲ καὶ γῇ καὶ τοῖς τοιούτοις τοὐναντίον. - μετὰ δὲ τούτους καὶ τὰς τοιαύτας ἀρχάς, ὡς οὐχ ἱκανῶν οὐσῶν γεννῆσαι τὴν τῶν ὄντων φύσιν, πάλιν ὑπ' αὐτῆς τῆς ἀληθείας, ὥσπερ εἴπομεν, ἀναγκαζόμενοι τὴν ἐχομένην ἐζήτησαν ἀρχήν. τοῦ γὰρ εὖ καὶ καλῶς τὰ μὲν ἔχειν τὰ δὲ γίγνεσθαι τῶν ὄντων ἴσως οὔτε πῦρ οὔτε γῆν οὔτ' ἄλλο τῶν τοιούτων οὐθὲν οὔτ' εἰκὸς αἴτιον εἶναι οὔτ' ἐκείνους οἰηθῆναι· οὐδ' αὖ τῷ αὐτομάτῳ καὶ τύχῃ τοσοῦτον ἐπιτρέψαι πρᾶγμα καλῶς εἶχεν. νοῦν δή τις εἰπὼν ἐνεῖναι, καθάπερ ἐν τοῖς ζῴοις, καὶ ἐν τῇ φύσει τὸν αἴτιον τοῦ κόσμου καὶ τῆς τάξεως πάσης οἷον νήφων ἐφάνη παρ' εἰκῇ λέγοντας τοὺς πρότερον. φανερῶς μὲν οὖν Ἀναξαγόραν ἴσμεν ἁψάμενον τούτων τῶν λόγων, αἰτίαν δ' ἔχει πρότερον Ἑρμότιμος ὁ Κλαζομένιος εἰπεῖν. οἱ μὲν οὖν οὕτως ὑπολαμβάνοντες ἅμα τοῦ καλῶς τὴν αἰτίαν ἀρχὴν εἶναι τῶν ὄντων ἔθεσαν, καὶ τὴν τοιαύτην ὅθεν ἡ κίνησις ὑπάρχει τοῖς οὖσιν· ὑποπτεύσειε δ' ἄν τις Ἡσίοδον πρῶτον ζητῆσαι τὸ τοιοῦτον, κἂν εἴ τις ἄλλος ἔρωτα ἢ ἐπιθυμίαν ἐν τοῖς οὖσιν ἔθηκεν ὡς ἀρχήν, οἷον καὶ Παρμενίδης· καὶ γὰρ οὗτος κατασκευάζων τὴν τοῦ παντὸς γένεσιν “πρώτιστον μέν” φησιν “ἔρωτα θεῶν μητίσατο πάντων”, Ἡσίοδος δὲ “πάντων μὲν πρώτιστα χάος γένετ’, αὐτὰρ ἔπειτα γαῖ’ εὐρύστερνος ... ἠδ’ ἔρος, ὃς πάντεσσι μεταπρέπει ἀθανάτοισιν”, ὡς δέον ἐν τοῖς οὖσιν ὑπάρχειν τιν’ αἰτίαν ἥτις κινήσει καὶ συνάξει τὰ πράγματα. τούτους μὲν οὖν πῶς χρὴ διανεῖμαι περὶ τοῦ τίς πρῶτος, ἐξέστω κρίνειν ὕστερον· ἐπεὶ δὲ καὶ τἀναντία τοῖς ἀγαθοῖς ἐνόντα ἐφαίνετο ἐν τῇ φύσει, καὶ οὐ μόνον τάξις καὶ [985a] τὸ καλὸν ἀλλὰ καὶ ἀταξία καὶ τὸ αἰσχρόν, καὶ πλείω τὰ κακὰ τῶν ἀγαθῶν καὶ τὰ φαῦλα τῶν καλῶν, οὕτως ἄλλος τις φιλίαν εἰσήνεγκε καὶ νεῖκος, ἑκάτερον ἑκατέρων αἴτιον τούτων. εἰ γάρ τις ἀκολουθοίη καὶ λαμβάνοι πρὸς τὴν διάνοιαν καὶ μὴ πρὸς ἃ ψελλίζεται λέγων Ἐμπεδοκλῆς, εὑρήσει τὴν μὲν φιλίαν αἰτίαν οὖσαν τῶν ἀγαθῶν τὸ δὲ νεῖκος τῶν κακῶν· ὥστ’ εἴ τις φαίη τρόπον τινὰ καὶ λέγειν καὶ πρῶτον λέγειν τὸ κακὸν καὶ τὸ ἀγαθὸν ἀρχὰς Ἐμπεδοκλέα, τάχ’ ἂν λέγοι καλῶς, εἴπερ τὸ τῶν ἀγαθῶν ἁπάντων αἴτιον αὐτὸ τἀγαθόν ἐστι [καὶ τῶν κακῶν τὸ κακόν]. - οὗτοι μὲν οὖν, ὥσπερ λέγομεν, καὶ μέχρι τούτου δυοῖν αἰτίαιν ὧν ἡμεῖς διωρίσαμεν ἐν τοῖς περὶ φύσεως ἡμμένοι φαίνονται, τῆς τε ὕλης καὶ τοῦ ὅθεν ἡ κίνησις, ἀμυδρῶς μέντοι καὶ οὐθὲν σαφῶς ἀλλ’ οἷον ἐν ταῖς μάχαις οἱ ἀγύμναστοι ποιοῦσιν· καὶ γὰρ ἐκεῖνοι περιφερόμενοι τύπτουσι πολλάκις καλὰς πληγάς, ἀλλ’ οὔτε ἐκεῖνοι ἀπὸ ἐπιστήμης οὔτε οὗτοι ἐοίκασιν εἰδέναι ὅ τι λέγουσιν· σχεδὸν γὰρ οὐθὲν χρώμενοι φαίνονται τούτοις ἀλλ’ ἢ κατὰ μικρόν. Ἀναξαγόρας τε γὰρ μηχανῇ χρῆται τῷ νῷ πρὸς τὴν κοσμοποιίαν, καὶ ὅταν ἀπορήσῃ διὰ τίν’ αἰτίαν ἐξ ἀνάγκης ἐστί, τότε παρέλκει αὐτόν, ἐν δὲ τοῖς ἄλλοις πάντα μᾶλλον αἰτιᾶται τῶν γιγνομένων ἢ νοῦν, καὶ Ἐμπεδοκλῆς ἐπὶ πλέον μὲν τούτου χρῆται τοῖς αἰτίοις, οὐ μὴν οὔθ’ ἱκανῶς, οὔτ’ ἐν τούτοις εὑρίσκει τὸ ὁμολογούμενον. πολλαχοῦ γοῦν αὐτῷ ἡ μὲν φιλία διακρίνει τὸ δὲ νεῖκος συγκρίνει. ὅταν μὲν γὰρ εἰς τὰ στοιχεῖα διίστηται τὸ πᾶν ὑπὸ τοῦ νείκους, τότε τὸ πῦρ εἰς ἓν συγκρίνεται καὶ τῶν ἄλλων στοιχείων ἕκαστον· ὅταν δὲ πάλιν ὑπὸ τῆς φιλίας συνίωσιν εἰς τὸ ἕν, ἀναγκαῖον ἐξ ἑκάστου τὰ μόρια διακρίνεσθαι πάλιν. - Ἐμπεδοκλῆς μὲν οὖν παρὰ τοὺς πρότερον πρῶτος τὸ τὴν αἰτίαν διελεῖν εἰσήνεγκεν, οὐ μίαν ποιήσας τὴν τῆς κινήσεως ἀρχὴν ἀλλ’ ἑτέρας τε καὶ ἐναντίας, ἔτι δὲ τὰ ὡς ἐν ὕλης εἴδει λεγόμενα στοιχεῖα τέτταρα πρῶτος εἶπεν (οὐ μὴν χρῆταί γε τέτταρσιν ἀλλ’ ὡς δυσὶν οὖσι μόνοις, [985b] πυρὶ μὲν καθ’ αὐτὸ τοῖς δ’ ἀντικειμένοις ὡς μιᾷ φύσει, γῇ τε καὶ ἀέρι καὶ ὕδατι· λάβοι δ’ ἄν τις αὐτὸ θεωρῶν ἐκ τῶν ἐπῶν)· - οὗτος μὲν οὖν, ὥσπερ λέγομεν, οὕτω τε καὶ τοσαύτας εἴρηκε τὰς ἀρχάς· Λεύκιππος δὲ καὶ ὁ ἑταῖρος αὐτοῦ Δημόκριτος στοιχεῖα μὲν τὸ πλῆρες καὶ τὸ κενὸν εἶναί φασι, λέγοντες τὸ μὲν ὂν τὸ δὲ μὴ ὄν, τούτων δὲ τὸ μὲν πλῆρες καὶ στερεὸν τὸ ὄν, τὸ δὲ κενὸν τὸ μὴ ὄν (διὸ καὶ οὐθὲν μᾶλλον τὸ ὂν τοῦ μὴ ὄντος εἶναί φασιν, ὅτι οὐδὲ τοῦ κενοῦ τὸ σῶμα), αἴτια δὲ τῶν ὄντων ταῦτα ὡς ὕλην. καὶ καθάπερ οἱ ἓν ποιοῦντες τὴν ὑποκειμένην οὐσίαν τἆλλα τοῖς πάθεσιν αὐτῆς γεννῶσι, τὸ μανὸν καὶ τὸ πυκνὸν ἀρχὰς τιθέμενοι τῶν παθημάτων, τὸν αὐτὸν τρόπον καὶ οὗτοι τὰς διαφορὰς αἰτίας τῶν ἄλλων εἶναί φασιν. ταύτας μέντοι τρεῖς εἶναι λέγουσι, σχῆμά τε καὶ τάξιν καὶ θέσιν· διαφέρειν γάρ φασι τὸ ὂν ῥυσμῷ καὶ διαθιγῇ καὶ τροπῇ μόνον· τούτων δὲ ὁ μὲν ῥυσμὸς σχῆμά ἐστιν ἡ δὲ διαθιγὴ τάξις ἡ δὲ τροπὴ θέσις· διαφέρει γὰρ τὸ μὲν Α τοῦ Ν σχήματι τὸ δὲ ΑΝ τοῦ ΝΑ τάξει τὸ δὲ ϡ τοῦ Η θέσει. περὶ δὲ κινήσεως, ὅθεν ἢ πῶς ὑπάρξει τοῖς οὖσι, καὶ οὗτοι παραπλησίως τοῖς ἄλλοις ῥᾳθύμως ἀφεῖσαν. περὶ μὲν οὖν τῶν δύο αἰτιῶν, ὥσπερ λέγομεν, ἐπὶ τοσοῦτον ἔοικεν ἐζητῆσθαι παρὰ τῶν πρότερον.

Ἐν δὲ τούτοις καὶ πρὸ τούτων οἱ καλούμενοι Πυθαγόρειοι τῶν μαθημάτων ἁψάμενοι πρῶτοι ταῦτά τε προήγαγον, καὶ ἐντραφέντες ἐν αὐτοῖς τὰς τούτων ἀρχὰς τῶν ὄντων ἀρχὰς ᾠήθησαν εἶναι πάντων. ἐπεὶ δὲ τούτων οἱ ἀριθμοὶ φύσει πρῶτοι, ἐν δὲ τούτοις ἐδόκουν θεωρεῖν ὁμοιώματα πολλὰ τοῖς οὖσι καὶ γιγνομένοις, μᾶλλον ἢ ἐν πυρὶ καὶ γῇ καὶ ὕδατι, ὅτι τὸ μὲν τοιονδὶ τῶν ἀριθμῶν πάθος δικαιοσύνη τὸ δὲ τοιονδὶ ψυχή τε καὶ νοῦς ἕτερον δὲ καιρὸς καὶ τῶν ἄλλων ὡς εἰπεῖν ἕκαστον ὁμοίως, ἔτι δὲ τῶν ἁρμονιῶν ἐν ἀριθμοῖς ὁρῶντες τὰ πάθη καὶ τοὺς λόγους, - ἐπεὶ δὴ τὰ μὲν ἄλλα τοῖς ἀριθμοῖς ἐφαίνοντο τὴν φύσιν ἀφωμοιῶσθαι πᾶσαν, οἱ [986a] δ’ ἀριθμοὶ πάσης τῆς φύσεως πρῶτοι, τὰ τῶν ἀριθμῶν στοιχεῖα τῶν ὄντων στοιχεῖα πάντων ὑπέλαβον εἶναι, καὶ τὸν ὅλον οὐρανὸν ἁρμονίαν εἶναι καὶ ἀριθμόν· καὶ ὅσα εἶχον ὁμολογούμενα ἔν τε τοῖς ἀριθμοῖς καὶ ταῖς ἁρμονίαις πρὸς τὰ τοῦ οὐρανοῦ πάθη καὶ μέρη καὶ πρὸς τὴν ὅλην διακόσμησιν, ταῦτα συνάγοντες ἐφήρμοττον. κἂν εἴ τί που διέλειπε, προσεγλίχοντο τοῦ συνειρομένην πᾶσαν αὐτοῖς εἶναι τὴν πραγματείαν· λέγω δ’ οἷον, ἐπειδὴ τέλειον ἡ δεκὰς εἶναι δοκεῖ καὶ πᾶσαν περιειληφέναι τὴν τῶν ἀριθμῶν φύσιν, καὶ τὰ φερόμενα κατὰ τὸν οὐρανὸν δέκα μὲν εἶναί φασιν, ὄντων δὲ ἐννέα μόνον τῶν φανερῶν διὰ τοῦτο δεκάτην τὴν ἀντίχθονα ποιοῦσιν. διώρισται δὲ περὶ τούτων ἐν ἑτέροις ἡμῖν ἀκριβέστερον. ἀλλ’ οὗ δὴ χάριν ἐπερχόμεθα, τοῦτό ἐστιν ὅπως λάβωμεν καὶ παρὰ τούτων τίνας εἶναι τιθέασι τὰς ἀρχὰς καὶ πῶς εἰς τὰς εἰρημένας ἐμπίπτουσιν αἰτίας. φαίνονται δὴ καὶ οὗτοι τὸν ἀριθμὸν νομίζοντες ἀρχὴν εἶναι καὶ ὡς ὕλην τοῖς οὖσι καὶ ὡς πάθη τε καὶ ἕξεις, τοῦ δὲ ἀριθμοῦ στοιχεῖα τό τε ἄρτιον καὶ τὸ περιττόν, τούτων δὲ τὸ μὲν πεπερασμένον τὸ δὲ ἄπειρον, τὸ δ᾽ ἓν ἐξ ἀμφοτέρων εἶναι τούτων (καὶ γὰρ ἄρτιον εἶναι καὶ περιττόν), τὸν δ᾽ ἀριθμὸν ἐκ τοῦ ἑνός, ἀριθμοὺς δέ, καθάπερ εἴρηται, τὸν ὅλον οὐρανόν. - ἕτεροι δὲ τῶν αὐτῶν τούτων τὰς ἀρχὰς δέκα λέγουσιν εἶναι τὰς κατὰ συστοιχίαν λεγομένας, πέρας [καὶ] ἄπειρον, περιττὸν [καὶ] ἄρτιον, ἓν [καὶ] πλῆθος, δεξιὸν [καὶ] ἀριστερόν, ἄρρεν [καὶ] θῆλυ, ἠρεμοῦν [καὶ] κινούμενον, εὐθὺ [καὶ] καμπύλον, φῶς [καὶ] σκότος, ἀγαθὸν [καὶ] κακόν, τετράγωνον [καὶ] ἑτερόμηκες· ὅνπερ τρόπον ἔοικε καὶ Ἀλκμαίων ὁ Κροτωνιάτης ὑπολαβεῖν, καὶ ἤτοι οὗτος παρ᾽ ἐκείνων ἢ ἐκεῖνοι παρὰ τούτου παρέλαβον τὸν λόγον τοῦτον· καὶ γὰρ [ἐγένετο τὴν ἡλικίαν] Ἀλκμαίων [ἐπὶ γέροντι Πυθαγόρᾳ,] ἀπεφήνατο [δὲ] παραπλησίως τούτοις· φησὶ γὰρ εἶναι δύο τὰ πολλὰ τῶν ἀνθρωπίνων, λέγων τὰς ἐναντιότητας οὐχ ὥσπερ οὗτοι διωρισμένας ἀλλὰ τὰς τυχούσας, οἷον λευκὸν μέλαν, γλυκὺ πικρόν, ἀγαθὸν κακόν, μέγα μικρόν. οὗτος μὲν οὖν ἀδιορίστως ἀπέρριψε περὶ [986b] τῶν λοιπῶν, οἱ δὲ Πυθαγόρειοι καὶ πόσαι καὶ τίνες αἱ ἐναντιώσεις ἀπεφήναντο. παρὰ μὲν οὖν τούτων ἀμφοῖν τοσοῦτον ἔστι λαβεῖν, ὅτι τἀναντία ἀρχαὶ τῶν ὄντων· τὸ δ᾽ ὅσαι παρὰ τῶν ἑτέρων, καὶ τίνες αὗταί εἰσιν. πῶς μέντοι πρὸς τὰς εἰρημένας αἰτίας ἐνδέχεται συνάγειν, σαφῶς μὲν οὐ διήρθρωται παρ᾽ ἐκείνων, ἐοίκασι δ᾽ ὡς ἐν ὕλης εἴδει τὰ στοιχεῖα τάττειν· ἐκ τούτων γὰρ ὡς ἐνυπαρχόντων συνεστάναι καὶ πεπλάσθαι φασὶ τὴν οὐσίαν. - τῶν μὲν οὖν παλαιῶν καὶ πλείω λεγόντων τὰ στοιχεῖα τῆς φύσεως ἐκ τούτων ἱκανόν ἐστι θεωρῆσαι τὴν διάνοιαν· εἰσὶ δέ τινες οἳ περὶ τοῦ παντὸς ὡς μιᾶς οὔσης φύσεως ἀπεφήναντο, τρόπον δὲ οὐ τὸν αὐτὸν πάντες οὔτε τοῦ καλῶς οὔτε τοῦ κατὰ τὴν φύσιν. εἰς μὲν οὖν τὴν νῦν σκέψιν τῶν αἰτίων οὐδαμῶς συναρμόττει περὶ αὐτῶν ὁ λόγος (οὐ γὰρ ὥσπερ ἔνιοι τῶν φυσιολόγων ἓν ὑποθέμενοι τὸ ὂν ὅμως γεννῶσιν ὡς ἐξ ὕλης τοῦ ἑνός, ἀλλ᾽ ἕτερον τρόπον οὗτοι λέγουσιν· ἐκεῖνοι μὲν γὰρ προστιθέασι κίνησιν, γεννῶντές γε τὸ πᾶν, οὗτοι δὲ ἀκίνητον εἶναί φασιν)· οὐ μὴν ἀλλὰ τοσοῦτόν γε οἰκεῖόν ἐστι τῇ νῦν σκέψει. Παρμενίδης μὲν γὰρ ἔοικε τοῦ κατὰ τὸν λόγον ἑνὸς ἅπτεσθαι, Μέλισσος δὲ τοῦ κατὰ τὴν ὕλην (διὸ καὶ ὁ μὲν πεπερασμένον ὁ δ᾽ ἄπειρόν φησιν εἶναι αὐτό)· Ξενοφάνης δὲ πρῶτος τούτων ἑνίσας (ὁ γὰρ Παρμενίδης τούτου λέγεται γενέσθαι μαθητής) οὐθὲν διεσαφήνισεν, οὐδὲ τῆς φύσεως τούτων οὐδετέρας ἔοικε θιγεῖν, ἀλλ᾽ εἰς τὸν ὅλον οὐρανὸν ἀποβλέψας τὸ ἓν εἶναί φησι τὸν θεόν. οὗτοι μὲν οὖν, καθάπερ εἴπομεν, ἀφετέοι πρὸς τὴν νῦν ζήτησιν, οἱ μὲν δύο καὶ πάμπαν ὡς ὄντες μικρὸν ἀγροικότεροι, Ξενοφάνης καὶ Μέλισσος· Παρμενίδης δὲ μᾶλλον βλέπων ἔοικέ που λέγειν· παρὰ γὰρ τὸ ὂν τὸ μὴ ὂν οὐθὲν ἀξιῶν εἶναι, ἐξ ἀνάγκης ἓν οἴεται εἶναι, τὸ ὄν, καὶ ἄλλο οὐθέν (περὶ οὗ σαφέστερον ἐν τοῖς περὶ φύσεως εἰρήκαμεν), ἀναγκαζόμενος δ’ ἀκολουθεῖν τοῖς φαινομένοις, καὶ τὸ ἓν μὲν κατὰ τὸν λόγον πλείω δὲ κατὰ τὴν αἴσθησιν ὑπολαμβάνων εἶναι, δύο τὰς αἰτίας καὶ δύο τὰς ἀρχὰς πάλιν τίθησι, θερμὸν καὶ ψυχρόν, οἷον πῦρ καὶ γῆν λέγων· τούτων [987a] δὲ κατὰ μὲν τὸ ὂν τὸ θερμὸν τάττει θάτερον δὲ κατὰ τὸ μὴ ὄν. - ἐκ μὲν οὖν τῶν εἰρημένων καὶ παρὰ τῶν συνηδρευκότων ἤδη τῷ λόγῳ σοφῶν ταῦτα παρειλήφαμεν, παρὰ μὲν τῶν πρώτων σωματικήν τε τὴν ἀρχήν (ὕδωρ γὰρ καὶ πῦρ καὶ τὰ τοιαῦτα σώματά ἐστιν), καὶ τῶν μὲν μίαν τῶν δὲ πλείους τὰς ἀρχὰς τὰς σωματικάς, ἀμφοτέρων μέντοι ταύτας ὡς ἐν ὕλης εἴδει τιθέντων, παρὰ δέ τινων ταύτην τε τὴν αἰτίαν τιθέντων καὶ πρὸς ταύτῃ τὴν ὅθεν ἡ κίνησις, καὶ ταύτην παρὰ τῶν μὲν μίαν παρὰ τῶν δὲ δύο. μέχρι μὲν οὖν τῶν Ἰταλικῶν καὶ χωρὶς ἐκείνων μορυχώτερον εἰρήκασιν οἱ ἄλλοι περὶ αὐτῶν, πλὴν ὥσπερ εἴπομεν δυοῖν τε αἰτίαιν τυγχάνουσι κεχρημένοι, καὶ τούτων τὴν ἑτέραν οἱ μὲν μίαν οἱ δὲ δύο ποιοῦσι, τὴν ὅθεν ἡ κίνησις· οἱ δὲ Πυθαγόρειοι δύο μὲν τὰς ἀρχὰς κατὰ τὸν αὐτὸν εἰρήκασι τρόπον, τοσοῦτον δὲ προσεπέθεσαν ὃ καὶ ἴδιόν ἐστιν αὐτῶν, ὅτι τὸ πεπερασμένον καὶ τὸ ἄπειρον [καὶ τὸ ἓν] οὐχ ἑτέρας τινὰς ᾠήθησαν εἶναι φύσεις, οἷον πῦρ ἢ γῆν ἤ τι τοιοῦτον ἕτερον, ἀλλ’ αὐτὸ τὸ ἄπειρον καὶ αὐτὸ τὸ ἓν οὐσίαν εἶναι τούτων ὧν κατηγοροῦνται, διὸ καὶ ἀριθμὸν εἶναι τὴν οὐσίαν πάντων. περί τε τούτων οὖν τοῦτον ἀπεφήναντο τὸν τρόπον, καὶ περὶ τοῦ τί ἐστιν ἤρξαντο μὲν λέγειν καὶ ὁρίζεσθαι, λίαν δ’ ἁπλῶς ἐπραγματεύθησαν. ὡρίζοντό τε γὰρ ἐπιπολαίως, καὶ ᾧ πρώτῳ ὑπάρξειεν ὁ λεχθεὶς ὅρος, τοῦτ’ εἶναι τὴν οὐσίαν τοῦ πράγματος ἐνόμιζον, ὥσπερ εἴ τις οἴοιτο ταὐτὸν εἶναι διπλάσιον καὶ τὴν δυάδα διότι πρῶτον ὑπάρχει τοῖς δυσὶ τὸ διπλάσιον. ἀλλ’ οὐ ταὐτὸν ἴσως ἐστὶ τὸ εἶναι διπλασίῳ καὶ δυάδι· εἰ δὲ μή, πολλὰ τὸ ἓν ἔσται, ὃ κἀκείνοις συνέβαινεν. παρὰ μὲν οὖν τῶν πρότερον καὶ τῶν ἄλλων τοσαῦτα ἔστι λαβεῖν.

Μετὰ δὲ τὰς εἰρημένας φιλοσοφίας ἡ Πλάτωνος ἐπεγένετο πραγματεία, τὰ μὲν πολλὰ τούτοις ἀκολουθοῦσα, τὰ δὲ καὶ ἴδια παρὰ τὴν τῶν Ἰταλικῶν ἔχουσα φιλοσοφίαν. ἐκ νέου τε γὰρ συνήθης γενόμενος πρῶτον Κρατύλῳ καὶ ταῖς Ἡρακλειτείοις δόξαις, ὡς ἁπάντων τῶν αἰσθητῶν ἀεὶ ῥεόντων καὶ ἐπιστήμης περὶ αὐτῶν οὐκ οὔσης, ταῦτα μὲν καὶ ὕστερον [987b] οὕτως ὑπέλαβεν· Σωκράτους δὲ περὶ μὲν τὰ ἠθικὰ πραγματευομένου περὶ δὲ τῆς ὅλης φύσεως οὐθέν, ἐν μέντοι τούτοις τὸ καθόλου ζητοῦντος καὶ περὶ ὁρισμῶν ἐπιστήσαντος πρώτου τὴν διάνοιαν, ἐκεῖνον ἀποδεξάμενος διὰ τὸ τοιοῦτον ὑπέλαβεν ὡς περὶ ἑτέρων τοῦτο γιγνόμενον καὶ οὐ τῶν αἰσθητῶν·

ἀδύνατον γὰρ εἶναι τὸν κοινὸν ὅρον τῶν αἰσθητῶν τινός, ἀεί γε μεταβαλλόντων. οὗτος οὖν τὰ μὲν τοιαῦτα τῶν ὄντων ἰδέας προσηγόρευσε, τὰ δ’ αἰσθητὰ παρὰ ταῦτα καὶ κατὰ ταῦτα λέγεσθαι πάντα· κατὰ μέθεξιν γὰρ εἶναι τὰ πολλὰ ὁμώνυμα τοῖς εἴδεσιν. τὴν δὲ μέθεξιν τοὔνομα μόνον μετέβαλεν· οἱ μὲν γὰρ Πυθαγόρειοι μιμήσει τὰ ὄντα φασὶν εἶναι τῶν ἀριθμῶν, Πλάτων δὲ μεθέξει, τοὔνομα μεταβαλών. τὴν μέντοι γε μέθεξιν ἢ τὴν μίμησιν ἥτις ἂν εἴη τῶν εἰδῶν ἀφεῖσαν ἐν κοινῷ ζητεῖν. ἔτι δὲ παρὰ τὰ αἰσθητὰ καὶ τὰ εἴδη τὰ μαθηματικὰ τῶν πραγμάτων εἶναί φησι μεταξύ, διαφέροντα τῶν μὲν αἰσθητῶν τῷ ἀΐδια καὶ ἀκίνητα εἶναι, τῶν δ’ εἰδῶν τῷ τὰ μὲν πόλλ’ ἄττα ὅμοια εἶναι τὸ δὲ εἶδος αὐτὸ ἓν ἕκαστον μόνον. ἐπεὶ δ’ αἴτια τὰ εἴδη τοῖς ἄλλοις, τἀκείνων στοιχεῖα πάντων ᾠήθη τῶν ὄντων εἶναι στοιχεῖα. ὡς μὲν οὖν ὕλην τὸ μέγα καὶ τὸ μικρὸν εἶναι ἀρχάς, ὡς δ’ οὐσίαν τὸ ἕν· ἐξ ἐκείνων γὰρ κατὰ μέθεξιν τοῦ ἑνὸς [τὰ εἴδη] εἶναι τοὺς ἀριθμούς. τὸ μέντοι γε ἓν οὐσίαν εἶναι, καὶ μὴ ἕτερόν γέ τι ὂν λέγεσθαι ἕν, παραπλησίως τοῖς Πυθαγορείοις ἔλεγε, καὶ τὸ τοὺς ἀριθμοὺς αἰτίους εἶναι τοῖς ἄλλοις τῆς οὐσίας ὡσαύτως ἐκείνοις· τὸ δὲ ἀντὶ τοῦ ἀπείρου ὡς ἑνὸς δυάδα ποιῆσαι, τὸ δ’ ἄπειρον ἐκ μεγάλου καὶ μικροῦ, τοῦτ’ ἴδιον· καὶ ἔτι ὁ μὲν τοὺς ἀριθμοὺς παρὰ τὰ αἰσθητά, οἱ δ’ ἀριθμοὺς εἶναί φασιν αὐτὰ τὰ πράγματα, καὶ τὰ μαθηματικὰ μεταξὺ τούτων οὐ τιθέασιν. τὸ μὲν οὖν τὸ ἓν καὶ τοὺς ἀριθμοὺς παρὰ τὰ πράγματα ποιῆσαι, καὶ μὴ ὥσπερ οἱ Πυθαγόρειοι, καὶ ἡ τῶν εἰδῶν εἰσαγωγὴ διὰ τὴν ἐν τοῖς λόγοις ἐγένετο σκέψιν (οἱ γὰρ πρότεροι διαλεκτικῆς οὐ μετεῖχον), τὸ δὲ δυάδα ποιῆσαι τὴν ἑτέραν φύσιν διὰ τὸ τοὺς ἀριθμοὺς ἔξω τῶν πρώτων εὐφυῶς ἐξ αὐτῆς γεννᾶσθαι ὥσπερ [988a] ἔκ τινος ἐκμαγείου. καίτοι συμβαίνει γ’ ἐναντίως· οὐ γὰρ εὔλογον οὕτως. οἱ μὲν γὰρ ἐκ τῆς ὕλης πολλὰ ποιοῦσιν, τὸ δ’ εἶδος ἅπαξ γεννᾷ μόνον, φαίνεται δ’ ἐκ μιᾶς ὕλης μία τράπεζα, ὁ δὲ τὸ εἶδος ἐπιφέρων εἷς ὢν πολλὰς ποιεῖ. ὁμοίως δ’ ἔχει καὶ τὸ ἄρρεν πρὸς τὸ θῆλυ· τὸ μὲν γὰρ ὑπὸ μιᾶς πληροῦται ὀχείας, τὸ δ’ ἄρρεν πολλὰ πληροῖ· καίτοι ταῦτα μιμήματα τῶν ἀρχῶν ἐκείνων ἐστίν. Πλάτων μὲν οὖν περὶ τῶν ζητουμένων οὕτω διώρισεν· φανερὸν δ’ ἐκ τῶν εἰρημένων ὅτι δυοῖν αἰτίαιν μόνον κέχρηται, τῇ τε τοῦ τί ἐστι καὶ τῇ κατὰ τὴν ὕλην (τὰ γὰρ εἴδη τοῦ τί ἐστιν αἴτια τοῖς ἄλλοις, τοῖς δ’ εἴδεσι τὸ ἕν), καὶ τίς ἡ ὕλη ἡ ὑποκειμένη καθ’ ἧς τὰ εἴδη μὲν ἐπὶ τῶν αἰσθητῶν τὸ δ’ ἓν ἐν τοῖς εἴδεσι λέγεται, ὅτι αὕτη δυάς ἐστι, τὸ μέγα καὶ τὸ μικρόν, ἔτι δὲ τὴν τοῦ εὖ καὶ τοῦ κακῶς αἰτίαν τοῖς στοιχείοις ἀπέδωκεν ἑκατέροις ἑκατέραν, ὥσπερ φαμὲν καὶ τῶν προτέρων ἐπιζητῆσαί τινας φιλοσόφων, οἷον Ἐμπεδοκλέα καὶ Ἀναξαγόραν.

Συντόμως μὲν οὖν καὶ κεφαλαιωδῶς ἐπεληλύθαμεν τίνες τε καὶ πῶς τυγχάνουσιν εἰρηκότες περί τε τῶν ἀρχῶν καὶ τῆς ἀληθείας· ὅμως δὲ τοσοῦτόν γ’ ἔχομεν ἐξ αὐτῶν, ὅτι τῶν λεγόντων περὶ ἀρχῆς καὶ αἰτίας οὐθεὶς ἔξω τῶν ἐν τοῖς περὶ φύσεως ἡμῖν διωρισμένων εἴρηκεν, ἀλλὰ πάντες ἀμυδρῶς μὲν ἐκείνων δέ πως φαίνονται θιγγάνοντες. οἱ μὲν γὰρ ὡς ὕλην τὴν ἀρχὴν λέγουσιν, ἄν τε μίαν ἄν τε πλείους ὑποθῶσι, καὶ ἐάν τε σῶμα ἐάν τε ἀσώματον τοῦτο τιθῶσιν (οἷον Πλάτων μὲν τὸ μέγα καὶ τὸ μικρὸν λέγων, οἱ δ’ Ἰταλικοὶ τὸ ἄπειρον, Ἐμπεδοκλῆς δὲ πῦρ καὶ γῆν καὶ ὕδωρ καὶ ἀέρα, Ἀναξαγόρας δὲ τὴν τῶν ὁμοιομερῶν ἀπειρίαν· οὗτοί τε δὴ πάντες τῆς τοιαύτης αἰτίας ἡμμένοι εἰσί, καὶ ἔτι ὅσοι ἀέρα ἢ πῦρ ἢ ὕδωρ ἢ πυρὸς μὲν πυκνότερον ἀέρος δὲ λεπτότερον· καὶ γὰρ τοιοῦτόν τινες εἰρήκασιν εἶναι τὸ πρῶτον στοιχεῖον)· - οὗτοι μὲν οὖν ταύτης τῆς αἰτίας ἥψαντο μόνον, ἕτεροι δέ τινες ὅθεν ἡ ἀρχὴ τῆς κινήσεως (οἷον ὅσοι φιλίαν καὶ νεῖκος ἢ νοῦν ἢ ἔρωτα ποιοῦσιν ἀρχήν)· τὸ δὲ τί ἦν εἶναι καὶ τὴν οὐσίαν σαφῶς μὲν οὐθεὶς ἀποδέδωκε, μάλιστα δ’ οἱ τὰ [988b] εἴδη τιθέντες λέγουσιν (οὔτε γὰρ ὡς ὕλην τοῖς αἰσθητοῖς τὰ εἴδη καὶ τὸ ἓν τοῖς εἴδεσιν οὔθ’ ὡς ἐντεῦθεν τὴν ἀρχὴν τῆς κινήσεως γιγνομένην ὑπολαμβάνουσιν - ἀκινησίας γὰρ αἴτια μᾶλλον καὶ τοῦ ἐν ἠρεμίᾳ εἶναι φασιν - ἀλλὰ τὸ τί ἦν εἶναι ἑκάστῳ τῶν ἄλλων τὰ εἴδη παρέχονται, τοῖς δ’ εἴδεσι τὸ ἕν)· τὸ δ’ οὗ ἕνεκα αἱ πράξεις καὶ αἱ μεταβολαὶ καὶ αἱ κινήσεις τρόπον μέν τινα λέγουσιν αἴτιον, οὕτω δὲ οὐ λέγουσιν οὐδ’ ὅνπερ πέφυκεν. οἱ μὲν γὰρ νοῦν λέγοντες ἢ φιλίαν ὡς ἀγαθὸν μὲν ταύτας τὰς αἰτίας τιθέασιν, οὐ μὴν ὡς ἕνεκά γε τούτων ἢ ὂν ἢ γιγνόμενόν τι τῶν ὄντων ἀλλ’ ὡς ἀπὸ τούτων τὰς κινήσεις οὔσας λέγουσιν· ὡς δ’ αὔτως καὶ οἱ τὸ ἓν ἢ τὸ ὂν φάσκοντες εἶναι τὴν τοιαύτην φύσιν τῆς μὲν οὐσίας αἴτιόν φασιν εἶναι, οὐ μὴν τούτου γε ἕνεκα ἢ εἶναι ἢ γίγνεσθαι, ὥστε λέγειν τε καὶ μὴ λέγειν πως συμβαίνει αὐτοῖς τἀγαθὸν αἴτιον· οὐ γὰρ ἁπλῶς ἀλλὰ κατὰ συμβεβηκὸς λέγουσιν. - ὅτι μὲν οὖν ὀρθῶς διώρισται περὶ τῶν αἰτίων καὶ πόσα καὶ ποῖα, μαρτυρεῖν ἐοίκασιν ἡμῖν καὶ οὗτοι πάντες, οὐ δυνάμενοι θιγεῖν ἄλλης αἰτίας, πρὸς δὲ τούτοις ὅτι ζητητέαι αἱ ἀρχαὶ ἢ οὕτως ἅπασαι ἢ τινὰ τρόπον τοιοῦτον, δῆλον· πῶς δὲ τούτων ἕκαστος εἴρηκε καὶ πῶς ἔχει περὶ τῶν ἀρχῶν, τὰς ἐνδεχομένας ἀπορίας μετὰ τοῦτο διέλθωμεν περὶ αὐτῶν.

Ὅσοι μὲν οὖν ἕν τε τὸ πᾶν καὶ μίαν τινὰ φύσιν ὡς ὕλην τιθέασι, καὶ ταύτην σωματικὴν καὶ μέγεθος ἔχουσαν, δῆλον ὅτι πολλαχῶς ἁμαρτάνουσιν. τῶν γὰρ σωμάτων τὰ στοιχεῖα τιθέασι μόνον, τῶν δ’ ἀσωμάτων οὔ, ὄντων καὶ ἀσωμάτων. καὶ περὶ γενέσεως καὶ φθορᾶς ἐπιχειροῦντες τὰς αἰτίας λέγειν, καὶ περὶ πάντων φυσιολογοῦντες, τὸ τῆς κινήσεως αἴτιον ἀναιροῦσιν.

ἔτι δὲ τῷ τὴν οὐσίαν μηθενὸς αἰτίαν τιθέναι μηδὲ τὸ τί ἐστι, καὶ πρὸς τούτοις τῷ ῥᾳδίως τῶν ἁπλῶν σωμάτων λέγειν ἀρχὴν ὁτιοῦν πλὴν γῆς, οὐκ ἐπισκεψάμενοι τὴν ἐξ ἀλλήλων γένεσιν πῶς ποιοῦνται, λέγω δὲ πῦρ καὶ ὕδωρ καὶ γῆν καὶ ἀέρα. τὰ μὲν γὰρ συγκρίσει τὰ δὲ διακρίσει ἐξ ἀλλήλων γίγνεται, τοῦτο δὲ πρὸς τὸ πρότερον εἶναι καὶ ὕστερον διαφέρει πλεῖστον. τῇ μὲν γὰρ ἂν δόξειε στοιχειωδέστατον εἶναι πάντων ἐξ οὗ γίγνονται συγκρίσει [989a] πρώτου, τοιοῦτον δὲ τὸ μικρομερέστατον καὶ λεπτότατον ἂν εἴη τῶν σωμάτων (διόπερ ὅσοι πῦρ ἀρχὴν τιθέασι, μάλιστα ὁμολογουμένως ἂν τῷ λόγῳ τούτῳ λέγοιεν· τοιοῦτον δὲ καὶ τῶν ἄλλων ἕκαστος ὁμολογεῖ τὸ στοιχεῖον εἶναι τὸ τῶν σωμάτων· οὐθεὶς γοῦν ἠξίωσε τῶν ἓν λεγόντων γῆν εἶναι στοιχεῖον, δηλονότι διὰ τὴν μεγαλομέρειαν, τῶν δὲ τριῶν ἕκαστον στοιχείων εἴληφέ τινα κριτήν, οἱ μὲν γὰρ πῦρ οἱ δ’ ὕδωρ οἱ δ’ ἀέρα τοῦτ’ εἶναί φασιν· καίτοι διὰ τί ποτ’ οὐ καὶ τὴν γῆν λέγουσιν, ὥσπερ οἱ πολλοὶ τῶν ἀνθρώπων; πάντα γὰρ εἶναί φασι γῆν, φησὶ δὲ καὶ Ἡσίοδος τὴν γῆν πρώτην γενέσθαι τῶν σωμάτων· οὕτως ἀρχαίαν καὶ δημοτικὴν συμβέβηκεν εἶναι τὴν ὑπόληψιν)· - κατὰ μὲν οὖν τοῦτον τὸν λόγον οὔτ’ εἴ τις τούτων τι λέγει πλὴν πυρός, οὔτ’ εἴ τις ἀέρος μὲν πυκνότερον τοῦτο τίθησιν ὕδατος δὲ λεπτότερον, οὐκ ὀρθῶς ἂν λέγοι· εἰ δ’ ἔστι τὸ τῇ γενέσει ὕστερον τῇ φύσει πρότερον, τὸ δὲ πεπεμμένον καὶ συγκεκριμένον ὕστερον τῇ γενέσει, τοὐναντίον ἂν εἴη τούτων, ὕδωρ μὲν ἀέρος πρότερον γῆ δὲ ὕδατος. - περὶ μὲν οὖν τῶν μίαν τιθεμένων αἰτίαν οἵαν εἴπομεν, ἔστω ταῦτ’ εἰρημένα· τὸ δ’ αὐτὸ κἂν εἴ τις ταῦτα πλείω τίθησιν, οἷον Ἐμπεδοκλῆς τέτταρά φησιν εἶναι σώματα τὴν ὕλην. καὶ γὰρ τούτῳ τὰ μὲν ταὐτὰ τὰ δ’ ἴδια συμβαίνειν ἀνάγκη. γιγνόμενά τε γὰρ ἐξ ἀλλήλων ὁρῶμεν ὡς οὐκ ἀεὶ διαμένοντος πυρὸς καὶ γῆς τοῦ αὐτοῦ σώματος (εἴρηται δὲ ἐν τοῖς περὶ φύσεως περὶ αὐτῶν), καὶ περὶ τῆς τῶν κινουμένων αἰτίας, πότερον ἓν ἢ δύο θετέον, οὔτ’ ὀρθῶς οὔτε εὐλόγως οἰητέον εἰρῆσθαι παντελῶς. ὅλως τε ἀλλοίωσιν ἀναιρεῖσθαι ἀνάγκη τοῖς οὕτω λέγουσιν· οὐ γὰρ ἐκ θερμοῦ ψυχρὸν οὐδὲ ἐκ ψυχροῦ θερμὸν ἔσται. τὶ γὰρ αὐτὰ ἂν πάσχοι τἀναντία, καὶ τὶς εἴη ἂν μία φύσις ἡ γιγνομένη πῦρ καὶ ὕδωρ, ὃ ἐκεῖνος οὔ φησιν. Ἀναξαγόραν δ’ εἴ τις ὑπολάβοι δύο λέγειν στοιχεῖα, μάλιστ’ ἂν ὑπολάβοι κατὰ λόγον, ὃν ἐκεῖνος αὐτὸς μὲν οὐ διήρθρωσεν, ἠκολούθησε μέντ’ ἂν ἐξ ἀνάγκης τοῖς ἐπάγουσιν αὐτόν. ἀτόπου γὰρ ὄντος καὶ ἄλλως τοῦ φάσκειν μεμῖχθαι τὴν ἀρχὴν πάντα, καὶ διὰ [989b] τὸ συμβαίνειν ἄμικτα δεῖν προϋπάρχειν καὶ διὰ τὸ μὴ πεφυκέναι τῷ τυχόντι μίγνυσθαι τὸ τυχόν, πρὸς δὲ τούτοις ὅτι τὰ πάθη καὶ τὰ συμβεβηκότα χωρίζοιτ’ ἂν τῶν οὐσιῶν (τῶν γὰρ αὐτῶν μῖξίς ἐστι καὶ χωρισμός), ὅμως εἴ τις ἀκολουθήσειε συνδιαρθρῶν ἃ βούλεται λέγειν, ἴσως ἂν φανείη καινοπρεπεστέρως λέγων. ὅτε γὰρ οὐθὲν ἦν ἀποκεκριμένον, δῆλον ὡς οὐθὲν ἦν ἀληθὲς εἰπεῖν κατὰ τῆς οὐσίας ἐκείνης, λέγω δ' οἷον ὅτι οὔτε λευκὸν οὔτε μέλαν ἢ φαιὸν ἢ ἄλλο χρῶμα, ἀλλ' ἄχρων ἦν ἐξ ἀνάγκης· εἶχε γὰρ ἄν τι τούτων τῶν χρωμάτων· ὁμοίως δὲ καὶ ἄχυμον τῷ αὐτῷ λόγῳ τούτῳ, οὐδὲ ἄλλο τῶν ὁμοίων οὐθέν· οὔτε γὰρ ποιόν τι οἷόν τε αὐτὸ εἶναι οὔτε ποσὸν οὔτε τί. τῶν γὰρ ἐν μέρει τι λεγομένων εἰδῶν ὑπῆρχεν ἂν αὐτῷ, τοῦτο δὲ ἀδύνατον μεμιγμένων γε πάντων· ἤδη γὰρ ἂν ἀπεκέκριτο, φησὶ δ' εἶναι μεμιγμένα πάντα πλὴν τοῦ νοῦ, τοῦτον δὲ ἀμιγῆ μόνον καὶ καθαρόν. ἐκ δὴ τούτων συμβαίνει λέγειν αὐτῷ τὰς ἀρχὰς τό τε ἕν (τοῦτο γὰρ ἁπλοῦν καὶ ἀμιγές) καὶ θάτερον, οἷον τίθεμεν τὸ ἀόριστον πρὶν ὁρισθῆναι καὶ μετασχεῖν εἴδους τινός, ὥστε λέγει μὲν οὔτ' ὀρθῶς οὔτε σαφῶς, βούλεται μέντοι τι παραπλήσιον τοῖς τε ὕστερον λέγουσι καὶ τοῖς νῦν φαινομένοις μᾶλλον. - ἀλλὰ γὰρ οὗτοι μὲν τοῖς περὶ γένεσιν λόγοις καὶ φθορὰν καὶ κίνησιν οἰκεῖοι τυγχάνουσι μόνον (σχεδὸν γὰρ περὶ τῆς τοιαύτης οὐσίας καὶ τὰς ἀρχὰς καὶ τὰς αἰτίας ζητοῦσι μόνης)· ὅσοι δὲ περὶ μὲν ἁπάντων τῶν ὄντων ποιοῦνται τὴν θεωρίαν, τῶν δ' ὄντων τὰ μὲν αἰσθητὰ τὰ δ' οὐκ αἰσθητὰ τιθέασι, δῆλον ὡς περὶ ἀμφοτέρων τῶν γενῶν ποιοῦνται τὴν ἐπίσκεψιν· διὸ μᾶλλον ἄν τις ἐνδιατρίψειε περὶ αὐτῶν, τί καλῶς ἢ μὴ καλῶς λέγουσιν εἰς τὴν τῶν νῦν ἡμῖν προκειμένων σκέψιν. οἱ μὲν οὖν καλούμενοι Πυθαγόρειοι ταῖς μὲν ἀρχαῖς καὶ τοῖς στοιχείοις ἐκτοπωτέροις χρῶνται τῶν φυσιολόγων (τὸ δ' αἴτιον ὅτι παρέλαβον αὐτὰς οὐκ ἐξ αἰσθητῶν· τὰ γὰρ μαθηματικὰ τῶν ὄντων ἄνευ κινήσεώς ἐστιν ἔξω τῶν περὶ τὴν ἀστρολογίαν), διαλέγονται μέντοι καὶ πραγματεύονται περὶ φύσεως πάντα· γεννῶσί τε γὰρ τὸν οὐρανόν, [990a] καὶ περὶ τὰ τούτου μέρη καὶ τὰ πάθη καὶ τὰ ἔργα διατηροῦσι τὸ συμβαῖνον, καὶ τὰς ἀρχὰς καὶ τὰ αἴτια εἰς ταῦτα καταναλίσκουσιν, ὡς ὁμολογοῦντες τοῖς ἄλλοις φυσιολόγοις ὅτι τό γε ὂν τοῦτ' ἐστὶν ὅσον αἰσθητόν ἐστι καὶ περιείληφεν ὁ καλούμενος οὐρανός. τὰς δ' αἰτίας καὶ τὰς ἀρχάς, ὥσπερ εἴπομεν, ἱκανὰς λέγουσιν ἐπαναβῆναι καὶ ἐπὶ τὰ ἀνωτέρω τῶν ὄντων, καὶ μᾶλλον ἢ τοῖς περὶ φύσεως λόγοις ἁρμοττούσας. ἐκ τίνος μέντοι τρόπου κίνησις ἔσται πέρατος καὶ ἀπείρου μόνων ὑποκειμένων καὶ περιττοῦ καὶ ἀρτίου, οὐθὲν λέγουσιν, ἢ πῶς δυνατὸν ἄνευ κινήσεως καὶ μεταβολῆς γένεσιν εἶναι καὶ φθορὰν ἢ τὰ τῶν φερομένων ἔργα κατὰ τὸν οὐρανόν. ἔτι δὲ εἴτε δοίη τις αὐτοῖς ἐκ τούτων εἶναι μέγεθος εἴτε δειχθείη τοῦτο, ὅμως τίνα τρόπον ἔσται τὰ μὲν κοῦφα τὰ δὲ βάρος ἔχοντα τῶν σωμάτων; ἐξ ὧν γὰρ ὑποτίθενται καὶ λέγουσιν, οὐθὲν μᾶλλον περὶ τῶν μαθηματικῶν λέγουσι σωμάτων ἢ τῶν αἰσθητῶν· διὸ περὶ πυρὸς ἢ γῆς ἢ τῶν ἄλλων τῶν τοιούτων σωμάτων οὐδ’ ὁτιοῦν εἰρήκασιν, ἅτε οὐθὲν περὶ τῶν αἰσθητῶν οἶμαι λέγοντες ἴδιον. ἔτι δὲ πῶς δεῖ λαβεῖν αἴτια μὲν εἶναι τὰ τοῦ ἀριθμοῦ πάθη καὶ τὸν ἀριθμὸν τῶν κατὰ τὸν οὐρανὸν ὄντων καὶ γιγνομένων καὶ ἐξ ἀρχῆς καὶ νῦν, ἀριθμὸν δ’ ἄλλον μηθένα εἶναι παρὰ τὸν ἀριθμὸν τοῦτον ἐξ οὗ συνέστηκεν ὁ κόσμος; ὅταν γὰρ ἐν τῳδὶ μὲν τῷ μέρει δόξα καὶ καιρὸς αὐτοῖς ᾖ, μικρὸν δὲ ἄνωθεν ἢ κάτωθεν ἀδικία καὶ κρίσις ἢ μῖξις, ἀπόδειξιν δὲ λέγωσιν ὅτι τούτων μὲν ἕκαστον ἀριθμός ἐστι, συμβαίνει δὲ κατὰ τὸν τόπον τοῦτον ἤδη πλῆθος εἶναι τῶν συνισταμένων μεγεθῶν διὰ τὸ τὰ πάθη ταῦτα ἀκολουθεῖν τοῖς τόποις ἑκάστοις, πότερον οὗτος ὁ αὐτός ἐστιν ἀριθμός, ὁ ἐν τῷ οὐρανῷ, ὃν δεῖ λαβεῖν ὅτι τούτων ἕκαστόν ἐστιν, ἢ παρὰ τοῦτον ἄλλος; ὁ μὲν γὰρ Πλάτων ἕτερον εἶναί φησιν· καίτοι κἀκεῖνος ἀριθμοὺς οἴεται καὶ ταῦτα εἶναι καὶ τὰς τούτων αἰτίας, ἀλλὰ τοὺς μὲν νοητοὺς αἰτίους τούτους δὲ αἰσθητούς.

Περὶ μὲν οὖν τῶν Πυθαγορείων ἀφείσθω τὰ νῦν (ἱκανὸν γὰρ αὐτῶν ἅψασθαι τοσοῦτον)· οἱ δὲ τὰς ἰδέας αἰτίας [990b] τιθέμενοι πρῶτον μὲν ζητοῦντες τωνδὶ τῶν ὄντων λαβεῖν τὰς αἰτίας ἕτερα τούτοις ἴσα τὸν ἀριθμὸν ἐκόμισαν, ὥσπερ εἴ τις ἀριθμῆσαι βουλόμενος ἐλαττόνων μὲν ὄντων οἴοιτο μὴ δυνήσεσθαι, πλείω δὲ ποιήσας ἀριθμοίη (σχεδὸν γὰρ ἴσα - ἢ οὐκ ἐλάττω - ἐστὶ τὰ εἴδη τούτοις περὶ ὧν ζητοῦντες τὰς αἰτίας ἐκ τούτων ἐπ’ ἐκεῖνα προῆλθον· καθ’ ἕκαστον γὰρ ὁμώνυμόν τι ἔστι καὶ παρὰ τὰς οὐσίας, τῶν τε ἄλλων ἔστιν ἓν ἐπὶ πολλῶν, καὶ ἐπὶ τοῖσδε καὶ ἐπὶ τοῖς ἀϊδίοις)· ἔτι δὲ καθ’ οὓς τρόπους δείκνυμεν ὅτι ἔστι τὰ εἴδη, κατ’ οὐθένα φαίνεται τούτων· ἐξ ἐνίων μὲν γὰρ οὐκ ἀνάγκη γίγνεσθαι συλλογισμόν, ἐξ ἐνίων δὲ καὶ οὐχ ὧν οἰόμεθα τούτων εἴδη γίγνεται. κατά τε γὰρ τοὺς λόγους τοὺς ἐκ τῶν ἐπιστημῶν εἴδη ἔσται πάντων ὅσων ἐπιστῆμαι εἰσί, καὶ κατὰ τὸ ἓν ἐπὶ πολλῶν καὶ τῶν ἀποφάσεων, κατὰ δὲ τὸ νοεῖν τι φθαρέντος τῶν φθαρτῶν· φάντασμα γάρ τι τούτων ἔστιν. ἔτι δὲ οἱ ἀκριβέστεροι τῶν λόγων οἱ μὲν τῶν πρός τι ποιοῦσιν ἰδέας, ὧν οὔ φαμεν εἶναι καθ’ αὑτὸ γένος, οἱ δὲ τὸν τρίτον ἄνθρωπον λέγουσιν. ὅλως τε ἀναιροῦσιν οἱ περὶ τῶν εἰδῶν λόγοι ἃ μᾶλλον εἶναι βουλόμεθα [οἱ λέγοντες εἴδη] τοῦ τὰς ἰδέας εἶναι· συμβαίνει γὰρ μὴ εἶναι τὴν δυάδα πρώτην ἀλλὰ τὸν ἀριθμόν, καὶ τὸ πρός τι τοῦ καθ’ αὑτό, καὶ πάνθ’ ὅσα τινὲς ἀκολουθήσαντες ταῖς περὶ τῶν ἰδεῶν δόξαις ἠναντιώθησαν ταῖς ἀρχαῖς. - ἔτι κατὰ μὲν τὴν ὑπόληψιν καθ’ ἣν εἶναί φαμεν τὰς ἰδέας οὐ μόνον τῶν οὐσιῶν ἔσται εἴδη ἀλλὰ πολλῶν καὶ ἑτέρων (καὶ γὰρ τὸ νόημα ἓν οὐ μόνον περὶ τὰς οὐσίας ἀλλὰ καὶ κατὰ τῶν ἄλλων ἐστί, καὶ ἐπιστῆμαι οὐ μόνον τῆς οὐσίας εἰσὶν ἀλλὰ καὶ ἑτέρων, καὶ ἄλλα δὲ μυρία συμβαίνει τοιαῦτα)· κατὰ δὲ τὸ ἀναγκαῖον καὶ τὰς δόξας τὰς περὶ αὐτῶν, εἰ ἔστι μεθεκτὰ τὰ εἴδη, τῶν οὐσιῶν ἀναγκαῖον ἰδέας εἶναι μόνον. οὐ γὰρ κατὰ συμβεβηκὸς μετέχονται ἀλλὰ δεῖ ταύτῃ ἑκάστου μετέχειν ᾗ μὴ καθ’ ὑποκειμένου λέγεται (λέγω δ’ οἷον, εἴ τι αὐτοδιπλασίου μετέχει, τοῦτο καὶ ἀϊδίου μετέχει, ἀλλὰ κατὰ συμβεβηκός· συμβέβηκε γὰρ τῷ διπλασίῳ ἀϊδίῳ εἶναι), ὥστ’ ἔσται οὐσία τὰ εἴδη· ταὐτὰ δὲ ἐνταῦθα [991a] οὐσίαν σημαίνει κἀκεῖ· ἢ τί ἔσται τὸ εἶναι τι παρὰ ταῦτα, τὸ ἓν ἐπὶ πολλῶν; καὶ εἰ μὲν ταὐτὸ εἶδος τῶν ἰδεῶν καὶ τῶν μετεχόντων, ἔσται τι κοινόν (τί γὰρ μᾶλλον ἐπὶ τῶν φθαρτῶν δυάδων, καὶ τῶν πολλῶν μὲν ἀϊδίων δέ, τὸ δυὰς ἓν καὶ ταὐτόν, ἢ ἐπί τ’ αὐτῆς καὶ τῆς τινός;)· εἰ δὲ μὴ τὸ αὐτὸ εἶδος, ὁμώνυμα ἂν εἴη, καὶ ὅμοιον ὥσπερ ἂν εἴ τις καλοῖ ἄνθρωπον τόν τε Καλλίαν καὶ τὸ ξύλον, μηδεμίαν κοινωνίαν ἐπιβλέψας αὐτῶν. - πάντων δὲ μάλιστα διαπορήσειεν ἄν τις τί ποτε συμβάλλεται τὰ εἴδη τοῖς ἀϊδίοις τῶν αἰσθητῶν ἢ τοῖς γιγνομένοις καὶ φθειρομένοις· οὔτε γὰρ κινήσεως οὔτε μεταβολῆς οὐδεμιᾶς ἐστὶν αἴτια αὐτοῖς. ἀλλὰ μὴν οὔτε πρὸς τὴν ἐπιστήμην οὐθὲν βοηθεῖ τὴν τῶν ἄλλων (οὐδὲ γὰρ οὐσία ἐκεῖνα τούτων· ἐν τούτοις γὰρ ἂν ἦν), οὔτε εἰς τὸ εἶναι, μὴ ἐνυπάρχοντά γε τοῖς μετέχουσιν· οὕτω μὲν γὰρ ἂν ἴσως αἴτια δόξειεν εἶναι ὡς τὸ λευκὸν μεμιγμένον τῷ λευκῷ, ἀλλ’ οὗτος μὲν ὁ λόγος λίαν εὐκίνητος, ὃν Ἀναξαγόρας μὲν πρῶτος Εὔδοξος δ’ ὕστερον καὶ ἄλλοι τινὲς ἔλεγον (ῥᾴδιον γὰρ συναγαγεῖν πολλὰ καὶ ἀδύνατα πρὸς τὴν τοιαύτην δόξαν)· ἀλλὰ μὴν οὐδ’ ἐκ τῶν εἰδῶν ἐστὶ τἆλλα κατ’ οὐθένα τρόπον τῶν εἰωθότων λέγεσθαι. τὸ δὲ λέγειν παραδείγματα αὐτὰ εἶναι καὶ μετέχειν αὐτῶν τἆλλα κενολογεῖν ἐστὶ καὶ μεταφορὰς λέγειν ποιητικάς. τί γάρ ἐστι τὸ ἐργαζόμενον πρὸς τὰς ἰδέας ἀποβλέπον; ἐνδέχεταί τε καὶ εἶναι καὶ γίγνεσθαι ὅμοιον ὁτιοῦν καὶ μὴ εἰκαζόμενον πρὸς ἐκεῖνο, ὥστε καὶ ὄντος Σωκράτους καὶ μὴ ὄντος γένοιτ’ ἂν οἷος Σωκράτης· ὁμοίως δὲ δῆλον ὅτι κἂν εἰ ἦν ὁ Σωκράτης ἀΐδιος. ἔσται τε πλείω παραδείγματα τοῦ αὐτοῦ, ὥστε καὶ εἴδη, οἷον τοῦ ἀνθρώπου τὸ ζῷον καὶ τὸ δίπουν, ἅμα δὲ καὶ τὸ αὐτοάνθρωπος. ἔτι οὐ μόνον τῶν αἰσθητῶν παραδείγματα τὰ εἴδη ἀλλὰ καὶ αὐτῶν, οἷον τὸ γένος, ὡς γένος εἰδῶν· ὥστε τὸ αὐτὸ ἔσται παράδειγμα καὶ [991b] εἰκών. ἔτι δόξειεν ἂν ἀδύνατον εἶναι χωρὶς τὴν οὐσίαν καὶ οὗ ἡ οὐσία· ὥστε πῶς ἂν αἱ ἰδέαι οὐσίαι τῶν πραγμάτων οὖσαι χωρὶς εἶεν; ἐν δὲ τῷ Φαίδωνι οὕτω λέγεται, ὡς καὶ τοῦ εἶναι καὶ τοῦ γίγνεσθαι αἴτια τὰ εἴδη ἐστίν· καίτοι τῶν εἰδῶν ὄντων ὅμως οὐ γίγνεται τὰ μετέχοντα ἂν μὴ ᾖ τὸ κινῆσον, καὶ πολλὰ γίγνεται ἕτερα, οἷον οἰκία καὶ δακτύλιος, ὧν οὔ φαμεν εἴδη εἶναι· ὥστε δῆλον ὅτι ἐνδέχεται καὶ τἆλλα καὶ εἶναι καὶ γίγνεσθαι διὰ τοιαύτας αἰτίας οἵας καὶ τὰ ῥηθέντα νῦν. - ἔτι εἴπερ εἰσὶν ἀριθμοὶ τὰ εἴδη, πῶς αἴτιοι ἔσονται; πότερον ὅτι ἕτεροι ἀριθμοί εἰσι τὰ ὄντα, οἷον ὁδὶ μὲν ‹ὁ› ἀριθμὸς ἄνθρωπος ὁδὶ δὲ Σωκράτης ὁδὶ δὲ Καλλίας; τί οὖν ἐκεῖνοι τούτοις αἴτιοί εἰσιν; οὐδὲ γὰρ εἰ οἱ μὲν ἀΐδιοι οἱ δὲ μή, οὐδὲν διοίσει. εἰ δ’ ὅτι λόγοι ἀριθμῶν τἀνταῦθα, οἷον ἡ συμφωνία, δῆλον ὅτι ἐστὶν ἕν γέ τι ὧν εἰσὶ λόγοι. εἰ δή τι τοῦτο, ἡ ὕλη, φανερὸν ὅτι καὶ αὐτοὶ οἱ ἀριθμοὶ λόγοι τινὲς ἔσονται ἑτέρου πρὸς ἕτερον. λέγω δ’ οἷον, εἰ ἔστιν ὁ Καλλίας λόγος ἐν ἀριθμοῖς πυρὸς καὶ γῆς καὶ ὕδατος καὶ ἀέρος, καὶ ἄλλων τινῶν ὑποκειμένων ἔσται καὶ ἡ ἰδέα ἀριθμός· καὶ αὐτοάνθρωπος, εἴτ’ ἀριθμός τις ὢν εἴτε μή, ὅμως ἔσται λόγος ἐν ἀριθμοῖς τινῶν καὶ οὐκ ἀριθμός, οὐδ’ ἔσται τις διὰ ταῦτα ἀριθμός. ἔτι ἐκ πολλῶν ἀριθμῶν εἷς ἀριθμὸς γίγνεται, ἐξ εἰδῶν δὲ ἓν εἶδος πῶς; εἰ δὲ μὴ ἐξ αὐτῶν ἀλλ’ ἐκ τῶν ἐν τῷ ἀριθμῷ, οἷον ἐν τῇ μυριάδι, πῶς ἔχουσιν αἱ μονάδες; εἴτε γὰρ ὁμοειδεῖς, πολλὰ συμβήσεται ἄτοπα, εἴτε μὴ ὁμοειδεῖς, μήτε αὐταὶ ἀλλήλαις μήτε αἱ ἄλλαι πᾶσαι πάσαις· τίνι γὰρ διοίσουσιν ἀπαθεῖς οὖσαι; οὔτε γὰρ εὔλογα ταῦτα οὔτε ὁμολογούμενα τῇ νοήσει. ἔτι δ’ ἀναγκαῖον ἕτερον γένος ἀριθμοῦ κατασκευάζειν περὶ ὃ ἡ ἀριθμητική, καὶ πάντα τὰ μεταξὺ λεγόμενα ὑπό τινων, ἃ πῶς ἢ ἐκ τίνων ἐστὶν ἀρχῶν; ἢ διὰ τί μεταξὺ τῶν δεῦρό τ’ ἔσται καὶ αὐτῶν; ἔτι αἱ μονάδες αἱ ἐν τῇ δυάδι ἑκατέρα ἔκ τινος [992a] προτέρας δυάδος· καίτοι ἀδύνατον. ἔτι διὰ τί ἓν ὁ ἀριθμὸς συλλαμβανόμενος; ἔτι δὲ πρὸς τοῖς εἰρημένοις, εἴπερ εἰσὶν αἱ μονάδες διάφοροι, ἐχρῆν οὕτω λέγειν ὥσπερ καὶ ὅσοι τὰ στοιχεῖα τέτταρα ἢ δύο λέγουσιν· καὶ γὰρ τούτων ἕκαστος οὐ τὸ κοινὸν λέγει στοιχεῖον, οἷον τὸ σῶμα, ἀλλὰ πῦρ καὶ γῆν, εἴτ’ ἔστι τι κοινόν, τὸ σῶμα, εἴτε μή. νῦν δὲ λέγεται ὡς ὄντος τοῦ ἑνὸς ὥσπερ πυρὸς ἢ ὕδατος ὁμοιομεροῦς· εἰ δ’ οὕτως, οὐκ ἔσονται οὐσίαι οἱ ἀριθμοί, ἀλλὰ δῆλον ὅτι, εἴπερ ἐστί τι ἓν αὐτὸ καὶ τοῦτό ἐστιν ἀρχή, πλεοναχῶς λέγεται τὸ ἕν· ἄλλως γὰρ ἀδύνατον. - βουλόμενοι δὲ τὰς οὐσίας ἀνάγειν εἰς τὰς ἀρχὰς μήκη μὲν τίθεμεν ἐκ βραχέος καὶ μακροῦ, ἔκ τινος μικροῦ καὶ μεγάλου, καὶ ἐπίπεδον ἐκ πλατέος καὶ στενοῦ, σῶμα δ’ ἐκ βαθέος καὶ ταπεινοῦ. καίτοι πῶς ἕξει ἢ τὸ ἐπίπεδον γραμμὴν ἢ τὸ στερεὸν γραμμὴν καὶ ἐπίπεδον; ἄλλο γὰρ γένος τὸ πλατὺ καὶ στενὸν καὶ βαθὺ καὶ ταπεινόν· ὥσπερ οὖν οὐδ’ ἀριθμὸς ὑπάρχει ἐν αὐτοῖς, ὅτι τὸ πολὺ καὶ ὀλίγον ἕτερον τούτων, δῆλον ὅτι οὐδ’ ἄλλο οὐθὲν τῶν ἄνω ὑπάρξει τοῖς κάτω. ἀλλὰ μὴν οὐδὲ γένος τὸ πλατὺ τοῦ βαθέος· ἦν γὰρ ἂν ἐπίπεδόν τι τὸ σῶμα. ἔτι αἱ στιγμαὶ ἐκ τίνος ἐνυπάρξουσιν; τούτῳ μὲν οὖν τῷ γένει καὶ διεμάχετο Πλάτων ὡς ὄντι γεωμετρικῷ δόγματι, ἀλλ’ ἐκάλει ἀρχὴν γραμμῆς - τοῦτο δὲ πολλάκις ἐτίθει - τὰς ἀτόμους γραμμάς. καίτοι ἀνάγκη τούτων εἶναί τι πέρας· ὥστ’ ἐξ οὗ λόγου γραμμὴ ἔστι, καὶ στιγμὴ ἔστιν. - ὅλως δὲ ζητούσης τῆς σοφίας περὶ τῶν φανερῶν τὸ αἴτιον, τοῦτο μὲν εἰάκαμεν (οὐθὲν γὰρ λέγομεν περὶ τῆς αἰτίας ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς), τὴν δ’ οὐσίαν οἰόμενοι λέγειν αὐτῶν ἑτέρας μὲν οὐσίας εἶναί φαμεν, ὅπως δ’ ἐκεῖναι τούτων οὐσίαι, διὰ κενῆς λέγομεν· τὸ γὰρ μετέχειν, ὥσπερ καὶ πρότερον εἴπομεν, οὐθέν ἐστιν. οὐδὲ δὴ ὅπερ ταῖς ἐπιστήμαις ὁρῶμεν ὂν αἴτιον, δι’ ὃ καὶ πᾶς νοῦς καὶ πᾶσα φύσις ποιεῖ, οὐδὲ ταύτης τῆς αἰτίας, ἥν φαμεν εἶναι μίαν τῶν ἀρχῶν, οὐθὲν ἅπτεται τὰ εἴδη, ἀλλὰ γέγονε τὰ μαθήματα τοῖς νῦν ἡ φιλοσοφία, φασκόντων ἄλλων χάριν [992b] αὐτὰ δεῖν πραγματεύεσθαι. ἔτι δὲ τὴν ὑποκειμένην οὐσίαν ὡς ὕλην μαθηματικωτέραν ἄν τις ὑπολάβοι, καὶ μᾶλλον κατηγορεῖσθαι καὶ διαφορὰν εἶναι τῆς οὐσίας καὶ τῆς ὕλης ἢ ὕλην, οἷον τὸ μέγα καὶ τὸ μικρόν, ὥσπερ καὶ οἱ φυσιολόγοι φασὶ τὸ μανὸν καὶ τὸ πυκνόν, πρώτας τοῦ ὑποκειμένου φάσκοντες εἶναι διαφορὰς ταύτας· ταῦτα γάρ ἐστιν ὑπεροχή τις καὶ ἔλλειψις. περί τε κινήσεως, εἰ μὲν ἔσται ταῦτα κίνησις, δῆλον ὅτι κινήσεται τὰ εἴδη· εἰ δὲ μή, πόθεν ἦλθεν; ὅλη γὰρ ἡ περὶ φύσεως ἀνῄρηται σκέψις. ὅ τε δοκεῖ ῥᾴδιον εἶναι, τὸ δεῖξαι ὅτι ἓν ἅπαντα, οὐ γίγνεται· τῇ γὰρ ἐκθέσει οὐ γίγνεται πάντα ἓν ἀλλ’ αὐτό τι ἕν, ἂν διδῷ τις πάντα· καὶ οὐδὲ τοῦτο, εἰ μὴ γένος δώσει τὸ καθόλου εἶναι· τοῦτο δ’ ἐν ἐνίοις ἀδύνατον. οὐθένα δ’ ἔχει λόγον οὐδὲ τὰ μετὰ τοὺς ἀριθμοὺς μήκη τε καὶ ἐπίπεδα καὶ στερεά, οὔτε ὅπως ἔστιν ἢ ἔσται οὔτε τίνα ἔχει δύναμιν· ταῦτα γὰρ οὔτε εἴδη οἷόν τε εἶναι (οὐ γάρ εἰσιν ἀριθμοί) οὔτε τὰ μεταξύ (μαθηματικὰ γὰρ ἐκεῖνα) οὔτε τὰ φθαρτά, ἀλλὰ πάλιν τέταρτον ἄλλο φαίνεται τοῦτό τι γένος. ὅλως τε τὸ τῶν ὄντων ζητεῖν στοιχεῖα μὴ διελόντας, πολλαχῶς λεγομένων, ἀδύνατον εὑρεῖν, ἄλλως τε καὶ τοῦτον τὸν τρόπον ζητοῦντας ἐξ οἵων ἐστὶ στοιχείων. ἐκ τίνων γὰρ τὸ ποιεῖν ἢ πάσχειν ἢ τὸ εὐθύ, οὐκ ἔστι δήπου λαβεῖν, ἀλλ’ εἴπερ, τῶν οὐσιῶν μόνον ἐνδέχεται· ὥστε τὸ τῶν ὄντων ἁπάντων τὰ στοιχεῖα ἢ ζητεῖν ἢ οἴεσθαι ἔχειν οὐκ ἀληθές. πῶς δ’ ἄν τις καὶ μάθοι τὰ τῶν πάντων στοιχεῖα; δῆλον γὰρ ὡς οὐθὲν οἷόν τε προϋπάρχειν γνωρίζοντα πρότερον. ὥσπερ γὰρ τῷ γεωμετρεῖν μανθάνοντι ἄλλα μὲν ἐνδέχεται προειδέναι, ὧν δὲ ἡ ἐπιστήμη καὶ περὶ ὧν μέλλει μανθάνειν οὐθὲν προγιγνώσκει, οὕτω δὴ καὶ ἐπὶ τῶν ἄλλων, ὥστ’ εἴ τις τῶν πάντων ἔστιν ἐπιστήμη, οἵαν δή τινές φασιν, οὐθὲν ἂν προϋπάρχοι γνωρίζων οὗτος. καίτοι πᾶσα μάθησις διὰ προγιγνωσκομένων ἢ πάντων ἢ τινῶν ἐστί, καὶ ἡ δι’ ἀποδείξεως ‹καὶ› ἡ δι’ ὁρισμῶν (δεῖ γὰρ ἐξ ὧν ὁ ὁρισμὸς προειδέναι καὶ εἶναι γνώριμα)· ὁμοίως δὲ καὶ ἡ δι’ ἐπαγωγῆς. ἀλλὰ μὴν [993a] εἰ καὶ τυγχάνοι σύμφυτος οὖσα, θαυμαστὸν πῶς λανθάνομεν ἔχοντες τὴν κρατίστην τῶν ἐπιστημῶν. ἔτι πῶς τις γνωριεῖ ἐκ τίνων ἐστί, καὶ πῶς ἔσται δῆλον; καὶ γὰρ τοῦτ’ ἔχει ἀπορίαν· ἀμφισβητήσειε γὰρ ἄν τις ὥσπερ καὶ περὶ ἐνίας συλλαβάς· οἱ μὲν γὰρ τὸ ζα ἐκ τοῦ σ καὶ δ καὶ α φασὶν εἶναι, οἱ δέ τινες ἕτερον φθόγγον φασὶν εἶναι καὶ οὐθένα τῶν γνωρίμων. ἔτι δὲ ὧν ἐστὶν αἴσθησις, ταῦτα πῶς ἄν τις μὴ ἔχων τὴν αἴσθησιν γνοίη; καίτοι ἔδει, εἴγε πάντων ταὐτὰ στοιχεῖά ἐστιν ἐξ ὧν, ὥσπερ αἱ σύνθετοι φωναί εἰσιν ἐκ τῶν οἰκείων στοιχείων.

Ὅτι μὲν οὖν τὰς εἰρημένας ἐν τοῖς φυσικοῖς αἰτίας ζητεῖν ἐοίκασι πάντες, καὶ τούτων ἐκτὸς οὐδεμίαν ἔχοιμεν ἂν εἰπεῖν, δῆλον καὶ ἐκ τῶν πρότερον εἰρημένων· ἀλλ’ ἀμυδρῶς ταύτας, καὶ τρόπον μέν τινα πᾶσαι πρότερον εἴρηνται τρόπον δέ τινα οὐδαμῶς. ψελλιζομένῃ γὰρ ἔοικεν ἡ πρώτη φιλοσοφία περὶ πάντων, ἅτε νέα τε καὶ κατ’ ἀρχὰς οὖσα [καὶ τὸ πρῶτον], ἐπεὶ καὶ Ἐμπεδοκλῆς ὀστοῦν τῷ λόγῳ φησὶν εἶναι, τοῦτο δ’ ἐστὶ τὸ τί ἦν εἶναι καὶ ἡ οὐσία τοῦ πράγματος. ἀλλὰ μὴν ὁμοίως ἀναγκαῖον καὶ σάρκας καὶ τῶν ἄλλων ἕκαστον εἶναι τὸν λόγον, ἢ μηδὲ ἕν· διὰ τοῦτο γὰρ καὶ σὰρξ καὶ ὀστοῦν ἔσται καὶ τῶν ἄλλων ἕκαστον καὶ οὐ διὰ τὴν ὕλην, ἣν ἐκεῖνος λέγει, πῦρ καὶ γῆν καὶ ὕδωρ καὶ ἀέρα. ἀλλὰ ταῦτα ἄλλου μὲν λέγοντος συνέφησεν ἂν ἐξ ἀνάγκης, σαφῶς δὲ οὐκ εἴρηκεν. περὶ μὲν οὖν τούτων δεδήλωται καὶ πρότερον· ὅσα δὲ περὶ τῶν αὐτῶν τούτων ἀπορήσειεν ἄν τις, ἐπανέλθωμεν πάλιν· τάχα γὰρ ἂν ἐξ αὐτῶν εὐπορήσαιμέν τι πρὸς τὰς ὕστερον ἀπορίας.

Α ΕΛΑΤΤΟΝ

Ἡ περὶ τῆς ἀληθείας θεωρία τῇ μὲν χαλεπὴ τῇ δὲ ῥᾳδία. σημεῖον δὲ τὸ μήτ' ἀξίως μηδένα δύνασθαι θιγεῖν [993b] αὐτῆς μήτε πάντας ἀποτυγχάνειν, ἀλλ' ἕκαστον λέγειν τι περὶ τῆς φύσεως, καὶ καθ' ἕνα μὲν ἢ μηθὲν ἢ μικρὸν ἐπιβάλλειν αὐτῇ, ἐκ πάντων δὲ συναθροιζομένων γίγνεσθαί τι μέγεθος· ὥστ' εἴπερ ἔοικεν ἔχειν καθάπερ τυγχάνομεν παροιμιαζόμενοι, τίς ἂν θύρας ἁμάρτοι; ταύτῃ μὲν ἂν εἴη ῥᾳδία, τὸ δ' ὅλον τι ἔχειν καὶ μέρος μὴ δύνασθαι δηλοῖ τὸ χαλεπὸν αὐτῆς. ἴσως δὲ καὶ τῆς χαλεπότητος οὔσης κατὰ δύο τρόπους, οὐκ ἐν τοῖς πράγμασιν ἀλλ' ἐν ἡμῖν τὸ αἴτιον αὐτῆς· ὥσπερ γὰρ τὰ τῶν νυκτερίδων ὄμματα πρὸς τὸ φέγγος ἔχει τὸ μεθ' ἡμέραν, οὕτω καὶ τῆς ἡμετέρας ψυχῆς ὁ νοῦς πρὸς τὰ τῇ φύσει φανερώτατα πάντων. οὐ μόνον δὲ χάριν ἔχειν δίκαιον τούτοις ὧν ἄν τις κοινώσαιτο ταῖς δόξαις, ἀλλὰ καὶ τοῖς ἐπιπολαιότερον ἀποφηναμένοις· καὶ γὰρ οὗτοι συνεβάλοντό τι· τὴν γὰρ ἕξιν προήσκησαν ἡμῶν· εἰ μὲν γὰρ Τιμόθεος μὴ ἐγένετο, πολλὴν ἂν μελοποιίαν οὐκ εἴχομεν· εἰ δὲ μὴ Φρῦνις, Τιμόθεος οὐκ ἂν ἐγένετο. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν περὶ τῆς ἀληθείας ἀποφηναμένων· παρὰ μὲν γὰρ ἐνίων παρειλήφαμέν τινας δόξας, οἱ δὲ τοῦ γενέσθαι τούτους αἴτιοι γεγόνασιν. ὀρθῶς δ' ἔχει καὶ τὸ καλεῖσθαι τὴν φιλοσοφίαν ἐπιστήμην τῆς ἀληθείας. θεωρητικῆς μὲν γὰρ τέλος ἀλήθεια πρακτικῆς δ' ἔργον· καὶ γὰρ ἂν τὸ πῶς ἔχει σκοπῶσιν, οὐ τὸ ἀΐδιον ἀλλ' ὃ πρός τι καὶ νῦν θεωροῦσιν οἱ πρακτικοί. οὐκ ἴσμεν δὲ τὸ ἀληθὲς ἄνευ τῆς αἰτίας· ἕκαστον δὲ μάλιστα αὐτὸ τῶν ἄλλων καθ' ὃ καὶ τοῖς ἄλλοις ὑπάρχει τὸ συνώνυμον (οἷον τὸ πῦρ θερμότατον· καὶ γὰρ τοῖς ἄλλοις τὸ αἴτιον τοῦτο τῆς θερμότητος)· ὥστε καὶ ἀληθέστατον τὸ τοῖς ὑστέροις αἴτιον τοῦ ἀληθέσιν εἶναι. διὸ τὰς τῶν ἀεὶ ὄντων ἀρχὰς ἀναγκαῖον ἀεὶ εἶναι ἀληθεστάτας (οὐ γάρ ποτε ἀληθεῖς, οὐδ' ἐκείναις αἴτιόν τί ἐστι τοῦ εἶναι, ἀλλ' ἐκεῖναι τοῖς ἄλλοις), ὥσθ' ἕκαστον ὡς ἔχει τοῦ εἶναι, οὕτω καὶ τῆς ἀληθείας.

[994a] Ἀλλὰ μὴν ὅτι γ' ἔστιν ἀρχή τις καὶ οὐκ ἄπειρα τὰ αἴτια τῶν ὄντων οὔτ' εἰς εὐθυωρίαν οὔτε κατ' εἶδος, δῆλον. οὔτε γὰρ ὡς ἐξ ὕλης τόδ' ἐκ τοῦδε δυνατὸν ἰέναι εἰς ἄπειρον (οἷον σάρκα μὲν ἐκ γῆς, γῆν δ' ἐξ ἀέρος, ἀέρα δ' ἐκ πυρός, καὶ τοῦτο μὴ ἵστασθαι), οὔτε ὅθεν ἡ ἀρχὴ τῆς κινήσεως (οἷον τὸν μὲν ἄνθρωπον ὑπὸ τοῦ ἀέρος κινηθῆναι, τοῦτον δ' ὑπὸ τοῦ ἡλίου, τὸν δὲ ἥλιον

ὑπὸ τοῦ νείκους, καὶ τούτου μηδὲν εἶναι πέρας)· ὁμοίως δὲ οὐδὲ τὸ οὗ ἕνεκα εἰς ἄπειρον οἷόν τε ἰέναι, βάδισιν μὲν ὑγιείας ἕνεκα, ταύτην δ' εὐδαιμονίας, τὴν δ' εὐδαιμονίαν ἄλλου, καὶ οὕτως ἀεὶ ἄλλο ἄλλου ἕνεκεν εἶναι· καὶ ἐπὶ τοῦ τί ἦν εἶναι δ' ὡσαύτως. τῶν γὰρ μέσων, ὧν ἐστί τι ἔσχατον καὶ πρότερον, ἀναγκαῖον εἶναι τὸ πρότερον αἴτιον τῶν μετ' αὐτό. εἰ γὰρ εἰπεῖν ἡμᾶς δέοι τί τῶν τριῶν αἴτιον, τὸ πρῶτον ἐροῦμεν· οὐ γὰρ δὴ τό γ' ἔσχατον, οὐδενὸς γὰρ τὸ τελευταῖον· ἀλλὰ μὴν οὐδὲ τὸ μέσον, ἑνὸς γάρ (οὐθὲν δὲ διαφέρει ἓν ἢ πλείω εἶναι, οὐδ' ἄπειρα ἢ πεπερασμένα). τῶν δ' ἀπείρων τοῦτον τὸν τρόπον καὶ ὅλως τοῦ ἀπείρου πάντα τὰ μόρια μέσα ὁμοίως μέχρι τοῦ νῦν· ὥστ' εἴπερ μηδέν ἐστι πρῶτον, ὅλως αἴτιον οὐδέν ἐστιν. - ἀλλὰ μὴν οὐδ' ἐπὶ τὸ κάτω οἷόν τε εἰς ἄπειρον ἰέναι, τοῦ ἄνω ἔχοντος ἀρχήν, ὥστ' ἐκ πυρὸς μὲν ὕδωρ, ἐκ δὲ τούτου γῆν, καὶ οὕτως ἀεὶ ἄλλο τι γίγνεσθαι γένος. διχῶς γὰρ γίγνεται τόδε ἐκ τοῦδε - μὴ ὡς τόδε λέγεται μετὰ τόδε, οἷον ἐξ Ἰσθμίων Ὀλύμπια, ἀλλ' ἢ ὡς ἐκ παιδὸς ἀνὴρ μεταβάλλοντος ἢ ὡς ἐξ ὕδατος ἀήρ. ὡς μὲν οὖν ἐκ παιδὸς ἄνδρα γίγνεσθαί φαμεν, ὡς ἐκ τοῦ γιγνομένου τὸ γεγονὸς ἢ ἐκ τοῦ ἐπιτελουμένου τὸ τετελεσμένον (ἀεὶ γάρ ἐστι μεταξύ, ὥσπερ τοῦ εἶναι καὶ μὴ εἶναι γένεσις, οὕτω καὶ τὸ γιγνόμενον τοῦ ὄντος καὶ μὴ ὄντος· ἔστι γὰρ ὁ μανθάνων γιγνόμενος ἐπιστήμων, καὶ τοῦτ' ἐστὶν ὃ λέγεται, ὅτι γίγνεται ἐκ μανθάνοντος ἐπιστήμων)· τὸ δ' ὡς ἐξ ἀέρος ὕδωρ, φθειρομένου θατέρου. διὸ ἐκεῖνα μὲν οὐκ ἀνακάμπτει εἰς ἄλληλα, οὐδὲ γίγνεται ἐξ ἀνδρὸς παῖς (οὐ γὰρ γίγνεται [994b] ἐκ τῆς γενέσεως τὸ γιγνόμενον ἀλλ' ‹ὃ› ἔστι μετὰ τὴν γένεσιν· οὕτω γὰρ καὶ ἡμέρα ἐκ τοῦ πρωΐ, ὅτι μετὰ τοῦτο· διὸ οὐδὲ τὸ πρωῒ ἐξ ἡμέρας)· θάτερα δὲ ἀνακάμπτει. ἀμφοτέρως δὲ ἀδύνατον εἰς ἄπειρον ἰέναι· τῶν μὲν γὰρ ὄντων μεταξὺ ἀνάγκη τέλος εἶναι, τὰ δ' εἰς ἄλληλα ἀνακάμπτει· ἡ γὰρ θατέρου φθορὰ θατέρου ἐστὶ γένεσις. - ἅμα δὲ καὶ ἀδύνατον τὸ πρῶτον ἀΐδιον ὂν φθαρῆναι· ἐπεὶ γὰρ οὐκ ἄπειρος ἡ γένεσις ἐπὶ τὸ ἄνω, ἀνάγκη ἐξ οὗ φθαρέντος πρώτου τι ἐγένετο μὴ ἀΐδιον εἶναι. ἔτι δὲ τὸ οὗ ἕνεκα τέλος, τοιοῦτον δὲ ὃ μὴ ἄλλου ἕνεκα ἀλλὰ τἆλλα ἐκείνου, ὥστ' εἰ μὲν ἔσται τοιοῦτόν τι ἔσχατον, οὐκ ἔσται ἄπειρον, εἰ δὲ μηθὲν τοιοῦτον, οὐκ ἔσται τὸ οὗ ἕνεκα, ἀλλ' οἱ τὸ ἄπειρον ποιοῦντες λανθάνουσιν ἐξαιροῦντες τὴν τοῦ ἀγαθοῦ φύσιν (καίτοι οὐθεὶς ἂν ἐγχειρήσειεν οὐδὲν πράττειν μὴ μέλλων ἐπὶ πέρας ἥξειν)· οὐδ' ἂν εἴη νοῦς ἐν τοῖς οὖσιν· ἕνεκα γάρ τινος ἀεὶ πράττει ὅ γε νοῦν ἔχων, τοῦτο δέ ἐστι πέρας· τὸ γὰρ τέλος πέρας ἐστίν. ἀλλὰ μὴν οὐδὲ τὸ τί ἦν εἶναι ἐνδέχεται ἀνάγεσθαι εἰς ἄλλον ὁρισμὸν πλεονάζοντα τῷ λόγῳ· ἀεί τε γὰρ ἔστιν ὁ ἔμπροσθεν μᾶλλον, ὁ δ' ὕστερος οὐκ ἔστιν, οὗ δὲ τὸ πρῶτον μὴ ἔστιν, οὐδὲ τὸ ἐχόμενον· ἔτι τὸ ἐπίστασθαι ἀναιροῦσιν οἱ οὕτως λέγοντες, οὐ γὰρ οἷόν τε εἰδέναι πρὶν εἰς τὰ ἄτομα ἐλθεῖν· καὶ τὸ γιγνώσκειν οὐκ ἔστιν, τὰ γὰρ οὕτως ἄπειρα πῶς ἐνδέχεται νοεῖν; οὐ γὰρ ὅμοιον ἐπὶ τῆς γραμμῆς, ἣ κατὰ τὰς διαιρέσεις μὲν οὐχ ἵσταται, νοῆσαι δ' οὐκ ἔστι μὴ στήσαντα (διόπερ οὐκ ἀριθμήσει τὰς τομὰς ὁ τὴν ἄπειρον διεξιών), ἀλλὰ καὶ τὴν ὅλην οὐ κινουμένῳ νοεῖν ἀνάγκη. καὶ ἀπείρῳ οὐδενὶ ἔστιν εἶναι· εἰ δὲ μή, οὐκ ἄπειρόν γ' ἐστὶ τὸ ἀπείρῳ εἶναι. - ἀλλὰ μὴν καὶ εἰ ἄπειρά γ' ἦσαν πλήθει τὰ εἴδη τῶν αἰτίων, οὐκ ἂν ἦν οὐδ' οὕτω τὸ γιγνώσκειν· τότε γὰρ εἰδέναι οἰόμεθα ὅταν τὰ αἴτια γνωρίσωμεν· τὸ δ' ἄπειρον κατὰ τὴν πρόσθεσιν οὐκ ἔστιν ἐν πεπερασμένῳ διεξελθεῖν.

Αἱ δ' ἀκροάσεις κατὰ τὰ ἔθη συμβαίνουσιν· ὡς γὰρ [995a] εἰώθαμεν οὕτως ἀξιοῦμεν λέγεσθαι, καὶ τὰ παρὰ ταῦτα οὐχ ὅμοια φαίνεται ἀλλὰ διὰ τὴν ἀσυνήθειαν ἀγνωστότερα καὶ ξενικώτερα· τὸ γὰρ σύνηθες γνώριμον. ἡλίκην δὲ ἰσχὺν ἔχει τὸ σύνηθες οἱ νόμοι δηλοῦσιν, ἐν οἷς τὰ μυθώδη καὶ παιδαριώδη μεῖζον ἰσχύει τοῦ γινώσκειν περὶ αὐτῶν διὰ τὸ ἔθος. οἱ μὲν οὖν ἐὰν μὴ μαθηματικῶς λέγῃ τις οὐκ ἀποδέχονται τῶν λεγόντων, οἱ δ' ἂν μὴ παραδειγματικῶς, οἱ δὲ μάρτυρα ἀξιοῦσιν ἐπάγεσθαι ποιητήν. καὶ οἱ μὲν πάντα ἀκριβῶς, τοὺς δὲ λυπεῖ τὸ ἀκριβὲς ἢ διὰ τὸ μὴ δύνασθαι συνείρειν ἢ διὰ τὴν μικρολογίαν· ἔχει γάρ τι τὸ ἀκριβὲς τοιοῦτον, ὥστε, καθάπερ ἐπὶ τῶν συμβολαίων, καὶ ἐπὶ τῶν λόγων ἀνελεύθερον εἶναί τισι δοκεῖ. διὸ δεῖ πεπαιδεῦσθαι πῶς ἕκαστα ἀποδεκτέον, ὡς ἄτοπον ἅμα ζητεῖν ἐπιστήμην καὶ τρόπον ἐπιστήμης· ἔστι δ' οὐδὲ θάτερον ῥᾴδιον λαβεῖν. τὴν δ' ἀκριβολογίαν τὴν μαθηματικὴν οὐκ ἐν ἅπασιν ἀπαιτητέον, ἀλλ' ἐν τοῖς μὴ ἔχουσιν ὕλην. διόπερ οὐ φυσικὸς ὁ τρόπος· ἅπασα γὰρ ἴσως ἡ φύσις ἔχει ὕλην. διὸ σκεπτέον πρῶτον τί ἐστιν ἡ φύσις· οὕτω γὰρ καὶ περὶ τίνων ἡ φυσικὴ δῆλον ἔσται [καὶ εἰ μιᾶς ἐπιστήμης ἢ πλειόνων τὰ αἴτια καὶ τὰς ἀρχὰς θεωρῆσαί ἐστιν].

B

Ἀνάγκη πρὸς τὴν ἐπιζητουμένην ἐπιστήμην ἐπελθεῖν ἡμᾶς πρῶτον περὶ ὧν ἀπορῆσαι δεῖ πρῶτον· ταῦτα δ’ ἐστὶν ὅσα τε περὶ αὐτῶν ἄλλως ὑπειλήφασί τινες, κἂν εἴ τι χωρὶς τούτων τυγχάνει παρεωραμένον. ἔστι δὲ τοῖς εὐπορῆσαι βουλομένοις προὔργου τὸ διαπορῆσαι καλῶς· ἡ γὰρ ὕστερον εὐπορία λύσις τῶν πρότερον ἀπορουμένων ἐστί, λύειν δ’ οὐκ ἔστιν ἀγνοοῦντας τὸν δεσμόν, ἀλλ’ ἡ τῆς διανοίας ἀπορία δηλοῖ τοῦτο περὶ τοῦ πράγματος· ᾗ γὰρ ἀπορεῖ, ταύτῃ παραπλήσιον πέπονθε τοῖς δεδεμένοις· ἀδύνατον γὰρ ἀμφοτέρως προελθεῖν εἰς τὸ πρόσθεν. διὸ δεῖ τὰς δυσχερείας τεθεωρηκέναι πάσας πρότερον, τούτων τε χάριν καὶ διὰ τὸ τοὺς ζητοῦντας ἄνευ τοῦ διαπορῆσαι πρῶτον ὁμοίους εἶναι τοῖς ποῖ δεῖ βαδίζειν ἀγνοοῦσι, καὶ πρὸς τούτοις οὐδ’ εἴ ποτε τὸ ζητούμενον [995b] εὕρηκεν ἢ μὴ γιγνώσκειν· τὸ γὰρ τέλος τούτῳ μὲν οὐ δῆλον τῷ δὲ προηπορηκότι δῆλον. ἔτι δὲ βέλτιον ἀνάγκη ἔχειν πρὸς τὸ κρῖναι τὸν ὥσπερ ἀντιδίκων καὶ τῶν ἀμφισβητούντων λόγων ἀκηκοότα πάντων. - ἔστι δ’ ἀπορία πρώτη μὲν περὶ ὧν ἐν τοῖς πεφροιμιασμένοις διηπορήσαμεν, πότερον μιᾶς ἢ πολλῶν ἐπιστημῶν θεωρῆσαι τὰς αἰτίας· καὶ πότερον τὰς τῆς οὐσίας ἀρχὰς τὰς πρώτας ἐστὶ τῆς ἐπιστήμης ἰδεῖν μόνον ἢ καὶ περὶ τῶν ἀρχῶν ἐξ ὧν δεικνύουσι πάντες, οἷον πότερον ἐνδέχεται ταὐτὸ καὶ ἓν ἅμα φάναι καὶ ἀποφάναι ἢ οὔ, καὶ περὶ τῶν ἄλλων τῶν τοιούτων· εἴ τ’ ἔστι περὶ τὴν οὐσίαν, πότερον μία περὶ πάσας ἢ πλείονές εἰσι, κἂν εἰ πλείονες πότερον ἅπασαι συγγενεῖς ἢ τὰς μὲν σοφίας τὰς δὲ ἄλλο τι λεκτέον αὐτῶν. καὶ τοῦτο δ’ αὐτὸ τῶν ἀναγκαίων ἐστὶ ζητῆσαι, πότερον τὰς αἰσθητὰς οὐσίας εἶναι μόνον φατέον ἢ καὶ παρὰ ταύτας ἄλλας, καὶ πότερον μοναχῶς ἢ πλείονα γένη τῶν οὐσιῶν, οἷον οἱ ποιοῦντες τά τε εἴδη καὶ τὰ μαθηματικὰ μεταξὺ τούτων τε καὶ τῶν αἰσθητῶν. περί τε τούτων οὖν, καθάπερ φαμέν, ἐπισκεπτέον, καὶ πότερον περὶ τὰς οὐσίας ἡ θεωρία μόνον ἐστὶν ἢ καὶ περὶ τὰ συμβεβηκότα καθ’ αὑτὰ ταῖς οὐσίαις, πρὸς δὲ τούτοις περὶ ταὐτοῦ καὶ ἑτέρου καὶ ὁμοίου καὶ ἀνομοίου καὶ ἐναντιότητος, καὶ περὶ προτέρου καὶ ὑστέρου καὶ τῶν ἄλλων ἁπάντων τῶν τοιούτων περὶ ὅσων οἱ διαλεκτικοὶ πειρῶνται σκοπεῖν ἐκ τῶν ἐνδόξων μόνων ποιούμενοι τὴν σκέψιν, τίνος ἐστὶ θεωρῆσαι περὶ πάντων· ἔτι δὲ τούτοις αὐτοῖς ὅσα καθ’ αὑτὰ συμβέβηκεν, καὶ μὴ μόνον τί ἐστι τούτων ἕκαστον ἀλλὰ καὶ ἆρα ἓν ἑνὶ ἐναντίον· καὶ πότερον αἱ ἀρχαὶ καὶ τὰ στοιχεῖα τὰ γένη ἐστὶν ἢ εἰς ἃ διαιρεῖται ἐνυπάρχοντα ἕκαστον· καὶ εἰ τὰ γένη, πότερον ὅσα ἐπὶ τοῖς ἀτόμοις λέγεται τελευταῖα ἢ τὰ πρῶτα, οἷον πότερον ζῷον ἢ ἄνθρωπος ἀρχή τε καὶ μᾶλλον ἔστι παρὰ τὸ καθ' ἕκαστον. μάλιστα δὲ ζητητέον καὶ πραγματευτέον πότερον ἔστι τι παρὰ τὴν ὕλην αἴτιον καθ' αὑτὸ ἢ οὔ, καὶ τοῦτο χωριστὸν ἢ οὔ, καὶ πότερον ἓν ἢ πλείω τὸν ἀριθμόν, καὶ πότερον ἔστι τι παρὰ τὸ σύνολον (λέγω δὲ τὸ σύνολον, ὅταν κατηγορηθῇ τι τῆς ὕλης) ἢ οὐθέν, ἢ τῶν μὲν τῶν δ' οὔ, καὶ ποῖα τοιαῦτα τῶν ὄντων.

[996a] ἔτι αἱ ἀρχαὶ πότερον ἀριθμῷ ἢ εἴδει ὡρισμέναι, καὶ αἱ ἐν τοῖς λόγοις καὶ αἱ ἐν τῷ ὑποκειμένῳ; καὶ πότερον τῶν φθαρτῶν καὶ ἀφθάρτων αἱ αὐταὶ ἢ ἕτεραι, καὶ πότερον ἄφθαρτοι πᾶσαι ἢ τῶν φθαρτῶν φθαρταί; ἔτι δὲ τὸ πάντων χαλεπώτατον καὶ πλείστην ἀπορίαν ἔχον, πότερον τὸ ἓν καὶ τὸ ὄν, καθάπερ οἱ Πυθαγόρειοι καὶ Πλάτων ἔλεγεν, οὐχ ἕτερόν τί ἐστιν ἀλλ' οὐσία τῶν ὄντων; ἢ οὔ, ἀλλ' ἕτερόν τι τὸ ὑποκείμενον, ὥσπερ Ἐμπεδοκλῆς φησὶ φιλίαν ἄλλος δέ τις πῦρ ὁ δὲ ὕδωρ ἢ ἀέρα· καὶ πότερον αἱ ἀρχαὶ καθόλου εἰσὶν ἢ ὡς τὰ καθ' ἕκαστα τῶν πραγμάτων, καὶ δυνάμει ἢ ἐνεργείᾳ· ἔτι πότερον ἄλλως ἢ κατὰ κίνησιν· καὶ γὰρ ταῦτα ἀπορίαν ἂν παράσχοι πολλήν. πρὸς δὲ τούτοις πότερον οἱ ἀριθμοὶ καὶ τὰ μήκη καὶ τὰ σχήματα καὶ αἱ στιγμαὶ οὐσίαι τινές εἰσιν ἢ οὔ, κἂν εἰ οὐσίαι πότερον κεχωρισμέναι τῶν αἰσθητῶν ἢ ἐνυπάρχουσαι ἐν τούτοις; περὶ γὰρ τούτων ἁπάντων οὐ μόνον χαλεπὸν τὸ εὐπορῆσαι τῆς ἀληθείας ἀλλ' οὐδὲ τὸ διαπορῆσαι τῷ λόγῳ ῥᾴδιον καλῶς.

Πρῶτον μὲν οὖν περὶ ὧν πρῶτον εἴπομεν, πότερον μιᾶς ἢ πλειόνων ἐστὶν ἐπιστημῶν θεωρῆσαι πάντα τὰ γένη τῶν αἰτίων. μιᾶς μὲν γὰρ ἐπιστήμης πῶς ἂν εἴη μὴ ἐναντίας οὔσας τὰς ἀρχὰς γνωρίζειν; ἔτι δὲ πολλοῖς τῶν ὄντων οὐχ ὑπάρχουσι πᾶσαι· τίνα γὰρ τρόπον οἷόν τε κινήσεως ἀρχὴν εἶναι τοῖς ἀκινήτοις ἢ τὴν τἀγαθοῦ φύσιν, εἴπερ ἅπαν ὃ ἂν ᾖ ἀγαθὸν καθ' αὑτὸ καὶ διὰ τὴν αὑτοῦ φύσιν τέλος ἐστὶν καὶ οὕτως αἴτιον ὅτι ἐκείνου ἕνεκα καὶ γίγνεται καὶ ἔστι τἆλλα, τὸ δὲ τέλος καὶ τὸ οὗ ἕνεκα πράξεώς τινός ἐστι τέλος, αἱ δὲ πράξεις πᾶσαι μετὰ κινήσεως; ὥστ' ἐν τοῖς ἀκινήτοις οὐκ ἂν ἐνδέχοιτο ταύτην εἶναι τὴν ἀρχὴν οὐδ' εἶναί τι αὐτοαγαθόν. διὸ καὶ ἐν τοῖς μαθήμασιν οὐθὲν δείκνυται διὰ ταύτης τῆς αἰτίας, οὐδ' ἔστιν ἀπόδειξις οὐδεμία διότι βέλτιον ἢ χεῖρον, ἀλλ' οὐδὲ τὸ παράπαν μέμνηται οὐθεὶς οὐθενὸς τῶν τοιούτων, ὥστε διὰ ταῦτα τῶν σοφιστῶν τινὲς οἷον Ἀρίστιππος προεπηλάκιζεν αὐτάς· ἐν μὲν γὰρ ταῖς ἄλλαις τέχναις, καὶ ταῖς βαναύσοις, οἷον ἐν τεκτονικῇ καὶ σκυτικῇ, διότι βέλτιον ἢ χεῖρον λέγεσθαι πάντα, τὰς δὲ μαθηματικὰς [996b] οὐθένα ποιεῖσθαι λόγον περὶ ἀγαθῶν καὶ κακῶν. - ἀλλὰ μὴν εἴ γε πλείους ἐπιστῆμαι τῶν αἰτίων εἰσὶ καὶ ἑτέρα ἑτέρας ἀρχῆς, τίνα τούτων φατέον εἶναι τὴν ζητουμένην, ἢ τίνα μάλιστα τοῦ πράγματος τοῦ ζητουμένου ἐπιστήμονα τῶν ἐχόντων αὐτάς; ἐνδέχεται γὰρ τῷ αὐτῷ πάντας τοὺς τρόπους τοὺς τῶν αἰτίων ὑπάρχειν, οἷον οἰκίας ὅθεν μὲν ἡ κίνησις ἡ τέχνη καὶ ὁ οἰκοδόμος, οὗ δ’ ἕνεκα τὸ ἔργον, ὕλη δὲ γῆ καὶ λίθοι, τὸ δ’ εἶδος ὁ λόγος. ἐκ μὲν οὖν τῶν πάλαι διωρισμένων τίνα χρὴ καλεῖν τῶν ἐπιστημῶν σοφίαν ἔχει λόγον ἑκάστην προσαγορεύειν· ᾗ μὲν γὰρ ἀρχικωτάτη καὶ ἡγεμονικωτάτη καὶ ᾗ ὥσπερ δούλας οὐδ’ ἀντειπεῖν τὰς ἄλλας ἐπιστήμας δίκαιον, ἡ τοῦ τέλους καὶ τἀγαθοῦ τοιαύτη (τούτου γὰρ ἕνεκα τἆλλα), ᾗ δὲ τῶν πρώτων αἰτίων καὶ τοῦ μάλιστα ἐπιστητοῦ διωρίσθη εἶναι, ἡ τῆς οὐσίας ἂν εἴη τοιαύτη· πολλαχῶς γὰρ ἐπισταμένων τὸ αὐτὸ μᾶλλον μὲν εἰδέναι φαμὲν τὸν τῷ εἶναι γνωρίζοντα τί τὸ πρᾶγμα ἢ τῷ μὴ εἶναι, αὐτῶν δὲ τούτων ἕτερον ἑτέρου μᾶλλον, καὶ μάλιστα τὸν τί ἐστιν ἀλλ’ οὐ τὸν πόσον ἢ ποῖον ἢ τί ποιεῖν ἢ πάσχειν πέφυκεν. ἔτι δὲ καὶ ἐν τοῖς ἄλλοις τὸ εἰδέναι ἕκαστον καὶ ὧν ἀποδείξεις εἰσί, τότ’ οἰόμεθα ὑπάρχειν ὅταν εἰδῶμεν τί ἐστιν (οἷον τί ἐστι τὸ τετραγωνίζειν, ὅτι μέσης εὕρεσις· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων), περὶ δὲ τὰς γενέσεις καὶ τὰς πράξεις καὶ περὶ πᾶσαν μεταβολὴν ὅταν εἰδῶμεν τὴν ἀρχὴν τῆς κινήσεως· τοῦτο δ’ ἕτερον καὶ ἀντικείμενον τῷ τέλει, ὥστ’ ἄλλης ἂν δόξειεν ἐπιστήμης εἶναι τὸ θεωρῆσαι τῶν αἰτίων τούτων ἕκαστον. - ἀλλὰ μὴν καὶ περὶ τῶν ἀποδεικτικῶν ἀρχῶν, πότερον μιᾶς ἐστὶν ἐπιστήμης ἢ πλειόνων, ἀμφισβητήσιμόν ἐστιν (λέγω δὲ ἀποδεικτικὰς τὰς κοινὰς δόξας ἐξ ὧν ἅπαντες δεικνύουσιν) οἷον ὅτι πᾶν ἀναγκαῖον ἢ φάναι ἢ ἀποφάναι, καὶ ἀδύνατον ἅμα εἶναι καὶ μὴ εἶναι, καὶ ὅσαι ἄλλαι τοιαῦται προτάσεις, πότερον μία τούτων ἐπιστήμη καὶ τῆς οὐσίας ἢ ἑτέρα, κἂν εἰ μὴ μία, ποτέραν χρὴ προσαγορεύειν τὴν ζητουμένην νῦν. μιᾶς μὲν οὖν οὐκ εὔλογον εἶναι· τί γὰρ μᾶλλον γεωμετρίας ἢ ὁποιασοῦν περὶ τούτων ἐστὶν ἴδιον τὸ ἐπαΐειν; εἴπερ οὖν ὁμοίως μὲν ὁποιασοῦν ἐστίν, ἁπασῶν δὲ μὴ ἐνδέχεται, [997a] ὥσπερ οὐδὲ τῶν ἄλλων οὕτως οὐδὲ τῆς γνωριζούσης τὰς οὐσίας ἴδιόν ἐστι τὸ γιγνώσκειν περὶ αὐτῶν. ἅμα δὲ καὶ τίνα τρόπον ἔσται αὐτῶν ἐπιστήμη; τί μὲν γὰρ ἕκαστον τούτων τυγχάνει ὂν καὶ νῦν γνωρίζομεν (χρῶνται γοῦν ὡς γιγνωσκομένοις αὐτοῖς καὶ ἄλλαι τέχναι)· εἰ δὲ ἀποδεικτικὴ περὶ αὐτῶν ἐστί, δεήσει τι γένος εἶναι ὑποκείμενον καὶ τὰ μὲν πάθη τὰ δ’ ἀξιώματ’ αὐτῶν (περὶ πάντων γὰρ ἀδύνατον ἀπόδειξιν εἶναι), ἀνάγκη γὰρ ἔκ τινων εἶναι καὶ περί τι καὶ τινῶν τὴν ἀπόδειξιν· ὥστε συμβαίνει πάντων εἶναι γένος ἕν τι τῶν δεικνυμένων, πᾶσαι γὰρ αἱ ἀποδεικτικαὶ χρῶνται τοῖς ἀξιώμασιν. - ἀλλὰ μὴν εἰ ἑτέρα ἡ τῆς οὐσίας καὶ ἡ περὶ τούτων, ποτέρα κυριωτέρα καὶ προτέρα πέφυκεν αὐτῶν; καθόλου γὰρ μάλιστα καὶ πάντων ἀρχαὶ τὰ ἀξιώματά ἐστιν, εἴ τ’ ἐστὶ μὴ τοῦ φιλοσόφου, τίνος ἔσται περὶ αὐτῶν ἄλλου τὸ θεωρῆσαι τὸ ἀληθὲς καὶ ψεῦδος; - ὅλως τε τῶν οὐσιῶν πότερον μία πασῶν ἐστὶν ἢ πλείους ἐπιστῆμαι; εἰ μὲν οὖν μὴ μία, ποίας οὐσίας θετέον τὴν ἐπιστήμην ταύτην; τὸ δὲ μίαν πασῶν οὐκ εὔλογον· καὶ γὰρ ἂν ἀποδεικτικὴ μία περὶ πάντων εἴη τῶν συμβεβηκότων, εἴπερ πᾶσα ἀποδεικτικὴ περί τι ὑποκείμενον θεωρεῖ τὰ καθ’ αὑτὰ συμβεβηκότα ἐκ τῶν κοινῶν δοξῶν. περὶ οὖν τὸ αὐτὸ γένος τὰ συμβεβηκότα καθ’ αὑτὰ τῆς αὐτῆς ἐστὶ θεωρῆσαι ἐκ τῶν αὐτῶν δοξῶν. περί τε γὰρ ὃ μιᾶς καὶ ἐξ ὧν μιᾶς, εἴτε τῆς αὐτῆς εἴτε ἄλλης, ὥστε καὶ τὰ συμβεβηκότα, εἴθ’ αὗται θεωροῦσιν εἴτ’ ἐκ τούτων μία. - ἔτι δὲ πότερον περὶ τὰς οὐσίας μόνον ἡ θεωρία ἐστὶν ἢ καὶ περὶ τὰ συμβεβηκότα ταύταις; λέγω δ’ οἷον, εἰ τὸ στερεὸν οὐσία τίς ἐστι καὶ γραμμαὶ καὶ ἐπίπεδα, πότερον τῆς αὐτῆς ταῦτα γνωρίζειν ἐστὶν ἐπιστήμης καὶ τὰ συμβεβηκότα περὶ ἕκαστον γένος περὶ ὧν αἱ μαθηματικαὶ δεικνύουσιν, ἢ ἄλλης. εἰ μὲν γὰρ τῆς αὐτῆς, ἀποδεικτική τις ἂν εἴη καὶ ἡ τῆς οὐσίας, οὐ δοκεῖ δὲ τοῦ τί ἐστιν ἀπόδειξις εἶναι· εἰ δ’ ἑτέρας, τίς ἔσται ἡ θεωροῦσα περὶ τὴν οὐσίαν τὰ συμβεβηκότα; τοῦτο γὰρ ἀποδοῦναι παγχάλεπον. - ἔτι δὲ πότερον τὰς αἰσθητὰς οὐσίας μόνας εἶναι φατέον ἢ καὶ παρὰ ταύτας ἄλλας, καὶ πότερον μοναχῶς ἢ [997b] πλείω γένη τετύχηκεν ὄντα τῶν οὐσιῶν, οἷον οἱ λέγοντες τά τε εἴδη καὶ τὰ μεταξύ, περὶ ἃ τὰς μαθηματικὰς εἶναί φασιν ἐπιστήμας; ὡς μὲν οὖν λέγομεν τὰ εἴδη αἴτιά τε καὶ οὐσίας εἶναι καθ’ ἑαυτὰς εἴρηται ἐν τοῖς πρώτοις λόγοις περὶ αὐτῶν· πολλαχῇ δὲ ἐχόντων δυσκολίαν, οὐθενὸς ἧττον ἄτοπον τὸ φάναι μὲν εἶναί τινας φύσεις παρὰ τὰς ἐν τῷ οὐρανῷ, ταύτας δὲ τὰς αὐτὰς φάναι τοῖς αἰσθητοῖς πλὴν ὅτι τὰ μὲν ἀΐδια τὰ δὲ φθαρτά. αὐτὸ γὰρ ἄνθρωπόν φασιν εἶναι καὶ ἵππον καὶ ὑγίειαν, ἄλλο δ’ οὐδέν, παραπλήσιον ποιοῦντες τοῖς θεοὺς μὲν εἶναι φάσκουσιν ἀνθρωποειδεῖς δέ· οὔτε γὰρ ἐκεῖνοι οὐδὲν ἄλλο ἐποίουν ἢ ἀνθρώπους ἀϊδίους, οὔθ’ οὗτοι τὰ εἴδη ἀλλ’ ἢ αἰσθητὰ ἀΐδια. ἔτι δὲ εἴ τις παρὰ τὰ εἴδη καὶ τὰ αἰσθητὰ τὰ μεταξὺ θήσεται, πολλὰς ἀπορίας ἕξει· δῆλον γὰρ ὡς ὁμοίως γραμμαί τε παρά τ’ αὐτὰς καὶ τὰς αἰσθητὰς ἔσονται καὶ ἕκαστον τῶν ἄλλων γενῶν· ὥστ’ ἐπείπερ ἡ ἀστρολογία μία τούτων ἐστίν, ἔσται τις καὶ οὐρανὸς παρὰ τὸν αἰσθητὸν οὐρανὸν καὶ ἥλιός τε καὶ σελήνη καὶ τἆλλα ὁμοίως τὰ κατὰ τὸν οὐρανόν. καίτοι πῶς δεῖ πιστεῦσαι τούτοις; οὐδὲ γὰρ ἀκίνητον εὔλογον εἶναι, κινούμενον δὲ καὶ παντελῶς ἀδύνατον· ὁμοίως δὲ καὶ περὶ ὧν ἡ ὀπτικὴ πραγματεύεται καὶ ἡ ἐν τοῖς μαθήμασιν ἁρμονική· καὶ γὰρ ταῦτα ἀδύνατον εἶναι παρὰ τὰ αἰσθητὰ διὰ τὰς αὐτὰς αἰτίας· εἰ γὰρ ἔστιν αἰσθητὰ μεταξὺ καὶ αἰσθήσεις, δῆλον ὅτι καὶ ζῷα ἔσονται μεταξὺ αὐτῶν τε καὶ τῶν φθαρτῶν. ἀπορήσειε δ’ ἄν τις καὶ περὶ ποῖα τῶν ὄντων δεῖ ζητεῖν ταύτας τὰς ἐπιστήμας. εἰ γὰρ τούτῳ διοίσει τῆς γεωδαισίας ἡ γεωμετρία μόνον, ὅτι ἡ μὲν τούτων ἐστὶν ὧν αἰσθανόμεθα ἡ δ’ οὐκ αἰσθητῶν, δῆλον ὅτι καὶ παρ’ ἰατρικὴν ἔσται τις ἐπιστήμη καὶ παρ’ ἑκάστην τῶν ἄλλων μεταξὺ αὐτῆς τε ἰατρικῆς καὶ τῆσδε τῆς ἰατρικῆς· καίτοι πῶς τοῦτο δυνατόν; καὶ γὰρ ἂν ὑγιείν’ ἄττα εἴη παρὰ τὰ αἰσθητὰ καὶ αὐτὸ τὸ ὑγιεινόν. ἅμα δὲ οὐδὲ τοῦτο ἀληθές, ὡς ἡ γεωδαισία τῶν αἰσθητῶν ἐστὶ μεγεθῶν καὶ φθαρτῶν· ἐφθείρετο γὰρ ἂν φθειρομένων. - ἀλλὰ μὴν οὐδὲ τῶν αἰσθητῶν ἂν εἴη μεγεθῶν οὐδὲ περὶ τὸν οὐρανὸν ἡ ἀστρολογία τόνδε. οὔτε γὰρ αἱ αἰσθηταὶ [998a] γραμμαὶ τοιαῦταί εἰσιν οἵας λέγει ὁ γεωμέτρης (οὐθὲν γὰρ εὐθὺ τῶν αἰσθητῶν οὕτως οὐδὲ στρογγύλον· ἅπτεται γὰρ τοῦ κανόνος οὐ κατὰ στιγμὴν ὁ κύκλος ἀλλ’ ὥσπερ Πρωταγόρας ἔλεγεν ἐλέγχων τοὺς γεωμέτρας), οὔθ’ αἱ κινήσεις καὶ ἕλικες τοῦ οὐρανοῦ ὅμοιαι περὶ ὧν ἡ ἀστρολογία ποιεῖται τοὺς λόγους, οὔτε τὰ σημεῖα τοῖς ἄστροις τὴν αὐτὴν ἔχει φύσιν. εἰσὶ δέ τινες οἵ φασιν εἶναι μὲν τὰ μεταξὺ ταῦτα λεγόμενα τῶν τε εἰδῶν καὶ τῶν αἰσθητῶν, οὐ μὴν χωρίς γε τῶν αἰσθητῶν ἀλλ’ ἐν τούτοις· οἷς τὰ συμβαίνοντα ἀδύνατα πάντα μὲν πλείονος λόγου διελθεῖν, ἱκανὸν δὲ καὶ τὰ τοιαῦτα θεωρῆσαι. οὔτε γὰρ ἐπὶ τούτων εὔλογον ἔχειν οὕτω μόνον, ἀλλὰ δῆλον ὅτι καὶ τὰ εἴδη ἐνδέχοιτ’ ἂν ἐν τοῖς αἰσθητοῖς εἶναι (τοῦ γὰρ αὐτοῦ λόγου ἀμφότερα ταῦτά ἐστιν), ἔτι δὲ δύο στερεὰ ἐν τῷ αὐτῷ ἀναγκαῖον εἶναι τόπῳ, καὶ μὴ εἶναι ἀκίνητα ἐν κινουμένοις γε ὄντα τοῖς αἰσθητοῖς. ὅλως δὲ τίνος ἕνεκ’ ἄν τις θείη εἶναι μὲν αὐτά, εἶναι δ’ ἐν τοῖς αἰσθητοῖς; ταὐτὰ γὰρ συμβήσεται ἄτοπα τοῖς προειρημένοις· ἔσται γὰρ οὐρανός τις παρὰ τὸν οὐρανόν, πλήν γ’ οὐ χωρὶς ἀλλ’ ἐν τῷ αὐτῷ τόπῳ· ὅπερ ἐστὶν ἀδυνατώτερον.

Περί τε τούτων οὖν ἀπορία πολλὴ πῶς δεῖ θέμενον τυχεῖν τῆς ἀληθείας, καὶ περὶ τῶν ἀρχῶν πότερον δεῖ τὰ γένη στοιχεῖα καὶ ἀρχὰς ὑπολαμβάνειν ἢ μᾶλλον ἐξ ὧν ἐνυπαρχόντων ἐστὶν ἕκαστον πρώτων, οἷον φωνῆς στοιχεῖα καὶ ἀρχαὶ δοκοῦσιν εἶναι ταῦτ’ ἐξ ὧν σύγκεινται αἱ φωναὶ πρώτων, ἀλλ’ οὐ τὸ κοινὸν ἡ φωνή· καὶ τῶν διαγραμμάτων ταῦτα στοιχεῖα λέγομεν ὧν αἱ ἀποδείξεις ἐνυπάρχουσιν ἐν ταῖς τῶν ἄλλων ἀποδείξεσιν ἢ πάντων ἢ τῶν πλείστων, ἔτι δὲ τῶν σωμάτων καὶ οἱ πλείω λέγοντες εἶναι στοιχεῖα καὶ οἱ ἕν, ἐξ ὧν σύγκειται καὶ ἐξ ὧν συνέστηκεν ἀρχὰς λέγουσιν εἶναι, οἷον Ἐμπεδοκλῆς πῦρ καὶ ὕδωρ καὶ τὰ μετὰ τούτων στοιχεῖά φησιν εἶναι ἐξ ὧν ἐστὶ τὰ ὄντα ἐνυπαρχόντων, ἀλλ’ οὐχ ὡς γένη λέγει ταῦτα τῶν ὄντων. πρὸς δὲ [998b] τούτοις καὶ τῶν ἄλλων εἴ τις ἐθέλει τὴν φύσιν ἀθρεῖν, οἷον κλίνην ἐξ ὧν μορίων συνέστηκε καὶ πῶς συγκειμένων, τότε γνωρίζει τὴν φύσιν αὐτῆς. - ἐκ μὲν οὖν τούτων τῶν λόγων οὐκ ἂν εἴησαν αἱ ἀρχαὶ τὰ γένη τῶν ὄντων· εἰ δ᾽ ἕκαστον μὲν γνωρίζομεν διὰ τῶν ὁρισμῶν, ἀρχαὶ δὲ τὰ γένη τῶν ὁρισμῶν εἰσίν, ἀνάγκη καὶ τῶν ὁριστῶν ἀρχὰς εἶναι τὰ γένη. κἂν εἰ ἔστι τὴν τῶν ὄντων λαβεῖν ἐπιστήμην τὸ τῶν εἰδῶν λαβεῖν καθ᾽ ἃ λέγονται τὰ ὄντα, τῶν γε εἰδῶν ἀρχαὶ τὰ γένη εἰσίν. φαίνονται δέ τινες καὶ τῶν λεγόντων στοιχεῖα τῶν ὄντων τὸ ἓν ἢ τὸ ὂν ἢ τὸ μέγα καὶ μικρὸν ὡς γένεσιν αὐτοῖς χρῆσθαι. - ἀλλὰ μὴν οὐδὲ ἀμφοτέρως γε οἷόν τε λέγειν τὰς ἀρχάς. ὁ μὲν γὰρ λόγος τῆς οὐσίας εἷς· ἕτερος δ᾽ ἔσται ὁ διὰ τῶν γενῶν ὁρισμὸς καὶ ὁ λέγων ἐξ ὧν ἔστιν ἐνυπαρχόντων. - πρὸς δὲ τούτοις εἰ καὶ ὅτι μάλιστα ἀρχαὶ τὰ γένη εἰσί, πότερον δεῖ νομίζειν τὰ πρῶτα τῶν γενῶν ἀρχὰς ἢ τὰ ἔσχατα κατηγορούμενα ἐπὶ τῶν ἀτόμων; καὶ γὰρ τοῦτο ἔχει ἀμφισβήτησιν. εἰ μὲν γὰρ ἀεὶ τὰ καθόλου μᾶλλον ἀρχαί, φανερὸν ὅτι τὰ ἀνωτάτω τῶν γενῶν· ταῦτα γὰρ λέγεται κατὰ πάντων. τοσαῦται οὖν ἔσονται ἀρχαὶ τῶν ὄντων ὅσαπερ τὰ πρῶτα γένη, ὥστ᾽ ἔσται τό τε ὂν καὶ τὸ ἓν ἀρχαὶ καὶ οὐσίαι· ταῦτα γὰρ κατὰ πάντων μάλιστα λέγεται τῶν ὄντων. οὐχ οἷόν τε δὲ τῶν ὄντων ἓν εἶναι γένος οὔτε τὸ ἓν οὔτε τὸ ὄν· ἀνάγκη μὲν γὰρ τὰς διαφορὰς ἑκάστου γένους καὶ εἶναι καὶ μίαν εἶναι ἑκάστην, ἀδύνατον δὲ κατηγορεῖσθαι ἢ τὰ εἴδη τοῦ γένους ἐπὶ τῶν οἰκείων διαφορῶν ἢ τὸ γένος ἄνευ τῶν αὐτοῦ εἰδῶν, ὥστ᾽ εἴπερ τὸ ἓν γένος ἢ τὸ ὄν, οὐδεμία διαφορὰ οὔτε ὂν οὔτε ἓν ἔσται. ἀλλὰ μὴν εἰ μὴ γένη, οὐδ᾽ ἀρχαὶ ἔσονται, εἴπερ ἀρχαὶ τὰ γένη. ἔτι καὶ τὰ μεταξὺ συλλαμβανόμενα μετὰ τῶν διαφορῶν ἔσται γένη μέχρι τῶν ἀτόμων (νῦν δὲ τὰ μὲν δοκεῖ τὰ δ᾽ οὐ δοκεῖ)· πρὸς δὲ τούτοις ἔτι μᾶλλον αἱ διαφοραὶ ἀρχαὶ ἢ τὰ γένη· εἰ δὲ καὶ αὗται ἀρχαί, ἄπειροι ὡς εἰπεῖν ἀρχαὶ γίγνονται, ἄλλως τε κἄν τις τὸ [999a] πρῶτον γένος ἀρχὴν τιθῇ. ἀλλὰ μὴν καὶ εἰ μᾶλλόν γε ἀρχοειδὲς τὸ ἕν ἐστιν, ἓν δὲ τὸ ἀδιαίρετον, ἀδιαίρετον δὲ ἅπαν ἢ κατὰ τὸ ποσὸν ἢ κατ᾽ εἶδος, πρότερον δὲ τὸ κατ᾽ εἶδος, τὰ δὲ γένη διαιρετὰ εἰς εἴδη, μᾶλλον ἂν ἓν τὸ ἔσχατον εἴη κατηγορούμενον· οὐ γάρ ἐστι γένος ἄνθρωπος τῶν τινῶν ἀνθρώπων. ἔτι ἐν οἷς τὸ πρότερον καὶ ὕστερόν ἐστιν, οὐχ οἷόν τε τὸ ἐπὶ τούτων εἶναί τι παρὰ ταῦτα (οἷον εἰ πρώτη τῶν ἀριθμῶν ἡ δυάς, οὐκ ἔσται τις ἀριθμὸς παρὰ τὰ εἴδη τῶν ἀριθμῶν· ὁμοίως δὲ οὐδὲ σχῆμα παρὰ τὰ εἴδη τῶν σχημάτων· εἰ δὲ μὴ τούτων, σχολῇ τῶν γε ἄλλων ἔσται τὰ γένη παρὰ τὰ εἴδη· τούτων γὰρ δοκεῖ μάλιστα εἶναι γένη)· ἐν δὲ τοῖς ἀτόμοις οὐκ ἔστι τὸ μὲν πρότερον τὸ δ᾽ ὕστερον. ἔτι ὅπου τὸ μὲν βέλτιον τὸ δὲ χεῖρον, ἀεὶ τὸ βέλτιον πρότερον· ὥστ᾽ οὐδὲ τούτων ἂν εἴη γένος. - ἐκ μὲν οὖν τούτων μᾶλλον φαίνεται τὰ ἐπὶ τῶν ἀτόμων κατηγορούμενα ἀρχαὶ εἶναι τῶν γενῶν·

πάλιν δὲ πῶς αὖ δεῖ ταύτας ἀρχὰς ὑπολαβεῖν οὐ ῥᾴδιον εἰπεῖν. τὴν μὲν γὰρ ἀρχὴν δεῖ καὶ τὴν αἰτίαν εἶναι παρὰ τὰ πράγματα ὧν ἀρχή, καὶ δύνασθαι εἶναι χωριζομένην αὐτῶν· τοιοῦτον δέ τι παρὰ τὸ καθ’ ἕκαστον εἶναι διὰ τί ἄν τις ὑπολάβοι, πλὴν ὅτι καθόλου κατηγορεῖται καὶ κατὰ πάντων; ἀλλὰ μὴν εἰ διὰ τοῦτο, τὰ μᾶλλον καθόλου μᾶλλον θετέον ἀρχάς· ὥστε ἀρχαὶ τὰ πρῶτ’ ἂν εἴησαν γένη.

Ἔστι δ’ ἐχομένη τε τούτων ἀπορία καὶ πασῶν χαλεπωτάτη καὶ ἀναγκαιοτάτη θεωρῆσαι, περὶ ἧς ὁ λόγος ἐφέστηκε νῦν. εἴτε γὰρ μὴ ἔστι τι παρὰ τὰ καθ’ ἕκαστα, τὰ δὲ καθ’ ἕκαστα ἄπειρα, τῶν δ’ ἀπείρων πῶς ἐνδέχεται λαβεῖν ἐπιστήμην; ᾗ γὰρ ἕν τι καὶ ταὐτόν, καὶ ᾗ καθόλου τι ὑπάρχει, ταύτῃ πάντα γνωρίζομεν. - ἀλλὰ μὴν εἰ τοῦτο ἀναγκαῖόν ἐστι καὶ δεῖ τι εἶναι παρὰ τὰ καθ’ ἕκαστα, ἀναγκαῖον ἂν εἴη τὰ γένη εἶναι παρὰ τὰ καθ’ ἕκαστα, ἤτοι τὰ ἔσχατα ἢ τὰ πρῶτα· τοῦτο δ’ ὅτι ἀδύνατον ἄρτι διηπορήσαμεν. - ἔτι εἰ ὅτι μάλιστα ἔστι τι παρὰ τὸ σύνολον ὅταν κατηγορηθῇ τι τῆς ὕλης, πότερον, εἰ ἔστι, παρὰ πάντα δεῖ εἶναί τι, ἢ παρὰ μὲν ἔνια [999b] εἶναι παρὰ δ’ ἔνια μὴ εἶναι, ἢ παρ’ οὐδέν; εἰ μὲν οὖν μηδέν ἐστι παρὰ τὰ καθ’ ἕκαστα, οὐθὲν ἂν εἴη νοητὸν ἀλλὰ πάντα αἰσθητὰ καὶ ἐπιστήμη οὐδενός, εἰ μή τις εἶναι λέγει τὴν αἴσθησιν ἐπιστήμην. ἔτι δ’ οὐδ’ ἀΐδιον οὐθὲν οὐδ’ ἀκίνητον (τὰ γὰρ αἰσθητὰ πάντα φθείρεται καὶ ἐν κινήσει ἐστίν)· ἀλλὰ μὴν εἴ γε ἀΐδιον μηθέν ἐστιν, οὐδὲ γένεσιν εἶναι δυνατόν. ἀνάγκη γὰρ εἶναί τι τὸ γιγνόμενον καὶ ἐξ οὗ γίγνεται καὶ τούτων τὸ ἔσχατον ἀγένητον, εἴπερ ἵσταταί τε καὶ ἐκ μὴ ὄντος γενέσθαι ἀδύνατον· ἔτι δὲ γενέσεως οὔσης καὶ κινήσεως ἀνάγκη καὶ πέρας εἶναι (οὔτε γὰρ ἄπειρός ἐστιν οὐδεμία κίνησις ἀλλὰ πάσης ἔστι τέλος, γίγνεσθαί τε οὐχ οἷόν τε τὸ ἀδύνατον γενέσθαι· τὸ δὲ γεγονὸς ἀνάγκη εἶναι ὅτε πρῶτον γέγονεν)· ἔτι δ’ εἴπερ ἡ ὕλη ἔστι διὰ τὸ ἀγένητος εἶναι, πολὺ ἔτι μᾶλλον εὔλογον εἶναι τὴν οὐσίαν, ὅ ποτε ἐκείνη γίγνεται· εἰ γὰρ μήτε τοῦτο ἔσται μήτε ἐκείνη, οὐθὲν ἔσται τὸ παράπαν, εἰ δὲ τοῦτο ἀδύνατον, ἀνάγκη τι εἶναι παρὰ τὸ σύνολον, τὴν μορφὴν καὶ τὸ εἶδος. - εἰ δ’ αὖ τις τοῦτο θήσει, ἀπορία ἐπὶ τίνων τε θήσει τοῦτο καὶ ἐπὶ τίνων οὔ. ὅτι μὲν γὰρ ἐπὶ πάντων οὐχ οἷόν τε, φανερόν· οὐ γὰρ ἂν θείημεν εἶναί τινα οἰκίαν παρὰ τὰς τινὰς οἰκίας. πρὸς δὲ τούτοις πότερον ἡ οὐσία μία πάντων ἔσται, οἷον τῶν ἀνθρώπων; ἀλλ’ ἄτοπον· ἓν γὰρ πάντα ὧν ἡ οὐσία μία. ἀλλὰ πολλὰ καὶ διάφορα; ἀλλὰ καὶ τοῦτο ἄλογον. ἅμα δὲ καὶ πῶς γίγνεται ἡ ὕλη τούτων ἕκαστον καὶ ἔστι τὸ σύνολον ἄμφω ταῦτα; - ἔτι δὲ περὶ τῶν ἀρχῶν καὶ τόδε ἀπορήσειεν ἄν τις. εἰ μὲν γὰρ εἴδει εἰσὶν ἕν, οὐθὲν ἔσται ἀριθμῷ ἕν, οὐδ’ αὐτὸ τὸ ἓν καὶ τὸ ὄν· καὶ τὸ ἐπίστασθαι πῶς ἔσται, εἰ μή τι ἔσται ἓν ἐπὶ πάντων; - ἀλλὰ μὴν εἰ ἀριθμῷ ἓν καὶ μία ἑκάστη τῶν ἀρχῶν, καὶ μὴ ὥσπερ ἐπὶ τῶν αἰσθητῶν ἄλλαι ἄλλων (οἷον τῆσδε τῆς συλλαβῆς τῷ εἴδει τῆς αὐτῆς οὔσης καὶ αἱ ἀρχαὶ εἴδει αἱ αὐταί· καὶ γὰρ αὗται ὑπάρχουσιν ἀριθμῷ ἕτεραι), - εἰ δὲ μὴ οὕτως ἀλλ' αἱ τῶν ὄντων ἀρχαὶ ἀριθμῷ ἕν εἰσιν, οὐκ ἔσται παρὰ τὰ στοιχεῖα οὐθὲν ἕτερον· τὸ γὰρ ἀριθμῷ ἓν ἢ τὸ καθ' ἕκαστον λέγειν διαφέρει οὐθέν· οὕτω γὰρ λέγομεν τὸ καθ' ἕκαστον, [1000a] τὸ ἀριθμῷ ἕν, καθόλου δὲ τὸ ἐπὶ τούτων. ὥσπερ οὖν εἰ τὰ τῆς φωνῆς ἀριθμῷ ἦν στοιχεῖα ὡρισμένα, ἀναγκαῖον ἦν ἂν τοσαῦτα εἶναι τὰ πάντα γράμματα ὅσαπερ τὰ στοιχεῖα, μὴ ὄντων γε δύο τῶν αὐτῶν μηδὲ πλειόνων.

Οὐθενὸς δ' ἐλάττων ἀπορία παραλέλειπται καὶ τοῖς νῦν καὶ τοῖς πρότερον, πότερον αἱ αὐταὶ τῶν φθαρτῶν καὶ τῶν ἀφθάρτων ἀρχαί εἰσιν ἢ ἕτεραι. εἰ μὲν γὰρ αἱ αὐταί, πῶς τὰ μὲν φθαρτὰ τὰ δὲ ἄφθαρτα, καὶ διὰ τίν' αἰτίαν; οἱ μὲν οὖν περὶ Ἡσίοδον καὶ πάντες ὅσοι θεολόγοι μόνον ἐφρόντισαν τοῦ πιθανοῦ τοῦ πρὸς αὑτούς, ἡμῶν δ' ὠλιγώρησαν (θεοὺς γὰρ ποιοῦντες τὰς ἀρχὰς καὶ ἐκ θεῶν γεγονέναι, τὰ μὴ γευσάμενα τοῦ νέκταρος καὶ τῆς ἀμβροσίας θνητὰ γενέσθαι φασίν, δῆλον ὡς ταῦτα τὰ ὀνόματα γνώριμα λέγοντες αὑτοῖς· καίτοι περὶ αὐτῆς τῆς προσφορᾶς τῶν αἰτίων τούτων ὑπὲρ ἡμᾶς εἰρήκασιν· εἰ μὲν γὰρ χάριν ἡδονῆς αὐτῶν θιγγάνουσιν, οὐθὲν αἴτια τοῦ εἶναι τὸ νέκταρ καὶ ἡ ἀμβροσία, εἰ δὲ τοῦ εἶναι, πῶς ἂν εἶεν ἀΐδιοι δεόμενοι τροφῆς)· - ἀλλὰ περὶ μὲν τῶν μυθικῶς σοφιζομένων οὐκ ἄξιον μετὰ σπουδῆς σκοπεῖν· παρὰ δὲ τῶν δι' ἀποδείξεως λεγόντων δεῖ πυνθάνεσθαι διερωτῶντας τί δή ποτ' ἐκ τῶν αὐτῶν ὄντα τὰ μὲν ἀΐδια τὴν φύσιν ἐστὶ τὰ δὲ φθείρεται τῶν ὄντων. ἐπεὶ δὲ οὔτε αἰτίαν λέγουσιν οὔτε εὔλογον οὕτως ἔχειν, δῆλον ὡς οὐχ αἱ αὐταὶ ἀρχαὶ οὐδὲ αἰτίαι αὐτῶν ἂν εἶεν. καὶ γὰρ ὅνπερ οἰηθείη λέγειν ἄν τις μάλιστα ὁμολογουμένως αὑτῷ, Ἐμπεδοκλῆς, καὶ οὗτος ταὐτὸν πέπονθεν· τίθησι μὲν γὰρ ἀρχήν τινα αἰτίαν τῆς φθορᾶς τὸ νεῖκος, δόξειε δ' ἂν οὐθὲν ἧττον καὶ τοῦτο γεννᾶν ἔξω τοῦ ἑνός· ἅπαντα γὰρ ἐκ τούτου τἆλλά ἐστι πλὴν ὁ θεός. λέγει γοῦν "ἐξ ὧν πάνθ' ὅσα τ' ἦν ὅσα τ' ἔσθ' ὅσα τ' ἔσται ὀπίσσω, δένδρεά τ' ἐβλάστησε καὶ ἀνέρες ἠδὲ γυναῖκες, θῆρές τ' οἰωνοί τε καὶ ὑδατοθρέμμονες ἰχθῦς, καί τε θεοὶ δολιχαίωνες". καὶ χωρὶς δὲ τούτων δῆλον· [1000b] εἰ γὰρ μὴ ἦν ἐν τοῖς πράγμασιν, ἓν ἂν ἦν ἅπαντα, ὡς φησίν· ὅταν γὰρ συνέλθῃ, τότε δ' "ἔσχατον ἵστατο νεῖκος". διὸ καὶ συμβαίνει αὐτῷ τὸν εὐδαιμονέστατον θεὸν ἧττον φρόνιμον εἶναι τῶν ἄλλων· οὐ γὰρ γνωρίζει ἅπαντα· τὸ γὰρ νεῖκος οὐκ ἔχει, ἡ δὲ γνῶσις τοῦ ὁμοίου τῷ ὁμοίῳ. "γαίῃ μὲν γάρ," φησί, "γαῖαν ὀπώπαμεν, ὕδατι δ' ὕδωρ, αἰθέρι δ' αἰθέρα δῖον, ἀτὰρ πυρὶ πῦρ ἀΐδηλον, στοργὴν δὲ στοργῇ, νεῖκος δέ τε νείκεϊ λυγρῷ." ἀλλ' ὅθεν δὴ ὁ λόγος, τοῦτό γε φανερόν, ὅτι συμβαίνει αὐτῷ τὸ νεῖκος μηθὲν μᾶλλον φθορᾶς ἢ τοῦ εἶναι αἴτιον· ὁμοίως δ’ οὐδ’ ἡ φιλότης τοῦ εἶναι, συνάγουσα γὰρ εἰς τὸ ἓν φθείρει τὰ ἄλλα. καὶ ἅμα δὲ αὐτῆς τῆς μεταβολῆς αἴτιον οὐθὲν λέγει ἀλλ’ ἢ ὅτι οὕτως πέφυκεν· “ἀλλ’ ὅτε δὴ μέγα νεῖκος ἐνὶ μελέεσσιν ἐθρέφθη, εἰς τιμάς τ’ ἀνόρουσε τελειομένοιο χρόνοιο ὅς σφιν ἀμοιβαῖος πλατέος παρ’ ἐλήλαται ὅρκου·” ὡς ἀναγκαῖον μὲν ὂν μεταβάλλειν· αἰτίαν δὲ τῆς ἀνάγκης οὐδεμίαν δηλοῖ. ἀλλ’ ὅμως τοσοῦτόν γε μόνος λέγει ὁμολογουμένως· οὐ γὰρ τὰ μὲν φθαρτὰ τὰ δὲ ἄφθαρτα ποιεῖ τῶν ὄντων ἀλλὰ πάντα φθαρτὰ πλὴν τῶν στοιχείων. ἡ δὲ νῦν λεγομένη ἀπορία ἐστὶ διὰ τί τὰ μὲν τὰ δ’ οὔ, εἴπερ ἐκ τῶν αὐτῶν ἐστίν. - ὅτι μὲν οὖν οὐκ ἂν εἴησαν αἱ αὐταὶ ἀρχαί, τοσαῦτα εἰρήσθω· εἰ δὲ ἕτεραι ἀρχαί, μία μὲν ἀπορία πότερον ἄφθαρτοι καὶ αὗται ἔσονται ἢ φθαρταί· εἰ μὲν γὰρ φθαρταί, δῆλον ὡς ἀναγκαῖον καὶ ταύτας ἔκ τινων εἶναι (πάντα γὰρ φθείρεται εἰς ταῦτ’ ἐξ ὧν ἔστιν), ὥστε συμβαίνει τῶν ἀρχῶν ἑτέρας ἀρχὰς εἶναι προτέρας, τοῦτο δ’ ἀδύνατον, καὶ εἰ ἵσταται καὶ εἰ βαδίζει εἰς ἄπειρον· ἔτι δὲ πῶς ἔσται τὰ φθαρτά, εἰ αἱ ἀρχαὶ ἀναιρεθήσονται; εἰ δὲ ἄφθαρτοι, διὰ τί ἐκ μὲν τούτων ἀφθάρτων οὐσῶν φθαρτὰ ἔσται, ἐκ δὲ τῶν ἑτέρων ἄφθαρτα; τοῦτο γὰρ οὐκ εὔλογον, ἀλλ’ ἢ ἀδύνατον ἢ πολλοῦ λόγου δεῖται. ἔτι δὲ οὐδ’ ἐγκεχείρηκεν οὐδεὶς [1001a] ἑτέρας, ἀλλὰ τὰς αὐτὰς ἁπάντων λέγουσιν ἀρχάς. ἀλλὰ τὸ πρῶτον ἀπορηθὲν ἀποτρώγουσιν ὥσπερ τοῦτο μικρόν τι λαμβάνοντες.

Πάντων δὲ καὶ θεωρῆσαι χαλεπώτατον καὶ πρὸς τὸ γνῶναι τἀληθὲς ἀναγκαιότατον πότερόν ποτε τὸ ὂν καὶ τὸ ἓν οὐσίαι τῶν ὄντων εἰσί, καὶ ἑκάτερον αὐτῶν οὐχ ἕτερόν τι ὂν τὸ μὲν ἓν τὸ δὲ ὄν ἐστιν, ἢ δεῖ ζητεῖν τί ποτ’ ἐστὶ τὸ ὂν καὶ τὸ ἓν ὡς ὑποκειμένης ἄλλης φύσεως. οἱ μὲν γὰρ ἐκείνως οἱ δ’ οὕτως οἴονται τὴν φύσιν ἔχειν. Πλάτων μὲν γὰρ καὶ οἱ Πυθαγόρειοι οὐχ ἕτερόν τι τὸ ὂν οὐδὲ τὸ ἓν ἀλλὰ τοῦτο αὐτῶν τὴν φύσιν εἶναι, ὡς οὔσης τῆς οὐσίας αὐτοῦ τοῦ ἑνὶ εἶναι καὶ ὄντι· οἱ δὲ περὶ φύσεως, οἷον Ἐμπεδοκλῆς ὡς εἰς γνωριμώτερον ἀνάγων λέγει ὅ τι τὸ ἕν ἐστιν· δόξειε γὰρ ἂν λέγειν τοῦτο τὴν φιλίαν εἶναι (αἰτία γοῦν ἐστὶν αὕτη τοῦ ἓν εἶναι πᾶσιν), ἕτεροι δὲ πῦρ, οἱ δ’ ἀέρα φασὶν εἶναι τὸ ἓν τοῦτο καὶ τὸ ὄν, ἐξ οὗ τὰ ὄντα εἶναί τε καὶ γεγονέναι. ὣς δ’ αὕτως καὶ οἱ πλείω τὰ στοιχεῖα τιθέμενοι· ἀνάγκη γὰρ καὶ τούτοις τοσαῦτα λέγειν τὸ ἓν καὶ τὸ ὂν ὅσας περ ἀρχὰς εἶναί φασιν. συμβαίνει δέ, εἰ μέν τις μὴ θήσεται εἶναί τινα οὐσίαν τὸ ἓν καὶ τὸ ὄν, μηδὲ τῶν ἄλλων εἶναι τῶν καθόλου μηθέν (ταῦτα γάρ ἐστι καθόλου μάλιστα πάντων, εἰ δὲ μὴ ἔστι τι ἓν αὐτὸ μηδ’ αὐτὸ ὄν, σχολῇ τῶν γε ἄλλων τι ἂν εἴη παρὰ τὰ λεγόμενα καθ’ ἕκαστα), ἔτι δὲ μὴ ὄντος τοῦ ἑνὸς οὐσίας, δῆλον ὅτι οὐδ’ ἂν ἀριθμὸς εἴη ὡς κεχωρισμένη τις φύσις τῶν ὄντων (ὁ μὲν γὰρ ἀριθμὸς μονάδες, ἡ δὲ μονὰς ὅπερ ἕν τί ἐστιν)· εἰ δ’ ἔστι τι αὐτὸ ἓν καὶ ὄν, ἀναγκαῖον οὐσίαν αὐτῶν εἶναι τὸ ἓν καὶ τὸ ὄν· οὐ γὰρ ἕτερόν τι καθόλου κατηγορεῖται ἀλλὰ ταῦτα αὐτά. - ἀλλὰ μὴν εἴ γ’ ἔσται τι αὐτὸ ὂν καὶ αὐτὸ ἕν, πολλὴ ἀπορία πῶς ἔσται τι παρὰ ταῦτα ἕτερον, λέγω δὲ πῶς ἔσται πλείω ἑνὸς τὰ ὄντα. τὸ γὰρ ἕτερον τοῦ ὄντος οὐκ ἔστιν, ὥστε κατὰ τὸν Παρμενίδου συμβαίνειν ἀνάγκη λόγον ἓν ἅπαντα εἶναι τὰ ὄντα καὶ [1001b] τοῦτο εἶναι τὸ ὄν. ἀμφοτέρως δὲ δύσκολον· ἄν τε γὰρ μὴ ᾖ τὸ ἓν οὐσία ἄν τε ᾖ τὸ αὐτὸ ἕν, ἀδύνατον τὸν ἀριθμὸν οὐσίαν εἶναι. ἐὰν μὲν οὖν μὴ ᾖ, εἴρηται πρότερον δι’ ὅ· ἐὰν δὲ ᾖ, ἡ αὐτὴ ἀπορία καὶ περὶ τοῦ ὄντος. ἐκ τίνος γὰρ παρὰ τὸ ἓν ἔσται αὐτὸ ἄλλο ἕν; ἀνάγκη γὰρ μὴ ἓν εἶναι· ἅπαντα δὲ τὰ ὄντα ἢ ἓν ἢ πολλὰ ὧν ἓν ἕκαστον. ἔτι εἰ ἀδιαίρετον αὐτὸ τὸ ἕν, κατὰ μὲν τὸ Ζήνωνος ἀξίωμα οὐθὲν ἂν εἴη (ὃ γὰρ μήτε προστιθέμενον μήτε ἀφαιρούμενον ποιεῖ μεῖζον μηδὲ ἔλαττον, οὔ φησιν εἶναι τοῦτο τῶν ὄντων, ὡς δηλονότι ὄντος μεγέθους τοῦ ὄντος· καὶ εἰ μέγεθος, σωματικόν· τοῦτο γὰρ πάντῃ ὄν· τὰ δὲ ἄλλα πὼς μὲν προστιθέμενα ποιήσει μεῖζον, πὼς δ’ οὐθέν, οἷον ἐπίπεδον καὶ γραμμή, στιγμὴ δὲ καὶ μονὰς οὐδαμῶς)· ἀλλ’ ἐπειδὴ οὗτος θεωρεῖ φορτικῶς, καὶ ἐνδέχεται εἶναι ἀδιαίρετόν τι ὥστε [καὶ οὕτως] καὶ πρὸς ἐκεῖνόν τιν’ ἀπολογίαν ἔχειν (μεῖζον μὲν γὰρ οὐ ποιήσει πλεῖον δὲ προστιθέμενον τὸ τοιοῦτον)· - ἀλλὰ πῶς δὴ ἐξ ἑνὸς τοιούτου ἢ πλειόνων τοιούτων ἔσται μέγεθος; ὅμοιον γὰρ καὶ τὴν γραμμὴν ἐκ στιγμῶν εἶναι φάσκειν. ἀλλὰ μὴν καὶ εἴ τις οὕτως ὑπολαμβάνει ὥστε γενέσθαι, καθάπερ λέγουσί τινες, ἐκ τοῦ ἑνὸς αὐτοῦ καὶ ἄλλου μὴ ἑνός τινος τὸν ἀριθμόν, οὐθὲν ἧττον ζητητέον διὰ τί καὶ πῶς ὁτὲ μὲν ἀριθμὸς ὁτὲ δὲ μέγεθος ἔσται τὸ γενόμενον, εἴπερ τὸ μὴ ἓν ἡ ἀνισότης καὶ ἡ αὐτὴ φύσις ἦν. οὔτε γὰρ ὅπως ἐξ ἑνὸς καὶ ταύτης οὔτε ὅπως ἐξ ἀριθμοῦ τινὸς καὶ ταύτης γένοιτ’ ἂν τὰ μεγέθη, δῆλον.

Τούτων δ’ ἐχομένη ἀπορία πότερον οἱ ἀριθμοὶ καὶ τὰ σώματα καὶ τὰ ἐπίπεδα καὶ αἱ στιγμαὶ οὐσίαι τινές εἰσιν ἢ οὔ. εἰ μὲν γὰρ μή εἰσιν, διαφεύγει τί τὸ ὂν καὶ τίνες αἱ οὐσίαι τῶν ὄντων· τὰ μὲν γὰρ πάθη καὶ αἱ κινήσεις καὶ τὰ πρός τι καὶ αἱ διαθέσεις καὶ οἱ λόγοι οὐθενὸς δοκοῦσιν οὐσίαν σημαίνειν (λέγονται γὰρ πάντα καθ’ ὑποκειμένου τινός, καὶ οὐθὲν τόδε τι)· ἃ δὲ μάλιστ’ ἂν δόξειε σημαίνειν οὐσίαν, ὕδωρ καὶ γῆ καὶ πῦρ καὶ ἀήρ, ἐξ ὧν [1002a] τὰ σύνθετα σώματα συνέστηκε, τούτων θερμότητες μὲν καὶ ψυχρότητες καὶ τὰ τοιαῦτα πάθη, οὐκ οὐσίαι, τὸ δὲ σῶμα τὸ ταῦτα πεπονθὸς μόνον ὑπομένει ὡς ὄν τι καὶ οὐσία τις οὖσα. ἀλλὰ μὴν τό γε σῶμα ἧττον οὐσία τῆς ἐπιφανείας, καὶ αὕτη τῆς γραμμῆς, καὶ αὕτη τῆς μονάδος καὶ τῆς στιγμῆς· τούτοις γὰρ ὥρισται τὸ σῶμα, καὶ τὰ μὲν ἄνευ σώματος ἐνδέχεσθαι δοκεῖ εἶναι τὸ δὲ σῶμα ἄνευ τούτων ἀδύνατον. διόπερ οἱ μὲν πολλοὶ καὶ οἱ πρότερον τὴν οὐσίαν καὶ τὸ ὂν ᾤοντο τὸ σῶμα εἶναι τὰ δὲ ἄλλα τούτου πάθη, ὥστε καὶ τὰς ἀρχὰς τὰς τῶν σωμάτων τῶν ὄντων εἶναι ἀρχάς· οἱ δ᾽ ὕστεροι καὶ σοφώτεροι τούτων εἶναι δόξαντες ἀριθμούς. καθάπερ οὖν εἴπομεν, εἰ μὴ ἔστιν οὐσία ταῦτα, ὅλως οὐδὲν ἐστὶν οὐσία οὐδὲ ὂν οὐθέν· οὐ γὰρ δὴ τά γε συμβεβηκότα τούτοις ἄξιον ὄντα καλεῖν. - ἀλλὰ μὴν εἰ τοῦτο μὲν ὁμολογεῖται, ὅτι μᾶλλον οὐσία τὰ μήκη τῶν σωμάτων καὶ αἱ στιγμαί, ταῦτα δὲ μὴ ὁρῶμεν ποίων ἂν εἶεν σωμάτων (ἐν γὰρ τοῖς αἰσθητοῖς ἀδύνατον εἶναι), οὐκ ἂν εἴη οὐσία οὐδεμία. ἔτι δὲ φαίνεται ταῦτα πάντα διαιρέσεις ὄντα τοῦ σώματος, τὸ μὲν εἰς πλάτος τὸ δ᾽ εἰς βάθος τὸ δ᾽ εἰς μῆκος. πρὸς δὲ τούτοις ὁμοίως ἔνεστιν ἐν τῷ στερεῷ ὁποιονοῦν σχῆμα· ὥστ᾽ εἰ μηδ᾽ ἐν τῷ λίθῳ Ἑρμῆς, οὐδὲ τὸ ἥμισυ τοῦ κύβου ἐν τῷ κύβῳ οὕτως ὡς ἀφωρισμένον· οὐκ ἄρα οὐδ᾽ ἐπιφάνεια (εἰ γὰρ ὁποιαοῦν, κἂν αὕτη ἂν ἦν ἡ ἀφορίζουσα τὸ ἥμισυ), ὁ δ᾽ αὐτὸς λόγος καὶ ἐπὶ γραμμῆς καὶ στιγμῆς καὶ μονάδος, ὥστ᾽ εἰ μάλιστα μὲν οὐσία τὸ σῶμα, τούτου δὲ μᾶλλον ταῦτα, μὴ ἔστι δὲ ταῦτα μηδὲ οὐσίαι τινές, διαφεύγει τί τὸ ὂν καὶ τίς ἡ οὐσία τῶν ὄντων. πρὸς γὰρ τοῖς εἰρημένοις καὶ τὰ περὶ τὴν γένεσιν καὶ τὴν φθορὰν συμβαίνει ἄλογα. δοκεῖ μὲν γὰρ ἡ οὐσία, ἐὰν μὴ οὖσα πρότερον νῦν ᾖ ἢ πρότερον οὖσα ὕστερον μὴ ᾖ, μετὰ τοῦ γίγνεσθαι καὶ φθείρεσθαι ταῦτα πάσχειν· τὰς δὲ στιγμὰς καὶ τὰς γραμμὰς καὶ τὰς ἐπιφανείας οὐκ ἐνδέχεται οὔτε γίγνεσθαι οὔτε φθείρεσθαι, ὁτὲ μὲν οὔσας ὁτὲ δὲ οὐκ οὔσας. ὅταν γὰρ ἅπτηται ἢ διαιρῆται [1002b] τὰ σώματα, ἅμα ὁτὲ μὲν μία ἁπτομένων ὁτὲ δὲ δύο διαιρουμένων γίγνονται· ὥστ᾽ οὔτε συγκειμένων ἔστιν ἀλλ᾽ ἔφθαρται, διῃρημένων τε εἰσὶν αἱ πρότερον οὐκ οὖσαι (οὐ γὰρ δὴ ἥ γ᾽ ἀδιαίρετος στιγμὴ διῃρέθη εἰς δύο), εἴ τε γίγνονται καὶ φθείρονται, ἐκ τίνος γίγνονται; παραπλησίως δ᾽ ἔχει καὶ περὶ τὸ νῦν τὸ ἐν τῷ χρόνῳ· οὐδὲ γὰρ τοῦτο ἐνδέχεται γίγνεσθαι καὶ φθείρεσθαι, ἀλλ᾽ ὅμως ἕτερον ἀεὶ δοκεῖ εἶναι, οὐκ οὐσία τις οὖσα. ὁμοίως δὲ δῆλον ὅτι ἔχει καὶ περὶ τὰς στιγμὰς καὶ τὰς γραμμὰς καὶ τὰ ἐπίπεδα· ὁ γὰρ αὐτὸς λόγος· ἅπαντα γὰρ ὁμοίως ἢ πέρατα ἢ διαιρέσεις εἰσίν.

Ὅλως δ᾽ ἀπορήσειεν ἄν τις διὰ τί καὶ δεῖ ζητεῖν ἄλλ᾽ ἄττα παρά τε τὰ αἰσθητὰ καὶ τὰ μεταξύ, οἷον ἃ τίθεμεν εἴδη. εἰ γὰρ διὰ τοῦτο, ὅτι τὰ μὲν μαθηματικὰ τῶν δεῦρο ἄλλῳ μέν τινι διαφέρει, τῷ δὲ πόλλ᾽ ἄττα ὁμοειδῆ εἶναι οὐθὲν διαφέρει, ὥστ᾽ οὐκ ἔσονται αὐτῶν αἱ ἀρχαὶ ἀριθμῷ ἀφωρισμέναι (ὥσπερ οὐδὲ τῶν ἐνταῦθα γραμμάτων ἀριθμῷ μὲν πάντων οὐκ εἰσὶν αἱ ἀρχαὶ ὡρισμέναι, εἴδει δέ, ἐὰν μὴ λαμβάνῃ τις τησδὶ τῆς συλλαβῆς ἢ τησδὶ τῆς φωνῆς· τούτων δ’ ἔσονται καὶ ἀριθμῷ ὡρισμέναι - ὁμοίως δὲ καὶ ἐπὶ τῶν μεταξύ· ἄπειρα γὰρ κἀκεῖ τὰ ὁμοειδῆ), ὥστ’ εἰ μὴ ἔστι παρὰ τὰ αἰσθητὰ καὶ τὰ μαθηματικὰ ἕτερ’ ἄττα οἷα λέγουσι τὰ εἴδη τινές, οὐκ ἔσται μία ἀριθμῷ ἀλλ’ εἴδει οὐσία, οὐδ’ αἱ ἀρχαὶ τῶν ὄντων ἀριθμῷ ἔσονται ποσαί τινες ἀλλὰ εἴδει· - εἰ οὖν τοῦτο ἀναγκαῖον, καὶ τὰ εἴδη ἀναγκαῖον διὰ τοῦτο εἶναι τιθέναι. καὶ γὰρ εἰ μὴ καλῶς διαρθροῦσιν οἱ λέγοντες, ἀλλ’ ἔστι γε τοῦθ’ ὃ βούλονται, καὶ ἀνάγκη ταῦτα λέγειν αὐτοῖς, ὅτι τῶν εἰδῶν οὐσία τις ἕκαστόν ἐστι καὶ οὐθὲν κατὰ συμβεβηκός. - ἀλλὰ μὴν εἴ γε θήσομεν τά τε εἴδη εἶναι καὶ ἓν ἀριθμῷ τὰς ἀρχὰς ἀλλὰ μὴ εἴδει, εἰρήκαμεν ἃ συμβαίνειν ἀναγκαῖον ἀδύνατα. - σύνεγγυς δὲ τούτων ἐστὶ τὸ διαπορῆσαι πότερον δυνάμει ἔστι τὰ στοιχεῖα ἤ τιν’ ἕτερον τρόπον. εἰ μὲν γὰρ ἄλλως πως, πρότερόν τι ἔσται τῶν ἀρχῶν [1003a] ἄλλο (πρότερον γὰρ ἡ δύναμις ἐκείνης τῆς αἰτίας, τὸ δὲ δυνατὸν οὐκ ἀναγκαῖον ἐκείνως πᾶν ἔχειν)· εἰ δ’ ἔστι δυνάμει τὰ στοιχεῖα, ἐνδέχεται μηθὲν εἶναι τῶν ὄντων· δυνατὸν γὰρ εἶναι καὶ τὸ μήπω ὄν· γίγνεται μὲν γὰρ τὸ μὴ ὄν, οὐθὲν δὲ γίγνεται τῶν εἶναι ἀδυνάτων. - ταύτας τε οὖν τὰς ἀπορίας ἀναγκαῖον ἀπορῆσαι περὶ τῶν ἀρχῶν, καὶ πότερον καθόλου εἰσὶν ἢ ὡς λέγομεν τὰ καθ’ ἕκαστα. εἰ μὲν γὰρ καθόλου, οὐκ ἔσονται οὐσίαι (οὐθὲν γὰρ τῶν κοινῶν τόδε τι σημαίνει ἀλλὰ τοιόνδε, ἡ δ’ οὐσία τόδε τι· εἰ δ’ ἔσται τόδε τι καὶ ἓν θέσθαι τὸ κοινῇ κατηγορούμενον, πολλὰ ἔσται ζῷα ὁ Σωκράτης, αὐτός τε καὶ ὁ ἄνθρωπος καὶ τὸ ζῷον, εἴπερ σημαίνει ἕκαστον τόδε τι καὶ ἕν)· - εἰ μὲν οὖν καθόλου αἱ ἀρχαί, ταῦτα συμβαίνει· εἰ δὲ μὴ καθόλου ἀλλ’ ὡς τὰ καθ’ ἕκαστα, οὐκ ἔσονται ἐπιστηταί (καθόλου γὰρ ἡ ἐπιστήμη πάντων), ὥστ’ ἔσονται ἀρχαὶ ἕτεραι πρότεραι τῶν ἀρχῶν αἱ καθόλου κατηγορούμεναι, ἄνπερ μέλλῃ ἔσεσθαι αὐτῶν ἐπιστήμη.

Γ

Ἔστιν ἐπιστήμη τις ἣ θεωρεῖ τὸ ὂν ᾗ ὂν καὶ τὰ τούτῳ ὑπάρχοντα καθ’ αὐτό. αὕτη δ’ ἐστὶν οὐδεμιᾷ τῶν ἐν μέρει λεγομένων ἡ αὐτή· οὐδεμία γὰρ τῶν ἄλλων ἐπισκοπεῖ καθόλου περὶ τοῦ ὄντος ᾗ ὄν, ἀλλὰ μέρος αὐτοῦ τι ἀποτεμόμεναι περὶ τούτου θεωροῦσι τὸ συμβεβηκός, οἷον αἱ μαθηματικαὶ τῶν ἐπιστημῶν. ἐπεὶ δὲ τὰς ἀρχὰς καὶ τὰς ἀκροτάτας αἰτίας ζητοῦμεν, δῆλον ὡς φύσεώς τινος αὐτὰς ἀναγκαῖον εἶναι καθ’ αὐτήν. εἰ οὖν καὶ οἱ τὰ στοιχεῖα τῶν ὄντων ζητοῦντες ταύτας τὰς ἀρχὰς ἐζήτουν, ἀνάγκη καὶ τὰ στοιχεῖα τοῦ ὄντος εἶναι μὴ κατὰ συμβεβηκὸς ἀλλ’ ᾗ ὄν· διὸ καὶ ἡμῖν τοῦ ὄντος ᾗ ὂν τὰς πρώτας αἰτίας ληπτέον.

Τὸ δὲ ὂν λέγεται μὲν πολλαχῶς, ἀλλὰ πρὸς ἓν καὶ μίαν τινὰ φύσιν καὶ οὐχ ὁμωνύμως ἀλλ’ ὥσπερ καὶ τὸ ὑγιεινὸν ἅπαν πρὸς ὑγίειαν, τὸ μὲν τῷ φυλάττειν τὸ δὲ τῷ ποιεῖν τὸ δὲ τῷ σημεῖον εἶναι τῆς ὑγιείας τὸ δ’ ὅτι [1003b] δεκτικὸν αὐτῆς, καὶ τὸ ἰατρικὸν πρὸς ἰατρικήν (τὸ μὲν γὰρ τῷ ἔχειν ἰατρικὴν λέγεται ἰατρικὸν τὸ δὲ τῷ εὐφυὲς εἶναι πρὸς αὐτὴν τὸ δὲ τῷ ἔργον εἶναι τῆς ἰατρικῆς), ὁμοιοτρόπως δὲ καὶ ἄλλα ληψόμεθα λεγόμενα τούτοις, - οὕτω δὲ καὶ τὸ ὂν λέγεται πολλαχῶς μὲν ἀλλ’ ἅπαν πρὸς μίαν ἀρχήν· τὰ μὲν γὰρ ὅτι οὐσίαι, ὄντα λέγεται, τὰ δ’ ὅτι πάθη οὐσίας, τὰ δ’ ὅτι ὁδὸς εἰς οὐσίαν ἢ φθοραὶ ἢ στερήσεις ἢ ποιότητες ἢ ποιητικὰ ἢ γεννητικὰ οὐσίας ἢ τῶν πρὸς τὴν οὐσίαν λεγομένων, ἢ τούτων τινὸς ἀποφάσεις ἢ οὐσίας· διὸ καὶ τὸ μὴ ὂν εἶναι μὴ ὄν φαμεν. καθάπερ οὖν καὶ τῶν ὑγιεινῶν ἁπάντων μία ἐπιστήμη ἔστιν, ὁμοίως τοῦτο καὶ ἐπὶ τῶν ἄλλων. οὐ γὰρ μόνον τῶν καθ’ ἓν λεγομένων ἐπιστήμης ἐστὶ θεωρῆσαι μιᾶς ἀλλὰ καὶ τῶν πρὸς μίαν λεγομένων φύσιν· καὶ γὰρ ταῦτα τρόπον τινὰ λέγονται καθ’ ἕν. δῆλον οὖν ὅτι καὶ τὰ ὄντα μιᾶς θεωρῆσαι ᾗ ὄντα. πανταχοῦ δὲ κυρίως τοῦ πρώτου ἡ ἐπιστήμη, καὶ ἐξ οὗ τὰ ἄλλα ἤρτηται, καὶ δι’ ὃ λέγονται. εἰ οὖν τοῦτ’ ἐστὶν ἡ οὐσία, τῶν οὐσιῶν ἂν δέοι τὰς ἀρχὰς καὶ τὰς αἰτίας ἔχειν τὸν φιλόσοφον. - ἅπαντος δὲ γένους καὶ αἴσθησις μία ἑνὸς καὶ ἐπιστήμη, οἷον γραμματικὴ μία οὖσα πάσας θεωρεῖ τὰς φωνάς· διὸ καὶ τοῦ ὄντος ᾗ ὂν ὅσα εἴδη θεωρῆσαι μιᾶς ἐστὶν ἐπιστήμης τῷ γένει, τά τε εἴδη τῶν εἰδῶν. εἰ δὴ τὸ ὂν καὶ τὸ ἓν ταὐτὸν καὶ μία φύσις τῷ ἀκολουθεῖν ἀλλήλοις ὥσπερ ἀρχὴ καὶ αἴτιον, ἀλλ’ οὐχ ὡς ἑνὶ λόγῳ δηλούμενα (διαφέρει δὲ οὐθὲν οὐδ’ ἂν ὁμοίως ὑπολάβωμεν, ἀλλὰ καὶ πρὸ ἔργου μᾶλλον)· ταὐτὸ γὰρ εἷς ἄνθρωπος καὶ ἄνθρωπος, καὶ ὢν ἄνθρωπος καὶ ἄνθρωπος, καὶ οὐχ ἕτερόν τι δηλοῖ κατὰ τὴν λέξιν ἐπαναδιπλούμενον τὸ εἷς ἄνθρωπος καὶ εἷς ὢν ἄνθρωπος (δῆλον δ' ὅτι οὐ χωρίζεται οὔτ' ἐπὶ γενέσεως οὔτ' ἐπὶ φθορᾶς), ὁμοίως δὲ καὶ ἐπὶ τοῦ ἑνός, ὥστε φανερὸν ὅτι ἡ πρόσθεσις ἐν τούτοις ταὐτὸ δηλοῖ, καὶ οὐδὲν ἕτερον τὸ ἓν παρὰ τὸ ὄν, ἔτι δ' ἡ ἑκάστου οὐσία ἕν ἐστιν οὐ κατὰ συμβεβηκός, ὁμοίως δὲ καὶ ὅπερ ὄν τι· - ὥσθ' ὅσα περ τοῦ ἑνὸς εἴδη, τοσαῦτα καὶ τοῦ ὄντος· περὶ ὧν τὸ τί ἐστι τῆς αὐτῆς ἐπιστήμης τῷ γένει θεωρῆσαι, λέγω δ' οἷον περὶ ταὐτοῦ καὶ ὁμοίου καὶ τῶν ἄλλων τῶν τοιούτων. σχεδὸν δὲ [1004a] πάντα ἀνάγεται τἀναντία εἰς τὴν ἀρχὴν ταύτην· τεθεωρήσθω δ' ἡμῖν ταῦτα ἐν τῇ ἐκλογῇ τῶν ἐναντίων. καὶ τοσαῦτα μέρη φιλοσοφίας ἔστιν ὅσαι περ αἱ οὐσίαι· ὥστε ἀναγκαῖον εἶναί τινα πρώτην καὶ ἐχομένην αὐτῶν. ὑπάρχει γὰρ εὐθὺς γένη ἔχον τὸ ὂν [καὶ τὸ ἕν]· διὸ καὶ αἱ ἐπιστῆμαι ἀκολουθήσουσι τούτοις. ἔστι γὰρ ὁ φιλόσοφος ὥσπερ ὁ μαθηματικὸς λεγόμενος· καὶ γὰρ αὕτη ἔχει μέρη, καὶ πρώτη τις καὶ δευτέρα ἔστιν ἐπιστήμη καὶ ἄλλαι ἐφεξῆς ἐν τοῖς μαθήμασιν. - ἐπεὶ δὲ μιᾶς τἀντικείμενα θεωρῆσαι, τῷ δὲ ἑνὶ ἀντίκειται πλῆθος - ἀπόφασιν δὲ καὶ στέρησιν μιᾶς ἐστὶ θεωρῆσαι διὰ τὸ ἀμφοτέρως θεωρεῖσθαι τὸ ἓν οὗ ἡ ἀπόφασις ἢ ἡ στέρησις (ἢ ‹γὰρ› ἁπλῶς λέγομεν ὅτι οὐχ ὑπάρχει ἐκεῖνο, ἤ τινι γένει· ἔνθα μὲν οὖν τῷ ἑνὶ ἡ διαφορὰ πρόσεστι παρὰ τὸ ἐν τῇ ἀποφάσει, ἀπουσία γὰρ ἡ ἀπόφασις ἐκείνου ἐστίν, ἐν δὲ τῇ στερήσει καὶ ὑποκειμένη τις φύσις γίγνεται καθ' ἧς λέγεται ἡ στέρησις) [τῷ δ' ἑνὶ πλῆθος ἀντίκειται] - ὥστε καὶ τἀντικείμενα τοῖς εἰρημένοις, τό τε ἕτερον καὶ ἀνόμοιον καὶ ἄνισον καὶ ὅσα ἄλλα λέγεται ἢ κατὰ ταῦτα ἢ κατὰ πλῆθος καὶ τὸ ἕν, τῆς εἰρημένης γνωρίζειν ἐπιστήμης· ὧν ἐστὶ καὶ ἡ ἐναντιότης· διαφορὰ γάρ τις ἡ ἐναντιότης, ἡ δὲ διαφορὰ ἑτερότης. ὥστ' ἐπειδὴ πολλαχῶς τὸ ἓν λέγεται, καὶ ταῦτα πολλαχῶς μὲν λεχθήσεται, ὅμως δὲ μιᾶς ἅπαντά ἐστι γνωρίζειν· οὐ γὰρ εἰ πολλαχῶς, ἑτέρας, ἀλλ' εἰ μήτε καθ' ἓν μήτε πρὸς ἓν οἱ λόγοι ἀναφέρονται. ἐπεὶ δὲ πάντα πρὸς τὸ πρῶτον ἀναφέρεται, οἷον ὅσα ἓν λέγεται πρὸς τὸ πρῶτον ἕν, ὡσαύτως φατέον καὶ περὶ ταὐτοῦ καὶ ἑτέρου καὶ τῶν ἐναντίων ἔχειν· ὥστε διελόμενον ποσαχῶς λέγεται ἕκαστον, οὕτως ἀποδοτέον πρὸς τὸ πρῶτον ἐν ἑκάστῃ κατηγορίᾳ πῶς πρὸς ἐκεῖνο λέγεται· τὰ μὲν γὰρ τῷ ἔχειν ἐκεῖνο τὰ δὲ τῷ ποιεῖν τὰ δὲ κατ' ἄλλους λεχθήσεται τοιούτους τρόπους. - φανερὸν οὖν [ὅπερ ἐν ταῖς ἀπορίαις ἐλέχθη] ὅτι μιᾶς περὶ τούτων καὶ τῆς οὐσίας ἐστὶ λόγον ἔχειν (τοῦτο δ' ἦν ἓν τῶν ἐν τοῖς ἀπορήμασιν), καὶ ἔστι τοῦ φιλοσόφου περὶ πάντων [1004b] δύνασθαι θεωρεῖν. εἰ γὰρ μὴ τοῦ φιλοσόφου, τίς ἔσται ὁ ἐπισκεψόμενος εἰ ταὐτὸ Σωκράτης καὶ Σωκράτης καθήμενος, ἢ εἰ ἓν ἑνὶ ἐναντίον, ἢ τί ἐστι τὸ ἐναντίον ἢ ποσαχῶς λέγεται; ὁμοίως δὲ καὶ περὶ τῶν ἄλλων τῶν τοιούτων. ἐπεὶ οὖν τοῦ ἑνὸς ᾗ ἓν καὶ τοῦ ὄντος ᾗ ὂν ταῦτα καθ’ αὑτά ἐστι πάθη, ἀλλ’ οὐχ ᾗ ἀριθμοὶ ἢ γραμμαὶ ἢ πῦρ, δῆλον ὡς ἐκείνης τῆς ἐπιστήμης καὶ τί ἐστι γνωρίσαι καὶ τὰ συμβεβηκότ’ αὐτοῖς. καὶ οὐ ταύτῃ ἁμαρτάνουσιν οἱ περὶ αὐτῶν σκοπούμενοι ὡς οὐ φιλοσοφοῦντες, ἀλλ’ ὅτι πρότερον ἡ οὐσία, περὶ ἧς οὐθὲν ἐπαΐουσιν, ἐπεὶ ὥσπερ ἔστι καὶ ἀριθμοῦ ᾗ ἀριθμὸς ἴδια πάθη, οἷον περιττότης ἀρτιότης, συμμετρία ἰσότης, ὑπεροχὴ ἔλλειψις, καὶ ταῦτα καὶ καθ’ αὑτοὺς καὶ πρὸς ἀλλήλους ὑπάρχει τοῖς ἀριθμοῖς (ὁμοίως δὲ καὶ στερεῷ καὶ ἀκινήτῳ καὶ κινουμένῳ ἀβαρεῖ τε καὶ βάρος ἔχοντι ἔστιν ἕτερα ἴδια), οὕτω καὶ τῷ ὄντι ᾗ ὂν ἔστι τινὰ ἴδια, καὶ ταῦτ’ ἐστὶ περὶ ὧν τοῦ φιλοσόφου ἐπισκέψασθαι τὸ ἀληθές. σημεῖον δέ· οἱ γὰρ διαλεκτικοὶ καὶ σοφισταὶ τὸ αὐτὸ μὲν ὑποδύονται σχῆμα τῷ φιλοσόφῳ· ἡ γὰρ σοφιστικὴ φαινομένη μόνον σοφία ἐστί, καὶ οἱ διαλεκτικοὶ διαλέγονται περὶ ἁπάντων, κοινὸν δὲ πᾶσι τὸ ὄν ἐστιν, διαλέγονται δὲ περὶ τούτων δῆλον ὅτι διὰ τὸ τῆς φιλοσοφίας ταῦτα εἶναι οἰκεῖα. περὶ μὲν γὰρ τὸ αὐτὸ γένος στρέφεται ἡ σοφιστικὴ καὶ ἡ διαλεκτικὴ τῇ φιλοσοφίᾳ, ἀλλὰ διαφέρει τῆς μὲν τῷ τρόπῳ τῆς δυνάμεως, τῆς δὲ τοῦ βίου τῇ προαιρέσει· ἔστι δὲ ἡ διαλεκτικὴ πειραστικὴ περὶ ὧν ἡ φιλοσοφία γνωριστική, ἡ δὲ σοφιστικὴ φαινομένη, οὖσα δ’ οὔ.

Ἔτι τῶν ἐναντίων ἡ ἑτέρα συστοιχία στέρησις, καὶ πάντα ἀνάγεται εἰς τὸ ὂν καὶ τὸ μὴ ὄν, καὶ εἰς ἓν καὶ πλῆθος, οἷον στάσις τοῦ ἑνὸς κίνησις δὲ τοῦ πλήθους· τὰ δ’ ὄντα καὶ τὴν οὐσίαν ὁμολογοῦσιν ἐξ ἐναντίων σχεδὸν ἅπαντες συγκεῖσθαι· πάντες γοῦν τὰς ἀρχὰς ἐναντίας λέγουσιν· οἱ μὲν γὰρ περιττὸν καὶ ἄρτιον, οἱ δὲ θερμὸν καὶ ψυχρόν, οἱ δὲ πέρας καὶ ἄπειρον, οἱ δὲ φιλίαν καὶ νεῖκος. πάντα δὲ καὶ τἆλλα ἀναγόμενα φαίνεται εἰς τὸ ἓν καὶ πλῆθος (εἰλήφθω γὰρ [1005a] ἡ ἀναγωγὴ ἡμῖν), αἱ δ’ ἀρχαὶ καὶ παντελῶς αἱ παρὰ τῶν ἄλλων ὡς εἰς γένη ταῦτα πίπτουσιν. φανερὸν οὖν καὶ ἐκ τούτων ὅτι μιᾶς ἐπιστήμης τὸ ὂν ᾗ ὂν θεωρῆσαι. πάντα γὰρ ἢ ἐναντία ἢ ἐξ ἐναντίων, ἀρχαὶ δὲ τῶν ἐναντίων τὸ ἓν καὶ πλῆθος. ταῦτα δὲ μιᾶς ἐπιστήμης, εἴτε καθ’ ἓν λέγεται εἴτε μή, ὥσπερ ἴσως ἔχει καὶ τἀληθές. ἀλλ’ ὅμως εἰ καὶ πολλαχῶς λέγεται τὸ ἕν, πρὸς τὸ πρῶτον τἆλλα λεχθήσεται καὶ τὰ ἐναντία ὁμοίως, [καὶ διὰ τοῦτο] καὶ εἰ μὴ ἔστι τὸ ὂν ἢ τὸ ἓν καθόλου καὶ ταὐτὸ ἐπὶ πάντων ἢ χωριστόν, ὥσπερ ἴσως οὐκ ἔστιν ἀλλὰ τὰ μὲν πρὸς ἓν τὰ δὲ τῷ ἐφεξῆς. καὶ διὰ τοῦτο οὐ τοῦ γεωμέτρου θεωρῆσαι τί τὸ ἐναντίον ἢ τέλειον ἢ ἓν ἢ ὂν ἢ ταὐτὸν ἢ ἕτερον, ἀλλ’ ἢ ἐξ ὑποθέσεως. ὅτι μὲν οὖν μιᾶς ἐπιστήμης τὸ ὂν ᾗ ὂν θεωρῆσαι καὶ τὰ ὑπάρχοντα αὐτῷ ᾗ ὄν, δῆλον, καὶ ὅτι οὐ μόνον τῶν οὐσιῶν ἀλλὰ καὶ τῶν ὑπαρχόντων ἡ αὐτὴ θεωρητική, τῶν τε εἰρημένων καὶ περὶ προτέρου καὶ ὑστέρου, καὶ γένους καὶ εἴδους, καὶ ὅλου καὶ μέρους καὶ τῶν ἄλλων τῶν τοιούτων.

Λεκτέον δὲ πότερον μιᾶς ἢ ἑτέρας ἐπιστήμης περί τε τῶν ἐν τοῖς μαθήμασι καλουμένων ἀξιωμάτων καὶ περὶ τῆς οὐσίας. φανερὸν δὴ ὅτι μιᾶς τε καὶ τῆς τοῦ φιλοσόφου καὶ ἡ περὶ τούτων ἐστὶ σκέψις· ἅπασι γὰρ ὑπάρχει τοῖς οὖσιν ἀλλ᾽ οὐ γένει τινὶ χωρὶς ἰδίᾳ τῶν ἄλλων. καὶ χρῶνται μὲν πάντες, ὅτι τοῦ ὄντος ἐστὶν ᾗ ὄν, ἕκαστον δὲ τὸ γένος ὄν· ἐπὶ τοσοῦτον δὲ χρῶνται ἐφ᾽ ὅσον αὐτοῖς ἱκανόν, τοῦτο δ᾽ ἔστιν ὅσον ἐπέχει τὸ γένος περὶ οὗ φέρουσι τὰς ἀποδείξεις· ὥστ᾽ ἐπεὶ δῆλον ὅτι ᾗ ὄντα ὑπάρχει πᾶσι (τοῦτο γὰρ αὐτοῖς τὸ κοινόν), τοῦ περὶ τὸ ὂν ᾗ ὂν γνωρίζοντος καὶ περὶ τούτων ἐστὶν ἡ θεωρία. διόπερ οὐθεὶς τῶν κατὰ μέρος ἐπισκοπούντων ἐγχειρεῖ λέγειν τι περὶ αὐτῶν, εἰ ἀληθῆ ἢ μή, οὔτε γεωμέτρης οὔτ᾽ ἀριθμητικός, ἀλλὰ τῶν φυσικῶν ἔνιοι, εἰκότως τοῦτο δρῶντες· μόνοι γὰρ ᾤοντο περί τε τῆς ὅλης φύσεως σκοπεῖν καὶ περὶ τοῦ ὄντος. ἐπεὶ δ᾽ ἔστιν ἔτι τοῦ φυσικοῦ τις ἀνωτέρω (ἓν γάρ τι γένος τοῦ ὄντος ἡ φύσις), τοῦ καθόλου καὶ τοῦ περὶ τὴν πρώτην οὐσίαν θεωρητικοῦ καὶ ἡ [1005b] περὶ τούτων ἂν εἴη σκέψις· ἔστι δὲ σοφία τις καὶ ἡ φυσική, ἀλλ᾽ οὐ πρώτη. ὅσα δ᾽ ἐγχειροῦσι τῶν λεγόντων τινὲς περὶ τῆς ἀληθείας ὃν τρόπον δεῖ ἀποδέχεσθαι, δι᾽ ἀπαιδευσίαν τῶν ἀναλυτικῶν τοῦτο δρῶσιν· δεῖ γὰρ περὶ τούτων ἥκειν προεπισταμένους ἀλλὰ μὴ ἀκούοντας ζητεῖν. - ὅτι μὲν οὖν τοῦ φιλοσόφου, καὶ τοῦ περὶ πάσης τῆς οὐσίας θεωροῦντος ᾗ πέφυκεν, καὶ περὶ τῶν συλλογιστικῶν ἀρχῶν ἐστὶν ἐπισκέψασθαι, δῆλον· προσήκει δὲ τὸν μάλιστα γνωρίζοντα περὶ ἕκαστον γένος ἔχειν λέγειν τὰς βεβαιοτάτας ἀρχὰς τοῦ πράγματος, ὥστε καὶ τὸν περὶ τῶν ὄντων ᾗ ὄντα τὰς πάντων βεβαιοτάτας. ἔστι δ᾽ οὗτος ὁ φιλόσοφος. βεβαιοτάτη δ᾽ ἀρχὴ πασῶν περὶ ἣν διαψευσθῆναι ἀδύνατον· γνωριμωτάτην τε γὰρ ἀναγκαῖον εἶναι τὴν τοιαύτην (περὶ γὰρ ἃ μὴ γνωρίζουσιν ἀπατῶνται πάντες) καὶ ἀνυπόθετον. ἣν γὰρ ἀναγκαῖον ἔχειν τὸν ὁτιοῦν ξυνιέντα τῶν ὄντων, τοῦτο οὐχ ὑπόθεσις· ὃ δὲ γνωρίζειν ἀναγκαῖον τῷ ὁτιοῦν γνωρίζοντι, καὶ ἥκειν ἔχοντα ἀναγκαῖον. ὅτι μὲν οὖν βεβαιοτάτη ἡ τοιαύτη πασῶν ἀρχή, δῆλον· τίς δ᾽ ἔστιν αὕτη, μετὰ ταῦτα λέγωμεν. τὸ γὰρ αὐτὸ ἅμα ὑπάρχειν τε καὶ μὴ ὑπάρχειν ἀδύνατον τῷ αὐτῷ καὶ κατὰ τὸ αὐτό (καὶ ὅσα ἄλλα προσδιορισαίμεθ᾽ ἄν, ἔστω προσδιωρισμένα πρὸς τὰς λογικὰς δυσχερείας)· αὕτη δὴ πασῶν ἐστὶ βεβαιοτάτη τῶν ἀρχῶν· ἔχει γὰρ τὸν εἰρημένον διορισμόν. ἀδύνατον γὰρ ὁντινοῦν ταὐτὸν ὑπολαμβάνειν εἶναι καὶ μὴ εἶναι, καθάπερ τινὲς οἴονται λέγειν Ἡράκλειτον. οὐκ ἔστι γὰρ ἀναγκαῖον, ἅ τις λέγει, ταῦτα καὶ ὑπολαμβάνειν· εἰ δὲ μὴ ἐνδέχεται ἅμα ὑπάρχειν τῷ αὐτῷ τἀναντία (προσδιωρίσθω δ’ ἡμῖν καὶ ταύτῃ τῇ προτάσει τὰ εἰωθότα), ἐναντία δ’ ἐστὶ δόξα δόξῃ ἡ τῆς ἀντιφάσεως, φανερὸν ὅτι ἀδύνατον ἅμα ὑπολαμβάνειν τὸν αὐτὸν εἶναι καὶ μὴ εἶναι τὸ αὐτό· ἅμα γὰρ ἂν ἔχοι τὰς ἐναντίας δόξας ὁ διεψευσμένος περὶ τούτου. διὸ πάντες οἱ ἀποδεικνύντες εἰς ταύτην ἀνάγουσιν ἐσχάτην δόξαν· φύσει γὰρ ἀρχὴ καὶ τῶν ἄλλων ἀξιωμάτων αὕτη πάντων.

Εἰσὶ δέ τινες οἵ, καθάπερ εἴπομεν, αὐτοί τε ἐνδέχεσθαί [1006a] φασι τὸ αὐτὸ εἶναι καὶ μὴ εἶναι, καὶ ὑπολαμβάνειν οὕτως. χρῶνται δὲ τῷ λόγῳ τούτῳ πολλοὶ καὶ τῶν περὶ φύσεως. ἡμεῖς δὲ νῦν εἰλήφαμεν ὡς ἀδυνάτου ὄντος ἅμα εἶναι καὶ μὴ εἶναι, καὶ διὰ τούτου ἐδείξαμεν ὅτι βεβαιοτάτη αὕτη τῶν ἀρχῶν πασῶν. ἀξιοῦσι δὴ καὶ τοῦτο ἀποδεικνύναι τινὲς δι’ ἀπαιδευσίαν· ἔστι γὰρ ἀπαιδευσία τὸ μὴ γιγνώσκειν τίνων δεῖ ζητεῖν ἀπόδειξιν καὶ τίνων οὐ δεῖ· ὅλως μὲν γὰρ ἁπάντων ἀδύνατον ἀπόδειξιν εἶναι (εἰς ἄπειρον γὰρ ἂν βαδίζοι, ὥστε μηδ’ οὕτως εἶναι ἀπόδειξιν), εἰ δέ τινων μὴ δεῖ ζητεῖν ἀπόδειξιν, τίνα ἀξιοῦσιν εἶναι μᾶλλον τοιαύτην ἀρχὴν οὐκ ἂν ἔχοιεν εἰπεῖν. ἔστι δ’ ἀποδεῖξαι ἐλεγκτικῶς καὶ περὶ τούτου ὅτι ἀδύνατον, ἂν μόνον τι λέγῃ ὁ ἀμφισβητῶν· ἂν δὲ μηθέν, γελοῖον τὸ ζητεῖν λόγον πρὸς τὸν μηθενὸς ἔχοντα λόγον, ᾗ μὴ ἔχει· ὅμοιος γὰρ φυτῷ ὁ τοιοῦτος ᾗ τοιοῦτος ἤδη. τὸ δ’ ἐλεγκτικῶς ἀποδεῖξαι λέγω διαφέρειν καὶ τὸ ἀποδεῖξαι, ὅτι ἀποδεικνύων μὲν ἂν δόξειεν αἰτεῖσθαι τὸ ἐν ἀρχῇ, ἄλλου δὲ τοῦ τοιούτου αἰτίου ὄντος ἔλεγχος ἂν εἴη καὶ οὐκ ἀπόδειξις. ἀρχὴ δὲ πρὸς ἅπαντα τὰ τοιαῦτα οὐ τὸ ἀξιοῦν ἢ εἶναί τι λέγειν ἢ μὴ εἶναι (τοῦτο μὲν γὰρ τάχ’ ἄν τις ὑπολάβοι τὸ ἐξ ἀρχῆς αἰτεῖν), ἀλλὰ σημαίνειν γέ τι καὶ αὐτῷ καὶ ἄλλῳ· τοῦτο γὰρ ἀνάγκη, εἴπερ λέγοι τι. εἰ γὰρ μή, οὐκ ἂν εἴη τῷ τοιούτῳ λόγος, οὔτ’ αὐτῷ πρὸς αὐτὸν οὔτε πρὸς ἄλλον. ἂν δέ τις τοῦτο διδῷ, ἔσται ἀπόδειξις· ἤδη γάρ τι ἔσται ὡρισμένον. ἀλλ’ αἴτιος οὐχ ὁ ἀποδεικνὺς ἀλλ’ ὁ ὑπομένων· ἀναιρῶν γὰρ λόγον ὑπομένει λόγον. ἔτι δὲ ὁ τοῦτο συγχωρήσας συγκεχώρηκέ τι ἀληθὲς εἶναι χωρὶς ἀποδείξεως [ὥστε οὐκ ἂν πᾶν οὕτως καὶ οὐχ οὕτως ἔχοι]. - πρῶτον μὲν οὖν δῆλον ὡς τοῦτό γ’ αὐτὸ ἀληθές, ὅτι σημαίνει τὸ ὄνομα τὸ εἶναι ἢ μὴ εἶναι τοδί, ὥστ’ οὐκ ἂν πᾶν οὕτως καὶ οὐχ οὕτως ἔχοι· ἔτι εἰ τὸ ἄνθρωπος σημαίνει ἕν, ἔστω τοῦτο τὸ ζῷον δίπουν. λέγω δὲ τὸ ἓν σημαίνειν τοῦτο· εἰ τοῦτ’ ἔστιν ἄνθρωπος, ἂν ᾖ τι ἄνθρωπος, τοῦτ’ ἔσται τὸ ἀνθρώπῳ εἶναι (διαφέρει δ’ οὐθὲν οὐδ’ εἰ πλείω τις φαίη σημαίνειν [1006b] μόνον δὲ ὡρισμένα, τεθείη γὰρ ἂν ἐφ’ ἑκάστῳ λόγῳ ἕτερον ὄνομα· λέγω δ’ οἷον, εἰ μὴ φαίη τὸ ἄνθρωπος ἓν σημαίνειν, πολλὰ δέ, ὧν ἑνὸς μὲν εἷς λόγος τὸ ζῷον δίπουν, εἶεν δὲ καὶ ἕτεροι πλείους, ὡρισμένοι δὲ τὸν ἀριθμόν· τεθείη γὰρ ἂν ἴδιον ὄνομα καθ’ ἕκαστον τὸν λόγον· εἰ δὲ μή [τεθείη], ἀλλ’ ἄπειρα σημαίνειν φαίη, φανερὸν ὅτι οὐκ ἂν εἴη λόγος· τὸ γὰρ μὴ ἓν σημαίνειν οὐθὲν σημαίνειν ἐστίν, μὴ σημαινόντων δὲ τῶν ὀνομάτων ἀνῄρηται τὸ διαλέγεσθαι πρὸς ἀλλήλους, κατὰ δὲ τὴν ἀλήθειαν καὶ πρὸς αὑτόν· οὐθὲν γὰρ ἐνδέχεται νοεῖν μὴ νοοῦντα ἕν, εἰ δ’ ἐνδέχεται, τεθείη ἂν ὄνομα τούτῳ τῷ πράγματι ἕν). - ἔστω δή, ὥσπερ ἐλέχθη κατ’ ἀρχάς, σημαῖνόν τι τὸ ὄνομα καὶ σημαῖνον ἕν· οὐ δὴ ἐνδέχεται τὸ ἀνθρώπῳ εἶναι σημαίνειν ὅπερ ἀνθρώπῳ μὴ εἶναι, εἰ τὸ ἄνθρωπος σημαίνει μὴ μόνον καθ’ ἑνὸς ἀλλὰ καὶ ἕν (οὐ γὰρ τοῦτο ἀξιοῦμεν τὸ ἓν σημαίνειν, τὸ καθ’ ἑνός, ἐπεὶ οὕτω γε κἂν τὸ μουσικὸν καὶ τὸ λευκὸν καὶ τὸ ἄνθρωπος ἓν ἐσήμαινεν, ὥστε ἓν ἅπαντα ἔσται· συνώνυμα γάρ). καὶ οὐκ ἔσται εἶναι καὶ μὴ εἶναι τὸ αὐτὸ ἀλλ’ ἢ καθ’ ὁμωνυμίαν, ὥσπερ ἂν εἰ ὃν ἡμεῖς ἄνθρωπον καλοῦμεν, ἄλλοι μὴ ἄνθρωπον καλοῖεν· τὸ δ’ ἀπορούμενον οὐ τοῦτό ἐστιν, εἰ ἐνδέχεται τὸ αὐτὸ ἅμα εἶναι καὶ μὴ εἶναι ἄνθρωπον τὸ ὄνομα, ἀλλὰ τὸ πρᾶγμα. εἰ δὲ μὴ σημαίνει ἕτερον τὸ ἄνθρωπος καὶ τὸ μὴ ἄνθρωπος, δῆλον ὅτι καὶ τὸ μὴ εἶναι ἀνθρώπῳ τοῦ εἶναι ἀνθρώπῳ, ὥστ’ ἔσται τὸ ἀνθρώπῳ εἶναι μὴ ἀνθρώπῳ εἶναι· ἓν γὰρ ἔσται. τοῦτο γὰρ σημαίνει τὸ εἶναι ἕν, τὸ ὡς λώπιον καὶ ἱμάτιον, εἰ ὁ λόγος εἷς· εἰ δὲ ἔσται ἕν, ἓν σημανεῖ τὸ ἀνθρώπῳ εἶναι καὶ μὴ ἀνθρώπῳ. ἀλλ’ ἐδέδεικτο ὅτι ἕτερον σημαίνει. ἀνάγκη τοίνυν, εἴ τί ἐστιν ἀληθὲς εἰπεῖν ὅτι ἄνθρωπος, ζῷον εἶναι δίπουν (τοῦτο γὰρ ἦν ὃ ἐσήμαινε τὸ ἄνθρωπος)· εἰ δ’ ἀνάγκη τοῦτο, οὐκ ἐνδέχεται μὴ εἶναι ‹τότε› τὸ αὐτὸ ζῷον δίπουν (τοῦτο γὰρ σημαίνει τὸ ἀνάγκη εἶναι, τὸ ἀδύνατον εἶναι μὴ εἶναι [ἄνθρωπον])· οὐκ ἄρα ἐνδέχεται ἅμα ἀληθὲς εἶναι εἰπεῖν τὸ αὐτὸ ἄνθρωπον εἶναι καὶ μὴ εἶναι ἄνθρωπον. ὁ δ’ αὐτὸς [1007a] λόγος καὶ ἐπὶ τοῦ μὴ εἶναι ἄνθρωπον· τὸ γὰρ ἀνθρώπῳ εἶναι καὶ τὸ μὴ ἀνθρώπῳ εἶναι ἕτερον σημαίνει, εἴπερ καὶ τὸ λευκὸν εἶναι καὶ τὸ ἄνθρωπον εἶναι ἕτερον· πολὺ γὰρ ἀντίκειται ἐκεῖνο μᾶλλον, ὥστε σημαίνειν ἕτερον. εἰ δὲ καὶ τὸ λευκὸν φήσει τὸ αὐτὸ καὶ ἓν σημαίνειν, πάλιν τὸ αὐτὸ ἐροῦμεν ὅπερ καὶ πρότερον ἐλέχθη, ὅτι ἓν πάντα ἔσται καὶ οὐ μόνον τὰ ἀντικείμενα. εἰ δὲ μὴ ἐνδέχεται τοῦτο, συμβαίνει τὸ λεχθέν, ἂν ἀποκρίνηται τὸ ἐρωτώμενον. ἐὰν δὲ προστιθῇ ἐρωτῶντος ἁπλῶς καὶ τὰς ἀποφάσεις, οὐκ ἀποκρίνεται τὸ ἐρωτώμενον. οὐθὲν γὰρ κωλύει εἶναι τὸ αὐτὸ καὶ ἄνθρωπον καὶ λευκὸν καὶ ἄλλα μυρία τὸ πλῆθος· ἀλλ’ ὅμως ἐρομένου εἰ ἀληθὲς εἰπεῖν ἄνθρωπον τοῦτο εἶναι ἢ οὔ, ἀποκριτέον τὸ ἓν σημαῖνον καὶ οὐ προσθετέον ὅτι καὶ λευκὸν καὶ μέγα. καὶ γὰρ ἀδύνατον ἄπειρά γ’ ὄντα τὰ συμβεβηκότα διελθεῖν· ἢ οὖν ἅπαντα διελθέτω ἢ μηθέν. ὁμοίως τοίνυν εἰ καὶ μυριάκις ἐστὶ τὸ αὐτὸ ἄνθρωπος καὶ οὐκ ἄνθρωπος, οὐ προσαποκριτέον τῷ ἐρομένῳ εἰ ἔστιν ἄνθρωπος, ὅτι ἐστὶν ἅμα καὶ οὐκ ἄνθρωπος, εἰ μὴ καὶ τἆλλα ὅσα συμβέβηκε προσαποκριτέον, ὅσα ἐστὶν ἢ μὴ ἔστιν· ἐὰν δὲ τοῦτο ποιῇ, οὐ διαλέγεται. - ὅλως δ' ἀναιροῦσιν οἱ τοῦτο λέγοντες οὐσίαν καὶ τὸ τί ἦν εἶναι. πάντα γὰρ ἀνάγκη συμβεβηκέναι φάσκειν αὐτοῖς, καὶ τὸ ὅπερ ἀνθρώπῳ εἶναι ἢ ζῴῳ εἶναι μὴ εἶναι. εἰ γὰρ ἔσται τι ὅπερ ἀνθρώπῳ εἶναι, τοῦτο οὐκ ἔσται μὴ ἀνθρώπῳ εἶναι ἢ μὴ εἶναι ἀνθρώπῳ (καίτοι αὗται ἀποφάσεις τούτου)· ἓν γὰρ ἦν ὃ ἐσήμαινε, καὶ ἦν τοῦτό τινος οὐσία. τὸ δ' οὐσίαν σημαίνειν ἐστὶν ὅτι οὐκ ἄλλο τι τὸ εἶναι αὐτῷ. εἰ δ' ἔσται αὐτῷ τὸ ὅπερ ἀνθρώπῳ εἶναι ἢ ὅπερ μὴ ἀνθρώπῳ εἶναι ἢ ὅπερ μὴ εἶναι ἀνθρώπῳ, ἄλλο ἔσται, ὥστ' ἀναγκαῖον αὐτοῖς λέγειν ὅτι οὐθενὸς ἔσται τοιοῦτος λόγος, ἀλλὰ πάντα κατὰ συμβεβηκός· τούτῳ γὰρ διώρισται οὐσία καὶ τὸ συμβεβηκός· τὸ γὰρ λευκὸν τῷ ἀνθρώπῳ συμβέβηκεν ὅτι ἔστι μὲν λευκὸς ἀλλ' οὐχ ὅπερ λευκόν. εἰ δὲ πάντα κατὰ συμβεβηκὸς λέγεται, οὐθὲν ἔσται πρῶτον τὸ καθ' οὗ, εἰ ἀεὶ τὸ συμβεβηκὸς καθ' ὑποκειμένου τινὸς σημαίνει τὴν κατηγορίαν.

[1007b] ἀνάγκη ἄρα εἰς ἄπειρον ἰέναι. ἀλλ' ἀδύνατον· οὐδὲ γὰρ πλείω συμπλέκεται δυοῖν· τὸ γὰρ συμβεβηκὸς οὐ συμβεβηκότι συμβεβηκός, εἰ μὴ ὅτι ἄμφω συμβέβηκε ταὐτῷ, λέγω δ' οἷον τὸ λευκὸν μουσικὸν καὶ τοῦτο λευκὸν ὅτι ἄμφω τῷ ἀνθρώπῳ συμβέβηκεν. ἀλλ' οὐχ ὁ Σωκράτης μουσικὸς οὕτως, ὅτι ἄμφω συμβέβηκεν ἑτέρῳ τινί. ἐπεὶ τοίνυν τὰ μὲν οὕτως τὰ δ' ἐκείνως λέγεται συμβεβηκότα, ὅσα οὕτως λέγεται ὡς τὸ λευκὸν τῷ Σωκράτει, οὐκ ἐνδέχεται ἄπειρα εἶναι ἐπὶ τὸ ἄνω, οἷον τῷ Σωκράτει τῷ λευκῷ ἕτερόν τι συμβεβηκός· οὐ γὰρ γίγνεταί τι ἓν ἐξ ἁπάντων. οὐδὲ δὴ τῷ λευκῷ ἕτερόν τι ἔσται συμβεβηκός, οἷον τὸ μουσικόν· οὐθέν τε γὰρ μᾶλλον τοῦτο ἐκείνῳ ἢ ἐκεῖνο τούτῳ συμβέβηκεν, καὶ ἅμα διώρισται ὅτι τὰ μὲν οὕτω συμβέβηκε τὰ δ' ὡς τὸ μουσικὸν Σωκράτει· ὅσα δ' οὕτως, οὐ συμβεβηκότι συμβέβηκε συμβεβηκός, ἀλλ' ὅσα ἐκείνως, ὥστ' οὐ πάντα κατὰ συμβεβηκὸς λεχθήσεται. ἔσται ἄρα τι καὶ ὣς οὐσίαν σημαῖνον. εἰ δὲ τοῦτο, δέδεικται ὅτι ἀδύνατον ἅμα κατηγορεῖσθαι τὰς ἀντιφάσεις. - ἔτι εἰ ἀληθεῖς αἱ ἀντιφάσεις ἅμα κατὰ τοῦ αὐτοῦ πᾶσαι, δῆλον ὡς ἅπαντα ἔσται ἕν. ἔσται γὰρ τὸ αὐτὸ καὶ τριήρης καὶ τοῖχος καὶ ἄνθρωπος, εἰ κατὰ παντός τι ἢ καταφῆσαι ἢ ἀποφῆσαι ἐνδέχεται, καθάπερ ἀνάγκη τοῖς τὸν Πρωταγόρου λέγουσι λόγον. εἰ γάρ τῳ δοκεῖ μὴ εἶναι τριήρης ὁ ἄνθρωπος, δῆλον ὡς οὐκ ἔστι τριήρης· ὥστε καὶ ἔστιν, εἴπερ ἡ ἀντίφασις ἀληθής. καὶ γίγνεται δὴ τὸ τοῦ Ἀναξαγόρου, ὁμοῦ πάντα χρήματα· ὥστε μηθὲν ἀληθῶς ὑπάρχειν. τὸ ἀόριστον οὖν ἐοίκασι λέγειν, καὶ οἰόμενοι τὸ ὂν λέγειν περὶ τοῦ μὴ ὄντος λέγουσιν· τὸ γὰρ δυνάμει

ὂν καὶ μὴ ἐντελεχείᾳ τὸ ἀόριστόν ἐστιν. ἀλλὰ μὴν λεκτέον γ’ αὐτοῖς κατὰ παντὸς ‹παντὸς› τὴν κατάφασιν ἢ τὴν ἀπόφασιν· ἄτοπον γὰρ εἰ ἑκάστῳ ἡ μὲν αὐτοῦ ἀπόφασις ὑπάρξει, ἡ δ’ ἑτέρου ὃ μὴ ὑπάρχει αὐτῷ οὐχ ὑπάρξει· λέγω δ’ οἷον εἰ ὀληθὲς εἰπεῖν τὸν ἄνθρωπον ὅτι οὐκ ἄνθρωπος, δῆλον ὅτι καὶ ἢ τριήρης ἢ οὐ τριήρης. εἰ μὲν οὖν ἡ κατάφασις, ἀνάγκη καὶ τὴν ἀπόφασιν· εἰ δὲ μὴ ὑπάρχει ἡ κατάφασις, ἥ γε ἀπόφασις ὑπάρξει [1008a] μᾶλλον ἢ ἡ αὐτοῦ. εἰ οὖν κἀκείνη ὑπάρχει, ὑπάρξει καὶ ἡ τῆς τριήρους· εἰ δ’ αὕτη, καὶ ἡ κατάφασις. - ταῦτά τε οὖν συμβαίνει τοῖς λέγουσι τὸν λόγον τοῦτον, καὶ ὅτι οὐκ ἀνάγκη ἢ φάναι ἢ ἀποφάναι. εἰ γὰρ ἀληθὲς ὅτι ἄνθρωπος καὶ οὐκ ἄνθρωπος, δῆλον ὅτι καὶ οὔτ’ ἄνθρωπος οὔτ’ οὐκ ἄνθρωπος ἔσται· τοῖν γὰρ δυοῖν δύο ἀποφάσεις, εἰ δὲ μία ἐξ ἀμφοῖν ἐκείνη, καὶ αὕτη μία ἂν εἴη ἀντικειμένη. - ἔτι ἤτοι περὶ ἅπαντα οὕτως ἔχει, καὶ ἔστι καὶ λευκὸν καὶ οὐ λευκὸν καὶ ὂν καὶ οὐκ ὄν, καὶ περὶ τὰς ἄλλας φάσεις καὶ ἀποφάσεις ὁμοιοτρόπως, ἢ οὒ ἀλλὰ περὶ μέν τινας, περί τινας δ’ οὔ. καὶ εἰ μὲν μὴ περὶ πάσας, αὗται ἂν εἶεν ὁμολογούμεναι· εἰ δὲ περὶ πάσας, πάλιν ἤτοι καθ’ ὅσων τὸ φῆσαι καὶ ἀποφῆσαι καὶ καθ’ ὅσων ἀποφῆσαι καὶ φῆσαι, ἢ κατὰ μὲν ὧν φῆσαι καὶ ἀποφῆσαι, καθ’ ὅσων δὲ ἀποφῆσαι οὐ πάντων φῆσαι. καὶ εἰ μὲν οὕτως, εἴη ἄν τι παγίως οὐκ ὄν, καὶ αὕτη βεβαία δόξα, καὶ εἰ τὸ μὴ εἶναι βέβαιόν τι καὶ γνώριμον, γνωριμωτέρα ἂν εἴη ἡ φάσις ἡ ἀντικειμένη· εἰ δὲ ὁμοίως καὶ ὅσα ἀποφῆσαι φάναι, ἀνάγκη ἤτοι ἀληθὲς διαιροῦντα λέγειν, οἷον ὅτι λευκὸν καὶ πάλιν ὅτι οὐ λευκόν, ἢ οὔ. καὶ εἰ μὲν μὴ ἀληθὲς διαιροῦντα λέγειν, οὐ λέγει τε ταῦτα καὶ οὐκ ἔστιν οὐθέν (τὰ δὲ μὴ ὄντα πῶς ἂν φθέγξαιτο ἢ βαδίσειεν;), καὶ πάντα δ’ ἂν εἴη ἕν, ὥσπερ καὶ πρότερον εἴρηται, καὶ ταὐτὸν ἔσται καὶ ἄνθρωπος καὶ θεὸς καὶ τριήρης καὶ αἱ ἀντιφάσεις αὐτῶν (εἰ γὰρ ὁμοίως καθ’ ἑκάστου, οὐδὲν διοίσει ἕτερον ἑτέρου· εἰ γὰρ διοίσει, τοῦτ’ ἔσται ἀληθὲς καὶ ἴδιον)· ὁμοίως δὲ καὶ εἰ διαιροῦντα ἐνδέχεται ἀληθεύειν, συμβαίνει τὸ λεχθέν, πρὸς δὲ τούτῳ ὅτι πάντες ἂν ἀληθεύοιεν καὶ πάντες ἂν ψεύδοιντο, καὶ αὐτὸς αὑτὸν ὁμολογεῖ ψεύδεσθαι. ἅμα δὲ φανερὸν ὅτι περὶ οὐθενός ἐστι πρὸς τοῦτον ἡ σκέψις· οὐθὲν γὰρ λέγει. οὔτε γὰρ οὕτως οὔτ’ οὐχ οὕτως λέγει, ἀλλ’ οὕτως τε καὶ οὐχ οὕτως· καὶ πάλιν γε ταῦτα ἀπόφησιν ἄμφω, ὅτι οὔθ’ οὕτως οὔτε οὐχ οὕτως· εἰ γὰρ μή, ἤδη ἄν τι εἴη ὡρισμένον. - ἔτι εἰ ὅταν ἡ φάσις ἀληθὴς ᾖ, ἡ ἀπόφασις ψευδής, κἂν αὕτη ἀληθὴς ᾖ, ἡ κατάφασις ψευδής, οὐκ ἂν εἴη τὸ αὐτὸ ἅμα φάναι καὶ [1008b] ἀποφάναι ἀληθῶς. ἀλλ’ ἴσως φαῖεν ἂν τοῦτ’ εἶναι τὸ ἐξ ἀρχῆς κείμενον. - ἔτι ἆρα ὁ μὲν ἢ ἔχειν πως ὑπολαμβάνων ἢ μὴ ἔχειν διέψευσται, ὁ δὲ ἄμφω ἀληθεύει; εἰ γὰρ ἀληθεύει, τί ἂν εἴη τὸ λεγόμενον ὅτι τοιαύτη τῶν ὄντων ἡ φύσις; εἰ δὲ μὴ ἀληθεύει, ἀλλὰ μᾶλλον ἀληθεύει ἢ ὁ ἐκείνως ὑπολαμβάνων, ἤδη πως ἔχοι ἂν τὰ ὄντα, καὶ τοῦτ᾽ ἀληθὲς ἂν εἴη, καὶ οὐχ ἅμα καὶ οὐκ ἀληθές. εἰ δὲ ὁμοίως ἅπαντες καὶ ψεύδονται καὶ ἀληθῆ λέγουσιν, οὔτε φθέγξασθαι οὔτ᾽ εἰπεῖν τῷ τοιούτῳ ἔσται· ἅμα γὰρ ταῦτά τε καὶ οὐ ταῦτα λέγει. εἰ δὲ μηθὲν ὑπολαμβάνει ἀλλ᾽ ὁμοίως οἴεται καὶ οὐκ οἴεται, τί ἂν διαφερόντως ἔχοι τῶν γε φυτῶν; ὅθεν καὶ μάλιστα φανερόν ἐστιν ὅτι οὐδεὶς οὕτω διάκειται οὔτε τῶν ἄλλων οὔτε τῶν λεγόντων τὸν λόγον τοῦτον. διὰ τί γὰρ βαδίζει Μέγαράδε ἀλλ᾽ οὐχ ἡσυχάζει, οἰόμενος βαδίζειν δεῖν; οὐδ᾽ εὐθέως ἕωθεν πορεύεται εἰς φρέαρ ἢ εἰς φάραγγα, ἐὰν τύχῃ, ἀλλὰ φαίνεται εὐλαβούμενος, ὡς οὐχ ὁμοίως οἰόμενος μὴ ἀγαθὸν εἶναι τὸ ἐμπεσεῖν καὶ ἀγαθόν; δῆλον ἄρα ὅτι τὸ μὲν βέλτιον ὑπολαμβάνει τὸ δ᾽ οὐ βέλτιον. εἰ δὲ τοῦτο, καὶ τὸ μὲν ἄνθρωπον τὸ δ᾽ οὐκ ἄνθρωπον καὶ τὸ μὲν γλυκὺ τὸ δ᾽ οὐ γλυκὺ ἀνάγκη ὑπολαμβάνειν. οὐ γὰρ ἐξ ἴσου ἅπαντα ζητεῖ καὶ ὑπολαμβάνει, ὅταν οἰηθεὶς βέλτιον εἶναι τὸ πιεῖν ὕδωρ καὶ ἰδεῖν ἄνθρωπον εἶτα ζητῇ αὐτά· καίτοι ἔδει γε, εἰ ταὐτὸν ἦν ὁμοίως καὶ ἄνθρωπος καὶ οὐκ ἄνθρωπος. ἀλλ᾽ ὅπερ ἐλέχθη, οὐθεὶς ὃς οὐ φαίνεται τὰ μὲν εὐλαβούμενος τὰ δ᾽ οὔ· ὥστε, ὡς ἔοικε, πάντες ὑπολαμβάνουσιν ἔχειν ἁπλῶς, εἰ μὴ περὶ ἅπαντα, ἀλλὰ περὶ τὸ ἄμεινον καὶ χεῖρον. εἰ δὲ μὴ ἐπιστάμενοι ἀλλὰ δοξάζοντες, πολὺ μᾶλλον ἐπιμελητέον ἂν εἴη τῆς ἀληθείας, ὥσπερ καὶ νοσώδει ὄντι ἢ ὑγιεινῷ τῆς ὑγιείας· καὶ γὰρ ὁ δοξάζων πρὸς τὸν ἐπιστάμενον οὐχ ὑγιεινῶς διάκειται πρὸς τὴν ἀλήθειαν. - ἔτι εἰ ὅτι μάλιστα πάντα οὕτως ἔχει καὶ οὐχ οὕτως, ἀλλὰ τό γε μᾶλλον καὶ ἧττον ἔνεστιν ἐν τῇ φύσει τῶν ὄντων· οὐ γὰρ ἂν ὁμοίως φήσαιμεν εἶναι τὰ δύο ἄρτια καὶ τὰ τρία, οὐδ᾽ ὁμοίως διέψευσται ὁ τὰ τέτταρα πέντε οἰόμενος καὶ ὁ χίλια. εἰ οὖν μὴ ὁμοίως, δῆλον ὅτι ἅτερος ἧττον, ὥστε μᾶλλον ἀληθεύει. εἰ οὖν τὸ [1009a] μᾶλλον ἐγγύτερον, εἴη γε ἄν τι ἀληθὲς οὗ ἐγγύτερον τὸ μᾶλλον ἀληθές. κἂν εἰ μὴ ἔστιν, ἀλλ᾽ ἤδη γέ τι ἔστι βεβαιότερον καὶ ἀληθινώτερον, καὶ τοῦ λόγου ἀπηλλαγμένοι ἂν εἴημεν τοῦ ἀκράτου καὶ κωλύοντός τι τῇ διανοίᾳ ὁρίσαι.

Ἔστι δ᾽ ἀπὸ τῆς αὐτῆς δόξης καὶ ὁ Πρωταγόρου λόγος, καὶ ἀνάγκη ὁμοίως αὐτοὺς ἄμφω ἢ εἶναι ἢ μὴ εἶναι· εἴτε γὰρ τὰ δοκοῦντα πάντα ἐστὶν ἀληθῆ καὶ τὰ φαινόμενα, ἀνάγκη εἶναι πάντα ἅμα ἀληθῆ καὶ ψευδῆ (πολλοὶ γὰρ τἀναντία ὑπολαμβάνουσιν ἀλλήλοις, καὶ τοὺς μὴ ταὐτὰ δοξάζοντας ἑαυτοῖς διεψεῦσθαι νομίζουσιν· ὥστ᾽ ἀνάγκη τὸ αὐτὸ εἶναί τε καὶ μὴ εἶναι), καὶ εἰ τοῦτ᾽ ἔστιν, ἀνάγκη τὰ δοκοῦντα εἶναι πάντ᾽ ἀληθῆ (τὰ ἀντικείμενα γὰρ δοξάζουσιν ἀλλήλοις οἱ διεψευσμένοι καὶ ἀληθεύοντες· εἰ οὖν ἔχει τὰ ὄντα οὕτως, ἀληθεύσουσι πάντες). ὅτι μὲν οὖν ἀπὸ τῆς αὐτῆς εἰσὶ διανοίας ἀμφότεροι οἱ λόγοι, δῆλον· ἔστι δ’ οὐχ ὁ αὐτὸς τρόπος πρὸς ἅπαντας τῆς ἐντεύξεως· οἱ μὲν γὰρ πειθοῦς δέονται οἱ δὲ βίας. ὅσοι μὲν γὰρ ἐκ τοῦ ἀπορῆσαι ὑπέλαβον οὕτως, τούτων εὐΐατος ἡ ἄγνοια (οὐ γὰρ πρὸς τὸν λόγον ἀλλὰ πρὸς τὴν διάνοιαν ἡ ἀπάντησις αὐτῶν)· ὅσοι δὲ λόγου χάριν λέγουσι, τούτων δ’ ἔλεγχος ἴασις τοῦ ἐν τῇ φωνῇ λόγου καὶ τοῦ ἐν τοῖς ὀνόμασιν. ἐλήλυθε δὲ τοῖς διαποροῦσιν αὕτη ἡ δόξα ἐκ τῶν αἰσθητῶν, ἡ μὲν τοῦ ἅμα τὰς ἀντιφάσεις καὶ τἀναντία ὑπάρχειν ὁρῶσιν ἐκ ταὐτοῦ γιγνόμενα τἀναντία· εἰ οὖν μὴ ἐνδέχεται γίγνεσθαι τὸ μὴ ὄν, προϋπῆρχεν ὁμοίως τὸ πρᾶγμα ἄμφω ὄν, ὥσπερ καὶ Ἀναξαγόρας μεμῖχθαι πᾶν ἐν παντί φησι καὶ Δημόκριτος· καὶ γὰρ οὗτος τὸ κενὸν καὶ τὸ πλῆρες ὁμοίως καθ’ ὁτιοῦν ὑπάρχειν μέρος, καίτοι τὸ μὲν ὂν τούτων εἶναι τὸ δὲ μὴ ὄν. πρὸς μὲν οὖν τοὺς ἐκ τούτων ὑπολαμβάνοντας ἐροῦμεν ὅτι τρόπον μέν τινα ὀρθῶς λέγουσι τρόπον δέ τινα ἀγνοοῦσιν· τὸ γὰρ ὂν λέγεται διχῶς, ὥστ’ ἔστιν ὃν τρόπον ἐνδέχεται γίγνεσθαί τι ἐκ τοῦ μὴ ὄντος, ἔστι δ’ ὃν οὔ, καὶ ἅμα τὸ αὐτὸ εἶναι καὶ ὂν καὶ μὴ ὄν, ἀλλ’ οὐ κατὰ ταὐτὸ [ὄν]· δυνάμει μὲν γὰρ ἐνδέχεται ἅμα ταὐτὸ εἶναι τὰ ἐναντία, ἐντελεχείᾳ δ’ οὔ. ἔτι δ’ ἀξιώσομεν αὐτοὺς ὑπολαμβάνειν καὶ ἄλλην τινὰ οὐσίαν εἶναι τῶν ὄντων ᾗ οὔτε κίνησις ὑπάρχει οὔτε φθορὰ οὔτε γένεσις τὸ παράπαν. - ὅμοιως δὲ καὶ [1009b] ἡ περὶ τὰ φαινόμενα ἀλήθεια ἐνίοις ἐκ τῶν αἰσθητῶν ἐλήλυθεν. τὸ μὲν γὰρ ἀληθὲς οὐ πλήθει κρίνεσθαι οἴονται προσήκειν οὐδὲ ὀλιγότητι, τὸ δ’ αὐτὸ τοῖς μὲν γλυκὺ γευομένοις δοκεῖν εἶναι τοῖς δὲ πικρόν, ὥστ’ εἰ πάντες ἔκαμνον ἢ πάντες παρεφρόνουν, δύο δ’ ἢ τρεῖς ὑγίαινον ἢ νοῦν εἶχον, δοκεῖν ἂν τούτους κάμνειν καὶ παραφρονεῖν τοὺς δ’ ἄλλους οὔ· ἔτι δὲ καὶ πολλοῖς τῶν ἄλλων ζῴων τἀναντία [περὶ τῶν αὐτῶν] φαίνεσθαι καὶ ἡμῖν, καὶ αὐτῷ δὲ ἑκάστῳ πρὸς αὑτὸν οὐ ταὐτὰ κατὰ τὴν αἴσθησιν ἀεὶ δοκεῖν. ποῖα οὖν τούτων ἀληθῆ ἢ ψευδῆ, ἄδηλον· οὐθὲν γὰρ μᾶλλον τάδε ἢ τάδε ἀληθῆ, ἀλλ’ ὁμοίως. διὸ Δημόκριτός γέ φησιν ἤτοι οὐθὲν εἶναι ἀληθὲς ἢ ἡμῖν γ’ ἄδηλον. ὅλως δὲ διὰ τὸ ὑπολαμβάνειν φρόνησιν μὲν τὴν αἴσθησιν, ταύτην δ’ εἶναι ἀλλοίωσιν, τὸ φαινόμενον κατὰ τὴν αἴσθησιν ἐξ ἀνάγκης ἀληθὲς εἶναί φασιν· ἐκ τούτων γὰρ καὶ Ἐμπεδοκλῆς καὶ Δημόκριτος καὶ τῶν ἄλλων ὡς ἔπος εἰπεῖν ἕκαστος τοιαύταις δόξαις γεγένηνται ἔνοχοι. καὶ γὰρ Ἐμπεδοκλῆς μεταβάλλοντας τὴν ἕξιν μεταβάλλειν φησὶ τὴν φρόνησιν· “πρὸς παρεὸν γὰρ μῆτις ἐναύξεται ἀνθρώποισιν.” καὶ ἐν ἑτέροις δὲ λέγει ὅτι “ὅσσον ‹δ’› ἀλλοῖοι μετέφυν, τόσον ἄρ σφισιν αἰεὶ καὶ τὸ φρονεῖν ἀλλοῖα παρίστατο”. καὶ Παρμενίδης δὲ ἀποφαίνεται τὸν αὐτὸν τρόπον· “ὡς γὰρ ἑκάστοτ’ ἔχει κρᾶσιν μελέων πολυκάμπτων, τὼς νόος ἀνθρώποισι παρίσταται· τὸ γὰρ αὐτὸ ἔστιν ὅπερ φρονέει, μελέων φύσις ἀνθρώποισιν καὶ πᾶσιν καὶ παντί· τὸ γὰρ πλέον ἐστὶ νόημα·” Ἀναξαγόρου δὲ καὶ ἀπόφθεγμα μνημονεύεται πρὸς τῶν ἑταίρων τινάς, ὅτι τοιαῦτ’ αὐτοῖς ἔσται τὰ ὄντα οἷα ἂν ὑπολάβωσιν. φασὶ δὲ καὶ τὸν Ὅμηρον ταύτην ἔχοντα φαίνεσθαι τὴν δόξαν, ὅτι ἐποίησε τὸν Ἕκτορα, ὡς ἐξέστη ὑπὸ τῆς πληγῆς, κεῖσθαι ἀλλοφρονέοντα, ὡς φρονοῦντας μὲν καὶ τοὺς παραφρονοῦντας ἀλλ’ οὐ ταὐτά. δῆλον οὖν ὅτι, εἰ ἀμφότεραι φρονήσεις, καὶ τὰ ὄντα ἅμα οὕτω τε καὶ οὐχ οὕτως ἔχει. ᾗ καὶ χαλεπώτατον τὸ συμβαῖνόν ἐστιν· εἰ γὰρ οἱ μάλιστα τὸ ἐνδεχόμενον ἀληθὲς ἑωρακότες - οὗτοι δ’ εἰσὶν οἱ μάλιστα ζητοῦντες αὐτὸ καὶ φιλοῦντες - οὗτοι τοιαύτας ἔχουσι τὰς δόξας καὶ ταῦτα ἀποφαίνονται περὶ τῆς ἀληθείας, πῶς οὐκ ἄξιον ἀθυμῆσαι τοὺς φιλοσοφεῖν ἐγχειροῦντας; τὸ γὰρ τὰ πετόμενα διώκειν τὸ ζητεῖν ἂν [1010a] εἴη τὴν ἀλήθειαν. - αἴτιον δὲ τῆς δόξης τούτοις ὅτι περὶ τῶν ὄντων μὲν τὴν ἀλήθειαν ἐσκόπουν, τὰ δ’ ὄντα ὑπέλαβον εἶναι τὰ αἰσθητὰ μόνον· ἐν δὲ τούτοις πολλὴ ἡ τοῦ ἀορίστου φύσις ἐνυπάρχει καὶ ἡ τοῦ ὄντος οὕτως ὥσπερ εἴπομεν· διὸ εἰκότως μὲν λέγουσιν, οὐκ ἀληθῆ δὲ λέγουσιν (οὕτω γὰρ ἁρμόττει μᾶλλον εἰπεῖν ἢ ὥσπερ Ἐπίχαρμος εἰς Ξενοφάνην). ἔτι δὲ πᾶσαν ὁρῶντες ταύτην κινουμένην τὴν φύσιν, κατὰ δὲ τοῦ μεταβάλλοντος οὐθὲν ἀληθευόμενον, περί γε τὸ πάντῃ πάντως μεταβάλλον οὐκ ἐνδέχεσθαι ἀληθεύειν. ἐκ γὰρ ταύτης τῆς ὑπολήψεως ἐξήνθησεν ἡ ἀκροτάτη δόξα τῶν εἰρημένων, ἡ τῶν φασκόντων ἡρακλειτίζειν καὶ οἵαν Κρατύλος εἶχεν, ὃς τὸ τελευταῖον οὐθὲν ᾤετο δεῖν λέγειν ἀλλὰ τὸν δάκτυλον ἐκίνει μόνον, καὶ Ἡρακλείτῳ ἐπετίμα εἰπόντι ὅτι δὶς τῷ αὐτῷ ποταμῷ οὐκ ἔστιν ἐμβῆναι· αὐτὸς γὰρ ᾤετο οὐδ’ ἅπαξ. ἡμεῖς δὲ καὶ πρὸς τοῦτον τὸν λόγον ἐροῦμεν ὅτι τὸ μὲν μεταβάλλον ὅτε μεταβάλλει ἔχει τινὰ αὐτοῖς λόγον μὴ οἴεσθαι εἶναι, καίτοι ἔστι γε ἀμφισβητήσιμον· τό τε γὰρ ἀποβάλλον ἔχει τι τοῦ ἀποβαλλομένου, καὶ τοῦ γιγνομένου ἤδη ἀνάγκη τι εἶναι, ὅλως τε εἰ φθείρεται, ὑπάρξει τι ὄν, καὶ εἰ γίγνεται, ἐξ οὗ γίγνεται καὶ ὑφ’ οὗ γεννᾶται ἀναγκαῖον εἶναι, καὶ τοῦτο μὴ ἰέναι εἰς ἄπειρον. ἀλλὰ ταῦτα παρέντες ἐκεῖνα λέγωμεν, ὅτι οὐ ταὐτό ἐστι τὸ μεταβάλλειν κατὰ τὸ ποσὸν καὶ κατὰ τὸ ποιόν· κατὰ μὲν οὖν τὸ ποσὸν ἔστω μὴ μένον, ἀλλὰ κατὰ τὸ εἶδος ἅπαντα γιγνώσκομεν. ἔτι δ’ ἄξιον ἐπιτιμῆσαι τοῖς οὕτως ὑπολαμβάνουσιν, ὅτι καὶ αὐτῶν τῶν αἰσθητῶν ἐπὶ τῶν ἐλαττόνων τὸν ἀριθμὸν ἰδόντες οὕτως ἔχοντα περὶ ὅλου τοῦ οὐρανοῦ ὁμοίως ἀπεφήναντο· ὁ γὰρ περὶ ἡμᾶς τοῦ αἰσθητοῦ τόπος ἐν φθορᾷ καὶ γενέσει διατελεῖ μόνος ὤν, ἀλλ’ οὗτος οὐθὲν ὡς εἰπεῖν μόριον τοῦ παντός ἐστιν, ὥστε δικαιότερον ἂν δι’ ἐκεῖνα τούτων ἀπεψηφίσαντο ἢ διὰ ταῦτα ἐκείνων κατεψηφίσαντο. ἔτι δὲ δῆλον ὅτι καὶ πρὸς τούτους ταὐτὰ τοῖς πάλαι λεχθεῖσιν ἐροῦμεν· ὅτι γὰρ ἔστιν ἀκίνητός τις φύσις δεικτέον αὐτοῖς καὶ πειστέον αὐτούς. καίτοι γε συμβαίνει τοῖς ἅμα φάσκουσιν εἶναι καὶ μὴ εἶναι ἠρεμεῖν μᾶλλον φάναι πάντα ἢ κινεῖσθαι· οὐ γὰρ ἔστιν εἰς ὅ τι μεταβαλεῖ· ἅπαντα γὰρ ὑπάρχει [1010b] πᾶσιν. - περὶ δὲ τῆς ἀληθείας, ὡς οὐ πᾶν τὸ φαινόμενον ἀληθές, πρῶτον μὲν ὅτι οὐδ’ ‹εἰ› ἡ αἴσθησις ‹μὴ› ψευδὴς τοῦ γε ἰδίου ἐστίν, ἀλλ’ ἡ φαντασία οὐ ταὐτὸν τῇ αἰσθήσει. εἶτ’ ἄξιον θαυμάσαι εἰ τοῦτ’ ἀποροῦσι, πότερον τηλικαῦτά ἐστι τὰ μεγέθη καὶ τὰ χρώματα τοιαῦτα οἷα τοῖς ἄπωθεν φαίνεται ἢ οἷα τοῖς ἐγγύθεν, καὶ πότερον οἷα τοῖς ὑγιαίνουσιν ἢ οἷα τοῖς κάμνουσιν, καὶ βαρύτερα πότερον ἃ τοῖς ἀσθενοῦσιν ἢ ἃ τοῖς ἰσχύουσιν, καὶ ἀληθῆ πότερον ἃ τοῖς καθεύδουσιν ἢ ἃ τοῖς ἐγρηγορόσιν. ὅτι μὲν γὰρ οὐκ οἴονταί γε, φανερόν· οὐθεὶς γοῦν, ἐὰν ὑπολάβῃ νύκτωρ Ἀθήνησιν εἶναι ὢν ἐν Λιβύῃ, πορεύεται εἰς τὸ ᾠδεῖον. ἔτι δὲ περὶ τοῦ μέλλοντος, ὥσπερ καὶ Πλάτων λέγει, οὐ δήπου ὁμοίως κυρία ἡ τοῦ ἰατροῦ δόξα καὶ ἡ τοῦ ἀγνοοῦντος, οἷον περὶ τοῦ μέλλοντος ἔσεσθαι ὑγιοῦς ἢ μὴ μέλλοντος. ἔτι δὲ ἐπ’ αὐτῶν τῶν αἰσθήσεων οὐχ ὁμοίως κυρία ἡ τοῦ ἀλλοτρίου καὶ ἰδίου ἢ τοῦ πλησίον καὶ τοῦ αὑτῆς, ἀλλὰ περὶ μὲν χρώματος ὄψις, οὐ γεῦσις, περὶ δὲ χυμοῦ γεῦσις, οὐκ ὄψις· ὧν ἑκάστη ἐν τῷ αὐτῷ χρόνῳ περὶ τὸ αὐτὸ οὐδέποτε φησιν ἅμα οὕτω καὶ οὐχ οὕτως ἔχειν. ἀλλ’ οὐδὲ ἐν ἑτέρῳ χρόνῳ περί γε τὸ πάθος ἠμφισβήτησεν, ἀλλὰ περὶ τὸ ᾧ συμβέβηκε τὸ πάθος. λέγω δ’ οἷον ὁ μὲν αὐτὸς οἶνος δόξειεν ἂν ἢ μεταβαλὼν ἢ τοῦ σώματος μεταβαλόντος ὁτὲ μὲν εἶναι γλυκὺς ὁτὲ δὲ οὐ γλυκύς· ἀλλ’ οὐ τό γε γλυκύ, οἷόν ἐστιν ὅταν ᾖ, οὐδεπώποτε μετέβαλεν, ἀλλ’ ἀεὶ ἀληθεύει περὶ αὐτοῦ, καὶ ἔστιν ἐξ ἀνάγκης τὸ ἐσόμενον γλυκὺ τοιοῦτον. καίτοι τοῦτο ἀναιροῦσιν οὗτοι οἱ λόγοι ἅπαντες, ὥσπερ καὶ οὐσίαν μὴ εἶναι μηθενός, οὕτω μηδ’ ἐξ ἀνάγκης μηθέν· τὸ γὰρ ἀναγκαῖον οὐκ ἐνδέχεται ἄλλως καὶ ἄλλως ἔχειν, ὥστ’ εἴ τι ἔστιν ἐξ ἀνάγκης, οὐχ ἕξει οὕτω τε καὶ οὐχ οὕτως. - ὅλως τ’ εἴπερ ἔστι τὸ αἰσθητὸν μόνον, οὐθὲν ἂν εἴη μὴ ὄντων τῶν ἐμψύχων· αἴσθησις γὰρ οὐκ ἂν εἴη. τὸ μὲν οὖν μήτε τὰ αἰσθητὰ εἶναι μήτε τὰ αἰσθήματα ἴσως ἀληθές (τοῦ γὰρ αἰσθανομένου πάθος τοῦτό ἐστι), τὸ δὲ τὰ ὑποκείμενα μὴ εἶναι, ἃ ποιεῖ τὴν αἴσθησιν, καὶ ἄνευ αἰσθήσεως, ἀδύνατον. οὐ γὰρ δὴ ἥ γ’ αἴσθησις αὐτὴ ἑαυτῆς ἐστίν, ἀλλ’ ἔστι τι καὶ ἕτερον παρὰ τὴν αἴσθησιν, ὃ ἀνάγκη πρότερον εἶναι τῆς αἰσθήσεως· τὸ γὰρ κινοῦν τοῦ κινουμένου [1011a] φύσει πρότερόν ἐστι, κἂν εἰ λέγεται πρὸς ἄλληλα ταῦτα, οὐθὲν ἧττον.

Εἰσὶ δέ τινες οἳ ἀποροῦσι καὶ τῶν ταῦτα πεπεισμένων καὶ τῶν τοὺς λόγους τούτους μόνον λεγόντων· ζητοῦσι γὰρ τίς ὁ κρινῶν τὸν ὑγιαίνοντα καὶ ὅλως τὸν περὶ ἕκαστα κρινοῦντα ὀρθῶς. τὰ δὲ τοιαῦτα ἀπορήματα ὅμοιά ἐστι τῷ ἀπορεῖν πότερον καθεύδομεν νῦν ἢ ἐγρηγόραμεν, δύνανται δ’ αἱ ἀπορίαι αἱ τοιαῦται πᾶσαι τὸ αὐτό· πάντων γὰρ λόγον ἀξιοῦσιν εἶναι οὗτοι· ἀρχὴν γὰρ ζητοῦσι, καὶ ταύτην δι’ ἀποδείξεως λαμβάνειν, ἐπεὶ ὅτι γε πεπεισμένοι οὐκ εἰσί, φανεροί εἰσιν ἐν ταῖς πράξεσιν. ἀλλ’ ὅπερ εἴπομεν, τοῦτο αὐτῶν τὸ πάθος ἐστίν· λόγον γὰρ ζητοῦσιν ὧν οὐκ ἔστι λόγος· ἀποδείξεως γὰρ ἀρχὴ οὐκ ἀπόδειξίς ἐστιν. οὗτοι μὲν οὖν ῥᾳδίως ἂν τοῦτο πεισθεῖεν (ἔστι γὰρ οὐ χαλεπὸν λαβεῖν)· οἱ δ’ ἐν τῷ λόγῳ τὴν βίαν μόνον ζητοῦντες ἀδύνατον ζητοῦσιν· ἐναντία γὰρ εἰπεῖν ἀξιοῦσιν, εὐθὺς ἐναντία λέγοντες. εἰ δὲ μὴ ἔστι πάντα πρός τι, ἀλλ’ ἔνιά ἐστι καὶ αὐτὰ καθ’ αὑτά, οὐκ ἂν εἴη πᾶν τὸ φαινόμενον ἀληθές· τὸ γὰρ φαινόμενον τινί ἐστι φαινόμενον· ὥστε ὁ λέγων ἅπαντα τὰ φαινόμενα εἶναι ἀληθῆ ἅπαντα ποιεῖ τὰ ὄντα πρός τι. διὸ καὶ φυλακτέον τοῖς τὴν βίαν ἐν τῷ λόγῳ ζητοῦσιν, ἅμα δὲ καὶ ὑπέχειν λόγον ἀξιοῦσιν, ὅτι οὐ τὸ φαινόμενον ἔστιν ἀλλὰ τὸ φαινόμενον ᾧ φαίνεται καὶ ὅτε φαίνεται καὶ ᾗ καὶ ὥς. ἂν δ’ ὑπέχωσι μὲν λόγον, μὴ οὕτω δ’ ὑπέχωσι, συμβήσεται αὐτοῖς τἀναντία ταχὺ λέγειν. ἐνδέχεται γὰρ τὸ αὐτὸ κατὰ μὲν τὴν ὄψιν μέλι φαίνεσθαι τῇ δὲ γεύσει μή, καὶ τῶν ὀφθαλμῶν δυοῖν ὄντοιν μὴ ταὐτὰ ἑκατέρᾳ τῇ ὄψει, ἂν ὦσιν ἀνόμοιαι· ἐπεὶ πρός γε τοὺς διὰ τὰς πάλαι εἰρημένας αἰτίας τὸ φαινόμενον φάσκοντας ἀληθὲς εἶναι, καὶ διὰ τοῦτο πάνθ’ ὁμοίως εἶναι ψευδῆ καὶ ἀληθῆ· οὔτε γὰρ ἅπασι ταὐτὰ φαίνεσθαι οὔτε ταὐτῷ ἀεὶ ταὐτά, ἀλλὰ πολλάκις τἀναντία κατὰ τὸν αὐτὸν χρόνον (ἡ μὲν γὰρ ἁφὴ δύο λέγει ἐν τῇ ἐπαλλάξει τῶν δακτύλων ἡ δ’ ὄψις ἕν)· - ἀλλ’ οὔ τι τῇ αὐτῇ γε καὶ κατὰ τὸ αὐτὸ αἰσθήσει καὶ ὡσαύτως καὶ ἐν τῷ αὐτῷ [1011b] χρόνῳ, ὥστε τοῦτ’ ἂν εἴη ἀληθές. ἀλλ’ ἴσως διὰ τοῦτ’ ἀνάγκη λέγειν τοῖς μὴ δι’ ἀπορίαν ἀλλὰ λόγου χάριν λέγουσιν, ὅτι οὐκ ἔστιν ἀληθὲς τοῦτο ἀλλὰ τούτῳ ἀληθές. καὶ ὥσπερ δὴ πρότερον εἴρηται, ἀνάγκη πρός τι ποιεῖν ἅπαντα καὶ πρὸς δόξαν καὶ αἴσθησιν, ὥστ’ οὔτε γέγονεν οὔτ’ ἔσται οὐθὲν μηθενὸς προδοξάσαντος. εἰ δὲ γέγονεν ἢ ἔσται, δῆλον ὅτι οὐκ ἂν εἴη ἅπαντα πρὸς δόξαν. ἔτι εἰ ἕν, πρὸς ἓν ἢ πρὸς ὡρισμένον· καὶ εἰ τὸ αὐτὸ καὶ ἥμισυ καὶ ἴσον, ἀλλ’ οὐ πρὸς τὸ διπλάσιόν γε τὸ ἴσον. πρὸς δὴ τὸ δοξάζον εἰ ταὐτὸ ἄνθρωπος καὶ τὸ δοξαζόμενον, οὐκ ἔσται ἄνθρωπος τὸ δοξάζον ἀλλὰ τὸ δοξαζόμενον. εἰ δ’ ἕκαστον ἔσται πρὸς τὸ δοξάζον, πρὸς ἄπειρα ἔσται τῷ εἴδει τὸ δοξάζον.

Ὅτι μὲν οὖν βεβαιοτάτη δόξα πασῶν τὸ μὴ εἶναι ἀληθεῖς ἅμα τὰς ἀντικειμένας φάσεις, καὶ τί συμβαίνει τοῖς οὕτω λέγουσι, καὶ διὰ τί οὕτω λέγουσι, τοσαῦτα εἰρήσθω· ἐπεὶ δ’ ἀδύνατον τὴν ἀντίφασιν ἅμα ἀληθεύεσθαι κατὰ τοῦ αὐτοῦ, φανερὸν ὅτι οὐδὲ τἀναντία ἅμα ὑπάρχειν ἐνδέχεται τῷ αὐτῷ· τῶν μὲν γὰρ ἐναντίων θάτερον στέρησίς ἐστιν οὐχ ἧττον, οὐσίας δὲ στέρησις· ἡ δὲ στέρησις ἀπόφασίς ἐστιν ἀπό τινος ὡρισμένου γένους· εἰ οὖν ἀδύνατον ἅμα καταφάναι καὶ ἀποφάναι ἀληθῶς, ἀδύνατον καὶ τἀναντία ὑπάρχειν ἅμα, ἀλλ᾽ ἢ πῇ ἄμφω ἢ θάτερον μὲν πῇ θάτερον δὲ ἁπλῶς.

Ἀλλὰ μὴν οὐδὲ μεταξὺ ἀντιφάσεως ἐνδέχεται εἶναι οὐθέν, ἀλλ᾽ ἀνάγκη ἢ φάναι ἢ ἀποφάναι ἓν καθ᾽ ἑνὸς ὁτιοῦν. δῆλον δὲ πρῶτον μὲν ὁρισαμένοις τί τὸ ἀληθὲς καὶ ψεῦδος. τὸ μὲν γὰρ λέγειν τὸ ὂν μὴ εἶναι ἢ τὸ μὴ ὂν εἶναι ψεῦδος, τὸ δὲ τὸ ὂν εἶναι καὶ τὸ μὴ ὂν μὴ εἶναι ἀληθές, ὥστε καὶ ὁ λέγων εἶναι ἢ μὴ ἀληθεύσει ἢ ψεύσεται· ἀλλ᾽ οὔτε τὸ ὂν λέγεται μὴ εἶναι ἢ εἶναι οὔτε τὸ μὴ ὄν. ἔτι ἤτοι μεταξὺ ἔσται τῆς ἀντιφάσεως ὥσπερ τὸ φαιὸν μέλανος καὶ λευκοῦ, ἢ ὡς τὸ μηδέτερον ἀνθρώπου καὶ ἵππου. εἰ μὲν οὖν οὕτως, οὐκ ἂν μεταβάλλοι (ἐκ μὴ ἀγαθοῦ γὰρ εἰς ἀγαθὸν μεταβάλλει ἢ ἐκ τούτου εἰς μὴ ἀγαθόν), νῦν δ᾽ ἀεὶ φαίνεται (οὐ γὰρ ἔστι μεταβολὴ ἀλλ᾽ ἢ εἰς τὰ ἀντικείμενα καὶ μεταξύ)· εἰ δ᾽ ἔστι μεταξύ, καὶ οὕτως εἴη ἄν [1012a] τις εἰς λευκὸν οὐκ ἐκ μὴ λευκοῦ γένεσις, νῦν δ᾽ οὐχ ὁρᾶται. ἔτι πᾶν τὸ διανοητὸν καὶ νοητὸν ἡ διάνοια ἢ κατάφησιν ἢ ἀπόφησιν - τοῦτο δ᾽ ἐξ ὁρισμοῦ δῆλον - ὅταν ἀληθεύῃ ἢ ψεύδηται· ὅταν μὲν ὡδὶ συνθῇ φᾶσα ἢ ἀποφᾶσα, ἀληθεύει, ὅταν δὲ ὡδί, ψεύδεται. ἔτι παρὰ πάσας δεῖ εἶναι τὰς ἀντιφάσεις, εἰ μὴ λόγου ἕνεκα λέγεται· ὥστε καὶ οὔτε ἀληθεύσει τις οὔτ᾽ οὐκ ἀληθεύσει, καὶ παρὰ τὸ ὂν καὶ τὸ μὴ ὂν ἔσται, ὥστε καὶ παρὰ γένεσιν καὶ φθορὰν μεταβολή τις ἔσται. ἔτι ἐν ὅσοις γένεσιν ἡ ἀπόφασις τὸ ἐναντίον ἐπιφέρει, καὶ ἐν τούτοις ἔσται, οἷον ἐν ἀριθμοῖς οὔτε περιττὸς οὔτε οὐ περιττὸς ἀριθμός· ἀλλ᾽ ἀδύνατον· ἐκ τοῦ ὁρισμοῦ δὲ δῆλον. ἔτι εἰς ἄπειρον βαδιεῖται, καὶ οὐ μόνον ἡμιόλια τὰ ὄντα ἔσται ἀλλὰ πλείω. πάλιν γὰρ ἔσται ἀποφῆσαι τοῦτο πρὸς τὴν φάσιν καὶ τὴν ἀπόφασιν, καὶ τοῦτ᾽ ἔσται τι· ἡ γὰρ οὐσία ἐστί τις αὐτοῦ ἄλλη. ἔτι ὅταν ἐρομένου εἰ λευκόν ἐστιν εἴπῃ ὅτι οὔ, οὐθὲν ἄλλο ἀποπέφηκεν ἢ τὸ εἶναι· ἀπόφασις δὲ τὸ μὴ εἶναι. ἐλήλυθε δ᾽ ἐνίοις αὕτη ἡ δόξα ὥσπερ καὶ ἄλλαι τῶν παραδόξων· ὅταν γὰρ λύειν μὴ δύνωνται λόγους ἐριστικούς, ἐνδόντες τῷ λόγῳ σύμφασιν ἀληθὲς εἶναι τὸ συλλογισθέν. οἱ μὲν οὖν διὰ τοιαύτην αἰτίαν λέγουσιν, οἱ δὲ διὰ τὸ πάντων ζητεῖν λόγον. ἀρχὴ δὲ πρὸς ἅπαντας τούτους ἐξ ὁρισμοῦ. ὁρισμὸς δὲ γίγνεται ἐκ τοῦ σημαίνειν τι ἀναγκαῖον εἶναι αὐτούς· ὁ γὰρ λόγος οὗ τὸ ὄνομα σημεῖον ὁρισμὸς ἔσται. ἔοικε δ᾽ ὁ μὲν Ἡρακλείτου λόγος, λέγων πάντα εἶναι καὶ μὴ εἶναι, ἅπαντα ἀληθῆ ποιεῖν, ὁ δ᾽ Ἀναξαγόρου, εἶναί τι μεταξὺ τῆς ἀντιφάσεως, πάντα ψευδῆ· ὅταν γὰρ μιχθῇ, οὔτε ἀγαθὸν οὔτε οὐκ ἀγαθὸν τὸ μῖγμα, ὥστ᾽ οὐδὲν εἰπεῖν ἀληθές.

Διωρισμένων δὲ τούτων φανερὸν ὅτι καὶ τὰ μοναχῶς λεγόμενα καὶ κατὰ πάντων ἀδύνατον ὑπάρχειν ὥσπερ τινὲς λέγουσιν, οἱ μὲν οὐθὲν φάσκοντες ἀληθὲς εἶναι (οὐθὲν γὰρ κωλύειν φασὶν οὕτως ἅπαντα εἶναι ὥσπερ τὸ τὴν διάμετρον σύμμετρον εἶναι), οἱ δὲ πάντ' ἀληθῆ. σχεδὸν γὰρ οὗτοι οἱ λόγοι οἱ αὐτοὶ τῷ Ἡρακλείτου· ὁ γὰρ λέγων ὅτι πάντ' ἀληθῆ καὶ πάντα ψευδῆ, καὶ χωρὶς λέγει τῶν [1012b] λόγων ἑκάτερον τούτων, ὥστ' εἴπερ ἀδύνατα ἐκεῖνα, καὶ ταῦτα ἀδύνατον εἶναι. ἔτι δὲ φανερῶς ἀντιφάσεις εἰσὶν ἃς οὐχ οἷόν τε ἅμα ἀληθεῖς εἶναι - οὐδὲ δὴ ψευδεῖς πάσας· καίτοι δόξειέ γ' ἂν μᾶλλον ἐνδέχεσθαι ἐκ τῶν εἰρημένων. ἀλλὰ πρὸς πάντας τοὺς τοιούτους λόγους αἰτεῖσθαι δεῖ, καθάπερ ἐλέχθη καὶ ἐν τοῖς ἐπάνω λόγοις, οὐχὶ εἶναί τι ἢ μὴ εἶναι ἀλλὰ σημαίνειν τι, ὥστε ἐξ ὁρισμοῦ διαλεκτέον λαβόντας τί σημαίνει τὸ ψεῦδος ἢ τὸ ἀληθές. εἰ δὲ μηθὲν ἄλλο τὸ ἀληθὲς φάναι ἢ ‹ὃ› ἀποφάναι ψεῦδός ἐστιν, ἀδύνατον πάντα ψευδῆ εἶναι· ἀνάγκη γὰρ τῆς ἀντιφάσεως θάτερον εἶναι μόριον ἀληθές. ἔτι εἰ πᾶν ἢ φάναι ἢ ἀποφάναι ἀναγκαῖον, ἀδύνατον ἀμφότερα ψευδῆ εἶναι· θάτερον γὰρ μόριον τῆς ἀντιφάσεως ψεῦδός ἐστιν. συμβαίνει δὴ καὶ τὸ θρυλούμενον πᾶσι τοῖς τοιούτοις λόγοις, αὐτοὺς ἑαυτοὺς ἀναιρεῖν. ὁ μὲν γὰρ πάντα ἀληθῆ λέγων καὶ τὸν ἐναντίον αὑτοῦ λόγον ἀληθῆ ποιεῖ, ὥστε τὸν ἑαυτοῦ οὐκ ἀληθῆ (ὁ γὰρ ἐναντίος οὔ φησιν αὐτὸν ἀληθῆ), ὁ δὲ πάντα ψευδῆ καὶ αὐτὸς αὑτόν. ἐὰν δ' ἐξαιρῶνται ὁ μὲν τὸν ἐναντίον ὡς οὐκ ἀληθὴς μόνος ἐστίν, ὁ δὲ τὸν αὑτοῦ ὡς οὐ ψευδής, οὐδὲν ἧττον ἀπείρους συμβαίνει αὐτοῖς αἰτεῖσθαι λόγους ἀληθεῖς καὶ ψευδεῖς· ὁ γὰρ λέγων τὸν ἀληθῆ λόγον ἀληθῆ ἀληθής, τοῦτο δ' εἰς ἄπειρον βαδιεῖται. - φανερὸν δ' ὅτι οὐδ' οἱ πάντα ἠρεμεῖν λέγοντες ἀληθῆ λέγουσιν οὐδ' οἱ πάντα κινεῖσθαι. εἰ μὲν γὰρ ἠρεμεῖ πάντα, ἀεὶ ταὐτὰ ἀληθῆ καὶ ψευδῆ ἔσται, φαίνεται δὲ τοῦτο μεταβάλλον (ὁ γὰρ λέγων ποτὲ αὐτὸς οὐκ ἦν καὶ πάλιν οὐκ ἔσται)· εἰ δὲ πάντα κινεῖται, οὐθὲν ἔσται ἀληθές· πάντα ἄρα ψευδῆ· ἀλλὰ δέδεικται ὅτι ἀδύνατον. ἔτι ἀνάγκη τὸ ὂν μεταβάλλειν· ἔκ τινος γὰρ εἴς τι ἡ μεταβολή. ἀλλὰ μὴν οὐδὲ πάντα ἠρεμεῖ ἢ κινεῖται ποτέ, ἀεὶ δ' οὐθέν· ἔστι γάρ τι ὃ ἀεὶ κινεῖ τὰ κινούμενα, καὶ τὸ πρῶτον κινοῦν ἀκίνητον αὐτό.

Δ

Ἀρχὴ λέγεται ἡ μὲν ὅθεν ἄν τις τοῦ πράγματος κινηθείη πρῶτον, οἷον τοῦ μήκους καὶ ὁδοῦ ἐντεῦθεν μὲν αὕτη [1013a] ἀρχή, ἐξ ἐναντίας δὲ ἑτέρα· ἡ δὲ ὅθεν ἂν κάλλιστα ἕκαστον γένοιτο, οἷον καὶ μαθήσεως οὐκ ἀπὸ τοῦ πρώτου καὶ τῆς τοῦ πράγματος ἀρχῆς ἐνίοτε ἀρκτέον ἀλλ’ ὅθεν ῥᾷστ’ ἂν μάθοι· ἡ δὲ ὅθεν πρῶτον γίγνεται ἐνυπάρχοντος, οἷον ὡς πλοίου τρόπις καὶ οἰκίας θεμέλιος, καὶ τῶν ζῴων οἱ μὲν καρδίαν οἱ δὲ ἐγκέφαλον οἱ δ’ ὅ τι ἂν τύχωσι τοιοῦτον ὑπολαμβάνουσιν· ἡ δὲ ὅθεν γίγνεται πρῶτον μὴ ἐνυπάρχοντος καὶ ὅθεν πρῶτον ἡ κίνησις πέφυκεν ἄρχεσθαι καὶ ἡ μεταβολή, οἷον τὸ τέκνον ἐκ τοῦ πατρὸς καὶ τῆς μητρὸς καὶ ἡ μάχη ἐκ τῆς λοιδορίας· ἡ δὲ οὗ κατὰ προαίρεσιν κινεῖται τὰ κινούμενα καὶ μεταβάλλει τὰ μεταβάλλοντα, ὥσπερ αἵ τε κατὰ πόλεις ἀρχαὶ καὶ αἱ δυναστεῖαι καὶ αἱ βασιλεῖαι καὶ τυραννίδες ἀρχαὶ λέγονται καὶ αἱ τέχναι, καὶ τούτων αἱ ἀρχιτεκτονικαὶ μάλιστα. ἔτι ὅθεν γνωστὸν τὸ πρᾶγμα πρῶτον, καὶ αὕτη ἀρχὴ λέγεται τοῦ πράγματος, οἷον τῶν ἀποδείξεων αἱ ὑποθέσεις. ἰσαχῶς δὲ καὶ τὰ αἴτια λέγεται· πάντα γὰρ τὰ αἴτια ἀρχαί. πασῶν μὲν οὖν κοινὸν τῶν ἀρχῶν τὸ πρῶτον εἶναι ὅθεν ἢ ἔστιν ἢ γίγνεται ἢ γιγνώσκεται· τούτων δὲ αἱ μὲν ἐνυπάρχουσαί εἰσιν αἱ δὲ ἐκτός. διὸ ἥ τε φύσις ἀρχὴ καὶ τὸ στοιχεῖον καὶ ἡ διάνοια καὶ ἡ προαίρεσις καὶ οὐσία καὶ τὸ οὗ ἕνεκα· πολλῶν γὰρ καὶ τοῦ γνῶναι καὶ τῆς κινήσεως ἀρχὴ τἀγαθὸν καὶ τὸ καλόν.

Αἴτιον λέγεται ἕνα μὲν τρόπον ἐξ οὗ γίγνεταί τι ἐνυπάρχοντος, οἷον ὁ χαλκὸς τοῦ ἀνδριάντος καὶ ὁ ἄργυρος τῆς φιάλης καὶ τὰ τούτων γένη· ἄλλον δὲ τὸ εἶδος καὶ τὸ παράδειγμα, τοῦτο δ’ ἐστὶν ὁ λόγος τοῦ τί ἦν εἶναι καὶ τὰ τούτου γένη (οἷον τοῦ διὰ πασῶν τὸ δύο πρὸς ἓν καὶ ὅλως ὁ ἀριθμός) καὶ τὰ μέρη τὰ ἐν τῷ λόγῳ. ἔτι ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἡ πρώτη ἢ τῆς ἠρεμήσεως, οἷον ὁ βουλεύσας αἴτιος, καὶ ὁ πατὴρ τοῦ τέκνου καὶ ὅλως τὸ ποιοῦν τοῦ ποιουμένου καὶ τὸ μεταβλητικὸν τοῦ μεταβάλλοντος. ἔτι ὡς τὸ τέλος· τοῦτο δ’ ἐστὶ τὸ οὗ ἕνεκα, οἷον τοῦ περιπατεῖν ἡ ὑγίεια. διὰ τί γὰρ περιπατεῖ; φαμέν. ἵνα ὑγιαίνῃ. καὶ εἰπόντες οὕτως οἰόμεθα ἀποδεδωκέναι τὸ αἴτιον. καὶ ὅσα δὴ κινήσαντος ἄλλου μεταξὺ γίγνεται τοῦ τέλους, οἷον τῆς [1013b] ὑγιείας ἡ ἰσχνασία ἢ ἡ κάθαρσις ἢ τὰ φάρμακα ἢ τὰ ὄργανα· πάντα γὰρ ταῦτα τοῦ τέλους ἕνεκά ἐστι, διαφέρει δὲ ἀλλήλων ὡς ὄντα τὰ μὲν ὄργανα τὰ δ’ ἔργα. τὰ μὲν οὖν αἴτια σχεδὸν τοσαυταχῶς λέγεται, συμβαίνει δὲ πολλαχῶς λεγομένων τῶν αἰτίων καὶ πολλὰ τοῦ αὐτοῦ αἴτια εἶναι οὐ κατὰ συμβεβηκός (οἷον τοῦ ἀνδριάντος καὶ ἡ ἀνδριαντοποιητικὴ καὶ ὁ χαλκὸς οὐ καθ’ ἕτερόν τι ἀλλ’ ᾗ ἀνδριάς· ἀλλ’ οὐ τὸν αὐτὸν τρόπον ἀλλὰ τὸ μὲν ὡς ὕλη τὸ δ’ ὡς ὅθεν ἡ κίνησις), καὶ ἀλλήλων αἴτια (οἷον τὸ πονεῖν τῆς εὐεξίας καὶ αὕτη τοῦ πονεῖν· ἀλλ’ οὐ τὸν αὐτὸν τρόπον ἀλλὰ τὸ μὲν ὡς τέλος τὸ δ’ ὡς ἀρχὴ κινήσεως). ἔτι δὲ ταὐτὸ τῶν ἐναντίων ἐστίν· ὃ γὰρ παρὸν αἴτιον τουδί, τοῦτ’ ἀπὸν αἰτιώμεθα ἐνίοτε τοῦ ἐναντίου, οἷον τὴν ἀπουσίαν τοῦ κυβερνήτου τῆς ἀνατροπῆς, οὗ ἦν ἡ παρουσία αἰτία τῆς σωτηρίας· ἄμφω δέ, καὶ ἡ παρουσία καὶ ἡ στέρησις, αἴτια ὡς κινοῦντα. - ἅπαντα δὲ τὰ νῦν εἰρημένα αἴτια εἰς τέτταρας τρόπους πίπτει τοὺς φανερωτάτους. τὰ μὲν γὰρ στοιχεῖα τῶν συλλαβῶν καὶ ἡ ὕλη τῶν σκευαστῶν καὶ τὸ πῦρ καὶ ἡ γῆ καὶ τὰ τοιαῦτα πάντα τῶν σωμάτων καὶ τὰ μέρη τοῦ ὅλου καὶ αἱ ὑποθέσεις τοῦ συμπεράσματος ὡς τὸ ἐξ οὗ αἴτιά ἐστιν· τούτων δὲ τὰ μὲν ὡς τὸ ὑποκείμενον, οἷον τὰ μέρη, τὰ δὲ ὡς τὸ τί ἦν εἶναι, τό τε ὅλον καὶ ἡ σύνθεσις καὶ τὸ εἶδος. τὸ δὲ σπέρμα καὶ ὁ ἰατρὸς καὶ ὁ βουλεύσας καὶ ὅλως τὸ ποιοῦν, πάντα ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἢ στάσεως. τὰ δ’ ὡς τὸ τέλος καὶ τἀγαθὸν τῶν ἄλλων· τὸ γὰρ οὗ ἕνεκα βέλτιστον καὶ τέλος τῶν ἄλλων ἐθέλει εἶναι· διαφερέτω δὲ μηδὲν αὐτὸ εἰπεῖν ἀγαθὸν ἢ φαινόμενον ἀγαθόν. - τὰ μὲν οὖν αἴτια ταῦτα καὶ τοσαῦτά ἐστι τῷ εἴδει, τρόποι δὲ τῶν αἰτίων ἀριθμῷ μέν εἰσι πολλοί, κεφαλαιούμενοι δὲ καὶ οὗτοι ἐλάττους. λέγονται γὰρ αἴτια πολλαχῶς, καὶ αὐτῶν τῶν ὁμοειδῶν προτέρως καὶ ὑστέρως ἄλλο ἄλλου, οἷον ὑγιείας ὁ ἰατρὸς καὶ ὁ τεχνίτης, καὶ τοῦ διὰ πασῶν τὸ διπλάσιον καὶ ἀριθμός, καὶ ἀεὶ τὰ περιέχοντα ὁτιοῦν τῶν καθ’ ἕκαστα. ἔτι δ’ ὡς τὸ συμβεβηκὸς καὶ τὰ τούτων γένη, οἷον ἀνδριάντος ἄλλως Πολύκλειτος καὶ ἄλλως ἀνδριαντοποιός, ὅτι συμβέβηκε τῷ ἀνδριαντοποιῷ [1014a] Πολυκλείτῳ εἶναι· καὶ τὰ περιέχοντα δὲ τὸ συμβεβηκός, οἷον ἄνθρωπος αἴτιος ἀνδριάντος, ἢ καὶ ὅλως ζῷον, ὅτι ὁ Πολύκλειτος ἄνθρωπος ὁ δὲ ἄνθρωπος ζῷον. ἔστι δὲ καὶ τῶν συμβεβηκότων ἄλλα ἄλλων πορρώτερον καὶ ἐγγύτερον, οἷον εἰ ὁ λευκὸς καὶ ὁ μουσικὸς αἴτιος λέγοιτο τοῦ ἀνδριάντος, ἀλλὰ μὴ μόνον Πολύκλειτος ἢ ἄνθρωπος. παρὰ πάντα δὲ καὶ τὰ οἰκείως λεγόμενα καὶ τὰ κατὰ συμβεβηκός, τὰ μὲν ὡς δυνάμενα λέγεται τὰ δ’ ὡς ἐνεργοῦντα, οἷον τοῦ οἰκοδομεῖσθαι οἰκοδόμος ἢ οἰκοδομῶν οἰκοδόμος. ὁμοίως δὲ λεχθήσεται καὶ ἐφ’ ὧν αἴτια τὰ αἴτια τοῖς εἰρημένοις, οἷον τοῦδε τοῦ ἀνδριάντος ἢ ἀνδριάντος ἢ ὅλως εἰκόνος, καὶ χαλκοῦ τοῦδε ἢ χαλκοῦ ἢ ὅλως ὕλης· καὶ ἐπὶ τῶν συμβεβηκότων ὡσαύτως. ἔτι δὲ συμπλεκόμενα καὶ ταῦτα κἀκεῖνα λεχθήσεται, οἷον οὐ Πολύκλειτος οὐδὲ ἀνδριαντοποιὸς ἀλλὰ Πολύκλειτος ἀνδριαντοποιός. ἀλλ’ ὅμως ἅπαντά γε ταῦτ’ ἐστὶ τὸ μὲν πλῆθος ἕξ, λεγόμενα δὲ διχῶς· ἢ γὰρ ὡς τὸ καθ’ ἕκαστον ἢ ὡς τὸ γένος, ἢ ὡς τὸ συμβεβηκὸς ἢ ὡς τὸ γένος τοῦ συμβεβηκότος, ἢ ὡς συμπλεκόμενα ταῦτα ἢ ὡς ἁπλῶς λεγόμενα, πάντα δὲ ἢ ὡς ἐνεργοῦντα ἢ κατὰ δύναμιν. διαφέρει δὲ τοσοῦτον, ὅτι τὰ μὲν ἐνεργοῦντα καὶ τὰ καθ’ ἕκαστον ἅμα ἔστι καὶ οὐκ ἔστι καὶ ὧν αἴτια, οἷον ὅδε ὁ ἰατρεύων τῷδε τῷ ὑγιαζομένῳ καὶ ὅδε ὁ οἰκοδόμος τῷδε τῷ οἰκοδομουμένῳ, τὰ δὲ κατὰ δύναμιν οὐκ ἀεί· φθείρεται γὰρ οὐχ ἅμα ἡ οἰκία καὶ ὁ οἰκοδόμος.

Στοιχεῖον λέγεται ἐξ οὗ σύγκειται πρώτου ἐνυπάρχοντος ἀδιαιρέτου τῷ εἴδει εἰς ἕτερον εἶδος, οἷον φωνῆς στοιχεῖα ἐξ ὧν σύγκειται ἡ φωνὴ καὶ εἰς ἃ διαιρεῖται ἔσχατα, ἐκεῖνα δὲ μηκέτ’ εἰς ἄλλας φωνὰς ἑτέρας τῷ εἴδει αὐτῶν, ἀλλὰ κἂν διαιρῆται, τὰ μόρια ὁμοειδῆ, οἷον ὕδατος τὸ μόριον ὕδωρ, ἀλλ’ οὐ τῆς συλλαβῆς. ὁμοίως δὲ καὶ τὰ τῶν σωμάτων στοιχεῖα λέγουσιν οἱ λέγοντες εἰς ἃ διαιρεῖται τὰ σώματα ἔσχατα, ἐκεῖνα δὲ μηκέτ’ εἰς ἄλλα εἴδει διαφέροντα· καὶ εἴτε ἓν εἴτε πλείω τὰ τοιαῦτα, ταῦτα στοιχεῖα λέγουσιν. παραπλησίως δὲ καὶ τὰ τῶν διαγραμμάτων στοιχεῖα λέγεται, καὶ ὅλως τὰ τῶν ἀποδείξεων· αἱ γὰρ πρῶται ἀποδείξεις καὶ ἐν πλείοσιν ἀποδείξεσιν [1014b] ἐνυπάρχουσαι, αὗται στοιχεῖα τῶν ἀποδείξεων λέγονται· εἰσὶ δὲ τοιοῦτοι συλλογισμοὶ οἱ πρῶτοι ἐκ τῶν τριῶν δι’ ἑνὸς μέσου. καὶ μεταφέροντες δὲ στοιχεῖον καλοῦσιν ἐντεῦθεν ὃ ἂν ἓν ὂν καὶ μικρὸν ἐπὶ πολλὰ ᾖ χρήσιμον, διὸ καὶ τὸ μικρὸν καὶ ἁπλοῦν καὶ ἀδιαίρετον στοιχεῖον λέγεται. ὅθεν ἐλήλυθε τὰ μάλιστα καθόλου στοιχεῖα εἶναι, ὅτι ἕκαστον αὐτῶν ἓν ὂν καὶ ἁπλοῦν ἐν πολλοῖς ὑπάρχει ἢ πᾶσιν ἢ ὅτι πλείστοις, καὶ τὸ ἓν καὶ τὴν στιγμὴν ἀρχάς τισι δοκεῖν εἶναι. ἐπεὶ οὖν τὰ καλούμενα γένη καθόλου καὶ ἀδιαίρετα (οὐ γὰρ ἔστι λόγος αὐτῶν), στοιχεῖα τὰ γένη λέγουσί τινες, καὶ μᾶλλον ἢ τὴν διαφορὰν ὅτι καθόλου μᾶλλον τὸ γένος· ᾧ μὲν γὰρ ἡ διαφορὰ ὑπάρχει, καὶ τὸ γένος ἀκολουθεῖ, ᾧ δὲ τὸ γένος, οὐ παντὶ ἡ διαφορά. ἁπάντων δὲ κοινὸν τὸ εἶναι στοιχεῖον ἑκάστου τὸ πρῶτον ἐνυπάρχον ἑκάστῳ.

Φύσις λέγεται ἕνα μὲν τρόπον ἡ τῶν φυομένων γένεσις, οἷον εἴ τις ἐπεκτείνας λέγοι τὸ υ, ἕνα δὲ ἐξ οὗ φύεται πρώτου τὸ φυόμενον ἐνυπάρχοντος· ἔτι ὅθεν ἡ κίνησις ἡ πρώτη ἐν ἑκάστῳ τῶν φύσει ὄντων ἐν αὐτῷ ᾗ αὐτὸ ὑπάρχει· φύεσθαι δὲ λέγεται ὅσα αὔξησιν ἔχει δι’ ἑτέρου τῷ ἅπτεσθαι καὶ συμπεφυκέναι ἢ προσπεφυκέναι ὥσπερ τὰ ἔμβρυα· διαφέρει δὲ σύμφυσις ἁφῆς, ἔνθα μὲν γὰρ οὐδὲν παρὰ τὴν ἁφὴν ἕτερον ἀνάγκη εἶναι, ἐν δὲ τοῖς συμπεφυκόσιν ἔστι τι ἓν τὸ αὐτὸ ἐν ἀμφοῖν ὃ ποιεῖ ἀντὶ τοῦ ἅπτεσθαι συμπεφυκέναι καὶ εἶναι ἓν κατὰ τὸ συνεχὲς καὶ ποσόν, ἀλλὰ μὴ κατὰ τὸ ποιόν. ἔτι δὲ φύσις λέγεται ἐξ οὗ πρώτου ἢ ἔστιν ἢ γίγνεταί τι τῶν φύσει ὄντων, ἀρρυθμίστου ὄντος καὶ ἀμεταβλήτου ἐκ τῆς δυνάμεως τῆς αὑτοῦ, οἷον ἀνδριάντος καὶ τῶν σκευῶν τῶν χαλκῶν ὁ χαλκὸς ἡ φύσις λέγεται, τῶν δὲ ξυλίνων ξύλον· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· ἐκ τούτων γάρ ἐστιν ἕκαστον διασωζομένης τῆς πρώτης ὕλης· τοῦτον γὰρ τὸν τρόπον καὶ τῶν φύσει ὄντων τὰ στοιχεῖά φασιν εἶναι φύσιν, οἱ μὲν πῦρ οἱ δὲ γῆν οἱ δ' ἀέρα οἱ δ' ὕδωρ οἱ δ' ἄλλο τι τοιοῦτον λέγοντες, οἱ δ' ἔνια τούτων οἱ δὲ πάντα ταῦτα. ἔτι δ' ἄλλον τρόπον λέγεται ἡ φύσις ἡ τῶν φύσει ὄντων οὐσία, οἷον οἱ λέγοντες τὴν φύσιν εἶναι τὴν πρώτην σύνθεσιν, ἢ ὥσπερ Ἐμπεδοκλῆς [1015a] λέγει ὅτι "φύσις οὐδενὸς ἔστιν ἐόντων, ἀλλὰ μόνον μῖξίς τε διάλλαξίς τε μιγέντων ἔστι, φύσις δ' ἐπὶ τοῖς ὀνομάζεται ἀνθρώποισιν". διὸ καὶ ὅσα φύσει ἔστιν ἢ γίγνεται, ἤδη ὑπάρχοντος ἐξ οὗ πέφυκε γίγνεσθαι ἢ εἶναι, οὔπω φαμὲν τὴν φύσιν ἔχειν ἐὰν μὴ ἔχῃ τὸ εἶδος καὶ τὴν μορφήν. φύσει μὲν οὖν τὸ ἐξ ἀμφοτέρων τούτων ἐστίν, οἷον τὰ ζῷα καὶ τὰ μόρια αὐτῶν· φύσις δὲ ἥ τε πρώτη ὕλη (καὶ αὕτη διχῶς, ἢ ἡ πρὸς αὐτὸ πρώτη ἢ ἡ ὅλως πρώτη, οἷον τῶν χαλκῶν ἔργων πρὸς αὐτὰ μὲν πρῶτος ὁ χαλκός, ὅλως δ' ἴσως ὕδωρ, εἰ πάντα τὰ τηκτὰ ὕδωρ) καὶ τὸ εἶδος καὶ ἡ οὐσία· τοῦτο δ' ἐστὶ τὸ τέλος τῆς γενέσεως. μεταφορᾷ δ' ἤδη καὶ ὅλως πᾶσα οὐσία φύσις λέγεται διὰ ταύτην, ὅτι καὶ ἡ φύσις οὐσία τίς ἐστιν. ἐκ δὴ τῶν εἰρημένων ἡ πρώτη φύσις καὶ κυρίως λεγομένη ἐστὶν ἡ οὐσία ἡ τῶν ἐχόντων ἀρχὴν κινήσεως ἐν αὑτοῖς ᾗ αὐτά· ἡ γὰρ ὕλη τῷ ταύτης δεκτικὴ εἶναι λέγεται φύσις, καὶ αἱ γενέσεις καὶ τὸ φύεσθαι τῷ ἀπὸ ταύτης εἶναι κινήσεις. καὶ ἡ ἀρχὴ τῆς κινήσεως τῶν φύσει ὄντων αὕτη ἐστίν, ἐνυπάρχουσά πως ἢ δυνάμει ἢ ἐντελεχείᾳ.

Ἀναγκαῖον λέγεται οὗ ἄνευ οὐκ ἐνδέχεται ζῆν ὡς συναιτίου (οἷον τὸ ἀναπνεῖν καὶ ἡ τροφὴ τῷ ζῴῳ ἀναγκαῖον, ἀδύνατον γὰρ ἄνευ τούτων εἶναι), καὶ ὧν ἄνευ τὸ ἀγαθὸν μὴ ἐνδέχεται ἢ εἶναι ἢ γενέσθαι, ἢ τὸ κακὸν ἀποβαλεῖν ἢ στερηθῆναι (οἷον τὸ πιεῖν τὸ φάρμακον ἀναγκαῖον ἵνα μὴ κάμνῃ, καὶ τὸ πλεῦσαι εἰς Αἴγιναν ἵνα ἀπολάβῃ τὰ χρήματα). ἔτι τὸ βίαιον καὶ ἡ βία· τοῦτο δ' ἐστὶ τὸ παρὰ τὴν ὁρμὴν καὶ τὴν προαίρεσιν ἐμποδίζον καὶ κωλυτικόν, τὸ γὰρ βίαιον ἀναγκαῖον λέγεται, διὸ καὶ λυπηρόν (ὥσπερ καὶ Εὔηνός φησι "πᾶν γὰρ ἀναγκαῖον πρᾶγμ' ἀνιαρὸν ἔφυ"), καὶ ἡ βία ἀνάγκη τις (ὥσπερ καὶ Σοφοκλῆς λέγει "ἀλλ' ἡ βία με ταῦτ' ἀναγκάζει ποιεῖν"), καὶ δοκεῖ ἡ ἀνάγκη ἀμετάπειστόν τι εἶναι, ὀρθῶς· ἐναντίον γὰρ τῇ κατὰ τὴν προαίρεσιν κινήσει καὶ κατὰ τὸν λογισμόν. ἔτι τὸ μὴ ἐνδεχόμενον ἄλλως ἔχειν ἀναγκαῖόν φαμεν οὕτως ἔχειν· καὶ κατὰ τοῦτο τὸ ἀναγκαῖον καὶ τἆλλα λέγεταί πως ἅπαντα ἀναγκαῖα· τό τε γὰρ βίαιον ἀναγκαῖον λέγεται [1015b] ἢ ποιεῖν ἢ πάσχειν τότε, ὅταν μὴ ἐνδέχηται κατὰ τὴν ὁρμὴν διὰ τὸ βιαζόμενον, ὡς ταύτην ἀνάγκην οὖσαν δι’ ἣν μὴ ἐνδέχεται ἄλλως, καὶ ἐπὶ τῶν συναιτίων τοῦ ζῆν καὶ τοῦ ἀγαθοῦ ὡσαύτως· ὅταν γὰρ μὴ ἐνδέχηται ἔνθα μὲν τὸ ἀγαθὸν ἔνθα δὲ τὸ ζῆν καὶ τὸ εἶναι ἄνευ τινῶν, ταῦτα ἀναγκαῖα καὶ ἡ αἰτία ἀνάγκη τίς ἐστιν αὕτη. ἔτι ἡ ἀπόδειξις τῶν ἀναγκαίων, ὅτι οὐκ ἐνδέχεται ἄλλως ἔχειν, εἰ ἀποδέδεικται ἁπλῶς· τούτου δ’ αἴτια τὰ πρῶτα, εἰ ἀδύνατον ἄλλως ἔχειν ἐξ ὧν ὁ συλλογισμός. τῶν μὲν δὴ ἕτερον αἴτιον τοῦ ἀναγκαῖα εἶναι, τῶν δὲ οὐδέν, ἀλλὰ διὰ ταῦτα ἕτερά ἐστιν ἐξ ἀνάγκης. ὥστε τὸ πρῶτον καὶ κυρίως ἀναγκαῖον τὸ ἁπλοῦν ἐστίν· τοῦτο γὰρ οὐκ ἐνδέχεται πλεοναχῶς ἔχειν, ὥστ’ οὐδὲ ἄλλως καὶ ἄλλως· ἤδη γὰρ πλεοναχῶς ἂν ἔχοι. εἰ ἄρα ἔστιν ἄττα ἀΐδια καὶ ἀκίνητα, οὐδὲν ἐκείνοις ἐστὶ βίαιον οὐδὲ παρὰ φύσιν.

Ἓν λέγεται τὸ μὲν κατὰ συμβεβηκὸς τὸ δὲ καθ’ αὑτό, κατὰ συμβεβηκὸς μὲν οἷον Κορίσκος καὶ τὸ μουσικόν, καὶ Κορίσκος μουσικός (ταὐτὸ γὰρ εἰπεῖν Κορίσκος καὶ τὸ μουσικόν, καὶ Κορίσκος μουσικός), καὶ τὸ μουσικὸν καὶ τὸ δίκαιον, καὶ μουσικὸς ‹Κορίσκος› καὶ δίκαιος Κορίσκος· πάντα γὰρ ταῦτα ἓν λέγεται κατὰ συμβεβηκός, τὸ μὲν δίκαιον καὶ τὸ μουσικὸν ὅτι μιᾷ οὐσίᾳ συμβέβηκεν, τὸ δὲ μουσικὸν καὶ Κορίσκος ὅτι θάτερον θατέρῳ συμβέβηκεν· ὁμοίως δὲ τρόπον τινὰ καὶ ὁ μουσικὸς Κορίσκος τῷ Κορίσκῳ ἓν ὅτι θάτερον τῶν μορίων θατέρῳ συμβέβηκε τῶν ἐν τῷ λόγῳ, οἷον τὸ μουσικὸν τῷ Κορίσκῳ· καὶ ὁ μουσικὸς Κορίσκος δικαίῳ Κορίσκῳ ὅτι ἑκατέρου μέρος τῷ αὐτῷ ἑνὶ συμβέβηκεν ἕν. ὡσαύτως δὲ κἂν ἐπὶ γένους κἂν ἐπὶ τῶν καθόλου τινὸς ὀνομάτων λέγηται τὸ συμβεβηκός, οἷον ὅτι ἄνθρωπος τὸ αὐτὸ καὶ μουσικὸς ἄνθρωπος· ἢ γὰρ ὅτι τῷ ἀνθρώπῳ μιᾷ οὔσῃ οὐσίᾳ συμβέβηκε τὸ μουσικόν, ἢ ὅτι ἄμφω τῶν καθ’ ἕκαστόν τινι συμβέβηκεν, οἷον Κορίσκῳ. πλὴν οὐ τὸν αὐτὸν τρόπον ἄμφω ὑπάρχει, ἀλλὰ τὸ μὲν ἴσως ὡς γένος καὶ ἐν τῇ οὐσίᾳ τὸ δὲ ὡς ἕξις ἢ πάθος τῆς οὐσίας. - ὅσα μὲν οὖν κατὰ συμβεβηκὸς λέγεται ἕν, τοῦτον τὸν τρόπον λέγεται· τῶν δὲ καθ’ ἑαυτὰ ἓν λεγομένων τὰ μὲν λέγεται τῷ [1016a] συνεχῆ εἶναι, οἷον φάκελος δεσμῷ καὶ ξύλα κόλλῃ· καὶ γραμμή, κἂν κεκαμμένη ᾖ, συνεχὴς δέ, μία λέγεται, ὥσπερ καὶ τῶν μερῶν ἕκαστον, οἷον σκέλος καὶ βραχίων. αὐτῶν δὲ τούτων μᾶλλον ἓν τὰ φύσει συνεχῆ ἢ τέχνῃ. συνεχὲς δὲ λέγεται οὗ κίνησις μία καθ’ αὑτὸ καὶ μὴ οἷόν τε ἄλλως· μία δ’ οὗ ἀδιαίρετος, ἀδιαίρετος δὲ κατὰ χρόνον. καθ’ αὑτὰ δὲ συνεχῆ ὅσα μὴ ἁφῇ ἕν· εἰ γὰρ θείης ἁπτόμενα ἀλλήλων ξύλα, οὐ φήσεις ταῦτα εἶναι ἓν οὔτε ξύλον οὔτε σῶμα οὔτ’ ἄλλο συνεχὲς οὐδέν. τά τε δὴ ὅλως συνεχῆ ἓν λέγεται κἂν ἔχῃ κάμψιν, καὶ ἔτι μᾶλλον τὰ μὴ ἔχοντα κάμψιν, οἷον κνήμη ἢ μηρὸς σκέλους, ὅτι ἐνδέχεται μὴ μίαν εἶναι τὴν κίνησιν τοῦ σκέλους. καὶ ἡ εὐθεῖα τῆς κεκαμμένης μᾶλλον ἕν· τὴν δὲ κεκαμμένην καὶ ἔχουσαν γωνίαν καὶ μίαν καὶ οὐ μίαν λέγομεν, ὅτι ἐνδέχεται καὶ μὴ ἅμα τὴν κίνησιν αὐτῆς εἶναι καὶ ἅμα· τῆς δ’ εὐθείας ἀεὶ ἅμα, καὶ οὐδὲν μόριον ἔχον μέγεθος τὸ μὲν ἠρεμεῖ τὸ δὲ κινεῖται, ὥσπερ τῆς κεκαμμένης. ἔτι ἄλλον τρόπον ἓν λέγεται τῷ τὸ ὑποκείμενον τῷ εἴδει εἶναι ἀδιάφορον· ἀδιάφορον δ’ ὧν ἀδιαίρετον τὸ εἶδος κατὰ τὴν αἴσθησιν· τὸ δ’ ὑποκείμενον ἢ τὸ πρῶτον ἢ τὸ τελευταῖον πρὸς τὸ τέλος· καὶ γὰρ οἶνος εἷς λέγεται καὶ ὕδωρ ἕν, ᾗ ἀδιαίρετον κατὰ τὸ εἶδος, καὶ οἱ χυμοὶ πάντες λέγονται ἕν (οἷον ἔλαιον οἶνος) καὶ τὰ τηκτά, ὅτι πάντων τὸ ἔσχατον ὑποκείμενον τὸ αὐτό· ὕδωρ γὰρ ἢ ἀὴρ πάντα ταῦτα. λέγεται δ’ ἓν καὶ ὧν τὸ γένος ἓν διαφέρον ταῖς ἀντικειμέναις διαφοραῖς - καὶ ταῦτα λέγεται πάντα ἓν ὅτι τὸ γένος ἓν τὸ ὑποκείμενον ταῖς διαφοραῖς (οἷον ἵππος ἄνθρωπος κύων ἕν τι ὅτι πάντα ζῷα), καὶ τρόπον δὴ παραπλήσιον ὥσπερ ἡ ὕλη μία. ταῦτα δὲ ὁτὲ μὲν οὕτως ἓν λέγεται, ὁτὲ δὲ τὸ ἄνω γένος ταὐτὸν λέγεται - ἂν ᾖ τελευταῖα τοῦ γένους εἴδη - τὸ ἀνωτέρω τούτων, οἷον τὸ ἰσοσκελὲς καὶ τὸ ἰσόπλευρον ταὐτὸ καὶ ἓν σχῆμα ὅτι ἄμφω τρίγωνα· τρίγωνα δ’ οὐ ταὐτά. ἔτι δὲ ἓν λέγεται ὅσων ὁ λόγος ὁ τὸ τί ἦν εἶναι λέγων ἀδιαίρετος πρὸς ἄλλον τὸν δηλοῦντα [τί ἦν εἶναι] τὸ πρᾶγμα (αὐτὸς γὰρ καθ’ αὑτὸν πᾶς λόγος διαιρετός). οὕτω γὰρ καὶ τὸ ηὐξημένον καὶ φθῖνον ἕν ἐστιν, ὅτι ὁ λόγος εἷς, ὥσπερ ἐπὶ τῶν ἐπιπέδων ὁ τοῦ [1016b] εἴδους. ὅλως δὲ ὧν ἡ νόησις ἀδιαίρετος ἡ νοοῦσα τὸ τί ἦν εἶναι, καὶ μὴ δύναται χωρίσαι μήτε χρόνῳ μήτε τόπῳ μήτε λόγῳ, μάλιστα ταῦτα ἕν, καὶ τούτων ὅσα οὐσίαι· καθόλου γὰρ ὅσα μὴ ἔχει διαίρεσιν, ᾗ μὴ ἔχει, ταύτῃ ἓν λέγεται, οἷον εἰ ᾗ ἄνθρωπος μὴ ἔχει διαίρεσιν, εἷς ἄνθρωπος, εἰ δ’ ᾗ ζῷον, ἓν ζῷον, εἰ δὲ ᾗ μέγεθος, ἓν μέγεθος. τὰ μὲν οὖν πλεῖστα ἓν λέγεται τῷ ἕτερόν τι ἢ ποιεῖν ἢ ἔχειν ἢ πάσχειν ἢ πρός τι εἶναι ἕν, τὰ δὲ πρώτως λεγόμενα ἓν ὧν ἡ οὐσία μία, μία δὲ ἢ συνεχείᾳ ἢ εἴδει ἢ λόγῳ· καὶ γὰρ ἀριθμοῦμεν ὡς πλείω ἢ τὰ μὴ συνεχῆ ἢ ὧν μὴ ἓν τὸ εἶδος ἢ ὧν ὁ λόγος μὴ εἷς. ἔτι δ’ ἔστι μὲν ὡς ὁτιοῦν ἕν φαμεν εἶναι ἂν ᾖ ποσὸν καὶ συνεχές, ἔστι δ’ ὡς οὔ, ἂν μή τι ὅλον ᾖ, τοῦτο δὲ ἂν μὴ τὸ εἶδος ἔχῃ ἕν· οἷον οὐκ ἂν φαῖμεν ὁμοίως ἓν ἰδόντες ὁπωσοῦν τὰ μέρη συγκείμενα τοῦ ὑποδήματος, ἐὰν μὴ διὰ τὴν συνέχειαν, ἀλλ’ ἐὰν οὕτως ὥστε ὑπόδημα εἶναι καὶ εἶδός τι ἔχειν ἤδη ἕν· διὸ καὶ ἡ τοῦ κύκλου μάλιστα μία τῶν γραμμῶν, ὅτι ὅλη καὶ τέλειός ἐστιν. - τὸ δὲ ἑνὶ εἶναι ἀρχῇ τινί ἐστιν ἀριθμοῦ εἶναι· τὸ γὰρ πρῶτον μέτρον ἀρχή, ᾧ γὰρ πρώτῳ γνωρίζομεν, τοῦτο πρῶτον μέτρον ἑκάστου γένους· ἀρχὴ οὖν τοῦ γνωστοῦ περὶ ἕκαστον τὸ ἕν. οὐ ταὐτὸ δὲ ἐν πᾶσι τοῖς γένεσι τὸ ἕν. ἔνθα μὲν γὰρ δίεσις ἔνθα δὲ τὸ φωνῆεν ἢ ἄφωνον· βάρους δὲ ἕτερον καὶ κινήσεως ἄλλο. πανταχοῦ δὲ τὸ ἓν ἢ τῷ ποσῷ ἢ τῷ εἴδει ἀδιαίρετον. τὸ μὲν οὖν κατὰ τὸ ποσὸν ἀδιαίρετον, τὸ μὲν πάντῃ καὶ ἄθετον λέγεται μονάς, τὸ δὲ πάντῃ καὶ θέσιν ἔχον στιγμή, τὸ δὲ μοναχῇ γραμμή, τὸ δὲ διχῇ ἐπίπεδον, τὸ δὲ πάντῃ καὶ τριχῇ διαιρετὸν κατὰ τὸ ποσὸν σῶμα· καὶ ἀντιστρέψαντι δὴ τὸ μὲν διχῇ διαιρετὸν ἐπίπεδον, τὸ δὲ μοναχῇ γραμμή, τὸ δὲ μηδαμῇ διαιρετὸν κατὰ τὸ ποσὸν στιγμὴ καὶ μονάς, ἡ μὲν ἄθετος μονὰς ἡ δὲ θετὸς στιγμή. ἔτι δὲ τὰ μὲν κατ’ ἀριθμόν ἐστιν ἕν, τὰ δὲ κατ’ εἶδος, τὰ δὲ κατὰ γένος, τὰ δὲ κατ’ ἀναλογίαν, ἀριθμῷ μὲν ὧν ἡ ὕλη μία, εἴδει δ’ ὧν ὁ λόγος εἷς, γένει δ’ ὧν τὸ αὐτὸ σχῆμα τῆς κατηγορίας, κατ’ ἀναλογίαν δὲ ὅσα ἔχει ὡς ἄλλο πρὸς ἄλλο. ἀεὶ δὲ τὰ ὕστερα τοῖς ἔμπροσθεν ἀκολουθεῖ, οἷον ὅσα ἀριθμῷ καὶ εἴδει ἕν, ὅσα δ’ εἴδει οὐ πάντα ἀριθμῷ· [1017a] ἀλλὰ γένει πάντα ἓν ὅσαπερ καὶ εἴδει, ὅσα δὲ γένει οὐ πάντα εἴδει ἀλλ’ ἀναλογίᾳ· ὅσα δὲ ἀνολογίᾳ οὐ πάντα γένει. φανερὸν δὲ καὶ ὅτι τὰ πολλὰ ἀντικειμένως λεχθήσεται τῷ ἑνί· τὰ μὲν γὰρ τῷ μὴ συνεχῆ εἶναι, τὰ δὲ τῷ διαιρετὴν ἔχειν τὴν ὕλην κατὰ τὸ εἶδος, ἢ τὴν πρώτην ἢ τὴν τελευταίαν, τὰ δὲ τῷ τοὺς λόγους πλείους τοὺς τί ἦν εἶναι λέγοντας.

Τὸ ὂν λέγεται τὸ μὲν κατὰ συμβεβηκὸς τὸ δὲ καθ’ αὑτό, κατὰ συμβεβηκὸς μέν, οἷον τὸν δίκαιον μουσικὸν εἶναί φαμεν καὶ τὸν ἄνθρωπον μουσικὸν καὶ τὸν μουσικὸν ἄνθρωπον, παραπλησίως λέγοντες ὡσπερεὶ τὸν μουσικὸν οἰκοδομεῖν ὅτι συμβέβηκε τῷ οἰκοδόμῳ μουσικῷ εἶναι ἢ τῷ μουσικῷ οἰκοδόμῳ (τὸ γὰρ τόδε εἶναι τόδε σημαίνει τὸ συμβεβηκέναι τῷδε τόδε), - οὕτω δὲ καὶ ἐπὶ τῶν εἰρημένων· τὸν γὰρ ἄνθρωπον ὅταν μουσικὸν λέγωμεν καὶ τὸν μουσικὸν ἄνθρωπον, ἢ τὸν λευκὸν μουσικὸν ἢ τοῦτον λευκόν, τὸ μὲν ὅτι ἄμφω τῷ αὐτῷ συμβεβήκασι, τὸ δ’ ὅτι τῷ ὄντι συμβέβηκε, τὸ δὲ μουσικὸν ἄνθρωπον ὅτι τούτῳ τὸ μουσικὸν συμβέβηκεν (οὕτω δὲ λέγεται καὶ τὸ μὴ λευκὸν εἶναι, ὅτι ᾧ συμβέβηκεν, ἐκεῖνο ἔστιν)· - τὰ μὲν οὖν κατὰ συμβεβηκὸς εἶναι λεγόμενα οὕτω λέγεται ἢ διότι τῷ αὐτῷ ὄντι ἄμφω ὑπάρχει, ἢ ὅτι ὄντι ἐκείνῳ ὑπάρχει, ἢ ὅτι αὐτὸ ἔστιν ᾧ ὑπάρχει οὗ αὐτὸ κατηγορεῖται· καθ’ αὑτὰ δὲ εἶναι λέγεται ὅσαπερ σημαίνει τὰ σχήματα τῆς κατηγορίας· ὁσαχῶς γὰρ λέγεται, τοσαυταχῶς τὸ εἶναι σημαίνει. ἐπεὶ οὖν τῶν κατηγορουμένων τὰ μὲν τί ἐστι σημαίνει, τὰ δὲ ποιόν, τὰ δὲ ποσόν, τὰ δὲ πρός τι, τὰ δὲ ποιεῖν ἢ πάσχειν, τὰ δὲ πού, τὰ δὲ ποτέ, ἑκάστῳ τούτων τὸ εἶναι ταὐτὸ σημαίνει· οὐθὲν γὰρ διαφέρει τὸ ἄνθρωπος ὑγιαίνων ἐστὶν ἢ τὸ ἄνθρωπος ὑγιαίνει, οὐδὲ τὸ ἄνθρωπος βαδίζων ἐστὶν ἢ τέμνων τοῦ ἄνθρωπος βαδίζει ἢ τέμνει, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ἔτι τὸ εἶναι σημαίνει καὶ τὸ ἔστιν ὅτι ἀληθές, τὸ δὲ μὴ εἶναι ὅτι οὐκ ἀληθὲς ἀλλὰ ψεῦδος, ὁμοίως ἐπὶ καταφάσεως καὶ ἀποφάσεως, οἷον ὅτι ἔστι Σωκράτης μουσικός, ὅτι ἀληθὲς τοῦτο, ἢ ὅτι ἔστι Σωκράτης οὐ λευκός, ὅτι ἀληθές· τὸ δ’ οὐκ ἔστιν ἡ διάμετρος σύμμετρος, ὅτι ψεῦδος. ἔτι τὸ εἶναι σημαίνει [1017b] καὶ τὸ ὂν τὸ μὲν δυνάμει ῥητὸν τὸ δ’ ἐντελεχείᾳ τῶν εἰρημένων τούτων· ὁρῶν τε γὰρ εἶναί φαμεν καὶ τὸ δυνάμει ὁρῶν καὶ τὸ ἐντελεχείᾳ, καὶ [τὸ] ἐπίστασθαι ὡσαύτως καὶ τὸ δυνάμενον χρῆσθαι τῇ ἐπιστήμῃ καὶ τὸ χρώμενον, καὶ ἠρεμοῦν καὶ ᾧ ἤδη ὑπάρχει ἠρεμία καὶ τὸ δυνάμενον ἠρεμεῖν. ὁμοίως δὲ καὶ ἐπὶ τῶν οὐσιῶν· καὶ γὰρ Ἑρμῆν ἐν τῷ λίθῳ φαμὲν εἶναι, καὶ τὸ ἥμισυ τῆς γραμμῆς, καὶ σῖτον τὸν μήπω ἁδρόν. πότε δὲ δυνατὸν καὶ πότε οὔπω, ἐν ἄλλοις διοριστέον.

Οὐσία λέγεται τά τε ἁπλᾶ σώματα, οἷον γῆ καὶ πῦρ καὶ ὕδωρ καὶ ὅσα τοιαῦτα, καὶ ὅλως σώματα καὶ τὰ ἐκ τούτων συνεστῶτα ζῷά τε καὶ δαιμόνια καὶ τὰ μόρια τούτων· ἅπαντα δὲ ταῦτα λέγεται οὐσία ὅτι οὐ καθ’ ὑποκειμένου λέγεται ἀλλὰ κατὰ τούτων τὰ ἄλλα. ἄλλον δὲ τρόπον ὃ ἂν ᾖ αἴτιον τοῦ εἶναι, ἐνυπάρχον ἐν τοῖς τοιούτοις ὅσα μὴ λέγεται καθ’ ὑποκειμένου, οἷον ἡ ψυχὴ τῷ ζῴῳ. ἔτι ὅσα μόρια ἐνυπάρχοντά ἐστιν ἐν τοῖς τοιούτοις ὁρίζοντά τε καὶ τόδε τι σημαίνοντα, ὧν ἀναιρουμένων ἀναιρεῖται τὸ ὅλον, οἷον ἐπιπέδου σῶμα, ὥς φασί τινες, καὶ ἐπίπεδον γραμμῆς· καὶ ὅλως ὁ ἀριθμὸς δοκεῖ εἶναί τισι τοιοῦτος (ἀναιρουμένου τε γὰρ οὐδὲν εἶναι, καὶ ὁρίζειν πάντα)· ἔτι τὸ τί ἦν εἶναι, οὗ ὁ λόγος ὁρισμός, καὶ τοῦτο οὐσία λέγεται ἑκάστου. συμβαίνει δὴ κατὰ δύο τρόπους τὴν οὐσίαν λέγεσθαι, τό θ’ ὑποκείμενον ἔσχατον, ὃ μηκέτι κατ’ ἄλλου λέγεται, καὶ ὃ ἂν τόδε τι ὂν καὶ χωριστὸν ᾖ· τοιοῦτον δὲ ἑκάστου ἡ μορφὴ καὶ τὸ εἶδος.

Ταὐτὰ λέγεται τὰ μὲν κατὰ συμβεβηκός, οἷον τὸ λευκὸν καὶ τὸ μουσικὸν τὸ αὐτὸ ὅτι τῷ αὐτῷ συμβέβηκε, καὶ ἄνθρωπος καὶ μουσικὸν ὅτι θάτερον θατέρῳ συμβέβηκεν, τὸ δὲ μουσικὸν ἄνθρωπος ὅτι τῷ ἀνθρώπῳ συμβέβηκεν· ἑκατέρῳ δὲ τοῦτο καὶ τούτῳ ἑκάτερον ἐκείνων, καὶ γὰρ τῷ ἀνθρώπῳ τῷ μουσικῷ καὶ ὁ ἄνθρωπος καὶ τὸ μουσικὸν ταὐτὸ λέγεται, καὶ τούτοις ἐκεῖνο (διὸ καὶ πάντα ταῦτα καθόλου οὐ λέγεται· οὐ γὰρ ἀληθὲς εἰπεῖν ὅτι πᾶς ἄνθρωπος ταὐτὸ καὶ τὸ μουσικόν· τὰ γὰρ καθόλου καθ’ αὑτὰ ὑπάρχει, τὰ [1018a] δὲ συμβεβηκότα οὐ καθ’ αὑτά· ἀλλ’ ἐπὶ τῶν καθ’ ἕκαστα ἁπλῶς λέγεται· ταὐτὸ γὰρ δοκεῖ Σωκράτης καὶ Σωκράτης εἶναι μουσικός· τὸ δὲ Σωκράτης οὐκ ἐπὶ πολλῶν, διὸ οὐ πᾶς Σωκράτης λέγεται ὥσπερ πᾶς ἄνθρωπος)· - καὶ τὰ μὲν οὕτως λέγεται ταὐτά, τὰ δὲ καθ’ αὑτὰ ὁσαχῶσπερ καὶ τὸ ἕν· καὶ γὰρ ὧν ἡ ὕλη μία ἢ εἴδει ἢ ἀριθμῷ ταὐτὰ λέγεται καὶ ὧν ἡ οὐσία μία, ὥστε φανερὸν ὅτι ἡ ταυτότης ἑνότης τίς ἐστιν ἢ πλειόνων τοῦ εἶναι ἢ ὅταν χρῆται ὡς πλείοσιν, οἷον ὅταν λέγῃ αὐτὸ αὑτῷ ταὐτόν· ὡς δυσὶ γὰρ χρῆται αὐτῷ. - ἕτερα δὲ λέγεται ὧν ἢ τὰ εἴδη πλείω ἢ ἡ ὕλη ἢ ὁ λόγος τῆς οὐσίας· καὶ ὅλως ἀντικειμένως τῷ ταὐτῷ λέγεται τὸ ἕτερον.

Διάφορα δὲ λέγεται ὅσ᾽ ἕτερά ἐστι τὸ αὐτό τι ὄντα, μὴ μόνον ἀριθμῷ ἀλλ᾽ ἢ εἴδει ἢ γένει ἢ ἀναλογίᾳ· ἔτι ὧν ἕτερον τὸ γένος, καὶ τὰ ἐναντία, καὶ ὅσα ἔχει ἐν τῇ οὐσίᾳ τὴν ἑτερότητα. ὅμοια λέγεται τά τε πάντῃ ταὐτὸ πεπονθότα, καὶ τὰ πλείω ταὐτὰ πεπονθότα ἢ ἕτερα, καὶ ὧν ἡ ποιότης μία· καὶ καθ᾽ ὅσα ἀλλοιοῦσθαι ἐνδέχεται τῶν ἐναντίων, τούτων τὸ πλείω ἔχον ἢ κυριώτερα ὅμοιον τούτῳ. ἀντικειμένως δὲ τοῖς ὁμοίοις τὰ ἀνόμοια.

Ἀντικείμενα λέγεται ἀντίφασις καὶ τἀναντία καὶ τὰ πρός τι καὶ στέρησις καὶ ἕξις καὶ ἐξ ὧν καὶ εἰς ἃ ἔσχατα αἱ γενέσεις καὶ φθοραί· καὶ ὅσα μὴ ἐνδέχεται ἅμα παρεῖναι τῷ ἀμφοῖν δεκτικῷ, ταῦτα ἀντικεῖσθαι λέγεται ἢ αὐτὰ ἢ ἐξ ὧν ἐστίν. φαιὸν γὰρ καὶ λευκὸν ἅμα τῷ αὐτῷ οὐχ ὑπάρχει· διὸ ἐξ ὧν ἐστὶν ἀντίκειται. ἐναντία λέγεται τά τε μὴ δυνατὰ ἅμα τῷ αὐτῷ παρεῖναι τῶν διαφερόντων κατὰ γένος, καὶ τὰ πλεῖστον διαφέροντα τῶν ἐν τῷ αὐτῷ γένει, καὶ τὰ πλεῖστον διαφέροντα τῶν ἐν ταὐτῷ δεκτικῷ, καὶ τὰ πλεῖστον διαφέροντα τῶν ὑπὸ τὴν αὐτὴν δύναμιν, καὶ ὧν ἡ διαφορὰ μεγίστη ἢ ἁπλῶς ἢ κατὰ γένος ἢ κατ᾽ εἶδος. τὰ δ᾽ ἄλλα ἐναντία λέγεται τὰ μὲν τῷ τὰ τοιαῦτα ἔχειν, τὰ δὲ τῷ δεκτικὰ εἶναι τῶν τοιούτων, τὰ δὲ τῷ ποιητικὰ ἢ παθητικὰ εἶναι τῶν τοιούτων, ἢ ποιοῦντα ἢ πάσχοντα, ἢ ἀποβολαὶ ἢ λήψεις, ἢ ἕξεις ἢ στερήσεις εἶναι τῶν τοιούτων. ἐπεὶ δὲ τὸ ἓν καὶ τὸ ὂν πολλαχῶς λέγεται, ἀκολουθεῖν ἀνάγκη καὶ τἆλλα ὅσα κατὰ ταῦτα λέγεται, ὥστε καὶ τὸ ταὐτὸν καὶ τὸ ἕτερον καὶ τὸ ἐναντίον, ὥστ᾽ εἶναι ἕτερον καθ᾽ ἑκάστην κατηγορίαν. - ἕτερα δὲ τῷ εἴδει [1018b] λέγεται ὅσα τε ταὐτοῦ γένους ὄντα μὴ ὑπάλληλά ἐστι, καὶ ὅσα ἐν τῷ αὐτῷ γένει ὄντα διαφορὰν ἔχει, καὶ ὅσα ἐν τῇ οὐσίᾳ ἐναντίωσιν ἔχει· καὶ τὰ ἐναντία ἕτερα τῷ εἴδει ἀλλήλων ἢ πάντα ἢ τὰ λεγόμενα πρώτως, καὶ ὅσων ἐν τῷ τελευταίῳ τοῦ γένους εἴδει οἱ λόγοι ἕτεροι (οἷον ἄνθρωπος καὶ ἵππος ἄτομα τῷ γένει οἱ δὲ λόγοι ἕτεροι αὐτῶν), καὶ ὅσα ἐν τῇ αὐτῇ οὐσίᾳ ὄντα ἔχει διαφοράν. ταὐτὰ δὲ τῷ εἴδει τὰ ἀντικειμένως λεγόμενα τούτοις.

Πρότερα καὶ ὕστερα λέγεται ἔνια μέν, ὡς ὄντος τινὸς πρώτου καὶ ἀρχῆς ἐν ἑκάστῳ γένει, τῷ ἐγγύτερον ‹εἶναι› ἀρχῆς τινὸς ὡρισμένης ἢ ἁπλῶς καὶ τῇ φύσει ἢ πρός τι ἢ ποὺ ἢ ὑπό τινων, οἷον τὰ μὲν κατὰ τόπον τῷ εἶναι ἐγγύτερον ἢ φύσει τινὸς τόπου ὡρισμένου (οἷον τοῦ μέσου ἢ τοῦ ἐσχάτου) ἢ πρὸς τὸ τυχόν, τὸ δὲ πορρώτερον ὕστερον· τὰ δὲ κατὰ χρόνον (τὰ μὲν γὰρ τῷ πορρώτερον τοῦ νῦν, οἷον ἐπὶ τῶν γενομένων, πρότερον γὰρ τὰ Τρωϊκὰ τῶν

Μηδικῶν ὅτι πορρώτερον ἀπέχει τοῦ νῦν· τὰ δὲ τῷ ἐγγύτερον τοῦ νῦν, οἷον ἐπὶ τῶν μελλόντων, πρότερον γὰρ Νέμεα Πυθίων ὅτι ἐγγύτερον τοῦ νῦν τῷ νῦν ὡς ἀρχῇ καὶ πρώτῳ χρησαμένων)· τὰ δὲ κατὰ κίνησιν (τὸ γὰρ ἐγγύτερον τοῦ πρώτου κινήσαντος πρότερον, οἷον παῖς ἀνδρός· ἀρχὴ δὲ καὶ αὕτη τις ἁπλῶς)· τὰ δὲ κατὰ δύναμιν (τὸ γὰρ ὑπερέχον τῇ δυνάμει πρότερον, καὶ τὸ δυνατώτερον· τοιοῦτον δ’ ἐστὶν οὗ κατὰ τὴν προαίρεσιν ἀνάγκη ἀκολουθεῖν θάτερον καὶ τὸ ὕστερον, ὥστε μὴ κινοῦντός τε ἐκείνου μὴ κινεῖσθαι καὶ κινοῦντος κινεῖσθαι· ἡ δὲ προαίρεσις ἀρχή)· τὰ δὲ κατὰ τάξιν (ταῦτα δ’ ἐστὶν ὅσα πρός τι ἓν ὡρισμένον διέστηκε κατά τινα λόγον, οἷον παραστάτης τριτοστάτου πρότερον καὶ παρανήτη νήτης· ἔνθα μὲν γὰρ ὁ κορυφαῖος ἔνθα δὲ ἡ μέση ἀρχή)· - ταῦτα μὲν οὖν πρότερα τοῦτον λέγεται τὸν τρόπον, ἄλλον δὲ τρόπον τὸ τῇ γνώσει πρότερον ὡς καὶ ἁπλῶς πρότερον. τούτων δὲ ἄλλως τὰ κατὰ τὸν λόγον καὶ τὰ κατὰ τὴν αἴσθησιν. κατὰ μὲν γὰρ τὸν λόγον τὰ καθόλου πρότερα κατὰ δὲ τὴν αἴσθησιν τὰ καθ’ ἕκαστα· καὶ κατὰ τὸν λόγον δὲ τὸ συμβεβηκὸς τοῦ ὅλου πρότερον, οἷον τὸ μουσικὸν τοῦ μουσικοῦ ἀνθρώπου· οὐ γὰρ ἔσται ὁ λόγος ὅλος ἄνευ τοῦ μέρους· καίτοι οὐκ ἐνδέχεται μουσικὸν εἶναι μὴ ὄντος μουσικοῦ τινός. ἔτι πρότερα λέγεται τὰ τῶν προτέρων πάθη, οἷον εὐθύτης λειότητος· τὸ μὲν [1019a] γὰρ γραμμῆς καθ’ αὑτὴν πάθος τὸ δὲ ἐπιφανείας. τὰ μὲν δὴ οὕτω λέγεται πρότερα καὶ ὕστερα, τὰ δὲ κατὰ φύσιν καὶ οὐσίαν, ὅσα ἐνδέχεται εἶναι ἄνευ ἄλλων, ἐκεῖνα δὲ ἄνευ ἐκείνων μή· ᾗ διαιρέσει ἐχρήσατο Πλάτων. (ἐπεὶ δὲ τὸ εἶναι πολλαχῶς, πρῶτον μὲν τὸ ὑποκείμενον πρότερον, διὸ ἡ οὐσία πρότερον, ἔπειτα ἄλλως τὰ κατὰ δύναμιν καὶ κατ’ ἐντελέχειαν· τὰ μὲν γὰρ κατὰ δύναμιν πρότερά ἐστι τὰ δὲ κατὰ ἐντελέχειαν, οἷον κατὰ δύναμιν μὲν ἡ ἡμίσεια τῆς ὅλης καὶ τὸ μόριον τοῦ ὅλου καὶ ἡ ὕλη τῆς οὐσίας, κατ’ ἐντελέχειαν δ’ ὕστερον· διαλυθέντος γὰρ κατ’ ἐντελέχειαν ἔσται.) τρόπον δή τινα πάντα τὰ πρότερον καὶ ὕστερον λεγόμενα κατὰ ταῦτα λέγεται· τὰ μὲν γὰρ κατὰ γένεσιν ἐνδέχεται ἄνευ τῶν ἑτέρων εἶναι, οἷον τὸ ὅλον τῶν μορίων, τὰ δὲ κατὰ φθοράν, οἷον τὸ μόριον τοῦ ὅλου. ὁμοίως δὲ καὶ τἆλλα.

Δύναμις λέγεται ἡ μὲν ἀρχὴ κινήσεως ἢ μεταβολῆς ἡ ἐν ἑτέρῳ ἢ ᾗ ἕτερον, οἷον ἡ οἰκοδομικὴ δύναμίς ἐστιν ἣ οὐχ ὑπάρχει ἐν τῷ οἰκοδομουμένῳ, ἀλλ’ ἡ ἰατρικὴ δύναμις οὖσα ὑπάρχοι ἂν ἐν τῷ ἰατρευομένῳ, ἀλλ’ οὐχ ᾗ ἰατρευόμενος. ἡ μὲν οὖν ὅλως ἀρχὴ μεταβολῆς ἢ κινήσεως λέγεται δύναμις ἐν ἑτέρῳ ἢ ᾗ ἕτερον, ἡ δ’ ὑφ’ ἑτέρου ἢ ᾗ ἕτερον (καθ’ ἣν γὰρ τὸ πάσχον πάσχει τι, ὁτὲ μὲν ἐὰν ὁτιοῦν, δυνατὸν αὐτό φαμεν εἶναι παθεῖν, ὁτὲ δ’ οὐ κατὰ πᾶν πάθος ἀλλ’ ἂν ἐπὶ τὸ βέλτιον)· ἔτι ἡ τοῦ καλῶς τοῦτ’ ἐπιτελεῖν ἢ κατὰ προαίρεσιν· ἐνίοτε γὰρ τοὺς μόνον ἂν πορευθέντας ἢ εἰπόντας, μὴ καλῶς δὲ ἢ μὴ ὡς προείλοντο, οὔ φαμεν δύνασθαι λέγειν ἢ βαδίζειν· ὁμοίως δὲ καὶ ἐπὶ τοῦ πάσχειν. ἔτι ὅσαι ἕξεις καθ’ ἃς ἀπαθῆ ὅλως ἢ ἀμετάβλητα ἢ μὴ ῥᾳδίως ἐπὶ τὸ χεῖρον εὐμετακίνητα, δυνάμεις λέγονται· κλᾶται μὲν γὰρ καὶ συντρίβεται καὶ κάμπτεται καὶ ὅλως φθείρεται οὐ τῷ δύνασθαι ἀλλὰ τῷ μὴ δύνασθαι καὶ ἐλλείπειν τινός· ἀπαθῆ δὲ τῶν τοιούτων ἃ μόλις καὶ ἠρέμα πάσχει διὰ δύναμιν καὶ τῷ δύνασθαι καὶ τῷ ἔχειν πώς. λεγομένης δὲ τῆς δυνάμεως τοσαυταχῶς, καὶ τὸ δυνατὸν ἕνα μὲν τρόπον λεχθήσεται τὸ ἔχον κινήσεως ἀρχὴν ἢ μεταβολῆς (καὶ γὰρ τὸ στατικὸν δυνατόν τι) ἐν ἑτέρῳ ἢ ᾗ ἕτερον, ἕνα δ’ ἐὰν ἔχῃ [1019b] τι αὐτοῦ ἄλλο δύναμιν τοιαύτην, ἕνα δ’ ἐὰν ἔχῃ μεταβάλλειν ἐφ’ ὁτιοῦν δύναμιν, εἴτ’ ἐπὶ τὸ χεῖρον εἴτ’ ἐπὶ τὸ βέλτιον (καὶ γὰρ τὸ φθειρόμενον δοκεῖ δυνατὸν εἶναι φθείρεσθαι, ἢ οὐκ ἂν φθαρῆναι εἰ ἦν ἀδύνατον· νῦν δὲ ἔχει τινὰ διάθεσιν καὶ αἰτίαν καὶ ἀρχὴν τοῦ τοιούτου πάθους· ὁτὲ μὲν δὴ τῷ ἔχειν τι δοκεῖ, ὁτὲ δὲ τῷ ἐστερῆσθαι τοιοῦτον εἶναι· εἰ δ’ ἡ στέρησίς ἐστιν ἕξις πως, πάντα τῷ ἔχειν ἂν εἴη τι, [εἰ δὲ μὴ] ὥστε τῷ τε ἔχειν ἕξιν τινὰ καὶ ἀρχήν ἐστι δυνατὸν [ὁμωνύμως] καὶ τῷ ἔχειν τὴν τούτου στέρησιν, εἰ ἐνδέχεται ἔχειν στέρησιν· ‹εἰ δὲ μή, ὁμωνύμως›)· ἕνα δὲ τῷ μὴ ἔχειν αὐτοῦ δύναμιν ἢ ἀρχὴν ἄλλο ἢ ᾗ ἄλλο φθαρτικήν. ἔτι δὲ ταῦτα πάντα ἢ τῷ μόνον ἂν συμβῆναι γενέσθαι ἢ μὴ γενέσθαι, ἢ τῷ καλῶς. καὶ γὰρ ἐν τοῖς ἀψύχοις ἔνεστιν ἡ τοιαύτη δύναμις, οἷον ἐν τοῖς ὀργάνοις· τὴν μὲν γὰρ δύνασθαί φασι φθέγγεσθαι λύραν, τὴν δ’ οὐδέν, ἂν ᾖ μὴ εὔφωνος. ἀδυναμία δὲ ἐστὶ στέρησις δυνάμεως καὶ τῆς τοιαύτης ἀρχῆς οἵα εἴρηται, ἢ ὅλως ἢ τῷ πεφυκότι ἔχειν, ἢ καὶ ὅτε πέφυκεν ἤδη ἔχειν· οὐ γὰρ ὁμοίως ἂν φαῖεν ἀδύνατον εἶναι γεννᾶν παῖδα καὶ ἄνδρα καὶ εὐνοῦχον. ἔτι δὲ καθ’ ἑκατέραν δύναμιν ἔστιν ἀδυναμία ἀντικειμένη, τῇ τε μόνον κινητικῇ καὶ τῇ καλῶς κινητικῇ. καὶ ἀδύνατα δὴ τὰ μὲν κατὰ τὴν ἀδυναμίαν ταύτην λέγεται, τὰ δὲ ἄλλον τρόπον, οἷον δυνατόν τε καὶ ἀδύνατον, ἀδύνατον μὲν οὗ τὸ ἐναντίον ἐξ ἀνάγκης ἀληθές (οἷον τὸ τὴν διάμετρον σύμμετρον εἶναι ἀδύνατον ὅτι ψεῦδος τὸ τοιοῦτον οὗ τὸ ἐναντίον οὐ μόνον ἀληθὲς ἀλλὰ καὶ ἀνάγκη [ἀσύμμετρον εἶναι]· τὸ ἄρα σύμμετρον οὐ μόνον ψεῦδος ἀλλὰ καὶ ἐξ ἀνάγκης ψεῦδος)· τὸ δ’ ἐναντίον τούτῳ, τὸ δυνατόν, ὅταν μὴ ἀναγκαῖον ᾖ τὸ ἐναντίον ψεῦδος εἶναι, οἷον τὸ καθῆσθαι ἄνθρωπον δυνατόν· οὐ γὰρ ἐξ ἀνάγκης τὸ μὴ καθῆσθαι ψεῦδος. τὸ μὲν οὖν δυνατὸν ἕνα μὲν τρόπον, ὥσπερ εἴρηται, τὸ μὴ ἐξ ἀνάγκης ψεῦδος σημαίνει, ἕνα δὲ τὸ ἀληθές [εἶναι], ἕνα δὲ τὸ ἐνδεχόμενον ἀληθὲς εἶναι. κατὰ μεταφορὰν δὲ ἡ ἐν γεωμετρίᾳ λέγεται δύναμις. ταῦτα μὲν οὖν τὰ δυνατὰ οὐ κατὰ δύναμιν· τὰ δὲ λεγόμενα κατὰ δύναμιν πάντα λέγεται πρὸς [1020a] τὴν πρώτην [μίαν]· αὕτη δ' ἐστὶν ἀρχὴ μεταβολῆς ἐν ἄλλῳ ᾗ ᾖ ἄλλο. τὰ γὰρ ἄλλα λέγεται δυνατὰ τῷ τὰ μὲν ἔχειν αὐτῶν ἄλλο τι τοιαύτην δύναμιν τὰ δὲ μὴ ἔχειν τὰ δὲ ὡδὶ ἔχειν. ὁμοίως δὲ καὶ τὰ ἀδύνατα. ὥστε ὁ κύριος ὅρος τῆς πρώτης δυνάμεως ἂν εἴη ἀρχὴ μεταβλητικὴ ἐν ἄλλῳ ᾗ ᾖ ἄλλο.

Ποσὸν λέγεται τὸ διαιρετὸν εἰς ἐνυπάρχοντα ὧν ἑκάτερον ἢ ἕκαστον ἕν τι καὶ τόδε τι πέφυκεν εἶναι. πλῆθος μὲν οὖν ποσόν τι ἐὰν ἀριθμητὸν ᾖ, μέγεθος δὲ ἂν μετρητὸν ᾖ. λέγεται δὲ πλῆθος μὲν τὸ διαιρετὸν δυνάμει εἰς μὴ συνεχῆ, μέγεθος δὲ τὸ εἰς συνεχῆ· μεγέθους δὲ τὸ μὲν ἐφ' ἓν συνεχὲς μῆκος τὸ δ' ἐπὶ δύο πλάτος τὸ δ' ἐπὶ τρία βάθος. τούτων δὲ πλῆθος μὲν τὸ πεπερασμένον ἀριθμὸς μῆκος δὲ γραμμὴ πλάτος δὲ ἐπιφάνεια βάθος δὲ σῶμα. ἔτι τὰ μὲν λέγεται καθ' αὑτὰ ποσά, τὰ δὲ κατὰ συμβεβηκός, οἷον ἡ μὲν γραμμὴ ποσόν τι καθ' ἑαυτό, τὸ δὲ μουσικὸν κατὰ συμβεβηκός. τῶν δὲ καθ' αὑτὰ τὰ μὲν κατ' οὐσίαν ἐστίν, οἷον ἡ γραμμὴ ποσόν τι (ἐν γὰρ τῷ λόγῳ τῷ τί ἐστι λέγοντι τὸ ποσόν τι ὑπάρχει), τὰ δὲ πάθη καὶ ἕξεις τῆς τοιαύτης ἐστὶν οὐσίας, οἷον τὸ πολὺ καὶ τὸ ὀλίγον, καὶ μακρὸν καὶ βραχύ, καὶ πλατὺ καὶ στενόν, καὶ βαθὺ καὶ ταπεινόν, καὶ βαρὺ καὶ κοῦφον, καὶ τὰ ἄλλα τὰ τοιαῦτα. ἔστι δὲ καὶ τὸ μέγα καὶ τὸ μικρὸν καὶ μεῖζον καὶ ἔλαττον, καὶ καθ' αὑτὰ καὶ πρὸς ἄλληλα λεγόμενα, τοῦ ποσοῦ πάθη καθ' αὑτά· μεταφέρονται μέντοι καὶ ἐπ' ἄλλα ταῦτα τὰ ὀνόματα. τῶν δὲ κατὰ συμβεβηκὸς λεγομένων ποσῶν τὰ μὲν οὕτως λέγεται ὥσπερ ἐλέχθη ὅτι τὸ μουσικὸν ποσὸν καὶ τὸ λευκὸν τῷ εἶναι ποσόν τι ᾧ ὑπάρχουσι, τὰ δὲ ὡς κίνησις καὶ χρόνος· καὶ γὰρ ταῦτα πόσ' ἄττα λέγεται καὶ συνεχῆ τῷ ἐκεῖνα διαιρετὰ εἶναι ὧν ἐστὶ ταῦτα πάθη. λέγω δὲ οὐ τὸ κινούμενον ἀλλ' ὃ ἐκινήθη· τῷ γὰρ ποσὸν εἶναι ἐκεῖνο καὶ ἡ κίνησις ποσή, ὁ δὲ χρόνος τῷ ταύτην.

[Τὸ] ποιὸν λέγεται ἕνα μὲν τρόπον ἡ διαφορὰ τῆς οὐσίας, οἷον ποιόν τι ἄνθρωπος ζῷον ὅτι δίπουν, ἵππος δὲ τετράπουν, καὶ κύκλος ποιόν τι σχῆμα ὅτι ἀγώνιον, ὡς τῆς διαφορᾶς [1020b] τῆς κατὰ τὴν οὐσίαν ποιότητος οὔσης· - ἕνα μὲν δὴ τρόπον τοῦτον λέγεται ἡ ποιότης διαφορὰ οὐσίας, ἕνα δὲ ὡς τὰ ἀκίνητα καὶ τὰ μαθηματικά, ὥσπερ οἱ ἀριθμοὶ ποιοί τινες, οἷον οἱ σύνθετοι καὶ μὴ μόνον ἐφ' ἓν ὄντες ἀλλ' ὧν μίμημα τὸ ἐπίπεδον καὶ τὸ στερεόν (οὗτοι δ' εἰσὶν οἱ ποσάκις ποσοὶ ἢ ποσάκις ποσάκις ποσοί), καὶ ὅλως ὃ παρὰ τὸ ποσὸν ὑπάρχει ἐν τῇ οὐσίᾳ· οὐσία γὰρ ἑκάστου ὃ ἅπαξ, οἷον τῶν ἓξ οὐχ ὃ δὶς ἢ τρὶς εἰσὶν ἀλλ' ὃ ἅπαξ· ἓξ γὰρ ἅπαξ ἕξ. ἔτι ὅσα πάθη τῶν κινουμένων οὐσιῶν, οἷον θερμότης καὶ ψυχρότης, καὶ λευκότης καὶ μελανία, καὶ βαρύτης καὶ κουφότης, καὶ ὅσα τοιαῦτα, καθ' ἃ λέγονται καὶ ἀλλοιοῦσθαι τὰ σώματα μεταβαλλόντων. ἔτι κατ’ ἀρετὴν καὶ κακίαν καὶ ὅλως τὸ κακὸν καὶ ἀγαθόν. σχεδὸν δὴ κατὰ δύο τρόπους λέγοιτ’ ἂν τὸ ποιόν, καὶ τούτων ἕνα τὸν κυριώτατον· πρώτη μὲν γὰρ ποιότης ἡ τῆς οὐσίας διαφορά (ταύτης δέ τι καὶ ἡ ἐν τοῖς ἀριθμοῖς ποιότης μέρος· διαφορὰ γάρ τις οὐσιῶν, ἀλλ’ ἢ οὐ κινουμένων ἢ οὐχ ᾗ κινούμενα), τὰ δὲ πάθη τῶν κινουμένων ᾗ κινούμενα, καὶ αἱ τῶν κινήσεων διαφοραί. ἀρετὴ δὲ καὶ κακία τῶν παθημάτων μέρος τι· διαφορὰς γὰρ δηλοῦσι τῆς κινήσεως καὶ τῆς ἐνεργείας, καθ’ ἃς ποιοῦσιν ἢ πάσχουσι καλῶς ἢ φαύλως τὰ ἐν κινήσει ὄντα· τὸ μὲν γὰρ ὡδὶ δυνάμενον κινεῖσθαι ἢ ἐνεργεῖν ἀγαθὸν τὸ δ’ ὡδὶ καὶ ἐναντίως μοχθηρόν. μάλιστα δὲ τὸ ἀγαθὸν καὶ τὸ κακὸν σημαίνει τὸ ποιὸν ἐπὶ τῶν ἐμψύχων, καὶ τούτων μάλιστα ἐπὶ τοῖς ἔχουσι προαίρεσιν.

Πρός τι λέγεται τὰ μὲν ὡς διπλάσιον πρὸς ἥμισυ καὶ τριπλάσιον πρὸς τριτημόριον, καὶ ὅλως πολλαπλάσιον πρὸς πολλοστημόριον καὶ ὑπερέχον πρὸς ὑπερεχόμενον· τὰ δ’ ὡς τὸ θερμαντικὸν πρὸς τὸ θερμαντὸν καὶ τὸ τμητικὸν πρὸς τὸ τμητόν, καὶ ὅλως τὸ ποιητικὸν πρὸς τὸ παθητικόν· τὰ δ’ ὡς τὸ μετρητὸν πρὸς τὸ μέτρον καὶ ἐπιστητὸν πρὸς ἐπιστήμην καὶ αἰσθητὸν πρὸς αἴσθησιν. λέγεται δὲ τὰ μὲν πρῶτα κατ’ ἀριθμὸν ἢ ἁπλῶς ἢ ὡρισμένως, πρὸς αὐτοὺς ἢ πρὸς ἕν (οἷον τὸ μὲν διπλάσιον πρὸς ἓν ἀριθμὸς ὡρισμένος, τὸ δὲ πολλαπλάσιον κατ’ ἀριθμὸν πρὸς ἕν, οὐχ ὡρισμένον δέ, οἷον τόνδε [1021a] ἢ τόνδε· τὸ δὲ ἡμιόλιον πρὸς τὸ ὑφημιόλιον κατ’ ἀριθμὸν πρὸς ἀριθμὸν ὡρισμένον· τὸ δ’ ἐπιμόριον πρὸς τὸ ὑπεπιμόριον κατὰ ἀόριστον, ὥσπερ τὸ πολλαπλάσιον πρὸς τὸ ἕν· τὸ δ’ ὑπερέχον πρὸς τὸ ὑπερεχόμενον ὅλως ἀόριστον κατ’ ἀριθμόν· ὁ γὰρ ἀριθμὸς σύμμετρος, κατὰ μὴ συμμέτρου δὲ ἀριθμὸς οὐ λέγεται, τὸ δὲ ὑπερέχον πρὸς τὸ ὑπερεχόμενον τοσοῦτόν τέ ἐστι καὶ ἔτι, τοῦτο δ’ ἀόριστον· ὁπότερον γὰρ ἔτυχέν ἐστιν, ἢ ἴσον ἢ οὐκ ἴσον)· ταῦτά τε οὖν τὰ πρός τι πάντα κατ’ ἀριθμὸν λέγεται καὶ ἀριθμοῦ πάθη, καὶ ἔτι τὸ ἴσον καὶ ὅμοιον καὶ ταὐτὸ κατ’ ἄλλον τρόπον (κατὰ γὰρ τὸ ἓν λέγεται πάντα, ταὐτὰ μὲν γὰρ ὧν μία ἡ οὐσία, ὅμοια δ’ ὧν ἡ ποιότης μία, ἴσα δὲ ὧν τὸ ποσὸν ἕν· τὸ δ’ ἓν τοῦ ἀριθμοῦ ἀρχὴ καὶ μέτρον, ὥστε ταῦτα πάντα πρός τι λέγεται κατ’ ἀριθμὸν μέν, οὐ τὸν αὐτὸν δὲ τρόπον)· τὰ δὲ ποιητικὰ καὶ παθητικὰ κατὰ δύναμιν ποιητικὴν καὶ παθητικὴν καὶ ἐνεργείας τὰς τῶν δυνάμεων, οἷον τὸ θερμαντικὸν πρὸς τὸ θερμαντὸν ὅτι δύναται, καὶ πάλιν τὸ θερμαῖνον πρὸς τὸ θερμαινόμενον καὶ τὸ τέμνον πρὸς τὸ τεμνόμενον ὡς ἐνεργοῦντα. τῶν δὲ κατ’ ἀριθμὸν οὐκ εἰσὶν ἐνέργειαι ἀλλ’ ἢ ὃν τρόπον ἐν ἑτέροις εἴρηται· αἱ δὲ κατὰ κίνησιν ἐνέργειαι οὐχ ὑπάρχουσιν. τῶν δὲ κατὰ δύναμιν καὶ κατὰ χρόνους ἤδη λέγονται πρός τι οἷον τὸ πεποιηκὸς πρὸς τὸ πεποιημένον καὶ τὸ ποιῆσον πρὸς τὸ ποιησόμενον. οὕτω γὰρ καὶ πατὴρ υἱοῦ λέγεται πατήρ· τὸ μὲν γὰρ πεποιηκὸς τὸ δὲ πεπονθός τί ἐστιν. ἔτι ἔνια κατὰ στέρησιν δυνάμεως, ὥσπερ τὸ ἀδύνατον καὶ ὅσα οὕτω λέγεται, οἷον τὸ ἀόρατον. τὰ μὲν οὖν κατ᾽ ἀριθμὸν καὶ δύναμιν λεγόμενα πρός τι πάντα ἐστὶ πρός τι τῷ ὅπερ ἐστὶν ἄλλου λέγεσθαι αὐτὸ ὅ ἐστιν, ἀλλὰ μὴ τῷ ἄλλο πρὸς ἐκεῖνο· τὸ δὲ μετρητὸν καὶ τὸ ἐπιστητὸν καὶ τὸ διανοητὸν τῷ ἄλλο πρὸς αὐτὸ λέγεσθαι πρός τι λέγονται. τό τε γὰρ διανοητὸν σημαίνει ὅτι ἔστιν αὐτοῦ διάνοια, οὐκ ἔστι δ᾽ ἡ διάνοια πρὸς τοῦτο οὗ ἐστὶ διάνοια (δὶς γὰρ ταὐτὸν εἰρημένον ἂν εἴη), ὁμοίως δὲ καὶ τινός ἐστιν ἡ ὄψις ὄψις, οὐχ [1021b] οὗ ἐστὶν ὄψις (καίτοι γ᾽ ἀληθὲς τοῦτο εἰπεῖν) ἀλλὰ πρὸς χρῶμα ἢ πρὸς ἄλλο τι τοιοῦτον. ἐκείνως δὲ δὶς τὸ αὐτὸ λεχθήσεται, ὅτι ἐστὶν οὗ ἐστὶν ἡ ὄψις. τὰ μὲν οὖν καθ᾽ ἑαυτὰ λεγόμενα πρός τι τὰ μὲν οὕτω λέγεται, τὰ δὲ ἂν τὰ γένη αὐτῶν ᾖ τοιαῦτα, οἷον ἡ ἰατρικὴ τῶν πρός τι ὅτι τὸ γένος αὐτῆς ἡ ἐπιστήμη δοκεῖ εἶναι πρός τι· ἔτι καθ᾽ ὅσα τὰ ἔχοντα λέγεται πρός τι, οἷον ἰσότης ὅτι τὸ ἴσον καὶ ὁμοιότης ὅτι τὸ ὅμοιον· τὰ δὲ κατὰ συμβεβηκός, οἷον ἄνθρωπος πρός τι ὅτι συμβέβηκεν αὐτῷ διπλασίῳ εἶναι, τοῦτο δ᾽ ἐστὶ τῶν πρός τι· ἢ τὸ λευκόν, εἰ τῷ αὐτῷ συμβέβηκε διπλασίῳ καὶ λευκῷ εἶναι.

Τέλειον λέγεται ἓν μὲν οὗ μὴ ἔστιν ἔξω τι λαβεῖν μηδὲ ἓν μόριον (οἷον χρόνος τέλειος ἑκάστου οὗτος οὗ μὴ ἔστιν ἔξω λαβεῖν χρόνον τινὰ ὃς τούτου μέρος ἐστὶ τοῦ χρόνου), καὶ τὸ κατ᾽ ἀρετὴν καὶ τὸ εὖ μὴ ἔχον ὑπερβολὴν πρὸς τὸ γένος, οἷον τέλειος ἰατρὸς καὶ τέλειος αὐλητὴς ὅταν κατὰ τὸ εἶδος τῆς οἰκείας ἀρετῆς μηθὲν ἐλλείπωσιν (οὕτω δὲ μεταφέροντες καὶ ἐπὶ τῶν κακῶν λέγομεν συκοφάντην τέλειον καὶ κλέπτην τέλειον, ἐπειδὴ καὶ ἀγαθοὺς λέγομεν αὐτούς, οἷον κλέπτην ἀγαθὸν καὶ συκοφάντην ἀγαθόν· καὶ ἡ ἀρετὴ τελείωσίς τις· ἕκαστον γὰρ τότε τέλειον καὶ οὐσία πᾶσα τότε τελεία, ὅταν κατὰ τὸ εἶδος τῆς οἰκείας ἀρετῆς μηδὲν ἐλλείπῃ μόριον τοῦ κατὰ φύσιν μεγέθους)· ἔτι οἷς ὑπάρχει τὸ τέλος, σπουδαῖον ‹ὄν›, ταῦτα λέγεται τέλεια· κατὰ γὰρ τὸ ἔχειν τὸ τέλος τέλεια, ὥστ᾽ ἐπεὶ τὸ τέλος τῶν ἐσχάτων τί ἐστι, καὶ ἐπὶ τὰ φαῦλα μεταφέροντες λέγομεν τελείως ἀπολωλέναι καὶ τελείως ἐφθάρθαι, ὅταν μηδὲν ἐλλείπῃ τῆς φθορᾶς καὶ τοῦ κακοῦ ἀλλ᾽ ἐπὶ τῷ ἐσχάτῳ ᾖ· διὸ καὶ ἡ τελευτὴ κατὰ μεταφορὰν λέγεται τέλος, ὅτι ἄμφω ἔσχατα· τέλος δὲ καὶ τὸ οὗ ἕνεκα ἔσχατον. τὰ μὲν οὖν καθ᾽ αὑτὰ λεγόμενα τέλεια τοσαυταχῶς λέγεται, τὰ μὲν τῷ κατὰ τὸ εὖ μηδὲν ἐλλείπειν μηδ᾽ ἔχειν ὑπερβολὴν μηδὲ ἔξω τι λαβεῖν, τὰ δ᾽ ὅλως κατὰ τὸ μὴ ἔχειν ὑπερβολὴν ἐν ἑκάστῳ γένει μηδ᾽ εἶναί τι ἔξω· τὰ δὲ ἄλλα ἤδη κατὰ ταῦτα τῷ ἢ ποιεῖν τι τοιοῦτον ἢ ἔχειν ἢ ἁρμόττειν τούτῳ ἢ ἁμῶς γέ πως λέγεσθαι πρὸς τὰ πρώτως λεγόμενα τέλεια.

Πέρας λέγεται τό τε ἔσχατον ἑκάστου καὶ οὗ ἔξω μηδὲν ἔστι λαβεῖν πρώτου καὶ οὗ ἔσω πάντα πρώτου, καὶ ὃ ἂν ᾖ εἶδος μεγέθους ἢ ἔχοντος μέγεθος, καὶ τὸ τέλος ἑκάστου (τοιοῦτον δ’ ἐφ’ ὃ ἡ κίνησις καὶ ἡ πρᾶξις, καὶ οὐκ ἀφ’ οὗ - ὁτὲ δὲ ἄμφω, καὶ ἀφ’ οὗ καὶ ἐφ’ ὃ καὶ τὸ οὗ ἕνεκα), καὶ ἡ οὐσία ἡ ἑκάστου καὶ τὸ τί ἦν εἶναι ἑκάστῳ· τῆς γνώσεως γὰρ τοῦτο πέρας· εἰ δὲ τῆς γνώσεως, καὶ τοῦ πράγματος. ὥστε φανερὸν ὅτι ὁσαχῶς τε ἡ ἀρχὴ λέγεται, τοσαυταχῶς καὶ τὸ πέρας, καὶ ἔτι πλεοναχῶς· ἡ μὲν γὰρ ἀρχὴ πέρας τι, τὸ δὲ πέρας οὐ πᾶν ἀρχή.

Τὸ καθ’ ὃ λέγεται πολλαχῶς, ἕνα μὲν τρόπον τὸ εἶδος καὶ ἡ οὐσία ἑκάστου πράγματος, οἷον καθ’ ὃ ἀγαθός, αὐτὸ ἀγαθόν, ἕνα δὲ ἐν ᾧ πρώτῳ πέφυκε γίγνεσθαι, οἷον τὸ χρῶμα ἐν τῇ ἐπιφανείᾳ. τὸ μὲν οὖν πρώτως λεγόμενον καθ’ ὃ τὸ εἶδός ἐστι, δευτέρως δὲ ὡς ἡ ὕλη ἑκάστου καὶ τὸ ὑποκείμενον ἑκάστῳ πρῶτον. ὅλως δὲ τὸ καθ’ ὃ ἰσαχῶς καὶ τὸ αἴτιον ὑπάρξει· κατὰ τί γὰρ ἐλήλυθεν ἢ οὗ ἕνεκα ἐλήλυθε λέγεται, καὶ κατὰ τί παραλελόγισται ἢ συλλελόγισται, ἢ τί τὸ αἴτιον τοῦ συλλογισμοῦ ἢ παραλογισμοῦ. ἔτι δὲ τὸ καθ’ ὃ τὸ κατὰ θέσιν λέγεται, καθ’ ὃ ἕστηκεν ἢ καθ’ ὃ βαδίζει· πάντα γὰρ ταῦτα τόπον σημαίνει καὶ θέσιν. ὥστε καὶ τὸ καθ’ αὑτὸ πολλαχῶς ἀνάγκη λέγεσθαι. ἓν μὲν γὰρ καθ’ αὑτὸ τὸ τί ἦν εἶναι ἑκάστῳ, οἷον ὁ Καλλίας καθ’ αὑτὸν Καλλίας καὶ τὸ τί ἦν εἶναι Καλλίᾳ· ἓν δὲ ὅσα ἐν τῷ τί ἐστιν ὑπάρχει, οἷον ζῷον ὁ Καλλίας καθ’ αὑτόν· ἐν γὰρ τῷ λόγῳ ἐνυπάρχει τὸ ζῷον· ζῷον γάρ τι ὁ Καλλίας. ἔτι δὲ εἰ ἐν αὑτῷ δέδεκται πρώτῳ ἢ τῶν αὑτοῦ τινί, οἷον ἡ ἐπιφάνεια λευκὴ καθ’ ἑαυτήν, καὶ ζῇ ὁ ἄνθρωπος καθ’ αὑτόν· ἡ γὰρ ψυχὴ μέρος τι τοῦ ἀνθρώπου, ἐν ᾗ πρώτῃ τὸ ζῆν. ἔτι οὗ μὴ ἔστιν ἄλλο αἴτιον· τοῦ γὰρ ἀνθρώπου πολλὰ αἴτια, τὸ ζῷον, τὸ δίπουν, ἀλλ’ ὅμως καθ’ αὑτὸν ἄνθρωπος ὁ ἄνθρωπός ἐστιν. ἔτι ὅσα μόνῳ ὑπάρχει καὶ ᾗ μόνον δι’ αὑτὸ κεχωρισμένον καθ’ αὑτό.

[1022b] Διάθεσις λέγεται τοῦ ἔχοντος μέρη τάξις ἢ κατὰ τόπον ἢ κατὰ δύναμιν ἢ κατ’ εἶδος· θέσιν γὰρ δεῖ τινὰ εἶναι, ὥσπερ καὶ τοὔνομα δηλοῖ ἡ διάθεσις.

Ἕξις δὲ λέγεται ἕνα μὲν τρόπον οἷον ἐνέργειά τις τοῦ ἔχοντος καὶ ἐχομένου, ὥσπερ πρᾶξίς τις ἢ κίνησις (ὅταν γὰρ τὸ μὲν ποιῇ τὸ δὲ ποιῆται, ἔστι ποίησις μεταξύ· οὕτω καὶ τοῦ ἔχοντος ἐσθῆτα καὶ τῆς ἐχομένης ἐσθῆτος ἔστι μεταξὺ ἕξις)· - ταύτην μὲν οὖν φανερὸν ὅτι οὐκ ἐνδέχεται ἔχειν ἕξιν (εἰς ἄπειρον γὰρ βαδιεῖται, εἰ τοῦ ἐχομένου ἔσται ἔχειν τὴν ἕξιν), ἄλλον δὲ τρόπον ἕξις λέγεται διάθεσις καθ’ ἣν ἢ εὖ ἢ κακῶς διάκειται τὸ διακείμενον, καὶ ἢ καθ’ αὑτὸ ἢ πρὸς ἄλλο, οἷον ἡ ὑγίεια ἕξις τις· διάθεσις γάρ ἐστι τοιαύτη. ἔτι ἕξις λέγεται ἂν ᾖ μόριον διαθέσεως τοιαύτης· διὸ καὶ ἡ τῶν μερῶν ἀρετὴ ἕξις τίς ἐστιν.

Πάθος λέγεται ἕνα μὲν τρόπον ποιότης καθ’ ἣν ἀλλοιοῦσθαι ἐνδέχεται, οἷον τὸ λευκὸν καὶ τὸ μέλαν, καὶ γλυκὺ καὶ πικρόν, καὶ βαρύτης καὶ κουφότης, καὶ ὅσα ἄλλα τοιαῦτα· ἕνα δὲ αἱ τούτων ἐνέργειαι καὶ ἀλλοιώσεις ἤδη. ἔτι τούτων μᾶλλον αἱ βλαβεραὶ ἀλλοιώσεις καὶ κινήσεις, καὶ μάλιστα αἱ λυπηραὶ βλάβαι. ἔτι τὰ μεγέθη τῶν συμφορῶν καὶ λυπηρῶν πάθη λέγεται.

Στέρησις λέγεται ἕνα μὲν τρόπον ἂν μὴ ἔχῃ τι τῶν πεφυκότων ἔχεσθαι, κἂν μὴ αὐτὸ ᾖ πεφυκὸς ἔχειν, οἷον φυτὸν ὀμμάτων ἐστερῆσθαι λέγεται· ἕνα δὲ ἂν πεφυκὸς ἔχειν, ἢ αὐτὸ ἢ τὸ γένος, μὴ ἔχῃ, οἷον ἄλλως ἄνθρωπος ὁ τυφλὸς ὄψεως ἐστέρηται καὶ ἀσπάλαξ, τὸ μὲν κατὰ τὸ γένος τὸ δὲ καθ’ αὑτό. ἔτι ἂν πεφυκὸς καὶ ὅτε πέφυκεν ἔχειν μὴ ἔχῃ· ἡ γὰρ τυφλότης στέρησίς τις, τυφλὸς δ’ οὐ κατὰ πᾶσαν ἡλικίαν, ἀλλ’ ἐν ᾗ πέφυκεν ἔχειν, ἂν μὴ ἔχῃ. ὁμοίως δὲ καὶ ἐν ᾧ ἂν ᾖ ‹πεφυκὸς› καὶ καθ’ ὃ καὶ πρὸς ὃ καὶ ὥς, ἂν μὴ ἔχῃ [πεφυκός]. ἔτι ἡ βιαία ἑκάστου ἀφαίρεσις στέρησις λέγεται. καὶ ὁσαχῶς δὲ αἱ ἀπὸ τοῦ α ἀποφάσεις λέγονται, τοσαυταχῶς καὶ αἱ στερήσεις λέγονται· ἄνισον μὲν γὰρ τῷ μὴ ἔχειν ἰσότητα πεφυκὸς λέγεται, ἀόρατον δὲ καὶ τῷ ὅλως μὴ ἔχειν χρῶμα καὶ τῷ φαύλως, καὶ ἄπουν καὶ τῷ μὴ ἔχειν ὅλως πόδας καὶ τῷ φαύλους. ἔτι καὶ τῷ [1023a] μικρὸν ἔχειν, οἷον τὸ ἀπύρηνον· τοῦτο δ’ ἐστὶ τὸ φαύλως πως ἔχειν. ἔτι τῷ μὴ ῥᾳδίως ἢ τῷ μὴ καλῶς, οἷον τὸ ἄτμητον οὐ μόνον τῷ μὴ τέμνεσθαι ἀλλὰ καὶ τῷ μὴ ῥᾳδίως ἢ μὴ καλῶς. ἔτι τῷ πάντῃ μὴ ἔχειν· τυφλὸς γὰρ οὐ λέγεται ὁ ἑτερόφθαλμος ἀλλ’ ὁ ἐν ἀμφοῖν μὴ ἔχων ὄψιν· διὸ οὐ πᾶς ἀγαθὸς ἢ κακός, ἢ δίκαιος ἢ ἄδικος, ἀλλὰ καὶ τὸ μεταξύ.

Τὸ ἔχειν λέγεται πολλαχῶς, ἕνα μὲν τρόπον τὸ ἄγειν κατὰ τὴν αὑτοῦ φύσιν ἢ κατὰ τὴν αὑτοῦ ὁρμήν, διὸ λέγεται πυρετός τε ἔχειν τὸν ἄνθρωπον καὶ οἱ τύραννοι τὰς πόλεις καὶ τὴν ἐσθῆτα οἱ ἀμπεχόμενοι· ἕνα δ’ ἐν ᾧ ἄν τι ὑπάρχῃ ὡς δεκτικῷ, οἷον ὁ χαλκὸς ἔχει τὸ εἶδος τοῦ ἀνδριάντος καὶ τὴν νόσον τὸ σῶμα· ἕνα δὲ ὡς τὸ περιέχον τὰ περιεχόμενα· ἐν ᾧ γάρ ἐστι περιέχοντι, ἔχεσθαι ὑπὸ τούτου λέγεται, οἷον τὸ ἀγγεῖον ἔχειν τὸ ὑγρόν φαμεν καὶ τὴν πόλιν ἀνθρώπους καὶ τὴν ναῦν ναύτας, οὕτω δὲ καὶ τὸ ὅλον ἔχειν τὰ μέρη. ἔτι τὸ κωλῦον κατὰ τὴν αὑτοῦ ὁρμήν τι κινεῖσθαι ἢ πράττειν ἔχειν λέγεται τοῦτο αὐτό, οἷον καὶ οἱ κίονες τὰ ἐπικείμενα βάρη, καὶ ὡς οἱ ποιηταὶ τὸν Ἄτλαντα ποιοῦσι τὸν οὐρανὸν ἔχειν ὡς συμπεσόντ’ ἂν ἐπὶ τὴν γῆν, ὥσπερ καὶ τῶν φυσιολόγων τινές φασιν· τοῦτον δὲ τὸν τρόπον καὶ τὸ συνέχον λέγεται ἃ συνέχει ἔχειν, ὡς διαχωρισθέντα ἂν κατὰ τὴν αὑτοῦ ὁρμὴν ἕκαστον. καὶ τὸ ἔν τινι δὲ εἶναι ὁμοτρόπως λέγεται καὶ ἑπομένως τῷ ἔχειν.

Τὸ ἔκ τινος εἶναι λέγεται ἕνα μὲν τρόπον ἐξ οὗ ἐστὶν ὡς ὕλης, καὶ τοῦτο διχῶς, ἢ κατὰ τὸ πρῶτον γένος ἢ κατὰ τὸ ὕστατον εἶδος, οἷον ἔστι μὲν ὡς ἅπαντα τὰ τηκτὰ ἐξ ὕδατος, ἔστι δ' ὡς ἐκ χαλκοῦ ὁ ἀνδριάς· ἕνα δ' ὡς ἐκ τῆς πρώτης κινησάσης ἀρχῆς (οἷον ἐκ τίνος ἡ μάχη; ἐκ λοιδορίας, ὅτι αὕτη ἀρχὴ τῆς μάχης)· ἕνα δ' ἐκ τοῦ συνθέτου ἐκ τῆς ὕλης καὶ τῆς μορφῆς, ὥσπερ ἐκ τοῦ ὅλου τὰ μέρη καὶ ἐκ τῆς Ἰλιάδος τὸ ἔπος καὶ ἐκ τῆς οἰκίας οἱ λίθοι· τέλος μὲν γάρ ἐστιν ἡ μορφή, τέλειον δὲ τὸ ἔχον τέλος. τὰ δὲ ὡς ἐκ τοῦ μέρους τὸ εἶδος, οἷον ἄνθρωπος ἐκ τοῦ δίποδος καὶ ἡ συλλαβὴ ἐκ τοῦ στοιχείου· ἄλλως γὰρ τοῦτο [1023b] καὶ ὁ ἀνδριὰς ἐκ χαλκοῦ· ἐκ τῆς αἰσθητῆς γὰρ ὕλης ἡ συνθετὴ οὐσία, ἀλλὰ καὶ τὸ εἶδος ἐκ τῆς τοῦ εἴδους ὕλης. τὰ μὲν οὖν οὕτω λέγεται, τὰ δ' ἐὰν κατὰ μέρος τι τούτων τις ὑπάρχῃ τῶν τρόπων, οἷον ἐκ πατρὸς καὶ μητρὸς τὸ τέκνον καὶ ἐκ γῆς τὰ φυτά, ὅτι ἔκ τινος μέρους αὐτῶν. ἕνα δὲ μεθ' ὃ τῷ χρόνῳ, οἷον ἐξ ἡμέρας νὺξ καὶ ἐξ εὐδίας χειμών, ὅτι τοῦτο μετὰ τοῦτο· τούτων δὲ τὰ μὲν τῷ ἔχειν μεταβολὴν εἰς ἄλληλα οὕτω λέγεται, ὥσπερ καὶ τὰ νῦν εἰρημένα, τὰ δὲ τῷ κατὰ τὸν χρόνον ἐφεξῆς μόνον, οἷον ἐξ ἰσημερίας ἐγένετο ὁ πλοῦς ὅτι μετ' ἰσημερίαν ἐγένετο, καὶ ἐκ Διονυσίων Θαργήλια ὅτι μετὰ τὰ Διονύσια.

Μέρος λέγεται ἕνα μὲν τρόπον εἰς ὃ διαιρεθείη ἂν τὸ ποσὸν ὁπωσοῦν (ἀεὶ γὰρ τὸ ἀφαιρούμενον τοῦ ποσοῦ ᾗ ποσὸν μέρος λέγεται ἐκείνου, οἷον τῶν τριῶν τὰ δύο μέρος λέγεταί πως), ἄλλον δὲ τρόπον τὰ καταμετροῦντα τῶν τοιούτων μόνον· διὸ τὰ δύο τῶν τριῶν ἔστι μὲν ὡς λέγεται μέρος, ἔστι δ' ὡς οὔ. ἔτι εἰς ἃ τὸ εἶδος διαιρεθείη ἂν ἄνευ τοῦ ποσοῦ, καὶ ταῦτα μόρια λέγεται τούτου· διὸ τὰ εἴδη τοῦ γένους φασὶν εἶναι μόρια. ἔτι εἰς ἃ διαιρεῖται ἢ ἐξ ὧν σύγκειται τὸ ὅλον, ἢ τὸ εἶδος ἢ τὸ ἔχον τὸ εἶδος, οἷον τῆς σφαίρας τῆς χαλκῆς ἢ τοῦ κύβου τοῦ χαλκοῦ καὶ ὁ χαλκὸς μέρος (τοῦτο δ' ἐστὶν ἡ ὕλη ἐν ᾗ τὸ εἶδος) καὶ ἡ γωνία μέρος. ἔτι τὰ ἐν τῷ λόγῳ τῷ δηλοῦντι ἕκαστον, καὶ ταῦτα μόρια τοῦ ὅλου· διὸ τὸ γένος τοῦ εἴδους καὶ μέρος λέγεται, ἄλλως δὲ τὸ εἶδος τοῦ γένους μέρος.

Ὅλον λέγεται οὗ τε μηθὲν ἄπεστι μέρος ἐξ ὧν λέγεται ὅλον φύσει, καὶ τὸ περιέχον τὰ περιεχόμενα ὥστε ἕν τι εἶναι ἐκεῖνα· τοῦτο δὲ διχῶς· ἢ γὰρ ὡς ἕκαστον ἓν ἢ ὡς ἐκ τούτων τὸ ἕν. τὸ μὲν γὰρ καθόλου, καὶ τὸ ὅλως λεγόμενον ὡς ὅλον τι ὄν, οὕτως ἐστὶ καθόλου ὡς πολλὰ περιέχον τῷ κατηγορεῖσθαι καθ' ἑκάστου καὶ ἓν ἅπαντα εἶναι ὡς ἕκαστον, οἷον ἄνθρωπον ἵππον θεόν, διότι ἅπαντα ζῷα· τὸ δὲ συνεχὲς καὶ πεπερασμένον, ὅταν ἕν τι ἐκ πλειόνων ᾖ, ἐνυπαρχόντων μάλιστα μὲν δυνάμει, εἰ δὲ μή, ἐνεργείᾳ. τούτων δ’ αὐτῶν μᾶλλον τὰ φύσει ἢ τέχνῃ τοιαῦτα, ὥσπερ καὶ ἐπὶ τοῦ ἑνὸς ἐλέγομεν, ὡς οὔσης τῆς ὁλότητος ἑνότητός τινος.

[1024a] ἔτι τοῦ ποσοῦ ἔχοντος δὲ ἀρχὴν καὶ μέσον καὶ ἔσχατον, ὅσων μὲν μὴ ποιεῖ ἡ θέσις διαφοράν, πᾶν λέγεται, ὅσων δὲ ποιεῖ, ὅλον. ὅσα δὲ ἄμφω ἐνδέχεται, καὶ ὅλα καὶ πάντα· ἔστι δὲ ταῦτα ὅσων ἡ μὲν φύσις ἡ αὐτὴ μένει τῇ μεταθέσει, ἡ δὲ μορφὴ οὔ, οἷον κηρὸς καὶ ἱμάτιον· καὶ γὰρ ὅλον καὶ πᾶν λέγεται· ἔχει γὰρ ἄμφω. ὕδωρ δὲ καὶ ὅσα ὑγρὰ καὶ ἀριθμὸς πᾶν μὲν λέγεται, ὅλος δ’ ἀριθμὸς καὶ ὅλον ὕδωρ οὐ λέγεται, ἂν μὴ μεταφορᾷ. πάντα δὲ λέγεται ἐφ’ οἷς τὸ πᾶν ὡς ἐφ’ ἑνί, ἐπὶ τούτοις τὸ πάντα ὡς ἐπὶ διῃρημένοις· πᾶς οὗτος ὁ ἀριθμός, πᾶσαι αὗται αἱ μονάδες.

Κολοβὸν δὲ λέγεται τῶν ποσῶν οὐ τὸ τυχόν, ἀλλὰ μεριστόν τε δεῖ αὐτὸ εἶναι καὶ ὅλον. τά τε γὰρ δύο οὐ κολοβὰ θατέρου ἀφαιρουμένου ἑνός (οὐ γὰρ ἴσον τὸ καλόβωμα καὶ τὸ λοιπὸν οὐδέποτ’ ἐστίν) οὐδ’ ὅλως ἀριθμὸς οὐδείς· καὶ γὰρ τὴν οὐσίαν δεῖ μένειν· εἰ κύλιξ κολοβός, ἔτι εἶναι κύλικα· ὁ δὲ ἀριθμὸς οὐκέτι ὁ αὐτός. πρὸς δὲ τούτοις κἂν ἀνομοιομερῆ ᾖ, οὐδὲ ταῦτα πάντα (ὁ γὰρ ἀριθμὸς ἔστιν ὡς καὶ ἀνόμοια ἔχει μέρη, οἷον δυάδα τριάδα), ἀλλ’ ὅλως ὧν μὴ ποιεῖ ἡ θέσις διαφορὰν οὐδὲν κολοβόν, οἷον ὕδωρ ἢ πῦρ, ἀλλὰ δεῖ τοιαῦτα εἶναι ἃ κατὰ τὴν οὐσίαν θέσιν ἔχει. ἔτι συνεχῆ· ἡ γὰρ ἁρμονία ἐξ ἀνομοίων μὲν καὶ θέσιν ἔχει, κολοβὸς δὲ οὐ γίγνεται. πρὸς δὲ τούτοις οὐδ’ ὅσα ὅλα, οὐδὲ ταῦτα ὁτουοῦν μορίου στερήσει κολοβά. οὐ γὰρ δεῖ οὔτε τὰ κύρια τῆς οὐσίας οὔτε τὰ ὁπουοῦν ὄντα· οἷον ἂν τρυπηθῇ ἡ κύλιξ, οὐ κολοβός, ἀλλ’ ἂν τὸ οὖς ἢ ἀκρωτήριόν τι, καὶ ὁ ἄνθρωπος οὐκ ἐὰν σάρκα ἢ τὸν σπλῆνα, ἀλλ’ ἐὰν ἀκρωτήριόν τι, καὶ τοῦτο οὐ πᾶν ἀλλ’ ὃ μὴ ἔχει γένεσιν ἀφαιρεθὲν ὅλον. διὰ τοῦτο οἱ φαλακροὶ οὐ κολοβοί.

Γένος λέγεται τὸ μὲν ἐὰν ᾖ ἡ γένεσις συνεχὴς τῶν τὸ εἶδος ἐχόντων τὸ αὐτό, οἷον λέγεται ἕως ἂν ἀνθρώπων γένος ᾖ, ὅτι ἕως ἂν ᾖ ἡ γένεσις συνεχὴς αὐτῶν· τὸ δὲ ἀφ’ οὗ ἂν ὦσι πρώτου κινήσαντος εἰς τὸ εἶναι· οὕτω γὰρ λέγονται Ἕλληνες τὸ γένος οἱ δὲ Ἴωνες, τῷ οἱ μὲν ἀπὸ Ἕλληνος οἱ δὲ ἀπὸ Ἴωνος εἶναι πρώτου γεννήσαντος· καὶ μᾶλλον οἱ ἀπὸ τοῦ γεννήσαντος ἢ τῆς ὕλης (λέγονται γὰρ καὶ ἀπὸ τοῦ θήλεος τὸ γένος, οἷον οἱ ἀπὸ Πύρρας). ἔτι δὲ ὡς τὸ ἐπίπεδον [1024b] τῶν σχημάτων γένος τῶν ἐπιπέδων καὶ τὸ στερεὸν τῶν στερεῶν· ἕκαστον γὰρ τῶν σχημάτων τὸ μὲν ἐπίπεδον τοιονδὶ τὸ δὲ στερεόν ἐστι τοιονδί· τοῦτο δ’ ἐστὶ τὸ ὑποκείμενον ταῖς διαφοραῖς. ἔτι ὡς ἐν τοῖς λόγοις τὸ πρῶτον ἐνυπάρχον, ὃ λέγεται ἐν τῷ τί ἐστι, τοῦτο γένος, οὗ διαφοραὶ λέγονται αἱ ποιότητες. τὸ μὲν οὖν γένος τοσαυταχῶς λέγεται, τὸ μὲν κατὰ γένεσιν συνεχῆ τοῦ αὐτοῦ εἴδους, τὸ δὲ κατὰ τὸ πρῶτον κινῆσαν ὁμοειδές, τὸ δ’ ὡς ὕλη· οὗ γὰρ ἡ διαφορὰ καὶ ἡ ποιότης ἐστί, τοῦτ’ ἔστι τὸ ὑποκείμενον, ὃ λέγομεν ὕλην. ἕτερα δὲ τῷ γένει λέγεται ὧν ἕτερον τὸ πρῶτον ὑποκείμενον καὶ μὴ ἀναλύεται θάτερον εἰς θάτερον μηδ’ ἄμφω εἰς ταὐτόν, οἷον τὸ εἶδος καὶ ἡ ὕλη ἕτερον τῷ γένει, καὶ ὅσα καθ’ ἕτερον σχῆμα κατηγορίας τοῦ ὄντος λέγεται (τὰ μὲν γὰρ τί ἐστι σημαίνει τῶν ὄντων τὰ δὲ ποιόν τι τὰ δ’ ὡς διῄρηται πρότερον)· οὐδὲ γὰρ ταῦτα ἀναλύεται οὔτ’ εἰς ἄλληλα οὔτ’ εἰς ἕν τι.

Τὸ ψεῦδος λέγεται ἄλλον μὲν τρόπον ὡς πρᾶγμα ψεῦδος, καὶ τούτου τὸ μὲν τῷ μὴ συγκεῖσθαι ἢ ἀδύνατον εἶναι συντεθῆναι (ὥσπερ λέγεται τὸ τὴν διάμετρον εἶναι σύμμετρον ἢ τὸ σὲ καθῆσθαι· τούτων γὰρ ψεῦδος τὸ μὲν ἀεὶ τὸ δὲ ποτέ· οὕτω γὰρ οὐκ ὄντα ταῦτα), τὰ δὲ ὅσα ἔστι μὲν ὄντα, πέφυκε μέντοι φαίνεσθαι ἢ μὴ οἷά ἐστιν ἢ ἃ μὴ ἔστιν (οἷον ἡ σκιαγραφία καὶ τὰ ἐνύπνια· ταῦτα γὰρ ἔστι μέν τι, ἀλλ’ οὐχ ὧν ἐμποιεῖ τὴν φαντασίαν)· - πράγματα μὲν οὖν ψευδῆ οὕτω λέγεται, ἢ τῷ μὴ εἶναι αὐτὰ ἢ τῷ τὴν ἀπ’ αὐτῶν φαντασίαν μὴ ὄντος εἶναι· λόγος δὲ ψευδὴς ὁ τῶν μὴ ὄντων, ᾗ ψευδής, διὸ πᾶς λόγος ψευδὴς ἑτέρου ἢ οὗ ἐστὶν ἀληθής, οἷον ὁ τοῦ κύκλου ψευδὴς τριγώνου. ἑκάστου δὲ λόγος ἔστι μὲν ὡς εἷς, ὁ τοῦ τί ἦν εἶναι, ἔστι δ’ ὡς πολλοί, ἐπεὶ ταὐτό πως αὐτὸ καὶ αὐτὸ πεπονθός, οἷον Σωκράτης καὶ Σωκράτης μουσικός (ὁ δὲ ψευδὴς λόγος οὐθενός ἐστιν ἁπλῶς λόγος)· διὸ Ἀντισθένης ᾤετο εὐήθως μηθὲν ἀξιῶν λέγεσθαι πλὴν τῷ οἰκείῳ λόγῳ, ἓν ἐφ’ ἑνός· ἐξ ὧν συνέβαινε μὴ εἶναι ἀντιλέγειν, σχεδὸν δὲ μηδὲ ψεύδεσθαι. ἔστι δ’ ἕκαστον λέγειν οὐ μόνον τῷ αὐτοῦ λόγῳ ἀλλὰ καὶ τῷ ἑτέρου, ψευδῶς μὲν καὶ παντελῶς, ἔστι δ’ ὡς καὶ ἀληθῶς, [1025a] ὥσπερ τὰ ὀκτὼ διπλάσια τῷ τῆς δυάδος λόγῳ. τὰ μὲν οὖν οὕτω λέγεται ψευδῆ, ἄνθρωπος δὲ ψευδὴς ὁ εὐχερὴς καὶ προαιρετικὸς τῶν τοιούτων λόγων, μὴ δι’ ἕτερόν τι ἀλλὰ δι’ αὐτό, καὶ ὁ ἄλλοις ἐμποιητικὸς τῶν τοιούτων λόγων, ὥσπερ καὶ τὰ πράγματά φαμεν ψευδῆ εἶναι ὅσα ἐμποιεῖ φαντασίαν ψευδῆ. διὸ ὁ ἐν τῷ Ἱππίᾳ λόγος παρακρούεται ὡς ὁ αὐτὸς ψευδὴς καὶ ἀληθής. τὸν δυνάμενον γὰρ ψεύσασθαι λαμβάνει ψευδῆ (οὗτος δ’ ὁ εἰδὼς καὶ ὁ φρόνιμος)· ἔτι τὸν ἑκόντα φαῦλον βελτίω. τοῦτο δὲ ψεῦδος λαμβάνει διὰ τῆς ἐπαγωγῆς - ὁ γὰρ ἑκὼν χωλαίνων τοῦ ἄκοντος κρείττων - τὸ χωλαίνειν τὸ μιμεῖσθαι λέγων, ἐπεὶ εἴ γε χωλὸς ἑκών, χείρων ἴσως, ὥσπερ ἐπὶ τοῦ ἤθους, καὶ οὗτος.

Συμβεβηκὸς λέγεται ὃ ὑπάρχει μέν τινι καὶ ἀληθὲς εἰπεῖν, οὐ μέντοι οὔτ’ ἐξ ἀνάγκης οὔτε ‹ὡς› ἐπὶ τὸ πολύ, οἷον εἴ τις ὀρύττων φυτῷ βόθρον εὗρε θησαυρόν. τοῦτο τοίνυν συμβεβηκὸς τῷ ὀρύττοντι τὸν βόθρον, τὸ εὑρεῖν θησαυρόν· οὔτε γὰρ ἐξ ἀνάγκης τοῦτο ἐκ τούτου ἢ μετὰ τοῦτο, οὔθ’ ὡς ἐπὶ τὸ πολὺ ἄν τις φυτεύῃ θησαυρὸν εὑρίσκει. καὶ μουσικός γ’ ἄν τις εἴη λευκός· ἀλλ’ ἐπεὶ οὔτε ἐξ ἀνάγκης οὔθ’ ὡς ἐπὶ τὸ πολὺ τοῦτο γίγνεται, συμβεβηκὸς αὐτὸ λέγομεν. ὥστ’ ἐπεὶ ἔστιν ὑπάρχον τι καὶ τινί, καὶ ἔνια τούτων καὶ ποὺ καὶ ποτέ, ὅ τι ἂν ὑπάρχῃ μέν, ἀλλὰ μὴ διότι τοδὶ ἦν ἢ νῦν ἢ ἐνταῦθα, συμβεβηκὸς ἔσται. οὐδὲ δὴ αἴτιον ὡρισμένον οὐδὲν τοῦ συμβεβηκότος ἀλλὰ τὸ τυχόν· τοῦτο δ’ ἀόριστον. συνέβη τῳ εἰς Αἴγιναν ἐλθεῖν, εἰ μὴ διὰ τοῦτο ἀφίκετο ὅπως ἐκεῖ ἔλθῃ, ἀλλ’ ὑπὸ χειμῶνος ἐξωσθεὶς ἢ ὑπὸ λῃστῶν ληφθείς. γέγονε μὲν δὴ ἢ ἔστι τὸ συμβεβηκός, ἀλλ’ οὐχ ᾗ αὐτὸ ἀλλ’ ᾗ ἕτερον· ὁ γὰρ χειμὼν αἴτιος τοῦ μὴ ὅπου ἔπλει ἐλθεῖν, τοῦτο δ’ ἦν Αἴγινα. λέγεται δὲ καὶ ἄλλως συμβεβηκός, οἷον ὅσα ὑπάρχει ἑκάστῳ καθ’ αὑτὸ μὴ ἐν τῇ οὐσίᾳ ὄντα, οἷον τῷ τριγώνῳ τὸ δύο ὀρθὰς ἔχειν. καὶ ταῦτα μὲν ἐνδέχεται ἀΐδια εἶναι, ἐκείνων δὲ οὐδέν. λόγος δὲ τούτου ἐν ἑτέροις.

E

[1025b] Αἱ ἀρχαὶ καὶ τὰ αἴτια ζητεῖται τῶν ὄντων, δῆλον δὲ ὅτι ᾗ ὄντα. ἔστι γάρ τι αἴτιον ὑγιείας καὶ εὐεξίας, καὶ τῶν μαθηματικῶν εἰσὶν ἀρχαὶ καὶ στοιχεῖα καὶ αἴτια, καὶ ὅλως δὲ πᾶσα ἐπιστήμη διανοητικὴ ἢ μετέχουσά τι διανοίας περὶ αἰτίας καὶ ἀρχάς ἐστιν ἢ ἀκριβεστέρας ἢ ἁπλουστέρας. ἀλλὰ πᾶσαι αὗται περὶ ὄν τι καὶ γένος τι περιγραψάμεναι περὶ τούτου πραγματεύονται, ἀλλ’ οὐχὶ περὶ ὄντος ἁπλῶς οὐδὲ ᾗ ὄν, οὐδὲ τοῦ τί ἐστιν οὐθένα λόγον ποιοῦνται, ἀλλ’ ἐκ τούτου, αἱ μὲν αἰσθήσει ποιήσασαι αὐτὸ δῆλον αἱ δ’ ὑπόθεσιν λαβοῦσαι τὸ τί ἐστιν, οὕτω τὰ καθ’ αὑτὰ ὑπάρχοντα τῷ γένει περὶ ὅ εἰσιν ἀποδεικνύουσιν ἢ ἀναγκαιότερον ἢ μαλακώτερον· διόπερ φανερὸν ὅτι οὐκ ἔστιν ἀπόδειξις οὐσίας οὐδὲ τοῦ τί ἐστιν ἐκ τῆς τοιαύτης ἐπαγωγῆς, ἀλλά τις ἄλλος τρόπος τῆς δηλώσεως. ὁμοίως δὲ οὐδ’ εἰ ἔστιν ἢ μὴ ἔστι τὸ γένος περὶ ὃ πραγματεύονται οὐδὲν λέγουσι, διὰ τὸ τῆς αὐτῆς εἶναι διανοίας τό τε τί ἐστι δῆλον ποιεῖν καὶ εἰ ἔστιν. - ἐπεὶ δὲ καὶ ἡ φυσικὴ ἐπιστήμη τυγχάνει οὖσα περὶ γένος τι τοῦ ὄντος (περὶ γὰρ τὴν τοιαύτην ἐστὶν οὐσίαν ἐν ᾗ ἡ ἀρχὴ τῆς κινήσεως καὶ στάσεως ἐν αὐτῇ), δῆλον ὅτι οὔτε πρακτική ἐστιν οὔτε ποιητική (τῶν μὲν γὰρ ποιητῶν ἐν τῷ ποιοῦντι ἡ ἀρχή, ἢ νοῦς ἢ τέχνη ἢ δύναμίς τις, τῶν δὲ πρακτῶν ἐν τῷ πράττοντι, ἡ προαίρεσις· τὸ αὐτὸ γὰρ τὸ πρακτὸν καὶ προαιρετόν), ὥστε εἰ πᾶσα διάνοια ἢ πρακτικὴ ἢ ποιητικὴ ἢ θεωρητική, ἡ φυσικὴ θεωρητική τις ἂν εἴη, ἀλλὰ θεωρητικὴ περὶ τοιοῦτον ὂν ὅ ἐστι δυνατὸν κινεῖσθαι, καὶ περὶ οὐσίαν τὴν κατὰ τὸν λόγον ὡς ἐπὶ τὸ πολὺ ὡς οὐ χωριστὴν μόνον. δεῖ δὲ τὸ τί ἦν εἶναι καὶ τὸν λόγον πῶς ἐστὶ μὴ λανθάνειν, ὡς ἄνευ γε τούτου τὸ ζητεῖν μηδέν ἐστι ποιεῖν. ἔστι δὲ τῶν ὁριζομένων καὶ τῶν τί ἐστι τὰ μὲν ὡς τὸ σιμὸν τὰ δ’ ὡς τὸ κοῖλον. διαφέρει δὲ ταῦτα ὅτι τὸ μὲν σιμὸν συνειλημμένον ἐστὶ μετὰ τῆς ὕλης (ἔστι γὰρ τὸ σιμὸν κοίλη ῥίς), ἡ δὲ κοιλότης ἄνευ ὕλης αἰσθητῆς. εἰ δὴ πάντα τὰ φυσικὰ ὁμοίως τῷ [1026a] σιμῷ λέγονται, οἷον ῥὶς ὀφθαλμὸς πρόσωπον σὰρξ ὀστοῦν, ὅλως ζῷον, φύλλον ῥίζα φλοιός, ὅλως φυτόν (οὐθενὸς γὰρ ἄνευ κινήσεως ὁ λόγος αὐτῶν, ἀλλ’ ἀεὶ ἔχει ὕλην), δῆλον πῶς δεῖ ἐν τοῖς φυσικοῖς τὸ τί ἐστι ζητεῖν καὶ ὁρίζεσθαι, καὶ διότι καὶ περὶ ψυχῆς ἐνίας θεωρῆσαι τοῦ φυσικοῦ, ὅση μὴ ἄνευ τῆς ὕλης ἐστίν. ὅτι μὲν οὖν ἡ φυσικὴ θεωρητική ἐστι, φανερὸν ἐκ τούτων· ἀλλ’ ἔστι καὶ ἡ μαθηματικὴ θεωρητική· ἀλλ’ εἰ

ἀκινήτων καὶ χωριστῶν ἐστί, νῦν ἄδηλον, ὅτι μέντοι ἔνια μαθήματα ᾗ ἀκίνητα καὶ ᾗ χωριστὰ θεωρεῖ, δῆλον. εἰ δέ τί ἐστιν ἀΐδιον καὶ ἀκίνητον καὶ χωριστόν, φανερὸν ὅτι θεωρητικῆς τὸ γνῶναι, οὐ μέντοι φυσικῆς γε (περὶ κινητῶν γάρ τινων ἡ φυσική) οὐδὲ μαθηματικῆς, ἀλλὰ προτέρας ἀμφοῖν. ἡ μὲν γὰρ φυσικὴ περὶ χωριστὰ μὲν ἀλλ’ οὐκ ἀκίνητα, τῆς δὲ μαθηματικῆς ἔνια περὶ ἀκίνητα μὲν οὐ χωριστὰ δὲ ἴσως ἀλλ’ ὡς ἐν ὕλῃ· ἡ δὲ πρώτη καὶ περὶ χωριστὰ καὶ ἀκίνητα. ἀνάγκη δὲ πάντα μὲν τὰ αἴτια ἀΐδια εἶναι, μάλιστα δὲ ταῦτα· ταῦτα γὰρ αἴτια τοῖς φανεροῖς τῶν θείων. ὥστε τρεῖς ἂν εἶεν φιλοσοφίαι θεωρητικαί, μαθηματική, φυσική, θεολογική (οὐ γὰρ ἄδηλον ὅτι εἴ που τὸ θεῖον ὑπάρχει, ἐν τῇ τοιαύτῃ φύσει ὑπάρχει), καὶ τὴν τιμιωτάτην δεῖ περὶ τὸ τιμιώτατον γένος εἶναι. αἱ μὲν οὖν θεωρητικαὶ τῶν ἄλλων ἐπιστημῶν αἱρετώταται, αὕτη δὲ τῶν θεωρητικῶν. ἀπορήσειε γὰρ ἄν τις πότερόν ποθ’ ἡ πρώτη φιλοσοφία καθόλου ἐστὶν ἢ περί τι γένος καὶ φύσιν τινὰ μίαν (οὐ γὰρ ὁ αὐτὸς τρόπος οὐδ’ ἐν ταῖς μαθηματικαῖς, ἀλλ’ ἡ μὲν γεωμετρία καὶ ἀστρολογία περί τινα φύσιν εἰσίν, ἡ δὲ καθόλου πασῶν κοινή)· εἰ μὲν οὖν μὴ ἔστι τις ἑτέρα οὐσία παρὰ τὰς φύσει συνεστηκυίας, ἡ φυσικὴ ἂν εἴη πρώτη ἐπιστήμη· εἰ δ’ ἔστι τις οὐσία ἀκίνητος, αὕτη προτέρα καὶ φιλοσοφία πρώτη, καὶ καθόλου οὕτως ὅτι πρώτη· καὶ περὶ τοῦ ὄντος ᾗ ὂν ταύτης ἂν εἴη θεωρῆσαι, καὶ τί ἐστι καὶ τὰ ὑπάρχοντα ᾗ ὄν.

Ἀλλ’ ἐπεὶ τὸ ὂν τὸ ἁπλῶς λεγόμενον λέγεται πολλαχῶς, ὧν ἓν μὲν ἦν τὸ κατὰ συμβεβηκός, ἕτερον δὲ τὸ ὡς ἀληθές, καὶ τὸ μὴ ὂν ὡς τὸ ψεῦδος, παρὰ ταῦτα δ’ ἐστὶ τὰ σχήματα τῆς κατηγορίας (οἷον τὸ μὲν τί, τὸ δὲ ποιόν, τὸ δὲ ποσόν, τὸ δὲ πού, τὸ δὲ ποτέ, καὶ εἴ τι ἄλλο [1026b] σημαίνει τὸν τρόπον τοῦτον), ἔτι παρὰ ταῦτα πάντα τὸ δυνάμει καὶ ἐνεργείᾳ· - ἐπεὶ δὴ πολλαχῶς λέγεται τὸ ὄν, πρῶτον περὶ τοῦ κατὰ συμβεβηκὸς λεκτέον, ὅτι οὐδεμία ἐστὶ περὶ αὐτὸ θεωρία. σημεῖον δέ· οὐδεμιᾷ γὰρ ἐπιστήμῃ ἐπιμελὲς περὶ αὐτοῦ οὔτε πρακτικῇ οὔτε ποιητικῇ οὔτε θεωρητικῇ. οὔτε γὰρ ὁ ποιῶν οἰκίαν ποιεῖ ὅσα συμβαίνει ἅμα τῇ οἰκίᾳ γιγνομένῃ (ἄπειρα γάρ ἐστιν· τοῖς μὲν γὰρ ἡδεῖαν τοῖς δὲ βλαβερὰν τοῖς δ’ ὠφέλιμον οὐθὲν εἶναι κωλύει τὴν ποιηθεῖσαν, καὶ ἑτέραν ὡς εἰπεῖν πάντων τῶν ὄντων· ὧν οὐθενός ἐστιν ἡ οἰκοδομικὴ ποιητική), τὸν αὐτὸν δὲ τρόπον οὐδ’ ὁ γεωμέτρης θεωρεῖ τὰ οὕτω συμβεβηκότα τοῖς σχήμασιν, οὐδ’ εἰ ἕτερόν ἐστι τρίγωνον καὶ τρίγωνον δύο ὀρθὰς ἔχον. καὶ τοῦτ’ εὐλόγως συμπίπτει· ὥσπερ γὰρ ὄνομά τι μόνον τὸ συμβεβηκός ἐστιν. διὸ Πλάτων τρόπον τινὰ οὐ κακῶς τὴν σοφιστικὴν περὶ τὸ μὴ ὂν ἔταξεν. εἰσὶ γὰρ οἱ τῶν σοφιστῶν λόγοι περὶ τὸ συμβεβηκὸς ὡς εἰπεῖν μάλιστα πάντων, πότερον ἕτερον ἢ ταὐτὸν μουσικὸν καὶ γραμματικόν, καὶ μουσικὸς Κορίσκος καὶ Κορίσκος, καὶ εἰ πᾶν ὃ ἂν ᾖ, μὴ ἀεὶ δέ, γέγονεν, ὥστ' εἰ μουσικὸς ὢν γραμματικὸς γέγονε, καὶ γραμματικὸς ὢν μουσικός, καὶ ὅσοι δὴ ἄλλοι τοιοῦτοι τῶν λόγων εἰσίν· φαίνεται γὰρ τὸ συμβεβηκὸς ἐγγύς τι τοῦ μὴ ὄντος. δῆλον δὲ καὶ ἐκ τῶν τοιούτων λόγων· τῶν μὲν γὰρ ἄλλον τρόπον ὄντων ἔστι γένεσις καὶ φθορά, τῶν δὲ κατὰ συμβεβηκὸς οὐκ ἔστιν. ἀλλ' ὅμως λεκτέον ἔτι περὶ τοῦ συμβεβηκότος ἐφ' ὅσον ἐνδέχεται, τίς ἡ φύσις αὐτοῦ καὶ διὰ τίν' αἰτίαν ἔστιν· ἅμα γὰρ δῆλον ἴσως ἔσται καὶ διὰ τί ἐπιστήμη οὐκ ἔστιν αὐτοῦ. - ἐπεὶ οὖν ἐστὶν ἐν τοῖς οὖσι τὰ μὲν ἀεὶ ὡσαύτως ἔχοντα καὶ ἐξ ἀνάγκης, οὐ τῆς κατὰ τὸ βίαιον λεγομένης ἀλλ' ἣν λέγομεν τῷ μὴ ἐνδέχεσθαι ἄλλως, τὰ δ' ἐξ ἀνάγκης μὲν οὐκ ἔστιν οὐδ' ἀεί, ὡς δ' ἐπὶ τὸ πολύ, αὕτη ἀρχὴ καὶ αὕτη αἰτία ἐστὶ τοῦ εἶναι τὸ συμβεβηκός· ὃ γὰρ ἂν ᾖ μήτ' ἀεὶ μήθ' ὡς ἐπὶ τὸ πολύ, τοῦτό φαμεν συμβεβηκὸς εἶναι. οἷον ἐπὶ κυνὶ ἂν χειμὼν γένηται καὶ ψῦχος, τοῦτο συμβῆναί φαμεν, ἀλλ' οὐκ ἂν πνῖγος καὶ ἀλέα, ὅτι τὸ μὲν ἀεὶ ἢ ὡς ἐπὶ τὸ πολὺ τὸ δ' οὔ. καὶ τὸν ἄνθρωπον λευκὸν εἶναι συμβέβηκεν (οὔτε γὰρ ἀεὶ οὔθ' ὡς ἐπὶ τὸ πολύ), ζῷον δ' οὐ κατὰ συμβεβηκός. καὶ τὸ ὑγιάζειν δὲ τὸν οἰκοδόμον [1027a] συμβεβηκός, ὅτι οὐ πέφυκε τοῦτο ποιεῖν οἰκοδόμος ἀλλὰ ἰατρός, ἀλλὰ συνέβη ἰατρὸν εἶναι τὸν οἰκοδόμον. καὶ ὀψοποιὸς ἡδονῆς στοχαζόμενος ποιήσειεν ἄν τι ὑγιεινόν, ἀλλ' οὐ κατὰ τὴν ὀψοποιητικήν· διὸ συνέβη, φαμέν, καὶ ἔστιν ὡς ποιεῖ, ἁπλῶς δ' οὔ. τῶν μὲν γὰρ ἄλλων [ἐνίοτε] δυνάμεις εἰσὶν αἱ ποιητικαί, τῶν δ' οὐδεμία τέχνη οὐδὲ δύναμις ὡρισμένη· τῶν γὰρ κατὰ συμβεβηκὸς ὄντων ἢ γιγνομένων καὶ τὸ αἴτιόν ἐστι κατὰ συμβεβηκός. ὥστ' ἐπεὶ οὐ πάντα ἐστὶν ἐξ ἀνάγκης καὶ ἀεὶ ἢ ὄντα ἢ γιγνόμενα, ἀλλὰ τὰ πλεῖστα ὡς ἐπὶ τὸ πολύ, ἀνάγκη εἶναι τὸ κατὰ συμβεβηκὸς ὄν· οἷον οὔτ' ἀεὶ οὔθ' ὡς ἐπὶ τὸ πολὺ ὁ λευκὸς μουσικός ἐστιν, ἐπεὶ δὲ γίγνεταί ποτε, κατὰ συμβεβηκὸς ἔσται (εἰ δὲ μή, πάντ' ἔσται ἐξ ἀνάγκης)· ὥστε ἡ ὕλη ἔσται αἰτία ἡ ἐνδεχομένη παρὰ τὸ ὡς ἐπὶ τὸ πολὺ ἄλλως τοῦ συμβεβηκότος. ἀρχὴν δὲ τηνδὶ ληπτέον, πότερον οὐδέν ἐστιν οὔτ' αἰεὶ οὔθ' ὡς ἐπὶ τὸ πολύ. ἢ τοῦτο ἀδύνατον; ἔστιν ἄρα τι παρὰ ταῦτα τὸ ὁπότερ' ἔτυχε καὶ κατὰ συμβεβηκός. ἀλλὰ πότερον τὸ ὡς ἐπὶ τὸ πολύ, τὸ δ' ἀεὶ οὐθενὶ ὑπάρχει, ἢ ἔστιν ἄττα ἀΐδια; περὶ μὲν οὖν τούτων ὕστερον σκεπτέον, ὅτι δ' ἐπιστήμη οὐκ ἔστι τοῦ συμβεβηκότος φανερόν· ἐπιστήμη μὲν γὰρ πᾶσα ἢ τοῦ ἀεὶ ἢ τοῦ ὡς ἐπὶ τὸ πολύ - πῶς γὰρ ἢ μαθήσεται ἢ διδάξει ἄλλον; δεῖ γὰρ ὡρίσθαι ἢ τῷ ἀεὶ ἢ τῷ ὡς ἐπὶ τὸ πολύ, οἷον ὅτι ὠφέλιμον τὸ μελίκρατον τῷ πυρέττοντι ὡς ἐπὶ τὸ πολύ - τὸ δὲ παρὰ τοῦτο οὐχ ἕξει λέγειν, πότε οὔ, οἷον νουμηνίᾳ· ἢ γὰρ ἀεὶ ἢ ὡς ἐπὶ τὸ πολὺ καὶ τὸ τῇ νουμηνίᾳ· τὸ δὲ συμβεβηκός ἐστι παρὰ ταῦτα. τί μὲν οὖν ἐστὶ τὸ συμβεβηκὸς καὶ διὰ τίν' αἰτίαν καὶ ὅτι ἐπιστήμη οὐκ ἔστιν αὐτοῦ, εἴρηται.

Ὅτι δ' εἰσὶν ἀρχαὶ καὶ αἴτια γενητὰ καὶ φθαρτὰ ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι, φανερόν. εἰ γὰρ μὴ τοῦτ', ἐξ ἀνάγκης πάντ' ἔσται, εἰ τοῦ γιγνομένου καὶ φθειρομένου μὴ κατὰ συμβεβηκὸς αἴτιόν τι ἀνάγκη εἶναι. πότερον γὰρ ἔσται τοδὶ ἢ οὔ; ἐάν γε τοδὶ γένηται· εἰ δὲ μή, οὔ. τοῦτο δὲ ἐὰν ἄλλο. καὶ οὕτω δῆλον ὅτι ἀεὶ χρόνου ἀφαιρουμένου [1027b] ἀπὸ πεπερασμένου χρόνου ἥξει ἐπὶ τὸ νῦν, ὥστε ὁδὶ ἀποθανεῖται [νόσῳ ἢ] βίᾳ, ἐάν γε ἐξέλθῃ· τοῦτο δὲ ἐὰν διψήσῃ· τοῦτο δὲ ἐὰν ἄλλο· καὶ οὕτως ἥξει εἰς ὃ νῦν ὑπάρχει, ἢ εἰς τῶν γεγονότων τι. οἷον ἐὰν διψήσῃ· τοῦτο δὲ εἰ ἐσθίει δριμέα· τοῦτο δ' ἤτοι ὑπάρχει ἢ οὔ· ὥστ' ἐξ ἀνάγκης ἀποθανεῖται ἢ οὐκ ἀποθανεῖται. ὁμοίως δὲ κἂν ὑπερπηδήσῃ τις εἰς τὰ γενόμενα, ὁ αὐτὸς λόγος· ἤδη γὰρ ὑπάρχει τοῦτο ἔν τινι, λέγω δὲ τὸ γεγονός· ἐξ ἀνάγκης ἄρα πάντα ἔσται τὰ ἐσόμενα, οἷον τὸ ἀποθανεῖν τὸν ζῶντα· ἤδη γάρ τι γέγονεν, οἷον τὰ ἐναντία ἐν τῷ αὐτῷ. ἀλλ' εἰ νόσῳ ἢ βίᾳ, οὔπω, ἀλλ' ἐὰν τοδὶ γένηται. δῆλον ἄρα ὅτι μέχρι τινὸς βαδίζει ἀρχῆς, αὕτη δ' οὐκέτι εἰς ἄλλο. ἔσται οὖν ἡ τοῦ ὁπότερ' ἔτυχεν αὕτη, καὶ αἴτιον τῆς γενέσεως αὐτῆς ἄλλο οὐθέν. ἀλλ' εἰς ἀρχὴν ποίαν καὶ αἴτιον ποῖον ἡ ἀναγωγὴ ἡ τοιαύτη, πότερον ὡς εἰς ὕλην ἢ ὡς εἰς τὸ οὗ ἕνεκα ἢ ὡς εἰς τὸ κινῆσαν, μάλιστα σκεπτέον.

Περὶ μὲν οὖν τοῦ κατὰ συμβεβηκὸς ὄντος ἀφείσθω (διώρισται γὰρ ἱκανῶς)· τὸ δὲ ὡς ἀληθὲς ὄν, καὶ μὴ ὂν ὡς ψεῦδος, ἐπειδὴ παρὰ σύνθεσίν ἐστι καὶ διαίρεσιν, τὸ δὲ σύνολον περὶ μερισμὸν ἀντιφάσεως (τὸ μὲν γὰρ ἀληθὲς τὴν κατάφασιν ἐπὶ τῷ συγκειμένῳ ἔχει τὴν δ' ἀπόφασιν ἐπὶ τῷ διῃρημένῳ, τὸ δὲ ψεῦδος τούτου τοῦ μερισμοῦ τὴν ἀντίφασιν· πῶς δὲ τὸ ἅμα ἢ τὸ χωρὶς νοεῖν συμβαίνει, ἄλλος λόγος, λέγω δὲ τὸ ἅμα καὶ τὸ χωρὶς ὥστε μὴ τὸ ἐφεξῆς ἀλλ' ἕν τι γίγνεσθαι)· οὐ γάρ ἐστι τὸ ψεῦδος καὶ τὸ ἀληθὲς ἐν τοῖς πράγμασιν, οἷον τὸ μὲν ἀγαθὸν ἀληθὲς τὸ δὲ κακὸν εὐθὺς ψεῦδος, ἀλλ' ἐν διανοίᾳ, περὶ δὲ τὰ ἁπλᾶ καὶ τὰ τί ἐστιν οὐδ' ἐν διανοίᾳ· - ὅσα μὲν οὖν δεῖ θεωρῆσαι περὶ τὸ οὕτως ὂν καὶ μὴ ὄν, ὕστερον ἐπισκεπτέον· ἐπεὶ δὲ ἡ συμπλοκή ἐστιν καὶ ἡ διαίρεσις ἐν διανοίᾳ ἀλλ' οὐκ ἐν τοῖς πράγμασι, τὸ δ' οὕτως ὂν ἕτερον ὂν τῶν κυρίως (ἢ γὰρ τὸ τί ἐστιν ἢ ὅτι ποιὸν ἢ ὅτι ποσὸν ἤ τι ἄλλο συνάπτει ἢ ἀφαιρεῖ ἡ διάνοια), τὸ μὲν ὡς συμβεβηκὸς καὶ τὸ ὡς ἀληθὲς ὂν ἀφετέον - τὸ γὰρ αἴτιον τοῦ μὲν ἀόριστον τοῦ δὲ τῆς [1028a] διανοίας τι πάθος, καὶ ἀμφότερα περὶ τὸ λοιπὸν γένος τοῦ ὄντος, καὶ οὐκ ἔξω δηλοῦσιν οὖσάν τινα φύσιν τοῦ ὄντος - διὸ ταῦτα μὲν ἀφείσθω, σκεπτέον δὲ τοῦ ὄντος αὐτοῦ τὰ αἴτια καὶ τὰς ἀρχὰς ᾗ ὄν. [φανερὸν δ' ἐν οἷς διωρισάμεθα περὶ τοῦ ποσαχῶς λέγεται ἕκαστον, ὅτι πολλαχῶς λέγεται τὸ ὄν.]

Z

Τὸ ὂν λέγεται πολλαχῶς, καθάπερ διειλόμεθα πρότερον ἐν τοῖς περὶ τοῦ ποσαχῶς· σημαίνει γὰρ τὸ μὲν τί ἐστι καὶ τόδε τι, τὸ δὲ ποιὸν ἢ ποσὸν ἢ τῶν ἄλλων ἕκαστον τῶν οὕτω κατηγορουμένων. τοσαυταχῶς δὲ λεγομένου τοῦ ὄντος φανερὸν ὅτι τούτων πρῶτον ὂν τὸ τί ἐστιν, ὅπερ σημαίνει τὴν οὐσίαν (ὅταν μὲν γὰρ εἴπωμεν ποῖόν τι τόδε, ἢ ἀγαθὸν λέγομεν ἢ κακόν, ἀλλ’ οὐ τρίπηχυ ἢ ἄνθρωπον· ὅταν δὲ τί ἐστιν, οὐ λευκὸν οὐδὲ θερμὸν οὐδὲ τρίπηχυ, ἀλλὰ ἄνθρωπον ἢ θεόν), τὰ δ’ ἄλλα λέγεται ὄντα τῷ τοῦ οὕτως ὄντος τὰ μὲν ποσότητες εἶναι, τὰ δὲ ποιότητες, τὰ δὲ πάθη, τὰ δὲ ἄλλο τι. διὸ κἂν ἀπορήσειέ τις πότερον τὸ βαδίζειν καὶ τὸ ὑγιαίνειν καὶ τὸ καθῆσθαι ἕκαστον αὐτῶν ὂν σημαίνει, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων ὁτουοῦν τῶν τοιούτων· οὐδὲν γὰρ αὐτῶν ἐστὶν οὔτε καθ’ αὑτὸ πεφυκὸς οὔτε χωρίζεσθαι δυνατὸν τῆς οὐσίας, ἀλλὰ μᾶλλον, εἴπερ, τὸ βαδίζον τῶν ὄντων καὶ τὸ καθήμενον καὶ τὸ ὑγιαῖνον. ταῦτα δὲ μᾶλλον φαίνεται ὄντα, διότι ἔστι τι τὸ ὑποκείμενον αὐτοῖς ὡρισμένον (τοῦτο δ’ ἐστὶν ἡ οὐσία καὶ τὸ καθ’ ἕκαστον), ὅπερ ἐμφαίνεται ἐν τῇ κατηγορίᾳ τῇ τοιαύτῃ· τὸ ἀγαθὸν γὰρ ἢ τὸ καθήμενον οὐκ ἄνευ τούτου λέγεται. δῆλον οὖν ὅτι διὰ ταύτην κἀκείνων ἕκαστον ἔστιν, ὥστε τὸ πρώτως ὂν καὶ οὐ τὶ ὂν ἀλλ’ ὂν ἁπλῶς ἡ οὐσία ἂν εἴη. πολλαχῶς μὲν οὖν λέγεται τὸ πρῶτον· ὅμως δὲ πάντως ἡ οὐσία πρῶτον, καὶ λόγῳ καὶ γνώσει καὶ χρόνῳ. τῶν μὲν γὰρ ἄλλων κατηγορημάτων οὐθὲν χωριστόν, αὕτη δὲ μόνη· καὶ τῷ λόγῳ δὲ τοῦτο πρῶτον (ἀνάγκη γὰρ ἐν τῷ ἑκάστου λόγῳ τὸν τῆς οὐσίας ἐνυπάρχειν)· καὶ εἰδέναι δὲ τότ’ οἰόμεθα ἕκαστον μάλιστα, ὅταν τί ἐστιν ὁ ἄνθρωπος γνῶμεν ἢ τὸ πῦρ, μᾶλλον ἢ τὸ ποιὸν ἢ τὸ [1028b] ποσὸν ἢ τὸ πού, ἐπεὶ καὶ αὐτῶν τούτων τότε ἕκαστον ἴσμεν, ὅταν τί ἐστι τὸ ποσὸν ἢ τὸ ποιὸν γνῶμεν. καὶ δὴ καὶ τὸ πάλαι τε καὶ νῦν καὶ ἀεὶ ζητούμενον καὶ ἀεὶ ἀπορούμενον, τί τὸ ὄν, τοῦτό ἐστι τίς ἡ οὐσία (τοῦτο γὰρ οἱ μὲν ἓν εἶναί φασιν οἱ δὲ πλείω ἢ ἕν, καὶ οἱ μὲν πεπερασμένα οἱ δὲ ἄπειρα), διὸ καὶ ἡμῖν καὶ μάλιστα καὶ πρῶτον καὶ μόνον ὡς εἰπεῖν περὶ τοῦ οὕτως ὄντος θεωρητέον τί ἐστιν.

Δοκεῖ δ’ ἡ οὐσία ὑπάρχειν φανερώτατα μὲν τοῖς σώμασιν (διὸ τά τε ζῷα καὶ τὰ φυτὰ καὶ τὰ μόρια αὐτῶν οὐσίας εἶναί φαμεν, καὶ τὰ φυσικὰ σώματα, οἷον πῦρ καὶ ὕδωρ καὶ γῆν καὶ τῶν τοιούτων ἕκαστον, καὶ ὅσα ἢ μόρια τούτων ἢ ἐκ τούτων ἐστίν, ἢ μορίων ἢ πάντων, οἷον ὅ τε οὐρανὸς καὶ τὰ μόρια αὐτοῦ, ἄστρα καὶ σελήνη καὶ ἥλιος)· πότερον δὲ αὗται μόναι οὐσίαι εἰσὶν ἢ καὶ ἄλλαι, ἢ τούτων τινὲς ἢ καὶ ἄλλαι, ἢ τούτων μὲν οὐθὲν ἕτεραι δέ τινες, σκεπτέον. δοκεῖ δέ τισι τὰ τοῦ σώματος πέρατα, οἷον ἐπιφάνεια καὶ γραμμὴ καὶ στιγμὴ καὶ μονάς, εἶναι οὐσίαι, καὶ μᾶλλον ἢ τὸ σῶμα καὶ τὸ στερεόν. ἔτι παρὰ τὰ αἰσθητὰ οἱ μὲν οὐκ οἴονται εἶναι οὐδὲν τοιοῦτον, οἱ δὲ πλείω καὶ μᾶλλον ὄντα ἀΐδια, ὥσπερ Πλάτων τά τε εἴδη καὶ τὰ μαθηματικὰ δύο οὐσίας, τρίτην δὲ τὴν τῶν αἰσθητῶν σωμάτων οὐσίαν, Σπεύσιππος δὲ καὶ πλείους οὐσίας ἀπὸ τοῦ ἑνὸς ἀρξάμενος, καὶ ἀρχὰς ἑκάστης οὐσίας, ἄλλην μὲν ἀριθμῶν ἄλλην δὲ μεγεθῶν, ἔπειτα ψυχῆς· καὶ τοῦτον δὴ τὸν τρόπον ἐπεκτείνει τὰς οὐσίας. ἔνιοι δὲ τὰ μὲν εἴδη καὶ τοὺς ἀριθμοὺς τὴν αὐτὴν ἔχειν φασὶ φύσιν, τὰ δὲ ἄλλα ἐχόμενα, γραμμὰς καὶ ἐπίπεδα, μέχρι πρὸς τὴν τοῦ οὐρανοῦ οὐσίαν καὶ τὰ αἰσθητά. περὶ δὴ τούτων τί λέγεται καλῶς ἢ μὴ καλῶς, καὶ τίνες εἰσὶν οὐσίαι, καὶ πότερον εἰσί τινες παρὰ τὰς αἰσθητὰς ἢ οὐκ εἰσί, καὶ αὗται πῶς εἰσί, καὶ πότερον ἔστι τις χωριστὴ οὐσία, καὶ διὰ τί καὶ πῶς, ἢ οὐδεμία, παρὰ τὰς αἰσθητάς, σκεπτέον, ὑποτυπωσαμένοις τὴν οὐσίαν πρῶτον τί ἐστιν.

Λέγεται δ' ἡ οὐσία, εἰ μὴ πλεοναχῶς, ἀλλ' ἐν τέτταρσί γε μάλιστα· καὶ γὰρ τὸ τί ἦν εἶναι καὶ τὸ καθόλου καὶ τὸ γένος οὐσία δοκεῖ εἶναι ἑκάστου, καὶ τέταρτον τούτων τὸ ὑποκείμενον. τὸ δ' ὑποκείμενόν ἐστι καθ' οὗ τὰ ἄλλα λέγεται, ἐκεῖνο δὲ αὐτὸ μηκέτι κατ' ἄλλου· διὸ πρῶτον περὶ τούτου [1029a] διοριστέον· μάλιστα γὰρ δοκεῖ εἶναι οὐσία τὸ ὑποκείμενον πρῶτον. τοιοῦτον δὲ τρόπον μέν τινα ἡ ὕλη λέγεται, ἄλλον δὲ τρόπον ἡ μορφή, τρίτον δὲ τὸ ἐκ τούτων (λέγω δὲ τὴν μὲν ὕλην οἷον τὸν χαλκόν, τὴν δὲ μορφὴν τὸ σχῆμα τῆς ἰδέας, τὸ δ' ἐκ τούτων τὸν ἀνδριάντα τὸ σύνολον), ὥστε εἰ τὸ εἶδος τῆς ὕλης πρότερον καὶ μᾶλλον ὄν, καὶ τοῦ ἐξ ἀμφοῖν πρότερον ἔσται διὰ τὸν αὐτὸν λόγον. νῦν μὲν οὖν τύπῳ εἴρηται τί ποτ' ἐστὶν ἡ οὐσία, ὅτι τὸ μὴ καθ' ὑποκειμένου ἀλλὰ καθ' οὗ τὰ ἄλλα· δεῖ δὲ μὴ μόνον οὕτως· οὐ γὰρ ἱκανόν· αὐτὸ γὰρ τοῦτο ἄδηλον, καὶ ἔτι ἡ ὕλη οὐσία γίγνεται. εἰ γὰρ μὴ αὕτη οὐσία, τίς ἐστιν ἄλλη διαφεύγει· περιαιρουμένων γὰρ τῶν ἄλλων οὐ φαίνεται οὐδὲν ὑπομένον· τὰ μὲν γὰρ ἄλλα τῶν σωμάτων πάθη καὶ ποιήματα καὶ δυνάμεις, τὸ δὲ μῆκος καὶ πλάτος καὶ βάθος ποσότητές τινες ἀλλ' οὐκ οὐσίαι (τὸ γὰρ ποσὸν οὐκ οὐσία), ἀλλὰ μᾶλλον ᾧ ὑπάρχει ταῦτα πρώτῳ, ἐκεῖνό ἐστιν οὐσία. ἀλλὰ μὴν ἀφαιρουμένου μήκους καὶ πλάτους καὶ βάθους οὐδὲν ὁρῶμεν ὑπολειπόμενον, πλὴν εἴ τί ἐστι τὸ ὁριζόμενον ὑπὸ τούτων, ὥστε τὴν ὕλην ἀνάγκη φαίνεσθαι μόνην οὐσίαν οὕτω σκοπουμένοις. λέγω δ' ὕλην ἣ καθ' αὐτὴν μήτε τὶ μήτε ποσὸν μήτε ἄλλο μηδὲν λέγεται οἷς ὥρισται τὸ ὄν. ἔστι γάρ τι καθ’ οὗ κατηγορεῖται τούτων ἕκαστον, ᾧ τὸ εἶναι ἕτερον καὶ τῶν κατηγοριῶν ἑκάστῃ (τὰ μὲν γὰρ ἄλλα τῆς οὐσίας κατηγορεῖται, αὕτη δὲ τῆς ὕλης), ὥστε τὸ ἔσχατον καθ’ αὑτὸ οὔτε τὶ οὔτε ποσὸν οὔτε ἄλλο οὐδέν ἐστιν· οὐδὲ δὴ αἱ ἀποφάσεις, καὶ γὰρ αὗται ὑπάρξουσι κατὰ συμβεβηκός. ἐκ μὲν οὖν τούτων θεωροῦσι συμβαίνει οὐσίαν εἶναι τὴν ὕλην· ἀδύνατον δέ· καὶ γὰρ τὸ χωριστὸν καὶ τὸ τόδε τι ὑπάρχειν δοκεῖ μάλιστα τῇ οὐσίᾳ, διὸ τὸ εἶδος καὶ τὸ ἐξ ἀμφοῖν οὐσία δόξειεν ἂν εἶναι μᾶλλον τῆς ὕλης. τὴν μὲν τοίνυν ἐξ ἀμφοῖν οὐσίαν, λέγω δὲ τὴν ἔκ τε τῆς ὕλης καὶ τῆς μορφῆς, ἀφετέον, ὑστέρα γὰρ καὶ δήλη· φανερὰ δέ πως καὶ ἡ ὕλη· περὶ δὲ τῆς τρίτης σκεπτέον, αὕτη γὰρ ἀπορωτάτη. ὁμολογοῦνται δ’ οὐσίαι εἶναι τῶν αἰσθητῶν τινές, ὥστε ἐν ταύταις ζητητέον πρῶτον.

[1029b] πρὸ ἔργου γὰρ τὸ μεταβαίνειν εἰς τὸ γνωριμώτερον. ἡ γὰρ μάθησις οὕτω γίγνεται πᾶσι διὰ τῶν ἧττον γνωρίμων φύσει εἰς τὰ γνώριμα μᾶλλον· καὶ τοῦτο ἔργον ἐστίν, ὥσπερ ἐν ταῖς πράξεσι τὸ ποιῆσαι ἐκ τῶν ἑκάστῳ ἀγαθῶν τὰ ὅλως ἀγαθὰ ἑκάστῳ ἀγαθά, οὕτως ἐκ τῶν αὑτῷ γνωριμωτέρων τὰ τῇ φύσει γνώριμα αὑτῷ γνώριμα. τὰ δ’ ἑκάστοις γνώριμα καὶ πρῶτα πολλάκις ἠρέμα ἐστὶ γνώριμα, καὶ μικρὸν ἢ οὐθὲν ἔχει τοῦ ὄντος· ἀλλ’ ὅμως ἐκ τῶν φαύλως μὲν γνωστῶν αὑτῷ δὲ γνωστῶν τὰ ὅλως γνωστὰ γνῶναι πειρατέον, μεταβαίνοντας, ὥσπερ εἴρηται, διὰ τούτων αὐτῶν.

Ἐπεὶ δ’ ἐν ἀρχῇ διειλόμεθα πόσοις ὁρίζομεν τὴν οὐσίαν, καὶ τούτων ἕν τι ἐδόκει εἶναι τὸ τί ἦν εἶναι, θεωρητέον περὶ αὐτοῦ. καὶ πρῶτον εἴπωμεν ἔνια περὶ αὐτοῦ λογικῶς, ὅτι ἐστὶ τὸ τί ἦν εἶναι ἑκάστου ὃ λέγεται καθ’ αὑτό. οὐ γάρ ἐστι τὸ σοὶ εἶναι τὸ μουσικῷ εἶναι· οὐ γὰρ κατὰ σαυτὸν εἶ μουσικός. ὃ ἄρα κατὰ σαυτόν. οὐδὲ δὴ τοῦτο πᾶν· οὐ γὰρ τὸ οὕτως καθ’ αὑτὸ ὡς ἐπιφανείᾳ λευκόν, ὅτι οὐκ ἔστι τὸ ἐπιφανείᾳ εἶναι τὸ λευκῷ εἶναι. ἀλλὰ μὴν οὐδὲ τὸ ἐξ ἀμφοῖν, τὸ ἐπιφανείᾳ λευκῇ, ὅτι πρόσεστιν αὐτό. ἐν ᾧ ἄρα μὴ ἐνέσται λόγῳ αὐτό, λέγοντι αὐτό, οὗτος ὁ λόγος τοῦ τί ἦν εἶναι ἑκάστῳ, ὥστ’ εἰ τὸ ἐπιφανείᾳ λευκῇ εἶναί ἐστι τὸ ἐπιφανείᾳ εἶναι λείᾳ, τὸ λευκῷ καὶ λείῳ εἶναι τὸ αὐτὸ καὶ ἕν. ἐπεὶ δ’ ἔστι καὶ κατὰ τὰς ἄλλας κατηγορίας σύνθετα (ἔστι γάρ τι ὑποκείμενον ἑκάστῳ, οἷον τῷ ποιῷ καὶ τῷ ποσῷ καὶ τῷ ποτὲ καὶ τῷ ποὺ καὶ τῇ κινήσει), σκεπτέον ἆρ’ ἔστι λόγος τοῦ τί ἦν εἶναι ἑκάστῳ αὐτῶν, καὶ ὑπάρχει καὶ τούτοις τὸ τί ἦν εἶναι, οἷον λευκῷ ἀνθρώπῳ [τί ἦν λευκῷ ἀνθρώπῳ]. ἔστω δὴ ὄνομα αὐτῷ ἱμάτιον. τί ἐστι τὸ ἱματίῳ εἶναι; ἀλλὰ μὴν οὐδὲ τῶν καθ’ αὑτὸ λεγομένων οὐδὲ τοῦτο. ἢ τὸ οὐ καθ’ αὑτὸ λέγεται διχῶς, καὶ τούτου ἐστὶ τὸ μὲν ἐκ προσθέσεως τὸ δὲ οὔ. τὸ μὲν γὰρ τῷ αὐτὸ ἄλλῳ προσκεῖσθαι λέγεται ὃ ὁρίζεται, οἷον εἰ τὸ λευκῷ εἶναι ὁριζόμενος λέγοι λευκοῦ ἀνθρώπου λόγον· τὸ δὲ τῷ ἄλλο αὐτῷ, οἷον εἰ σημαίνοι τὸ ἱμάτιον λευκὸν ἄνθρωπον, ὁ δὲ ὁρίζοιτο ἱμάτιον ὡς λευκόν. τὸ [1030a] δὴ λευκὸς ἄνθρωπος ἔστι μὲν λευκόν, οὐ μέντοι ‹τὸ› τί ἦν εἶναι λευκῷ εἶναι. - ἀλλὰ τὸ ἱματίῳ εἶναι ἆρά ἐστι τί ἦν εἶναί τι [ἢ] ὅλως; ἢ οὔ; ὅπερ γάρ τί ἐστι τὸ τί ἦν εἶναι· ὅταν δ’ ἄλλο κατ’ ἄλλου λέγηται, οὐκ ἔστιν ὅπερ τόδε τι, οἷον ὁ λευκὸς ἄνθρωπος οὐκ ἔστιν ὅπερ τόδε τι, εἴπερ τὸ τόδε ταῖς οὐσίαις ὑπάρχει μόνον· ὥστε τὸ τί ἦν εἶναί ἐστιν ὅσων ὁ λόγος ἐστὶν ὁρισμός. ὁρισμὸς δ’ ἐστὶν οὐκ ἂν ὄνομα λόγῳ ταὐτὸ σημαίνῃ (πάντες γὰρ ἂν εἶεν οἱ λόγοι ὅροι· ἔσται γὰρ ὄνομα ὁτῳοῦν λόγῳ, ὥστε καὶ ἡ Ἰλιὰς ὁρισμὸς ἔσται), ἀλλ’ ἐὰν πρώτου τινὸς ᾖ· τοιαῦτα δ’ ἐστὶν ὅσα λέγεται μὴ τῷ ἄλλο κατ’ ἄλλου λέγεσθαι. οὐκ ἔσται ἄρα οὐδενὶ τῶν μὴ γένους εἰδῶν ὑπάρχον τὸ τί ἦν εἶναι, ἀλλὰ τούτοις μόνον (ταῦτα γὰρ δοκεῖ οὐ κατὰ μετοχὴν λέγεσθαι καὶ πάθος οὐδ’ ὡς συμβεβηκός)· ἀλλὰ λόγος μὲν ἔσται ἑκάστου καὶ τῶν ἄλλων τί σημαίνει, ἐὰν ᾖ ὄνομα, ὅτι τόδε τῷδε ὑπάρχει, ἢ ἀντὶ λόγου ἁπλοῦ ἀκριβέστερος· ὁρισμὸς δ’ οὐκ ἔσται οὐδὲ τὸ τί ἦν εἶναι. ἢ καὶ ὁ ὁρισμὸς ὥσπερ καὶ τὸ τί ἐστι πλεοναχῶς λέγεται; καὶ γὰρ τὸ τί ἐστιν ἕνα μὲν τρόπον σημαίνει τὴν οὐσίαν καὶ τὸ τόδε τι, ἄλλον δὲ ἕκαστον τῶν κατηγορουμένων, ποσὸν ποιὸν καὶ ὅσα ἄλλα τοιαῦτα. ὥσπερ γὰρ καὶ τὸ ἔστιν ὑπάρχει πᾶσιν, ἀλλ’ οὐχ ὁμοίως ἀλλὰ τῷ μὲν πρώτως τοῖς δ’ ἑπομένως, οὕτω καὶ τὸ τί ἐστιν ἁπλῶς μὲν τῇ οὐσίᾳ πὼς δὲ τοῖς ἄλλοις· καὶ γὰρ τὸ ποιὸν ἐροίμεθ’ ἂν τί ἐστιν, ὥστε καὶ τὸ ποιὸν τῶν τί ἐστιν, ἀλλ’ οὐχ ἁπλῶς, ἀλλ’ ὥσπερ ἐπὶ τοῦ μὴ ὄντος λογικῶς φασί τινες εἶναι τὸ μὴ ὄν, οὐχ ἁπλῶς ἀλλὰ μὴ ὄν, οὕτω καὶ τὸ ποιόν. - δεῖ μὲν οὖν σκοπεῖν καὶ τὸ πῶς δεῖ λέγειν περὶ ἕκαστον, οὐ μὴν μᾶλλόν γε ἢ τὸ πῶς ἔχει· διὸ καὶ νῦν ἐπεὶ τὸ λεγόμενον φανερόν, καὶ τὸ τί ἦν εἶναι ὁμοίως ὑπάρξει πρώτως μὲν καὶ ἁπλῶς τῇ οὐσίᾳ, εἶτα καὶ τοῖς ἄλλοις, ὥσπερ καὶ τὸ τί ἐστιν, οὐχ ἁπλῶς τί ἦν εἶναι ἀλλὰ ποιῷ ἢ ποσῷ τί ἦν εἶναι. δεῖ γὰρ ἢ ὁμωνύμως ταῦτα φάναι εἶναι ὄντα, ἢ προστιθέντας καὶ ἀφαιροῦντας, ὥσπερ καὶ τὸ μὴ ἐπιστητὸν ἐπιστητόν, ἐπεὶ τό γε ὀρθόν ἐστι μήτε ὁμωνύμως φάναι μήτε ὡσαύτως ἀλλ’ ὥσπερ τὸ ἰατρικὸν τῷ πρὸς τὸ αὐτὸ [1030b] μὲν καὶ ἕν, οὐ τὸ αὐτὸ δὲ καὶ ἕν, οὐ μέντοι οὐδὲ ὁμωνύμως· οὐδὲ γὰρ ἰατρικὸν σῶμα καὶ ἔργον καὶ σκεῦος λέγεται οὔτε ὁμωνύμως οὔτε καθ’ ἓν ἀλλὰ πρὸς ἕν. ἀλλὰ ταῦτα μὲν ὁποτέρως τις ἐθέλει λέγειν διαφέρει οὐδέν· ἐκεῖνο δὲ φανερὸν ὅτι ὁ πρώτως καὶ ἁπλῶς ὁρισμὸς καὶ τὸ τί ἦν εἶναι τῶν οὐσιῶν ἐστίν. οὐ μὴν ἀλλὰ καὶ τῶν ἄλλων ὁμοίως ἐστί, πλὴν οὐ πρώτως. οὐ γὰρ ἀνάγκη, ἂν τουτο τιθῶμεν, τούτου ὁρισμὸν εἶναι ὃ ἂν λόγῳ τὸ αὐτὸ σημαίνῃ, ἀλλὰ τινὶ λόγῳ· τοῦτο δὲ ἐὰν ἑνὸς ᾖ, μὴ τῷ συνεχεῖ ὥσπερ ἡ Ἰλιὰς ἢ ὅσα συνδέσμῳ, ἀλλ' ἐὰν ὁσαχῶς λέγεται τὸ ἕν· τὸ δ' ἓν λέγεται ὥσπερ τὸ ὄν· τὸ δὲ ὂν τὸ μὲν τόδε τι τὸ δὲ ποσὸν τὸ δὲ ποιόν τι σημαίνει. διὸ καὶ λευκοῦ ἀνθρώπου ἔσται λόγος καὶ ὁρισμός, ἄλλον δὲ τρόπον καὶ τοῦ λευκοῦ καὶ οὐσίας.

Ἔχει δ' ἀπορίαν, ἐάν τις μὴ φῇ ὁρισμὸν εἶναι τὸν ἐκ προσθέσεως λόγον, τίνος ἔσται ὁρισμὸς τῶν οὐχ ἁπλῶν ἀλλὰ συνδεδυασμένων· ἐκ προσθέσεως γὰρ ἀνάγκη δηλοῦν. λέγω δὲ οἷον ἔστι ῥὶς καὶ κοιλότης, καὶ σιμότης τὸ ἐκ τῶν δυοῖν λεγόμενον τῷ τόδε ἐν τῷδε, καὶ οὐ κατὰ συμβεβηκός γε οὔθ' ἡ κοιλότης οὔθ' ἡ σιμότης πάθος τῆς ῥινός, ἀλλὰ καθ' αὑτήν· οὐδ' ὡς τὸ λευκὸν Καλλίᾳ, ἢ ἀνθρώπῳ, ὅτι Καλλίας λευκὸς ᾧ συμβέβηκεν ἀνθρώπῳ εἶναι, ἀλλ' ὡς τὸ ἄρρεν τῷ ζῴῳ καὶ τὸ ἴσον τῷ ποσῷ καὶ πάντα ὅσα λέγεται καθ' αὑτὰ ὑπάρχειν. ταῦτα δ' ἐστὶν ἐν ὅσοις ὑπάρχει ἢ ὁ λόγος ἢ τοὔνομα οὗ ἐστὶ τοῦτο τὸ πάθος, καὶ μὴ ἐνδέχεται δηλῶσαι χωρίς, ὥσπερ τὸ λευκὸν ἄνευ τοῦ ἀνθρώπου ἐνδέχεται ἀλλ' οὐ τὸ θῆλυ ἄνευ τοῦ ζῴου· ὥστε τούτων τὸ τί ἦν εἶναι καὶ ὁρισμὸς ἢ οὐκ ἔστιν οὐδενὸς ἤ, εἰ ἔστιν, ἄλλως, καθάπερ εἰρήκαμεν. ἔστι δὲ ἀπορία καὶ ἑτέρα περὶ αὐτῶν. εἰ μὲν γὰρ τὸ αὐτό ἐστι σιμὴ ῥὶς καὶ κοίλη ῥίς, τὸ αὐτὸ ἔσται τὸ σιμὸν καὶ τὸ κοῖλον· εἰ δὲ μή, διὰ τὸ ἀδύνατον εἶναι εἰπεῖν τὸ σιμὸν ἄνευ τοῦ πράγματος οὗ ἐστὶ πάθος καθ' αὑτό (ἔστι γὰρ τὸ σιμὸν κοιλότης ἐν ῥινί), τὸ ῥῖνα σιμὴν εἰπεῖν ἢ οὐκ ἔστιν ἢ δὶς τὸ αὐτὸ ἔσται εἰρημένον, ῥὶς ῥὶς κοίλη (ἡ γὰρ ῥὶς ἡ σιμὴ ῥὶς ῥὶς κοίλη ἔσται), διὸ ἄτοπον τὸ ὑπάρχειν τοῖς τοιούτοις τὸ τί ἦν εἶναι· εἰ δὲ μή, εἰς ἄπειρον εἶσιν· ῥινὶ γὰρ ῥινὶ σιμῇ ἔτι [1031a] ἄλλο ἐνέσται. δῆλον τοίνυν ὅτι μόνης τῆς οὐσίας ἐστὶν ὁ ὁρισμός. εἰ γὰρ καὶ τῶν ἄλλων κατηγοριῶν, ἀνάγκη ἐκ προσθέσεως εἶναι, οἷον τοῦ ποιοῦ†καὶ περιττοῦ· οὐ γὰρ ἄνευ ἀριθμοῦ, οὐδὲ τὸ θῆλυ ἄνευ ζῴου (τὸ δὲ ἐκ προσθέσεως λέγω ἐν οἷς συμβαίνει δὶς τὸ αὐτὸ λέγειν ὥσπερ ἐν τούτοις). εἰ δὲ τοῦτο ἀληθές, οὐδὲ συνδυαζομένων ἔσται, οἷον ἀριθμοῦ περιττοῦ· ἀλλὰ λανθάνει ὅτι οὐκ ἀκριβῶς λέγονται οἱ λόγοι. εἰ δ' εἰσὶ καὶ τούτων ὅροι, ἤτοι ἄλλον τρόπον εἰσὶν ἢ καθάπερ ἐλέχθη πολλαχῶς λεκτέον εἶναι τὸν ὁρισμὸν καὶ τὸ τί ἦν εἶναι, ὥστε ὡδὶ μὲν οὐδενὸς ἔσται ὁρισμὸς οὐδὲ τὸ τί ἦν εἶναι οὐδενὶ ὑπάρξει πλὴν ταῖς οὐσίαις, ὡδὶ δ' ἔσται. ὅτι μὲν οὖν ἐστὶν ὁ ὁρισμὸς ὁ τοῦ τί ἦν εἶναι λόγος, καὶ τὸ τί ἦν εἶναι ἢ μόνων τῶν οὐσιῶν ἐστὶν ἢ μάλιστα καὶ πρώτως καὶ ἁπλῶς, δῆλον.

Πότερον δὲ ταὐτόν ἐστιν ἢ ἕτερον τὸ τί ἦν εἶναι καὶ ἕκαστον, σκεπτέον. ἔστι γάρ τι πρὸ ἔργου πρὸς τὴν περὶ τῆς οὐσίας σκέψιν· ἕκαστόν τε γὰρ οὐκ ἄλλο δοκεῖ εἶναι τῆς ἑαυτοῦ οὐσίας, καὶ τὸ τί ἦν εἶναι λέγεται εἶναι ἡ ἑκάστου οὐσία. ἐπὶ μὲν δὴ τῶν λεγομένων κατὰ συμβεβηκὸς δόξειεν ἂν ἕτερον εἶναι, οἷον λευκὸς ἄνθρωπος ἕτερον καὶ τὸ λευκῷ ἀνθρώπῳ εἶναι (εἰ γὰρ τὸ αὐτό, καὶ τὸ ἀνθρώπῳ εἶναι καὶ τὸ λευκῷ ἀνθρώπῳ τὸ αὐτό· τὸ αὐτὸ γὰρ ἄνθρωπος καὶ λευκὸς ἄνθρωπος, ὡς φασίν, ὥστε καὶ τὸ λευκῷ ἀνθρώπῳ καὶ τὸ ἀνθρώπῳ· ἢ οὐκ ἀνάγκη ὅσα κατὰ συμβεβηκὸς εἶναι ταὐτά, οὐ γὰρ ὡσαύτως τὰ ἄκρα γίγνεται ταὐτά· ἀλλ' ἴσως γε ἐκεῖνο δόξειεν ἂν συμβαίνειν, τὰ ἄκρα γίγνεσθαι ταὐτὰ τὰ κατὰ συμβεβηκός, οἷον τὸ λευκῷ εἶναι καὶ τὸ μουσικῷ· δοκεῖ δὲ οὔ)· ἐπὶ δὲ τῶν καθ' αὑτὰ λεγομένων ἆρ' ἀνάγκη ταὐτὸ εἶναι, οἷον εἴ τινες εἰσὶν οὐσίαι ὧν ἕτεραι μὴ εἰσὶν οὐσίαι μηδὲ φύσεις ἕτεραι πρότεραι, οἵας φασὶ τὰς ἰδέας εἶναί τινες; εἰ γὰρ ἔσται ἕτερον αὐτὸ τὸ ἀγαθὸν καὶ τὸ ἀγαθῷ εἶναι, καὶ ζῷον καὶ τὸ ζῴῳ, καὶ τὸ ὄντι καὶ τὸ [1031b] ὄν, ἔσονται ἄλλαι τε οὐσίαι καὶ φύσεις καὶ ἰδέαι παρὰ τὰς λεγομένας, καὶ πρότεραι οὐσίαι ἐκεῖναι, εἰ τὸ τί ἦν εἶναι οὐσία ἐστίν. καὶ εἰ μὲν ἀπολελυμέναι ἀλλήλων, τῶν μὲν οὐκ ἔσται ἐπιστήμη τὰ δ' οὐκ ἔσται ὄντα (λέγω δὲ τὸ ἀπολελύσθαι εἰ μήτε τῷ ἀγαθῷ αὐτῷ ὑπάρχει τὸ εἶναι ἀγαθῷ μήτε τούτῳ τὸ εἶναι ἀγαθόν)· ἐπιστήμη τε γὰρ ἑκάστου ἔστιν ὅταν τὸ τί ἦν ἐκείνῳ εἶναι γνῶμεν, καὶ ἐπὶ ἀγαθοῦ καὶ τῶν ἄλλων ὁμοίως ἔχει, ὥστε εἰ μηδὲ τὸ ἀγαθῷ εἶναι ἀγαθόν, οὐδὲ τὸ ὄντι ὂν οὐδὲ τὸ ἑνὶ ἕν· ὁμοίως δὲ πάντα ἔστιν ἢ οὐθὲν τὰ τί ἦν εἶναι, ὥστ' εἰ μηδὲ τὸ ὄντι ὄν, οὐδὲ τῶν ἄλλων οὐδέν. ἔτι ᾧ μὴ ὑπάρχει ἀγαθῷ εἶναι, οὐκ ἀγαθόν. ἀνάγκη ἄρα ἓν εἶναι τὸ ἀγαθὸν καὶ ἀγαθῷ εἶναι καὶ καλὸν καὶ καλῷ εἶναι, ‹καὶ› ὅσα μὴ κατ' ἄλλο λέγεται, ἀλλὰ καθ' αὑτὰ καὶ πρῶτα· καὶ γὰρ τοῦτο ἱκανὸν ἂν ὑπάρχῃ, κἂν μὴ ᾖ εἴδη, μᾶλλον δ' ἴσως κἂν ᾖ εἴδη (ἅμα δὲ δῆλον καὶ ὅτι εἴπερ εἰσὶν αἱ ἰδέαι οἵας τινές φασιν, οὐκ ἔσται τὸ ὑποκείμενον οὐσία· ταύτας γὰρ οὐσίας μὲν ἀναγκαῖον εἶναι, μὴ καθ' ὑποκειμένου δέ· ἔσονται γὰρ κατὰ μέθεξιν). - ἔκ τε δὴ τούτων τῶν λόγων ἓν καὶ ταὐτὸ οὐ κατὰ συμβεβηκὸς αὐτὸ ἕκαστον καὶ τὸ τί ἦν εἶναι, καὶ ὅτι γε τὸ ἐπίστασθαι ἕκαστον τοῦτό ἐστι, τὸ τί ἦν εἶναι ἐπίστασθαι, ὥστε καὶ κατὰ τὴν ἔκθεσιν ἀνάγκη ἕν τι εἶναι ἄμφω (τὸ δὲ κατὰ συμβεβηκὸς λεγόμενον, οἷον τὸ μουσικὸν ἢ λευκόν, διὰ τὸ διττὸν σημαίνειν οὐκ ἀληθὲς εἰπεῖν ὡς ταὐτὸ τὸ τί ἦν εἶναι καὶ αὐτό· καὶ γὰρ ᾧ συμβέβηκε λευκὸν καὶ τὸ συμβεβηκός, ὥστ' ἔστι μὲν ὡς ταὐτόν, ἔστι δὲ ὡς οὐ ταὐτὸ τὸ τί ἦν εἶναι καὶ αὐτό· τῷ μὲν γὰρ ἀνθρώπῳ καὶ τῷ λευκῷ ἀνθρώπῳ οὐ ταὐτό, τῷ πάθει δὲ ταὐτό). ἄτοπον δ' ἂν φανείη κἂν εἴ τις ἑκάστῳ ὄνομα θεῖτο τῶν τί ἦν εἶναι· ἔσται γὰρ καὶ παρ' ἐκεῖνο ἄλλο, οἷον τῷ τί ἦν εἶναι ἵππῳ τί ἦν εἶναι [ἵππῳ] ἕτερον. καίτοι τί κωλύει καὶ νῦν εἶναι ἔνια εὐθὺς τί ἦν εἶναι, εἴπερ οὐσία τὸ τί ἦν εἶναι; ἀλλὰ μὴν οὐ μόνον ἕν, ἀλλὰ καὶ ὁ [1032a] λόγος ὁ αὐτὸς αὐτῶν, ὡς δῆλον καὶ ἐκ τῶν εἰρημένων· οὐ γὰρ κατὰ συμβεβηκὸς ἓν τὸ ἑνὶ εἶναι καὶ ἕν. ἔτι εἰ ἄλλο ἔσται, εἰς ἄπειρον εἶσιν· τὸ μὲν γὰρ ἔσται τί ἦν εἶναι τοῦ ἑνὸς τὸ δὲ τὸ ἕν, ὥστε καὶ ἐπ' ἐκείνων ὁ αὐτὸς ἔσται λόγος. ὅτι μὲν οὖν ἐπὶ τῶν πρώτων καὶ καθ' αὑτὰ λεγομένων τὸ ἑκάστῳ εἶναι καὶ ἕκαστον τὸ αὐτὸ καὶ ἕν ἐστι, δῆλον· οἱ δὲ σοφιστικοὶ ἔλεγχοι πρὸς τὴν θέσιν ταύτην φανερὸν ὅτι τῇ αὐτῇ λύονται λύσει καὶ εἰ ταὐτὸ Σωκράτης καὶ Σωκράτει εἶναι· οὐδὲν γὰρ διαφέρει οὔτε ἐξ ὧν ἐρωτήσειεν ἄν τις οὔτε ἐξ ὧν λύων ἐπιτύχοι. πῶς μὲν οὖν τὸ τί ἦν εἶναι ταὐτὸν καὶ πῶς οὐ ταὐτὸν ἑκάστῳ, εἴρηται.

Τῶν δὲ γιγνομένων τὰ μὲν φύσει γίγνεται τὰ δὲ τέχνῃ τὰ δὲ ἀπὸ ταὐτομάτου, πάντα δὲ τὰ γιγνόμενα ὑπό τέ τινος γίγνεται καὶ ἔκ τινος καὶ τί· τὸ δὲ τὶ λέγω καθ' ἑκάστην κατηγορίαν· ἢ γὰρ τόδε ἢ ποσὸν ἢ ποιὸν ἢ πού. αἱ δὲ γενέσεις αἱ μὲν φυσικαὶ αὗταί εἰσιν ὧν ἡ γένεσις ἐκ φύσεώς ἐστιν, τὸ δ' ἐξ οὗ γίγνεται, ἣν λέγομεν ὕλην, τὸ δὲ ὑφ' οὗ τῶν φύσει τι ὄντων, τὸ δὲ τὶ ἄνθρωπος ἢ φυτὸν ἢ ἄλλο τι τῶν τοιούτων, ἃ δὴ μάλιστα λέγομεν οὐσίας εἶναι - ἅπαντα δὲ τὰ γιγνόμενα ἢ φύσει ἢ τέχνῃ ἔχει ὕλην· δυνατὸν γὰρ καὶ εἶναι καὶ μὴ εἶναι ἕκαστον αὐτῶν, τοῦτο δ' ἐστὶν ἡ ἐν ἑκάστῳ ὕλη - καθόλου δὲ καὶ ἐξ οὗ φύσις καὶ καθ' ὃ φύσις (τὸ γὰρ γιγνόμενον ἔχει φύσιν, οἷον φυτὸν ἢ ζῷον) καὶ ὑφ' οὗ ἡ κατὰ τὸ εἶδος λεγομένη φύσις ἡ ὁμοειδής (αὕτη δὲ ἐν ἄλλῳ)· ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ· - οὕτω μὲν οὖν γίγνεται τὰ γιγνόμενα διὰ τὴν φύσιν, αἱ δ' ἄλλαι γενέσεις λέγονται ποιήσεις. πᾶσαι δὲ εἰσὶν αἱ ποιήσεις ἢ ἀπὸ τέχνης ἢ ἀπὸ δυνάμεως ἢ ἀπὸ διανοίας. τούτων δέ τινες γίγνονται καὶ ἀπὸ ταὐτομάτου καὶ ἀπὸ τύχης παραπλησίως ὥσπερ ἐν τοῖς ἀπὸ φύσεως γιγνομένοις· ἔνια γὰρ κἀκεῖ ταὐτὰ καὶ ἐκ σπέρματος γίγνεται καὶ ἄνευ σπέρματος. περὶ μὲν οὖν τούτων ὕστερον ἐπισκεπτέον, ἀπὸ τέχνης [1032b] δὲ γίγνεται ὅσων τὸ εἶδος ἐν τῇ ψυχῇ (εἶδος δὲ λέγω τὸ τί ἦν εἶναι ἑκάστου καὶ τὴν πρώτην οὐσίαν)· καὶ γὰρ τῶν ἐναντίων τρόπον τινὰ τὸ αὐτὸ εἶδος· τῆς γὰρ στερήσεως οὐσία ἡ οὐσία ἡ ἀντικειμένη, οἷον ὑγίεια νόσου, ἐκείνης γὰρ ἀπουσία ἡ νόσος, ἡ δὲ ὑγίεια ὁ ἐν τῇ ψυχῇ λόγος καὶ ἡ ἐπιστήμη. γίγνεται δὲ τὸ ὑγιὲς νοήσαντος οὕτως· ἐπειδὴ τοδὶ ὑγίεια, ἀνάγκη εἰ ὑγιὲς ἔσται τοδὶ ὑπάρξαι, οἷον ὁμαλότητα, εἰ δὲ τοῦτο, θερμότητα· καὶ οὕτως ἀεὶ νοεῖ, ἕως ἂν ἀγάγῃ εἰς τοῦτο ὃ αὐτὸς δύναται ἔσχατον ποιεῖν. εἶτα ἤδη ἡ ἀπὸ τούτου κίνησις ποίησις καλεῖται, ἡ ἐπὶ τὸ ὑγιαίνειν. ὥστε συμβαίνει τρόπον τινὰ τὴν ὑγίειαν ἐξ ὑγιείας γίγνεσθαι καὶ τὴν οἰκίαν ἐξ οἰκίας, τῆς ἄνευ ὕλης τὴν ἔχουσαν ὕλην· ἡ γὰρ ἰατρική ἐστι καὶ ἡ οἰκοδομικὴ τὸ εἶδος τῆς ὑγιείας καὶ τῆς οἰκίας, λέγω δὲ οὐσίαν ἄνευ ὕλης τὸ τί ἦν εἶναι.

Τῶν δὴ γενέσεων καὶ κινήσεων ἡ μὲν νόησις καλεῖται ἡ δὲ ποίησις, ἡ μὲν ἀπὸ τῆς ἀρχῆς καὶ τοῦ εἴδους νόησις ἡ δ' ἀπὸ τοῦ τελευταίου τῆς νοήσεως ποίησις. ὁμοίως δὲ καὶ τῶν ἄλλων τῶν μεταξὺ ἕκαστον γίγνεται. λέγω δ' οἷον εἰ ὑγιανεῖ, δέοι ἂν ὁμαλυνθῆναι. τί οὖν ἐστὶ τὸ ὁμαλυνθῆναι; τοδί, τοῦτο δ' ἔσται εἰ θερμανθήσεται. τοῦτο δὲ τί ἐστι; τοδί. ὑπάρχει δὲ τοδὶ δυνάμει· τοῦτο δὲ ἤδη επ' αὐτῷ. τὸ δὴ ποιοῦν καὶ ὅθεν ἄρχεται ἡ κίνησις τοῦ ὑγιαίνειν, ἂν μὲν ἀπὸ τέχνης, τὸ εἶδός ἐστι τὸ ἐν τῇ ψυχῇ, ἐὰν δ' ἀπὸ ταὐτομάτου, ἀπὸ τούτου ὅ ποτε τοῦ ποιεῖν ἄρχει τῷ ποιοῦντι ἀπὸ τέχνης, ὥσπερ καὶ ἐν τῷ ἰατρεύειν ἴσως ἀπὸ τοῦ θερμαίνειν ἡ ἀρχή (τοῦτο δὲ ποιεῖ τῇ τρίψει)· ἡ θερμότης τοίνυν ἡ ἐν τῷ σώματι ἢ μέρος τῆς ὑγιείας ἢ ἕπεταί τι αὐτῇ τοιοῦτον ὅ ἐστι μέρος τῆς ὑγιείας, ἢ διὰ πλειόνων· τοῦτο δ' ἔσχατόν ἐστι, τὸ ποιοῦν τὸ μέρος τῆς ὑγιείας, - καὶ τῆς οἰκίας (οἷον οἱ λίθοι) καὶ τῶν ἄλλων· ὥστε, καθάπερ λέγεται, ἀδύνατον γενέσθαι εἰ μηδὲν προϋπάρχοι. ὅτι μὲν οὖν τι μέρος ἐξ ἀνάγκης ὑπάρξει φανερόν· ἡ γὰρ ὕλη μέρος (ἐνυπάρχει [1033a] γὰρ καὶ γίγνεται αὕτη). ἀλλ' ἆρα καὶ τῶν ἐν τῷ λόγῳ; ἀμφοτέρως δὴ λέγομεν τοὺς χαλκοῦς κύκλους τί εἰσι, καὶ τὴν ὕλην λέγοντες ὅτι χαλκός, καὶ τὸ εἶδος ὅτι σχῆμα τοιόνδε, καὶ τοῦτό ἐστι τὸ γένος εἰς ὃ πρῶτον τίθεται. ὁ δὴ χαλκοῦς κύκλος ἔχει ἐν τῷ λόγῳ τὴν ὕλην. - ἐξ οὗ δὲ ὡς ὕλης γίγνεται ἔνια λέγεται, ὅταν γένηται, οὐκ ἐκεῖνο ἀλλ' ἐκείνινον, οἷον ὁ ἀνδριὰς οὐ λίθος ἀλλὰ λίθινος, ὁ δὲ ἄνθρωπος ὁ ὑγιαίνων οὐ λέγεται ἐκεῖνο ἐξ οὗ· αἴτιον δὲ ὅτι γίγνεται ἐκ τῆς στερήσεως καὶ τοῦ ὑποκειμένου, ὃ λέγομεν τὴν ὕλην (οἷον καὶ ὁ ἄνθρωπος καὶ ὁ κάμνων γίγνεται ὑγιής), μᾶλλον μέντοι λέγεται γίγνεσθαι ἐκ τῆς στερήσεως, οἷον ἐκ κάμνοντος ὑγιὴς ἢ ἐξ ἀνθρώπου, διὸ κάμνων μὲν ὁ ὑγιὴς οὐ λέγεται, ἄνθρωπος δέ, καὶ ὁ ἄνθρωπος ὑγιής· ὧν δ' ἡ στέρησις ἄδηλος καὶ ἀνώνυμος, οἷον ἐν χαλκῷ σχήματος ὁποιουοῦν ἢ ἐν πλίνθοις καὶ ξύλοις οἰκίας, ἐκ τούτων δοκεῖ γίγνεσθαι ὡς ἐκεῖ ἐκ κάμνοντος· διὸ ὥσπερ οὐδ' ἐκεῖ ἐξ οὗ τοῦτο, ἐκεῖνο οὐ λέγεται, οὐδ' ἐνταῦθα ὁ ἀνδριὰς ξύλον, ἀλλὰ παράγεται ξύλινος, [οὐ ξύλον,] καὶ χαλκοῦς ἀλλ' οὐ χαλκός, καὶ λίθινος ἀλλ' οὐ λίθος, καὶ ἡ οἰκία πλινθίνη ἀλλ' οὐ πλίνθοι, ἐπεὶ οὐδὲ ὡς ἐκ ξύλου γίγνεται ἀνδριὰς ἢ ἐκ πλίνθων οἰκία, ἐάν τις ἐπιβλέπῃ σφόδρα, οὐκ ἂν ἁπλῶς εἴπειεν, διὰ τὸ δεῖν μεταβάλλοντος γίγνεσθαι ἐξ οὗ, ἀλλ' οὐχ ὑπομένοντος. διὰ μὲν οὖν τοῦτο οὕτως λέγεται.

Ἐπεὶ δὲ ὑπό τινός τε γίγνεται τὸ γιγνόμενον (τοῦτο δὲ λέγω ὅθεν ἡ ἀρχὴ τῆς γενέσεώς ἐστι) καὶ ἔκ τινος (ἔστω δὲ μὴ ἡ στέρησις τοῦτο ἀλλ' ἡ ὕλη· ἤδη γὰρ διώρισται ὃν τρόπον τοῦτο λέγομεν) καὶ τὶ γίγνεται (τοῦτο δ' ἐστὶν ἢ σφαῖρα ἢ κύκλος ἢ ὅ τι ἔτυχε τῶν ἄλλων), ὥσπερ οὐδὲ τὸ ὑποκείμενον ποιεῖ, τὸν χαλκόν, οὕτως οὐδὲ τὴν σφαῖραν, εἰ μὴ κατὰ συμβεβηκὸς ὅτι ἡ χαλκῆ σφαῖρα σφαῖρά ἐστιν ἐκείνην δὲ ποιεῖ. τὸ γὰρ τόδε τι ποιεῖν ἐκ τοῦ ὅλως ὑποκειμένου τόδε τι ποιεῖν ἐστίν (λέγω δ’ ὅτι τὸν χαλκὸν στρογγύλον ποιεῖν ἐστὶν οὐ τὸ στρογγύλον ἢ τὴν σφαῖραν ποιεῖν ἀλλ’ ἕτερόν τι, οἷον τὸ εἶδος τοῦτο ἐν ἄλλῳ· εἰ γὰρ ποιεῖ, ἔκ [1033b] τινος ἂν ποιοίη ἄλλου, τοῦτο γὰρ ὑπέκειτο· οἷον ποιεῖ χαλκῆν σφαῖραν, τοῦτο δὲ οὕτως ὅτι ἐκ τουδί, ὅ ἐστι χαλκός, τοδὶ ποιεῖ, ὅ ἐστι σφαῖρα)· εἰ οὖν καὶ τοῦτο ποιεῖ αὐτό, δῆλον ὅτι ὡσαύτως ποιήσει, καὶ βαδιοῦνται αἱ γενέσεις εἰς ἄπειρον. φανερὸν ἄρα ὅτι οὐδὲ τὸ εἶδος, ἢ ὁτιδήποτε χρὴ καλεῖν τὴν ἐν τῷ αἰσθητῷ μορφήν, οὐ γίγνεται, οὐδ’ ἔστιν αὐτοῦ γένεσις, οὐδὲ τὸ τί ἦν εἶναι (τοῦτο γάρ ἐστιν ὃ ἐν ἄλλῳ γίγνεται ἢ ὑπὸ τέχνης ἢ ὑπὸ φύσεως ἢ δυνάμεως). τὸ δὲ χαλκῆν σφαῖραν εἶναι ποιεῖ· ποιεῖ γὰρ ἐκ χαλκοῦ καὶ σφαίρας· εἰς τοδὶ γὰρ τὸ εἶδος ποιεῖ, καὶ ἔστι τοῦτο σφαῖρα χαλκῆ. τοῦ δὲ σφαίρᾳ εἶναι ὅλως εἰ ἔσται γένεσις, ἔκ τινος τὶ ἔσται. δεήσει γὰρ διαιρετὸν εἶναι ἀεὶ τὸ γιγνόμενον, καὶ εἶναι τὸ μὲν τόδε τὸ δὲ τόδε, λέγω δ’ ὅτι τὸ μὲν ὕλην τὸ δὲ εἶδος. εἰ δή ἐστι σφαῖρα τὸ ἐκ τοῦ μέσου σχῆμα ἴσον, τούτου τὸ μὲν ἐν ᾧ ἔσται ὃ ποιεῖ, τὸ δ’ ἐν ἐκείνῳ, τὸ δὲ ἅπαν τὸ γεγονός, οἷον ἡ χαλκῆ σφαῖρα. φανερὸν δὴ ἐκ τῶν εἰρημένων ὅτι τὸ μὲν ὡς εἶδος ἢ οὐσία λεγόμενον οὐ γίγνεται, ἡ δὲ σύνολος ἡ κατὰ ταύτην λεγομένη γίγνεται, καὶ ὅτι ἐν παντὶ τῷ γεννωμένῳ ὕλη ἔνεστι, καὶ ἔστι τὸ μὲν τόδε τὸ δὲ τόδε. - πότερον οὖν ἔστι τις σφαῖρα παρὰ τάσδε ἢ οἰκία παρὰ τὰς πλίνθους; ἢ οὐδ’ ἄν ποτε ἐγίγνετο, εἰ οὕτως ἦν, τόδε τι, ἀλλὰ τὸ τοιόνδε σημαίνει, τόδε δὲ καὶ ὡρισμένον οὐκ ἔστιν, ἀλλὰ ποιεῖ καὶ γεννᾷ ἐκ τοῦδε τοιόνδε, καὶ ὅταν γεννηθῇ, ἔστι τόδε τοιόνδε; τὸ δὲ ἅπαν τόδε, Καλλίας ἢ Σωκράτης, ἐστὶν ὥσπερ ἡ σφαῖρα ἡ χαλκῆ ἡδί, ὁ δ’ ἄνθρωπος καὶ τὸ ζῷον ὥσπερ σφαῖρα χαλκῆ ὅλως. φανερὸν ἄρα ὅτι ἡ τῶν εἰδῶν αἰτία, ὡς εἰώθασί τινες λέγειν τὰ εἴδη, εἰ ἔστιν ἄττα παρὰ τὰ καθ’ ἕκαστα, πρός γε τὰς γενέσεις καὶ τὰς οὐσίας οὐθὲν χρησίμη· οὐδ’ ἂν εἶεν διά γε ταῦτα οὐσίαι καθ’ αὑτάς. ἐπὶ μὲν δή τινων καὶ φανερὸν ὅτι τὸ γεννῶν τοιοῦτον μὲν οἷον τὸ γεννώμενον, οὐ μέντοι τὸ αὐτό γε, οὐδὲ ἓν τῷ ἀριθμῷ ἀλλὰ τῷ εἴδει, οἷον ἐν τοῖς φυσικοῖς - ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ - ἂν μή τι παρὰ φύσιν γένηται, οἷον ἵππος ἡμίονον (καὶ ταῦτα δὲ ὁμοίως· ὃ γὰρ ἂν κοινὸν εἴη ἐφ’ ἵππου καὶ ὄνου [1034a] οὐκ ὠνόμασται, τὸ ἐγγύτατα γένος, εἴη δ’ ἂν ἄμφω ἴσως, οἷον ἡμίονος)· ὥστε φανερὸν ὅτι οὐθὲν δεῖ ὡς παράδειγμα εἶδος κατασκευάζειν (μάλιστα γὰρ ἂν ἐν τούτοις ἐπεζητοῦντο· οὐσίαι γὰρ αἱ μάλιστα αὗται) ἀλλὰ ἱκανὸν τὸ γεννῶν ποιῆσαι καὶ τοῦ εἴδους αἴτιον εἶναι ἐν τῇ ὕλῃ. τὸ δ’ ἅπαν ἤδη, τὸ τοιόνδε εἶδος ἐν ταῖσδε ταῖς σαρξὶ καὶ ὀστοῖς, Καλλίας καὶ Σωκράτης· καὶ ἕτερον μὲν διὰ τὴν ὕλην (ἑτέρα γάρ), ταὐτὸ δὲ τῷ εἴδει (ἄτομον γὰρ τὸ εἶδος).

Ἀπορήσειε δ’ ἄν τις διὰ τί τὰ μὲν γίγνεται καὶ τέχνῃ καὶ ἀπὸ ταὐτομάτου, οἷον ὑγίεια, τὰ δ’ οὔ, οἷον οἰκία. αἴτιον δὲ ὅτι τῶν μὲν ἡ ὕλη ἡ ἄρχουσα τῆς γενέσεως ἐν τῷ ποιεῖν καὶ γίγνεσθαί τι τῶν ἀπὸ τέχνης, ἐν ᾗ ὑπάρχει τι μέρος τοῦ πράγματος, - ἡ μὲν τοιαύτη ἐστὶν οἵα κινεῖσθαι ὑφ’ αὐτῆς ἡ δ’ οὔ, καὶ ταύτης ἡ μὲν ὡδὶ οἵα τε ἡ δὲ ἀδύνατος· πολλὰ γὰρ δυνατὰ μὲν ὑφ’ αὐτῶν κινεῖσθαι ἀλλ’ οὐχ ὡδί, οἷον ὀρχήσασθαι. ὅσων οὖν τοιαύτη ἡ ὕλη, οἷον οἱ λίθοι, ἀδύνατον ὡδὶ κινηθῆναι εἰ μὴ ὑπ’ ἄλλου, ὡδὶ μέντοι ναί - καὶ τὸ πῦρ. διὰ τοῦτο τὰ μὲν οὐκ ἔσται ἄνευ τοῦ ἔχοντος τὴν τέχνην τὰ δὲ ἔσται· ὑπὸ γὰρ τούτων κινηθήσεται τῶν οὐκ ἐχόντων τὴν τέχνην, κινεῖσθαι δὲ δυναμένων αὐτῶν ὑπ’ ἄλλων οὐκ ἐχόντων τὴν τέχνην ἢ ἐκ μέρους. δῆλον δ’ ἐκ τῶν εἰρημένων καὶ ὅτι τρόπον τινὰ πάντα γίγνεται ἐξ ὁμωνύμου, ὥσπερ τὰ φύσει, ἢ ἐκ μέρους ὁμωνύμου (οἷον ἡ οἰκία ἐξ οἰκίας, ᾗ ὑπὸ νοῦ· ἡ γὰρ τέχνη τὸ εἶδος) [ἢ ἐκ μέρους] ἢ ἔχοντός τι μέρος, - ἐὰν μὴ κατὰ συμβεβηκὸς γίγνηται· τὸ γὰρ αἴτιον τοῦ ποιεῖν πρῶτον καθ’ αὐτὸ μέρος. θερμότης γὰρ ἡ ἐν τῇ κινήσει θερμότητα ἐν τῷ σώματι ἐποίησεν· αὕτη δὲ ἐστὶν ἢ ὑγίεια ἢ μέρος, ἢ ἀκολουθεῖ αὐτῇ μέρος τι τῆς ὑγιείας ἢ αὐτὴ ἡ ὑγίεια· διὸ καὶ λέγεται ποιεῖν, ὅτι ἐκεῖνο ποιεῖ [τὴν ὑγίειαν] ᾧ ἀκολουθεῖ καὶ συμβέβηκε [θερμότης]. ὥστε, ὥσπερ ἐν τοῖς συλλογισμοῖς, πάντων ἀρχὴ ἡ οὐσία· ἐκ γὰρ τοῦ τί ἐστιν οἱ συλλογισμοί εἰσιν, ἐνταῦθα δὲ αἱ γενέσεις. ὁμοίως δὲ καὶ τὰ φύσει συνιστάμενα τούτοις ἔχει. τὸ μὲν γὰρ σπέρμα ποιεῖ ὥσπερ τὰ ἀπὸ τέχνης (ἔχει γὰρ δυνάμει [1034b] τὸ εἶδος, καὶ ἀφ’ οὗ τὸ σπέρμα, ἐστί πως ὁμώνυμον - οὐ γὰρ πάντα οὕτω δεῖ ζητεῖν ὡς ἐξ ἀνθρώπου ἄνθρωπος· καὶ γὰρ γυνὴ ἐξ ἀνδρός - ἐὰν μὴ πήρωμα ᾖ· διὸ ἡμίονος οὐκ ἐξ ἡμιόνου)· ὅσα δὲ ἀπὸ ταὐτομάτου ὥσπερ ἐκεῖ γίγνεται, ὅσων ἡ ὕλη δύναται καὶ ὑφ’ αὐτῆς κινεῖσθαι ταύτην τὴν κίνησιν ἣν τὸ σπέρμα κινεῖ· ὅσων δὲ μή, ταῦτα ἀδύνατα γίγνεσθαι ἄλλως πως ἢ ἐξ αὐτῶν. - οὐ μόνον δὲ περὶ τῆς οὐσίας ὁ λόγος δηλοῖ τὸ μὴ γίγνεσθαι τὸ εἶδος, ἀλλὰ περὶ πάντων ὁμοίως τῶν πρώτων κοινὸς ὁ λόγος, οἷον ποσοῦ ποιοῦ καὶ τῶν ἄλλων κατηγοριῶν. γίγνεται γὰρ ὥσπερ ἡ χαλκῆ σφαῖρα ἀλλ’ οὐ σφαῖρα οὐδὲ χαλκός, καὶ ἐπὶ χαλκοῦ, εἰ γίγνεται (ἀεὶ γὰρ δεῖ προϋπάρχειν τὴν ὕλην καὶ τὸ εἶδος), οὕτως καὶ ἐπὶ τοῦ τί ἐστι καὶ ἐπὶ τοῦ ποιοῦ καὶ ποσοῦ καὶ τῶν ἄλλων ὁμοίως κατηγοριῶν· οὐ γὰρ γίγνεται τὸ ποιὸν ἀλλὰ τὸ ποιὸν ξύλον, οὐδὲ τὸ ποσὸν ἀλλὰ τὸ ποσὸν ξύλον ἢ ζῷον. ἀλλ’ ἴδιον τῆς οὐσίας ἐκ τούτων λαβεῖν ἔστιν ὅτι ἀναγκαῖον προϋπάρχειν ἑτέραν οὐσίαν ἐντελεχείᾳ οὖσαν ἢ ποιεῖ, οἷον ζῷον εἰ γίγνεται ζῷον· ποιὸν δ’ ἢ ποσὸν οὐκ ἀνάγκη ἀλλ’ ἢ δυνάμει μόνον.

Ἐπεὶ δὲ ὁ ὁρισμὸς λόγος ἐστί, πᾶς δὲ λόγος μέρη ἔχει, ὡς δὲ ὁ λόγος πρὸς τὸ πρᾶγμα, καὶ τὸ μέρος τοῦ λόγου πρὸς τὸ μέρος τοῦ πράγματος ὁμοίως ἔχει, ἀπορεῖται ἤδη πότερον δεῖ τὸν τῶν μερῶν λόγον ἐνυπάρχειν ἐν τῷ τοῦ ὅλου λόγῳ ἢ οὔ. ἐπ’ ἐνίων μὲν γὰρ φαίνονται ἐνόντες ἐνίων δ’ οὔ. τοῦ μὲν γὰρ κύκλου ὁ λόγος οὐκ ἔχει τὸν τῶν τμημάτων, ὁ δὲ τῆς συλλαβῆς ἔχει τὸν τῶν στοιχείων· καίτοι διαιρεῖται καὶ ὁ κύκλος εἰς τὰ τμήματα ὥσπερ καὶ ἡ συλλαβὴ εἰς τὰ στοιχεῖα. ἔτι δὲ εἰ πρότερα τὰ μέρη τοῦ ὅλου, τῆς δὲ ὀρθῆς ἡ ὀξεῖα μέρος καὶ ὁ δάκτυλος τοῦ ζῴου, πρότερον ἂν εἴη ἡ ὀξεῖα τῆς ὀρθῆς καὶ ὁ δάκτυλος τοῦ ἀνθρώπου. δοκεῖ δ’ ἐκεῖνα εἶναι πρότερα· τῷ λόγῳ γὰρ λέγονται ἐξ ἐκείνων, καὶ τῷ εἶναι δὲ ἄνευ ἀλλήλων πρότερα. - ἢ πολλαχῶς λέγεται τὸ μέρος, ὧν εἷς μὲν τρόπος τὸ μετροῦν κατὰ τὸ ποσόν - ἀλλὰ τοῦτο μὲν ἀφείσθω· ἐξ ὧν δὲ ἡ οὐσία ὡς μερῶν, τοῦτο σκεπτέον.

[1035a] εἰ οὖν ἐστὶ τὸ μὲν ὕλη τὸ δὲ εἶδος τὸ δ’ ἐκ τούτων, καὶ οὐσία ἥ τε ὕλη καὶ τὸ εἶδος καὶ τὸ ἐκ τούτων, ἔστι μὲν ὡς καὶ ἡ ὕλη μέρος τινὸς λέγεται, ἔστι δ’ ὡς οὔ, ἀλλ’ ἐξ ὧν ὁ τοῦ εἴδους λόγος. οἷον τῆς μὲν κοιλότητος οὐκ ἔστι μέρος ἡ σάρξ (αὕτη γὰρ ἡ ὕλη ἐφ’ ἧς γίγνεται), τῆς δὲ σιμότητος μέρος· καὶ τοῦ μὲν συνόλου ἀνδριάντος μέρος ὁ χαλκὸς τοῦ δ’ ὡς εἴδους λεγομένου ἀνδριάντος οὔ (λεκτέον γὰρ τὸ εἶδος καὶ ᾗ εἶδος ἔχει ἕκαστον, τὸ δ’ ὑλικὸν οὐδέποτε καθ’ αὑτὸ λεκτέον)· διὸ ὁ μὲν τοῦ κύκλου λόγος οὐκ ἔχει τὸν τῶν τμημάτων, ὁ δὲ τῆς συλλαβῆς ἔχει τὸν τῶν στοιχείων· τὰ μὲν γὰρ στοιχεῖα τοῦ λόγου μέρη τοῦ εἴδους καὶ οὐχ ὕλη, τὰ δὲ τμήματα οὕτως μέρη ὡς ὕλη ἐφ’ ἧς ἐπιγίγνεται· ἐγγυτέρω μέντοι τοῦ εἴδους ἢ ὁ χαλκὸς ὅταν ἐν χαλκῷ ἡ στρογγυλότης ἐγγένηται. ἔστι δ’ ὡς οὐδὲ τὰ στοιχεῖα πάντα τῆς συλλαβῆς ἐν τῷ λόγῳ ἐνέσται, οἷον ταδὶ τὰ κήρινα ἢ τὰ ἐν τῷ ἀέρι· ἤδη γὰρ καὶ ταῦτα μέρος τῆς συλλαβῆς ὡς ὕλη αἰσθητή. καὶ γὰρ ἡ γραμμὴ οὐκ εἰ διαιρουμένη εἰς τὰ ἡμίση φθείρεται, ἢ ὁ ἄνθρωπος εἰς τὰ ὀστᾶ καὶ νεῦρα καὶ σάρκας, διὰ τοῦτο καὶ εἰσὶν ἐκ τούτων οὕτως ὡς ὄντων τῆς οὐσίας μερῶν, ἀλλ’ ὡς ἐξ ὕλης, καὶ τοῦ μὲν συνόλου μέρη, τοῦ εἴδους δὲ καὶ οὗ ὁ λόγος οὐκέτι· διόπερ οὐδ’ ἐν τοῖς λόγοις. τῷ μὲν οὖν ἐνέσται ὁ τῶν τοιούτων μερῶν λόγος, τῷ δ’ οὐ δεῖ ἐνεῖναι, ἂν μὴ ᾖ τοῦ συνειλημμένου· διὰ γὰρ τοῦτο ἔνια μὲν ἐκ τούτων ὡς ἀρχῶν ἐστὶν εἰς ἃ φθείρονται, ἔνια δὲ οὐκ ἔστιν. ὅσα μὲν οὖν συνειλημμένα τὸ εἶδος καὶ ἡ ὕλη ἐστίν, οἷον τὸ σιμὸν ἢ ὁ χαλκοῦς κύκλος, ταῦτα μὲν φθείρεται εἰς ταῦτα καὶ μέρος αὐτῶν ἡ ὕλη· ὅσα δὲ μὴ συνείληπται τῇ ὕλῃ ἀλλὰ ἄνευ ὕλης, ὧν οἱ λόγοι τοῦ εἴδους μόνον, ταῦτα δ’

οὐ φθείρεται, ἢ ὅλως ἢ οὔτοι οὕτω γε· ὥστ’ ἐκείνων μὲν ἀρχαὶ καὶ μέρη ταῦτα τοῦ δὲ εἴδους οὔτε μέρη οὔτε ἀρχαί. καὶ διὰ τοῦτο φθείρεται ὁ πήλινος ἀνδριὰς εἰς πηλὸν καὶ ἡ σφαῖρα εἰς χαλκὸν καὶ ὁ Καλλίας εἰς σάρκα καὶ ὀστᾶ, ἔτι δὲ ὁ κύκλος εἰς τὰ τμήματα· ἔστι γάρ τις ὃς συνείληπται τῇ [1035b] ὕλῃ· ὁμωνύμως γὰρ λέγεται κύκλος ὅ τε ἁπλῶς λεγόμενος καὶ ὁ καθ’ ἕκαστα διὰ τὸ μὴ εἶναι ἴδιον ὄνομα τοῖς καθ’ ἕκαστον. - εἴρηται μὲν οὖν καὶ νῦν τὸ ἀληθές, ὅμως δ’ ἔτι σαφέστερον εἴπωμεν ἐπαναλαβόντες. ὅσα μὲν γὰρ τοῦ λόγου μέρη καὶ εἰς ἃ διαιρεῖται ὁ λόγος, ταῦτα πρότερα ἢ πάντα ἢ ἔνια· ὁ δὲ τῆς ὀρθῆς λόγος οὐ διαιρεῖται εἰς ὀξείας λόγον, ἀλλ’ ‹ὁ› τῆς ὀξείας εἰς ὀρθήν· χρῆται γὰρ ὁ ὁριζόμενος τὴν ὀξεῖαν τῇ ὀρθῇ· “ἐλάττων” γὰρ “ὀρθῆς” ἡ ὀξεῖα. ὁμοίως δὲ καὶ ὁ κύκλος καὶ τὸ ἡμικύκλιον ἔχουσιν· τὸ γὰρ ἡμικύκλιον τῷ κύκλῳ ὁρίζεται καὶ ὁ δάκτυλος τῷ ὅλῳ· “τὸ” γὰρ “τοιόνδε μέρος ἀνθρώπου” δάκτυλος. ὥσθ’ ὅσα μὲν μέρη ὡς ὕλη καὶ εἰς ἃ διαιρεῖται ὡς ὕλην, ὕστερα· ὅσα δὲ ὡς τοῦ λόγου καὶ τῆς οὐσίας τῆς κατὰ τὸν λόγον, πρότερα ἢ πάντα ἢ ἔνια. ἐπεὶ δὲ ἡ τῶν ζῴων ψυχή (τοῦτο γὰρ οὐσία τοῦ ἐμψύχου) ἡ κατὰ τὸν λόγον οὐσία καὶ τὸ εἶδος καὶ τὸ τί ἦν εἶναι τῷ τοιῷδε σώματι (ἕκαστον γοῦν τὸ μέρος ἐὰν ὁρίζηται καλῶς, οὐκ ἄνευ τοῦ ἔργου ὁριεῖται, ὃ οὐχ ὑπάρξει ἄνευ αἰσθήσεως), ὥστε τὰ ταύτης μέρη πρότερα ἢ πάντα ἢ ἔνια τοῦ συνόλου ζῴου, καὶ καθ’ ἕκαστον δὴ ὁμοίως, τὸ δὲ σῶμα καὶ τὰ τούτου μόρια ὕστερα ταύτης τῆς οὐσίας, καὶ διαιρεῖται εἰς ταῦτα ὡς εἰς ὕλην οὐχ ἡ οὐσία ἀλλὰ τὸ σύνολον, - τοῦ μὲν οὖν συνόλου πρότερα ταῦτ’ ἔστιν ὥς, ἔστι δ’ ὡς οὔ (οὐδὲ γὰρ εἶναι δύναται χωριζόμενα· οὐ γὰρ ὁ πάντως ἔχων δάκτυλος ζῴου, ἀλλ’ ὁμώνυμος ὁ τεθνεώς)· ἔνια δὲ ἅμα, ὅσα κύρια καὶ ἐν ᾧ πρώτῳ ὁ λόγος καὶ ἡ οὐσία, οἷον εἰ τοῦτο καρδία ἢ ἐγκέφαλος· διαφέρει γὰρ οὐθὲν πότερον τοιοῦτον. ὁ δ’ ἄνθρωπος καὶ ὁ ἵππος καὶ τὰ οὕτως ἐπὶ τῶν καθ’ ἕκαστα, καθόλου δέ, οὐκ ἔστιν οὐσία ἀλλὰ σύνολόν τι ἐκ τουδὶ τοῦ λόγου καὶ τησδὶ τῆς ὕλης ὡς καθόλου· καθ’ ἕκαστον δ’ ἐκ τῆς ἐσχάτης ὕλης ὁ Σωκράτης ἤδη ἐστίν, καὶ ἐπὶ τῶν ἄλλων ὁμοίως. - μέρος μὲν οὖν ἐστὶ καὶ τοῦ εἴδους (εἶδος δὲ λέγω τὸ τί ἦν εἶναι) καὶ τοῦ συνόλου τοῦ ἐκ τοῦ εἴδους καὶ τῆς ὕλης ‹καὶ τῆς ὕλης› αὐτῆς. ἀλλὰ τοῦ λόγου μέρη τὰ τοῦ εἴδους μόνον ἐστίν, ὁ δὲ λόγος ἐστὶ τοῦ [1036a] καθόλου· τὸ γὰρ κύκλῳ εἶναι καὶ κύκλος καὶ ψυχῇ εἶναι καὶ ψυχὴ ταὐτό. τοῦ δὲ συνόλου ἤδη, οἷον κύκλου τουδὶ καὶ τῶν καθ’ ἕκαστά τινος ἢ αἰσθητοῦ ἢ νοητοῦ - λέγω δὲ νοητοὺς μὲν οἷον τοὺς μαθηματικούς, αἰσθητοὺς δὲ οἷον τοὺς χαλκοῦς καὶ τοὺς ξυλίνους - τούτων δὲ οὐκ ἔστιν ὁρισμός, ἀλλὰ μετὰ νοήσεως ἢ αἰσθήσεως γνωρίζονται, ἀπελθόντες δὲ ἐκ τῆς ἐντελεχείας οὐ δῆλον πότερον εἰσὶν ἢ οὐκ εἰσίν· ἀλλ’ ἀεὶ λέγονται καὶ γνωρίζονται τῷ καθόλου λόγῳ. ἡ δ’ ὕλη ἄγνωστος καθ’ αὑτήν. ὕλη δὲ ἡ μὲν αἰσθητή ἐστιν ἡ δὲ νοητή, αἰσθητὴ μὲν οἷον χαλκὸς καὶ ξύλον καὶ ὅση κινητὴ ὕλη, νοητὴ δὲ ἡ ἐν τοῖς αἰσθητοῖς ὑπάρχουσα μὴ ᾗ αἰσθητά, οἷον τὰ μαθηματικά. πῶς μὲν οὖν ἔχει περὶ ὅλου καὶ μέρους καὶ περὶ τοῦ προτέρου καὶ ὑστέρου, εἴρηται· πρὸς δὲ τὴν ἐρώτησιν ἀνάγκη ἀπαντᾶν, ὅταν τις ἔρηται πότερον ἡ ὀρθὴ καὶ ὁ κύκλος καὶ τὸ ζῷον πρότερον ἢ εἰς ἃ διαιροῦνται καὶ ἐξ ὧν εἰσί, τὰ μέρη, ὅτι οὐχ ἁπλῶς. εἰ μὲν γάρ ἐστι καὶ ἡ ψυχὴ ζῷον ἢ ἔμψυχον, ἢ ἕκαστον ἡ ἑκάστου, καὶ κύκλος τὸ κύκλῳ εἶναι, καὶ ὀρθὴ τὸ ὀρθῇ εἶναι καὶ ἡ οὐσία ἡ τῆς ὀρθῆς, τὶ μὲν καὶ τινὸς φατέον ὕστερον, οἷον τῶν ἐν τῷ λόγῳ καὶ τινὸς ὀρθῆς (καὶ γὰρ ἡ μετὰ τῆς ὕλης, ἡ χαλκῆ ὀρθή, καὶ ἡ ἐν ταῖς γραμμαῖς ταῖς καθ’ ἕκαστα), ἡ δ’ ἄνευ ὕλης τῶν μὲν ἐν τῷ λόγῳ ὑστέρα τῶν δ’ ἐν τῷ καθ’ ἕκαστα μορίων προτέρα, ἁπλῶς δ’ οὐ φατέον· εἰ δ’ ἑτέρα καὶ μὴ ἔστιν ἡ ψυχὴ ζῷον, καὶ οὕτω τὰ μὲν φατέον τὰ δ’ οὐ φατέον, ὥσπερ εἴρηται.

Ἀπορεῖται δὲ εἰκότως καὶ ποῖα τοῦ εἴδους μέρη καὶ ποῖα οὔ, ἀλλὰ τοῦ συνειλημμένου. καίτοι τούτου μὴ δήλου ὄντος οὐκ ἔστιν ὁρίσασθαι ἕκαστον· τοῦ γὰρ καθόλου καὶ τοῦ εἴδους ὁ ὁρισμός· ποῖα οὖν ἐστὶ τῶν μερῶν ὡς ὕλη καὶ ποῖα οὔ, ἐὰν μὴ ᾖ φανερά, οὐδὲ ὁ λόγος ἔσται φανερὸς ὁ τοῦ πράγματος. ὅσα μὲν οὖν φαίνεται ἐπιγιγνόμενα ἐφ’ ἑτέρων τῷ εἴδει, οἷον κύκλος ἐν χαλκῷ καὶ λίθῳ καὶ ξύλῳ, ταῦτα μὲν δῆλα εἶναι δοκεῖ ὅτι οὐδὲν τῆς τοῦ κύκλου οὐσίας ὁ χαλκὸς οὐδ’ ὁ λίθος διὰ τὸ χωρίζεσθαι αὐτῶν· ὅσα δὲ μὴ ὁρᾶται χωριζόμενα, οὐδὲν μὲν κωλύει ὁμοίως ἔχειν [1036b] τούτοις, ὥσπερ κἂν εἰ οἱ κύκλοι πάντες ἑωρῶντο χαλκοῖ· οὐδὲν γὰρ ἂν ἧττον ἦν ὁ χαλκὸς οὐδὲν τοῦ εἴδους· χαλεπὸν δὲ ἀφελεῖν τοῦτον τῇ διανοίᾳ. οἷον τὸ τοῦ ἀνθρώπου εἶδος ἀεὶ ἐν σαρξὶ φαίνεται καὶ ὀστοῖς καὶ τοῖς τοιούτοις μέρεσιν· ἆρ’ οὖν καὶ ἐστὶ ταῦτα μέρη τοῦ εἴδους καὶ τοῦ λόγου; ἢ οὔ, ἀλλ’ ὕλη, ἀλλὰ διὰ τὸ μὴ καὶ ἐπ’ ἄλλων ἐπιγίγνεσθαι ἀδυνατοῦμεν χωρίσαι; ἐπεὶ δὲ τοῦτο δοκεῖ μὲν ἐνδέχεσθαι ἄδηλον δὲ πότε, ἀποροῦσί τινες ἤδη καὶ ἐπὶ τοῦ κύκλου καὶ τοῦ τριγώνου ὡς οὐ προσῆκον γραμμαῖς ὁρίζεσθαι καὶ τῷ συνεχεῖ, ἀλλὰ πάντα καὶ ταῦτα ὁμοίως λέγεσθαι ὡσανεὶ σάρκες καὶ ὀστᾶ τοῦ ἀνθρώπου καὶ χαλκὸς καὶ λίθος τοῦ ἀνδριάντος· καὶ ἀνάγουσι πάντα εἰς τοὺς ἀριθμούς, καὶ γραμμῆς τὸν λόγον τὸν τῶν δύο εἶναί φασιν. καὶ τῶν τὰς ἰδέας λεγόντων οἱ μὲν αὐτογραμμὴν τὴν δυάδα, οἱ δὲ τὸ εἶδος τῆς γραμμῆς, ἔνια μὲν γὰρ εἶναι τὸ αὐτὸ τὸ εἶδος καὶ οὗ τὸ εἶδος (οἷον δυάδα καὶ τὸ εἶδος δυάδος), ἐπὶ γραμμῆς δὲ οὐκέτι. συμβαίνει δὴ ἕν τε πολλῶν εἶδος εἶναι ὧν τὸ εἶδος φαίνεται ἕτερον (ὅπερ καὶ τοῖς Πυθαγορείοις συνέβαινεν), καὶ ἐνδέχεται ἓν πάντων ποιεῖν αὐτὸ εἶδος, τὰ δ’ ἄλλα μὴ εἴδη· καίτοι οὕτως ἓν πάντα ἔσται.

Ὅτι μὲν οὖν ἔχει τινὰ ἀπορίαν τὰ περὶ τοὺς ὁρισμούς, καὶ διὰ τίν’ αἰτίαν, εἴρηται· διὸ καὶ τὸ πάντα ἀνάγειν οὕτω καὶ ἀφαιρεῖν τὴν ὕλην περίεργον· ἔνια γὰρ ἴσως τόδ’ ἐν τῷδ’ ἐστὶν ἢ ὡδὶ ταδὶ ἔχοντα. καὶ ἡ παραβολὴ ἡ ἐπὶ τοῦ ζῴου, ἣν εἰώθει λέγειν Σωκράτης ὁ νεώτερος, οὐ καλῶς ἔχει· ἀπάγει γὰρ ἀπὸ τοῦ ἀληθοῦς, καὶ ποιεῖ ὑπολαμβάνειν ὡς ἐνδεχόμενον εἶναι τὸν ἄνθρωπον ἄνευ τῶν μερῶν, ὥσπερ ἄνευ τοῦ χαλκοῦ τὸν κύκλον. τὸ δ’ οὐχ ὅμοιον· αἰσθητὸν γάρ τι τὸ ζῷον, καὶ ἄνευ κινήσεως οὐκ ἔστιν ὁρίσασθαι, διὸ οὐδ’ ἄνευ τῶν μερῶν ἐχόντων πώς. οὐ γὰρ πάντως τοῦ ἀνθρώπου μέρος ἡ χείρ, ἀλλ’ ἢ δυναμένη τὸ ἔργον ἀποτελεῖν, ὥστε ἔμψυχος οὖσα· μὴ ἔμψυχος δὲ οὐ μέρος. περὶ δὲ τὰ μαθηματικὰ διὰ τί οὐκ εἰσὶ μέρη οἱ λόγοι τῶν λόγων, οἷον τοῦ κύκλου τὰ ἡμικύκλια; οὐ γάρ ἐστιν αἰσθητὰ ταῦτα. ἢ οὐθὲν διαφέρει; ἔσται γὰρ ὕλη ἐνίων καὶ μὴ αἰσθητῶν· [1037a] καὶ παντὸς γὰρ ὕλη τις ἔστιν ὃ μὴ ἔστι τί ἦν εἶναι καὶ εἶδος αὐτὸ καθ’ αὑτὸ ἀλλὰ τόδε τι. κύκλου μὲν οὖν οὐκ ἔσται τοῦ καθόλου, τῶν δὲ καθ’ ἕκαστα ἔσται μέρη ταῦτα, ὥσπερ εἴρηται πρότερον· ἔστι γὰρ ὕλη ἡ μὲν αἰσθητὴ ἡ δὲ νοητή. δῆλον δὲ καὶ ὅτι ἡ μὲν ψυχὴ οὐσία ἡ πρώτη, τὸ δὲ σῶμα ὕλη, ὁ δ’ ἄνθρωπος ἢ τὸ ζῷον τὸ ἐξ ἀμφοῖν ὡς καθόλου· Σωκράτης δὲ καὶ Κορίσκος, εἰ μὲν καὶ ἡ ψυχὴ Σωκράτης, διττόν (οἱ μὲν γὰρ ὡς ψυχὴν οἱ δ’ ὡς τὸ σύνολον), εἰ δ’ ἁπλῶς ἡ ψυχὴ ἥδε καὶ ‹τὸ› σῶμα τόδε, ὥσπερ τὸ καθόλου [τε] καὶ τὸ καθ’ ἕκαστον. πότερον δὲ ἔστι παρὰ τὴν ὕλην τῶν τοιούτων οὐσιῶν τις ἄλλη, καὶ δεῖ ζητεῖν οὐσίαν ἑτέραν τινὰ οἷον ἀριθμοὺς ἤ τι τοιοῦτον, σκεπτέον ὕστερον. τούτου γὰρ χάριν καὶ περὶ τῶν αἰσθητῶν οὐσιῶν πειρώμεθα διορίζειν, ἐπεὶ τρόπον τινὰ τῆς φυσικῆς καὶ δευτέρας φιλοσοφίας ἔργον ἡ περὶ τὰς αἰσθητὰς οὐσίας θεωρία· οὐ γὰρ μόνον περὶ τῆς ὕλης δεῖ γνωρίζειν τὸν φυσικὸν ἀλλὰ καὶ τῆς κατὰ τὸν λόγον, καὶ μᾶλλον. ἐπὶ δὲ τῶν ὁρισμῶν πῶς μέρη τὰ ἐν τῷ λόγῳ, καὶ διὰ τί εἷς λόγος ὁ ὁρισμός (δῆλον γὰρ ὅτι τὸ πρᾶγμα ἕν, τὸ δὲ πρᾶγμα τίνι ἕν, μέρη γε ἔχον;), σκεπτέον ὕστερον.

Τί μὲν οὖν ἐστὶ τὸ τί ἦν εἶναι καὶ πῶς αὐτὸ καθ’ αὑτό, καθόλου περὶ παντὸς εἴρηται, καὶ διὰ τί τῶν μὲν ὁ λόγος ὁ τοῦ τί ἦν εἶναι ἔχει τὰ μόρια τοῦ ὁριζομένου τῶν δ’ οὔ, καὶ ὅτι ἐν μὲν τῷ τῆς οὐσίας λόγῳ τὰ οὕτω μόρια ὡς ὕλη οὐκ ἐνέσται - οὐδὲ γὰρ ἔστιν ἐκείνης μόρια τῆς οὐσίας ἀλλὰ τῆς συνόλου, ταύτης δέ γ’ ἔστι πως λόγος καὶ οὐκ ἔστιν· μετὰ μὲν γὰρ τῆς ὕλης οὐκ ἔστιν (ἀόριστον γάρ), κατὰ τὴν πρώτην δ’ οὐσίαν ἔστιν, οἷον ἀνθρώπου ὁ τῆς ψυχῆς λόγος· ἡ γὰρ οὐσία ἐστὶ τὸ εἶδος τὸ ἐνόν, ἐξ οὗ καὶ τῆς ὕλης ἡ σύνολος λέγεται οὐσία, οἷον ἡ κοιλότης (ἐκ γὰρ ταύτης καὶ τῆς ῥινὸς σιμὴ ῥὶς καὶ ἡ σιμότης ἐστί [δὶς γὰρ ἐν τούτοις ὑπάρξει ἡ ῥίς]) - ἐν δὲ τῇ συνόλῳ οὐσίᾳ, οἷον ῥινὶ σιμῇ ἢ Καλλίᾳ, ἐνέσται καὶ ἡ ὕλη· καὶ ὅτι τὸ τί ἦν [1037b] εἶναι καὶ ἕκαστον ἐπὶ τινῶν μὲν ταὐτό, ὥσπερ ἐπὶ τῶν πρώτων οὐσιῶν, οἷον καμπυλότης καὶ καμπυλότητι εἶναι, εἰ πρώτη ἐστίν (λέγω δὲ πρώτην ἣ μὴ λέγεται τῷ ἄλλο ἐν ἄλλῳ εἶναι καὶ ὑποκειμένῳ ὡς ὕλῃ), ὅσα δὲ ὡς ὕλη ἢ ὡς συνειλημμένα τῇ ὕλῃ, οὐ ταὐτό, οὐδ' ‹εἰ› κατὰ συμβεβηκὸς ἕν, οἷον Σωκράτης καὶ τὸ μουσικόν· ταῦτα γὰρ ταὐτὰ κατὰ συμβεβηκός.

Νῦν δὲ λέγωμεν πρῶτον ἐφ' ὅσον ἐν τοῖς ἀναλυτικοῖς περὶ ὁρισμοῦ μὴ εἴρηται· ἡ γὰρ ἐν ἐκείνοις ἀπορία λεχθεῖσα πρὸ ἔργου τοῖς περὶ τῆς οὐσίας ἐστὶ λόγοις. λέγω δὲ ταύτην τὴν ἀπορίαν, διὰ τί ποτε ἕν ἐστιν οὗ τὸν λόγον ὁρισμὸν εἶναί φαμεν, οἷον τοῦ ἀνθρώπου τὸ ζῷον δίπουν· ἔστω γὰρ οὗτος αὐτοῦ λόγος. διὰ τί δὴ τοῦτο ἕν ἐστιν ἀλλ' οὐ πολλά, ζῷον καὶ δίπουν· ἐπὶ μὲν γὰρ τοῦ ἄνθρωπος καὶ λευκὸν πολλὰ μέν ἐστιν ὅταν μὴ ὑπάρχῃ θατέρῳ θάτερον, ἓν δὲ ὅταν ὑπάρχῃ καὶ πάθῃ τι τὸ ὑποκείμενον, ὁ ἄνθρωπος (τότε γὰρ ἓν γίγνεται καὶ ἔστιν ὁ λευκὸς ἄνθρωπος)· ἐνταῦθα δ' οὐ μετέχει θατέρου θάτερον· τὸ γὰρ γένος οὐ δοκεῖ μετέχειν τῶν διαφορῶν (ἅμα γὰρ ἂν τῶν ἐναντίων τὸ αὐτὸ μετεῖχεν· αἱ γὰρ διαφοραὶ ἐναντίαι αἷς διαφέρει τὸ γένος). εἰ δὲ καὶ μετέχει, ὁ αὐτὸς λόγος, εἴπερ εἰσὶν αἱ διαφοραὶ πλείους, οἷον πεζὸν δίπουν ἄπτερον. διὰ τί γὰρ ταῦθ' ἓν ἀλλ' οὐ πολλά; οὐ γὰρ ὅτι ἐνυπάρχει· οὕτω μὲν γὰρ ἐξ ἁπάντων ἔσται ἕν. δεῖ δέ γε ἓν εἶναι ὅσα ἐν τῷ ὁρισμῷ· ὁ γὰρ ὁρισμὸς λόγος τίς ἐστιν εἷς καὶ οὐσίας, ὥστε ἑνός τινος δεῖ αὐτὸν εἶναι λόγον· καὶ γὰρ ἡ οὐσία ἕν τι καὶ τόδε τι σημαίνει, ὡς φαμέν. - δεῖ δὲ ἐπισκοπεῖν πρῶτον περὶ τῶν κατὰ τὰς διαιρέσεις ὁρισμῶν. οὐδὲν γὰρ ἕτερόν ἐστιν ἐν τῷ ὁρισμῷ πλὴν τὸ πρῶτον λεγόμενον γένος καὶ αἱ διαφοραί· τὰ δ' ἄλλα γένη ἐστὶ τό τε πρῶτον καὶ μετὰ τούτου αἱ συλλαμβανόμεναι διαφοραί, οἷον τὸ πρῶτον ζῷον, τὸ δὲ ἐχόμενον ζῷον δίπουν, καὶ πάλιν ζῷον δίπουν ἄπτερον· ὁμοίως δὲ [1038a] κἂν διὰ πλειόνων λέγηται. ὅλως δ' οὐδὲν διαφέρει διὰ πολλῶν ἢ δι' ὀλίγων λέγεσθαι, ὥστ' οὐδὲ δι' ὀλίγων ἢ διὰ δυοῖν· τοῖν δυοῖν δὲ τὸ μὲν διαφορὰ τὸ δὲ γένος, οἷον τοῦ ζῷον δίπουν τὸ μὲν ζῷον γένος διαφορὰ δὲ θάτερον. εἰ οὖν τὸ γένος ἁπλῶς μὴ ἔστι παρὰ τὰ ὡς γένους εἴδη, ἢ εἰ ἔστι μὲν ὡς ὕλη δ' ἐστίν (ἡ μὲν γὰρ φωνὴ γένος καὶ ὕλη, αἱ δὲ διαφοραὶ τὰ εἴδη καὶ τὰ στοιχεῖα ἐκ ταύτης ποιοῦσιν), φανερὸν ὅτι ὁ ὁρισμός ἐστιν ὁ ἐκ τῶν διαφορῶν λόγος. ἀλλὰ μὴν καὶ δεῖ γε διαιρεῖσθαι τῇ τῆς διαφορᾶς διαφορᾷ, οἷον ζῴου διαφορὰ τὸ ὑπόπουν· πάλιν τοῦ ζῴου τοῦ ὑπόποδος τὴν διαφορὰν δεῖ εἶναι ᾗ ὑπόπουν, ὥστ' οὐ λεκτέον τοῦ ὑπόποδος τὸ μὲν πτερωτὸν τὸ δὲ ἄπτερον, ἐάνπερ λέγῃ καλῶς (ἀλλὰ διὰ τὸ ἀδυνατεῖν ποιήσει τοῦτο), ἀλλ’ ἢ τὸ μὲν σχιζόπουν τὸ δ’ ἄσχιστον· αὗται γὰρ διαφοραὶ ποδός· ἡ γὰρ σχιζοποδία ποδότης τις. καὶ οὕτως ἀεὶ βούλεται βαδίζειν ἕως ἂν ἔλθῃ εἰς τὰ ἀδιάφορα· τότε δ’ ἔσονται τοσαῦτα εἴδη ποδὸς ὅσαιπερ αἱ διαφοραί, καὶ τὰ ὑπόποδα ζῷα ἴσα ταῖς διαφοραῖς. εἰ δὴ ταῦτα οὕτως ἔχει, φανερὸν ὅτι ἡ τελευταία διαφορὰ ἡ οὐσία τοῦ πράγματος ἔσται καὶ ὁ ὁρισμός, εἴπερ μὴ δεῖ πολλάκις ταὐτὰ λέγειν ἐν τοῖς ὅροις· περίεργον γάρ. συμβαίνει δέ γε τοῦτο· ὅταν γὰρ εἴπῃ ζῷον ὑπόπουν δίπουν, οὐδὲν ἄλλο εἴρηκεν ἢ ζῷον πόδας ἔχον, δύο πόδας ἔχον· κἂν τοῦτο διαιρῇ τῇ οἰκείᾳ διαιρέσει, πλεονάκις ἐρεῖ καὶ ἰσάκις ταῖς διαφοραῖς. ἐὰν μὲν δὴ διαφορᾶς διαφορὰ γίγνηται, μία ἔσται ἡ τελευταία τὸ εἶδος καὶ ἡ οὐσία· ἐὰν δὲ κατὰ συμβεβηκός, οἷον εἰ διαιροῖ τοῦ ὑπόποδος τὸ μὲν λευκὸν τὸ δὲ μέλαν, τοσαῦται ὅσαι ἂν αἱ τομαὶ ὦσιν. ὥστε φανερὸν ὅτι ὁ ὁρισμὸς λόγος ἐστὶν ὁ ἐκ τῶν διαφορῶν, καὶ τούτων τῆς τελευταίας κατά γε τὸ ὀρθόν. δῆλον δ’ ἂν εἴη, εἴ τις μετατάξειε τοὺς τοιούτους ὁρισμούς, οἷον τὸν τοῦ ἀνθρώπου, λέγων ζῷον δίπουν ὑπόπουν· περίεργον γὰρ τὸ ὑπόπουν εἰρημένου τοῦ δίποδος. τάξις δ’ οὐκ ἔστιν ἐν τῇ οὐσίᾳ· πῶς γὰρ δεῖ νοῆσαι τὸ μὲν ὕστερον τὸ δὲ πρότερον; περὶ μὲν οὖν τῶν κατὰ τὰς διαιρέσεις ὁρισμῶν τοσαῦτα εἰρήσθω τὴν πρώτην, ποῖοί τινές εἰσιν.

[1038b] Ἐπεὶ δὲ περὶ τῆς οὐσίας ἡ σκέψις ἐστί, πάλιν ἐπανέλθωμεν. λέγεται δ’ ὥσπερ τὸ ὑποκείμενον οὐσία εἶναι καὶ τὸ τί ἦν εἶναι καὶ τὸ ἐκ τούτων, καὶ τὸ καθόλου. περὶ μὲν οὖν τοῖν δυοῖν εἴρηται (καὶ γὰρ περὶ τοῦ τί ἦν εἶναι καὶ τοῦ ὑποκειμένου, ὅτι διχῶς ὑπόκειται, ἢ τόδε τι ὄν, ὥσπερ τὸ ζῷον τοῖς πάθεσιν, ἢ ὡς ἡ ὕλη τῇ ἐντελεχείᾳ), δοκεῖ δὲ καὶ τὸ καθόλου αἴτιόν τισιν εἶναι μάλιστα, καὶ εἶναι ἀρχὴ τὸ καθόλου· διὸ ἐπέλθωμεν καὶ περὶ τούτου. ἔοικε γὰρ ἀδύνατον εἶναι οὐσίαν εἶναι ὁτιοῦν τῶν καθόλου λεγομένων. πρῶτον μὲν γὰρ οὐσία ἑκάστου ἡ ἴδιος ἑκάστῳ, ἣ οὐχ ὑπάρχει ἄλλῳ, τὸ δὲ καθόλου κοινόν· τοῦτο γὰρ λέγεται καθόλου ὃ πλείοσιν ὑπάρχειν πέφυκεν. τίνος οὖν οὐσία τοῦτ’ ἔσται; ἢ γὰρ πάντων ἢ οὐδενός, πάντων δ’ οὐχ οἷόν τε· ἑνὸς δ’ εἰ ἔσται, καὶ τἆλλα τοῦτ’ ἔσται· ὧν γὰρ μία ἡ οὐσία καὶ τὸ τί ἦν εἶναι ἕν, καὶ αὐτὰ ἕν. ἔτι οὐσία λέγεται τὸ μὴ καθ’ ὑποκειμένου, τὸ δὲ καθόλου καθ’ ὑποκειμένου τινὸς λέγεται ἀεί. ἀλλ’ ἆρα οὕτω μὲν οὐκ ἐνδέχεται ὡς τὸ τί ἦν εἶναι, ἐν τούτῳ δὲ ἐνυπάρχειν, οἷον τὸ ζῷον ἐν τῷ ἀνθρώπῳ καὶ ἵππῳ; οὐκοῦν δῆλον ὅτι ἔστι τις αὐτοῦ λόγος. διαφέρει δ’ οὐθὲν οὐδ’ εἰ μὴ πάντων λόγος ἔστι τῶν ἐν τῇ οὐσίᾳ· οὐδὲν γὰρ ἧττον οὐσία τοῦτ’ ἔσται τινός, ὡς ὁ ἄνθρωπος τοῦ ἀνθρώπου ἐν ᾧ ὑπάρχει, ὥστε τὸ αὐτὸ

συμβήσεται πάλιν· ἔσται γὰρ ἐκείνου οὐσία, οἷον τὸ ζῷον, ἐν ᾧ ὡς ἴδιον ὑπάρχει. ἔτι δὲ καὶ ἀδύνατον καὶ ἄτοπον τὸ τόδε καὶ οὐσίαν, εἰ ἔστιν ἔκ τινων, μὴ ἐξ οὐσιῶν εἶναι μηδ᾽ ἐκ τοῦ τόδε τι ἀλλ᾽ ἐκ ποιοῦ· πρότερον γὰρ ἔσται μὴ οὐσία τε καὶ τὸ ποιὸν οὐσίας τε καὶ τοῦ τόδε. ὅπερ ἀδύνατον· οὔτε λόγῳ γὰρ οὔτε χρόνῳ οὔτε γενέσει οἷόν τε τὰ πάθη τῆς οὐσίας εἶναι πρότερα· ἔσται γὰρ καὶ χωριστά. ἔτι τῷ Σωκράτει ἐνυπάρξει οὐσία οὐσίᾳ, ὥστε δυοῖν ἔσται οὐσία. ὅλως δὲ συμβαίνει, εἰ ἔστιν οὐσία ὁ ἄνθρωπος καὶ ὅσα οὕτω λέγεται, μηθὲν τῶν ἐν τῷ λόγῳ εἶναι μηδενὸς οὐσίαν μηδὲ χωρὶς ὑπάρχειν αὐτῶν μηδ᾽ ἐν ἄλλῳ, λέγω δ᾽ οἷον οὐκ εἶναί τι ζῷον παρὰ τὰ τινά, οὐδ᾽ ἄλλο τῶν ἐν τοῖς λόγοις οὐδέν. ἔκ τε δὴ τούτων θεωροῦσι φανερὸν ὅτι οὐδὲν τῶν καθόλου ὑπαρχόντων οὐσία ἐστί, καὶ [1039a] ὅτι οὐδὲν σημαίνει τῶν κοινῇ κατηγορουμένων τόδε τι, ἀλλὰ τοιόνδε. εἰ δὲ μή, ἄλλα τε πολλὰ συμβαίνει καὶ ὁ τρίτος ἄνθρωπος. ἔτι δὲ καὶ ὧδε δῆλον. ἀδύνατον γὰρ οὐσίαν ἐξ οὐσιῶν εἶναι ἐνυπαρχουσῶν ὡς ἐντελεχείᾳ· τὰ γὰρ δύο οὕτως ἐντελεχείᾳ οὐδέποτε ἓν ἐντελεχείᾳ, ἀλλ᾽ ἐὰν δυνάμει δύο ᾖ, ἔσται ἕν (οἷον ἡ διπλασία ἐκ δύο ἡμίσεων δυνάμει γε· ἡ γὰρ ἐντελέχεια χωρίζει), ὥστ᾽ εἰ ἡ οὐσία ἕν, οὐκ ἔσται ἐξ οὐσιῶν ἐνυπαρχουσῶν καὶ κατὰ τοῦτον τὸν τρόπον, ὃν λέγει Δημόκριτος ὀρθῶς· ἀδύνατον γὰρ εἶναί φησιν ἐκ δύο ἓν ἢ ἐξ ἑνὸς δύο γενέσθαι· τὰ γὰρ μεγέθη τὰ ἄτομα τὰς οὐσίας ποιεῖ. ὁμοίως τοίνυν δῆλον ὅτι καὶ ἐπ᾽ ἀριθμοῦ ἕξει, εἴπερ ἐστὶν ὁ ἀριθμὸς σύνθεσις μονάδων, ὥσπερ λέγεται ὑπό τινων· ἢ γὰρ οὐχ ἓν ἡ δυὰς ἢ οὐκ ἔστι μονὰς ἐν αὐτῇ ἐντελεχείᾳ. - ἔχει δὲ τὸ συμβαῖνον ἀπορίαν. εἰ γὰρ μήτε ἐκ τῶν καθόλου οἷόν τ᾽ εἶναι μηδεμίαν οὐσίαν διὰ τὸ τοιόνδε ἀλλὰ μὴ τόδε τι σημαίνειν, μήτ᾽ ἐξ οὐσιῶν ἐνδέχεται ἐντελεχείᾳ εἶναι μηδεμίαν οὐσίαν σύνθετον, ἀσύνθετον ἂν εἴη οὐσία πᾶσα, ὥστ᾽ οὐδὲ λόγος ἂν εἴη οὐδεμιᾶς οὐσίας. ἀλλὰ μὴν δοκεῖ γε πᾶσι καὶ ἐλέχθη πάλαι ἢ μόνον οὐσίας εἶναι ὅρον ἢ μάλιστα· νῦν δ᾽ οὐδὲ ταύτης. οὐδενὸς ἄρ᾽ ἔσται ὁρισμός· ἢ τρόπον μέν τινα ἔσται τρόπον δέ τινα οὔ. δῆλον δ᾽ ἔσται τὸ λεγόμενον ἐκ τῶν ὕστερον μᾶλλον.

Φανερὸν δ᾽ ἐξ αὐτῶν τούτων τὸ συμβαῖνον καὶ τοῖς τὰς ἰδέας λέγουσιν οὐσίας τε χωριστὰς εἶναι καὶ ἅμα τὸ εἶδος ἐκ τοῦ γένους ποιοῦσι καὶ τῶν διαφορῶν. εἰ γὰρ ἔστι τὰ εἴδη, καὶ τὸ ζῷον ἐν τῷ ἀνθρώπῳ καὶ ἵππῳ, ἤτοι ἓν καὶ ταὐτὸν τῷ ἀριθμῷ ἐστὶν ἢ ἕτερον· τῷ μὲν γὰρ λόγῳ δῆλον ὅτι ἕν· τὸν γὰρ αὐτὸν διέξεισι λόγον ὁ λέγων ἐν ἑκατέρῳ. εἰ οὖν ἐστί τις ἄνθρωπος αὐτὸς καθ᾽ αὑτὸν τόδε τι καὶ κεχωρισμένον, ἀνάγκη καὶ ἐξ ὧν, οἷον τὸ ζῷον καὶ τὸ δίπουν, τόδε τι σημαίνειν καὶ εἶναι χωριστὰ καὶ οὐσίας· ὥστε καὶ τὸ ζῷον. εἰ μὲν οὖν τὸ αὐτὸ καὶ ἓν τὸ ἐν τῷ ἵππῳ καὶ τῷ ἀνθρώπῳ, ὥσπερ σὺ σαυτῷ, πῶς τὸ ἓν [1039b] ἐν τοῖς οὖσι χωρὶς ἓν ἔσται, καὶ διὰ τί οὐ καὶ χωρὶς αὐτοῦ ἔσται τὸ ζῷον τοῦτο; ἔπειτα εἰ μὲν μεθέξει τοῦ δίποδος καὶ τοῦ πολύποδος, ἀδύνατόν τι συμβαίνει, τἀναντία γὰρ ἅμα ὑπάρξει αὐτῷ ἑνὶ καὶ τῷδέ τινι ὄντι· εἰ δὲ μή, τίς ὁ τρόπος ὅταν εἴπῃ τις τὸ ζῷον εἶναι δίπουν ἢ πεζόν; ἀλλ’ ἴσως σύγκειται καὶ ἅπτεται ἢ μέμικται· ἀλλὰ πάντα ἄτοπα. ἀλλ’ ἕτερον ἐν ἑκάστῳ· οὐκοῦν ἄπειρα ὡς ἔπος εἰπεῖν ἔσται ὧν ἡ οὐσία ζῷον· οὐ γὰρ κατὰ συμβεβηκὸς ἐκ ζῴου ἄνθρωπος. ἔτι πολλὰ ἔσται αὐτὸ τὸ ζῷον· οὐσία τε γὰρ τὸ ἐν ἑκάστῳ ζῷον (οὐ γὰρ κατ’ ἄλλο λέγεται· εἰ δὲ μή, ἐξ ἐκείνου ἔσται ὁ ἄνθρωπος καὶ γένος αὐτοῦ ἐκεῖνο), καὶ ἔτι ἰδέαι ἅπαντα ἐξ ὧν ὁ ἄνθρωπος· οὐκοῦν οὐκ ἄλλου μὲν ἰδέα ἔσται ἄλλου δ’ οὐσία (ἀδύνατον γάρ)· αὐτὸ ἄρα ζῷον ἓν ἕκαστον ἔσται τῶν ἐν τοῖς ζῴοις. ἔτι ἐκ τίνος τοῦτο, καὶ πῶς ἐξ αὐτοῦ ζῴου; ἢ πῶς οἷόν τε εἶναι τὸ ζῷον, ᾧ οὐσία τοῦτο αὐτό, παρ’ αὐτὸ τὸ ζῷον; ἔτι δ’ ἐπὶ τῶν αἰσθητῶν ταῦτά τε συμβαίνει καὶ τούτων ἀτοπώτερα. εἰ δὴ ἀδύνατον οὕτως ἔχειν, δῆλον ὅτι οὐκ ἔστιν εἴδη αὐτῶν οὕτως ὥς τινές φασιν.

Ἐπεὶ δ’ ἡ οὐσία ἑτέρα, τό τε σύνολον καὶ ὁ λόγος (λέγω δ’ ὅτι ἡ μὲν οὕτως ἐστὶν οὐσία, σὺν τῇ ὕλῃ συνειλημμένος ὁ λόγος, ἡ δ’ ὁ λόγος ὅλως), ὅσαι μὲν οὖν οὕτω λέγονται, τούτων μὲν ἔστι φθορά (καὶ γὰρ γένεσις), τοῦ δὲ λόγου οὐκ ἔστιν οὕτως ὥστε φθείρεσθαι (οὐδὲ γὰρ γένεσις, οὐ γὰρ γίγνεται τὸ οἰκίᾳ εἶναι ἀλλὰ τὸ τῇδε τῇ οἰκίᾳ), ἀλλ’ ἄνευ γενέσεως καὶ φθορᾶς εἰσὶ καὶ οὐκ εἰσίν· δέδεικται γὰρ ὅτι οὐδεὶς ταῦτα γεννᾷ οὐδὲ ποιεῖ. διὰ τοῦτο δὲ καὶ τῶν οὐσιῶν τῶν αἰσθητῶν τῶν καθ’ ἕκαστα οὔτε ὁρισμὸς οὔτε ἀπόδειξίς ἔστιν, ὅτι ἔχουσιν ὕλην ἧς ἡ φύσις τοιαύτη ὥστ’ ἐνδέχεσθαι καὶ εἶναι καὶ μή· διὸ φθαρτὰ πάντα τὰ καθ’ ἕκαστα αὐτῶν. εἰ οὖν ἥ τ’ ἀπόδειξις τῶν ἀναγκαίων καὶ ὁ ὁρισμὸς ἐπιστημονικόν, καὶ οὐκ ἐνδέχεται, ὥσπερ οὐδ’ ἐπιστήμην ὁτὲ μὲν ἐπιστήμην ὁτὲ δ’ ἄγνοιαν εἶναι, ἀλλὰ δόξα τὸ τοιοῦτόν ἐστιν, οὕτως οὐδ’ ἀπόδειξιν οὐδ’ ὁρισμόν, ἀλλὰ δόξα [1040a] ἐστὶ τοῦ ἐνδεχομένου ἄλλως ἔχειν, δῆλον ὅτι οὐκ ἂν εἴη αὐτῶν οὔτε ὁρισμὸς οὔτε ἀπόδειξις. ἄδηλά τε γὰρ τὰ φθειρόμενα τοῖς ἔχουσι τὴν ἐπιστήμην, ὅταν ἐκ τῆς αἰσθήσεως ἀπέλθῃ, καὶ σωζομένων τῶν λόγων ἐν τῇ ψυχῇ τῶν αὐτῶν οὐκ ἔσται οὔτε ὁρισμὸς ἔτι οὔτε ἀπόδειξις. διὸ δεῖ, τῶν πρὸς ὅρον ὅταν τις ὁρίζηταί τι τῶν καθ’ ἕκαστον, μὴ ἀγνοεῖν ὅτι ἀεὶ ἀναιρεῖν ἔστιν· οὐ γὰρ ἐνδέχεται ὁρίσασθαι.

Οὐδὲ δὴ ἰδέαν οὐδεμίαν ἔστιν ὁρίσασθαι. τῶν γὰρ καθ’ ἕκαστον ἡ ἰδέα, ὡς φασί, καὶ χωριστή· ἀναγκαῖον δὲ ἐξ ὀνομάτων εἶναι τὸν λόγον, ὄνομα δ’ οὐ ποιήσει ὁ ὁριζόμενος (ἄγνωστον γὰρ ἔσται), τὰ δὲ κείμενα κοινὰ πᾶσιν·

ἀνάγκη ἄρα ὑπάρχειν καὶ ἄλλῳ ταῦτα· οἷον εἴ τις σὲ ὁρίσαιτο, ζῷον ἐρεῖ ἰσχνὸν ἢ λευκὸν ἢ ἕτερόν τι ὃ καὶ ἄλλῳ ὑπάρξει. εἰ δέ τις φαίη μηδὲν κωλύειν χωρὶς μὲν πάντα πολλοῖς ἅμα δὲ μόνῳ τούτῳ ὑπάρχειν, λεκτέον πρῶτον μὲν ὅτι καὶ ἀμφοῖν, οἷον τὸ ζῷον δίπουν τῷ ζῴῳ καὶ τῷ δίποδι (καὶ τοῦτο ἐπὶ μὲν τῶν ἀϊδίων καὶ ἀνάγκη εἶναι, πρότερά γ' ὄντα καὶ μέρη τοῦ συνθέτου· ἀλλὰ μὴν καὶ χωριστά, εἴπερ τὸ ἄνθρωπος χωριστόν· ἢ γὰρ οὐθὲν ἢ ἄμφω· εἰ μὲν οὖν μηθέν, οὐκ ἔσται τὸ γένος παρὰ τὰ εἴδη, εἰ δ' ἔσται, καὶ ἡ διαφορά)· εἶθ' ὅτι πρότερα τῷ εἶναι· ταῦτα δὲ οὐκ ἀνταναιρεῖται. ἔπειτα εἰ ἐξ ἰδεῶν αἱ ἰδέαι (ἀσυνθετώτερα γὰρ τὰ ἐξ ὧν), ἔτι ἐπὶ πολλῶν δεήσει κἀκεῖνα κατηγορεῖσθαι ἐξ ὧν ἡ ἰδέα, οἷον τὸ ζῷον καὶ τὸ δίπουν. εἰ δὲ μή, πῶς γνωρισθήσεται; ἔσται γὰρ ἰδέα τις ἣν ἀδύνατον ἐπὶ πλειόνων κατηγορῆσαι ἢ ἑνός. οὐ δοκεῖ δέ, ἀλλὰ πᾶσα ἰδέα εἶναι μεθεκτή. ὥσπερ οὖν εἴρηται, λανθάνει ὅτι ἀδύνατον ὁρίσασθαι ἐν τοῖς ἀϊδίοις, μάλιστα δὲ ὅσα μοναχά, οἷον ἥλιος ἢ σελήνη. οὐ μόνον γὰρ διαμαρτάνουσι τῷ προστιθέναι τοιαῦτα ὧν ἀφαιρουμένων ἔτι ἔσται ἥλιος, ὥσπερ τὸ περὶ γῆν ἰὸν ἢ νυκτικρυφές (ἂν γὰρ στῇ ἢ φανῇ, οὐκέτι ἔσται ἥλιος· ἀλλ' ἄτοπον εἰ μή· ὁ γὰρ ἥλιος οὐσίαν τινὰ σημαίνει)· ἔτι ὅσα ἐπ' ἄλλου ἐνδέχεται, οἷον ἐὰν ἕτερος γένηται τοιοῦτος, δῆλον ὅτι ἥλιος ἔσται· κοινὸς [1040b] ἄρα ὁ λόγος· ἀλλ' ἦν τῶν καθ' ἕκαστα ὁ ἥλιος, ὥσπερ Κλέων ἢ Σωκράτης· ἐπεὶ διὰ τί οὐδεὶς ὅρον ἐκφέρει αὐτῶν ἰδέας; γένοιτο γὰρ ἂν δῆλον πειρωμένων ὅτι ἀληθὲς τὸ νῦν εἰρημένον.

Φανερὸν δὲ ὅτι καὶ τῶν δοκουσῶν εἶναι οὐσιῶν αἱ πλεῖσται δυνάμεις εἰσί, τά τε μόρια τῶν ζῴων (οὐθὲν γὰρ κεχωρισμένον αὐτῶν ἐστίν· ὅταν δὲ χωρισθῇ, καὶ τότε ὄντα ὡς ὕλη πάντα) καὶ γῆ καὶ πῦρ καὶ ἀήρ· οὐδὲν γὰρ αὐτῶν ἕν ἐστιν, ἀλλ' οἷον σωρός, πρὶν ἢ πεφθῇ καὶ γένηταί τι ἐξ αὐτῶν ἕν. μάλιστα δ' ἄν τις τὰ τῶν ἐμψύχων ὑπολάβοι μόρια καὶ τὰ τῆς ψυχῆς πάρεγγυς ἄμφω γίγνεσθαι, ὄντα καὶ ἐντελεχείᾳ καὶ δυνάμει, τῷ ἀρχὰς ἔχειν κινήσεως ἀπό τινος ἐν ταῖς καμπαῖς· διὸ ἔνια ζῷα διαιρούμενα ζῇ. ἀλλ' ὅμως δυνάμει πάντ' ἔσται, ὅταν ᾖ ἓν καὶ συνεχὲς φύσει, ἀλλὰ μὴ βίᾳ ἢ συμφύσει· τὸ γὰρ τοιοῦτον πήρωσις. ἐπεὶ δὲ τὸ ἓν λέγεται ὥσπερ καὶ τὸ ὄν, καὶ ἡ οὐσία ἡ τοῦ ἑνὸς μία, καὶ ὧν μία ἀριθμῷ ἓν ἀριθμῷ, φανερὸν ὅτι οὔτε τὸ ἓν οὔτε τὸ ὂν ἐνδέχεται οὐσίαν εἶναι τῶν πραγμάτων, ὥσπερ οὐδὲ τὸ στοιχείῳ εἶναι ἢ ἀρχῇ· ἀλλὰ ζητοῦμεν τίς οὖν ἡ ἀρχή, ἵνα εἰς γνωριμώτερον ἀναγάγωμεν. μᾶλλον μὲν οὖν τούτων οὐσία τὸ ὂν καὶ ἓν ἢ ἥ τε ἀρχὴ καὶ τὸ στοιχεῖον καὶ τὸ αἴτιον, οὔπω δὲ οὐδὲ ταῦτα, εἴπερ μηδ' ἄλλο κοινὸν μηδὲν οὐσία· οὐδενὶ γὰρ ὑπάρχει ἡ οὐσία ἀλλ' ἢ αὐτῇ τε καὶ τῷ ἔχοντι αὐτήν, οὗ ἐστὶν οὐσία. ἔτι τὸ ἓν πολλαχῇ οὐκ ἂν εἴη ἅμα, τὸ δὲ κοινὸν ἅμα πολλαχῇ ὑπάρχει· ὥστε δῆλον ὅτι οὐδὲν τῶν καθόλου ὑπάρχει παρὰ τὰ καθ’ ἕκαστα χωρίς. ἀλλ’ οἱ τὰ εἴδη λέγοντες τῇ μὲν ὀρθῶς λέγουσι χωρίζοντες αὐτά, εἴπερ οὐσίαι εἰσί, τῇ δ’ οὐκ ὀρθῶς, ὅτι τὸ ἓν ἐπὶ πολλῶν εἶδος λέγουσιν. αἴτιον δ’ ὅτι οὐκ ἔχουσιν ἀποδοῦναι τίνες αἱ τοιαῦται οὐσίαι αἱ ἄφθαρτοι παρὰ τὰς καθ’ ἕκαστα καὶ αἰσθητάς· ποιοῦσιν οὖν τὰς αὐτὰς τῷ εἴδει τοῖς φθαρτοῖς (ταύτας γὰρ ἴσμεν), αὐτοάνθρωπον καὶ αὐτόϊππον, προστιθέντες τοῖς αἰσθητοῖς τὸ ῥῆμα τὸ “αὐτό”. καίτοι κἂν εἰ μὴ [1041a] ἑωράκειμεν τὰ ἄστρα, οὐδὲν ἂν ἧττον, οἶμαι, ἦσαν οὐσίαι ἀΐδιοι παρ’ ἃς ἡμεῖς ᾔδειμεν· ὥστε καὶ νῦν εἰ μὴ ἔχομεν τίνες εἰσίν, ἀλλ’ εἶναί γέ τινας ἴσως ἀναγκαῖον. ὅτι μὲν οὖν οὔτε τῶν καθόλου λεγομένων οὐδὲν οὐσία οὔτ’ ἐστὶν οὐσία οὐδεμία ἐξ οὐσιῶν, δῆλον.

Τί δὲ χρὴ λέγειν καὶ ὁποῖόν τι τὴν οὐσίαν, πάλιν ἄλλην οἷον ἀρχὴν ποιησάμενοι λέγωμεν· ἴσως γὰρ ἐκ τούτων ἔσται δῆλον καὶ περὶ ἐκείνης τῆς οὐσίας ἥτις ἐστὶ κεχωρισμένη τῶν αἰσθητῶν οὐσιῶν. ἐπεὶ οὖν ἡ οὐσία ἀρχὴ καὶ αἰτία τις ἐστίν, ἐντεῦθεν μετιτέον. ζητεῖται δὲ τὸ διὰ τί ἀεὶ οὕτως, διὰ τί ἄλλο ἄλλῳ τινὶ ὑπάρχει. τὸ γὰρ ζητεῖν διὰ τί ὁ μουσικὸς ἄνθρωπος μουσικὸς ἄνθρωπός ἐστιν, ἤτοι ἐστὶ τὸ εἰρημένον ζητεῖν, διὰ τί ὁ ἄνθρωπος μουσικός ἐστιν, ἢ ἄλλο. τὸ μὲν οὖν διὰ τί αὐτό ἐστιν αὐτό, οὐδέν ἐστι ζητεῖν (δεῖ γὰρ τὸ ὅτι καὶ τὸ εἶναι ὑπάρχειν δῆλα ὄντα - λέγω δ’ οἷον ὅτι ἡ σελήνη ἐκλείπει - , αὐτὸ δὲ ὅτι αὐτό, εἷς λόγος καὶ μία αἰτία ἐπὶ πάντων, διὰ τί ὁ ἄνθρωπος ἄνθρωπος ἢ ὁ μουσικὸς μουσικός, πλὴν εἴ τις λέγοι ὅτι ἀδιαίρετον πρὸς αὑτὸ ἕκαστον, τοῦτο δ’ ἦν τὸ ἑνὶ εἶναι· ἀλλὰ τοῦτο κοινόν γε κατὰ πάντων καὶ σύντομον)· ζητήσειε δ’ ἄν τις διὰ τί ἄνθρωπός ἐστι ζῷον τοιονδί. τοῦτο μὲν τοίνυν δῆλον, ὅτι οὐ ζητεῖ διὰ τί ὅς ἐστιν ἄνθρωπος ἄνθρωπός ἐστιν· τὶ ἄρα κατά τινος ζητεῖ διὰ τί ὑπάρχει (ὅτι δ’ ὑπάρχει, δεῖ δῆλον εἶναι· εἰ γὰρ μὴ οὕτως, οὐδὲν ζητεῖ), οἷον διὰ τί βροντᾷ; διὰ τί ψόφος γίγνεται ἐν τοῖς νέφεσιν; ἄλλο γὰρ οὕτω κατ’ ἄλλου ἐστὶ τὸ ζητούμενον. καὶ διὰ τί ταδί, οἷον πλίνθοι καὶ λίθοι, οἰκία ἐστίν; φανερὸν τοίνυν ὅτι ζητεῖ τὸ αἴτιον· τοῦτο δ’ ἐστὶ τὸ τί ἦν εἶναι, ὡς εἰπεῖν λογικῶς, ὃ ἐπ’ ἐνίων μέν ἐστι τίνος ἕνεκα, οἷον ἴσως ἐπ’ οἰκίας ἢ κλίνης, ἐπ’ ἐνίων δὲ τί ἐκίνησε πρῶτον· αἴτιον γὰρ καὶ τοῦτο. ἀλλὰ τὸ μὲν τοιοῦτον αἴτιον ἐπὶ τοῦ γίγνεσθαι ζητεῖται καὶ φθείρεσθαι, θάτερον δὲ καὶ ἐπὶ τοῦ εἶναι. λανθάνει δὲ μάλιστα τὸ ζητούμενον ἐν τοῖς μὴ κατ’ ἀλλήλων λεγομένοις, [1041b] οἷον ἄνθρωπος τί ἐστι ζητεῖται διὰ τὸ ἁπλῶς λέγεσθαι ἀλλὰ μὴ διορίζειν ὅτι τάδε τόδε. ἀλλὰ δεῖ διαρθρώσαντας ζητεῖν· εἰ δὲ μή, κοινὸν τοῦ μηθὲν ζητεῖν καὶ τοῦ ζητεῖν τι γίγνεται. ἐπεὶ δὲ δεῖ ἔχειν τε καὶ ὑπάρχειν τὸ εἶναι, δῆλον δὴ ὅτι τὴν ὕλην ζητεῖ διὰ τί ‹τί› ἐστιν· οἷον οἰκία ταδὶ διὰ τί; ὅτι ὑπάρχει ὃ ἦν οἰκίᾳ εἶναι. καὶ ἄνθρωπος τοδί, ἢ τὸ σῶμα τοῦτο τοδὶ ἔχον. ὥστε τὸ αἴτιον ζητεῖται τῆς ὕλης (τοῦτο δ' ἐστὶ τὸ εἶδος) ᾧ τί ἐστιν· τοῦτο δ' ἡ οὐσία. φανερὸν τοίνυν ὅτι ἐπὶ τῶν ἁπλῶν οὐκ ἔστι ζήτησις οὐδὲ δίδαξις, ἀλλ' ἕτερος τρόπος τῆς ζητήσεως τῶν τοιούτων. - ἐπεὶ δὲ τὸ ἔκ τινος σύνθετον οὕτως ὥστε ἓν εἶναι τὸ πᾶν, [ἂν] μὴ ὡς σωρὸς ἀλλ' ὡς ἡ συλλαβή - ἡ δὲ συλλαβὴ οὐκ ἔστι τὰ στοιχεῖα, οὐδὲ τῷ βα ταὐτὸ τὸ β καὶ α, οὐδ' ἡ σὰρξ πῦρ καὶ γῆ (διαλυθέντων γὰρ τὰ μὲν οὐκέτι ἔστιν, οἷον ἡ σὰρξ καὶ ἡ συλλαβή, τὰ δὲ στοιχεῖα ἔστι, καὶ τὸ πῦρ καὶ ἡ γῆ)· ἔστιν ἄρα τι ἡ συλλαβή, οὐ μόνον τὰ στοιχεῖα τὸ φωνῆεν καὶ ἄφωνον ἀλλὰ καὶ ἕτερόν τι, καὶ ἡ σὰρξ οὐ μόνον πῦρ καὶ γῆ ἢ τὸ θερμὸν καὶ ψυχρὸν ἀλλὰ καὶ ἕτερόν τι - εἰ τοίνυν ἀνάγκη κἀκεῖνο ἢ στοιχεῖον ἢ ἐκ στοιχείων εἶναι, εἰ μὲν στοιχεῖον, πάλιν ὁ αὐτὸς ἔσται λόγος (ἐκ τούτου γὰρ καὶ πυρὸς καὶ γῆς ἔσται ἡ σὰρξ καὶ ἔτι ἄλλου, ὥστ' εἰς ἄπειρον βαδιεῖται)· εἰ δὲ ἐκ στοιχείου, δῆλον ὅτι οὐχ ἑνὸς ἀλλὰ πλειόνων, ἢ ἐκεῖνο αὐτὸ ἔσται, ὥστε πάλιν ἐπὶ τούτου τὸν αὐτὸν ἐροῦμεν λόγον καὶ ἐπὶ τῆς σαρκὸς ἢ συλλαβῆς. δόξειε δ' ἂν εἶναι τὶ τοῦτο καὶ οὐ στοιχεῖον, καὶ αἴτιόν γε τοῦ εἶναι τοδὶ μὲν σάρκα τοδὶ δὲ συλλαβήν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. οὐσία δὲ ἑκάστου μὲν τοῦτο (τοῦτο γὰρ αἴτιον πρῶτον τοῦ εἶναι) - ἐπεὶ δ' ἔνια οὐκ οὐσίαι τῶν πραγμάτων, ἀλλ' ὅσαι οὐσίαι, κατὰ φύσιν καὶ φύσει συνεστήκασι, φανείη ἂν [καὶ] αὕτη ἡ φύσις οὐσία, ἥ ἐστιν οὐ στοιχεῖον ἀλλ' ἀρχή - · στοιχεῖον δ' ἐστὶν εἰς ὃ διαιρεῖται ἐνυπάρχον ὡς ὕλην, οἷον τῆς συλλαβῆς τὸ α καὶ τὸ β.

H

[1042a] Ἐκ δὴ τῶν εἰρημένων συλλογίσασθαι δεῖ καὶ συναγαγόντας τὸ κεφάλαιον τέλος ἐπιθεῖναι. εἴρηται δὴ ὅτι τῶν οὐσιῶν ζητεῖται τὰ αἴτια καὶ αἱ ἀρχαὶ καὶ τὰ στοιχεῖα. οὐσίαι δὲ αἱ μὲν ὁμολογούμεναί εἰσιν ὑπὸ πάντων, περὶ δὲ ἐνίων ἰδίᾳ τινὲς ἀπεφήναντο· ὁμολογούμεναι μὲν αἱ φυσικαί, οἷον πῦρ γῆ ὕδωρ ἀὴρ καὶ τἆλλα τὰ ἁπλᾶ σώματα, ἔπειτα τὰ φυτὰ καὶ τὰ μόρια αὐτῶν, καὶ τὰ ζῷα καὶ τὰ μόρια τῶν ζῴων, καὶ τέλος ὁ οὐρανὸς καὶ τὰ μόρια τοῦ οὐρανοῦ· ἰδίᾳ δέ τινες οὐσίας λέγουσιν εἶναι τά τ’ εἴδη καὶ τὰ μαθηματικά. ἄλλας δὲ δὴ συμβαίνει ἐκ τῶν λόγων οὐσίας εἶναι, τὸ τί ἦν εἶναι καὶ τὸ ὑποκείμενον· ἔτι ἄλλως τὸ γένος μᾶλλον τῶν εἰδῶν καὶ τὸ καθόλου τῶν καθ’ ἕκαστα· τῷ δὲ καθόλου καὶ τῷ γένει καὶ αἱ ἰδέαι συνάπτουσιν (κατὰ τὸν αὐτὸν γὰρ λόγον οὐσίαι δοκοῦσιν εἶναι). ἐπεὶ δὲ τὸ τί ἦν εἶναι οὐσία, τούτου δὲ λόγος ὁ ὁρισμός, διὰ τοῦτο περὶ ὁρισμοῦ καὶ περὶ τοῦ καθ’ αὑτὸ διώρισται· ἐπεὶ δὲ ὁ ὁρισμὸς λόγος, ὁ δὲ λόγος μέρη ἔχει, ἀναγκαῖον καὶ περὶ μέρους ἦν ἰδεῖν, ποῖα τῆς οὐσίας μέρη καὶ ποῖα οὔ, καὶ εἰ ταῦτα καὶ τοῦ ὁρισμοῦ. ἔτι τοίνυν οὔτε τὸ καθόλου οὐσία οὔτε τὸ γένος· περὶ δὲ τῶν ἰδεῶν καὶ τῶν μαθηματικῶν ὕστερον σκεπτέον· παρὰ γὰρ τὰς αἰσθητὰς οὐσίας ταύτας λέγουσί τινες εἶναι. - νῦν δὲ περὶ τῶν ὁμολογουμένων οὐσιῶν ἐπέλθωμεν. αὗται δ’ εἰσὶν αἱ αἰσθηταί· αἱ δ’ αἰσθηταὶ οὐσίαι πᾶσαι ὕλην ἔχουσιν. ἔστι δ’ οὐσία τὸ ὑποκείμενον, ἄλλως μὲν ἡ ὕλη (ὕλην δὲ λέγω ἣ μὴ τόδε τι οὖσα ἐνεργείᾳ δυνάμει ἐστὶ τόδε τι), ἄλλως δ’ ὁ λόγος καὶ ἡ μορφή, ὃ τόδε τι ὂν τῷ λόγῳ χωριστόν ἐστιν· τρίτον δὲ τὸ ἐκ τούτων, οὗ γένεσις μόνου καὶ φθορά ἐστι, καὶ χωριστὸν ἁπλῶς· τῶν γὰρ κατὰ τὸν λόγον οὐσιῶν αἱ μὲν αἱ δ’ οὔ. ὅτι δ’ ἐστὶν οὐσία καὶ ἡ ὕλη, δῆλον· ἐν πάσαις γὰρ ταῖς ἀντικειμέναις μεταβολαῖς ἐστί τι τὸ ὑποκείμενον ταῖς μεταβολαῖς, οἷον κατὰ τόπον τὸ νῦν μὲν ἐνταῦθα πάλιν δ’ ἄλλοθι, καὶ κατ’ αὔξησιν ὃ νῦν μὲν τηλικόνδε πάλιν δ’ ἔλαττον ἢ μεῖζον, καὶ κατ’ ἀλλοίωσιν ὃ νῦν μὲν ὑγιὲς [1042b] πάλιν δὲ κάμνον· ὁμοίως δὲ καὶ κατ’ οὐσίαν ὃ νῦν μὲν ἐν γενέσει πάλιν δ’ ἐν φθορᾷ, καὶ νῦν μὲν ὑποκείμενον ὡς τόδε τι πάλιν δ’ ὑποκείμενον ὡς κατὰ στέρησιν. καὶ ἀκολουθοῦσι δὴ ταύτῃ αἱ ἄλλαι μεταβολαί, τῶν δ’ ἄλλων ἢ μιᾷ ἢ δυοῖν αὕτη οὐκ ἀκολουθεῖ· οὐ γὰρ ἀνάγκη, εἴ τι ὕλην ἔχει τοπικήν, τοῦτο καὶ γεννητὴν καὶ φθαρτὴν ἔχειν. τίς μὲν οὖν διαφορὰ τοῦ

ἁπλῶς γίγνεσθαι καὶ μὴ ἁπλῶς, ἐν τοῖς φυσικοῖς εἴρηται.

Ἐπεὶ δ’ ἡ μὲν ὡς ὑποκειμένη καὶ ὡς ὕλη οὐσία ὁμολογεῖται, αὕτη δ’ ἐστὶν ἡ δυνάμει, λοιπὸν τὴν ὡς ἐνέργειαν οὐσίαν τῶν αἰσθητῶν εἰπεῖν τίς ἐστιν. Δημόκριτος μὲν οὖν τρεῖς διαφορὰς ἔοικεν οἰομένῳ εἶναι (τὸ μὲν γὰρ ὑποκείμενον σῶμα, τὴν ὕλην, ἓν καὶ ταὐτόν, διαφέρειν δὲ ἢ ῥυσμῷ, ὅ ἐστι σχῆμα, ἢ τροπῇ, ὅ ἐστι θέσις, ἢ διαθιγῇ, ὅ ἐστι τάξις)· φαίνονται δὲ πολλαὶ διαφοραὶ οὖσαι, οἷον τὰ μὲν συνθέσει λέγεται τῆς ὕλης, ὥσπερ ὅσα κράσει καθάπερ μελίκρατον, τὰ δὲ δεσμῷ οἷον φάκελος, τὰ δὲ κόλλῃ οἷον βιβλίον, τὰ δὲ γόμφῳ οἷον κιβώτιον, τὰ δὲ πλείοσι τούτων, τὰ δὲ θέσει οἷον οὐδὸς καὶ ὑπέρθυρον (ταῦτα γὰρ τῷ κεῖσθαί πως διαφέρει), τὰ δὲ χρόνῳ οἷον δεῖπνον καὶ ἄριστον, τὰ δὲ τόπῳ οἷον τὰ πνεύματα· τὰ δὲ τοῖς τῶν αἰσθητῶν πάθεσιν οἷον σκληρότητι καὶ μαλακότητι, καὶ πυκνότητι καὶ ἀραιότητι, καὶ ξηρότητι καὶ ὑγρότητι, καὶ τὰ μὲν ἐνίοις τούτων τὰ δὲ πᾶσι τούτοις, καὶ ὅλως τὰ μὲν ὑπεροχῇ τὰ δὲ ἐλλείψει. ὥστε δῆλον ὅτι καὶ τὸ ἔστι τοσαυταχῶς λέγεται· οὐδὸς γὰρ ἔστιν ὅτι οὕτως κεῖται, καὶ τὸ εἶναι τὸ οὕτως αὐτὸ κεῖσθαι σημαίνει, καὶ τὸ κρύσταλλον εἶναι τὸ οὕτω πεπυκνῶσθαι. ἐνίων δὲ τὸ εἶναι καὶ πᾶσι τούτοις ὁρισθήσεται, τῷ τὰ μὲν μεμῖχθαι, τὰ δὲ κεκρᾶσθαι, τὰ δὲ δεδέσθαι, τὰ δὲ πεπυκνῶσθαι, τὰ δὲ ταῖς ἄλλαις διαφοραῖς κεχρῆσθαι, ὥσπερ χεὶρ ἢ πούς. ληπτέα οὖν τὰ γένη τῶν διαφορῶν (αὗται γὰρ ἀρχαὶ ἔσονται τοῦ εἶναι), οἷον τὰ τῷ μᾶλλον καὶ ἧττον ἢ πυκνῷ καὶ μανῷ καὶ τοῖς ἄλλοις τοῖς τοιούτοις· πάντα γὰρ ταῦτα ὑπεροχὴ καὶ ἔλλειψίς ἐστιν. εἰ δέ τι σχήματι ἢ λειότητι καὶ τραχύτητι, πάντα εὐθεῖ καὶ καμπύλῳ. τοῖς δὲ τὸ [1043a] εἶναι τὸ μεμῖχθαι ἔσται, ἀντικειμένως δὲ τὸ μὴ εἶναι. φανερὸν δὴ ἐκ τούτων ὅτι εἴπερ ἡ οὐσία αἰτία τοῦ εἶναι ἕκαστον, ὅτι ἐν τούτοις ζητητέον τί τὸ αἴτιον τοῦ εἶναι τούτων ἕκαστον. οὐσία μὲν οὖν οὐδὲν τούτων οὐδὲ συνδυαζόμενον, ὅμως δὲ τὸ ἀνάλογον ἐν ἑκάστῳ· καὶ ὡς ἐν ταῖς οὐσίαις τὸ τῆς ὕλης κατηγορούμενον αὐτὴ ἡ ἐνέργεια, καὶ ἐν τοῖς ἄλλοις ὁρισμοῖς μάλιστα. οἷον εἰ οὐδὸν δέοι ὁρίσασθαι, ξύλον ἢ λίθον ὡδὶ κείμενον ἐροῦμεν, καὶ οἰκίαν πλίνθους καὶ ξύλα ὡδὶ κείμενα (ἢ ἔτι καὶ τὸ οὗ ἕνεκα ἐπ’ ἐνίων ἔστιν), εἰ δὲ κρύσταλλον, ὕδωρ πεπηγὸς ἢ πεπυκνωμένον ὡδί· συμφωνία δὲ ὀξέος καὶ βαρέος μῖξις τοιαδί· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. φανερὸν δὴ ἐκ τούτων ὅτι ἡ ἐνέργεια ἄλλη ἄλλης ὕλης καὶ ὁ λόγος· τῶν μὲν γὰρ ἡ σύνθεσις τῶν δ’ ἡ μῖξις τῶν δὲ ἄλλο τι τῶν εἰρημένων. διὸ τῶν ὁριζομένων οἱ μὲν λέγοντες τί ἐστιν οἰκία, ὅτι λίθοι πλίνθοι ξύλα, τὴν δυνάμει οἰκίαν λέγουσιν, ὕλη γὰρ ταῦτα· οἱ δὲ ἀγγεῖον σκεπαστικὸν χρημάτων καὶ σωμάτων ἤ τι ἄλλο τοιοῦτον προτιθέντες, τὴν ἐνέργειαν λέγουσιν· οἱ δ’ ἄμφω ταῦτα συντιθέντες τὴν τρίτην καὶ τὴν ἐκ τούτων οὐσίαν (ἔοικε γὰρ ὁ μὲν διὰ τῶν διαφορῶν λόγος τοῦ εἴδους καὶ τῆς ἐνεργείας εἶναι, ὁ δ’ ἐκ τῶν ἐνυπαρχόντων τῆς ὕλης μᾶλλον)· ὁμοίως δὲ καὶ οἵους Ἀρχύτας ἀπεδέχετο ὅρους· τοῦ συνάμφω γάρ εἰσιν. οἷον τί ἐστι νηνεμία; ἠρεμία ἐν πλήθει ἀέρος· ὕλη μὲν γὰρ ὁ ἀήρ, ἐνέργεια δὲ καὶ οὐσία ἡ ἠρεμία. τί ἐστι γαλήνη; ὁμαλότης θαλάττης· τὸ μὲν ὑποκείμενον ὡς ὕλη ἡ θάλαττα, ἡ δὲ ἐνέργεια καὶ ἡ μορφὴ ἡ ὁμαλότης. φανερὸν δὴ ἐκ τῶν εἰρημένων τίς ἡ αἰσθητὴ οὐσία ἐστὶ καὶ πῶς· ἡ μὲν γὰρ ὡς ὕλη, ἡ δ’ ὡς μορφὴ καὶ ἐνέργεια, ἡ δὲ τρίτη ἡ ἐκ τούτων.

Δεῖ δὲ μὴ ἀγνοεῖν ὅτι ἐνίοτε λανθάνει πότερον σημαίνει τὸ ὄνομα τὴν σύνθετον οὐσίαν ἢ τὴν ἐνέργειαν καὶ τὴν μορφήν, οἷον ἡ οἰκία πότερον σημεῖον τοῦ κοινοῦ ὅτι σκέπασμα ἐκ πλίνθων καὶ λίθων ὡδὶ κειμένων, ἢ τῆς ἐνεργείας καὶ τοῦ εἴδους ὅτι σκέπασμα, καὶ γραμμὴ πότερον δυὰς ἐν μήκει ἢ [ὅτι] δυάς, καὶ ζῷον πότερον ψυχὴ ἐν σώματι ἢ ψυχή· αὕτη γὰρ οὐσία καὶ ἐνέργεια σώματός τινος. εἴη δ’ ἂν καὶ ἐπ’ ἀμφοτέροις τὸ ζῷον, οὐχ ὡς ἑνὶ λόγῳ λεγόμενον ἀλλ’ ὡς πρὸς ἕν. ἀλλὰ ταῦτα πρὸς μέν τι ἄλλο διαφέρει, πρὸς δὲ τὴν ζήτησιν τῆς οὐσίας τῆς [1043b] αἰσθητῆς οὐδέν· τὸ γὰρ τί ἦν εἶναι τῷ εἴδει καὶ τῇ ἐνεργείᾳ ὑπάρχει. ψυχὴ μὲν γὰρ καὶ ψυχῇ εἶναι ταὐτόν, ἀνθρώπῳ δὲ καὶ ἄνθρωπος οὐ ταὐτόν, εἰ μὴ καὶ ἡ ψυχὴ ἄνθρωπος λεχθήσεται· οὕτω δὲ τινὶ μὲν τινὶ δ’ οὔ. - οὐ φαίνεται δὴ ζητοῦσιν ἡ συλλαβὴ ἐκ τῶν στοιχείων οὖσα καὶ συνθέσεως, οὐδ’ ἡ οἰκία πλίνθοι τε καὶ σύνθεσις. καὶ τοῦτο ὀρθῶς· οὐ γάρ ἐστιν ἡ σύνθεσις οὐδ’ ἡ μῖξις ἐκ τούτων ὧν ἐστὶ σύνθεσις ἢ μῖξις. ὁμοίως δὲ οὐδὲ τῶν ἄλλων οὐθέν, οἷον εἰ ὁ οὐδὸς θέσει, οὐκ ἐκ τοῦ οὐδοῦ ἡ θέσις ἀλλὰ μᾶλλον οὗτος ἐξ ἐκείνης. οὐδὲ δὴ ὁ ἄνθρωπός ἐστι τὸ ζῷον καὶ δίπουν, ἀλλά τι δεῖ εἶναι ὃ παρὰ ταῦτά ἐστιν, εἰ ταῦθ’ ὕλη, οὔτε δὲ στοιχεῖον οὔτ’ ἐκ στοιχείου, ἀλλ’ ἡ οὐσία· ὃ ἐξαιροῦντες τὴν ὕλην λέγουσιν. εἰ οὖν τοῦτ’ αἴτιον τοῦ εἶναι, καὶ οὐσία τοῦτο, αὐτὴν ἂν τὴν οὐσίαν οὐ λέγοιεν. (ἀνάγκη δὴ ταύτην ἢ ἀΐδιον εἶναι ἢ φθαρτὴν ἄνευ τοῦ φθείρεσθαι καὶ γεγονέναι ἄνευ τοῦ γίγνεσθαι. δέδεικται δὲ καὶ δεδήλωται ἐν ἄλλοις ὅτι τὸ εἶδος οὐθεὶς ποιεῖ οὐδὲ γεννᾷ, ἀλλὰ ποιεῖται τόδε, γίγνεται δὲ τὸ ἐκ τούτων. εἰ δ’ εἰσὶ τῶν φθαρτῶν αἱ οὐσίαι χωρισταί, οὐδέν πω δῆλον· πλὴν ὅτι γ’ ἐνίων οὐκ ἐνδέχεται δῆλον, ὅσα μὴ οἷόν τε παρὰ τὰ τινὰ εἶναι, οἷον οἰκίαν ἢ σκεῦος. ἴσως μὲν οὖν οὐδ’ οὐσίαι εἰσὶν οὔτ’ αὐτὰ ταῦτα οὔτε τι τῶν ἄλλων ὅσα μὴ φύσει συνέστηκεν· τὴν γὰρ φύσιν μόνην ἄν τις θείη τὴν ἐν τοῖς φθαρτοῖς οὐσίαν.) ὥστε ἡ ἀπορία ἣν οἱ Ἀντισθένειοι καὶ οἱ οὕτως ἀπαίδευτοι ἠπόρουν ἔχει τινὰ καιρόν, ὅτι οὐκ ἔστι τὸ τί ἔστιν ὁρίσασθαι (τὸν γὰρ ὅρον λόγον εἶναι μακρόν), ἀλλὰ ποῖον μέν τί ἐστιν ἐνδέχεται καὶ διδάξαι, ὥσπερ ἄργυρον, τί μέν ἐστιν οὔ, ὅτι δ' οἷον καττίτερος· ὥστ' οὐσίας ἔστι μὲν ἧς ἐνδέχεται εἶναι ὅρον καὶ λόγον, οἷον τῆς συνθέτου, ἐάν τε αἰσθητὴ ἐάν τε νοητὴ ᾖ· ἐξ ὧν δ' αὕτη πρώτων, οὐκέτι, εἴπερ τὶ κατὰ τινὸς σημαίνει ὁ λόγος ὁ ὁριστικὸς καὶ δεῖ τὸ μὲν ὥσπερ ὕλην εἶναι τὸ δὲ ὡς μορφήν. - φανερὸν δὲ καὶ διότι, εἴπερ εἰσί πως ἀριθμοὶ αἱ οὐσίαι, οὕτως εἰσὶ καὶ οὐχ ὥς τινες λέγουσι μονάδων· ὅ τε γὰρ ὁρισμὸς ἀριθμός τις· διαιρετός τε γὰρ καὶ εἰς ἀδιαίρετα (οὐ γὰρ ἄπειροι οἱ λόγοι), καὶ ὁ ἀριθμὸς δὲ τοιοῦτον. καὶ ὥσπερ οὐδ' ἀπ' ἀριθμοῦ ἀφαιρεθέντος τινὸς ἢ προστεθέντος ἐξ ὧν ὁ ἀριθμός ἐστιν, οὐκέτι ὁ αὐτὸς ἀριθμός ἐστιν ἀλλ' ἕτερος, κἂν τοὐλάχιστον [1044a] ἀφαιρεθῇ ἢ προστεθῇ, οὕτως οὐδὲ ὁ ὁρισμὸς οὐδὲ τὸ τί ἦν εἶναι οὐκέτι ἔσται ἀφαιρεθέντος τινὸς ἢ προστεθέντος. καὶ τὸν ἀριθμὸν δεῖ εἶναί τι ᾧ εἷς, ὃ νῦν οὐκ ἔχουσι λέγειν τίνι εἷς, εἴπερ ἐστὶν εἷς (ἢ γὰρ οὐκ ἔστιν ἀλλ' οἷον σωρός, ἢ εἴπερ ἐστί, λεκτέον τί τὸ ποιοῦν ἓν ἐκ πολλῶν)· καὶ ὁ ὁρισμὸς εἷς ἐστίν, ὁμοίως δὲ οὐδὲ τοῦτον ἔχουσι λέγειν. καὶ τοῦτο εἰκότως συμβαίνει· τοῦ αὐτοῦ γὰρ λόγου, καὶ ἡ οὐσία ἓν οὕτως, ἀλλ' οὐχ ὡς λέγουσί τινες οἷον μονάς τις οὖσα ἢ στιγμή, ἀλλ' ἐντελέχεια καὶ φύσις τις ἑκάστη. καὶ ὥσπερ οὐδὲ ὁ ἀριθμὸς ἔχει τὸ μᾶλλον καὶ ἧττον, οὐδ' ἡ κατὰ τὸ εἶδος οὐσία, ἀλλ' εἴπερ, ἡ μετὰ τῆς ὕλης. περὶ μὲν οὖν γενέσεως καὶ φθορᾶς τῶν λεγομένων οὐσιῶν, πῶς τ' ἐνδέχεται καὶ πῶς ἀδύνατον, καὶ περὶ τῆς εἰς τὸν ἀριθμὸν ἀναγωγῆς, ἔστω μέχρι τούτων διωρισμένον.

Περὶ δὲ τῆς ὑλικῆς οὐσίας δεῖ μὴ λανθάνειν ὅτι εἰ καὶ ἐκ τοῦ αὐτοῦ πάντα πρώτου ἢ τῶν αὐτῶν ὡς πρώτων καὶ ἡ αὐτὴ ὕλη ὡς ἀρχὴ τοῖς γιγνομένοις, ὅμως ἔστι τις οἰκεία ἑκάστου, οἷον φλέγματος [ἐστι πρώτη ὕλη] τὰ γλυκέα ἢ λιπαρά, χολῆς δὲ τὰ πικρὰ ἢ ἄλλ' ἄττα· ἴσως δὲ ταῦτα ἐκ τοῦ αὐτοῦ. γίγνονται δὲ πλείους ὗλαι τοῦ αὐτοῦ ὅταν θατέρου ἡ ἑτέρα ᾖ, οἷον φλέγμα ἐκ λιπαροῦ καὶ γλυκέος εἰ τὸ λιπαρὸν ἐκ τοῦ γλυκέος, ἐκ δὲ χολῆς τῷ ἀναλύεσθαι εἰς τὴν πρώτην ὕλην τὴν χολήν. διχῶς γὰρ τόδ' ἐκ τοῦδε, ἢ ὅτι πρὸ ὁδοῦ ἔσται ἢ ὅτι ἀναλυθέντος εἰς τὴν ἀρχήν. ἐνδέχεται δὲ μιᾶς τῆς ὕλης οὔσης ἕτερα γίγνεσθαι διὰ τὴν κινοῦσαν αἰτίαν, οἷον ἐκ ξύλου καὶ κιβωτὸς καὶ κλίνη. ἐνίων δ' ἑτέρα ἡ ὕλη ἐξ ἀνάγκης ἑτέρων ὄντων, οἷον πρίων οὐκ ἂν γένοιτο ἐκ ξύλου, οὐδ' ἐπὶ τῇ κινούσῃ αἰτίᾳ τοῦτο· οὐ γὰρ ποιήσει πρίονα ἐξ ἐρίου ἢ ξύλου. εἰ δ' ἄρα τὸ αὐτὸ ἐνδέχεται ἐξ ἄλλης ὕλης ποιῆσαι, δῆλον ὅτι ἡ τέχνη καὶ ἡ ἀρχὴ ἡ ὡς κινοῦσα ἡ αὐτή· εἰ γὰρ καὶ ἡ ὕλη ἑτέρα καὶ τὸ κινοῦν, καὶ τὸ γεγονός. - ὅταν δή τις ζητῇ τὸ αἴτιον, ἐπεὶ πλεοναχῶς τὰ αἴτια λέγεται, πάσας δεῖ λέγειν τὰς ἐνδεχομένας αἰτίας. οἷον ἀνθρώπου τίς αἰτία ὡς ὕλη; ἆρα τὰ καταμήνια; τί δ' ὡς κινοῦν; ἆρα τὸ σπέρμα; τί δ' ὡς τὸ εἶδος; τὸ τί ἦν εἶναι. τί δ’ ὡς οὗ ἕνεκα; τὸ [1044b] τέλος. ἴσως δὲ ταῦτα ἄμφω τὸ αὐτό. δεῖ δὲ τὰ ἐγγύτατα αἴτια λέγειν. τίς ἡ ὕλη; μὴ πῦρ ἢ γῆν ἀλλὰ τὴν ἴδιον. περὶ μὲν οὖν τὰς φυσικὰς οὐσίας καὶ γενητὰς ἀνάγκη οὕτω μετιέναι εἴ τις μέτεισιν ὀρθῶς, εἴπερ ἄρα αἴτιά τε ταῦτα καὶ τοσαῦτα καὶ δεῖ τὰ αἴτια γνωρίζειν· ἐπὶ δὲ τῶν φυσικῶν μὲν ἀϊδίων δὲ οὐσιῶν ἄλλος λόγος. ἴσως γὰρ ἔνια οὐκ ἔχει ὕλην, ἢ οὐ τοιαύτην ἀλλὰ μόνον κατὰ τόπον κινητήν. οὐδ’ ὅσα δὴ φύσει μέν, μὴ οὐσίαι δέ, οὐκ ἔστι τούτοις ὕλη, ἀλλὰ τὸ ὑποκείμενον ἡ οὐσία. οἷον τί αἴτιον ἐκλείψεως, τίς ὕλη; οὐ γὰρ ἔστιν, ἀλλ’ ἡ σελήνη τὸ πάσχον. τί δ’ αἴτιον ὡς κινῆσαν καὶ φθεῖραν τὸ φῶς; ἡ γῆ. τὸ δ’ οὗ ἕνεκα ἴσως οὐκ ἔστιν. τὸ δ’ ὡς εἶδος ὁ λόγος, ἀλλὰ ἄδηλος ἐὰν μὴ μετὰ τῆς αἰτίας ᾖ ὁ λόγος. οἷον τί ἔκλειψις; στέρησις φωτός. ἐὰν δὲ προστεθῇ τὸ ὑπὸ γῆς ἐν μέσῳ γιγνομένης, ὁ σὺν τῷ αἰτίῳ λόγος οὗτος. ὕπνου δ’ ἄδηλον τί τὸ πρῶτον πάσχον. ἀλλ’ ὅτι τὸ ζῷον; ναί, ἀλλὰ τοῦτο κατὰ τί, καὶ τί πρῶτον; καρδία ἢ ἄλλο τι. εἶτα ὑπὸ τίνος; εἶτα τί τὸ πάθος, τὸ ἐκείνου καὶ μὴ τοῦ ὅλου; ὅτι ἀκινησία τοιαδί; ναί, ἀλλ’ αὕτη τῷ τί πάσχειν τὸ πρῶτον;

Ἐπεὶ δ’ ἔνια ἄνευ γενέσεως καὶ φθορᾶς ἔστι καὶ οὐκ ἔστιν, οἷον αἱ στιγμαί, εἴπερ εἰσί, καὶ ὅλως τὰ εἴδη (οὐ γὰρ τὸ λευκὸν γίγνεται ἀλλὰ τὸ ξύλον λευκόν, εἰ ἔκ τινος καὶ τὶ πᾶν τὸ γιγνόμενον γίγνεται), οὐ πάντα ἂν τἀναντία γίγνοιτο ἐξ ἀλλήλων, ἀλλ’ ἑτέρως λευκὸς ἄνθρωπος ἐκ μέλανος ἀνθρώπου καὶ λευκὸν ἐκ μέλανος· οὐδὲ παντὸς ὕλη ἔστιν ἀλλ’ ὅσων γένεσις ἔστι καὶ μεταβολὴ εἰς ἄλληλα· ὅσα δ’ ἄνευ τοῦ μεταβάλλειν ἔστιν ἢ μή, οὐκ ἔστι τούτων ὕλη. - ἔχει δ’ ἀπορίαν πῶς πρὸς τἀναντία ἡ ὕλη ἡ ἑκάστου ἔχει. οἷον εἰ τὸ σῶμα δυνάμει ὑγιεινόν, ἐναντίον δὲ νόσος ὑγιείᾳ, ἆρα ἄμφω δυνάμει; καὶ τὸ ὕδωρ δυνάμει οἶνος καὶ ὄξος; ἢ τοῦ μὲν καθ’ ἕξιν καὶ κατὰ τὸ εἶδος ὕλη, τοῦ δὲ κατὰ στέρησιν καὶ φθορὰν τὴν παρὰ φύσιν; ἀπορία δέ τις ἔστι καὶ διὰ τί ὁ οἶνος οὐχ ὕλη τοῦ ὄξους οὐδὲ δυνάμει ὄξος (καίτοι γίγνεται ἐξ αὐτοῦ ὄξος) καὶ ὁ ζῶν δυνάμει νεκρός. ἢ οὔ, ἀλλὰ κατὰ συμβεβηκὸς [1045a] αἱ φθοραί, ἡ δὲ τοῦ ζῴου ὕλη αὐτὴ κατὰ φθορὰν νεκροῦ δύναμις καὶ ὕλη, καὶ τὸ ὕδωρ ὄξους· γίγνεται γὰρ ἐκ τούτων ὥσπερ ἐξ ἡμέρας νύξ. καὶ ὅσα δὴ οὕτω μεταβάλλει εἰς ἄλληλα, εἰς τὴν ὕλην δεῖ ἐπανελθεῖν, οἷον εἰ ἐκ νεκροῦ ζῷον, εἰς τὴν ὕλην πρῶτον, εἶθ’ οὕτω ζῷον· καὶ τὸ ὄξος εἰς ὕδωρ, εἶθ’ οὕτως οἶνος.

Περὶ δὲ τῆς ἀπορίας τῆς εἰρημένης περί τε τοὺς ὁρισμοὺς καὶ περὶ τοὺς ἀριθμούς, τί αἴτιον τοῦ ἓν εἶναι; πάντων γὰρ ὅσα πλείω μέρη ἔχει καὶ μὴ ἔστιν οἷον σωρὸς τὸ πᾶν ἀλλ’ ἔστι τι τὸ ὅλον παρὰ τὰ μόρια, ἔστι τι αἴτιον, ἐπεὶ καὶ ἐν τοῖς σώμασι τοῖς μὲν ἁφὴ αἰτία τοῦ ἓν εἶναι τοῖς δὲ γλισχρότης ἤ τι πάθος ἕτερον τοιοῦτον. ὁ δ’ ὁρισμὸς λόγος ἐστὶν εἷς οὐ συνδέσμῳ καθάπερ ἡ Ἰλιὰς ἀλλὰ τῷ ἑνὸς εἶναι. τί οὖν ἐστὶν ὃ ποιεῖ ἓν τὸν ἄνθρωπον, καὶ διὰ τί ἓν ἀλλ’ οὐ πολλά, οἷον τό τε ζῷον καὶ τὸ δίπουν, ἄλλως τε δὴ καὶ εἰ ἔστιν, ὥσπερ φασί τινες, αὐτό τι ζῷον καὶ αὐτὸ δίπουν; διὰ τί γὰρ οὐκ ἐκεῖνα αὐτὰ ὁ ἄνθρωπός ἐστι, καὶ ἔσονται κατὰ μέθεξιν οἱ ἄνθρωποι οὐκ ἀνθρώπου οὐδ’ ἑνὸς ἀλλὰ δυοῖν, ζῴου καὶ δίποδος, καὶ ὅλως δὴ οὐκ ἂν εἴη ὁ ἄνθρωπος ἓν ἀλλὰ πλείω, ζῷον καὶ δίπουν; φανερὸν δὴ ὅτι οὕτω μὲν μετιοῦσιν ὡς εἰώθασιν ὁρίζεσθαι καὶ λέγειν, οὐκ ἐνδέχεται ἀποδοῦναι καὶ λῦσαι τὴν ἀπορίαν· εἰ δ’ ἐστίν, ὥσπερ λέγομεν, τὸ μὲν ὕλη τὸ δὲ μορφή, καὶ τὸ μὲν δυνάμει τὸ δὲ ἐνεργείᾳ, οὐκέτι ἀπορία δόξειεν ἂν εἶναι τὸ ζητούμενον. ἔστι γὰρ αὕτη ἡ ἀπορία ἡ αὐτὴ κἂν εἰ ὁ ὅρος εἴη ἱματίου στρογγύλος χαλκός· εἴη γὰρ ἂν σημεῖον τοὔνομα τοῦτο τοῦ λόγου, ὥστε τὸ ζητούμενόν ἐστι τί αἴτιον τοῦ ἓν εἶναι τὸ στρογγύλον καὶ τὸν χαλκόν. οὐκέτι δὴ ἀπορία φαίνεται, ὅτι τὸ μὲν ὕλη τὸ δὲ μορφή. τί οὖν τούτου αἴτιον, τοῦ τὸ δυνάμει ὂν ἐνεργείᾳ εἶναι, παρὰ τὸ ποιῆσαν, ἐν ὅσοις ἔστι γένεσις; οὐθὲν γάρ ἐστιν αἴτιον ἕτερον τοῦ τὴν δυνάμει σφαῖραν ἐνεργείᾳ εἶναι σφαῖραν, ἀλλὰ τοῦτ’ ἦν τὸ τί ἦν εἶναι ἑκατέρῳ. ἔστι δὲ τῆς ὕλης ἡ μὲν νοητὴ ἡ δ’ αἰσθητή, καὶ ἀεὶ τοῦ λόγου τὸ μὲν ὕλη τὸ δὲ ἐνέργειά ἐστιν, οἷον ὁ κύκλος σχῆμα ἐπίπεδον. ὅσα δὲ μὴ ἔχει ὕλην μήτε νοητὴν μήτε αἰσθητήν, εὐθὺς [1045b] ὅπερ ἕν τί [εἶναί] ἐστιν ἕκαστον, ὥσπερ καὶ ὅπερ ὄν τι, τὸ τόδε, τὸ ποιόν, τὸ ποσόν - διὸ καὶ οὐκ ἔνεστιν ἐν τοῖς ὁρισμοῖς οὔτε τὸ ὂν οὔτε τὸ ἕν - , καὶ τὸ τί ἦν εἶναι εὐθὺς ἕν τί ἐστιν ὥσπερ καὶ ὄν τι - διὸ καὶ οὐκ ἔστιν ἕτερόν τι αἴτιον τοῦ ἓν εἶναι οὐθενὶ τούτων οὐδὲ τοῦ ὄν τι εἶναι· εὐθὺς γὰρ ἕκαστόν ἐστιν ὄν τι καὶ ἕν τι, οὐχ ὡς ἐν γένει τῷ ὄντι καὶ τῷ ἑνί, οὐδ’ ὡς χωριστῶν ὄντων παρὰ τὰ καθ’ ἕκαστα. διὰ ταύτην δὲ τὴν ἀπορίαν οἱ μὲν μέθεξιν λέγουσι, καὶ αἴτιον τί τῆς μεθέξεως καὶ τί τὸ μετέχειν ἀποροῦσιν· οἱ δὲ συνουσίαν [ψυχῆς], ὥσπερ Λυκόφρων φησὶν εἶναι τὴν ἐπιστήμην τοῦ ἐπίστασθαι καὶ ψυχῆς· οἱ δὲ σύνθεσιν ἢ σύνδεσμον ψυχῆς σώματι τὸ ζῆν. καίτοι ὁ αὐτὸς λόγος ἐπὶ πάντων· καὶ γὰρ τὸ ὑγιαίνειν ἔσται ἢ συνουσία ἢ σύνδεσμος ἢ σύνθεσις ψυχῆς καὶ ὑγιείας, καὶ τὸ τὸν χαλκὸν εἶναι τρίγωνον σύνθεσις χαλκοῦ καὶ τριγώνου, καὶ τὸ λευκὸν εἶναι σύνθεσις ἐπιφανείας καὶ λευκότητος. αἴτιον δ’ ὅτι δυνάμεως καὶ ἐντελεχείας ζητοῦσι λόγον ἑνοποιὸν καὶ διαφοράν. ἔστι δ’, ὥσπερ εἴρηται, ἡ ἐσχάτη ὕλη καὶ ἡ μορφὴ ταὐτὸ καὶ ἕν, δυνάμει, τὸ δὲ ἐνεργείᾳ, ὥστε ὅμοιον τὸ ζητεῖν τοῦ ἑνὸς τί αἴτιον καὶ τοῦ ἓν εἶναι· ἓν γάρ τι ἕκαστον, καὶ τὸ δυνάμει καὶ τὸ ἐνεργείᾳ ἕν πώς ἐστιν, ὥστε αἴτιον οὐθὲν ἄλλο πλὴν εἴ τι ὡς κινῆσαν ἐκ δυνάμεως εἰς ἐνέργειαν. ὅσα δὲ μὴ ἔχει ὕλην, πάντα ἁπλῶς ὅπερ ἕν τι.

Θ

Περὶ μὲν οὖν τοῦ πρώτως ὄντος καὶ πρὸς ὃ πᾶσαι αἱ ἄλλαι κατηγορίαι τοῦ ὄντος ἀναφέρονται εἴρηται, περὶ τῆς οὐσίας (κατὰ γὰρ τὸν τῆς οὐσίας λόγον λέγεται τἆλλα ὄντα, τό τε ποσὸν καὶ τὸ ποιὸν καὶ τἆλλα τὰ οὕτω λεγόμενα· πάντα γὰρ ἕξει τὸν τῆς οὐσίας λόγον, ὥσπερ εἴπομεν ἐν τοῖς πρώτοις λόγοις)· ἐπεὶ δὲ λέγεται τὸ ὂν τὸ μὲν τὸ τὶ ἢ ποιὸν ἢ ποσόν, τὸ δὲ κατὰ δύναμιν καὶ ἐντελέχειαν καὶ κατὰ τὸ ἔργον, διορίσωμεν καὶ περὶ δυνάμεως καὶ ἐντελεχείας, καὶ πρῶτον περὶ δυνάμεως ἣ λέγεται μὲν μάλιστα κυρίως, οὐ μὴν χρησιμωτάτη γέ ἐστι πρὸς [1046a] ὃ βουλόμεθα νῦν· ἐπὶ πλέον γάρ ἐστιν ἡ δύναμις καὶ ἡ ἐνέργεια τῶν μόνον λεγομένων κατὰ κίνησιν. ἀλλ’ εἰπόντες περὶ ταύτης, ἐν τοῖς περὶ τῆς ἐνεργείας διορισμοῖς δηλώσομεν καὶ περὶ τῶν ἄλλων. ὅτι μὲν οὖν λέγεται πολλαχῶς ἡ δύναμις καὶ τὸ δύνασθαι, διώρισται ἡμῖν ἐν ἄλλοις· τούτων δ’ ὅσαι μὲν ὁμωνύμως λέγονται δυνάμεις ἀφείσθωσαν (ἔνιαι γὰρ ὁμοιότητί τινι λέγονται, καθάπερ ἐν γεωμετρίᾳ καὶ δυνατὰ καὶ ἀδύνατα λέγομεν τῷ εἶναί πως ἢ μὴ εἶναι), ὅσαι δὲ πρὸς τὸ αὐτὸ εἶδος, πᾶσαι ἀρχαί τινές εἰσι, καὶ πρὸς πρώτην μίαν λέγονται, ἥ ἐστιν ἀρχὴ μεταβολῆς ἐν ἄλλῳ ἢ ᾗ ἄλλο. ἡ μὲν γὰρ τοῦ παθεῖν ἐστὶ δύναμις, ἡ ἐν αὐτῷ τῷ πάσχοντι ἀρχὴ μεταβολῆς παθητικῆς ὑπ’ ἄλλου ἢ ᾗ ἄλλο· ἡ δ’ ἕξις ἀπαθείας τῆς ἐπὶ τὸ χεῖρον καὶ φθορᾶς τῆς ὑπ’ ἄλλου ἢ ᾗ ἄλλο ὑπ’ ἀρχῆς μεταβλητικῆς. ἐν γὰρ τούτοις ἔνεστι πᾶσι τοῖς ὅροις ὁ τῆς πρώτης δυνάμεως λόγος. πάλιν δ’ αὗται δυνάμεις λέγονται ἢ τοῦ μόνον ποιῆσαι ἢ [τοῦ] παθεῖν ἢ τοῦ καλῶς, ὥστε καὶ ἐν τοῖς τούτων λόγοις ἐνυπάρχουσί πως οἱ τῶν προτέρων δυνάμεων λόγοι. - φανερὸν οὖν ὅτι ἔστι μὲν ὡς μία δύναμις τοῦ ποιεῖν καὶ πάσχειν (δυνατὸν γάρ ἐστι καὶ τῷ ἔχειν αὐτὸ δύναμιν τοῦ παθεῖν καὶ τῷ ἄλλο ὑπ’ αὐτοῦ), ἔστι δὲ ὡς ἄλλη. ἡ μὲν γὰρ ἐν τῷ πάσχοντι (διὰ γὰρ τὸ ἔχειν τινὰ ἀρχήν, καὶ εἶναι καὶ τὴν ὕλην ἀρχήν τινα, πάσχει τὸ πάσχον, καὶ ἄλλο ὑπ’ ἄλλου· τὸ λιπαρὸν μὲν γὰρ καυστὸν τὸ δ’ ὑπεῖκον ὡδὶ θλαστόν, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων), ἡ δ’ ἐν τῷ ποιοῦντι, οἷον τὸ θερμὸν καὶ ἡ οἰκοδομική, ἡ μὲν ἐν τῷ θερμαντικῷ ἡ δ’ ἐν τῷ οἰκοδομικῷ· διὸ ᾗ συμπέφυκεν, οὐθὲν πάσχει αὐτὸ ὑφ’ ἑαυτοῦ· ἓν γὰρ καὶ οὐκ ἄλλο. καὶ ἡ ἀδυναμία καὶ τὸ ἀδύνατον ἡ τῇ τοιαύτῃ δυνάμει ἐναντία στέρησίς ἐστιν, ὥστε τοῦ αὐτοῦ καὶ κατὰ τὸ αὐτὸ πᾶσα δύναμις ἀδυναμίᾳ. ἡ δὲ στέρησις λέγεται πολλαχῶς· καὶ γὰρ τὸ μὴ ἔχον καὶ τὸ πεφυκὸς ἂν μὴ ἔχῃ, ἢ ὅλως ἢ ὅτε πέφυκεν, καὶ ἢ ὡδί, οἷον παντελῶς, ἢ κἂν ὁπωσοῦν. ἐπ’ ἐνίων δέ, ἂν πεφυκότα ἔχειν μὴ ἔχῃ βίᾳ, ἐστερῆσθαι ταῦτα λέγομεν.

Ἐπεὶ δ’ αἱ μὲν ἐν τοῖς ἀψύχοις ἐνυπάρχουσιν ἀρχαὶ τοιαῦται, αἱ δ’ ἐν τοῖς ἐμψύχοις καὶ ἐν ψυχῇ καὶ τῆς [1046b] ψυχῆς ἐν τῷ λόγον ἔχοντι, δῆλον ὅτι καὶ τῶν δυνάμεων αἱ μὲν ἔσονται ἄλογοι αἱ δὲ μετὰ λόγου· διὸ πᾶσαι αἱ τέχναι καὶ αἱ ποιητικαὶ ἐπιστῆμαι δυνάμεις εἰσίν· ἀρχαὶ γὰρ μεταβλητικαί εἰσιν ἐν ἄλλῳ ἢ ᾗ ἄλλο. καὶ αἱ μὲν μετὰ λόγου πᾶσαι τῶν ἐναντίων αἱ αὐταί, αἱ δὲ ἄλογοι μία ἑνός, οἷον τὸ θερμὸν τοῦ θερμαίνειν μόνον’ ἡ δὲ ἰατρικὴ νόσου καὶ ὑγιείας. αἴτιον δὲ ὅτι λόγος ἐστὶν ἡ ἐπιστήμη, ὁ δὲ λόγος ὁ αὐτὸς δηλοῖ τὸ πρᾶγμα καὶ τὴν στέρησιν, πλὴν οὐχ ὡσαύτως, καὶ ἔστιν ὡς ἀμφοῖν ἔστι δ’ ὡς τοῦ ὑπάρχοντος μᾶλλον, ὥστ’ ἀνάγκη καὶ τὰς τοιαύτας ἐπιστήμας εἶναι μὲν τῶν ἐναντίων, εἶναι δὲ τοῦ μὲν καθ’ αὑτὰς τοῦ δὲ μὴ καθ’ αὑτάς· καὶ γὰρ ὁ λόγος τοῦ μὲν καθ’ αὑτὸ τοῦ δὲ τρόπον τινὰ κατὰ συμβεβηκός· ἀποφάσει γὰρ καὶ ἀποφορᾷ δηλοῖ τὸ ἐναντίον· ἡ γὰρ στέρησις ἡ πρώτη τὸ ἐναντίον, αὕτη δὲ ἀποφορὰ θατέρου. ἐπεὶ δὲ τὰ ἐναντία οὐκ ἐγγίγνεται ἐν τῷ αὐτῷ, ἡ δ’ ἐπιστήμη δύναμις τῷ λόγον ἔχειν, καὶ ἡ ψυχὴ κινήσεως ἔχει ἀρχήν, τὸ μὲν ὑγιεινὸν ὑγίειαν μόνον ποιεῖ καὶ τὸ θερμαντικὸν θερμότητα καὶ τὸ ψυκτικὸν ψυχρότητα, ὁ δ’ ἐπιστήμων ἄμφω. λόγος γάρ ἐστιν ἀμφοῖν μέν, οὐχ ὁμοίως δέ, καὶ ἐν ψυχῇ ἣ ἔχει κινήσεως ἀρχήν· ὥστε ἄμφω ἀπὸ τῆς αὐτῆς ἀρχῆς κινήσει πρὸς ταὐτὸ συνάψασα· διὸ τὰ κατὰ λόγον δυνατὰ τοῖς ἄνευ λόγου δυνατοῖς ποιεῖ τἀναντία· μιᾷ γὰρ ἀρχῇ περιέχεται, τῷ λόγῳ. φανερὸν δὲ καὶ ὅτι τῇ μὲν τοῦ εὖ δυνάμει ἀκολουθεῖ ἡ τοῦ μόνον ποιῆσαι ἢ παθεῖν δύναμις, ταύτῃ δ’ ἐκείνη οὐκ ἀεί· ἀνάγκη γὰρ τὸν εὖ ποιοῦντα καὶ ποιεῖν, τὸν δὲ μόνον ποιοῦντα οὐκ ἀνάγκη καὶ εὖ ποιεῖν.

Εἰσὶ δέ τινες οἵ φασιν, οἷον οἱ Μεγαρικοί, ὅταν ἐνεργῇ μόνον δύνασθαι, ὅταν δὲ μὴ ἐνεργῇ οὐ δύνασθαι, οἷον τὸν μὴ οἰκοδομοῦντα οὐ δύνασθαι οἰκοδομεῖν, ἀλλὰ τὸν οἰκοδομοῦντα ὅταν οἰκοδομῇ· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. οἷς τὰ συμβαίνοντα ἄτοπα οὐ χαλεπὸν ἰδεῖν. δῆλον γὰρ ὅτι οὔτ’ οἰκοδόμος ἔσται ἐὰν μὴ οἰκοδομῇ (τὸ γὰρ οἰκοδόμῳ εἶναι τὸ δυνατῷ εἶναί ἐστιν οἰκοδομεῖν), ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τεχνῶν. εἰ οὖν ἀδύνατον τὰς τοιαύτας ἔχειν τέχνας μὴ μαθόντα ποτὲ καὶ λαβόντα, καὶ μὴ ἔχειν [1047a] μὴ ἀποβαλόντα ποτέ (ἢ γὰρ λήθῃ ἢ πάθει τινὶ ἢ χρόνῳ· οὐ γὰρ δὴ τοῦ γε πράγματος φθαρέντος, ἀεὶ γὰρ ἔστιν), ὅταν παύσηται, οὐχ ἕξει τὴν τέχνην, πάλιν δ’ εὐθὺς οἰκοδομήσει πῶς λαβών; καὶ τὰ ἄψυχα δὴ ὁμοίως· οὔτε γὰρ ψυχρὸν οὔτε θερμὸν οὔτε γλυκὺ οὔτε ὅλως αἰσθητὸν οὐθὲν ἔσται μὴ αἰσθανομένων· ὥστε τὸν Πρωταγόρου λόγον συμβήσεται λέγειν αὐτοῖς. ἀλλὰ μὴν οὐδ’ αἴσθησιν ἕξει οὐδὲν ἂν μὴ αἰσθάνηται μηδ’ ἐνεργῇ. εἰ οὖν τυφλὸν τὸ μὴ ἔχον ὄψιν, πεφυκὸς δὲ καὶ ὅτε πέφυκε καὶ ἔτι ὄν, οἱ αὐτοὶ τυφλοὶ ἔσονται πολλάκις τῆς ἡμέρας, καὶ κωφοί. ἔτι εἰ ἀδύνατον τὸ ἐστερημένον δυνάμεως, τὸ μὴ γιγνόμενον ἀδύνατον ἔσται γενέσθαι· τὸ δ’ ἀδύνατον γενέσθαι ὁ λέγων ἢ εἶναι ἢ ἔσεσθαι ψεύσεται (τὸ γὰρ ἀδύνατον τοῦτο ἐσήμαινεν), ὥστε οὗτοι οἱ λόγοι ἐξαιροῦσι καὶ κίνησιν καὶ γένεσιν. ἀεὶ γὰρ τό τε ἑστηκὸς ἑστήξεται καὶ τὸ καθήμενον καθεδεῖται· οὐ γὰρ ἀναστήσεται ἂν καθέζηται· ἀδύνατον γὰρ ἔσται ἀναστῆναι ὅ γε μὴ δύναται ἀναστῆναι. εἰ οὖν μὴ ἐνδέχεται ταῦτα λέγειν, φανερὸν ὅτι δύναμις καὶ ἐνέργεια ἕτερόν ἐστιν (ἐκεῖνοι δ’ οἱ λόγοι δύναμιν καὶ ἐνέργειαν ταὐτὸ ποιοῦσιν, διὸ καὶ οὐ μικρόν τι ζητοῦσιν ἀναιρεῖν), ὥστε ἐνδέχεται δυνατὸν μέν τι εἶναι μὴ εἶναι δέ, καὶ δυνατὸν μὴ εἶναι εἶναι δέ, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων κατηγοριῶν δυνατὸν βαδίζειν ὂν μὴ βαδίζειν, καὶ μὴ βαδίζειν δυνατὸν ὂν βαδίζειν. ἔστι δὲ δυνατὸν τοῦτο ᾧ ἐὰν ὑπάρξῃ ἡ ἐνέργεια οὗ λέγεται ἔχειν τὴν δύναμιν, οὐθὲν ἔσται ἀδύνατον. λέγω δὲ οἷον, εἰ δυνατὸν καθῆσθαι καὶ ἐνδέχεται καθῆσθαι, τούτῳ ἐὰν ὑπάρξῃ τὸ καθῆσθαι, οὐδὲν ἔσται ἀδύνατον· καὶ εἰ κινηθῆναι ἢ κινῆσαι ἢ στῆναι ἢ στῆσαι ἢ εἶναι ἢ γίγνεσθαι ἢ μὴ εἶναι ἢ μὴ γίγνεσθαι, ὁμοίως. ἐλήλυθε δ’ ἡ ἐνέργεια τοὔνομα, ἡ πρὸς τὴν ἐντελέχειαν συντιθεμένη, καὶ ἐπὶ τὰ ἄλλα ἐκ τῶν κινήσεων μάλιστα· δοκεῖ γὰρ ἡ ἐνέργεια μάλιστα ἡ κίνησις εἶναι, διὸ καὶ τοῖς μὴ οὖσιν οὐκ ἀποδιδόασι τὸ κινεῖσθαι, ἄλλας δέ τινας κατηγορίας, οἷον διανοητὰ καὶ ἐπιθυμητὰ εἶναι τὰ μὴ ὄντα, κινούμενα δὲ οὔ, τοῦτο δὲ ὅτι οὐκ ὄντα ἐνεργείᾳ ἔσονται ἐνεργείᾳ.

[1047b] τῶν γὰρ μὴ ὄντων ἔνια δυνάμει ἐστίν· οὐκ ἔστι δέ, ὅτι οὐκ ἐντελεχείᾳ ἐστίν.

Εἰ δέ ἐστι τὸ εἰρημένον τὸ δυνατὸν ἢ ἀκολουθεῖ, φανερὸν ὅτι οὐκ ἐνδέχεται ἀληθὲς εἶναι τὸ εἰπεῖν ὅτι δυνατὸν μὲν τοδί, οὐκ ἔσται δέ, ὥστε τὰ ἀδύνατα εἶναι ταύτῃ διαφεύγειν· λέγω δὲ οἷον εἴ τις φαίη δυνατὸν τὴν διάμετρον μετρηθῆναι οὐ μέντοι μετρηθήσεσθαι - ὁ μὴ λογιζόμενος τὸ ἀδύνατον εἶναι - ὅτι οὐθὲν κωλύει δυνατόν τι ὂν εἶναι ἢ γενέσθαι μὴ εἶναι μηδ’ ἔσεσθαι. ἀλλ’ ἐκεῖνο ἀνάγκη ἐκ τῶν κειμένων, εἰ καὶ ὑποθοίμεθα εἶναι ἢ γεγονέναι ὃ οὐκ ἔστι μὲν δυνατὸν δέ, ὅτι οὐθὲν ἔσται ἀδύνατον· συμβήσεται δέ γε, τὸ γὰρ μετρεῖσθαι ἀδύνατον. οὐ γὰρ δή ἐστι ταὐτὸ τὸ ψεῦδος καὶ τὸ ἀδύνατον· τὸ γάρ σε ἑστάναι νῦν ψεῦδος μέν, οὐκ ἀδύνατον δέ. ἅμα δὲ δῆλον καὶ ὅτι, εἰ τοῦ Α ὄντος ἀνάγκη τὸ Β εἶναι, καὶ δυνατοῦ ὄντος εἶναι τοῦ Α καὶ τὸ Β ἀνάγκη εἶναι δυνατόν· εἰ γὰρ μὴ ἀνάγκη δυνατὸν εἶναι, οὐθὲν κωλύει μὴ εἶναι δυνατὸν εἶναι. ἔστω δὴ τὸ Α δυνατόν. οὐκοῦν ὅτε τὸ Α δυνατὸν εἴη εἶναι, εἰ τεθείη τὸ Α, οὐθὲν ἀδύνατον εἶναι συνέβαινεν· τὸ δέ γε Β ἀνάγκη εἶναι. ἀλλ’ ἦν ἀδύνατον. ἔστω δὴ ἀδύνατον. εἰ δὴ ἀδύνατον [ἀνάγκη] εἶναι τὸ Β, ἀνάγκη καὶ τὸ Α εἶναι. ἀλλ’ ἦν ἄρα τὸ πρῶτον ἀδύνατον· καὶ τὸ δεύτερον ἄρα. ἂν ἄρα ᾖ τὸ Α δυνατόν, καὶ τὸ Β ἔσται δυνατόν, εἴπερ οὕτως εἶχον ὥστε τοῦ Α ὄντος ἀνάγκη εἶναι τὸ Β. ἐὰν δὴ οὕτως ἐχόντων τῶν Α Β μὴ ᾖ δυνατὸν τὸ Β οὕτως, οὐδὲ τὰ Α Β ἕξει ὡς ἐτέθη· καὶ εἰ τοῦ Α δυνατοῦ ὄντος ἀνάγκη τὸ Β δυνατὸν εἶναι, εἰ ἔστι τὸ Α ἀνάγκη εἶναι καὶ τὸ Β. τὸ γὰρ δυνατὸν εἶναι ἐξ ἀνάγκης τὸ Β εἶναι, εἰ τὸ Α δυνατόν, τοῦτο σημαίνει, ἐὰν ᾖ τὸ Α καὶ ὅτε καὶ ὡς ἦν δυνατὸν εἶναι, κἀκεῖνο τότε καὶ οὕτως εἶναι ἀναγκαῖον.

Ἁπασῶν δὲ τῶν δυνάμεων οὐσῶν τῶν μὲν συγγενῶν οἷον τῶν αἰσθήσεων, τῶν δὲ ἔθει οἷον τῆς τοῦ αὐλεῖν, τῶν δὲ μαθήσει οἷον τῆς τῶν τεχνῶν, τὰς μὲν ἀνάγκη προενεργήσαντας ἔχειν, ὅσαι ἔθει καὶ λόγῳ, τὰς δὲ μὴ τοιαύτας καὶ τὰς ἐπὶ τοῦ πάσχειν οὐκ ἀνάγκη. ἐπεὶ δὲ τὸ δυνατὸν [1048a] τὶ δυνατὸν καὶ ποτὲ καὶ πῶς καὶ ὅσα ἄλλα ἀνάγκη προσεῖναι ἐν τῷ διορισμῷ, καὶ τὰ μὲν κατὰ λόγον δύναται κινεῖν καὶ αἱ δυνάμεις αὐτῶν μετὰ λόγου, τὰ δὲ ἄλογα καὶ αἱ δυνάμεις ἄλογοι, κἀκείνας μὲν ἀνάγκη ἐν ἐμψύχῳ εἶναι ταύτας δὲ ἐν ἀμφοῖν, τὰς μὲν τοιαύτας δυνάμεις ἀνάγκη, ὅταν ὡς δύνανται τὸ ποιητικὸν καὶ τὸ παθητικὸν πλησιάζωσι, τὸ μὲν ποιεῖν τὸ δὲ πάσχειν, ἐκείνας δ’ οὐκ ἀνάγκη· αὗται μὲν γὰρ πᾶσαι μία ἑνὸς ποιητική, ἐκεῖναι δὲ τῶν ἐναντίων, ὥστε ἅμα ποιήσει τὰ ἐναντία· τοῦτο δὲ ἀδύνατον. ἀνάγκη ἄρα ἕτερόν τι εἶναι τὸ κύριον· λέγω δὲ τοῦτο ὄρεξιν ἢ προαίρεσιν. ὁποτέρου γὰρ ἂν ὀρέγηται κυρίως, τοῦτο ποιήσει ὅταν ὡς δύναται ὑπάρχῃ καὶ πλησιάζῃ τῷ παθητικῷ· ὥστε τὸ δυνατὸν κατὰ λόγον ἅπαν ἀνάγκη, ὅταν ὀρέγηται οὗ ἔχει τὴν δύναμιν καὶ ὡς ἔχει, τοῦτο ποιεῖν· ἔχει δὲ παρόντος τοῦ παθητικοῦ καὶ ὡδὶ ἔχοντος [ποιεῖν]· εἰ δὲ μή, ποιεῖν οὐ δυνήσεται (τὸ γὰρ μηθενὸς τῶν ἔξω κωλύοντος προσδιορίζεσθαι οὐθὲν ἔτι δεῖ· τὴν γὰρ δύναμιν ἔχει ὡς ἔστι δύναμις τοῦ ποιεῖν, ἔστι δ’ οὐ πάντως ἀλλ’ ἐχόντων πῶς, ἐν οἷς ἀφορισθήσεται καὶ τὰ ἔξω κωλύοντα· ἀφαιρεῖται γὰρ ταῦτα τῶν ἐν τῷ διορισμῷ προσόντων ἔνια)· διὸ οὐδ’ ἐὰν ἅμα βούληται ἢ ἐπιθυμῇ ποιεῖν δύο ἢ τὰ ἐναντία, οὐ ποιήσει· οὐ γὰρ οὕτως ἔχει αὐτῶν τὴν δύναμιν οὐδ’ ἔστι τοῦ ἅμα ποιεῖν ἡ δύναμις, ἐπεὶ ὧν ἐστὶν οὕτως ποιήσει.

Ἐπεὶ δὲ περὶ τῆς κατὰ κίνησιν λεγομένης δυνάμεως εἴρηται, περὶ ἐνεργείας διορίσωμεν τί τέ ἐστιν ἡ ἐνέργεια καὶ ποῖόν τι. καὶ γὰρ τὸ δυνατὸν ἅμα δῆλον ἔσται διαιροῦσιν, ὅτι οὐ μόνον τοῦτο λέγομεν δυνατὸν ὃ πέφυκε κινεῖν ἄλλο ἢ κινεῖσθαι ὑπ’ ἄλλου ἢ ἁπλῶς ἢ τρόπον τινά, ἀλλὰ καὶ ἑτέρως, διὸ ζητοῦντες καὶ περὶ τούτων διήλθομεν. ἔστι δὴ ἐνέργεια τὸ ὑπάρχειν τὸ πρᾶγμα μὴ οὕτως ὥσπερ λέγομεν δυνάμει· λέγομεν δὲ δυνάμει οἷον ἐν τῷ ξύλῳ Ἑρμῆν καὶ ἐν τῇ ὅλῃ τὴν ἡμίσειαν, ὅτι ἀφαιρεθείη ἄν, καὶ ἐπιστήμονα καὶ τὸν μὴ θεωροῦντα, ἂν δυνατὸς ᾖ θεωρῆσαι· τὸ δὲ ἐνεργείᾳ. δῆλον δ’ ἐπὶ τῶν καθ’ ἕκαστα τῇ ἐπαγωγῇ ὃ βουλόμεθα λέγειν, καὶ οὐ δεῖ παντὸς ὅρον ζητεῖν ἀλλὰ καὶ τὸ ἀνάλογον συνορᾶν, ὅτι ὡς τὸ οἰκοδομοῦν [1048b] πρὸς τὸ οἰκοδομικόν, καὶ τὸ ἐγρηγορὸς πρὸς τὸ καθεῦδον, καὶ τὸ ὁρῶν πρὸς τὸ μῦον μὲν ὄψιν δὲ ἔχον, καὶ τὸ ἀποκεκριμένον ἐκ τῆς ὕλης πρὸς τὴν ὕλην, καὶ τὸ ἀπειργασμένον πρὸς τὸ ἀνέργαστον. ταύτης δὲ τῆς διαφορᾶς θατέρῳ μορίῳ ἔστω ἡ ἐνέργεια ἀφωρισμένη θατέρῳ δὲ τὸ δυνατόν. λέγεται δὲ ἐνεργείᾳ οὐ πάντα ὁμοίως ἀλλ’ ἢ τῷ ἀνάλογον, ὡς τοῦτο ἐν τούτῳ ἢ πρὸς τοῦτο, τόδ’ ἐν τῷδε ἢ πρὸς τόδε· τὰ μὲν γὰρ ὡς κίνησις πρὸς δύναμιν τὰ δ’ ὡς οὐσία πρός τινα ὕλην. ἄλλως δὲ καὶ τὸ ἄπειρον καὶ τὸ κενόν, καὶ ὅσα τοιαῦτα, λέγεται δυνάμει καὶ ἐνεργείᾳ ‹ἢ› πολλοῖς τῶν ὄντων, οἷον τῷ ὁρῶντι καὶ βαδίζοντι καὶ ὁρωμένῳ. ταῦτα μὲν γὰρ ἐνδέχεται καὶ ἁπλῶς ἀληθεύεσθαί ποτε (τὸ μὲν γὰρ ὁρώμενον ὅτι ὁρᾶται, τὸ δὲ ὅτι ὁρᾶσθαι δυνατόν)· τὸ δ’ ἄπειρον οὐχ οὕτω δυνάμει ἔστιν ὡς ἐνεργείᾳ ἐσόμενον χωριστόν, ἀλλὰ γνώσει. τὸ γὰρ μὴ ὑπολείπειν τὴν διαίρεσιν ἀποδίδωσι τὸ εἶναι δυνάμει ταύτην τὴν ἐνέργειαν, τὸ δὲ χωρίζεσθαι οὔ.

Ἐπεὶ δὲ τῶν πράξεων ὧν ἔστι πέρας οὐδεμία τέλος ἀλλὰ τῶν περὶ τὸ τέλος, οἷον τὸ ἰσχναίνειν ἢ ἰσχνασία [αὐτό], αὐτὰ δὲ ὅταν ἰσχναίνῃ οὕτως ἐστὶν ἐν κινήσει, μὴ ὑπάρχοντα ὧν ἕνεκα ἡ κίνησις, οὐκ ἔστι ταῦτα πρᾶξις ἢ οὐ τελεία γε (οὐ γὰρ τέλος)· ἀλλ’ ἐκείνη ‹ᾗ› ἐνυπάρχει τὸ τέλος καὶ [ἡ] πρᾶξις. οἷον ὁρᾷ ἅμα ‹καὶ ἑώρακε,› καὶ φρονεῖ ‹καὶ πεφρόνηκε,› καὶ νοεῖ καὶ νενόηκεν, ἀλλ’ οὐ μανθάνει καὶ μεμάθηκεν οὐδ’ ὑγιάζεται καὶ ὑγίασται· εὖ ζῇ καὶ εὖ ἔζηκεν ἅμα, καὶ εὐδαιμονεῖ καὶ εὐδαιμόνηκεν. εἰ δὲ μή, ἔδει ἄν ποτε παύεσθαι ὥσπερ ὅταν ἰσχναίνῃ, νῦν δ’ οὔ, ἀλλὰ ζῇ καὶ ἔζηκεν. τούτων δὴ ‹δεῖ› τὰς μὲν κινήσεις λέγειν, τὰς δ’ ἐνεργείας. πᾶσα γὰρ κίνησις ἀτελής, ἰσχνασία μάθησις βάδισις οἰκοδόμησις· αὗται δὴ κινήσεις, καὶ ἀτελεῖς γε. οὐ γὰρ ἅμα βαδίζει καὶ βεβάδικεν, οὐδ’ οἰκοδομεῖ καὶ ᾠκοδόμηκεν, οὐδὲ γίγνεται καὶ γέγονεν ἢ κινεῖται καὶ κεκίνηται, ἀλλ’ ἕτερον, καὶ κινεῖ καὶ κεκίνηκεν· ἑώρακε δὲ καὶ ὁρᾷ ἅμα τὸ αὐτό, καὶ νοεῖ καὶ νενόηκεν. τὴν μὲν οὖν τοιαύτην ἐνέργειαν λέγω, ἐκείνην δὲ κίνησιν. τὸ μὲν οὖν ἐνεργείᾳ τί τέ ἐστι καὶ ποῖον, ἐκ τούτων καὶ τῶν τοιούτων δῆλον ἡμῖν ἔστω.

Πότε δὲ δυνάμει ἔστιν ἕκαστον καὶ πότε οὔ, διοριστέον· [1049a] οὐ γὰρ ὁποτεοῦν. οἷον ἡ γῆ ἆρ' ἐστὶ δυνάμει ἄνθρωπος; ἢ οὔ, ἀλλὰ μᾶλλον ὅταν ἤδη γένηται σπέρμα, καὶ οὐδὲ τότε ἴσως; ὥσπερ οὖν οὐδ' ὑπὸ ἰατρικῆς ἅπαν ἂν ὑγιασθείη οὐδ' ἀπὸ τύχης, ἀλλ' ἔστι τι ὃ δυνατόν ἐστι, καὶ τοῦτ' ἔστιν ὑγιαῖνον δυνάμει. ὅρος δὲ τοῦ μὲν ἀπὸ διανοίας ἐντελεχείᾳ γιγνομένου ἐκ τοῦ δυνάμει ὄντος, ὅταν βουληθέντος γίγνηται μηθενὸς κωλύοντος τῶν ἐκτός, ἐκεῖ δ' ἐν τῷ ὑγιαζομένῳ, ὅταν μηθὲν κωλύῃ τῶν ἐν αὐτῷ· ὁμοίως δὲ δυνάμει καὶ οἰκία· εἰ μηθὲν κωλύει τῶν ἐν τούτῳ καὶ τῇ ὕλῃ τοῦ γίγνεσθαι οἰκίαν, οὐδ' ἔστιν ὃ δεῖ προσγενέσθαι ἢ ἀπογενέσθαι ἢ μεταβαλεῖν, τοῦτο δυνάμει οἰκία· καὶ ἐπὶ τῶν ἄλλων ὡσαύτως ὅσων ἔξωθεν ἡ ἀρχὴ τῆς γενέσεως. καὶ ὅσων δὴ ἐν αὐτῷ τῷ ἔχοντι, ὅσα μηθενὸς τῶν ἔξωθεν ἐμποδίζοντος ἔσται δι' αὑτοῦ· οἷον τὸ σπέρμα οὔπω (δεῖ γὰρ ἐν ἄλλῳ ‹πεσεῖν› καὶ μεταβάλλειν), ὅταν δ' ἤδη διὰ τῆς αὑτοῦ ἀρχῆς ᾖ τοιοῦτον, ἤδη τοῦτο δυνάμει· ἐκεῖνο δὲ ἑτέρας ἀρχῆς δεῖται, ὥσπερ ἡ γῆ οὔπω ἀνδριὰς δυνάμει (μεταβαλοῦσα γὰρ ἔσται χαλκός). ἔοικε δὲ ὃ λέγομεν εἶναι οὐ τόδε ἀλλ' ἐκείνινον - οἷον τὸ κιβώτιον οὐ ξύλον ἀλλὰ ξύλινον, οὐδὲ τὸ ξύλον γῆ ἀλλὰ γήϊνον, πάλιν ἡ γῆ εἰ οὕτως μὴ ἄλλο ἀλλὰ ἐκείνινον - ἀεὶ ἐκεῖνο δυνάμει ἁπλῶς τὸ ὕστερόν ἐστιν. οἷον τὸ κιβώτιον οὐ γήϊνον οὐδὲ γῆ ἀλλὰ ξύλινον· τοῦτο γὰρ δυνάμει κιβώτιον καὶ ὕλη κιβωτίου αὕτη, ἁπλῶς μὲν τοῦ ἁπλῶς τουδὶ δὲ τοδὶ τὸ ξύλον. εἰ δέ τί ἐστι πρῶτον ὃ μηκέτι κατ' ἄλλο λέγεται ἐκείνινον, τοῦτο πρώτη ὕλη· οἷον εἰ ἡ γῆ ἀερίνη, ὁ δ' ἀὴρ μὴ πῦρ ἀλλὰ πύρινος, τὸ πῦρ ὕλη πρώτη οὐ τόδε τι οὖσα. τούτῳ γὰρ διαφέρει τὸ καθ' οὗ καὶ τὸ ὑποκείμενον, τῷ εἶναι τόδε τι ἢ μὴ εἶναι· οἷον τοῖς πάθεσι τὸ ὑποκείμενον ἄνθρωπος καὶ σῶμα καὶ ψυχή, πάθος δὲ τὸ μουσικὸν καὶ λευκόν (λέγεται δὲ τῆς μουσικῆς ἐγγενομένης ἐκεῖνο οὐ μουσικὴ ἀλλὰ μουσικόν, καὶ οὐ λευκότης ὁ ἄνθρωπος ἀλλὰ λευκόν, οὐδὲ βάδισις ἢ κίνησις ἀλλὰ βαδίζον ἢ κινούμενον, ὡς τὸ ἐκείνινον)· - ὅσα μὲν οὖν οὕτω, τὸ ἔσχατον οὐσία· ὅσα δὲ μὴ οὕτως ἀλλ' εἶδός τι καὶ τόδε τι τὸ κατηγορούμενον, τὸ ἔσχατον ὕλη καὶ οὐσία ὑλική. καὶ ὀρθῶς δὴ συμβαίνει τὸ [1049b] ἐκείνινον λέγεσθαι κατὰ τὴν ὕλην καὶ τὰ πάθη· ἄμφω γὰρ ἀόριστα. πότε μὲν οὖν λεκτέον δυνάμει καὶ πότε οὔ, εἴρηται.

Ἐπεὶ δὲ τὸ πρότερον διώρισται ποσαχῶς λέγεται, φανερὸν ὅτι πρότερον ἐνέργεια δυνάμεώς ἐστιν. λέγω δὲ δυνάμεως οὐ μόνον τῆς ὡρισμένης ἣ λέγεται ἀρχὴ μεταβλητικὴ ἐν ἄλλῳ ἢ ᾗ ἄλλο, ἀλλ' ὅλως πάσης ἀρχῆς κινητικῆς ἢ στατικῆς. καὶ γὰρ ἡ φύσις ἐν ταὐτῷ [γίγνεται· ἐν ταὐτῷ γὰρ] γένει τῇ δυνάμει· ἀρχὴ γὰρ κινητική, ἀλλ' οὐκ ἐν ἄλλῳ ἀλλ' ἐν αὐτῷ ᾗ αὐτό. - πάσης δὴ τῆς τοιαύτης προτέρα ἐστὶν ἡ ἐνέργεια καὶ λόγῳ καὶ τῇ οὐσίᾳ·

χρόνῳ δ’ ἔστι μὲν ὥς, ἔστι δὲ ὡς οὔ. τῷ λόγῳ μὲν οὖν ὅτι προτέρα, δῆλον (τῷ γὰρ ἐνδέχεσθαι ἐνεργῆσαι δυνατόν ἐστι τὸ πρώτως δυνατόν, οἷον λέγω οἰκοδομικὸν τὸ δυνάμενον οἰκοδομεῖν, καὶ ὁρατικὸν τὸ ὁρᾶν, καὶ ὁρατὸν τὸ δυνατὸν ὁρᾶσθαι· ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων, ὥστ’ ἀνάγκη τὸν λόγον προϋπάρχειν καὶ τὴν γνῶσιν τῆς γνώσεως)· τῷ δὲ χρόνῳ πρότερον ὧδε· τὸ τῷ εἴδει τὸ αὐτὸ ἐνεργοῦν πρότερον, ἀριθμῷ δ’ οὔ. λέγω δὲ τοῦτο ὅτι τοῦδε μὲν τοῦ ἀνθρώπου τοῦ ἤδη ὄντος κατ’ ἐνέργειαν καὶ τοῦ σίτου καὶ τοῦ ὁρῶντος πρότερον τῷ χρόνῳ ἡ ὕλη καὶ τὸ σπέρμα καὶ τὸ ὁρατικόν, ἃ δυνάμει μέν ἐστιν ἄνθρωπος καὶ σῖτος καὶ ὁρῶν, ἐνεργείᾳ δ’ οὔπω· ἀλλὰ τούτων πρότερα τῷ χρόνῳ ἕτερα ὄντα ἐνεργείᾳ ἐξ ὧν ταῦτα ἐγένετο· ἀεὶ γὰρ ἐκ τοῦ δυνάμει ὄντος γίγνεται τὸ ἐνεργείᾳ ὂν ὑπὸ ἐνεργείᾳ ὄντος, οἷον ἄνθρωπος ἐξ ἀνθρώπου, μουσικὸς ὑπὸ μουσικοῦ, ἀεὶ κινοῦντός τινος πρώτου· τὸ δὲ κινοῦν ἐνεργείᾳ ἤδη ἔστιν. εἴρηται δὲ ἐν τοῖς περὶ τῆς οὐσίας λόγοις ὅτι πᾶν τὸ γιγνόμενον γίγνεται ἔκ τινος τι καὶ ὑπό τινος, καὶ τοῦτο τῷ εἴδει τὸ αὐτό. διὸ καὶ δοκεῖ ἀδύνατον εἶναι οἰκοδόμον εἶναι μὴ οἰκοδομήσαντα μηθὲν ἢ κιθαριστὴν μηθὲν κιθαρίσαντα· ὁ γὰρ μανθάνων κιθαρίζειν κιθαρίζων μανθάνει κιθαρίζειν, ὁμοίως δὲ καὶ οἱ ἄλλοι. ὅθεν ὁ σοφιστικὸς ἔλεγχος ἐγίγνετο ὅτι οὐκ ἔχων τις τὴν ἐπιστήμην ποιήσει οὗ ἡ ἐπιστήμη· ὁ γὰρ μανθάνων οὐκ ἔχει. ἀλλὰ διὰ τὸ τοῦ γιγνομένου γεγενῆσθαί τι καὶ τοῦ ὅλως κινουμένου κεκινῆσθαί τι (δῆλον δ’ ἐν τοῖς περὶ κινήσεως [1050a] τοῦτο) καὶ τὸν μανθάνοντα ἀνάγκη ἔχειν τι τῆς ἐπιστήμης ἴσως. ἀλλ’ οὖν καὶ ταύτῃ γε δῆλον ὅτι ἡ ἐνέργεια καὶ οὕτω προτέρα τῆς δυνάμεως κατὰ γένεσιν καὶ χρόνον.

Ἀλλὰ μὴν καὶ οὐσίᾳ γε, πρῶτον μὲν ὅτι τὰ τῇ γενέσει ὕστερα τῷ εἴδει καὶ τῇ οὐσίᾳ πρότερα (οἷον ἀνὴρ παιδὸς καὶ ἄνθρωπος σπέρματος· τὸ μὲν γὰρ ἤδη ἔχει τὸ εἶδος τὸ δ’ οὔ), καὶ ὅτι ἅπαν ἐπ’ ἀρχὴν βαδίζει τὸ γιγνόμενον καὶ τέλος (ἀρχὴ γὰρ τὸ οὗ ἕνεκα, τοῦ τέλους δὲ ἕνεκα ἡ γένεσις), τέλος δ’ ἡ ἐνέργεια, καὶ τούτου χάριν ἡ δύναμις λαμβάνεται. οὐ γὰρ ἵνα ὄψιν ἔχωσιν ὁρῶσι τὰ ζῷα ἀλλ’ ὅπως ὁρῶσιν ὄψιν ἔχουσιν, ὁμοίως δὲ καὶ οἰκοδομικὴν ἵνα οἰκοδομῶσι καὶ τὴν θεωρητικὴν ἵνα θεωρῶσιν· ἀλλ’ οὐ θεωροῦσιν ἵνα θεωρητικὴν ἔχωσιν, εἰ μὴ οἱ μελετῶντες· οὗτοι δὲ οὐχὶ θεωροῦσιν ἀλλ’ ἢ ὡδί, ἢ ὅτι οὐδὲν δέονται θεωρεῖν. ἔτι ἡ ὕλη ἔστι δυνάμει ὅτι ἔλθοι ἂν εἰς τὸ εἶδος· ὅταν δέ γε ἐνεργείᾳ ᾖ, τότε ἐν τῷ εἴδει ἐστίν. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, καὶ ὧν κίνησις τὸ τέλος, διὸ ὥσπερ οἱ διδάσκοντες ἐνεργοῦντα ἐπιδείξαντες οἴονται τὸ τέλος ἀποδεδωκέναι, καὶ ἡ φύσις ὁμοίως. εἰ γὰρ μὴ οὕτω γίγνεται, ὁ Παύσωνος ἔσται Ἑρμῆς· ἄδηλος γὰρ καὶ ἡ ἐπιστήμη εἰ ἔσω ἢ ἔξω, ὥσπερ κἀκεῖνος. τὸ γὰρ ἔργον τέλος, ἡ δὲ ἐνέργεια τὸ ἔργον, διὸ καὶ τοὔνομα ἐνέργεια λέγεται κατὰ τὸ ἔργον καὶ συντείνει πρὸς τὴν ἐντελέχειαν. ἐπεὶ δ᾽ ἐστὶ τῶν μὲν ἔσχατον ἡ χρῆσις (οἷον ὄψεως ἡ ὅρασις, καὶ οὐθὲν γίγνεται παρὰ ταύτην ἕτερον ἀπὸ τῆς ὄψεως), ἀπ᾽ ἐνίων δὲ γίγνεταί τι (οἷον ἀπὸ τῆς οἰκοδομικῆς οἰκία παρὰ τὴν οἰκοδόμησιν), ὅμως οὐθὲν ἧττον ἔνθα μὲν τέλος, ἔνθα δὲ μᾶλλον τέλος τῆς δυνάμεώς ἐστιν· ἡ γὰρ οἰκοδόμησις ἐν τῷ οἰκοδομουμένῳ, καὶ ἅμα γίγνεται καὶ ἔστι τῇ οἰκίᾳ. ὅσων μὲν οὖν ἕτερόν τί ἐστι παρὰ τὴν χρῆσιν τὸ γιγνόμενον, τούτων μὲν ἡ ἐνέργεια ἐν τῷ ποιουμένῳ ἐστίν (οἷον ἥ τε οἰκοδόμησις ἐν τῷ οἰκοδομουμένῳ καὶ ἡ ὕφανσις ἐν τῷ ὑφαινομένῳ, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, καὶ ὅλως ἡ κίνησις ἐν τῷ κινουμένῳ)· ὅσων δὲ μὴ ἔστιν ἄλλο τι ἔργον παρὰ τὴν ἐνέργειαν, ἐν αὐτοῖς ὑπάρχει ἡ ἐνέργεια (οἷον ἡ ὅρασις ἐν τῷ ὁρῶντι καὶ ἡ θεωρία ἐν τῷ θεωροῦντι καὶ ἡ [1050b] ζωὴ ἐν τῇ ψυχῇ, διὸ καὶ ἡ εὐδαιμονία· ζωὴ γὰρ ποιά τίς ἐστιν). ὥστε φανερὸν ὅτι ἡ οὐσία καὶ τὸ εἶδος ἐνέργειά ἐστιν. κατά τε δὴ τοῦτον τὸν λόγον φανερὸν ὅτι πρότερον τῇ οὐσίᾳ ἐνέργεια δυνάμεως, καὶ ὥσπερ εἴπομεν, τοῦ χρόνου ἀεὶ προλαμβάνει ἐνέργεια ἑτέρα πρὸ ἑτέρας ἕως τῆς τοῦ ἀεὶ κινοῦντος πρώτως. - ἀλλὰ μὴν καὶ κυριωτέρως· τὰ μὲν γὰρ ἀΐδια πρότερα τῇ οὐσίᾳ τῶν φθαρτῶν, ἔστι δ᾽ οὐθὲν δυνάμει ἀΐδιον. λόγος δὲ ὅδε· πᾶσα δύναμις ἅμα τῆς ἀντιφάσεώς ἐστιν· τὸ μὲν γὰρ μὴ δυνατὸν ὑπάρχειν οὐκ ἂν ὑπάρξειεν οὐθενί, τὸ δυνατὸν δὲ πᾶν ἐνδέχεται μὴ ἐνεργεῖν. τὸ ἄρα δυνατὸν εἶναι ἐνδέχεται καὶ εἶναι καὶ μὴ εἶναι· τὸ αὐτὸ ἄρα δυνατὸν καὶ εἶναι καὶ μὴ εἶναι. τὸ δὲ δυνατὸν μὴ εἶναι ἐνδέχεται μὴ εἶναι· τὸ δὲ ἐνδεχόμενον μὴ εἶναι φθαρτόν, ἢ ἁπλῶς ἢ τοῦτο αὐτὸ ὃ λέγεται ἐνδέχεσθαι μὴ εἶναι, ἢ κατὰ τόπον ἢ κατὰ τὸ ποσὸν ἢ ποιόν· ἁπλῶς δὲ τὸ κατ᾽ οὐσίαν. οὐθὲν ἄρα τῶν ἀφθάρτων ἁπλῶς δυνάμει ἔστιν ἁπλῶς (κατά τι δὲ οὐδὲν κωλύει, οἷον ποιὸν ἢ πού)· ἐνεργείᾳ ἄρα πάντα· οὐδὲ τῶν ἐξ ἀνάγκης ὄντων (καίτοι ταῦτα πρῶτα· εἰ γὰρ ταῦτα μὴ ἦν, οὐθὲν ἂν ἦν)· οὐδὲ δὴ κίνησις, εἴ τίς ἐστιν ἀΐδιος· οὐδ᾽ εἴ τι κινούμενον ἀΐδιον, οὐκ ἔστι κατὰ δύναμιν κινούμενον ἀλλ᾽ ἢ ποθὲν ποί (τούτου δ᾽ ὕλην οὐδὲν κωλύει ὑπάρχειν), διὸ ἀεὶ ἐνεργεῖ ἥλιος καὶ ἄστρα καὶ ὅλος ὁ οὐρανός, καὶ οὐ φοβερὸν μή ποτε στῇ, ὃ φοβοῦνται οἱ περὶ φύσεως. οὐδὲ κάμνει τοῦτο δρῶντα· οὐ γὰρ περὶ τὴν δύναμιν τῆς ἀντιφάσεως αὐτοῖς, οἷον τοῖς φθαρτοῖς, ἡ κίνησις, ὥστε ἐπίπονον εἶναι τὴν συνέχειαν τῆς κινήσεως· ἡ γὰρ οὐσία ὕλη καὶ δύναμις οὖσα, οὐκ ἐνέργεια, αἰτία τούτου. μιμεῖται δὲ τὰ ἄφθαρτα καὶ τὰ ἐν μεταβολῇ ὄντα, οἷον γῆ καὶ πῦρ. καὶ γὰρ ταῦτα ἀεὶ ἐνεργεῖ· καθ᾽ αὑτὰ γὰρ καὶ ἐν αὑτοῖς ἔχει τὴν κίνησιν. αἱ δὲ ἄλλαι δυνάμεις, ἐξ ὧν διώρισται, πᾶσαι τῆς ἀντιφάσεώς εἰσιν· τὸ γὰρ δυνάμενον ὡδὶ κινεῖν δύναται καὶ μὴ ὡδί, ὅσα γε κατὰ λόγον· αἱ δ’ ἄλογοι τῷ παρεῖναι καὶ μὴ τῆς ἀντιφάσεως ἔσονται αἱ αὐταί. εἰ ἄρα τινὲς εἰσὶ φύσεις τοιαῦται ἢ οὐσίαι οἵας λέγουσιν οἱ ἐν τοῖς λόγοις τὰς ἰδέας, πολὺ μᾶλλον ἐπιστῆμον ἄν τι εἴη ἢ αὐτὸ ἐπιστήμη [1051a] καὶ κινούμενον ἢ κίνησις· ταῦτα γὰρ ἐνέργειαι μᾶλλον, ἐκεῖναι δὲ δυνάμεις τούτων. ὅτι μὲν οὖν πρότερον ἡ ἐνέργεια καὶ δυνάμεως καὶ πάσης ἀρχῆς μεταβλητικῆς, φανερόν.

Ὅτι δὲ καὶ βελτίων καὶ τιμιωτέρα τῆς σπουδαίας δυνάμεως ἡ ἐνέργεια, ἐκ τῶνδε δῆλον. ὅσα γὰρ κατὰ τὸ δύνασθαι λέγεται, ταὐτόν ἐστι δυνατὸν τἀναντία, οἷον τὸ δύνασθαι λεγόμενον ὑγιαίνειν ταὐτόν ἐστι καὶ τὸ νοσεῖν, καὶ ἅμα· ἡ αὐτὴ γὰρ δύναμις τοῦ ὑγιαίνειν καὶ κάμνειν, καὶ ἠρεμεῖν καὶ κινεῖσθαι, καὶ οἰκοδομεῖν καὶ καταβάλλειν, καὶ οἰκοδομεῖσθαι καὶ καταπίπτειν. τὸ μὲν οὖν δύνασθαι τἀναντία ἅμα ὑπάρχει· τὰ δ’ ἐναντία ἅμα ἀδύνατον, καὶ τὰς ἐνεργείας δὲ ἅμα ἀδύνατον ὑπάρχειν (οἷον ὑγιαίνειν καὶ κάμνειν), ὥστ’ ἀνάγκη τούτων θάτερον εἶναι τἀγαθόν, τὸ δὲ δύνασθαι ὁμοίως ἀμφότερον ἢ οὐδέτερον· ἡ ἄρα ἐνέργεια βελτίων. ἀνάγκη δὲ καὶ ἐπὶ τῶν κακῶν τὸ τέλος καὶ τὴν ἐνέργειαν εἶναι χεῖρον τῆς δυνάμεως· τὸ γὰρ δυνάμενον ταὐτὸ ἄμφω τἀναντία. δῆλον ἄρα ὅτι οὐκ ἔστι τὸ κακὸν παρὰ τὰ πράγματα· ὕστερον γὰρ τῇ φύσει τὸ κακὸν τῆς δυνάμεως. οὐκ ἄρα οὐδ’ ἐν τοῖς ἐξ ἀρχῆς καὶ τοῖς ἀϊδίοις οὐθὲν ἔστιν οὔτε κακὸν οὔτε ἁμάρτημα οὔτε διεφθαρμένον (καὶ γὰρ ἡ διαφθορὰ τῶν κακῶν ἐστίν). εὑρίσκεται δὲ καὶ τὰ διαγράμματα ἐνεργείᾳ· διαιροῦντες γὰρ εὑρίσκουσιν. εἰ δ’ ἦν διῃρημένα, φανερὰ ἂν ἦν· νῦν δ’ ἐνυπάρχει δυνάμει. διὰ τί δύο ὀρθαὶ τὸ τρίγωνον; ὅτι αἱ περὶ μίαν στιγμὴν γωνίαι ἴσαι δύο ὀρθαῖς. εἰ οὖν ἀνῆκτο ἡ παρὰ τὴν πλευράν, ἰδόντι ἂν ἦν εὐθὺς δῆλον διὰ τί. ἐν ἡμικυκλίῳ ὀρθὴ καθόλου διὰ τί; ἐὰν ἴσαι τρεῖς, ἥ τε βάσις δύο καὶ ἡ ἐκ μέσου ἐπισταθεῖσα ὀρθή, ἰδόντι δῆλον τῷ ἐκεῖνο εἰδότι. ὥστε φανερὸν ὅτι τὰ δυνάμει ὄντα εἰς ἐνέργειαν ἀγόμενα εὑρίσκεται· αἴτιον δὲ ὅτι ἡ νόησις ἐνέργεια· ὥστ’ ἐξ ἐνεργείας ἡ δύναμις, καὶ διὰ τοῦτο ποιοῦντες γιγνώσκουσιν (ὕστερον γὰρ γενέσει ἡ ἐνέργεια ἡ κατ’ ἀριθμόν).

Ἐπεὶ δὲ τὸ ὂν λέγεται καὶ τὸ μὴ ὂν τὸ μὲν κατὰ τὰ σχήματα τῶν κατηγοριῶν, τὸ δὲ κατὰ δύναμιν ἢ ἐνέργειαν [1051b] τούτων ἢ τἀναντία, τὸ δὲ [κυριώτατα ὂν] ἀληθὲς ἢ ψεῦδος, τοῦτο δ’ ἐπὶ τῶν πραγμάτων ἐστὶ τῷ συγκεῖσθαι ἢ διῃρῆσθαι, ὥστε ἀληθεύει μὲν ὁ τὸ διῃρημένον οἰόμενος διῃρῆσθαι καὶ τὸ συγκείμενον συγκεῖσθαι, ἔψευσται δὲ ὁ ἐναντίως ἔχων ἢ τὰ πράγματα, πότ’ ἔστιν ἢ οὐκ ἔστι τὸ ἀληθὲς λεγόμενον ἢ ψεῦδος; τοῦτο γὰρ σκεπτέον τί λέγομεν. οὐ γὰρ διὰ τὸ ἡμᾶς οἴεσθαι ἀληθῶς σε λευκὸν εἶναι εἶ σὺ λευκός, ἀλλὰ διὰ τὸ σὲ εἶναι λευκὸν ἡμεῖς οἱ φάντες τοῦτο ἀληθεύομεν. εἰ δὴ τὰ μὲν ἀεὶ σύγκειται καὶ ἀδύνατα διαιρεθῆναι, τὰ δ’ ἀεὶ διῄρηται καὶ ἀδύνατα συντεθῆναι, τὰ δ’ ἐνδέχεται τἀναντία, τὸ μὲν εἶναί ἐστι τὸ συγκεῖσθαι καὶ ἓν εἶναι, τὸ δὲ μὴ εἶναι τὸ μὴ συγκεῖσθαι ἀλλὰ πλείω εἶναι· περὶ μὲν οὖν τὰ ἐνδεχόμενα ἡ αὐτὴ γίγνεται ψευδὴς καὶ ἀληθὴς δόξα καὶ ὁ λόγος ὁ αὐτός, καὶ ἐνδέχεται ὁτὲ μὲν ἀληθεύειν ὁτὲ δὲ ψεύδεσθαι· περὶ δὲ τὰ ἀδύνατα ἄλλως ἔχειν οὐ γίγνεται ὁτὲ μὲν ἀληθὲς ὁτὲ δὲ ψεῦδος, ἀλλ’ ἀεὶ ταὐτὰ ἀληθῆ καὶ ψευδῆ. - περὶ δὲ δὴ τὰ ἀσύνθετα τί τὸ εἶναι ἢ μὴ εἶναι καὶ τὸ ἀληθὲς καὶ τὸ ψεῦδος; οὐ γάρ ἐστι σύνθετον, ὥστε εἶναι μὲν ὅταν συγκέηται, μὴ εἶναι δὲ ἐὰν διῃρημένον ᾖ, ὥσπερ τὸ λευκὸν ‹τὸ› ξύλον ἢ τὸ ἀσύμμετρον τὴν διάμετρον· οὐδὲ τὸ ἀληθὲς καὶ τὸ ψεῦδος ὁμοίως ἔτι ὑπάρξει καὶ ἐπ’ ἐκείνων. ἢ ὥσπερ οὐδὲ τὸ ἀληθὲς ἐπὶ τούτων τὸ αὐτό, οὕτως οὐδὲ τὸ εἶναι, ἀλλ’ ἔστι τὸ μὲν ἀληθὲς ἢ ψεῦδος, τὸ μὲν θιγεῖν καὶ φάναι ἀληθές (οὐ γὰρ ταὐτὸ κατάφασις καὶ φάσις), τὸ δ’ ἀγνοεῖν μὴ θιγγάνειν (ἀπατηθῆναι γὰρ περὶ τὸ τί ἐστιν οὐκ ἔστιν ἀλλ’ ἢ κατὰ συμβεβηκός· ὁμοίως δὲ καὶ περὶ τὰς μὴ συνθετὰς οὐσίας, οὐ γὰρ ἔστιν ἀπατηθῆναι· καὶ πᾶσαι εἰσὶν ἐνεργείᾳ, οὐ δυνάμει, ἐγίγνοντο γὰρ ἂν καὶ ἐφθείροντο, νῦν δὲ τὸ ὂν αὐτὸ οὐ γίγνεται οὐδὲ φθείρεται, ἔκ τινος γὰρ ἂν ἐγίγνετο· - ὅσα δή ἐστιν ὅπερ εἶναί τι καὶ ἐνέργειαι, περὶ ταῦτα οὐκ ἔστιν ἀπατηθῆναι ἀλλ’ ἢ νοεῖν ἢ μή· ἀλλὰ τὸ τί ἐστι ζητεῖται περὶ αὐτῶν, εἰ τοιαῦτά ἐστιν ἢ μή)· τὸ δὲ εἶναι ὡς τὸ ἀληθές, καὶ τὸ μὴ εἶναι τὸ ὡς τὸ ψεῦδος, ἓν μέν ἐστιν, εἰ σύγκειται, ἀληθές, τὸ δ’ εἰ μὴ σύγκειται, ψεῦδος· τὸ δὲ ἕν, εἴπερ ὄν, οὕτως ἐστίν, [1052a] εἰ δὲ μὴ οὕτως, οὐκ ἔστιν· τὸ δὲ ἀληθὲς τὸ νοεῖν ταῦτα· τὸ δὲ ψεῦδος οὐκ ἔστιν, οὐδὲ ἀπάτη, ἀλλὰ ἄγνοια, οὐχ οἵα ἡ τυφλότης· ἡ μὲν γὰρ τυφλότης ἐστὶν ὡς ἂν εἰ τὸ νοητικὸν ὅλως μὴ ἔχοι τις. φανερὸν δὲ καὶ ὅτι περὶ τῶν ἀκινήτων οὐκ ἔστιν ἀπάτη κατὰ τὸ ποτέ, εἴ τις ὑπολαμβάνει ἀκίνητα. οἷον τὸ τρίγωνον εἰ μὴ μεταβάλλειν οἴεται, οὐκ οἰήσεται ποτὲ μὲν δύο ὀρθὰς ἔχειν ποτὲ δὲ οὔ (μεταβάλλοι γὰρ ἄν), ἀλλὰ τὶ μὲν τὶ δ’ οὔ, οἷον ἄρτιον ἀριθμὸν πρῶτον εἶναι μηθένα, ἢ τινὰς μὲν τινὰς δ’ οὔ· ἀριθμῷ δὲ περὶ ἕνα οὐδὲ τοῦτο· οὐ γὰρ ἔτι τινὰ μὲν τινὰ δὲ οὒ οἰήσεται, ἀλλ’ ἀληθεύσει ἢ ψεύσεται ὡς ἀεὶ οὕτως ἔχοντος.

I

Τὸ ἓν ὅτι μὲν λέγεται πολλαχῶς, ἐν τοῖς περὶ τοῦ ποσαχῶς διῃρημένοις εἴρηται πρότερον· πλεοναχῶς δὲ λεγομένου οἱ συγκεφαλαιούμενοι τρόποι εἰσὶ τέτταρες τῶν πρώτων καὶ καθ’ αὑτὰ λεγομένων ἓν ἀλλὰ μὴ κατὰ συμβεβηκός. τό τε γὰρ συνεχὲς ἢ ἁπλῶς ἢ μάλιστά γε τὸ φύσει καὶ μὴ ἁφῇ μηδὲ δεσμῷ (καὶ τούτων μᾶλλον ἓν καὶ πρότερον οὗ ἀδιαιρετωτέρα ἡ κίνησις καὶ μᾶλλον ἁπλῆ)· ἔτι τοιοῦτον καὶ μᾶλλον τὸ ὅλον καὶ ἔχον τινὰ μορφὴν καὶ εἶδος, μάλιστα δ’ εἴ τι φύσει τοιοῦτον καὶ μὴ βίᾳ, ὥσπερ ὅσα κόλλῃ ἢ γόμφῳ ἢ συνδέσμῳ, ἀλλὰ ἔχει ἐν αὑτῷ τὸ αἴτιον αὑτῷ τοῦ συνεχὲς εἶναι. τοιοῦτον δὲ τῷ μίαν τὴν κίνησιν εἶναι καὶ ἀδιαίρετον τόπῳ καὶ χρόνῳ, ὥστε φανερόν, εἴ τι φύσει κινήσεως ἀρχὴν ἔχει τῆς πρώτης τὴν πρώτην, οἷον λέγω φορᾶς κυκλοφορίαν, ὅτι τοῦτο πρῶτον μέγεθος ἕν. τὰ μὲν δὴ οὕτως ἓν ᾗ συνεχὲς ἢ ὅλον, τὰ δὲ ὧν ἂν ὁ λόγος εἷς ᾖ, τοιαῦτα δὲ ὧν ἡ νόησις μία, τοιαῦτα δὲ ὧν ἀδιαίρετος, ἀδιαίρετος δὲ τοῦ ἀδιαιρέτου εἴδει ἢ ἀριθμῷ· ἀριθμῷ μὲν οὖν τὸ καθ’ ἕκαστον ἀδιαίρετον, εἴδει δὲ τὸ τῷ γνωστῷ καὶ τῇ ἐπιστήμῃ, ὥσθ’ ἓν ἂν εἴη πρῶτον τὸ ταῖς οὐσίαις αἴτιον τοῦ ἑνός. λέγεται μὲν οὖν τὸ ἓν τοσαυταχῶς, τό τε συνεχὲς φύσει καὶ τὸ ὅλον, καὶ τὸ καθ’ ἕκαστον καὶ τὸ καθόλου, πάντα δὲ ταῦτα ἓν τῷ ἀδιαίρετον εἶναι τῶν μὲν [1052b] τὴν κίνησιν τῶν δὲ τὴν νόησιν ἢ τὸν λόγον. - δεῖ δὲ κατανοεῖν ὅτι οὐχ ὡσαύτως ληπτέον λέγεσθαι ποῖά τε ἓν λέγεται, καὶ τί ἐστι τὸ ἑνὶ εἶναι καὶ τίς αὐτοῦ λόγος. λέγεται μὲν γὰρ τὸ ἓν τοσαυταχῶς, καὶ ἕκαστον ἔσται ἓν τούτων, ᾧ ἂν ὑπάρχῃ τις τούτων τῶν τρόπων· τὸ δὲ ἑνὶ εἶναι ὁτὲ μὲν τούτων τινὶ ἔσται, ὁτὲ δὲ ἄλλῳ ὃ καὶ μᾶλλον ἐγγὺς τῷ ὀνόματί ἐστι, τῇ δυνάμει δ’ ἐκεῖνα, ὥσπερ καὶ περὶ στοιχείου καὶ αἰτίου εἰ δέοι λέγειν ἐπί τε τοῖς πράγμασι διορίζοντα καὶ τοῦ ὀνόματος ὅρον ἀποδιδόντα. ἔστι μὲν γὰρ ὡς στοιχεῖον τὸ πῦρ (ἔστι δ’ ἴσως καθ’ αὑτὸ καὶ τὸ ἄπειρον ἤ τι ἄλλο τοιοῦτον), ἔστι δ’ ὡς οὔ· οὐ γὰρ τὸ αὐτὸ πυρὶ καὶ στοιχείῳ εἶναι, ἀλλ’ ὡς μὲν πρᾶγμά τι καὶ φύσις τὸ πῦρ στοιχεῖον, τὸ δὲ ὄνομα σημαίνει τὸ τοδὶ συμβεβηκέναι αὐτῷ, ὅτι ἐστί τι ἐκ τούτου ὡς πρώτου ἐνυπάρχοντος. οὕτω καὶ ἐπὶ αἰτίου καὶ ἑνὸς καὶ τῶν τοιούτων ἁπάντων, διὸ καὶ τὸ ἑνὶ εἶναι τὸ ἀδιαιρέτῳ ἐστὶν εἶναι, ὅπερ τόδε ὄντι καὶ ἰδίᾳ χωριστῷ ἢ τόπῳ ἢ εἴδει ἢ διανοίᾳ, ἢ καὶ τὸ ὅλῳ καὶ ἀδιαιρέτῳ, μάλιστα δὲ τὸ μέτρῳ εἶναι πρώτῳ ἑκάστου γένους καὶ κυριώτατα τοῦ ποσοῦ·

ἐντεῦθεν γὰρ ἐπὶ τὰ ἄλλα ἐλήλυθεν. μέτρον γάρ ἐστιν ᾧ τὸ ποσὸν γιγνώσκεται· γιγνώσκεται δὲ ἢ ἑνὶ ἢ ἀριθμῷ τὸ ποσὸν ᾗ ποσόν, ὁ δὲ ἀριθμὸς ἅπας ἑνί, ὥστε πᾶν τὸ ποσὸν γιγνώσκεται ᾗ ποσὸν τῷ ἑνί, καὶ ᾧ πρώτῳ ποσὰ γιγνώσκεται, τοῦτο αὐτὸ ἕν· διὸ τὸ ἓν ἀριθμοῦ ἀρχὴ ᾗ ἀριθμός. ἐντεῦθεν δὲ καὶ ἐν τοῖς ἄλλοις λέγεται μέτρον τε ᾧ ἕκαστον πρώτῳ γιγνώσκεται, καὶ τὸ μέτρον ἑκάστου ἕν, ἐν μήκει, ἐν πλάτει, ἐν βάθει, ἐν βάρει, ἐν τάχει (τὸ γὰρ βάρος καὶ τάχος κοινὸν ἐν τοῖς ἐναντίοις· διττὸν γὰρ ἑκάτερον αὐτῶν, οἷον βάρος τό τε ὁποσηνοῦν ἔχον ῥοπὴν καὶ τὸ ἔχον ὑπεροχὴν ῥοπῆς, καὶ τάχος τό τε ὁποσηνοῦν κίνησιν ἔχον καὶ τὸ ὑπεροχὴν κινήσεως· ἔστι γάρ τι τάχος καὶ τοῦ βραδέος καὶ βάρος τοῦ κουφοτέρου). ἐν πᾶσι δὴ τούτοις μέτρον καὶ ἀρχὴ ἕν τι καὶ ἀδιαίρετον, ἐπεὶ καὶ ἐν ταῖς γραμμαῖς χρῶνται ὡς ἀτόμῳ τῇ ποδιαίᾳ. πανταχοῦ γὰρ τὸ μέτρον ἕν τι ζητοῦσι καὶ ἀδιαίρετον· τοῦτο δὲ τὸ ἁπλοῦν ἢ τῷ ποιῷ ἢ τῷ ποσῷ. ὅπου μὲν οὖν δοκεῖ μὴ εἶναι ἀφελεῖν ἢ προσθεῖναι, τοῦτο ἀκριβὲς τὸ μέτρον (διὸ [1053a] τὸ τοῦ ἀριθμοῦ ἀκριβέστατον· τὴν γὰρ μονάδα τιθέασι πάντῃ ἀδιαίρετον)· ἐν δὲ τοῖς ἄλλοις μιμοῦνται τὸ τοιοῦτον· ἀπὸ γὰρ σταδίου καὶ ταλάντου καὶ ἀεὶ τοῦ μείζονος λάθοι ἂν καὶ προστεθέν τι καὶ ἀφαιρεθὲν μᾶλλον ἢ ἀπὸ ἐλάττονος· ὥστε ἀφ’ οὗ πρώτου κατὰ τὴν αἴσθησιν μὴ ἐνδέχεται, τοῦτο πάντες ποιοῦνται μέτρον καὶ ὑγρῶν καὶ ξηρῶν καὶ βάρους καὶ μεγέθους· καὶ τότ’ οἴονται εἰδέναι τὸ ποσόν, ὅταν εἰδῶσι διὰ τούτου τοῦ μέτρου. καὶ δὴ καὶ κίνησιν τῇ ἁπλῇ κινήσει καὶ τῇ ταχίστῃ (ὀλίγιστον γὰρ αὕτη ἔχει χρόνον)· διὸ ἐν τῇ ἀστρολογίᾳ τὸ τοιοῦτον ἓν ἀρχὴ καὶ μέτρον (τὴν κίνησιν γὰρ ὁμαλὴν ὑποτίθενται καὶ ταχίστην τὴν τοῦ οὐρανοῦ, πρὸς ἣν κρίνουσι τὰς ἄλλας), καὶ ἐν μουσικῇ δίεσις, ὅτι ἐλάχιστον, καὶ ἐν φωνῇ στοιχεῖον. καὶ ταῦτα πάντα ἕν τι οὕτως, οὐχ ὡς κοινόν τι τὸ ἓν ἀλλ’ ὥσπερ εἴρηται. - οὐκ ἀεὶ δὲ τῷ ἀριθμῷ ἓν τὸ μέτρον ἀλλ’ ἐνίοτε πλείω, οἷον αἱ διέσεις δύο, αἱ μὴ κατὰ τὴν ἀκοὴν ἀλλ’ ἐν τοῖς λόγοις, καὶ αἱ φωναὶ πλείους αἷς μετροῦμεν, καὶ ἡ διάμετρος δυσὶ μετρεῖται καὶ ἡ πλευρά, καὶ τὰ μεγέθη πάντα. οὕτω δὴ πάντων μέτρον τὸ ἕν, ὅτι γνωρίζομεν ἐξ ὧν ἐστὶν ἡ οὐσία διαιροῦντες ἢ κατὰ τὸ ποσὸν ἢ κατὰ τὸ εἶδος. καὶ διὰ τοῦτο τὸ ἓν ἀδιαίρετον, ὅτι τὸ πρῶτον ἑκάστων ἀδιαίρετον. οὐχ ὁμοίως δὲ πᾶν ἀδιαίρετον, οἷον ποὺς καὶ μονάς, ἀλλὰ τὸ μὲν πάντῃ, τὸ δ’ εἰς ἀδιαίρετα πρὸς τὴν αἴσθησιν θετέον, ὥσπερ εἴρηται ἤδη· ἴσως γὰρ πᾶν συνεχὲς διαιρετόν. ἀεὶ δὲ συγγενὲς τὸ μέτρον· μεγεθῶν μὲν γὰρ μέγεθος, καὶ καθ’ ἕκαστον μήκους μῆκος, πλάτους πλάτος, φωνῆς φωνή, βάρους βάρος, μονάδων μονάς. οὕτω γὰρ δεῖ λαμβάνειν, ἀλλ’ οὐχ ὅτι ἀριθμῶν ἀριθμός· καίτοι ἔδει, εἰ ὁμοίως· ἀλλ’ οὐχ ὁμοίως ἀξιοῖ ἀλλ’ ὥσπερ εἰ μονάδων μονάδας ἀξιώσειε μέτρον ἀλλὰ μὴ μονάδα· ὁ δ’ ἀριθμὸς πλῆθος μονάδων. καὶ τὴν ἐπιστήμην δὲ μέτρον τῶν πραγμάτων λέγομεν καὶ τὴν αἴσθησιν διὰ τὸ αὐτό, ὅτι γνωρίζομέν τι αὐταῖς, ἐπεὶ μετροῦνται μᾶλλον ἢ μετροῦσιν. ἀλλὰ συμβαίνει ἡμῖν ὥσπερ ἂν εἰ ἄλλου ἡμᾶς μετροῦντος ἐγνωρίσαμεν πηλίκοι ἐσμὲν τῷ τὸν πῆχυν ἐπὶ τοσοῦτον ἡμῶν ἐπιβάλλειν. Πρωταγόρας δ’ ἄνθρωπόν φησι πάντων εἶναι μέτρον, ὥσπερ ἂν εἰ τὸν [1053b] ἐπιστήμονα εἰπὼν ἢ τὸν αἰσθανόμενον· τούτους δ’ ὅτι ἔχουσιν ὁ μὲν αἴσθησιν ὁ δὲ ἐπιστήμην, ἅ φαμεν εἶναι μέτρα τῶν ὑποκειμένων. οὐθὲν δὴ λέγοντες περιττὸν φαίνονταί τι λέγειν. ὅτι μὲν οὖν τὸ ἑνὶ εἶναι μάλιστά ἐστι κατὰ τὸ ὄνομα ἀφορίζοντι μέτρον τι, καὶ κυριώτατα τοῦ ποσοῦ, εἶτα τοῦ ποιοῦ, φανερόν· ἔσται δὲ τοιοῦτον τὸ μὲν ἂν ᾖ ἀδιαίρετον κατὰ τὸ ποσόν, τὸ δὲ ἂν κατὰ τὸ ποιόν· διόπερ ἀδιαίρετον τὸ ἓν ἢ ἁπλῶς ἢ ᾗ ἕν.

Κατὰ δὲ τὴν οὐσίαν καὶ τὴν φύσιν ζητητέον ποτέρως ἔχει, καθάπερ ἐν τοῖς διαπορήμασιν ἐπήλθομεν τί τὸ ἕν ἐστι καὶ πῶς δεῖ περὶ αὐτοῦ λαβεῖν, πότερον ὡς οὐσίας τινὸς οὔσης αὐτοῦ τοῦ ἑνός, καθάπερ οἵ τε Πυθαγόρειοί φασι πρότερον καὶ Πλάτων ὕστερον, ἢ μᾶλλον ὑπόκειταί τις φύσις καὶ [πῶς] δεῖ γνωριμωτέρως λεχθῆναι καὶ μᾶλλον ὥσπερ οἱ περὶ φύσεως· ἐκείνων γὰρ ὁ μέν τις φιλίαν εἶναί φησι τὸ ἓν ὁ δ’ ἀέρα ὁ δὲ τὸ ἄπειρον. εἰ δὴ μηδὲν τῶν καθόλου δυνατὸν οὐσίαν εἶναι, καθάπερ ἐν τοῖς περὶ οὐσίας καὶ περὶ τοῦ ὄντος εἴρηται λόγοις, οὐδ’ αὐτὸ τοῦτο οὐσίαν ὡς ἕν τι παρὰ τὰ πολλὰ δυνατὸν εἶναι (κοινὸν γάρ) ἀλλ’ ἢ κατηγόρημα μόνον, δῆλον ὡς οὐδὲ τὸ ἕν· τὸ γὰρ ὂν καὶ τὸ ἓν καθόλου κατηγορεῖται μάλιστα πάντων. ὥστε οὔτε τὰ γένη φύσεις τινὲς καὶ οὐσίαι χωρισταὶ τῶν ἄλλων εἰσίν, οὔτε τὸ ἓν γένος ἐνδέχεται εἶναι διὰ τὰς αὐτὰς αἰτίας δι’ ἅσπερ οὐδὲ τὸ ὂν οὐδὲ τὴν οὐσίαν. ἔτι δ’ ὁμοίως ἐπὶ πάντων ἀναγκαῖον ἔχειν· λέγεται δ’ ἰσαχῶς τὸ ὂν καὶ τὸ ἕν· ὥστ’ ἐπείπερ ἐν τοῖς ποιοῖς ἐστί τι τὸ ἓν καί τις φύσις, ὁμοίως δὲ καὶ ἐν τοῖς ποσοῖς, δῆλον ὅτι καὶ ὅλως ζητητέον τί τὸ ἕν, ὥσπερ καὶ τί τὸ ὄν, ὡς οὐχ ἱκανὸν ὅτι τοῦτο αὐτὸ ἡ φύσις αὐτοῦ. ἀλλὰ μὴν ἔν γε χρώμασίν ἐστι τὸ ἓν χρῶμα, οἷον τὸ λευκόν, εἶτα τὰ ἄλλα ἐκ τούτου καὶ τοῦ μέλανος φαίνεται γιγνόμενα, τὸ δὲ μέλαν στέρησις λευκοῦ ὥσπερ καὶ φωτὸς σκότος [τοῦτο δ’ ἐστὶ στέρησις φωτός]· ὥστε εἰ τὰ ὄντα ἦν χρώματα, ἦν ἂν ἀριθμός τις τὰ ὄντα, ἀλλὰ τίνων; δῆλον δὴ ὅτι χρωμάτων, καὶ τὸ ἓν ἦν ἄν τι ἕν, οἷον τὸ λευκόν. ὁμοίως δὲ καὶ εἰ μέλη τὰ ὄντα ἦν, ἀριθμὸς ἂν ἦν, διέσεων μέντοι, ἀλλ’ οὐκ ἀριθμὸς ἡ οὐσία αὐτῶν· καὶ τὸ ἓν ἦν ἄν τι οὗ ἡ οὐσία οὐ [1054a] τὸ ἓν ἀλλὰ δίεσις. ὁμοίως δὲ καὶ ἐπὶ τῶν φθόγγων στοιχείων ἂν ἦν τὰ ὄντα ἀριθμός, καὶ τὸ ἓν στοιχεῖον φωνῆεν. καὶ εἰ σχήματα εὐθύγραμμα, σχημάτων ἂν ἦν ἀριθμός, καὶ τὸ ἓν τὸ τρίγωνον. ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων γενῶν, ὥστ’ εἴπερ καὶ ἐν τοῖς πάθεσι καὶ ἐν τοῖς ποιοῖς καὶ ἐν τοῖς ποσοῖς καὶ ἐν κινήσει ἀριθμῶν ὄντων καὶ ἑνός τινος ἐν ἅπασιν ὅ τε ἀριθμὸς τινῶν καὶ τὸ ἓν τὶ ἕν, ἀλλ’ οὐχὶ τοῦτο αὐτὸ ἡ οὐσία, καὶ ἐπὶ τῶν οὐσιῶν ἀνάγκη ὡσαύτως ἔχειν· ὁμοίως γὰρ ἔχει ἐπὶ πάντων. - ὅτι μὲν οὖν τὸ ἓν ἐν ἅπαντι γένει ἐστί τις φύσις, καὶ οὐδενὸς τοῦτό γ’ αὐτὸ ἡ φύσις τὸ ἕν, φανερόν, ἀλλ’ ὥσπερ ἐν χρώμασι χρῶμα ἓν ζητητέον αὐτὸ τὸ ἕν, οὕτω καὶ ἐν οὐσίᾳ οὐσίαν μίαν αὐτὸ τὸ ἕν· ὅτι δὲ ταὐτὸ σημαίνει πως τὸ ἓν καὶ τὸ ὄν, δῆλον τῷ τε παρακολουθεῖν ἰσαχῶς ταῖς κατηγορίαις καὶ μὴ εἶναι ἐν μηδεμιᾷ (οἷον οὔτ’ ἐν τῇ τί ἐστιν οὔτ’ ἐν τῇ ποῖον, ἀλλ’ ὁμοίως ἔχει ὥσπερ τὸ ὄν) καὶ τῷ μὴ προσκατηγορεῖσθαι ἕτερόν τι τὸ εἷς ἄνθρωπος τοῦ ἄνθρωπος (ὥσπερ οὐδὲ τὸ εἶναι παρὰ τὸ τί ἢ ποῖον ἢ πόσον) καὶ ‹τῷ εἶναι› τὸ ἑνὶ εἶναι τὸ ἑκάστῳ εἶναι.

Ἀντίκειται δὲ τὸ ἓν καὶ τὰ πολλὰ κατὰ πλείους τρόπους, ὧν ἕνα τὸ ἓν καὶ τὸ πλῆθος ὡς ἀδιαίρετον καὶ διαιρετόν· τὸ μὲν γὰρ ἢ διῃρημένον ἢ διαιρετὸν πλῆθός τι λέγεται, τὸ δὲ ἀδιαίρετον ἢ μὴ διῃρημένον ἕν. ἐπεὶ οὖν αἱ ἀντιθέσεις τετραχῶς, καὶ τούτων κατὰ στέρησιν λέγεται θάτερον, ἐναντία ἂν εἴη καὶ οὔτε ὡς ἀντίφασις οὔτε ὡς τὰ πρός τι λεγόμενα. λέγεται δὲ ἐκ τοῦ ἐναντίου καὶ δηλοῦται τὸ ἕν, ἐκ τοῦ διαιρετοῦ τὸ ἀδιαίρετον, διὰ τὸ μᾶλλον αἰσθητὸν τὸ πλῆθος εἶναι καὶ τὸ διαιρετὸν ἢ τὸ ἀδιαίρετον, ὥστε τῷ λόγῳ πρότερον τὸ πλῆθος τοῦ ἀδιαιρέτου διὰ τὴν αἴσθησιν. ἔστι δὲ τοῦ μὲν ἑνός, ὥσπερ καὶ ἐν τῇ διαιρέσει τῶν ἐναντίων διεγράψαμεν, τὸ ταὐτὸ καὶ ὅμοιον καὶ ἴσον, τοῦ δὲ πλήθους τὸ ἕτερον καὶ ἀνόμοιον καὶ ἄνισον. λεγομένου δὲ τοῦ ταὐτοῦ πολλαχῶς, ἕνα μὲν τρόπον κατ’ ἀριθμὸν λέγομεν ἐνίοτε αὐτό, τὸ δ’ ἐὰν καὶ λόγῳ καὶ ἀριθμῷ ἓν ᾖ, οἷον σὺ σαυτῷ καὶ τῷ εἴδει καὶ τῇ ὕλῃ ἕν· ἔτι δ’ ἐὰν ὁ λόγος [1054b] ὁ τῆς πρώτης οὐσίας εἷς ᾖ, οἷον αἱ ἴσαι γραμμαὶ εὐθεῖαι αἱ αὐταί, καὶ τὰ ἴσα καὶ ἰσογώνια τετράγωνα, καίτοι πλείω· ἀλλ’ ἐν τούτοις ἡ ἰσότης ἑνότης. ὅμοια δὲ ἐὰν μὴ ταὐτὰ ἁπλῶς ὄντα, μηδὲ κατὰ τὴν οὐσίαν ἀδιάφορα τὴν συγκειμένην, κατὰ τὸ εἶδος ταὐτὰ ᾖ, ὥσπερ τὸ μεῖζον τετράγωνον τῷ μικρῷ ὅμοιον, καὶ αἱ ἄνισοι εὐθεῖαι· αὗται γὰρ ὅμοιαι μέν, αἱ αὐταὶ δὲ ἁπλῶς οὔ. τὰ δὲ ἐὰν τὸ αὐτὸ εἶδος ἔχοντα, ἐν οἷς τὸ μᾶλλον καὶ ἧττον ἐγγίγνεται, μήτε μᾶλλον ᾖ μήτε ἧττον. τὰ δὲ ἐὰν ᾖ τὸ αὐτὸ πάθος καὶ ἓν τῷ εἴδει, οἷον τὸ λευκόν, σφόδρα καὶ ἧττον, ὅμοιά φασιν εἶναι ὅτι ἓν τὸ εἶδος αὐτῶν. τὰ δὲ ἐὰν πλείω ἔχῃ ταὐτὰ ἢ ἕτερα, ἢ ἁπλῶς ἢ τὰ πρόχειρα, οἷον καττίτερος ἀργύρῳ ᾗ λευκόν, χρυσὸς δὲ πυρὶ ᾗ ξανθὸν καὶ πυρρόν. ὥστε δῆλον ὅτι καὶ τὸ ἕτερον καὶ τὸ ἀνόμοιον πολλαχῶς λέγεται. καὶ τὸ μὲν ἄλλο ἀντικειμένως καὶ τὸ ταὐτό, διὸ ἅπαν πρὸς ἅπαν ἢ ταὐτὸ ἢ ἄλλο· τὸ δ’ ἐὰν μὴ καὶ ἡ ὕλη καὶ ὁ λόγος εἷς, διὸ σὺ καὶ ὁ πλησίον ἕτερος· τὸ δὲ τρίτον ὡς τὰ ἐν τοῖς μαθηματικοῖς. τὸ μὲν οὖν ἕτερον ἢ ταὐτὸ διὰ τοῦτο πᾶν πρὸς πᾶν λέγεται, ὅσα λέγεται ἓν καὶ ὄν· οὐ γὰρ ἀντίφασίς ἐστι τοῦ ταὐτοῦ, διὸ οὐ λέγεται ἐπὶ τῶν μὴ ὄντων (τὸ δὲ μὴ ταὐτὸ λέγεται), ἐπὶ δὲ τῶν ὄντων πάντων· ἢ γὰρ ἓν ἢ οὐχ ἓν πέφυχ’ ὅσα ὂν καὶ ἕν. τὸ μὲν οὖν ἕτερον καὶ ταὐτὸν οὕτως ἀντίκειται, διαφορὰ δὲ καὶ ἑτερότης ἄλλο. τὸ μὲν γὰρ ἕτερον καὶ οὗ ἕτερον οὐκ ἀνάγκη εἶναι τινὶ ἕτερον· πᾶν γὰρ ἢ ἕτερον ἢ ταὐτὸ ὅ τι ἂν ᾖ ὄν· τὸ δὲ διάφορον τινὸς τινὶ διάφορον, ὥστε ἀνάγκη ταὐτό τι εἶναι ᾧ διαφέρουσιν. τοῦτο δὲ τὸ ταὐτὸ γένος ἢ εἶδος· πᾶν γὰρ τὸ διαφέρον διαφέρει ἢ γένει ἢ εἴδει, γένει μὲν ὧν μὴ ἔστι κοινὴ ἡ ὕλη μηδὲ γένεσις εἰς ἄλληλα, οἷον ὅσων ἄλλο σχῆμα τῆς κατηγορίας, εἴδει δὲ ὧν τὸ αὐτὸ γένος (λέγεται δὲ γένος ὃ ἄμφω τὸ αὐτὸ λέγονται κατὰ τὴν οὐσίαν τὰ διάφορα). τὰ δ’ ἐναντία διάφορα, καὶ ἡ ἐναντίωσις διαφορά τις. ὅτι δὲ καλῶς τοῦτο ὑποτιθέμεθα, δῆλον ἐκ τῆς ἐπαγωγῆς· πάντα γὰρ διαφέροντα φαίνεται καὶ ταῦτα, οὐ μόνον ἕτερα ὄντα ἀλλὰ τὰ μὲν τὸ γένος ἕτερα τὰ δ’ ἐν τῇ αὐτῇ συστοιχίᾳ [1055a] τῆς κατηγορίας, ὥστ’ ἐν ταὐτῷ γένει καὶ ταὐτὰ τῷ γένει. διώρισται δ’ ἐν ἄλλοις ποῖα τῷ γένει ταὐτὰ ἢ ἕτερα.

Ἐπεὶ δὲ διαφέρειν ἐνδέχεται ἀλλήλων τὰ διαφέροντα πλεῖον καὶ ἔλαττον, ἔστι τις καὶ μεγίστη διαφορά, καὶ ταύτην λέγω ἐναντίωσιν. ὅτι δ’ ἡ μεγίστη ἐστὶ διαφορά, δῆλον ἐκ τῆς ἐπαγωγῆς. τὰ μὲν γὰρ γένει διαφέροντα οὐκ ἔχει ὁδὸν εἰς ἄλληλα, ἀλλ’ ἀπέχει πλέον καὶ ἀσύμβλητα· τοῖς δ’ εἴδει διαφέρουσιν αἱ γενέσεις ἐκ τῶν ἐναντίων εἰσὶν ὡς ἐσχάτων, τὸ δὲ τῶν ἐσχάτων διάστημα μέγιστον, ὥστε καὶ τὸ τῶν ἐναντίων. ἀλλὰ μὴν τό γε μέγιστον ἐν ἑκάστῳ γένει τέλειον. μέγιστόν τε γὰρ οὗ μὴ ἔστιν ὑπερβολή, καὶ τέλειον οὗ μὴ ἔστιν ἔξω λαβεῖν τι δυνατόν· τέλος γὰρ ἔχει ἡ τελεία διαφορά (ὥσπερ καὶ τἆλλα τῷ τέλος ἔχειν λέγεται τέλεια), τοῦ δὲ τέλους οὐθὲν ἔξω· ἔσχατον γὰρ ἐν παντὶ καὶ περιέχει, διὸ οὐδὲν ἔξω τοῦ τέλους, οὐδὲ προσδεῖται οὐδενὸς τὸ τέλειον. ὅτι μὲν οὖν ἡ ἐναντιότης ἐστὶ διαφορὰ τέλειος, ἐκ τούτων δῆλον· πολλαχῶς δὲ λεγομένων τῶν ἐναντίων, ἀκολουθήσει τὸ τελείως οὕτως ὡς ἂν καὶ τὸ ἐναντίοις εἶναι ὑπάρχῃ αὐτοῖς. τούτων δὲ ὄντων φανερὸν ὅτι οὐκ ἐνδέχεται ἑνὶ πλείω ἐναντία εἶναι (οὔτε γὰρ τοῦ ἐσχάτου ἐσχατώτερον εἴη ἄν τι, οὔτε τοῦ ἑνὸς διαστήματος πλείω δυοῖν ἔσχατα), ὅλως τε εἰ ἔστιν ἡ ἐναντιότης διαφορά, ἡ δὲ διαφορὰ δυοῖν, ὥστε καὶ ἡ τέλειος. ἀνάγκη δὲ καὶ τοὺς ἄλλους ὅρους ἀληθεῖς εἶναι τῶν ἐναντίων. καὶ γὰρ πλεῖστον διαφέρει ἡ τέλειος διαφορά (τῶν τε γὰρ γένει διαφερόντων οὐκ ἔστιν ἐξωτέρω λαβεῖν καὶ τῶν εἴδει· δέδεικται γὰρ ὅτι πρὸς τὰ ἔξω τοῦ γένους οὐκ ἔστι διαφορά, τούτων δ' αὕτη μεγίστη), καὶ τὰ ἐν ταὐτῷ γένει πλεῖστον διαφέροντα ἐναντία (μεγίστη γὰρ διαφορὰ τούτων ἡ τέλειος), καὶ τὰ ἐν τῷ αὐτῷ δεκτικῷ πλεῖστον διαφέροντα ἐναντία (ἡ γὰρ ὕλη ἡ αὐτὴ τοῖς ἐναντίοις) καὶ τὰ ὑπὸ τὴν αὐτὴν δύναμιν πλεῖστον διαφέροντα (καὶ γὰρ ἡ ἐπιστήμη περὶ ἓν γένος ἡ μία)· ἐν οἷς ἡ τελεία διαφορὰ μεγίστη. - πρώτη δὲ ἐναντίωσις ἕξις καὶ στέρησίς ἐστιν· οὐ πᾶσα δὲ στέρησις (πολλαχῶς γὰρ λέγεται ἡ στέρησις) ἀλλ' ἥτις ἂν τελεία ᾖ. τὰ δ' ἄλλα ἐναντία κατὰ ταῦτα λεχθήσεται, τὰ μὲν τῷ ἔχειν τὰ δὲ τῷ ποιεῖν ἢ ποιητικὰ εἶναι τὰ δὲ τῷ λήψεις εἶναι καὶ ἀποβολαὶ τούτων ἢ ἄλλων ἐναντίων. εἰ δὴ ἀντίκειται μὲν ἀντίφασις καὶ στέρησις καὶ [1055b] ἐναντιότης καὶ τὰ πρός τι, τούτων δὲ πρῶτον ἀντίφασις, ἀντιφάσεως δὲ μηδέν ἐστι μεταξύ, τῶν δὲ ἐναντίων ἐνδέχεται, ὅτι μὲν οὐ ταὐτὸν ἀντίφασις καὶ τἀναντία δῆλον· ἡ δὲ στέρησις ἀντίφασίς τίς ἐστιν· ἢ γὰρ τὸ ἀδύνατον ὅλως ἔχειν, ἢ ὃ ἂν πεφυκὸς ἔχειν μὴ ἔχῃ, ἐστέρηται ἢ ὅλως ἢ πὼς ἀφορισθέν (πολλαχῶς γὰρ ἤδη τοῦτο λέγομεν, ὥσπερ διῄρηται ἡμῖν ἐν ἄλλοις), ὥστ' ἐστὶν ἡ στέρησις ἀντίφασίς τις ἢ ἀδυναμία διορισθεῖσα ἢ συνειλημμένη τῷ δεκτικῷ· διὸ ἀντιφάσεως μὲν οὐκ ἔστι μεταξύ, στερήσεως δέ τινος ἔστιν· ἴσον μὲν γὰρ ἢ οὐκ ἴσον πᾶν, ἴσον δ' ἢ ἄνισον οὐ πᾶν, ἀλλ' εἴπερ, μόνον ἐν τῷ δεκτικῷ τοῦ ἴσου. εἰ δὴ αἱ γενέσεις τῇ ὕλῃ ἐκ τῶν ἐναντίων, γίγνονται δὲ ἢ ἐκ τοῦ εἴδους καὶ τῆς τοῦ εἴδους ἕξεως ἢ ἐκ στερήσεώς τινος τοῦ εἴδους καὶ τῆς μορφῆς, δῆλον ὅτι ἡ μὲν ἐναντίωσις στέρησις ἂν εἴη πᾶσα, ἡ δὲ στέρησις ἴσως οὐ πᾶσα ἐναντιότης (αἴτιον δ' ὅτι πολλαχῶς ἐνδέχεται ἐστερῆσθαι τὸ ἐστερημένον)· ἐξ ὧν γὰρ αἱ μεταβολαὶ ἐσχάτων, ἐναντία ταῦτα. φανερὸν δὲ καὶ διὰ τῆς ἐπαγωγῆς. πᾶσα γὰρ ἐναντίωσις ἔχει στέρησιν θάτερον τῶν ἐναντίων, ἀλλ' οὐχ ὁμοίως πάντα· ἀνισότης μὲν γὰρ ἰσότητος ἀνομοιότης δὲ ὁμοιότητος κακία δὲ ἀρετῆς, διαφέρει δὲ ὥσπερ εἴρηται· τὸ μὲν γὰρ ἐὰν μόνον ᾖ ἐστερημένον, τὸ δ' ἐὰν ἢ ποτὲ ἢ ἔν τινι, οἷον ἂν ἐν ἡλικίᾳ τινὶ ἢ τῷ κυρίῳ, ἢ πάντῃ· διὸ τῶν μὲν ἔστι μεταξύ, καὶ ἔστιν οὔτε ἀγαθὸς ἄνθρωπος οὔτε κακός, τῶν δὲ οὐκ ἔστιν, ἀλλ' ἀνάγκη εἶναι ἢ περιττὸν ἢ ἄρτιον. ἔτι τὰ μὲν ἔχει τὸ ὑποκείμενον ὡρισμένον, τὰ δ' οὔ. ὥστε φανερὸν ὅτι ἀεὶ θάτερον τῶν ἐναντίων λέγεται κατὰ στέρησιν· ἀπόχρη δὲ κἂν τὰ πρῶτα καὶ τὰ γένη τῶν ἐναντίων, οἷον τὸ ἓν καὶ τὰ πολλά· τὰ γὰρ ἄλλα εἰς ταῦτα ἀνάγεται.

Ἐπεὶ δὲ ἓν ἑνὶ ἐναντίον, ἀπορήσειεν ἄν τις πῶς ἀντίκειται τὸ ἓν καὶ τὰ πολλά, καὶ τὸ ἴσον τῷ μεγάλῳ καὶ τῷ μικρῷ. εἰ γὰρ τὸ πότερον ἀεὶ ἐν ἀντιθέσει λέγομεν, οἷον πότερον λευκὸν ἢ μέλαν, καὶ πότερον λευκὸν ἢ οὐ λευκόν (πότερον δὲ ἄνθρωπος ἢ λευκὸν οὐ λέγομεν, ἐὰν μὴ ἐξ ὑποθέσεως καὶ ζητοῦντες οἷον πότερον ἦλθε Κλέων ἢ Σωκράτης - ἀλλ’ οὐκ ἀνάγκη ἐν οὐδενὶ γένει τοῦτο· ἀλλὰ καὶ τοῦτο ἐκεῖθεν ἐλήλυθεν· τὰ γὰρ ἀντικείμενα μόνα οὐκ ἐνδέχεται ἅμα ὑπάρχειν, ᾧ καὶ ἐνταῦθα χρῆται ἐν τῷ πότερος ἦλθεν· [1056a] εἰ γὰρ ἅμα ἐνεδέχετο, γελοῖον τὸ ἐρώτημα· εἰ δέ, καὶ οὕτως ὁμοίως ἐμπίπτει εἰς ἀντίθεσιν, εἰς τὸ ἓν ἢ πολλά, οἷον πότερον ἀμφότεροι ἦλθον ἢ ἅτερος)· - εἰ δὴ ἐν τοῖς ἀντικειμένοις ἀεὶ τοῦ ποτέρου ἡ ζήτησις, λέγεται δὲ πότερον μεῖζον ἢ ἔλαττον ἢ ἴσον, τίς ἐστιν ἡ ἀντίθεσις πρὸς ταῦτα τοῦ ἴσου; οὔτε γὰρ θατέρῳ μόνῳ ἐναντίον οὔτ’ ἀμφοῖν· τί γὰρ μᾶλλον τῷ μείζονι ἢ τῷ ἐλάττονι; ἔτι τῷ ἀνίσῳ ἐναντίον τὸ ἴσον, ὥστε πλείοσιν ἔσται ἢ ἑνί. εἰ δὲ τὸ ἄνισον σημαίνει τὸ αὐτὸ ἅμα ἀμφοῖν, εἴη μὲν ἂν ἀντικείμενον ἀμφοῖν (καὶ ἡ ἀπορία βοηθεῖ τοῖς φάσκουσι τὸ ἄνισον δυάδα εἶναι), ἀλλὰ συμβαίνει ἓν δυοῖν ἐναντίον· ὅπερ ἀδύνατον. ἔτι τὸ μὲν ἴσον μεταξὺ φαίνεται μεγάλου καὶ μικροῦ, ἐναντίωσις δὲ μεταξὺ οὐδεμία οὔτε φαίνεται οὔτε ἐκ τοῦ ὁρισμοῦ δυνατόν· οὐ γὰρ ἂν εἴη τελεία μεταξύ τινος οὖσα, ἀλλὰ μᾶλλον ἔχει ἀεὶ ἑαυτῆς τι μεταξύ. λείπεται δὴ ἢ ὡς ἀπόφασιν ἀντικεῖσθαι ἢ ὡς στέρησιν. θατέρου μὲν δὴ οὐκ ἐνδέχεται (τί γὰρ μᾶλλον τοῦ μεγάλου ἢ μικροῦ;)· ἀμφοῖν ἄρα ἀπόφασις στερητική, διὸ καὶ πρὸς ἀμφότερα τὸ πότερον λέγεται, πρὸς δὲ θάτερον οὔ (οἷον πότερον μεῖζον ἢ ἴσον, ἢ πότερον ἴσον ἢ ἔλαττον), ἀλλ’ ἀεὶ τρία. οὐ στέρησις δὲ ἐξ ἀνάγκης· οὐ γὰρ πᾶν ἴσον ὃ μὴ μεῖζον ἢ ἔλαττον, ἀλλ’ ἐν οἷς πέφυκεν ἐκεῖνα. - ἔστι δὴ τὸ ἴσον τὸ μήτε μέγα μήτε μικρόν, πεφυκὸς δὲ ἢ μέγα ἢ μικρὸν εἶναι· καὶ ἀντίκειται ἀμφοῖν ὡς ἀπόφασις στερητική, διὸ καὶ μεταξύ ἐστιν. καὶ τὸ μήτε ἀγαθὸν μήτε κακὸν ἀντίκειται ἀμφοῖν, ἀλλ’ ἀνώνυμον· πολλαχῶς γὰρ λέγεται ἑκάτερον καὶ οὐκ ἔστιν ἓν τὸ δεκτικόν, ἀλλὰ μᾶλλον τὸ μήτε λευκὸν μήτε μέλαν. ἓν δὲ οὐδὲ τοῦτο λέγεται, ἀλλ’ ὡρισμένα πως ἐφ’ ὧν λέγεται στερητικῶς ἡ ἀπόφασις αὕτη· ἀνάγκη γὰρ ἢ φαιὸν ἢ ὠχρὸν εἶναι ἢ τοιοῦτόν τι ἄλλο. ὥστε οὐκ ὀρθῶς ἐπιτιμῶσιν οἱ νομίζοντες ὁμοίως λέγεσθαι πάντα, ὥστε ἔσεσθαι ὑποδήματος καὶ χειρὸς μεταξὺ τὸ μήτε ὑπόδημα μήτε χεῖρα, ἔπειπερ καὶ τὸ μήτε ἀγαθὸν μήτε κακὸν τοῦ ἀγαθοῦ καὶ τοῦ κακοῦ, ὡς πάντων ἐσομένου τινὸς μεταξύ. οὐκ ἀνάγκη δὲ τοῦτο συμβαίνειν. ἡ μὲν γὰρ ἀντικειμένων συναπόφασίς ἐστιν ὧν ἔστι μεταξύ τι καὶ διάστημά τι πέφυκεν [1056b] εἶναι· τῶν δ’ οὐκ ἔστι διαφορά· ἐν ἄλλῳ γὰρ γένει ὧν αἱ συναποφάσεις, ὥστ’ οὐχ ἓν τὸ ὑποκείμενον.

Ὁμοίως δὲ καὶ περὶ τοῦ ἑνὸς καὶ τῶν πολλῶν ἀπορήσειεν ἄν τις. εἰ γὰρ τὰ πολλὰ τῷ ἑνὶ ἁπλῶς ἀντίκειται, συμβαίνει ἔνια ἀδύνατα. τὸ γὰρ ἓν ὀλίγον ἢ ὀλίγα ἔσται· τὰ γὰρ πολλὰ καὶ τοῖς ὀλίγοις ἀντίκειται. ἔτι τὰ δύο πολλά, εἴπερ τὸ διπλάσιον πολλαπλάσιον λέγεται δὲ κατὰ τὰ δύο· ὥστε τὸ ἓν ὀλίγον· πρὸς τί γὰρ πολλὰ τὰ δύο εἰ μὴ πρὸς ἕν τε καὶ τὸ ὀλίγον; οὐθὲν γάρ ἐστιν ἔλαττον. ἔτι εἰ ὡς ἐν μήκει τὸ μακρὸν καὶ βραχύ, οὕτως ἐν πλήθει τὸ πολὺ καὶ ὀλίγον, καὶ ὃ ἂν ᾖ πολὺ καὶ πολλά, καὶ τὰ πολλὰ πολύ (εἰ μή τι ἄρα διαφέρει ἐν συνεχεῖ εὐορίστῳ), τὸ ὀλίγον πλῆθός τι ἔσται. ὥστε τὸ ἓν πλῆθός τι, εἴπερ καὶ ὀλίγον· τοῦτο δ' ἀνάγκη, εἰ τὰ δύο πολλά. ἀλλ' ἴσως τὰ πολλὰ λέγεται μέν πως καὶ [τὸ] πολύ, ἀλλ' ὡς διαφέρον, οἷον ὕδωρ πολύ, πολλὰ δ' οὔ. ἀλλ' ὅσα διαιρετά, ἐν τούτοις λέγεται, ἕνα μὲν τρόπον ἐὰν ᾖ πλῆθος ἔχον ὑπεροχὴν ἢ ἁπλῶς ἢ πρός τι (καὶ τὸ ὀλίγον ὡσαύτως πλῆθος ἔχον ἔλλειψιν), τὸ δὲ ὡς ἀριθμός, ὃ καὶ ἀντίκειται τῷ ἑνὶ μόνον. οὕτως γὰρ λέγομεν ἓν ἢ πολλά, ὥσπερ εἴ τις εἴποι ἓν καὶ ἕνα ἢ λευκὸν καὶ λευκά, καὶ τὰ μεμετρημένα πρὸς τὸ μέτρον [καὶ τὸ μετρητόν]· οὕτως καὶ τὰ πολλαπλάσια λέγεται· πολλὰ γὰρ ἕκαστος ὁ ἀριθμὸς ὅτι ἕνα καὶ ὅτι μετρητὸς ἑνὶ ἕκαστος, καὶ ὡς τὸ ἀντικείμενον τῷ ἑνί, οὐ τῷ ὀλίγῳ. οὕτω μὲν οὖν ἐστὶ πολλὰ καὶ τὰ δύο, ὡς δὲ πλῆθος ἔχον ὑπεροχὴν ἢ πρός τι ἢ ἁπλῶς οὐκ ἔστιν, ἀλλὰ πρῶτον. ὀλίγα δ' ἁπλῶς τὰ δύο· πλῆθος γάρ ἐστιν ἔλλειψιν ἔχον πρῶτον (διὸ καὶ οὐκ ὀρθῶς ἀπέστη Ἀναξαγόρας εἰπὼν ὅτι ὁμοῦ πάντα χρήματα ἦν ἄπειρα καὶ πλήθει καὶ μικρότητι, ἔδει δ' εἰπεῖν ἀντὶ τοῦ "καὶ μικρότητι" "καὶ ὀλιγότητι"· οὐ γὰρ ἄπειρα), ἐπεὶ τὸ ὀλίγον οὐ διὰ τὸ ἕν, ὥσπερ τινές φασιν, ἀλλὰ διὰ τὰ δύο. - ἀντίκειται δὴ τὸ ἓν καὶ τὰ πολλὰ τὰ ἐν ἀριθμοῖς ὡς μέτρον μετρητῷ· ταῦτα δὲ ὡς τὰ πρός τι, ὅσα μὴ καθ' αὑτὰ τῶν πρός τι. διῄρηται δ' ἡμῖν ἐν ἄλλοις ὅτι διχῶς λέγεται τὰ πρός τι, τὰ μὲν ὡς ἐναντία, τὰ δ' ὡς ἐπιστήμη πρὸς ἐπιστητόν, τῷ λέγεσθαί τι [1057a] ἄλλο πρὸς αὐτό. τὸ δὲ ἓν ἔλαττον εἶναι τινός, οἷον τοῖν δυοῖν, οὐδὲν κωλύει· οὐ γάρ, εἰ ἔλαττον, καὶ ὀλίγον. τὸ δὲ πλῆθος οἷον γένος ἐστὶ τοῦ ἀριθμοῦ· ἔστι γὰρ ἀριθμὸς πλῆθος ἑνὶ μετρητόν, καὶ ἀντίκειταί πως τὸ ἓν καὶ ἀριθμός, οὐχ ὡς ἐναντίον ἀλλ' ὥσπερ εἴρηται τῶν πρός τι ἔνια· ᾗ γὰρ μέτρον τὸ δὲ μετρητόν, ταύτῃ ἀντίκειται, διὸ οὐ πᾶν ὃ ἂν ᾖ ἓν ἀριθμός ἐστιν, οἷον εἴ τι ἀδιαίρετόν ἐστιν. ὁμοίως δὲ λεγομένη ἡ ἐπιστήμη πρὸς τὸ ἐπιστητὸν οὐχ ὁμοίως ἀποδίδωσιν. δόξειε μὲν γὰρ ἂν μέτρον ἡ ἐπιστήμη εἶναι τὸ δὲ ἐπιστητὸν τὸ μετρούμενον, συμβαίνει δὲ ἐπιστήμην μὲν πᾶσαν ἐπιστητὸν εἶναι τὸ δὲ ἐπιστητὸν μὴ πᾶν ἐπιστήμην, ὅτι τρόπον τινὰ ἡ ἐπιστήμη μετρεῖται τῷ ἐπιστητῷ. τὸ δὲ πλῆθος οὔτε τῷ ὀλίγῳ ἐναντίον - ἀλλὰ τούτῳ μὲν τὸ πολὺ ὡς ὑπερέχον πλῆθος ὑπερεχομένῳ πλήθει - οὔτε τῷ ἑνὶ πάντως· ἀλλὰ τὸ μὲν ὥσπερ εἴρηται, ὅτι διαιρετὸν τὸ δ' ἀδιαίρετον, τὸ δ' ὡς πρός τι ὥσπερ ἡ ἐπιστήμη ἐπιστητῷ, ἐὰν ᾖ ἀριθμὸς τὸ δ' ἓν μέτρον.

Ἐπεὶ δὲ τῶν ἐναντίων ἐνδέχεται εἶναί τι μεταξὺ καὶ ἐνίων ἔστιν, ἀνάγκη ἐκ τῶν ἐναντίων εἶναι τὰ μεταξύ. πάντα γὰρ τὰ μεταξὺ ἐν τῷ αὐτῷ γένει ἐστὶ καὶ ὧν ἐστὶ μεταξύ. μεταξὺ μὲν γὰρ ταῦτα λέγομεν εἰς ὅσα μεταβάλλειν ἀνάγκη πρότερον τὸ μεταβάλλον (οἷον ἀπὸ τῆς ὑπάτης ἐπὶ τὴν νήτην εἰ μεταβαίνοι τῷ ὀλιγίστῳ, ἥξει πρότερον εἰς τοὺς μεταξὺ φθόγγους, καὶ ἐν χρώμασιν εἰ [ἥξει] ἐκ τοῦ λευκοῦ εἰς τὸ μέλαν, πρότερον ἥξει εἰς τὸ φοινικοῦν καὶ φαιὸν ἢ εἰς τὸ μέλαν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων)· μεταβάλλειν δ' ἐξ ἄλλου γένους εἰς ἄλλο γένος οὐκ ἔστιν ἀλλ' ἢ κατὰ συμβεβηκός, οἷον ἐκ χρώματος εἰς σχῆμα. ἀνάγκη ἄρα τὰ μεταξὺ καὶ αὐτοῖς καὶ ὧν μεταξύ εἰσιν ἐν τῷ αὐτῷ γένει εἶναι. ἀλλὰ μὴν πάντα γε τὰ μεταξύ ἐστιν ἀντικειμένων τινῶν· ἐκ τούτων γὰρ μόνων καθ' αὑτὰ ἔστι μεταβάλλειν (διὸ ἀδύνατον εἶναι μεταξὺ μὴ ἀντικειμένων· εἴη γὰρ ἂν μεταβολὴ καὶ μὴ ἐξ ἀντικειμένων). τῶν δ' ἀντικειμένων ἀντιφάσεως μὲν οὐκ ἔστι μεταξύ (τοῦτο γάρ ἐστιν ἀντίφασις, ἀντίθεσις ἧς ὁτῳοῦν θάτερον μόριον πάρεστιν, οὐκ ἐχούσης οὐθὲν μεταξύ), τῶν δὲ λοιπῶν τὰ μὲν πρός τι τὰ δὲ στέρησις τὰ δὲ ἐναντία ἐστίν. τῶν δὲ πρός τι ὅσα μὴ ἐναντία, οὐκ ἔχει μεταξύ· αἴτιον δ' ὅτι οὐκ ἐν τῷ αὐτῷ γένει ἐστίν. τί γὰρ [1057b] ἐπιστήμης καὶ ἐπιστητοῦ μεταξύ; ἀλλὰ μεγάλου καὶ μικροῦ. εἰ δ' ἐστὶν ἐν ταὐτῷ γένει τὰ μεταξύ, ὥσπερ δέδεικται, καὶ μεταξὺ ἐναντίων, ἀνάγκη αὐτὰ συγκεῖσθαι ἐκ τούτων τῶν ἐναντίων. ἢ γὰρ ἔσται τι γένος αὐτῶν ἢ οὐθέν. καὶ εἰ μὲν γένος ἔσται οὕτως ὥστ' εἶναι πρότερόν τι τῶν ἐναντίων, αἱ διαφοραὶ πρότεραι ἐναντίαι ἔσονται αἱ ποιήσουσαι τὰ ἐναντία εἴδη ὡς γένους· ἐκ γὰρ τοῦ γένους καὶ τῶν διαφορῶν τὰ εἴδη (οἷον εἰ τὸ λευκὸν καὶ μέλαν ἐναντία, ἔστι δὲ τὸ μὲν διακριτικὸν χρῶμα τὸ δὲ συγκριτικὸν χρῶμα, αὗται αἱ διαφοραί, τὸ διακριτικὸν καὶ συγκριτικόν, πρότεραι· ὥστε ταῦτα ἐναντία ἀλλήλοις πρότερα). ἀλλὰ μὴν τά γε ἐναντίως διαφέροντα μᾶλλον ἐναντία)· καὶ τὰ λοιπὰ καὶ τὰ μεταξὺ ἐκ τοῦ γένους ἔσται καὶ τῶν διαφορῶν (οἷον ὅσα χρώματα τοῦ λευκοῦ καὶ μέλανός ἐστι μεταξύ, ταῦτα δεῖ ἔκ τε τοῦ γένους λέγεσθαι - ἔστι δὲ γένος τὸ χρῶμα - καὶ ἐκ διαφορῶν τινῶν· αὗται δὲ οὐκ ἔσονται τὰ πρῶτα ἐναντία· εἰ δὲ μή, ἔσται ἕκαστον ἢ λευκὸν ἢ μέλαν· ἕτεραι ἄρα· μεταξὺ ἄρα τῶν πρώτων ἐναντίων αὗται ἔσονται, αἱ πρῶται δὲ διαφοραὶ τὸ διακριτικὸν καὶ συγκριτικόν)· ὥστε ταῦτα πρῶτα ζητητέον ὅσα ἐναντία μὴ ἐν γένει, ἐκ τίνος τὰ μεταξὺ αὐτῶν (ἀνάγκη γὰρ τὰ ἐν τῷ αὐτῷ γένει ἐκ τῶν ἀσυνθέτων τῷ γένει συγκεῖσθαι ἢ ἀσύνθετα εἶναι). τὰ μὲν οὖν ἐναντία ἀσύνθετα ἐξ ἀλλήλων, ὥστε ἀρχαί· τὰ δὲ μεταξὺ ἢ πάντα ἢ οὐθέν. ἐκ δὲ τῶν ἐναντίων γίγνεταί τι, ὥστ' ἔσται μεταβολὴ εἰς τοῦτο πρὶν ἢ εἰς αὐτά·

ἑκατέρου γὰρ καὶ ἧττον ἔσται καὶ μᾶλλον. μεταξὺ ἄρα ἔσται καὶ τοῦτο τῶν ἐναντίων. καὶ τἆλλα ἄρα πάντα σύνθετα τὰ μεταξύ· τὸ γὰρ τοῦ μὲν μᾶλλον τοῦ δ’ ἧττον σύνθετόν πως ἐξ ἐκείνων ὧν λέγεται εἶναι τοῦ μὲν μᾶλλον τοῦ δ’ ἧττον. ἐπεὶ δ’ οὐκ ἔστιν ἕτερα πρότερα ὁμογενῆ τῶν ἐναντίων, ἅπαντ’ ἂν ἐκ τῶν ἐναντίων εἴη τὰ μεταξύ, ὥστε καὶ τὰ κάτω πάντα, καὶ τἀναντία καὶ τὰ μεταξύ, ἐκ τῶν πρώτων ἐναντίων ἔσονται. ὅτι μὲν οὖν τὰ μεταξὺ ἔν τε ταὐτῷ γένει πάντα καὶ μεταξὺ ἐναντίων καὶ σύγκειται ἐκ τῶν ἐναντίων πάντα, δῆλον.

Τὸ δ’ ἕτερον τῷ εἴδει τινὸς τὶ ἕτερόν ἐστι, καὶ δεῖ τοῦτο ἀμφοῖν ὑπάρχειν· οἷον εἰ ζῷον ἕτερον τῷ εἴδει, ἄμφω ζῷα. ἀνάγκη ἄρα ἐν γένει τῷ αὐτῷ εἶναι τὰ ἕτερα τῷ εἴδει· τὸ γὰρ τοιοῦτο γένος καλῶ ὃ ἄμφω ἓν ταὐτὸ λέγεται, μὴ [1058a] κατὰ συμβεβηκὸς ἔχον διαφοράν, εἴτε ὡς ὕλη ὂν εἴτε ἄλλως. οὐ μόνον γὰρ δεῖ τὸ κοινὸν ὑπάρχειν, οἷον ἄμφω ζῷα, ἀλλὰ καὶ ἕτερον ἑκατέρῳ τοῦτο αὐτὸ τὸ ζῷον, οἷον τὸ μὲν ἵππον τὸ δὲ ἄνθρωπον, διὸ τοῦτο τὸ κοινὸν ἕτερον ἀλλήλων ἐστὶ τῷ εἴδει. ἔσται δὴ καθ’ αὑτὰ τὸ μὲν τοιονδὶ ζῷον τὸ δὲ τοιονδί, οἷον τὸ μὲν ἵππος τὸ δ’ ἄνθρωπος. ἀνάγκη ἄρα τὴν διαφορὰν ταύτην ἑτερότητα τοῦ γένους εἶναι. λέγω γὰρ γένους διαφορὰν ἑτερότητα ἣ ἕτερον ποιεῖ τοῦτο αὐτό. ἐναντίωσις τοίνυν ἔσται αὕτη (δῆλον δὲ καὶ ἐκ τῆς ἐπαγωγῆς)· πάντα γὰρ διαιρεῖται τοῖς ἀντικειμένοις, καὶ ὅτι τὰ ἐναντία ἐν ταὐτῷ γένει, δέδεικται· ἡ γὰρ ἐναντιότης ἦν διαφορὰ τελεία, ἡ δὲ διαφορὰ ἡ εἴδει πᾶσα τινὸς τί, ὥστε τοῦτο τὸ αὐτό τε καὶ γένος ἐπ’ ἀμφοῖν (διὸ καὶ ἐν τῇ αὐτῇ συστοιχίᾳ πάντα τὰ ἐναντία τῆς κατηγορίας ὅσα εἴδει διάφορα καὶ μὴ γένει, ἕτερά τε ἀλλήλων μάλιστα - τελεία γὰρ ἡ διαφορά - καὶ ἅμα ἀλλήλοις οὐ γίγνεται). ἡ ἄρα διαφορὰ ἐναντίωσίς ἐστιν. τοῦτο ἄρα ἐστὶ τὸ ἑτέροις εἶναι τῷ εἴδει, τὸ ἐν ταὐτῷ γένει ὄντα ἐναντίωσιν ἔχειν ἄτομα ὄντα (ταὐτὰ δὲ τῷ εἴδει ὅσα μὴ ἔχει ἐναντίωσιν ἄτομα ὄντα)· ἐν γὰρ τῇ διαιρέσει καὶ ἐν τοῖς μεταξὺ γίγνονται ἐναντιώσεις πρὶν εἰς τὰ ἄτομα ἐλθεῖν· ὥστε φανερὸν ὅτι πρὸς τὸ καλούμενον γένος οὔτε ταὐτὸν οὔτε ἕτερον τῷ εἴδει οὐθέν ἐστι τῶν ὡς γένους εἰδῶν (προσηκόντως· ἡ γὰρ ὕλη ἀποφάσει δηλοῦται, τὸ δὲ γένος ὕλη οὗ λέγεται γένος - μὴ ὡς τὸ τῶν Ἡρακλειδῶν ἀλλ’ ὡς τὸ ἐν τῇ φύσει), οὐδὲ πρὸς τὰ μὴ ἐν ταὐτῷ γένει, ἀλλὰ διοίσει τῷ γένει ἐκείνων, εἴδει δὲ τῶν ἐν ταὐτῷ γένει. ἐναντίωσιν γὰρ ἀνάγκη εἶναι τὴν διαφορὰν οὗ διαφέρει εἴδει· αὕτη δὲ ὑπάρχει τοῖς ἐν ταὐτῷ γένει οὖσι μόνοις.

Ἀπορήσειε δ’ ἄν τις διὰ τί γυνὴ ἀνδρὸς οὐκ εἴδει διαφέρει, ἐναντίου τοῦ θήλεος καὶ τοῦ ἄρρενος ὄντος τῆς δὲ διαφορᾶς ἐναντιώσεως, οὐδὲ ζῷον θῆλυ καὶ ἄρρεν ἕτερον τῷ εἴδει· καίτοι καθ’ αὑτὸ τοῦ ζῴου αὕτη ἡ διαφορὰ καὶ οὐχ ὡς λευκότης ἢ μελανία ἀλλ' ᾗ ζῷον καὶ τὸ θῆλυ καὶ τὸ ἄρρεν ὑπάρχει. ἔστι δ' ἡ ἀπορία αὕτη σχεδὸν ἡ αὐτὴ καὶ διὰ τί ἡ μὲν ποιεῖ τῷ εἴδει ἕτερα ἐναντίωσις ἡ δ' οὔ, οἷον τὸ πεζὸν καὶ τὸ πτερωτόν, λευκότης δὲ καὶ μελανία οὔ. ἢ ὅτι τὰ μὲν οἰκεῖα πάθη τοῦ γένους τὰ δ' ἧττον; καὶ ἐπειδή ἐστι [1058b] τὸ μὲν λόγος τὸ δ' ὕλη, ὅσαι μὲν ἐν τῷ λόγῳ εἰσὶν ἐναντιότητες εἴδει ποιοῦσι διαφοράν, ὅσαι δ' ἐν τῷ συνειλημμένῳ τῇ ὕλῃ οὐ ποιοῦσιν. διὸ ἀνθρώπου λευκότης οὐ ποιεῖ οὐδὲ μελανία, οὐδὲ τοῦ λευκοῦ ἀνθρώπου ἔστι διαφορὰ κατ' εἶδος πρὸς μέλανα ἄνθρωπον, οὐδ' ἂν ὄνομα ἓν τεθῇ. ὡς ὕλη γὰρ ὁ ἄνθρωπος, οὐ ποιεῖ δὲ διαφορὰν ἡ ὕλη· οὐδ' ἀνθρώπου γὰρ εἴδη εἰσὶν οἱ ἄνθρωποι διὰ τοῦτο, καίτοι ἕτεραι αἱ σάρκες καὶ τὰ ὀστᾶ ἐξ ὧν ὅδε καὶ ὅδε· ἀλλὰ τὸ σύνολον ἕτερον μέν, εἴδει δ' οὐχ ἕτερον, ὅτι ἐν τῷ λόγῳ οὐκ ἔστιν ἐναντίωσις. τοῦτο δ' ἐστὶ τὸ ἔσχατον ἄτομον· ὁ δὲ Καλλίας ἐστὶν ὁ λόγος μετὰ τῆς ὕλης· καὶ ὁ λευκὸς δὴ ἄνθρωπος, ὅτι Καλλίας λευκός· κατὰ συμβεβηκὸς οὖν ὁ ἄνθρωπος. οὐδὲ χαλκοῦς δὴ κύκλος καὶ ξύλινος· οὐδὲ τρίγωνον χαλκοῦν καὶ κύκλος ξύλινος, οὐ διὰ τὴν ὕλην εἴδει διαφέρουσιν ἀλλ' ὅτι ἐν τῷ λόγῳ ἔνεστιν ἐναντίωσις. πότερον δ' ἡ ὕλη οὐ ποιεῖ ἕτερα τῷ εἴδει, οὖσά πως ἑτέρα, ἢ ἔστιν ὡς ποιεῖ; διὰ τί γὰρ ὁδὶ ὁ ἵππος τουδὶ ‹τοῦ› ἀνθρώπου ἕτερος τῷ εἴδει; καίτοι σὺν τῇ ὕλῃ οἱ λόγοι αὐτῶν. ἢ ὅτι ἔνεστιν ἐν τῷ λόγῳ ἐναντίωσις; καὶ γὰρ τοῦ λευκοῦ ἀνθρώπου καὶ μέλανος ἵππου, καὶ ἔστι γε εἴδει, ἀλλ' οὐχ ᾗ ὁ μὲν λευκὸς ὁ δὲ μέλας, ἐπεὶ καὶ εἰ ἄμφω λευκὰ ἦν, ὅμως ἂν ἦν εἴδει ἕτερα. τὸ δὲ ἄρρεν καὶ θῆλυ τοῦ ζῴου οἰκεῖα μὲν πάθη, ἀλλ' οὐ κατὰ τὴν οὐσίαν ἀλλ' ἐν τῇ ὕλῃ καὶ τῷ σώματι, διὸ τὸ αὐτὸ σπέρμα θῆλυ ἢ ἄρρεν γίγνεται παθόν τι πάθος. τί μὲν οὖν ἐστὶ τὸ τῷ εἴδει ἕτερον εἶναι, καὶ διὰ τί τὰ μὲν διαφέρει εἴδει τὰ δ' οὔ, εἴρηται.

Ἐπειδὴ δὲ τὰ ἐναντία ἕτερα τῷ εἴδει, τὸ δὲ φθαρτὸν καὶ τὸ ἄφθαρτον ἐναντία (στέρησις γὰρ ἀδυναμία διωρισμένη), ἀνάγκη ἕτερον εἶναι τῷ γένει τὸ φθαρτὸν καὶ τὸ ἄφθαρτον. νῦν μὲν οὖν ἐπ' αὐτῶν εἰρήκαμεν τῶν καθόλου ὀνομάτων, ὥστε δόξειεν ἂν οὐκ ἀναγκαῖον εἶναι ὁτιοῦν ἄφθαρτον καὶ φθαρτὸν ἕτερα εἶναι τῷ εἴδει, ὥσπερ οὐδὲ λευκὸν καὶ μέλαν (τὸ γὰρ αὐτὸ ἐνδέχεται εἶναι, καὶ ἅμα, ἐὰν ᾖ τῶν καθόλου, ὥσπερ ὁ ἄνθρωπος εἴη ἂν καὶ λευκὸς καὶ μέλας, καὶ τῶν καθ' ἕκαστον· εἴη γὰρ ἄν, μὴ ἅμα, ὁ αὐτὸς λευκὸς καὶ μέλας· καίτοι ἐναντίον τὸ λευκὸν τῷ μέλανι)· ἀλλὰ τῶν ἐναντίων τὰ μὲν κατὰ συμβεβηκὸς ὑπάρχει ἐνίοις, οἷον καὶ τὰ νῦν εἰρημένα καὶ ἄλλα πολλά, τὰ δὲ [1059a] ἀδύνατον, ὧν ἐστὶ καὶ τὸ φθαρτὸν καὶ τὸ ἄφθαρτον· οὐδὲν γάρ ἐστι φθαρτὸν κατὰ συμβεβηκός· τὸ μὲν γὰρ συμβεβηκὸς ἐνδέχεται μὴ ὑπάρχειν, τὸ δὲ φθαρτὸν τῶν ἐξ ἀνάγκης ὑπαρχόντων ἐστὶν οἷς ὑπάρχει· ἢ ἔσται τὸ αὐτὸ καὶ ἓν φθαρτὸν καὶ ἄφθαρτον, εἰ ἐνδέχεται μὴ ὑπάρχειν αὐτῷ τὸ φθαρτόν. ἢ τὴν οὐσίαν ἄρα ἢ ἐν τῇ οὐσίᾳ ἀνάγκη ὑπάρχειν τὸ φθαρτὸν ἑκάστῳ τῶν φθαρτῶν. ὁ δ’ αὐτὸς λόγος καὶ περὶ τοῦ ἀφθάρτου· τῶν γὰρ ἐξ ἀνάγκης ὑπαρχόντων ἄμφω. ᾗ ἄρα καὶ καθ’ ὃ πρῶτον τὸ μὲν φθαρτὸν τὸ δ’ ἄφθαρτον, ἔχει ἀντίθεσιν, ὥστε ἀνάγκη γένει ἕτερα εἶναι. φανερὸν τοίνυν ὅτι οὐκ ἐνδέχεται εἶναι εἴδη τοιαῦτα οἷα λέγουσί τινες· ἔσται γὰρ καὶ ἄνθρωπος ὁ μὲν φθαρτὸς ὁ δ’ ἄφθαρτος. καίτοι τῷ εἴδει ταὐτὰ λέγεται εἶναι τὰ εἴδη τοῖς τισὶ καὶ οὐχ ὁμώνυμα· τὰ δὲ γένει ἕτερα πλεῖον διέστηκεν ἢ τὰ εἴδει.

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Ὅτι μὲν ἡ σοφία περὶ ἀρχὰς ἐπιστήμη τίς ἐστι, δῆλον ἐκ τῶν πρώτων ἐν οἷς διηπόρηται πρὸς τὰ ὑπὸ τῶν ἄλλων εἰρημένα περὶ τῶν ἀρχῶν· ἀπορήσειε δ’ ἄν τις πότερον μίαν ὑπολαβεῖν εἶναι δεῖ τὴν σοφίαν ἐπιστήμην ἢ πολλάς· εἰ μὲν γὰρ μίαν, μία γ’ ἐστὶν ἀεὶ τῶν ἐναντίων, αἱ δ’ ἀρχαὶ οὐκ ἐναντίαι· εἰ δὲ μὴ μία, ποίας δεῖ θεῖναι ταύτας; ἔτι τὰς ἀποδεικτικὰς ἀρχὰς θεωρῆσαι μιᾶς ἢ πλειόνων; εἰ μὲν γὰρ μιᾶς, τί μᾶλλον ταύτης ἢ ὁποιασοῦν; εἰ δὲ πλειόνων, ποίας δεῖ ταύτας τιθέναι; ἔτι πότερον πασῶν τῶν οὐσιῶν ἢ οὔ; εἰ μὲν γὰρ μὴ πασῶν, ποίων χαλεπὸν ἀποδοῦναι· εἰ δὲ πασῶν μία, ἄδηλον πῶς ἐνδέχεται πλειόνων τὴν αὐτὴν ἐπιστήμην εἶναι. ἔτι πότερον περὶ τὰς οὐσίας μόνον ἢ καὶ τὰ συμβεβηκότα [ἀπόδειξίς ἐστιν]; εἰ γὰρ περί γε τὰ συμβεβηκότα ἀπόδειξίς ἐστιν, περὶ τὰς οὐσίας οὐκ ἔστιν· εἰ δ’ ἑτέρα, τίς ἑκατέρα καὶ ποτέρα σοφία; ᾗ μὲν γὰρ ἀποδεικτική, σοφία ἡ περὶ τὰ συμβεβηκότα· ᾗ δὲ περὶ τὰ πρῶτα, ἡ τῶν οὐσιῶν. ἀλλ’ οὐδὲ περὶ τὰς ἐν τοῖς φυσικοῖς εἰρημένας αἰτίας τὴν ἐπιζητουμένην ἐπιστήμην θετέον· οὔτε γὰρ περὶ τὸ οὗ ἕνεκεν (τοιοῦτον γὰρ τὸ ἀγαθόν, τοῦτο δ’ ἐν τοῖς πρακτοῖς ὑπάρχει καὶ ταῖς οὖσιν ἐν κινήσει· καὶ τοῦτο πρῶτον κινεῖ - τοιοῦτον γὰρ τὸ τέλος - τὸ δὲ πρῶτον κινῆσαν οὐκ ἔστιν ἐν τοῖς ἀκινήτοις)· ὅλως δ’ ἀπορίαν ἔχει πότερόν ποτε περὶ τὰς αἰσθητὰς οὐσίας ἐστὶν [1059b] ἡ ζητουμένη νῦν ἐπιστήμη ἢ οὔ, περὶ δέ τινας ἑτέρας. εἰ γὰρ περὶ ἄλλας, ἢ περὶ τὰ εἴδη εἴη ἂν ἢ περὶ τὰ μαθηματικά. τὰ μὲν οὖν εἴδη ὅτι οὐκ ἔστι, δῆλον (ὅμως δὲ ἀπορίαν ἔχει, κἂν εἶναί τις αὐτὰ θῇ, διὰ τί ποτ’ οὐχ ὥσπερ ἐπὶ τῶν μαθηματικῶν, οὕτως ἔχει καὶ ἐπὶ τῶν ἄλλων ὧν ἔστιν εἴδη· λέγω δ’ ὅτι τὰ μαθηματικὰ μὲν μεταξύ τε τῶν εἰδῶν τιθέασι καὶ τῶν αἰσθητῶν οἷον τρίτα τινὰ παρὰ τὰ εἴδη τε καὶ τὰ δεῦρο, τρίτος δ’ ἄνθρωπος οὐκ ἔστιν οὐδ’ ἵππος παρ’ αὐτόν τε καὶ τοὺς καθ’ ἕκαστον· εἰ δ’ αὖ μὴ ἔστιν ὡς λέγουσι, περὶ ποῖα θετέον πραγματεύεσθαι τὸν μαθηματικόν; οὐ γὰρ δὴ περὶ τὰ δεῦρο· τούτων γὰρ οὐθέν ἐστιν οἷον αἱ μαθηματικαὶ ζητοῦσι τῶν ἐπιστημῶν)· οὐδὲ μὴν περὶ τὰ μαθηματικὰ ἡ ζητουμένη νῦν ἐστὶν ἐπιστήμη (χωριστὸν γὰρ αὐτῶν οὐθέν)· ἀλλ’ οὐδὲ τῶν αἰσθητῶν οὐσιῶν· φθαρταὶ γάρ. ὅλως δ’ ἀπορήσειέ τις ἂν ποίας ἐστὶν ἐπιστήμης τὸ διαπορῆσαι περὶ τῆς τῶν μαθηματικῶν ὕλης. οὔτε γὰρ τῆς φυσικῆς, διὰ τὸ περὶ τὰ ἔχοντα ἐν αὑτοῖς ἀρχὴν κινήσεως καὶ στάσεως τὴν τοῦ φυσικοῦ πᾶσαν εἶναι πραγματείαν, οὐδὲ μὴν τῆς σκοπούσης περὶ ἀποδείξεώς τε καὶ ἐπιστήμης· περὶ γὰρ αὐτὸ τοῦτο τὸ γένος τὴν ζήτησιν ποιεῖται. λείπεται τοίνυν τὴν προκειμένην φιλοσοφίαν περὶ αὐτῶν τὴν σκέψιν ποιεῖσθαι. διαπορήσειε δ’ ἄν τις εἰ δεῖ θεῖναι τὴν ζητουμένην ἐπιστήμην περὶ τὰς ἀρχάς, τὰ καλούμενα ὑπό τινων στοιχεῖα· ταῦτα δὲ πάντες ἐνυπάρχοντα τοῖς συνθέτοις τιθέασιν. μᾶλλον δ’ ἂν δόξειε τῶν καθόλου δεῖν εἶναι τὴν ζητουμένην ἐπιστήμην· πᾶς γὰρ λόγος καὶ πᾶσα ἐπιστήμη τῶν καθόλου καὶ οὐ τῶν ἐσχάτων, ὥστ’ εἴη ἂν οὕτω τῶν πρώτων γενῶν. ταῦτα δὲ γίγνοιτ’ ἂν τό τε ὂν καὶ τὸ ἕν· ταῦτα γὰρ μάλιστ’ ἂν ὑποληφθείη περιέχειν τὰ ὄντα πάντα καὶ μάλιστα ἀρχαῖς ἐοικέναι διὰ τὸ εἶναι πρῶτα τῇ φύσει· φθαρέντων γὰρ αὐτῶν συναναιρεῖται καὶ τὰ λοιπά· πᾶν γὰρ ὂν καὶ ἕν. ᾗ δὲ τὰς διαφορὰς αὐτῶν ἀνάγκη μετέχειν εἰ θήσει τις αὐτὰ γένη, διαφορὰ δ’ οὐδεμία τοῦ γένους μετέχει, ταύτῃ δ’ οὐκ ἂν δόξειε δεῖν αὐτὰ τιθέναι γένη οὐδ’ ἀρχάς. ἔτι δ’ εἰ μᾶλλον ἀρχὴ τὸ ἁπλούστερον τοῦ ἧττον τοιούτου, τὰ δ’ ἔσχατα τῶν ἐκ τοῦ γένους ἁπλούστερα τῶν γενῶν (ἄτομα γάρ, τὰ γένη δ’ εἰς εἴδη πλείω καὶ διαφέροντα διαιρεῖται), μᾶλλον ἂν ἀρχὴ δόξειεν εἶναι τὰ εἴδη τῶν γενῶν. ᾗ δὲ συναναιρεῖται τοῖς γένεσι τὰ εἴδη, τὰ γένη ταῖς ἀρχαῖς ἔοικε μᾶλλον· [1060a] ἀρχὴ γὰρ τὸ συναναιροῦν. τὰ μὲν οὖν τὴν ἀπορίαν ἔχοντα ταῦτα καὶ τοιαῦτ’ ἐστὶν ἕτερα.

Ἔτι πότερον δεῖ τιθέναι τι παρὰ τὰ καθ’ ἕκαστα ἢ οὔ, ἀλλὰ τούτων ἡ ζητουμένη ἐπιστήμη; ἀλλὰ ταῦτα ἄπειρα· τά γε μὴν παρὰ τὰ καθ’ ἕκαστα γένη ἢ εἴδη ἐστίν, ἀλλ’ οὐδετέρου τούτων ἡ ζητουμένη νῦν ἐπιστήμη. διότι γὰρ ἀδύνατον τοῦτο, εἴρηται. καὶ γὰρ ὅλως ἀπορίαν ἔχει πότερον δεῖ τινὰ ὑπολαβεῖν οὐσίαν εἶναι χωριστὴν παρὰ τὰς αἰσθητὰς οὐσίας καὶ τὰς δεῦρο, ἢ οὔ, ἀλλὰ ταῦτ’ εἶναι τὰ ὄντα καὶ περὶ ταῦτα τὴν σοφίαν ὑπάρχειν. ζητεῖν μὲν γὰρ ἐοίκαμεν ἄλλην τινά, καὶ τὸ προκείμενον τοῦτ’ ἔστιν ἡμῖν, λέγω δὲ τὸ ἰδεῖν εἴ τι χωριστὸν καθ’ αὑτὸ καὶ μηδενὶ τῶν αἰσθητῶν ὑπάρχον. ἔτι δ’ εἰ παρὰ τὰς αἰσθητὰς οὐσίας ἔστι τις ἑτέρα οὐσία, παρὰ ποίας τῶν αἰσθητῶν δεῖ τιθέναι ταύτην εἶναι; τί γὰρ μᾶλλον παρὰ τοὺς ἀνθρώπους ἢ τοὺς ἵππους ἢ τῶν ἄλλων ζῴων θήσει τις αὐτὴν ἢ καὶ τῶν ἀψύχων ὅλως; τό γε μὴν ἴσας ταῖς αἰσθηταῖς καὶ φθαρταῖς οὐσίαις ἀϊδίους ἑτέρας κατασκευάζειν ἐκτὸς τῶν εὐλόγων δόξειεν ἂν πίπτειν. εἰ δὲ μὴ χωριστὴ τῶν σωμάτων ἡ ζητουμένη νῦν ἀρχή, τίνα ἄν τις ἄλλην θείη μᾶλλον τῆς ὕλης; αὕτη γε μὴν ἐνεργείᾳ μὲν οὐκ ἔστι, δυνάμει δ’ ἔστιν. μᾶλλόν τ’ ἂν ἀρχὴ κυριωτέρα ταύτης δόξειεν εἶναι τὸ εἶδος καὶ ἡ μορφή· τοῦτο δὲ φθαρτόν, ὥσθ’ ὅλως οὐκ ἔστιν ἀΐδιος οὐσία χωριστὴ καὶ καθ’ αὑτήν. ἀλλ’ ἄτοπον· ἔοικε γὰρ καὶ ζητεῖται σχεδὸν ὑπὸ τῶν χαριεστάτων ὡς οὖσά τις ἀρχὴ καὶ οὐσία τοιαύτη· πῶς γὰρ ἔσται τάξις μή τινος ὄντος ἀϊδίου καὶ χωριστοῦ καὶ μένοντος; ἔτι δ’ εἴπερ ἔστι τις οὐσία καὶ ἀρχὴ τοιαύτη τὴν φύσιν οἵαν νῦν ζητοῦμεν, καὶ αὕτη μία πάντων καὶ ἡ αὐτὴ τῶν ἀϊδίων τε καὶ φθαρτῶν, ἀπορίαν ἔχει διὰ τί ποτε τῆς αὐτῆς ἀρχῆς οὔσης τὰ μέν ἐστιν ἀΐδια τῶν ὑπὸ τὴν ἀρχὴν τὰ δ’ οὐκ ἀΐδια (τοῦτο γὰρ ἄτοπον)· εἰ δ’ ἄλλη μέν ἐστιν ἀρχὴ τῶν φθαρτῶν ἄλλη δὲ τῶν ἀϊδίων, εἰ μὲν ἀΐδιος καὶ ἡ τῶν φθαρτῶν, ὁμοίως ἀπορήσομεν (διὰ τί γὰρ οὐκ ἀϊδίου τῆς ἀρχῆς οὔσης καὶ τὰ ὑπὸ τὴν ἀρχὴν ἀΐδια;)· φθαρτῆς δ’ οὔσης ἄλλη τις ἀρχὴ γίγνεται ταύτης κἀκείνης ἑτέρα, καὶ τοῦτ’ εἰς ἄπειρον πρόεισιν. εἰ δ’ αὖ τις τὰς δοκούσας μάλιστ’ ἀρχὰς ἀκινήτους εἶναι, τό τε ὂν καὶ τὸ ἕν, θήσει, πρῶτον [1060b] μὲν εἰ μὴ τόδε τι καὶ οὐσίαν ἑκάτερον αὐτῶν σημαίνει, πῶς ἔσονται χωρισταὶ καὶ καθ’ αὑτάς; τοιαύτας δὲ ζητοῦμεν τὰς ἀϊδίους τε καὶ πρώτας ἀρχάς. εἴ γε μὴν τόδε τι καὶ οὐσίαν ἑκάτερον αὐτῶν δηλοῖ, πάντ’ ἐστὶν οὐσίαι τὰ ὄντα· κατὰ πάντων γὰρ τὸ ὂν κατηγορεῖται (κατ’ ἐνίων δὲ καὶ τὸ ἕν)· οὐσίαν δ’ εἶναι πάντα τὰ ὄντα ψεῦδος. ἔτι δὲ τοῖς τὴν πρώτην ἀρχὴν τὸ ἓν λέγουσι καὶ τοῦτ’ οὐσίαν, ἐκ δὲ τοῦ ἑνὸς καὶ τῆς ὕλης τὸν ἀριθμὸν γεννῶσι πρῶτον καὶ τοῦτον οὐσίαν φάσκουσιν εἶναι, πῶς ἐνδέχεται τὸ λεγόμενον ἀληθὲς εἶναι; τὴν γὰρ δυάδα καὶ τῶν λοιπῶν ἕκαστον ἀριθμῶν τῶν συνθέτων πῶς ἓν δεῖ νοῆσαι; περὶ τούτου γὰρ οὔτε λέγουσιν οὐδὲν οὔτε ῥᾴδιον εἰπεῖν. εἴ γε μὴν γραμμὰς ἢ τὰ τούτων ἐχόμενα (λέγω δὲ ἐπιφανείας τὰς πρώτας) θήσει τις ἀρχάς, ταῦτά γ’ οὐκ εἰσὶν οὐσίαι χωρισταί, τομαὶ δὲ καὶ διαιρέσεις αἱ μὲν ἐπιφανειῶν αἱ δὲ σωμάτων (αἱ δὲ στιγμαὶ γραμμῶν), ἔτι δὲ πέρατα τῶν αὐτῶν τούτων· πάντα δὲ ταῦτα ἐν ἄλλοις ὑπάρχει καὶ χωριστὸν οὐδέν ἐστιν. ἔτι πῶς οὐσίαν ὑπολαβεῖν εἶναι δεῖ τοῦ ἑνὸς καὶ στιγμῆς; οὐσίας μὲν γὰρ πάσης γένεσις ἔστι, στιγμῆς δ’ οὐκ ἔστιν· διαίρεσις γὰρ ἡ στιγμή. παρέχει δ’ ἀπορίαν καὶ τὸ πᾶσαν μὲν ἐπιστήμην εἶναι τῶν καθόλου καὶ τοῦ τοιουδί, τὴν δ’ οὐσίαν μὴ τῶν καθόλου εἶναι, μᾶλλον δὲ τόδε τι καὶ χωριστόν, ὥστ’ εἰ περὶ τὰς ἀρχάς ἐστιν ἐπιστήμη, πῶς δεῖ τὴν ἀρχὴν ὑπολαβεῖν οὐσίαν εἶναι; ἔτι πότερον ἔστι τι παρὰ τὸ σύνολον ἢ οὔ (λέγω δὲ τὴν ὕλην καὶ τὸ μετὰ ταύτης); εἰ μὲν γὰρ μή, τά γε ἐν ὕλῃ φθαρτὰ πάντα· εἰ δ’ ἔστι τι, τὸ εἶδος ἂν εἴη καὶ ἡ μορφή· τοῦτ’ οὖν ἐπὶ τίνων ἔστι καὶ ἐπὶ τίνων οὔ, χαλεπὸν ἀφορίσαι· ἐπ’ ἐνίων γὰρ δῆλον οὐκ ὂν χωριστὸν τὸ εἶδος, οἷον οἰκίας. ἔτι πότερον αἱ ἀρχαὶ εἴδει ἢ ἀριθμῷ αἱ αὐταί; εἰ γὰρ ἀριθμῷ ἕν, πάντ’ ἔσται ταὐτά.

Ἐπεὶ δ’ ἐστὶν ἡ τοῦ φιλοσόφου ἐπιστήμη τοῦ ὄντος ᾗ ὂν καθόλου καὶ οὐ κατὰ μέρος, τὸ δ’ ὂν πολλαχῶς καὶ οὐ καθ’ ἕνα λέγεται τρόπον· εἰ μὲν οὖν ὁμωνύμως κατὰ δὲ κοινὸν μηδέν, οὐκ ἔστιν ὑπὸ μίαν ἐπιστήμην (οὐ γὰρ ἓν γένος τῶν τοιούτων), εἰ δὲ κατά τι κοινόν, εἴη ἂν ὑπὸ μίαν ἐπιστήμην. ἔοικε δὴ τὸν εἰρημένον λέγεσθαι τρόπον καθάπερ τό τε ἰατρικὸν καὶ ὑγιεινόν· καὶ γὰρ τούτων ἑκάτερον πολλαχῶς [1061a] λέγομεν. λέγεται δὲ τοῦτον τὸν τρόπον ἕκαστον τῷ τὸ μὲν πρὸς τὴν ἰατρικὴν ἐπιστήμην ἀνάγεσθαί πως τὸ δὲ πρὸς ὑγίειαν τὸ δ᾽ ἄλλως, πρὸς ταὐτὸ δ᾽ ἕκαστον. ἰατρικὸς γὰρ λόγος καὶ μαχαίριον λέγεται τῷ τὸ μὲν ἀπὸ τῆς ἰατρικῆς ἐπιστήμης εἶναι τὸ δὲ ταύτῃ χρήσιμον. ὁμοίως δὲ καὶ ὑγιεινόν· τὸ μὲν γὰρ ὅτι σημαντικὸν ὑγιείας τὸ δ᾽ ὅτι ποιητικόν. ὁ δ᾽ αὐτὸς τρόπος καὶ ἐπὶ τῶν λοιπῶν. τὸν αὐτὸν δὴ τρόπον καὶ τὸ ὂν ἅπαν λέγεται· τῷ γὰρ τοῦ ὄντος ᾗ ὂν πάθος ἢ ἕξις ἢ διάθεσις ἢ κίνησις ἢ τῶν ἄλλων τι τῶν τοιούτων εἶναι λέγεται ἕκαστον αὐτῶν ὄν. ἐπεὶ δὲ παντὸς τοῦ ὄντος πρὸς ἕν τι καὶ κοινὸν ἡ ἀναγωγὴ γίγνεται, καὶ τῶν ἐναντιώσεων ἑκάστη πρὸς τὰς πρώτας διαφορὰς καὶ ἐναντιώσεις ἀναχθήσεται τοῦ ὄντος, εἴτε πλῆθος καὶ ἓν εἴθ᾽ ὁμοιότης καὶ ἀνομοιότης αἱ πρῶται τοῦ ὄντος εἰσὶ διαφοραί, εἴτ᾽ ἄλλαι τινές· ἔστωσαν γὰρ αὗται τεθεωρημέναι. διαφέρει δ᾽ οὐδὲν τὴν τοῦ ὄντος ἀναγωγὴν πρὸς τὸ ὂν ἢ πρὸς τὸ ἓν γίγνεσθαι. καὶ γὰρ εἰ μὴ ταὐτὸν ἄλλο δ᾽ ἐστίν, ἀντιστρέφει γε· τό τε γὰρ ἓν καὶ ὄν πως, τό τε ὂν ἕν. - ἐπεὶ δ᾽ ἐστὶ τὰ ἐναντία πάντα τῆς αὐτῆς καὶ μιᾶς ἐπιστήμης θεωρῆσαι, λέγεται δ᾽ ἕκαστον αὐτῶν κατὰ στέρησιν - καίτοι γ᾽ ἔνια ἀπορήσειέ τις ἂν πῶς λέγεται κατὰ στέρησιν, ὧν ἔστιν ἀνὰ μέσον τι, καθάπερ ἀδίκου καὶ δικαίου - περὶ πάντα δὴ τὰ τοιαῦτα τὴν στέρησιν δεῖ τιθέναι μὴ τοῦ ὅλου λόγου, τοῦ τελευταίου δὲ εἴδους· οἷον εἰ ἔστιν ὁ δίκαιος καθ᾽ ἕξιν τινὰ πειθαρχικὸς τοῖς νόμοις, οὐ πάντως ὁ ἄδικος ἔσται τοῦ ὅλου στερούμενος λόγου, περὶ δὲ τὸ πείθεσθαι τοῖς νόμοις ἐκλείπων πῃ, καὶ ταύτῃ ἡ στέρησις ὑπάρξει αὐτῷ· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. - καθάπερ δ᾽ ὁ μαθηματικὸς περὶ τὰ ἐξ ἀφαιρέσεως τὴν θεωρίαν ποιεῖται (περιελὼν γὰρ πάντα τὰ αἰσθητὰ θεωρεῖ, οἷον βάρος καὶ κουφότητα καὶ σκληρότητα καὶ τοὐναντίον, ἔτι δὲ καὶ θερμότητα καὶ ψυχρότητα καὶ τὰς ἄλλας αἰσθητὰς ἐναντιώσεις, μόνον δὲ καταλείπει τὸ ποσὸν καὶ συνεχές, τῶν μὲν ἐφ᾽ ἓν τῶν δ᾽ ἐπὶ δύο τῶν δ᾽ ἐπὶ τρία, καὶ τὰ πάθη τὰ τούτων ᾗ ποσά ἐστι καὶ συνεχῆ, καὶ οὐ καθ᾽ ἕτερόν τι θεωρεῖ, καὶ τῶν μὲν τὰς πρὸς ἄλληλα θέσεις σκοπεῖ καὶ τὰ ταύταις ὑπάρχοντα, [1061b] τῶν δὲ τὰς συμμετρίας καὶ ἀσυμμετρίας, τῶν δὲ τοὺς λόγους, ἀλλ᾽ ὅμως μίαν πάντων καὶ τὴν αὐτὴν τίθεμεν ἐπιστήμην τὴν γεωμετρικήν), τὸν αὐτὸν δὴ τρόπον ἔχει καὶ περὶ τὸ ὄν. τὰ γὰρ τούτῳ συμβεβηκότα καθ᾽ ὅσον ἐστὶν ὄν, καὶ τὰς ἐναντιώσεις αὐτοῦ ᾗ ὄν, οὐκ ἄλλης ἐπιστήμης ἢ φιλοσοφίας θεωρῆσαι. τῇ φυσικῇ μὲν γὰρ οὐχ ᾗ ὄντα, μᾶλλον δ᾽

ᾗ κινήσεως μετέχει, τὴν θεωρίαν τις ἀπονείμειεν ἄν· ἥ γε μὴν διαλεκτικὴ καὶ ἡ σοφιστικὴ τῶν συμβεβηκότων μέν εἰσι τοῖς οὖσιν, οὐχ ᾗ δ' ὄντα οὐδὲ περὶ τὸ ὂν αὐτὸ καθ' ὅσον ὄν ἐστιν· ὥστε λείπεται τὸν φιλοσόφον, καθ' ὅσον ὄντ' ἐστίν, εἶναι περὶ τὰ λεχθέντα θεωρητικόν. ἐπεὶ δὲ τό τε ὂν ἅπαν καθ' ἕν τι καὶ κοινὸν λέγεται πολλαχῶς λεγόμενον, καὶ τἀναντία τὸν αὐτὸν τρόπον (εἰς τὰς πρώτας γὰρ ἐναντιώσεις καὶ διαφορὰς τοῦ ὄντος ἀνάγεται), τὰ δὲ τοιαῦτα δυνατὸν ὑπὸ μίαν ἐπιστήμην εἶναι, διαλύοιτ' ἂν ἡ κατ' ἀρχὰς ἀπορία λεχθεῖσα, λέγω δ' ἐν ᾗ διηπορεῖτο πῶς ἔσται πολλῶν καὶ διαφόρων ὄντων τῷ γένει μία τις ἐπιστήμη. - ἐπεὶ δὲ καὶ ὁ μαθηματικὸς χρῆται τοῖς κοινοῖς ἰδίως, καὶ τὰς τούτων ἀρχὰς ἂν εἴη θεωρῆσαι τῆς πρώτης φιλοσοφίας. ὅτι γὰρ ἀπὸ τῶν ἴσων ἴσων ἀφαιρεθέντων ἴσα τὰ λειπόμενα, κοινὸν μέν ἐστιν ἐπὶ πάντων τῶν ποσῶν, ἡ μαθηματικὴ δ' ἀπολαβοῦσα περί τι μέρος τῆς οἰκείας ὕλης ποιεῖται τὴν θεωρίαν, οἷον περὶ γραμμὰς ἢ γωνίας ἢ ἀριθμοὺς ἢ τῶν λοιπῶν τι ποσῶν, οὐχ ᾗ δ' ὄντα ἀλλ' ᾗ συνεχὲς αὐτῶν ἕκαστον ἐφ' ἓν ἢ δύο ἢ τρία· ἡ δὲ φιλοσοφία περὶ τῶν ἐν μέρει μέν, ᾗ τούτων ἑκάστῳ τι συμβέβηκεν, οὐ σκοπεῖ, περὶ τὸ ὂν δέ, ᾗ ὂν τῶν τοιούτων ἕκαστον, θεωρεῖ. τὸν αὐτὸν δ' ἔχει τρόπον καὶ περὶ τὴν φυσικὴν ἐπιστήμην τῇ μαθηματικῇ· τὰ συμβεβηκότα γὰρ ἡ φυσικὴ καὶ τὰς ἀρχὰς θεωρεῖ τὰς τῶν ὄντων ᾗ κινούμενα καὶ οὐχ ᾗ ὄντα (τὴν δὲ πρώτην εἰρήκαμεν ἐπιστήμην τούτων εἶναι καθ' ὅσον ὄντα τὰ ὑποκείμενά ἐστιν, ἀλλ' οὐχ ᾗ ἕτερόν τι)· διὸ καὶ ταύτην καὶ τὴν μαθηματικὴν ἐπιστήμην μέρη τῆς σοφίας εἶναι θετέον.

Ἔστι δέ τις ἐν τοῖς οὖσιν ἀρχὴ περὶ ἣν οὐκ ἔστι διεψεῦσθαι, τοὐναντίον δὲ ἀναγκαῖον ἀεὶ ποιεῖν, λέγω δὲ ἀληθεύειν, οἷον ὅτι οὐκ ἐνδέχεται τὸ αὐτὸ καθ' ἕνα καὶ τὸν αὐτὸν χρόνον [1062a] εἶναι καὶ μὴ εἶναι, καὶ τἆλλα τὰ τοῦτον αὐτοῖς ἀντικείμενα τὸν τρόπον. καὶ περὶ τῶν τοιούτων ἁπλῶς μὲν οὐκ ἔστιν ἀπόδειξις, πρὸς τόνδε δὲ ἔστιν· οὐ γὰρ ἔστιν ἐκ πιστοτέρας ἀρχῆς αὐτοῦ τούτου ποιήσασθαι συλλογισμόν, δεῖ δέ γ' εἴπερ ἔσται τὸ ἁπλῶς ἀποδεδεῖχθαι. πρὸς δὲ τὸν λέγοντα τὰς ἀντικειμένας φάσεις τῷ δεικνύντι διότι ψεῦδος ληπτέον τι τοιοῦτον ὃ ταὐτὸ μὲν ἔσται τῷ μὴ ἐνδέχεσθαι ταὐτὸ εἶναι καὶ μὴ εἶναι καθ' ἕνα καὶ τὸν αὐτὸν χρόνον, μὴ δόξει δ' εἶναι ταὐτόν· οὕτω γὰρ μόνως ἂν ἀποδειχθείη πρὸς τὸν φάσκοντα ἐνδέχεσθαι τὰς ἀντικειμένας φάσεις ἀληθεύεσθαι κατὰ τοῦ αὐτοῦ. τοὺς δὴ μέλλοντας ἀλλήλοις λόγου κοινωνήσειν δεῖ τι συνιέναι αὑτῶν· μὴ γιγνομένου γὰρ τούτου πῶς ἔσται κοινωνία τούτοις πρὸς ἀλλήλους λόγου; δεῖ τοίνυν τῶν ὀνομάτων ἕκαστον εἶναι γνώριμον καὶ δηλοῦν τι, καὶ μὴ πολλά, μόνον δὲ ἕν· ἂν δὲ πλείονα σημαίνῃ, φανερὸν ποιεῖν ἐφ' ὃ φέρει τοὔνομα τούτων. ὁ δὴ λέγων εἶναι τοῦτο καὶ μὴ εἶναι, τοῦτο ὅ φησιν οὔ φησιν, ὥσθ' ὃ σημαίνει τοὔνομα τοῦτ' οὔ φησι σημαίνειν· τοῦτο δ' ἀδύνατον. ὥστ' εἴπερ σημαίνει τι τὸ εἶναι τόδε, τὴν ἀντίφασιν ἀδύνατον ἀληθεύειν. ἔτι δ' εἴ τι σημαίνει τοὔνομα καὶ τοῦτ' ἀληθεύεται, δεῖ τοῦτ' ἐξ ἀνάγκης εἶναι· τὸ δ' ἐξ ἀνάγκης ὂν οὐκ ἐνδέχεταί ποτε μὴ εἶναι· τὰς ἀντικειμένας ἄρα οὐκ ἐνδέχεται φάσεις καὶ ἀποφάσεις ἀληθεύειν κατὰ τοῦ αὐτοῦ. ἔτι δ' εἰ μηθὲν μᾶλλον ἡ φάσις ἢ ἡ ἀπόφασις ἀληθεύεται, ὁ λέγων ἄνθρωπον ἢ οὐκ ἄνθρωπον οὐθὲν μᾶλλον ἀληθεύσει· δόξειε δὲ κἂν οὐχ ἵππον εἶναι φάσκων τὸν ἄνθρωπον ἢ μᾶλλον ἢ οὐχ ἧττον ἀληθεύειν ἢ οὐκ ἄνθρωπον, ὥστε καὶ ἵππον φάσκων εἶναι τὸν αὐτὸν ἀληθεύσει (τὰς γὰρ ἀντικειμένας ὁμοίως ἦν ἀληθεύειν)· συμβαίνει τοίνυν τὸν αὐτὸν ἄνθρωπον εἶναι καὶ ἵππον ἢ τῶν ἄλλων τι ζῴων. - ἀπόδειξις μὲν οὖν οὐδεμία τούτων ἐστὶν ἁπλῶς, πρὸς μέντοι τὸν ταῦτα τιθέμενον ἀπόδειξις. ταχέως δ' ἄν τις καὶ αὐτὸν τὸν Ἡράκλειτον τοῦτον ἐρωτῶν τὸν τρόπον ἠνάγκασεν ὁμολογεῖν μηδέποτε τὰς ἀντικειμένας φάσεις δυνατὸν εἶναι κατὰ τῶν αὐτῶν ἀληθεύεσθαι· νῦν δ' οὐ συνιεὶς ἑαυτοῦ τί ποτε λέγει, ταύτην ἔλαβε τὴν δόξαν. ὅλως δ' εἰ τὸ λεγόμενον ὑπ' αὐτοῦ ἐστὶν ἀληθές, οὐδ' ἂν αὐτὸ [1062b] τοῦτο εἴη ἀληθές, λέγω δὲ τὸ ἐνδέχεσθαι τὸ αὐτὸ καθ' ἕνα καὶ τὸν αὐτὸν χρόνον εἶναί τε καὶ μὴ εἶναι· καθάπερ γὰρ καὶ διῃρημένων αὐτῶν οὐδὲν μᾶλλον ἡ κατάφασις ἢ ἡ ἀπόφασις ἀληθεύεται, τὸν αὐτὸν τρόπον καὶ τοῦ συναμφοτέρου καὶ τοῦ συμπεπλεγμένου καθάπερ μιᾶς τινὸς καταφάσεως οὔσης οὐθὲν μᾶλλον ‹ἢ› ἡ ἀπόφασις [ἢ] τὸ ὅλον ὡς ἐν καταφάσει τιθέμενον ἀληθεύσεται. ἔτι δ' εἰ μηθὲν ἔστιν ἀληθῶς καταφῆσαι, κἂν αὐτὸ τοῦτο ψεῦδος εἴη τὸ φάναι μηδεμίαν ἀληθῆ κατάφασιν ὑπάρχειν. εἰ δ' ἔστι τι, λύοιτ' ἂν τὸ λεγόμενον ὑπὸ τῶν τὰ τοιαῦτα ἐνισταμένων καὶ παντελῶς ἀναιρούντων τὸ διαλέγεσθαι.

Παραπλήσιον δὲ τοῖς εἰρημένοις ἐστὶ καὶ τὸ λεχθὲν ὑπὸ τοῦ Πρωταγόρου· καὶ γὰρ ἐκεῖνος ἔφη πάντων εἶναι χρημάτων μέτρον ἄνθρωπον, οὐδὲν ἕτερον λέγων ἢ τὸ δοκοῦν ἑκάστῳ τοῦτο καὶ εἶναι παγίως· τούτου δὲ γιγνομένου τὸ αὐτὸ συμβαίνει καὶ εἶναι καὶ μὴ εἶναι, καὶ κακὸν καὶ ἀγαθὸν εἶναι, καὶ τἆλλα τὰ κατὰ τὰς ἀντικειμένας λεγόμενα φάσεις, διὰ τὸ πολλάκις τοισδὶ μὲν φαίνεσθαι τόδε εἶναι καλὸν τοισδὶ δὲ τοὐναντίον, μέτρον δ' εἶναι τὸ φαινόμενον ἑκάστῳ. λύοιτο δ' ἂν αὕτη ἡ ἀπορία θεωρήσασι πόθεν ἐλήλυθεν ἡ ἀρχὴ τῆς ὑπολήψεως ταύτης· ἔοικε γὰρ ἐνίοις μὲν ἐκ τῆς τῶν φυσιολόγων δόξης γεγενῆσθαι, τοῖς δ' ἐκ τοῦ μὴ ταὐτὰ περὶ τῶν αὐτῶν ἅπαντας γιγνώσκειν ἀλλὰ τοῖσδε μὲν ἡδὺ τόδε φαίνεσθαι τοῖσδε δὲ τοὐναντίον. τὸ γὰρ μηδὲν ἐκ μὴ ὄντος γίγνεσθαι, πᾶν δ' ἐξ ὄντος, σχεδὸν ἁπάντων ἐστὶ κοινὸν δόγμα τῶν περὶ φύσεως· ἐπεὶ οὖν οὐ λευκὸν γίγνεται λευκοῦ τελέως ὄντος καὶ οὐδαμῇ μὴ λευκοῦ [νῦν δὲ γεγενημένον μὴ λευκόν], γίγνοιτ’ ἂν ἐκ μὴ ὄντος λευκοῦ τὸ γιγνόμενον [μὴ] λευκόν· ὥστε ἐκ μὴ ὄντος γίγνοιτ’ ἂν κατ’ ἐκείνους, εἰ μὴ ὑπῆρχε λευκὸν τὸ αὐτὸ καὶ μὴ λευκόν. οὐ χαλεπὸν δὲ διαλύειν τὴν ἀπορίαν ταύτην· εἴρηται γὰρ ἐν τοῖς φυσικοῖς πῶς ἐκ τοῦ μὴ ὄντος γίγνεται τὰ γιγνόμενα καὶ πῶς ἐξ ὄντος. τό γε μὴν ὁμοίως προσέχειν ταῖς δόξαις καὶ ταῖς φαντασίαις τῶν πρὸς αὑτοὺς διαμφισβητούντων εὔηθες· δῆλον γὰρ ὅτι τοὺς ἑτέρους αὐτῶν ἀνάγκη διεψεῦσθαι. φανερὸν δὲ τοῦτ’ ἐκ τῶν γιγνομένων κατὰ τὴν αἴσθησιν· οὐδέποτε γὰρ [1063a] τὸ αὐτὸ φαίνεται τοῖς μὲν γλυκὺ τοῖς δὲ τοὐναντίον, μὴ διεφθαρμένων καὶ λελωβημένων τῶν ἑτέρων τὸ αἰσθητήριον καὶ κριτήριον τῶν λεχθέντων χυμῶν. τούτου δ’ ὄντος τοιούτου τοὺς ἑτέρους μὲν ὑποληπτέον μέτρον εἶναι τοὺς δ’ ἄλλους οὐχ ὑποληπτέον. ὁμοίως δὲ τοῦτο λέγω καὶ ἐπὶ ἀγαθοῦ καὶ κακοῦ, καὶ καλοῦ καὶ αἰσχροῦ, καὶ τῶν ἄλλων τῶν τοιούτων. οὐδὲν γὰρ διαφέρει τοῦτ’ ἀξιοῦν ἢ τὰ φαινόμενα τοῖς ὑπὸ τὴν ὄψιν ὑποβάλλουσι τὸν δάκτυλον καὶ ποιοῦσιν ἐκ τοῦ ἑνὸς φαίνεσθαι δύο, δύο δεῖν εἶναι διὰ τὸ φαίνεσθαι τοσαῦτα, καὶ πάλιν ἕν· τοῖς γὰρ μὴ κινοῦσι τὴν ὄψιν ἓν φαίνεται τὸ ἕν. ὅλως δὲ ἄτοπον ἐκ τοῦ φαίνεσθαι τὰ δεῦρο μεταβάλλοντα καὶ μηδέποτε διαμένοντα ἐν τοῖς αὐτοῖς, ἐκ τούτου περὶ τῆς ἀληθείας τὴν κρίσιν ποιεῖσθαι· δεῖ γὰρ ἐκ τῶν ἀεὶ κατὰ ταὐτὰ ἐχόντων καὶ μηδεμίαν μεταβολὴν ποιουμένων τἀληθὲς θηρεύειν, τοιαῦτα δ’ ἐστὶ τὰ κατὰ τὸν κόσμον· ταῦτα γὰρ οὐχ ὁτὲ μὲν τοιαδὶ πάλιν δ’ ἀλλοῖα φαίνεται, ταὐτὰ δ’ ἀεὶ καὶ μεταβολῆς οὐδεμιᾶς κοινωνοῦντα. ἔτι δ’ εἰ κίνησις ἔστι, καὶ κινούμενόν τι, κινεῖται δὲ πᾶν ἔκ τινος καὶ εἴς τι· δεῖ ἄρα τὸ κινούμενον εἶναι ἐν ἐκείνῳ ἐξ οὗ κινήσεται καὶ οὐκ εἶναι ἐν αὐτῷ, καὶ εἰς τοδὶ κινεῖσθαι καὶ γίγνεσθαι ἐν τούτῳ, τὸ δὲ κατὰ τὴν ἀντίφασιν μὴ συναληθεύεσθαι κατ’ αὐτούς. καὶ εἰ κατὰ τὸ ποσὸν συνεχῶς τὰ δεῦρο ῥεῖ καὶ κινεῖται, καί τις τοῦτο θείη καίπερ οὐκ ἀληθὲς ὄν, διὰ τί κατὰ τὸ ποιὸν οὐ μενεῖ; φαίνονται γὰρ οὐχ ἥκιστα τὰ κατὰ τὰς ἀντιφάσεις ταὐτοῦ κατηγορεῖν ἐκ τοῦ τὸ ποσὸν ὑπειληφέναι μὴ μένειν ἐπὶ τῶν σωμάτων, διὸ καὶ εἶναι τετράπηχυ τὸ αὐτὸ καὶ οὐκ εἶναι. ἡ δ’ οὐσία κατὰ τὸ ποιόν, τοῦτο δὲ τῆς ὡρισμένης φύσεως, τὸ δὲ ποσὸν τῆς ἀορίστου. ἔτι διὰ τί προστάττοντος τοῦ ἰατροῦ τοδὶ τὸ σιτίον προσενέγκασθαι προσφέρονται; τί γὰρ μᾶλλον τοῦτο ἄρτος ἐστὶν ἢ οὐκ ἔστιν; ὥστ’ οὐθὲν ἂν διέχοι φαγεῖν ἢ μὴ φαγεῖν· νῦν δ’ ὡς ἀληθεύοντες περὶ αὐτὸ καὶ ὄντος τοῦ προσταχθέντος σιτίου τούτου προσφέρονται τοῦτο· καίτοι γ’ οὐκ ἔδει μὴ διαμενούσης παγίως μηδεμιᾶς φύσεως ἐν τοῖς αἰσθητοῖς ἀλλ’ ἀεὶ πασῶν κινουμένων καὶ ῥεουσῶν. ἔτι δ’ εἰ μὲν ἀλλοιούμεθα ἀεὶ καὶ μηδέποτε διαμένομεν οἱ αὐτοί, τί καὶ θαυμαστὸν εἰ μηδέποθ’ ἡμῖν ταὐτὰ φαίνεται καθάπερ τοῖς κάμνουσιν (καὶ γὰρ τούτοις [1063b] διὰ τὸ μὴ ὁμοίως διακεῖσθαι τὴν ἕξιν καὶ ὅθ’ ὑγίαινον, οὐχ ὅμοια φαίνεται τὰ κατὰ τὰς αἰσθήσεις, αὐτὰ μὲν οὐδεμιᾶς διά γε τοῦτο μεταβολῆς κοινωνοῦντα τὰ αἰσθητά, αἰσθήματα δ’ ἕτερα ποιοῦντα τοῖς κάμνουσι καὶ μὴ τὰ αὐτά· τὸν αὐτὸν δὴ τρόπον ἔχειν καὶ τῆς εἰρημένης μεταβολῆς γιγνομένης ἴσως ἀναγκαῖόν ἐστιν); εἰ δὲ μὴ μεταβάλλομεν ἀλλ’ οἱ αὐτοὶ διατελοῦμεν ὄντες, εἴη ἄν τι μένον. - πρὸς μὲν οὖν τοὺς ἐκ λόγου τὰς εἰρημένας ἀπορίας ἔχοντας οὐ ῥᾴδιον διαλῦσαι μὴ τιθέντων τι καὶ τούτου μηκέτι λόγον ἀπαιτούντων· οὕτω γὰρ πᾶς λόγος καὶ πᾶσα ἀπόδειξις γίγνεται· μηθὲν γὰρ τιθέντες ἀναιροῦσι τὸ διαλέγεσθαι καὶ ὅλως λόγον, - ὥστε πρὸς μὲν τοὺς τοιούτους οὐκ ἔστι λόγος, πρὸς δὲ τοὺς διαποροῦντας ἐκ τῶν παραδεδομένων ἀποριῶν ῥᾴδιον ἀπαντᾶν καὶ διαλύειν τὰ ποιοῦντα τὴν ἀπορίαν ἐν αὐτοῖς· δῆλον δ’ ἐκ τῶν εἰρημένων. ὥστε φανερὸν ἐκ τούτων. ὅτι οὐκ ἐνδέχεται τὰς ἀντικειμένας φάσεις περὶ τοῦ αὐτοῦ καθ’ ἕνα χρόνον ἀληθεύειν, οὐδὲ τὰ ἐναντία, διὰ τὸ λέγεσθαι κατὰ στέρησιν πᾶσαν ἐναντιότητα· δῆλον δὲ τοῦτ’ ἐπ’ ἀρχὴν τοὺς λόγους ἀναλύουσι τοὺς τῶν ἐναντίων. ὁμοίως δ’ οὐδὲ τῶν ἀνὰ μέσον οὐδὲν οἷόν τε κατηγορεῖσθαι καθ’ ἑνὸς καὶ τοῦ αὐτοῦ· λευκοῦ γὰρ ὄντος τοῦ ὑποκειμένου λέγοντες αὐτὸ εἶναι οὔτε μέλαν οὔτε λευκὸν ψευσόμεθα· συμβαίνει γὰρ εἶναι λευκὸν αὐτὸ καὶ μὴ εἶναι· θάτερον γὰρ τῶν συμπεπλεγμένων ἀληθεύσεται κατ’ αὐτοῦ, τοῦτο δ’ ἐστὶν ἀντίφασις τοῦ λευκοῦ. οὔτε δὴ καθ’ Ἡράκλειτον ἐνδέχεται λέγοντας ἀληθεύειν, οὔτε κατ’ Ἀναξαγόραν· εἰ δὲ μή, συμβήσεται τἀναντία τοῦ αὐτοῦ κατηγορεῖν· ὅταν γὰρ ἐν παντὶ φῇ παντὸς εἶναι μοῖραν, οὐδὲν μᾶλλον εἶναί φησι γλυκὺ ἢ πικρὸν ἢ τῶν λοιπῶν ὁποιανοῦν ἐναντιώσεων, εἴπερ ἐν ἅπαντι πᾶν ὑπάρχει μὴ δυνάμει μόνον ἀλλ’ ἐνεργείᾳ καὶ ἀποκεκριμένον. ὁμοίως δὲ οὐδὲ πάσας ψευδεῖς οὐδ’ ἀληθεῖς τὰς φάσεις δυνατὸν εἶναι, δι’ ἄλλα τε πολλὰ τῶν συναχθέντων ἂν δυσχερῶν διὰ ταύτην τὴν θέσιν, καὶ διότι ψευδῶν μὲν οὐσῶν πασῶν οὐδ’ αὐτὸ τοῦτό τις φάσκων ἀληθεύσει, ἀληθῶν δὲ ψευδεῖς εἶναι πάσας λέγων οὐ ψεύσεται.

Πᾶσα δ’ ἐπιστήμη ζητεῖ τινὰς ἀρχὰς καὶ αἰτίας περὶ ἕκαστον τῶν ὑφ’ αὐτὴν ἐπιστητῶν, οἷον ἰατρικὴ καὶ γυμναστικὴ [1064a] καὶ τῶν λοιπῶν ἑκάστη τῶν ποιητικῶν καὶ μαθηματικῶν. ἑκάστη γὰρ τούτων περιγραψαμένη τι γένος αὐτῇ περὶ τοῦτο πραγματεύεται ὡς ὑπάρχον καὶ ὄν, οὐχ ᾗ δὲ ὄν, ἀλλ’ ἑτέρα τις αὕτη παρὰ ταύτας τὰς ἐπιστήμας ἐστὶν ἐπιστήμη. τῶν δὲ λεχθεισῶν ἐπιστημῶν ἑκάστη λαβοῦσά πως τὸ τί ἐστιν ἐν ἑκάστῳ γένει πειρᾶται δεικνύναι τὰ λοιπὰ μαλακώτερον ἢ ἀκριβέστερον. λαμβάνουσι δὲ τὸ τί ἐστιν αἱ μὲν δι᾽ αἰσθήσεως αἱ δ᾽ ὑποτιθέμεναι· διὸ καὶ δῆλον ἐκ τῆς τοιαύτης ἐπαγωγῆς ὅτι τῆς οὐσίας καὶ τοῦ τί ἐστιν οὐκ ἔστιν ἀπόδειξις. ἐπεὶ δ᾽ ἔστι τις ἡ περὶ φύσεως ἐπιστήμη, δῆλον ὅτι καὶ πρακτικῆς ἑτέρα καὶ ποιητικῆς ἔσται. ποιητικῆς μὲν γὰρ ἐν τῷ ποιοῦντι καὶ οὐ τῷ ποιουμένῳ τῆς κινήσεως ἡ ἀρχή, καὶ τοῦτ᾽ ἔστιν εἴτε τέχνη τις εἴτ᾽ ἄλλη τις δύναμις· ὁμοίως δὲ καὶ τῆς πρακτικῆς οὐκ ἐν τῷ πρακτῷ μᾶλλον δ᾽ ἐν τοῖς πράττουσιν ἡ κίνησις. ἡ δὲ τοῦ φυσικοῦ περὶ τὰ ἔχοντ᾽ ἐν ἑαυτοῖς κινήσεως ἀρχήν ἐστιν. ὅτι μὲν τοίνυν οὔτε πρακτικὴν οὔτε ποιητικὴν ἀλλὰ θεωρητικὴν ἀναγκαῖον εἶναι τὴν φυσικὴν ἐπιστήμην, δῆλον ἐκ τούτων (εἰς ἕν γάρ τι τούτων τῶν γενῶν ἀνάγκη πίπτειν)· ἐπεὶ δὲ τὸ τί ἐστιν ἀναγκαῖον ἑκάστῃ πως τῶν ἐπιστημῶν εἰδέναι καὶ τούτῳ χρῆσθαι ἀρχῇ, δεῖ μὴ λανθάνειν πῶς ὁριστέον τῷ φυσικῷ καὶ πῶς ὁ τῆς οὐσίας λόγος ληπτέος, πότερον ὡς τὸ σιμὸν ἢ μᾶλλον ὡς τὸ κοῖλον. τούτων γὰρ ὁ μὲν τοῦ σιμοῦ λόγος μετὰ τῆς ὕλης λέγεται τῆς τοῦ πράγματος, ὁ δὲ τοῦ κοίλου χωρὶς τῆς ὕλης· ἡ γὰρ σιμότης ἐν ῥινὶ γίγνεται, διὸ καὶ ὁ λόγος αὐτῆς μετὰ ταύτης θεωρεῖται· τὸ σιμὸν γάρ ἐστι ῥὶς κοίλη. φανερὸν οὖν ὅτι καὶ σαρκὸς καὶ ὀφθαλμοῦ καὶ τῶν λοιπῶν μορίων μετὰ τῆς ὕλης ἀεὶ τὸν λόγον ἀποδοτέον. ἐπεὶ δ᾽ ἔστι τις ἐπιστήμη τοῦ ὄντος ᾗ ὂν καὶ χωριστόν, σκεπτέον πότερόν ποτε τῇ φυσικῇ τὴν αὐτὴν θετέον εἶναι ταύτην ἢ μᾶλλον ἑτέραν. ἡ μὲν οὖν φυσικὴ περὶ τὰ κινήσεως ἔχοντ᾽ ἀρχὴν ἐν αὑτοῖς ἐστίν, ἡ δὲ μαθηματικὴ θεωρητικὴ μὲν καὶ περὶ μένοντά τις αὕτη, ἀλλ᾽ οὐ χωριστά. περὶ τὸ χωριστὸν ἄρα ὂν καὶ ἀκίνητον ἑτέρα τούτων ἀμφοτέρων τῶν ἐπιστημῶν ἔστι τις, εἴπερ ὑπάρχει τις οὐσία τοιαύτη, λέγω δὲ χωριστὴ καὶ ἀκίνητος, ὅπερ πειρασόμεθα δεικνύναι. καὶ εἴπερ ἔστι τις τοιαύτη φύσις ἐν τοῖς οὖσιν, ἐνταῦθ᾽ ἂν εἴη που καὶ τὸ θεῖον, καὶ αὕτη [1064b] ἂν εἴη πρώτη καὶ κυριωτάτη ἀρχή. δῆλον τοίνυν ὅτι τρία γένη τῶν θεωρητικῶν ἐπιστημῶν ἔστι, φυσική, μαθηματική, θεολογική. βέλτιστον μὲν οὖν τὸ τῶν θεωρητικῶν γένος, τούτων δ᾽ αὐτῶν ἡ τελευταία λεχθεῖσα· περὶ τὸ τιμιώτατον γάρ ἐστι τῶν ὄντων, βελτίων δὲ καὶ χείρων ἑκάστη λέγεται κατὰ τὸ οἰκεῖον ἐπιστητόν. ἀπορήσειε δ᾽ ἄν τις πότερόν ποτε τὴν τοῦ ὄντος ᾗ ὂν ἐπιστήμην καθόλου δεῖ θεῖναι ἢ οὔ. τῶν μὲν γὰρ μαθηματικῶν ἑκάστη περὶ ἕν τι γένος ἀφωρισμένον ἐστίν, ἡ δὲ καθόλου κοινὴ περὶ πάντων. εἰ μὲν οὖν αἱ φυσικαὶ οὐσίαι πρῶται τῶν ὄντων εἰσί, κἂν ἡ φυσικὴ πρώτη τῶν ἐπιστημῶν εἴη· εἰ δ᾽ ἔστιν ἑτέρα φύσις καὶ οὐσία χωριστὴ καὶ ἀκίνητος, ἑτέραν ἀνάγκη καὶ τὴν ἐπιστήμην αὐτῆς εἶναι καὶ προτέραν τῆς φυσικῆς καὶ καθόλου τῷ προτέραν.

Ἐπεὶ δὲ τὸ ἁπλῶς ὂν κατὰ πλείους λέγεται τρόπους, ὧν εἷς ἐστὶν ὁ κατὰ συμβεβηκὸς εἶναι λεγόμενος, σκεπτέον πρῶτον περὶ τοῦ οὕτως ὄντος. ὅτι μὲν οὖν οὐδεμία τῶν παραδεδομένων ἐπιστημῶν πραγματεύεται περὶ τὸ συμβεβηκός, δῆλον (οὔτε γὰρ οἰκοδομικὴ σκοπεῖ τὸ συμβησόμενον τοῖς τῇ οἰκίᾳ χρησομένοις, οἷον εἰ λυπηρῶς ἢ τοὐναντίον οἰκήσουσιν, οὔθ᾽ ὑφαντικὴ οὔτε σκυτοτομικὴ οὔτε ὀψοποιική, τὸ δὲ καθ᾽ αὑτὴν ἴδιον ἑκάστη τούτων σκοπεῖ τῶν ἐπιστημῶν μόνον, τοῦτο δ᾽ ἐστὶ τὸ οἰκεῖον τέλος· [οὐδὲ μουσικὸν καὶ γραμματικόν,] οὐδὲ τὸν ὄντα μουσικὸν ὅτι γενόμενος γραμματικὸς ἅμα ἔσται τὰ ἀμφότερα, πρότερον οὐκ ὤν, ὃ δὲ μὴ ἀεὶ ὂν ἔστιν, ἐγένετο τοῦτο, ὥσθ᾽ ἅμα μουσικὸς ἐγένετο καὶ γραμματικός, - τοῦτο δὲ οὐδεμία ζητεῖ τῶν ὁμολογουμένως οὐσῶν ἐπιστημῶν πλὴν ἡ σοφιστική· περὶ τὸ συμβεβηκὸς γὰρ αὕτη μόνη πραγματεύεται, διὸ Πλάτων οὐ κακῶς εἴρηκε φήσας τὸν σοφιστὴν περὶ τὸ μὴ ὂν διατρίβειν)· ὅτι δ᾽ οὐδ᾽ ἐνδεχόμενόν ἐστιν εἶναι τοῦ συμβεβηκότος ἐπιστήμην, φανερὸν ἔσται πειραθεῖσιν ἰδεῖν τί ποτ᾽ ἐστὶ τὸ συμβεβηκός. πᾶν δή φαμεν εἶναι τὸ μὲν ἀεὶ καὶ ἐξ ἀνάγκης (ἀνάγκης δ᾽ οὐ τῆς κατὰ τὸ βίαιον λεγομένης ἀλλ᾽ ᾗ χρώμεθα ἐν τοῖς κατὰ τὰς ἀποδείξεις), τὸ δ᾽ ὡς ἐπὶ τὸ πολύ, τὸ δ᾽ οὔθ᾽ ὡς ἐπὶ τὸ πολὺ οὔτ᾽ ἀεὶ καὶ ἐξ ἀνάγκης ἀλλ᾽ ὅπως ἔτυχεν· οἷον ἐπὶ κυνὶ γένοιτ᾽ ἂν ψῦχος, ἀλλὰ τοῦτ᾽ οὔτ᾽ [ὡς] ἀεὶ καὶ ἐξ ἀνάγκης οὔθ᾽ ὡς ἐπὶ τὸ [1065a] πολὺ γίγνεται, συμβαίη δέ ποτ᾽ ἄν. ἔστι δὴ τὸ συμβεβηκὸς ὃ γίγνεται μέν, οὐκ ἀεὶ δ᾽ οὐδ᾽ ἐξ ἀνάγκης οὐδ᾽ ὡς ἐπὶ τὸ πολύ. τί μὲν οὖν ἐστὶ τὸ συμβεβηκός, εἴρηται, διότι δ᾽ οὐκ ἔστιν ἐπιστήμη τοῦ τοιούτου, δῆλον· ἐπιστήμη μὲν γὰρ πᾶσα τοῦ ἀεὶ ὄντος ἢ ὡς ἐπὶ τὸ πολύ, τὸ δὲ συμβεβηκὸς ἐν οὐδετέρῳ τούτων ἐστίν. ὅτι δὲ τοῦ κατὰ συμβεβηκὸς ὄντος οὐκ εἰσὶν αἰτίαι καὶ ἀρχαὶ τοιαῦται οἷαίπερ τοῦ καθ᾽ αὑτὸ ὄντος, δῆλον· ἔσται γὰρ ἅπαντ᾽ ἐξ ἀνάγκης. εἰ γὰρ τόδε μὲν ἔστι τοῦδε ὄντος τόδε δὲ τοῦδε, τοῦτο δὲ μὴ ὅπως ἔτυχεν ἀλλ᾽ ἐξ ἀνάγκης, ἐξ ἀνάγκης ἔσται καὶ οὗ τοῦτ᾽ ἦν αἴτιον ἕως τοῦ τελευταίου λεγομένου αἰτιατοῦ (τοῦτο δ᾽ ἦν κατὰ συμβεβηκός), ὥστ᾽ ἐξ ἀνάγκης ἅπαντ᾽ ἔσται, καὶ τὸ ὁποτέρως ἔτυχε καὶ τὸ ἐνδέχεσθαι καὶ γενέσθαι καὶ μὴ παντελῶς ἐκ τῶν γιγνομένων ἀναιρεῖται. κἂν μὴ ὂν δὲ ἀλλὰ γιγνόμενον τὸ αἴτιον ὑποτεθῇ, ταὐτὰ συμβήσεται· πᾶν γὰρ ἐξ ἀνάγκης γενήσεται. ἡ γὰρ αὔριον ἔκλειψις γενήσεται ἂν τόδε γένηται, τοῦτο δ᾽ ἐὰν ἕτερόν τι, καὶ τοῦτ᾽ ἂν ἄλλο· καὶ τοῦτον δὴ τὸν τρόπον ἀπὸ πεπερασμένου χρόνου τοῦ ἀπὸ τοῦ νῦν μέχρι αὔριον ἀφαιρουμένου χρόνου ἥξει ποτὲ εἰς τὸ ὑπάρχον, ὥστ᾽ ἐπεὶ τοῦτ᾽ ἔστιν, ἅπαντ᾽ ἐξ ἀνάγκης τὰ μετὰ τοῦτο γενήσεται, ὥστε πάντα ἐξ ἀνάγκης γίγνεσθαι. τὸ δ᾽ ὡς ἀληθὲς ὂν καὶ κατὰ συμβεβηκὸς τὸ μέν ἐστιν ἐν συμπλοκῇ διανοίας καὶ πάθος ἐν ταύτῃ (διὸ περὶ μὲν τὸ οὕτως ὂν οὐ ζητοῦνται αἱ ἀρχαί, περὶ δὲ τὸ ἔξω ὂν καὶ χωριστόν)· τὸ δ’ οὐκ ἀναγκαῖον ἀλλ’ ἀόριστον, λέγω δὲ τὸ κατὰ συμβεβηκός· τοῦ τοιούτου δ’ ἄτακτα καὶ ἄπειρα τὰ αἴτια. - τὸ δὲ ἕνεκά του ἐν τοῖς φύσει γιγνομένοις ἢ ἀπὸ διανοίας ἐστίν, τύχη δέ ἐστιν ὅταν τι τούτων γένηται κατὰ συμβεβηκός· ὥσπερ γὰρ καὶ ὄν ἐστι τὸ μὲν καθ’ αὑτὸ τὸ δὲ κατὰ συμβεβηκός, οὕτω καὶ αἴτιον. ἡ τύχη δ’ αἰτία κατὰ συμβεβηκὸς ἐν τοῖς κατὰ προαίρεσιν τῶν ἕνεκά του γιγνομένοις, διὸ περὶ ταὐτὰ τύχη καὶ διάνοια· προαίρεσις γὰρ οὐ χωρὶς διανοίας. τὰ δ’ αἴτια ἀόριστα ἀφ’ ὧν ἂν γένοιτο τὰ ἀπὸ τύχης, διὸ ἄδηλος ἀνθρωπίνῳ λογισμῷ καὶ αἴτιον κατὰ συμβεβηκός, ἁπλῶς δ’ οὐδενός. ἀγαθὴ δὲ τύχη καὶ κακὴ ὅταν ἀγαθὸν ἢ φαῦλον [1065b] ἀποβῇ· εὐτυχία δὲ καὶ δυστυχία περὶ μέγεθος τούτων. ἐπεὶ δ’ οὐθὲν κατὰ συμβεβηκὸς πρότερον τῶν καθ’ αὑτό, οὐδ’ ἄρ’ αἴτια· εἰ ἄρα τύχη ἢ τὸ αὐτόματον αἴτιον τοῦ οὐρανοῦ, πρότερον νοῦς αἴτιος καὶ φύσις.

Ἔστι δὲ τὸ μὲν ἐνεργείᾳ μόνον τὸ δὲ δυνάμει τὸ δὲ δυνάμει καὶ ἐνεργείᾳ, τὸ μὲν ὂν τὸ δὲ ποσὸν τὸ δὲ τῶν λοιπῶν. οὐκ ἔστι δέ τις κίνησις παρὰ τὰ πράγματα· μεταβάλλει γὰρ ἀεὶ κατὰ τὰς τοῦ ὄντος κατηγορίας, κοινὸν δ’ ἐπὶ τούτων οὐδέν ἐστιν ὃ οὐδ’ ἐν μιᾷ κατηγορίᾳ. ἕκαστον δὲ διχῶς ὑπάρχει πᾶσιν (οἷον τὸ τόδε - τὸ μὲν γὰρ μορφὴ αὐτοῦ τὸ δὲ στέρησις - καὶ κατὰ τὸ ποιὸν τὸ μὲν λευκὸν τὸ δὲ μέλαν, καὶ κατὰ τὸ ποσὸν τὸ μὲν τέλειον τὸ δὲ ἀτελές, καὶ κατὰ φορὰν τὸ μὲν ἄνω τὸ δὲ κάτω, ἢ κοῦφον καὶ βαρύ)· ὥστε κινήσεως καὶ μεταβολῆς τοσαῦτ’ εἴδη ὅσα τοῦ ὄντος. διῃρημένου δὲ καθ’ ἕκαστον γένος τοῦ μὲν δυνάμει τοῦ δ’ ἐντελεχείᾳ, τὴν τοῦ δυνάμει ᾗ τοιοῦτόν ἐστιν ἐνέργειαν λέγω κίνησιν. ὅτι δ’ ἀληθῆ λέγομεν, ἐνθένδε δῆλον· ὅταν γὰρ τὸ οἰκοδομητόν, ᾗ τοιοῦτον αὐτὸ λέγομεν εἶναι, ἐνεργείᾳ ᾖ, οἰκοδομεῖται, καὶ ἔστι τοῦτο οἰκοδόμησις· ὁμοίως μάθησις, ἰάτρευσις, βάδισις, ἅλσις, γήρανσις, ἅδρυνσις. συμβαίνει δὲ κινεῖσθαι ὅταν ἡ ἐντελέχεια ᾖ αὐτή, καὶ οὔτε πρότερον οὔθ’ ὕστερον. ἡ δὴ τοῦ δυνάμει ὄντος, ὅταν ἐντελεχείᾳ ὂν ἐνεργῇ, οὐχ ᾗ αὐτὸ ἀλλ’ ᾗ κινητόν, κίνησίς ἐστιν. λέγω δὲ τὸ ᾗ ὧδε. ἔστι γὰρ ὁ χαλκὸς δυνάμει ἀνδριάς· ἀλλ’ ὅμως οὐχ ἡ τοῦ χαλκοῦ ἐντελέχεια, ᾗ χαλκός, κίνησίς ἐστιν. οὐ γὰρ ταὐτὸν χαλκῷ εἶναι καὶ δυνάμει τινί, ἐπεὶ εἰ ταὐτὸν ἦν ἁπλῶς κατὰ τὸν λόγον, ἦν ἂν ἡ τοῦ χαλκοῦ ἐντελέχεια κίνησίς τις. οὐκ ἔστι δὲ ταὐτό (δῆλον δ’ ἐπὶ τῶν ἐναντίων· τὸ μὲν γὰρ δύνασθαι ὑγιαίνειν καὶ δύνασθαι κάμνειν οὐ ταὐτόν - καὶ γὰρ ἂν τὸ ὑγιαίνειν καὶ τὸ κάμνειν ταὐτὸν ἦν - τὸ δ’ ὑποκείμενον καὶ ὑγιαῖνον καὶ νοσοῦν, εἴθ’ ὑγρότης εἴθ’ αἷμα, ταὐτὸ καὶ ἕν). ἐπεὶ δὲ οὐ τὸ αὐτό, ὥσπερ οὐδὲ χρῶμα ταὐτὸν καὶ ὁρατόν, ἡ τοῦ δυνατοῦ καὶ ᾗ δυνατὸν ἐντελέχεια κίνησίς ἐστιν. ὅτι μὲν οὖν ἐστιν αὕτη, καὶ ὅτι συμβαίνει τότε κινεῖσθαι ὅταν ἡ ἐντελέχεια ᾖ αὐτή, καὶ οὔτε πρότερον οὔθ’ ὕστερον, δῆλον [1066a] (ἐνδέχεται γὰρ ἕκαστον ὁτὲ μὲν ἐνεργεῖν ὁτὲ δὲ μή, οἷον τὸ οἰκοδομητὸν ᾗ οἰκοδομητόν, καὶ ἡ τοῦ οἰκοδομητοῦ ἐνέργεια ᾗ οἰκοδομητὸν οἰκοδόμησίς ἐστιν· ἢ γὰρ τοῦτό ἐστιν, ἡ οἰκοδόμησις, ἡ ἐνέργεια, ἢ οἰκία· ἀλλ’ ὅταν οἰκία ᾖ, οὐκέτι οἰκοδομητόν, οἰκοδομεῖται δὲ τὸ οἰκοδομητόν· ἀνάγκη ἄρα οἰκοδόμησιν τὴν ἐνέργειαν εἶναι, ἡ δ’ οἰκοδόμησις κίνησίς τις, ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων κινήσεων)· ὅτι δὲ καλῶς εἴρηται, δῆλον ἐξ ὧν οἱ ἄλλοι λέγουσι περὶ αὐτῆς, καὶ ἐκ τοῦ μὴ ῥᾴδιον εἶναι διορίσαι ἄλλως αὐτήν. οὔτε γὰρ ἐν ἄλλῳ τις γένει δύναιτ’ ἂν θεῖναι αὐτήν· δῆλον δ’ ἐξ ὧν λέγουσιν· οἱ μὲν γὰρ ἑτερότητα καὶ ἀνισότητα καὶ τὸ μὴ ὄν, ὧν οὐδὲν ἀνάγκη κινεῖσθαι, ἀλλ’ οὐδ’ ἡ μεταβολὴ οὔτ’ εἰς ταῦτα οὔτ’ ἐκ τούτων μᾶλλον ἢ τῶν ἀντικειμένων. αἴτιον δὲ τοῦ εἰς ταῦτα τιθέναι ὅτι ἀόριστόν τι δοκεῖ εἶναι ἡ κίνησις, τῆς δ’ ἑτέρας συστοιχίας αἱ ἀρχαὶ διὰ τὸ στερητικαὶ εἶναι ἀόριστοι· οὔτε γὰρ τόδε οὔτε τοιόνδε οὐδεμία αὐτῶν οὔτε τῶν λοιπῶν κατηγοριῶν. τοῦ δὲ δοκεῖν ἀόριστον εἶναι τὴν κίνησιν αἴτιον ὅτι οὔτ’ εἰς δύναμιν τῶν ὄντων οὔτ’ εἰς ἐνέργειαν ἔστι θεῖναι αὐτήν· οὔτε γὰρ τὸ δυνατὸν ποσὸν εἶναι κινεῖται ἐξ ἀνάγκης, οὔτε τὸ ἐνεργείᾳ ποσόν, ἥ τε κίνησις ἐνέργεια μὲν εἶναι δοκεῖ τις, ἀτελὴς δέ· αἴτιον δ’ ὅτι ἀτελὲς τὸ δυνατὸν οὗ ἐστὶν ἐνέργεια. καὶ διὰ τοῦτο χαλεπὸν αὐτὴν λαβεῖν τί ἐστιν· ἢ γὰρ εἰς στέρησιν ἀνάγκη θεῖναι ἢ εἰς δύναμιν ἢ εἰς ἐνέργειαν ἁπλῆν, τούτων δ’ οὐδὲν φαίνεται ἐνδεχόμενον, ὥστε λείπεται τὸ λεχθὲν εἶναι, καὶ ἐνέργειαν καὶ [μὴ] ἐνέργειαν τὴν εἰρημένην, ἰδεῖν μὲν χαλεπὴν ἐνδεχομένην δ’ εἶναι. καὶ ὅτι ἐστὶν ἡ κίνησις ἐν τῷ κινητῷ, δῆλον· ἐντελέχεια γάρ ἐστι τούτου ὑπὸ τοῦ κινητικοῦ. καὶ ἡ τοῦ κινητικοῦ ἐνέργεια οὐκ ἄλλη ἐστίν. δεῖ μὲν γὰρ εἶναι ἐντελέχειαν ἀμφοῖν· κινητικὸν μὲν γάρ ἐστι τῷ δύνασθαι, κινοῦν δὲ τῷ ἐνεργεῖν, ἀλλ’ ἔστιν ἐνεργητικὸν τοῦ κινητοῦ, ὥσθ’ ὁμοίως μία ἡ ἀμφοῖν ἐνέργεια ὥσπερ τὸ αὐτὸ διάστημα ἓν πρὸς δύο καὶ δύο πρὸς ἕν, καὶ τὸ ἄναντες καὶ τὸ κάταντες, ἀλλὰ τὸ εἶναι οὐχ ἕν· ὁμοίως δὲ καὶ ἐπὶ τοῦ κινοῦντος καὶ κινουμένου.

Τὸ δ’ ἄπειρον ἢ τὸ ἀδύνατον διελθεῖν τῷ μὴ πεφυκέναι διιέναι, καθάπερ ἡ φωνὴ ἀόρατος, ἢ τὸ διέξοδον ἔχον ἀτελεύτητον, ἢ ὃ μόλις, ἢ ὃ πεφυκὸς ἔχειν μὴ ἔχει διέξοδον [1066b] ἢ πέρας· ἔτι προσθέσει ἢ ἀφαιρέσει ἢ ἄμφω. χωριστὸν μὲν δὴ αὐτό τι ὂν οὐχ οἷόν τ’ εἶναι· εἰ γὰρ μήτε μέγεθος μήτε πλῆθος, οὐσία δ’ αὐτὸ τὸ ἄπειρον καὶ μὴ συμβεβηκός, ἀδιαίρετον ἔσται (τὸ γὰρ διαιρετὸν ἢ μέγεθος ἢ πλῆθος), εἰ δὲ ἀδιαίρετον, οὐκ ἄπειρον, εἰ μὴ καθάπερ ἡ φωνὴ ἀόρατος· ἀλλ’ οὐχ οὕτω λέγουσιν οὐδ’ ἡμεῖς ζητοῦμεν, ἀλλ’ ὡς ἀδιέξοδον. ἔτι πῶς ἐνδέχεται καθ’ αὑτὸ εἶναι ἄπειρον, εἰ μὴ καὶ ἀριθμὸς καὶ μέγεθος, ὧν πάθος τὸ ἄπειρον; ἔτι εἰ κατὰ συμβεβηκός, οὐκ ἂν εἴη στοιχεῖον τῶν ὄντων ᾗ ἄπειρον, ὥσπερ οὐδὲ τὸ ἀόρατον τῆς διαλέκτου, καίτοι ἡ φωνὴ ἀόρατος. καὶ ὅτι οὐκ ἔστιν ἐνεργείᾳ εἶναι τὸ ἄπειρον, δῆλον. ἔσται γὰρ ὁτιοῦν αὐτοῦ ἄπειρον μέρος τὸ λαμβανόμενον (τὸ γὰρ ἀπείρῳ εἶναι καὶ ἄπειρον τὸ αὐτό, εἴπερ οὐσία τὸ ἄπειρον καὶ μὴ καθ’ ὑποκειμένου), ὥστε ἢ ἀδιαίρετον, ἢ εἰς ἄπειρα διαιρετόν, εἰ μεριστόν· πολλὰ δ’ εἶναι τὸ αὐτὸ ἀδύνατον ἄπειρα (ὥσπερ γὰρ ἀέρος ἀὴρ μέρος, οὕτως ἄπειρον ἀπείρου, εἰ ἔστιν οὐσία καὶ ἀρχή)· ἀμέριστον ἄρα καὶ ἀδιαίρετον. ἀλλὰ ἀδύνατον τὸ ἐντελεχείᾳ ὂν ἄπειρον (ποσὸν γὰρ εἶναι ἀνάγκη)· κατὰ συμβεβηκὸς ἄρα ὑπάρχει. ἀλλ’ εἰ οὕτως, εἴρηται ὅτι οὐκ ἐνδέχεται εἶναι ἀρχήν, ἀλλ’ ἐκεῖνο ᾧ συμβέβηκε, τὸν ἀέρα ἢ τὸ ἄρτιον. - αὕτη μὲν οὖν ἡ ζήτησις καθόλου, ὅτι δ’ ἐν τοῖς αἰσθητοῖς οὐκ ἔστιν, ἐνθένδε δῆλον· εἰ γὰρ σώματος λόγος τὸ ἐπιπέδοις ὡρισμένον, οὐκ εἴη ἂν ἄπειρον σῶμα οὔτ’ αἰσθητὸν οὔτε νοητόν, οὐδ’ ἀριθμὸς ὡς κεχωρισμένος καὶ ἄπειρος· ἀριθμητὸν γὰρ ὁ ἀριθμὸς ἢ τὸ ἔχον ἀριθμόν. φυσικῶς δὲ ἐκ τῶνδε δῆλον· οὔτε γὰρ σύνθετον οἷόν τ’ εἶναι οὔθ’ ἁπλοῦν. σύνθετον μὲν γὰρ οὐκ ἔσται σῶμα, εἰ πεπέρανται τῷ πλήθει τὰ στοιχεῖα (δεῖ γὰρ ἰσάζειν τὰ ἐναντία καὶ μὴ εἶναι ἓν αὐτῶν ἄπειρον· εἰ γὰρ ὁτῳοῦν λείπεται ἡ θατέρου σώματος δύναμις, φθαρήσεται ὑπὸ τοῦ ἀπείρου τὸ πεπερασμένον· ἕκαστον δ’ ἄπειρον εἶναι ἀδύνατον, σῶμα γάρ ἐστι τὸ πάντῃ ἔχον διάστασιν, ἄπειρον δὲ τὸ ἀπεράντως διεστηκός, ὥστ’ εἰ τὸ ἄπειρον σῶμα, πάντῃ ἔσται ἄπειρον)· οὐδὲ ἓν δὲ καὶ ἁπλοῦν ἐνδέχεται τὸ ἄπειρον εἶναι σῶμα, οὔθ’ ὡς λέγουσί τινες, παρὰ τὰ στοιχεῖα ἐξ οὗ γεννῶσι ταῦτα (οὐκ ἔστι γὰρ τοιοῦτο σῶμα παρὰ τὰ στοιχεῖα· ἅπαν γάρ, ἐξ οὗ ἐστί, καὶ διαλύεται εἰς τοῦτο, οὐ φαίνεται δὲ τοῦτο [1067a] παρὰ τὰ ἁπλᾶ σώματα), οὐδὲ πῦρ οὐδ’ ἄλλο τῶν στοιχείων οὐθέν· χωρὶς γὰρ τοῦ ἄπειρον εἶναί τι αὐτῶν, ἀδύνατον τὸ ἅπαν, κἂν ᾖ πεπερασμένον, ἢ εἶναι ἢ γίγνεσθαι ἕν τι αὐτῶν, ὥσπερ Ἡράκλειτός φησιν ἅπαντα γίγνεσθαί ποτε πῦρ. ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τοῦ ἑνὸς ὃ ποιοῦσι παρὰ τὰ στοιχεῖα οἱ φυσικοί· πᾶν γὰρ μεταβάλλει ἐξ ἐναντίου, οἷον ἐκ θερμοῦ εἰς ψυχρόν. - ἔτι τὸ αἰσθητὸν σῶμα πού, καὶ ὁ αὐτὸς τόπος ὅλου καὶ μορίου, οἷον τῆς γῆς, ὥστ’ εἰ μὲν ὁμοειδές, ἀκίνητον ἔσται ἢ ἀεὶ οἰσθήσεται, τοῦτο δὲ ἀδύνατον (τί γὰρ μᾶλλον κάτω ἢ ἄνω ἢ ὁπουοῦν; οἷον εἰ βῶλος εἴη, ποῦ αὕτη κινήσεται ἢ μενεῖ; ὁ γὰρ τόπος τοῦ συγγενοῦς αὐτῇ σώματος ἄπειρος· καθέξει οὖν τὸν ὅλον τόπον; καὶ πῶς; τίς οὖν ἡ μονὴ καὶ ἡ κίνησις; ἢ πανταχοῦ μενεῖ - οὐ κινηθήσεται ἄρα, ἢ πανταχοῦ κινηθήσεται - οὐκ ἄρα στήσεται)· εἰ δ’ ἀνόμοιον τὸ πᾶν, ἀνόμοιοι καὶ οἱ τόποι, καὶ πρῶτον μὲν οὐχ ἓν τὸ σῶμα τοῦ παντὸς ἀλλ’ ἢ τῷ ἅπτεσθαι, εἶτα ἢ πεπερασμένα ταῦτ’ ἔσται ἢ ἄπειρα εἴδει. πεπερασμένα μὲν οὖν οὐχ οἷόν τε (ἔσται γὰρ τὰ μὲν ἄπειρα τὰ δ’ οὔ, εἰ τὸ πᾶν ἄπειρον, οἷον πῦρ ἢ ὕδωρ· φθορὰ δὲ τὸ τοιοῦτον τοῖς ἐναντίοις)· εἰ δ’ ἄπειρα καὶ ἁπλᾶ, καὶ οἱ τόποι ἄπειροι καὶ ἔσται ἄπειρα στοιχεῖα· εἰ δὲ τοῦτ’ ἀδύνατον καὶ οἱ τόποι πεπερασμένοι, καὶ τὸ πᾶν ἀνάγκη πεπεράνθαι. ὅλως δ’ ἀδύνατον ἄπειρον εἶναι σῶμα καὶ τόπον τοῖς σώμασιν, εἰ πᾶν σῶμα αἰσθητὸν ἢ βάρος ἔχει ἢ κουφότητα· ἢ γὰρ ἐπὶ τὸ μέσον ἢ ἄνω οἰσθήσεται, ἀδύνατον δὲ τὸ ἄπειρον ἢ πᾶν ἢ τὸ ἥμισυ ὁποτερονοῦν πεπονθέναι· πῶς γὰρ διελεῖς; ἢ πῶς τοῦ ἀπείρου ἔσται τὸ μὲν κάτω τὸ δ’ ἄνω, ἢ ἔσχατον καὶ μέσον; ἔτι πᾶν σῶμα αἰσθητὸν ἐν τόπῳ, τόπου δὲ εἴδη ἕξ, ἀδύνατον δ’ ἐν τῷ ἀπείρῳ σώματι ταῦτ’ εἶναι. ὅλως δ’ εἰ ἀδύνατον τόπον ἄπειρον εἶναι, καὶ σῶμα ἀδύνατον· τὸ γὰρ ἐν τόπῳ πού, τοῦτο δὲ σημαίνει ἢ ἄνω ἢ κάτω ἢ τῶν λοιπῶν τι, τούτων δ’ ἕκαστον πέρας τι. τὸ δ’ ἄπειρον οὐ ταὐτὸν ἐν μεγέθει καὶ κινήσει καὶ χρόνῳ ὡς μία τις φύσις, ἀλλὰ τὸ ὕστερον λέγεται κατὰ τὸ πρότερον, οἷον κίνησις κατὰ τὸ μέγεθος ἐφ’ οὗ κινεῖται ἢ ἀλλοιοῦται ἢ αὔξεται, χρόνος δὲ διὰ τὴν κίνησιν.

[1067b] Μεταβάλλει δὲ τὸ μεταβάλλον τὸ μὲν κατὰ συμβεβηκός, ὡς τὸ μουσικὸν βαδίζει, τὸ δὲ τῷ τούτου τι μεταβάλλειν ἁπλῶς λέγεται μεταβάλλειν, οἷον ὅσα κατὰ μέρη (ὑγιάζεται γὰρ τὸ σῶμα, ὅτι ὁ ὀφθαλμός), ἔστι δέ τι ὃ καθ’ αὑτὸ πρῶτον κινεῖται, καὶ τοῦτ’ ἔστι τὸ καθ’ αὑτὸ κινητόν. ἔστι δέ [τι] καὶ ἐπὶ τοῦ κινοῦντος ὡσαύτως· κινεῖ γὰρ κατὰ συμβεβηκὸς τὸ δὲ κατὰ μέρος τὸ δὲ καθ’ αὑτό· ἔστι δέ τι τὸ κινοῦν πρῶτον· ἔστι δέ τι τὸ κινούμενον, ἔτι ἐν ᾧ χρόνῳ καὶ ἐξ οὗ καὶ εἰς ὅ. τὰ δ’ εἴδη καὶ τὰ πάθη καὶ ὁ τόπος, εἰς ἃ κινοῦνται τὰ κινούμενα, ἀκίνητά ἐστιν, οἷον ἐπιστήμη καὶ θερμότης· ἔστι δ’ οὐχ ἡ θερμότης κίνησις ἀλλ’ ἡ θέρμανσις. ἡ δὲ μὴ κατὰ συμβεβηκὸς μεταβολὴ οὐκ ἐν ἅπασιν ὑπάρχει ἀλλ’ ἐν τοῖς ἐναντίοις καὶ μεταξὺ καὶ ἐν ἀντιφάσει· τούτου δὲ πίστις ἐκ τῆς ἐπαγωγῆς. μεταβάλλει δὲ τὸ μεταβάλλον ἢ ἐξ ὑποκειμένου εἰς ὑποκείμενον, ἢ οὐκ ἐξ ὑποκειμένου εἰς οὐχ ὑποκείμενον, ἢ ἐξ ὑποκειμένου εἰς οὐχ ὑποκείμενον, ἢ οὐκ ἐξ ὑποκειμένου εἰς ὑποκείμενον (λέγω δὲ ὑποκείμενον τὸ καταφάσει δηλούμενον), ὥστ’ ἀνάγκη τρεῖς εἶναι μεταβολάς· ἡ γὰρ ἐξ οὐχ ὑποκειμένου εἰς μὴ ὑποκείμενον οὐκ ἔστι μεταβολή· οὔτε γὰρ ἐναντία οὔτε ἀντίφασίς ἐστιν, ὅτι οὐκ ἀντίθεσις. ἡ μὲν οὖν οὐκ ἐξ ὑποκειμένου εἰς ὑποκείμενον κατ’ ἀντίφασιν γένεσίς ἐστιν, ἡ μὲν ἁπλῶς ἁπλῆ, ἡ δὲ τινὸς τίς· ἡ δ’ ἐξ ὑποκειμένου εἰς μὴ ὑποκείμενον φθορά, ἡ μὲν ἁπλῶς ἁπλῆ, ἡ δὲ τινὸς τίς. εἰ δὴ τὸ μὴ ὂν λέγεται πλεοναχῶς,

καὶ μήτε τὸ κατὰ σύνθεσιν ἢ διαίρεσιν ἐνδέχεται κινεῖσθαι μήτε τὸ κατὰ δύναμιν τὸ τῷ ἁπλῶς ὄντι ἀντικείμενον (τὸ γὰρ μὴ λευκὸν ἢ μὴ ἀγαθὸν ὅμως ἐνδέχεται κινεῖσθαι κατὰ συμβεβηκός, εἴη γὰρ ἂν ἄνθρωπος τὸ μὴ λευκόν· τὸ δ’ ἁπλῶς μὴ τόδε οὐδαμῶς), ἀδύνατον τὸ μὴ ὂν κινεῖσθαι (εἰ δὲ τοῦτο, καὶ τὴν γένεσιν κίνησιν εἶναι· γίγνεται γὰρ τὸ μὴ ὄν· εἰ γὰρ καὶ ὅτι μάλιστα κατὰ συμβεβηκὸς γίγνεται, ἀλλ’ ὅμως ἀληθὲς εἰπεῖν ὅτι ὑπάρχει τὸ μὴ ὂν κατὰ τοῦ γιγνομένου ἁπλῶς)· ὁμοίως δὲ καὶ τὸ ἠρεμεῖν. ταῦτά τε δὴ συμβαίνει δυσχερῆ, καὶ εἰ πᾶν τὸ κινούμενον ἐν τόπῳ, τὸ δὲ μὴ ὂν οὐκ ἔστιν ἐν τόπῳ· εἴη γὰρ ἂν πού. οὐδὲ δὴ ἡ φθορὰ κίνησις· ἐναντίον γὰρ κινήσει κίνησις ἢ ἠρεμία, [1068a] φθορὰ δὲ γενέσει. ἐπεὶ δὲ πᾶσα κίνησις μεταβολή τις, μεταβολαὶ δὲ τρεῖς αἱ εἰρημέναι, τούτων δ’ αἱ κατὰ γένεσιν καὶ φθορὰν οὐ κινήσεις, αὗται δ’ εἰσὶν αἱ κατ’ ἀντίφασιν, ἀνάγκη τὴν ἐξ ὑποκειμένου εἰς ὑποκείμενον κίνησιν εἶναι μόνην. τὰ δ’ ὑποκείμενα ἢ ἐναντία ἢ μεταξύ (καὶ γὰρ ἡ στέρησις κείσθω ἐναντίον), καὶ δηλοῦται καταφάσει, οἷον τὸ γυμνὸν καὶ νωδὸν καὶ μέλαν.

Εἰ οὖν αἱ κατηγορίαι διῄρηνται οὐσίᾳ, ποιότητι, τόπῳ, τῷ ποιεῖν ἢ πάσχειν, τῷ πρός τι, τῷ ποσῷ, ἀνάγκη τρεῖς εἶναι κινήσεις, ποιοῦ ποσοῦ τόπου· κατ’ οὐσίαν δ’ οὔ, διὰ τὸ μηθὲν εἶναι οὐσίᾳ ἐναντίον, οὐδὲ τοῦ πρός τι (ἔστι γὰρ θατέρου μεταβάλλοντος μὴ ἀληθεύεσθαι θάτερον μηδὲν μεταβάλλον, ὥστε κατὰ συμβεβηκὸς ἡ κίνησις αὐτῶν), οὐδὲ ποιοῦντος καὶ πάσχοντος, ἢ κινοῦντος καὶ κινουμένου, ὅτι οὐκ ἔστι κινήσεως κίνησις οὐδὲ γενέσεως γένεσις, οὐδ’ ὅλως μεταβολῆς μεταβολή. διχῶς γὰρ ἐνδέχεται κινήσεως εἶναι κίνησιν, ἢ ὡς ὑποκειμένου (οἷον ὁ ἄνθρωπος κινεῖται ὅτι ἐκ λευκοῦ εἰς μέλαν μεταβάλλει, ὥστε οὕτω καὶ ἡ κίνησις ἢ θερμαίνεται ἢ ψύχεται ἢ τόπον ἀλλάττει ἢ αὔξεται· τοῦτο δὲ ἀδύνατον· οὐ γὰρ τῶν ὑποκειμένων τι ἡ μεταβολή), ἢ τῷ ἕτερόν τι ὑποκείμενον ἐκ μεταβολῆς μεταβάλλειν εἰς ἄλλο εἶδος, οἷον ἄνθρωπον ἐκ νόσου εἰς ὑγίειαν. ἀλλ’ οὐδὲ τοῦτο δυνατὸν πλὴν κατὰ συμβεβηκός. πᾶσα γὰρ κίνησις ἐξ ἄλλου εἰς ἄλλο ἐστὶ μεταβολή, καὶ γένεσις καὶ φθορὰ ὡσαύτως· πλὴν αἱ μὲν εἰς ἀντικείμενα ὡδί, ἡ δ’ ὡδί, ἡ κίνησις. ἅμα οὖν μεταβάλλει ἐξ ὑγιείας εἰς νόσον, καὶ ἐξ αὐτῆς ταύτης τῆς μεταβολῆς εἰς ἄλλην. δῆλον δὴ ὅτι ἂν νοσήσῃ, μεταβεβληκὸς ἔσται εἰς ὁποιανοῦν (ἐνδέχεται γὰρ ἠρεμεῖν) καὶ ἔτι εἰς μὴ τὴν τυχοῦσαν ἀεί· κἀκείνη ἔκ τινος εἴς τι ἄλλο ἔσται· ὥσθ’ ἡ ἀντικειμένη ἔσται, ὑγίανσις, ἀλλὰ τῷ συμβεβηκέναι, οἷον ἐξ ἀναμνήσεως εἰς λήθην μεταβάλλει ὅτι ᾧ ὑπάρχει ἐκεῖνο μεταβάλλει, ὁτὲ μὲν εἰς ἐπιστήμην ὁτὲ δὲ εἰς ἄγνοιαν. - ἔτι εἰς ἄπειρον βαδιεῖται, εἰ ἔσται μεταβολῆς μεταβολὴ καὶ γενέσεως γένεσις.

ἀνάγκη δὴ καὶ τὴν προτέραν, εἰ ἡ ὑστέρα· οἷον εἰ ἡ ἁπλῆ γένεσις [1068b] ἐγίγνετό ποτε, καὶ τὸ γιγνόμενον ἐγίγνετο· ὥστε οὔπω ἦν τὸ γιγνόμενον ἁπλῶς, ἀλλά τι γιγνόμενον [ἢ] γιγνόμενον ἤδη. καὶ τοῦτ᾽ ἐγίγνετό ποτε, ὥστ᾽ οὐκ ἦν πω τότε γιγνόμενον. ἐπεὶ δὲ τῶν ἀπείρων οὐκ ἔστι τι πρῶτον, οὐκ ἔσται τὸ πρῶτον, ὥστ᾽ οὐδὲ τὸ ἐχόμενον. οὔτε γίγνεσθαι οὖν οὔτε κινεῖσθαι οἷόν τε οὔτε μεταβάλλειν οὐδέν. ἔτι τοῦ αὐτοῦ κίνησις ἡ ἐναντία καὶ ἠρέμησις, καὶ γένεσις καὶ φθορά, ὥστε τὸ γιγνόμενον, ὅταν γένηται γιγνόμενον, τότε φθείρεται· οὔτε γὰρ εὐθὺς γιγνόμενον οὔθ᾽ ὕστερον· εἶναι γὰρ δεῖ τὸ φθειρόμενον. ἔτι δεῖ ὕλην ὑπεῖναι τῷ γιγνομένῳ καὶ μεταβάλλοντι. τίς οὖν ἔσται ὥσπερ τὸ ἀλλοιωτὸν σῶμα ἢ ψυχή - οὕτω τί τὸ γιγνόμενον κίνησις ἢ γένεσις; καὶ ἔτι τί εἰς ὃ κινοῦνται; δεῖ γὰρ εἶναι τὴν τοῦδε ἐκ τοῦδε εἰς τόδε κίνησιν ἢ γένεσιν. πῶς οὖν; οὐ γὰρ ἔσται μάθησις τῆς μαθήσεως, ὥστ᾽ οὐδὲ γένεσις γενέσεως. ἐπεὶ δ᾽ οὔτ᾽ οὐσίας οὔτε τοῦ πρός τι οὔτε τοῦ ποιεῖν καὶ πάσχειν, λείπεται κατὰ τὸ ποιὸν καὶ ποσὸν καὶ τόπον κίνησιν εἶναι (τούτων γὰρ ἑκάστῳ ἐναντίωσις ἔστιν), λέγω δὲ τὸ ποιὸν οὐ τὸ ἐν τῇ οὐσίᾳ (καὶ γὰρ ἡ διαφορὰ ποιόν) ἀλλὰ τὸ παθητικόν, καθ᾽ ὃ λέγεται πάσχειν ἢ ἀπαθὲς εἶναι. τὸ δὲ ἀκίνητον τό τε ὅλως ἀδύνατον κινηθῆναι καὶ τὸ μόλις ἐν χρόνῳ πολλῷ ἢ βραδέως ἀρχόμενον, καὶ τὸ πεφυκὸς μὲν κινεῖσθαι καὶ δυνάμενον ‹μὴ κινούμενον› δὲ ὅτε πέφυκε καὶ οὗ καὶ ὥς· ὃ καλῶ ἠρεμεῖν τῶν ἀκινήτων μόνον· ἐναντίον γὰρ ἠρεμία κινήσει, ὥστε στέρησις ἂν εἴη τοῦ δεκτικοῦ.

Ἅμα κατὰ τόπον ὅσα ἐν ἑνὶ τόπῳ πρώτῳ, καὶ χωρὶς ὅσα ἐν ἄλλῳ· ἅπτεσθαι δὲ ὧν τὰ ἄκρα ἅμα· μεταξὺ δ᾽ εἰς ὃ πέφυκε πρότερον ἀφικνεῖσθαι τὸ μεταβάλλον ἢ εἰς ὃ ἔσχατον μεταβάλλει κατὰ φύσιν τὸ συνεχῶς μεταβάλλον. ἐναντίον κατὰ τόπον τὸ κατ᾽ εὐθεῖαν ἀπέχον πλεῖστον· ἑξῆς δὲ οὗ μετὰ τὴν ἀρχὴν ὄντος, θέσει ἢ εἴδει ἢ ἄλλως πως ἀφορισθέντος, μηθὲν μεταξύ ἐστι τῶν ἐν ταὐτῷ γένει καὶ οὗ ἐφεξῆς ἐστίν, οἷον γραμμαὶ γραμμῆς ἢ μονάδες μονάδος ἢ οἰκίας οἰκία (ἄλλο δ᾽ οὐθὲν κωλύει μεταξὺ εἶναι). τὸ γὰρ ἑξῆς τινὸς ἐφεξῆς καὶ ὕστερόν τι· οὐ γὰρ τὸ [1069a] ἓν ἑξῆς τῶν δύο οὐδ᾽ ἡ νουμηνία τῆς δευτέρας. ἐχόμενον δὲ ὃ ἂν ἑξῆς ὂν ἅπτηται. ἐπεὶ δὲ πᾶσα μεταβολὴ ἐν τοῖς ἀντικειμένοις, ταῦτα δὲ τὰ ἐναντία καὶ ἀντίφασις, ἀντιφάσεως δ᾽ οὐδὲν ἀνὰ μέσον, δῆλον ὡς ἐν τοῖς ἐναντίοις τὸ μεταξύ. τὸ δὲ συνεχὲς ὅπερ ἐχόμενόν τι. λέγω δὲ συνεχὲς ὅταν ταὐτὸ γένηται καὶ ἓν τὸ ἑκατέρου πέρας οἷς ἅπτονται καὶ συνέχονται, ὥστε δῆλον ὅτι τὸ συνεχὲς ἐν τούτοις ἐξ ὧν ἕν τι πέφυκε γίγνεσθαι κατὰ τὴν σύναψιν. καὶ ὅτι πρῶτον τὸ ἐφεξῆς, δῆλον (τὸ γὰρ ἐφεξῆς οὐχ ἅπτεται, τοῦτο δ᾽ ἐφεξῆς· καὶ εἰ συνεχές, ἅπτεται, εἰ δ’ ἅπτεται, οὔπω συνεχές· ἐν οἷς δὲ μὴ ἔστιν ἁφή, οὐκ ἔστι σύμφυσις ἐν τούτοις)· ὥστ’ οὐκ ἔστι στιγμὴ μονάδι ταὐτόν· ταῖς μὲν γὰρ ὑπάρχει τὸ ἅπτεσθαι, ταῖς δ’ οὔ, ἀλλὰ τὸ ἐφεξῆς· καὶ τῶν μὲν μεταξύ τι τῶν δ’ οὔ.

Λ

Περὶ τῆς οὐσίας ἡ θεωρία· τῶν γὰρ οὐσιῶν αἱ ἀρχαὶ καὶ τὰ αἴτια ζητοῦνται. καὶ γὰρ εἰ ὡς ὅλον τι τὸ πᾶν, ἡ οὐσία πρῶτον μέρος· καὶ εἰ τῷ ἐφεξῆς, κἂν οὕτως πρῶτον ἡ οὐσία, εἶτα τὸ ποιόν, εἶτα τὸ ποσόν. ἅμα δὲ οὐδ' ὄντα ὡς εἰπεῖν ἁπλῶς ταῦτα, ἀλλὰ ποιότητες καὶ κινήσεις, ἢ καὶ τὸ οὐ λευκὸν καὶ τὸ οὐκ εὐθύ· λέγομεν γοῦν εἶναι καὶ ταῦτα, οἷον ἔστιν οὐ λευκόν. ἔτι οὐδὲν τῶν ἄλλων χωριστόν. μαρτυροῦσι δὲ καὶ οἱ ἀρχαῖοι ἔργῳ· τῆς γὰρ οὐσίας ἐζήτουν ἀρχὰς καὶ στοιχεῖα καὶ αἴτια. οἱ μὲν οὖν νῦν τὰ καθόλου οὐσίας μᾶλλον τιθέασιν (τὰ γὰρ γένη καθόλου, ἅ φασιν ἀρχὰς καὶ οὐσίας εἶναι μᾶλλον διὰ τὸ λογικῶς ζητεῖν)· οἱ δὲ πάλαι τὰ καθ' ἕκαστα, οἷον πῦρ καὶ γῆν, ἀλλ' οὐ τὸ κοινόν, σῶμα. οὐσίαι δὲ τρεῖς, μία μὲν αἰσθητή - ἧς ἡ μὲν ἀΐδιος ἡ δὲ φθαρτή, ἣν πάντες ὁμολογοῦσιν, οἷον τὰ φυτὰ καὶ τὰ ζῷα [ἡ δ' ἀΐδιος] - ἧς ἀνάγκη τὰ στοιχεῖα λαβεῖν, εἴτε ἓν εἴτε πολλά· ἄλλη δὲ ἀκίνητος, καὶ ταύτην φασί τινες εἶναι χωριστήν, οἱ μὲν εἰς δύο διαιροῦντες, οἱ δὲ εἰς μίαν φύσιν τιθέντες τὰ εἴδη καὶ τὰ μαθηματικά, οἱ δὲ τὰ μαθηματικὰ μόνον τούτων. ἐκεῖναι μὲν δὴ φυσικῆς [1069b] (μετὰ κινήσεως γάρ), αὕτη δὲ ἑτέρας, εἰ μηδεμία αὐτοῖς ἀρχὴ κοινή.

Ἡ δ' αἰσθητὴ οὐσία μεταβλητή. εἰ δ' ἡ μεταβολὴ ἐκ τῶν ἀντικειμένων ἢ τῶν μεταξύ, ἀντικειμένων δὲ μὴ πάντων (οὐ λευκὸν γὰρ ἡ φωνή) ἀλλ' ἐκ τοῦ ἐναντίου, ἀνάγκη ὑπεῖναί τι τὸ μεταβάλλον εἰς τὴν ἐναντίωσιν· οὐ γὰρ τὰ ἐναντία μεταβάλλει. ἔτι τὸ μὲν ὑπομένει, τὸ δ' ἐναντίον οὐχ ὑπομένει· ἔστιν ἄρα τι τρίτον παρὰ τὰ ἐναντία, ἡ ὕλη. εἰ δὴ αἱ μεταβολαὶ τέτταρες, ἢ κατὰ τὸ τί ἢ κατὰ τὸ ποῖον ἢ πόσον ἢ ποῦ, καὶ γένεσις μὲν ἡ ἁπλῆ καὶ φθορὰ ἡ κατὰ ‹τὸ› τόδε, αὔξησις δὲ καὶ φθίσις ἡ κατὰ τὸ ποσόν, ἀλλοίωσις δὲ ἡ κατὰ τὸ πάθος, φορὰ δὲ ἡ κατὰ τόπον, εἰς ἐναντιώσεις ἂν εἶεν τὰς καθ' ἕκαστον αἱ μεταβολαί. ἀνάγκη δὴ μεταβάλλειν τὴν ὕλην δυναμένην ἄμφω· ἐπεὶ δὲ διττὸν τὸ ὄν, μεταβάλλει πᾶν ἐκ τοῦ δυνάμει ὄντος εἰς τὸ ἐνεργείᾳ ὄν (οἷον ἐκ λευκοῦ δυνάμει εἰς τὸ ἐνεργείᾳ λευκόν, ὁμοίως δὲ καὶ ἐπ' αὐξήσεως καὶ φθίσεως), ὥστε οὐ μόνον κατὰ συμβεβηκὸς ἐνδέχεται γίγνεσθαι ἐκ μὴ ὄντος, ἀλλὰ καὶ ἐξ ὄντος γίγνεται πάντα, δυνάμει μέντοι ὄντος, ἐκ μὴ ὄντος δὲ ἐνεργείᾳ. καὶ τοῦτ' ἔστι τὸ Ἀναξαγόρου ἕν· βέλτιον γὰρ ἢ "ὁμοῦ πάντα" - καὶ Ἐμπεδοκλέους τὸ μῖγμα καὶ Ἀναξιμάνδρου, καὶ ὡς Δημόκριτός φησιν - "ἦν ὁμοῦ πάντα δυνάμει, ἐνεργείᾳ δ' οὔ"· ὥστε τῆς ὕλης ἂν εἶεν ἡμμένοι· πάντα δ' ὕλην ἔχει ὅσα μεταβάλλει, ἀλλ' ἑτέραν· καὶ τῶν ἀϊδίων ὅσα μὴ γενητὰ κινητὰ δὲ φορᾷ, ἀλλ' οὐ γενητὴν ἀλλὰ ποθὲν ποί. ἀπορήσειε δ' ἄν τις ἐκ ποίου μὴ ὄντος ἡ γένεσις· τριχῶς γὰρ τὸ μὴ ὄν. εἰ δή τι ἔστι δυνάμει, ἀλλ' ὅμως οὐ τοῦ τυχόντος ἀλλ' ἕτερον ἐξ ἑτέρου· οὐδ' ἱκανὸν ὅτι ὁμοῦ πάντα χρήματα· διαφέρει γὰρ τῇ ὕλῃ, ἐπεὶ διὰ τί ἄπειρα ἐγένετο ἀλλ' οὐχ ἕν; ὁ γὰρ νοῦς εἷς, ὥστ' εἰ καὶ ἡ ὕλη μία, ἐκεῖνο ἐγένετο ἐνεργείᾳ οὗ ἡ ὕλη ἦν δυνάμει. τρία δὴ τὰ αἴτια καὶ τρεῖς αἱ ἀρχαί, δύο μὲν ἡ ἐναντίωσις, ἧς τὸ μὲν λόγος καὶ εἶδος τὸ δὲ στέρησις, τὸ δὲ τρίτον ἡ ὕλη.

Μετὰ ταῦτα ὅτι οὐ γίγνεται οὔτε ἡ ὕλη οὔτε τὸ εἶδος, λέγω δὲ τὰ ἔσχατα. πᾶν γὰρ μεταβάλλει τὶ καὶ ὑπό [1070a] τινος καὶ εἴς τι· ὑφ' οὗ μέν, τοῦ πρώτου κινοῦντος· ὃ δέ, ἡ ὕλη· εἰς ὃ δέ, τὸ εἶδος. εἰς ἄπειρον οὖν εἶσιν, εἰ μὴ μόνον ὁ χαλκὸς γίγνεται στρογγύλος ἀλλὰ καὶ τὸ στρογγύλον ἢ ὁ χαλκός· ἀνάγκη δὴ στῆναι. - μετὰ ταῦτα ὅτι ἑκάστη ἐκ συνωνύμου γίγνεται οὐσία (τὰ γὰρ φύσει οὐσίαι καὶ τὰ ἄλλα). ἢ γὰρ τέχνῃ ἢ φύσει γίγνεται ἢ τύχῃ ἢ τῷ αὐτομάτῳ. ἡ μὲν οὖν τέχνη ἀρχὴ ἐν ἄλλῳ, ἡ δὲ φύσις ἀρχὴ ἐν αὐτῷ (ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ), αἱ δὲ λοιπαὶ αἰτίαι στερήσεις τούτων. οὐσίαι δὲ τρεῖς, ἡ μὲν ὕλη τόδε τι οὖσα τῷ φαίνεσθαι (ὅσα γὰρ ἁφῇ καὶ μὴ συμφύσει, ὕλη καὶ ὑποκείμενον), ἡ δὲ φύσις τόδε τι καὶ ἕξις τις εἰς ἥν· ἔτι τρίτη ἡ ἐκ τούτων ἡ καθ' ἕκαστα, οἷον Σωκράτης ἢ Καλλίας. ἐπὶ μὲν οὖν τινῶν τὸ τόδε τι οὐκ ἔστι παρὰ τὴν συνθετὴν οὐσίαν, οἷον οἰκίας τὸ εἶδος, εἰ μὴ ἡ τέχνη (οὐδ' ἔστι γένεσις καὶ φθορὰ τούτων, ἀλλ' ἄλλον τρόπον εἰσὶ καὶ οὐκ εἰσὶν οἰκία τε ἡ ἄνευ ὕλης καὶ ὑγίεια καὶ πᾶν τὸ κατὰ τέχνην), ἀλλ' εἴπερ, ἐπὶ τῶν φύσει· διὸ δὴ οὐ κακῶς Πλάτων ἔφη ὅτι εἴδη ἔστιν ὁπόσα φύσει, εἴπερ ἔστιν εἴδη ἄλλα τούτων οἷον πῦρ σὰρξ κεφαλή· ἅπαντα γὰρ ὕλη ἐστί, καὶ τῆς μάλιστ' οὐσίας ἡ τελευταία. τὰ μὲν οὖν κινοῦντα αἴτια ὡς προγεγενημένα ὄντα, τὰ δ' ὡς ὁ λόγος ἅμα. ὅτε γὰρ ὑγιαίνει ὁ ἄνθρωπος, τότε καὶ ἡ ὑγίεια ἔστιν, καὶ τὸ σχῆμα τῆς χαλκῆς σφαίρας ἅμα καὶ ἡ χαλκῆ σφαῖρα (εἰ δὲ καὶ ὕστερόν τι ὑπομένει, σκεπτέον· ἐπ' ἐνίων γὰρ οὐδὲν κωλύει, οἷον εἰ ἡ ψυχὴ τοιοῦτον, μὴ πᾶσα ἀλλ' ὁ νοῦς· πᾶσαν γὰρ ἀδύνατον ἴσως). φανερὸν δὴ ὅτι οὐδὲν δεῖ διά γε ταῦτ' εἶναι τὰς ἰδέας· ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ, ὁ καθ' ἕκαστον τὸν τινά· ὁμοίως δὲ καὶ ἐπὶ τῶν τεχνῶν· ἡ γὰρ ἰατρικὴ τέχνη ὁ λόγος τῆς ὑγιείας ἐστίν.

Τὰ δ' αἴτια καὶ αἱ ἀρχαὶ ἄλλα ἄλλων ἔστιν ὥς, ἔστι δ' ὡς, ἂν καθόλου λέγῃ τις καὶ κατ' ἀναλογίαν, ταὐτὰ πάντων. ἀπορήσειε γὰρ ἄν τις πότερον ἕτεραι ἢ αἱ αὐταὶ ἀρχαὶ καὶ στοιχεῖα τῶν οὐσιῶν καὶ τῶν πρός τι, καὶ καθ' ἑκάστην δὴ τῶν κατηγοριῶν ὁμοίως. ἀλλ' ἄτοπον εἰ ταὐτὰ πάντων· ἐκ τῶν αὐτῶν γὰρ ἔσται τὰ πρός τι καὶ αἱ οὐσίαι.

[1070b] τί οὖν τοῦτ' ἔσται; παρὰ γὰρ τὴν οὐσίαν καὶ τἆλλα τὰ κατηγορούμενα οὐδέν ἐστι κοινόν, πρότερον δὲ τὸ στοιχεῖον ἢ ὧν στοιχεῖον· ἀλλὰ μὴν οὐδ' ἡ οὐσία στοιχεῖον τῶν πρός τι, οὐδὲ τούτων οὐδὲν τῆς οὐσίας. ἔτι πῶς ἐνδέχεται πάντων εἶναι ταὐτὰ στοιχεῖα; οὐδὲν γὰρ οἷόν τ' εἶναι τῶν στοιχείων τῷ ἐκ στοιχείων συγκειμένῳ τὸ αὐτό, οἷον τῷ ΒΑ τὸ Β ἢ Α (οὐδὲ δὴ τῶν νοητῶν στοιχεῖόν ἐστιν, οἷον τὸ ὂν ἢ τὸ ἕν· ὑπάρχει γὰρ ταῦτα ἑκάστῳ καὶ τῶν συνθέτων). οὐδὲν ἄρ' ἔσται αὐτῶν οὔτ' οὐσία οὔτε πρός τι· ἀλλ' ἀναγκαῖον. οὐκ ἔστιν ἄρα πάντων ταὐτὰ στοιχεῖα. - ἢ ὥσπερ λέγομεν, ἔστι μὲν ὥς, ἔστι δ' ὡς οὔ, οἷον ἴσως τῶν αἰσθητῶν σωμάτων ὡς μὲν εἶδος τὸ θερμὸν καὶ ἄλλον τρόπον τὸ ψυχρὸν ἡ στέρησις, ὕλη δὲ τὸ δυνάμει ταῦτα πρῶτον καθ' αὑτό, οὐσίαι δὲ ταῦτά τε καὶ τὰ ἐκ τούτων, ὧν ἀρχαὶ ταῦτα, ἢ εἴ τι ἐκ θερμοῦ καὶ ψυχροῦ γίγνεται ἕν, οἷον σὰρξ ἢ ὀστοῦν· ἕτερον γὰρ ἀνάγκη ἐκείνων εἶναι τὸ γενόμενον. τούτων μὲν οὖν ταὐτὰ στοιχεῖα καὶ ἀρχαί (ἄλλων δ' ἄλλα), πάντων δὲ οὕτω μὲν εἰπεῖν οὐκ ἔστιν, τῷ ἀνάλογον δέ, ὥσπερ εἴ τις εἴποι ὅτι ἀρχαὶ εἰσὶ τρεῖς, τὸ εἶδος καὶ ἡ στέρησις καὶ ἡ ὕλη. ἀλλ' ἕκαστον τούτων ἕτερον περὶ ἕκαστον γένος ἐστίν, οἷον ἐν χρώματι λευκὸν μέλαν ἐπιφάνεια· φῶς σκότος ἀήρ, ἐκ δὲ τούτων ἡμέρα καὶ νύξ. ἐπεὶ δὲ οὐ μόνον τὰ ἐνυπάρχοντα αἴτια, ἀλλὰ καὶ τῶν ἐκτὸς οἷον τὸ κινοῦν, δῆλον ὅτι ἕτερον ἀρχὴ καὶ στοιχεῖον, αἴτια δ' ἄμφω, καὶ εἰς ταῦτα διαιρεῖται ἡ ἀρχή, τὸ δ' ὡς κινοῦν ἢ ἱστὰν ἀρχή τις καὶ οὐσία, ὥστε στοιχεῖα μὲν κατ' ἀναλογίαν τρία, αἰτίαι δὲ καὶ ἀρχαὶ τέτταρες· ἄλλο δ' ἐν ἄλλῳ, καὶ τὸ πρῶτον αἴτιον ὡς κινοῦν ἄλλο ἄλλῳ. ὑγίεια, νόσος, σῶμα· τὸ κινοῦν ἰατρική. εἶδος, ἀταξία τοιαδί, πλίνθοι· τὸ κινοῦν οἰκοδομική [καὶ εἰς ταῦτα διαιρεῖται ἡ ἀρχή]. ἐπεὶ δὲ τὸ κινοῦν ἐν μὲν τοῖς φυσικοῖς ἀνθρώπῳ ἄνθρωπος, ἐν δὲ τοῖς ἀπὸ διανοίας τὸ εἶδος ἢ τὸ ἐναντίον, τρόπον τινὰ τρία αἴτια ἂν εἴη, ὡδὶ δὲ τέτταρα. ὑγίεια γάρ πως ἡ ἰατρική, καὶ οἰκίας εἶδος ἡ οἰκοδομική, καὶ ἄνθρωπος ἄνθρωπον γεννᾷ· ἔτι παρὰ ταῦτα τὸ ὡς πρῶτον πάντων κινοῦν πάντα.

Ἐπεὶ δ' ἐστὶ τὰ μὲν χωριστὰ τὰ δ' οὐ χωριστά, οὐσίαι [1071a] ἐκεῖνα. καὶ διὰ τοῦτο πάντων αἴτια ταὐτά, ὅτι τῶν οὐσιῶν ἄνευ οὐκ ἔστι τὰ πάθη καὶ αἱ κινήσεις. ἔπειτα ἔσται ταῦτα ψυχὴ ἴσως καὶ σῶμα, ἢ νοῦς καὶ ὄρεξις καὶ σῶμα. - ἔτι δ' ἄλλον τρόπον τῷ ἀνάλογον ἀρχαὶ αἱ αὐταί, οἷον ἐνέργεια καὶ δύναμις· ἀλλὰ καὶ ταῦτα ἄλλα τε ἄλλοις καὶ ἄλλως. ἐν ἐνίοις μὲν γὰρ τὸ αὐτὸ ὁτὲ μὲν ἐνεργείᾳ ἔστιν ὁτὲ δὲ δυνάμει, οἷον οἶνος ἢ σὰρξ ἢ ἄνθρωπος (πίπτει δὲ καὶ ταῦτα εἰς τὰ εἰρημένα αἴτια· ἐνεργείᾳ μὲν γὰρ τὸ εἶδος, ἐὰν ᾖ χωριστόν, καὶ τὸ ἐξ ἀμφοῖν στέρησις δέ, οἷον σκότος ἢ κάμνον, δυνάμει δὲ ἡ ὕλη· τοῦτο γάρ ἐστι τὸ δυνάμενον γίγνεσθαι ἄμφω)· ἄλλως δ’ ἐνεργείᾳ καὶ δυνάμει διαφέρει ὧν μὴ ἔστιν ἡ αὐτὴ ὕλη, ὧν ‹ἐνίων› οὐκ ἔστι τὸ αὐτὸ εἶδος ἀλλ’ ἕτερον, ὥσπερ ἀνθρώπου αἴτιον τά τε στοιχεῖα, πῦρ καὶ γῆ ὡς ὕλη καὶ τὸ ἴδιον εἶδος, καὶ ἔτι τι ἄλλο ἔξω οἷον ὁ πατήρ, καὶ παρὰ ταῦτα ὁ ἥλιος καὶ ὁ λοξὸς κύκλος, οὔτε ὕλη ὄντα οὔτ’ εἶδος οὔτε στέρησις οὔτε ὁμοειδὲς ἀλλὰ κινοῦντα. ἔτι δὲ ὁρᾶν δεῖ ὅτι τὰ μὲν καθόλου ἔστιν εἰπεῖν, τὰ δ’ οὔ. πάντων δὴ πρῶται ἀρχαὶ τὸ ἐνεργείᾳ πρῶτον τοδὶ καὶ ἄλλο ὃ δυνάμει. ἐκεῖνα μὲν οὖν τὰ καθόλου οὐκ ἔστιν· ἀρχὴ γὰρ τὸ καθ’ ἕκαστον τῶν καθ’ ἕκαστον· ἄνθρωπος μὲν γὰρ ἀνθρώπου καθόλου, ἀλλ’ οὐκ ἔστιν οὐδείς, ἀλλὰ Πηλεὺς Ἀχιλλέως σοῦ δὲ ὁ πατήρ, καὶ τοδὶ τὸ Β τουδὶ τοῦ ΒΑ, ὅλως δὲ τὸ Β τοῦ ἁπλῶς ΒΑ. ἔπειτα, εἰ δὴ τὰ τῶν οὐσιῶν, ἄλλα δὲ ἄλλων αἴτια καὶ στοιχεῖα, ὥσπερ ἐλέχθη, τῶν μὴ ἐν ταὐτῷ γένει, χρωμάτων ψόφων οὐσιῶν ποσότητος, πλὴν τῷ ἀνάλογον· καὶ τῶν ἐν ταὐτῷ εἴδει ἕτερα, οὐκ εἴδει ἀλλ’ ὅτι τῶν καθ’ ἕκαστον ἄλλο, ἥ τε σὴ ὕλη καὶ τὸ εἶδος καὶ τὸ κινῆσαν καὶ ἡ ἐμή, τῷ καθόλου δὲ λόγῳ ταὐτά. τὸ δὲ ζητεῖν τίνες ἀρχαὶ ἢ στοιχεῖα τῶν οὐσιῶν καὶ πρός τι καὶ ποιῶν, πότερον αἱ αὐταὶ ἢ ἕτεραι, δῆλον ὅτι πολλαχῶς γε λεγομένων ἔστιν ἑκάστου, διαιρεθέντων δὲ οὐ ταὐτὰ ἀλλ’ ἕτερα, πλὴν ὡδὶ καὶ πάντων, ὡδὶ μὲν ταὐτὰ ἢ τὸ ἀνάλογον, ὅτι ὕλη, εἶδος, στέρησις, τὸ κινοῦν, καὶ ὡδὶ τὰ τῶν οὐσιῶν αἴτια ὡς αἴτια πάντων, ὅτι ἀναιρεῖται ἀναιρουμένων· ἔτι τὸ πρῶτον ἐντελεχείᾳ· ὡδὶ δὲ ἕτερα πρῶτα ὅσα τὰ ἐναντία ἃ μήτε ὡς γένη λέγεται μήτε πολλαχῶς λέγεται· [1071b] καὶ ἔτι αἱ ὗλαι. τίνες μὲν οὖν αἱ ἀρχαὶ τῶν αἰσθητῶν καὶ πόσαι, καὶ πῶς αἱ αὐταὶ καὶ πῶς ἕτεραι, εἴρηται.

Ἐπεὶ δ’ ἦσαν τρεῖς οὐσίαι, δύο μὲν αἱ φυσικαὶ μία δ’ ἡ ἀκίνητος, περὶ ταύτης λεκτέον ὅτι ἀνάγκη εἶναι ἀΐδιόν τινα οὐσίαν ἀκίνητον. αἵ τε γὰρ οὐσίαι πρῶται τῶν ὄντων, καὶ εἰ πᾶσαι φθαρταί, πάντα φθαρτά· ἀλλ’ ἀδύνατον κίνησιν ἢ γενέσθαι ἢ φθαρῆναι (ἀεὶ γὰρ ἦν), οὐδὲ χρόνον. οὐ γὰρ οἷόν τε τὸ πρότερον καὶ ὕστερον εἶναι μὴ ὄντος χρόνου· καὶ ἡ κίνησις ἄρα οὕτω συνεχὴς ὥσπερ καὶ ὁ χρόνος· ἢ γὰρ τὸ αὐτὸ ἢ κινήσεώς τι πάθος. κίνησις δ’ οὐκ ἔστι συνεχὴς ἀλλ’ ἢ ἡ κατὰ τόπον, καὶ ταύτης ἡ κύκλῳ.

Ἀλλὰ μὴν εἰ ἔστι κινητικὸν ἢ ποιητικόν, μὴ ἐνεργοῦν δέ τι, οὐκ ἔσται κίνησις· ἐνδέχεται γὰρ τὸ δύναμιν ἔχον μὴ ἐνεργεῖν. οὐθὲν ἄρα ὄφελος οὐδ’ ἐὰν οὐσίας ποιήσωμεν ἀϊδίους, ὥσπερ οἱ τὰ εἴδη, εἰ μή τις δυναμένη ἐνέσται ἀρχὴ μεταβάλλειν· οὐ τοίνυν οὐδ’ αὕτη ἱκανή, οὐδ’ ἄλλη οὐσία παρὰ τὰ εἴδη· εἰ γὰρ μὴ ἐνεργήσει, οὐκ ἔσται κίνησις. ἔτι οὐδ’ εἰ ἐνεργήσει, ἡ δ’ οὐσία αὐτῆς δύναμις· οὐ γὰρ ἔσται κίνησις ἀΐδιος· ἐνδέχεται γὰρ τὸ δυνάμει ὂν μὴ εἶναι. δεῖ ἄρα εἶναι ἀρχὴν τοιαύτην ἧς ἡ οὐσία ἐνέργεια. ἔτι τοίνυν ταύτας δεῖ τὰς οὐσίας εἶναι ἄνευ ὕλης· ἀϊδίους γὰρ δεῖ, εἴπερ γε καὶ ἄλλο τι ἀΐδιον. ἐνέργεια ἄρα. καίτοι ἀπορία· δοκεῖ γὰρ τὸ μὲν ἐνεργοῦν πᾶν δύνασθαι τὸ δὲ δυνάμενον οὐ πᾶν ἐνεργεῖν, ὥστε πρότερον εἶναι τὴν δύναμιν. ἀλλὰ μὴν εἰ τοῦτο, οὐθὲν ἔσται τῶν ὄντων· ἐνδέχεται γὰρ δύνασθαι μὲν εἶναι μήπω δ’ εἶναι. καίτοι εἰ ὡς λέγουσιν οἱ θεολόγοι οἱ ἐκ νυκτὸς γεννῶντες, ἢ ὡς οἱ φυσικοὶ ὁμοῦ πάντα χρήματά φασι, τὸ αὐτὸ ἀδύνατον. πῶς γὰρ κινηθήσεται, εἰ μὴ ἔσται ἐνεργείᾳ τι αἴτιον; οὐ γὰρ ἥ γε ὕλη κινήσει αὐτὴ ἑαυτήν, ἀλλὰ τεκτονική, οὐδὲ τὰ ἐπιμήνια οὐδ’ ἡ γῆ, ἀλλὰ τὰ σπέρματα καὶ ἡ γονή. διὸ ἔνιοι ποιοῦσιν ἀεὶ ἐνέργειαν, οἷον Λεύκιππος καὶ Πλάτων· ἀεὶ γὰρ εἶναί φασι κίνησιν. ἀλλὰ διὰ τί καὶ τίνα οὐ λέγουσιν, οὐδ’, ‹εἰ› ὡδὶ ‹ἢ› ὡδί, τὴν αἰτίαν. οὐδὲν γὰρ ὡς ἔτυχε κινεῖται, ἀλλὰ δεῖ τι ἀεὶ ὑπάρχειν, ἔσπερ νῦν φύσει μὲν ὡδί, βίᾳ δὲ ἢ ὑπὸ νοῦ ἢ ἄλλου ὡδί. (εἶτα ποία πρώτη; διαφέρει γὰρ ἀμήχανον ὅσον). ἀλλὰ μὴν οὐδὲ Πλάτωνί [1072a] γε οἷόν τε λέγειν ἣν οἴεται ἐνίοτε ἀρχὴν εἶναι, τὸ αὐτὸ ἑαυτὸ κινοῦν· ὕστερον γὰρ καὶ ἅμα τῷ οὐρανῷ ἡ ψυχή, ὡς φησίν. τὸ μὲν δὴ δύναμιν οἴεσθαι ἐνεργείας πρότερον ἔστι μὲν ὡς καλῶς ἔστι δ’ ὡς οὔ (εἴρηται δὲ πῶς)· ὅτι δ’ ἐνέργεια πρότερον, μαρτυρεῖ Ἀναξαγόρας (ὁ γὰρ νοῦς ἐνέργεια) καὶ Ἐμπεδοκλῆς φιλίαν καὶ τὸ νεῖκος, καὶ οἱ ἀεὶ λέγοντες κίνησιν εἶναι, ὥσπερ Λεύκιππος· ὥστ’ οὐκ ἦν ἄπειρον χρόνον χάος ἢ νύξ, ἀλλὰ ταὐτὰ ἀεὶ ἢ περιόδῳ ἢ ἄλλως, εἴπερ πρότερον ἐνέργεια δυνάμεως. εἰ δὴ τὸ αὐτὸ ἀεὶ περιόδῳ, δεῖ τι ἀεὶ μένειν ὡσαύτως ἐνεργοῦν. εἰ δὲ μέλλει γένεσις καὶ φθορὰ εἶναι, ἄλλο δεῖ εἶναι ἀεὶ ἐνεργοῦν ἄλλως καὶ ἄλλως. ἀνάγκη ἄρα ὡδὶ μὲν καθ’ αὑτὸ ἐνεργεῖν ὡδὶ δὲ κατ’ ἄλλο· ἤτοι ἄρα καθ’ ἕτερον ἢ κατὰ τὸ πρῶτον. ἀνάγκη δὴ κατὰ τοῦτο· πάλιν γὰρ ἐκεῖνο αὑτῷ τε αἴτιον κἀκείνῳ. οὐκοῦν βέλτιον τὸ πρῶτον· καὶ γὰρ αἴτιον ἦν ἐκεῖνο τοῦ ἀεὶ ὡσαύτως· τοῦ δ’ ἄλλως ἕτερον, τοῦ δ’ ἀεὶ ἄλλως ἄμφω δηλονότι. οὐκοῦν οὕτως καὶ ἔχουσιν αἱ κινήσεις. τί οὖν ἄλλας δεῖ ζητεῖν ἀρχάς;

Ἐπεὶ δ’ οὕτω τ’ ἐνδέχεται, καὶ εἰ μὴ οὕτως, ἐκ νυκτὸς ἔσται καὶ ὁμοῦ πάντων καὶ ἐκ μὴ ὄντος, λύοιτ’ ἂν ταῦτα, καὶ ἔστι τι ἀεὶ κινούμενον κίνησιν ἄπαυστον, αὕτη δ’ ἡ κύκλῳ (καὶ τοῦτο οὐ λόγῳ μόνον ἀλλ’ ἔργῳ δῆλον), ὥστ’ ἀΐδιος ἂν εἴη ὁ πρῶτος οὐρανός. ἔστι τοίνυν τι καὶ ὃ κινεῖ. ἐπεὶ δὲ τὸ κινούμενον καὶ κινοῦν [καὶ] μέσον, τοίνυν†ἔστι τι ὃ οὐ κινούμενον κινεῖ, ἀΐδιον καὶ οὐσία καὶ ἐνέργεια οὖσα. κινεῖ δὲ ὧδε τὸ ὀρεκτὸν καὶ τὸ νοητόν· κινεῖ οὐ κινούμενα. τούτων τὰ πρῶτα τὰ αὐτά. ἐπιθυμητὸν μὲν γὰρ τὸ φαινόμενον καλόν, βουλητὸν δὲ πρῶτον τὸ ὂν καλόν· ὀρεγόμεθα δὲ διότι δοκεῖ μᾶλλον ἢ δοκεῖ διότι ὀρεγόμεθα· ἀρχὴ γὰρ ἡ νόησις. νοῦς δὲ ὑπὸ τοῦ νοητοῦ κινεῖται, νοητὴ δὲ ἡ ἑτέρα συστοιχία καθ' αὑτήν· καὶ ταύτης ἡ οὐσία πρώτη, καὶ ταύτης ἡ ἁπλῆ καὶ κατ' ἐνέργειαν (ἔστι δὲ τὸ ἓν καὶ τὸ ἁπλοῦν οὐ τὸ αὐτό· τὸ μὲν γὰρ ἓν μέτρον σημαίνει, τὸ δὲ ἁπλοῦν πὼς ἔχον αὐτό). ἀλλὰ μὴν καὶ τὸ καλὸν καὶ τὸ δι' αὑτὸ αἱρετὸν ἐν τῇ αὐτῇ συστοιχίᾳ· καὶ ἔστιν ἄριστον [1072b] ἀεὶ ἢ ἀνάλογον τὸ πρῶτον. ὅτι δ' ἔστι τὸ οὗ ἕνεκα ἐν τοῖς ἀκινήτοις, ἡ διαίρεσις δηλοῖ· ἔστι γὰρ τινὶ τὸ οὗ ἕνεκα ‹καὶ› τινός, ὧν τὸ μὲν ἔστι τὸ δ' οὐκ ἔστι. κινεῖ δὴ ὡς ἐρώμενον, κινούμενα δὲ τἆλλα κινεῖ. εἰ μὲν οὖν τι κινεῖται, ἐνδέχεται καὶ ἄλλως ἔχειν, ὥστ' εἰ [ἡ] φορὰ πρώτη ἡ ἐνέργειά ἐστιν, ᾗ κινεῖται ταύτῃ γε ἐνδέχεται ἄλλως ἔχειν, κατὰ τόπον, καὶ εἰ μὴ κατ' οὐσίαν· ἐπεὶ δὲ ἔστι τι κινοῦν αὐτὸ ἀκίνητον ὄν, ἐνεργείᾳ ὄν, τοῦτο οὐκ ἐνδέχεται ἄλλως ἔχειν οὐδαμῶς. φορὰ γὰρ ἡ πρώτη τῶν μεταβολῶν, ταύτης δὲ ἡ κύκλῳ· ταύτην δὲ τοῦτο κινεῖ. ἐξ ἀνάγκης ἄρα ἐστὶν ὄν· καὶ ᾗ ἀνάγκῃ, καλῶς, καὶ οὕτως ἀρχή. τὸ γὰρ ἀναγκαῖον τοσαυταχῶς, τὸ μὲν βίᾳ ὅτι παρὰ τὴν ὁρμήν, τὸ δὲ οὗ οὐκ ἄνευ τὸ εὖ, τὸ δὲ μὴ ἐνδεχόμενον ἄλλως ἀλλ' ἁπλῶς. - ἐκ τοιαύτης ἄρα ἀρχῆς ἤρτηται ὁ οὐρανὸς καὶ ἡ φύσις. διαγωγὴ δ' ἐστὶν οἵα ἡ ἀρίστη μικρὸν χρόνον ἡμῖν (οὕτω γὰρ ἀεὶ ἐκεῖνο· ἡμῖν μὲν γὰρ ἀδύνατον), ἐπεὶ καὶ ἡδονὴ ἡ ἐνέργεια τούτου (καὶ διὰ τοῦτο ἐγρήγορσις αἴσθησις νόησις ἥδιστον, ἐλπίδες δὲ καὶ μνῆμαι διὰ ταῦτα). ἡ δὲ νόησις ἡ καθ' αὑτὴν τοῦ καθ' αὑτὸ ἀρίστου, καὶ ἡ μάλιστα τοῦ μάλιστα. αὑτὸν δὲ νοεῖ ὁ νοῦς κατὰ μετάληψιν τοῦ νοητοῦ· νοητὸς γὰρ γίγνεται θιγγάνων καὶ νοῶν, ὥστε ταὐτὸν νοῦς καὶ νοητόν. τὸ γὰρ δεκτικὸν τοῦ νοητοῦ καὶ τῆς οὐσίας νοῦς, ἐνεργεῖ δὲ ἔχων, ὥστ' ἐκείνου μᾶλλον τοῦτο ὃ δοκεῖ ὁ νοῦς θεῖον ἔχειν, καὶ ἡ θεωρία τὸ ἥδιστον καὶ ἄριστον. εἰ οὖν οὕτως εὖ ἔχει, ὡς ἡμεῖς ποτέ, ὁ θεὸς ἀεί, θαυμαστόν· εἰ δὲ μᾶλλον, ἔτι θαυμασιώτερον. ἔχει δὲ ὧδε. καὶ ζωὴ δέ γε ὑπάρχει· ἡ γὰρ νοῦ ἐνέργεια ζωή, ἐκεῖνος δὲ ἡ ἐνέργεια· ἐνέργεια δὲ ἡ καθ' αὑτὴν ἐκείνου ζωὴ ἀρίστη καὶ ἀΐδιος. φαμὲν δὴ τὸν θεὸν εἶναι ζῷον ἀΐδιον ἄριστον, ὥστε ζωὴ καὶ αἰὼν συνεχὴς καὶ ἀΐδιος ὑπάρχει τῷ θεῷ· τοῦτο γὰρ ὁ θεός. ὅσοι δὲ ὑπολαμβάνουσιν, ὥσπερ οἱ Πυθαγόρειοι καὶ Σπεύσιππος τὸ κάλλιστον καὶ ἄριστον μὴ ἐν ἀρχῇ εἶναι, διὰ τὸ καὶ τῶν φυτῶν καὶ τῶν ζῴων τὰς ἀρχὰς αἴτια μὲν εἶναι τὸ δὲ καλὸν καὶ τέλειον ἐν τοῖς ἐκ τούτων, οὐκ ὀρθῶς οἴονται. τὸ γὰρ σπέρμα ἐξ ἑτέρων ἐστὶ προτέρων τελείων, καὶ τὸ [1073a] πρῶτον οὐ σπέρμα ἐστὶν ἀλλὰ τὸ τέλειον· οἷον πρότερον ἄνθρωπον ἂν φαίη τις εἶναι τοῦ σπέρματος, οὐ τὸν ἐκ τούτου γενόμενον ἀλλ' ἕτερον ἐξ οὗ τὸ σπέρμα. ὅτι μὲν οὖν ἔστιν οὐσία τις ἀΐδιος καὶ ἀκίνητος καὶ κεχωρισμένη τῶν αἰσθητῶν, φανερὸν ἐκ τῶν εἰρημένων· δέδεικται δὲ καὶ ὅτι μέγεθος οὐδὲν ἔχειν ἐνδέχεται ταύτην τὴν οὐσίαν ἀλλ’ ἀμερὴς καὶ ἀδιαίρετός ἐστιν (κινεῖ γὰρ τὸν ἄπειρον χρόνον, οὐδὲν δ’ ἔχει δύναμιν ἄπειρον πεπερασμένον· ἐπεὶ δὲ πᾶν μέγεθος ἢ ἄπειρον ἢ πεπερασμένον, πεπερασμένον μὲν διὰ τοῦτο οὐκ ἂν ἔχοι μέγεθος, ἄπειρον δ’ ὅτι ὅλως οὐκ ἔστιν οὐδὲν ἄπειρον μέγεθος)· ἀλλὰ μὴν καὶ ὅτι ἀπαθὲς καὶ ἀναλλοίωτον· πᾶσαι γὰρ αἱ ἄλλαι κινήσεις ὕστεραι τῆς κατὰ τόπον. ταῦτα μὲν οὖν δῆλα διότι τοῦτον ἔχει τὸν τρόπον.

Πότερον δὲ μίαν θετέον τὴν τοιαύτην οὐσίαν ἢ πλείους, καὶ πόσας, δεῖ μὴ λανθάνειν, ἀλλὰ μεμνῆσθαι καὶ τὰς τῶν ἄλλων ἀποφάσεις, ὅτι περὶ πλήθους οὐθὲν εἰρήκασιν ὅ τι καὶ σαφὲς εἰπεῖν. ἡ μὲν γὰρ περὶ τὰς ἰδέας ὑπόληψις οὐδεμίαν ἔχει σκέψιν ἰδίαν (ἀριθμοὺς γὰρ λέγουσι τὰς ἰδέας οἱ λέγοντες ἰδέας, περὶ δὲ τῶν ἀριθμῶν ὁτὲ μὲν ὡς περὶ ἀπείρων λέγουσιν ὁτὲ δὲ ὡς μέχρι τῆς δεκάδος ὡρισμένων· δι’ ἣν δ’ αἰτίαν τοσοῦτον τὸ πλῆθος τῶν ἀριθμῶν, οὐδὲν λέγεται μετὰ σπουδῆς ἀποδεικτικῆς)· ἡμῖν δ’ ἐκ τῶν ὑποκειμένων καὶ διωρισμένων λεκτέον. ἡ μὲν γὰρ ἀρχὴ καὶ τὸ πρῶτον τῶν ὄντων ἀκίνητον καὶ καθ’ αὑτὸ καὶ κατὰ συμβεβηκός, κινοῦν δὲ τὴν πρώτην ἀΐδιον καὶ μίαν κίνησιν· ἐπεὶ δὲ τὸ κινούμενον ἀνάγκη ὑπό τινος κινεῖσθαι, καὶ τὸ πρῶτον κινοῦν ἀκίνητον εἶναι καθ’ αὑτό, καὶ τὴν ἀΐδιον κίνησιν ὑπὸ ἀϊδίου κινεῖσθαι καὶ τὴν μίαν ὑφ’ ἑνός, ὁρῶμεν δὲ παρὰ τὴν τοῦ παντὸς τὴν ἁπλῆν φοράν, ἣν κινεῖν φαμὲν τὴν πρώτην οὐσίαν καὶ ἀκίνητον, ἄλλας φορὰς οὔσας τὰς τῶν πλανήτων ἀϊδίους (ἀΐδιον γὰρ καὶ ἄστατον τὸ κύκλῳ σῶμα· δέδεικται δ’ ἐν τοῖς φυσικοῖς περὶ τούτων), ἀνάγκη καὶ τούτων ἑκάστην τῶν φορῶν ὑπ’ ἀκινήτου τε κινεῖσθαι καθ’ αὑτὴν καὶ ἀϊδίου οὐσίας. ἥ τε γὰρ τῶν ἄστρων φύσις ἀΐδιος οὐσία τις οὖσα, καὶ τὸ κινοῦν ἀΐδιον καὶ πρότερον τοῦ κινουμένου, καὶ τὸ πρότερον οὐσίας οὐσίαν ἀναγκαῖον εἶναι. φανερὸν τοίνυν ὅτι τοσαύτας τε οὐσίας ἀναγκαῖον εἶναι τήν τε φύσιν ἀϊδίους καὶ ἀκινήτους καθ’ αὑτάς, καὶ ἄνευ μεγέθους [1073b] διὰ τὴν εἰρημένην αἰτίαν πρότερον. - ὅτι μὲν οὖν εἰσὶν οὐσίαι, καὶ τούτων τις πρώτη καὶ δευτέρα κατὰ τὴν αὐτὴν τάξιν ταῖς φοραῖς τῶν ἄστρων, φανερόν· τὸ δὲ πλῆθος ἤδη τῶν φορῶν ἐκ τῆς οἰκειοτάτης φιλοσοφίᾳ τῶν μαθηματικῶν ἐπιστημῶν δεῖ σκοπεῖν, ἐκ τῆς ἀστρολογίας· αὕτη γὰρ περὶ οὐσίας αἰσθητῆς μὲν ἀϊδίου δὲ ποιεῖται τὴν θεωρίαν, αἱ δ’ ἄλλαι περὶ οὐδεμιᾶς οὐσίας, οἷον ἥ τε περὶ τοὺς ἀριθμοὺς καὶ τὴν γεωμετρίαν. ὅτι μὲν οὖν πλείους τῶν φερομένων αἱ φοραί, φανερὸν τοῖς καὶ μετρίως ἡμμένοις (πλείους γὰρ ἕκαστον φέρεται μιᾶς τῶν πλανωμένων ἄστρων)· πόσαι δ’ αὗται τυγχάνουσιν οὖσαι, νῦν μὲν ἡμεῖς ἃ λέγουσι τῶν μαθηματικῶν τινὲς ἐννοίας χάριν λέγομεν, ὅπως ᾖ τι τῇ διανοίᾳ πλῆθος ὡρισμένον ὑπολαβεῖν· τὸ δὲ λοιπὸν τὰ μὲν ζητοῦντας αὐτοὺς δεῖ τὰ δὲ πυνθανομένους παρὰ τῶν ζητούντων, ἄν τι φαίνηται παρὰ τὰ νῦν εἰρημένα τοῖς ταῦτα πραγματευομένοις, φιλεῖν μὲν ἀμφοτέρους, πείθεσθαι δὲ τοῖς ἀκριβεστέροις. - Εὔδοξος μὲν οὖν ἡλίου καὶ σελήνης ἑκατέρου τὴν φορὰν ἐν τρισὶν ἐτίθετ’ εἶναι σφαίραις, ὧν τὴν μὲν πρώτην τὴν τῶν ἀπλανῶν ἄστρων εἶναι, τὴν δὲ δευτέραν κατὰ τὸν διὰ μέσων τῶν ζῳδίων, τὴν δὲ τρίτην κατὰ τὸν λελοξωμένον ἐν τῷ πλάτει τῶν ζῳδίων (ἐν μείζονι δὲ πλάτει λελοξῶσθαι καθ’ ὃν ἡ σελήνη φέρεται ἢ καθ’ ὃν ὁ ἥλιος), τῶν δὲ πλανωμένων ἄστρων ἐν τέτταρσιν ἑκάστου σφαίραις, καὶ τούτων δὲ τὴν μὲν πρώτην καὶ δευτέραν τὴν αὐτὴν εἶναι ἐκείναις (τήν τε γὰρ τῶν ἀπλανῶν τὴν ἁπάσας φέρουσαν εἶναι, καὶ τὴν ὑπὸ ταύτῃ τεταγμένην καὶ κατὰ τὸν διὰ μέσων τῶν ζῳδίων τὴν φορὰν ἔχουσαν κοινὴν ἁπασῶν εἶναι), τῆς δὲ τρίτης ἁπάντων τοὺς πόλους ἐν τῷ διὰ μέσων τῶν ζῳδίων εἶναι, τῆς δὲ τετάρτης τὴν φορὰν κατὰ τὸν λελοξωμένον πρὸς τὸν μέσον ταύτης· εἶναι δὲ τῆς τρίτης σφαίρας τοὺς πόλους τῶν μὲν ἄλλων ἰδίους, τοὺς δὲ τῆς Ἀφροδίτης καὶ τοῦ Ἑρμοῦ τοὺς αὐτούς· Κάλλιππος δὲ τὴν μὲν θέσιν τῶν σφαιρῶν τὴν αὐτὴν ἐτίθετο Εὐδόξῳ [τοῦτ’ ἔστι τῶν ἀποστημάτων τὴν τάξιν], τὸ δὲ πλῆθος τῷ μὲν τοῦ Διὸς καὶ τῷ τοῦ Κρόνου τὸ αὐτὸ ἐκείνῳ ἀπεδίδου, τῷ δ’ ἡλίῳ καὶ τῇ σελήνῃ δύο ᾤετο ἔτι προσθετέας εἶναι σφαίρας, τὰ φαινόμενα εἰ μέλλει τις ἀποδώσειν, τοῖς δὲ λοιποῖς τῶν πλανήτων ἑκάστῳ μίαν. ἀναγκαῖον δέ, εἰ μέλλουσι συντεθεῖσαι [1074a] πᾶσαι τὰ φαινόμενα ἀποδώσειν, καθ’ ἕκαστον τῶν πλανωμένων ἑτέρας σφαίρας μιᾷ ἐλάττονας εἶναι τὰς ἀνελιττούσας καὶ εἰς τὸ αὐτὸ ἀποκαθιστάσας τῇ θέσει τὴν πρώτην σφαῖραν ἀεὶ τοῦ ὑποκάτω τεταγμένου ἄστρου· οὕτω γὰρ μόνως ἐνδέχεται τὴν τῶν πλανήτων φορὰν ἅπαντα ποιεῖσθαι. ἐπεὶ οὖν ἐν αἷς μὲν αὐτὰ φέρεται σφαίραις αἱ μὲν ὀκτὼ αἱ δὲ πέντε καὶ εἴκοσίν εἰσιν, τούτων δὲ μόνας οὐ δεῖ ἀνελιχθῆναι ἐν αἷς τὸ κατωτάτω τεταγμένον φέρεται, αἱ μὲν τὰς τῶν πρώτων δύο ἀνελίττουσαι ἓξ ἔσονται, αἱ δὲ τὰς τῶν ὕστερον τεττάρων ἑκκαίδεκα· ὁ δὴ ἁπασῶν ἀριθμὸς τῶν τε φερουσῶν καὶ τῶν ἀνελιττουσῶν ταύτας πεντήκοντά τε καὶ πέντε. εἰ δὲ τῇ σελήνῃ τε καὶ τῷ ἡλίῳ μὴ προστιθείη τις ἃς εἴπομεν κινήσεις, αἱ πᾶσαι σφαῖραι ἔσονται ἑπτά τε καὶ τεσσαράκοντα. - τὸ μὲν οὖν πλῆθος τῶν σφαιρῶν ἔστω τοσοῦτον, ὥστε καὶ τὰς οὐσίας καὶ τὰς ἀρχὰς τὰς ἀκινήτους [καὶ τὰς αἰσθητὰς] τοσαύτας εὔλογον ὑπολαβεῖν (τὸ γὰρ ἀναγκαῖον ἀφείσθω τοῖς ἰσχυροτέροις λέγειν)· εἰ δὲ μηδεμίαν οἷόν τ’ εἶναι φορὰν μὴ συντείνουσαν πρὸς ἄστρου φοράν, ἔτι δὲ πᾶσαν φύσιν καὶ πᾶσαν οὐσίαν ἀπαθῆ καὶ καθ’ αὑτὴν τοῦ ἀρίστου τετυχηκυῖαν τέλος εἶναι δεῖ νομίζειν, οὐδεμία ἂν εἴη παρὰ ταύτας ἑτέρα φύσις, ἀλλὰ τοῦτον ἀνάγκη τὸν ἀριθμὸν εἶναι τῶν οὐσιῶν. εἴτε γὰρ εἰσὶν ἕτεραι, κινοῖεν ἂν ὡς τέλος οὖσαι φορᾶς· ἀλλὰ εἶναί γε ἄλλας φορὰς ἀδύνατον παρὰ τὰς εἰρημένας. τοῦτο δὲ εὔλογον ἐκ τῶν φερομένων ὑπολαβεῖν. εἰ γὰρ πᾶν τὸ φέρον τοῦ φερομένου χάριν πέφυκε καὶ φορὰ πᾶσα φερομένου τινός ἐστιν, οὐδεμία φορὰ αὑτῆς ἂν ἕνεκα εἴη οὐδ’ ἄλλης φορᾶς, ἀλλὰ τῶν ἄστρων ἕνεκα. εἰ γὰρ ἔσται φορὰ φορᾶς ἕνεκα, καὶ ἐκείνην ἑτέρου δεήσει χάριν εἶναι· ὥστ’ ἐπειδὴ οὐχ οἷόν τε εἰς ἄπειρον, τέλος ἔσται πάσης φορᾶς τῶν φερομένων τι θείων σωμάτων κατὰ τὸν οὐρανόν. ὅτι δὲ εἷς οὐρανός, φανερόν. εἰ γὰρ πλείους οὐρανοὶ ὥσπερ ἄνθρωποι, ἔσται εἴδει μία ἡ περὶ ἕκαστον ἀρχή, ἀριθμῷ δέ γε πολλαί. ἀλλ’ ὅσα ἀριθμῷ πολλά, ὕλην ἔχει (εἷς γὰρ λόγος καὶ ὁ αὐτὸς πολλῶν, οἷον ἀνθρώπου, Σωκράτης δὲ εἷς)· τὸ δὲ τί ἦν εἶναι οὐκ ἔχει ὕλην τὸ πρῶτον· ἐντελέχεια γάρ. ἓν ἄρα καὶ λόγῳ καὶ ἀριθμῷ τὸ πρῶτον κινοῦν ἀκίνητον ὄν· καὶ τὸ κινούμενον ἄρα ἀεὶ καὶ συνεχῶς· εἷς ἄρα οὐρανὸς μόνος. παραδέδοται [1074b] δὲ παρὰ τῶν ἀρχαίων καὶ παμπαλαίων ἐν μύθου σχήματι καταλελειμμένα τοῖς ὕστερον ὅτι θεοί τέ εἰσιν οὗτοι καὶ περιέχει τὸ θεῖον τὴν ὅλην φύσιν. τὰ δὲ λοιπὰ μυθικῶς ἤδη προσῆκται πρὸς τὴν πειθὼ τῶν πολλῶν καὶ πρὸς τὴν εἰς τοὺς νόμους καὶ τὸ συμφέρον χρῆσιν· ἀνθρωποειδεῖς τε γὰρ τούτους καὶ τῶν ἄλλων ζῴων ὁμοίους τισὶ λέγουσι, καὶ τούτοις ἕτερα ἀκόλουθα καὶ παραπλήσια τοῖς εἰρημένοις, ὧν εἴ τις χωρίσας αὐτὸ λάβοι μόνον τὸ πρῶτον, ὅτι θεοὺς ᾤοντο τὰς πρώτας οὐσίας εἶναι, θείως ἂν εἰρῆσθαι νομίσειεν, καὶ κατὰ τὸ εἰκὸς πολλάκις εὑρημένης εἰς τὸ δυνατὸν ἑκάστης καὶ τέχνης καὶ φιλοσοφίας καὶ πάλιν φθειρομένων καὶ ταύτας τὰς δόξας ἐκείνων οἷον λείψανα περισεσῶσθαι μέχρι τοῦ νῦν. ἡ μὲν οὖν πάτριος δόξα καὶ ἡ παρὰ τῶν πρώτων ἐπὶ τοσοῦτον ἡμῖν φανερὰ μόνον.

Τὰ δὲ περὶ τὸν νοῦν ἔχει τινὰς ἀπορίας· δοκεῖ μὲν γὰρ εἶναι τῶν φαινομένων θειότατον, πῶς δ’ ἔχων τοιοῦτος ἂν εἴη, ἔχει τινὰς δυσκολίας. εἴτε γὰρ μηδὲν νοεῖ, τί ἂν εἴη τὸ σεμνόν, ἀλλ’ ἔχει ὥσπερ ἂν εἰ ὁ καθεύδων· εἴτε νοεῖ, τούτου δ’ ἄλλο κύριον, οὐ γάρ ἐστι τοῦτο ὅ ἐστιν αὐτοῦ ἡ οὐσία νόησις, ἀλλὰ δύναμις, οὐκ ἂν ἡ ἀρίστη οὐσία εἴη· διὰ γὰρ τοῦ νοεῖν τὸ τίμιον αὐτῷ ὑπάρχει. ἔτι δὲ εἴτε νοῦς ἡ οὐσία αὐτοῦ εἴτε νόησίς ἐστι, τί νοεῖ; ἢ γὰρ αὐτὸς αὑτὸν ἢ ἕτερόν τι· καὶ εἰ ἕτερόν τι, ἢ τὸ αὐτὸ ἀεὶ ἢ ἄλλο. πότερον οὖν διαφέρει τι ἢ οὐδὲν τὸ νοεῖν τὸ καλὸν ἢ τὸ τυχόν; ἢ καὶ ἄτοπον τὸ διανοεῖσθαι περὶ ἐνίων; δῆλον τοίνυν ὅτι τὸ θειότατον καὶ τιμιώτατον νοεῖ, καὶ οὐ μεταβάλλει· εἰς χεῖρον γὰρ ἡ μεταβολή, καὶ κίνησίς τις ἤδη τὸ τοιοῦτον. πρῶτον μὲν οὖν εἰ μὴ νόησίς ἐστιν ἀλλὰ δύναμις, εὔλογον ἐπίπονον εἶναι τὸ συνεχὲς αὐτῷ τῆς νοήσεως· ἔπειτα δῆλον ὅτι ἄλλο τι ἂν εἴη τὸ τιμιώτερον ἢ ὁ νοῦς, τὸ νοούμενον. καὶ γὰρ τὸ νοεῖν καὶ ἡ νόησις ὑπάρξει καὶ τὸ χείριστον νοοῦντι, ὥστ' εἰ φευκτὸν τοῦτο (καὶ γὰρ μὴ ὁρᾶν ἔνια κρεῖττον ἢ ὁρᾶν), οὐκ ἂν εἴη τὸ ἄριστον ἡ νόησις. αὑτὸν ἄρα νοεῖ, εἴπερ ἐστὶ τὸ κράτιστον, καὶ ἔστιν ἡ νόησις νοήσεως νόησις. φαίνεται δ' ἀεὶ ἄλλου ἡ ἐπιστήμη καὶ ἡ αἴσθησις καὶ ἡ δόξα καὶ ἡ διάνοια, αὑτῆς δ' ἐν παρέργῳ. ἔτι εἰ ἄλλο τὸ νοεῖν καὶ τὸ νοεῖσθαι, κατὰ πότερον αὐτῷ τὸ εὖ ὑπάρχει; οὐδὲ γὰρ ταὐτὸ τὸ εἶναι νοήσει καὶ νοουμένῳ. ἢ ἐπ' [1075a] ἐνίων ἡ ἐπιστήμη τὸ πρᾶγμα, ἐπὶ μὲν τῶν ποιητικῶν ἄνευ ὕλης ἡ οὐσία καὶ τὸ τί ἦν εἶναι, ἐπὶ δὲ τῶν θεωρητικῶν ὁ λόγος τὸ πρᾶγμα καὶ ἡ νόησις; οὐχ ἑτέρου οὖν ὄντος τοῦ νοουμένου καὶ τοῦ νοῦ, ὅσα μὴ ὕλην ἔχει, τὸ αὐτὸ ἔσται, καὶ ἡ νόησις τῷ νοουμένῳ μία. ἔτι δὴ λείπεται ἀπορία, εἰ σύνθετον τὸ νοούμενον· μεταβάλλοι γὰρ ἂν ἐν τοῖς μέρεσι τοῦ ὅλου. ἢ ἀδιαίρετον πᾶν τὸ μὴ ἔχον ὕλην - ὥσπερ ὁ ἀνθρώπινος νοῦς ἢ ὅ γε τῶν συνθέτων ἔχει ἔν τινι χρόνῳ (οὐ γὰρ ἔχει τὸ εὖ ἐν τῳδὶ ἢ ἐν τῳδί, ἀλλ' ἐν ὅλῳ τινὶ τὸ ἄριστον, ὂν ἄλλο τι) - οὕτως δ' ἔχει αὐτὴ αὑτῆς ἡ νόησις τὸν ἅπαντα αἰῶνα;

Ἐπισκεπτέον δὲ καὶ ποτέρως ἔχει ἡ τοῦ ὅλου φύσις τὸ ἀγαθὸν καὶ τὸ ἄριστον, πότερον κεχωρισμένον τι καὶ αὐτὸ καθ' αὑτό, ἢ τὴν τάξιν. ἢ ἀμφοτέρως ὥσπερ στράτευμα; καὶ γὰρ ἐν τῇ τάξει τὸ εὖ καὶ ὁ στρατηγός, καὶ μᾶλλον οὗτος· οὐ γὰρ οὗτος διὰ τὴν τάξιν ἀλλ' ἐκείνη διὰ τοῦτόν ἐστιν. πάντα δὲ συντέτακταί πως, ἀλλ' οὐχ ὁμοίως, καὶ πλωτὰ καὶ πτηνὰ καὶ φυτά· καὶ οὐχ οὕτως ἔχει ὥστε μὴ εἶναι θατέρῳ πρὸς θάτερον μηδέν, ἀλλ' ἔστι τι. πρὸς μὲν γὰρ ἓν ἅπαντα συντέτακται, ἀλλ' ὥσπερ ἐν οἰκίᾳ τοῖς ἐλευθέροις ἥκιστα ἔξεστιν ὅ τι ἔτυχε ποιεῖν, ἀλλὰ πάντα ἢ τὰ πλεῖστα τέτακται, τοῖς δὲ ἀνδραπόδοις καὶ τοῖς θηρίοις μικρὸν τὸ εἰς τὸ κοινόν, τὸ δὲ πολὺ ὅ τι ἔτυχεν· τοιαύτη γὰρ ἑκάστου ἀρχὴ αὐτῶν ἡ φύσις ἐστίν. λέγω δ' οἷον εἴς γε τὸ διακριθῆναι ἀνάγκη ἅπασιν ἐλθεῖν, καὶ ἄλλα οὕτως ἔστιν ὧν κοινωνεῖ ἅπαντα εἰς τὸ ὅλον. - ὅσα δὲ ἀδύνατα συμβαίνει ἢ ἄτοπα τοῖς ἄλλως λέγουσι, καὶ ποῖα οἱ χαριεστέρως λέγοντες, καὶ ἐπὶ ποίων ἐλάχισται ἀπορίαι, δεῖ μὴ λανθάνειν. πάντες γὰρ ἐξ ἐναντίων ποιοῦσι πάντα. οὔτε δὲ τὸ πάντα οὔτε τὸ ἐξ ἐναντίων ὀρθῶς, οὔτ' ἐν ὅσοις τὰ ἐναντία ὑπάρχει, πῶς ἐκ τῶν ἐναντίων ἔσται, οὐ λέγουσιν· ἀπαθῆ γὰρ τὰ ἐναντία ὑπ' ἀλλήλων. ἡμῖν δὲ λύεται τοῦτο εὐλόγως τῷ τρίτον τι εἶναι. οἱ δὲ τὸ ἕτερον τῶν ἐναντίων ὕλην ποιοῦσιν, ὥσπερ οἱ τὸ ἄνισον τῷ ἴσῳ ἢ τῷ ἑνὶ τὰ πολλά. λύεται δὲ καὶ τοῦτο τὸν αὐτὸν τρόπον· ἡ γὰρ ὕλη ἡ μία οὐδενὶ ἐναντίον. ἔτι ἅπαντα τοῦ φαύλου μεθέξει ἔξω τοῦ ἑνός· τὸ γὰρ κακὸν αὐτὸ θάτερον τῶν στοιχείων. οἱ δ’ ἄλλοι οὐδ’ ἀρχὰς τὸ ἀγαθὸν καὶ τὸ κακόν· καίτοι ἐν ἅπασι μάλιστα τὸ ἀγαθὸν ἀρχή. οἱ δὲ τοῦτο μὲν ὀρθῶς ὅτι ἀρχήν, ἀλλὰ πῶς τὸ ἀγαθὸν ἀρχὴ οὐ λέγουσιν, πότερον ὡς τέλος ἢ ὡς κινῆσαν ἢ ὡς εἶδος. ἀτόπως δὲ καὶ Ἐμπεδοκλῆς· τὴν γὰρ φιλίαν ποιεῖ τὸ ἀγαθόν, αὕτη δ’ ἀρχὴ καὶ ὡς κινοῦσα (συνάγει γάρ) καὶ ὡς ὕλη· μόριον γὰρ τοῦ μίγματος. εἰ δὴ καὶ τῷ αὐτῷ συμβέβηκεν καὶ ὡς ὕλῃ ἀρχῇ εἶναι καὶ ὡς κινοῦντι, ἀλλὰ τό γ’ εἶναι οὐ ταὐτό. κατὰ πότερον οὖν φιλία; ἄτοπον δὲ καὶ τὸ ἄφθαρτον εἶναι τὸ νεῖκος· τοῦτο δ’ ἐστὶν αὐτῷ ἡ τοῦ κακοῦ φύσις. Ἀναξαγόρας δὲ ὡς κινοῦν τὸ ἀγαθὸν ἀρχήν· ὁ γὰρ νοῦς κινεῖ. ἀλλὰ κινεῖ ἕνεκά τινος, ὥστε ἕτερον, πλὴν ὡς ἡμεῖς λέγομεν· ἡ γὰρ ἰατρική ἐστί πως ἡ ὑγίεια. ἄτοπον δὲ καὶ τὸ ἐναντίον μὴ ποιῆσαι τῷ ἀγαθῷ καὶ τῷ νῷ. πάντες δ’ οἱ τἀναντία λέγοντες οὐ χρῶνται τοῖς ἐναντίοις, ἐὰν μὴ ῥυθμίσῃ τις. καὶ διὰ τί τὰ μὲν φθαρτὰ τὰ δ’ ἄφθαρτα, οὐδεὶς λέγει· πάντα γὰρ τὰ ὄντα ποιοῦσιν ἐκ τῶν αὐτῶν ἀρχῶν. ἔτι οἱ μὲν ἐκ τοῦ μὴ ὄντος ποιοῦσι τὰ ὄντα· οἱ δ’ ἵνα μὴ τοῦτο ἀναγκασθῶσιν, ἓν πάντα ποιοῦσιν. - ἔτι διὰ τί ἀεὶ ἔσται γένεσις καὶ τί αἴτιον γενέσεως, οὐδεὶς λέγει. καὶ τοῖς δύο ἀρχὰς ποιοῦσιν ἄλλην ἀνάγκη ἀρχὴν κυριωτέραν εἶναι, καὶ τοῖς τὰ εἴδη ἔτι ἄλλη ἀρχὴ κυριωτέρα· διὰ τί γὰρ μετέσχεν ἢ μετέχει; καὶ τοῖς μὲν ἄλλοις ἀνάγκη τῇ σοφίᾳ καὶ τῇ τιμιωτάτῃ ἐπιστήμῃ εἶναί τι ἐναντίον, ἡμῖν δ’ οὔ. οὐ γάρ ἐστιν ἐναντίον τῷ πρώτῳ οὐδέν· πάντα γὰρ τὰ ἐναντία ὕλην ἔχει, καὶ δυνάμει ταῦτα ἔστιν· ἡ δὲ ἐναντία ἄγνοια εἰς τὸ ἐναντίον, τῷ δὲ πρώτῳ ἐναντίον οὐδέν. εἴ τε μὴ ἔσται παρὰ τὰ αἰσθητὰ ἄλλα, οὐκ ἔσται ἀρχὴ καὶ τάξις καὶ γένεσις καὶ τὰ οὐράνια, ἀλλ’ ἀεὶ τῆς ἀρχῆς ἀρχή, ὥσπερ τοῖς θεολόγοις καὶ τοῖς φυσικοῖς πᾶσιν. εἰ δ’ ἔσται τὰ εἴδη· ἢ ‹οἱ› ἀριθμοί, οὐδενὸς αἴτια· εἰ δὲ μή, οὔτι κινήσεώς γε. ἔτι πῶς ἔσται ἐξ ἀμεγεθῶν μέγεθος καὶ συνεχές; ὁ γὰρ ἀριθμὸς οὐ ποιήσει συνεχές, οὔτε ὡς κινοῦν οὔτε ὡς εἶδος. ἀλλὰ μὴν οὐδέν γ’ ἔσται τῶν ἐναντίων ὅπερ καὶ ποιητικὸν καὶ κινητικόν; ἐνδέχοιτο γὰρ ἂν μὴ εἶναι. ἀλλὰ μὴν ὕστερόν γε τὸ ποιεῖν δυνάμεως. οὐκ ἄρα ἀΐδια τὰ ὄντα. ἀλλ’ ἔστιν· ἀναιρετέον ἄρα τούτων τι. τοῦτο δ’ εἴρηται πῶς. ἔτι τίνι οἱ ἀριθμοὶ ἓν ἢ ἡ ψυχὴ καὶ τὸ σῶμα καὶ ὅλως τὸ εἶδος καὶ τὸ πρᾶγμα, οὐδὲν λέγει οὐδείς· οὐδ’ ἐνδέχεται εἰπεῖν, ἐὰν μὴ ὡς ἡμεῖς εἴπῃ, ὡς τὸ κινοῦν ποιεῖ. οἱ δὲ λέγοντες τὸν ἀριθμὸν πρῶτον τὸν μαθηματικὸν καὶ οὕτως ἀεὶ ἄλλην ἐχομένην οὐσίαν καὶ ἀρχὰς [1076a] ἑκάστης ἄλλας, ἐπεισοδιώδη τὴν τοῦ παντὸς οὐσίαν ποιοῦσιν (οὐδὲν γὰρ ἡ ἑτέρα τῇ ἑτέρᾳ συμβάλλεται οὖσα ἢ μὴ οὖσα) καὶ ἀρχὰς πολλάς· τὰ δὲ ὄντα οὐ βούλεται πολιτεύεσθαι κακῶς. “οὐκ ἀγαθὸν πολυκοιρανίη· εἷς κοίρανος ἔστω.”

M

Περὶ μὲν οὖν τῆς τῶν αἰσθητῶν οὐσίας εἴρηται τίς ἐστιν, ἐν μὲν τῇ μεθόδῳ τῇ τῶν φυσικῶν περὶ τῆς ὕλης, ὕστερον δὲ περὶ τῆς κατ’ ἐνέργειαν· ἐπεὶ δ’ ἡ σκέψις ἐστὶ πότερον ἔστι τις παρὰ τὰς αἰσθητὰς οὐσίας ἀκίνητος καὶ ἀΐδιος ἢ οὐκ ἔστι, καὶ εἰ ἔστι τίς ἐστι, πρῶτον τὰ παρὰ τῶν ἄλλων λεγόμενα θεωρητέον, ὅπως εἴτε τι μὴ καλῶς λέγουσι, μὴ τοῖς αὐτοῖς ἔνοχοι ὦμεν, καὶ εἴ τι δόγμα κοινὸν ἡμῖν κἀκείνοις, τοῦτ’ ἰδίᾳ μὴ καθ’ ἡμῶν δυσχεραίνωμεν· ἀγαπητὸν γὰρ εἴ τις τὰ μὲν κάλλιον λέγοι τὰ δὲ μὴ χεῖρον. δύο δ’ εἰσὶ δόξαι περὶ τούτων· τά τε γὰρ μαθηματικά φασιν οὐσίας εἶναί τινες, οἷον ἀριθμοὺς καὶ γραμμὰς καὶ τὰ συγγενῆ τούτοις, καὶ πάλιν τὰς ἰδέας. ἐπεὶ δὲ οἱ μὲν δύο ταῦτα γένη ποιοῦσι, τάς τε ἰδέας καὶ τοὺς μαθηματικοὺς ἀριθμούς, οἱ δὲ μίαν φύσιν ἀμφοτέρων, ἕτεροι δέ τινες τὰς μαθηματικὰς μόνον οὐσίας εἶναί φασι, σκεπτέον πρῶτον μὲν περὶ τῶν μαθηματικῶν, μηδεμίαν προστιθέντας φύσιν ἄλλην αὐτοῖς, οἷον πότερον ἰδέαι τυγχάνουσιν οὖσαι ἢ οὔ, καὶ πότερον ἀρχαὶ καὶ οὐσίαι τῶν ὄντων ἢ οὔ, ἀλλ’ ὡς περὶ μαθηματικῶν μόνον εἴτ’ εἰσὶν εἴτε μὴ εἰσί, καὶ εἰ εἰσὶ πῶς εἰσίν· ἔπειτα μετὰ ταῦτα χωρὶς περὶ τῶν ἰδεῶν αὐτῶν ἁπλῶς καὶ ὅσον νόμου χάριν· τεθρύληται γὰρ τὰ πολλὰ καὶ ὑπὸ τῶν ἐξωτερικῶν λόγων, ἔτι δὲ πρὸς ἐκείνην δεῖ τὴν σκέψιν ἀπαντᾶν τὸν πλείω λόγον, ὅταν ἐπισκοπῶμεν εἰ αἱ οὐσίαι καὶ αἱ ἀρχαὶ τῶν ὄντων ἀριθμοὶ καὶ ἰδέαι εἰσίν· μετὰ γὰρ τὰς ἰδέας αὕτη λείπεται τρίτη σκέψις. - ἀνάγκη δ’, εἴπερ ἔστι τὰ μαθηματικά, ἢ ἐν τοῖς αἰσθητοῖς εἶναι αὐτὰ καθάπερ λέγουσί τινες, ἢ κεχωρισμένα τῶν αἰσθητῶν (λέγουσι δὲ καὶ οὕτω τινές)· ἢ εἰ μηδετέρως, ἢ οὐκ εἰσὶν ἢ ἄλλον τρόπον εἰσίν· ὥσθ’ ἡ ἀμφισβήτησις ἡμῖν ἔσται οὐ περὶ τοῦ εἶναι ἀλλὰ περὶ τοῦ τρόπου.

Ὅτι μὲν τοίνυν ἔν γε τοῖς αἰσθητοῖς ἀδύνατον εἶναι καὶ ἅμα πλασματίας ὁ λόγος, εἴρηται μὲν καὶ ἐν τοῖς [1076b] διαπορήμασιν ὅτι δύο ἅμα στερεὰ εἶναι ἀδύνατον, ἔτι δὲ καὶ ὅτι τοῦ αὐτοῦ λόγου καὶ τὰς ἄλλας δυνάμεις καὶ φύσεις ἐν τοῖς αἰσθητοῖς εἶναι καὶ μηδεμίαν κεχωρισμένην· - ταῦτα μὲν οὖν εἴρηται πρότερον, ἀλλὰ πρὸς τούτοις φανερὸν ὅτι ἀδύνατον διαιρεθῆναι ὁτιοῦν σῶμα· κατ’ ἐπίπεδον γὰρ διαιρεθήσεται, καὶ τοῦτο κατὰ γραμμὴν καὶ αὕτη κατὰ στιγμήν, ὥστ’ εἰ τὴν στιγμὴν διελεῖν ἀδύνατον, καὶ τὴν γραμμήν, εἰ δὲ ταύτην, καὶ τἆλλα. τί οὖν διαφέρει ἢ ταύτας εἶναι τοιαύτας φύσεις, ἢ αὐτὰς μὲν μή, εἶναι δ' ἐν αὐταῖς τοιαύτας φύσεις; τὸ αὐτὸ γὰρ συμβήσεται· διαιρουμένων γὰρ τῶν αἰσθητῶν διαιρεθήσονται, ἢ οὐδὲ αἱ αἰσθηταί. ἀλλὰ μὴν οὐδὲ κεχωρισμένας γ' εἶναι φύσεις τοιαύτας δυνατόν. εἰ γὰρ ἔσται στερεὰ παρὰ τὰ αἰσθητὰ κεχωρισμένα τούτων ἕτερα καὶ πρότερα τῶν αἰσθητῶν, δῆλον ὅτι καὶ παρὰ τὰ ἐπίπεδα ἕτερα ἀναγκαῖον εἶναι ἐπίπεδα κεχωρισμένα καὶ στιγμὰς καὶ γραμμάς (τοῦ γὰρ αὐτοῦ λόγου)· εἰ δὲ ταῦτα, πάλιν παρὰ τὰ τοῦ στερεοῦ τοῦ μαθηματικοῦ ἐπίπεδα καὶ γραμμὰς καὶ στιγμὰς ἕτερα κεχωρισμένα (πρότερα γὰρ τῶν συγκειμένων ἐστὶ τὰ ἀσύνθετα· καὶ εἴπερ τῶν αἰσθητῶν πρότερα σώματα μὴ αἰσθητά, τῷ αὐτῷ λόγῳ καὶ τῶν ἐπιπέδων τῶν ἐν τοῖς ἀκινήτοις στερεοῖς τὰ αὐτὰ καθ' αὑτά, ὥστε ἕτερα ταῦτα ἐπίπεδα καὶ γραμμαὶ τῶν ἅμα τοῖς στερεοῖς τοῖς κεχωρισμένοις· τὰ μὲν γὰρ ἅμα τοῖς μαθηματικοῖς στερεοῖς τὰ δὲ πρότερα τῶν μαθηματικῶν στερεῶν). πάλιν τοίνυν τούτων τῶν ἐπιπέδων ἔσονται γραμμαί, ὧν πρότερον δεήσει ἑτέρας γραμμὰς καὶ στιγμὰς εἶναι διὰ τὸν αὐτὸν λόγον· καὶ τούτων ‹τῶν› ἐκ ταῖς προτέραις γραμμαῖς ἑτέρας προτέρας στιγμάς, ὧν οὐκέτι πρότεραι ἕτεραι. ἄτοπός τε δὴ γίγνεται ἡ σώρευσις (συμβαίνει γὰρ στερεὰ μὲν μοναχὰ παρὰ τὰ αἰσθητά, ἐπίπεδα δὲ τριττὰ παρὰ τὰ αἰσθητά - τά τε παρὰ τὰ αἰσθητὰ καὶ τὰ ἐν τοῖς μαθηματικοῖς στερεοῖς καὶ ‹τὰ› παρὰ τὰ ἐν τούτοις - γραμμαὶ δὲ τετραξαί, στιγμαὶ δὲ πενταξαί· ὥστε περὶ ποῖα αἱ ἐπιστῆμαι ἔσονται αἱ μαθηματικαὶ τούτων; οὐ γὰρ δὴ περὶ τὰ ἐν τῷ στερεῷ τῷ ἀκινήτῳ ἐπίπεδα καὶ γραμμὰς καὶ στιγμάς· ἀεὶ γὰρ περὶ τὰ πρότερα ἡ ἐπιστήμη)· ὁ δ' αὐτὸς λόγος καὶ περὶ τῶν ἀριθμῶν· παρ' ἑκάστας γὰρ τὰς στιγμὰς ἕτεραι ἔσονται μονάδες, καὶ παρ' ἕκαστα τὰ ὄντα, ‹τὰ› αἰσθητά, εἶτα τὰ νοητά, ὥστ' ἔσται γένη τῶν μαθηματικῶν ἀριθμῶν. ἔτι ἅπερ καὶ ἐν τοῖς [1077a] ἀπορήμασιν ἐπήλθομεν πῶς ἐνδέχεται λύειν; περὶ ἃ γὰρ ἡ ἀστρολογία ἐστίν, ὁμοίως ἔσται παρὰ τὰ αἰσθητὰ καὶ περὶ ἃ ἡ γεωμετρία· εἶναι δ' οὐρανὸν καὶ τὰ μόρια αὐτοῦ πῶς δυνατόν, ἢ ἄλλο ὁτιοῦν ἔχον κίνησιν; ὁμοίως δὲ καὶ τὰ ὀπτικὰ καὶ τὰ ἁρμονικά· ἔσται γὰρ φωνή τε καὶ ὄψις παρὰ τὰ αἰσθητὰ καὶ τὰ καθ' ἕκαστα, ὥστε δῆλον ὅτι καὶ αἱ ἄλλαι αἰσθήσεις καὶ τὰ ἄλλα αἰσθητά· τί γὰρ μᾶλλον τάδε ἢ τάδε; εἰ δὲ ταῦτα, καὶ ζῷα ἔσονται, εἴπερ καὶ αἰσθήσεις. ἔτι γράφεται ἔνια καθόλου ὑπὸ τῶν μαθηματικῶν παρὰ ταύτας τὰς οὐσίας. ἔσται οὖν καὶ αὕτη τις ἄλλη οὐσία μεταξὺ κεχωρισμένη τῶν τ' ἰδεῶν καὶ τῶν μεταξύ, ἣ οὔτε ἀριθμός ἐστιν οὔτε στιγμαὶ οὔτε μέγεθος οὔτε χρόνος. εἰ δὲ τοῦτο ἀδύνατον, δῆλον ὅτι κἀκεῖνα ἀδύνατον εἶναι κεχωρισμένα τῶν αἰσθητῶν. ὅλως δὲ τοὐναντίον συμβαίνει καὶ τοῦ ἀληθοῦς καὶ τοῦ εἰωθότος ὑπολαμβάνεσθαι, εἴ τις θήσει οὕτως εἶναι τὰ μαθηματικὰ ὡς κεχωρισμένας τινὰς φύσεις. ἀνάγκη γὰρ διὰ τὸ μὲν οὕτως εἶναι αὐτὰς προτέρας εἶναι τῶν αἰσθητῶν μεγεθῶν, κατὰ τὸ ἀληθὲς δὲ ὑστέρας· τὸ γὰρ ἀτελὲς μέγεθος γενέσει μὲν πρότερόν ἐστι, τῇ οὐσίᾳ δ’ ὕστερον, οἷον ἄψυχον ἐμψύχου. ἔτι τίνι καὶ πότ’ ἔσται ἓν τὰ μαθηματικὰ μεγέθη; τὰ μὲν γὰρ ἐνταῦθα ψυχῇ ἢ μέρει ψυχῆς ἢ ἄλλῳ τινί, εὐλόγως (εἰ δὲ μή, πολλά, καὶ διαλύεται), ἐκείνοις δὲ διαιρετοῖς καὶ ποσοῖς οὖσι τί αἴτιον τοῦ ἓν εἶναι καὶ συμμένειν; ἔτι αἱ γενέσεις δηλοῦσιν. πρῶτον μὲν γὰρ ἐπὶ μῆκος γίγνεται, εἶτα ἐπὶ πλάτος, τελευταῖον δ’ εἰς βάθος, καὶ τέλος ἔσχεν. εἰ οὖν τὸ τῇ γενέσει ὕστερον τῇ οὐσίᾳ πρότερον, τὸ σῶμα πρότερον ἂν εἴη ἐπιπέδου καὶ μήκους· καὶ ταύτῃ καὶ τέλειον καὶ ὅλον μᾶλλον, ὅτι ἔμψυχον γίγνεται· γραμμὴ δὲ ἔμψυχος ἢ ἐπίπεδον πῶς ἂν εἴη; ὑπὲρ γὰρ τὰς αἰσθήσεις τὰς ἡμετέρας ἂν εἴη τὸ ἀξίωμα. ἔτι τὸ μὲν σῶμα οὐσία τις (ἤδη γὰρ ἔχει πως τὸ τέλειον), αἱ δὲ γραμμαὶ πῶς οὐσίαι; οὔτε γὰρ ὡς εἶδος καὶ μορφή τις, οἷον εἰ ἄρα ἡ ψυχὴ τοιοῦτον, οὔτε ὡς ἡ ὕλη, οἷον τὸ σῶμα· οὐθὲν γὰρ ἐκ γραμμῶν οὐδ’ ἐπιπέδων οὐδὲ στιγμῶν φαίνεται συνίστασθαι δυνάμενον, εἰ δ’ ἦν οὐσία τις ὑλική, τοῦτ’ ἂν ἐφαίνετο δυνάμενα πάσχειν. τῷ μὲν [1077b] οὖν λόγῳ ἔστω πρότερα, ἀλλ’ οὐ πάντα ὅσα τῷ λόγῳ πρότερα καὶ τῇ οὐσίᾳ πρότερα. τῇ μὲν γὰρ οὐσίᾳ πρότερα ὅσα χωριζόμενα τῷ εἶναι ὑπερβάλλει, τῷ λόγῳ δὲ ὅσων οἱ λόγοι ἐκ τῶν λόγων· ταῦτα δὲ οὐχ ἅμα ὑπάρχει. εἰ γὰρ μὴ ἔστι τὰ πάθη παρὰ τὰς οὐσίας, οἷον κινούμενόν τι ἢ λευκόν, τοῦ λευκοῦ ἀνθρώπου τὸ λευκὸν πρότερον κατὰ τὸν λόγον ἀλλ’ οὐ κατὰ τὴν οὐσίαν· οὐ γὰρ ἐνδέχεται εἶναι κεχωρισμένον ἀλλ’ ἀεὶ ἅμα τῷ συνόλῳ ἐστίν (σύνολον δὲ λέγω τὸν ἄνθρωπον τὸν λευκόν), ὥστε φανερὸν ὅτι οὔτε τὸ ἐξ ἀφαιρέσεως πρότερον οὔτε τὸ ἐκ προσθέσεως ὕστερον· ἐκ προσθέσεως γὰρ τῷ λευκῷ ὁ λευκὸς ἄνθρωπος λέγεται.

Ὅτι μὲν οὖν οὔτε οὐσίαι μᾶλλον τῶν σωμάτων εἰσὶν οὔτε πρότερα τῷ εἶναι τῶν αἰσθητῶν ἀλλὰ τῷ λόγῳ μόνον, οὔτε κεχωρισμένα που εἶναι δυνατόν, εἴρηται ἱκανῶς· ἐπεὶ δ’ οὐδ’ ἐν τοῖς αἰσθητοῖς ἐνεδέχετο αὐτὰ εἶναι, φανερὸν ὅτι ἢ ὅλως οὐκ ἔστιν ἢ τρόπον τινὰ ἔστι καὶ διὰ τοῦτο οὐχ ἁπλῶς ἔστιν· πολλαχῶς γὰρ τὸ εἶναι λέγομεν. ὥσπερ γὰρ καὶ τὰ καθόλου ἐν τοῖς μαθήμασιν οὐ περὶ κεχωρισμένων ἐστὶ παρὰ τὰ μεγέθη καὶ τοὺς ἀριθμοὺς ἀλλὰ περὶ τούτων μέν, οὐχ ᾗ δὲ τοιαῦτα οἷα ἔχειν μέγεθος ἢ εἶναι διαιρετά, δῆλον ὅτι ἐνδέχεται καὶ περὶ τῶν αἰσθητῶν μεγεθῶν εἶναι καὶ λόγους καὶ ἀποδείξεις, μὴ ᾗ δὲ αἰσθητὰ ἀλλ’ ᾗ τοιαδί. ὥσπερ γὰρ καὶ ᾗ κινούμενα μόνον πολλοὶ λόγοι εἰσί, χωρὶς τοῦ τί ἕκαστόν ἐστι τῶν τοιούτων καὶ τῶν συμβεβηκότων αὐτοῖς, καὶ οὐκ ἀνάγκη διὰ ταῦτα ἢ κεχωρισμένον τι εἶναι κινούμενον τῶν αἰσθητῶν ἢ ἐν τούτοις τινὰ φύσιν εἶναι ἀφωρισμένην, οὕτω καὶ ἐπὶ τῶν κινουμένων ἔσονται λόγοι καὶ ἐπιστῆμαι, οὐχ ᾗ κινούμενα δὲ ἀλλ’ ᾗ σώματα μόνον, καὶ πάλιν ᾗ ἐπίπεδα μόνον καὶ ᾗ μήκη μόνον, καὶ ᾗ διαιρετὰ καὶ ᾗ ἀδιαίρετα ἔχοντα δὲ θέσιν καὶ ᾗ ἀδιαίρετα μόνον, ὥστ’ ἐπεὶ ἁπλῶς λέγειν ἀληθὲς μὴ μόνον τὰ χωριστὰ εἶναι ἀλλὰ καὶ τὰ μὴ χωριστά (οἷον κινούμενα εἶναι), καὶ τὰ μαθηματικὰ ὅτι ἔστιν ἁπλῶς ἀληθὲς εἰπεῖν, καὶ τοιαῦτά γε οἷα λέγουσιν. καὶ ὥσπερ καὶ τὰς ἄλλας ἐπιστήμας ἁπλῶς ἀληθὲς εἰπεῖν τούτου εἶναι, οὐχὶ τοῦ συμβεβηκότος (οἷον ὅτι λευκοῦ, εἰ τὸ ὑγιεινὸν λευκόν, ἡ δ’ ἔστιν ὑγιεινοῦ) ἀλλ’ ἐκείνου [1078a] οὗ ἐστὶν ἑκάστη, εἰ ‹ᾗ› ὑγιεινὸν ὑγιεινοῦ, εἰ δ’ ᾗ ἄνθρωπος ἀνθρώπου, οὕτω καὶ τὴν γεωμετρίαν· οὐκ εἰ συμβέβηκεν αἰσθητὰ εἶναι ὧν ἐστί, μὴ ἔστι δὲ ᾗ αἰσθητά, οὐ τῶν αἰσθητῶν ἔσονται αἱ μαθηματικαὶ ἐπιστῆμαι, οὐ μέντοι οὐδὲ παρὰ ταῦτα ἄλλων κεχωρισμένων. πολλὰ δὲ συμβέβηκε καθ’ αὑτὰ τοῖς πράγμασιν ᾗ ἕκαστον ὑπάρχει τῶν τοιούτων, ἐπεὶ καὶ ᾗ θῆλυ τὸ ζῷον καὶ ᾗ ἄρρεν, ἴδια πάθη ἔστιν (καίτοι οὐκ ἔστι τι θῆλυ οὐδ’ ἄρρεν κεχωρισμένον τῶν ζῴων)· ὥστε καὶ ᾗ μήκη μόνον καὶ ᾗ ἐπίπεδα. καὶ ὅσῳ δὴ ἂν περὶ προτέρων τῷ λόγῳ καὶ ἁπλουστέρων, τοσούτῳ μᾶλλον ἔχει τὸ ἀκριβές (τοῦτο δὲ τὸ ἁπλοῦν ἐστίν), ὥστε ἄνευ τε μεγέθους μᾶλλον ἢ μετὰ μεγέθους, καὶ μάλιστα ἄνευ κινήσεως, ἐὰν δὲ κίνησιν, μάλιστα τὴν πρώτην· ἁπλουστάτη γάρ, καὶ ταύτης ἡ ὁμαλή. ὁ δ’ αὐτὸς λόγος καὶ περὶ ἁρμονικῆς καὶ ὀπτικῆς· οὐδετέρα γὰρ ᾗ ὄψις ἢ ᾗ φωνὴ θεωρεῖ, ἀλλ’ ᾗ γραμμαὶ καὶ ἀριθμοί (οἰκεῖα μέντοι ταῦτα πάθη ἐκείνων), καὶ ἡ μηχανικὴ δὲ ὡσαύτως, ὥστ’ εἴ τις θέμενος κεχωρισμένα τῶν συμβεβηκότων σκοπεῖ τι περὶ τούτων ᾗ τοιαῦτα, οὐθὲν διὰ τοῦτο ψεῦδος ψεύσεται, ὥσπερ οὐδ’ ὅταν ἐν τῇ γῇ γράφῃ καὶ ποδιαίαν φῇ τὴν μὴ ποδιαίαν· οὐ γὰρ ἐν ταῖς προτάσεσι τὸ ψεῦδος. ἄριστα δ’ ἂν οὕτω θεωρηθείη ἕκαστον, εἴ τις τὸ μὴ κεχωρισμένον θείη χωρίσας, ὅπερ ὁ ἀριθμητικὸς ποιεῖ καὶ ὁ γεωμέτρης. ἓν μὲν γὰρ καὶ ἀδιαίρετον ὁ ἄνθρωπος ᾗ ἄνθρωπος· ὁ δ’ ἔθετο ἓν ἀδιαίρετον, εἶτ’ ἐθεώρησεν εἴ τι τῷ ἀνθρώπῳ συμβέβηκεν ᾗ ἀδιαίρετος. ὁ δὲ γεωμέτρης οὔθ’ ᾗ ἄνθρωπος οὔθ’ ᾗ ἀδιαίρετος ἀλλ’ ᾗ στερεόν. ἃ γὰρ κἂν εἰ μή που ἦν ἀδιαίρετος ὑπῆρχεν αὐτῷ, δῆλον ὅτι καὶ ἄνευ τούτων ἐνδέχεται αὐτῷ ὑπάρχειν [τὸ δυνατόν], ὥστε διὰ τοῦτο ὀρθῶς οἱ γεωμέτραι λέγουσι, καὶ περὶ ὄντων διαλέγονται, καὶ ὄντα ἐστίν· διττὸν γὰρ τὸ ὄν, τὸ μὲν ἐντελεχείᾳ τὸ δ’ ὑλικῶς. ἐπεὶ δὲ τὸ ἀγαθὸν καὶ τὸ καλὸν ἕτερον (τὸ μὲν γὰρ ἀεὶ ἐν πράξει, τὸ δὲ καλὸν καὶ ἐν τοῖς ἀκινήτοις), οἱ φάσκοντες οὐδὲν λέγειν τὰς μαθηματικὰς ἐπιστήμας περὶ καλοῦ ἢ ἀγαθοῦ ψεύδονται. λέγουσι γὰρ καὶ δεικνύουσι μάλιστα· οὐ γὰρ εἰ μὴ ὀνομάζουσι τὰ δ’ ἔργα καὶ τοὺς λόγους δεικνύουσιν, οὐ λέγουσι περὶ αὐτῶν. τοῦ δὲ καλοῦ μέγιστα εἴδη [1078b] τάξις καὶ συμμετρία καὶ τὸ ὡρισμένον, ἃ μάλιστα δεικνύουσιν αἱ μαθηματικαὶ ἐπιστῆμαι. καὶ ἐπεί γε πολλῶν αἴτια φαίνεται ταῦτα (λέγω δ' οἷον ἡ τάξις καὶ τὸ ὡρισμένον), δῆλον ὅτι λέγοιεν ἂν καὶ τὴν τοιαύτην αἰτίαν τὴν ὡς τὸ καλὸν αἴτιον τρόπον τινά. μᾶλλον δὲ γνωρίμως ἐν ἄλλοις περὶ αὐτῶν ἐροῦμεν.

Περὶ μὲν οὖν τῶν μαθηματικῶν, ὅτι τε ὄντα ἐστὶ καὶ πῶς ὄντα, καὶ πῶς πρότερα καὶ πῶς οὐ πρότερα, τοσαῦτα εἰρήσθω· περὶ δὲ τῶν ἰδεῶν πρῶτον αὐτὴν τὴν κατὰ τὴν ἰδέαν δόξαν ἐπισκεπτέον, μηθὲν συνάπτοντας πρὸς τὴν τῶν ἀριθμῶν φύσιν, ἀλλ' ὡς ὑπέλαβον ἐξ ἀρχῆς οἱ πρῶτοι τὰς ἰδέας φήσαντες εἶναι. συνέβη δ' ἡ περὶ τῶν εἰδῶν δόξα τοῖς εἰποῦσι διὰ τὸ πεισθῆναι περὶ τῆς ἀληθείας τοῖς Ἡρακλειτείοις λόγοις ὡς πάντων τῶν αἰσθητῶν ἀεὶ ῥεόντων, ὥστ' εἴπερ ἐπιστήμη τινὸς ἔσται καὶ φρόνησις, ἑτέρας δεῖν τινὰς φύσεις εἶναι παρὰ τὰς αἰσθητὰς μενούσας· οὐ γὰρ εἶναι τῶν ῥεόντων ἐπιστήμην. Σωκράτους δὲ περὶ τὰς ἠθικὰς ἀρετὰς πραγματευομένου καὶ περὶ τούτων ὁρίζεσθαι καθόλου ζητοῦντος πρώτου (τῶν μὲν γὰρ φυσικῶν ἐπὶ μικρὸν Δημόκριτος ἥψατο μόνον καὶ ὡρίσατό πως τὸ θερμὸν καὶ τὸ ψυχρόν· οἱ δὲ Πυθαγόρειοι πρότερον περί τινων ὀλίγων, ὧν τοὺς λόγους εἰς τοὺς ἀριθμοὺς ἀνῆπτον, οἷον τί ἐστι καιρὸς ἢ τὸ δίκαιον ἢ γάμος· ἐκεῖνος δ' εὐλόγως ἐζήτει τὸ τί ἐστιν· συλλογίζεσθαι γὰρ ἐζήτει, ἀρχὴ δὲ τῶν συλλογισμῶν τὸ τί ἐστιν· διαλεκτικὴ γὰρ ἰσχὺς οὔπω τότ' ἦν ὥστε δύνασθαι καὶ χωρὶς τοῦ τί ἐστι τἀναντία ἐπισκοπεῖν, καὶ τῶν ἐναντίων εἰ ἡ αὐτὴ ἐπιστήμη· δύο γάρ ἐστιν ἅ τις ἂν ἀποδοίη Σωκράτει δικαίως, τούς τ' ἐπακτικοὺς λόγους καὶ τὸ ὁρίζεσθαι καθόλου· ταῦτα γάρ ἐστιν ἄμφω περὶ ἀρχὴν ἐπιστήμης)· - ἀλλ' ὁ μὲν Σωκράτης τὰ καθόλου οὐ χωριστὰ ἐποίει οὐδὲ τοὺς ὁρισμούς· οἱ δ' ἐχώρισαν, καὶ τὰ τοιαῦτα τῶν ὄντων ἰδέας προσηγόρευσαν, ὥστε συνέβαινεν αὐτοῖς σχεδὸν τῷ αὐτῷ λόγῳ πάντων ἰδέας εἶναι τῶν καθόλου λεγομένων, καὶ παραπλήσιον ὥσπερ ἂν εἴ τις ἀριθμῆσαι βουλόμενος ἐλαττόνων μὲν ὄντων οἴοιτο μὴ δυνήσεσθαι, πλείω δὲ ποιήσας ἀριθμοίη· πλείω γάρ ἐστι τῶν καθ' ἕκαστα [1079a] αἰσθητῶν ὡς εἰπεῖν τὰ εἴδη, περὶ ὧν ζητοῦντες τὰς αἰτίας ἐκ τούτων ἐκεῖ προῆλθον· καθ' ἕκαστόν τε γὰρ ὁμώνυμόν ‹τι› ἔστι καὶ παρὰ τὰς οὐσίας, τῶν τε ἄλλων ἓν ἔστιν ἐπὶ πολλῶν, καὶ ἐπὶ τοῖσδε καὶ ἐπὶ τοῖς ἀϊδίοις. ἔτι καθ' οὓς τρόπους δείκνυται ὅτι ἔστι τὰ εἴδη, κατ' οὐθένα φαίνεται τούτων· ἐξ ἐνίων μὲν γὰρ οὐκ ἀνάγκη γίγνεσθαι συλλογισμόν, ἐξ ἐνίων δὲ καὶ οὐχ ὧν οἴονται τούτων εἴδη γίγνεται. κατά τε γὰρ τοὺς λόγους τοὺς ἐκ τῶν ἐπιστημῶν ἔσται εἴδη πάντων ὅσων ἐπιστῆμαι εἰσίν, καὶ κατὰ τὸ ἓν ἐπὶ πολλῶν καὶ τῶν ἀποφάσεων, κατὰ δὲ τὸ νοεῖν τι φθαρέντος τῶν φθαρτῶν· φάντασμα γάρ τι τούτων ἔστιν. ἔτι δὲ οἱ ἀκριβέστατοι τῶν λόγων οἱ μὲν τῶν πρός τι ποιοῦσιν ἰδέας, ὧν οὔ φασιν εἶναι καθ’ αὑτὸ γένος, οἱ δὲ τὸν τρίτον ἄνθρωπον λέγουσιν. ὅλως τε ἀναιροῦσιν οἱ περὶ τῶν εἰδῶν λόγοι ἃ μᾶλλον βούλονται εἶναι οἱ λέγοντες εἴδη τοῦ τὰς ἰδέας εἶναι· συμβαίνει γὰρ μὴ εἶναι πρῶτον τὴν δυάδα ἀλλὰ τὸν ἀριθμόν, καὶ τούτου τὸ πρός τι καὶ τοῦτο τοῦ καθ’ αὑτό, καὶ πάνθ’ ὅσα τινὲς ἀκολουθήσαντες ταῖς περὶ τῶν εἰδῶν δόξαις ἠναντιώθησαν ταῖς ἀρχαῖς. ἔτι κατὰ μὲν τὴν ὑπόληψιν καθ’ ἥν φασιν εἶναι τὰς ἰδέας οὐ μόνον τῶν οὐσιῶν ἔσονται εἴδη ἀλλὰ καὶ ἄλλων πολλῶν (τὸ γὰρ νόημα ἓν οὐ μόνον περὶ τὰς οὐσίας ἀλλὰ καὶ κατὰ μὴ οὐσιῶν ἐστί, καὶ ἐπιστῆμαι οὐ μόνον τῆς οὐσίας εἰσί· συμβαίνει δὲ καὶ ἄλλα μυρία τοιαῦτα)· κατὰ δὲ τὸ ἀναγκαῖον καὶ τὰς δόξας τὰς περὶ αὐτῶν, εἰ ἔστι μεθεκτὰ τὰ εἴδη, τῶν οὐσιῶν ἀναγκαῖον ἰδέας εἶναι μόνον· οὐ γὰρ κατὰ συμβεβηκὸς μετέχονται ἀλλὰ δεῖ ταύτῃ ἑκάστου μετέχειν ᾗ μὴ καθ’ ὑποκειμένου λέγονται (λέγω δ’ οἷον, εἴ τι αὐτοῦ διπλασίου μετέχει, τοῦτο καὶ ἀϊδίου μετέχει, ἀλλὰ κατὰ συμβεβηκός· συμβέβηκε γὰρ τῷ διπλασίῳ ἀϊδίῳ εἶναι), ὥστε ἔσται οὐσία τὰ εἴδη· ταὐτὰ δ’ ἐνταῦθα οὐσίαν σημαίνει κἀκεῖ· ἢ τί ἔσται τὸ εἶναι φάναι τι παρὰ ταῦτα, τὸ ἓν ἐπὶ πολλῶν; καὶ εἰ μὲν ταὐτὸ εἶδος τῶν ἰδεῶν καὶ τῶν μετεχόντων, ἔσται τι κοινόν (τί γὰρ μᾶλλον ἐπὶ τῶν φθαρτῶν δυάδων, καὶ τῶν δυάδων τῶν πολλῶν μὲν ἀϊδίων δέ, τὸ δυὰς ἓν καὶ ταὐτόν, ἢ ἐπ’ αὐτῆς καὶ τῆς τινός;)· εἰ δὲ μὴ [1079b] τὸ αὐτὸ εἶδος, ὁμώνυμα ἂν εἴη, καὶ ὅμοιον ὥσπερ ἂν εἴ τις καλοῖ ἄνθρωπον τόν τε Καλλίαν καὶ τὸ ξύλον, μηδεμίαν κοινωνίαν ἐπιβλέψας αὐτῶν. εἰ δὲ τὰ μὲν ἄλλα τοὺς κοινοὺς λόγους ἐφαρμόττειν θήσομεν τοῖς εἴδεσιν, οἷον ἐπ’ αὐτὸν τὸν κύκλον σχῆμα ἐπίπεδον καὶ τὰ λοιπὰ μέρη τοῦ λόγου, τὸ δ’ ὃ ἔστι προστεθήσεται, σκοπεῖν δεῖ μὴ κενὸν ᾖ τοῦτο παντελῶς. τίνι τε γὰρ προστεθήσεται; τῷ μέσῳ ἢ τῷ ἐπιπέδῳ ἢ πᾶσιν; πάντα γὰρ τὰ ἐν τῇ οὐσίᾳ ἰδέαι, οἷον τὸ ζῷον καὶ τὸ δίπουν. ἔτι δῆλον ὅτι ἀνάγκη αὐτὸ εἶναί τι, ὥσπερ τὸ ἐπίπεδον, φύσιν τινὰ ἣ πᾶσιν ἐνυπάρξει τοῖς εἴδεσιν ὡς γένος.

Πάντων δὲ μάλιστα διαπορήσειεν ἄν τις τί ποτε συμβάλλονται τὰ εἴδη ἢ τοῖς ἀϊδίοις τῶν αἰσθητῶν ἢ τοῖς γιγνομένοις καὶ [τοῖς] φθειρομένοις· οὔτε γὰρ κινήσεώς ἐστιν οὔτε μεταβολῆς οὐδεμιᾶς αἴτια αὐτοῖς. ἀλλὰ μὴν οὔτε πρὸς τὴν ἐπιστήμην οὐθὲν βοηθεῖ τὴν τῶν ἄλλων (οὐδὲ γὰρ οὐσία ἐκεῖνα τούτων· ἐν τούτοις γὰρ ἂν ἦν), οὔτ’ εἰς τὸ εἶναι, μὴ ἐνυπάρχοντά γε τοῖς μετέχουσιν· οὕτω μὲν γὰρ ἴσως αἴτια δόξειεν ἂν εἶναι ὡς τὸ λευκὸν μεμιγμένον τῷ λευκῷ, ἀλλ’ οὗτος μὲν ὁ λόγος λίαν εὐκίνητος, ὃν Ἀναξαγόρας μὲν πρότερος Εὔδοξος δὲ ὕστερος ἔλεγε διαπορῶν καὶ ἕτεροί τινες (ῥᾴδιον γὰρ πολλὰ συναγαγεῖν καὶ ἀδύνατα πρὸς τὴν τοιαύτην δόξαν)· ἀλλὰ μὴν οὐδὲ ἐκ τῶν εἰδῶν ἐστὶ τἆλλα κατ’ οὐθένα τρόπον τῶν εἰωθότων λέγεσθαι. τὸ δὲ λέγειν παραδείγματα εἶναι καὶ μετέχειν αὐτῶν τὰ ἄλλα κενολογεῖν ἐστὶ καὶ μεταφορὰς λέγειν ποιητικάς. τί γάρ ἐστι τὸ ἐργαζόμενον πρὸς τὰς ἰδέας ἀποβλέπον; ἐνδέχεταί τε καὶ εἶναι καὶ γίγνεσθαι ὁτιοῦν καὶ μὴ εἰκαζόμενον, ὥστε καὶ ὄντος Σωκράτους καὶ μὴ ὄντος γένοιτ’ ἂν οἷος Σωκράτης· ὁμοίως δὲ δῆλον ὅτι κἂν εἰ ἦν ὁ Σωκράτης ἀΐδιος. ἔσται τε πλείω παραδείγματα τοῦ αὐτοῦ, ὥστε καὶ εἴδη, οἷον τοῦ ἀνθρώπου τὸ ζῷον καὶ τὸ δίπουν, ἅμα δὲ καὶ αὐτοάνθρωπος. ἔτι οὐ μόνον τῶν αἰσθητῶν παραδείγματα τὰ εἴδη ἀλλὰ καὶ αὐτῶν, οἷον τὸ γένος τῶν ὡς γένους εἰδῶν· ὥστε τὸ αὐτὸ ἔσται παράδειγμα καὶ εἰκών. ἔτι δόξειεν ἂν ἀδύνατον χωρὶς εἶναι τὴν οὐσίαν καὶ οὗ ἡ οὐσία· [1080a] ὥστε πῶς ἂν αἱ ἰδέαι οὐσίαι τῶν πραγμάτων οὖσαι χωρὶς εἶεν; ἐν δὲ τῷ Φαίδωνι τοῦτον λέγεται τὸν τρόπον, ὡς καὶ τοῦ εἶναι καὶ τοῦ γίγνεσθαι αἴτια τὰ εἴδη ἐστίν· καίτοι τῶν εἰδῶν ὄντων ὅμως οὐ γίγνεται ἂν μὴ ᾖ τὸ κινῆσον, καὶ πολλὰ γίγνεται ἕτερα, οἷον οἰκία καὶ δακτύλιος, ὧν οὔ φασιν εἶναι εἴδη· ὥστε δῆλον ὅτι ἐνδέχεται κἀκεῖνα, ὧν φασὶν ἰδέας εἶναι, καὶ εἶναι καὶ γίγνεσθαι διὰ τοιαύτας αἰτίας οἵας καὶ τὰ ῥηθέντα νῦν, ἀλλ’ οὐ διὰ τὰ εἴδη. ἀλλὰ περὶ μὲν τῶν ἰδεῶν καὶ τοῦτον τὸν τρόπον καὶ διὰ λογικωτέρων καὶ ἀκριβεστέρων λόγων ἔστι πολλὰ συναγαγεῖν ὅμοια τοῖς τεθεωρημένοις.

Ἐπεὶ δὲ διώρισται περὶ τούτων, καλῶς ἔχει πάλιν θεωρῆσαι τὰ περὶ τοὺς ἀριθμοὺς συμβαίνοντα τοῖς λέγουσιν οὐσίας αὐτοὺς εἶναι χωριστὰς καὶ τῶν ὄντων αἰτίας πρώτας. ἀνάγκη δ’, εἴπερ ἐστὶν ὁ ἀριθμὸς φύσις τις καὶ μὴ ἄλλη τίς ἐστιν αὐτοῦ ἡ οὐσία ἀλλὰ τοῦτ’ αὐτό, ὥσπερ φασί τινες, ἤτοι εἶναι τὸ μὲν πρῶτόν τι αὐτοῦ τὸ δ’ ἐχόμενον, ἕτερον ὂν τῷ εἴδει ἕκαστον, - καὶ τοῦτο ἢ ἐπὶ τῶν μονάδων εὐθὺς ὑπάρχει καὶ ἔστιν ἀσύμβλητος ὁποιαοῦν μονὰς ὁποιᾳοῦν μονάδι, ἢ εὐθὺς ἐφεξῆς πᾶσαι καὶ συμβληταὶ ὁποιαιοῦν ὁποιαισοῦν, οἷον λέγουσιν εἶναι τὸν μαθηματικὸν ἀριθμόν (ἐν γὰρ τῷ μαθηματικῷ οὐδὲν διαφέρει οὐδεμία μονὰς ἑτέρα ἑτέρας)· ἢ τὰς μὲν συμβλητὰς τὰς δὲ μή (οἷον εἰ ἔστι μετὰ τὸ ἓν πρώτη ἡ δυάς, ἔπειτα ἡ τριὰς καὶ οὕτω δὴ ὁ ἄλλος ἀριθμός, εἰσὶ δὲ συμβληταὶ αἱ ἐν ἑκάστῳ ἀριθμῷ μονάδες, οἷον αἱ ἐν τῇ δυάδι τῇ πρώτῃ αὐταῖς, καὶ αἱ ἐν τῇ τριάδι τῇ πρώτῃ αὐταῖς, καὶ οὕτω δὴ ἐπὶ τῶν ἄλλων ἀριθμῶν· αἱ δ’ ἐν τῇ δυάδι αὐτῇ πρὸς τὰς ἐν τῇ τριάδι αὐτῇ ἀσύμβλητοι, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τῶν ἐφεξῆς ἀριθμῶν· διὸ καὶ ὁ μὲν μαθηματικὸς ἀριθμεῖται μετὰ τὸ ἓν δύο, πρὸς τῷ ἔμπροσθεν ἑνὶ ἄλλο ἕν, καὶ τὰ τρία πρὸς τοῖς δυσὶ τούτοις ἄλλο ἕν, καὶ ὁ λοιπὸς δὲ ὡσαύτως· οὗτος δὲ μετὰ τὸ ἓν δύο ἕτερα ἄνευ τοῦ ἑνὸς τοῦ πρώτου, καὶ ἡ τριὰς ἄνευ τῆς δυάδος, ὁμοίως δὲ καὶ ὁ ἄλλος ἀριθμός)· ἢ τὸν μὲν εἶναι τῶν ἀριθμῶν οἷος ὁ πρῶτος ἐλέχθη, τὸν δ' οἷον οἱ μαθηματικοὶ λέγουσι, τρίτον δὲ τὸν ῥηθέντα τελευταῖον· ἔτι τούτους ἢ χωριστοὺς εἶναι τοὺς [1080b] ἀριθμοὺς τῶν πραγμάτων, ἢ οὐ χωριστοὺς ἀλλ' ἐν τοῖς αἰσθητοῖς (οὐχ οὕτως δ' ὡς τὸ πρῶτον ἐπεσκοποῦμεν, ἀλλ' ὡς ἐκ τῶν ἀριθμῶν ἐνυπαρχόντων ὄντα τὰ αἰσθητά) ἢ τὸν μὲν αὐτῶν εἶναι τὸν δὲ μή, ἢ πάντας εἶναι. - οἱ μὲν οὖν τρόποι καθ' οὓς ἐνδέχεται αὐτοὺς εἶναι οὗτοί εἰσιν ἐξ ἀνάγκης μόνοι, σχεδὸν δὲ καὶ οἱ λέγοντες τὸ ἓν ἀρχὴν εἶναι καὶ οὐσίαν καὶ στοιχεῖον πάντων, καὶ ἐκ τούτου καὶ ἄλλου τινὸς εἶναι τὸν ἀριθμόν, ἕκαστος τούτων τινὰ τῶν τρόπων εἴρηκε, πλὴν τοῦ πάσας τὰς μονάδας εἶναι ἀσυμβλήτους. καὶ τοῦτο συμβέβηκεν εὐλόγως· οὐ γὰρ ἐνδέχεται ἔτι ἄλλον τρόπον εἶναι παρὰ τοὺς εἰρημένους. οἱ μὲν οὖν ἀμφοτέρους φασὶν εἶναι τοὺς ἀριθμούς, τὸν μὲν ἔχοντα τὸ πρότερον καὶ ὕστερον τὰς ἰδέας, τὸν δὲ μαθηματικὸν παρὰ τὰς ἰδέας καὶ τὰ αἰσθητά, καὶ χωριστοὺς ἀμφοτέρους τῶν αἰσθητῶν· οἱ δὲ τὸν μαθηματικὸν μόνον ἀριθμὸν εἶναι, τὸν πρῶτον τῶν ὄντων, κεχωρισμένον τῶν αἰσθητῶν. καὶ οἱ Πυθαγόρειοι δ' ἕνα, τὸν μαθηματικόν, πλὴν οὐ κεχωρισμένον ἀλλ' ἐκ τούτου τὰς αἰσθητὰς οὐσίας συνεστάναι φασίν· τὸν γὰρ ὅλον οὐρανὸν κατασκευάζουσιν ἐξ ἀριθμῶν, πλὴν οὐ μοναδικῶν, ἀλλὰ τὰς μονάδας ὑπολαμβάνουσιν ἔχειν μέγεθος· ὅπως δὲ τὸ πρῶτον ἓν συνέστη ἔχον μέγεθος, ἀπορεῖν ἐοίκασιν. ἄλλος δέ τις τὸν πρῶτον ἀριθμὸν τὸν τῶν εἰδῶν ἕνα εἶναι, ἔνιοι δὲ καὶ τὸν μαθηματικὸν τὸν αὐτὸν τοῦτον εἶναι. ὁμοίως δὲ καὶ περὶ τὰ μήκη καὶ περὶ τὰ ἐπίπεδα καὶ περὶ τὰ στερεά. οἱ μὲν γὰρ ἕτερα τὰ μαθηματικὰ καὶ τὰ μετὰ τὰς ἰδέας· τῶν δὲ ἄλλως λεγόντων οἱ μὲν τὰ μαθηματικὰ καὶ μαθηματικῶς λέγουσιν, ὅσοι μὴ ποιοῦσι τὰς ἰδέας ἀριθμοὺς μηδὲ εἶναί φασιν ἰδέας, οἱ δὲ τὰ μαθηματικά, οὐ μαθηματικῶς δέ· οὐ γὰρ τέμνεσθαι οὔτε μέγεθος πᾶν εἰς μεγέθη, οὔθ' ὁποιασοῦν μονάδας δυάδα εἶναι. μοναδικοὺς δὲ τοὺς ἀριθμοὺς εἶναι πάντες τιθέασι, πλὴν τῶν Πυθαγορείων, ὅσοι τὸ ἓν στοιχεῖον καὶ ἀρχήν φασιν εἶναι τῶν ὄντων· ἐκεῖνοι δ' ἔχοντας μέγεθος, καθάπερ εἴηρται πρότερον. ὁσαχῶς μὲν οὖν ἐνδέχεται λεχθῆναι περὶ αὐτῶν, καὶ ὅτι πάντες εἰσὶν εἰρημένοι οἱ τρόποι, φανερὸν ἐκ τούτων· ἔστι δὲ πάντα μὲν ἀδύνατα, μᾶλλον δ' ἴσως θάτερα τῶν ἑτέρων.

Πρῶτον μὲν οὖν σκεπτέον εἰ συμβληταὶ αἱ μονάδες ἢ [1081a] ἀσύμβλητοι, καὶ εἰ ἀσύμβλητοι, ποτέρως ὧνπερ διείλομεν. ἔστι μὲν γὰρ ὁποιανοῦν εἶναι ὁποιᾳοῦν μονάδι ἀσύμβλητον, ἔστι δὲ τὰς ἐν αὐτῇ τῇ δυάδι πρὸς τὰς ἐν αὐτῇ τῇ τριάδι, καὶ οὕτως δὴ ἀσυμβλήτους εἶναι τὰς ἐν ἑκάστῳ τῷ πρώτῳ ἀριθμῷ πρὸς ἀλλήλας. εἰ μὲν οὖν πᾶσαι συμβληταὶ καὶ ἀδιάφοροι αἱ μονάδες, ὁ μαθηματικὸς γίγνεται ἀριθμὸς καὶ εἷς μόνος, καὶ τὰς ἰδέας οὐκ ἐνδέχεται εἶναι τοὺς ἀριθμούς (ποῖος γὰρ ἔσται ἀριθμὸς αὐτὸ ἄνθρωπος ἢ ζῷον ἢ ἄλλο ὁτιοῦν τῶν εἰδῶν; ἰδέα μὲν γὰρ μία ἑκάστου, οἷον αὐτοῦ ἀνθρώπου μία καὶ αὐτοῦ ζῴου ἄλλη μία· οἱ δ’ ὅμοιοι καὶ ἀδιάφοροι ἄπειροι, ὥστ’ οὐθὲν μᾶλλον ἥδε ἡ τριὰς αὐτοάνθρωπος ἢ ὁποιαοῦν), εἰ δὲ μὴ εἰσὶν ἀριθμοὶ αἱ ἰδέαι, οὐδ’ ὅλως οἷόν τε αὐτὰς εἶναι (ἐκ τίνων γὰρ ἔσονται ἀρχῶν αἱ ἰδέαι; ὁ γὰρ ἀριθμός ἐστιν ἐκ τοῦ ἑνὸς καὶ τῆς δυάδος τῆς ἀορίστου, καὶ αἱ ἀρχαὶ καὶ τὰ στοιχεῖα λέγονται τοῦ ἀριθμοῦ εἶναι, τάξαι τε οὔτε προτέρας ἐνδέχεται τῶν ἀριθμῶν αὐτὰς οὔθ’ ὑστέρας)· εἰ δ’ ἀσύμβλητοι αἱ μονάδες, καὶ οὕτως ἀσύμβλητοι ὥστε ἡτισοῦν ᾑτινιοῦν, οὔτε τὸν μαθηματικὸν ἐνδέχεται εἶναι τοῦτον τὸν ἀριθμόν (ὁ μὲν γὰρ μαθηματικὸς ἐξ ἀδιαφόρων, καὶ τὰ δεικνύμενα κατ’ αὐτοῦ ὡς ἐπὶ τοιούτου ἁρμόττει) οὔτε τὸν τῶν εἰδῶν. οὐ γὰρ ἔσται ἡ δυὰς πρώτη ἐκ τοῦ ἑνὸς καὶ τῆς ἀορίστου δυάδος, ἔπειτα οἱ ἑξῆς ἀριθμοί, ὡς λέγεται δυάς, τριάς, τετράς - ἅμα γὰρ αἱ ἐν τῇ δυάδι τῇ πρώτῃ μονάδες γεννῶνται, εἴτε ὥσπερ ὁ πρῶτος εἰπὼν ἐξ ἀνίσων (ἰσασθέντων γὰρ ἐγένοντο) εἴτε ἄλλως - , ἐπεὶ εἰ ἔσται ἡ ἑτέρα μονὰς τῆς ἑτέρας προτέρα, καὶ τῆς δυάδος τῆς ἐκ τούτων ἔσται προτέρα· ὅταν γὰρ ᾖ τι τὸ μὲν πρότερον τὸ δὲ ὕστερον, καὶ τὸ ἐκ τούτων τοῦ μὲν ἔσται πρότερον τοῦ δ’ ὕστερον. ἔτι ἐπειδὴ ἔστι πρῶτον μὲν αὐτὸ τὸ ἕν, ἔπειτα τῶν ἄλλων ἔστι τι πρῶτον ἓν δεύτερον δὲ μετ’ ἐκεῖνο, καὶ πάλιν τρίτον τὸ δεύτερον μὲν μετὰ τὸ δεύτερον τρίτον δὲ μετὰ τὸ πρῶτον ἕν, - ὥστε πρότεραι ἂν εἶεν αἱ μονάδες ἢ οἱ ἀριθμοὶ ἐξ ὧν λέγονται, οἷον ἐν τῇ δυάδι τρίτη μονὰς ἔσται πρὶν τὰ τρία εἶναι, καὶ ἐν τῇ τριάδι τετάρτη καὶ [ἡ] πέμπτη πρὶν τοὺς ἀριθμοὺς τούτους. οὐδεὶς μὲν οὖν τὸν τρόπον τοῦτον εἴρηκεν αὐτῶν τὰς μονάδας ἀσυμβλήτους, ἔστι δὲ κατὰ μὲν τὰς ἐκείνων ἀρχὰς εὔλογον καὶ οὕτως, [1081b] κατὰ μέντοι τὴν ἀλήθειαν ἀδύνατον. τάς τε γὰρ μονάδας προτέρας καὶ ὑστέρας εἶναι εὔλογον, εἴπερ καὶ πρώτη τις ἔστι μονὰς καὶ ἓν πρῶτον, ὁμοίως δὲ καὶ δυάδας, εἴπερ καὶ δυὰς πρώτη ἔστιν· μετὰ γὰρ τὸ πρῶτον εὔλογον καὶ ἀναγκαῖον δεύτερόν τι εἶναι, καὶ εἰ δεύτερον, τρίτον, καὶ οὕτω δὴ τὰ ἄλλα ἐφεξῆς (ἅμα δ’ ἀμφότερα λέγειν, μονάδα τε μετὰ τὸ ἓν πρώτην εἶναι καὶ δευτέραν, καὶ δυάδα πρώτην, ἀδύνατον). οἱ δὲ ποιοῦσι μονάδα μὲν καὶ ἓν πρῶτον, δεύτερον δὲ καὶ τρίτον οὐκέτι, καὶ δυάδα πρώτην, δευτέραν δὲ καὶ τρίτην οὐκέτι. φανερὸν δὲ καὶ ὅτι οὐκ ἐνδέχεται, εἰ ἀσύμβλητοι πᾶσαι αἱ μονάδες, δυάδα εἶναι αὐτὴν καὶ τριάδα καὶ οὕτω τοὺς ἄλλους ἀριθμούς. ἄν τε γὰρ ὦσιν ἀδιάφοροι αἱ μονάδες ἄν τε διαφέρουσαι ἑκάστη ἑκάστης, ἀνάγκη ἀριθμεῖσθαι τὸν ἀριθμὸν κατὰ πρόσθεσιν, οἷον τὴν δυάδα πρὸς τῷ ἑνὶ ἄλλου ἑνὸς προστεθέντος, καὶ τὴν τριάδα ἄλλου ἑνὸς πρὸς τοῖς δυσὶ προστεθέντος, καὶ τὴν τετράδα ὡσαύτως· τούτων δὲ ὄντων ἀδύνατον τὴν γένεσιν εἶναι τῶν ἀριθμῶν ὡς γεννῶσιν ἐκ τῆς δυάδος καὶ τοῦ ἑνός. μόριον γὰρ γίγνεται ἡ δυὰς τῆς τριάδος καὶ αὕτη τῆς τετράδος, τὸν αὐτὸν δὲ τρόπον συμβαίνει καὶ ἐπὶ τῶν ἐχομένων. ἀλλ’ ἐκ τῆς δυάδος τῆς πρώτης καὶ τῆς ἀορίστου δυάδος ἐγίγνετο ἡ τετράς, δύο δυάδες παρ’ αὐτὴν τὴν δυάδα· εἰ δὲ μή, μόριον ἔσται αὐτὴ ἡ δυάς, ἑτέρα δὲ προσέσται μία δυάς. καὶ ἡ δυὰς ἔσται ἐκ τοῦ ἑνὸς αὐτοῦ καὶ ἄλλου ἑνός· εἰ δὲ τοῦτο, οὐχ οἷόν τ’ εἶναι τὸ ἕτερον στοιχεῖον δυάδα ἀόριστον· μονάδα γὰρ μίαν γεννᾷ ἀλλ’ οὐ δυάδα ὡρισμένην. ἔτι παρ’ αὐτὴν τὴν τριάδα καὶ αὐτὴν τὴν δυάδα πῶς ἔσονται ἄλλαι τριάδες καὶ δυάδες; καὶ τίνα τρόπον ἐκ προτέρων μονάδων καὶ ὑστέρων σύγκεινται; πάντα γὰρ ταῦτ’ ‹ἄτοπά› ἐστι καὶ πλασματώδη, καὶ ἀδύνατον εἶναι πρώτην δυάδα, εἶτ’ αὐτὴν τριάδα. ἀνάγκη δ’, ἐπείπερ ἔσται τὸ ἓν καὶ ἡ ἀόριστος δυὰς στοιχεῖα. εἰ δ’ ἀδύνατα τὰ συμβαίνοντα, καὶ τὰς ἀρχὰς εἶναι ταύτας ἀδύνατον. - εἰ μὲν οὖν διάφοροι αἱ μονάδες ὁποιαιοῦν ὁποιαισοῦν, ταῦτα καὶ τοιαῦθ’ ἕτερα συμβαίνει ἐξ ἀνάγκης· εἰ δ’ αἱ μὲν ἐν ἄλλῳ διάφοροι αἱ δ’ ἐν τῷ αὐτῷ ἀριθμῷ ἀδιάφοροι ἀλλήλαις μόναι, καὶ οὕτως οὐθὲν ἐλάττω συμβαίνει τὰ δυσχερῆ.

[1082a] οἷον γὰρ ἐν τῇ δεκάδι αὐτῇ ἔνεισι δέκα μονάδες, σύγκειται δὲ καὶ ἐκ τούτων καὶ ἐκ δύο πεντάδων ἡ δεκάς. ἐπεὶ δ’ οὐχ ὁ τυχὼν ἀριθμὸς αὐτὴ ἡ δεκὰς οὐδὲ σύγκειται ἐκ τῶν τυχουσῶν πεντάδων, ὥσπερ οὐδὲ μονάδων, ἀνάγκη διαφέρειν τὰς μονάδας τὰς ἐν τῇ δεκάδι ταύτῃ. ἂν γὰρ μὴ διαφέρωσιν, οὐδ’ αἱ πεντάδες διοίσουσιν ἐξ ὧν ἐστὶν ἡ δεκάς· ἐπεὶ δὲ διαφέρουσι, καὶ αἱ μονάδες διοίσουσιν. εἰ δὲ διαφέρουσι, πότερον οὐκ ἐνέσονται πεντάδες ἄλλαι ἀλλὰ μόνον αὗται αἱ δύο, ἢ ἔσονται; εἴτε δὲ μὴ ἐνέσονται, ἄτοπον· εἴτ’ ἐνέσονται, ποία ἔσται δεκὰς ἐξ ἐκείνων; οὐ γὰρ ἔστιν ἑτέρα δεκὰς ἐν τῇ δεκάδι παρ’ αὐτήν. ἀλλὰ μὴν καὶ ἀνάγκη γε μὴ ἐκ τῶν τυχουσῶν δυάδων τὴν τετράδα συγκεῖσθαι· ἡ γὰρ ἀόριστος δυάς, ὥς φασι, λαβοῦσα τὴν ὡρισμένην δυάδα δύο δυάδας ἐποίησεν· τοῦ γὰρ ληφθέντος ἦν δυοποιός. - ἔτι τὸ εἶναι παρὰ τὰς δύο μονάδας τὴν δυάδα φύσιν τινά, καὶ τὴν τριάδα παρὰ τὰς τρεῖς μονάδας, πῶς ἐνδέχεται; ἢ γὰρ μεθέξει θατέρου θατέρου, ὥσπερ λευκὸς ἄνθρωπος παρὰ λευκὸν καὶ ἄνθρωπον (μετέχει γὰρ

τούτων), ἢ ὅταν ᾖ θατέρου θάτερον διαφορά τις, ὥσπερ ὁ ἄνθρωπος παρὰ ζῷον καὶ δίπουν. ἔτι τὰ μὲν ἁφῇ ἐστὶν ἓν τὰ δὲ μίξει τὰ δὲ θέσει· ὧν οὐδὲν ἐνδέχεται ὑπάρχειν ταῖς μονάσιν ἐξ ὧν ἡ δυὰς καὶ ἡ τριάς· ἀλλ' ὥσπερ οἱ δύο ἄνθρωποι οὐχ ἕν τι παρ' ἀμφοτέρους, οὕτως ἀνάγκη καὶ τὰς μονάδας. καὶ οὐχ ὅτι ἀδιαίρετοι, διοίσουσι διὰ τοῦτο· καὶ γὰρ αἱ στιγμαὶ ἀδιαίρετοι, ἀλλ' ὅμως παρὰ τὰς δύο οὐθὲν ἕτερον ἡ δυὰς αὐτῶν. - ἀλλὰ μὴν οὐδὲ τοῦτο δεῖ λανθάνειν, ὅτι συμβαίνει προτέρας καὶ ὑστέρας εἶναι δυάδας, ὁμοίως δὲ καὶ τοὺς ἄλλους ἀριθμούς. αἱ μὲν γὰρ ἐν τῇ τετράδι δυάδες ἔστωσαν ἀλλήλαις ἅμα· ἀλλ' αὗται τῶν ἐν τῇ ὀκτάδι πρότεραί εἰσι, καὶ ἐγέννησαν, ὥσπερ ἡ δυὰς ταύτας, αὗται τὰς τετράδας τὰς ἐν τῇ ὀκτάδι αὐτῇ, ὥστε εἰ καὶ ἡ πρώτη δυὰς ἰδέα, καὶ αὗται ἰδέαι τινὲς ἔσονται. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν μονάδων· αἱ γὰρ ἐν τῇ δυάδι τῇ πρώτῃ μονάδες γεννῶσι τὰς τέτταρας τὰς ἐν τῇ τετράδι, ὥστε πᾶσαι αἱ μονάδες ἰδέαι γίγνονται καὶ συγκείσεται ἰδέα ἐξ ἰδεῶν· ὥστε δῆλον ὅτι κἀκεῖνα ὧν ἰδέαι αὗται τυγχάνουσιν οὖσαι συγκείμενα ἔσται, οἷον εἰ τὰ ζῷα φαίη [1082b] τις συγκεῖσθαι ἐκ ζῴων, εἰ τούτων ἰδέαι εἰσίν. - ὅλως δὲ τὸ ποιεῖν τὰς μονάδας διαφόρους ὁπωσοῦν ἄτοπον καὶ πλασματῶδες (λέγω δὲ πλασματῶδες τὸ πρὸς ὑπόθεσιν βεβιασμένον)· οὔτε γὰρ κατὰ τὸ ποσὸν οὔτε κατὰ τὸ ποιὸν ὁρῶμεν διαφέρουσαν μονάδα μονάδος, ἀνάγκη τε ἢ ἴσον ἢ ἄνισον εἶναι ἀριθμόν, πάντα μὲν ἀλλὰ μάλιστα τὸν μοναδικόν, ὥστ' εἰ μήτε πλείων μήτ' ἐλάττων, ἴσος· τὰ δὲ ἴσα καὶ ὅλως ἀδιάφορα ταὐτὰ ὑπολαμβάνομεν ἐν τοῖς ἀριθμοῖς. εἰ δὲ μή, οὐδ' αἱ ἐν αὐτῇ τῇ δεκάδι δυάδες ἀδιάφοροι ἔσονται ἴσαι οὖσαι· τίνα γὰρ αἰτίαν ἕξει λέγειν ὁ φάσκων ἀδιαφόρους εἶναι; ἔτι εἰ ἅπασα μονὰς καὶ μονὰς ἄλλη δύο, ἡ ἐκ τῆς δυάδος αὐτῆς μονὰς καὶ ἡ ἐκ τῆς τριάδος αὐτῆς δυὰς ἔσται ἐκ διαφερουσῶν τε, καὶ πότερον προτέρα τῆς τριάδος ἢ ὑστέρα; μᾶλλον γὰρ ἔοικε προτέραν ἀναγκαῖον εἶναι· ἡ μὲν γὰρ ἅμα τῇ τριάδι ἡ δ' ἅμα τῇ δυάδι τῶν μονάδων. καὶ ἡμεῖς μὲν ὑπολαμβάνομεν ὅλως ἓν καὶ ἕν, καὶ ἐὰν ᾖ ἴσα ἢ ἄνισα, δύο εἶναι, οἷον τὸ ἀγαθὸν καὶ τὸ κακόν, καὶ ἄνθρωπον καὶ ἵππον· οἱ δ' οὕτως λέγοντες οὐδὲ τὰς μονάδας. εἴτε δὲ μὴ ἔστι πλείων ἀριθμὸς ὁ τῆς τριάδος αὐτῆς ἢ ὁ τῆς δυάδος, θαυμαστόν· εἴτε ἐστὶ πλείων, δῆλον ὅτι καὶ ἴσος ἔνεστι τῇ δυάδι, ὥστε οὗτος ἀδιάφορος αὐτῇ τῇ δυάδι. ἀλλ' οὐκ ἐνδέχεται, εἰ πρῶτός τις ἔστιν ἀριθμὸς καὶ δεύτερος. οὐδὲ ἔσονται αἱ ἰδέαι ἀριθμοί. τοῦτο μὲν γὰρ αὐτὸ ὀρθῶς λέγουσιν οἱ διαφόρους τὰς μονάδας ἀξιοῦντες εἶναι, εἴπερ ἰδέαι ἔσονται, ὥσπερ εἴρηται πρότερον· ἓν γὰρ τὸ εἶδος, αἱ δὲ μονάδες εἰ ἀδιάφοροι, καὶ αἱ δυάδες καὶ αἱ τριάδες ἔσονται ἀδιάφοροι. διὸ καὶ τὸ ἀριθμεῖσθαι οὕτως, ἓν δύο, μὴ προσλαμβανομένου πρὸς τῷ ὑπάρχοντι ἀναγκαῖον αὐτοῖς λέγειν (οὔτε γὰρ ἡ γένεσις ἔσται ἐκ τῆς ἀορίστου δυάδος, οὔτ’ ἰδέαν ἐνδέχεται εἶναι· ἐνυπάρξει γὰρ ἑτέρα ἰδέα ἐν ἑτέρᾳ, καὶ πάντα τὰ εἴδη ἑνὸς μέρη)· διὸ πρὸς μὲν τὴν ὑπόθεσιν ὀρθῶς λέγουσιν, ὅλως δ’ οὐκ ὀρθῶς· πολλὰ γὰρ ἀναιροῦσιν, ἐπεὶ τοῦτό γ’ αὐτὸ ἔχειν τινὰ φήσουσιν ἀπορίαν, πότερον, ὅταν ἀριθμῶμεν καὶ εἴπωμεν ἓν δύο τρία, προσλαμβάνοντες ἀριθμοῦμεν ἢ κατὰ μερίδας. ποιοῦμεν δὲ ἀμφοτέρως· διὸ γελοῖον ταύτην εἰς τηλικαύτην τῆς οὐσίας ἀνάγειν διαφοράν. - [1083a] πάντων δὲ πρῶτον καλῶς ἔχει διορίσασθαι τίς ἀριθμοῦ διαφορά, καὶ μονάδος, εἰ ἔστιν. ἀνάγκη δ’ ἢ κατὰ τὸ ποσὸν ἢ κατὰ τὸ ποιὸν διαφέρειν· τούτων δ’ οὐδέτερον φαίνεται ἐνδέχεσθαι ὑπάρχειν. ἀλλ’ ᾗ ἀριθμός, κατὰ τὸ ποσόν. εἰ δὲ δὴ καὶ αἱ μονάδες τῷ ποσῷ διέφερον, κἂν ἀριθμὸς ἀριθμοῦ διέφερεν ὁ ἴσος τῷ πλήθει τῶν μονάδων. ἔτι πότερον αἱ πρῶται μείζους ἢ ἐλάττους, καὶ αἱ ὕστερον ἐπιδιδόασιν ἢ τοὐναντίον; πάντα γὰρ ταῦτα ἄλογα. ἀλλὰ μὴν οὐδὲ κατὰ τὸ ποιὸν διαφέρειν ἐνδέχεται. οὐθὲν γὰρ αὐταῖς οἷόν τε ὑπάρχειν πάθος· ὕστερον γὰρ καὶ τοῖς ἀριθμοῖς φασὶν ὑπάρχειν τὸ ποιὸν τοῦ ποσοῦ. ἔτι οὔτ’ ἂν ἀπὸ τοῦ ἑνὸς τοῦτ’ αὐταῖς γένοιτο οὔτ’ ἂν ἀπὸ τῆς δυάδος· τὸ μὲν γὰρ οὐ ποιὸν ἡ δὲ ποσοποιόν· τοῦ γὰρ πολλὰ τὰ ὄντα εἶναι αἰτία αὕτη ἡ φύσις. εἰ δ’ ἄρα ἔχει πως ἄλλως, λεκτέον ἐν ἀρχῇ μάλιστα τοῦτο καὶ διοριστέον περὶ μονάδος διαφορᾶς, μάλιστα μὲν καὶ διότι ἀνάγκη ὑπάρχειν· εἰ δὲ μή, τίνα λέγουσιν; - ὅτι μὲν οὖν, εἴπερ εἰσὶν ἀριθμοὶ αἱ ἰδέαι, οὔτε συμβλητὰς τὰς μονάδας ἁπάσας ἐνδέχεται εἶναι, φανερόν, οὔτε ἀσυμβλήτους ἀλλήλαις οὐδέτερον τῶν τρόπων· ἀλλὰ μὴν οὐδ’ ὡς ἕτεροί τινες λέγουσι περὶ τῶν ἀριθμῶν λέγεται καλῶς. εἰσὶ δ’ οὗτοι ὅσοι ἰδέας μὲν οὐκ οἴονται εἶναι οὔτε ἁπλῶς οὔτε ὡς ἀριθμούς τινας οὔσας, τὰ δὲ μαθηματικὰ εἶναι καὶ τοὺς ἀριθμοὺς πρώτους τῶν ὄντων, καὶ ἀρχὴν αὐτῶν εἶναι αὐτὸ τὸ ἕν. ἄτοπον γὰρ τὸ ἓν μὲν εἶναί τι πρῶτον τῶν ἑνῶν, ὥσπερ ἐκεῖνοί φασι, δυάδα δὲ τῶν δυάδων μή, μηδὲ τριάδα τῶν τριάδων· τοῦ γὰρ αὐτοῦ λόγου πάντα ἐστίν. εἰ μὲν οὖν οὕτως ἔχει τὰ περὶ τὸν ἀριθμὸν καὶ θήσει τις εἶναι τὸν μαθηματικὸν μόνον, οὐκ ἔστι τὸ ἓν ἀρχή (ἀνάγκη γὰρ διαφέρειν τὸ ἓν τὸ τοιοῦτο τῶν ἄλλων μονάδων· εἰ δὲ τοῦτο, καὶ δυάδα τινὰ πρώτην τῶν δυάδων, ὁμοίως δὲ καὶ τοὺς ἄλλους ἀριθμοὺς τοὺς ἐφεξῆς)· εἰ δέ ἐστι τὸ ἓν ἀρχή, ἀνάγκη μᾶλλον ὥσπερ Πλάτων ἔλεγεν ἔχειν τὰ περὶ τοὺς ἀριθμούς, καὶ εἶναι δυάδα πρώτην καὶ τριάδα, καὶ οὐ συμβλητοὺς εἶναι τοὺς ἀριθμοὺς πρὸς ἀλλήλους. ἂν δ’ αὖ πάλιν τις τιθῇ ταῦτα, εἴρηται ὅτι ἀδύνατα πολλὰ συμβαίνει. ἀλλὰ μὴν ἀνάγκη γε ἢ οὕτως ἢ ἐκείνως ἔχειν, ὥστ’ εἰ μηδετέρως, οὐκ ἂν ἐνδέχοιτο [1083b] εἶναι τὸν ἀριθμὸν χωριστόν. - φανερὸν δ’ ἐκ τούτων καὶ ὅτι χείριστα λέγεται ὁ τρίτος τρόπος, τὸ εἶναι τὸν αὐτὸν ἀριθμὸν τὸν τῶν εἰδῶν καὶ τὸν μαθηματικόν. ἀνάγκη γὰρ εἰς μίαν δόξαν συμβαίνειν δύο ἁμαρτίας· οὔτε γὰρ μαθηματικὸν ἀριθμὸν ἐνδέχεται τοῦτον εἶναι τὸν τρόπον, ἀλλ’ ἰδίας ὑποθέσεις ὑποθέμενον ἀνάγκη μηκύνειν, ὅσα τε τοῖς ὡς εἴδη τὸν ἀριθμὸν λέγουσι συμβαίνει, καὶ ταῦτα ἀναγκαῖον λέγειν. - ὁ δὲ τῶν Πυθαγορείων τρόπος τῇ μὲν ἐλάττους ἔχει δυσχερείας τῶν πρότερον εἰρημένων, τῇ δὲ ἰδίας ἑτέρας. τὸ μὲν γὰρ μὴ χωριστὸν ποιεῖν τὸν ἀριθμὸν ἀφαιρεῖται πολλὰ τῶν ἀδυνάτων· τὸ δὲ τὰ σώματα ἐξ ἀριθμῶν εἶναι συγκείμενα, καὶ τὸν ἀριθμὸν τοῦτον εἶναι μαθηματικόν, ἀδύνατόν ἐστιν. οὔτε γὰρ ἄτομα μεγέθη λέγειν ἀληθές, εἴ θ’ ὅτι μάλιστα τοῦτον ἔχει τὸν τρόπον, οὐχ αἵ γε μονάδες μέγεθος ἔχουσιν· μέγεθος δὲ ἐξ ἀδιαιρέτων συγκεῖσθαι πῶς δυνατόν; ἀλλὰ μὴν ὅ γ’ ἀριθμητικὸς ἀριθμὸς μοναδικός ἐστιν. ἐκεῖνοι δὲ τὸν ἀριθμὸν τὰ ὄντα λέγουσιν· τὰ γοῦν θεωρήματα προσάπτουσι τοῖς σώμασιν ὡς ἐξ ἐκείνων ὄντων τῶν ἀριθμῶν. - εἰ τοίνυν ἀνάγκη μέν, εἴπερ ἐστὶν ἀριθμὸς τῶν ὄντων τι καθ’ αὑτό, τούτων εἶναί τινα τῶν εἰρημένων τρόπων, οὐθένα δὲ τούτων ἐνδέχεται, φανερὸν ὡς οὐκ ἔστιν ἀριθμοῦ τις τοιαύτη φύσις οἵαν κατασκευάζουσιν οἱ χωριστὸν ποιοῦντες αὐτόν. - ἔτι πότερον ἑκάστη μονὰς ἐκ τοῦ μεγάλου καὶ μικροῦ ἰσασθέντων ἐστίν, ἢ ἡ μὲν ἐκ τοῦ μικροῦ ἡ δ’ ἐκ τοῦ μεγάλου; εἰ μὲν δὴ οὕτως, οὔτε ἐκ πάντων τῶν στοιχείων ἕκαστον οὔτε ἀδιάφοροι αἱ μονάδες (ἐν τῇ μὲν γὰρ τὸ μέγα ἐν τῇ δὲ τὸ μικρὸν ὑπάρχει, ἐναντίον τῇ φύσει ὄν)· ἔτι αἱ ἐν τῇ τριάδι αὐτῇ πῶς; μία γὰρ περιττή· ἀλλὰ διὰ τοῦτο ἴσως αὐτὸ τὸ ἓν ποιοῦσιν ἐν τῷ περιττῷ μέσον. εἰ δ’ ἑκατέρα τῶν μονάδων ἐξ ἀμφοτέρων ἐστὶν ἰσασθέντων, ἡ δυὰς πῶς ἔσται μία τις οὖσα φύσις ἐκ τοῦ μεγάλου καὶ μικροῦ; ἢ τί διοίσει τῆς μονάδος; ἔτι προτέρα ἡ μονὰς τῆς δυάδος (ἀναιρουμένης γὰρ ἀναιρεῖται ἡ δυάς)· ἰδέαν οὖν ἰδέας ἀναγκαῖον αὐτὴν εἶναι, προτέραν γ’ οὖσαν ἰδέας, καὶ γεγονέναι προτέραν. ἐκ τίνος οὖν; ἡ γὰρ ἀόριστος δυὰς δυοποιὸς ἦν. - ἔτι ἀνάγκη ἤτοι ἄπειρον τὸν ἀριθμὸν εἶναι ἢ πεπερασμένον· χωριστὸν γὰρ ποιοῦσι τὸν [1084a] ἀριθμόν, ὥστε οὐχ οἷόν τε μὴ οὐχὶ τούτων θάτερον ὑπάρχειν. ὅτι μὲν τοίνυν ἄπειρον οὐκ ἐνδέχεται, δῆλον (οὔτε γὰρ περιττὸς ὁ ἄπειρός ἐστιν οὔτ’ ἄρτιος, ἡ δὲ γένεσις τῶν ἀριθμῶν ἢ περιττοῦ ἀριθμοῦ ἢ ἀρτίου ἀεί ἐστιν· ὡδὶ μὲν τοῦ ἑνὸς εἰς τὸν ἄρτιον πίπτοντος περιττός, ὡδὶ δὲ τῆς μὲν δυάδος ἐμπιπτούσης ὁ ἀφ’ ἑνὸς διπλασιαζόμενος, ὡδὶ δὲ τῶν περιττῶν ὁ ἄλλος ἄρτιος· ἔτι εἰ πᾶσα ἰδέα τινὸς οἱ δὲ ἀριθμοὶ ἰδέαι, καὶ ὁ ἄπειρος ἔσται ἰδέα τινός, ἢ τῶν αἰσθητῶν ἢ ἄλλου τινός· καίτοι οὔτε κατὰ τὴν θέσιν ἐνδέχεται οὔτε κατὰ λόγον, τάττουσί γ’ οὕτω τὰς ἰδέας)· εἰ δὲ πεπερασμένος, μέχρι πόσου; τοῦτο γὰρ δεῖ λέγεσθαι οὐ μόνον ὅτι ἀλλὰ καὶ διότι. ἀλλὰ μὴν εἰ μέχρι τῆς δεκάδος ὁ ἀριθμός, ὥσπερ τινές φασιν, πρῶτον μὲν ταχὺ ἐπιλείψει τὰ εἴδη - οἷον εἰ ἔστιν ἡ τριὰς αὐτοάνθρωπος, τίς ἔσται ἀριθμὸς αὐτόϊππος; αὐτὸ γὰρ ἕκαστος ἀριθμὸς μέχρι δεκάδος· ἀνάγκη δὴ τῶν ἐν τούτοις ἀριθμῶν τινὰ εἶναι (οὐσίαι γὰρ καὶ ἰδέαι οὗτοι)· ἀλλ' ὅμως ἐπιλείψει (τὰ τοῦ ζῴου γὰρ εἴδη ὑπερέξει) - . ἅμα δὲ δῆλον ὅτι εἰ οὕτως ἡ τριὰς αὐτοάνθρωπος, καὶ αἱ ἄλλαι τριάδες (ὅμοιαι γὰρ αἱ ἐν τοῖς αὐτοῖς ἀριθμοῖς), ὥστ' ἄπειροι ἔσονται ἄνθρωποι, εἰ μὲν ἰδέα ἑκάστη τριάς, αὐτὸ ἕκαστος ἄνθρωπος, εἰ δὲ μή, ἀλλ' ἄνθρωποί γε. καὶ εἰ μέρος ὁ ἐλάττων τοῦ μείζονος, ὁ ἐκ τῶν συμβλητῶν μονάδων τῶν ἐν τῷ αὐτῷ ἀριθμῷ, εἰ δὴ ἡ τετρὰς αὐτὴ ἰδέα τινός ἐστιν, οἷον ἵππου ἢ λευκοῦ, ὁ ἄνθρωπος ἔσται μέρος ἵππου, εἰ δυὰς ὁ ἄνθρωπος. ἄτοπον δὲ καὶ τὸ τῆς μὲν δεκάδος εἶναι ἰδέαν ἑνδεκάδος δὲ μή, μηδὲ τῶν ἐχομένων ἀριθμῶν. ἔτι δὲ καὶ ἔστι καὶ γίγνεται ἔνια καὶ ὧν εἴδη οὐκ ἔστιν, ὥστε διὰ τί οὐ κἀκείνων εἴδη ἔστιν; οὐκ ἄρα αἴτια τὰ εἴδη ἐστίν. ἔτι ἄτοπον εἰ ὁ ἀριθμὸς ὁ μέχρι τῆς δεκάδος μᾶλλόν τι ὂν καὶ εἶδος αὐτῆς τῆς δεκάδος, καίτοι τοῦ μὲν οὐκ ἔστι γένεσις ὡς ἑνός, τῆς δ' ἔστιν. πειρῶνται δ' ὡς τοῦ μέχρι τῆς δεκάδος τελείου ὄντος ἀριθμοῦ. γεννῶσι γοῦν τὰ ἑπόμενα, οἷον τὸ κενόν, ἀναλογίαν, τὸ περιττόν, τὰ ἄλλα τὰ τοιαῦτα, ἐντὸς τῆς δεκάδος· τὰ μὲν γὰρ ταῖς ἀρχαῖς ἀποδιδόασιν, οἷον κίνησιν στάσιν, ἀγαθὸν κακόν, τὰ δ' ἄλλα τοῖς ἀριθμοῖς· διὸ τὸ ἓν τὸ περιττόν· εἰ γὰρ ἐν τῇ τριάδι, πῶς ἡ πεντὰς περιττόν; ἔτι τὰ μεγέθη καὶ ὅσα [1084b] τοιαῦτα μέχρι ποσοῦ, οἷον ἡ πρώτη γραμμή, ‹ἡ› ἄτομος, εἶτα δυάς, εἶτα καὶ ταῦτα μέχρι δεκάδος. - ἔτι εἰ ἔστι χωριστὸς ὁ ἀριθμός, ἀπορήσειεν ἄν τις πότερον πρότερον τὸ ἓν ἢ ἡ τριὰς καὶ ἡ δυάς. ᾗ μὲν δὴ σύνθετος ὁ ἀριθμός, τὸ ἕν, ᾗ δὲ τὸ καθόλου πρότερον καὶ τὸ εἶδος, ὁ ἀριθμός· ἑκάστη γὰρ τῶν μονάδων μόριον τοῦ ἀριθμοῦ ὡς ὕλη, ὁ δ' ὡς εἶδος. καὶ ἔστι μὲν ὡς ἡ ὀρθὴ προτέρα τῆς ὀξείας, ὅτι ὥρισται καὶ τῷ λόγῳ· ἔστι δ' ὡς ἡ ὀξεῖα, ὅτι μέρος καὶ εἰς ταύτην διαιρεῖται. ὡς μὲν δὴ ὕλη ἡ ὀξεῖα καὶ τὸ στοιχεῖον καὶ ἡ μονὰς πρότερον, ὡς δὲ κατὰ τὸ εἶδος καὶ τὴν οὐσίαν τὴν κατὰ τὸν λόγον ἡ ὀρθὴ καὶ τὸ ὅλον τὸ ἐκ τῆς ὕλης καὶ τοῦ εἴδους· ἐγγύτερον γὰρ τοῦ εἴδους καὶ οὗ ὁ λόγος τὸ ἄμφω, γενέσει δ' ὕστερον. πῶς οὖν ἀρχὴ τὸ ἕν; ὅτι οὐ διαιρετόν, φασίν· ἀλλ' ἀδιαίρετον καὶ τὸ καθόλου καὶ τὸ ἐπὶ μέρους καὶ τὸ στοιχεῖον. ἀλλὰ τρόπον ἄλλον, τὸ μὲν κατὰ λόγον τὸ δὲ κατὰ χρόνον. ποτέρως οὖν τὸ ἓν ἀρχή; ὥσπερ γὰρ εἴρηται, καὶ ἡ ὀρθὴ τῆς ὀξείας καὶ αὕτη ἐκείνης δοκεῖ προτέρα εἶναι, καὶ ἑκατέρα μία. ἀμφοτέρως δὴ ποιοῦσι τὸ ἓν ἀρχήν. ἔστι δὲ ἀδύνατον· τὸ μὲν γὰρ ὡς εἶδος καὶ ἡ οὐσία τὸ δ' ὡς μέρος καὶ ὡς ὕλη. ἔστι γάρ πως ἓν ἑκάτερον - τῇ μὲν ἀληθείᾳ δυνάμει (εἴ γε ὁ ἀριθμὸς ἕν τι καὶ μὴ ὡς σωρὸς ἀλλ’ ἕτερος ἐξ ἑτέρων μονάδων, ὥσπερ φασίν), ἐντελεχείᾳ δ’ οὔ, ἔστι μονὰς ἑκατέρα· αἴτιον δὲ τῆς συμβαινούσης ἁμαρτίας ὅτι ἅμα ἐκ τῶν μαθημάτων ἐθήρευον καὶ ἐκ τῶν λόγων τῶν καθόλου, ὥστ’ ἐξ ἐκείνων μὲν ὡς στιγμὴν τὸ ἓν καὶ τὴν ἀρχὴν ἔθηκαν (ἡ γὰρ μονὰς στιγμὴ ἄθετός ἐστιν· καθάπερ οὖν καὶ ἕτεροί τινες ἐκ τοῦ ἐλαχίστου τὰ ὄντα συνετίθεσαν, καὶ οὗτοι, ὥστε γίγνεται ἡ μονὰς ὕλη τῶν ἀριθμῶν, καὶ ἅμα προτέρα τῆς δυάδος, πάλιν δ’ ὑστέρα ὡς ὅλου τινὸς καὶ ἑνὸς καὶ εἴδους τῆς δυάδος οὔσης)· διὰ δὲ τὸ καθόλου ζητεῖν τὸ κατηγορούμενον ἓν καὶ οὕτως ὡς μέρος ἔλεγον. ταῦτα δ’ ἅμα τῷ αὐτῷ ἀδύνατον ὑπάρχειν. εἰ δὲ τὸ ἓν αὐτὸ δεῖ μόνον ἄθετον†εἶναι (οὐθενὶ γὰρ διαφέρει ἢ ὅτι ἀρχή), καὶ ἡ μὲν δυὰς διαιρετὴ ἡ δὲ μονὰς οὔ, ὁμοιοτέρα ἂν εἴη τῷ ἑνὶ αὐτῷ ἡ μονάς. εἰ δ’ ἡ μονάς, κἀκεῖνο τῇ μονάδι ἢ τῇ δυάδι· ὥστε προτέρα ἂν εἴη ἑκατέρα ἡ μονὰς τῆς δυάδος. οὔ φασι δέ· γεννῶσι γοῦν τὴν δυάδα [1085a] πρῶτον. ἔτι εἰ ἔστιν ἡ δυὰς ἕν τι αὐτὴ καὶ ἡ τριὰς αὐτή, ἄμφω δυάς. ἐκ τίνος οὖν αὕτη ἡ δυάς;

Ἀπορήσειε δ’ ἄν τις καὶ ἐπεὶ ἁφὴ μὲν οὐκ ἔστιν ἐν τοῖς ἀριθμοῖς, τὸ δ’ ἐφεξῆς, ὅσων μὴ ἔστι μεταξὺ μονάδων (οἷον τῶν ἐν τῇ δυάδι ἢ τῇ τριάδι), πότερον ἐφεξῆς τῷ ἑνὶ αὐτῷ ἢ οὔ, καὶ πότερον ἡ δυὰς προτέρα τῶν ἐφεξῆς ἢ τῶν μονάδων ὁποτεραοῦν. - ὁμοίως δὲ καὶ περὶ τῶν ὕστερον γενῶν τοῦ ἀριθμοῦ συμβαίνει τὰ δυσχερῆ, γραμμῆς τε καὶ ἐπιπέδου καὶ σώματος. οἱ μὲν γὰρ ἐκ τῶν εἰδῶν τοῦ μεγάλου καὶ τοῦ μικροῦ ποιοῦσιν, οἷον ἐκ μακροῦ μὲν καὶ βραχέος τὰ μήκη, πλατέος δὲ καὶ στενοῦ τὰ ἐπίπεδα, ἐκ βαθέος δὲ καὶ ταπεινοῦ τοὺς ὄγκους· ταῦτα δέ ἐστιν εἴδη τοῦ μεγάλου καὶ μικροῦ. τὴν δὲ κατὰ τὸ ἓν ἀρχὴν ἄλλοι ἄλλως τιθέασι τῶν τοιούτων. καὶ ἐν τούτοις δὲ μυρία φαίνεται τά τε ἀδύνατα καὶ τὰ πλασματώδη καὶ τὰ ὑπεναντία πᾶσι τοῖς εὐλόγοις. ἀπολελυμένα τε γὰρ ἀλλήλων συμβαίνει, εἰ μὴ συνακολουθοῦσι καὶ αἱ ἀρχαὶ ὥστ’ εἶναι τὸ πλατὺ καὶ στενὸν καὶ μακρὸν καὶ βραχύ (εἰ δὲ τοῦτο, ἔσται τὸ ἐπίπεδον γραμμὴ καὶ τὸ στερεὸν ἐπίπεδον· ἔτι δὲ γωνίαι καὶ σχήματα καὶ τὰ τοιαῦτα πῶς ἀποδοθήσεται;), ταὐτό τε συμβαίνει τοῖς περὶ τὸν ἀριθμόν· ταῦτα γὰρ πάθη μεγέθους ἐστίν, ἀλλ’ οὐκ ἐκ τούτων τὸ μέγεθος, ὥσπερ οὐδ’ ἐξ εὐθέος καὶ καμπύλου τὸ μῆκος οὐδ’ ἐκ λείου καὶ τραχέος τὰ στερεά. - πάντων δὲ κοινὸν τούτων ὅπερ ἐπὶ τῶν εἰδῶν τῶν ὡς γένους συμβαίνει διαπορεῖν, ὅταν τις θῇ τὰ καθόλου, πότερον τὸ ζῷον αὐτὸ ἐν τῷ ζῴῳ ἢ ἕτερον αὐτοῦ ζῴου. τοῦτο γὰρ μὴ χωριστοῦ μὲν ὄντος οὐδεμίαν ποιήσει ἀπορίαν· χωριστοῦ δέ, ὥσπερ οἱ ταῦτα λέγοντές φασι, τοῦ ἑνὸς καὶ τῶν ἀριθμῶν οὐ ῥᾴδιον λῦσαι, εἰ μὴ ῥᾴδιον δεῖ λέγειν τὸ ἀδύνατον. ὅταν γὰρ νοῇ τις ἐν τῇ δυάδι τὸ ἓν καὶ ὅλως ἐν ἀριθμῷ, πότερον αὐτὸ νοεῖ τι ἢ ἕτερον; - οἱ μὲν οὖν τὰ μεγέθη γεννῶσιν ἐκ τοιαύτης ὕλης, ἕτεροι δὲ ἐκ τῆς στιγμῆς (ἡ δὲ στιγμὴ αὐτοῖς δοκεῖ εἶναι οὐχ ἓν ἀλλ' οἷον τὸ ἕν) καὶ ἄλλης ὕλης οἵας τὸ πλῆθος, ἀλλ' οὐ πλήθους· περὶ ὧν οὐδὲν ἧττον συμβαίνει τὰ αὐτὰ ἀπορεῖν. εἰ μὲν γὰρ μία ἡ ὕλη, ταὐτὸ γραμμὴ καὶ ἐπίπεδον καὶ στερεόν (ἐκ γὰρ τῶν αὐτῶν τὸ αὐτὸ καὶ ἓν [1085b] ἔσται)· εἰ δὲ πλείους αἱ ὗλαι καὶ ἑτέρα μὲν γραμμῆς ἑτέρα δὲ τοῦ ἐπιπέδου καὶ ἄλλη τοῦ στερεοῦ, ἤτοι ἀκολουθοῦσιν ἀλλήλαις ἢ οὔ, ὥστε ταὐτὰ συμβήσεται καὶ οὕτως· ἢ γὰρ οὐχ ἕξει τὸ ἐπίπεδον γραμμὴν ἢ ἔσται γραμμή. - ἔτι πῶς μὲν ἐνδέχεται εἶναι ἐκ τοῦ ἑνὸς καὶ πλήθους τὸν ἀριθμὸν οὐθὲν ἐπιχειρεῖται· ὅπως δ' οὖν λέγουσι ταὐτὰ συμβαίνει δυσχερῆ ἅπερ καὶ τοῖς ἐκ τοῦ ἑνὸς καὶ ἐκ τῆς δυάδος τῆς ἀορίστου. ὁ μὲν γὰρ ἐκ τοῦ κατηγορουμένου καθόλου γεννᾷ τὸν ἀριθμὸν καὶ οὐ τινὸς πλήθους, ὁ δ' ἐκ τινὸς πλήθους, τοῦ πρώτου δέ (τὴν γὰρ δυάδα πρῶτόν τι εἶναι πλῆθος), ὥστε διαφέρει οὐθὲν ὡς εἰπεῖν, ἀλλ' αἱ ἀπορίαι αἱ αὐταὶ ἀκολουθήσουσι, μῖξις ἢ θέσις ἢ κρᾶσις ἢ γένεσις καὶ ὅσα ἄλλα τοιαῦτα. μάλιστα δ' ἄν τις ἐπιζητήσειεν, εἰ μία ἑκάστη μονάς, ἐκ τίνος ἐστίν· οὐ γὰρ δὴ αὐτό γε τὸ ἓν ἑκάστη. ἀνάγκη δὴ ἐκ τοῦ ἑνὸς αὐτοῦ εἶναι καὶ πλήθους ἢ μορίου τοῦ πλήθους. τὸ μὲν οὖν πλῆθός τι εἶναι φάναι τὴν μονάδα ἀδύνατον, ἀδιαίρετόν γ' οὖσαν· τὸ δ' ἐκ μορίου ἄλλας ἔχει πολλὰς δυσχερείας· ἀδιαίρετόν τε γὰρ ἕκαστον ἀναγκαῖον εἶναι τῶν μορίων (ἢ πλῆθος εἶναι καὶ τὴν μονάδα διαιρετήν) καὶ μὴ στοιχεῖον εἶναι τὸ ἓν καὶ τὸ πλῆθος (ἡ γὰρ μονὰς ἑκάστη οὐκ ἐκ πλήθους καὶ ἑνός)· ἔτι οὐθὲν ἄλλο ποιεῖ ὁ τοῦτο λέγων ἀλλ' ἢ ἀριθμὸν ἕτερον· τὸ γὰρ πλῆθος ἀδιαιρέτων ἐστὶν ἀριθμός. ἔτι ζητητέον καὶ περὶ τοὺς οὕτω λέγοντας πότερον ἄπειρος ὁ ἀριθμὸς ἢ πεπερασμένος. ὑπῆρχε γάρ, ὡς ἔοικε, καὶ πεπερασμένον πλῆθος, ἐξ οὗ αἱ πεπερασμέναι μονάδες καὶ τοῦ ἑνός· ἔστι τε ἕτερον αὐτὸ πλῆθος καὶ πλῆθος ἄπειρον· ποῖον οὖν πλῆθος στοιχεῖόν ἐστι καὶ τὸ ἕν; ὁμοίως δὲ καὶ περὶ στιγμῆς ἄν τις ζητήσειε καὶ τοῦ στοιχείου ἐξ οὗ ποιοῦσι τὰ μεγέθη. οὐ γὰρ μία γε μόνον στιγμή ἐστιν αὕτη· τῶν γοῦν ἄλλων στιγμῶν ἑκάστη ἐκ τίνος; οὐ γὰρ δὴ ἔκ γε διαστήματός τινος καὶ αὐτῆς στιγμῆς. ἀλλὰ μὴν οὐδὲ μόρια ἀδιαίρετα ἐνδέχεται τοῦ διαστήματος εἶναι [μόρια], ὥσπερ τοῦ πλήθους ἐξ ὧν αἱ μονάδες· ὁ μὲν γὰρ ἀριθμὸς ἐξ ἀδιαιρέτων σύγκειται τὰ δὲ μεγέθη οὔ. - πάντα δὴ ταῦτα καὶ ἄλλα τοιαῦτα φανερὸν ποιεῖ ὅτι ἀδύνατον εἶναι τὸν ἀριθμὸν καὶ τὰ μεγέθη χωριστά, ἔτι δὲ τὸ διαφωνεῖν τοὺς τρόπους περὶ [1086a] τῶν ἀριθμῶν σημεῖον ὅτι τὰ πράγματα αὐτὰ οὐκ ὄντα ἀληθῆ παρέχει τὴν ταραχὴν αὐτοῖς. οἱ μὲν γὰρ τὰ μαθηματικὰ μόνον ποιοῦντες παρὰ τὰ αἰσθητά, ὁρῶντες τὴν περὶ τὰ εἴδη δυσχέρειαν καὶ πλάσιν, ἀπέστησαν ἀπὸ τοῦ εἰδητικοῦ ἀριθμοῦ καὶ τὸν μαθηματικὸν ἐποίησαν· οἱ δὲ τὰ εἴδη βουλόμενοι ἅμα καὶ ἀριθμοὺς ποιεῖν, οὐχ ὁρῶντες δέ, εἰ τὰς ἀρχάς τις ταύτας θήσεται, πῶς ἔσται ὁ μαθηματικὸς ἀριθμὸς παρὰ τὸν εἰδητικόν, τὸν αὐτὸν εἰδητικὸν καὶ μαθηματικὸν ἐποίησαν ἀριθμὸν τῷ λόγῳ, ἐπεὶ ἔργῳ γε ἀνῄρηται ὁ μαθηματικός (ἰδίας γὰρ καὶ οὐ μαθηματικὰς ὑποθέσεις λέγουσιν)· ὁ δὲ πρῶτος θέμενος τὰ εἴδη εἶναι καὶ ἀριθμοὺς τὰ εἴδη καὶ τὰ μαθηματικὰ εἶναι εὐλόγως ἐχώρισεν· ὥστε πάντας συμβαίνει κατὰ μέν τι λέγειν ὀρθῶς, ὅλως δ’ οὐκ ὀρθῶς. καὶ αὐτοὶ δὲ ὁμολογοῦσιν οὐ ταὐτὰ λέγοντες ἀλλὰ τὰ ἐναντία. αἴτιον δ’ ὅτι αἱ ὑποθέσεις καὶ αἱ ἀρχαὶ ψευδεῖς. χαλεπὸν δ’ ἐκ μὴ καλῶς ἐχόντων λέγειν καλῶς, κατ’ Ἐπίχαρμον· ἀρτίως τε γὰρ λέλεκται, καὶ εὐθέως φαίνεται οὐ καλῶς ἔχον. - ἀλλὰ περὶ μὲν τῶν ἀριθμῶν ἱκανὰ τὰ διηπορημένα καὶ διωρισμένα (μᾶλλον γὰρ ἐκ πλειόνων ἂν ἔτι πεισθείη τις πεπεισμένος, πρὸς δὲ τὸ πεισθῆναι μὴ πεπεισμένος οὐθὲν μᾶλλον)· περὶ δὲ τῶν πρώτων ἀρχῶν καὶ τῶν πρώτων αἰτίων καὶ στοιχείων ὅσα μὲν λέγουσιν οἱ περὶ μόνης τῆς αἰσθητῆς οὐσίας διορίζοντες, τὰ μὲν ἐν τοῖς περὶ φύσεως εἴρηται, τὰ δ’ οὐκ ἔστι τῆς μεθόδου τῆς νῦν· ὅσα δὲ οἱ φάσκοντες εἶναι παρὰ τὰς αἰσθητὰς ἑτέρας οὐσίας, ἐχόμενόν ἐστι θεωρῆσαι τῶν εἰρημένων. ἐπεὶ οὖν λέγουσί τινες τοιαύτας εἶναι τὰς ἰδέας καὶ τοὺς ἀριθμούς, καὶ τὰ τούτων στοιχεῖα τῶν ὄντων εἶναι στοιχεῖα καὶ ἀρχάς, σκεπτέον περὶ τούτων τί λέγουσι καὶ πῶς λέγουσιν. οἱ μὲν οὖν ἀριθμοὺς ποιοῦντες μόνον καὶ τούτους μαθηματικοὺς ὕστερον ἐπισκεπτέοι· τῶν δὲ τὰς ἰδέας λεγόντων ἅμα τόν τε τρόπον θεάσαιτ’ ἄν τις καὶ τὴν ἀπορίαν τὴν περὶ αὐτῶν. ἅμα γὰρ καθόλου τε [ὡς οὐσίας] ποιοῦσι τὰς ἰδέας καὶ πάλιν ὡς χωριστὰς καὶ τῶν καθ’ ἕκαστον. ταῦτα δ’ ὅτι οὐκ ἐνδέχεται διηπόρηται πρότερον. αἴτιον δὲ τοῦ συνάψαι ταῦτα εἰς ταὐτὸν τοῖς λέγουσι τὰς οὐσίας καθόλου, ὅτι τοῖς αἰσθητοῖς οὐ τὰς αὐτὰς [οὐσίας] ἐποίουν· τὰ μὲν οὖν ἐν τοῖς αἰσθητοῖς καθ’ ἕκαστα ῥεῖν [1086b] ἐνόμιζον καὶ μένειν οὐθὲν αὐτῶν, τὸ δὲ καθόλου παρὰ ταῦτα εἶναί τε καὶ ἕτερόν τι εἶναι. τοῦτο δ’, ὥσπερ ἐν τοῖς ἔμπροσθεν ἐλέγομεν, ἐκίνησε μὲν Σωκράτης διὰ τοὺς ὁρισμούς, οὐ μὴν ἐχώρισέ γε τῶν καθ’ ἕκαστον· καὶ τοῦτο ὀρθῶς ἐνόησεν οὐ χωρίσας. δηλοῖ δὲ ἐκ τῶν ἔργων· ἄνευ μὲν γὰρ τοῦ καθόλου οὐκ ἔστιν ἐπιστήμην λαβεῖν, τὸ δὲ χωρίζειν αἴτιον τῶν συμβαινόντων δυσχερῶν περὶ τὰς ἰδέας ἐστίν. οἱ δ’ ὡς ἀναγκαῖον, εἴπερ ἔσονταί τινες οὐσίαι παρὰ τὰς αἰσθητὰς καὶ ῥεούσας, χωριστὰς εἶναι, ἄλλας μὲν οὐκ εἶχον ταύτας δὲ τὰς καθόλου λεγομένας ἐξέθεσαν, ὥστε συμβαίνειν σχεδὸν τὰς αὐτὰς φύσεις εἶναι τὰς καθόλου καὶ τὰς καθ’ ἕκαστον. αὕτη μὲν οὖν αὐτὴ καθ’ αὑτὴν εἴη τις ἂν δυσχέρεια τῶν εἰρημένων.

Ὃ δὲ καὶ τοῖς λέγουσι τὰς ἰδέας ἔχει τινὰ ἀπορίαν καὶ τοῖς μὴ λέγουσιν, καὶ κατ’ ἀρχὰς ἐν τοῖς διαπορήμασιν ἐλέχθη πρότερον, λέγωμεν νῦν. εἰ μὲν γάρ τις μὴ θήσει τὰς οὐσίας εἶναι κεχωρισμένας, καὶ τὸν τρόπον τοῦτον ὡς λέγεται τὰ καθ’ ἕκαστα τῶν ὄντων, ἀναιρήσει τὴν οὐσίαν ὡς βουλόμεθα λέγειν· ἂν δέ τις θῇ τὰς οὐσίας χωριστάς, πῶς θήσει τὰ στοιχεῖα καὶ τὰς ἀρχὰς αὐτῶν; εἰ μὲν γὰρ καθ’ ἕκαστον καὶ μὴ καθόλου, τοσαῦτ’ ἔσται τὰ ὄντα ὅσαπερ τὰ στοιχεῖα, καὶ οὐκ ἐπιστητὰ τὰ στοιχεῖα (ἔστωσαν γὰρ αἱ μὲν ἐν τῇ φωνῇ συλλαβαὶ οὐσίαι τὰ δὲ στοιχεῖα αὐτῶν στοιχεῖα τῶν οὐσιῶν· ἀνάγκη δὴ τὸ ΒΑ ἓν εἶναι καὶ ἑκάστην τῶν συλλαβῶν μίαν, εἴπερ μὴ καθόλου καὶ τῷ εἴδει αἱ αὐταὶ ἀλλὰ μία ἑκάστη τῷ ἀριθμῷ καὶ τόδε τι καὶ μὴ ὁμώνυμον· ἔτι δ’ αὐτὸ ὃ ἔστιν ἓν ἕκαστον τιθέασιν· εἰ δ’ αἱ συλλαβαί, οὕτω καὶ ἐξ ὧν εἰσίν· οὐκ ἔσται ἄρα πλείω ἄλφα ἑνός, οὐδὲ τῶν ἄλλων στοιχείων οὐθὲν κατὰ τὸν αὐτὸν λόγον ὅνπερ οὐδὲ τῶν [ἄλλων] συλλαβῶν ἡ αὐτὴ ἄλλη καὶ ἄλλη· ἀλλὰ μὴν εἰ τοῦτο, οὐκ ἔσται παρὰ τὰ στοιχεῖα ἕτερα ὄντα, ἀλλὰ μόνον τὰ στοιχεῖα· ἔτι δὲ οὐδ’ ἐπιστητὰ τὰ στοιχεῖα· οὐ γὰρ καθόλου, ἡ δ’ ἐπιστήμη τῶν καθόλου· δῆλον δ’ ἐκ τῶν ἀποδείξεων καὶ τῶν ὁρισμῶν, οὐ γὰρ γίγνεται συλλογισμὸς ὅτι τόδε τὸ τρίγωνον δύο ὀρθαῖς, εἰ μὴ πᾶν τρίγωνον δύο ὀρθαί, οὐδ’ ὅτι ὁδὶ ὁ ἄνθρωπος ζῷον, εἰ μὴ πᾶς ἄνθρωπος ζῷον)· ἀλλὰ μὴν εἴγε καθόλου αἱ ἀρχαί, ἢ καὶ αἱ [1087a] ἐκ τούτων οὐσίαι καθόλου ‹ἢ› ἔσται μὴ οὐσία πρότερον οὐσίας· τὸ μὲν γὰρ καθόλου οὐκ οὐσία, τὸ δὲ στοιχεῖον καὶ ἡ ἀρχὴ καθόλου, πρότερον δὲ τὸ στοιχεῖον καὶ ἡ ἀρχὴ ὧν ἀρχὴ καὶ στοιχεῖόν ἐστιν. ταῦτά τε δὴ πάντα συμβαίνει εὐλόγως, ὅταν ἐκ στοιχείων τε ποιῶσι τὰς ἰδέας καὶ παρὰ τὰς τὸ αὐτὸ εἶδος ἐχούσας οὐσίας [καὶ ἰδέας] ἕν τι ἀξιῶσιν εἶναι κεχωρισμένον· εἰ δὲ μηθὲν κωλύει ὥσπερ ἐπὶ τῶν τῆς φωνῆς στοιχείων πολλὰ εἶναι τὰ ἄλφα καὶ τὰ βῆτα καὶ μηθὲν εἶναι παρὰ τὰ πολλὰ αὐτὸ ἄλφα καὶ αὐτὸ βῆτα, ἔσονται ἕνεκά γε τούτου ἄπειροι αἱ ὅμοιαι συλλαβαί. τὸ δὲ τὴν ἐπιστήμην εἶναι καθόλου πᾶσαν, ὥστε ἀναγκαῖον εἶναι καὶ τὰς τῶν ὄντων ἀρχὰς καθόλου εἶναι καὶ μὴ οὐσίας κεχωρισμένας, ἔχει μὲν μάλιστ’ ἀπορίαν τῶν λεχθέντων, οὐ μὴν ἀλλὰ ἔστι μὲν ὡς ἀληθὲς τὸ λεγόμενον, ἔστι δ’ ὡς οὐκ ἀληθές. ἡ γὰρ ἐπιστήμη, ὥσπερ καὶ τὸ ἐπίστασθαι, διττόν, ὧν τὸ μὲν δυνάμει τὸ δὲ ἐνεργείᾳ. ἡ μὲν οὖν δύναμις ὡς ὕλη [τοῦ] καθόλου οὖσα καὶ ἀόριστος τοῦ καθόλου καὶ ἀορίστου ἐστίν, ἡ δ’ ἐνέργεια ὡρισμένη καὶ ὡρισμένου, τόδε τι οὖσα τοῦδέ τινος, ἀλλὰ κατὰ συμβεβηκὸς ἡ ὄψις τὸ καθόλου χρῶμα ὁρᾷ ὅτι τόδε τὸ χρῶμα ὃ ὁρᾷ χρῶμά ἐστιν, καὶ ὃ θεωρεῖ ὁ γραμματικός, τόδε τὸ ἄλφα ἄλφα·

ἐπεὶ εἰ ἀνάγκη τὰς ἀρχὰς καθόλου εἶναι, ἀνάγκη καὶ τὰ ἐκ τούτων καθόλου, ὥσπερ ἐπὶ τῶν ἀποδείξεων· εἰ δὲ τοῦτο, οὐκ ἔσται χωριστὸν οὐθὲν οὐδ’ οὐσία. ἀλλὰ δῆλον ὅτι ἔστι μὲν ὡς ἡ ἐπιστήμη καθόλου, ἔστι δ’ ὡς οὔ.

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Περὶ μὲν οὖν τῆς οὐσίας ταύτης εἰρήσθω τοσαῦτα, πάντες δὲ ποιοῦσι τὰς ἀρχὰς ἐναντίας, ὥσπερ ἐν τοῖς φυσικοῖς, καὶ περὶ τὰς ἀκινήτους οὐσίας ὁμοίως. εἰ δὲ τῆς τῶν ἁπάντων ἀρχῆς μὴ ἐνδέχεται πρότερόν τι εἶναι, ἀδύνατον ἂν εἴη τὴν ἀρχὴν ἕτερόν τι οὖσαν εἶναι ἀρχήν, οἷον εἴ τις λέγοι τὸ λευκὸν ἀρχὴν εἶναι οὐχ ᾗ ἕτερον ἀλλ’ ᾗ λευκόν, εἶναι μέντοι καθ’ ὑποκειμένου καὶ ἕτερόν τι ὂν λευκὸν εἶναι· ἐκεῖνο γὰρ πρότερον ἔσται. ἀλλὰ μὴν γίγνεται πάντα ἐξ ἐναντίων ὡς ὑποκειμένου τινός· ἀνάγκη ἄρα μάλιστα τοῖς ἐναντίοις [1087b] τοῦθ’ ὑπάρχειν. ἀεὶ ἄρα πάντα τὰ ἐναντία καθ’ ὑποκειμένου καὶ οὐθὲν χωριστόν, ἀλλ’ ὥσπερ καὶ φαίνεται οὐθὲν οὐσίᾳ ἐναντίον, καὶ ὁ λόγος μαρτυρεῖ. οὐθὲν ἄρα τῶν ἐναντίων κυρίως ἀρχὴ πάντων ἀλλ’ ἑτέρα. - οἱ δὲ τὸ ἕτερον τῶν ἐναντίων ὕλην ποιοῦσιν, οἱ μὲν τῷ ἑνὶ [τῷ ἴσῳ] τὸ ἄνισον, ὡς τοῦτο τὴν τοῦ πλήθους οὖσαν φύσιν, οἱ δὲ τῷ ἑνὶ τὸ πλῆθος (γεννῶνται γὰρ οἱ ἀριθμοὶ τοῖς μὲν ἐκ τῆς τοῦ ἀνίσου δυάδος, τοῦ μεγάλου καὶ μικροῦ, τῷ δ’ ἐκ τοῦ πλήθους, ὑπὸ τῆς τοῦ ἑνὸς δὲ οὐσίας ἀμφοῖν)· καὶ γὰρ ὁ τὸ ἄνισον καὶ ἓν λέγων τὰ στοιχεῖα, τὸ δ’ ἄνισον ἐκ μεγάλου καὶ μικροῦ δυάδα, ὡς ἓν ὄντα τὸ ἄνισον καὶ τὸ μέγα καὶ τὸ μικρὸν λέγει, καὶ οὐ διορίζει ὅτι λόγῳ ἀριθμῷ δ’ οὔ. ἀλλὰ μὴν καὶ τὰς ἀρχὰς ἃς στοιχεῖα καλοῦσιν οὐ καλῶς ἀποδιδόασιν, οἱ μὲν τὸ μέγα καὶ τὸ μικρὸν λέγοντες μετὰ τοῦ ἑνός, τρία ταῦτα στοιχεῖα τῶν ἀριθμῶν, τὰ μὲν δύο ὕλην τὸ δ’ ἓν τὴν μορφήν, οἱ δὲ τὸ πολὺ καὶ ὀλίγον, ὅτι τὸ μέγα καὶ τὸ μικρὸν μεγέθους οἰκειότερα τὴν φύσιν, οἱ δὲ τὸ καθόλου μᾶλλον ἐπὶ τούτων, τὸ ὑπερέχον καὶ τὸ ὑπερεχόμενον. διαφέρει δὲ τούτων οὐθὲν ὡς εἰπεῖν πρὸς ἔνια τῶν συμβαινόντων, ἀλλὰ πρὸς τὰς λογικὰς μόνον δυσχερείας, ἃς φυλάττονται διὰ τὸ καὶ αὐτοὶ λογικὰς φέρειν τὰς ἀποδείξεις. πλὴν τοῦ αὐτοῦ γε λόγου ἐστὶ τὸ ὑπερέχον καὶ ὑπερεχόμενον εἶναι ἀρχὰς ἀλλὰ μὴ τὸ μέγα καὶ τὸ μικρόν, καὶ τὸν ἀριθμὸν πρότερον τῆς δυάδος ἐκ τῶν στοιχείων· καθόλου γὰρ ἀμφότερα μᾶλλόν ἐστιν. νῦν δὲ τὸ μὲν λέγουσι τὸ δ’ οὐ λέγουσιν. οἱ δὲ τὸ ἕτερον καὶ τὸ ἄλλο πρὸς τὸ ἓν ἀντιτιθέασιν, οἱ δὲ πλῆθος καὶ τὸ ἕν. εἰ δέ ἐστιν, ὥσπερ βούλονται, τὰ ὄντα ἐξ ἐναντίων, τῷ δὲ ἑνὶ ἢ οὐθὲν ἐναντίον ἢ εἴπερ ἄρα μέλλει, τὸ πλῆθος, τὸ δ’ ἄνισον τῷ ἴσῳ καὶ τὸ ἕτερον τῷ ταὐτῷ καὶ τὸ ἄλλο αὐτῷ, μάλιστα μὲν οἱ τὸ ἓν τῷ πλήθει ἀντιτιθέντες ἔχονταί τινος δόξης, οὐ μὴν οὐδ’ οὗτοι ἱκανῶς· ἔσται γὰρ τὸ ἓν ὀλίγον· πλῆθος μὲν γὰρ ὀλιγότητι τὸ δὲ πολὺ τῷ ὀλίγῳ ἀντίκειται. - τὸ δ’ ἓν ὅτι μέτρον σημαίνει, φανερόν. καὶ ἐν παντὶ ἔστι τι ἕτερον ὑποκείμενον, οἷον ἐν ἁρμονίᾳ δίεσις, ἐν δὲ μεγέθει δάκτυλος ἢ ποὺς ἤ τι τοιοῦτον, ἐν δὲ ῥυθμοῖς βάσις ἢ συλλαβή· ὁμοίως δὲ καὶ ἐν βάρει σταθμός τις ὡρισμένος ἐστίν· καὶ κατὰ πάντων δὲ τὸν αὐτὸν [1088a] τρόπον, ἐν μὲν τοῖς ποιοῖς ποιόν τι, ἐν δὲ τοῖς ποσοῖς ποσόν τι, καὶ ἀδιαίρετον τὸ μέτρον, τὸ μὲν κατὰ τὸ εἶδος τὸ δὲ πρὸς τὴν αἴσθησιν, ὡς οὐκ ὄντος τινὸς τοῦ ἑνὸς καθ’ αὑτὸ οὐσίας. καὶ τοῦτο κατὰ λόγον· σημαίνει γὰρ τὸ ἓν ὅτι μέτρον πλήθους τινός, καὶ ὁ ἀριθμὸς ὅτι πλῆθος μεμετρημένον καὶ πλῆθος μέτρων (διὸ καὶ εὐλόγως οὐκ ἔστι τὸ ἓν ἀριθμός· οὐδὲ γὰρ τὸ μέτρον μέτρα, ἀλλ’ ἀρχὴ καὶ τὸ μέτρον καὶ τὸ ἕν). δεῖ δὲ ἀεὶ τὸ αὐτό τι ὑπάρχειν πᾶσι τὸ μέτρον, οἷον εἰ ἵπποι, τὸ μέτρον ἵππος, καὶ εἰ ἄνθρωποι, ἄνθρωπος. εἰ δ’ ἄνθρωπος καὶ ἵππος καὶ θεός, ζῷον ἴσως, καὶ ὁ ἀριθμὸς αὐτῶν ἔσται ζῷα. εἰ δ’ ἄνθρωπος καὶ λευκὸν καὶ βαδίζον, ἥκιστα μὲν ἀριθμὸς τούτων διὰ τὸ ταὐτῷ πάντα ὑπάρχειν καὶ ἑνὶ κατὰ ἀριθμόν, ὅμως δὲ γενῶν ἔσται ὁ ἀριθμὸς ὁ τούτων, ἤ τινος ἄλλης τοιαύτης προσηγορίας.

Οἱ δὲ τὸ ἄνισον ὡς ἕν τι, τὴν δυάδα δὲ ἀόριστον ποιοῦντες μεγάλου καὶ μικροῦ, πόρρω λίαν τῶν δοκούντων καὶ δυνατῶν λέγουσιν· πάθη τε γὰρ ταῦτα καὶ συμβεβηκότα μᾶλλον ἢ ὑποκείμενα τοῖς ἀριθμοῖς καὶ τοῖς μεγέθεσίν ἐστι, τὸ πολὺ καὶ ὀλίγον ἀριθμοῦ, καὶ μέγα καὶ μικρὸν μεγέθους, ὥσπερ ἄρτιον καὶ περιττόν, καὶ λεῖον καὶ τραχύ, καὶ εὐθὺ καὶ καμπύλον· ἔτι δὲ πρὸς ταύτῃ τῇ ἁμαρτίᾳ καὶ πρός τι ἀνάγκη εἶναι τὸ μέγα καὶ τὸ μικρὸν καὶ ὅσα τοιαῦτα· τὸ δὲ πρός τι πάντων ἥκιστα φύσις τις ἢ οὐσία [τῶν κατηγοριῶν] ἐστι, καὶ ὑστέρα τοῦ ποιοῦ καὶ ποσοῦ· καὶ πάθος τι τοῦ ποσοῦ τὸ πρός τι, ὥσπερ ἐλέχθη, ἀλλ’ οὐχ ὕλη, εἴ τι ἕτερον καὶ τῷ ὅλως κοινῷ πρός τι καὶ τοῖς μέρεσιν αὐτοῦ καὶ εἴδεσιν. οὐθὲν γάρ ἐστιν οὔτε μέγα οὔτε μικρόν, οὔτε πολὺ οὔτε ὀλίγον, οὔτε ὅλως πρός τι, ὃ οὐχ ἕτερόν τι ὂν πολὺ ἢ ὀλίγον ἢ μέγα ἢ μικρὸν ἢ πρός τί ἐστιν. σημεῖον δ’ ὅτι ἥκιστα οὐσί τις καὶ ὄν τι τὸ πρός τι τὸ μόνου μὴ εἶναι γένεσιν αὐτοῦ μηδὲ φθορὰν μηδὲ κίνησιν ὥσπερ κατὰ τὸ ποσὸν αὔξησις καὶ φθίσις, κατὰ τὸ ποιὸν ἀλλοίωσις, κατὰ τόπον φορά, κατὰ τὴν οὐσίαν ἡ ἁπλῆ γένεσις καὶ φθορά, - ἀλλ’ οὐ κατὰ τὸ πρός τι· ἄνευ γὰρ τοῦ κινηθῆναι ὁτὲ μὲν μεῖζον ὁτὲ δὲ ἔλαττον ἢ ἴσον ἔσται θατέρου κινηθέντος κατὰ τὸ ποσόν.

[1088b] ἀνάγκη τε ἑκάστου ὕλην εἶναι τὸ δυνάμει τοιοῦτον, ὥστε καὶ οὐσίας· τὸ δὲ πρός τι οὔτε δυνάμει οὐσία οὔτε ἐνεργείᾳ. ἄτοπον οὖν, μᾶλλον δὲ ἀδύνατον, τὸ οὐσίας μὴ οὐσίαν ποιεῖν στοιχεῖον καὶ πρότερον· ὕστερον

γὰρ πᾶσαι αἱ κατηγορίαι. ἔτι δὲ τὰ στοιχεῖα οὐ κατηγορεῖται καθ’ ὧν στοιχεῖα, τὸ δὲ πολὺ καὶ ὀλίγον καὶ χωρὶς καὶ ἅμα κατηγορεῖται ἀριθμοῦ, καὶ τὸ μακρὸν καὶ τὸ βραχὺ γραμμῆς, καὶ ἐπίπεδόν ἐστι καὶ πλατὺ καὶ στενόν. εἰ δὲ δὴ καὶ ἔστι τι πλῆθος οὗ τὸ μὲν ἀεί, ‹τὸ› ὀλίγον, οἷον ἡ δυάς (εἰ γὰρ πολύ, τὸ ἓν ἂν ὀλίγον εἴη), κἂν πολὺ ἁπλῶς εἴη, οἷον ἡ δεκὰς πολύ, [καὶ] εἰ ταύτης μή ἐστι πλεῖον, ἢ τὰ μύρια. πῶς οὖν ἔσται οὕτως ἐξ ὀλίγου καὶ πολλοῦ ὁ ἀριθμός; ἢ γὰρ ἄμφω ἔδει κατηγορεῖσθαι ἢ μηδέτερον· νῦν δὲ τὸ ἕτερον μόνον κατηγορεῖται.

Ἁπλῶς δὲ δεῖ σκοπεῖν, ἆρα δυνατὸν τὰ ἀΐδια ἐκ στοιχείων συγκεῖσθαι; ὕλην γὰρ ἕξει· σύνθετον γὰρ πᾶν τὸ ἐκ στοιχείων. εἰ τοίνυν ἀνάγκη, ἐξ οὗ ἐστιν, εἰ καὶ ἀεὶ ἔστι, κἄν, εἰ ἐγένετο, ἐκ τούτου γίγνεσθαι, γίγνεται δὲ πᾶν ἐκ τοῦ δυνάμει ὄντος τοῦτο ὃ γίγνεται (οὐ γὰρ ἂν ἐγένετο ἐκ τοῦ ἀδυνάτου οὐδὲ ἦν), τὸ δὲ δυνατὸν ἐνδέχεται καὶ ἐνεργεῖν καὶ μή, εἰ καὶ ὅτι μάλιστα ἀεὶ ἔστιν ὁ ἀριθμὸς ἢ ὁτιοῦν ἄλλο ὕλην ἔχον, ἐνδέχοιτ’ ἂν μὴ εἶναι, ὥσπερ καὶ τὸ μίαν ἡμέραν ἔχον καὶ τὸ ὁποσαοῦν ἔτη· εἰ δ’ οὕτω, καὶ τὸ τοσοῦτον χρόνον οὗ μὴ ἔστι πέρας. οὐκ ἂν τοίνυν εἴη ἀΐδια, εἴπερ μὴ ἀΐδιον τὸ ἐνδεχόμενον μὴ εἶναι, καθάπερ ἐν ἄλλοις λόγοις συνέβη πραγματευθῆναι. εἰ δέ ἐστι τὸ λεγόμενον νῦν ἀληθὲς καθόλου, ὅτι οὐδεμία ἐστὶν ἀΐδιος οὐσία ἐὰν μὴ ᾖ ἐνέργεια, τὰ δὲ στοιχεῖα ὕλη τῆς οὐσίας, οὐδεμιᾶς ἂν εἴη ἀϊδίου οὐσίας στοιχεῖα ἐξ ὧν ἐστιν ἐνυπαρχόντων. εἰσὶ δέ τινες οἳ δυάδα μὲν ἀόριστον ποιοῦσι τὸ μετὰ τοῦ ἑνὸς στοιχεῖον, τὸ δ’ ἄνισον δυσχεραίνουσιν εὐλόγως διὰ τὰ συμβαίνοντα ἀδύνατα· οἷς τοσαῦτα μόνον ἀφῄρηται τῶν δυσχερῶν ὅσα διὰ τὸ ποιεῖν τὸ ἄνισον καὶ τὸ πρός τι στοιχεῖον ἀναγκαῖα συμβαίνει τοῖς λέγουσιν· ὅσα δὲ χωρὶς ταύτης τῆς δόξης, ταῦτα κἀκείνοις ὑπάρχειν ἀναγκαῖον, ἐάν τε τὸν εἰδητικὸν ἀριθμὸν ἐξ αὐτῶν ποιῶσιν ἐάν τε τὸν μαθηματικόν. - πολλὰ μὲν οὖν τὰ αἴτια [1089a] τῆς ἐπὶ ταύτας τὰς αἰτίας ἐκτροπῆς, μάλιστα δὲ τὸ ἀπορῆσαι ἀρχαϊκῶς. ἔδοξε γὰρ αὐτοῖς πάντ’ ἔσεσθαι ἓν τὰ ὄντα, αὐτὸ τὸ ὄν, εἰ μή τις λύσει καὶ ὁμόσε βαδιεῖται τῷ Παρμενίδου λόγῳ “οὐ γὰρ μήποτε τοῦτο δαμῇ, εἶναι μὴ ἐόντα,” ἀλλ’ ἀνάγκη εἶναι τὸ μὴ ὂν δεῖξαι ὅτι ἔστιν· οὕτω γάρ, ἐκ τοῦ ὄντος καὶ ἄλλου τινός, τὰ ὄντα ἔσεσθαι, εἰ πολλά ἐστιν. καίτοι πρῶτον μέν, εἰ τὸ ὂν πολλαχῶς (τὸ μὲν γὰρ [ὅτι] οὐσίαν σημαίνει, τὸ δ’ ὅτι ποιόν, τὸ δ’ ὅτι ποσόν, καὶ τὰς ἄλλας δὴ κατηγορίας), ποῖον οὖν τὰ ὄντα πάντα ἕν, εἰ μὴ τὸ μὴ ὂν ἔσται; πότερον αἱ οὐσίαι, ἢ τὰ πάθη καὶ τὰ ἄλλα δὴ ὁμοίως, ἢ πάντα, καὶ ἔσται ἓν τὸ τόδε καὶ τὸ τοιόνδε καὶ τὸ τοσόνδε καὶ τὰ ἄλλα ὅσα ἕν τι σημαίνει; ἀλλ’ ἄτοπον, μᾶλλον δὲ ἀδύνατον, τὸ μίαν φύσιν τινὰ γενομένην αἰτίαν εἶναι τοῦ τοῦ ὄντος τὸ μὲν τόδε εἶναι τὸ δὲ τοιόνδε τὸ δὲ τοσόνδε τὸ δὲ πού. ἔπειτα ἐκ ποίου μὴ ὄντος καὶ ὄντος τὰ ὄντα; πολλαχῶς γὰρ καὶ τὸ μὴ ὄν, ἐπειδὴ καὶ τὸ ὄν· καὶ τὸ μὲν μὴ ἄνθρωπον ‹εἶναι› σημαίνει τὸ μὴ εἶναι τοδί, τὸ δὲ μὴ εὐθὺ τὸ μὴ εἶναι τοιονδί, τὸ δὲ μὴ τρίπηχυ τὸ μὴ εἶναι τοσονδί. ἐκ ποίου οὖν ὄντος καὶ μὴ ὄντος πολλὰ τὰ ὄντα; βούλεται μὲν δὴ τὸ ψεῦδος καὶ ταύτην τὴν φύσιν λέγειν τὸ οὐκ ὄν, ἐξ οὗ καὶ τοῦ ὄντος πολλὰ τὰ ὄντα, διὸ καὶ ἐλέγετο ὅτι δεῖ ψεῦδός τι ὑποθέσθαι, ὥσπερ καὶ οἱ γεωμέτραι τὸ ποδιαίαν εἶναι τὴν μὴ ποδιαίαν· ἀδύνατον δὲ ταῦθ’ οὕτως ἔχειν, οὔτε γὰρ οἱ γεωμέτραι ψεῦδος οὐθὲν ὑποτίθενται (οὐ γὰρ ἐν τῷ συλλογισμῷ ἡ πρότασις), οὔτε ἐκ τοῦ οὕτω μὴ ὄντος τὰ ὄντα γίγνεται οὐδὲ φθείρεται. ἀλλ’ ἐπειδὴ τὸ μὲν κατὰ τὰς πτώσεις μὴ ὂν ἰσαχῶς ταῖς κατηγορίαις λέγεται, παρὰ τοῦτο δὲ τὸ ὡς ψεῦδος λέγεται [τὸ] μὴ ὂν καὶ τὸ κατὰ δύναμιν, ἐκ τούτου ἡ γένεσίς ἐστιν, ἐκ τοῦ μὴ ἀνθρώπου δυνάμει δὲ ἀνθρώπου ἄνθρωπος, καὶ ἐκ τοῦ μὴ λευκοῦ δυνάμει δὲ λευκοῦ λευκόν, ὁμοίως ἐάν τε ἕν τι γίγνηται ἐάν τε πολλά. - φαίνεται δὲ ἡ ζήτησις πῶς πολλὰ τὸ ὂν τὸ κατὰ τὰς οὐσίας λεγόμενον· ἀριθμοὶ γὰρ καὶ μήκη καὶ σώματα τὰ γεννώμενά ἐστιν. ἄτοπον δὴ τὸ ὅπως μὲν πολλὰ τὸ ὂν τὸ τί ἐστι ζητῆσαι, πῶς δὲ ἢ ποιὰ ἢ ποσά, μή. οὐ γὰρ δὴ ἡ δυὰς ἡ ἀόριστος αἰτία οὐδὲ τὸ μέγα καὶ τὸ μικρὸν τοῦ δύο λευκὰ ἢ πολλὰ [1089b] εἶναι χρώματα ἢ χυμοὺς ἢ σχήματα· ἀριθμοὶ γὰρ ἂν καὶ ταῦτα ἦσαν καὶ μονάδες. ἀλλὰ μὴν εἴ γε ταῦτ’ ἐπῆλθον, εἶδον ἂν τὸ αἴτιον καὶ τὸ ἐν ἐκείνοις· τὸ γὰρ αὐτὸ καὶ τὸ ἀνάλογον αἴτιον. αὕτη γὰρ ἡ παρέκβασις αἰτία καὶ τοῦ τὸ ἀντικείμενον ζητοῦντας τῷ ὄντι καὶ τῷ ἑνί, ἐξ οὗ καὶ τούτων τὰ ὄντα, τὸ πρός τι καὶ τὸ ἄνισον ὑποθεῖναι, ὃ οὔτ’ ἐναντίον οὔτ’ ἀπόφασις ἐκείνων, μία τε φύσις τῶν ὄντων ὥσπερ καὶ τὸ τί καὶ τὸ ποῖον. καὶ ζητεῖν ἔδει καὶ τοῦτο, πῶς πολλὰ τὰ πρός τι ἀλλ’ οὐχ ἕν· νῦν δὲ πῶς μὲν πολλαὶ μονάδες παρὰ τὸ πρῶτον ἓν ζητεῖται, πῶς δὲ πολλὰ ἄνισα παρὰ τὸ ἄνισον οὐκέτι. καίτοι χρῶνται καὶ λέγουσι μέγα μικρόν, πολὺ ὀλίγον, ἐξ ὧν οἱ ἀριθμοί, μακρὸν βραχύ, ἐξ ὧν τὸ μῆκος, πλατὺ στενόν, ἐξ ὧν τὸ ἐπίπεδον, βαθὺ ταπεινόν, ἐξ ὧν οἱ ὄγκοι· καὶ ἔτι δὴ πλείω εἴδη λέγουσι τοῦ πρός τι· τούτοις δὴ τί αἴτιον τοῦ πολλὰ εἶναι; - ἀνάγκη μὲν οὖν, ὥσπερ λέγομεν, ὑποθεῖναι τὸ δυνάμει ὂν ἑκάστῳ (τοῦτο δὲ προσαπεφήνατο ὁ ταῦτα λέγων, τί τὸ δυνάμει τόδε καὶ οὐσία, μὴ ὂν δὲ καθ’ αὐτό, ὅτι τὸ πρός τι, ὥσπερ εἰ εἶπε τὸ ποιόν, ὃ οὔτε δυνάμει ἐστὶ τὸ ἓν ἢ τὸ ὂν οὔτε ἀπόφασις τοῦ ἑνὸς οὐδὲ τοῦ ὄντος ἀλλ’ ἕν τι τῶν ὄντων), πολύ τε μᾶλλον, ὥσπερ ἐλέχθη, εἰ ἐζήτει πῶς πολλὰ τὰ ὄντα, μὴ τὰ ἐν τῇ αὐτῇ κατηγορίᾳ ζητεῖν, πῶς πολλαὶ οὐσίαι ἢ πολλὰ ποιά, ἀλλὰ πῶς πολλὰ τὰ ὄντα· τὰ μὲν γὰρ οὐσίαι τὰ δὲ πάθη τὰ δὲ πρός τι. ἐπὶ μὲν οὖν τῶν ἄλλων κατηγοριῶν ἔχει τινὰ καὶ ἄλλην ἐπίστασιν πῶς πολλά (διὰ γὰρ τὸ μὴ χωριστὰ εἶναι τῷ τὸ ὑποκείμενον πολλὰ γίγνεσθαι καὶ εἶναι ποιά τε πολλὰ [εἶναι] καὶ ποσά· καίτοι δεῖ γέ τινα εἶναι ὕλην ἑκάστῳ γένει, πλὴν χωριστὴν ἀδύνατον τῶν οὐσιῶν)· ἀλλ' ἐπὶ τῶν τόδε τι ἔχει τινὰ λόγον πῶς πολλὰ τὸ τόδε τι, εἰ μή τι ἔσται καὶ τόδε τι καὶ φύσις τις τοιαύτη· αὕτη δέ ἐστιν ἐκεῖθεν μᾶλλον ἡ ἀπορία, πῶς πολλαὶ ἐνεργείᾳ οὐσίαι ἀλλ' οὐ μία. ἀλλὰ μὴν καὶ εἰ μὴ ταὐτόν ἐστι τὸ τόδε καὶ τὸ ποσόν, οὐ λέγεται πῶς καὶ διὰ τί πολλὰ τὰ ὄντα, ἀλλὰ πῶς ποσὰ πολλά. ὁ γὰρ ἀριθμὸς πᾶς ποσόν τι σημαίνει, καὶ ἡ μονάς, εἰ μὴ μέτρον καὶ τὸ κατὰ τὸ ποσὸν ἀδιαίρετον. εἰ μὲν οὖν ἕτερον τὸ ποσὸν καὶ τὸ τί ἐστιν, οὐ λέγεται [1090a] τὸ τί ἐστιν ἐκ τίνος οὐδὲ πῶς πολλά· εἰ δὲ ταὐτό, πολλὰς ὑπομένει ὁ λέγων ἐναντιώσεις. - ἐπιστήσειε δ' ἄν τις τὴν σκέψιν καὶ περὶ τῶν ἀριθμῶν πόθεν δεῖ λαβεῖν τὴν πίστιν ὡς εἰσίν. τῷ μὲν γὰρ ἰδέας τιθεμένῳ παρέχονταί τιν' αἰτίαν τοῖς οὖσιν, εἴπερ ἕκαστος τῶν ἀριθμῶν ἰδέα τις ἡ δ' ἰδέα τοῖς ἄλλοις αἰτία τοῦ εἶναι ὃν δή ποτε τρόπον (ἔστω γὰρ ὑποκείμενον αὐτοῖς τοῦτο)· τῷ δὲ τοῦτον μὲν τὸν τρόπον οὐκ οἰομένῳ διὰ τὸ τὰς ἐνούσας δυσχερείας ὁρᾶν περὶ τὰς ἰδέας ὥστε διά γε ταῦτα μὴ ποιεῖν ἀριθμούς, ποιοῦντι δὲ ἀριθμὸν τὸν μαθηματικόν, πόθεν τε χρὴ πιστεῦσαι ὡς ἔστι τοιοῦτος ἀριθμός, καὶ τί τοῖς ἄλλοις χρήσιμος; οὐθενὸς γὰρ οὔτε φησὶν ὁ λέγων αὐτὸν εἶναι, ἀλλ' ὡς αὐτήν τινα λέγει καθ' αὑτὴν φύσιν οὖσαν, οὔτε φαίνεται ὢν αἴτιος· τὰ γὰρ θεωρήματα τῶν ἀριθμητικῶν πάντα καὶ κατὰ τῶν αἰσθητῶν ὑπάρξει, καθάπερ ἐλέχθη.

Οἱ μὲν οὖν τιθέμενοι τὰς ἰδέας εἶναι, καὶ ἀριθμοὺς αὐτὰς εἶναι, ‹τῷ› κατὰ τὴν ἔκθεσιν ἑκάστου παρὰ τὰ πολλὰ λαμβάνειν [τὸ] ἕν τι ἕκαστον πειρῶνταί γε λέγειν πως διὰ τί ἔστιν, οὐ μὴν ἀλλὰ ἐπεὶ οὔτε ἀναγκαῖα οὔτε δυνατὰ ταῦτα, οὐδὲ τὸν ἀριθμὸν διά γε ταῦτα εἶναι λεκτέον· οἱ δὲ Πυθαγόρειοι διὰ τὸ ὁρᾶν πολλὰ τῶν ἀριθμῶν πάθη ὑπάρχοντα τοῖς αἰσθητοῖς σώμασιν, εἶναι μὲν ἀριθμοὺς ἐποίησαν τὰ ὄντα, οὐ χωριστοὺς δέ, ἀλλ' ἐξ ἀριθμῶν τὰ ὄντα· διὰ τί δέ; ὅτι τὰ πάθη τὰ τῶν ἀριθμῶν ἐν ἁρμονίᾳ ὑπάρχει καὶ ἐν τῷ οὐρανῷ καὶ ἐν πολλοῖς ἄλλοις. τοῖς δὲ τὸν μαθηματικὸν μόνον λέγουσιν εἶναι ἀριθμὸν οὐθὲν τοιοῦτον ἐνδέχεται λέγειν κατὰ τὰς ὑποθέσεις, ἀλλ' ὅτι οὐκ ἔσονται αὐτῶν αἱ ἐπιστῆμαι ἐλέγετο. ἡμεῖς δέ φαμεν εἶναι, καθάπερ εἴπομεν πρότερον. καὶ δῆλον ὅτι οὐ κεχώρισται τὰ μαθηματικά· οὐ γὰρ ἂν κεχωρισμένων τὰ πάθη ὑπῆρχεν ἐν τοῖς σώμασιν. οἱ μὲν οὖν Πυθαγόρειοι κατὰ μὲν τὸ τοιοῦτον οὐθενὶ ἔνοχοί εἰσιν, κατὰ μέντοι τὸ ποιεῖν ἐξ ἀριθμῶν τὰ φυσικὰ σώματα, ἐκ μὴ ἐχόντων βάρος μηδὲ κουφότητα ἔχοντα κουφότητα καὶ βάρος, ἐοίκασι περὶ ἄλλου οὐρανοῦ λέγειν καὶ σωμάτων ἀλλ' οὐ τῶν αἰσθητῶν· οἱ δὲ χωριστὸν ποιοῦντες, ὅτι ἐπὶ τῶν αἰσθητῶν οὐκ ἔσται τὰ ἀξιώματα, ἀληθῆ δὲ τὰ λεγόμενα καὶ σαίνει τὴν ψυχήν, εἶναί τε ὑπολαμβάνουσι καὶ χωριστὰ [1090b] εἶναι· ὁμοίως δὲ καὶ τὰ μεγέθη τὰ μαθηματικά. δῆλον οὖν ὅτι καὶ ὁ ἐναντιούμενος λόγος τἀναντία ἐρεῖ, καὶ ὃ ἄρτι ἠπορήθη λυτέον τοῖς οὕτω λέγουσι, διὰ τί οὐδαμῶς ἐν τοῖς αἰσθητοῖς ὑπαρχόντων τὰ πάθη ὑπάρχει αὐτῶν ἐν τοῖς αἰσθητοῖς. εἰσὶ δέ τινες οἳ ἐκ τοῦ πέρατα εἶναι καὶ ἔσχατα τὴν στιγμὴν μὲν γραμμῆς, ταύτην δ' ἐπιπέδου, τοῦτο δὲ τοῦ στερεοῦ, οἴονται εἶναι ἀνάγκην τοιαύτας φύσεις εἶναι. δεῖ δὴ καὶ τοῦτον ὁρᾶν τὸν λόγον, μὴ λίαν ᾖ μαλακός. οὔτε γὰρ οὐσίαι εἰσὶ τὰ ἔσχατα ἀλλὰ μᾶλλον πάντα ταῦτα πέρατα (ἐπεὶ καὶ τῆς βαδίσεως καὶ ὅλως κινήσεως ἔστι τι πέρας· τοῦτ' οὖν ἔσται τόδε τι καὶ οὐσία τις· ἀλλ' ἄτοπον)· - οὐ μὴν ἀλλὰ εἰ καὶ εἰσί, τῶνδε τῶν αἰσθητῶν ἔσονται πάντα (ἐπὶ τούτων γὰρ ὁ λόγος εἴρηκεν)· διὰ τί οὖν χωριστὰ ἔσται; - ἔτι δὲ ἐπιζητήσειεν ἄν τις μὴ λίαν εὐχερὴς ὢν περὶ μὲν τοῦ ἀριθμοῦ παντὸς καὶ τῶν μαθηματικῶν τὸ μηθὲν συμβάλλεσθαι ἀλλήλοις τὰ πρότερα τοῖς ὕστερον (μὴ ὄντος γὰρ τοῦ ἀριθμοῦ οὐθὲν ἧττον τὰ μεγέθη ἔσται τοῖς τὰ μαθηματικὰ μόνον εἶναι φαμένοις, καὶ τούτων μὴ ὄντων ἡ ψυχὴ καὶ τὰ σώματα τὰ αἰσθητά· οὐκ ἔοικε δ' ἡ φύσις ἐπεισοδιώδης οὖσα ἐκ τῶν φαινομένων, ὥσπερ μοχθηρὰ τραγῳδία)· τοῖς δὲ τὰς ἰδέας τιθεμένοις τοῦτο μὲν ἐκφεύγει - ποιοῦσι γὰρ τὰ μεγέθη ἐκ τῆς ὕλης καὶ ἀριθμοῦ, ἐκ μὲν τῆς δυάδος τὰ μήκη, ἐκ τριάδος δ' ἴσως τὰ ἐπίπεδα, ἐκ δὲ τῆς τετράδος τὰ στερεὰ ἢ καὶ ἐξ ἄλλων ἀριθμῶν· διαφέρει γὰρ οὐθέν - , ἀλλὰ ταῦτά γε πότερον ἰδέαι ἔσονται, ἢ τίς ὁ τρόπος αὐτῶν, καὶ τί συμβάλλονται τοῖς οὖσιν; οὐθὲν γάρ, ὥσπερ οὐδὲ τὰ μαθηματικά, οὐδὲ ταῦτα συμβάλλεται. ἀλλὰ μὴν οὐδ' ὑπάρχει γε κατ' αὐτῶν οὐθὲν θεώρημα, ἐὰν μή τις βούληται κινεῖν τὰ μαθηματικὰ καὶ ποιεῖν ἰδίας τινὰς δόξας. ἔστι δ' οὐ χαλεπὸν ὁποιασοῦν ὑποθέσεις λαμβάνοντας μακροποιεῖν καὶ συνείρειν. οὗτοι μὲν οὖν ταύτῃ προσγλιχόμενοι ταῖς ἰδέαις τὰ μαθηματικὰ διαμαρτάνουσιν· οἱ δὲ πρῶτοι δύο τοὺς ἀριθμοὺς ποιήσαντες, τόν τε τῶν εἰδῶν καὶ τὸν μαθηματικόν, οὔτ' εἰρήκασιν οὔτ' ἔχοιεν ἂν εἰπεῖν πῶς καὶ ἐκ τίνος ἔσται ὁ μαθηματικός. ποιοῦσι γὰρ αὐτὸν μεταξὺ τοῦ εἰδητικοῦ καὶ τοῦ αἰσθητοῦ. εἰ μὲν γὰρ ἐκ τοῦ μεγάλου καὶ μικροῦ, ὁ αὐτὸς ἐκείνῳ ἔσται τῷ τῶν ἰδεῶν (ἐξ ἄλλου δέ τινος μικροῦ [1091a] καὶ μεγάλου τὰ [γὰρ] μεγέθη ποιεῖ)· εἰ δ' ἕτερόν τι ἐρεῖ, πλείω τὰ στοιχεῖα ἐρεῖ· καὶ εἰ ἕν τι ἑκατέρου ἡ ἀρχή, κοινόν τι ἐπὶ τούτων ἔσται τὸ ἕν, ζητητέον τε πῶς καὶ ταῦτα πολλὰ τὸ ἓν καὶ ἅμα τὸν ἀριθμὸν γενέσθαι ἄλλως ἢ ἐξ ἑνὸς καὶ δυάδος ἀορίστου ἀδύνατον κατ' ἐκεῖνον. πάντα δὴ ταῦτα ἄλογα, καὶ μάχεται καὶ αὐτὰ ἑαυτοῖς καὶ τοῖς εὐλόγοις, καὶ ἔοικεν ἐν αὐτοῖς εἶναι ὁ Σιμωνίδου μακρὸς λόγος· γίγνεται γὰρ ὁ μακρὸς λόγος ὥσπερ ὁ τῶν δούλων ὅταν μηθὲν ὑγιὲς λέγωσιν. φαίνεται δὲ καὶ αὐτὰ τὰ στοιχεῖα τὸ μέγα καὶ τὸ μικρὸν βοᾶν ὡς ἑλκόμενα· οὐ δύναται γὰρ οὐδαμῶς γεννῆσαι τὸν ἀριθμὸν ἀλλ' ἢ τὸν ἀφ' ἑνὸς διπλασιαζόμενον. - ἄτοπον δὲ καὶ γένεσιν ποιεῖν ἀϊδίων ὄντων, μᾶλλον δ' ἕν τι τῶν ἀδυνάτων. οἱ μὲν οὖν Πυθαγόρειοι πότερον οὐ ποιοῦσιν ἢ ποιοῦσι γένεσιν οὐδὲν δεῖ διστάζειν· φανερῶς γὰρ λέγουσιν ὡς τοῦ ἑνὸς συσταθέντος, εἴτ' ἐξ ἐπιπέδων εἴτ' ἐκ χροιᾶς εἴτ' ἐκ σπέρματος εἴτ' ἐξ ὧν ἀποροῦσιν εἰπεῖν, εὐθὺς τὸ ἔγγιστα τοῦ ἀπείρου ὅτι εἵλκετο καὶ ἐπεραίνετο ὑπὸ τοῦ πέρατος. ἀλλ' ἐπειδὴ κοσμοποιοῦσι καὶ φυσικῶς βούλονται λέγειν, δίκαιον αὐτοὺς ἐξετάζειν τι περὶ φύσεως, ἐκ δὲ τῆς νῦν ἀφεῖναι μεθόδου· τὰς γὰρ ἐν τοῖς ἀκινήτοις ζητοῦμεν ἀρχάς, ὥστε καὶ τῶν ἀριθμῶν τῶν τοιούτων ἐπισκεπτέον τὴν γένεσιν.

Τοῦ μὲν οὖν περιττοῦ γένεσιν οὔ φασιν, ὡς δηλονότι τοῦ ἀρτίου οὔσης γενέσεως· τὸν δ' ἄρτιον πρῶτον ἐξ ἀνίσων τινὲς κατασκευάζουσι τοῦ μεγάλου καὶ μικροῦ ἰσασθέντων. ἀνάγκη οὖν πρότερον ὑπάρχειν τὴν ἀνισότητα αὐτοῖς τοῦ ἰσασθῆναι· εἰ δ' ἀεὶ ἦσαν ἰσασμένα, οὐκ ἂν ἦσαν ἄνισα πρότερον (τοῦ γὰρ ἀεὶ οὐκ ἔστι πρότερον οὐθέν), ὥστε φανερὸν ὅτι οὐ τοῦ θεωρῆσαι ἕνεκεν ποιοῦσι τὴν γένεσιν τῶν ἀριθμῶν. - ἔχει δ' ἀπορίαν καὶ εὐπορήσαντι ἐπιτίμησιν πῶς ἔχει πρὸς τὸ ἀγαθὸν καὶ τὸ καλὸν τὰ στοιχεῖα καὶ αἱ ἀρχαί· ἀπορίαν μὲν ταύτην, πότερόν ἐστί τι ἐκείνων οἷον βουλόμεθα λέγειν αὐτὸ τὸ ἀγαθὸν καὶ τὸ ἄριστον, ἢ οὔ, ἀλλ' ὑστερογενῆ. παρὰ μὲν γὰρ τῶν θεολόγων ἔοικεν ὁμολογεῖσθαι τῶν νῦν τισίν, οἳ οὔ φασιν, ἀλλὰ προελθούσης τῆς τῶν ὄντων φύσεως καὶ τὸ ἀγαθὸν καὶ τὸ καλὸν ἐμφαίνεσθαι (τοῦτο δὲ ποιοῦσιν εὐλαβούμενοι ἀληθινὴν δυσχέρειαν ἣ συμβαίνει τοῖς λέγουσιν, [1091b] ὥσπερ ἔνιοι, τὸ ἓν ἀρχήν· ἔστι δ' ἡ δυσχέρεια οὐ διὰ τὸ τῇ ἀρχῇ τὸ εὖ ἀποδιδόναι ὡς ὑπάρχον, ἀλλὰ διὰ τὸ τὸ ἓν ἀρχὴν καὶ ἀρχὴν ὡς στοιχεῖον καὶ τὸν ἀριθμὸν ἐκ τοῦ ἑνός), - οἱ δὲ ποιηταὶ οἱ ἀρχαῖοι ταύτῃ ὁμοίως, ᾗ βασιλεύειν καὶ ἄρχειν φασὶν οὐ τοὺς πρώτους, οἷον νύκτα καὶ οὐρανὸν ἢ χάος ἢ ὠκεανόν, ἀλλὰ τὸν Δία· οὐ μὴν ἀλλὰ τούτοις μὲν διὰ τὸ μεταβάλλειν τοὺς ἄρχοντας τῶν ὄντων συμβαίνει τοιαῦτα λέγειν, ἐπεὶ οἵ γε μεμιγμένοι αὐτῶν [καὶ] τῷ μὴ μυθικῶς πάντα λέγειν, οἷον Φερεκύδης καὶ ἕτεροί τινες, τὸ γεννῆσαν πρῶτον ἄριστον τιθέασι, καὶ οἱ Μάγοι, καὶ τῶν ὑστέρων δὲ σοφῶν οἷον Ἐμπεδοκλῆς τε καὶ Ἀναξαγόρας, ὁ μὲν τὴν φιλίαν στοιχεῖον ὁ δὲ τὸν νοῦν ἀρχὴν ποιήσας. τῶν δὲ τὰς ἀκινήτους οὐσίας εἶναι λεγόντων οἱ μέν φασιν αὐτὸ τὸ ἓν τὸ ἀγαθὸν αὐτὸ εἶναι· οὐσίαν μέντοι τὸ ἓν αὐτοῦ ᾤοντο εἶναι μάλιστα. - ἡ μὲν οὖν ἀπορία αὕτη, ποτέρως δεῖ λέγειν· θαυμαστὸν δ' εἰ τῷ πρώτῳ καὶ ἀϊδίῳ καὶ αὐταρκεστάτῳ τοῦτ' αὐτὸ πρῶτον οὐχ ὡς ἀγαθὸν ὑπάρχει, τὸ αὔταρκες καὶ ἡ σωτηρία. ἀλλὰ μὴν οὐ δι' ἄλλο τι ἄφθαρτον ἢ διότι εὖ ἔχει, οὐδ' αὔταρκες, ὥστε τὸ μὲν φάναι τὴν ἀρχὴν τοιαύτην εἶναι εὔλογον ἀληθὲς εἶναι, τὸ μέντοι ταύτην εἶναι τὸ ἕν, ἢ εἰ μὴ τοῦτο, στοιχεῖόν γε καὶ στοιχεῖον ἀριθμῶν, ἀδύνατον. συμβαίνει γὰρ πολλὴ δυσχέρεια - ἣν ἔνιοι φεύγοντες ἀπειρήκασιν, οἱ τὸ ἓν μὲν ὁμολογοῦντες ἀρχὴν εἶναι πρώτην καὶ στοιχεῖον, τοῦ ἀριθμοῦ δὲ τοῦ μαθηματικοῦ - ἅπασαι γὰρ αἱ μονάδες γίγνονται ὅπερ ἀγαθόν τι, καὶ πολλή τις εὐπορία ἀγαθῶν. ἔτι εἰ τὰ εἴδη ἀριθμοί, τὰ εἴδη πάντα ὅπερ ἀγαθόν τι· ἀλλὰ μὴν ὅτου βούλεται τιθέτω τις εἶναι ἰδέας· εἰ μὲν γὰρ τῶν ἀγαθῶν μόνον, οὐκ ἔσονται οὐσίαι αἱ ἰδέαι, εἰ δὲ καὶ τῶν οὐσιῶν, πάντα τὰ ζῷα καὶ τὰ φυτὰ ἀγαθὰ καὶ τὰ μετέχοντα. ταῦτά τε δὴ συμβαίνει ἄτοπα, καὶ τὸ ἐναντίον στοιχεῖον, εἴτε πλῆθος ὂν εἴτε τὸ ἄνισον καὶ μέγα καὶ μικρόν, τὸ κακὸν αὐτό (διόπερ ὁ μὲν ἔφευγε τὸ ἀγαθὸν προσάπτειν τῷ ἑνὶ ὡς ἀναγκαῖον ὄν, ἐπειδὴ ἐξ ἐναντίων ἡ γένεσις, τὸ κακὸν τὴν τοῦ πλήθους φύσιν εἶναι· οἱ δὲ λέγουσι τὸ ἄνισον τὴν τοῦ κακοῦ φύσιν)· συμβαίνει δὴ πάντα τὰ ὄντα μετέχειν τοῦ κακοῦ ἔξω ἑνὸς αὐτοῦ τοῦ ἑνός, καὶ μᾶλλον ἀκράτου μετέχειν τοὺς ἀριθμοὺς ἢ τὰ [1092a] μεγέθη, καὶ τὸ κακὸν τοῦ ἀγαθοῦ χώραν εἶναι, καὶ μετέχειν καὶ ὀρέγεσθαι τοῦ φθαρτικοῦ· φθαρτικὸν γὰρ τοῦ ἐναντίου τὸ ἐναντίον. καὶ εἰ ὥσπερ ἐλέγομεν ὅτι ἡ ὕλη ἐστὶ τὸ δυνάμει ἕκαστον, οἷον πυρὸς τοῦ ἐνεργείᾳ τὸ δυνάμει πῦρ, τὸ κακὸν ἔσται αὐτὸ τὸ δυνάμει ἀγαθόν. ταῦτα δὴ πάντα συμβαίνει, τὸ μὲν ὅτι ἀρχὴν πᾶσαν στοιχεῖον ποιοῦσι, τὸ δ' ὅτι τἀναντία ἀρχάς, τὸ δ' ὅτι τὸ ἓν ἀρχήν, τὸ δ' ὅτι τοὺς ἀριθμοὺς τὰς πρώτας οὐσίας καὶ χωριστὰ καὶ εἴδη. εἰ οὖν καὶ τὸ μὴ τιθέναι τὸ ἀγαθὸν ἐν ταῖς ἀρχαῖς καὶ τὸ τιθέναι οὕτως ἀδύνατον, δῆλον ὅτι αἱ ἀρχαὶ οὐκ ὀρθῶς ἀποδίδονται οὐδὲ αἱ πρῶται οὐσίαι. οὐκ ὀρθῶς δ' ὑπολαμβάνει οὐδ' εἴ τις παρεικάζει τὰς τοῦ ὅλου ἀρχὰς τῇ τῶν ζῴων καὶ φυτῶν, ὅτι ἐξ ἀορίστων ἀτελῶν τε ἀεὶ τὰ τελειότερα, διὸ καὶ ἐπὶ τῶν πρώτων οὕτως ἔχειν φησίν, ὥστε μηδὲ ὄν τι εἶναι τὸ ἓν αὐτό. εἰσὶ γὰρ καὶ ἐνταῦθα τέλειαι αἱ ἀρχαὶ ἐξ ὧν ταῦτα· ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ, καὶ οὐκ ἔστι τὸ σπέρμα πρῶτον. ἄτοπον δὲ καὶ τὸ τόπον ἅμα τοῖς στερεοῖς τοῖς μαθηματικοῖς ποιῆσαι (ὁ μὲν γὰρ τόπος τῶν καθ' ἕκαστον ἴδιος, διὸ χωριστὰ τόπῳ, τὰ δὲ μαθηματικὰ οὐ πού), καὶ τὸ εἰπεῖν μὲν ὅτι ποὺ ἔσται, τί δέ ἐστιν ὁ τόπος μή. - ἔδει δὲ τοὺς λέγοντας ἐκ στοιχείων εἶναι τὰ ὄντα καὶ τῶν ὄντων τὰ πρῶτα τοὺς ἀριθμούς, διελομένους πῶς ἄλλο ἐξ ἄλλου ἐστίν, οὕτω λέγειν τίνα τρόπον ὁ ἀριθμός ἐστιν ἐκ τῶν ἀρχῶν. πότερον μίξει; ἀλλ’ οὔτε πᾶν μικτόν, τό τε γιγνόμενον ἕτερον, οὐκ ἔσται τε χωριστὸν τὸ ἓν οὐδ’ ἑτέρα φύσις· οἱ δὲ βούλονται. ἀλλὰ συνθέσει, ὥσπερ συλλαβή; ἀλλὰ θέσιν τε ἀνάγκη ὑπάρχειν, καὶ χωρὶς ὁ νοῶν νοήσει τὸ ἓν καὶ τὸ πλῆθος. τοῦτ’ οὖν ἔσται ὁ ἀριθμός, μονὰς καὶ πλῆθος, ἢ τὸ ἓν καὶ ἄνισον. καὶ ἐπεὶ τὸ ἐκ τινῶν εἶναι ἔστι μὲν ὡς ἐνυπαρχόντων ἔστι δὲ ὡς οὔ, ποτέρως ὁ ἀριθμός; οὕτως γὰρ ὡς ἐνυπαρχόντων οὐκ ἔστιν ἀλλ’ ἢ ὧν γένεσις ἔστιν. ἀλλ’ ὡς ἀπὸ σπέρματος; ἀλλ’ οὐχ οἷόν τε τοῦ ἀδιαιρέτου τι ἀπελθεῖν. ἀλλ’ ὡς ἐκ τοῦ ἐναντίου μὴ ὑπομένοντος; ἀλλ’ ὅσα οὕτως ἔστι, καὶ ἐξ ἄλλου τινός ἐστιν ὑπομένοντος. ἐπεὶ τοίνυν τὸ ἓν ὁ μὲν τῷ πλήθει ὡς ἐναντίον [1092b] τίθησιν, ὁ δὲ τῷ ἀνίσῳ, ὡς ἴσῳ τῷ ἑνὶ χρώμενος, ὡς ἐξ ἐναντίων εἴη ἂν ὁ ἀριθμός· ἔστιν ἄρα τι ἕτερον ἐξ οὗ ὑπομένοντος καὶ θατέρου ἐστὶν ἢ γέγονεν. ἔτι τί δή ποτε τὰ μὲν ἄλλ’ ὅσα ἐξ ἐναντίων ἢ οἷς ἔστιν ἐναντία φθείρεται κἂν ἐκ παντὸς ᾖ, ὁ δὲ ἀριθμὸς οὔ; περὶ τούτου γὰρ οὐθὲν λέγεται. καίτοι καὶ ἐνυπάρχον καὶ μὴ ἐνυπάρχον φθείρει τὸ ἐναντίον, οἷον τὸ νεῖκος τὸ μῖγμα (καίτοι γε οὐκ ἔδει· οὐ γὰρ ἐκείνῳ γε ἐναντίον). - οὐθὲν δὲ διώρισται οὐδὲ ὁποτέρως οἱ ἀριθμοὶ αἴτιοι τῶν οὐσιῶν καὶ τοῦ εἶναι, πότερον ὡς ὅροι (οἷον αἱ στιγμαὶ τῶν μεγεθῶν, καὶ ὡς Εὔρυτος ἔταττε τίς ἀριθμὸς τίνος, οἷον ὁδὶ μὲν ἀνθρώπου ὁδὶ δὲ ἵππου, ὥσπερ οἱ τοὺς ἀριθμοὺς ἄγοντες εἰς τὰ σχήματα τρίγωνον καὶ τετράγωνον, οὕτως ἀφομοιῶν ταῖς ψήφοις τὰς μορφὰς τῶν φυτῶν), ἢ ὅτι [ὁ] λόγος ἡ συμφωνία ἀριθμῶν, ὁμοίως δὲ καὶ ἄνθρωπος καὶ τῶν ἄλλων ἕκαστον; τὰ δὲ δὴ πάθη πῶς ἀριθμοί, τὸ λευκὸν καὶ γλυκὺ καὶ τὸ θερμόν; ὅτι δὲ οὐχ οἱ ἀριθμοὶ οὐσία οὐδὲ τῆς μορφῆς αἴτιοι, δῆλον· ὁ γὰρ λόγος ἡ οὐσία, ὁ δ’ ἀριθμὸς ὕλη. οἷον σαρκὸς ἢ ὀστοῦ ἀριθμὸς ἡ οὐσία οὕτω, τρία πυρὸς γῆς δὲ δύο· καὶ ἀεὶ ὁ ἀριθμὸς ὃς ἂν ᾖ τινῶν ἐστιν, ἢ πύρινος ἢ γήϊνος ἢ μοναδικός, ἀλλ’ ἡ οὐσία τὸ τοσόνδ’ εἶναι πρὸς τοσόνδε κατὰ τὴν μῖξιν· τοῦτο δ’ οὐκέτι ἀριθμὸς ἀλλὰ λόγος μίξεως ἀριθμῶν σωματικῶν ἢ ὁποιωνοῦν. οὔτε οὖν τῷ ποιῆσαι αἴτιος ὁ ἀριθμός, οὔτε ὅλως ὁ ἀριθμὸς οὔτε ὁ μοναδικός, οὔτε ὕλη οὔτε λόγος καὶ εἶδος τῶν πραγμάτων. ἀλλὰ μὴν οὐδ’ ὡς τὸ οὗ ἕνεκα.

Ἀπορήσειε δ’ ἄν τις καὶ τί τὸ εὖ ἐστὶ τὸ ἀπὸ τῶν ἀριθμῶν τῷ ἐν ἀριθμῷ εἶναι τὴν μῖξιν, ἢ ἐν εὐλογίστῳ ἢ ἐν περιττῷ. νυνὶ γὰρ οὐθὲν ὑγιεινότερον τρὶς τρία ἂν ᾖ τὸ μελίκρατον κεκραμένον, ἀλλὰ μᾶλλον ὠφελήσειεν ἂν ἐν οὐθενὶ λόγῳ ὂν ὑδαρὲς δὲ ἢ ἐν ἀριθμῷ ἄκρατον ὄν. ἔτι οἱ λόγοι ἐν προσθέσει ἀριθμῶν εἰσὶν οἱ τῶν μίξεων, οὐκ ἐν ἀριθμοῖς, οἷον τρία πρὸς δύο ἀλλ’ οὐ τρὶς δύο. τὸ γὰρ αὐτὸ δεῖ γένος εἶναι ἐν ταῖς πολλαπλασιώσεσιν, ὥστε δεῖ μετρεῖσθαι τῷ τε Α τὸν στοῖχον ἐφ’ οὗ ΑΒΓ καὶ τῷ Δ τὸν ΔΕΖ· ὥστε τῷ αὐτῷ πάντα. οὔκουν ἔσται πυρὸς ΒΕΓΖ [1093a] καὶ ὕδατος ἀριθμὸς δὶς τρία. - εἰ δ' ἀνάγκη πάντα ἀριθμοῦ κοινωνεῖν, ἀνάγκη πολλὰ συμβαίνειν τὰ αὐτά, καὶ ἀριθμὸν τὸν αὐτὸν τῷδε καὶ ἄλλῳ. ἆρ' οὖν τοῦτ' αἴτιον καὶ διὰ τοῦτό ἐστι τὸ πρᾶγμα, ἢ ἄδηλον; οἷον ἔστι τις τῶν τοῦ ἡλίου φορῶν ἀριθμός, καὶ πάλιν τῶν τῆς σελήνης, καὶ τῶν ζῴων γε ἑκάστου τοῦ βίου καὶ ἡλικίας· τί οὖν κωλύει ἐνίους μὲν τούτων τετραγώνους εἶναι ἐνίους δὲ κύβους, καὶ ἴσους τοὺς δὲ διπλασίους; οὐθὲν γὰρ κωλύει, ἀλλ' ἀνάγκη ἐν τούτοις στρέφεσθαι, εἰ ἀριθμοῦ πάντα ἐκοινώνει. ἐνεδέχετό τε τὰ διαφέροντα ὑπὸ τὸν αὐτὸν ἀριθμὸν πίπτειν· ὥστ' εἴ τισιν ὁ αὐτὸς ἀριθμὸς συνεβεβήκει, ταὐτὰ ἂν ἦν ἀλλήλοις ἐκεῖνα τὸ αὐτὸ εἶδος ἀριθμοῦ ἔχοντα, οἷον ἥλιος καὶ σελήνη τὰ αὐτά. ἀλλὰ διὰ τί αἴτια ταῦτα; ἑπτὰ μὲν φωνήεντα, ἑπτὰ δὲ χορδαὶ ἡ ἁρμονία, ἑπτὰ δὲ αἱ πλειάδες, ἐν ἑπτὰ δὲ ὀδόντας βάλλει (ἔνιά γε, ἔνια δ' οὔ), ἑπτὰ δὲ οἱ ἐπὶ Θήβας. ἆρ' οὖν ὅτι τοιοσδὶ ὁ ἀριθμὸς πέφυκεν, διὰ τοῦτο ἢ ἐκεῖνοι ἐγένοντο ἑπτὰ ἢ ἡ πλειὰς ἑπτὰ ἀστέρων ἐστίν; ἢ οἱ μὲν διὰ τὰς πύλας ἢ ἄλλην τινὰ αἰτίαν, τὴν δὲ ἡμεῖς οὕτως ἀριθμοῦμεν, τὴν δὲ ἄρκτον γε δώδεκα, οἱ δὲ πλείους· ἐπεὶ καὶ τὸ ΞΨΖ συμφωνίας φασὶν εἶναι, καὶ ὅτι ἐκεῖναι τρεῖς, καὶ ταῦτα τρία· ὅτι δὲ μυρία ἂν εἴη τοιαῦτα, οὐθὲν μέλει (τῷ γὰρ Γ καὶ Ρ εἴη ἂν ἓν σημεῖον)· εἰ δ' ὅτι διπλάσιον τῶν ἄλλων ἕκαστον, ἄλλο δ' οὔ, αἴτιον δ' ὅτι τριῶν ὄντων τόπων ἓν ἐφ' ἑκάστου ἐπιφέρεται τῷ σίγμα, διὰ τοῦτο τρία μόνον ἐστὶν ἀλλ' οὐχ ὅτι αἱ συμφωνίαι τρεῖς, ἐπεὶ πλείους γε αἱ συμφωνίαι, ἐνταῦθα δ' οὐκέτι δύναται. ὅμοιοι δὴ καὶ οὗτοι τοῖς ἀρχαίοις Ὁμηρικοῖς, οἳ μικρὰς ὁμοιότητας ὁρῶσι μεγάλας δὲ παρορῶσιν. λέγουσι δέ τινες ὅτι πολλὰ τοιαῦτα, οἷον αἵ τε μέσαι ἡ μὲν ἐννέα ἡ δὲ ὀκτώ, καὶ τὸ ἔπος δεκαεπτά, ἰσάριθμον τούτοις, βαίνεται δ' ἐν [1093b] μὲν τῷ δεξιῷ ἐννέα συλλαβαῖς, ἐν δὲ τῷ ἀριστερῷ ὀκτώ· καὶ ὅτι ἴσον τὸ διάστημα ἔν τε τοῖς γράμμασιν ἀπὸ τοῦ Α πρὸς τὸ Ω, καὶ ἀπὸ τοῦ βόμβυκος ἐπὶ τὴν ὀξυτάτην [νεάτην] ἐν αὐλοῖς, ἧς ὁ ἀριθμὸς ἴσος τῇ οὐλομελείᾳ τοῦ οὐρανοῦ. ὁρᾶν δὲ δεῖ μὴ τοιαῦτα οὐθεὶς ἂν ἀπορήσειεν οὔτε λέγειν οὔθ' εὑρίσκειν ἐν τοῖς ἀϊδίοις, ἐπεὶ καὶ ἐν τοῖς φθαρτοῖς. ἀλλ' αἱ ἐν τοῖς ἀριθμοῖς φύσεις αἱ ἐπαινούμεναι καὶ τὰ τούτοις ἐναντία καὶ ὅλως τὰ ἐν τοῖς μαθήμασιν, ὡς μὲν λέγουσί τινες καὶ αἴτια ποιοῦσι τῆς φύσεως, ἔοικεν οὑτωσί γε σκοπουμένοις διαφεύγειν (κατ' οὐδένα γὰρ τρόπον τῶν διωρισμένων περὶ τὰς ἀρχὰς οὐδὲν αὐτῶν αἴτιον)· ἔστιν ὡς μέντοι ποιοῦσι φανερὸν ὅτι τὸ εὖ ὑπάρχει καὶ τῆς συστοιχίας ἐστὶ τῆς τοῦ καλοῦ τὸ περιττόν, τὸ εὐθύ, τὸ ἰσάκις ἴσον, αἱ δυνάμεις ἐνίων ἀριθμῶν· ἅμα γὰρ ὧραι καὶ ἀριθμὸς τοιοσδί· καὶ τὰ ἄλλα δὴ ὅσα συνάγουσιν ἐκ τῶν μαθηματικῶν θεωρημάτων πάντα ταύτην ἔχει τὴν δύναμιν. διὸ καὶ ἔοικε συμπτώμασιν· ἔστι γὰρ συμβεβηκότα μέν, ἀλλ’ οἰκεῖα ἀλλήλοις πάντα, ἓν δὲ τῷ ἀνάλογον· ἐν ἑκάστῃ γὰρ τοῦ ὄντος κατηγορίᾳ ἐστὶ τὸ ἀνάλογον, ὡς εὐθὺ ἐν μήκει οὕτως ἐν πλάτει τὸ ὁμαλόν, ἴσως ἐν ἀριθμῷ τὸ περιττόν, ἐν δὲ χροιᾷ τὸ λευκόν. - ἔτι οὐχ οἱ ἐν τοῖς εἴδεσιν ἀριθμοὶ αἴτιοι τῶν ἁρμονικῶν καὶ τῶν τοιούτων (διαφέρουσι γὰρ ἐκεῖνοι ἀλλήλων οἱ ἴσοι εἴδει· καὶ γὰρ αἱ μονάδες)· ὥστε διά γε ταῦτα εἴδη οὐ ποιητέον. τὰ μὲν οὖν συμβαίνοντα ταῦτά τε κἂν ἔτι πλείω συναχθείη· ἔοικε δὲ τεκμήριον εἶναι τὸ πολλὰ κακοπαθεῖν περὶ τὴν γένεσιν αὐτῶν καὶ μηδένα τρόπον δύνασθαι συνεῖραι τοῦ μὴ χωριστὰ εἶναι τὰ μαθηματικὰ τῶν αἰσθητῶν, ὡς ἔνιοι λέγουσι, μηδὲ ταύτας εἶναι τὰς ἀρχάς.

Ηθικά καὶ Πολιτικων - Ethics and Politics

Ηθικων Νικομαχειων (1094a) Nicomachean Ethics

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Πᾶσα τέχνη καὶ πᾶσα μέθοδος, ὁμοίως δὲ πρᾶξίς τε καὶ προαίρεσις, ἀγαθοῦ τινὸς ἐφίεσθαι δοκεῖ· διὸ καλῶς ἀπεφήναντο τἀγαθόν, οὗ πάντ’ ἐφίεται. διαφορὰ δέ τις φαίνεται τῶν τελῶν· τὰ μὲν γάρ εἰσιν ἐνέργειαι, τὰ δὲ παρ’ αὐτὰς [5] ἔργα τινά. ὧν δ’ εἰσὶ τέλη τινὰ παρὰ τὰς πράξεις, ἐν τούτοις βελτίω πέφυκε τῶν ἐνεργειῶν τὰ ἔργα. πολλῶν δὲ πράξεων οὐσῶν καὶ τεχνῶν καὶ ἐπιστημῶν πολλὰ γίνεται καὶ τὰ τέλη· ἰατρικῆς μὲν γὰρ ὑγίεια, ναυπηγικῆς δὲ πλοῖον, στρατηγικῆς δὲ νίκη, οἰκονομικῆς δὲ πλοῦτος. διαφέρει δ’ οὐδὲν τὰς ἐνεργείας αὐτὰς εἶναι τὰ τέλη τῶν πράξεων ἢ παρὰ ταύτας ἄλλο τι, καθάπερ ἐπὶ τῶν λεχθεισῶν ἐπιστημῶν.

Εἰ δή τι τέλος ἐστὶ τῶν πρακτῶν ὃ δι’ αὐτὸ βουλόμεθα, τἆλλα δὲ διὰ τοῦτο, καὶ μὴ [20] πάντα δι’ ἕτερον αἱρούμεθα (πρόεισι γὰρ οὕτω γ’ εἰς ἄπειρον, ὥστ’ εἶναι κενὴν καὶ ματαίαν τὴν ὄρεξιν), δῆλον ὡς τοῦτ’ ἂν εἴη τἀγαθὸν καὶ τὸ ἄριστον. ἆρ’ οὖν καὶ πρὸς τὸν βίον ἡ γνῶσις αὐτοῦ μεγάλην ἔχει ῥοπήν, καὶ καθάπερ τοξόται σκοπὸν ἔχοντες μᾶλλον ἂν τυγχάνοιμεν τοῦ δέοντος; εἰ δ’ [25] οὕτω, πειρατέον τύπῳ γε περιλαβεῖν αὐτὸ τί ποτ’ ἐστὶ καὶ τίνος τῶν ἐπιστημῶν ἢ δυνάμεων. δόξειε δ’ ἂν τῆς κυριωτάτης καὶ μάλιστα ἀρχιτεκτονικῆς. τοιαύτη δ’ ἡ πολιτικὴ φαίνεται· τίνας γὰρ εἶναι χρεὼν τῶν ἐπιστημῶν ἐν ταῖς πόλεσι, 1094b [1] καὶ ποίας ἑκάστους μανθάνειν καὶ μέχρι τίνος, αὕτη διατάσσει· ὁρῶμεν δὲ καὶ τὰς ἐντιμοτάτας τῶν δυνάμεων ὑπὸ ταύτην οὔσας, οἷον στρατηγικὴν οἰκονομικὴν ῥητορικήν· χρωμένης δὲ ταύτης ταῖς λοιπαῖς [πρακτικαῖς] τῶν ἐπιστημῶν, [5] ἔτι δὲ νομοθετούσης τί δεῖ πράττειν καὶ τίνων ἀπέχεσθαι, τὸ ταύτης τέλος περιέχοι ἂν τὰ τῶν ἄλλων, ὥστε τοῦτ’ ἂν εἴη τἀνθρώπινον ἀγαθόν. εἰ γὰρ καὶ ταὐτόν ἐστιν ἑνὶ καὶ πόλει, μεῖζόν γε καὶ τελειότερον τὸ τῆς πόλεως φαίνεται καὶ λαβεῖν καὶ σῴζειν· ἀγαπητὸν μὲν γὰρ καὶ ἑνὶ [10] μόνῳ, κάλλιον δὲ καὶ θειότερον ἔθνει καὶ πόλεσιν. ἡ μὲν οὖν μέθοδος τούτων ἐφίεται, πολιτική τις οὖσα.

Λέγοιτο δ’ ἂν ἱκανῶς, εἰ κατὰ τὴν ὑποκειμένην ὕλην διασαφηθείη· τὸ γὰρ ἀκριβὲς οὐχ ὁμοίως ἐν ἅπασι τοῖς λόγοις ἐπιζητητέον, ὥσπερ οὐδ’ ἐν τοῖς δημιουργουμένοις. τὰ δὲ καλὰ καὶ τὰ δίκαια, [15] περὶ ὧν ἡ πολιτικὴ σκοπεῖται, πολλὴν ἔχει διαφορὰν καὶ πλάνην, ὥστε δοκεῖν νόμῳ μόνον εἶναι, φύσει δὲ μή. τοιαύτην δέ τινα πλάνην ἔχει καὶ τἀγαθὰ διὰ τὸ πολλοῖς συμβαίνειν βλάβας ἀπ᾽ αὐτῶν· ἤδη γάρ τινες ἀπώλοντο διὰ πλοῦτον, ἕτεροι δὲ δι᾽ ἀνδρείαν. ἀγαπητὸν οὖν περὶ τοιούτων [20] καὶ ἐκ τοιούτων λέγοντας παχυλῶς καὶ τύπῳ τἀληθὲς ἐνδείκνυσθαι, καὶ περὶ τῶν ὡς ἐπὶ τὸ πολὺ καὶ ἐκ τοιούτων λέγοντας τοιαῦτα καὶ συμπεραίνεσθαι. τὸν αὐτὸν δὴ τρόπον καὶ ἀποδέχεσθαι χρεὼν ἕκαστα τῶν λεγομένων· πεπαιδευμένου γάρ ἐστιν ἐπὶ τοσοῦτον τἀκριβὲς ἐπιζητεῖν καθ᾽ ἕκαστον [25] γένος, ἐφ᾽ ὅσον ἡ τοῦ πράγματος φύσις ἐπιδέχεται· παραπλήσιον γὰρ φαίνεται μαθηματικοῦ τε πιθανολογοῦντος ἀποδέχεσθαι καὶ ῥητορικὸν ἀποδείξεις ἀπαιτεῖν.

Ἕκαστος δὲ κρίνει καλῶς ἃ γινώσκει, καὶ τούτων ἐστὶν ἀγαθὸς κριτής. 1095a [1] καθ᾽ ἕκαστον μὲν ἄρα ὁ πεπαιδευμένος, ἁπλῶς δ᾽ ὁ περὶ πᾶν πεπαιδευμένος. διὸ τῆς πολιτικῆς οὐκ ἔστιν οἰκεῖος ἀκροατὴς ὁ νέος· ἄπειρος γὰρ τῶν κατὰ τὸν βίον πράξεων, οἱ λόγοι δ᾽ ἐκ τούτων καὶ περὶ τούτων· ἔτι δὲ τοῖς πάθεσιν ἀκολουθητικὸς ὢν [5] ματαίως ἀκούσεται καὶ ἀνωφελῶς, ἐπειδὴ τὸ τέλος ἐστὶν οὐ γνῶσις ἀλλὰ πρᾶξις. διαφέρει δ᾽ οὐδὲν νέος τὴν ἡλικίαν ἢ τὸ ἦθος νεαρός· οὐ γὰρ παρὰ τὸν χρόνον ἡ ἔλλειψις, ἀλλὰ διὰ τὸ κατὰ πάθος ζῆν καὶ διώκειν ἕκαστα. τοῖς γὰρ τοιούτοις ἀνόνητος ἡ γνῶσις γίνεται, καθάπερ τοῖς ἀκρατέσιν· [10] τοῖς δὲ κατὰ λόγον τὰς ὀρέξεις ποιουμένοις καὶ πράττουσι πολυωφελὲς ἂν εἴη τὸ περὶ τούτων εἰδέναι.

Καὶ περὶ μὲν ἀκροατοῦ, καὶ πῶς ἀποδεκτέον, καὶ τί προτιθέμεθα, πεφροιμιάσθω ταῦτα.

Λέγωμεν δ᾽ ἀναλαβόντες, ἐπειδὴ πᾶσα γνῶσις καὶ προαίρεσις [15] ἀγαθοῦ τινὸς ὀρέγεται, τί ἐστὶν οὗ λέγομεν τὴν πολιτικὴν ἐφίεσθαι καὶ τί τὸ πάντων ἀκρότατον τῶν πρακτῶν ἀγαθῶν. ὀνόματι μὲν οὖν σχεδὸν ὑπὸ τῶν πλείστων ὁμολογεῖται· τὴν γὰρ εὐδαιμονίαν καὶ οἱ πολλοὶ καὶ οἱ χαρίεντες λέγουσιν, τὸ δ᾽ εὖ ζῆν καὶ τὸ εὖ πράττειν ταὐτὸν ὑπολαμβάνουσι [20] τῷ εὐδαιμονεῖν· περὶ δὲ τῆς εὐδαιμονίας, τί ἐστιν, ἀμφισβητοῦσι καὶ οὐχ ὁμοίως οἱ πολλοὶ τοῖς σοφοῖς ἀποδιδόασιν. οἳ μὲν γὰρ τῶν ἐναργῶν τι καὶ φανερῶν, οἷον ἡδονὴν ἢ πλοῦτον ἢ τιμήν, ἄλλοι δ᾽ ἄλλο — πολλάκις δὲ καὶ ὁ αὐτὸς ἕτερον· νοσήσας μὲν γὰρ ὑγίειαν, πενόμενος δὲ [25] πλοῦτον· συνειδότες δ᾽ ἑαυτοῖς ἄγνοιαν τοὺς μέγα τι καὶ ὑπὲρ αὐτοὺς λέγοντας θαυμάζουσιν. ἔνιοι δ᾽ ᾤοντο παρὰ τὰ πολλὰ ταῦτα ἀγαθὰ ἄλλο τι καθ᾽ αὑτὸ εἶναι, ὃ καὶ τούτοις πᾶσιν αἴτιόν ἐστι τοῦ εἶναι ἀγαθά. ἁπάσας μὲν οὖν ἐξετάζειν τὰς δόξας ματαιότερον ἴσως ἐστίν, ἱκανὸν δὲ τὰς μάλιστα [30] ἐπιπολαζούσας ἢ δοκούσας ἔχειν τινὰ λόγον.

Μὴ λανθανέτω δ᾽ ἡμᾶς ὅτι διαφέρουσιν οἱ ἀπὸ τῶν ἀρχῶν λόγοι καὶ οἱ ἐπὶ τὰς ἀρχάς. εὖ γὰρ καὶ ὁ Πλάτων ἠπόρει τοῦτο καὶ ἐζήτει, πότερον ἀπὸ τῶν ἀρχῶν ἢ ἐπὶ τὰς ἀρχάς ἐστιν ἡ ὁδός, 1095b [1] ὥσπερ ἐν τῷ σταδίῳ ἀπὸ τῶν ἀθλοθετῶν ἐπὶ τὸ πέρας ἢ ἀνάπαλιν. ἀρκτέον μὲν γὰρ ἀπὸ τῶν γνωρίμων, ταῦτα δὲ διττῶς· τὰ μὲν γὰρ ἡμῖν τὰ δ᾽ ἁπλῶς. ἴσως οὖν ἡμῖν γε ἀρκτέον ἀπὸ τῶν ἡμῖν γνωρίμων. διὸ δεῖ τοῖς ἔθεσιν ἦχθαι καλῶς τὸν [5] περὶ καλῶν καὶ δικαίων καὶ ὅλως τῶν πολιτικῶν ἀκουσόμενον ἱκανῶς. ἀρχὴ γὰρ τὸ ὅτι, καὶ εἰ τοῦτο φαίνοιτο ἀρκούντως, οὐδὲν προσδεήσει τοῦ διότι· ὁ δὲ τοιοῦτος ἔχει ἢ λάβοι ἂν ἀρχὰς ῥᾳδίως. ᾧ δὲ μηδέτερον ὑπάρχει τούτων, ἀκουσάτω τῶν Ἡσιόδου· [10] οὗτος μὲν πανάριστος ὃς αὐτὸς πάντα νοήσῃ,

ἐσθλὸς δ᾽ αὖ κἀκεῖνος ὃς εὖ εἰπόντι πίθηται.
ὃς δέ κε μήτ᾽ αὐτὸς νοέῃ μήτ᾽ ἄλλου ἀκούων
ἐν θυμῷ βάλληται, ὃ δ᾽ αὖτ᾽ ἀχρήιος ἀνήρ.

Ἡμεῖς δὲ λέγωμεν ὅθεν παρεξέβημεν. τὸ γὰρ ἀγαθὸν [15] καὶ τὴν εὐδαιμονίαν οὐκ ἀλόγως ἐοίκασιν ἐκ τῶν βίων ὑπολαμβάνειν οἱ μὲν πολλοὶ καὶ φορτικώτατοι τὴν ἡδονήν· διὸ καὶ τὸν βίον ἀγαπῶσι τὸν ἀπολαυστικόν. τρεῖς γάρ εἰσι μάλιστα οἱ προύχοντες, ὅ τε νῦν εἰρημένος καὶ ὁ πολιτικὸς καὶ τρίτος ὁ θεωρητικός. οἱ μὲν οὖν πολλοὶ παντελῶς [20] ἀνδραποδώδεις φαίνονται βοσκημάτων βίον προαιρούμενοι, τυγχάνουσι δὲ λόγου διὰ τὸ πολλοὺς τῶν ἐν ταῖς ἐξουσίαις ὁμοιοπαθεῖν Σαρδαναπάλλῳ. οἱ δὲ χαρίεντες καὶ πρακτικοὶ τιμήν· τοῦ γὰρ πολιτικοῦ βίου σχεδὸν τοῦτο τέλος. φαίνεται δ᾽ ἐπιπολαιότερον εἶναι τοῦ ζητουμένου· δοκεῖ γὰρ ἐν [25] τοῖς τιμῶσι μᾶλλον εἶναι ἢ ἐν τῷ τιμωμένῳ, τἀγαθὸν δὲ οἰκεῖόν τι καὶ δυσαφαίρετον εἶναι μαντευόμεθα. ἔτι δ᾽ ἐοίκασι τὴν τιμὴν διώκειν ἵνα πιστεύσωσιν ἑαυτοὺς ἀγαθοὺς εἶναι· ζητοῦσι γοῦν ὑπὸ τῶν φρονίμων τιμᾶσθαι, καὶ παρ᾽ οἷς γινώσκονται, καὶ ἐπ᾽ ἀρετῇ· δῆλον οὖν ὅτι κατά γε [30] τούτους ἡ ἀρετὴ κρείττων. τάχα δὲ καὶ μᾶλλον ἄν τις τέλος τοῦ πολιτικοῦ βίου ταύτην ὑπολάβοι. φαίνεται δὲ ἀτελεστέρα καὶ αὕτη· δοκεῖ γὰρ ἐνδέχεσθαι καὶ καθεύδειν ἔχοντα τὴν ἀρετὴν ἢ ἀπρακτεῖν διὰ βίου, καὶ πρὸς τούτοις κακοπαθεῖν καὶ ἀτυχεῖν τὰ μέγιστα· 1096a [1] τὸν δ᾽ οὕτω ζῶντα οὐδεὶς ἂν εὐδαιμονίσειεν, εἰ μὴ θέσιν διαφυλάττων. καὶ περὶ μὲν τούτων ἅλις· ἱκανῶς γὰρ καὶ ἐν τοῖς ἐγκυκλίοις εἴρηται περὶ αὐτῶν. τρίτος δ᾽ ἐστὶν ὁ θεωρητικός, ὑπὲρ οὗ [5] τὴν ἐπίσκεψιν ἐν τοῖς ἑπομένοις ποιησόμεθα.

Ὁ δὲ χρηματιστὴς βίαιός τις ἐστίν, καὶ ὁ πλοῦτος δῆλον ὅτι οὐ τὸ ζητούμενον ἀγαθόν· χρήσιμον γὰρ καὶ ἄλλου χάριν. διὸ μᾶλλον τὰ πρότερον λεχθέντα τέλη τις ἂν ὑπολάβοι· δι᾽ αὑτὰ γὰρ ἀγαπᾶται. φαίνεται δ᾽ οὐδ᾽ ἐκεῖνα· καίτοι πολλοὶ λόγοι [10] πρὸς αὐτὰ καταβέβληνται. ταῦτα μὲν οὖν ἀφείσθω.

Τὸ δὲ καθόλου βέλτιον ἴσως ἐπισκέψασθαι καὶ διαπορῆσαι πῶς λέγεται, καίπερ προσάντους τῆς τοιαύτης ζητήσεως γινομένης διὰ τὸ φίλους ἄνδρας εἰσαγαγεῖν τὰ εἴδη. δόξειε δ᾽ ἂν ἴσως βέλτιον εἶναι καὶ δεῖν ἐπὶ σωτηρίᾳ γε τῆς [15] ἀληθείας καὶ τὰ οἰκεῖα ἀναιρεῖν, ἄλλως τε καὶ φιλοσόφους ὄντας· ἀμφοῖν γὰρ ὄντοιν φίλοιν ὅσιον προτιμᾶν τὴν ἀλήθειαν.

Οἱ δὴ κομίσαντες τὴν δόξαν ταύτην οὐκ ἐποίουν ἰδέας ἐν οἷς τὸ πρότερον καὶ ὕστερον ἔλεγον, διόπερ οὐδὲ τῶν ἀριθμῶν ἰδέαν κατεσκεύαζον· τὸ δ᾽ ἀγαθὸν λέγεται καὶ ἐν [20] τῷ τί ἐστι καὶ ἐν τῷ ποιῷ καὶ ἐν τῷ πρός τι, τὸ δὲ καθ᾽ αὑτὸ καὶ ἡ οὐσία πρότερον τῇ φύσει τοῦ πρός τι (παραφυάδι γὰρ τοῦτ᾽ ἔοικε καὶ συμβεβηκότι τοῦ ὄντος)· ὥστ᾽ οὐκ ἂν εἴη κοινή τις ἐπὶ τούτοις ἰδέα. ἔτι δ᾽ ἐπεὶ τἀγαθὸν ἰσαχῶς λέγεται τῷ ὄντι (καὶ γὰρ ἐν τῷ τί λέγεται, οἷον ὁ θεὸς καὶ [25] ὁ νοῦς, καὶ ἐν τῷ ποιῷ αἱ ἀρεταί, καὶ ἐν τῷ ποσῷ τὸ μέτριον, καὶ ἐν τῷ πρός τι τὸ χρήσιμον, καὶ ἐν χρόνῳ καιρός, καὶ ἐν τόπῳ δίαιτα καὶ ἕτερα τοιαῦτα), δῆλον ὡς οὐκ ἂν εἴη κοινόν τι καθόλου καὶ ἕν· οὐ γὰρ ἂν ἐλέγετ᾽ ἐν πάσαις ταῖς κατηγορίαις, ἀλλ᾽ ἐν μιᾷ μόνῃ. ἔτι δ᾽ ἐπεὶ τῶν [30] κατὰ μίαν ἰδέαν μία καὶ ἐπιστήμη, καὶ τῶν ἀγαθῶν ἁπάντων ἦν ἂν μία τις ἐπιστήμη· νῦν δ᾽ εἰσὶ πολλαὶ καὶ τῶν ὑπὸ μίαν κατηγορίαν, οἷον καιροῦ, ἐν πολέμῳ μὲν γὰρ στρατηγικὴ ἐν νόσῳ δ᾽ ἰατρική, καὶ τοῦ μετρίου ἐν τροφῇ μὲν ἰατρικὴ ἐν πόνοις δὲ γυμναστική. ἀπορήσειε δ᾽ ἄν τις τί [35] ποτε καὶ βούλονται λέγειν αὐτοέκαστον, εἴπερ ἔν τε αὐτοανθρώπῳ 1096b [1] καὶ ἐν ἀνθρώπῳ εἷς καὶ ὁ αὐτὸς λόγος ἐστὶν ὁ τοῦ ἀνθρώπου. ᾗ γὰρ ἄνθρωπος, οὐδὲν διοίσουσιν· εἰ δ᾽ οὕτως, οὐδ᾽ ᾗ ἀγαθόν. ἀλλὰ μὴν οὐδὲ τῷ ἀίδιον εἶναι μᾶλλον ἀγαθὸν ἔσται, εἴπερ μηδὲ λευκότερον τὸ πολυχρόνιον τοῦ [5] ἐφημέρου. πιθανώτερον δ᾽ ἐοίκασιν οἱ Πυθαγόρειοι λέγειν περὶ αὐτοῦ, τιθέντες ἐν τῇ τῶν ἀγαθῶν συστοιχίᾳ τὸ ἕν· οἷς δὴ καὶ Σπεύσιππος ἐπακολουθῆσαι δοκεῖ.

Ἀλλὰ περὶ μὲν τούτων ἄλλος ἔστω λόγος· τοῖς δὲ λεχθεῖσιν ἀμφισβήτησίς τις ὑποφαίνεται διὰ τὸ μὴ περὶ παντὸς ἀγαθοῦ τοὺς λόγους [10] εἰρῆσθαι, λέγεσθαι δὲ καθ᾽ ἓν εἶδος τὰ καθ᾽ αὑτὰ διωκόμενα καὶ ἀγαπώμενα, τὰ δὲ ποιητικὰ τούτων ἢ φυλακτικά πως ἢ τῶν ἐναντίων κωλυτικὰ διὰ ταῦτα λέγεσθαι καὶ τρόπον ἄλλον. δῆλον οὖν ὅτι διττῶς λέγοιτ᾽ ἂν τἀγαθά, καὶ τὰ μὲν καθ᾽ αὑτά, θάτερα δὲ διὰ ταῦτα. χωρίσαντες [15] οὖν ἀπὸ τῶν ὠφελίμων τὰ καθ᾽ αὑτὰ σκεψώμεθα εἰ λέγεται κατὰ μίαν ἰδέαν. καθ᾽ αὑτὰ δὲ ποῖα θείη τις ἄν; ἢ ὅσα καὶ μονούμενα διώκεται, οἷον τὸ φρονεῖν καὶ ὁρᾶν καὶ ἡδοναί τινες καὶ τιμαί; ταῦτα γὰρ εἰ καὶ δι᾽ ἄλλο τι διώκομεν, ὅμως τῶν καθ᾽ αὑτὰ ἀγαθῶν θείη τις ἄν. ἢ οὐδ᾽ [20] ἄλλο οὐδὲν πλὴν τῆς ἰδέας; ὥστε μάταιον ἔσται τὸ εἶδος. εἰ δὲ καὶ ταῦτ᾽ ἐστὶ τῶν καθ᾽ αὑτά, τὸν τἀγαθοῦ λόγον ἐν ἅπασιν αὐτοῖς τὸν αὐτὸν ἐμφαίνεσθαι δεήσει, καθάπερ ἐν χιόνι καὶ ψιμυθίῳ τὸν τῆς λευκότητος. τιμῆς δὲ καὶ φρονήσεως καὶ ἡδονῆς ἕτεροι καὶ διαφέροντες οἱ λόγοι ταύτῃ [25] ᾗ ἀγαθά. οὐκ ἔστιν ἄρα τὸ ἀγαθὸν κοινόν τι κατὰ μίαν ἰδέαν.

Ἀλλὰ πῶς δὴ λέγεται; οὐ γὰρ ἔοικε τοῖς γε ἀπὸ τύχης ὁμωνύμοις. ἀλλ᾽ ἆρά γε τῷ ἀφ᾽ ἑνὸς εἶναι ἢ πρὸς ἓν ἅπαντα συντελεῖν, ἢ μᾶλλον κατ᾽ ἀναλογίαν; ὡς γὰρ ἐν σώματι ὄψις, ἐν ψυχῇ νοῦς, καὶ ἄλλο δὴ ἐν ἄλλῳ. [30] ἀλλ᾽ ἴσως ταῦτα μὲν ἀφετέον τὸ νῦν· ἐξακριβοῦν γὰρ ὑπὲρ αὐτῶν ἄλλης ἂν εἴη φιλοσοφίας οἰκειότερον. ὁμοίως δὲ καὶ περὶ τῆς ἰδέας· εἰ γὰρ καὶ ἔστιν ἕν τι τὸ κοινῇ κατηγορούμενον ἀγαθὸν ἢ χωριστὸν αὐτό τι καθ᾽ αὑτό, δῆλον ὡς οὐκ ἂν εἴη πρακτὸν οὐδὲ κτητὸν ἀνθρώπῳ· νῦν δὲ τοιοῦτόν τι [35] ζητεῖται. τάχα δέ τῳ δόξειεν ἂν βέλτιον εἶναι γνωρίζειν αὐτὸ 1097a [1] πρὸς τὰ κτητὰ καὶ πρακτὰ τῶν ἀγαθῶν· οἷον γὰρ παράδειγμα τοῦτ᾽ ἔχοντες μᾶλλον εἰσόμεθα καὶ τὰ ἡμῖν ἀγαθά, κἂν εἰδῶμεν, ἐπιτευξόμεθα αὐτῶν. πιθανότητα μὲν οὖν τινα ἔχει ὁ λόγος, ἔοικε δὲ ταῖς ἐπιστήμαις διαφωνεῖν· [5] πᾶσαι γὰρ ἀγαθοῦ τινὸς ἐφιέμεναι καὶ τὸ ἐνδεὲς ἐπιζητοῦσαι παραλείπουσι τὴν γνῶσιν αὐτοῦ. καίτοι βοήθημα τηλικοῦτον τοὺς τεχνίτας ἅπαντας ἀγνοεῖν καὶ μηδ᾽ ἐπιζητεῖν οὐκ εὔλογον. ἄπορον δὲ καὶ τί ὠφεληθήσεται ὑφάντης ἢ τέκτων πρὸς τὴν αὑτοῦ τέχνην εἰδὼς τὸ αὐτὸ τοῦτο ἀγαθόν, [10] ἢ πῶς ἰατρικώτερος ἢ στρατηγικώτερος ἔσται ὁ τὴν ἰδέαν αὐτὴν τεθεαμένος. φαίνεται μὲν γὰρ οὐδὲ τὴν ὑγίειαν οὕτως ἐπισκοπεῖν ὁ ἰατρός, ἀλλὰ τὴν ἀνθρώπου, μᾶλλον δ᾽ ἴσως τὴν τοῦδε· καθ᾽ ἕκαστον γὰρ ἰατρεύει. καὶ περὶ μὲν τούτων ἐπὶ τοσοῦτον εἰρήσθω.

[15] Πάλιν δ᾽ ἐπανέλθωμεν ἐπὶ τὸ ζητούμενον ἀγαθόν, τί ποτ᾽ ἂν εἴη. φαίνεται μὲν γὰρ ἄλλο ἐν ἄλλῃ πράξει καὶ τέχνῃ· ἄλλο γὰρ ἐν ἰατρικῇ καὶ στρατηγικῇ καὶ ταῖς λοιπαῖς ὁμοίως. τί οὖν ἑκάστης τἀγαθόν; ἢ οὗ χάριν τὰ λοιπὰ πράττεται; τοῦτο δ᾽ ἐν ἰατρικῇ μὲν ὑγίεια, ἐν στρατηγικῇ [20] δὲ νίκη, ἐν οἰκοδομικῇ δ᾽ οἰκία, ἐν ἄλλῳ δ᾽ ἄλλο, ἐν ἁπάσῃ δὲ πράξει καὶ προαιρέσει τὸ τέλος· τούτου γὰρ ἕνεκα τὰ λοιπὰ πράττουσι πάντες. ὥστ᾽ εἴ τι τῶν πρακτῶν ἁπάντων ἐστὶ τέλος, τοῦτ᾽ ἂν εἴη τὸ πρακτὸν ἀγαθόν, εἰ δὲ πλείω, ταῦτα.

Μεταβαίνων δὴ ὁ λόγος εἰς ταὐτὸν ἀφῖκται· τοῦτο [25] δ᾽ ἔτι μᾶλλον διασαφῆσαι πειρατέον. ἐπεὶ δὲ πλείω φαίνεται τὰ τέλη, τούτων δ᾽ αἱρούμεθά τινα δι᾽ ἕτερον, οἷον πλοῦτον αὐλοὺς καὶ ὅλως τὰ ὄργανα, δῆλον ὡς οὐκ ἔστι πάντα τέλεια· τὸ δ᾽ ἄριστον τέλειόν τι φαίνεται. ὥστ᾽ εἰ μέν ἐστιν ἕν τι μόνον τέλειον, τοῦτ᾽ ἂν εἴη τὸ ζητούμενον, [30] εἰ δὲ πλείω, τὸ τελειότατον τούτων. τελειότερον δὲ λέγομεν τὸ καθ᾽ αὑτὸ διωκτὸν τοῦ δι᾽ ἕτερον καὶ τὸ μηδέποτε δι᾽ ἄλλο αἱρετὸν τῶν <καὶ> καθ᾽ αὑτὰ καὶ δι᾽ αὐτὸ αἱρετῶν, καὶ ἁπλῶς δὴ τέλειον τὸ καθ᾽ αὑτὸ αἱρετὸν ἀεὶ καὶ μηδέποτε δι᾽ ἄλλο. τοιοῦτον δ᾽ ἡ εὐδαιμονία μάλιστ᾽ εἶναι δοκεῖ·

1097b [1] Ταύτην γὰρ αἱρούμεθα ἀεὶ δι᾽ αὐτὴν καὶ οὐδέποτε δι᾽ ἄλλο, τιμὴν δὲ καὶ ἡδονὴν καὶ νοῦν καὶ πᾶσαν ἀρετὴν αἱρούμεθα μὲν καὶ δι᾽ αὐτά (μηθενὸς γὰρ ἀποβαίνοντος ἑλοίμεθ᾽ ἂν ἕκαστον αὐτῶν), αἱρούμεθα δὲ καὶ τῆς εὐδαιμονίας χάριν, [5] διὰ τούτων ὑπολαμβάνοντες εὐδαιμονήσειν. τὴν δ᾽ εὐδαιμονίαν οὐδεὶς αἱρεῖται τούτων χάριν, οὐδ᾽ ὅλως δι᾽ ἄλλο. φαίνεται δὲ καὶ ἐκ τῆς αὐταρκείας τὸ αὐτὸ συμβαίνειν· τὸ γὰρ τέλειον ἀγαθὸν αὔταρκες εἶναι δοκεῖ. τὸ δ᾽ αὔταρκες λέγομεν οὐκ αὐτῷ μόνῳ, τῷ ζῶντι βίον μονώτην, ἀλλὰ καὶ γονεῦσι [10] καὶ τέκνοις καὶ γυναικὶ καὶ ὅλως τοῖς φίλοις καὶ πολίταις, ἐπειδὴ φύσει πολιτικὸν ὁ ἄνθρωπος. τούτων δὲ ληπτέος ὅρος τις· ἐπεκτείνοντι γὰρ ἐπὶ τοὺς γονεῖς καὶ τοὺς ἀπογόνους καὶ τῶν φίλων τοὺς φίλους εἰς ἄπειρον πρόεισιν. ἀλλὰ τοῦτο μὲν εἰσαῦθις ἐπισκεπτέον· τὸ δ᾽ αὔταρκες τίθεμεν ὃ μονούμενον [15] αἱρετὸν ποιεῖ τὸν βίον καὶ μηδενὸς ἐνδεᾶ· τοιοῦτον δὲ τὴν εὐδαιμονίαν οἰόμεθα εἶναι· ἔτι δὲ πάντων αἱρετωτάτην μὴ συναριθμουμένην — συναριθμουμένην δὲ δῆλον ὡς αἱρετωτέραν μετὰ τοῦ ἐλαχίστου τῶν ἀγαθῶν· ὑπεροχὴ γὰρ ἀγαθῶν γίνεται τὸ προστιθέμενον, ἀγαθῶν δὲ τὸ μεῖζον αἱρετώτερον ἀεί. [20] τέλειον δή τι φαίνεται καὶ αὔταρκες ἡ εὐδαιμονία, τῶν πρακτῶν οὖσα τέλος.

Ἀλλ᾽ ἴσως τὴν μὲν εὐδαιμονίαν τὸ ἄριστον λέγειν ὁμολογούμενόν τι φαίνεται, ποθεῖται δ᾽ ἐναργέστερον τί ἐστιν ἔτι λεχθῆναι. τάχα δὴ γένοιτ᾽ ἂν τοῦτ᾽, εἰ ληφθείη τὸ ἔργον [25] τοῦ ἀνθρώπου. ὥσπερ γὰρ αὐλητῇ καὶ ἀγαλματοποιῷ καὶ παντὶ τεχνίτῃ, καὶ ὅλως ὧν ἔστιν ἔργον τι καὶ πρᾶξις, ἐν τῷ ἔργῳ δοκεῖ τἀγαθὸν εἶναι καὶ τὸ εὖ, οὕτω δόξειεν ἂν καὶ ἀνθρώπῳ, εἴπερ ἔστι τι ἔργον αὐτοῦ. πότερον οὖν τέκτονος μὲν καὶ σκυτέως ἔστιν ἔργα τινὰ καὶ πράξεις, ἀνθρώπου δ᾽ [30] οὐδέν ἐστιν, ἀλλ᾽ ἀργὸν πέφυκεν; ἢ καθάπερ ὀφθαλμοῦ καὶ χειρὸς καὶ ποδὸς καὶ ὅλως ἑκάστου τῶν μορίων φαίνεταί τι ἔργον, οὕτω καὶ ἀνθρώπου παρὰ πάντα ταῦτα θείη τις ἂν ἔργον τι; τί οὖν δὴ τοῦτ᾽ ἂν εἴη ποτέ; τὸ μὲν γὰρ ζῆν κοινὸν εἶναι φαίνεται καὶ τοῖς φυτοῖς, ζητεῖται δὲ τὸ ἴδιον. 1098a [1] ἀφοριστέον ἄρα τήν τε θρεπτικὴν καὶ τὴν αὐξητικὴν ζωήν. ἑπομένη δὲ αἰσθητική τις ἂν εἴη, φαίνεται δὲ καὶ αὐτὴ κοινὴ καὶ ἵππῳ καὶ βοῒ καὶ παντὶ ζῴῳ. λείπεται δὴ πρακτική τις τοῦ λόγον ἔχοντος· τούτου δὲ τὸ μὲν ὡς ἐπιπειθὲς λόγῳ, τὸ δ᾽ ὡς [5] ἔχον καὶ διανοούμενον.

διττῶς δὲ καὶ ταύτης λεγομένης τὴν κατ᾽ ἐνέργειαν θετέον· κυριώτερον γὰρ αὕτη δοκεῖ λέγεσθαι. εἰ δ᾽ ἐστὶν ἔργον ἀνθρώπου ψυχῆς ἐνέργεια κατὰ λόγον ἢ μὴ ἄνευ λόγου, τὸ δ᾽ αὐτό φαμεν ἔργον εἶναι τῷ γένει τοῦδε καὶ τοῦδε σπουδαίου, ὥσπερ κιθαριστοῦ καὶ σπουδαίου [10] κιθαριστοῦ, καὶ ἁπλῶς δὴ τοῦτ᾽ ἐπὶ πάντων, προστιθεμένης τῆς κατὰ τὴν ἀρετὴν ὑπεροχῆς πρὸς τὸ ἔργον· κιθαριστοῦ μὲν γὰρ κιθαρίζειν, σπουδαίου δὲ τὸ εὖ· εἰ δ᾽ οὕτως, [ἀνθρώπου δὲ τίθεμεν ἔργον ζωήν τινα, ταύτην δὲ ψυχῆς ἐνέργειαν καὶ πράξεις μετὰ λόγου, σπουδαίου δ᾽ ἀνδρὸς εὖ ταῦτα καὶ [15] καλῶς, ἕκαστον δ᾽ εὖ κατὰ τὴν οἰκείαν ἀρετὴν ἀποτελεῖται· εἰ δ᾽ οὕτω,] τὸ ἀνθρώπινον ἀγαθὸν ψυχῆς ἐνέργεια γίνεται κατ᾽ ἀρετήν, εἰ δὲ πλείους αἱ ἀρεταί, κατὰ τὴν ἀρίστην καὶ τελειοτάτην.

Ἔτι δ᾽ ἐν βίῳ τελείῳ. μία γὰρ χελιδὼν ἔαρ οὐ ποιεῖ, οὐδὲ μία ἡμέρα· οὕτω δὲ οὐδὲ μακάριον καὶ εὐδαίμονα [20] μία ἡμέρα οὐδ᾽ ὀλίγος χρόνος.

Περιγεγράφθω μὲν οὖν τἀγαθὸν ταύτῃ· δεῖ γὰρ ἴσως ὑποτυπῶσαι πρῶτον, εἶθ᾽ ὕστερον ἀναγράψαι. δόξειε δ᾽ ἂν παντὸς εἶναι προαγαγεῖν καὶ διαρθρῶσαι τὰ καλῶς ἔχοντα τῇ περιγραφῇ, καὶ ὁ χρόνος τῶν τοιούτων εὑρετὴς ἢ συνεργὸς ἀγαθὸς εἶναι· ὅθεν καὶ τῶν τεχνῶν [25] γεγόνασιν αἱ ἐπιδόσεις· παντὸς γὰρ προσθεῖναι τὸ ἐλλεῖπον. μεμνῆσθαι δὲ καὶ τῶν προειρημένων χρή, καὶ τὴν ἀκρίβειαν μὴ ὁμοίως ἐν ἅπασιν ἐπιζητεῖν, ἀλλ᾽ ἐν ἑκάστοις κατὰ τὴν ὑποκειμένην ὕλην καὶ ἐπὶ τοσοῦτον ἐφ᾽ ὅσον οἰκεῖον τῇ μεθόδῳ. καὶ γὰρ τέκτων καὶ γεωμέτρης διαφερόντως [30] ἐπιζητοῦσι τὴν ὀρθήν· ὃ μὲν γὰρ ἐφ᾽ ὅσον χρησίμη πρὸς τὸ ἔργον, ὃ δὲ τί ἐστιν ἢ ποῖόν τι· θεατὴς γὰρ τἀληθοῦς. τὸν αὐτὸν δὴ τρόπον καὶ ἐν τοῖς ἄλλοις ποιητέον, ὅπως μὴ τὰ πάρεργα τῶν ἔργων πλείω γίνηται. 1098b [1] οὐκ ἀπαιτητέον δ᾽ οὐδὲ τὴν αἰτίαν ἐν ἅπασιν ὁμοίως, ἀλλ᾽ ἱκανὸν ἔν τισι τὸ ὅτι δειχθῆναι καλῶς, οἷον καὶ περὶ τὰς ἀρχάς· τὸ δ᾽ ὅτι πρῶτον καὶ ἀρχή. τῶν ἀρχῶν δ᾽ αἳ μὲν ἐπαγωγῇ θεωροῦνται, αἳ δ᾽ αἰσθήσει, αἳ δ᾽ ἐθισμῷ τινί, καὶ ἄλλαι δ᾽ ἄλλως. μετιέναι [5] δὲ πειρατέον ἑκάστας ᾗ πεφύκασιν, καὶ σπουδαστέον ὅπως διορισθῶσι καλῶς· μεγάλην γὰρ ἔχουσι ῥοπὴν πρὸς τὰ ἑπόμενα. δοκεῖ γὰρ πλεῖον ἢ ἥμισυ τοῦ παντὸς εἶναι ἡ ἀρχή, καὶ πολλὰ συμφανῆ γίνεσθαι δι᾽ αὐτῆς τῶν ζητουμένων.

Σκεπτέον δὲ περὶ αὐτῆς οὐ μόνον ἐκ τοῦ συμπεράσματος [10] καὶ ἐξ ὧν ὁ λόγος, ἀλλὰ καὶ ἐκ τῶν λεγομένων περὶ αὐτῆς· τῷ μὲν γὰρ ἀληθεῖ πάντα συνᾴδει τὰ ὑπάρχοντα, τῷ δὲ ψευδεῖ ταχὺ διαφωνεῖ τἀληθές. νενεμημένων δὴ τῶν ἀγαθῶν τριχῇ, καὶ τῶν μὲν ἐκτὸς λεγομένων τῶν δὲ περὶ ψυχὴν καὶ σῶμα, τὰ περὶ ψυχὴν κυριώτατα λέγομεν καὶ [15] μάλιστα ἀγαθά, τὰς δὲ πράξεις καὶ τὰς ἐνεργείας τὰς ψυχικὰς περὶ ψυχὴν τίθεμεν. ὥστε καλῶς ἂν λέγοιτο κατά γε ταύτην τὴν δόξαν παλαιὰν οὖσαν καὶ ὁμολογουμένην ὑπὸ τῶν φιλοσοφούντων. ὀρθῶς δὲ καὶ ὅτι πράξεις τινὲς λέγονται καὶ ἐνέργειαι τὸ τέλος· οὕτω γὰρ τῶν περὶ ψυχὴν ἀγαθῶν [20] γίνεται καὶ οὐ τῶν ἐκτός. συνᾴδει δὲ τῷ λόγῳ καὶ τὸ εὖ ζῆν καὶ τὸ εὖ πράττειν τὸν εὐδαίμονα· σχεδὸν γὰρ εὐζωία τις εἴρηται καὶ εὐπραξία. φαίνεται δὲ καὶ τὰ ἐπιζητούμενα τὰ περὶ τὴν εὐδαιμονίαν ἅπανθ᾽ ὑπάρχειν τῷ λεχθέντι. τοῖς μὲν γὰρ ἀρετὴ τοῖς δὲ φρόνησις ἄλλοις δὲ σοφία τις εἶναι δοκεῖ, [25] τοῖς δὲ ταῦτα ἢ τούτων τι μεθ᾽ ἡδονῆς ἢ οὐκ ἄνευ ἡδονῆς· ἕτεροι δὲ καὶ τὴν ἐκτὸς εὐετηρίαν συμπαραλαμβάνουσιν. τούτων δὲ τὰ μὲν πολλοὶ καὶ παλαιοὶ λέγουσιν, τὰ δὲ ὀλίγοι καὶ ἔνδοξοι ἄνδρες· οὐδετέρους δὲ τούτων εὔλογον διαμαρτάνειν τοῖς ὅλοις, ἀλλ᾽ ἕν γέ τι ἢ καὶ τὰ πλεῖστα κατορθοῦν.

[30] Τοῖς μὲν οὖν λέγουσι τὴν ἀρετὴν ἢ ἀρετήν τινα συνῳδός ἐστιν ὁ λόγος· ταύτης γάρ ἐστιν ἡ κατ᾽ αὐτὴν ἐνέργεια. διαφέρει δὲ ἴσως οὐ μικρὸν ἐν κτήσει ἢ χρήσει τὸ ἄριστον ὑπολαμβάνειν, καὶ ἐν ἕξει ἢ ἐνεργείᾳ. τὴν μὲν γὰρ ἕξιν ἐνδέχεται μηδὲν ἀγαθὸν ἀποτελεῖν ὑπάρχουσαν, 1099a [1] οἷον τῷ καθεύδοντι ἢ καὶ ἄλλως πως ἐξηργηκότι, τὴν δ᾽ ἐνέργειαν οὐχ οἷόν τε· πράξει γὰρ ἐξ ἀνάγκης, καὶ εὖ πράξει. ὥσπερ δ᾽ Ὀλυμπίασιν οὐχ οἱ κάλλιστοι καὶ ἰσχυρότατοι στεφανοῦνται ἀλλ᾽ [5] οἱ ἀγωνιζόμενοι (τούτων γάρ τινες νικῶσιν), οὕτω καὶ τῶν ἐν τῷ βίῳ καλῶν κἀγαθῶν οἱ πράττοντες ὀρθῶς ἐπήβολοι γίνονται.

Ἔστι δὲ καὶ ὁ βίος αὐτῶν καθ᾽ αὑτὸν ἡδύς. τὸ μὲν γὰρ ἥδεσθαι τῶν ψυχικῶν, ἑκάστῳ δ᾽ ἐστὶν ἡδὺ πρὸς ὃ λέγεται φιλοτοιοῦτος, οἷον ἵππος μὲν τῷ φιλίππῳ, θέαμα [10] δὲ τῷ φιλοθεώρῳ· τὸν αὐτὸν δὲ τρόπον καὶ τὰ δίκαια τῷ φιλοδικαίῳ καὶ ὅλως τὰ κατ᾽ ἀρετὴν τῷ φιλαρέτῳ. τοῖς μὲν οὖν πολλοῖς τὰ ἡδέα μάχεται διὰ τὸ μὴ φύσει τοιαῦτ᾽ εἶναι, τοῖς δὲ φιλοκάλοις ἐστὶν ἡδέα τὰ φύσει ἡδέα· τοιαῦται δ᾽ αἱ κατ᾽ ἀρετὴν πράξεις, ὥστε καὶ τούτοις εἰσὶν ἡδεῖαι καὶ [15] καθ᾽ αὑτάς. οὐδὲν δὴ προσδεῖται τῆς ἡδονῆς ὁ βίος αὐτῶν ὥσπερ περιάπτου τινός, ἀλλ᾽ ἔχει τὴν ἡδονὴν ἐν ἑαυτῷ. πρὸς τοῖς εἰρημένοις γὰρ οὐδ᾽ ἐστὶν ἀγαθὸς ὁ μὴ χαίρων ταῖς καλαῖς πράξεσιν· οὔτε γὰρ δίκαιον οὐθεὶς ἂν εἴποι τὸν μὴ χαίροντα τῷ δικαιοπραγεῖν, οὔτ᾽ ἐλευθέριον τὸν μὴ χαίροντα [20] ταῖς ἐλευθερίοις πράξεσιν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δ᾽ οὕτω, καθ᾽ αὑτὰς ἂν εἶεν αἱ κατ᾽ ἀρετὴν πράξεις ἡδεῖαι. ἀλλὰ μὴν καὶ ἀγαθαί γε καὶ καλαί, καὶ μάλιστα τούτων ἕκαστον, εἴπερ καλῶς κρίνει περὶ αὐτῶν ὁ σπουδαῖος· κρίνει δ᾽ ὡς εἴπομεν. ἄριστον ἄρα καὶ κάλλιστον καὶ ἥδιστον ἡ [25] εὐδαιμονία, καὶ οὐ διώρισται ταῦτα κατὰ τὸ Δηλιακὸν ἐπίγραμμα·

κάλλιστον τὸ δικαιότατον, λῷστον δ᾽ ὑγιαίνειν·
ἥδιστον δὲ πέφυχ᾽ οὗ τις ἐρᾷ τὸ τυχεῖν.

Ἅπαντα γὰρ ὑπάρχει ταῦτα ταῖς ἀρίσταις ἐνεργείαις· ταύτας [30] δέ, ἢ μίαν τούτων τὴν ἀρίστην, φαμὲν εἶναι τὴν εὐδαιμονίαν.

Φαίνεται δ᾽ ὅμως καὶ τῶν ἐκτὸς ἀγαθῶν προσδεομένη, καθάπερ εἴπομεν· ἀδύνατον γὰρ ἢ οὐ ῥᾴδιον τὰ καλὰ πράττειν ἀχορήγητον ὄντα. πολλὰ μὲν γὰρ πράττεται, 1099b [1] καθάπερ δι᾽ ὀργάνων, διὰ φίλων καὶ πλούτου καὶ πολιτικῆς δυνάμεως· ἐνίων δὲ τητώμενοι ῥυπαίνουσι τὸ μακάριον, οἷον εὐγενείας εὐτεκνίας κάλλους· οὐ πάνυ γὰρ εὐδαιμονικὸς ὁ τὴν ἰδέαν παναίσχης ἢ δυσγενὴς ἢ μονώτης καὶ ἄτεκνος, [5] ἔτι δ᾽ ἴσως ἧττον, εἴ τῳ πάγκακοι παῖδες εἶεν ἢ φίλοι, ἢ ἀγαθοὶ ὄντες τεθνᾶσιν. καθάπερ οὖν εἴπομεν, ἔοικε προσδεῖσθαι καὶ τῆς τοιαύτης εὐημερίας· ὅθεν εἰς ταὐτὸ τάττουσιν ἔνιοι τὴν εὐτυχίαν τῇ εὐδαιμονίᾳ, ἕτεροι δὲ τὴν ἀρετήν.

Ὅθεν καὶ ἀπορεῖται πότερόν ἐστι μαθητὸν ἢ ἐθιστὸν ἢ καὶ [10] ἄλλως πως ἀσκητόν, ἢ κατά τινα θείαν μοῖραν ἢ καὶ διὰ τύχην παραγίνεται. εἰ μὲν οὖν καὶ ἄλλο τί ἐστι θεῶν δώρημα ἀνθρώποις, εὔλογον καὶ τὴν εὐδαιμονίαν θεόσδοτον εἶναι, καὶ μάλιστα τῶν ἀνθρωπίνων ὅσῳ βέλτιστον. ἀλλὰ τοῦτο μὲν ἴσως ἄλλης ἂν εἴη σκέψεως οἰκειότερον, φαίνεται δὲ κἂν εἰ [15] μὴ θεόπεμπτός ἐστιν ἀλλὰ δι᾽ ἀρετὴν καί τινα μάθησιν ἢ ἄσκησιν παραγίνεται, τῶν θειοτάτων εἶναι· τὸ γὰρ τῆς ἀρετῆς ἆθλον καὶ τέλος ἄριστον εἶναι φαίνεται καὶ θεῖόν τι καὶ μακάριον.

Εἴη δ᾽ ἂν καὶ πολύκοινον· δυνατὸν γὰρ ὑπάρξαι πᾶσι τοῖς μὴ πεπηρωμένοις πρὸς ἀρετὴν διά τινος μαθήσεως [20] καὶ ἐπιμελείας. εἰ δ᾽ ἐστὶν οὕτω βέλτιον ἢ τὸ διὰ τύχην εὐδαιμονεῖν, εὔλογον ἔχειν οὕτως, εἴπερ τὰ κατὰ φύσιν, ὡς οἷόν τε κάλλιστα ἔχειν, οὕτω πέφυκεν, ὁμοίως δὲ καὶ τὰ κατὰ τέχνην καὶ πᾶσαν αἰτίαν, καὶ μάλιστα <τὰ> κατὰ τὴν ἀρίστην. τὸ δὲ μέγιστον καὶ κάλλιστον ἐπιτρέψαι τύχῃ λίαν πλημμελὲς [25] ἂν εἴη.

Συμφανὲς δ᾽ ἐστὶ καὶ ἐκ τοῦ λόγου τὸ ζητούμενον· εἴρηται γὰρ ψυχῆς ἐνέργεια κατ᾽ ἀρετὴν ποιά τις. τῶν δὲ λοιπῶν ἀγαθῶν τὰ μὲν ὑπάρχειν ἀναγκαῖον, τὰ δὲ συνεργὰ καὶ χρήσιμα πέφυκεν ὀργανικῶς. ὁμολογούμενα δὲ ταῦτ᾽ ἂν εἴη καὶ τοῖς ἐν ἀρχῇ· τὸ γὰρ τῆς πολιτικῆς [30] τέλος ἄριστον ἐτίθεμεν, αὕτη δὲ πλείστην ἐπιμέλειαν ποιεῖται τοῦ ποιούς τινας καὶ ἀγαθοὺς τοὺς πολίτας ποιῆσαι καὶ πρακτικοὺς τῶν καλῶν.

Εἰκότως οὖν οὔτε βοῦν οὔτε ἵππον οὔτε ἄλλο τῶν ζῴων οὐδὲν εὔδαιμον λέγομεν· 1100a [1] οὐδὲν γὰρ αὐτῶν οἷόν τε κοινωνῆσαι τοιαύτης ἐνεργείας. διὰ ταύτην δὲ τὴν αἰτίαν οὐδὲ παῖς εὐδαίμων ἐστίν· οὔπω γὰρ πρακτικὸς τῶν τοιούτων διὰ τὴν ἡλικίαν· οἱ δὲ λεγόμενοι διὰ τὴν ἐλπίδα μακαρίζονται. δεῖ γάρ, ὥσπερ εἴπομεν, καὶ ἀρετῆς τελείας [5] καὶ βίου τελείου. πολλαὶ γὰρ μεταβολαὶ γίνονται καὶ παντοῖαι τύχαι κατὰ τὸν βίον, καὶ ἐνδέχεται τὸν μάλιστ᾽ εὐθηνοῦντα μεγάλαις συμφοραῖς περιπεσεῖν ἐπὶ γήρως, καθάπερ ἐν τοῖς Τρωικοῖς περὶ Πριάμου μυθεύεται· τὸν δὲ τοιαύταις χρησάμενον τύχαις καὶ τελευτήσαντα ἀθλίως οὐδεὶς εὐδαιμονίζει.

[10] Πότερον οὖν οὐδ᾽ ἄλλον οὐδένα ἀνθρώπων εὐδαιμονιστέον ἕως ἂν ζῇ, κατὰ Σόλωνα δὲ χρεὼν τέλος ὁρᾶν; εἰ δὲ δὴ καὶ θετέον οὕτως, ἆρά γε καὶ ἔστιν εὐδαίμων τότε ἐπειδὰν ἀποθάνῃ; ἢ τοῦτό γε παντελῶς ἄτοπον, ἄλλως τε καὶ τοῖς λέγουσιν ἡμῖν ἐνέργειάν τινα τὴν εὐδαιμονίαν; εἰ δὲ μὴ λέγομεν [15] τὸν τεθνεῶτα εὐδαίμονα, μηδὲ Σόλων τοῦτο βούλεται, ἀλλ᾽ ὅτι τηνικαῦτα ἄν τις ἀσφαλῶς μακαρίσειεν ἄνθρωπον ὡς ἐκτὸς ἤδη τῶν κακῶν ὄντα καὶ τῶν δυστυχημάτων, ἔχει μὲν καὶ τοῦτ᾽ ἀμφισβήτησίν τινα· δοκεῖ γὰρ εἶναί τι τῷ τεθνεῶτι καὶ κακὸν καὶ ἀγαθόν, εἴπερ καὶ τῷ ζῶντι μὴ [20] αἰσθανομένῳ δέ, οἷον τιμαὶ καὶ ἀτιμίαι καὶ τέκνων καὶ ὅλως ἀπογόνων εὐπραξίαι τε καὶ δυστυχίαι. ἀπορίαν δὲ καὶ ταῦτα παρέχει· τῷ γὰρ μακαρίως βεβιωκότι μέχρι γήρως καὶ τελευτήσαντι κατὰ λόγον ἐνδέχεται πολλὰς μεταβολὰς συμβαίνειν περὶ τοὺς ἐκγόνους, καὶ τοὺς μὲν αὐτῶν [25] ἀγαθοὺς εἶναι καὶ τυχεῖν βίου τοῦ κατ᾽ ἀξίαν, τοὺς δ᾽ ἐξ ἐναντίας· δῆλον δ᾽ ὅτι καὶ τοῖς ἀποστήμασι πρὸς τοὺς γονεῖς παντοδαπῶς ἔχειν αὐτοὺς ἐνδέχεται. ἄτοπον δὴ γίνοιτ᾽ ἄν, εἰ συμμεταβάλλοι καὶ ὁ τεθνεὼς καὶ γίνοιτο ὁτὲ μὲν εὐδαίμων πάλιν δ᾽ ἄθλιος· ἄτοπον δὲ καὶ τὸ μηδὲν μηδ᾽ ἐπί [30] τινα χρόνον συνικνεῖσθαι τὰ τῶν ἐκγόνων τοῖς γονεῦσιν.

Ἀλλ᾽ ἐπανιτέον ἐπὶ τὸ πρότερον ἀπορηθέν· τάχα γὰρ ἂν θεωρηθείη καὶ τὸ νῦν ἐπιζητούμενον ἐξ ἐκείνου. εἰ δὴ τὸ τέλος ὁρᾶν δεῖ καὶ τότε μακαρίζειν ἕκαστον οὐχ ὡς ὄντα μακάριον ἀλλ᾽ ὅτι πρότερον ἦν, πῶς οὐκ ἄτοπον, εἰ ὅτ᾽ ἔστιν εὐδαίμων, [35] μὴ ἀληθεύσεται κατ᾽ αὐτοῦ τὸ ὑπάρχον 1100b [1] διὰ τὸ μὴ βούλεσθαι τοὺς ζῶντας εὐδαιμονίζειν διὰ τὰς μεταβολάς, καὶ διὰ τὸ μόνιμόν τι τὴν εὐδαιμονίαν ὑπειληφέναι καὶ μηδαμῶς εὐμετάβολον, τὰς δὲ τύχας πολλάκις ἀνακυκλεῖσθαι περὶ τοὺς αὐτούς; δῆλον γὰρ ὡς εἰ συνακολουθοίημεν [5] ταῖς τύχαις, τὸν αὐτὸν εὐδαίμονα καὶ πάλιν ἄθλιον ἐροῦμεν πολλάκις, χαμαιλέοντά τινα τὸν εὐδαίμονα ἀποφαίνοντες καὶ σαθρῶς ἱδρυμένον. ἢ τὸ μὲν ταῖς τύχαις ἐπακολουθεῖν οὐδαμῶς ὀρθόν; οὐ γὰρ ἐν ταύταις τὸ εὖ ἢ κακῶς, ἀλλὰ προσδεῖται τούτων ὁ ἀνθρώπινος βίος, καθάπερ εἴπομεν, κύριαι [10] δ᾽ εἰσὶν αἱ κατ᾽ ἀρετὴν ἐνέργειαι τῆς εὐδαιμονίας, αἱ δ᾽ ἐναντίαι τοῦ ἐναντίου.

Μαρτυρεῖ δὲ τῷ λόγῳ καὶ τὸ νῦν διαπορηθέν. περὶ οὐδὲν γὰρ οὕτως ὑπάρχει τῶν ἀνθρωπίνων ἔργων βεβαιότης ὡς περὶ τὰς ἐνεργείας τὰς κατ᾽ ἀρετήν· μονιμώτεραι γὰρ καὶ τῶν ἐπιστημῶν αὗται δοκοῦσιν εἶναι· [15] τούτων δ᾽ αὐτῶν αἱ τιμιώταται μονιμώτεραι διὰ τὸ μάλιστα καὶ συνεχέστατα καταζῆν ἐν αὐταῖς τοὺς μακαρίους· τοῦτο γὰρ ἔοικεν αἰτίῳ τοῦ μὴ γίνεσθαι περὶ αὐτὰς λήθην. ὑπάρξει δὴ τὸ ζητούμενον τῷ εὐδαίμονι, καὶ ἔσται διὰ βίου τοιοῦτος· ἀεὶ γὰρ ἢ μάλιστα πάντων πράξει καὶ θεωρήσει [20] τὰ κατ᾽ ἀρετήν, καὶ τὰς τύχας οἴσει κάλλιστα καὶ πάντῃ πάντως ἐμμελῶς ὅ γ᾽ ὡς ἀληθῶς ἀγαθὸς καὶ τετράγωνος ἄνευ ψόγου.

Πολλῶν δὲ γινομένων κατὰ τύχην καὶ διαφερόντων μεγέθει καὶ μικρότητι, τὰ μὲν μικρὰ τῶν εὐτυχημάτων, ὁμοίως δὲ καὶ τῶν ἀντικειμένων, δῆλον ὡς οὐ ποιεῖ [25] ῥοπὴν τῆς ζωῆς, τὰ δὲ μεγάλα καὶ πολλὰ γινόμενα μὲν εὖ μακαριώτερον τὸν βίον ποιήσει (καὶ γὰρ αὐτὰ συνεπικοσμεῖν πέφυκεν, καὶ ἡ χρῆσις αὐτῶν καλὴ καὶ σπουδαία γίνεται), ἀνάπαλιν δὲ συμβαίνοντα θλίβει καὶ λυμαίνεται τὸ μακάριον· λύπας τε γὰρ ἐπιφέρει καὶ ἐμποδίζει πολλαῖς [30] ἐνεργείαις. ὅμως δὲ καὶ ἐν τούτοις διαλάμπει τὸ καλόν, ἐπειδὰν φέρῃ τις εὐκόλως πολλὰς καὶ μεγάλας ἀτυχίας, μὴ δι᾽ ἀναλγησίαν, ἀλλὰ γεννάδας ὢν καὶ μεγαλόψυχος.

Εἰ δ᾽ εἰσὶν αἱ ἐνέργειαι κύριαι τῆς ζωῆς, καθάπερ εἴπομεν, οὐδεὶς ἂν γένοιτο τῶν μακαρίων ἄθλιος· οὐδέποτε [35] γὰρ πράξει τὰ μισητὰ καὶ τὰ φαῦλα. 1101a [1] τὸν γὰρ ὡς ἀληθῶς ἀγαθὸν καὶ ἔμφρονα πάσας οἰόμεθα τὰς τύχας εὐσχημόνως φέρειν καὶ ἐκ τῶν ὑπαρχόντων ἀεὶ τὰ κάλλιστα πράττειν, καθάπερ καὶ στρατηγὸν ἀγαθὸν τῷ παρόντι στρατοπέδῳ χρῆσθαι πολεμικώτατα καὶ σκυτοτόμον ἐκ τῶν δοθέντων [5] σκυτῶν κάλλιστον ὑπόδημα ποιεῖν· τὸν αὐτὸν δὲ τρόπον καὶ τοὺς ἄλλους τεχνίτας ἅπαντας. εἰ δ᾽ οὕτως, ἄθλιος μὲν οὐδέποτε γένοιτ᾽ ἂν ὁ εὐδαίμων, οὐ μὴν μακάριός γε, ἂν Πριαμικαῖς τύχαις περιπέσῃ.

Οὐδὲ δὴ ποικίλος γε καὶ εὐμετάβολος· οὔτε γὰρ ἐκ τῆς εὐδαιμονίας κινηθήσεται ῥᾳδίως, [10] οὐδ᾽ ὑπὸ τῶν τυχόντων ἀτυχημάτων ἀλλ᾽ ὑπὸ μεγάλων καὶ πολλῶν, ἔκ τε τῶν τοιούτων οὐκ ἂν γένοιτο πάλιν εὐδαίμων ἐν ὀλίγῳ χρόνῳ, ἀλλ᾽ εἴπερ, ἐν πολλῷ τινὶ καὶ τελείῳ, μεγάλων καὶ καλῶν ἐν αὐτῷ γενόμενος ἐπήβολος.

Τί οὖν κωλύει λέγειν εὐδαίμονα τὸν κατ᾽ ἀρετὴν τελείαν [15] ἐνεργοῦντα καὶ τοῖς ἐκτὸς ἀγαθοῖς ἱκανῶς κεχορηγημένον μὴ τὸν τυχόντα χρόνον ἀλλὰ τέλειον βίον; ἢ προσθετέον καὶ βιωσόμενον οὕτω καὶ τελευτήσοντα κατὰ λόγον; ἐπειδὴ τὸ μέλλον ἀφανὲς ἡμῖν ἐστίν, τὴν εὐδαιμονίαν δὲ τέλος καὶ τέλειον τίθεμεν πάντῃ πάντως. εἰ δ’ οὕτω, μακαρίους ἐροῦμεν [20] τῶν ζώντων οἷς ὑπάρχει καὶ ὑπάρξει τὰ λεχθέντα, μακαρίους δ’ ἀνθρώπους. καὶ περὶ μὲν τούτων ἐπὶ τοσοῦτον διωρίσθω.

Τὰς δὲ τῶν ἀπογόνων τύχας καὶ τῶν φίλων ἁπάντων τὸ μὲν μηδοτιοῦν συμβάλλεσθαι λίαν ἄφιλον φαίνεται καὶ ταῖς δόξαις ἐναντίον· πολλῶν δὲ καὶ παντοίας ἐχόντων διαφορὰς [25] τῶν συμβαινόντων, καὶ τῶν μὲν μᾶλλον συνικνουμένων τῶν δ’ ἧττον, καθ’ ἕκαστον μὲν διαιρεῖν μακρὸν καὶ ἀπέραντον φαίνεται, καθόλου δὲ λεχθὲν καὶ τύπῳ τάχ’ ἂν ἱκανῶς ἔχοι. εἰ δή, καθάπερ καὶ τῶν περὶ αὑτὸν ἀτυχημάτων τὰ μὲν ἔχει τι βρῖθος καὶ ῥοπὴν πρὸς τὸν βίον τὰ [30] δ’ ἐλαφροτέροις ἔοικεν, οὕτω καὶ τὰ περὶ τοὺς φίλους ὁμοίως ἅπαντας, διαφέρει δὲ τῶν παθῶν ἕκαστον περὶ ζῶντας ἢ τελευτήσαντας συμβαίνειν πολὺ μᾶλλον ἢ τὰ παράνομα καὶ δεινὰ προϋπάρχειν ἐν ταῖς τραγῳδίαις ἢ πράττεσθαι, συλλογιστέον δὴ καὶ ταύτην τὴν διαφοράν, μᾶλλον δ’ ἴσως [35] τὸ διαπορεῖσθαι περὶ τοὺς κεκμηκότας εἴ τινος ἀγαθοῦ κοινωνοῦσιν ἢ τῶν ἀντικειμένων. 1101b [1] ἔοικε γὰρ ἐκ τούτων εἰ καὶ διικνεῖται πρὸς αὐτοὺς ὁτιοῦν, εἴτ’ ἀγαθὸν εἴτε τοὐναντίον, ἀφαυρόν τι καὶ μικρὸν ἢ ἁπλῶς ἢ ἐκείνοις εἶναι, εἰ δὲ μή, τοσοῦτόν γε καὶ τοιοῦτον ὥστε μὴ ποιεῖν εὐδαίμονας τοὺς μὴ ὄντας [5] μηδὲ τοὺς ὄντας ἀφαιρεῖσθαι τὸ μακάριον. συμβάλλεσθαι μὲν οὖν τι φαίνονται τοῖς κεκμηκόσιν αἱ εὐπραξίαι τῶν φίλων, ὁμοίως δὲ καὶ αἱ δυσπραξίαι, τοιαῦτα δὲ καὶ τηλικαῦτα ὥστε μήτε τοὺς εὐδαίμονας μὴ εὐδαίμονας ποιεῖν μήτ’ ἄλλο τῶν τοιούτων μηδέν.

[10] Διωρισμένων δὲ τούτων ἐπισκεψώμεθα περὶ τῆς εὐδαιμονίας πότερα τῶν ἐπαινετῶν ἐστὶν ἢ μᾶλλον τῶν τιμίων· δῆλον γὰρ ὅτι τῶν γε δυνάμεων οὐκ ἔστιν. φαίνεται δὴ πᾶν τὸ ἐπαινετὸν τῷ ποιόν τι εἶναι καὶ πρός τι πῶς ἔχειν ἐπαινεῖσθαι· τὸν γὰρ δίκαιον καὶ τὸν ἀνδρεῖον καὶ ὅλως τὸν [15] ἀγαθόν τε καὶ τὴν ἀρετὴν ἐπαινοῦμεν διὰ τὰς πράξεις καὶ τὰ ἔργα, καὶ τὸν ἰσχυρὸν δὲ καὶ τὸν δρομικὸν καὶ τῶν ἄλλων ἕκαστον τῷ ποιόν τινα πεφυκέναι καὶ ἔχειν πως πρὸς ἀγαθόν τι καὶ σπουδαῖον. δῆλον δὲ τοῦτο καὶ ἐκ τῶν περὶ τοὺς θεοὺς ἐπαίνων· γελοῖοι γὰρ φαίνονται πρὸς ἡμᾶς ἀναφερόμενοι, [20] τοῦτο δὲ συμβαίνει διὰ τὸ γίνεσθαι τοὺς ἐπαίνους δι’ ἀναφορᾶς, ὥσπερ εἴπομεν. εἰ δ’ ἐστὶν ὁ ἔπαινος τῶν τοιούτων, δῆλον ὅτι τῶν ἀρίστων οὐκ ἔστιν ἔπαινος, ἀλλὰ μεῖζόν τι καὶ βέλτιον, καθάπερ καὶ φαίνεται· τούς τε γὰρ θεοὺς μακαρίζομεν καὶ εὐδαιμονίζομεν καὶ τῶν ἀνδρῶν τοὺς θειοτάτους [25] [μακαρίζομεν]. ὁμοίως δὲ καὶ τῶν ἀγαθῶν· οὐδεὶς γὰρ τὴν εὐδαιμονίαν ἐπαινεῖ καθάπερ τὸ δίκαιον, ἀλλ’ ὡς θειότερόν τι

καὶ βέλτιον μακαρίζει.

Δοκεῖ δὲ καὶ Εὔδοξος καλῶς συνηγορῆσαι περὶ τῶν ἀριστείων τῇ ἡδονῇ· τὸ γὰρ μὴ ἐπαινεῖσθαι τῶν ἀγαθῶν οὖσαν μηνύειν ᾤετο ὅτι κρεῖττόν ἐστι [30] τῶν ἐπαινετῶν, τοιοῦτον δ᾽ εἶναι τὸν θεὸν καὶ τἀγαθόν· πρὸς ταῦτα γὰρ καὶ τἆλλα ἀναφέρεσθαι. ὁ μὲν γὰρ ἔπαινος τῆς ἀρετῆς· πρακτικοὶ γὰρ τῶν καλῶν ἀπὸ ταύτης· τὰ δ᾽ ἐγκώμια τῶν ἔργων ὁμοίως καὶ τῶν σωματικῶν καὶ τῶν ψυχικῶν. ἀλλὰ ταῦτα μὲν ἴσως οἰκειότερον ἐξακριβοῦν [35] τοῖς περὶ τὰ ἐγκώμια πεπονημένοις· ἡμῖν δὲ δῆλον ἐκ τῶν εἰρημένων 1102a [1] ὅτι ἐστὶν ἡ εὐδαιμονία τῶν τιμίων καὶ τελείων. ἔοικε δ᾽ οὕτως ἔχειν καὶ διὰ τὸ εἶναι ἀρχή· ταύτης γὰρ χάριν τὰ λοιπὰ πάντα πάντες πράττομεν, τὴν ἀρχὴν δὲ καὶ τὸ αἴτιον τῶν ἀγαθῶν τίμιόν τι καὶ θεῖον τίθεμεν.

[5] Ἐπεὶ δ᾽ ἐστὶν ἡ εὐδαιμονία ψυχῆς ἐνέργειά τις κατ᾽ ἀρετὴν τελείαν, περὶ ἀρετῆς ἐπισκεπτέον ἂν εἴη· τάχα γὰρ οὕτως ἂν βέλτιον καὶ περὶ τῆς εὐδαιμονίας θεωρήσαιμεν. δοκεῖ δὲ καὶ ὁ κατ᾽ ἀλήθειαν πολιτικὸς περὶ ταύτην μάλιστα πεπονῆσθαι· βούλεται γὰρ τοὺς πολίτας ἀγαθοὺς ποιεῖν καὶ τῶν [10] νόμων ὑπηκόους. παράδειγμα δὲ τούτων ἔχομεν τοὺς Κρητῶν καὶ Λακεδαιμονίων νομοθέτας, καὶ εἴ τινες ἕτεροι τοιοῦτοι γεγένηνται. εἰ δὲ τῆς πολιτικῆς ἐστὶν ἡ σκέψις αὕτη, δῆλον ὅτι γίνοιτ᾽ ἂν ἡ ζήτησις κατὰ τὴν ἐξ ἀρχῆς προαίρεσιν. περὶ ἀρετῆς δὲ ἐπισκεπτέον ἀνθρωπίνης δῆλον ὅτι· καὶ γὰρ τἀγαθὸν [15] ἀνθρώπινον ἐζητοῦμεν καὶ τὴν εὐδαιμονίαν ἀνθρωπίνην. ἀρετὴν δὲ λέγομεν ἀνθρωπίνην οὐ τὴν τοῦ σώματος ἀλλὰ τὴν τῆς ψυχῆς· καὶ τὴν εὐδαιμονίαν δὲ ψυχῆς ἐνέργειαν λέγομεν. εἰ δὲ ταῦθ᾽ οὕτως ἔχει, δῆλον ὅτι δεῖ τὸν πολιτικὸν εἰδέναι πως τὰ περὶ ψυχῆς, ὥσπερ καὶ τὸν ὀφθαλμοὺς θεραπεύσοντα [20] καὶ πᾶν <τὸ> σῶμα, καὶ μᾶλλον ὅσῳ τιμιωτέρα καὶ βελτίων ἡ πολιτικὴ τῆς ἰατρικῆς· τῶν δ᾽ ἰατρῶν οἱ χαρίεντες πολλὰ πραγματεύονται περὶ τὴν τοῦ σώματος γνῶσιν. θεωρητέον δὴ καὶ τῷ πολιτικῷ περὶ ψυχῆς, θεωρητέον δὲ τούτων χάριν, καὶ ἐφ᾽ ὅσον ἱκανῶς ἔχει πρὸς τὰ ζητούμενα· [25] τὸ γὰρ ἐπὶ πλεῖον ἐξακριβοῦν ἐργωδέστερον ἴσως ἐστὶ τῶν προκειμένων.

Λέγεται δὲ περὶ αὐτῆς καὶ ἐν τοῖς ἐξωτερικοῖς λόγοις ἀρκούντως ἔνια, καὶ χρηστέον αὐτοῖς· οἷον τὸ μὲν ἄλογον αὐτῆς εἶναι, τὸ δὲ λόγον ἔχον. ταῦτα δὲ πότερον διώρισται καθάπερ τὰ τοῦ σώματος μόρια καὶ πᾶν τὸ [30] μεριστόν, ἢ τῷ λόγῳ δύο ἐστὶν ἀχώριστα πεφυκότα καθάπερ ἐν τῇ περιφερείᾳ τὸ κυρτὸν καὶ τὸ κοῖλον, οὐθὲν διαφέρει πρὸς τὸ παρόν.

Τοῦ ἀλόγου δὲ τὸ μὲν ἔοικε κοινῷ καὶ φυτικῷ, λέγω δὲ τὸ αἴτιον τοῦ τρέφεσθαι καὶ αὔξεσθαι· τὴν τοιαύτην γὰρ δύναμιν τῆς ψυχῆς ἐν ἅπασι τοῖς τρεφομένοις θείη τις ἂν 1102b [1] καὶ ἐν τοῖς ἐμβρύοις, τὴν αὐτὴν δὲ ταύτην καὶ ἐν τοῖς τελείοις· εὐλογώτερον γὰρ ἢ ἄλλην τινά. ταύτης μὲν οὖν κοινή τις ἀρετὴ καὶ οὐκ ἀνθρωπίνη φαίνεται· δοκεῖ γὰρ ἐν τοῖς ὕπνοις ἐνεργεῖν μάλιστα τὸ μόριον τοῦτο καὶ [5] ἡ δύναμις αὕτη, ὁ δ᾽ ἀγαθὸς καὶ κακὸς ἥκιστα διάδηλοι καθ᾽ ὕπνον (ὅθεν φασὶν οὐδὲν διαφέρειν τὸ ἥμισυ τοῦ βίου τοὺς εὐδαίμονας τῶν ἀθλίων· συμβαίνει δὲ τοῦτο εἰκότως· ἀργία γάρ ἐστιν ὁ ὕπνος τῆς ψυχῆς ᾗ λέγεται σπουδαία καὶ φαύλη), πλὴν εἰ μὴ κατὰ μικρὸν καὶ διικνοῦνταί τινες τῶν κινήσεων, [10] καὶ ταύτῃ βελτίω γίνεται τὰ φαντάσματα τῶν ἐπιεικῶν ἢ τῶν τυχόντων. ἀλλὰ περὶ μὲν τούτων ἅλις, καὶ τὸ θρεπτικὸν ἐατέον, ἐπειδὴ τῆς ἀνθρωπικῆς ἀρετῆς ἄμοιρον πέφυκεν.

Ἔοικε δὲ καὶ ἄλλη τις φύσις τῆς ψυχῆς ἄλογος εἶναι, μετέχουσα μέντοι πῃ λόγου. τοῦ γὰρ ἐγκρατοῦς καὶ ἀκρατοῦς τὸν [15] λόγον καὶ τῆς ψυχῆς τὸ λόγον ἔχον ἐπαινοῦμεν· ὀρθῶς γὰρ καὶ ἐπὶ τὰ βέλτιστα παρακαλεῖ· φαίνεται δ᾽ ἐν αὐτοῖς καὶ ἄλλο τι παρὰ τὸν λόγον πεφυκός, ὃ μάχεται καὶ ἀντιτείνει τῷ λόγῳ. ἀτεχνῶς γὰρ καθάπερ τὰ παραλελυμένα τοῦ σώματος μόρια εἰς τὰ δεξιὰ προαιρουμένων κινῆσαι [20] τοὐναντίον εἰς τὰ ἀριστερὰ παραφέρεται, καὶ ἐπὶ τῆς ψυχῆς οὕτως· ἐπὶ τἀναντία γὰρ αἱ ὁρμαὶ τῶν ἀκρατῶν. ἀλλ᾽ ἐν τοῖς σώμασι μὲν ὁρῶμεν τὸ παραφερόμενον, ἐπὶ δὲ τῆς ψυχῆς οὐχ ὁρῶμεν. ἴσως δ᾽ οὐδὲν ἧττον καὶ ἐν τῇ ψυχῇ νομιστέον εἶναί τι παρὰ τὸν λόγον, ἐναντιούμενον τούτῳ καὶ ἀντιβαῖνον. [25] πῶς δ᾽ ἕτερον, οὐδὲν διαφέρει. λόγου δὲ καὶ τοῦτο φαίνεται μετέχειν, ὥσπερ εἴπομεν· πειθαρχεῖ γοῦν τῷ λόγῳ τὸ τοῦ ἐγκρατοῦς — ἔτι δ᾽ ἴσως εὐηκοώτερόν ἐστι τὸ τοῦ σώφρονος καὶ ἀνδρείου· πάντα γὰρ ὁμοφωνεῖ τῷ λόγῳ.

Φαίνεται δὴ καὶ τὸ ἄλογον διττόν. τὸ μὲν γὰρ φυτικὸν οὐδαμῶς κοινωνεῖ [30] λόγου, τὸ δ᾽ ἐπιθυμητικὸν καὶ ὅλως ὀρεκτικὸν μετέχει πως, ᾗ κατήκοόν ἐστιν αὐτοῦ καὶ πειθαρχικόν· οὕτω δὴ καὶ τοῦ πατρὸς καὶ τῶν φίλων φαμὲν ἔχειν λόγον, καὶ οὐχ ὥσπερ τῶν μαθηματικῶν. ὅτι δὲ πείθεταί πως ὑπὸ λόγου τὸ ἄλογον, μηνύει καὶ ἡ νουθέτησις καὶ πᾶσα ἐπιτίμησίς τε καὶ παράκλησις. 1103a [1] εἰ δὲ χρὴ καὶ τοῦτο φάναι λόγον ἔχειν, διττὸν ἔσται καὶ τὸ λόγον ἔχον, τὸ μὲν κυρίως καὶ ἐν αὑτῷ, τὸ δ᾽ ὥσπερ τοῦ πατρὸς ἀκουστικόν τι.

Διορίζεται δὲ καὶ ἡ ἀρετὴ κατὰ τὴν διαφορὰν ταύτην· λέγομεν γὰρ αὐτῶν τὰς [5] μὲν διανοητικὰς τὰς δὲ ἠθικάς, σοφίαν μὲν καὶ σύνεσιν καὶ φρόνησιν διανοητικάς, ἐλευθεριότητα δὲ καὶ σωφροσύνην ἠθικάς. λέγοντες γὰρ περὶ τοῦ ἤθους οὐ λέγομεν ὅτι σοφὸς ἢ συνετὸς ἀλλ᾽ ὅτι πρᾶος ἢ σώφρων· ἐπαινοῦμεν δὲ καὶ τὸν σοφὸν κατὰ τὴν ἕξιν· τῶν ἕξεων δὲ τὰς ἐπαινετὰς ἀρετὰς [10] λέγομεν.

Βιβλίο 2

Διττῆς δὴ τῆς ἀρετῆς οὔσης, τῆς μὲν διανοητικῆς τῆς [15] δὲ ἠθικῆς, ἡ μὲν διανοητικὴ τὸ πλεῖον ἐκ διδασκαλίας ἔχει καὶ τὴν γένεσιν καὶ τὴν αὔξησιν, διόπερ ἐμπειρίας δεῖται καὶ χρόνου, ἡ δ᾽ ἠθικὴ ἐξ ἔθους περιγίνεται, ὅθεν καὶ τοὔνομα ἔσχηκε μικρὸν παρεκκλῖνον ἀπὸ τοῦ ἔθους. ἐξ οὗ καὶ δῆλον ὅτι οὐδεμία τῶν ἠθικῶν ἀρετῶν φύσει ἡμῖν ἐγγίνεται· οὐθὲν [20] γὰρ τῶν φύσει ὄντων ἄλλως ἐθίζεται, οἷον ὁ λίθος φύσει κάτω φερόμενος οὐκ ἂν ἐθισθείη ἄνω φέρεσθαι, οὐδ᾽ ἂν μυριάκις αὐτὸν ἐθίζῃ τις ἄνω ῥιπτῶν, οὐδὲ τὸ πῦρ κάτω, οὐδ᾽ ἄλλο οὐδὲν τῶν ἄλλως πεφυκότων ἄλλως ἂν ἐθισθείη. οὔτ᾽ ἄρα φύσει οὔτε παρὰ φύσιν ἐγγίνονται αἱ ἀρεταί, ἀλλὰ [25] πεφυκόσι μὲν ἡμῖν δέξασθαι αὐτάς, τελειουμένοις δὲ διὰ τοῦ ἔθους.

Ἔτι ὅσα μὲν φύσει ἡμῖν παραγίνεται, τὰς δυνάμεις τούτων πρότερον κομιζόμεθα, ὕστερον δὲ τὰς ἐνεργείας ἀποδίδομεν (ὅπερ ἐπὶ τῶν αἰσθήσεων δῆλον· οὐ γὰρ ἐκ τοῦ πολλάκις ἰδεῖν ἢ πολλάκις ἀκοῦσαι τὰς αἰσθήσεις ἐλάβομεν, [30] ἀλλ᾽ ἀνάπαλιν ἔχοντες ἐχρησάμεθα, οὐ χρησάμενοι ἔσχομεν)· τὰς δ᾽ ἀρετὰς λαμβάνομεν ἐνεργήσαντες πρότερον, ὥσπερ καὶ ἐπὶ τῶν ἄλλων τεχνῶν· ἃ γὰρ δεῖ μαθόντας ποιεῖν, ταῦτα ποιοῦντες μανθάνομεν, οἷον οἰκοδομοῦντες οἰκοδόμοι γίνονται καὶ κιθαρίζοντες κιθαρισταί· 1103b [1] οὕτω δὴ καὶ τὰ μὲν δίκαια πράττοντες δίκαιοι γινόμεθα, τὰ δὲ σώφρονα σώφρονες, τὰ δ᾽ ἀνδρεῖα ἀνδρεῖοι. Μαρτυρεῖ δὲ καὶ τὸ γινόμενον ἐν ταῖς πόλεσιν· οἱ γὰρ νομοθέται τοὺς πολίτας ἐθίζοντες ποιοῦσιν ἀγαθούς, καὶ τὸ μὲν βούλημα παντὸς νομοθέτου [5] τοῦτ᾽ ἐστίν, ὅσοι δὲ μὴ εὖ αὐτὸ ποιοῦσιν ἁμαρτάνουσιν, καὶ διαφέρει τούτῳ πολιτεία πολιτείας ἀγαθὴ φαύλης.

Ἔτι ἐκ τῶν αὐτῶν καὶ διὰ τῶν αὐτῶν καὶ γίνεται πᾶσα ἀρετὴ καὶ φθείρεται, ὁμοίως δὲ καὶ τέχνη· ἐκ γὰρ τοῦ κιθαρίζειν καὶ οἱ ἀγαθοὶ καὶ κακοὶ γίνονται κιθαρισταί. ἀνάλογον [10] δὲ καὶ οἰκοδόμοι καὶ οἱ λοιποὶ πάντες· ἐκ μὲν γὰρ τοῦ εὖ οἰκοδομεῖν ἀγαθοὶ οἰκοδόμοι ἔσονται, ἐκ δὲ τοῦ κακῶς κακοί. εἰ γὰρ μὴ οὕτως εἶχεν, οὐδὲν ἂν ἔδει τοῦ διδάξοντος, ἀλλὰ πάντες ἂν ἐγίνοντο ἀγαθοὶ ἢ κακοί. οὕτω δὴ καὶ ἐπὶ τῶν ἀρετῶν ἔχει· πράττοντες γὰρ τὰ ἐν τοῖς συναλλάγμασι [15] τοῖς πρὸς τοὺς ἀνθρώπους γινόμεθα οἳ μὲν δίκαιοι οἳ δὲ ἄδικοι, πράττοντες δὲ τὰ ἐν τοῖς δεινοῖς καὶ ἐθιζόμενοι φοβεῖσθαι ἢ θαῤῥεῖν οἳ μὲν ἀνδρεῖοι οἳ δὲ δειλοί. ὁμοίως δὲ καὶ τὰ περὶ τὰς ἐπιθυμίας ἔχει καὶ τὰ περὶ τὰς ὀργάς· οἳ μὲν γὰρ σώφρονες καὶ πρᾶοι γίνονται, οἳ δ᾽ ἀκόλαστοι καὶ ὀργίλοι, [20] οἳ μὲν ἐκ τοῦ οὑτωσὶ ἐν αὐτοῖς ἀναστρέφεσθαι, οἳ δὲ ἐκ τοῦ οὑτωσί. καὶ ἑνὶ δὴ λόγῳ ἐκ τῶν ὁμοίων ἐνεργειῶν αἱ ἕξεις γίνονται. διὸ δεῖ τὰς ἐνεργείας ποιὰς ἀποδιδόναι· κατὰ γὰρ τὰς τούτων διαφορὰς ἀκολουθοῦσιν αἱ ἕξεις. οὐ μικρὸν οὖν διαφέρει τὸ οὕτως ἢ οὕτως εὐθὺς ἐκ νέων ἐθίζεσθαι, [25] ἀλλὰ πάμπολυ, μᾶλλον δὲ τὸ πᾶν.

Ἐπεὶ οὖν ἡ παροῦσα πραγματεία οὐ θεωρίας ἕνεκά ἐστιν ὥσπερ αἱ ἄλλαι (οὐ γὰρ ἵνα εἰδῶμεν τί ἐστιν ἡ ἀρετὴ σκεπτόμεθα, ἀλλ᾽ ἵν᾽ ἀγαθοὶ γενώμεθα, ἐπεὶ οὐδὲν ἂν ἦν ὄφελος αὐτῆς), ἀναγκαῖον ἐπισκέψασθαι τὰ περὶ τὰς [30] πράξεις, πῶς πρακτέον αὐτάς· αὗται γάρ εἰσι κύριαι καὶ τοῦ ποιὰς γενέσθαι τὰς ἕξεις, καθάπερ εἰρήκαμεν. τὸ μὲν οὖν κατὰ τὸν ὀρθὸν λόγον πράττειν κοινὸν καὶ ὑποκείσθω — ῥηθήσεται δ᾽ ὕστερον περὶ αὐτοῦ, καὶ τί ἐστιν ὁ ὀρθὸς λόγος, καὶ πῶς ἔχει πρὸς τὰς ἄλλας ἀρετάς. 1104a [1] ἐκεῖνο δὲ προδιομολογείσθω, ὅτι πᾶς ὁ περὶ τῶν πρακτῶν λόγος τύπῳ καὶ οὐκ ἀκριβῶς ὀφείλει λέγεσθαι, ὥσπερ καὶ κατ᾽ ἀρχὰς εἴπομεν ὅτι κατὰ τὴν ὕλην οἱ λόγοι ἀπαιτητέοι· τὰ δ᾽ ἐν ταῖς πράξεσι καὶ τὰ συμφέροντα οὐδὲν ἑστηκὸς ἔχει, ὥσπερ [5] οὐδὲ τὰ ὑγιεινά. τοιούτου δ᾽ ὄντος τοῦ καθόλου λόγου, ἔτι μᾶλλον ὁ περὶ τῶν καθ᾽ ἕκαστα λόγος οὐκ ἔχει τἀκριβές· οὔτε γὰρ ὑπὸ τέχνην οὔθ᾽ ὑπὸ παραγγελίαν οὐδεμίαν πίπτει, δεῖ δ᾽ αὐτοὺς ἀεὶ τοὺς πράττοντας τὰ πρὸς τὸν καιρὸν σκοπεῖν, ὥσπερ καὶ ἐπὶ τῆς ἰατρικῆς ἔχει καὶ τῆς [10] κυβερνητικῆς. ἀλλὰ καίπερ ὄντος τοιούτου τοῦ παρόντος λόγου πειρατέον βοηθεῖν. πρῶτον οὖν τοῦτο θεωρητέον, ὅτι τὰ τοιαῦτα πέφυκεν ὑπ᾽ ἐνδείας καὶ ὑπερβολῆς φθείρεσθαι, (δεῖ γὰρ ὑπὲρ τῶν ἀφανῶν τοῖς φανεροῖς μαρτυρίοις χρῆσθαι) ὥσπερ ἐπὶ τῆς ἰσχύος καὶ τῆς ὑγιείας ὁρῶμεν· [15] τά τε γὰρ ὑπερβάλλοντα γυμνάσια καὶ τὰ ἐλλείποντα φθείρει τὴν ἰσχύν, ὁμοίως δὲ καὶ τὰ ποτὰ καὶ τὰ σιτία πλείω καὶ ἐλάττω γινόμενα φθείρει τὴν ὑγίειαν, τὰ δὲ σύμμετρα καὶ ποιεῖ καὶ αὔξει καὶ σῴζει. οὕτως οὖν καὶ ἐπὶ σωφροσύνης καὶ ἀνδρείας ἔχει καὶ τῶν ἄλλων ἀρετῶν. [20] ὅ τε γὰρ πάντα φεύγων καὶ φοβούμενος καὶ μηδὲν ὑπομένων δειλὸς γίνεται, ὅ τε μηδὲν ὅλως φοβούμενος ἀλλὰ πρὸς πάντα βαδίζων θρασύς· ὁμοίως δὲ καὶ ὁ μὲν πάσης ἡδονῆς ἀπολαύων καὶ μηδεμιᾶς ἀπεχόμενος ἀκόλαστος, ὁ δὲ πᾶσαν φεύγων, ὥσπερ οἱ ἄγροικοι, ἀναίσθητός [25] τις· φθείρεται δὴ σωφροσύνη καὶ ἡ ἀνδρεία ὑπὸ τῆς ὑπερβολῆς καὶ τῆς ἐλλείψεως, ὑπὸ δὲ τῆς μεσότητος σῴζεται.

Ἀλλ᾽ οὐ μόνον αἱ γενέσεις καὶ αὐξήσεις καὶ αἱ φθοραὶ ἐκ τῶν αὐτῶν καὶ ὑπὸ τῶν αὐτῶν γίνονται, ἀλλὰ καὶ αἱ ἐνέργειαι ἐν τοῖς αὐτοῖς ἔσονται· καὶ γὰρ ἐπὶ τῶν [30] ἄλλων τῶν φανερωτέρων οὕτως ἔχει, οἷον ἐπὶ τῆς ἰσχύος· γίνεται γὰρ ἐκ τοῦ πολλὴν τροφὴν λαμβάνειν καὶ πολλοὺς πόνους ὑπομένειν, καὶ μάλιστα ἂν δύναιτ᾽ αὐτὰ ποιεῖν ὁ ἰσχυρός. οὕτω δ᾽ ἔχει καὶ ἐπὶ τῶν ἀρετῶν· ἔκ τε γὰρ τοῦ ἀπέχεσθαι τῶν ἡδονῶν γινόμεθα σώφρονες, καὶ γενόμενοι [35] μάλιστα δυνάμεθα ἀπέχεσθαι αὐτῶν· 1104b [1] ὁμοίως δὲ καὶ ἐπὶ τῆς ἀνδρείας· ἐθιζόμενοι γὰρ καταφρονεῖν τῶν φοβερῶν καὶ ὑπομένειν αὐτὰ γινόμεθα ἀνδρεῖοι, καὶ γενόμενοι μάλιστα δυνησόμεθα ὑπομένειν τὰ φοβερά.

Σημεῖον δὲ δεῖ ποιεῖσθαι τῶν ἕξεων τὴν ἐπιγινομένην ἡδονὴν ἢ λύπην [5] τοῖς ἔργοις· ὁ μὲν γὰρ ἀπεχόμενος τῶν σωματικῶν ἡδονῶν καὶ αὐτῷ τούτῳ χαίρων σώφρων, ὁ δ᾽ ἀχθόμενος ἀκόλαστος, καὶ ὁ μὲν ὑπομένων τὰ δεινὰ καὶ χαίρων ἢ μὴ λυπούμενός γε ἀνδρεῖος, ὁ δὲ λυπούμενος δειλός. περὶ ἡδονὰς γὰρ καὶ λύπας ἐστὶν ἡ ἠθικὴ ἀρετή· διὰ μὲν γὰρ [10] τὴν ἡδονὴν τὰ φαῦλα πράττομεν, διὰ δὲ τὴν λύπην τῶν καλῶν ἀπεχόμεθα. διὸ δεῖ ἦχθαί πως εὐθὺς ἐκ νέων, ὡς ὁ Πλάτων φησίν, ὥστε χαίρειν τε καὶ λυπεῖσθαι οἷς δεῖ· ἡ γὰρ ὀρθὴ παιδεία αὕτη ἐστίν.

Ἔτι δ᾽ εἰ αἱ ἀρεταί εἰσι περὶ πράξεις καὶ πάθη, παντὶ δὲ πάθει καὶ πάσῃ πράξει ἕπεται [15] ἡδονὴ καὶ λύπη, καὶ διὰ τοῦτ᾽ ἂν εἴη ἡ ἀρετὴ περὶ ἡδονὰς καὶ λύπας. μηνύουσι δὲ καὶ αἱ κολάσεις γινόμεναι διὰ τούτων· ἰατρεῖαι γάρ τινές εἰσιν, αἱ δὲ ἰατρεῖαι διὰ τῶν ἐναντίων πεφύκασι γίνεσθαι.

Ἔτι, ὡς καὶ πρῴην εἴπομεν, πᾶσα ψυχῆς ἕξις, ὑφ᾽ οἵων πέφυκε γίνεσθαι [20] χείρων καὶ βελτίων, πρὸς ταῦτα καὶ περὶ ταῦτα τὴν φύσιν ἔχει· δι᾽ ἡδονὰς δὲ καὶ λύπας φαῦλοι γίνονται, τῷ διώκειν ταύτας καὶ φεύγειν, ἢ ἃς μὴ δεῖ ἢ ὅτε οὐ δεῖ ἢ ὡς οὐ δεῖ ἢ ὁσαχῶς ἄλλως ὑπὸ τοῦ λόγου διορίζεται τὰ τοιαῦτα. διὸ καὶ ὁρίζονται τὰς ἀρετὰς ἀπαθείας τινὰς [25] καὶ ἠρεμίας· οὐκ εὖ δέ, ὅτι ἁπλῶς λέγουσιν, ἀλλ᾽ οὐχ ὡς δεῖ καὶ ὡς οὐ δεῖ καὶ ὅτε, καὶ ὅσα ἄλλα προστίθεται. ὑπόκειται ἄρα ἡ ἀρετὴ εἶναι ἡ τοιαύτη περὶ ἡδονὰς καὶ λύπας τῶν βελτίστων πρακτική, ἡ δὲ κακία τοὐναντίον.

Γένοιτο δ᾽ ἂν ἡμῖν καὶ ἐκ τούτων φανερὸν ὅτι περὶ τῶν [30] αὐτῶν. τριῶν γὰρ ὄντων τῶν εἰς τὰς αἱρέσεις καὶ τριῶν τῶν εἰς τὰς φυγάς, καλοῦ συμφέροντος ἡδέος, καὶ [τριῶν] τῶν ἐναντίων, αἰσχροῦ βλαβεροῦ λυπηροῦ, περὶ ταῦτα μὲν πάντα ὁ ἀγαθὸς κατορθωτικός ἐστιν ὁ δὲ κακὸς ἁμαρτητικός, μάλιστα δὲ περὶ τὴν ἡδονήν· κοινή τε γὰρ αὕτη [35] τοῖς ζῴοις, καὶ πᾶσι τοῖς ὑπὸ τὴν αἵρεσιν παρακολουθεῖ· 1105a [1] καὶ γὰρ τὸ καλὸν καὶ τὸ συμφέρον ἡδὺ φαίνεται.

Ἔτι δ᾽ ἐκ νηπίου πᾶσιν ἡμῖν συντέθραπται· διὸ χαλεπὸν ἀποτρίψασθαι τοῦτο τὸ πάθος ἐγκεχρωσμένον τῷ βίῳ. κανονίζομεν δὲ καὶ τὰς πράξεις, οἳ μὲν μᾶλλον οἳ δ᾽ ἧττον, [5] ἡδονῇ καὶ λύπῃ. διὰ τοῦτ᾽ οὖν ἀναγκαῖον εἶναι περὶ ταῦτα τὴν πᾶσαν πραγματείαν· οὐ γὰρ μικρὸν εἰς τὰς πράξεις εὖ ἢ κακῶς χαίρειν καὶ λυπεῖσθαι.

Ἔτι δὲ χαλεπώτερον ἡδονῇ μάχεσθαι ἢ θυμῷ, καθάπερ φησὶν Ἡράκλειτος, περὶ δὲ τὸ χαλεπώτερον ἀεὶ καὶ τέχνη γίνεται καὶ ἀρετή· [10] καὶ γὰρ τὸ εὖ βέλτιον ἐν τούτῳ. ὥστε καὶ διὰ τοῦτο περὶ ἡδονὰς καὶ λύπας πᾶσα ἡ πραγματεία καὶ τῇ ἀρετῇ καὶ τῇ πολιτικῇ· ὁ μὲν γὰρ εὖ τούτοις χρώμενος ἀγαθὸς ἔσται, ὁ δὲ κακῶς κακός.

Ὅτι μὲν οὖν ἐστὶν ἡ ἀρετὴ περὶ ἡδονὰς καὶ λύπας, καὶ ὅτι ἐξ ὧν γίνεται, ὑπὸ τούτων καὶ αὔξεται [15] καὶ φθείρεται μὴ ὡσαύτως γινομένων, καὶ ὅτι ἐξ ὧν ἐγένετο, περὶ ταῦτα καὶ ἐνεργεῖ, εἰρήσθω.

Ἀπορήσειε δ᾽ ἄν τις πῶς λέγομεν ὅτι δεῖ τὰ μὲν δίκαια πράττοντας δικαίους γίνεσθαι, τὰ δὲ σώφρονα σώφρονας· εἰ γὰρ πράττουσι τὰ δίκαια καὶ σώφρονα, [20] ἤδη εἰσὶ δίκαιοι καὶ σώφρονες, ὥσπερ εἰ τὰ γραμματικὰ καὶ τὰ μουσικά, γραμματικοὶ καὶ μουσικοί. ἢ οὐδ᾽ ἐπὶ τῶν τεχνῶν οὕτως ἔχει; ἐνδέχεται γὰρ γραμματικόν τι ποιῆσαι καὶ ἀπὸ τύχης καὶ ἄλλου ὑποθεμένου. τότε οὖν ἔσται γραμματικός, ἐὰν καὶ γραμματικόν τι ποιήσῃ καὶ [25] γραμματικῶς· τοῦτο δ᾽ ἐστὶ τὸ κατὰ τὴν ἐν αὑτῷ γραμματικήν.

Ἔτι οὐδ᾽ ὅμοιόν ἐστιν ἐπί τε τῶν τεχνῶν καὶ τῶν ἀρετῶν· τὰ μὲν γὰρ ὑπὸ τῶν τεχνῶν γινόμενα τὸ εὖ ἔχει ἐν αὑτοῖς· ἀρκεῖ οὖν ταῦτά πως ἔχοντα γενέσθαι· τὰ δὲ κατὰ τὰς ἀρετὰς γινόμενα οὐκ ἐὰν αὐτά πως ἔχῃ, δικαίως

[30] ἢ σωφρόνως πράττεται, ἀλλὰ καὶ ἐὰν ὁ πράττων πῶς ἔχων πράττῃ, πρῶτον μὲν ἐὰν εἰδώς, ἔπειτ᾽ ἐὰν προαιρούμενος, καὶ προαιρούμενος δι᾽ αὐτά, τὸ δὲ τρίτον ἐὰν καὶ βεβαίως καὶ ἀμετακινήτως ἔχων πράττῃ.

1105b [1] Ταῦτα δὲ πρὸς μὲν τὸ τὰς ἄλλας τέχνας ἔχειν οὐ συναριθμεῖται, πλὴν αὐτὸ τὸ εἰδέναι· πρὸς δὲ τὸ τὰς ἀρετὰς τὸ μὲν εἰδέναι οὐδὲν ἢ μικρὸν ἰσχύει, τὰ δ᾽ ἄλλα οὐ μικρὸν ἀλλὰ τὸ πᾶν δύναται, ἅπερ ἐκ τοῦ πολλάκις πράττειν τὰ δίκαια καὶ [5] σώφρονα περιγίνεται.

Τὰ μὲν οὖν πράγματα δίκαια καὶ σώφρονα λέγεται, ὅταν ᾖ τοιαῦτα οἷα ἂν ὁ δίκαιος ἢ ὁ σώφρων πράξειεν· δίκαιος δὲ καὶ σώφρων ἐστὶν οὐχ ὁ ταῦτα πράττων, ἀλλὰ καὶ [ὁ] οὕτω πράττων ὡς οἱ δίκαιοι καὶ σώφρονες πράττουσιν. εὖ οὖν λέγεται ὅτι ἐκ τοῦ τὰ δίκαια πράττειν [10] ὁ δίκαιος γίνεται καὶ ἐκ τοῦ τὰ σώφρονα ὁ σώφρων· ἐκ δὲ τοῦ μὴ πράττειν ταῦτα οὐδεὶς ἂν οὐδὲ μελλήσειε γίνεσθαι ἀγαθός.

Ἀλλ᾽ οἱ πολλοὶ ταῦτα μὲν οὐ πράττουσιν, ἐπὶ δὲ τὸν λόγον καταφεύγοντες οἴονται φιλοσοφεῖν καὶ οὕτως ἔσεσθαι σπουδαῖοι, ὅμοιόν τι ποιοῦντες τοῖς [15] κάμνουσιν, οἳ τῶν ἰατρῶν ἀκούουσι μὲν ἐπιμελῶς, ποιοῦσι δ᾽ οὐδὲν τῶν προσταττομένων. ὥσπερ οὖν οὐδ᾽ ἐκεῖνοι εὖ ἕξουσι τὸ σῶμα οὕτω θεραπευόμενοι, οὐδ᾽ οὗτοι τὴν ψυχὴν οὕτω φιλοσοφοῦντες.

Μετὰ δὲ ταῦτα τί ἐστιν ἡ ἀρετὴ σκεπτέον. ἐπεὶ οὖν [20] τὰ ἐν τῇ ψυχῇ γινόμενα τρία ἐστί, πάθη δυνάμεις ἕξεις, τούτων ἄν τι εἴη ἡ ἀρετή. λέγω δὲ πάθη μὲν ἐπιθυμίαν ὀργὴν φόβον θάρσος φθόνον χαρὰν φιλίαν μῖσος πόθον ζῆλον ἔλεον, ὅλως οἷς ἕπεται ἡδονὴ ἢ λύπη· δυνάμεις δὲ καθ᾽ ἃς παθητικοὶ τούτων λεγόμεθα, οἷον καθ᾽ ἃς δυνατοὶ [25] ὀργισθῆναι ἢ λυπηθῆναι ἢ ἐλεῆσαι· ἕξεις δὲ καθ᾽ ἃς πρὸς τὰ πάθη ἔχομεν εὖ ἢ κακῶς, οἷον πρὸς τὸ ὀργισθῆναι, εἰ μὲν σφοδρῶς ἢ ἀνειμένως, κακῶς ἔχομεν, εἰ δὲ μέσως, εὖ· ὁμοίως δὲ καὶ πρὸς τἆλλα.

Πάθη μὲν οὖν οὐκ εἰσὶν οὔθ᾽ αἱ ἀρεταὶ οὔθ᾽ αἱ κακίαι, ὅτι οὐ λεγόμεθα [30] κατὰ τὰ πάθη σπουδαῖοι ἢ φαῦλοι, κατὰ δὲ τὰς ἀρετὰς καὶ τὰς κακίας λεγόμεθα, καὶ ὅτι κατὰ μὲν τὰ πάθη οὔτ᾽ ἐπαινούμεθα οὔτε ψεγόμεθα (οὐ γὰρ ἐπαινεῖται ὁ φοβούμενος οὐδὲ ὁ ὀργιζόμενος, οὐδὲ ψέγεται ὁ ἁπλῶς ὀργιζόμενος ἀλλ᾽ ὁ πῶς), 1106a [1] κατὰ δὲ τὰς ἀρετὰς καὶ τὰς κακίας ἐπαινούμεθα ἢ ψεγόμεθα.

Ἔτι ὀργιζόμεθα μὲν καὶ φοβούμεθα ἀπροαιρέτως, αἱ δ᾽ ἀρεταὶ προαιρέσεις τινὲς ἢ οὐκ ἄνευ προαιρέσεως. πρὸς δὲ τούτοις κατὰ μὲν τὰ πάθη [5] κινεῖσθαι λεγόμεθα, κατὰ δὲ τὰς ἀρετὰς καὶ τὰς κακίας οὐ κινεῖσθαι ἀλλὰ διακεῖσθαί πως.

Διὰ ταῦτα δὲ οὐδὲ δυνάμεις εἰσίν· οὔτε γὰρ ἀγαθοὶ λεγόμεθα τῷ δύνασθαι πάσχειν ἁπλῶς οὔτε κακοί, οὔτ᾽ ἐπαινούμεθα οὔτε ψεγόμεθα· ἔτι δυνατοὶ μέν ἐσμεν φύσει, ἀγαθοὶ δὲ ἢ κακοὶ [10] οὐ γινόμεθα φύσει· εἴπομεν δὲ περὶ τούτου πρότερον. εἰ οὖν μήτε πάθη εἰσὶν αἱ ἀρεταὶ μήτε δυνάμεις, λείπεται ἕξεις αὐτὰς εἶναι.

Ὅ τι μὲν οὖν ἐστὶ τῷ γένει ἡ ἀρετή, εἴρηται.

Δεῖ δὲ μὴ μόνον οὕτως εἰπεῖν, ὅτι ἕξις, ἀλλὰ καὶ [15] ποία τις. ῥητέον οὖν ὅτι πᾶσα ἀρετή, οὗ ἂν ᾖ ἀρετή, αὐτό τε εὖ ἔχον ἀποτελεῖ καὶ τὸ ἔργον αὐτοῦ εὖ ἀποδίδωσιν, οἷον ἡ τοῦ ὀφθαλμοῦ ἀρετὴ τόν τε ὀφθαλμὸν σπουδαῖον ποιεῖ καὶ τὸ ἔργον αὐτοῦ· τῇ γὰρ τοῦ ὀφθαλμοῦ ἀρετῇ εὖ ὁρῶμεν. ὁμοίως ἡ τοῦ ἵππου ἀρετὴ ἵππον τε [20] σπουδαῖον ποιεῖ καὶ ἀγαθὸν δραμεῖν καὶ ἐνεγκεῖν τὸν ἐπιβάτην καὶ μεῖναι τοὺς πολεμίους. εἰ δὴ τοῦτ᾽ ἐπὶ πάντων οὕτως ἔχει, καὶ ἡ τοῦ ἀνθρώπου ἀρετὴ εἴη ἂν ἡ ἕξις ἀφ᾽ ἧς ἀγαθὸς ἄνθρωπος γίνεται καὶ ἀφ᾽ ἧς εὖ τὸ ἑαυτοῦ ἔργον ἀποδώσει.

Πῶς δὲ τοῦτ᾽ ἔσται, ἤδη μὲν εἰρήκαμεν, ἔτι [25] δὲ καὶ ὧδ᾽ ἔσται φανερόν, ἐὰν θεωρήσωμεν ποία τίς ἐστιν ἡ φύσις αὐτῆς. ἐν παντὶ δὴ συνεχεῖ καὶ διαιρετῷ ἔστι λαβεῖν τὸ μὲν πλεῖον τὸ δ᾽ ἔλαττον τὸ δ᾽ ἴσον, καὶ ταῦτα ἢ κατ᾽ αὐτὸ τὸ πρᾶγμα ἢ πρὸς ἡμᾶς· τὸ δ᾽ ἴσον μέσον τι ὑπερβολῆς καὶ ἐλλείψεως. λέγω δὲ τοῦ μὲν πράγματος [30] μέσον τὸ ἴσον ἀπέχον ἀφ᾽ ἑκατέρου τῶν ἄκρων, ὅπερ ἐστὶν ἓν καὶ τὸ αὐτὸ πᾶσιν, πρὸς ἡμᾶς δὲ ὃ μήτε πλεονάζει μήτε ἐλλείπει· τοῦτο δ᾽ οὐχ ἕν, οὐδὲ ταὐτὸν πᾶσιν. οἷον εἰ τὰ δέκα πολλὰ τὰ δὲ δύο ὀλίγα, τὰ ἓξ μέσα λαμβάνουσι κατὰ τὸ πρᾶγμα· ἴσῳ γὰρ ὑπερέχει τε καὶ [35] ὑπερέχεται· τοῦτο δὲ μέσον ἐστὶ κατὰ τὴν ἀριθμητικὴν ἀναλογίαν. τὸ δὲ πρὸς ἡμᾶς οὐχ οὕτω ληπτέον· 1106b [1] οὐ γὰρ εἴ τῳ δέκα μναῖ φαγεῖν πολὺ δύο δὲ ὀλίγον, ὁ ἀλείπτης ἓξ μνᾶς προστάξει· ἔστι γὰρ ἴσως καὶ τοῦτο πολὺ τῷ ληψομένῳ ἢ ὀλίγον· Μίλωνι μὲν γὰρ ὀλίγον, τῷ δὲ ἀρχομένῳ τῶν γυμνασίων πολύ. ὁμοίως ἐπὶ δρόμου καὶ [5] πάλης. οὕτω δὴ πᾶς ἐπιστήμων τὴν ὑπερβολὴν μὲν καὶ τὴν ἔλλειψιν φεύγει, τὸ δὲ μέσον ζητεῖ καὶ τοῦθ᾽ αἱρεῖται, μέσον δὲ οὐ τὸ τοῦ πράγματος ἀλλὰ τὸ πρὸς ἡμᾶς.

Εἰ δὴ πᾶσα ἐπιστήμη οὕτω τὸ ἔργον εὖ ἐπιτελεῖ, πρὸς τὸ μέσον βλέπουσα καὶ εἰς τοῦτο ἄγουσα τὰ ἔργα (ὅθεν εἰώθασιν [10] ἐπιλέγειν τοῖς εὖ ἔχουσιν ἔργοις ὅτι οὔτ᾽ ἀφελεῖν ἔστιν οὔτε προσθεῖναι, ὡς τῆς μὲν ὑπερβολῆς καὶ τῆς ἐλλείψεως φθειρούσης τὸ εὖ, τῆς δὲ μεσότητος σῳζούσης, οἱ δ᾽ ἀγαθοὶ τεχνῖται, ὡς λέγομεν, πρὸς τοῦτο βλέποντες ἐργάζονται)· ἡ δ᾽ ἀρετὴ πάσης τέχνης ἀκριβεστέρα καὶ [15] ἀμείνων ἐστὶν ὥσπερ καὶ ἡ φύσις, τοῦ μέσου ἂν εἴη στοχαστική. λέγω δὲ τὴν ἠθικήν· αὕτη γάρ ἐστι περὶ πάθη καὶ πράξεις, ἐν δὲ τούτοις ἔστιν ὑπερβολὴ καὶ ἔλλειψις καὶ τὸ μέσον. οἷον καὶ φοβηθῆναι καὶ θαῤῥῆσαι καὶ ἐπιθυμῆσαι καὶ ὀργισθῆναι καὶ ἐλεῆσαι καὶ ὅλως ἡσθῆναι [20] καὶ λυπηθῆναι ἔστι καὶ μᾶλλον καὶ ἧττον, καὶ ἀμφότερα οὐκ εὖ· τὸ δ᾽ ὅτε δεῖ καὶ ἐφ᾽ οἷς καὶ πρὸς οὓς καὶ οὗ ἕνεκα καὶ ὡς δεῖ, μέσον τε καὶ ἄριστον, ὅπερ ἐστὶ τῆς ἀρετῆς. ὁμοίως δὲ καὶ περὶ τὰς πράξεις ἔστιν ὑπερβολὴ καὶ ἔλλειψις καὶ τὸ μέσον. ἡ δ᾽ ἀρετὴ περὶ πάθη καὶ [25] πράξεις ἐστίν, ἐν οἷς ἡ μὲν ὑπερβολὴ ἁμαρτάνεται καὶ ἡ ἔλλειψις [ψέγεται], τὸ δὲ μέσον ἐπαινεῖται καὶ κατορθοῦται· ταῦτα δ᾽ ἄμφω τῆς ἀρετῆς. μεσότης τις ἄρα ἐστὶν ἡ ἀρετή, στοχαστική γε οὖσα τοῦ μέσου.

Ἔτι τὸ μὲν ἁμαρτάνειν πολλαχῶς ἔστιν (τὸ γὰρ κακὸν τοῦ ἀπείρου, ὡς οἱ [30] Πυθαγόρειοι εἴκαζον, τὸ δ᾽ ἀγαθὸν τοῦ πεπερασμένου), τὸ δὲ κατορθοῦν μοναχῶς (διὸ καὶ τὸ μὲν ῥᾴδιον τὸ δὲ χαλεπόν, ῥᾴδιον μὲν τὸ ἀποτυχεῖν τοῦ σκοποῦ, χαλεπὸν δὲ τὸ ἐπιτυχεῖν)· καὶ διὰ ταῦτ᾽ οὖν τῆς μὲν κακίας ἡ ὑπερβολὴ καὶ ἡ ἔλλειψις, τῆς δ᾽ ἀρετῆς ἡ μεσότης·

[35] ἐσθλοὶ μὲν γὰρ ἁπλῶς, παντοδαπῶς δὲ κακοί.

Anon.

ἔστιν ἄρα ἡ ἀρετὴ ἕξις προαιρετική, ἐν μεσότητι οὖσα τῇ πρὸς ἡμᾶς, 1107a [1] ὡρισμένῃ λόγῳ καὶ ᾧ ἂν ὁ φρόνιμος ὁρίσειεν. μεσότης δὲ δύο κακιῶν, τῆς μὲν καθ᾽ ὑπερβολὴν τῆς δὲ κατ᾽ ἔλλειψιν· καὶ ἔτι τῷ τὰς μὲν ἐλλείπειν τὰς δ᾽ ὑπερβάλλειν τοῦ δέοντος ἔν τε τοῖς πάθεσι καὶ ἐν [5] ταῖς πράξεσι, τὴν δ᾽ ἀρετὴν τὸ μέσον καὶ εὑρίσκειν καὶ αἱρεῖσθαι. διὸ κατὰ μὲν τὴν οὐσίαν καὶ τὸν λόγον τὸν τὸ τί ἦν εἶναι λέγοντα μεσότης ἐστὶν ἡ ἀρετή, κατὰ δὲ τὸ ἄριστον καὶ τὸ εὖ ἀκρότης.

Οὐ πᾶσα δ᾽ ἐπιδέχεται πρᾶξις οὐδὲ πᾶν πάθος τὴν μεσότητα· ἔνια γὰρ εὐθὺς ὠνόμασται [10] συνειλημμένα μετὰ τῆς φαυλότητος, οἷον ἐπιχαιρεκακία ἀναισχυντία φθόνος, καὶ ἐπὶ τῶν πράξεων μοιχεία κλοπὴ ἀνδροφονία· πάντα γὰρ ταῦτα καὶ τὰ τοιαῦτα λέγεται τῷ αὐτὰ φαῦλα εἶναι, ἀλλ᾽ οὐχ αἱ ὑπερβολαὶ αὐτῶν οὐδ᾽ αἱ ἐλλείψεις. οὐκ ἔστιν οὖν οὐδέποτε περὶ αὐτὰ κατορθοῦν, [15] ἀλλ᾽ ἀεὶ ἁμαρτάνειν· οὐδ᾽ ἔστι τὸ εὖ ἢ μὴ εὖ περὶ τὰ τοιαῦτα ἐν τῷ ἣν δεῖ καὶ ὅτε καὶ ὡς μοιχεύειν, ἀλλ᾽ ἁπλῶς τὸ ποιεῖν ὁτιοῦν τούτων ἁμαρτάνειν ἐστίν. ὅμοιον οὖν τὸ ἀξιοῦν καὶ περὶ τὸ ἀδικεῖν καὶ δειλαίνειν καὶ ἀκολασταίνειν εἶναι μεσότητα καὶ ὑπερβολὴν καὶ ἔλλειψιν· [20] ἔσται γὰρ οὕτω γε ὑπερβολῆς καὶ ἐλλείψεως μεσότης καὶ ὑπερβολῆς ὑπερβολὴ καὶ ἔλλειψις ἐλλείψεως. ὥσπερ δὲ σωφροσύνης καὶ ἀνδρείας οὐκ ἔστιν ὑπερβολὴ καὶ ἔλλειψις διὰ τὸ τὸ μέσον εἶναί πως ἄκρον, οὕτως οὐδ᾽ ἐκείνων μεσότης οὐδ᾽ ὑπερβολὴ καὶ ἔλλειψις, ἀλλ᾽ ὡς ἂν [25] πράττηται ἁμαρτάνεται· ὅλως γὰρ οὔθ᾽ ὑπερβολῆς καὶ ἐλλείψεως μεσότης ἔστιν, οὔτε μεσότητος ὑπερβολὴ καὶ ἔλλειψις.

Δεῖ δὲ τοῦτο μὴ μόνον καθόλου λέγεσθαι, ἀλλὰ καὶ τοῖς καθ᾽ ἕκαστα ἐφαρμόττειν. ἐν γὰρ τοῖς περὶ τὰς [30] πράξεις λόγοις οἱ μὲν καθόλου κοινότεροί εἰσιν, οἱ δ᾽ ἐπὶ μέρους ἀληθινώτεροι· περὶ γὰρ τὰ καθ᾽ ἕκαστα αἱ πράξεις, δέον δ᾽ ἐπὶ τούτων συμφωνεῖν. ληπτέον οὖν ταῦτα ἐκ τῆς διαγραφῆς. περὶ μὲν οὖν φόβους καὶ θάῤῥη ἀνδρεία μεσότης· 1107b [1] τῶν δ᾽ ὑπερβαλλόντων ὁ μὲν τῇ ἀφοβίᾳ ἀνώνυμος (πολλὰ δ᾽ ἐστὶν ἀνώνυμα), ὁ δ᾽ ἐν τῷ θαῤῥεῖν ὑπερβάλλων θρασύς, ὁ δ᾽ ἐν τῷ μὲν φοβεῖσθαι ὑπερβάλλων τῷ δὲ θαῤῥεῖν ἐλλείπων δειλός. περὶ ἡδονὰς δὲ καὶ λύπας — οὐ [5] πάσας, ἧττον δὲ “καὶ” περὶ τὰς λύπας — μεσότης μὲν σωφροσύνη, ὑπερβολὴ δὲ ἀκολασία. ἐλλείποντες δὲ περὶ τὰς ἡδονὰς οὐ πάνυ γίνονται· διόπερ οὐδ᾽ ὀνόματος τετυχήκασιν οὐδ᾽ οἱ τοιοῦτοι, ἔστωσαν δὲ ἀναίσθητοι.

Περὶ δὲ δόσιν χρημάτων καὶ λῆψιν μεσότης μὲν ἐλευθεριότης, ὑπερβολὴ [10] δὲ καὶ ἔλλειψις ἀσωτία καὶ ἀνελευθερία. ἐναντίως δ᾽ ἐν αὐταῖς ὑπερβάλλουσι καὶ ἐλλείπουσιν· ὁ μὲν γὰρ ἄσωτος ἐν μὲν προέσει ὑπερβάλλει ἐν δὲ λήψει ἐλλείπει, ὁ δ᾽ ἀνελεύθερος ἐν μὲν λήψει ὑπερβάλλει ἐν δὲ προέσει ἐλλείπει. νῦν μὲν οὖν τύπῳ καὶ ἐπὶ κεφαλαίου λέγομεν, [15] ἀρκούμενοι αὐτῷ τούτῳ· ὕστερον δὲ ἀκριβέστερον περὶ αὐτῶν διορισθήσεται. περὶ δὲ χρήματα καὶ ἄλλαι διαθέσεις εἰσί, μεσότης μὲν μεγαλοπρέπεια (ὁ γὰρ μεγαλοπρεπὴς διαφέρει ἐλευθερίου· ὃ μὲν γὰρ περὶ μεγάλα, ὃ δὲ περὶ μικρά), ὑπερβολὴ δὲ ἀπειροκαλία καὶ βαναυσία, ἔλλειψις [20] δὲ μικροπρέπεια· διαφέρουσι δ᾽ αὗται τῶν περὶ τὴν ἐλευθεριότητα, πῇ δὲ διαφέρουσιν, ὕστερον ῥηθήσεται. περὶ δὲ τιμὴν καὶ ἀτιμίαν μεσότης μὲν μεγαλοψυχία, ὑπερβολὴ δὲ χαυνότης τις λεγομένη, ἔλλειψις δὲ μικροψυχία· ὡς δ᾽ ἐλέγομεν ἔχειν πρὸς τὴν μεγαλοπρέπειαν τὴν ἐλευθεριότητα, [25] <τῷ> περὶ μικρὰ διαφέρουσαν, οὕτως ἔχει τις καὶ πρὸς τὴν μεγαλοψυχίαν, περὶ τιμὴν οὖσαν μεγάλην, αὐτὴ περὶ μικρὰν οὖσα· ἔστι γὰρ ὡς δεῖ ὀρέγεσθαι τιμῆς καὶ μᾶλλον ἢ δεῖ καὶ ἧττον, λέγεται δ᾽ ὁ μὲν ὑπερβάλλων ταῖς ὀρέξεσι φιλότιμος, ὁ δ᾽ ἐλλείπων ἀφιλότιμος, ὁ δὲ [30] μέσος ἀνώνυμος. ἀνώνυμοι δὲ καὶ αἱ διαθέσεις, πλὴν ἡ τοῦ φιλοτίμου φιλοτιμία. ὅθεν ἐπιδικάζονται οἱ ἄκροι τῆς μέσης χώρας· καὶ ἡμεῖς δὲ ἔστι μὲν ὅτε τὸν μέσον φιλότιμον καλοῦμεν ἔστι δ᾽ ὅτε ἀφιλότιμον, 1108a [1] καὶ ἔστι μὲν ὅτε ἐπαινοῦμεν τὸν φιλότιμον ἔστι δ᾽ ὅτε τὸν ἀφιλότιμον. διὰ τίνα δ᾽ αἰτίαν τοῦτο ποιοῦμεν, ἐν τοῖς ἑξῆς ῥηθήσεται· νῦν δὲ περὶ τῶν λοιπῶν λέγωμεν κατὰ τὸν ὑφηγημένον τρόπον.

Ἔστι δὲ καὶ περὶ τὴν ὀργὴν ὑπερβολὴ καὶ ἔλλειψις καὶ [5] μεσότης, σχεδὸν δὲ ἀνωνύμων ὄντων αὐτῶν τὸν μέσον πρᾶον λέγοντες τὴν μεσότητα πραότητα καλέσωμεν· τῶν δ᾽ ἄκρων ὁ μὲν ὑπερβάλλων ὀργίλος ἔστω, ἡ δὲ κακία ὀργιλότης, ὁ δ᾽ ἐλλείπων ἀόργητός τις, ἡ δ᾽ ἔλλειψις ἀοργησία.

Εἰσὶ δὲ καὶ ἄλλαι τρεῖς μεσότητες, ἔχουσαι μέν [10] τινα ὁμοιότητα πρὸς ἀλλήλας, διαφέρουσαι δ᾽ ἀλλήλων· πᾶσαι μὲν γάρ εἰσι περὶ λόγων καὶ πράξεων κοινωνίαν, διαφέρουσι δὲ ὅτι ἣ μέν ἐστι περὶ τἀληθὲς τὸ ἐν αὐτοῖς, αἳ δὲ περὶ τὸ ἡδύ· τούτου δὲ τὸ μὲν ἐν παιδιᾷ τὸ δ᾽ ἐν πᾶσι τοῖς κατὰ τὸν βίον. ῥητέον οὖν καὶ περὶ τούτων, ἵνα [15] μᾶλλον κατίδωμεν ὅτι ἐν πᾶσιν ἡ μεσότης ἐπαινετόν, τὰ δ᾽ ἄκρα οὔτ᾽ ἐπαινετὰ οὔτ᾽ ὀρθὰ ἀλλὰ ψεκτά. εἰσὶ μὲν οὖν καὶ τούτων τὰ πλείω ἀνώνυμα, πειρατέον δ᾽, ὥσπερ καὶ ἐπὶ τῶν ἄλλων, αὐτοὺς ὀνοματοποιεῖν σαφηνείας ἕνεκα καὶ τοῦ εὐπαρακολουθήτου. περὶ μὲν οὖν τὸ ἀληθὲς [20] ὁ μὲν μέσος ἀληθής τις καὶ ἡ μεσότης ἀλήθεια λεγέσθω, ἡ δὲ προσποίησις ἡ μὲν ἐπὶ τὸ μεῖζον ἀλαζονεία καὶ ὁ ἔχων αὐτὴν ἀλαζών, ἡ δ᾽ ἐπὶ τὸ ἔλαττον εἰρωνεία καὶ εἴρων <ὁ ἔχων>. περὶ δὲ τὸ ἡδὺ τὸ μὲν ἐν παιδιᾷ ὁ μὲν μέσος εὐτράπελος καὶ ἡ διάθεσις εὐτραπελία, ἡ δ᾽ ὑπερβολὴ βωμολοχία [25] καὶ ὁ ἔχων αὐτὴν βωμολόχος, ὁ δ᾽ ἐλλείπων ἄγροικός τις καὶ ἡ ἕξις ἀγροικία· περὶ δὲ τὸ λοιπὸν ἡδὺ τὸ ἐν τῷ βίῳ ὁ μὲν ὡς δεῖ ἡδὺς ὢν φίλος καὶ ἡ μεσότης φιλία, ὁ δ᾽ ὑπερβάλλων, εἰ μὲν οὐδενὸς ἕνεκα, ἄρεσκος, εἰ δ᾽ ὠφελείας τῆς αὑτοῦ, κόλαξ, ὁ δ᾽ ἐλλείπων [30] καὶ ἐν πᾶσιν ἀηδὴς δύσερίς τις καὶ δύσκολος.

Εἰσὶ δὲ καὶ ἐν τοῖς παθήμασι καὶ περὶ τὰ πάθη μεσότητες· ἡ γὰρ αἰδὼς ἀρετὴ μὲν οὐκ ἔστιν, ἐπαινεῖται δὲ καὶ ὁ αἰδήμων. καὶ γὰρ ἐν τούτοις ὃ μὲν λέγεται μέσος, ὃ δ᾽ ὑπερβάλλων, ὡς ὁ καταπλὴξ ὁ πάντα αἰδούμενος· ὁ δ᾽ ἐλλείπων [35] ἢ μηδὲν ὅλως ἀναίσχυντος, ὁ δὲ μέσος αἰδήμων. 1108b [1] νέμεσις δὲ μεσότης φθόνου καὶ ἐπιχαιρεκακίας, εἰσὶ δὲ περὶ λύπην καὶ ἡδονὴν τὰς ἐπὶ τοῖς συμβαίνουσι τοῖς πέλας γινομένας· ὁ μὲν γὰρ νεμεσητικὸς λυπεῖται ἐπὶ τοῖς ἀναξίως εὖ πράττουσιν, ὁ δὲ φθονερὸς ὑπερβάλλων τοῦτον ἐπὶ [5] πᾶσι λυπεῖται, ὁ δ᾽ ἐπιχαιρέκακος τοσοῦτον ἐλλείπει τοῦ λυπεῖσθαι ὥστε καὶ χαίρειν. ἀλλὰ περὶ μὲν τούτων καὶ ἄλλοθι καιρὸς ἔσται· περὶ δὲ δικαιοσύνης, ἐπεὶ οὐχ ἁπλῶς λέγεται, μετὰ ταῦτα διελόμενοι περὶ ἑκατέρας ἐροῦμεν πῶς μεσότητές εἰσιν· ὁμοίως δὲ καὶ περὶ τῶν λογικῶν [10] ἀρετῶν.

Τριῶν δὴ διαθέσεων οὐσῶν, δύο μὲν κακιῶν, τῆς μὲν καθ᾽ ὑπερβολὴν τῆς δὲ κατ᾽ ἔλλειψιν, μιᾶς δ᾽ ἀρετῆς τῆς μεσότητος, πᾶσαι πάσαις ἀντίκεινταί πως· αἱ μὲν γὰρ ἄκραι καὶ τῇ μέσῃ καὶ ἀλλήλαις ἐναντίαι εἰσίν, ἡ δὲ [15] μέση ταῖς ἄκραις· ὥσπερ γὰρ τὸ ἴσον πρὸς μὲν τὸ ἔλαττον μεῖζον πρὸς δὲ τὸ μεῖζον ἔλαττον, οὕτως αἱ μέσαι ἕξεις πρὸς μὲν τὰς ἐλλείψεις ὑπερβάλλουσι πρὸς δὲ τὰς ὑπερβολὰς ἐλλείπουσιν ἔν τε τοῖς πάθεσι καὶ ταῖς πράξεσιν. ὁ γὰρ ἀνδρεῖος πρὸς μὲν τὸν δειλὸν θρασὺς φαίνεται, [20] πρὸς δὲ τὸν θρασὺν δειλός· ὁμοίως δὲ καὶ ὁ σώφρων πρὸς μὲν τὸν ἀναίσθητον ἀκόλαστος, πρὸς δὲ τὸν ἀκόλαστον ἀναίσθητος, ὁ δ᾽ ἐλευθέριος πρὸς μὲν τὸν ἀνελεύθερον ἄσωτος, πρὸς δὲ τὸν ἄσωτον ἀνελεύθερος. διὸ καὶ ἀπωθοῦνται τὸν μέσον οἱ ἄκροι ἑκάτερος πρὸς ἑκάτερον, καὶ καλοῦσι [25] τὸν ἀνδρεῖον ὁ μὲν δειλὸς θρασὺν ὁ δὲ θρασὺς δειλόν, καὶ ἐπὶ τῶν ἄλλων ἀνάλογον. Οὕτω δ᾽ ἀντικειμένων ἀλλήλοις τούτων, πλείστη ἐναντιότης ἐστὶ τοῖς ἄκροις πρὸς ἄλληλα ἢ πρὸς τὸ μέσον· πορρωτέρω γὰρ ταῦτα ἀφέστηκεν ἀλλήλων ἢ τοῦ μέσου, ὥσπερ τὸ μέγα τοῦ μικροῦ καὶ τὸ μικρὸν [30] τοῦ μεγάλου ἢ ἄμφω τοῦ ἴσου. ἔτι πρὸς μὲν τὸ μέσον ἐνίοις ἄκροις ὁμοιότης τις φαίνεται, ὡς τῇ θρασύτητι πρὸς τὴν ἀνδρείαν καὶ τῇ ἀσωτίᾳ πρὸς τὴν ἐλευθεριότητα· τοῖς δὲ ἄκροις πρὸς ἄλληλα πλείστη ἀνομοιότης· τὰ δὲ πλεῖστον ἀπέχοντα ἀπ᾽ ἀλλήλων ἐναντία ὁρίζονται, ὥστε καὶ [35] μᾶλλον ἐναντία τὰ πλεῖον ἀπέχοντα. Πρὸς δὲ τὸ μέσον 1109a [1] ἀντίκειται μᾶλλον ἐφ᾽ ὧν μὲν ἡ ἔλλειψις ἐφ᾽ ὧν δὲ ἡ ὑπερβολή, οἷον ἀνδρείᾳ μὲν οὐχ ἡ θρασύτης ὑπερβολὴ οὖσα, ἀλλ᾽ ἡ δειλία ἔλλειψις οὖσα, τῇ δὲ σωφροσύνῃ οὐχ ἡ ἀναισθησία ἔνδεια οὖσα, ἀλλ᾽ ἡ ἀκολασία ὑπερβολὴ [5] οὖσα. διὰ δύο δ᾽ αἰτίας τοῦτο συμβαίνει, μίαν μὲν τὴν ἐξ αὐτοῦ τοῦ πράγματος· τῷ γὰρ ἐγγύτερον εἶναι καὶ ὁμοιότερον τὸ ἕτερον ἄκρον τῷ μέσῳ, οὐ τοῦτο ἀλλὰ τοὐναντίον ἀντιτίθεμεν μᾶλλον· οἷον ἐπεὶ ὁμοιότερον εἶναι δοκεῖ τῇ ἀνδρείᾳ ἡ θρασύτης καὶ ἐγγύτερον, ἀνομοιότερον [10] δ᾽ ἡ δειλία, ταύτην μᾶλλον ἀντιτίθεμεν· τὰ γὰρ ἀπέχοντα πλεῖον τοῦ μέσου ἐναντιώτερα δοκεῖ εἶναι. μία μὲν οὖν αἰτία αὕτη, ἐξ αὐτοῦ τοῦ πράγματος· ἑτέρα δὲ ἐξ ἡμῶν αὐτῶν· πρὸς ἃ γὰρ αὐτοὶ μᾶλλον πεφύκαμέν πως, ταῦτα μᾶλλον ἐναντία τῷ μέσῳ φαίνεται. οἷον αὐτοὶ μᾶλλον [15] πεφύκαμεν πρὸς τὰς ἡδονάς, διὸ εὐκαταφορώτεροί ἐσμεν πρὸς ἀκολασίαν ἢ πρὸς κοσμιότητα. ταῦτ᾽ οὖν μᾶλλον ἐναντία λέγομεν, πρὸς ἃ ἡ ἐπίδοσις μᾶλλον γίνεται· καὶ διὰ τοῦτο ἡ ἀκολασία ὑπερβολὴ οὖσα ἐναντιωτέρα ἐστὶ τῇ σωφροσύνῃ.

[20] Ὅτι μὲν οὖν ἐστὶν ἡ ἀρετὴ ἡ ἠθικὴ μεσότης, καὶ πῶς, καὶ ὅτι μεσότης δύο κακιῶν, τῆς μὲν καθ᾽ ὑπερβολὴν τῆς δὲ κατ᾽ ἔλλειψιν, καὶ ὅτι τοιαύτη ἐστὶ διὰ τὸ στοχαστικὴ τοῦ μέσου εἶναι τοῦ ἐν τοῖς πάθεσι καὶ ἐν ταῖς πράξεσιν, ἱκανῶς εἴρηται. διὸ καὶ ἔργον ἐστὶ σπουδαῖον εἶναι. ἐν ἑκάστῳ [25] γὰρ τὸ μέσον λαβεῖν ἔργον, οἷον κύκλου τὸ μέσον οὐ παντὸς ἀλλὰ τοῦ εἰδότος· οὕτω δὲ καὶ τὸ μὲν ὀργισθῆναι παντὸς καὶ ῥᾴδιον, καὶ τὸ δοῦναι ἀργύριον καὶ δαπανῆσαι· τὸ δ᾽ ᾧ καὶ ὅσον καὶ ὅτε καὶ οὗ ἕνεκα καὶ ὥς, οὐκέτι παντὸς οὐδὲ ῥᾴδιον· διόπερ τὸ εὖ καὶ σπάνιον καὶ ἐπαινετὸν καὶ [30] καλόν. διὸ δεῖ τὸν στοχαζόμενον τοῦ μέσου πρῶτον μὲν ἀποχωρεῖν τοῦ μᾶλλον ἐναντίου, καθάπερ καὶ ἡ Καλυψὼ παραινεῖ τούτου μὲν καπνοῦ καὶ κύματος ἐκτὸς ἔεργε νῆα.

Hom. Od. 12.219

Τῶν γὰρ ἄκρων τὸ μέν ἐστιν ἁμαρτωλότερον τὸ δ᾽ ἧττον· ἐπεὶ οὖν τοῦ μέσου τυχεῖν ἄκρως χαλεπόν, κατὰ τὸν δεύτερον, [35] φασί, πλοῦν τὰ ἐλάχιστα ληπτέον τῶν κακῶν· τοῦτο δ᾽ ἔσται μάλιστα τοῦτον τὸν τρόπον ὃν λέγομεν. 1109b [1] σκοπεῖν δὲ δεῖ πρὸς ἃ καὶ αὐτοὶ εὐκατάφοροί ἐσμεν·

ἄλλοι γὰρ πρὸς ἄλλα πεφύκαμεν· τοῦτο δ᾽ ἔσται γνώριμον ἐκ τῆς ἡδονῆς καὶ τῆς λύπης τῆς γινομένης περὶ ἡμᾶς. εἰς τοὐναντίον [5] δ᾽ ἑαυτοὺς ἀφέλκειν δεῖ· πολὺ γὰρ ἀπάγοντες τοῦ ἁμαρτάνειν εἰς τὸ μέσον ἥξομεν, ὅπερ οἱ τὰ διεστραμμένα τῶν ξύλων ὀρθοῦντες ποιοῦσιν.

Ἐν παντὶ δὲ μάλιστα φυλακτέον τὸ ἡδὺ καὶ τὴν ἡδονήν· οὐ γὰρ ἀδέκαστοι κρίνομεν αὐτήν. ὅπερ οὖν οἱ δημογέροντες ἔπαθον πρὸς τὴν Ἑλένην, [10] τοῦτο δεῖ παθεῖν καὶ ἡμᾶς πρὸς τὴν ἡδονήν, καὶ ἐν πᾶσι τὴν ἐκείνων ἐπιλέγειν φωνήν· οὕτω γὰρ αὐτὴν ἀποπεμπόμενοι ἧττον ἁμαρτησόμεθα. ταῦτ᾽ οὖν ποιοῦντες, ὡς ἐν κεφαλαίῳ εἰπεῖν, μάλιστα δυνησόμεθα τοῦ μέσου τυγχάνειν.

Χαλεπὸν δ᾽ ἴσως τοῦτο, καὶ μάλιστ᾽ ἐν τοῖς καθ᾽ ἕκαστον· οὐ [15] γὰρ ῥᾴδιον διορίσαι καὶ πῶς καὶ τίσι καὶ ἐπὶ ποίοις καὶ πόσον χρόνον ὀργιστέον· καὶ γὰρ ἡμεῖς ὁτὲ μὲν τοὺς ἐλλείποντας ἐπαινοῦμεν καὶ πράους φαμέν, ὁτὲ δὲ τοὺς χαλεπαίνοντας ἀνδρώδεις ἀποκαλοῦντες. ἀλλ᾽ ὁ μὲν μικρὸν τοῦ εὖ παρεκβαίνων οὐ ψέγεται, οὔτ᾽ ἐπὶ τὸ μᾶλλον οὔτ᾽ ἐπὶ τὸ [20] ἧττον, ὁ δὲ πλέον· οὗτος γὰρ οὐ λανθάνει. ὁ δὲ μέχρι τίνος καὶ ἐπὶ πόσον ψεκτὸς οὐ ῥᾴδιον τῷ λόγῳ ἀφορίσαι· οὐδὲ γὰρ ἄλλο οὐδὲν τῶν αἰσθητῶν· τὰ δὲ τοιαῦτα ἐν τοῖς καθ᾽ ἕκαστα, καὶ ἐν τῇ αἰσθήσει ἡ κρίσις. τὸ μὲν ἄρα τοσοῦτο δηλοῖ ὅτι ἡ μέση ἕξις ἐν πᾶσιν ἐπαινετή, ἀποκλίνειν δὲ [25] δεῖ ὁτὲ μὲν ἐπὶ τὴν ὑπερβολὴν ὁτὲ δ᾽ ἐπὶ τὴν ἔλλειψιν· οὕτω γὰρ ῥᾷστα τοῦ μέσου καὶ τοῦ εὖ τευξόμεθα.

Βιβλίο 3

τῆς ἀρετῆς δὴ περὶ πάθη τε καὶ πράξεις οὔσης, καὶ ἐπὶ μὲν τοῖς ἑκουσίοις ἐπαίνων καὶ ψόγων γινομένων, ἐπὶ δὲ τοῖς ἀκουσίοις συγγνώμης, ἐνίοτε δὲ καὶ ἐλέου, τὸ ἑκούσιον καὶ τὸ ἀκούσιον ἀναγκαῖον ἴσως διορίσαι τοῖς περὶ ἀρετῆς ἐπισκοποῦσι, χρήσιμον δὲ καὶ τοῖς νομοθετοῦσι πρός τε τὰς [35] τιμὰς καὶ τὰς κολάσεις. δοκεῖ δὴ ἀκούσια εἶναι τὰ βίᾳ ἢ δι᾽ ἄγνοιαν γινόμενα· 1110a [1] βίαιον δὲ οὗ ἡ ἀρχὴ ἔξωθεν, τοιαύτη οὖσα ἐν ᾗ μηδὲν συμβάλλεται ὁ πράττων ἢ ὁ πάσχων, οἷον εἰ πνεῦμα κομίσαι ποι ἢ ἄνθρωποι κύριοι ὄντες.

ὅσα δὲ διὰ φόβον μειζόνων κακῶν πράττεται ἢ διὰ [5] καλόν τι, οἷον εἰ τύραννος προστάττοι αἰσχρόν τι πρᾶξαι κύριος ὢν γονέων καὶ τέκνων, καὶ πράξαντος μὲν σῴζοιντο μὴ πράξαντος δ᾽ ἀποθνήσκοιεν, ἀμφισβήτησιν ἔχει πότερον ἀκούσιά ἐστιν ἢ ἑκούσια. τοιοῦτον δέ τι συμβαίνει καὶ περὶ τὰς ἐν τοῖς χειμῶσιν ἐκβολάς· ἁπλῶς μὲν γὰρ οὐδεὶς ἀποβάλλεται [10] ἑκών, ἐπὶ σωτηρίᾳ δ᾽ αὑτοῦ καὶ τῶν λοιπῶν ἅπαντες οἱ νοῦν ἔχοντες. μικταὶ μὲν οὖν εἰσιν αἱ τοιαῦται πράξεις, ἐοίκασι δὲ μᾶλλον ἑκουσίοις· αἱρεταὶ γάρ εἰσι τότε ὅτε πράττονται, τὸ δὲ τέλος τῆς πράξεως κατὰ τὸν καιρόν ἐστιν. καὶ τὸ ἑκούσιον δὴ καὶ τὸ ἀκούσιον, ὅτε πράττει, [15] λεκτέον. πράττει δὲ ἑκών· καὶ γὰρ ἡ ἀρχὴ τοῦ κινεῖν τὰ ὀργανικὰ μέρη ἐν ταῖς τοιαύταις πράξεσιν ἐν αὐτῷ ἐστίν· ὧν δ᾽ ἐν αὐτῷ ἡ ἀρχή, ἐπ᾽ αὐτῷ καὶ τὸ πράττειν καὶ μή. ἑκούσια δὴ τὰ τοιαῦτα, ἁπλῶς δ᾽ ἴσως ἀκούσια· οὐδεὶς γὰρ ἂν ἕλοιτο καθ᾽ αὑτὸ τῶν τοιούτων οὐδέν. [20] ἐπὶ ταῖς πράξεσι δὲ ταῖς τοιαύταις ἐνίοτε καὶ ἐπαινοῦνται, ὅταν αἰσχρόν τι ἢ λυπηρὸν ὑπομένωσιν ἀντὶ μεγάλων καὶ καλῶν· ἂν δ᾽ ἀνάπαλιν, ψέγονται· τὰ γὰρ αἴσχισθ᾽ ὑπομεῖναι ἐπὶ μηδενὶ καλῷ ἢ μετρίῳ φαύλου. ἐπ᾽ ἐνίοις δ᾽ ἔπαινος μὲν οὐ γίνεται, συγγνώμη δ᾽, ὅταν διὰ τοιαῦτα πράξῃ [25] τις ἃ μὴ δεῖ, ἃ τὴν ἀνθρωπίνην φύσιν ὑπερτείνει καὶ μηδεὶς ἂν ὑπομείναι. ἔνια δ᾽ ἴσως οὐκ ἔστιν ἀναγκασθῆναι, ἀλλὰ μᾶλλον ἀποθανετέον παθόντι τὰ δεινότατα· καὶ γὰρ τὸν Εὐριπίδου Ἀλκμαίωνα γελοῖα φαίνεται τὰ ἀναγκάσαντα μητροκτονῆσαι. ἔστι δὲ χαλεπὸν ἐνίοτε διακρῖναι [30] ποῖον ἀντὶ ποίου αἱρετέον καὶ τί ἀντὶ τίνος ὑπομενετέον, ἔτι δὲ χαλεπώτερον ἐμμεῖναι τοῖς γνωσθεῖσιν· ὡς γὰρ ἐπὶ τὸ πολύ ἐστι τὰ μὲν προσδοκώμενα λυπηρά, ἃ δ᾽ ἀναγκάζονται αἰσχρά, ὅθεν ἔπαινοι καὶ ψόγοι γίνονται περὶ τοὺς ἀναγκασθέντας ἢ μή.

1110b [1] τὰ δὴ ποῖα φατέον βίαια; ἢ ἁπλῶς μέν, ὁπότ᾽ ἂν ἡ αἰτία ἐν τοῖς ἐκτὸς ᾖ καὶ ὁ πράττων μηδὲν συμβάλληται; ἃ δὲ καθ᾽ αὑτὰ μὲν ἀκούσιά ἐστι, νῦν δὲ καὶ ἀντὶ τῶνδε αἱρετά, καὶ ἡ ἀρχὴ ἐν τῷ πράττοντι, [5] καθ᾽ αὑτὰ μὲν ἀκούσιά ἐστι, νῦν δὲ καὶ ἀντὶ τῶνδε ἑκούσια. μᾶλλον δ᾽ ἔοικεν ἑκουσίοις· αἱ γὰρ πράξεις ἐν τοῖς καθ᾽ ἕκαστα, ταῦτα δ᾽ ἑκούσια. ποῖα δ᾽ ἀντὶ ποίων αἱρετέον, οὐ ῥᾴδιον ἀποδοῦναι· πολλαὶ γὰρ διαφοραί εἰσιν ἐν τοῖς καθ᾽ ἕκαστα.

εἰ δέ τις τὰ ἡδέα καὶ τὰ καλὰ φαίη βίαια [10] εἶναι (ἀναγκάζειν γὰρ ἔξω ὄντα), πάντα ἂν εἴη αὐτῷ βίαια· τούτων γὰρ χάριν πάντες πάντα πράττουσιν. καὶ οἱ μὲν βίᾳ καὶ ἄκοντες λυπηρῶς, οἱ δὲ διὰ τὸ ἡδὺ καὶ καλὸν μεθ᾽ ἡδονῆς· γελοῖον δὲ τὸ αἰτιᾶσθαι τὰ ἐκτός, ἀλλὰ μὴ αὑτὸν εὐθήρατον ὄντα ὑπὸ τῶν τοιούτων, καὶ τῶν μὲν [15] καλῶν ἑαυτόν, τῶν δ᾽ αἰσχρῶν τὰ ἡδέα. ἔοικε δὴ τὸ βίαιον εἶναι οὗ ἔξωθεν ἡ ἀρχή, μηδὲν συμβαλλομένου τοῦ βιασθέντος.

τὸ δὲ δι᾽ ἄγνοιαν οὐχ ἑκούσιον μὲν ἅπαν ἐστίν, ἀκούσιον δὲ τὸ ἐπίλυπον καὶ ἐν μεταμελείᾳ· ὁ γὰρ δι᾽ ἄγνοιαν [20] πράξας ὁτιοῦν, μηδέν τι δυσχεραίνων ἐπὶ τῇ πράξει, ἑκὼν μὲν οὐ πέπραχεν, ὅ γε μὴ ᾔδει, οὐδ᾽ αὖ ἄκων, μὴ λυπούμενός γε. τοῦ δὴ δι᾽ ἄγνοιαν ὁ μὲν ἐν μεταμελείᾳ ἄκων δοκεῖ, ὁ δὲ μὴ μεταμελόμενος, ἐπεὶ ἕτερος, ἔστω οὐχ ἑκών· ἐπεὶ γὰρ διαφέρει, βέλτιον ὄνομα ἔχειν ἴδιον. ἕτερον δ᾽ [25] ἔοικε καὶ τὸ δι᾽ ἄγνοιαν πράττειν τοῦ ἀγνοοῦντα· ὁ γὰρ μεθύων ἢ ὀργιζόμενος οὐ δοκεῖ δι᾽ ἄγνοιαν πράττειν ἀλλὰ διά τι τῶν εἰρημένων, οὐκ εἰδὼς δὲ ἀλλ᾽ ἀγνοῶν.

ἀγνοεῖ μὲν οὖν πᾶς ὁ μοχθηρὸς ἃ δεῖ πράττειν καὶ ὧν ἀφεκτέον, καὶ διὰ τὴν τοιαύτην ἁμαρτίαν ἄδικοι καὶ ὅλως [30] κακοὶ γίνονται· τὸ δ᾽ ἀκούσιον βούλεται λέγεσθαι οὐκ εἴ τις ἀγνοεῖ τὰ συμφέροντα· οὐ γὰρ ἡ ἐν τῇ προαιρέσει ἄγνοια αἰτία τοῦ ἀκουσίου ἀλλὰ τῆς μοχθηρίας, οὐδ᾽ ἡ καθόλου (ψέγονται γὰρ διά γε ταύτην) ἀλλ᾽ ἡ καθ᾽ ἕκαστα, ἐν οἷς καὶ περὶ ἃ ἡ πρᾶξις· 1111a [1] ἐν τούτοις γὰρ καὶ ἔλεος καὶ συγγνώμη· ὁ γὰρ τούτων τι ἀγνοῶν ἀκουσίως πράττει.

ἴσως οὖν οὐ χεῖρον διορίσαι αὐτά, τίνα καὶ πόσα ἐστί, τίς τε δὴ καὶ τί καὶ περὶ τί ἢ ἐν τίνι πράττει, ἐνίοτε δὲ καὶ [5] τίνι, οἷον ὀργάνῳ, καὶ ἕνεκα τίνος, οἷον σωτηρίας, καὶ πῶς, οἷον ἠρέμα ἢ σφόδρα. ἅπαντα μὲν οὖν ταῦτα οὐδεὶς ἂν ἀγνοήσειε μὴ μαινόμενος, δῆλον δ᾽ ὡς οὐδὲ τὸν πράττοντα· πῶς γὰρ ἑαυτόν γε; ὃ δὲ πράττει ἀγνοήσειεν ἄν τις, οἷον "λέγοντές φασιν ἐκπεσεῖν αὐτούς", ἢ οὐκ εἰδέναι ὅτι ἀπόρρητα [10] ἦν, ὥσπερ Αἰσχύλος τὰ μυστικά, ἢ δεῖξαι βουλόμενος ἀφεῖναι, ὡς ὁ τὸν καταπέλτην. οἰηθείη δ᾽ ἄν τις καὶ τὸν υἱὸν πολέμιον εἶναι ὥσπερ ἡ Μερόπη, καὶ ἐσφαιρῶσθαι τὸ λελογχωμένον δόρυ, ἢ τὸν λίθον κίσηριν εἶναι· καὶ ἐπὶ σωτηρίᾳ πίσας ἀποκτείναι ἄν· καὶ θῖξαι βουλόμενος, [15] ὥσπερ οἱ ἀκροχειριζόμενοι, πατάξειεν ἄν. περὶ πάντα δὴ ταῦτα τῆς ἀγνοίας οὔσης, ἐν οἷς ἡ πρᾶξις, ὁ τούτων τι ἀγνοήσας ἄκων δοκεῖ πεπραχέναι, καὶ μάλιστα ἐν τοῖς κυριωτάτοις· κυριώτατα δ᾽ εἶναι δοκεῖ ἐν οἷς ἡ πρᾶξις καὶ οὗ ἕνεκα. τοῦ δὴ κατὰ τὴν τοιαύτην ἄγνοιαν ἀκουσίου λεγομένου [20] ἔτι δεῖ τὴν πρᾶξιν λυπηρὰν εἶναι καὶ ἐν μεταμελείᾳ.

ὄντος δ᾽ ἀκουσίου τοῦ βίᾳ καὶ δι᾽ ἄγνοιαν, τὸ ἑκούσιον δόξειεν ἂν εἶναι οὗ ἡ ἀρχὴ ἐν αὐτῷ εἰδότι τὰ καθ᾽ ἕκαστα ἐν οἷς ἡ πρᾶξις. ἴσως γὰρ οὐ καλῶς λέγεται ἀκούσια [25] εἶναι τὰ διὰ θυμὸν ἢ ἐπιθυμίαν. πρῶτον μὲν γὰρ οὐδὲν ἔτι τῶν ἄλλων ζῴων ἑκουσίως πράξει, οὐδ᾽ οἱ παῖδες· εἶτα πότερον οὐδὲν ἑκουσίως πράττομεν τῶν δι᾽ ἐπιθυμίαν καὶ θυμόν, ἢ τὰ καλὰ μὲν ἑκουσίως τὰ δ᾽ αἰσχρὰ ἀκουσίως; ἢ γελοῖον ἑνός γε αἰτίου ὄντος; ἄτοπον δὲ ἴσως [30] ἀκούσια φάναι ὧν δεῖ ὀρέγεσθαι· δεῖ δὲ καὶ ὀργίζεσθαι ἐπί τισι καὶ ἐπιθυμεῖν τινῶν, οἷον ὑγιείας καὶ μαθήσεως. δοκεῖ δὲ καὶ τὰ μὲν ἀκούσια λυπηρὰ εἶναι, τὰ δὲ κατ᾽ ἐπιθυμίαν ἡδέα. ἔτι δὲ τί διαφέρει τῷ ἀκούσια εἶναι τὰ κατὰ λογισμὸν ἢ θυμὸν ἁμαρτηθέντα; φευκτὰ μὲν γὰρ ἄμφω, 1111b [1] δοκεῖ δὲ οὐχ ἧττον ἀνθρωπικὰ εἶναι τὰ ἄλογα πάθη, ὥστε καὶ αἱ πράξεις τοῦ ἀνθρώπου <αἱ> ἀπὸ θυμοῦ καὶ ἐπιθυμίας. ἄτοπον δὴ τὸ τιθέναι ἀκούσια ταῦτα.

διωρισμένων δὲ τοῦ τε ἑκουσίου καὶ τοῦ ἀκουσίου, [5] περὶ προαιρέσεως ἕπεται διελθεῖν· οἰκειότατον γὰρ εἶναι δοκεῖ τῇ ἀρετῇ καὶ μᾶλλον τὰ ἤθη κρίνειν τῶν πράξεων.

ἡ προαίρεσις δὴ ἑκούσιον μὲν φαίνεται, οὐ ταὐτὸν δέ, ἀλλ᾽ ἐπὶ πλέον τὸ ἑκούσιον· τοῦ μὲν γὰρ ἑκουσίου καὶ παῖδες καὶ τἆλλα ζῷα κοινωνεῖ, προαιρέσεως δ᾽ οὔ, καὶ τὰ ἐξαίφνης [10] ἑκούσια μὲν λέγομεν, κατὰ προαίρεσιν δ᾽ οὔ.

οἱ δὲ λέγοντες αὐτὴν ἐπιθυμίαν ἢ θυμὸν ἢ βούλησιν ἤ τινα δόξαν οὐκ ἐοίκασιν ὀρθῶς λέγειν. οὐ γὰρ κοινὸν ἡ προαίρεσις καὶ τῶν ἀλόγων, ἐπιθυμία δὲ καὶ θυμός. καὶ ὁ ἀκρατὴς ἐπιθυμῶν μὲν πράττει, προαιρούμενος δ᾽ οὔ· ὁ ἐγκρατὴς δ᾽ ἀνάπαλιν [15] προαιρούμενος μέν, ἐπιθυμῶν δ᾽ οὔ. καὶ προαιρέσει μὲν ἐπιθυμία ἐναντιοῦται, ἐπιθυμία δ᾽ ἐπιθυμίᾳ οὔ. καὶ ἡ μὲν ἐπιθυμία ἡδέος καὶ ἐπιλύπου, ἡ προαίρεσις δ᾽ οὔτε λυπηροῦ οὔθ᾽ ἡδέος.

θυμὸς δ᾽ ἔτι ἧττον· ἥκιστα γὰρ τὰ διὰ θυμὸν κατὰ προαίρεσιν εἶναι δοκεῖ.

ἀλλὰ μὴν οὐδὲ βούλησίς [20] γε, καίπερ σύνεγγυς φαινόμενον· προαίρεσις μὲν γὰρ οὐκ ἔστι τῶν ἀδυνάτων, καὶ εἴ τις φαίη προαιρεῖσθαι, δοκοίη ἂν ἠλίθιος εἶναι· βούλησις δ᾽ ἐστὶ <καὶ> τῶν ἀδυνάτων, οἷον ἀθανασίας. καὶ ἡ μὲν βούλησίς ἐστι καὶ περὶ τὰ μηδαμῶς δι᾽ αὑτοῦ πραχθέντα ἄν, οἷον ὑποκριτήν τινα νικᾶν ἢ ἀθλητήν· [25] προαιρεῖται δὲ τὰ τοιαῦτα οὐδείς, ἀλλ᾽ ὅσα οἴεται γενέσθαι ἂν δι᾽ αὑτοῦ. ἔτι δ᾽ ἡ μὲν βούλησις τοῦ τέλους ἐστὶ μᾶλλον, ἡ δὲ προαίρεσις τῶν πρὸς τὸ τέλος, οἷον ὑγιαίνειν βουλόμεθα, προαιρούμεθα δὲ δι᾽ ὧν ὑγιανοῦμεν, καὶ εὐδαιμονεῖν βουλόμεθα μὲν καὶ φαμέν, προαιρούμεθα δὲ λέγειν οὐχ ἁρμόζει· ὅλως [30] γὰρ ἔοικεν ἡ προαίρεσις περὶ τὰ ἐφ᾽ ἡμῖν εἶναι.

οὐδὲ δὴ δόξα ἂν εἴη· ἡ μὲν γὰρ δόξα δοκεῖ περὶ πάντα εἶναι, καὶ οὐδὲν ἧττον περὶ τὰ ἀίδια καὶ τὰ ἀδύνατα ἢ τὰ ἐφ᾽ ἡμῖν· καὶ τῷ ψευδεῖ καὶ ἀληθεῖ διαιρεῖται, οὐ τῷ κακῷ καὶ ἀγαθῷ, ἡ προαίρεσις δὲ τούτοις μᾶλλον.

1112a [1] ὅλως μὲν οὖν δόξῃ ταὐτὸν ἴσως οὐδὲ λέγει οὐδείς. ἀλλ᾽ οὐδὲ τινί· τῷ γὰρ προαιρεῖσθαι τἀγαθὰ ἢ τὰ κακὰ ποιοί τινές ἐσμεν, τῷ δὲ δοξάζειν οὔ. καὶ προαιρούμεθα μὲν λαβεῖν ἢ φυγεῖν [ἤ] τι τῶν τοιούτων, δοξάζομεν δὲ τί ἐστιν ἢ τίνι συμφέρει ἢ πῶς· [5] λαβεῖν δ᾽ ἢ φυγεῖν οὐ πάνυ δοξάζομεν. καὶ ἡ μὲν προαίρεσις ἐπαινεῖται τῷ εἶναι οὗ δεῖ μᾶλλον ἢ τῷ ὀρθῶς, ἡ δὲ δόξα τῷ ὡς ἀληθῶς. καὶ προαιρούμεθα μὲν ἃ μάλιστα ἴσμεν ἀγαθὰ ὄντα, δοξάζομεν δὲ ἃ οὐ πάνυ ἴσμεν· δοκοῦσι δὲ οὐχ οἱ αὐτοὶ προαιρεῖσθαί τε ἄριστα καὶ δοξάζειν, ἀλλ᾽ [10] ἔνιοι δοξάζειν μὲν ἄμεινον, διὰ κακίαν δ᾽ αἱρεῖσθαι οὐχ ἃ δεῖ. εἰ δὲ προγίνεται δόξα τῆς προαιρέσεως ἢ παρακολουθεῖ, οὐδὲν διαφέρει· οὐ τοῦτο γὰρ σκοποῦμεν, ἀλλ᾽ εἰ ταὐτόν ἐστι δόξῃ τινί. τί οὖν ἢ ποῖόν τι ἐστίν, ἐπειδὴ τῶν εἰρημένων οὐθέν; ἑκούσιον μὲν δὴ φαίνεται, τὸ δ᾽ ἑκούσιον οὐ πᾶν προαιρετόν. [15] ἀλλ᾽ ἆρά γε τὸ προβεβουλευμένον; ἡ γὰρ προαίρεσις μετὰ λόγου καὶ διανοίας. ὑποσημαίνειν δ᾽ ἔοικε καὶ τοὔνομα ὡς ὂν πρὸ ἑτέρων αἱρετόν.

βουλεύονται δὲ πότερον περὶ πάντων, καὶ πᾶν βουλευτόν ἐστιν, ἢ περὶ ἐνίων οὐκ ἔστι βουλή; λεκτέον δ᾽ ἴσως βουλευτὸν [20] οὐχ ὑπὲρ οὗ βουλεύσαιτ᾽ ἄν τις ἠλίθιος ἢ μαινόμενος, ἀλλ᾽ ὑπὲρ ὧν ὁ νοῦν ἔχων. περὶ δὴ τῶν ἀιδίων οὐδεὶς βουλεύεται, οἷον περὶ τοῦ κόσμου ἢ τῆς διαμέτρου καὶ τῆς πλευρᾶς, ὅτι ἀσύμμετροι. ἀλλ᾽ οὐδὲ περὶ τῶν ἐν κινήσει, ἀεὶ δὲ κατὰ ταὐτὰ γινομένων, εἴτ᾽ ἐξ ἀνάγκης εἴτε καὶ [25] φύσει ἢ διά τινα αἰτίαν ἄλλην, οἷον τροπῶν καὶ ἀνατολῶν. οὐδὲ περὶ τῶν ἄλλοτε ἄλλως, οἷον αὐχμῶν καὶ ὄμβρων. οὐδὲ περὶ τῶν ἀπὸ τύχης, οἷον θησαυροῦ εὑρέσεως. ἀλλ᾽ οὐδὲ περὶ τῶν ἀνθρωπίνων ἁπάντων, οἷον πῶς ἂν Σκύθαι ἄριστα πολιτεύοιντο οὐδεὶς Λακεδαιμονίων βουλεύεται. [30] οὐ γὰρ γένοιτ᾽ ἂν τούτων οὐθὲν δι᾽ ἡμῶν. βουλευόμεθα δὲ περὶ τῶν ἐφ᾽ ἡμῖν καὶ πρακτῶν· ταῦτα δὲ καὶ ἔστι λοιπά. αἰτίαι γὰρ δοκοῦσιν εἶναι φύσις καὶ ἀνάγκη καὶ τύχη, ἔτι δὲ νοῦς καὶ πᾶν τὸ δι᾽ ἀνθρώπου. τῶν δ᾽ ἀνθρώπων ἕκαστοι βουλεύονται περὶ τῶν δι᾽ αὑτῶν πρακτῶν. 1112b [1] καὶ περὶ μὲν τὰς ἀκριβεῖς καὶ αὐτάρκεις τῶν ἐπιστημῶν οὐκ ἔστι βουλή, οἷον περὶ γραμμάτων (οὐ γὰρ διστάζομεν πῶς γραπτέον)· ἀλλ᾽ ὅσα γίνεται δι᾽ ἡμῶν, μὴ ὡσαύτως δ᾽ ἀεί, περὶ τούτων βουλευόμεθα, οἷον περὶ τῶν κατ᾽ ἰατρικὴν καὶ χρηματιστικήν, [5] καὶ περὶ κυβερνητικὴν μᾶλλον ἢ γυμναστικήν, ὅσῳ ἧττον διηκρίβωται, καὶ ἔτι περὶ τῶν λοιπῶν ὁμοίως, μᾶλλον δὲ καὶ περὶ τὰς τέχνας ἢ τὰς ἐπιστήμας· μᾶλλον γὰρ περὶ ταύτας διστάζομεν. τὸ βουλεύεσθαι δὲ ἐν τοῖς ὡς ἐπὶ τὸ πολύ, ἀδήλοις δὲ πῶς ἀποβήσεται, καὶ ἐν οἷς ἀδιόριστον. [10] συμβούλους δὲ παραλαμβάνομεν εἰς τὰ μεγάλα, ἀπιστοῦντες ἡμῖν αὐτοῖς ὡς οὐχ ἱκανοῖς διαγνῶναι. βουλευόμεθα δ᾽ οὐ περὶ τῶν τελῶν ἀλλὰ περὶ τῶν πρὸς τὰ τέλη. οὔτε γὰρ ἰατρὸς βουλεύεται εἰ ὑγιάσει, οὔτε ῥήτωρ εἰ πείσει, οὔτε πολιτικὸς εἰ εὐνομίαν ποιήσει, οὐδὲ τῶν λοιπῶν οὐδεὶς [15] περὶ τοῦ τέλους· ἀλλὰ θέμενοι τὸ τέλος τὸ πῶς καὶ διὰ τίνων ἔσται σκοποῦσι· καὶ διὰ πλειόνων μὲν φαινομένου γίνεσθαι διὰ τίνος ῥᾷστα καὶ κάλλιστα ἐπισκοποῦσι, δι᾽ ἑνὸς δ᾽ ἐπιτελουμένου πῶς διὰ τούτου ἔσται κἀκεῖνο διὰ τίνος, ἕως ἂν ἔλθωσιν ἐπὶ τὸ πρῶτον αἴτιον, ὃ ἐν τῇ εὑρέσει ἔσχατόν [20] ἐστιν. ὁ γὰρ βουλευόμενος ἔοικε ζητεῖν καὶ ἀναλύειν τὸν εἰρημένον τρόπον ὥσπερ διάγραμμα (φαίνεται δ᾽ ἡ μὲν ζήτησις οὐ πᾶσα εἶναι βούλευσις, οἷον αἱ μαθηματικαί, ἡ δὲ βούλευσις πᾶσα ζήτησις), καὶ τὸ ἔσχατον ἐν τῇ ἀναλύσει πρῶτον εἶναι ἐν τῇ γενέσει. κἂν μὲν ἀδυνάτῳ ἐντύχωσιν, [25] ἀφίστανται, οἷον εἰ χρημάτων δεῖ, ταῦτα δὲ μὴ οἷόν τε πορισθῆναι· ἐὰν δὲ δυνατὸν φαίνηται, ἐγχειροῦσι πράττειν. δυνατὰ δὲ ἃ δι᾽ ἡμῶν γένοιτ᾽ ἄν· τὰ γὰρ διὰ τῶν φίλων δι᾽ ἡμῶν πως ἐστίν· ἡ γὰρ ἀρχὴ ἐν ἡμῖν. ζητεῖται δ᾽ ὁτὲ μὲν τὰ ὄργανα ὁτὲ δ᾽ ἡ χρεία αὐτῶν· [30] ὁμοίως δὲ καὶ ἐν τοῖς λοιποῖς ὁτὲ μὲν δι᾽ οὗ ὁτὲ δὲ πῶς ἢ διὰ τίνος. ἔοικε δή, καθάπερ εἴρηται, ἄνθρωπος εἶναι ἀρχὴ τῶν πράξεων· ἡ δὲ βουλὴ περὶ τῶν αὑτῷ πρακτῶν, αἱ δὲ πράξεις ἄλλων ἕνεκα. οὐ γὰρ ἂν εἴη βουλευτὸν τὸ τέλος ἀλλὰ τὰ πρὸς τὰ τέλη· οὐδὲ δὴ τὰ καθ᾽ ἕκαστα, 1113a [1] οἷον εἰ ἄρτος τοῦτο ἢ πέπεπται ὡς δεῖ· αἰσθήσεως γὰρ ταῦτα. εἰ δὲ ἀεὶ βουλεύσεται, εἰς ἄπειρον ἥξει. βουλευτὸν δὲ καὶ προαιρετὸν τὸ αὐτό, πλὴν ἀφωρισμένον ἤδη τὸ προαιρετόν· τὸ γὰρ ἐκ τῆς βουλῆς κριθὲν προαιρετόν [5] ἐστιν. παύεται γὰρ ἕκαστος ζητῶν πῶς πράξει, ὅταν εἰς αὑτὸν ἀναγάγῃ τὴν ἀρχήν, καὶ αὑτοῦ εἰς τὸ ἡγούμενον· τοῦτο γὰρ τὸ προαιρούμενον. δῆλον δὲ τοῦτο καὶ ἐκ τῶν ἀρχαίων πολιτειῶν, ἃς Ὅμηρος ἐμιμεῖτο· οἱ γὰρ βασιλεῖς ἃ προείλοντο ἀνήγγελλον τῷ δήμῳ. ὄντος δὲ τοῦ [10] προαιρετοῦ βουλευτοῦ ὀρεκτοῦ τῶν ἐφ᾽ ἡμῖν, καὶ ἡ προαίρεσις ἂν εἴη βουλευτικὴ ὄρεξις τῶν ἐφ᾽ ἡμῖν· ἐκ τοῦ βουλεύσασθαι γὰρ κρίναντες ὀρεγόμεθα κατὰ τὴν βούλευσιν. ἡ μὲν οὖν προαίρεσις τύπῳ εἰρήσθω, καὶ περὶ ποῖά ἐστι καὶ ὅτι τῶν πρὸς τὰ τέλη.

[15] ἡ δὲ βούλησις ὅτι μὲν τοῦ τέλους ἐστὶν εἴρηται, δοκεῖ δὲ τοῖς μὲν τἀγαθοῦ εἶναι, τοῖς δὲ τοῦ φαινομένου ἀγαθοῦ. συμβαίνει δὲ τοῖς μὲν [τὸ] βουλητὸν τἀγαθὸν λέγουσι μὴ εἶναι βουλητὸν ὃ βούλεται ὁ μὴ ὀρθῶς αἱρούμενος (εἰ γὰρ ἔσται βουλητόν, καὶ ἀγαθόν· ἦν δ᾽, εἰ οὕτως ἔτυχε, κακόν), [20] τοῖς δ᾽ αὖ τὸ φαινόμενον ἀγαθὸν βουλητὸν λέγουσι μὴ εἶναι φύσει βουλητόν, ἀλλ᾽ ἑκάστῳ τὸ δοκοῦν· ἄλλο δ᾽ ἄλλῳ φαίνεται, καὶ εἰ οὕτως ἔτυχε, τἀναντία. εἰ δὲ δὴ ταῦτα μὴ ἀρέσκει, ἆρα φατέον ἁπλῶς μὲν καὶ κατ᾽ ἀλήθειαν βουλητὸν εἶναι τἀγαθόν, ἑκάστῳ δὲ τὸ φαινόμενον; [25] τῷ μὲν οὖν σπουδαίῳ τὸ κατ᾽ ἀλήθειαν εἶναι, τῷ δὲ φαύλῳ τὸ τυχόν, ὥσπερ καὶ ἐπὶ τῶν σωμάτων τοῖς μὲν εὖ διακειμένοις ὑγιεινά ἐστι τὰ κατ᾽ ἀλήθειαν τοιαῦτα ὄντα, τοῖς δ᾽ ἐπινόσοις ἕτερα, ὁμοίως δὲ καὶ πικρὰ καὶ γλυκέα καὶ θερμὰ καὶ βαρέα καὶ τῶν ἄλλων ἕκαστα· ὁ σπουδαῖος γὰρ [30] ἕκαστα κρίνει ὀρθῶς, καὶ ἐν ἑκάστοις τἀληθὲς αὐτῷ φαίνεται. καθ᾽ ἑκάστην γὰρ ἕξιν ἴδιά ἐστι καλὰ καὶ ἡδέα, καὶ διαφέρει πλεῖστον ἴσως ὁ σπουδαῖος τῷ τἀληθὲς ἐν ἑκάστοις ὁρᾶν, ὥσπερ κανὼν καὶ μέτρον αὐτῶν ὤν. ἐν τοῖς πολλοῖς δὲ ἡ ἀπάτη διὰ τὴν ἡδονὴν ἔοικε γίνεσθαι· οὐ γὰρ οὖσα ἀγαθὸν φαίνεται. 1113b

[1] αἱροῦνται οὖν τὸ ἡδὺ ὡς ἀγαθόν, τὴν δὲ λύπην ὡς κακὸν φεύγουσιν. ὄντος δὴ βουλητοῦ μὲν τοῦ τέλους, βουλευτῶν δὲ καὶ προαιρετῶν τῶν πρὸς τὸ τέλος, αἱ περὶ ταῦτα πράξεις [5] κατὰ προαίρεσιν ἂν εἶεν καὶ ἑκούσιοι. αἱ δὲ τῶν ἀρετῶν ἐνέργειαι περὶ ταῦτα. ἐφ᾽ ἡμῖν δὴ καὶ ἡ ἀρετή, ὁμοίως δὲ καὶ ἡ κακία. ἐν οἷς γὰρ ἐφ᾽ ἡμῖν τὸ πράττειν, καὶ τὸ μὴ πράττειν, καὶ ἐν οἷς τὸ μή, καὶ τὸ ναί· ὥστ᾽ εἰ τὸ πράττειν καλὸν ὂν ἐφ᾽ ἡμῖν ἐστί, καὶ τὸ μὴ πράττειν ἐφ᾽ ἡμῖν [10] ἔσται αἰσχρὸν ὄν, καὶ εἰ τὸ μὴ πράττειν καλὸν ὂν ἐφ᾽ ἡμῖν, καὶ τὸ πράττειν αἰσχρὸν ὂν ἐφ᾽ ἡμῖν. εἰ δ᾽ ἐφ᾽ ἡμῖν τὰ καλὰ πράττειν καὶ τὰ αἰσχρά, ὁμοίως δὲ καὶ τὸ μὴ πράττειν, τοῦτο δ᾽ ἦν τὸ ἀγαθοῖς καὶ κακοῖς εἶναι, ἐφ᾽ ἡμῖν ἄρα τὸ ἐπιεικέσι καὶ φαύλοις εἶναι. τὸ δὲ λέγειν ὡς οὐδεὶς ἑκὼν [15] πονηρὸς οὐδ᾽ ἄκων μακάριος ἔοικε τὸ μὲν ψευδεῖ τὸ δ᾽ ἀληθεῖ· μακάριος μὲν γὰρ οὐδεὶς ἄκων, ἡ δὲ μοχθηρία ἑκούσιον. ἢ τοῖς γε νῦν εἰρημένοις ἀμφισβητητέον, καὶ τὸν ἄνθρωπον οὐ φατέον ἀρχὴν εἶναι οὐδὲ γεννητὴν τῶν πράξεων ὥσπερ καὶ τέκνων. εἰ δὲ ταῦτα φαίνεται καὶ μὴ ἔχομεν [20] εἰς ἄλλας ἀρχὰς ἀναγαγεῖν παρὰ τὰς ἐν ἡμῖν, ὧν καὶ αἱ ἀρχαὶ ἐν ἡμῖν, καὶ αὐτὰ ἐφ᾽ ἡμῖν καὶ ἑκούσια. τούτοις δ᾽ ἔοικε μαρτυρεῖσθαι καὶ ἰδίᾳ ὑφ᾽ ἑκάστων καὶ ὑπ᾽ αὐτῶν τῶν νομοθετῶν· κολάζουσι γὰρ καὶ τιμωροῦνται τοὺς δρῶντας μοχθηρά, ὅσοι μὴ βίᾳ ἢ δι᾽ ἄγνοιαν ἧς μὴ αὐτοὶ [25] αἴτιοι, τοὺς δὲ τὰ καλὰ πράττοντας τιμῶσιν, ὡς τοὺς μὲν προτρέψοντες τοὺς δὲ κωλύσοντες. καίτοι ὅσα μήτ᾽ ἐφ᾽ ἡμῖν ἐστὶ μήθ᾽ ἑκούσια, οὐδεὶς προτρέπεται πράττειν, ὡς οὐδὲν πρὸ ἔργου ὂν τὸ πεισθῆναι μὴ θερμαίνεσθαι ἢ ἀλγεῖν ἢ πεινῆν ἢ ἄλλ᾽ ὁτιοῦν τῶν τοιούτων· οὐθὲν γὰρ ἧττον πεισόμεθα [30] αὐτά. καὶ γὰρ ἐπ᾽ αὐτῷ τῷ ἀγνοεῖν κολάζουσιν, ἐὰν αἴτιος εἶναι δοκῇ τῆς ἀγνοίας, οἷον τοῖς μεθύουσι διπλᾶ τὰ ἐπιτίμια· ἡ γὰρ ἀρχὴ ἐν αὐτῷ· κύριος γὰρ τοῦ μὴ μεθυσθῆναι, τοῦτο δ᾽ αἴτιον τῆς ἀγνοίας. καὶ τοὺς ἀγνοοῦντάς τι τῶν ἐν τοῖς νόμοις, ἃ δεῖ ἐπίστασθαι καὶ μὴ χαλεπά ἐστι, 1114a [1] κολάζουσιν, ὁμοίως δὲ καὶ ἐν τοῖς ἄλλοις, ὅσα δι᾽ ἀμέλειαν ἀγνοεῖν δοκοῦσιν, ὡς ἐπ᾽ αὐτοῖς ὂν τὸ μὴ ἀγνοεῖν· τοῦ γὰρ ἐπιμεληθῆναι κύριοι. ἀλλ᾽ ἴσως τοιοῦτός ἐστιν ὥστε μὴ ἐπιμεληθῆναι. ἀλλὰ τοῦ τοιούτους γενέσθαι αὐτοὶ αἴτιοι [5] ζῶντες ἀνειμένως, καὶ τοῦ ἀδίκους ἢ ἀκολάστους εἶναι, οἳ μὲν κακουργοῦντες, οἳ δὲ ἐν πότοις καὶ τοῖς τοιούτοις διάγοντες· αἱ γὰρ περὶ ἕκαστα ἐνέργειαι τοιούτους ποιοῦσιν. τοῦτο δὲ δῆλον ἐκ τῶν μελετώντων πρὸς ἡντινοῦν ἀγωνίαν ἢ πρᾶξιν· διατελοῦσι γὰρ ἐνεργοῦντες. τὸ μὲν οὖν ἀγνοεῖν ὅτι ἐκ τοῦ [10] ἐνεργεῖν περὶ ἕκαστα αἱ ἕξεις γίνονται, κομιδῇ ἀναισθήτου. ἔτι δ᾽ ἄλογον τὸν ἀδικοῦντα μὴ βούλεσθαι ἄδικον εἶναι ἢ τὸν ἀκολασταίνοντα ἀκόλαστον. εἰ δὲ μὴ ἀγνοῶν τις πράττει ἐξ ὧν ἔσται ἄδικος, ἑκὼν ἄδικος ἂν

εἴη, οὐ μὴν ἐάν γε βούληται, ἄδικος ὢν παύσεται καὶ ἔσται δίκαιος. οὐδὲ γὰρ [15] ὁ νοσῶν ὑγιής. καὶ εἰ οὕτως ἔτυχεν, ἑκὼν νοσεῖ, ἀκρατῶς βιοτεύων καὶ ἀπειθῶν τοῖς ἰατροῖς. τότε μὲν οὖν ἐξῆν αὐτῷ μὴ νοσεῖν, προεμένῳ δ᾽ οὐκέτι, ὥσπερ οὐδ᾽ ἀφέντι λίθον ἔτ᾽ αὐτὸν δυνατὸν ἀναλαβεῖν· ἀλλ᾽ ὅμως ἐπ᾽ αὐτῷ τὸ βαλεῖν [καὶ ῥῖψαι]· ἡ γὰρ ἀρχὴ ἐν αὐτῷ. οὕτω δὲ καὶ τῷ ἀδίκῳ [20] καὶ τῷ ἀκολάστῳ ἐξ ἀρχῆς μὲν ἐξῆν τοιούτοις μὴ γενέσθαι, διὸ ἑκόντες εἰσίν· γενομένοις δ᾽ οὐκέτι ἔστι μὴ εἶναι. οὐ μόνον δ᾽ αἱ τῆς ψυχῆς κακίαι ἑκούσιοί εἰσιν, ἀλλ᾽ ἐνίοις καὶ αἱ τοῦ σώματος, οἷς καὶ ἐπιτιμῶμεν· τοῖς μὲν γὰρ διὰ φύσιν αἰσχροῖς οὐδεὶς ἐπιτιμᾷ, τοῖς δὲ δι᾽ ἀγυμνασίαν καὶ [25] ἀμέλειαν. ὁμοίως δὲ καὶ περὶ ἀσθένειαν καὶ πήρωσιν· οὐθεὶς γὰρ ἂν ὀνειδίσειε τυφλῷ φύσει ἢ ἐκ νόσου ἢ ἐκ πληγῆς, ἀλλὰ μᾶλλον ἐλεήσαι· τῷ δ᾽ ἐξ οἰνοφλυγίας ἢ ἄλλης ἀκολασίας πᾶς ἂν ἐπιτιμήσαι. τῶν δὴ περὶ τὸ σῶμα κακιῶν αἱ ἐφ᾽ ἡμῖν ἐπιτιμῶνται, αἱ δὲ μὴ ἐφ᾽ ἡμῖν οὔ. εἰ [30] δ᾽ οὕτω, καὶ ἐπὶ τῶν ἄλλων αἱ ἐπιτιμώμεναι τῶν κακιῶν ἐφ᾽ ἡμῖν ἂν εἶεν. εἰ δέ τις λέγοι ὅτι πάντες ἐφίενται τοῦ φαινομένου ἀγαθοῦ, τῆς δὲ φαντασίας οὐ κύριοι, 1114b [1] ἀλλ᾽ ὁποῖός ποθ᾽ ἕκαστός ἐστι, τοιοῦτο καὶ τὸ τέλος φαίνεται αὐτῷ· εἰ μὲν οὖν ἕκαστος ἑαυτῷ τῆς ἕξεώς ἐστί πως αἴτιος, καὶ τῆς φαντασίας ἔσται πως αὐτὸς αἴτιος· εἰ δὲ μή, οὐθεὶς αὑτῷ αἴτιος τοῦ κακοποιεῖν, ἀλλὰ δι᾽ ἄγνοιαν τοῦ τέλους ταῦτα [5] πράττει, διὰ τούτων οἰόμενος αὑτῷ τὸ ἄριστον ἔσεσθαι, ἡ δὲ τοῦ τέλους ἔφεσις οὐκ αὐθαίρετος, ἀλλὰ φῦναι δεῖ ὥσπερ ὄψιν ἔχοντα, ᾗ κρινεῖ καλῶς καὶ τὸ κατ᾽ ἀλήθειαν ἀγαθὸν αἱρήσεται, καὶ ἔστιν εὐφυὴς ᾧ τοῦτο καλῶς πέφυκεν· τὸ γὰρ μέγιστον καὶ κάλλιστον, καὶ ὃ παρ᾽ ἑτέρου μὴ οἷόν [10] τε λαβεῖν μηδὲ μαθεῖν, ἀλλ᾽ οἷον ἔφυ τοιοῦτον ἕξει, καὶ τὸ εὖ καὶ τὸ καλῶς τοῦτο πεφυκέναι ἡ τελεία καὶ ἀληθινὴ ἂν εἴη εὐφυΐα. εἰ δὴ ταῦτ᾽ ἐστὶν ἀληθῆ, τί μᾶλλον ἡ ἀρετὴ τῆς κακίας ἔσται ἑκούσιον; ἀμφοῖν γὰρ ὁμοίως, τῷ ἀγαθῷ καὶ τῷ κακῷ, τὸ τέλος φύσει ἢ ὁπωσδήποτε φαίνεται [15] καὶ κεῖται, τὰ δὲ λοιπὰ πρὸς τοῦτο ἀναφέροντες πράττουσιν ὁπωσδήποτε. εἴτε δὴ τὸ τέλος μὴ φύσει ἑκάστῳ φαίνεται οἱονδήποτε, ἀλλά τι καὶ παρ᾽ αὐτόν ἐστιν, εἴτε τὸ μὲν τέλος φυσικόν, τῷ δὲ τὰ λοιπὰ πράττειν ἑκουσίως τὸν σπουδαῖον ἡ ἀρετὴ ἑκούσιόν ἐστιν, οὐθὲν ἧττον καὶ ἡ κακία [20] ἑκούσιον ἂν εἴη· ὁμοίως γὰρ καὶ τῷ κακῷ ὑπάρχει τὸ δι᾽ αὐτὸν ἐν ταῖς πράξεσι καὶ εἰ μὴ ἐν τῷ τέλει. εἰ οὖν, ὥσπερ λέγεται, ἑκούσιοί εἰσιν αἱ ἀρεταί (καὶ γὰρ τῶν ἕξεων συναίτιοί πως αὐτοί ἐσμεν, καὶ τῷ ποιοί τινες εἶναι τὸ τέλος τοιόνδε τιθέμεθα), καὶ αἱ κακίαι ἑκούσιοι ἂν εἶεν· [25] ὁμοίως γάρ. κοινῇ μὲν οὖν περὶ τῶν ἀρετῶν εἴρηται ἡμῖν τό τε γένος τύπῳ, ὅτι μεσότητές εἰσιν καὶ ὅτι ἕξεις, ὑφ᾽ ὧν τε γίνονται, ὅτι τούτων πρακτικαὶ <καὶ> καθ᾽ αὑτάς, καὶ ὅτι ἐφ᾽

ἡμῖν καὶ ἑκούσιοι, καὶ οὕτως ὡς ἂν ὁ ὀρθὸς λόγος [30] προστάξῃ. οὐχ ὁμοίως δὲ αἱ πράξεις ἑκούσιοί εἰσι καὶ αἱ ἕξεις· τῶν μὲν γὰρ πράξεων ἀπ᾽ ἀρχῆς μέχρι τοῦ τέλους κύριοί ἐσμεν, εἰδότες τὰ καθ᾽ ἕκαστα, τῶν ἕξεων δὲ τῆς ἀρχῆς, 1115a [1] καθ᾽ ἕκαστα δὲ ἡ πρόσθεσις οὐ γνώριμος, ὥσπερ ἐπὶ τῶν ἀῤῥωστιῶν· ἀλλ᾽ ὅτι ἐφ᾽ ἡμῖν ἦν οὕτως ἢ μὴ οὕτω χρήσασθαι, διὰ τοῦτο ἑκούσιοι. ἀναλαβόντες δὲ περὶ ἑκάστης εἴπωμεν τίνες εἰσὶ καὶ [5] περὶ ποῖα καὶ πῶς· ἅμα δ᾽ ἔσται δῆλον καὶ πόσαι εἰσίν. καὶ πρῶτον περὶ ἀνδρείας.

ὅτι μὲν οὖν μεσότης ἐστὶ περὶ φόβους καὶ θάῤῥη, ἤδη φανερὸν γεγένηται· φοβούμεθα δὲ δῆλον ὅτι τὰ φοβερά, ταῦτα δ᾽ ἐστὶν ὡς ἁπλῶς εἰπεῖν κακά· διὸ καὶ τὸν φόβον ὁρίζονται προσδοκίαν κακοῦ. [10] φοβούμεθα μὲν οὖν πάντα τὰ κακά, οἷον ἀδοξίαν πενίαν νόσον ἀφιλίαν θάνατον, ἀλλ᾽ οὐ περὶ πάντα δοκεῖ ὁ ἀνδρεῖος εἶναι· ἔνια γὰρ καὶ δεῖ φοβεῖσθαι καὶ καλόν, τὸ δὲ μὴ αἰσχρόν, οἷον ἀδοξίαν· ὁ μὲν γὰρ φοβούμενος ἐπιεικὴς καὶ αἰδήμων, ὁ δὲ μὴ φοβούμενος ἀναίσχυντος. λέγεται [15] δ᾽ ὑπό τινων ἀνδρεῖος κατὰ μεταφοράν· ἔχει γάρ τι ὅμοιον τῷ ἀνδρείῳ· ἄφοβος γάρ τις καὶ ὁ ἀνδρεῖος. πενίαν δ᾽ ἴσως οὐ δεῖ φοβεῖσθαι οὐδὲ νόσον, οὐδ᾽ ὅλως ὅσα μὴ ἀπὸ κακίας μηδὲ δι᾽ αὐτόν. ἀλλ᾽ οὐδ᾽ ὁ περὶ ταῦτα ἄφοβος ἀνδρεῖος. λέγομεν δὲ καὶ τοῦτον καθ᾽ ὁμοιότητα· [20] ἔνιοι γὰρ ἐν τοῖς πολεμικοῖς κινδύνοις δειλοὶ ὄντες ἐλευθέριοί εἰσι καὶ πρὸς χρημάτων ἀποβολὴν εὐθαρσῶς ἔχουσιν. οὐδὲ δὴ εἴ τις ὕβριν περὶ παῖδας καὶ γυναῖκα φοβεῖται ἢ φθόνον ἤ τι τῶν τοιούτων, δειλός ἐστιν· οὐδ᾽ εἰ θαῤῥεῖ μέλλων μαστιγοῦσθαι, ἀνδρεῖος. περὶ ποῖα οὖν τῶν φοβερῶν [25] ὁ ἀνδρεῖος; ἢ περὶ τὰ μέγιστα; οὐθεὶς γὰρ ὑπομενετικώτερος τῶν δεινῶν. φοβερώτατον δ᾽ ὁ θάνατος· πέρας γάρ, καὶ οὐδὲν ἔτι τῷ τεθνεῶτι δοκεῖ οὔτ᾽ ἀγαθὸν οὔτε κακὸν εἶναι. δόξειε δ᾽ ἂν οὐδὲ περὶ θάνατον τὸν ἐν παντὶ ὁ ἀνδρεῖος εἶναι, οἷον ἐν θαλάττῃ ἢ νόσοις. ἐν τίσιν οὖν; ἢ ἐν [30] τοῖς καλλίστοις; τοιοῦτοι δὲ οἱ ἐν πολέμῳ· ἐν μεγίστῳ γὰρ καὶ καλλίστῳ κινδύνῳ. ὁμόλογοι δὲ τούτοις εἰσὶ καὶ αἱ τιμαὶ αἱ ἐν ταῖς πόλεσι καὶ παρὰ τοῖς μονάρχοις. κυρίως δὴ λέγοιτ᾽ ἂν ἀνδρεῖος ὁ περὶ τὸν καλὸν θάνατον ἀδεής, καὶ ὅσα θάνατον ἐπιφέρει ὑπόγυια ὄντα· τοιαῦτα δὲ μάλιστα [35] τὰ κατὰ πόλεμον. οὐ μὴν ἀλλὰ καὶ ἐν θαλάττῃ καὶ ἐν νόσοις ἀδεὴς ὁ ἀνδρεῖος, 1115b [1] οὐχ οὕτω δὲ ὡς οἱ θαλάττιοι· οἳ μὲν γὰρ ἀπεγνώκασι τὴν σωτηρίαν καὶ τὸν θάνατον τὸν τοιοῦτον δυσχεραίνουσιν, οἳ δὲ εὐέλπιδές εἰσι παρὰ τὴν ἐμπειρίαν. ἅμα δὲ καὶ ἀνδρίζονται ἐν οἷς ἐστὶν ἀλκὴ [5] ἢ καλὸν τὸ ἀποθανεῖν· ἐν ταῖς τοιαύταις δὲ φθοραῖς οὐδέτερον ὑπάρχει.

τὸ δὲ φοβερὸν οὐ πᾶσι μὲν τὸ αὐτό, λέγομεν δέ τι καὶ ὑπὲρ ἄνθρωπον. τοῦτο μὲν οὖν παντὶ φοβερὸν τῷ γε νοῦν ἔχοντι· τὰ δὲ κατ᾽ ἄνθρωπον διαφέρει μεγέθει καὶ τῷ [10] μᾶλλον καὶ ἧττον· ὁμοίως δὲ καὶ τὰ θαῤῥαλέα. ὁ δὲ ἀνδρεῖος ἀνέκπληκτος ὡς ἄνθρωπος. φοβήσεται μὲν οὖν καὶ τὰ τοιαῦτα, ὡς δεῖ δὲ καὶ ὡς ὁ λόγος ὑπομενεῖ τοῦ καλοῦ ἕνεκα· τοῦτο γὰρ τέλος τῆς ἀρετῆς. ἔστι δὲ μᾶλλον καὶ ἧττον ταῦτα φοβεῖσθαι, καὶ ἔτι τὰ μὴ φοβερὰ ὡς τοιαῦτα [15] φοβεῖσθαι. γίνεται δὲ τῶν ἁμαρτιῶν ἣ μὲν ὅτι <ὃ> οὐ δεῖ, ἣ δὲ ὅτι οὐχ ὡς δεῖ, ἣ δὲ ὅτι οὐχ ὅτε, ἤ τι τῶν τοιούτων· ὁμοίως δὲ καὶ περὶ τὰ θαῤῥαλέα. ὁ μὲν οὖν ἃ δεῖ καὶ οὗ ἕνεκα ὑπομένων καὶ φοβούμενος, καὶ ὡς δεῖ καὶ ὅτε, ὁμοίως δὲ καὶ θαῤῥῶν, ἀνδρεῖος· κατ᾽ ἀξίαν γάρ, καὶ ὡς ἂν ὁ λόγος, [20] πάσχει καὶ πράττει ὁ ἀνδρεῖος. τέλος δὲ πάσης ἐνεργείας ἐστὶ τὸ κατὰ τὴν ἕξιν. καὶ τῷ ἀνδρείῳ δὲ ἡ ἀνδρεία καλόν. τοιοῦτον δὴ καὶ τὸ τέλος· ὁρίζεται γὰρ ἕκαστον τῷ τέλει. καλοῦ δὴ ἕνεκα ὁ ἀνδρεῖος ὑπομένει καὶ πράττει τὰ κατὰ τὴν ἀνδρείαν. τῶν δ᾽ ὑπερβαλλόντων ὁ μὲν τῇ ἀφοβίᾳ [25] ἀνώνυμος (εἴρηται δ᾽ ἡμῖν ἐν τοῖς πρότερον ὅτι πολλά ἐστιν ἀνώνυμα), εἴη δ᾽ ἄν τις μαινόμενος ἢ ἀνάλγητος, εἰ μηδὲν φοβοῖτο, μήτε σεισμὸν μήτε κύματα, καθάπερ φασὶ τοὺς Κελτούς· ὁ δὲ τῷ θαῤῥεῖν ὑπερβάλλων περὶ τὰ φοβερὰ θρασύς. δοκεῖ δὲ καὶ ἀλαζὼν εἶναι ὁ θρασὺς καὶ [30] προσποιητικὸς ἀνδρείας· ὡς γοῦν ἐκεῖνος περὶ τὰ φοβερὰ ἔχει, οὗτος βούλεται φαίνεσθαι· ἐν οἷς οὖν δύναται, μιμεῖται. διὸ καὶ εἰσὶν οἱ πολλοὶ αὐτῶν θρασύδειλοι· ἐν τούτοις γὰρ θρασυνόμενοι τὰ φοβερὰ οὐχ ὑπομένουσιν. ὁ δὲ τῷ φοβεῖσθαι ὑπερβάλλων δειλός· καὶ γὰρ ἃ μὴ δεῖ [35] καὶ ὡς οὐ δεῖ, καὶ πάντα τὰ τοιαῦτα ἀκολουθεῖ αὐτῷ. 1116a [1] ἐλλείπει δὲ καὶ τῷ θαῤῥεῖν· ἀλλ᾽ ἐν ταῖς λύπαις ὑπερβάλλων μᾶλλον καταφανής ἐστιν. δύσελπις δή τις ὁ δειλός· πάντα γὰρ φοβεῖται. ὁ δ᾽ ἀνδρεῖος ἐναντίως· τὸ γὰρ θαῤῥεῖν εὐέλπιδος. περὶ ταὐτὰ μὲν οὖν ἐστὶν ὅ τε δειλὸς [5] καὶ ὁ θρασὺς καὶ ὁ ἀνδρεῖος, διαφόρως δ᾽ ἔχουσι πρὸς αὐτά· οἳ μὲν γὰρ ὑπερβάλλουσι καὶ ἐλλείπουσιν, ὃ δὲ μέσως ἔχει καὶ ὡς δεῖ· καὶ οἱ μὲν θρασεῖς προπετεῖς, καὶ βουλόμενοι πρὸ τῶν κινδύνων ἐν αὐτοῖς δ᾽ ἀφίστανται, οἱ δ᾽ ἀνδρεῖοι ἐν τοῖς ἔργοις ὀξεῖς, πρότερον δ᾽ ἡσύχιοι. [10] καθάπερ οὖν εἴρηται, ἡ ἀνδρεία μεσότης ἐστὶ περὶ θαῤῥαλέα καὶ φοβερά, ἐν οἷς εἴρηται, καὶ ὅτι καλὸν αἱρεῖται καὶ ὑπομένει, ἢ ὅτι αἰσχρὸν τὸ μή. τὸ δ᾽ ἀποθνήσκειν φεύγοντα πενίαν ἢ ἔρωτα ἤ τι λυπηρὸν οὐκ ἀνδρείου, ἀλλὰ μᾶλλον δειλοῦ· μαλακία γὰρ τὸ φεύγειν τὰ ἐπίπονα, καὶ [15] οὐχ ὅτι καλὸν ὑπομένει, ἀλλὰ φεύγων κακόν.

ἔστι μὲν οὖν ἡ ἀνδρεία τοιοῦτόν τι, λέγονται δὲ καὶ ἕτεραι κατὰ πέντε τρόπους· πρῶτον μὲν ἡ πολιτική· μάλιστα γὰρ ἔοικεν. δοκοῦσι γὰρ ὑπομένειν τοὺς κινδύνους οἱ πολῖται διὰ τὰ ἐκ τῶν νόμων ἐπιτίμια καὶ τὰ ὀνείδη καὶ διὰ τὰς τιμάς· [20] καὶ διὰ τοῦτο ἀνδρειότατοι δοκοῦσιν εἶναι παρ᾽ οἷς οἱ δειλοὶ ἄτιμοι καὶ οἱ ἀνδρεῖοι ἔντιμοι. τοιούτους δὲ καὶ Ὅμηρος ποιεῖ, οἷον τὸν Διομήδην καὶ τὸν Ἕκτορα·

Πουλυδάμας μοι πρῶτος ἐλεγχείην ἀναθήσει·

καὶ [Διομήδης] [25]

Ἕκτωρ γάρ ποτε φήσει ἐνὶ Τρώεσσ᾽ ἀγορεύων

Τυδείδης ὑπ᾽ ἐμεῖο.

ὡμοίωται δ᾽ αὕτη μάλιστα τῇ πρότερον εἰρημένῃ, ὅτι δι᾽ ἀρετὴν γίνεται· δι᾽ αἰδῶ γὰρ καὶ διὰ καλοῦ ὄρεξιν (τιμῆς γάρ) καὶ φυγὴν ὀνείδους, αἰσχροῦ ὄντος. τάξαι δ᾽ ἄν τις [30] καὶ τοὺς ὑπὸ τῶν ἀρχόντων ἀναγκαζομένους εἰς ταὐτό· χείρους δ᾽, ὅσῳ οὐ δι᾽ αἰδῶ ἀλλὰ διὰ φόβον αὐτὸ δρῶσι, καὶ φεύγοντες οὐ τὸ αἰσχρὸν ἀλλὰ τὸ λυπηρόν· ἀναγκάζουσι γὰρ οἱ κύριοι, ὥσπερ ὁ Ἕκτωρ

ὃν δέ κ᾽ ἐγὼν ἀπάνευθε μάχης πτώσσοντα νοήσω,

οὔ οἱ ἄρκιον ἐσσεῖται φυγέειν κύνας.

καὶ οἱ προστάττοντες, κἂν ἀναχωρῶσι τύπτοντες, τὸ αὐτὸ δρῶσι, 1116b [1] καὶ οἱ πρὸ τῶν τάφρων καὶ τῶν τοιούτων παρατάττοντες· πάντες γὰρ ἀναγκάζουσιν. δεῖ δ᾽ οὐ δι᾽ ἀνάγκην ἀνδρεῖον εἶναι, ἀλλ᾽ ὅτι καλόν. δοκεῖ δὲ καὶ ἡ ἐμπειρία ἡ περὶ ἕκαστα ἀνδρεία εἶναι· ὅθεν καὶ ὁ Σωκράτης ᾠήθη [5] ἐπιστήμην εἶναι τὴν ἀνδρείαν. τοιοῦτοι δὲ ἄλλοι μὲν ἐν ἄλλοις, ἐν τοῖς πολεμικοῖς δ᾽ οἱ στρατιῶται· δοκεῖ γὰρ εἶναι πολλὰ κενὰ τοῦ πολέμου, ἃ μάλιστα συνεωράκασιν οὗτοι· φαίνονται δὴ ἀνδρεῖοι, ὅτι οὐκ ἴσασιν οἱ ἄλλοι οἷά ἐστιν. εἶτα ποιῆσαι καὶ μὴ παθεῖν μάλιστα δύνανται ἐκ τῆς ἐμπειρίας, [10] δυνάμενοι χρῆσθαι τοῖς ὅπλοις καὶ τοιαῦτα ἔχοντες ὁποῖα ἂν εἴη καὶ πρὸς τὸ ποιῆσαι καὶ πρὸς τὸ μὴ παθεῖν κράτιστα· ὥσπερ οὖν ἀνόπλοις ὡπλισμένοι μάχονται καὶ ἀθληταὶ ἰδιώταις· καὶ γὰρ ἐν τοῖς τοιούτοις ἀγῶσιν οὐχ οἱ ἀνδρειότατοι μαχιμώτατοί εἰσιν, ἀλλ᾽ οἱ μάλιστα [15] ἰσχύοντες καὶ τὰ σώματα ἄριστα ἔχοντες. οἱ στρατιῶται δὲ δειλοὶ γίνονται, ὅταν ὑπερτείνῃ ὁ κίνδυνος καὶ λείπωνται τοῖς πλήθεσι καὶ ταῖς παρασκευαῖς· πρῶτοι γὰρ φεύγουσι, τὰ δὲ πολιτικὰ μένοντα ἀποθνήσκει, ὅπερ κἀπὶ τῷ Ἑρμαίῳ συνέβη. τοῖς μὲν γὰρ αἰσχρὸν τὸ φεύγειν [20] καὶ ὁ θάνατος τῆς τοιαύτης σωτηρίας αἱρετώτερος· οἳ δὲ καὶ ἐξ ἀρχῆς ἐκινδύνευον ὡς κρείττους ὄντες, γνόντες δὲ φεύγουσι, τὸν θάνατον μᾶλλον τοῦ αἰσχροῦ φοβούμενοι· ὁ δ᾽ ἀνδρεῖος οὐ τοιοῦτος. καὶ τὸν θυμὸν δ᾽ ἐπὶ τὴν ἀνδρείαν φέρουσιν· ἀνδρεῖοι γὰρ εἶναι δοκοῦσι καὶ οἱ διὰ θυμὸν [25] ὥσπερ τὰ θηρία ἐπὶ τοὺς τρώσαντας φερόμενα, ὅτι καὶ οἱ ἀνδρεῖοι θυμοειδεῖς· ἰτητικώτατον γὰρ ὁ θυμὸς πρὸς τοὺς κινδύνους, ὅθεν καὶ Ὅμηρος “σθένος ἔμβαλε θυμῷ” καὶ “μένος καὶ θυμὸν ἔγειρε” καὶ “δριμὺ δ᾽ ἀνὰ ῥῖνας μένος” καὶ “ἔζεσεν αἷμα”· πάντα γὰρ τὰ τοιαῦτα ἔοικε σημαίνειν [30] τὴν τοῦ θυμοῦ ἔγερσιν καὶ ὁρμήν. οἱ μὲν οὖν ἀνδρεῖοι διὰ τὸ καλὸν πράττουσιν, ὁ δὲ θυμὸς συνεργεῖ αὐτοῖς· τὰ θηρία δὲ διὰ λύπην· διὰ γὰρ τὸ πληγῆναι ἢ διὰ τὸ φοβεῖσθαι, ἐπεὶ ἐάν γε ἐν ὕλῃ [ἢ ἐν ἕλει] ᾖ, οὐ προσέρχονται. οὐ δή ἐστιν ἀνδρεῖα διὰ τὸ ὑπ᾽ ἀλγηδόνος καὶ θυμοῦ ἐξελαυνόμενα [35] πρὸς τὸν κίνδυνον ὁρμᾶν, οὐθὲν τῶν δεινῶν προορῶντα, ἐπεὶ οὕτω γε κἂν οἱ ὄνοι ἀνδρεῖοι εἶεν πεινῶντες· τυπτόμενοι γὰρ οὐκ ἀφίστανται τῆς νομῆς· 1117a [1] καὶ οἱ μοιχοὶ δὲ διὰ τὴν ἐπιθυμίαν τολμηρὰ πολλὰ δρῶσιν. [οὐ δή ἐστιν ἀνδρεῖα τὰ δι᾽ ἀλγηδόνος ἢ θυμοῦ ἐξελαυνόμενα πρὸς τὸν κίνδυνον.] φυσικωτάτη δ᾽ ἔοικεν ἡ διὰ τὸν θυμὸν εἶναι, καὶ προσλαβοῦσα [5] προαίρεσιν καὶ τὸ οὗ ἕνεκα ἀνδρεία εἶναι. καὶ οἱ ἄνθρωποι δὴ ὀργιζόμενοι μὲν ἀλγοῦσι, τιμωρούμενοι δ᾽ ἥδονται· οἱ δὲ διὰ ταῦτα μαχόμενοι μάχιμοι μέν, οὐκ ἀνδρεῖοι δέ· οὐ γὰρ διὰ τὸ καλὸν οὐδ᾽ ὡς ὁ λόγος, ἀλλὰ διὰ πάθος· παραπλήσιον δ᾽ ἔχουσί τι. οὐδὲ δὴ οἱ εὐέλπιδες [10] ὄντες ἀνδρεῖοι· διὰ γὰρ τὸ πολλάκις καὶ πολλοὺς νενικηκέναι θαῤῥοῦσιν ἐν τοῖς κινδύνοις· παρόμοιοι δέ, ὅτι ἄμφω θαῤῥαλέοι· ἀλλ᾽ οἱ μὲν ἀνδρεῖοι διὰ τὰ πρότερον εἰρημένα θαῤῥαλέοι, οἳ δὲ διὰ τὸ οἴεσθαι κράτιστοι εἶναι καὶ μηθὲν ἂν παθεῖν. τοιοῦτον δὲ ποιοῦσι καὶ οἱ μεθυσκόμενοι· [15] εὐέλπιδες γὰρ γίνονται. ὅταν δὲ αὐτοῖς μὴ συμβῇ τὰ τοιαῦτα, φεύγουσιν· ἀνδρείου δ᾽ ἦν τὰ φοβερὰ ἀνθρώπῳ ὄντα καὶ φαινόμενα ὑπομένειν, ὅτι καλὸν καὶ αἰσχρὸν τὸ μή. διὸ καὶ ἀνδρειοτέρου δοκεῖ εἶναι τὸ ἐν τοῖς αἰφνιδίοις φόβοις ἄφοβον καὶ ἀτάραχον εἶναι ἢ ἐν τοῖς προδήλοις· [20] ἀπὸ ἕξεως γὰρ μᾶλλον ἦν, ὅτι ἧττον ἐκ παρασκευῆς· τὰ προφανῆ μὲν γὰρ κἂν ἐκ λογισμοῦ καὶ λόγου τις προέλοιτο, τὰ δ᾽ ἐξαίφνης κατὰ τὴν ἕξιν. ἀνδρεῖοι δὲ φαίνονται καὶ οἱ ἀγνοοῦντες, καὶ εἰσὶν οὐ πόῤῥω τῶν εὐελπίδων, χείρους δ᾽ ὅσῳ ἀξίωμα οὐδὲν ἔχουσιν, ἐκεῖνοι δέ. διὸ καὶ μένουσί τινα [25] χρόνον· οἱ δ᾽ ἠπατημένοι, ἐὰν γνῶσιν ὅτι ἕτερον ἢ ὑποπτεύσωσι, φεύγουσιν· ὅπερ οἱ Ἀργεῖοι ἔπαθον περιπεσόντες τοῖς Λάκωσιν ὡς Σικυωνίοις. οἵ τε δὴ ἀνδρεῖοι εἴρηνται ποῖοί τινες, καὶ οἱ δοκοῦντες ἀνδρεῖοι. περὶ θάῤῥη δὲ καὶ φόβους ἡ ἀνδρεία οὖσα οὐχ ὁμοίως [30] περὶ ἄμφω ἐστίν, ἀλλὰ μᾶλλον περὶ τὰ φοβερά· ὁ γὰρ ἐν τούτοις ἀτάραχος καὶ περὶ ταῦθ᾽ ὡς δεῖ ἔχων ἀνδρεῖος μᾶλλον ἢ ὁ περὶ τὰ θαῤῥαλέα. τῷ δὴ τὰ λυπηρὰ ὑπομένειν, ὡς εἴρηται, ἀνδρεῖοι λέγονται. διὸ καὶ ἐπίλυπον ἡ ἀνδρεία, καὶ δικαίως ἐπαινεῖται· χαλεπώτερον γὰρ τὰ λυπηρὰ [35] ὑπομένειν ἢ τῶν ἡδέων ἀπέχεσθαι. 1117b [1] οὐ μὴν ἀλλὰ δόξειεν ἂν εἶναι τὸ κατὰ τὴν ἀνδρείαν τέλος ἡδύ, ὑπὸ τῶν κύκλῳ δ᾽ ἀφανίζεσθαι, οἷον κἀν τοῖς γυμνικοῖς ἀγῶσι γίνεται· τοῖς γὰρ πύκταις τὸ μὲν τέλος ἡδύ, οὗ ἕνεκα, ὁ στέφανος καὶ αἱ τιμαί, τὸ δὲ τύπτεσθαι ἀλγεινόν, εἴπερ [5] σάρκινοι, καὶ λυπηρόν, καὶ πᾶς ὁ πόνος· διὰ δὲ τὸ πολλὰ ταῦτ᾽ εἶναι, μικρὸν ὂν τὸ οὗ ἕνεκα οὐδὲν ἡδὺ φαίνεται ἔχειν. εἰ δὴ τοιοῦτόν ἐστι καὶ τὸ περὶ τὴν ἀνδρείαν, ὁ μὲν θάνατος καὶ τὰ τραύματα λυπηρὰ τῷ ἀνδρείῳ καὶ ἄκοντι ἔσται, ὑπομενεῖ δὲ αὐτὰ ὅτι καλὸν ἢ ὅτι αἰσχρὸν τὸ μή. καὶ [10] ὅσῳ ἂν μᾶλλον τὴν ἀρετὴν ἔχῃ πᾶσαν καὶ εὐδαιμονέστερος ᾖ, μᾶλλον ἐπὶ τῷ θανάτῳ λυπήσεται· τῷ τοιούτῳ γὰρ μάλιστα ζῆν ἄξιον, καὶ οὗτος μεγίστων ἀγαθῶν ἀποστερεῖται εἰδώς, λυπηρὸν δὲ τοῦτο. ἀλλ᾽ οὐδὲν ἧττον ἀνδρεῖος, ἴσως δὲ καὶ μᾶλλον, ὅτι τὸ ἐν τῷ πολέμῳ καλὸν ἀντ᾽ [15] ἐκείνων αἱρεῖται. οὐ δὴ ἐν ἁπάσαις ταῖς ἀρεταῖς τὸ ἡδέως ἐνεργεῖν ὑπάρχει, πλὴν ἐφ᾽ ὅσον τοῦ τέλους ἐφάπτεται. στρατιώτας δ᾽ οὐδὲν ἴσως κωλύει μὴ τοὺς τοιούτους κρατίστους εἶναι, ἀλλὰ τοὺς ἧττον μὲν ἀνδρείους, ἄλλο δ᾽ ἀγαθὸν μηδὲν ἔχοντας· ἕτοιμοι γὰρ οὗτοι πρὸς τοὺς κινδύνους, καὶ τὸν [20] βίον πρὸς μικρὰ κέρδη καταλλάττονται. περὶ μὲν οὖν ἀνδρείας ἐπὶ τοσοῦτον εἰρήσθω· τί δ᾽ ἐστίν, οὐ χαλεπὸν τύπῳ γε περιλαβεῖν ἐκ τῶν εἰρημένων.

μετὰ δὲ ταύτην περὶ σωφροσύνης λέγωμεν· δοκοῦσι γὰρ τῶν ἀλόγων μερῶν αὗται εἶναι αἱ ἀρεταί. ὅτι μὲν [25] οὖν μεσότης ἐστὶ περὶ ἡδονὰς ἡ σωφροσύνη, εἴρηται ἡμῖν· ἧττον γὰρ καὶ οὐχ ὁμοίως ἐστὶ περὶ τὰς λύπας· ἐν τοῖς αὐτοῖς δὲ καὶ ἡ ἀκολασία φαίνεται. περὶ ποίας οὖν τῶν ἡδονῶν, νῦν ἀφορίσωμεν. διῃρήσθωσαν δὴ αἱ ψυχικαὶ καὶ αἱ σωματικαί, οἷον φιλοτιμία φιλομάθεια· ἑκάτερος γὰρ [30] τούτων χαίρει, οὗ φιλητικός ἐστιν, οὐδὲν πάσχοντος τοῦ σώματος, ἀλλὰ μᾶλλον τῆς διανοίας· οἱ δὲ περὶ τὰς τοιαύτας ἡδονὰς οὔτε σώφρονες οὔτε ἀκόλαστοι λέγονται. ὁμοίως δ᾽ οὐδ᾽ οἱ περὶ τὰς ἄλλας ὅσαι μὴ σωματικαί εἰσιν· τοὺς γὰρ φιλομύθους καὶ διηγητικοὺς καὶ περὶ τῶν τυχόντων [35] κατατρίβοντας τὰς ἡμέρας ἀδολέσχας, ἀκολάστους δ᾽ οὐ λέγομεν, 1118a [1] οὐδὲ τοὺς λυπουμένους ἐπὶ χρήμασιν ἢ φίλοις. περὶ δὲ τὰς σωματικὰς εἴη ἂν ἡ σωφροσύνη, οὐ πάσας δὲ οὐδὲ ταύτας· οἱ γὰρ χαίροντες τοῖς διὰ τῆς ὄψεως, οἷον χρώμασι καὶ σχήμασι καὶ γραφῇ, οὔτε σώφρονες οὔτε ἀκόλαστοι [5] λέγονται· καίτοι δόξειεν ἂν εἶναι καὶ ὡς δεῖ χαίρειν καὶ τούτοις, καὶ καθ᾽ ὑπερβολὴν καὶ ἔλλειψιν. ὁμοίως δὲ καὶ ἐν τοῖς περὶ τὴν ἀκοήν· τοὺς γὰρ ὑπερβεβλημένως χαίροντας μέλεσιν ἢ ὑποκρίσει οὐθεὶς ἀκολάστους λέγει, οὐδὲ τοὺς ὡς δεῖ σώφρονας. οὐδὲ τοὺς περὶ τὴν ὀσμήν, πλὴν κατὰ [10] συμβεβηκός· τοὺς γὰρ χαίροντας μήλων ἢ ῥόδων ἢ θυμιαμάτων ὀσμαῖς οὐ λέγομεν ἀκολάστους, ἀλλὰ μᾶλλον τοὺς μύρων ἢ ὄψων· χαίρουσι γὰρ τούτοις οἱ ἀκόλαστοι, ὅτι διὰ τούτων ἀνάμνησις γίνεται αὐτοῖς τῶν ἐπιθυμημάτων. ἴδοι δ᾽ ἄν τις καὶ τοὺς ἄλλους, ὅταν πεινῶσι, χαίροντας ταῖς [15] τῶν βρωμάτων ὀσμαῖς· τὸ δὲ τοιούτοις χαίρειν ἀκολάστου· τούτῳ γὰρ ἐπιθυμήματα ταῦτα. οὐκ ἔστι δὲ οὐδ᾽ ἐν τοῖς ἄλλοις ζῴοις κατὰ ταύτας τὰς αἰσθήσεις ἡδονὴ πλὴν κατὰ συμβεβηκός. οὐδὲ γὰρ ταῖς ὀσμαῖς τῶν λαγωῶν αἱ κύνες χαίρουσιν ἀλλὰ τῇ βρώσει, τὴν δ᾽ αἴσθησιν ἡ ὀσμὴ ἐποίησεν· [20] οὐδ᾽ ὁ λέων τῇ φωνῇ τοῦ βοὸς ἀλλὰ τῇ ἐδωδῇ· ὅτι δ᾽ ἐγγύς ἐστι, διὰ τῆς φωνῆς ᾔσθετο, καὶ χαίρειν δὴ ταύτῃ φαίνεται· ὁμοίως δ᾽ οὐδ᾽ ἰδὼν "ἢ [εὑρὼν] ἔλαφον ἢ ἄγριον αἶγα," ἀλλ᾽ ὅτι βορὰν ἕξει. περὶ τὰς τοιαύτας δ᾽ ἡδονὰς ἡ σωφροσύνη καὶ ἡ ἀκολασία ἐστὶν ὧν καὶ τὰ λοιπὰ [25] ζῷα κοινωνεῖ, ὅθεν ἀνδραποδώδεις καὶ θηριώδεις φαίνονται· αὗται δ᾽ εἰσὶν ἁφὴ καὶ γεῦσις. φαίνονται δὲ καὶ τῇ γεύσει ἐπὶ μικρὸν ἢ οὐθὲν χρῆσθαι· τῆς γὰρ γεύσεώς ἐστιν ἡ κρίσις τῶν χυμῶν, ὅπερ ποιοῦσιν οἱ τοὺς οἴνους δοκιμάζοντες καὶ τὰ ὄψα ἀρτύοντες· οὐ πάνυ δὲ χαίρουσι τούτοις, ἢ οὐχ [30] οἵ γε ἀκόλαστοι, ἀλλὰ τῇ ἀπολαύσει, ἣ γίνεται πᾶσα δι᾽ ἁφῆς καὶ ἐν σιτίοις καὶ ἐν ποτοῖς καὶ τοῖς ἀφροδισίοις λεγομένοις. διὸ καὶ ηὔξατό τις ὀψοφάγος ὢν τὸν φάρυγγα αὑτῷ μακρότερον γεράνου γενέσθαι, ὡς ἡδόμενος τῇ ἁφῇ. 1118b [1] κοινοτάτη δὴ τῶν αἰσθήσεων καθ᾽ ἣν ἡ ἀκολασία· καὶ δόξειεν ἂν δικαίως ἐπονείδιστος εἶναι, ὅτι οὐχ ᾗ ἄνθρωποί ἐσμεν ὑπάρχει, ἀλλ᾽ ᾗ ζῷα. τὸ δὴ τοιούτοις χαίρειν καὶ μάλιστα ἀγαπᾶν θηριῶδες. καὶ γὰρ αἱ ἐλευθεριώταται [5] τῶν διὰ τῆς ἁφῆς ἡδονῶν ἀφῄρηνται, οἷον αἱ ἐν τοῖς γυμνασίοις διὰ τρίψεως καὶ τῆς θερμασίας γινόμεναι· οὐ γὰρ περὶ πᾶν τὸ σῶμα ἡ τοῦ ἀκολάστου ἁφή, ἀλλὰ περί τινα μέρη.

τῶν δ᾽ ἐπιθυμιῶν αἳ μὲν κοιναὶ δοκοῦσιν εἶναι, αἳ δ᾽ ἴδιοι καὶ ἐπίθετοι·

οἷον ἡ μὲν τῆς τροφῆς φυσική· [10] πᾶς γὰρ ἐπιθυμεῖ ὁ ἐνδεὴς ξηρᾶς ἢ ὑγρᾶς τροφῆς, ὁτὲ δὲ ἀμφοῖν, καὶ εὐνῆς, φησὶν Ὅμηρος, ὁ νέος καὶ ἀκμάζων· τὸ δὲ τοιᾶσδε ἢ τοιᾶσδε, οὐκέτι πᾶς, οὐδὲ τῶν αὐτῶν. διὸ φαίνεται ἡμέτερον εἶναι. οὐ μὴν ἀλλ᾽ ἔχει γέ τι καὶ φυσικόν· ἕτερα γὰρ ἑτέροις ἐστὶν ἡδέα, καὶ ἔνια πᾶσιν ἡδίω [15] τῶν τυχόντων. ἐν μὲν οὖν ταῖς φυσικαῖς ἐπιθυμίαις ὀλίγοι ἁμαρτάνουσι καὶ ἐφ᾽ ἕν, ἐπὶ τὸ πλεῖον· τὸ γὰρ ἐσθίειν τὰ τυχόντα ἢ πίνειν ἕως ἂν ὑπερπλησθῇ, ὑπερβάλλειν ἐστὶ τὸ κατὰ φύσιν τῷ πλήθει· ἀναπλήρωσις γὰρ τῆς ἐνδείας ἡ φυσικὴ ἐπιθυμία. διὸ λέγονται οὗτοι γαστρίμαργοι, ὡς [20] παρὰ τὸ δέον πληροῦντες αὐτήν. τοιοῦτοι δὲ γίνονται οἱ λίαν ἀνδραποδώδεις. περὶ δὲ τὰς ἰδίας τῶν ἡδονῶν πολλοὶ καὶ πολλαχῶς ἁμαρτάνουσιν. τῶν γὰρ φιλοτοιούτων λεγομένων ἢ τῷ χαίρειν οἷς μὴ δεῖ, ἢ τῷ μᾶλλον ἢ ὡς οἱ πολλοί, ἢ μὴ ὡς δεῖ, κατὰ πάντα δ᾽ οἱ ἀκόλαστοι ὑπερβάλλουσιν· [25] καὶ γὰρ χαίρουσιν ἐνίοις οἷς οὐ δεῖ (μισητὰ γάρ), καὶ εἴ τισι δεῖ χαίρειν τῶν τοιούτων, μᾶλλον ἢ δεῖ καὶ ἢ ὡς οἱ πολλοὶ χαίρουσιν. ἡ μὲν οὖν περὶ τὰς ἡδονὰς ὑπερβολὴ ὅτι ἀκολασία καὶ ψεκτόν, δῆλον· περὶ δὲ τὰς λύπας οὐχ ὥσπερ ἐπὶ τῆς ἀνδρείας τῷ ὑπομένειν λέγεται [30] σώφρων οὐδ᾽ ἀκόλαστος τῷ μή, ἀλλ᾽ ὁ μὲν ἀκόλαστος τῷ λυπεῖσθαι μᾶλλον ἢ δεῖ ὅτι τῶν ἡδέων οὐ τυγχάνει (καὶ τὴν λύπην δὲ ποιεῖ αὐτῷ ἡ ἡδονή), ὁ δὲ σώφρων τῷ μὴ λυπεῖσθαι τῇ ἀπουσίᾳ καὶ τῷ ἀπέχεσθαι τοῦ ἡδέος. 1119a [1] ὁ μὲν οὖν ἀκόλαστος ἐπιθυμεῖ τῶν ἡδέων πάντων ἢ τῶν μάλιστα, καὶ ἄγεται ὑπὸ τῆς ἐπιθυμίας ὥστε ἀντὶ τῶν ἄλλων ταῦθ᾽ αἱρεῖσθαι· διὸ καὶ λυπεῖται καὶ ἀποτυγχάνων καὶ ἐπιθυμῶν· μετὰ λύπης γὰρ ἡ ἐπιθυμία· ἀτόπῳ [5] δ᾽ ἔοικε τὸ δι᾽ ἡδονὴν λυπεῖσθαι. ἐλλείποντες δὲ τὰ περὶ τὰς ἡδονὰς καὶ ἧττον ἢ δεῖ χαίροντες οὐ πάνυ γίνονται· οὐ γὰρ ἀνθρωπική ἐστιν ἡ τοιαύτη ἀναισθησία· καὶ γὰρ τὰ λοιπὰ ζῷα διακρίνει τὰ βρώματα, καὶ τοῖς μὲν χαίρει τοῖς δ᾽ οὔ· εἰ δέ τῳ μηδέν ἐστιν ἡδὺ μηδὲ διαφέρει ἕτερον ἑτέρου, πόῤῥω [10] ἂν εἴη τοῦ ἄνθρωπος εἶναι· οὐ τέτευχε δ᾽ ὁ τοιοῦτος ὀνόματος διὰ τὸ μὴ πάνυ γίνεσθαι. ὁ δὲ σώφρων μέσως μὲν περὶ ταῦτ᾽ ἔχει· οὔτε γὰρ ἥδεται οἷς μάλιστα ὁ ἀκόλαστος, ἀλλὰ μᾶλλον δυσχεραίνει, οὐδ᾽ ὅλως οἷς μὴ δεῖ οὐδὲ σφόδρα τοιούτῳ οὐδενί, οὔτ᾽ ἀπόντων λυπεῖται οὐδ᾽ ἐπιθυμεῖ, ἢ μετρίως, οὐδὲ [15] μᾶλλον ἢ δεῖ, οὐδ᾽ ὅτε μὴ δεῖ, οὐδ᾽ ὅλως τῶν τοιούτων οὐδέν· ὅσα δὲ πρὸς ὑγίειάν ἐστιν ἢ πρὸς εὐεξίαν ἡδέα ὄντα, τούτων ὀρέξεται μετρίως καὶ ὡς δεῖ, καὶ τῶν ἄλλων ἡδέων μὴ ἐμποδίων τούτοις ὄντων ἢ παρὰ τὸ καλὸν ἢ ὑπὲρ τὴν οὐσίαν. ὁ γὰρ οὕτως ἔχων μᾶλλον ἀγαπᾷ τὰς τοιαύτας ἡδονὰς τῆς [20] ἀξίας· ὁ δὲ σώφρων οὐ τοιοῦτος, ἀλλ᾽ ὡς ὁ ὀρθὸς λόγος.

ἑκουσίῳ δὲ μᾶλλον ἔοικεν ἡ ἀκολασία τῆς δειλίας. ἣ μὲν γὰρ δι᾽ ἡδονήν, ἣ δὲ διὰ λύπην, ὧν τὸ μὲν αἱρετόν, τὸ δὲ φευκτόν· καὶ ἡ μὲν λύπη ἐξίστησι καὶ φθείρει τὴν τοῦ ἔχοντος φύσιν, ἡ δὲ ἡδονὴ οὐδὲν τοιοῦτο ποιεῖ. μᾶλλον [25] δὴ ἑκούσιον. διὸ καὶ ἐπονειδιστότερον· καὶ γὰρ ἐθισθῆναι ῥᾷον πρὸς αὐτά· πολλὰ γὰρ ἐν τῷ βίῳ τὰ τοιαῦτα, καὶ οἱ ἐθισμοὶ ἀκίνδυνοι, ἐπὶ δὲ τῶν φοβερῶν ἀνάπαλιν. δόξειε δ᾽ ἂν οὐχ ὁμοίως ἑκούσιον ἡ δειλία εἶναι τοῖς καθ᾽ ἕκαστον· αὐτὴ μὲν γὰρ ἄλυπος, ταῦτα δὲ διὰ λύπην ἐξίστησιν, ὥστε [30] καὶ τὰ ὅπλα ῥιπτεῖν καὶ τἆλλα ἀσχημονεῖν· διὸ καὶ δοκεῖ βίαια εἶναι. τῷ δ᾽ ἀκολάστῳ ἀνάπαλιν τὰ μὲν καθ᾽ ἕκαστα ἑκούσια (ἐπιθυμοῦντι γὰρ καὶ ὀρεγομένῳ), τὸ δ᾽ ὅλον ἧττον· οὐθεὶς γὰρ ἐπιθυμεῖ ἀκόλαστος εἶναι. τὸ δ᾽ ὄνομα τῆς ἀκολασίας καὶ ἐπὶ τὰς παιδικὰς ἁμαρτίας φέρομεν· 1119b [1] ἔχουσι γάρ τινα ὁμοιότητα. πότερον δ᾽ ἀπὸ ποτέρου καλεῖται, οὐθὲν πρὸς τὰ νῦν διαφέρει, δῆλον δ᾽ ὅτι τὸ ὕστερον ἀπὸ τοῦ προτέρου. οὐ κακῶς δ᾽ ἔοικε μετενηνέχθαι· κεκολάσθαι γὰρ δεῖ τὸ τῶν αἰσχρῶν ὀρεγόμενον καὶ πολλὴν αὔξησιν ἔχον, τοιοῦτον [5] δὲ μάλιστα ἡ ἐπιθυμία καὶ ὁ παῖς· κατ᾽ ἐπιθυμίαν γὰρ ζῶσι καὶ τὰ παιδία, καὶ μάλιστα ἐν τούτοις ἡ τοῦ ἡδέος ὄρεξις. εἰ οὖν μὴ ἔσται εὐπειθὲς καὶ ὑπὸ τὸ ἄρχον, ἐπὶ πολὺ ἥξει· ἄπληστος γὰρ ἡ τοῦ ἡδέος ὄρεξις καὶ πανταχόθεν τῷ ἀνοήτῳ, καὶ ἡ τῆς ἐπιθυμίας ἐνέργεια αὔξει τὸ συγγενές, [10] κἂν μεγάλαι καὶ σφοδραὶ ὦσι, καὶ τὸν λογισμὸν ἐκκρούουσιν. διὸ δεῖ μετρίας εἶναι αὐτὰς καὶ ὀλίγας, καὶ τῷ λόγῳ μηθὲν ἐναντιοῦσθαι — τὸ δὲ τοιοῦτον εὐπειθὲς λέγομεν καὶ κεκολασμένον — ὥσπερ δὲ τὸν παῖδα δεῖ κατὰ τὸ πρόσταγμα τοῦ παιδαγωγοῦ ζῆν, οὕτω καὶ τὸ ἐπιθυμητικὸν κατὰ τὸν [15] λόγον. διὸ δεῖ τοῦ σώφρονος τὸ ἐπιθυμητικὸν συμφωνεῖν τῷ λόγῳ· σκοπὸς γὰρ ἀμφοῖν τὸ καλόν, καὶ ἐπιθυμεῖ ὁ σώφρων ὧν δεῖ καὶ ὡς δεῖ καὶ ὅτε· οὕτω δὲ τάττει καὶ ὁ λόγος. ταῦτ᾽ οὖν ἡμῖν εἰρήσθω περὶ σωφροσύνης.

Βιβλίο 4

λέγωμεν δ᾽ ἑξῆς περὶ ἐλευθεριότητος. δοκεῖ δὴ εἶναι ἡ περὶ χρήματα μεσότης· ἐπαινεῖται γὰρ ὁ ἐλευθέριος οὐκ ἐν τοῖς πολεμικοῖς, οὐδ᾽ ἐν οἷς ὁ σώφρων, οὐδ᾽ αὖ ἐν ταῖς κρίσεσιν, [25] ἀλλὰ περὶ δόσιν χρημάτων καὶ λῆψιν, μᾶλλον δ᾽ ἐν τῇ δόσει. χρήματα δὲ λέγομεν πάντα ὅσων ἡ ἀξία νομίσματι μετρεῖται. ἔστι δὲ καὶ ἡ ἀσωτία καὶ ἡ ἀνελευθερία περὶ χρήματα ὑπερβολαὶ καὶ ἐλλείψεις· καὶ τὴν μὲν ἀνελευθερίαν προσάπτομεν ἀεὶ τοῖς μᾶλλον ἢ δεῖ περὶ χρήματα [30] σπουδάζουσι, τὴν δ᾽ ἀσωτίαν ἐπιφέρομεν ἐνίοτε συμπλέκοντες· τοὺς γὰρ ἀκρατεῖς καὶ εἰς ἀκολασίαν δαπανηροὺς ἀσώτους καλοῦμεν. διὸ καὶ φαυλότατοι δοκοῦσιν εἶναι· πολλὰς γὰρ ἅμα κακίας ἔχουσιν. οὐ δὴ οἰκείως προσαγορεύονται· βούλεται γὰρ ἄσωτος εἶναι ὁ ἓν κακὸν ἔχων, 1120a [1] τὸ φθείρειν τὴν οὐσίαν· ἄσωτος γὰρ ὁ δι᾽ αὑτὸν ἀπολλύμενος, δοκεῖ δ᾽ ἀπώλειά τις αὑτοῦ εἶναι καὶ ἡ τῆς οὐσίας φθορά, ὡς τοῦ ζῆν διὰ τούτων ὄντος. οὕτω δὴ τὴν ἀσωτίαν ἐκδεχόμεθα. ὧν δ᾽ ἐστὶ χρεία, ἔστι τούτοις χρῆσθαι καὶ εὖ καὶ κακῶς· [5] ὁ πλοῦτος δ᾽ ἐστὶ τῶν χρησίμων· ἑκάστῳ δ᾽ ἄριστα χρῆται ὁ ἔχων τὴν περὶ τοῦτο ἀρετήν· καὶ πλούτῳ δὴ χρήσεται ἄριστα ὁ ἔχων τὴν περὶ τὰ χρήματα ἀρετήν· οὗτος δ᾽ ἐστὶν ὁ ἐλευθέριος. χρῆσις δ᾽ εἶναι δοκεῖ χρημάτων δαπάνη καὶ δόσις· ἡ δὲ λῆψις καὶ ἡ φυλακὴ κτῆσις μᾶλλον. διὸ μᾶλλόν [10] ἐστι τοῦ ἐλευθερίου τὸ διδόναι οἷς δεῖ ἢ λαμβάνειν ὅθεν δεῖ καὶ μὴ λαμβάνειν ὅθεν οὐ δεῖ. τῆς γὰρ ἀρετῆς μᾶλλον τὸ εὖ ποιεῖν ἢ τὸ εὖ πάσχειν, καὶ τὰ καλὰ πράττειν μᾶλλον ἢ τὰ αἰσχρὰ μὴ πράττειν· οὐκ ἄδηλον δ᾽ ὅτι τῇ μὲν δόσει ἕπεται τὸ εὖ ποιεῖν καὶ τὸ καλὰ πράττειν, τῇ δὲ λήψει [15] τὸ εὖ πάσχειν ἢ μὴ αἰσχροπραγεῖν. καὶ ἡ χάρις τῷ διδόντι, οὐ τῷ μὴ λαμβάνοντι, καὶ ὁ ἔπαινος δὲ μᾶλλον. καὶ ῥᾷον δὲ τὸ μὴ λαβεῖν τοῦ δοῦναι· τὸ γὰρ οἰκεῖον ἧττον προΐενται μᾶλλον ἢ οὐ λαμβάνουσι τὸ ἀλλότριον. καὶ ἐλευθέριοι δὲ λέγονται οἱ διδόντες· οἱ δὲ μὴ λαμβάνοντες οὐκ [20] εἰς ἐλευθεριότητα ἐπαινοῦνται, ἀλλ᾽ οὐχ ἧττον εἰς δικαιοσύνην· οἱ δὲ λαμβάνοντες οὐδ᾽ ἐπαινοῦνται πάνυ. φιλοῦνται δὲ σχεδὸν μάλιστα οἱ ἐλευθέριοι τῶν ἀπ᾽ ἀρετῆς· ὠφέλιμοι γάρ, τοῦτο δ᾽ ἐν τῇ δόσει. αἱ δὲ κατ᾽ ἀρετὴν πράξεις καλαὶ καὶ τοῦ καλοῦ ἕνεκα. καὶ ὁ ἐλευθέριος οὖν δώσει τοῦ καλοῦ ἕνεκα [25] καὶ ὀρθῶς· οἷς γὰρ δεῖ καὶ ὅσα καὶ ὅτε, καὶ τἆλλα ὅσα ἕπεται τῇ ὀρθῇ δόσει· καὶ ταῦτα ἡδέως ἢ ἀλύπως· τὸ γὰρ κατ᾽

ἀρετὴν ἡδὺ ἢ ἄλυπον, ἥκιστα δὲ λυπηρόν. ὁ δὲ διδοὺς οἷς μὴ δεῖ, ἢ μὴ τοῦ καλοῦ ἕνεκα ἀλλὰ διά τιν’ ἄλλην αἰτίαν, οὐκ ἐλευθέριος ἀλλ’ ἄλλος τις ῥηθήσεται. οὐδ’ ὁ λυπηρῶς· [30] μᾶλλον γὰρ ἕλοιτ’ ἂν τὰ χρήματα τῆς καλῆς πράξεως, τοῦτο δ’ οὐκ ἐλευθερίου. οὐδὲ λήψεται δὲ ὅθεν μὴ δεῖ· οὐ γάρ ἐστι τοῦ μὴ τιμῶντος τὰ χρήματα ἡ τοιαύτη λῆψις. οὐκ ἂν εἴη δὲ οὐδ’ αἰτητικός· οὐ γάρ ἐστι τοῦ εὖ ποιοῦντος εὐχερῶς εὐεργετεῖσθαι. ὅθεν δὲ δεῖ, λήψεται, 1120b [1] οἷον ἀπὸ τῶν ἰδίων κτημάτων, οὐχ ὡς καλὸν ἀλλ’ ὡς ἀναγκαῖον, ὅπως ἔχῃ διδόναι. οὐδ’ ἀμελήσει τῶν ἰδίων, βουλόμενός γε διὰ τούτων τισὶν ἐπαρκεῖν. οὐδὲ τοῖς τυχοῦσι δώσει, ἵνα ἔχῃ διδόναι οἷς δεῖ καὶ ὅτε καὶ οὗ καλόν. ἐλευθερίου δ’ ἐστὶ [5] σφόδρα καὶ τὸ ὑπερβάλλειν ἐν τῇ δόσει, ὥστε καταλείπειν ἑαυτῷ ἐλάττω· τὸ γὰρ μὴ βλέπειν ἐφ’ ἑαυτὸν ἐλευθερίου. κατὰ τὴν οὐσίαν δ’ ἡ ἐλευθεριότης λέγεται· οὐ γὰρ ἐν τῷ πλήθει τῶν διδομένων τὸ ἐλευθέριον, ἀλλ’ ἐν τῇ τοῦ διδόντος ἕξει, αὕτη δὲ κατὰ τὴν οὐσίαν δίδωσιν. οὐθὲν δὴ κωλύει [10] ἐλευθεριώτερον εἶναι τὸν τὰ ἐλάττω διδόντα, ἐὰν ἀπ’ ἐλαττόνων διδῷ. ἐλευθεριώτεροι δὲ εἶναι δοκοῦσιν οἱ μὴ κτησάμενοι ἀλλὰ παραλαβόντες τὴν οὐσίαν· ἄπειροί τε γὰρ τῆς ἐνδείας, καὶ πάντες ἀγαπῶσι μᾶλλον τὰ αὑτῶν ἔργα, ὥσπερ οἱ γονεῖς καὶ οἱ ποιηταί. πλουτεῖν δ’ οὐ ῥᾴδιον τὸν [15] ἐλευθέριον, μήτε ληπτικὸν ὄντα μήτε φυλακτικόν, προετικὸν δὲ καὶ μὴ τιμῶντα δι’ αὑτὰ τὰ χρήματα ἀλλ’ ἕνεκα τῆς δόσεως. διὸ καὶ ἐγκαλεῖται τῇ τύχῃ ὅτι οἱ μάλιστα ἄξιοι ὄντες ἥκιστα πλουτοῦσιν. συμβαίνει δ’ οὐκ ἀλόγως τοῦτο· οὐ γὰρ οἷόν τε χρήματ’ ἔχειν μὴ ἐπιμελόμενον ὅπως ἔχῃ, ὥσπερ [20] οὐδ’ ἐπὶ τῶν ἄλλων. οὐ μὴν δώσει γε οἷς οὐ δεῖ οὐδ’ ὅτε μὴ δεῖ, οὐδ’ ὅσα ἄλλα τοιαῦτα· οὐ γὰρ ἂν ἔτι πράττοι κατὰ τὴν ἐλευθεριότητα, καὶ εἰς ταῦτα ἀναλώσας οὐκ ἂν ἔχοι εἰς ἃ δεῖ ἀναλίσκειν. ὥσπερ γὰρ εἴρηται, ἐλευθέριός ἐστιν ὁ κατὰ τὴν οὐσίαν δαπανῶν καὶ εἰς ἃ δεῖ· ὁ δ’ ὑπερβάλλων [25] ἄσωτος. διὸ τοὺς τυράννους οὐ λέγομεν ἀσώτους· τὸ γὰρ πλῆθος τῆς κτήσεως οὐ δοκεῖ ῥᾴδιον εἶναι ταῖς δόσεσι καὶ ταῖς δαπάναις ὑπερβάλλειν. τῆς ἐλευθεριότητος δὴ μεσότητος οὔσης περὶ χρημάτων δόσιν καὶ λῆψιν, ὁ ἐλευθέριος καὶ δώσει καὶ δαπανήσει εἰς ἃ δεῖ καὶ ὅσα δεῖ, ὁμοίως ἐν μικροῖς [30] καὶ μεγάλοις, καὶ ταῦτα ἡδέως· καὶ λήψεται δ’ ὅθεν δεῖ καὶ ὅσα δεῖ. τῆς ἀρετῆς γὰρ περὶ ἄμφω οὔσης μεσότητος, ποιήσει ἀμφότερα ὡς δεῖ· ἕπεται γὰρ τῇ ἐπιεικεῖ δόσει ἡ τοιαύτη λῆψις, ἡ δὲ μὴ τοιαύτη ἐναντία ἐστίν. αἱ μὲν οὖν ἑπόμεναι γίνονται ἅμα ἐν τῷ αὐτῷ, αἱ δ’ ἐναντίαι δῆλον ὡς οὔ. 1121a [1] ἐὰν δὲ παρὰ τὸ δέον καὶ τὸ καλῶς ἔχον συμβαίνῃ αὐτῷ ἀναλίσκειν, λυπήσεται, μετρίως δὲ καὶ ὡς δεῖ· τῆς ἀρετῆς γὰρ καὶ ἥδεσθαι καὶ λυπεῖσθαι ἐφ’ οἷς δεῖ καὶ ὡς δεῖ. καὶ εὐκοινώνητος δ’ ἐστὶν ὁ ἐλευθέριος εἰς χρήματα· [5] δύναται γὰρ ἀδικεῖσθαι, μὴ τιμῶν γε τὰ χρήματα, καὶ μᾶλλον ἀχθόμενος εἴ τι δέον μὴ ἀνάλωσεν ἢ λυπούμενος εἰ μὴ δέον τι ἀνάλωσεν, καὶ τῷ Σιμωνίδῃ οὐκ ἀρεσκόμενος. ὁ δ᾽ ἄσωτος καὶ ἐν τούτοις διαμαρτάνει· οὔτε γὰρ ἥδεται ἐφ᾽ οἷς δεῖ οὐδὲ ὡς δεῖ οὔτε λυπεῖται· ἔσται δὲ προϊοῦσι φανερώτερον. [10] εἴρηται δὴ ἡμῖν ὅτι ὑπερβολαὶ καὶ ἐλλείψεις εἰσὶν ἡ ἀσωτία καὶ ἡ ἀνελευθερία, καὶ ἐν δυσίν, ἐν δόσει καὶ λήψει· καὶ τὴν δαπάνην γὰρ εἰς τὴν δόσιν τίθεμεν. ἡ μὲν οὖν ἀσωτία τῷ διδόναι καὶ μὴ λαμβάνειν ὑπερβάλλει, τῷ δὲ λαμβάνειν ἐλλείπει, ἡ δ᾽ ἀνελευθερία τῷ διδόναι μὲν ἐλλείπει, [15] τῷ λαμβάνειν δ᾽ ὑπερβάλλει, πλὴν ἐν μικροῖς. τὰ μὲν οὖν τῆς ἀσωτίας οὐ πάνυ συνδυάζεται· οὐ γὰρ ῥᾴδιον μηδαμόθεν λαμβάνοντα πᾶσι διδόναι· ταχέως γὰρ ἐπιλείπει ἡ οὐσία τοὺς ἰδιώτας διδόντας, οἵπερ καὶ δοκοῦσιν ἄσωτοι εἶναι· ἐπεὶ ὅ γε τοιοῦτος δόξειεν ἂν οὐ μικρῷ βελτίων εἶναι [20] τοῦ ἀνελευθέρου. εὐίατός τε γάρ ἐστι καὶ ὑπὸ τῆς ἡλικίας καὶ ὑπὸ τῆς ἀπορίας, καὶ ἐπὶ τὸ μέσον δύναται ἐλθεῖν. ἔχει γὰρ τὰ τοῦ ἐλευθερίου· καὶ γὰρ δίδωσι καὶ οὐ λαμβάνει, οὐδέτερον δ᾽ ὡς δεῖ οὐδ᾽ εὖ. εἰ δὴ τοῦτο ἐθισθείη ἤ πως ἄλλως μεταβάλοι, εἴη ἂν ἐλευθέριος· δώσει γὰρ οἷς δεῖ, [25] καὶ οὐ λήψεται ὅθεν οὐ δεῖ. διὸ καὶ δοκεῖ οὐκ εἶναι φαῦλος τὸ ἦθος· οὐ γὰρ μοχθηροῦ οὐδ᾽ ἀγεννοῦς τὸ ὑπερβάλλειν διδόντα καὶ μὴ λαμβάνοντα, ἠλιθίου δέ. ὁ δὲ τοῦτον τὸν τρόπον ἄσωτος πολὺ δοκεῖ βελτίων τοῦ ἀνελευθέρου εἶναι διά τε τὰ εἰρημένα, καὶ ὅτι ὃ μὲν ὠφελεῖ πολλούς, ὃ δὲ οὐθένα, [30] ἀλλ᾽ οὐδ᾽ αὑτόν. ἀλλ᾽ οἱ πολλοὶ τῶν ἀσώτων, καθάπερ εἴρηται, καὶ λαμβάνουσιν ὅθεν μὴ δεῖ, καὶ εἰσὶ κατὰ τοῦτο ἀνελεύθεροι. ληπτικοὶ δὲ γίνονται διὰ τὸ βούλεσθαι μὲν ἀναλίσκειν, εὐχερῶς δὲ τοῦτο ποιεῖν μὴ δύνασθαι· ταχὺ γὰρ ἐπιλείπει αὐτοὺς τὰ ὑπάρχοντα. ἀναγκάζονται οὖν ἑτέρωθεν πορίζειν. 1121b [1] ἅμα δὲ καὶ διὰ τὸ μηδὲν τοῦ καλοῦ φροντίζειν ὀλιγώρως καὶ πάντοθεν λαμβάνουσιν· διδόναι γὰρ ἐπιθυμοῦσι, τὸ δὲ πῶς ἢ πόθεν οὐδὲν αὐτοῖς διαφέρει. διόπερ οὐδ᾽ ἐλευθέριοι αἱ δόσεις αὐτῶν εἰσίν· οὐ γὰρ καλαί, οὐδὲ τούτου [5] ἕνεκα, οὐδὲ ὡς δεῖ· ἀλλ᾽ ἐνίοτε οὓς δεῖ πένεσθαι, τούτους πλουσίους ποιοῦσι, καὶ τοῖς μὲν μετρίοις τὰ ἤθη οὐδὲν ἂν δοῖεν, τοῖς δὲ κόλαξιν ἤ τιν᾽ ἄλλην ἡδονὴν πορίζουσι πολλά. διὸ καὶ ἀκόλαστοι αὐτῶν εἰσὶν οἱ πολλοί· εὐχερῶς γὰρ ἀναλίσκοντες καὶ εἰς τὰς ἀκολασίας δαπανηροί εἰσι, καὶ διὰ τὸ μὴ πρὸς [10] τὸ καλὸν ζῆν πρὸς τὰς ἡδονὰς ἀποκλίνουσιν. ὁ μὲν οὖν ἄσωτος ἀπαιδαγώγητος γενόμενος εἰς ταῦτα μεταβαίνει, τυχὼν δ᾽ ἐπιμελείας εἰς τὸ μέσον καὶ εἰς τὸ δέον ἀφίκοιτ᾽ ἄν. ἡ δ᾽ ἀνελευθερία ἀνίατός τ᾽ ἐστίν (δοκεῖ γὰρ τὸ γῆρας καὶ πᾶσα ἀδυναμία ἀνελευθέρους ποιεῖν), καὶ συμφυέστερον τοῖς ἀνθρώποις [15] τῆς ἀσωτίας·

οἱ γὰρ πολλοὶ φιλοχρήματοι μᾶλλον ἢ δοτικοί. καὶ διατείνει δ᾽ ἐπὶ πολύ, καὶ πολυειδές ἐστιν· πολλοὶ γὰρ τρόποι δοκοῦσι τῆς ἀνελευθερίας εἶναι. ἐν δυσὶ γὰρ οὖσα, τῇ τ᾽ ἐλλείψει τῆς δόσεως καὶ τῇ ὑπερβολῇ τῆς λήψεως, οὐ πᾶσιν ὁλόκληρος παραγίνεται, ἀλλ᾽ ἐνίοτε χωρίζεται, [20] καὶ οἳ μὲν τῇ λήψει ὑπερβάλλουσιν, οἳ δὲ τῇ δόσει ἐλλείπουσιν. οἱ μὲν γὰρ ἐν ταῖς τοιαύταις προσηγορίαις οἷον φειδωλοὶ γλίσχροι κίμβικες, πάντες τῇ δόσει ἐλλείπουσι, τῶν δ᾽ ἀλλοτρίων οὐκ ἐφίενται οὐδὲ βούλονται λαμβάνειν, οἳ μὲν διά τινα ἐπιείκειαν καὶ εὐλάβειαν τῶν αἰσχρῶν [25] (δοκοῦσι γὰρ ἔνιοι ἢ φασί γε διὰ τοῦτο φυλάττειν, ἵνα μή ποτ᾽ ἀναγκασθῶσιν αἰσχρόν τι πρᾶξαι· τούτων δὲ καὶ ὁ κυμινοπρίστης καὶ πᾶς ὁ τοιοῦτος· ὠνόμασται δ᾽ ἀπὸ τῆς ὑπερβολῆς τοῦ μηδὲν ἂν δοῦναι)· οἳ δ᾽ αὖ διὰ φόβον ἀπέχονται τῶν ἀλλοτρίων ὡς οὐ ῥᾴδιον αὐτὸν μὲν τὰ ἑτέρων [30] λαμβάνειν, τὰ δ᾽ αὐτοῦ ἑτέρους μή· ἀρέσκει οὖν αὐτοῖς τὸ μήτε λαμβάνειν μήτε διδόναι. οἳ δ᾽ αὖ κατὰ τὴν λῆψιν ὑπερβάλλουσι τῷ πάντοθεν λαμβάνειν καὶ πᾶν, οἷον οἱ τὰς ἀνελευθέρους ἐργασίας ἐργαζόμενοι, πορνοβοσκοὶ καὶ πάντες οἱ τοιοῦτοι, καὶ τοκισταὶ κατὰ μικρὰ καὶ ἐπὶ πολλῷ. 1122a [1] πάντες γὰρ οὗτοι ὅθεν οὐ δεῖ λαμβάνουσι, καὶ ὁπόσον οὐ δεῖ. κοινὸν δ᾽ ἐπ᾽ αὐτοῖς ἡ αἰσχροκέρδεια φαίνεται· πάντες γὰρ ἕνεκα κέρδους, καὶ τούτου μικροῦ, ὀνείδη ὑπομένουσιν. τοὺς γὰρ τὰ μεγάλα μὴ ὅθεν δὲ δεῖ λαμβάνοντας, μηδὲ ἃ δεῖ, οὐ [5] λέγομεν ἀνελευθέρους, οἷον τοὺς τυράννους πόλεις πορθοῦντας καὶ ἱερὰ συλῶντας, ἀλλὰ πονηροὺς μᾶλλον καὶ ἀσεβεῖς καὶ ἀδίκους. ὁ μέντοι κυβευτὴς καὶ ὁ λωποδύτης καὶ ὁ λῃστὴς τῶν ἀνελευθέρων εἰσίν· αἰσχροκερδεῖς γάρ. κέρδους γὰρ ἕνεκα ἀμφότεροι πραγματεύονται καὶ ὀνείδη ὑπομένουσιν, καὶ [10] οἳ μὲν κινδύνους τοὺς μεγίστους ἕνεκα τοῦ λήμματος, οἳ δ᾽ ἀπὸ τῶν φίλων κερδαίνουσιν, οἷς δεῖ διδόναι. ἀμφότεροι δὴ ὅθεν οὐ δεῖ κερδαίνειν βουλόμενοι αἰσχροκερδεῖς· καὶ πᾶσαι δὴ αἱ τοιαῦται λήψεις ἀνελεύθεροι. εἰκότως δὲ τῇ ἐλευθεριότητι ἀνελευθερία ἐναντίον λέγεται· μεῖζόν τε γάρ ἐστι κακὸν τῆς [15] ἀσωτίας, καὶ μᾶλλον ἐπὶ ταύτην ἁμαρτάνουσιν ἢ κατὰ τὴν λεχθεῖσαν ἀσωτίαν. περὶ μὲν οὖν ἐλευθεριότητος καὶ τῶν ἀντικειμένων κακιῶν τοσαῦτ᾽ εἰρήσθω.

δόξαι δ᾽ ἂν ἀκόλουθον εἶναι καὶ περὶ μεγαλοπρεπείας διελθεῖν. δοκεῖ γὰρ καὶ αὐτὴ περὶ χρήματά τις ἀρετὴ εἶναι· [20] οὐχ ὥσπερ δ᾽ ἡ ἐλευθεριότης διατείνει περὶ πάσας τὰς ἐν χρήμασι πράξεις, ἀλλὰ περὶ τὰς δαπανηρὰς μόνον· ἐν τούτοις δ᾽ ὑπερέχει τῆς ἐλευθεριότητος μεγέθει. καθάπερ γὰρ τοὔνομα αὐτὸ ὑποσημαίνει, ἐν μεγέθει πρέπουσα δαπάνη ἐστίν. τὸ δὲ μέγεθος πρός τι· οὐ γὰρ τὸ αὐτὸ δαπάνημα τριηράρχῳ [25] καὶ ἀρχιθεωρῷ. τὸ πρέπον δὴ πρὸς αὐτόν, καὶ ἐν ᾧ καὶ περὶ ὅ. ὁ δ᾽ ἐν μικροῖς ἢ ἐν μετρίοις κατ᾽ ἀξίαν δαπανῶν οὐ λέγεται μεγαλοπρεπής, οἷον τὸ

πολλάκι δόσκον ἀλήτῃ,

Hom. Od. 17.420

ἀλλ᾽ ὁ ἐν μεγάλοις οὕτως. ὁ μὲν γὰρ μεγαλοπρεπὴς ἐλευθέριος, ὁ δ᾽ ἐλευθέριος οὐδὲν μᾶλλον μεγαλοπρεπής. τῆς [30] τοιαύτης δ᾽ ἕξεως ἡ μὲν ἔλλειψις μικροπρέπεια καλεῖται, ἡ δ᾽ ὑπερβολὴ βαναυσία καὶ ἀπειροκαλία καὶ ὅσαι τοιαῦται, οὐχ ὑπερβάλλουσαι τῷ μεγέθει περὶ ἃ δεῖ, ἀλλ᾽ ἐν οἷς οὐ δεῖ καὶ ὡς οὐ δεῖ λαμπρυνόμεναι· ὕστερον δ᾽ ὑπὲρ αὐτῶν ἐροῦμεν. ὁ δὲ μεγαλοπρεπὴς ἐπιστήμονι ἔοικεν· τὸ πρέπον γὰρ [35] δύναται θεωρῆσαι καὶ δαπανῆσαι μεγάλα ἐμμελῶς. 1122b [1] ὥσπερ γὰρ ἐν ἀρχῇ εἴπομεν, ἡ ἕξις ταῖς ἐνεργείαις ὁρίζεται, καὶ ὧν ἐστίν. αἱ δὴ τοῦ μεγαλοπρεποῦς δαπάναι μεγάλαι καὶ πρέπουσαι. τοιαῦτα δὴ καὶ τὰ ἔργα· οὕτω γὰρ ἔσται μέγα δαπάνημα καὶ πρέπον τῷ ἔργῳ. ὥστε τὸ μὲν ἔργον τῆς δαπάνης [5] ἄξιον δεῖ εἶναι, τὴν δὲ δαπάνην τοῦ ἔργου, ἢ καὶ ὑπερβάλλειν. δαπανήσει δὲ τὰ τοιαῦτα ὁ μεγαλοπρεπὴς τοῦ καλοῦ ἕνεκα· κοινὸν γὰρ τοῦτο ταῖς ἀρεταῖς. καὶ ἔτι ἡδέως καὶ προετικῶς· ἡ γὰρ ἀκριβολογία μικροπρεπές. καὶ πῶς κάλλιστον καὶ πρεπωδέστατον, σκέψαιτ᾽ ἂν μᾶλλον ἢ πόσου καὶ [10] πῶς ἐλαχίστου. ἀναγκαῖον δὴ καὶ ἐλευθέριον τὸν μεγαλοπρεπῆ εἶναι. καὶ γὰρ ὁ ἐλευθέριος δαπανήσει ἃ δεῖ καὶ ὡς δεῖ· ἐν τούτοις δὲ τὸ μέγα τοῦ μεγαλοπρεποῦς, οἷον μέγεθος, περὶ ταῦτα τῆς ἐλευθεριότητος οὔσης, καὶ ἀπὸ τῆς ἴσης δαπάνης τὸ ἔργον ποιήσει μεγαλοπρεπέστερον. οὐ γὰρ ἡ αὐτὴ [15] ἀρετὴ κτήματος καὶ ἔργου. κτῆμα μὲν γὰρ τὸ πλείστου ἄξιον τιμιώτατον, οἷον χρυσός, ἔργον δὲ τὸ μέγα καὶ καλόν (τοῦ γὰρ τοιούτου ἡ θεωρία θαυμαστή, τὸ δὲ μεγαλοπρεπὲς θαυμαστόν)· καὶ ἔστιν ἔργου ἀρετή, μεγαλοπρέπεια, ἐν μεγέθει. ἔστι δὲ τῶν δαπανημάτων οἷα λέγομεν τὰ τίμια, οἷον τὰ [20] περὶ θεούς, ἀναθήματα καὶ κατασκευαὶ καὶ θυσίαι, ὁμοίως δὲ καὶ περὶ πᾶν τὸ δαιμόνιον, καὶ ὅσα πρὸς τὸ κοινὸν εὐφιλοτίμητά ἐστιν, οἷον εἴ που χορηγεῖν οἴονται δεῖν λαμπρῶς ἢ τριηραρχεῖν ἢ καὶ ἑστιᾶν τὴν πόλιν. ἐν ἅπασι δ᾽ ὥσπερ εἴρηται, καὶ πρὸς τὸν πράττοντα ἀναφέρεται τὸ τίς [25] ὢν καὶ τίνων ὑπαρχόντων· ἄξια γὰρ δεῖ τούτων εἶναι, καὶ μὴ μόνον τῷ ἔργῳ ἀλλὰ καὶ τῷ ποιοῦντι πρέπειν. διὸ πένης μὲν οὐκ ἂν εἴη μεγαλοπρεπής· οὐ γὰρ ἔστιν ἀφ᾽

ὧν πολλὰ δαπανήσει πρεπόντως· ὁ δ᾽ ἐπιχειρῶν ἠλίθιος· παρὰ τὴν ἀξίαν γὰρ καὶ τὸ δέον, κατ᾽ ἀρετὴν δὲ τὸ ὀρθῶς. πρέπει [30] δὲ [καὶ] οἷς τοιαῦτα προϋπάρχει δι᾽ αὐτῶν ἢ τῶν προγόνων ἢ ὧν αὐτοῖς μέτεστιν, καὶ τοῖς εὐγενέσι καὶ τοῖς ἐνδόξοις καὶ ὅσα τοιαῦτα· πάντα γὰρ ταῦτα μέγεθος ἔχει καὶ ἀξίωμα. μάλιστα μὲν οὖν τοιοῦτος ὁ μεγαλοπρεπής, καὶ ἐν τοῖς τοιούτοις δαπανήμασιν ἡ μεγαλοπρέπεια, ὥσπερ [35] εἴρηται· μέγιστα γὰρ καὶ ἐντιμότατα· τῶν δὲ ἰδίων ὅσα εἰσάπαξ γίνεται, 1123a [1] οἷον γάμος καὶ εἴ τι τοιοῦτον, καὶ εἰ περί τι ἡ πᾶσα πόλις σπουδάζει ἢ οἱ ἐν ἀξιώματι, καὶ περὶ ξένων δὲ ὑποδοχὰς καὶ ἀποστολάς, καὶ δωρεὰς καὶ ἀντιδωρεάς· οὐ γὰρ εἰς ἑαυτὸν δαπανηρὸς ὁ μεγαλοπρεπὴς ἀλλ᾽ [5] εἰς τὰ κοινά, τὰ δὲ δῶρα τοῖς ἀναθήμασιν ἔχει τι ὅμοιον. μεγαλοπρεποῦς δὲ καὶ οἶκον κατασκευάσασθαι πρεπόντως τῷ πλούτῳ (κόσμος γάρ τις καὶ οὗτος), καὶ περὶ ταῦτα μᾶλλον δαπανᾶν ὅσα πολυχρόνια τῶν ἔργων (κάλλιστα γὰρ ταῦτα), καὶ ἐν ἑκάστοις τὸ πρέπον· οὐ γὰρ ταὐτὰ ἁρμόζει [10] θεοῖς καὶ ἀνθρώποις, οὐδ᾽ ἐν ἱερῷ καὶ τάφῳ. καὶ ἐπεὶ τῶν δαπανημάτων ἕκαστον μέγα ἐν τῷ γένει, καὶ μεγαλοπρεπέστατον <ἁπλῶς> μὲν τὸ ἐν μεγάλῳ μέγα, ἐνταῦθα δὲ τὸ ἐν τούτοις μέγα, καὶ διαφέρει τὸ ἐν τῷ ἔργῳ μέγα τοῦ ἐν τῷ δαπανήματι· σφαῖρα μὲν γὰρ ἡ καλλίστη ἢ λήκυθος μεγαλοπρέπειαν [15] ἔχει παιδικοῦ δώρου, ἡ δὲ τούτου τιμὴ μικρὸν καὶ ἀνελεύθερον· διὰ τοῦτό ἐστι τοῦ μεγαλοπρεποῦς, ἐν ᾧ ἂν ποιῇ γένει, μεγαλοπρεπῶς ποιεῖν (τὸ γὰρ τοιοῦτον οὐκ εὐπέρβλητον) καὶ ἔχον κατ᾽ ἀξίαν τοῦ δαπανήματος. τοιοῦτος μὲν οὖν ὁ μεγαλοπρεπής· ὁ δ᾽ ὑπερβάλλων καὶ βάναυσος τῷ [20] παρὰ τὸ δέον ἀναλίσκειν ὑπερβάλλει, ὥσπερ εἴρηται. ἐν γὰρ τοῖς μικροῖς τῶν δαπανημάτων πολλὰ ἀναλίσκει καὶ λαμπρύνεται παρὰ μέλος, οἷον ἐρανιστὰς γαμικῶς ἑστιῶν, καὶ κωμῳδοῖς χορηγῶν ἐν τῇ παρόδῳ πορφύραν εἰσφέρων, ὥσπερ οἱ Μεγαροῖ. καὶ πάντα τὰ τοιαῦτα ποιήσει οὐ τοῦ [25] καλοῦ ἕνεκα, ἀλλὰ τὸν πλοῦτον ἐπιδεικνύμενος, καὶ διὰ ταῦτα οἰόμενος θαυμάζεσθαι, καὶ οὗ μὲν δεῖ πολλὰ ἀναλῶσαι, ὀλίγα δαπανῶν, οὗ δ᾽ ὀλίγα, πολλά. ὁ δὲ μικροπρεπὴς περὶ πάντα ἐλλείψει, καὶ τὰ μέγιστα ἀναλώσας ἐν μικρῷ τὸ καλὸν ἀπολεῖ, καὶ ὅ τι ἂν ποιῇ μέλλων καὶ [30] σκοπῶν πῶς ἂν ἐλάχιστον ἀναλώσαι, καὶ ταῦτ᾽ ὀδυρόμενος, καὶ πάντ᾽ οἰόμενος μείζω ποιεῖν ἢ δεῖ. εἰσὶ μὲν οὖν αἱ ἕξεις αὗται κακίαι, οὐ μὴν ὀνείδη γ᾽ ἐπιφέρουσι διὰ τὸ μήτε βλαβεραὶ τῷ πέλας εἶναι μήτε λίαν ἀσχήμονες.

ἡ δὲ μεγαλοψυχία περὶ μεγάλα μὲν καὶ ἐκ τοῦ ὀνόματος [35] ἔοικεν εἶναι, περὶ ποῖα δ᾽ ἐστὶ πρῶτον λάβωμεν· 1123b [1] διαφέρει δ᾽ οὐδὲν τὴν ἕξιν ἢ τὸν κατὰ τὴν ἕξιν σκοπεῖν. δοκεῖ δὴ μεγαλόψυχος εἶναι ὁ μεγάλων αὑτὸν ἀξιῶν ἄξιος ὤν· ὁ γὰρ μὴ κατ᾽ ἀξίαν αὐτὸ ποιῶν ἠλίθιος, τῶν δὲ κατ᾽ ἀρετὴν οὐδεὶς ἠλίθιος οὐδ᾽ ἀνόητος. μεγαλόψυχος μὲν οὖν ὁ εἰρημένος. [5] ὁ γὰρ μικρῶν ἄξιος καὶ τούτων ἀξιῶν ἑαυτὸν σώφρων, μεγαλόψυχος δ᾽ οὔ· ἐν μεγέθει γὰρ ἡ μεγαλοψυχία, ὥσπερ καὶ τὸ κάλλος ἐν μεγάλῳ σώματι, οἱ μικροὶ δ᾽ ἀστεῖοι καὶ σύμμετροι, καλοὶ δ᾽ οὔ. ὁ δὲ μεγάλων ἑαυτὸν ἀξιῶν ἀνάξιος ὢν χαῦνος· ὁ δὲ μειζόνων ἢ ἄξιος οὐ πᾶς χαῦνος. ὁ δ᾽ ἐλαττόνων [10] ἢ ἄξιος μικρόψυχος, ἐάν τε μεγάλων ἐάν τε μετρίων, ἐάν τε καὶ μικρῶν ἄξιος ὢν ἔτι ἐλαττόνων αὑτὸν ἀξιοῖ. καὶ μάλιστ᾽ ἂν δόξειεν ὁ μεγάλων ἄξιος· τί γὰρ ἂν ἐποίει, εἰ μὴ τοσούτων ἦν ἄξιος; ἔστι δὴ ὁ μεγαλόψυχος τῷ μὲν μεγέθει ἄκρος, τῷ δὲ ὡς δεῖ μέσος· τοῦ γὰρ κατ᾽ ἀξίαν αὑτὸν [15] ἀξιοῖ· οἱ δ᾽ ὑπερβάλλουσι καὶ ἐλλείπουσιν. εἰ δὴ μεγάλων ἑαυτὸν ἀξιοῖ ἄξιος ὤν, καὶ μάλιστα τῶν μεγίστων, περὶ ἓν μάλιστ᾽ ἂν εἴη. ἡ δ᾽ ἀξία λέγεται πρὸς τὰ ἐκτὸς ἀγαθά· μέγιστον δὲ τοῦτ᾽ ἂν θείημεν ὃ τοῖς θεοῖς ἀπονέμομεν, καὶ οὗ μάλιστ᾽ ἐφίενται οἱ ἐν ἀξιώματι, καὶ τὸ ἐπὶ τοῖς καλλίστοις [20] ἆθλον· τοιοῦτον δ᾽ ἡ τιμή· μέγιστον γὰρ δὴ τοῦτο τῶν ἐκτὸς ἀγαθῶν· περὶ τιμὰς δὴ καὶ ἀτιμίας ὁ μεγαλόψυχός ἐστιν ὡς δεῖ. καὶ ἄνευ δὲ λόγου φαίνονται οἱ μεγαλόψυχοι περὶ τιμὴν εἶναι· τιμῆς γὰρ μάλιστα [οἱ μεγάλοι] ἀξιοῦσιν ἑαυτούς, κατ᾽ ἀξίαν δέ. ὁ δὲ μικρόψυχος ἐλλείπει καὶ πρὸς ἑαυτὸν [25] καὶ πρὸς τὸ τοῦ μεγαλοψύχου ἀξίωμα. ὁ δὲ χαῦνος πρὸς ἑαυτὸν μὲν ὑπερβάλλει, οὐ μὴν τόν γε μεγαλόψυχον. ὁ δὲ μεγαλόψυχος, εἴπερ τῶν μεγίστων ἄξιος, ἄριστος ἂν εἴη· μείζονος γὰρ ἀεὶ ὁ βελτίων ἄξιος, καὶ μεγίστων ὁ ἄριστος. τὸν ὡς ἀληθῶς ἄρα μεγαλόψυχον δεῖ ἀγαθὸν εἶναι. καὶ [30] δόξειεν <ἂν> εἶναι μεγαλοψύχου τὸ ἐν ἑκάστῃ ἀρετῇ μέγα. οὐδαμῶς τ᾽ ἂν ἁρμόζοι μεγαλοψύχῳ φεύγειν παρασείσαντι, οὐδ᾽ ἀδικεῖν· τίνος γὰρ ἕνεκα πράξει αἰσχρὰ ᾧ γ᾽ οὐδὲν μέγα; καθ᾽ ἕκαστα δ᾽ ἐπισκοποῦντι πάμπαν γελοῖος φαίνοιτ᾽ ἂν ὁ μεγαλόψυχος μὴ ἀγαθὸς ὤν. οὐκ εἴη δ᾽ ἂν οὐδὲ τιμῆς ἄξιος [35] φαῦλος ὤν· τῆς ἀρετῆς γὰρ ἆθλον ἡ τιμή, καὶ ἀπονέμεται τοῖς ἀγαθοῖς. 1124a [1] ἔοικε μὲν οὖν ἡ μεγαλοψυχία οἷον κόσμος τις εἶναι τῶν ἀρετῶν· μείζους γὰρ αὐτὰς ποιεῖ, καὶ οὐ γίνεται ἄνευ ἐκείνων. διὰ τοῦτο χαλεπὸν τῇ ἀληθείᾳ μεγαλόψυχον εἶναι· οὐ γὰρ οἷόν τε ἄνευ καλοκαγαθίας. μάλιστα [5] μὲν οὖν περὶ τιμὰς καὶ ἀτιμίας ὁ μεγαλόψυχός ἐστι· καὶ ἐπὶ μὲν ταῖς μεγάλαις καὶ ὑπὸ τῶν σπουδαίων μετρίως ἡσθήσεται, ὡς τῶν οἰκείων τυγχάνων ἢ καὶ ἐλαττόνων· ἀρετῆς γὰρ παντελοῦς οὐκ ἂν γένοιτο ἀξία τιμή, οὐ μὴν ἀλλ᾽ ἀποδέξεταί γε τῷ μὴ ἔχειν αὐτοὺς μείζω αὐτῷ ἀπονέμειν· [10] τῆς δὲ παρὰ τῶν τυχόντων καὶ ἐπὶ μικροῖς πάμπαν ὀλιγωρήσει· οὐ γὰρ τούτων ἄξιος·

ὁμοίως δὲ καὶ ἀτιμίας· οὐ γὰρ ἔσται δικαίως περὶ αὐτόν. μάλιστα μὲν οὖν ἐστίν, ὥσπερ εἴρηται, ὁ μεγαλόψυχος περὶ τιμάς, οὐ μὴν ἀλλὰ καὶ περὶ πλοῦτον καὶ δυναστείαν καὶ πᾶσαν εὐτυχίαν καὶ ἀτυχίαν [15] μετρίως ἕξει, ὅπως ἂν γίνηται, καὶ οὔτ᾽ εὐτυχῶν περιχαρὴς ἔσται οὔτ᾽ ἀτυχῶν περίλυπος. οὐδὲ γὰρ περὶ τιμὴν οὕτως ἔχει ὡς μέγιστον ὄν. αἱ γὰρ δυναστεῖαι καὶ ὁ πλοῦτος διὰ τὴν τιμήν ἐστιν αἱρετά· οἱ γοῦν ἔχοντες αὐτὰ τιμᾶσθαι δι᾽ αὐτῶν βούλονται· ᾧ δὲ καὶ ἡ τιμὴ μικρόν ἐστι, τούτῳ καὶ τἆλλα. [20] διὸ ὑπερόπται δοκοῦσιν εἶναι. δοκεῖ δὲ καὶ τὰ εὐτυχήματα συμβάλλεσθαι πρὸς μεγαλοψυχίαν. οἱ γὰρ εὐγενεῖς ἀξιοῦνται τιμῆς καὶ οἱ δυναστεύοντες ἢ πλουτοῦντες· ἐν ὑπεροχῇ γάρ, τὸ δ᾽ ἀγαθῷ ὑπερέχον πᾶν ἐντιμότερον. διὸ καὶ τὰ τοιαῦτα μεγαλοψυχοτέρους ποιεῖ· τιμῶνται γὰρ ὑπὸ τινῶν· [25] κατ᾽ ἀλήθειαν δ᾽ ὁ ἀγαθὸς μόνος τιμητός· ᾧ δ᾽ ἄμφω ὑπάρχει, μᾶλλον ἀξιοῦται τιμῆς. οἱ δ᾽ ἄνευ ἀρετῆς τὰ τοιαῦτα ἀγαθὰ ἔχοντες οὔτε δικαίως ἑαυτοὺς μεγάλων ἀξιοῦσιν οὔτε ὀρθῶς μεγαλόψυχοι λέγονται· ἄνευ γὰρ ἀρετῆς παντελοῦς οὐκ ἔστι ταῦτα. ὑπερόπται δὲ καὶ ὑβρισταὶ καὶ οἱ [30] τὰ τοιαῦτα ἔχοντες ἀγαθὰ γίνονται. ἄνευ γὰρ ἀρετῆς οὐ ῥᾴδιον φέρειν ἐμμελῶς τὰ εὐτυχήματα· 1124b [1] οὐ δυνάμενοι δὲφέρειν καὶ οἰόμενοι τῶν ἄλλων ὑπερέχειν ἐκείνων μὲν καταφρονοῦσιν, αὐτοὶ δ᾽ ὅ τι ἂν τύχωσι πράττουσιν. μιμοῦνται γὰρ τὸν μεγαλόψυχον οὐχ ὅμοιοι ὄντες, τοῦτο δὲ δρῶσιν ἐν οἷς δύνανται· τὰ μὲν οὖν κατ᾽ ἀρετὴν οὐ πράττουσι, καταφρονοῦσι [5] δὲ τῶν ἄλλων. ὁ μὲν γὰρ μεγαλόψυχος δικαίως καταφρονεῖ (δοξάζει γὰρ ἀληθῶς), οἱ δὲ πολλοὶ τυχόντως. οὐκ ἔστι δὲ μικροκίνδυνος οὐδὲ φιλοκίνδυνος διὰ τὸ ὀλίγα τιμᾶν, μεγαλοκίνδυνος δέ, καὶ ὅταν κινδυνεύῃ, ἀφειδὴς τοῦ βίου ὡς οὐκ ἄξιον ὂν πάντως ζῆν. καὶ οἷος εὖ ποιεῖν, εὐεργετούμενος [10] δ᾽ αἰσχύνεται· τὸ μὲν γὰρ ὑπερέχοντος, τὸ δ᾽ ὑπερεχομένου. καὶ ἀντευεργετικὸς πλειόνων· οὕτω γάρ οἱ προσοφλήσει ὁ ὑπάρξας καὶ ἔσται εὖ πεπονθώς. δοκοῦσι δὲ καὶ μνημονεύειν οὗ ἂν ποιήσωσιν εὖ, ὧν δ᾽ ἂν πάθωσιν οὔ (ἐλάττων γὰρ ὁ παθὼν εὖ τοῦ ποιήσαντος, βούλεται δ᾽ ὑπερέχειν), καὶ [15] τὰ μὲν ἡδέως ἀκούειν, τὰ δ᾽ ἀηδῶς· διὸ καὶ τὴν Θέτιν οὐ λέγειν τὰς εὐεργεσίας τῷ Διί, οὐδ᾽ οἱ Λάκωνες πρὸς τοὺς Ἀθηναίους, ἀλλ᾽ ἃ πεπόνθεσαν εὖ. μεγαλοψύχου δὲ καὶ τὸ μηδενὸς δεῖσθαι ἢ μόλις, ὑπηρετεῖν δὲ προθύμως, καὶ πρὸς μὲν τοὺς ἐν ἀξιώματι καὶ εὐτυχίαις μέγαν εἶναι, πρὸς δὲ [20] τοὺς μέσους μέτριον· τῶν μὲν γὰρ ὑπερέχειν χαλεπὸν καὶ σεμνόν, τῶν δὲ ῥᾴδιον, καὶ ἐπ᾽ ἐκείνοις μὲν σεμνύνεσθαι οὐκ ἀγεννές, ἐν δὲ τοῖς ταπεινοῖς φορτικόν, ὥσπερ εἰς τοὺς ἀσθενεῖς ἰσχυρίζεσθαι· καὶ εἰς τὰ ἔντιμα μὴ ἰέναι, ἢ οὗ πρωτεύουσιν ἄλλοι· καὶ ἀργὸν εἶναι καὶ μελλητὴν ἀλλ᾽ ἢ ὅπου

[25] τιμὴ μεγάλη ἢ ἔργον, καὶ ὀλίγων μὲν πρακτικόν, μεγάλων δὲ καὶ ὀνομαστῶν. ἀναγκαῖον δὲ καὶ φανερομισῆ εἶναι καὶ φανερόφιλον (τὸ γὰρ λανθάνειν φοβουμένου, καὶ ἀμελεῖν τῆς ἀληθείας μᾶλλον ἢ τῆς δόξης), καὶ λέγειν καὶ πράττειν φανερῶς (παῤῥησιαστὴς γὰρ διὰ τὸ καταφρονητικὸς εἶναι, [30] καὶ ἀληθευτικός, πλὴν ὅσα μὴ δι᾽ εἰρωνείαν [εἰρωνεία δὲ] πρὸς τοὺς πολλούς), καὶ πρὸς ἄλλον μὴ δύνασθαι ζῆν ἀλλ᾽ ἢ φίλον· 1125a [1] δουλικὸν γάρ· διὸ καὶ πάντες οἱ κόλακες θητικοὶ καὶ οἱ ταπεινοὶ κόλακες. οὐδὲ θαυμαστικός· οὐδὲν γὰρ μέγα αὐτῷ ἐστίν. οὐδὲ μνησίκακος· οὐ γὰρ μεγαλοψύχου τὸ ἀπομνημονεύειν, ἄλλως τε καὶ κακά, ἀλλὰ [5] μᾶλλον παρορᾶν. οὐδ᾽ ἀνθρωπολόγος· οὔτε γὰρ περὶ αὑτοῦ ἐρεῖ οὔτε περὶ ἑτέρου· οὔτε γὰρ ἵνα ἐπαινῆται μέλει αὐτῷ οὔθ᾽ ὅπως οἱ ἄλλοι ψέγωνται· οὐδ᾽ αὖ ἐπαινετικός ἐστιν· διόπερ οὐδὲ κακολόγος, οὐδὲ τῶν ἐχθρῶν, εἰ μὴ δι᾽ ὕβριν. καὶ περὶ ἀναγκαίων ἢ μικρῶν ἥκιστα ὀλοφυρτικὸς [10] καὶ δεητικός· σπουδάζοντος γὰρ οὕτως ἔχειν περὶ ταῦτα. καὶ οἷος κεκτῆσθαι μᾶλλον τὰ καλὰ καὶ ἄκαρπα τῶν καρπίμων καὶ ὠφελίμων· αὐτάρκους γὰρ μᾶλλον. καὶ κίνησις δὲ βραδεῖα τοῦ μεγαλοψύχου δοκεῖ εἶναι, καὶ φωνὴ βαρεῖα, καὶ λέξις στάσιμος· οὐ γὰρ σπευστικὸς ὁ περὶ ὀλίγα [15] σπουδάζων, οὐδὲ σύντονος ὁ μηδὲν μέγα οἰόμενος· ἡ δ᾽ ὀξυφωνία καὶ ἡ ταχυτὴς διὰ τούτων. τοιοῦτος μὲν οὖν ὁ μεγαλόψυχος· ὁ δ᾽ ἐλλείπων μικρόψυχος, ὁ δ᾽ ὑπερβάλλων χαῦνος. οὐ κακοὶ μὲν οὖν δοκοῦσιν εἶναι οὐδ᾽ οὗτοι (οὐ γὰρ κακοποιοί εἰσιν), ἡμαρτημένοι δέ. ὁ μὲν γὰρ μικρόψυχος [20] ἄξιος ὢν ἀγαθῶν ἑαυτὸν ἀποστερεῖ ὧν ἄξιός ἐστι, καὶ ἔοικε κακὸν ἔχειν τι ἐκ τοῦ μὴ ἀξιοῦν ἑαυτὸν τῶν ἀγαθῶν, καὶ ἀγνοεῖν δ᾽ ἑαυτόν· ὠρέγετο γὰρ ἂν ὧν ἄξιος ἦν, ἀγαθῶν γε ὄντων. οὐ μὴν ἠλίθιοί γε οἱ τοιοῦτοι δοκοῦσιν εἶναι, ἀλλὰ μᾶλλον ὀκνηροί. ἡ τοιαύτη δὲ δόξα δοκεῖ καὶ χείρους ποιεῖν· [25] ἕκαστοι γὰρ ἐφίενται τῶν κατ᾽ ἀξίαν, ἀφίστανται δὲ καὶ τῶν πράξεων τῶν καλῶν καὶ τῶν ἐπιτηδευμάτων ὡς ἀνάξιοι ὄντες, ὁμοίως δὲ καὶ τῶν ἐκτὸς ἀγαθῶν. οἱ δὲ χαῦνοι ἠλίθιοι καὶ ἑαυτοὺς ἀγνοοῦντες, καὶ ταῦτ᾽ ἐπιφανῶς· οὐ γὰρ ἄξιοι ὄντες τοῖς ἐντίμοις ἐπιχειροῦσιν, εἶτα ἐξελέγχονται· [30] καὶ ἐσθῆτι κοσμοῦνται καὶ σχήματι καὶ τοῖς τοιούτοις, καὶ βούλονται τὰ εὐτυχήματα καὶ φανερὰ εἶναι αὐτῶν, καὶ λέγουσι περὶ αὐτῶν ὡς διὰ τούτων τιμηθησόμενοι. ἀντιτίθεται δὲ τῇ μεγαλοψυχίᾳ ἡ μικροψυχία μᾶλλον τῆς χαυνότητος· καὶ γὰρ γίνεται μᾶλλον καὶ χεῖρόν ἐστιν. ἡ μὲν οὖν μεγαλοψυχία [35] περὶ τιμήν ἐστι μεγάλην, ὥσπερ εἴρηται.

1125b [1] ἔοικε δὲ καὶ περὶ ταύτην εἶναι ἀρετή τις, καθάπερ ἐν τοῖς πρώτοις ἐλέχθη, ἣ δόξειεν ἂν παραπλησίως ἔχειν πρὸς τὴν μεγαλοψυχίαν ὥσπερ καὶ ἡ ἐλευθεριότης πρὸς τὴν μεγαλοπρέπειαν. ἄμφω γὰρ αὗται τοῦ μὲν μεγάλου ἀφεστᾶσι, [5] περὶ δὲ τὰ μέτρια καὶ μικρὰ διατιθέασιν ἡμᾶς ὡς δεῖ· ὥσπερ δ᾽ ἐν λήψει καὶ δόσει χρημάτων μεσότης ἔστι καὶ ὑπερβολή τε καὶ ἔλλειψις, οὕτω καὶ ἐν τιμῆς ὀρέξει τὸ μᾶλλον ἢ δεῖ καὶ ἧττον, καὶ τὸ ὅθεν δεῖ καὶ ὡς δεῖ. τόν τε γὰρ φιλότιμον ψέγομεν ὡς μᾶλλον ἢ δεῖ καὶ ὅθεν οὐ δεῖ [10] τῆς τιμῆς ἐφιέμενον, τόν τε ἀφιλότιμον ὡς οὐδ᾽ ἐπὶ τοῖς καλοῖς προαιρούμενον τιμᾶσθαι. ἔστι δ᾽ ὅτε τὸν φιλότιμον ἐπαινοῦμεν ὡς ἀνδρώδη καὶ φιλόκαλον, τὸν δ᾽ ἀφιλότιμον ὡς μέτριον καὶ σώφρονα, ὥσπερ καὶ ἐν τοῖς πρώτοις εἴπομεν. δῆλον δ᾽ ὅτι πλεοναχῶς τοῦ φιλοτοιούτου λεγομένου οὐκ [15] ἐπὶ τὸ αὐτὸ φέρομεν ἀεὶ τὸ φιλότιμον, ἀλλ᾽ ἐπαινοῦντες μὲν ἐπὶ τὸ μᾶλλον ἢ οἱ πολλοί, ψέγοντες δ᾽ ἐπὶ τὸ μᾶλλον ἢ δεῖ. ἀνωνύμου δ᾽ οὔσης τῆς μεσότητος, ὡς ἐρήμης ἔοικεν ἀμφισβητεῖν τὰ ἄκρα. ἐν οἷς δ᾽ ἔστιν ὑπερβολὴ καὶ ἔλλειψις, καὶ τὸ μέσον· ὀρέγονται δὲ τῆς τιμῆς καὶ μᾶλλον ἢ [20] δεῖ καὶ ἧττον· ἔστι δὴ καὶ ὡς δεῖ· ἐπαινεῖται δ᾽ οὖν ἡ ἕξις αὕτη, μεσότης οὖσα περὶ τιμὴν ἀνώνυμος. φαίνεται δὲ πρὸς μὲν τὴν φιλοτιμίαν ἀφιλοτιμία, πρὸς δὲ τὴν ἀφιλοτιμίαν φιλοτιμία, πρὸς ἀμφότερα δὲ ἀμφότερά πως. ἔοικε δὲ τοῦτ᾽ εἶναι καὶ περὶ τὰς ἄλλας ἀρετάς. ἀντικεῖσθαι δ᾽ ἐνταῦθ᾽ [25] οἱ ἄκροι φαίνονται διὰ τὸ μὴ ὠνομάσθαι τὸν μέσον.

πραότης δ᾽ ἐστὶ μεσότης περὶ ὀργάς· ἀνωνύμου δ᾽ ὄντος τοῦ μέσου, σχεδὸν δὲ καὶ τῶν ἄκρων, ἐπὶ τὸ μέσον τὴν πραότητα φέρομεν, πρὸς τὴν ἔλλειψιν ἀποκλίνουσαν, ἀνώνυμον οὖσαν. ἡ δ᾽ ὑπερβολὴ ὀργιλότης τις λέγοιτ᾽ ἄν. [30] τὸ μὲν γὰρ πάθος ἐστὶν ὀργή, τὰ δ᾽ ἐμποιοῦντα πολλὰ καὶ διαφέροντα. ὁ μὲν οὖν ἐφ᾽ οἷς δεῖ καὶ οἷς δεῖ ὀργιζόμενος, ἔτι δὲ καὶ ὡς δεῖ καὶ ὅτε καὶ ὅσον χρόνον, ἐπαινεῖται· πρᾶος δὴ οὗτος ἂν εἴη, εἴπερ ἡ πραότης ἐπαινεῖται. βούλεται γὰρ ὁ πρᾶος ἀτάραχος εἶναι καὶ μὴ ἄγεσθαι ὑπὸ τοῦ πάθους, [35] ἀλλ᾽ ὡς ἂν ὁ λόγος τάξῃ, οὕτω καὶ ἐπὶ τούτοις καὶ ἐπὶ τοσοῦτον χρόνον χαλεπαίνειν· 1126a [1] ἁμαρτάνειν δὲ δοκεῖ μᾶλλον ἐπὶ τὴν ἔλλειψιν· οὐ γὰρ τιμωρητικὸς ὁ πρᾶος, ἀλλὰ μᾶλλον συγγνωμονικός. ἡ δ᾽ ἔλλειψις, εἴτ᾽ ἀοργησία τίς ἐστιν εἴθ᾽ ὅ τι δή ποτε, ψέγεται. οἱ γὰρ μὴ ὀργιζόμενοι ἐφ᾽ οἷς [5] δεῖ ἠλίθιοι δοκοῦσιν εἶναι, καὶ οἱ μὴ ὡς δεῖ μηδ᾽ ὅτε μηδ᾽ οἷς δεῖ· δοκεῖ γὰρ οὐκ αἰσθάνεσθαι οὐδὲ λυπεῖσθαι, μὴ ὀργιζόμενός τε οὐκ εἶναι ἀμυντικός, τὸ δὲ προπηλακιζόμενον ἀνέχεσθαι καὶ τοὺς οἰκείους περιορᾶν ἀνδραποδῶδες. ἡ δ᾽ ὑπερβολὴ κατὰ πάντα μὲν γίνεται (καὶ γὰρ οἷς οὐ δεῖ, [10] καὶ ἐφ᾽ οἷς οὐ δεῖ, καὶ μᾶλλον ἢ δεῖ, καὶ θᾶττον, καὶ πλείω χρόνον), οὐ μὴν ἅπαντά γε τῷ αὐτῷ ὑπάρχει. οὐ γὰρ ἂν δύναιτ’ εἶναι· τὸ γὰρ κακὸν καὶ ἑαυτὸ ἀπόλλυσι, κἂν ὁλόκληρον ᾖ, ἀφόρητον γίνεται. οἱ μὲν οὖν ὀργίλοι ταχέως μὲν ὀργίζονται καὶ οἷς οὐ δεῖ καὶ ἐφ’ οἷς οὐ δεῖ καὶ μᾶλλον ἢ [15] δεῖ, παύονται δὲ ταχέως· ὃ καὶ βέλτιστον ἔχουσιν. συμβαίνει δ’ αὐτοῖς τοῦτο, ὅτι οὐ κατέχουσι τὴν ὀργὴν ἀλλ’ ἀνταποδιδόασιν ᾗ φανεροί εἰσι διὰ τὴν ὀξύτητα, εἶτ’ ἀποπαύονται. ὑπερβολῇ δ’ εἰσὶν οἱ ἀκρόχολοι ὀξεῖς καὶ πρὸς πᾶν ὀργίλοι καὶ ἐπὶ παντί· ὅθεν καὶ τοὔνομα. οἱ δὲ πικροὶ [20] δυσδιάλυτοι, καὶ πολὺν χρόνον ὀργίζονται· κατέχουσι γὰρ τὸν θυμόν. παῦλα δὲ γίνεται ὅταν ἀνταποδιδῷ· ἡ γὰρ τιμωρία παύει τῆς ὀργῆς, ἡδονὴν ἀντὶ τῆς λύπης ἐμποιοῦσα. τούτου δὲ μὴ γινομένου τὸ βάρος ἔχουσιν· διὰ γὰρ τὸ μὴ ἐπιφανὲς εἶναι οὐδὲ συμπείθει αὐτοὺς οὐδείς, ἐν αὑτῷ δὲ πέψαι [25] τὴν ὀργὴν χρόνου δεῖ. εἰσὶ δ’ οἱ τοιοῦτοι ἑαυτοῖς ὀχληρότατοι καὶ τοῖς μάλιστα φίλοις. χαλεποὺς δὲ λέγομεν τοὺς ἐφ’ οἷς τε μὴ δεῖ χαλεπαίνοντας καὶ μᾶλλον ἢ δεῖ καὶ πλείω χρόνον, καὶ μὴ διαλλαττομένους ἄνευ τιμωρίας ἢ κολάσεως. τῇ πραότητι δὲ μᾶλλον τὴν ὑπερβολὴν ἀντιτίθεμεν· καὶ [30] γὰρ μᾶλλον γίνεται· ἀνθρωπικώτερον γὰρ τὸ τιμωρεῖσθαι· καὶ πρὸς τὸ συμβιοῦν οἱ χαλεποὶ χείρους. ὃ δὲ καὶ ἐν τοῖς πρότερον εἴρηται, καὶ ἐκ τῶν λεγομένων δῆλον· οὐ γὰρ ῥᾴδιον διορίσαι τὸ πῶς καὶ τίσι καὶ ἐπὶ ποίοις καὶ πόσον χρόνον ὀργιστέον, καὶ τὸ μέχρι τίνος ὀρθῶς ποιεῖ τις ἢ ἁμαρτάνει. [35] ὁ μὲν γὰρ μικρὸν παρεκβαίνων οὐ ψέγεται, οὔτ’ ἐπὶ τὸ μᾶλλον οὔτ’ ἐπὶ τὸ ἧττον· ἐνίοτε γὰρ τοὺς ἐλλείποντας ἐπαινοῦμεν καὶ πράους φαμέν, 1126b [1] καὶ τοὺς χαλεπαίνοντας ἀνδρώδεις ὡς δυναμένους ἄρχειν. ὁ δὴ πόσον καὶ πῶς παρεκβαίνων ψεκτός, οὐ ῥᾴδιον τῷ λόγῳ ἀποδοῦναι· ἐν γὰρ τοῖς καθ’ ἕκαστα κἀν τῇ αἰσθήσει ἡ κρίσις. ἀλλὰ τό γε τοσοῦτον [5] δῆλον, ὅτι ἡ μὲν μέση ἕξις ἐπαινετή, καθ’ ἣν οἷς δεῖ ὀργιζόμεθα καὶ ἐφ’ οἷς δεῖ καὶ ὡς δεῖ καὶ πάντα τὰ τοιαῦτα, αἱ δ’ ὑπερβολαὶ καὶ ἐλλείψεις ψεκταί, καὶ ἐπὶ μικρὸν μὲν γινόμεναι ἠρέμα, ἐπὶ πλέον δὲ μᾶλλον, ἐπὶ πολὺ δὲ σφόδρα. δῆλον οὖν ὅτι τῆς μέσης ἕξεως ἀνθεκτέον. αἱ μὲν οὖν [10] περὶ τὴν ὀργὴν ἕξεις εἰρήσθωσαν.

ἐν δὲ ταῖς ὁμιλίαις καὶ τῷ συζῆν καὶ λόγων καὶ πραγμάτων κοινωνεῖν οἳ μὲν ἄρεσκοι δοκοῦσιν εἶναι, οἱ πάντα πρὸς ἡδονὴν ἐπαινοῦντες καὶ οὐθὲν ἀντιτείνοντες, ἀλλ’ οἰόμενοι δεῖν ἄλυποι τοῖς ἐντυγχάνουσιν εἶναι· οἱ δ’ ἐξ ἐναντίας τούτοις [15] πρὸς πάντα ἀντιτείνοντες καὶ τοῦ λυπεῖν οὐδ’ ὁτιοῦν φροντίζοντες δύσκολοι καὶ δυσέριδες καλοῦνται. ὅτι μὲν οὖν αἱ εἰρημέναι ἕξεις ψεκταί εἰσιν, οὐκ ἄδηλον, καὶ ὅτι ἡ μέση τούτων ἐπαινετή, καθ’ ἣν ἀποδέξεται ἃ δεῖ καὶ ὡς δεῖ, ὁμοίως δὲ καὶ δυσχερανεῖ· ὄνομα δ᾽ οὐκ ἀποδέδοται αὐτῇ [20] τι, ἔοικε δὲ μάλιστα φιλίᾳ. τοιοῦτος γάρ ἐστιν ὁ κατὰ τὴν μέσην ἕξιν οἷον βουλόμεθα λέγειν τὸν ἐπιεικῆ φίλον, τὸ στέργειν προσλαβόντα. διαφέρει δὲ τῆς φιλίας, ὅτι ἄνευ πάθους ἐστὶ καὶ τοῦ στέργειν οἷς ὁμιλεῖ· οὐ γὰρ τῷ φιλεῖν ἢ ἐχθαίρειν ἀποδέχεται ἕκαστα ὡς δεῖ, ἀλλὰ τῷ τοιοῦτος [25] εἶναι. ὁμοίως γὰρ πρὸς ἀγνῶτας καὶ γνωρίμους καὶ συνήθεις καὶ ἀσυνήθεις αὐτὸ ποιήσει, πλὴν καὶ ἐν ἑκάστοις ὡς ἁρμόζει· οὐ γὰρ ὁμοίως προσήκει συνήθων καὶ ὀθνείων φροντίζειν, οὐδ᾽ αὖ λυπεῖν. καθόλου μὲν οὖν εἴρηται ὅτι ὡς δεῖ ὁμιλήσει, ἀναφέρων δὲ πρὸς τὸ καλὸν καὶ τὸ συμφέρον στοχάσεται [30] τοῦ μὴ λυπεῖν ἢ συνηδύνειν. ἔοικε μὲν γὰρ περὶ ἡδονὰς καὶ λύπας εἶναι τὰς ἐν ταῖς ὁμιλίαις γινομένας· τούτων δ᾽ ὅσας μὲν αὐτῷ ἐστὶ μὴ καλὸν ἢ βλαβερὸν συνηδύνειν, δυσχερανεῖ, καὶ προαιρήσεται λυπεῖν· κἂν τῷ ποιοῦντι δ᾽ ἀσχημοσύνην φέρῃ, καὶ ταύτην μὴ μικράν, ἢ βλάβην, ἡ δ᾽ ἐναντίωσις [35] μικρὰν λύπην, οὐκ ἀποδέξεται ἀλλὰ δυσχερανεῖ. διαφερόντως δ᾽ ὁμιλήσει τοῖς ἐν ἀξιώμασι καὶ τοῖς τυχοῦσι, 1127a [1] καὶ μᾶλλον ἢ ἧττον γνωρίμοις, ὁμοίως δὲ καὶ κατὰ τὰς ἄλλας διαφοράς, ἑκάστοις ἀπονέμων τὸ πρέπον, καὶ καθ᾽ αὑτὸ μὲν αἱρούμενος τὸ συνηδύνειν, λυπεῖν δ᾽ εὐλαβούμενος, τοῖς δ᾽ ἀποβαίνουσιν, ἐὰν ᾖ μείζω, συνεπόμενος, λέγω δὲ [5] τῷ καλῷ καὶ τῷ συμφέροντι. καὶ ἡδονῆς δ᾽ ἕνεκα τῆς εἰσαῦθις μεγάλης μικρὰ λυπήσει. ὁ μὲν οὖν μέσος τοιοῦτός ἐστιν, οὐκ ὠνόμασται δέ· τοῦ δὲ συνηδύνοντος ὁ μὲν τοῦ ἡδὺς εἶναι στοχαζόμενος μὴ διά τι ἄλλο ἄρεσκος, ὁ δ᾽ ὅπως ὠφέλειά τις αὑτῷ γίνηται εἰς χρήματα καὶ ὅσα διὰ χρημάτων, [10] κόλαξ· ὁ δὲ πᾶσι δυσχεραίνων εἴρηται ὅτι δύσκολος καὶ δύσερις. ἀντικεῖσθαι δὲ φαίνεται τὰ ἄκρα ἑαυτοῖς διὰ τὸ ἀνώνυμον εἶναι τὸ μέσον.

περὶ τὰ αὐτὰ δὲ σχεδόν ἐστι καὶ ἡ τῆς ἀλαζονείας <καὶ εἰρωνείας> μεσότης· ἀνώνυμος δὲ καὶ αὐτή. οὐ χεῖρον δὲ καὶ [15] τὰς τοιαύτας ἐπελθεῖν· μᾶλλόν τε γὰρ ἂν εἰδείημεν τὰ περὶ τὸ ἦθος, καθ᾽ ἕκαστον διελθόντες, καὶ μεσότητας εἶναι τὰς ἀρετὰς πιστεύσαιμεν ἄν, ἐπὶ πάντων οὕτως ἔχον συνιδόντες. ἐν δὴ τῷ συζῆν οἱ μὲν πρὸς ἡδονὴν καὶ λύπην ὁμιλοῦντες εἴρηνται, περὶ δὲ τῶν ἀληθευόντων τε καὶ ψευδομένων εἴπωμεν [20] ὁμοίως ἐν λόγοις καὶ πράξεσι καὶ τῷ προσποιήματι. δοκεῖ δὴ ὁ μὲν ἀλαζὼν προσποιητικὸς τῶν ἐνδόξων εἶναι καὶ μὴ ὑπαρχόντων καὶ μειζόνων ἢ ὑπάρχει, ὁ δὲ εἴρων ἀνάπαλιν ἀρνεῖσθαι τὰ ὑπάρχοντα ἢ ἐλάττω ποιεῖν, ὁ δὲ μέσος αὐθέκαστός τις ὢν ἀληθευτικὸς καὶ τῷ βίῳ καὶ τῷ λόγῳ, τὰ [25] ὑπάρχοντα ὁμολογῶν εἶναι περὶ αὑτόν, καὶ οὔτε μείζω οὔτε ἐλάττω. ἔστι δὲ τούτων ἕκαστα καὶ ἕνεκά τινος ποιεῖν καὶ μηδενός. ἕκαστος δ᾽ οἷός ἐστι, τοιαῦτα λέγει καὶ πράττει καὶ οὕτω ζῇ, ἐὰν μή τινος ἕνεκα πράττῃ. καθ᾽ αὑτὸ δὲ τὸ μὲν ψεῦδος φαῦλον καὶ ψεκτόν, τὸ δ᾽ ἀληθὲς καλὸν καὶ [30] ἐπαινετόν. οὕτω δὲ καὶ ὁ μὲν ἀληθευτικὸς μέσος ὢν ἐπαινετός, οἱ δὲ ψευδόμενοι ἀμφότεροι μὲν ψεκτοί, μᾶλλον δ᾽ ὁ ἀλαζών. περὶ ἑκατέρου δ᾽ εἴπωμεν, πρότερον δὲ περὶ τοῦ ἀληθευτικοῦ. οὐ γὰρ περὶ τοῦ ἐν ταῖς ὁμολογίαις ἀληθεύοντος λέγομεν, οὐδ᾽ ὅσα εἰς ἀδικίαν ἢ δικαιοσύνην συντείνει 1127b [1] (ἄλλης γὰρ ἂν εἴη ταῦτ᾽ ἀρετῆς), ἀλλ᾽ ἐν οἷς μηδενὸς τοιούτου διαφέροντος καὶ ἐν λόγῳ καὶ ἐν βίῳ ἀληθεύει τῷ τὴν ἕξιν τοιοῦτος εἶναι. δόξειε δ᾽ ἂν ὁ τοιοῦτος ἐπιεικὴς εἶναι. ὁ γὰρ φιλαλήθης, καὶ ἐν οἷς μὴ διαφέρει ἀληθεύων, ἀληθεύσει [5] καὶ ἐν οἷς διαφέρει ἔτι μᾶλλον· ὡς γὰρ αἰσχρὸν τὸ ψεῦδος εὐλαβήσεται, ὅ γε καὶ καθ᾽ αὑτὸ ηὐλαβεῖτο· ὁ δὲ τοιοῦτος ἐπαινετός. ἐπὶ τὸ ἔλαττον δὲ μᾶλλον τοῦ ἀληθοῦς ἀποκλίνει· ἐμμελέστερον γὰρ φαίνεται διὰ τὸ ἐπαχθεῖς τὰς ὑπερβολὰς εἶναι. ὁ δὲ μείζω τῶν ὑπαρχόντων προσποιούμενος [10] μηδενὸς ἕνεκα φαύλῳ μὲν ἔοικεν (οὐ γὰρ ἂν ἔχαιρε τῷ ψεύδει), μάταιος δὲ φαίνεται μᾶλλον ἢ κακός· εἰ δ᾽ ἕνεκά τινος, ὁ μὲν δόξης ἢ τιμῆς οὐ λίαν ψεκτός, “ὡς ὁ ἀλαζών”, ὁ δὲ ἀργυρίου, ἢ ὅσα εἰς ἀργύριον, ἀσχημονέστερος (οὐκ ἐν τῇ δυνάμει δ᾽ ἐστὶν ὁ ἀλαζών, ἀλλ᾽ ἐν τῇ προαιρέσει· [15] κατὰ τὴν ἕξιν γὰρ καὶ τῷ τοιόσδε εἶναι ἀλαζών ἐστιν)· ὥσπερ καὶ ψεύστης ὃ μὲν τῷ ψεύδει αὐτῷ χαίρων, ὃ δὲ δόξης ὀρεγόμενος ἢ κέρδους. οἱ μὲν οὖν δόξης χάριν ἀλαζονευόμενοι τὰ τοιαῦτα προσποιοῦνται ἐφ᾽ οἷς ἔπαινος ἢ εὐδαιμονισμός, οἱ δὲ κέρδους, ὧν καὶ ἀπόλαυσίς ἐστι τοῖς πέλας καὶ διαλαθεῖν [20] ἔστι μὴ ὄντα, οἷον μάντιν σοφὸν ἰατρόν. διὰ τοῦτο οἱ πλεῖστοι προσποιοῦνται τὰ τοιαῦτα καὶ ἀλαζονεύονται· ἔστι γὰρ ἐν αὐτοῖς τὰ εἰρημένα. οἱ δ᾽ εἴρωνες ἐπὶ τὸ ἔλαττον λέγοντες χαριέστεροι μὲν τὰ ἤθη φαίνονται· οὐ γὰρ κέρδους ἕνεκα δοκοῦσι λέγειν, ἀλλὰ φεύγοντες τὸ ὀγκηρόν· [25] μάλιστα δὲ καὶ οὗτοι τὰ ἔνδοξα ἀπαρνοῦνται, οἷον καὶ Σωκράτης ἐποίει. οἱ δὲ τὰ μικρὰ καὶ φανερὰ [προσποιούμενοι] βαυκοπανοῦργοι λέγονται καὶ εὐκαταφρονητότεροί εἰσιν· καὶ ἐνίοτε ἀλαζονεία φαίνεται, οἷον ἡ τῶν Λακώνων ἐσθής· καὶ γὰρ ἡ ὑπερβολὴ καὶ ἡ λίαν ἔλλειψις ἀλαζονικόν. οἱ δὲ [30] μετρίως χρώμενοι τῇ εἰρωνείᾳ καὶ περὶ τὰ μὴ λίαν ἐμποδὼν καὶ φανερὰ εἰρωνευόμενοι χαρίεντες φαίνονται. ἀντικεῖσθαι δ᾽ ὁ ἀλαζὼν φαίνεται τῷ ἀληθευτικῷ· χείρων γάρ.

οὔσης δὲ καὶ ἀναπαύσεως ἐν τῷ βίῳ, καὶ ἐν ταύτῃ διαγωγῆς μετὰ παιδιᾶς, δοκεῖ καὶ ἐνταῦθα εἶναι ὁμιλία τις ἐμμελής, 1128a [1] καὶ οἷα δεῖ λέγειν καὶ ὥς, ὁμοίως δὲ καὶ ἀκούειν. διοίσει δὲ καὶ τὸ ἐν τοιούτοις λέγειν ἢ τοιούτων ἀκούειν. δῆλον δ᾽ ὡς καὶ περὶ ταῦτ᾽ ἔστιν ὑπερβολή τε καὶ ἔλλειψις τοῦ μέσου. οἱ μὲν οὖν τῷ γελοίῳ ὑπερβάλλοντες βωμολόχοι [5] δοκοῦσιν εἶναι καὶ φορτικοί, γλιχόμενοι πάντως τοῦ γελοίου, καὶ μᾶλλον στοχαζόμενοι τοῦ γέλωτα ποιῆσαι ἢ τοῦ λέγειν εὐσχήμονα καὶ μὴ λυπεῖν τὸν σκωπτόμενον· οἱ δὲ μήτ᾽ αὐτοὶ ἂν εἰπόντες μηδὲν γελοῖον τοῖς τε λέγουσι δυσχεραίνοντες ἄγροικοι καὶ σκληροὶ δοκοῦσιν εἶναι. οἱ δ᾽ ἐμμελῶς [10] παίζοντες εὐτράπελοι προσαγορεύονται, οἷον εὔτροποι· τοῦ γὰρ ἤθους αἱ τοιαῦται δοκοῦσι κινήσεις εἶναι, ὥσπερ δὲ τὰ σώματα ἐκ τῶν κινήσεων κρίνεται, οὕτω καὶ τὰ ἤθη. ἐπιπολάζοντος δὲ τοῦ γελοίου, καὶ τῶν πλείστων χαιρόντων τῇ παιδιᾷ καὶ τῷ σκώπτειν μᾶλλον ἢ δεῖ, καὶ οἱ βωμολόχοι [15] εὐτράπελοι προσαγορεύονται ὡς χαρίεντες· ὅτι δὲ διαφέρουσι, καὶ οὐ μικρόν, ἐκ τῶν εἰρημένων δῆλον. τῇ μέσῃ δ᾽ ἕξει οἰκεῖον καὶ ἡ ἐπιδεξιότης ἐστίν· τοῦ δ᾽ ἐπιδεξίου ἐστὶ τοιαῦτα λέγειν καὶ ἀκούειν οἷα τῷ ἐπιεικεῖ καὶ ἐλευθερίῳ ἁρμόττει· ἔστι γάρ τινα πρέποντα τῷ τοιούτῳ λέγειν ἐν [20] παιδιᾶς μέρει καὶ ἀκούειν, καὶ ἡ τοῦ ἐλευθερίου παιδιὰ διαφέρει τῆς τοῦ ἀνδραποδώδους, καὶ πεπαιδευμένου καὶ ἀπαιδεύτου. ἴδοι δ᾽ ἄν τις καὶ ἐκ τῶν κωμῳδιῶν τῶν παλαιῶν καὶ τῶν καινῶν· τοῖς μὲν γὰρ ἦν γελοῖον ἡ αἰσχρολογία, τοῖς δὲ μᾶλλον ἡ ὑπόνοια· διαφέρει δ᾽ οὐ μικρὸν ταῦτα [25] πρὸς εὐσχημοσύνην. πότερον οὖν τὸν εὖ σκώπτοντα ὁριστέον τῷ λέγειν μὴ ἀπρεπῆ ἐλευθερίῳ, ἢ τῷ μὴ λυπεῖν τὸν ἀκούοντα ἢ καὶ τέρπειν; ἢ καὶ τό γε τοιοῦτον ἀόριστον; ἄλλο γὰρ ἄλλῳ μισητόν τε καὶ ἡδύ. τοιαῦτα δὲ καὶ ἀκούσεται· ἃ γὰρ ὑπομένει ἀκούων, ταῦτα καὶ ποιεῖν δοκεῖ. οὐ δὴ πᾶν ποιήσει· [30] τὸ γὰρ σκῶμμα λοιδόρημά τι ἐστίν, οἱ δὲ νομοθέται ἔνια λοιδορεῖν κωλύουσιν· ἔδει δ᾽ ἴσως καὶ σκώπτειν. ὁ δὴ χαρίεις καὶ ἐλευθέριος οὕτως ἕξει, οἷον νόμος ὢν ἑαυτῷ. τοιοῦτος μὲν οὖν ὁ μέσος ἐστίν, εἴτ᾽ ἐπιδέξιος εἴτ᾽ εὐτράπελος λέγεται. ὁ δὲ βωμολόχος ἥττων ἐστὶ τοῦ γελοίου, καὶ οὔτε ἑαυτοῦ οὔτε [35] τῶν ἄλλων ἀπεχόμενος εἰ γέλωτα ποιήσει, καὶ τοιαῦτα λέγων 1128b [1] ὧν οὐδὲν ἂν εἴποι ὁ χαρίεις, ἔνια δ᾽ οὐδ᾽ ἂν ἀκούσαι. ὁ δ᾽ ἄγροικος εἰς τὰς τοιαύτας ὁμιλίας ἀχρεῖος· οὐθὲν γὰρ συμβαλλόμενος πᾶσι δυσχεραίνει. δοκεῖ δὲ ἡ ἀνάπαυσις καὶ ἡ παιδιὰ ἐν τῷ βίῳ εἶναι ἀναγκαῖον. τρεῖς οὖν αἱ εἰρημέναι [5] ἐν τῷ βίῳ μεσότητες, εἰσὶ δὲ πᾶσαι περὶ λόγων τινῶν καὶ πράξεων κοινωνίαν. διαφέρουσι δ᾽ ὅτι ἣ μὲν περὶ ἀλήθειάν ἐστιν, αἳ δὲ περὶ τὸ ἡδύ. τῶν δὲ περὶ τὴν ἡδονὴν ἣ μὲν ἐν ταῖς παιδιαῖς, ἣ δ᾽ ἐν ταῖς κατὰ τὸν ἄλλον βίον ὁμιλίαις.

[10] περὶ δὲ αἰδοῦς ὥς τινος ἀρετῆς οὐ προσήκει λέγειν· πάθει γὰρ μᾶλλον ἔοικεν ἢ ἕξει. ὁρίζεται γοῦν φόβος τις ἀδοξίας, καὶ ἀποτελεῖται τῷ περὶ τὰ δεινὰ φόβῳ παραπλήσιον· ἐρυθραίνονται γὰρ οἱ αἰσχυνόμενοι, οἱ δὲ τὸν θάνατον φοβούμενοι ὠχριῶσιν. σωματικὰ δὴ φαίνεταί πως εἶναι [15] ἀμφότερα, ὅπερ δοκεῖ πάθους μᾶλλον ἢ ἕξεως εἶναι. οὐ πάσῃ δ᾽ ἡλικίᾳ τὸ πάθος ἁρμόζει, ἀλλὰ τῇ νέᾳ. οἰόμεθα γὰρ δεῖν τοὺς τηλικούτους αἰδήμονας εἶναι διὰ τὸ πάθει ζῶντας πολλὰ ἁμαρτάνειν, ὑπὸ τῆς αἰδοῦς δὲ κωλύεσθαι· καὶ ἐπαινοῦμεν τῶν μὲν νέων τοὺς αἰδήμονας, πρεσβύτερον δ᾽ [20] οὐδεὶς ἂν ἐπαινέσειεν ὅτι αἰσχυντηλός· οὐδὲν γὰρ οἰόμεθα δεῖν αὐτὸν πράττειν ἐφ᾽ οἷς ἐστὶν αἰσχύνη. οὐδὲ γὰρ ἐπιεικοῦς ἐστὶν ἡ αἰσχύνη, εἴπερ γίνεται ἐπὶ τοῖς φαύλοις (οὐ γὰρ πρακτέον τὰ τοιαῦτα· εἰ δ᾽ ἐστὶ τὰ μὲν κατ᾽ ἀλήθειαν αἰσχρὰ τὰ δὲ κατὰ δόξαν, οὐδὲν διαφέρει· οὐδέτερα γὰρ πρακτέα, [25] ὥστ᾽ οὐκ αἰσχυντέον)· φαύλου δὲ καὶ τὸ εἶναι τοιοῦτον οἷον πράττειν τι τῶν αἰσχρῶν. τὸ δ᾽ οὕτως ἔχειν ὥστ᾽ εἰ πράξαι τι τῶν τοιούτων αἰσχύνεσθαι, καὶ διὰ τοῦτ᾽ οἴεσθαι ἐπιεικῆ εἶναι, ἄτοπον· ἐπὶ τοῖς ἑκουσίοις γὰρ ἡ αἰδώς, ἑκὼν δ᾽ ὁ ἐπιεικὴς οὐδέποτε πράξει τὰ φαῦλα. εἴη δ᾽ ἂν ἡ αἰδὼς ἐξ [30] ὑποθέσεως ἐπιεικές· εἰ γὰρ πράξαι, αἰσχύνοιτ᾽ ἄν· οὐκ ἔστι δὲ τοῦτο περὶ τὰς ἀρετάς. εἰ δ᾽ ἡ ἀναισχυντία φαῦλον καὶ τὸ μὴ αἰδεῖσθαι τὰ αἰσχρὰ πράττειν, οὐδὲν μᾶλλον τὸν τὰ τοιαῦτα πράττοντα αἰσχύνεσθαι ἐπιεικές. οὐκ ἔστι δ᾽ οὐδ᾽ ἡ ἐγκράτεια ἀρετή, ἀλλά τις μικτή· δειχθήσεται δὲ περὶ [35] αὐτῆς ἐν τοῖς ὕστερον. νῦν δὲ περὶ δικαιοσύνης εἴπωμεν.

Βιβλίο 5

περὶ δὲ δικαιοσύνης καὶ ἀδικίας σκεπτέον, περὶ ποίας τε τυγχάνουσιν οὖσαι πράξεις, καὶ ποία μεσότης ἐστὶν ἡ [5] δικαιοσύνη, καὶ τὸ δίκαιον τίνων μέσον. ἡ δὲ σκέψις ἡμῖν ἔστω κατὰ τὴν αὐτὴν μέθοδον τοῖς προειρημένοις. ὁρῶμεν δὴ πάντας τὴν τοιαύτην ἕξιν βουλομένους λέγειν δικαιοσύνην, ἀφ’ ἧς πρακτικοὶ τῶν δικαίων εἰσὶ καὶ ἀφ’ ἧς δικαιοπραγοῦσι καὶ βούλονται τὰ δίκαια: τὸν αὐτὸν δὲ τρόπον καὶ [10] περὶ ἀδικίας, ἀφ’ ἧς ἀδικοῦσι καὶ βούλονται τὰ ἄδικα. διὸ καὶ ἡμῖν πρῶτον ὡς ἐν τύπῳ ὑποκείσθω ταῦτα. οὐδὲ γὰρ τὸν αὐτὸν ἔχει τρόπον ἐπί τε τῶν ἐπιστημῶν καὶ δυνάμεων καὶ ἐπὶ τῶν ἕξεων. δύναμις μὲν γὰρ καὶ ἐπιστήμη δοκεῖ τῶν ἐναντίων ἡ αὐτὴ εἶναι, ἕξις δ’ ἡ ἐναντία τῶν ἐναντίων [15] οὔ, οἷον ἀπὸ τῆς ὑγιείας οὐ πράττεται τὰ ἐναντία, ἀλλὰ τὰ ὑγιεινὰ μόνον: λέγομεν γὰρ ὑγιεινῶς βαδίζειν, ὅταν βαδίζῃ ὡς ἂν ὁ ὑγιαίνων. πολλάκις μὲν οὖν γνωρίζεται ἡ ἐναντία ἕξις ἀπὸ τῆς ἐναντίας, πολλάκις δὲ αἱ ἕξεις ἀπὸ τῶν ὑποκειμένων: ἐάν τε γὰρ ἡ εὐεξία ᾖ φανερά, καὶ ἡ [20] καχεξία φανερὰ γίνεται, καὶ ἐκ τῶν εὐεκτικῶν ἡ εὐεξία καὶ ἐκ ταύτης τὰ εὐεκτικά. εἰ γάρ ἐστιν ἡ εὐεξία πυκνότης σαρκός, ἀνάγκη καὶ τὴν καχεξίαν εἶναι μανότητα σαρκὸς καὶ τὸ εὐεκτικὸν τὸ ποιητικὸν πυκνότητος ἐν σαρκί. ἀκολουθεῖ δ’ ὡς ἐπὶ τὸ πολύ, ἐὰν θάτερον πλεοναχῶς λέγηται, [25] καὶ θάτερον πλεοναχῶς λέγεσθαι, οἷον εἰ τὸ δίκαιον, καὶ τὸ ἄδικον. ἔοικε δὲ πλεοναχῶς λέγεσθαι ἡ δικαιοσύνη καὶ ἡ ἀδικία, ἀλλὰ διὰ τὸ σύνεγγυς εἶναι τὴν ὁμωνυμίαν αὐτῶν λανθάνει καὶ οὐχ ὥσπερ ἐπὶ τῶν πόῤῥω δήλη μᾶλλον, ῾ἡ γὰρ διαφορὰ πολλὴ ἡ κατὰ τὴν ἰδέαν̓ οἷον ὅτι καλεῖται [30] κλεὶς ὁμωνύμως ἥ τε ὑπὸ τὸν αὐχένα τῶν ζῴων καὶ ᾗ τὰς θύρας κλείουσιν. εἰλήφθω δὴ ὁ ἄδικος ποσαχῶς λέγεται. δοκεῖ δὴ ὅ τε παράνομος ἄδικος εἶναι καὶ ὁ πλεονέκτης καὶ ἄνισος, ὥστε δῆλον ὅτι καὶ [ὁ] δίκαιος ἔσται ὅ τε νόμιμος καὶ ὁ ἴσος. τὸ μὲν δίκαιον ἄρα τὸ νόμιμον καὶ τὸ ἴσον, τὸ δ’ ἄδικον τὸ παράνομον καὶ τὸ ἄνισον.

1129b [1] ἐπεὶ δὲ πλεονέκτης ὁ ἄδικος, περὶ τἀγαθὰ ἔσται, οὐ πάντα, ἀλλὰ περὶ ὅσα εὐτυχία καὶ ἀτυχία, ἃ ἐστὶ μὲν ἁπλῶς ἀεὶ ἀγαθά, τινὶ δ’ οὐκ ἀεί. οἱ δ’ ἄνθρωποι ταῦτα εὔχονται καὶ διώκουσιν: [5] δεῖ δ’ οὔ, ἀλλ’ εὔχεσθαι μὲν τὰ ἁπλῶς ἀγαθὰ καὶ αὑτοῖς ἀγαθὰ εἶναι, αἱρεῖσθαι δὲ τὰ αὑτοῖς ἀγαθά. ὁ δ’ ἄδικος οὐκ ἀεὶ τὸ πλέον αἱρεῖται, ἀλλὰ καὶ τὸ ἔλαττον ἐπὶ τῶν ἁπλῶς κακῶν: ἀλλ’ ὅτι δοκεῖ καὶ τὸ μεῖον κακὸν ἀγαθόν πως εἶναι, τοῦ δ’ ἀγαθοῦ ἐστὶν ἡ πλεονεξία, διὰ τοῦτο δοκεῖ [10] πλεονέκτης εἶναι. ἔστι δ’ ἄνισος: τοῦτο γὰρ περιέχει καὶ κοινόν. ἐπεὶ δ’ ὁ παράνομος ἄδικος ἦν ὁ δὲ νόμιμος δίκαιος, δῆλον ὅτι πάντα τὰ νόμιμά ἐστί πως δίκαια: τά τε γὰρ ὡρισμένα ὑπὸ τῆς νομοθετικῆς νόμιμά ἐστι, καὶ ἕκαστον τούτων δίκαιον εἶναί φαμεν. οἱ δὲ νόμοι ἀγορεύουσι περὶ ἁπάντων, [15] στοχαζόμενοι ἢ τοῦ κοινῇ συμφέροντος πᾶσιν ἢ τοῖς ἀρίστοις ἢ τοῖς κυρίοις [κατ’ ἀρετὴν] ἢ κατ’ ἄλλον τινὰ τρόπον τοιοῦτον: ὥστε ἕνα μὲν τρόπον δίκαια λέγομεν τὰ ποιητικὰ καὶ φυλακτικὰ εὐδαιμονίας καὶ τῶν μορίων αὐτῆς τῇ πολιτικῇ κοινωνίᾳ. προστάττει δ’ ὁ νόμος καὶ τὰ [20] τοῦ ἀνδρείου ἔργα ποιεῖν, οἷον μὴ λείπειν τὴν τάξιν μηδὲ φεύγειν μηδὲ ῥιπτεῖν τὰ ὅπλα, καὶ τὰ τοῦ σώφρονος, οἷον μὴ μοιχεύειν μηδ’ ὑβρίζειν, καὶ τὰ τοῦ πράου, οἷον μὴ τύπτειν μηδὲ κακηγορεῖν, ὁμοίως δὲ καὶ κατὰ τὰς ἄλλας ἀρετὰς καὶ μοχθηρίας τὰ μὲν κελεύων τὰ δ’ ἀπαγορεύων, ὀρθῶς [25] μὲν ὁ κείμενος ὀρθῶς, χεῖρον δ’ ὁ ἀπεσχεδιασμένος. αὕτη μὲν οὖν ἡ δικαιοσύνη ἀρετὴ μέν ἐστι τελεία, ἀλλ’ οὐχ ἁπλῶς ἀλλὰ πρὸς ἕτερον. καὶ διὰ τοῦτο πολλάκις κρατίστη τῶν ἀρετῶν εἶναι δοκεῖ ἡ δικαιοσύνη, καὶ οὔθ’ ἕσπερος οὔθ’ ἑῷος οὕτω θαυμαστός: καὶ παροιμιαζόμενοί φαμεν

[30] ἐν δὲ δικαιοσύνῃ συλλήβδην πᾶσ’ ἀρετὴ ἔνι

καὶ τελεία μάλιστα ἀρετή, ὅτι τῆς τελείας ἀρετῆς χρῆσίς ἐστιν. τελεία δ’ ἐστίν, ὅτι ὁ ἔχων αὐτὴν καὶ πρὸς ἕτερον δύναται τῇ ἀρετῇ χρῆσθαι, ἀλλ’ οὐ μόνον καθ’ αὑτόν: πολλοὶ γὰρ ἐν μὲν τοῖς οἰκείοις τῇ ἀρετῇ δύνανται χρῆσθαι, ἐν δὲ τοῖς πρὸς ἕτερον ἀδυνατοῦσιν.

1130a [1] καὶ διὰ τοῦτο εὖ δοκεῖ ἔχειν τὸ τοῦ Βίαντος, ὅτι ἀρχὴ ἄνδρα δείξει: πρὸς ἕτερον γὰρ καὶ ἐν κοινωνίᾳ ἤδη ὁ ἄρχων. διὰ δὲ τὸ αὐτὸ τοῦτο καὶ ἀλλότριον ἀγαθὸν δοκεῖ εἶναι ἡ δικαιοσύνη μόνη τῶν ἀρετῶν, ὅτι πρὸς ἕτερόν ἐστιν: ἄλλῳ [5] γὰρ τὰ συμφέροντα πράττει, ἢ ἄρχοντι ἢ κοινωνῷ. κάκιστος μὲν οὖν ὁ καὶ πρὸς αὑτὸν καὶ πρὸς τοὺς φίλους χρώμενος τῇ μοχθηρίᾳ, ἄριστος δ’ οὐχ ὁ πρὸς αὑτὸν τῇ ἀρετῇ ἀλλὰ πρὸς ἕτερον: τοῦτο γὰρ ἔργον χαλεπόν. αὕτη μὲν οὖν ἡ δικαιοσύνη οὐ μέρος ἀρετῆς ἀλλ’ ὅλη ἀρετή ἐστιν, οὐδ’ ἡ ἐναντία [10] ἀδικία μέρος κακίας ἀλλ’ ὅλη κακία. τί δὲ διαφέρει ἡ ἀρετὴ καὶ ἡ δικαιοσύνη αὕτη, δῆλον ἐκ τῶν εἰρημένων: ἔστι μὲν γὰρ ἡ αὐτή, τὸ δ’ εἶναι οὐ τὸ αὐτό, ἀλλ’ ᾗ μὲν πρὸς ἕτερον, δικαιοσύνη, ᾗ δὲ τοιάδε ἕξις ἁπλῶς, ἀρετή.

ζητοῦμεν δέ γε τὴν ἐν μέρει ἀρετῆς δικαιοσύνην: ἔστι [15] γάρ τις, ὡς φαμέν. ὁμοίως δὲ καὶ περὶ ἀδικίας τῆς κατὰ μέρος. σημεῖον δ’ ὅτι ἔστιν: κατὰ μὲν γὰρ τὰς ἄλλας μοχθηρίας ὁ ἐνεργῶν ἀδικεῖ μέν, πλεονεκτεῖ δ’ οὐδέν, οἷον ὁ ῥίψας τὴν ἀσπίδα διὰ δειλίαν ἢ κακῶς εἰπὼν διὰ χαλεπότητα ἢ οὐ βοηθήσας χρήμασι δι’ ἀνελευθερίαν: ὅταν δὲ [20] πλεονεκτῇ, πολλάκις κατ’ οὐδεμίαν τῶν τοιούτων, ἀλλὰ μὴν οὐδὲ κατὰ πάσας, κατὰ πονηρίαν δέ γε τινά ̔ψέγομεν γάῤ καὶ κατ’ ἀδικίαν. ἔστιν ἄρ’ ἄλλη τις ἀδικία ὡς μέρος τῆς ὅλης, καὶ ἄδικόν τι ἐν μέρει τοῦ ὅλου ἀδίκου τοῦ παρὰ τὸν νόμον. ἔτι εἰ ὃ μὲν τοῦ κερδαίνειν ἕνεκα μοιχεύει καὶ [25] προσλαμβάνων, ὃ δὲ προστιθεὶς καὶ ζημιούμενος δι’ ἐπιθυμίαν, οὗτος μὲν ἀκόλαστος δόξειεν ἂν εἶναι μᾶλλον ἢ πλεονέκτης, ἐκεῖνος δ’ ἄδικος, ἀκόλαστος δ’ οὔ: δῆλον ἄρα ὅτι διὰ τὸ κερδαίνειν. ἔτι περὶ μὲν τἆλλα πάντα ἀδικήματα γίνεται ἡ ἐπαναφορὰ ἐπί τινα μοχθηρίαν ἀεί, οἷον εἰ ἐμοίχευσεν, [30] ἐπ’ ἀκολασίαν, εἰ ἐγκατέλιπε τὸν παραστάτην, ἐπὶ δειλίαν, εἰ ἐπάταξεν, ἐπ’ ὀργήν: εἰ δ’ ἐκέρδανεν, ἐπ’ οὐδεμίαν μοχθηρίαν ἀλλ’ ἢ ἐπ’ ἀδικίαν. ὥστε φανερὸν ὅτι ἔστι τις ἀδικία παρὰ τὴν ὅλην ἄλλη ἐν μέρει, συνώνυμος, ὅτι ὁ ὁρισμὸς ἐν τῷ αὐτῷ γένει: 1130b [1] ἄμφω γὰρ ἐν τῷ πρὸς ἕτερον ἔχουσι τὴν δύναμιν, ἀλλ’ ἣ μὲν περὶ τιμὴν ἢ χρήματα ἢ σωτηρίαν, ἢ εἴ τινι ἔχοιμεν ἑνὶ ὀνόματι περιλαβεῖν ταῦτα πάντα, καὶ δι’ ἡδονὴν τὴν ἀπὸ τοῦ κέρδους, ἣ δὲ περὶ ἅπαντα περὶ ὅσα [5] ὁ σπουδαῖος.

ὅτι μὲν οὖν εἰσὶν αἱ δικαιοσύναι πλείους, καὶ ὅτι ἔστι τις καὶ ἑτέρα παρὰ τὴν ὅλην ἀρετήν, δῆλον: τίς δὲ καὶ ποία τις, ληπτέον. διώρισται δὴ τὸ ἄδικον τό τε παράνομον καὶ τὸ ἄνισον, τὸ δὲ δίκαιον τό τε νόμιμον καὶ τὸ ἴσον. κατὰ [10] μὲν οὖν τὸ παράνομον ἡ πρότερον εἰρημένη ἀδικία ἐστίν. ἐπεὶ δὲ τὸ ἄνισον καὶ τὸ παράνομον οὐ ταὐτὸν ἀλλ’ ἕτερον ὡς μέρος πρὸς ὅλον ̔τὸ μὲν γὰρ ἄνισον ἅπαν παράνομον, τὸ δὲ παράνομον οὐχ ἅπαν ἄνισον̓, καὶ τὸ ἄδικον καὶ ἡ ἀδικία οὐ ταὐτὰ ἀλλ’ ἕτερα ἐκείνων, τὰ μὲν ὡς μέρη τὰ δ’ ὡς ὅλα: μέρος γὰρ [15] αὕτη ἡ ἀδικία τῆς ὅλης ἀδικίας, ὁμοίως δὲ καὶ ἡ δικαιοσύνη τῆς δικαιοσύνης. ὥστε καὶ περὶ τῆς ἐν μέρει δικαιοσύνης καὶ περὶ τῆς ἐν μέρει ἀδικίας λεκτέον, καὶ τοῦ δικαίου καὶ ἀδίκου ὡσαύτως. ἡ μὲν οὖν κατὰ τὴν ὅλην ἀρετὴν τεταγμένη δικαιοσύνη καὶ ἀδικία, ἣ μὲν τῆς ὅλης ἀρετῆς [20] οὖσα χρῆσις πρὸς ἄλλον ἣ δὲ τῆς κακίας, ἀφείσθω. καὶ τὸ δίκαιον δὲ καὶ τὸ ἄδικον τὸ κατὰ ταύτας φανερὸν ὡς διοριστέον: σχεδὸν γὰρ τὰ πολλὰ τῶν νομίμων τὰ ἀπὸ τῆς ὅλης ἀρετῆς προσταττόμενά ἐστιν: καθ’ ἑκάστην γὰρ ἀρετὴν προστάττει ζῆν καὶ καθ’ ἑκάστην μοχθηρίαν κωλύει ὁ νόμος. [25] τὰ δὲ ποιητικὰ τῆς ὅλης ἀρετῆς ἐστὶ τῶν νομίμων ὅσα νενομοθέτηται περὶ παιδείαν τὴν πρὸς τὸ κοινόν. περὶ δὲ τῆς καθ’ ἕκαστον παιδείας, καθ’ ἣν ἁπλῶς ἀνὴρ ἀγαθός ἐστι, πότερον τῆς πολιτικῆς ἐστὶν ἢ ἑτέρας, ὕστερον διοριστέον: οὐ γὰρ ἴσως ταὐτὸν ἀνδρί τ’ ἀγαθῷ εἶναι καὶ πολίτῃ παντί. [30] τῆς δὲ κατὰ μέρος δικαιοσύνης καὶ τοῦ κατ’ αὐτὴν δικαίου ἓν μέν ἐστιν εἶδος τὸ ἐν ταῖς διανομαῖς τιμῆς ἢ χρημάτων ἢ τῶν ἄλλων ὅσα μεριστὰ τοῖς κοινωνοῦσι τῆς πολιτείας ῾ἐν τούτοις γὰρ ἔστι καὶ ἄνισον ἔχειν καὶ ἴσον ἕτερον ἑτέροὐ, 1131a [1] ἓν δὲ τὸ ἐν τοῖς συναλλάγμασι διορθωτικόν. τούτου δὲ μέρη δύο: τῶν γὰρ συναλλαγμάτων τὰ μὲν ἑκούσιά ἐστι τὰ δ’ ἀκούσια, ἑκούσια μὲν τὰ τοιάδε οἷον πρᾶσις ὠνὴ δανεισμὸς ἐγγύη χρῆσις παρακαταθήκη μίσθωσις ῾ἑκούσια δὲ λέγεται, [5] ὅτι ἡ ἀρχὴ τῶν συναλλαγμάτων τούτων ἑκούσιοσ̓, τῶν δ’ ἀκουσίων τὰ μὲν λαθραῖα, οἷον κλοπὴ μοιχεία φαρμακεία προαγωγεία δουλαπατία δολοφονία ψευδομαρτυρία, τὰ δὲ βίαια, οἷον αἰκία δεσμὸς θάνατος ἁρπαγὴ πήρωσις κακηγορία προπηλακισμός.

[10] ἐπεὶ δ’ ὅ τ’ ἄδικος ἄνισος καὶ τὸ ἄδικον ἄνισον, δῆλον ὅτι καὶ μέσον τι ἔστι τοῦ ἀνίσου. τοῦτο δ’ ἐστὶ τὸ ἴσον: ἐν ὁποίᾳ γὰρ πράξει ἔστι τὸ πλέον καὶ τὸ ἔλαττον, ἔστι καὶ τὸ ἴσον. εἰ οὖν τὸ ἄδικον ἄνισον, τὸ δίκαιον ἴσον: ὅπερ καὶ ἄνευ λόγου δοκεῖ πᾶσιν. ἐπεὶ δὲ τὸ ἴσον μέσον, τὸ δίκαιον μέσον τι ἂν [15] εἴη. ἔστι δὲ τὸ ἴσον ἐν ἐλαχίστοις δυσίν. ἀνάγκη τοίνυν τὸ δίκαιον μέσον τε καὶ ἴσον εἶναι καὶ πρός τι καὶ τισίν, καὶ ᾗ μὲν μέσον, τινῶν ῾ταῦτα δ’ ἐστὶ πλεῖον καὶ ἔλαττον̓, ᾗ δ’ ἴσον, δυοῖν, ᾗ δὲ δίκαιον, τισίν. ἀνάγκη ἄρα τὸ δίκαιον ἐν ἐλαχίστοις εἶναι τέτταρσιν: οἷς τε γὰρ δίκαιον τυγχάνει [20] ὄν, δύο ἐστί, καὶ ἐν οἷς, τὰ πράγματα, δύο. καὶ ἡ αὐτὴ ἔσται ἰσότης, οἷς καὶ ἐν οἷς: ὡς γὰρ ἐκεῖνα ἔχει, τὰ ἐν οἷς, οὕτω κἀκεῖνα ἔχει: εἰ γὰρ μὴ ἴσοι, οὐκ ἴσα ἕξουσιν, ἀλλ’ ἐντεῦθεν αἱ μάχαι καὶ τὰ ἐγκλήματα, ὅταν ἢ μὴ ἴσα ἴσοι ἢ μὴ ἴσοι ἴσα ἔχωσι καὶ νέμωνται. ἔτι ἐκ τοῦ κατ’ ἀξίαν [25] τοῦτο δῆλον: τὸ γὰρ δίκαιον ἐν ταῖς νομαῖς ὁμολογοῦσι πάντες κατ’ ἀξίαν τινὰ δεῖν εἶναι, τὴν μέντοι ἀξίαν οὐ τὴν αὐτὴν λέγουσι πάντες [ὑπάρχειν], ἀλλ’ οἱ μὲν δημοκρατικοὶ ἐλευθερίαν, οἱ δ’ ὀλιγαρχικοὶ πλοῦτον, οἳ δ’ εὐγένειαν, οἱ δ’ ἀριστοκρατικοὶ ἀρετήν. ἔστιν ἄρα τὸ δίκαιον ἀνάλογόν τι. [30] τὸ γὰρ ἀνάλογον οὐ μόνον ἐστὶ μοναδικοῦ ἀριθμοῦ ἴδιον, ἀλλ’ ὅλως ἀριθμοῦ: ἡ γὰρ

ἀναλογία ἰσότης ἐστὶ λόγων, καὶ ἐν τέτταρσιν ἐλαχίστοις. ἡ μὲν οὖν διῃρημένη ὅτι ἐν τέτταρσι, δῆλον. ἀλλὰ καὶ ἡ συνεχής: τῷ γὰρ ἑνὶ ὡς δυσὶ χρῆται καὶ δὶς λέγει, 1131b [1] οἷον ὡς ἡ τοῦ α πρὸς τὴν τοῦ β, οὕτως ἡ τοῦ β πρὸς τὴν τοῦ γ. δὶς οὖν ἡ τοῦ β εἴρηται: ὥστ’ ἐὰν ἡ τοῦ β τεθῇ δίς, τέτταρα ἔσται τὰ ἀνάλογα. ἔστι δὲ καὶ τὸ δίκαιον ἐν τέτταρσιν ἐλαχίστοις, καὶ ὁ λόγος ὁ αὐτός: [5] διῄρηται γὰρ ὁμοίως οἷς τε καὶ ἅ. ἔσται ἄρα ὡς ὁ α ὅρος πρὸς τὸν β, οὕτως ὁ γ πρὸς τὸν δ, καὶ ἐναλλὰξ ἄρα, ὡς ὁ α πρὸς τὸν γ, ὁ β πρὸς τὸν δ. ὥστε καὶ τὸ ὅλον πρὸς τὸ ὅλον: ὅπερ ἡ νομὴ συνδυάζει, κἂν οὕτω συντεθῇ, δικαίως συνδυάζει. ἡ ἄρα τοῦ α ὅρου τῷ γ καὶ ἡ τοῦ β τῷ δ σύζευξις [10] τὸ ἐν διανομῇ δίκαιόν ἐστι, καὶ μέσον τὸ δίκαιον τοῦτ’ ἐστί, τὸ παρὰ τὸ ἀνάλογον: τὸ γὰρ ἀνάλογον μέσον, τὸ δὲ δίκαιον ἀνάλογον. καλοῦσι δὲ τὴν τοιαύτην ἀναλογίαν γεωμετρικὴν οἱ μαθηματικοί: ἐν γὰρ τῇ γεωμετρικῇ συμβαίνει καὶ τὸ ὅλον πρὸς τὸ ὅλον ὅπερ ἑκάτερον πρὸς ἑκάτερον. [15] ἔστι δ’ οὐ συνεχὴς αὕτη ἡ ἀναλογία: οὐ γὰρ γίνεται εἷς ἀριθμῷ ὅρος, ᾧ καὶ ὅ. τὸ μὲν οὖν δίκαιον τοῦτο, τὸ ἀνάλογον: τὸ δ’ ἄδικον τὸ παρὰ τὸ ἀνάλογον. γίνεται ἄρα τὸ μὲν πλέον τὸ δ’ ἔλαττον, ὅπερ καὶ ἐπὶ τῶν ἔργων συμβαίνει: ὁ μὲν γὰρ ἀδικῶν πλέον ἔχει, ὁ δ’ ἀδικούμενος [20] ἔλαττον τοῦ ἀγαθοῦ. ἐπὶ δὲ τοῦ κακοῦ ἀνάπαλιν: ἐν ἀγαθοῦ γὰρ λόγῳ γίνεται τὸ ἔλαττον κακὸν πρὸς τὸ μεῖζον κακόν: ἔστι γὰρ τὸ ἔλαττον κακὸν μᾶλλον αἱρετὸν τοῦ μείζονος, τὸ δ’ αἱρετὸν ἀγαθόν, καὶ τὸ μᾶλλον μεῖζον. τὸ μὲν οὖν ἓν εἶδος τοῦ δικαίου τοῦτ’ ἐστίν.

[25] τὸ δὲ λοιπὸν ἓν τὸ διορθωτικόν, ὃ γίνεται ἐν τοῖς συναλλάγμασι καὶ τοῖς ἑκουσίοις καὶ τοῖς ἀκουσίοις. τοῦτο δὲ τὸ δίκαιον ἄλλο εἶδος ἔχει τοῦ πρότερον. τὸ μὲν γὰρ διανεμητικὸν δίκαιον τῶν κοινῶν ἀεὶ κατὰ τὴν ἀναλογίαν ἐστὶ τὴν εἰρημένην: καὶ γὰρ ἀπὸ χρημάτων κοινῶν ἐὰν γίνηται [30] ἡ διανομή, ἔσται κατὰ τὸν λόγον τὸν αὐτὸν ὅνπερ ἔχουσι πρὸς ἄλληλα τὰ εἰσενεχθέντα: καὶ τὸ ἄδικον τὸ ἀντικείμενον τῷ δικαίῳ τούτῳ τὸ παρὰ τὸ ἀνάλογόν ἐστιν. τὸ δ’ ἐν τοῖς συναλλάγμασι δίκαιον ἐστὶ μὲν ἴσον τι, καὶ τὸ ἄδικον ἄνισον, 1132a [1] ἀλλ’ οὐ κατὰ τὴν ἀναλογίαν ἐκείνην ἀλλὰ κατὰ τὴν ἀριθμητικήν. οὐδὲν γὰρ διαφέρει, εἰ ἐπιεικὴς φαῦλον ἀπεστέρησεν ἢ φαῦλος ἐπιεικῆ, οὐδ’ εἰ ἐμοίχευσεν ἐπιεικὴς ἢ φαῦλος: ἀλλὰ πρὸς τοῦ βλάβους τὴν διαφορὰν μόνον βλέπει [5] ὁ νόμος, καὶ χρῆται ὡς ἴσοις, εἰ ὃ μὲν ἀδικεῖ ὃ δ’ ἀδικεῖται, καὶ εἰ ἔβλαψεν ὃ δὲ βέβλαπται. ὥστε τὸ ἄδικον τοῦτο ἄνισον ὂν ἰσάζειν πειρᾶται ὁ δικαστής: καὶ γὰρ ὅταν ὃ μὲν πληγῇ ὃ δὲ πατάξῃ, ἢ καὶ κτείνῃ ὃ δ’ ἀποθάνῃ, διῄρηται τὸ πάθος καὶ ἡ πρᾶξις εἰς ἄνισα: ἀλλὰ

πειρᾶται τῇ [10] ζημίᾳ ἰσάζειν, ἀφαιρῶν τοῦ κέρδους. λέγεται γὰρ ὡς ἁπλῶς εἰπεῖν ἐπὶ τοῖς τοιούτοις, κἂν εἰ μή τισιν οἰκεῖον ὄνομα εἴη, τὸ κέρδος, οἷον τῷ πατάξαντι, καὶ ἡ ζημία τῷ παθόντι: ἀλλ' ὅταν γε μετρηθῇ τὸ πάθος, καλεῖται τὸ μὲν ζημία τὸ δὲ κέρδος. ὥστε τοῦ μὲν πλείονος καὶ ἐλάττονος τὸ ἴσον [15] μέσον, τὸ δὲ κέρδος καὶ ἡ ζημία τὸ μὲν πλέον τὸ δ' ἔλαττον ἐναντίως, τὸ μὲν τοῦ ἀγαθοῦ πλέον τοῦ κακοῦ δ' ἔλαττον κέρδος, τὸ δ' ἐναντίον ζημία: ὧν ἦν μέσον τὸ ἴσον, ὃ λέγομεν εἶναι δίκαιον: ὥστε τὸ ἐπανορθωτικὸν δίκαιον ἂν εἴη τὸ μέσον ζημίας καὶ κέρδους. διὸ καὶ ὅταν ἀμφισβητῶσιν, [20] ἐπὶ τὸν δικαστὴν καταφεύγουσιν: τὸ δ' ἐπὶ τὸν δικαστὴν ἰέναι ἰέναι ἐστὶν ἐπὶ τὸ δίκαιον: ὁ γὰρ δικαστὴς βούλεται εἶναι οἷον δίκαιον ἔμψυχον: καὶ ζητοῦσι δικαστὴν μέσον, καὶ καλοῦσιν ἔνιοι μεσιδίους, ὡς ἐὰν τοῦ μέσου τύχωσι, τοῦ δικαίου τευξόμενοι. μέσον ἄρα τι τὸ δίκαιον, εἴπερ καὶ ὁ δικαστής. ὁ δὲ [25] δικαστὴς ἐπανισοῖ, καὶ ὥσπερ γραμμῆς εἰς ἄνισα τετμημένης, ᾧ τὸ μεῖζον τμῆμα τῆς ἡμισείας ὑπερέχει, τοῦτ' ἀφεῖλε καὶ τῷ ἐλάττονι τμήματι προσέθηκεν. ὅταν δὲ δίχα διαιρεθῇ τὸ ὅλον, τότε φασὶν ἔχειν τὸ αὑτοῦ ὅταν λάβωσι τὸ ἴσον. τὸ δ' ἴσον μέσον ἐστὶ τῆς μείζονος καὶ [30] ἐλάττονος κατὰ τὴν ἀριθμητικὴν ἀναλογίαν. διὰ τοῦτο καὶ ὀνομάζεται δίκαιον, ὅτι δίχα ἐστίν, ὥσπερ ἂν εἴ τις εἴποι δίχαιον, καὶ ὁ δικαστὴς διχαστής. ἐπὰν γὰρ δύο ἴσων ἀφαιρεθῇ ἀπὸ θατέρου, πρὸς θάτερον δὲ προστεθῇ, δυσὶ τούτοις ὑπερέχει θάτερον: εἰ γὰρ ἀφῃρέθη μέν, μὴ προσετέθη δέ, ἑνὶ ἂν μόνον ὑπερεῖχεν.

1132b [1] τοῦ μέσου ἄρα ἑνί, καὶ τὸ μέσον, ἀφ' οὗ ἀφῃρέθη, ἑνί. τούτῳ ἄρα γνωριοῦμεν τί τε ἀφελεῖν δεῖ ἀπὸ τοῦ πλέον ἔχοντος, καὶ τί προσθεῖναι τῷ ἔλαττον ἔχοντι: ᾧ μὲν γὰρ τὸ μέσον ὑπερέχει, τοῦτο προσθεῖναι [5] δεῖ τῷ ἔλαττον ἔχοντι, ᾧ δ' ὑπερέχεται, ἀφελεῖν ἀπὸ τοῦ μεγίστου. ἴσαι αἱ ἐφ' ὧν αα ββ γγ ἀλλήλαις: ἀπὸ τῆς αα ἀφῃρήσθω τὸ αε, καὶ προσκείσθω τῇ γγ τὸ ἐφ' ᾧ γδ, ὥστε ὅλη ἡ δγγ τῆς εα ὑπερέχει τῷ γδ καὶ τῷ γζ: τῆς ἄρα ββ τῷ γδ. [ἔστι δὲ τοῦτο καὶ ἐπὶ τῶν ἄλλων τεχνῶν: [10] ἀνῃροῦντο γὰρ ἄν, εἰ μὴ ἐποίει τὸ ποιοῦν καὶ ὅσον καὶ οἷον, καὶ τὸ πάσχον ἔπασχε τοῦτο καὶ τοσοῦτον καὶ τοιοῦτον.] ἐλήλυθε δὲ τὰ ὀνόματα ταῦτα, ἥ τε ζημία καὶ τὸ κέρδος, ἐκ τῆς ἑκουσίου ἀλλαγῆς: τὸ μὲν γὰρ πλέον ἔχειν ἢ τὰ αὑτοῦ κερδαίνειν λέγεται, τὸ δ' ἔλαττον τῶν ἐξ ἀρχῆς ζημιοῦσθαι, [15] οἷον ἐν τῷ ὠνεῖσθαι καὶ πωλεῖν καὶ ἐν ὅσοις ἄλλοις ἄδειαν δέδωκεν ὁ νόμος: ὅταν δὲ μήτε πλέον μήτ' ἔλαττον ἀλλ' αὐτὰ δι' αὐτῶν γένηται, τὰ αὑτῶν φασὶν ἔχειν καὶ οὔτε ζημιοῦσθαι οὔτε κερδαίνειν. ὥστε κέρδους τινὸς καὶ ζημίας μέσον τὸ δίκαιόν ἐστι τῶν παρὰ τὸ ἑκούσιον, τὸ ἴσον ἔχειν [20] καὶ πρότερον καὶ ὕστερον.

δοκεῖ δέ τισι καὶ τὸ ἀντιπεπονθὸς εἶναι ἁπλῶς δίκαιον, ὥσπερ οἱ Πυθαγόρειοι ἔφασαν: ὡρίζοντο γὰρ ἁπλῶς τὸ δίκαιον τὸ ἀντιπεπονθὸς ἄλλῳ. τὸ δ’ ἀντιπεπονθὸς οὐκ ἐφαρμόττει οὔτ’ ἐπὶ τὸ νεμητικὸν δίκαιον οὔτ’ ἐπὶ τὸ διορθωτικόν — καίτοι [25] βούλονταί γε τοῦτο λέγειν καὶ τὸ Ῥαδαμάνθυος δίκαιον:

εἴ κε πάθοι τά τ’ ἔρεξε, δίκη κ’ ἰθεῖα γένοιτο

— πολλαχοῦ γὰρ διαφωνεῖ: οἷον εἰ ἀρχὴν ἔχων ἐπάταξεν, οὐ δεῖ ἀντιπληγῆναι, καὶ εἰ ἄρχοντα ἐπάταξεν, οὐ πληγῆναι [30] μόνον δεῖ ἀλλὰ καὶ κολασθῆναι. ἔτι τὸ ἑκούσιον καὶ τὸ ἀκούσιον διαφέρει πολύ. ἀλλ’ ἐν μὲν ταῖς κοινωνίαις ταῖς ἀλλακτικαῖς συνέχει τὸ τοιοῦτον δίκαιον, τὸ ἀντιπεπονθὸς κατ’ ἀναλογίαν καὶ μὴ κατ’ ἰσότητα. τῷ ἀντιποιεῖν γὰρ ἀνάλογον συμμένει ἡ πόλις. ἢ γὰρ τὸ κακῶς ζητοῦσιν: 1133a [1] εἰ δὲ μή, δουλεία δοκεῖ εἶναι [εἰ μὴ ἀντιποιήσει]: ἢ τὸ εὖ: εἰ δὲ μή, μετάδοσις οὐ γίνεται, τῇ μεταδόσει δὲ συμμένουσιν. διὸ καὶ Χαρίτων ἱερὸν ἐμποδὼν ποιοῦνται, ἵν’ ἀνταπόδοσις ᾖ: τοῦτο γὰρ ἴδιον χάριτος: ἀνθυπηρετῆσαι γὰρ δεῖ τῷ [5] χαρισαμένῳ, καὶ πάλιν αὐτὸν ἄρξαι χαριζόμενον. ποιεῖ δὲ τὴν ἀντίδοσιν τὴν κατ’ ἀναλογίαν ἡ κατὰ διάμετρον σύζευξις. οἰκοδόμος ἐφ’ ᾧ α, σκυτοτόμος ἐφ’ ᾧ β, οἰκία ἐφ’ ᾧ γ, ὑπόδημα ἐφ’ ᾧ δ. δεῖ οὖν λαμβάνειν τὸν οἰκοδόμον παρὰ τοῦ σκυτοτόμου τὸ ἐκείνου ἔργον, καὶ αὐτὸν [10] ἐκείνῳ μεταδιδόναι τὸ αὑτοῦ. ἐὰν οὖν πρῶτον ᾖ τὸ κατὰ τὴν ἀναλογίαν ἴσον, εἶτα τὸ ἀντιπεπονθὸς γένηται, ἔσται τὸ λεγόμενον. εἰ δὲ μή, οὐκ ἴσον, οὐδὲ συμμένει: οὐθὲν γὰρ κωλύει κρεῖττον εἶναι τὸ θατέρου ἔργον ἢ τὸ θατέρου: δεῖ οὖν ταῦτα ἰσασθῆναι. ἔστι δὲ τοῦτο καὶ ἐπὶ τῶν ἄλλων τεχνῶν: ἀνῃροῦντο [15] γὰρ ἄν, εἰ μὴ ἐποίει τὸ ποιοῦν καὶ ὅσον καὶ οἷον, καὶ τὸ πάσχον ἔπασχε τοῦτο καὶ τοσοῦτον καὶ τοιοῦτον. οὐ γὰρ ἐκ δύο ἰατρῶν γίνεται κοινωνία, ἀλλ’ ἐξ ἰατροῦ καὶ γεωργοῦ, καὶ ὅλως ἑτέρων καὶ οὐκ ἴσων: ἀλλὰ τούτους δεῖ ἰσασθῆναι. διὸ πάντα συμβλητὰ δεῖ πως εἶναι, ὧν ἐστὶν ἀλλαγή. [20] ἐφ’ ὃ τὸ νόμισμ’ ἐλήλυθε, καὶ γίνεταί πως μέσον: πάντα γὰρ μετρεῖ, ὥστε καὶ τὴν ὑπεροχὴν καὶ τὴν ἔλλειψιν, πόσα ἄττα δὴ ὑποδήματ’ ἴσον οἰκίᾳ ἢ τροφῇ. δεῖ τοίνυν ὅπερ οἰκοδόμος πρὸς σκυτοτόμον, τοσαδὶ ὑποδήματα πρὸς οἰκίαν ἢ τροφήν. εἰ γὰρ μὴ τοῦτο, οὐκ ἔσται ἀλλαγὴ οὐδὲ κοινωνία. [25] τοῦτο δ’, εἰ μὴ ἴσα εἴη πως, οὐκ ἔσται. δεῖ ἄρα ἑνί τινι πάντα μετρεῖσθαι, ὥσπερ ἐλέχθη πρότερον. τοῦτο δ’ ἐστὶ τῇ μὲν ἀληθείᾳ ἡ χρεία, ἣ πάντα συνέχει: εἰ γὰρ μηθὲν δέοιντο ἢ μὴ ὁμοίως, ἢ οὐκ ἔσται ἀλλαγὴ ἢ οὐχ ἡ αὐτή: οἷον δ’ ὑπάλλαγμα τῆς χρείας τὸ νόμισμα γέγονε κατὰ συνθήκην: [30] καὶ διὰ τοῦτο τοὔνομα ἔχει νόμισμα, ὅτι οὐ φύσει ἀλλὰ νόμῳ ἐστί, καὶ ἐφ’ ἡμῖν μεταβαλεῖν καὶ ποιῆσαι ἄχρηστον. ἔσται δὴ ἀντιπεπονθός, ὅταν ἰσασθῇ, ὥστε ὅπερ γεωργὸς πρὸς σκυτοτόμον, τὸ ἔργον τὸ τοῦ σκυτοτόμου πρὸς τὸ τοῦ γεωργοῦ.

1133b [1] εἰς σχῆμα δ’ ἀναλογίας οὐ δεῖ ἄγειν, ὅταν ἀλλάξωνται ̔εἰ δὲ μή, ἀμφοτέρας ἕξει τὰς ὑπεροχὰς τὸ ἕτερον ἄκρον̓, ἀλλ’ ὅταν ἔχωσι τὰ αὑτῶν. οὕτως ἴσοι καὶ κοινωνοί, ὅτι αὕτη ἡ ἰσότης δύναται ἐπ’ αὐτῶν γίνεσθαι. γεωργὸς α, τροφὴ γ, [5] σκυτοτόμος β, τὸ ἔργον αὐτοῦ τὸ ἰσασμένον δ. εἰ δ’ οὕτω μὴ ἦν ἀντιπεπονθέναι, οὐκ ἂν ἦν κοινωνία. ὅτι δ’ ἡ χρεία συνέχει ὥσπερ ἕν τι ὄν, δηλοῖ ὅτι ὅταν μὴ ἐν χρείᾳ ὦσιν ἀλλήλων, ἢ ἀμφότεροι ἢ ἅτερος, οὐκ ἀλλάττονται, †ὥσπερ ὅταν οὗ ἔχει αὐτὸς δέηταί τις, οἷον οἴνου, διδόντες σίτου ἐξαγωγήν.† [10] δεῖ ἄρα τοῦτο ἰσασθῆναι. ὑπὲρ δὲ τῆς μελλούσης ἀλλαγῆς, εἰ νῦν μηδὲν δεῖται, ὅτι ἔσται ἂν δεηθῇ, τὸ νόμισμα οἷον ἐγγυητής ἐσθ’ ἡμῖν: δεῖ γὰρ τοῦτο φέροντι εἶναι λαβεῖν. πάσχει μὲν οὖν καὶ τοῦτο τὸ αὐτό: οὐ γὰρ ἀεὶ ἴσον δύναται: ὅμως δὲ βούλεται μένειν μᾶλλον. διὸ δεῖ πάντα [15] τετιμῆσθαι: οὕτω γὰρ ἀεὶ ἔσται ἀλλαγή, εἰ δὲ τοῦτο, κοινωνία. τὸ δὴ νόμισμα ὥσπερ μέτρον σύμμετρα ποιῆσαν ἰσάζει: οὔτε γὰρ ἂν μὴ οὔσης ἀλλαγῆς κοινωνία ἦν, οὔτ’ ἀλλαγὴ ἰσότητος μὴ οὔσης, οὔτ’ ἰσότης μὴ οὔσης συμμετρίας. τῇ μὲν οὖν ἀληθείᾳ ἀδύνατον τὰ τοσοῦτον διαφέροντα σύμμετρα [20] γενέσθαι, πρὸς δὲ τὴν χρείαν ἐνδέχεται ἱκανῶς. ἓν δή τι δεῖ εἶναι, τοῦτο δ’ ἐξ ὑποθέσεως: διὸ νόμισμα καλεῖται: τοῦτο γὰρ πάντα ποιεῖ σύμμετρα: μετρεῖται γὰρ πάντα νομίσματι. οἰκία α, μναῖ δέκα β, κλίνη γ. τὸ α τοῦ β ἥμισυ, εἰ πέντε μνῶν ἀξία ἡ οἰκία, ἢ ἴσον: ἡ δὲ κλίνη δέκατον [25] μέρος, τὸ γ τοῦ β: δῆλον τοίνυν πόσαι κλῖναι ἴσον οἰκίᾳ, ὅτι πέντε. ὅτι δ’ οὕτως ἡ ἀλλαγὴ ἦν πρὶν τὸ νόμισμα εἶναι, δῆλον: διαφέρει γὰρ οὐδὲν ἢ κλῖναι πέντε ἀντὶ οἰκίας, ἢ ὅσου αἱ πέντε κλῖναι.

τί μὲν οὖν τὸ ἄδικον καὶ τί τὸ δίκαιόν ἐστιν, εἴρηται. [30] διωρισμένων δὲ τούτων δῆλον ὅτι ἡ δικαιοπραγία μέσον ἐστὶ τοῦ ἀδικεῖν καὶ ἀδικεῖσθαι: τὸ μὲν γὰρ πλέον ἔχειν τὸ δ’ ἔλαττόν ἐστιν. ἡ δὲ δικαιοσύνη μεσότης τίς ἐστιν, οὐ τὸν αὐτὸν δὲ τρόπον ταῖς ἄλλαις ἀρεταῖς, ἀλλ’ ὅτι μέσου ἐστίν: ἡ δ’ ἀδικία τῶν ἀκρων.

1134a [1] καὶ ἡ μὲν δικαιοσύνη ἐστὶ καθ’ ἣν ὁ δίκαιος λέγεται πρακτικὸς κατὰ προαίρεσιν τοῦ δικαίου, καὶ διανεμητικὸς καὶ αὑτῷ πρὸς ἄλλον καὶ ἑτέρῳ πρὸς ἕτερον οὐχ οὕτως ὥστε τοῦ μὲν αἱρετοῦ πλέον αὑτῷ ἔλαττον δὲ τῷ [5] πλησίον, τοῦ βλαβεροῦ δ’ ἀνάπαλιν, ἀλλὰ τοῦ ἴσου τοῦ κατ’ ἀναλογίαν, ὁμοίως δὲ καὶ ἄλλῳ πρὸς ἄλλον. ἡ δ’ ἀδικία τοὐναντίον τοῦ ἀδίκου. τοῦτο δ’ ἐστὶν ὑπερβολὴ καὶ ἔλλειψις τοῦ ὠφελίμου ἢ βλαβεροῦ παρὰ τὸ ἀνάλογον. διὸ ὑπερβολὴ καὶ ἔλλειψις ἡ ἀδικία, ὅτι ὑπερβολῆς καὶ ἐλλείψεώς ἐστιν, ἐφ’ [10] αὑτοῦ μὲν ὑπερβολῆς μὲν τοῦ ἁπλῶς ὠφελίμου, ἐλλείψεως δὲ τοῦ βλαβεροῦ: ἐπὶ δὲ τῶν ἄλλων τὸ μὲν ὅλον ὁμοίως, τὸ δὲ παρὰ τὸ ἀνάλογον, ὁποτέρως ἔτυχεν. τοῦ δὲ ἀδικήματος τὸ μὲν ἔλαττον ἀδικεῖσθαί ἐστι, τὸ δὲ μεῖζον τὸ ἀδικεῖν. περὶ μὲν οὖν δικαιοσύνης καὶ ἀδικίας, τίς ἑκατέρας ἐστὶν [15] ἡ φύσις, εἰρήσθω τοῦτον τὸν τρόπον, ὁμοίως δὲ καὶ περὶ δικαίου καὶ ἀδίκου καθόλου.

ἐπεὶ δ’ ἔστιν ἀδικοῦντα μήπω ἄδικον εἶναι, ὁ ποῖα ἀδικήματα ἀδικῶν ἤδη ἄδικός ἐστιν ἑκάστην ἀδικίαν, οἷον κλέπτης ἢ μοιχὸς ἢ λῃστής; ἢ οὕτω μὲν οὐδὲν διοίσει; καὶ γὰρ [20] ἂν συγγένοιτο γυναικὶ εἰδὼς τὸ ᾗ, ἀλλ’ οὐ διὰ προαιρέσεως ἀρχὴν ἀλλὰ διὰ πάθος. ἀδικεῖ μὲν οὖν, ἄδικος δ’ οὐκ ἔστιν, οἷον οὐ κλέπτης, ἔκλεψε δέ, οὐδὲ μοιχός, ἐμοίχευσε δέ: ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. πῶς μὲν οὖν ἔχει τὸ ἀντιπεπονθὸς πρὸς τὸ δίκαιον, εἴρηται πρότερον: δεῖ δὲ μὴ λανθάνειν [25] ὅτι τὸ ζητούμενόν ἐστι καὶ τὸ ἁπλῶς δίκαιον καὶ τὸ πολιτικὸν δίκαιον. τοῦτο δ’ ἔστιν ἐπὶ κοινωνῶν βίου πρὸς τὸ εἶναι αὐτάρκειαν, ἐλευθέρων καὶ ἴσων ἢ κατ’ ἀναλογίαν ἢ κατ’ ἀριθμόν: ὥστε ὅσοις μή ἐστι τοῦτο, οὐκ ἔστι τούτοις πρὸς ἀλλήλους τὸ πολιτικὸν δίκαιον, ἀλλά τι δίκαιον καὶ καθ’ [30] ὁμοιότητα. ἔστι γὰρ δίκαιον, οἷς καὶ νόμος πρὸς αὑτούς: νόμος δ’, ἐν οἷς ἀδικία: ἡ γὰρ δίκη κρίσις τοῦ δικαίου καὶ τοῦ ἀδίκου. ἐν οἷς δ’ ἀδικία, καὶ τὸ ἀδικεῖν ἐν τούτοις ˙ἐν οἷς δὲ τὸ ἀδικεῖν, οὐ πᾶσιν ἀδικίἀ, τοῦτο δ’ ἐστὶ τὸ πλέον αὑτῷ νέμειν τῶν ἁπλῶς ἀγαθῶν, ἔλαττον δὲ τῶν ἁπλῶς κακῶν. [35] διὸ οὐκ ἐῶμεν ἄρχειν ἄνθρωπον, ἀλλὰ τὸν λόγον, ὅτι ἑαυτῷ τοῦτο ποιεῖ

1134a [1] καὶ ἡ μὲν δικαιοσύνη ἐστὶ καθ’ ἣν ὁ δίκαιος λέγεται πρακτικὸς κατὰ προαίρεσιν τοῦ δικαίου, καὶ διανεμητικὸς καὶ αὑτῷ πρὸς ἄλλον καὶ ἑτέρῳ πρὸς ἕτερον οὐχ οὕτως ὥστε τοῦ μὲν αἱρετοῦ πλέον αὑτῷ ἔλαττον δὲ τῷ [5] πλησίον, τοῦ βλαβεροῦ δ’ ἀνάπαλιν, ἀλλὰ τοῦ ἴσου τοῦ κατ’

ἀναλογίαν, ὁμοίως δὲ καὶ ἄλλῳ πρὸς ἄλλον. ἡ δ’ ἀδικία τοὐναντίον τοῦ ἀδίκου. τοῦτο δ’ ἐστὶν ὑπερβολὴ καὶ ἔλλειψις τοῦ ὠφελίμου ἢ βλαβεροῦ παρὰ τὸ ἀνάλογον. διὸ ὑπερβολὴ καὶ ἔλλειψις ἡ ἀδικία, ὅτι ὑπερβολῆς καὶ ἐλλείψεώς ἐστιν, ἐφ’ [10] αὑτοῦ μὲν ὑπερβολῆς μὲν τοῦ ἁπλῶς ὠφελίμου, ἐλλείψεως δὲ τοῦ βλαβεροῦ: ἐπὶ δὲ τῶν ἄλλων τὸ μὲν ὅλον ὁμοίως, τὸ δὲ παρὰ τὸ ἀνάλογον, ὁποτέρως ἔτυχεν. τοῦ δὲ ἀδικήματος τὸ μὲν ἔλαττον ἀδικεῖσθαί ἐστι, τὸ δὲ μεῖζον τὸ ἀδικεῖν. περὶ μὲν οὖν δικαιοσύνης καὶ ἀδικίας, τίς ἑκατέρας ἐστὶν [15] ἡ φύσις, εἰρήσθω τοῦτον τὸν τρόπον, ὁμοίως δὲ καὶ περὶ δικαίου καὶ ἀδίκου καθόλου.

ἐπεὶ δ’ ἔστιν ἀδικοῦντα μήπω ἄδικον εἶναι, ὁ ποῖα ἀδικήματα ἀδικῶν ἤδη ἄδικός ἐστιν ἑκάστην ἀδικίαν, οἷον κλέπτης ἢ μοιχὸς ἢ λῃστής; ἢ οὕτω μὲν οὐδὲν διοίσει; καὶ γὰρ [20] ἂν συγγένοιτο γυναικὶ εἰδὼς τὸ ᾗ, ἀλλ’ οὐ διὰ προαιρέσεως ἀρχὴν ἀλλὰ διὰ πάθος. ἀδικεῖ μὲν οὖν, ἄδικος δ’ οὐκ ἔστιν, οἷον οὐ κλέπτης, ἔκλεψε δέ, οὐδὲ μοιχός, ἐμοίχευσε δέ: ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. πῶς μὲν οὖν ἔχει τὸ ἀντιπεπονθὸς πρὸς τὸ δίκαιον, εἴρηται πρότερον: δεῖ δὲ μὴ λανθάνειν [25] ὅτι τὸ ζητούμενόν ἐστι καὶ τὸ ἁπλῶς δίκαιον καὶ τὸ πολιτικὸν δίκαιον. τοῦτο δ’ ἔστιν ἐπὶ κοινωνῶν βίου πρὸς τὸ εἶναι αὐτάρκειαν, ἐλευθέρων καὶ ἴσων ἢ κατ’ ἀναλογίαν ἢ κατ’ ἀριθμόν: ὥστε ὅσοις μή ἐστι τοῦτο, οὐκ ἔστι τούτοις πρὸς ἀλλήλους τὸ πολιτικὸν δίκαιον, ἀλλά τι δίκαιον καὶ καθ’ [30] ὁμοιότητα. ἔστι γὰρ δίκαιον, οἷς καὶ νόμος πρὸς αὐτούς: νόμος δ’, ἐν οἷς ἀδικία: ἡ γὰρ δίκη κρίσις τοῦ δικαίου καὶ τοῦ ἀδίκου. ἐν οἷς δ’ ἀδικία, καὶ τὸ ἀδικεῖν ἐν τούτοις ̔ἐν οἷς δὲ τὸ ἀδικεῖν, οὐ πᾶσιν ἀδικίἀ, τοῦτο δ’ ἐστὶ τὸ πλέον αὑτῷ νέμειν τῶν ἁπλῶς ἀγαθῶν, ἔλαττον δὲ τῶν ἁπλῶς κακῶν. [35] διὸ οὐκ ἐῶμεν ἄρχειν ἄνθρωπον, ἀλλὰ τὸν λόγον, ὅτι ἑαυτῷ τοῦτο ποιεῖ 1135a [1] ὅμοιά ἐστι τοῖς μέτροις: οὐ γὰρ πανταχοῦ ἴσα τὰ οἰνηρὰ καὶ σιτηρὰ μέτρα, ἀλλ’ οὗ μὲν ὠνοῦνται, μείζω, οὗ δὲ πωλοῦσιν, ἐλάττω. ὁμοίως δὲ καὶ τὰ μὴ φυσικὰ ἀλλ’ ἀνθρώπινα δίκαια οὐ ταὐτὰ πανταχοῦ, ἐπεὶ οὐδ’ αἱ πολιτεῖαι, [5] ἀλλὰ μία μόνον πανταχοῦ κατὰ φύσιν ἡ ἀρίστη. τῶν δὲ δικαίων καὶ νομίμων ἕκαστον ὡς τὰ καθόλου πρὸς τὰ καθ’ ἕκαστα ἔχει: τὰ μὲν γὰρ πραττόμενα πολλά, ἐκείνων δ’ ἕκαστον ἕν: καθόλου γάρ. διαφέρει δὲ τὸ ἀδίκημα καὶ τὸ ἄδικον καὶ τὸ δικαίωμα καὶ τὸ δίκαιον: ἄδικον μὲν γάρ [10] ἐστι τῇ φύσει ἢ τάξει: αὐτὸ δὲ τοῦτο, ὅταν πραχθῇ, ἀδίκημά ἐστι, πρὶν δὲ πραχθῆναι, οὔπω, ἀλλ’ ἄδικον. ὁμοίως δὲ καὶ δικαίωμα: καλεῖται δὲ μᾶλλον δικαιοπράγημα τὸ κοινόν, δικαίωμα δὲ τὸ ἐπανόρθωμα τοῦ ἀδικήματος. καθ’ ἕκαστον δὲ αὐτῶν, ποῖά τε εἴδη καὶ πόσα καὶ περὶ ποῖα [15] τυγχάνει ὄντα, ὕστερον ἐπισκεπτέον. ὄντων δὲ τῶν δικαίων καὶ ἀδίκων τῶν εἰρημένων, ἀδικεῖ μὲν καὶ δικαιοπραγεῖ ὅταν ἑκὼν τις αὐτὰ πράττῃ: ὅταν δ’ ἄκων, οὔτ’ ἀδικεῖ οὔτε δικαιοπραγεῖ ἀλλ’ ἢ κατὰ συμβεβηκός: οἷς γὰρ συμβέβηκε δικαίοις εἶναι ἢ ἀδίκοις, πράττουσιν. ἀδίκημα δὲ καὶ [20] δικαιοπράγημα ὥρισται τῷ ἑκουσίῳ καὶ ἀκουσίῳ: ὅταν γὰρ ἑκούσιον ᾖ, ψέγεται, ἅμα δὲ καὶ ἀδίκημα τότ’ ἐστίν: ὥστ’ ἔσται τι ἄδικον μὲν ἀδίκημα δ’ οὔπω, ἂν μὴ τὸ ἑκούσιον προσῇ. λέγω δ’ ἑκούσιον μέν, ὥσπερ καὶ πρότερον εἴρηται, ὃ ἄν τις τῶν ἐφ’ αὑτῷ ὄντων εἰδὼς καὶ μὴ ἀγνοῶν πράττῃ [25] μήτε ὃν μήτε ᾧ μήτε οὗ , οἷον τίνα τύπτει καὶ τίνι καὶ τίνος ἕνεκα, κἀκείνων ἕκαστον μὴ κατὰ συμβεβηκὸς μηδὲ βίᾳ῾ὥσπερ εἴ τις λαβὼν τὴν χεῖρα αὐτοῦ τύπτοι ἕτερον, οὐχ ἑκών: οὐ γὰρ ἐπ’ αὐτῷ̓: ἐνδέχεται δὲ τὸν τυπτόμενον πατέρα εἶναι, τὸν δ’ ὅτι μὲν ἄνθρωπος ἢ τῶν παρόντων τις [30] γινώσκειν, ὅτι δὲ πατὴρ ἀγνοεῖν: ὁμοίως δὲ τὸ τοιοῦτον διωρίσθω καὶ ἐπὶ τοῦ οὗ ἕνεκα, καὶ περὶ τὴν πρᾶξιν ὅλην. τὸ δὴ ἀγνοούμενον, ἢ μὴ ἀγνοούμενον μὲν μὴ ἐπ’ αὐτῷ δ’ ὄν, ἢ βίᾳ, ἀκούσιον. πολλὰ γὰρ καὶ τῶν φύσει ὑπαρχόντων 1135b [1] εἰδότες καὶ πράττομεν καὶ πάσχομεν, ὧν οὐθὲν οὔθ’ ἑκούσιον οὔτ’ ἀκούσιόν ἐστιν, οἷον τὸ γηρᾶν ἢ ἀποθνῄσκειν. ἔστι δ’ ὁμοίως ἐπὶ τῶν ἀδίκων καὶ τῶν δικαίων καὶ τὸ κατὰ συμβεβηκός: καὶ γὰρ ἂν τὴν παρακαταθήκην ἀποδοίη τις ἄκων καὶ διὰ [5] φόβον, ὃν οὔτε δίκαια πράττειν οὔτε δικαιοπραγεῖν φατέον ἀλλ’ ἢ κατὰ συμβεβηκός. ὁμοίως δὲ καὶ τὸν ἀναγκαζόμενον καὶ ἄκοντα τὴν παρακαταθήκην μὴ ἀποδιδόντα κατὰ συμβεβηκὸς φατέον ἀδικεῖν καὶ τὰ ἄδικα πράττειν. τῶν δὲ ἑκουσίων τὰ μὲν προελόμενοι πράττομεν τὰ δ’ οὐ προελόμενοι, [10] προελόμενοι μὲν ὅσα προβουλευσάμενοι, ἀπροαίρετα δὲ ὅσ’ ἀπροβούλευτα. τριῶν δὴ οὐσῶν βλαβῶν τῶν ἐν ταῖς κοινωνίαις, τὰ μὲν μετ’ ἀγνοίας ἁμαρτήματά ἐστιν, ὅταν μήτε ὃν μήτε ὃ μήτε ᾧ μήτε οὗ ἕνεκα ὑπέλαβε πράξῃ: ἢ γὰρ οὐ βάλλειν ἢ οὐ τούτῳ ἢ οὐ τοῦτον ἢ οὐ τούτου ἕνεκα ᾠήθη, [15] ἀλλὰ συνέβη οὐχ οὗ ἕνεκα ᾠήθη, οἷον οὐχ ἵνα τρώσῃ ἀλλ’ ἵνα κεντήσῃ, ἢ οὐχ ὅν, ἢ οὐχ ᾧ. ὅταν μὲν οὖν παραλόγως ἡ βλάβη γένηται, ἀτύχημα: ὅταν δὲ μὴ παραλόγως, ἄνευ δὲ κακίας, ἁμάρτημα῾ἁμαρτάνει μὲν γὰρ ὅταν ἡ ἀρχὴ ἐν αὐτῷ ᾖ τῆς αἰτίας, ἀτυχεῖ δ’ ὅταν ἔξωθεν̓: ὅταν δὲ [20] εἰδὼς μὲν μὴ προβουλεύσας δέ, ἀδίκημα, οἷον ὅσα τε διὰ θυμὸν καὶ ἄλλα πάθη, ὅσα ἀναγκαῖα ἢ φυσικὰ συμβαίνει τοῖς ἀνθρώποις: ταῦτα γὰρ βλάπτοντες καὶ ἁμαρτάνοντες ἀδικοῦσι μέν, καὶ ἀδικήματά ἐστιν, οὐ μέντοι πω ἄδικοι διὰ ταῦτα οὐδὲ πονηροί: οὐ γὰρ διὰ μοχθηρίαν ἡ βλάβη: [25] ὅταν δ’ ἐκ προαιρέσεως, ἄδικος καὶ μοχθηρός. διὸ καλῶς τὰ ἐκ θυμοῦ οὐκ ἐκ προνοίας κρίνεται: οὐ γὰρ ἄρχει ὁ θυμῷ ποιῶν, ἀλλ’ ὁ ὀργίσας. ἔτι δὲ οὐδὲ περὶ τοῦ γενέσθαι ἢ μὴ ἀμφισβητεῖται, ἀλλὰ περὶ τοῦ δικαίου: ἐπὶ φαινομένῃ γὰρ ἀδικίᾳ ἡ ὀργή ἐστιν. οὐ γὰρ ὥσπερ ἐν τοῖς συναλλάγμασι [30] περὶ τοῦ γενέσθαι ἀμφισβητοῦσιν, ὧν ἀνάγκη τὸν ἕτερον εἶναι μοχθηρόν, ἂν μὴ διὰ λήθην αὐτὸ δρῶσιν: ἀλλ’ ὁμολογοῦντες περὶ τοῦ πράγματος, περὶ δὲ τοῦ ποτέρως δίκαιον ἀμφισβητοῦσιν˙ὁ δ’ ἐπιβουλεύσας οὐκ ἀγνοεῖ, ὥστε ὃ μὲν οἴεται ἀδικεῖσθαι, ὃ δ’ οὔ.

1136a [1] ἐὰν δ’ ἐκ προαιρέσεως βλάψῃ, ἀδικεῖ: καὶ κατὰ ταῦτ’ ἤδη τὰ ἀδικήματα ὁ ἀδικῶν ἄδικος, ὅταν παρὰ τὸ ἀνάλογον ᾖ ἢ παρὰ τὸ ἴσον. ὁμοίως δὲ καὶ δίκαιος, ὅταν προελόμενος δικαιοπραγῇ: δικαιοπραγεῖ δέ, ἂν μόνον ἑκὼν [5] πράττῃ. τῶν δ’ ἀκουσίων τὰ μέν ἐστι συγγνωμονικὰ τὰ δ’ οὐ συγγνωμονικά. ὅσα μὲν γὰρ μὴ μόνον ἀγνοοῦντες ἀλλὰ καὶ δι’ ἄγνοιαν ἁμαρτάνουσι, συγγνωμονικά, ὅσα δὲ μὴ δι’ ἄγνοιαν, ἀλλ’ ἀγνοοῦντες μὲν διὰ πάθος δὲ μήτε φυσικὸν μήτ’ ἀνθρώπινον, οὐ συγγνωμονικά.

[10] ἀπορήσειε δ’ ἄν τις, εἰ ἱκανῶς διώρισται περὶ τοῦ ἀδικεῖσθαι καὶ ἀδικεῖν, πρῶτον μὲν εἰ ἔστιν ὥσπερ Εὐριπίδης εἴρηκε, λέγων ἀτόπως

μητέρα κατέκταν τὴν ἐμήν, βραχὺς λόγος. ἑκὼν ἑκοῦσαν, ἢ ἑκοῦσαν οὐχ ἑκών;

[15] πότερον γὰρ ὡς ἀληθῶς ἔστιν ἑκόντα ἀδικεῖσθαι, ἢ οὒ ἀλλ’ ἀκούσιον ἅπαν, ὥσπερ καὶ τὸ ἀδικεῖν πᾶν ἑκούσιον; καὶ ἆρα πᾶν οὕτως ἢ ἐκείνως, [ὥσπερ καὶ τὸ ἀδικεῖν πᾶν ἑκούσιον,] ἢ τὸ μὲν ἑκούσιον τὸ δ’ ἀκούσιον; ὁμοίως δὲ καὶ ἐπὶ τοῦ δικαιοῦσθαι: τὸ γὰρ δικαιοπραγεῖν πᾶν ἑκούσιον: ὥστ’ εὔλογον [20] ἀντικεῖσθαι ὁμοίως καθ’ ἑκάτερον, τό τ’ ἀδικεῖσθαι καὶ δικαιοῦσθαι ἢ ἑκούσιον ἢ ἀκούσιον εἶναι. ἄτοπον δ’ ἂν δόξειε καὶ ἐπὶ τοῦ δικαιοῦσθαι, εἰ πᾶν ἑκούσιον: ἔνιοι γὰρ δικαιοῦνται οὐχ ἑκόντες. ἔπειτα καὶ τόδε διαπορήσειεν ἄν τις, πότερον ὁ τὸ ἄδικον πεπονθὼς ἀδικεῖται πᾶς, ἢ ὥσπερ καὶ ἐπὶ τοῦ πράττειν, [25] καὶ ἐπὶ τοῦ πάσχειν ἐστίν: κατὰ συμβεβηκὸς γὰρ ἐνδέχεται ἐπ’ ἀμφοτέρων μεταλαμβάνειν τῶν δικαίων: ὁμοίως δὲ δῆλον ὅτι καὶ ἐπὶ τῶν ἀδίκων: οὐ γὰρ ταὐτὸν τὸ τἄδικα πράττειν τῷ ἀδικεῖν οὐδὲ τὸ ἄδικα πάσχειν τῷ ἀδικεῖσθαι: ὁμοίως δὲ καὶ ἐπὶ τοῦ δικαιοπραγεῖν καὶ δικαιοῦσθαι: ἀδύνατον [30] γὰρ ἀδικεῖσθαι μὴ ἀδικοῦντος ἢ δικαιοῦσθαι μὴ δικαιοπραγοῦντος. εἰ δ’ ἐστὶν ἁπλῶς τὸ ἀδικεῖν τὸ βλάπτειν ἑκόντα τινά, τὸ δ’ ἑκόντα εἰδότα καὶ ὃν καὶ ᾧ καὶ ὥς, ὁ δ’ ἀκρατὴς ἑκὼν βλάπτει αὐτὸς αὑτόν,

ἑκών τ᾽ ἂν ἀδικοῖτο κἂν ἐνδέχοιτο αὐτὸς αὑτὸν ἀδικεῖν. ἔστι δὲ καὶ τοῦτο ἓν τῶν ἀπορουμένων, 1136b [1] εἰ ἐνδέχεται αὐτὸν αὑτὸν ἀδικεῖν. ἔτι ἑκὼν ἄν τις δι᾽ ἀκρασίαν ὑπ᾽ ἄλλου βλάπτοιτο ἑκόντος, ὥστ᾽ εἴη ἂν ἑκόντ᾽ ἀδικεῖσθαι. ἢ οὐκ ὀρθὸς ὁ διορισμός, ἀλλὰ προσθετέον τῷ βλάπτειν εἰδότα καὶ ὃν καὶ ᾧ καὶ ὥς τὸ παρὰ τὴν ἐκείνου [5] βούλησιν; βλάπτεται μὲν οὖν τις ἑκὼν καὶ τἄδικα πάσχει, ἀδικεῖται δ᾽ οὐδεὶς ἑκών: οὐδεὶς γὰρ βούλεται, οὐδ᾽ ὁ ἀκρατής, ἀλλὰ παρὰ τὴν βούλησιν πράττει: οὔτε γὰρ βούλεται οὐδεὶς ὃ μὴ οἴεται εἶναι σπουδαῖον, ὅ τε ἀκρατὴς οὐχ ἃ οἴεται δεῖν πράττειν πράττει. ὁ δὲ τὰ αὑτοῦ διδούς, ὥσπερ Ὅμηρός φησι [10] δοῦναι τὸν Γλαῦκον τῷ Διομήδει

χρύσεα χαλκείων, ἑκατόμβοι᾽ ἐννεαβοίων,

1 οὐκ ἀδικεῖται: ἐπ᾽ αὐτῷ γάρ ἐστι τὸ διδόναι, τὸ δ᾽ ἀδικεῖσθαι οὐκ ἐπ᾽ αὐτῷ, ἀλλὰ τὸν ἀδικοῦντα δεῖ ὑπάρχειν. περὶ μὲν οὖν τοῦ ἀδικεῖσθαι, ὅτι οὐχ ἑκούσιον, δῆλον.

[15] ἔτι δ᾽ ὧν προειλόμεθα δύ᾽ ἔστιν εἰπεῖν, πότερόν ποτ᾽ ἀδικεῖ ὁ νείμας παρὰ τὴν ἀξίαν τὸ πλέον ἢ ὁ ἔχων, καὶ εἰ ἔστιν αὐτὸν αὑτὸν ἀδικεῖν. εἰ γὰρ ἐνδέχεται τὸ πρότερον λεχθὲν καὶ ὁ διανέμων ἀδικεῖ ἀλλ᾽ οὐχ ὁ ἔχων τὸ πλέον, εἴ τις πλέον ἑτέρῳ ἢ αὑτῷ νέμει εἰδὼς καὶ ἑκών, οὗτος αὐτὸς [20] αὑτὸν ἀδικεῖ: ὅπερ δοκοῦσιν οἱ μέτριοι ποιεῖν: ὁ γὰρ ἐπιεικὴς ἐλαττωτικός ἐστιν. ἢ οὐδὲ τοῦτο ἁπλοῦν; ἑτέρου γὰρ ἀγαθοῦ, εἰ ἔτυχεν, πλεονεκτεῖ, οἷον δόξης ἢ τοῦ ἁπλῶς καλοῦ. ἔτι λύεται κατὰ τὸν διορισμὸν τοῦ ἀδικεῖν: οὐδὲν γὰρ παρὰ τὴν αὑτοῦ πάσχει βούλησιν, ὥστε οὐκ ἀδικεῖται διά γε τοῦτο, [25] ἀλλ᾽ εἴπερ, βλάπτεται μόνον. φανερὸν δὲ ὅτι καὶ ὁ διανέμων ἀδικεῖ, ἀλλ᾽ οὐχ ὁ τὸ πλέον ἔχων ἀεί: οὐ γὰρ ᾧ τὸ ἄδικον ὑπάρχει ἀδικεῖ, ἀλλ᾽ ᾧ τὸ ἑκόντα τοῦτο ποιεῖν: τοῦτο δ᾽ ὅθεν ἡ ἀρχὴ τῆς πράξεως, ἥ ἐστιν ἐν τῷ διανέμοντι ἀλλ᾽ οὐκ ἐν τῷ λαμβάνοντι. ἔτι ἐπεὶ πολλαχῶς τὸ ποιεῖν [30] λέγεται, καὶ ἔστιν ὡς τὰ ἄψυχα κτείνει καὶ ἡ χεὶρ καὶ ὁ οἰκέτης ἐπιτάξαντος, οὐκ ἀδικεῖ μέν, ποιεῖ δὲ τὰ ἄδικα. ἔτι εἰ μὲν ἀγνοῶν ἔκρινεν, οὐκ ἀδικεῖ κατὰ τὸ νομικὸν δίκαιον οὐδ᾽ ἄδικος ἡ κρίσις ἐστίν, ἔστι δ᾽ ὡς ἄδικος: ἕτερον γὰρ τὸ νομικὸν δίκαιον καὶ τὸ πρῶτον: εἰ δὲ γινώσκων ἔκρινεν ἀδίκως, 1137a [1] πλεονεκτεῖ καὶ αὐτὸς ἢ χάριτος ἢ τιμωρίας. ὥσπερ οὖν κἂν εἴ τις μερίσαιτο τοῦ ἀδικήματος, καὶ ὁ διὰ ταῦτα κρίνας ἀδίκως πλέον ἔχει: καὶ γὰρ ἐπ᾽ ἐκείνῳ τὸν ἀγρὸν κρίνας οὐκ ἀγρὸν ἀλλ᾽ ἀργύριον ἔλαβεν. οἱ δ᾽ [5] ἄνθρωποι ἐφ᾽ ἑαυτοῖς οἴονται εἶναι τὸ ἀδικεῖν: διὸ καὶ τὸ δίκαιον εἶναι ῥᾴδιον. τὸ δ᾽ οὐκ

ἔστιν: συγγενέσθαι μὲν γὰρ τῇ τοῦ γείτονος καὶ πατάξαι τὸν πλησίον καὶ δοῦναι τῇ χειρὶ τὸ ἀργύριον ῥᾴδιον καὶ ἐπ’ αὐτοῖς, ἀλλὰ τὸ ὡδὶ ἔχοντας ταῦτα ποιεῖν οὔτε ῥᾴδιον οὔτ’ ἐπ’ αὐτοῖς. ὁμοίως δὲ καὶ τὸ [10] γνῶναι τὰ δίκαια καὶ τὰ ἄδικα οὐδὲν οἴονται σοφὸν εἶναι, ὅτι περὶ ὧν οἱ νόμοι λέγουσιν οὐ χαλεπὸν συνιέναι ̔ἀλλ’ οὐ ταῦτ’ ἐστὶ τὰ δίκαια ἀλλ’ ἢ κατὰ συμβεβηκόσ̓: ἀλλὰ πῶς πραττόμενα καὶ πῶς νεμόμενα δίκαια, τοῦτο δὴ πλέον ἔργον ἢ τὰ ὑγιεινὰ εἰδέναι: ἐπεὶ κἀκεῖ μέλι καὶ οἶνον καὶ [15] ἐλλέβορον καὶ καῦσιν καὶ τομὴν εἰδέναι ῥᾴδιον, ἀλλὰ πῶς δεῖ νεῖμαι πρὸς ὑγίειαν καὶ τίνι καὶ πότε, τοσοῦτον ἔργον ὅσον ἰατρὸν εἶναι. δι’ αὐτὸ δὲ τοῦτο καὶ τοῦ δικαίου οἴονται εἶναι οὐδὲν ἧττον τὸ ἀδικεῖν, ὅτι οὐχ ἧττον ὁ δίκαιος ἀλλὰ καὶ μᾶλλον δύναιτ’ ἂν ἕκαστον πρᾶξαι τούτων: καὶ γὰρ [20] συγγενέσθαι γυναικὶ καὶ πατάξαι: καὶ ὁ ἀνδρεῖος τὴν ἀσπίδα ἀφεῖναι καὶ στραφεὶς ἐφ’ ὁποτεραοῦν τρέχειν. ἀλλὰ τὸ δειλαίνειν καὶ ἀδικεῖν οὐ τὸ ταῦτα ποιεῖν ἐστί, πλὴν κατὰ συμβεβηκός, ἀλλὰ τὸ ὡδὶ ἔχοντα ταῦτα ποιεῖν, ὥσπερ καὶ τὸ ἰατρεύειν καὶ τὸ ὑγιάζειν οὐ τὸ τέμνειν ἢ μὴ [25] τέμνειν ἢ φαρμακεύειν ἢ μὴ φαρμακεύειν ἐστίν, ἀλλὰ τὸ ὡδί. ἔστι δὲ τὰ δίκαια ἐν τούτοις οἷς μέτεστι τῶν ἁπλῶς ἀγαθῶν, ἔχουσι δ’ ὑπερβολὴν ἐν τούτοις καὶ ἔλλειψιν: τοῖς μὲν γὰρ οὐκ ἔστιν ὑπερβολὴ αὐτῶν, οἷον ἴσως τοῖς θεοῖς, τοῖς δ’ οὐδὲν μόριον ὠφέλιμον, τοῖς ἀνιάτως κακοῖς, ἀλλὰ πάντα [30] βλάπτει, τοῖς δὲ μέχρι τοῦ: διὰ τοῦτ’ ἀνθρώπινόν ἐστιν.

περὶ δὲ ἐπιεικείας καὶ τοῦ ἐπιεικοῦς, πῶς ἔχει ἡ μὲν ἐπιείκεια πρὸς δικαιοσύνην τὸ δ’ ἐπιεικὲς πρὸς τὸ δίκαιον, ἐχόμενόν ἐστιν εἰπεῖν. οὔτε γὰρ ὡς ταὐτὸν ἁπλῶς οὔθ’ ὡς ἕτερον τῷ γένει φαίνεται σκοπουμένοις: καὶ ὁτὲ μὲν τὸ ἐπιεικὲς [35] ἐπαινοῦμεν καὶ ἄνδρα τὸν τοιοῦτον, ὥστε καὶ ἐπὶ τὰ ἄλλα 1137b [1] ἐπαινοῦντες μεταφέρομεν ἀντὶ τοῦ ἀγαθοῦ, τὸ ἐπιεικέστερον ὅτι βέλτιον δηλοῦντες: ὁτὲ δὲ τῷ λόγῳ ἀκολουθοῦσι φαίνεται ἄτοπον εἰ τὸ ἐπιεικὲς παρὰ τὸ δίκαιόν τι ὂν ἐπαινετόν ἐστιν: ἢ γὰρ τὸ δίκαιον οὐ σπουδαῖον, ἢ τὸ ἐπιεικὲς οὐ [5] δίκαιον, εἰ ἄλλο: ἢ εἰ ἄμφω σπουδαῖα, ταὐτόν ἐστιν. ἡ μὲν οὖν ἀπορία σχεδὸν συμβαίνει διὰ ταῦτα περὶ τὸ ἐπιεικές, ἔχει δ’ ἅπαντα τρόπον τινὰ ὀρθῶς καὶ οὐδὲν ὑπεναντίον ἑαυτοῖς: τό τε γὰρ ἐπιεικὲς δικαίου τινὸς ὂν βέλτιόν ἐστι δίκαιον, καὶ οὐχ ὡς ἄλλο τι γένος ὂν βέλτιόν ἐστι τοῦ δικαίου. [10] ταὐτὸν ἄρα δίκαιον καὶ ἐπιεικές, καὶ ἀμφοῖν σπουδαίοιν ὄντοιν κρεῖττον τὸ ἐπιεικές. ποιεῖ δὲ τὴν ἀπορίαν ὅτι τὸ ἐπιεικὲς δίκαιον μέν ἐστιν, οὐ τὸ κατὰ νόμον δέ, ἀλλ’ ἐπανόρθωμα νομίμου δικαίου. αἴτιον δ’ ὅτι ὁ μὲν νόμος καθόλου πᾶς, περὶ ἐνίων δ’ οὐχ οἷόν τε ὀρθῶς εἰπεῖν καθόλου. ἐν οἷς οὖν [15] ἀνάγκη μὲν εἰπεῖν καθόλου, μὴ οἷόν τε δὲ ὀρθῶς, τὸ ὡς ἐπὶ τὸ πλέον λαμβάνει ὁ νόμος, οὐκ ἀγνοῶν τὸ ἁμαρτανόμενον. καὶ ἔστιν οὐδὲν ἧττον ὀρθός: τὸ γὰρ ἁμάρτημα οὐκ ἐν τῷ νόμῳ οὐδ᾽ ἐν τῷ νομοθέτῃ ἀλλ᾽ ἐν τῇ φύσει τοῦ πράγματός ἐστιν: εὐθὺς γὰρ τοιαύτη ἡ τῶν πρακτῶν ὕλη ἐστίν. [20] ὅταν οὖν λέγῃ μὲν ὁ νόμος καθόλου, συμβῇ δ᾽ ἐπὶ τούτου παρὰ τὸ καθόλου, τότε ὀρθῶς ἔχει, ᾗ παραλείπει ὁ νομοθέτης καὶ ἥμαρτεν ἁπλῶς εἰπών, ἐπανορθοῦν τὸ ἐλλειφθέν, ὃ κἂν ὁ νομοθέτης αὐτὸς ἂν εἶπεν ἐκεῖ παρών, καὶ εἰ ᾔδει, ἐνομοθέτησεν. διὸ δίκαιον μέν ἐστι, καὶ βέλτιόν τινος δικαίου, [25] οὐ τοῦ ἁπλῶς δὲ ἀλλὰ τοῦ διὰ τὸ ἁπλῶς ἁμαρτήματος. καὶ ἔστιν αὕτη ἡ φύσις ἡ τοῦ ἐπιεικοῦς, ἐπανόρθωμα νόμου, ᾗ ἐλλείπει διὰ τὸ καθόλου. τοῦτο γὰρ αἴτιον καὶ τοῦ μὴ πάντα κατὰ νόμον εἶναι, ὅτι περὶ ἐνίων ἀδύνατον θέσθαι νόμον, ὥστε ψηφίσματος δεῖ. τοῦ γὰρ ἀορίστου ἀόριστος καὶ [30] ὁ κανών ἐστιν, ὥσπερ καὶ τῆς Λεσβίας οἰκοδομίας ὁ μολίβδινος κανών: πρὸς γὰρ τὸ σχῆμα τοῦ λίθου μετακινεῖται καὶ οὐ μένει ὁ κανών, καὶ τὸ ψήφισμα πρὸς τὰ πράγματα. τί μὲν οὖν ἐστὶ τὸ ἐπιεικές, καὶ ὅτι δίκαιον καὶ τινὸς βέλτιον δικαίου, δῆλον. φανερὸν δ᾽ ἐκ τούτου καὶ ὁ ἐπιεικὴς τίς [35] ἐστιν: ὁ γὰρ τῶν τοιούτων προαιρετικὸς καὶ πρακτικός, καὶ 1138a [1] ὁ μὴ ἀκριβοδίκαιος ἐπὶ τὸ χεῖρον ἀλλ᾽ ἐλαττωτικός, καίπερ ἔχων τὸν νόμον βοηθόν, ἐπιεικής ἐστι, καὶ ἡ ἕξις αὕτη ἐπιείκεια, δικαιοσύνη τις οὖσα καὶ οὐχ ἑτέρα τις ἕξις.

πότερον δ᾽ ἐνδέχεται ἑαυτὸν ἀδικεῖν ἢ οὔ, φανερὸν ἐκ [5] τῶν εἰρημένων. τὰ μὲν γάρ ἐστι τῶν δικαίων τὰ κατὰ πᾶσαν ἀρετὴν ὑπὸ τοῦ νόμου τεταγμένα, οἷον οὐ κελεύει ἀποκτιννύναι ἑαυτὸν ὁ νόμος, ἃ δὲ μὴ κελεύει, ἀπαγορεύει. ἔτι ὅταν παρὰ τὸν νόμον βλάπτῃ μὴ ἀντιβλάπτων ἑκών, ἀδικεῖ, ἑκὼν δὲ ὁ εἰδὼς καὶ ὃν καὶ ᾧ: ὁ δὲ δι᾽ ὀργὴν ἑαυτὸν [10] σφάττων ἑκὼν τοῦτο δρᾷ παρὰ τὸν ὀρθὸν λόγον, ὃ οὐκ ἐᾷ ὁ νόμος: ἀδικεῖ ἄρα. ἀλλὰ τίνα; ἢ τὴν πόλιν, αὑτὸν δ᾽ οὔ; ἑκὼν γὰρ πάσχει, ἀδικεῖται δ᾽ οὐδεὶς ἑκών. διὸ καὶ ἡ πόλις ζημιοῖ, καί τις ἀτιμία πρόσεστι τῷ ἑαυτὸν διαφθείραντι ὡς τὴν πόλιν ἀδικοῦντι. ἔτι καθ᾽ ὃ ἄδικος μόνον ὁ ἀδικῶν [15] καὶ μὴ ὅλως φαῦλος, οὐκ ἔστιν ἀδικῆσαι ἑαυτόν ̔τοῦτο γὰρ ἄλλος ἐκείνου: ἔστι γάρ πως ὁ ἄδικος οὕτω πονηρὸς ὥσπερ ὁ δειλός, οὐχ ὡς ὅλην ἔχων τὴν πονηρίαν, ὥστ᾽ οὐδὲ κατὰ ταύτην ἀδικεῖ: ἅμα γὰρ ἂν τῷ αὐτῷ εἴη ἀφῃρῆσθαι καὶ προσκεῖσθαι τὸ αὐτό: τοῦτο δὲ ἀδύνατον, ἀλλ᾽ ἀεὶ ἐν πλείοσιν [20] ἀνάγκη εἶναι τὸ δίκαιον καὶ τὸ ἄδικον. ἔτι δὲ ἑκούσιόν τε καὶ ἐκ προαιρέσεως καὶ πρότερον: ὁ γὰρ διότι ἔπαθε καὶ τὸ αὐτὸ ἀντιποιῶν οὐ δοκεῖ ἀδικεῖν: αὐτὸς δ᾽ αὑτόν, ταὐτὰ ἅμα καὶ πάσχει καὶ ποιεῖ. ἔτι εἴη ἂν ἑκόντα ἀδικεῖσθαι. πρὸς δὲ τούτοις, ἄνευ τῶν κατὰ μέρος ἀδικημάτων [25] οὐδεὶς ἀδικεῖ, μοιχεύει δ’ οὐδεὶς τὴν ἑαυτοῦ οὐδὲ τοιχωρυχεῖ τὸν ἑαυτοῦ τοῖχον οὐδὲ κλέπτει τὰ αὑτοῦ. ὅλως δὲ λύεται τὸ αὑτὸν ἀδικεῖν καὶ κατὰ τὸν διορισμὸν τὸν περὶ τοῦ ἑκουσίως ἀδικεῖσθαι. φανερὸν δὲ καὶ ὅτι ἄμφω μὲν φαῦλα, καὶ τὸ ἀδικεῖσθαι καὶ τὸ ἀδικεῖν῾τὸ μὲν γὰρ ἔλαττον τὸ [30] δὲ πλέον ἔχειν ἐστὶ τοῦ μέσου καὶ ὥσπερ ὑγιεινὸν μὲν ἐν ἰατρικῇ, εὐεκτικὸν δὲ ἐν γυμναστικῇ: ἀλλ’ ὅμως χεῖρον τὸ ἀδικεῖν: τὸ μὲν γὰρ ἀδικεῖν μετὰ κακίας καὶ ψεκτόν, καὶ κακίας ἢ τῆς τελείας καὶ ἁπλῶς ἢ ἐγγύς῾οὐ γὰρ ἅπαν τὸ ἑκούσιον μετὰ ἀδικίασ̓, τὸ δ’ ἀδικεῖσθαι ἄνευ κακίας καὶ [35] ἀδικίας. καθ’ αὑτὸ μὲν οὖν τὸ ἀδικεῖσθαι ἧττον φαῦλον, 1138b [1] κατὰ συμβεβηκὸς δ’ οὐδὲν κωλύει μεῖζον εἶναι κακόν. ἀλλ’ οὐδὲν μέλει τῇ τέχνῃ, ἀλλὰ πλευρῖτιν λέγει μείζω νόσον προσπταίσματος: καίτοι γένοιτ’ ἄν ποτε θάτερον κατὰ συμβεβηκός, εἰ προσπταίσαντα διὰ τὸ πεσεῖν συμβαίη [5] ὑπὸ τῶν πολεμίων ληφθῆναι ἢ ἀποθανεῖν. κατὰ μεταφορὰν δὲ καὶ ὁμοιότητα ἔστιν οὐκ αὐτῷ πρὸς αὑτὸν δίκαιον ἀλλὰ τῶν αὐτοῦ τισίν, οὐ πᾶν δὲ δίκαιον ἀλλὰ τὸ δεσποτικὸν ἢ τὸ οἰκονομικόν. ἐν τούτοις γὰρ τοῖς λόγοις διέστηκε τὸ λόγον ἔχον μέρος τῆς ψυχῆς πρὸς τὸ ἄλογον: εἰς [10] ἃ δὴ βλέπουσι καὶ δοκεῖ εἶναι ἀδικία πρὸς αὑτόν, ὅτι ἐν τούτοις ἔστι πάσχειν τι παρὰ τὰς ἑαυτῶν ὀρέξεις: ὥσπερ οὖν ἄρχοντι καὶ ἀρχομένῳ εἶναι πρὸς ἄλληλα δίκαιόν τι καὶ τούτοις. περὶ μὲν οὖν δικαιοσύνης καὶ τῶν ἄλλων, τῶν ἠθικῶν ἀρετῶν, διωρίσθω τὸν τρόπον τοῦτον.

Βιβλίο 6

ἐπεὶ δὲ τυγχάνομεν πρότερον εἰρηκότες ὅτι δεῖ τὸ μέσον αἱρεῖσθαι, μὴ τὴν ὑπερβολὴν μηδὲ τὴν ἔλλειψιν, τὸ [20] δὲ μέσον ἐστὶν ὡς ὁ λόγος ὁ ὀρθὸς λέγει, τοῦτο διέλωμεν. ἐν πάσαις γὰρ ταῖς εἰρημέναις ἕξεσι, καθάπερ καὶ ἐπὶ τῶν ἄλλων, ἔστι τις σκοπὸς πρὸς ὃν ἀποβλέπων ὁ τὸν λόγον ἔχων ἐπιτείνει καὶ ἀνίησιν, καί τις ἔστιν ὅρος τῶν μεσοτήτων, ἃς μεταξύ φαμεν εἶναι τῆς ὑπερβολῆς καὶ τῆς ἐλλείψεως, [25] οὔσας κατὰ τὸν ὀρθὸν λόγον. ἔστι δὲ τὸ μὲν εἰπεῖν οὕτως ἀληθὲς μέν, οὐθὲν δὲ σαφές· καὶ γὰρ ἐν ταῖς ἄλλαις ἐπιμελείαις, περὶ ὅσας ἐστὶν ἐπιστήμη, τοῦτ’ ἀληθὲς μὲν εἰπεῖν, ὅτι οὔτε πλείω οὔτε ἐλάττω δεῖ πονεῖν οὐδὲ ῥᾳθυμεῖν, ἀλλὰ τὰ μέσα καὶ ὡς ὁ ὀρθὸς λόγος· τοῦτο δὲ μόνον ἔχων ἄν [30] τις οὐδὲν ἂν εἰδείη πλέον, οἷον ποῖα δεῖ προσφέρεσθαι πρὸς τὸ σῶμα, εἴ τις εἴπειεν ὅτι ὅσα ἡ ἰατρικὴ κελεύει καὶ ὡς ὁ ταύτην ἔχων. διὸ δεῖ καὶ περὶ τὰς τῆς ψυχῆς ἕξεις μὴ μόνον ἀληθῶς εἶναι τοῦτ’ εἰρημένον, ἀλλὰ καὶ διωρισμένον τίς ἐστιν ὁ ὀρθὸς λόγος καὶ τούτου τίς ὅρος.

[35] τὰς δὴ τῆς ψυχῆς ἀρετὰς διελόμενοι 1139a [1] τὰς μὲν εἶναι τοῦ ἤθους ἔφαμεν τὰς δὲ τῆς διανοίας. περὶ μὲν οὖν τῶν ἠθικῶν διεληλύθαμεν, περὶ δὲ τῶν λοιπῶν, περὶ ψυχῆς πρῶτον εἰπόντες, λέγωμεν οὕτως. πρότερον μὲν οὖν ἐλέχθη δύ’ εἶναι μέρη τῆς ψυχῆς, τό τε λόγον ἔχον καὶ τὸ ἄλογον· [5] νῦν δὲ περὶ τοῦ λόγον ἔχοντος τὸν αὐτὸν τρόπον διαιρετέον. καὶ ὑποκείσθω δύο τὰ λόγον ἔχοντα, ἓν μὲν ᾧ θεωροῦμεν τὰ τοιαῦτα τῶν ὄντων ὅσων αἱ ἀρχαὶ μὴ ἐνδέχονται ἄλλως ἔχειν, ἓν δὲ ᾧ τὰ ἐνδεχόμενα· πρὸς γὰρ τὰ τῷ γένει ἕτερα καὶ τῶν τῆς ψυχῆς μορίων ἕτερον τῷ [10] γένει τὸ πρὸς ἑκάτερον πεφυκός, εἴπερ καθ’ ὁμοιότητά τινα καὶ οἰκειότητα ἡ γνῶσις ὑπάρχει αὐτοῖς. λεγέσθω δὲ τούτων τὸ μὲν ἐπιστημονικὸν τὸ δὲ λογιστικόν· τὸ γὰρ βουλεύεσθαι καὶ λογίζεσθαι ταὐτόν, οὐδεὶς δὲ βουλεύεται περὶ τῶν μὴ ἐνδεχομένων ἄλλως ἔχειν. ὥστε τὸ λογιστικόν ἐστιν [15] ἕν τι μέρος τοῦ λόγον ἔχοντος. ληπτέον ἄρ’ ἑκατέρου τούτων τίς ἡ βελτίστη ἕξις· αὕτη γὰρ ἀρετὴ ἑκατέρου, ἡ δ’ ἀρετὴ πρὸς τὸ ἔργον τὸ οἰκεῖον. τρία δή ἐστιν ἐν τῇ ψυχῇ τὰ κύρια πράξεως καὶ ἀληθείας, αἴσθησις νοῦς ὄρεξις. τούτων δ’ ἡ αἴσθησις οὐδεμιᾶς ἀρχὴ πράξεως· δῆλον δὲ τῷ [20] τὰ θηρία αἴσθησιν μὲν ἔχειν πράξεως δὲ μὴ

κοινωνεῖν. ἔστι δ’ ὅπερ ἐν διανοίᾳ κατάφασις καὶ ἀπόφασις, τοῦτ’ ἐν ὀρέξει δίωξις καὶ φυγή· ὥστ’ ἐπειδὴ ἡ ἠθικὴ ἀρετὴ ἕξις προαιρετική, ἡ δὲ προαίρεσις ὄρεξις βουλευτική, δεῖ διὰ ταῦτα μὲν τόν τε λόγον ἀληθῆ εἶναι καὶ τὴν ὄρεξιν ὀρθήν, [25] εἴπερ ἡ προαίρεσις σπουδαία, καὶ τὰ αὐτὰ τὸν μὲν φάναι τὴν δὲ διώκειν. αὕτη μὲν οὖν ἡ διάνοια καὶ ἡ ἀλήθεια πρακτική· τῆς δὲ θεωρητικῆς διανοίας καὶ μὴ πρακτικῆς μηδὲ ποιητικῆς τὸ εὖ καὶ κακῶς τἀληθές ἐστι καὶ ψεῦδος (τοῦτο γάρ ἐστι παντὸς διανοητικοῦ ἔργον)· τοῦ δὲ πρακτικοῦ [30] καὶ διανοητικοῦ ἀλήθεια ὁμολόγως ἔχουσα τῇ ὀρέξει τῇ ὀρθῇ. πράξεως μὲν οὖν ἀρχὴ προαίρεσις — ὅθεν ἡ κίνησις ἀλλ’ οὐχ οὗ ἕνεκα — προαιρέσεως δὲ ὄρεξις καὶ λόγος ὁ ἕνεκά τινος. διὸ οὔτ’ ἄνευ νοῦ καὶ διανοίας οὔτ’ ἄνευ ἠθικῆς ἐστὶν ἕξεως ἡ προαίρεσις· εὐπραξία γὰρ καὶ τὸ [35] ἐναντίον ἐν πράξει ἄνευ διανοίας καὶ ἤθους οὐκ ἔστιν. διάνοια δ’ αὐτὴ οὐθὲν κινεῖ, ἀλλ’ ἡ ἕνεκά του καὶ πρακτική· 1139b [1] αὕτη γὰρ καὶ τῆς ποιητικῆς ἄρχει· ἕνεκα γάρ του ποιεῖ πᾶς ὁ ποιῶν, καὶ οὐ τέλος ἁπλῶς (ἀλλὰ πρός τι καὶ τινός) τὸ ποιητόν, ἀλλὰ τὸ πρακτόν· ἡ γὰρ εὐπραξία τέλος, ἡ δ’ ὄρεξις τούτου. διὸ ἢ ὀρεκτικὸς νοῦς ἡ προαίρεσις [5] ἢ ὄρεξις διανοητική, καὶ ἡ τοιαύτη ἀρχὴ ἄνθρωπος. οὐκ ἔστι δὲ προαιρετὸν οὐδὲν γεγονός, οἷον οὐδεὶς προαιρεῖται Ἴλιον πεπορθηκέναι· οὐδὲ γὰρ βουλεύεται περὶ τοῦ γεγονότος ἀλλὰ περὶ τοῦ ἐσομένου καὶ ἐνδεχομένου, τὸ δὲ γεγονὸς οὐκ ἐνδέχεται μὴ γενέσθαι· διὸ ὀρθῶς Ἀγάθων

[10] μόνου γὰρ αὐτοῦ καὶ θεὸς στερίσκεται, ἀγένητα ποιεῖν ἅσσ’ ἂν ᾖ πεπραγμένα.

ἀμφοτέρων δὴ τῶν νοητικῶν μορίων ἀλήθεια τὸ ἔργον. καθ’ ἃς οὖν μάλιστα ἕξεις ἀληθεύσει ἑκάτερον, αὗται ἀρεταὶ ἀμφοῖν.

ἀρξάμενοι οὖν ἄνωθεν περὶ αὐτῶν πάλιν λέγωμεν. [15] ἔστω δὴ οἷς ἀληθεύει ἡ ψυχὴ τῷ καταφάναι ἢ ἀποφάναι, πέντε τὸν ἀριθμόν· ταῦτα δ’ ἐστὶ τέχνη ἐπιστήμη φρόνησις σοφία νοῦς· ὑπολήψει γὰρ καὶ δόξῃ ἐνδέχεται διαψεύδεσθαι. ἐπιστήμη μὲν οὖν τί ἐστιν, ἐντεῦθεν φανερόν, εἰ δεῖ ἀκριβολογεῖσθαι καὶ μὴ ἀκολουθεῖν ταῖς ὁμοιότησιν. [20] πάντες γὰρ ὑπολαμβάνομεν, ὃ ἐπιστάμεθα, μηδ’ ἐνδέχεσθαι ἄλλως ἔχειν· τὰ δ’ ἐνδεχόμενα ἄλλως, ὅταν ἔξω τοῦ θεωρεῖν γένηται, λανθάνει εἰ ἔστιν ἢ μή. ἐξ ἀνάγκης ἄρα ἐστὶ τὸ ἐπιστητόν. ἀίδιον ἄρα· τὰ γὰρ ἐξ ἀνάγκης ὄντα ἁπλῶς πάντα ἀίδια, τὰ δ’ ἀίδια ἀγένητα καὶ ἄφθαρτα. [25] ἔτι διδακτὴ ἅπασα ἐπιστήμη δοκεῖ εἶναι, καὶ τὸ ἐπιστητὸν μαθητόν. ἐκ προγινωσκομένων δὲ πᾶσα διδασκαλία, ὥσπερ καὶ ἐν τοῖς ἀναλυτικοῖς λέγομεν· ἣ μὲν γὰρ δι’ ἐπαγωγῆς, ἣ δὲ συλλογισμῷ. ἡ μὲν δὴ ἐπαγωγὴ ἀρχή ἐστι καὶ τοῦ καθόλου, ὁ δὲ συλλογισμὸς ἐκ τῶν καθόλου. εἰσὶν [30] ἄρα ἀρχαὶ ἐξ ὧν ὁ συλλογισμός, ὧν οὐκ ἔστι συλλογισμός· ἐπαγωγὴ ἄρα. ἡ μὲν ἄρα ἐπιστήμη ἐστὶν ἕξις ἀποδεικτική, καὶ ὅσα ἄλλα προσδιοριζόμεθα ἐν τοῖς ἀναλυτικοῖς· ὅταν γάρ πως πιστεύῃ καὶ γνώριμοι αὐτῷ ὦσιν αἱ ἀρχαί, ἐπίσταται· εἰ γὰρ μὴ μᾶλλον τοῦ συμπεράσματος, [35] κατὰ συμβεβηκὸς ἕξει τὴν ἐπιστήμην. περὶ μὲν οὖν ἐπιστήμης διωρίσθω τὸν τρόπον τοῦτον.

1140a [1] τοῦ δ’ ἐνδεχομένου ἄλλως ἔχειν ἔστι τι καὶ ποιητὸν καὶ πρακτόν· ἕτερον δ’ ἐστὶ ποίησις καὶ πρᾶξις (πιστεύομεν δὲ περὶ αὐτῶν καὶ τοῖς ἐξωτερικοῖς λόγοις)· ὥστε καὶ ἡ μετὰ λόγου ἕξις πρακτικὴ ἕτερόν ἐστι τῆς μετὰ λόγου ποιητικῆς [5] ἕξεως. διὸ οὐδὲ περιέχεται ὑπ’ ἀλλήλων· οὔτε γὰρ ἡ πρᾶξις ποίησις οὔτε ἡ ποίησις πρᾶξίς ἐστιν. ἐπεὶ δ’ ἡ οἰκοδομικὴ τέχνη τίς ἐστι καὶ ὅπερ ἕξις τις μετὰ λόγου ποιητική, καὶ οὐδεμία οὔτε τέχνη ἐστὶν ἥτις οὐ μετὰ λόγου ποιητικὴ ἕξις ἐστίν, οὔτε τοιαύτη ἣ οὐ τέχνη, ταὐτὸν [10] ἂν εἴη τέχνη καὶ ἕξις μετὰ λόγου ἀληθοῦς ποιητική. ἔστι δὲ τέχνη πᾶσα περὶ γένεσιν καὶ τὸ τεχνάζειν καὶ θεωρεῖν ὅπως ἂν γένηταί τι τῶν ἐνδεχομένων καὶ εἶναι καὶ μὴ εἶναι, καὶ ὧν ἡ ἀρχὴ ἐν τῷ ποιοῦντι ἀλλὰ μὴ ἐν τῷ ποιουμένῳ· οὔτε γὰρ τῶν ἐξ ἀνάγκης ὄντων ἢ γινομένων ἡ [15] τέχνη ἐστίν, οὔτε τῶν κατὰ φύσιν· ἐν αὑτοῖς γὰρ ἔχουσι ταῦτα τὴν ἀρχήν. ἐπεὶ δὲ ποίησις καὶ πρᾶξις ἕτερον, ἀνάγκη τὴν τέχνην ποιήσεως ἀλλ’ οὐ πράξεως εἶναι. καὶ τρόπον τινὰ περὶ τὰ αὐτά ἐστιν ἡ τύχη καὶ ἡ τέχνη, καθάπερ καὶ Ἀγάθων φησὶ

τέχνη τύχην ἔστερξε καὶ τύχη τέχνην.

[20] ἡ μὲν οὖν τέχνη, ὥσπερ εἴρηται, ἕξις τις μετὰ λόγου ἀληθοῦς ποιητική ἐστιν, ἡ δ’ ἀτεχνία τοὐναντίον μετὰ λόγου ψευδοῦς ποιητικὴ ἕξις, περὶ τὸ ἐνδεχόμενον ἄλλως ἔχειν.

περὶ δὲ φρονήσεως οὕτως ἂν λάβοιμεν, θεωρήσαντες [25] τίνας λέγομεν τοὺς φρονίμους. δοκεῖ δὴ φρονίμου εἶναι τὸ δύνασθαι καλῶς βουλεύσασθαι περὶ τὰ αὑτῷ ἀγαθὰ καὶ συμφέροντα, οὐ κατὰ μέρος, οἷον ποῖα πρὸς ὑγίειαν, πρὸς ἰσχύν, ἀλλὰ ποῖα πρὸς τὸ εὖ ζῆν ὅλως. σημεῖον δ’ ὅτι καὶ τοὺς περί τι φρονίμους λέγομεν, ὅταν πρὸς τέλος τι σπουδαῖον [30] εὖ λογίσωνται, ὧν μή ἐστι τέχνη. ὥστε καὶ ὅλως ἂν εἴη φρόνιμος ὁ βουλευτικός. βουλεύεται δ᾽ οὐθεὶς περὶ τῶν ἀδυνάτων ἄλλως ἔχειν, οὐδὲ τῶν μὴ ἐνδεχομένων αὐτῷ πρᾶξαι. ὥστ᾽ εἴπερ ἐπιστήμη μὲν μετ᾽ ἀποδείξεως, ὧν δ᾽ αἱ ἀρχαὶ ἐνδέχονται ἄλλως ἔχειν, τούτων μή ἐστιν ἀπόδειξις [35] (πάντα γὰρ ἐνδέχεται καὶ ἄλλως ἔχειν), 1140b [1] καὶ οὐκ ἔστι βουλεύσασθαι περὶ τῶν ἐξ ἀνάγκης ὄντων, οὐκ ἂν εἴη ἡ φρόνησις ἐπιστήμη οὐδὲ τέχνη, ἐπιστήμη μὲν ὅτι ἐνδέχεται τὸ πρακτὸν ἄλλως ἔχειν, τέχνη δ᾽ ὅτι ἄλλο τὸ γένος πράξεως καὶ ποιήσεως. λείπεται ἄρα αὐτὴν εἶναι [5] ἕξιν ἀληθῆ μετὰ λόγου πρακτικὴν περὶ τὰ ἀνθρώπῳ ἀγαθὰ καὶ κακά. τῆς μὲν γὰρ ποιήσεως ἕτερον τὸ τέλος, τῆς δὲ πράξεως οὐκ ἂν εἴη· ἔστι γὰρ αὐτὴ ἡ εὐπραξία τέλος. διὰ τοῦτο Περικλέα καὶ τοὺς τοιούτους φρονίμους οἰόμεθα εἶναι, ὅτι τὰ αὑτοῖς ἀγαθὰ καὶ τὰ τοῖς ἀνθρώποις δύνανται θεωρεῖν· [10] εἶναι δὲ τοιούτους ἡγούμεθα τοὺς οἰκονομικοὺς καὶ τοὺς πολιτικούς. ἔνθεν καὶ τὴν σωφροσύνην τούτῳ προσαγορεύομεν τῷ ὀνόματι, ὡς σῴζουσαν τὴν φρόνησιν. σῴζει δὲ τὴν τοιαύτην ὑπόληψιν. οὐ γὰρ ἅπασαν ὑπόληψιν διαφθείρει οὐδὲ διαστρέφει τὸ ἡδὺ καὶ λυπηρόν, οἷον ὅτι τὸ τρίγωνον [15] δύο ὀρθὰς ἔχει ἢ οὐκ ἔχει, ἀλλὰ τὰς περὶ τὸ πρακτόν. αἱ μὲν γὰρ ἀρχαὶ τῶν πρακτῶν τὸ οὗ ἕνεκα τὰ πρακτά· τῷ δὲ διεφθαρμένῳ δι᾽ ἡδονὴν ἢ λύπην εὐθὺς οὐ φαίνεται ἀρχή, οὐδὲ δεῖν τούτου ἕνεκεν οὐδὲ διὰ τοῦθ᾽ αἱρεῖσθαι πάντα καὶ πράττειν· ἔστι γὰρ ἡ κακία φθαρτικὴ [20] ἀρχῆς. ὥστ᾽ ἀνάγκη τὴν φρόνησιν ἕξιν εἶναι μετὰ λόγου ἀληθῆ περὶ τὰ ἀνθρώπινα ἀγαθὰ πρακτικήν. ἀλλὰ μὴν τέχνης μὲν ἔστιν ἀρετή, φρονήσεως δ᾽ οὐκ ἔστιν· καὶ ἐν μὲν τέχνῃ ὁ ἑκὼν ἁμαρτάνων αἱρετώτερος, περὶ δὲ φρόνησιν ἧττον, ὥσπερ καὶ περὶ τὰς ἀρετάς. δῆλον οὖν ὅτι ἀρετή [25] τις ἐστὶ καὶ οὐ τέχνη. δυοῖν δ᾽ ὄντοιν μεροῖν τῆς ψυχῆς τῶν λόγον ἐχόντων, θατέρου ἂν εἴη ἀρετή, τοῦ δοξαστικοῦ· ἥ τε γὰρ δόξα περὶ τὸ ἐνδεχόμενον ἄλλως ἔχειν καὶ ἡ φρόνησις. ἀλλὰ μὴν οὐδ᾽ ἕξις μετὰ λόγου μόνον· σημεῖον δ᾽ ὅτι λήθη μὲν τῆς τοιαύτης ἕξεως ἔστι, φρονήσεως δ᾽ [30] οὐκ ἔστιν.

ἐπεὶ δ᾽ ἡ ἐπιστήμη περὶ τῶν καθόλου ἐστὶν ὑπόληψις καὶ τῶν ἐξ ἀνάγκης ὄντων, εἰσὶ δ᾽ ἀρχαὶ τῶν ἀποδεικτῶν καὶ πάσης ἐπιστήμης (μετὰ λόγου γὰρ ἡ ἐπιστήμη), τῆς ἀρχῆς τοῦ ἐπιστητοῦ οὔτ᾽ ἂν ἐπιστήμη εἴη οὔτε τέχνη οὔτε [35] φρόνησις· τὸ μὲν γὰρ ἐπιστητὸν ἀποδεικτόν, 1141a [1] αἳ δὲ τυγχάνουσιν οὖσαι περὶ τὰ ἐνδεχόμενα ἄλλως ἔχειν. >οὐδὲ δὴ σοφία τούτων ἐστίν· τοῦ γὰρ σοφοῦ περὶ ἐνίων ἔχειν ἀπόδειξίν ἐστιν. εἰ δὴ οἷς ἀληθεύομεν καὶ μηδέποτε διαψευδόμεθα περὶ τὰ μὴ ἐνδεχόμενα ἢ καὶ ἐνδεχόμενα ἄλλως [5] ἔχειν, ἐπιστήμη καὶ φρόνησίς ἐστι καὶ σοφία καὶ νοῦς, τούτων δὲ τῶν τριῶν μηδὲν ἐνδέχεται εἶναι (λέγω δὲ τρία φρόνησιν ἐπιστήμην σοφίαν), λείπεται νοῦν εἶναι τῶν ἀρχῶν.

τὴν δὲ σοφίαν ἔν τε ταῖς τέχναις τοῖς ἀκριβεστάτοις [10] τὰς τέχνας ἀποδίδομεν, οἷον Φειδίαν λιθουργὸν σοφὸν καὶ Πολύκλειτον ἀνδριαντοποιόν, ἐνταῦθα μὲν οὖν οὐθὲν ἄλλο σημαίνοντες τὴν σοφίαν ἢ ὅτι ἀρετὴ τέχνης ἐστίν· εἶναι δέ τινας σοφοὺς οἰόμεθα ὅλως οὐ κατὰ μέρος οὐδ’ ἄλλο τι σοφούς, ὥσπερ Ὅμηρός φησιν ἐν τῷ Μαργίτῃ

[15] τὸν δ’ οὔτ’ ἂρ σκαπτῆρα θεοὶ θέσαν οὔτ’ ἀροτῆρα οὔτ’ ἄλλως τι σοφόν.

ὥστε δῆλον ὅτι ἀκριβεστάτη ἂν τῶν ἐπιστημῶν εἴη ἡ σοφία. δεῖ ἄρα τὸν σοφὸν μὴ μόνον τὰ ἐκ τῶν ἀρχῶν εἰδέναι, ἀλλὰ καὶ περὶ τὰς ἀρχὰς ἀληθεύειν. ὥστ’ εἴη ἂν ἡ σοφία νοῦς καὶ ἐπιστήμη, ὥσπερ κεφαλὴν ἔχουσα ἐπιστήμη [20] τῶν τιμιωτάτων. ἄτοπον γὰρ εἴ τις τὴν πολιτικὴν ἢ τὴν φρόνησιν σπουδαιοτάτην οἴεται εἶναι, εἰ μὴ τὸ ἄριστον τῶν ἐν τῷ κόσμῳ ἄνθρωπός ἐστιν. εἰ δὴ ὑγιεινὸν μὲν καὶ ἀγαθὸν ἕτερον ἀνθρώποις καὶ ἰχθύσι, τὸ δὲ λευκὸν καὶ εὐθὺ ταὐτὸν ἀεί, καὶ τὸ σοφὸν ταὐτὸ πάντες ἂν εἴποιεν, φρόνιμον [25] δὲ ἕτερον· τὰ γὰρ περὶ αὑτὸ ἕκαστα τὸ εὖ θεωροῦν φησὶν εἶναι φρόνιμον, καὶ τούτῳ ἐπιτρέψει αὐτά. διὸ καὶ τῶν θηρίων ἔνια φρόνιμά φασιν εἶναι, ὅσα περὶ τὸν αὑτῶν βίον ἔχοντα φαίνεται δύναμιν προνοητικήν. φανερὸν δὲ καὶ ὅτι οὐκ ἂν εἴη ἡ σοφία καὶ ἡ πολιτικὴ ἡ αὐτή· εἰ γὰρ [30] τὴν περὶ τὰ ὠφέλιμα τὰ αὑτοῖς ἐροῦσι σοφίαν, πολλαὶ ἔσονται σοφίαι· οὐ γὰρ μία περὶ τὸ ἁπάντων ἀγαθὸν τῶν ζῴων, ἀλλ’ ἑτέρα περὶ ἕκαστον, εἰ μὴ καὶ ἰατρικὴ μία περὶ πάντων τῶν ὄντων. εἰ δ’ ὅτι βέλτιστον ἄνθρωπος τῶν ἄλλων ζῴων, οὐδὲν διαφέρει· καὶ γὰρ ἀνθρώπου ἄλλα πολὺ θειότερα τὴν φύσιν, 1141b [1] οἷον φανερώτατά γε ἐξ ὧν ὁ κόσμος συνέστηκεν. ἐκ δὴ τῶν εἰρημένων δῆλον ὅτι ἡ σοφία ἐστὶ καὶ ἐπιστήμη καὶ νοῦς τῶν τιμιωτάτων τῇ φύσει. διὸ Ἀναξαγόραν καὶ Θαλῆν καὶ τοὺς τοιούτους σοφοὺς μὲν φρονίμους [5] δ’ οὔ φασιν εἶναι, ὅταν ἴδωσιν ἀγνοοῦντας τὰ συμφέροντα ἑαυτοῖς, καὶ περιττὰ μὲν καὶ θαυμαστὰ καὶ χαλεπὰ καὶ δαιμόνια εἰδέναι αὐτούς φασιν, ἄχρηστα δ’, ὅτι οὐ τὰ ἀνθρώπινα ἀγαθὰ ζητοῦσιν. ἡ δὲ φρόνησις περὶ τὰ ἀνθρώπινα καὶ περὶ ὧν ἔστι βουλεύσασθαι· τοῦ γὰρ φρονίμου [10] μάλιστα τοῦτ’ ἔργον εἶναί φαμεν, τὸ εὖ βουλεύεσθαι, βουλεύεται δ’ οὐδεὶς περὶ τῶν ἀδυνάτων ἄλλως ἔχειν, οὐδ’ ὅσων μὴ τέλος τι ἔστι, καὶ τοῦτο πρακτὸν ἀγαθόν. ὁ δ’ ἁπλῶς εὔβουλος ὁ τοῦ ἀρίστου ἀνθρώπῳ τῶν πρακτῶν στοχαστικὸς κατὰ τὸν λογισμόν. οὐδ’ ἐστὶν ἡ φρόνησις τῶν [15] καθόλου μόνον, ἀλλὰ δεῖ καὶ τὰ καθ’ ἕκαστα γνωρίζειν· πρακτικὴ γάρ, ἡ δὲ πρᾶξις περὶ τὰ καθ’ ἕκαστα. διὸ καὶ ἔνιοι οὐκ εἰδότες ἑτέρων εἰδότων πρακτικώτεροι, καὶ ἐν τοῖς ἄλλοις οἱ ἔμπειροι· εἰ γὰρ εἰδείη ὅτι τὰ κοῦφα εὔπεπτα κρέα καὶ ὑγιεινά, ποῖα δὲ κοῦφα ἀγνοοῖ, οὐ ποιήσει ὑγίειαν, [20] ἀλλ’ ὁ εἰδὼς ὅτι τὰ ὀρνίθεια [κοῦφα καὶ] ὑγιεινὰ ποιήσει μᾶλλον. ἡ δὲ φρόνησις πρακτική· ὥστε δεῖ ἄμφω ἔχειν, ἢ ταύτην μᾶλλον. εἴη δ’ ἄν τις καὶ ἐνταῦθα ἀρχιτεκτονική. ἔστι δὲ καὶ ἡ πολιτικὴ καὶ ἡ φρόνησις ἡ αὐτὴ μὲν ἕξις, τὸ μέντοι εἶναι οὐ ταὐτὸν αὐταῖς. τῆς δὲ περὶ [25] πόλιν ἣ μὲν ὡς ἀρχιτεκτονικὴ φρόνησις νομοθετική, ἣ δὲ ὡς τὰ καθ’ ἕκαστα τὸ κοινὸν ἔχει ὄνομα, πολιτική· αὕτη δὲ πρακτικὴ καὶ βουλευτική· τὸ γὰρ ψήφισμα πρακτὸν ὡς τὸ ἔσχατον. διὸ πολιτεύεσθαι τούτους μόνον λέγουσιν· μόνοι γὰρ πράττουσιν οὗτοι ὥσπερ οἱ χειροτέχναι. δοκεῖ [30] δὲ καὶ φρόνησις μάλιστ’ εἶναι ἡ περὶ αὐτὸν καὶ ἕνα· καὶ ἔχει αὕτη τὸ κοινὸν ὄνομα, φρόνησις· ἐκείνων δὲ ἣ μὲν οἰκονομία ἣ δὲ νομοθεσία ἣ δὲ πολιτική, καὶ ταύτης ἣ μὲν βουλευτικὴ ἣ δὲ δικαστική. εἶδος μὲν οὖν τι ἂν εἴη γνώσεως τὸ αὑτῷ εἰδέναι· ἀλλ’ ἔχει διαφορὰν πολλήν· 1142a [1] καὶ δοκεῖ ὁ τὰ περὶ αὑτὸν εἰδὼς καὶ διατρίβων φρόνιμος εἶναι, οἱ δὲ πολιτικοὶ πολυπράγμονες· διὸ Εὐριπίδης

πῶς δ’ ἂν φρονοίην, ᾧ παρῆν ἀπραγμόνως ἐν τοῖσι πολλοῖς ἠριθμημένον στρατοῦ ἴσον μετασχεῖν; τοὺς γὰρ περισσοὺς καί τι πράσσοντας πλέον . . .1

ζητοῦσι γὰρ τὸ αὑτοῖς ἀγαθόν, καὶ οἴονται τοῦτο δεῖν πράττειν. ἐκ ταύτης οὖν τῆς δόξης ἐλήλυθε τὸ τούτους φρονίμους εἶναι· καίτοι ἴσως οὐκ ἔστι τὸ αὑτοῦ εὖ ἄνευ οἰκονομίας [10] οὐδ’ ἄνευ πολιτείας. ἔτι δὲ τὰ αὑτοῦ πῶς δεῖ διοικεῖν, ἄδηλον καὶ σκεπτέον. σημεῖον δ’ ἐστὶ τοῦ εἰρημένου καὶ διότι γεωμετρικοὶ μὲν νέοι καὶ μαθηματικοὶ γίνονται καὶ σοφοὶ τὰ τοιαῦτα, φρόνιμος δ’ οὐ δοκεῖ γίνεσθαι. αἴτιον δ’ ὅτι καὶ τῶν καθ’ ἕκαστά ἐστιν ἡ φρόνησις, ἃ γίνεται [15] γνώριμα ἐξ ἐμπειρίας, νέος δ’ ἔμπειρος οὐκ ἔστιν· πλῆθος γὰρ χρόνου ποιεῖ τὴν ἐμπειρίαν· ἐπεὶ καὶ τοῦτ’ ἄν τις σκέψαιτο, διὰ τί δὴ μαθηματικὸς μὲν παῖς γένοιτ’ ἄν, σοφὸς δ’ ἢ φυσικὸς οὔ. ἢ ὅτι τὰ μὲν δι’ ἀφαιρέσεώς ἐστιν, τῶν δ’ αἱ ἀρχαὶ ἐξ ἐμπειρίας· καὶ τὰ μὲν οὐ πιστεύουσιν [20] οἱ νέοι ἀλλὰ λέγουσιν, τῶν δὲ τὸ τί ἐστιν οὐκ ἄδηλον; ἔτι ἡ ἁμαρτία ἢ περὶ τὸ καθόλου ἐν τῷ βουλεύσασθαι ἢ περὶ τὸ καθ’ ἕκαστον· ἢ γὰρ ὅτι πάντα τὰ βαρύσταθμα ὕδατα φαῦλα, ἢ ὅτι τοδὶ βαρύσταθμον. ὅτι δ’ ἡ φρόνησις οὐκ ἐπιστήμη, φανερόν· τοῦ γὰρ ἐσχάτου ἐστίν, ὥσπερ εἴρηται· [25] τὸ γὰρ πρακτὸν τοιοῦτον. ἀντίκειται μὲν δὴ τῷ νῷ· ὁ μὲν γὰρ νοῦς τῶν ὅρων, ὧν οὐκ ἔστι λόγος, ἣ δὲ τοῦ ἐσχάτου, οὗ οὐκ ἔστιν ἐπιστήμη ἀλλ’ αἴσθησις, οὐχ ἡ τῶν ἰδίων, ἀλλ’ οἵᾳ αἰσθανόμεθα ὅτι τὸ [ἐν τοῖς μαθηματικοῖς] ἔσχατον τρίγωνον· στήσεται γὰρ κἀκεῖ. ἀλλ’ αὕτη μᾶλλον [30] αἴσθησις ἢ φρόνησις, ἐκείνης δ’ ἄλλο εἶδος.

τὸ ζητεῖν δὲ καὶ τὸ βουλεύεσθαι διαφέρει· τὸ γὰρ βουλεύεσθαι ζητεῖν τι ἐστίν. δεῖ δὲ λαβεῖν καὶ περὶ εὐβουλίας τί ἐστι, πότερον ἐπιστήμη τις ἢ δόξα ἢ εὐστοχία ἢ ἄλλο τι γένος. ἐπιστήμη μὲν δὴ οὐκ ἔστιν· οὐ γὰρ ζητοῦσι περὶ ὧν ἴσασιν, 1142b [1] ἡ δ’ εὐβουλία βουλή τις, ὁ δὲ βουλευόμενος ζητεῖ καὶ λογίζεται. ἀλλὰ μὴν οὐδ’ εὐστοχία· ἄνευ τε γὰρ λόγου καὶ ταχύ τι ἡ εὐστοχία, βουλεύονται δὲ πολὺν χρόνον, καὶ φασὶ πράττειν μὲν δεῖν ταχὺ τὰ βουλευθέντα, [5] βουλεύεσθαι δὲ βραδέως. ἔτι ἡ ἀγχίνοια ἕτερον καὶ ἡ εὐβουλία· ἔστι δ’ εὐστοχία τις ἡ ἀγχίνοια. οὐδὲ δὴ δόξα ἡ εὐβουλία οὐδεμία. ἀλλ’ ἐπεὶ ὁ μὲν κακῶς βουλευόμενος ἁμαρτάνει, ὁ δ’ εὖ ὀρθῶς βουλεύεται, δῆλον ὅτι ὀρθότης τις ἡ εὐβουλία ἐστίν, οὔτ’ ἐπιστήμης δὲ οὔτε δόξης· [10] ἐπιστήμης μὲν γὰρ οὐκ ἔστιν ὀρθότης (οὐδὲ γὰρ ἁμαρτία), δόξης δ’ ὀρθότης ἀλήθεια· ἅμα δὲ καὶ ὥρισται ἤδη πᾶν οὗ δόξα ἐστίν. ἀλλὰ μὴν οὐδ’ ἄνευ λόγου ἡ εὐβουλία. διανοίας ἄρα λείπεται· αὕτη γὰρ οὔπω φάσις· καὶ γὰρ ἡ δόξα οὐ ζήτησις ἀλλὰ φάσις τις ἤδη, ὁ δὲ βουλευόμενος, ἐάν [15] τε εὖ ἐάν τε καὶ κακῶς βουλεύηται, ζητεῖ τι καὶ λογίζεται. ἀλλ’ ὀρθότης τίς ἐστιν ἡ εὐβουλία βουλῆς· διὸ ἡ βουλὴ ζητητέα πρῶτον τί καὶ περὶ τί. ἐπεὶ δ’ ἡ ὀρθότης πλεοναχῶς, δῆλον ὅτι οὐ πᾶσα· ὁ γὰρ ἀκρατὴς καὶ ὁ φαῦλος ὃ προτίθεται †ἰδεῖν† ἐκ τοῦ λογισμοῦ τεύξεται, ὥστε ὀρθῶς ἔσται [20] βεβουλευμένος, κακὸν δὲ μέγα εἰληφώς. δοκεῖ δ’ ἀγαθόν τι τὸ εὖ βεβουλεῦσθαι· ἡ γὰρ τοιαύτη ὀρθότης βουλῆς εὐβουλία, ἡ ἀγαθοῦ τευκτική. ἀλλ’ ἔστι καὶ τούτου ψευδεῖ συλλογισμῷ τυχεῖν, καὶ ὃ μὲν δεῖ ποιῆσαι τυχεῖν, δι’ οὗ δ’ οὔ, ἀλλὰ ψευδῆ τὸν μέσον ὅρον εἶναι· ὥστ’ οὐδ’ [25] αὕτη πω εὐβουλία, καθ’ ἣν οὗ δεῖ μὲν τυγχάνει, οὐ μέντοι δι’ οὗ ἔδει. ἔτι ἔστι πολὺν χρόνον βουλευόμενον τυχεῖν, τὸν δὲ ταχύ. οὐκοῦν οὐδ’ ἐκείνη πω εὐβουλία, ἀλλ’ ὀρθότης ἡ κατὰ τὸ ὠφέλιμον, καὶ οὗ δεῖ καὶ ὡς καὶ ὅτε. ἔτι ἔστι καὶ ἁπλῶς εὖ βεβουλεῦσθαι καὶ πρός τι τέλος. ἣ μὲν [30] δὴ ἁπλῶς ἡ πρὸς τὸ τέλος τὸ ἁπλῶς κατορθοῦσα, τὶς δὲ ἡ πρός τι τέλος. εἰ δὴ τῶν φρονίμων τὸ εὖ βεβουλεῦσθαι, ἡ εὐβουλία εἴη ἂν ὀρθότης ἡ κατὰ τὸ συμφέρον πρὸς τὸ τέλος, οὗ ἡ φρόνησις ἀληθὴς ὑπόληψίς ἐστιν.

ἔστι δὲ καὶ ἡ σύνεσις καὶ ἡ εὐσυνεσία, 1143a [1] καθ’ ἃς λέγομεν συνετοὺς καὶ εὐσυνέτους, οὔθ’ ὅλως τὸ αὐτὸ ἐπιστήμῃ ἢ δόξῃ (πάντες γὰρ ἂν ἦσαν συνετοί) οὔτε τις μία τῶν κατὰ μέρος ἐπιστημῶν, οἷον ἡ ἰατρικὴ περὶ ὑγιεινῶν, ἡ γεωμετρία περὶ μεγέθη· οὔτε γὰρ περὶ τῶν ἀεὶ ὄντων καὶ [5] ἀκινήτων ἡ σύνεσίς ἐστιν οὔτε περὶ τῶν γιγνομένων ὁτουοῦν, ἀλλὰ περὶ ὧν ἀπορήσειεν ἄν τις καὶ βουλεύσαιτο. διὸ περὶ τὰ αὐτὰ μὲν τῇ φρονήσει ἐστίν, οὐκ ἔστι δὲ τὸ αὐτὸ σύνεσις καὶ φρόνησις. ἡ μὲν γὰρ φρόνησις ἐπιτακτική ἐστιν· τί γὰρ δεῖ πράττειν ἢ μή, τὸ τέλος αὐτῆς ἐστίν· ἡ δὲ σύνεσις [10] κριτικὴ μόνον. ταὐτὸ γὰρ σύνεσις καὶ εὐσυνεσία καὶ συνετοὶ καὶ εὐσύνετοι. ἔστι δ’ οὔτε τὸ ἔχειν τὴν φρόνησιν οὔτε τὸ λαμβάνειν ἡ σύνεσις· ἀλλ’ ὥσπερ τὸ μανθάνειν λέγεται συνιέναι, ὅταν χρῆται τῇ ἐπιστήμῃ, οὕτως ἐν τῷ χρῆσθαι τῇ δόξῃ ἐπὶ τὸ κρίνειν περὶ τούτων περὶ ὧν ἡ [15] φρόνησίς ἐστιν, ἄλλου λέγοντος, καὶ κρίνειν καλῶς· τὸ γὰρ εὖ τῷ καλῶς τὸ αὐτό. καὶ ἐντεῦθεν ἐλήλυθε τοὔνομα ἡ σύνεσις, καθ’ ἣν εὐσύνετοι, ἐκ τῆς ἐν τῷ μανθάνειν· λέγομεν γὰρ τὸ μανθάνειν συνιέναι πολλάκις.

ἡ δὲ καλουμένη γνώμη, καθ’ ἣν συγγνώμονας καὶ [20] ἔχειν φαμὲν γνώμην, ἡ τοῦ ἐπιεικοῦς ἐστὶ κρίσις ὀρθή. σημεῖον δέ· τὸν γὰρ ἐπιεικῆ μάλιστά φαμεν εἶναι συγγνωμονικόν, καὶ ἐπιεικὲς τὸ ἔχειν περὶ ἔνια συγγνώμην. ἡ δὲ συγγνώμη γνώμη ἐστὶ κριτικὴ τοῦ ἐπιεικοῦς ὀρθή· ὀρθὴ δ’ ἡ τοῦ ἀληθοῦς.

[25] εἰσὶ δὲ πᾶσαι αἱ ἕξεις εὐλόγως εἰς ταὐτὸ τείνουσαι· λέγομεν γὰρ γνώμην καὶ σύνεσιν καὶ φρόνησιν καὶ νοῦν ἐπὶ τοὺς αὐτοὺς ἐπιφέροντες γνώμην ἔχειν καὶ νοῦν ἤδη καὶ φρονίμους καὶ συνετούς. πᾶσαι γὰρ αἱ δυνάμεις αὗται τῶν ἐσχάτων εἰσὶ καὶ τῶν καθ’ ἕκαστον· καὶ ἐν μὲν τῷ [30] κριτικὸς εἶναι περὶ ὧν ὁ φρόνιμος, συνετὸς καὶ εὐγνώμων ἢ συγγνώμων· τὰ γὰρ ἐπιεικῆ κοινὰ τῶν ἀγαθῶν ἁπάντων ἐστὶν ἐν τῷ πρὸς ἄλλον. ἔστι δὲ τῶν καθ’ ἕκαστα καὶ τῶν ἐσχάτων ἅπαντα τὰ πρακτά· καὶ γὰρ τὸν φρόνιμον δεῖ γινώσκειν αὐτά, καὶ ἡ σύνεσις καὶ ἡ γνώμη περὶ τὰ [35] πρακτά, ταῦτα δ’ ἔσχατα. καὶ ὁ νοῦς τῶν ἐσχάτων ἐπ’ ἀμφότερα· καὶ γὰρ τῶν πρώτων ὅρων καὶ τῶν ἐσχάτων 1143b [1] νοῦς ἐστὶ καὶ οὐ λόγος, καὶ ὁ μὲν κατὰ τὰς ἀποδείξεις τῶν ἀκινήτων ὅρων καὶ πρώτων, ὁ δ’ ἐν ταῖς πρακτικαῖς τοῦ

ἐσχάτου καὶ ἐνδεχομένου καὶ τῆς ἑτέρας προτάσεως· ἀρχαὶ γὰρ τοῦ οὗ ἕνεκα αὗται· ἐκ τῶν καθ’ ἕκαστα γὰρ [5] τὰ καθόλου· τούτων οὖν ἔχειν δεῖ αἴσθησιν, αὕτη δ’ ἐστὶ νοῦς. διὸ καὶ φυσικὰ δοκεῖ εἶναι ταῦτα, καὶ φύσει σοφὸς μὲν οὐδείς, γνώμην δ’ ἔχειν καὶ σύνεσιν καὶ νοῦν. σημεῖον δ’ ὅτι καὶ ταῖς ἡλικίαις οἰόμεθα ἀκολουθεῖν, καὶ ἥδε ἡ ἡλικία νοῦν ἔχει καὶ γνώμην, ὡς τῆς φύσεως αἰτίας οὔσης. [διὸ [10] καὶ ἀρχὴ καὶ τέλος νοῦς· ἐκ τούτων γὰρ αἱ ἀποδείξεις καὶ περὶ τούτων.] ὥστε δεῖ προσέχειν τῶν ἐμπείρων καὶ πρεσβυτέρων ἢ φρονίμων ταῖς ἀναποδείκτοις φάσεσι καὶ δόξαις οὐχ ἧττον τῶν ἀποδείξεων· διὰ γὰρ τὸ ἔχειν ἐκ τῆς ἐμπειρίας ὄμμα ὁρῶσιν ὀρθῶς. τί μὲν οὖν ἐστὶν ἡ [15] φρόνησις καὶ ἡ σοφία, καὶ περὶ τί ἑκατέρα τυγχάνει οὖσα, καὶ ὅτι ἄλλου τῆς ψυχῆς μορίου ἀρετὴ ἑκατέρα, εἴρηται.

διαπορήσειε δ’ ἄν τις περὶ αὐτῶν τί χρήσιμοί εἰσιν. ἡ μὲν γὰρ σοφία οὐδὲν θεωρήσει ἐξ ὧν ἔσται εὐδαίμων [20] ἄνθρωπος (οὐδεμιᾶς γάρ ἐστι γενέσεως), ἡ δὲ φρόνησις τοῦτο μὲν ἔχει, ἀλλὰ τίνος ἕνεκα δεῖ αὐτῆς; εἴπερ ἡ μὲν φρόνησίς ἐστιν ἡ περὶ τὰ δίκαια καὶ καλὰ καὶ ἀγαθὰ ἀνθρώπῳ, ταῦτα δ’ ἐστὶν ἃ τοῦ ἀγαθοῦ ἐστὶν ἀνδρὸς πράττειν, οὐδὲν δὲ πρακτικώτεροι τῷ εἰδέναι αὐτά ἐσμεν, εἴπερ ἕξεις [25] αἱ ἀρεταί εἰσιν, ὥσπερ οὐδὲ τὰ ὑγιεινὰ οὐδὲ τὰ εὐεκτικά, ὅσα μὴ τῷ ποιεῖν ἀλλὰ τῷ ἀπὸ τῆς ἕξεως εἶναι λέγεται· οὐθὲν γὰρ πρακτικώτεροι τῷ ἔχειν τὴν ἰατρικὴν καὶ γυμναστικήν ἐσμεν. εἰ δὲ μὴ τούτων χάριν φρόνιμον ῥητέον ἀλλὰ τοῦ γίνεσθαι, τοῖς οὖσι σπουδαίοις οὐθὲν ἂν εἴη χρήσιμος· [30] ἔτι δ’ οὐδὲ τοῖς μὴ ἔχουσιν· οὐδὲν γὰρ διοίσει αὐτοὺς ἔχειν ἢ ἄλλοις ἔχουσι πείθεσθαι, ἱκανῶς τ’ ἔχοι ἂν ἡμῖν ὥσπερ καὶ περὶ τὴν ὑγίειαν· βουλόμενοι γὰρ ὑγιαίνειν ὅμως οὐ μανθάνομεν ἰατρικήν. πρὸς δὲ τούτοις ἄτοπον ἂν εἶναι δόξειεν, εἰ χείρων τῆς σοφίας οὖσα κυριωτέρα αὐτῆς ἔσται· [35] ἡ γὰρ ποιοῦσα ἄρχει καὶ ἐπιτάττει περὶ ἕκαστον. περὶ δὴ τούτων λεκτέον· νῦν μὲν γὰρ ἠπόρηται περὶ αὐτῶν μόνον. 1144a [1] πρῶτον μὲν οὖν λέγωμεν ὅτι καθ’ αὑτὰς ἀναγκαῖον αἱρετὰς αὐτὰς εἶναι, ἀρετάς γ’ οὔσας ἑκατέραν ἑκατέρου τοῦ μορίου, καὶ εἰ μὴ ποιοῦσι μηδὲν μηδετέρα αὐτῶν. ἔπειτα καὶ ποιοῦσι μέν, οὐχ ὡς ἡ ἰατρικὴ δὲ ὑγίειαν, ἀλλ’ ὡς ἡ ὑγίεια, οὕτως [5] ἡ σοφία εὐδαιμονίαν· μέρος γὰρ οὖσα τῆς ὅλης ἀρετῆς τῷ ἔχεσθαι ποιεῖ καὶ †τῷ ἐνεργεῖν εὐδαίμονα.† ἔτι τὸ ἔργον ἀποτελεῖται κατὰ τὴν φρόνησιν καὶ τὴν ἠθικὴν ἀρετήν· ἡ μὲν γὰρ ἀρετὴ τὸν σκοπὸν ποιεῖ ὀρθόν, ἡ δὲ φρόνησις τὰ πρὸς τοῦτον. τοῦ δὲ τετάρτου μορίου τῆς ψυχῆς οὐκ ἔστιν [10] ἀρετὴ τοιαύτη, τοῦ θρεπτικοῦ· οὐδὲν γὰρ ἐπ’ αὐτῷ πράττειν ἢ μὴ πράττειν. περὶ δὲ τοῦ μηθὲν εἶναι πρακτικωτέρους διὰ τὴν φρόνησιν τῶν καλῶν καὶ δικαίων, μικρὸν ἄνωθεν ἀρκτέον, λαβόντας ἀρχὴν ταύτην. ὥσπερ γὰρ καὶ τὰ δίκαια λέγομεν πράττοντάς τινας οὔπω δικαίους εἶναι, οἷον [15] τοὺς τὰ ὑπὸ τῶν νόμων τεταγμένα ποιοῦντας ἢ ἄκοντας ἢ δι’ ἄγνοιαν ἢ δι’ ἕτερόν τι καὶ μὴ δι’ αὐτά (καίτοι πράττουσί γε ἃ δεῖ καὶ ὅσα χρὴ τὸν σπουδαῖον), οὕτως, ὡς ἔοικεν, ἔστι τὸ πῶς ἔχοντα πράττειν ἕκαστα ὥστ’ εἶναι ἀγαθόν, λέγω δ’ οἷον διὰ προαίρεσιν καὶ αὐτῶν ἕνεκα τῶν [20] πραττομένων. τὴν μὲν οὖν προαίρεσιν ὀρθὴν ποιεῖ ἡ ἀρετή, τὸ δ’ ὅσα ἐκείνης ἕνεκα πέφυκε πράττεσθαι οὐκ ἔστι τῆς ἀρετῆς ἀλλ’ ἑτέρας δυνάμεως. λεκτέον δ’ ἐπιστήσασι σαφέστερον περὶ αὐτῶν. ἔστι δὴ δύναμις ἣν καλοῦσι δεινότητα· αὕτη δ’ ἐστὶ τοιαύτη ὥστε τὰ πρὸς τὸν ὑποτεθέντα [25] σκοπὸν συντείνοντα δύνασθαι ταῦτα πράττειν καὶ τυγχάνειν αὐτοῦ. ἂν μὲν οὖν ὁ σκοπὸς ᾖ καλός, ἐπαινετή ἐστιν, ἐὰν δὲ φαῦλος, πανουργία· διὸ καὶ τοὺς φρονίμους δεινοὺς καὶ πανούργους φαμὲν εἶναι. ἔστι δ’ ἡ φρόνησις οὐχ ἡ δύναμις, ἀλλ’ οὐκ ἄνευ τῆς δυνάμεως ταύτης. ἡ δ’ ἕξις τῷ [30] ὄμματι τούτῳ γίνεται τῆς ψυχῆς οὐκ ἄνευ ἀρετῆς, ὡς εἴρηταί τε καὶ ἔστι δῆλον· οἱ γὰρ συλλογισμοὶ τῶν πρακτῶν ἀρχὴν ἔχοντές εἰσιν, ἐπειδὴ τοιόνδε τὸ τέλος καὶ τὸ ἄριστον, ὁτιδήποτε ὄν (ἔστω γὰρ λόγου χάριν τὸ τυχόν)· τοῦτο δ’ εἰ μὴ τῷ ἀγαθῷ, οὐ φαίνεται· διαστρέφει γὰρ ἡ [35] μοχθηρία καὶ διαψεύδεσθαι ποιεῖ περὶ τὰς πρακτικὰς ἀρχάς. ὥστε φανερὸν ὅτι ἀδύνατον φρόνιμον εἶναι μὴ ὄντα ἀγαθόν.

1144b [1] σκεπτέον δὴ πάλιν καὶ περὶ ἀρετῆς· καὶ γὰρ ἡ ἀρετὴ παραπλησίως ἔχει ὡς ἡ φρόνησις πρὸς τὴν δεινότητα — οὐ ταὐτὸ μέν, ὅμοιον δέ — οὕτω καὶ ἡ φυσικὴ ἀρετὴ πρὸς τὴν κυρίαν. πᾶσι γὰρ δοκεῖ ἕκαστα τῶν ἠθῶν ὑπάρχειν [5] φύσει πως· καὶ γὰρ δίκαιοι καὶ σωφρονικοὶ καὶ ἀνδρεῖοι καὶ τἆλλα ἔχομεν εὐθὺς ἐκ γενετῆς· ἀλλ’ ὅμως ζητοῦμεν ἕτερόν τι τὸ κυρίως ἀγαθὸν καὶ τὰ τοιαῦτα ἄλλον τρόπον ὑπάρχειν. καὶ γὰρ παισὶ καὶ θηρίοις αἱ φυσικαὶ ὑπάρχουσιν ἕξεις, ἀλλ’ ἄνευ νοῦ βλαβεραὶ φαίνονται οὖσαι. [10] πλὴν τοσοῦτον ἔοικεν ὁρᾶσθαι, ὅτι ὥσπερ σώματι ἰσχυρῷ ἄνευ ὄψεως κινουμένῳ συμβαίνει σφάλλεσθαι ἰσχυρῶς διὰ τὸ μὴ ἔχειν ὄψιν, οὕτω καὶ ἐνταῦθα· ἐὰν δὲ λάβῃ νοῦν, ἐν τῷ πράττειν διαφέρει· ἡ δ’ ἕξις ὁμοία οὖσα τότ’ ἔσται κυρίως ἀρετή. ὥστε καθάπερ ἐπὶ τοῦ δοξαστικοῦ δύο ἐστὶν [15] εἴδη, δεινότης καὶ φρόνησις, οὕτω καὶ ἐπὶ τοῦ ἠθικοῦ δύο ἐστί, τὸ μὲν ἀρετὴ φυσικὴ τὸ δ’ ἡ κυρία, καὶ τούτων ἡ κυρία οὐ γίνεται ἄνευ φρονήσεως. διόπερ τινές φασι πάσας τὰς ἀρετὰς φρονήσεις εἶναι, καὶ Σωκράτης τῇ μὲν ὀρθῶς ἐζήτει τῇ δ’ ἡμάρτανεν· ὅτι μὲν γὰρ φρονήσεις ᾤετο [20] εἶναι πάσας τὰς ἀρετάς, ἡμάρτανεν, ὅτι δ’ οὐκ ἄνευ φρονήσεως, καλῶς ἔλεγεν. σημεῖον δέ· καὶ γὰρ νῦν πάντες, ὅταν ὁρίζωνται τὴν ἀρετήν, προστιθέασι, τὴν ἕξιν εἰπόντες καὶ πρὸς ἅ ἐστι, τὴν κατὰ τὸν ὀρθὸν λόγον· ὀρθὸς δ’ ὁ κατὰ τὴν φρόνησιν. ἐοίκασι δὴ μαντεύεσθαί πως ἅπαντες [25] ὅτι ἡ τοιαύτη ἕξις ἀρετή ἐστιν, ἡ κατὰ τὴν φρόνησιν. δεῖ δὲ μικρὸν μεταβῆναι. ἔστι γὰρ οὐ μόνον ἡ κατὰ τὸν ὀρθὸν λόγον, ἀλλ’ ἡ μετὰ τοῦ ὀρθοῦ λόγου ἕξις ἀρετή ἐστιν· ὀρθὸς δὲ λόγος περὶ τῶν τοιούτων ἡ φρόνησίς ἐστιν. Σωκράτης μὲν οὖν λόγους τὰς ἀρετὰς ᾤετο εἶναι (ἐπιστήμας γὰρ εἶναι [30] πάσας), ἡμεῖς δὲ μετὰ λόγου. δῆλον οὖν ἐκ τῶν εἰρημένων ὅτι οὐχ οἷόν τε ἀγαθὸν εἶναι κυρίως ἄνευ φρονήσεως, οὐδὲ φρόνιμον ἄνευ τῆς ἠθικῆς ἀρετῆς. ἀλλὰ καὶ ὁ λόγος ταύτῃ λύοιτ’ ἄν, ᾧ διαλεχθείη τις ἂν ὅτι χωρίζονται ἀλλήλων αἱ ἀρεταί· οὐ γὰρ ὁ αὐτὸς εὐφυέστατος πρὸς ἁπάσας, [35] ὥστε τὴν μὲν ἤδη τὴν δ’ οὔπω εἰληφὼς ἔσται· τοῦτο γὰρ κατὰ μὲν τὰς φυσικὰς ἀρετὰς ἐνδέχεται, 1145a [1] καθ’ ἃς δὲ ἁπλῶς λέγεται ἀγαθός, οὐκ ἐνδέχεται· ἅμα γὰρ τῇ φρονήσει μιᾷ ὑπαρχούσῃ πᾶσαι ὑπάρξουσιν. δῆλον δέ, κἂν εἰ μὴ πρακτικὴ ἦν, ὅτι ἔδει ἂν αὐτῆς διὰ τὸ τοῦ μορίου ἀρετὴν εἶναι, καὶ ὅτι οὐκ ἔσται ἡ προαίρεσις ὀρθὴ ἄνευ [5] φρονήσεως οὐδ’ ἄνευ ἀρετῆς· ἣ μὲν γὰρ τὸ τέλος ἣ δὲ τὰ πρὸς τὸ τέλος ποιεῖ πράττειν. ἀλλὰ μὴν οὐδὲ κυρία γ’ ἐστὶ τῆς σοφίας οὐδὲ τοῦ βελτίονος μορίου, ὥσπερ οὐδὲ τῆς ὑγιείας ἡ ἰατρική· οὐ γὰρ χρῆται αὐτῇ, ἀλλ’ ὁρᾷ ὅπως γένηται· ἐκείνης οὖν ἕνεκα ἐπιτάττει, ἀλλ’ οὐκ ἐκείνῃ. [10] ἔτι ὅμοιον κἂν εἴ τις τὴν πολιτικὴν φαίη ἄρχειν τῶν θεῶν, ὅτι ἐπιτάττει περὶ πάντα τὰ ἐν τῇ πόλει.

Βιβλίο 7

μετὰ δὲ ταῦτα λεκτέον, ἄλλην ποιησαμένους ἀρχήν, ὅτι τῶν περὶ τὰ ἤθη φευκτῶν τρία ἐστὶν εἴδη, κακία ἀκρασία θηριότης. τὰ δ’ ἐναντία τοῖς μὲν δυσὶ δῆλα· τὸ μὲν γὰρ ἀρετὴν τὸ δ’ ἐγκράτειαν καλοῦμεν· πρὸς δὲ τὴν θηριότητα μάλιστ’ ἂν ἁρμόττοι λέγειν τὴν ὑπὲρ ἡμᾶς ἀρετήν, [20] ἡρωικήν τινα καὶ θείαν, ὥσπερ Ὅμηρος περὶ Ἕκτορος πεποίηκε λέγοντα τὸν Πρίαμον ὅτι σφόδρα ἦν ἀγαθός,

οὐδὲ ἐῴκει ἀνδρός γε θνητοῦ πάις ἔμμεναι ἀλλὰ θεοῖο.

ὥστ’ εἰ, καθάπερ φασίν, ἐξ ἀνθρώπων γίνονται θεοὶ δι’ ἀρετῆς ὑπερβολήν, τοιαύτη τις ἂν εἴη δῆλον ὅτι ἡ τῇ θηριώδει [25] ἀντιτιθεμένη ἕξις· καὶ γὰρ ὥσπερ οὐδὲ θηρίου ἐστὶ κακία οὐδ’ ἀρετή, οὕτως οὐδὲ θεοῦ, ἀλλ’ ἣ μὲν τιμιώτερον ἀρετῆς, ἣ δ’ ἕτερόν τι γένος κακίας. ἐπεὶ δὲ σπάνιον καὶ τὸ θεῖον ἄνδρα εἶναι, καθάπερ οἱ Λάκωνες εἰώθασι προσαγορεύειν, ὅταν ἀγασθῶσι σφόδρα του, σεῖος ἀνήρ φασιν, οὕτω καὶ [30] ὁ θηριώδης ἐν τοῖς ἀνθρώποις σπάνιος· μάλιστα δ’ ἐν τοῖς βαρβάροις ἐστίν, γίνεται δ’ ἔνια καὶ διὰ νόσους καὶ πηρώσεις· καὶ τοὺς διὰ κακίαν δὲ τῶν ἀνθρώπων ὑπερβάλλοντας οὕτως ἐπιδυσφημοῦμεν. ἀλλὰ περὶ μὲν τῆς διαθέσεως τῆς τοιαύτης ὕστερον ποιητέον τινὰ μνείαν, περὶ δὲ κακίας [35] εἴρηται πρότερον· περὶ δὲ ἀκρασίας καὶ μαλακίας καὶ τρυφῆς λεκτέον, καὶ περὶ ἐγκρατείας καὶ καρτερίας· 1145b [1] οὔτε γὰρ ὡς περὶ τῶν αὐτῶν ἕξεων τῇ ἀρετῇ καὶ τῇ μοχθηρίᾳ ἑκατέραν αὐτῶν ὑποληπτέον, οὔθ’ ὡς ἕτερον γένος. δεῖ δ’, ὥσπερ ἐπὶ τῶν ἄλλων, τιθέντας τὰ φαινόμενα καὶ πρῶτον διαπορήσαντας οὕτω δεικνύναι μάλιστα μὲν πάντα τὰ [5] ἔνδοξα περὶ ταῦτα τὰ πάθη, εἰ δὲ μή, τὰ πλεῖστα καὶ κυριώτατα· ἐὰν γὰρ λύηταί τε τὰ δυσχερῆ καὶ καταλείπηται τὰ ἔνδοξα, δεδειγμένον ἂν εἴη ἱκανῶς.

δοκεῖ δὴ ἥ τε ἐγκράτεια καὶ καρτερία τῶν σπουδαίων καὶ [τῶν] ἐπαινετῶν εἶναι, ἡ δ’ ἀκρασία τε καὶ μαλακία [10] τῶν φαύλων καὶ ψεκτῶν, καὶ ὁ αὐτὸς ἐγκρατὴς καὶ ἐμμενετικὸς τῷ λογισμῷ, καὶ ἀκρατὴς καὶ ἐκστατικὸς τοῦ λογισμοῦ. καὶ ὁ μὲν ἀκρατὴς εἰδὼς ὅτι φαῦλα πράττει διὰ πάθος, ὁ δ’ ἐγκρατὴς εἰδὼς ὅτι φαῦλαι αἱ ἐπιθυμίαι οὐκ ἀκολουθεῖ διὰ τὸν λόγον. καὶ τὸν σώφρονα μὲν ἐγκρατῆ καὶ [15] καρτερικόν, τὸν δὲ τοιοῦτον οἳ μὲν πάντα σώφρονα οἳ δ᾽ οὔ, καὶ τὸν ἀκόλαστον ἀκρατῆ καὶ τὸν ἀκρατῆ ἀκόλαστον συγκεχυμένως, οἳ δ᾽ ἑτέρους εἶναί φασιν. τὸν δὲ φρόνιμον ὁτὲ μὲν οὔ φασιν ἐνδέχεσθαι εἶναι ἀκρατῆ, ὁτὲ δ᾽ ἐνίους φρονίμους ὄντας καὶ δεινοὺς ἀκρατεῖς εἶναι. ἔτι ἀκρατεῖς λέγονται καὶ [20] θυμοῦ καὶ τιμῆς καὶ κέρδους. τὰ μὲν οὖν λεγόμενα ταῦτ᾽ ἐστίν.

ἀπορήσειε δ᾽ ἄν τις πῶς ὑπολαμβάνων ὀρθῶς ἀκρατεύεταί τις. ἐπιστάμενον μὲν οὖν οὔ φασί τινες οἷόν τε εἶναι· δεινὸν γὰρ ἐπιστήμης ἐνούσης, ὡς ᾤετο Σωκράτης, ἄλλο τι κρατεῖν καὶ περιέλκειν αὐτὴν ὥσπερ ἀνδράποδον. [25] Σωκράτης μὲν γὰρ ὅλως ἐμάχετο πρὸς τὸν λόγον ὡς οὐκ οὔσης ἀκρασίας· οὐθένα γὰρ ὑπολαμβάνοντα πράττειν παρὰ τὸ βέλτιστον, ἀλλὰ δι᾽ ἄγνοιαν. οὗτος μὲν οὖν ὁ λόγος ἀμφισβητεῖ τοῖς φαινομένοις ἐναργῶς, καὶ δέον ζητεῖν περὶ τὸ πάθος, εἰ δι᾽ ἄγνοιαν, τίς ὁ τρόπος γίνεται τῆς ἀγνοίας. [30] ὅτι γὰρ οὐκ οἴεταί γε ὁ ἀκρατευόμενος πρὶν ἐν τῷ πάθει γενέσθαι, φανερόν. εἰσὶ δέ τινες οἳ τὰ μὲν συγχωροῦσι τὰ δ᾽ οὔ· τὸ μὲν γὰρ ἐπιστήμης μηθὲν εἶναι κρεῖττον ὁμολογοῦσιν, τὸ δὲ μηθένα πράττειν παρὰ τὸ δόξαν βέλτιον οὐχ ὁμολογοῦσιν, καὶ διὰ τοῦτο τὸν ἀκρατῆ φασὶν οὐκ ἐπιστήμην [35] ἔχοντα κρατεῖσθαι ὑπὸ τῶν ἡδονῶν ἀλλὰ δόξαν. ἀλλὰ μὴν εἴγε δόξα καὶ μὴ ἐπιστήμη, μηδ᾽ ἰσχυρὰ ὑπόληψις 1146a [1] ἡ ἀντιτείνουσα ἀλλ᾽ ἠρεμαία, καθάπερ ἐν τοῖς διστάζουσι, συγγνώμη τῷ μὴ μένειν ἐν αὐταῖς πρὸς ἐπιθυμίας ἰσχυράς· τῇ δὲ μοχθηρίᾳ οὐ συγγνώμη, οὐδὲ τῶν ἄλλων οὐδενὶ τῶν ψεκτῶν. φρονήσεως ἄρα ἀντιτεινούσης; [5] αὕτη γὰρ ἰσχυρότατον. ἀλλ᾽ ἄτοπον· ἔσται γὰρ ὁ αὐτὸς ἅμα φρόνιμος καὶ ἀκρατής, φήσειε δ᾽ οὐδ᾽ ἂν εἷς φρονίμου εἶναι τὸ πράττειν ἑκόντα τὰ φαυλότατα. πρὸς δὲ τούτοις δέδεικται πρότερον ὅτι πρακτικός γε ὁ φρόνιμος (τῶν γὰρ ἐσχάτων τις) καὶ τὰς ἄλλας ἔχων ἀρετάς. ἔτι εἰ μὲν ἐν [10] τῷ ἐπιθυμίας ἔχειν ἰσχυρὰς καὶ φαύλας ὁ ἐγκρατής, οὐκ ἔσται ὁ σώφρων ἐγκρατὴς οὐδ᾽ ὁ ἐγκρατὴς σώφρων· οὔτε γὰρ τὸ ἄγαν σώφρονος οὔτε τὸ φαύλας ἔχειν. ἀλλὰ μὴν δεῖ γε· εἰ μὲν γὰρ χρησταὶ αἱ ἐπιθυμίαι, φαύλη ἡ κωλύουσα ἕξις μὴ ἀκολουθεῖν, ὥσθ᾽ ἡ ἐγκράτεια οὐ πᾶσα [15] σπουδαία· εἰ δ᾽ ἀσθενεῖς καὶ μὴ φαῦλαι, οὐθὲν σεμνόν, οὐδ᾽ εἰ φαῦλαι καὶ ἀσθενεῖς, οὐδὲν μέγα. ἔτι εἰ πάσῃ δόξῃ ἐμμενετικὸν ποιεῖ ἡ ἐγκράτεια, φαύλη, οἷον εἰ καὶ τῇ ψευδεῖ· καὶ εἰ πάσης δόξης ἡ ἀκρασία ἐκστατικόν, ἔσται τις σπουδαία ἀκρασία, οἷον ὁ Σοφοκλέους Νεοπτόλεμος ἐν [20] τῷ Φιλοκτήτῃ· ἐπαινετὸς γὰρ οὐκ ἐμμένων οἷς ἐπείσθη ὑπὸ τοῦ Ὀδυσσέως διὰ τὸ λυπεῖσθαι ψευδόμενος. ἔτι ὁ σοφιστικὸς λόγος [ψευδόμενος] ἀπορία· διὰ γὰρ τὸ παράδοξα βούλεσθαι ἐλέγχειν, ἵνα δεινοὶ ὦσιν ὅταν ἐπιτύχωσιν, ὁ γενόμενος συλλογισμὸς ἀπορία γίνεται· δέδεται γὰρ ἡ [25] διάνοια, ὅταν μένειν μὴ βούληται διὰ τὸ μὴ ἀρέσκειν τὸ συμπερανθέν, προϊέναι δὲ μὴ δύνηται διὰ τὸ λῦσαι μὴ ἔχειν τὸν λόγον. συμβαίνει δὴ ἔκ τινος λόγου ἡ ἀφροσύνη μετ’ ἀκρασίας ἀρετή· τἀναντία γὰρ πράττει ὧν ὑπολαμβάνει διὰ τὴν ἀκρασίαν, ὑπολαμβάνει δὲ τἀγαθὰ [30] κακὰ εἶναι καὶ οὐ δεῖν πράττειν, ὥστε τἀγαθὰ καὶ οὐ τὰ κακὰ πράξει. ἔτι ὁ τῷ πεπεῖσθαι πράττων καὶ διώκων τὰ ἡδέα καὶ προαιρούμενος βελτίων ἂν δόξειεν τοῦ μὴ διὰ λογισμὸν ἀλλὰ δι’ ἀκρασίαν· εὐιατότερος γὰρ διὰ τὸ μεταπεισθῆναι ἄν. ὁ δ’ ἀκρατὴς ἔνοχος τῇ παροιμίᾳ ἐν ᾗ [35] φαμὲν “ὅταν τὸ ὕδωρ πνίγῃ, τί δεῖ ἐπιπίνειν;” εἰ μὲν γὰρ ἐπέπειστο ἃ πράττει, 1146b [1] μεταπεισθεὶς ἂν ἐπαύσατο· νῦν δὲ πεπεισμένος οὐδὲν ἧττον [ἄλλα] πράττει. ἔτι εἰ περὶ πάντα ἀκρασία ἐστὶ καὶ ἐγκράτεια, τίς ὁ ἁπλῶς ἀκρατής; οὐδεὶς γὰρ ἁπάσας ἔχει τὰς ἀκρασίας, φαμὲν δ’ εἶναί τινας [5] ἁπλῶς.

αἱ μὲν οὖν ἀπορίαι τοιαῦταί τινες συμβαίνουσιν, τούτων δὲ τὰ μὲν ἀνελεῖν δεῖ τὰ δὲ καταλιπεῖν· ἡ γὰρ λύσις τῆς ἀπορίας εὕρεσίς ἐστιν. πρῶτον μὲν οὖν σκεπτέον πότερον εἰδότες ἢ οὔ, καὶ πῶς εἰδότες· εἶτα περὶ ποῖα τὸν ἀκρατῆ [10] καὶ τὸν ἐγκρατῆ θετέον, λέγω δὲ πότερον περὶ πᾶσαν ἡδονὴν καὶ λύπην ἢ περί τινας ἀφωρισμένας, καὶ τὸν ἐγκρατῆ καὶ τὸν καρτερικόν, πότερον ὁ αὐτὸς ἢ ἕτερός ἐστιν· ὁμοίως δὲ καὶ περὶ τῶν ἄλλων ὅσα συγγενῆ τῆς θεωρίας ἐστὶ ταύτης. ἔστι δ’ ἀρχὴ τῆς σκέψεως, πότερον [15] ὁ ἐγκρατὴς καὶ ὁ ἀκρατής εἰσι τῷ περὶ ἃ ἢ τῷ ὥς ἔχοντες τὴν διαφοράν, λέγω δὲ πότερον τῷ περὶ ταδὶ εἶναι μόνον ἀκρατὴς ὁ ἀκρατής, ἢ οὒ ἀλλὰ τῷ ὥς, ἢ οὒ ἀλλ’ ἐξ ἀμφοῖν· ἔπειτ’ εἰ περὶ πάντ’ ἐστὶν ἀκρασία καὶ ἐγκράτεια ἢ οὔ. οὔτε γὰρ περὶ ἅπαντ’ ἐστὶν ὁ ἁπλῶς ἀκρατής, [20] ἀλλὰ περὶ ἅπερ ὁ ἀκόλαστος, οὔτε τῷ πρὸς ταῦτα ἁπλῶς ἔχειν (ταὐτὸν γὰρ ἂν ἦν τῇ ἀκολασίᾳ), ἀλλὰ τῷ ὡδὶ ἔχειν. ὃ μὲν γὰρ ἄγεται προαιρούμενος, νομίζων ἀεὶ δεῖν τὸ παρὸν ἡδὺ διώκειν· ὃ δ’ οὐκ οἴεται μέν, διώκει δέ. περὶ μὲν οὖν τοῦ δόξαν ἀληθῆ ἀλλὰ μὴ ἐπιστήμην [25] εἶναι παρ’ ἣν ἀκρατεύονται, οὐδὲν διαφέρει πρὸς τὸν λόγον· ἔνιοι γὰρ τῶν δοξαζόντων οὐ διστάζουσιν, ἀλλ’ οἴονται ἀκριβῶς εἰδέναι. εἰ οὖν διὰ τὸ ἠρέμα πιστεύειν οἱ δοξάζοντες μᾶλλον τῶν ἐπισταμένων παρὰ τὴν ὑπόληψιν πράξουσιν, οὐθὲν διοίσει ἐπιστήμη δόξης· ἔνιοι γὰρ πιστεύουσιν οὐδὲν [30] ἧττον οἷς δοξάζουσιν ἢ ἕτεροι οἷς ἐπίστανται· δηλοῖ δ’ Ἡράκλειτος. ἀλλ’ ἐπεὶ διχῶς λέγομεν τὸ ἐπίστασθαι καὶ γὰρ ὁ ἔχων μὲν οὐ χρώμενος δὲ τῇ ἐπιστήμῃ καὶ ὁ χρώμενος λέγεται ἐπίστασθαἰ, διοίσει τὸ ἔχοντα μὲν μὴ θεωροῦντα δὲ καὶ τὸ θεωροῦντα ἃ μὴ δεῖ πράττειν [τοῦ ἔχοντα καὶ θεωροῦντα]· [35] τοῦτο γὰρ δοκεῖ δεινόν, ἀλλ' οὐκ εἰ μὴ θεωρῶν. 1147a [1] ἔτι ἐπεὶ δύο τρόποι τῶν προτάσεων, ἔχοντα μὲν ἀμφοτέρας οὐδὲν κωλύει πράττειν παρὰ τὴν ἐπιστήμην, χρώμενον μέντοι τῇ καθόλου ἀλλὰ μὴ τῇ κατὰ μέρος· πρακτὰ γὰρ τὰ καθ' ἕκαστα. διαφέρει δὲ καὶ τὸ καθόλου· τὸ μὲν γὰρ ἐφ' ἑαυτοῦ [5] τὸ δ' ἐπὶ τοῦ πράγματός ἐστιν· οἷον ὅτι παντὶ ἀνθρώπῳ συμφέρει τὰ ξηρά, καὶ ὅτι αὐτὸς ἄνθρωπος, ἢ ὅτι ξηρὸν τὸ τοιόνδε· ἀλλ' εἰ τόδε τοιόνδε, ἢ οὐκ ἔχει ἢ οὐκ ἐνεργεῖ· κατά τε δὴ τούτους διοίσει τοὺς τρόπους ἀμήχανον ὅσον, ὥστε δοκεῖν οὕτω μὲν εἰδέναι μηδὲν ἄτοπον, ἄλλως δὲ θαυμαστόν. [10] ἔτι τὸ ἔχειν τὴν ἐπιστήμην ἄλλον τρόπον τῶν νῦν ῥηθέντων ὑπάρχει τοῖς ἀνθρώποις· ἐν τῷ γὰρ ἔχειν μὲν μὴ χρῆσθαι δὲ διαφέρουσαν ὁρῶμεν τὴν ἕξιν, ὥστε καὶ ἔχειν πως καὶ μὴ ἔχειν, οἷον τὸν καθεύδοντα καὶ μαινόμενον καὶ οἰνωμένον. ἀλλὰ μὴν οὕτω διατίθενται οἵ γε ἐν [15] τοῖς πάθεσιν ὄντες· θυμοὶ γὰρ καὶ ἐπιθυμίαι ἀφροδισίων καὶ ἔνια τῶν τοιούτων ἐπιδήλως καὶ τὸ σῶμα μεθιστᾶσιν, ἐνίοις δὲ καὶ μανίας ποιοῦσιν. δῆλον οὖν ὅτι ὁμοίως ἔχειν λεκτέον τοὺς ἀκρατεῖς τούτοις. τὸ δὲ λέγειν τοὺς λόγους τοὺς ἀπὸ τῆς ἐπιστήμης οὐδὲν σημεῖον· καὶ γὰρ οἱ ἐν τοῖς πάθεσι [20] τούτοις ὄντες ἀποδείξεις καὶ ἔπη λέγουσιν Ἐμπεδοκλέους, καὶ οἱ πρῶτον μαθόντες συνείρουσι μὲν τοὺς λόγους, ἴσασι δ' οὔπω· δεῖ γὰρ συμφυῆναι, τοῦτο δὲ χρόνου δεῖται· ὥστε καθάπερ τοὺς ὑποκρινομένους, οὕτως ὑποληπτέον λέγειν καὶ τοὺς ἀκρατευομένους. ἔτι καὶ ὧδε φυσικῶς ἄν τις ἐπιβλέψειε [25] τὴν αἰτίαν. ἡ μὲν γὰρ καθόλου δόξα, ἡ δ' ἑτέρα περὶ τῶν καθ' ἕκαστά ἐστιν, ὧν αἴσθησις ἤδη κυρία· ὅταν δὲ μία γένηται ἐξ αὐτῶν, ἀνάγκη τὸ συμπερανθὲν ἔνθα μὲν φάναι τὴν ψυχήν, ἐν δὲ ταῖς ποιητικαῖς πράττειν εὐθύς· οἷον, εἰ παντὸς γλυκέος γεύεσθαι δεῖ, τουτὶ δὲ γλυκὺ ὡς [30] ἕν τι τῶν καθ' ἕκαστον, ἀνάγκη τὸν δυνάμενον καὶ μὴ κωλυόμενον ἅμα τοῦτο καὶ πράττειν. ὅταν οὖν ἡ μὲν καθόλου ἐνῇ κωλύουσα γεύεσθαι, ἡ δέ, ὅτι πᾶν γλυκὺ ἡδύ, τουτὶ δὲ γλυκύ (αὕτη δὲ ἐνεργεῖ), τύχῃ δ' ἐπιθυμία ἐνοῦσα, ἡ μὲν οὖν λέγει φεύγειν τοῦτο, ἡ δ' ἐπιθυμία ἄγει· [35] κινεῖν γὰρ ἕκαστον δύναται τῶν μορίων· 1147b [1] ὥστε συμβαίνει ὑπὸ λόγου πως καὶ δόξης ἀκρατεύεσθαι, οὐκ ἐναντίας δὲ καθ' αὑτήν, ἀλλὰ κατὰ συμβεβηκός — ἡ γὰρ ἐπιθυμία ἐναντία, ἀλλ' οὐχ ἡ δόξα — τῷ ὀρθῷ λόγῳ· ὥστε καὶ διὰ τοῦτο τὰ θηρία οὐκ ἀκρατῆ, ὅτι οὐκ ἔχει καθόλου ὑπόληψιν [5] ἀλλὰ τῶν καθ' ἕκαστα φαντασίαν καὶ μνήμην. πῶς δὲ λύεται ἡ ἄγνοια καὶ πάλιν γίνεται ἐπιστήμων ὁ ἀκρατής, ὁ αὐτὸς λόγος καὶ περὶ οἰνωμένου καὶ καθεύδοντος καὶ οὐκ ἴδιος τούτου τοῦ πάθους, ὃν δεῖ παρὰ τῶν φυσιολόγων ἀκούειν. ἐπεὶ δ’ ἡ τελευταία πρότασις δόξα τε [10] αἰσθητοῦ καὶ κυρία τῶν πράξεων, ταύτην ἢ οὐκ ἔχει ἐν τῷ πάθει ὤν, ἢ οὕτως ἔχει ὡς οὐκ ἦν τὸ ἔχειν ἐπίστασθαι ἀλλὰ λέγειν ὥσπερ ὁ οἰνωμένος τὰ Ἐμπεδοκλέους. καὶ διὰ τὸ μὴ καθόλου μηδ’ ἐπιστημονικὸν ὁμοίως εἶναι δοκεῖν τῷ καθόλου τὸν ἔσχατον ὅρον καὶ ἔοικεν ὃ ἐζήτει [15] Σωκράτης συμβαίνειν· οὐ γὰρ τῆς κυρίως ἐπιστήμης εἶναι δοκούσης παρούσης γίνεται τὸ πάθος, οὐδ’ αὕτη περιέλκεται διὰ τὸ πάθος, ἀλλὰ τῆς αἰσθητικῆς. περὶ μὲν οὖν τοῦ εἰδότα καὶ μή, καὶ πῶς εἰδότα ἐνδέχεται ἀκρατεύεσθαι, τοσαῦτα εἰρήσθω.

[20] πότερον δ’ ἐστί τις ἁπλῶς ἀκρατὴς ἢ πάντες κατὰ μέρος, καὶ εἰ ἔστι, περὶ ποῖά ἐστι, λεκτέον ἐφεξῆς. ὅτι μὲν οὖν περὶ ἡδονὰς καὶ λύπας εἰσὶν οἵ τ’ ἐγκρατεῖς καὶ καρτερικοὶ καὶ οἱ ἀκρατεῖς καὶ μαλακοί, φανερόν. ἐπεὶ δ’ ἐστὶ τὰ μὲν ἀναγκαῖα τῶν ποιούντων ἡδονήν, τὰ δ’ αἱρετὰ μὲν [25] καθ’ αὑτὰ ἔχοντα δ’ ὑπερβολήν, ἀναγκαῖα μὲν τὰ σωματικά (λέγω δὲ τὰ τοιαῦτα, τά τε περὶ τὴν τροφὴν καὶ τὴν τῶν ἀφροδισίων χρείαν, καὶ τὰ τοιαῦτα τῶν σωματικῶν περὶ ἃ τὴν ἀκολασίαν ἔθεμεν καὶ τὴν σωφροσύνην), τὰ δ’ ἀναγκαῖα μὲν οὐχί, αἱρετὰ δὲ καθ’ αὑτά (λέγω δ’ [30] οἷον νίκην τιμὴν πλοῦτον καὶ τὰ τοιαῦτα τῶν ἀγαθῶν καὶ ἡδέων)· τοὺς μὲν οὖν πρὸς ταῦτα παρὰ τὸν ὀρθὸν λόγον ὑπερβάλλοντας τὸν ἐν αὑτοῖς ἁπλῶς μὲν οὐ λέγομεν ἀκρατεῖς, προστιθέντες δὲ τὸ χρημάτων ἀκρατεῖς καὶ κέρδους καὶ τιμῆς καὶ θυμοῦ, ἁπλῶς δ’ οὔ, ὡς ἑτέρους καὶ καθ’ [35] ὁμοιότητα λεγομένους, ὥσπερ ἄνθρωπος ὁ τὰ Ὀλύμπια νικῶν· 1148a [1] ἐκείνῳ γὰρ ὁ κοινὸς λόγος τοῦ ἰδίου μικρὸν διέφερεν, ἀλλ’ ὅμως ἕτερος ἦν. σημεῖον δέ· ἡ μὲν γὰρ ἀκρασία ψέγεται οὐχ ὡς ἁμαρτία μόνον ἀλλὰ καὶ ὡς κακία τις ἢ ἁπλῶς οὖσα ἢ κατά τι μέρος, τούτων δ’ οὐδείς. τῶν δὲ [5] περὶ τὰς σωματικὰς ἀπολαύσεις, περὶ ἃς λέγομεν τὸν σώφρονα καὶ ἀκόλαστον, ὁ μὴ τῷ προαιρεῖσθαι τῶν ἡδέων διώκων τὰς ὑπερβολάς — καὶ τῶν λυπηρῶν φεύγων, πείνης καὶ δίψης καὶ ἀλέας καὶ ψύχους καὶ πάντων τῶν περὶ ἁφὴν καὶ γεῦσιν — ἀλλὰ παρὰ τὴν προαίρεσιν καὶ τὴν [10] διάνοιαν, ἀκρατὴς λέγεται, οὐ κατὰ πρόσθεσιν, ὅτι περὶ τάδε, καθάπερ ὀργῆς, ἀλλ’ ἁπλῶς μόνον. σημεῖον δέ· καὶ γὰρ μαλακοὶ λέγονται περὶ ταύτας, περὶ ἐκείνων δ’ οὐδεμίαν. καὶ διὰ τοῦτ’ εἰς ταὐτὸ τὸν ἀκρατῆ καὶ τὸν ἀκόλαστον τίθεμεν καὶ ἐγκρατῆ καὶ σώφρονα, ἀλλ’ οὐκ ἐκείνων [15] οὐδένα, διὰ τὸ περὶ τὰς αὐτάς πως ἡδονὰς καὶ λύπας εἶναι· οἳ δ’ εἰσὶ μὲν περὶ ταὐτά, ἀλλ’ οὐχ ὡσαύτως εἰσίν, ἀλλ’ οἳ μὲν προαιροῦνται οἳ δ’ οὐ προαιροῦνται. διὸ μᾶλλον ἀκόλαστον ἂν εἴποιμεν ὅστις μὴ ἐπιθυμῶν ἢ

ἠρέμα διώκει τὰς ὑπερβολὰς καὶ φεύγει μετρίας λύπας, ἢ τοῦτον ὅστις διὰ [20] τὸ ἐπιθυμεῖν σφόδρα· τί γὰρ ἂν ἐκεῖνος ποιήσειεν, εἰ προσγένοιτο ἐπιθυμία νεανικὴ καὶ περὶ τὰς τῶν ἀναγκαίων ἐνδείας λύπη ἰσχυρά; ἐπεὶ δὲ τῶν ἐπιθυμιῶν καὶ τῶν ἡδονῶν αἳ μέν εἰσι τῷ γένει καλῶν καὶ σπουδαίων (τῶν γὰρ ἡδέων ἔνια φύσει αἱρετά), τὰ δ’ ἐναντία τούτων, τὰ δὲ [25] μεταξύ, καθάπερ διείλομεν πρότερον, οἷον χρήματα καὶ κέρδος καὶ νίκη καὶ τιμή· πρὸς ἅπαντα δὲ καὶ τὰ τοιαῦτα καὶ τὰ μεταξὺ οὐ τῷ πάσχειν καὶ ἐπιθυμεῖν καὶ φιλεῖν ψέγονται, ἀλλὰ τῷ πῶς καὶ ὑπερβάλλειν (διὸ ὅσοι μὲν παρὰ τὸν λόγον ἢ κρατοῦνται ἢ διώκουσι τῶν φύσει τι καλῶν [30] καὶ ἀγαθῶν, οἷον οἱ περὶ τιμὴν μᾶλλον ἢ δεῖ σπουδάζοντες ἢ περὶ τέκνα καὶ γονεῖς· καὶ γὰρ ταῦτα τῶν ἀγαθῶν, καὶ ἐπαινοῦνται οἱ περὶ ταῦτα σπουδάζοντες· ἀλλ’ ὅμως ἔστι τις ὑπερβολὴ καὶ ἐν τούτοις, εἴ τις ὥσπερ ἡ Νιόβη μάχοιτο καὶ πρὸς τοὺς θεούς, ἢ ὥσπερ Σάτυρος 1148b [1] ὁ φιλοπάτωρ ἐπικαλούμενος περὶ τὸν πατέρα· λίαν γὰρ ἐδόκει μωραίνειν)· μοχθηρία μὲν οὖν οὐδεμία περὶ ταῦτ’ ἐστὶ διὰ τὸ εἰρημένον, ὅτι φύσει τῶν αἱρετῶν ἕκαστόν ἐστι δι’ αὑτό, φαῦλαι δὲ καὶ φευκταὶ αὐτῶν εἰσὶν αἱ ὑπερβολαί. ὁμοίως [5] δ’ οὐδ’ ἀκρασία· ἡ γὰρ ἀκρασία οὐ μόνον φευκτὸν ἀλλὰ καὶ τῶν ψεκτῶν ἐστίν· δι’ ὁμοιότητα δὲ τοῦ πάθους προσεπιτιθέντες τὴν ἀκρασίαν περὶ ἕκαστον λέγουσιν, οἷον κακὸν ἰατρὸν καὶ κακὸν ὑποκριτήν, ὃν ἁπλῶς οὐκ ἂν εἴποιεν κακόν. ὥσπερ οὖν οὐδ’ ἐνταῦθα, διὰ τὸ μὴ κακίαν εἶναι [10] ἑκάστην αὐτῶν ἀλλὰ τῷ ἀνάλογον ὁμοίαν, οὕτω δῆλον ὅτι κἀκεῖ ὑποληπτέον μόνην ἀκρασίαν καὶ ἐγκράτειαν εἶναι ἥτις ἐστὶ περὶ ταὐτὰ τῇ σωφροσύνῃ καὶ ἀκολασίᾳ, περὶ δὲ θυμοῦ καθ’ ὁμοιότητα λέγομεν· διὸ καὶ προστιθέντες ἀκρατῆ θυμοῦ ὥσπερ τιμῆς καὶ κέρδους φαμέν.

[15] ἐπεὶ δ’ ἐστὶν ἔνια μὲν ἡδέα φύσει, καὶ τούτων τὰ μὲν ἁπλῶς τὰ δὲ κατὰ γένη καὶ ζῴων καὶ ἀνθρώπων, τὰ δ’ οὐκ ἔστιν, ἀλλὰ τὰ μὲν διὰ πηρώσεις τὰ δὲ δι’ ἔθη γίνεται, τὰ δὲ διὰ μοχθηρὰς φύσεις, ἔστι καὶ περὶ τούτων ἕκαστα παραπλησίας ἰδεῖν ἕξεις· λέγω δὲ τὰς θηριώδεις, [20] οἷον τὴν ἄνθρωπον ἣν λέγουσι τὰς κυούσας ἀνασχίζουσαν τὰ παιδία κατεσθίειν, ἢ οἵοις χαίρειν φασὶν ἐνίους τῶν ἀπηγριωμένων περὶ τὸν Πόντον, τοὺς μὲν ὠμοῖς τοὺς δὲ ἀνθρώπων κρέασιν, τοὺς δὲ τὰ παιδία δανείζειν ἀλλήλοις εἰς εὐωχίαν, ἢ τὸ περὶ Φάλαριν λεγόμενον. αὗται μὲν θηριώδεις, [25] αἳ δὲ διὰ νόσους γίνονται (καὶ διὰ μανίαν ἐνίοις, ὥσπερ ὁ τὴν μητέρα καθιερεύσας καὶ φαγών, καὶ ὁ τοῦ συνδούλου τὸ ἧπαρ) αἳ δὲ νοσηματώδεις ἢ ἐξ ἔθους, οἷον τριχῶν τίλσεις καὶ ὀνύχων τρώξεις, ἔτι δ’ ἀνθράκων καὶ γῆς, πρὸς δὲ τούτοις

ἡ τῶν ἀφροδισίων τοῖς ἄρρεσιν· τοῖς μὲν γὰρ φύσει [30] τοῖς δ’ ἐξ ἔθους συμβαίνουσιν, οἷον τοῖς ὑβριζομένοις ἐκ παίδων. ὅσοις μὲν οὖν φύσις αἰτία, τούτους μὲν οὐδεὶς ἂν εἴπειεν ἀκρατεῖς, ὥσπερ οὐδὲ τὰς γυναῖκας, ὅτι οὐκ ὀπύουσιν ἀλλ’ ὀπύονται· ὡσαύτως δὲ καὶ ὅσοι νοσηματώδως ἔχουσι δι’ ἔθος. τὸ μὲν οὖν ἔχειν ἕκαστα τούτων 1149a [1] ἔξω τῶν ὅρων ἐστὶ τῆς κακίας, καθάπερ καὶ ἡ θηριότης· τὸν δ’ ἔχοντα κρατεῖν ἢ κρατεῖσθαι οὐχ ἡ ἁπλῆ ἀκρασία ἀλλ’ ἡ καθ’ ὁμοιότητα, καθάπερ καὶ τὸν περὶ τοὺς θυμοὺς ἔχοντα τοῦτον τὸν τρόπον τοῦ πάθους, ἀκρατῆ δ’ οὐ λεκτέον. πᾶσα [5] γὰρ ὑπερβάλλουσα καὶ ἀφροσύνη καὶ δειλία καὶ ἀκολασία καὶ χαλεπότης αἳ μὲν θηριώδεις αἳ δὲ νοσηματώδεις εἰσίν· ὁ μὲν γὰρ φύσει τοιοῦτος οἷος δεδιέναι πάντα, κἂν ψοφήσῃ μῦς, θηριώδη δειλίαν δειλός, ὃ δὲ τὴν γαλῆν ἐδεδίει διὰ νόσον· καὶ τῶν ἀφρόνων οἱ μὲν ἐκ φύσεως ἀλόγιστοι [10] καὶ μόνον τῇ αἰσθήσει ζῶντες θηριώδεις, ὥσπερ ἔνια γένη τῶν πόρρω βαρβάρων, οἱ δὲ διὰ νόσους, οἷον τὰς ἐπιληπτικάς, ἢ μανίας νοσηματώδεις. τούτων δ’ ἔστι μὲν ἔχειν τινὰ ἐνίοτε μὲν μόνον, μὴ κρατεῖσθαι δέ, λέγω δὲ οἷον εἰ Φάλαρις κατεῖχεν ἐπιθυμῶν παιδίου φαγεῖν ἢ πρὸς ἀφροδισίων [15] ἄτοπον ἡδονήν· ἔστι δὲ καὶ κρατεῖσθαι, μὴ μόνον ἔχειν· ὥσπερ οὖν καὶ μοχθηρίας ἡ μὲν κατ’ ἄνθρωπον ἁπλῶς λέγεται μοχθηρία, ἣ δὲ κατὰ πρόσθεσιν, ὅτι θηριώδης ἢ νοσηματώδης, ἁπλῶς δ’ οὔ, τὸν αὐτὸν τρόπον δῆλον ὅτι καὶ ἀκρασία ἐστὶν ἣ μὲν θηριώδης ἣ δὲ νοσηματώδης, ἁπλῶς [20] δὲ ἡ κατὰ τὴν ἀνθρωπίνην ἀκολασίαν μόνη.

ὅτι μὲν οὖν ἀκρασία καὶ ἐγκράτειά ἐστι μόνον περὶ ἅπερ ἀκολασία καὶ σωφροσύνη, καὶ ὅτι περὶ τὰ ἄλλα ἐστὶν ἄλλο εἶδος ἀκρασίας, λεγόμενον κατὰ μεταφορὰν καὶ οὐχ ἁπλῶς, δῆλον. ὅτι δὲ καὶ ἧττον αἰσχρὰ ἀκρασία [25] ἡ τοῦ θυμοῦ ἢ ἡ τῶν ἐπιθυμιῶν, θεωρήσωμεν. ἔοικε γὰρ ὁ θυμὸς ἀκούειν μέν τι τοῦ λόγου, παρακούειν δέ, καθάπερ οἱ ταχεῖς τῶν διακόνων, οἳ πρὶν ἀκοῦσαι πᾶν τὸ λεγόμενον ἐκθέουσιν, εἶτα ἁμαρτάνουσι τῆς προστάξεως, καὶ οἱ κύνες, πρὶν σκέψασθαι εἰ φίλος, ἂν μόνον ψοφήσῃ, ὑλακτοῦσιν· οὕτως [30] ὁ θυμὸς διὰ θερμότητα καὶ ταχυτῆτα τῆς φύσεως ἀκούσας μέν, οὐκ ἐπίταγμα δ’ ἀκούσας, ὁρμᾷ πρὸς τὴν τιμωρίαν. ὁ μὲν γὰρ λόγος ἢ ἡ φαντασία ὅτι ὕβρις ἢ ὀλιγωρία ἐδήλωσεν, ὃ δ’ ὥσπερ συλλογισάμενος ὅτι δεῖ τῷ τοιούτῳ πολεμεῖν χαλεπαίνει δὴ εὐθύς· ἡ δ’ ἐπιθυμία, ἐὰν [35] μόνον εἴπῃ ὅτι ἡδὺ ὁ λόγος ἢ ἡ αἴσθησις, ὁρμᾷ πρὸς τὴν ἀπόλαυσιν. 1149b [1] ὥσθ’ ὁ μὲν θυμὸς ἀκολουθεῖ τῷ λόγῳ πως, ἡ δ’ ἐπιθυμία οὔ. αἰσχίων οὖν· ὁ μὲν γὰρ τοῦ θυμοῦ ἀκρατὴς τοῦ λόγου πως ἡττᾶται, ὃ δὲ τῆς ἐπιθυμίας καὶ οὐ τοῦ λόγου. ἔτι ταῖς φυσικαῖς μᾶλλον συγγνώμη ἀκολουθεῖν ὀρέξεσιν, [5] ἐπεὶ καὶ ἐπιθυμίαις ταῖς τοιαύταις μᾶλλον ὅσαι κοιναὶ πᾶσι, καὶ ἐφ’ ὅσον κοιναί· ὁ δὲ θυμὸς φυσικώτερον καὶ ἡ χαλεπότης τῶν ἐπιθυμιῶν τῶν τῆς ὑπερβολῆς καὶ τῶν μὴ ἀναγκαίων, ὥσπερ ὁ ἀπολογούμενος ὅτι τὸν πατέρα τύπτοι “καὶ γὰρ οὗτος” ἔφη “τὸν ἑαυτοῦ κἀκεῖνος τὸν ἄνωθεν,” [10] καὶ τὸ παιδίον δείξας “καὶ οὗτος ἐμέ” ἔφη, “ὅταν ἀνὴρ γένηται· συγγενὲς γὰρ ἡμῖν·” καὶ ὁ ἑλκόμενος ὑπὸ τοῦ υἱοῦ παύεσθαι ἐκέλευε πρὸς ταῖς θύραις· καὶ γὰρ αὐτὸς ἑλκύσαι τὸν πατέρα μέχρις ἐνταῦθα. ἔτι ἀδικώτεροι οἱ ἐπιβουλότεροι. ὁ μὲν οὖν θυμώδης οὐκ ἐπίβουλος, οὐδ’ ὁ θυμός, [15] ἀλλὰ φανερός· ἡ δ’ ἐπιθυμία, καθάπερ τὴν Ἀφροδίτην φασίν·

δολοπλόκου γὰρ κυπρογενοῦς·

καὶ τὸν κεστὸν ἱμάντα Ὅμηρος·

πάρφασις, ἥ τ’ ἔκλεψε νόον πύκα περ φρονέοντος.

ὥστ’ εἴπερ ἀδικωτέρα καὶ αἰσχίων ἡ ἀκρασία αὕτη τῆς περὶ τὸν θυμόν ἐστι, καὶ ἁπλῶς ἀκρασία καὶ [20] κακία πως. ἔτι οὐδεὶς ὑβρίζει λυπούμενος, ὁ δ’ ὀργῇ ποιῶν πᾶς ποιεῖ λυπούμενος, ὁ δ’ ὑβρίζων μεθ’ ἡδονῆς. εἰ οὖν οἷς ὀργίζεσθαι μάλιστα δίκαιον, ταῦτα ἀδικώτερα, καὶ ἡ ἀκρασία ἡ δι’ ἐπιθυμίαν· οὐ γάρ ἐστιν ἐν θυμῷ ὕβρις. ὡς μὲν τοίνυν αἰσχίων ἡ περὶ ἐπιθυμίας ἀκρασία τῆς περὶ τὸν θυμόν, [25] καὶ ὅτι ἔστιν ἐγκράτεια καὶ ἡ ἀκρασία περὶ ἐπιθυμίας καὶ ἡδονὰς σωματικάς, δῆλον· αὐτῶν δὲ τούτων τὰς διαφορὰς ληπτέον. ὥσπερ γὰρ εἴρηται κατ’ ἀρχάς, αἳ μὲν ἀνθρώπιναί εἰσι καὶ φυσικαὶ καὶ τῷ γένει καὶ τῷ μεγέθει, αἳ δὲ θηριώδεις, αἳ δὲ διὰ πηρώσεις καὶ νοσήματα. [30] τούτων δὲ περὶ τὰς πρώτας σωφροσύνη καὶ ἀκολασία μόνον ἐστίν· διὸ καὶ τὰ θηρία οὔτε σώφρονα οὔτ’ ἀκόλαστα λέγομεν ἀλλ’ ἢ κατὰ μεταφορὰν καὶ εἴ τινι ὅλως ἄλλο πρὸς ἄλλο διαφέρει γένος τῶν ζῴων ὕβρει καὶ σιναμωρίᾳ καὶ τῷ παμφάγον εἶναι· οὐ γὰρ ἔχει προαίρεσιν [35] οὐδὲ λογισμόν, ἀλλ’ ἐξέστηκε τῆς φύσεως, ὥσπερ οἱ μαινόμενοι τῶν ἀνθρώπων. 1150a [1] ἔλαττον δὲ θηριότης κακίας, φοβερώτερον δέ· οὐ γὰρ διέφθαρται τὸ βέλτιον, ὥσπερ ἐν τῷ ἀνθρώπῳ, ἀλλ’ οὐκ ἔχει. ὅμοιον οὖν ὥσπερ ἄψυχον συμβάλλειν πρὸς ἔμψυχον, πότερον κάκιον· ἀσινεστέρα γὰρ ἡ [5] φαυλότης ἀεὶ ἡ τοῦ μὴ ἔχοντος ἀρχήν, ὁ δὲ νοῦς ἀρχή. παραπλήσιον οὖν τὸ συμβάλλειν ἀδικίαν πρὸς ἄνθρωπον ἄδικον. ἔστι γὰρ ὡς ἑκάτερον κάκιον· μυριοπλάσια γὰρ ἂν κακὰ ποιήσειεν ἄνθρωπος κακὸς θηρίου.

περὶ δὲ τὰς δι’ ἁφῆς καὶ γεύσεως ἡδονὰς καὶ λύπας [10] καὶ ἐπιθυμίας καὶ φυγάς, περὶ ἃς ἥ τε ἀκολασία καὶ ἡ σωφροσύνη διωρίσθη πρότερον, ἔστι μὲν οὕτως ἔχειν ὥστε ἡττᾶσθαι καὶ ὧν οἱ πολλοὶ κρείττους, ἔστι δὲ κρατεῖν καὶ ὧν οἱ πολλοὶ ἥττους· τούτων δ’ ὁ μὲν περὶ ἡδονὰς ἀκρατὴς ὃ δ’ ἐγκρατής, ὁ δὲ περὶ λύπας μαλακὸς ὃ δὲ καρτερικός. [15] μεταξὺ δ’ ἡ τῶν πλείστων ἕξις, κἂν εἰ ῥέπουσι μᾶλλον πρὸς τὰς χείρους. ἐπεὶ δ’ ἔνιαι τῶν ἡδονῶν ἀναγκαῖαί εἰσιν αἳ δ’ οὔ, καὶ μέχρι τινός, αἱ δ’ ὑπερβολαὶ οὔ, οὐδ’ αἱ ἐλλείψεις, ὁμοίως δὲ καὶ περὶ ἐπιθυμίας ἔχει καὶ λύπας, ὁ μὲν τὰς ὑπερβολὰς διώκων τῶν ἡδέων †ἢ καθ’ ὑπερβολὰς† [20] ἢ διὰ προαίρεσιν, δι’ αὐτὰς καὶ μηδὲν δι’ ἕτερον ἀποβαῖνον, ἀκόλαστος· ἀνάγκη γὰρ τοῦτον μὴ εἶναι μεταμελητικόν, ὥστ’ ἀνίατος· ὁ γὰρ ἀμεταμέλητος ἀνίατος. ὁ δ’ ἐλλείπων ὁ ἀντικείμενος, ὁ δὲ μέσος σώφρων. ὁμοίως δὲ καὶ ὁ φεύγων τὰς σωματικὰς λύπας μὴ δι’ ἧτταν ἀλλὰ διὰ προαίρεσιν. [25] τῶν δὲ μὴ προαιρουμένων ὃ μὲν ἄγεται διὰ τὴν ἡδονήν, ὃ δὲ διὰ τὸ φεύγειν τὴν λύπην τὴν ἀπὸ τῆς ἐπιθυμίας, ὥστε διαφέρουσιν ἀλλήλων. παντὶ δ’ ἂν δόξειε χείρων εἶναι, εἴ τις μὴ ἐπιθυμῶν ἢ ἠρέμα πράττοι τι αἰσχρόν, ἢ εἰ σφόδρα ἐπιθυμῶν, καὶ εἰ μὴ ὀργιζόμενος τύπτοι ἢ [30] εἰ ὀργιζόμενος· τί γὰρ ἂν ἐποίει ἐν πάθει ὤν; διὸ ὁ ἀκόλαστος χείρων τοῦ ἀκρατοῦς. τῶν δὴ λεχθέντων τὸ μὲν μαλακίας εἶδος μᾶλλον, ὃ δ’ ἀκόλαστος. ἀντίκειται δὲ τῷ μὲν ἀκρατεῖ ὁ ἐγκρατής, τῷ δὲ μαλακῷ ὁ καρτερικός· τὸ μὲν γὰρ καρτερεῖν ἐστὶν ἐν τῷ ἀντέχειν, ἡ δ’ ἐγκράτεια [35] ἐν τῷ κρατεῖν, ἕτερον δὲ τὸ ἀντέχειν καὶ κρατεῖν, ὥσπερ καὶ τὸ μὴ ἡττᾶσθαι τοῦ νικᾶν· διὸ καὶ αἱρετώτερον ἐγκράτεια καρτερίας ἐστίν. 1150b [1] ὁ δ’ ἐλλείπων πρὸς ἃ οἱ πολλοὶ καὶ ἀντιτείνουσι καὶ δύνανται, οὗτος μαλακὸς καὶ τρυφῶν· καὶ γὰρ ἡ τρυφὴ μαλακία τίς ἐστιν· ὃς ἕλκει τὸ ἱμάτιον, ἵνα μὴ πονήσῃ τὴν ἀπὸ τοῦ αἴρειν λύπην, καὶ μιμούμενος τὸν [5] κάμνοντα οὐκ οἴεται ἄθλιος εἶναι, ἀθλίῳ ὅμοιος ὤν. ὁμοίως δ’ ἔχει καὶ περὶ ἐγκράτειαν καὶ ἀκρασίαν. οὐ γὰρ εἴ τις ἰσχυρῶν καὶ ὑπερβαλλουσῶν ἡδονῶν ἡττᾶται ἢ λυπῶν, θαυμαστόν, ἀλλὰ συγγνωμονικὸν εἰ ἀντιτείνων, ὥσπερ ὁ Θεοδέκτου Φιλοκτήτης ὑπὸ τοῦ ἔχεως πεπληγμένος ἢ ὁ [10] Καρκίνου ἐν τῇ Ἀλόπῃ Κερκύων, καὶ ὥσπερ οἱ κατέχειν πειρώμενοι τὸν γέλωτα ἀθρόον ἐκκαγχάζουσιν, οἷον συνέπεσε Ξενοφάντῳ· ἀλλ’ εἴ τις πρὸς ἃς οἱ πολλοὶ δύνανται ἀντέχειν, τούτων ἡττᾶται καὶ μὴ δύναται ἀντιτείνειν, μὴ διὰ φύσιν τοῦ γένους ἢ διὰ νόσον, οἷον ἐν τοῖς Σκυθῶν βασιλεῦσιν [15] ἡ μαλακία διὰ τὸ γένος, καὶ ὡς τὸ θῆλυ πρὸς τὸ ἄρρεν διέστηκεν. δοκεῖ δὲ καὶ ὁ παιδιώδης ἀκόλαστος εἶναι, ἔστι δὲ μαλακός. ἡ γὰρ παιδιὰ ἄνεσίς ἐστιν, εἴπερ ἀνάπαυσις· τῶν δὲ πρὸς ταύτην ὑπερβαλλόντων ὁ παιδιώδης ἐστίν. ἀκρασίας δὲ τὸ μὲν προπέτεια τὸ δ᾽ ἀσθένεια. [20] οἳ μὲν γὰρ βουλευσάμενοι οὐκ ἐμμένουσιν οἷς ἐβουλεύσαντο διὰ τὸ πάθος, οἳ δὲ διὰ τὸ μὴ βουλεύσασθαι ἄγονται ὑπὸ τοῦ πάθους· ἔνιοι γάρ, ὥσπερ προγαργαλίσαντες οὐ γαργαλίζονται, οὕτω καὶ προαισθόμενοι καὶ προϊδόντες καὶ προεγείραντες ἑαυτοὺς καὶ τὸν λογισμὸν οὐχ ἡττῶνται ὑπὸ τοῦ πάθους, οὔτ᾽ [25] ἂν ἡδὺ ᾖ οὔτ᾽ ἂν λυπηρόν. μάλιστα δ᾽ οἱ ὀξεῖς καὶ μελαγχολικοὶ τὴν προπετῆ ἀκρασίαν εἰσὶν ἀκρατεῖς· οἳ μὲν γὰρ διὰ τὴν ταχυτῆτα οἳ δὲ διὰ τὴν σφοδρότητα οὐκ ἀναμένουσι τὸν λόγον, διὰ τὸ ἀκολουθητικοὶ εἶναι τῇ φαντασίᾳ.

ἔστι δ᾽ ὁ μὲν ἀκόλαστος, ὥσπερ ἐλέχθη, οὐ μεταμελητικός· [30] ἐμμένει γὰρ τῇ προαιρέσει· ὁ δ᾽ ἀκρατὴς μεταμελητικὸς πᾶς. διὸ οὐχ ὥσπερ ἠπορήσαμεν, οὕτω καὶ ἔχει, ἀλλ᾽ ὃ μὲν ἀνίατος ὃ δ᾽ ἰατός· ἔοικε γὰρ ἡ μὲν μοχθηρία τῶν νοσημάτων οἷον ὑδέρῳ καὶ φθίσει, ἡ δ᾽ ἀκρασία τοῖς ἐπιληπτικοῖς· ἣ μὲν γὰρ συνεχὴς ἣ δ᾽ οὐ συνεχὴς [35] πονηρία. καὶ ὅλως δ᾽ ἕτερον τὸ γένος ἀκρασίας καὶ κακίας· ἡ μὲν γὰρ κακία λανθάνει, ἡ δ᾽ ἀκρασία οὐ λανθάνει. 1151a [1] αὐτῶν δὲ τούτων βελτίους οἱ ἐκστατικοὶ ἢ οἱ τὸν λόγον ἔχοντες μέν, μὴ ἐμμένοντες δέ· ὑπ᾽ ἐλάττονος γὰρ πάθους ἡττῶνται, καὶ οὐκ ἀπροβούλευτοι ὥσπερ ἅτεροι· ὅμοιος γὰρ ὁ ἀκρατής ἐστι τοῖς ταχὺ μεθυσκομένοις καὶ ὑπ᾽ ὀλίγου [5] οἴνου καὶ ἐλάττονος ἢ ὡς οἱ πολλοί. ὅτι μὲν οὖν κακία ἡ ἀκρασία οὐκ ἔστι, φανερόν (ἀλλὰ πῃ ἴσως)· τὸ μὲν γὰρ παρὰ προαίρεσιν τὸ δὲ κατὰ τὴν προαίρεσίν ἐστιν· οὐ μὴν ἀλλ᾽ ὅμοιόν γε κατὰ τὰς πράξεις, ὥσπερ τὸ Δημοδόκου εἰς Μιλησίους

Μιλήσιοι ἀξύνετοι μὲν οὐκ εἰσίν, δρῶσιν δ᾽ οἷάπερ ἀξύνετοι,

[10] καὶ οἱ ἀκρατεῖς ἄδικοι μὲν οὐκ εἰσίν, ἀδικήσουσι δέ. ἐπεὶ δ᾽ ὃ μὲν τοιοῦτος οἷος μὴ διὰ τὸ πεπεῖσθαι διώκειν τὰς καθ᾽ ὑπερβολὴν καὶ παρὰ τὸν ὀρθὸν λόγον σωματικὰς ἡδονάς, ὃ δὲ πέπεισται διὰ τὸ τοιοῦτος εἶναι οἷος διώκειν αὐτάς, ἐκεῖνος μὲν οὖν εὐμετάπειστος, οὗτος δὲ οὔ· [15] ἡ γὰρ ἀρετὴ καὶ μοχθηρία τὴν ἀρχὴν ἣ μὲν φθείρει ἣ δὲ σῴζει, ἐν δὲ ταῖς πράξεσι τὸ οὗ ἕνεκα ἀρχή, ὥσπερ ἐν τοῖς μαθηματικοῖς αἱ ὑποθέσεις· οὔτε δὴ ἐκεῖ ὁ λόγος διδασκαλικὸς τῶν ἀρχῶν οὔτε ἐνταῦθα, ἀλλ᾽ ἀρετὴ ἢ φυσικὴ ἢ ἐθιστὴ τοῦ ὀρθοδοξεῖν περὶ τὴν ἀρχήν. σώφρων μὲν οὖν ὁ [20] τοιοῦτος, ἀκόλαστος δ᾽ ὁ

ἐναντίος. ἔστι δέ τις διὰ πάθος ἐκστατικὸς παρὰ τὸν ὀρθὸν λόγον, ὃν ὥστε μὲν μὴ πράττειν κατὰ τὸν ὀρθὸν λόγον κρατεῖ τὸ πάθος, ὥστε δ’ εἶναι τοιοῦτον οἷον πεπεῖσθαι διώκειν ἀνέδην δεῖν τὰς τοιαύτας ἡδονὰς οὐ κρατεῖ· οὗτός ἐστιν ὁ ἀκρατής, βελτίων τοῦ ἀκολάστου, [25] οὐδὲ φαῦλος ἁπλῶς· σῴζεται γὰρ τὸ βέλτιστον, ἡ ἀρχή. ἄλλος δ’ ἐναντίος, ὁ ἐμμενετικὸς καὶ οὐκ ἐκστατικὸς διά γε τὸ πάθος. φανερὸν δὴ ἐκ τούτων ὅτι ἣ μὲν σπουδαία ἕξις, ἣ δὲ φαύλη.

πότερον οὖν ἐγκρατής ἐστιν ὁ ὁποιῳοῦν λόγῳ καὶ ὁποιᾳοῦν [30] προαιρέσει ἐμμένων ἢ ὁ τῇ ὀρθῇ, καὶ ἀκρατὴς δὲ ὁ ὁποιᾳοῦν μὴ ἐμμένων προαιρέσει καὶ ὁποιῳοῦν λόγῳ ἢ ὁ τῷ μὴ ψευδεῖ λόγῳ καὶ τῇ προαιρέσει τῇ ὀρθῇ, ὥσπερ ἠπορήθη πρότερον; ἢ κατὰ μὲν συμβεβηκὸς ὁποιᾳοῦν, καθ’ αὑτὸ δὲ τῷ ἀληθεῖ λόγῳ καὶ τῇ ὀρθῇ προαιρέσει [35] ὃ μὲν ἐμμένει ὃ δ’ οὐκ ἐμμένει; εἰ γάρ τις τοδὶ διὰ τοδὶ αἱρεῖται ἢ διώκει, 1151b[1] καθ’ αὑτὸ μὲν τοῦτο διώκει καὶ αἱρεῖται, κατὰ συμβεβηκὸς δὲ τὸ πρότερον. ἁπλῶς δὲ λέγομεν τὸ καθ’ αὑτό. ὥστε ἔστι μὲν ὡς ὁποιᾳοῦν δόξῃ ὃ μὲν ἐμμένει ὃ δ’ ἐξίσταται, ἁπλῶς δὲ [ὁ] τῇ ἀληθεῖ. εἰσὶ δέ τινες οἳ [5] ἐμμενετικοὶ τῇ δόξῃ εἰσίν, οὓς καλοῦσιν ἰσχυρογνώμονας, οἱ δύσπειστοι καὶ οὐκ εὐμετάπειστοι· οἳ ὅμοιον μέν τι ἔχουσι τῷ ἐγκρατεῖ, ὥσπερ ὁ ἄσωτος τῷ ἐλευθερίῳ καὶ ὁ θρασὺς τῷ θαρραλέῳ, εἰσὶ δ’ ἕτεροι κατὰ πολλά. ὃ μὲν γὰρ διὰ πάθος καὶ ἐπιθυμίαν οὐ μεταβάλλει [ὁ ἐγκρατής], ἐπεὶ [10] εὔπειστος, ὅταν τύχῃ, ἔσται ὁ ἐγκρατής· οἳ δὲ οὐχ ὑπὸ λόγου, ἐπεὶ ἐπιθυμίας γε λαμβάνουσι, καὶ ἄγονται πολλοὶ ὑπὸ τῶν ἡδονῶν. εἰσὶ δὲ ἰσχυρογνώμονες οἱ ἰδιογνώμονες καὶ οἱ ἀμαθεῖς καὶ οἱ ἄγροικοι, οἱ μὲν ἰδιογνώμονες δι’ ἡδονὴν καὶ λύπην· χαίρουσι γὰρ νικῶντες ἐὰν μὴ μεταπείθωνται, [15] καὶ λυποῦνται ἐὰν ἄκυρα τὰ αὐτῶν ᾖ ὥσπερ ψηφίσματα· ὥστε μᾶλλον τῷ ἀκρατεῖ ἐοίκασιν ἢ τῷ ἐγκρατεῖ. εἰσὶ δέ τινες οἳ τοῖς δόξασιν οὐκ ἐμμένουσιν οὐ δι’ ἀκρασίαν, οἷον ἐν τῷ Φιλοκτήτῃ τῷ Σοφοκλέους ὁ Νεοπτόλεμος· καίτοι δι’ ἡδονὴν οὐκ ἐνέμεινεν, ἀλλὰ καλήν· [20] τὸ γὰρ ἀληθεύειν αὐτῷ καλὸν ἦν, ἐπείσθη δ’ ὑπὸ τοῦ Ὀδυσσέως ψεύδεσθαι. οὐ γὰρ πᾶς ὁ δι’ ἡδονήν τι πράττων οὔτ’ ἀκόλαστος οὔτε φαῦλος οὔτ’ ἀκρατής, ἀλλ’ ὁ δι’ αἰσχράν.

ἐπεὶ δ’ ἔστι τις καὶ τοιοῦτος οἷος ἧττον ἢ δεῖ τοῖς σωματικοῖς χαίρειν, καὶ οὐκ ἐμμένων τῷ λόγῳ, ὁ [τοιοῦτος] [25] τούτου καὶ τοῦ ἀκρατοῦς μέσος ὁ ἐγκρατής· ὁ μὲν γὰρ ἀκρατὴς οὐκ ἐμμένει τῷ λόγῳ διὰ τὸ μᾶλλόν τι, οὗτος δὲ διὰ τὸ ἧττόν τι· ὁ δ’ ἐγκρατὴς ἐμμένει καὶ οὐδὲ δι’ ἕτερον μεταβάλλει. δεῖ δέ, εἴπερ ἡ ἐγκράτεια σπουδαῖον, ἀμφοτέρας τὰς ἐναντίας ἕξεις φαύλας εἶναι, ὥσπερ καὶ φαίνονται· [30] ἀλλὰ διὰ τὸ τὴν ἑτέραν ἐν ὀλίγοις καὶ ὀλιγάκις εἶναι φανεράν, ὥσπερ ἡ σωφροσύνη τῇ ἀκολασίᾳ δοκεῖ ἐναντίον εἶναι μόνον, οὕτω καὶ ἡ ἐγκράτεια τῇ ἀκρασίᾳ. ἐπεὶ δὲ καθ’ ὁμοιότητα πολλὰ λέγεται, καὶ ἡ ἐγκράτεια ἡ τοῦ σώφρονος καθ’ ὁμοιότητα ἠκολούθηκεν· ὅ τε γὰρ ἐγκρατὴς [35] οἷος μηδὲν παρὰ τὸν λόγον διὰ τὰς σωματικὰς ἡδονὰς ποιεῖν καὶ ὁ σώφρων, 1152a [1] ἀλλ’ ὃ μὲν ἔχων ὃ δ’ οὐκ ἔχων φαύλας ἐπιθυμίας, καὶ ὃ μὲν τοιοῦτος οἷος μὴ ἥδεσθαι παρὰ τὸν λόγον, ὃ δ’ οἷος ἥδεσθαι ἀλλὰ μὴ ἄγεσθαι. ὅμοιοι δὲ καὶ ὁ ἀκρατὴς καὶ ἀκόλαστος, ἕτεροι μὲν ὄντες, [5] ἀμφότεροι δὲ τὰ σωματικὰ ἡδέα διώκουσιν, ἀλλ’ ὃ μὲν καὶ οἰόμενος δεῖν, ὃ δ’ οὐκ οἰόμενος. οὐδ’ ἅμα φρόνιμον καὶ ἀκρατῆ ἐνδέχεται εἶναι τὸν αὐτόν· ἅμα γὰρ φρόνιμος καὶ σπουδαῖος τὸ ἦθος δέδεικται ὤν. ἔτι οὐ τῷ εἰδέναι μόνον φρόνιμος ἀλλὰ καὶ τῷ πρακτικός· ὁ δ’ ἀκρατὴς οὐ πρακτικός [10] — τὸν δὲ δεινὸν οὐδὲν κωλύει ἀκρατῆ εἶναι· διὸ καὶ δοκοῦσιν ἐνίοτε φρόνιμοι μὲν εἶναί τινες ἀκρατεῖς δέ, διὰ τὸ τὴν δεινότητα διαφέρειν τῆς φρονήσεως τὸν εἰρημένον τρόπον ἐν τοῖς πρώτοις λόγοις, καὶ κατὰ μὲν τὸν λόγον ἐγγὺς εἶναι, διαφέρειν δὲ κατὰ τὴν προαίρεσιν — οὐδὲ δὴ ὡς ὁ εἰδὼς καὶ θεωρῶν, [15] ἀλλ’ ὡς ὁ καθεύδων ἢ οἰνωμένος. καὶ ἑκὼν μέν ̔τρόπον γάρ τινα εἰδὼς καὶ ὃ ποιεῖ καὶ οὗ ἕνεκά, πονηρὸς δ’ οὔ· ἡ γὰρ προαίρεσις ἐπιεικής· ὥσθ’ ἡμιπόνηρος. καὶ οὐκ ἄδικος· οὐ γὰρ ἐπίβουλος· ὃ μὲν γὰρ αὐτῶν οὐκ ἐμμενετικὸς οἷς ἂν βουλεύσηται, ὃ δὲ μελαγχολικὸς οὐδὲ βουλευτικὸς ὅλως. [20] καὶ ἔοικε δὴ ὁ ἀκρατὴς πόλει ἣ ψηφίζεται μὲν ἅπαντα τὰ δέοντα καὶ νόμους ἔχει σπουδαίους, χρῆται δὲ οὐδέν, ὥσπερ Ἀναξανδρίδης ἔσκωψεν

ἡ πόλις ἐβούλεθ’, ᾗ νόμων οὐδὲν μέλει·

ὁ δὲ πονηρὸς χρωμένῃ μὲν τοῖς νόμοις, πονηροῖς δὲ χρωμένῃ. [25] ἔστι δ’ ἀκρασία καὶ ἐγκράτεια περὶ τὸ ὑπερβάλλον τῆς τῶν πολλῶν ἕξεως· ὃ μὲν γὰρ ἐμμένει μᾶλλον ὃ δ’ ἧττον τῆς τῶν πλείστων δυνάμεως. εὐιατοτέρα δὲ τῶν ἀκρασιῶν, ἣν οἱ μελαγχολικοὶ ἀκρατεύονται, τῶν βουλευομένων μὲν μὴ ἐμμενόντων δέ, καὶ οἱ δι’ ἐθισμοῦ ἀκρατεῖς τῶν φυσικῶν· ῥᾷον [30] γὰρ ἔθος μετακινῆσαι φύσεως· διὰ γὰρ τοῦτο καὶ τὸ ἔθος χαλεπόν, ὅτι τῇ φύσει ἔοικεν, ὥσπερ καὶ Εὔηνος λέγει

φημὶ πολυχρόνιον μελέτην ἔμεναι, φίλε, καὶ δή ταύτην ἀνθρώποισι τελευτῶσαν φύσιν εἶναι.

τί μὲν οὖν ἐστὶν ἐγκράτεια καὶ τί ἀκρασία καὶ τί καρτερία [35] καὶ τί μαλακία, καὶ πῶς ἔχουσιν αἱ ἕξεις αὗται πρὸς ἀλλήλας, εἴρηται.

1152b [1] περὶ δὲ ἡδονῆς καὶ λύπης θεωρῆσαι τοῦ τὴν πολιτικὴν φιλοσοφοῦντος· οὗτος γὰρ τοῦ τέλους ἀρχιτέκτων, πρὸς ὃ βλέποντες ἕκαστον τὸ μὲν κακὸν τὸ δ' ἀγαθὸν ἁπλῶς λέγομεν. ἔτι δὲ καὶ τῶν ἀναγκαίων ἐπισκέψασθαι περὶ αὐτῶν· τήν [5] τε γὰρ ἀρετὴν καὶ τὴν κακίαν τὴν ἠθικὴν περὶ λύπας καὶ ἡδονὰς ἔθεμεν, καὶ τὴν εὐδαιμονίαν οἱ πλεῖστοι μεθ' ἡδονῆς εἶναί φασιν· διὸ καὶ τὸν μακάριον ὠνομάκασιν ἀπὸ τοῦ χαίρειν. τοῖς μὲν οὖν δοκεῖ οὐδεμία ἡδονὴ εἶναι ἀγαθόν, οὔτε καθ' αὑτὸ οὔτε κατὰ συμβεβηκός· οὐ γὰρ εἶναι ταὐτὸ τὸ ἀγαθὸν [10] καὶ ἡδονήν· τοῖς δ' ἔνιαι μὲν εἶναι, αἱ δὲ πολλαὶ φαῦλαι. ἔτι δὲ τούτων τρίτον, εἰ καὶ πᾶσαι ἀγαθόν, ὅμως μὴ ἐνδέχεσθαι εἶναι τὸ ἄριστον ἡδονήν. ὅλως μὲν οὖν οὐκ ἀγαθόν, ὅτι πᾶσα ἡδονὴ γένεσίς ἐστιν εἰς φύσιν αἰσθητή, οὐδεμία δὲ γένεσις συγγενὴς τοῖς τέλεσιν, οἷον οὐδεμία οἰκοδόμησις [15] οἰκίᾳ. ἔτι ὁ σώφρων φεύγει τὰς ἡδονάς. ἔτι ὁ φρόνιμος τὸ ἄλυπον διώκει, οὐ τὸ ἡδύ. ἔτι ἐμπόδιον τῷ φρονεῖν αἱ ἡδοναί, καὶ ὅσῳ μᾶλλον χαίρει, μᾶλλον, οἷον τῇ τῶν ἀφροδισίων· οὐδένα γὰρ ἂν δύνασθαι νοῆσαί τι ἐν αὐτῇ. ἔτι τέχνη οὐδεμία ἡδονῆς· καίτοι πᾶν ἀγαθὸν τέχνης ἔργον. ἔτι παιδία [20] καὶ θηρία διώκει τὰς ἡδονάς. τοῦ δὲ μὴ πάσας σπουδαίας, ὅτι εἰσὶ καὶ αἰσχραὶ καὶ ὀνειδιζόμεναι, καὶ ὅτι βλαβεραί· νοσώδη γὰρ ἔνια τῶν ἡδέων. ὅτι δ' οὐ τἄριστον ἡδονή, ὅτι οὐ τέλος ἀλλὰ γένεσις. τὰ μὲν οὖν λεγόμενα σχεδὸν ταῦτ' ἐστίν.

[25] ὅτι δ' οὐ συμβαίνει διὰ ταῦτα μὴ εἶναι ἀγαθὸν μηδὲ τὸ ἄριστον, ἐκ τῶνδε δῆλον. πρῶτον μέν, ἐπεὶ τὸ ἀγαθὸν διχῶς (τὸ μὲν γὰρ ἁπλῶς τὸ δὲ τινί), καὶ αἱ φύσεις καὶ αἱ ἕξεις ἀκολουθήσουσιν, ὥστε καὶ αἱ κινήσεις καὶ αἱ γενέσεις, καὶ αἱ φαῦλαι δοκοῦσαι εἶναι αἳ μὲν ἁπλῶς φαῦλαι τινὶ [30] δ' οὔ ἀλλ' αἱρεταὶ τῷδε, ἔνιαι δ' οὐδὲ τῷδε ἀλλὰ ποτὲ καὶ ὀλίγον χρόνον αἱρεταί, <ἁπλῶς> δ' οὔ· αἳ δ' οὐδ' ἡδοναί, ἀλλὰ φαίνονται, ὅσαι μετὰ λύπης καὶ ἰατρείας ἕνεκεν, οἷον αἱ τῶν καμνόντων. ἔτι ἐπεὶ τοῦ ἀγαθοῦ τὸ μὲν ἐνέργεια τὸ δ' ἕξις, κατὰ συμβεβηκὸς αἱ καθιστᾶσαι εἰς τὴν φυσικὴν ἕξιν ἡδεῖαί [35] εἰσιν· ἔστι δ' ἡ ἐνέργεια ἐν ταῖς ἐπιθυμίαις τῆς ὑπολοίπου ἕξεως καὶ φύσεως, ἐπεὶ καὶ ἄνευ λύπης καὶ ἐπιθυμίας εἰσὶν ἡδοναί, 1153a [1] οἷον αἱ τοῦ θεωρεῖν [ἐνέργειαι], τῆς φύσεως οὐκ ἐνδεοῦς οὔσης. σημεῖον δ' ὅτι οὐ τῷ αὐτῷ ἡδεῖ χαίρουσιν ἀναπληρουμένης τε τῆς φύσεως καὶ καθεστηκυίας, ἀλλὰ

καθεστηκυίας μὲν τοῖς ἁπλῶς ἡδέσιν, ἀναπληρουμένης δὲ καὶ τοῖς ἐναντίοις· [5] καὶ γὰρ ὀξέσι καὶ πικροῖς χαίρουσιν, ὧν οὐδὲν οὔτε φύσει ἡδὺ οὔθ' ἁπλῶς ἡδύ. ὥστ' οὐδ' ἡδοναί· ὡς γὰρ τὰ ἡδέα πρὸς ἄλληλα διέστηκεν, οὕτω καὶ αἱ ἡδοναὶ αἱ ἀπὸ τούτων. ἔτι οὐκ ἀνάγκη ἕτερόν τι εἶναι βέλτιον τῆς ἡδονῆς, ὥσπερ τινές φασι τὸ τέλος τῆς γενέσεως· οὐ γὰρ γενέσεις εἰσὶν οὐδὲ μετὰ γενέσεως [10] πᾶσαι, ἀλλ' ἐνέργειαι καὶ τέλος· οὐδὲ γινομένων συμβαίνουσιν ἀλλὰ χρωμένων· καὶ τέλος οὐ πασῶν ἕτερόν τι, ἀλλὰ τῶν εἰς τὴν τελέωσιν ἀγομένων τῆς φύσεως. διὸ καὶ οὐ καλῶς ἔχει τὸ αἰσθητὴν γένεσιν φάναι εἶναι τὴν ἡδονήν, ἀλλὰ μᾶλλον λεκτέον ἐνέργειαν τῆς κατὰ φύσιν ἕξεως, [15] ἀντὶ δὲ τοῦ αἰσθητὴν ἀνεμπόδιστον. δοκεῖ δὲ γένεσίς τισιν εἶναι, ὅτι κυρίως ἀγαθόν· τὴν γὰρ ἐνέργειαν γένεσιν οἴονται εἶναι, ἔστι δ' ἕτερον. τὸ δ' εἶναι φαύλας ὅτι νοσώδη ἔνια ἡδέα, τὸ αὐτὸ καὶ ὅτι ὑγιεινὰ ἔνια φαῦλα πρὸς χρηματισμόν. ταύτῃ οὖν φαῦλα ἄμφω, ἀλλ' οὐ φαῦλα κατά γε τοῦτο, [20] ἐπεὶ καὶ τὸ θεωρεῖν ποτὲ βλάπτει πρὸς ὑγίειαν. ἐμποδίζει δὲ οὔτε φρονήσει οὔθ' ἕξει οὐδεμιᾷ ἡ ἀφ' ἑκάστης ἡδονή, ἀλλ' αἱ ἀλλότριαι, ἐπεὶ αἱ ἀπὸ τοῦ θεωρεῖν καὶ μανθάνειν μᾶλλον ποιήσουσι θεωρεῖν καὶ μανθάνειν. τὸ δὲ τέχνης μὴ εἶναι ἔργον ἡδονὴν μηδεμίαν εὐλόγως συμβέβηκεν· οὐδὲ γὰρ ἄλλης [25] ἐνεργείας οὐδεμιᾶς τέχνη ἐστίν, ἀλλὰ τῆς δυνάμεως· καίτοι καὶ ἡ μυρεψικὴ τέχνη καὶ ἡ ὀψοποιητικὴ δοκεῖ ἡδονῆς εἶναι. τὸ δὲ τὸν σώφρονα φεύγειν καὶ τὸν φρόνιμον διώκειν τὸν ἄλυπον βίον, καὶ τὸ τὰ παιδία καὶ τὰ θηρία διώκειν, τῷ αὐτῷ λύεται πάντα. ἐπεὶ γὰρ εἴρηται πῶς ἀγαθαὶ [30] ἁπλῶς καὶ πῶς οὐκ ἀγαθαὶ πᾶσαι αἱ ἡδοναί, τὰς τοιαύτας καὶ τὰ θηρία καὶ τὰ παιδία διώκει, καὶ τὴν τούτων ἀλυπίαν ὁ φρόνιμος, τὰς μετ' ἐπιθυμίας καὶ λύπης, καὶ τὰς σωματικάς (τοιαῦται γὰρ αὗται) καὶ τὰς τούτων ὑπερβολάς, καθ' ἃς ὁ ἀκόλαστος ἀκόλαστος. διὸ ὁ σώφρων φεύγει ταύτας, [35] ἐπεὶ εἰσὶν ἡδοναὶ καὶ σώφρονος.

1153b [1] ἀλλὰ μὴν ὅτι καὶ ἡ λύπη κακόν, ὁμολογεῖται, καὶ φευκτόν· ἣ μὲν γὰρ ἁπλῶς κακόν, ἣ δὲ τῷ πῇ ἐμποδιστική. τῷ δὲ φευκτῷ τὸ ἐναντίον ᾗ φευκτόν τι καὶ κακόν, ἀγαθόν. ἀνάγκη οὖν τὴν ἡδονὴν ἀγαθόν τι εἶναι. ὡς γὰρ [5] Σπεύσιππος ἔλυεν, οὐ συμβαίνει ἡ λύσις, ὥσπερ τὸ μεῖζον τῷ ἐλάττονι καὶ τῷ ἴσῳ ἐναντίον· οὐ γὰρ ἂν φαίη ὅπερ κακόν τι εἶναι τὴν ἡδονήν. τἄριστόν τ' οὐδὲν κωλύει ἡδονήν τινα εἶναι, εἰ ἔνιαι φαῦλαι ἡδοναί, ὥσπερ καὶ ἐπιστήμην τινὰ ἐνίων φαύλων οὐσῶν. ἴσως δὲ καὶ ἀναγκαῖον, εἴπερ ἑκάστης [10] ἕξεώς εἰσιν ἐνέργειαι ἀνεμπόδιστοι, εἴθ' ἡ πασῶν ἐνέργειά ἐστιν εὐδαιμονία εἴτε ἡ τινὸς αὐτῶν, ἂν ᾖ ἀνεμπόδιστος, αἱρετωτάτην εἶναι· τοῦτο δ’ ἐστὶν ἡδονή. ὥστε εἴη ἄν τις ἡδονὴ τὸ ἄριστον, τῶν πολλῶν ἡδονῶν φαύλων οὐσῶν, εἰ ἔτυχεν, ἁπλῶς. καὶ διὰ τοῦτο πάντες τὸν εὐδαίμονα ἡδὺν οἴονται βίον [15] εἶναι, καὶ ἐμπλέκουσι τὴν ἡδονὴν εἰς τὴν εὐδαιμονίαν, εὐλόγως· οὐδεμία γὰρ ἐνέργεια τέλειος ἐμποδιζομένη, ἡ δ’ εὐδαιμονία τῶν τελείων· διὸ προσδεῖται ὁ εὐδαίμων τῶν ἐν σώματι ἀγαθῶν καὶ τῶν ἐκτὸς καὶ τῆς τύχης, ὅπως μὴ ἐμποδίζηται ταῦτα. οἱ δὲ τὸν τροχιζόμενον καὶ τὸν δυστυχίαις μεγάλαις [20] περιπίπτοντα εὐδαίμονα φάσκοντες εἶναι, ἐὰν ᾖ ἀγαθός, ἢ ἑκόντες ἢ ἄκοντες οὐδὲν λέγουσιν. διὰ δὲ τὸ προσδεῖσθαι τῆς τύχης δοκεῖ τισὶ ταὐτὸν εἶναι ἡ εὐτυχία τῇ εὐδαιμονίᾳ, οὐκ οὖσα, ἐπεὶ καὶ αὐτὴ ὑπερβάλλουσα ἐμπόδιός ἐστιν, καὶ ἴσως οὐκέτι εὐτυχίαν καλεῖν δίκαιον· πρὸς γὰρ τὴν εὐδαιμονίαν [25] ὁ ὅρος αὐτῆς. καὶ τὸ διώκειν δ’ ἅπαντα καὶ θηρία καὶ ἀνθρώπους τὴν ἡδονὴν σημεῖόν τι τοῦ εἶναί πως τὸ ἄριστον αὐτήν·

φήμη δ’ οὔτις πάμπαν ἀπόλλυται, ἥν τινα λαοί πολλοί. . .

ἀλλ’ ἐπεὶ οὐχ ἡ αὐτὴ οὔτε φύσις οὔθ’ ἕξις ἡ ἀρίστη οὔτ’ ἔστιν [30] οὔτε δοκεῖ, οὐδ’ ἡδονὴν διώκουσι τὴν αὐτὴν πάντες, ἡδονὴν μέντοι πάντες. ἴσως δὲ καὶ διώκουσιν οὐχ ἣν οἴονται οὐδ’ ἣν ἂν φαῖεν, ἀλλὰ τὴν αὐτήν· πάντα γὰρ φύσει ἔχει τι θεῖον. ἀλλ’ εἰλήφασι τὴν τοῦ ὀνόματος κληρονομίαν αἱ σωματικαὶ ἡδοναὶ διὰ τὸ πλειστάκις τε παραβάλλειν εἰς αὐτὰς καὶ [35] πάντας μετέχειν αὐτῶν· διὰ τὸ μόνας οὖν γνωρίμους εἶναι ταύτας μόνας οἴονται εἶναι. 1154a [1] φανερὸν δὲ καὶ ὅτι, εἰ μὴ ἡδονὴ ἀγαθὸν καὶ ἡ ἐνέργεια, οὐκ ἔσται ζῆν ἡδέως τὸν εὐδαίμονα· τίνος γὰρ ἕνεκα δέοι ἂν αὐτῆς, εἴπερ μὴ ἀγαθόν, ἀλλὰ καὶ λυπηρῶς ἐνδέχεται ζῆν; οὔτε κακὸν γὰρ οὔτ’ ἀγαθὸν ἡ [5] λύπη, εἴπερ μηδ’ ἡδονή· ὥστε διὰ τί ἂν φεύγοι; οὐδὲ δὴ ἡδίων ὁ βίος ὁ τοῦ σπουδαίου, εἰ μὴ καὶ αἱ ἐνέργειαι αὐτοῦ.

περὶ δὲ δὴ τῶν σωματικῶν ἡδονῶν ἐπισκεπτέον τοῖς λέγουσιν ὅτι ἔνιαί γε ἡδοναὶ αἱρεταὶ σφόδρα, οἷον αἱ καλαί, [10] ἀλλ’ οὐχ αἱ σωματικαὶ καὶ περὶ ἃς ὁ ἀκόλαστος. διὰ τί οὖν αἱ ἐναντίαι λῦπαι μοχθηραί; κακῷ γὰρ ἀγαθὸν ἐναντίον. ἢ οὕτως ἀγαθαὶ αἱ ἀναγκαῖαι, ὅτι καὶ τὸ μὴ κακὸν ἀγαθόν ἐστιν; ἢ μέχρι του ἀγαθαί; τῶν μὲν γὰρ ἕξεων καὶ κινήσεων ὅσων μὴ ἔστι τοῦ βελτίονος ὑπερβολή, οὐδὲ τῆς ἡδονῆς· ὅσων [15] δ’ ἔστι, καὶ τῆς ἡδονῆς. ἔστιν δὲ τῶν σωματικῶν ἀγαθῶν ὑπερβολή, καὶ ὁ φαῦλος τῷ διώκειν τὴν ὑπερβολήν ἐστιν, ἀλλ’ οὐ τὰς ἀναγκαίας· πάντες γὰρ χαίρουσί πως καὶ ὄψοις καὶ οἴνοις καὶ ἀφροδισίοις, ἀλλ’ οὐχ ὡς δεῖ. ἐναντίως δ’ ἐπὶ τῆς λύπης· οὐ γὰρ τὴν ὑπερβολὴν φεύγει, ἀλλ’ ὅλως· [20] οὐ γάρ ἐστι τῇ ὑπερβολῇ λύπη ἐναντία ἀλλ’ ἢ τῷ διώκοντι τὴν ὑπερβολήν.

ἐπεὶ δ’ οὐ μόνον δεῖ τἀληθὲς εἰπεῖν ἀλλὰ καὶ τὸ αἴτιον τοῦ ψεύδους· τοῦτο γὰρ συμβάλλεται πρὸς τὴν πίστιν· ὅταν γὰρ εὔλογον φανῇ τὸ διὰ τί φαίνεται ἀληθὲς οὐκ ὂν [25] ἀληθές, πιστεύειν ποιεῖ τῷ ἀληθεῖ μᾶλλον· ὥστε λεκτέον διὰ τί φαίνονται αἱ σωματικαὶ ἡδοναὶ αἱρετώτεραι. πρῶτον μὲν οὖν δὴ ὅτι ἐκκρούει τὴν λύπην· καὶ διὰ τὰς ὑπερβολὰς τῆς λύπης, ὡς οὔσης ἰατρείας, τὴν ἡδονὴν διώκουσι τὴν ὑπερβάλλουσαν καὶ ὅλως τὴν σωματικήν. σφοδραὶ δὲ γίνονται [30] αἱ ἰατρεῖαι, διὸ καὶ διώκονται, διὰ τὸ παρὰ τὸ ἐναντίον φαίνεσθαι. καὶ οὐ σπουδαῖον δὴ δοκεῖ ἡ ἡδονὴ διὰ δύο ταῦτα, ὥσπερ εἴρηται, ὅτι αἳ μὲν φαύλης φύσεώς εἰσι πράξεις (ἢ ἐκ γενετῆς, ὥσπερ θηρίου, ἢ δι’ ἔθος, οἷον αἱ τῶν φαύλων ἀνθρώπων), αἳ δ’ ἰατρεῖαι [ὅτι] ἐνδεοῦς, καὶ ἔχειν βέλτιον ἢ γίνεσθαι· 1154b[1] αἳ δὲ συμβαίνουσι τελεουμένων· κατὰ συμβεβηκὸς οὖν σπουδαῖαι. ἔτι διώκονται διὰ τὸ σφοδραὶ εἶναι ὑπὸ τῶν ἄλλαις μὴ δυναμένων χαίρειν· αὐτοὶ γοῦν αὑτοῖς δίψας τινὰς παρασκευάζουσιν. ὅταν μὲν οὖν ἀβλαβεῖς, ἀνεπιτίμητον, [5] ὅταν δὲ βλαβεράς, φαῦλον. οὔτε γὰρ ἔχουσιν ἕτερα ἐφ’ οἷς χαίρουσιν, τό τε μηδέτερον πολλοῖς λυπηρὸν διὰ τὴν φύσιν. ἀεὶ γὰρ πονεῖ τὸ ζῷον, ὥσπερ καὶ οἱ φυσιολόγοι μαρτυροῦσι, τὸ ὁρᾶν, τὸ ἀκούειν φάσκοντες εἶναι λυπηρόν· ἀλλ’ ἤδη συνήθεις ἐσμέν, ὡς φασίν. ὁμοίως δ’ ἐν μὲν τῇ [10] νεότητι διὰ τὴν αὔξησιν ὥσπερ οἱ οἰνωμένοι διάκεινται, καὶ ἡδὺ ἡ νεότης. οἱ δὲ μελαγχολικοὶ τὴν φύσιν δέονται ἀεὶ ἰατρείας· καὶ γὰρ τὸ σῶμα δακνόμενον διατελεῖ διὰ τὴν κρᾶσιν, καὶ ἀεὶ ἐν ὀρέξει σφοδρᾷ εἰσίν· ἐξελαύνει δὲ ἡδονὴ λύπην ἥ τ’ ἐναντία καὶ ἡ τυχοῦσα, ἐὰν ᾖ ἰσχυρά· καὶ διὰ [15] ταῦτα ἀκόλαστοι καὶ φαῦλοι γίνονται. αἱ δ’ ἄνευ λυπῶν οὐκ ἔχουσιν ὑπερβολήν· αὗται δὲ τῶν φύσει ἡδέων καὶ μὴ κατὰ συμβεβηκός. λέγω δὲ κατὰ συμβεβηκὸς ἡδέα τὰ ἰατρεύοντα· ὅτι γὰρ συμβαίνει ἰατρεύεσθαι τοῦ ὑπομένοντος ὑγιοῦς πράττοντός τι, διὰ τοῦτο ἡδὺ δοκεῖ εἶναι· [20] φύσει δ’ ἡδέα, ἃ ποιεῖ πρᾶξιν τῆς τοιᾶσδε φύσεως. οὐκ ἀεὶ δ’ οὐθὲν ἡδὺ τὸ αὐτὸ διὰ τὸ μὴ ἁπλῆν ἡμῶν εἶναι τὴν φύσιν, ἀλλ’ ἐνεῖναί τι καὶ ἕτερον, καθὸ φθαρτοί, ὥστε ἄν τι θάτερον πράττῃ, τοῦτο τῇ ἑτέρᾳ φύσει παρὰ φύσιν, ὅταν δ’ ἰσάζῃ, οὔτε λυπηρὸν δοκεῖ οὔθ’ ἡδὺ τὸ πραττόμενον· ἐπεὶ [25] εἴ του ἡ φύσις ἁπλῆ εἴη, ἀεὶ ἡ αὐτὴ πρᾶξις ἡδίστη ἔσται. διὸ ὁ θεὸς ἀεὶ μίαν καὶ ἁπλῆν χαίρει ἡδονήν· οὐ γὰρ μόνον κινήσεώς ἐστιν ἐνέργεια ἀλλὰ καὶ ἀκινησίας, καὶ ἡδονὴ μᾶλλον ἐν ἠρεμίᾳ ἐστὶν ἢ ἐν κινήσει. μεταβολὴ δὲ πάντων γλυκύ, κατὰ τὸν ποιητήν, διὰ πονηρίαν τινά· ὥσπερ γὰρ [30] ἄνθρωπος εὐμετάβολος ὁ πονηρός, καὶ ἡ φύσις ἡ δεομένη μεταβολῆς· οὐ γὰρ ἁπλῆ οὐδ᾽ ἐπιεικής.

περὶ μὲν οὖν ἐγκρατείας καὶ ἀκρασίας καὶ περὶ ἡδονῆς καὶ λύπης εἴρηται, καὶ τί ἕκαστον καὶ πῶς τὰ μὲν ἀγαθὰ αὐτῶν ἐστὶ τὰ δὲ κακά· λοιπὸν δὲ καὶ περὶ φιλίας ἐροῦμεν.

Βιβλίο 8

μετὰ δὲ ταῦτα περὶ φιλίας ἕποιτ' ἂν διελθεῖν· ἔστι γὰρ ἀρετή τις ἢ μετ' ἀρετῆς, ἔτι δ' ἀναγκαιότατον εἰς τὸν [5] βίον. ἄνευ γὰρ φίλων οὐδεὶς ἕλοιτ' ἂν ζῆν, ἔχων τὰ λοιπὰ ἀγαθὰ πάντα· καὶ γὰρ πλουτοῦσι καὶ ἀρχὰς καὶ δυναστείας κεκτημένοις δοκεῖ φίλων μάλιστ' εἶναι χρεία· τί γὰρ ὄφελος τῆς τοιαύτης εὐετηρίας ἀφαιρεθείσης εὐεργεσίας, ἣ γίγνεται μάλιστα καὶ ἐπαινετωτάτη πρὸς φίλους; ἢ πῶς ἂν τηρηθείη [10] καὶ σῴζοιτ' ἄνευ φίλων; ὅσῳ γὰρ πλείων, τοσούτῳ ἐπισφαλεστέρα. ἐν πενίᾳ τε καὶ ταῖς λοιπαῖς δυστυχίαις μόνην οἴονται καταφυγὴν εἶναι τοὺς φίλους. καὶ νέοις δὲ πρὸς τὸ ἀναμάρτητον καὶ πρεσβυτέροις πρὸς θεραπείαν καὶ τὸ ἐλλεῖπον τῆς πράξεως δι' ἀσθένειαν βοηθείας, τοῖς τ' ἐν ἀκμῇ [15] πρὸς τὰς καλὰς πράξεις· σύν τε δύ' ἐρχομένω·1 καὶ γὰρ νοῆσαι καὶ πρᾶξαι δυνατώτεροι. φύσει τ' ἐνυπάρχειν ἔοικε πρὸς τὸ γεγεννημένον τῷ γεννήσαντι καὶ πρὸς τὸ γεννῆσαν τῷ γεννηθέντι, οὐ μόνον ἐν ἀνθρώποις ἀλλὰ καὶ ἐν ὄρνισι καὶ τοῖς πλείστοις τῶν ζῴων, καὶ τοῖς ὁμοεθνέσι πρὸς ἄλληλα, [20] καὶ μάλιστα τοῖς ἀνθρώποις, ὅθεν τοὺς φιλανθρώπους ἐπαινοῦμεν. ἴδοι δ' ἄν τις καὶ ἐν ταῖς πλάναις ὡς οἰκεῖον ἅπας ἄνθρωπος ἀνθρώπῳ καὶ φίλον. ἔοικε δὲ καὶ τὰς πόλεις συνέχειν ἡ φιλία, καὶ οἱ νομοθέται μᾶλλον περὶ αὐτὴν σπουδάζειν ἢ τὴν δικαιοσύνην· ἡ γὰρ ὁμόνοια ὅμοιόν τι τῇ [25] φιλίᾳ ἔοικεν εἶναι, ταύτης δὲ μάλιστ' ἐφίενται καὶ τὴν στάσιν ἔχθραν οὖσαν μάλιστα ἐξελαύνουσιν· καὶ φίλων μὲν ὄντων οὐδὲν δεῖ δικαιοσύνης, δίκαιοι δ' ὄντες προσδέονται φιλίας, καὶ τῶν δικαίων τὸ μάλιστα φιλικὸν εἶναι δοκεῖ. οὐ μόνον δ' ἀναγκαῖόν ἐστιν ἀλλὰ καὶ καλόν· τοὺς γὰρ φιλοφίλους [30] ἐπαινοῦμεν, ἥ τε πολυφιλία δοκεῖ τῶν καλῶν ἕν τι εἶναι· καὶ ἔτι τοὺς αὐτοὺς οἴονται ἄνδρας ἀγαθοὺς εἶναι καὶ φίλους.

διαμφισβητεῖται δὲ περὶ αὐτῆς οὐκ ὀλίγα. οἳ μὲν γὰρ ὁμοιότητά τινα τιθέασιν αὐτὴν καὶ τοὺς ὁμοίους φίλους, ὅθεν τὸν ὅμοιόν φασιν ὡς τὸν ὅμοιον, καὶ κολοιὸν ποτὶ [35] κολοιόν, καὶ τὰ τοιαῦτα· οἳ δ' ἐξ ἐναντίας κεραμεῖς πάντας τοὺς τοιούτους ἀλλήλοις φασὶν εἶναι. 1155b [1] καὶ περὶ αὐτῶν τούτων ἀνώτερον ἐπιζητοῦσι καὶ φυσικώτερον, Εὐριπίδης μὲν φάσκων ἐρᾶν μὲν ὄμβρου γαῖαν ξηρανθεῖσαν, ἐρᾶν δὲ σεμνὸν οὐρανὸν πληρούμενον ὄμβρου πεσεῖν ἐς γαῖαν, καὶ Ἡράκλειτος τὸ [5] ἀντίξουν συμφέρον καὶ ἐκ τῶν διαφερόντων καλλίστην ἁρμονίαν καὶ πάντα κατ' ἔριν γίνεσθαι· ἐξ ἐναντίας δὲ τούτοις ἄλλοι τε καὶ Ἐμπεδοκλῆς· τὸ γὰρ ὅμοιον τοῦ ὁμοίου ἐφίεσθαι. τὰ μὲν οὖν φυσικὰ τῶν ἀπορημάτων ἀφείσθω (οὐ γὰρ οἰκεῖα τῆς παρούσης σκέψεως)· ὅσα δ' ἐστὶν ἀνθρωπικὰ καὶ [10] ἀνήκει εἰς τὰ ἤθη καὶ τὰ πάθη, ταῦτ' ἐπισκεψώμεθα, οἷον πότερον ἐν πᾶσι γίνεται φιλία ἢ οὐχ οἷόν τε μοχθηροὺς ὄντας φίλους εἶναι, καὶ πότερον ἓν εἶδος τῆς φιλίας ἐστὶν ἢ πλείω. οἱ μὲν γὰρ ἓν οἰόμενοι, ὅτι ἐπιδέχεται τὸ μᾶλλον καὶ [τὸ] ἧττον, οὐχ ἱκανῷ πεπιστεύκασι σημείῳ· δέχεται γὰρ [15] τὸ μᾶλλον καὶ [τὸ] ἧττον καὶ τὰ ἕτερα τῷ εἴδει. εἴρηται δ' ὑπὲρ αὐτῶν ἔμπροσθεν.

τάχα δ' ἂν γένοιτο περὶ αὐτῶν φανερὸν γνωρισθέντος τοῦ φιλητοῦ. δοκεῖ γὰρ οὐ πᾶν φιλεῖσθαι ἀλλὰ τὸ φιλητόν, τοῦτο δ' εἶναι ἀγαθὸν ἢ ἡδὺ ἢ χρήσιμον· δόξειε δ' ἂν χρήσιμον [20] εἶναι δι' οὗ γίνεται ἀγαθόν τι ἢ ἡδονή, ὥστε φιλητὰ ἂν εἴη τἀγαθόν τε καὶ τὸ ἡδὺ ὡς τέλη. πότερον οὖν τἀγαθὸν φιλοῦσιν ἢ τὸ αὑτοῖς ἀγαθόν; διαφωνεῖ γὰρ ἐνίοτε ταῦτα. ὁμοίως δὲ καὶ περὶ τὸ ἡδύ. δοκεῖ δὲ τὸ αὑτῷ ἀγαθὸν φιλεῖν ἕκαστος, καὶ εἶναι ἁπλῶς μὲν τἀγαθὸν φιλητόν, ἑκάστῳ [25] δὲ τὸ ἑκάστῳ· φιλεῖ δ' ἕκαστος οὐ τὸ ὂν αὑτῷ ἀγαθὸν ἀλλὰ τὸ φαινόμενον. διοίσει δ' οὐδέν· ἔσται γὰρ τὸ φιλητὸν φαινόμενον. τριῶν δ' ὄντων δι' ἃ φιλοῦσιν, ἐπὶ μὲν τῇ τῶν ἀψύχων φιλήσει οὐ λέγεται φιλία· οὐ γάρ ἐστιν ἀντιφίλησις, οὐδὲ βούλησις ἐκείνῳ ἀγαθοῦ (γελοῖον γὰρ ἴσως τῷ οἴνῳ βούλεσθαι [30] τἀγαθά, ἀλλ' εἴπερ, σῴζεσθαι βούλεται αὐτόν, ἵνα αὐτὸς ἔχῃ)· τῷ δὲ φίλῳ φασὶ δεῖν βούλεσθαι τἀγαθὰ ἐκείνου ἕνεκα. τοὺς δὲ βουλομένους οὕτω τἀγαθὰ εὔνους λέγουσιν, ἂν μὴ ταὐτὸ καὶ παρ' ἐκείνου γίνηται· εὔνοιαν γὰρ ἐν ἀντιπεπονθόσι φιλίαν εἶναι. ἢ προσθετέον μὴ λανθάνουσαν; πολλοὶ γάρ [35] εἰσιν εὖνοι οἷς οὐχ ἑωράκασιν, ὑπολαμβάνουσι δὲ ἐπιεικεῖς εἶναι ἢ χρησίμους· 1156a [1] τοῦτο δὲ τὸ αὐτὸ κἂν ἐκείνων τις πάθοι πρὸς τοῦτον. εὖνοι μὲν οὖν οὗτοι φαίνονται ἀλλήλοις· φίλους δὲ πῶς ἄν τις εἴποι λανθάνοντας ὡς ἔχουσιν ἑαυτοῖς; δεῖ ἄρα εὐνοεῖν ἀλλήλοις καὶ βούλεσθαι τἀγαθὰ μὴ λανθάνοντας [5] δι' ἕν τι τῶν εἰρημένων.

διαφέρει δὲ ταῦτα ἀλλήλων εἴδει· καὶ αἱ φιλήσεις ἄρα καὶ αἱ φιλίαι. τρία δὴ τὰ τῆς φιλίας εἴδη, ἰσάριθμα τοῖς φιλητοῖς· καθ' ἕκαστον γάρ ἐστιν ἀντιφίλησις οὐ λανθάνουσα, οἱ δὲ φιλοῦντες ἀλλήλους βούλονται τἀγαθὰ ἀλλήλοις [10] ταύτῃ ᾗ φιλοῦσιν. οἱ μὲν οὖν διὰ τὸ χρήσιμον φιλοῦντες ἀλλήλους οὐ καθ' αὑτοὺς φιλοῦσιν, ἀλλ' ᾗ γίνεταί τι αὐτοῖς παρ' ἀλλήλων ἀγαθόν. ὁμοίως δὲ καὶ οἱ δι᾽ ἡδονήν· οὐ γὰρ τῷ ποιούς τινας εἶναι ἀγαπῶσι τοὺς εὐτραπέλους, ἀλλ᾽ ὅτι ἡδεῖς αὑτοῖς. οἵ τε δὴ διὰ τὸ χρήσιμον φιλοῦντες διὰ τὸ αὑτοῖς [15] ἀγαθὸν στέργουσι, καὶ οἱ δι᾽ ἡδονὴν διὰ τὸ αὑτοῖς ἡδύ, καὶ οὐχ ᾗ ὁ φιλούμενός ἐστιν, ἀλλ᾽ ᾗ χρήσιμος ἢ ἡδύς. κατὰ συμβεβηκός τε δὴ αἱ φιλίαι αὗταί εἰσιν· οὐ γὰρ ᾗ ἐστὶν ὅσπερ ἐστὶν ὁ φιλούμενος, ταύτῃ φιλεῖται, ἀλλ᾽ ᾗ πορίζουσιν οἳ μὲν ἀγαθόν τι οἳ δ᾽ ἡδονήν. εὐδιάλυτοι δὴ αἱ τοιαῦταί [20] εἰσι, μὴ διαμενόντων αὐτῶν ὁμοίων· ἐὰν γὰρ μηκέτι ἡδεῖς ἢ χρήσιμοι ὦσι, παύονται φιλοῦντες. τὸ δὲ χρήσιμον οὐ διαμένει, ἀλλ᾽ ἄλλοτε ἄλλο γίνεται. ἀπολυθέντος οὖν δι᾽ ὃ φίλοι ἦσαν, διαλύεται καὶ ἡ φιλία, ὡς οὔσης τῆς φιλίας πρὸς ἐκεῖνα. μάλιστα δ᾽ ἐν τοῖς πρεσβύταις ἡ τοιαύτη δοκεῖ [25] φιλία γίνεσθαι (οὐ γὰρ τὸ ἡδὺ οἱ τηλικοῦτοι διώκουσιν ἀλλὰ τὸ ὠφέλιμον), καὶ τῶν ἐν ἀκμῇ καὶ νέων ὅσοι τὸ συμφέρον διώκουσιν. οὐ πάνυ δ᾽ οἱ τοιοῦτοι οὐδὲ συζῶσι μετ᾽ ἀλλήλων· ἐνίοτε γὰρ οὐδ᾽ εἰσὶν ἡδεῖς· οὐδὲ δὴ προσδέονται τῆς τοιαύτης ὁμιλίας, ἐὰν μὴ ὠφέλιμοι ὦσιν· ἐπὶ τοσοῦτον [30] γάρ εἰσιν ἡδεῖς ἐφ᾽ ὅσον ἐλπίδας ἔχουσιν ἀγαθοῦ. εἰς ταύτας δὲ καὶ τὴν ξενικὴν τιθέασιν. ἡ δὲ τῶν νέων φιλία δι᾽ ἡδονὴν εἶναι δοκεῖ· κατὰ πάθος γὰρ οὗτοι ζῶσι, καὶ μάλιστα διώκουσι τὸ ἡδὺ αὑτοῖς καὶ τὸ παρόν· τῆς ἡλικίας δὲ μεταπιπτούσης καὶ τὰ ἡδέα γίνεται ἕτερα. διὸ ταχέως γίνονται [35] φίλοι καὶ παύονται· ἅμα γὰρ τῷ ἡδεῖ ἡ φιλία μεταπίπτει, 1156b [1] τῆς δὲ τοιαύτης ἡδονῆς ταχεῖα ἡ μεταβολή. καὶ ἐρωτικοὶ δ᾽ οἱ νέοι· κατὰ πάθος γὰρ καὶ δι᾽ ἡδονὴν τὸ πολὺ τῆς ἐρωτικῆς· διόπερ φιλοῦσι καὶ ταχέως παύονται, πολλάκις τῆς αὐτῆς ἡμέρας μεταπίπτοντες. συνημερεύειν δὲ καὶ [5] συζῆν οὗτοι βούλονται· γίνεται γὰρ αὐτοῖς τὸ κατὰ τὴν φιλίαν οὕτως.

τελεία δ᾽ ἐστὶν ἡ τῶν ἀγαθῶν φιλία καὶ κατ᾽ ἀρετὴν ὁμοίων· οὗτοι γὰρ τἀγαθὰ ὁμοίως βούλονται ἀλλήλοις ᾗ ἀγαθοί, ἀγαθοὶ δ᾽ εἰσὶ καθ᾽ αὑτούς. οἱ δὲ βουλόμενοι τἀγαθὰ [10] τοῖς φίλοις ἐκείνων ἕνεκα μάλιστα φίλοι· δι᾽ αὑτοὺς γὰρ οὕτως ἔχουσι, καὶ οὐ κατὰ συμβεβηκός· διαμένει οὖν ἡ τούτων φιλία ἕως ἂν ἀγαθοὶ ὦσιν, ἡ δ᾽ ἀρετὴ μόνιμον. καὶ ἔστιν ἑκάτερος ἁπλῶς ἀγαθὸς καὶ τῷ φίλῳ· οἱ γὰρ ἀγαθοὶ καὶ ἁπλῶς ἀγαθοὶ καὶ ἀλλήλοις ὠφέλιμοι. ὁμοίως δὲ καὶ [15] ἡδεῖς· καὶ γὰρ ἁπλῶς οἱ ἀγαθοὶ ἡδεῖς καὶ ἀλλήλοις· ἑκάστῳ γὰρ καθ᾽ ἡδονήν εἰσιν αἱ οἰκεῖαι πράξεις καὶ αἱ τοιαῦται, τῶν ἀγαθῶν δὲ αἱ αὐταὶ ἢ ὅμοιαι. ἡ τοιαύτη δὲ φιλία μόνιμος εὐλόγως ἐστίν· συνάπτει γὰρ ἐν αὐτῇ πάνθ᾽ ὅσα τοῖς φίλοις δεῖ ὑπάρχειν. πᾶσα γὰρ φιλία δι᾽ ἀγαθόν ἐστιν [20] ἢ δι᾽ ἡδονήν, ἢ ἁπλῶς ἢ τῷ φιλοῦντι, καὶ καθ᾽ ὁμοιότητά τινα· ταύτῃ δὲ πάνθ᾽ ὑπάρχει τὰ εἰρημένα καθ᾽ αὑτούς· †ταύτῃ γὰρ ὅμοια† καὶ τὰ λοιπά, τό τε ἁπλῶς ἀγαθὸν καὶ ἡδὺ ἁπλῶς ἐστίν, μάλιστα δὲ ταῦτα φιλητά· καὶ τὸ φιλεῖν δὴ καὶ ἡ φιλία ἐν τούτοις μάλιστα καὶ ἀρίστη. σπανίας δ’ [25] εἰκὸς τὰς τοιαύτας εἶναι· ὀλίγοι γὰρ οἱ τοιοῦτοι. ἔτι δὲ προσδεῖται χρόνου καὶ συνηθείας· κατὰ τὴν παροιμίαν γὰρ οὐκ ἔστιν εἰδῆσαι ἀλλήλους πρὶν τοὺς λεγομένους ἅλας συναναλῶσαι· οὐδ’ ἀποδέξασθαι δὴ πρότερον οὐδ’ εἶναι φίλους, πρὶν ἂν ἑκάτερος ἑκατέρῳ φανῇ φιλητὸς καὶ πιστευθῇ. οἱ δὲ ταχέως [30] τὰ φιλικὰ πρὸς ἀλλήλους ποιοῦντες βούλονται μὲν φίλοι εἶναι, οὐκ εἰσὶ δέ, εἰ μὴ καὶ φιλητοί, καὶ τοῦτ’ ἴσασιν· βούλησις μὲν γὰρ ταχεῖα φιλίας γίνεται, φιλία δ’ οὔ.

αὕτη μὲν οὖν καὶ κατὰ τὸν χρόνον καὶ κατὰ τὰ λοιπὰ τελεία ἐστί, καὶ κατὰ πάντα ταὐτὰ γίνεται καὶ ὅμοια ἑκατέρῳ [35] παρ’ ἑκατέρου, ὅπερ δεῖ τοῖς φίλοις ὑπάρχειν. 1157a [1] ἡ δὲ διὰ τὸ ἡδὺ ὁμοίωμα ταύτης ἔχει· καὶ γὰρ οἱ ἀγαθοὶ ἡδεῖς ἀλλήλοις. ὁμοίως δὲ καὶ ἡ διὰ τὸ χρήσιμον· καὶ γὰρ τοιοῦτοι ἀλλήλοις οἱ ἀγαθοί. μάλιστα δὲ καὶ ἐν τούτοις αἱ φιλίαι μένουσιν, ὅταν τὸ αὐτὸ γίνηται παρ’ ἀλλήλων, οἷον [5] ἡδονή, καὶ μὴ μόνον οὕτως ἀλλὰ καὶ ἀπὸ τοῦ αὐτοῦ, οἷον τοῖς εὐτραπέλοις, καὶ μὴ ὡς ἐραστῇ καὶ ἐρωμένῳ. οὐ γὰρ ἐπὶ τοῖς αὐτοῖς ἥδονται οὗτοι, ἀλλ’ ὃ μὲν ὁρῶν ἐκεῖνον, ὃ δὲ θεραπευόμενος ὑπὸ τοῦ ἐραστοῦ· ληγούσης δὲ τῆς ὥρας ἐνίοτε καὶ ἡ φιλία λήγει (τῷ μὲν γὰρ οὐκ ἔστιν ἡδεῖα ἡ [10] ὄψις, τῷ δ’ οὐ γίνεται ἡ θεραπεία)· πολλοὶ δ’ αὖ διαμένουσιν, ἐὰν ἐκ τῆς συνηθείας τὰ ἤθη στέρξωσιν, ὁμοήθεις ὄντες. οἱ δὲ μὴ τὸ ἡδὺ ἀντικαταλλαττόμενοι ἀλλὰ τὸ χρήσιμον ἐν τοῖς ἐρωτικοῖς καὶ εἰσὶν ἧττον φίλοι καὶ διαμένουσιν. οἱ δὲ διὰ τὸ χρήσιμον ὄντες φίλοι ἅμα τῷ συμφέροντι [15] διαλύονται· οὐ γὰρ ἀλλήλων ἦσαν φίλοι ἀλλὰ τοῦ λυσιτελοῦς. δι’ ἡδονὴν μὲν οὖν καὶ διὰ τὸ χρήσιμον καὶ φαύλους ἐνδέχεται φίλους ἀλλήλοις εἶναι καὶ ἐπιεικεῖς φαύλοις καὶ μηδέτερον ὁποιῳοῦν, δι’ αὑτοὺς δὲ δῆλον ὅτι μόνους τοὺς ἀγαθούς· οἱ γὰρ κακοὶ οὐ χαίρουσιν ἑαυτοῖς, [20] εἰ μή τις ὠφέλεια γίνοιτο. καὶ μόνη δὲ ἡ τῶν ἀγαθῶν φιλία ἀδιάβλητός ἐστιν· οὐ γὰρ ῥᾴδιον οὐδενὶ πιστεῦσαι περὶ τοῦ ἐν πολλῷ χρόνῳ ὑφ’ αὑτοῦ δεδοκιμασμένου· καὶ τὸ πιστεύειν ἐν τούτοις, καὶ τὸ μηδέποτ’ ἂν ἀδικῆσαι, καὶ ὅσα ἄλλα ἐν τῇ ὡς ἀληθῶς φιλίᾳ ἀξιοῦται. ἐν δὲ ταῖς ἑτέραις [25] οὐδὲν κωλύει τὰ τοιαῦτα γίνεσθαι. ἐπεὶ γὰρ οἱ ἄνθρωποι λέγουσι φίλους καὶ τοὺς διὰ τὸ χρήσιμον, ὥσπερ αἱ πόλεις (δοκοῦσι γὰρ αἱ συμμαχίαι ταῖς πόλεσι γίνεσθαι ἕνεκα τοῦ συμφέροντος), καὶ τοὺς δι’ ἡδονὴν ἀλλήλους στέργοντας, ὥσπερ οἱ παῖδες, ἴσως λέγειν μὲν δεῖ καὶ ἡμᾶς φίλους τοὺς [30] τοιούτους, εἴδη δὲ τῆς φιλίας πλείω, καὶ πρώτως μὲν καὶ κυρίως τὴν τῶν ἀγαθῶν ᾗ ἀγαθοί, τὰς δὲ λοιπὰς καθ’ ὁμοιότητα· ᾗ γὰρ ἀγαθόν τι καὶ ὅμοιόν τι, ταύτῃ φίλοι· καὶ γὰρ τὸ ἡδὺ ἀγαθὸν τοῖς φιληδέσιν. οὐ πάνυ δ’ αὗται συνάπτουσιν, οὐδὲ γίνονται οἱ αὐτοὶ φίλοι διὰ τὸ χρήσιμον [35] καὶ διὰ τὸ ἡδύ· οὐ γὰρ πάνυ συνδυάζεται τὰ κατὰ συμβεβηκός.

[1157b [1] εἰς ταῦτα δὲ τὰ εἴδη τῆς φιλίας νενεμημένης οἱ μὲν φαῦλοι ἔσονται φίλοι δι’ ἡδονὴν ἢ τὸ χρήσιμον, ταύτῃ ὅμοιοι ὄντες, οἱ δ’ ἀγαθοὶ δι’ αὑτοὺς φίλοι· ᾗ γὰρ ἀγαθοί. οὗτοι μὲν οὖν ἁπλῶς φίλοι, ἐκεῖνοι δὲ κατὰ συμβεβηκὸς [5] καὶ τῷ ὡμοιῶσθαι τούτοις. ὥσπερ δ’ ἐπὶ τῶν ἀρετῶν οἳ μὲν καθ’ ἕξιν οἳ δὲ κατ’ ἐνέργειαν ἀγαθοὶ λέγονται, οὕτω καὶ ἐπὶ τῆς φιλίας· οἱ μὲν γὰρ συζῶντες χαίρουσιν ἀλλήλοις καὶ πορίζουσι τἀγαθά, οἱ δὲ καθεύδοντες ἢ κεχωρισμένοι τοῖς τόποις οὐκ ἐνεργοῦσι μέν, οὕτω δ’ ἔχουσιν ὥστ’ [10] ἐνεργεῖν φιλικῶς· οἱ γὰρ τόποι οὐ διαλύουσι τὴν φιλίαν ἁπλῶς, ἀλλὰ τὴν ἐνέργειαν. ἐὰν δὲ χρόνιος ἡ ἀπουσία γίνηται, καὶ τῆς φιλίας δοκεῖ λήθην ποιεῖν· ὅθεν εἴρηται

πολλὰς δὴ φιλίας ἀπροσηγορία διέλυσεν.

οὐ φαίνονται δ’ οὔθ’ οἱ πρεσβῦται οὔθ’ οἱ στρυφνοὶ φιλικοὶ εἶναι· βραχὺ [15] γὰρ ἐν αὐτοῖς τὸ τῆς ἡδονῆς, οὐδεὶς δὲ δύναται συνημερεύειν τῷ λυπηρῷ οὐδὲ τῷ μὴ ἡδεῖ· μάλιστα γὰρ ἡ φύσις φαίνεται τὸ λυπηρὸν φεύγειν, ἐφίεσθαι δὲ τοῦ ἡδέος. οἱ δ’ ἀποδεχόμενοι ἀλλήλους, μὴ συζῶντες δέ, εὔνοις ἐοίκασι μᾶλλον ἢ φίλοις. οὐδὲν γὰρ οὕτως ἐστὶ φίλων ὡς τὸ συζῆν [20] (ὠφελείας μὲν γὰρ οἱ ἐνδεεῖς ὀρέγονται, συνημερεύειν δὲ καὶ οἱ μακάριοι· μονώταις γὰρ εἶναι τούτοις ἥκιστα προσήκει)· συνδιάγειν δὲ μετ’ ἀλλήλων οὐκ ἔστι μὴ ἡδεῖς ὄντας μηδὲ χαίροντας τοῖς αὐτοῖς, ὅπερ ἡ ἑταιρικὴ δοκεῖ ἔχειν.

[25] μάλιστα μὲν οὖν ἐστὶ φιλία ἡ τῶν ἀγαθῶν, καθάπερ πολλάκις εἴρηται· δοκεῖ γὰρ φιλητὸν μὲν καὶ αἱρετὸν τὸ ἁπλῶς ἀγαθὸν ἢ ἡδύ, ἑκάστῳ δὲ τὸ αὑτῷ τοιοῦτον· ὁ δ’ ἀγαθὸς τῷ ἀγαθῷ δι’ ἄμφω ταῦτα. ἔοικε δ’ ἡ μὲν φίλησις πάθει, ἡ δὲ φιλία ἕξει· ἡ γὰρ φίλησις οὐχ ἧττον [30] πρὸς τὰ ἄψυχά ἐστιν, ἀντιφιλοῦσι δὲ μετὰ προαιρέσεως, ἡ δὲ προαίρεσις ἀφ’ ἕξεως· καὶ τἀγαθὰ βούλονται τοῖς φιλουμένοις ἐκείνων ἕνεκα, οὐ κατὰ πάθος ἀλλὰ καθ’ ἕξιν. καὶ φιλοῦντες τὸν φίλον τὸ αὑτοῖς ἀγαθὸν φιλοῦσιν· ὁ γὰρ ἀγαθὸς φίλος γινόμενος ἀγαθὸν γίνεται ᾧ φίλος. ἑκάτερος [35] οὖν φιλεῖ τε τὸ αὑτῷ

ἀγαθόν, καὶ τὸ ἴσον ἀνταποδίδωσι τῇ βουλήσει καὶ τῷ ἡδεῖ· λέγεται γὰρ φιλότης ἰσότης, 1158a [1] μάλιστα δὲ τῇ τῶν ἀγαθῶν ταῦθ᾽ ὑπάρχει. ἐν δὲ τοῖς στρυφνοῖς καὶ πρεσβυτικοῖς ἧττον γίνεται ἡ φιλία, ὅσῳ δυσκολώτεροί εἰσι καὶ ἧττον ταῖς ὁμιλίαις χαίρουσιν· ταῦτα γὰρ δοκεῖ μάλιστ᾽ εἶναι φιλικὰ καὶ ποιητικὰ φιλίας. διὸ [5] νέοι μὲν γίνονται φίλοι ταχύ, πρεσβῦται δ᾽ οὔ· οὐ γὰρ γίνονται φίλοι οἷς ἂν μὴ χαίρωσιν· ὁμοίως δ᾽ οὐδ᾽ οἱ στρυφνοί. ἀλλ᾽ οἱ τοιοῦτοι εὖνοι μέν εἰσιν ἀλλήλοις· βούλονται γὰρ τἀγαθὰ καὶ ἀπαντῶσιν εἰς τὰς χρείας· φίλοι δ᾽ οὐ πάνυ εἰσὶ διὰ τὸ μὴ συνημερεύειν μηδὲ χαίρειν ἀλλήλοις, [10] ἃ δὴ μάλιστ᾽ εἶναι δοκεῖ φιλικά. πολλοῖς δ᾽ εἶναι φίλον κατὰ τὴν τελείαν φιλίαν οὐκ ἐνδέχεται, ὥσπερ οὐδ᾽ ἐρᾶν πολλῶν ἅμα (ἔοικε γὰρ ὑπερβολῇ, τὸ τοιοῦτο δὲ πρὸς ἕνα πέφυκε γίνεσθαι)· πολλοὺς δ᾽ ἅμα τῷ αὐτῷ ἀρέσκειν σφόδρα οὐ ῥᾴδιον, ἴσως δ᾽ οὐδ᾽ ἀγαθοὺς εἶναι. δεῖ δὲ καὶ ἐμπειρίαν [15] λαβεῖν καὶ ἐν συνηθείᾳ γενέσθαι, ὃ παγχάλεπον. διὰ τὸ χρήσιμον δὲ καὶ τὸ ἡδὺ πολλοῖς ἀρέσκειν ἐνδέχεται· πολλοὶ γὰρ οἱ τοιοῦτοι, καὶ ἐν ὀλίγῳ χρόνῳ αἱ ὑπηρεσίαι. τούτων δὲ μᾶλλον ἔοικε φιλίᾳ ἡ διὰ τὸ ἡδύ, ὅταν ταὐτὰ ἀπ᾽ ἀμφοῖν γίνηται καὶ χαίρωσιν ἀλλήλοις ἢ τοῖς [20] αὐτοῖς, οἷαι τῶν νέων εἰσὶν αἱ φιλίαι· μᾶλλον γὰρ ἐν ταύταις τὸ ἐλευθέριον. ἡ δὲ διὰ τὸ χρήσιμον ἀγοραίων. καὶ οἱ μακάριοι δὲ χρησίμων μὲν οὐδὲν δέονται, ἡδέων δέ· συζῆν μὲν γὰρ βούλονταί τισι, τὸ δὲ λυπηρὸν ὀλίγον μὲν χρόνον φέρουσιν, συνεχῶς δ᾽ οὐδεὶς ἂν ὑπομείναι, οὐδ᾽ αὐτὸ [25] τὸ ἀγαθόν, εἰ λυπηρὸν αὐτῷ εἴη· διὸ τοὺς φίλους ἡδεῖς ζητοῦσιν. δεῖ δ᾽ ἴσως καὶ ἀγαθοὺς τοιούτους ὄντας, καὶ ἔτι αὑτοῖς· οὕτω γὰρ ὑπάρξει αὐτοῖς ὅσα δεῖ τοῖς φίλοις. οἱ δ᾽ ἐν ταῖς ἐξουσίαις διῃρημένοις φαίνονται χρῆσθαι τοῖς φίλοις· ἄλλοι γὰρ αὐτοῖς εἰσὶ χρήσιμοι καὶ ἕτεροι ἡδεῖς, ἄμφω δ᾽ οἱ αὐτοὶ [30] οὐ πάνυ· οὔτε γὰρ ἡδεῖς μετ᾽ ἀρετῆς ζητοῦσιν οὔτε χρησίμους εἰς τὰ καλά, ἀλλὰ τοὺς μὲν εὐτραπέλους τοῦ ἡδέος ἐφιέμενοι, τοὺς δὲ δεινοὺς πρᾶξαι τὸ ἐπιταχθέν, ταῦτα δ᾽ οὐ πάνυ γίνεται ἐν τῷ αὐτῷ. ἡδὺς δὲ καὶ χρήσιμος ἅμα εἴρηται ὅτι ὁ σπουδαῖος· ἀλλ᾽ ὑπερέχοντι οὐ γίνεται ὁ τοιοῦτος φίλος, ἐὰν μὴ [35] καὶ τῇ ἀρετῇ ὑπερέχηται· εἰ δὲ μή, οὐκ ἰσάζει ἀνάλογον ὑπερεχόμενος. οὐ πάνυ δ᾽ εἰώθασι τοιοῦτοι γίνεσθαι.

1158b [1] εἰσὶ δ᾽ οὖν αἱ εἰρημέναι φιλίαι ἐν ἰσότητι· τὰ γὰρ αὐτὰ γίνεται ἀπ᾽ ἀμφοῖν καὶ βούλονται ἀλλήλοις, ἢ ἕτερον ἀνθ᾽ ἑτέρου καταλλάττονται, οἷον ἡδονὴν ἀντ᾽ ὠφελείας· ὅτι δὲ καὶ ἧττόν εἰσιν αὗται φιλίαι καὶ μένουσιν, εἴρηται. [5] δοκοῦσι δὲ [καὶ] δι᾽ ὁμοιότητα καὶ ἀνομοιότητα ταὐτοῦ εἶναί τε καὶ οὐκ εἶναι φιλίαι· καθ᾽ ὁμοιότητα γὰρ τῆς κατ᾽ ἀρετὴν φαίνονται φιλίαι (ἣ μὲν γὰρ τὸ ἡδὺ ἔχει ἣ δὲ τὸ χρήσιμον, ταῦτα δ᾽ ὑπάρχει κἀκείνῃ), τῷ δὲ τὴν μὲν ἀδιάβλητον καὶ μόνιμον εἶναι, ταύτας δὲ ταχέως [10] μεταπίπτειν ἄλλοις τε διαφέρειν πολλοῖς, οὐ φαίνονται φιλίαι, δι’ ἀνομοιότητα ἐκείνης. ἕτερον δ’ ἐστὶ φιλίας εἶδος τὸ καθ’ ὑπεροχήν, οἷον πατρὶ πρὸς υἱὸν καὶ ὅλως πρεσβυτέρῳ πρὸς νεώτερον, ἀνδρί τε πρὸς γυναῖκα καὶ παντὶ ἄρχοντι πρὸς ἀρχόμενον. διαφέρουσι δ’ αὗται καὶ ἀλλήλων· [15] οὐ γὰρ ἡ αὐτὴ γονεῦσι πρὸς τέκνα καὶ ἄρχουσι πρὸς ἀρχομένους, ἀλλ’ οὐδὲ πατρὶ πρὸς υἱὸν καὶ υἱῷ πρὸς πατέρα, οὐδ’ ἀνδρὶ πρὸς γυναῖκα καὶ γυναικὶ πρὸς ἄνδρα. ἑτέρα γὰρ ἑκάστου τούτων ἀρετὴ καὶ τὸ ἔργον, ἕτερα δὲ καὶ δι’ ἃ φιλοῦσιν· ἕτεραι οὖν καὶ αἱ φιλήσεις καὶ αἱ φιλίαι. [20] ταὐτὰ μὲν δὴ οὔτε γίνεται ἑκατέρῳ παρὰ θατέρου οὔτε δεῖ ζητεῖν· ὅταν δὲ γονεῦσι μὲν τέκνα ἀπονέμῃ ἃ δεῖ τοῖς γεννήσασι, γονεῖς δὲ [υἱέσιν] ἃ δεῖ τοῖς τέκνοις, μόνιμος ἡ τῶν τοιούτων καὶ ἐπιεικὴς ἔσται φιλία. ἀνάλογον δ’ ἐν πάσαις ταῖς καθ’ ὑπεροχὴν οὔσαις φιλίαις καὶ τὴν φίλησιν [25] δεῖ γίνεσθαι, οἷον τὸν ἀμείνω μᾶλλον φιλεῖσθαι ἢ φιλεῖν, καὶ τὸν ὠφελιμώτερον, καὶ τῶν ἄλλων ἕκαστον ὁμοίως· ὅταν γὰρ κατ’ ἀξίαν ἡ φίλησις γίνηται, τότε γίνεταί πως ἰσότης, ὃ δὴ τῆς φιλίας εἶναι δοκεῖ.

οὐχ ὁμοίως δὲ τὸ ἴσον ἔν τε τοῖς δικαίοις καὶ ἐν τῇ [30] φιλίᾳ φαίνεται ἔχειν· ἔστι γὰρ ἐν μὲν τοῖς δικαίοις ἴσον πρώτως τὸ κατ’ ἀξίαν, τὸ δὲ κατὰ ποσὸν δευτέρως, ἐν δὲ τῇ φιλίᾳ τὸ μὲν κατὰ ποσὸν πρώτως, τὸ δὲ κατ’ ἀξίαν δευτέρως. δῆλον δ’, ἂν πολὺ διάστημα γένηται ἀρετῆς ἢ κακίας ἢ εὐπορίας ἤ τινος ἄλλου· οὐ γὰρ ἔτι φίλοι εἰσὶν [35] ἀλλ’ οὐδ’ ἀξιοῦσιν. ἐμφανέστατον δὲ τοῦτ’ ἐπὶ τῶν θεῶν· πλεῖστον γὰρ οὗτοι πᾶσι τοῖς ἀγαθοῖς ὑπερέχουσιν. 1159a [1] δῆλον δὲ καὶ ἐπὶ τῶν βασιλέων· οὐδὲ γὰρ τούτοις ἀξιοῦσιν εἶναι φίλοι οἱ πολὺ καταδεέστεροι, οὐδὲ τοῖς ἀρίστοις ἢ σοφωτάτοις οἱ μηδενὸς ἄξιοι. ἀκριβὴς μὲν οὖν ἐν τοῖς τοιούτοις οὐκ ἔστιν ὁρισμός, ἕως τίνος οἱ φίλοι· πολλῶν γὰρ ἀφαιρουμένων ἔτι [5] μένει, πολὺ δὲ χωρισθέντος, οἷον τοῦ θεοῦ, οὐκέτι. ὅθεν καὶ ἀπορεῖται, μή ποτ’ οὐ βούλονται οἱ φίλοι τοῖς φίλοις τὰ μέγιστα τῶν ἀγαθῶν, οἷον θεοὺς εἶναι· οὐ γὰρ ἔτι φίλοι ἔσονται αὐτοῖς, οὐδὲ δὴ ἀγαθά· οἱ γὰρ φίλοι ἀγαθά. εἰ δὴ καλῶς εἴρηται ὅτι ὁ φίλος τῷ φίλῳ βούλεται τἀγαθὰ [10] ἐκείνου ἕνεκα, μένειν ἂν δέοι οἷός ποτ’ ἐστὶν ἐκεῖνος· ἀνθρώπῳ δὴ ὄντι βουλήσεται τὰ μέγιστα ἀγαθά. ἴσως δ’ οὐ πάντα· αὑτῷ γὰρ μάλισθ’ ἕκαστος βούλεται τἀγαθά. οἱ πολλοὶ δὲ δοκοῦσι διὰ φιλοτιμίαν βούλεσθαι φιλεῖσθαι μᾶλλον ἢ φιλεῖν· διὸ φιλοκόλακες οἱ πολλοί· ὑπερεχόμενος γὰρ [15] φίλος ὁ κόλαξ, ἢ προσποιεῖται τοιοῦτος καὶ μᾶλλον φιλεῖν ἢ φιλεῖσθαι· τὸ δὲ φιλεῖσθαι ἐγγὺς εἶναι δοκεῖ τοῦ τιμᾶσθαι, οὗ δὴ οἱ πολλοὶ ἐφίενται. οὐ δι᾽ αὑτὸ δ᾽ ἐοίκασιν αἱρεῖσθαι τὴν τιμήν, ἀλλὰ κατὰ συμβεβηκός· χαίρουσι γὰρ οἱ μὲν πολλοὶ ὑπὸ τῶν ἐν ταῖς ἐξουσίαις τιμώμενοι [20] διὰ τὴν ἐλπίδα (οἴονται γὰρ τεύξεσθαι παρ᾽ αὐτῶν, ἄν του δέωνται· ὡς δὴ σημείῳ τῆς εὐπαθείας χαίρουσι τῇ τιμῇ)· οἱ δ᾽ ὑπὸ τῶν ἐπιεικῶν καὶ εἰδότων ὀρεγόμενοι τιμῆς βεβαιῶσαι τὴν οἰκείαν δόξαν ἐφίενται περὶ αὑτῶν· χαίρουσι δή, ὅτι εἰσὶν ἀγαθοὶ πιστεύοντες τῇ τῶν λεγόντων κρίσει. [25] τῷ φιλεῖσθαι δὲ καθ᾽ αὑτὸ χαίρουσιν· διὸ δόξειεν ἂν κρεῖττον εἶναι τοῦ τιμᾶσθαι, καὶ ἡ φιλία καθ᾽ αὑτὴν αἱρετὴ εἶναι. δοκεῖ δ᾽ ἐν τῷ φιλεῖν μᾶλλον ἢ ἐν τῷ φιλεῖσθαι εἶναι. σημεῖον δ᾽ αἱ μητέρες τῷ φιλεῖν χαίρουσαι· ἔνιαι γὰρ διδόασι τὰ ἑαυτῶν τρέφεσθαι, καὶ φιλοῦσι μὲν εἰδυῖαι, [30] ἀντιφιλεῖσθαι δ᾽ οὐ ζητοῦσιν, ἐὰν ἀμφότερα μὴ ἐνδέχηται, ἀλλ᾽ ἱκανὸν αὐταῖς ἔοικεν εἶναι ἐὰν ὁρῶσιν εὖ πράττοντας, καὶ αὐταὶ φιλοῦσιν αὐτοὺς κἂν ἐκεῖνοι μηδὲν ὧν μητρὶ προσήκει ἀπονέμωσι διὰ τὴν ἄγνοιαν. μᾶλλον δὲ τῆς φιλίας οὔσης ἐν τῷ φιλεῖν, καὶ τῶν φιλοφίλων ἐπαινουμένων, φίλων [35] ἀρετὴ τὸ φιλεῖν ἔοικεν, ὥστ᾽ ἐν οἷς τοῦτο γίνεται κατ᾽ ἀξίαν, 1159b [1] οὗτοι μόνιμοι φίλοι καὶ ἡ τούτων φιλία. οὕτω δ᾽ ἂν καὶ οἱ ἄνισοι μάλιστ᾽ εἶεν φίλοι· ἰσάζοιντο γὰρ ἄν. ἡ δ᾽ ἰσότης καὶ ὁμοιότης φιλότης, καὶ μάλιστα μὲν ἡ τῶν κατ᾽ ἀρετὴν ὁμοιότης· μόνιμοι γὰρ ὄντες καθ᾽ αὑτοὺς καὶ πρὸς ἀλλήλους [5] μένουσι, καὶ οὔτε δέονται φαύλων οὔθ᾽ ὑπηρετοῦσι τοιαῦτα, ἀλλ᾽ ὡς εἰπεῖν καὶ διακωλύουσιν· τῶν ἀγαθῶν γὰρ μήτ᾽ αὐτοὺς ἁμαρτάνειν μήτε τοῖς φίλοις ἐπιτρέπειν. οἱ δὲ μοχθηροὶ τὸ μὲν βέβαιον οὐκ ἔχουσιν· οὐδὲ γὰρ αὑτοῖς διαμένουσιν ὅμοιοι ὄντες· ἐπ᾽ ὀλίγον δὲ χρόνον γίνονται φίλοι, [10] χαίροντες τῇ ἀλλήλων μοχθηρίᾳ. οἱ χρήσιμοι δὲ καὶ ἡδεῖς ἐπὶ πλεῖον διαμένουσιν· ἕως γὰρ ἂν πορίζωσιν ἡδονὰς ἢ ὠφελείας ἀλλήλοις. ἐξ ἐναντίων δὲ μάλιστα μὲν δοκεῖ ἡ διὰ τὸ χρήσιμον γίνεσθαι φιλία, οἷον πένης πλουσίῳ, ἀμαθὴς εἰδότι· οὗ γὰρ τυγχάνει τις ἐνδεὴς ὤν, τούτου ἐφιέμενος ἀντιδωρεῖται [15] ἄλλο. ἐνταῦθα δ᾽ ἄν τις ἕλκοι καὶ ἐραστὴν καὶ ἐρώμενον, καὶ καλὸν καὶ αἰσχρόν. διὸ φαίνονται καὶ οἱ ἐρασταὶ γελοῖοι ἐνίοτε, ἀξιοῦντες φιλεῖσθαι ὡς φιλοῦσιν· ὁμοίως δὴ φιλητοὺς ὄντας ἴσως ἀξιωτέον, μηδὲν δὲ τοιοῦτον ἔχοντας γελοῖον. ἴσως δὲ οὐδ᾽ ἐφίεται τὸ ἐναντίον τοῦ ἐναντίου [20] καθ᾽ αὑτό, ἀλλὰ κατὰ συμβεβηκός, ἡ δ᾽ ὄρεξις τοῦ μέσου ἐστίν· τοῦτο γὰρ ἀγαθόν, οἷον τῷ ξηρῷ οὐχ ὑγρῷ γενέσθαι ἀλλ᾽ ἐπὶ τὸ μέσον ἐλθεῖν, καὶ τῷ θερμῷ καὶ τοῖς ἄλλοις ὁμοίως. ταῦτα μὲν οὖν ἀφείσθω· καὶ γάρ ἐστιν ἀλλοτριώτερα.

[25] ἔοικε δέ, καθάπερ ἐν ἀρχῇ εἴρηται, περὶ ταὐτὰ καὶ ἐν τοῖς αὐτοῖς εἶναι

ἥ τε φιλία καὶ τὸ δίκαιον. ἐν ἁπάσῃ γὰρ κοινωνίᾳ δοκεῖ τι δίκαιον εἶναι, καὶ φιλία δέ· προσαγορεύουσι γοῦν ὡς φίλους τοὺς σύμπλους καὶ τοὺς συστρατιώτας, ὁμοίως δὲ καὶ τοὺς ἐν ταῖς ἄλλαις κοινωνίαις. καθ’ [30] ὅσον δὲ κοινωνοῦσιν, ἐπὶ τοσοῦτόν ἐστι φιλία· καὶ γὰρ τὸ δίκαιον. καὶ ἡ παροιμία “κοινὰ τὰ φίλων,” ὀρθῶς· ἐν κοινωνίᾳ γὰρ ἡ φιλία. ἔστι δ’ ἀδελφοῖς μὲν καὶ ἑταίροις πάντα κοινά, τοῖς δ’ ἄλλοις ἀφωρισμένα, καὶ τοῖς μὲν πλείω τοῖς δ’ ἐλάττω· καὶ γὰρ τῶν φιλιῶν αἳ μὲν μᾶλλον [35] αἳ δ’ ἧττον. διαφέρει δὲ καὶ τὰ δίκαια· 1160a [1] οὐ γὰρ ταὐτὰ γονεῦσι πρὸς τέκνα καὶ ἀδελφοῖς πρὸς ἀλλήλους, οὐδ’ ἑταίροις καὶ πολίταις, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων φιλιῶν. ἕτερα δὴ καὶ τὰ ἄδικα πρὸς ἑκάστους τούτων, καὶ αὔξησιν λαμβάνει τῷ μᾶλλον πρὸς φίλους εἶναι, οἷον χρήματα [5] ἀποστερῆσαι ἑταῖρον δεινότερον ἢ πολίτην, καὶ μὴ βοηθῆσαι ἀδελφῷ ἢ ὀθνείῳ, καὶ πατάξαι πατέρα ἢ ὁντινοῦν ἄλλον. αὔξεσθαι δὲ πέφυκεν ἅμα τῇ φιλίᾳ καὶ τὸ δίκαιον, ὡς ἐν τοῖς αὐτοῖς ὄντα καὶ ἐπ’ ἴσον διήκοντα. αἱ δὲ κοινωνίαι πᾶσαι μορίοις ἐοίκασι τῆς πολιτικῆς· συμπορεύονται [10] γὰρ ἐπί τινι συμφέροντι, καὶποριζόμενοί τι τῶν εἰς τὸν βίον· καὶ ἡ πολιτικὴ δὲ κοινωνία τοῦ συμφέροντος χάριν δοκεῖ καὶ ἐξ ἀρχῆς συνελθεῖν καὶ διαμένειν· τούτου γὰρ καὶ οἱ νομοθέται στοχάζονται, καὶ δίκαιόν φασιν εἶναι τὸ κοινῇ συμφέρον. αἱ μὲν οὖν ἄλλαι κοινωνίαι κατὰ μέρη [15] τοῦ συμφέροντος ἐφίενται, οἷον πλωτῆρες μὲν τοῦ κατὰ τὸν πλοῦν πρὸς ἐργασίαν χρημάτων ἤ τι τοιοῦτον, συστρατιῶται δὲ τοῦ κατὰ τὸν πόλεμον, εἴτε χρημάτων εἴτε νίκης ἢ πόλεως ὀρεγόμενοι, ὁμοίως δὲ καὶ φυλέται καὶ δημόται. [ἔνιαι δὲ τῶν κοινωνιῶν δι’ ἡδονὴν δοκοῦσι γίνεσθαι, θιασωτῶν [20] καὶ ἐρανιστῶν· αὗται γὰρ θυσίας ἕνεκα καὶ συνουσίας.] πᾶσαι δ’ αὗται ὑπὸ τὴν πολιτικὴν ἐοίκασιν εἶναι· οὐ γὰρ τοῦ παρόντος συμφέροντος ἡ πολιτικὴ ἐφίεται, ἀλλ’ εἰς ἅπαντα τὸν βίον . . . θυσίας τε ποιοῦντες καὶ περὶ ταύτας συνόδους, τιμάς ἀπονέμοντες τοῖς θεοῖς, καὶ αὑτοῖς ἀναπαύσεις [25] πορίζοντες μεθ’ ἡδονῆς. αἱ γὰρ ἀρχαῖαι θυσίαι καὶ σύνοδοι φαίνονται γίνεσθαι μετὰ τὰς τῶν καρπῶν συγκομιδὰς οἷον ἀπαρχαί· μάλιστα γὰρ ἐν τούτοις ἐσχόλαζον τοῖς καιροῖς. πᾶσαι δὴ φαίνονται αἱ κοινωνίαι μόρια τῆς πολιτικῆς εἶναι· ἀκολουθήσουσι δὲ αἱ τοιαῦται φιλίαι ταῖς [30] τοιαύταις κοινωνίαις.

πολιτείας δ’ ἐστὶν εἴδη τρία, ἴσαι δὲ καὶ παρεκβάσεις, οἷον φθοραὶ τούτων. εἰσὶ δ’ αἱ μὲν πολιτεῖαι βασιλεία τε καὶ ἀριστοκρατία, τρίτη δὲ ἀπὸ τιμημάτων, ἣν τιμοκρατικὴν λέγειν οἰκεῖον φαίνεται, πολιτείαν δ’ αὐτὴν [35] εἰώθασιν οἱ πλεῖστοι καλεῖν. τούτων δὲ βελτίστη μὲν ἡ βασιλεία, χειρίστη δ’ ἡ τιμοκρατία. παρέκβασις δὲ βασιλείας μὲν τυραννίς· 1160b [1] ἄμφω γὰρ μοναρχίαι, διαφέρουσι δὲ πλεῖστον· ὁ μὲν γὰρ τύραννος τὸ αὑτῷ συμφέρον σκοπεῖ, ὁ δὲ βασιλεὺς τὸ τῶν ἀρχομένων. οὐ γάρ ἐστι βασιλεὺς ὁ μὴ αὐτάρκης καὶ πᾶσι τοῖς ἀγαθοῖς ὑπερέχων· ὁ δὲ [5] τοιοῦτος οὐδενὸς προσδεῖται· τὰ ὠφέλιμα οὖν αὑτῷ μὲν οὐκ ἂν σκοποίη, τοῖς δ’ ἀρχομένοις· ὁ γὰρ μὴ τοιοῦτος κληρωτὸς ἄν τις εἴη βασιλεύς. ἡ δὲ τυραννὶς ἐξ ἐναντίας ταύτῃ· τὸ γὰρ ἑαυτῷ ἀγαθὸν διώκει. καὶ φανερώτερον ἐπὶ ταύτης ὅτι χειρίστη· κάκιστον δὲ τὸ ἐναντίον τῷ βελτίστῳ. [10] μεταβαίνει δ’ ἐκ βασιλείας εἰς τυραννίδα· φαυλότης γάρ ἐστι μοναρχίας ἡ τυραννίς, ὁ δὲ μοχθηρὸς βασιλεὺς τύραννος γίνεται. ἐξ ἀριστοκρατίας δὲ εἰς ὀλιγαρχίαν κακίᾳ τῶν ἀρχόντων, οἳ νέμουσι τὰ τῆς πόλεως παρὰ τὴν ἀξίαν, καὶ πάντα ἢ τὰ πλεῖστα τῶν ἀγαθῶν ἑαυτοῖς, καὶ τὰς ἀρχὰς [15] ἀεὶ τοῖς αὐτοῖς, περὶ πλείστου ποιούμενοι τὸ πλουτεῖν· ὀλίγοι δὴ ἄρχουσι καὶ μοχθηροὶ ἀντὶ τῶν ἐπιεικεστάτων. ἐκ δὲ τιμοκρατίας εἰς δημοκρατίαν· σύνοροι γάρ εἰσιν αὗται· πλήθους γὰρ βούλεται καὶ ἡ τιμοκρατία εἶναι, καὶ ἴσοι πάντες οἱ ἐν τῷ τιμήματι. ἥκιστα δὲ μοχθηρόν ἐστιν ἡ [20] δημοκρατία· ἐπὶ μικρὸν γὰρ παρεκβαίνει τὸ τῆς πολιτείας εἶδος. μεταβάλλουσι μὲν οὖν μάλισθ’ οὕτως αἱ πολιτεῖαι· ἐλάχιστον γὰρ οὕτω καὶ ῥᾷστα μεταβαίνουσιν. ὁμοιώματα δ’ αὐτῶν καὶ οἷον παραδείγματα λάβοι τις ἂν καὶ ἐν ταῖς οἰκίαις. ἡ μὲν γὰρ πατρὸς πρὸς υἱεῖς κοινωνία βασιλείας [25] ἔχει σχῆμα· τῶν τέκνων γὰρ τῷ πατρὶ μέλει· ἐντεῦθεν δὲ καὶ Ὅμηρος τὸν Δία πατέρα προσαγορεύει· πατρικὴ γὰρ ἀρχὴ βούλεται ἡ βασιλεία εἶναι. ἐν Πέρσαις δ’ ἡ τοῦ πατρὸς τυραννική· χρῶνται γὰρ ὡς δούλοις τοῖς υἱέσιν. τυραννικὴ δὲ καὶ ἡ δεσπότου πρὸς δούλους· τὸ γὰρ [30] τοῦ δεσπότου συμφέρον ἐν αὐτῇ πράττεται. αὕτη μὲν οὖν ὀρθὴ φαίνεται, ἡ Περσικὴ δ’ ἡμαρτημένη· τῶν διαφερόντων γὰρ αἱ ἀρχαὶ διάφοροι. ἀνδρὸς δὲ καὶ γυναικὸς ἀριστοκρατικὴ φαίνεται· κατ’ ἀξίαν γὰρ ὁ ἀνὴρ ἄρχει, καὶ περὶ ταῦτα ἃ δεῖ τὸν ἄνδρα· ὅσα δὲ γυναικὶ ἁρμόζει, [35] ἐκείνῃ ἀποδίδωσιν. ἁπάντων δὲ κυριεύων ὁ ἀνὴρ εἰς ὀλιγαρχίαν μεθίστησιν· παρὰ τὴν ἀξίαν γὰρ αὐτὸ ποιεῖ, καὶ οὐχ ᾗ ἀμείνων. 1161a [1] ἐνίοτε δὲ ἄρχουσιν αἱ γυναῖκες ἐπίκληροι οὖσαι· οὐ δὴ γίνονται κατ’ ἀρετὴν αἱ ἀρχαί, ἀλλὰ διὰ πλοῦτον καὶ δύναμιν, καθάπερ ἐν ταῖς ὀλιγαρχίαις. τιμοκρατικῇ δ’ ἔοικεν ἡ τῶν ἀδελφῶν· ἴσοι γάρ, πλὴν ἐφ’ ὅσον [5] ταῖς ἡλικίαις διαλλάττουσιν· διόπερ ἂν πολὺ ταῖς ἡλικίαις διαφέρωσιν, οὐκέτι ἀδελφικὴ γίνεται ἡ φιλία. δημοκρατία δὲ μάλιστα μὲν ἐν ταῖς ἀδεσπότοις τῶν οἰκήσεων (ἐνταῦθα γὰρ πάντες ἐξ ἴσου), καὶ ἐν αἷς ἀσθενὴς ὁ ἄρχων καὶ ἑκάστῳ ἐξουσία.

[10] καθ’ ἑκάστην δὲ τῶν πολιτειῶν φιλία φαίνεται, ἐφ’ ὅσον καὶ τὸ δίκαιον, βασιλεῖ μὲν πρὸς τοὺς βασιλευομένους ἐν ὑπεροχῇ εὐεργεσίας· εὖ γὰρ ποιεῖ τοὺς βασιλευομένους, εἴπερ ἀγαθὸς ὢν ἐπιμελεῖται αὐτῶν, ἵν’ εὖ πράττωσιν, ὥσπερ νομεὺς προβάτων· ὅθεν καὶ Ὅμηρος τὸν Ἀγαμέμνονα [15] ποιμένα λαῶν εἶπεν. τοιαύτη δὲ καὶ ἡ πατρική, διαφέρει δὲ τῷ μεγέθει τῶν εὐεργετημάτων· αἴτιος γὰρ τοῦ εἶναι, δοκοῦντος μεγίστου, καὶ τροφῆς καὶ παιδείας. καὶ τοῖς προγόνοις δὲ ταῦτα προσνέμεται· φύσει τε ἀρχικὸν πατὴρ υἱῶν καὶ πρόγονοι ἐκγόνων καὶ βασιλεὺς βασιλευομένων. [20] ἐν ὑπεροχῇ δὲ αἱ φιλίαι αὗται, διὸ καὶ τιμῶνται οἱ γονεῖς. καὶ τὸ δίκαιον δὴ ἐν τούτοις οὐ ταὐτὸ ἀλλὰ τὸ κατ’ ἀξίαν· οὕτω γὰρ καὶ ἡ φιλία. καὶ ἀνδρὸς δὲ πρὸς γυναῖκα ἡ αὐτὴ φιλία καὶ ἐν ἀριστοκρατίᾳ· κατ’ ἀρετὴν γάρ, καὶ τῷ ἀμείνονι πλέον ἀγαθόν, καὶ τὸ ἁρμόζον ἑκάστῳ· [25] οὕτω δὲ καὶ τὸ δίκαιον. ἡ δὲ τῶν ἀδελφῶν τῇ ἑταιρικῇ ἔοικεν· ἴσοι γὰρ καὶ ἡλικιῶται, οἱ τοιοῦτοι δ’ ὁμοπαθεῖς καὶ ὁμοήθεις ὡς ἐπὶ τὸ πολύ. ἔοικε δὲ ταύτῃ καὶ ἡ κατὰ τὴν τιμοκρατικήν· ἴσοι γὰρ οἱ πολῖται βούλονται καὶ ἐπιεικεῖς εἶναι· ἐν μέρει δὴ τὸ ἄρχειν, καὶ ἐξ ἴσου· οὕτω δὴ [30] καὶ ἡ φιλία. ἐν δὲ ταῖς παρεκβάσεσιν, ὥσπερ καὶ τὸ δίκαιον ἐπὶ μικρόν ἐστιν, οὕτω καὶ ἡ φιλία, καὶ ἥκιστα ἐν τῇ χειρίστῃ· ἐν τυραννίδι γὰρ οὐδὲν ἢ μικρὸν φιλίας. ἐν οἷς γὰρ μηδὲν κοινόν ἐστι τῷ ἄρχοντι καὶ ἀρχομένῳ, οὐδὲ φιλία· οὐδὲ γὰρ δίκαιον· οἷον τεχνίτῃ πρὸς ὄργανον καὶ [35] ψυχῇ πρὸς σῶμα καὶ δεσπότῃ πρὸς δοῦλον· 1161b [1] ὠφελεῖται μὲν γὰρ πάντα ταῦτα ὑπὸ τῶν χρωμένων, φιλία δ’ οὐκ ἔστι πρὸς τὰ ἄψυχα οὐδὲ δίκαιον. ἀλλ’ οὐδὲ πρὸς ἵππον ἢ βοῦν, οὐδὲ πρὸς δοῦλον ᾗ δοῦλος. οὐδὲν γὰρ κοινόν ἐστιν· ὁ γὰρ δοῦλος ἔμψυχον ὄργανον, τὸ δ’ ὄργανον ἄψυχος δοῦλος. [5] ᾗ μὲν οὖν δοῦλος, οὐκ ἔστι φιλία πρὸς αὐτόν, ᾗ δ’ ἄνθρωπος· δοκεῖ γὰρ εἶναί τι δίκαιον παντὶ ἀνθρώπῳ πρὸς πάντα τὸν δυνάμενον κοινωνῆσαι νόμου καὶ συνθήκης· καὶ φιλία δή, καθ’ ὅσον ἄνθρωπος. ἐπὶ μικρὸν δὴ καὶ ἐν ταῖς τυραννίσιν αἱ φιλίαι καὶ τὸ δίκαιον, ἐν δὲ ταῖς δημοκρατίαις [10] ἐπὶ πλεῖον· πολλὰ γὰρ τὰ κοινὰ ἴσοις οὖσιν.

ἐν κοινωνίᾳ μὲν οὖν πᾶσα φιλία ἐστίν, καθάπερ εἴρηται. ἀφορίσειε δ’ ἄν τις τήν τε συγγενικὴν καὶ τὴν ἑταιρικήν. αἱ δὲ πολιτικαὶ καὶ φυλετικαὶ καὶ συμπλοϊκαί, καὶ ὅσαι τοιαῦται, κοινωνικαῖς ἐοίκασι μᾶλλον· οἷον γὰρ [15] καθ’ ὁμολογίαν τινὰ φαίνονται εἶναι. εἰς ταύτας δὲ τάξειεν ἄν τις καὶ τὴν ξενικήν. καὶ ἡ συγγενικὴ δὲ φαίνεται πολυειδὴς εἶναι, ἠρτῆσθαι δὲ πᾶσα ἐκ τῆς πατρικῆς· οἱ γονεῖς μὲν γὰρ στέργουσι τὰ τέκνα ὡς ἑαυτῶν τι ὄντα, τὰ δὲ τέκνα τοὺς γονεῖς ὡς ἀπ’ ἐκείνων τι ὄντα. [20] μᾶλλον δ’ ἴσασιν οἱ γονεῖς τὰ ἐξ αὐτῶν ἢ τὰ γεννηθέντα ὅτι ἐκ τούτων, καὶ μᾶλλον συνωκείωται τὸ ἀφ’ οὗ τῷ γεννηθέντι ἢ τὸ γενόμενον τῷ ποιήσαντι· τὸ γὰρ ἐξ αὐτοῦ οἰκεῖον τῷ ἀφ’ οὗ, οἷον ὀδοὺς θρὶξ ὁτιοῦν τῷ ἔχοντι· ἐκείνῳ δ’ οὐδὲν τὸ ἀφ’ οὗ, ἢ ἧττον. καὶ τῷ πλήθει δὲ τοῦ χρόνου· οἳ μὲν [25] γὰρ εὐθὺς γενόμενα στέργουσιν, τὰ δὲ προελθόντος χρόνου τοὺς γονεῖς, σύνεσιν ἢ αἴσθησιν λαβόντα. ἐκ τούτων δὲ δῆλον καὶ δι’ ἃ φιλοῦσι μᾶλλον αἱ μητέρες. γονεῖς μὲν οὖν τέκνα φιλοῦσιν ὡς ἑαυτούς (τὰ γὰρ ἐξ αὐτῶν οἷον ἕτεροι αὐτοὶ τῷ κεχωρίσθαι), τέκνα δὲ γονεῖς ὡς ἀπ’ ἐκείνων πεφυκότα, [30] ἀδελφοὶ δ’ ἀλλήλους τῷ ἐκ τῶν αὐτῶν πεφυκέναι· ἡ γὰρ πρὸς ἐκεῖνα ταυτότης ἀλλήλοις ταὐτὸ ποιεῖ· ὅθεν φασὶ ταὐτὸν αἷμα καὶ ῥίζαν καὶ τὰ τοιαῦτα. εἰσὶ δὴ ταὐτό πως καὶ ἐν διῃρημένοις. μέγα δὲ πρὸς φιλίαν καὶ τὸ σύντροφον καὶ τὸ καθ’ ἡλικίαν· ἧλιξ γὰρ ἥλικα, [35] καὶ οἱ συνήθεις ἑταῖροι· διὸ καὶ ἡ ἀδελφικὴ τῇ ἑταιρικῇ ὁμοιοῦται. 1162a [1] ἀνεψιοὶ δὲ καὶ οἱ λοιποὶ συγγενεῖς ἐκ τούτων συνῳκείωνται· τῷ γὰρ ἀπὸ τῶν αὐτῶν εἶναι. γίνονται δ’ οἳ μὲν οἰκειότεροι οἳ δ’ ἀλλοτριώτεροι τῷ σύνεγγυς ἢ πόρρω τὸν ἀρχηγὸν εἶναι. ἔστι δ’ ἡ μὲν πρὸς γονεῖς φιλία τέκνοις, [5] καὶ ἀνθρώποις πρὸς θεούς, ὡς πρὸς ἀγαθὸν καὶ ὑπερέχον· εὖ γὰρ πεποιήκασι τὰ μέγιστα· τοῦ γὰρ εἶναι καὶ τραφῆναι αἴτιοι, καὶ γενομένοις τοῦ παιδευθῆναι· ἔχει δὲ καὶ τὸ ἡδὺ καὶ τὸ χρήσιμον ἡ τοιαύτη φιλία μᾶλλον τῶν ὀθνείων, ὅσῳ καὶ κοινότερος ὁ βίος αὐτοῖς ἐστίν. ἔστι δὲ καὶ ἐν τῇ [10] ἀδελφικῇ ἅπερ καὶ ἐν τῇ ἑταιρικῇ καὶ μᾶλλον ἐν τοῖς ἐπιεικέσι, καὶ ὅλως ἐν τοῖς ὁμοίοις, ὅσῳ οἰκειότεροι καὶ ἐκ γενετῆς ὑπάρχουσι στέργοντες ἀλλήλους, καὶ ὅσῳ ὁμοηθέστεροι οἱ ἐκ τῶν αὐτῶν καὶ σύντροφοι καὶ παιδευθέντες ὁμοίως· καὶ ἡ κατὰ τὸν χρόνον δοκιμασία πλείστη καὶ [15] βεβαιοτάτη. ἀνάλογον δὲ καὶ ἐν τοῖς λοιποῖς τῶν συγγενῶν τὰ φιλικά. ἀνδρὶ δὲ καὶ γυναικὶ φιλία δοκεῖ κατὰ φύσιν ὑπάρχειν· ἄνθρωπος γὰρ τῇ φύσει συνδυαστικὸν μᾶλλον ἢ πολιτικόν, ὅσῳ πρότερον καὶ ἀναγκαιότερον οἰκία πόλεως, καὶ τεκνοποιία κοινότερον τοῖς ζῴοις. τοῖς μὲν οὖν [20] ἄλλοις ἐπὶ τοσοῦτον ἡ κοινωνία ἐστίν, οἱ δ’ ἄνθρωποι οὐ μόνον τῆς τεκνοποιίας χάριν συνοικοῦσιν, ἀλλὰ καὶ τῶν εἰς τὸν βίον· εὐθὺς γὰρ διῄρηται τὰ ἔργα, καὶ ἔστιν ἕτερα ἀνδρὸς καὶ γυναικός· ἐπαρκοῦσιν οὖν ἀλλήλοις, εἰς τὸ κοινὸν τιθέντες τὰ ἴδια. διὰ ταῦτα δὲ καὶ τὸ χρήσιμον εἶναι δοκεῖ [25] καὶ τὸ ἡδὺ ἐν ταύτῃ τῇ φιλίᾳ. εἴη δ’ ἂν καὶ δι’ ἀρετήν, εἰ ἐπιεικεῖς εἶεν· ἔστι γὰρ ἑκατέρου ἀρετή, καὶ χαίροιεν ἂν τῷ τοιούτῳ. σύνδεσμος δὲ τὰ τέκνα δοκεῖ εἶναι· διὸ θᾶττον οἱ ἄτεκνοι διαλύονται· τὰ γὰρ τέκνα κοινὸν ἀγαθὸν ἀμφοῖν, συνέχει δὲ τὸ κοινόν. τὸ δὲ πῶς βιωτέον ἀνδρὶ [30] πρὸς γυναῖκα καὶ ὅλως φίλῳ πρὸς φίλον, οὐδὲν ἕτερον φαίνεται ζητεῖσθαι ἢ πῶς δίκαιον· οὐ γὰρ ταὐτὸν φαίνεται τῷ φίλῳ πρὸς τὸν φίλον καὶ τὸν ὀθνεῖον καὶ τὸν ἑταῖρον καὶ τὸν συμφοιτητήν.

τριττῶν δ' οὐσῶν φιλιῶν, καθάπερ ἐν ἀρχῇ εἴρηται, [35] καὶ καθ' ἑκάστην τῶν μὲν ἐν ἰσότητι φίλων ὄντων τῶν δὲ καθ' ὑπεροχήν (καὶ γὰρ ὁμοίως ἀγαθοὶ φίλοι γίνονται καὶ ἀμείνων χείρονι, 1162b [1] ὁμοίως δὲ καὶ ἡδεῖς καὶ διὰ τὸ χρήσιμον, ἰσάζοντες ταῖς ὠφελείαις καὶ διαφέροντες), τοὺς ἴσους μὲν κατ' ἰσότητα δεῖ τῷ φιλεῖν καὶ τοῖς λοιποῖς ἰσάζειν, τοὺς δ' ἀνίσους τὸ ἀνάλογον ταῖς ὑπεροχαῖς ἀποδιδόναι. [5] γίνεται δὲ τὰ ἐγκλήματα καὶ αἱ μέμψεις ἐν τῇ κατὰ τὸ χρήσιμον φιλίᾳ ἢ μόνῃ ἢ μάλιστα, εὐλόγως. οἱ μὲν γὰρ δι' ἀρετὴν φίλοι ὄντες εὖ δρᾶν ἀλλήλους προθυμοῦνται (τοῦτο γὰρ ἀρετῆς καὶ φιλίας), πρὸς τοῦτο δ' ἁμιλλωμένων οὐκ ἔστιν ἐγκλήματα οὐδὲ μάχαι· τὸν γὰρ φιλοῦντα καὶ [10] εὖ ποιοῦντα οὐδεὶς δυσχεραίνει, ἀλλ' ἂν ᾖ χαρίεις, ἀμύνεται εὖ δρῶν. ὁ δ' ὑπερβάλλων, τυγχάνων οὗ ἐφίεται, οὐκ ἂν ἐγκαλοίη τῷ φίλῳ· ἕκαστος γὰρ τοῦ ἀγαθοῦ ὀρέγεται. οὐ πάνυ δ' οὐδ' ἐν τοῖς δι' ἡδονήν· ἅμα γὰρ ἀμφοῖν γίνεται οὗ ὀρέγονται, εἰ τῷ συνδιάγειν χαίρουσιν· γελοῖος [15] δ' ἂν φαίνοιτο καὶ ὁ ἐγκαλῶν τῷ μὴ τέρποντι, ἐξὸν μὴ συνημερεύειν. ἡ δὲ διὰ τὸ χρήσιμον ἐγκληματική· ἐπ' ὠφελείᾳ γὰρ χρώμενοι ἀλλήλοις ἀεὶ τοῦ πλείονος δέονται, καὶ ἔλαττον ἔχειν οἴονται τοῦ προσήκοντος, καὶ μέμφονται ὅτι οὐχ ὅσων δέονται τοσούτων τυγχάνουσιν ἄξιοι ὄντες· [20] οἱ δ' εὖ ποιοῦντες οὐ δύνανται ἐπαρκεῖν τοσαῦτα ὅσων οἱ πάσχοντες δέονται. ἔοικε δέ, καθάπερ τὸ δίκαιόν ἐστι διττόν, τὸ μὲν ἄγραφον τὸ δὲ κατὰ νόμον, καὶ τῆς κατὰ τὸ χρήσιμον φιλίας ἣ μὲν ἠθικὴ ἣ δὲ νομικὴ εἶναι. γίνεται οὖν τὰ ἐγκλήματα μάλισθ' ὅταν μὴ κατὰ τὴν αὐτὴν συναλλάξωσι [25] καὶ διαλύωνται. ἔστι δ' ἡ νομικὴ μὲν ἡ ἐπὶ ῥητοῖς, ἡ μὲν πάμπαν ἀγοραία ἐκ χειρὸς εἰς χεῖρα, ἡ δὲ ἐλευθεριωτέρα εἰς χρόνον, καθ' ὁμολογίαν δὲ τί ἀντὶ τίνος. δῆλον δ' ἐν ταύτῃ τὸ ὀφείλημα κοὐκ ἀμφίλογον, φιλικὸν δὲ τὴν ἀναβολὴν ἔχει· διόπερ ἐνίοις οὐκ εἰσὶ τούτων [30] δίκαι, ἀλλ' οἴονται δεῖν στέργειν τοὺς κατὰ πίστιν συναλλάξαντας. ἡ δ' ἠθικὴ οὐκ ἐπὶ ῥητοῖς, ἀλλ' ὡς φίλῳ δωρεῖται ἢ ὁτιδήποτε ἄλλο· κομίζεσθαι δὲ ἀξιοῖ τὸ ἴσον ἢ πλέον, ὡς οὐ δεδωκὼς ἀλλὰ χρήσας· οὐχ ὁμοίως δὲ συναλλάξας καὶ διαλυόμενος ἐγκαλέσει. τοῦτο δὲ συμβαίνει [35] διὰ τὸ βούλεσθαι μὲν πάντας ἢ τοὺς πλείστους τὰ καλά, προαιρεῖσθαι δὲ τὰ ὠφέλιμα· καλὸν δὲ τὸ εὖ ποιεῖν μὴ ἵνα ἀντιπάθῃ, 1163a [1] ὠφέλιμον δὲ τὸ εὐεργετεῖσθαι. δυναμένῳ δὴ ἀνταποδοτέον τὴν ἀξίαν ὧν ἔπαθεν [καὶ ἑκόντι] (ἄκοντα γὰρ φίλον οὐ ποιητέον· ὡς δὴ διαμαρτόντα ἐν τῇ ἀρχῇ καὶ εὖ παθόντα ὑφ’ οὗ οὐκ ἔδει — οὐ γὰρ ὑπὸ φίλου, οὐδὲ δι’ [5] αὐτὸ τοῦτο δρῶντος — καθάπερ οὖν ἐπὶ ῥητοῖς εὐεργετηθέντα διαλυτέον)· καὶ †ὁμολογήσαι δ’† ἂν δυνάμενος ἀποδώσειν· ἀδυνατοῦντα δ’ οὐδ’ ὁ διδοὺς ἠξίωσεν ἄν. ὥστ’ εἰ δυνατόν, ἀποδοτέον. ἐν ἀρχῇ δ’ ἐπισκεπτέον ὑφ’ οὗ εὐεργετεῖται καὶ ἐπὶ τίνι, ὅπως ἐπὶ τούτοις ὑπομένῃ ἢ μή. ἀμφισβήτησιν [10] δ’ ἔχει πότερα δεῖ τῇ τοῦ παθόντος ὠφελείᾳ μετρεῖν καὶ πρὸς ταύτην ποιεῖσθαι τὴν ἀνταπόδοσιν, ἢ τῇ τοῦ δράσαντος εὐεργεσίᾳ. οἱ μὲν γὰρ παθόντες τοιαῦτά φασι λαβεῖν παρὰ τῶν εὐεργετῶν ἃ μικρὰ ἦν ἐκείνοις καὶ ἐξῆν παρ’ ἑτέρων λαβεῖν, κατασμικρίζοντες· οἳ δ’ ἀνάπαλιν τὰ μέγιστα [15] τῶν παρ’ αὑτοῖς, καὶ ἃ παρ’ ἄλλων οὐκ ἦν, καὶ ἐν κινδύνοις ἢ τοιαύταις χρείαις. ἆρ’ οὖν διὰ μὲν τὸ χρήσιμον τῆς φιλίας οὔσης ἡ τοῦ παθόντος ὠφέλεια μέτρον ἐστίν; οὗτος γὰρ ὁ δεόμενος, καὶ ἐπαρκεῖ αὐτῷ ὡς κομιούμενος τὴν ἴσην· τοσαύτη οὖν γεγένηται ἡ ἐπικουρία ὅσον οὗτος ὠφέληται, [20] καὶ ἀποδοτέον δὴ αὐτῷ ὅσον ἐπηύρετο, ἢ καὶ πλέον· κάλλιον γάρ. ἐν δὲ ταῖς κατ’ ἀρετὴν ἐγκλήματα μὲν οὐκ ἔστιν, μέτρῳ δ’ ἔοικεν ἡ τοῦ δράσαντος προαίρεσις· τῆς ἀρετῆς γὰρ καὶ τοῦ ἤθους ἐν τῇ προαιρέσει τὸ κύριον.

διαφέρονται δὲ καὶ ἐν ταῖς καθ’ ὑπεροχὴν φιλίαις· [25] ἀξιοῖ γὰρ ἑκάτερος πλέον ἔχειν, ὅταν δὲ τοῦτο γίνηται, διαλύεται ἡ φιλία. οἴεται γὰρ ὅ τε βελτίων προσήκειν αὑτῷ πλέον ἔχειν· τῷ γὰρ ἀγαθῷ νέμεσθαι πλέον· ὁμοίως δὲ καὶ ὁ ὠφελιμώτερος· ἀχρεῖον γὰρ ὄντα οὔ φασι δεῖν ἴσον ἔχειν· λειτουργίαν τε γὰρ γίνεσθαι καὶ οὐ φιλίαν, εἰ μὴ [30] κατ’ ἀξίαν τῶν ἔργων ἔσται τὰ ἐκ τῆς φιλίας. οἴονται γάρ, καθάπερ ἐν χρημάτων κοινωνίᾳ πλεῖον λαμβάνουσιν οἱ συμβαλλόμενοι πλεῖον, οὕτω δεῖν καὶ ἐν τῇ φιλίᾳ. ὁ δ’ ἐνδεὴς καὶ ὁ χείρων ἀνάπαλιν· φίλου γὰρ ἀγαθοῦ εἶναι τὸ ἐπαρκεῖν τοῖς ἐνδεέσιν· τί γάρ, φασίν, ὄφελος σπουδαίῳ [35] ἢ δυνάστῃ φίλον εἶναι, μηδέν γε μέλλοντα ἀπολαύειν; 1163b [1] ἔοικε δ’ οὖν ἑκάτερος ὀρθῶς ἀξιοῦν, καὶ δεῖν ἑκατέρῳ πλέον νέμειν ἐκ τῆς φιλίας, οὐ τοῦ αὐτοῦ δέ, ἀλλὰ τῷ μὲν ὑπερέχοντι τιμῆς τῷ δ’ ἐνδεεῖ κέρδους· τῆς μὲν γὰρ ἀρετῆς καὶ τῆς εὐεργεσίας ἡ τιμὴ γέρας, τῆς δ’ ἐνδείας ἐπικουρία [5] τὸ κέρδος. οὕτω δ’ ἔχειν τοῦτο καὶ ἐν ταῖς πολιτείαις φαίνεται· οὐ γὰρ τιμᾶται ὁ μηδὲν ἀγαθὸν τῷ κοινῷ πορίζων· τὸ κοινὸν γὰρ δίδοται τῷ τὸ κοινὸν εὐεργετοῦντι, ἡ τιμὴ δὲ κοινόν. οὐ γὰρ ἔστιν ἅμα χρηματίζεσθαι ἀπὸ τῶν κοινῶν καὶ τιμᾶσθαι. ἐν πᾶσι γὰρ τὸ ἔλαττον οὐδεὶς ὑπομένει· [10] τῷ δὴ περὶ χρήματα ἐλαττουμένῳ τιμὴν ἀπονέμουσι καὶ τῷ δωροδόκῳ χρήματα· τὸ κατ’ ἀξίαν γὰρ ἐπανισοῖ καὶ σῴζει τὴν φιλίαν,

καθάπερ εἴρηται. οὕτω δὴ καὶ τοῖς ἀνίσοις ὁμιλητέον, καὶ τῷ εἰς χρήματα ὠφελουμένῳ ἢ εἰς ἀρετὴν τιμὴν ἀνταποδοτέον, ἀποδιδόντα τὰ ἐνδεχόμενα. [15] τὸ δυνατὸν γὰρ ἡ φιλία ἐπιζητεῖ, οὐ τὸ κατ’ ἀξίαν· οὐδὲ γὰρ ἔστιν ἐν πᾶσι, καθάπερ ἐν ταῖς πρὸς τοὺς θεοὺς τιμαῖς καὶ τοὺς γονεῖς· οὐδεὶς γὰρ τὴν ἀξίαν ποτ’ ἂν ἀποδοίη, εἰς δύναμιν δὲ ὁ θεραπεύων ἐπιεικὴς εἶναι δοκεῖ. διὸ κἂν δόξειεν οὐκ ἐξεῖναι υἱῷ πατέρα ἀπείπασθαι, πατρὶ δ’ υἱόν· [20] ὀφείλοντα γὰρ ἀποδοτέον, οὐδὲν δὲ ποιήσας ἄξιον τῶν ὑπηργμένων δέδρακεν, ὥστ’ ἀεὶ ὀφείλει. οἷς δ’ ὀφείλεται, ἐξουσία ἀφεῖναι· καὶ τῷ πατρὶ δή. ἅμα δ’ ἴσως οὐδείς ποτ’ ἂν ἀποστῆναι δοκεῖ μὴ ὑπερβάλλοντος μοχθηρίᾳ· χωρὶς γὰρ τῆς φυσικῆς φιλίας τὴν ἐπικουρίαν ἀνθρωπικὸν μὴ [25] διωθεῖσθαι. τῷ δὲ φευκτὸν ἢ οὐ σπουδαστὸν τὸ ἐπαρκεῖν, μοχθηρῷ ὄντι· εὖ πάσχειν γὰρ οἱ πολλοὶ βούλονται, τὸ δὲ ποιεῖν φεύγουσιν ὡς ἀλυσιτελές. περὶ μὲν οὖν τούτων ἐπὶ τοσοῦτον εἰρήσθω.

Βιβλίο 9

ἐν πάσαις δὲ ταῖς ἀνομοιοειδέσι φιλίαις τὸ ἀνάλογον ἰσάζει καὶ σῴζει τὴν φιλίαν, καθάπερ εἴρηται, οἷον καὶ ἐν τῇ πολιτικῇ τῷ σκυτοτόμῳ ἀντὶ τῶν ὑποδημάτων ἀμοιβὴ [35] γίνεται κατ’ ἀξίαν, καὶ τῷ ὑφάντῃ καὶ τοῖς λοιποῖς. 1164a [1] ἐνταῦθα μὲν οὖν πεπόρισται κοινὸν μέτρον τὸ νόμισμα, καὶ πρὸς τοῦτο δὴ πάντα ἀναφέρεται καὶ τούτῳ μετρεῖται· ἐν δὲ τῇ ἐρωτικῇ ἐνίοτε μὲν ὁ ἐραστὴς ἐγκαλεῖ ὅτι ὑπερφιλῶν οὐκ ἀντιφιλεῖται, οὐδὲν ἔχων φιλητόν, εἰ οὕτως ἔτυχεν, [5] πολλάκις δ’ ὁ ἐρώμενος ὅτι πρότερον ἐπαγγελλόμενος πάντα νῦν οὐδὲν ἐπιτελεῖ. συμβαίνει δὲ τὰ τοιαῦτα, ἐπειδὰν ὃ μὲν δι’ ἡδονὴν τὸν ἐρώμενον φιλῇ, ὃ δὲ διὰ τὸ χρήσιμον τὸν ἐραστήν, ταῦτα δὲ μὴ ἀμφοῖν ὑπάρχῃ. διὰ ταῦτα γὰρ τῆς φιλίας οὔσης διάλυσις γίνεται, ἐπειδὰν [10] μὴ γίνηται ὧν ἕνεκα ἐφίλουν· οὐ γὰρ αὐτοὺς ἔστεργον ἀλλὰ τὰ ὑπάρχοντα, οὐ μόνιμα ὄντα· διὸ τοιαῦται καὶ αἱ φιλίαι. ἡ δὲ τῶν ἠθῶν καθ’ αὑτὴν οὖσα μένει, καθάπερ εἴρηται. διαφέρονται δ’ ὅταν ἕτερα γίνηται αὐτοῖς καὶ μὴ ὧν ὀρέγονται· ὅμοιον γὰρ τῷ μηδὲν γίνεσθαι, ὅταν [15] οὗ ἐφίεται μὴ τυγχάνῃ, οἷον καὶ τῷ κιθαρῳδῷ ὁ ἐπαγγελλόμενος, καὶ ὅσῳ ἄμεινον ᾄσειεν, τοσούτῳ πλείω· εἰς ἕω δ’ ἀπαιτοῦντι τὰς ὑποσχέσεις ἀνθ’ ἡδονῆς ἡδονὴν ἀποδεδωκέναι ἔφη. εἰ μὲν οὖν ἑκάτερος τοῦτο ἐβούλετο, ἱκανῶς ἂν εἶχεν· εἰ δ’ ὃ μὲν τέρψιν ὃ δὲ κέρδος, καὶ ὃ μὲν ἔχει [20] ὃ δὲ μή, οὐκ ἂν εἴη τὰ κατὰ τὴν κοινωνίαν καλῶς· ὧν γὰρ δεόμενος τυγχάνει, τούτοις καὶ προσέχει, κἀκείνου γε χάριν ταῦτα δώσει. τὴν ἀξίαν δὲ ποτέρου τάξαι ἐστί, τοῦ προϊεμένου ἢ τοῦ προλαβόντος; ὁ γὰρ προϊέμενος ἔοικ’ ἐπιτρέπειν ἐκείνῳ. ὅπερ φασὶ καὶ Πρωταγόραν ποιεῖν· [25] ὅτε γὰρ διδάξειεν ἁδήποτε, τιμῆσαι τὸν μαθόντα ἐκέλευεν ὅσου δοκεῖ ἄξια ἐπίστασθαι, καὶ ἐλάμβανε τοσοῦτον. ἐν τοῖς τοιούτοις δ’ ἐνίοις ἀρέσκει τὸ “μισθὸς δ’ ἀνδρί.” οἱ δὲ προλαμβάνοντες τὸ ἀργύριον, εἶτα μηδὲν ποιοῦντες ὧν ἔφασαν διὰ τὰς ὑπερβολὰς τῶν ἐπαγγελιῶν, εἰκότως ἐν ἐγκλήμασι [30] γίνονται· οὐ γὰρ ἐπιτελοῦσιν ἃ ὡμολόγησαν. τοῦτο δ’ ἴσως ποιεῖν οἱ σοφισταὶ ἀναγκάζονται διὰ τὸ μηδένα ἂν δοῦναι ἀργύριον ὧν ἐπίστανται. οὗτοι μὲν οὖν ὧν ἔλαβον τὸν μισθόν, μὴ ποιοῦντες εἰκότως ἐν ἐγκλήμασίν εἰσιν. ἐν οἷς δὲ μὴ γίνεται διομολογία τῆς ὑπουργίας, οἱ μὲν δι’ αὑτοὺς [35] προϊέμενοι εἴρηται ὅτι ἀνέγκλητοι (τοιαύτη γὰρ ἡ κατ’ ἀρετὴν φιλία), 1164b [1] τὴν ἀμοιβήν τε ποιητέον κατὰ τὴν προαίρεσιν (αὕτη γὰρ τοῦ φίλου καὶ τῆς ἀρετῆς)· οὕτω δ' ἔοικε καὶ τοῖς φιλοσοφίας κοινωνήσασιν· οὐ γὰρ πρὸς χρήμαθ' ἡ ἀξία μετρεῖται, τιμή τ' ἰσόρροπος οὐκ ἂν γένοιτο, ἀλλ' [5] ἴσως ἱκανόν, καθάπερ καὶ πρὸς θεοὺς καὶ πρὸς γονεῖς, τὸ ἐνδεχόμενον. μὴ τοιαύτης δ' οὔσης τῆς δόσεως ἀλλ' ἐπί τινι, μάλιστα μὲν ἴσως δεῖ τὴν ἀνταπόδοσιν γίνεσθαι δοκοῦσαν ἀμφοῖν κατ' ἀξίαν εἶναι, εἰ δὲ τοῦτο μὴ συμβαίνοι, οὐ μόνον ἀναγκαῖον δόξειεν ἂν τὸν προέχοντα τάττειν, [10] ἀλλὰ καὶ δίκαιον· ὅσον γὰρ οὗτος ὠφελήθη ἢ ἀνθ' ὅσου τὴν ἡδονὴν εἵλετ' ἄν, τοσοῦτον ἀντιλαβὼν ἕξει τὴν παρὰ τούτου ἀξίαν. καὶ γὰρ ἐν τοῖς ὠνίοις οὕτω φαίνεται γινόμενον, ἐνιαχοῦ τ' εἰσὶ νόμοι τῶν ἑκουσίων συμβολαίων δίκας μὴ εἶναι, ὡς δέον, ᾧ ἐπίστευσε, διαλυθῆναι πρὸς τοῦτον [15] καθάπερ ἐκοινώνησεν. ᾧ γὰρ ἐπετράφθη, τοῦτον οἴεται δικαιότερον εἶναι τάξαι τοῦ ἐπιτρέψαντος. τὰ πολλὰ γὰρ οὐ τοῦ ἴσου τιμῶσιν οἱ ἔχοντες καὶ οἱ βουλόμενοι λαβεῖν· τὰ γὰρ οἰκεῖα καὶ ἃ διδόασιν ἑκάστοις φαίνεται πολλοῦ ἄξια· ἀλλ' ὅμως ἡ ἀμοιβὴ γίνεται πρὸς τοσοῦτον ὅσον ἂν τάττωσιν [20] οἱ λαμβάνοντες. δεῖ δ' ἴσως οὐ τοσούτου τιμᾶν ὅσου ἔχοντι φαίνεται ἄξιον, ἀλλ' ὅσου πρὶν ἔχειν ἐτίμα.

ἀπορίαν δ' ἔχει καὶ τὰ τοιαῦτα, οἷον πότερον δεῖ πάντα τῷ πατρὶ ἀπονέμειν καὶ πείθεσθαι, ἢ κάμνοντα μὲν ἰατρῷ πιστεύειν, στρατηγὸν δὲ χειροτονητέον τὸν πολεμικόν· [25] ὁμοίως δὲ φίλῳ μᾶλλον ἢ σπουδαίῳ ὑπηρετητέον, καὶ εὐεργέτῃ ἀνταποδοτέον χάριν μᾶλλον ἢ ἑταίρῳ προετέον, ἐὰν ἄμφω μὴ ἐνδέχηται. ἆρ' οὖν πάντα τὰ τοιαῦτα ἀκριβῶς μὲν διορίσαι οὐ ῥᾴδιον; πολλὰς γὰρ καὶ παντοίας ἔχει διαφορὰς καὶ μεγέθει καὶ μικρότητι καὶ τῷ καλῷ καὶ [30] ἀναγκαίῳ. ὅτι δ' οὐ πάντα τῷ αὐτῷ ἀποδοτέον, οὐκ ἄδηλον· καὶ τὰς μὲν εὐεργεσίας ἀνταποδοτέον ὡς ἐπὶ τὸ πολὺ μᾶλλον ἢ χαριστέον ἑταίροις, ὥσπερ καὶ δάνειον ᾧ ὀφείλει ἀποδοτέον μᾶλλον ἢ ἑταίρῳ δοτέον. ἴσως δ' οὐδὲ τοῦτ' ἀεί, οἷον τῷ λυτρωθέντι παρὰ λῃστῶν πότερα τὸν λυσάμενον [35] ἀντιλυτρωτέον, κἂν ὁστισοῦν ᾖ, ἢ μὴ ἑαλωκότι ἀπαιτοῦντι δὲ ἀποδοτέον, 1165a [1] ἢ τὸν πατέρα λυτρωτέον; δόξειε γὰρ ἂν καὶ ἑαυτοῦ μᾶλλον τὸν πατέρα. ὅπερ οὖν εἴρηται, καθόλου μὲν τὸ ὀφείλημα ἀποδοτέον, ἐὰν δ' ὑπερτείνῃ ἡ δόσις τῷ καλῷ ἢ τῷ ἀναγκαίῳ, πρὸς ταῦτ' ἀποκλιτέον. [5] ἐνίοτε γὰρ οὐδ' ἐστὶν ἴσον τὸ τὴν προϋπαρχὴν ἀμείψασθαι, ἐπειδὰν ὃ μὲν σπουδαῖον εἰδὼς εὖ ποιήσῃ, τῷ δὲ ἡ ἀνταπόδοσις γίνηται ὃν οἴεται μοχθηρὸν εἶναι. οὐδὲ γὰρ τῷ δανείσαντι ἐνίοτε ἀντιδανειστέον· ὃ μὲν γὰρ οἰόμενος κομιεῖσθαι ἐδάνεισεν ἐπιεικεῖ ὄντι, ὃ δ' οὐκ ἐλπίζει κομιεῖσθαι [10] παρὰ πονηροῦ. εἴτε τοίνυν τῇ ἀληθείᾳ οὕτως ἔχει, οὐκ ἴσον τὸ ἀξίωμα· εἴτ' ἔχει μὲν μὴ οὕτως οἴονται δέ, οὐκ ἂν δόξαιεν ἄτοπα ποιεῖν. ὅπερ οὖν πολλάκις εἴρηται, οἱ περὶ τὰ πάθη καὶ τὰς πράξεις λόγοι ὁμοίως ἔχουσι τὸ ὡρισμένον τοῖς περὶ ἅ εἰσιν. ὅτι μὲν οὖν οὐ ταὐτὰ πᾶσιν ἀποδοτέον, [15] οὐδὲ τῷ πατρὶ πάντα, καθάπερ οὐδὲ τῷ Διὶ θύεται, οὐκ ἄδηλον· ἐπεὶ δ' ἕτερα γονεῦσι καὶ ἀδελφοῖς καὶ ἑταίροις καὶ εὐεργέταις, ἑκάστοις τὰ οἰκεῖα καὶ τὰ ἁρμόττοντα ἀπονεμητέον. οὕτω δὲ καὶ ποιεῖν φαίνονται· εἰς γάμους μὲν γὰρ καλοῦσι τοὺς συγγενεῖς· τούτοις γὰρ κοινὸν τὸ γένος [20] καὶ αἱ περὶ τοῦτο δὴ πράξεις· καὶ εἰς τὰ κήδη δὲ μάλιστ' οἴονται δεῖν τοὺς συγγενεῖς ἀπαντᾶν διὰ ταὐτό. δόξειε δ' ἂν τροφῆς μὲν γονεῦσι δεῖν μάλιστ' ἐπαρκεῖν, ὡς ὀφείλοντας, καὶ τοῖς αἰτίοις τοῦ εἶναι κάλλιον ὂν ἢ ἑαυτοῖς εἰς ταῦτ' ἐπαρκεῖν· καὶ τιμὴν δὲ γονεῦσι καθάπερ θεοῖς, οὐ [25] πᾶσαν δέ· οὐδὲ γὰρ τὴν αὐτὴν πατρὶ καὶ μητρί, οὐδ' αὖ τὴν τοῦ σοφοῦ ἢ τὴν τοῦ στρατηγοῦ, ἀλλὰ τὴν πατρικήν, ὁμοίως δὲ καὶ μητρικήν. καὶ παντὶ δὲ τῷ πρεσβυτέρῳ τιμὴν καθ' ἡλικίαν, ὑπαναστάσει καὶ κατακλίσει καὶ τοῖς τοιούτοις· πρὸς ἑταίρους δ' αὖ καὶ ἀδελφοὺς παρρησίαν καὶ [30] ἁπάντων κοινότητα. καὶ συγγενέσι δὲ καὶ φυλέταις καὶ πολίταις καὶ τοῖς λοιποῖς ἅπασιν ἀεὶ πειρατέον τὸ οἰκεῖον ἀπονέμειν, καὶ συγκρίνειν τὰ ἑκάστοις ὑπάρχοντα κατ' οἰκειότητα καὶ ἀρετὴν ἢ χρῆσιν. τῶν μὲν οὖν ὁμογενῶν ῥᾴων ἡ σύγκρισις, τῶν δὲ διαφερόντων ἐργωδεστέρα. οὐ μὴν διά [35] γε τοῦτο ἀποστατέον, ἀλλ' ὡς ἂν ἐνδέχηται, οὕτω διοριστέον.

ἔχει δ' ἀπορίαν καὶ περὶ τοῦ διαλύεσθαι τὰς φιλίας 1165b [1] ἢ μὴ πρὸς τοὺς μὴ διαμένοντας. ἢ πρὸς μὲν τοὺς διὰ τὸ χρήσιμον ἢ τὸ ἡδὺ φίλους ὄντας, ὅταν μηκέτι ταῦτ' ἔχωσιν, οὐδὲν ἄτοπον διαλύεσθαι; ἐκείνων γὰρ ἦσαν φίλοι· ὧν ἀπολιπόντων εὔλογον τὸ μὴ φιλεῖν. ἐγκαλέσειε δ' ἄν τις, [5] εἰ διὰ τὸ χρήσιμον ἢ τὸ ἡδὺ ἀγαπῶν προσεποιεῖτο διὰ τὸ ἦθος. ὃ γὰρ ἐν ἀρχῇ εἴπομεν, πλεῖσται διαφοραὶ γίνονται τοῖς φίλοις, ὅταν μὴ ὁμοίως οἴωνται καὶ ὦσι φίλοι. ὅταν μὲν οὖν διαψευσθῇ τις καὶ ὑπολάβῃ φιλεῖσθαι διὰ τὸ ἦθος, μηδὲν τοιοῦτον ἐκείνου πράττοντος, ἑαυτὸν [10] αἰτιῷτ' ἄν· ὅταν δ' ὑπὸ τῆς ἐκείνου προσποιήσεως ἀπατηθῇ, δίκαιον ἐγκαλεῖν τῷ ἀπατήσαντι, καὶ μᾶλλον ἢ τοῖς τὸ νόμισμα κιβδηλεύουσιν, ὅσῳ περὶ τιμιώτερον ἡ κακουργία. ἐὰν δ' ἀποδέχηται ὡς ἀγαθόν, γένηται δὲ μοχθηρὸς καὶ δοκῇ, ἆρ' ἔτι φιλητέον; ἢ οὐ δυνατόν, εἴπερ μὴ πᾶν φιλητὸν [15] ἀλλὰ τἀγαθόν; οὔτε δὲ φιλητὸν πονηρὸν οὔτε δεῖ· φιλοπόνηρον γὰρ οὐ χρὴ εἶναι, οὐδ' ὁμοιοῦσθαι φαύλῳ· εἴρηται δ' ὅτι τὸ ὅμοιον τῷ ὁμοίῳ φίλον. ἆρ' οὖν εὐθὺς διαλυτέον; ἢ οὐ πᾶσιν, ἀλλὰ τοῖς ἀνιάτοις κατὰ τὴν μοχθηρίαν; ἐπανόρθωσιν δ' ἔχουσι μᾶλλον βοηθητέον εἰς τὸ ἦθος ἢ τὴν [20] οὐσίαν, ὅσῳ βέλτιον καὶ τῆς φιλίας οἰκειότερον. δόξειε δ' ἂν ὁ διαλυόμενος οὐδὲν ἄτοπον ποιεῖν· οὐ γὰρ τῷ τοιούτῳ φίλος ἦν· ἀλλοιωθέντα οὖν ἀδυνατῶν ἀνασῶσαι ἀφίσταται. εἰ δ' ὃ μὲν διαμένοι ὃ δ' ἐπιεικέστερος γίνοιτο καὶ πολὺ διαλλάττοι τῇ ἀρετῇ, ἆρα χρηστέον φίλῳ; ἢ οὐκ ἐνδέχεται; [25] ἐν μεγάλῃ δὲ διαστάσει μάλιστα δῆλον γίνεται, οἷον ἐν ταῖς παιδικαῖς φιλίαις· εἰ γὰρ ὃ μὲν διαμένοι τὴν διάνοιαν παῖς ὃ δ' ἀνὴρ εἴη οἷος κράτιστος, πῶς ἂν εἶεν φίλοι μήτ' ἀρεσκόμενοι τοῖς αὐτοῖς μήτε χαίροντες καὶ λυπούμενοι; οὐδὲ γὰρ περὶ ἀλλήλους ταῦθ' ὑπάρξει αὐτοῖς, ἄνευ [30] δὲ τούτων οὐκ ἦν φίλους εἶναι· συμβιοῦν γὰρ οὐχ οἷόν τε. εἴρηται δὲ περὶ τούτων. ἆρ' οὖν οὐθὲν ἀλλοιότερον πρὸς αὐτὸν ἑκτέον ἢ εἰ μὴ ἐγεγόνει φίλος μηδέποτε; ἢ δεῖ μνείαν ἔχειν τῆς γενομένης συνηθείας, καὶ καθάπερ φίλοις μᾶλλον ἢ ὀθνείοις οἰόμεθα δεῖν χαρίζεσθαι, οὕτω καὶ τοῖς [35] γενομένοις ἀπονεμητέον τι διὰ τὴν προγενομένην φιλίαν, ὅταν μὴ δι' ὑπερβολὴν μοχθηρίας διάλυσις γένηται.

1166a [1] τὰ φιλικὰ δὲ τὰ πρὸς τοὺς πέλας, καὶ οἷς αἱ φιλίαι ὁρίζονται, ἔοικεν ἐκ τῶν πρὸς ἑαυτὸν ἐληλυθέναι. τιθέασι γὰρ φίλον τὸν βουλόμενον καὶ πράττοντα τἀγαθὰ ἢ τὰ φαινόμενα ἐκείνου ἕνεκα, ἢ τὸν βουλόμενον εἶναι καὶ [5] ζῆν τὸν φίλον αὐτοῦ χάριν· ὅπερ αἱ μητέρες πρὸς τὰ τέκνα πεπόνθασι, καὶ τῶν φίλων οἱ προσκεκρουκότες. οἳ δὲ τὸν συνδιάγοντα καὶ ταὐτὰ αἱρούμενον, ἢ τὸν συναλγοῦντα καὶ συγχαίροντα τῷ φίλῳ· μάλιστα δὲ καὶ τοῦτο περὶ τὰς μητέρας συμβαίνει. τούτων δέ τινι καὶ τὴν φιλίαν [10] ὁρίζονται. πρὸς ἑαυτὸν δὲ τούτων ἕκαστον τῷ ἐπιεικεῖ ὑπάρχει (τοῖς δὲ λοιποῖς, ᾗ τοιοῦτοι ὑπολαμβάνουσιν εἶναι· ἔοικε δέ, καθάπερ εἴρηται, μέτρον ἑκάστων ἡ ἀρετὴ καὶ ὁ σπουδαῖος εἶναι)· οὗτος γὰρ ὁμογνωμονεῖ ἑαυτῷ, καὶ τῶν αὐτῶν ὀρέγεται κατὰ πᾶσαν τὴν ψυχήν· καὶ βούλεται [15] δὴ ἑαυτῷ τἀγαθὰ καὶ τὰ φαινόμενα καὶ πράττει (τοῦ γὰρ ἀγαθοῦ τἀγαθὸν διαπονεῖν) καὶ ἑαυτοῦ ἕνεκα (τοῦ γὰρ διανοητικοῦ χάριν, ὅπερ ἕκαστος εἶναι δοκεῖ)· καὶ ζῆν δὲ βούλεται ἑαυτὸν καὶ σῴζεσθαι, καὶ μάλιστα τοῦτο ᾧ φρονεῖ. ἀγαθὸν γὰρ τῷ σπουδαίῳ τὸ εἶναι, ἕκαστος δ' [20] ἑαυτῷ βούλεται τἀγαθά, γενόμενος δ' ἄλλος αἱρεῖται οὐδεὶς πάντ' ἔχειν [ἐκεῖνο τὸ γενόμενον] (ἔχει γὰρ καὶ νῦν ὁ θεὸς τἀγαθόν) ἀλλ' ὢν ὅ τι ποτ' ἐστίν· δόξειε δ' ἂν τὸ νοοῦν ἕκαστος εἶναι ἢ μάλιστα. συνδιάγειν τε ὁ τοιοῦτος ἑαυτῷ βούλεται· ἡδέως γὰρ αὐτὸ ποιεῖ· τῶν τε γὰρ πεπραγμένων [25] ἐπιτερπεῖς αἱ μνῆμαι, καὶ τῶν μελλόντων ἐλπίδες ἀγαθαί, αἱ τοιαῦται δ' ἡδεῖαι. καὶ θεωρημάτων δ' εὐπορεῖ τῇ διανοίᾳ. συναλγεῖ τε καὶ συνήδεται μάλισθ' ἑαυτῷ· πάντοτε γάρ ἐστι τὸ αὐτὸ λυπηρόν τε καὶ ἡδύ, καὶ οὐκ ἄλλοτ’ ἄλλο· ἀμεταμέλητος γὰρ ὡς εἰπεῖν. τῷ δὴ πρὸς [30] αὐτὸν ἕκαστα τούτων ὑπάρχειν τῷ ἐπιεικεῖ, πρὸς δὲ τὸν φίλον ἔχειν ὥσπερ πρὸς αὐτόν (ἔστι γὰρ ὁ φίλος ἄλλος αὐτός), καὶ ἡ φιλία τούτων εἶναί τι δοκεῖ, καὶ φίλοι οἷς ταῦθ’ ὑπάρχει. πρὸς αὐτὸν δὲ πότερον ἔστιν ἢ οὐκ ἔστι φιλία, ἀφείσθω ἐπὶ τοῦ παρόντος· δόξειε δ’ ἂν [35] ταύτῃ εἶναι φιλία, ᾗ ἐστὶ δύο ἢ πλείω, ἐκ τῶν εἰρημένων, 1166b [1] καὶ ὅτι ἡ ὑπερβολὴ τῆς φιλίας τῇ πρὸς αὐτὸν ὁμοιοῦται. φαίνεται δὲ τὰ εἰρημένα καὶ τοῖς πολλοῖς ὑπάρχειν, καίπερ οὖσι φαύλοις. ἆρ’ οὖν ᾗ τ’ ἀρέσκουσιν ἑαυτοῖς καὶ ὑπολαμβάνουσιν ἐπιεικεῖς εἶναι, ταύτῃ μετέχουσιν αὐτῶν; [5] ἐπεὶ τῶν γε κομιδῇ φαύλων καὶ ἀνοσιουργῶν οὐδενὶ ταῦθ’ ὑπάρχει, ἀλλ’ οὐδὲ φαίνεται. σχεδὸν δὲ οὐδὲ τοῖς φαύλοις· διαφέρονται γὰρ ἑαυτοῖς, καὶ ἑτέρων μὲν ἐπιθυμοῦσιν ἄλλα δὲ βούλονται, οἷον οἱ ἀκρατεῖς· αἱροῦνται γὰρ ἀντὶ τῶν δοκούντων ἑαυτοῖς ἀγαθῶν εἶναι τὰ ἡδέα βλαβερὰ [10] ὄντα· οἳ δ’ αὖ διὰ δειλίαν καὶ ἀργίαν ἀφίστανται τοῦ πράττειν ἃ οἴονται ἑαυτοῖς βέλτιστα εἶναι. οἷς δὲ πολλὰ καὶ δεινὰ πέπρακται καὶ διὰ τὴν μοχθηρίαν μισοῦνται, καὶ φεύγουσι τὸ ζῆν καὶ ἀναιροῦσιν ἑαυτούς. ζητοῦσί τε οἱ μοχθηροὶ μεθ’ ὧν συνημερεύσουσιν, ἑαυτοὺς δὲ φεύγουσιν· [15] ἀναμιμνήσκονται γὰρ πολλῶν καὶ δυσχερῶν, καὶ τοιαῦθ’ ἕτερα ἐλπίζουσι, καθ’ ἑαυτοὺς ὄντες, μεθ’ ἑτέρων δ’ ὄντες ἐπιλανθάνονται. οὐδέν τε φιλητὸν ἔχοντες οὐδὲν φιλικὸν πάσχουσι πρὸς ἑαυτούς. οὐδὲ δὴ συγχαίρουσιν οὐδὲ συναλγοῦσιν οἱ τοιοῦτοι ἑαυτοῖς· στασιάζει γὰρ αὐτῶν ἡ ψυχή, [20] καὶ τὸ μὲν διὰ μοχθηρίαν ἀλγεῖ ἀπεχόμενόν τινων, τὸ δ’ ἥδεται, καὶ τὸ μὲν δεῦρο τὸ δ’ ἐκεῖσε ἕλκει ὥσπερ διασπῶντα. εἰ δὲ μὴ οἷόν τε ἅμα λυπεῖσθαι καὶ ἥδεσθαι, ἀλλὰ μετὰ μικρόν γε λυπεῖται ὅτι ἥσθη, καὶ οὐκ ἂν ἐβούλετο ἡδέα ταῦτα γενέσθαι αὐτῷ· μεταμελείας γὰρ [25] οἱ φαῦλοι γέμουσιν. οὐ δὴ φαίνεται ὁ φαῦλος οὐδὲ πρὸς ἑαυτὸν φιλικῶς διακεῖσθαι διὰ τὸ μηδὲν ἔχειν φιλητόν. εἰ δὴ τὸ οὕτως ἔχειν λίαν ἐστὶν ἄθλιον, φευκτέον τὴν μοχθηρίαν διατεταμένως καὶ πειρατέον ἐπιεικῆ εἶναι· οὕτω γὰρ καὶ πρὸς ἑαυτὸν φιλικῶς ἂν ἔχοι καὶ ἑτέρῳ φίλος γένοιτο.

[30] ἡ δ’ εὔνοια φιλικῷ μὲν ἔοικεν, οὐ μὴν ἔστι γε φιλία· γίνεται γὰρ εὔνοια καὶ πρὸς ἀγνῶτας καὶ λανθάνουσα, φιλία δ’ οὔ. καὶ πρότερον δὲ ταῦτ’ εἴρηται. ἀλλ’ οὐδὲ φίλησίς ἐστιν. οὐ γὰρ ἔχει διάτασιν οὐδ’ ὄρεξιν, τῇ φιλήσει δὲ ταῦτ’ ἀκολουθεῖ· καὶ ἡ μὲν φίλησις μετὰ συνηθείας, ἡ [35] δ’ εὔνοια καὶ ἐκ προσπαίου, οἷον καὶ περὶ τοὺς ἀγωνιστὰς συμβαίνει· 1167a [1] εὖνοι γὰρ αὐτοῖς γίνονται καὶ συνθέλουσιν, συμπράξαιεν δ’ ἂν οὐδέν· ὅπερ

γὰρ εἴπομεν, προσπαίως εὖνοι γίνονται καὶ ἐπιπολαίως στέργουσιν. ἔοικε δὴ ἀρχὴ φιλίας εἶναι, ὥσπερ τοῦ ἐρᾶν ἡ διὰ τῆς ὄψεως ἡδονή· μὴ γὰρ [5] προησθεὶς τῇ ἰδέᾳ οὐδεὶς ἐρᾷ, ὁ δὲ χαίρων τῷ εἴδει οὐδὲν μᾶλλον ἐρᾷ, ἀλλ’ ὅταν καὶ ἀπόντα ποθῇ καὶ τῆς παρουσίας ἐπιθυμῇ· οὕτω δὴ καὶ φίλους οὐχ οἷόν τ’ εἶναι μὴ εὔνους γενομένους, οἱ δ’ εὖνοι οὐδὲν μᾶλλον φιλοῦσιν· βούλονται γὰρ μόνον τἀγαθὰ οἷς εἰσὶν εὖνοι, συμπράξαιεν δ’ [10] ἂν οὐδέν, οὐδ’ ὀχληθεῖεν ὑπὲρ αὐτῶν. διὸ μεταφέρων φαίη τις ἂν αὐτὴν ἀργὴν εἶναι φιλίαν, χρονιζομένην δὲ καὶ εἰς συνήθειαν ἀφικνουμένην γίνεσθαι φιλίαν, οὐ τὴν διὰ τὸ χρήσιμον οὐδὲ τὴν διὰ τὸ ἡδύ· οὐδὲ γὰρ εὔνοια ἐπὶ τούτοις γίνεται. ὁ μὲν γὰρ εὐεργετηθεὶς ἀνθ’ ὧν πέπονθεν [15] ἀπονέμει τὴν εὔνοιαν, τὰ δίκαια δρῶν· ὁ δὲ βουλόμενός τιν’ εὐπραγεῖν, ἐλπίδα ἔχων εὐπορίας δι’ ἐκείνου, οὐκ ἔοικ’ εὔνους ἐκείνῳ εἶναι, ἀλλὰ μᾶλλον ἑαυτῷ, καθάπερ οὐδὲ φίλος, εἰ θεραπεύει αὐτὸν διά τινα χρῆσιν. ὅλως δ’ εὔνοια δι’ ἀρετὴν καὶ ἐπιείκειάν τινα γίνεται, ὅταν τῳ φανῇ [20] καλός τις ἢ ἀνδρεῖος ἤ τι τοιοῦτον, καθάπερ καὶ ἐπὶ τῶν ἀγωνιστῶν εἴπομεν.

φιλικὸν δὲ καὶ ἡ ὁμόνοια φαίνεται. διόπερ οὐκ ἔστιν ὁμοδοξία· τοῦτο μὲν γὰρ καὶ ἀγνοοῦσιν ἀλλήλους ὑπάρξειεν ἄν· οὐδὲ τοὺς περὶ ὁτουοῦν ὁμογνωμονοῦντας ὁμονοεῖν φασίν, [25] οἷον τοὺς περὶ τῶν οὐρανίων (οὐ γὰρ φιλικὸν τὸ περὶ τούτων ὁμονοεῖν), ἀλλὰ τὰς πόλεις ὁμονοεῖν φασίν, ὅταν περὶ τῶν συμφερόντων ὁμογνωμονῶσι καὶ ταὐτὰ προαιρῶνται καὶ πράττωσι τὰ κοινῇ δόξαντα. περὶ τὰ πρακτὰ δὴ ὁμονοοῦσιν, καὶ τούτων περὶ τὰ ἐν μεγέθει καὶ ἐνδεχόμενα [30] ἀμφοῖν ὑπάρχειν ἢ πᾶσιν, οἷον αἱ πόλεις, ὅταν πᾶσι δοκῇ τὰς ἀρχὰς αἱρετὰς εἶναι, ἢ συμμαχεῖν Λακεδαιμονίοις, ἢ ἄρχειν Πιττακὸν ὅτε καὶ αὐτὸς ἤθελεν. ὅταν δ’ ἑκάτερος ἑαυτὸν βούληται, ὥσπερ οἱ ἐν ταῖς Φοινίσσαις, στασιάζουσιν· οὐ γάρ ἐστιν ὁμονοεῖν τὸ αὐτὸ ἑκάτερον ἐννοεῖν [35] ὁδήποτε, ἀλλὰ τὸ ἐν τῷ αὐτῷ, οἷον ὅταν καὶ ὁ δῆμος 1167b [1] καὶ οἱ ἐπιεικεῖς τοὺς ἀρίστους ἄρχειν· οὕτω γὰρ πᾶσι γίνεται οὗ ἐφίενται. πολιτικὴ δὴ φιλία φαίνεται ἡ ὁμόνοια, καθάπερ καὶ λέγεται· περὶ τὰ συμφέροντα γάρ ἐστι καὶ τὰ εἰς τὸν βίον ἥκοντα. ἔστι δ’ ἡ τοιαύτη ὁμόνοια [5] ἐν τοῖς ἐπιεικέσιν· οὗτοι γὰρ καὶ ἑαυτοῖς ὁμονοοῦσι καὶ ἀλλήλοις, ἐπὶ τῶν αὐτῶν ὄντες ὡς εἰπεῖν ̔τῶν τοιούτων γὰρ μένει τὰ βουλήματα καὶ οὐ μεταρρεῖ ὥσπερ εὔριποσ̓, βούλονταί τε τὰ δίκαια καὶ τὰ συμφέροντα, τούτων δὲ καὶ κοινῇ ἐφίενται. τοὺς δὲ φαύλους οὐχ οἷόν τε ὁμονοεῖν [10] πλὴν ἐπὶ μικρόν, καθάπερ καὶ φίλους εἶναι, πλεονεξίας ἐφιεμένους ἐν τοῖς ὠφελίμοις, ἐν δὲ τοῖς πόνοις καὶ ταῖς λειτουργίαις ἐλλείποντας· ἑαυτῷ δ’ ἕκαστος βουλόμενος ταῦτα τὸν πέλας ἐξετάζει καὶ κωλύει· μὴ γὰρ τηρούντων τὸ κοινὸν ἀπόλλυται. συμβαίνει οὖν αὐτοῖς στασιάζειν, ἀλλήλους [15] μὲν ἐπαναγκάζοντας, αὐτοὺς δὲ μὴ βουλομένους τὰ δίκαια ποιεῖν.

οἱ δ’ εὐεργέται τοὺς εὐεργετηθέντας δοκοῦσι μᾶλλον φιλεῖν ἢ οἱ εὖ παθόντες τοὺς δράσαντας, καὶ ὡς παρὰ λόγον γινόμενον ἐπιζητεῖται. τοῖς μὲν οὖν πλείστοις φαίνεται [20] ὅτι οἳ μὲν ὀφείλουσι τοῖς δὲ ὀφείλεται· καθάπερ οὖν ἐπὶ τῶν δανείων οἱ μὲν ὀφείλοντες βούλονται μὴ εἶναι οἷς ὀφείλουσιν, οἱ δὲ δανείσαντες καὶ ἐπιμελοῦνται τῆς τῶν ὀφειλόντων σωτηρίας, οὕτω καὶ τοὺς εὐεργετήσαντας βούλεσθαι εἶναι τοὺς παθόντας ὡς κομιουμένους τὰς χάριτας, [25] τοῖς δ’ οὐκ εἶναι ἐπιμελὲς τὸ ἀνταποδοῦναι. Ἐπίχαρμος μὲν οὖν τάχ’ ἂν φαίη ταῦτα λέγειν αὐτοὺς ἐκ πονηροῦ θεωμένους, ἔοικε δ’ ἀνθρωπικῷ· ἀμνήμονες γὰρ οἱ πολλοί, καὶ μᾶλλον εὖ πάσχειν ἢ ποιεῖν ἐφίενται. δόξειε δ’ ἂν φυσικώτερον εἶναι τὸ αἴτιον, καὶ οὐδ’ ὅμοιον τὸ περὶ τοὺς [30] δανείσαντας· οὐ γάρ ἐστι φίλησις περὶ ἐκείνους, ἀλλὰ τοῦ σῴζεσθαι βούλησις τῆς κομιδῆς ἕνεκα· οἱ δ’ εὖ πεποιηκότες φιλοῦσι καὶ ἀγαπῶσι τοὺς πεπονθότας κἂν μηδὲν ὦσι χρήσιμοι μηδ’ εἰς ὕστερον γένοιντ’ ἄν. ὅπερ καὶ ἐπὶ τῶν τεχνιτῶν συμβέβηκεν· πᾶς γὰρ τὸ οἰκεῖον ἔργον ἀγαπᾷ [35] μᾶλλον ἢ ἀγαπηθείη ἂν ὑπὸ τοῦ ἔργου ἐμψύχου γενομένου· 1168a [1] μάλιστα δ’ ἴσως τοῦτο περὶ τοὺς ποιητὰς συμβαίνει· ὑπεραγαπῶσι γὰρ οὗτοι τὰ οἰκεῖα ποιήματα, στέργοντες ὥσπερ τέκνα. τοιούτῳ δὴ ἔοικε καὶ τὸ τῶν εὐεργετῶν· τὸ γὰρ εὖ πεπονθὸς ἔργον ἐστὶν αὐτῶν· τοῦτο δὴ ἀγαπῶσι μᾶλλον ἢ [5] τὸ ἔργον τὸν ποιήσαντα. τούτου δ’ αἴτιον ὅτι τὸ εἶναι πᾶσιν αἱρετὸν καὶ φιλητόν, ἐσμὲν δ’ ἐνεργείᾳ (τῷ ζῆν γὰρ καὶ πράττειν), ἐνεργείᾳ δὲ ὁ ποιήσας τὸ ἔργον ἔστι πως· στέργει δὴ τὸ ἔργον, διότι καὶ τὸ εἶναι. τοῦτο δὲ φυσικόν· ὃ γάρ ἐστι δυνάμει, τοῦτο ἐνεργείᾳ τὸ ἔργον μηνύει. ἅμα δὲ καὶ [10] τῷ μὲν εὐεργέτῃ καλὸν τὸ κατὰ τὴν πρᾶξιν, ὥστε χαίρειν ἐν ᾧ τοῦτο, τῷ δὲ παθόντι οὐδὲν καλὸν ἐν τῷ δράσαντι, ἀλλ’ εἴπερ, συμφέρον· τοῦτο δ’ ἧττον ἡδὺ καὶ φιλητόν. ἡδεῖα δ’ ἐστὶ τοῦ μὲν παρόντος ἡ ἐνέργεια, τοῦ δὲ μέλλοντος ἡ ἐλπίς, τοῦ δὲ γεγενημένου ἡ μνήμη· ἥδιστον δὲ τὸ κατὰ [15] τὴν ἐνέργειαν, καὶ φιλητὸν ὁμοίως. τῷ μὲν οὖν πεποιηκότι μένει τὸ ἔργον (τὸ καλὸν γὰρ πολυχρόνιον), τῷ δὲ παθόντι τὸ χρήσιμον παροίχεται. ἥ τε μνήμη τῶν μὲν καλῶν ἡδεῖα, τῶν δὲ χρησίμων οὐ πάνυ ἢ ἧττον· ἡ προσδοκία δ’ ἀνάπαλιν ἔχειν ἔοικεν. καὶ ἡ μὲν φίλησις ποιήσει ἔοικεν, [20] τὸ φιλεῖσθαι δὲ τῷ πάσχειν· τοῖς ὑπερέχουσι δὲ περὶ τὴν πρᾶξιν ἕπεται τὸ φιλεῖν καὶ τὰ φιλικά. ἔτι δὲ τὰ ἐπιπόνως γενόμενα πάντες μᾶλλον στέργουσιν, οἷον καὶ τὰ χρήματα οἱ κτησάμενοι τῶν παραλαβόντων· δοκεῖ δὲ τὸ μὲν εὖ πάσχειν ἄπονον εἶναι, τὸ δ’ εὖ ποιεῖν ἐργῶδες. διὰ ταῦτα [25] δὲ καὶ αἱ μητέρες φιλοτεκνότεραι· ἐπιπονωτέρα γὰρ ἡ γέννησις, καὶ μᾶλλον ἴσασιν ὅτι αὐτῶν. δόξειε δ’ ἂν τοῦτο καὶ τοῖς εὐεργέταις οἰκεῖον εἶναι.

ἀπορεῖται δὲ καὶ πότερον δεῖ φιλεῖν ἑαυτὸν μάλιστα ἢ ἄλλον τινά. ἐπιτιμῶσι γὰρ τοῖς ἑαυτοὺς μάλιστ’ ἀγαπῶσι, [30] καὶ ὡς ἐν αἰσχρῷ φιλαύτους ἀποκαλοῦσι, δοκεῖ τε ὁ μὲν φαῦλος ἑαυτοῦ χάριν πάντα πράττειν, καὶ ὅσῳ ἂν μοχθηρότερος ᾖ, τοσούτῳ μᾶλλον — ἐγκαλοῦσι δὴ αὐτῷ οἷον ὅτι οὐδὲν ἀφ’ ἑαυτοῦ πράττει — ὁ δ’ ἐπιεικὴς διὰ τὸ καλόν, καὶ ὅσῳ ἂν βελτίων ᾖ, μᾶλλον διὰ τὸ καλόν, καὶ φίλου ἕνεκα, [35] τὸ δ’ αὑτοῦ παρίησιν. τοῖς λόγοις δὲ τούτοις τὰ ἔργα διαφωνεῖ, οὐκ ἀλόγως. 1168b [1] φασὶ γὰρ δεῖν φιλεῖν μάλιστα τὸν μάλιστα φίλον, φίλος δὲ μάλιστα ὁ βουλόμενος ᾧ βούλεται τἀγαθὰ ἐκείνου ἕνεκα, καὶ εἰ μηδεὶς εἴσεται· ταῦτα δ’ ὑπάρχει μάλιστ’ αὐτῷ πρὸς αὑτόν, καὶ τὰ λοιπὰ δὴ πάνθ’ [5] οἷς ὁ φίλος ὁρίζεται· εἴρηται γὰρ ὅτι ἀπ’ αὐτοῦ πάντα τὰ φιλικὰ καὶ πρὸς τοὺς ἄλλους διήκει. καὶ αἱ παροιμίαι δὲ πᾶσαι ὁμογνωμονοῦσιν, οἷον τὸ “μία ψυχή” καὶ “κοινὰ τὰ φίλων” καὶ “ἰσότης φιλότης” καὶ “γόνυ κνήμης ἔγγιον·” πάντα γὰρ ταῦτα πρὸς αὑτὸν μάλιστ’ ἂν ὑπάρχοι· μάλιστα [10] γὰρ φίλος αὑτῷ· καὶ φιλητέον δὴ μάλισθ’ ἑαυτόν. ἀπορεῖται δὴ εἰκότως ποτέροις χρεὼν ἕπεσθαι, ἀμφοῖν ἐχόντοιν τὸ πιστόν. ἴσως οὖν τοὺς τοιούτους δεῖ τῶν λόγων διαιρεῖν καὶ διορίζειν ἐφ’ ὅσον ἑκάτεροι καὶ πῇ ἀληθεύουσιν. εἰ δὴ λάβοιμεν τὸ φίλαυτον πῶς ἑκάτεροι λέγουσιν, τάχ’ ἂν γένοιτο [15] δῆλον. οἱ μὲν οὖν εἰς ὄνειδος ἄγοντες αὐτὸ φιλαύτους καλοῦσι τοὺς ἑαυτοῖς ἀπονέμοντας τὸ πλεῖον ἐν χρήμασι καὶ τιμαῖς καὶ ἡδοναῖς ταῖς σωματικαῖς· τούτων γὰρ οἱ πολλοὶ ὀρέγονται, καὶ ἐσπουδάκασι περὶ αὐτὰ ὡς ἄριστα ὄντα, διὸ καὶ περιμάχητά ἐστιν. οἱ δὴ περὶ ταῦτα πλεονέκται χαρίζονται [20] ταῖς ἐπιθυμίαις καὶ ὅλως τοῖς πάθεσι καὶ τῷ ἀλόγῳ τῆς ψυχῆς· τοιοῦτοι δ’ εἰσὶν οἱ πολλοί· διὸ καὶ ἡ προσηγορία γεγένηται ἀπὸ τοῦ πολλοῦ φαύλου ὄντος· δικαίως δὴ τοῖς οὕτω φιλαύτοις ὀνειδίζεται. ὅτι δὲ τοὺς τὰ τοιαῦθ’ αὑτοῖς ἀπονέμοντας εἰώθασι λέγειν οἱ πολλοὶ φιλαύτους, οὐκ ἄδηλον· [25] εἰ γάρ τις ἀεὶ σπουδάζοι τὰ δίκαια πράττειν αὐτὸς μάλιστα πάντων ἢ τὰ σώφρονα ἢ ὁποιαοῦν ἄλλα τῶν κατὰ τὰς ἀρετάς, καὶ ὅλως ἀεὶ τὸ καλὸν ἑαυτῷ περιποιοῖτο, οὐδεὶς ἐρεῖ τοῦτον φίλαυτον οὐδὲ ψέξει. δόξειε δ’ ἂν ὁ τοιοῦτος μᾶλλον εἶναι φίλαυτος· ἀπονέμει γοῦν ἑαυτῷ τὰ κάλλιστα [30] καὶ μάλιστ’ ἀγαθά, καὶ χαρίζεται ἑαυτοῦ τῷ κυριωτάτῳ, καὶ πάντα τούτῳ πείθεται· ὥσπερ δὲ καὶ πόλις τὸ κυριώτατον μάλιστ’ εἶναι δοκεῖ καὶ πᾶν ἄλλο σύστημα, οὕτω καὶ ἄνθρωπος· καὶ φίλαυτος δὴ μάλιστα ὁ τοῦτο ἀγαπῶν καὶ τούτῳ χαριζόμενος. καὶ ἐγκρατὴς δὲ καὶ ἀκρατὴς λέγεται [35] τῷ κρατεῖν τὸν νοῦν ἢ μή, ὡς τούτου ἑκάστου ὄντος· 1169a [1] καὶ πεπραγέναι δοκοῦσιν αὐτοὶ καὶ ἑκουσίως τὰ μετὰ λόγου μάλιστα. ὅτι μὲν οὖν τοῦθ’ ἕκαστός ἐστιν ἢ μάλιστα, οὐκ ἄδηλον, καὶ ὅτι ὁ ἐπιεικὴς μάλιστα τοῦτ’ ἀγαπᾷ. διὸ φίλαυτος μάλιστ’ ἂν εἴη, καθ’ ἕτερον εἶδος τοῦ ὀνειδιζομένου, καὶ διαφέρων [5] τοσοῦτον ὅσον τὸ κατὰ λόγον ζῆν τοῦ κατὰ πάθος, καὶ ὀρέγεσθαι ἢ τοῦ καλοῦ ἢ τοῦ δοκοῦντος συμφέρειν. τοὺς μὲν οὖν περὶ τὰς καλὰς πράξεις διαφερόντως σπουδάζοντας πάντες ἀποδέχονται καὶ ἐπαινοῦσιν· πάντων δὲ ἁμιλλωμένων πρὸς τὸ καλὸν καὶ διατεινομένων τὰ κάλλιστα πράττειν κοινῇ τ’ [10] ἂν πάντ’ εἴη τὰ δέοντα καὶ ἰδίᾳ ἑκάστῳ τὰ μέγιστα τῶν ἀγαθῶν, εἴπερ ἡ ἀρετὴ τοιοῦτόν ἐστιν. ὥστε τὸν μὲν ἀγαθὸν δεῖ φίλαυτον εἶναι (καὶ γὰρ αὐτὸς ὀνήσεται τὰ καλὰ πράττων καὶ τοὺς ἄλλους ὠφελήσει), τὸν δὲ μοχθηρὸν οὐ δεῖ· βλάψει γὰρ καὶ ἑαυτὸν καὶ τοὺς πέλας, φαύλοις πάθεσιν [15] ἑπόμενος. τῷ μοχθηρῷ μὲν οὖν διαφωνεῖ ἃ δεῖ πράττειν καὶ ἃ πράττει· ὁ δ’ ἐπιεικής, ἃ δεῖ, ταῦτα καὶ πράττει· πᾶς γὰρ νοῦς αἱρεῖται τὸ βέλτιστον ἑαυτῷ, ὁ δ’ ἐπιεικὴς πειθαρχεῖ τῷ νῷ. ἀληθὲς δὲ περὶ τοῦ σπουδαίου καὶ τὸ τῶν φίλων ἕνεκα πολλὰ πράττειν καὶ τῆς πατρίδος, κἂν δέῃ [20] ὑπεραποθνήσκειν· προήσεται γὰρ καὶ χρήματα καὶ τιμὰς καὶ ὅλως τὰ περιμάχητα ἀγαθά, περιποιούμενος ἑαυτῷ τὸ καλόν· ὀλίγον γὰρ χρόνον ἡσθῆναι σφόδρα μᾶλλον ἕλοιτ’ ἂν ἢ πολὺν ἠρέμα, καὶ βιῶσαι καλῶς ἐνιαυτὸν ἢ πόλλ’ ἔτη τυχόντως, καὶ μίαν πρᾶξιν καλὴν καὶ μεγάλην ἢ πολλὰς [25] καὶ μικράς. τοῖς δ’ ὑπεραποθνήσκουσι τοῦτ’ ἴσως συμβαίνει· αἱροῦνται δὴ μέγα καλὸν ἑαυτοῖς. καὶ χρήματα προοῖντ’ ἂν ἐφ’ ᾧ πλείονα λήψονται οἱ φίλοι· γίνεται γὰρ τῷ μὲν φίλῳ χρήματα, αὐτῷ δὲ τὸ καλόν· τὸ δὴ μεῖζον ἀγαθὸν ἑαυτῷ ἀπονέμει. καὶ περὶ τιμὰς δὲ καὶ ἀρχὰς ὁ [30] αὐτὸς τρόπος· πάντα γὰρ τῷ φίλῳ ταῦτα προήσεται· καλὸν γὰρ αὐτῷ τοῦτο καὶ ἐπαινετόν. εἰκότως δὴ δοκεῖ σπουδαῖος εἶναι, ἀντὶ πάντων αἱρούμενος τὸ καλόν. ἐνδέχεται δὲ καὶ πράξεις τῷ φίλῳ προΐεσθαι, καὶ εἶναι κάλλιον τοῦ αὐτὸν πρᾶξαι τὸ αἴτιον τῷ φίλῳ γενέσθαι. ἐν πᾶσι δὴ τοῖς [35] ἐπαινετοῖς ὁ σπουδαῖος φαίνεται ἑαυτῷ τοῦ καλοῦ πλέον νέμων. 1169b [1] οὕτω μὲν οὖν φίλαυτον εἶναι δεῖ, καθάπερ εἴρηται· ὡς δ’ οἱ πολλοί, οὐ χρή.

ἀμφισβητεῖται δὲ καὶ περὶ τὸν εὐδαίμονα, εἰ δεήσεται φίλων ἢ μή. οὐθὲν γάρ φασι δεῖν φίλων τοῖς μακαρίοις [5] καὶ αὐτάρκεσιν· ὑπάρχειν γὰρ αὐτοῖς τἀγαθά· αὐτάρκεις οὖν ὄντας οὐδενὸς προσδεῖσθαι, τὸν δὲ φίλον, ἕτερον αὐτὸν ὄντα, πορίζειν ἃ δι’ αὑτοῦ ἀδυνατεῖ· ὅθεν

ὅταν ὁ δαίμων εὖ διδῷ, τί δεῖ φίλων;[1]

ἔοικε δ’ ἀτόπῳ τὸ πάντ’ ἀπονέμοντας τἀγαθὰ τῷ εὐδαίμονι φίλους μὴ ἀποδιδόναι, ὃ [10] δοκεῖ τῶν ἐκτὸς ἀγαθῶν μέγιστον εἶναι. εἴ τε φίλου μᾶλλόν ἐστι τὸ εὖ ποιεῖν ἢ πάσχειν, καὶ ἔστι τοῦ ἀγαθοῦ καὶ τῆς ἀρετῆς τὸ εὐεργετεῖν, κάλλιον δ’ εὖ ποιεῖν φίλους ὀθνείων, τῶν εὖ πεισομένων δεήσεται ὁ σπουδαῖος. διὸ καὶ ἐπιζητεῖται πότερον ἐν εὐτυχίαις μᾶλλον δεῖ φίλων ἢ ἐν ἀτυχίαις, [15] ὡς καὶ τοῦ ἀτυχοῦντος δεομένου τῶν εὐεργετησόντων καὶ τῶν εὐτυχούντων οὓς εὖ ποιήσουσιν. ἄτοπον δ’ ἴσως καὶ τὸ μονώτην ποιεῖν τὸν μακάριον· οὐδεὶς γὰρ ἕλοιτ’ ἂν καθ’ αὑτὸν τὰ πάντ’ ἔχειν ἀγαθά· πολιτικὸν γὰρ ὁ ἄνθρωπος καὶ συζῆν πεφυκός. καὶ τῷ εὐδαίμονι δὴ τοῦθ’ ὑπάρχει· τὰ γὰρ [20] τῇ φύσει ἀγαθὰ ἔχει, δῆλον δ’ ὡς μετὰ φίλων καὶ ἐπιεικῶν κρεῖττον ἢ μετ’ ὀθνείων καὶ τῶν τυχόντων συνημερεύειν. δεῖ ἄρα τῷ εὐδαίμονι φίλων. τί οὖν λέγουσιν οἱ πρῶτοι, καὶ πῇ ἀληθεύουσιν; ἢ ὅτι οἱ πολλοὶ φίλους οἴονται τοὺς χρησίμους εἶναι; τῶν τοιούτων μὲν οὖν οὐδὲν δεήσεται ὁ μακάριος, [25] ἐπειδὴ τἀγαθὰ ὑπάρχει αὐτῷ· οὐδὲ δὴ τῶν διὰ τὸ ἡδύ, ἢ ἐπὶ μικρόν (ἡδὺς γὰρ ὁ βίος ὢν οὐδὲν δεῖται ἐπεισάκτου ἡδονῆς)· οὐ δεόμενος δὲ τῶν τοιούτων φίλων οὐ δοκεῖ δεῖσθαι φίλων. τὸ δ’ οὐκ ἔστιν ἴσως ἀληθές. ἐν ἀρχῇ γὰρ εἴρηται ὅτι ἡ εὐδαιμονία ἐνέργειά τις ἐστίν, ἡ δ’ ἐνέργεια δῆλον ὅτι [30] γίνεται καὶ οὐχ ὑπάρχει ὥσπερ κτῆμά τι. εἰ δὲ τὸ εὐδαιμονεῖν ἐστὶν ἐν τῷ ζῆν καὶ ἐνεργεῖν, τοῦ δ’ ἀγαθοῦ ἡ ἐνέργεια σπουδαία καὶ ἡδεῖα καθ’ αὑτήν, καθάπερ ἐν ἀρχῇ εἴρηται, ἔστι δὲ καὶ τὸ οἰκεῖον τῶν ἡδέων, θεωρεῖν δὲ μᾶλλον τοὺς πέλας δυνάμεθα ἢ ἑαυτοὺς καὶ τὰς ἐκείνων πράξεις ἢ [35] τὰς οἰκείας, αἱ τῶν σπουδαίων δὲ πράξεις φίλων ὄντων ἡδεῖαι τοῖς ἀγαθοῖς 1170a [1] (ἄμφω γὰρ ἔχουσι τὰ τῇ φύσει ἡδέα)· ὁ μακάριος δὴ φίλων τοιούτων δεήσεται, εἴπερ θεωρεῖν προαιρεῖται πράξεις ἐπιεικεῖς καὶ οἰκείας, τοιαῦται δ’ αἱ τοῦ ἀγαθοῦ φίλου ὄντος. οἴονταί τε δεῖν ἡδέως ζῆν τὸν εὐδαίμονα. [5] μονώτῃ μὲν οὖν χαλεπὸς ὁ βίος· οὐ γὰρ ῥᾴδιον καθ’ αὑτὸν ἐνεργεῖν συνεχῶς, μεθ’ ἑτέρων δὲ καὶ πρὸς ἄλλους ῥᾷον. ἔσται οὖν ἡ ἐνέργεια συνεχεστέρα, ἡδεῖα οὖσα καθ’ αὑτήν, ὃ δεῖ περὶ τὸν μακάριον εἶναι· ὁ γὰρ σπουδαῖος, ᾗ σπουδαῖος, ταῖς κατ’ ἀρετὴν πράξεσι χαίρει, ταῖς δ’ ἀπὸ κακίας δυσχεραίνει, [10] καθάπερ ὁ μουσικὸς τοῖς καλοῖς μέλεσιν ἥδεται, ἐπὶ δὲ τοῖς φαύλοις λυπεῖται. γίνοιτο δ’ ἂν καὶ ἄσκησίς τις τῆς ἀρετῆς ἐκ τοῦ συζῆν τοῖς ἀγαθοῖς, καθάπερ καὶ Θέογνίς φησιν. φυσικώτερον δ’ ἐπισκοποῦσιν ἔοικεν ὁ σπουδαῖος φίλος τῷ σπουδαίῳ τῇ φύσει αἱρετὸς εἶναι. τὸ γὰρ τῇ φύσει [15] ἀγαθὸν εἴρηται ὅτι τῷ σπουδαίῳ ἀγαθὸν καὶ ἡδύ ἐστι καθ' αὑτό. τὸ δὲ ζῆν ὁρίζονται τοῖς ζῴοις δυνάμει αἰσθήσεως, ἀνθρώποις δ' αἰσθήσεως ἢ νοήσεως· ἡ δὲ δύναμις εἰς τὴν ἐνέργειαν ἀνάγεται, τὸ δὲ κύριον ἐν τῇ ἐνεργείᾳ· ἔοικε δὴ τὸ ζῆν εἶναι κυρίως τὸ αἰσθάνεσθαι ἢ νοεῖν. τὸ δὲ ζῆν τῶν [20] καθ' αὑτὸ ἀγαθῶν καὶ ἡδέων· ὡρισμένον γάρ, τὸ δ' ὡρισμένον τῆς τἀγαθοῦ φύσεως· τὸ δὲ τῇ φύσει ἀγαθὸν καὶ τῷ ἐπιεικεῖ· διόπερ ἔοικε πᾶσιν ἡδὺ εἶναι· οὐ δεῖ δὲ λαμβάνειν μοχθηρὰν ζωὴν καὶ διεφθαρμένην, οὐδ' ἐν λύπαις· ἀόριστος γὰρ ἡ τοιαύτη, καθάπερ τὰ ὑπάρχοντα αὐτῇ. ἐν [25] τοῖς ἐχομένοις δὲ περὶ τῆς λύπης ἔσται φανερώτερον. εἰ δ' αὐτὸ τὸ ζῆν ἀγαθὸν καὶ ἡδύ (ἔοικε δὲ καὶ ἐκ τοῦ πάντας ὀρέγεσθαι αὐτοῦ, καὶ μάλιστα τοὺς ἐπιεικεῖς καὶ μακαρίους· τούτοις γὰρ ὁ βίος αἱρετώτατος, καὶ ἡ τούτων μακαριωτάτη ζωή), ὁ δ' ὁρῶν ὅτι ὁρᾷ αἰσθάνεται καὶ ὁ ἀκούων ὅτι ἀκούει [30] καὶ ὁ βαδίζων ὅτι βαδίζει, καὶ ἐπὶ τῶν ἄλλων ὁμοίως ἔστι τι τὸ αἰσθανόμενον ὅτι ἐνεργοῦμεν, ὥστε ἂν αἰσθανώμεθ', ὅτι αἰσθανόμεθα, κἂν νοῶμεν, ὅτι νοοῦμεν, τὸ δ' ὅτι αἰσθανόμεθα ἢ νοοῦμεν, ὅτι ἐσμέν (τὸ γὰρ εἶναι ἦν αἰσθάνεσθαι ἢ νοεῖν), 1170b [1] τὸ δ' αἰσθάνεσθαι ὅτι ζῇ, τῶν ἡδέων καθ' αὑτό (φύσει γὰρ ἀγαθὸν ζωή, τὸ δ' ἀγαθὸν ὑπάρχον ἐν ἑαυτῷ αἰσθάνεσθαι ἡδύ), αἱρετὸν δὲ τὸ ζῆν καὶ μάλιστα τοῖς ἀγαθοῖς, ὅτι τὸ εἶναι ἀγαθόν ἐστιν αὐτοῖς καὶ ἡδύ (συναισθανόμενοι [5] γὰρ τοῦ καθ' αὑτὸ ἀγαθοῦ ἥδονται), ὡς δὲ πρὸς ἑαυτὸν ἔχει ὁ σπουδαῖος, καὶ πρὸς τὸν φίλον (ἕτερος γὰρ αὐτὸς ὁ φίλος ἐστίν)· καθάπερ οὖν τὸ αὐτὸν εἶναι αἱρετόν ἐστιν ἑκάστῳ, οὕτω καὶ τὸ τὸν φίλον, ἢ παραπλησίως. τὸ δ' εἶναι ἦν αἱρετὸν διὰ τὸ αἰσθάνεσθαι αὑτοῦ ἀγαθοῦ ὄντος, ἡ δὲ τοιαύτη [10] αἴσθησις ἡδεῖα καθ' ἑαυτήν. συναισθάνεσθαι ἄρα δεῖ καὶ τοῦ φίλου ὅτι ἔστιν, τοῦτο δὲ γίνοιτ' ἂν ἐν τῷ συζῆν καὶ κοινωνεῖν λόγων καὶ διανοίας· οὕτω γὰρ ἂν δόξειε τὸ συζῆν ἐπὶ τῶν ἀνθρώπων λέγεσθαι, καὶ οὐχ ὥσπερ ἐπὶ τῶν βοσκημάτων τὸ ἐν τῷ αὐτῷ νέμεσθαι. εἰ δὴ τῷ μακαρίῳ τὸ εἶναι αἱρετόν [15] ἐστι καθ' αὑτό, ἀγαθὸν τῇ φύσει ὂν καὶ ἡδύ, παραπλήσιον δὲ καὶ τὸ τοῦ φίλου ἐστίν, κἂν ὁ φίλος τῶν αἱρετῶν εἴη. ὃ δ' ἐστὶν αὐτῷ αἱρετόν, τοῦτο δεῖ ὑπάρχειν αὐτῷ, ἢ ταύτῃ ἐνδεὴς ἔσται. δεήσει ἄρα τῷ εὐδαιμονήσοντι φίλων σπουδαίων.

[20] ἆρ' οὖν ὡς πλείστους φίλους ποιητέον, ἢ καθάπερ ἐπὶ τῆς ξενίας ἐμμελῶς εἰρῆσθαι δοκεῖ μήτε πολύξεινος μήτ' ἄξεινος2, καὶ ἐπὶ τῆς φιλίας ἁρμόσει μήτ' ἄφιλον εἶναι μήτ' αὖ πολύφιλον καθ' ὑπερβολήν; τοῖς μὲν δὴ πρὸς χρῆσιν κἂν πάνυ δόξειεν ἁρμόζειν τὸ λεχθέν· πολλοῖς γὰρ [25]

ἀνθυπηρετεῖν ἐπίπονον, καὶ οὐχ ἱκανὸς ὁ βίος αὐτὸ [τοῦτο] πράττειν. οἱ πλείους δὴ τῶν πρὸς τὸν οἰκεῖον βίον ἱκανῶν περίεργοι καὶ ἐμπόδιοι πρὸς τὸ καλῶς ζῆν· οὐθὲν οὖν δεῖ αὐτῶν. καὶ οἱ πρὸς ἡδονὴν δὲ ἀρκοῦσιν ὀλίγοι, καθάπερ ἐν τῇ τροφῇ τὸ ἥδυσμα. τοὺς δὲ σπουδαίους πότερον πλείστους [30] κατ' ἀριθμόν, ἢ ἔστι τι μέτρον καὶ φιλικοῦ πλήθους, ὥσπερ πόλεως; οὔτε γὰρ ἐκ δέκα ἀνθρώπων γένοιτ' ἂν πόλις, οὔτ' ἐκ δέκα μυριάδων ἔτι πόλις ἐστίν. τὸ δὲ ποσὸν οὐκ ἔστιν ἴσως ἕν τι, ἀλλὰ πᾶν τὸ μεταξὺ τινῶν ὡρισμένων. 1171a [1] καὶ φίλων δή ἐστι πλῆθος ὡρισμένον, καὶ ἴσως οἱ πλεῖστοι μεθ' ὧν ἂν δύναιτό τις συζῆν ̔τοῦτο γὰρ ἐδόκει φιλικώτατον εἶναἰ· ὅτι δ' οὐχ οἷόν τε πολλοῖς συζῆν καὶ διανέμειν ἑαυτόν, οὐκ ἄδηλον. ἔτι δὲ κἀκείνους δεῖ ἀλλήλοις φίλους εἶναι, εἰ μέλλουσι [5] πάντες μετ' ἀλλήλων συνημερεύειν· τοῦτο δ' ἐργῶδες ἐν πολλοῖς ὑπάρχειν. χαλεπὸν δὲ γίνεται καὶ τὸ συγχαίρειν καὶ τὸ συναλγεῖν οἰκείως πολλοῖς· εἰκὸς γὰρ συμπίπτειν ἅμα τῷ μὲν συνήδεσθαι τῷ δὲ συνάχθεσθαι. ἴσως οὖν εὖ ἔχει μὴ ζητεῖν ὡς πολυφιλώτατον εἶναι, ἀλλὰ τοσούτους ὅσοι εἰς τὸ [10] συζῆν ἱκανοί· οὐδὲ γὰρ ἐνδέχεσθαι δόξειεν ἂν πολλοῖς εἶναι φίλον σφόδρα. διόπερ οὐδ' ἐρᾶν πλειόνων· ὑπερβολὴ γάρ τις εἶναι βούλεται φιλίας, τοῦτο δὲ πρὸς ἕνα· καὶ τὸ σφόδρα δὴ πρὸς ὀλίγους. οὕτω δ' ἔχειν ἔοικε καὶ ἐπὶ τῶν πραγμάτων· οὐ γίνονται γὰρ φίλοι πολλοὶ κατὰ τὴν ἑταιρικὴν [15] φιλίαν, αἱ δ' ὑμνούμεναι ἐν δυσὶ λέγονται. οἱ δὲ πολύφιλοι καὶ πᾶσιν οἰκείως ἐντυγχάνοντες οὐδενὶ δοκοῦσιν εἶναι φίλοι, πλὴν πολιτικῶς, οὓς καὶ καλοῦσιν ἀρέσκους. πολιτικῶς μὲν οὖν ἔστι πολλοῖς εἶναι φίλον καὶ μὴ ἄρεσκον ὄντα, ἀλλ' ὡς ἀληθῶς ἐπιεικῆ· δι' ἀρετὴν δὲ καὶ δι' αὐτοὺς οὐκ ἔστι πρὸς [20] πολλούς, ἀγαπητὸν δὲ καὶ ὀλίγους εὑρεῖν τοιούτους.

πότερον δ' ἐν εὐτυχίαις μᾶλλον φίλων δεῖ ἢ ἐν δυστυχίαις; ἐν ἀμφοῖν γὰρ ἐπιζητοῦνται· οἵ τε γὰρ ἀτυχοῦντες δέονται ἐπικουρίας, οἵ τ' εὐτυχοῦντες συμβίων καὶ οὓς εὖ ποιήσουσιν· βούλονται γὰρ εὖ δρᾶν. ἀναγκαιότερον μὲν δὴ [25] ἐν ταῖς ἀτυχίαις, διὸ τῶν χρησίμων ἐνταῦθα δεῖ, κάλλιον δ' ἐν ταῖς εὐτυχίαις, διὸ καὶ τοὺς ἐπιεικεῖς ζητοῦσιν· τούτους γὰρ αἱρετώτερον εὐεργετεῖν καὶ μετὰ τούτων διάγειν. ἔστι γὰρ καὶ ἡ παρουσία αὐτὴ τῶν φίλων ἡδεῖα καὶ ἐν ταῖς εὐτυχίαις καὶ ἐν ταῖς δυστυχίαις. κουφίζονται γὰρ οἱ λυπούμενοι [30] συναλγούντων τῶν φίλων. διὸ κἂν ἀπορήσειέν τις πότερον ὥσπερ βάρους μεταλαμβάνουσιν, ἢ τοῦτο μὲν οὔ, ἡ παρουσία δ' αὐτῶν ἡδεῖα οὖσα καὶ ἡ ἔννοια τοῦ συναλγεῖν ἐλάττω τὴν λύπην ποιεῖ. εἰ μὲν οὖν διὰ ταῦτα ἢ δι' ἄλλο τι κουφίζονται, ἀφείσθω· συμβαίνειν δ' οὖν φαίνεται τὸ λεχθέν. ἔοικε δ’ [35] ἡ παρουσία μικτή τις αὐτῶν εἶναι. αὐτὸ μὲν γὰρ τὸ ὁρᾶν τοὺς φίλους ἡδύ, 1171b [1] ἄλλως τε καὶ ἀτυχοῦντι, καὶ γίνεταί τις ἐπικουρία πρὸς τὸ μὴ λυπεῖσθαι (παραμυθητικὸν γὰρ ὁ φίλος καὶ τῇ ὄψει καὶ τῷ λόγῳ, ἐὰν ᾖ ἐπιδέξιος· οἶδε γὰρ τὸ ἦθος καὶ ἐφ’ οἷς ἥδεται καὶ λυπεῖται)· τὸ δὲ λυπούμενον αἰσθάνεσθαι [5] ἐπὶ ταῖς αὑτοῦ ἀτυχίαις λυπηρόν· πᾶς γὰρ φεύγει λύπης αἴτιος εἶναι τοῖς φίλοις. διόπερ οἱ μὲν ἀνδρώδεις τὴν φύσιν εὐλαβοῦνται συλλυπεῖν τοὺς φίλους αὑτοῖς, κἂν μὴ ὑπερτείνῃ τῇ ἀλυπίᾳ, τὴν ἐκείνοις γινομένην λύπην οὐχ ὑπομένει, ὅλως τε συνθρήνους οὐ προσίεται διὰ τὸ μηδ’ αὐτὸς [10] εἶναι θρηνητικός· γύναια δὲ καὶ οἱ τοιοῦτοι ἄνδρες τοῖς συστένουσι χαίρουσι, καὶ φιλοῦσιν ὡς φίλους καὶ συναλγοῦντας. μιμεῖσθαι δ’ ἐν ἅπασι δεῖ δῆλον ὅτι τὸν βελτίω. ἡ δ’ ἐν ταῖς εὐτυχίαις τῶν φίλων παρουσία τήν τε διαγωγὴν ἡδεῖαν ἔχει καὶ τὴν ἔννοιαν ὅτι ἥδονται ἐπὶ τοῖς αὑτοῦ ἀγαθοῖς.. [15] διὸ δόξειεν ἂν δεῖν εἰς μὲν τὰς εὐτυχίας καλεῖν τοὺς φίλους προθύμως (εὐεργετικὸν γὰρ εἶναι καλόν), εἰς δὲ τὰς ἀτυχίας ὀκνοῦντα· μεταδιδόναι γὰρ ὡς ἥκιστα δεῖ τῶν κακῶν, ὅθεν τὸ “ἅλις ἐγὼ δυστυχῶν.” μάλιστα δὲ παρακλητέον ὅταν μέλλωσιν ὀλίγα ὀχληθέντες μεγάλ’ αὐτὸν ὠφελήσειν. [20] ἰέναι δ’ ἀνάπαλιν ἴσως ἁρμόζει πρὸς μὲν τοὺς ἀτυχοῦντας ἄκλητον καὶ προθύμως (φίλου γὰρ εὖ ποιεῖν, καὶ μάλιστα τοὺς ἐν χρείᾳ καὶ [τὸ] μὴ ἀξιώσαντας· ἀμφοῖν γὰρ κάλλιον καὶ ἥδιον), εἰς δὲ τὰς εὐτυχίας συνεργοῦντα μὲν προθύμως (καὶ γὰρ εἰς ταῦτα χρεία φίλων), πρὸς εὐπάθειαν δὲ σχολαίως· [25] οὐ γὰρ καλὸν τὸ προθυμεῖσθαι ὠφελεῖσθαι. δόξαν δ’ ἀηδίας ἐν τῷ διωθεῖσθαι ἴσως εὐλαβητέον· ἐνίοτε γὰρ συμβαίνει. ἡ παρουσία δὴ τῶν φίλων ἐν ἅπασιν αἱρετὴ φαίνεται.

ἆρ’ οὖν, ὥσπερ τοῖς ἐρῶσι τὸ ὁρᾶν ἀγαπητότατόν ἐστι [30] καὶ μᾶλλον αἱροῦνται ταύτην τὴν αἴσθησιν ἢ τὰς λοιπὰς ὡς κατὰ ταύτην μάλιστα τοῦ ἔρωτος ὄντος καὶ γινομένου, οὕτω καὶ τοῖς φίλοις αἱρετώτατόν ἐστι τὸ συζῆν; κοινωνία γὰρ ἡ φιλία, καὶ ὡς πρὸς ἑαυτὸν ἔχει, οὕτω καὶ πρὸς τὸν φίλον· περὶ αὑτὸν δ’ ἡ αἴσθησις ὅτι ἔστιν αἱρετή, καὶ περὶ [35] τὸν φίλον δή· ἡ δ’ ἐνέργεια γίνεται αὐτῆς ἐν τῷ συζῆν, 1172a [1] ὥστ’ εἰκότως τούτου ἐφίενται. καὶ ὅ ποτ’ ἐστὶν ἑκάστοις τὸ εἶναι ἢ οὗ χάριν αἱροῦνται τὸ ζῆν, ἐν τούτῳ μετὰ τῶν φίλων βούλονται διάγειν· διόπερ οἳ μὲν συμπίνουσιν, οἳ δὲ συγκυβεύουσιν, ἄλλοι δὲ συγγυμνάζονται καὶ συγκυνηγοῦσιν [5] ἢ συμφιλοσοφοῦσιν, ἕκαστοι ἐν τούτῳ συνημερεύοντες ὅ τι περ μάλιστ’ ἀγαπῶσι τῶν ἐν τῷ βίῳ· συζῆν γὰρ βουλόμενοι μετὰ τῶν φίλων, ταῦτα ποιοῦσι καὶ τούτων κοινωνοῦσιν οἷς οἴονται συζῆν. γίνεται οὖν ἡ μὲν τῶν φαύλων φιλία μοχθηρά (κοινωνοῦσι γὰρ φαύλων ἀβέβαιοι ὄντες, καὶ μοχθηροὶ [10] δὲ γίνονται ὁμοιούμενοι ἀλλήλοις), ἡ δὲ τῶν ἐπιεικῶν ἐπιεικής, συναυξανομένη ταῖς ὁμιλίαις· δοκοῦσι δὲ καὶ βελτίους γίνεσθαι ἐνεργοῦντες καὶ διορθοῦντες ἀλλήλους· ἀπομάττονται γὰρ παρ’ ἀλλήλων οἷς ἀρέσκονται, ὅθεν “ἐσθλῶν μὲν γὰρ ἄπ’ ἐσθλά.” περὶ μὲν οὖν φιλίας ἐπὶ τοσοῦτον [15] εἰρήσθω· ἑπόμενον δ’ ἂν εἴη διελθεῖν περὶ ἡδονῆς.

Βιβλίο 10

μετὰ δὲ ταῦτα περὶ ἡδονῆς ἴσως ἕπεται διελθεῖν. [20] μάλιστα γὰρ δοκεῖ συνῳκειῶσθαι τῷ γένει ἡμῶν, διὸ παιδεύουσι τοὺς νέους οἰακίζοντες ἡδονῇ καὶ λύπῃ· δοκεῖ δὲ καὶ πρὸς τὴν τοῦ ἤθους ἀρετὴν μέγιστον εἶναι τὸ χαίρειν οἷς δεῖ καὶ μισεῖν ἃ δεῖ. διατείνει γὰρ ταῦτα διὰ παντὸς τοῦ βίου, ῥοπὴν ἔχοντα καὶ δύναμιν πρὸς ἀρετήν τε καὶ τὸν εὐδαίμονα [25] βίον· τὰ μὲν γὰρ ἡδέα προαιροῦνται, τὰ δὲ λυπηρὰ φεύγουσιν· ὑπὲρ δὲ τῶν τοιούτων ἥκιστ’ ἂν δόξειε παρετέον εἶναι, ἄλλως τε καὶ πολλὴν ἐχόντων ἀμφισβήτησιν. οἳ μὲν γὰρ τἀγαθὸν ἡδονὴν λέγουσιν, οἳ δ’ ἐξ ἐναντίας κομιδῇ φαῦλον, οἳ μὲν ἴσως πεπεισμένοι οὕτω καὶ ἔχειν, οἳ δὲ οἰόμενοι βέλτιον [30] εἶναι πρὸς τὸν βίον ἡμῶν ἀποφαίνειν τὴν ἡδονὴν τῶν φαύλων, καὶ εἰ μὴ ἐστίν· ῥέπειν γὰρ τοὺς πολλοὺς πρὸς αὐτὴν καὶ δουλεύειν ταῖς ἡδοναῖς, διὸ δεῖν εἰς τοὐναντίον ἄγειν· ἐλθεῖν γὰρ ἂν οὕτως ἐπὶ τὸ μέσον. μή ποτε δὲ οὐ καλῶς τοῦτο λέγεται. οἱ γὰρ περὶ τῶν ἐν τοῖς πάθεσι καὶ [35] ταῖς πράξεσι λόγοι ἧττόν εἰσι πιστοὶ τῶν ἔργων· ὅταν οὖν διαφωνῶσι τοῖς κατὰ τὴν αἴσθησιν, καταφρονούμενοι καὶ τἀληθὲς προσαναιροῦσιν· 1172b [1] ὁ γὰρ ψέγων τὴν ἡδονήν, ὀφθείς ποτ’ ἐφιέμενος, ἀποκλίνειν δοκεῖ πρὸς αὐτὴν ὡς τοιαύτην οὖσαν ἅπασαν· τὸ διορίζειν γὰρ οὐκ ἔστι τῶν πολλῶν. ἐοίκασιν οὖν οἱ ἀληθεῖς τῶν λόγων οὐ μόνον πρὸς τὸ εἰδέναι [5] χρησιμώτατοι εἶναι, ἀλλὰ καὶ πρὸς τὸν βίον· συνῳδοὶ γὰρ ὄντες τοῖς ἔργοις πιστεύονται, διὸ προτρέπονται τοὺς συνιέντας ζῆν κατ’ αὐτούς. τῶν μὲν οὖν τοιούτων ἅλις· τὰ δ’ εἰρημένα περὶ τῆς ἡδονῆς ἐπέλθωμεν.

εὔδοξος μὲν οὖν τὴν ἡδονὴν τἀγαθὸν ᾤετ’ εἶναι διὰ τὸ [10] πάνθ’ ὁρᾶν ἐφιέμενα αὐτῆς, καὶ ἔλλογα καὶ ἄλογα, ἐν πᾶσι δ’ εἶναι τὸ αἱρετὸν τὸ ἐπιεικές, καὶ τὸ μάλιστα κράτιστον· τὸ δὴ πάντ’ ἐπὶ ταὐτὸ φέρεσθαι μηνύειν ὡς πᾶσι τοῦτο ἄριστον ὄν (ἕκαστον γὰρ τὸ αὑτῷ ἀγαθὸν εὑρίσκειν, ὥσπερ καὶ τροφήν), τὸ δὲ πᾶσιν ἀγαθόν, καὶ οὗ πάντ’ ἐφίεται, τἀγαθὸν [15] εἶναι. ἐπιστεύοντο δ’ οἱ λόγοι διὰ τὴν τοῦ ἤθους ἀρετὴν μᾶλλον ἢ δι’ αὑτούς· διαφερόντως γὰρ ἐδόκει σώφρων εἶναι· οὐ δὴ ὡς φίλος τῆς ἡδονῆς ἐδόκει ταῦτα λέγειν, ἀλλ’ οὕτως ἔχειν κατ’ ἀλήθειαν. οὐχ ἧττον δ’ ᾤετ’ εἶναι φανερὸν ἐκ τοῦ ἐναντίου· τὴν γὰρ λύπην καθ’ αὑτὸ πᾶσι φευκτὸν εἶναι, [20] ὁμοίως δὴ τοὐναντίον αἱρετόν· μάλιστα δ’ εἶναι αἱρετὸν ὃ μὴ δι’ ἕτερον μηδ’ ἑτέρου χάριν αἱρούμεθα· τοιοῦτο δ’ ὁμολογουμένως εἶναι τὴν ἡδονήν· οὐδένα γὰρ ἐπερωτᾶν τίνος ἕνεκα ἥδεται, ὡς καθ’ αὑτὴν οὖσαν αἱρετὴν τὴν ἡδονήν. προστιθεμένην τε ὁτῳοῦν τῶν ἀγαθῶν αἱρετώτερον ποιεῖν, οἷον τῷ [25] δικαιοπραγεῖν καὶ σωφρονεῖν, αὔξεσθαι δὲ τὸ ἀγαθὸν αὑτῷ. ἔοικε δὴ οὗτός γε ὁ λόγος τῶν ἀγαθῶν αὐτὴν ἀποφαίνειν, καὶ οὐδὲν μᾶλλον ἑτέρου· πᾶν γὰρ μεθ’ ἑτέρου ἀγαθοῦ αἱρετώτερον ἢ μονούμενον. τοιούτῳ δὴ λόγῳ καὶ Πλάτων ἀναιρεῖ ὅτι οὐκ ἔστιν ἡδονὴ τἀγαθόν· αἱρετώτερον γὰρ εἶναι [30] τὸν ἡδὺν βίον μετὰ φρονήσεως ἢ χωρίς, εἰ δὲ τὸ μικτὸν κρεῖττον, οὐκ εἶναι τὴν ἡδονὴν τἀγαθόν· οὐδενὸς γὰρ προστεθέντος αὐτῷ τἀγαθὸν αἱρετώτερον γίνεσθαι. δῆλον δ’ ὡς οὐδ’ ἄλλο οὐδὲν τἀγαθὸν ἂν εἴη, ὃ μετά τινος τῶν καθ’ αὑτὸ ἀγαθῶν αἱρετώτερον γίνεται. τί οὖν ἐστὶ τοιοῦτον, οὗ καὶ [35] ἡμεῖς κοινωνοῦμεν; τοιοῦτον γὰρ ἐπιζητεῖται. οἱ δ’ ἐνιστάμενοι ὡς οὐκ ἀγαθὸν οὗ πάντ’ ἐφίεται, μὴ οὐθὲν λέγουσιν. 1173a [1] ἃ γὰρ πᾶσι δοκεῖ, ταῦτ’ εἶναί φαμεν· ὁ δ’ ἀναιρῶν ταύτην τὴν πίστιν οὐ πάνυ πιστότερα ἐρεῖ. εἰ μὲν γὰρ τὰ ἀνόητα ὀρέγεται αὐτῶν, ἦν ἄν τι λεγόμενον, εἰ δὲ καὶ τὰ φρόνιμα, πῶς λέγοιεν ἄν τι; ἴσως δὲ καὶ ἐν τοῖς φαύλοις ἔστι τι φυσικὸν ἀγαθὸν [5] κρεῖττον ἢ καθ’ αὑτά, ὃ ἐφίεται τοῦ οἰκείου ἀγαθοῦ. οὐκ ἔοικε δὲ οὐδὲ περὶ τοῦ ἐναντίου καλῶς λέγεσθαι. οὐ γάρ φασιν, εἰ ἡ λύπη κακόν ἐστι, τὴν ἡδονὴν ἀγαθὸν εἶναι· ἀντικεῖσθαι γὰρ καὶ κακὸν κακῷ καὶ ἄμφω τῷ μηδετέρῳ — λέγοντες ταῦτα οὐ κακῶς, οὐ μὴν ἐπί γε τῶν εἰρημένων ἀληθεύοντες. [10] ἀμφοῖν γὰρ ὄντοιν <τῶν> κακῶν καὶ φευκτὰ ἔδει ἄμφω εἶναι, τῶν μηδετέρων δὲ μηδέτερον ἢ ὁμοίως· νῦν δὲ φαίνονται τὴν μὲν φεύγοντες ὡς κακόν, τὴν δ’ αἱρούμενοι ὡς ἀγαθόν· οὕτω δὴ καὶ ἀντίκειται. οὐ μὴν οὐδ’ εἰ μὴ τῶν ποιοτήτων ἐστὶν ἡ ἡδονή, διὰ τοῦτ’ οὐδὲ τῶν ἀγαθῶν· οὐδὲ γὰρ αἱ τῆς [15] ἀρετῆς ἐνέργειαι ποιότητές εἰσιν, οὐδ’ ἡ εὐδαιμονία. λέγουσι δὲ τὸ μὲν ἀγαθὸν ὡρίσθαι, τὴν δ’ ἡδονὴν ἀόριστον εἶναι, ὅτι δέχεται τὸ μᾶλλον καὶ [τὸ] ἧττον. εἰ μὲν οὖν ἐκ τοῦ ἥδεσθαι τοῦτο κρίνουσι, καὶ περὶ τὴν δικαιοσύνην καὶ τὰς ἄλλας ἀρετάς, καθ’ ἃς ἐναργῶς φασὶ μᾶλλον καὶ ἧττον τοὺς ποιοὺς ὑπάρχειν [20] καὶ <πράττειν> κατὰ τὰς ἀρετάς, ἔσται ταὐτά· δίκαιοι γάρ εἰσι μᾶλλον καὶ ἀνδρεῖοι, ἔστι δὲ καὶ δικαιοπραγεῖν καὶ σωφρονεῖν μᾶλλον καὶ ἧττον. εἰ δὲ ταῖς ἡδοναῖς, μή ποτ’ οὐ λέγουσι τὸ αἴτιον, ἂν ὦσιν αἳ μὲν ἀμιγεῖς αἳ δὲ μικταί. καὶ τί κωλύει, καθάπερ ὑγίεια ὡρισμένη οὖσα δέχεται τὸ μᾶλλον [25] καὶ [τὸ] ἧττον, οὕτω καὶ τὴν ἡδονήν; οὐ γὰρ ἡ αὐτὴ συμμετρία ἐν πᾶσίν ἐστιν, οὐδ’ ἐν τῷ αὐτῷ μία τις ἀεί, ἀλλ’ ἀνιεμένη διαμένει ἕως τινός, καὶ διαφέρει τῷ μᾶλλον καὶ ἧττον. τοιοῦτον δὴ καὶ τὸ περὶ τὴν ἡδονὴν ἐνδέχεται εἶναι. τέλειόν τε τἀγαθὸν τιθέντες, τὰς δὲ κινήσεις καὶ τὰς γενέσεις [30] ἀτελεῖς, τὴν ἡδονὴν κίνησιν καὶ γένεσιν ἀποφαίνειν πειρῶνται. οὐ καλῶς δ᾽ ἐοίκασι λέγειν οὐδ᾽ εἶναι κίνησιν. πάσῃ γὰρ οἰκεῖον εἶναι δοκεῖ τάχος καὶ βραδυτής, καὶ εἰ μὴ καθ᾽ αὑτήν, οἷον τῇ τοῦ κόσμου, πρὸς ἄλλο· τῇ δ᾽ ἡδονῇ τούτων οὐδέτερον ὑπάρχει. ἡσθῆναι μὲν γὰρ ἔστι ταχέως ὥσπερ ὀργισθῆναι, 1173b [1] ἥδεσθαι δ᾽ οὔ, οὐδὲ πρὸς ἕτερον, βαδίζειν δὲ καὶ αὔξεσθαι καὶ πάντα τὰ τοιαῦτα. μεταβάλλειν μὲν οὖν εἰς τὴν ἡδονὴν ταχέως καὶ βραδέως ἔστιν, ἐνεργεῖν δὲ κατ᾽ αὐτὴν οὐκ ἔστι ταχέως, λέγω δ᾽ ἥδεσθαι. γένεσίς τε πῶς ἂν εἴη; [5] δοκεῖ γὰρ οὐκ ἐκ τοῦ τυχόντος τὸ τυχὸν γίνεσθαι, ἀλλ᾽ ἐξ οὗ γίνεται, εἰς τοῦτο διαλύεσθαι· καὶ οὗ γένεσις ἡ ἡδονή, τούτου ἡ λύπη φθορά. καὶ λέγουσι δὲ τὴν μὲν λύπην ἔνδειαν τοῦ κατὰ φύσιν εἶναι, τὴν δ᾽ ἡδονὴν ἀναπλήρωσιν. ταῦτα δὲ σωματικά ἐστι τὰ πάθη. εἰ δή ἐστι τοῦ κατὰ φύσιν ἀναπλήρωσις [10] ἡ ἡδονή, ἐν ᾧ ἡ ἀναπλήρωσις, τοῦτ᾽ ἂν καὶ ἥδοιτο· τὸ σῶμα ἄρα· οὐ δοκεῖ δέ· οὐδ᾽ ἔστιν ἄρα ἡ ἀναπλήρωσις ἡδονή, ἀλλὰ γινομένης μὲν ἀναπληρώσεως ἥδοιτ᾽ ἄν τις, καὶ †τεμνόμενος† λυποῖτο. ἡ δόξα δ᾽ αὕτη δοκεῖ γεγενῆσθαι ἐκ τῶν περὶ τὴν τροφὴν λυπῶν καὶ ἡδονῶν· ἐνδεεῖς γὰρ γενομένους [15] καὶ προλυπηθέντας ἥδεσθαι τῇ ἀναπληρώσει. τοῦτο δ᾽ οὐ περὶ πάσας συμβαίνει τὰς ἡδονάς· ἄλυποι γάρ εἰσιν αἵ τε μαθηματικαὶ καὶ τῶν κατὰ τὰς αἰσθήσεις αἱ διὰ τῆς ὀσφρήσεως, καὶ ἀκροάματα δὲ καὶ ὁράματα πολλὰ καὶ μνῆμαι καὶ ἐλπίδες. τίνος οὖν αὗται γενέσεις ἔσονται; οὐδενὸς [20] γὰρ ἔνδεια γεγένηται, οὗ γένοιτ᾽ ἂν ἀναπλήρωσις. πρὸς δὲ τοὺς προφέροντας τὰς ἐπονειδίστους τῶν ἡδονῶν λέγοι τις ἂν ὅτι οὐκ ἔστι ταῦθ᾽ ἡδέα (οὐ γὰρ εἰ τοῖς κακῶς διακειμένοις ἡδέα ἐστίν, οἰητέον αὐτὰ καὶ ἡδέα εἶναι πλὴν τούτοις, καθάπερ οὐδὲ τὰ τοῖς κάμνουσιν ὑγιεινὰ ἢ γλυκέα ἢ πικρά, οὐδ᾽ αὖ [25] λευκὰ τὰ φαινόμενα τοῖς ὀφθαλμιῶσιν)· ἢ οὕτω λέγοι τις ἄν, ὅτι αἱ μὲν ἡδοναὶ αἱρεταί εἰσιν, οὐ μὴν ἀπό γε τούτων, ὥσπερ καὶ τὸ πλουτεῖν, προδόντι δ᾽ οὔ, καὶ τὸ ὑγιαίνειν, οὐ μὴν ὁτιοῦν φαγόντι· ἢ τῷ εἴδει διαφέρουσιν αἱ ἡδοναί· ἕτεραι γὰρ αἱ ἀπὸ τῶν καλῶν τῶν ἀπὸ τῶν αἰσχρῶν, καὶ οὐκ ἔστιν ἡσθῆναι [30] τὴν τοῦ δικαίου μὴ ὄντα δίκαιον οὐδὲ τὴν τοῦ μουσικοῦ μὴ ὄντα μουσικόν, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ἐμφανίζειν δὲ δοκεῖ καὶ ὁ φίλος ἕτερος ὢν τοῦ κόλακος οὐκ οὖσαν ἀγαθὸν τὴν ἡδονὴν ἢ διαφόρους εἴδει· ὃ μὲν γὰρ πρὸς τἀγαθὸν ὁμιλεῖν δοκεῖ, ὃ δὲ πρὸς ἡδονήν, καὶ τῷ μὲν ὀνειδίζεται, τὸν δ᾽ ἐπαινοῦσιν ὡς πρὸς ἕτερα ὁμιλοῦντα.

1174a [1] οὐδείς τ᾽ ἂν ἕλοιτο ζῆν παιδίου διάνοιαν ἔχων διὰ βίου, ἡδόμενος ἐφ’ οἷς τὰ παιδία ὡς οἷόν τε μάλιστα, οὐδὲ χαίρειν ποιῶν τι τῶν αἰσχίστων, μηδέποτε μέλλων λυπηθῆναι. περὶ πολλά τε σπουδὴν ποιησαίμεθ’ [5] ἂν καὶ εἰ μηδεμίαν ἐπιφέροι ἡδονήν, οἷον ὁρᾶν, μνημονεύειν, εἰδέναι, τὰς ἀρετὰς ἔχειν. εἰ δ’ ἐξ ἀνάγκης ἕπονται τούτοις ἡδοναί, οὐδὲν διαφέρει· ἑλοίμεθα γὰρ ἂν ταῦτα καὶ εἰ μὴ γίνοιτ’ ἀπ’ αὐτῶν ἡδονή. ὅτι μὲν οὖν οὔτε τἀγαθὸν ἡ ἡδονὴ οὔτε πᾶσα αἱρετή, δῆλον ἔοικεν εἶναι, καὶ [10] ὅτι εἰσί τινες αἱρεταὶ καθ’ αὑτὰς διαφέρουσαι τῷ εἴδει ἢ ἀφ’ ὧν. τὰ μὲν οὖν λεγόμενα περὶ τῆς ἡδονῆς καὶ λύπης ἱκανῶς εἰρήσθω.

τί δ’ ἐστὶν ἢ ποῖόν τι, καταφανέστερον γένοιτ’ ἂν ἀπ’ ἀρχῆς ἀναλαβοῦσιν. δοκεῖ γὰρ ἡ μὲν ὅρασις καθ’ ὁντινοῦν [15] χρόνον τελεία εἶναι· οὐ γάρ ἐστιν ἐνδεὴς οὐδενὸς ὃ εἰς ὕστερον γινόμενον τελειώσει αὐτῆς τὸ εἶδος· τοιούτῳ δ’ ἔοικε καὶ ἡ ἡδονή. ὅλον γάρ τι ἐστί, καὶ κατ’ οὐδένα χρόνον λάβοι τις ἂν ἡδονὴν ἧς ἐπὶ πλείω χρόνον γινομένης τελειωθήσεται τὸ εἶδος. διόπερ οὐδὲ κίνησίς ἐστιν. ἐν χρόνῳ γὰρ πᾶσα κίνησις [20] καὶ τέλους τινός, οἷον ἡ οἰκοδομική, καὶ τελεία ὅταν ποιήσῃ οὗ ἐφίεται. ἢ ἐν ἅπαντι δὴ τῷ χρόνῳ ἢ τούτῳ. ἐν δὲ τοῖς μέρεσι καὶ τῷ χρόνῳ πᾶσαι ἀτελεῖς, καὶ ἕτεραι τῷ εἴδει τῆς ὅλης καὶ ἀλλήλων. ἡ γὰρ τῶν λίθων σύνθεσις ἑτέρα τῆς τοῦ κίονος ῥαβδώσεως, καὶ αὗται τῆς τοῦ ναοῦ ποιήσεως· καὶ [25] ἡ μὲν τοῦ ναοῦ τελεία (οὐδενὸς γὰρ ἐνδεὴς πρὸς τὸ προκείμενον), ἡ δὲ τῆς κρηπῖδος καὶ τοῦ τριγλύφου ἀτελής· μέρους γὰρ ἑκατέρα. τῷ εἴδει οὖν διαφέρουσι, καὶ οὐκ ἔστιν ἐν ὁτῳοῦν χρόνῳ λαβεῖν κίνησιν τελείαν τῷ εἴδει, ἀλλ’ εἴπερ, ἐν τῷ ἅπαντι. ὁμοίως δὲ καὶ ἐπὶ βαδίσεως καὶ τῶν λοιπῶν. εἰ [30] γάρ ἐστιν ἡ φορὰ κίνησις πόθεν ποῖ, καὶ ταύτης διαφοραὶ κατ’ εἴδη, πτῆσις βάδισις ἅλσις καὶ τὰ τοιαῦτα. οὐ μόνον δ’ οὕτως, ἀλλὰ καὶ ἐν αὐτῇ τῇ βαδίσει· τὸ γὰρ πόθεν ποῖ οὐ τὸ αὐτὸ ἐν τῷ σταδίῳ καὶ ἐν τῷ μέρει, καὶ ἐν ἑτέρῳ μέρει καὶ ἐν ἑτέρῳ, οὐδὲ τὸ διεξιέναι τὴν γραμμὴν τήνδε κἀκείνην· 1174b [1] οὐ μόνον γὰρ γραμμὴν διαπορεύεται, ἀλλὰ καὶ ἐν τόπῳ οὖσαν, ἐν ἑτέρῳ δ’ αὕτη ἐκείνης. δι’ ἀκριβείας μὲν οὖν περὶ κινήσεως ἐν ἄλλοις εἴρηται, ἔοικε δ’ οὐκ ἐν ἅπαντι χρόνῳ τελεία εἶναι, ἀλλ’ αἱ πολλαὶ ἀτελεῖς καὶ διαφέρουσαι τῷ [5] εἴδει, εἴπερ τὸ πόθεν ποῖ εἰδοποιόν. τῆς ἡδονῆς δ’ ἐν ὁτῳοῦν χρόνῳ τέλειον τὸ εἶδος. δῆλον οὖν ὡς ἕτεραί τ’ ἂν εἶεν ἀλλήλων, καὶ τῶν ὅλων τι καὶ τελείων ἡ ἡδονή. δόξειε δ’ ἂν τοῦτο καὶ ἐκ τοῦ μὴ ἐνδέχεσθαι κινεῖσθαι μὴ ἐν χρόνῳ, ἥδεσθαι δέ· τὸ γὰρ ἐν τῷ νῦν ὅλον τι. ἐκ τούτων δὲ δῆλον καὶ [10] ὅτι οὐ καλῶς λέγουσι κίνησιν ἢ γένεσιν εἶναι τὴν ἡδονήν. οὐ γὰρ πάντων ταῦτα λέγεται, ἀλλὰ τῶν μεριστῶν καὶ μὴ ὅλων· οὐδὲ γὰρ ὁράσεώς ἐστι γένεσις οὐδὲ στιγμῆς οὐδὲ μονάδος, οὐδὲ τούτων οὐθὲν κίνησις οὐδὲ γένεσις· οὐδὲ δὴ ἡδονῆς· ὅλον γάρ τι. αἰσθήσεως δὲ πάσης πρὸς τὸ αἰσθητὸν ἐνεργούσης, [15] τελείως δὲ τῆς εὖ διακειμένης πρὸς τὸ κάλλιστον τῶν ὑπὸ τὴν αἴσθησιν ·τοιοῦτον γὰρ μάλιστ’ εἶναι δοκεῖ ἡ τελεία ἐνέργεια· αὐτὴν δὲ λέγειν ἐνεργεῖν, ἢ ἐν ᾧ ἐστί, μηθὲν διαφερέτὼ, καθ’ ἑκάστην δὴ βελτίστη ἐστὶν ἡ ἐνέργεια τοῦ ἄριστα διακειμένου πρὸς τὸ κράτιστον τῶν ὑπ’ αὐτήν. αὕτη δ’ ἂν [20] τελειοτάτη εἴη καὶ ἡδίστη. κατὰ πᾶσαν γὰρ αἴσθησίν ἐστιν ἡδονή, ὁμοίως δὲ καὶ διάνοιαν καὶ θεωρίαν, ἡδίστη δ’ ἡ τελειοτάτη, τελειοτάτη δ’ ἡ τοῦ εὖ ἔχοντος πρὸς τὸ σπουδαιότατον τῶν ὑπ’ αὐτήν· τελειοῖ δὲ τὴν ἐνέργειαν ἡ ἡδονή. οὐ τὸν αὐτὸν δὲ τρόπον ἥ τε ἡδονὴ τελειοῖ καὶ τὸ αἰσθητόν τε [25] καὶ ἡ αἴσθησις, σπουδαῖα ὄντα, ὥσπερ οὐδ’ ἡ ὑγίεια καὶ ὁ ἰατρὸς ὁμοίως αἰτία ἐστὶ τοῦ ὑγιαίνειν. καθ’ ἑκάστην δ’ αἴσθησιν ὅτι γίνεται ἡδονή, δῆλον (φαμὲν γὰρ ὁράματα καὶ ἀκούσματα εἶναι ἡδέα)· δῆλον δὲ καὶ ὅτι μάλιστα, ἐπειδὰν ἥ τε αἴσθησις ᾖ κρατίστη καὶ πρὸς τοιοῦτον ἐνεργῇ· τοιούτων δ’ [30] ὄντων τοῦ τε αἰσθητοῦ καὶ τοῦ αἰσθανομένου, ἀεὶ ἔσται ἡδονὴ ὑπάρχοντός γε τοῦ τε ποιήσοντος καὶ τοῦ πεισομένου. τελειοῖ δὲ τὴν ἐνέργειαν ἡ ἡδονὴ οὐχ ὡς ἡ ἕξις ἐνυπάρχουσα, ἀλλ’ ὡς ἐπιγινόμενόν τι τέλος, οἷον τοῖς ἀκμαίοις ἡ ὥρα. ἕως ἂν οὖν τό τε νοητὸν ἢ αἰσθητὸν ᾖ οἷον δεῖ καὶ τὸ κρῖνον ἢ θεωροῦν, 1175a [1] ἔσται ἐν τῇ ἐνεργείᾳ ἡ ἡδονή· ὁμοίων γὰρ ὄντων καὶ πρὸς ἄλληλα τὸν αὐτὸν τρόπον ἐχόντων τοῦ τε παθητικοῦ καὶ τοῦ ποιητικοῦ ταὐτὸ πέφυκε γίνεσθαι. πῶς οὖν οὐδεὶς συνεχῶς ἥδεται; ἢ κάμνει; πάντα γὰρ τὰ ἀνθρώπεια ἀδυνατεῖ [5] συνεχῶς ἐνεργεῖν. οὐ γίνεται οὖν οὐδ’ ἡδονή· ἕπεται γὰρ τῇ ἐνεργείᾳ. ἔνια δὲ τέρπει καινὰ ὄντα, ὕστερον δὲ οὐχ ὁμοίως διὰ ταὐτό· τὸ μὲν γὰρ πρῶτον παρακέκληται ἡ διάνοια καὶ διατεταμένως περὶ αὐτὰ ἐνεργεῖ, ὥσπερ κατὰ τὴν ὄψιν οἱ ἐμβλέποντες, μετέπειτα δ’ οὐ τοιαύτη ἡ ἐνέργεια ἀλλὰ [10] παρημελημένη· διὸ καὶ ἡ ἡδονὴ ἀμαυροῦται. ὀρέγεσθαι δὲ τῆς ἡδονῆς οἰηθείη τις ἂν ἅπαντας, ὅτι καὶ τοῦ ζῆν ἅπαντες ἐφίενται· ἡ δὲ ζωὴ ἐνέργειά τις ἐστί, καὶ ἕκαστος περὶ ταῦτα καὶ τούτοις ἐνεργεῖ ἃ καὶ μάλιστ’ ἀγαπᾷ, οἷον ὁ μὲν μουσικὸς τῇ ἀκοῇ περὶ τὰ μέλη, ὁ δὲ φιλομαθὴς τῇ διανοίᾳ περὶ τὰ [15] θεωρήματα, οὕτω δὲ καὶ τῶν λοιπῶν ἕκαστος· ἡ δ’ ἡδονὴ τελειοῖ τὰς ἐνεργείας, καὶ τὸ ζῆν δή, οὗ ὀρέγονται. εὐλόγως οὖν καὶ τῆς ἡδονῆς ἐφίενται· τελειοῖ γὰρ ἑκάστῳ τὸ ζῆν, αἱρετὸν ὄν. πότερον δὲ διὰ τὴν ἡδονὴν τὸ ζῆν αἱρούμεθα ἢ διὰ τὸ ζῆν τὴν ἡδονήν, ἀφείσθω ἐν τῷ παρόντι. συνεζεῦχθαι μὲν γὰρ ταῦτα [20] φαίνεται καὶ χωρισμὸν οὐ δέχεσθαι· ἄνευ τε γὰρ ἐνεργείας οὐ γίνεται ἡδονή, πᾶσάν τε ἐνέργειαν τελειοῖ ἡ ἡδονή. ὅθεν δοκοῦσι καὶ τῷ εἴδει διαφέρειν. τὰ γὰρ ἕτερα τῷ εἴδει ὑφ’ ἑτέρων οἰόμεθα τελειοῦσθαι (οὕτω γὰρ φαίνεται καὶ τὰ φυσικὰ καὶ τὰ ὑπὸ τέχνης, οἷον ζῷα καὶ δένδρα καὶ γραφὴ καὶ ἄγαλμα [25] καὶ οἰκία καὶ σκεῦος)· ὁμοίως δὲ καὶ τὰς ἐνεργείας τὰς διαφερούσας τῷ εἴδει ὑπὸ διαφερόντων εἴδει τελειοῦσθαι. διαφέρουσι δ' αἱ τῆς διανοίας τῶν κατὰ τὰς αἰσθήσεις καὶ αὐταὶ ἀλλήλων κατ' εἶδος· καὶ αἱ τελειοῦσαι δὴ ἡδοναί. φανείη δ' ἂν τοῦτο καὶ ἐκ τοῦ συνῳκειῶσθαι τῶν ἡδονῶν ἑκάστην [30] τῇ ἐνεργείᾳ ἣν τελειοῖ. συναύξει γὰρ τὴν ἐνέργειαν ἡ οἰκεία ἡδονή. μᾶλλον γὰρ ἕκαστα κρίνουσι καὶ ἐξακριβοῦσιν οἱ μεθ' ἡδονῆς ἐνεργοῦντες, οἷον γεωμετρικοὶ γίνονται οἱ χαίροντες τῷ γεωμετρεῖν, καὶ κατανοοῦσιν ἕκαστα μᾶλλον, ὁμοίως δὲ καὶ οἱ φιλόμουσοι καὶ φιλοικοδόμοι καὶ τῶν ἄλλων [35] ἕκαστοι ἐπιδιδόασιν εἰς τὸ οἰκεῖον ἔργον χαίροντες αὐτῷ· συναύξουσι δὲ αἱ ἡδοναί, τὰ δὲ συναύξοντα οἰκεῖα· 1175b [1] τοῖς ἑτέροις δὲ τῷ εἴδει καὶ τὰ οἰκεῖα ἕτερα τῷ εἴδει. ἔτι δὲ μᾶλλον τοῦτ' ἂν φανείη ἐκ τοῦ τὰς ἀφ' ἑτέρων ἡδονὰς ἐμποδίους ταῖς ἐνεργείαις εἶναι. οἱ γὰρ φίλαυλοι ἀδυνατοῦσι τοῖς λόγοις προσέχειν, ἐὰν κατακούσωσιν αὐλοῦντος, μᾶλλον χαίροντες [5] αὐλητικῇ τῆς παρούσης ἐνεργείας· ἡ κατὰ τὴν αὐλητικὴν οὖν ἡδονὴ τὴν περὶ τὸν λόγον ἐνέργειαν φθείρει. ὁμοίως δὲ τοῦτο καὶ ἐπὶ τῶν ἄλλων συμβαίνει, ὅταν ἅμα περὶ δύο ἐνεργῇ· ἡ γὰρ ἡδίων τὴν ἑτέραν ἐκκρούει, κἂν πολὺ διαφέρῃ κατὰ τὴν ἡδονήν, μᾶλλον, ὥστε μηδ' ἐνεργεῖν κατὰ [10] τὴν ἑτέραν. διὸ χαίροντες ὁτῳοῦν σφόδρα οὐ πάνυ δρῶμεν ἕτερον, καὶ ἄλλα ποιοῦμεν ἄλλοις ἠρέμα ἀρεσκόμενοι, οἷον καὶ ἐν τοῖς θεάτροις οἱ τραγηματίζοντες, ὅταν φαῦλοι οἱ ἀγωνιζόμενοι ὦσι, τότε μάλιστ' αὐτὸ δρῶσιν. ἐπεὶ δ' ἡ μὲν οἰκεία ἡδονὴ ἐξακριβοῖ τὰς ἐνεργείας καὶ χρονιωτέρας καὶ [15] βελτίους ποιεῖ, αἱ δ' ἀλλότριαι λυμαίνονται, δῆλον ὡς πολὺ διεστᾶσιν. σχεδὸν γὰρ αἱ ἀλλότριαι ἡδοναὶ ποιοῦσιν ὅπερ αἱ οἰκεῖαι λῦπαι· φθείρουσι γὰρ τὰς ἐνεργείας αἱ οἰκεῖαι λῦπαι, οἷον εἴ τῳ τὸ γράφειν ἀηδὲς καὶ ἐπίλυπον ἢ τὸ λογίζεσθαι· ὃ μὲν γὰρ οὐ γράφει, ὃ δ' οὐ λογίζεται, λυπηρᾶς οὔσης τῆς [20] ἐνεργείας. συμβαίνει δὴ περὶ τῆς ἐνεργείας τοὐναντίον ἀπὸ τῶν οἰκείων ἡδονῶν τε καὶ λυπῶν· οἰκεῖαι δ' εἰσὶν αἱ ἐπὶ τῇ ἐνεργείᾳ καθ' αὑτὴν γινόμεναι. αἱ δ' ἀλλότριαι ἡδοναὶ εἴρηται ὅτι παραπλήσιόν τι τῇ λύπῃ ποιοῦσιν· φθείρουσι γάρ, πλὴν οὐχ ὁμοίως. διαφερουσῶν δὲ τῶν ἐνεργειῶν ἐπιεικείᾳ [25] καὶ φαυλότητι, καὶ τῶν μὲν αἱρετῶν οὐσῶν τῶν δὲ φευκτῶν τῶν δ' οὐδετέρων, ὁμοίως ἔχουσι καὶ αἱ ἡδοναί· καθ' ἑκάστην γὰρ ἐνέργειαν οἰκεία ἡδονὴ ἔστιν. ἡ μὲν οὖν τῇ σπουδαίᾳ οἰκεία ἐπιεικής, ἡ δὲ τῇ φαύλῃ μοχθηρά· καὶ γὰρ αἱ ἐπιθυμίαι τῶν μὲν καλῶν ἐπαινεταί, τῶν δ' αἰσχρῶν ψεκταί. [30] οἰκειότεραι δὲ ταῖς ἐνεργείαις αἱ ἐν αὐταῖς ἡδοναὶ τῶν ὀρέξεων· αἳ μὲν γὰρ διωρισμέναι εἰσὶ καὶ τοῖς χρόνοις καὶ τῇ φύσει, αἳ δὲ σύνεγγυς ταῖς ἐνεργείαις, καὶ ἀδιόριστοι οὕτως ὥστ᾽ ἔχειν ἀμφισβήτησιν εἰ ταὐτόν ἐστιν ἡ ἐνέργεια τῇ ἡδονῇ. οὐ μὴν ἔοικέ γε ἡ ἡδονὴ διάνοια εἶναι οὐδ᾽ αἴσθησις (ἄτοπον [35] γάρ), ἀλλὰ διὰ τὸ μὴ χωρίζεσθαι φαίνεταί τισι ταὐτόν. ὥσπερ οὖν αἱ ἐνέργειαι ἕτεραι, καὶ αἱ ἡδοναί. 1176a [1] διαφέρει δὲ ἡ ὄψις ἁφῆς καθαρειότητι, καὶ ἀκοὴ καὶ ὄσφρησις γεύσεως· ὁμοίως δὴ διαφέρουσι καὶ αἱ ἡδοναί, καὶ τούτων αἱ περὶ τὴν διάνοιαν, καὶ ἑκάτεραι ἀλλήλων. δοκεῖ δ᾽ εἶναι ἑκάστῳ ζῴῳ καὶ ἡδονὴ οἰκεία, ὥσπερ καὶ ἔργον· ἡ γὰρ κατὰ τὴν ἐνέργειαν. [5] καὶ ἐφ᾽ ἑκάστῳ δὲ θεωροῦντι τοῦτ᾽ ἂν φανείη· ἑτέρα γὰρ ἵππου ἡδονὴ καὶ κυνὸς καὶ ἀνθρώπου, καθάπερ Ἡράκλειτός φησιν ὄνους σύρματ᾽ ἂν ἑλέσθαι μᾶλλον ἢ χρυσόν· ἥδιον γὰρ χρυσοῦ τροφὴ ὄνοις. αἱ μὲν οὖν τῶν ἑτέρων τῷ εἴδει διαφέρουσιν εἴδει, τὰς δὲ τῶν αὐτῶν ἀδιαφόρους εὔλογον εἶναι. [10] διαλλάττουσι δ᾽ οὐ σμικρὸν ἐπί γε τῶν ἀνθρώπων· τὰ γὰρ αὐτὰ τοὺς μὲν τέρπει τοὺς δὲ λυπεῖ, καὶ τοῖς μὲν λυπηρὰ καὶ μισητά ἐστι τοῖς δὲ ἡδέα καὶ φιλητά. καὶ ἐπὶ γλυκέων δὲ τοῦτο συμβαίνει· οὐ γὰρ τὰ αὐτὰ δοκεῖ τῷ πυρέττοντι καὶ τῷ ὑγιαίνοντι, οὐδὲ θερμὸν εἶναι τῷ ἀσθενεῖ καὶ τῷ [15] εὐεκτικῷ. ὁμοίως δὲ τοῦτο καὶ ἐφ᾽ ἑτέρων συμβαίνει. δοκεῖ δ᾽ ἐν ἅπασι τοῖς τοιούτοις εἶναι τὸ φαινόμενον τῷ σπουδαίῳ. εἰ δὲ τοῦτο καλῶς λέγεται, καθάπερ δοκεῖ, καὶ ἔστιν ἑκάστου μέτρον ἡ ἀρετὴ καὶ ἀγαθός, ᾗ τοιοῦτος, καὶ ἡδοναὶ εἶεν ἂν αἱ τούτῳ φαινόμεναι καὶ ἡδέα οἷς οὗτος χαίρει. [20] τὰ δὲ τούτῳ δυσχερῆ εἴ τῳ φαίνεται ἡδέα, οὐδὲν θαυμαστόν· πολλαὶ γὰρ φθοραὶ καὶ λῦμαι ἀνθρώπων γίνονται· ἡδέα δ᾽ οὐκ ἔστιν, ἀλλὰ τούτοις καὶ οὕτω διακειμένοις. τὰς μὲν οὖν ὁμολογουμένως αἰσχρὰς δῆλον ὡς οὐ φατέον ἡδονὰς εἶναι, πλὴν τοῖς διεφθαρμένοις· τῶν δ᾽ ἐπιεικῶν εἶναι δοκουσῶν ποίαν ἢ [25] τίνα φατέον τοῦ ἀνθρώπου εἶναι; ἢ ἐκ τῶν ἐνεργειῶν δῆλον; ταύταις γὰρ ἕπονται αἱ ἡδοναί. εἴτ᾽ οὖν μία ἐστὶν εἴτε πλείους αἱ τοῦ τελείου καὶ μακαρίου ἀνδρός, αἱ ταύτας τελειοῦσαι ἡδοναὶ κυρίως λέγοιντ᾽ ἂν ἀνθρώπου ἡδοναὶ εἶναι, αἱ δὲ λοιπαὶ δευτέρως καὶ πολλοστῶς, ὥσπερ αἱ ἐνέργειαι.

[30] εἰρημένων δὲ τῶν περὶ τὰς ἀρετάς τε καὶ φιλίας καὶ ἡδονάς, λοιπὸν περὶ εὐδαιμονίας τύπῳ διελθεῖν, ἐπειδὴ τέλος αὐτὴν τίθεμεν τῶν ἀνθρωπίνων. ἀναλαβοῦσι δὴ τὰ προειρημένα συντομώτερος ἂν εἴη ὁ λόγος. εἴπομεν δὴ ὅτι οὐκ ἔστιν ἕξις· καὶ γὰρ τῷ καθεύδοντι διὰ βίου ὑπάρχοι ἄν, φυτῶν [35] ζῶντι βίον, καὶ τῷ δυστυχοῦντι τὰ μέγιστα. 1176b [1] εἰ δὴ ταῦτα μὴ ἀρέσκει, ἀλλὰ μᾶλλον εἰς ἐνέργειάν τινα θετέον, καθάπερ ἐν τοῖς

πρότερον εἴρηται, τῶν δ᾽ ἐνεργειῶν αἳ μέν εἰσιν ἀναγκαῖαι καὶ δι᾽ ἕτερα αἱρεταὶ αἳ δὲ καθ᾽ αὑτάς, δῆλον ὅτι τὴν εὐδαιμονίαν τῶν καθ᾽ αὑτὰς αἱρετῶν τινὰ θετέον καὶ [5] οὐ τῶν δι᾽ ἄλλο· οὐδενὸς γὰρ ἐνδεὴς ἡ εὐδαιμονία ἀλλ᾽ αὐτάρκης. καθ᾽ αὑτὰς δ᾽ εἰσὶν αἱρεταὶ ἀφ᾽ ὧν μηδὲν ἐπιζητεῖται παρὰ τὴν ἐνέργειαν. τοιαῦται δ᾽ εἶναι δοκοῦσιν αἱ κατ᾽ ἀρετὴν πράξεις· τὰ γὰρ καλὰ καὶ σπουδαῖα πράττειν τῶν δι᾽ αὑτὰ αἱρετῶν. καὶ τῶν παιδιῶν δὲ αἱ ἡδεῖαι· οὐ γὰρ δι᾽ [10] ἕτερα αὐτὰς αἱροῦνται· βλάπτονται γὰρ ἀπ᾽ αὐτῶν μᾶλλον ἢ ὠφελοῦνται, ἀμελοῦντες τῶν σωμάτων καὶ τῆς κτήσεως. καταφεύγουσι δ᾽ ἐπὶ τὰς τοιαύτας διαγωγὰς τῶν εὐδαιμονιζομένων οἱ πολλοί, διὸ παρὰ τοῖς τυράννοις εὐδοκιμοῦσιν οἱ ἐν ταῖς τοιαύταις διαγωγαῖς εὐτράπελοι· ὧν γὰρ ἐφίενται, [15] ἐν τούτοις παρέχουσι σφᾶς αὐτοὺς ἡδεῖς, δέονται δὲ τοιούτων. δοκεῖ μὲν οὖν εὐδαιμονικὰ ταῦτα εἶναι διὰ τὸ τοὺς ἐν δυναστείαις ἐν τούτοις ἀποσχολάζειν, οὐδὲν δ᾽ ἴσως σημεῖον οἱ τοιοῦτοί εἰσιν· οὐ γὰρ ἐν τῷ δυναστεύειν ἡ ἀρετὴ οὐδ᾽ ὁ νοῦς, ἀφ᾽ ὧν αἱ σπουδαῖαι ἐνέργειαι· οὐδ᾽ εἰ ἄγευστοι οὗτοι ὄντες [20] ἡδονῆς εἰλικρινοῦς καὶ ἐλευθερίου ἐπὶ τὰς σωματικὰς καταφεύγουσιν, διὰ τοῦτο ταύτας οἰητέον αἱρετωτέρας εἶναι· καὶ γὰρ οἱ παῖδες τὰ παρ᾽ αὐτοῖς τιμώμενα κράτιστα οἴονται εἶναι. εὔλογον δή, ὥσπερ παισὶ καὶ ἀνδράσιν ἕτερα φαίνεται τίμια, οὕτω καὶ φαύλοις καὶ ἐπιεικέσιν. καθάπερ οὖν [25] πολλάκις εἴρηται, καὶ τίμια καὶ ἡδέα ἐστὶ τὰ τῷ σπουδαίῳ τοιαῦτα ὄντα· ἑκάστῳ δ᾽ ἡ κατὰ τὴν οἰκείαν ἕξιν αἱρετωτάτη ἐνέργεια, καὶ τῷ σπουδαίῳ δὴ ἡ κατὰ τὴν ἀρετήν. οὐκ ἐν παιδιᾷ ἄρα ἡ εὐδαιμονία· καὶ γὰρ ἄτοπον τὸ τέλος εἶναι παιδιάν, καὶ πραγματεύεσθαι καὶ κακοπαθεῖν τὸν βίον [30] ἅπαντα τοῦ παίζειν χάριν. ἅπαντα γὰρ ὡς εἰπεῖν ἑτέρου ἕνεκα αἱρούμεθα πλὴν τῆς εὐδαιμονίας· τέλος γὰρ αὕτη. σπουδάζειν δὲ καὶ πονεῖν παιδιᾶς χάριν ἠλίθιον φαίνεται καὶ λίαν παιδικόν. παίζειν δ᾽ ὅπως σπουδάζῃ, κατ᾽ Ἀνάχαρσιν, ὀρθῶς ἔχειν δοκεῖ· ἀναπαύσει γὰρ ἔοικεν ἡ παιδιά, ἀδυνατοῦντες [35] δὲ συνεχῶς πονεῖν ἀναπαύσεως δέονται. οὐ δὴ τέλος ἡ ἀνάπαυσις· 1177a [1] γίνεται γὰρ ἕνεκα τῆς ἐνεργείας. δοκεῖ δ᾽ ὁ εὐδαίμων βίος κατ᾽ ἀρετὴν εἶναι· οὗτος δὲ μετὰ σπουδῆς, ἀλλ᾽ οὐκ ἐν παιδιᾷ. βελτίω τε λέγομεν τὰ σπουδαῖα τῶν γελοίων καὶ μετὰ παιδιᾶς, καὶ τοῦ βελτίονος ἀεὶ καὶ [5] μορίου καὶ ἀνθρώπου σπουδαιοτέραν τὴν ἐνέργειαν· ἡ δὲ τοῦ βελτίονος κρείττων καὶ εὐδαιμονικωτέρα ἤδη. ἀπολαύσειέ τ᾽ ἂν τῶν σωματικῶν ἡδονῶν ὁ τυχὼν καὶ ἀνδράποδον οὐχ ἧττον τοῦ ἀρίστου· εὐδαιμονίας δ᾽ οὐδεὶς ἀνδραπόδῳ μεταδίδωσιν, εἰ μὴ καὶ βίου. οὐ γὰρ ἐν ταῖς τοιαύταις διαγωγαῖς ἡ [10] εὐδαιμονία, ἀλλ᾽ ἐν ταῖς κατ᾽ ἀρετὴν ἐνεργείαις, καθάπερ καὶ πρότερον εἴρηται.

εἰ δ’ ἐστὶν ἡ εὐδαιμονία κατ’ ἀρετὴν ἐνέργεια, εὔλογον κατὰ τὴν κρατίστην· αὕτη δ’ ἂν εἴη τοῦ ἀρίστου. εἴτε δὴ νοῦς τοῦτο εἴτε ἄλλο τι, ὃ δὴ κατὰ φύσιν δοκεῖ ἄρχειν καὶ ἡγεῖσθαι [15] καὶ ἔννοιαν ἔχειν περὶ καλῶν καὶ θείων, εἴτε θεῖον ὂν καὶ αὐτὸ εἴτε τῶν ἐν ἡμῖν τὸ θειότατον, ἡ τούτου ἐνέργεια κατὰ τὴν οἰκείαν ἀρετὴν εἴη ἂν ἡ τελεία εὐδαιμονία. ὅτι δ’ ἐστὶ θεωρητική, εἴρηται. ὁμολογούμενον δὲ τοῦτ’ ἂν δόξειεν εἶναι καὶ τοῖς πρότερον καὶ τῷ ἀληθεῖ. κρατίστη τε γὰρ [20] αὕτη ἐστὶν ἡ ἐνέργεια (καὶ γὰρ ὁ νοῦς τῶν ἐν ἡμῖν, καὶ τῶν γνωστῶν, περὶ ἃ ὁ νοῦς)· ἔτι δὲ συνεχεστάτη· θεωρεῖν [τε] γὰρ δυνάμεθα συνεχῶς μᾶλλον ἢ πράττειν ὁτιοῦν. οἰόμεθά τε δεῖν ἡδονὴν παραμεμῖχθαι τῇ εὐδαιμονίᾳ, ἡδίστη δὲ τῶν κατ’ ἀρετὴν ἐνεργειῶν ἡ κατὰ τὴν σοφίαν ὁμολογουμένως [25] ἐστίν· δοκεῖ γοῦν ἡ φιλοσοφία θαυμαστὰς ἡδονὰς ἔχειν καθαρειότητι καὶ τῷ βεβαίῳ, εὔλογον δὲ τοῖς εἰδόσι τῶν ζητούντων ἡδίω τὴν διαγωγὴν εἶναι. ἥ τε λεγομένη αὐτάρκεια περὶ τὴν θεωρητικὴν μάλιστ’ ἂν εἴη· τῶν μὲν γὰρ πρὸς τὸ ζῆν ἀναγκαίων καὶ σοφὸς καὶ δίκαιος καὶ οἱ λοιποὶ δέονται, [30] τοῖς δὲ τοιούτοις ἱκανῶς κεχορηγημένων ὁ μὲν δίκαιος δεῖται πρὸς οὓς δικαιοπραγήσει καὶ μεθ’ ὧν, ὁμοίως δὲ καὶ ὁ σώφρων καὶ ὁ ἀνδρεῖος καὶ τῶν ἄλλων ἕκαστος, ὁ δὲ σοφὸς καὶ καθ’ αὑτὸν ὢν δύναται θεωρεῖν, καὶ ὅσῳ ἂν σοφώτερος ᾖ, μᾶλλον· βέλτιον δ’ ἴσως συνεργοὺς ἔχων, ἀλλ’ ὅμως αὐταρκέστατος. 1177b [1] δόξαι τ’ ἂν αὐτὴ μόνη δι’ αὑτὴν ἀγαπᾶσθαι· οὐδὲν γὰρ ἀπ’ αὐτῆς γίνεται παρὰ τὸ θεωρῆσαι, ἀπὸ δὲ τῶν πρακτικῶν ἢ πλεῖον ἢ ἔλαττον περιποιούμεθα παρὰ τὴν πρᾶξιν. δοκεῖ τε ἡ εὐδαιμονία ἐν τῇ σχολῇ εἶναι· ἀσχολούμεθα [5] γὰρ ἵνα σχολάζωμεν, καὶ πολεμοῦμεν ἵν’ εἰρήνην ἄγωμεν. τῶν μὲν οὖν πρακτικῶν ἀρετῶν ἐν τοῖς πολιτικοῖς ἢ ἐν τοῖς πολεμικοῖς ἡ ἐνέργεια, αἱ δὲ περὶ ταῦτα πράξεις δοκοῦσιν ἄσχολοι εἶναι, αἱ μὲν πολεμικαὶ καὶ παντελῶς (οὐδεὶς γὰρ αἱρεῖται τὸ πολεμεῖν τοῦ πολεμεῖν ἕνεκα, οὐδὲ [10] παρασκευάζει πόλεμον· δόξαι γὰρ ἂν παντελῶς μιαιφόνος τις εἶναι, εἰ τοὺς φίλους πολεμίους ποιοῖτο, ἵνα μάχαι καὶ φόνοι γίνοιντο)· ἔστι δὲ καὶ ἡ τοῦ πολιτικοῦ ἄσχολος, καὶ παρ’ αὐτὸ τὸ πολιτεύεσθαι περιποιουμένη δυναστείας καὶ τιμὰς ἢ τήν γε εὐδαιμονίαν αὑτῷ καὶ τοῖς πολίταις, ἑτέραν [15] οὖσαν τῆς πολιτικῆς, ἣν καὶ ζητοῦμεν δῆλον ὡς ἑτέραν οὖσαν. εἰ δὴ τῶν μὲν κατὰ τὰς ἀρετὰς πράξεων αἱ πολιτικαὶ καὶ πολεμικαὶ κάλλει καὶ μεγέθει προέχουσιν, αὗται δ’ ἄσχολοι καὶ τέλους τινὸς ἐφίενται καὶ οὐ δι’ αὑτὰς αἱρεταί εἰσιν, ἡ δὲ τοῦ νοῦ ἐνέργεια σπουδῇ τε διαφέρειν δοκεῖ θεωρητικὴ [20] οὖσα, καὶ παρ’ αὑτὴν οὐδενὸς ἐφίεσθαι τέλους, καὶ ἔχειν τὴν ἡδονὴν οἰκείαν (αὕτη δὲ συναύξει τὴν ἐνέργειαν), καὶ τὸ αὔταρκες δὴ καὶ σχολαστικὸν καὶ ἄτρυτον ὡς ἀνθρώπῳ, καὶ ὅσα ἄλλα τῷ μακαρίῳ ἀπονέμεται, τὰ κατὰ ταύτην τὴν ἐνέργειαν φαίνεται ὄντα· ἡ τελεία δὴ εὐδαιμονία αὕτη ἂν εἴη ἀνθρώπου, [25] λαβοῦσα μῆκος βίου τέλειον· οὐδὲν γὰρ ἀτελές ἐστι τῶν τῆς εὐδαιμονίας. ὁ δὲ τοιοῦτος ἂν εἴη βίος κρείττων ἢ κατ’ ἄνθρωπον· οὐ γὰρ ᾗ ἄνθρωπός ἐστιν οὕτω βιώσεται, ἀλλ’ ᾗ θεῖόν τι ἐν αὑτῷ ὑπάρχει· ὅσον δὲ διαφέρει τοῦτο τοῦ συνθέτου, τοσοῦτον καὶ ἡ ἐνέργεια τῆς κατὰ τὴν ἄλλην ἀρετήν. [30] εἰ δὴ θεῖον ὁ νοῦς πρὸς τὸν ἄνθρωπον, καὶ ὁ κατὰ τοῦτον βίος θεῖος πρὸς τὸν ἀνθρώπινον βίον. οὐ χρὴ δὲ κατὰ τοὺς παραινοῦντας ἀνθρώπινα φρονεῖν ἄνθρωπον ὄντα οὐδὲ θνητὰ τὸν θνητόν, ἀλλ’ ἐφ’ ὅσον ἐνδέχεται ἀθανατίζειν καὶ πάντα ποιεῖν πρὸς τὸ ζῆν κατὰ τὸ κράτιστον τῶν ἐν αὑτῷ· εἰ γὰρ καὶ τῷ ὄγκῳ μικρόν ἐστι, 1178a [1] δυνάμει καὶ τιμιότητι πολὺ μᾶλλον πάντων ὑπερέχει. δόξειε δ’ ἂν καὶ εἶναι ἕκαστος τοῦτο, εἴπερ τὸ κύριον καὶ ἄμεινον. ἄτοπον οὖν γίνοιτ’ ἄν, εἰ μὴ τὸν αὑτοῦ βίον αἱροῖτο ἀλλά τινος ἄλλου. τὸ λεχθέν τε πρότερον [5] ἁρμόσει καὶ νῦν· τὸ γὰρ οἰκεῖον ἑκάστῳ τῇ φύσει κράτιστον καὶ ἥδιστόν ἐστιν ἑκάστῳ· καὶ τῷ ἀνθρώπῳ δὴ ὁ κατὰ τὸν νοῦν βίος, εἴπερ τοῦτο μάλιστα ἄνθρωπος. οὗτος ἄρα καὶ εὐδαιμονέστατος.

δευτέρως δ’ ὁ κατὰ τὴν ἄλλην ἀρετήν· αἱ γὰρ κατὰ [10] ταύτην ἐνέργειαι ἀνθρωπικαί. δίκαια γὰρ καὶ ἀνδρεῖα καὶ τὰ ἄλλα τὰ κατὰ τὰς ἀρετὰς πρὸς ἀλλήλους πράττομεν ἐν συναλλάγμασι καὶ χρείαις καὶ πράξεσι παντοίαις ἔν τε τοῖς πάθεσι διατηροῦντες τὸ πρέπον ἑκάστῳ· ταῦτα δ’ εἶναι φαίνεται πάντα ἀνθρωπικά. ἔνια δὲ καὶ συμβαίνειν ἀπὸ [15] τοῦ σώματος δοκεῖ, καὶ πολλὰ συνῳκειῶσθαι τοῖς πάθεσιν ἡ τοῦ ἤθους ἀρετή. συνέζευκται δὲ καὶ ἡ φρόνησις τῇ τοῦ ἤθους ἀρετῇ, καὶ αὕτη τῇ φρονήσει, εἴπερ αἱ μὲν τῆς φρονήσεως ἀρχαὶ κατὰ τὰς ἠθικάς εἰσιν ἀρετάς, τὸ δ’ ὀρθὸν τῶν ἠθικῶν κατὰ τὴν φρόνησιν. συνηρτημέναι δ’ αὗται καὶ [20] τοῖς πάθεσι περὶ τὸ σύνθετον ἂν εἶεν· αἱ δὲ τοῦ συνθέτου ἀρεταὶ ἀνθρωπικαί· καὶ ὁ βίος δὴ ὁ κατὰ ταύτας καὶ ἡ εὐδαιμονία. ἡ δὲ τοῦ νοῦ κεχωρισμένη· τοσοῦτον γὰρ περὶ αὐτῆς εἰρήσθω· διακριβῶσαι γὰρ μεῖζον τοῦ προκειμένου ἐστίν. δόξειε δ’ ἂν καὶ τῆς ἐκτὸς χορηγίας ἐπὶ μικρὸν ἢ ἐπ’ ἔλαττον δεῖσθαι [25] τῆς ἠθικῆς. τῶν μὲν γὰρ ἀναγκαίων ἀμφοῖν χρεία καὶ ἐξ ἴσου ἔστω, εἰ καὶ μᾶλλον διαπονεῖ περὶ τὸ σῶμα ὁ πολιτικός, καὶ ὅσα τοιαῦτα· μικρὸν γὰρ ἄν τι διαφέροι· πρὸς δὲ τὰς ἐνεργείας πολὺ διοίσει. τῷ μὲν γὰρ ἐλευθερίῳ δεήσει χρημάτων πρὸς τὸ πράττειν τὰ ἐλευθέρια, καὶ τῷ [30] δικαίῳ δὴ εἰς τὰς ἀνταποδόσεις (αἱ γὰρ βουλήσεις ἄδηλοι, προσποιοῦνται δὲ καὶ οἱ μὴ δίκαιοι βούλεσθαι δικαιοπραγεῖν), τῷ ἀνδρείῳ δὲ δυνάμεως, εἴπερ ἐπιτελεῖ τι τῶν κατὰ τὴν ἀρετήν, καὶ τῷ σώφρονι ἐξουσίας· πῶς γὰρ δῆλος ἔσται ἢ οὗτος ἢ τῶν ἄλλων τις; ἀμφισβητεῖταί τε πότερον κυριώτερον [35] τῆς ἀρετῆς ἡ προαίρεσις ἢ αἱ πράξεις, ὡς ἐν ἀμφοῖν οὔσης· 1178b [1] τὸ δὴ τέλειον δῆλον ὡς ἐν ἀμφοῖν ἂν εἴη· πρὸς δὲ τὰς πράξεις πολλῶν δεῖται, καὶ ὅσῳ ἂν μείζους ὦσι καὶ καλλίους, πλειόνων. τῷ δὲ θεωροῦντι οὐδενὸς τῶν τοιούτων πρός γε τὴν ἐνέργειαν χρεία, ἀλλ' ὡς εἰπεῖν καὶ ἐμπόδιά ἐστι [5] πρός γε τὴν θεωρίαν· ᾗ δ' ἄνθρωπός ἐστι καὶ πλείοσι συζῇ, αἱρεῖται τὰ κατὰ τὴν ἀρετὴν πράττειν· δεήσεται οὖν τῶν τοιούτων πρὸς τὸ ἀνθρωπεύεσθαι. ἡ δὲ τελεία εὐδαιμονία ὅτι θεωρητική τις ἐστὶν ἐνέργεια, καὶ ἐντεῦθεν ἂν φανείη. τοὺς θεοὺς γὰρ μάλιστα ὑπειλήφαμεν μακαρίους καὶ εὐδαίμονας εἶναι· [10] πράξεις δὲ ποίας ἀπονεῖμαι χρεὼν αὐτοῖς; πότερα τὰς δικαίας; ἢ γελοῖοι φανοῦνται συναλλάττοντες καὶ παρακαταθήκας ἀποδιδόντες καὶ ὅσα τοιαῦτα; ἀλλὰ τὰς ἀνδρείους . . . ὑπομένοντας τὰ φοβερὰ καὶ κινδυνεύοντας ὅτι καλόν; ἢ τὰς ἐλευθερίους; τίνι δὲ δώσουσιν; ἄτοπον δ' εἰ καὶ ἔσται [15] αὐτοῖς νόμισμα ἤ τι τοιοῦτον. αἱ δὲ σώφρονες τί ἂν εἶεν; ἢ φορτικὸς ὁ ἔπαινος, ὅτι οὐκ ἔχουσι φαύλας ἐπιθυμίας; διεξιοῦσι δὲ πάντα φαίνοιτ' ἂν τὰ περὶ τὰς πράξεις μικρὰ καὶ ἀνάξια θεῶν. ἀλλὰ μὴν ζῆν γε πάντες ὑπειλήφασιν αὐτοὺς καὶ ἐνεργεῖν ἄρα· οὐ γὰρ δὴ καθεύδειν ὥσπερ τὸν [20] Ἐνδυμίωνα. τῷ δὴ ζῶντι τοῦ πράττειν ἀφαιρουμένου, ἔτι δὲ μᾶλλον τοῦ ποιεῖν, τί λείπεται πλὴν θεωρία; ὥστε ἡ τοῦ θεοῦ ἐνέργεια, μακαριότητι διαφέρουσα, θεωρητικὴ ἂν εἴη· καὶ τῶν ἀνθρωπίνων δὴ ἡ ταύτῃ συγγενεστάτη εὐδαιμονικωτάτη. σημεῖον δὲ καὶ τὸ μὴ μετέχειν τὰ λοιπὰ ζῷα εὐδαιμονίας, [25] τῆς τοιαύτης ἐνεργείας ἐστερημένα τελείως. τοῖς μὲν γὰρ θεοῖς ἅπας ὁ βίος μακάριος, τοῖς δ' ἀνθρώποις, ἐφ' ὅσον ὁμοίωμά τι τῆς τοιαύτης ἐνεργείας ὑπάρχει· τῶν δ' ἄλλων ζῴων οὐδὲν εὐδαιμονεῖ, ἐπειδὴ οὐδαμῇ κοινωνεῖ θεωρίας. ἐφ' ὅσον δὴ διατείνει ἡ θεωρία, καὶ ἡ εὐδαιμονία, καὶ οἷς μᾶλλον [30] ὑπάρχει τὸ θεωρεῖν, καὶ εὐδαιμονεῖν, οὐ κατὰ συμβεβηκὸς ἀλλὰ κατὰ τὴν θεωρίαν· αὕτη γὰρ καθ' αὑτὴν τιμία. ὥστ' εἴη ἂν ἡ εὐδαιμονία θεωρία τις.

δεήσει δὲ καὶ τῆς ἐκτὸς εὐημερίας ἀνθρώπῳ ὄντι· οὐ γὰρ αὐτάρκης ἡ φύσις πρὸς τὸ θεωρεῖν, ἀλλὰ δεῖ καὶ τὸ σῶμα [35] ὑγιαίνειν καὶ τροφὴν καὶ τὴν λοιπὴν θεραπείαν ὑπάρχειν. 1179a [1] οὐ μὴν οἰητέον γε πολλῶν καὶ μεγάλων δεήσεσθαι τὸν εὐδαιμονήσοντα, εἰ μὴ ἐνδέχεται ἄνευ τῶν ἐκτὸς ἀγαθῶν μακάριον εἶναι· οὐ γὰρ ἐν τῇ ὑπερβολῇ τὸ αὔταρκες οὐδ' ἡ πρᾶξις, δυνατὸν δὲ καὶ μὴ ἄρχοντα γῆς καὶ θαλάττης πράττειν [5] τὰ καλά· καὶ γὰρ ἀπὸ μετρίων δύναιτ’ ἄν τις πράττειν κατὰ τὴν ἀρετήν (τοῦτο δ’ ἔστιν ἰδεῖν ἐναργῶς· οἱ γὰρ ἰδιῶται τῶν δυναστῶν οὐχ ἧττον δοκοῦσι τὰ ἐπιεικῆ πράττειν, ἀλλὰ καὶ μᾶλλον)· ἱκανὸν δὲ τοσαῦθ’ ὑπάρχειν· ἔσται γὰρ ὁ βίος εὐδαίμων τοῦ κατὰ τὴν ἀρετὴν ἐνεργοῦντος. καὶ Σόλων [10] δὲ τοὺς εὐδαίμονας ἴσως ἀπεφαίνετο καλῶς, εἰπὼν μετρίως τοῖς ἐκτὸς κεχορηγημένους, πεπραγότας δὲ τὰ κάλλισθ’, ὡς ᾤετο, καὶ βεβιωκότας σωφρόνως· ἐνδέχεται γὰρ μέτρια κεκτημένους πράττειν ἃ δεῖ. ἔοικε δὲ καὶ Ἀναξαγόρας οὐ πλούσιον οὐδὲ δυνάστην ὑπολαβεῖν τὸν εὐδαίμονα, εἰπὼν ὅτι [15] οὐκ ἂν θαυμάσειεν εἴ τις ἄτοπος φανείη τοῖς πολλοῖς· οὗτοι γὰρ κρίνουσι τοῖς ἐκτός, τούτων αἰσθανόμενοι μόνον. συμφωνεῖν δὴ τοῖς λόγοις ἐοίκασιν αἱ τῶν σοφῶν δόξαι. πίστιν μὲν οὖν καὶ τὰ τοιαῦτα ἔχει τινά, τὸ δ’ ἀληθὲς ἐν τοῖς πρακτικοῖς ἐκ τῶν ἔργων καὶ τοῦ βίου κρίνεται· ἐν τούτοις [20] γὰρ τὸ κύριον. σκοπεῖν δὴ τὰ προειρημένα χρὴ ἐπὶ τὰ ἔργα καὶ τὸν βίον φέροντας, καὶ συνᾳδόντων μὲν τοῖς ἔργοις ἀποδεκτέον, διαφωνούντων δὲ λόγους ὑποληπτέον. ὁ δὲ κατὰ νοῦν ἐνεργῶν καὶ τοῦτον θεραπεύων καὶ διακείμενος ἄριστα καὶ θεοφιλέστατος ἔοικεν. εἰ γάρ τις ἐπιμέλεια τῶν ἀνθρωπίνων [25] ὑπὸ θεῶν γίνεται, ὥσπερ δοκεῖ, καὶ εἴη ἂν εὔλογον χαίρειν τε αὐτοὺς τῷ ἀρίστῳ καὶ συγγενεστάτῳ (τοῦτο δ’ ἂν εἴη ὁ νοῦς) καὶ τοὺς ἀγαπῶντας μάλιστα τοῦτο καὶ τιμῶντας ἀντευποιεῖν ὡς τῶν φίλων αὐτοῖς ἐπιμελουμένους καὶ ὀρθῶς τε καὶ καλῶς πράττοντας. ὅτι δὲ πάντα ταῦτα [30] τῷ σοφῷ μάλισθ’ ὑπάρχει, οὐκ ἄδηλον. θεοφιλέστατος ἄρα. τὸν αὐτὸν δ’ εἰκὸς καὶ εὐδαιμονέστατον· ὥστε κἂν οὕτως εἴη ὁ σοφὸς μάλιστ’ εὐδαίμων.

ἆρ’ οὖν εἰ περί τε τούτων καὶ τῶν ἀρετῶν, ἔτι δὲ καὶ φιλίας καὶ ἡδονῆς, ἱκανῶς εἴρηται τοῖς τύποις, τέλος ἔχειν [35] οἰητέον τὴν προαίρεσιν; ἢ καθάπερ λέγεται, 1179b [1] οὐκ ἔστιν ἐν τοῖς πρακτοῖς τέλος τὸ θεωρῆσαι ἕκαστα καὶ γνῶναι, ἀλλὰ μᾶλλον τὸ πράττειν αὐτά· οὐδὲ δὴ περὶ ἀρετῆς ἱκανὸν τὸ εἰδέναι, ἀλλ’ ἔχειν καὶ χρῆσθαι πειρατέον, ἢ εἴ πως ἄλλως ἀγαθοὶ γινόμεθα; εἰ μὲν οὖν ἦσαν οἱ λόγοι αὐτάρκεις πρὸς [5] τὸ ποιῆσαι ἐπιεικεῖς, πολλοὺς ἂν μισθοὺς καὶ μεγάλους δικαίως ἔφερον κατὰ τὸν Θέογνιν, καὶ ἔδει ἂν τούτους πορίσασθαι· νῦν δὲ φαίνονται προτρέψασθαι μὲν καὶ παρορμῆσαι τῶν νέων τοὺς ἐλευθερίους ἰσχύειν, ἦθός τ’ εὐγενὲς καὶ ὡς ἀληθῶς φιλόκαλον ποιῆσαι ἂν κατοκώχιμον ἐκ τῆς ἀρετῆς, [10] τοὺς δὲ πολλοὺς ἀδυνατεῖν πρὸς καλοκαγαθίαν προτρέψασθαι· οὐ γὰρ πεφύκασιν αἰδοῖ πειθαρχεῖν ἀλλὰ φόβῳ, οὐδ’ ἀπέχεσθαι τῶν φαύλων διὰ τὸ αἰσχρὸν ἀλλὰ διὰ τὰς τιμωρίας· πάθει γὰρ ζῶντες τὰς οἰκείας ἡδονὰς διώκουσι καὶ δι’ ὧν αὗται ἔσονται, φεύγουσι δὲ τὰς ἀντικειμένας λύπας, [15] τοῦ δὲ καλοῦ καὶ ὡς ἀληθῶς ἡδέος οὐδ’ ἔννοιαν ἔχουσιν, ἄγευστοι ὄντες. τοὺς δὴ τοιούτους τίς ἂν λόγος μεταρρυθμίσαι; οὐ γὰρ οἷόν τε ἢ οὐ ῥᾴδιον τὰ ἐκ παλαιοῦ τοῖς ἤθεσι κατειλημμένα λόγῳ μεταστῆσαι· ἀγαπητὸν δ’ ἴσως ἐστὶν εἰ πάντων ὑπαρχόντων δι’ ὧν ἐπιεικεῖς δοκοῦμεν γίνεσθαι, μεταλάβοιμεν [20] τῆς ἀρετῆς. γίνεσθαι δ’ ἀγαθοὺς οἴονται οἳ μὲν φύσει οἳ δ’ ἔθει οἳ δὲ διδαχῇ. τὸ μὲν οὖν τῆς φύσεως δῆλον ὡς οὐκ ἐφ’ ἡμῖν ὑπάρχει, ἀλλὰ διά τινας θείας αἰτίας τοῖς ὡς ἀληθῶς εὐτυχέσιν ὑπάρχει· ὁ δὲ λόγος καὶ ἡ διδαχὴ μή ποτ’ οὐκ ἐν ἅπασιν ἰσχύει, ἀλλὰ δεῖ προδιειργάσθαι τοῖς [25] ἔθεσι τὴν τοῦ ἀκροατοῦ ψυχὴν πρὸς τὸ καλῶς χαίρειν καὶ μισεῖν, ὥσπερ γῆν τὴν θρέψουσαν τὸ σπέρμα. οὐ γὰρ ἂν ἀκούσειε λόγου ἀποτρέποντος οὐδ’ αὖ συνείη ὁ κατὰ πάθος ζῶν· τὸν δ’ οὕτως ἔχοντα πῶς οἷόν τε μεταπεῖσαι; ὅλως τ’ οὐ δοκεῖ λόγῳ ὑπείκειν τὸ πάθος ἀλλὰ βίᾳ. δεῖ δὴ τὸ ἦθος [30] προϋπάρχειν πως οἰκεῖον τῆς ἀρετῆς, στέργον τὸ καλὸν καὶ δυσχεραῖνον τὸ αἰσχρόν. ἐκ νέου δ’ ἀγωγῆς ὀρθῆς τυχεῖν πρὸς ἀρετὴν χαλεπὸν μὴ ὑπὸ τοιούτοις τραφέντα νόμοις· τὸ γὰρ σωφρόνως καὶ καρτερικῶς ζῆν οὐχ ἡδὺ τοῖς πολλοῖς, ἄλλως τε καὶ νέοις. διὸ νόμοις δεῖ τετάχθαι τὴν τροφὴν [35] καὶ τὰ ἐπιτηδεύματα· οὐκ ἔσται γὰρ λυπηρὰ συνήθη γενόμενα. 1180a [1] οὐχ ἱκανὸν δ’ ἴσως νέους ὄντας τροφῆς καὶ ἐπιμελείας τυχεῖν ὀρθῆς, ἀλλ’ ἐπιεδὴ καὶ ἀνδρωθέντας δεῖ ἐπιτηδεύειν αὐτὰ καὶ ἐθίζεσθαι, καὶ περὶ ταῦτα δεοίμεθ’ ἂν νόμων, καὶ ὅλως δὴ περὶ πάντα τὸν βίον· οἱ γὰρ πολλοὶ ἀνάγκῃ [5] μᾶλλον ἢ λόγῳ πειθαρχοῦσι καὶ ζημίαις ἢ τῷ καλῷ. διόπερ οἴονταί τινες τοὺς νομοθετοῦντας δεῖν μὲν παρακαλεῖν ἐπὶ τὴν ἀρετὴν καὶ προτρέπεσθαι τοῦ καλοῦ χάριν, ὡς ἐπακουσομένων τῶν ἐπιεικῶς τοῖς ἔθεσι προηγμένων, ἀπειθοῦσι δὲ καὶ ἀφυεστέροις οὖσι κολάσεις τε καὶ τιμωρίας ἐπιτιθέναι, τοὺς δ’ ἀνιάτους [10] ὅλως ἐξορίζειν· τὸν μὲν γὰρ ἐπιεικῆ πρὸς τὸ καλὸν ζῶντα τῷ λόγῳ πειθαρχήσειν, τὸν δὲ φαῦλον ἡδονῆς ὀρεγόμενον λύπῃ κολάζεσθαι ὥσπερ ὑποζύγιον. διὸ καί φασι δεῖν τοιαύτας γίνεσθαι τὰς λύπας αἳ μάλιστ’ ἐναντιοῦνται ταῖς ἀγαπωμέναις ἡδοναῖς. εἰ δ’ οὖν, καθάπερ εἴρηται, τὸν [15] ἐσόμενον ἀγαθὸν τραφῆναι καλῶς δεῖ καὶ ἐθισθῆναι, εἶθ’ οὕτως ἐν ἐπιτηδεύμασιν ἐπιεικέσι ζῆν καὶ μήτ’ ἄκοντα μήθ’ ἑκόντα πράττειν τὰ φαῦλα, ταῦτα δὲ γίνοιτ’ ἂν βιουμένοις κατά τινα νοῦν καὶ τάξιν ὀρθήν, ἔχουσαν ἰσχύν· ἡ μὲν οὖν πατρικὴ πρόσταξις οὐκ ἔχει τὸ ἰσχυρὸν οὐδὲ [δὴ] τὸ ἀναγκαῖον, [20] οὐδὲ δὴ ὅλως ἡ ἑνὸς ἀνδρός, μὴ βασιλέως ὄντος ἤ τινος τοιούτου· ὁ δὲ νόμος ἀναγκαστικὴν ἔχει δύναμιν, λόγος ὢν ἀπό τινος φρονήσεως καὶ νοῦ. καὶ τῶν μὲν ἀνθρώπων ἐχθαίρουσι τοὺς ἐναντιουμένους ταῖς ὁρμαῖς, κἂν ὀρθῶς αὐτὸ δρῶσιν· ὁ δὲ νόμος οὐκ ἔστιν ἐπαχθὴς τάττων τὸ ἐπιεικές. ἐν μόνῃ δὲ τῇ [25] Λακεδαιμονίων πόλει <ἢ> μετ' ὀλίγων ὁ νομοθέτης ἐπιμέλειαν δοκεῖ πεποιῆσθαι τροφῆς τε καὶ ἐπιτηδευμάτων· ἐν δὲ ταῖς πλείσταις τῶν πόλεων ἐξημέληται περὶ τῶν τοιούτων, καὶ ζῇ ἕκαστος ὡς βούλεται, κυκλωπικῶς θεμιστεύων παίδων ἠδ' ἀλόχου. κράτιστον μὲν οὖν τὸ γίνεσθαι κοινὴν ἐπιμέλειαν καὶ [30] ὀρθὴν [καὶ δρᾶν αὐτὸ δύνασθαι]· κοινῇ δ' ἐξαμελουμένων ἑκάστῳ δόξειεν ἂν προσήκειν τοῖς σφετέροις τέκνοις καὶ φίλοις εἰς ἀρετὴν συμβάλλεσθαι, . . . ἢ προαιρεῖσθαί γε. μᾶλλον δ' ἂν τοῦτο δύνασθαι δόξειεν ἐκ τῶν εἰρημένων νομοθετικὸς γενόμενος. αἱ μὲν γὰρ κοιναὶ ἐπιμέλειαι δῆλον ὅτι διὰ νόμων [35] γίνονται, ἐπιεικεῖς δ' αἱ διὰ τῶν σπουδαίων· 1180b [1] γεγραμμένων δ' ἢ ἀγράφων, οὐδὲν ἂν δόξειε διαφέρειν, οὐδὲ δι' ὧν εἷς ἢ πολλοὶ παιδευθήσονται, ὥσπερ οὐδ' ἐπὶ μουσικῆς ἢ γυμναστικῆς καὶ τῶν ἄλλων ἐπιτηδευμάτων. ὥσπερ γὰρ ἐν ταῖς πόλεσιν ἐνισχύει τὰ νόμιμα καὶ τὰ ἤθη, οὕτω καὶ ἐν [5] οἰκίαις οἱ πατρικοὶ λόγοι καὶ τὰ ἔθη, καὶ ἔτι μᾶλλον διὰ τὴν συγγένειαν καὶ τὰς εὐεργεσίας· προϋπάρχουσι γὰρ στέργοντες καὶ εὐπειθεῖς τῇ φύσει. ἔτι δὲ καὶ διαφέρουσιν αἱ καθ' ἕκαστον παιδεῖαι τῶν κοινῶν, ὥσπερ ἐπ' ἰατρικῆς· καθόλου μὲν γὰρ τῷ πυρέττοντι συμφέρει ἡσυχία καὶ ἀσιτία, [10] τινὶ δ' ἴσως οὔ, ὅ τε πυκτικὸς ἴσως οὐ πᾶσι τὴν αὐτὴν μάχην περιτίθησιν. ἐξακριβοῦσθαι δὴ δόξειεν ἂν μᾶλλον τὸ καθ' ἕκαστον ἰδίας τῆς ἐπιμελείας γινομένης· μᾶλλον γὰρ τοῦ προσφόρου τυγχάνει ἕκαστος. ἀλλ' ἐπιμεληθείη μὲν ἄριστα καθ' ἓν καὶ ἰατρὸς καὶ γυμναστὴς καὶ πᾶς ἄλλος ὁ καθόλου εἰδώς, τί [15] πᾶσιν ἢ τοῖς τοιοισδί (τοῦ κοινοῦ γὰρ αἱ ἐπιστῆμαι λέγονταί τε καὶ εἰσίν)· οὐ μὴν ἀλλ' ἑνός τινος οὐδὲν ἴσως κωλύει καλῶς ἐπιμεληθῆναι καὶ ἀνεπιστήμονα ὄντα, τεθεαμένον δ' ἀκριβῶς τὰ συμβαίνοντα ἐφ' ἑκάστῳ δι' ἐμπειρίαν, καθάπερ καὶ ἰατροὶ ἔνιοι δοκοῦσιν ἑαυτῶν ἄριστοι εἶναι, ἑτέρῳ οὐδὲν ἂν δυνάμενοι [20] ἐπαρκέσαι. οὐδὲν δ' ἧττον ἴσως τῷ γε βουλομένῳ τεχνικῷ γενέσθαι καὶ θεωρητικῷ ἐπὶ τὸ καθόλου βαδιστέον εἶναι δόξειεν ἄν, κἀκεῖνο γνωριστέον ὡς ἐνδέχεται· εἴρηται γὰρ ὅτι περὶ τοῦθ' αἱ ἐπιστῆμαι. τάχα δὲ καὶ τῷ βουλομένῳ δι' ἐπιμελείας βελτίους ποιεῖν, εἴτε πολλοὺς εἴτ' ὀλίγους, νομοθετικῷ πειρατέον [25] γενέσθαι, εἰ διὰ νόμων ἀγαθοὶ γενοίμεθ' ἄν. ὅντινα γὰρ οὖν καὶ τὸν προτεθέντα διαθεῖναι καλῶς οὐκ ἔστι τοῦ τυχόντος, ἀλλ' εἴπερ τινός, τοῦ εἰδότος, ὥσπερ ἐπ' ἰατρικῆς καὶ τῶν λοιπῶν ὧν ἔστιν ἐπιμέλειά τις καὶ φρόνησις. ἆρ' οὖν μετὰ τοῦτο ἐπισκεπτέον πόθεν ἢ πῶς νομοθετικὸς γένοιτ' ἄν τις; ἢ καθάπερ [30] ἐπὶ τῶν ἄλλων, παρὰ τῶν πολιτικῶν; μόριον γὰρ ἐδόκει τῆς πολιτικῆς εἶναι. ἢ οὐχ ὅμοιον φαίνεται ἐπὶ τῆς πολιτικῆς καὶ τῶν λοιπῶν ἐπιστημῶν τε καὶ δυνάμεων; ἐν μὲν γὰρ ταῖς ἄλλαις οἱ αὐτοὶ φαίνονται τάς τε δυνάμεις παραδιδόντες καὶ ἐνεργοῦντες ἀπ' αὐτῶν, οἷον ἰατροὶ γραφεῖς· [35] τὰ δὲ πολιτικὰ ἐπαγγέλλονται μὲν διδάσκειν οἱ σοφισταί, 1181a [1] πράττει δ' αὐτῶν οὐδείς, ἀλλ' οἱ πολιτευόμενοι, οἳ δόξαιεν ἂν δυνάμει τινὶ τοῦτο πράττειν καὶ ἐμπειρίᾳ μᾶλλον ἢ διανοίᾳ· οὔτε γὰρ γράφοντες οὔτε λέγοντες περὶ τῶν τοιούτων φαίνονται (καίτοι κάλλιον ἦν ἴσως ἢ λόγους δικανικούς τε [5] καὶ δημηγορικούς), οὐδ' αὖ πολιτικοὺς πεποιηκότες τοὺς σφετέρους υἱεῖς ἤ τινας ἄλλους τῶν φίλων. εὔλογον δ' ἦν, εἴπερ ἐδύναντο· οὔτε γὰρ ταῖς πόλεσιν ἄμεινον οὐδὲν κατέλιπον ἄν, οὔθ' αὑτοῖς ὑπάρξαι προέλοιντ' ἂν μᾶλλον τῆς τοιαύτης δυνάμεως, οὐδὲ δὴ τοῖς φιλτάτοις. οὐ μὴν μικρόν γε ἔοικεν [10] ἡ ἐμπειρία συμβάλλεσθαι· οὐδὲ γὰρ ἐγίνοντ' ἂν διὰ τῆς πολιτικῆς συνηθείας πολιτικοί· διὸ τοῖς ἐφιεμένοις περὶ πολιτικῆς εἰδέναι προσδεῖν ἔοικεν ἐμπειρίας. τῶν δὲ σοφιστῶν οἱ ἐπαγγελλόμενοι λίαν φαίνονται πόρρω εἶναι τοῦ διδάξαι. ὅλως γὰρ οὐδὲ ποῖόν τι ἐστὶν ἢ περὶ ποῖα ἴσασιν· οὐ γὰρ ἂν [15] τὴν αὐτὴν τῇ ῥητορικῇ οὐδὲ χείρω ἐτίθεσαν, οὐδ' ἂν ᾤοντο ῥᾴδιον εἶναι τὸ νομοθετῆσαι συναγαγόντι τοὺς εὐδοκιμοῦντας τῶν νόμων· ἐκλέξασθαι γὰρ εἶναι τοὺς ἀρίστους, ὥσπερ οὐδὲ τὴν ἐκλογὴν οὖσαν συνέσεως καὶ τὸ κρῖναι ὀρθῶς μέγιστον, ὥσπερ ἐν τοῖς κατὰ μουσικήν. οἱ γὰρ ἔμπειροι περὶ ἕκαστα [20] κρίνουσιν ὀρθῶς τὰ ἔργα, καὶ δι' ὧν ἢ πῶς ἐπιτελεῖται συνιᾶσιν, καὶ ποῖα ποίοις συνᾴδει· τοῖς δ' ἀπείροις ἀγαπητὸν τὸ μὴ διαλανθάνειν εἰ εὖ ἢ κακῶς πεποίηται τὸ ἔργον, ὥσπερ ἐπὶ γραφικῆς. οἱ δὲ νόμοι τῆς πολιτικῆς ἔργοις ἐοίκασιν· 1181b [1] πῶς οὖν ἐκ τούτων νομοθετικὸς γένοιτ' ἄν τις, ἢ τοὺς ἀρίστους κρίναι; οὐ γὰρ φαίνονται οὐδ' ἰατρικοὶ ἐκ τῶν συγγραμμάτων γίνεσθαι. καίτοι πειρῶνταί γε λέγειν οὐ μόνον τὰ θεραπεύματα, ἀλλὰ καὶ ὡς ἰαθεῖεν ἂν καὶ ὡς δεῖ θεραπεύειν [5] ἑκάστους, διελόμενοι τὰς ἕξεις· ταῦτα δὲ τοῖς μὲν ἐμπείροις ὠφέλιμα εἶναι δοκεῖ, τοῖς δ' ἀνεπιστήμοσιν ἀχρεῖα. ἴσως οὖν καὶ τῶν νόμων καὶ τῶν πολιτειῶν αἱ συναγωγαὶ τοῖς μὲν δυναμένοις θεωρῆσαι καὶ κρῖναι τί καλῶς ἢ τοὐναντίον καὶ ποῖα ποίοις ἁρμόττει εὔχρηστ' ἂν εἴη· τοῖς δ' ἄνευ [10] ἕξεως τὰ τοιαῦτα διεξιοῦσι τὸ μὲν κρίνειν καλῶς οὐκ ἂν ὑπάρχοι, εἰ μὴ ἄρα αὐτόματον, εὐσυνετώτεροι δ' εἰς ταῦτα τάχ' ἂν γένοιντο. παραλιπόντων οὖν τῶν προτέρων ἀνερεύνητον τὸ περὶ τῆς νομοθεσίας, αὐτοὺς ἐπισκέψασθαι μᾶλλον βέλτιον ἴσως, καὶ ὅλως δὴ περὶ πολιτείας, ὅπως εἰς δύναμιν [15] ἡ περὶ τὰ ἀνθρώπεια φιλοσοφία τελειωθῇ. πρῶτον μὲν οὖν εἴ τι κατὰ μέρος εἴρηται καλῶς ὑπὸ τῶν προγενεστέρων πειραθῶμεν ἐπελθεῖν, εἶτα ἐκ τῶν συνηγμένων πολιτειῶν θεωρῆσαι τὰ ποῖα σῴζει καὶ φθείρει τὰς πόλεις καὶ τὰ ποῖα ἑκάστας τῶν πολιτειῶν, καὶ διὰ τίνας αἰτίας αἳ μὲν [20] καλῶς αἳ δὲ τοὐναντίον πολιτεύονται. θεωρηθέντων γὰρ τούτων τάχ᾽ ἂν μᾶλλον συνίδοιμεν καὶ ποία πολιτεία ἀρίστη, καὶ πῶς ἑκάστη ταχθεῖσα, καὶ τίσι νόμοις καὶ ἔθεσι χρωμένη. λέγωμεν οὖν ἀρξάμενοι.

Αριστοτελουσ Ηθικων (1181a) Magna Moralia

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I

[1] Ἐπειδὴ προαιρούμεθα λέγειν ὑπὲρ ἠθικῶν, πρῶτον ἂν εἴη σκεπτέον τίνος ἐστὶ μέρος τὸ ἦθος. ὡς μὲν οὖν συντόμως εἰπεῖν, δόξειεν ‹ἂν› οὐκ ἄλλης ἢ τῆς πολιτικῆς εἶναι μέρος. ἔστι γὰρ οὐθὲν ἐν τοῖς πολιτικοῖς δυνατὸν πρᾶξαι ἄνευ τοῦ ποιόν τινα εἶναι, λέγω δ’ οἷον σπουδαῖον· τὸ δὲ [2] σπουδαῖον εἶναί ἐστι τὸ τὰς ἀρετὰς ἔχειν· δεῖ ἄρα, εἴ τις μέλλει ἐν τοῖς πολιτικοῖς πρακτικὸς εἶναι, τὸ [3] ἦθος εἶναι σπουδαῖος· μέρος ἐστὶν ἄρα, ὡς ἔοικε, καὶ ἀρχὴ ἡ περὶ τὰ ἤθη πραγματεία τῆς πολιτικῆς, τὸ δ’ ὅλον καὶ τὴν ἐπωνυμίαν δικαίως δοκεῖ ἄν μοι ἔχειν ἡ πραγματεία οὐκ ἠθικὴν ἀλλὰ πολιτικήν.

[4] Δεῖ ἄρα, ὡς ἔοικε, πρῶτον ὑπὲρ ἀρετῆς εἰπεῖν, τί τέ ἐστι καὶ ἐκ τίνων γίνεται. οὐθὲν γὰρ ἴσως ὄφελος εἰδέναι μὲν τὴν ἀρετήν, πῶς δὲ ἔσται καὶ ἐκ τίνων μὴ ἐπαΐειν. οὐ γὰρ μόνον ὅπως εἰδήσομεν τί ἐστι σκοπεῖσθαι δεῖ, ἀλλὰ καὶ ἐκ τίνων ἔσται σκέψασθαι. ἅμα γὰρ εἰδῆσαι βουλόμεθα καὶ αὐτοὶ εἶναι τοιοῦτοι· τοῦτο δ’ οὐ δυνησόμεθα, ἐὰν μὴ εἰδῶμεν καὶ ἐκ τίνων καὶ πῶς ἔσται.

[5] Ἀναγκαῖον μὲν οὖν εἰδῆσαι τί ἐστιν ἀρετή (οὐ γὰρ ῥᾴδιον εἰδέναι τὸ ἐκ τίνων ἔσται καὶ πῶς ἔσται, ἀγνοοῦντα τὸ τί ἐστίν, ὥσπερ οὐδ’ ἐπὶ τῶν ἐπιστημῶν).

Οὐ δεῖ δὲ λανθάνειν οὐδ’ εἴ τινες πρότερον ὑπὲρ [6] τούτων εἰρήκασιν. πρῶτος μὲν οὖν ἐνεχείρησεν Πυθαγόρας περὶ ἀρετῆς εἰπεῖν, οὐκ ὀρθῶς δέ· τὰς γὰρ ἀρετὰς εἰς τοὺς ἀριθμοὺς ἀνάγων οὐκ οἰκείαν τῶν ἀρετῶν τὴν θεωρίαν ἐποιεῖτο· οὐ γάρ ἐστιν ἡ δικαιοσύνη ἀριθμὸς ἰσάκις ἴσος.

[7] Μετὰ τοῦτον Σωκράτης ἐπιγενόμενος βέλτιον καὶ ἐπὶ πλεῖον εἶπεν ὑπὲρ τούτων, οὐκ ὀρθῶς δὲ οὐδ’ οὗτος. τὰς γὰρ ἀρετὰς ἐπιστήμας ἐποίει· τοῦτο δ’ ἐστὶν εἶναι ἀδύνατον. αἱ γὰρ ἐπιστῆμαι πᾶσαι μετὰ λόγου, λόγος δὲ ἐν τῷ διανοητικῷ τῆς ψυχῆς ἐγγίνεται μορίῳ· γίνονται οὖν αἱ ἀρεταὶ πᾶσαι κατ’ αὐτὸν ἐν τῷ λογιστικῷ τῆς ψυχῆς μορίῳ· συμβαίνει οὖν αὐτῷ ἐπιστήμας ποιοῦντι τὰς ἀρετὰς ἀναιρεῖν τὸ ἄλογον μέρος τῆς ψυχῆς, τοῦτο δὲ ποιῶν ἀναιρεῖ καὶ πάθος καὶ ἦθος. διὸ οὐκ ὀρθῶς ἥψατο ταύτῃ τῶν ἀρετῶν.

[8] Μετὰ ταῦτα δὲ Πλάτων διείλετο τὴν ψυχὴν εἴς τε τὸ λόγον ἔχον καὶ εἰς τὸ ἄλογον ὀρθῶς, καὶ ἀπέδωκεν ἑκάστῳ [τὰς] ἀρετὰς τὰς προσηκούσας.

μέχρι μὲν οὖν τούτου καλῶς· μετὰ μέντοι τοῦτο οὐκέτι ὀρθῶς. τὴν γὰρ ἀρετὴν κατέμιξεν [καὶ συνέζευξεν] εἰς τὴν πραγματείαν τὴν ὑπὲρ τἀγαθοῦ, οὐ δὴ ὀρθῶς· οὐ γὰρ οἰκεῖον· ὑπὲρ γὰρ τῶν ὄντων καὶ ἀληθείας λέγοντα οὐκ ἔδει ὑπὲρ ἀρετῆς φράζειν· οὐδὲν γὰρ τούτῳ κἀκείνῳ κοινόν.

[9] Οὗτοι μὲν οὖν ἐπὶ τοσοῦτον ἐφήψαντο καὶ οὕτως· ἐχόμενον δ’ ἂν εἴη μετὰ ταῦτα σκέψασθαι τί δεῖ αὐτοὺς λέγειν ὑπὲρ τούτων.

Πρῶτον μὲν οὖν ἰδεῖν δεῖ ὅτι πάσης ἐπιστήμης καὶ δυνάμεως ἐστί τι τέλος, καὶ τοῦτ’ ἀγαθόν· οὐδεμία γὰρ οὔτ’ ἐπιστήμη οὔτε δύναμις ἕνεκεν [10] κακοῦ ἐστίν. εἰ οὖν πασῶν τῶν δυνάμεων ἀγαθὸν τὸ τέλος, δῆλον ὡς καὶ τῆς βελτίστης βέλτιστον ἂν εἴη. ἀλλὰ μὴν ἥ γε πολιτικὴ βελτίστη δύναμις, ὥστε τὸ τέλος αὐτῆς ἂν εἴη ἀγαθόν. ὑπὲρ ἀγαθοῦ ἄρα, ὡς ἔοικεν, ἡμῖν λεκτέον, καὶ ὑπὲρ ἀγαθοῦ οὐ τοῦ ἁπλῶς, ἀλλὰ τοῦ ἡμῖν· οὐ γὰρ τοῦ θεῶν ἀγαθοῦ· ἀλλ’ ὑπὲρ μὲν τούτου καὶ ἄλλος λόγος καὶ ἀλλοτρία ἡ σκέψις. ὑπὲρ τοῦ πολιτικοῦ ἄρα ἡμῖν λεκτέον ἀγαθοῦ.

[11] Πάλιν δὲ καὶ τοῦτο διελεῖν δεῖ. ὑπὲρ ἀγαθοῦ τοῦ πῶς λεγομένου; οὐ γάρ ἐστιν ἁπλοῦν. λέγεται γὰρ ἀγαθὸν ἢ τὸ ἄριστον ἐν ἑκάστῳ τῶν ὄντων, τοῦτο δ’ ἐστὶ τὸ διὰ τὴν αὑτοῦ φύσιν αἱρετόν· ἢ οὗ τἆλλα μετασχόντα ἀγαθὰ ἐστίν, τοῦτο δέ ἐστιν ἡ ἰδέα τἀγαθοῦ.

[12] Πότερον οὖν ὑπὲρ τῆς ἰδέας τοῦ ἀγαθοῦ δεῖ, ἢ οὔ, ἀλλ’ ὡς τὸ κοινὸν ἐν ἅπασιν ὑπάρχον ἀγαθόν; ἕτερον γὰρ τῆς ἰδέας τοῦτο δόξειεν ἂν εἶναι. ἡ μὲν γὰρ ἰδέα χωριστὸν καὶ αὐτὸ καθ’ αὑτό· τὸ δὲ κοινὸν ἐν ἅπασιν ὑπάρχει, οὐκ ἔστιν δὴ ταὐτὸν τῷ χωριστῷ. οὐ γὰρ ἄν ποτε τὸ χωριστὸν καὶ τὸ πεφυκὸς αὐτὸ καθ’ αὑτὸ εἶναι ἐν πᾶσιν ὑπάρχοι.

[13] Πότερον οὖν ὑπὲρ τούτου δεῖ λέγειν τἀγαθοῦ τοῦ ἐνυπάρχοντος; ἢ οὔ; διὰ τί; ὅτι τοῦτο ἐστὶ μὲν τὸ κοινόν, ὡς ὁ ὁρισμὸς καὶ ἡ ἐπαγωγή· ὁ δὲ ὁρισμὸς βούλεται τὴν ἑκάστου οὐσίαν λέγειν, ἤτοι ὅτι ἀγαθὸν ἢ ὅτι κακὸν ἢ ὅ τι ἂν ἄλλο ᾖ· λέγει δὲ ὁ ὅρος ὅτι τὸ τοιόνδ’ ἀγαθὸν καθόλου, ὃ ἂν ᾖ αὐτὸ δι’ αὑτὸ αἱρετόν· τὸ δὲ ἐν ἅπασιν ἐνυπάρχον ὅμοιον τῷ ὅρῳ ἐστίν.

[14] Ὁ δὲ ὅρος λέγει ὅτι ἀγαθόν, ἐπιστήμη δέ γε οὐδὲ δύναμις οὐδεμία λέγει ὑπὲρ τοῦ τέλους τοῦ αὑτῆς ὅτι ἀγαθόν, ἀλλὰ τοῦτο μὲν ἄλλης δυνάμεώς ἐστι θεωρῆσαι (οὔτε γὰρ ὁ ἰατρὸς οὔτε ὁ οἰκοδόμος λέγει ὅτι ἀγαθὸν ἡ ὑγίεια οὐδὲ ἡ οἰκία, ἀλλ’ ὅτι ὃ [15] μὲν ὑγίειαν ποιεῖ, καὶ ὡς ποιεῖ, ὃ δ’ οἰκίαν)· δῆλον τοίνυν ὅτι οὐδὲ τῇ πολιτικῇ ὑπὲρ τοῦ ἀγαθοῦ λεκτέον τοῦ κοινοῦ. μία γάρ ἐστιν καὶ αὐτὴ τῶν λοιπῶν ἐπιστημῶν· τοῦτο δὲ οὐδεμιᾶς ἦν λέγειν οὔτε δυνάμεως οὔτ’ ἐπιστήμης ὡς τέλος· οὐδ’ ἄρα τῆς πολιτικῆς ἐστιν τὸ ὑπὲρ τοῦ κοινοῦ ἀγαθοῦ λέγειν τοῦ κατὰ τὸν ὁρισμόν.

[16] Ἀλλὰ μὴν οὐδὲ τοῦ κατὰ τὴν ἐπαγωγὴν κοινοῦ. διὰ τί; ὅτι ὅταν βουλώμεθα δεῖξαί [καί] τι τῶν μέρος ἀγαθῶν, ἢ τῷ ὁρισμῷ δείκνυμεν ὅτι ὁ αὐτὸς λόγος ἐφαρμόττει ἐπί τε τἀγαθὸν καὶ ἐπὶ τοῦτο ὃ ἂν βουλώμεθα δεῖξαι ὅτι ἀγαθόν, ἢ τῇ ἐπαγωγῇ, οἷον ὅταν θέλωμεν δεῖξαι ὅτι ἡ μεγαλοψυχία ἐστὶν ἀγαθόν, φαμὲν ὅτι ἡ δικαιοσύνη ἀγαθὸν καὶ ἡ ἀνδρεία καὶ ἁπλῶς αἱ ἀρεταί, ἡ δὲ μεγαλοψυχία ἀρετή, ὥστε καὶ ἡ μεγαλοψυχία ἀγαθόν· οὐδὲ δὴ [17] ὑπὲρ τοῦ κατὰ τὴν ἐπαγωγὴν κοινοῦ ἀγαθοῦ λεκτέον τῇ πολιτικῇ, ὅτι τὰ αὐτὰ ἀδύνατα συμβήσεται τούτῳ καὶ τῷ κατὰ τὸν ὅρον κοινῷ ἀγαθῷ. ὅτι γὰρ ἀγαθόν, καὶ ἐνταῦθ’ ἐρεῖ.

Δῆλον τοίνυν ὅτι ὑπὲρ τοῦ ἀρίστου ἀγαθοῦ λεκτέον [18] ἐστὶν καὶ ἀρίστου τοῦ ἡμῖν ἀρίστου· τὸ δ’ ὅλον ἴδοι ἄν τις ὅτι οὐκ ἔστιν μιᾶς οὔτ’ ἐπιστήμης οὔτε δυνάμεως τὸ ὑπὲρ παντὸς ἀγαθοῦ σκοπεῖν.

Διὰ τί; ὅτι τἀγαθὸν ἐν πάσαις ταῖς κατηγορίαις ἐστίν· καὶ γὰρ ἐν τῷ τί καὶ ἐν τῷ ποιῷ καὶ ἐν τῷ ποσῷ καὶ πότε καὶ πρός τι [καὶ τινὶ] καὶ ἁπλῶς ἐν [19] ἁπάσαις. ἀλλὰ μὴν τὸ πότε ἀγαθὸν ἐν μὲν ἰατρικῇ ὁ ἰατρὸς οἶδεν, ἐν δὲ κυβερνητικῇ ὁ κυβερνήτης, ἐν ἑκάστῃ δ’ ἕκαστος. πότε μὲν γὰρ δεῖ τεμεῖν ὁ ἰατρὸς οἶδεν, πότε δὲ δεῖ πλεῖν ὁ κυβερνήτης. ἐν ἑκάστῃ δὲ τὸ πότε ἀγαθὸν ἕκαστος τὸ καθ’ ἑαυτὸν εἰδήσει· οὔτε γὰρ ὁ ἰατρὸς τὸ ἐν τῇ κυβερνητικῇ ἀγαθὸν πότε εἰδήσει, οὔτε ὁ κυβερνήτης τὸ ἐν ἰατρικῇ. οὐκ ἄρα οὐδ’ οὕτως ὑπὲρ τοῦ κοινοῦ ἀγαθοῦ λεκτέον· τὸ γὰρ πότε ἐν πάσαις κοινόν.

[20] Ὁμοίως δὲ καὶ τὸ πρός τι ἀγαθὸν καὶ τὸ κατὰ τὰς ἄλλας κατηγορίας κοινὸν μὲν ἁπάσαις, οὐδεμιᾶς δ’ ἐστὶν οὔτε δυνάμεως οὔτ’ ἐπιστήμης εἰπεῖν ὑπὲρ τοῦ ἐν ἑκάστῃ [πότε] ἀγαθοῦ, οὐδ’ αὖ τῆς πολιτικῆς ὑπὲρ τοῦ κοινοῦ ἀγαθοῦ λέγειν. ὑπὲρ τοῦ ἀγαθοῦ ἄρα, καὶ ὑπὲρ τοῦ ἀρίστου, καὶ ὑπὲρ τοῦ ἡμῖν ἀρίστου.

[21] Ἴσως δὲ οὐδὲ δεῖ βουλόμενόν τι δεικνύναι, τοῖς μὴ φανεροῖς παραδείγμασι χρῆσθαι, ἀλλ’ ὑπὲρ τῶν ἀφανῶν τοῖς φανεροῖς, καὶ ὑπὲρ τῶν νοητῶν τοῖς αἰσθητοῖς. [καὶ] ταῦτα γὰρ φανερώτερα. ὅταν οὖν ὑπὲρ τἀγαθοῦ τις ἐγχειρῇ λέγειν, οὐ λεκτέον [22] ἐστὶν ὑπὲρ τῆς ἰδέας. καίτοι οἴονταί γε [δεῖν], ὅταν ὑπὲρ τοῦ ἀγαθοῦ λέγωσιν, ὑπὲρ τῆς ἰδέας δεῖν λέγειν· ὑπὲρ γὰρ τοῦ μάλιστα ἀγαθοῦ φασι δεῖν λέγειν, αὐτὸ δὲ ἕκαστον μάλιστ’ ἐστὶν [τὸ] τοιοῦτον, ὥστε μάλιστ’ ἂν εἴη ἀγαθὸν ἡ ἰδέα, ὡς οἴονται.

[23] ὁ δὴ τοιοῦτος λόγος ἀληθὴς μέν ἐστιν ἴσως· ἀλλ’ οὐχ ἡ πολιτικὴ ἐπιστήμη ἢ δύναμις, ὑπὲρ ἧς νῦν ἐστιν ὁ λόγος, οὐχ ὑπὲρ τούτου σκοπεῖ τἀγαθοῦ, ἀλλὰ τοῦ ἡμῖν ἀγαθοῦ. [οὐδεμία γὰρ οὔτ’ ἐπιστήμη οὔτε δύναμις ὑπὲρ τοῦ τέλους λέγει ὅτι ἀγαθόν, ὥστε οὐδ’ ἡ πολιτική.] διὸ οὐχ ὑπὲρ τοῦ

κατὰ τὴν ἰδέαν ἀγαθοῦ τὸν λόγον ποιεῖται.

[24] Ἀλλ’ ἴσως [φησὶ] τούτῳ τἀγαθῷ ἀρχῇ χρησάμενος ὑπὲρ τῶν καθ’ ἕκαστα, ἐκ τούτου προβάς, ἐρεῖ. οὐδ’ οὕτως ὀρθῶς. δεῖ γὰρ τὰς ἀρχὰς οἰκείας λαμβάνειν. ἄτοπον γάρ, εἴ τις βουλόμενος τὸ τρίγωνον ὡς δυσὶν ὀρθαῖς ἴσας ἔχον δεῖξαι, λάβοι ἀρχὴν ὅτι ἡ ψυχὴ ἀθάνατος. οὐ γὰρ οἰκεία, δεῖ δὲ τὴν ἀρχὴν οἰκείαν εἶναι καὶ συνημμένην· νῦν δὲ καὶ ἄνευ τοῦ τὴν ψυχὴν εἶναι ἀθάνατον δείξει τις [25] δυσὶν ὀρθαῖς ἴσας ἔχον τὸ τρίγωνον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἀγαθῶν ἐστι θεάσασθαι τὰ ἄλλα ἄνευ τοῦ κατὰ τὴν ἰδέαν ἀγαθοῦ διὸ οὐκ οἰκείαν ἀρχὴν εἶναι τούτου τἀγαθοῦ.

[26] Οὐκ ὀρθῶς δὲ οὐδ’ ὁ Σωκράτης ἐπιστήμας ἐποίει τὰς ἀρετάς. ἐκεῖνος γὰρ οὐδὲν ᾤετο δεῖν μάτην εἶναι, ἐκ δὲ τοῦ τὰς ἀρετὰς ἐπιστήμας εἶναι συνέβαινεν αὐτῷ τὰς ἀρετὰς μάτην εἶναι. διὰ τί; ὅτι ἐπὶ τῶν ἐπιστημῶν συμβαίνει ἅμα εἰδέναι τὴν ἐπιστήμην τί ἐστι καὶ εἶναι ἐπιστήμονα (εἰ γὰρ ἰατρικήν τις οἶδεν τί ἐστίν, καὶ ἰατρὸς οὗτος εὐθέως ἐστίν, ὁμοίως δὲ καὶ τῶν ἄλλων ἐπιστημῶν)· ἀλλ’ [27] οὐκ ἐπὶ τῶν ἀρετῶν τοῦτο συμβαίνει. οὐ γὰρ εἴ τις οἶδεν τὴν δικαιοσύνην τί ἐστίν, εὐθέως δίκαιος ἐστίν, ὡς δ’ αὔτως κἀπὶ τῶν ἄλλων. συμβαίνει οὖν καὶ μάτην τὰς ἀρετὰς εἶναι καὶ μὴ εἶναι ἐπιστήμας.

[2]

[1] Ἐπεὶ δ’ ὑπὲρ τούτων διώρισται, πειραθῶμεν λέγειν τἀγαθὸν ποσαχῶς λέγεται.

Ἔστι γὰρ τῶν ἀγαθῶν τὰ μὲν τίμια, τὰ δ’ ἐπαινετά, τὰ δὲ δυνάμεις. τὸ δὲ τίμιον λέγω τὸ τοιοῦτον, τὸ θεῖον, τὸ βέλτιον, οἷον ψυχή, νοῦς, τὸ ἀρχαιότερον, ἡ ἀρχή, τὰ τοιαῦτα· τίμια γὰρ ἐφ’ οἷς ἡ τιμή, τοῖς δὲ τοιούτοις πᾶσιν τιμὴ ἀκολουθεῖ. οὐκοῦν καὶ ἡ ἀρετὴ τίμιον, ὅταν γε δὴ ἀπ’ αὐτῆς σπουδαῖός τις γένηται· ἤδη γὰρ οὗτος εἰς τὸ τῆς [2] ἀρετῆς σχῆμα ἥκει. τὰ δ’ ἐπαινετά, οἷον ἀρεταί· ἀπὸ γὰρ τῶν κατ’ αὐτὰς πράξεων ὁ ἔπαινος γίνεται. τὰ δὲ δυνάμεις, οἷον ἀρχὴ πλοῦτος ἰσχὺς κάλλος· τούτοις γὰρ καὶ ὁ σπουδαῖος εὖ ἂν δύνηται χρήσασθαι καὶ ὁ φαῦλος κακῶς· διὸ δυνάμεις τὰ τοιαῦτα [3] καλοῦνται ἀγαθά. ἀγαθὰ μὲν δὴ εἰσίν (δοκιμάζεται γὰρ τῇ τοῦ σπουδαίου αὐτῶν ἕκαστον χρήσει, οὐ τῇ τοῦ φαύλου)· τοῖς δ’ αὐτοῖς τούτοις συμβέβηκεν ἀγαθοῖς καὶ τὴν τύχην τῆς γενέσεως αὐτῶν αἰτίαν εἶναι. ἀπὸ τύχης γὰρ καὶ πλοῦτος γίνεται καὶ ἀρχὴ καὶ ὅλως ὅσα εἰς δυνάμεως τάξιν ἥκει.

[4] λοιπὸν δὲ καὶ τέταρτον τῶν ἀγαθῶν τὸ σωστικὸν καὶ ποιητικὸν ἀγαθοῦ, οἷον γυμνάσια ὑγιείας καὶ εἴ τι ἄλλο τοιοῦτον.

[5] Ἀλλ’ ἔτι καὶ ἄλλην ἔχει τἀγαθὰ διαίρεσιν· οἷόν ἐστι τῶν ἀγαθῶν τὰ μὲν πάντῃ καὶ πάντως αἱρετά, τὰ δ’ οὔ. οἷον ἡ μὲν δικαιοσύνη καὶ αἱ ἄλλαι ἀρεταὶ καὶ πάντῃ καὶ πάντως αἱρεταί, ἰσχὺς δὲ καὶ πλοῦτος καὶ δύναμις καὶ τὰ τοιαῦτα οὔτε πάντῃ οὔτε πάντως.

[6] Ἔτι καὶ ἄλλως· τῶν γὰρ ἀγαθῶν τὰ μέν ἐστιν τέλη τὰ δ’ οὐ τέλη, οἷον ἡ μὲν ὑγίεια τέλος, τὰ δὲ τῆς ὑγιείας ἕνεκεν οὐ τέλη. καὶ ὅσα οὕτως ἔχει, τούτων ἀεὶ τὸ τέλος βέλτιον, οἷον ἡ ὑγίεια βέλτιον ἢ τὰ ὑγιεινά, καὶ ἁπλῶς ἀεὶ καθόλου τοῦτο βέλτιον οὗ ἕνεκεν καὶ τὰ ἄλλα.

[7] Πάλιν αὐτῶν τῶν τελῶν βέλτιον ἀεὶ τὸ τέλειον τοῦ ἀτελοῦς. τέλειον δέ ἐστιν οὗ παραγενομένου μηθενὸς ἔτι προσδεόμεθα, ἀτελὲς δὲ οὗ παραγενομένου προσδεόμεθα τινός, οἷον τῆς δικαιοσύνης μὲν [μόνον] παραγενομένης πολλῶν προσδεόμεθα, τῆς δὲ εὐδαιμονίας παραγενομένης οὐδενὸς ἔτι προσδεόμεθα. τοῦτο ἄρα ἐστὶν τὸ ἄριστον ἡμῖν ὃ ζητοῦμεν, ὅ ἐστι τέλος τέλειον· τὸ δὲ δὴ τέλειον τέλος τἀγαθόν ἐστι καὶ τέλος τῶν ἀγαθῶν.

[8] Μετὰ ταῦτα τοίνυν πῶς τὸ ἄριστον δεῖ σκοπεῖν; πότερον οὕτως ὡς καὶ αὐτοῦ συναριθμουμένου; ἀλλ’ ἄτοπον. τὸ γὰρ ἄριστον ἐπειδή ἐστι τέλος τέλειον, τὸ δὲ τέλειον τέλος ὡς ἁπλῶς εἰπεῖν οὐθὲν ἂν ἄλλο δόξειεν εἶναι ἢ εὐδαιμονία, τὴν δ’ εὐδαιμονίαν ἐκ πολλῶν ἀγαθῶν συντίθεμεν· ἐὰν δὴ τὸ βέλτιστον σκοπῶν καὶ αὐτὸ συναριθμῇς, αὐτὸ αὑτοῦ ἔσται βέλτιον. αὐτὸ γὰρ βέλτιστον ἐστίν. οἷον τὰ ὑγιεινὰ θεὶς καὶ τὴν ὑγίειαν, σκόπει τί τούτων πάντων βέλτιστον· βέλτιστον δέ ἐστιν ὑγίεια· εἰ δὴ τοῦτο πάντων βέλτιστον, καὶ αὐτὸ [9] αὑτοῦ βέλτιστον. ἄτοπον δὴ συμβαίνει. οὐ δὴ ἴσως οὕτω γε σκεπτέον τὸ βέλτιστον.

Ἀλλὰ ἆρά γε οὕτω πως, οἷον χωρὶς αὐτοῦ; ἢ καὶ τοῦτο ἄτοπον; ἡ γὰρ εὐδαιμονία ἐστὶν ἔκ τινων ἀγαθῶν συγκειμένη· τὸ δ’ ἐξ ὧν ἀγαθῶν σύγκειται, σκοπεῖν εἰ τοῦτ’ ἐστὶν βέλτιον, ἄτοπον· οὐ γάρ ἐστιν ἄλλο τι χωρὶς τούτων ἡ εὐδαιμονία, ἀλλὰ ταῦτα.

[10] Ἀλλ’ ἆρά γε οὑτωσί πως ἄν τις ὀρθῶς σκοποῖτο συγκρίνων τὸ ἄριστον; οἷον αὐτὴν τὴν εὐδαιμονίαν τὴν ἐκ τούτων τῶν ἀγαθῶν οὖσαν συγκρίνων πρὸς ἄλλα ἃ μή ἐστιν ἐν αὐτῇ ἐνόντα, οὕτω τὸ ἄριστον [11] σκοπῶν ὀρθῶς ἂν σκοποῖτο; ἀλλ’ οὐκ ἔστιν ἁπλοῦν τὸ ἄριστον ὃ ζητοῦμεν νῦν. οἷον λέγοι ἄν τις εἶναι ἄριστον τὴν φρόνησιν ἁπάντων τῶν ἀγαθῶν καθ’ ἓν συγκρινομένων. ἀλλ’ ἴσως οὐχ οὕτως ζητητέον ἐστὶν τὸ ἄριστον ἀγαθόν. τὸ γὰρ τέλειον ζητοῦμεν ἀγαθόν, ἡ δὲ φρόνησις μόνη οὖσα οὐ τέλειον· οὐκ ἄρα τοῦτο τὸ ἄριστον ὃ ζητοῦμεν, οὐδὲ τὸ οὕτως ἄριστον.

[3]

[1] Μετὰ τοίνυν τοῦτο ἔχει τὰ ἀγαθὰ ἄλλην διαίρεσιν. ἔστι γὰρ τῶν ἀγαθῶν τὰ μὲν ἐν ψυχῇ, οἷον αἱ ἀρεταί, τὰ δὲ ἐν τῷ σώματι, οἷον ὑγίεια κάλλος, τὰ δ’ ἐκτός, πλοῦτος ἀρχὴ τιμὴ ἢ εἴ τι ἄλλο τῶν τοιούτων. τούτων δὲ τὰ ἐν ψυχῇ [2] βέλτιστα. τὰ δ’ ἐν ψυχῇ διώρισται ἀγαθὰ εἰς τρία, εἰς φρόνησιν εἰς ἀρετὴν καὶ ἡδονήν.

Ἤδη τοίνυν τὸ μετὰ τοῦτο, ὃ καὶ λέγομεν πάντες καὶ δοκεῖ καὶ τέλος τῶν ἀγαθῶν καὶ τελειότατον εἶναι, ἡ εὐδαιμονία, καὶ τοῦτο ταὐτό φαμεν εἶναι [3] τὸ εὖ πράττειν καὶ εὖ ζῆν. τὸ δὲ τέλος ἐστὶν οὐχ ἁπλοῦν ἀλλὰ διττόν· ἐνίων μὲν γάρ ἐστι τὸ τέλος αὐτὴ ἡ ἐνέργεια καὶ ἡ χρῆσις, οἷον τῆς ὄψεως [ἐστιν ἡ ὅρασις]· καὶ ἔστιν γε ἡ χρῆσις αἱρετωτέρα τῆς ἕξεως· τέλος γὰρ ἡ χρῆσις· οὐδεὶς γὰρ ἂν βούλοιτο ἔχειν τὴν ὄψιν μὴ μέλλων ὁρᾶν ἀλλὰ μύειν.

[4] ὁμοίως δὲ καὶ ἐπ’ ἀκοῆς καὶ τῶν τοιούτων. ὧν ἄρα καὶ [ἡ] χρῆσις καὶ ἕξις ἐστίν, ἀεὶ βέλτιον καὶ αἱρετώτερον ἡ χρῆσις τῆς ἕξεως· ἡ γὰρ χρῆσις καὶ ἡ ἐνέργεια τέλος, ἡ δ’ ἕξις τῆς χρήσεως ἕνεκεν.

[5] Μετὰ τοῦτο τοίνυν τοῦτ’ ἐάν τις σκοπῇ ἐπὶ τῶν ἐπιστημῶν πασῶν, ὄψεται οὐκ ἄλλην μὲν ποιοῦσαν οἰκίαν, ἄλλην δὲ σπουδαίαν οἰκίαν, ἀλλὰ τὴν οἰκοδομικήν· καὶ οὗ ποιητικὸς ὁ οἰκοδόμος, ἡ τούτου ἀρετὴ τοῦ αὐτοῦ τούτου εὖ ποιητική. ὁμοίως [καὶ] ἐπὶ τῶν ἄλλων ἁπάντων.

[4]

[1] Μετὰ τοίνυν τοῦτο ὁρῶμεν ὅτι οὐθενὶ ἄλλῳ ἢ ψυχῇ ζῶμεν· ἐν ψυχῇ δέ ἐστιν ἀρετή· τὸ αὐτό γέ τοί φαμεν τήν τε ψυχὴν ποιεῖν καὶ τὴν τῆς ψυχῆς ἀρετήν. ἀλλ’ ἡ μὲν ἀρετὴ ἐν ἑκάστῳ τοῦτο ποιεῖ ‹εὖ› οὗ ἐστιν ἀρετή, ἡ δὲ ψυχὴ καὶ τἆλλα μέν, ψυχῇ δὲ ζῶμεν· διὰ τὴν τῆς ψυχῆς ἀρετὴν ἄρα εὖ ζήσομεν.

[2] Τὸ δέ γε εὖ ζῆν καὶ εὖ πράττειν οὐθὲν ἄλλο ἢ τὸ εὐδαιμονεῖν λέγομεν. τὸ ἄρα εὐδαιμονεῖν καὶ ἡ εὐδαιμονία ἐν τῷ εὖ ζῆν ἐστίν, τὸ δ’ εὖ ζῆν ἐν τῷ κατὰ τὰς ἀρετὰς ζῆν. τοῦτ’ ἄρ’ ἐστὶν τέλος καὶ ἡ εὐδαιμονία καὶ τὸ ἄριστον.

[3] Ἐν χρήσει τοίνυν τινὶ ἂν εἴη καὶ ἐνεργείᾳ ἡ εὐδαιμονία. ὧν γὰρ ἦν ἕξις καὶ χρῆσις, ἡ χρῆσις καὶ ἡ ἐνέργεια τέλος· τῆς δὲ ψυχῆς ἡ ἀρετὴ ἕξις ἐστίν· ἔστιν δὲ καὶ ἐνέργεια καὶ [ἡ] χρῆσις αὐτῆς τῶν ἀρετῶν· ὥστε τέλος ἂν εἴη ἡ ἐνέργεια καὶ ἡ χρῆσις αὐτῆς· ἡ εὐδαιμονία ἄρ’ ἂν εἴη ἐν τῷ κατὰ [4] τὰς ἀρετὰς ζῆν. ἐπειδήπερ οὖν τὸ ἄριστον ἀγαθόν ἐστιν ἡ εὐδαιμονία, καὶ αὕτη τέλος καὶ τέλειον τέλος ἐνεργείᾳ, ζῶντες ἂν κατὰ τὰς ἀρετὰς εὐδαίμονες ἂν εἴημεν καὶ ἔχοιμεν τὸ ἄριστον ἀγαθόν.

[5] Ἐπεὶ δ’ οὖν ἐστιν ἡ εὐδαιμονία τέλειον ἀγαθὸν καὶ τέλος, οὐδὲ τοῦτο

δεῖ λανθάνειν ὅτι καὶ ἐν τελείῳ ἔσται. οὐ γὰρ ἔσται ἐν παιδί (οὐ γάρ ἐστι παῖς εὐδαίμων), ἀλλ᾽ ἐν ἀνδρί· οὗτος γὰρ τέλειος.

Οὐδ᾽ ἐν χρόνῳ γε ἀτελεῖ, ἀλλ᾽ ἐν τελείῳ. τέλειος δ᾽ ἂν εἴη χρόνος, ὅσον ἄνθρωπος βιοῖ. καὶ γὰρ λέγεται ὀρθῶς παρὰ τοῖς πολλοῖς ὅτι δεῖ τὸν εὐδαίμονα ἐν τῷ μεγίστῳ χρόνῳ τοῦ βίου κρίνειν, ὡς δέον τὸ τέλειον εἶναι καὶ ἐν χρόνῳ τελείῳ καὶ ἐν ἀνθρώπῳ.

[6] Ὅτι δὲ ἐνέργεια ἐστίν, ἴδοι ἄν τις καὶ ἐντεῦθεν. ἐν γὰρ τοῖς ὕπνοις, οἷον εἴ τις καθεύδοι διὰ βίου, τὸν τοιοῦτον οὐ πάνυ βουλόμεθα λέγειν εὐδαίμονα εἶναι· τὸ μὲν γὰρ ζῆν αὐτῷ ὑπάρχει, ἀλλὰ τὸ ζῆν αὐτῷ κατὰ τὰς ἀρετὰς οὐχ ὑπάρχει, ὃ ἦν κατὰ τὴν ἐνέργειαν.

[7] Μετὰ τοῦτο τὸ μέλλον λέγεσθαι οὔτε λίαν δόξειεν ἂν οἰκεῖον εἶναι τούτων οὔτε μακρὰν ἀπέχον. οἷον ἐπειδήπερ ἔστιν, ὡς δοκεῖ, μόριόν τι τῆς ψυχῆς ᾧ τρεφόμεθα, ὃ καλοῦμεν θρεπτικόν (τοῦτο γὰρ εὔλογόν ἐστιν εἶναι· τοὺς γοῦν λίθους ὁρῶμεν ἀδυνάτους τρέφεσθαι ὄντας, ὥστε δῆλον ὅτι τῶν ἐμψύχων ἐστὶ τὸ τρέφεθαι· εἰ δὲ τῶν ἐμψύχων, ἡ [8] ψυχὴ ἂν εἴη αἰτία· τῆς δὲ ψυχῆς τούτων μὲν τῶν μορίων οὐθὲν αἴτιον ἂν εἴη τοῦ τρέφεσθαι, οἷον τὸ λογιστικὸν ἢ τὸ θυμικὸν ἢ τὸ ἐπιθυμητικόν, ἄλλο δέ τι παρὰ ταῦτα, ᾧ οὐθὲν ἔχομεν οἰκειότερον [9] ὄνομα ἐπιθεῖναι ἢ θρεπτικόν)· τί οὖν, ἄν τις εἴποι, πότερον καὶ τούτου τοῦ μορίου τῆς ψυχῆς ἔστιν ἀρετή; εἰ γὰρ ἔστι, δῆλον ὅτι καὶ ταύτῃ δεήσει ἐνεργεῖν· τῆς γὰρ τελείας ἀρετῆς ἡ ἐνέργεια εὐδαιμονία.

Εἰ μὲν οὖν ἔστιν ἀρετὴ τούτου ἢ μὴ ἔστιν, ἄλλος λόγος· εἰ δ᾽ ἄρα ἔστιν, οὐκ ἔστιν ταύτης ἐνέργεια. ὧν γὰρ μὴ ἔστιν ὁρμή, οὐδ᾽ ἐνέργεια τούτων ἔσται· οὐκ ἔοικεν δὲ εἶναι ὁρμὴ ἐν τῷ μορίῳ τούτῳ, ἀλλ᾽ ὅμοιον ἔοικεν εἶναι τῷ πυρί. καὶ γὰρ ἐκεῖνο ὅ τι ἂν ἐμβάλῃς καταναλώσει, κἂν μὴ ἐμβάλῃς, οὐκ ἔχει ὁρμὴν πρὸς τὸ λαβεῖν. οὕτω καὶ τοῦτο τὸ μόριον τῆς ψυχῆς ἔχει· ἂν μὲν γὰρ ἐμβάλῃς τροφήν, τρέφει, ἂν δὲ μὴ ἐμβάλῃς τροφήν, οὐκ ἔχει ὁρμὴν τοῦ τρέφειν. διὸ οὐδὲ ἐνέργεια οὗ μηδὲ ὁρμή. ὥστ᾽ οὐδὲν συνεργεῖ τὸ μόριον τοῦτο πρὸς τὴν εὐδαιμονίαν.

[10]

Μετὰ ταῦτα τοίνυν λεκτέον ἂν εἴη τί ἐστιν ἡ ἀρετή, ἐπείπερ ἡ ταύτης ἐνέργειά ἐστιν ἡ εὐδαιμονία. ὡς μὲν οὖν ἁπλῶς εἰπεῖν, ἐστὶν ἡ ἀρετὴ ἕξις ἡ βελτίστη· ἀλλ᾽ ἴσως οὐχ ἱκανὸν οὕτως ἁπλῶς εἰπεῖν, ἀλλὰ σαφέστερον διορίσαι δεῖ.

[5]

[1] Πρῶτον μὲν οὖν λεκτέον ὑπὲρ τῆς ψυχῆς ἐν ᾗ ἐγγίνεται, οὐ τί ἐστιν ἡ ψυχὴ (ὑπὲρ μὲν γὰρ τούτου ἄλλος λόγος), ἀλλ᾽ ὡς τύπῳ διελέσθαι. ἔστιν δ᾽ ἡ

ψυχή, ὡς φαμέν, εἰς δύο μέρη διῃρημένη, εἴς τε τὸ λόγον ἔχον καὶ τὸ ἄλογον. ἐν μὲν δὴ τῷ λόγον ἔχοντι ἐγγίνεται φρόνησις ἀγχίνοια σοφία εὐμάθεια μνήμη καὶ τὰ τοιαῦτα, ἐν δὲ τῷ ἀλόγῳ αὗται αἱ ἀρεταὶ λεγόμεναι, σωφροσύνη δικαιοσύνη ἀνδρεία ὅσαι ἄλλαι τοῦ ἤθους δοκοῦσιν ἐπαινεταὶ [2] εἶναι. κατὰ γὰρ ταύτας ἐπαινετοὶ λεγόμεθα· κατὰ δὲ τὰς τοῦ [τὸν] λόγον ἔχοντος οὐδεὶς ἐπαινεῖται. οὔτε γὰρ ὅτι σοφός, οὐδεὶς ἐπαινεῖται, οὔτε ὅτι φρόνιμος, οὐδ’ ὅλως κατά τι τῶν τοιούτων οὐθέν. οὐδὲ δὴ τὸ ἄλογον, εἰ μὴ ᾗ ὑπηρετικόν ἐστιν καὶ ὑπηρετεῖ τῷ λόγον ἔχοντι μορίῳ.

[3] Ἔστιν δ’ ἡ ἀρετὴ ἡ ἠθικὴ ὑπὸ ἐνδείας καὶ ὑπερβολῆς φθειρομένη. ὅτι δὲ ἡ ἔνδεια καὶ ἡ ὑπερβολὴ φθείρει, τοῦτ’ ἰδεῖν ἔστιν ἐκ τῶν ἠθικῶν (δεῖ δ’ ὑπὲρ τῶν ἀφανῶν τοῖς φανεροῖς μαρτυρίοις χρῆσθαι). εὐθέως γὰρ ἐπὶ γυμνασίων ἴδοι ἄν τις· πολλῶν γὰρ γινομένων φθείρεται ἡ ἰσχύς, ὀλίγων τε ὡσαύτως. ἐπί τε ποτῶν καὶ σιτίων ὡσαύτως· πολλῶν τε γὰρ δὴ γινομένων φθείρεται ἡ ὑγίεια, ὀλίγων τε ὡσαύτως, συμμέτρων δὲ γινομένων σῴζεται [4] ἡ ἰσχὺς καὶ ἡ ὑγίεια. ὁμοίως δὲ τούτοις συμβαίνει καὶ ἐπὶ σωφροσύνης καὶ ἐπὶ ἀνδρείας καὶ τῶν ἄλλων ἀρετῶν. ἐὰν μὲν γάρ τινα λίαν ποιήσῃς ἄφοβον, ὥστε μηδὲ τοὺς θεοὺς φοβεῖσθαι, οὐκ ἀνδρεῖος ἀλλὰ μαινόμενος, ἂν δὲ φοβούμενον πάντα, δειλός· ἀνδρεῖος ἄρα ἔσται οὔτε ὁ φοβούμενος πάντα [5] οὔτε ὁ μηθέν. ταὔτ’ ἄρα καὶ αὔξει καὶ φθείρει τὴν ἀρετήν. καὶ γὰρ οἱ λίαν φόβοι καὶ πάντες φθείρουσι, καὶ οἱ περὶ μηθὲν δὲ ὁμοίως. ἔστιν δ’ ἡ ἀνδρεία περὶ φόβους, ὥστε οἱ μέτριοι φόβοι αὔξουσι τὴν ἀνδρείαν. ὑπὸ τῶν αὐτῶν ἄρα καὶ αὔξεται καὶ φθείρεται ἡ ἀνδρεία· ὑπὸ φόβων γὰρ τοῦτο πάσχουσιν. ὁμοίως δὲ καὶ αἱ ἄλλαι ἀρεταί.

[6]

[1] Ἔτι οὐ μόνον τοῖς τοιούτοις τὴν ἀρετὴν ἀφορίσειεν ἄν τις, ἀλλὰ καὶ λύπῃ καὶ ἡδονῇ. διὰ μὲν γὰρ τὴν ἡδονὴν τὰ φαῦλα πράττομεν, διὰ δὲ τὴν λύπην τῶν καλῶν ἀπεχόμεθα· ὅλως τε οὐκ ἔστιν λαβεῖν ἀρετὴν καὶ κακίαν ἄνευ λύπης καὶ ἡδονῆς. ἔστιν οὖν ἡ ἀρετὴ περὶ ἡδονὰς καὶ λύπας.

[2] Ἡ δ’ ἠθικὴ ἀρετὴ ἐντεῦθεν τὰς ἐπωνυμίας ἔχει, εἰ δεῖ παρὰ γράμμα λέγοντα τὴν ἀλήθειαν ὡς ἔχει σκοπεῖν (δεῖ δ’ ἴσως). τὸ γὰρ ἦθος ἀπὸ τοῦ ἔθους ἔχει τὴν ἐπωνυμίαν· ἠθικὴ γὰρ καλεῖται διὰ τὸ [3] ἐθίζεσθαι. ᾧ καὶ δῆλον ὅτι οὐδεμία ἡμῖν τῶν ἀρετῶν τῶν τοῦ ἀλόγου μέρους φύσει ἐγγίνεται· οὐθὲν γὰρ τῶν ὄντων φύσει ἔθει ἄλλως γίνεται. οἷον ὁ λίθος καὶ ὅλως τὰ βαρέα πέφυκε κάτω φέρεσθαι· ἄν τις οὖν ἄνω ῥίπτῃ πολλάκις καὶ ἐθίζῃ ἄνω φέρεσθαι, ὅμως οὐκ ἄν ποτε ἄνω ἐνεχθείη, ἀλλ’ ἀεὶ κάτω. ὁμοίως [καὶ] ἐπὶ τῶν ἄλλων τῶν τοιούτων.

[7]

[1] Μετὰ τοίνυν τοῦτο δεῖ βουλομένους εἰπεῖν τὸ τί ἐστιν ἡ ἀρετή, εἰδῆσαι τίνα ἐστὶν τὰ ἐν τῇ ψυχῇ γινόμενα. ἔστιν δ' ἃ γίνεται ταῦτα, πάθη δυνάμεις ἕξεις· ὥστε δῆλον ὅτι τούτων ἄν τι εἴη [2] ἀρετή. πάθη μὲν οὖν ἐστιν ὀργὴ φόβος μῖσος πόθος ζῆλος ἔλεος τὰ τοιαῦτα, οἷς εἴωθεν παρακολουθεῖν λύπη καὶ ἡδονή· δυνάμεις δὲ καθ' ἃς παθητικοὶ τούτων λεγόμεθα, οἷον καθ' ἃς δυνατοί ἐσμεν ὀργισθῆναι λυπηθῆναι ἐλεῆσαι, [καὶ] τὰ τοιαῦτα· [3] ἕξεις δ' εἰσὶν καθ' ἃς πρὸς ταῦτα ἔχομεν εὖ ἢ κακῶς, οἷον πρὸς τὸ ὀργισθῆναι, εἰ μὲν λίαν ὀργίλως, κακῶς ἔχομεν πρὸς ὀργήν, εἰ δ' ὅλως μὴ ὀργιζόμεθα ἐφ' οἷς δεῖ, καὶ οὕτως κακῶς ἔχομεν πρὸς ὀργήν. τὸ ἄρα μέσως ἔχειν τὸ μήτε λίαν [4] ὑπεραλγεῖν μήτε παντελῶς ἀναλγήτως ἔχειν. ὅταν οὖν οὕτως ἔχωμεν, εὖ διακείμεθα. ὁμοίως δὲ [καὶ] πρὸς τὰ ἄλλα τὰ ὅμοια. τὸ γὰρ εὐόργητον καὶ τὸ πρᾶον ἐν μεσότητί ἐστιν ὀργῆς καὶ ἀναλγησίας τῆς πρὸς ὀργήν. ὁμοίως [καὶ] ἐπ' ἀλαζονείας καὶ εἰρωνείας. τὸ μὲν γὰρ πλείω προσποιεῖσθαι τῶν ὑπαρχόντων ἔχειν ἀλαζονείας, τὸ δὲ ἐλάττω εἰρωνείας· ἡ ἄρα μεσότης ἡ τούτων ἡ ἀλήθεια ἐστίν.

[8]

[1] Ὁμοίως καὶ ἐπὶ τῶν ἄλλων πάντων. τοῦτο γάρ ἐστι τῆς ἕξεως, τὸ εὖ ἢ κακῶς πρὸς ταῦτα ἔχειν, τὸ δ' εὖ ἔχειν πρὸς ταῦτ' ἐστὶν τὸ μήτε πρὸς τὴν ὑπερβολὴν ἔχειν μήτε πρὸς τὴν ἔνδειαν· πρὸς μεσότητα ἄρα τῶν τοιούτων καθ' ἃ ἐπαινετοὶ λεγόμεθα ἡ ἕξις ἐστὶ τοῦ εὖ ἔχειν, τοῦ δὲ κακῶς [2] πρὸς ὑπερβολὴν καὶ ἔνδειαν. ἐπεὶ τοίνυν ἐστὶν ἡ ἀρετὴ τῶν παθῶν τούτων μεσότης, τὰ δὲ πάθη ἤτοι λῦπαί εἰσιν ἢ ἡδοναὶ ἢ οὐκ ἄνευ λύπης ἢ ἡδονῆς· ἡ ἄρα ἀρετή ἐστιν περὶ λύπας καὶ ἡδονάς, καὶ ἐντεῦθέν ἐστι δῆλον.

[3] Ἔστι δὲ καὶ ἄλλα πάθη, ὡς δόξειεν ἄν τινι, ἐφ' ὧν ἡ κακία οὐκ ἔστιν ἐν ὑπερβολῇ καὶ ἐλλείψει τινί, οἷον μοιχεία καὶ ὁ μοιχός· οὐκ ἔστιν οὗτος ὁ μᾶλλον τὰς ἐλευθέρας διαφθείρων. ἀλλὰ καὶ τοῦτο, καὶ εἴ τι ἄλλο τοιοῦτόν ἐστιν, ὃ περιέχεται ἡδονῇ τῇ κατ' ἀκολασίαν, ἢ καὶ ὃ ἐν ἐλλείψει καὶ ὃ ἐν ὑπερβολῇ τὸ ψεκτὸν ἔχει.

[9]

[1] Μετὰ τοίνυν τοῦτο ἀναγκαῖόν ἐστιν ἴσως ῥηθῆναι τί τῇ μεσότητι ἀντίκειται, πότερον ἡ ὑπερβολὴ ἢ ἡ ἔνδεια. ἐνίαις μὲν γὰρ μεσότησιν ἔνδεια ἐναντίον, ἐνίαις δὲ ὑπερβολή, οἷον ἀνδρείᾳ μὲν οὐχ ἡ θρασύτης ὑπερβολὴ οὖσα, ἀλλ' ἡ δειλία ἔνδεια οὖσα, τῇ δὲ σωφροσύνῃ μεσότητι οὔσῃ ἀκολασίας καὶ ἀναισθησίας τῆς περὶ ἡδονὰς οὐ δοκεῖ ἐναντίον εἶναι ἡ ἀναισθησία ἔνδεια οὖσα, ἀλλ' ἡ ἀκολασία οὖσα ὑπερβολή.

[2] Ἔστι δ’ ἀμφότερα ἐναντία τῇ μεσότητι, καὶ ἡ ὑπερβολὴ καὶ ἡ ἔνδεια· ἡ γὰρ μεσότης τῆς μὲν ὑπερβολῆς ἐνδεέστερον, τῆς δ’ ἐνδείας ὑπερβάλλον. διὸ καὶ οἱ μὲν ἄσωτοι τοὺς ἐλευθερίους ἀνελευθέρους φασὶν εἶναι, οἱ δ’ ἀνελεύθεροι τοὺς ἐλευθερίους ἀσώτους, καὶ οἱ μὲν θρασεῖς καὶ προπετεῖς τοὺς ἀνδρείους καλοῦσι δειλούς, οἱ δὲ δειλοὶ τοὺς ἀνδρείους προπετεῖς καὶ μαινομένους.

[3] Διὰ δὴ δύο αἰτίας δόξαιμεν ἂν ἀντιτιθέναι τῇ μεσότητι τὴν ὑπερβολὴν καὶ τὴν ἔνδειαν. ἢ γὰρ ἐξ αὐτοῦ τοῦ πράγματος σκοποῦσιν πότερον ἐγγύτερόν ἐστι τοῦ μέσου ἢ πορρώτερον, οἷον ἐλευθεριότητι πότερον ἀσωτία ἢ ἀνελευθερία πορρώτερον. μᾶλλον γὰρ ἂν δόξειεν ἐλευθεριότης ἡ ἀσωτία ἢ ἡ ἀνελευθερία· πορρώτερον ἄρα ἡ [4] ἀνελευθερία. τὰ δὲ πλεῖον ἀπέχοντα τοῦ μέσου ἐναντιώτερα δόξειεν ἂν εἶναι. ἐκ μὲν ἄρα αὐτοῦ τοῦ πράγματος ἡ ἔνδεια ἐναντιώτερον φαίνεται.

Ἔστι δὲ καὶ ἄλλως, οἷον πρὸς ἃ μᾶλλον πεφύκαμεν, ταῦτα μᾶλλον ἐναντία τῷ μέσῳ. οἷον πεφύκαμεν μᾶλλον ἀκόλαστοι ἢ κόσμιοι εἶναι· ἡ οὖν ἐπίδοσις γίνεται μᾶλλον πρὸς ἃ πεφύκαμεν· πρὸς ἃ δὲ μᾶλλον ἐπιδίδομεν, ταῦτα καὶ μᾶλλον ἐναντία· ἐπιδίδομεν δὲ πρὸς ἀκολασίαν μᾶλλον ἢ πρὸς κοσμιότητα· ὥστ’ ἐναντιώτερον ἂν εἴη ὑπερβολὴ μεσότητος· ἡ γὰρ ἀκολασία ὑπερβολὴ σωφροσύνης.

[5]

Ὅ τι μὲν οὖν ἐστιν ἡ ἀρετή, ἐπέσκεπται (μεσότης γὰρ δοκεῖ τις εἶναι τῶν παθῶν, ὥστε δέοι ἂν τὸν μέλλοντα κατὰ τὸ ἦθος εὐδοκιμήσειν τὴν μεσότητα [6] τῶν παθῶν ἑκάστου διατηρεῖν· διὸ καὶ ἔργον ἐστὶν σπουδαῖον εἶναι· ἐν ἑκάστῳ γὰρ τὸ μέσον λαβεῖν ἔργον, οἷον κύκλον μὲν γράψαι παντὸς ἐστί, τὸ δὲ μέσον τὸ ἐν αὐτῷ ἤδη λαβεῖν χαλεπόν, ὁμοίως δὲ καὶ ὀργισθῆναι μὲν ῥᾴδιον, καὶ τὸ ἐναντίον δὲ τούτῳ, τὸ δὲ μέσως ἔχειν χαλεπόν· ἁπλῶς δὲ ἐν ἑκάστῳ τῶν παθῶν ἔστιν ἰδεῖν ὅτι τὸ ἐμπεριέχον τὸ μέσον ῥᾴδιον ἐστί, τὸ δὲ μέσον χαλεπόν, καθ’ ὃ ἐπαινούμεθα· διὸ καὶ σπάνιον τὸ σπουδαῖον).

[7] Ἐπεὶ δ’ οὖν ὑπὲρ ἀρετῆς εἴρηται , μετὰ τοῦτ’ ἂν εἴη σκεπτέον πότερον δυνατὴ παραγενέσθαι ἢ οὔ, ἀλλ’ ὥσπερ Σωκράτης ἔφη, οὐκ ἐφ’ ἡμῖν γενέσθαι τὸ σπουδαίους εἶναι ἢ φαύλους. εἰ γάρ τις, φησίν, ἐρωτήσειεν ὀντιναοῦν πότερον ἂν βούλοιτο δίκαιος εἶναι ἢ ἄδικος, οὐθεὶς ἂν ἕλοιτο τὴν ἀδικίαν. ὁμοίως δ’ ἐπ’ ἀνδρείας καὶ δειλίας καὶ τῶν ἄλλων [8] ἀρετῶν ἀεὶ ὡσαύτως. δῆλον δ’ ὡς εἰ φαῦλοί τινες εἰσίν, οὐκ ἂν ἑκόντες εἴησαν φαῦλοι· ὥστε δῆλον ὅτι οὐδὲ σπουδαῖοι.

[9] Ὁ δὴ τοιοῦτος λόγος οὐκ ἔστιν ἀληθής. διὰ τί γὰρ ὁ νομοθέτης οὐκ ἐᾷ

τὰ φαῦλα πράττειν, τὰ δὲ καλὰ καὶ σπουδαῖα κελεύει; καὶ ἐπὶ μὲν τοῖς φαύλοις ζημίαν τάττει, ἂν πράττῃ, ἐπὶ δὲ τοῖς καλοῖς, ἂν μὴ πράττῃ; καίτοι ἄτοπος ἂν εἴη ταῦτα [10] νομοθετῶν, ἃ μὴ ἐφ' ἡμῖν ἐστι πράττειν. ἀλλ' ὡς ἔοικεν, ἐφ' ἡμῖν τὸ σπουδαίοις εἶναι καὶ τὸ φαύλοις. - ἔτι δὲ μαρτυροῦσιν οἵ τ' ἔπαινοι καὶ οἱ ψόγοι γινόμενοι. ἐπὶ μὲν γὰρ τῇ ἀρετῇ ἔπαινος, ἐπὶ δὲ τῇ κακίᾳ ψόγος· ἔπαινος δὲ καὶ ψόγος οὐκ ἐπὶ τοῖς ἀκουσίοις· ὥστε δῆλον ὅτι ὡσαύτως ἐφ' ἡμῖν καὶ τὰ σπουδαῖά ἐστι πράττειν καὶ τὰ φαῦλα.

[11] Ἔλεγον δὲ καὶ τοιαύτην τινὰ παραβολήν, βουλόμενοι δεικνύναι ὅτι οὐχ ἑκούσιον. διὰ τί γάρ, φασίν, ὅταν νοσῶμεν ἢ αἰσχροὶ ὦμεν, οὐδεὶς ψέγει τοὺς τοιούτους; τὸ δ' οὐκ ἀληθές· ψέγομεν γὰρ καὶ τοὺς τοιούτους, ὅταν αὐτοὺς οἰηθῶμεν αἰτίους εἶναι τοῦ νοσεῖν ἢ τοῦ κακῶς ἔχειν τὸ σῶμα, ὡς ὂν καὶ ἐνταῦθα τὸ ἑκούσιον. ἔοικεν οὖν ἐν τῷ κατ' ἀρετὴν καὶ κακίαν εἶναι τὸ ἑκούσιον.

[10]

[1] Ἔτι δ' ἄν τις τοῦτο ἐναργέστερον καὶ ἐντεῦθεν ἴδοι. πᾶσα γὰρ φύσις γεννητική ἐστιν οὐσίας τοιαύτης οἵα ἐστίν, οἷον τὰ φυτὰ καὶ τὰ ζῷα· ἀμφότερα γὰρ γεννητικά. γεννητικὰ δὲ ἐκ τῶν ἀρχῶν, οἷον τὸ δένδρον ἐκ τοῦ σπέρματος· αὕτη γάρ τις ἀρχή. τὸ δὲ μετὰ τὰς ἀρχὰς οὕτως ἔχει· ὡς γὰρ ἂν ἔχωσιν αἱ ἀρχαί, οὕτως καὶ τὰ ἐκ τῶν [2] ἀρχῶν ἔχει. ἐναργέστερον δ' ἔστι κατιδεῖν τοῦτο ἐν τοῖς κατὰ γεωμετρίαν. καὶ γὰρ ἐκεῖ ἐπειδή τινες λαμβάνονται ἀρχαί, ὡς ἂν αἱ ἀρχαὶ ἔχωσιν, οὕτω καὶ τὰ μετὰ τὰς ἀρχάς, οἷον εἰ τὸ τρίγωνον δυσὶν ὀρθαῖς ἴσας ἔχει, τὸ δὲ τετράγωνον τέτταρσιν, καὶ ὡς ἂν μεταβάλλῃ τὸ τρίγωνον, οὕτω καὶ τὸ τετράγωνον συμμεταβάλλει (ἀντιστρέφει γάρ), καὶ ἐὰν τὸ τετράγωνον μὴ ἔχῃ τέτταρσιν ὀρθαῖς ἴσας, οὐδὲ τὸ τρίγωνον ἕξει δυσὶν ὀρθαῖς ἴσας.

[11]

[1] Οὕτω τοίνυν καὶ ὁμοίως τούτοις καὶ ἐπ' ἀνθρώπου. ἐπειδὴ γὰρ γεννητικόν ἐστιν ἄνθρωπος οὐσίας, ἔκ τινων ἀρχῶν καὶ τῶν πράξεων ὧν πράττει ἄνθρωπος γεννητικὸν ἐστίν. τί γὰρ ἂν ἄλλο; οὔτε γὰρ ἀψύχων οὐθὲν λέγομεν πράττειν οὔτε τῶν ἐμψύχων τῶν ἄλλων ἔξω ἀνθρώπων. δῆλον οὖν [2] ὅτι ὁ ἄνθρωπος τῶν πράξεών ἐστι γεννητικός. ἐπεὶ οὖν ὁρῶμεν μεταβαλλούσας τὰς πράξεις καὶ οὐδέποτε τὰ αὐτὰ πράττομεν, εἰσὶν δὲ αἱ πράξεις γεγενημέναι ἔκ τινων ἀρχῶν, δῆλον ὅτι, ἐπειδὴ αἱ πράξεις μεταβάλλουσιν, καὶ αἱ ἀρχαὶ τῶν πράξεων, ἀφ' ὧν εἰσί, μεταβάλλουσιν, ὥσπερ ἔφαμεν παραβάλλοντες [3] ἐπὶ τῶν ἐν γεωμετρίᾳ. ἀρχὴ δ' ἐστὶ πράξεως καὶ σπουδαίας καὶ φαύλης προαίρεσις καὶ βούλησις καὶ τὸ κατὰ

λόγον πᾶν. δῆλον τοίνυν ὅτι καὶ αὗται μεταβάλλουσιν. μεταβάλλομεν δὲ καὶ ταῖς πράξεσιν ἑκόντες· ὥστε καὶ ἡ ἀρχὴ [καὶ] ἡ προαίρεσις μεταβάλλει [γὰρ] ἑκουσίως. ὥστε δῆλον ὅτι ἐφ’ ἡμῖν ἂν εἴη καὶ σπουδαίοις εἶναι καὶ φαύλοις.

[4] Ἴσως οὖν λέγοι ἄν τις, ἐπειδήπερ ἐπ’ ἐμοί ἐστιν τὸ δικαίῳ εἶναι καὶ σπουδαίῳ, ἐὰν βούλωμαι, ἔσομαι πάντων σπουδαιότατος. οὐ δὴ δυνατὸν τοῦτο. διὰ τί; ὅτι οὐδ’ ἐπὶ τοῦ σώματος γίγνεται τοῦτο. οὐ γὰρ ἄν τις βούληται ἐπιμελεῖσθαι τοῦ σώματος, καὶ δὴ πάντων ἄριστον ἕξει τὸ σῶμα. δεῖ γὰρ μὴ μόνον τὴν ἐπιμέλειαν ὑπάρχειν, ἀλλὰ καὶ τῇ φύσει γίνεσθαι τὸ σῶμα καλὸν κἀγαθόν. βέλτιον μὲν οὖν ἕξει τὸ σῶμα, ἄριστα μέντοι πάντων [5] οὔ. ὁμοίως δὲ δεῖ ὑπολαμβάνειν καὶ ἐπὶ ψυχῆς· οὐ γὰρ ἔσται ὁ προαιρούμενος εἶναι σπουδαιότατος, ἂν μὴ καὶ ἡ φύσις ὑπάρξῃ, βελτίων μέντοι ἔσται.

[12]

[1] Ἐπεὶ οὖν φαίνεται ἐφ’ ἡμῖν ὂν τὸ σπουδαῖον εἶναι, ἀναγκαῖον τὸ μετὰ ταῦτα εἰπεῖν ὑπὲρ ἑκουσίου, τί ἐστι τὸ ἑκούσιον· τοῦτο γάρ ἐστι τὸ κυριώτατον πρὸς τὴν ἀρετήν, τὸ ἑκούσιον. ἑκούσιον δὲ ἁπλῶς μὲν οὕτως ῥηθῆναί ἐστιν ὃ πράττομεν μὴ ἀναγκαζόμενοι· ἀλλ’ ἴσως σαφέστερον λεκτέον ἐστὶν ὑπὲρ αὐτοῦ.

[2] Ἔστιν οὖν καθ’ ὃ πράττομεν ὄρεξις· ὀρέξεως δ’ ἐστὶν εἴδη τρία, ἐπιθυμία θυμὸς βούλησις.

Πρῶτον μὲν οὖν τὴν κατ’ ἐπιθυμίαν πρᾶξιν ἐπισκεπτέον, πότερον ἑκούσιόν ἐστιν ἢ ἀκούσιον. [οἷον] τὸ μὲν οὖν ἀκούσιον οὐκ ἂν δόξειεν. διὰ τί καὶ πόθεν; ὅτι ὅσα μὴ ἑκόντες πράττομεν, ἀναγκαζόμενοι πράττομεν, ἐπὶ δὲ τοῖς ἐξ ἀνάγκης πραττομένοις πᾶσιν ἕπεται λύπη, τοῖς δὲ δι’ ἐπιθυμίαν πραττομένοις ἡδονὴ ἀκολουθεῖ, ὥστε οὑτωσί γε οὐκ ἂν εἴη τὰ δι’ ἐπιθυμίαν πραττόμενα ἀκούσια, ἀλλ’ ἑκούσια.

[3] Ἀλλὰ πάλιν ἄλλος λόγος τις τούτῳ ἐναντιοῦται, ὁ ἐπὶ τῇ ἀκρασίᾳ. οὐθεὶς γάρ, φησί, πράττει ἑκὼν τὰ κακά, εἰδὼς ὅτι κακὰ ἐστίν· ἀλλὰ μήν, φησίν, ὅ γε ἀκρατὴς εἰδὼς ὅτι ταῦτα φαῦλά ἐστιν ὅμως πράττει, καὶ κατ’ ἐπιθυμίαν γε πράττει· οὐκ ἄρα [4] ἑκών· ἀναγκαζόμενος ἄρα. ἐνταῦθα πάλιν ὁ αὐτὸς λόγος ἀπαντήσεται. καὶ γὰρ εἰ κατ’ ἐπιθυμίαν, οὐκ ἐξ ἀνάγκης· τῇ γὰρ ἐπιθυμίᾳ ἡδονὴ ἀκολουθεῖ, τὰ δὲ δι’ ἡδονὴν οὐκ ἐξ ἀνάγκης.

Καὶ ἄλλως τοῦτ’ ἂν γένοιτο δῆλον, ὅτι ὁ ἀκρατὴς ἑκὼν πράττει. οἱ μὲν γὰρ ἀδικοῦντες ἑκόντες ἀδικοῦσιν, οἱ δὲ ἀκρατεῖς ἄδικοι καὶ ἀδικοῦσιν· ὥστε ὁ ἀκρατὴς ἑκὼν ἂν πράττοι τὰ κατὰ τὴν ἀκρασίαν.

[13]

[1] Ἀλλὰ πάλιν ἄλλος λόγος ἐναντιοῦται, ὅς φησιν οὐχ ἑκούσιον εἶναι. ὁ γὰρ ἐγκρατὴς ἑκὼν πράττει τὰ κατὰ τὴν ἐγκράτειαν· ἐπαινεῖται γάρ, ἐπαινοῦνται δὲ ἐπὶ τοῖς ἑκουσίοις. εἰ δ’ ἐστὶν τὸ κατὰ τὴν ἐπιθυμίαν ἑκούσιον, τὸ παρὰ τὴν ἐπιθυμίαν ἀκούσιον· ὁ δ’ ἐγκρατὴς παρὰ τὴν ἐπιθυμίαν πράττει· ὥστε ὁ ἐγκρατὴς οὐχ ἑκὼν ἂν εἴη ἐγκρατής. ἀλλ’ οὐ δοκεῖ· οὐδ’ ἄρα τὸ κατ’ ἐπιθυμίαν ἑκούσιον ἐστίν.

[2] Πάλιν ἐπὶ τῶν κατὰ τὸν θυμὸν ὁμοίως· οἱ γὰρ αὐτοὶ λόγοι οἵπερ καὶ κατὰ τῆς ἐπιθυμίας ἁρμόττουσιν, ὥστε τὴν ἀπορίαν ποιήσουσιν· ἔστι γὰρ ἀκρατῆ καὶ ἐγκρατῆ ὀργῆς εἶναι.

[3] Ἔτι λοιπή ἐστιν τῶν ὀρέξεων ὧν διειλόμεθα ἡ βούλησις, πρὸς τὸ ἐπισκέπτεσθαι εἴ ἐστιν ἑκούσιον. ἀλλὰ μὴν οἵ γε ἀκρατεῖς ἐφ’ ἃ ὁρμῶσιν, ταῦτα τέως βούλονται· πράττουσιν ἄρα οἱ ἀκρατεῖς τὰ φαῦλα βουλόμενοι. ἑκὼν δέ γε οὐθεὶς τὰ κακὰ εἰδὼς πράττει ὅτι κακὰ ἐστίν· ὁ δὲ ἀκρατής, εἰδὼς τὰ κακὰ ὅτι κακά, πράττει βουλόμενος. οὐκ ἄρα ἑκών, οὐδ’ ἡ βούλησις ἑκούσιον ἄρα ἐστίν.

[4] Ἀλλ’ οὗτος ὁ λόγος ἀναιρεῖ ἀκρασίαν καὶ τὸν ἀκρατῆ. εἰ γὰρ μὴ ἑκών, οὐκ ἔστιν ψεκτός· ἀλλ’ ἔστιν ὁ ἀκρατὴς ψεκτός· ἑκὼν ἄρα· ἡ ἄρα βούλησις ἑκούσιον.

Ἐπεὶ οὖν λόγοι τινὲς ἐναντίοι φαίνονται, σαφέστερον λεκτέον ὑπὲρ τοῦ ἑκουσίου.

[14]

[1] Πρότερον τοίνυν ἂν εἴη λεκτέον ὑπὲρ βίας καὶ ὑπὲρ ἀνάγκης. ἡ μὲν γὰρ βία ἐστὶν καὶ ἐν τοῖς ἀψύχοις. ἑκάστοις γάρ ἐστι τῶν ἀψύχων οἰκεῖος τόπος ἀποδεδομένος, τῷ μὲν πυρὶ ὁ ἄνω, τῇ δὲ γῇ ὁ κάτω· ἔστι μέντοι γε βιάσασθαι καὶ τὸν λίθον [2] ἄνω φέρεσθαι καὶ τὸ πῦρ κάτω. ἔστι δὲ καὶ τὸ ζῷον βιάσασθαι, οἷον ἵππον ἐπ’ ὀρθὸν θέοντα ἀντιλαμβανόμενον ἀποστρέψαι. ὅσοις μὲν οὖν ἐστιν ἐκτὸς ἡ αἰτία τοῦ παρὰ φύσιν τι ἢ παρ’ ἃ βούλονται ποιεῖν, ἐροῦμεν βιαζομένοις ἃ ἂν ποιῶσι ποιεῖν· ἐν οἷς δ’ ἐν αὐτοῖς ἐστιν ἡ αἰτία, οὐκέτι τούτους [3] βιάζεσθαι ἐροῦμεν. εἰ δὲ μή, ὁ ἀκρατὴς ἀντερεῖ, οὐ φάσκων φαῦλος εἶναι· βιαζόμενος γὰρ φήσει ὑπὸ τῆς ἐπιθυμίας τὰ φαῦλα πράττειν.

[15]

[1] Τοῦ οὖν βιαίου οὗτος ἡμῖν ἔστω ὁ ὁρισμός, ὧν ἐκτός ἐστιν ἡ αἰτία, ὑφ’ ἧς βιάζονται πράττειν (ὧν δ’ ἐντὸς καὶ ἐν αὐτοῖς ἡ αἰτία, οὐ βία)· πάλιν δ’ ὑπὲρ ἀνάγκης καὶ τοῦ ἀναγκαίου λεκτέον. τὸ δὲ ἀναγκαῖον οὐ πάντως οὐδ’ ἐν παντὶ λεκτέον ἐστίν, οἷον ὅσα ἡδονῆς ἕνεκεν πράττομεν. εἰ γάρ τις λέγοι

ὅτι ἠναγκάσθην τὴν τοῦ φίλου γυναῖκα διαφθεῖραι [2] ὑπὸ τῆς ἡδονῆς, ἄτοπος ἂν εἴη. τὸ γὰρ ἀναγκαῖον οὐκ ἐν παντί, ἀλλ’ ἤδη ἐν τοῖς ἐκτός, οἷον ὃς ἂν καταβλάπτηται ἀντικαταλλαττόμενός τι ἄλλο μεῖζον ἀναγκαζόμενος ὑπὸ τῶν πραγμάτων. οἷον ἠναγκάσθην συντονώτερον βαδίσαι εἰς ἀγρόν· εἰ γὰρ μή, ἀπολωλότ’ ἂν εὗρον τὰ ἐν ἀγρῷ. ἐν τοῖς τοιούτοις ἄρα τὸ ἀναγκαῖον.

[16]

[1] Ἐπεὶ δὲ τὸ ἑκούσιον ἐν οὐδεμιᾷ ὁρμῇ ἐστίν, λοιπὸν ἂν εἴη τὸ ἐκ διανοίας γιγνόμενον. τὸ γὰρ ἀκούσιόν ἐστι τό τε κατ’ ἀνάγκην καὶ κατὰ βίαν γιγνόμενον, καὶ τρίτον ὃ μὴ μετὰ διανοίας γίγνεται. δῆλον δ’ ἐστὶ τοῦτο ἐκ τῶν γιγνομένων. ὅταν γάρ τις πατάξῃ τινὰ ἢ ἀποκτείνῃ ἤ τι τῶν τοιούτων ποιήσῃ μηδὲν προδιανοηθείς, ἄκοντά φαμεν ποιῆσαι, ὡς τοῦ ἑκουσίου ὄντος ἐν τῷ [2] διανοηθῆναι. οἷόν φασί ποτέ τινα γυναῖκα φίλτρον τινὶ δοῦναι πιεῖν, εἶτα τὸν ἄνθρωπον ἀποθανεῖν ὑπὸ τοῦ φίλτρου, τὴν δ’ ἄνθρωπον ἐν Ἀρείῳ πάγῳ ἀποφυγεῖν· οὗ παροῦσαν δι’ οὐθὲν ἄλλο ἀπέλυσαν ἢ διότι οὐκ ἐκ προνοίας. ἔδωκε μὲν γὰρ φιλίᾳ, διήμαρτεν δὲ τούτου· διὸ οὐχ ἑκούσιον ἐδόκει εἶναι, ὅτι τὴν δόσιν τοῦ φίλτρου οὐ μετὰ διανοίας τοῦ ἀπολέσθαι αὐτὸν ἐδίδου. ἐνταῦθα ἄρα τὸ ἑκούσιον πίπτει εἰς τὸ μετὰ διανοίας.

[17]

[1] Ἔτι δὲ λοιπόν ἐστιν ἐπισκέψασθαι τὴν προαίρεσιν, πότερόν ἐστιν ὄρεξις, ἢ οὔ. ὄρεξις μὲν γὰρ καὶ ἐν τοῖς ἄλλοις ζῴοις ἐγγίγνεται, προαίρεσις δὲ οὔ· ἡ γὰρ προαίρεσις μετὰ λόγου, λόγος δὲ ἐν οὐδενὶ τῶν ἄλλων ζῴων ἐστίν. ὄρεξις μὲν δὴ οὐκ ἂν εἴη· ἀλλ’ ἆρά γε βούλησις; ἢ οὐδὲ τοῦτο; [2] βούλησις μὲν γάρ ἐστιν καὶ τῶν ἀδυνάτων, οἷον βουλόμεθα μὲν ἀθάνατοι εἶναι, προαιρούμεθα δὲ οὔ. ἔτι δὲ προαίρεσις μὲν οὐκ ἔστιν τοῦ τέλους, ἀλλὰ τῶν πρὸς τὸ τέλος, οἷον οὐθεὶς προαιρεῖται ὑγιαίνειν, ἀλλὰ τὸ πρὸς τὴν ὑγίειαν προαιρούμεθα, περιπατεῖν, τροχάζειν· βουλόμεθα δὲ τὰ τέλη.

[3] ὑγιαίνειν γὰρ βουλόμεθα. ὥστε δῆλον καὶ οὕτως ὅτι οὐ ταὐτὸν ἡ βούλησις καὶ ἡ προαίρεσις· ἀλλὰ ἡ προαίρεσις ἔοικεν οὕτως ἔχειν, ὥσπερ καὶ τοὔνομα αὐτῆς ἔχει, οἷον προαιρούμεθα τόδε ἀντὶ τοῦδε, οἷον τὸ βέλτιον ἀντὶ τοῦ χείρονος. ὅταν οὖν ἀντικαταλλαττώμεθα τὸ βέλτιον ἀντὶ τοῦ χείρονος ἐν αἱρέσει ὄντος, ἐνταῦθα τὸ προαιρεῖσθαι δόξειεν ἂν οἰκεῖον εἶναι.

[4] Ἐπεὶ οὖν ἡ προαίρεσις οὐθὲν τούτων ἐστίν, ἆρά γέ ἐστιν τὸ κατὰ διάνοιαν ἐν προαιρέσει; ἢ οὐδὲ τοῦτο; πολλὰ γὰρ διανοούμεθα καὶ δοξάζομεν κατὰ διάνοιαν· ἆρ’ οὖν ἃ διανοούμεθα, ταῦτα καὶ προαιρούμεθα; ἢ οὔ; πολλάκις γὰρ διανοούμεθα ὑπὲρ τῶν ἐν Ἰνδοῖς, ἀλλ’ οὔτι καὶ προαιρούμεθα. οὐκ ἄρα οὐδὲ διάνοιά ἐστιν ἡ προαίρεσις.

[5] Ἐπεὶ οὖν καθ’ ἕκαστον τούτων οὐθέν ἐστιν ἡ προαίρεσις, ταῦτα δέ ἐστιν τὰ ἐν τῇ ψυχῇ γινόμενα, ἀναγκαῖον [δὴ] συνδυαζομένων τινῶν τούτων εἶναι τὴν προαίρεσιν.

Ἐπεὶ οὖν ἐστίν, ὥσπερ ἔμπροσθεν ἐλέχθη, ἡ προαίρεσις τῶν πρὸς τὸ τέλος ἀγαθῶν καὶ οὐ τοῦ τέλους, καὶ τῶν δυνατῶν ἡμῖν, καὶ τῶν ἀντιλογίαν παραδιδόντων πότερον τοῦτο ἢ τοῦτο αἱρετόν, δῆλον ὅτι δέοι ἂν πρότερον διανοηθῆναι ὑπὲρ αὐτῶν καὶ βουλεύσασθαι, εἶθ’ ὅταν ἡμῖν φανῇ κρεῖττον διανοηθεῖσιν, οὕτως ὁρμή τις τοῦ πράττειν ἐστίν, καὶ τοῦτο δὴ πράττοντες κατὰ προαίρεσιν δοκοῦμεν πράττειν.

[6] Εἰ τοίνυν ἡ προαίρεσις ὄρεξίς τις βουλευτικὴ μετὰ διανοίας, οὐκ ἔστιν τὸ ἑκούσιον προαιρετόν. ἑκόντες γὰρ πολλὰ πράττομεν πρὸ τοῦ διανοηθῆναι καὶ βουλεύσασθαι, οἷον καθίζομεν καὶ ἀνιστάμεθα καὶ ἄλλα πολλὰ τοιαῦτα ἑκόντες μὲν ἄνευ δὲ τοῦ διανοηθῆναι, τὸ δὲ κατὰ προαίρεσιν πᾶν ἦν μετὰ [7] διανοίας. οὐκ ἄρα τὸ ἑκούσιον προαιρετόν, ἀλλὰ τὸ προαιρετὸν ἑκούσιον· ἄν τι γὰρ προαιρώμεθα πράττειν βουλευσάμενοι, ἑκόντες πράττομεν.

Φαίνονται δέ τινες ὀλίγοι καὶ τῶν νομοθετῶν

διορίζειν τό τε ἑκούσιον καὶ τὸ ἐκ προαιρέσεως ἕτερον ὄν, ἐλάττους τὰς ζημίας ἐπὶ τοῖς ἑκουσίοις ἢ τοῖς κατὰ προαίρεσιν τάττοντες.

[8] Ἔστιν οὖν ἡ προαίρεσις ἐν τοῖς πρακτοῖς, καὶ τούτοις ἐν οἷς ἐφ’ ἡμῖν ἐστιν καὶ πρᾶξαι καὶ μὴ πρᾶξαι, καὶ οὕτως ἢ μὴ οὕτως, καὶ ἐν οἷς ἔστι λαβεῖν τὸ διὰ τί. τὸ δὲ διὰ τί οὐχ ἁπλοῦν ἐστίν.

[9] ἐν μὲν γὰρ γεωμετρίᾳ, ὅταν φῇ τὸ τετράγωνον τέτταρσιν ὀρθαῖς ἴσας ἔχειν, καὶ ἐρωτᾷ διὰ τί, ὅτι, φησίν, καὶ τὸ τρίγωνον δυσὶν ὀρθαῖς ἴσας ἔχει. ἐν μὲν οὖν τοῖς τοιούτοις ἐκ τῆς ἀρχῆς ὡρισμένης ἔλαβον τὸ διὰ τί· ἐν δέ γε τοῖς πρακτοῖς, ἐν οἷς ἡ προαίρεσις, οὐχ οὕτως (οὐδεμία γὰρ κεῖται ὡρισμένη), ἀλλ’ ἂν ἀπαιτῇ τις, διὰ τί τοῦτο ἔπραξας; ὅτι οὐκ ἐνῆν ἄλλως, ἢ ὅτι βέλτιον οὕτως. ἐξ αὐτῶν τῶν συμβαινόντων, ὁποῖ’ ἂν φαίνηται βελτίω εἶναι, [10] ταῦτα προαιρεῖται καὶ διὰ ταῦτα. διὸ δὴ ἐν τοῖς τοιούτοις τὸ βουλεύσασθαί ἐστι τὸ πῶς δεῖ, ἐν δὲ ταῖς ἐπιστήμαις οὔ. οὐθεὶς γὰρ βουλεύεται πῶς δεῖ γράψαι τὸ ὄνομα Ἀρχικλέους, ὅτι ἐστὶν ὡρισμένον πῶς δεῖ γράψαι τὸ ὄνομα Ἀρχικλέους. ἡ οὖν ἁμαρτία οὐ γίγνεται ἐν τῇ διανοίᾳ, ἀλλ’ ἐν τῇ ἐνεργείᾳ τοῦ γράφειν. ἐν οἷς γὰρ μή ἐστιν ἡ ἁμαρτία ἐν τῇ διανοίᾳ, οὐδὲ βουλεύονται ὑπὲρ τούτων· ἀλλ’ ἐν οἷς ἤδη ἀόριστόν ἐστι τὸ ὡς δεῖ, [11] ἐνταῦθα ἡ ἁμαρτία. ἔστιν δ’ ἐν τοῖς πρακτοῖς τὸ ἀόριστον, καὶ ἐν οἷς διτταὶ αἱ ἁμαρτίαι. ἁμαρτάνομεν οὖν ἐν τοῖς πρακτοῖς καὶ ἐν τοῖς κατὰ τὰς ἀρετὰς ὁμοίως. τῆς γὰρ ἀρετῆς στοχαζόμενοι ἁμαρτάνομεν ἐπὶ τὰς πεφυκυίας ὁδούς. ἔστι γὰρ

καὶ ἐν ἐλλείψει καὶ ἐν ὑπερβολῇ ἁμαρτία, ἐφ’ ἑκάτερα δὲ τούτων φερόμεθα δι’ ἡδονὴν καὶ λύπην· διὰ μὲν γὰρ τὴν ἡδονὴν τὰ φαῦλα πράττομεν, διὰ δὲ τὴν λύπην τὰ καλὰ φεύγομεν.

[18]

[1] Ἔτι δ’ ἐστὶν ἡ διάνοια οὐχ ὥσπερ αἴσθησις, οἷον τῇ ὄψει οὐκ ἂν δύναιτ’ οὐθὲν ἂν ἄλλο ποιῆσαι ἢ ἰδεῖν, οὐδὲ τῇ ἀκοῇ οὐθὲν ἄλλο ἢ ἀκοῦσαι. ὁμοίως δὲ οὐδὲ βουλευόμεθα πότερον δεῖ ἀκοῦσαι τῇ ἀκοῇ ἢ ἰδεῖν. ἡ δὲ διάνοια οὐ τοιοῦτον, ἀλλὰ καὶ τοῦτο δύναται πράττειν καὶ ἄλλα. διὰ [2] τοῦτο βουλεύεσθαι ἐνταῦθα ἤδη ὑπάρχει. ἔστιν οὖν ἡ ἁμαρτία ἐν τῇ αἱρέσει τῶν ἀγαθῶν οὐ περὶ τὰ τέλη (ταῦτα μὲν γὰρ ἅπαντες ὁμογνωμονοῦσιν, οἷον τὴν ὑγίειαν ὅτι ἀγαθόν), ἀλλ’ ἤδη τὰ κατὰ τὸ τέλος, οἷον πότερον ἀγαθὸν πρὸς ὑγίειαν φαγεῖν τοῦτο ἢ οὔ. μάλιστα οὖν ποιεῖ ἐν τούτοις τὸ σφάλλεσθαι ἡδονὴ καὶ λύπη· τὴν μὲν γὰρ φεύγομεν, τὴν δὲ αἱρούμεθα.

[3] Ἐπεὶ οὖν διῄρηται ἐν τίνι ἡ ἁμαρτία καὶ πῶς, λοιπόν ἐστι τίνος ἐστὶν ἡ ἀρετὴ στοχαστική, πότερον τοῦ τέλους ἢ τῶν πρὸς τὸ τέλος, οἷον πότερον [4] τοῦ καλοῦ ἢ τῶν πρὸς τὸ καλόν. πῶς οὖν ἡ ἐπιστήμη; πότερον τῆς οἰκοδομικῆς ἐστιν ἐπιστήμης τὸ τέλος καλῶς προθέσθαι, ἢ τὰ πρὸς τὸ τέλος ἰδεῖν; ἂν γὰρ τοῦτο καλῶς προθῆται, οἷον καλὴν οἰκίαν ποιῆσαι, καὶ τὰ πρὸς τοῦτο οὐκ ἄλλος τις εὑρήσει καὶποριεῖ ἢ οἰκοδόμος. ὁμοίως δὲ καὶ [5] ἐπὶ τῶν ἄλλων ἁπασῶν ἐπιστημῶν. ὡσαύτως ἄρα δόξειεν ἂν ἔχειν καὶ ἐπ’ ἀρετῆς, μᾶλλον εἶναι αὐτῆς τὸν σκοπὸν [πρὸς] τὸ τέλος, ὃ δεῖ ὀρθῶς προθέσθαι, ἢ τὰ πρὸς τὸ τέλος· καὶ ἐξ ὧν τοῦτ’ ἔσται οὐθεὶς ἄλλος ποριεῖ, καὶ εὑρήσει ἃ δεῖ πρὸς τοῦτο. καὶ εὔλογον δὲ τούτου εἶναι προθετικὴν τὴν ἀρετήν· ἐν οἷς γὰρ ἡ ἀρχὴ τοῦ βελτίστου ἐστίν, ἕκαστον καὶ προθετικὸν καὶ ποιητικόν. οὐθὲν οὖν βέλτιον τῆς ἀρετῆς ἐστίν· ταύτης γὰρ ἕνεκα καὶ τἆλλα ἐστίν, [6] καὶ πρὸς ταύτην ἐστὶν ἡ ἀρχή, [καὶ τούτου ἕνεκεν μᾶλλον τὰ πρὸς τοῦτ’ ἐστίν· τὸ δὲ τέλος ἀρχῇ τινι ἔοικεν, καὶ τούτου ἕνεκέν ἐστιν ἕκαστον. ἀλλὰ κατὰ τρόπον τοῦτο ἔσται.] ὥστε δῆλον ὡς κἀπὶ τῆς ἀρετῆς, ἐπειδὴ βελτίστη ἐστὶν αἰτία, ὅτι τοῦ τέλους ἐστὶ στοχαστικὴ μᾶλλον ἢ τῶν πρὸς τὸ τέλος.

[19]

[1] Ἀρετῆς δέ γ’ ἐστὶ τέλος τὸ καλόν. τούτου ἄρ’ ἐστὶ[ν ἡ ἀρετὴ] στοχαστικὴ μᾶλλον ἢ ἐξ ὧν ἔσται. ἔστι δὲ καὶ ταῦτα ταύτης. ὅλως δὲ δὴ φαίνεται ἄτοπον· ἴσως γὰρ ἂν ἐν γραφικῇ εἴη τις ἀγαθὸς μιμητής, ὅμως δὲ οὐκ ἂν ἐπαινεθείη, ἂν μὴ τὸν σκοπὸν θῇ τὰ βέλτιστα μιμεῖσθαι. τῆς ἀρετῆς ἄρα παντελῶς τοῦτ’ ἐστίν, τὸ καλὸν προθέσθαι.

[2] Διὰ τί οὖν, ἄν τις εἴποι, πρότερον μὲν ἐλέγομεν τὴν ἐνέργειαν κρεῖττον εἶναι ἢ τὴν ἕξιν τὴν αὐτήν, νῦν δὲ οὐκ ἐξ οὗ ἡ ἐνέργεια, τοῦτο τῇ ἀρετῇ ἀποδίδομεν ὡς κάλλιον, ἀλλ’ ἐν ᾧ οὐκ ἔστιν ἐνέργεια; [3] ναί, ἀλλὰ καὶ νῦν φαμεν τοῦτο ὁμοίως, τὴν ἐνέργειαν τῆς ἕξεως βέλτιον εἶναι. οἱ γὰρ ἄλλοι ἄνθρωποι τὸν σπουδαῖον θεωροῦντες κρίνουσιν ἐκ τοῦ πράττειν, διὰ τὸ μὴ δυνατὸν εἶναι δηλῶσαι τὴν ἑκάστου προαίρεσιν ἣν ἔχει, ἐπεὶ εἰ ἦν εἰδέναι τὴν ἑκάστου γνώμην, ὡς ἔχει πρὸς τὸ καλόν, καὶ ἄνευ τοῦ πράττειν σπουδαῖος ἂν ἐδόκει εἶναι.

[Ἐπεὶ δὲ μεσότητάς τινας τῶν παθῶν κατηριθμησάμεθα, λεκτέον ἂν εἴη περὶ ποῖα τῶν παθῶν εἰσίν.]

[20]

[1] Ἐπεὶ οὖν ἐστιν ἡ ἀνδρεία περὶ θάρρη καὶ φόβους, σκεπτέον ἂν εἴη περὶ ποίους φόβους καὶ θάρρη. ἆρ’ οὖν εἰ μέν τις φοβεῖται μὴ ἀποβάλλῃ τὴν οὐσίαν, οὗτος δειλός, εἰ δέ τις θαρρεῖ περὶ ταῦτα, ἀνδρεῖος; ἢ οὔ; ὁμοίως δ’ εἴ τις φοβεῖται νόσον ἢ θαρρεῖ, οὔτε δειλὸν φατέον εἶναι τὸν φοβούμενον οὔτ’ ἀνδρεῖον τὸν μὴ φοβούμενον. οὐκ ἄρα ἐν τοῖς τοιούτοις φόβοις καὶ θάρρεσίν ἐστιν [2] ἡ ἀνδρεία. ἀλλὰ μὴν οὐδ’ ἐν τοῖς τοιούτοις, οἷον εἰ μή τις φοβεῖται βροντὰς ἢ ἀστραπὰς ἢ ἄλλο τι τῶν ὑπὲρ ἄνθρωπον φοβερῶν, οὐκ ἀνδρεῖος ἀλλὰ μαινόμενός τις. ἐν φόβοις ἄρα καὶ θάρρεσίν ἐστιν ὁ ἀνδρεῖος τοῖς κατ’ ἀνθρώπους· λέγω δὲ οἷον ἃ οἱ πολλοὶ φοβοῦνται ἢ οἱ πάντες, ἐν τούτοις ὁ ὢν θαρραλέος, οὗτος ἀνδρεῖος.

[3] Τούτων τοίνυν διωρισμένων σκεπτέον ἂν εἴη, ἐπειδὴ κατὰ πολλά εἰσιν οἱ ἀνδρεῖοι, ὁ ποῖος ἀνδρεῖος. ἔστιν γὰρ καὶ κατ’ ἐμπειρίαν τις ἀνδρεῖος, οἷον οἱ στρατιῶται. οὗτοι γὰρ οἴδασι δι’ ἐμπειρίαν ὅτι ἐν τοιούτῳ τόπῳ ἢ ἐν τοιούτῳ καιρῷ ἢ οὕτως ἔχοντι ἀδύνατόν τι παθεῖν. ὁ δὲ ταῦτα εἰδὼς καὶ διὰ ταῦτα ὑπομένων τοὺς πολεμίους οὐκ [4] ἀνδρεῖος· ἐὰν γὰρ τούτων μηθὲν ὑπάρχῃ, οὐχ ὑπομένει. διὸ τοὺς δι’ ἐμπειρίαν οὐ φατέον ἀνδρείους.

Οὐδὲ Σωκράτης δὴ ὀρθῶς ἔλεγεν ἐπιστήμην φάσκων εἶναι τὴν ἀνδρείαν. ἡ γὰρ ἐπιστήμη ἐξ ἔθους τὴν ἐμπειρίαν λαβοῦσα ἐπιστήμη γίνεται· τοὺς δὲ δι’ ἐμπειρίαν ὑπομένοντας οὔ φαμεν, οὐδ’ ἐροῦσιν ἀνδρείους αὐτοὺς εἶναι· οὐκ ἄρα ἡ ἀνδρεία ἐπιστήμη ἂν εἴη.

[5] Πάλιν δ’ αὖ εἰσιν ἀνδρεῖοι ἐκ τοῦ ἐναντίου τῆς ἐμπειρίας· οἱ γὰρ ἄπειροι τῶν ἐκβησομένων οὐ φοβοῦνται διὰ τὴν ἀπειρίαν. οὐδὲ δὴ οὐδὲ τούτους φατέον ἀνδρείους.

[6] Εἰσὶν δ’ αὖ ἄλλοι δοκοῦντες ἀνδρεῖοι εἶναι διὰ τὰ πάθη, οἷον οἱ ἐρῶντες ἢ οἱ ἐνθουσιάζοντες. οὐδὲ δὴ τούτους φατέον ἀνδρείους εἶναι· ἐὰν

γὰρ αὐτῶν τὸ πάθος ἀφαιρεθῇ, οὐκέτι εἰσὶν ἀνδρεῖοι, δεῖ δὲ [7] τὸν ἀνδρεῖον ἀεὶ εἶναι ἀνδρεῖον. διὸ οὐδὲ τὰ θηρία οἷον τοὺς σῦς οὐκ ἄν τις εἴποι ἀνδρείους διὰ τὸ ἀμύνεσθαι, ἐπειδὰν πληγέντες λυπηθῶσιν, οὐδὲ δεῖ τὸν ἀνδρεῖον διὰ [τὸ] πάθος εἶναι ἀνδρεῖον.

[8] Πάλιν ἔστιν ἄλλη ἀνδρεία πολιτικὴ δοκοῦσα εἶναι, οἷον εἰ δι' αἰσχύνην τὴν πρὸς τοὺς πολίτας ὑπομένουσι τοὺς κινδύνους καὶ δοκοῦσιν ἀνδρεῖοι εἶναι. σημεῖον δὲ τούτου· καὶ γὰρ Ὅμηρος πεποίηκε τὸν Ἕκτορα λέγοντα

Πουλυδάμας μοι πρῶτος ἐλεγχείην ἀναθήσει,

διὸ οἴεται δεῖν μάχεσθαι. οὐδὲ δὴ τὴν τοιαύτην φατέον εἶναι· ὁ γὰρ αὐτὸς ἐφ' ἑκάστῳ τούτων διορισμὸς ἁρμόσει. οὗ γὰρ ἀφαιρουμένου μὴ διαμένει ἡ ἀνδρεία, οὐκ ἂν εἴη ἔτι ἀνδρεῖος· ἂν οὖν τὴν αἰσχύνην περιέλω δι' ἣν ἦν ἀνδρεῖος, οὐκέτι ἔσται ἀνδρεῖος.

[9] Ἔτι καὶ ἄλλως εἰσὶν ἀνδρεῖοι δοκοῦντες εἶναι οἱ δι' ἐλπίδα καὶ προσδοκίαν ἀγαθοῦ. οὐδὲ δὴ τούτους φατέον εἶναι ἀνδρείους, ἐπειδὴ τοὺς τοιούτους καὶ ἐν τοῖς τοιούτοις ἀνδρείους λέγειν ἄτοπον φαίνεται.

Οὐδένα οὖν τῶν τοιούτων ἀνδρεῖον θετέον εἶναι· τὸν [ὁ] ποῖον οὖν ἀνδρεῖον, καὶ τίς ὁ ἀνδρεῖος [10] σκεπτέον. ὡς ἁπλῶς μὲν εἰπεῖν, ὁ διὰ μηθὲν τῶν προειρημένων ἀνδρεῖος ὤν, ἀλλὰ διὰ τὸ νομίζειν αὐτὸ εἶναι καλόν, καὶ τοῦτο ποιῶν κἂν παρῇ τις κἂν μὴ παρῇ.

Οὐδὲ δὴ παντελῶς ἄνευ πάθους καὶ ὁρμῆς ἐγγίγνεται ἡ ἀνδρεία. δεῖ δὲ τὴν ὁρμὴν γίνεσθαι ἀπὸ τοῦ λόγου διὰ τὸ καλόν. ὁ δὴ ὁρμῶν διὰ λόγον ἕνεκεν τοῦ καλοῦ ἐπὶ τὸ κινδυνεύειν, ἄφοβος ὢν περὶ ταῦτα, οὗτος ἀνδρεῖος, καὶ ἡ ἀνδρεία περὶ [11] ταῦτα. ἄφοβος δὲ οὐχ ὅταν οὕτω συμπέσῃ τῷ ἀνδρείῳ ὥστε ὅλως μὴ φοβεῖσθαι. ὁ μὲν γὰρ τοιοῦτος οὐκ ἀνδρεῖος, ᾧ ὅλως μηθέν ἐστι φοβερόν· οὕτω μὲν γὰρ ‹ἂν› ὁ λίθος εἴη καὶ τἆλλα ἄψυχα ἀνδρεῖα· ἀλλὰ δεῖ φοβεῖσθαι μέν, ὑπομένειν δέ· εἰ γὰρ αὖ μὴ φοβούμενος ὑπομένει, οὐκ ἂν εἴη ἀνδρεῖος.

[12] - ἔτι δὲ καὶ ὥσπερ ἐπάνω διειλόμεθα, περὶ φόβους καὶ κινδύνους οὐ πάντας ἀλλὰ τοὺς ἀναιρετικοὺς τῆς οὐσίας. - ἔτι δὲ οὐδ' ἐν τῷ τυχόντι καὶ παντὶ χρόνῳ, ἀλλ' ἐν ᾧ οἱ φόβοι καὶ οἱ κίνδυνοι πλησίον εἰσίν. εἰ γάρ τις τὸν εἰς δέκατον ἔτος κίνδυνον μὴ φοβεῖται, οὔπω ἀνδρεῖος· ἔνιοι γὰρ θαρροῦσιν διὰ τὸ μακρὰν ἀπέχειν, ἂν δὲ πλησίον γένωνται, ἀποθνήσκουσιν τῷ δέει.

[21]

[1] Ἡ μὲν οὖν ἀνδρεία καὶ ὁ ἀνδρεῖος τοιοῦτος· σωφροσύνη δ' ἐστὶν μεσότης ἀκολασίας καὶ ἀναισθησίας τῆς περὶ τὰς ἡδονάς. ἔστιν γὰρ ἡ σωφροσύνη καὶ ἁπλῶς ἅπασα ἀρετὴ ἕξις ἡ βελτίστη, ἡ δὲ βελτίστη ἕξις τοῦ

βελτίστου ἐστίν, βέλτιστον δὲ τῆς ὑπερβολῆς καὶ τῆς ἐνδείας τὸ μέσον· κατ' ἀμφότερα γάρ εἰσι ψεκτοί, καὶ καθ' ὑπερβολὴν καὶ κατ' ἔνδειαν. ὥστε εἴπερ τὸ μέσον βέλτιστον, ἡ σωφροσύνη μεσότης τις ἂν εἴη ἀκολασίας καὶ ἀναισθησίας.

[2] Μεσότης μὲν οὖν ἂν εἴη τούτων· ἔστιν δὲ ἡ σωφροσύνη περὶ ἡδονὰς καὶ λύπας, οὐ πάσας δὲ οὐδὲ τὰς περὶ πάντα. οὐ γὰρ εἴ τις ἥδεται θεωρῶν γραφὴν ἢ ἀνδριάντα ἤ τι ἄλλο τῶν τοιούτων, καὶ δὴ οὗτος ἀκόλαστος, ὁμοίως δὲ οὐδὲ περὶ ἀκοῆς οὐδὲ περὶ ὀσφρήσεως· ἀλλ' ἐν ἡδοναῖς ταῖς περὶ [3] ἁφὴν καὶ γεῦσιν. οὐδὲ δὴ περὶ ταύτας ἀνὴρ σώφρων ἔσται ‹ὁ› οὕτως ἔχων ὥστε μηδ' ὑπὸ μιᾶς τῶν τοιούτων ἡδονῶν μηθὲν πάσχειν (ὁ μὲν γὰρ τοιοῦτος ἀναίσθητος), ἀλλ' ἤδη ὁ πάσχων καὶ μὴ ἀγόμενος, ὥστε εἰς ὑπερβολὴν αὐτῶν ἀπολαύων πάντα τἆλλα ποιεῖσθαι πάρεργα, καὶ αὐτόν γε τὸν ἤδη αὐτοῦ τοῦ καλοῦ ἕνεκεν καὶ μὴ ἄλλου πράττοντα [4] σώφρονα . ὅστις γὰρ τῶν τοιούτων ἡδονῶν τῆς ὑπερβολῆς ἀπέχεται ἢ διὰ φόβον ἢ δι' ἄλλο τι τῶν τοιούτων, οὐ σώφρων. οὐδὲ γὰρ τἆλλα ζῷα λέγομεν εἶναι σώφρονα ἔξω ἀνθρώπου, διὰ τὸ μὴ εἶναι ἐν αὐτοῖς λόγον, ᾧ δοκιμάζοντα τὸ καλὸν αἱροῦνται. πᾶσα γὰρ ἀρετὴ τοῦ καλοῦ καὶ πρὸς τὸ καλὸν ἐστίν. ὥστε εἴη ἂν ἡ σωφροσύνη περὶ ἡδονὰς καὶ λύπας, καὶ ταύτας τὰς ἐν ἁφῇ καὶ γεύσει γινομένας.

[22]

[1] Ἐχόμενον δ' ἂν εἴη τούτου λέγειν ὑπὲρ πραότητος, [καὶ] τί ἐστι καὶ ἐν τίσιν. ἔστιν [μὲν] οὖν ἡ πραότης ἀνὰ μέσον ὀργιλότητος καὶ ἀοργησίας. καὶ ὅλως δὲ δοκοῦσιν αἱ ἀρεταὶ μεσότητές τινες εἶναι. ὅτι δ' εἰσὶ μεσότητες, καὶ οὕτως ἄν τις εἴποι· εἰ γάρ ἐστιν ἐν μεσότητι τὸ βέλτιστον, ἡ δ' ἀρετή ἐστιν ἡ βελτίστη ἕξις, [βέλτιστον δ' [2] ἐστὶ τὸ μέσον,] ἡ ἀρετὴ ἂν εἴη τὸ μέσον. δῆλον δὲ ἔσται μᾶλλον καὶ καθ' ἕκαστον σκοποῦσιν.

Ἐπειδὴ γάρ ἐστιν ὀργίλος ὁ παντὶ καὶ πάντως καὶ ἐπὶ πλεῖον ὀργιζόμενος, καὶ ψεκτὸς δὲ ὁ τοιοῦτος (οὔτε γὰρ παντὶ δεῖ ὀργίζεσθαι οὔτ' ἐπὶ πᾶσιν οὔτε πάντως καὶ ἀεί, οὐδ' αὖ πάλιν οὕτως ἔχειν δεῖ, ὥστε μηθενὶ μηδέποτε· καὶ γὰρ οὗτος [3] ψεκτός, ἀνάλγητός γε ὤν). ἐπεὶ τοίνυν καὶ ὁ κατὰ τὴν ὑπερβολὴν ψεκτὸς καὶ ὁ κατὰ τὴν ἔλλειψιν· ὁ μέσος ἂν τούτων εἴη καὶ πρᾶος καὶ ἐπαινετός. οὔτε γὰρ ὁ ἐλλείπων τῇ ὀργῇ οὔτε ὁ ὑπερβάλλων ἐπαινετός, ἀλλ' ὁ μέσως ἔχων πρὸς ταῦτα, οὗτος πρᾶος. καὶ ἡ πραότης δὲ τούτων τῶν παθῶν μεσότης ἂν εἴη.

[23]

[1] Ἐλευθεριότης δέ ἐστιν μεσότης ἀσωτίας καὶ ἀνελευθερίας. ἔστιν δὲ

περὶ χρήματα τὰ τοιαῦτα πάθη· ὅ τε γὰρ ἄσωτός ἐστιν ὁ ἀναλίσκων εἰς ἃ μὴ δεῖ καὶ πλείω ὧν δεῖ καὶ ὅτε μὴ δεῖ, ὅ τ’ ἀνελεύθερος ἐναντίως τούτῳ ὁ μὴ ἀναλίσκων εἰς [2] ἃ δεῖ καὶ ὅσα δεῖ καὶ ὅτε δεῖ. ἀμφότεροι δὲ οὗτοι ψεκτοί. ἔστι δὲ τούτων ὁ μὲν κατ’ ἔλλειψιν ὁ δὲ καθ’ ὑπερβολήν. ὁ ἄρα ἐλευθέριος, ἐπειδή ἐστιν ἐπαινετός, μέσος τις ἂν εἴη τούτων. τίς οὖν ἐστίν; ὁ ἀναλίσκων εἰς ἃ δεῖ καὶ ὅσα δεῖ καὶ ὅτε δεῖ.

[24]

[1] Ἔστι δὲ καὶ τῆς ἀνελευθεριότητος εἴδη πλείω, οἷον κίμβικάς τινας καλοῦμεν καὶ κυμινοπρίστας καὶ αἰσχροκερδεῖς καὶ μικρολόγους. πάντες δ’ οὗτοι ὑπὸ τὴν ἀνελευθεριότητα πίπτουσιν. τὸ μὲν γὰρ κακὸν πολυειδές, τὸ δ’ ἀγαθὸν μονοειδές, οἷον ἡ μὲν ὑγίεια ἁπλοῦν, ἡ δὲ νόσος πολυειδές. ὁμοίως ἡ μὲν ἀρετὴ ἁπλοῦν, ἡ δὲ κακία πολυειδές. πάντες γὰρ οὗτοι περὶ χρήματά εἰσι ψεκτοί.

[2] Πότερον οὖν τοῦ ἐλευθερίου καὶ τὸ κτήσασθαί ἐστι καὶ τὸ παρασκευάσασθαι χρήματα; ἢ οὔ; οὐδὲ γὰρ ἄλλης ἀρετῆς οὐδεμιᾶς. οὔτε γὰρ τῆς ἀνδρείας ἐστὶ τὸ ὅπλα ποιῆσαι, ἀλλ’ ἄλλης, ταύτης δὲ λαβούσης τούτοις ὀρθῶς χρήσασθαι, ὁμοίως ἐπὶ σωφροσύνης καὶ τῶν ἄλλων· οὔτε δὴ τῆς ἐλευθεριότητος, ἀλλ’ ἤδη χρηματιστικῆς.

[25]

[1] Ἡ δὲ μεγαλοψυχία μεσότης μέν ἐστιν χαυνότητος καὶ μικροψυχίας, ἔστι δὲ περὶ τιμὴν καὶ ἀτιμίαν, καὶ περὶ τιμὴν οὐ τὴν παρὰ τῶν πολλῶν ἀλλὰ τὴν παρὰ τῶν σπουδαίων, καὶ μᾶλλον δὲ δὴ περὶ ταύτην. οἱ γὰρ σπουδαῖοι εἰδότες καὶ κρίνοντες ὀρθῶς τιμήσουσιν· βουλήσεται οὖν μᾶλλον ὑπὸ τῶν συνειδότων αὑτῷ ὅτι ἄξιός ἐστι τιμῆς τιμᾶσθαι. οὐδὲ γὰρ περὶ πᾶσαν τιμὴν ἔσται, ἀλλὰ περὶ τὴν βελτίστην, καὶ τὸ τίμιον ἀγαθὸν καὶ ἀρχῆς τάξιν ἔχον.

[2] Οἱ μὲν οὖν εὐκαταφρόνητοι ὄντες καὶ φαῦλοι, μεγάλων δ’ αὑτοὺς ἀξιοῦντες καὶ πρὸς τούτοις τιμᾶσθαι οἰόμενοι δεῖν, χαῦνοι· ὅσοι δὲ ἐλαττόνων αὑτοὺς ἀξιοῦσιν ἢ προσῆκον αὐτοῖς, μικρόψυχοι.

[3] ὁ ἄρα μέσος τούτων ἐστὶν ὃς μήτε ἐλάττονος τιμῆς αὑτὸν ἀξιοῖ ἢ προσήκει, μήτε μείζονος ἢ ἄξιος ἐστίν, μήτε πάσης· οὗτος δ’ ἐστὶν ὁ μεγαλόψυχος. ὥστε δῆλον ὅτι ἡ μεγαλοψυχία μεσότης ἐστὶ χαυνότητος καὶ μικροψυχίας.

[26]

[1] Μεγαλοπρέπεια δ’ ἐστὶν μεσότης σαλακωνείας καὶ μικροπρεπείας. ἔστιν δ’ ἡ μεγαλοπρέπεια περὶ δαπάνας ἃς τῷ πρέποντι γίνεσθαι προσήκει. ὅστις μὲν οὖν δαπανᾷ οὗ μὴ δεῖ, σαλάκων, οἷον εἴ τις ἑστιᾷ ἐρανιστὰς ὡς ἂν

γάμους τις ἑστιῶν, ὁ τοιοῦτος σαλάκων (ὁ γὰρ σαλάκων τοιοῦτός ἐστιν, ὁ ἐν ᾧ μὴ δεῖ καιρῷ ἐνδεικνύμενος [2] τὴν ἑαυτοῦ εὐπορίαν)· ὁ δὲ μικροπρεπὴς ὁ ἐναντίος τούτῳ, ὃς οὗ δεῖ μὴ μεγαλείως δαπανήσει, ἢ τοῦτο μὴ ποιῶν, οἷον εἰς γάμους ἢ χορηγίαν δαπανῶν, μὴ ἀξίως ἀλλ' ἐνδεῶς, ὁ τοιοῦτος μικροπρεπής.

[3] Ἡ δὲ μεγαλοπρέπεια καὶ ἀπὸ τοῦ ὀνόματος φανερά ἐστιν οὖσα τοιαύτη οἵαν λέγομεν· ἐπεὶ γὰρ ἐν τῷ καιρῷ τῷ πρέποντι τὸ μέγα δαπανᾷ, ὀρθῶς τῇ μεγαλοπρεπείᾳ τοὔνομα κεῖται. ἡ μεγαλοπρέπεια ἄρα ἂν εἴη, ἐπειδή ἐστιν ἐπαινετή, μεσότης τις ἐλλείψεως καὶ ὑπερβολῆς τῆς περὶ δαπάνας τὰς προσηκούσας, ἐν οἷς δεῖ.

[4] Εἰσὶ δέ, ὡς οἴονται, καὶ πλείους μεγαλοπρέπειαι, οἷόν φασι μεγαλοπρεπῶς τ' ἐβάδισε, καὶ ἄλλαι δὴ τοιαῦται μεγαλοπρέπειαι μεταφοραῖς λέγονται, οὐ κυρίως· οὐ γάρ ἐστιν ἐν τούτοις μεγαλοπρέπεια, ἀλλ' ἐν οἷς εἰρήκαμεν.

[27]

[1] Νέμεσις δέ ἐστιν μεσότης φθονερίας καὶ ἐπιχαιρεκακίας· ἀμφότεραι γὰρ αὗται ψεκταὶ εἰσίν, ὁ δὲ νεμεσητικὸς ἐπαινετός. ἔστι δ' ἡ νέμεσις περὶ ἀγαθά, ἃ τυγχάνει ὑπάρχοντα ἀναξίῳ ὄντι, λυπή τις. νεμεσητικὸς οὖν ὁ ἐπὶ τοῖς τοιούτοις λυπητικός. καὶ ὁ αὐτός γε πάλιν οὗτος λυπήσεται, ἄν τινα ἴδῃ κακῶς πράττοντα ἀνάξιον ὄντα.

[2] Ἡ μὲν οὖν νέμεσις καὶ ὁ νεμεσητικὸς ἴσως τοιοῦτος, ὁ δέ γε φθονερὸς ἐναντίος τούτῳ. ἁπλῶς γάρ, ἄν τε ἄξιός τις ᾖ ἄν τε μὴ τοῦ εὖ πράττειν, λυπήσεται. ὁμοίως τούτῳ ὁ ἐπιχαιρέκακος ἡσθήσεται κακῶς πράττοντι καὶ τῷ ἀξίῳ καὶ τῷ ἀναξίῳ. ὁ δέ γε νεμεσητικὸς οὔ [τοιοῦτος], ἀλλὰ μέσος τίς ἐστι τούτων.

[28]

[1] Σεμνότης δέ ἐστιν αὐθαδείας ἀνὰ μέσον τε καὶ ἀρεσκείας, ἔστιν δὲ περὶ τὰς ἐντεύξεις. ὅ τε γὰρ αὐθάδης τοιοῦτός ἐστιν οἷος μηθενὶ ἐντυχεῖν μηδὲ διαλεγῆναι (ἀλλὰ τοὔνομα ἔοικεν ἀπὸ τοῦ τρόπου κεῖσθαι· ὁ γὰρ αὐθάδης αὐτοάδης τις ἐστίν, [2] ἀπὸ τοῦ αὐτὸς αὑτῷ ἀρέσκειν)· ὁ δὲ ἄρεσκος τοιοῦτος οἷος πᾶσιν ὁμιλεῖν καὶ πάντως καὶ πανταχῇ. οὐδέτερος δὴ τούτων ἐπαινετός, ὁ δέ γε σεμνὸς ἀνὰ μέσον τούτων ὢν ἐπαινετός· οὔτε γὰρ πρὸς πάντας, ἀλλὰ πρὸς τοὺς ἀξίους, οὔτε πρὸς οὐθένα, ἀλλὰ πρὸς τοὺς αὐτοὺς τούτους.

[29]

[1] Αἰδὼς δ' ἐστὶ μεσότης ἀναισχυντίας καὶ καταπλήξεως, ἔστιν δὲ περὶ

πράξεις καὶ λόγους. ὁ μὲν γὰρ ἀναίσχυντός ἐστιν ὁ ἐν παντὶ καὶ πρὸς πάντας λέγων καὶ πράττων ἃ ἔτυχεν, ὁ δὲ καταπεπληγμένος ὁ ἐναντίος τούτῳ, ὁ πάντα καὶ [πρὸς] πάντας εὐλαβούμενος καὶ πρᾶξαι καὶ εἰπεῖν (ἄπρακτος γὰρ ὁ τοιοῦτος, ὁ πάντα καταπληττόμενος)· [2] ἡ δὲ αἰδὼς καὶ ὁ αἰδήμων μεσότης τις τούτων. οὔτε γὰρ ἅπαντα καὶ πάντως, ὡς ὁ ἀναίσχυντος, καὶ ἐρεῖ καὶ πράξει, οὔτε ὡς ὁ καταπλήξ, ἐν παντὶ καὶ πάντως εὐλαβηθήσεται, ἀλλὰ πράξει καὶ ἐρεῖ ἐν οἷς δεῖ καὶ ἃ δεῖ καὶ ὅτε δεῖ.

[30]

[1] Εὐτραπελία δ' ἐστὶ μεσότης βωμολοχίας καὶ ἀγροικίας, ἔστιν δὲ περὶ [τὰ] σκώμματα. ὅ τε γὰρ βωμολόχος ἐστὶν ὁ πάντα καὶ πᾶν οἰόμενος δεῖν σκώπτειν, ὅ τε ἄγροικος ὁ μήτε σκώπτειν βουλόμενος δεῖν μήτε σκωφθῆναι, ἀλλ' ὀργιζόμενος· [2] ὁ δ' εὐτράπελος ἀνὰ μέσον τούτων, ὁ μήτε πάντας καὶ πάντως σκώπτων μήτ' αὖ[τὸς] ἄγροικος ὤν. ἔσται δὲ ὁ εὐτράπελος διττῶς πως λεγόμενος· καὶ γὰρ ὁ δυνάμενος σκῶψαι ἐμμελῶς, καὶ ὃς ἂν ὑπομείνῃ σκωπτόμενος, εὐτράπελος· καὶ ἡ εὐτραπελία τοιαύτη.

[31]

[1] Φιλία δ' ἐστὶν μεσότης κολακείας καὶ ἔχθρας, ἔστιν δὲ περὶ πράξεις καὶ λόγους· ὁ μὲν γὰρ κόλαξ ἐστὶν ὁ πλείω τῶν προσηκόντων καὶ ὄντων προστιθείς, ὁ δὲ ἀπεχθητικὸς ἐχθρὸς καὶ τῶν ὑπαρχόντων περιαιρῶν. οὐδέτερος οὖν ὀρθῶς [2] ἐπαινετὸς ἐστίν, ὁ δὲ φίλος ἀνὰ μέσον τούτων· οὔτε γὰρ πλείω τῶν ὑπαρχόντων προσθήσει, οὔτ' ἐπαινέσει τὰ μὴ προσήκοντα, οὔτ' αὖ πάλιν ἐλάττω ποιήσει, οὔτε πάντως ἐναντιώσεται παρὰ τὸ δοκοῦν αὐτῷ.

[32]

[1] Ὁ μὲν οὖν φίλος τοιοῦτος· ἀλήθεια δέ ἐστιν μεταξὺ εἰρωνείας καὶ ἀλαζονείας. ἔστι δὴ περὶ λόγους, οὐ πάντας δέ. ὁ μὲν γὰρ ἀλαζών ἐστιν ὁ πλείω τῶν ὑπαρχόντων αὑτῷ προσποιούμενος εἶναι, ἢ εἰδέναι ἃ μὴ οἶδεν, ὁ δ' εἴρων ἐναντίος τούτῳ καὶ ἐλάττω τῶν ὑπαρχόντων προσποιούμενος αὑτῷ εἶναι, καὶ ἃ οἶδεν μὴ φάσκων, ἀλλ' ἐπικρυπτόμενος [2] τὸ εἰδέναι. ὁ δὲ ἀληθὴς οὐδέτερον τούτων ποιήσει. οὔτε γὰρ προσποιήσεται πλείω τῶν ὑπαρχόντων οὔτ' ἐλάττω, ἀλλὰ τὰ ὑπάρχοντα αὑτῷ ταῦτα φήσει καὶ εἶναι καὶ εἰδέναι.

Εἰ μὲν οὖν εἰσιν αὗται ἀρεταὶ ἢ μὴ ἀρεταί, ἄλλος ἂν εἴη λόγος· ὅτι δὲ μεσότητές εἰσι τῶν εἰρημένων, δῆλον. οἱ γὰρ κατ' αὐτὰς ζῶντες ἐπαινοῦνται.

[33]

[1] Περὶ δὲ δικαιοσύνης λοιπὸν ἂν εἴη εἰπεῖν, τί ἐστι καὶ ἐν τίσιν καὶ περὶ

ποῖα.

Πρῶτον μὲν οὖν εἰ λάβοιμεν τί ἐστι τὸ δίκαιον, ἔστιν δὴ διττὸν τὸ δίκαιον, ὧν τὸ μέν ἐστι κατὰ [2] νόμον. δίκαια γάρ φασιν εἶναι ἃ ὁ νόμος προστάττει. ὁ δὲ νόμος κελεύει τἀνδρεῖα πράττειν καὶ τὰ σώφρονα καὶ ἁπλῶς ἅπαντα ὅσα κατὰ τὰς ἀρετὰς λέγεται. διὸ καί, φασίν, δοκεῖ ἡ δικαιοσύνη τελεία τις ἀρετὴ εἶναι· εἰ γὰρ δίκαια μέν ἐστιν ἃ ὁ νόμος κελεύει ποιεῖν, ὁ δὲ νόμος τὰ κατὰ πάσας ἀρετὰς ὄντα προστάττει, ὁ ἄρα τοῖς κατὰ νόμον ἐμμένων δικαίοις τελείως σπουδαῖος ἔσται, ὥστε ὁ δίκαιος καὶ ἡ δικαιοσύνη τελεία τις ἀρετὴ ἐστίν.

[3] Ἓν μὲν δή τι δίκαιον ἔν τε τούτοις ἐστὶ καὶ περὶ ταῦτα· ἀλλὰ μὴν οὐ τοῦτο τὸ δίκαιον οὐδὲ τὴν περὶ ταῦτα δικαιοσύνην ζητοῦμεν. κατὰ μὲν γὰρ ταῦτα τὰ δίκαια ἔστιν καθ’ ἑαυτὸν ὄντα δίκαιον εἶναι (ὁ γὰρ σώφρων καὶ ὁ ἀνδρεῖος καὶ ὁ ἐγκρατὴς καὶ αὐτὸς καθ’ ἑαυτόν ἐστι τοιοῦτος)· ἀλλὰ τὸ δίκαιον τὸ πρὸς ἕτερον ἄλλο τοῦ εἰρημένου κατὰ νόμον δικαίου ἐστίν. οὐ γὰρ ἔστιν ἐν τοῖς πρὸς ἕτερον δικαίοις οὖσιν καθ’ αὑτὸν εἶναι δίκαιον. τοῦτο δ’ ἐστὶν ὃ ζητοῦμεν δίκαιον καὶ τὴν δικαιοσύνην τὴν περὶ ταῦτα.

[4] Τὸ τοίνυν δίκαιόν ἐστιν τὸ πρὸς ἕτερον ὡς ἁπλῶς εἰπεῖν τὸ ἴσον. τὸ γὰρ ἄδικον τὸ ἄνισον ἐστίν· ὅταν γὰρ τῶν μὲν ἀγαθῶν τὰ μείζω αὑτοῖς νέμωσι, τῶν δὲ κακῶν τὰ ἐλάσσονα, ἄνισον τοῦτ’ ἐστί, καὶ [5] οὕτως ἀδικεῖν καὶ ἀδικεῖσθαι οἴονται. δῆλον ἄρα ὅτι ἐπειδὴ ἡ ἀδικία ἐν ἀνίσοις, ἡ δικαιοσύνη καὶ τὸ δίκαιον ἐν ἰσότητι συμβολαίων. ὥστε δῆλον ὅτι ἡ δικαιοσύνη μεσότης τις ἂν εἴη ὑπεροχῆς καὶ [6] ἐλλείψεως καὶ πολλοῦ καὶ ὀλίγου. ὅ τε γὰρ ἄδικος τῷ ἀδικεῖν πλεῖον ἔχει, καὶ ὁ ἀδικούμενος δὲ τῷ ἀδικεῖσθαι ἔλαττον· τὸ δέ γε μέσον τούτων δίκαιον ἐστί. τὸ δὲ μέσον ἴσον· ὥστε τὸ ἴσον ἂν πλείονος καὶ ἐλάττονος εἴη δίκαιον, καὶ δίκαιος δὲ ὁ τὸ ἴσον [7] βουλόμενος ἔχειν. τὸ δέ γε ἴσον ἐν ἐλαχίστοις δυσὶν ἐγγίνεται· τὸ ἄρα πρὸς ἕτερον ἴσον εἶναι δίκαιον ἐστί, καὶ δίκαιος ὁ τοιοῦτος ἂν εἴη.

[8] Ἐπεὶ οὖν ἡ δικαιοσύνη ἐν δικαίῳ καὶ ἐν ἴσῳ καὶ ἐν μεσότητι, ‹καὶ› τὸ μὲν δίκαιόν [ἐν] τισι λέγεται δίκαιον, τὸ δὲ ἴσον ἔν τισιν ἴσον, τὸ δὲ μέσον τισὶ μέσον· ὥστε ἡ δικαιοσύνη καὶ τὸ δίκαιον ἔσται καὶ πρός τινας καὶ ἐν τισίν.

[9] Ἐπεὶ οὖν ἐστι τὸ δίκαιον ἴσον, καὶ τὸ τῷ ἀνάλογον ἴσον δίκαιον ἂν εἴη. τὸ δ’ ἀνάλογον ἐν τέτταρσι γίνεται ἐλαχίστοις· ὡς γὰρ τὸ Α πρὸς τὸ Β, τὸ Γ πρὸς τὸ Δ. οἷον ἀνάλογόν ἐστιν τὸν τὰ πολλὰ κεκτημένον πολλὰ εἰσφέρειν, τὸν δὲ τὰ ὀλίγα κεκτημένον ὀλίγα· πάλιν ὁμοίως τὸν μὲν πολλὰ πεπονηκότα πολλὰ λαμβάνειν, τὸν δὲ ὀλίγα πεπονηκότα ὀλίγα λαμβάνειν. ὡς δὲ ἔχει ὁ

πεπονηκὼς πρὸς τὸν μὴ πεπονηκότα, οὕτω τὰ πολλὰ πρὸς τὰ ὀλίγα. ὡς δὲ ὁ πεπονηκὼς πρὸς τὰ πολλά, οὕτως ὁ μὴ πεπονηκὼς πρὸς τὰ ὀλίγα.

[10] Ἔοικεν δὲ καὶ Πλάτων τῇ ἀναλογίᾳ ταύτῃ τοῦ δικαίου χρῆσθαι ἐν τῇ πολιτείᾳ. ὁ μὲν γὰρ γεωργός, φησί, σῖτον ποιεῖ, ὁ δ' οἰκοδόμος οἰκίαν, ὁ δὲ ὑφάντης ἱμάτιον, ὁ δὲ σκυτοτόμος ὑπόδημα. ὁ μὲν οὖν γεωργὸς τῷ οἰκοδόμῳ σῖτον δίδωσιν, ὁ δ' οἰκοδόμος τῷ γεωργῷ οἰκίαν· ὁμοίως δὲ οἱ ἄλλοι πάντες οὕτως ἔχουσιν ὥστε τὰ παρ' αὐτοῖς ἀντικαταλλάττεσθαι τῶν παρὰ τοῖς ἄλλοις.

[11] Ἔστιν δ' ἡ ἀναλογία αὕτη· ὡς γὰρ ὁ γεωργὸς τῷ οἰκοδόμῳ, οὕτως ὁ οἰκοδόμος τῷ γεωργῷ· ὁμοίως τῷ σκυτεῖ, τῷ ὑφάντῃ, τοῖς ἄλλοις πᾶσιν ἡ αὐτὴ ἀναλογία πρὸς ἀλλήλους γίνεται· καὶ συνέχει δὴ αὕτη ‹ἡ› ἀναλογία τὴν πολιτείαν. ὥστε τὸ δίκαιον ἔοικεν εἶναι τὸ ἀνάλογον. τὸ γὰρ δίκαιον συνέχει τὰς πολιτείας, τὸ αὐτὸ δ' ἐστὶ τὸ δίκαιον τῷ ἀνάλογον.

[12] Ἐπεὶ δὲ ὁ οἰκοδόμος πλείονος ἄξιον ποιεῖ τὸ αὑτοῦ ἔργον ἢ ὁ σκυτεύς, καὶ ἦν ἔργον ἀντικαταλλάτεσθαι [καὶ] τῷ σκυτεῖ πρὸς τὸν οἰκοδόμον, ἀνθ' ὑποδημάτων δ' οὐκ ἦν οἰκίαν λαβεῖν, ἐνταῦθα ἤδη ἐνόμισαν, οὗ ταῦτα πάντα ὠνητὰ ἐστίν, ἀργύριον προσαγορεύσαντες νόμισμα, τούτῳ χρῆσθαι, καὶ τὴν ἀξίαν ἕκαστον ἑκάστου διδόντας τὴν ἄλλαξιν ποιεῖσθαι παρ' ἀλλήλων, καὶ τούτῳ τὴν πολιτικὴν κοινωνίαν συνέχειν.

[13] Ἐπεὶ οὖν τὸ δίκαιόν ἐστιν ἐν τούτοις καὶ τοῖς εἰρημένοις ἔμπροσθεν, ἡ περὶ ταῦτα δικαιοσύνη ἂν εἴη τῇ ἕξει ὁρμὴν ἔχουσα μετὰ προαιρέσεως περὶ ταῦτα καὶ ἐν τούτοις.

Ἔστιν δὲ δίκαιον καὶ τὸ ἀντιπεπονθός, οὐ μέντοι γε ὡς οἱ Πυθαγόρειοι ἔλεγον. ἐκεῖνοι μὲν γὰρ ᾤοντο δίκαιον εἶναι, ἅ τις ἐποίησεν, ταῦτ' ἀντιπαθεῖν· τὸ δὲ τοιοῦτον οὐκ ἔστιν πρὸς ἅπαντας. [14] οὐ γάρ ἐστι δίκαιον οἰκέτῃ πρὸς ἐλεύθερον ταὐτόν· ὁ οἰκέτης γὰρ ἐὰν πατάξῃ τὸν ἐλεύθερον, οὐκ ἔστιν δίκαιος ἀντιπληγῆναι, ἀλλὰ πολλάκις. καὶ τὸ ἀντιπεπονθὸς δὲ δίκαιόν ἐστιν ἐν τῷ ἀνάλογον. ὡς γὰρ ὁ ἐλεύθερος ἔχει πρὸς τὸν δοῦλον τῷ βελτίων εἶναι, οὕτως τὸ ἀντιποιῆσαι πρὸς τὸ ποιῆσαι. ὁμοίως δὲ καὶ ἐλευθέρῳ πρὸς ἐλεύθερον ἕξει. οὐ γὰρ δίκαιον, εἴ τις τὸν ὀφθαλμὸν ἐξέκοψεν τινός, ἀντεκκοπῆναι μόνον, ἀλλὰ πλείονα παθεῖν, ἀκολουθήσαντα τῇ ἀναλογίᾳ· καὶ γὰρ ἦρξε πρότερος καὶ ἠδίκησεν, ἀδικεῖ δὲ κατ' ἀμφότερα, ὥστε ἀνάλογον καὶ τὰ ἀδικήματα, καὶ τὸ ἀντιπαθεῖν πλείω ὧν ἐποίησεν δίκαιον ἐστίν.

[15] Ἐπεὶ δὲ τὸ δίκαιον πολλαχῶς λέγεται, διοριστέον ἂν εἴη ὑπὲρ ποίου δικαίου ἐστὶν ἡ σκέψις.

Ἔστιν δὴ δίκαιόν τι, ὡς φασίν, οἰκέτῃ πρὸς δεσπότην καὶ υἱῷ πρὸς πατέρα. τὸ δ’ ἐν τούτοις δίκαιον ὁμωνύμως ἂν δόξειεν λέγεσθαι τῷ πολιτικῷ δικαίῳ (ἔστιν γὰρ ‹τὸ› δίκαιον, ὑπὲρ οὗ ἐστιν ἡ [16] σκέψις, τὸ πολιτικὸν δίκαιον)· τοῦτο γὰρ μάλιστά ἐστιν ἐν ἰσότητι (κοινωνοὶ γὰρ οἱ πολῖταί τινες, καὶ ὅμοιοι βούλονται εἶναι τῇ φύσει, τῷ δὲ τρόπῳ ἕτεροι), τῷ δὲ υἱῷ πρὸς πατέρα καὶ οἰκέτῃ πρὸς δεσπότην οὐκ ἂν δόξειεν εἶναι δίκαιον οὐθέν. οὔτε γὰρ τῷ ποδὶ τῷ ἐμῷ πρὸς ἐμὲ οὔτε τῇ χειρί, ὁμοίως δὲ οὐδ’ ἑκάστῳ τῶν μορίων· ὡσαύτως ἂν οὖν δόξειεν ἔχειν καὶ ὁ υἱὸς πρὸς πατέρα· ὥσπερ γὰρ μέρος τί ἐστι τοῦ πατρὸς ὁ υἱός. πλὴν ὅταν ἤδη λάβῃ τὴν τοῦ ἀνδρὸς τάξιν καὶ χωρισθῇ ἀπ’ αὐτοῦ, τότ’ ἤδη ἐν ἰσότητι καὶ ὁμοιότητί ἐστιν τῷ πατρί· οἱ δὲ πολῖται τοιοῦτοί τινες ἐθέλουσιν εἶναι.

[17] Ὡς δ’ αὕτως οὐδ’ οἰκέτῃ πρὸς δεσπότην ἐστὶ δίκαιον διὰ τὴν αὐτὴν αἰτίαν· τοῦ γὰρ δεσπότου τί ἐστιν ὁ οἰκέτης. ἀλλὰ δὴ καὶ εἰ ἔστιν αὐτῷ δίκαιον, τὸ οἰκονομικὸν δίκαιον πρὸς αὐτὸν ἐστίν. οὐ τοῦτο δέ γε ἡμεῖς ζητοῦμεν, ἀλλὰ τὸ πολιτικόν· ἐν ἰσότητι γὰρ καὶ ὁμοιότητι τὸ πολιτικὸν δίκαιον ἔοικεν εἶναι.

[18] Ἀλλὰ δὴ τὸ μὲν ἐν γυναικὸς καὶ ἀνδρὸς κοινωνίᾳ δίκαιόν ἐστιν ἐγγὺς τοῦ πολιτικοῦ δικαίου· χεῖρον μὲν γάρ ἐστιν ἡ γυνὴ τοῦ ἀνδρός, ἀλλ’ οἰκειότερον, καὶ μετέχει ἰσότητός πως μᾶλλον, διότι ἐγγὺς τῆς πολιτικῆς κοινωνίας ὁ βίος αὐτῶν, ὥστε καὶ τὸ δίκαιον τὸ γυναικὶ πρὸς ἄνδρα μάλιστά πως ἤδη τῶν ἄλλων πολιτικὸν ἐστίν.

[19] Ἐπεὶ οὖν ἐστι δίκαιον τὸ ἐν πολιτικῇ κοινωνίᾳ ὄν, ἡ δικαιοσύνη καὶ ὁ δίκαιος περὶ τὸ πολιτικὸν δίκαιον ἔσται.

Τῶν δὲ δικαίων ἐστὶ τὰ μὲν φύσει τὰ δὲ νόμῳ. δεῖ δ’ οὕτως ὑπολαμβάνειν μὴ ὡς μηδέποτε ἂν μεταπεσόντα· καὶ γὰρ τὰ φύσει ὄντα μεταλαμβάνουσι [20] μεταβολῆς. λέγω δ’ οἷον εἰ τῇ ἀριστερᾷ μελετῷμεν πάντες ἀεὶ βάλλειν, γινοίμεθα ἂν ἀμφιδέξιοι· ἀλλὰ φύσει γε ἀριστερὰ ἐστίν, καὶ τὰ δεξιὰ οὐδὲν ἧττον φύσει βελτίω ἐστὶ τῆς ἀριστερᾶς, κἂν πάντα ποιῶμεν τῇ ἀριστερᾷ καθάπερ τῇ δεξιᾷ. οὐδ’ ὅτι μεταπίπτουσι, διὰ τοῦτο οὐκ ἔστιν φύσει· ἀλλ’ εἰ ὡς ἐπὶ τὸ πολὺ καὶ τὸν πλείω χρόνον οὕτω διαμένει ἡ ἀριστερὰ οὖσα ἀριστερὰ καὶ ἡ δεξιὰ δεξιά, τοῦτο φύσει ἐστίν.

[21] Ὡσαύτως ἐπὶ τῶν φύσει δικαίων, μή, εἰ μεταβάλλει διὰ τὴν ἡμετέραν χρῆσιν, διὰ τοῦτ’ οὐκ ἔστιν δίκαιον φύσει; ἀλλ’ ἔστιν. τὸ γὰρ ὡς ἐπὶ τὸ πολὺ διαμένον, τοῦτο φύσει δίκαιον προφανές. ὃ γὰρ ἂν ἡμεῖς θώμεθα καὶ νομίσωμεν, τοῦτο καὶ ἔστι δίκαιον ἤδη καὶ καλοῦμεν κατὰ νόμον δίκαιον. βέλτιον οὖν δίκαιον τὸ κατὰ φύσιν τοῦ κατὰ νόμον. ἀλλ’ ὃ ζητοῦμεν, δίκαιόν

ἐστι πολιτικόν. τὸ δὲ πολιτικόν ἐστιν τὸ νόμῳ, οὐ τὸ φύσει.

[22] Τὸ δ’ ἄδικον καὶ τὸ ἀδίκημα δόξειεν ἂν εἶναι οὕτω ταὐτόν, οὐκ ἔστι δέ· τὸ μὲν γὰρ ἄδικόν ἐστιν τὸ νόμῳ ὡρισμένον, οἷον τὸ τὴν παρακαταθήκην ἀποστερῆσαι ἄδικον ἐστί, τὸ δ’ ἀδίκημά ἐστιν τὸ ἤδη ἀδίκως τι πρᾶξαι. ὁμοίως δὲ τὸ δίκαιον καὶ τὸ δικαιοπράγημα οὐ ταὐτόν· τὸ μὲν γὰρ δίκαιον τὸ τῷ νόμῳ ὡρισμένον, τὸ δὲ δικαιοπράγημα τὸ τὰ δίκαια πράττειν.

[23] Πότε οὖν τὸ δίκαιον, καὶ πότε οὔ; ὡς ἁπλῶς μὲν εἰπεῖν, ὅταν πράττῃ κατὰ προαίρεσιν καὶ ἑκουσίως (τὸ δὲ ἑκουσίως ὃ ἦν, εἴρηται ἐν τοῖς ἐπάνω ἡμῖν), καὶ ὅταν εἰδὼς καὶ ὃν καὶ ᾧ καὶ οὗ ἕνεκα, οὕτως δίκαιον πράττει. ὁμοίως καὶ ὡσαύτως καὶ ὁ ἄδικος ἔσται ὁ εἰδὼς καὶ ὃν καὶ ᾧ καὶ οὗ ἕνεκα. ὅταν δὲ μηθὲν τούτων εἰδὼς πράξῃ τι ἄδικον, ἄδικος μὲν οὐκ ἔστιν, ἀτυχὴς δέ. εἰ γὰρ οἰόμενος τὸν πολέμιον ἀποκτείνειν τὸν πατέρα ἀπέκτεινεν, ἄδικον μέν τι ἔπραξεν, ἀδικεῖ μέντοι οὐθένα, ἀτυχεῖ δέ.

[24] Ἐπεὶ οὖν τὸ μὴ ἀδικεῖν τὰ ἄδικα πράττοντα ἐν τῷ ἀγνοεῖν ἐστι τοῦτο, ὃ καὶ μικρὸν ἐπάνω ἐλέγετο, ὅταν μὴ εἰδὼς μήθ’ ὃν βλάπτει μήθ’ ᾧ μηθ’ οὗ ἕνεκεν· ἀλλ’ ἤδη καὶ τὴν ἄγνοιαν διοριστέον ἐστίν, πῶς ἂν γινομένης τῆς ἀγνοίας, ὃν βλάπτει, οὐκ [25] ἀδικήσει. ἔστω δὴ οὗτος ὁ διορισμός. ὅταν μὲν γὰρ ἡ ἄγνοια αἰτία ᾖ τοῦ πρᾶξαί τι, οὐχ ἑκὼν τοῦτο πράττει, ὥστε οὐκ ἀδικεῖ· ὅταν δὲ τῆς ἀγνοίας αὐτὸς ᾖ αἴτιος, καὶ πράττῃ τι κατὰ τὴν ἄγνοιαν ἧς αὐτὸς αἴτιος ἐστίν, οὗτος ἤδη ἀδικεῖ, καὶ δικαίως ἄδικος ὁ τοιοῦτος κληθήσεται. οἷον ἐπὶ τῶν μεθυόντων. οἱ γὰρ μεθύοντες καὶ πράξαντές τι κακὸν ἀδικοῦσιν· τῆς γὰρ ἀγνοίας αὐτοί εἰσιν αἴτιοι· ἐξῆν γὰρ αὐτοῖς μὴ πίνειν τοσοῦτον, [26] ὥστ’ ἀγνοήσαντας τύπτειν τὸν πατέρα. ὁμοίως [καὶ] ἐπὶ τῶν ἄλλων ἀγνοιῶν ὅσαι μὲν γίνονται δι’ αὐτούς, οἱ κατὰ ταύτας ἀδικοῦντες ἄδικοι· ὧν δὲ μὴ αὐτοί εἰσιν αἴτιοι, ἀλλ’ ἡ ἄγνοια κἀκείνοις ἐστὶν αἰτία τοῖς πράξασι τοῦ πρᾶξαι, οὐκ ἄδικοι. ἔστιν δ’ ἡ τοιαύτη ἄγνοια ἡ φυσική, οἷον τὰ παιδία ἀγνοοῦντα τοὺς πατέρας τύπτουσιν, ἀλλ’ ἡ ἐν τούτοις ἄγνοια φυσικὴ οὖσα οὐ ποιεῖ διὰ τὴν πρᾶξιν ταύτην τὰ παιδία λέγεσθαι ἄδικα· ἡ γὰρ ἄγνοια αἰτία τοῦ πράττειν ταῦτα, τῆς δ’ ἀγνοίας οὐκ αὐτὰ αἴτια, διὸ οὐδ’ ἄδικα λέγονται.

[27] Ὑπὲρ δὲ δὴ τοῦ ἀδικεῖσθαι πῶς; πότερον ἑκόντα ἔστιν ἀδικεῖσθαι; ἢ οὔ; δίκαια μὲν γὰρ καὶ ἄδικα πράττομεν ἑκόντες, ἀδικούμεθα δὲ οὐκέτι ἑκόντες· τὸ γὰρ κολάζεσθαι φεύγομεν, ὥστε δῆλον ὅτι οὐκ ἂν ἀδικοίμεθα ἑκόντες. οὐδεὶς γὰρ ἑκὼν βλάπτεσθαι ὑπομένει· τὸ γὰρ ἀδικεῖσθαι βλάπτεσθαι ἐστίν.

[28] Ναί, ἀλλ’ εἰσί τινες οἳ δέον αὐτοὺς τὸ ἴσον ἔχειν παραχωροῦσι τισίν, ὥστε εἰ τὸ ἴσον ἔχειν ἦν δίκαιον, τὸ δ’ ἔλαττον ἔχειν ἀδικεῖσθαι ἐστίν,

ἔλαττον δὲ ἑκὼν ἔχει, ἑκὼν ἄρα, φησίν, ἀδικεῖται.

Ἀλλ' ἐντεῦθεν δῆλον πάλιν ὅτι οὐχ ἑκών. πάντες γὰρ οἱ ἔλαττον λαμβάνοντες ἀντικαταλλάττονται ἢ τιμὴν ἢ ἔπαινον ἢ δόξαν ἢ φιλίαν ἢ ἄλλο τι τῶν τοιούτων· ὁ δ' ἀντικαταλλαττόμενός τι ἀνθ' οὗ προΐεται, οὐκέτι ἀδικεῖται· εἰ δὲ μὴ ἀδικεῖται, οὐδὲ ἑκὼν ἄρα.

[29] Ἔτι πάλιν οἱ τὸ ἔλαττον λαμβάνοντες καὶ ἀδικούμενοι, ᾗ οὐκ ἴσον λαμβάνουσιν, οὗτοι καλλωπίζονται καὶ σεμνύνονται ἐπὶ τῶν τοιούτων, ὅτι φασὶν "ἐξόν μοι ἴσον λαμβάνειν οὐκ ἐλάμβανον, ἀλλὰ παρῆκα τῷ πρεσβυτέρῳ ἢ τῷ φίλῳ." ἀδικούμενος δέ γε οὐδεὶς σεμνύνεται. εἰ δ' ἐπὶ τοῖς ἀδικήμασι μὴ σεμνύνονται, ἐπὶ δὲ τούτοις σεμνύνονται, ὅλως οὐκ ἂν ἀδικοῖντο οὕτως ἐλαττούμενοι. εἰ δὲ μὴ ἀδικοῦνται, οὐδ' ἂν ἑκόντες ἀδικοῖντο.

[30] Πρὸς δὲ ταῦτα καὶ τοῖς τοιούτοις λόγοις ὁ ἐπὶ τοῦ ἀκρατοῦς λόγος ἐναντιοῦται· ὁ γὰρ ἀκρατὴς βλάπτει αὐτὸς αὑτὸν τὰ φαῦλα πράττων, καὶ ἑκών γε ταῦτα πράττει, βλάπτει ἄρα αὐτὸς αὑτὸν εἰδώς, ὥστε ἑκὼν αὐτὸς ὑφ' αὑτοῦ ἀδικεῖται.

Ἀλλ' ἐνταῦθα [ὁ] διορισμὸς προστεθεὶς κωλύσει τὸν λόγον τοῦτον. ἔστιν δὲ ὁ διορισμὸς οὗτος, τὸ μηδένα βούλεσθαι ἀδικεῖσθαι. ὁ δέ γε ἀκρατὴς βουλόμενος πράττει τὰ κατὰ τὴν ἀκρασίαν, ὥστε αὐτὸς αὑτὸν ἀδικεῖ· βούλεται ἄρα τὰ φαῦλα πράττειν αὑτῷ. ἀλλ' οὐδεὶς βούλεται ἀδικεῖσθαι· ὥστ' οὐδὲ ὁ ἀκρατὴς αὐτὸς αὑτὸν ἑκὼν ‹ἂν› ἀδικοίη.

[31] Ἀλλ' ἴσως ἐνταῦθα πάλιν ἀπορήσειεν ἄν τις, ἆρά γε ἐνδέχεται αὐτὸν αὑτὸν ἀδικεῖν; ἐκ μὲν δὴ τοῦ ἀκρατοῦς σκοπουμένῳ ἔοικεν ἐνδέχεσθαι. καὶ πάλιν οὕτως. εἰ γὰρ ἃ ὁ νόμος πράττειν τάττει, ταῦτά ἐστιν δίκαια, ὁ μὴ πράττων ταῦτα ἀδικεῖ· καὶ εἰ πρὸς ὃν κελεύει πράττειν, πρὸς τοῦτον εἰ μὴ πράττει, τοῦτον ἀδικεῖ, ὁ δὲ νόμος κελεύει σώφρονα εἶναι, οὐσίαν κεκτῆσθαι, σώματος ἐπιμελεῖσθαι, καὶ τἆλλα τὰ τοιαῦτα, ὁ ἄρα ταῦτα μὴ πράττων ἀδικεῖ αὑτόν. εἰς οὐθένα γὰρ ἄλλον τῶν τοιούτων ἀδικημάτων ἡ ἀναφορὰ ἐστίν.

[32] Ἀλλὰ μή ποτε ταῦτα οὐκ ἀληθῆ ἦν, οὐδ' ἐνδέχεται αὐτὸν ἀδικεῖν αὑτόν. τὸν γὰρ αὐτὸν οὐκ ἐνδέχεται κατὰ τὸν αὐτὸν χρόνον πλεῖον ἔχειν καὶ ἔλαττον, οὐδ' ἑκόντα ἅμα καὶ ἄκοντα· ἀλλὰ μὴν ὁ ἀδικῶν, ᾗ ἀδικεῖ, πλεῖον ἔχει, ὁ δ' ἀδικούμενος, ᾗ ἀδικεῖται, ἔλαττον· εἰ ἄρα αὐτὸς αὑτὸν ἀδικεῖ, ἐνδέχεται τὸν αὐτὸν κατὰ τὸν αὐτὸν χρόνον καὶ πλεῖον ἔχειν καὶ ἔλαττον. ἀλλὰ τοῦτ' ἀδύνατον· οὐκ ἄρα ἐνδέχεται αὐτὸν αὑτὸν ἀδικεῖν.

[33] Ἔτι ὁ μὲν ἀδικῶν ἑκὼν ἀδικεῖ, ὁ δὲ ἀδικούμενος ἄκων ἀδικεῖται, ὥστε εἰ ἐνδέχεται αὐτὸν αὑτὸν ἀδικεῖν, ἐνδέχοιτ' ἂν ἅμα καὶ ἀκουσίως καὶ

ἑκουσίως πράττειν τι· τοῦτο δὲ ἀδύνατον· οὐκ ἄρα οὐδ’ οὕτως ἐνδέχεται αὐτὸν αὑτὸν ἀδικεῖν.

[34] Ἔτι εἴ τις λαμβάνοι ἐκ τῶν κατὰ μέρος ἀδικημάτων. ἀδικοῦσι γὰρ πάντες ἤτοι παρακαταθήκην ἀποστεροῦντες ἢ μοιχεύοντες ἢ κλέπτοντες ἤ τι ἄλλο τῶν κατὰ μέρος ἀδικημάτων ποιοῦντες· οὐδεὶς δὲ πώποτε αὐτὸς αὑτὸν παρακαταθήκην ἀπεστέρησεν, οὐδ’ ἐμοίχευσεν τὴν ἑαυτοῦ γυναῖκα, οὐδ’ ἔκλεψεν αὐτὸς τὰ ἑαυτοῦ· ὥστε εἰ τὸ μὲν ἀδικεῖν ἐν τοῖς τοιούτοις ἐστίν, τούτων δὲ μηθὲν ἐνδέχεται πρὸς αὑτὸν ποιεῖν, οὐκ ἂν ἐνδέχοιτο αὑτὸν ἀδικεῖν.

[35] Εἰ δὲ μή, οὐ τό γε πολιτικὸν ἀδίκημα, ἀλλὰ τὸ οἰκονομικόν. ἡ γὰρ ψυχὴ εἰς πλείω μεμερισμένη ἔχει τι αὑτῆς τὸ μὲν χεῖρον τὸ δὲ βέλτιον, ὥστ’ εἴ τι ἐγγίνεται τῶν ἐν ψυχῇ ἀδίκημα, τῶν μερῶν ἐστι πρὸς ἄλληλα· τὸ οἰκονομικὸν δὲ ἀδίκημα διειλόμεθα τῷ ἐπὶ τὸ χεῖρον καὶ βέλτιον· ὡς γίνεσθαι πρὸς αὑτὸν ἄδικον καὶ δίκαιον. οὐ τοῦτο δ’ ἡμεῖς [36] ἐπισκοπούμεθα, ἀλλὰ τὸ πολιτικόν. ὥστ’ ἐν τοῖς τοιούτοις ἀδικήμασιν, ἐν οἷς ἡμεῖς ζητοῦμεν, οὐκ ἐνδέχεται αὐτὸν αὑτὸν ἀδικεῖν.

Πότερος δὲ πάλιν ἀδικεῖ, καὶ ἐν ποτέρῳ ἐστὶ τὸ ἀδίκημα, ἐν τῷ ἀδίκως ὁτιοῦν ἔχοντι; ἢ τῷ κρίναντι καὶ τῷ ἀπονείμαντι, ὥσπερ ἐν τοῖς ἀγῶσιν; καὶ γὰρ ὁ λαβὼν τὸν φοίνικα παρὰ τοῦ ἐφεστῶτος καὶ ταῦτα κρίναντος οὐκ ἀδικεῖ, κἂν ἀδίκως αὐτῷ ἀποδοθῇ· ἀλλ’ ἤδη ὁ κρίνας κακῶς καὶ δούς, οὗτος ἀδικεῖ. καὶ οὗτος ἔστι μὲν ᾗ ἀδικεῖ, ἔστι δὲ ᾗ οὐκ ἀδικεῖ· ᾗ μὲν γὰρ τὸ τῇ ἀληθείᾳ καὶ τῇ φύσει ὂν δίκαιον μὴ ἔκρινεν, ταύτῃ μὲν ἀδικεῖ, ᾗ δὲ τὸ αὐτῷ δοκοῦν εἶναι δίκαιον, οὐκ ἀδικεῖ.

[34]

[1] Ἐπειδὴ δ’ ὑπὲρ τῶν ἀρετῶν εἴρηται, καὶ τίνες εἰσὶν καὶ ἐν τίσιν καὶ περὶ ποῖα, καὶ περὶ ἑκάστης αὐτῶν, ὅτι εἰ πράττοιμεν κατὰ τὸν ὀρθὸν λόγον τὸ βέλτιστον, τὸ μὲν οὕτως εἰπεῖν, τὸ κατὰ τὸν ὀρθὸν λόγον πράττειν, ὅμοιόν ἐστιν ὥσπερ ἂν εἴ τις εἴποι ὅτι ὑγίεια ἄριστ’ ἂν γένοιτο, εἴ τις τὰ ὑγιεινὰ προσφέροιτο. τὸ δὴ τοιοῦτον ἀσαφές· ἀλλ’ [2] ἐρεῖ μοι, τὰ ποῖα διασάφησόν ἐστιν ὑγιεινά. οὕτως καὶ ἐπὶ τοῦ λόγου, τί ἐστιν ὁ λόγος καὶ τίς ὁ ὀρθὸς λόγος;

Ἀναγκαῖον ἴσως ἐστὶν πρῶτον μέν, ἐν ᾧ ὁ λόγος [3] ἐγγίνεται, ὑπὲρ τούτου διελέσθαι. διωρίσθη μὲν οὖν ὑπὲρ ψυχῆς ὡς τύπῳ καὶ πρότερον, ὅτι τὸ μὲν αὐτῆς ἐστι λόγον ἔχον, τὸ δὲ ἄλογον μόριον τῆς ψυχῆς· ἔστιν δ’ εἰς δύο τὴν διαίρεσιν ἔχον τὸ λόγον ἔχον μόριον τῆς ψυχῆς, ὧν ἐστι τὸ μὲν βουλευτικὸν τὸ δὲ ἐπιστημονικόν. ὅτι δὲ ἕτερα ἀλλήλων ἐστίν, [4] ἐκ τῶν ὑποκειμένων ἂν γένοιτο φανερόν. ὥσπερ γὰρ δὴ ἕτερά ἐστιν ἀλλήλων χρῶμά τε καὶ χυμὸς καὶ ψόφος καὶ ὀσμή, ὡσαύτως καὶ τὰς αἰσθήσεις ἑτέρας αὐτῶν ἡ φύσις ἀπέδωκεν (ψόφον μὲν γὰρ ἀκοῇ, χυμὸν δὲ γεύσει γνωρίζομεν, χρῶμα δὲ ὄψει), ὁμοίως δὲ καὶ τἆλλα τὸν αὐτὸν τρόπον δεῖ ὑπολαμβάνειν· ἐπεὶ δὴ ἕτερα τὰ ὑποκείμενα ἐστίν, ἕτερα καὶ τὰ τῆς ψυχῆς εἶναι μέρη οἷς ταῦτα γνωρίζομεν.

[5] ἕτερον δ’ ἐστὶ τὸ νοητὸν καὶ τὸ αἰσθητόν· ταῦτα δὲ ψυχῇ γνωρίζομεν· ἕτερον ἄρ’ ἂν εἴη τὸ μόριον τὸ περὶ τὰ αἰσθητὰ καὶ τὰ νοητά. τὸ δὲ βουλευτικὸν καὶ προαιρετικὸν περὶ τὰ αἰσθητὰ καὶ ἐν κινήσει καὶ ἁπλῶς ὅσα ἐν γενέσει τε καὶ φθορᾷ ἐστίν.

[6] βουλευόμεθα γὰρ ὑπὲρ τούτων ἃ ἐφ’ ἡμῖν ἐστιν καὶ πρᾶξαι καὶ μὴ πρᾶξαι προελομένοις, περὶ ἅ ἐστιν [καὶ] βουλὴ καὶ προαίρεσις τοῦ πρᾶξαι ἢ μὴ πρᾶξαι· ταῦτα δ’ ἐστὶν αἰσθητὰ καὶ ἐν κινήσει τοῦ μεταβάλλειν· ὥστε τὸ προαιρετικὸν μόριον τῆς ψυχῆς κατὰ τὸν λόγον τῶν αἰσθητῶν ἐστίν.

[7] Τούτων δὴ διωρισμένων, μετὰ ταῦτα λεκτέον ἂν εἴη, ἐπειδὴ ὑπὲρ τἀληθοῦς ἐστιν ὁ λόγος καὶ τἀληθὲς ὡς ἔχει σκοπούμεθα, ἔστιν δ’ ἐπιστήμη φρόνησις νοῦς σοφία ὑπόληψις, περὶ τί δὴ ἕκαστον τούτων ἐστίν.

[8] Ἡ μὲν οὖν ἐπιστήμη ἐστὶ περὶ ἐπιστητόν, καὶ τοῦτο μετ’ ἀποδείξεως καὶ λόγου διατεινόμενον.

Ἡ δὲ φρόνησις περὶ τὰ πρακτά, ἐν οἷς αἵρεσις καὶ φυγὴ καὶ ἐφ’ ἡμῖν ἐστιν πρᾶξαι καὶ μὴ πρᾶξαι.

[9] Ἔστιν δὴ τῶν ποιουμένων καὶ πραττομένων οὐ ταὐτὸ τὸ ποιητικὸν καὶ πρακτικόν. τῶν μὲν γὰρ ποιητικῶν ἐστί τι παρὰ τὴν ποίησιν ἄλλο τέλος, οἷον παρὰ τὴν οἰκοδομικήν, ἐπειδή ἐστιν ποιητικὴ οἰκίας, οἰκία αὐτῆς τὸ τέλος παρὰ τὴν ποίησιν, ὁμοίως ἐπὶ τεκτονικῆς καὶ τῶν ἄλλων τῶν ποιητικῶν· [10] ἐπὶ δὲ τῶν πρακτικῶν οὐκ ἔστιν ἄλλο οὐθὲν τέλος παρ’ αὐτὴν τὴν πρᾶξιν, οἷον παρὰ τὸ κιθαρίζειν οὐκ ἔστιν ἄλλο τέλος οὐθέν, ἀλλ’ αὐτὸ τοῦτο τέλος, ἡ ἐνέργεια καὶ ἡ πρᾶξις. περὶ μὲν οὖν τὴν πρᾶξιν καὶ τὰ πρακτὰ ἡ φρόνησις, περὶ δὲ τὴν ποίησιν καὶ τὰ ποιητὰ ἡ τέχνη· ἐν γὰρ τοῖς ποιητοῖς μᾶλλον ἢ ἐν τοῖς πρακτοῖς ἐστι τὸ τεχνάζειν.

[11] Ὥστε ἡ φρόνησις ἂν εἴη ἕξις τις προαιρετικὴ καὶ πρακτικὴ τῶν ἐφ’ ἡμῖν ὄντων καὶ πρᾶξαι καὶ μὴ πρᾶξαι, ὅσα εἰς τὸ συμφέρον ἤδη συντείνει.

[12] ἔστιν δ’ ἡ φρόνησις ἀρετή, ὡς δόξειεν ἄν, οὐκ ἐπιστήμη. ἐπαινετοὶ γάρ εἰσιν οἱ φρόνιμοι, ὁ δ’ ἔπαινος ἀρετῆς· ἔτι δ’ ἐπιστήμης μὲν πάσης ἀρετὴ ἐστίν, φρονήσεως δὲ ἀρετὴ οὐκ ἔστιν, ἀλλ’ ὡς ἔοικεν, αὐτό τί ἐστιν ἀρετή.

[13] Ὁ δὲ νοῦς ἐστι περὶ τὰς ἀρχὰς τῶν νοητῶν καὶ τῶν ὄντων· ἡ μὲν γὰρ

ἐπιστήμη τῶν μετ’ ἀποδείξεως ὄντων ἐστίν, αἱ δ’ ἀρχαὶ ἀναπόδεικτοι, ὥστ’ οὐκ ἂν εἴη περὶ τὰς ἀρχὰς ἡ ἐπιστήμη, ἀλλ’ ὁ νοῦς.

[14] Ἡ δὲ σοφία ἐστὶν ἐξ ἐπιστήμης καὶ νοῦ συγκειμένη. ἔστιν γὰρ ἡ σοφία καὶ περὶ τὰς ἀρχὰς καὶ τὰ ἐκ τῶν ἀρχῶν ἤδη δεικνύμενα, περὶ ἃ ἡ ἐπιστήμη· ᾗ μὲν οὖν περὶ τὰς ἀρχάς, τοῦ νοῦ αὐτὴ μετέχει, ᾗ δὲ περὶ τὰ μετὰ τὰς ἀρχὰς μετ’ ἀποδείξεως ὄντα, τῆς ἐπιστήμης μετέχει· ὥστε δῆλον ὅτι ἡ σοφία ἐστὶν ἔκ τε νοῦ καὶ ἐπιστήμης συγκειμένη, ὥστ’ εἴη ἂν περὶ ταὐτά, περὶ ἃ καὶ ὁ νοῦς καὶ ἡ ἐπιστήμη.

[15] Ἡ δὲ ὑπόληψίς ἐστιν, ᾗ ὑπὲρ ἁπάντων ἐπαμφοτερίζομεν, πρὸς τὸ καὶ εἶναι ταῦτα οὕτω καὶ μὴ εἶναι.

[16] Πότερον δ’ ἐστὶν ἡ φρόνησις καὶ ἡ σοφία ταὐτόν; ἢ οὔ; ἡ μὲν γὰρ σοφία ἐστὶν περὶ τὰ μετ’ ἀποδείξεως καὶ ἀεὶ ὡσαύτως ὄντα, ἡ δὲ φρόνησις οὐ περὶ ταῦτα, ἀλλὰ περὶ τὰ ἐν μεταβολῇ ὄντα. λέγω δὲ οἷον εὐθὺ μὲν ἢ καμπύλον καὶ κοῖλον καὶ τὰ τοιαῦτά ἐστιν ἀεὶ τοιαῦτα, τὰ δὲ συμφέροντα οὐκέτι οὕτως ἔχουσιν τὸ μὴ εἰς ἄλλο τι μεταβάλλειν, ἀλλὰ μεταβάλλουσιν, καὶ νῦν μὲν συμφέρει τοῦτο, αὔριον δ’ οὔ, καὶ τῷ μέν, τῷ δ’ οὔ, καὶ οὕτω μὲν συμφέρει, ἐκείνως δὲ οὐ συμφέρει. περὶ δὲ τὰ συμφέροντά ἐστιν ἡ φρόνησις, ἡ δὲ σοφία οὔ. ἕτερον ἄρα ἡ σοφία καὶ ἡ φρόνησις.

[17] Πότερον δ’ ἐστὶν ἡ σοφία ἀρετὴ ἢ οὔ; διὰ τοῦτο δῆλον ἂν γένοιτο, ὅτι ἐστὶν ἀρετή, ἐξ αὐτῆς τῆς φρονήσεως. εἰ γὰρ ἡ φρόνησις ἀρετὴ ἐστίν, ὡς φαμέν, τοῦ μορίου τοῦ ἑτέρου τῶν λόγον ἐχόντων, ἔστιν δὲ χείρων ἡ φρόνησις τῆς σοφίας (περὶ χείρω γὰρ ἐστίν· ἡ μὲν γὰρ σοφία περὶ τὸ ἀίδιον καὶ τὸ θεῖον, ὡς φαμέν, ἡ δὲ φρόνησις περὶ τὸ συμφέρον ἀνθρώπῳ), εἰ οὖν τὸ χεῖρον ἀρετὴ ἐστί, τό γε βέλτιον εἰκός ἐστιν ἀρετὴν εἶναι, ὥστε δῆλον ὅτι ἡ σοφία ἀρετὴ ἐστίν.

[18] Ἡ δὲ σύνεσις τί ἐστιν ἢ περὶ τί; ἔστιν δ’ ἡ σύνεσις ἐν οἷσπερ καὶ ἡ φρόνησις, περὶ τὰ πρακτά. ὁ γὰρ συνετός που λέγεται τῷ δυνατὸς βουλεύεσθαι ‹εἶναι› καὶ ἐν τῷ ὀρθῶς τι κρῖναι καὶ ἰδεῖν· περὶ μικρῶν δὲ καὶ ἐν μικροῖς ἡ κρίσις αὐτοῦ. ἔστιν οὖν ἡ σύνεσις καὶ ὁ συνετὸς μέρος τι φρονήσεως καὶ τοῦ φρονίμου, καὶ οὐκ ἄνευ τούτων· οὐ γὰρ ἂν χωρίσαις τὸν συνετὸν τοῦ φρονίμου.

[19] Ὁμοίως δ’ ἂν δόξειεν ἔχειν καὶ τὰ ἐπὶ τῆς δεινότητος. ἡ γὰρ δεινότης καὶ ὁ δεινὸς οὐκ ἔστι μὲν οὔτε φρόνησις οὔτε φρόνιμος, ὁ μέντοι φρόνιμος δεινός, διὸ καὶ συνεργεῖ πως τῇ φρονήσει ἡ δεινότης· [20] ἀλλὰ δεινὸς μὲν καὶ ὁ φαῦλος λέγεται, οἷον Μέντωρ δεινὸς μὲν ἐδόκει εἶναι, ἀλλ’ οὐ φρόνιμος ἦν. τοῦ γὰρ φρονίμου καὶ τῆς φρονήσεώς ἐστι τὸ τῶν βελτίστων

ἐφίεσθαι καὶ τούτων προαιρετικὸν εἶναι καὶ πρακτικὸν ἀεί, τῆς δὲ δεινότητος καὶ τοῦ δεινοῦ σκέψασθαι ἐκ τίνων ἂν ἕκαστον γένοιτο τῶν πρακτῶν, καὶ τὸ ταῦτα πορίσαι.

Δόξειεν ἂν οὖν εἶναι ὁ δεινὸς ἐν τοῖς τοιούτοις τε καὶ περὶ ταῦτα.

[21] Ἀπορήσειε δ’ ἄν τις καὶ θαυμάσειε, διὰ τί ὑπὲρ ἠθῶν λέγοντες καὶ πολιτικῆς τινος πραγματείας ὑπὲρ σοφίας λέγομεν. ὅτι ἴσως γε πρῶτον μὲν οὐδ’ ἀλλοτρία δόξειεν ἂν εἶναι ἡ σκέψις ἡ ὑπὲρ αὐτῆς, εἴπερ ἐστὶν ἀρετή, ὡς φαμέν. ἔτι δ’ ἴσως ἐστὶν φιλοσόφου καὶ περὶ τούτων παρεπισκοπεῖν [22] ὅσα ἐν τῷ αὐτῷ τυγχάνουσιν ὄντα. καὶ ἀναγκαῖον δέ, ἐπεὶ περὶ τῶν ἐν ψυχῇ λέγομεν, περὶ ἁπάντων λέγειν· ἔστι δὲ καὶ ἡ σοφία ἐν ψυχῇ· ὥστε οὐκ ἀλλοτρίως ὑπὲρ ψυχῆς ποιούμεθα τοὺς λόγους.

[23] Ὥσπερ δ’ ἔχει ἡ δεινότης πρὸς φρόνησιν, οὕτως δόξειεν ἂν ἔχειν ἐπὶ τῶν ἀρετῶν ἁπασῶν. λέγω δὲ οἷον εἰσὶν ἀρεταὶ καὶ φύσει ἐν ἑκάστοις ἐγγινόμεναι, οἷον ὁρμαί τινες ἐν ἑκάστῳ ἄνευ λόγου πρὸς τὰ ἀνδρεῖα καὶ τὰ δίκαια καὶ καθ’ ἑκάστην πρὸς τὰ [24] τοιαῦτα· εἰσὶ δὲ δὴ καὶ ἔθει καὶ προαιρέσει. αἱ δὲ δὴ μετὰ λόγου οὖσαι τελέως ἀρεταί εἰσιν ἐπαινεταὶ ἐπιγινόμεναι. ἔστιν οὖν ἡ φυσικὴ ἀρετὴ αὕτη ἡ ἄνευ λόγου χωριζομένη μὲν τοῦ λόγου μικρὰ καὶ ἀπολειπομένη τοῦ ἐπαινεῖσθαι, πρὸς δὲ τὸν λόγον καὶ τὴν προαίρεσιν προστιθεμένη τελείαν ποιεῖ τὴν ἀρετήν. διὸ καὶ συνεργεῖ τῷ λόγῳ καὶ οὐκ ἔστιν [25] ἄνευ τοῦ λόγου ἡ φυσικὴ ὁρμὴ πρὸς ἀρετήν. οὐδ’ αὖ ὁ λόγος καὶ ἡ προαίρεσις οὐ πάνυ τελειοῦται τῷ εἶναι ἀρετὴ ἄνευ τῆς φυσικῆς ὁρμῆς. διὸ οὐκ ὀρθῶς Σωκράτης ἔλεγεν, φάσκων εἶναι τὴν ἀρετὴν λόγον· οὐδὲν γὰρ ὄφελος εἶναι πράττειν τὰ ἀνδρεῖα καὶ τὰ δίκαια, μὴ εἰδότα καὶ προαιρούμενον τῷ λόγῳ. διὸ τὴν ἀρετὴν ἔφη λόγον εἶναι, οὐκ ὀρθῶς, ἀλλ’ οἱ νῦν βέλτιον· τὸ γὰρ κατὰ τὸν ὀρθὸν λόγον [26] πράττειν τὰ καλά, τοῦτό φασιν εἶναι ἀρετήν· ὀρθῶς μὲν οὐδ’ οὗτοι. πράξαι μὲν γὰρ ἄν τις τὰ δίκαια προαιρέσει μὲν οὐδεμιᾷ, οὐδὲ γνώσει τῶν καλῶν, ἀλλ’ ὁρμῇ τινι ἀλόγῳ, ὀρθῶς δὲ ταῦτα καὶ κατὰ τὸν ὀρθὸν λόγον (λέγω δέ, ὡς ἂν ὁ λόγος ὁ ὀρθὸς κελεύσειεν, οὕτως ἔπραξεν)· ἀλλ’ ὅμως ἡ τοιαύτη πρᾶξις οὐκ ἔχει τὸ ἐπαινετόν. ἀλλὰ βέλτιον, ὡς ἡμεῖς ἀφορίζομεν, τὸ μετὰ λόγου εἶναι τὴν ὁρμὴν πρὸς τὸ καλόν· τὸ γὰρ τοιοῦτον καὶ ἀρετὴ καὶ ἐπαινετόν.

[27] Πότερον δ’ ἐστὶν ἡ φρόνησις ἀρετὴ ἢ οὔ, ἀπορήσειεν ἄν τις. οὐ μὴν ἀλλ’ ἐντεῦθεν ἂν γένοιτο δῆλον ὅτι ἀρετή. εἴπερ γὰρ ἡ δικαιοσύνη καὶ ἡ ἀνδρεία καὶ αἱ ἄλλαι ἀρεταί, διότι τῶν καλῶν πρακτικαί, καὶ ἐπαινεταὶ εἰσίν, δῆλον ὡς καὶ ἡ φρόνησις τῶν ἐπαινετῶν ἄν τι εἴη καὶ τῶν ἐν ἀρετῆς τάξει ὄντων. ἐφ’ ἃ γὰρ ἡ ἀνδρεία ὁρμᾷ πράττειν, ἐπὶ ταῦτα καὶ ἡ φρόνησις. τὸ γὰρ

ὅλον ὡς ἂν αὕτη προστάττῃ, οὕτω καὶ ἡ ἀνδρεία πράττει, ὥστε εἰ αὐτὴ ἐπαινετὴ τῷ ποιεῖν ἃ ἂν ἡ φρόνησις προστάττῃ, ἥ γε φρόνησις τελείως ἂν εἴη καὶ ἐπαινετὴ καὶ ἀρετή.

[28] Πότερον δ’ ἐστὶν ἡ φρόνησις πρακτικὴ ἢ οὔ, ἴδοι ἄν τις ἐντεῦθεν, ἐπὶ τὰς ἐπιστήμας ἐπιβλέψας, οἷον ἐπὶ τὴν οἰκοδομικήν. ἔστιν γάρ, ὡς φαμέν, ἐν οἰκοδομικῇ ὃ μὲν ἀρχιτέκτων τις καλούμενος, ὃ δὲ ὑπηρετῶν τούτῳ οἰκοδόμος· οὗτος δ’ ἐστὶν ποιητικὸς οἰκίας. ἐστὶν δὲ καὶ ὁ ἀρχιτέκτων, καθὸ οὗτος ἐποίει οἰκίαν, ποιητικὸς οἰκίας. ὁμοίως δὲ ἐπὶ τῶν ἄλλων τῶν ποιητικῶν ἔχει, ἐν αἷς ἔστιν ἀρχιτέκτων καὶ ὑπηρέτης τούτου. ποιητικὸς ἄρα τινὸς καὶ ὁ ἀρχιτέκτων ἔσται, καὶ τοῦ αὐτοῦ τούτου [29] ‹οὗ› ποιητικὸς καὶ ὁ ὑπηρετικός. εἰ τοίνυν ὁμοίως καὶ ἐπὶ τῶν ἀρετῶν ἔχει, ὅπερ εἰκὸς καὶ εὔλογον, καὶ ἡ φρόνησις ἂν εἴη πρακτική. αἱ γὰρ ἀρεταὶ πᾶσαι πρακτικαὶ εἰσίν, ἡ δὲ φρόνησις ὥσπερ ἀρχιτέκτων τις αὐτῶν ἐστίν· ὅπως γὰρ αὕτη προστάξει, οὕτως αἱ ἀρεταὶ καὶ οἳ κατ’ αὐτὰς πράττουσιν· ἐπεὶ οὖν αἱ ἀρεταὶ πρακτικαί, καὶ ἡ φρόνησις πρακτικὴ ἂν εἴη.

[30] Πότερον δὲ αὕτη πάντων ἄρχει τῶν ἐν τῇ ψυχῇ, ὥσπερ δοκεῖ καὶ ἀπορεῖται; ἢ οὔ; τῶν γὰρ βελτιόνων οὐκ ἂν δόξειεν, οἷον τῆς σοφίας οὐκ ἄρχει. ἀλλά, φησίν, αὕτη ἐπιμελεῖται πάντων, καὶ κυρία ἐστὶ προστάττουσα.

[31] Ἀλλ’ ἴσως ἔχει ὥσπερ ἐν οἰκίᾳ ὁ ἐπίτροπος. οὗτος γὰρ πάντων κύριος καὶ πάντα διοικεῖ· ἀλλ’ οὔπω οὗτος ἄρχει πάντων, ἀλλὰ παρασκευάζει τῷ δεσπότῃ σχολήν, ὅπως ἂν ἐκεῖνος μὴ κωλυόμενος ὑπὸ τῶν ἀναγκαίων ἐκκλείηται τοῦ τῶν καλῶν τι [32] καὶ προσηκόντων πράττειν. οὕτω καὶ ὁμοίως τούτῳ ἡ φρόνησις ὥσπερ ἐπίτροπός τίς ἐστι τῆς σοφίας, καὶ παρασκευάζει ταύτῃ σχολὴν καὶ τὸ ποιεῖν τὸ αὑτῆς ἔργον, κατέχουσα τὰ πάθη καὶ ταῦτα σωφρονίζουσα.

II

[1] Μετὰ δὲ ταῦτα ὑπὲρ ἐπιεικείας δέοι ἂν τὴν ἐπίσκεψιν ποιήσασθαι, τί τέ ἐστι καὶ ἐν τίσι καὶ περὶ ποῖα. ἔστιν δὲ ἡ ἐπιείκεια καὶ ὁ ἐπιεικὴς ὁ ἐλαττωτικὸς τῶν δικαίων τῶν κατὰ νόμον. ἃ γὰρ ὁ νομοθέτης ἐξαδυνατεῖ καθ’ ἕκαστα ἀκριβῶς διορίζειν, ἀλλὰ καθόλου λέγει, ὁ ἐν τούτοις παραχωρῶν, καὶ ταῦθ’ αἱρούμενος ἃ ὁ νομοθέτης ἐβούλετο μὲν τῷ καθ’ ἕκαστα διορίσαι, οὐκ ἠδυνήθη δέ, ὁ τοιοῦτος ἐπιεικής. οὐκ ἔστιν δὲ ἐλαττωτικὸς τῶν δικαίων ἁπλῶς· τῶν μὲν γὰρ φύσει καὶ ὡς ἀληθῶς ὄντων δικαίων οὐκ ἐλαττοῦται, ἀλλὰ τῶν κατὰ νόμον, ἃ ὁ νομοθέτης ἐξαδυνατῶν ἀπέλιπεν.

[2] Ἡ δὲ εὐγνωμοσύνη καὶ ὁ εὐγνώμων ἐστὶν περὶ ταὐτὰ περὶ ἃ καὶ ἡ ἐπιείκεια, περὶ τὰ δίκαια [καὶ] τὰ ἐλλελειμμένα ὑπὸ τοῦ νομοθέτου τῷ μὴ ἀκριβῶς διωρίσθαι, κριτικὸς ὢν τῶν ἐλλελειμμένων ὑπὸ τοῦ νομοθέτου, καὶ γιγνώσκων ὅτι ὑπὸ μὲν τοῦ νομοθέτου ἐλλέλειπται, ἔστι μέντοι δίκαια, ὁ τοιοῦτος εὐγνώμων.

Ἔστι μὲν οὖν οὐκ ἄνευ ἐπιεικείας ἡ εὐγνωμοσύνη· τὸ μὲν γὰρ κρῖναι τοῦ εὐγνώμονος, τὸ δὲ δὴ πράττειν [καὶ] κατὰ τὴν κρίσιν τοῦ ἐπιεικοῦς.

[3] Ἡ δέ γε εὐβουλία ἐστὶ μὲν περὶ ταὐτὰ τῇ φρονήσει (περὶ γὰρ τὰ πρακτά ἐστι τὰ περὶ αἵρεσιν καὶ φυγὴν ὄντα), ἔστιν δὲ οὐκ ἄνευ φρονήσεως. ἡ μὲν γὰρ φρόνησις πρακτικὴ τούτων ἐστί, ἡ δὲ εὐβουλία ἕξις ἢ διάθεσις ἤ τι τοιοῦτον ἡ ἐπιτευκτικὴ τῶν ἐν τοῖς πρακτοῖς βελτίστων καὶ συμφορωτάτων.

[2] διὸ οὐδὲ τὰ τοιαῦτα εὐβουλίας ἂν δόξειεν, τὰ ἀπὸ ταὐτομάτου συμβαίνοντα κατὰ τρόπον· οἷς γὰρ μή ἐστιν ὁ λόγος ὁ σκοπῶν τὸ βέλτιστον, οὐκέτι ἂν εἴποις, ᾧ συνέβη τι κατὰ τρόπον, τοῦτον εὔβουλον, ἀλλ’ εὐτυχῆ· τὰ γὰρ ἄνευ τοῦ λόγου τοῦ κρίνοντος γινόμενα κατορθώματα εὐτυχήματα ἐστίν.

[3] Πότερον δέ ποτε τοῦ δικαίου ἐστὶν τὸ τῇ ἐντεύξει τὸ ἴσον ἑκάστῳ ἀποδιδόναι (λέγω δὲ οἷον, ὁποῖος ἂν ᾖ ἕκαστος, τοιοῦτον γινόμενον ἐντυγχάνειν); ἢ οὔ; τοῦτο μὲν γὰρ καὶ κόλακος καὶ ἀρέσκου δόξειεν ἂν εἶναι· ἀλλὰ τὸ κατ’ ἀξίαν ἑκάστῳ ἀποδιδόναι τὴν ἔντευξιν, τοῦτο καὶ δικαίου καὶ σπουδαίου ἁπλῶς ἂν δόξειεν εἶναι.

[4] Ἀπορήσειε δ’ ἄν τις καὶ τοῦτο. εἴπερ ἐστὶ τὸ ἀδικεῖν τὸ βλάπτειν

ἑκόντα καὶ εἰδότα καὶ ὃν καὶ ὡς καὶ οὗ ἕνεκα, ἔστι δ’ ἡ βλάβη καὶ ἡ ἀδικία ἐν ἀγαθοῖς, καὶ περὶ ἀγαθά, ὁ ἀδικῶν ἄρα καὶ ὁ ἄδικος εἰδείη ἂν ὁποῖα ἀγαθὰ καὶ ὁποῖα κακά· τὸ δέ γε ὑπὲρ τῶν τοιούτων εἰδέναι ἐστὶν ἴδιον τοῦ φρονίμου καὶ τῆς φρονήσεως· ἄτοπον δὴ συμβαίνει τὸ τῷ ἀδίκῳ συμπαρακολουθεῖν τὸ μέγιστον ἀγαθὸν τὴν φρόνησιν.

[5] Ἢ οὐκ ἂν δόξειεν παρακολουθεῖν τῷ ἀδίκῳ ἡ φρόνησις; οὐ γὰρ σκοπεῖ ὁ ἄδικος οὐδὲ δύναται κρίνειν τὸ ἁπλῶς ἀγαθὸν καὶ τὸ αὑτῷ ἀγαθόν, ἀλλὰ [6] διαμαρτάνει. τῆς δὲ φρονήσεως τοῦτό ἐστι, τὸ ὀρθῶς δύνασθαι ταῦτα θεωρεῖν, ὁμοίως ὥσπερ ἐπὶ τῶν κατ’ ἰατρικὴν τὸ μὲν ἁπλῶς ὑγιεινὸν καὶ τὸ ὑγιείας ποιητικὸν οἴδαμεν ἅπαντες, ὅτι ἐλλέβορος καὶ τὸ ἐλατήριον καὶ αἱ τομαὶ καὶ αἱ καύσεις ὑγιεινά εἰσιν καὶ ὑγιείας ποιητικά, ἀλλ’ ὅμως οὐκ ἔχομεν τὴν ἰατρικὴν ἐπιστήμην· οὐ γὰρ ἔτι οἴδαμεν τὸ καθ’ ἕκαστον ἀγαθόν, ὥσπερ ὁ ἰατρὸς οἶδεν τίνι ἐστὶ τοῦτ’ ἀγαθὸν καὶ πότε καὶ πῶς διακειμένῳ· ἐν τούτῳ γὰρ ἤδη ἡ ἰατρικὴ ἐπιστήμη. τὰ μὲν οὖν ἁπλῶς ὑγιεινὰ εἰδότες ὅμως οὐκ ἔχομεν οὐδὲ παρακολουθεῖ ἡμῖν ἡ ἰατρικὴ ἐπιστήμη.

[7] Ὡς δ’ αὔτως ὁ ἄδικος. ὅτι μὲν οὖν ἁπλῶς καὶ ἡ τυραννὶς ἀγαθὸν καὶ ἡ ἀρχὴ καὶ ἡ ἐξουσία, οἶδεν· ἀλλ’ εἰ αὑτῷ ἀγαθὸν ἢ μή, ἢ πότε, ἢ πῶς διακειμένῳ, οὐκέτι οἶδεν. τοῦτο δ’ ἐστὶν μάλιστα τῆς φρονήσεως, ὥστε τῷ ἀδίκῳ οὐ παρακολουθεῖ ἡ φρόνησις. αἱρεῖται γὰρ τἀγαθά, ὑπὲρ ὧν ἀδικεῖ, τὰ ἁπλῶς ἀγαθά, οὐ τὰ αὑτῷ ἀγαθά. ὁ γὰρ πλοῦτος καὶ ἡ ἀρχὴ ἁπλῶς μὲν ἀγαθόν, αὑτῷ μέντοι ἴσως οὐκ ἀγαθόν· εὐπορήσας γὰρ καὶ ἄρξας πολλὰ κακὰ αὑτὸς ἑαυτῷ ποιήσει καὶ τοῖς φίλοις· οὐ γὰρ δυνήσεται ἀρχῇ ὀρθῶς χρήσασθαι.

[8] Ἔχει δὲ καὶ τοῦτο ἀπορίαν καὶ σκέψιν, πότερόν ἐστι πρὸς τὸν φαῦλον ἀδικία, ἢ οὔ. εἰ γὰρ ἡ μὲν ἀδικία ἐστὶν ἐν βλάβῃ, ἡ δὲ βλάβη ἐν στερήσει τῶν ἀγαθῶν, οὐκ ἂν δόξειεν βλάπτειν· τὰ γὰρ ἀγαθὰ ἃ αὑτῷ οἴεται εἶναι ἀγαθά, οὐκ ἀγαθὰ εἰσίν· ἡ γὰρ ἀρχὴ καὶ ὁ πλοῦτος τὸν φαῦλον οὐ δυνάμενον αὐτοῖς χρῆσθαι ὀρθῶς βλάψει· εἰ οὖν αὐτὸν βλάψει παραγενόμενα, ὁ τούτων στερίσκων οὐκ ἂν δόξειεν [9] ἀδικεῖν. ὁ δὴ τοιοῦτος λόγος δόξειεν ἂν εἶναι παράδοξος τοῖς πολλοῖς· πάντες γὰρ οἴονται καὶ ἀρχῇ καὶ δυνάμει καὶ πλούτῳ δυνατοὶ εἶναι χρῆσθαι, [10] οὐκ ὀρθῶς ὑπολαμβάνοντες. δῆλον δὲ τοῦτο καὶ ἐκ τοῦ νομοθέτου· ὁ γὰρ νομοθέτης οὐ πᾶσιν ἐπιτρέπει τὸ ἄρχειν, ἀλλ’ ὥρισται καὶ ἡ ἡλικία καὶ ἡ εὐπορία ἣν δεῖ ὑπάρχειν τῷ μέλλοντι ἄρχειν, ὡς οὐ δυνατὸν ὂν παντὶ ἄρχειν ὑπάρξαι. εἰ δή τις ἀγανακτοίη ὅτι οὐκ ἄρχει ἢ οὐδεὶς αὐτὸν ἐᾷ κυβερνᾶν, “οὐ γὰρ ἔχεις” εἴποι ἄν τις “οὐδὲν τοιοῦτον ἐν τῇ ψυχῇ ᾧ δυνήσῃ καὶ ἄρχειν καὶ [11] κυβερνᾶν.” ἢ ἐπὶ μὲν τοῦ σώματος

ὁρῶμεν οὐ δυναμένους ὑγιαίνειν τοὺς τὰ ἁπλῶς ἀγαθὰ προσφερομένους, ἀλλ’ εἰ μέλλει τις ὑγιαίνειν τὸ σῶμα τὸ φαῦλον, ὕδωρ αὐτῷ πρότερον καὶ ὀλίγα σιτία προσενεκτέον· τῷ δὲ τὴν ψυχὴν φαύλην ἔχοντι πρὸς τὸ μηθὲν κακὸν ἐργάζεσθαι οὐκ ἀφεκτέον καὶ πλούτου καὶ ἀρχῆς καὶ δυνάμεως καὶ ἁπλῶς τῶν τοιούτων, ὅσῳ εὐκινητότερον καὶ εὐμεταβολώτερον ψυχὴ σώματος; ὥσπερ γὰρ ὁ φαῦλος τὸ σῶμα οὕτως ἦν ἐπιτήδειος διαιτᾶσθαι, καὶ ὁ φαῦλος τὴν ψυχὴν οὕτως ἐπιτήδειος διάγειν, μηθὲν τῶν τοιούτων ἔχων.

[12] Ἔχει δὲ καὶ τὸ τοιοῦτον ἀπορίαν, οἷον ἐπειδὰν μὴ ᾖ ἅμα πρᾶξαι τἀνδρεῖα καὶ τὰ δίκαια, πότερ’ ἄν τις πράξειεν; ἐν μὲν δὴ ταῖς φυσικαῖς ἀρεταῖς ἔφαμεν τὴν ὁρμὴν μόνον [δεῖν] τὴν πρὸς τὸ καλὸν ὑπάρχειν ἄνευ λόγου· ᾧ δ’ ἐστὶν αἵρεσις, ἐν τῷ λόγῳ καὶ τῷ λόγον ἔχοντι ἐστίν. ὥστε ἅμα τὸ ἑλέσθαι [καὶ] παρέσται καὶ ἡ τελεία ἀρετὴ ὑπάρξει, ἣν ἔφαμεν μετὰ φρονήσεως εἶναι, οὐκ ἄνευ δὲ τῆς [13] φυσικῆς ὁρμῆς τῆς ἐπὶ τὸ καλόν. οὐδ’ ἐναντιώσεται ἀρετὴ ἀρετῇ. πέφυκεν γὰρ ὑπείκειν τῷ λόγῳ, [ἣ] ὡς οὗτος προστάττει, ὥστ’ ἐφ’ ὃ ἂν οὗτος ἄγῃ, ἐπὶ τοῦτο ἀποκλίνει. τὸ γὰρ βέλτιον οὗτός ἐστιν ὁ αἱρούμενος. οὔτε γὰρ ἄνευ τῆς φρονήσεως αἱ ἄλλαι ἀρεταὶ γίνονται, οὔθ’ ἡ φρόνησις τελεία ἄνευ τῶν ἄλλων ἀρετῶν, ἀλλὰ συνεργοῦσί πως μετ’ ἀλλήλων ἐπακολουθοῦσαι τῇ φρονήσει.

[14] Οὐχ ἧττον δὲ καὶ τὰ τοιαῦτα ἀπορήσεται, πότερόν ποτε καὶ ἐπὶ τῶν ἀρετῶν οὕτως ἔχει ὥσπερ ἐπὶ τῶν ἄλλων ἀγαθῶν τῶν τ’ ἐκτὸς καὶ τῶν περὶ σῶμα. ταῦτα γὰρ εἰς ὑπερβολὴν γινόμενα χείρους ποιεῖ, οἷον πλοῦτος πολὺς γενόμενος ὑπερόπτας καὶ ἀηδεῖς ἐποίησεν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων [15] ἀγαθῶν, ἀρχῆς τιμῆς κάλλους μεγέθους. πότερον οὖν καὶ ἐπ’ ἀρετῆς οὕτως ἔχει, ὥστε ἐάν τινι δικαιοσύνη ἢ ἀνδρεία εἰς ὑπερβολὴν παραγένηται, χείρων ἔσται, ἢ οὔ; ‹οὔ,› φησίν. ἀλλ’ ἀπὸ μὲν τῆς ἀρετῆς τιμὴ γίνεται, ἡ δὲ τιμὴ μεγάλη γινομένη χείρους ποιεῖ· ὥστε δῆλον ὅτι, φησίν, ἀρετὴ εἰς ἐπίδοσιν βαδίζουσα μεγέθους χείρους ποιήσει· τῆς γὰρ τιμῆς ἡ ἀρετὴ αἰτία, ὥστε καὶ ἡ ἀρετὴ ποιοίη ἂν χείρους μείζων γινομένη.

[16] Ἢ τοῦτο οὐκ ἀληθές; τῆς γὰρ ἀρετῆς εἰ καὶ ἄλλα πολλά ἐστιν ἔργα, ὥσπερ καὶ ἔστιν, καὶ τοῦτο ἐν τοῖς μάλιστα, τὸ τοῖς ἀγαθοῖς τούτοις καὶ τοῖς τοιούτοις δύνασθαι ὀρθῶς παραγενομένοις χρῆσθαι· εἰ δὴ ὁ σπουδαῖος παραγενομένης αὐτῷ ἢ τιμῆς ἢ ἀρχῆς μεγάλης μὴ χρήσεται ὀρθῶς τούτοις, οὐκέτι ἂν εἴη σπουδαῖος· οὔτε δὴ ἡ τιμὴ οὔτε ἡ ἀρχὴ ποιήσει τὸν σπουδαῖον χείρω, ὥστε οὐδ’ ἡ ἀρετή.

[17] τὸ δ’ ὅλον ἐπειδήπερ ἡμῖν ἐν ἀρχῇ διώρισται, ὅτι εἰσὶν αἱ ἀρεταὶ μεσότητες, καὶ ἡ μᾶλλον ἀρετὴ μᾶλλόν ἐστι μεσότης· ὥστ’ οὐχ ὅτι χείρω

ποιήσει εἰς μέγεθος ἡ ἀρετὴ ἰοῦσα, ἀλλὰ βελτίω· ἡ γὰρ μεσότης ἐνδείας καὶ ὑπερβολῆς τῆς τῶν παθῶν ἦν μεσότης.

[4]

[1] Ταῦτα μὲν μέχρι τούτου· μετὰ δὲ ταῦτα ἀναγκαῖόν ἐστιν ἑτέραν ἀρχὴν ποιησαμένοις λέγειν ὑπὲρ ἐγκρατείας καὶ ἀκρασίας. ὥσπερ δὲ [καὶ] ἡ ἀρετὴ καὶ ἡ κακία αὗταί εἰσιν ἄτοποι, ὡσαύτως ἀναγκαῖον καὶ τοὺς περὶ τούτων λόγους λεχθησομένους [2] ἀτόπους γίνεσθαι· οὐ γὰρ ὁμοία ἡ ἀρετὴ αὕτη ἐστὶν ταῖς ἄλλαις. ἐν μὲν γὰρ ταῖς ἄλλαις ἐπὶ ταὐτὰ καὶ ὁ λόγος καὶ τὰ πάθη ὁρμῶσιν καὶ οὐκ ἐναντιοῦνται ἀλλήλοις, ἐπὶ δὲ ταύτης ἐναντιοῦνται ἀλλήλοις ὅ τε λόγος καὶ τὰ πάθη.

[3] Ἔστι δὲ τρία τὰ ἐν τῇ ψυχῇ γινόμενα, καθ’ ἃ φαῦλοι λεγόμεθα, κακία ἀκρασία θηριότης. ὑπὲρ μὲν οὖν κακίας καὶ ἀρετῆς τί ἐστι καὶ ἐν τίσιν, εἴρηται ἡμῖν ἐν τοῖς ἐπάνω· νῦν δὲ ὑπὲρ ἀκρασίας καὶ θηριότητος λεκτέον ἂν εἴη.

[5]

[1] Ἔστιν δὲ ἡ θηριότης ὑπερβάλλουσά τις κακία. ὅταν γάρ τινα παντελῶς ἴδωμεν φαῦλον, οὐδ’ ἄνθρωπόν φαμεν εἶναι ἀλλὰ θηρίον, ὡς οὖσαν τινὰ [2] κακίαν θηριότητα. ἡ δὲ ἀντικειμένη ἀρετὴ ταύτῃ ἐστὶν ἀνώνυμος, ἔστιν δ’ ἡ τοιαύτη ὑπὲρ ἄνθρωπον οὖσα, οἷον ἡρωϊκή τις καὶ θεία. ἀνώνυμος δέ ἐστιν αὕτη ἡ ἀρετή, ὅτι οὐκ ἔστιν θεοῦ ἀρετή· ὁ γὰρ θεὸς βελτίων τῆς ἀρετῆς καὶ οὐ κατ’ ἀρετήν ἐστι [3] σπουδαῖος· οὕτω μὲν γὰρ βέλτιον ἔσται ἡ ἀρετὴ τοῦ θεοῦ. διὸ ἀνώνυμος ἡ ἀρετὴ ἡ τῇ κακίᾳ τῇ θηριότητι ἀντικειμένη. θέλει δὲ τῇ τοιαύτῃ ἀντικεῖσθαι ἡ θεία καὶ ὑπὲρ ἄνθρωπον· ὥσπερ γὰρ καὶ ἡ κακία ἡ θηριότης ὑπὲρ ἄνθρωπον ἐστίν, οὕτω καὶ ἡ ἀρετὴ ἡ ἀντικειμένη.

[6]

[1] Ὑπὲρ δὲ ἀκρασίας καὶ ἐγκρατείας πρῶτον ‹ἂν› δέοι εἰπεῖν τὰ ἀπορούμενα καὶ τοὺς ἐναντιουμένους λόγους τοῖς φαινομένοις, ὅπως ἐκ τῶν ἀπορουμένων καὶ ἐναντιουμένων λόγων συνεπισκεψάμενοι καὶ ταῦτα ἐξετάσαντες τὴν ἀλήθειαν ὑπὲρ αὐτῶν εἰς τὸ ἐνδεχόμενον ἴδωμεν· ῥᾷον γὰρ οὕτως ἰδεῖν τἀληθὲς ἔσται.

[2] Σωκράτης μὲν οὖν ὁ πρεσβύτης ἀνῄρει ὅλως καὶ οὐκ ἔφη ἀκρασίαν εἶναι, λέγων ὅτι οὐθεὶς εἰδὼς τὰ κακὰ ὅτι κακά εἰσιν ἕλοιτ’ ἄν· ὁ δὲ ἀκρατὴς δοκεῖ, εἰδὼς ὅτι φαῦλα εἰσίν, αἱρεῖσθαι ὅμως, ἀγόμενος ὑπὸ τοῦ πάθους. διὰ δὴ τὸν τοιοῦτον λόγον οὐκ [3] ᾤετ’ εἶναι ἀκρασίαν· οὐ δὴ ὀρθῶς. ἄτοπον γὰρ τῷ λόγῳ τούτῳ πεισθέντας ἀναιρεῖν τὸ πιθανῶς γινόμενον· ἀκρατεῖς γὰρ εἰσὶν ἄνθρωποι, καὶ αὐτοὶ εἰδότες ὅτι φαῦλα ὅμως ταῦτα πράττουσιν.

[4] Ἐπεὶ δ’ οὖν ἔστιν ἀκρασία, πότερον ὁ ἀκρατὴς ἐπιστήμην τινὰ ἔχει, ᾗ θεωρεῖ καὶ ἐξετάζει τὰ φαῦλα; ἀλλὰ πάλιν οὐκ ἂν δόξειεν. ἄτοπον γὰρ τὸ κράτιστον καὶ βεβαιότατον τῶν ἐν ἡμῖν ἡττᾶσθαι ὑπὸ τινός· ἐπιστήμη γὰρ πάντων τῶν ἐν ἡμῖν μονιμώτατόν ἐστι καὶ βιαστικώτατον· ὥστε πάλιν ὁ λόγος οὗτος ἐναντιοῦται τῷ μὴ εἶναι ἐπιστήμην.

[5] Ἀλλ’ ἆρά γε ἐπιστήμη μὲν οὔ, δόξα δέ; ἀλλ’ εἰ δόξαν ἔχει ὁ ἀκρατής, οὐκ ἂν εἴη ψεκτός. εἰ γὰρ φαῦλόν τι πράττει μὴ ἀκριβῶς εἰδὼς ἀλλὰ δοξάζων, συγγνώμην ἄν τις ἀποδοίη προσθέσθαι τῇ ἡδονῇ καὶ πρᾶξαι τὰ φαῦλα, μὴ ἀκριβῶς εἰδότα ὅτι [οὐ] φαῦλα εἰσίν, ἀλλὰ δοξάζοντα· οἷς δέ γε συγγνώμην ἔχομεν, τούτους οὐ ψέγομεν· ὥστε ὁ ἀκρατής, εἴπερ δόξαν ἔχει, οὐκ ἔσται ψεκτός. ἀλλ’ ἔστιν ψεκτός.

[6] Οἱ δὴ τοιοῦτοι λόγοι ἀπορεῖν ποιοῦσιν. οἳ μὲν γὰρ οὐκ ἔφασαν εἶναι ἐπιστήμην, ἄτοπόν τι γὰρ συμβαίνειν ἐποίουν· οἳ δὲ πάλιν οὐδὲ δόξαν, καὶ γὰρ οὗτοι ἄτοπόν τι πάλιν [ἐποίουν] συμβαίνειν.

[7] Ἀλλὰ δὴ καὶ ταῦτ’ ἄν τις ἀπορήσειεν· ἐπεὶ γὰρ δοκεῖ ὁ σώφρων καὶ ἐγκρατὴς εἶναι, πότερον τῷ σώφρονί τι ποιήσει σφοδρὰς ἐπιθυμίας; εἰ μὲν οὖν ἔσται ἐγκρατής, σφοδρὰς δεήσει αὐτὸν ἔχειν ἐπιθυμίας (οὐ γὰρ ἂν εἴποις ἐγκρατῆ, ὅστις μετρίων ἐπιθυμιῶν κρατεῖ)· εἰ δέ γε σφοδρὰς [μὴ] ἕξει ἐπιθυμίας, οὐκέτι ἔσται σώφρων (ὁ γὰρ σώφρων ἐστὶν ὁ μὴ ἐπιθυμῶν μηδὲ πάσχων μηθέν).

[8] Ἔχει δὲ καὶ τὰ τοιαῦτα πάλιν ἀπορίαν. συμβαίνει γὰρ ἐκ τῶν λόγων καὶ τὸν ἀκρατῆ ποτε ἐπαινετὸν εἶναι καὶ τὸν ἐγκρατῆ ψεκτόν. ἔστω γάρ τις, φησίν, διημαρτηκὼς τῷ λογισμῷ, καὶ δοκείτω αὐτῷ λογιζομένῳ τὰ καλὰ εἶναι φαῦλα, ἡ δ’ ἐπιθυμία ἀγέτω ἐπὶ τὰ καλά· οὐκοῦν ὁ μὲν λόγος οὐκ ἐάσει πράττειν, ὑπὸ δὲ τῆς ἐπιθυμίας ἀγόμενος πράσσει (τοιοῦτος γὰρ ἦν ὁ ἀκρατής)· πράξει ἄρα τὰ καλά, ἡ γὰρ ἐπιθυμία ἐπὶ ταῦτα ἀγέτω (ὁ δὲ λόγος κωλύσει· διαμαρτανέτω γὰρ τῷ λογισμῷ τῶν καλῶν)· οὐκοῦν οὗτος ἀκρατὴς μὲν ἔσται, ἐπαινετὸς μέντοι· ᾗ γὰρ πράττει τὰ καλά, ἐπαινετός. ἄτοπον δὴ τὸ συμβαῖνον.

[9] Πάλιν δ’ αὖ διαμαρτανέτω τῷ λόγῳ, καὶ τὰ καλὰ αὐτῷ μὴ δοκείτω καλὰ εἶναι, ἡ δ’ ἐπιθυμία ἀγέτω ἐπὶ τὰ καλά· ἐγκρατὴς δέ γέ ἐστιν ὁ ἐπιθυμῶν μέν, μὴ πράττων δὲ ταῦτα διὰ τὸν λόγον· οὐκοῦν ὁ διαμαρτάνων τῷ λόγῳ τῶν καλῶν κωλύσει ὧν ἐπιθυμεῖ πράττειν, κωλύει ἄρα τὰ καλὰ πράττειν (ἐπὶ ταῦτα γὰρ ἡ ἐπιθυμία ἤγαγεν)· ὁ δέ γε τὰ καλὰ μὴ πράττων δέον πράττειν ψεκτός· ὁ ἄρα ἐγκρατὴς ἔσται ποτὲ ψεκτός. ἄτοπον δὴ καὶ οὕτω τὸ συμβαῖνον.

[10] Πότερον δ’ ἡ ἀκρασία καὶ ὁ ἀκρατὴς ἐν ἅπασίν ἐστιν καὶ περὶ πάντα, οἷον περὶ χρήματα καὶ τιμὴν καὶ ὀργὴν καὶ δόξαν (περὶ γὰρ ταῦτα πάντα δοκοῦσιν ἀκρατεῖς εἶναι), ἢ οὔ, ἀλλὰ περί τι ἀφωρισμένον ἐστὶν ἡ ἀκρασία, ἀπορήσειεν ἄν τις.

Τὰ μὲν οὖν τὴν ἀπορίαν παρέχοντα ταῦτ’ ἐστίν· [11] ἀναγκαῖον δὲ λῦσαι τὰς ἀπορίας. πρῶτον μὲν οὖν τὴν ἐπὶ τῆς ἐπιστήμης· ἄτοπον γὰρ ἐδόκει εἶναι ἐπιστήμην ἔχοντα ταύτην ἀποβάλλειν ἢ μεταπίπτειν.

[12] Ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῆς δόξης· οὐθὲν γὰρ διαφέρει δόξαν εἶναι ἢ ἐπιστήμην· εἰ γὰρ ἔσται ἡ δόξα σφοδρὰ τῷ βέβαιον εἶναι καὶ ἀμετάπειστον, οὐθὲν διοίσει τῆς ἐπιστήμης, δόξης ἐχούσης τὸ πιστεύειν οὕτως ἔχειν ὡς δοξάζουσιν, οἷον Ἡράκλειτος ὁ Ἐφέσιος τοιαύτην ἔχει δόξαν ὑπὲρ ὧν αὐτῷ ἐδόκει.

[13] Οὐθὲν δὲ ἄτοπον τῷ ἀκρατεῖ, οὔτ’ εἰ ἐπιστήμην ἔχει οὔτ’ εἰ δόξαν οἵαν λέγομεν, πράττειν τι φαῦλον. ἔστι γὰρ τὸ ἐπίστασθαι διττόν, ὧν τὸ μέν ἐστι τὴν ἐπιστήμην ἔχειν (ἐπίστασθαι γάρ φαμεν τότε, ὅταν τις ἐπιστήμην ἔχῃ), τὸ δ’ ἕτερον τὸ ἐνεργεῖν ἤδη τῇ ἐπιστήμῃ. ἀκρατὴς οὖν ἐστιν ὁ ἔχων τὴν ἐπιστήμην τῶν καλῶν, οὐκ ἐνεργῶν δὲ [14] αὐτῇ· ὅταν οὖν μὴ ἐνεργῇ τῇ ἐπιστήμῃ ταύτῃ, οὐδὲν ἄτοπον αὐτόν ἐστιν πράττειν τὰ φαῦλα ἔχοντα τὴν ἐπιστήμην. ὅμοιον γάρ ἐστιν ὥσπερ ἐπὶ τῶν καθευδόντων. οὗτοι γὰρ ἔχοντες τὴν ἐπιστήμην ὅμως ἐν τῷ ὕπνῳ πολλὰ δυσχερῆ καὶ πράττουσι καὶ πάσχουσιν. οὐ γὰρ ἐνεργεῖ ἐν αὐτοῖς ἡ ἐπιστήμη. ὡσαύτως δ’ ἐπὶ τοῦ ἀκρατοῦς. ὥσπερ γὰρ καθεύδοντι ἔοικεν, καὶ τῇ ἐπιστήμῃ οὐκ [15] ἐνεργεῖ. λύεται δὴ ἀπορία οὕτως. ἠπορεῖτο γὰρ πότερον ὁ ἀκρατὴς ἐκβάλλει τότε τὴν ἐπιστήμην ἢ μεταπίπτει. ἄτοπον γὰρ ἀμφότερα δοκεῖ εἶναι.

Ἀλλὰ πάλιν ἐντεῦθεν ἂν γένοιτο φανερόν, ὥσπερ ἔφαμεν ἐν τοῖς ἀναλυτικοῖς, ἐκ δύο προτάσεων γίνεσθαι τὸν συλλογισμόν, καὶ τούτων εἶναι τὴν μὲν πρώτην καθόλου, τὴν δὲ δευτέραν ὑπὸ ταύτην τε καὶ ἐπὶ μέρους. οἷον ἐπίσταμαι πάντ’ ἄνθρωπον πυρέττοντα ὑγιῆ ποιῆσαι· οὑτοσὶ δὲ πυρέττει· ἐπίσταμαι ἄρα καὶ τοῦτον ὑγιῆ ποιῆσαι. ἔστιν οὖν ὃ τῇ μὲν καθόλου ἐπιστήμῃ ἐπίσταμαι, τῇ δ’ ἐπὶ [16] μέρους οὔ. γίνεται οὖν ἁμαρτία τῷ τὴν ἐπιστήμην ἔχοντι καὶ ἐνταῦθα, οἷον ἅπαντα μὲν τὸν πυρέττοντα ὑγιῆ ποιῆσαι ‹ἐπίσταμαι›, εἰ μέντοι οὗτος πυρέττει, οὐκ οἶδα. ὡσαύτως τοίνυν ἐπὶ τοῦ ἀκρατοῦς τοῦ τὴν ἐπιστήμην ἔχοντος ἡ αὐτὴ ἁμαρτία συμβήσεται. ἐνδέχεται γὰρ τὸν ἀκρατῆ τὴν μὲν καθόλου ἐπιστήμην ἔχειν, ὅτι τὰ τοιαῦτα φαῦλα καὶ βλαβερά, μὴ μέντοι γε ὅτι ἐστὶν ταῦτα φαῦλα ἐπὶ μέρους εἰδέναι, ὥστε οὕτως ἔχων τὴν ἐπιστήμην ἁμαρτήσεται· ἔχει γὰρ τὴν καθόλου, τὴν δ’ ἐπὶ μέρους οὔ.

[17] Οὐδὲν οὖν ἄτοπον οὐδ’ οὕτω συμβήσεται ἐπὶ τοῦ ἀκρατοῦς, τὸν ἔχοντα τὴν ἐπιστήμην φαῦλόν τι πράττειν. ἔστι γὰρ ὡς ἐπὶ τῶν μεθυόντων. οἱ γὰρ μεθύοντες, ὅταν αὐτοῖς ἡ μέθη ἀπαλλαγῇ, πάλιν οἱ αὐτοὶ εἰσίν· οὐκ ἐξέπεσεν δ’ αὐτῶν ὁ λόγος οὐδ’ ἡ ἐπιστήμη, ἀλλ’ ἐκρατήθη ὑπὸ τῆς μέθης, ἀπαλλαγέντες δὲ τῆς μέθης πάλιν οἱ αὐτοὶ εἰσίν. ὁμοίως οὖν ἔχει ὁ ἀκρατής [πάλιν]. ἐπικρατῆσαν γὰρ τὸ πάθος ἠρεμεῖν ἐποίησε τὸν λογισμόν· ὅταν δ’ ἀπαλλαγῇ τὸ πάθος ὥσπερ ἡ μέθη, πάλιν ὁ αὐτὸς ἐστίν.

[18] Ἦν δὲ καὶ ἄλλος τις λόγος ἐπὶ τῆς ἀκρασίας ὃς παρεῖχεν ἀπορίαν, ὡς ἐπαινετοῦ ποτε τοῦ ἀκρατοῦς ἐσομένου καὶ ψεκτοῦ τοῦ ἐγκρατοῦς. οὐ συμβαίνει δὲ τοῦτο. οὐ γάρ ἐστιν οὔτ’ ἐγκρατὴς οὔτ’ ἀκρατὴς ὁ τῷ λόγῳ διεψευσμένος, ἀλλὰ ὁ λόγον ἔχων ὀρθὸν καὶ τούτῳ τὰ φαῦλα ὄντα κρίνων καὶ τὰ καλά, καὶ ἀκρατὴς μὲν ὁ τῷ τοιούτῳ λόγω ἀπειθῶν, ἐγκρατὴς δὲ ὁ πειθόμενος καὶ μὴ ὑπὸ τῶν ἐπιθυμιῶν ἀγόμενος· οὐδὲ γὰρ ᾧ τινι οὐ δοκεῖ τὸν πατέρα τύπτειν αἰσχρὸν εἶναι, ἐπιθυμῶν δὲ τύπτειν, ὁ τούτου [19] ἀπεχόμενος ἐγκρατής ἐστι· ὥστε εἰ μή ἐστιν ἐπὶ τῶν τοιούτων μήτε ἐγκράτεια μήτε ἀκρασία, οὐδ’ ἂν ἐπαινετὴ εἴη ἡ ἀκρασία οὐδὲ ψεκτὴ ἡ ἐγκράτεια, ὥσπερ ἐδόκει.

[20] Εἰσὶ δὲ τῶν ἀκρασιῶν αἳ μὲν νοσηματικαὶ αἳ δὲ φύσει. οἷον νοσηματικαὶ μὲν αἱ τοιαῦται· εἰσὶ γάρ τινες οἱ τίλλοντες τρίχας διατρώγουσιν. εἰ οὖν τις ταύτης τῆς ἡδονῆς κρατεῖ, οὐκ ἔστιν ἐπαινετός, οὐδὲ ψεκτός, εἰ μὴ κρατεῖ, ἢ οὐ σφόδρα γε. φύσει δέ, οἷον υἱόν ποτέ φασι κρινόμενον ἐν δικαστηρίῳ, ὅτι τὸν πατέρα τύπτοι, ἀπολογεῖσθαι λέγονθ’ ὅτι “καὶ γὰρ οὗτος τὸν ἑαυτοῦ πατέρα,” καὶ ἀποφυγεῖν δή· δοκεῖν γὰρ τοῖς δικασταῖς φυσικὴν εἶναι τὴν ἁμαρτίαν. εἰ δή τις τοῦ τὸν πατέρα τύπτειν [21] κρατοίη, οὐκ ἐπαινετός. οὐ δὴ τὰς τοιαύτας ζητοῦμεν νῦν ἀκρασίας οὐδ’ ἐγκρατείας, ἀλλὰ καθ’ ἃς ψεκτοὶ ἁπλῶς καὶ ἐπαινετοὶ λεγόμεθα.

Ἔστιν δὲ τῶν ἀγαθῶν τὰ μὲν ἐκτός, οἷον πλοῦτος ἀρχὴ τιμὴ φίλοι δόξα, τὰ δ’ ἀναγκαῖα καὶ περὶ σῶμα ἐστίν, οἷον ἁφή τε καὶ γεῦσις ὁ οὖν περὶ ταῦτα ἀκρατής, οὗτος ἁπλῶς ἂν [καὶ] ἀκρατὴς δόξειεν εἶναι, καὶ ἡδοναὶ σωματικαί· καὶ ἣν ζητοῦμεν ἀκρασίαν, ἤδη περὶ ταῦτα δόξειεν ‹ἂν› εἶναι. ἠπορεῖτο δὲ περὶ τί ποτ’ ἐστὶν ἡ ἀκρασία.

[22] Περὶ μὲν οὖν τιμὴν οὐκ ἔστιν ἁπλῶς ἀκρατής· ἐπαινεῖται γάρ πως ὁ περὶ τιμὴν ἀκρατής· φιλότιμος γάρ τις [ἐστίν]. τὸ δ’ ὅλον λέγομεν καὶ ἐπὶ τῶν τοιούτων τὸν ἀκρατῆ προστιθέντες, περὶ τιμὴν ἀκρατὴς ἢ δόξαν ἢ ὀργήν. ἀλλὰ τῷ ἁπλῶς ἀκρατεῖ οὐ προστίθεμεν περὶ ἅ, ὡς ὑπάρχοντος αὐτῷ καὶ

φανεροῦ ὄντος ἄνευ τῆς προσθέσεως, περὶ ἃ ἐστίν· ἔστιν γὰρ περὶ ἡδονὰς καὶ λύπας τὰς σωματικὰς ὁ ἁπλῶς ἀκρατής.

[23] Δῆλον δὲ καὶ ἐντεῦθεν, ὅτι περὶ ταῦτα ἡ ἀκρασία· ἐπεὶ γὰρ ψεκτὸς ὁ ἀκρατής, ψεκτὰ εἶναι δεῖ τὰ ὑποκείμενα· τιμὴ μὲν οὖν καὶ δόξα καὶ ἀρχὴ καὶ χρήματα καὶ περὶ ὅσα ἄλλα ἀκρατεῖς λέγονται, οὐκ εἰσὶν ψεκτά, αἱ δ’ ἡδοναὶ αἱ σωματικαὶ ψεκταί· διὸ εἰκότως ὁ περὶ ταύτας ὢν μᾶλλον τοῦ δέοντος, οὗτος ἀκρατὴς τελέως λέγεται.

[24] Ἐπειδὴ δέ ἐστι τῶν περὶ τὰ ἄλλα ἀκρασιῶν λεγομένων ἡ περὶ τὴν ὀργὴν οὖσα ἀκρασία ψεκτοτάτη, πότερον ψεκτοτέρα ἐστὶν ἡ περὶ τὴν ὀργὴν ἢ ἡ περὶ τὰς ἡδονάς;

Ἔστιν οὖν ἡ περὶ τὴν ὀργὴν ἀκρασία ὁμοία τῶν παίδων τοῖς πρὸς τὸ διακονεῖν προθύμως ἔχουσιν· καὶ γὰρ οὗτοι, ὅταν εἴπῃ ὁ δεσπότης “δός μοι,” τῇ προθυμίᾳ ἐξενεχθέντες, πρὸ τοῦ ἀκοῦσαι ὃ δεῖ δοῦναι, ἔδωκαν, καὶ ἐν τῇ δόσει διήμαρτον· πολλάκις γὰρ δέον βιβλίον δοῦναι γραφεῖον ἔδωκαν.

[25] ὅμοιον δὲ πέπονθε τούτῳ ὁ τῆς ὀργῆς ἀκρατής· ὅταν γὰρ ἀκούσῃ τὸ πρῶτον ῥῆμα ὅτι ἠδίκησεν, ὥρμησεν ὁ θυμὸς πρὸς τὸ τιμωρήσασθαι, οὐκέτι ἀναμείνας ἀκοῦσαι πότερον δεῖ ἢ οὐ δεῖ, ἢ ὅτι γε [26] οὐχ οὕτω σφόδρα. ἡ μὲν οὖν τοιαύτη ὁρμὴ πρὸς ὀργήν, ἣ δοκεῖ ἀκρασία εἶναι ὀργῆς, οὐ λίαν ἐπιτιμητέα ἐστίν, ἡ δὲ πρὸς [τὴν] ἡδονὴν ὁρμὴ ψεκτή γε. ἔστιν γὰρ διαφορὰν ἔχουσα πρὸς ταύτην διὰ τὸν λόγον, ὃς ἀποτρέπει τοῦ μὴ πράττειν, ἀλλ’ ὅμως πράττει παρὰ τὸν λόγον· διὸ ψεκτή ἐστι μᾶλλον τῆς δι’ ὀργὴν ἀκρασίας. ἡ μὲν γὰρ δι’ ὀργὴν ἀκρασία λύπη ἐστίν (οὐδεὶς γὰρ ὀργιζόμενος οὐ λυπεῖται), ἡ δὲ δι’ ἐπιθυμίαν μεθ’ ἡδονῆς· διὸ μᾶλλον ψεκτή· ἡ γὰρ δι’ ἡδονὴν ἀκρασία μεθ’ ὕβρεως δοκεῖ εἶναι.

[27] Πότερον δὲ καὶ ἡ ἐγκράτεια καὶ ἡ καρτερία ταὐτόν ἐστιν; ἢ οὔ; ἡ μὲν γὰρ ἐγκράτειά ἐστι περὶ ἡδονὰς καὶ ὁ ἐγκρατὴς ὁ κρατῶν τῶν ἡδονῶν, ἡ δὲ καρτερία περὶ λύπας· ὁ γὰρ καρτερῶν καὶ ὑπομένων τὰς λύπας, οὗτος καρτερικὸς ἐστίν.

[28] Πάλιν ἡ ἀκρασία καὶ ἡ μαλακία οὐκ ἔστιν ταὐτόν· ἡ μὲν γὰρ μαλακία ἐστὶν καὶ ὁ μαλακὸς ὁ μὴ ὑπομένων πόνους, οὐχ ἅπαντας δὲ ἀλλ’ οὓς ἀναγκαίως ἂν ἄλλος τις ὑπομείνειεν, ὁ δ’ ἀκρατὴς ὁ μὴ δυνάμενος ὑπομένειν ἡδονάς, ἀλλὰ καταμαλακιζόμενος καὶ ὑπὸ τούτων ἀγόμενος.

[29] Ἔστιν αὖ πάλιν τις καλούμενος ἀκόλαστος· πότερον οὖν ὁ ἀκόλαστος [ἀκρατὴς] καὶ ὁ ἀκρατὴς ὁ αὐτός; ἢ οὔ; ὁ μὲν γὰρ ἀκόλαστος τοιοῦτός τις οἷος οἴεσθαι, ἃ πράττει, ταῦτα καὶ βέλτιστα εἶναι αὑτῷ καὶ συμφορώτατα, καὶ λόγον οὐδένα ἔχειν ἐναντιούμενον τοῖς αὑτῷ φαινομένοις ἡδέσιν· ὁ δὲ

ἀκρατὴς λόγον ἔχει ὃς ἐναντιοῦται αὐτῷ, ἐφ’ ἃ ἡ ἐπιθυμία ἄγει.

[30] Πότερος δὲ εὐιατότερος, ὁ ἀκόλαστος ἢ ὁ ἀκρατής; οὕτω μὲν οὖν δόξειεν ἂν ἴσως οὐχ ὁ ἀκρατής· ὁ γὰρ ἀκόλαστος εὐιατότερος· εἰ γὰρ αὐτῷ λόγος ἐγγένοιτο ὁ διδάξων ὅτι φαῦλα, οὐκέτι πράξει· τῷ δέ γε ἀκρατεῖ ὑπάρχει ὁ λόγος, καὶ ὅμως πράττει, ὥστε ἂν ὁ τοιοῦτος δόξειεν ἀνίατος εἶναι.

[31] Ἀλλὰ πότερος διάκειται χεῖρον, ᾧ μηδὲν ἀγαθόν τι ὑπάρχει, ‹ἢ ᾧ ἀγαθόν τέ τι ὑπάρχει› καὶ τὰ κακὰ ταῦτα; ἢ δῆλον ὅτι ἐκεῖνος, καὶ ὅσῳ γε ὃ τιμιώτερον κακῶς διάκειται. ἔστι τοίνυν ὁ μὲν ἀκρατὴς ἀγαθὸν ἔχων τὸν λόγον ὀρθὸν ὄντα· ὁ δὲ [32] ἀκόλαστος οὐκ ἔχει. ἔτι ἐστὶν ὁ λόγος ἑκάστου ἀρχή· τοῦ μὲν οὖν ἀκρατοῦς ἡ ἀρχὴ τιμιώτατον ὂν εὖ διάκειται, τοῦ δὲ ἀκολάστου κακῶς· ὥστε χείρων ἂν εἴη ὁ ἀκόλαστος τοῦ ἀκρατοῦς.

[33] Ἔτι ὥσπερ καὶ ἐπὶ τῆς θηριότητος ἧς ἐλέγομεν κακίας οὐκ ἔστιν ἰδεῖν ἐν θηρίῳ οὖσαν, ἀλλ’ ἐν ἀνθρώπῳ· ἡ γὰρ θηριότης ὄνομά ἐστιν τῇ ὑπερβαλλούσῃ κακίᾳ - διὰ τί; δι’ οὐδὲν ἢ ὅτι ἀρχὴ φαύλη ἐν θηρίῳ οὐκ ἔστιν· ἔστιν δὲ ἡ ἀρχὴ ὁ λόγος. ἐπεὶ πότερος ἂν πλείω κακὰ ποιήσειεν, λέων, ἢ Διονύσιος ἢ Φάλαρις ἢ Κλέαρχος ἤ τις τούτων τῶν μοχθηρῶν; ἢ δῆλον ὅτι οὗτοι; ἡ γὰρ ἀρχὴ ἐνοῦσα φαύλη μεγάλα συμβάλλεται, ἐν δὲ θηρίῳ [34] ὅλως οὐκ ἔστιν ἀρχή. ἐν μὲν οὖν τῷ ἀκολάστῳ ἔνεστιν ἀρχὴ φαύλη. ᾗ γὰρ πράττει φαῦλα ὄντα καὶ ὁ λόγος σύμφησιν ταῦτα καὶ δοκεῖ αὐτῷ ταῦτα δεῖν πράττειν, ἐν αὐτῷ ἡ ἀρχὴ ἔνεστιν οὐχ ὑγιής. διὸ βελτίων ἂν δόξειεν εἶναι ὁ ἀκρατὴς τοῦ ἀκολάστου.

[35]

Ἔστι δὲ καὶ τῆς ἀκρασίας δύο εἴδη, ἣ μὲν προπετική τις καὶ ἀπρονόητος καὶ ἐξαίφνης γινομένη (οἷον ὅταν ἴδωμεν καλὴν γυναῖκα, εὐθέως τι ἐπάθομεν, καὶ ἀπὸ τοῦ πάθους ὁρμὴ ἐγένετο πρὸς τὸ πρᾶξαί τι ὧν ἴσως οὐ δεῖ), ἡ δ’ ἑτέρα οἷον ἀσθενική τις, ἡ μετὰ τοῦ λόγου οὖσα τοῦ ἀποτρέποντος.

Ἐκείνη μὲν οὖν οὐδ’ ἂν λίαν δόξειεν εἶναι ψεκτή· καὶ γὰρ ἐν τοῖς σπουδαίοις ἡ τοιαύτη ἐγγίνεται, ἐν τοῖς θερμοῖς καὶ εὐφυέσιν· ἡ δὲ ἐν τοῖς ψυχροῖς καὶ [36] μελαγχολικοῖς, οἱ δὲ τοιοῦτοι ψεκτοί. ἔτι τέ ἐστιν τῷ λόγῳ προλαβόντα μηθὲν παθεῖν, ὅτι ἥξει γυνὴ εὐπρόσωπος, δεῖ οὖν κατασχεῖν αὐτόν. τῷ δὴ τοιούτῳ λόγῳ προκαταλαβὼν ὁ ἐκ τῆς προσφάτου φαντασίας ἀκρατὴς οὐδὲν πείσεται οὐδὲ πράξει οὐδὲν αἰσχρόν. ὁ δὲ τῷ λόγῳ μὲν εἰδὼς ὅτι οὐ δεῖ, πρὸς δὲ τὴν ἡδονὴν ἐνδιδοὺς καὶ καταμαλακιζόμενος, ὁ τοιοῦτος ψεκτότερος. οὔτε γὰρ ὁ σπουδαῖος οὐδέποτε οὕτω γένοιτ’ ἂν ἀκρατής, ὅ τε λόγος προκαταλαβὼν οὐκ ἂν ἰάσαιτο. ἡγεμὼν γὰρ οὗτος ἐν αὐτῷ ὑπάρχει, ᾧ οὔτι πειθαρχεῖ, ἀλλὰ τῇ ἡδονῇ ἐνδίδωσιν, καὶ καταμαλακίζεται καὶ ἐξασθενεῖ πώς.

[37] Πότερον δ’ ὁ σώφρων ἐγκρατὴς ἐστίν, ἠπορήθη μὲν ἐν τοῖς ἐπάνω, νῦν δὲ λέγωμεν. ἔστιν γὰρ ὁ σώφρων καὶ ἐγκρατής· ὁ γὰρ ἐγκρατής ἐστιν οὐ μόνον ὁ ἐπιθυμιῶν ἐνουσῶν ταύτας κατέχων διὰ τὸν λόγον, ἀλλὰ καὶ ὁ τοιοῦτος ὢν οἷος καὶ μὴ ἐνουσῶν ἐπιθυμιῶν τοιοῦτος εἶναι οἷος εἰ ἐγγένοιντο [38] κατέχειν. ἔστιν δὲ σώφρων ὁ μὴ ἔχων ἐπιθυμίας φαύλας τόν τε λόγον τὸν περὶ ταῦτα ὀρθόν, ὁ δ’ ἐγκρατὴς ὁ ἐπιθυμίας ἔχων φαύλας τόν τε λόγον τὸν περὶ ταῦτα ὀρθόν· ὥστ’ ἀκολουθήσει τῷ σώφρονι ὁ ἐγκρατής, καὶ ἔσται ‹ὁ› σώφρων ‹ἐγκρατής, ἀλλ’ οὐχ ὁ ἐγκρατὴς σώφρων›. ὁ μὲν γὰρ σώφρων ὁ μὴ πάσχων, ὁ δ’ ἐγκρατὴς ὁ πάσχων καὶ τούτων κρατῶν ἢ οἷός τε ὢν πάσχειν· οὐδέτερον δὲ τούτων τῷ σώφρονι ὑπάρχει· διὸ οὐκ ἔστιν ὁ ἐγκρατὴς σώφρων.

[39] Πότερον δὲ ὁ ἀκόλαστος ἀκρατὴς ἐστίν, ἢ ὁ ἀκρατὴς ἀκόλαστος; ἢ οὐδετέρῳ ἕτερος ἀκολουθεῖ; ὁ μὲν γὰρ ἀκρατής ἐστιν οὗ ὁ λόγος τοῖς πάθεσι μάχεται, ὁ δ’ ἀκόλαστος οὐ τοιοῦτος, ἀλλ’ ὁ τῷ πράττειν τὰ φαῦλα ἅμα τὸν λόγον σύμψηφον ἔχων· οὔτε δὴ ὁ ἀκόλαστος οἷος ὁ ἀκρατὴς οὔθ’ ὁ [40] ἀκρατὴς οἷος ὁ ἀκόλαστος. ἔτι δὲ καὶ φαυλότερος ὁ ἀκόλαστος τοῦ ἀκρατοῦς. δυσιατότερα γὰρ τὰ φυσικὰ τῶν ἐξ ἔθους γενομένων (καὶ γὰρ τὸ ἔθος διὰ τοῦτο δοκεῖ ἰσχυρὸν εἶναι, ὅτι εἰς φύσιν καθίστησιν)· [41] ὁ μὲν οὖν ἀκόλαστος αὐτὸς τοιοῦτός ἐστιν οἷος φαῦλός τις τῇ φύσει εἶναι, διὰ τοῦτο καὶ ἀπὸ τούτου ὁ λόγος φαῦλος ἐν αὐτῷ ἐστί· ἀλλ’ οὐχ ὁ ἀκρατὴς οὕτως· οὐ γὰρ ὅτι αὐτὸς τοιοῦτος ἐστίν, ὁ λόγος οὐ σπουδαῖος (φαῦλον γὰρ αὐτὸν ἔδει εἶναι, [42] εἰ αὐτὸς τῇ φύσει τοιοῦτος ἦν οἷος ὁ φαῦλος)· ὁ μὲν [οὖν] ἄρα ἀκρατὴς ἔθει ἔοικε φαῦλος εἶναι, ὁ δὲ ἀκόλαστος φύσει· δυσιατότερος δὴ ὁ ἀκόλαστος. τὸ μὲν γὰρ ἔθος ἄλλῳ ἔθει ἐκκρούεται, ἡ δὲ φύσις οὐδενὶ ἐκκρούεται.

[43] Πότερον δὲ ἐπείπερ ἐστὶν ὁ ἀκρατὴς τοιοῦτος [τις] οἷος εἰδέναι καὶ μὴ διεψεῦσθαι τῷ λόγῳ, ἔστιν δὲ καὶ ὁ φρόνιμος τοιοῦτος ὁ τῷ λόγῳ τῷ ὀρθῷ ἕκαστα θεωρῶν, πότερον [δ’] ἐνδέχεται τὸν φρόνιμον ἀκρατῆ εἶναι, ἢ οὔ; ἀπορήσειε γὰρ ἄν τις τὰ εἰρημένα· ἐὰν δὲ παρακολουθήσωμεν τοῖς ἔμπροσθεν εἰρημένοις, οὐκ ἔσται ὁ φρόνιμος ἀκρατής. ἔφαμεν γὰρ τὸν φρόνιμον εἶναι οὐχ ᾧ ὁ ὀρθὸς λόγος μόνον ὑπάρχει, ἀλλ’ ᾧ καὶ τὸ πράττειν τὰ κατὰ τὸν λόγον φαινόμενα βέλτιστα· εἰ δὲ πράττει τὰ βέλτιστα ὁ φρόνιμος, οὐδ’ ἂν ἀκρατὴς εἴη ὁ φρόνιμος, [44] ἀλλ’ ὁ τοιοῦτος δεινὸς μὲν ἐστίν. διῃρήμεθα γὰρ ἐν τοῖς ἐπάνω τόν τε δεινὸν καὶ τὸν φρόνιμον ὡς ἑτέρων ὄντων. περὶ μὲν γὰρ ταὐτά· ἀλλ’ ὃ μὲν πρακτικὸς περὶ ἃ δεῖ, ὃ δ’ οὐ

πρακτικός. τὸν οὖν δεινὸν ἀκρατῆ ἐνδέχεται εἶναι (οὐ γὰρ πρακτικὸς περὶ ἃ καὶ δεῖ), τὸν φρόνιμον δ’ οὐκ ἐνδέχεται ἀκρατῆ εἶναι.

[7]

[1] Μετὰ δὲ ταῦτα λεκτέον ἂν εἴη περὶ ἡδονῆς, ἐπειδήπερ ὑπὲρ εὐδαιμονίας ἐστὶν ὁ λόγος, τὴν δ’ εὐδαιμονίαν οἴονται πάντες ἤτοι ἡδονὴν εἶναι καὶ τὸ ἡδέως ζῆν, ἢ οὐκ ἄνευ γε ἡδονῆς. οἱ δὲ καὶ τῇ ἡδονῇ δυσχεραίνοντες καὶ οὐκ οἰόμενοι δεῖν τὴν ἡδονὴν ἐναριθμεῖσθαι τοῖς ἀγαθοῖς, ἀλλὰ τό γε ἄλυπον προστιθέασιν· ἐγγὺς οὖν τὸ ἀλύπως τῆς ἡδονῆς ἐστίν.

[2] Διόπερ λεκτέον ὑπὲρ ἡδονῆς, οὐ μόνον δὲ διότι καὶ οἱ ἄλλοι οἴονται δεῖν, ἀλλὰ δὴ ἀναγκαῖον ἡμῖν ἐστιν λέγειν ὑπὲρ ἡδονῆς. ἐπειδὴ γὰρ ὑπὲρ εὐδαιμονίας ἡμῖν ἐστιν ὁ λόγος, τὴν δ’ εὐδαιμονίαν διωρίκαμεν καὶ φαμὲν εἶναι ἀρετῆς ἐνέργειαν ἐν βίῳ τελείῳ, ἡ δ’ ἀρετή ἐστι περὶ ἡδονὴν καὶ λύπην· ὑπὲρ ἡδονῆς ἂν εἴη ἀναγκαῖον εἰπεῖν, ἐπειδήπερ οὐκ ἔστιν ἡ εὐδαιμονία ἄνευ ἡδονῆς.

[3] Πρῶτον μὲν οὖν εἴπωμεν ἅ τινες λέγοντες οὐκ οἴονται δεῖν τὴν ἡδονὴν ὡς ἐν ἀγαθοῦ μέρει λαμβάνειν.

Πρῶτον μὲν γάρ φασιν εἶναι τὴν ἡδονὴν γένεσιν, τὴν δὲ γένεσιν ἀτελές τι, τὸ δὲ ἀγαθὸν οὐδέποτε τὴν τοῦ ἀτελοῦς χώραν ἔχειν.

Δεύτερον δ’ ὅτι εἰσί τινες φαῦλαι ἡδοναί, τὸ δ’ ἀγαθὸν οὐδέποτε ἐν φαυλότητι εἶναι.

Πάλιν ὅτι ἐν πᾶσιν ἐγγίγνεται· καὶ γὰρ ἐν τῷ φαύλῳ καὶ ἐν τῷ σπουδαίῳ καὶ ἐν θηρίῳ καὶ ἐν βοσκήματι· τὸ δ’ ἀγαθὸν ἀμιγές ἐστι τοῖς φαύλοις καὶ οὐ πολύκοινον .

Καὶ ὅτι οὐ κράτιστον ἡδονή, τὸ δ’ ἀγαθὸν κράτιστον.

Καὶ ὅτι ἐμπόδιον τοῦ πράττειν τὰ καλά, τὸ δὲ κωλυτικὸν τῶν καλῶν οὐκ ἂν εἴη ἀγαθόν.

[4] Πρῶτον μὲν οὖν πρὸς τὸ πρῶτον ἂν εἴη λεκτέον, πρὸς τὴν γένεσιν, καὶ πειρατέον τὸν λόγον τοῦτον λύειν διὰ τὸ μὴ ἀληθῆ εἶναι. ἔστι γὰρ πρῶτον μὲν οὐ πᾶσα ἡδονὴ γένεσις. ἡ γὰρ ἀπὸ τοῦ θεωρεῖν ἡδονὴ γινομένη οὐκ ἔστιν γένεσις, οὐδ’ ἡ ἀπὸ τοῦ ἀκοῦσαι καὶ ‹ἰδεῖν καὶ› ὀσφρανθῆναι. οὐ γὰρ ἐξ ἐνδείας γινομένη, ὥσπερ ἐπὶ τῶν ἄλλων, οἷον ἐκ τοῦ φαγεῖν ἢ πιεῖν. αὗται μὲν γὰρ ἐξ ἐνδείας καὶ ὑπερβολῆς γίνονται, τῷ ἢ τὴν ἔνδειαν ἀναπληροῦσθαι ἢ τῆς ὑπερβολῆς ἀφαιρεῖσθαι· διὸ γένεσις [5] δοκεῖ εἶναι. ἡ δ’ ἔνδεια καὶ ὑπερβολὴ λύπη. λύπη οὖν ἐνταῦθα ἔνθα ἡδονῆς γένεσις. ἐπὶ δέ γε τοῦ ἰδεῖν καὶ ἀκοῦσαι καὶ ὀσφρανθῆναι οὐκ ἔστιν προλυπηθῆναι· οὐδεὶς γὰρ ἡδόμενος

τῷ ὁρᾶν ἢ τῷ [6] ὀσφραίνεσθαι προελυπήθη. ὁμοίως δὲ καὶ ἐπὶ τῆς διανοίας ἔστι θεωροῦντά τι ἥδεσθαι ἄνευ τοῦ προλυπηθῆναι. ὥστ’ εἴη ἄν τις ἡδονὴ ἣ οὐκ ἔστι γένεσις.

Εἰ οὖν ἡ μὲν ἡδονή, ὡς ὁ λόγος αὐτῶν ἔφη, διὰ τοῦτο οὐκ ἀγαθόν, ὅτι γένεσις, ἔστι δέ τις ἡδονή, ἣ οὔκ ἐστιν γένεσις, αὕτη ἂν εἴη ἀγαθόν.

[7] Τὸ δ’ ὅλον οὐκ ἔστιν οὐδεμία ἡδονὴ γένεσις· οὐδὲ γὰρ αὗται αἱ ἀπὸ τοῦ φαγεῖν καὶ πιεῖν ἡδοναὶ οὐκ εἰσὶ γενέσεις, ἀλλὰ διαμαρτάνουσιν οἱ ταύτας φάσκοντες εἶναι τὰς ἡδονὰς γενέσεις. οἴονται γάρ, ἐπειδὴ τῆς προσφορᾶς γινομένης γίνεται ἡδονή, διὰ [8] τοῦτο γένεσιν εἶναι· ἔστι δ’ οὔ. ἐπειδὴ γάρ ἐστι τῆς ψυχῆς τι μέρος ᾧ ἡδόμεθα ἅμα τῇ προσφορᾷ ὧν ἐσμεν ἐνδεεῖς, τοῦτο τὸ μόριον τῆς ψυχῆς ἐνεργεῖ καὶ κινεῖται, ἡ δὲ κίνησις αὐτοῦ καὶ ἡ ἐνέργειά ἐστιν ἡδονή· διὰ δὴ τὸ ἅμα τῇ προσφορᾷ ἐκεῖνο τὸ μόριον τὸ τῆς ψυχῆς ἐνεργεῖν, ἢ διὰ τὴν αὐτοῦ ἐνέργειαν, οἴονται γένεσιν εἶναι τὴν ἡδονὴν τῷ τὴν προσφορὰν δήλην εἶναι, τὸ δὲ τῆς ψυχῆς [9] μόριον ἄδηλον. ὅμοιον οὖν εἴ τις τὸν ἄνθρωπον οἴεται εἶναι σῶμα, ὅτι τοῦτο μὲν αἰσθητὸν ἐστίν, ἡ δὲ ψυχὴ οὔ· ἔστι δέ γε καὶ [ἡ] ψυχή. ὁμοίως δὲ καὶ ἐπὶ τούτου· ἔστιν γὰρ μόριόν τι τῆς ψυχῆς ᾧ ἡδόμεθα, ὃ ἅμα τῇ προσφορᾷ ἐνεργεῖ. διὸ οὐκ ἔστιν οὐδεμία ἡδονὴ γένεσις.

[10] Καὶ ἀποκατάστασις δέ, φασίν, εἰς φύσιν αἰσθητή. καὶ γὰρ μὴ ἀποκαθισταμένοις εἰς φύσιν ἐστὶν ἡδονή· τὸ γὰρ ἀποκαθίστασθαί ἐστι τὸ τοῦ ἐνδεοῦς τῇ φύσει, τούτου τὴν ἀναπλήρωσιν γενέσθαι, ἔστιν δέ, ὡς φαμέν, μὴ ὄντα ἐνδεᾶ ἥδεσθαι· ἡ μὲν γὰρ ἔνδεια λύπη, ἄνευ δὲ λύπης καὶ πρὸ λύπης φαμὲν ἥδεσθαι· ὥστ’ οὐκ ἂν εἴη ἡ ἡδονὴ ἀποκατάστασις τοῦ ἐνδεοῦς· ἐνδεὲς γὰρ ἐπὶ τῶν τοιούτων ἡδονῶν οὐδέν.

Ὥστε εἰ διότι μὲν γένεσις ἡ ἡδονὴ οὐκ ἀγαθὸν ἐδόκει εἶναι, οὐκ ἔστιν δὲ οὐδεμία ἡδονὴ γένεσις, ἀγαθὸν ἂν εἴη ἡ ἡδονή.

[11] Ἀλλὰ μετὰ τοῦτο οὐ πᾶσα, φασίν, ἡδονὴ ἀγαθόν. συνίδοι δ’ ἄν τις καὶ ὑπὲρ τούτου οὕτως. ἐπεὶ γὰρ τἀγαθόν φαμεν ἐν πάσαις ταῖς κατηγορίαις λέγεσθαι (καὶ γὰρ ἐν οὐσίᾳ καὶ ἐν τῷ πρός τι καὶ ποσῷ καὶ πότε καὶ ὅλως ἐν ἁπάσαις), ἤδη γ’ ἐκεῖνο φανερόν. κατὰ πάσας γὰρ ἀγαθοῦ ἐνεργείας ἡδονή τις ἀκολουθεῖ, ὥστ’ ἐπειδὴ τὸ ἀγαθὸν ἐν πάσαις ταῖς κατηγορίαις, καὶ ἡδονὴ ἂν εἴη ἀγαθόν· ὥστ’ ἐπειδὴ ἐν τούτοις μὲν τἀγαθὰ καὶ ἡδονή, ἡ δ’ ἀπὸ τῶν ἀγαθῶν ἡδονὴ ἡδονή, ἀγαθὸν ἂν εἴη πᾶσα ἡδονή.

[12] Ἅμα δὲ δῆλον ἐκ τούτου ὅτι καὶ διάφοροι τῷ εἴδει αἱ ἡδοναὶ εἰσίν. διάφοροι γὰρ καὶ αἱ κατηγορίαι, ἐν αἷς ἐστιν ἡδονή. οὐ γὰρ ὥσπερ ἐπὶ τῶν ἐπιστημῶν ἔχει, οἷον τῆς γραμματικῆς ἢ ἄλλης ἡστινοσοῦν. ἐὰν ἔχῃ γὰρ

Λάμπρος τὴν γραμματικήν, ὁμοίως [δὲ] διακείσεται ὑπὸ τῆς γραμματικῆς ταύτης ὁ γραμματικὸς ἄλλῳ ὁτῳοῦν ἔχοντι γραμματικήν, οὐ‹δὲ› δύο εἰσὶν διάφοροι αἱ γραμματικαί, ἥ τ᾽ ἐν Λάμπρῳ καὶ ἐν Ἰλεῖ. ἀλλ᾽ ἐπὶ τῆς ἡδονῆς οὐχ᾽ οὕτως. ἡ γὰρ ἀπὸ τῆς μέθης ἡδονὴ καὶ ἡ ἀπὸ τοῦ συγγίνεσθαι οὐχ ὁμοίως διατιθέασιν. διὸ διάφοροι τῷ εἴδει δόξαιεν ἂν εἶναι αἱ ἡδοναί.

[13] Ἀλλὰ δὴ καὶ διότι φαῦλαί εἰσιν ἡδοναί τινες, καὶ διὰ τοῦτο οὐκ ἐδόκει ἡ ἡδονὴ αὐτοῖς ἀγαθὸν εἶναι. τὸ δὲ τοιοῦτον καὶ ἡ τοιαύτη κρίσις οὐκ ἴδιός ἐστιν ἡδονῆς, ἀλλὰ καὶ ἐπὶ φύσεως καὶ ἐπιστήμης. ἔστι γὰρ καὶ φύσις φαύλη, οἷον ἡ τῶν σκωλήκων καὶ ἡ τῶν κανθάρων καὶ ὅλως ἡ τῶν ἀτίμων ζῴων, ἀλλ᾽ [14] οὐ διὰ τοῦτο ἡ φύσις τῶν φαύλων· ὁμοίως δ᾽ εἰσὶ καὶ ἐπιστῆμαι φαῦλαι, οἷον αἱ βάναυσοι, ἀλλ᾽ ὅμως οὐ διὰ τοῦτο φαῦλον ἡ ἐπιστήμη, ἀλλ᾽ ἀγαθὸν τῷ γένει καὶ ἐπιστήμη καὶ φύσις. ὥσπερ γὰρ οὐδ᾽ ἀνδριαντοποιὸν θεωρεῖν δεῖ ποῖός τίς ἐστιν ἐξ ὧν ἀπέτυχε καὶ κακῶς εἰργάσατο, ἀλλ᾽ ἐξ ὧν εὖ, οὕτως οὐδ᾽ ἐπιστήμην οὐδὲ φύσιν οὐδὲ ἄλλο οὐδὲν ποῖόν τί ἐστιν ἐκ τῶν φαύλων, ἀλλ᾽ ἐκ τῶν σπουδαίων.

[15] Ὁμοίως δὲ καὶ ἡ ἡδονὴ τῷ γένει ἀγαθὸν ἐστίν, ἐπεὶ ὅτι γέ εἰσιν φαῦλαι ἡδοναί, οὐδὲ ἡμᾶς λανθάνει. ἐπεὶ γὰρ καὶ φύσεις τῶν ζῴων εἰσὶν διάφοροι, οἷον καὶ φαύλη καὶ σπουδαία, οἷον ἡ μὲν ἀνθρώπου σπουδαία ἡ δὲ λύκου ἤ τινος ἄλλου θηρίου φαύλη, ὁμοίως δ᾽ ἑτέρα φύσις ἵππου καὶ ἀνθρώπου καὶ [16] ὄνου καὶ κυνός, ἡ δὲ ἡδονή ἐστι κατάστασις ἐκ τοῦ παρὰ φύσιν εἰς φύσιν ἑκάστῳ τὴν αὑτοῦ· ὥστε τοῦτ᾽ ἂν εἴη ἴδιον, τῇ γε φαύλῃ φύσει ἡ φαύλη ἡδονή. οὐ γάρ ἐστι ταὐτὸν καὶ ἵππῳ καὶ ἀνθρώπῳ, ὁμοίως οὐδὲ τοῖς ἄλλοις· ἀλλ᾽ ἐπείπερ αἱ φύσεις διάφοροι, καὶ αἱ ἡδοναὶ διάφοροι. ἡ γὰρ ἡδονὴ ἦν ἀποκατάστασις, καὶ ἡ ἀποκατάστασις, φασίν, εἰς φύσιν καθίστη, ὥστε τῆς μὲν φαύλης φύσεως ἡ κατάστασις φαύλη, τῆς δὲ σπουδαίας σπουδαία.

[17] Ἀλλ᾽ οἱ φάσκοντες εἶναι τὴν ἡδονὴν οὐ σπουδαίαν πεπόνθασιν οἷον οἱ μὴ εἰδότες τὸ νέκταρ οἴονται τοὺς θεοὺς οἶνον πίνειν καὶ οὐκ εἶναι τούτου ἥδιον οὐδέν. τοῦτο δὲ πάσχουσι διὰ τὴν ἄγνοιαν. οἷς ὅμοιον πεπόνθασιν οἱ πάσας τὰς ἡδονὰς γενέσεις φάσκοντες εἶναι καὶ οὐκ ἀγαθόν· διὰ γὰρ τὸ μὴ εἰδέναι ἄλλας ἡδονὰς ἀλλ᾽ ἢ τὰς σωματικάς, ταύτας τε ὁρᾶν γενέσεις τε οὔσας καὶ μὴ σπουδαίας, ὅλως οὐκ οἴονται εἶναι τὴν ἡδονὴν ἀγαθόν.

[18] Ἐπεὶ δ᾽ οὖν ἐστιν ἡ ἡδονὴ καὶ καθισταμένης τῆς φύσεως καὶ καθεστηκυίας, οἷον καθισταμένης μὲν αἱ ἐξ ἐνδείας ἀναπληρώσεις, καθεστηκυίας δὲ αἱ ἀπὸ τῆς ὄψεως καὶ τῆς ἀκοῆς καὶ τῶν τοιούτων οὖσαι, βελτίους ἂν εἴησαν αἱ καθεστηκυίας τῆς φύσεως ἐνέργειαι· αἱ γὰρ ἡδοναὶ

κατ’ ἀμφοτέρους λεγόμεναι τοὺς τρόπους ἐνέργειαι εἰσίν· ὥστε δῆλον ὅτι αἱ ἀπὸ τῆς ὄψεως ἡδοναὶ καὶ τῆς ἀκοῆς καὶ τοῦ διανοεῖσθαι βέλτισται ἂν εἴησαν, ἐπεὶ αἵ γε σωματικαὶ ἐξ ἀναπληρώσεως.

[19] Ἔτι καὶ τοῦτο ἐλέγετο, ὅτι οὐκ ἀγαθόν· τὸ γὰρ ἐν πᾶσιν εἶναι καὶ πᾶσι κοινὸν οὐκ ἀγαθόν. τὸ δὴ τοιοῦτον ἐπὶ φιλοτίμου μᾶλλον καὶ φιλοτιμίας οἰκεῖον ἐστίν. ὁ γὰρ φιλότιμός ἐστιν ὁ μόνος βουλόμενος ἔχειν καὶ τῷ τοιούτῳ τῶν ἄλλων ὑπερέχειν· καὶ τὴν ἡδονὴν οὖν, εἰ μέλλει ἀγαθὸν εἶναι, τοιοῦτον δεῖν εἶναι.

[20] Ἢ οὔ, ἀλλὰ καὶ τοὐναντίον διὰ τοῦτο ἂν δόξειεν ἀγαθὸν εἶναι, ὅτι πάντα τούτου ἐφίεται; τοῦ γὰρ ἀγαθοῦ πάντα πέφυκεν ἐφίεσθαι, ὥστ’ εἰ τῆς ἡδονῆς πάντ’ ἐφίεται, ἀγαθὸν ἂν εἴη τῷ γένει ἡ ἡδονή.

[21] Πάλιν καὶ ὅτι ἐστὶν ἐμπόδιον ἡ ἡδονή, οὐκ ἔφασαν αὐτὴν ἀγαθὸν εἶναι. τὸ δ’ ἐμπόδιον φάσκειν εἶναι διὰ τὸ μὴ ὀρθῶς σκοπεῖν φαίνετ’ αὐτοῖς. οὐ γάρ ἐστιν ἐμπόδιον ἡ ἀπὸ τοῦ πράγματος τοῦ πραττομένου ἡδονή· ἐὰν μέντοι ἄλλη, ἐμπόδιον, [22] οἷον ἡ ἀπὸ τῆς μέθης ἡδονὴ ἐμπόδιόν ἐστι τοῦ πράττειν, ἀλλ’ οὕτω μὲν καὶ ἐπιστήμη ἐπιστήμης ἐμπόδιον ἔσται· οὐ γάρ ἐστιν ἅμα ἀμφοτέραις ἐνεργεῖν. ἀλλὰ διὰ τί οὐκ ἀγαθὸν ἡ ἐπιστήμη, ἂν ποιῇ τὴν ἀπὸ τῆς ἐπιστήμης ἡδονήν; καὶ πότερον [23] ἐμπόδιον ἔσται; ἢ οὔ, ἀλλὰ μᾶλλον πράξει; ἡ γὰρ ἡδονὴ παρορμᾷ πρὸς τὸ μᾶλλον πράττειν ἀπ’ αὐτοῦ γινομένη, ἐπεὶ τὸν σπουδαῖον ποίησον πράττειν τὰ κατ’ ἀρετήν, καὶ ἡδέως ταῦτα πράττειν· ἆρα οὐ πολλῷ μᾶλλον ἐνεργήσει κατὰ τὴν πρᾶξιν; καὶ ἐὰν μέν γε ἡδόμενος πράττῃ, σπουδαῖος ἔσται, ἂν δὲ λυπούμενος τὰ καλὰ πράττῃ, οὐ σπουδαῖος. ἡ γὰρ λύπη ἐπὶ τοῖς δι’ ἀνάγκην ἐστίν, ὥστ’ εἰ λυπεῖταί τις τὰ καλὰ πράττων, ἀναγκαζόμενος πράττει· ὁ δ’ ἐξ ἀνάγκης πράττων οὐ σπουδαῖος.

[24] Ἀλλὰ μὴν οὐκ ἔστιν γε μὴ λυπούμενον ἢ ἡδόμενον τὰ κατ’ ἀρετὴν πράττειν· τὸ δ’ ἀνὰ μέσον οὐκ ἔστιν. διὰ τί; ὅτι ἡ ἀρετὴ ἐν πάθει, τὸ δὲ πάθος ἐν λύπῃ καὶ ἡδονῇ, ἐν δὲ τῷ ἀνὰ μέσον οὐκ ἔστιν· δῆλον οὖν ὡς καὶ ἡ ἀρετὴ μετὰ λύπης ἢ ἡδονῆς. εἰ μὲν οὖν λυπούμενός τις τὰ καλὰ πράττει, οὐ σπουδαῖος. ὥστε οὐκ ἂν εἴη ἡ ἀρετὴ [25] μετὰ λύπης· μεθ’ ἡδονῆς ἄρα. οὐ μόνον ἄρα οὐκ ἐμπόδιόν ἐστιν ἡ ἡδονή, ἀλλὰ καὶ προτρεπτικὸν πρὸς τὸ πράττειν, καὶ τὸ ὅλον δὲ οὐκ ἐνδέχεται ἄνευ ἡδονῆς εἶναι τῆς ἀπ’ αὐτῆς γινομένης.

[26] Ἄλλος ἦν λόγος ὅτι οὐδεμία ποιεῖ ἐπιστήμη ἡδονήν. ἔστιν δὲ οὐδὲ τοῦτο ἀληθές. οἱ γὰρ δειπνοποιοὶ καὶ στεφανοποιοὶ καὶ [οἱ] μυρεψοὶ ἡδονῆς εἰσιν ποιητικοί. ἀλλὰ δὴ ταῖς ἄλλαις ἐπιστήμαις οὐκ ἔστιν ἡ ἡδονὴ ὡς τέλος,

ἀλλὰ μεθ’ ἡδονῆς τε καὶ οὐκ ἄνευ ἡδονῆς. ἔστιν οὖν καὶ ἐπιστήμη ποιητικὴ ἡδονῆς.

[27] Ἔτι δὲ καὶ ἄλλος ἐλέγετο, ὅτι οὐκ ἄριστον. ἀλλ’ οὕτως μὲν καὶ τῷ τοιούτῳ λόγῳ ἀναιρήσεις καὶ τὰς καθ’ ἕκαστα λεγομένας ἀρετάς. ἡ γὰρ ἀνδρεία οὐκ ἔστιν ἄριστον· ἆρ’ οὖν διὰ τοῦτ’ οὐκ ἀγαθόν; ἢ τοῦτ’ ἄτοπον; ὁμοίως καὶ ἐπὶ τῶν ἄλλων. οὐδὲ ἡδονὴ διὰ τοῦτ’ οὐκ ἀγαθόν, ὅτι οὐκ ἄριστον.

[28] Ἀπορήσειε δ’ ἄν τις μεταβὰς καὶ ἐπὶ τῶν ἀρετῶν τὸ τοιοῦτον. οἷον ἐπειδὴ ὁ λόγος κρατεῖ ποτε τῶν παθῶν (φαμὲν γὰρ ἐπὶ τοῦ ἐγκρατοῦς), καὶ τὰ πάθη δὲ πάλιν ἀντεστραμμένως τοῦ λόγου κρατεῖ (οἷον ἐπὶ τῶν ἀκρατῶν συμβαίνει), ἐπεὶ οὖν τὸ ἄλογον μέρος τῆς ψυχῆς ἔχον τὴν κακίαν κρατεῖ τοῦ λόγου εὖ διακειμένου (ὁ γὰρ ἀκρατὴς τοιοῦτος), καὶ ὁ λόγος ὁμοίως φαύλως διακείμενος κρατήσει τῶν παθῶν εὖ διακειμένων καὶ ἐχόντων τὴν οἰκείαν ἀρετήν, εἰ δὲ τοῦτ’ ἔσται, συμβήσεται τῇ ἀρετῇ κακῶς χρῆσθαι (ὁ γὰρ λόγος φαύλως διακείμενος καὶ χρώμενος τῇ ἀρετῇ κακῶς αὐτῇ χρήσεται)· τὸ δὴ τοιοῦτον ἄτοπον ἂν συμβαίνειν δόξειεν.

[29] Πρὸς δὴ τὴν τοιαύτην ἀπορίαν ῥᾴδιον ἀντειπεῖν καὶ λῦσαι ἐκ τῶν ἔμπροσθεν ἡμῖν εἰρημένων ὑπὲρ ἀρετῆς. τότε γάρ φαμεν εἶναι ἀρετήν, ὅταν ὁ λόγος εὖ διακείμενος τοῖς πάθεσιν ἔχουσι τὴν οἰκείαν ἀρετὴν σύμμετρος ᾖ, καὶ τὰ πάθη τῷ λόγῳ· οὕτω γὰρ διακείμενα συμφωνήσουσι πρὸς ἄλληλα, ὥστε τὸν μὲν λόγον προστάττειν ἀεὶ τὸ βέλτιστον, τὰ δὲ πάθη ῥᾳδίως εὖ διακείμενα ποιεῖν ὃ ἂν ὁ λόγος [30] προστάττῃ· ἂν οὖν ὁ λόγος φαύλως ᾖ διακείμενος, τὰ δὲ πάθη εὖ, οὐκ ἔσται ἀρετὴ ἐκλείποντος τοῦ λόγου (ἐξ ἀμφοτέρων γὰρ ἡ ἀρετή)· ὥστ’ οὐδὲ κακῶς χρῆσθαι ἐνδέχεται ἀρετῇ. ἁπλῶς δ’ οὐχ, ὥσπερ οἴονται οἱ ἄλλοι, τῆς ἀρετῆς ἀρχὴ καὶ ἡγεμών ἐστιν ὁ λόγος, ἀλλὰ μᾶλλον τὰ πάθη. δεῖ γὰρ πρὸς τὸ καλὸν ὁρμὴν ἄλογόν τινα πρῶτον ἐγγίνεσθαι (ὃ καὶ γίνεται), εἶθ’ οὕτως τὸν λόγον ὕστερον ἐπιψηφίζοντα εἶναι καὶ διακρίνοντα.

[31] ἴδοι δ’ ἄν τις τοῦτο ἐκ τῶν παιδίων καὶ τῶν ἄνευ λόγου ζώντων· ἐν γὰρ τούτοις ἄνευ τοῦ λόγου ἐγγίνονται ὁρμαὶ τῶν παθῶν πρὸς τὸ καλὸν πρότερον, ὁ δὲ λόγος ὕστερος ἐπιγινόμενος καὶ σύμψηφος ὢν ποιεῖ πράττειν τὰ καλά. ἀλλ’ οὐκ ἐὰν ἀπὸ τοῦ λόγου τὴν ἀρχὴν λάβῃ πρὸς τὰ καλά, οὐκ ἀκολουθεῖ τὰ πάθη ὁμογνωμονοῦντα, ἀλλὰ πολλάκις ἐναντιοῦται· διὸ μᾶλλον ἀρχῇ ἔοικεν πρὸς τὴν ἀρετὴν τὸ πάθος εὖ διακείμενον ἢ ὁ λόγος.

[8]

[1] Ἐχόμενον δ’ ἂν εἴη τούτων εἰπεῖν, ἐπειδὴ περὶ εὐδαιμονίας ἐστὶν ὁ

λόγος, περὶ εὐτυχίας. οἴονται γὰρ οἱ πολλοὶ τὸν εὐδαίμονα βίον τὸν εὐτυχῆ εἶναι ἢ οὐκ ἄνευ γε εὐτυχίας, καὶ ὀρθῶς ἴσως· ἄνευ γὰρ τῶν ἐκτὸς ἀγαθῶν, ὧν ἡ τύχη ἐστὶ κυρία, οὐκ ἐνδέχεται εὐδαίμονα εἶναι. διὸ ῥητέον ἐστὶν ὑπὲρ εὐτυχίας, καὶ ἁπλῶς ὁ εὐτυχὴς τίς ἐστι καὶ ἐν τίσι καὶ περὶ τί.

[2] Πρῶτον μὲν οὖν ἐπὶ ταῦτ' ἄν τις ἐλθὼν καὶ ἐπιβλέψας ἀπορήσειεν. οὔτε γὰρ ἂν εἴποι τις τὴν τύχην ὥς ἐστι φύσις. ἡ γὰρ φύσις [ἀεὶ] οὗ ἐστιν αἰτία, τούτου ὡς ἐπὶ τὸ πολὺ ἢ ὡσαύτως ποιητική ἐστίν, ἡ δέ γε τύχη οὐδέποτε, ἀλλ' ἀτάκτως καὶ ὡς ἔτυχεν· διὸ ἡ τύχη ἐν τοῖς τοιούτοις λέγεται. οὔτε δὴ νοῦν γέ τινα ἢ λόγον ὀρθόν· καὶ γὰρ ἐνταῦθα οὐχ ἧττόν ἐστι τὸ τεταγμένον καὶ τὸ ἀεὶ ὡσαύτως, ἡ δὲ τύχη οὔ. διὸ καὶ οὗ πλεῖστος νοῦς καὶ λόγος, ἐνταῦθα ἐλαχίστη [καὶ] τύχη, οὗ δὲ πλείστη τύχη, ἐνταῦθ' ἐλάχιστος νοῦς.

[3] Ἀλλ' ἆρά γε ἡ εὐτυχία ἐστὶν ὡς ἐπιμέλειά τις θεῶν; ἢ τοῦτ' οὐκ ἂν δόξειεν; τὸν γὰρ θεὸν ἀξιοῦμεν κύριον ὄντα τῶν τοιούτων τοῖς ἀξίοις ἀπονέμειν καὶ τἀγαθὰ καὶ τὰ κακά, ἡ δὲ τύχη καὶ τὰ ἀπὸ τῆς τύχης ὡς ἀληθῶς ὡς ἂν τύχῃ γίνεται. εἰ δέ γε τῷ θεῷ τὸ τοιοῦτον ἀπονέμομεν, φαῦλον αὐτὸν κριτὴν ποιήσομεν ἢ οὐ δίκαιον· τοῦτο δ' οὐ προσῆκόν ἐστι [4] [τῷ] θεῷ. ἀλλὰ μὴν ἔξω γε τούτων εἰς οὐδὲν ἄλλο τὴν τύχην ἄν τις τάξειεν, ὥστε δῆλον ὅτι τούτων ἄν τι εἴη. νοῦς μὲν δὴ καὶ λόγος καὶ ἐπιστήμη παντελῶς ἀλλότριόν τι ἔοικεν εἶναι. ἀλλὰ μὴν οὐδ' ἡ ἐπιμέλεια καὶ ἡ εὔνοια παρὰ τοῦ θεοῦ δόξειεν ἂν εἶναι εὐτυχία διὰ τὸ καὶ ἐν τοῖς φαύλοις ἐγγίγνεσθαι· τὸν δὲ θεὸν τῶν φαύλων οὐκ εἰκὸς ἐπιμελεῖσθαι.

[5] λοιπὸν τοίνυν καὶ οἰκειότατον τῆς εὐτυχίας ἐστὶν ἡ φύσις.

Ἔστιν δ' ἡ εὐτυχία καὶ ἡ τύχη ἐν τοῖς μὴ ἐφ' ἡμῖν οὖσιν, μηδ' ὧν αὐτοὶ κύριοί ἐσμεν καὶ δυνατοὶ πρᾶξαι. διὸ τὸν δίκαιον, ᾗ δίκαιος, οὐθεὶς λέγει εὐτυχῆ οὐδὲ τὸν ἀνδρεῖον οὐδ' ὅλως τῶν κατ' ἀρετὴν οὐδένα· ἐφ' ἡμῖν γάρ ἐστι ταῦτα καὶ ἔχειν καὶ μὴ ἔχειν. ἀλλ' ἤδη ἐπὶ τοῖς τοιούτοις οἰκειότερον τὴν εὐτυχίαν ἐροῦμεν· τὸν γὰρ εὐγενῆ εὐτυχῆ λέγομεν, καὶ ὅλως ᾧ τὰ τοιαῦτα τῶν ἀγαθῶν ὑπάρχει, ὧν μὴ αὐτὸς κύριος ἐστίν.

[6] Ἀλλ' ὅμως οὐδ' ἐνταῦθα κυρίως ἂν ἡ εὐτυχία λέγοιτο. ἔστιν δὲ πολλαχῶς ὁ εὐτυχὴς λεγόμενος· καὶ γὰρ ᾧ παρὰ τὸν λογισμὸν τὸν αὑτοῦ συνέβη τι ἀγαθὸν πρᾶξαι, εὐτυχῆ φαμέν, καὶ ᾧ κατὰ λόγον ζημίαν ἦν λαβεῖν, τὸν τοιοῦτον κερδάναντα εὐτυχῆ [7] φαμέν. ἔστιν οὖν ἡ εὐτυχία ἐν τῷ ἀγαθόν τι ὑπάρξαι παρὰ λόγον καὶ ἐν τῷ κακὸν μὴ λαβεῖν εὔλογον. ἀλλὰ μᾶλλον καὶ οἰκειότερον ἡ εὐτυχία ἂν δόξειεν εἶναι ἐν τῷ ἀγαθὸν λαβεῖν· τὸ μὲν γὰρ ἀγαθὸν λαβεῖν καθ' αὑτὸ δόξειεν ἂν εὐτύχημα εἶναι, τὸ δὲ κακὸν μὴ

λαβεῖν κατὰ συμβεβηκὸς εὐτύχημα.

[8] Ἔστιν οὖν ἡ εὐτυχία ἄλογος φύσις· ὁ γὰρ εὐτυχής ἐστιν ὁ ἄνευ λόγου ἔχων ὁρμὴν πρὸς τἀγαθά, καὶ τούτων ἐπιτυγχάνων, τοῦτο δ’ ἐστὶ φύσεως· ἐν γὰρ τῇ ψυχῇ ἔνεστιν τῇ φύσει τοιοῦτον ᾧ ὁρμῶμεν [9] ἀλόγως πρὸς ἃ ἂν εὖ ἔχωμεν. καὶ εἴ τις ἐρωτήσειε τὸν οὕτως ἔχοντα, διὰ τί τοῦτο ἀρέσκει σοι οὕτω πράττειν; οὐκ οἶδα, φησίν, ἀλλ’ ἀρέσκει μοι, ὅμοιον πάσχων τοῖς ἐνθουσιάζουσιν· καὶ γὰρ οἱ ἐνθουσιάζοντες ἄνευ λόγου ὁρμὴν ἔχουσι πρὸς τὸ πράττειν τι.

[10] Τὴν δ’ εὐτυχίαν οὐκ ἔχομεν οἰκείῳ καὶ ἰδίῳ ὀνόματι προσαγορεύειν, ἀλλ’ αἰτίαν πολλάκις φαμὲν εἶναι αὐτήν· ἡ δ’ αἰτία ἀλλότριον τοῦ ὀνόματος. ἡ γὰρ αἰτία καὶ οὗ ἐστιν αἰτία ἄλλο ἐστίν, καὶ ἄνευ ὁρμῆς τῆς ἐπιτυγχανούσης τῶν ἀγαθῶν αἰτία λεγομένη, οἷον ἡ τοῦ κακὸν μὴ λαβεῖν ἢ πάλιν τοῦ [11] μὴ οἰόμενον ἀγαθὸν λήψεσθαι ἀγαθὸν λαβεῖν. ἔστιν οὖν ἡ τοιαύτη εὐτυχία διάφορος ἐκείνης, καὶ ἔοικεν αὕτη ἐκ τῶν πραγμάτων τῆς μεταπτώσεως γίνεσθαι, καὶ κατὰ συμβεβηκὸς εὐτυχία. ὥστ’ εἰ καὶ ἡ τοιαύτη ἐστὶν εὐτυχία, ἀλλ’ οὖν πρός γε τὴν εὐδαιμονίαν ἡ τοιαύτη ἂν εἴη εὐτυχία οἰκειοτέρα, ἧς ἐν αὐτῷ ἡ ἀρχὴ τῆς ὁρμῆς τῶν ἀγαθῶν ἐστι τῆς ἐπιτεύξεως.

[12] Ἐπεὶ οὖν ἐστιν ἡ εὐδαιμονία οὐκ ἄνευ τῶν ἐκτὸς ἀγαθῶν, ταῦτα δὲ γίνεται ἀπὸ τῆς εὐτυχίας, οἷον ἀρτίως ἔφαμεν, συνεργὸς ἂν εἴη τῇ εὐδαιμονίᾳ.

[9]

[1] Περὶ μὲν οὖν εὐτυχίας τοσαῦτα· ἐπειδὴ δὲ ὑπὲρ ἑκάστης τῶν ἀρετῶν κατὰ μέρος εἰρήκαμεν, λοιπὸν ἂν εἴη καθόλου συνθέντας τὰ καθ’ ἕκαστα κεφαλαιωσαμένους εἰπεῖν.

[2] Ἔστι μὲν οὖν οὐ κακῶς λεγόμενον τοὔνομα ἐπὶ τοῦ τελέως σπουδαίου, ἡ καλοκἀγαθία. καλὸς κἀγαθὸς γάρ, φασίν, ὅταν τελέως σπουδαῖος ᾖ. ἐπὶ γὰρ τῆς ἀρετῆς τὸν καλὸν κἀγαθὸν λέγουσιν, οἷον τὸν δίκαιον καλὸν κἀγαθὸν φασί, τὸν ἀνδρεῖον, τὸν σώφρονα, ὅλως ἐπὶ τῶν ἀρετῶν.

[3] Ἐπειδὴ οὖν εἰς δύο διαιροῦμεν, καὶ τὰ μέν φαμεν εἶναι καλὰ τὰ δὲ [καὶ] ἀγαθά, καὶ τῶν ἀγαθῶν τὰ μὲν ἁπλῶς ἀγαθὰ τὰ δὲ οὔ, καὶ καλὰ μὲν οἷον τὰς ἀρετὰς καὶ τὰς ἀπ’ ἀρετῆς πράξεις, ἀγαθὰ δὲ [οἷον] ἀρχὴν πλοῦτον δόξαν τιμὴν τὰ τοιαῦτα· ἔστιν οὖν ὁ καλὸς κἀγαθὸς ᾧ τὰ ἁπλῶς ἀγαθά ἐστιν ἀγαθὰ καὶ τὰ ἁπλῶς καλὰ καλὰ ἐστίν. ὁ τοιοῦτος γὰρ [4] καλὸς καὶ ἀγαθός. ᾧ δὲ τὰ ἁπλῶς ἀγαθὰ μή ἐστιν ἀγαθά, οὐκ ἔστι καλὸς καὶ ἀγαθός, ὥσπερ οὐδὲ ὑγιαίνειν ἂν δόξειεν ᾧ τὰ ἁπλῶς ὑγιεινὰ μὴ ὑγιεινὰ ἐστίν. εἰ γὰρ ὁ πλοῦτος καὶ ἡ ἀρχὴ παραγινόμενά τινα βλάπτοιεν, οὐκ ἂν αἱρετὰ εἴη, ἀλλὰ τὰ τοιαῦτα

[5] ὅσα αὐτὸν μὴ βλάψει, βουλήσεται αὐτῷ εἶναι. ὁ δὲ τοιοῦτος ὢν οἷος ὑποστελλόμενός τι τῶν ἀγαθῶν πρὸς τὸ μὴ εἶναι αὐτῷ, οὐκ ἂν δόξειεν καλὸς κἀγαθὸς εἶναι· ἀλλ’ ᾧ τἀγαθὰ πάντα ὄντα ἀγαθά ἐστιν καὶ ὑπὸ τούτων μὴ διαφθείρεται, οἷον ὑπὸ πλούτου καὶ ἀρχῆς, ὁ τοιοῦτος καλὸς κἀγαθός.

[10]

[1] Ὑπὲρ δὲ τοῦ κατὰ τὰς ἀρετὰς ὀρθῶς πράττειν εἴρηται μέν, οὐχ ἱκανῶς δέ. ἔφαμεν γὰρ τὸ κατὰ τὸν ὀρθὸν λόγον πράττειν· ἀλλ’ ἴσως ἄν τις αὐτὸ τοῦτο ἀγνοῶν ἐρωτήσειεν, τὸ κατὰ τὸν ὀρθὸν λόγον τί ποτ’ ἐστί, καὶ ποῦ ἐστιν ὁ ὀρθὸς λόγος; [2] ἔστιν οὖν κατὰ τὸν ὀρθὸν λόγον πράττειν, ὅταν τὸ ἄλογον μέρος τῆς ψυχῆς μὴ κωλύῃ τὸ λογιστικὸν ἐνεργεῖν τὴν αὑτοῦ ἐνέργειαν. τότε γὰρ ἡ πρᾶξις ἔσται κατὰ τὸν ὀρθὸν λόγον.

Ἐπειδὴ γάρ τι τῆς ψυχῆς τὸ μὲν χεῖρον ἔχομεν τὸ δὲ βέλτιον, ἀεὶ δὲ τὸ χεῖρον τοῦ βελτίονος ἕνεκεν ἐστίν, ὥσπερ ἐπὶ σώματος καὶ ψυχῆς τὸ σῶμα τῆς ψυχῆς ἕνεκεν, καὶ τότ’ ἐροῦμεν ἔχειν τὸ σῶμα καλῶς, ὅταν οὕτως ἔχῃ ὥστε μὴ κωλύειν, ἀλλὰ καὶ συμβάλλεσθαι καὶ συμπαρορμᾶν πρὸς τὸ τὴν ψυχὴν ἐπιτελεῖν τὸ αὑτῆς ἔργον (τὸ γὰρ χεῖρον τοῦ βελτίονος ἕνεκεν, πρὸς τὸ συνεργεῖν τῷ βελτίονι)· [3] ὅταν οὖν τὰ πάθη μὴ κωλύωσι τὸν νοῦν τὸ αὑτοῦ ἔργον ἐνεργεῖν, τότ’ ἔσται τὸ κατὰ τὸν ὀρθὸν λόγον γινόμενον.

Ναί, ἀλλ’ ἴσως εἴποι τις ἄν, ὅταν πῶς ἔχωσι τὰ πάθη, οὐ κωλύουσι, καὶ πότε οὕτως ἔχουσιν; οὐ [4] γὰρ οἶδα. τὸ δὴ τοιοῦτον οὐκ ἔστιν εἰπεῖν ῥᾴδιον. οὐδὲ γὰρ ὁ ἰατρός· ἀλλ’ ὅταν εἴπῃ τῷ πυρέττοντι πτισάνην προσφέρεσθαι, τοῦ δὲ πυρέττειν πῶς αἰσθάνομαι; ὅταν, φησίν, ὁρᾷς ὠχρὸν ὄντα· τὸ δ’ ὠχρὸν πῶς εἰδήσω; ἐνταῦθα δὴ συνιέτω ὁ ἰατρός· εἰ γὰρ μὴ ἔχεις παρὰ σαυτῷ, φησί, τῶν γε τοιούτων αἴσθησιν, οὐκ ἔτι. ὡσαύτως ὑπὲρ τῶν [5] ἄλλων κοινός ἐστι τῶν τοιούτων ὁ λόγος. ὁμοίως δ’ ἔχει καὶ ἐπὶ τῶν παθῶν τοῦ γνωρίζειν· δεῖ γὰρ αὐτὸν συμβάλλεσθαι πρὸς αἴσθησίν τι.

[6] Ἐπιζητήσειε δ’ ἄν τις ἴσως καὶ τὸ τοιοῦτον· ἆρά γε ἔργῳ εἰδήσας ταῦτα καὶ δὴ εὐδαίμων ἔσομαι; οἴονται γάρ. τὸ δ’ ἐστὶν οὐ τοιοῦτον. οὐδεμία γὰρ οὐδὲ τῶν ἄλλων ἐπιστημῶν παραδίδωσι τῷ μανθάνοντι τὴν χρῆσιν καὶ τὴν ἐνέργειαν, ἀλλὰ τὴν ἕξιν μόνον· οὕτως οὐδ’ ἐνταῦθα παραδίδωσιν τὸ εἰδῆσαι ταῦτα τὴν χρῆσιν (ἡ γὰρ εὐδαιμονία ἐστὶν ἐνέργεια, ὡς φαμέν), ἀλλὰ τὴν ἕξιν, οὐδ’ ἐν τῷ εἰδέναι ἐξ ὧν ἐστιν ἡ εὐδαιμονία, ἀλλ’ ἐκ τοῦ τούτοις [7] χρήσασθαι. τὴν δὲ χρῆσιν καὶ τὴν ἐνέργειαν τούτων οὐκ ἔστι ταύτης τῆς πραγματείας τὸ παραδιδόναι· οὐδὲ γὰρ ἄλλη ἐπιστήμη οὐδεμία τὴν χρῆσιν παραδίδωσιν, ἀλλὰ τὴν ἕξιν.

[11]

[1] Ἐφ’ ἅπασι δὲ τούτοις ὑπὲρ φιλίας ἀναγκαῖόν ἐστιν εἰπεῖν, τί ἐστιν καὶ ἐν τίσι καὶ περὶ τί· ἐπειδὴ γὰρ ὁρῶμεν παρὰ πάντα τὸν βίον παρατείνουσαν καὶ ἐν παντὶ καιρῷ, καὶ οὖσαν ἀγαθόν, συμπαραληπτέα ἂν εἴη πρὸς τὴν εὐδαιμονίαν.

[2] Πρῶτον μὲν οὖν ἴσως ἃ ἀπορεῖται καὶ ζητεῖται, βέλτιον διελθεῖν. πότερον γάρ ἐστιν ἡ φιλία ἐν τοῖς ὁμοίοις, ὥσπερ δοκεῖ καὶ λέγεται; καὶ γὰρ “κολοιός” φασι “παρὰ κολοιὸν ἱζάνει,” καὶ

αἰεί τοι τὸν ὅμοιον ἄγει θεὸς ὡς τὸν ὅμοιον.

φασὶν δὲ καὶ κυνός ποτε ἀεὶ καθευδούσης ἐπὶ τῆς αὐτῆς κεραμῖδος, ἐρωτηθέντα τὸν Ἐμπεδοκλέα, διὰ τί ποτε ἡ κύων ἐπὶ τῆς αὐτῆς κεραμῖδος καθεύδει, εἰπεῖν ὅτι ἔχει τι τῇ κεραμῖδι ὅμοιον ἡ κύων, ὡς [3] διὰ τὸ ὅμοιον τὴν κύνα φοιτῶσαν. πάλιν δ’ αὖ δοκεῖ ἄλλοις τισὶν ἐν τοῖς ἐναντίοις μᾶλλον ἐγγίνεσθαι ἡ φιλία. “ἐρᾷ μὲν” γάρ, φασίν, “ὄμβρου γαῖα, ὅταν ξηρὸν πέδον·” τὸ δὴ ἐναντίον, φασίν, τῷ ἐναντίῳ βούλεσθαι φίλον εἶναι. ἐν μὲν γὰρ τοῖς ὁμοίοις οὐδὲ ἐνδέχεσθαι γίνεσθαι. τὸ γὰρ ὅμοιον, φασίν, τοῦ ὁμοίου οὐδὲν προσδεῖται, καὶ τὰ τοιαῦτα δή.

[4] Ἔτι δὲ πότερον ἔργον ἐστὶ φίλον γενέσθαι ἢ ῥᾴδιον γενέσθαι; οἱ γοῦν κόλακες ταχέως προσεδρεύσαντες φίλοι μὲν οὐκ εἰσίν, φαίνονται δὲ φίλοι εἶναι.

[5] Ἔτι δὲ καὶ τὰ τοιαῦτα ἀπορεῖται, πότερον ἔσται ὁ σπουδαῖος τῷ φαύλῳ φίλος; ἢ οὔ; ἡ μὲν γὰρ φιλία ἐν πίστει καὶ βεβαιότητι, ὁ δὲ φαῦλος ἥκιστα τοιοῦτος· καὶ ὁ φαῦλος τῷ φαύλῳ, ἢ οὐδὲ τοῦτο;

[6] Πρῶτον μὲν οὖν διοριστέον ἂν εἴη ὑπὲρ φιλίας ποίας σκοποῦμεν. ἔστι γάρ, ὡς οἴονται, φιλία καὶ πρὸς θεὸν καὶ τὰ ἄψυχα, οὐκ ὀρθῶς. τὴν γὰρ φιλίαν ἐνταῦθά φαμεν εἶναι οὗ ἐστὶ τὸ ἀντιφιλεῖσθαι, ἡ δὲ πρὸς θεὸν φιλία οὔτε ἀντιφιλεῖσθαι δέχεται, οὔθ’ ὅλως τὸ φιλεῖν· ἄτοπον γὰρ ἂν εἴη εἴ [7] τις φαίη φιλεῖν τὸν Δία· οὐδὲ δὴ παρὰ τῶν ἀψύχων ἐνδέχεται ἀντιφιλεῖσθαι. φιλία μέντοι καὶ πρὸς τὰ ἄψυχα ἐστίν, οἷον οἶνον ἢ ἄλλο δὴ τῶν τοιούτων.

Διὸ δὴ οὔτε τὴν πρὸς τὸν θεὸν φιλίαν ἐπιζητοῦμεν οὔτε τὴν πρὸς τὰ ἄψυχα, ἀλλὰ τὴν πρὸς τὰ ἔμψυχα, καὶ πρὸς ταῦτα ἐν οἷς ἐστι τὸ ἀντιφιλεῖν.

[8] Εἰ δή τις μετὰ τοῦτο ἐπισκέψαιτο τί ἐστι τὸ φιλητόν, ἔστιν οὖν οὐκ ἄλλο τι ἢ τἀγαθόν. ἕτερον μὲν οὖν ἐστι τὸ φιλητὸν καὶ τὸ φιλητέον, ὥσπερ καὶ [9] τὸ βουλητὸν καὶ τὸ βουλητέον. βουλητὸν μὲν γὰρ τὸ ἁπλῶς ἀγαθόν, βουλητέον δὲ τὸ ἑκάστῳ ἀγαθόν· οὕτω καὶ φιλητὸν μὲν τὸ ἁπλῶς ἀγαθόν, φιλητέον δὲ τὸ αὐτῷ ἀγαθόν, ὥστε τὸ μὲν φιλητέον καὶ φιλητόν, τὸ δὲ φιλητὸν οὐκ ἔστι φιλητέον.

[10] Ἐνταῦθα οὖν ἐστιν καὶ διὰ τὸ τοιοῦτον ἡ ἀπορία, πότερόν ἐστιν ὁ σπουδαῖος τῷ φαύλῳ φίλος ἢ οὔ. συνῆπται γάρ πως τἀγαθῷ τὸ αὐτῷ ἀγαθὸν καὶ τὸ φιλητέον τῷ φιλητῷ, ἔχεται δὲ καὶ ἀκολουθεῖ τῷ [11] ἀγαθῷ καὶ τὸ ἡδὺ εἶναι καὶ τὸ συμφέρον. ἡ μὲν οὖν τῶν σπουδαίων φιλία ἐστίν, ὅταν ἀντιφιλῶσιν ἀλλήλους· φιλοῦσι δὲ ἀλλήλους, ᾗ φιλητοί· φιλητοὶ [12] δέ, ᾗ ἀγαθοί. οὐκοῦν ὁ σπουδαῖος, φησίν, τῷ φαύλῳ οὐκ ἔσται φίλος; ἔσται μὲν οὖν. ἐπειδὴ γὰρ τἀγαθῷ ἠκολούθει τὸ συμφέρον καὶ τὸ ἡδύ, ᾗ ἐστιν φαῦλος ὢν ἡδύς, ταύτῃ φίλος· πάλιν αὖ [13] συμφέρων, ᾗ συμφέρων, ταύτῃ φίλος. ἀλλ’ οὐκ ἔσται γε κατὰ τὸ φιλητὸν ἡ τοιαύτη φιλία. φιλητὸν γὰρ ἦν τἀγαθόν, ὁ δὲ φαῦλος οὐ φιλητός· οὐ γὰρ ἀλλὰ κατὰ τὸ φιλητέον· εἰσὶν γὰρ ἀπὸ τῆς παντελοῦς φιλίας, τῆς ἐν τοῖς σπουδαίοις, καὶ αὗται αἱ φιλίαι, ἥ τε κατὰ τὸ ἡδὺ καὶ ἡ κατὰ τὸ συμφέρον.

[14] Ὁ οὖν κατὰ τὸ ἡδὺ φιλῶν οὐ φιλεῖ τὴν κατὰ τὸ [15] ἀγαθὸν φιλίαν, οὐδὲ ὁ κατὰ τὸ συμφέρον· εἰσὶν δὲ καὶ αἱ φιλίαι αὗται, ἥ τε κατὰ τὸ ἀγαθὸν καὶ ἡ κατὰ τὸ ἡδὺ καὶ ἡ κατὰ τὸ συμφέρον, οὐχ αἱ αὐταὶ μέν, οὐ παντελῶς δὲ οὐδὲ ἀλλότριαι ἀλλήλων, ἀλλ’ ἀπὸ ταὐτοῦ πως ἠρτημέναι εἰσίν. οἷον φαμὲν ἰατρικὸν τὸ μαχαίριον, ἰατρικὸν τὸν ἄνθρωπον, καὶ ἰατρικὴν τὴν ἐπιστήμην· ταῦτα οὐχ ὁμοίως λέγονται, ἀλλὰ τὸ μὲν μαχαίριον τῷ χρήσιμον εἶναι πρὸς ἰατρικὴν ἰατρικὸν λέγεται, ὁ δ’ ἄνθρωπος τῷ ποιητικὸς εἶναι ὑγιείας, ἡ δ’ ἐπιστήμη τῷ αἰτία εἶναι [16] καὶ ἀρχή. ὁμοίως δὲ καὶ αἱ φιλίαι οὐχ ὡσαύτως, ἥ τε τῶν σπουδαίων ἡ διὰ τὸ ἀγαθὸν καὶ ἡ κατὰ τὸ ἡδὺ καὶ ἡ κατὰ τὸ συμφέρον. οὐδὲ δὴ ὁμωνύμως λέγονται, ἀλλ’ οὐκ εἰσὶν μὲν αἱ αὐταί, περὶ ταὐτὰ [17] δέ πως καὶ ἐκ τῶν αὐτῶν εἰσίν. εἰ δή τις λέγοι “ὁ κατὰ τὸ ἡδὺ φιλῶν οὐκ ἔστιν φίλος τούτῳ· οὐ γὰρ κατὰ τὸ ἀγαθὸν φίλος ἐστίν,” βαδίζει ὁ τοιοῦτος ἐπὶ τὴν τῶν σπουδαίων φιλίαν, τὴν ἐξ ἁπάντων τούτων οὖσαν, καὶ ἐκ τοῦ ἀγαθοῦ καὶ ἐκ τοῦ ἡδέος καὶ ἐκ τοῦ συμφέροντος, ὥστ’ ἀληθῶς οὐκ ἔστιν [κατ’] ἐκείνην γε τὴν φιλίαν φίλος, ἀλλὰ τὴν κατὰ τὸ ἡδὺ ἢ κατὰ τὸ συμφέρον.

[18] Πότερον οὖν ἔσται ὁ σπουδαῖος τῷ σπουδαίῳ φίλος, ἢ οὔ; οὐδὲν γὰρ προσδεῖται, φησίν, ὁ ὅμοιος τοῦ ὁμοίου. ὁ δὴ τοιοῦτος λόγος ζητεῖ τὴν κατὰ τὸ συμφέρον φιλίαν· ᾗ γὰρ προσδεῖται ὁ ἕτερος τοῦ ἑτέρου, ταύτῃ ὄντες φίλοι ἐν τῇ κατὰ τὸ συμφέρον [19] φιλίᾳ εἰσίν. ἀλλὰ ἑτέρα διώρισται ἡ κατὰ τὸ συμφέρον φιλία καὶ ἡ κατ’ ἀρετὴν καὶ ἡδονήν. εἰκὸς δὴ καὶ πολὺ μᾶλλον τούτους· πάντα γὰρ αὐτοῖς ὑπάρχει, τἀγαθὸν καὶ τὸ ἡδὺ καὶ τὸ συμφέρον. ἀλλὰ καὶ ὁ σπουδαῖος τῷ φαύλῳ· ᾗ γὰρ ἴσως [20] ἡδύς, ταύτῃ καὶ φίλος. καὶ ὁ φαῦλός γε τῷ φαύλῳ· ᾗ γὰρ ἴσως τὸ αὐτὸ αὐτοῖς συμφέρει, ταύτῃ φίλοι.

ὁρῶμεν γὰρ τοῦτο γινόμενον, ὅταν τὸ αὐτὸ ᾖ τὸ συμφέρον, φίλους τούτους διὰ τὸ συμφέρον, ὥστ’ οὐδὲν κωλύσει καὶ φαύλοις οὖσιν ταὐτόν τι συμφέρειν.

[21] Βεβαιοτάτη μὲν οὖν καὶ μονιμωτάτη καὶ καλλίστη ἡ ἐν τοῖς σπουδαίοις φιλία, ἡ κατ’ ἀρετὴν καὶ τἀγαθὸν οὖσα, εἰκότως. ἡ μὲν γὰρ ἀρετὴ ἀμετάπτωτον, δι’ ἣν ἡ φιλία, ὥστε εἰκὸς τὴν φιλίαν τὴν τοιαύτην ἀμετάπτωτον εἶναι, τὸ δὲ συμφέρον οὐδέποτε ταὐτόν· διὸ ἡ διὰ τὸ συμφέρον φιλία οὐ [22] βεβαία, ἀλλὰ τῷ συμφέροντι συμμεταπίπτει· ὁμοίως καὶ ἡ κατὰ τὴν ἡδονήν.

Ἡ μὲν οὖν τῶν βελτίστων φιλία ἡ κατ’ ἀρετὴν γινομένη ἐστίν, ἡ δὲ τῶν πολλῶν ἡ κατὰ τὸ συμφέρον, ἡ δὲ κατὰ τὴν ἡδονὴν ἐν τοῖς φορτικοῖς καὶ τυχοῦσιν.

[23] Συμβαίνει δὲ καὶ ἀγανακτεῖν, ὅταν φαύλοις ἐντύχωσιν τοῖς φίλοις, καὶ θαυμάζειν· ἔστι δὲ οὐδὲν ἄτοπον. ὅταν γὰρ ἡ φιλία λάβῃ τὴν ἡδονὴν ἀρχήν, δι’ ἣν φίλοι εἰσίν, ἢ τὸ συμφέρον, ἅμα ταῦτ’ [24] ἀπολείπει καὶ ἡ φιλία οὐ διαμένει. πολλάκις δὲ μένει μὲν ἡ φιλία, κακῶς δ’ ἐχρήσατο τῷ φίλῳ, διὸ ἀγανακτοῦσιν· ἔστι δὲ οὐδὲ τοῦτο ἄλογον. οὐ γὰρ δι’ ἀρετὴν ἡ φιλία σοι πρὸς τοῦτον ὑπῆρχεν, διὸ οὐδ’ ἄτοπον μηδὲν ποιεῖν αὐτὸν τῶν κατ’ ἀρετήν. ἀγανακτοῦσιν οὖν οὐκ ὀρθῶς. δι’ ἡδονὴν γὰρ ποιησάμενοι τὴν φιλίαν, τὴν δι’ ἀρετὴν οἴονται δεῖν αὐτοῖς ὑπάρχειν· τὸ δ’ οὐ δυνατόν· οὐ γάρ ἐστιν ἡ δι’ ἡδονὴν καὶ τὸ συμφέρον ἀρετῆς ἐχομένη.

[25] κοινωσάμενοι οὖν ἡδονῇ ἀρετὴν ζητοῦσιν, οὐκ ὀρθῶς· οὐ γὰρ ἀκολουθεῖ τῇ ἡδονῇ καὶ τῷ συμφέροντι ἡ ἀρετή, ἀλλὰ τῇ ἀρετῇ ἀμφότερα ταῦτα ἀκολουθεῖ. ἄτοπον γὰρ εἰ μή τις οἰήσεται τοὺς σπουδαίους αὐτοὺς αὑτοῖς ἡδίστους εἶναι· καὶ γὰρ οἱ φαῦλοι, ὥς φησιν Εὐριπίδης, αὑτοὶ ἑαυτοῖς ἡδεῖς εἰσίν· “κακὸς κακῷ” γὰρ “συντέτηκεν.” οὐ γὰρ ἀκολουθεῖ τῇ ἡδονῇ ἡ ἀρετή, ἀλλὰ τῇ ἀρετῇ ἡ ἡδονὴ ἀκολουθεῖ.

[26] Πότερον δὲ καὶ δεῖ ἐν τῇ τῶν σπουδαίων φιλίᾳ τὴν ἡδονὴν εἶναι, ἢ οὐ δεῖ; ἄτοπον γὰρ τὸ μὴ φάναι δεῖν. εἰ γὰρ ἀφελεῖς αὐτῶν τὸ ἡδεῖς εἶναι ἀλλήλοις, ἄλλουςποριοῦνται φίλους εἰς τὸ συζῆν, τοὺς ἡδεῖς· εἰς γὰρ τὸ συζῆν οὐδὲν μεῖζόν ἐστι τοῦ [27] ἡδεῖς εἶναι· ἄτοπον οὖν τὸ μὴ οἴεσθαι δεῖν τοὺς σπουδαίους μάλιστα ἀλλήλοις συζῆν· τοῦτο δ’ οὐκ ἔστιν ἄνευ τοῦ ἡδέος· δέοι ἂν ἄρα, ὡς ἔοικεν, μάλιστα τούτοις ὑπάρχειν τὸ ἡδέσιν εἶναι.

[28] Ἐπεὶ δὲ διῄρηνται αἱ φιλίαι εἰς τρία εἴδη, καὶ ἐν ταύταις ἠπορεῖτο, πότερον ἐν ἰσότητι ἡ φιλία ἐγγίνεται ἢ ἐν ἀνισότητι· ἔστιν οὖν κατ’ ἀμφότερα. ἡ μὲν γὰρ καθ’ ὁμοιότητα ἡ τῶν σπουδαίων καὶ ἡ τελεία φιλία· ἡ

δὲ κατ' ἀνομοιότητα ἡ κατὰ τὸ συμφέρον. τῷ γὰρ εὐπόρῳ ὁ πένης διὰ τὴν ἔνδειαν ὧν ὁ πλούσιος εὐπορεῖ φίλος ἐστί, καὶ τῷ σπουδαίῳ ὁ φαῦλος διὰ ταὐτό· διὰ γὰρ τὴν ἔνδειαν τὴν τῆς ἀρετῆς, παρ' οὗ οἴεται αὐτῷ ἔσεσθαι, διὰ τοῦτο [29] τούτῳ φίλος. γίνεται οὖν ἐν τοῖς ἀνομοίοις φιλία κατὰ τὸ συμφέρον· διὸ καὶ Εὐριπίδης

ἐρᾷ μὲν ὄμβρου γαῖ', ὅταν ξηρὸν πέδον·

ὡς ἐναντίοις οὖσιν τούτοις ἐγγίγνεται φιλία ἡ διὰ τὸ συμφέρον. καὶ γὰρ εἰ θέλεις τὰ ἐναντιώτατα ποιῆσαι πῦρ καὶ ὕδωρ, ταῦτα ἀλλήλοις χρήσιμα [30] εἰσίν. τὸ γὰρ πῦρ φασίν, ἐὰν μὴ ἔχῃ ὑγρόν, φθείρεσθαι, ὡς τοῦτ' αὐτῷ παρασκευάζον ὥσπερ τροφὴν τινά, ταύτην δὲ τοσαύτην, ὅσης κρατήσειεν ‹ἄν›· ἂν μὲν γὰρ πλεῖον ποιήσῃς τὸ ὑγρόν, ἐπικρατῆσαν ‹ποιήσει› φθείρεσθαι τὸ πῦρ, ἐὰν δὲ σύμμετρον, συνοίσει. δῆλον οὖν ὅτι καὶ ἐν τοῖς ἐναντιωτάτοις φιλία ἐγγίνεται διὰ τὸ συμφέρον.

[31] Ἀνάγονται δὲ πᾶσαι αἱ φιλίαι, καὶ αἱ ἐν ἰσότητι καὶ αἱ ἐν ἀνισότητι, εἰς τὰς διῃρημένας τρεῖς.

Ἔστιν δ' ἐν ἁπάσαις ταῖς φιλίαις διαφορὰ γινομένη πρὸς ἀλλήλους, ὅταν μὴ ὁμοίως φιλῶσιν ἢ εὖ ποιῶσιν ἢ ὑπηρετῶσιν ἢ ὅ τι ἂν τῶν τοιούτων· ὅταν μὲν γὰρ ὃ μὲν ἐκτενῶς ποιῇ ὃ δ' ἐλλείπῃ, κατὰ τὴν [32] ἔλλειψιν τὸ ἔγκλημα καὶ ἡ μέμψις. οὐ μὴν ἀλλ' ἐπὶ μὲν τῶν τοιούτων ὧν τὸ αὐτό ἐστι τέλος τῆς φιλίας, οἷον εἰ ἀμφότεροι κατὰ τὸ συμφέρον ἀλλήλοις φίλοι ἢ κατὰ τὸ ἡδὺ ἢ κατ' ἀρετήν, εὔδηλος ἡ ἔλλειψις ἡ παρὰ τοῦ ἑτέρου, ἐὰν οὖν πλείω ἀγαθὰ σύ μοι ποιῇς ἢ ἐγὼ σοί, οὐδ' ἀμφισβητῶ ἔτι μὴ οὐ [33] δεῖν σε μᾶλλον ὑπ' ἐμοῦ φιλεῖσθαι· ἐν ᾗ δὲ φιλίᾳ μὴ διὰ ταὐτὸ φίλοι ἐσμέν, μᾶλλον αἱ διαφοραί. ἄδηλος γὰρ ἡ ἔλλειψις παρ' ἑκατέρου. οἷον εἰ ὃ μὲν δι' ἡδονὴν φίλος ἐστὶν ὃ δὲ διὰ τὸ συμφέρον, ἐνταῦθα ἡ ἀμφισβήτησις· οὔτε γὰρ ὁ τῷ συμφέροντι ὑπερέχων ἀξίαν οἴεται τὴν ἡδονὴν ἀντικαταλλάττεσθαι τοῦ συμφέροντος, οὔτε ὁ τῇ ἡδονῇ ὑπερέχων ἀξίαν τῆς ἡδονῆς ἐν τῷ συμφέροντι χάριν ἀπολαμβάνειν. διὸ μᾶλλον αἱ διαφοραὶ ἐν ταῖς τοιαύταις φιλίαις γίνονται.

[34] Οἱ δ' ἐν ἀνισότητι φίλοι ὄντες, οἱ μὲν ὑπερέχοντες πλούτῳ ἢ ἄλλῳ τινὶ τοιούτῳ οὐκ οἴονται δεῖν αὐτοὶ φιλεῖν, ἀλλ' ὑπὸ τῶν ἐνδεεστέρων οἴονται δεῖν αὐτοὶ φιλεῖσθαι· ἔστιν δὲ βέλτιον τὸ φιλεῖν ἢ τὸ φιλεῖσθαι.

[35] - τὸ μὲν γὰρ φιλεῖν ἐνέργειά τις ἡδονῆς καὶ ἀγαθόν, ἀπὸ δὲ τοῦ φιλεῖσθαι οὐδεμία τῷ φιλουμένῳ ἐνέργεια [36] γίνεται. - ἔτι δὲ βέλτιον τὸ γνωρίζειν ἢ τὸ γνωρίζεσθαι· τὸ μὲν γὰρ γνωρίζεσθαι καὶ τὸ φιλεῖσθαι καὶ τοῖς ἀψύχοις ὑπάρχει, τὸ δὲ γνωρίζειν [37] καὶ τὸ φιλεῖν τοῖς ἐμψύχοις. - ἔτι

τὸ εὐποιητικὸν εἶναι βέλτιον ἢ τὸ μή· ὁ μὲν οὖν φιλῶν εὐποιητικός, [38] ᾗ φιλεῖ, ὁ δὲ φιλούμενος, ᾗ φιλεῖται, οὔ. - ἀλλ’ οἱ ἄνθρωποι διὰ φιλοτιμίαν φιλεῖσθαι μᾶλλον βούλονται ἢ φιλεῖν, διὰ τὸ ἐν τῷ φιλεῖσθαι ὑπεροχήν τινα εἶναι· ἀεὶ γὰρ ὁ φιλούμενος ὑπερέχει ἡδονῇ ἢ εὐπορίᾳ ἢ ἀρετῇ, ὁ δὲ φιλότιμος τῆς ὑπεροχῆς [39] ὀρέγεται. καὶ οὐκ οἴονται δεῖν αὐτοὶ φιλεῖν οἱ ἐν ὑπεροχῇ ὄντες· ἀντιδιδόναι γὰρ ἐν οἷς ὑπερέχουσιν τοῖς φιλοῦσιν αὐτούς. ἔτι δὲ καὶ ἥττους αὐτῶν εἰσίν· διὸ οὐκ οἴονται δεῖν φιλεῖν ἀλλὰ φιλεῖσθαι. ὁ δ’ ἐνδεὴς χρημάτων ἢ ἡδονῶν ἢ ἀρετῆς θαυμάζε τὸν ὑπερέχοντα τούτοις, καὶ φιλεῖ διὰ τὸ τούτων ἢ τυγχάνειν ἢ οἴεσθαι τεύξεσθαι.

[40] Εἰσὶν δὲ καὶ τοιαῦται φιλίαι ἐξ ὁμοιοπαθείας, ἐκ τοῦ τἀγαθὸν βούλεσθαί τινι εἶναι. οὐκ ἔστιν δὲ ἡ ἐπὶ τούτων γινομένη φιλία πάντα ταῦτα ἔχουσα· πολλάκις γὰρ ἄλλῳ μὲν εἶναι βουλόμεθα τἀγαθά, [41] συζῆν μέντοι μετ’ ἄλλου. ἀλλὰ ταῦτα πότερον φιλίας δεῖ εἰπεῖν, ἢ τῆς τελείας φιλίας τῆς κατ’ ἀρετὴν πάθη; ἐν ἐκείνῃ γὰρ τῇ φιλίᾳ πάντα ταῦτα ἐνυπάρχει· καὶ γὰρ συζῆν μετ’ οὐδενὸς ἄλλου ἂν θέλοιμεν (καὶ γὰρ τὸ ἡδὺ καὶ τὸ συμφέρον, καὶ ἡ ἀρετὴ τῷ σπουδαίῳ ὑπάρχει) καὶ τἀγαθὰ τούτῳ μάλιστα βουλοίμεθ’ ἄν, καὶ τὸ ζῆν καὶ τὸ εὖ ζῆν οὐκ ἄλλῳ τινὶ ἢ τούτῳ.

[42] Πότερον δ’ ἐστὶν αὐτῷ [φιλία] καὶ πρὸς αὑτὸν φιλία, ἢ οὔ, νῦν μὲν ἀφείσθω, ὕστερον δ’ ἐροῦμεν. πάντα δὲ βουλόμεθα ἡμῖν αὐτοῖς· καὶ γὰρ συζῆν μεθ’ ἡμῶν αὐτῶν βουλόμεθα (ἴσως δὲ τοῦτο καὶ ἀναγκαῖον) καὶ τὸ εὖ ζῆν καὶ τὸ ζῆν καὶ τὸ βούλεσθαι [43] τἀγαθόν, οὐκ ἄλλῳ τινί. ἔτι ὁμοιοπαθεῖς ἡμῖν αὐτοῖς μάλιστα ἐσμέν· ἂν γὰρ προσπταίσωμεν ἢ ἄλλῳ τινὶ περιπέσωμεν τῶν τοιούτων, εὐθὺς λυπούμεθα. διὸ δόξειεν ἂν οὕτως εἶναι αὑτῷ πρὸς αὑτὸν φιλία.

[44] Τὰ δὴ τοιαῦτα, οἷον τὴν ὁμοιοπάθειαν καὶ τὸ εὖ ζῆν καὶ τὰ ἄλλα, ἤτοι εἰς τὴν πρὸς ἡμᾶς αὐτοὺς φιλίαν ἀναφέροντες λέγομεν ἢ εἰς τὴν τελείαν· ἐν ἀμφοτέραις γὰρ πάντα ταῦτα ὑπάρχει· καὶ γὰρ [καὶ] τὸ συζῆν καὶ τὸ εἶναι βούλεσθαι καὶ τὸ εὖ εἶναι καὶ τἆλλα πάντα ἐν ταύταις ἐστίν.

[45] Ἔτι δὲ ἴσως ἂν δόξειεν, ἐν οἷς ἐστι δίκαιον, ἐν τούτοις καὶ φιλίαν εἶναι· διὸ καὶ ὅσα περ δικαίων εἴδη, τοσαῦτα καὶ φιλιῶν. τὸ δὴ δίκαιόν ἐστιν καὶ ξένῳ πρὸς πολίτην καὶ δούλῳ πρὸς δεσπότην καὶ πολίτῃ πρὸς πολίτην καὶ υἱῷ πρὸς πατέρα καὶ γυναικὶ πρὸς ἄνδρα, καὶ ὅσαι ἁπλῶς ἄλλαι κοινωνίαι [46] καὶ φιλίαι ἔνεισιν ἐν ἑκάστοις τούτων. βεβαιοτάτη δ’ ἂν δόξειεν εἶναι τῶν φιλιῶν ἡ ξενική· οὐ γάρ ἐστιν οὐδὲν αὐτοῖς τέλος κοινὸν ὑπὲρ οὗ ἀμφισβητοῦσιν, οἷον ἐν τοῖς πολίταις· διαμφισβητοῦντες γὰρ πρὸς ἀλλήλους κατὰ τὴν ὑπεροχὴν οὐ μένουσιν φίλοι ὄντες.

[47] Ἐχόμενον δ’ ἂν εἴη νῦν τοῦτ’ εἰπεῖν, πότερόν ἐστι πρὸς αὑτὸν φιλία, ἢ οὔ. ἐπεὶ δ’ οὖν ὁρῶμεν, ὥσπερ καὶ μικρὸν ἐπάνω ἐλέγομεν, ὅτι ἐκ μὲν τῶν καθ’ ἕκαστα τὸ φιλεῖν γνωρίζεται τὰ δὲ καθ’ ἕκαστα αὐτοὶ αὑτοῖς ἂν μάλιστα βουλοίμεθα (καὶ γὰρ τἀγαθὰ καὶ τὸ εἶναι καὶ τὸ εὖ εἶναι· ὁμοιοπαθέστατοι δ’ αὐτοῖς ἡμῖν ἐσμέν· καὶ συζῆν δὲ μεθ’ ἑαυτῶν μάλιστα βουλόμεθα)· ὥστ’ εἰ μὲν ἐκ τῶν καθ’ ἕκαστα γνωρίζεται ἡ φιλία, τὰ δὲ καθ’ ἕκαστα ἡμῖν αὐτοῖς ἂν βουλοίμεθα ὑπάρχειν, δῆλόν ἐστιν ὡς ἔστι πρὸς αὑτοὺς φιλία, ὥσπερ καὶ τὴν ἀδικίαν [48] ἔφαμεν πρὸς αὑτὸν εἶναι. ἐπειδὴ γὰρ ἕτερος μὲν ὁ ἀδικῶν ἕτερος δὲ ὁ ἀδικούμενος, ὁ αὐτὸς δ’ εἷς ἐστιν ἕκαστος, διὰ τὸ τοιοῦτον οὐκ ἐδόκει εἶναι πρὸς αὑτὸν ἀδικία· ἔστι μέντοι, ὡς ἔφαμεν σκοποῦντες ἐπὶ τῶν τῆς ψυχῆς μερῶν, ἐπειδή ἐστι πλείω, ὅταν ταῦτα μὴ ὁμονοῶσιν, τότε εἶναι πρὸς [49] αὑτὸν τὴν ἀδικίαν. ὁμοίως οὖν τούτῳ καὶ ἡ φιλία δόξειεν ἂν εἶναι πρὸς αὑτόν. ἐπειδὴ γὰρ ὁ φίλος ἐστίν, ὡς φαμέν, ὅταν βουλώμεθα σφόδρα φίλον εἰπεῖν, μία φαμὲν ψυχὴ ἡ ἐμὴ καὶ ἡ τούτου· ἐπεὶ οὖν ἐστι τῆς ψυχῆς πλείω μέρη, τότ’ ἔσται μία ψυχή, ὅταν συμφωνῶσι πρὸς ἄλληλα ὅ τε λόγος καὶ τὰ πάθη (οὕτω γὰρ μία ἔσται)· ὥστε μιᾶς γενομένης ἔσται πρὸς αὑτὸν φιλία.

[50] Αὕτη δ’ ἔσται ἡ πρὸς αὑτὸν φιλία ἐν τῷ σπουδαίῳ· τούτῳ γὰρ μόνῳ τὰ τῆς ψυχῆς εὖ ἔχουσιν μέρη πρὸς ἄλληλα τῷ μὴ διαφέρεσθαι, ἐπεὶ ὅ γε φαῦλος οὐδέποτ’ ἐστὶν αὐτὸς αὑτῷ φίλος, μάχεται γὰρ ἀεὶ ἑαυτῷ. ὁ γοῦν ἀκρατής, ὅταν πράξῃ τι τῶν καθ’ ἡδονήν, μετ’ οὐ πολὺ μεταμελεῖται καὶ κακίζει αὐτὸς αὑτόν· ὁμοίως ἐπὶ τῶν ἄλλων κακιῶν ὁ φαῦλος ἔχει. διατελεῖ γὰρ αὐτὸς αὑτῷ μαχόμενος καὶ ἐναντιούμενος.

[51] Ἔστιν δὲ φιλία καὶ ἐν ἰσότητι, οἷον ἡ μὲν τῶν ἑταίρων ἐν ἰσότητι ἀριθμῷ καὶ δυνάμει ἀγαθοῦ (οὐδέτερος γὰρ αὐτῶν ἐστιν ἄξιος θατέρου πλέον ἔχειν οὔτε κατ’ ἀριθμὸν ἀγαθῶν οὔτε κατὰ δύναμιν οὔτε κατὰ μέγεθος, ἀλλὰ τὸ ἴσον· ἴσοι γάρ τινες [52] ἐθέλουσιν εἶναι οἱ ἑταῖροι)· ἐν ἀνισότητι δὲ ἡ πατρὸς πρὸς υἱόν, καὶ ἀρχομένου καὶ ἄρχοντος, καὶ κρείττονος καὶ χείρονος, καὶ γυναικὸς καὶ ἀνδρός, καὶ ἁπλῶς ἐν οἷς ἐστιν ὁ τὴν τοῦ χείρονος καὶ [53] κρείττονος τάξιν ἔχων ἐν τῇ φιλίᾳ. αὕτη γάρ ἐστιν ἡ ἐν ἀνισότητι φιλία κατὰ λόγον. οὐδέποτε γὰρ ἐπ’ ἀγαθοῦ δόσει οὐδεὶς ἴσον ἂν δοίη τῷ βελτίονι καὶ τῷ χείρονι, ἀλλὰ μεῖζον τῷ καθ’ ὑπεροχὴν ὄντι ἀεί. τοῦτο δ’ ἴσον ἐστὶν τῷ λόγῳ· ἴσον γάρ πώς ἐστιν ὁ τὸ ἔλαττον ἔχων ἀγαθὸν χείρων ὢν τῷ μεῖζον ἔχοντι κρείττονι ὄντι.

[12]

[1] Τῶν δὲ φιλιῶν ἁπασῶν τῶν εἰρημένων τούτων μάλιστά πως ἐγγίνεται

τὸ φιλεῖν ἐν τῇ συγγενικῇ, καὶ ταῦτα ἐν τῇ πατρὶ πρὸς υἱόν. καὶ διὰ τί ποτε ὁ πατὴρ τὸν υἱὸν μᾶλλον φιλεῖ ἢ ὁ υἱὸς τὸν πατέρα; πότερον οὖν, ὡς ἔνιοι λέγοντες ὀρθῶς πρός γε τοὺς πολλούς, ὅτι ὁ μὲν πατὴρ εὐεργέτηκέν πως τὸν υἱόν, ὁ δ’ υἱὸς χάριν ὀφείλει τῆς εὐεργεσίας; [2] αὕτη μὲν οὖν ἡ αἰτία [καὶ] ἐν τῇ κατὰ τὸ συμφέρον φιλίᾳ δόξειεν ἂν ὑπάρχειν· ὥσπερ δὲ καὶ κατὰ τὰς ἐπιστήμας ὁρῶμεν ἔχον, οὕτω πως ἔχει [3] καὶ ἐνταῦθα. λέγω δ’ οἷον [ἐστιν] ἔστι μὲν ὧν τὸ αὐτὸ τέλος τε καὶ ἐνέργεια, καὶ οὐκ ἄλλο τι παρὰ τὴν ἐνέργειαν τέλος, οἷον τῷ αὐλητῇ ἡ αὐτὴ ἐνέργεια καὶ τέλος (τὸ γὰρ αὐλεῖν καὶ τέλος αὐτῷ ἐστι καὶ ἐνέργεια), ἀλλ’ οὐ τῇ οἰκοδομικῇ (καὶ γὰρ [4] ἕτερον τέλος παρὰ τὴν ἐνέργειαν)· ἔστιν οὖν ἡ φιλία ἐνέργειά τις, οὐδὲν δέ ἐστιν ἄλλο τέλος παρὰ τὴν ἐνέργειαν τοῦ φιλεῖν, ἀλλὰ τοῦτο αὐτό. ὁ μὲν οὖν πατὴρ ἐνεργεῖ πως ἀεὶ μᾶλλον παρὰ τὸ αὑτοῦ τι εἶναι ποίημα τὸν υἱόν. τοῦτο δ’ ὁρῶμεν καὶ ἐπὶ τῶν ἄλλων ὄν· πάντες γὰρ πρὸς ὃ ἂν αὐτοὶ ποιήσωσιν, [5] πρὸς τοῦτό πως καὶ εὖνοι εἰσίν. ὁ οὖν πατὴρ εὐνοεῖ πως πρὸς τὸν υἱὸν αὑτοῦ ὄντα ποίημα, τῇ μνήμῃ καὶ τῇ ἐλπίδι ἀγόμενος· διὸ μᾶλλον φιλεῖ ὁ πατὴρ τὸν υἱὸν ἢ ὁ υἱὸς τὸν πατέρα.

[6] Δεῖ δὲ καὶ ὑπὲρ τῶν ἄλλων φιλιῶν τῶν λεγομένων καὶ δοκουσῶν ἐπισκέψασθαι εἰ εἰσὶν φιλίαι.

[7] οἷον ἡ εὔνοια φιλία δοκεῖ. ἁπλῶς μὲν οὖν οὐκ ἂν δόξειεν εἶναι ἡ εὔνοια φιλία (πολλοῖς γὰρ πολλάκις ἢ ἀπὸ τοῦ ἰδεῖν ἢ ἀπὸ τοῦ ἀκοῦσαί τι ὑπέρ τινος ἀγαθὸν εὖνοι γινόμεθα· ἆρ’ οὖν ἤδη καὶ φίλοι; ἢ οὔ; οὐ γὰρ εἴ τις ἦν Δαρείῳ εὔνους ἐν Πέρσαις ὄντι, ὥσπερ ἴσως ἦν, εὐθέως καὶ φιλία ἦν αὐτῷ [8] πρὸς Δαρεῖον)· ἀλλ’ ἀρχὴ μὲν ἄν ποτε φιλίας ἡ εὔνοια δόξειεν εἶναι, γένοιτο δ’ ἂν ἡ εὔνοια φιλία, εἰ προσλάβοι βούλησιν τοῦ τἀγαθὰ δυνατὸς ὢν πρᾶξαι πράττειν ἐκείνου ἕνεκεν ᾧ ἐστιν εὔνους. - [9] ἔστιν δ’ ἡ εὔνοια τοῦ ἤθους καὶ πρὸς τὸ ἦθος· οὐδεὶς γὰρ λέγεται εὔνους οἴνῳ ἢ ἄλλῳ τινὶ τῶν ἀψύχων ἀγαθῶν ἢ ἡδέων, ἀλλ’ ἄν τις ᾖ τὸ ἦθος [10] σπουδαῖος, πρὸς τοῦτον ἡ εὔνοια. - οὐκ ἔστιν δὲ χωρὶς τῆς φιλίας ἡ εὔνοια, ἀλλ’ ἐν τῷ αὐτῷ· διὸ δοκεῖ φιλία εἶναι.

[11] Ἡ δ’ ὁμόνοιά ἐστιν μὲν σύνεγγυς τῇ φιλίᾳ, ἐὰν τὴν ὁμόνοιαν λάβῃς τὴν κυρίως λεγομένην. εἰ γάρ τις Ἐμπεδοκλεῖ ὁμοίως ὑπολαμβάνει καὶ δοκεῖ αὐτῷ τὰ στοιχεῖα εἶναι ἃ κἀκείνῳ, ἆρά γε οὗτος Ἐμπεδοκλεῖ ὁμονοεῖ; ἢ οὔ; ἐπεὶ περί τι ἄλλο [12] τοιοῦτον. πρῶτον μὲν γὰρ οὐκ ἔστιν ἡ ὁμόνοια ἐν τοῖς νοητοῖς ἀλλ’ ἐν τοῖς πρακτοῖς, καὶ ἐν τούτοις οὐχ ᾗ νοοῦσι ταὐτόν, ἀλλ’ ᾗ ἅμα τῷ ταὐτὸν νοεῖν προαίρεσιν ἔχουσιν περὶ ἃ νοοῦσιν ἐπὶ ταὐτά. εἰ γὰρ ἐννοοῦσιν ἀμφότεροι ἄρχειν, ἀλλ’ ὃ μὲν αὑτὸν ὃ δ’ αὑτόν, ἆρά γε ἤδη

ὁμονοοῦσιν; ἢ οὔ; ἀλλ’ εἰ κἀγὼ ἐμαυτὸν βούλομαι ἄρχειν κἀκεῖνος ἐμέ, [13] οὕτως ἤδη ὁμονοοῦμεν. ἔστι δὴ ὁμονοεῖν ἐν τοῖς πρακτοῖς μετὰ βουλήσεως ταὐτοῦ. περὶ ἄρχοντος ἄρα κατάστασιν ἐν πρακτοῖς τοῦ αὐτοῦ ἐστιν ἡ ὁμόνοια ἡ κυρίως λεγομένη.

[13]

[1] Ἐπεὶ δ’ ἐστίν, ὡς φαμέν, αὐτῷ πρὸς αὑτὸν φιλία, πότερον ὁ σπουδαῖος ἔσται φίλαυτος ἢ οὔ; ἔστιν δὲ φίλαυτος ὁ αὑτοῦ ἕνεκεν πάντα πράττων ἐν τοῖς κατὰ τὸ λυσιτελές. ὁ μὲν οὖν φαῦλος φίλαυτος ἐστίν (αὐτὸς αὑτοῦ γὰρ ἕνεκεν πάντα πράττει)· ἀλλ’ οὐχ ὁ σπουδαῖος. διὰ τοῦτο γάρ ἐστι σπουδαῖος, ὅτι ἄλλου ἕνεκεν τοῦτο πράττει· [2] διὸ οὐκ ἔστιν φίλαυτος. ἀλλ’ ὁρμῶσι μὲν ἅπαντες ἐπὶ τἀγαθά, καὶ οἴονται αὑτοῖς δεῖν μάλιστα ὑπάρχειν. τοῦτο δέ ἐστι μάλιστα φανερὸν ἐπὶ πλούτου καὶ ἀρχῆς. ὁ μὲν οὖν σπουδαῖος ἐκστήσεται τούτων ἄλλῳ, οὐχ ὡς οὐ προσῆκον αὐτῷ μάλιστα, ἀλλ’ ἂν ὁρᾷ ἄλλον δυνησόμενον μᾶλλον τούτοις αὑτοῦ χρῆσθαι· οἱ δ’ ἄλλοι τοῦτο οὐ ποιήσουσι δι’ ἄγνοιαν (οὐ γὰρ οἴονται κακῶς ἂν χρήσασθαι τοῖς τοιούτοις [3] ἀγαθοῖς) ἢ διὰ φιλοτιμίαν τοῦ ἄρχειν. ὁ δὲ σπουδαῖος οὐδέτερον τούτων πείσεται· διὸ οὐδὲ φίλαυτος κατά γε τὰ τοιαῦτα ἀγαθά. ἀλλ’ εἰ ἄρα, κατὰ τὸ καλόν. τούτου γὰρ μόνον ἄλλῳ οὐκ ἂν ἐκσταίη, τὰ [4] δὲ συμφέροντα καὶ ἡδέα ἐκστήσεται. τὴν μὲν οὖν κατὰ τὸ καλὸν αἵρεσιν φίλαυτος ἔσται· τὴν δὲ κατὰ τὸ συμφέρον καὶ καθ’ ἡδονὴν λεγομένην οὐκ ἔσται ὁ σπουδαῖος, ἀλλὰ ὁ φαῦλος.

[14]

[1] Πότερον δέ ποτε ὁ σπουδαῖος φιλήσει αὐτὸς ἑαυτὸν μάλιστα ἢ οὔ; ἔστι μὲν οὖν αὐτὸς αὑτὸν μάλιστα ὡς φιλήσει, ἔστι δ’ ὡς οὔ. ἐπειδὴ γάρ φαμεν τὸν σπουδαῖον ἐκστήσεσθαι τῶν ἀγαθῶν τῶν κατὰ τὸ συμφέρον τῷ φίλῳ, τὸν φίλον μᾶλλον [2] αὑτοῦ φιλήσει. ναί, ἀλλ’ ᾗ τούτων ἐξιστάμενος τῷ φίλῳ αὑτῷ τὸ καλὸν περιποιεῖται, ταύτῃ ἐξίσταται τῶν τοιούτων. ἔστι μὲν οὖν ὡς τὸν φίλον αὐτὸς αὑτοῦ μᾶλλον φιλεῖ, ἔστι δὲ ὡς αὐτὸς αὑτὸν μάλιστα· κατὰ μὲν γὰρ τὸ συμφέρον τὸν φίλον, κατὰ δὲ τὸ καλὸν καὶ ἀγαθὸν αὐτὸς αὑτὸν μάλιστα· αὑτῷ [3] γὰρ ταῦτα περιποιεῖται κάλλιστα ὄντα. ἔστι μὲν οὖν καὶ φιλάγαθος, οὐ φίλαυτος· μόνον γάρ, εἴπερ φιλεῖ αὐτὸς ἑαυτόν, ὅτι ἀγαθός. ὁ δὲ φαῦλος φίλαυτος· οὐδὲν γὰρ ἔχει δι’ ὃ φιλήσει αὐτὸς ἑαυτὸν οἷον καλόν τι, ἀλλ’ ἄνευ τούτων αὐτὸς ἑαυτὸν φιλήσει, ᾗ αὐτός. διὸ καὶ οὗτος ἂν κυρίως λέγοιτο φίλαυτος.

[15]

[1] Ἐχόμενον δ’ ἂν εἴη ὑπὲρ αὐταρκείας εἰπεῖν καὶ τοῦ αὐτάρκους, πότερον ὁ αὐτάρκης προσδεήσεται φιλίας, ἢ οὔ, ἀλλ’ αὐτὸς ἑαυτῷ αὐτάρκης

ἔσται καὶ κατὰ τοῦτο. λέγουσι γὰρ τοιαῦτα καὶ οἱ ποιηταί·

ὅταν δ’ ὁ δαίμων εὖ διδῷ, τί δεῖ φίλων;

ὅθεν καὶ ἡ ἀπορία γίγνεται, πότερον ὁ πάντα τἀγαθὰ ἔχων καὶ ὢν αὐτάρκης προσδεήσεται φίλου; ἢ τότε καὶ μάλιστα; τίνα γὰρ εὖ ποιήσει, ἢ μετὰ [2] τοῦ συμβιώσεται; οὐ γὰρ δὴ μόνος γε διάξει. εἰ τοίνυν τούτων δεήσεται, ταῦτα δὲ μὴ ἐνδέχεται ἄνευ φιλίας, προσδέοιτ’ ἂν ὁ αὐτάρκης φιλίας.

[3] Ἡ μὲν οὖν ἐν τοῖς λόγοις εἰωθυῖα ὁμοιότης λαμβάνεσθαι ἐκ τοῦ θεοῦ οὔτ’ ἐκεῖ ὀρθῶς οὔτ’ ἂν ἐνταῦθα εἴη χρήσιμος· οὐ γὰρ εἰ ὁ θεός ἐστιν αὐτάρκης καὶ μηδενὸς δεῖται, διὰ τοῦτ’ οὐδ’ ἡμεῖς [4] οὐδενὸς δεησόμεθα. ἔστι γὰρ καὶ τοιοῦτός τις λόγος ἐπὶ τοῦ θεοῦ λεγόμενος. ἐπεὶ γάρ, φησί, πάντα ἔχει τἀγαθὰ ὁ θεὸς καί ἐστιν αὐτάρκης, τί ποιήσει; οὐ γὰρ καθευδήσει. θεάσεται δή τι, φησίν· τοῦτο γὰρ κάλλιστον καὶ οἰκειότατον. τί οὖν θεάσεται; εἰ μὲν γὰρ ἄλλο τι θεάσεται, βέλτιον θεάσεταί τι αὑτοῦ. ἀλλὰ τοῦτ’ ἄτοπον, τὸ τοῦ θεοῦ ἄλλο τι εἶναι βέλτιον. αὐτὸς ἑαυτὸν ἄρα θεάσεται. ἀλλ’ ἄτοπον· καὶ γὰρ ὁ ἄνθρωπος [ὃς] ἂν αὐτὸς ἑαυτὸν κατασκοπῆται, ὡς ἀναισθήτῳ ἐπιτιμῶμεν. ἄτοπος οὖν, φησίν, ὁ θεὸς ἔσται αὐτὸς ἑαυτὸν θεώμενος.

[5] Τί μὲν οὖν ὁ θεὸς θεάσεται, ἀφείσθω· ὑπὲρ δὲ τῆς αὐταρκείας οὐ τῆς τοῦ θεοῦ τὴν σκέψιν ποιούμεθα, ἀλλ’ ἀνθρωπίνης, πότερον ὁ αὐτάρκης δεήσεται φιλίας ἢ οὔ; εἰ δή τις ἐπὶ τὸν φίλον ἐπιβλέψας ἴδοι τί ἐστι καὶ ὁποῖός τις ὁ φίλος, τοιοῦτος οἷος ἕτερος εἶναι ἐγώ, ἄν γε καὶ σφόδρα φίλον ποιήσῃς, ὥσπερ τὸ λεγόμενον “ἄλλος οὗτος [6] Ἡρακλῆς, ἄλλος φίλος ἐγώ.” ἐπεὶ οὖν ἐστι καὶ χαλεπώτατον, ὥσπερ καὶ τῶν σοφῶν τινες εἰρήκασιν, τὸ γνῶναι αὑτόν, καὶ ἥδιστον (τὸ γὰρ αὑτὸν εἰδέναι ἡδύ), αὐτοὶ μὲν οὖν αὑτοὺς ἐξ αὑτῶν οὐ δυνάμεθα θεάσασθαι (ὅτι δ’ αὐτοὶ αὑτοὺς οὐ δυνάμεθα, δῆλον ἐξ ὧν ἄλλοις ἐπιτιμῶμεν, αὐτοὶ δὲ [7] λανθάνομεν ταὐτὰ ποιοῦντες· τοῦτο δὲ γίνεται δι’ εὔνοιαν ἢ διὰ πάθος· πολλοῖς δὲ ἡμῶν ταῦτα ἐπισκοτεῖ πρὸς τὸ κρίνειν ὀρθῶς)· ὥσπερ οὖν ὅταν θέλωμεν αὐτοὶ αὑτῶν τὸ πρόσωπον ἰδεῖν, εἰς τὸ κάτοπτρον ἐμβλέψαντες εἴδομεν, ὁμοίως καὶ ὅταν αὐτοὶ αὑτοὺς βουληθῶμεν γνῶναι, εἰς τὸν φίλον ἰδόντες γνωρίσαιμεν ἄν· ἔστι γάρ, ὡς φαμέν, ὁ [8] φίλος ἕτερος ἐγώ. εἰ οὖν ἡδὺ μὲν τὸ αὑτὸν εἰδέναι, τοῦτο δ’ οὐκ ἔστιν εἰδέναι ἄνευ ἄλλου φίλου, δέοιτ’ ἂν ὁ αὐτάρκης φιλίας πρὸς τὸ αὐτὸς αὑτὸν γνωρίζειν.

[9] Ἔτι δὲ καὶ εἴπερ ἐστὶν καλόν, ὥσπερ ἐστίν, τὸ εὖ ποιεῖν ἔχοντα τὰ παρὰ τῆς τύχης ἀγαθά, τίνα εὖ ποιήσει; μετὰ τίνος δὲ συμβιώσεται; οὐ γὰρ δὴ μόνος γε διάξει· τὸ γὰρ συμβιοῦν ἡδὺ καὶ ἀναγκαῖον. εἰ τοίνυν ταῦτα καλὰ

καὶ ἡδέα καὶ ἀναγκαῖα, ταῦτα δὲ μὴ ἐνδέχεται εἶναι ἄνευ φιλίας, προσδέοιτ' ἂν ὁ αὐτάρκης φιλίας.

[16]

[1] Πότερον δὲ πολλοὺς κτητέον φίλους ἢ ὀλίγους; οὔτε δὴ πολλούς, ὡς ἁπλῶς εἰπεῖν, οὔτ' ὀλίγους δεῖ [ἀεί]. πολλῶν μὲν γὰρ ὄντων ἔργον ἐφ' ἕκαστον μερίσαι τὸ φιλεῖν. ἐφ' ἁπάντων γὰρ καὶ τῶν ἄλλων ἐξαδυνατεῖ ἡμῶν ἡ φύσις ἀσθενὴς οὖσα πρὸς τὸ ἐπὶ πολὺ ἀφικνεῖσθαι. οὔτε γὰρ τῇ ὄψει ἐπὶ πολὺ ὁρῶμεν, ἀλλ' ἐὰν πλέον ἀποστήσῃς τοῦ συμμέτρου, ἐλλείπει διὰ τὴν ἀσθένειαν τῆς φύσεως, οὔτ' ἐπ' ἀκοῆς, οὔτ' ἐπὶ τῶν ἄλλων ὁμοίως ἁπάντων.

[2] ἐλλείπων οὖν τῷ φιλεῖν δι' ἀδυναμίαν καὶ ἐγκλήματ' ἄν τις ἔχοι δικαίως, καὶ οὐκ ἂν εἴη φίλος, μὴ φιλῶν γε ἀλλ' ἢ τῷ γε λόγῳ· ἡ δὲ [3] φιλία οὐ τοῦτο βούλεται. ἔτι ἂν ὦσιν πολλοί, οὐκ ἔστιν παύσασθαι λυπούμενον· πολλῶν γὰρ ὄντων εἰκὸς ἀεὶ περὶ ἕνα γέ τινα συμβαίνειν τι ἀτύχημα, ὧν γινομένων ἀναγκαῖον λυπεῖσθαι. οὔτ' αὖ πάλιν ὀλίγους, ἕνα ἢ δύο, ἀλλὰ συμμέτρους τῷ καιρῷ καὶ τῇ αὐτοῦ ὁρμῇ πρὸς τὸ φιλεῖν.

[17]

[1] Μετὰ δὲ ταῦτα σκεπτέον ἂν εἴη πῶς δεῖ φίλῳ χρῆσθαι. ἔστι δ' οὐκ ἐν ἁπάσῃ φιλίᾳ ἡ σκέψις, ἀλλ' ἐν ᾗ μάλιστα ἐγκαλοῦσιν ἀλλήλοις οἱ φίλοι. οὐκ ἐγκαλοῦσι δὲ ἐν ταῖς ἄλλαις ὁμοίως, οἷον ἐν τῇ πατρὸς πρὸς υἱὸν οὐκ ἔστιν ἔγκλημα τοιοῦτον οἷον ἀξιοῦσιν ἐν ἐνίαις, ὥσπερ ἐγὼ σοί, οὕτως καὶ σὺ ἐμοί, εἰ δὲ μή, ἐνταῦθα τὸ σφοδρὸν [2] ἔγκλημα· ἐν δὲ ἀνίσοις φίλοις οὐκ ἔστι τὸ ἴσον, ἔστι δὲ ἡ πατρὸς πρὸς υἱὸν φιλία ἐν ἀνίσῳ, ὁμοίως ἡ γυναικὸς πρὸς ἄνδρα ἢ οἰκέτου πρὸς δεσπότην, καὶ ὅλως δὲ χείρονος καὶ βελτίονος. οὐχ ἕξουσιν δὴ τὰ τοιαῦτα ἐγκλήματα. ἀλλ' ἐν τοῖς ἴσοις φίλοις καὶ ἐν τῇ ‹τοι›αύτῃ φιλίᾳ τὸ τοιοῦτον ἔγκλημα. ὥστε σκεπτέον ἂν εἴη τὸ πῶς δεῖ χρῆσθαι φίλῳ ἐν τῇ ἐν ἴσοις φίλοις φιλίᾳ.* * .

Ηθικων Ευδημιων (1214a) Eudemian Ethics

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Βιβλίο 1

[1214a] Ὁ μὲν ἐν Δήλῳ παρὰ τῷ θεῷ τὴν αὐτοῦ γνώμην ἀποφηνάμενος συνέγραψεν ἐπὶ τὸ προπύλαιον τοῦ Λητῴου, διελὼν οὐχ ὑπάρχοντα πάντα τῷ αὐτῷ, τό τε ἀγαθὸν καὶ τὸ καλὸν καὶ τὸ ἡδύ, ποιήσας

κάλλιστον τὸ δικαιότατον, λῷστον δ' ὑγιαίνειν·
πάντων ἥδιστον δ' οὗ τις ἐρᾷ τὸ τυχεῖν·

ἡμεῖς δ' αὐτῷ μὴ συγχωρῶμεν. ἡ γὰρ εὐδαιμονία κάλλιστον καὶ ἄριστον ἁπάντων οὖσα ἥδιστον ἐστίν.

πολλῶν δ' ὄντων θεωρημάτων ἃ περὶ ἕκαστον πρᾶγμα καὶ περὶ ἑκάστην φύσιν ἀπορίαν ἔχει καὶ δεῖται σκέψεως, τὰ μὲν αὐτῶν συντείνει πρὸς τὸ γνῶναι μόνον, τὰ δὲ καὶ περὶ τὰς κτήσεις καὶ περὶ τὰς πράξεις τοῦ πράγματος. ὅσα μὲν οὖν ἔχει φιλοσοφίαν μόνον θεωρητικήν, λεκτέον κατὰ τὸν ἐπιβάλλοντα καιρόν, ὅ τι περ οἰκεῖον ἦν τῇ μεθόδῳ· πρῶτον δὲ σκεπτέον ἐν τίνι τὸ εὖ ζῆν καὶ πῶς κτητόν, πότερον φύσει γίγνονται πάντες εὐδαίμονες οἱ τυγχάνοντες ταύτης τῆς προσηγορίας, ὥσπερ μεγάλοι καὶ μικροὶ καὶ τὴν χροιὰν διαφέροντες, ἢ διὰ μαθήσεως, ὡς οὔσης ἐπιστήμης τινὸς τῆς εὐδαιμονίας, ἢ διά τινος ἀσκήσεως (πολλὰ γὰρ οὔτε κατὰ φύσιν οὔτε μαθοῦσιν ἀλλ' ἐθισθεῖσιν ὑπάρχει τοῖς ἀνθρώποις, φαῦλα μὲν τοῖς φαύλως ἐθισθεῖσι, χρηστὰ δὲ τοῖς χρηστῶς), ἢ τούτων μὲν κατ' οὐδένα τῶν τρόπων, δυοῖν δὲ θάτερον, ἤτοι καθάπερ οἱ νυμφόληπτοι καὶ θεόληπτοι τῶν ἀνθρώπων, ἐπιπνοίᾳ δαιμονίου τινὸς ὥσπερ ἐνθουσιάζοντες, ἢ διὰ τὴν τύχην (πολλοὶ γὰρ ταὐτόν φασιν εἶναι τὴν εὐδαιμονίαν καὶ τὴν εὐτυχίαν).

ὅτι μὲν οὖν ἡ παρουσία διὰ τούτων ἁπάντων ἢ τινῶν ἢ τινὸς ὑπάρχει τοῖς ἀνθρώποις, οὐκ ἄδηλον (ἅπασαι γὰρ αἱ γενέσεις σχεδὸν πίπτουσιν εἰς ταύτας τὰς ἀρχάς· καὶ γὰρ ‹τὰς› ἀπὸ τῆς διανοίας ἁπάσας πρὸς τὰς ἀπὸ ἐπιστήμης ἄν τις συναγάγοι πράξεις)· τὸ δ' εὐδαιμονεῖν καὶ τὸ ζῆν μακαρίως καὶ καλῶς εἴη ἂν ἐν τρισὶ μάλιστα, τοῖς εἶναι δοκοῦσιν αἱρετωτάτοις. οἳ μὲν γὰρ τὴν φρόνησιν μέγιστον εἶναί φασιν ἀγαθόν, οἳ δὲ τὴν ἀρετήν, οἳ δὲ τὴν ἡδονήν. καὶ πρὸς τὴν εὐδαιμονίαν ἔνιοι περὶ τοῦ μεγέθους αὐτῶν [1214b] διαμφισβητοῦσι, συμβάλλεσθαι φάσκοντες θάτερον θατέρου μᾶλλον εἰς αὐτήν, οἳ μὲν ὡς οὖσαν μεῖζον ἀγαθὸν τὴν φρόνησιν τῆς ἀρετῆς, οἳ δὲ ταύτης τὴν ἀρετήν, οἳ δ' ἀμφοτέρων τούτων τὴν ἡδονήν. καὶ τοῖς μὲν ἐκ πάντων δοκεῖ τούτων, τοῖς δ’ ἐκ δυοῖν, τοῖς δ’ ἐν ἑνί τινι τούτων εἶναι τὸ ζῆν εὐδαιμόνως.

περὶ δὴ τούτων ἐπιστήσαντας, ἅπαντα τὸν δυνάμενον ζῆν κατὰ τὴν αὑτοῦ προαίρεσιν θέσθαι τινὰ σκοπὸν τοῦ καλῶς ζῆν, ἤτοι τιμὴν ἢ δόξαν ἢ πλοῦτον ἢ παιδείαν, πρὸς ὃν ἀποβλέπων ποιήσεται πάσας τὰς πράξεις (ὡς τό γε μὴ συντετάχθαι τὸν βίον πρός τι τέλος ἀφροσύνης πολλῆς σημεῖον ἐστίν), μάλιστα δὴ δεῖ πρῶτον ἐν αὑτῷ διορίσασθαι μήτε προπετῶς μήτε ῥαθύμως, ἐν τίνι τῶν ἡμετέρων τὸ ζῆν εὖ, καὶ τίνων ἄνευ τοῖς ἀνθρώποις οὐκ ἐνδέχεται τοῦθ’ ὑπάρχειν. οὐ γὰρ ταὐτόν, ὧν τ’ ἄνευ οὐχ οἷόν τε ὑγιαίνειν, καὶ τὸ ὑγιαίνειν· ὁμοίως δ’ ἔχει τοῦτο καὶ ἐφ’ ἑτέρων πολλῶν, ὥστ’ οὐδὲ τὸ ζῆν καλῶς καὶ ὧν ἄνευ οὐ δυνατὸν ζῆν καλῶς (ἔστι δὲ τῶν τοιούτων τὰ μὲν οὐκ ἴδια τῆς ὑγιείας οὐδὲ τῆς ζωῆς ἀλλὰ κοινὰ πάντων ὡς εἰπεῖν, καὶ τῶν ἕξεων καὶ τῶν πράξεων, οἷον ἄνευ τοῦ ἀναπνεῖν ἢ ἐγρηγορέναι ἢ κινήσεως μετέχειν οὐθὲν ἂν ὑπάρξειεν ἡμῖν οὔτ’ ἀγαθὸν οὔτε κακόν, τὰ δ’ ἴδια μᾶλλον περὶ ἑκάστην φύσιν· ἃ δεῖ μὴ λανθάνειν· οὐ γὰρ ὁμοίως οἰκεῖον πρὸς εὐεξίαν τοῖς εἰρημένοις κρεωφαγία καὶ τῶν περιπάτων οἱ μετὰ δεῖπνον). ἔστι γὰρ ταῦτ’ αἴτια τῆς ἀμφισβητήσεως περὶ τοῦ εὐδαιμονεῖν, τί ἐστι καὶ γίνεται διὰ τίνων· ὧν ἄνευ γὰρ οὐχ οἷόν τε εὐδαιμονεῖν, ἔνιοι μέρη τῆς εὐδαιμονίας εἶναι νομίζουσι.

πάσας μὲν οὖν τὰς δόξας ἐπισκοπεῖν, ὅσας ἔχουσί τινες περὶ αὐτῆς, περίεργον (πολλὰ γὰρ φαίνεται καὶ τοῖς παιδαρίοις καὶ τοῖς κάμνουσι καὶ παραφρονοῦσι, περὶ ὧν ἂν οὐθεὶς νοῦν ἔχων διαπορήσειεν· δέονται γὰρ οὐ λόγων, ἀλλ’ οἳ μὲν ἡλικίας ἐν ᾗ μεταβαλοῦσιν, οἳ δὲ κολάσεως ἰατρικῆς ἢ πολιτικῆς· κόλασις γὰρ ἡ φαρμακεία τῶν πληγῶν οὐκ ἐλάττων ἐστίν), ὁμοίως δὲ ταύταις οὐδὲ τὰς τῶν πολλῶν [1215a] ‹ἐπισκεπτέον› (εἰκῇ γὰρ λέγουσι σχεδὸν περὶ ἁπάντων, καὶ μάλιστα περὶ [ἐπισκεπτέον] ‹εὐδαι›μονίας· ἄτοπον γὰρ προσφέρειν λόγον τοῖς λόγου μηθὲν δεομένοις, ἀλλὰ πάθους)· ἐπεὶ δ’ εἰσὶν ἀπορίαι περὶ ἑκάστην πραγματείαν οἰκεῖαι, δῆλον ὅτι καὶ περὶ βίου τοῦ κρατίστου καὶ ζωῆς τῆς ἀρίστης εἰσίν. ταύτας οὖν καλῶς ἔχει τὰς δόξας ἐξετάζειν· οἱ γὰρ τῶν ἀμφισβητούντων ἔλεγχοι τῶν ἐναντιουμένων αὐτοῖς λόγων ἀποδείξεις εἰσίν. - ἔτι δὲ πρὸ ἔργου τὸ τὰ τοιαῦτα μὴ λανθάνειν, μάλιστα πρὸς ἃ δεῖ συντείνειν πᾶσαν σκέψιν, ἐκ τίνων ἐνδέχεται μετασχεῖν τοῦ εὖ καὶ καλῶς ζῆν, εἴ τῳ μακαρίως ἐπιφθονώτερον εἰπεῖν, καὶ πρὸς τὴν ἐλπίδα τὴν περὶ ἕκαστα γενομένην ἂν τῶν ἐπιεικῶν. εἰ μὲν γὰρ ἐν τοῖς διὰ τύχην γινομένοις ἢ τοῖς διὰ φύσιν τὸ καλῶς ζῆν ἐστίν, ἀνέλπιστον ἂν εἴη πολλοῖς (οὐ γάρ ἐστι δι’ ἐπιμελείας ἡ κτῆσις [οὐδὲ] ἐπ’ αὐτοῖς οὐδὲ τῆς αὐτῶν πραγματείας)· εἰ δ’ ἐν τῷ αὐτὸν ποιόν τινα εἶναι καὶ τὰς κατ’ αὐτὸν πράξεις, κοινότερον ἂν εἴη τὸ ἀγαθὸν καὶ θειότερον, κοινότερον μὲν τῷ πλείοσιν ἐνδέχεσθαι μετασχεῖν, θειότερον δὲ τῷ κεῖσθαι τὴν εὐδαιμονίαν τοῖς αὐτοὺς παρασκευάζουσι ποιούς τινας καὶ τὰς πράξεις.

ἔσται δὲ φανερὰ τὰ πλεῖστα τῶν ἀμφισβητουμένων καὶ διαπορουμένων, ἂν καλῶς ὁρισθῇ τί χρὴ νομίζειν εἶναι τὴν εὐδαιμονίαν, πότερον ἐν τῷ ποιόν τινα μόνον εἶναι τὴν ψυχήν, καθάπερ τινὲς ᾠήθησαν τῶν σοφῶν καὶ πρεσβυτέρων, ἢ δεῖ μὲν καὶ ποιόν τινα ὑπάρχειν αὐτόν, μᾶλλον δὲ δεῖ τὰς πράξεις εἶναι ποιάς τινάς.

διῃρημένων δὲ τῶν βίων, καὶ τῶν μὲν ‹οὐδ’› ἀμφισβητούντων τῆς τοιαύτης εὐημερίας, ἀλλ’ ὡς τῶν ἀναγκαίων χάριν σπουδαζομένων, οἷον τῶν περὶ τὰς τέχνας τὰς φορτικὰς καὶ τῶν περὶ χρηματισμὸν καὶ τὰς βαναύσους (λέγω δὲ φορτικὰς μὲν τὰς πρὸς δόξαν πραγματευομένας μόνον, βαναύσους δὲ τὰς ἑδραίας καὶ μισθαρνικάς, χρηματιστικὰς δὲ τὰς πρὸς ἀγορὰς μὲν καὶ πράσεις καπηλικάς), τῶν δ’ εἰς ἀγωγὴν εὐδαιμονικὴν ταττομένων τριῶν ὄντων, τῶν καὶ πρότερον ῥηθέντων ἀγαθῶν ὡς μεγίστων τοῖς ἀνθρώποις, ἀρετῆς καὶ φρονήσεως καὶ ἡδονῆς, τρεῖς ὁρῶμεν καὶ βίους ὄντας, οὓς οἱ ἐπ’ ἐξουσίας τυγχάνοντες προαιροῦνται ζῆν ἅπαντες, πολιτικὸν φιλόσοφον [1215b] ἀπολαυστικόν. τούτων γὰρ ὁ μὲν φιλόσοφος βούλεται περὶ φρόνησιν εἶναι καὶ τὴν θεωρίαν τὴν περὶ τὴν ἀλήθειαν, ὁ δὲ πολιτικὸς περὶ τὰς πράξεις τὰς καλάς (αὗται δ’ εἰσὶν αἱ ἀπὸ τῆς ἀρετῆς), ὁ δ’ ἀπολαυστικὸς περὶ τὰς ἡδονὰς τὰς σωματικάς. διόπερ ‹ἕτερος› ἕτερον τὸν εὐδαίμονα προσαγορεύει, καθάπερ ἐλέχθη καὶ πρότερον. Ἀναξαγόρας μὲν ὁ Κλαζομένιος ἐρωτηθεὶς τίς ὁ εὐδαιμονέστατος, “οὐθεὶς”, εἶπεν, “ὧν σὺ νομίζεις· ἀλλ’ ἄτοπος ἄν τίς σοι φανείη”· τοῦτον δ’ ἀπεκρίνατο τὸν τρόπον ἐκεῖνος, ὁρῶν τὸν ἐρόμενον ἀδύνατον ὑπολαμβάνοντα μὴ μέγαν ὄντα καὶ καλὸν ἢ πλούσιον ταύτης τυγχάνειν τῆς προσηγορίας, αὐτὸς δ’ ἴσως ᾤετο τὸν ζῶντα ἀλύπως καὶ καθαρῶς πρὸς τὸ δίκαιον ἤ τινος θεωρίας κοινωνοῦντα θείας, τοῦτον ὡς ἄνθρωπον εἰπεῖν μακάριον εἶναι.

περὶ πολλῶν μὲν οὖν καὶ ἑτέρων οὐ ῥᾴδιον τὸ κρῖναι καλῶς, μάλιστα δὲ περὶ οὗ πᾶσι ῥᾷστον εἶναι δοκεῖ, καὶ παντὸς ἀνδρὸς τὸ γνῶναι, τί τῶν ἐν τῷ ζῆν αἱρετόν, καὶ λαβὼν ἄν τις ἔχοι πλήρη τὴν ἐπιθυμίαν. πολλὰ γάρ ἐστι τοιαῦτα τῶν ἀποβαινόντων, ‹δι’ ἃ› προΐενται τὸ ζῆν, οἷον νόσους περιωδυνίας χειμῶνας· ὥστε δῆλον ὅτι κἂν ἐξ ἀρχῆς αἱρετὸν ἦν, εἴ τις αἵρεσιν ἐδίδου, διά γε ταῦτα τὸ μὴ γενέσθαι. πρὸς δὲ τούτοις ‹τίς› ὁ βίος, ὃν ζῶσιν ἔτι παῖδες ὄντες; καὶ γὰρ ἐπὶ τοῦτον ἀνακάμψαι πάλιν οὐδεὶς ἂν ὑπομείνειεν εὖ φρονῶν. ἔτι δὲ πολλὰ τῶν τε μηδεμίαν ἐχόντων [μὲν] ἡδονὴν ἢ λύπην, καὶ τῶν ἐχόντων μὲν ἡδονὴν μὴ καλὴν δέ, τοιαῦτ᾽ ἐστιν ὥστε τὸ μὴ εἶναι κρεῖττον εἶναι τοῦ ζῆν. ὅλως δ᾽ εἴ τις ἅπαντα συναγάγοι ὅσα πράττουσι μὲν καὶ πάσχουσιν ἅπαντες, ἑκόντες μέντοι μηθὲν αὐτῶν διὰ τὸ μηδ᾽ αὐτοῦ χάριν, καὶ προσθείη χρόνου πλῆθος ἀπέραντόν τι, οὐ μᾶλλον ἕνεκ᾽ ἄν τις τούτων ἕλοιτο ζῆν ἢ μὴ ζῆν. ἀλλὰ μὴν οὐδὲ διὰ τὴν τῆς τροφῆς μόνον ἡδονὴν ἢ τὴν τῶν ἀφροδισίων, ἀφαιρεθεισῶν τῶν ἄλλων ἡδονῶν, ἃς τὸ γινώσκειν ἢ βλέπειν ἢ τῶν ἄλλων τις αἰσθήσεων πορίζει τοῖς ἀνθρώποις, οὐδ᾽ ἂν εἷς προτιμήσειε τὸ ζῆν, μὴ παντελῶς ὢν ἀνδράποδον. δῆλον γὰρ ὅτι τῷ ταύτην ποιουμένῳ τὴν αἵρεσιν οὐθὲν ἂν διενέγκειε γενέσθαι θηρίον ἢ ἄνθρωπον· ὁ γοῦν ἐν [1216a] Αἰγύπτῳ βοῦς, ὃν ὡς Ἆπιν τιμῶσιν, ἐν πλείοσι τῶν τοιούτων ἐξουσιάζει πολλῶν μοναρχῶν. ὁμοίως δὲ οὐδὲ διὰ τὴν τοῦ καθεύδειν ἡδονήν· τί γὰρ διαφέρει καθεύδειν ἀνέγερτον ὕπνον ἀπὸ τῆς πρώτης ἡμέρας μέχρι τῆς τελευταίας ἐτῶν ἀριθμὸν χιλίων ἢ ὁποσωνοῦν, ἢ ζῆν ὄντα φυτόν; τὰ γοῦν φυτὰ τοιαύτης τινὸς ἔοικε μετέχειν ζωῆς, ὥσπερ καὶ τὰ παιδία. καὶ γὰρ ταῦτα κατὰ τὴν πρώτην ἐν τῇ μητρὶ γένεσιν πεφυκότα μὲν διατελεῖ, καθεύδοντα δὲ τὸν πάντα χρόνον. ὥστε φανερὸν ἐκ τῶν τοιούτων ὅτι διαφεύγει σκοπουμένους, τί τὸ εὖ καὶ τί τὸ ἀγαθὸν τὸ ἐν τῷ ζῆν.

τὸν μὲν οὖν Ἀναξαγόραν φασὶν ἀποκρίνασθαι πρός τινα διαποροῦντα τοιαῦτ᾽ ἄττα καὶ διερωτῶντα τίνος ἕνεκ᾽ ἄν τις ἕλοιτο γενέσθαι μᾶλλον ἢ μὴ γενέσθαι “τοῦ” φάναι “θεωρῆσαι τὸν οὐρανὸν καὶ τὴν περὶ τὸν ὅλον κόσμον τάξιν”. οὗτος μὲν οὖν ἐπιστήμης τινὸς ἕνεκεν τὴν αἵρεσιν ᾤετο τιμίαν εἶναι τοῦ ζῆν· οἱ δὲ Σαρδανάπαλλον μακαρίζοντες ἢ Σμινδυρίδην τὸν Συβαρίτην ἢ τῶν ἄλλων τινὰς τῶν ζώντων τὸν ἀπολαυστικὸν βίον, οὗτοι δὲ πάντες ἐν τῷ χαίρειν φαίνονται τάττειν τὴν εὐδαιμονίαν· ἕτεροι δέ τινες οὔτ᾽ ἂν φρόνησιν οὐδεμίαν οὔτε τὰς σωματικὰς ἡδονὰς ἕλοιντο μᾶλλον ἢ τὰς πράξεις τὰς ἀπ᾽ ἀρετῆς. αἱροῦνται γοῦν οὐ μόνον ἔνιοι δόξης χάριν αὐτάς, ἀλλὰ καὶ μὴ μέλλοντες εὐδοκιμήσειν. ἀλλ᾽ οἱ πολλοὶ τῶν πολιτικῶν οὐκ ἀληθῶς τυγχάνουσι τῆς προσηγορίας· οὐ γάρ εἰσι πολιτικοὶ κατὰ τὴν ἀλήθειαν· ὁ μὲν γὰρ πολιτικὸς τῶν καλῶν ἐστι πράξεων προαιρετικὸς αὐτῶν χάριν, οἱ δὲ πολλοὶ χρημάτων καὶ πλεονεξίας ἕνεκεν ἅπτονται τοῦ ζῆν οὕτως.

ἐκ μὲν οὖν τῶν εἰρημένων φανερὸν ὅτι πάντες ἐπὶ τρεῖς βίους φέρουσι τὴν εὐδαιμονίαν, πολιτικὸν φιλόσοφον ἀπολαυστικόν· τούτων δ᾽ ἡ μὲν περὶ τὰ σώματα καὶ τὰς ἀπολαύσεις ἡδονή, καὶ τίς καὶ ποία τις γίνεται καὶ διὰ τίνων, οὐκ ἄδηλον, ὥστ᾽ οὐ τίνες εἰσὶ δεῖ ζητεῖν αὐτάς, ἀλλ᾽ εἰ συντείνουσί τι πρὸς εὐδαιμονίαν ἢ μή, καὶ πῶς συντείνουσι, καὶ πότερον εἰ δεῖ προσάπτειν τῷ ζῆν καλῶς ἡδονάς τινας, ταύτας δεῖ προσάπτειν, ἢ τούτων μὲν ἄλλον τινὰ τρόπον ἀνάγκη κοινωνεῖν, ἕτεραι δ’ εἰσὶν ἡδοναὶ δι’ ἃς εὐλόγως οἴονται τὸν εὐδαίμονα ζῆν ἡδέως καὶ μὴ μόνον ἀλύπως.

ἀλλὰ περὶ μὲν τούτων ὕστερον ἐπισκεπτέον· περὶ δ’ ἀρετῆς καὶ φρονήσεως πρῶτον θεωρήσωμεν, τήν τε φύσιν αὐτῶν ἑκατέρου τίς ἐστι, καὶ πότερον μόρια ταῦτα τῆς ἀγαθῆς ζωῆς ἐστίν, ἢ αὐτὰ ἢ αἱ πράξεις αἱ ἀπ’ αὐτῶν, ἐπειδὴ [1216b] προσάπτουσιν αὐτὰ κἂν εἰ μὴ πάντες εἰς τὴν εὐδαιμονίαν, ἀλλ’ οὖν οἱ λόγου ἄξιοι τῶν ἀνθρώπων πάντες.

Σωκράτης μὲν οὖν ὁ πρεσβύτης ᾤετ’ εἶναι τέλος τὸ γινώσκειν τὴν ἀρετήν, καὶ ἐπεζήτει τί ἐστιν ἡ δικαιοσύνη καὶ τί ἡ ἀνδρεία καὶ ἕκαστον τῶν μορίων αὐτῆς. ἐποίει γὰρ ταῦτ’ εὐλόγως. ἐπιστήμας γὰρ ᾤετ’ εἶναι πάσας τὰς ἀρετάς, ὥσθ’ ἅμα συμβαίνειν εἰδέναι τε τὴν δικαιοσύνην καὶ εἶναι δίκαιον. ἅμα μὲν γὰρ μεμαθήκαμεν τὴν γεωμετρίαν καὶ οἰκοδομίαν καὶ ἐσμὲν οἰκοδόμοι καὶ γεωμέτραι. διόπερ ἐζήτει τί ἐστιν ἀρετή, ἀλλ’ οὐ πῶς γίνεται καὶ ἐκ τίνων. τοῦτο δὲ ἐπὶ μὲν τῶν ἐπιστημῶν συμβαίνει τῶν θεωρητικῶν (οὐθὲν γὰρ ἕτερόν ἐστι τῆς ἀστρολογίας οὐδὲ τῆς περὶ φύσεως ἐπιστήμης οὐδὲ γεωμετρίας πλὴν τὸ γνωρίσαι καὶ θεωρῆσαι τὴν φύσιν τῶν πραγμάτων τῶν ὑποκειμένων ταῖς ἐπιστήμαις· οὐ μὴν ἀλλὰ κατὰ συμβεβηκὸς οὐθὲν κωλύει πρὸς πολλὰ τῶν ἀναγκαίων εἶναι χρησίμους αὐτὰς ἡμῖν)· τῶν δὲ ποιητικῶν ἐπιστημῶν ἕτερον τὸ τέλος τῆς ἐπιστήμης καὶ γνώσεως, οἷον ὑγίεια μὲν ἰατρικῆς, εὐνομία δὲ ἤ τι τοιοῦθ’ ἕτερον τῆς πολιτικῆς. καλὸν μὲν οὖν καὶ τὸ γνωρίζειν ἕκαστον τῶν καλῶν· οὐ μὴν ἀλλά γε περὶ ἀρετῆς οὐ τὸ εἰδέναι τιμιώτατον τί ἐστίν, ἀλλὰ τὸ γινώσκειν ἐκ τίνων ἐστίν. οὐ γὰρ εἰδέναι βουλόμεθα τί ἐστιν ἀνδρεία, ἀλλ’ εἶναι ἀνδρεῖοι, οὐδέ τί ἐστι δικαιοσύνη, ἀλλ’ εἶναι δίκαιοι, καθάπερ καὶ ὑγιαίνειν μᾶλλον ἢ γινώσκειν τί ἐστι τὸ ὑγιαίνειν καὶ εὖ ἔχειν τὴν ἕξιν μᾶλλον ἢ γινώσκειν τί ἐστι τὸ εὖ ἔχειν.

πειρατέον δὲ περὶ πάντων τούτων ζητεῖν τὴν πίστιν διὰ τῶν λόγων, μαρτυρίοις καὶ παραδείγμασι χρώμενον τοῖς φαινομένοις. κράτιστον μὲν γὰρ πάντας ἀνθρώπους φαίνεσθαι συνομολογοῦντας τοῖς ῥηθησομένοις, εἰ δὲ μή, τρόπον γέ τινα πάντας, ὅπερ μεταβιβαζόμενοι ποιήσουσιν· ἔχει γὰρ ἕκαστος οἰκεῖόν τι πρὸς τὴν ἀλήθειαν, ἐξ ὧν ἀναγκαῖον δεικνύναι πως περὶ αὐτῶν· ἐκ γὰρ τῶν ἀληθῶς μὲν λεγομένων οὐ σαφῶς δέ, προϊοῦσιν ἔσται καὶ τὸ σαφῶς, μεταλαμβάνουσιν ἀεὶ τὰ γνωριμώτερα τῶν εἰωθότων λέγεσθαι συγκεχυμένως. διαφέρουσι δ’ οἱ λόγοι περὶ ἑκάστην μέθοδον, οἵ τε φιλοσόφως λεγόμενοι καὶ μὴ φιλοσόφως. διόπερ καὶ τῶν πολιτικῶν οὐ χρὴ νομίζειν περίεργον εἶναι τὴν τοιαύτην θεωρίαν, δι’ ἧς οὐ μόνον τὸ τί φανερόν, ἀλλὰ καὶ τὸ διὰ τί. φιλόσοφον γὰρ τὸ τοιοῦτον περὶ ἑκάστην μέθοδον. δεῖται μέντοι τοῦτο πολλῆς εὐλαβείας. εἰσὶ γάρ τινες οἳ [1217a] διὰ τὸ δοκεῖν φιλοσόφου εἶναι τὸ μηθὲν εἰκῇ λέγειν ἀλλὰ μετὰ λόγου, πολλάκις λανθάνουσι λέγοντες ἀλλοτρίους λόγους τῆς πραγματείας καὶ κενούς. τοῦτο δὲ ποιοῦσιν ὁτὲ μὲν δι’ ἄγνοιαν, ὁτὲ δὲ δι’ ἀλαζονείαν, ὑφ’ ὧν ἁλίσκεσθαι συμβαίνει καὶ τοὺς ἐμπείρους καὶ δυναμένους πράττειν ὑπὸ τούτων τῶν μήτ’ ἐχόντων μήτε δυναμένων διάνοιαν ἀρχιτεκτονικὴν ἢ πρακτικήν. πάσχουσι δὲ τοῦτο δι’ ἀπαιδευσίαν· ἀπαιδευσία γάρ ἐστι περὶ ἕκαστον πρᾶγμα τὸ μὴ δύνασθαι κρίνειν τούς τ’ οἰκείους λόγους τοῦ πράγματος καὶ τοὺς ἀλλοτρίους. καλῶς δ’ ἔχει καὶ τὸ χωρὶς κρίνειν τὸν τῆς αἰτίας λόγον καὶ τὸ δεικνύμενον, διά τε τὸ ῥηθὲν ἀρτίως, ὅτι προσέχειν οὐ δεῖ πάντα τοῖς διὰ τῶν λόγων, ἀλλὰ πολλάκις μᾶλλον τοῖς φαινομένοις (νῦν δ’ ὁπότ’ ἂν λύειν μὴ ἔχωσιν, ἀναγκάζονται πιστεύειν τοῖς εἰρημένοις), καὶ διότι πολλάκις τὸ μὲν ὑπὸ τοῦ λόγου δεδεῖχθαι δοκοῦν ἀληθὲς μὲν ἐστίν, οὐ μέντοι διὰ ταύτην τὴν αἰτίαν δι’ ἥν φησιν ὁ λόγος. ἔστι γὰρ διὰ ψεύδους ἀληθὲς δεῖξαι· δῆλον δ’ ἐκ τῶν ἀναλυτικῶν.

πεπροοιμιασμένων δὲ [καὶ] τούτων, λέγωμεν ἀρξάμενοι πρῶτον ἀπὸ τῶν πρώτων, ὥσπερ εἴρηται, οὐ σαφῶς λεγομένων, ζητοῦντες ἐπὶ τὸ σαφῶς εὑρεῖν τί ἐστιν ἡ εὐδαιμονία. ὁμολογεῖται δὴ μέγιστον εἶναι καὶ ἄριστον τοῦτο τῶν ἀγαθῶν τῶν ἀνθρωπίνων. ἀνθρώπινον δὲ λέγομεν, ὅτι τάχ’ ἂν εἴη καὶ βελτιόνός τινος ἄλλου τῶν ὄντων εὐδαιμονία, οἷον θεοῦ. τῶν μὲν γὰρ ἄλλων ζῴων, ὅσα χείρω τὴν φύσιν τῶν ἀνθρώπων ἐστίν, οὐθὲν κοινωνεῖ ταύτης τῆς προσηγορίας· οὐ γάρ ἐστιν εὐδαίμων ἵππος οὐδ’ ὄρνις οὐδ’ ἰχθὺς οὐδ’ ἄλλο τῶν ὄντων οὐθέν, ὃ μὴ κατὰ τὴν ἐπωνυμίαν ἐν τῇ φύσει μετέχει θείου τινός, ἀλλὰ κατ’ ἄλλην τινὰ τῶν ἀγαθῶν μετοχὴν τὸ μὲν βέλτιον ζῇ τὸ δὲ χεῖρον αὐτῶν.

ἀλλ’ ὅτι τοῦτον ἔχει τὸν τρόπον, ὕστερον ἐπισκεπτέον· νῦν δὲ λέγομεν ὅτι τῶν ἀγαθῶν τὰ μέν ἐστιν ἀνθρώπῳ πρακτὰ τὰ δ’ οὐ πρακτά. τοῦτο δὲ λέγομεν οὕτως, διότι ἔνια τῶν ὄντων οὐθὲν μετέχει κινήσεως, ὥστ’ οὐδὲ τῶν ἀγαθῶν· καὶ ταῦτ’ ἴσως ἄριστα τὴν φύσιν ἐστίν. ἔνια δὲ πρακτὰ μέν, ἀλλὰ πρακτὰ κρείττοσιν ἡμῶν. ἐπειδὴ δὲ διχῶς λέγεται τὸ πρακτόν (καὶ γὰρ ὧν ἕνεκα πράττομεν καὶ ἃ τούτων ἕνεκα μετέχει πράξεως, οἷον καὶ τὴν ὑγίειαν καὶ τὸν πλοῦτον τίθεμεν τῶν πρακτῶν, καὶ τὰ τούτων πραττόμενα χάριν, τά θ’ ὑγιεινὰ καὶ τὰ χρηματιστικά), δῆλον ὅτι καὶ τὴν εὐδαιμονίαν τῶν ἀνθρώπῳ πρακτῶν ἄριστον θετέον.

[1217b] σκεπτέον τοίνυν τί τὸ ἄριστον, καὶ λέγεται ποσαχῶς. ἐν τρισὶ δὴ

μάλιστα φαίνεται δόξαις εἶναι τοῦτο. φασὶ γὰρ ἄριστον μὲν εἶναι πάντων αὐτὸ τὸ ἀγαθόν, αὐτὸ δ’ εἶναι τὸ ἀγαθὸν ᾧ ὑπάρχει τό τε πρώτῳ εἶναι τῶν ἀγαθῶν καὶ τὸ αἰτίῳ τῇ παρουσίᾳ τοῖς ἄλλοις τοῦ ἀγαθὰ εἶναι. ταῦτα δ’ ὑπάρχειν ἀμφότερα τῇ ἰδέᾳ τοῦ ἀγαθοῦ. λέγω δὲ ἀμφότερα τό τε πρῶτον τῶν ἀγαθῶν καὶ τὸ τοῖς ἄλλοις αἴτιον ἀγαθοῖς τῇ παρουσίᾳ τοῦ ἀγαθοῖς εἶναι. μάλιστά τε γὰρ τἀγαθὸν λέγεσθαι κατ’ ἐκείνης ἀληθῶς (κατὰ μετοχὴν γὰρ καὶ ὁμοιότητα τἆλλα ἀγαθὰ ἐκείνης εἶναι), καὶ πρῶτον τῶν ἀγαθῶν· ἀναιρουμένου γὰρ τοῦ μετεχομένου ἀναιρεῖσθαι καὶ τὰ μετέχοντα τῆς ἰδέας, ἃ λέγεται τῷ μετέχειν ἐκείνης, τὸ δὲ πρῶτον τοῦτον ἔχειν τὸν τρόπον πρὸς τὸ ὕστερον. ὥστ’ εἶναι αὐτὸ τὸ ἀγαθὸν τὴν ἰδέαν τοῦ ἀγαθοῦ· καὶ γὰρ χωριστὴν εἶναι τῶν μετεχόντων, ὥσπερ καὶ τὰς ἄλλας ἰδέας.

ἔστι μὲν οὖν τὸ διασκοπεῖν περὶ ταύτης τῆς δόξης ἑτέρας τε διατριβῆς καὶ τὰ πολλὰ λογικωτέρας ἐξ ἀνάγκης (οἱ γὰρ ἅμα ἀναιρετικοί τε καὶ κοινοὶ λόγοι κατ’ οὐδεμίαν εἰσὶν ἄλλην ἐπιστήμην)· εἰ δὲ δεῖ συντόμως εἰπεῖν περὶ αὐτῶν, λέγομεν ὅτι πρῶτον μὲν τὸ εἶναι ἰδέαν μὴ μόνον ἀγαθοῦ ἀλλὰ καὶ ἄλλου ὁτουοῦν λέγεται λογικῶς καὶ κενῶς. ἐπέσκεπται δὲ πολλοῖς περὶ αὐτοῦ τρόποις καὶ ἐν τοῖς ἐξωτερικοῖς λόγοις καὶ ἐν τοῖς κατὰ φιλοσοφίαν. - ἔπειτ’ εἰ καὶ ὅτι μάλιστ’ εἰσὶν αἱ ἰδέαι καὶ ἀγαθοῦ ἰδέα, μή ποτ’ οὐδὲ χρήσιμος πρὸς ζωὴν ἀγαθὴν οὐδὲ πρὸς τὰς πράξεις. - πολλαχῶς γὰρ λέγεται καὶ ἰσαχῶς τῷ ὄντι τὸ ἀγαθόν. τό τε γὰρ ὄν, ὥσπερ ἐν ἄλλοις διῄρηται, σημαίνει τὸ μὲν τί ἐστί, τὸ δὲ ποιόν, τὸ δὲ ποσόν, τὸ δὲ πότε, καὶ πρὸς τούτοις τὸ μὲν ἐν τῷ κινεῖσθαι τὸ δὲ ἐν τῷ κινεῖν, καὶ τὸ ἀγαθὸν ἐν ἑκάστῃ τῶν πτώσεών ἐστι τούτων, ἐν οὐσίᾳ μὲν ὁ νοῦς καὶ ὁ θεός, ἐν δὲ τῷ ποιῷ τὸ δίκαιον, ἐν δὲ τῷ ποσῷ τὸ μέτριον, ἐν δὲ τῷ πότε ὁ καιρός, τὸ δὲ διδάσκον καὶ τὸ διδασκόμενον περὶ κίνησιν. ὥσπερ οὖν οὐδὲ τὸ ὂν ἕν τί ἐστι περὶ τὰ εἰρημένα, οὕτως οὐδὲ τὸ ἀγαθόν, οὐδὲ ἐπιστήμη ἐστὶ μία οὔτε τοῦ ὄντος οὔτε τοῦ ἀγαθοῦ. ἀλλ’ οὐδὲ τὰ ὁμοιοσχημόνως λεγόμενα ἀγαθὰ μιᾶς ἐστι θεωρῆσαι, οἷον τὸν καιρὸν ἢ τὸ μέτριον, ἀλλ’ ἑτέρα ἕτερον καιρὸν θεωρεῖ καὶ ἑτέρα ἕτερον μέτριον, οἷον περὶ τροφὴν μὲν τὸν καιρὸν καὶ τὸ μέτριον ἰατρικὴ καὶ γυμναστική, περὶ δὲ τὰς πολεμικὰς πράξεις στρατηγία, καὶ οὕτως ἑτέρα περὶ ἑτέραν πρᾶξιν, ὥστε [1218a] σχολῇ αὐτό γε τὸ ἀγαθὸν θεωρῆσαι μιᾶς. - ἔτι ἐν ὅσοις ὑπάρχει τὸ πρότερον καὶ ὕστερον, οὐκ ἔστι κοινόν τι παρὰ ταῦτα, καὶ τοῦτο χωριστόν. εἴη γὰρ ἄν τι τοῦ πρώτου πρότερον· πρότερον γὰρ τὸ κοινὸν καὶ χωριστὸν διὰ τὸ ἀναιρουμένου τοῦ κοινοῦ ἀναιρεῖσθαι τὸ πρῶτον. οἷον εἰ τὸ διπλάσιον πρῶτον τῶν πολλαπλασίων, οὐκ ἐνδέχεται τὸ πολλαπλάσιον τὸ κοινῇ κατηγορούμενον εἶναι χωριστόν· ἔσται γὰρ τοῦ διπλασίου πρότερον. . - εἰ συμβαίνει τὸ κοινὸν εἶναι τὴν ἰδέαν, οἷον εἰ χωριστὸν ποιήσειέ τις τὸ κοινόν. εἰ γάρ ἐστι δικαιοσύνη ἀγαθόν, καὶ ἀνδρεία. ἔστι τοίνυν, φασίν, αὐτό τι ἀγαθόν. τὸ οὖν αὐτὸ πρόσκειται πρὸς τὸν λόγον τὸν κοινόν. τοῦτο δὲ τί ἂν εἴη πλὴν ὅτι ἀίδιον καὶ χωριστόν; ἀλλ’ οὐθὲν μᾶλλον λευκὸν τὸ πολλὰς ἡμέρας λευκὸν τοῦ μίαν ἡμέραν· ὥστ’ οὐδὲ ‹τὸ ἀγαθὸν μᾶλλον ἀγαθὸν τῷ ἀίδιον εἶναι· οὐδὲ› δὴ τὸ κοινὸν ἀγαθὸν ταὐτὸ τῇ ἰδέᾳ· πᾶσι γὰρ ὑπάρχει ‹τὸ› κοινόν. - ἀνάπαλιν δὲ καὶ δεικτέον ἢ ὡς νῦν δεικνύουσι τὸ ἀγαθὸν αὐτό. νῦν μὲν γὰρ ἐκ τῶν ἀνομολογουμένων ἔχειν τὸ ἀγαθόν, ἐξ ἐκείνων τὰ ὁμολογούμενα εἶναι ἀγαθὰ δεικνύουσιν, ἐξ ἀριθμῶν, ὅτι ἡ δικαιοσύνη καὶ ἡ ὑγίεια ἀγαθόν· τάξεις γὰρ καὶ ἀριθμοί, ὡς τοῖς ἀριθμοῖς καὶ ταῖς μονάσιν ἀγαθὸν ὑπάρχον διὰ τὸ εἶναι τὸ ἓν αὐτὸ ἀγαθόν. δεῖ δ’ ἐκ τῶν ὁμολογουμένων, οἷον ὑγιείας ἰσχύος σωφροσύνης, ὅτι καὶ ἐν τοῖς ἀκινήτοις μᾶλλον τὸ καλόν. πάντα γὰρ τάδε τάξις καὶ ἠρεμία· εἰ ἄρα, ἐκεῖνα μᾶλλον· ἐκείνοις γὰρ ὑπάρχει ταῦτα μᾶλλον. - παράβολος δὲ καὶ ἡ ἀπόδειξις ὅτι τὸ ἓν αὐτὸ τὸ ἀγαθόν, ὅτι οἱ ἀριθμοὶ ἐφίενται· οὔτε γὰρ ὡς ἐφίενται λέγονται φανερῶς, ἀλλὰ λίαν ἁπλῶς τοῦτο φασί, καὶ ὄρεξιν εἶναι πῶς ἄν τις ὑπολάβοι ἐν οἷς ζωὴ μὴ ὑπάρχει; δεῖ δὲ περὶ τούτου πραγματευθῆται, καὶ μὴ ἀξιοῦν μηθὲν ἀλόγως, ἃ καὶ μετὰ λόγου πιστεῦσαι οὐ ῥᾴδιον. - τό τε φάναι πάντα τὰ ὄντα ἐφίεσθαι ἑνός τινος ἀγαθοῦ οὐκ ἀληθές· ἕκαστον γὰρ ἰδίου ἀγαθοῦ ὀρέγεται, ὀφθαλμὸς ὄψεως, σῶμα ὑγιείας, οὕτως ἄλλο ἄλλου.

ὅτι μὲν οὖν οὐκ ἔστιν αὐτό τι ἀγαθόν, ἔχει ἀπορίας τοιαύτας, καὶ ὅτι οὐ χρήσιμον τῇ πολιτικῇ, ἀλλ’ ἴδιόν τι ἀγαθόν, ὥσπερ καὶ ταῖς ἄλλαις, οἷον γυμναστικῇ εὐεξία [ἔτι καὶ τὸ ἐν τῷ λόγῳ γεγραμμένον· ἢ γὰρ οὐδεμιᾷ χρήσιμον αὐτὸ τὸ τοῦ ἀγαθοῦ εἶδος ἢ πάσαις ὁμοίως· ἔτι οὐ πρακτόν]· ὁμοίως δ’ οὐδὲ τὸ κοινὸν ἀγαθὸν οὔτε αὐτὸ ἀγαθόν [1218b] ἐστι (καὶ γὰρ ἂν μικρῷ ὑπάρξαι ἀγαθῷ) οὔτε πρακτόν. οὐ γὰρ ὅπως ὑπάρξει τὸ ὁτῳοῦν ὑπάρχον ἡ ἰατρικὴ πραγματεύεται, ἀλλ’ ὅπως ὑγίεια. ὁμοίως δὲ καὶ τῶν ἄλλων τεχνῶν ἑκάστη. ἀλλὰ πολλαχῶς τὸ ἀγαθόν, καὶ ἔστι τι αὐτοῦ καλόν, καὶ τὸ μὲν πρακτὸν τὸ δ’ οὐ πρακτόν. πρακτὸν δὲ τὸ τοιοῦτον ἀγαθόν, τὸ οὗ ἕνεκα. οὐκ ἔστι δὲ τὸ ἐν τοῖς ἀκινήτοις.

φανερὸν ὅτι οὔτε ἡ ἰδέα τἀγαθοῦ τὸ ζητούμενον αὐτὸ τὸ ἀγαθὸν ἐστίν, οὔτε τὸ κοινόν (τὸ μὲν γὰρ ἀκίνητον καὶ οὐ πρακτόν, τὸ δὲ κινητὸν μὲν ἀλλ’ οὐ πρακτόν)· τὸ δ’ οὗ ἕνεκα ὡς τέλος ἄριστον καὶ αἴτιον τῶν ὑφ’ αὐτὸ καὶ πρῶτον πάντων. ὥστε τοῦτ’ ἂν εἴη αὐτὸ τὸ ἀγαθὸν τὸ τέλος τῶν ἀνθρώπῳ πρακτῶν. τοῦτο δ’ ἐστὶ τὸ ὑπὸ τὴν κυρίαν πασῶν. αὕτη δ’ ἐστὶ πολιτικὴ καὶ οἰκονομικὴ καὶ φρόνησις. διαφέρουσι γὰρ αὗται αἱ ἕξεις πρὸς τὰς ἄλλας τῷ τοιαῦται εἶναι· πρὸς δ’ ἀλλήλας εἴ τι διαφέρουσιν, ὕστερον λεκτέον. ὅτι δ’ αἴτιον τὸ τέλος τοῖς ὑφ’ αὑτό, δηλοῖ ἡ διδασκαλία. ὁρισάμενοι γὰρ τὸ τέλος τἆλλα δεικνύουσιν, ὅτι ἕκαστον αὐτῶν ἀγαθόν· αἴτιον γὰρ τὸ οὗ ἕνεκα. οἷον ἐπειδὴ τὸ ὑγιαίνειν τοδί, ἀνάγκη τόδε εἶναι τὸ συμφέρον πρὸς αὐτήν· τὸ δ’ ὑγιεινὸν τῆς ὑγιείας αἴτιον ὡς κινῆσαν, καὶ τότε τοῦ εἶναι ἀλλ’ οὐ τοῦ ἀγαθὸν εἶναι τὴν ὑγίειαν. ἔτι οὐδὲ δείκνυσιν οὐθεὶς ὅτι ἀγαθὸν ἡ ὑγίεια, ἂν μὴ σοφιστὴς ᾖ καὶ μὴ ἰατρός (οὗτοι γὰρ τοῖς ἀλλοτρίοις λόγοις σοφίζονται), ὥσπερ οὐδ’ ἄλλην ἀρχὴν οὐδεμίαν.

τὸ δ’ ὡς τέλος ἀγαθὸν ἀνθρώπῳ καὶ τὸ ἄριστον τῶν πρακτῶν, σκεπτέον ποσαχῶς τὸ ἄριστον πάντων, ἐπειδὴ τοῦτο ἄριστον, μετὰ ταῦτα ἄλλην λαβοῦσιν ἀρχήν.

Βιβλίο 2

μετὰ δὲ ταῦτ’ ἄλλην λαβοῦσιν ἀρχὴν περὶ τῶν ἑπομένων λεκτέον. πάντα δὴ τὰ ἀγαθὰ ἢ ἐκτὸς ἢ ‹ἐν› ψυχῇ, καὶ τούτων αἱρετώτερα τὰ ἐν τῇ ψυχῇ, καθάπερ διαιρούμεθα καὶ ἐν τοῖς ἐξωτερικοῖς λόγοις· φρόνησις γὰρ καὶ ἀρετὴ καὶ ἡδονὴ ἐν ψυχῇ, ὧν ἢ ἔνια ἢ πάντα τέλος εἶναι δοκεῖ πᾶσιν. τῶν δὲ ἐν ψυχῇ τὰ μὲν ἕξεις ἢ δυνάμεις εἰσί, τὰ δ’ ἐνέργειαι καὶ κινήσεις.

ταῦτα δὴ οὕτως ὑποκείσθω καὶ περὶ ἀρετῆς, ὅτι ἐστὶν ἡ βελτίστη διάθεσις ἢ ἕξις ἢ δύναμις ἑκάστων, ὅσων ἐστί [1219a] τις χρῆσις ἢ ἔργον. δῆλον δ’ ἐκ τῆς ἐπαγωγῆς. ἐπὶ πάντων γὰρ οὕτω τίθεμεν. οἷον ἱματίου ἀρετὴ ἐστίν· καὶ γὰρ ἔργον τι καὶ χρῆσις ἐστίν· καὶ ἡ βελτίστη ἕξις τοῦ ἱματίου ἀρετὴ ἐστίν. ὁμοίως δὲ καὶ πλοίου καὶ οἰκίας καὶ τῶν ἄλλων. ὥστε καὶ ψυχῆς· ἔστι γάρ τι ἔργον αὐτῆς. καὶ τῆς βελτίονος δὴ ἕξεως ἔστω βέλτιον τὸ ἔργον· καὶ ὡς ἔχουσιν. αἱ ἕξεις πρὸς ἀλλήλας, οὕτω καὶ τὰ ἔργα τὰ ἀπὸ τούτων πρὸς ἄλληλα ἐχέτω. καὶ τέλος ἑκάστου τὸ ἔργον. - φανερὸν τοίνυν ἐκ τούτων ὅτι βέλτιον τὸ ἔργον τῆς ἕξεως· τὸ γὰρ τέλος ἄριστον ὡς τέλος· ὑπόκειται γὰρ τέλος τὸ βέλτιστον καὶ τὸ ἔσχατον, οὗ ἕνεκα τἆλλα πάντα. ὅτι μὲν τοίνυν τὸ ἔργον βέλτιον τῆς ἕξεως καὶ τῆς διαθέσεως, δῆλον· ἀλλὰ τὸ ἔργον λέγεται διχῶς. τῶν μὲν γάρ ἐστιν ἕτερόν τι τὸ ἔργον παρὰ τὴν χρῆσιν, οἷον οἰκοδομικῆς οἰκία ἀλλ’ οὐκ οἰκοδόμησις καὶ ἰατρικῆς ὑγίεια ἀλλ’ οὐχ ὑγίανσις οὐδ’ ἰάτρευσις, τῶν δ’ ἡ χρῆσις ἔργον, οἷον ὄψεως ὅρασις καὶ μαθηματικῆς ἐπιστήμης θεωρία. ὥστ’ ἀνάγκη, ὧν ἔργον ἡ χρῆσις, τὴν χρῆσιν βέλτιον εἶναι τῆς ἕξεως. - τούτων δὲ τοῦτον τὸν τρόπον διωρισμένων, λέγομεν ὅτι ‹ταὐτὸ› τὸ ἔργον τοῦ πράγματος καὶ τῆς ἀρετῆς, ἀλλ’ οὐχ ὡσαύτως. οἷον σκυτοτομικῆς καὶ σκυτεύσεως ὑπόδημα· εἰ δή τίς ἐστιν ἀρετὴ σκυτικῆς καὶ σπουδαίου σκυτέως, τὸ ἔργον ἐστὶ σπουδαῖον ὑπόδημα. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. - ἔτι ἔστω ψυχῆς ἔργον τὸ ζῆν ποιεῖν, τοῦ δὲ χρῆσις καὶ ἐγρήγορσις· ὁ γὰρ ὕπνος ἀργία τις καὶ ἡσυχία. ὥστ’ ἐπεὶ τὸ ἔργον ἀνάγκη ἓν καὶ ταὐτὸ εἶναι τῆς ψυχῆς καὶ τῆς ἀρετῆς, ἔργον ἂν εἴη τῆς ἀρετῆς ζωὴ σπουδαία. τοῦτ’ ἄρα ἐστὶ τὸ τέλεον ἀγαθόν, ὅπερ ἦν ἡ εὐδαιμονία. δῆλον δὲ ἐκ τῶν ὑποκειμένων (ἦν μὲν γὰρ ἡ εὐδαιμονία τὸ ἄριστον, τὰ δὲ τέλη ἐν ψυχῇ καὶ τὰ ἄριστα τῶν ἀγαθῶν, αὐτὴ δὲ ἢ ἕξις ἢ ἐνέργεια), ἐπεὶ βέλτιον ἡ ἐνέργεια τῆς διαθέσεως καὶ τῆς βελτίστης ἕξεως ἡ βελτίστη ἐνέργεια, ἡ δ’ ἀρετὴ βελτίστη ἕξις, τῆς ἀρετῆς ἐνέργειαν τῆς ψυχῆς ἄριστον εἶναι. ἦν δὲ καὶ ἡ εὐδαιμονία τὸ ἄριστον. ἔστιν ἄρα ἡ εὐδαιμονία ψυχῆς ἀγαθῆς ἐνέργεια. ἐπεὶ δὲ ἦν ἡ εὐδαιμονία τέλεόν τι, καὶ ἔστι ζωὴ καὶ τελέα καὶ ἀτελής, καὶ ἀρετὴ ὡσαύτως (ἣ μὲν γὰρ ὅλη, ἣ δὲ μόριον), ἡ δὲ τῶν ἀτελῶν ἐνέργεια ἀτελής, εἴη ἂν ἡ εὐδαιμονία ζωῆς τελείας ἐνέργεια κατ’ ἀρετὴν τελείαν.

ὅτι δὲ τὸ γένος καὶ τὸν ὅρον αὐτῆς λέγομεν καλῶς, μαρτύρια [1219b] τὰ δοκοῦντα πᾶσιν ἡμῖν. τό τε γὰρ εὖ πράττειν καὶ τὸ εὖ ζῆν τὸ αὐτὸ τῷ εὐδαιμονεῖν, ὧν ἕκαστον χρῆσίς ἐστι καὶ ἐνέργεια, καὶ ἡ ζωὴ καὶ ἡ πρᾶξις (καὶ γὰρ ἡ πρακτικὴ χρηστικὴ ἐστίν· ὁ μὲν γὰρ χαλκεὺς ποιεῖ χαλινόν, χρῆται δ’ ὁ ἱππικός) καὶ τὸ μήτε μίαν ἡμέραν εἶναι εὐδαίμονα μήτε παῖδα μήθ’ ἡλικίαν πᾶσαν (διὸ καὶ τὸ Σόλωνος ἔχει καλῶς, τὸ μὴ ζῶντ’ εὐδαιμονίζειν, ἀλλ’ ὅταν λάβῃ τέλος· οὐθὲν γὰρ ἀτελὲς εὔδαιμον· οὐ γὰρ ὅλον)· ἔτι δ’ οἱ ἔπαινοι τῆς ἀρετῆς διὰ τὰ ἔργα, καὶ τὰ ἐγκώμια τῶν ἔργων· καὶ στεφανοῦνται οἱ νικῶντες, ἀλλ’ οὐχ οἱ δυνάμενοι νικᾶν, μὴ νικῶντες δέ· καὶ τὸ κρίνειν ἐκ τῶν ἔργων ὁποῖός τις ἐστίν· ἔτι διὰ τί ἡ εὐδαιμονία οὐκ ἐπαινεῖται; ὅτι διὰ ταύτην τἆλλα, ἢ τῷ εἰς ταύτην ἀναφέρεσθαι ἢ τῷ μόρια εἶναι αὐτῆς. διὸ ἕτερον εὐδαιμονισμὸς καὶ ἔπαινος καὶ ἐγκώμιον. τὸ μὲν γὰρ ἐγκώμιον λόγος τοῦ καθ’ ἕκαστον ἔργου· ὁ δ’ ἔπαινος τοιοῦτον εἶναι καθόλου· ὁ δ’ εὐδαιμονισμὸς τέλους. - καὶ τὸ ἀπορούμενον δ’ ἐνίοτε δῆλον ἐκ τούτων, διὰ τί ποτ’ οὐθὲν βελτίους οἱ σπουδαῖοι τῶν φαύλων τὸν ἥμισυν τοῦ βίου· ὅμοιοι γὰρ καθεύδοντες πάντες. αἴτιον δ’ ὅτι ἀργία ψυχῆς ὁ ὕπνος, ἀλλ’ οὐκ ἐνέργεια. διὸ καὶ ἄλλο εἴ τι μόριόν ἐστι ψυχῆς, οἷον τὸ θρεπτικόν, ἡ τούτου ἀρετὴ οὐκ ἔστι μόριον τῆς ὅλης ἀρετῆς, ὥσπερ οὐδ’ ἡ τοῦ σώματος· ἐν τῷ ὕπνῳ γὰρ μᾶλλον ἐνεργεῖ τὸ θρεπτικόν, τὸ δ’ αἰσθητικὸν καὶ ὀρεκτικὸν ἀτελῆ ἐν τῷ ὕπνῳ. ὅσον δὲ τοῦ πη κινεῖσθαι μετέχουσι, καὶ αἱ φαντασίαι βελτίους αἱ τῶν σπουδαίων, ἐὰν μὴ διὰ νόσον ἢ πήρωσιν.

μετὰ ταῦτα περὶ ψυχῆς θεωρητέον· ἡ γὰρ ἀρετὴ ψυχῆς, οὐ κατὰ συμβεβηκός. ἐπεὶ δ’ ἀνθρωπίνην ἀρετὴν ζητοῦμεν, ὑποκείσθω δύο μέρη ψυχῆς τὰ λόγου μετέχοντα, οὐ τὸν αὐτὸν δὲ τρόπον μετέχειν λόγου ἄμφω, ἀλλὰ τὸ μὲν τῷ ἐπιτάττειν, τὸ δὲ τῷ πείθεσθαι καὶ ἀκούειν πεφυκέναι· εἰ δέ τί ἐστιν ἑτέρως ἄλογον, ἀφείσθω τοῦτο τὸ μόριον. διαφέρει δ’ οὐδὲν οὔτ’ εἰ μεριστὴ ἡ ψυχὴ οὔτ’ εἰ ἀμερής, ἔχει μέντοι δυνάμεις διαφόρους καὶ τὰς εἰρημένας, ὥσπερ ἐν τῷ καμπύλῳ τὸ κοῖλον καὶ τὸ κυρτὸν ἀδιαχώριστον, καὶ τὸ εὐθὺ καὶ τὸ λευκόν· καίτοι τὸ εὐθὺ οὐ λευκόν, ἀλλὰ κατὰ συμβεβηκὸς καὶ οὐκ οὐσία τοῦ αὐτοῦ. - ἀφῄρηται δὲ καὶ εἴ τι ἄλλο ἐστὶ μέρος ψυχῆς, οἷον τὸ φυτικόν. ἀνθρωπίνης γὰρ ψυχῆς τὰ εἰρημένα μόρια ἴδια· διὸ οὐδ’ αἱ ἀρεταὶ αἱ τοῦ θρεπτικοῦ καὶ αὐξητικοῦ ἀνθρώπου· δεῖ γάρ, εἰ ᾗ ἄνθρωπος, λογισμὸν ἐνεῖναι [καὶ] ἀρχὴν καὶ πρᾶξιν, [1220a] ἄρχει δ’ ὁ λογισμὸς οὐ λογισμοῦ ἀλλ’ ὀρέξεως καὶ παθημάτων, ἀνάγκη ἄρα ταῦτ’ ἔχειν τὰ μέρη. καὶ ὥσπερ ἡ εὐεξία σύγκειται ἐκ τῶν κατὰ μόριον ἀρετῶν, οὕτω καὶ ἡ τῆς ψυχῆς ἀρετὴ ᾗ τέλος.

ἀρετῆς δ’ εἴδη δύο, ἡ μὲν ἠθικὴ ἡ δὲ διανοητική. ἐπαινοῦμεν γὰρ οὐ μόνον τοὺς δικαίους ἀλλὰ καὶ τοὺς συνετοὺς καὶ τοὺς σοφούς· ἐπαινετὸν γὰρ ὑπέκειτο ἡ ἀρετὴ ἢ τὸ ἔργον, ταῦτα δ’ οὐκ ἐνεργεῖ, ἀλλ’ εἰσὶν αὐτῶν ἐνέργειαι. ἐπεὶ δ’ αἱ διανοητικαὶ μετὰ λόγου, αἱ μὲν τοιαῦται τοῦ λόγον ἔχοντος, ὃ ἐπιτακτικόν ἐστι τῆς ψυχῆς ᾗ λόγον ἔχει, αἱ δ’ ἠθικαὶ τοῦ ἀλόγου μέν, ἀκολουθητικοῦ δὲ κατὰ φύσιν τῷ λόγον ἔχοντι· οὐ γὰρ λέγομεν ποῖός τις τὸ ἦθος, ὅτι σοφὸς ἢ δεινός, ἀλλ’ ὅτι πρᾶος ἢ θρασύς.

μετὰ ταῦτα σκεπτέον πρῶτον περὶ ἀρετῆς ἠθικῆς, τί ἐστι, καὶ ποῖα μόρια αὐτῆς (εἰς τοῦτο γὰρ ἀνῆκται), καὶ γίνεται διὰ τίνων. δεῖ δὴ ζητεῖν ὥσπερ ἐν τοῖς ἄλλοις ἔχοντές τι ζητοῦσι πάντες, ὥστε ἀεὶ διὰ τῶν ἀληθῶς μὲν λεγομένων οὐ σαφῶς δὲ πειρᾶσθαι λαβεῖν καὶ τὸ ἀληθῶς καὶ σαφῶς. νῦν γὰρ ὁμοίως ἔχομεν ὥσπερ ἂν εἰ καὶ ὑγίειαν, ὅτι ἡ ἀρίστη διάθεσις τοῦ σώματος, καὶ Κορίσκος ὁ τῶν ἐν τῇ ἀγορᾷ μελάντατος· τί μὲν γὰρ ἑκάτερον τούτων οὐκ ἴσμεν, πρὸς μέντοι τὸ εἰδέναι τί ἑκάτερον αὐτῆς πρὸ ἔργου τὸ οὕτως ἔχειν. - ὑποκείσθω δὴ πρῶτον ἡ βελτίστη διάθεσις ὑπὸ τῶν βελτίστων γίγνεσθαι, καὶ πράττεσθαι ἄριστα περὶ ἕκαστον ἀπὸ τῆς ἑκάστου ἀρετῆς, οἷον πόνοι τε ἄριστοι καὶ τροφὴ ἀφ’ ὧν γίνεται εὐεξία, καὶ ἀπὸ τῆς εὐεξίας πονοῦσιν ἄριστα· ἔτι πᾶσαν διάθεσιν ὑπὸ τῶν αὐτῶν γίγνεσθαι καὶ φθείρεσθαι πὼς προσφερομένων, ὥσπερ ὑγίεια ὑπὸ τροφῆς καὶ πόνων καὶ ὥρας. ταῦτα δὲ δῆλα ἐκ τῆς ἐπαγωγῆς. καὶ ἡ ἀρετὴ ἄρα ἡ τοιαύτη διάθεσις ἐστίν, ἣ γίνεταί τε ὑπὸ τῶν ἀρίστων περὶ ψυχὴν κινήσεων καὶ ἀφ’ ἧς πράττεται τὰ ἄριστα τῆς ψυχῆς ἔργα καὶ πάθη, καὶ ὑπὸ τῶν αὐτῶν πὼς μὲν γίνεται, πὼς δὲ φθείρεται, καὶ πρὸς ταὐτὰ ἡ χρῆσις αὐτῆς ὑφ’ ὧν καὶ αὔξεται καὶ φθείρεται, πρὸς ἃ βέλτιστα διατίθησιν. σημεῖον δ’ ὅτι περὶ ἡδέα καὶ λυπηρὰ καὶ ἡ ἀρετὴ καὶ ἡ κακία· αἱ γὰρ κολάσεις ἰατρεῖαι οὖσαι καὶ γινόμεναι διὰ τῶν ἐναντίων, καθάπερ ἐπὶ τῶν ἄλλων, διὰ τούτων εἰσίν.

ὅτι μὲν τοίνυν ἡ ἠθικὴ ἀρετὴ περὶ ἡδέα καὶ λυπηρά ἐστι, δῆλον· ἐπεὶ δ’ ἐστὶ τὸ ἦθος, ὥσπερ καὶ τὸ ὄνομα σημαίνει [1220b] ὅτι ἀπὸ ἔθους ἔχει τὴν ἐπίδοσιν, ἐθίζεται δὲ τὸ ὑπ’ ἀγωγῆς μὴ ἐμφύτου τῷ πολλάκις κινεῖσθαι πώς, οὕτως ἤδη τὸ ἐνεργητικόν, ὃ ἐν τοῖς ἀψύχοις οὐχ ὁρῶμεν (οὐδὲ γὰρ ἂν μυριάκις ῥίψῃς ἄνω τὸν λίθον, οὐδέποτε ποιήσει τοῦτο μὴ βίᾳ), διὸ ἔστω ‹τὸ› ἦθος τοῦτο ψυχῆς κατὰ ἐπιτακτικὸν λόγον ‹τοῦ ἀλόγου μέν,› δυναμένου δ’ ἀκολουθεῖν τῷ λόγῳ ποιότης. λεκτέον δὴ κατὰ τί τῆς ψυχῆς ποιότης τὰ ἤθη. ἔστι δὲ κατά τε τὰς δυνάμεις τῶν παθημάτων, καθ’ ἃς ὡς παθητικοὶ λέγονται, καὶ κατὰ τὰς ἕξεις, καθ’ ἃς πρὸς τὰ πάθη ταῦτα λέγονται τῷ πάσχειν πως ἢ ἀπαθεῖς εἶναι. μετὰ ταῦτα ἡ διαίρεσις ἐν τοῖς ἀπηλλαγμένοις τῶν παθημάτων καὶ τῶν δυνάμεων καὶ τῶν ἕξεων. λέγω δὲ πάθη μὲν τὰ τοιαῦτα, θυμὸν φόβον αἰδῶ ἐπιθυμίαν, ὅλως οἷς ἕπεται ὡς ἐπὶ τὸ πολὺ ἡ αἰσθητικὴ ἡδονὴ ἢ λύπη καθ’ αὐτά. καὶ κατὰ μὲν ταῦτα οὐκ ἔστι ποιότης, ἀλλὰ πάσχει, κατὰ δὲ τὰς δυνάμεις ποιότης. λέγω δὲ [τὰς] δυνάμεις καθ’ ἃς λέγονται κατὰ τὰ πάθη οἱ ἐνεργοῦντες, οἷον ὀργίλος ἀνάλγητος ἐρωτικὸς αἰσχυντηλὸς ἀναίσχυντος. ἕξεις δέ εἰσιν ὅσαι αἴτιαί εἰσι τοῦ ταῦτα ἢ κατὰ λόγον ὑπάρχειν ἢ ἐναντίως, οἷον ἀνδρεία σωφροσύνη δειλία ἀκολασία.

διωρισμένων δὲ τούτων, ληπτέον ὅτι ἐν ἅπαντι συνεχεῖ καὶ διαιρετῷ ἐστιν ὑπεροχὴ καὶ ἔλλειψις καὶ μέσον, καὶ ταῦτα ἢ πρὸς ἄλληλα ἢ πρὸς ἡμᾶς, οἷον ἐν γυμναστικῇ, ἐν ἰατρικῇ, ἐν οἰκοδομικῇ, ἐν κυβερνητικῇ, καὶ ἐν ὁποιᾳοῦν πράξει, καὶ ἐπιστημονικῇ καὶ ἀνεπιστημονικῇ, καὶ τεχνικῇ καὶ ἀτέχνῳ. ἡ μὲν γὰρ κίνησις συνεχές, ἡ δὲ πρᾶξις κίνησις. ἐν πᾶσι δὲ τὸ μέσον τὸ πρὸς ἡμᾶς βέλτιστον· τοῦτο γάρ ἐστιν ὡς ἡ ἐπιστήμη κελεύει καὶ ὁ λόγος. πανταχοῦ δὲ τοῦτο καὶ ποιεῖ τὴν βελτίστην ἕξιν. καὶ τοῦτο δῆλον διὰ τῆς ἐπαγωγῆς καὶ τοῦ λόγου. τὰ γὰρ ἐναντία φθείρει ἄλληλα· τὰ δ’ ἄκρα καὶ ἀλλήλοις καὶ τῷ μέσῳ ἐναντία. τὸ γὰρ μέσον ἑκάτερον πρὸς ἑκάτερον ἐστίν, οἷον τὸ ἴσον τοῦ μὲν ἐλάττονος μεῖζον, τοῦ μείζονος δὲ ἔλαττον. ὥστ’ ἀνάγκη τὴν ἠθικὴν ἀρετὴν περὶ μέσ’ ἄττα εἶναι καὶ μεσότητα τινά. ληπτέον ἄρα ἡ ποία μεσότης ἀρετή, καὶ περὶ ποῖα μέσα. εἰλήφθω δὴ παραδείγματος χάριν, καὶ θεωρείσθω ἕκαστον ἐκ τῆς ὑπογραφῆς.

ὀργιλότης	ἀναλγησία	πραότης.
θρασύτης	δειλία	ἀνδρεία.

[1221a]

ἀναισχυντία	κατάπληξις	αἰδώς.
ἀκολασία	ἀναισθησία	σωφροσύνη.
φθόνος	ἀνώνυμον	νέμεσις.
κέρδος	ζημία	δίκαιον.
ἀσωτία	ἀνελευθερία	ἐλευθεριότης.
ἀλαζονεία	εἰρωνεία	ἀλήθεια.
κολακεία	ἀπέχθεια	φιλία.

ἀρέσκεια	αὐθάδεια	σεμνότης.
[τρυφερότης	κακοπάθεια	καρτερία.]
χαυνότης	μικροψυχία	μεγαλοψυχία.
δαπανηρία	μικροπρέπεια	μεγαλοπρέπεια.
[πανουργία	εὐήθεια	φρόνησις].

τὰ μὲν πάθη ταῦτα καὶ τοιαῦτα συμβαίνει ταῖς ψυχαῖς, πάντα δὲ λέγεται τὰ μὲν τῷ ὑπερβάλλειν τὰ δὲ τῷ ἐλλείπειν. ὀργίλος μὲν γάρ ἐστιν ὁ μᾶλλον ἢ δεῖ ὀργιζόμενος καὶ θᾶττον καὶ πλείοσιν ἢ οἷς δεῖ, ἀνάλγητος δὲ ὁ ἐλλείπων καὶ οἷς καὶ ὅτε καὶ ὥς· καὶ θρασὺς μὲν ὁ μήτε ἃ χρὴ φοβούμενος μήθ' ὅτε μήθ' ὥς, δειλὸς δὲ ὁ καὶ ἃ μὴ δεῖ καὶ ὅτ' οὐ δεῖ καὶ ὡς οὐ δεῖ· ὁμοίως δὲ καὶ [ὁ] ἀκόλαστος καὶ ὁ ἐπιθυμητικὸς καὶ ὁ ὑπερβάλλων πᾶσιν ὅσοις ἐνδέχεται, ἀναίσθητος δὲ ὁ ἐλλείπων καὶ μηδ' ὅσον βέλτιον καὶ κατὰ τὴν φύσιν ἐπιθυμῶν, ἀλλ' ἀπαθὴς ὥσπερ λίθος· κερδαλέος δὲ ὁ πανταχόθεν πλεονεκτικός, ζημιώδης δὲ ὁ μηδαμόθεν, ἀλλ' ὀλιγαχόθεν· ἀλαζὼν δὲ ὁ πλείω τῶν ὑπαρχόντων προσποιούμενος, εἴρων δὲ ὁ ἐλάττω· καὶ κόλαξ μὲν ὁ πλείω συνεπαινῶν ἢ καλῶς ἔχει, ἀπεχθητικὸς δὲ ὁ ἐλάττω· καὶ τὸ μὲν λίαν πρὸς ἡδονὴν ἀρέσκεια, τὸ δ' ὀλίγα καὶ μόγις εὐθάδεια· [ἔτι δ' ὁ μὲν μηδεμίαν ὑπομένων λύπην, μηδ' εἰ βέλτιον, τρυφερός, ὁ δὲ πᾶσαν ὁμοίως ὡς μὲν ἁπλῶς εἰπεῖν ἀνώνυμος, μεταφορᾷ δὲ λέγεται σκληρὸς καὶ ταλαίπωρος καὶ κακοπαθητικός·] χαῦνος δ' ὁ μειζόνων ἀξιῶν αὑτόν, μικρόψυχος δ' ὁ ἐλαττόνων· ἔτι δ' ἄσωτος ὁ πρὸς ἅπασαν δαπάνην ὑπερβάλλων, ἀνελεύθερος δὲ ὁ πρὸς ἅπασαν ἐλλείπων· ὁμοίως δὲ καὶ ὁ μικροπρεπὴς καὶ ὁ σαλάκων, ὁ μὲν γὰρ ὑπερβάλλει τὸ πρέπον, ὁ δ' ἐλλείπει τοῦ πρέποντος· [καὶ ὁ μὲν πανοῦργος πάντως καὶ πάντοθεν πλεονεκτικός, ὁ δ' εὐήθης οὐδ' ὅθεν δεῖ·] φθονερὸς δὲ τῷ λυπεῖσθαι ἐπὶ πλείοσιν εὐπραγίαις ἢ δεῖ (καὶ γὰρ οἱ ἄξιοι εὖ πράττειν λυποῦσι τοὺς φθονεροὺς εὖ πράττοντες), ὁ δ' ἐναντίος ἀνωνυμώτερος, ἔστι [1221b] δ' ὁ ὑπερβάλλων [ἐπὶ] τῷ μὴ λυπεῖσθαι μηδ' ἐπὶ τοῖς ἀναξίοις εὖ πράττουσιν, ἀλλ' εὐχερὴς ὥσπερ οἱ γαστρίμαργοι πρὸς τροφήν, ὃ δὲ δυσχερὴς κατὰ τὸν φθόνον ἐστίν. - τὸ δὲ πρὸς ἕκαστον μὴ κατὰ συμβεβηκὸς οὕτως ἔχειν περίεργον διορίζειν· οὐδεμία γὰρ ἐπιστήμη, οὔτε θεωρητικὴ οὔτε ποιητική, οὔτε λέγει οὔτε πράττει τοῦτο προσδιορίζουσα, ἀλλὰ τοῦτ' ἐστι πρὸς τὰς συκοφαντίας τῶν τεχνῶν τὰς λογικάς. ἁπλῶς μὲν οὖν διωρίσθω τὸν τρόπον τοῦτον, ἀκριβέστερον δ', ὅταν περὶ τῶν ἕξεων λέγωμεν τῶν ἀντικειμένων.

αὐτῶν δὲ τούτων τῶν παθημάτων εἴδη κατονομάζεται τῷ διαφέρειν κατὰ τὴν ὑπερβολὴν ἢ χρόνου ἢ τοῦ μᾶλλον ἢ πρός τι τῶν ποιούντων τὰ πάθη. λέγω δ’ οἷον ὀξύθυμος μὲν τῷ θᾶττον πάσχειν ἢ δεῖ, χαλεπὸς δὲ καὶ θυμώδης τῷ μᾶλλον, πικρὸς δὲ τῷ φυλακτικὸς εἶναι τῆς ὀργῆς, πλήκτης δὲ καὶ λοιδορητικὸς ταῖς κολάσεσι ταῖς ἀπὸ τῆς ὀργῆς . ὀψοφάγοι δὲ καὶ γαστρίμαργοι καὶ οἰνόφλυγες τῷ πρὸς ὁποτέρας τροφῆς ἀπόλαυσιν ἔχειν τὴν δύναμιν παθητικὴν παρὰ τὸν λόγον.

οὐ δεῖ δὲ ἀγνοεῖν ὅτι ἔνια τῶν λεγομένων οὐκ ἔστιν ἐν τῷ πῶς λαμβάνειν, ἂν πῶς λαμβάνηται τῷ μᾶλλον πάσχειν. οἷον μοιχὸς οὐ τῷ μᾶλλον ἢ δεῖ πρὸς τὰς γαμετὰς πλησιάζειν (οὐ γὰρ ἐστίν), ἀλλὰ μοχθηρία τις αὐτὴ δὴ ἐστίν. συνειλημμένον γὰρ τό τε πάθος λέγεται καὶ τὸ τοιόνδε εἶναι. ὁμοίως δὲ καὶ ἡ ὕβρις. διὸ καὶ ἀμφισβητοῦσι, συγγενέσθαι μὲν φάσκοντες, ἀλλ’ οὐ μοιχεῦσαι· ἀγνοοῦντες γὰρ ἢ ἀναγκαζόμενοι καὶ πατάξαι μέν, ἀλλ’ οὐχ’ ὑβρίσαι· ὁμοίως δὲ καὶ ἐπὶ τὰ ἄλλα τὰ τοιαῦτα.

εἰλημμένων δὲ τούτων, μετὰ ταῦτα λεκτέον ὅτι ἐπειδὴ δύο μέρη τῆς ψυχῆς, καὶ αἱ ἀρεταὶ κατὰ ταῦτα διῄρηνται, καὶ αἱ μὲν τοῦ λόγον ἔχοντος διανοητικαί, ὧν ἔργον ἀλήθεια, ἢ περὶ τοῦ πῶς ἔχει ἢ περὶ γενέσεως, αἱ δὲ τοῦ ἀλόγου, ἔχοντος δ’ ὄρεξιν (οὐ γὰρ ὁτιοῦν μέρος ἔχει τῆς ψυχῆς ὄρεξιν, εἰ μεριστὴ ἐστίν), ἀνάγκη δὴ φαῦλον τὸ ἦθος καὶ σπουδαῖον εἶναι τῷ διώκειν καὶ φεύγειν ἡδονάς τινας καὶ λύπας. δῆλον δὲ τοῦτο ἐκ τῶν διαιρέσεων τῶν περὶ τὰ πάθη καὶ τὰς δυνάμεις καὶ τὰς ἕξεις. αἱ μὲν γὰρ δυνάμεις καὶ αἱ ἕξεις τῶν παθημάτων, τὰ δὲ πάθη λύπῃ καὶ ἡδονῇ διώρισται· ὥστε διά τε ταῦτα καὶ διὰ τὰς ἔμπροσθεν θέσεις συμβαίνει πᾶσαν ἠθικὴν ἀρετὴν περὶ ἡδονὰς εἶναι καὶ λύπας. πᾶσα γὰρ ψυχὴ ὑφ’ οἵων πέφυκε γίνεσθαι χείρων καὶ βελτίων, πρὸς ταῦτα καὶ περὶ ταῦτά ἐστιν ἡ [1222a] ἡδονή. δι’ ἡδονὰς δὲ καὶ λύπας φαύλους εἶναι φαμέν, τῷ διώκειν καὶ φεύγειν ἢ ὡς μὴ δεῖ ἢ ἃς μὴ δεῖ. διὸ καὶ διορίζονται πάντες προχείρως ἀπάθειαν καὶ ἠρεμίαν περὶ ἡδονὰς καὶ λύπας εἶναι τὰς ἀρετάς, τὰς δὲ κακίας ἐκ τῶν ἐναντίων.

ἐπεὶ δ’ ὑπόκειται ἀρετὴ εἶναι ἡ τοιαύτη ἕξις ἀφ’ ἧς πρακτικοὶ τῶν βελτίστων καὶ καθ’ ἣν ἄριστα διάκεινται περὶ τὸ βέλτιστον, βέλτιστον δὲ καὶ ἄριστον τὸ κατὰ τὸν ὀρθὸν λόγον, τοῦτο δ’ ἐστὶ τὸ μέσον ὑπερβολῆς καὶ ἐλλείψεως τῆς πρὸς ἡμᾶς· ἀναγκαῖον ἂν εἴη τὴν ἠθικὴν ἀρετὴν καθ’ αὑτὸν ἕκαστον μεσότητα εἶναι καὶ περὶ μέσ’ ἄττα ἐν ἡδοναῖς καὶ λύπαις καὶ ἡδέσι καὶ λυπηροῖς. ἔσται δ’ ἡ μεσότης ὁτὲ μὲν ἐν ἡδοναῖς (καὶ γὰρ ὑπερβολὴ καὶ ἔλλειψις), ὁτὲ δ’ ἐν λύπαις, ὁτὲ δ’ ἐν ἀμφοτέραις. ὁ γὰρ ὑπερβάλλων τῷ χαίρειν τῷ ἡδεῖ ὑπερβάλλει καὶ ὁ τῷ λυπεῖσθαι τῷ ἐναντίῳ, καὶ ταῦτα ἢ ἁπλῶς ἢ πρός τινα ὅρον, οἷον ὅταν μὴ ὡς οἱ πολλοί· ὁ δ’ ἀγαθὸς ὡς δεῖ. - ἐπεὶ δ’ ἐστί τις ἕξις ἀφ’ ἧς τοιοῦτος ἔσται ὁ ἔχων αὐτὴν ὥστε τοῦ αὐτοῦ πράγματος ὃ μὲν ἀποδέχεσθαι τὴν ὑπερβολὴν ὃ δὲ τὴν ἔλλειψιν, ἀνάγκη, ὡς ταῦτ’ ἀλλήλοις ἐναντία καὶ τῷ μέσῳ, οὕτω καὶ τὰς ἕξεις ἀλλήλαις ἐναντίας εἶναι καὶ τῇ ἀρετῇ. - συμβαίνει μέντοι τὰς ἀντιθέσεις ἔνθα μὲν φανερωτέρας εἶναι πάσας, ἔνθα δὲ τὰς ἐπὶ τὴν ὑπερβολήν, ἐνιαχοῦ δὲ τὰς ἐπὶ τὴν ἔλλειψιν. αἴτιον δὲ τῆς ἐναντιώσεως, ὅτι οὐκ ἀεὶ ἐπὶ ταὐτὰ τῆς ἀνισότητος ἢ ὁμοιότητος πρὸς τὸ μέσον, ἀλλ’ ὁτὲ μὲν θᾶττον ἂν μεταβαίη ἀπὸ τῆς ὑπερβολῆς ἐπὶ τὴν μέσην ἕξιν, ὁτὲ δ’ ἀπὸ τῆς ἐλλείψεως, ἧς ‹ὃς› πλέον ἀπέχει, οὗτος δοκεῖ ἐναντιώτερος εἶναι, οἷον καὶ περὶ τὸ σῶμα ἐν μὲν τοῖς πόνοις ὑγιεινότερον ἡ ὑπερβολὴ τῆς ἐλλείψεως καὶ ἐγγύτερον τοῦ μέσου, ἐν δὲ τῇ τροφῇ ἡ ἔλλειψις ὑπερβολῆς. ὥστε καὶ αἱ προαιρετικαὶ ἕξεις αἱ φιλογυμναστικαὶ φιλοϋγιεῖς μᾶλλον ἔσονται καθ’ ἑκατέραν τὴν αἵρεσιν, ἔνθα μὲν αἱ πολυπονώτεραι, ἔνθα δ’ αἱ ὑποστατικώτεραι, καὶ ἐναντίος τῷ μετρίῳ καὶ τῷ ὡς ὁ λόγος ἔνθα μὲν ὁ ἄπονος καὶ οὐκ ἄμφω, ἔνθα δὲ [καὶ] ὁ ἀπολαυστικὸς καὶ οὐχ ὁ πεινητικός. συμβαίνει δὲ τοῦτο, διότι ἡ φύσις εὐθὺς οὐ πρὸς ἅπαντα ὁμοίως ἀφέστηκε τοῦ μέσου, ἀλλ’ ἧττον μὲν φιλόπονοι ἐσμέν, μᾶλλον δ’ ἀπολαυστικοί. ὁμοίως δὲ ταῦτ’ ἔχει καὶ περὶ ψυχῆς. ἐναντίαν δὲ τίθεμεν τὴν ἕξιν ἐφ’ ἥν τε ἁμαρτάνομεν μᾶλλον καὶ ἐφ’ ἣν οἱ πολλοί (ἡ δ’ ἑτέρα ὥσπερ οὐκ οὖσα λανθάνει· διὰ γὰρ τὸ ὀλίγον ἀναίσθητος ἐστίν), οἷον ὀργὴν πραότητι καὶ τὸν ὀργίλον [1222b] τῷ πράῳ. καίτοι ἐστὶν ὑπερβολὴ καὶ ἐπὶ τὸ ἵλεων εἶναι καὶ τὸ καταλλακτικὸν εἶναι καὶ μὴ ὀργίζεσθαι ῥαπιζόμενον. ἀλλ’ ὀλίγοι οἱ τοιοῦτοι, ἐπ’ ἐκεῖνο δὲ πάντες ῥέπουσι μᾶλλον. διὸ καὶ οὐ κολακικὸν ὁ θυμός.

ἐπεὶ δ’ εἴληπται ἡ διαλογὴ τῶν ἕξεων καθ’ ἕκαστα τὰ πάθη, καὶ αἱ ὑπερβολαὶ καὶ ἐλλείψεις, καὶ τῶν ἐναντίων ἕξεων, καθ’ ἃς ἔχουσι κατὰ τὸν ὀρθὸν λόγον (τίς δ’ ὁ ὀρθὸς λόγος, καὶ πρὸς τίνα δεῖ ὅρον ἀποβλέποντας λέγειν τὸ μέσον, ὕστερον ἐπισκεπτέον), φανερὸν ὅτι πᾶσαι αἱ ἠθικαὶ ἀρεταὶ καὶ κακίαι περὶ ἡδονῶν καὶ λυπῶν ὑπερβολὰς καὶ ἐλλείψεις εἰσί, καὶ ἡδοναὶ καὶ λῦπαι ἀπὸ τῶν εἰρημένων ἕξεων καὶ παθημάτων γίνονται. ἀλλὰ μὴν ἥ γε βελτίστη ἕξις ἡ περὶ ἕκαστα μέση ἐστίν. δῆλον τοίνυν ὅτι αἱ ἀρεταὶ ἢ πᾶσαι ἢ τούτων τινὲς ἔσονται τῶν μεσοτήτων.

λάβωμεν οὖν ἄλλην ἀρχὴν τῆς ἐπιούσης σκέψεως. εἰσὶ δὴ πᾶσαι μὲν αἱ οὐσίαι κατὰ φύσιν τινὲς ἀρχαί, διὸ καὶ ἑκάστη πολλὰ δύναται τοιαῦτα γεννᾶν, οἷον ἄνθρωπος ἀνθρώπους καὶ ζῷον ὂν ὅλως ζῷα καὶ φυτὸν φυτά. πρὸς δὲ τούτοις ὅ γ’ ἄνθρωπος καὶ πράξεών τινών ἐστιν ἀρχὴ μόνον τῶν ζῴων· τῶν γὰρ ἄλλων οὐθὲν εἴποιμεν ἂν πράττειν. τῶν δ’ ἀρχῶν ὅσαι τοιαῦται, ὅθεν πρῶτον αἱ κινήσεις, κύριαι λέγονται, μάλιστα δὲ δικαίως ἀφ’ ὧν μὴ ἐνδέχεται ἄλλως, ἣν ἴσως ὁ θεὸς ἄρχει. ἐν δὲ ταῖς ἀκινήτοις ἀρχαῖς, οἷον ἐν ταῖς μαθηματικαῖς, οὐκ ἔστι τὸ κύριον, καίτοι λέγεταί γε καθ' ὁμοιότητα· καὶ γὰρ ἐνταῦθα κινουμένης τῆς ἀρχῆς πάντα μάλιστ' ἂν τὰ δεικνύμενα μεταβάλλοι, αὐτὰ δ' αὐτὰ οὐ μεταβάλλει ἀναιρουμένου θατέρου ὑπὸ θατέρου, ἂν μὴ τῷ τὴν ὑπόθεσιν ἀνελεῖν καὶ δι' ἐκείνης δεῖξαι. ὁ δ' ἄνθρωπος ἀρχὴ κινήσεως τινός· ἡ γὰρ πρᾶξις κίνησις. ἐπεὶ δ' ὥσπερ ἐν τοῖς ἄλλοις ἡ ἀρχὴ αἰτία ἐστὶ τῶν δι' αὐτὴν ὄντων ἢ γινομένων, δεῖ νοῆσαι καθάπερ ἐπὶ τῶν ἀποδείξεων. εἰ γὰρ ἔχοντος τοῦ τριγώνου δύο ὀρθὰς ἀνάγκη τὸ τετράγωνον ἔχειν τέτταρας ὀρθάς, φανερὸν ὡς αἴτιον τούτου τὸ δύο ὀρθὰς ἔχειν τὸ τρίγωνον. εἰ δέ γε μεταβάλλει τὸ τρίγωνον, ἀνάγκη καὶ τὸ τετράγωνον μεταβάλλειν, οἷον εἰ τρεῖς, ἕξ, εἰ δὲ τέτταρες, ὀκτώ. κἂν εἰ μὴ μεταβάλλοι, τοιοῦτον δ' ἐστί, κακεῖνο τοιοῦτον ἀναγκαῖον εἶναι. δῆλον δ' ὃ ἐπιχειροῦμεν ὅτι ἀναγκαῖον, ἐκ τῶν ἀναλυτικῶν· νῦν δ' οὔτε μὴ λέγειν οὔτε λέγειν ἀκριβῶς οἷόν τε, πλὴν τοσοῦτον. εἰ γὰρ μηθὲν ἄλλο αἴτιον τοῦ τὸ τρίγωνον οὕτως ἔχειν, ἀρχή τις ἂν εἴη τοῦτο καὶ αἴτιον τῶν ὕστερον. ὥστ' εἴπερ ἐστὶν ἔνια τῶν ὄντων ἐνδεχόμενα ἐναντίως ἔχειν, ἀνάγκη καὶ τὰς ἀρχὰς αὐτῶν εἶναι τοιαύτας.

[1223a] ἐκ γὰρ τῶν ἐξ ἀνάγκης ἀναγκαῖον τὸ συμβαῖνον ἐστί, τὰ δέ γε ἐντεῦθεν ἐνδέχεται γενέσθαι τἀναντία, καὶ ὃ ἐφ' αὐτοῖς ἐστι τοῖς ἀνθρώποις, πολλὰ τῶν τοιούτων, καὶ ἀρχαὶ τῶν τοιούτων εἰσὶν αὐτοί. ὥστε ὅσων πράξεων ὁ ἄνθρωπός ἐστιν ἀρχὴ καὶ κύριος, φανερὸν ὅτι ἐνδέχεται καὶ γίνεσθαι καὶ μή, καὶ ὅτι ἐφ' αὐτῷ ταῦτ' ἐστι γίνεσθαι καὶ μή, ὧν γε κύριός ἐστι τοῦ εἶναι καὶ τοῦ μὴ εἶναι. ὅσα δ' ἐφ' αὐτῷ ἐστι ποιεῖν ἢ μὴ ποιεῖν, αἴτιος τούτων αὐτὸς ἐστίν· καὶ ὅσων αἴτιος, ἐφ' αὐτῷ. ἐπεὶ δ' ἥ τε ἀρετὴ καὶ ἡ κακία καὶ τὰ ἀπ' αὐτῶν ἔργα τὰ μὲν ἐπαινετὰ τὰ δὲ ψεκτά (ψέγεται γὰρ καὶ ἐπαινεῖται οὐ διὰ τὰ ἐξ ἀνάγκης ἢ τύχης ἢ φύσεως ὑπάρχοντα, ἀλλ' ὅσων αὐτοὶ αἴτιοι ἐσμέν· ὅσων γὰρ ἄλλος αἴτιος, ἐκεῖνος καὶ τὸν ψόγον καὶ τὸν ἔπαινον ἔχει), δῆλον ὅτι καὶ ἡ ἀρετὴ καὶ ἡ κακία περὶ ταῦτ' ἐστιν ὧν αὐτὸς αἴτιος καὶ ἀρχὴ πράξεων. ληπτέον ἄρα ποίων αὐτὸς αἴτιος καὶ ἀρχὴ πράξεων. πάντες μὲν δὴ ὁμολογοῦμεν, ὅσα μὲν ἑκούσια καὶ κατὰ προαίρεσιν τὴν ἑκάστου, ἐκεῖνον αἴτιον εἶναι, ὅσα δ' ἀκούσια, οὐκ αὐτὸν αἴτιον. πάντα δ' ὅσα προελόμενος, καὶ ἑκὼν δῆλον ὅτι. δῆλον τοίνυν ὅτι καὶ ἡ ἀρετὴ καὶ ἡ κακία τῶν ἑκουσίων ἂν εἴησαν.

ληπτέον ἄρα τί τὸ ἑκούσιον καὶ τί τὸ ἀκούσιον, καὶ τί ἐστιν ἡ προαίρεσις, ἐπειδὴ ἡ ἀρετὴ καὶ ἡ κακία ὁρίζεται τούτοις. πρῶτον σκεπτέον τὸ ἑκούσιον καὶ τὸ ἀκούσιον. τριῶν δὴ τούτων ἕν τι δόξειεν ‹ἂν› εἶναι, ἤτοι κατ’ ὄρεξιν ἢ κατὰ προαίρεσιν ἢ κατὰ διάνοιαν, τὸ μὲν ἑκούσιον κατὰ τούτων τι, τὸ δ’ ἀκούσιον παρὰ τούτων τι. ἀλλὰ μὴν ἡ ὄρεξις εἰς τρία διαιρεῖται, εἰς βούλησιν καὶ θυμὸν καὶ ἐπιθυμίαν· ὥστε ταῦτα διαιρετέον, καὶ πρῶτον κατ’ ἐπιθυμίαν.

δόξειε δ’ ἂν πᾶν τὸ κατ’ ἐπιθυμίαν ἑκούσιον εἶναι. τὸ γὰρ ἀκούσιον πᾶν δοκεῖ εἶναι βίαιον, τὸ δὲ βίαιον λυπηρόν, καὶ πᾶν ὃ ἀναγκαζόμενοι ποιοῦσιν ἢ πάσχουσιν, ὥσπερ καὶ Εὔηνος φησί

“πᾶν γὰρ ἀναγκαῖον πρᾶγμ’ ἀνιαρὸν ἔφυ.” ὥστ’ εἴ τι λυπηρόν, βίαιον, καὶ εἰ βίαιον, λυπηρόν. τὸ δὲ παρὰ τὴν ἐπιθυμίαν πᾶν λυπηρόν (ἡ γὰρ ἐπιθυμία τοῦ ἡδέος), ὥστε βίαιον καὶ ἀκούσιον. τὸ ἄρα κατ’ ἐπιθυμίαν ἑκούσιον· ἐναντία γὰρ ταῦτ’ ἀλλήλοις. ἔτι ἡ μοχθηρία ἀδικώτερον πᾶσα ποιεῖ, ἡ δ’ ἀκρασία μοχθηρία δοκεῖ εἶναι, ὁ δ’ ἀκρατὴς ὁ κατὰ τὴν ἐπιθυμίαν παρὰ τὸν λογισμὸν οἷος πράττειν, ἀκρατεύεται δ’ ὅταν ἐνεργῇ κατ’ αὐτήν, τὸ δ’ ἀδικεῖν ἑκούσιον, ὥσθ’ ὁ [1223b] ἀκρατὴς ἀδικήσει τῷ πράττειν κατ’ ἐπιθυμίαν· ἑκὼν ἄρα πράξει, καὶ ἑκούσιον τὸ κατ’ ἐπιθυμίαν· καὶ γὰρ ἄτοπον εἰ δικαιότεροι ἔσονται οἱ ἀκρατεῖς γινόμενοι. - ἐκ μὲν τοίνυν τούτων δόξειεν ἂν τὸ κατ’ ἐπιθυμίαν ἑκούσιον εἶναι, ἐκ δὲ τῶνδε τοὐναντίον. ἅπαν γὰρ ὃ ἑκών τις πράττει, βουλόμενος πράττει, καὶ ὃ βούλεται, ἑκών. βούλεται δ’ οὐθεὶς ὃ οἴεται εἶναι κακόν. ἀλλὰ μὴν ὁ ἀκρατευόμενος οὐχ ἃ βούλεται ποιεῖ· τὸ γὰρ παρ’ ὃ οἴεται βέλτιστον εἶναι πράττειν δι’ ἐπιθυμίαν ἀκρατεύεσθαι ἐστίν. ὥστε ἅμα συμβήσεται τὸν αὐτὸν ἑκόντα καὶ ἄκοντα πράττειν· τοῦτο δ’ ἀδύνατον. ἔτι δ’ ὁ ἐγκρατὴς δικαιοπραγήσει, καὶ μᾶλλον τῆς ἀκρασίας. ἡ γὰρ ἐγκράτεια ἀρετή, ἡ δ’ ἀρετὴ δικαιοτέρους ποιεῖ. ἐγκρατεύεται δ’ ὅταν πράττῃ παρὰ τὴν ἐπιθυμίαν κατὰ τὸν λογισμόν. ὥστ’ εἰ τὸ μὲν δικαιοπραγεῖν ἑκούσιον, ὥσπερ καὶ τὸ ἀδικεῖν (ἄμφω γὰρ δοκεῖ ταῦτα ἑκούσια εἶναι, καὶ ἀνάγκη, εἰ θάτερον ἑκούσιον, καὶ θάτερον), τὸ δὲ παρὰ τὴν ἐπιθυμίαν ἀκούσιον, ἅμα ἄρα ὁ αὐτὸς τὸ αὐτὸ πράξει ἑκὼν καὶ ἄκων.

ὁ δ’ αὐτὸς λόγος καὶ περὶ θυμοῦ. ἀκρασία γὰρ καὶ ἐγκράτεια καὶ θυμοῦ δοκεῖ εἶναι, ὥσπερ καὶ ἐπιθυμίας· καὶ τὸ παρὰ τὸν θυμὸν λυπηρόν, καὶ βίαιον ἡ κάθεξις, ὥστ’ εἰ τὸ βίαιον ἀκούσιον, τὸ κατὰ τὸν θυμὸν ἑκούσιον ἂν εἴη πᾶν. ἔοικε δὲ καὶ Ἡράκλειτος λέγειν εἰς τὴν ἰσχὺν τοῦ θυμοῦ βλέψας ὅτι λυπηρὰ ἡ κώλυσις αὐτοῦ· “χαλεπὸν γάρ” φησι “θυμῷ μάχεσθαι· ψυχῆς γὰρ ὠνεῖται.” εἰ δ’ ἀδύνατον τὸ αὐτὸν ἑκόντα καὶ ἄκοντα πράττειν ἅμα τὸ κατὰ τὸ αὐτὸ τοῦ πράγματος, μᾶλλον ἑκούσιον τὸ κατὰ βούλησιν τοῦ κατ’ ἐπιθυμίαν καὶ θυμόν. τεκμήριον δέ· πολλὰ γὰρ πράττομεν ἑκόντες ἄνευ ὀργῆς καὶ ἐπιθυμίας.

λείπεται ἄρα, εἰ τὸ βουλόμενον καὶ ἑκούσιον ταὐτό, σκέψασθαι. φαίνεται δὲ καὶ τοῦτο ἀδύνατον. ὑπόκειται γὰρ ἡμῖν καὶ δοκεῖ ἡ μοχθηρία ἀδικωτέρους ποιεῖν, ἡ δ’ ἀκρασία μοχθηρία τις φαίνεται· συμβήσεται δὲ τοὐναντίον. βούλεται μὲν γὰρ οὐθεὶς ἃ οἴεται εἶναι κακά, πράττει δ’ ὅταν γίνηται ἀκρατής· εἰ οὖν τὸ μὲν ἀδικεῖν ἑκούσιον, τὸ δ’ ἑκούσιον τὸ κατὰ βούλησιν, ὅταν ἀκρατὴς γένηται, οὐκέτι ἀδικήσει, ἀλλ’ ἔσται δικαιότερος ἢ πρὶν γενέσθαι ἀκρατής. τοῦτο δ’ ἀδύνατον.

ὅτι μὲν τοίνυν οὐκ ἔστι τὸ ἑκούσιον τὸ κατὰ ὄρεξιν πράττειν, οὐδ’ ἀκούσιον τὸ παρὰ τὴν ὄρεξιν, φανερόν· ὅτι δ’ οὐδὲ κατὰ προαίρεσιν, πάλιν ἐκ τῶνδε δῆλον. τὸ μὲν γὰρ κατὰ βούλησιν ὡς [1224a] οὐκ ἀκούσιον ἀπεδείχθη, ἀλλὰ μᾶλλον πᾶν ὃ βούλεται καὶ ἑκούσιον (ἀλλ’ ὅτι καὶ μὴ βουλόμενον ἐνδέχεται πράττειν ἑκόντα, τοῦτο δέδεικται μόνον)· πολλὰ δὲ βουλόμενοι πράττομεν ἐξαίφνης, προαιρεῖται δ’ οὐδεὶς οὐδὲν ἐξαίφνης.

εἰ δὲ ἀνάγκη μὲν ἦν τριῶν τούτων ἕν τι εἶναι τὸ ἑκούσιον, ἢ κατ’ ὄρεξιν ἢ κατὰ προαίρεσιν ἢ κατὰ διάνοιαν, τούτων δὲ τὰ δύο μὴ ἐστί, λείπεται ἐν τῷ διανοούμενόν πως πράττειν εἶναι τὸ ἑκούσιον. ἔτι δὲ μικρὸν προαγαγόντες τὸν λόγον, ἐπιθῶμεν τέλος τῷ περὶ τοῦ ἑκουσίου καὶ ἀκουσίου διορισμῷ. δοκεῖ γὰρ τὸ βίᾳ καὶ μὴ βίᾳ τι ποιεῖν οἰκεῖα τοῖς εἰρημένοις εἶναι· τό τε γὰρ βίαιον ἀκούσιον, καὶ τὸ ἀκούσιον πᾶν βίαιον εἶναι φαμέν. ὥστε περὶ τοῦ βίᾳ σκεπτέον πρῶτον, τί ἐστι καὶ πῶς ἔχει πρὸς τὸ ἑκούσιον καὶ ἀκούσιον. δοκεῖ δὴ τὸ βίαιον καὶ τὸ ἀναγκαῖον ἀντικεῖσθαι, καὶ ἡ βία καὶ ἡ ἀνάγκη, τῷ ἑκουσίῳ καὶ τῇ πειθοῖ ἐπὶ τῶν πραττομένων. καθόλου δὲ τὸ βίαιον καὶ τὴν ἀνάγκην καὶ ἐπὶ τῶν ἀψύχων λέγομεν· καὶ γὰρ τὸν λίθον ἄνω καὶ τὸ πῦρ κάτω βίᾳ καὶ ἀναγκαζόμενα φέρεσθαι φαμέν. ταῦτα δ’ ὅταν κατὰ τὴν φύσει καὶ τὴν καθ’ αὐτὰ ὁρμὴν φέρηται, οὐ βίᾳ, οὐ μὴν οὐδ’ ἑκούσια λέγεται, ἀλλ’ ἀνώνυμος ἡ ἀντίθεσις. ὅταν δὲ παρὰ ταύτην, βίᾳ φαμέν. ὁμοίως δὲ καὶ ἐπὶ ἐμψύχων καὶ ἐπὶ τῶν ζῴων ὁρῶμεν βίᾳ πολλὰ καὶ πάσχοντα καὶ ποιοῦντα, ὅταν παρὰ τὴν ἐν αὐτῷ ὁρμὴν ἔξωθέν τι κινῇ. ἐν μὲν τοῖς ἀψύχοις ἁπλῆ ἡ ἀρχή, ἐν δὲ τοῖς ἐμψύχοις πλεονάζει· οὐ γὰρ ἀεὶ ἡ ὄρεξις καὶ ὁ λόγος συμφωνεῖ. ὥστ’ ἐπὶ μὲν τῶν ἄλλων ζῴων ἁπλοῦν τὸ βίαιον, ὥσπερ ἐπὶ τῶν ἀψύχων (οὐ γὰρ ἔχει λόγον καὶ ὄρεξιν ἐναντίαν, ἀλλὰ τῇ ὀρέξει ζῇ)· ἐν δ’ ἀνθρώπῳ ἔνεστιν ἄμφω, καὶ ἔν τινι ἡλικίᾳ, ᾗ καὶ τὸ πράττειν ἀποδίδομεν. οὐ γάρ φαμεν τὸ παιδίον πράττειν, οὐδὲ τὸ θηρίον, ἀλλὰ τὸν ἤδη διὰ λογισμὸν πράττοντα. - δοκεῖ δὴ τὸ βίαιον ἅπαν λυπηρὸν εἶναι, καὶ οὐθεὶς βίᾳ μὲν ποιεῖ, χαίρων δέ. διὸ περὶ τὸν ἐγκρατῆ καὶ τὸν ἀκρατῆ πλείστη ἀμφισβήτησις ἐστίν. ἐναντίας γὰρ ὁρμὰς ἔχων αὐτὸς ἕκαστος αὐτῷ πράττει, ὥσθ’ ὅ τ’ ἐγκρατὴς βίᾳ, φασίν, ἀφέλκει αὐτὸν ἀπὸ τῶν ἡδέων ἐπιθυμιῶν (ἀλγεῖ γὰρ ἀφέλκων πρὸς ἀντιτείνουσαν τὴν ὄρεξιν), ὅ τ' ἀκρατὴς βίᾳ παρὰ τὸν λογισμόν. ἧττον δὲ δοκεῖ λυπεῖσθαι· ἡ γὰρ ἐπιθυμία τοῦ ἡδέος, ᾗ ἀκολουθεῖ χαίρων, ὥστε ὁ ἀκρατὴς μᾶλλον ἑκὼν καὶ οὐ βίᾳ, ὅτι οὐ λυπηρῶς. ἡ δὲ πειθὼ τῇ βίᾳ καὶ ἀνάγκῃ ἀντιτίθεται. ὁ δ' ἐγκρατὴς [1224b] ἐφ' ἃ πέπεισται ἄγει, καὶ πορεύεται οὐ βίᾳ, ἀλλ' ἑκών. ἡ δὲ ἐπιθυμία οὐ πείσασα ἄγει· οὐ γὰρ μετέχει λόγου. ὅτι μὲν οὖν δοκοῦσιν οὗτοι μόνοι βίᾳ καὶ ἄκοντες ποιεῖν, καὶ διὰ τίν' αἰτίαν, ὅτι καθ' ὁμοιότητά τινα τοῦ βίᾳ, καθ' ἣν καὶ ἐπὶ τῶν ἀψύχων λέγομεν, εἴρηται· οὐ μὴν ἀλλ' εἴ τις προσθῇ τὸ ἐν τῷ διορισμῷ προσκείμενον, κἀκεῖ λύεται τὸ λεχθέν. ὅταν μὲν γάρ τι τῶν ἔξωθεν παρὰ τὴν ἐν αὐτῷ ὁρμὴν κινῇ ἢ ἠρεμίζῃ, βίᾳ φαμέν, ὅταν δὲ μή, οὐ βίᾳ· ἐν δὲ τῷ ἀκρατεῖ καὶ ἐγκρατεῖ ἡ καθ' αὐτὸν ὁρμὴ ἐνοῦσα ἄγει (ἄμφω γὰρ ἔχει)· ὥστ' οὐ βίᾳ οὐδέτερος, ἀλλ' ἑκὼν διά γε ταῦτα πράττοι ἄν, οὐδ' ἀναγκαζόμενος. τὴν γὰρ ἔξωθεν ἀρχήν, τὴν παρὰ τὴν ὁρμὴν ἢ ἐμποδίζουσαν ἢ κινοῦσαν, ἀνάγκην λέγομεν, ὥσπερ εἴ τις λαβὼν τὴν χεῖρα τύπτοι τινὰ ἀντιτείνοντος καὶ τῷ βούλεσθαι καὶ τῷ ἐπιθυμεῖν· ὅταν δ' ἔσωθεν ἡ ἀρχή, οὐ βίᾳ. ἔτι καὶ ἡδονὴ καὶ λύπη ἐν ἀμφοτέροις ἔνεστι. καὶ γὰρ ὁ ἐγκρατευόμενος λυπεῖται παρὰ τὴν ἐπιθυμίαν πράττων ἤδη, καὶ χαίρει τὴν ἀπ' ἐλπίδος ἡδονήν, ὅτι ὕστερον ὠφεληθήσεται, ἢ καὶ ἤδη ὠφελεῖται ὑγιαίνων· καὶ ὁ ἀκρατὴς χαίρει μὲν τυγχάνων ἀκρατευόμενος οὗ ἐπιθυμεῖ, λυπεῖται δὲ τὴν ἀπ' ἐλπίδος λύπην, οἴεται γὰρ κακὸν πράττειν. ὥστε τὸ μὲν βίᾳ ἑκάτερον φάναι ποιεῖν ἔχει λόγον, καὶ διὰ τὴν ὄρεξιν καὶ διὰ τὸν λογισμὸν ἑκάτερον ἄκοντα ποτὲ πράττειν· κεχωρισμένα γὰρ ὄντα ἑκάτερα ἐκκρούεται ὑπ' ἀλλήλων. ὅθεν καὶ ἐπὶ τὴν ὅλην μεταφέρουσι ψυχήν, ὅτι τῶν ἐν ψυχῇ τι τοιοῦτον ὁρῶσιν. ἐπὶ μὲν οὖν τῶν μορίων ἐνδέχεται τοῦτο λέγειν· ἡ δ' ὅλη ἑκοῦσα ψυχὴ καὶ τοῦ ἀκρατοῦς καὶ τοῦ ἐγκρατοῦς πράττει, βίᾳ δ' οὐδέτερος, ἀλλὰ τῶν ἐν ἐκείνοις τι, ἐπεὶ καὶ φύσει ἀμφότερα ἔχομεν. καὶ γὰρ ὁ λόγος φύσει ὑπάρχει, ὅτι ἐωμένης τῆς γενέσεως καὶ μὴ πηρωθείσης ἐνέσται, καὶ ἡ ἐπιθυμία, ὅτι εὐθὺς ἐκ γενετῆς ἀκολουθεῖ καὶ ἔνεστιν. σχεδὸν δὲ τούτοις δυσὶ τὸ φύσει διορίζομεν, τῷ τε ὅσα εὐθὺς γιγνομένοις ἀκολουθεῖ πᾶσι, καὶ ὅσα ἐωμένης τῆς γενέσεως εὐθυπορεῖν γίγνεται ἡμῖν, οἷον πολιὰ καὶ γῆρας καὶ τἆλλα τὰ τοιαῦτα. ὥστε μὴ κατὰ φύσιν ἑκάτερος πράττει, ἁπλῶς δὲ κατὰ φύσιν ἑκάτερος, οὐ τὴν αὐτήν. αἱ μὲν οὖν περὶ τὸν ἀκρατῆ καὶ ἐγκρατῆ ἀπορίαι ‹αὗται› περὶ τοῦ βίᾳ πράττειν ἢ ἀμφοτέρους ἢ τὸν ἕτερον, ὥστε ἢ μὴ ἑκόντας ἢ ἅμα βίᾳ καὶ ἑκόντας, εἰ δὲ τὸ βίᾳ ἀκούσιον, ἅμα ἑκόντας καὶ ἄκοντας πράττειν· [1225a] σχεδὸν δὲ ἐκ τῶν εἰρημένων δῆλον ἡμῖν ὡς ἀπαντητέον.

λέγονται δὲ κατ’ ἄλλον τρόπον βίᾳ καὶ ἀναγκασθέντες πρᾶξαι, οὐ διαφωνοῦντος τοῦ λόγου καὶ τῆς ὀρέξεως, ὅταν πράττωσιν ὃ καὶ λυπηρὸν καὶ φαῦλον ὑπολαμβάνουσιν, ἀλλ’ ἂν μὴ τοῦτο πράττωσι, πληγαὶ ἢ δεσμοὶ ἢ θάνατοι ὦσιν. ταῦτα γάρ φασιν ἀναγκασθέντες πρᾶξαι. ἢ οὔ, ἀλλὰ πάντες ἑκόντες ποιοῦσιν αὐτὸ τοῦτο; ἔξεστι γὰρ μὴ ποιεῖν, ἀλλ’ ἐκεῖνο ὑπομεῖναι τὸ πάθος. ἔτι ἴσως τούτων τὰ μὲν φαίη τις ἂν τὰ δ’ οὔ. ὅσα μὲν γὰρ ἐφ’ αὑτῷ τῶν τοιούτων μὴ ὑπάρξαι ἢ ὑπάρξαι, ἀεὶ ὅσα πράττει ἃ μὴ βούλεται, ἑκὼν πράττει, καὶ οὐ βίᾳ· ὅσα δὲ μὴ ἐφ’ αὑτῷ τῶν τοιούτων, βίᾳ πώς, οὐ μέντοι γ’ ἁπλῶς, ὅτι οὐκ αὐτὸ τοῦτο προαιρεῖται ὃ πράττει, ἀλλ’ οὗ ἕνεκα, ἐπεὶ καὶ ἐν τούτοις ἐστί τις διαφορά. εἰ γὰρ ἵνα μὴ λάβῃ ψηλαφῶν ἀποκτείνοι, γελοῖος ἂν εἴη, εἰ λέγοι ὅτι βίᾳ καὶ ἀναγκαζόμενος, ἀλλὰ δεῖ μεῖζον κακὸν καὶ λυπηρότερον εἶναι, ὃ πείσεται μὴ ποιήσας. οὕτω γὰρ ἀναγκαζόμενος καὶ [μὴ] βίᾳ πράξει, ἢ οὐ φύσει, ὅταν κακὸν ἀγαθοῦ ἕνεκα ἢ μείζονος κακοῦ ἀπολύσεως πράττῃ, καὶ ἄκων γε· οὐ γὰρ ἐφ’ αὑτῷ ταῦτα. διὸ καὶ τὸν ἔρωτα πολλοὶ ἀκούσιον τιθέασιν, καὶ θυμοὺς ἐνίους καὶ τὰ φυσικά, ὅτι ἰσχυρὰ καὶ ὑπὲρ τὴν φύσιν· καὶ συγγνώμην ἔχομεν ὡς πεφυκότα βιάζεσθαι τὴν φύσιν. καὶ μᾶλλον ἂν δόξειε βίᾳ καὶ ἄκων πράττειν, ἵνα μὴ ἀλγῇ ἰσχυρῶς, ἢ ἵνα μὴ ἠρέμα, καὶ ὅλως ἵνα μὴ ἀλγῇ ἢ ἵνα [μὴ] χαίρῃ. τὸ γὰρ ἐφ’ αὑτῷ, εἰς ὃ ἀνάγεται ὅλον, τοῦτ’ ἐστιν ὃ ἡ αὐτοῦ φύσις οἵα τε φέρειν· ὃ δὲ μὴ οἵα τε, μήδ’ ἐστὶ τῆς ἐκείνου φύσει ὀρέξεως ἢ λογισμοῦ, οὐκ ἐφ’ αὑτῷ. διὸ καὶ τοὺς ἐνθουσιῶντας καὶ προλέγοντας, καίπερ διανοίας ἔργον ποιοῦντας, ὅμως οὔ φαμεν ἐφ’ αὑτοῖς εἶναι, οὔτ’ εἰπεῖν ἃ εἶπον, οὔτε πρᾶξαι ἃ ἔπραξαν. ἀλλὰ μὴν οὐδὲ δι’ ἐπιθυμίαν· ὥστε καὶ διάνοιαί τινες καὶ πάθη οὐκ ἐφ’ ἡμῖν εἰσίν, ἢ πράξεις αἱ κατὰ τὰς τοιαύτας διανοίας καὶ λογισμούς, ἀλλ’ ὥσπερ Φιλόλαος ἔφη εἶναί τινας λόγους κρείττους ἡμῶν.

ὥστ’ εἰ τὸ ἑκούσιον καὶ ἀκούσιον καὶ πρὸς τὸ βίᾳ ἔδει σκέψασθαι, τοῦτο μὲν οὕτω διῃρήσθω (οἱ γὰρ μάλιστ’ ἐμποδίζοντες τὸ ἑκούσιον ὡς βίᾳ πράττοντες, ἀλλ’ ἑκόντες)· ἐπεὶ δὲ τοῦτ’ ἔχει τέλος, καὶ οὔτε τῇ ὀρέξει οὔτε τῇ προαιρέσει τὸ ἑκούσιον ὥρισται, λοιπὸν [1225b] δὴ ὁρίσασθαι τὸ κατὰ τὴν διάνοιαν. δοκεῖ δὴ ἐναντίον εἶναι τὸ ἑκούσιον τῷ ἀκουσίῳ, καὶ τὸ εἰδότα ἢ ὃν ἢ ᾧ ἢ οὗ ἕνεκα (ἐνίοτε γὰρ οἶδε μὲν ὅτι πατήρ, ἀλλ’ οὐχ ἵνα ἀποκτείνῃ, ἀλλ’ ἵνα σώσῃ, ὥσπερ αἱ Πελιάδες, ἤτοι ὡς τοδὶ μὲν πόμα, ἀλλ’ ὡς φίλτρον καὶ οἶνον, τὸ δ’ ἦν κώνειον) τῷ ἀγνοοῦντα καὶ ὃν καὶ ᾧ καὶ ὃ δι’ ἄγνοιαν, μὴ κατὰ συμβεβηκός· τὸ δὲ δι’ ἄγνοιαν, καὶ ὃ καὶ ᾧ καὶ ὅν, ἀκούσιον· τὸ ἐναντίον ἄρ’ ἑκούσιον. ὅσα μὲν οὖν ἐφ’ ἑαυτῷ ὂν μὴ πράττειν πράττει μὴ ἀγνοῶν καὶ δι’ αὑτόν, ἑκούσια ταῦτ’ ἀνάγκη εἶναι, καὶ τὸ ἑκούσιον τοῦτ’ ἐστίν· ὅσα δ᾽ ἀγνοῶν καὶ διὰ τὸ ἀγνοεῖν, ἄκων. ἐπεὶ δὲ τὸ ἐπίστασθαι καὶ τὸ εἰδέναι διττόν, ἓν μὲν τὸ ἔχειν, ἓν δὲ τὸ χρῆσθαι τῇ ἐπιστήμῃ, ὁ ἔχων μὴ χρώμενος δὲ ἔστι μὲν ὡς δικαίως ‹ἂν› ἀγνοῶν λέγοιτο, ἔστι δὲ ὡς οὐ δικαίως, οἷον εἰ δι᾽ ἀμέλειαν μὴ ἐχρῆτο. ὁμοίως δὲ καὶ μὴ ἔχων τις ψέγοιτο ἄν, εἰ ὃ ῥᾴδιον ἢ ἀναγκαῖον ἦν, μὴ ἔχει δι᾽ ἀμέλειαν ἢ ἡδονὴν ἢ λύπην. ταῦτ᾽ οὖν προσδιοριστέον.

περὶ μὲν οὖν τοῦ ἑκουσίου καὶ ἀκουσίου διωρίσθω τοῦτον τὸν τρόπον· περὶ δὲ προαιρέσεως μετὰ τοῦτο λέγωμεν, διαπορήσαντες πρῶτον τῷ λόγῳ περὶ αὐτῆς. διστάσειε γὰρ ἄν τις ἐν τῷ γένει πέφυκε καὶ ἐν ποίῳ θεῖναι αὐτὴν χρή, καὶ πότερον οὐ ταὐτὸν τὸ ἑκούσιον καὶ τὸ προαιρετὸν ἢ ταὐτὸν ἐστίν. μάλιστα δὲ λέγεται παρά τινων, καὶ ζητοῦντι δόξειε δ᾽ ἂν δυοῖν εἶναι θάτερον ἡ προαίρεσις, ἤτοι δόξα ἢ ὄρεξις· ἀμφότερα γὰρ φαίνεται παρακολουθοῦντα. ὅτι μὲν οὖν οὐκ ἔστιν ὄρεξις φανερόν. ἢ γὰρ βούλησις ἂν εἴη ἢ ἐπιθυμία ἢ θυμός· οὐθεὶς γὰρ ὀρέγεται μηθὲν πεπονθὼς τούτων. θυμὸς μὲν οὖν καὶ ἐπιθυμία καὶ τοῖς θηρίοις ὑπάρχει, προαίρεσις δ᾽ οὔ. ἔτι δὲ καὶ οἷς ὑπάρχει ἄμφω ταῦτα, πολλὰ καὶ ἄνευ θυμοῦ καὶ ἐπιθυμίας προαιροῦνται· καὶ ἐν τοῖς πάθεσιν ὄντες οὐ προαιροῦνται, ἀλλὰ καρτεροῦσιν. ἔτι ἐπιθυμία μὲν καὶ θυμὸς ἀεὶ μετὰ λύπης, προαιρούμεθα δὲ πολλὰ καὶ ἄνευ λύπης. ἀλλὰ μὴν οὐδὲ βούλησις καὶ προαίρεσις ταὐτόν. βούλονται μὲν γὰρ ἔνια [ταὐτὸν] καὶ τῶν ἀδυνάτων εἰδότες, οἷον βασιλεύειν τε πάντων ἀνθρώπων καὶ ἀθάνατοι εἶναι, προαιρεῖται δ᾽ οὐθεὶς μὴ ἀγνοῶν ὅτι ἀδύνατον, οὐδ᾽ ὅλως ἃ δυνατὸν μέν, μὴ ἐφ᾽ αὑτῷ δ᾽ οἴεται πρᾶξαι ἢ μὴ πρᾶξαι. ὥστε τοῦτο μὲν φανερόν, ὅτι ἀνάγκη τὸ προαιρετὸν τῶν ἐφ᾽ αὑτῷ τι εἶναι.

[1226a] ὁμοίως δὲ δῆλον ὅτι οὐδὲ δόξα, οὐδ᾽ ἁπλῶς εἴ τις οἴεταί τι. τῶν γὰρ ἐφ᾽ αὑτῷ τι ἦν τὸ προαιρετόν, δοξάζομεν δὲ πολλὰ καὶ τῶν οὐκ ὄντων ἐφ᾽ ἡμῖν, οἷον τὴν διάμετρον σύμμετρον. ἔτι οὐκ ἔστι προαίρεσις ἀληθὴς ἢ ψευδής. οὐδὲ δὴ ἡ τῶν ἐφ᾽ αὑτῷ ὄντων πρακτῶν δόξα, ᾗ τυγχάνομεν οἰόμενοι δεῖν τι πράττειν ἢ οὐ πράττειν. κοινὸν δὲ περὶ δόξης τοῦτο καὶ βουλήσεως· οὐθεὶς γὰρ τέλος οὐδὲν προαιρεῖται, ἀλλὰ τὰ πρὸς τὸ τέλος· λέγω δ᾽ οἷον οὐθεὶς ὑγιαίνειν προαιρεῖται, ἀλλὰ περιπατεῖν ἢ καθῆσθαι τοῦ ὑγιαίνειν ἕνεκεν, οὐδ᾽ εὐδαιμονεῖν, ἀλλὰ χρηματίζεσθαι ἢ κινδυνεύειν τοῦ εὐδαιμονεῖν ἕνεκα· καὶ ὅλως δηλοῖ ἀεὶ προαιρούμενος τί τε καὶ τίνος ἕνεκα προαιρεῖται, ἔστι δὲ τὸ μὲν τίνος, οὗ ἕνεκα προαιρεῖται ἄλλο, τὸ δὲ τί, ὃ προαιρεῖται ἕνεκα ἄλλου. βούλεται δέ γε μάλιστα τὸ τέλος, καὶ δοξάζει δεῖν καὶ ὑγιαίνειν καὶ εὖ πράττειν. ὥστε φανερὸν διὰ τούτων ὅτι ἄλλο καὶ δόξης καὶ βουλήσεως. βούλεσθαι μὲν ‹γὰρ› καὶ δόξα μάλιστα τοῦ τέλους,

προαίρεσις δ’ οὐκ ἔστιν.

ὅτι μὲν οὖν οὐκ ἔστιν οὔτε βούλησις οὔτε δόξα οὔθ’ ὑπόληψις ἁπλῶς ἡ προαίρεσις, δῆλον· τί δὲ διαφέρει τούτων, καὶ πῶς ἔχει πρὸς τὸ ἑκούσιον; ἅμα δὲ δῆλον ἔσται, καὶ τί ἐστι προαίρεσις. ἔστι δὴ τῶν δυνατῶν καὶ εἶναι καὶ μὴ τὰ μὲν τοιαῦτα ὥστε ἐνδέχεσθαι βουλεύσασθαι περὶ αὐτῶν· περὶ ἐνίων δ’ οὐκ ἐνδέχεται. τὰ μὲν γὰρ δυνατὰ μέν ἐστι καὶ εἶναι καὶ μὴ εἶναι, ἀλλ’ οὐκ ἐφ’ ἡμῖν αὐτῶν ἡ γένεσις ἐστίν, ἀλλὰ τὰ μὲν διὰ φύσιν τὰ δὲ δι’ ἄλλας αἰτίας γίνεται, περὶ ὧν οὐδεὶς ἂν ἐγχειρήσειε βουλεύεσθαι μὴ ἀγνοῶν· περὶ ὧν δ’ ἐνδέχεται μὴ μόνον τὸ εἶναι καὶ μή, ἀλλὰ καὶ τὸ βουλεύσασθαι τοῖς ἀνθρώποις, ταῦτα δ’ ἐστὶν ὅσα ἐφ’ ἡμῖν ἐστι πρᾶξαι ἢ μὴ πρᾶξαι. διὸ οὐ βουλευόμεθα περὶ τῶν ἐν Ἰνδοῖς, οὐδὲ πῶς ἂν ὁ κύκλος τετραγωνισθείη. τὰ μὲν γὰρ οὐκ ἐφ’ ἡμῖν· τὸ δ’ ὅλως οὐ πρακτόν ἀλλ’ οὐδὲ περὶ τῶν ἐφ’ ἡμῖν πρακτῶν περὶ ἁπάντων. (ᾗ καὶ δῆλον ὅτι οὐδὲ δόξα ἁπλῶς ἡ προαίρεσις ἐστίν)· , τὰ δὲ προαιρετὰ καὶ πρακτὰ τῶν ἐφ’ ἡμῖν ὄντων ἐστίν. διὸ καὶ ἀπορήσειεν ἄν τις, τί δή ποθ’ οἱ μὲν ἰατροὶ βουλεύονται περὶ ὧν ἔχουσι τὴν ἐπιστήμην, οἱ δὲ γραμματικοὶ οὔ; αἴτιον δ’ ὅτι διχῇ γινομένης τῆς ἁμαρτίας (ἢ γὰρ λογιζόμενοι ἁμαρτάνομεν ἢ κατὰ τὴν αἴσθησιν αὐτὸ δρῶντες) ἐν μὲν τῇ ἰατρικῇ ἀμφοτέρως ἐνδέχεται ἁμαρτεῖν, ἐν δὲ τῇ γραμματικῇ κατὰ [1226b] τὴν αἴσθησιν καὶ πρᾶξιν, περὶ ἧς ἂν σκοπῶσιν, εἰς ἄπειρον ἥξουσιν. - ἐπειδὴ οὖν οὔτε δόξα οὔτε βούλησίς ἐστι προαίρεσίς ἐστιν ὡς ἑκάτερον, οὐδ’ ἄμφω (ἐξαίφνης γὰρ προαιρεῖται μὲν οὐθείς, δοκεῖ δὲ πράττειν καὶ βούλονται)· ὡς ἐξ ἀμφοῖν ἄρα. ἄμφω γὰρ ὑπάρχει τῷ προαιρουμένῳ ταῦτα. - ἀλλὰ πῶς ἐκ τούτων σκεπτέον; δηλοῖ δέ πως καὶ τὸ ὄνομα αὐτό. ἡ γὰρ προαίρεσις αἵρεσις μὲν ἐστίν, οὐχ ἁπλῶς δέ, ἀλλ’ ἑτέρου πρὸ ἑτέρου· τοῦτο δὲ οὐχ οἷόν τε ἄνευ σκέψεως καὶ βουλῆς. διὸ ἐκ δόξης βουλευτικῆς ἐστιν ἡ προαίρεσις.

περὶ μὲν δὴ τοῦ τέλους οὐδεὶς βουλεύεται, ἀλλὰ τοῦτο κεῖται πᾶσι, περὶ δὲ τῶν εἰς τοῦτο τεινόντων, πότερον τόδε ἢ τόδε συντείνει, ἢ δεδογμένου τοῦτο πῶς ἔσται. βουλευόμεθα δὲ τοῦτο πάντες, ἕως ἂν εἰς ἡμᾶς ἀναγάγωμεν τῆς γενέσεως τὴν ἀρχήν. εἰ δὴ προαιρεῖται μὲν μηθεὶς μὴ παρασκευασάμενος μηδὲ βουλευσάμενος, εἰ χεῖρον ἢ βέλτιον, βουλεύεται δὲ ὅσα ἐφ’ ἡμῖν ἐστι τῶν δυνατῶν καὶ εἶναι καὶ μὴ τῶν πρὸς τὸ τέλος, δῆλον ὅτι ἡ προαίρεσις μέν ἐστιν ὄρεξις τῶν ἐφ’ αὐτῷ βουλευτική. ἅπαντες γὰρ βουλευόμεθα ἃ καὶ προαιρούμεθα, οὐ μέντοι γε ἃ βουλευόμεθα, πάντα προαιρούμεθα. λέγω δὲ βουλευτικήν, ἧς ἀρχὴ καὶ αἰτία βούλευσίς ἐστι, καὶ ὀρέγεται διὰ τὸ βουλεύσασθαι. διὸ οὔτε ἐν τοῖς ἄλλοις ζῴοις ἐστὶν ἡ προαίρεσις, οὔτε ἐν πάσῃ ἡλικίᾳ, οὔτε πάντως ἔχοντος ἀνθρώπου. οὐδὲ γὰρ τὸ βουλεύσασθαι, οὐδ’ ὑπόληψις τοῦ διὰ τί· ἀλλὰ δοξάσαι μὲν εἰ ποιητέον ἢ μὴ ποιητέον οὐθὲν κωλύει πολλοῖς ὑπάρχειν, τὸ δὲ διὰ λογισμοῦ οὐκέτι. ἔστι γὰρ βουλευτικὸν τῆς ψυχῆς τὸ θεωρητικὸν αἰτίας τινός. ἡ γὰρ οὗ ἕνεκα μία τῶν αἰτιῶν ἐστίν· τὸ μὲν γὰρ διὰ τί αἰτία· οὗ δ’ ἕνεκά ἐστιν ἢ γίγνεταί τι, τοῦτ’ αἴτιόν φαμεν εἶναι, οἷον τοῦ βαδίζειν ἡ κομιδὴ τῶν χρημάτων, εἰ τούτου ἕνεκα βαδίζει. διὸ οἷς μηθεὶς κεῖται σκοπός, οὐ βουλευτικοί. ὥστ’ ἐπεὶ τὸ μὲν ἐφ’ αὑτῷ ὂν ἢ πράττειν ἢ μὴ πράττειν, ἐάν τις πράττῃ ἢ ἀπρακτῇ δι’ αὑτὸν καὶ μὴ δι’ ἄγνοιαν, ἑκὼν πράττει ἢ ἀπρακτεῖ, πολλὰ δὲ τῶν τοιούτων πράττομεν οὐ βουλευσάμενοι οὐδὲ προνοήσαντες, ἀνάγκη τὸ μὲν προαιρετὸν ἅπαν ἑκούσιον εἶναι, τὸ δ’ ἑκούσιον μὴ προαιρετόν, καὶ τὰ μὲν κατὰ προαίρεσιν πάντα ἑκούσια εἶναι, τὰ δ’ ἀκούσια μὴ πάντα κατὰ προαίρεσιν. ἅμα δ’ ἐκ τούτων φανερὸν καὶ ὅτι καλῶς διορίζονται οἳ τῶν παθημάτων τὰ μὲν ἑκούσια τὰ δ’ ἀκούσια τὰ δ’ ἐκ προνοίας νομοθετοῦσιν· [1227a] εἰ γὰρ καὶ μὴ διακριβοῦσιν, ἀλλ’ ἅπτονταί γέ πῃ τῆς ἀληθείας. ἀλλὰ περὶ μὲν τούτων ἐροῦμεν ἐν τῇ περὶ τῶν δικαίων ἐπισκέψει· ἡ δὲ προαίρεσις ὅτι οὔτε ἁπλῶς βούλησις οὔτε δόξα ἐστί, δῆλον, ἀλλὰ δόξα τε καὶ ὄρεξις, ὅταν ἐκ τοῦ βουλεύσασθαι συμπερανθῶσιν.

ἐπεὶ δὲ βουλεύεται ἀεὶ ὁ βουλευόμενος ἕνεκα τινός, καὶ ἐστὶ σκοπός τις ἀεὶ τῷ βουλευομένῳ πρὸς ὃν σκοπεῖ τὸ συμφέρον, περὶ μὲν τοῦ τέλους οὐθεὶς βουλεύεται, ἀλλὰ τοῦτ’ ἐστιν ἀρχὴ καὶ ὑπόθεσις, ὥσπερ ἐν ταῖς θεωρητικαῖς ἐπιστήμαις ὑποθέσεις (εἴρηται δὲ περὶ αὐτῶν ἐν μὲν τοῖς ἐν ἀρχῇ βραχέως, ἐν δὲ τοῖς ἀναλυτικοῖς δι’ ἀκριβείας), περὶ δὲ τῶν πρὸς τὸ τέλος φερόντων ἡ σκέψις καὶ μετὰ τέχνης καὶ ἄνευ τέχνης πᾶσιν ἐστίν, οἷον εἰ πολεμῶσιν ἢ μὴ πολεμῶσιν τοῦτο βουλευομένοις. ἐκ προτέρου δὲ μᾶλλον ἔσται τὸ δι’ ὅ, τοῦτ’ ἐστι τὸ οὗ ἕνεκα, οἷον πλοῦτος ἢ ἡδονὴ ἤ τι ἄλλο τοιοῦτον ὃ τυγχάνει οὗ ἕνεκα. βουλεύεται γὰρ ὁ βουλευόμενος, εἰ ἀπὸ τοῦ τέλους ἔσκεπται, ‹ἢ› ὅ τι ἐκεῖ συντείνει ὅπως εἰς αὑτὸν ἀγάγῃ, ἢ αὐτὸς δύναται πρὸς τὸ τέλος. τὸ δὲ τέλος ἐστὶ φύσει μὲν ἀεὶ ἀγαθόν, καὶ περὶ οὗ κατὰ μέρος βουλεύονται, οἷον ἰατρὸς βουλεύσαιτο ἂν εἰ δῷη φάρμακον, καὶ στρατηγὸς ποῦ στρατοπεδεύσηται, οἷς ἀγαθὸν τὸ τέλος τὸ ἁπλῶς ἄριστον ἐστίν· παρὰ φύσιν δὲ καὶ διαστροφὴν οὐ τὸ ἀγαθόν, ἀλλὰ τὸ φαινόμενον ἀγαθόν. αἴτιον δ’ ὅτι τῶν ὄντων τὰ μὲν οὐκ ἔστιν ἐπ’ ἄλλῳ χρήσασθαι ἢ πρὸς ἃ πέφυκεν, οἷον ὄψει· οὐ γὰρ οἷόν τ’ ἰδεῖν οὗ μή ἐστιν ὄψις, οὐδ’ ἀκοῦσαι οὗ μή ἐστιν ἀκοή· ἀλλ’ ἀπὸ ἐπιστήμης ποιῆσαι καὶ οὗ μή ἐστιν ἡ ἐπιστήμη. οὐ γὰρ ὁμοίως τῆς ὑγιείας ἡ αὐτὴ ἐπιστήμη καὶ νόσου, ἀλλὰ τῆς μὲν κατὰ φύσιν τῆς δὲ παρὰ φύσιν. ὁμοίως δὲ καὶ ἡ βούλησις φύσει μὲν τοῦ ἀγαθοῦ ἐστί, παρὰ φύσιν δὲ καὶ τοῦ κακοῦ, καὶ βούλεται φύσει μὲν τὸ ἀγαθόν, παρὰ φύσιν δὲ καὶ διαστροφὴν καὶ τὸ κακόν.

ἀλλὰ μὴν ἑκάστου γε φθορὰ καὶ διαστροφὴ οὐκ εἰς τὸ τυχόν, ἀλλ’ εἰς τὰ ἐναντία καὶ τὰ μεταξύ. οὐ γὰρ ἔστιν ἐκβῆναι ἐκ τούτων, ἐπεὶ καὶ ἡ ἀπάτη οὐκ εἰς τὰ τυχόντα γίνεται, ἀλλ’ εἰς τὰ ἐναντία ὅσοις ἐστὶν ἐναντία, καὶ εἰς ταῦτα τῶν ἐναντίων ἃ κατὰ τὴν ἐπιστήμην ἐναντία ἐστίν. ἀνάγκη ἄρα καὶ τὴν ἀπάτην καὶ τὴν προαίρεσιν ἀπὸ τοῦ μέσου ἐπὶ τὰ ἐναντία γίνεσθαι (ἐναντία δὲ τῷ μέσῳ [καὶ] τὸ πλέον καὶ τὸ ἔλαττον). - αἴτιον δὲ τὸ ἡδὺ καὶ τὸ λυπηρόν· οὕτω γὰρ ἔχει ὥστε τῇ ψυχῇ φαίνεσθαι τὸ μὲν ἡδὺ ἀγαθὸν καὶ τὸ ἥδιον ἄμεινον, καὶ τὸ λυπηρὸν κακὸν καὶ τὸ λυπηρότερον [1227b] χεῖρον. ὥστε καὶ ἐκ τούτων δῆλον ὅτι περὶ ἡδονὰς καὶ λύπας ἡ ἀρετὴ καὶ ἡ κακία. περὶ μὲν γὰρ τὰ προαιρετὰ τυγχάνουσιν οὖσαι, ἡ δὲ προαίρεσις περὶ τὸ ἀγαθὸν καὶ κακὸν καὶ τὰ φαινόμενα, τοιαῦτα δὲ φύσει ἡδονὴ καὶ λύπη.

ἀνάγκη τοίνυν, ἐπειδὴ ἡ ἀρετὴ μὲν ἡ ἠθικὴ αὐτή τε μεσότης τίς ἐστι καὶ περὶ ἡδονὰς καὶ λύπας πᾶσα, ἡ δὲ κακία ἐν ὑπερβολῇ καὶ ἐλλείψει καὶ περὶ ταὐτὰ τῇ ἀρετῇ, τὴν ἀρετὴν εἶναι τὴν ἠθικὴν ἕξιν προαιρετικὴν μεσότητος τῆς πρὸς ἡμᾶς ἐν ἡδέσι καὶ λυπηροῖς, καθ’ ὅσα ποιός τις λέγεται τὸ ἦθος, ἢ χαίρων ἢ λυπούμενος· ὁ γὰρ φιλόγλυκυς ἢ φιλόπικρος οὐ λέγεται ποιός τις τὸ ἦθος.

τούτων δὲ διωρισμένων, λέγωμεν πότερον ἡ ἀρετὴ ἀναμάρτητον ποιεῖ τὴν προαίρεσιν καὶ τὸ τέλος ὀρθόν, οὕτως ὥστε οὗ ἕνεκα δεῖ προαιρεῖσθαι, ἢ ὥσπερ δοκεῖ τισί, τὸν λόγον. ἔστι δὲ τοῦτο ἐγκράτεια· αὕτη γὰρ οὐ διαφθείρει τὸν λόγον. ἔστι δ’ ἀρετὴ καὶ ἐγκράτεια ἕτερον. λεκτέον δ’ ὕστερον περὶ αὐτῶν, ἐπεὶ ὅσοις γε δοκεῖ τὸν λόγον ὀρθὸν παρέχειν ἡ ἀρετή, τοῦτο αἴτιον. ἡ μὲν ‹γὰρ› ἐγκράτεια τοιοῦτον, τῶν ἐπαινετῶν δ’ ἡ ἐγκράτεια. λέγομεν δὲ προαπορήσαντες. ἔστι γὰρ τὸν μὲν σκοπὸν ὀρθὸν εἶναι, ἐν δὲ τοῖς πρὸς τὸν σκοπὸν διαμαρτάνειν· ἔστι δὲ τὸν μὲν σκοπὸν ἡμαρτῆσθαι, τὰ δὲ πρὸς ἐκεῖνον περαίνοντα ὀρθῶς ἔχειν, καὶ μηδέτερον. πότερον δ’ ἡ ἀρετὴ ποιεῖ τὸν σκοπὸν ἢ τὰ πρὸς τὸν σκοπόν; τιθέμεθα δὴ ὅτι τὸν σκοπόν, διότι τούτου οὐκ ἔστι συλλογισμὸς οὐδὲ λόγος. ἀλλὰ δὴ ὥσπερ ἀρχὴ τοῦτο ὑποκείσθω. οὔτε γὰρ ἰατρὸς σκοπεῖ εἰ δεῖ ὑγιαίνειν ἢ μή, ἀλλ’ εἰ περιπατεῖν ἢ μή, οὔτε ὁ γυμναστικὸς εἰ δεῖ εὖ ἔχειν ἢ μή, ἀλλ’ εἰ παλαῖσαι ἢ μή. ὁμοίως δ’ οὐδ’ ἄλλη οὐδεμία περὶ τοῦ τέλους· ὥσπερ γὰρ ταῖς θεωρητικαῖς αἱ ὑποθέσεις ἀρχαί, οὕτω καὶ ταῖς ποιητικαῖς τὸ τέλος ἀρχὴ καὶ ὑπόθεσις. ἐπειδὴ δεῖ τόδε ὑγιαίνειν, ἀνάγκη τοδὶ ὑπάρξαι, εἰ ἔσται ἐκεῖνο, ὥσπερ ἐκεῖ, εἰ ἔστι τὸ τρίγωνον δύο ὀρθαί, ἀνάγκη τοδὶ εἶναι. τῆς μὲν οὖν νοήσεως ἀρχὴ τὸ τέλος, τῆς δὲ πράξεως ἡ τῆς νοήσεως τελευτή. εἰ οὖν πάσης ὀρθότητος ἢ ὁ λόγος ἢ ἡ ἀρετὴ αἰτία, εἰ μὴ ὁ λόγος, διὰ τὴν ἀρετὴν ἂν ὀρθὸν εἴη τὸ τέλος, ἀλλ᾽ οὐ τὰ πρὸς τὸ τέλος. τέλος δ᾽ ἐστὶ τὸ οὗ ἕνεκα. ἔστι γὰρ πᾶσα προαίρεσις τινὸς καὶ ἕνεκα τινός. οὗ μὲν οὖν ἕνεκα τὸ μέσον ἐστίν, οὗ αἰτία ἡ ἀρετὴ τῷ προαιρεῖσθαι οὗ ἕνεκα. ἔστι μέντοι ἡ προαίρεσις οὐ τούτου, ἀλλὰ τῶν τούτου ἕνεκα. τὸ μὲν οὖν τυγχάνειν τούτων ἄλλης δυνάμεως, ὅσα ἕνεκα τοῦ τέλους δεῖ [1228a] πράττειν· τοῦ δὲ τὸ τέλος ὀρθὸν εἶναι τῆς προαιρέσεως [οὗ] ἡ ἀρετὴ αἰτία. καὶ διὰ τοῦτο ἐκ τῆς προαιρέσεως κρίνομεν ποῖός τις· τοῦτο δ᾽ ἐστὶ τὸ τίνος ἕνεκα πράττει, ἀλλ᾽ οὐ τί πράττει. ὁμοίως δὲ καὶ ἡ κακία τῶν ἐναντίων ἕνεκα ποιεῖ τὴν προαίρεσιν. εἰ δή τις, ἐφ᾽ αὑτῷ ὂν πράττειν μὲν τὰ καλὰ ἀπρακτεῖν δὲ τὰ αἰσχρά, τοὐναντίον ποιεῖ, δῆλον ὅτι οὐ σπουδαῖός ἐστιν οὗτος ὁ ἄνθρωπος. ὥστ᾽ ἀνάγκη τήν τε κακίαν ἑκούσιον εἶναι καὶ τὴν ἀρετήν· οὐδεμία γὰρ ἀνάγκη τὰ μοχθηρὰ πράττειν. διὰ ταῦτα καὶ ψεκτὸν ἡ κακία καὶ ἡ ἀρετὴ ἐπαινετόν· τὰ γὰρ ἀκούσια αἰσχρὰ καὶ κακὰ οὐ ψέγεται οὐδὲ τὰ ἀγαθὰ ἐπαινεῖται, ἀλλὰ τὰ ἑκούσια. ἔτι πάντας ἐπαινοῦμεν καὶ ψέγομεν εἰς τὴν προαίρεσιν βλέποντες μᾶλλον ἢ εἰς τὰ ἔργα· καίτοι αἱρετώτερον ἡ ἐνέργεια τῆς ἀρετῆς, ὅτι πράττουσι μὲν φαῦλα καὶ ἀναγκαζόμενοι, προαιρεῖται δ᾽ οὐδείς. ἔτι διὰ τὸ μὴ ῥᾴδιον εἶναι ἰδεῖν τὴν προαίρεσιν ὁποία τις, διὰ ταῦτα ἐκ τῶν ἔργων ἀναγκαζόμεθα κρίνειν ποῖός τις. αἱρετώτερον μὲν οὖν ἡ ἐνέργεια, ἐπαινετώτερον δ᾽ ἡ προαίρεσις. ἔκ τε τῶν κειμένων οὖν συμβαίνει ταῦτα, καὶ ἔτι ὁμολογεῖται τοῖς φαινομένοις.

Βιβλίο 3

ὅτι μὲν οὖν μεσότητές εἰσί τε ἐν ταῖς ἀρεταῖς, καὶ αὖται προαιρετικαί, καὶ αἱ ἐναντίαι κακίαι, καὶ τίνες εἰσὶν αὗται, καθόλου εἴρηται· καθ’ ἑκάστην δὲ λαμβάνοντες λέγωμεν ἐφεξῆς, καὶ πρῶτον εἴπωμεν περὶ ἀνδρείας. - σχεδὸν δὴ δοκεῖ πᾶσιν ὅ τ’ ἀνδρεῖος εἶναι περὶ φόβους καὶ ἡ ἀνδρεία μία τῶν ἀρετῶν. διείλομεν δ’ ἐν τῇ διαγραφῇ πρότερον καὶ θράσος καὶ φόβον ἐναντία· καὶ γάρ ἐστί πως ἀντικείμενα ἀλλήλοις. δῆλον οὖν ὅτι καὶ οἱ κατὰ τὰς ἕξεις ταύτας λεγόμενοι ὁμοίως ἀντικείσονται σφίσιν αὐτοῖς, οἷον ὁ δειλὸς (οὗτος γὰρ λέγεται κατὰ τὸ φοβεῖσθαι μᾶλλον ἢ δεῖ καὶ θαρρεῖν ἧττον ἢ δεῖ) καὶ ὁ θρασύς· καὶ γὰρ οὗτος κατὰ τὸ τοιοῦτος εἶναι οἷος φοβεῖσθαι μὲν ἧττον ἢ δεῖ, θαρρεῖν δὲ μᾶλλον ἢ δεῖ. διὸ καὶ παρωνυμιάζεται· ὁ γὰρ θρασὺς παρὰ τὸ θράσος λέγεται παρωνύμως. ὥστ’ ἐπεὶ ἡ ἀνδρεία ἐστὶν ἡ βελτίστη ἕξις περὶ φόβους καὶ θάρρη, δεῖ δὲ μήθ’ οὕτως ὡς οἱ θρασεῖς (τὰ μὲν γὰρ ἐλλείπουσι, τὰ δ’ ὑπερβάλλουσι) μήθ’ οὕτως ὡς οἱ δειλοί (καὶ γὰρ οὗτοι ταὐτὸ ποιοῦσι, [1228b] πλὴν οὐ περὶ ταὐτὰ ἀλλ’ ἐξ ἐναντίας· τῷ μὲν γὰρ θαρρεῖν ἐλλείπουσι, τῷ δὲ φοβεῖσθαι ὑπερβάλλουσι), δῆλον ὡς ἡ μέση διάθεσις θρασύτητος καὶ δειλίας ἐστὶν ἀνδρεία· αὕτη γὰρ βελτίστη.

δοκεῖ δ’ ὁ ἀνδρεῖος ἄφοβος εἶναι ὡς ἐπὶ τὸ πολύ, ὁ δὲ δειλὸς φοβητικός, καὶ ὃ μὲν καὶ πολλὰ καὶ ὀλίγα καὶ μεγάλα καὶ μικρὰ φοβεῖσθαι, καὶ σφόδρα καὶ ταχύ, ὃ δὲ τὸ ἐναντίον ἢ οὐ φοβεῖσθαι ἢ ἠρέμα καὶ μόλις καὶ ὀλιγάκις καὶ μεγάλα, καὶ ὃ μὲν ὑπομένει τὰ φοβερὰ σφόδρα, ὃ δὲ οὐδὲ τὰ ἠρέμα. ποῖα οὖν ὑπομένει ὁ ἀνδρεῖος; πρῶτον πότερον τὰ ἑαυτῷ φοβερὰ ἢ τὰ ἑτέρῳ; εἰ μὲν δὴ τὰ ἑτέρῳ φοβερά, οὐθὲν σεμνὸν φαίη ἄν τις εἶναι· εἰ δὲ τὰ αὐτῷ, εἴη ἂν αὐτῷ μεγάλα καὶ πολλὰ φοβερά. φόβου ποιητικὰ ἑκάστῳ ᾧ φοβερά, οἷον εἰ μὲν σφόδρα φοβερά, εἴη ἂν ἰσχυρὸς ὁ φόβος, εἰ δ’ ἠρέμα, ἀσθενής. ὥστε συμβαίνει τὸν ἀνδρεῖον μεγάλους φόβους καὶ πολλοὺς ποιεῖσθαι. ἐδόκει δὲ τοὐναντίον ἡ ἀνδρεία ἄφοβον παρασκευάζειν, τοῦτο δ’ εἶναι ἐν τῷ ἢ μηθὲν ἢ ὀλίγα φοβεῖσθαι, καὶ ἠρέμα καὶ μόλις. ἀλλ’ ἴσως τὸ φοβερὸν λέγεται, ὥσπερ καὶ τὸ ἡδὺ καὶ τὸ ἀγαθόν, διχῶς. τὰ μὲν γὰρ ἁπλῶς, τὰ δὲ τινὶ μὲν καὶ ἡδέα καὶ ἀγαθὰ ἐστίν, ἁπλῶς δ’ οὔ, ἀλλὰ τοὐναντίον φαῦλα καὶ οὐχ ἡδέα, ὅσα τοῖς πονηροῖς ὠφέλιμα καὶ ὅσα ἡδέα τοῖς παιδίοις ᾗ παιδία. ὁμοίως δὲ καὶ τὰ φοβερὰ τὰ μὲν ἁπλῶς ἐστί, τὰ δὲ τινί. ἃ μὲν δὴ δειλὸς φοβεῖται ᾗ δειλός, τὰ μὲν οὐδενί ἐστι φοβερά, τὰ δ’ ἠρέμα· τὰ δὲ τοῖς πλείστοις φοβερά, καὶ ὅσα τῇ ἀνθρωπίνῃ φύσει, ταῦθ’ ἁπλῶς φοβερὰ λέγομεν. ὁ δ’ ἀνδρεῖος πρὸς ταῦτ’ ἔχει ἀφόβως, καὶ ὑπομένει τὰ τοιαῦτα φοβερά, ἃ ἔστι μὲν ὡς φοβερὰ αὐτῷ, ἔστι δ’ ὡς οὔ, ᾗ μὲν ἄνθρωπος, φοβερά, ᾗ δ’ ἀνδρεῖος, οὐ φοβερὰ ἀλλ’ ἢ ἠρέμα ἢ οὐδαμῶς. ἔστι μέντοι φοβερὰ ταῦτα· τοῖς γὰρ πλείστοις φοβερά. διὸ καὶ ἐπαινεῖται ἡ ἕξις· ὥσπερ γὰρ ὁ ἰσχυρὸς καὶ ὑγιεινὸς ἔχει. καὶ γὰρ οὗτοι οὐ τῷ ὑπὸ μηθενὸς ὃ μὲν πόνου τρίβεσθαι, ὃ δ’ ὑπὸ μηδεμιᾶς ὑπερβολῆς, τοιοῦτοι εἰσίν, ἀλλὰ τῷ ὑπὸ τούτων ἀπαθεῖς εἶναι, ἢ ἁπλῶς ἢ ἠρέμα, ὑφ’ ὧν οἱ πολλοὶ καὶ οἱ πλεῖστοι. οἱ μὲν οὖν νοσώδεις καὶ ἀσθενεῖς καὶ δειλοὶ καὶ ὑπὸ τῶν κοινῶν παθημάτων πάσχουσί τι, πλὴν θᾶττόν τε καὶ μᾶλλον ἢ οἱ πολλοί, καὶ ἔτι ὑφ’ ὧν οἱ πολλοὶ πάσχουσιν, ὑπὸ τούτων ἀπαθεῖς ἢ ὅλως ἢ ἠρέμα.

ἀπορεῖται δ’ εἰ τῷ ἀνδρείῳ οὐθέν ἐστι φοβερόν, οὐδ’ ἂν φοβηθείη. [1229a] ἢ οὐθὲν κωλύει τὸν εἰρημένον τρόπον; ἡ γὰρ ἀνδρεία ἀκολούθησις τῷ λόγῳ ἐστίν, ὁ δὲ λόγος τὸ καλὸν αἱρεῖσθαι κελεύει. διὸ καὶ ὁ μὴ διὰ τοῦτο ὑπομένων αὐτά, οὗτος ἤτοι ἐξέστηκεν ἢ θρασύς· ὁ δὲ διὰ τὸ καλὸν ἄφοβος καὶ ἀνδρεῖος μόνος. ὁ μὲν οὖν δειλὸς καὶ ἃ μὴ δεῖ φοβεῖται, ὁ δὲ θρασὺς καὶ ἃ μὴ δεῖ θαρρεῖ· ὁ δ’ ἀνδρεῖος ἄμφω ἃ δεῖ, καὶ ταύτῃ μέσος ἐστίν. ἃ γὰρ ἂν ὁ λόγος κελεύῃ, ταῦτα καὶ θαρρεῖ καὶ φοβεῖται. ὁ δὲ λόγος τὰ μεγάλα λυπηρὰ καὶ φθαρτικὰ οὐ κελεύει ὑπομένειν, ἂν μὴ καλὰ ᾖ. ὁ μὲν οὖν θρασύς, καὶ εἰ μὴ κελεύει, ταῦτα θαρρεῖ, ὁ δὲ δειλὸς οὐδ’ ἂν κελεύῃ· ὁ δὲ ἀνδρεῖος μόνος, ἐὰν κελεύῃ.

ἔστι δ’ εἴδη ἀνδρείας πέντε λεγόμενα καθ’ ὁμοιότητα· ‹τὰ› αὐτὰ γὰρ ὑπομένουσιν, ἀλλ’ οὐ διὰ τὰ αὐτά. μία μὲν πολιτική· αὕτη δ’ ἐστὶν ἡ δι’ αἰδῶ οὖσα. δευτέρα ἡ στρατιωτική· αὕτη δὲ δι’ ἐμπειρίαν καὶ τὸ εἰδέναι, οὐχ ὥσπερ Σωκράτης ἔφη τὰ δεινά, ἀλλ’ ὅτι τὰς βοηθείας τῶν δεινῶν. τρίτη δ’ ἡ δι’ ἀπειρίαν καὶ ἄγνοιαν, δι’ ἣν τὰ παιδία καὶ οἱ μαινόμενοι οἳ μὲν ὑπομένουσι τὰ φερόμενα, οἳ δὲ λαμβάνουσι τοὺς ὄφεις. ἄλλη δ’ ἡ κατ’ ἐλπίδα, καθ’ ἣν οἵ τε κατευτυχηκότες πολλάκις ὑπομένουσι τοὺς κινδύνους καὶ οἱ μεθύοντες· εὐέλπιδας γὰρ ποιεῖ ὁ οἶνος. ἄλλη δὲ διὰ πάθος ἀλόγιστον, οἷον δι’ ἔρωτα καὶ θυμόν. ἄν τε γὰρ ἐρᾷ, θρασὺς μᾶλλον ἢ δειλός, καὶ ὑπομένει πολλοὺς κινδύνους, ὥσπερ ὁ ἐν Μεταποντίῳ τὸν τύραννον ἀποκτείνας καὶ ὁ ἐν Κρήτῃ μυθολογούμενος· καὶ δι’ ὀργὴν καὶ θυμὸν ὡσαύτως. ἐκστατικὸν γὰρ ὁ θυμός. διὸ καὶ οἱ ἄγριοι σύες ἀνδρεῖοι δοκοῦσιν εἶναι, οὐκ ὄντες· ὅταν γὰρ ἐκστῶσι, τοιοῦτοι εἰσίν, εἰ δὲ μή, ἀνώμαλοι, ὥσπερ οἱ θρασεῖς. ὅμως δὲ μάλιστα φυσικὴ ἡ τοῦ θυμοῦ· ἀήττητον γὰρ ὁ θυμός, διὸ καὶ οἱ παῖδες ἄριστα μάχονται. διὰ νόμον δὲ ἡ πολιτικὴ ἀνδρεία. κατ’ ἀλήθειαν δὲ οὐδεμία τούτων, ἀλλὰ πρὸς τὰς παρακελεύσεις τὰς ἐν τοῖς κινδύνοις χρήσιμα ταῦτα πάντα.

περὶ δὲ τῶν φοβερῶν νῦν μὲν ἁπλῶς εἰρήκαμεν, βέλτιον δὲ διορίσασθαι μᾶλλον. ὅλως μὲν οὖν φοβερὰ λέγεται τὰ ποιητικὰ φόβου. τοιαῦτα δ’ ἐστὶν ὅσα φαίνεται ποιητικὰ λύπης φθαρτικῆς· τοῖς γὰρ ἄλλην τινὰ προσδεχομένοις λύπην ἑτέρα μὲν ἄν τις ἴσως λύπη γένοιτο καὶ πάθος ἕτερον, φόβος δ’ οὐκ ἔσται, οἷον εἴ τις προορῴτο ὅτι λυπήσεται λύπην ἣν οἱ φθονοῦντες λυποῦνται, ἢ τοιαύτην οἵαν οἱ ζηλοῦντες ἢ οἱ αἰσχυνόμενοι. ἀλλ’ ἐπὶ μόναις ταῖς τοιαύταις φαινομέναις ἔσεσθαι λύπαις φόβος γίνεται, ὅσων ἡ φύσις ἀναιρετικὴ τοῦ [1229b] ζῆν. διὸ καὶ σφόδρα τινὲς ὄντες μαλακοὶ περὶ ἔνια ἀνδρεῖοι εἰσί, καὶ ἔνιοι σκληροὶ καὶ καρτερικοὶ [καὶ] δειλοί. καὶ δὴ καὶ δοκεῖ σχεδὸν ἴδιον τῆς ἀνδρείας εἶναι τὸ περὶ τὸν θάνατον καὶ τὴν περὶ τούτου λύπην ἔχειν πώς. εἰ γάρ τις εἴη τοιοῦτος οἷος πρὸς ἀλέας καὶ ψύχη καὶ τὰς τοιαύτας λύπας ὑπομενετικός, ὡς ὁ λόγος, ἀκινδύνους οὔσας, πρὸς δὲ τὸν θάνατον καὶ μαλακὸς καὶ περίφοβος, μὴ δι’ ἄλλο τι πάθος ἀλλὰ δι’ αὐτὴν τὴν φθοράν, ἄλλος δὲ πρὸς μὲν ἐκείνας μαλακός, πρὸς δὲ τὸν θάνατον ἀπαθής· ἐκεῖνος μὲν ἂν εἶναι δόξειε δειλός, οὗτος δ’ ἀνδρεῖος. καὶ γὰρ κίνδυνος ἐπὶ τοῖς τοιούτοις λέγεται μόνοις τῶν φοβερῶν, ὅταν πλησίον ᾖ τὸ τῆς τοιαύτης φθορᾶς ποιητικόν. φαίνεται δὲ κίνδυνος, ὅταν πλησίον φαίνηται.

τὰ μὲν οὖν φοβερά, περὶ ὅσα φαμὲν εἶναι τὸν ἀνδρεῖον, εἴρηται δὴ ὅτι τὰ φαινόμενα ποιητικὰ λύπης τῆς φθαρτικῆς· ταῦτα μέντοι πλησίον τε φαινόμενα καὶ μὴ πόρρω, καὶ τοσαῦτα τῷ μεγέθει ὄντα ἢ φαινόμενα ὥστ’ εἶναι σύμμετρα πρὸς ἄνθρωπον. ἔνια γὰρ ἀνάγκη παντὶ φαίνεσθαι ἀνθρώπῳ φοβερὰ καὶ διαταράττειν. οὐθὲν γὰρ κωλύει, ὥσπερ θερμὰ καὶ ψυχρά, καὶ τῶν ἄλλων δυνάμεων ἐνίας ὑπὲρ ἡμᾶς εἶναι καὶ τὰς τοῦ ἀνθρωπίνου σώματος ἕξεις· οὕτω καὶ τῶν περὶ τὴν ψυχὴν παθημάτων.

οἱ μὲν ‹οὖν› δειλοὶ καὶ θρασεῖς ἐπιψεύδονται διὰ τὰς ἕξεις· τῷ μὲν γὰρ δειλῷ τά τε μὴ φοβερὰ δοκεῖ φοβερὰ εἶναι καὶ τὰ ἠρέμα σφόδρα, τῷ δὲ θρασεῖ τὸ ἐναντίον τά τε φοβερὰ θαρραλέα καὶ τὰ σφόδρα ἠρέμα, τῷ δ’ ἀνδρείῳ τἀληθῆ μάλιστα. διόπερ οὔτ’ εἴ τις ὑπομένοι τὰ φοβερὰ δι’ ἄγνοιαν, ἀνδρεῖος, οἷον εἴ τις τοὺς κεραυνοὺς ὑπομένοι φερομένους διὰ μανίαν, οὔτ’ εἰ γιγνώσκων ὅσος ὁ κίνδυνος, διὰ θυμόν, οἷον οἱ Κελτοὶ πρὸς τὰ κύματα ὅπλα ἀπαντῶσι λαβόντες, καὶ ὅλως ἡ βαρβαρικὴ ἀνδρεία μετὰ θυμοῦ ἐστίν. ἔνιοι δὲ καὶ δι’ ἄλλας ἡδονὰς ὑπομένουσιν. καὶ γὰρ ὁ θυμὸς ἡδονὴν ἔχει τινά· μετ’ ἐλπίδος γάρ ἐστι τιμωρίας. ἀλλ’ ὅμως οὔτ’ εἰ διὰ ταύτην οὔτ’ εἰ δι’ ἄλλην ἡδονὴν ὑπομένει τις τὸν θάνατον ἢ φυγὴν μειζόνων λυπῶν, οὐδεὶς δικαίως ‹ἂν› ἀνδρεῖος λέγοιτο τούτων. εἰ γὰρ ἦν ἡδὺ τὸ ἀποθνήσκειν, πολλάκις ἂν δι’ ἀκρασίαν ἀπέθνησκον οἱ ἀκόλαστοι, ὥσπερ καὶ νῦν αὐτοῦ μὲν τοῦ ἀποθνήσκειν οὐκ ὄντος ἡδέος, τῶν ποιητικῶν δ’ αὐτοῦ, πολλοὶ δι’ ἀκρασίαν περιπίπτουσιν εἰδότες, ὧν οὐθεὶς ‹ἂν› ἀνδρεῖος εἶναι δόξειεν, εἰ καὶ πάνυ ἑτοίμως ἀποθνήσκειν. οὔτ’ εἰ φεύγοντες τὸ πονεῖν, ὅπερ πολλοὶ ποιοῦσιν, οὐδὲ τῶν τοιούτων οὐδεὶς ἀνδρεῖος, καθάπερ καὶ Ἀγάθων φησὶ

[1230a] “φαῦλοι βροτῶν γὰρ τοῦ πονεῖν ἡσσώμενοι,
θανεῖν ἐρῶσιν.”

ὥσπερ καὶ τὸν Χείρωνα μυθολογοῦσιν οἱ ποιηταὶ διὰ τὴν ἀπὸ τοῦ ἕλκους ὀδύνην εὔξασθαι ἀποθανεῖν ἀθάνατον ὄντα. παραπλησίως δὲ τούτοις καὶ ὅσοι δι’ ἐμπειρίαν ὑπομένουσι τοὺς κινδύνους, ὅνπερ τρόπον σχεδὸν οἱ πλεῖστοι τῶν στρατιωτικῶν ἀνθρώπων ὑπομένουσιν. αὐτὸ γὰρ τοὐναντίον ἔχει ἢ ὡς ᾤετο Σωκράτης, ἐπιστήμην οἰόμενος εἶναι τὴν ἀνδρείαν. οὔτε γὰρ διὰ τὸ εἰδέναι τὰ φοβερὰ θαρροῦσιν οἱ ἐπὶ τοὺς ἱστοὺς ἀναβαίνειν ἐπιστάμενοι, ἀλλ’ ὅτι ἴσασι τὰς βοηθείας τῶν δεινῶν· οὔτε δι’ ὃ θαρραλεώτερον ἀγωνίζονται, τοῦτο ἀνδρεία. καὶ γὰρ ἂν ἡ ἰσχὺς καὶ ὁ πλοῦτος κατὰ Θέογνιν ἀνδρεία εἶεν·

“πᾶς γὰρ ἀνὴρ πενίῃ δεδμημένος.” φανερῶς ‹δ’› ἔνιοι δειλοὶ ὄντες ὅμως ὑπομένουσι δι’ ἐμπειρίαν· τοῦτο δέ, ὅτι οὐκ οἴονται κίνδυνον εἶναι· ἴσασι γὰρ τὰς βοηθείας. σημεῖον δέ· ὅταν γὰρ μὴ ἔχειν οἴωνται βοήθειαν, ἀλλ’ ἤδη πλησίον ᾖ τὸ δεινόν, οὐχ ὑπομένουσιν. ἀλλὰ πάντων τῶν τοιούτων ἀνδρείων οἱ διὰ τὴν αἰδῶ ὑπομένοντες μάλιστα φανεῖεν ‹ἂν› ἀνδρεῖοι, καθάπερ καὶ Ὅμηρος τὸν Ἕκτορά φησιν ὑπομεῖναι τὸν κίνδυνον τὸν πρὸς τὸν Ἀχιλλέα·

“Ἕκτορα δ’ αἰδὼς εἷλε·”

‹καὶ›

“Πουλυδάμας μοι πρῶτος ἐλεγχείην ἀναθήσει.”

καὶ ἐστὶν ἡ πολιτικὴ ἀνδρεία αὕτη. ἡ δ’ ἀληθὴς οὔτε αὕτη οὔτ’ ἐκείνων οὐδεμία, ἀλλὰ ὁμοία μέν, ὥσπερ καὶ ἡ τῶν θηρίων, ἃ διὰ τὸν θυμὸν ὁμόσε τῇ πληγῇ φέρεται. οὔτε γὰρ ὅτι ἀδοξήσει, δεῖ μένειν φοβουμένους, οὔτε δι’ ὀργήν, οὔτε διὰ τὸ μὴ νομίζειν ἀποθανεῖσθαι, ἢ διὰ τὸ δυνάμεις ἔχειν φυλακτικάς· οὐδὲ γὰρ οἰήσεται οὕτω γε φοβερὸν εἶναι οὐθέν. ἀλλ’ ἐπειδὴ πᾶσα ἀρετὴ προαιρετική (τοῦτο δὲ πῶς λέγομεν, εἴρηται πρότερον, ὅτι ἕνεκά τινος πάντα αἱρεῖσθαι ποιεῖ, καὶ τοῦτό ἐστι τὸ οὗ ἕνεκα, τὸ καλόν), δῆλον ὅτι καὶ ἡ ἀνδρεία ἀρετή τις οὖσα ἕνεκά τινος ποιήσει τὰ φοβερὰ ὑπομένειν, ὥστ’ οὔτε δι’ ἄγνοιαν (ὀρθῶς γὰρ μᾶλλον ποιεῖ κρίνειν) οὔτε δι’ ἡδονήν, ἀλλ’ ὅτι καλόν, ἐπεί, ἄν γε μὴ καλὸν ᾖ ἀλλὰ μανικόν, οὐχ ὑπομένει· αἰσχρὸν γάρ.

περὶ ποῖα μὲν οὖν ἐστιν ἡ ἀνδρεία μεσότης καὶ τίνων καὶ διὰ τί, καὶ τὰ φοβερὰ τίνα δύναμιν ἔχει, σχεδὸν εἴρηται κατὰ τὴν παροῦσαν ἔφοδον ἱκανῶς· περὶ δὲ σωφροσύνης καὶ ἀκολασίας μετὰ ταῦτα διελέσθαι πειρατέον. λέγεται δ’ ὁ ἀκόλαστος πολλαχῶς. ὅ τε γὰρ μὴ κεκολασμένος πως μηδ’ ἰατρευμένος, ὥσπερ ἄτμητος ὁ μὴ [1230b] τετμημένος, καὶ τούτων ὃ μὲν δυνατός, ὃ δ’ ἀδύνατος· ἄτμητον γὰρ τό τε μὴ δυνάμενον τμηθῆναι καὶ τὸ δυνατὸν μὲν μὴ τετμημένον δέ. τὸν αὐτὸν δὲ τρόπον καὶ τὸ ἀκόλαστον. καὶ γὰρ τὸ μὴ πεφυκὸς δέχεσθαι κόλασιν, καὶ τὸ πεφυκὸς μὲν μὴ κεκολασμένον δὲ περὶ ἁμαρτίας, περὶ ἃς ὀρθοπραγεῖ ὁ σώφρων, ὥσπερ οἱ παῖδες· κατὰ ταύτην γὰρ ἀκόλαστοι λέγονται τὴν ἀκοκασίαν. ἔτι δ’ ἄλλον τρόπον οἱ δυσίατοι καὶ οἱ ἀνίατοι πάμπαν διὰ κολάσεως. πλεοναχῶς δὲ λεγομένης τῆς ἀκολασίας, ὅτι μὲν περὶ ἡδονάς τινας καὶ λύπας εἰσί, φανερόν, καὶ ὅτι ἐν τῷ περὶ ταύτας διακεῖσθαί πως καὶ ἀλλήλων διαφέρουσι καὶ τῶν ἄλλων· διεγράψαμεν δὲ πρότερον πῶς τὴν ἀκολασίαν ὀνομάζοντες μεταφέρομεν. τοὺς δὲ ἀκινήτως ἔχοντας δι’ ἀναισθησίαν πρὸς τὰς αὐτὰς ἡδονὰς οἳ μὲν καλοῦσιν ἀναισθήτους, οἳ δὲ ἄλλοις ὀνόμασι τοιούτους προσαγορεύουσιν. ἔστι δ’ οὐ πάνυ γνώριμον τὸ πάθος οὐδ’ ἐπιπόλαιον διὰ τὸ πάντας ἐπὶ θάτερον ἁμαρτάνειν μᾶλλον καὶ πᾶσιν εἶναι σύμφυτον τὴν τῶν τοιούτων ἡδέων ἧτταν καὶ αἴσθησιν. μάλιστα δ’ εἰσὶ τοιοῦτοι, οἵους οἱ κωμῳδοδιδάσκαλοι παράγουσιν ἀγροίκους, οἳ οὐδὲ τὰ μέτρια καὶ τὰ ἀναγκαῖα πλησιάζουσι τοῖς ἡδέσιν.

ἐπεὶ δ’ ὁ σώφρων ἐστὶ περὶ ἡδονάς, ἀνάγκη καὶ περὶ ἐπιθυμίας τινὰς αὐτὸν εἶναι. δεῖ δὴ λαβεῖν περὶ τίνας. οὐ γὰρ περὶ πάσας οὐδὲ περὶ ἅπαντα τὰ ἡδέα ὁ σώφρων σώφρων ἐστίν, ἀλλὰ τῇ μὲν δόξῃ περὶ δύο τῶν αἰσθητῶν, περί τε τὸ γευστὸν καὶ τὸ ἁπτόν, τῇ δ’ ἀληθείᾳ περὶ τὸ ἁπτόν· περὶ γὰρ τὴν διὰ τῆς ὄψεως ἡδονὴν τῶν καλῶν ἄνευ ἐπιθυμίας ἀφροδισίων, ἢ λύπην τῶν αἰσχρῶν, καὶ περὶ τὴν διὰ τῆς ἀκοῆς τῶν εὐαρμόστων ἢ ἀναρμόστων, ἔτι δὲ πρὸς τὰς δι’ ὀσφρήσεως, τάς τε ἀπὸ εὐωδίας καὶ τὰς ἀπὸ δυσωδίας, οὐκ ἔστιν ὁ σώφρων. οὐδὲ γὰρ ἀκόλαστος οὐδεὶς λέγεται τῷ πάσχειν ἢ μὴ πάσχειν. εἰ γοῦν τις ἢ καλὸν ἀνδριάντα θεώμενος ἢ ἵππον ἢ ἄνθρωπον, ἢ ἀκροώμενος ᾄδοντος, μὴ βούλοιτο μήτε ἐσθίειν μήτε πίνειν μήτε ἀφροδισιάζειν, ἀλλὰ τὰ μὲν καλὰ θεωρεῖν τῶν δ’ ᾀδόντων ἀκούειν, οὐκ ἂν δόξειεν ἀκόλαστος εἶναι, ὥσπερ οὐδ’ οἱ κηλούμενοι παρὰ ταῖς Σειρῆσιν. ἀλλὰ περὶ τὰ δύο τῶν αἰσθητῶν ταῦτα, περὶ ἅπερ καὶ τἆλλα θηρία μόνον τυγχάνει αἰσθητικῶς ἔχοντα, καὶ χαίροντα καὶ λυπούμενα, περὶ τὰ γευστὰ καὶ ἁπτά. περὶ δὲ τὰ τῶν ἄλλων αἰσθητῶν ἡδέα σχεδὸν ὁμοίως ἅπαντα [1231a] φαίνεται ἀναισθήτως διακείμενα, οἷον περὶ εὐαρμοστίαν ἢ κάλλος. οὐθὲν γάρ, ὅ τι καὶ ἄξιον λόγου, φαίνεται πάσχοντα αὐτῇ τῇ θεωρίᾳ τῶν καλῶν ἢ τῇ ἀκροάσει τῶν εὐαρμόστων, εἰ μή τί που συμβέβηκε τερατῶδες· ἀλλ' οὐδὲ πρὸς τὰ εὐώδη ἢ δυσώδη· καίτοι τάς γε αἰσθήσεις ὀξυτέρας ἔχουσι πάσας. ἀλλὰ καὶ τῶν ὀσμῶν ταύταις χαίρουσιν ὅσαι κατὰ συμβεβηκὸς εὐφραίνουσιν, ἀλλὰ μὴ καθ' αὑτάς. λέγω δὲ ‹μὴ› καθ' αὑτάς, αἷς ἢ ἐλπίζοντες χαίρομεν ἢ μεμνημένοι, οἷον ὄψων καὶ ποτῶν (δι' ἑτέραν γὰρ ἡδονὴν ταύταις χαίρομεν, τὴν τοῦ φαγεῖν ἢ πιεῖν), καθ' αὑτὰς δὲ οἷον αἱ τῶν ἀνθῶν εἰσίν. διὸ ἐμμελῶς ἔφη Στρατόνικος τὰς μὲν καλὸν ὄζειν τὰς δὲ ἡδύ. ἐπεὶ καὶ τῶν περὶ τὸ γευστὸν οὐ περὶ πᾶσαν ἡδονὴν ἐπτόηται τὰ θηρία, οὐδ' ὅσων τῷ ἄκρῳ τῆς γλώττης ἡ αἴσθησις, ἀλλ' ὅσων τῷ φάρυγγι, καὶ ἔοικεν ἁφῇ μᾶλλον ἢ γεύσει τὸ πάθος. διὸ οἱ ὀψοφάγοι οὐκ εὔχονται τὴν γλῶτταν ἔχειν μακρὰν ἀλλὰ τὸν φάρυγγα γεράνου, ὥσπερ Φιλόξενος ὁ Ἐρύξιδος. ὥστε περὶ τὰ ἁπτόμενα, ὡς ἁπλῶς εἰπεῖν, θετέον τὴν ἀκολασίαν. ὁμοίως δὲ καὶ ὁ ἀκόλαστος περὶ τὰς τοιαύτας ἐστίν. οἰνοφλυγία γὰρ καὶ γαστριμαργία καὶ λαγνεία καὶ ὀψοφαγία καὶ πάντα τὰ τοιαῦτα περὶ τὰς εἰρημένας ἐστὶν αἰσθήσεις, εἰς ἅπερ μόρια ἡ ἀκολασία διαιρεῖται. περὶ δὲ τὰς δι' ὄψεως ἢ ἀκοῆς ἢ ὀσφρήσεως ἡδονὰς οὐθεὶς λέγεται ἀκόλαστος, ἐὰν ὑπερβάλλῃ, ἀλλ' ἄνευ ὀνείδους τὰς ἁμαρτίας ψέγομεν ταύτας, καὶ ὅλως περὶ ὅσα μὴ λέγονται ἐγκρατεῖς· οἱ δ' ἀκρατεῖς οὐκ εἰσὶν ἀκόλαστοι οὐδὲ σώφρονες.

ἀναίσθητος μὲν οὖν, ἢ ὅπως δεῖ ὀνομάζειν, ὁ οὕτως ἔχων ὥστε καὶ ἐλλείπειν ὅσων ἀνάγκη κοινωνεῖν ὡς ἐπὶ τὸ πολὺ πάντας καὶ χαίρειν· ὁ δ' ὑπερβάλλων ἀκόλαστος. πάντες γὰρ τούτοις φύσει τε χαίρουσι, καὶ ἐπιθυμίας λαμβάνουσι, καὶ οὐκ εἰσὶν οὐδὲ λέγονται ἀκόλαστοι (οὐ γὰρ ὑπερβάλλουσι τῷ χαίρειν μᾶλλον ἢ δεῖ τυγχάνοντες καὶ λυπεῖσθαι μᾶλλον ἢ δεῖ μὴ τυγχάνοντες), οὐδ' ἀνάλγητοι (οὐ γὰρ ἐλλείπουσι τῷ χαίρειν ἢ λυπεῖσθαι, ἀλλὰ μᾶλλον ὑπερβάλλουσιν).

ἐπεὶ δ' ἔστιν ὑπερβολὴ καὶ ἔλλειψις περὶ αὐτά, δῆλον ὅτι καὶ μεσότης, καὶ βελτίστη αὕτη ἡ ἕξις, καὶ ἀμφοῖν ἐναντία. ὥστ' εἰ σωφροσύνη ἡ βελτίστη ἕξις, περὶ ἃ ὁ ἀκόλαστος, ἡ περὶ τὰ ἡδέα τὰ εἰρημένα τῶν αἰσθητῶν μεσότης σωφροσύνη ἂν εἴη, μεσότης οὖσα ἀκολασίας καὶ ἀναισθησίας· ἡ δ' ὑπερβολὴ ἀκολασία· [1231b] ἡ δ' ἔλλειψις ἤτοι ἀνώνυμος ἢ τοῖς εἰρημένοις ὀνόμασι προσαγορευομένη. ἀκριβέστερον δὲ περὶ τοῦ γένους τῶν ἡδονῶν ἔσται διαιρετέον ἐν τοῖς λεγομένοις ὕστερον περὶ ἐγκρατείας καὶ ἀκρασίας.

τὸν αὐτὸν δὲ τρόπον ληπτέον καὶ περὶ πραότητος καὶ χαλεπότητος· καὶ γὰρ τὸν πρᾶον περὶ λύπην τὴν ἀπὸ θυμοῦ γιγνομένην ὁρῶμεν ὄντα, τῷ πρὸς ταύτην ἔχειν πώς. διεγράψαμεν δὲ καὶ ἀντεθήκαμεν τῷ ὀργίλῳ καὶ χαλεπῷ καὶ ἀγρίῳ (πάντα γὰρ τὰ τοιαῦτα τῆς αὐτῆς ἐστι διαθέσεως) τὸν ἀνδραποδώδη καὶ τὸν ἀνόητον. σχεδὸν γὰρ ταῦτα μάλιστα καλοῦσι τοὺς μηδ’ ἐφ’ ὅσοις δεῖ κινουμένους τὸν θυμόν, ἀλλὰ προπηλακιζομένους εὐχερῶς καὶ ταπεινοὺς πρὸς τὰς ὀλιγωρίας. ἔστι γὰρ ἀντικείμενον τῷ μὲν ταχὺ τὸ μόλις, τῷ δ’ ἠρέμα τὸ σφόδρα, τῷ δὲ πολὺν χρόνον τὸ ὀλίγον λυπεῖσθαι ταύτην τὴν λύπην ἣν καλοῦμεν θυμόν. ἐπεὶ δ’ ὥσπερ καὶ ἐπὶ τῶν ἄλλων εἴπομεν, καὶ ἐνταῦθ’ ἐστὶν ὑπερβολὴ καὶ ἔλλειψις (ὁ μὲν γὰρ χαλεπὸς τοιοῦτος ἐστίν, ὁ καὶ θᾶττον καὶ μᾶλλον πάσχων καὶ πλείω χρόνον καὶ ὅτ’ οὐ δεῖ καὶ ὁποίοις οὐ δεῖ καὶ ἐπὶ πολλοῖς, ὁ δ’ ἀνδραποδώδης τοὐναντίον), δῆλον ὅτι ἔστι τις καὶ ὁ μέσος τῆς ἀνισότητος. ἐπεὶ οὖν ἡμαρτημέναι ἀμφότεραι αἱ ἕξεις ἐκεῖναι, φανερὸν ὅτι ἐπιεικὴς ἡ μέση τούτων ἕξις· οὔτε γὰρ προτερεῖ οὔθ’ ὑστερίζει οὔτε οἷς οὐ δεῖ ὀργίζεται οὔτε οἷς δεῖ οὐκ ὀργίζεται. ὥστ’ ἐπεὶ καὶ πραότης ἡ βελτίστη ἕξις περὶ ταῦτα τὰ πάθη ἐστίν, εἴη καὶ ἡ πραότης μεσότης τις, καὶ ὁ πρᾶος μέσος τοῦ χαλεποῦ καὶ τοῦ ἀνδραποδώδους.

ἔστι δὲ καὶ ἡ μεγαλοψυχία καὶ ἡ μεγαλοπρέπεια καὶ ἡ ἐλευθεριότης μεσότητες. ἡ μὲν ἐλευθεριότης περὶ χρημάτων κτῆσιν καὶ ἀποβολήν. ὁ μὲν γὰρ κτήσει μὲν πάσῃ μᾶλλον χαίρων ἢ δεῖ, ἀποβολῇ δὲ πάσῃ λυπούμενος μᾶλλον ἢ δεῖ ἀνελεύθερος, ὁ δ’ ἀμφότερα ἧττον ἢ δεῖ ἄσωτος, ὁ δ’ ἄμφω ὡς δεῖ ἐλευθέριος. τοῦτο δὲ λέγω τὸ ὡς δεῖ, καὶ ἐπὶ τούτων καὶ ἐπὶ τῶν ἄλλων, τὸ ὡς ὁ λόγος ὁ ὀρθός. ἐπεὶ δ’ ἐκεῖνοι μέν εἰσιν ἐν ὑπερβολῇ καὶ ἐλλείψει, ὅπου δὲ ἔσχατα εἰσί, καὶ μέσον, καὶ τοῦτο βέλτιστον, ἓν δὲ περὶ ἕκαστον τῷ εἴδει τὸ βέλτιστον· ἀνάγκη καὶ τὴν ἐλευθεριότητα μεσότητα εἶναι ἀσωτίας καὶ ἀνελευθερίας περὶ χρημάτων κτῆσιν καὶ ἀποβολήν. διχῶς δὲ τὰ χρήματα λέγομεν καὶ τὴν χρηματιστικήν. ἣ μὲν γὰρ καθ’ αὑτὸ χρῆσις τοῦ κτήματος ἐστίν, [1232a] οἷον ὑποδήματος ἢ ἱματίου, ἣ δὲ κατὰ συμβεβηκὸς μέν, οὐ μέντοι οὕτως ὡς ἂν εἴ τις σταθμῷ χρήσαιτο τῷ ὑποδήματι, ἀλλ’ οἷον ἡ πώλησις καὶ ἡ μίσθωσις· χρῆται γὰρ ὑποδήματι. ὁ δὲ φιλάργυρος ὁ περὶ τὸ νόμισμά ἐστιν ἐσπουδακώς, τὸ δὲ νόμισμα τῆς κτήσεως ἀντὶ τῆς κατὰ συμβεβηκὸς χρήσεως ἐστίν· ὁ δ’ ἀνελεύθερος ἂν εἴη καὶ ἄσωτος περὶ τὸν κατὰ συμβεβηκὸς τρόπον τοῦ χρηματισμοῦ, καὶ γὰρ ἐπὶ τοῦ κατὰ φύσιν χρηματισμοῦ τὴν αὔξησιν διώκει· ὁ δ’ ἄσωτος ἐλλείπει τῶν ἀναγκαίων· ὁ δ’ ἐλευθέριος τὴν περιουσίαν δίδωσιν. αὐτῶν δὲ τούτων εἴδη λέγονται διαφέροντα τῷ μᾶλλον καὶ ἧττον περὶ μόρια, οἷον ἀνελεύθερος φειδωλὸς καὶ κίμβιξ καὶ αἰσχροκερδής, φειδωλὸς μὲν ἐν τῷ μὴ προΐεσθαι, αἰσχροκερδὴς δ' ἐν τῷ ὁτιοῦν προσίεσθαι, κίμβιξ δὲ ὁ σφόδρα περὶ μικρὰ διατεινόμενος, παραλογιστὴς δὲ καὶ ἀποστερητὴς ὁ ἄδικος κατ' ἀνελευθερίαν. καὶ τοῦ ἀσώτου ὡσαύτως λαφύκτης μὲν ὁ ἐν τῷ ἀτάκτως ἀναλίσκειν, ἀλόγιστος δὲ ὁ ἐν τῷ μὴ ὑπομένειν τὴν ἀπὸ λογισμοῦ λύπην.

περὶ δὲ μεγαλοψυχίας ἐκ τῶν τοῖς μεγαλοψύχοις ἀποδιδομένων δεῖ διορίσαι τὸ ἴδιον. ὥσπερ γὰρ καὶ τὰ ἄλλα ‹ἃ› κατὰ τὴν γειτνίασιν καὶ ὁμοιότητα μέχρι του λανθάνει πόρρω προϊόντα, καὶ περὶ τὴν μεγαλοψυχίαν ταὐτὸ συμβέβηκεν. διὸ ἐνίοτε οἱ ἐναντίοι τοῦ αὐτοῦ ἀντιποιοῦνται, οἷον ὁ ἄσωτος τῷ ἐλευθερίῳ καὶ ὁ αὐθάδης τῷ σεμνῷ καὶ ὁ θρασὺς τῷ ἀνδρείῳ· εἰσὶ γὰρ καὶ περὶ ταὐτὰ καὶ ὅμοροι μέχρι τινός, ὥσπερ ὁ ἀνδρεῖος ὑπομενετικὸς κινδύνων καὶ ὁ θρασύς, ἀλλ' ὃ μὲν ὧδε ὃ δ' ὧδε· ταῦτα δὲ διαφέρει πλεῖστον. λέγομεν δὲ τὸν μεγαλόψυχον κατὰ τὴν τοῦ ὀνόματος προσηγορίαν, ὥσπερ ἐν μεγέθει τινὶ ψυχῆς καὶ δυνάμεως. ὥστε καὶ τῷ σεμνῷ καὶ τῷ μεγαλοπρεπεῖ ὅμοιος εἶναι δοκεῖ, ὅτε καὶ πάσαις ταῖς ἀρεταῖς ἀκολουθεῖν φαίνεται. καὶ γὰρ τὸ ὀρθῶς κρῖναι τὰ μεγάλα καὶ μικρὰ τῶν ἀγαθῶν ἐπαινετόν. δοκεῖ δὲ ταῦτ' εἶναι μεγάλα, ἃ διώκει ὁ τὴν κρατίστην ἔχων ἕξιν περὶ τὰ τοιαῦτ' εἶναι ἡδέα. ἡ δὲ μεγαλοψυχία κρατίστη· κρίνει δ' ἡ περὶ ἕκαστον ἀρετὴ τὸ μεῖζον καὶ τὸ ἔλαττον ὀρθῶς, ἅπερ ὁ φρόνιμος ἂν κελεύσειε καὶ ἡ ἀρετή, ὥστε ἕπεσθαι αὐτῇ πάσας τὰς ἀρετάς, ἢ αὐτὴν ἕπεσθαι πάσαις. - ἔτι δοκεῖ μεγαλοψύχου εἶναι τὸ καταφρονητικὸν εἶναι. ἑκάστη δ' ἀρετὴ καταφρονητικοὺς ποιεῖ [1232b] τῶν παρὰ τὸν λόγον μεγάλων, οἷον ἀνδρεία κινδύνων (μέγα γὰρ οἴεται εἶναι τῶν αἰσχρῶν, καὶ πλῆθος οὐ πᾶν φοβερόν), καὶ σώφρων ἡδονῶν μεγάλων καὶ πολλῶν, καὶ ἐλευθέριος χρημάτων. μεγαλοψύχου δὲ δοκεῖ τοῦτο διὰ τὸ περὶ ὀλίγα σπουδάζειν, καὶ ταῦτα μεγάλα, καὶ οὐχ ὅτι δοκεῖ ἑτέρῳ τινί, καὶ μᾶλλον ἂν φροντίσειεν ἀνὴρ μεγαλόψυχος, τί δοκεῖ ἑνὶ σπουδαίῳ ἢ πολλοῖς τοῖς τυγχάνουσιν, ὥσπερ Ἀντιφῶν ἔφη πρὸς Ἀγάθωνα κατεψηφισμένος τὴν ἀπολογίαν ἐπαινέσαντα. καὶ τὸ ὀλίγωρον τοῦ μεγαλοψύχου μάλιστ' εἶναι πάθος ἴδιον. πάλιν περὶ τιμῆς καὶ τοῦ ζῆν καὶ πλούτου, περὶ ὧν σπουδάζειν δοκοῦσιν οἱ ἄνθρωποι, οὐθὲν φροντίζειν περὶ τῶν ἄλλων πλὴν περὶ τιμῆς. καὶ λυπηθήσοιτ' ἂν ἀτιμαζόμενος καὶ ἀρχόμενος ὑπὸ ἀναξίου. καὶ χαίρει μάλιστα τυγχάνων. - οὕτω μὲν οὖν δόξειεν ἂν ἐναντίως ἔχειν· τῷ γὰρ εἶναί τε μάλιστα περὶ τιμὴν καὶ καταφρονητικὸν εἶναι τῶν πολλῶν [καὶ] δόξης οὐχ ὁμολογεῖσθαι. δεῖ δὴ τοῦτο διορίσαντας εἰπεῖν. ἔστι γὰρ τιμὴ καὶ μικρὰ καὶ μεγάλη διχῶς. ἢ γὰρ τῷ ὑπὸ πολλῶν τῶν τυχόντων ἢ τῷ ὑπὸ τῶν ἀξίων λόγου, καὶ πάλιν τῷ ἐπὶ τίνι ἡ τιμὴ διαφέρει. μεγάλη γὰρ οὐ τῷ πλήθει τῶν τιμώντων οὐδὲ τῷ ποιῷ μόνον, ἀλλὰ καὶ τῷ τιμίαν εἶναι· τῇ ἀληθείᾳ δὲ καὶ ἀρχαὶ καὶ τἆλλα ἀγαθὰ τίμια καὶ ἄξια σπουδῆς ταῦτα ὅσα μεγάλα ἀληθῶς ἐστίν, ὥστε καὶ ἀρετὴ οὐδεμία ἄνευ μεγέθους· διὸ δοκοῦσι μεγαλοψύχους ποιεῖν ἑκάστη, περὶ ὅ ἐστιν ἑκάστη αὐτῶν, ὥσπερ εἴπομεν. - ἀλλ’ ὅμως ἐστί τις παρὰ τὰς ἄλλας ἀρετὰς μία μεγαλοψυχία, ὥσπερ καὶ ἰδίᾳ μεγαλόψυχον τοῦτον λεκτέον τὸν ἔχοντα ταύτην. ἐπεὶ δ’ ἐστὶν ἔνια τῶν ἀγαθῶν τὰ μὲν τίμια τὰ δ’ ὡς διωρίσθη πρότερον, τῶν τοιούτων ἀγαθῶν δὲ τὰ μὲν μεγάλα κατ’ ἀλήθειαν τὰ δὲ μικρά, καὶ τούτων ἔνιοι ἄξιοι καὶ ἀξιοῦσιν αὑτούς, ἐν τούτοις ζητητέος ὁ μεγαλόψυχος. τετραχῶς δ’ ἀνάγκη διαφέρειν. ἔστι μὲν γὰρ ἄξιον εἶναι μεγάλων καὶ ἀξιοῦν ἑαυτὸν τούτων, ἔστι δὲ μικρὰ καὶ ἄξιόν τινα τηλικούτων καὶ ἀξιοῦν ἑαυτὸν τούτων, ἔστι δ’ ἀνάπαλιν πρὸς ἑκάτερα αὐτῶν· ὃ μὲν γὰρ ἂν εἴη τοιοῦτος οἷος ἄξιος ὢν μικρῶν μεγάλων ἀξιοῦν ἑαυτὸν τῶν ἐντίμων ἀγαθῶν, ὃ δὲ ἄξιος ὢν μεγάλων ἀξιοίη ἂν μικρῶν ἑαυτόν. ὁ μὲν οὖν ἄξιος μικρῶν, μεγάλων δ’ ἀξιῶν ἑαυτὸν ψεκτός (ἀνόητον γὰρ καὶ οὐ καλὸν τὸ παρὰ τὴν ἀξίαν τυγχάνειν), ψεκτὸς δὲ καὶ ὅστις ἄξιος ὢν ὑπαρχόντων αὐτῷ τῶν τοιούτων μετέχειν μὴ ἀξιοῖ ἑαυτόν· [1233a] λείπεται δὲ ἐνταῦθα ἐναντίος τούτοις ἀμφοτέροις, ὅστις ὢν ἄξιος μεγάλων ἀξιοῖ αὐτὸς ἑαυτὸν τούτων, καὶ τοιοῦτός ἐστιν οἷος ἀξιοῦν ἑαυτόν. οὗτος ἐπαινετὸς καὶ μέσος τούτων. ἐπεὶ οὖν περὶ τιμῆς αἵρεσιν καὶ χρῆσιν καὶ τῶν ἄλλων ἀγαθῶν τῶν ἐντίμων ἀρίστη ἐστὶ διάθεσις ἡ μεγαλοψυχία, καὶ τοῦτ’ ἀποδίδομεν, καὶ οὐ περὶ τὰ χρήσιμα, τῷ μεγαλοψύχῳ, ἅμα δὲ καὶ ἡ μεσότης αὕτη ἐπαινετωτάτη· δῆλον ὅτι καὶ ἡ μεγαλοψυχία μεσότης ἂν εἴη, τῶν δ’ ἐναντίων, ὥσπερ διεγράψαμεν, ἡ μὲν ἐπὶ τὸ ἀξιοῦν ἑαυτὸν ἀγαθῶν μεγάλων ἀνάξιον ὄντα χαυνότης (τοὺς τοιούτους γὰρ χαύνους λέγομεν, ὅσοι μεγάλων οἴονται ἄξιοι εἶναι οὐκ ὄντες), ἡ δὲ περὶ τὸ ἄξιον ὄντα μὴ ἀξιοῦν ἑαυτὸν μεγάλων μικροψυχία (μικροψύχου γὰρ εἶναι δοκεῖ, ὅστις ὑπαρχόντων δι’ ἃ δικαίως ἂν ἠξιοῦτο, μὴ ἀξιοῖ μηθενὸς μεγάλου ἑαυτόν), ὥστ’ ἀνάγκη καὶ τὴν μεγαλοψυχίαν εἶναι μεσότητα χαυνότητος καὶ μικροψυχίας. ὁ δὲ τέταρτος τῶν διορισθέντων οὔτε πάμπαν ψεκτὸς οὔτε μεγαλόψυχος, περὶ οὐδὲν ἔχ‹ον› ὢν μέγεθος· οὔτε γὰρ ἄξιος οὔτε ἀξιοῖ μεγάλων, διὸ οὐκ ἐναντίος. καίτοι δόξειεν ἂν ἐναντίον εἶναι τῷ μεγάλων ἀξίῳ ὄντι μεγάλων τὸ μικρῶν ὄντα ἄξιον ‹μικρῶν› ἀξιοῦν ἑαυτόν. οὐκ ἔστι δ’ ἐναντίος οὔτε τῷ μὴ μεμπτὸς εἶναι (ὡς γὰρ ὁ λόγος κελεύει, ἔχει)· καὶ ὁ αὐτός ἐστι τῇ φύσει τῷ μεγαλοψύχῳ (ὧν γὰρ ἄξιοι, τούτων ἀξιοῦσιν αὑτοὺς ἄμφω)· καὶ ὃ μὲν γένοιτ’ ἂν μεγαλόψυχος (ἀξιώσει γὰρ ὧν ἐστιν ἄξιος), ὁ δὲ μικρόψυχος, ὃς ὑπαρχόντων αὐτῷ μεγάλων κατὰ τιμὴν ἀγαθῶν οὐκ ἀξιοῖ, τί ἂν ἐποίει, εἰ μικρῶν ἄξιος ἦν; εἰ γὰρ [ἂν] μεγάλων ἀξιῶν χαῦνος ἦν, ἢ ἐλαττόνων ἔτι. διὸ καὶ οὐθεὶς ἂν εἴποι μικρόψυχον, εἴ τις μέτοικος ὢν ἄρχειν μὴ ἀξιοῖ ἑαυτόν, ἀλλ' ὑπείκει· ἀλλ' εἴ τις εὐγενὴς ὢν καὶ ἡγούμενος μέγα εἶναι τὸ ἄρχειν.

ἔστι δὲ καὶ ὁ μεγαλοπρεπὴς οὐ περὶ τὴν τυχοῦσαν πρᾶξιν καὶ προαίρεσιν, ἀλλὰ τὴν δαπάνην, εἰ μή που κατὰ μεταφορὰν λέγομεν· ἄνευ δὲ δαπάνης μεγαλοπρέπεια οὐκ ἔστιν. τὸ μὲν γὰρ πρέπον ἐν κόσμῳ ἐστίν, ὁ δὲ κόσμος οὐκ ἐκ τῶν τυχόντων ἀναλωμάτων, ἀλλ' ἐν ὑπερβολῇ τῶν ἀναγκαίων ἐστίν. ὁ δὴ ἐν μεγάλῃ δαπάνῃ τοῦ πρέποντος μεγέθους προαιρετικός, καὶ τῆς τοιαύτης μεσότητος καὶ ἐπὶ τῇ τοιαύτῃ ἡδονῇ ὀρεκτικός, μεγαλοπρεπής. ὁ δ' ἐπὶ τὸ μεῖζον καὶ παρὰ μέλος, ἀνώνυμος· οὐ μὴν ἀλλ' ἔχει τινὰ [1233b] γειτνίασιν, οὓς καλοῦσί τινες ἀπειροκάλους καὶ σαλάκωνας. οἷον εἰ εἰς γάμον δαπανῶν τις τοῦ ἀγαπητοῦ, πλούσιος ὤν, δοκεῖ πρέπειν ἑαυτῷ τοιαύτην κατασκευὴν οἷον ἀγαθοδαιμονιστὰς ἑστιῶντι, οὗτος μὲν μικροπρεπής, ὁ δὲ τοιούτους δεχόμενος ἐκείνως μὴ δόξης χάριν μηδὲ δι' ἐξουσίαν ὅμοιος τῷ σαλάκωνι, ὁ δὲ κατ' ἀξίαν καὶ ὡς ὁ λόγος, μεγαλοπρεπής· τὸ γὰρ πρέπον κατ' ἀξίαν ἐστίν· οὐθὲν γὰρ πρέπει τῶν παρὰ τὴν ἀξίαν. δεῖ δὲ πρέπον εἶναι (καὶ γὰρ τοῦ πρέποντος κατ' ἀξίαν καὶ πρέπον) καὶ περὶ ὃ (οἷον περὶ οἰκέτου γάμον ἕτερον τὸ πρέπον καὶ περὶ ἐρωμένου) καὶ αὐτῷ, εἴπερ ἐπὶ τοσοῦτον ἢ τοιοῦτον, οἷον τὴν θεωρίαν οὐκ ᾤετο Θεμιστοκλεῖ πρέπειν, ἣν ἐποιήσατο Ὀλυμπίαζε, διὰ τὴν προϋπάρξασαν ταπεινότητα, ἀλλὰ Κίμωνι. ὁ δ' ὅπως ἔτυχεν ἔχων πρὸς τὴν ἀξίαν [ὃ] οὐθεὶς τούτων. καὶ ἐπ' ἐλευθεριότητος ὡσαύτως· ἔστι γάρ τις οὔτ' ἐλευθέριος οὔτ' ἀνελεύθερος.

σχεδὸν δὲ καὶ τῶν ἄλλων ἕκαστα τῶν περὶ τὸ ἦθος ἐπαινετῶν καὶ ψεκτῶν τὰ μὲν ὑπερβολαὶ τὰ δ' ἐλλείψεις τὰ δὲ μεσότητές εἰσι παθητικαί. - οἷον ὁ φθονερὸς καὶ ἐπιχαιρέκακος. καθ' ἃς γὰρ ἕξεις λέγονται, ὁ μὲν φθόνος τὸ λυπεῖσθαι ἐπὶ τοῖς κατ' ἀξίαν εὖ πράττουσιν ἐστίν, τὸ δὲ τοῦ ἐπιχαιρεκάκου πάθος ἐπὶ τὸ αὐτὸ ἀνώνυμον, ἀλλ' ὁ ἔχων δῆλος, ἐπὶ τὸ χαίρειν ταῖς παρὰ τὴν ἀξίαν κακοπραγίαις. μέσος δὲ τούτων ὁ νεμεσητικός, καὶ ὃ ἐκάλουν οἱ ἀρχαῖοι τὴν νέμεσιν, τὸ λυπεῖσθαι μὲν ἐπὶ ταῖς παρὰ τὴν ἀξίαν κακοπραγίαις καὶ εὐπραγίαις, χαίρειν δ' ἐπὶ ταῖς ἀξίαις· διὸ καὶ θεὸν οἴονται εἶναι τὴν νέμεσιν. - αἰδὼς δὲ μεσότης ἀναισχυντίας καὶ καταπλήξεως· ὁ μὲν γὰρ μηδεμιᾶς φροντίζων δόξης ἀναίσχυντος, ὁ δὲ πάσης ὁμοίως καταπλήξ, ὁ δὲ τῆς τῶν φαινομένων ἐπιεικῶν αἰδήμων. - φιλία δὲ μεσότης ἔχθρας καὶ κολακείας· ὁ μὲν γὰρ εὐχερῶς ἅπαντα πρὸς τὰς ἐπιθυμίας ὁμιλῶν κόλαξ, ὁ δὲ πρὸς ἁπάσας ἀντικρούων ἀπεχθητικός, ὁ δὲ μὴ [τε] πρὸς ἅπασαν ἡδονὴν μήτ’ ἀκολουθῶν μήτ’ ἀντιτείνων, ἀλλὰ πρὸς τὸ φαινόμενον βέλτιστον, φίλος. - σεμνότης δὲ μεσότης αὐθαδείας καὶ ἀρεσκείας· ὁ μὲν γὰρ μηδὲν πρὸς ἕτερον ζῶν καταφρονητικὸς αὐθάδης, ὁ δὲ πάντα πρὸς ἄλλον ἢ καὶ πάντων ἐλάττων ἄρεσκος, ὁ δὲ τὰ μὲν τὰ δὲ μή, καὶ πρὸς τοὺς ἀξίους οὕτως ἔχων σεμνός. - ὁ δὲ ἀληθὴς καὶ ἁπλοῦς, ὃν καλοῦσιν αὐθέκαστον, μέσος τοῦ εἴρωνος καὶ ἀλαζόνος. ὁ μὲν γὰρ ἐπὶ τὰ [1234a] χείρω καθ’ αὑτοῦ ψευδόμενος μὴ ἀγνοῶν εἴρων, ὁ δ’ ἐπὶ τὰ βελτίω ἀλαζών, ὁ δ’ ὡς ἔχει, ἀληθὴς καὶ καθ’ Ὅμηρον πεπνυμένος· καὶ ὅλως ὃ μὲν φιλαλήθης, ὃ δὲ φιλοψευδής. - ἔστι δὲ καὶ ἡ εὐτραπελία μεσότης, καὶ ὁ εὐτράπελος μέσος τοῦ ἀγροίκου καὶ δυστραπέλου καὶ τοῦ βωμολόχου. ὥσπερ γὰρ περὶ τροφὴν ὁ σικχὸς τοῦ παμφάγου διαφέρει τῷ ὃ μὲν μηθὲν ἢ ὀλίγα καὶ χαλεπῶς προσίεσθαι, ὃ δὲ πάντα εὐχερῶς, οὕτω καὶ ὁ ἄγροικος ἔχει πρὸς τὸν φορτικὸν καὶ βωμολόχον· ὃ μὲν γὰρ οὐθὲν γελοῖον ἀλλὰ χαλεπῶς προσίεται, ὃ δὲ πάντα εὐχερῶς καὶ ἡδέως. δεῖ δ’ οὐδέτερον, ἀλλὰ τὰ μὲν τὰ δὲ μή, καὶ κατὰ τὸν λόγον· οὗτος δ’ εὐτράπελος. ἡ δ’ ἀπόδειξις ἡ αὐτή· ἥ τε γὰρ εὐτραπελία ἡ τοιαύτη, καὶ μὴ ἣν μεταφέροντες λέγομεν, ἐπιεικεστάτη ἕξις, καὶ ἡ μεσότης ἐπαινετή, τὰ δ’ ἄκρα ψεκτά. οὔσης δὲ διττῆς τῆς εὐτραπελίας (ἣ μὲν γὰρ ἐν τῷ χαίρειν ἐστι τῷ γελοίῳ καὶ τῷ εἰς αὐτόν, ἐὰν ᾖ τοιονδί, ὧν ἓν καὶ τὸ σκῶμμα ἐστίν, ἣ δ’ ἐν τῷ δύνασθαι τοιαῦτα πορίζεσθαι), ἕτεραι μέν εἰσιν ἀλλήλων, ἀμφότεραι μέντοι μεσότητες. καὶ γὰρ τὸν δυνάμενον τοιαῦτα πορίζεσθαι ἐφ’ ὅσοις ἡσθήσεται ‹ὁ› εὖ κρίνων, κἂν εἰς αὐτὸν ᾖ τὸ γελοῖον, μέσος ἔσται τοῦ φορτικοῦ καὶ τοῦ ψυχροῦ. ὁ δ’ ὅρος οὗτος βελτίων ἢ τὸ ‹μὴ› λυπηρὸν εἶναι τὸ λεχθὲν τῷ σκωπτομένῳ ὄντι ὁποιῳοῦν· μᾶλλον γὰρ δεῖ τῷ ἐν μεσότητι ὄντι ἀρέσκειν· οὗτος γὰρ κρίνει εὖ.

πᾶσαι δ’ αὗται αἱ μεσότητες ἐπαινεταὶ μέν, οὐκ εἰσὶ δ’ ἀρεταί, οὐδ’ αἱ ἐναντίαι κακίαι· ἄνευ προαιρέσεως γάρ. ταῦτα δὲ πάντ’ ἐστὶν ἐν ταῖς τῶν παθημάτων διαιρέσεσιν· ἕκαστον γὰρ αὐτῶν πάθος τι ἐστίν. διὰ δὲ τὸ φυσικὰ εἶναι εἰς τὰς φυσικὰς συμβάλλεται ἀρετάς· ἔστι γάρ, ὥσπερ λεχθήσεται ἐν τοῖς ὕστερον, ἑκάστη πως ἀρετὴ καὶ φύσει καὶ ἄλλως μετὰ φρονήσεως. ὁ μὲν οὖν φθόνος εἰς ἀδικίαν συμβάλλεται (πρὸς γὰρ ἄλλον αἱ πράξεις αἱ ἀπ’ αὐτοῦ) καὶ ἡ νέμεσις εἰς δικαιοσύνην, ἡ αἰδὼς εἰς σωφροσύνην, διὸ καὶ ὁρίζονται ἐν τῷ γένει τούτῳ τὴν σωφροσύνην· ὁ δ’ ἀληθὴς καὶ ψευδὴς ὃ μὲν ἔμφρων, ὃ δ’ ἄφρων.

ἔστι δ’ ἐναντιώτερον τοῖς ἄκροις τὸ μέσον ἢ ἐκεῖνα [1234b] ἀλλήλοις, διότι τὸ μὲν μετ’ οὐδετέρου γίνεται αὐτῶν, τὰ δὲ πολλάκις μετ’ ἀλλήλων καί εἰσιν ἐνίοτε οἱ αὐτοὶ θρασύδειλοι, καὶ τὰ μὲν ἄσωτοι τὰ δὲ ἀνελεύθεροι, καὶ ὅλως ἀνώμαλοι κακῶς. ὅταν μὲν γὰρ καλῶς ἀνώμαλοι ὦσιν, οἱ μέσοι γίγνονται· ἐν τῷ μέσῳ γὰρ ἐστί πως τὰ ἄκρα.

αἱ δὲ ἐναντιώσεις οὐ δοκοῦσιν ὑπάρχειν τοῖς ἄκροις πρὸς τὸ μέσον ὁμοίως ἀμφότεραι, ἀλλ’ ὁτὲ μὲν καθ’ ὑπερβολὴν ὁτὲ δὲ κατ’ ἔλλειψιν. αἴτια δὲ τά τε πρῶτα ῥηθέντα δύο, ὀλιγότης τε, οἷον τῶν πρὸς τὰ ἡδέα ἀναισθήτων, καὶ ὅτι ἐφ’ ὃ ἁμαρτάνομεν μᾶλλον, τοῦτο ἐναντιώτερον εἶναι δοκεῖ· τὸ δὲ τρίτον, ὅτι τὸ ὁμοιότερον ἧττον ἐναντίον φαίνεται, οἷον πέπονθε τὸ θράσος πρὸς τὸ θάρσος καὶ ἀσωτία πρὸς ἐλευθεριότητα.

περὶ μὲν οὖν τῶν ἄλλων ἀρετῶν τῶν ἐπαινετῶν εἴρηται σχεδόν· περὶ δὲ δικαιοσύνης ἤδη λεκτέον.

Βιβλίο 7

περὶ φιλίας, τί ἐστι καὶ ποῖόν τι, καὶ τίς ὁ φίλος, καὶ πότερον ἡ φιλία μοναχῶς λέγεται ἢ πλεοναχῶς, καὶ εἰ πλεοναχῶς, πόσα ἐστίν, ἔτι δὲ πῶς χρηστέον τῷ φίλῳ καὶ τί τὸ δίκαιον τὸ φιλικόν, ἐπισκεπτέον οὐθενὸς ἧττον τῶν περὶ τὰ ἤθη καλῶν καὶ αἱρετῶν. τῆς τε γὰρ πολιτικῆς ἔργον εἶναι δοκεῖ μάλιστα ποιῆσαι φιλίαν, καὶ τὴν ἀρετὴν διὰ τοῦτό φασιν εἶναι χρήσιμον· οὐ γὰρ ἐνδέχεσθαι φίλους ἑαυτοῖς εἶναι τοὺς ἀδικουμένους ὑπ’ ἀλλήλων. ἔτι τὸ δίκαιον καὶ τὸ ἄδικον περὶ τοὺς φίλους εἶναι μάλιστα πάντες φαμέν, καὶ ὁ αὐτὸς δοκεῖ ἀνὴρ εἶναι καὶ ἀγαθὸς καὶ φίλος, καὶ φιλία ἠθική τις εἶναι ἕξις, καὶ ἐάν τις βούληται ποιῆσαι ὥστε μὴ ἀδικεῖν, ἀλλ’ εἰς φίλους ποιῆσαι· οἱ γὰρ ἀληθινοὶ φίλοι οὐκ ἀδικοῦσιν. ἀλλὰ μὴν καὶ ἐὰν δίκαιοι ὦσιν, οὐκ ἀδικήσουσιν· ἢ ταὐτὸν ἄρα ἢ ἐγγύς τι ἡ δικαιοσύνη καὶ ἡ φιλία. πρὸς δὲ τούτοις τῶν μεγίστων ἀγαθῶν τὸν φίλον εἶναι ὑπολαμβάνομεν, τὴν δὲ ἀφιλίαν καὶ τὴν ἐρημίαν δεινότατον, ὅτι ὁ βίος ἅπας καὶ ἡ ἑκούσιος ὁμιλία μετὰ τούτων· μετ’ οἰκείων γὰρ ἢ μετὰ συγγενῶν [1235a] ἢ μεθ’ ἑταίρων συνδιημερεύομεν, ἢ τέκνων ἢ γονέων ἢ γυναικός. καὶ τὰ ἴδια δίκαια τὰ πρὸς τοὺς φίλους ἐστὶν ἐφ’ ἡμῖν μόνον, τὰ δὲ πρὸς τοὺς ἄλλους νενομοθέτηται, καὶ οὐκ ἐφ’ ἡμῖν.

ἀπορεῖται δὲ πολλὰ περὶ τῆς φιλίας, πρῶτον μὲν ὡς οἱ ἔξωθεν παραλαμβάνοντες καὶ ἐπὶ πλέον λέγοντες· δοκεῖ γὰρ τοῖς μὲν τὸ ὅμοιον τῷ ὁμοίῳ εἶναι φίλον, ὅθεν εἴρηται

“ὡς αἰεὶ τὸν ὅμοιον ἄγει θεὸς ὡς τὸν ὅμοιον·”

“καὶ γὰρ κολοιὸς παρὰ κολοιόν·”

“ἔγνω δὲ φώρ τε φῶρα, καὶ λύκος λύκον.” οἱ δὲ φυσιολόγοι καὶ τὴν ὅλην φύσιν διακοσμοῦσιν ἀρχὴν λαβόντες τὸ τὸ ὅμοιον ἰέναι πρὸς τὸ ὅμοιον, διὸ Ἐμπεδοκλῆς καὶ τὴν κύν’ ἔφη καθῆσθαι ἐπὶ τῆς κεραμῖδος διὰ τὸ ἔχειν πλεῖστον ὅμοιον. οἳ μὲν οὖν οὕτω τὸ φίλον λέγουσιν· οἳ δὲ τὸ ἐναντίον τῷ ἐναντίῳ φασὶν εἶναι φίλον. τὸ μὲν γὰρ ἐρώμενον καὶ ἐπιθυμητὸν πᾶσιν εἶναι φίλον, ἐπιθυμεῖ δὲ οὐ τὸ ξηρὸν τοῦ ξηροῦ, ἀλλ’ ὑγροῦ, ὅθεν εἴρηται

“ἐρᾷ μὲν ὄμβρου γαῖα” καὶ τὸ

“μεταβολὴ πάντων γλυκύ.”

ἡ δὲ μεταβολὴ εἰς τοὐναντίον. τὸ δ’ ὅμοιον ἐχθρὸν τῷ ὁμοίῳ· καὶ γὰρ “κεραμεὺς κεραμεῖ κοτέει”, καὶ τὰ ἀπὸ τῶν αὐτῶν τρεφόμενα πολέμια ἀλλήλοις ζῷα. αὗται μὲν οὖν αἱ ὑπολήψεις τοσοῦτον διεστᾶσιν. αἳ μὲν γὰρ τὸ ὅμοιον φίλον, τὸ δ’ ἐναντίον πολέμιον,

“τῷ πλέονι δ’ αἰεὶ πολέμιον καθίσταται
τοὔλασσον, ἐχθρᾶς θ’ ἡμέρας κατάρχεται”, ἔτι δὲ καὶ οἱ τόποι κεχωρισμένοι τῶν ἐναντίων, ἡ δὲ φιλία δοκεῖ συνάγειν· οἳ δὲ τὰ ἐναντία φίλα, καὶ Ἡράκλειτος ἐπιτιμᾷ τῷ ποιήσαντι

“ὡς ἔρις ἔκ τε θεῶν καὶ ἀνθρώπων ἀπόλοιτο,” οὐ γὰρ ἂν εἶναι ἁρμονίαν μὴ ὄντος ὀξέος καὶ βαρέος, οὐδὲ τὰ ζῷα ἄνευ θήλεως καὶ ἄρρενος ἐναντίων ὄντων. - δύο μὲν αὗται δόξαι περὶ φιλίας εἰσί, λίαν τε καθόλου ‹καὶ› κεχωρισμέναι τοσοῦτον· ἄλλαι δὲ ἤδη ἐγγυτέρω καὶ οἰκεῖαι τῶν φαινομένων. τοῖς μὲν γὰρ οὐκ ἐνδέχεσθαι δοκεῖ τοὺς φαύλους εἶναι φίλους, ἀλλὰ μόνον τοὺς ἀγαθούς· τοῖς δ’ ἄτοπον εἰ μὴ φιλοῦσιν αἱ μητέρες τὰ τέκνα (φαίνεται δὲ καὶ ἐν τοῖς θηρίοις ἐνοῦσα φιλία· προαποθνήσκειν γοῦν αἱροῦνται τῶν τέκνων)· τοῖς δὲ τὸ χρήσιμον δοκεῖ φίλον εἶναι μόνον. σημεῖον δ’ ὅτι καὶ διώκουσι ταῦτα πάντες, τὰ δὲ ἄχρηστα καὶ αὐτοὶ αὑτῶν ἀποβάλλουσιν· ὥσπερ Σωκράτης ὁ γέρων ἔλεγε τὸν πτύελον καὶ τὰς τρίχας καὶ τοὺς ὄνυχας παραβάλλων, καὶ τὰ μόρια ὅτι ῥιπτοῦμεν τὰ ἄχρηστα, καὶ τέλος [1235b] τὸ σῶμα, ὅταν ἀποθάνῃ· ἄχρηστος γὰρ ὁ νεκρός. οἷς δὲ χρήσιμον, φυλάττουσιν, ὥσπερ ἐν Αἰγύπτῳ. - ταῦτα δὴ πάντα δοκεῖ μὲν ὑπεναντία ἀλλήλοις εἶναι. τό τε γὰρ ‹ὅμοιον› ἄχρηστον τῷ ὁμοίῳ, καὶ ἐναντιότης ὁμοιότητος ἀπέχει πλεῖστον, καὶ τὸ ἐναντίον ἀχρηστότατον τῷ ἐναντίῳ· φθαρτικὸν γὰρ τοῦ ἐναντίου τὸ ἐναντίον. - ἔτι δοκεῖ τοῖς μὲν ῥᾴδιον τὸ κτήσασθαι φίλον· τοῖς δὲ σπανιώτατον γνῶναι, καὶ οὐκ ἐνδέχεσθαι ἄνευ ἀτυχίας (τοῖς γὰρ εὖ πράττουσι βούλονται πάντες δοκεῖν φίλοι εἶναι)· οἳ δ’ οὐδὲ τοῖς συνδιαμένουσιν ἐν ταῖς ἀτυχίαις ἀξιοῦσι πιστεύειν, ὡς ἐξαπατῶντας καὶ προσποιουμένους, ἵνα κτήσωνται διὰ τῆς τῶν ἀτυχούντων ὁμιλίας πάλιν εὐτυχούντων φιλίαν.

ληπτέος δὴ τρόπος ὅστις ἡμῖν ἅμα τά τε δοκοῦντα περὶ τούτων μάλιστα ἀποδώσει, καὶ τὰς ἀπορίας λύσει καὶ τὰς ἐναντιώσεις. τοῦτο δ’ ἔσται, ἐὰν εὐλόγως φαίνηται τὰ ἐναντία δοκοῦντα· μάλιστα γὰρ ὁμολογούμενος ὁ τοιοῦτος ἔσται λόγος τοῖς φαινομένοις. συμβαίνει δὲ μένειν τὰς ἐναντιώσεις, ἐὰν ἔστι ‹μὲν› ὡς ἀληθὲς ᾖ τὸ λεγόμενον, ἔστι δ’ ὡς οὔ. - ἔχει δ’ ἀπορίαν καὶ πότερον τὸ ἡδὺ ἢ τὸ ἀγαθόν ἐστι τὸ φιλούμενον. εἰ μὲν γὰρ φιλοῦμεν οὗ ἐπιθυμοῦμεν, καὶ μάλιστα ὁ ἔρως τοιοῦτον (οὐθεὶς γὰρ

“ἐραστὴς ὅστις οὐκ ἀεὶ φιλεῖ”), ἡ δὲ ἐπιθυμία τοῦ ἡδέος, ταύτῃ μὲν τὸ φιλούμενον τὸ ἡδὺ, εἰ δὲ ὃ βουλόμεθα, τὸ ἀγαθόν· ἔστι δ᾽ ἕτερον τὸ ἡδὺ καὶ τὸ ἀγαθόν.

περὶ δὴ τούτων καὶ τῶν ἄλλων τῶν συγγενῶν τούτοις πειρατέον διορίσαι, λαβοῦσιν ἀρχὴν τήνδε. τὸ γὰρ ὀρεκτὸν καὶ βουλητὸν ἢ τὸ ἀγαθὸν ἢ τὸ φαινόμενον ἀγαθόν. διὸ καὶ τὸ ἡδὺ ὀρεκτόν· φαινόμενον γάρ τι ἀγαθόν. τοῖς μὲν γὰρ δοκεῖ, τοῖς δὲ φαίνεται κἂν μὴ δοκῇ. οὐ γὰρ ἐν ταὐτῷ τῆς ψυχῆς ἡ φαντασία καὶ ἡ δόξα. ὅτι μέντοι φίλον καὶ τὸ ἀγαθὸν καὶ τὸ ἡδύ, δῆλον.
τούτου δὲ διωρισμένου ληπτέον ὑπόθεσιν ἑτέραν. τῶν γὰρ ἀγαθῶν τὰ μὲν ἁπλῶς ἐστιν ἀγαθά, τὰ δὲ τινί, ἁπλῶς δὲ οὔ. καὶ τὰ αὐτὰ ἁπλῶς ἀγαθὰ καὶ ἁπλῶς ἡδέα. τὰ μὲν γὰρ τῷ ὑγιαίνοντί φαμεν σώματι συμφέροντα ἁπλῶς εἶναι σώματι ἀγαθά, τὰ δὲ τῷ κάμνοντι οὔ, οἷον φαρμακείας καὶ τομάς. ὁμοίως δὲ καὶ ἡδέα ἁπλῶς σώματι τὰ τῷ ὑγιαίνοντι καὶ ὁλοκλήρῳ, οἷον τὸ ἐν τῷ φωτὶ ὁρᾶν καὶ οὐ τὸ ἐν τῷ σκότει· καίτοι τῷ ὀφθαλμιῶντι ἐναντίως. καὶ οἶνος ἡδίων οὐχ ὁ τῷ διεφθαρμένῳ τὴν γλῶτταν ὑπὸ οἰνοφλυγίας, ἐπεὶ οὔτε ὄξος παρεγχέουσιν, ἀλλὰ τῇ [1236a] ἀδιαφθόρῳ αἰσθήσει. ὁμοίως δὲ καὶ ἐπὶ ψυχῆς, καὶ οὐχ ἃ τοῖς παιδίοις καὶ τοῖς θηρίοις, ἀλλ᾽ ἃ τοῖς καθεστῶσιν. ἀμφοτέρων γοῦν μεμνημένοι ταῦθ᾽ αἱρούμεθα. ὡς δ᾽ ἔχει παιδίον καὶ θηρίον πρὸς ἄνθρωπον καθεστῶτα, οὕτως ἔχει ὁ φαῦλος καὶ ἄφρων πρὸς τὸν ἐπιεικῆ καὶ φρόνιμον. τούτοις δὲ ἡδέα τὰ κατὰ τὰς ἕξεις· ταῦτα δ᾽ ἐστὶ τὰ ἀγαθὰ καὶ τὰ καλά.

ἐπεὶ οὖν τὰ ἀγαθὰ πλεοναχῶς (τὸ μὲν γὰρ τῷ τοιόνδ᾽ εἶναι λέγομεν ἀγαθόν, τὸ δὲ τῷ ὠφέλιμον καὶ χρήσιμον), ἔτι δὲ τὸ ἡδὺ τὸ μὲν ἁπλῶς καὶ ἀγαθὸν ἁπλῶς, τὸ δὲ τινὶ καὶ φαινόμενον ἀγαθόν· ὥσπερ καὶ ἐπὶ τῶν ἀψύχων δι᾽ ἕκαστον τούτων ἐνδέχεται ἡμᾶς αἱρεῖσθαί τι καὶ φιλεῖν, οὕτω καὶ ἄνθρωπον. τὸν μὲν γὰρ ‹τῷ› τοιόνδε καὶ δι᾽ ἀρετήν, τὸν δ᾽ ὅτι ὠφέλιμος καὶ χρήσιμος, τὸν δ᾽ ὅτι ἡδὺς καὶ δι᾽ ἡδονήν. φίλος δὴ γίνεται ὅταν φιλούμενος ἀντιφιλῇ, καὶ τοῦτο μὴ λανθάνῃ πως αὐτούς.

ἀνάγκη ἄρα τρία φιλίας εἴδη εἶναι, καὶ μήτε καθ᾽ ἓν ἁπάσας μηδ᾽ ὡς εἴδη ἑνὸς γένους, μήτε πάμπαν λέγεσθαι ὁμωνύμως. πρὸς μίαν γάρ τινα λέγονται καὶ πρώτην, ὥσπερ τὸ ἰατρικόν. καὶ ‹γὰρ› ψυχὴν ἰατρικὴν καὶ σῶμα λέγομεν καὶ ὄργανον καὶ ἔργον, ἀλλὰ κυρίως τὸ πρῶτον. πρῶτον δ᾽ οὗ λόγος ἐν ἡμῖν ὑπάρχει. οἷον ὄργανον ἰατρικὸν, ᾧ ἂν ὁ ἰατρὸς χρήσαιτο· ἐν δὲ τῷ τοῦ ἰατροῦ λόγῳ οὐκ ἔστιν ὁ τοῦ ὀργάνου. ζητεῖται μὲν οὖν πανταχοῦ τὸ πρῶτον· διὰ δὲ τὸ καθόλου εἶναι [τὸ] πρῶτον λαμβάνουσιν καὶ πρῶτον καθόλου, τοῦτο δ᾽ ἐστὶ ψεῦδος. ὥστε καὶ περὶ τῆς φιλίας οὐ δύνανται πάντ᾽ ἀποδιδόναι τὰ φαινόμενα. οὐ γὰρ ἐφαρμόττοντος ἑνὸς λόγου οὐκ οἴονται ‹τὰς› ἄλλας φιλίας εἶναι· αἳ δ’ εἰσὶ μέν, ἀλλ’ οὐχ ὁμοίως εἰσίν· οἳ δ’ ὅταν ἡ πρώτη μὴ ἐφαρμόττῃ, ὡς οὖσαν καθόλου ἄν, εἴπερ ἦν πρώτη, οὐδ’ εἶναι φιλίας τὰς ἄλλας φασίν· ἔστι δὲ πολλὰ εἴδη φιλίας. τῶν γὰρ ῥηθέντων ἦν ἤδη, ἐπειδὴ διώρισται τριχῶς λέγεσθαι τὴν φιλίαν. ἣ μὲν γὰρ διώρισται δι’ ἀρετήν, ἣ δὲ διὰ τὸ χρήσιμον, ἣ δὲ διὰ τὸ ἡδύ.

τούτων ἡ μὲν διὰ τὸ χρήσιμόν ἐστιν ἡ [διὰ] τῶν πλείστων φιλία (διὰ γὰρ τὸ χρήσιμοι εἶναι φιλοῦσιν ἀλλήλους, καὶ μέχρι τούτου, ὥσπερ ἡ παροιμία

“Γλαῦκ’ ἐπίκουρος ἀνὴρ τὸν σοφὸν φίλον ἔσκε μάχηται,” καὶ

“οὐκέτι γιγνώσκουσιν Ἀθηναῖοι Μεγαρῆας”), ἡ δὲ δι’ ἡδονὴν τῶν νέων (τούτου γὰρ αἴσθησιν ἔχουσιν· διὸ εὐμετάβολος φιλία ἡ τῶν νέων· μεταβαλλόντων γὰρ τὰ ἤθη κατὰ τὰς [1236b] ἡλικίας μεταβάλλει καὶ τὸ ἡδύ), ἡ δὲ κατ’ ἀρετὴν τῶν βελτίστων.

φανερὸν δ’ ἐκ τούτων ὅτι ἡ πρώτη φιλία ἡ τῶν ἀγαθῶν ἐστιν ἀντιφιλία καὶ ἀντιπροαίρεσις πρὸς ἀλλήλους. φίλον μὲν γὰρ τὸ φιλούμενον τῷ φιλοῦντι, φίλος δὲ τῷ φιλουμένῳ καὶ ἀντιφιλῶν. αὕτη μὲν οὖν ἐν ἀνθρώποις μόνον ὑπάρχει φιλία (μόνον γὰρ αἰσθάνεται προαιρέσεως)· αἱ δ’ ἄλλαι καὶ ἐν τοῖς θηρίοις, καὶ τὸ χρήσιμον ἐπὶ μικρόν τι φαίνεται ἐνυπάρχον καὶ πρὸς ἄνθρωπον τοῖς ἡμέροις καὶ πρὸς ἄλληλα, οἷον τὸν τροχίλον φησὶν Ἡρόδοτος τῷ κροκοδείλῳ, καὶ ὡς οἱ μάντεις τὰς συνεδρείας καὶ διεδρείας λέγουσιν. καὶ οἱ φαῦλοι ἂν εἶεν φίλοι ἀλλήλοις καὶ διὰ τὸ χρήσιμον καὶ διὰ τὸ ἡδύ. οἳ δ’ ὅτι ἡ πρώτη οὐχ ὑπάρχει αὐτοῖς, οὔ φασι φίλους εἶναι· ἀδικήσει γὰρ ὅ γε φαῦλος τὸν φαῦλον, οἱ δ’ ἀδικούμενοι οὐ φιλοῦσι σφᾶς αὐτούς. οἳ δὲ φιλοῦσι μέν, ἀλλ’ οὐ τὴν πρώτην φιλίαν, ἐπεὶ τάς γε ἑτέρας οὐθὲν κωλύει. δι’ ἡδονὴν γὰρ ὑπομένουσιν ἀλλήλους βλαπτόμενοι, ὡς ἂν ὦσιν ἀκρατεῖς· οὐ δοκοῦσι δ’ οὐδ’ οἱ δι’ ἡδονὴν φιλοῦντες ἀλλήλους φίλοι εἶναι, ὅταν κατ’ ἀκρίβειαν ζητῶσιν, ὅτι οὐχ ἡ πρώτη. ἐκείνη μὲν γὰρ βέβαιος, αὕτη δὲ ἀβέβαιος. ἣ δ’ ἐστὶ μέν, ὥσπερ εἴρηται, φιλία, οὐκ ἐκείνη δέ, ἀλλ’ ἀπ’ ἐκείνης. τὸ μὲν οὖν ἐκείνως μόνον λέγειν τὸν φίλον βιάζεσθαι τὰ φαινόμενα ἐστί, καὶ παράδοξα λέγειν ἀναγκαῖον· καθ’ ἕνα δὲ λόγον πάσας ἀδύνατον. λείπεται τοίνυν οὕτως, ὅτι ἔστι μὲν ὡς μόνη ‹ἡ› πρώτη φιλία, ἔστι δὲ ὡς πᾶσαι, οὔτε ὡς ὁμώνυμοι καὶ ὡς ἔτυχον ἔχουσαι πρὸς ἑαυτάς, οὔτε καθ’ ἓν εἶδος, ἀλλὰ μᾶλλον πρὸς ἕν.

ἐπεὶ δ’ ἁπλῶς ἀγαθὸν καὶ ἁπλῶς ἡδὺ τὸ αὐτὸ καὶ ἅμα, ἂν μή τι ἐμποδίζῃ, ὁ δ’ ἀληθινὸς φίλος καὶ ἁπλῶς ὁ πρῶτος ἐστίν, ἔστι δὲ τοιοῦτος ὁ δι’ αὑτὸν αὐτὸς αἱρετός (ἀνάγκη δ’ εἶναι τοιοῦτον· ὡς γὰρ βούλεταί τις δι’ αὐτὸν εἶναι τἀγαθά, ἀνάγκη καὶ αὐτὸν αἱρεῖσθαι εἶναι), ὁ δ’ ἀληθινὸς φίλος καὶ ἡδύς ἐστιν ἁπλῶς· διὸ δοκεῖ καὶ ὁ ὁπωσοῦν φίλος ἡδύς. - ἔτι δὲ διοριστέον περὶ τούτου μᾶλλον· ἔχει ἐπίστασιν, πότερον γὰρ τὸ αὐτῷ ἀγαθὸν ἢ τὸ ἁπλῶς ἀγαθὸν φίλον, καὶ πότερον τὸ κατ’ ἐνέργειαν φιλεῖν μεθ’ ἡδονῆς, ὥστε καὶ τὸ φιλητὸν ἡδύ, ἢ οὔ. ἄμφω γὰρ εἰς ταὐτὸ συνακτέον· τά τε γὰρ μὴ ἁπλῶς ἀγαθὰ ἀλλὰ κακὰ ἁπλῶς τύχῃ φευκτά· καὶ τὸ μὴ αὐτῷ ἀγαθὸν οὐθὲν πρὸς αὐτόν, ἀλλὰ τοῦτ’ ἐστιν ὃ ζητεῖται, τὰ ἁπλῶς ἀγαθὰ οὕτως εἶναι ἀγαθά. ἔστι γὰρ [1237a] αἱρετὸν μὲν τὸ ἁπλῶς ἀγαθόν, αὐτῷ δὲ τὸ αὐτῷ ἀγαθόν· ἃ δεῖ συμφωνῆσαι. καὶ τοῦτο ἡ ἀρετὴ ποιεῖ· καὶ ἡ πολιτικὴ ἐπὶ τούτῳ, ὅπως οἷς μήπω ἐστὶ γένηται. εὐθέτως δὲ καὶ πρὸ ὁδοῦ ἄνθρωπος ὤν (φύσει γὰρ αὐτῷ ἀγαθὰ τὰ ἁπλῶς ἀγαθά), ὁμοίως δὲ καὶ ἀνὴρ ἀντὶ γυναικὸς καὶ εὐφυὴς ἀφυοῦς, διὰ τοῦ ἡδέος δὲ ἡ ὁδός· ἀνάγκη εἶναι τὰ καλὰ ἡδέα. ὅταν δὲ τοῦτο διαφωνῇ, οὔπω σπουδαῖον τελέως· ἐνδέχεται γὰρ ἐγγενέσθαι ἀκρασίαν· τῷ γὰρ διαφωνεῖν τἀγαθὸν τῷ ἡδεῖ ἐν τοῖς πάθεσιν ἀκρασία ἐστίν.

ὥστ’ ἐπειδὴ ἡ πρώτη φιλία κατ’ ἀρετήν, ἔσονται καὶ αὐτοὶ ἁπλῶς ἀγαθοί. τοῦτο δ’ οὐχ ὅτι χρήσιμοι, ἀλλ’ ἄλλον τρόπον· διχῶς γὰρ ἔχει τὸ τῳδὶ ἀγαθὸν καὶ ἁπλῶς ἀγαθόν. καὶ ὁμοίως ὥσπερ ἐπὶ τοῦ ὠφελίμου, καὶ ἐπὶ τῶν ἕξεων. ἄλλο γὰρ τὸ ἁπλῶς ὠφέλιμον καὶ τὸ καλὸν τοιοῦτον γυμνάζεσθαι πρὸς τὸ φαρμακεύεσθαι. ὥστε καὶ ἡ ἕξις ἡ ἀνθρώπου ἀρετή. ἔστω γὰρ ὁ ἄνθρωπος τῶν φύσει σπουδαίων· ἡ γὰρ τοῦ φύσει σπουδαίου ἀρετὴ ἁπλῶς ἀγαθόν, ἡ δὲ τοῦ μὴ ἐκείνῳ. ὁμοίως δὴ ἔχει καὶ τὸ ἡδύ. ἐνταῦθα γὰρ ἐπιστατέον, καὶ σκεπτέον πότερόν ἐστιν ἄνευ ἡδονῆς φιλία, καὶ τί διαφέρει, καὶ ἐν ποτέρῳ ποτ’ ἐστὶ τὸ φιλεῖν, [καὶ] πότερον ὅτι ἀγαθός, κἂν εἰ μὴ ἡδύς, ἀλλ’ οὐ διὰ τοῦτο, διχῶς δὴ λεγομένου τοῦ φιλεῖν, πότερον ὅτι ἀγαθὸν τὸ κατ’ ἐνέργειαν οὐκ ἄνευ ἡδονῆς φαίνεται. δῆλον δ’ ὅτι ὥσπερ ἐπὶ τῆς ἐπιστήμης αἱ πρόσφατοι θεωρίαι καὶ μαθήσεις αἰσθηταὶ μάλιστα τῷ ἡδεῖ, οὕτω καὶ αἱ τῶν συνήθων ἀναγνωρίσεις, καὶ ὁ λόγος ὁ αὐτὸς ἐπ’ ἀμφοῖν. φύσει γοῦν τὸ ἁπλῶς ἀγαθὸν ἡδὺ ἁπλῶς, καὶ οἷς ἀγαθόν, τούτοις ἡδύ. διὸ εὐθὺς τὰ ὅμοια ἀλλήλοις χαίρει, καὶ ἀνθρώπῳ ἥδιστον ἄνθρωπος. ὥστ’ ἐπεὶ καὶ ἀτελεῖ, δῆλον ὅτι καὶ τελειωθέντι· ὁ δὲ σπουδαῖος τέλειος. εἰ δὲ τὸ κατ’ ἐνέργειαν φιλεῖν μεθ’ ἡδονῆς ἀντιπροαίρεσις τῆς ἀλλήλων γνωρίσεως, δῆλον ὅτι καὶ ὅλως ἡ φιλία ἡ πρώτη ἀντιπροαίρεσις τῶν ἁπλῶς ἀγαθῶν καὶ ἡδέων, ὅτι ἀγαθὰ καὶ ἡδέα. ἔστι δ’ αὕτη ἡ φιλία ἕξις ἀφ’ ἧς ἡ τοιαύτη προαίρεσις. τὸ γὰρ ἔργον αὐτῆς ἐνέργεια, αὕτη δ’ οὐκ ἔξω, ἀλλ’ ἐν αὐτῷ τῷ φιλοῦντι, δυνάμεως δὲ πάσης ἔξω· ἢ γὰρ ἐν ἑτέρῳ ἢ ‹ᾗ› ἕτερον. διὸ τὸ φιλεῖν χαίρειν, ἀλλ’ οὐ τὸ φιλεῖσθαι ἐστίν. τὸ μὲν γὰρ φιλεῖσθαι φιλητοῦ ἐνέργεια, τὸ δὲ καὶ φιλίας, καὶ τὸ μὲν ἐν ἐμψύχῳ, τὸ δὲ καὶ ἐν ἀψύχῳ· φιλεῖται γὰρ καὶ τὰ ἄψυχα. ἐπεὶ δὲ τὸ φιλεῖν τὸ κατ' ἐνέργειαν τὸ φιλούμενον [1237b] [ὅ] ἐστὶ χρῆσθαι ᾗ φιλούμενον, ὁ δὲ φίλος φιλούμενον τῷ φίλῳ ᾗ φίλος, ἀλλὰ μὴ ᾗ μουσικὸς ἢ ᾗ ἰατρικός· ἡδονὴ τοίνυν ἡ ἀπ' αὐτοῦ, ᾗ αὐτός, αὕτη φιλική. αὐτὸν γὰρ φιλεῖ, οὐχ ὅτι ἄλλος. ὥστ' ἂν μὴ χαίρῃ ᾗ ἀγαθός, οὐχ ἡ πρώτη φιλία. οὐδὲ δεῖ ἐμποδίζειν οὐθὲν τῶν συμβεβηκότων μᾶλλον ἢ τὸ ἀγαθὸν εὐφραίνειν. τί γὰρ σφόδρα δυσώδης λείπεται; ἀγαπᾶται γὰρ τῷ εὐνοεῖν, συζῇ δὲ μή.

αὕτη μὲν οὖν ἡ πρώτη φιλία, ἣν πάντες ὁμολογοῦσιν· αἱ δ' ἄλλαι δι' αὐτὴν καὶ δοκοῦσι καὶ ἀμφισβητοῦνται. βέβαιον γάρ τι δοκεῖ ἡ φιλία· μόνη δ' αὕτη βέβαιος. τὸ γὰρ κεκριμένον βέβαιον, τὰ δὲ μὴ ταχὺ γινόμενα μηδὲ ῥᾳδίως [οὐ] ποιεῖ τὴν κρίσιν ὀρθήν. οὐκ ἔστι δ' ἄνευ πίστεως φιλία βέβαιος· ἡ δὲ πίστις οὐκ ἄνευ χρόνου. δεῖ γὰρ πεῖραν λαβεῖν, ὥσπερ λέγει καὶ Θέογνις·

οὐ γὰρ ἂν εἰδείης ἀνδρὸς νόον οὐδὲ γυναικός,
πρὶν πειραθείης ὥσπερ ὑποζυγίου.

οὐδ' ἄνευ χρόνου φίλος, ἀλλὰ βούλονται φίλοι, καὶ μάλιστα λανθάνει ἡ τοιαύτη ἕξις ὡς φιλία. ὅταν γὰρ προθύμως ἔχωσι φίλοι εἶναι, διὰ τὸ πάνθ' ὑπηρετεῖν τὰ φιλικὰ ἀλλήλοις, οἴονται οὐ βούλεσθαι φίλοι, ἀλλ' εἶναι φίλοι. τὸ δ' ὥσπερ ἐπὶ τῶν ἄλλων συμβαίνει καὶ ἐπὶ τῆς φιλίας· οὐ γὰρ εἰ βούλονται ὑγιαίνειν, ὑγιαίνουσιν, ὥστ' οὐδ' εἰ φίλοι βούλονται, ἤδη καὶ φίλοι εἰσίν. σημεῖον δέ· εὐδιάβλητοι γὰρ οἱ διακείμενοι ἄνευ πείρας τοῦτον τὸν τρόπον· περὶ ὧν μὲν γὰρ πεῖραν δεδώκασιν ἀλλήλοις, οὐκ εὐδιάβλητοι, περὶ ὧν δὲ μή, πεισθεῖεν ἂν ὅταν σύμβολα λέγωσιν οἱ διαβάλλοντες. ἅμα δὲ φανερὸν ὅτι οὐδ' ἐν τοῖς φαύλοις αὕτη ἡ φιλία· ἄπιστος γὰρ ὁ φαῦλος καὶ κακοήθης πρὸς πάντας· αὐτῷ γὰρ μετρεῖ τοὺς ἄλλους. διὸ εὐεξαπατητότεροί εἰσιν οἱ ἀγαθοί, ἂν μὴ διὰ πεῖραν ἀπιστῶσιν. οἱ δὲ φαῦλοι αἱροῦνται τὰ φύσει ἀγαθὰ ἀντὶ τοῦ φίλου, καὶ οὐθεὶς φιλεῖ μᾶλλον ἄνθρωπον ἢ πράγματα. ὥστ' οὐ φίλοι. οὐ γὰρ γίνεται οὕτω κοινὰ τὰ φίλων· προσνέμεται γὰρ ὁ φίλος τοῖς πράγμασιν, οὐ τὰ πράγματα τοῖς φίλοις. οὐ γίνεται ἄρ' ἡ φιλία ἡ πρώτη ἐν πολλοῖς, ὅτι χαλεπὸν πολλῶν πεῖραν λαβεῖν· ἑκάστῳ γὰρ ἂν ἔδει συζῆσαι. οὐδὲ δὴ αἱρετέον ὁμοίως περὶ ἱματίου καὶ φίλου· καίτοι ἐν πᾶσι δοκεῖ τοῦ νοῦν ἔχοντος δυοῖν τὸ βέλτιον αἱρεῖσθαι, καὶ εἰ μὲν τῷ χείρονι πάλαι ἐχρῆτο, τῷ βελτίονι δὲ μηδέπω, τοῦθ' αἱρετέον, ἀλλ' οὐκ ἀντὶ τοῦ πάλαι φίλου τὸν ἀγνῶτα εἰ βελτίων· [1238a] οὐ γάρ ἐστιν ἄνευ πείρας οὐδὲ μιᾶς ἡμέρας ὁ φίλος, ἀλλὰ χρόνου δεῖ. διὸ εἰς παροιμίαν ἐλήλυθεν ὁ μέδιμνος τῶν ἁλῶν· ἅμα δὲ δεῖ μὴ μόνον ἁπλῶς ἀγαθὸν εἶναι, ἀλλὰ καὶ σοί, εἰ δὴ φίλος ἔσται σοὶ φίλος. ἀγαθὸς μὲν γὰρ ἁπλῶς ἐστι τῷ ἀγαθὸς εἶναι, φίλος δὲ τῷ ἄλλῳ ἀγαθός, ἁπλῶς ‹δ’› ἀγαθὸς καὶ φίλος, ὅταν συμφωνήσῃ ταῦτ’ ἄμφω, ὥστε ὅ ἐστιν ἁπλῶς ἀγαθόν, τὸ τούτου ἄλλῳ, εἰ καὶ μὴ ἁπλῶς μὲν σπουδαίῳ, ἄλλῳ δ’ ἀγαθός, ὅτι χρήσιμος. τὸ δὲ πολλοῖς ἅμα εἶναι φίλον καὶ τὸ φιλεῖν κωλύει· οὐ γὰρ οἷόν τε ἅμα πρὸς πολλοὺς ἐνεργεῖν.

ἐκ δὴ τούτων φανερὸν ὅτι ὀρθῶς λέγεται ὅτι ἡ φιλία τῶν βεβαίων, ὥσπερ ἡ εὐδαιμονία τῶν αὐτάρκων. καὶ ὀρθῶς εἴρηται

“ἡ γὰρ φύσις βέβαιον, οὐ τὰ χρήματα.”

πολὺ δὲ κάλλιον εἰπεῖν ὅτι ἡ ἀρετὴ τῆς φύσεως, καὶ ὅτι χρόνος λέγεται δεικνύναι τὸν φιλούμενον, καὶ αἱ ἀτυχίαι μᾶλλον τῶν εὐτυχιῶν. τότε γὰρ δῆλον ὅτι κοινὰ ‹τὰ› τῶν φίλων (οὗτοι γὰρ μόνοι ἀντὶ τῶν φύσει ἀγαθῶν καὶ φύσει κακῶν, περὶ ἃ αἱ εὐτυχίαι καὶ αἱ δυστυχίαι, αἱροῦνται μᾶλλον ἄνθρωπον ἢ τούτων τὰ μὲν εἶναι τὰ δὲ μὴ εἶναι)· ἡ δ’ ἀτυχία δηλοῖ τοὺς μὴ ὄντως ὄντας φίλους, ἀλλὰ διὰ τὸ χρήσιμον τυχόντας. ὁ δὲ χρόνος δηλοῖ ἀμφοτέρους· οὐδὲ γὰρ ὁ χρήσιμος ταχὺ δῆλος, ἀλλ’ ὁ ἡδὺς μᾶλλον. πλὴν οὐδ’ ὁ ἁπλῶς ἡδὺς ταχύ. ὅμοιοι γὰρ οἱ ἄνθρωποι τοῖς οἴνοις καὶ ἐδέσμασιν· ἐκείνων τε γὰρ τὸ μὲν ἡδὺ ταχὺ δηλοῖ, πλείω δὲ χρόνον γινόμενον ἀηδὲς καὶ οὐ γλυκύ, καὶ ἐπὶ τῶν ἀνθρώπων ὁμοίως. ἔστι γὰρ καὶ τὸ ἁπλῶς ἡδὺ τῷ τέλει ὁριστέον καὶ τῷ χρόνῳ. ὁμολογήσαιεν δ’ ἂν καὶ οἱ πολλοί, ὅτι ἐκ τῶν ἀποβαινόντων μόνον, ἀλλ’ ὥσπερ ἐπὶ τοῦ πόματος καλοῦσι γλύκιον· τοῦτο γὰρ διὰ τὸ ἀποβαῖνον οὐχ ἡδύ, ἀλλὰ διὰ τὸ μὴ συνεχές, ἀλλὰ τὸ πρῶτον ἐξαπατᾷ.

ἡ μὲν οὖν πρώτη φιλία, καὶ δι’ ἣν αἱ ἄλλαι λέγονται, ἡ κατ’ ἀρετὴν ἐστί, καὶ δι’ ἡδονὴν τὴν ἀρετῆς, ὥσπερ εἴρηται πρότερον· αἱ δ’ ἄλλαι ἐγγίνονται φιλίαι καὶ ἐν παισὶ καὶ θηρίοις καὶ τοῖς φαύλοις. ὅθεν λέγεται, “ἧλιξ ἥλικα τέρπει” καὶ

“κακὸς κακῷ ‹δὲ› συντέτηκεν ἡδονῇ.”

ἐνδέχεται γὰρ καὶ ἡδεῖς ἀλλήλοις εἶναι τοὺς φαύλους, οὐχ ᾗ φαῦλοι ἢ μηδέτεροι, ἀλλ’ οἷον ᾠδικοὶ ἄμφω, ἢ ὃ μὲν φιλῳδὸς ὁ δ’ ᾠδικὸς ἐστίν, καὶ ᾗ πάντες ἔχουσιν ἀγαθὸν καὶ ταύτῃ συναρμόττουσιν ἀλλήλοις· ἔτι χρήσιμοι ἂν εἶεν ἀλλήλοις καὶ ὠφέλιμοι, οὐχ ἁπλῶς ἀλλὰ πρὸς τὴν [1238b] προαίρεσιν, ἢ ‹ᾗ› οὐδέτεροι. ἐνδέχεται δὲ καὶ τὸν ἐπιεικῆ φαύλῳ εἶναι φίλον. καὶ γὰρ χρήσιμος ἂν εἴη πρὸς τὴν προαίρεσιν, ὁ μὲν φαῦλος πρὸς τὴν ὑπάρχουσαν τῷ σπουδαίῳ, ὃ δὲ τῷ μὲν ἀκρατεῖ πρὸς τὴν ὑπάρχουσαν, τῷ δὲ φαύλῳ πρὸς τὴν κατὰ φύσιν· καὶ βουλήσεται τὰ ἀγαθά, ἁπλῶς μὲν τὰ ἁπλῶς, τὰ δ’ ἐκείνῳ ἐξ ὑποθέσεως, ᾗ πενία συμφέρει ἢ νόσος, ‹καὶ› ταῦτα τῶν ἁπλῶς ἀγαθῶν ἕνεκα, ὥσπερ καὶ αὐτὸ τὸ φάρμακον πιεῖν· οὐ γὰρ βούλεται , ἀλλὰ τοῦδ’ ἕνεκα βούλεται. ἔτι καθ’ οὓς τρόπους καὶ ἀλλήλοις οἱ μὴ σπουδαῖοι εἶεν ἂν φίλοι. εἴη γὰρ ἂν ἡδὺς οὐχ ᾗ φαῦλος, ἀλλ’ ᾗ τῶν κοινῶν τινος μετέχει, οἷον εἰ μουσικός. ἔτι ᾗ ἔνι τι πᾶσιν ἐπιεικές· διὸ ἔνιοι ὁμιλητικοὶ εἶεν ἂν καὶ σπουδαίῳ. ἢ ᾗ προσαρμόττουσιν ἑκάστῳ· ἔχουσι γάρ τι πάντες τοῦ ἀγαθοῦ.

τρία μὲν οὖν εἴδη ταῦτα φιλίας· ἐν πᾶσι δὲ τούτοις κατ’ ἰσότητά πως λέγεται ἡ φιλία. καὶ γὰρ οἱ κατ’ ἀρετὴν φίλοι ἐν ἰσότητί πώς εἰσιν ἀρετῆς φίλοι ἀλλήλοις. ἄλλη δὲ διαφορὰ τούτων ἡ καθ’ ὑπερβολήν, ὥσπερ θεοῦ ἀρετὴ πρὸς ἄνθρωπον. τοῦτο γὰρ ἕτερον εἶδος φιλίας, καὶ ὅλως ἄρχοντος καὶ ἀρχομένου, καθάπερ καὶ τὸ δίκαιον ἕτερον· κατ’ ἀναλογίαν γὰρ ἴσον, κατ’ ἀριθμὸν δ’ οὐκ ἴσον. ἐν τούτῳ τῷ γένει πατὴρ πρὸς υἱὸν καὶ ὁ εὐεργέτης πρὸς τὸν εὐεργετηθέντα. αὐτῶν δὲ τούτων διαφοραὶ εἰσίν· ἄλλη πατρὸς πρὸς υἱὸν καὶ ἀνδρὸς πρὸς γυναῖκα, αὕτη μὲν ὡς ἄρχοντος καὶ ἀρχομένου, ἣ δὲ εὐεργέτου πρὸς εὐεργετηθέντα. ἐν ταύταις δὲ ἢ οὐκ ἔνεστιν ἢ οὐχ ὁμοίως τὸ ἀντιφιλεῖσθαι. γελοῖον γάρ, εἴ τις ἐγκαλοίη τῷ θεῷ, ὅτι οὐχ ὁμοίως τὸ ἀντιφιλεῖσθαι ὡς φιλεῖται, ἢ τῷ ἄρχοντι καὶ ἀρχομένῳ. φιλεῖσθαι γάρ, οὐ φιλεῖν, τοῦ ἄρχοντος, ἢ φιλεῖν ἄλλον τρόπον. καὶ ἡδονὴ διαφέρει οὐδὲν ἥ τε τοῦ αὐτάρκους ἐπὶ τῷ αὑτοῦ κτήματι ἢ παιδί, καὶ τοῦ ἐνδεοῦς ἐπὶ τῷ γινομένῳ. ὡς δ’ αὕτως καὶ ἐπὶ τῶν διὰ τὴν χρῆσιν φίλων καὶ ἐπὶ τῶν δι’ ἡδονὴν οἳ μὲν κατ’ ἰσότητα εἰσίν, οἳ δὲ καθ’ ὑπεροχήν. διὸ καὶ οἱ ἐκείνως οἰόμενοι ἐγκαλοῦσιν, ἐὰν μὴ ὁμοίως χρήσιμοι καὶ εὖ ποιῶσιν, καὶ ἐπὶ τῆς ἡδονῆς. δῆλον δ’ ἐν τοῖς ἐρωτικοῖς· τοῦτο γὰρ αἴτιον τοῦ μάχεσθαι ἀλλήλοις πολλάκις. ἀγνοεῖ γὰρ ὁ ἐρῶν ὅτι οὐχ ὁ αὐτὸς λόγος αὐτοῖς ἐπὶ τὴν προθυμίαν. διὸ εὐρηκέναι νεῖκος ὁ ἐρώμενος· τοιαῦτ’ ἂν οὐκ ἐρῶν λέγοι. οἳ δὲ νομίζουσι τὸν αὐτὸν εἶναι λόγον.

[1239a] ὥσπερ οὖν εἴρηται, τριῶν ὄντων εἰδῶν φιλίας, κατ’ ἀρετὴν κατὰ τὸ χρήσιμον καὶ κατὰ τὸ ἡδύ, αὗται πάλιν διῄρηνται εἰς δύο· αἳ μὲν γὰρ κατὰ τὸ ἴσον αἳ δὲ καθ’ ὑπεροχὴν εἰσίν. φιλίαι μὲν οὖν ἀμφότεραι, φίλοι δ’ οἱ κατὰ τὴν ἰσότητα· ἄτοπον γὰρ ἂν εἴη εἰ ἀνὴρ παιδίῳ φίλος, φιλεῖ δέ γε καὶ φιλεῖται. ἐνιαχοῦ δὲ φιλεῖσθαι μὲν δεῖ τὸν ὑπερέχοντα, ἐὰν δὲ φιλῇ, ὀνειδίζεται ὡς ἀνάξιον φιλῶν. τῇ γὰρ ἀξίᾳ τῶν φίλων μετρεῖται καί τινι ἴσῳ. τὰ μὲν οὖν δι’ ἡλικίας ἔλλειψιν ἀνάξια ὁμοίως φιλεῖσθαι, τὰ δὲ κατ’ ἀρετὴν ἢ γένος ἢ κατὰ ἄλλην τοιαύτην ὑπεροχήν. ἀεὶ δὲ τὸν ὑπερέχοντα ἢ ἧττον ἢ μὴ φιλεῖν ἀξιοῦν, καὶ ἐν τῷ χρησίμῳ καὶ ἐν τῷ ἡδεῖ καὶ κατ’ ἀρετήν. ἐν μὲν οὖν ταῖς μικραῖς ὑπεροχαῖς εἰκότως γίνονται ἀμφισβητήσεις (τὸ γὰρ μικρὸν

ἐνιαχοῦ οὐδὲν ἰσχύει, ὥσπερ ἐν ξύλου σταθμῷ, ἀλλ’ ἐν χρυσίῳ· ἀλλὰ τὸ μικρὸν κακῶς κρίνουσιν· φαίνεται γὰρ τὸ μὲν οἰκεῖον ἀγαθὸν διὰ τὸ ἐγγὺς μέγα, τὸ δ’ ἀλλότριον διὰ τὸ πόρρω μικρόν)· ὅταν δὲ ὑπερβολὴ ᾖ, οὐδ’ αὐτοὶ ἐπιζητοῦσιν ὡς δεῖ ἢ ἀντιφιλεῖσθαι ἢ ὁμοίως ἀντιφιλεῖσθαι, οἷον εἴ τις ἀξιοῖ τὸν θεόν. φανερὸν δὴ ὅτι φίλοι μέν, ὅταν ἐν τῷ ἴσῳ, τὸ ἀντιφιλεῖν δ’ ἔστιν ἄνευ τοῦ φίλους εἶναι. - δῆλον δὲ καὶ διὰ τί ζητοῦσι μᾶλλον οἱ ἄνθρωποι τὴν καθ’ ὑπεροχὴν φιλίαν τῆς κατ’ ἰσότητα· ἅμα γὰρ ὑπάρχει οὕτως αὐτοῖς τό τε φιλεῖσθαι καὶ ἡ ὑπεροχή. διὸ ὁ κόλαξ παρ’ ἐνίοις ἐντιμότερος τοῦ φίλου· ἄμφω γὰρ φαίνεσθαι ποιεῖ ὑπάρχειν τῷ κολακευομένῳ. μάλιστα δ’ οἱ φιλότιμοι τοιοῦτοι· τὸ γὰρ θαυμάζεσθαι ἐν ὑπεροχῇ. φύσει δὲ γίνονται οἳ μὲν φιλητικοὶ οἳ δὲ φιλότιμοι. φιλητικὸς δὲ ὁ τῷ φιλεῖν χαίρων μᾶλλον ἢ τῷ φιλεῖσθαι· ἐκεῖνος δὲ φιλότιμος μᾶλλον. ὁ μὲν οὖν χαίρων τῷ θαυμάζεσθαι καὶ φιλεῖσθαι τῆς ὑπεροχῆς φίλος· ὁ δὲ τῇ ἐν τῷ φιλεῖν ἡδονῇ ὁ φιλητικός. ἔνεστι γὰρ ἀνάγκη ἐνεργοῦντα· τὸ μὲν γὰρ φιλεῖσθαι συμβεβηκός· ἔστι γὰρ λανθάνειν φιλούμενον, φιλοῦντα δ’ οὔ. ἔστι δὲ καὶ κατὰ τὴν φιλίαν τὸ φιλεῖν μᾶλλον ἢ τὸ φιλεῖσθαι, τὸ δὲ φιλεῖσθαι κατὰ τὸ φιλητόν. σημεῖον δέ· ἕλοιτ’ ἂν ὁ φίλος μᾶλλον, εἰ μὴ ἐνδέχοιτ’ ἄμφω, γιγνώσκειν ἢ γιγνώσκεσθαι, οἷον ἐν ταῖς ὑποβολαῖς αἱ γυναῖκες ποιοῦσι, καὶ ἡ Ἀνδρομάχη ἡ Ἀντιφῶντος. καὶ γὰρ ἔοικε τὸ μὲν ἐθέλειν γινώσκεσθαι αὑτοῦ ἕνεκα, καὶ τοῦ πάσχειν τι ἀγαθὸν ἀλλὰ μὴ ποιεῖν, τὸ δὲ γινώσκειν τοῦ ποιεῖν καὶ τοῦ φιλεῖν ἕνεκα. διὸ καὶ [1239b] τοὺς ἐμμένοντας τῷ φιλεῖν πρὸς τοὺς τεθνεῶτας ἐπαινοῦμεν· γινώσκουσι γάρ, ἀλλ’ οὐ γινώσκονται.

ὅτι μὲν οὖν πλείονες τρόποι φιλίας, καὶ πόσοι τρόποι, ὅτι τρεῖς, καὶ ὅτι τὸ φιλεῖσθαι καὶ ἀντιφιλεῖσθαι καὶ οἱ φίλοι διαφέρουσιν, οἵ τε κατ’ ἰσότητα καὶ οἱ καθ’ ὑπεροχήν, εἴρηται· ἐπεὶ δὲ τὸ φίλον λέγεται καὶ καθόλου μᾶλλον, ὥσπερ καὶ κατ’ ἀρχὰς ἐλέχθη, ὑπὸ τῶν ἔξωθεν συμπαραλαμβανόντων (οἳ μὲν γὰρ τὸ ὅμοιόν φασιν εἶναι φίλον, οἳ δὲ τὸ ἐναντίον), λεκτέον καὶ περὶ τούτων πῶς εἰσι πρὸς τὰς εἰρημένας φιλίας. ἀνάγεται δὲ τὸ μὲν ὅμοιον καὶ εἰς τὸ ἡδὺ καὶ εἰς τὸ ἀγαθόν. τό τε γὰρ ἀγαθὸν ἁπλοῦν, τὸ δὲ κακὸν πολύμορφον· καὶ ὁ ἀγαθὸς μὲν ὅμοιος ἀεὶ καὶ οὐ μεταβάλλεται τὸ ἦθος, ὁ δὲ φαῦλος καὶ ὁ ἄφρων οὐθὲν ἔοικεν ἕωθεν καὶ ἑσπέρας. διὸ ἐὰν μὴ συμβάλλωσιν οἱ φαῦλοι, οὐ φίλοι ἑαυτοῖς, ἀλλὰ διίστανται· ἡ δ’ οὐ βέβαιος φιλία οὐ φιλία. ὥστε οὕτως μὲν τὸ ὅμοιον φίλον, ὅτι ‹τὸ› ἀγαθὸν ὅμοιον, ἔστι δὲ ὡς καὶ κατὰ τὸ ἡδύ· τοῖς γὰρ ὁμοίοις ταὔθ’ ἡδέα, καὶ ἕκαστον δὲ φύσει αὐτὸ αὑτῷ ἡδύ. διὸ καὶ φωναὶ καὶ αἱ ἕξεις καὶ συνημερεύσεις τοῖς ὁμογενέσιν ἥδισται ἀλλήλοις, καὶ τοῖς ἄλλοις ζῴοις· καὶ ταύτῃ ἐνδέχεται καὶ τοὺς φαύλους ἀλλήλους φιλεῖν.

κακὸς κακῷ δὲ συντέτηκεν ἡδονῇ. τὸ δ' ἐναντίον τῷ ἐναντίῳ φίλον ὡς τὸ χρήσιμον· αὐτὸ γὰρ αὑτῷ τὸ ὅμοιον ἄχρηστον. διὸ δεσπότης δούλου δεῖται καὶ δοῦλος δεσπότου, καὶ γυνὴ καὶ ἀνὴρ ἀλλήλων, καὶ ἡδὺ καὶ ἐπιθυμητὸν τὸ ἐναντίον ὡς χρήσιμον, καὶ οὐχ ὡς ἐν τέλει ἀλλ' ὡς πρὸς τὸ τέλος. ὅταν γὰρ τύχῃ οὗ ἐπιθυμεῖ, ἐν τῷ τέλει μὲν ἐστίν, οὐκ ὀρέγεται δὲ τοῦ ἐναντίου, οἷον τὸ θερμὸν τοῦ ψυχροῦ καὶ τὸ ξηρὸν τοῦ ὑγροῦ. ἔστι δέ πως καὶ ἡ τοῦ ἐναντίου φιλία τοῦ ἀγαθοῦ. ὀρέγεται γὰρ ἀλλήλων διὰ τὸ μέσον· ὡς σύμβολα γὰρ ὀρέγεται ἀλλήλων διὰ τὸ οὕτω γίνεσθαι ἐξ ἀμφοῖν ἓν μέσον. ἔτι κατὰ συμβεβηκός ἐστι τοῦ ἐναντίου, καθ' αὑτὸ δὲ τῆς μεσότητος. ὀρέγονται γὰρ οὐκ ἀλλήλων τἀναντία, ἀλλὰ τοῦ μέσου. ὑπερψυχθέντες γάρ, ἐὰν θερμανθῶσιν, εἰς τὸ μέσον καθίστανται, καὶ ὑπερθερμανθέντες, ἐὰν ψυχθῶσιν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δὲ μή, ἀεὶ ἐν ἐπιθυμίᾳ, οὐκ ἐν τοῖς μέσοις. ἀλλὰ χαίρει ὁ ἐν τῷ μέσῳ ἄνευ ἐπιθυμίας τοῖς φύσει ἡδέσιν, οἳ δὲ πᾶσι τοῖς ἐξιστᾶσι τῆς φύσει ἕξεως. τοῦτο μὲν οὖν τὸ εἶδος καὶ ἐπὶ τῶν ἀψύχων ἐστίν· τὸ φιλεῖν δὲ γίνεται, [1240a] ὅταν ᾖ ἐπὶ τῶν ἐμψύχων. διὸ ἐνίοτε ἀνομοίοις χαίρουσιν, οἷον αὐστηροὶ εὐτραπέλοις καὶ ὀξεῖς ῥαθύμοις. εἰς τὸ μέσον γὰρ καθίστανται ὑπ' ἀλλήλων. κατὰ συμβεβηκὸς οὖν, ὥσπερ ἐλέχθη, τὰ ἐναντία φίλα, καὶ διὰ τὸ ἀγαθόν.

πόσα μὲν οὖν εἴδη φιλίας, καὶ τίνες διαφοραὶ καθ' ἃς λέγονται οἵ τε φίλοι καὶ οἱ φιλοῦντες καὶ οἱ φιλούμενοι, καὶ οὕτως ὥστε φίλοι εἶναι καὶ ἄνευ τούτου, εἴρηται· περὶ δὲ αὐτὸν αὑτῷ φίλον εἶναι ἢ μή, πολλὴν ἔχει ἐπίσκεψιν. δοκεῖ γὰρ ἐνίοις μάλιστα ἕκαστος αὐτὸς αὑτῷ φίλος εἶναι, καὶ τούτῳ χρώμενοι κανόνι κρίνουσι τὴν πρὸς τοὺς ἄλλους φίλους φιλίαν· κατὰ δὲ τοὺς λόγους καὶ τὰ δοκοῦνθ' ὑπάρχειν τοῖς φίλοις τὰ μὲν ὑπεναντιοῦται, τὰ δ' ὅμοια φαίνεται ὄντα. ἔστι γάρ πως κατὰ ἀναλογίαν αὕτη ἡ φιλία, ἁπλῶς δ' οὔ. ἐν δυσὶ γὰρ διῃρημένοις τὸ φιλεῖσθαι καὶ φιλεῖν· δι' ἃ μᾶλλον οὕτως αὐτὸς αὑτῷ φίλος, ‹ὡς› ἐπὶ τοῦ ἀκρατοῦς καὶ ἐγκρατοῦς εἴρηται πῶς ἑκὼν ἢ ἄκων, τῷ τὰ μέρη ἔχειν πως πρὸς ἄλληλα τὰ τῆς ψυχῆς, καὶ ὅμοιον τὰ τοιαῦτα πάντα, εἰ φίλος αὐτὸς αὑτῷ καὶ ἐχθρός, καὶ εἰ ἀδικεῖ τις αὐτὸς αὑτόν. πάντα γὰρ ἐν δυσὶ ταῦτα καὶ διῃρημένοις· ᾗ δὴ δύο πως καὶ ἡ ψυχή, ὑπάρχει πως ταῦτα, ᾗ δ' οὐ διῃρημένα, οὐχ ὑπάρχει.

ἀπὸ δὲ τῆς πρὸς αὑτὸν ἕξεως [ὡς] οἱ λοιποὶ τρόποι τοῦ φιλεῖν διωρισμένοι, καθ' οὓς ἐν τοῖς λόγοις ἐπισκοπεῖν εἰώθαμεν. δοκεῖ γὰρ φίλος εἶναι ὁ βουλόμενός τινι τἀγαθὰ ἢ οἷα οἴεται ἀγαθά, μὴ δι' αὑτὸν, ἀλλ' ἐκείνου ἕνεκα· ἄλλον δὲ τρόπον ᾧ τὸ εἶναι βούλεται δι' ἐκεῖνον καὶ μὴ δι' αὑτὸν, κἂν εἰ μὴ διανέμων τἀγαθά, μὴ τῷ τὸ εἶναι τούτῳ ἂν δόξειε μάλιστα φιλεῖν· ἄλλον δὲ τρόπον ᾧ συζῆν αἱρεῖται δι’ αὐτὴν τὴν ὁμιλίαν καὶ μὴ δι’ ἕτερόν τι, οἷον οἱ πατέρες τὸ μὲν εἶναι τοῖς τέκνοις, συζῶσι δ’ ἑτέροις. μάχεται δὴ ταῦτα πάντα πρὸς ἄλληλα. οἳ μὲν γὰρ ἂν μὴ τὸ ἑαυτοῖς, οἳ δὲ ἂν μὴ τὸ εἶναι, οἳ δὲ τὸ συζῆν, οὐκ οἴονται φιλεῖσθαι. ἔτι τὸ ἀλγοῦντι συναλγεῖν μὴ δι’ ἕτερόν τι ἀγαπᾶν θήσομεν, οἷον οἱ δοῦλοι πρὸς τοὺς δεσπότας, ὅτι χαλεποὶ ἀλγοῦντες, ἀλλ’ οὐ δι’ αὐτούς, ὥσπερ αἱ μητέρες τοῖς τέκνοις καὶ οἱ συνωδίνοντες ὄρνιθες. βούλεται γὰρ μάλιστά γε οὐ μόνον συλλυπεῖσθαι ὁ φίλος τῷ φίλῳ, ἀλλὰ καὶ τὴν αὐτὴν λύπην, οἷον διψῶντι συνδιψῆν, εἰ ἐνεδέχετο, ὅτι [μὴ] ἐγγύτατα. ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τοῦ χαίρειν· ‹τὸ γὰρ [1240b] χαίρειν› μὴ δι’ ἕτερόν τι, ἀλλὰ δι’ ἐκεῖνον, ὅτι χαίρει, φιλικόν. ἔτι τὰ τοιάδε λέγεται περὶ τῆς φιλίας, ὡς ἰσότης φιλότης, καὶ [μὴ] μίαν ψυχὴν εἶναι τοὺς ἀληθῶς φίλους. ἅπαντα ταῦτα ἐπαναφέρεται πρὸς τὸν ἕνα. καὶ γὰρ βούλεται τἀγαθὰ αὑτῷ τοῦτον τὸν τρόπον. οὐθεὶς γὰρ αὐτὸς αὑτὸν εὖ ποιεῖ διά τι ἕτερον, οὐδὲ χάριτος. οὐ δὲ λέγει ὅτι ἐποίησεν ᾗ εἷς· δοκεῖ γὰρ φιλεῖσθαι βούλεσθαι ὁ δῆλον ποιῶν ὅτι φιλεῖ, ἀλλ’ οὐ φιλεῖν. καὶ τὸ εἶναι μάλιστα καὶ τὸ συζῆν καὶ τὸ συγχαίρειν καὶ τὸ συναλγεῖν, καὶ μία δὴ ψυχή, καὶ τὸ μὴ δύνασθαι ἄνευ ἀλλήλων μηδὲ ζῆν, ἀλλὰ συναποθνήσκειν. οὕτω γὰρ ἔχει ὁ εἷς, καὶ ἴσως ὁμιλεῖ αὐτὸς αὑτῷ. - πάντα δὲ ταῦτα τῷ ἀγαθῷ ὑπάρχει πρὸς αὑτόν. ἐν γὰρ τῷ πονηρῷ διαφωνεῖ, οἷον ἐν τῷ ἀκρατεῖ. καὶ διὰ τοῦτο δοκεῖ καὶ ἐχθρὸν ἐνδέχεσθαι αὐτὸν αὑτῷ εἶναι· ᾗ δ’ εἷς καὶ ἀδιαίρετος, ὀρεκτὸς αὐτὸς αὑτοῦ. τοιοῦτος ὁ ἀγαθὸς καὶ ὁ κατ’ ἀρετὴν φίλος, ἐπεὶ ὅ γε μοχθηρὸς οὐχ εἷς ἀλλὰ πολλοί, καὶ τῆς αὐτῆς ἡμέρας ἕτερος καὶ ἔμπληκτος. ὥστε καὶ ἡ αὑτοῦ πρὸς αὑτὸν φιλία ἀνάγεται πρὸς τὴν τοῦ ἀγαθοῦ. ὅτι γάρ πῃ ὁμοιοῖ καὶ εἷς καὶ αὐτὸς αὑτῷ ἀγαθός, ταύτῃ αὐτὸς αὑτῷ φίλος καὶ ὀρεκτός· φύσει δὲ τοιοῦτος, ἀλλ’ ὁ πονηρὸς παρὰ φύσιν. ὁ δ’ ἀγαθὸς οὔθ’ ἅμα λοιδορεῖται ἑαυτῷ, ὥσπερ ὁ ἀκρατής, οὔτε ὁ ὕστερος τῷ πρότερον, ὥσπερ ὁ μεταμελητικός, οὔτε ὁ ἔμπροσθεν τῷ ὕστερον, ὥσπερ ὁ ψεύστης. ὅλως τε εἰ δεῖ ὥσπερ οἱ σοφισταὶ διορίζουσιν, ὥσπερ τὸ Κορίσκος καὶ Κορίσκος σπουδαῖος. δῆλον γὰρ ὡς τὸ αὐτὸ πόσον σπουδαῖον αὐτῶν, ἐπεὶ ὅταν ἐγκαλέσωσιν αὑτοῖς, ἀποκτιννύασιν αὑτούς· ἀλλὰ δοκεῖ πᾶς αὐτὸς αὑτῷ ἀγαθός. ζητεῖ δὲ ὁ ἁπλῶς ὢν ἀγαθὸς εἶναι καὶ αὐτὸς αὑτῷ φίλος, ὥσπερ εἴρηται, ὅτι δύ’ ἔχει ἐν αὑτῷ ἃ φύσει βούλεται εἶναι φίλα καὶ διασπάσαι ἀδύνατον. διὸ ἐπ’ ἀνθρώπου μὲν δοκεῖ ἕκαστος αὐτὸς αὑτῷ φίλος, ἐπὶ δὲ τῶν ἄλλων ζῴων ‹οὔ›, οἷον ἵππος αὐτὸς αὑτῷ , οὐκ ἄρα φίλος. ἀλλ’ οὐδὲ τὰ παιδία, ἀλλ’ ὅταν ἤδη ἔχῃ προαίρεσιν· ἤδη γὰρ τότε διαφωνεῖ ὁ νοῦς πρὸς τὴν ἐπιθυμίαν. - ἔοικε δ’ ἡ φιλία ἡ πρὸς αὑτὸν τῇ κατὰ συγγένειαν· οὐθέτερον γὰρ ἐφ’ αὑτοῖς λῦσαι, ἀλλὰ κἂν διαφέρωνται, ὅμως οὗτοι μὲν ἔτι συγγενεῖς, ὃ δὲ ἔτι εἷς, ἕως ἂν ζῇ.

ποσαχῶς μὲν οὖν τὸ φιλεῖν λέγεται, καὶ ὅτι πᾶσαι αἱ φιλίαι ἀνάγονται πρὸς τὴν πρώτην, δῆλον ἐκ τῶν εἰρημένων· [1241a] οἰκεῖον δὲ τῇ σκέψει θεωρῆσαι καὶ περὶ ὁμονοίας καὶ εὐνοίας. δοκεῖ γὰρ τοῖς μὲν εἶναι ταὐτά, τοῖς δ’ οὐκ ἄνευ ἀλλήλων. ἔστι δ’ ἡ εὔνοια τῆς φιλίας οὔτε πάμπαν ἕτερον οὔτε ταὐτόν. διῃρημένης γὰρ τῆς φιλίας κατὰ τρεῖς τρόπους, οὔτ’ ἐν τῇ χρησίμῃ οὔτ’ ἐν τῇ καθ’ ἡδονὴν ἐστίν. εἴτε γὰρ ὅτι χρήσιμον, βούλεται αὐτῷ τἀγαθά, οὐ δι’ ἐκεῖνον ἀλλὰ δι’ αὑτὸν βούλοιτ’ ἄν, δοκεῖ δὲ ὥσπερ καὶ ἡ εὔνοια οὐκ αὐτοῦ εὔνοια τοῦ εὐνοϊζομένου εἶναι, ἀλλὰ τοῦ ᾧ εὐνοεῖ· εἰ δὴ ἦν ἐν τῇ τοῦ ἡδέος φιλίᾳ, κἂν τοῖς ἀψύχοις εὐνόουν. ὥστε δῆλον ὅτι περὶ τὴν ἠθικὴν φιλίαν ἡ εὔνοια ἐστίν. ἀλλὰ τοῦ μὲν εὐνοοῦντος βούλεσθαι μόνον ἐστί, τοῦ δὲ φίλου καὶ πράττειν ἃ βούλεται. ἔστι γὰρ ἡ εὔνοια ἀρχὴ φιλίας· ὁ μὲν γὰρ φίλος πᾶς εὔνους, ὁ δ’ εὔνους οὐ πᾶς φίλος. ἀρχομένῳ γὰρ ἔοικεν ὁ εὐνοῶν μόνον, διὸ ἀρχὴ φιλίας, ἀλλ’ οὐ φιλία.

δοκοῦσι γὰρ οἵ τε φίλοι ὁμονοεῖν καὶ οἱ ὁμονοοῦντες φίλοι εἶναι. ἔστι δ’ οὐ περὶ πάντα ἡ ὁμόνοια ἡ φιλική, ἀλλὰ περὶ τὰ πρακτὰ τοῖς ὁμονοοῦσι, καὶ ὅσα εἰς τὸ συζῆν συντείνει, οὔτε μόνον κατὰ διάνοιαν ἢ κατὰ ὄρεξιν (ἔστι γὰρ τἀναντία τὸ κινοῦν ἐπιθυμεῖν, ὥσπερ ἐν τῷ ἀκρατεῖ διαφωνεῖ τοῦτο), οὐ δεῖ κατὰ τὴν προαίρεσιν ὁμονοεῖν καὶ κατὰ τὴν ἐπιθυμίαν. ἐπὶ δὲ τῶν ἀγαθῶν ἡ ὁμόνοια· οἵ γε φαῦλοι ταῦτα προαιρούμενοι καὶ ἐπιθυμοῦντες βλάπτουσιν ἀλλήλους. ἔοικε δὲ καὶ ἡ ὁμονοία οὐχ ἁπλῶς λέγεσθαι, ὥσπερ οὐδ’ ἡ φιλία· ἀλλ’ ἣ μὲν πρώτη καὶ φύσει σπουδαία, διὸ οὐκ ἔστι τοὺς φαύλους ὁμονοεῖν, ἑτέρα δὲ καθ’ ἣν καὶ οἱ φαῦλοι ὁμονοοῦσιν, ὅταν τῶν αὐτῶν τὴν προαίρεσιν καὶ τὴν ἐπιθυμίαν ἔχωσιν. οὕτω δὲ δεῖ τῶν αὐτῶν ὀρέγεσθαι, ὥστε ἐνδέχεσθαι ἀμφοτέροις ὑπάρχειν οὗ ὀρέγονται. ἂν γὰρ τοιούτου ὀρέγωνται, ὃ μὴ ἐνδέχεται ἀμφοῖν, μαχοῦνται· οἱ ὁμονοοῦντες δ’ οὐ μαχοῦνται. ἔστι δ’ ἡ ὁμόνοια, ὅταν περὶ τοῦ ἄρχειν καὶ ἄρχεσθαι ἡ αὐτὴ προαίρεσις ᾖ, μὴ τοῦ ἑκάτερον, ἀλλὰ τοῦ τὸν αὐτόν. καὶ ἔστιν ἡ ὁμόνοια φιλία πολιτική.

περὶ μὲν οὖν ὁμονοίας καὶ εὐνοίας εἰρήσθω τοσαῦτα· ἀπορεῖται δὲ διὰ τί μᾶλλον φιλοῦσιν οἱ ποιήσαντες εὖ τοὺς παθόντας ἢ οἱ παθόντες εὖ τοὺς ποιήσαντας. δοκεῖ δὲ δίκαιον εἶναι τοὐναντίον. τοῦτο δ’ ὑπολάβοι μὲν ἄν τις διὰ τὸ χρήσιμον καὶ τὸ αὑτῷ ὠφέλιμον συμβαίνειν· τῷ μὲν γὰρ ὀφείλεται, τὸν δ’ ἀποδοῦναι δεῖ. οὐκ ἔστι δὲ τοῦτο μόνον, ἀλλὰ καὶ φυσικόν. ἡ γὰρ ἐνέργεια αἱρετώτερον, [1241b] τὸν αὐτὸν δὲ λόγον ἔχει τὸ ἔργον καὶ ἡ ἐνέργεια, ὁ δ’ εὖ παθὼν ὥσπερ ἔργον τοῦ εὖ ποιήσαντος. διὸ καὶ ἐν τοῖς ζῴοις ἡ περὶ τὰ τέκνα σπουδὴ ἐστί, καὶ τοῦ γεννῆσαι καὶ ‹τὰ› γεννώμενα σῴζειν. καὶ φιλοῦσι δὴ μᾶλλον οἱ πατέρες τὰ τέκνα (καὶ αἱ μητέρες τῶν πατέρων) ἢ φιλοῦνται· καὶ οὗτοι πάλιν τὰ αὑτῶν ἢ τοὺς γεννήσαντας, διὰ τὸ τὴν ἐνέργειαν εἶναι τὸ ἄριστον· καὶ αἱ μητέρες τῶν πατέρων, ὅτι μᾶλλον οἴονται αὑτῶν εἶναι ἔργον τὰ τέκνα· τὸ γὰρ ἔργον τῷ χαλεπῷ διορίζουσι, πλείω δὲ λυπεῖται περὶ τὴν γένεσιν μήτηρ.

καὶ περὶ μὲν φιλίας τῆς πρὸς αὑτὸν καὶ τῆς ἐν πλείοσι διωρίσθω τὸν τρόπον τοῦτον· δοκεῖ δὲ τό τε δίκαιον εἶναι ἴσον τι καὶ ἡ φιλία ἐν ἰσότητι, εἰ μὴ μάτην λέγεται ἰσότης [ἡ] φιλότης. αἱ δὲ πολιτεῖαι πᾶσαι δικαίου τι εἶδος· κοινωνία γάρ, τὸ δὲ κοινὸν πᾶν διὰ τοῦ δικαίου συνέστηκεν, ὥστε ὅσα εἴδη φιλίας, καὶ δικαίου καὶ κοινωνίας, καὶ πάντα ταῦτα σύνορα ἀλλήλοις, καὶ ἐγγὺς ἔχει τὰς διαφοράς. ἐπεὶ δ’ ὁμοίως ἔχει ψυχὴ πρὸς σῶμα καὶ τεχνίτης πρὸς ὄργανον καὶ δεσπότης πρὸς δοῦλον, τούτων μὲν οὐκ ἔστι κοινωνία. οὐ γὰρ δύ’ ἐστίν, ἀλλὰ τὸ μὲν ἕν, τὸ δὲ τοῦ ἑνός [οὐδέν]. οὐδὲ διαιρετὸν τὸ ἀγαθὸν ἑκατέρῳ, ἀλλὰ τὸ ἀμφοτέρων τοῦ ἑνὸς οὗ ἕνεκα ἐστίν. τό τε γὰρ σῶμά ἐστιν ὄργανον σύμφυτον, καὶ τοῦ δεσπότου ὁ δοῦλος ὥσπερ μόριον καὶ ὄργανον ἀφαιρετόν, τὸ δ’ ὄργανον ὥσπερ δοῦλος ἄψυχος. αἱ δ’ ἄλλαι κοινωνίαι εἰσὶν [ἢ] μόριον τῶν τῆς πόλεως κοινωνιῶν, οἷον ἡ τῶν φρατέρων ἢ τῶν ὀργίων, ἢ αἱ χρηματιστικαὶ ἔτι πολιτεῖαι. αἱ δὲ πολιτεῖαι πᾶσαι ἐν οἰκείοις συνυπάρχουσι, καὶ αἱ ὀρθαὶ καὶ αἱ παρεκβάσεις (ἔστι γὰρ τὸ αὐτὸ ὥσπερ καὶ ἐπὶ τῶν ἁρμονιῶν καὶ τῶν ἐν ταῖς πολιτείαις)· βασιλικὴ μὲν ἡ τοῦ γεννήσαντος, ἀριστοκρατικὴ δ’ ἡ ἀνδρὸς καὶ γυναικός, πολιτεία δ’ ἡ τῶν ἀδελφῶν· παρέκβασις δὲ τούτων τυραννὶς ὀλιγαρχία δῆμος. καὶ τὰ δίκαια δὴ τοσαῦτα.

ἐπεὶ δὲ τὸ ἴσον τὸ μὲν κατ’ ἀριθμὸν τὸ δὲ κατ’ ἀναλογίαν, καὶ τοῦ δικαίου εἴδη ἔσται καὶ τῆς φιλίας καὶ τῆς κοινωνίας. κατ’ ἀριθμὸν μὲν γὰρ ἡ ‹δημοκρατικὴ› κοινωνία καὶ ἡ ἑταιρικὴ φιλία, τῷ γὰρ αὐτῷ ὅρῳ μετρεῖται· κατ’ ἀναλογίαν δὲ ἡ ἀριστοκρατικὴ ἀρίστη καὶ βασιλική. οὐ γὰρ ταὐτὸν δίκαιον τῷ ὑπερέχοντι καὶ ὑπερεχομένῳ, ἀλλὰ τὸ ἀνάλογον. καὶ ἡ φιλία δὲ ὁμοίως πατρὸς καὶ παιδός, καὶ ἐν ταῖς κοινωνίαις ὁ αὐτὸς τρόπος.

[1242a] λέγονται δὲ φιλίαι συγγενικὴ ἑταιρικὴ κοινωνικὴ ἡ λεγομένη πολιτική. ἔστι μὲν συγγενικὴ πολλὰ ἔχουσα εἴδη, ἣ μὲν ὡς ἀδελφῶν, ἣ δ’ ὡς πατρὸς καὶ υἱῶν (καὶ γὰρ κατ’ ἀναλογίαν, οἷον ἡ πατρική, καὶ κατ’ ἀριθμόν, οἷον ἡ τῶν ἀδελφῶν· ἐγγὺς γὰρ αὕτη τῆς ἑταιρικῆς· ἐπιλαμβάνουσι γὰρ καὶ ἐνταῦθα πρέσβειον)· ἡ δὲ πολιτικὴ συνέστηκε μὲν κατὰ τὸ χρήσιμον καὶ

μάλιστα. διὰ γὰρ τὸ μὴ αὐταρκεῖν δοκοῦσι συνελθεῖν, ἐπεὶ συνῆλθόν γ' ἂν καὶ τοῦ συζῆν χάριν. μόνη δ' ἡ πολιτικὴ καὶ ἡ παρ' αὐτὴν παρέκβασις οὐ μόνον φιλίαι, ἀλλὰ καὶ ὡς φίλοι κοινωνοῦσιν· αἱ δ' ἄλλαι καθ' ὑπεροχήν. μάλιστα δὲ δίκαιον τὸ ἐν τῇ τῶν χρησίμων φιλίᾳ, διὰ τὸ τοῦτ' εἶναι τὸ πολιτικὸν δίκαιον. ἄλλον γὰρ τρόπον συνῆλθον πρίων καὶ τέχνη, οὐχ ἕνεκα κοινοῦ τινος (οἷον γὰρ ὄργανον καὶ ψυχή) ἀλλὰ τοῦ χρωμένου ἕνεκεν. συμβαίνει δὲ καὶ τοῦτο ὄργανον ἐπιμελείας τυγχάνειν, ἧς δίκαιον πρὸς τὸ ἔργον· ἐκείνου γὰρ ἕνεκεν ἐστίν. καὶ τὸ τρυπάνῳ εἶναι διττόν, ὧν τὸ κυριώτερον ἡ ἐνέργεια, ἡ τρύπησις. καὶ ἐν τούτῳ τῷ εἴδει σῶμα καὶ δοῦλος, ὥσπερ εἴρηται πρότερον.

τὸ δὴ ζητεῖν πῶς δεῖ τῷ φίλῳ ὁμιλεῖν, τὸ ζητεῖν δίκαιόν τι ἐστίν. καὶ γὰρ ὅλως τὸ δίκαιον ἅπαν πρὸς φίλον. τό τε γὰρ δίκαιόν τισι καὶ κοινωνοῖς, καὶ ὁ φίλος κοινωνός, ὃ μὲν γένους, ὃ δὲ βίου. ὁ γὰρ ἄνθρωπος οὐ μόνον πολιτικὸν ἀλλὰ καὶ οἰκονομικὸν ζῷον, καὶ οὐχ ὥσπερ τἆλλά ποτε συνδυάζεται καὶ τῷ τυχόντι [καὶ] θήλει καὶ ἄρρενι ἀλλ' αἱ διὰ δύμον αὐλικόν, ἀλλὰ κοινωνικὸν ἄνθρωπος ζῷον πρὸς οὓς φύσει συγγένεια ἐστίν· καὶ κοινωνία τοίνυν καὶ δίκαιόν τι, καὶ εἰ μὴ πόλις εἴη· οἰκία δ' ἐστί τις φιλία. δεσπότου μὲν οὖν καὶ δούλου ἥπερ καὶ τέχνης καὶ ὀργάνων καὶ ψυχῆς καὶ σώματος, αἱ δὲ τοιαῦται οὔτε φιλίαι οὔτε δικαιοσύναι, ἀλλ' ἀνάλογον, ὥσπερ καὶ τὸ ὑγιεινὸν οὐ δίκαιον, ἀλλ' ἀνάλογον· γυναικὸς δὲ καὶ ἀνδρὸς φιλία ὡς χρήσιμον καὶ κοινωνία· πατρὸς δὲ καὶ υἱοῦ ἡ αὐτὴ ἥπερ θεοῦ πρὸς ἄνθρωπον καὶ τοῦ εὖ ποιήσαντος πρὸς τὸν παθόντα καὶ ὅλως τοῦ φύσει ἄρχοντος πρὸς τὸν φύσει ἀρχόμενον· ἣ δὲ τῶν ἀδελφῶν πρὸς ἀλλήλους ἑταιρικὴ μάλιστα ἡ κατ' ἰσότητα.

"οὐ γάρ τι νόθος τῷδ' ἀπεδείχθην·
ἀμφοῖν δὲ πατὴρ αὐτὸς ἐκλήθη
Ζεὺς ἐμὸς ἄρχων." ταῦτα γὰρ ὡς τὸ ἴσον ζητούντων λέγεται. διὸ ἐν οἰκίᾳ [1242b] πρῶτον ἀρχαὶ καὶ πηγαὶ φιλίας καὶ πολιτείας καὶ δικαίου.

ἐπεὶ δὲ φιλίαι τρεῖς, κατ' ἀρετήν, κατὰ τὸ χρήσιμον, κατὰ τὸ ἡδύ, τούτων δὲ ἑκάστης δύο διαφοραί (ἣ μὲν γὰρ καθ' ὑπεροχὴν ἣ δὲ κατ' ἰσότητά ἐστιν ἑκάστη αὐτῶν, τὸ δὲ δίκαιον τὸ περὶ αὐτὰς ἐκ τῶν ἀμφισβητησάντων δῆλον), ἐν μὲν τῇ καθ' ὑπεροχὴν ἀξιοῦται τὸ ἀνάλογον, ἀλλ' οὐχ ὡσαύτως, ἀλλ' ὁ μὲν ὑπερέχων ἀνεστραμμένως τὸ ἀνάλογον, ὡς αὐτὸς πρὸς τὸν ἐλάττω, οὕτω τὸ παρὰ τοῦ ἐλάττονος γινόμενον πρὸς τὸ παρ' αὐτοῦ, διακείμενος ὥσπερ ἄρχων πρὸς ἀρχόμενον· εἰ δὲ μὴ τοῦτο, ἀλλὰ τὸ ἴσον κατ' ἀριθμὸν ἀξιοῖ. καὶ γὰρ δὴ καὶ ἐπὶ τῶν ἄλλων κοινωνιῶν οὕτω συμβαίνει. ὁτὲ μὲν γὰρ ἀριθμῷ τοῦ ἴσου μετέχουσιν, ὁτὲ δὲ λόγῳ. εἰ μὲν γὰρ ἴσον ἀριθμῷ εἰσήνεγκον ἀργύριον, ἴσον καὶ τῷ ἴσῳ ἀριθμῷ διαλαμβάνουσιν, εἰ δὲ μὴ ἴσον, ἀνάλογον. ὁ δ' ὑπερεχόμενος τοὐναντίον στρέφει τὸ ἀνάλογον, καὶ κατὰ διάμετρον συζεύγνυσιν. δόξειε δ' ἂν οὕτως ἐλαττοῦσθαι ὁ ὑπερέχων καὶ λειτουργία ἡ φιλία καὶ ἡ κοινωνία. δεῖ ἄρα τινὶ ἑτέρῳ ἀνισάσαι καὶ ποιῆσαι ἀνάλογον. τοῦτο δ' ἐστὶν ἡ τιμή, ὅπερ καὶ τῷ ἄρχοντι φύσει καὶ θεῷ πρὸς τὸ ἀρχόμενον. δεῖ δὲ ἰσασθῆναι τὸ κέρδος πρὸς τὴν τιμήν.

ἡ δὲ κατ' ἴσα φιλία ἐστὶν ἡ πολιτική. ἡ δὲ πολιτική ἐστι μὲν κατὰ τὸ χρήσιμον, καὶ ὥσπερ αἱ πόλεις ἀλλήλαις φίλαι, οὕτω καὶ οἱ πολῖται, καὶ ὁμοίως

"οὐκέτι γιγνώσκουσιν Ἀθηναῖοι Μεγαρῆας", καὶ οἱ πολῖται, ὅταν μὴ χρήσιμοι ἀλλήλοις, ἀλλ' ἐκ χειρὸς εἰς χεῖρα ἡ φιλία· ἔστι δὲ ἐνταῦθα καὶ ἄρχον καὶ ἀρχόμενον οὔτε τὸ φυσικὸν οὔτε τὸ βασιλικόν, ἀλλὰ τὸ ἐν τῷ μέρει, οὐδὲ τούτου ἕνεκα ὅπως εὖ ποιῇ ὁ θεός, ἀλλ' ἵνα ἴσον ᾖ τοῦ ἀγαθοῦ καὶ τῆς λειτουργίας. κατ' ἰσότητα δὴ βούλεται εἶναι ἡ πολιτικὴ φιλία. ἔστι δὲ τῆς χρησίμου φιλίας εἴδη δύο, ἣ μὲν νομικὴ ἣ δ' ἠθική. βλέπει δ' ἡ μὲν πολιτικὴ εἰς τὸ ἴσον καὶ εἰς τὸ πρᾶγμα, ὥσπερ οἱ πωλοῦντες καὶ οἱ ὠνούμενοι. διὸ εἴρηται

"μισθὸς ἀνδρὶ φίλῳ."

ὅταν μὲν οὖν καθ' ὁμολογίαν ‹ᾖ› ἡ πολιτικὴ αὕτη φιλία, [καὶ] νομική· ὅταν δ' ἐπιτρέπωσιν αὐτοῖς, ἠθικὴ βούλεται εἶναι φιλία καὶ ἑταιρική. διὸ μάλιστα ἔγκλημα ἐν ταύτῃ τῇ φιλίᾳ· αἴτιον δ' ὅτι παρὰ φύσιν. ἕτεραι γὰρ φιλίαι ἡ κατὰ τὸ χρήσιμον καὶ ἡ κατὰ τὴν ἀρετήν· οἳ δ' ἀμφότερα βούλονται ἅμα ἔχειν, καὶ ὁμιλοῦσι μὲν τοῦ χρησίμου [1243a] ἕνεκα, ἠθικὴν δὲ ποιοῦσιν ὡς ἐπιεικεῖς, διὸ ὡς πιστεύοντες οὐ νομικὴν ποιοῦσιν. ὅλως μὲν γὰρ ἐν τῇ χρησίμῃ τῶν τριῶν πλεῖστα ἐγκλήματα (ἡ μὲν γὰρ ἀρετὴ ἀνέγκλητον, οἱ δ' ἡδεῖς ἔχοντες καὶ δόντες ἀπαλλάττονται· οἱ δὲ χρήσιμοι οὐκ εὐθὺς διαλύονται, ἂν μὴ νομικῶς καὶ ἑταιρικῶς προσφέρωνται)· ὅμως δὲ τῆς χρησίμου ἡ νομικὴ ἀνέγκλητος. ἔστι δ' ἡ μὲν νομικὴ διάλυσις πρὸς νόμισμα (μετρεῖται γὰρ τούτῳ τὸ ἴσον), ἡ δ' ἠθικὴ ἑκούσιος. διὸ ἐνιαχοῦ νόμος ἐστὶ τοῖς οὕτως ὁμιλοῦσι φιλικῶς μὴ εἶναι δίκας τῶν ἑκουσίων συναλλαγμάτων, ὀρθῶς· τοῖς γὰρ ἀγαθοῖς οὐ πέφυκε δίκαιον εἶναι, οἳ δ' ὡς ἀγαθοὶ καὶ πιστοὶ συναλλάττουσιν. ἔστι δὲ ἐν ταύτῃ τῇ φιλίᾳ τὰ ἐγκλήματα ἀμφιβάλλοντα αὐτοῖς ἀμφότερα, πῶς ἑκάτερος ἐγκαλεῖ, ὅταν ἠθικῶς ἀλλὰ μὴ νομικῶς πιστεύσωσιν. καὶ ἔχει δὴ ἀπορίαν ποτέρως δεῖ κρίνειν τὸ δίκαιον, πότερα πρὸς τὸ πρᾶγμα βλέποντα τὸ ὑπηρετηθέν, πόσον, ἢ ποῖον ἦν τῷ πεπονθότι.

ἐνδέχεται γὰρ ὅπερ λέγει Θέογνις·

“σοὶ μὲν τοῦτο, θεά, σμικρόν, ἐμοὶ δὲ μέγα.” ἐνδέχεται δὲ καὶ τοὐναντίον γενέσθαι, ὥσπερ ἐν τῷ λόγῳ, σοὶ μὲν παιδιὰν τοῦτ’ εἶναι, ἐμοὶ δὲ θάνατον. ἐντεῦθεν δ’ εἴρηται τὰ ἐγκλήματα. ὃ μὲν γὰρ ἀξιοῖ ἀντιπαθεῖν ὡς μέγα ὑπηρετήσας, ὅτι δεομένῳ ἐποίησιν, ἤ τι ἄλλο τοιοῦτο, λέγων πρὸς τὴν ἐκείνου ὠφέλειαν πόσον ἠδύνατο, ἀλλ’ οὐ τί ἦν αὐτῷ· ὃ δὲ τοὐναντίον ὅσον ἐκείνῳ, ἀλλ’ οὐχ ὅσον αὐτῷ. ὁτὲ δὲ καὶ μεταλαμβάνων καὶ ἀμφιβάλλει. ὃ μὲν γὰρ ὅσον αὐτῷ μικρὸν ἀπέβη, ὃ δ’ ὅσον αὐτῷ μέγα ἐδύνατο, οἷον εἰ κινδυνεύσας δραχμῆς ἄξιον ὠφέλησεν, ὃ μὲν τὸ τοῦ κινδύνου μέγεθος ὃ δὲ τὸ τοῦ ἀργυρίου, ὥσπερ ἐν τῇ τῶν νομισμάτων ἀποδόσει. καὶ γὰρ ἐνταῦθα περὶ τούτων ἡ ἀμφισβήτησις· ὃ μὲν γὰρ ἀξιοῖ πῶς τότ’ ἦν, ὃ δὲ πῶς νῦν, ἂν μὴ διείπωνται. ἡ μὲν οὖν πολιτικὴ βλέπει εἰς τὴν ὁμολογίαν καὶ εἰς τὸ πρᾶγμα, ἡ δ’ ἠθικὴ εἰς τὴν προαίρεσιν. ὥστε καὶ δίκαιον τοῦτο μᾶλλον ἐστί, καὶ δικαιοσύνη φιλική. αἴτιον δὲ τοῦ μάχεσθαι, διότι καλλίων μὲν ἡ ἠθικὴ φιλία, ἀναγκαιοτέρα δὲ ἡ χρησίμη. οἳ δ’ ἄρχονται μὲν ὡς οἱ ἠθικοὶ φίλοι καὶ δι’ ἀρετὴν ὄντες· ὅταν δ’ ἄντικρυς ᾖ τι τῶν ἰδίων, δῆλοι γίνονται ὅτι ἕτεροι ἦσαν. ἐκ περιουσίας γὰρ διώκουσιν οἱ πολλοὶ τὰ καλόν· διὸ καὶ [1243b] τὴν καλλίω φιλίαν. ὥστε φανερὸν πῶς διαιρετέον περὶ τούτων. εἰ μὲν γὰρ ἠθικοὶ φίλοι, εἰς τὴν προαίρεσιν βλεπτέον εἰ ἴση, καὶ οὐθὲν ἄλλο ἀξιωτέον θατέρῳ παρὰ θατέρου· εἰ δ’ ὡς χρήσιμοι καὶ πολιτικοί, ὡς ἂν ἐλυσιτέλει ὁμολογοῦσιν· ἂν δ’ ὃ μὲν φῇ ὧδε ὃ δὲ ἐκείνως, οὐ καλὸν μὲν ἀντιποιῆσαι, δέον τοὺς καλοὺς λέγειν λόγους, ὁμοίως δὲ καὶ ἐπὶ θατέρου, ἀλλ’ ἐπεὶ οὐ διείποντο ὡς ἠθικῶς, δεῖ κρίνειν τίνα, μηδ’ ὑποκρινόμενον μηδέτερον αὐτῶν ἐξαπατᾶν. ὥστε δεῖ στέργειν αὐτὸν τὴν τύχην. ὅτι δ’ ἐστὶν ἡ ἠθικὴ κατὰ προαίρεσιν, δῆλον, ἐπεὶ κἂν εἰ μεγάλα παθὼν μὴ ἀποδῴη δι’ ἀδυναμίαν, ἀλλ’ ὡς ἠδύνατο, καλῶς· καὶ ὁ θεὸς ἀνέχεται κατὰ δύναμιν λαμβάνων τὰς θυσίας. ἀλλὰ τῷ πωλοῦντι οὐχ ἱκανῶς ἕξει, ἂν μὴ φήσῃ δύνασθαι πλέον δοῦναι, οὐδὲ τῷ δανείσαντι.

πολλὰ ἐγκλήματα γίνεται ἐν ταῖς φιλίαις τοῖς μὴ κατ’ εὐθυωρίαν, καὶ τὸ δίκαιον ἰδεῖν οὐ ῥᾴδιον. χαλεπὸν γὰρ μετρῆσαι ἑνὶ τῷδε τὸ μὴ κατ’ εὐθυωρίαν, οἷον συμβαίνει ἐπὶ τῶν ἐρωτικῶν. ὃ μὲν γὰρ διώκει ὡς [τὸν] ἡδὺν ἐπὶ τὸ συζῆν, ὃ δ’ ἐκεῖνον ἐνίοτε ὡς χρήσιμον· ὅταν δὲ παύσηται τοῦ ἐρᾶν, ἄλλου γινομένου ἄλλος γίνεται, καὶ τότε λογίζονται παντί τινος, καὶ ὡς Πύθων καὶ Παμμένης διεφέροντο καὶ ὡς διδάσκαλος καὶ μαθητής (ἐπιστήμη γὰρ καὶ χρήματα οὐχ ἑνὶ μετρεῖται), καὶ ὡς Ἡρόδικος ὁ ἰατρὸς πρὸς τὸν ἀποδιδόντα μικρὸν τὸν μισθόν, καὶ ὡς ὁ κιθαρῳδὸς καὶ ὁ βασιλεύς. ὃ μὲν γὰρ ὡς ἡδεῖ, ὃ δ’ ὡς χρησίμῳ ὡμίλει· ὃ δ’ ἐπεὶ ἔδει ἀποδιδόναι, αὐτὸν αὐτὸν ὡς ἡδὺν ἐποίησεν, καὶ ἔφη, ὥσπερ ἐκεῖνον ᾄσαντα εὐφρᾶναι, οὕτω καὶ αὐτὸς ὑποσχόμενος ἐκείνῳ. ὅμως δὲ φανερὸν καὶ ἐνταῦθα πῶς γνωριστέον· ἑνὶ μὲν γὰρ μετρητέον καὶ ἐνταῦθ’, ἀλλ’ οὐχ ὅρῳ, ἀλλὰ λόγῳ· τῷ ἀνάλογον γὰρ μετρητέον, ὥσπερ καὶ ἡ πολιτικὴ μετρεῖται κοινωνία. πῶς γὰρ κοινωνήσει γεωργῷ σκυτοτόμος, εἰ μὴ τῷ ἀνάλογον ἰσασθήσεται τὰ ἔργα; τοῖς δὲ μὴ κατ’ εὐθυωρίαν τὸ ἀνάλογον μέτρον, οἷον εἰ ὃ μὲν σοφίαν δοῦναι ἐγκαλεῖ, ὃ δ’ ἐκείνῳ ἀργύριον, τῇ σοφίᾳ πρὸς τὸ πλούσιον, εἶτα τί δοθὲν πρὸς ἑκάτερον. εἰ γὰρ ὃ μὲν τοῦ ἐλάττονος ἥμισυ ἔδωκεν, ὃ δὲ τοῦ μείζονος μὴ πολλοστὸν μέρος, δῆλον ὅτι οὗτος ἀδικεῖ. ἔστι δὲ κἀνταῦθα ἐν ἀρχῇ ἀμφισβήτησις, ἂν φῇ ὃ μὲν ὡς χρησίμους συνελθεῖν αὐτούς, ὃ δὲ μή, ἀλλ’ ὡς κατ’ ἄλλην τινὰ φιλίαν.

[1244a] περὶ δὲ τοῦ ἀγαθοῦ καὶ κατ’ ἀρετὴν φίλου, σκεπτέον πότερον δεῖ ἐκείνῳ τὰ χρήσιμα ὑπηρετεῖν καὶ βοηθεῖν ἢ τῷ ἀντιποιοῦντι καὶ δυναμένῳ. τοῦτο δὲ τὸ αὐτὸ πρόβλημα ἐστί, πότερον τὸν φίλον ἢ τὸν σπουδαῖον εὖ ποιητέον μᾶλλον. ἂν μὲν γὰρ ‹ὁ› φίλος καὶ σπουδαῖος, ἴσως οὐ λίαν χαλεπόν, ἂν μή τις τὸ μὲν αὐξήσῃ τὸ δὲ ταπεινώσῃ, φίλον μὲν σφόδρα ποιῶν, ἐπιεικῆ δὲ ἠρέμα· εἰ δὲ μή, πολλὰ προβλήματα γίνεται, οἷον εἰ ὃ μὲν ἦν, οὐκ ἔσται δέ, ὃ δὲ ἔσται, οὔπω δέ, ἢ ὃ μὲν ἐγένετο, ἔστι δ’ οὔ, ὃ δὲ ἔστιν, οὐκ ἦν δὲ οὐδὲ ἔσται, ἀλλ’ ἐκεῖνο ἐργωδέστερον. μὴ γάρ τι λέγει Εὐριπίδης, ποιήσας

“λόγων δίκαιον μισθὸν ἂν λόγους φέροις,
ἔργον δ’ ἐκεῖνος ἔργον ‹ὃς› παρέσχετο.”

καὶ οὐ πάντα δεῖ τῷ πατρί, ἀλλ’ ἔστιν ἄλλ’ ἃ δεῖ τῇ μητρί· καίτοι βελτίων ὁ πατήρ. οὐδὲ γὰρ τῷ Διὶ πάντα θύεται, οὐδ’ ἔχει πάσας τὰς τιμὰς ἀλλὰ τινάς· ἴσως οὖν ἔστιν ἃ δεῖ τῷ χρησίμῳ, ἄλλα δὲ τῷ ἀγαθῷ. οἷον οὐχ εἰ σῖτον δίδωσι καὶ τὰ ἀναγκαῖα, καὶ συζῆν τούτῳ δεῖ· οὐδ’ ᾧ τοίνυν τὸ συζῆν, τούτῳ ἃ μὴ οὗτος δίδωσιν, ἀλλὰ χρήσιμος. ἀλλ’ οἳ τοῦτο ποιοῦντες τούτῳ πάντα τῷ ἐρωμένῳ διδόασιν οὐ δέον, οὐδενός εἰσιν ἄξιοι.

καὶ οἱ ἐν τοῖς λόγοις ὅροι τῆς φιλίας πάντες μέν πώς εἰσι φιλίας, ἀλλ’ οὐ τῆς αὐτῆς. τῷ μὲν γὰρ χρησίμῳ τὸ βούλεσθαι τὰ κείνῳ ἀγαθὰ καὶ τῷ εὖ ποιήσαντι καὶ τῷ ὁποῖος δεῖ (οὐ γὰρ ἐπισημαίνει οὗτος ὁ ὁρισμὸς τῆς φιλίας), ἄλλῳ δὲ τὸ εἶναι καὶ ἄλλῳ τὸ συζῆν, τῷ δὲ καθ’ ἡδονὴν τὸ συναλγεῖν καὶ συγχαίρειν· πάντες δ’ οὗτοι οἱ ὅροι κατὰ φιλίαν μὲν λέγονται τινά, οὐ πρὸς μίαν δ’ οὐδείς. διὸ πολλοὶ εἰσί, καὶ ἕκαστος μιᾶς εἶναι δοκεῖ φιλίας, οὐκ ὤν, οἷον ἡ τοῦ εἶναι προαίρεσις. καὶ γὰρ ὁ καθ’ ὑπεροχὴν καὶ ποιήσας εὖ βούλεται τῷ ἔργῳ τῷ αὐτοῦ ὑπάρχειν, καὶ τῷ δόντι τὸ εἶναι δεῖ καὶ ἀνταποδιδόναι, ἀλλὰ συζῆν οὐ τούτῳ, ἀλλὰ τῷ ἡδεῖ.

ἀδικοῦσιν οἱ φίλοι ἀλλήλους ἔνιοι· τὰ γὰρ πράγματα μᾶλλον, ἀλλ᾽ οὐ φιλοῦσι τὸν ἔχοντα· διὸ φιλεῖ κἀκείνους οἷον διότι ἡδὺς τὸν οἶνον εἵλετο, καὶ ὅτι χρήσιμος τὸν πλοῦτον εἵλετο· χρησιμώτερος γάρ. διὸ ‹οὐ› δεῖ ἀγανακτεῖν, ὥσπερ ἂν εἰ μᾶλλον εἵλετο ἀντὶ ἧττονος. οἳ δ᾽ ἐγκαλοῦσιν· ἐκεῖνον γὰρ νῦν ζητοῦσι τὸν ἀγαθόν, πρότερον ζητήσαντες τὸν ἡδὺν ἢ τὸν χρήσιμον.

[1244b] σκεπτέον δὲ καὶ περὶ αὐταρκείας καὶ φιλίας, πῶς ἔχουσι πρὸς τὰς ἀλλήλων δυνάμεις. ἀπορήσειε γὰρ ἄν τις πότερον, εἴ τις εἴη κατὰ πάντα αὐτάρκης, ἔσται τούτῳ φίλος. εἰ κατ᾽ ἔνδειαν ζητεῖται φίλος καὶ ἔσται ἀγαθὸς αὐταρκέστατος, εἰ ὁ μετ᾽ ἀρετῆς εὐδαίμων, τί ἂν δέοι φίλου; οὔτε γὰρ τῶν χρησίμων δεῖσθαι αὐτάρκους οὔτε τῶν εὐφρανούντων οὔτε τοῦ συζῆν· αὐτὸς γὰρ αὑτῷ ἱκανὸς συνεῖναι. μάλιστα δὲ τοῦτο φανερὸν ἐπὶ θεοῦ· δῆλον γὰρ ὡς οὐδενὸς προσδεόμενος οὐδὲ φίλου δεήσεται, οὐδ᾽ ἔσται αὐτῷ οὔτε μηθὲν δεσπότου. ὥστε καὶ ἄνθρωπος ὁ εὐδαιμονέστατος ἥκιστα δεήσεται φίλου, ἀλλ᾽ ἢ καθ᾽ ὅσον ἀδύνατον εἶναι αὐτάρκη. ἀνάγκη ἄρα ἐλαχίστους εἶναι φίλους τῷ ἄριστα ζῶντι, καὶ ἀεὶ ἐλάττους γίνεσθαι, καὶ μὴ σπουδάζειν ὅπως ὦσι φίλοι, ἀλλ᾽ ὀλιγωρεῖν μὴ μόνον τῶν χρησίμων, ἀλλὰ καὶ εἰς τὸ συζῆν αἱρετῶν. ἀλλὰ μὴν καὶ τότε φανερὸν ἂν εἶναι δόξειεν ὡς οὐ χρήσεως ἕνεκα ὁ φίλος οὐδ᾽ ὠφελείας, ἀλλὰ δι᾽ ἀρετὴν φίλος μόνος. ὅταν γὰρ μηθενὸς ἐνδεεῖς ὦμεν, τότε τοὺς συναπλαυσομένους ζητοῦσι πάντες, καὶ τοὺς εὖ πεισομένους μᾶλλον ἢ τοὺς ποιήσοντας. ἀμείνω δ᾽ ἔχομεν κρίσιν αὐτάρκεις ὄντες ἢ μετ᾽ ἐνδείας, ὅτε μάλιστα τῶν συζῆν ἀξίων δεόμεθα φίλων. περὶ δὲ τῆς ἀπορίας ταύτης σκεπτέον, μή ποτε τὸ μέν τι λέγεται καλῶς, τὸ δὲ λανθάνει διὰ τὴν παραβολήν. δῆλον δὲ λαβοῦσι τί τὸ ζῆν τὸ κατ᾽ ἐνέργειαν, καὶ ὡς τέλος. φανερὸν οὖν ὅτι τὸ αἰσθάνεσθαι καὶ τὸ γνωρίζειν, ὥστε καὶ τὸ συζῆν τὸ συναισθάνεσθαι καὶ τὸ συγγνωρίζειν ἐστίν. ἔστι δὲ τὸ αὐτοῦ αἰσθάνεσθαι καὶ τὸ αὐτὸν γνωρίζειν αἱρετώτατον ἑκάστῳ, καὶ διὰ τοῦτο τοῦ ζῆν πᾶσιν ἔμφυτος ἡ ὄρεξις· τὸ γὰρ ζῆν δεῖ τιθέναι γνῶσιν τινά. εἰ οὖν τις ἀποτέμοι καὶ ποιήσειε τὸ γινώσκειν αὐτὸ καθ᾽ αὑτὸ καὶ μὴ (ἀλλὰ τοῦτο μὲν λανθάνει, ὥσπερ ἐν τῷ λόγῳ γέγραπται, τῷ μέντοι πράγματι ἔστι μὴ λανθάνειν), οὐθὲν ἂν διαφέροι ἢ τὸ γινώσκειν ἄλλον ἀνθ᾽ αὑτοῦ· τὸ δ᾽ ὅμοιον τοῦ ζῆν ἀνθ᾽ αὑτοῦ ἄλλον. εὐλόγως δὴ τὸ ἑαυτοῦ αἰσθάνεσθαι καὶ γνωρίζειν αἱρετώτερον. δεῖ γὰρ ἅμα συνθεῖναι δύο ἐν τῷ λόγῳ, ὅτι τε τὸ ζῆν [καὶ] αἱρετόν, καὶ ὅτι τὸ ἀγαθόν, καὶ ἐκ τούτων ὅτι τὸ αὐτὸ τοῖς ὑπάρχειν τὴν [1245a] τοιαύτην φύσιν. εἰ οὖν ἐστιν ἀεὶ τῆς τοιαύτης συστοιχίας ἡ ἑτέρα ἐν τῇ τοῦ αἱρετοῦ τάξει, καὶ τὸ γνωστὸν καὶ τὸ αἰσθητόν ἐστιν ὡς ὅλως εἰπεῖν τῷ κοινωνεῖν τῆς

ὡρισμένης φύσεως· ὥστε τὸ αὑτοῦ βούλεσθαι αἰσθάνεσθαι τὸ αὑτὸν εἶναι τοιονδὶ βούλεσθαι ἐστίν. ἐπεὶ οὖν οὐ κατ' αὐτούς ἐσμεν ἕκαστον τούτων, ἀλλὰ κατὰ μετάληψιν τῶν δυνάμεων ἐν τῷ αἰσθάνεσθαι ἢ γνωρίζειν (αἰσθανόμενος μὲν γὰρ αἰσθητὸς γίνεται ταύτῃ καὶ κατὰ τοῦτο, καθὰ πρότερον αἰσθάνεται, καὶ ᾗ καὶ οὗ, γνωστὸς δὲ γινώσκων)· ὥστε διὰ τοῦτο καὶ ζῆν ἀεὶ βούλεται, ὅτι βούλεται ἀεὶ γνωρίζειν, τοῦτο δὲ ὅτι αὐτὸς εἶναι τὸ γνωστόν. τὸ δὴ συζῆν αἱρεῖσθαι δόξειε μὲν ἂν εἶναι σκοπουμένοις πως εὔηθες (ἐπὶ τῶν κοινῶν πρῶτον καὶ τοῖς ἄλλοις ζῴοις, οἷον τοῦ συνεσθίειν ἢ τοῦ συμπίνειν· τί γὰρ διαφέρει τὸ πλησίον οὖσι ταῦτα συμβαίνειν ἢ χωρίς, ἂν ἀφέλῃς τὸν λόγον; ἀλλὰ μὴν καὶ τοῦ λόγου κοινωνεῖν τοῦ τυχόντος ἕτερον τοιοῦτον· ἅμα τε οὔτε διδάσκειν οὔτε μανθάνειν τοῖς αὐταρκέσι φίλοις οἷόν τε· μανθάνων μὲν γὰρ αὐτὸς οὐκ ἔχει ὡς δεῖ, διδάσκοντος δ' ὁ φίλος, ἡ δ' ὁμοιότης φιλία)· ἀλλὰ μὴν φαίνεταί γε, καὶ πάντες ἥδιον τῶν ἀγαθῶν μετὰ τῶν φίλων κοινωνοῦμεν, καθ' ὅσον ἐπιβάλλει ἕκαστον καὶ οὗ δύναται ἀρίστου, ἀλλὰ τούτων τῷ μὲν ἡδονῆς σωματικῆς, τῷ δὲ θεωρίας μουσικῆς, τῷ δὲ φιλοσοφίας. καὶ τὸ ἅμα δεῖ εἶναι τῷ φίλῳ. διό φησι "μόχθος οἱ τηλοῦ φίλοι", ὥστ' οὐ δεῖ γενέσθαι ἀπ' ἀλλήλων τούτου γινομένου. ὅθεν καὶ ὁ ἔρως δοκεῖ φιλίᾳ ὅμοιον εἶναι· τοῦ γὰρ συζῆν ὀρέγεται ὁ ἐρῶν, ἀλλ' οὐχ ᾗ μάλιστα δεῖ, ἀλλὰ κατ' αἴσθησιν. - ὁ μὲν τοίνυν λόγος ἐκεῖνά φησι διαπορῶν, τὸ δ' ἔργον οὕτω φαίνεται γινόμενον, ὥστε δῆλον ὅτι παρακρούεταί πως ἡμᾶς ὁ διαπορῶν. σκεπτέον ἔνθεν τἀληθές. ὁ γὰρ φίλος βούλεται εἶναι, ὥσπερ ἡ παροιμία φησίν, ἄλλος Ἡρακλῆς, ἄλλος αὐτός. διέσπασται δὲ καὶ χαλεπὸν τὰ ἐφ' ἑνὸς γενέσθαι· ἀλλὰ κατὰ μὲν τὴν φύσιν τὸ συγγενέστατον, κατὰ δὲ τὸ σῶμα ὅμοιος ἕτερος, ἄλλος δὲ κατὰ τὴν ψυχήν, καὶ τούτων κατὰ μόριον ἕτερος ἕτερον. ἀλλ' οὐθέν τε ἧττον βούλεται ὥσπερ αὐτὸς διαιρετὸς εἶναι ὁ φίλος. τὸ οὖν τοῦ φίλου αἰσθάνεσθαι τὸ αὐτοῦ πως ἀνάγκη αἰσθάνεσθαι εἶναι, καὶ τὸ ‹τὸν φίλον γνωρίζειν τὸ› αὐτόν πως γνωρίζειν. ὥστε καὶ τὰ φορτικὰ μὲν συνήδεσθαι καὶ συζῆν τῷ φίλῳ ἡδὺ εὐλόγως (συμβαίνει γὰρ ἐκείνου ἅμα αἴσθησις ἀεί), μᾶλλον δὲ τὰς θειοτέρας ἡδονάς. αἴτιον [1245b] δ' ὅτι ἀεὶ ἥδιον ἑαυτὸν θεωρεῖν ἐν τῷ βελτίονι ἀγαθῷ. τοῦτο δ' ἐστὶν ὁτὲ μὲν πάθος, ὁτὲ δὲ πρᾶξις, ὁτὲ δὲ ἕτερόν τι. εἰ δ' αὐτὸν εὖ ζῆν, καὶ οὕτω καὶ τὸν φίλον, ἐν δὲ τῷ συζῆν συνεργεῖν, ἡ κοινωνία τῶν ἐν τέλει μάλιστά γε. διὸ ‹δεῖ› συνθεωρεῖν καὶ συνευωχεῖσθαι, οὐ τὰ διὰ τροφὴν καὶ τὰ ἀναγκαῖα· αἱ τοιαῦται ὁμιλίαι δοκοῦσιν εἶναι, ἀλλὰ ἀπολαύσεις. ἀλλ' ἕκαστος οὗ δύναται τυγχάνειν τέλους, ἐν τούτῳ βούλεται συζῆν· εἰ δὲ μή, καὶ ποιεῖν εὖ καὶ πάσχειν ὑπὸ τῶν φίλων αἱροῦνται μάλιστα. - ὅτι μὲν τοίνυν καὶ δεῖ συζῆν, καὶ ὅτι μάλιστα βούλονται πάντες, καὶ ὅτι ὁ εὐδαιμονέστατος καὶ ἄριστος μάλιστα τοιοῦτος, φανερόν· ὅτι δὲ κατὰ τὸν λόγον οὐκ ἐφαίνετο, καὶ τοῦτ' εὐλόγως συνέβαινε λέγοντος ἀληθῆ. κατὰ τὴν σύνθεσιν γὰρ τῆς παραβολῆς ἀληθοῦς οὔσης ἡ λύσις ‹οὐκ› ἔστιν. ὅτι γὰρ ὁ θεὸς οὐ τοιοῦτος οἷος δεῖσθαι φίλου, καὶ τὸν ὅμοιον ἀξιοῦμεν. καίτοι κατὰ τοῦτον τὸν λόγον οὐδὲ νοήσει ὁ σπουδαῖος· οὐ γὰρ οὕτως ὁ θεὸς εὖ ἔχει, ἀλλὰ βέλτιον ἢ ὥστε ἄλλο τι νοεῖν παρ' αὐτὸς αὑτόν. αἴτιον δ' ὅτι ἡμῖν μὲν τὸ εὖ καθ' ἕτερον, ἐκείνῳ δὲ αὐτὸς αὑτοῦ τὸ εὖ ἐστίν.

καὶ τὸ ζητεῖν ἡμῖν καὶ εὔχεσθαι πολλοὺς φίλους, ἅμα δὲ λέγειν ὡς οὐθεὶς φίλος ᾧ πολλοὶ φίλοι, ἄμφω λέγεται ὀρθῶς. ἐνδεχομένου γὰρ πολλοῖς συζῆν ἅμα καὶ συναισθάνεσθαι ὡς πλείστοις αἱρετώτατον· ἐπεὶ δὲ χαλεπώτατον, ἐν ἐλάττοσιν ἀνάγκη τὴν ἐνέργειαν τῆς συναισθήσεως εἶναι, ὥστ' οὐ μόνον χαλεπὸν τὸ πολλοὺς κτήσασθαι (πείρας γὰρ δεῖ), ἀλλὰ καὶ οὖσι χρήσασθαι.

καὶ ὁτὲ μὲν ἀπεῖναι εὖ πράττοντα τὸν φιλούμενον βουλόμεθα, ὁτὲ δὲ μετέχειν τῶν αὐτῶν, καὶ τὸ ἅμα βούλεσθαι εἶναι φιλικόν. ἐνδεχομένου μὲν γὰρ ἅμα καὶ εὖ, τοῦτο πάντες αἱροῦνται· μὴ ἐνδεχομένου δέ, ἀλλ' ὥσπερ τὸν Ἡρακλῆ ἴσως ἂν ἡ μήτηρ εἵλετο θεὸν εἶναι μᾶλλον ἢ μετ' αὐτῆς ὄντα τῷ Εὐρυσθεῖ θητεύειν. ὁμοίως γὰρ ἂν εἴπειεν καὶ ὃν ὁ Λάκων ἔσκωψεν, ἐπεί τις ἐκέλευσεν αὐτὸν χειμαζόμενον ἐπικαλέσασθαι τοὺς Διοσκόρους. δοκεῖ δὲ τοῦ μὲν φιλοῦντος τὸ ἀπείργειν εἶναι τῆς συμμεθέξεως τῶν χαλεπῶν, τοῦ δὲ φιλουμένου τὸ βούλεσθαι συμμετέχειν, καὶ ταῦτα ἀμφότερα συμβαίνει εὐλόγως. δεῖ γὰρ τῷ φίλῳ μηθὲν εἶναι οὕτω λυπηρὸν ὡς ‹μὴ› ἰδεῖν τὸν φίλον· δοκεῖ δὲ δεῖν αἱρεῖσθαι μὴ τὸ αὑτοῦ. διὸ κωλύουσι συμμετέχειν· ἱκανοὶ γὰρ αὐτοὶ κακοπαθοῦντες, ἵνα μὴ φαίνωνται τὰ αὑτῶν [1246a] σκοποῦντες καὶ αἱρεῖσθαι τὸ χαίρειν λυπουμένου τοῦ φίλου. ἔτι δὲ τὸ κουφότεροι εἶναι μὴ μόνοι φέροντες τὰ κακά. ἐπεὶ δ' αἱρετὸν τό τ' εὖ καὶ τὸ ἅμα, δῆλον ὅτι τὸ ἅμα εἶναι μετ' ἐλάττονος ἀγαθοῦ αἱρετώτερόν πως ἢ χωρὶς μετὰ μείζονος. ἐπεὶ δὲ ἄδηλον τὸ πόσον δύναται τὸ ἅμα, ἤδη διαφέρονται καὶ οἴονται τὸ μετέχειν ἅμα πάντων φιλικόν, [καὶ] ὥσπερ συνδειπνεῖν ἅμα φασὶν ἥδιον ταὐτὰ ἔχοντας· οἳ δ' ἂν μέντοι οὐ βούλονται. ἐπεὶ δ' εἴ γέ τις ὑπερβολὰς ποιήσει, ὁμολογῶσιν ἅμα κακῶς πράττοντας σφόδρα ἢ εὖ σφόδρα χωρίς. παραπλήσιον δὲ τούτῳ καὶ περὶ τὰς ἀτυχίας. ὁτὲ μὲν γὰρ βουλόμεθα τοὺς φίλους ἀπεῖναι οὐδὲ λυπεῖν, ὅταν μηθὲν μέλλωσι ποιήσειν πλέον· ὁτὲ δὲ αὐτοὺς ἥδιστον παρεῖναι. τὸ δὲ τῆς ὑπεναντιώσεως ταύτης καὶ μάλ' εὔλογον. διὰ γὰρ τὰ προειρημένα τοῦτο συμβαίνει, καὶ ὅτι μὲν τὸ λυπούμενον ἢ ἐν φαύλῃ ὄντα ἕξει τὸν φίλον θεωρεῖν φεύγομεν ἁπλῶς, ὥσπερ καὶ ἡμᾶς αὐτούς, τὸ δ᾽ ὁρᾶν τὸν φίλον ἡδύ, ὥσπερ ἄλλο τι τῶν ἡδίστων, διὰ τὴν εἰρημένην αἰτίαν, καὶ μὴ κάμνοντα, εἰ αὐτός· ὥστε ὁπότερον ἂν τούτων ᾖ μᾶλλον ἡδύ, ποιεῖ τὴν ῥοπὴν τοῦ βούλεσθαι παρεῖναι ἢ μή. καὶ τοῦτο ἐπὶ τῶν χειρόνων συμβαίνει καὶ διὰ τὴν αὐτὴν αἰτίαν γίνεσθαι· μάλιστα γὰρ φιλοτιμοῦνται τοὺς φίλους μὴ πράττειν εὖ μηδ᾽ εἶναι ἀνάγκαι αὐτοῖς κακῶς. διὸ ἐνίοτε τοὺς ἐρωμένους συναποτιννύασι. μᾶλλον γὰρ τοῦ οἰκείου αἰσθάνεσθαι κακοῦ, ὥσπερ ἂν εἰ καὶ μεμνημένος ὅτι ποτὲ εὖ ἔπραττε μᾶλλον, ἢ εἰ ᾤετο ἀεὶ κακῶς πράττειν.

Βιβλίο 8

ἀπορήσειε δ’ ἄν τις, εἰ ἔστιν ἑκάστῳ [φίλῳ] χρήσασθαι καὶ ἐφ’ ᾧ πέφυκε καὶ ἄλλως, καὶ τοῦτο ἢ ‹καθ’› αὑτὸ ἢ κατὰ συμβεβηκός, οἷον εἰ ὀφθαλμὸς ἰδεῖν ἢ καὶ ἄλλως παριδεῖν διαστρέψαντα, ὥστε δύο τὸ ἓν φανῆναι. αὗται μὲν δὴ ἄμφω ὅτι μὲν ὀφθαλμός· ὅτι ἦν δ’ ὀφθαλμῷ , ἄλλη δὲ κατὰ συμβεβηκός, οἷον εἰ ἦν ἀποδόσθαι ἢ φαγεῖν. ὁμοίως δὴ καὶ ἐπιστήμῃ· καὶ γὰρ ἀληθῶς καὶ ἁμαρτεῖν, οἷον ὅταν ἑκὼν μὴ ὀρθῶς γράψῃ, ὡς ἀγνοίᾳ δὴ νῦν χρῆσθαι, ὥσπερ μεταστρέψας τὴν χεῖρα· καὶ τῷ ποδί ποτε ὡς χειρὶ καὶ ταύτῃ ὡς ποδὶ χρῶνται ‹αἱ› ὀρχηστρίδες. εἰ δὴ πᾶσαι αἱ ἀρεταὶ ἐπιστῆμαι, εἴη ἂν καὶ τῇ δικαιοσύνῃ ὡς ἀδικίᾳ χρῆσθαι, ἀδικήσει ἄρα ἀπὸ δικαιοσύνης τὰ ἄδικα πράττων, ὥσπερ καὶ τὰ ἀγνοητικὰ ἀπὸ ἐπιστήμης· εἰ δὲ τοῦτ’ ἀδύνατον, φανερὸν [1246b] ὅτι οὐκ ἂν εἶεν ἐπιστῆμαι αἱ ἀρεταί. οὐδ’ εἰ μὴ ἔστιν ἀγνοεῖν ἀπὸ ἐπιστήμης, ἀλλ’ ἁμαρτάνειν μόνον, καὶ τὰ αὐτὰ ‹ἃ› καὶ ἀπὸ ἀγνοίας ποιεῖν, οὔ τι ἀπὸ δικαιοσύνης γε ὡς ἀπὸ ἀδικίας πράξει· ἀλλ’ ἐπεὶ φρόνησις ἐπιστήμη καὶ ἀληθές τι, τὸ αὐτὸ ποιήσει κἀκείνῃ· ἐνδέχοιτο γὰρ ἂν ἀφρόνως ἀπὸ φρονήσεως, καὶ ἁμαρτάνειν ταὐτὰ ἅπερ ὁ ἄφρων. εἰ δὲ ἁπλῆ ἦν ἑκάστου χρεία ᾗ ἕκαστον, κἂν φρονίμως ἔπραττον οὕτω πράττοντες. ἐπὶ μὲν οὖν ταῖς ἄλλαις ἐπιστήμαις ἄλλη κυρία ποιεῖ τὴν στροφήν· αὐτῆς δὲ τῆς πασῶν κυρίας τίς; οὐ γὰρ ἔτι ἐπιστήμη γε [ἢ νοῦς]. ἀλλὰ μὴν οὐδ’ ἀρετή. χρῆται γὰρ αὐτῇ. ἡ γὰρ τοῦ ἄρχοντος ἀρετὴ τῇ τοῦ ἀρχομένου χρῆται. τίς οὖν ἐστίν; ἢ ὥσπερ λέγεται ἀκρασία κακία τοῦ ἀλόγου τῆς ψυχῆς, καὶ ὡς ἀκόλαστος ὁ ἀκρατὴς ἔχων νοῦν; ἀλλ’ εἰ δή, ἂν ἰσχυρὰ ᾖ ἡ ἐπιθυμία, στρέψει καὶ λογιεῖται τἀναντία ἡ σφι , δῆλον ὅτι, κἂν ἐν μὲν τούτῳ ἀρετή, ἐν δὲ τῷ λόγῳ ἄγνοια ᾖ, ἕτεραι μεταποιοῦνται. ὥστε ἔσται δικαιοσύνῃ τὸ δικαίως χρῆσθαι καὶ κακῶς καὶ φρονήσει ἀφρόνως· ὥστε καὶ τἀναντία. ἄτοπον γὰρ εἰ τὴν μὲν ἐν τῷ λογιστικῷ ἀρετὴν μοχθηρία ποτὲ ἐγγενομένη ἐν τῷ ἀλόγῳ στρέψει καὶ ποιήσει ἀγνοεῖν, ἡ δ’ ἀρετὴ ἐν τῷ ἀλόγῳ ἀγνοίας ἐνούσης οὐ στρέψει ταύτην, καὶ ποιήσει φρονίμως κρίνειν καὶ τὰ δέοντα, καὶ πάλιν ἡ φρόνησις ἡ ἐν τῷ λογιστικῷ τὴν ἐν τῷ ἀλόγῳ ἀκολασίαν σωφρόνως πράττειν· ὅπερ δοκεῖ ἡ ἐγκράτεια. ὥστ’ ἔσται καὶ [ἡ] ἀπὸ ἀγνοίας φρονίμως. ἔστι δὲ ταῦτα ἄτοπα, ἄλλως τε καὶ ἀπὸ ἀγνοίας χρῆσθαι φρονίμως, τοῦτο γὰρ ἐπὶ τῶν ἄλλων οὐδεμιᾶς ὁρῶμεν, ὥσπερ τὴν ἰατρικὴν ἢ γραμματικὴν ‹οὐ›

στρέφει ἀκολασία. ἀλλ’ οὖν ὁ τὴν ἄγνοιαν, ἐὰν ᾖ ἐναντία, διὸ τὸ μὴ ἐνεῖναι τὴν ὑπεροχὴν ἀλλὰ τὴν ἀρετήν, ὅλως μᾶλλον εἶναι πρὸς τὴν κακίαν οὕτως ἔχουσαν. καὶ γὰρ ὁ ἄδικος πάντα ‹ἃ› ὁ δίκαιος δύναται, καὶ ὅλως ἔνεστιν ἐν τῇ δυνάμει ἡ ἀδυναμία. ὥστε δῆλον ὅτι ἅμα φρόνιμοι καὶ ἀγαθαὶ ἐκεῖναι αἱ ἄλλου ἕξεις, καὶ ὀρθῶς τὸ Σωκρατικόν, ὅτι οὐδὲν ἰσχυρότερον φρονήσεως. ἀλλ’ ὅτι ἐπιστήμην ἔφη, οὐκ ὀρθόν· ἀρετὴ γάρ ἐστι καὶ οὐκ ἐπιστήμη, ἀλλὰ γένος ἄλλο γνώσ‹εως› .

ἐπεὶ δ’ οὐ μόνον ἡ φρόνησις ποιεῖ τὴν εὐπραγίαν καὶ ἀρετή, ἀλλὰ φαμὲν καὶ τοὺς εὐτυχεῖς εὖ πράττειν ὡς καὶ [1247a] τῆς εὐτυχίας [εὖ] ποιούσης εὐπραγίαν καὶ τὰ αὐτὰ τῆς ἐπιστήμης, σκεπτέον ἆρ’ ἐστι φύσει ὃ μὲν εὐτυχὴς ὃ δ’ ἀτυχής, ἢ οὔ, καὶ πῶς ἔχει περὶ τούτων. ὅτι μὲν γάρ εἰσί τινες εὐτυχεῖς ὁρῶμεν. ἄφρονες γὰρ ὄντες κατορθοῦσι πολλά, ἐν οἷς ἡ τύχη κυρία· ἔτι δὲ καὶ ἐν οἷς τέχνη ἐστί, πολὺ μέντοι καὶ τύχης ἐνυπάρχει, οἷον ἐν στρατηγίᾳ καὶ κυβερνητικῇ. πότερον οὖν ἀπό τινος ἕξεως οὗτοί εἰσιν, ἢ οὐ τῷ αὐτοὶ ποιοί τινες εἶναι πρακτικοί εἰσι τῶν εὐτυχημάτων; νῦν μὲν γὰρ οὕτως οἴονται ὡς φύσει τινῶν ὄντων· ἡ δὲ φύσις ποιούς τινας ποιεῖ, καὶ εὐθὺς ἐκ γενετῆς διαφέρουσιν, ὥσπερ οἳ μὲν γλαυκοὶ οἳ δὲ μελανόμματοι τῷ τὸ δεῖν τοιονδὶ ‹κατὰ τὸ εἶναι τοιονδὶ› ἔχειν, οὕτω καὶ οἱ εὐτυχεῖς καὶ ἀτυχεῖς. ὅτι μὲν γὰρ οὐ φρονήσει κατορθοῦσι, δῆλον. οὐ γὰρ ἄλογος [ἡ] φρόνησις, ἀλλ’ ἔχει λόγον διὰ τί οὕτως πράττει, οἳ δ’ οὐκ ἂν ἔχοιεν εἰπεῖν διὰ τί κατορθοῦσι (τέχνη γὰρ ἂν ἦν)· ἔτι δὲ φανερὸν ‹ὅτι› ὄντες ἄφρονες, οὐχ ὅτι περὶ ἄλλα (τοῦτο μὲν γὰρ οὐθὲν ἄτοπον· οἷον Ἱπποκράτης γεωμετρικὸς ὤν, ἀλλὰ περὶ τὰ ἄλλα ἐδόκει βλὰξ καὶ ἄφρων εἶναι, καὶ πολὺ χρυσίον πλέων ἀπώλεσεν ὑπὸ τῶν ἐν Βυζαντίῳ πεντηκοστολόγων δι’ εὐήθειαν, ὡς λέγουσιν) ἀλλ’ ὅτι καὶ ἐν οἷς εὐτυχοῦσιν ἄφρονες. περὶ γὰρ ναυκληρίαν οὐχ οἱ δεινότατοι εὐτυχεῖς, ἀλλ’ ὥσπερ ἐν κύβων πτώσει ὃ μὲν οὐδέν, ἄλλος δὲ βάλλει ‹πολὺ› καθ’ ἣν φύσει ἐστὶν εὐτυχής, ἢ τῷ φιλεῖσθαι, ὥσπερ φασίν, ὑπὸ θεοῦ, καὶ ἔξωθέν τι εἶναι τὸ κατορθοῦν. οἷον πλοῖον κακῶς νεναυπηγημένον ἄμεινον πολλάκις [δὲ] πλεῖ, ἀλλ’ οὐ δι’ αὑτό, ἀλλ’ ὅτι ἔχει κυβερνήτην ἀγαθόν, [ἀλλ’] οὗτος εὐτυχὴς τὸν δαίμον’ ἔχει κυβερνήτην ἀγαθόν. ἀλλ’ ἄτοπον θεὸν ἢ δαίμονα φιλεῖν τὸν τοιοῦτον, ἀλλὰ μὴ τὸν βέλτιστον καὶ τὸν φρονιμώτατον. εἰ δὴ ἀνάγκη ἢ φύσει ἢ νόῳ ἢ ἐπιτροπίᾳ τινὶ κατορθοῦν, τὰ δὲ δύο μὴ ἐστί, φύσει ἂν εἶεν οἱ εὐτυχεῖς. ἀλλὰ μὴν ἥ γε φύσις αἰτία ἢ τοῦ ἀεὶ ὡσαύτως ἢ τοῦ ὡς ἐπὶ τὸ πολύ, ἡ δὲ τύχη τοὐναντίον. εἰ μὲν οὖν τὸ παραλόγως ἐπιτυγχάνειν τύχης δοκεῖ εἶναι, ἀλλ’ εἴπερ διὰ τύχην εὐτυχής, οὐκ ἂν τοιοῦτον εἶναι τὸ αἴτιον, οἷον ἀεὶ τοῦ αὐτοῦ ἢ ὡς ἐπὶ τὸ πολύ. ἔτι εἰ, ὅτι τοιοσδί, ἐπιτυγχάνει ἢ ἀποτυγχάνει, ὥσπερ, ὅτι [ὁ] γλαυκός, οὐκ ὀξὺ ὁρᾷ, οὐ τύχη αἰτία ἀλλὰ φύσις· οὐκ ἄρα ἐστὶν εὐτυχὴς ἀλλ’ οἷον εὐφυής. ὥστε τοῦτ’ ἂν εἴη λεκτέον, ὅτι οὓς λέγομεν εὐτυχεῖς, οὐ διὰ τύχην εἰσίν. οὐκ ἄρα εἰσὶν εὐτυχεῖς· [1247b] τύχης γάρ, ὅσων αἰτία τύχη ἀγαθὴ ἀγαθῶν.

εἰ δ’ οὕτως, πότερον οὐκ ἔσται τύχη ὅλως, ἢ ἔσται μέν, ἀλλ’ οὐκ αἰτία; ἀλλ’ ἀνάγκη καὶ εἶναι καὶ αἰτίαν εἶναι. ἔσται ἄρα καὶ ἀγαθῶν τισιν αἰτία ἢ κακῶν. εἰ δ’ ὅλως ἐξαιρετέον καὶ οὐδὲν ἀπὸ τύχης φατέον γίνεσθαι, ἀλλ’ ἡμεῖς ἄλλης οὔσης αἰτίας διὰ τὸ μὴ ὁρᾶν τύχην εἶναί φαμεν αἰτίαν (διὸ καὶ ὁριζόμενοι τὴν τύχην τιθέασιν αἰτίαν ἄλογον ἀνθρωπίνῳ λογισμῷ, ὡς οὔσης τινὸς φύσεως)· τοῦτο μὲν οὖν ἄλλο πρόβλημ’ ἂν εἴη, ἐπεὶ δὲ ὁρῶμέν τινας ἅπαξ εὐτυχήσαντας, διὰ τί οὐ καὶ πάλιν ἄν; ἀλλὰ διὰ τὸ ἀποκατορθῶσαι ἕν, καὶ πάλιν. τὸ γὰρ αὐτὸ τοῦτ’ αἴτιον. οὐκ ἄρα ἔσται τύχης τοῦτο, ἀλλ’ ὅταν τὸ αὐτὸ ἀποβαίνῃ, ἀπείρων καὶ ἀορίστων, ἔσται μὲν τὸ ἀγαθὸν ἢ κακόν, ἐπιστήμη δ’ οὐκ ἔσται αὐτοῦ [ἢ] δι’ ἀπειρίαν, ἐπεὶ ἐμάνθανον ἄν τινες εὐτυχεῖν, ἢ καὶ πᾶσαι ἂν αἱ ἐπιστῆμαι, ὥσπερ ἔφη Σωκράτης, εὐτυχίαι ἦσαν. τί οὖν κωλύει συμβῆναί τινι ἐφεξῆς τὰ τοιαῦτα πολλάκις, οὐχ ὅτι οὕτως δεῖ, ἀλλ’ οἷον ἂν εἴη τὸ κύβους ἀεὶ μακαρίαν βάλλειν; τί δὲ δή; ἆρ’ οὐκ ἔνεισιν ὁρμαὶ ἐν τῇ ψυχῇ αἱ μὲν ἀπὸ λογισμοῦ, αἱ δὲ ἀπὸ ὀρέξεως ἀλόγου, καὶ πρότεραι αὗται; εἰ γάρ ἐστι φύσει ἡ δι’ ἐπιθυμίαν ἡδέος [καὶ ἡ] ὄρεξις, φύσει γε ἐπὶ τὸ ἀγαθὸν βαδίζοι ἂν πᾶν. εἰ δή τινές εἰσιν εὐφυεῖς ὥσπερ οἱ ἄδικοι οὐκ ἐπιστάμενοι ᾄδειν, οὕτως εὖ πεφύκασι καὶ ἄνευ λόγου ὁρμῶσιν, ἡ φύσις πέφυκε, καὶ ἐπιθυμοῦσι καὶ τούτου καὶ τότε καὶ οὕτως ὡς δεῖ καὶ οὗ δεῖ καὶ ὅτε, οὗτοι κατορθώσουσι, κἂν τύχωσιν ἄφρονες ὄντες καὶ ἄλογοι, ὥσπερ καὶ εὖ ἔσονται οὐ διδασκαλικοὶ ὄντες. οἱ δέ γε τοιοῦτοι εὐτυχεῖς, ὅσοι ἄνευ λόγου κατορθοῦσιν ὡς ἐπὶ τὸ πολύ. φύσει ἄρα οἱ εὐτυχεῖς εἶεν ἄν. - ἢ πλεοναχῶς λέγεται ἡ εὐτυχία; τὰ μὲν γὰρ πράττεται ἀπὸ τῆς ὁρμῆς καὶ προελομένων πρᾶξαι, τὰ δ’ οὔ, ἀλλὰ τοὐναντίον. καὶ ἐν ἐκείνοις, ‹ἐν οἷς› κακῶς λογίσασθαι δοκοῦσι, κατορθοῦντας καὶ εὐτυχῆσαι φαμέν· καὶ πάλιν ἐν τούτοις, εἰ ἐβουλεύοντο ἂν ἢ ἔλαττον ἔλαβον τἀγαθόν. ἐκείνους μὲν τοίνυν εὐτυχεῖν διὰ φύσιν ἐνδέχεται (ἡ γὰρ ὁρμὴ καὶ ὄρεξις οὖσα οὗ ἔδει κατώρθωσεν, ὁ δὲ λογισμὸς ἦν ἠλίθιος· καὶ τοὺς μὲν ἐνταῦθα, ὅταν μὲν λογισμὸς μὴ δοκῶν ὀρθὸς εἶναι, τύχη δ’ αὐτοῦ αἰτία οὖσα, αὐτὴ [δ’] ὀρθὴ οὖσα ἔσωσεν, ἀλλ’ ἐνίοτε δι’ ἐπιθυμίαν ἐλογίσατο πάλιν οὕτω καὶ ἠτύχησεν)· ἐν δὲ δὴ τοῖς ἑτέροις πῶς ἔσται ἡ εὐτυχία κατ’ εὐφυΐαν ὀρέξεως καὶ [1248a] ἐπιθυμίας; ἀλλὰ μὴν ἡ ἐνταῦθα εὐτυχία καὶ τύχη διττή, κἀκεῖ ἡ αὐτή, ἢ πλείους αἱ εὐτυχίαι. ἐπεὶ δ’ ὁρῶμεν παρὰ πάσας τὰς ἐπιστήμας καὶ τοὺς λογισμοὺς τοὺς ὀρθοὺς εὐτυχοῦντας τινάς, δῆλον ὅτι ἕτερον ἄν τι εἴη τὸ αἴτιον τῆς εὐτυχίας. ἐκείνη δὲ πότερον [ἡ] εὐτυχία ἢ οὐκ ἔστιν, ἣ ἐπεθύμησεν ὧν ἔδει καὶ ὅτε ἔδειτο λογισμὸς ἀνθρώπινος οὐκ ἂν τούτου εἴη. οὐ γὰρ δὴ πάμπαν ἀλόγιστον τοῦτο, οὐδὲ φυσική ἐστιν ἡ ἐπιθυμία, ἀλλὰ διαφθείρεται ὑπὸ τινός. εὐτυχεῖν μὲν οὖν δοκεῖ, ὅτι ἡ τύχη τῶν παρὰ λόγον αἰτία, τοῦτο δὲ παρὰ λόγον (παρὰ γὰρ τὴν ἐπιστήμην καὶ τὸ καθόλου)· ἀλλ’, ὡς ἔοικεν, οὐκ ἀπὸ τύχης, ἀλλὰ δοκεῖ διὰ τοῦτο. ὥσθ’ οὗτος μὲν ὁ λόγος οὐ δείκνυσιν ὅτι φύσει εὐτυχεῖν, ἀλλ’ ὅτι οὐ πάντες οἱ δοκοῦντες εὐτυχεῖν διὰ τύχην κατορθοῦσιν, ἀλλὰ διὰ φύσιν· οὐδ’ ὅτι οὐδέν ἐστι τύχη αἰτία οὐθενὸς δείκνυσιν, ἀλλ’ οὐ τῶν πάντων ὧν δοκεῖ. τοῦτο μέντ’ ἂν ἀπορήσειέ τις, ἆρ’ αὐτοῦ τούτου τύχη αἰτία, τοῦ ἐπιθυμῆσαι οὗ δεῖ καὶ ὅτε δεῖ. ἢ οὕτως γε πάντων ἔσται; καὶ γὰρ τοῦ νοῆσαι καὶ βουλεύσασθαι· οὐ γὰρ δὴ ἐβουλεύσατο βουλευσάμενος, καὶ τοῦτ’ ἐβουλεύσατο, ἀλλ’ ἔστιν ἀρχή τις, οὐδ’ ἐνόησε νοήσας πρότερον ‹ἢ› νοῆσαι, καὶ τοῦτο εἰς ἄπειρον. οὐκ ἄρα τοῦ νοῆσαι ὁ νοῦς ἀρχή, οὐδὲ τοῦ βουλεύσασθαι βουλή. τί οὖν ἄλλο πλὴν τύχη; ὥστ’ ἀπὸ τύχης ἅπαντα ἔσται. ἢ ἔστι τις ἀρχὴ ἧς οὐκ ἔστιν ἄλλη ἔξω, αὕτη δὲ [διὰ τί] τοιαύτη τῷ εἶναι τὸ τοιοῦτο δύναται ποιεῖν; τὸ δὲ ζητούμενον τοῦτ’ ἐστί, τίς ἡ τῆς κινήσεως ἀρχὴ ἐν τῇ ψυχῇ. δῆλον δὴ ὥσπερ ἐν τῷ ὅλῳ θεός, [καὶ] κἀν ἐκείνῳ. κινεῖ γάρ πως πάντα τὸ ἐν ἡμῖν θεῖον· λόγου δ’ ἀρχὴ οὐ λόγος, ἀλλά τι κρεῖττον· τί οὖν ἂν κρεῖττον καὶ ἐπιστήμης εἴη καὶ νοῦ πλὴν θεός; ἡ γὰρ ἀρετὴ τοῦ νοῦ ὄργανον· καὶ διὰ τοῦτο, ὃ οἱ πάλαι ἔλεγον, εὐτυχεῖς καλοῦνται οἳ ἂν ὁρμήσωσι, κατορθοῦσιν ἄλογοι ὄντες, καὶ βουλεύεσθαι οὐ συμφέρει αὐτοῖς. ἔχουσι γὰρ ἀρχὴν τοιαύτην ἣ κρείττων τοῦ νοῦ καὶ τῆς βουλεύσεως (οἳ δὲ τὸν λόγον· τοῦτο δ’ οὐκ ἔχουσι) καὶ ἐνθουσιασμόν, τοῦτο δ’ οὐ δύνανται. ἄλογοι γὰρ ὄντες ἐπιτυγχάνουσι· καὶ τούτων φρονίμων καὶ σοφῶν ταχεῖαν εἶναι τὴν μαντικήν, καὶ μόνον οὐ τὴν ἀπὸ τοῦ λόγου δεῖ ἀπολαβεῖν, ἀλλ’ οἳ μὲν δι’ ἐμπειρίαν, οἳ δὲ διὰ συνήθειάν τε ἐν τῷ σκοπεῖν χρῆσθαι· τῷ θεῷ δὲ αὗται. τοῦτο καὶ εὖ ὁρᾷ καὶ τὸ μέλλον καὶ τὸ ὄν, καὶ ὧν ἀπολύεται ὁ λόγος οὗτος. διὸ οἱ μελαγχολικοὶ καὶ εὐθυόνειροι. ἔοικε γὰρ ἡ ἀρχὴ ἀπολυομένου τοῦ [1248b] λόγου ἰσχύειν μᾶλλον· καὶ ὥσπερ οἱ τυφλοὶ μνημονεύουσι μᾶλλον ἀπολυθέντες τοῦ πρὸς τοῖς ὁρατοῖς, τῷ ἐρρωμενέστερον εἶναι τὸ μνημονεῦον. φανερὸν δὴ ὅτι δύο εἴδη εὐτυχίας, ἣ μὲν θεία (διὸ καὶ δοκεῖ ὁ εὐτυχὴς διὰ θεὸν κατορθοῦν) ‹ἣ δὲ φύσει›. οὗτος δέ ἐστιν ὁ κατὰ τὴν ὁρμὴν διορθωτικός, ὁ δ’ ἕτερος ὁ παρὰ τὴν ὁρμήν· ἄλογοι δ’ ἀμφότεροι. καὶ ἣ μὲν συνεχὴς εὐτυχία μᾶλλον, αὕτη δὲ οὐ συνεχής.

κατὰ μέρος μὲν οὖν περὶ ἑκάστης ἀρετῆς εἴρηται πρότερον· ἐπεὶ δὲ χωρὶς διείλομεν τὴν δύναμιν αὐτῶν, καὶ περὶ τῆς ἀρετῆς διαρθρωτέον τῆς ἐκ τούτων, ἣν ἐκαλοῦμεν ἤδη καλοκἀγαθίαν. ὅτι μὲν οὖν ἀνάγκη τὸν ταύτης ἀληθῶς τευξόμενον τῆς προσηγορίας ἔχειν τὰς κατὰ μέρος ἀρετάς, φανερόν. οὐδὲ γὰρ ἐπὶ τῶν ἄλλων οὐθενὸς οἷόν τ’ ἄλλως ἔχειν. οὐθεὶς γὰρ ὅλον μὲν τὸ σῶμα ὑγιαίνει, μέρος δ’ οὐθέν, ἀλλ’ ἀναγκαῖον πάντα ἢ τὰ πλεῖστα καὶ κυριώτατα τὸν αὐτὸν ἔχειν τρόπον τῷ ὅλῳ. ἔστι δὴ τὸ ἀγαθὸν εἶναι καὶ τὸ καλὸν κἀγαθὸν οὐ μόνον κατὰ τὰ ὀνόματα, ἀλλὰ καθ’ αὑτὰ ἔχοντα διαφοράν. τῶν γὰρ ἀγαθῶν πάντων τέλη ἐστίν, ἃ αὐτὰ αὑτῶν ἕνεκά ἐστιν αἱρετά. τούτων δὲ καλά, ὅσα δι’ αὑτὰ ὄντα πάντα ἐπαινετὰ ἐστίν. ταῦτα γάρ ἐστιν ἀφ’ ὧν αἵ τε πράξεις εἰσὶν ἐπαινεταὶ καὶ αὐτὰ ἐπαινετά, δικαιοσύνη καὶ αὐτὴ καὶ αἱ πράξεις, καὶ οἱ σώφρονες· ἐπαινετὴ γὰρ καὶ ἡ σωφροσύνη. ἀλλ’ οὐχ ὑγίεια ἐπαινετόν· οὐδὲ γὰρ τὸ ἔργον· οὐδὲ τὸ ἰσχυρῶς· οὐδὲ γὰρ ἡ ἰσχύς. ἀλλ’ ἀγαθὰ μέν, ἐπαινετὰ δ’ οὔ. ὁμοίως δὲ τοῦτο δῆλον καὶ ἐπὶ τῶν ἄλλων διὰ τῆς ἐπαγωγῆς. ἀγαθὸς μὲν οὖν ἐστιν ᾧ τὰ φύσει ἀγαθά ἐστιν ἀγαθά. τὰ γὰρ περιμάχητα καὶ μέγιστα εἶναι δοκοῦντα ἀγαθά, τιμὴ καὶ πλοῦτος καὶ σώματος ἀρεταὶ καὶ εὐτυχίαι καὶ δυνάμεις, ἀγαθὰ μὲν φύσει ἐστίν, ἐνδέχεται δ’ εἶναι βλαβερά τισι διὰ τὰς ἕξεις. οὔτε γὰρ ἄφρων οὔτ’ ἄδικος ἢ ἀκόλαστος ὢν οὐδὲν ἂν ὀνήσειε χρώμενος αὐτοῖς, ὥσπερ οὐδ’ ὁ κάμνων τῇ τοῦ ὑγιαίνοντος τροφῇ χρώμενος οὐδ’ ὁ ἀσθενὴς καὶ ἀνάπηρος τοῖς τοῦ ὑγιοῦς καὶ τοῖς τοῦ ὁλοκλήρου κόσμοις. καλὸς δὲ κἀγαθὸς τῷ τῶν ἀγαθῶν τὰ καλὰ ὑπάρχειν αὐτῷ δι’ αὑτὰ καὶ τῷ πρακτικὸς εἶναι τῶν καλῶν καὶ αὑτῶν ἕνεκα. καλὰ δ’ ἐστὶν αἵ τε ἀρεταὶ καὶ τὰ ἔργα τὰ ἀπὸ τῆς ἀρετῆς. - ἔστι δέ τις ἕξις πολιτική, οἵαν οἱ Λάκωνες ἔχουσιν ἢ ἄλλοι τοιοῦτοι ἔχοιεν ἄν. αὕτη δ’ ἐστὶν ἕξις τοιαύτη. εἰσὶ γὰρ οἳ οἴονται τὴν ἀρετὴν δεῖν μὲν ἔχειν, ἀλλὰ τῶν φύσει ἀγαθῶν ἕνεκεν. [1249a] διὸ ἀγαθοὶ μὲν ἄνδρες εἰσί (τὰ γὰρ φύσει μὲν ἀγαθὰ αὐτοῖς ἐστίν), καλοκἀγαθίαν δὲ οὐκ ἔχουσιν. οὐ γὰρ ὑπάρχει αὐτοῖς τὰ καλὰ δι’ αὑτά, καὶ προαιροῦνται καλοὶ κἀγαθοί, καὶ οὐ μόνον ταῦτα, ἀλλὰ καὶ τὰ μὴ καλὰ μὲν φύσει ὄντα, ἀγαθὰ δὲ φύσει ὄντα τούτοις καλά. καλὰ γάρ ἐστιν ὅταν, οὗ ἕνεκα πράττουσι καὶ αἱροῦνται, καλὰ ᾖ, διότι τῷ καλῷ κἀγαθῷ καλά ἐστι τὰ φύσει ἀγαθά. καλὸν γὰρ τὸ δίκαιον· τοῦτο δὲ τὸ κατ’ ἀξίαν· ἄξιος δ’ οὗτος τούτων. καὶ τὸ πρέπον καλόν· πρέπει δὲ ταῦτα τούτῳ, πλοῦτος εὐγένεια δύναμις. ὥστε τῷ καλῷ κἀγαθῷ καὶ αὐτὰ τὰ συμφέροντα καὶ καλά ἐστι· τοῖς δὲ πολλοῖς διαφωνεῖ τοῦτο. οὐ γὰρ τὰ ἁπλῶς ἀγαθὰ κἀκείνοις ἀγαθὰ ἐστί, τῷ δ’ ἀγαθῷ ἀγαθά. τῷ δὲ ‹καλῷ› κἀγαθῷ καὶ καλά. πολλὰς γὰρ καὶ καλὰς πράξεις δι’ αὑτὰς ἔπραξεν. ὁ δ’ οἰόμενος τὰς ἀρετὰς ἔχειν δεῖν ἕνεκα τῶν ἐκτὸς ἀγαθῶν, κατὰ τὸ συμβεβηκὸς τὰ καλὰ πράττει. ἔστιν οὖν καλοκἀγαθία ἀρετὴ τέλειος.

καὶ περὶ ἡδονῆς δ’ εἴρηται ποῖόν τι καὶ πῶς ἀγαθόν, καὶ ὅτι τά τε ἁπλῶς ἡδέα καὶ καλὰ καὶ τὰ [τε] ἁπλῶς ἀγαθὰ ἡδέα. οὐ γίνεται δὲ ἡδονὴ μὴ ἐν πράξει· διὰ τοῦτο ὁ ἀληθῶς εὐδαίμων καὶ ἥδιστα ζήσει, καὶ τοῦτο οὐ μάτην οἱ ἄνθρωποι ἀξιοῦσιν.

ἐπεὶ δ’ ἐστί τις ὅρος καὶ τῷ ἰατρῷ, πρὸς ὃν ἀναφέρων κρίνει τὸ ὑγιεινὸν σώματι καὶ μή, καὶ πρὸς ὃν μέχρι ποσοῦ ποιητέον ἕκαστον καὶ εὖ ὑγιαῖνον, εἰ δὲ ἔλαττον ἢ πλέον, οὐκέτι· οὕτω καὶ τῷ σπουδαίῳ περὶ τὰς πράξεις καὶ αἱρέσεις τῶν φύσει μὲν ἀγαθῶν οὐκ ἐπαινετῶν δὲ δεῖ τινα εἶναι [1249b] ὅρον καὶ τῆς ἕξεως καὶ τῆς αἱρέσεως καὶ [περὶ] φυγῆς ‹καὶ περὶ› χρημάτων πλήθους καὶ ὀλιγότητος καὶ τῶν εὐτυχημάτων. ἐν μὲν οὖν τοῖς πρότερον ἐλέχθη τὸ ὡς ὁ λόγος· τοῦτο δ’ ἐστὶν ὥσπερ ἂν εἴ τις ἐν τοῖς περὶ τὴν τροφὴν εἴπειεν ὡς ἡ ἰατρικὴ καὶ ὁ λόγος ταύτης. τοῦτο δ’ ἀληθὲς μέν, οὐ σαφὲς δέ. δεῖ δὴ ὥσπερ καὶ ἐν τοῖς ἄλλοις πρὸς τὸ ἄρχον ζῆν, καὶ πρὸς τὴν ἕξιν κατὰ τὴν ἐνέργειαν τὴν τοῦ ἄρχοντος, οἷον δοῦλον πρὸς δεσπότου καὶ ἕκαστον πρὸς τὴν ἑκάστου καθήκουσαν ἀρχήν. ἐπεὶ δὲ καὶ ἄνθρωπος φύσει συνέστηκεν ἐξ ἄρχοντος καὶ ἀρχομένου, καὶ ἕκαστον ἂν δέοι πρὸς τὴν ἑαυτῶν ἀρχὴν ζῆν (αὕτη δὲ διττή· ἄλλως γὰρ ἡ ἰατρικὴ ἀρχὴ καὶ ἄλλως ἡ ὑγίεια· ταύτης δὲ ἕνεκα ἐκείνη)· οὕτω δ’ ἔχει κατὰ τὸ θεωρητικόν. οὐ γὰρ ἐπιτακτικῶς ἄρχων ὁ θεός, ἀλλ’ οὗ ἕνεκα ἡ φρόνησις ἐπιτάττει (διττὸν δὲ τὸ οὗ ἕνεκα· διώρισται δ’ ἐν ἄλλοις), ἐπεὶ κεῖνός γε οὐθενὸς δεῖται. ἥτις οὖν αἵρεσις καὶ κτῆσις τῶν φύσει ἀγαθῶν ποιήσει μάλιστα τὴν τοῦ θεοῦ θεωρίαν, ἢ σώματος ἢ χρημάτων ἢ φίλων ἢ τῶν ἄλλων ἀγαθῶν, αὕτη ἀρίστη, καὶ οὗτος ὁ ὅρος κάλλιστος· ἥτις δ’ ἢ δι’ ἔνδειαν ἢ δι’ ὑπερβολὴν κωλύει τὸν θεὸν θεραπεύειν καὶ θεωρεῖν, αὕτη δὲ φαύλη. ἔχει δὲ τοῦτο τῇ ψυχῇ, καὶ οὗτος τῆς ψυχῆς ὅρος ἄριστος, τὸ ἥκιστα αἰσθάνεσθαι τοῦ ἀλόγου μέρους τῆς ψυχῆς, ᾗ τοιοῦτον.

τις μὲν οὖν ὅρος τῆς καλοκἀγαθίας, καὶ τίς ὁ σκοπὸς τῶν ἁπλῶς ἀγαθῶν, ἔστω εἰρημένον· * * * .

Περι Αρετων και Κακιων (1249a) On Virtues and Vices

[1249a] Ἐπαινετὰ μέν ἐστι τὰ καλά, ψεκτὰ δὲ τὰ αἰσχρά. καὶ τῶν μὲν καλῶν ἡγοῦνται αἱ ἀρεταί, τῶν δ’ αἰσχρῶν αἱ κακίαι. ἐπαινετὰ δ’ ἐστὶ καὶ τὰ αἴτια τῶν ἀρετῶν καὶ τὰ παρεπόμενα ταῖς ἀρεταῖς καὶ τὰ γινόμενα ἀπ’ αὐτῶν καὶ τὰ ἔργα αὐτῶν, ψεκτὰ δὲ τὰ ἐναντία. τριμεροῦς δὲ τῆς ψυχῆς λαμβανομένης κατὰ Πλάτωνα, τοῦ μὲν λογιστικοῦ [1249b] ἀρετή ἐστιν ἡ φρόνησις, τοῦ δὲ θυμοειδοῦς ἥ τε πραότης καὶ ἡ ἀνδρεία, τοῦ δὲ ἐπιθυμητικοῦ ἥ τε σωφροσύνη καὶ ἡ ἐγκράτεια, ὅλης δὲ τῆς ψυχῆς ἥ τε δικαιοσύνη καὶ ἡ ἐλευθεριότης καὶ ἡ μεγαλοψυχία. κακία δ’ ἐστὶ τοῦ μὲν λογιστικοῦ ἡ ἀφροσύνη, τοῦ δὲ θυμοειδοῦς ἥ τε ὀργιλότης καὶ ἡ δειλία, τοῦ δὲ ἐπιθυμητικοῦ ἥ τε ἀκολασία καὶ ἡ [1250a] ἀκράτεια, ὅλης δὲ τῆς ψυχῆς ἥ τε ἀδικία καὶ ἀνελευθεριότης καὶ μικροψυχία.

Ἔστι δὲ φρόνησις μὲν ἀρετὴ τοῦ λογιστικοῦ, παρασκευαστικὴ τῶν πρὸς εὐδαιμονίαν συντεινόντων. πραότης δ’ ἐστὶν ἀρετὴ τοῦ θυμοειδοῦς, καθ’ ἣν ὑπὸ ὀργῆς γίνονται δυσκίνητοι. ἀνδρεία δ’ ἐστὶν ἀρετὴ τοῦ θυμοειδοῦς, καθ’ ἣν δυσέκπληκτοί εἰσιν ὑπὸ φόβων τῶν περὶ θάνατον. σωφροσύνη δ’ ἐστὶν ἀρετὴ τοῦ ἐπιθυμητικοῦ, καθ’ ἣν ἀνόρεκτοι γίνονται περὶ τὰς ἀπολαύσεις τῶν φαύλων ἡδονῶν. ἐγκράτεια δ’ ἐστὶν ἀρετὴ τοῦ ἐπιθυμητικοῦ, καθ’ ἣν κατέχουσι τῷ λογισμῷ τὴν ἐπιθυμίαν ὁρμῶσαν ἐπὶ τὰς φαύλας ἡδονάς. δικαιοσύνη δ’ ἐστὶν ἀρετὴ ψυχῆς διανεμητικὴ τοῦ κατ’ ἀξίαν. ἐλευθεριότης δ’ ἐστὶν ἀρετὴ ψυχῆς εὐδάπανος εἰς τὰ καλά. μεγαλοψυχία δ’ ἐστὶν ἀρετὴ ψυχῆς, καθ’ ἣν δύναται φέρειν εὐτυχίαν καὶ ἀτυχίαν καὶ τιμὴν καὶ ἀτιμίαν.

Ἀφροσύνη δ’ ἐστὶ κακία τοῦ λογιστικοῦ, αἰτία τοῦ ζῆν κακῶς. ὀργιλότης δ’ ἐστὶ κακία τοῦ θυμοειδοῦς, καθ’ ἣν εὐκίνητοι γίνονται πρὸς ὀργήν. δειλία δ’ ἐστὶ κακία τοῦ θυμοειδοῦς, καθ’ ἣν ἐκπλήττονται ὑπὸ φόβων, καὶ μάλιστα τῶν περὶ θάνατον. ἀκολασία δ’ ἐστὶ κακία τοῦ ἐπιθυμητικοῦ, καθ’ ἣν αἱροῦνται τὰς φαύλας ἡδονάς. [περὶ μὲν τῆς ἀκρατείας οὐδέν· οὕτω δὲ σὺ δύνασαι ὁρίζειν.] ἀκράτεια δ’ ἐστὶ κακία τοῦ ἐπιθυμητικοῦ, καθ’ ἣν παρασύρουσι τῇ ἀλογίᾳ τὴν ἐπιθυμίαν ὠθοῦσαν ἐπὶ τὰς τῶν φαύλων ἡδονῶν ἀπολαύσεις. ἀδικία δ’ ἐστὶ κακία ψυχῆς, καθ’ ἣν πλεονεκτικοὶ γίνονται παρὰ τὴν ἀξίαν. ἀνελευθερία δ’ ἐστὶ κακία ψυχῆς, καθ’ ἣν ὀρέγονται τοῦ πανταχόθεν κέρδους. μικροψυχία δ’ ἐστὶ κακία ψυχῆς, καθ’ ἣν ἀδύνατοί εἰσι φέρειν εὐτυχίαν καὶ ἀτυχίαν καὶ τιμὴν καὶ ἀτιμίαν.

Τῆς δὲ φρονήσεώς ἐστι τὸ βουλεύσασθαι, τὸ κρῖναι τὰ ἀγαθὰ καὶ τὰ κακὰ καὶ πάντα τὰ ἐν τῷ βίῳ αἱρετὰ καὶ φευκτά, τὸ χρῆσθαι πᾶσι καλῶς τοῖς ὑπάρχουσιν ἀγαθοῖς, τὸ ὁμιλῆσαι ὀρθῶς, τὸ συνιδεῖν τοὺς καιρούς, τὸ ἀγχίνως χρήσασθαι καὶ λόγῳ καὶ ἔργῳ, τὸ τὴν ἐμπειρίαν ἔχειν τῶν χρησίμων πάντων. ἡ μνήμη δὲ καὶ ἐμπειρία καὶ ἀγχίνοια ἤτοι ἀπὸ τῆς φρονήσεως ἑκάστη αὐτῶν ἐστίν, ἢ παρέπεται τῇ φρονήσει· ἢ τὰ μὲν αὐτῶν οἷον συναίτια τῆς φρονήσεώς ἐστι, καθάπερ ἐμπειρία καὶ ἡ μνήμη, τὰ δὲ οἷον μέρη αὐτῆς, οἷον εὐβουλία καὶ ἀγχίνοια. πραότητος δ’ ἐστὶ τὸ δύνασθαι φέρειν μετρίως ἐγκλήματα καὶ ὀλιγωρίας, καὶ τὸ μὴ ταχέως ὁρμᾶν ἐπὶ τὰς τιμωρίας, καὶ τὸ μὴ εὐκίνητον εἶναι πρὸς τὰς ὀργάς, ἄπικρον δὲ τῷ ἤθει καὶ ἀφιλόνεικον, ἔχοντα τὸ ἠρεμαῖον ἐν τῇ ψυχῇ καὶ στάσιμον. ἀνδρείας δ’ ἐστὶ τὸ δυσέκπληκτον ὑπὸ φόβων τῶν περὶ θάνατον, καὶ τὸ εὐθαρσῆ ἐν τοῖς δεινοῖς, καὶ τὸ [1250b] εὔτολμον πρὸς τοὺς κινδύνους, καὶ τὸ μᾶλλον αἱρεῖσθαι τεθνάναι καλῶς ἢ αἰσχρῶς σωθῆναι, καὶ τὸ νίκης αἴτιον εἶναι. ἔτι δὲ ἀνδρείας ἐστὶ καὶ τὸ πονεῖν καὶ καρτερεῖν καὶ αἱρεῖσθαι ἀνδραγαθίζεσθαι. παρέπεται δὲ τῇ ἀνδρείᾳ καὶ ἡ εὐτολμία καὶ ἡ εὐψυχία καὶ τὸ θάρσος καὶ τὸ θράσος, ἔτι δὲ καὶ ἡ φιλοπονία καὶ ἡ καρτερία. σωφροσύνης δ’ ἐστὶ τὸ μὴ θαυμάζειν τὰς ἀπολαύσεις τῶν σωματικῶν ἡδονῶν, καὶ τὸ εἶναι πάσης ἀπολαύσεως αἰσχρᾶς ἡδονῆς ἀνόρεκτον, καὶ τὸ φοβεῖσθαι καὶ τὴν δικαίαν ἄδειαν, καὶ τὸ τετάσθαι περὶ τὸν βίον ὁμοίως ἔν τε μικροῖς καὶ μεγάλοις. παρέπεται δὲ τῇ σωφροσύνῃ εὐταξία, κοσμιότης, αἰδώς, εὐλάβεια. ἐγκρατείας δ’ ἐστὶ τὸ δύνασθαι κατασχεῖν τῷ λογισμῷ τὴν ἐπιθυμίαν ὁρμῶσαν ἐπὶ φαύλας ἀπολαύσεις καὶ ἡδονάς, καὶ τὸ καρτερεῖν, καὶ τὸ ὑπομονητικὸν εἶναι τῆς κατὰ φύσιν ἐνδείας καὶ λύπης. δικαιοσύνης δ’ ἐστὶ τὸ διανεμητικὸν εἶναι τοῦ κατ’ ἀξίαν, καὶ σώζειν τὰ πάτρια ἔθη καὶ τὰ νόμιμα, καὶ τὸ σώζειν τοὺς γεγραμμένους νόμους, καὶ τὸ ἀληθεύειν ἐν τῷ διαφέροντι, καὶ τὸ διαφυλάττειν τὰς ὁμολογίας. ἔστι δὲ πρώτη τῶν δικαιοσυνῶν πρὸς τοὺς θεούς, εἶτα πρὸς δαίμονας, εἶτα πρὸς πατρίδα καὶ γονεῖς, εἶτα πρὸς τοὺς κατοιχομένους· ἐν οἷς ἐστὶν ἡ εὐσέβεια, ἤτοι μέρος οὖσα δικαιοσύνης ἢ παρακολουθοῦσα. ἀκολουθεῖ δὲ τῇ δικαιοσύνῃ καὶ ὁσιότης καὶ ἀλήθεια καὶ ἡ πίστις καὶ ἡ μισοπονηρία. ἐλευθεριότητος δ’ ἐστὶ τὸ προετικὸν εἶναι χρημάτων εἰς τὰ ἐπαινετά, καὶ δαψιλῆ ἐπὶ τῷ εἰς τὰ δέοντα ἀναλωθῆναι, καὶ τὸ βοηθητικὸν εἶναι ἐν τῷ διαφόρῳ, καὶ τὸ μὴ λαβεῖν ὅθεν μὴ δεῖ. ἔστι δὲ ὁ ἐλευθέριος καὶ περὶ ἐσθῆτα καθαρὸς καὶ περὶ οἴκησιν, καὶ κατασκευαστικὸς τῶν περιττῶν καὶ καλῶν καὶ διαγωγὴν ἐχόντων ἡδεῖαν ἄνευ τοῦ λυσιτελοῦντος, καὶ θρεπτικὸς τῶν ζῴων τῶν ἴδιον ἐχόντων τι ἢ θαυμαστόν. ἀκολουθεῖ δὲ τῇ ἐλευθεριότητι τοῦ ἤθους ὑγρότης καὶ εὐαγωγία καὶ φιλανθρωπία καὶ τὸ εἶναι ἐλεητικὸν καὶ φιλόφιλον καὶ φιλόξενον καὶ φιλόκαλον. μεγαλοψυχίας δ’ ἐστὶ τὸ καλῶς ἐνεγκεῖν καὶ εὐτυχίαν καὶ ἀτυχίαν καὶ τιμὴν καὶ ἀτιμίαν, καὶ τὸ θαυμάζειν μήτε τρυφὴν μήτε θεραπείαν μήτε ἐξουσίαν μήτε τὰς νίκας τὰς ἐναγωνίους, ἔχειν δέ τι βάθος τῆς ψυχῆς καὶ μέγεθος. ἔστι δὲ μεγαλόψυχος οὔθ’ ὁ τὸ ζῆν περὶ πολλοῦ ποιούμενος οὔθ’ ὁ φιλόζωος. ἁπλοῦς δὲ τῷ ἤθει καὶ γενναῖος, ἀδικεῖσθαι δυνάμενος, καὶ οὐ τιμωρητικός. ἀκολουθεῖ δὲ τῇ μεγαλοψυχίᾳ ἁπλότης καὶ ἀλήθεια.

Ἀφροσύνης δ’ ἐστὶ τὸ κρίνειν κακῶς τὰ πράγματα, τὸ βουλεύσασθαι κακῶς, τὸ ὁμιλῆσαι κακῶς, τὸ χρήσασθαι κακῶς τοῖς παροῦσιν ἀγαθοῖς, τὸ ψευδῶς δοξάζειν [1251a] περὶ τῶν εἰς τὸν βίον καλῶν καὶ ἀγαθῶν. παρακολουθεῖ δὲ τῇ ἀφροσύνῃ ἀπειρία, ἀμαθία, ἀκρασία, ἐπαριστερότης, ἀμνημοσύνη. ὀργιλότητος δ’ ἐστὶν εἴδη τρία, ἀκροχολία πικρία βαρυθυμία. ἔστι δὲ τοῦ ὀργίλου μὴ δύνασθαι φέρειν μήτε τὰς μικρὰς ὀλιγωρήσεις μήτε ἐλαττώσεις, εἶναι δὲ κολαστικὸν καὶ τιμωρητικὸν καὶ εὐκίνητον πρὸς ὀργὴν καὶ ὑπὸ ἔργου καὶ ὑπὸ λόγου τοῦ τυχόντος. ἀκολουθεῖ δὲ τῇ ὀργιλότητι τὸ παροξυντικὸν τοῦ ἤθους καὶ εὐμετάβολον, καὶ ἡ πικρολογία, καὶ τὸ ἐπὶ μικροῖς λυπεῖσθαι, καὶ τὸ ταῦτα πάσχειν ταχέως καὶ παρὰ βραχὺν καιρόν. δειλίας δ’ ἐστὶ τὸ ὑπὸ τῶν τυχόντων φόβων εὐκίνητον εἶναι, καὶ μάλιστα τῶν περὶ θάνατον καὶ τὰς σωματικὰς πηρώσεις, καὶ τὸ ὑπολαμβάνειν κρεῖττον εἶναι ὁπωσοῦν σωθῆναι ἢ τελευτῆσαι καλῶς. ἀκολουθεῖ δὲ τῇ δειλίᾳ μαλακία, ἀνανδρία, ἀπονία, φιλοψυχία. ὕπεστι δέ τις εὐλάβεια καὶ τὸ ἀφιλόνεικον τοῦ ἤθους. ἀκολασίας δ’ ἐστὶ τὸ αἱρεῖσθαι τὰς ἀπολαύσεις τῶν ἡδονῶν τῶν βλαβερῶν καὶ αἰσχρῶν, καὶ τὸ ὑπολαμβάνειν εὐδαιμονεῖν μάλιστα τοὺς ἐν ταῖς τοιαύταις ἡδοναῖς ὄντας, καὶ τὸ φιλογέλοιον εἶναι καὶ τὸ φιλοσκώπτην καὶ φιλευτράπελον, καὶ τὸ ῥᾳδιουργὸν εἶναι ἐν τοῖς λόγοις καὶ ἐν τοῖς ἔργοις. ἀκολουθεῖ δὲ τῇ ἀκολασίᾳ ἀταξία, ἀναίδεια, ἀκοσμία, τρυφή, ῥᾳθυμία, ἀμέλεια, ὀλιγωρία, ἔκλυσις. ἀκρασίας δ’ ἐστὶ τὸ κωλύοντος τοῦ λογισμοῦ τὰς ἀπολαύσεις τῶν ἡδονῶν αἱρεῖσθαι, καὶ τὸ ὑπολαμβάνοντα κρεῖττον εἶναι μὴ μετασχεῖν μὲν αὐτῶν, μετέχειν δὲ μηδὲν ἧττον, καὶ τὸ οἴεσθαι μὲν δεῖν πράττειν καὶ τὰ καλὰ καὶ τὰ συμφέροντα, ἀφίστασθαι δὲ αὐτῶν διὰ τὰς ἡδονάς. ἀκολουθεῖ δὲ τῇ ἀκρασίᾳ μαλακία καὶ μεταμέλεια καὶ τὰ πλεῖστα ταὐτὰ ἃ καὶ τῇ ἀκολασίᾳ.

ἀδικίας δ’ ἐστὶν εἴδη τρία, ἀσέβεια πλεονεξία ὕβρις. ἀσέβεια μὲν ἡ περὶ θεοὺς πλημμέλεια καὶ περὶ δαίμονας ἢ καὶ περὶ τοὺς κατοιχομένους, καὶ περὶ γονεῖς καὶ περὶ πατρίδα· πλεονεξία δὲ περὶ τὰ συμβόλαια, παρὰ τὴν ἀξίαν αἱρουμένη τὸ διάφορον· ὕβρις δέ, καθ’ ἣν τὰς ἡδονὰς αὑτοῖς παρασκευάζουσιν, εἰς ὄνειδος ἀγαγόντες ἑτέρους, ὅθεν Εὔηνος περὶ αὐτῆς λέγει “ἥτις κερδαίνουσ’ οὐδὲν ὅμως ἀδικεῖ.” ἔστι δὲ τῆς ἀδικίας τὸ παραβαίνειν τὰ πάτρια ἔθη καὶ τὰ νόμιμα, καὶ τὸ ἀπειθεῖν τοῖς νόμοις καὶ τοῖς ἄρχουσι, τὸ [1251b] ψεύδεσθαι, τὸ ἐπιορκεῖν, τὸ παραβαίνειν τὰς ὁμολογίας καὶ τὰς πίστεις. ἀκολουθεῖ δὲ τῇ ἀδικίᾳ συκοφαντία, ἀλαζονεία, φιλανθρωπία προσποίητος, κακοήθεια, πανουργία. ἀνελευθερίας δ’ ἐστὶν εἴδη τρία, αἰσχροκερδία φειδωλία κιμβεία. αἰσχροκερδία μέν, καθ’ ἣν κερδαίνειν ζητοῦσι πανταχόθεν, καὶ τὸ κέρδος τῆς αἰσχύνης περὶ πλείονος ποιοῦνται· φειδωλία δ’ ἐστὶ καθ’ ἣν ἀδάπανοι γίνονται τῶν χρημάτων εἰς τὸ δέον· κιμβεία δ’ ἐστὶ καθ’ ἣν δαπανῶσι μέν, κατὰ μικρὸν δὲ καὶ κακῶς, καὶ πλέον βλάπτονται τῷ μὴ κατὰ καιρὸν ποιεῖσθαι τὸ διάφορον. ἔστι δὲ τῆς ἀνελευθερίας τὸ περὶ πλείστου ποιεῖσθαι χρήματα, καὶ τὸ μηδὲν ὄνειδος ἡγεῖσθαι τῶν ποιούντων τὸ κέρδος, βίος θητικὸς καὶ δουλοπρεπὴς καὶ ῥυπαρός, φιλοτιμίας καὶ ἐλευθερίας ἀλλότριος. ἀκολουθεῖ δὲ τῇ ἀνελευθεριότητι μικρολογία, βαρυθυμία καὶ μικροψυχία, ταπεινότης, ἀμετρία, ἀγένεις, μισανθρωπία. μικροψυχίας δ’ ἐστὶ τὸ μήτε τιμὴν μήτε ἀτιμίαν μήτε εὐτυχίαν μήτε ἀτυχίαν δύνασθαι φέρειν, ἀλλὰ τιμώμενον μὲν χαυνοῦσθαι, μικρὰ δὲ εὐτυχήσαντα ὑπεξαίρεσθαι, ἀτιμίαν δὲ μηδὲ τὴν ἐλαχίστην ἐνεγκεῖν δύνασθαι, ἀπότευγμα δ’ ἄτην καὶ ἀτυχίαν κρίνειν μεγάλην, ὀδύρεσθαι δ’ ἐπὶ πᾶσι καὶ δυσφορεῖν. ἔτι δὲ τοιοῦτός ἐστιν ὁ μικρόψυχος οἷος πάντα τὰ ὀλιγωρήματα καλεῖν ὕβριν καὶ ἀτιμίαν, καὶ τὰ δι’ ἄγνοιαν ἢ λήθην γιγνόμενα. ἀκολουθεῖ δὲ τῇ μικροψυχίᾳ μικρολογία, μεμψιμοιρία, δυσελπιστία, ταπεινότης.

Καθόλου δὲ τῆς μὲν ἀρετῆς ἐστὶ τὸ ποιεῖν σπουδαίαν τὴν διάθεσιν περὶ τὴν ψυχήν, ἠρεμαίαις καὶ τεταγμέναις κινήσεσι χρωμένην, συμφωνοῦσαν κατὰ πάντα τὰ μέρη· διὸ καὶ δοκεῖ παράδειγμα πολιτείας ἀγαθῆς εἶναι ψυχῆς σπουδαία διάθεσις. ἔστι δὲ ἀρετῆς καὶ τὸ εὐεργετεῖν τοὺς ἀξίους, καὶ τὸ φιλεῖν τοὺς ἀγαθούς, καὶ τὸ μήτε κολαστικὸν εἶναι μήτε τιμωρητικόν, ἀλλὰ ἵλεων καὶ εὐμενικὸν καὶ συγγνωμονικόν. ἀκολουθεῖ δὲ τῇ ἀρετῇ χρηστότης, ἐπιείκεια, εὐγνωμοσύνη, ἐλπὶς ἀγαθή. ἔτι δὲ καὶ τὰ τοιαῦτα οἷον φίλοικον εἶναι καὶ φιλόφιλον, φιλέταιρον, φιλόξενον, φιλάνθρωπον καὶ φιλόκαλον· ἃ δὴ πάντα τῶν ἐπαινουμένων ἐστίν. τῆς δὲ κακίας ἐστὶ τὰ ἐναντία.

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[1252a] Ἐπειδὴ πᾶσαν πόλιν ὁρῶμεν κοινωνίαν τινὰ οὖσαν καὶ πᾶσαν κοινωνίαν ἀγαθοῦ τινος ἕνεκεν συνεστηκυῖαν (τοῦ γὰρ εἶναι δοκοῦντος ἀγαθοῦ χάριν πάντα πράττουσι πάντες), δῆλον ὡς πᾶσαι μὲν ἀγαθοῦ τινος στοχάζονται, μάλιστα δὲ καὶ τοῦ κυριωτάτου πάντων ἡ πασῶν κυριωτάτη καὶ πάσας περιέχουσα τὰς ἄλλας. αὕτη δ’ ἐστὶν ἡ καλουμένη πόλις καὶ ἡ κοινωνία ἡ πολιτική. ὅσοι μὲν οὖν οἴονται πολιτικὸν καὶ βασιλικὸν καὶ οἰκονομικὸν καὶ δεσποτικὸν εἶναι τὸν αὐτὸν οὐ καλῶς λέγουσιν (πλήθει γὰρ καὶ ὀλιγότητι νομίζουσι διαφέρειν ἀλλ’ οὐκ εἴδει τούτων ἕκαστον, οἷον ἂν μὲν ὀλίγων, δεσπότην, ἂν δὲ πλειόνων, οἰκονόμον, ἂν δ’ ἔτι πλειόνων, πολιτικὸν ἢ βασιλικόν, ὡς οὐδὲν διαφέρουσαν μεγάλην οἰκίαν ἢ μικρὰν πόλιν· καὶ πολιτικὸν δὲ καὶ βασιλικόν, ὅταν μὲν αὐτὸς ἐφεστήκῃ, βασιλικόν, ὅταν δὲ κατὰ τοὺς λόγους τῆς ἐπιστήμης τῆς τοιαύτης κατὰ μέρος ἄρχων καὶ ἀρχόμενος, πολιτικόν· ταῦτα δ’ οὐκ ἔστιν ἀληθῆ)· δῆλον δ’ ἔσται τὸ λεγόμενον ἐπισκοποῦσι κατὰ τὴν ὑφηγημένην μέθοδον. ὥσπερ γὰρ ἐν τοῖς ἄλλοις τὸ σύνθετον μέχρι τῶν ἀσυνθέτων ἀνάγκη διαιρεῖν (ταῦτα γὰρ ἐλάχιστα μόρια τοῦ παντός), οὕτω καὶ πόλιν ἐξ ὧν σύγκειται σκοποῦντες ὀψόμεθα καὶ περὶ τούτων μᾶλλον, τί τε διαφέρουσιν ἀλλήλων καὶ εἴ τι τεχνικὸν ἐνδέχεται λαβεῖν περὶ ἕκαστον τῶν ῥηθέντων.

Εἰ δή τις ἐξ ἀρχῆς τὰ πράγματα φυόμενα βλέψειεν, ὥσπερ ἐν τοῖς ἄλλοις, καὶ ἐν τούτοις κάλλιστ’ ἂν οὕτω θεωρήσειεν. ἀνάγκη δὴ πρῶτον συνδυάζεσθαι τοὺς ἄνευ ἀλλήλων μὴ δυναμένους εἶναι, οἷον θῆλυ μὲν καὶ ἄρρεν τῆς γεννήσεως ἕνεκεν (καὶ τοῦτο οὐκ ἐκ προαιρέσεως, ἀλλ’ ὥσπερ καὶ ἐν τοῖς ἄλλοις ζῴοις καὶ φυτοῖς φυσικὸν τὸ ἐφίεσθαι, οἷον αὐτό, τοιοῦτον καταλιπεῖν ἕτερον), ἄρχον δὲ φύσει καὶ ἀρχόμενον διὰ τὴν σωτηρίαν. τὸ μὲν γὰρ δυνάμενον τῇ διανοίᾳ προορᾶν ἄρχον φύσει καὶ δεσπόζον φύσει, τὸ δὲ δυνάμενον [ταῦτα] τῷ σώματι πονεῖν ἀρχόμενον καὶ φύσει δοῦλον· διὸ δεσπότῃ καὶ δούλῳ ταὐτὸ συμφέρει. φύσει μὲν [1252b] οὖν διώρισται τὸ θῆλυ καὶ τὸ δοῦλον (οὐθὲν γὰρ ἡ φύσις ποιεῖ τοιοῦτον οἷον οἱ χαλκοτύποι τὴν Δελφικὴν μάχαιραν, πενιχρῶς, ἀλλ’ ἓν πρὸς ἕν· οὕτω γὰρ ἂν ἀποτελοῖτο κάλλιστα τῶν ὀργάνων ἕκαστον, μὴ πολλοῖς ἔργοις ἀλλ’ ἑνὶ δουλεῦον)· ἐν δὲ τοῖς βαρβάροις τὸ θῆλυ καὶ τὸ δοῦλον τὴν αὐτὴν ἔχει τάξιν. αἴτιον δ’ ὅτι τὸ φύσει ἄρχον οὐκ ἔχουσιν, ἀλλὰ γίνεται ἡ κοινωνία αὐτῶν δούλης καὶ δούλου. διό φασιν οἱ ποιηταὶ “βαρβάρων δ’ Ἕλληνας ἄρχειν εἰκός”, ὡς ταὐτὸ φύσει βάρβαρον καὶ δοῦλον ὄν. ἐκ μὲν οὖν τούτων τῶν δύο κοινωνιῶν οἰκία πρώτη, καὶ ὀρθῶς Ἡσίοδος εἶπε ποιήσας “οἶκον μὲν πρώτιστα γυναῖκά τε βοῦν τ’ ἀροτῆρα”· ὁ γὰρ βοῦς ἀντ’ οἰκέτου τοῖς πένησίν ἐστιν. ἡ μὲν οὖν εἰς πᾶσαν ἡμέραν συνεστηκυῖα κοινωνία κατὰ φύσιν οἶκός ἐστιν, οὓς Χαρώνδας μὲν καλεῖ ὁμοσιπύους, Ἐπιμενίδης δὲ ὁ Κρὴς ὁμοκάπους· ἡ δ’ ἐκ πλειόνων οἰκιῶν κοινωνία πρώτη χρήσεως ἕνεκεν μὴ ἐφημέρου κώμη. μάλιστα δὲ κατὰ φύσιν ἔοικεν ἡ κώμη ἀποικία οἰκίας εἶναι, οὓς καλοῦσί τινες ὁμογάλακτας, παῖδάς τε καὶ παίδων παῖδας. διὸ καὶ τὸ πρῶτον ἐβασιλεύοντο αἱ πόλεις, καὶ νῦν ἔτι τὰ ἔθνη· ἐκ βασιλευομένων γὰρ συνῆλθον· πᾶσα γὰρ οἰκία βασιλεύεται ὑπὸ τοῦ πρεσβυτάτου, ὥστε καὶ αἱ ἀποικίαι, διὰ τὴν συγγένειαν. καὶ τοῦτ’ ἐστὶν ὃ λέγει Ὅμηρος “θεμιστεύει δὲ ἕκαστος παίδων ἠδ’ ἀλόχων”. σποράδες γάρ· καὶ οὕτω τὸ ἀρχαῖον ᾤκουν. καὶ τοὺς θεοὺς δὲ διὰ τοῦτο πάντες φασὶ βασιλεύεσθαι, ὅτι καὶ αὐτοὶ οἱ μὲν ἔτι καὶ νῦν οἱ δὲ τὸ ἀρχαῖον ἐβασιλεύοντο, ὥσπερ δὲ καὶ τὰ εἴδη ἑαυτοῖς ἀφομοιοῦσιν οἱ ἄνθρωποι, οὕτω καὶ τοὺς βίους τῶν θεῶν.

ἡ δ’ ἐκ πλειόνων κωμῶν κοινωνία τέλειος πόλις, ἤδη πάσης ἔχουσα πέρας τῆς αὐταρκείας ὡς ἔπος εἰπεῖν, γινομένη μὲν τοῦ ζῆν ἕνεκεν, οὖσα δὲ τοῦ εὖ ζῆν. διὸ πᾶσα πόλις φύσει ἔστιν, εἴπερ καὶ αἱ πρῶται κοινωνίαι. τέλος γὰρ αὕτη ἐκείνων, ἡ δὲ φύσις τέλος ἐστίν· οἷον γὰρ ἕκαστόν ἐστι τῆς γενέσεως τελεσθείσης, ταύτην φαμὲν τὴν φύσιν εἶναι ἑκάστου, ὥσπερ ἀνθρώπου ἵππου οἰκίας. ἔτι τὸ οὗ ἕνεκα καὶ τὸ τέλος βέλτιστον· [1253a] ἡ δ’ αὐτάρκεια καὶ τέλος καὶ βέλτιστον. ἐκ τούτων οὖν φανερὸν ὅτι τῶν φύσει ἡ πόλις ἐστί, καὶ ὅτι ὁ ἄνθρωπος φύσει πολιτικὸν ζῷον, καὶ ὁ ἄπολις διὰ φύσιν καὶ οὐ διὰ τύχην ἤτοι φαῦλός ἐστιν, ἢ κρείττων ἢ ἄνθρωπος· ὥσπερ καὶ ὁ ὑφ’ Ὁμήρου λοιδορηθεὶς “ἀφρήτωρ ἀθέμιστος ἀνέστιος”· ἅμα γὰρ φύσει τοιοῦτος καὶ πολέμου ἐπιθυμητής, ἅτε περ ἄζυξ ὢν ὥσπερ ἐν πεττοῖς. διότι δὲ πολιτικὸν ὁ ἄνθρωπος ζῷον πάσης μελίττης καὶ παντὸς ἀγελαίου ζῴου μᾶλλον, δῆλον. οὐθὲν γάρ, ὡς φαμέν, μάτην ἡ φύσις ποιεῖ· λόγον δὲ μόνον ἄνθρωπος ἔχει τῶν ζῴων· ἡ μὲν οὖν φωνὴ τοῦ λυπηροῦ καὶ ἡδέος ἐστὶ σημεῖον, διὸ καὶ τοῖς ἄλλοις ὑπάρχει ζῴοις (μέχρι γὰρ τούτου ἡ φύσις αὐτῶν ἐλήλυθε, τοῦ ἔχειν αἴσθησιν λυπηροῦ καὶ ἡδέος καὶ ταῦτα σημαίνειν ἀλλήλοις), ὁ δὲ λόγος ἐπὶ τῷ δηλοῦν ἐστι τὸ συμφέρον καὶ τὸ βλαβερόν, ὥστε καὶ τὸ δίκαιον καὶ τὸ ἄδικον· τοῦτο γὰρ πρὸς τὰ ἄλλα ζῷα τοῖς ἀνθρώποις ἴδιον, τὸ μόνον ἀγαθοῦ καὶ κακοῦ καὶ δικαίου καὶ ἀδίκου καὶ τῶν ἄλλων αἴσθησιν ἔχειν· ἡ δὲ τούτων κοινωνία ποιεῖ οἰκίαν καὶ πόλιν. καὶ πρότερον δὲ τῇ φύσει πόλις ἢ οἰκία καὶ ἕκαστος ἡμῶν ἐστιν. τὸ γὰρ ὅλον πρότερον ἀναγκαῖον εἶναι τοῦ μέρους· ἀναιρουμένου γὰρ τοῦ ὅλου οὐκ ἔσται ποὺς οὐδὲ χείρ, εἰ μὴ ὁμωνύμως, ὥσπερ εἴ τις λέγοι τὴν λιθίνην (διαφθαρεῖσα γὰρ ἔσται τοιαύτη), πάντα δὲ τῷ ἔργῳ ὥρισται καὶ τῇ δυνάμει, ὥστε μηκέτι τοιαῦτα ὄντα οὐ λεκτέον τὰ αὐτὰ εἶναι ἀλλ’ ὁμώνυμα. ὅτι μὲν οὖν ἡ πόλις καὶ φύσει καὶ πρότερον ἢ ἕκαστος, δῆλον· εἰ γὰρ μὴ αὐτάρκης ἕκαστος χωρισθείς, ὁμοίως τοῖς ἄλλοις μέρεσιν ἕξει πρὸς τὸ ὅλον, ὁ δὲ μὴ δυνάμενος κοινωνεῖν ἢ μηδὲν δεόμενος δι’ αὐτάρκειαν οὐθὲν μέρος πόλεως, ὥστε ἢ θηρίον ἢ θεός.

φύσει μὲν οὖν ἡ ὁρμὴ ἐν πᾶσιν ἐπὶ τὴν τοιαύτην κοινωνίαν· ὁ δὲ πρῶτος συστήσας μεγίστων ἀγαθῶν αἴτιος. ὥσπερ γὰρ καὶ τελεωθεὶς βέλτιστον τῶν ζῴων ἄνθρωπός ἐστιν, οὕτω καὶ χωρισθεὶς νόμου καὶ δίκης χείριστον πάντων. χαλεπωτάτη γὰρ ἀδικία ἔχουσα ὅπλα· ὁ δὲ ἄνθρωπος ὅπλα ἔχων φύεται φρονήσει καὶ ἀρετῇ, οἷς ἐπὶ τἀναντία ἔστι χρῆσθαι μάλιστα. διὸ ἀνοσιώτατον καὶ ἀγριώτατον ἄνευ ἀρετῆς, καὶ πρὸς ἀφροδίσια καὶ ἐδωδὴν χείριστον. ἡ δὲ δικαιοσύνη πολιτικόν· ἡ γὰρ δίκη πολιτικῆς κοινωνίας τάξις ἐστίν, ἡ δὲ δικαιοσύνη τοῦ δικαίου κρίσις.

[1253b] Ἐπεὶ δὲ φανερὸν ἐξ ὧν μορίων ἡ πόλις συνέστηκεν, ἀναγκαῖον πρῶτον περὶ οἰκονομίας εἰπεῖν· πᾶσα γὰρ σύγκειται πόλις ἐξ οἰκιῶν. οἰκονομίας δὲ μέρη ἐξ ὧν πάλιν οἰκία συνέστηκεν· οἰκία δὲ τέλειος ἐκ δούλων καὶ ἐλευθέρων. ἐπεὶ δ’ ἐν τοῖς ἐλαχίστοις πρῶτον ἕκαστον ζητητέον, πρῶτα δὲ καὶ ἐλάχιστα μέρη οἰκίας δεσπότης καὶ δοῦλος, καὶ πόσις καὶ ἄλοχος, καὶ πατὴρ καὶ τέκνα, περὶ τριῶν ἂν τούτων σκεπτέον εἴη τί ἕκαστον καὶ ποῖον δεῖ εἶναι. ταῦτα δ’ ἐστὶ δεσποτικὴ καὶ γαμική (ἀνώνυμον γὰρ ἡ γυναικὸς καὶ ἀνδρὸς σύζευξις) καὶ τρίτον τεκνοποιητική (καὶ γὰρ αὕτη οὐκ ὠνόμασται ἰδίῳ ὀνόματι). ἔστωσαν δὴ αὗται ‹αἱ› τρεῖς ἃς εἴπομεν. ἔστι δέ τι μέρος ὃ δοκεῖ τοῖς μὲν εἶναι οἰκονομία, τοῖς δὲ μέγιστον μέρος αὐτῆς· ὅπως δ’ ἔχει, θεωρητέον· λέγω δὲ περὶ τῆς καλουμένης χρηματιστικῆς. πρῶτον δὲ περὶ δεσπότου καὶ δούλου εἴπωμεν, ἵνα τά τε πρὸς τὴν ἀναγκαίαν χρείαν ἴδωμεν, κἂν εἴ τι πρὸς τὸ εἰδέναι περὶ αὐτῶν δυναίμεθα λαβεῖν βέλτιον τῶν νῦν ὑπολαμβανομένων. τοῖς μὲν γὰρ δοκεῖ ἐπιστήμη τέ τις εἶναι ἡ δεσποτεία, καὶ ἡ αὐτὴ οἰκονομία καὶ δεσποτεία καὶ πολιτικὴ καὶ βασιλική, καθάπερ εἴπομεν ἀρχόμενοι· τοῖς δὲ παρὰ φύσιν τὸ δεσπόζειν (νόμῳ γὰρ τὸν μὲν δοῦλον εἶναι τὸν δ’ ἐλεύθερον, φύσει δ’ οὐθὲν διαφέρειν)· διόπερ οὐδὲ δίκαιον· βίαιον γάρ.

Ἐπεὶ οὖν ἡ κτῆσις μέρος τῆς οἰκίας ἐστὶ καὶ ἡ κτητικὴ μέρος τῆς οἰκονομίας (ἄνευ γὰρ τῶν ἀναγκαίων ἀδύνατον καὶ ζῆν καὶ εὖ ζῆν), ὥσπερ δὴ ταῖς ὡρισμέναις τέχναις ἀναγκαῖον ἂν εἴη ὑπάρχειν τὰ οἰκεῖα ὄργανα, εἰ μέλλει ἀποτελεσθήσεσθαι τὸ ἔργον, οὕτω καὶ τῷ οἰκονομικῷ. τῶν δ’ ὀργάνων τὰ μὲν ἄψυχα τὰ δὲ ἔμψυχα (οἷον τῷ κυβερνήτῃ ὁ μὲν οἴαξ ἄψυχον ὁ δὲ πρῳρεὺς ἔμψυχον· ὁ γὰρ ὑπηρέτης ἐν ὀργάνου εἴδει ταῖς τέχναις ἐστίν)· οὕτω καὶ τὸ κτῆμα ὄργανον πρὸς ζωήν ἐστι, καὶ ἡ κτῆσις πλῆθος ὀργάνων ἐστί, καὶ ὁ δοῦλος κτῆμά τι ἔμψυχον, καὶ ὥσπερ ὄργανον πρὸ ὀργάνων πᾶς ὑπηρέτης. εἰ γὰρ ἠδύνατο ἕκαστον τῶν ὀργάνων κελευσθὲν ἢ προαισθανόμενον ἀποτελεῖν τὸ αὑτοῦ ἔργον, ‹καὶ› ὥσπερ τὰ Δαιδάλου φασὶν ἢ τοὺς τοῦ Ἡφαίστου τρίποδας, οὕς φησιν ὁ ποιητὴς αὐτομάτους θεῖον δύεσθαι ἀγῶνα, οὕτως αἱ κερκίδες ἐκέρκιζον αὐταὶ καὶ τὰ πλῆκτρα ἐκιθάριζεν, οὐδὲν ἂν ἔδει οὔτε τοῖς ἀρχιτέκτοσιν [1254a] ὑπηρετῶν οὔτε τοῖς δεσπόταις δούλων. τὰ μὲν οὖν λεγόμενα ὄργανα ποιητικὰ ὄργανά ἐστι, τὸ δὲ κτῆμα πρακτικόν· ἀπὸ μὲν γὰρ τῆς κερκίδος ἕτερόν τι γίνεται παρὰ τὴν χρῆσιν αὐτῆς, ἀπὸ δὲ τῆς ἐσθῆτος καὶ τῆς κλίνης ἡ χρῆσις μόνον. ἔτι δ’ ἐπεὶ διαφέρει ἡ ποίησις εἴδει καὶ ἡ πρᾶξις, καὶ δέονται ἀμφότεραι ὀργάνων, ἀνάγκη καὶ ταῦτα τὴν αὐτὴν ἔχειν διαφοράν. ὁ δὲ βίος πρᾶξις, οὐ ποίησις, ἐστιν· διὸ καὶ ὁ δοῦλος ὑπηρέτης τῶν πρὸς τὴν πρᾶξιν. τὸ δὲ κτῆμα λέγεται ὥσπερ καὶ τὸ μόριον. τό τε γὰρ μόριον οὐ μόνον ἄλλου ἐστὶ μόριον, ἀλλὰ καὶ ὅλως ἄλλου· ὁμοίως δὲ καὶ τὸ κτῆμα. διὸ ὁ μὲν δεσπότης τοῦ δούλου δεσπότης μόνον, ἐκείνου δ’ οὐκ ἔστιν· ὁ δὲ δοῦλος οὐ μόνον δεσπότου δοῦλός ἐστιν, ἀλλὰ καὶ ὅλως ἐκείνου.

τίς μὲν οὖν ἡ φύσις τοῦ δούλου καὶ τίς ἡ δύναμις, ἐκ τούτων δῆλον· ὁ γὰρ μὴ αὑτοῦ φύσει ἀλλ’ ἄλλου ἄνθρωπος ὤν, οὗτος φύσει δοῦλός ἐστιν, ἄλλου δ’ ἐστὶν ἄνθρωπος ὃς ἂν κτῆμα ᾖ ἄνθρωπος ὤν, κτῆμα δὲ ὄργανον πρακτικὸν καὶ χωριστόν.

Πότερον δ’ ἔστι τις φύσει τοιοῦτος ἢ οὔ, καὶ πότερον βέλτιον καὶ δίκαιόν τινι δουλεύειν ἢ οὔ, ἀλλὰ πᾶσα δουλεία παρὰ φύσιν ἐστί, μετὰ ταῦτα σκεπτέον. οὐ χαλεπὸν δὲ καὶ τῷ λόγῳ θεωρῆσαι καὶ ἐκ τῶν γινομένων καταμαθεῖν. τὸ γὰρ ἄρχειν καὶ ἄρχεσθαι οὐ μόνον τῶν ἀναγκαίων ἀλλὰ καὶ τῶν συμφερόντων ἐστί, καὶ εὐθὺς ἐκ γενετῆς ἔνια διέστηκε τὰ μὲν ἐπὶ τὸ ἄρχεσθαι τὰ δ’ ἐπὶ τὸ ἄρχειν. καὶ εἴδη πολλὰ καὶ ἀρχόντων καὶ ἀρχομένων ἔστιν (καὶ ἀεὶ βελτίων ἡ ἀρχὴ ἡ τῶν βελτιόνων ἀρχομένων, οἷον ἀνθρώπου ἢ θηρίου· τὸ γὰρ ἀποτελούμενον ὑπὸ τῶν βελτιόνων βέλτιον ἔργον· ὅπου δὲ τὸ μὲν ἄρχει τὸ δ’ ἄρχεται, ἔστι τι τούτων ἔργον)· ὅσα γὰρ ἐκ πλειόνων συνέστηκε καὶ γίνεται ἕν τι κοινόν, εἴτε ἐκ συνεχῶν εἴτε ἐκ διῃρημένων, ἐν ἅπασιν ἐμφαίνεται τὸ ἄρχον καὶ τὸ ἀρχόμενον, καὶ τοῦτο ἐκ τῆς ἁπάσης φύσεως ἐνυπάρχει τοῖς ἐμψύχοις· καὶ γὰρ ἐν τοῖς μὴ μετέχουσι ζωῆς ἔστι τις ἀρχή, οἷον ἁρμονίας. ἀλλὰ ταῦτα μὲν ἴσως ἐξωτερικωτέρας ἐστὶ σκέψεως· τὸ δὲ ζῷον πρῶτον συνέστηκεν ἐκ ψυχῆς καὶ σώματος, ὧν τὸ μὲν ἄρχον ἐστὶ φύσει τὸ δ’ ἀρχόμενον. δεῖ δὲ σκοπεῖν ἐν τοῖς κατὰ φύσιν ἔχουσι μᾶλλον τὸ φύσει, καὶ μὴ ἐν τοῖς διεφθαρμένοις· διὸ καὶ τὸν βέλτιστα διακείμενον καὶ κατὰ σῶμα καὶ κατὰ ψυχὴν ἄνθρωπον θεωρητέον, ἐν ᾧ τοῦτο δῆλον· τῶν γὰρ μοχθηρῶν ἢ [1254b] μοχθηρῶς ἐχόντων δόξειεν ἂν ἄρχειν πολλάκις τὸ σῶμα τῆς ψυχῆς διὰ τὸ φαύλως καὶ παρὰ φύσιν ἔχειν.

ἔστι δ’ οὖν, ὥσπερ λέγομεν, πρῶτον ἐν ζῴῳ θεωρῆσαι καὶ δεσποτικὴν ἀρχὴν καὶ πολιτικήν· ἡ μὲν γὰρ ψυχὴ τοῦ σώματος ἄρχει δεσποτικὴν ἀρχήν, ὁ δὲ νοῦς τῆς ὀρέξεως πολιτικὴν ἢ βασιλικήν· ἐν οἷς φανερόν ἐστιν ὅτι κατὰ φύσιν καὶ συμφέρον τὸ ἄρχεσθαι τῷ σώματι ὑπὸ τῆς ψυχῆς, καὶ τῷ παθητικῷ μορίῳ ὑπὸ τοῦ νοῦ καὶ τοῦ μορίου τοῦ λόγον ἔχοντος, τὸ δ’ ἐξ ἴσου ἢ ἀνάπαλιν βλαβερὸν πᾶσιν. πάλιν ἐν ἀνθρώπῳ καὶ τοῖς ἄλλοις ζῴοις ὡσαύτως· τὰ μὲν γὰρ ἥμερα τῶν ἀγρίων βελτίω τὴν φύσιν, τούτοις δὲ πᾶσι βέλτιον ἄρχεσθαι ὑπ’ ἀνθρώπου· τυγχάνει γὰρ σωτηρίας οὕτως. ἔτι δὲ τὸ ἄρρεν πρὸς τὸ θῆλυ φύσει τὸ μὲν κρεῖττον τὸ δὲ χεῖρον, καὶ τὸ μὲν ἄρχον τὸ δ’ ἀρχόμενον. τὸν αὐτὸν δὲ τρόπον ἀναγκαῖον εἶναι καὶ ἐπὶ πάντων ἀνθρώπων. ὅσοι μὲν οὖν τοσοῦτον διεστᾶσιν ὅσον ψυχὴ σώματος καὶ ἄνθρωπος θηρίου (διάκεινται δὲ τοῦτον τὸν τρόπον ὅσων ἐστὶν ἔργον ἡ τοῦ σώματος χρῆσις, καὶ τοῦτ’ ἐστ’ ἀπ’ αὐτῶν βέλτιστον), οὗτοι μέν εἰσι φύσει δοῦλοι, οἷς βέλτιόν ἐστιν ἄρχεσθαι ταύτην τὴν ἀρχήν, εἴπερ καὶ τοῖς εἰρημένοις. ἔστι γὰρ φύσει δοῦλος ὁ δυνάμενος ἄλλου εἶναι (διὸ καὶ ἄλλου ἐστίν), καὶ ὁ κοινωνῶν λόγου τοσοῦτον ὅσον αἰσθάνεσθαι ἀλλὰ μὴ ἔχειν. τὰ γὰρ ἄλλα ζῷα οὐ λόγῳ [αἰσθανόμενα] ἀλλὰ παθήμασιν ὑπηρετεῖ. καὶ ἡ χρεία δὲ παραλλάττει μικρόν· ἡ γὰρ πρὸς τἀναγκαῖα τῷ σώματι βοήθεια γίνεται παρ’ ἀμφοῖν, παρά τε τῶν δούλων καὶ παρὰ τῶν ἡμέρων ζῴων. βούλεται μὲν οὖν ἡ φύσις καὶ τὰ σώματα διαφέροντα ποιεῖν τὰ τῶν ἐλευθέρων καὶ τῶν δούλων, τὰ μὲν ἰσχυρὰ πρὸς τὴν ἀναγκαίαν χρῆσιν, τὰ δ’ ὀρθὰ καὶ ἄχρηστα πρὸς τὰς τοιαύτας ἐργασίας, ἀλλὰ χρήσιμα πρὸς πολιτικὸν βίον (οὗτος δὲ καὶ γίνεται διῃρημένος εἴς τε τὴν πολεμικὴν χρείαν καὶ τὴν εἰρηνικήν), συμβαίνει δὲ πολλάκις καὶ τοὐναντίον, τοὺς μὲν τὰ σώματα ἔχειν ἐλευθέρων τοὺς δὲ τὰς ψυχάς· ἐπεὶ τοῦτό γε φανερόν, ὡς εἰ τοσοῦτον γένοιντο διάφοροι τὸ σῶμα μόνον ὅσον αἱ τῶν θεῶν εἰκόνες, τοὺς ὑπολειπομένους πάντες φαῖεν ἂν ἀξίους εἶναι τούτοις δουλεύειν. εἰ δ’ ἐπὶ τοῦ σώματος τοῦτ’ ἀληθές, πολὺ δικαιότερον ἐπὶ τῆς ψυχῆς τοῦτο διωρίσθαι· ἀλλ’ οὐχ ὁμοίως ῥᾴδιον ἰδεῖν τό τε τῆς ψυχῆς κάλλος καὶ τὸ τοῦ σώματος. ὅτι μὲν [1255a] τοίνυν εἰσὶ φύσει τινὲς οἱ μὲν ἐλεύθεροι οἱ δὲ δοῦλοι, φανερόν, οἷς καὶ συμφέρει τὸ δουλεύειν καὶ δίκαιόν ἐστιν.

Ὅτι δὲ καὶ οἱ τἀναντία φάσκοντες τρόπον τινὰ λέγουσιν ὀρθῶς, οὐ χαλεπὸν ἰδεῖν. διχῶς γὰρ λέγεται τὸ δουλεύειν καὶ ὁ δοῦλος. ἔστι γάρ τις καὶ κατὰ νόμον δοῦλος καὶ δουλεύων· ὁ γὰρ νόμος ὁμολογία τίς ἐστιν ἐν ᾗ τὰ κατὰ πόλεμον κρατούμενα τῶν κρατούντων εἶναί φασιν. τοῦτο δὴ τὸ δίκαιον πολλοὶ τῶν ἐν τοῖς νόμοις ὥσπερ ῥήτορα γράφονται παρανόμων, ὡς δεινὸν ‹ὂν› εἰ τοῦ βιάσασθαι δυναμένου καὶ κατὰ δύναμιν κρείττονος ἔσται δοῦλον καὶ ἀρχόμενον τὸ βιασθέν. καὶ τοῖς μὲν οὕτως δοκεῖ τοῖς δ’ ἐκείνως, καὶ τῶν σοφῶν. αἴτιον δὲ ταύτης τῆς ἀμφισβητήσεως, καὶ ὃ ποιεῖ τοὺς λόγους ἐπαλλάττειν, ὅτι τρόπον τινὰ ἀρετὴ τυγχάνουσα χορηγίας καὶ βιάζεσθαι δύναται μάλιστα, καὶ ἔστιν ἀεὶ τὸ κρατοῦν ἐν ὑπεροχῇ ἀγαθοῦ τινος, ὥστε δοκεῖν μὴ ἄνευ ἀρετῆς εἶναι τὴν βίαν, ἀλλὰ περὶ τοῦ δικαίου μόνον εἶναι τὴν ἀμφισβήτησιν (διὰ γὰρ τοῦτο τοῖς μὲν ἄνοια δοκεῖ τὸ δίκαιον εἶναι, τοῖς δ’ αὐτὸ τοῦτο δίκαιον, τὸ τὸν κρείττονα ἄρχειν)· ἐπεὶ διαστάντων γε χωρὶς τούτων τῶν λόγων οὔτε ἰσχυρὸν οὐθὲν ἔχουσιν οὔτε πιθανὸν ἅτεροι λόγοι, ὡς οὐ δεῖ τὸ βέλτιον κατ’ ἀρετὴν ἄρχειν καὶ δεσπόζειν. ὅλως δ’ ἀντεχόμενοί τινες, ὡς οἴονται, δικαίου τινός (ὁ γὰρ νόμος δίκαιόν τι) τὴν κατὰ πόλεμον δουλείαν τιθέασι δικαίαν, ἅμα δ’ οὔ φασιν· τήν τε γὰρ ἀρχὴν ἐνδέχεται μὴ δικαίαν εἶναι τῶν πολέμων, καὶ τὸν ἀνάξιον δουλεύειν οὐδαμῶς ἂν φαίη τις δοῦλον εἶναι· εἰ δὲ μή, συμβήσεται τοὺς εὐγενεστάτους εἶναι δοκοῦντας δούλους εἶναι καὶ ἐκ δούλων, ἐὰν συμβῇ πραθῆναι ληφθέντας. διόπερ αὐτοὺς οὐ βούλονται λέγειν δούλους, ἀλλὰ τοὺς βαρβάρους. καίτοι ὅταν τοῦτο λέγωσιν, οὐθὲν ἄλλο ζητοῦσιν ἢ τὸ φύσει δοῦλον ὅπερ ἐξ ἀρχῆς εἴπομεν· ἀνάγκη γὰρ εἶναί τινας φάναι τοὺς μὲν πανταχοῦ δούλους τοὺς δ’ οὐδαμοῦ. τὸν αὐτὸν δὲ τρόπον καὶ περὶ εὐγενείας· αὐτοὺς μὲν γὰρ οὐ μόνον παρ’ αὐτοῖς εὐγενεῖς ἀλλὰ πανταχοῦ νομίζουσιν, τοὺς δὲ βαρβάρους οἴκοι μόνον, ὡς ὄν τι τὸ μὲν ἁπλῶς εὐγενὲς καὶ ἐλεύθερον τὸ δ’ οὐχ ἁπλῶς, ὥσπερ καὶ ἡ Θεοδέκτου Ἑλένη φησὶ

“θείων δ’ ἀπ’ ἀμφοῖν ἔκγονον ῥιζωμάτων
τίς ἂν προσειπεῖν ἀξιώσειεν λάτριν;”

ὅταν δὲ τοῦτο λέγωσιν, οὐθενὶ ἀλλ’ ἢ ἀρετῇ καὶ κακίᾳ διορίζουσι τὸ δοῦλον καὶ ἐλεύθερον, καὶ τοὺς εὐγενεῖς καὶ τοὺς [1255b] δυσγενεῖς. ἀξιοῦσι γάρ, ὥσπερ ἐξ ἀνθρώπου ἄνθρωπον καὶ ἐκ θηρίων γίνεσθαι θηρίον, οὕτω καὶ ἐξ ἀγαθῶν ἀγαθόν. ἡ δὲ φύσις βούλεται μὲν τοῦτο ποιεῖν πολλάκις, οὐ μέντοι δύναται.

ὅτι μὲν οὖν ἔχει τινὰ λόγον ἡ ἀμφισβήτησις, καὶ οὐκ ‹ἀεί› εἰσιν οἱ μὲν φύσει δοῦλοι οἱ δ' ἐλεύθεροι, δῆλον, καὶ ὅτι ἔν τισι διώρισται τὸ τοιοῦτον, ὧν συμφέρει τῷ μὲν τὸ δουλεύειν τῷ δὲ τὸ δεσπόζειν [καὶ δίκαιον], καὶ δεῖ τὸ μὲν ἄρχεσθαι τὸ δ' ἄρχειν ἣν πεφύκασιν ἀρχὴν ἄρχειν, ὥστε καὶ δεσπόζειν, τὸ δὲ κακῶς ἀσυμφόρως ἐστὶν ἀμφοῖν (τὸ γὰρ αὐτὸ συμφέρει τῷ μέρει καὶ τῷ ὅλῳ, καὶ σώματι καὶ ψυχῇ, ὁ δὲ δοῦλος μέρος τι τοῦ δεσπότου, οἷον ἔμψυχόν τι τοῦ σώματος κεχωρισμένον δὲ μέρος· διὸ καὶ συμφέρον ἐστί τι καὶ φιλία δούλῳ καὶ δεσπότῃ πρὸς ἀλλήλους τοῖς φύσει τούτων ἠξιωμένοις, τοῖς δὲ μὴ τοῦτον τὸν τρόπον, ἀλλὰ κατὰ νόμον καὶ βιασθεῖσι, τοὐναντίον).

Φανερὸν δὲ καὶ ἐκ τούτων ὅτι οὐ ταὐτόν ἐστι δεσποτεία καὶ πολιτική, οὐδὲ πᾶσαι ἀλλήλαις αἱ ἀρχαί, ὥσπερ τινές φασιν. ἡ μὲν γὰρ ἐλευθέρων φύσει ἡ δὲ δούλων ἐστίν, καὶ ἡ μὲν οἰκονομικὴ μοναρχία (μοναρχεῖται γὰρ πᾶς οἶκος), ἡ δὲ πολιτικὴ ἐλευθέρων καὶ ἴσων ἀρχή. ὁ μὲν οὖν δεσπότης οὐ λέγεται κατ' ἐπιστήμην, ἀλλὰ τῷ τοιόσδ' εἶναι, ὁμοίως δὲ καὶ ὁ δοῦλος καὶ ὁ ἐλεύθερος. ἐπιστήμη δ' ἂν εἴη καὶ δεσποτικὴ καὶ δουλική, δουλικὴ μὲν οἵαν περ ὁ ἐν Συρακούσαις ἐπαίδευεν· ἐκεῖ γὰρ λαμβάνων τις μισθὸν ἐδίδασκε τὰ ἐγκύκλια διακονήματα τοὺς παῖδας· εἴη δ' ἂν καὶ ἐπὶ πλεῖον τῶν τοιούτων μάθησις, οἷον ὀψοποιικὴ καὶ τἆλλα τὰ τοιαῦτα γένη τῆς διακονίας. ἔστι γὰρ ἕτερα ἑτέρων τὰ μὲν ἐντιμότερα ἔργα τὰ δ' ἀναγκαιότερα, καὶ κατὰ τὴν παροιμίαν "δοῦλος πρὸ δούλου, δεσπότης πρὸ δεσπότου". αἱ μὲν οὖν τοιαῦται πᾶσαι δουλικαὶ ἐπιστῆμαί εἰσι· δεσποτικὴ δ' ἐπιστήμη ἐστὶν ἡ χρηστικὴ δούλων. ὁ γὰρ δεσπότης οὐκ ἐν τῷ κτᾶσθαι τοὺς δούλους, ἀλλ' ἐν τῷ χρῆσθαι δούλοις. ἔστι δ' αὕτη ἡ ἐπιστήμη οὐδὲν μέγα ἔχουσα οὐδὲ σεμνόν· ἃ γὰρ τὸν δοῦλον ἐπίστασθαι δεῖ ποιεῖν, ἐκεῖνον δεῖ ταῦτα ἐπίστασθαι ἐπιτάττειν. διὸ ὅσοις ἐξουσία μὴ αὐτοὺς κακοπαθεῖν, ἐπίτροπός ‹τις› λαμβάνει ταύτην τὴν τιμήν, αὐτοὶ δὲ πολιτεύονται ἢ φιλοσοφοῦσιν. ἡ δὲ κτητικὴ ἑτέρα ἀμφοτέρων τούτων, οἷον ἡ δικαία, πολεμική τις οὖσα ἢ θηρευτική. περὶ μὲν οὖν δούλου καὶ δεσπότου τοῦτον διωρίσθω τὸν τρόπον.

[1256a] Ὅλως δὲ περὶ πάσης κτήσεως καὶ χρηματιστικῆς θεωρήσωμεν κατὰ τὸν ὑφηγημένον τρόπον, ἐπείπερ καὶ ὁ δοῦλος τῆς κτήσεως μέρος τι ἦν. πρῶτον μὲν οὖν ἀπορήσειεν ἄν τις πότερον ἡ χρηματιστικὴ ἡ αὐτὴ τῇ οἰκονομικῇ ἐστιν ἢ μέρος τι, ἢ ὑπηρετική, καὶ εἰ ὑπηρετική, πότερον ὡς ἡ κερκιδοποιικὴ τῇ ὑφαντικῇ ἢ ὡς ἡ χαλκουργικὴ τῇ ἀνδριαντοποιίᾳ (οὐ γὰρ

ὡσαύτως ὑπηρετοῦσιν, ἀλλ’ ἡ μὲν ὄργανα παρέχει, ἡ δὲ τὴν ὕλην· λέγω δὲ ὕλην τὸ ὑποκείμενον ἐξ οὗ τι ἀποτελεῖται ἔργον, οἷον ὑφάντῃ μὲν ἔρια ἀνδριαντοποιῷ δὲ χαλκόν). ὅτι μὲν οὖν οὐχ ἡ αὐτὴ ἡ οἰκονομικὴ τῇ χρηματιστικῇ, δῆλον (τῆς μὲν γὰρ τὸ πορίσασθαι, τῆς δὲ τὸ χρήσασθαι· τίς γὰρ ἔσται ἡ χρησομένη τοῖς κατὰ τὴν οἰκίαν παρὰ τὴν οἰκονομικήν;)· πότερον δὲ μέρος αὐτῆς ἐστί τι ἢ ἕτερον εἶδος, ἔχει διαμφισβήτησιν· εἰ γάρ ἐστι τοῦ χρηματιστικοῦ θεωρῆσαι πόθεν χρήματα καὶ κτῆσις ἔσται, ἥ γε κτῆσις πολλὰ περιείληφε μέρη καὶ ὁ πλοῦτος, ὥστε πρῶτον ἡ γεωργικὴ πότερον μέρος τι τῆς χρηματιστικῆς ἢ ἕτερόν τι γένος, καὶ καθόλου ἡ περὶ τὴν τροφὴν ἐπιμέλεια καὶ κτῆσις; ἀλλὰ μὴν εἴδη γε πολλὰ τροφῆς, διὸ καὶ βίοι πολλοὶ καὶ τῶν ζῴων καὶ τῶν ἀνθρώπων εἰσίν· οὐ γὰρ οἷόν τε ζῆν ἄνευ τροφῆς, ὥστε αἱ διαφοραὶ τῆς τροφῆς τοὺς βίους πεποιήκασι διαφέροντας τῶν ζῴων. τῶν τε γὰρ θηρίων τὰ μὲν ἀγελαῖα τὰ δὲ σποραδικά ἐστιν, ὁποτέρως συμφέρει πρὸς τὴν τροφὴν αὐτοῖς διὰ τὸ τὰ μὲν ζῳοφάγα τὰ δὲ καρποφάγα τὰ δὲ παμφάγα αὐτῶν εἶναι, ὥστε πρὸς τὰς ῥᾳστώνας καὶ τὴν αἵρεσιν τὴν τούτων ἡ φύσις τοὺς βίους αὐτῶν διώρισεν, ἐπεὶ δ’ οὐ ταὐτὸ ἑκάστῳ ἡδὺ κατὰ φύσιν ἀλλὰ ἕτερα ἑτέροις, καὶ αὐτῶν τῶν ζῳοφάγων καὶ τῶν καρποφάγων οἱ βίοι πρὸς ἄλληλα διεστᾶσιν· ὁμοίως δὲ καὶ τῶν ἀνθρώπων. πολὺ γὰρ διαφέρουσιν οἱ τούτων βίοι. οἱ μὲν οὖν ἀργότατοι νομάδες εἰσίν (ἡ γὰρ ἀπὸ τῶν ἡμέρων τροφὴ ζῴων ἄνευ πόνου γίνεται σχολάζουσιν· ἀναγκαίου δ’ ὄντος μεταβάλλειν τοῖς κτήνεσι διὰ τὰς νομὰς καὶ αὐτοὶ ἀναγκάζονται συνακολουθεῖν, ὥσπερ γεωργίαν ζῶσαν γεωργοῦντες)· οἱ δ’ ἀπὸ θήρας ζῶσι, καὶ θήρας ἕτεροι ἑτέρας, οἷον οἱ μὲν ἀπὸ λῃστείας, οἱ δ’ ἀφ’ ἁλιείας, ὅσοι λίμνας καὶ ἕλη καὶ ποταμοὺς ἢ θάλατταν τοιαύτην προσοικοῦσιν, οἱ δ’ ἀπ’ ὀρνίθων ἢ θηρίων ἀγρίων· τὸ δὲ πλεῖστον γένος τῶν ἀνθρώπων ἀπὸ τῆς γῆς ζῇ καὶ τῶν ἡμέρων καρπῶν.

οἱ μὲν οὖν βίοι τοσοῦτοι σχεδόν εἰσιν, ὅσοι γε αὐτόφυτον ἔχουσι τὴν ἐργασίαν καὶ μὴ δι’ ἀλλαγῆς καὶ καπηλείας [1256b] πορίζονται τὴν τροφήν, νομαδικὸς λῃστρικὸς ἁλιευτικὸς θηρευτικὸς γεωργικός. οἱ δὲ καὶ μιγνύντες ἐκ τούτων ἡδέως ζῶσι, προσαναπληροῦντες τὸν ἐνδεέστερον βίον, ᾗ τυγχάνει ἐλλείπων πρὸς τὸ αὐτάρκης εἶναι, οἷον οἱ μὲν νομαδικὸν ἅμα καὶ λῃστρικόν, οἱ δὲ γεωργικὸν καὶ θηρευτικόν· ὁμοίως δὲ καὶ περὶ τοὺς ἄλλους· ὡς ἂν ἡ χρεία συναναγκάζῃ, τοῦτον τὸν τρόπον διάγουσιν. ἡ μὲν οὖν τοιαύτη κτῆσις ὑπ’ αὐτῆς φαίνεται τῆς φύσεως διδομένη πᾶσιν, ὥσπερ κατὰ τὴν πρώτην γένεσιν εὐθύς, οὕτω καὶ τελειωθεῖσιν. καὶ γὰρ κατὰ τὴν ἐξ ἀρχῆς γένεσιν τὰ μὲν συνεκτίκτει τῶν ζῴων τοσαύτην τροφὴν ὥσθ’ ἱκανὴν εἶναι μέχρις οὗ ἂν

δύνηται αὐτὸ αὑτῷ πορίζειν τὸ γεννηθέν, οἷον ὅσα σκωληκοτοκεῖ ἢ ᾠοτοκεῖ· ὅσα δὲ ζῳοτοκεῖ, τοῖς γεννωμένοις ἔχει τροφὴν ἐν αὑτοῖς μέχρι τινός, τὴν τοῦ καλουμένου γάλακτος φύσιν. ὥστε ὁμοίως δῆλον ὅτι καὶ γενομένοις οἰητέον τά τε φυτὰ τῶν ζῴων ἕνεκεν εἶναι καὶ τὰ ἄλλα ζῷα τῶν ἀνθρώπων χάριν, τὰ μὲν ἥμερα καὶ διὰ τὴν χρῆσιν καὶ διὰ τὴν τροφήν, τῶν δ’ ἀγρίων, εἰ μὴ πάντα, ἀλλὰ τά γε πλεῖστα τῆς τροφῆς καὶ ἄλλης βοηθείας ἕνεκεν, ἵνα καὶ ἐσθὴς καὶ ἄλλα ὄργανα γίνηται ἐξ αὐτῶν. εἰ οὖν ἡ φύσις μηθὲν μήτε ἀτελὲς ποιεῖ μήτε μάτην, ἀναγκαῖον τῶν ἀνθρώπων ἕνεκεν αὐτὰ πάντα πεποιηκέναι τὴν φύσιν. διὸ καὶ ἡ πολεμικὴ φύσει κτητική πως ἔσται (ἡ γὰρ θηρευτικὴ μέρος αὐτῆς), ᾗ δεῖ χρῆσθαι πρός τε τὰ θηρία καὶ τῶν ἀνθρώπων ὅσοι πεφυκότες ἄρχεσθαι μὴ θέλουσιν, ὡς φύσει δίκαιον τοῦτον ὄντα τὸν πόλεμον.

ἓν μὲν οὖν εἶδος κτητικῆς κατὰ φύσιν τῆς οἰκονομικῆς μέρος ἐστίν, ὅτι δεῖ ἤτοι ὑπάρχειν ἢ πορίζειν αὐτὴν ὅπως ὑπάρχῃ ὧν ἔστι θησαυρισμὸς χρημάτων πρὸς ζωὴν ἀναγκαίων, καὶ χρησίμων εἰς κοινωνίαν πόλεως ἢ οἰκίας. καὶ ἔοικεν ὅ γ’ ἀληθινὸς πλοῦτος ἐκ τούτων εἶναι. ἡ γὰρ τῆς τοιαύτης κτήσεως αὐτάρκεια πρὸς ἀγαθὴν ζωὴν οὐκ ἄπειρός ἐστιν, ὥσπερ Σόλων φησὶ ποιήσας “πλούτου δ’ οὐθὲν τέρμα πεφασμένον ἀνδράσι κεῖται”. κεῖται γὰρ ὥσπερ καὶ ταῖς ἄλλαις τέχναις· οὐδὲν γὰρ ὄργανον ἄπειρον οὐδεμιᾶς ἐστι τέχνης οὔτε πλήθει οὔτε μεγέθει, ὁ δὲ πλοῦτος ὀργάνων πλῆθός ἐστιν οἰκονομικῶν καὶ πολιτικῶν. ὅτι μὲν τοίνυν ἔστι τις κτητικὴ κατὰ φύσιν τοῖς οἰκονόμοις καὶ τοῖς πολιτικοῖς, καὶ δι’ ἣν αἰτίαν, δῆλον.

Ἔστι δὲ γένος ἄλλο κτητικῆς, ἣν μάλιστα καλοῦσι, καὶ δίκαιον αὐτὸ καλεῖν, χρηματιστικήν, δι’ ἣν οὐδὲν δοκεῖ [1257a] πέρας εἶναι πλούτου καὶ κτήσεως· ἣν ὡς μίαν καὶ τὴν αὐτὴν τῇ λεχθείσῃ πολλοὶ νομίζουσι διὰ τὴν γειτνίασιν· ἔστι δ’ οὔτε ἡ αὐτὴ τῇ εἰρημένῃ οὔτε πόρρω ἐκείνης. ἔστι δ’ ἡ μὲν φύσει ἡ δ’ οὐ φύσει αὐτῶν, ἀλλὰ δι’ ἐμπειρίας τινὸς καὶ τέχνης γίνεται μᾶλλον. λάβωμεν δὲ περὶ αὐτῆς τὴν ἀρχὴν ἐντεῦθεν. ἑκάστου γὰρ κτήματος διττὴ ἡ χρῆσίς ἐστιν, ἀμφότεραι δὲ καθ’ αὐτὸ μὲν ἀλλ’ οὐχ ὁμοίως καθ’ αὐτό, ἀλλ’ ἡ μὲν οἰκεία ἡ δ’ οὐκ οἰκεία τοῦ πράγματος, οἷον ὑποδήματος ἥ τε ὑπόδεσις καὶ ἡ μεταβλητική. ἀμφότεραι γὰρ ὑποδήματος χρήσεις· καὶ γὰρ ὁ ἀλλαττόμενος τῷ δεομένῳ ὑποδήματος ἀντὶ νομίσματος ἢ τροφῆς χρῆται τῷ ὑποδήματι ᾗ ὑπόδημα, ἀλλ’ οὐ τὴν οἰκείαν χρῆσιν· οὐ γὰρ ἀλλαγῆς ἕνεκεν γέγονε. τὸν αὐτὸν δὲ τρόπον ἔχει καὶ περὶ τῶν ἄλλων κτημάτων. ἔστι γὰρ ἡ μεταβλητικὴ πάντων, ἀρξαμένη τὸ μὲν πρῶτον ἐκ τοῦ κατὰ φύσιν, τῷ τὰ μὲν πλείω τὰ δὲ ἐλάττω τῶν ἱκανῶν ἔχειν τοὺς ἀνθρώπους (ᾗ καὶ δῆλον ὅτι οὐκ ἔστι φύσει τῆς χρηματιστικῆς ἡ καπηλική· ὅσον γὰρ ἱκανὸν αὐτοῖς, ἀναγκαῖον ἦν ποιεῖσθαι τὴν ἀλλαγήν). ἐν μὲν οὖν τῇ πρώτῃ κοινωνίᾳ (τοῦτο δ' ἐστὶν οἰκία) φανερὸν ὅτι οὐδὲν ἔστιν ἔργον αὐτῆς, ἀλλ' ἤδη πλειόνων τῆς κοινωνίας οὔσης. οἱ μὲν γὰρ τῶν αὐτῶν ἐκοινώνουν πάντων, οἱ δὲ κεχωρισμένοι πολλῶν πάλιν καὶ ἑτέρων· ὧν κατὰ τὰς δεήσεις ἀναγκαῖον ποιεῖσθαι τὰς μεταδόσεις, καθάπερ ἔτι πολλὰ ποιεῖ καὶ τῶν βαρβαρικῶν ἐθνῶν, κατὰ τὴν ἀλλαγήν. αὐτὰ γὰρ τὰ χρήσιμα πρὸς αὑτὰ καταλλάττονται, ἐπὶ πλέον δ' οὐθέν, οἷον οἶνον πρὸς σῖτον διδόντες καὶ λαμβάνοντες, καὶ τῶν ἄλλων τῶν τοιούτων ἕκαστον. ἡ μὲν οὖν τοιαύτη μεταβλητικὴ οὔτε παρὰ φύσιν οὔτε χρηματιστικῆς ἐστιν εἶδος οὐδέν (εἰς ἀναπλήρωσιν γὰρ τῆς κατὰ φύσιν αὐταρκείας ἦν)· ἐκ μέντοι ταύτης ἐγένετ' ἐκείνη κατὰ λόγον. ξενικωτέρας γὰρ γενομένης τῆς βοηθείας τῷ εἰσάγεσθαι ὧν ἐνδεεῖς ‹ἦσαν› καὶ ἐκπέμπειν ὧν ἐπλεόναζον, ἐξ ἀνάγκης ἡ τοῦ νομίσματος ἐπορίσθη χρῆσις. οὐ γὰρ εὐβάστακτον ἕκαστον τῶν κατὰ φύσιν ἀναγκαίων· διὸ πρὸς τὰς ἀλλαγὰς τοιοῦτόν τι συνέθεντο πρὸς σφᾶς αὐτοὺς διδόναι καὶ λαμβάνειν, ὃ τῶν χρησίμων αὐτὸ ὂν εἶχε τὴν χρείαν εὐμεταχείριστον πρὸς τὸ ζῆν, οἷον σίδηρος καὶ ἄργυρος κἂν εἴ τι τοιοῦτον ἕτερον, τὸ μὲν πρῶτον ἁπλῶς ὁρισθὲν μεγέθει καὶ σταθμῷ, τὸ δὲ τελευταῖον καὶ χαρακτῆρα ἐπιβαλλόντων, ἵνα ἀπολύσῃ τῆς μετρήσεως αὐτούς· ὁ γὰρ χαρακτὴρ ἐτέθη τοῦ ποσοῦ σημεῖον.

πορισθέντος [1257b] οὖν ἤδη νομίσματος ἐκ τῆς ἀναγκαίας ἀλλαγῆς θάτερον εἶδος τῆς χρηματιστικῆς ἐγένετο, τὸ καπηλικόν, τὸ μὲν πρῶτον ἁπλῶς ἴσως γινόμενον, εἶτα δι' ἐμπειρίας ἤδη τεχνικώτερον, πόθεν καὶ πῶς μεταβαλλόμενον πλεῖστον ποιήσει κέρδος. διὸ δοκεῖ ἡ χρηματιστικὴ μάλιστα περὶ τὸ νόμισμα εἶναι, καὶ ἔργον αὐτῆς τὸ δύνασθαι θεωρῆσαι πόθεν ἔσται πλῆθος χρημάτων· ποιητικὴ γάρ ἐστι πλούτου καὶ χρημάτων. καὶ γὰρ τὸν πλοῦτον πολλάκις τιθέασι νομίσματος πλῆθος, διὰ τὸ περὶ τοῦτ' εἶναι τὴν χρηματιστικὴν καὶ τὴν καπηλικήν. ὁτὲ δὲ πάλιν λῆρος εἶναι δοκεῖ τὸ νόμισμα καὶ νόμος παντάπασι, φύσει δ' οὐθέν, ὅτι μεταθεμένων τε τῶν χρωμένων οὐθενὸς ἄξιον οὐδὲ χρήσιμον πρὸς οὐδὲν τῶν ἀναγκαίων ἐστί, καὶ νομίσματος πλουτῶν πολλάκις ἀπορήσει τῆς ἀναγκαίας τροφῆς· καίτοι ἄτοπον τοιοῦτον εἶναι πλοῦτον οὗ εὐπορῶν λιμῷ ἀπολεῖται, καθάπερ καὶ τὸν Μίδαν ἐκεῖνον μυθολογοῦσι διὰ τὴν ἀπληστίαν τῆς εὐχῆς πάντων αὐτῷ γιγνομένων τῶν παρατιθεμένων χρυσῶν. διὸ ζητοῦσιν ἕτερόν τι τὸν πλοῦτον καὶ τὴν χρηματιστικήν, ὀρθῶς ζητοῦντες. ἔστι γὰρ ἑτέρα ἡ χρηματιστικὴ καὶ ὁ πλοῦτος ὁ κατὰ φύσιν, καὶ αὕτη μὲν οἰκονομική, ἡ δὲ καπηλικὴ ποιητικὴ χρημάτων οὐ πάντως, ἀλλὰ διὰ χρημάτων μεταβολῆς. καὶ δοκεῖ περὶ τὸ νόμισμα αὕτη εἶναι· τὸ γὰρ νόμισμα στοιχεῖον καὶ πέρας τῆς ἀλλαγῆς ἐστιν. καὶ ἄπειρος δὴ οὗτος ὁ πλοῦτος, ὁ ἀπὸ ταύτης τῆς χρηματιστικῆς. ὥσπερ γὰρ ἡ ἰατρικὴ τοῦ ὑγιαίνειν εἰς ἄπειρόν ἐστι, καὶ ἑκάστη τῶν τεχνῶν τοῦ τέλους εἰς ἄπειρον (ὅτι μάλιστα γὰρ ἐκεῖνο βούλονται ποιεῖν), τῶν δὲ πρὸς τὸ τέλος οὐκ εἰς ἄπειρον (πέρας γὰρ τὸ τέλος πάσαις), οὕτω καὶ ταύτης τῆς χρηματιστικῆς οὐκ ἔστι τοῦ τέλους πέρας, τέλος δὲ ὁ τοιοῦτος πλοῦτος καὶ χρημάτων κτῆσις. τῆς δ’ οἰκονομικῆς αὖ χρηματιστικῆς ἔστι πέρας· οὐ γὰρ τοῦτο τῆς οἰκονομικῆς ἔργον. διὸ τῇ μὲν φαίνεται ἀναγκαῖον εἶναι παντὸς πλούτου πέρας, ἐπὶ δὲ τῶν γινομένων ὁρῶμεν συμβαῖνον τοὐναντίον· πάντες γὰρ εἰς ἄπειρον αὔξουσιν οἱ χρηματιζόμενοι τὸ νόμισμα. αἴτιον δὲ τὸ σύνεγγυς αὐτῶν. ἐπαλλάττει γὰρ ἡ χρῆσις, τοῦ αὐτοῦ οὖσα, ἑκατέρας τῆς χρηματιστικῆς. τῆς γὰρ αὐτῆς ἐστι κτήσεως χρῆσις, ἀλλ’ οὐ κατὰ ταὐτόν, ἀλλὰ τῆς μὲν ἕτερον τέλος, τῆς δ’ ἡ αὔξησις. ὥστε δοκεῖ τισι τοῦτ’ εἶναι τῆς οἰκονομικῆς ἔργον, καὶ διατελοῦσιν ἢ σῴζειν οἰόμενοι δεῖν ἢ αὔξειν τὴν τοῦ νομίσματος οὐσίαν εἰς ἄπειρον. αἴτιον δὲ ταύτης τῆς διαθέσεως τὸ σπουδάζειν περὶ τὸ ζῆν, ἀλλὰ [1258a] μὴ τὸ εὖ ζῆν· εἰς ἄπειρον οὖν ἐκείνης τῆς ἐπιθυμίας οὔσης, καὶ τῶν ποιητικῶν ἀπείρων ἐπιθυμοῦσιν. ὅσοι δὲ καὶ τοῦ εὖ ζῆν ἐπιβάλλονται τὸ πρὸς τὰς ἀπολαύσεις τὰς σωματικὰς ζητοῦσιν, ὥστ’ ἐπεὶ καὶ τοῦτ’ ἐν τῇ κτήσει φαίνεται ὑπάρχειν, πᾶσα ἡ διατριβὴ περὶ τὸν χρηματισμόν ἐστι, καὶ τὸ ἕτερον εἶδος τῆς χρηματιστικῆς διὰ τοῦτ’ ἐλήλυθεν. ἐν ὑπερβολῇ γὰρ οὔσης τῆς ἀπολαύσεως, τὴν τῆς ἀπολαυστικῆς ὑπερβολῆς ποιητικὴν ζητοῦσιν· κἂν μὴ διὰ τῆς χρηματιστικῆς δύνωνται πορίζειν, δι’ ἄλλης αἰτίας τοῦτο πειρῶνται, ἑκάστῃ χρώμενοι τῶν δυνάμεων οὐ κατὰ φύσιν. ἀνδρείας γὰρ οὐ χρήματα ποιεῖν ἐστιν ἀλλὰ θάρσος, οὐδὲ στρατηγικῆς καὶ ἰατρικῆς, ἀλλὰ τῆς μὲν νίκην τῆς δ’ ὑγίειαν. οἱ δὲ πάσας ποιοῦσι χρηματιστικάς, ὡς τοῦτο τέλος ὄν, πρὸς δὲ τὸ τέλος ἅπαντα δέον ἀπαντᾶν.

περὶ μὲν οὖν τῆς τε μὴ ἀναγκαίας χρηματιστικῆς, καὶ τίς, καὶ δι’ αἰτίαν τίνα ἐν χρείᾳ ἐσμὲν αὐτῆς, εἴρηται, καὶ περὶ τῆς ἀναγκαίας, ὅτι ἑτέρα μὲν αὐτῆς οἰκονομικὴ δὲ κατὰ φύσιν ἡ περὶ τὴν τροφήν, οὐχ ὥσπερ αὐτὴ ἄπειρος ἀλλὰ ἔχουσα ὅρον.

Δῆλον δὲ καὶ τὸ ἀπορούμενον ἐξ ἀρχῆς, πότερον τοῦ οἰκονομικοῦ καὶ πολιτικοῦ ἐστιν ἡ χρηματιστικὴ ἢ οὔ, ἀλλὰ δεῖ τοῦτο μὲν ὑπάρχειν (ὥσπερ γὰρ καὶ ἀνθρώπους οὐ ποιεῖ ἡ πολιτική, ἀλλὰ λαβοῦσα παρὰ τῆς φύσεως χρῆται αὐτοῖς, οὕτω καὶ ‹πρὸς› τροφὴν τὴν φύσιν δεῖ παραδοῦναι γῆν ἢ θάλατταν ἢ ἄλλο τι), ἐκ δὲ τούτων, ὡς δεῖ ταῦτα διαθεῖναι προσήκει τὸν οἰκονόμον. οὐ γὰρ τῆς ὑφαντικῆς ἔρια ποιῆσαι, ἀλλὰ χρήσασθαι αὐτοῖς, καὶ γνῶναι δὲ τὸ ποῖον χρηστὸν καὶ ἐπιτήδειον, ἢ φαῦλον καὶ ἀνεπιτήδειον. καὶ γὰρ ἀπορήσειεν ἄν τις διὰ τί ἡ μὲν χρηματιστικὴ μόριον τῆς οἰκονομίας, ἡ δ’ ἰατρικὴ οὐ μόριον· καίτοι δεῖ ὑγιαίνειν τοὺς κατὰ τὴν οἰκίαν, ὥσπερ ζῆν ἢ ἄλλο τι τῶν ἀναγκαίων. ἐπεὶ δὲ ἔστι μὲν ὡς τοῦ οἰκονόμου καὶ τοῦ ἄρχοντος καὶ περὶ ὑγιείας ἰδεῖν, ἔστι δ’ ὡς οὔ, ἀλλὰ τοῦ ἰατροῦ, οὕτω καὶ περὶ τῶν χρημάτων ἔστι μὲν ὡς τοῦ οἰκονόμου, ἔστι δ’ ὡς οὔ, ἀλλὰ τῆς ὑπηρετικῆς· μάλιστα δέ, καθάπερ εἴρηται πρότερον, δεῖ φύσει τοῦτο ὑπάρχειν. φύσεως γάρ ἐστιν ἔργον τροφὴν τῷ γεννηθέντι παρέχειν· παντὶ γάρ, ἐξ οὗ γίνεται, τροφὴ τὸ λειπόμενόν ἐστι. διὸ κατὰ φύσιν ἐστὶν ἡ χρηματιστικὴ πᾶσιν ἀπὸ τῶν καρπῶν καὶ τῶν ζῴων. διπλῆς δ’ οὔσης αὐτῆς, ὥσπερ εἴπομεν, καὶ τῆς μὲν καπηλικῆς τῆς δ’ οἰκονομικῆς, καὶ ταύτης μὲν ἀναγκαίας καὶ ἐπαινουμένης, τῆς [1258b] δὲ μεταβλητικῆς ψεγομένης δικαίως (οὐ γὰρ κατὰ φύσιν ἀλλ’ ἀπ’ ἀλλήλων ἐστίν), εὐλογώτατα μισεῖται ἡ ὀβολοστατικὴ διὰ τὸ ἀπ’ αὐτοῦ τοῦ νομίσματος εἶναι τὴν κτῆσιν καὶ οὐκ ἐφ’ ὅπερ ἐπορίσθη. μεταβολῆς γὰρ ἐγένετο χάριν, ὁ δὲ τόκος αὐτὸ ποιεῖ πλέον (ὅθεν καὶ τοὔνομα τοῦτ’ εἴληφεν· ὅμοια γὰρ τὰ τικτόμενα τοῖς γεννῶσιν αὐτά ἐστιν, ὁ δὲ τόκος γίνεται νόμισμα ἐκ νομίσματος)· ὥστε καὶ μάλιστα παρὰ φύσιν οὗτος τῶν χρηματισμῶν ἐστιν.

Ἐπεὶ δὲ τὰ πρὸς τὴν γνῶσιν διωρίκαμεν ἱκανῶς, τὰ πρὸς τὴν χρῆσιν δεῖ διελθεῖν. πάντα δὲ τὰ τοιαῦτα τὴν μὲν θεωρίαν ἐλευθέραν ἔχει, τὴν δ’ ἐμπειρίαν ἀναγκαίαν. ἔστι δὲ χρηματιστικῆς μέρη χρήσιμα· τὸ περὶ τὰ κτήματα ἔμπειρον εἶναι, ποῖα λυσιτελέστατα καὶ ποῦ καὶ πῶς, οἷον ἵππων κτῆσις ποία τις ἢ βοῶν ἢ προβάτων, ὁμοίως δὲ καὶ τῶν λοιπῶν ζῴων (δεῖ γὰρ ἔμπειρον εἶναι πρὸς ἄλληλά τε τούτων τίνα λυσιτελέστατα, καὶ ποῖα ἐν ποίοις τόποις· ἄλλα γὰρ ἐν ἄλλαις εὐθηνεῖ χώραις), εἶτα περὶ γεωργίας, καὶ ταύτης ἤδη ψιλῆς τε καὶ πεφυτευμένης, καὶ μελιττουργίας, καὶ τῶν ἄλλων ζῴων τῶν πλωτῶν ἢ πτηνῶν, ἀφ’ ὅσων ἔστι τυγχάνειν βοηθείας. τῆς μὲν οὖν οἰκειοτάτης χρηματιστικῆς ταῦτα μόρια καὶ πρώτης, τῆς δὲ μεταβλητικῆς μέγιστον μὲν ἐμπορία (καὶ ταύτης μέρη τρία, ναυκληρία φορτηγία παράστασις· διαφέρει δὲ τούτων ἕτερα ἑτέρων τῷ τὰ μὲν ἀσφαλέστερα εἶναι, τὰ δὲ πλείω πορίζειν τὴν ἐπικαρπίαν), δεύτερον δὲ τοκισμός, τρίτον δὲ μισθαρνία (ταύτης δ’ ἡ μὲν τῶν βαναύσων τεχνιτῶν, ἡ δὲ τῶν ἀτέχνων καὶ τῷ σώματι μόνῳ χρησίμων)· τρίτον δὲ εἶδος χρηματιστικῆς μεταξὺ ταύτης καὶ τῆς πρώτης (ἔχει γὰρ καὶ τῆς κατὰ φύσιν τι μέρος καὶ τῆς μεταβλητικῆς), ὅσα ἀπὸ γῆς καὶ τῶν ἀπὸ γῆς γιγνομένων, ἀκάρπων μὲν χρησίμων δέ, οἷον ὑλοτομία τε καὶ πᾶσα μεταλλευτική. αὕτη δὲ πολλὰ ἤδη περιείληφε γένη·

πολλὰ γὰρ εἴδη τῶν ἐκ γῆς μεταλλευομένων ἔστιν. περὶ ἑκάστου δὲ τούτων καθόλου μὲν εἴρηται καὶ νῦν, τὸ δὲ κατὰ μέρος ἀκριβολογεῖσθαι χρήσιμον μὲν πρὸς τὰς ἐργασίας, φορτικὸν δὲ τὸ ἐνδιατρίβειν. εἰσὶ δὲ τεχνικώταται μὲν τῶν ἐργασιῶν ὅπου ἐλάχιστον τύχης, βαναυσόταται δ᾽ ἐν αἷς τὰ σώματα λωβῶνται μάλιστα, δουλικώταται δὲ ὅπου τοῦ σώματος πλεῖσται χρήσεις, ἀγεννέσταται δὲ ὅπου ἐλάχιστον προσδεῖ ἀρετῆς.

ἐπεὶ δ᾽ ἔστιν ἐνίοις γεγραμμένα περὶ τούτων, οἷον Χαρητίδῃ τῷ Παρίῳ καὶ [1259a] Ἀπολλοδώρῳ τῷ Λημνίῳ περὶ γεωργίας καὶ ψιλῆς καὶ πεφυτευμένης, ὁμοίως δὲ καὶ ἄλλοις περὶ ἄλλων, ταῦτα μὲν ἐκ τούτων θεωρείτω ὅτῳ ἐπιμελές· ἔτι δὲ καὶ τὰ λεγόμενα σποράδην, δι᾽ ὧν ἐπιτετυχήκασιν ἔνιοι χρηματιζόμενοι, δεῖ συλλέγειν. πάντα γὰρ ὠφέλιμα ταῦτ᾽ ἐστὶ τοῖς τιμῶσι τὴν χρηματιστικήν, οἷον καὶ τὸ Θάλεω τοῦ Μιλησίου· τοῦτο γάρ ἐστι κατανόημά τι χρηματιστικόν, ἀλλ᾽ ἐκείνῳ μὲν διὰ τὴν σοφίαν προσάπτουσι, τυγχάνει δὲ καθόλου τι ὄν. ὀνειδιζόντων γὰρ αὐτῷ διὰ τὴν πενίαν ὡς ἀνωφελοῦς τῆς φιλοσοφίας οὔσης, κατανοήσαντά φασιν αὐτὸν ἐλαιῶν φορὰν ἐσομένην ἐκ τῆς ἀστρολογίας, ἔτι χειμῶνος ὄντος εὐπορήσαντα χρημάτων ὀλίγων ἀρραβῶνας διαδοῦναι τῶν ἐλαιουργίων τῶν τ᾽ ἐν Μιλήτῳ καὶ Χίῳ πάντων, ὀλίγου μισθωσάμενον ἅτ᾽ οὐθενὸς ἐπιβάλλοντος· ἐπειδὴ δ᾽ ὁ καιρὸς ἧκε, πολλῶν ζητουμένων ἅμα καὶ ἐξαίφνης, ἐκμισθοῦντα ὃν τρόπον ἠβούλετο, πολλὰ χρήματα συλλέξαντα ἐπιδεῖξαι ὅτι ῥᾴδιόν ἐστι πλουτεῖν τοῖς φιλοσόφοις, ἂν βούλωνται, ἀλλ᾽ οὐ τοῦτ᾽ ἐστὶ περὶ ὃ σπουδάζουσιν. Θαλῆς μὲν οὖν λέγεται τοῦτον τὸν τρόπον ἐπίδειξιν ποιήσασθαι τῆς σοφίας· ἔστι δ᾽, ὥσπερ εἴπομεν, καθόλου τὸ τοιοῦτον χρηματιστικόν, ἐάν τις δύνηται μονοπωλίαν αὑτῷ κατασκευάζειν. διὸ καὶ τῶν πόλεων ἔνιαι τοῦτον ποιοῦνται τὸν πόρον, ὅταν ἀπορῶσι χρημάτων· μονοπωλίαν γὰρ τῶν ὠνίων ποιοῦσιν. ἐν Σικελίᾳ δέ τις τεθέντος παρ᾽ αὐτῷ νομίσματος συνεπρίατο πάντα τὸν σίδηρον ἐκ τῶν σιδηρείων, μετὰ δὲ ταῦτα ὡς ἀφίκοντο ἐκ τῶν ἐμπορίων οἱ ἔμποροι, ἐπώλει μόνος, οὐ πολλὴν ποιήσας ὑπερβολὴν τῆς τιμῆς· ἀλλ᾽ ὅμως ἐπὶ τοῖς πεντήκοντα ταλάντοις ἐπέλαβεν ἑκατόν. τοῦτο μὲν οὖν Διονύσιος αἰσθόμενος τὰ μὲν χρήματα ἐκέλευσεν ἐκκομίσασθαι, μὴ μέντοι γε ἔτι μένειν ἐν Συρακούσαις, ὡς πόρους εὑρίσκοντα τοῖς αὑτοῦ πράγμασιν ἀσυμφόρους· τὸ μέντοι ὅραμα Θάλεω καὶ τοῦτο ταὐτόν ἐστιν· ἀμφότεροι γὰρ ἑαυτοῖς ἐτέχνασαν γενέσθαι μονοπωλίαν. χρήσιμον δὲ γνωρίζειν ταῦτα καὶ τοῖς πολιτικοῖς. πολλαῖς γὰρ πόλεσι δεῖ χρηματισμοῦ καὶ τοιούτων πόρων, ὥσπερ οἰκίᾳ, μᾶλλον δέ· διόπερ τινὲς καὶ πολιτεύονται τῶν πολιτευομένων ταῦτα μόνον.

Ἐπεὶ δὲ τρία μέρη τῆς οἰκονομικῆς ἦν, ἓν μὲν δεσποτική, περὶ ἧς εἴρηται πρότερον, ἓν δὲ πατρική, τρίτον δὲ γαμική (καὶ γὰρ γυναικὸς ἄρχει καὶ τέκνων, ὡς ἐλευθέρων μὲν ἀμφοῖν, οὐ τὸν αὐτὸν δὲ τρόπον τῆς ἀρχῆς, ἀλλὰ [1259b] γυναικὸς μὲν πολιτικῶς τέκνων δὲ βασιλικῶς· τό τε γὰρ ἄρρεν φύσει τοῦ θήλεος ἡγεμονικώτερον, εἰ μή που συνέστηκε παρὰ φύσιν, καὶ τὸ πρεσβύτερον καὶ τέλειον τοῦ νεωτέρου καὶ ἀτελοῦς) - ἐν μὲν οὖν ταῖς πολιτικαῖς ἀρχαῖς ταῖς πλείσταις μεταβάλλει τὸ ἄρχον καὶ τὸ ἀρχόμενον (ἐξ ἴσου γὰρ εἶναι βούλεται τὴν φύσιν καὶ διαφέρειν μηδέν), ὅμως δέ, ὅταν τὸ μὲν ἄρχῃ τὸ δ’ ἄρχηται, ζητεῖ διαφορὰν εἶναι καὶ σχήμασι καὶ λόγοις καὶ τιμαῖς, ὥσπερ καὶ Ἄμασις εἶπε τὸν περὶ τοῦ ποδανιπτῆρος λόγον· τὸ δ’ ἄρρεν ἀεὶ πρὸς τὸ θῆλυ τοῦτον ἔχει τὸν τρόπον. ἡ δὲ τῶν τέκνων ἀρχὴ βασιλική· τὸ γὰρ γεννῆσαν καὶ κατὰ φιλίαν ἄρχον καὶ κατὰ πρεσβείαν ἐστίν, ὅπερ ἐστὶ βασιλικῆς εἶδος ἀρχῆς. διὸ καλῶς Ὅμηρος τὸν Δία προσηγόρευσεν εἰπὼν “πατὴρ ἀνδρῶν τε θεῶν τε” τὸν βασιλέα τούτων ἁπάντων. φύσει γὰρ τὸν βασιλέα διαφέρειν μὲν δεῖ, τῷ γένει δ’ εἶναι τὸν αὐτόν· ὅπερ πέπονθε τὸ πρεσβύτερον πρὸς τὸ νεώτερον καὶ ὁ γεννήσας πρὸς τὸ τέκνον.

Φανερὸν τοίνυν ὅτι πλείων ἡ σπουδὴ τῆς οἰκονομίας περὶ τοὺς ἀνθρώπους ἢ περὶ τὴν τῶν ἀψύχων κτῆσιν, καὶ περὶ τὴν ἀρετὴν τούτων ἢ περὶ τὴν τῆς κτήσεως, ὃν καλοῦμεν πλοῦτον, καὶ τῶν ἐλευθέρων μᾶλλον ἢ δούλων. πρῶτον μὲν οὖν περὶ δούλων ἀπορήσειεν ἄν τις, πότερον ἔστιν ἀρετή τις δούλου παρὰ τὰς ὀργανικὰς καὶ διακονικὰς ἄλλη τιμιωτέρα τούτων, οἷον σωφροσύνη καὶ ἀνδρεία καὶ δικαιοσύνη καὶ ‹ἑκάστη› τῶν ἄλλων τῶν τοιούτων ἕξεων, ἢ οὐκ ἔστιν οὐδεμία παρὰ τὰς σωματικὰς ὑπηρεσίας (ἔχει γὰρ ἀπορίαν ἀμφοτέρως· εἴτε γὰρ ἔστιν, τί διοίσουσι τῶν ἐλευθέρων; εἴτε μὴ ἔστιν, ὄντων ἀνθρώπων καὶ λόγου κοινωνούντων ἄτοπον). σχεδὸν δὲ ταὐτόν ἐστι τὸ ζητούμενον καὶ περὶ γυναικὸς καὶ παιδός, πότερα καὶ τούτων εἰσὶν ἀρεταί, καὶ δεῖ τὴν γυναῖκα εἶναι σώφρονα καὶ ἀνδρείαν καὶ δικαίαν, καὶ παῖς ἔστι καὶ ἀκόλαστος καὶ σώφρων, ἢ οὔ; καθόλου δὴ τοῦτ’ ἐστὶν ἐπισκεπτέον περὶ ἀρχομένου φύσει καὶ ἄρχοντος, πότερον ἡ αὐτὴ ἀρετὴ ἢ ἑτέρα. εἰ μὲν γὰρ δεῖ ἀμφοτέρους μετέχειν καλοκαγαθίας, διὰ τί τὸν μὲν ἄρχειν δέοι ἂν τὸν δὲ ἄρχεσθαι καθάπαξ; οὐδὲ γὰρ τῷ μᾶλλον καὶ ἧττον οἷόν τε διαφέρειν· τὸ μὲν γὰρ ἄρχεσθαι καὶ ἄρχειν εἴδει διαφέρει, τὸ δὲ μᾶλλον καὶ ἧττον οὐδέν. εἰ δὲ τὸν μὲν δεῖ τὸν δὲ μή, θαυμαστόν. εἴτε γὰρ ὁ ἄρχων μὴ ἔσται σώφρων καὶ δίκαιος, πῶς ἄρξει καλῶς; εἴθ’ ὁ ἀρχόμενος, πῶς ἀρχθήσεται [1260a] καλῶς; ἀκόλαστος γὰρ ὢν καὶ δειλὸς οὐδὲν ποιήσει τῶν προσηκόντων. φανερὸν τοίνυν ὅτι ἀνάγκη μὲν μετέχειν ἀμφοτέρους ἀρετῆς, ταύτης δ’ εἶναι διαφοράς, ὥσπερ καὶ τῶν φύσει ἀρχόντων. καὶ τοῦτο εὐθὺς ὑφήγηται ‹τὰ› περὶ τὴν ψυχήν· ἐν ταύτῃ γάρ ἐστι φύσει τὸ μὲν ἄρχον τὸ δ’ ἀρχόμενον, ὧν ἑτέραν φαμὲν εἶναι ἀρετήν, οἷον τοῦ λόγον ἔχοντος καὶ τοῦ ἀλόγου. δῆλον τοίνυν ὅτι τὸν αὐτὸν τρόπον ἔχει καὶ ἐπὶ τῶν ἄλλων, ὥστε φύσει τὰ πλείω ἄρχοντα καὶ ἀρχόμενα. ἄλλον γὰρ τρόπον τὸ ἐλεύθερον τοῦ δούλου ἄρχει καὶ τὸ ἄρρεν τοῦ θήλεος καὶ ἀνὴρ παιδός, καὶ πᾶσιν ἐνυπάρχει μὲν τὰ μόρια τῆς ψυχῆς, ἀλλ’ ἐνυπάρχει διαφερόντως. ὁ μὲν γὰρ δοῦλος ὅλως οὐκ ἔχει τὸ βουλευτικόν, τὸ δὲ θῆλυ ἔχει μέν, ἀλλ’ ἄκυρον, ὁ δὲ παῖς ἔχει μέν, ἀλλ’ ἀτελές. ὁμοίως τοίνυν ἀναγκαίως ἔχειν καὶ περὶ τὰς ἠθικὰς ἀρετὰς ὑποληπτέον, δεῖν μὲν μετέχειν πάντας, ἀλλ’ οὐ τὸν αὐτὸν τρόπον, ἀλλ’ ὅσον ‹ἱκανὸν› ἑκάστῳ πρὸς τὸ αὑτοῦ ἔργον· διὸ τὸν μὲν ἄρχοντα τελέαν ἔχειν δεῖ τὴν ἠθικὴν ἀρετήν (τὸ γὰρ ἔργον ἐστὶν ἁπλῶς τοῦ ἀρχιτέκτονος, ὁ δὲ λόγος ἀρχιτέκτων), τῶν δ’ ἄλλων ἕκαστον ὅσον ἐπιβάλλει αὐτοῖς. ὥστε φανερὸν ὅτι ἔστιν ἠθικὴ ἀρετὴ τῶν εἰρημένων πάντων, καὶ οὐχ ἡ αὐτὴ σωφροσύνη γυναικὸς καὶ ἀνδρός, οὐδ’ ἀνδρεία καὶ δικαιοσύνη, καθάπερ ᾤετο Σωκράτης, ἀλλ’ ἡ μὲν ἀρχικὴ ἀνδρεία ἡ δ’ ὑπηρετική, ὁμοίως δ’ ἔχει καὶ περὶ τὰς ἄλλας.

δῆλον δὲ τοῦτο καὶ κατὰ μέρος μᾶλλον ἐπισκοποῦσιν· καθόλου γὰρ οἱ λέγοντες ἐξαπατῶσιν ἑαυτοὺς ὅτι τὸ εὖ ἔχειν τὴν ψυχὴν ἀρετή, ἢ τὸ ὀρθοπραγεῖν, ἤ τι τῶν τοιούτων· πολὺ γὰρ ἄμεινον λέγουσιν οἱ ἐξαριθμοῦντες τὰς ἀρετάς, ὥσπερ Γοργίας, τῶν οὕτως ὁριζομένων. διὸ δεῖ, ὥσπερ ὁ ποιητὴς εἴρηκε περὶ γυναικός, οὕτω νομίζειν ἔχειν περὶ πάντων· “γυναικὶ κόσμον ἡ σιγὴ φέρει”, ἀλλ’ ἀνδρὶ οὐκέτι τοῦτο. ἐπεὶ δ’ ὁ παῖς ἀτελής, δῆλον ὅτι τούτου μὲν καὶ ἡ ἀρετὴ οὐκ αὐτοῦ πρὸς αὑτόν ἐστιν, ἀλλὰ πρὸς τὸ τέλος καὶ τὸν ἡγούμενον· ὁμοίως δὲ καὶ δούλου πρὸς δεσπότην. ἔθεμεν δὲ πρὸς τἀναγκαῖα χρήσιμον εἶναι τὸν δοῦλον, ὥστε δῆλον ὅτι καὶ ἀρετῆς δεῖται μικρᾶς, καὶ τοσαύτης ὅπως μήτε δι’ ἀκολασίαν μήτε διὰ δειλίαν ἐλλείψῃ τῶν ἔργων. ἀπορήσειε δ’ ἄν τις, τὸ νῦν εἰρημένον εἰ ἀληθές, ἆρα καὶ τοὺς τεχνίτας δεήσει ἔχειν ἀρετήν· πολλάκις γὰρ δι’ ἀκολασίαν ἐλλείπουσι τῶν ἔργων. ἢ διαφέρει τοῦτο πλεῖστον; ὁ μὲν γὰρ δοῦλος κοινωνὸς ζωῆς, ὁ δὲ πορρώτερον, καὶ τοσοῦτον ἐπιβάλλει ἀρετῆς ὅσον περ καὶ δουλείας· ὁ γὰρ βάναυσος τεχνίτης [1260b] ἀφωρισμένην τινὰ ἔχει δουλείαν, καὶ ὁ μὲν δοῦλος τῶν φύσει, σκυτοτόμος δ’ οὐθείς, οὐδὲ τῶν ἄλλων τεχνιτῶν. φανερὸν τοίνυν ὅτι τῆς τοιαύτης ἀρετῆς αἴτιον εἶναι δεῖ τῷ δούλῳ τὸν δεσπότην, ἀλλ’ οὐ ‹τὸν› τὴν διδασκαλικὴν ἔχοντα τῶν ἔργων [δεσποτικήν]. διὸ λέγουσιν οὐ καλῶς οἱ λόγου τοὺς δούλους ἀποστεροῦντες καὶ φάσκοντες ἐπιτάξει χρῆσθαι μόνον· νουθετητέον γὰρ μᾶλλον τοὺς δούλους ἢ τοὺς παῖδας.

ἀλλὰ περὶ μὲν τούτων διωρίσθω τὸν τρόπον τοῦτον· περὶ δ’ ἀνδρὸς καὶ γυναικός, καὶ τέκνων καὶ πατρός, τῆς τε περὶ ἕκαστον αὐτῶν ἀρετῆς καὶ τῆς πρὸς σφᾶς αὐτοὺς ὁμιλίας, τί τὸ καλῶς καὶ μὴ καλῶς ἐστι, καὶ πῶς δεῖ τὸ μὲν εὖ διώκειν τὸ δὲ κακῶς φεύγειν, ἐν τοῖς περὶ τὰς πολιτείας ἀναγκαῖον ἐπελθεῖν. ἐπεὶ γὰρ οἰκία μὲν πᾶσα μέρος πόλεως, ταῦτα δ’ οἰκίας, τὴν δὲ τοῦ μέρους πρὸς τὴν τοῦ ὅλου δεῖ βλέπειν ἀρετήν, ἀναγκαῖον πρὸς τὴν πολιτείαν βλέποντας παιδεύειν καὶ τοὺς παῖδας καὶ τὰς γυναῖκας, εἴπερ τι διαφέρει πρὸς τὸ τὴν πόλιν εἶναι σπουδαίαν καὶ ‹τὸ› τοὺς παῖδας εἶναι σπουδαίους καὶ τὰς γυναῖκας σπουδαίας. ἀναγκαῖον δὲ διαφέρειν· αἱ μὲν γὰρ γυναῖκες ἥμισυ μέρος τῶν ἐλευθέρων, ἐκ δὲ τῶν παίδων οἱ κοινωνοὶ γίνονται τῆς πολιτείας. ὥστ’, ἐπεὶ περὶ μὲν τούτων διώρισται, περὶ δὲ τῶν λοιπῶν ἐν ἄλλοις λεκτέον, ἀφέντες ὡς τέλος ἔχοντας τοὺς νῦν λόγους, ἄλλην ἀρχὴν ποιησάμενοι λέγωμεν, καὶ πρῶτον ἐπισκεψώμεθα περὶ τῶν ἀποφηναμένων περὶ τῆς πολιτείας τῆς ἀρίστης.

B

Ἐπεὶ δὲ προαιρούμεθα θεωρῆσαι περὶ τῆς κοινωνίας τῆς πολιτικῆς, τίς κρατίστη πασῶν τοῖς δυναμένοις ζῆν ὅτι μάλιστα κατ’ εὐχήν, δεῖ καὶ τὰς ἄλλας ἐπισκέψασθαι πολιτείας, αἷς τε χρῶνταί τινες τῶν πόλεων τῶν εὐνομεῖσθαι λεγομένων, κἂν εἴ τινες ἕτεραι τυγχάνουσιν ὑπὸ τινῶν εἰρημέναι καὶ δοκοῦσαι καλῶς ἔχειν, ἵνα τό τ’ ὀρθῶς ἔχον ὀφθῇ καὶ τὸ χρήσιμον, ἔτι δὲ τὸ ζητεῖν τι παρ’ αὐτὰς ἕτερον μὴ δοκῇ πάντως εἶναι σοφίζεσθαι βουλομένων, ἀλλὰ διὰ τὸ μὴ καλῶς ἔχειν ταύτας τὰς νῦν ὑπαρχούσας, διὰ τοῦτο ταύτην δοκῶμεν ἐπιβαλέσθαι τὴν μέθοδον. ἀρχὴν δὲ πρῶτον ποιητέον ἥπερ πέφυκεν ἀρχὴ ταύτης τῆς σκέψεως. ἀνάγκη γὰρ ἤτοι πάντας πάντων κοινωνεῖν τοὺς πολίτας, ἢ μηδενός, ἢ τινῶν μὲν τινῶν δὲ μή. τὸ μὲν οὖν μηδενὸς κοινωνεῖν φανερὸν ὡς ἀδύνατον (ἡ γὰρ πολιτεία κοινωνία τίς ἐστι, καὶ πρῶτον ἀνάγκη τοῦ τόπου κοινωνεῖν· ὁ μὲν γὰρ τόπος εἷς ὁ τῆς [1261a] μιᾶς πόλεως, οἱ δὲ πολῖται κοινωνοὶ τῆς μιᾶς πόλεως)· ἀλλὰ πότερον ὅσων ἐνδέχεται κοινωνῆσαι, πάντων βέλτιον κοινωνεῖν τὴν μέλλουσαν οἰκήσεσθαι πόλιν καλῶς, ἢ τινῶν μὲν τινῶν δ’ οὒ βέλτιον; ἐνδέχεται γὰρ καὶ τέκνων καὶ γυναικῶν καὶ κτημάτων κοινωνεῖν τοὺς πολίτας ἀλλήλοις, ὥσπερ ἐν τῇ Πολιτείᾳ τῇ Πλάτωνος· ἐκεῖ γὰρ ὁ Σωκράτης φησὶ δεῖν κοινὰ τὰ τέκνα καὶ τὰς γυναῖκας εἶναι καὶ τὰς κτήσεις. τοῦτο δὴ πότερον ὡς νῦν οὕτω βέλτιον ἔχειν, ἢ κατὰ τὸν ἐν τῇ Πολιτείᾳ γεγραμμένον νόμον;

Ἔχει δὴ δυσχερείας ἄλλας τε πολλὰς τὸ πάντων εἶναι τὰς γυναῖκας κοινάς, καὶ δι’ ἣν αἰτίαν φησὶ δεῖν νενομοθετῆσθαι τὸν τρόπον τοῦτον ὁ Σωκράτης, οὐ φαίνεται συμβαῖνον ἐκ τῶν λόγων. ἔτι δὲ πρός, τὸ τέλος ὅ φησι τῇ πόλει δεῖν ὑπάρχειν, ὡς μὲν εἴρηται νῦν, ἀδύνατον, πῶς δὲ δεῖ διελεῖν, οὐδὲν διώρισται. λέγω δὲ τὸ μίαν εἶναι τὴν πόλιν ὡς ἄριστον ὂν ὅτι μάλιστα πᾶσαν· λαμβάνει γὰρ ταύτην ‹τὴν› ὑπόθεσιν ὁ Σωκράτης. καίτοι φανερόν ἐστιν ὡς προϊοῦσα καὶ γινομένη μία μᾶλλον οὐδὲ πόλις ἔσται· πλῆθος γάρ τι τὴν φύσιν ἐστὶν ἡ πόλις, γινομένη τε μία μᾶλλον οἰκία μὲν ἐκ πόλεως ἄνθρωπος δ’ ἐξ οἰκίας ἔσται· μᾶλλον γὰρ μίαν τὴν οἰκίαν τῆς πόλεως φαίημεν ἄν, καὶ τὸν ἕνα τῆς οἰκίας· ὥστ’ εἰ καὶ δυνατός τις εἴη τοῦτο δρᾶν, οὐ ποιητέον· ἀναιρήσει γὰρ τὴν πόλιν.

οὐ μόνον δ’ ἐκ πλειόνων ἀνθρώπων ἐστὶν ἡ πόλις, ἀλλὰ καὶ ἐξ εἴδει διαφερόντων. οὐ γὰρ γίνεται πόλις ἐξ ὁμοίων. ἕτερον γὰρ συμμαχία καὶ πόλις· τὸ μὲν γὰρ τῷ ποσῷ χρήσιμον, κἂν ᾖ τὸ αὐτὸ τῷ εἴδει (βοηθείας γὰρ χάριν ἡ συμμαχία πέφυκεν), ὥσπερ ἂν εἰ σταθμὸς πλεῖον ἑλκύσειε (διοίσει δὲ τῷ τοιούτῳ καὶ πόλις ἔθνους, ὅταν μὴ κατὰ κώμας ὦσι κεχωρισμένοι τὸ πλῆθος, ἀλλ’ οἷον Ἀρκάδες)· ἐξ ὧν δὲ δεῖ ἓν γενέσθαι, εἴδει διαφέρει. διόπερ τὸ ἴσον τὸ ἀντιπεπονθὸς σῴζει τὰς πόλεις, ὥσπερ ἐν τοῖς Ἠθικοῖς εἴρηται πρότερον· ἐπεὶ καὶ ἐν τοῖς ἐλευθέροις καὶ ἴσοις ἀνάγκη τοῦτ’ εἶναι· ἅμα γὰρ οὐχ οἷόν τε πάντας ἄρχειν, ἀλλ’ ἢ κατ’ ἐνιαυτὸν ἢ κατά τινα ἄλλην τάξιν [ἢ] χρόνου. καὶ συμβαίνει δὴ τὸν τρόπον τοῦτον ὥστε πάντας ἄρχειν, ὥσπερ ἂν εἰ μετέβαλλον οἱ σκυτεῖς καὶ οἱ τέκτονες καὶ μὴ ἀεὶ οἱ αὐτοὶ σκυτοτόμοι καὶ τέκτονες ἦσαν. ἐπεὶ δὲ βέλτιον οὕτως ἔχει καὶ τὰ περὶ τὴν κοινωνίαν τὴν πολιτικήν, δῆλον ὡς τοὺς αὐτοὺς ἀεὶ βέλτιον ἄρχειν, εἰ δυνατόν, ἐν οἷς δὲ μὴ δυνατὸν διὰ τὸ τὴν [1261b] φύσιν ἴσους εἶναι πάντας, ἅμα δὲ καὶ δίκαιον, εἴτ’ ἀγαθὸν εἴτε φαῦλον τὸ ἄρχειν. πάντας αὐτοῦ μετέχειν, τοῦτό γε μιμεῖται τὸ ἐν μέρει τοὺς ἴσους εἴκειν τό θ’ ὁμοίους εἶναι ἔξω ἀρχῆς· οἱ μὲν γὰρ ἄρχουσιν οἱ δ’ ἄρχονται κατὰ μέρος ὥσπερ ἂν ἄλλοι γενόμενοι. τὸν αὐτὸν δὴ τρόπον ἀρχόντων ἕτεροι ἑτέρας ἄρχουσιν ἀρχάς. φανερὸν τοίνυν ἐκ τούτων ὡς οὔτε πέφυκε μίαν οὕτως εἶναι τὴν πόλιν ὥσπερ λέγουσί τινες, καὶ τὸ λεχθὲν ὡς μέγιστον ἀγαθὸν ἐν ταῖς πόλεσιν ὅτι τὰς πόλεις ἀναιρεῖ· καίτοι τό γε ἑκάστου ἀγαθὸν σῴζει ἕκαστον. ἔστι δὲ καὶ κατ’ ἄλλον τρόπον φανερὸν ὅτι τὸ λίαν ἑνοῦν ζητεῖν τὴν πόλιν οὐκ ἔστιν ἄμεινον. οἰκία μὲν γὰρ αὐταρκέστερον ἑνός, πόλις δ’ οἰκίας, καὶ βούλεταί γ’ ἤδη τότε εἶναι πόλις ὅταν αὐτάρκη συμβαίνῃ τὴν κοινωνίαν εἶναι τοῦ πλήθους· εἴπερ οὖν αἱρετώτερον τὸ αὐταρκέστερον, καὶ τὸ ἧττον ἓν τοῦ μᾶλλον αἱρετώτερον.

Ἀλλὰ μὴν οὐδ’ εἰ τοῦτο ἄριστόν ἐστι, τὸ μίαν ὅτι μάλιστ’ εἶναι τὴν κοινωνίαν, οὐδὲ τοῦτο ἀποδείκνυσθαι φαίνεται κατὰ τὸν λόγον, ἐὰν πάντες ἅμα λέγωσι τὸ ἐμὸν καὶ τὸ μὴ ἐμόν· τοῦτο γὰρ οἴεται ὁ Σωκράτης σημεῖον εἶναι τοῦ τὴν πόλιν τελέως εἶναι μίαν. τὸ γὰρ πάντες διττόν. εἰ μὲν οὖν ὡς ἕκαστος, τάχ’ ἂν εἴη μᾶλλον ὃ βούλεται ποιεῖν ὁ Σωκράτης (ἕκαστος γὰρ υἱὸν ἑαυτοῦ φήσει τὸν αὐτὸν καὶ γυναῖκα δὴ τὴν αὐτήν, καὶ περὶ τῆς οὐσίας καὶ περὶ ἑκάστου δὴ τῶν συμβαινόντων ὡσαύτως)· νῦν δ’ οὐχ οὕτως φήσουσιν οἱ κοιναῖς χρώμενοι ταῖς γυναιξὶ καὶ τοῖς τέκνοις, ἀλλὰ πάντες μέν, οὐχ ὡς ἕκαστος δ’ αὐτῶν, ὁμοίως δὲ καὶ τὴν οὐσίαν πάντες μέν, οὐχ ὡς ἕκαστος δ’ αὐτῶν. ὅτι μὲν τοίνυν παραλογισμός τίς ἐστι τὸ λέγειν πάντας, φανερόν (τὸ γὰρ πάντες καὶ ἀμφότεροι, καὶ περιττὰ καὶ ἄρτια, διὰ τὸ διττὸν καὶ ἐν τοῖς λόγοις ἐριστικοὺς ποιεῖ συλλογισμούς· διό ἐστι τὸ πάντας τὸ αὐτὸ λέγειν ὡδὶ μὲν καλὸν ἀλλ’ οὐ δυνατόν, ὡδὶ δ’ οὐδὲν ὁμονοητικόν)· πρὸς δὲ τούτοις ἑτέραν ἔχει βλάβην τὸ λεγόμενον. ἥκιστα γὰρ ἐπιμελείας τυγχάνει τὸ πλείστων κοινόν· τῶν γὰρ ἰδίων μάλιστα φροντίζουσιν, τῶν δὲ κοινῶν ἧττον, ἢ ὅσον ἑκάστῳ ἐπιβάλλει· πρὸς γὰρ τοῖς ἄλλοις ὡς ἑτέρου φροντίζοντος ὀλιγωροῦσι μᾶλλον, ὥσπερ ἐν ταῖς οἰκετικαῖς διακονίαις οἱ πολλοὶ θεράποντες ἐνίοτε χεῖρον ὑπηρετοῦσι τῶν ἐλαττόνων. γίνονται δ’ ἑκάστῳ χίλιοι τῶν πολιτῶν υἱοί, καὶ οὗτοι οὐχ ὡς ἑκάστου, ἀλλὰ τοῦ τυχόντος ὁ τυχὼν ὁμοίως ἐστὶν υἱός· ὥστε πάντες ὁμοίως ὀλιγωρήσουσιν.

[1262a] ἔτι οὕτως ἕκαστος “ἐμὸς” λέγει τὸν εὖ πράττοντα τῶν πολιτῶν ἢ κακῶς, ὁπόστος τυγχάνει τὸν ἀριθμὸν ὤν, οἷον ἐμὸς ἢ τοῦ δεῖνος, τοῦτον τὸν τρόπον λέγων καθ’ ἕκαστον τῶν χιλίων, ἢ ὅσων ἡ πόλις ἐστί, καὶ τοῦτο διστάζων· ἄδηλον γὰρ ᾧ συνέβη γενέσθαι τέκνον καὶ σωθῆναι γενόμενον. καίτοι πότερον οὕτω κρεῖττον τὸ ἐμὸν λέγειν ἕκαστον, τὸ αὐτὸ [μὲν] προσαγορεύοντας δισχιλίων καὶ μυρίων, ἢ μᾶλλον ὡς νῦν ἐν ταῖς πόλεσι τὸ ἐμὸν λέγουσιν; ὁ μὲν γὰρ υἱὸν αὑτοῦ ὁ δὲ ἀδελφὸν αὑτοῦ προσαγορεύει τὸν αὐτόν, ὁ δ’ ἀνεψιόν, ἢ κατ’ ἄλλην τινὰ συγγένειαν [ἢ] πρὸς αἵματος ἢ κατ’ οἰκειότητα καὶ κηδείαν αὑτοῦ πρῶτον ἢ τῶν αὑτοῦ, πρὸς δὲ τούτοις ἕτερος φράτορα φυλέτην. κρεῖττον γὰρ ἴδιον ἀνεψιὸν εἶναι ἢ τὸν τρόπον τοῦτον υἱόν. οὐ μὴν ἀλλ’ οὐδὲ διαφυγεῖν δυνατὸν τὸ μή τινας ὑπολαμβάνειν ἑαυτῶν ἀδελφούς τε καὶ παῖδας καὶ πατέρας καὶ μητέρας· κατὰ γὰρ τὰς ὁμοιότητας αἳ γίνονται τοῖς τέκνοις πρὸς τοὺς γεννήσαντας ἀναγκαῖον λαμβάνειν περὶ ἀλλήλων τὰς πίστεις. ὅπερ φασὶ καὶ συμβαίνειν τινὲς τῶν τὰς τῆς γῆς περιόδους πραγματευομένων· εἶναι γάρ τισι τῶν ἄνω Λιβύων κοινὰς τὰς γυναῖκας, τὰ μέντοι γινόμενα τέκνα διαιρεῖσθαι κατὰ τὰς ὁμοιότητας. εἰσὶ δέ τινες καὶ γυναῖκες καὶ τῶν ἄλλων ζῴων, οἷον ἵπποι καὶ βόες, αἳ σφόδρα πεφύκασιν ὅμοια ἀποδιδόναι τὰ τέκνα τοῖς γονεῦσιν, ὥσπερ ἡ ἐν Φαρσάλῳ κληθεῖσα Δικαία ἵππος.

Ἔτι δὲ καὶ τὰς τοιαύτας δυσχερείας οὐ ῥᾴδιον εὐλαβηθῆναι τοῖς ταύτην κατασκευάζουσι τὴν κοινωνίαν, οἷον αἰκίας καὶ φόνους ἀκουσίους τοὺς δὲ ἑκουσίους, καὶ μάχας καὶ λοιδορίας· ὧν οὐδὲν ὅσιόν ἐστι γίνεσθαι πρὸς πατέρας καὶ μητέρας καὶ τοὺς μὴ πόρρω τῆς συγγενείας ὄντας, ὥσπερ πρὸς τοὺς ἄπωθεν· ἃ καὶ πλεῖον συμβαίνειν ἀναγκαῖον ἀγνοούντων ἢ γνωριζόντων, καὶ γενομένων τῶν μὲν γνωριζομένων ἐνδέχεται τὰς νομιζομένας γίνεσθαι λύσεις, τῶν δὲ μή, οὐδεμίαν. ἄτοπον δὲ καὶ τὸ κοινοὺς ποιήσαντα τοὺς υἱοὺς τὸ συνεῖναι μόνον ἀφελεῖν τῶν ἐρώντων, τὸ δ’ ἐρᾶν μὴ κωλῦσαι, μηδὲ τὰς χρήσεις τὰς ἄλλας ἃς πατρὶ πρὸς υἱὸν εἶναι πάντων ἐστὶν ἀπρεπέστατον καὶ ἀδελφῷ πρὸς ἀδελφόν, ἐπεὶ καὶ τὸ ἐρᾶν μόνον. ἄτοπον δὲ καὶ τὸ τὴν συνουσίαν ἀφελεῖν δι᾽ ἄλλην μὲν αἰτίαν μηδεμίαν, ὡς λίαν δὲ ἰσχυρᾶς τῆς ἡδονῆς γινομένης, ὅτι δ᾽ ὁ μὲν πατὴρ ἢ υἱός, οἱ δ᾽ ἀδελφοὶ ἀλλήλων, μηδὲν οἴεσθαι διαφέρειν.

ἔοικε δὲ μᾶλλον τοῖς γεωργοῖς εἶναι χρήσιμον τὸ κοινὰς εἶναι τὰς γυναῖκας καὶ τοὺς παῖδας [1262b] ἢ τοῖς φύλαξιν· ἧττον γὰρ ἔσται φιλία κοινῶν ὄντων τῶν τέκνων καὶ τῶν γυναικῶν, δεῖ δὲ τοιούτους εἶναι τοὺς ἀρχομένους πρὸς τὸ πειθαρχεῖν καὶ μὴ νεωτερίζειν. ὅλως δὲ συμβαίνειν ἀνάγκη τοὐναντίον διὰ τὸν τοιοῦτον νόμον ὧν προσήκει τοὺς ὀρθῶς κειμένους νόμους αἰτίους γίνεσθαι, καὶ δι᾽ ἣν αἰτίαν ὁ Σωκράτης οὕτως οἴεται δεῖν τάττειν τὰ περὶ τὰ τέκνα καὶ τὰς γυναῖκας. φιλίαν τε γὰρ οἰόμεθα μέγιστον εἶναι τῶν ἀγαθῶν ταῖς πόλεσιν (οὕτως γὰρ ἂν ἥκιστα στασιάζοιεν), καὶ τὸ μίαν εἶναι τὴν πόλιν ἐπαινεῖ μάλισθ᾽ ὁ Σωκράτης, ὃ καὶ δοκεῖ κἀκεῖνος εἶναί φησι τῆς φιλίας ἔργον, καθάπερ ἐν τοῖς ἐρωτικοῖς λόγοις ἴσμεν λέγοντα τὸν Ἀριστοφάνην ὡς τῶν ἐρώντων διὰ τὸ σφόδρα φιλεῖν ἐπιθυμούντων συμφῦναι καὶ γενέσθαι ἐκ δύο ὄντων ἀμφοτέρους ἕνα· ἐνταῦθα μὲν οὖν ἀνάγκη ἀμφοτέρους ἐφθάρθαι ἢ τὸν ἕνα, ἐν δὲ τῇ πόλει τὴν φιλίαν ἀναγκαῖον ὑδαρῆ γίνεσθαι διὰ τὴν κοινωνίαν τὴν τοιαύτην, καὶ ἥκιστα λέγειν τὸν ἐμὸν ἢ υἱὸν πατέρα ἢ πατέρα υἱόν. ὥσπερ γὰρ μικρὸν γλυκὺ εἰς πολὺ ὕδωρ μειχθὲν ἀναίσθητον ποιεῖ τὴν κρᾶσιν, οὕτω συμβαίνει καὶ τὴν οἰκειότητα τὴν πρὸς ἀλλήλους τὴν ἀπὸ τῶν ὀνομάτων τούτων, διαφροντίζειν ἥκιστα ἀναγκαῖον ὂν ἐν τῇ πολιτείᾳ τῇ τοιαύτῃ ἢ πατέρα ὡς υἱῶν ἢ υἱὸν ὡς πατρός, ἢ ὡς ἀδελφοὺς ἀλλήλων. δύο γάρ ἐστιν ἃ μάλιστα ποιεῖ κήδεσθαι τοὺς ἀνθρώπους καὶ φιλεῖν, τό τε ἴδιον καὶ τὸ ἀγαπητόν· ὧν οὐδέτερον οἷόν τε ὑπάρχειν τοῖς οὕτω πολιτευομένοις. ἀλλὰ μὴν καὶ περὶ τοῦ μεταφέρειν τὰ γινόμενα τέκνα, τὰ μὲν ἐκ τῶν γεωργῶν καὶ τεχνιτῶν εἰς τοὺς φύλακας, τὰ δ᾽ ἐκ τούτων εἰς ἐκείνους, πολλὴν ἔχει ταραχὴν τίνα ἔσται τρόπον· καὶ γινώσκειν ἀναγκαῖον τοὺς διδόντας καὶ μεταφέροντας τίσι τίνας διδόασιν. ἔτι δὲ καὶ τὰ πάλαι λεχθέντα μᾶλλον ἐπὶ τούτων ἀναγκαῖον συμβαίνειν, οἷον αἰκίας ἔρωτας φόνους· οὐ γὰρ ἔτι προσαγορεύσουσιν ἀδελφοὺς καὶ τέκνα καὶ πατέρας καὶ μητέρας τοὺς φύλακας οἵ τε εἰς τοὺς ἄλλους πολίτας δοθέντες καὶ πάλιν οἱ παρὰ τοῖς φύλαξι τοὺς ἄλλους πολίτας, ὥστ᾽ εὐλαβεῖσθαι τῶν τοιούτων τι πράττειν διὰ τὴν συγγένειαν.

περὶ μὲν οὖν τῆς περὶ τὰ τέκνα καὶ τὰς γυναῖκας κοινωνίας διωρίσθω τὸν τρόπον τοῦτον.

Ἐχόμενον δὲ τούτων ἐστὶν ἐπισκέψασθαι περὶ τῆς κτήσεως, τίνα τρόπον δεῖ κατασκευάζεσθαι τοῖς μέλλουσι πολιτεύεσθαι τὴν ἀρίστην πολιτείαν, πότερον κοινὴν ἢ μὴ κοινὴν εἶναι τὴν κτῆσιν. τοῦτο δ’ ἄν τις καὶ χωρὶς σκέψαιτο ἀπὸ τῶν περὶ τὰ τέκνα καὶ τὰς γυναῖκας νενομοθετημένων, λέγω [1263a] δὲ τὰ περὶ τὴν κτῆσιν πότερον (κἂν ᾖ ἐκεῖνα χωρίς, καθ’ ὃν νῦν τρόπον ἔχει πᾶσι) τάς γε κτήσεις κοινὰς εἶναι βέλτιον, ἢ τὰς χρήσεις, οἷον τὰ μὲν γήπεδα χωρίς, τοὺς δὲ καρποὺς εἰς τὸ κοινὸν φέροντας ἀναλίσκειν (ὅπερ ἔνια ποιεῖ τῶν ἐθνῶν), ἢ τοὐναντίον τὴν μὲν γῆν κοινὴν εἶναι καὶ γεωργεῖν κοινῇ, τοὺς δὲ καρποὺς διαιρεῖσθαι πρὸς τὰς ἰδίας χρήσεις (λέγονται δέ τινες καὶ τοῦτον τὸν τρόπον κοινωνεῖν τῶν βαρβάρων), ἢ καὶ τὰ γήπεδα καὶ τοὺς καρποὺς κοινούς. ἑτέρων μὲν οὖν ὄντων τῶν γεωργούντων ἄλλος ἂν εἴη τρόπος καὶ ῥᾴων, αὐτῶν δ’ αὑτοῖς διαπονούντων τὰ περὶ τὰς κτήσεις πλείους ἂν παρέχοι δυσκολίας. καὶ γὰρ ἐν ταῖς ἀπολαύσεσι καὶ ἐν τοῖς ἔργοις μὴ γινομένων ἴσων ἀλλ’ ἀνίσων ἀναγκαῖον ἐγκλήματα γίνεσθαι πρὸς τοὺς ἀπολαύοντας μὲν ἢ λαμβάνοντας πολλά, ὀλίγα δὲ πονοῦντας, τοῖς ἐλάττω μὲν λαμβάνουσι, πλείω δὲ πονοῦσιν. ὅλως δὲ τὸ συζῆν καὶ κοινωνεῖν τῶν ἀνθρωπικῶν πάντων χαλεπόν, καὶ μάλιστα τῶν τοιούτων. δηλοῦσι δ’ αἱ τῶν συναποδήμων κοινωνίαι· σχεδὸν γὰρ οἱ πλεῖστοι διαφέρονται, ἐκ τῶν ἐν ποσὶ καὶ ἐκ μικρῶν προσκρούοντες ἀλλήλοις. ἔτι δὲ τῶν θεραπόντων τούτοις μάλιστα προσκρούομεν οἷς πλεῖστα προσχρώμεθα πρὸς τὰς διακονίας τὰς ἐγκυκλίους.

τὸ μὲν οὖν κοινὰς εἶναι τὰς κτήσεις ταύτας τε καὶ ἄλλας τοιαύτας ἔχει δυσχερείας· ὃν δὲ νῦν τρόπον ἔχει, ἐπικοσμηθὲν ἔθεσι καὶ τάξει νόμων ὀρθῶν, οὐ μικρὸν ἂν διενέγκαι. ἕξει γὰρ τὸ ἐξ ἀμφοτέρων ἀγαθόν· λέγω δὲ τὸ ἐξ ἀμφοτέρων τὸ ἐκ τοῦ κοινὰς εἶναι τὰς κτήσεις καὶ τὸ ἐκ τοῦ ἰδίας. δεῖ γὰρ πὼς μὲν εἶναι κοινάς, ὅλως δ’ ἰδίας. αἱ μὲν γὰρ ἐπιμέλειαι διῃρημέναι τὰ ἐγκλήματα πρὸς ἀλλήλους οὐ ποιήσουσιν, μᾶλλον δ’ ἐπιδώσουσιν ὡς πρὸς ἴδιον ἑκάστου προσεδρεύοντος· δι’ ἀρετὴν δ’ ἔσται πρὸς τὸ χρῆσθαι, κατὰ τὴν παροιμίαν, κοινὰ τὰ φίλων. ἔστι δὲ καὶ νῦν τὸν τρόπον τοῦτον ἐν ἐνίαις πόλεσιν οὕτως ὑπογεγραμμένον, ὡς οὐκ ὂν ἀδύνατον, καὶ μάλιστα ἐν ταῖς καλῶς οἰκουμέναις τὰ μὲν ἔστι τὰ δὲ γένοιτ’ ἄν· ἰδίαν γὰρ ἕκαστος τὴν κτῆσιν ἔχων τὰ μὲν χρήσιμα ποιεῖ τοῖς φίλοις, τοῖς δὲ χρῆται κοινοῖς, οἷον καὶ ἐν Λακεδαίμονι τοῖς τε δούλοις χρῶνται τοῖς ἀλλήλων ὡς εἰπεῖν ἰδίοις, ἔτι δ’ ἵπποις καὶ κυσίν, κἂν δεηθῶσιν ἐφοδίων, [ἐν] τοῖς ἀγροῖς κατὰ τὴν χώραν. φανερὸν τοίνυν ὅτι βέλτιον εἶναι μὲν ἰδίας τὰς κτήσεις, τῇ δὲ χρήσει ποιεῖν κοινάς· ὅπως δὲ γίνωνται τοιοῦτοι, τοῦ νομοθέτου τοῦτ’ ἔργον ἴδιόν ἐστιν. ἔτι δὲ καὶ πρὸς ἡδονὴν ἀμύθητον ὅσον διαφέρει τὸ νομίζειν ἴδιόν τι. μὴ γὰρ οὐ μάτην τὴν πρὸς [1263b] αὑτὸν αὐτὸς ἔχει φιλίαν ἕκαστος, ἀλλ' ἔστι τοῦτο φυσικόν. τὸ δὲ φίλαυτον εἶναι ψέγεται δικαίως· οὐκ ἔστι δὲ τοῦτο τὸ φιλεῖν ἑαυτόν, ἀλλὰ τὸ μᾶλλον ἢ δεῖ φιλεῖν, καθάπερ καὶ τὸ φιλοχρήματον, ἐπεὶ φιλοῦσί γε πάντες ὡς εἰπεῖν ἕκαστον τῶν τοιούτων. ἀλλὰ μὴν καὶ τὸ χαρίσασθαι καὶ βοηθῆσαι φίλοις ἢ ξένοις ἢ ἑταίροις ἥδιστον· ὃ γίνεται τῆς κτήσεως ἰδίας οὔσης. ταῦτά τε δὴ οὐ συμβαίνει τοῖς λίαν ἓν ποιοῦσι τὴν πόλιν, καὶ πρὸς τούτοις ἀναιροῦσιν ἔργα δυοῖν ἀρεταῖν φανερῶς, σωφροσύνης μὲν τὸ περὶ τὰς γυναῖκας (ἔργον γὰρ καλὸν ἀλλοτρίας οὔσης ἀπέχεσθαι διὰ σωφροσύνην), ἐλευθεριότητος δὲ τὸ περὶ τὰς κτήσεις· οὔτε γὰρ ἔσται φανερὸς ἐλευθέριος ὤν, οὔτε πράξει πρᾶξιν ἐλευθέριον οὐδεμίαν· ἐν τῇ γὰρ χρήσει τῶν κτημάτων τὸ τῆς ἐλευθεριότητος ἔργον ἐστίν.

εὐπρόσωπος μὲν οὖν ἡ τοιαύτη νομοθεσία καὶ φιλάνθρωπος ἂν εἶναι δόξειεν· ὁ γὰρ ἀκροώμενος ἄσμενος ἀποδέχεται, νομίζων ἔσεσθαι φιλίαν τινὰ θαυμαστὴν πᾶσι πρὸς ἅπαντας, ἄλλως τε καὶ ὅταν κατηγορῇ τις τῶν νῦν ὑπαρχόντων ἐν ταῖς πολιτείαις κακῶν ὡς γινομένων διὰ τὸ μὴ κοινὴν εἶναι τὴν οὐσίαν, λέγω δὲ δίκας τε πρὸς ἀλλήλους περὶ συμβολαίων καὶ ψευδομαρτυριῶν κρίσεις καὶ πλουσίων κολακείας· ὧν οὐδὲν γίνεται διὰ τὴν ἀκοινωνησίαν ἀλλὰ διὰ τὴν μοχθηρίαν, ἐπεὶ καὶ τοὺς κοινὰ κεκτημένους καὶ κοινωνοῦντας πολλῷ διαφερομένους μᾶλλον ὁρῶμεν ἢ τοὺς χωρὶς τὰς οὐσίας ἔχοντας· ἀλλὰ θεωροῦμεν ὀλίγους τοὺς ἐκ τῶν κοινωνιῶν διαφερομένους, πρὸς πολλοὺς συμβάλλοντες τοὺς κεκτημένους ἰδίᾳ τὰς κτήσεις. ἔτι δὲ δίκαιοιν μὴ μόνον λέγειν ὅσων στερήσονται κακῶν κοινωνήσαντες, ἀλλὰ καὶ ὅσων ἀγαθῶν· φαίνεται δ' εἶναι πάμπαν ἀδύνατος ὁ βίος.

αἴτιον δὲ τῷ Σωκράτει τῆς παρακρούσεως χρὴ νομίζειν τὴν ὑπόθεσιν οὐκ οὖσαν ὀρθήν. δεῖ μὲν γὰρ εἶναί πως μίαν καὶ τὴν οἰκίαν καὶ τὴν πόλιν, ἀλλ' οὐ πάντως. ἔστι μὲν γὰρ ὡς οὐκ ἔσται προϊοῦσα πόλις, ἔστι δ' ὡς ἔσται μέν, ἐγγὺς δ' οὖσα τοῦ μὴ πόλις εἶναι χείρων πόλις, ὥσπερ κἂν εἴ τις τὴν συμφωνίαν ποιήσειεν ὁμοφωνίαν ἢ τὸν ῥυθμὸν βάσιν μίαν. ἀλλὰ δεῖ πλῆθος ὄν, ὥσπερ εἴρηται πρότερον, διὰ τὴν παιδείαν κοινὴν καὶ μίαν ποιεῖν· καὶ τόν γε μέλλοντα παιδείαν εἰσάγειν καὶ νομίζοντα διὰ ταύτης ἔσεσθαι τὴν πόλιν σπουδαίαν ἄτοπον τοῖς τοιούτοις οἴεσθαι διορθοῦν, ἀλλὰ μὴ τοῖς ἔθεσι καὶ τῇ φιλοσοφίᾳ καὶ τοῖς νόμοις, ὥσπερ τὰ περὶ τὰς κτήσεις ἐν Λακεδαίμονι καὶ Κρήτῃ τοῖς συσσιτίοις ὁ [1264a] νομοθέτης ἐκοίνωσε. δεῖ δὲ μηδὲ τοῦτο αὐτὸ ἀγνοεῖν, ὅτι χρὴ προσέχειν τῷ πολλῷ χρόνῳ καὶ τοῖς πολλοῖς ἔτεσιν, ἐν οἷς οὐκ ἂν ἔλαθεν, εἰ ταῦτα καλῶς εἶχεν· πάντα γὰρ σχεδὸν εὕρηται μέν, ἀλλὰ τὰ μὲν οὐ συνῆκται, τοῖς δ' οὐ χρῶνται γινώσκοντες. μάλιστα δ' ἂν γένοιτο φανερὸν εἴ τις τοῖς ἔργοις ἴδοι τὴν τοιαύτην πολιτείαν κατασκευαζομένην· οὐ γὰρ δυνήσεται μὴ μερίζων αὐτὰ καὶ χωρίζων ποιῆσαι τὴν πόλιν, τὰ μὲν εἰς συσσίτια τὰ δὲ εἰς φατρίας καὶ φυλάς. ὥστε οὐδὲν ἄλλο συμβήσεται νενομοθετημένον πλὴν μὴ γεωργεῖν τοὺς φύλακας· ὅπερ καὶ νῦν Λακεδαιμόνιοι ποιεῖν ἐπιχειροῦσιν.

οὐ μὴν ἀλλ’ οὐδὲ ὁ τρόπος τῆς ὅλης πολιτείας τίς ἔσται τοῖς κοινωνοῦσιν, οὔτ’ εἴρηκεν ὁ Σωκράτης οὔτε ῥᾴδιον εἰπεῖν. καίτοι σχεδὸν τό γε πλῆθος τῆς πόλεως τὸ τῶν ἄλλων πολιτῶν γίνεται πλῆθος, περὶ ὧν οὐδὲν διώρισται, πότερον καὶ τοῖς γεωργοῖς κοινὰς εἶναι δεῖ τὰς κτήσεις ἢ καθ’ ἕκαστον ἰδίας, ἔτι δὲ καὶ γυναῖκας καὶ παῖδας ἰδίους ἢ κοινούς. εἰ μὲν γὰρ τὸν αὐτὸν τρόπον κοινὰ πάντα πάντων, τί διοίσουσιν οὗτοι ἐκείνων τῶν φυλάκων; ἢ τί πλεῖον τοῖς ὑπομένουσι τὴν ἀρχὴν αὐτῶν, ἢ τί μαθόντες ὑπομενοῦσι τὴν ἀρχήν, ἐὰν μή τι σοφίζωνται τοιοῦτον οἷον Κρῆτες; ἐκεῖνοι γὰρ τἆλλα ταὐτὰ τοῖς δούλοις ἐφέντες μόνον ἀπειρήκασι τὰ γυμνάσια καὶ τὴν τῶν ὅπλων κτῆσιν. εἰ δέ, καθάπερ ἐν ταῖς ἄλλαις πόλεσι, καὶ παρ’ ἐκείνοις ἔσται τὰ τοιαῦτα, τίς ὁ τρόπος ἔσται τῆς κοινωνίας; ἐν μιᾷ γὰρ πόλει δύο πόλεις ἀναγκαῖον εἶναι, καὶ ταύτας ὑπεναντίας ἀλλήλαις. ποιεῖ γὰρ τοὺς μὲν φύλακας οἷον φρουρούς, τοὺς δὲ γεωργοὺς καὶ τοὺς τεχνίτας καὶ τοὺς ἄλλους πολίτας· ἐγκλήματα δὲ καὶ δίκαι, καὶ ὅσα ἄλλα ταῖς πόλεσιν ὑπάρχειν φησὶ κακά, πάνθ’ ὑπάρξει καὶ τούτοις. καίτοι λέγει ὁ Σωκράτης ὡς οὐ πολλῶν δεήσονται νομίμων διὰ τὴν παιδείαν, οἷον ἀστυνομικῶν καὶ ἀγορανομικῶν καὶ τῶν ἄλλων τῶν τοιούτων, ἀποδιδοὺς μόνον τὴν παιδείαν τοῖς φύλαξιν. ἔτι δὲ κυρίους ποιεῖ τῶν κτημάτων τοὺς γεωργοὺς ‹τοὺς› ἀποφορὰν φέροντας· ἀλλὰ πολὺ μᾶλλον εἰκὸς εἶναι χαλεποὺς καὶ φρονημάτων πλήρεις, ἢ τὰς παρ’ ἐνίοις εἱλωτείας τε καὶ πενεστείας καὶ δουλείας. ἀλλὰ γὰρ εἴτ’ ἀναγκαῖα ταῦθ’ ὁμοίως εἴτε μή, νῦν γε οὐδὲν διώρισται. καὶ περὶ τῶν ἐχομένων τίς ἥ τούτων τε πολιτεία καὶ παιδεία καὶ νόμοι τίνες. ἔστι δ’ οὔθ’ εὑρεῖν ῥᾴδιον, οὔτε τὸ διαφέρον μικρὸν τὸ ποιούς τινας εἶναι τούτους πρὸς τὸ σῴζεσθαι τὴν τῶν φυλάκων κοινωνίαν. ἀλλὰ [1264b] μὴν εἴ γε τὰς μὲν γυναῖκας ποιήσει κοινὰς τὰς δὲ κτήσεις ἰδίας, τίς οἰκονομήσει ὥσπερ τὰ ἐπὶ τῶν ἀγρῶν οἱ ἄνδρες αὐτῶν - κἂν εἰ κοιναὶ αἱ κτήσεις καὶ αἱ τῶν γεωργῶν γυναῖκες; ἄτοπον δὲ καὶ τὸ ἐκ τῶν θηρίων ποιεῖσθαι τὴν παραβολήν, ὅτι δεῖ τὰ αὐτὰ ἐπιτηδεύειν τὰς γυναῖκας τοῖς ἀνδράσιν, οἷς οἰκονομίας οὐδὲν μέτεστιν.

ἐπισφαλὲς δὲ καὶ τοὺς ἄρχοντας ὡς καθίστησιν ὁ Σωκράτης. ἀεὶ γὰρ ποιεῖ τοὺς αὐτοὺς ἄρχοντας· τοῦτο δὲ στάσεως αἴτιον γίνεται καὶ παρὰ τοῖς μηδὲν ἀξίωμα κεκτημένοις, ἦ που δῆθεν παρά γε θυμοειδέσι καὶ πολεμικοῖς ἀνδράσιν. ὅτι δ’ ἀναγκαῖον αὐτῷ ποιεῖν τοὺς αὐτοὺς ἄρχοντας, φανερόν· οὐ γὰρ ὁτὲ μὲν ἄλλοις ὁτὲ δὲ ἄλλοις μέμεικται ταῖς ψυχαῖς ὁ παρὰ τοῦ θεοῦ χρυσός, ἀλλ’ ἀεὶ τοῖς αὐτοῖς. φησὶ δὲ τοῖς μὲν εὐθὺς γινομένοις μεῖξαι χρυσόν, τοῖς δ’ ἄργυρον, χαλκὸν δὲ καὶ σίδηρον τοῖς τεχνίταις μέλλουσιν ἔσεσθαι καὶ γεωργοῖς. ἔτι δὲ καὶ τὴν εὐδαιμονίαν ἀφαιρούμενος τῶν φυλάκων, ὅλην φησὶ δεῖν εὐδαίμονα ποιεῖν τὴν πόλιν τὸν νομοθέτην. ἀδύνατον δὲ εὐδαιμονεῖν ὅλην, μὴ πάντων ἢ μὴ τῶν πλείστων μερῶν ἢ τινῶν ἐχόντων τὴν εὐδαιμονίαν. οὐ γὰρ τῶν αὐτῶν τὸ εὐδαιμονεῖν ὧνπερ τὸ ἄρτιον· τοῦτο μὲν γὰρ ἐνδέχεται τῷ ὅλῳ ὑπάρχειν, τῶν δὲ μερῶν μηδετέρῳ, τὸ δὲ εὐδαιμονεῖν ἀδύνατον. ἀλλὰ μὴν εἰ οἱ φύλακες μὴ εὐδαίμονες, τίνες ἕτεροι; οὐ γὰρ δὴ οἵ γε τεχνῖται καὶ τὸ πλῆθος τὸ τῶν βαναύσων. ἡ μὲν οὖν πολιτεία περὶ ἧς ὁ Σωκράτης εἴρηκεν ταύτας τε τὰς ἀπορίας ἔχει καὶ τούτων οὐκ ἐλάττους ἑτέρας.

Σχεδὸν δὲ παραπλησίως καὶ τὰ περὶ τοὺς Νόμους ἔχει τοὺς ὕστερον γραφέντας, διὸ καὶ περὶ τῆς ἐνταῦθα πολιτείας ἐπισκέψασθαι μικρὰ βέλτιον. καὶ γὰρ ἐν τῇ Πολιτείᾳ περὶ ὀλίγων πάμπαν διώρικεν ὁ Σωκράτης, περί τε γυναικῶν καὶ τέκνων κοινωνίας, πῶς ἔχειν δεῖ, καὶ περὶ κτήσεως, καὶ τῆς πολιτείας τὴν τάξιν (διαιρεῖται γὰρ εἰς δύο μέρη τὸ πλῆθος τῶν οἰκούντων, τὸ μὲν εἰς τοὺς γεωργούς, τὸ δὲ εἰς τὸ προπολεμοῦν μέρος· τρίτον δ’ ἐκ τούτων τὸ βουλευόμενον καὶ κύριον τῆς πόλεως), περὶ δὲ τῶν γεωργῶν καὶ τῶν τεχνιτῶν, πότερον οὐδεμιᾶς μεθέξουσιν ἤ τινος ἀρχῆς, καὶ πότερον ὅπλα δεῖ κεκτῆσθαι καὶ τούτους καὶ συμπολεμεῖν ἢ μή, περὶ τούτων οὐδὲν διώρικεν ὁ Σωκράτης, ἀλλὰ τὰς μὲν γυναῖκας οἴεται δεῖν συμπολεμεῖν καὶ παιδείας μετέχειν τῆς αὐτῆς τοῖς φύλαξιν, τὰ δ’ ἄλλα τοῖς ἔξωθεν πεπλήρωκε τὸν λόγον καὶ περὶ τῆς παιδείας, ποίαν τινὰ δεῖ γίνεσθαι [1265a] τῶν φυλάκων. τῶν δὲ Νόμων τὸ μὲν πλεῖστον μέρος νόμοι τυγχάνουσιν ὄντες, ὀλίγα δὲ περὶ τῆς πολιτείας εἴρηκεν, καὶ ταύτην βουλόμενος κοινοτέραν ποιεῖν ταῖς πόλεσι κατὰ μικρὸν περιάγει πάλιν πρὸς τὴν ἑτέραν πολιτείαν. ἔξω γὰρ τῆς τῶν γυναικῶν κοινωνίας καὶ τῆς κτήσεως, τὰ ἄλλα ταὐτὰ ἀποδίδωσιν ἀμφοτέραις ταῖς πολιτείαις· καὶ γὰρ παιδείαν τὴν αὐτήν, καὶ τὸ τῶν ἔργων τῶν ἀναγκαίων ἀπεχομένους ζῆν, καὶ περὶ συσσιτίων ὡσαύτως· πλὴν ἐν ταύτῃ φησὶ δεῖν εἶναι συσσίτια καὶ γυναικῶν, καὶ τὴν μὲν χιλίων τῶν ὅπλα κεκτημένων, ταύτην δὲ πεντακισχιλίων.

τὸ μὲν οὖν περιττὸν ἔχουσι πάντες οἱ τοῦ Σωκράτους λόγοι καὶ τὸ κομψὸν καὶ τὸ καινοτόμον καὶ τὸ ζητητικόν, καλῶς δὲ πάντα ἴσως χαλεπόν, ἐπεὶ καὶ τὸ νῦν εἰρημένον πλῆθος δεῖ μὴ λανθάνειν ὅτι χώρας δεήσει τοῖς

τοσούτοις Βαβυλωνίας ἤ τινος ἄλλης ἀπεράντου τὸ πλῆθος, ἐξ ἧς ἀργοὶ πεντακισχίλιοι θρέψονται, καὶ περὶ τούτους γυναικῶν καὶ θεραπόντων ἕτερος ὄχλος πολλαπλάσιος. δεῖ μὲν οὖν ὑποτίθεσθαι κατ' εὐχήν, μηδὲν μέντοι ἀδύνατον. λέγεται δ' ὡς δεῖ τὸν νομοθέτην πρὸς δύο βλέποντα τιθέναι τοὺς νόμους, πρός τε τὴν χώραν καὶ τοὺς ἀνθρώπους. ἔτι δὲ καλῶς ἔχει προσθεῖναι καὶ πρὸς τοὺς γειτνιῶντας τόπους, πρῶτον μὲν εἰ δεῖ τὴν πόλιν ζῆν βίον πολιτικόν, μὴ μονωτικόν (οὐ γὰρ μόνον ἀναγκαῖόν ἐστιν αὐτὴν τοιούτοις χρῆσθαι πρὸς τὸν πόλεμον ὅπλοις ἃ χρήσιμα κατὰ τὴν οἰκείαν χώραν ἐστίν, ἀλλὰ καὶ πρὸς τοὺς ἔξω τόπους)· εἰ δέ τις μὴ τοιοῦτον ἀποδέχεται βίον, μήτε τὸν ἴδιον μήτε τὸν κοινὸν τῆς πόλεως, ὅμως οὐδὲν ἧττον δεῖ φοβεροὺς εἶναι τοῖς πολεμίοις, μὴ μόνον ἐλθοῦσιν εἰς τὴν χώραν ἀλλὰ καὶ ἀπελθοῦσιν.

καὶ τὸ πλῆθος δὲ τῆς κτήσεως ὁρᾶν δεῖ, μή ποτε βέλτιον ἑτέρως διορίσαι τῷ σαφῶς μᾶλλον. τοσαύτην γὰρ εἶναί φησι δεῖν ὥστε ζῆν σωφρόνως, ὥσπερ ἂν εἴ τις εἶπεν ὥστε ζῆν εὖ. τοῦτο γάρ ἐστι καθόλου μᾶλλον. ἔτι δ' ἔστι σωφρόνως μὲν ταλαιπώρως δὲ ζῆν, ἀλλὰ βελτίων ὅρος τὸ σωφρόνως καὶ ἐλευθερίως (χωρὶς γὰρ ἑκατέρῳ τῷ μὲν τὸ τρυφᾶν ἀκολουθήσει, τῷ δὲ τὸ ἐπιπόνως), ἐπεὶ μόναι γ' εἰσὶν ἕξεις αἱρεταὶ περὶ τὴν τῆς οὐσίας χρῆσιν αὗται, οἷον οὐσίᾳ πράως μὲν ἢ ἀνδρείως χρῆσθαι οὐκ ἔστιν, σωφρόνως δὲ καὶ ἐλευθερίως ἔστιν, ὥστε καὶ τὰς ἕξεις ἀναγκαῖον περὶ αὐτὴν εἶναι ταύτας. ἄτοπον δὲ καὶ τὸ τὰς κτήσεις ἰσάζοντα τὸ περὶ τὸ πλῆθος τῶν πολιτῶν μὴ κατασκευάζειν, ἀλλ' ἀφεῖναι τὴν τεκνοποιίαν ἀόριστον ὡς ἱκανῶς ἀνομαλισθησομένην εἰς τὸ αὐτὸ πλῆθος διὰ τὰς ἀτεκνίας ὁσωνοῦν γεννωμένων, [1265b] ὅτι δοκεῖ τοῦτο καὶ νῦν συμβαίνειν περὶ τὰς πόλεις. δεῖ δὲ τοῦτ' οὐχ ὁμοίως ἀκριβῶς ἔχειν περὶ τὰς πόλεις τότε καὶ νῦν· νῦν μὲν γὰρ οὐδεὶς ἀπορεῖ, διὰ τὸ μερίζεσθαι τὰς οὐσίας εἰς ὁποσονοῦν πλῆθος, τότε δὲ ἀδιαιρέτων οὐσῶν ἀνάγκη τοὺς παράζυγας μηδὲν ἔχειν, ἐάν τ' ἐλάττους ὦσι τὸ πλῆθος ἐάν τε πλείους. μᾶλλον δὲ δεῖν ὑπολάβοι τις ἂν ὡρίσθαι τῆς οὐσίας τὴν τεκνοποιίαν, ὥστε ἀριθμοῦ τινὸς μὴ πλείονα γεννᾶν, τοῦτο δὲ τιθέναι τὸ πλῆθος ἀποβλέποντα πρὸς τὰς τύχας, ἂν συμβαίνῃ τελευτᾶν τινας τῶν γεννηθέντων, καὶ πρὸς τὴν τῶν ἄλλων ἀτεκνίαν. τὸ δ' ἀφεῖσθαι, καθάπερ ἐν ταῖς πλείσταις πόλεσι, πενίας ἀναγκαῖον αἴτιον γίνεσθαι τοῖς πολίταις, ἡ δὲ πενία στάσιν ἐμποιεῖ καὶ κακουργίαν. Φείδων μὲν οὖν ὁ Κορίνθιος, ὢν νομοθέτης τῶν ἀρχαιοτάτων, τοὺς οἴκους ἴσους ᾠήθη δεῖν διαμένειν καὶ τὸ πλῆθος τῶν πολιτῶν, καὶ εἰ τὸ πρῶτον τοὺς κλήρους ἀνίσους εἶχον πάντες κατὰ μέγεθος· ἐν δὲ τοῖς νόμοις τούτοις τοὐναντίον ἐστίν. ἀλλὰ περὶ μὲν τούτων πῶς οἰόμεθα βέλτιον ἂν ἔχειν, λεκτέον ὕστερον· ἐλλέλειπται δ' ἐν

τοῖς νόμοις τούτοις καὶ τὰ περὶ τοὺς ἄρχοντας πῶς ἔσονται διαφέροντες τῶν ἀρχομένων. φησὶ γὰρ δεῖν, ὥσπερ ἐξ ἑτέρου τὸ στημόνιον ἐρίου γίνεται τῆς κρόκης, οὕτω καὶ τοὺς ἄρχοντας ἔχειν δεῖν πρὸς τοὺς ἀρχομένους. ἐπεὶ δὲ τὴν πᾶσαν οὐσίαν ἐφίησι γίνεσθαι μείζονα μέχρι πενταπλασίας, διὰ τί τοῦτ' οὐκ ἂν εἴη ἐπὶ τῆς γῆς μέχρι τινός; καὶ τὴν τῶν οἰκοπέδων δὲ διαίρεσιν δεῖ σκοπεῖν, μή ποτ' οὐ συμφέρει πρὸς οἰκονομίαν· δύο γὰρ οἰκόπεδα ἑκάστῳ ἔνειμε διελὼν χωρίς, χαλεπὸν δὲ οἰκίας δύο οἰκεῖν.

ἡ δὲ σύνταξις ὅλη βούλεται μὲν εἶναι μήτε δημοκρατία μήτε ὀλιγαρχία, μέση δὲ τούτων, ἣν καλοῦσι πολιτείαν· ἐκ γὰρ τῶν ὁπλιτευόντων ἐστίν. εἰ μὲν οὖν ὡς κοινοτάτην ταύτην κατασκευάζει ταῖς πόλεσι τῶν ἄλλων πολιτειῶν, καλῶς εἴρηκεν ἴσως· εἰ δ' ὡς ἀρίστην μετὰ τὴν πρώτην πολιτείαν, οὐ καλῶς. τάχα γὰρ τὴν τῶν Λακώνων ἄν τις ἐπαινέσειε μᾶλλον, ἢ κἂν ἄλλην τινὰ ἀριστοκρατικωτέραν. ἔνιοι μὲν οὖν λέγουσιν ὡς δεῖ τὴν ἀρίστην πολιτείαν ἐξ ἁπασῶν εἶναι τῶν πολιτειῶν μεμειγμένην, διὸ καὶ τὴν τῶν Λακεδαιμονίων ἐπαινοῦσιν (εἶναι γὰρ αὐτὴν οἱ μὲν ἐξ ὀλιγαρχίας καὶ μοναρχίας καὶ δημοκρατίας φασίν, λέγοντες τὴν μὲν βασιλείαν μοναρχίαν, τὴν δὲ τῶν γερόντων ἀρχὴν ὀλιγαρχίαν, δημοκρατεῖσθαι δὲ κατὰ τὴν τῶν ἐφόρων ἀρχὴν διὰ τὸ ἐκ τοῦ δήμου εἶναι τοὺς ἐφόρους· οἱ δὲ τὴν μὲν ἐφορείαν εἶναι τυραννίδα, δημοκρατεῖσθαι δὲ κατά τε τὰ συσσίτια καὶ τὸν ἄλλον βίον τὸν [1266a] καθ' ἡμέραν)· ἐν δὲ τοῖς νόμοις εἴρηται τούτοις ὡς δέον συγκεῖσθαι τὴν ἀρίστην πολιτείαν ἐκ δημοκρατίας καὶ τυραννίδος, ἃς ἢ τὸ παράπαν οὐκ ἄν τις θείη πολιτείας ἢ χειρίστας πασῶν. βέλτιον οὖν λέγουσιν οἱ πλείους μιγνύντες· ἡ γὰρ ἐκ πλειόνων συγκειμένη πολιτεία βελτίων. ἔπειτ' οὐδ' ἔχουσα φαίνεται μοναρχικὸν οὐδέν, ἀλλ' ὀλιγαρχικὰ καὶ δημοκρατικά· μᾶλλον δ' ἐγκλίνειν βούλεται πρὸς τὴν ὀλιγαρχίαν. δῆλον δὲ ἐκ τῆς τῶν ἀρχόντων καταστάσεως· τὸ μὲν γὰρ ἐξ αἱρετῶν κληρωτοὺς κοινὸν ἀμφοῖν, τὸ δὲ τοῖς μὲν εὐπορωτέροις ἐπάναγκες ἐκκλησιάζειν εἶναι καὶ φέρειν ἄρχοντας ἤ τι ποιεῖν ἄλλο τῶν πολιτικῶν, τοὺς δ' ἀφεῖσθαι, τοῦτο δ' ὀλιγαρχικόν, καὶ τὸ πειρᾶσθαι πλείους ἐκ τῶν εὐπόρων εἶναι τοὺς ἄρχοντας, καὶ τὰς μεγίστας ἐκ τῶν μεγίστων τιμημάτων. ὀλιγαρχικὴν δὲ ποιεῖ καὶ τὴν τῆς βουλῆς αἵρεσιν. αἱροῦνται μὲν γὰρ πάντες ἐπάναγκες ἀλλ' ἐκ τοῦ πρώτου τιμήματος, εἶτα πάλιν ἴσους ἐκ τοῦ δευτέρου· εἶτ' ἐκ τῶν τρίτων, πλὴν οὐ πᾶσιν ἐπάναγκες ἦν τοῖς ἐκ τῶν τρίτων ἢ τετάρτων, ἐκ δὲ [τοῦ τετάρτου] τῶν τετάρτων μόνοις ἐπάναγκες τοῖς πρώτοις καὶ τοῖς δευτέροις· εἶτ' ἐκ τούτων ἴσον ἀφ' ἑκάστου τιμήματος ἀποδεῖξαί φησι δεῖν ἀριθμόν. ἔσονται δὴ πλείους οἱ ἐκ τῶν μεγίστων τιμημάτων καὶ βελτίους διὰ τὸ ἐνίους μὴ αἱρεῖσθαι τῶν δημοτικῶν διὰ τὸ μὴ ἐπάναγκες. ὡς μὲν οὖν οὐκ ἐκ δημοκρατίας καὶ μοναρχίας δεῖ συνιστάναι τὴν τοιαύτην πολιτείαν, ἐκ τούτων φανερὸν καὶ τῶν ὕστερον ῥηθησομένων, ὅταν ἐπιβάλλῃ περὶ τῆς τοιαύτης πολιτείας ἡ σκέψις· ἔχει δὲ καὶ περὶ τὴν αἵρεσιν τῶν ἀρχόντων τὸ ἐξ αἱρετῶν αἱρετοὺς ἐπικίνδυνον. εἰ γάρ τινες συστῆναι θέλουσι καὶ μέτριοι τὸ πλῆθος, αἰεὶ κατὰ τὴν τούτων αἱρεθήσονται βούλησιν. τὰ μὲν οὖν περὶ τὴν πολιτείαν τὴν ἐν τοῖς Νόμοις τοῦτον ἔχει τὸν τρόπον.

Εἰσὶ δέ τινες πολιτεῖαι καὶ ἄλλαι, αἱ μὲν ἰδιωτῶν αἱ δὲ φιλοσόφων καὶ πολιτικῶν, πᾶσαι δὲ τῶν καθεστηκυιῶν καὶ καθ’ ἃς πολιτεύονται νῦν ἐγγύτερόν εἰσι τούτων ἀμφοτέρων. οὐδεὶς γὰρ οὔτε τὴν περὶ τὰ τέκνα κοινότητα καὶ τὰς γυναῖκας ἄλλος κεκαινοτόμηκεν, οὔτε περὶ τὰ συσσίτια τῶν γυναικῶν, ἀλλ’ ἀπὸ τῶν ἀναγκαίων ἄρχονται μᾶλλον. δοκεῖ γάρ τισι τὸ περὶ τὰς οὐσίας εἶναι μέγιστον τετάχθαι καλῶς· περὶ γὰρ τούτων ποιεῖσθαί φασι τὰς στάσεις πάντας. διὸ Φαλέας ὁ Χαλκηδόνιος τοῦτ’ εἰσήνεγκε πρῶτος· φησὶ γὰρ δεῖν ἴσας εἶναι τὰς κτήσεις τῶν πολιτῶν. τοῦτο [1266b] δὲ κατοικιζομέναις μὲν εὐθὺς οὐ χαλεπὸν ᾤετο ποιεῖν, τὰς δ’ ἤδη κατοικουμένας ἐργωδέστερον μέν, ὅμως δὲ τάχιστ’ ἂν ὁμαλισθῆναι τῷ τὰς προῖκας τοὺς μὲν πλουσίους διδόναι μὲν λαμβάνειν δὲ μή, τοὺς δὲ πένητας μὴ διδόναι μὲν λαμβάνειν δέ. Πλάτων δὲ τοὺς Νόμους γράφων μέχρι μέν τινος ᾤετο δεῖν ἐᾶν, πλεῖον δὲ τοῦ πενταπλασίαν εἶναι τῆς ἐλαχίστης μηδενὶ τῶν πολιτῶν ἐξουσίαν εἶναι κτήσασθαι, καθάπερ εἴρηται καὶ πρότερον. δεῖ δὲ μηδὲ τοῦτο λανθάνειν τοὺς οὕτω νομοθετοῦντας, ὃ λανθάνει νῦν, ὅτι τὸ τῆς οὐσίας τάττοντας πλῆθος προσήκει καὶ τῶν τέκνων τὸ πλῆθος τάττειν· ἐὰν γὰρ ὑπεραίρῃ τῆς οὐσίας τὸ μέγεθος ὁ τῶν τέκνων ἀριθμός, ἀνάγκη τόν γε νόμον λύεσθαι, καὶ χωρὶς τῆς λύσεως φαῦλον τὸ πολλοὺς ἐκ πλουσίων γίνεσθαι πένητας· ἔργον γὰρ μὴ νεωτεροποιοὺς εἶναι τοὺς τοιούτους. διότι μὲν οὖν ἔχει τινὰ δύναμιν εἰς τὴν πολιτικὴν κοινωνίαν ἡ τῆς οὐσίας ὁμαλότης, καὶ τῶν πάλαι τινὲς φαίνονται διεγνωκότες, οἷον καὶ Σόλων ἐνομοθέτησεν, καὶ παρ’ ἄλλοις ἔστι νόμος ὃς κωλύει κτᾶσθαι γῆν ὁπόσην ἂν βούληταί τις, ὁμοίως δὲ καὶ τὴν οὐσίαν πωλεῖν οἱ νόμοι κωλύουσιν, ὥσπερ ἐν Λοκροῖς νόμος ἐστὶ μὴ πωλεῖν ἐὰν μὴ φανερὰν ἀτυχίαν δείξῃ συμβεβηκυῖαν, ἔτι δὲ τοὺς παλαιοὺς κλήρους διασῴζειν (τοῦτο δὲ λυθὲν καὶ περὶ Λευκάδα δημοτικὴν ἐποίησε λίαν τὴν πολιτείαν αὐτῶν· οὐ γὰρ ἔτι συνέβαινεν ἀπὸ τῶν ὡρισμένων τιμημάτων εἰς τὰς ἀρχὰς βαδίζειν)· ἀλλ’ ἔστι τὴν ἰσότητα μὲν ὑπάρχειν τῆς οὐσίας, ταύτην δ’ ἢ λίαν εἶναι πολλήν, ὥστε τρυφᾶν, ἢ λίαν ὀλίγην, ὥστε ζῆν γλίσχρως. δῆλον οὖν ὡς οὐχ ἱκανὸν τὸ τὰς οὐσίας ἴσας ποιῆσαι τὸν νομοθέτην, ἀλλὰ τοῦ μέσου στοχαστέον. ἔτι δ’ εἴ τις καὶ τὴν μετρίαν τάξειεν οὐσίαν πᾶσιν, οὐδὲν ὄφελος· μᾶλλον γὰρ δεῖ τὰς ἐπιθυμίας ὁμαλίζειν ἢ τὰς οὐσίας, τοῦτο δ’ οὐκ ἔστι μὴ παιδευομένοις ἱκανῶς ὑπὸ τῶν νόμων. ἀλλ’ ἴσως ἂν εἴπειεν ὁ Φαλέας ὅτι ταῦτα τυγχάνει λέγων αὐτός· οἴεται γὰρ δυοῖν τούτοιν ἰσότητα δεῖν ὑπάρχειν ταῖς πόλεσιν, κτήσεως καὶ παιδείας. ἀλλὰ τήν τε παιδείαν ἥτις ἔσται δεῖ λέγειν, καὶ τὸ μίαν εἶναι καὶ τὴν αὐτὴν οὐδὲν ὄφελος· ἔστι γὰρ τὴν αὐτὴν μὲν εἶναι καὶ μίαν, ἀλλὰ ταύτην εἶναι τοιαύτην ἐξ ἧς ἔσονται προαιρετικοὶ τοῦ πλεονεκτεῖν ἢ χρημάτων ἢ τιμῆς ἢ συναμφοτέρων.

ἔτι στασιάζουσιν οὐ μόνον διὰ τὴν ἀνισότητα τῆς κτήσεως, ἀλλὰ καὶ διὰ τὴν τῶν τιμῶν, τοὐναντίον δὲ περὶ ἑκάτερον· οἱ μὲν γὰρ πολλοὶ διὰ τὸ περὶ τὰς κτήσεις ἄνισον, [1267a] οἱ δὲ χαρίεντες περὶ τῶν τιμῶν, ἐὰν ἴσαι· ὅθεν καὶ “ἐν δὲ ἰῇ τιμῇ ἠμὲν κακὸς ἠδὲ καὶ ἐσθλός”. οὐ μόνον δ’ οἱ ἄνθρωποι διὰ τἀναγκαῖα ἀδικοῦσιν, ὧν ἄκος εἶναι νομίζει τὴν ἰσότητα τῆς οὐσίας, ὥστε μὴ λωποδυτεῖν διὰ τὸ ῥιγοῦν ἢ πεινῆν, ἀλλὰ καὶ ὅπως χαίρωσι καὶ μὴ ἐπιθυμῶσιν· ἐὰν γὰρ μείζω ἔχωσιν ἐπιθυμίαν τῶν ἀναγκαίων, διὰ τὴν ταύτης ἰατρείαν ἀδικήσουσιν· οὐ τοίνυν διὰ ταύτην μόνον, ἀλλὰ καὶ ἄνευ ἐπιθυμιῶν, ἵνα χαίρωσι ταῖς ἄνευ λυπῶν ἡδοναῖς. τί οὖν ἄκος τῶν τριῶν τούτων; τοῖς μὲν οὐσία βραχεῖα καὶ ἐργασία, τοῖς δὲ σωφροσύνη· τρίτον δ’, εἴ τινες βούλοιντο δι’ αὑτῶν χαίρειν, οὐκ ἂν ἐπιζητοῖεν εἰ μὴ παρὰ φιλοσοφίας ἄκος. αἱ γὰρ ἄλλαι ἀνθρώπων δέονται· ἐπεὶ ἀδικουσί γε τὰ μέγιστα διὰ τὰς ὑπερβολάς, ἀλλ’ οὐ διὰ τὰ ἀναγκαῖα (οἷον τυραννοῦσιν οὐχ ἵνα μὴ ῥιγῶσιν· διὸ καὶ αἱ τιμαὶ μεγάλαι, ἂν ἀποκτείνῃ τις οὐ κλέπτην ἀλλὰ τύραννον)· ὥστε πρὸς τὰς μικρὰς ἀδικίας βοηθητικὸς μόνον ὁ τρόπος τῆς Φαλέου πολιτείας. ἔτι τὰ πολλὰ βούλεται κατασκευάζειν ἐξ ὧν τὰ πρὸς αὑτοὺς πολιτεύσονται καλῶς, δεῖ δὲ καὶ πρὸς τοὺς γειτνιῶντας καὶ τοὺς ἔξωθεν πάντας. ἀναγκαῖον ἄρα τὴν πολιτείαν συντετάχθαι πρὸς τὴν πολεμικὴν ἰσχύν, περὶ ἧς ἐκεῖνος οὐδὲν εἴρηκεν. ὁμοίως δὲ καὶ περὶ τῆς κτήσεως. δεῖ γὰρ οὐ μόνον πρὸς τὰς πολιτικὰς χρήσεις ἱκανὴν ὑπάρχειν, ἀλλὰ καὶ πρὸς τοὺς ἔξωθεν κινδύνους· διόπερ οὔτε τοσοῦτον δεῖ πλῆθος ὑπάρχειν ὅσου οἱ πλησίον καὶ κρείττους ἐπιθυμήσουσιν, οἱ δὲ ἔχοντες ἀμύνειν οὐ δυνήσονται τοὺς ἐπιόντας, οὔθ’ οὕτως ὀλίγην ὥστε μὴ δύνασθαι πόλεμον ὑπενεγκεῖν μηδὲ τῶν ἴσων καὶ τῶν ὁμοίων. ἐκεῖνος μὲν οὖν οὐδὲν διώρικεν, δεῖ δὲ τοῦτο μὴ λανθάνειν, ὅ τι συμφέρει πλῆθος οὐσίας. ἴσως οὖν ἄριστος ὅρος τὸ μὴ λυσιτελεῖν τοῖς κρείττοσι διὰ τὴν ὑπερβολὴν πολεμεῖν, ἀλλ’ οὕτως ὡς ἂν καὶ μὴ ἐχόντων τοσαύτην οὐσίαν. οἷον Εὔβουλος Αὐτοφραδάτου μέλλοντος Ἀταρνέα πολιορκεῖν ἐκέλευσεν αὐτόν, σκεψάμενον ἐν πόσῳ χρόνῳ λήψεται τὸ χωρίον, λογίσασθαι τοῦ χρόνου τούτου τὴν δαπάνην· ἐθέλειν γὰρ ἔλαττον τούτου λαβὼν ἐκλιπεῖν ἤδη τὸν Ἀταρνέα· ταῦτα δ᾽ εἰπὼν ἐποίησε τὸν Αὐτοφραδάτην σύννουν γενόμενον παύσασθαι τῆς πολιορκίας.

ἔστι μὲν οὖν τι τῶν συμφερόντων τὸ τὰς οὐσίας ἴσας εἶναι τοῖς πολίταις πρὸς τὸ μὴ στασιάζειν πρὸς ἀλλήλους, οὐ μὴν μέγα οὐδὲν ὡς εἰπεῖν. καὶ γὰρ [ἂν] οἱ χαρίεντες ἀγανακτοῖεν ἂν ὡς οὐκ ἴσων ὄντες ἄξιοι, διὸ καὶ φαίνονται πολλάκις ἐπιτιθέμενοι καὶ στασιάζοντες· ἔτι δ᾽ [1267b] ἡ πονηρία τῶν ἀνθρώπων ἄπληστον, καὶ τὸ πρῶτον μὲν ἱκανὸν διωβελία μόνον, ὅταν δ᾽ ἤδη τοῦτ᾽ ᾖ πάτριον, ἀεὶ δέονται τοῦ πλείονος, ἕως εἰς ἄπειρον ἔλθωσιν. ἄπειρος γὰρ ἡ τῆς ἐπιθυμίας φύσις, ἧς πρὸς τὴν ἀναπλήρωσιν οἱ πολλοὶ ζῶσιν. τῶν οὖν τοιούτων ἀρχή, μᾶλλον τοῦ τὰς οὐσίας ὁμαλίζειν, τὸ τοὺς μὲν ἐπιεικεῖς τῇ φύσει τοιούτους παρασκευάζειν ὥστε μὴ βούλεσθαι πλεονεκτεῖν, τοὺς δὲ φαύλους ὥστε μὴ δύνασθαι· τοῦτο δ᾽ ἐστίν, ἂν ἥττους τε ὦσι καὶ μὴ ἀδικῶνται. οὐ καλῶς δὲ οὐδὲ τὴν ἰσότητα τῆς οὐσίας εἴρηκεν. περὶ γὰρ τὴν τῆς γῆς κτῆσιν ἰσάζει μόνον, ἔστι δὲ καὶ δούλων καὶ βοσκημάτων πλοῦτος καὶ νομίσματος, καὶ κατασκευὴ πολλὴ τῶν καλουμένων ἐπίπλων· ἢ πάντων οὖν τούτων ἰσότητα ζητητέον ἢ τάξιν τινὰ μετρίαν, ἢ πάντα ἐατέον. φαίνεται δ᾽ ἐκ τῆς νομοθεσίας κατασκευάζων τὴν πόλιν μικράν, εἴ γ᾽ οἱ τεχνῖται πάντες δημόσιοι ἔσονται καὶ μὴ πλήρωμά τι παρέξονται τῆς πόλεως. ἀλλ᾽ εἴπερ δεῖ δημοσίους εἶναι τοὺς τὰ κοινὰ ἐργαζομένους, δεῖ (καθάπερ ἐν Ἐπιδάμνῳ τε, καὶ Διόφαντός ποτε κατεσκεύαζεν Ἀθήνησι) τοῦτον ἔχειν τὸν τρόπον. περὶ μὲν οὖν τῆς Φαλέου πολιτείας σχεδὸν ἐκ τούτων ἄν τις θεωρήσειεν, εἴ τι τυγχάνει καλῶς εἰρηκὼς ἢ μὴ καλῶς.

Ἱππόδαμος δὲ Εὐρυφῶντος Μιλήσιος (ὃς καὶ τὴν τῶν πόλεων διαίρεσιν εὗρε καὶ τὸν Πειραιᾶ κατέτεμεν, γενόμενος καὶ περὶ τὸν ἄλλον βίον περιττότερος διὰ φιλοτιμίαν οὕτως ὥστε δοκεῖν ἐνίοις ζῆν περιεργότερον τριχῶν τε πλήθει καὶ κόσμῳ πολυτελεῖ, ἔτι δὲ ἐσθῆτος εὐτελοῦς μὲν ἀλεεινῆς δέ, οὐκ ἐν τῷ χειμῶνι μόνον ἀλλὰ καὶ περὶ τοὺς θερινοὺς χρόνους, λόγιος δὲ καὶ περὶ τὴν ὅλην φύσιν εἶναι βουλόμενος) πρῶτος τῶν μὴ πολιτευομένων ἐνεχείρησέ τι περὶ πολιτείας εἰπεῖν τῆς ἀρίστης. κατεσκεύαζε δὲ τὴν πόλιν τῷ πλήθει μὲν μυρίανδρον, εἰς τρία δὲ μέρη διῃρημένην· ἐποίει γὰρ ἓν μὲν μέρος τεχνίτας, ἓν δὲ γεωργούς, τρίτον δὲ τὸ προπολεμοῦν καὶ τὰ ὅπλα ἔχον. διῄρει δ᾽ εἰς τρία μέρη τὴν χώραν, τὴν μὲν ἱερὰν τὴν δὲ δημοσίαν τὴν δ᾽ ἰδίαν· ὅθεν μὲν τὰ νομιζόμενα ποιήσουσι πρὸς τοὺς θεούς, ἱεράν, ἀφ᾽ ὧν δ᾽ οἱ προπολεμοῦντες βιώσονται, κοινήν, τὴν δὲ τῶν γεωργῶν ἰδίαν. ᾤετο δ᾽ εἴδη καὶ τῶν νόμων εἶναι τρία μόνον· περὶ ὧν γὰρ αἱ δίκαι γίνονται, τρία ταῦτ' εἶναι τὸν ἀριθμόν, ὕβριν βλάβην θάνατον. ἐνομοθέτει δὲ καὶ δικαστήριον ἓν τὸ κύριον, εἰς ὃ πάσας ἀνάγεσθαι δεῖν τὰς μὴ καλῶς κεκρίσθαι δοκούσας δίκας· τοῦτο δὲ κατεσκεύαζεν ἐκ τινῶν γερόντων [1268a] αἱρετῶν. τὰς δὲ κρίσεις ἐν τοῖς δικαστηρίοις οὐ διὰ ψηφοφορίας ᾤετο γίγνεσθαι δεῖν, ἀλλὰ φέρειν ἕκαστον πινάκιον, ἐν ᾧ γράφειν, εἰ καταδικάζοι ἁπλῶς, τὴν δίκην, εἰ δ' ἀπολύοι ἁπλῶς, κενόν, εἰ δὲ τὸ μὲν τὸ δὲ μή, τοῦτο διορίζειν. νῦν γὰρ οὐκ ᾤετο νενομοθετῆσθαι καλῶς· ἀναγκάζειν γὰρ ἐπιορκεῖν ἢ ταῦτα ἢ ταῦτα δικάζοντας. ἔτι δὲ νόμον ἐτίθει περὶ τῶν εὑρισκόντων τι τῇ πόλει συμφέρον, ὅπως τυγχάνωσι τιμῆς, καὶ τοῖς παισὶ τῶν ἐν τῷ πολέμῳ τελευτώντων ἐκ δημοσίου γίνεσθαι τὴν τροφήν, ὡς οὔπω τοῦτο παρ' ἄλλοις νενομοθετημένον (ἔστι δὲ καὶ ἐν Ἀθήναις οὗτος ὁ νόμος νῦν καὶ ἐν ἑτέραις τῶν πόλεων)· τοὺς δ' ἄρχοντας αἱρετοὺς ὑπὸ τοῦ δήμου εἶναι πάντας. δῆμον δ' ἐποίει τὰ τρία μέρη τῆς πόλεως· τοὺς δ' αἱρεθέντας ἐπιμελεῖσθαι κοινῶν καὶ ξενικῶν καὶ ὀρφανικῶν.

τὰ μὲν οὖν πλεῖστα καὶ τὰ μάλιστα ἀξιόλογα τῆς Ἱπποδάμου τάξεως ταῦτ' ἐστίν· ἀπορήσειε δ' ἄν τις πρῶτον μὲν τὴν διαίρεσιν τοῦ πλήθους τῶν πολιτῶν. οἵ τε γὰρ τεχνῖται καὶ οἱ γεωργοὶ καὶ οἱ τὰ ὅπλα ἔχοντες κοινωνοῦσι τῆς πολιτείας πάντες, οἱ μὲν γεωργοὶ οὐκ ἔχοντες ὅπλα, οἱ δὲ τεχνῖται οὔτε γῆν οὔτε ὅπλα, ὥστε γίνονται σχεδὸν δοῦλοι τῶν τὰ ὅπλα κεκτημένων. μετέχειν μὲν οὖν πασῶν τῶν τιμῶν ἀδύνατον (ἀνάγκη γὰρ ἐκ τῶν τὰ ὅπλα ἐχόντων καθίστασθαι καὶ στρατηγοὺς καὶ πολιτοφύλακας καὶ τὰς κυριωτάτας ἀρχὰς ὡς εἰπεῖν)· μὴ μετέχοντας δὲ τῆς πολιτείας πῶς οἷόν τε φιλικῶς ἔχειν πρὸς τὴν πολιτείαν; "ἀλλὰ δεῖ καὶ κρείττους εἶναι τοὺς τὰ ὅπλα γε κεκτημένους ἀμφοτέρων τῶν μερῶν". τοῦτο δ' οὐ ῥᾴδιον μὴ πολλοὺς ὄντας· εἰ δὲ τοῦτ' ἔσται, τί δεῖ τοὺς ἄλλους μετέχειν τῆς πολιτείας καὶ κυρίους εἶναι τῆς τῶν ἀρχόντων καταστάσεως; ἔτι οἱ γεωργοὶ τί χρήσιμοι τῇ πόλει; τεχνίτας μὲν γὰρ ἀναγκαῖον εἶναι (πᾶσα γὰρ δεῖται πόλις τεχνιτῶν), καὶ δύνανται διαγίγνεσθαι καθάπερ ἐν ταῖς ἄλλαις πόλεσιν ἀπὸ τῆς τέχνης· οἱ δὲ γεωργοὶ πορίζοντες μὲν τοῖς τὰ ὅπλα κεκτημένοις τὴν τροφὴν εὐλόγως ἂν ἦσάν τι τῆς πόλεως μέρος, νῦν δ' ἰδίαν ἔχουσιν καὶ ταύτην ἰδίᾳ γεωργήσουσιν. ἔτι δὲ τὴν κοινήν, ἀφ' ἧς οἱ προπολεμοῦντες ἕξουσι τὴν τροφήν, εἰ μὲν αὐτοὶ γεωργήσουσιν, οὐκ ἂν εἴη τὸ μάχιμον ἕτερον καὶ τὸ γεωργοῦν, βούλεται δ' ὁ νομοθέτης· εἰ δ' ἕτεροί τινες ἔσονται τῶν τε τὰ ἴδια γεωργούντων καὶ τῶν μαχίμων, τέταρτον αὖ μόριον ἔσται τοῦτο τῆς πόλεως, οὐδενὸς μετέχον, ἀλλὰ ἀλλότριον τῆς πολιτείας· ἀλλὰ μὴν εἴ τις τοὺς αὐτοὺς θήσει τούς τε τὴν ἰδίαν καὶ τοὺς τὴν κοινὴν γεωργοῦντας, τό τε πλῆθος ἄπορον ἔσται τῶν καρπῶν ἐξ ὧν [1268b] ἕκαστος γεωργήσει δύο οἰκίαις, καὶ τίνος ἕνεκεν οὐκ εὐθὺς ἀπὸ τῆς ‹αὐτῆς› γῆς καὶ τῶν αὐτῶν κλήρων αὑτοῖς τε τὴν τροφὴν λήψονται καὶ τοῖς μαχίμοις παρέξουσιν; ταῦτα δὴ πάντα πολλὴν ἔχει ταραχήν. οὐ καλῶς δ' οὐδ' ὁ περὶ τῆς κρίσεως ἔχει νόμος, τὸ κρίνειν ἀξιοῦν διαιροῦντα, τῆς δίκης ἁπλῶς γεγραμμένης, καὶ γίνεσθαι τὸν δικαστὴν διαιτητήν. τοῦτο δὲ ἐν μὲν τῇ διαίτῃ καὶ πλείοσιν ἐνδέχεται (κοινολογοῦνται γὰρ ἀλλήλοις περὶ τῆς κρίσεως), ἐν δὲ τοῖς δικαστηρίοις οὐκ ἔστιν, ἀλλὰ καὶ τοὐναντίον τούτου τῶν νομοθετῶν οἱ πολλοὶ παρασκευάζουσιν ὅπως οἱ δικασταὶ μὴ κοινολογῶνται πρὸς ἀλλήλους. ἔπειτα πῶς οὐκ ἔσται ταραχώδης ἡ κρίσις, ὅταν ὀφείλειν μὲν ὁ δικαστὴς οἴηται, μὴ τοσοῦτον δ' ὅσον ὁ δικαζόμενος; ὁ μὲν γὰρ εἴκοσι μνᾶς, ὁ δὲ δικαστὴς κρινεῖ δέκα μνᾶς (ἢ ὁ μὲν πλέον ὁ δ' ἔλασσον), ἄλλος δὲ πέντε, ὁ δὲ τέτταρας, καὶ τοῦτον δὴ τὸν τρόπον δῆλον ὅτι μεριοῦσιν· οἱ δὲ πάντα καταδικάσουσιν, οἱ δ' οὐδέν. τίς οὖν ὁ τρόπος ἔσται τῆς διαλογῆς τῶν ψήφων; ἔτι δ' οὐδὲν ἐπιορκεῖν ἀναγκάζει τὸν ἁπλῶς ἀποδικάσαντα ἢ καταδικάσαντα, εἴπερ ἁπλῶς τὸ ἔγκλημα γέγραπται, δικαίως· οὐ γὰρ μηδὲν ὀφείλειν ὁ ἀποδικάσας κρίνει, ἀλλὰ τὰς εἴκοσι μνᾶς· ἀλλ' ἐκεῖνος ἤδη ἐπιορκεῖ, ὁ καταδικάσας, μὴ νομίζων ὀφείλειν τὰς εἴκοσι μνᾶς.

περὶ δὲ τοῦ τοῖς εὑρίσκουσί τι τῇ πόλει συμφέρον ὡς δεῖ γίνεσθαί τινα τιμήν, οὐκ ἔστιν ἀσφαλὲς τὸ νομοθετεῖν, ἀλλ' εὐόφθαλμον ἀκοῦσαι μόνον· ἔχει γὰρ συκοφαντίας καὶ κινήσεις, ἂν τύχῃ, πολιτείας. ἐμπίπτει δ' εἰς ἄλλο πρόβλημα καὶ σκέψιν ἑτέραν· ἀποροῦσι γάρ τινες πότερον βλαβερὸν ἢ συμφέρον ταῖς πόλεσι τὸ κινεῖν τοὺς πατρίους νόμους, ἂν ᾖ τις ἄλλος βελτίων. διόπερ οὐ ῥᾴδιον τῷ λεχθέντι ταχὺ συγχωρεῖν, εἴπερ μὴ συμφέρει κινεῖν, ἐνδέχεται δ' εἰσηγεῖσθαί τινας νόμων λύσιν ἢ πολιτείας ὡς κοινὸν ἀγαθόν. ἐπεὶ δὲ πεποιήμεθα μνείαν, ἔτι μικρὰ περὶ αὐτοῦ διαστείλασθαι βέλτιον. ἔχει γάρ, ὥσπερ εἴπομεν, ἀπορίαν, καὶ δόξειεν ἂν βέλτιον εἶναι τὸ κινεῖν. ἐπὶ γοῦν τῶν ἄλλων ἐπιστημῶν τοῦτο συνενήνοχεν, οἷον ἰατρικὴ κινηθεῖσα παρὰ τὰ πάτρια καὶ γυμναστικὴ καὶ ὅλως αἱ τέχναι πᾶσαι καὶ αἱ δυνάμεις, ὥστ' ἐπεὶ μίαν τούτων θετέον καὶ τὴν πολιτικήν, δῆλον ὅτι καὶ περὶ ταύτην ἀναγκαῖον ὁμοίως ἔχειν. σημεῖον δ' ἂν γεγονέναι φαίη τις ἐπ' αὐτῶν τῶν ἔργων· τοὺς γὰρ ἀρχαίους νόμους λίαν ἁπλοῦς εἶναι καὶ βαρβαρικούς. ἐσιδηροφοροῦντό τε γὰρ οἱ Ἕλληνες, καὶ τὰς γυναῖκας ἐωνοῦντο παρ' ἀλλήλων, ὅσα τε λοιπὰ τῶν ἀρχαίων ἐστί που νομίμων εὐήθη πάμπαν ἐστίν, [1269a] οἷον ἐν Κύμῃ περὶ τὰ φονικὰ νόμος ἔστιν, ἂν πλῆθός τι παράσχηται μαρτύρων ὁ διώκων τὸν φόνον τῶν αὑτοῦ συγγενῶν, ἔνοχον εἶναι τῷ φόνῳ τὸν φεύγοντα. ζητοῦσι δ’ ὅλως οὐ τὸ πάτριον ἀλλὰ τἀγαθὸν πάντες· εἰκός τε τοὺς πρώτους, εἴτε γηγενεῖς ἦσαν εἴτ’ ἐκ φθορᾶς τινος ἐσώθησαν, ὁμοίους εἶναι καὶ τοὺς τυχόντας καὶ τοὺς ἀνοήτους, ὥσπερ καὶ λέγεται κατὰ τῶν γηγενῶν, ὥστε ἄτοπον τὸ μένειν ἐν τοῖς τούτων δόγμασιν. πρὸς δὲ τούτοις οὐδὲ τοὺς γεγραμμένους ἐᾶν ἀκινήτους βέλτιον. ὥσπερ γὰρ καὶ περὶ τὰς ἄλλας τέχνας, καὶ τὴν πολιτικὴν τάξιν ἀδύνατον ἀκριβῶς πάντα γραφῆναι· καθόλου γὰρ ἀναγκαῖον γράφειν, αἱ δὲ πράξεις περὶ τῶν καθ’ ἕκαστόν εἰσιν.

ἐκ μὲν οὖν τούτων φανερὸν ὅτι κινητέοι καὶ τινὲς καὶ ποτὲ τῶν νόμων εἰσίν· ἄλλον δὲ τρόπον ἐπισκοποῦσιν εὐλαβείας ἂν δόξειεν εἶναι πολλῆς. ὅταν γὰρ ᾖ τὸ μὲν βέλτιον μικρόν, τὸ δ’ ἐθίζειν εὐχερῶς λύειν τοὺς νόμους φαῦλον, φανερὸν ὡς ἐατέον ἐνίας ἁμαρτίας καὶ τῶν νομοθετῶν καὶ τῶν ἀρχόντων· οὐ γὰρ τοσοῦτον ὠφελήσεται κινήσας ὅσον βλαβήσεται τοῖς ἄρχουσιν ἀπειθεῖν ἐθισθείς. ψεῦδος δὲ καὶ τὸ παράδειγμα τὸ περὶ τῶν τεχνῶν· οὐ γὰρ ὅμοιον τὸ κινεῖν τέχνην καὶ νόμον· ὁ γὰρ νόμος ἰσχὺν οὐδεμίαν ἔχει πρὸς τὸ πείθεσθαι παρὰ τὸ ἔθος, τοῦτο δ’ οὐ γίνεται εἰ μὴ διὰ χρόνου πλῆθος, ὥστε τὸ ῥᾳδίως μεταβάλλειν ἐκ τῶν ὑπαρχόντων νόμων εἰς ἑτέρους νόμους καινοὺς ἀσθενῆ ποιεῖν ἐστι τὴν τοῦ νόμου δύναμιν. ἔτι δ’ εἰ καὶ κινητέοι, πότερον πάντες καὶ ἐν πάσῃ πολιτείᾳ, ἢ οὔ; καὶ πότερον τῷ τυχόντι ἢ τισίν; ταῦτα γὰρ ἔχει μεγάλην διαφοράν. διὸ νῦν μὲν ἀφῶμεν ταύτην τὴν σκέψιν· ἄλλων γάρ ἐστι καιρῶν.

Περὶ δὲ τῆς Λακεδαιμονίων πολιτείας καὶ τῆς Κρητικῆς, σχεδὸν δὲ καὶ περὶ τῶν ἄλλων πολιτειῶν, δύο εἰσὶν αἱ σκέψεις, μία μὲν εἴ τι καλῶς ἢ μὴ καλῶς πρὸς τὴν ἀρίστην νενομοθέτηται τάξιν, ἑτέρα δ’ εἴ τι πρὸς τὴν ὑπόθεσιν καὶ τὸν τρόπον ὑπεναντίως τῆς προκειμένης αὐτοῖς πολιτείας. ὅτι μὲν οὖν δεῖ τῇ μελλούσῃ καλῶς πολιτεύεσθαι τὴν τῶν ἀναγκαίων ὑπάρχειν σχολήν, ὁμολογούμενόν ἐστιν· τίνα δὲ τρόπον ὑπάρχειν, οὐ ῥᾴδιον λαβεῖν. ἥ τε γὰρ Θετταλῶν πενεστεία πολλάκις ἐπέθετο τοῖς Θετταλοῖς, ὁμοίως δὲ καὶ τοῖς Λάκωσιν οἱ εἵλωτες (ὥσπερ γὰρ ἐφεδρεύοντες τοῖς ἀτυχήμασι διατελοῦσιν)· περὶ δὲ τοὺς Κρῆτας οὐδέν πω τοιοῦτον συμβέβηκεν. αἴτιον δ’ ἴσως τὸ τὰς γειτνιώσας [1269b] πόλεις, καίπερ πολεμούσας ἀλλήλαις, μηδεμίαν εἶναι σύμμαχον τοῖς ἀφισταμένοις διὰ τὸ μὴ συμφέρειν ‹ταῖς› καὶ αὐταῖς κεκτημέναις περιοίκους, τοῖς δὲ Λάκωσιν οἱ γειτνιῶντες ἐχθροὶ πάντες ἦσαν, Ἀργεῖοι καὶ Μεσήνιοι καὶ Ἀρκάδες· ἐπεὶ καὶ τοῖς Θετταλοῖς κατ’ ἀρχὰς ἀφίσταντο διὰ τὸ πολεμεῖν ἔτι τοῖς προσχώροις, Ἀχαιοῖς καὶ Περραιβοῖς καὶ Μάγνησιν. ἔοικε δὲ καὶ εἰ μηδὲν ἕτερον, ἀλλὰ τό γε τῆς ἐπιμελείας ἐργῶδες εἶναι, τίνα δεῖ πρὸς αὐτοὺς ὁμιλῆσαι τρόπον· ἀνιέμενοί τε γὰρ ὑβρίζουσι καὶ τῶν ἴσων ἀξιοῦσιν ἑαυτοὺς τοῖς κυρίοις, καὶ κακοπαθῶς ζῶντες ἐπιβουλεύουσι καὶ μισοῦσιν. δῆλον οὖν ὡς οὐκ ἐξευρίσκουσι τὸν βέλτιστον τρόπον οἷς τοῦτο συμβαίνει περὶ τὴν εἱλωτείαν.

ἔτι δ’ ἡ περὶ τὰς γυναῖκας ἄνεσις καὶ πρὸς τὴν προαίρεσιν τῆς πολιτείας βλαβερὰ καὶ πρὸς εὐδαιμονίαν πόλεως. ὥσπερ γὰρ οἰκίας μέρος ἀνὴρ καὶ γυνή, δῆλον ὅτι καὶ πόλιν ἐγγὺς τοῦ δίχα διῃρῆσθαι δεῖ νομίζειν εἴς τε τὸ τῶν ἀνδρῶν πλῆθος καὶ τὸ τῶν γυναικῶν, ὥστ’ ἐν ὅσαις πολιτείαις φαύλως ἔχει τὸ περὶ τὰς γυναῖκας, τὸ ἥμισυ τῆς πόλεως εἶναι δεῖ νομίζειν ἀνομοθέτητον. ὅπερ ἐκεῖ συμβέβηκεν· ὅλην γὰρ τὴν πόλιν ὁ νομοθέτης εἶναι βουλόμενος καρτερικήν, κατὰ μὲν τοὺς ἄνδρας φανερός ἐστι τοιοῦτος ὤν, ἐπὶ δὲ τῶν γυναικῶν ἐξημέληκεν· ζῶσι γὰρ ἀκολάστως πρὸς ἅπασαν ἀκολασίαν καὶ τρυφερῶς. ὥστ’ ἀναγκαῖον ἐν τῇ τοιαύτῃ πολιτείᾳ τιμᾶσθαι τὸν πλοῦτον, ἄλλως τε κἂν τύχωσι γυναικοκρατούμενοι, καθάπερ τὰ πολλὰ τῶν στρατιωτικῶν καὶ πολεμικῶν γενῶν, ἔξω Κελτῶν ἢ κἂν εἴ τινες ἕτεροι φανερῶς τετιμήκασι τὴν πρὸς τοὺς ἄρρενας συνουσίαν. ἔοικε γὰρ ὁ μυθολογήσας πρῶτος οὐκ ἀλόγως συζεῦξαι τὸν Ἄρην πρὸς τὴν Ἀφροδίτην· ἢ γὰρ πρὸς τὴν τῶν ἀρρένων ὁμιλίαν ἢ πρὸς τὴν τῶν γυναικῶν φαίνονται κατοκώχιμοι πάντες οἱ τοιοῦτοι. διὸ παρὰ τοῖς Λάκωσι τοῦθ’ ὑπῆρχεν, καὶ πολλὰ διῳκεῖτο ὑπὸ τῶν γυναικῶν ἐπὶ τῆς ἀρχῆς αὐτῶν. καίτοι τί διαφέρει γυναῖκας ἄρχειν ἢ τοὺς ἄρχοντας ὑπὸ τῶν γυναικῶν ἄρχεσθαι; ταὐτὸ γὰρ συμβαίνει. χρησίμου δ’ οὔσης τῆς θρασύτητος πρὸς οὐδὲν τῶν ἐγκυκλίων, ἀλλ’ εἴπερ, πρὸς τὸν πόλεμον, βλαβερώταται καὶ πρὸς ταῦθ’ αἱ τῶν Λακώνων ἦσαν. ἐδήλωσαν δ’ ἐπὶ τῆς Θηβαίων ἐμβολῆς· χρήσιμοι μὲν γὰρ οὐδὲν ἦσαν, ὥσπερ ἐν ἑτέραις πόλεσιν, θόρυβον δὲ παρεῖχον πλείω τῶν πολεμίων. ἐξ ἀρχῆς μὲν οὖν ἔοικε συμβεβηκέναι τοῖς Λάκωσιν εὐλόγως ἡ τῶν γυναικῶν [1270a] ἄνεσις. ἔξω γὰρ τῆς οἰκείας διὰ τὰς στρατείας ἀπεξενοῦντο πολὺν χρόνον, πολεμοῦντες τόν τε πρὸς Ἀργείους πόλεμον καὶ πάλιν τὸν πρὸς Ἀρκάδας καὶ Μεσηνίους· σχολάσαντες δὲ αὑτοὺς μὲν παρεῖχον τῷ νομοθέτῃ προωδοπεποιημένους διὰ τὸν στρατιωτικὸν βίον (πολλὰ γὰρ ἔχει μέρη τῆς ἀρετῆς), τὰς δὲ γυναῖκάς φασι μὲν ἄγειν ἐπιχειρῆσαι τὸν Λυκοῦργον ὑπὸ τοὺς νόμους, ὡς δ’ ἀντέκρουον, ἀποστῆναι πάλιν. αἰτίαι μὲν οὖν εἰσιν αὗται τῶν γενομένων, ὥστε δῆλον ὅτι καὶ ταύτης τῆς ἁμαρτίας· ἀλλ’ ἡμεῖς οὐ τοῦτο σκοποῦμεν, τίνι δεῖ συγγνώμην ἔχειν ἢ μὴ ἔχειν, ἀλλὰ περὶ τοῦ ὀρθῶς καὶ μὴ ὀρθῶς. τὰ δὲ περὶ τὰς γυναῖκας ἔχοντα μὴ καλῶς ἔοικεν, ὥσπερ ἐλέχθη καὶ πρότερον, οὐ μόνον ἀπρέπειάν τινα ποιεῖν τῆς πολιτείας αὐτῆς καθ’ αὐτήν, ἀλλὰ συμβάλλεσθαί τι πρὸς τὴν φιλοχρηματίαν. μετὰ γὰρ τὰ νῦν ῥηθέντα τοῖς περὶ τὴν ἀνωμαλίαν τῆς κτήσεως ἐπιτιμήσειεν ἄν τις. τοῖς μὲν γὰρ αὐτῶν συμβέβηκε κεκτῆσθαι πολλὴν λίαν οὐσίαν, τοῖς δὲ πάμπαν μικράν· διόπερ εἰς ὀλίγους ἧκεν ἡ χώρα. τοῦτο δὲ καὶ διὰ τῶν νόμων τέτακται φαύλως· ὠνεῖσθαι μὲν γάρ, ἢ πωλεῖν τὴν ὑπάρχουσαν, ἐποίησεν οὐ καλόν, ὀρθῶς ποιήσας, διδόναι δὲ καὶ καταλείπειν ἐξουσίαν ἔδωκε τοῖς βουλομένοις· καίτοι ταὐτὸ συμβαίνειν ἀναγκαῖον ἐκείνως τε καὶ οὕτως. ἔστι δὲ καὶ τῶν γυναικῶν σχεδὸν τῆς πάσης χώρας τῶν πέντε μερῶν τὰ δύο, τῶν τ’ ἐπικλήρων πολλῶν γινομένων, καὶ διὰ τὸ προῖκας διδόναι μεγάλας. καίτοι βέλτιον ἦν μηδεμίαν ἢ ὀλίγην ἢ καὶ μετρίαν τετάχθαι. νῦν δ’ ἔξεστι δοῦναί τε τὴν ἐπίκληρον ὅτῳ ἂν βούληται, κἂν ἀποθάνῃ μὴ διαθέμενος, ὃν ἂν καταλίπῃ κληρονόμον, οὗτος ᾧ ἂν θέλῃ δίδωσιν. τοιγαροῦν δυναμένης τῆς χώρας χιλίους ἱππεῖς τρέφειν καὶ πεντακοσίους, καὶ ὁπλίτας τρισμυρίους, οὐδὲ χίλιοι τὸ πλῆθος ἦσαν. γέγονε δὲ διὰ τῶν ἔργων αὐτῶν δῆλον ὅτι φαύλως αὐτοῖς εἶχε τὰ περὶ τὴν τάξιν ταύτην· μίαν γὰρ πληγὴν οὐχ ὑπήνεγκεν ἡ πόλις, ἀλλ’ ἀπώλετο διὰ τὴν ὀλιγανθρωπίαν. λέγουσι δ’ ὡς ἐπὶ μὲν τῶν προτέρων βασιλέων μετεδίδοσαν τῆς πολιτείας, ὥστ’ οὐ γίνεσθαι τότε ὀλιγανθρωπίαν, πολεμούντων πολὺν χρόνον, καί φασιν εἶναί ποτε τοῖς Σπαρτιάταις καὶ μυρίους· οὐ μὴν ἀλλ’, εἴτ’ ἐστὶν ἀληθῆ ταῦτα εἴτε μή, βέλτιον τὸ διὰ τῆς κτήσεως ὡμαλισμένης πληθύειν ἀνδρῶν τὴν πόλιν. ὑπεναντίος δὲ καὶ ὁ περὶ τὴν τεκνοποιίαν νόμος πρὸς ταύτην τὴν διόρθωσιν.

[1270b] βουλόμενος γὰρ ὁ νομοθέτης ὡς πλείστους εἶναι τοὺς Σπαρτιάτας, προάγεται τοὺς πολίτας ὅτι πλείστους ποιεῖσθαι παῖδας· ἔστι γὰρ αὐτοῖς νόμος τὸν μὲν γεννήσαντα τρεῖς υἱοὺς ἄφρουρον εἶναι, τὸν δὲ τέτταρας ἀτελῆ πάντων. καίτοι φανερὸν ὅτι πολλῶν γινομένων, τῆς δὲ χώρας οὕτω διῃρημένης, ἀναγκαῖον πολλοὺς γίνεσθαι πένητας.

ἀλλὰ μὴν καὶ τὰ περὶ τὴν ἐφορείαν ἔχει φαύλως. ἡ γὰρ ἀρχὴ κυρία μὲν αὐτὴ τῶν μεγίστων αὐτοῖς ἐστιν, γίνονται δ’ ἐκ τοῦ δήμου παντός, ὥστε πολλάκις ἐμπίπτουσιν ἄνθρωποι σφόδρα πένητες εἰς τὸ ἀρχεῖον, οἳ διὰ τὴν ἀπορίαν ὤνιοι ἦσαν. ἐδήλωσαν δὲ πολλάκις μὲν καὶ πρότερον, καὶ νῦν δὲ ἐν τοῖς Ἀνδρίοις· διαφθαρέντες γὰρ ἀργυρίῳ τινές, ὅσον ἐφ’ ἑαυτοῖς, ὅλην τὴν πόλιν ἀπώλεσαν, καὶ διὰ τὸ τὴν ἀρχὴν εἶναι λίαν μεγάλην καὶ ἰσοτύραννον δημαγωγεῖν αὐτοὺς ἠναγκάζοντο καὶ οἱ βασιλεῖς, ὥστε καὶ ταύτῃ συνεπιβλάπτεσθαι τὴν πολιτείαν· δημοκρατία γὰρ ἐξ ἀριστοκρατίας συνέβαινεν. συνέχει μὲν οὖν τὴν πολιτείαν τὸ ἀρχεῖον τοῦτο - ἡσυχάζει γὰρ ὁ δῆμος διὰ τὸ μετέχειν τῆς μεγίστης ἀρχῆς, ὥστ’ εἴτε διὰ τὸν νομοθέτην εἴτε διὰ τύχην τοῦτο συμπέπτωκεν, συμφερόντως ἔχει τοῖς πράγμασιν· δεῖ γὰρ τὴν πολιτείαν τὴν μέλλουσαν σῴζεσθαι πάντα βούλεσθαι τὰ μέρη τῆς πόλεως εἶναι καὶ διαμένειν ταὐτά· οἱ μὲν οὖν βασιλεῖς διὰ τὴν αὑτῶν τιμὴν οὕτως ἔχουσιν, οἱ δὲ καλοὶ κἀγαθοὶ διὰ τὴν γερουσίαν (ἆθλον γὰρ ἡ ἀρχὴ αὕτη τῆς ἀρετῆς ἐστιν), ὁ δὲ δῆμος διὰ τὴν ἐφορείαν (καθίσταται γὰρ ἐξ ἁπάντων) - ἀλλ’ αἱρετὴν ἔδει τὴν ἀρχὴν εἶναι ταύτην ἐξ ἁπάντων μέν, μὴ τὸν τρόπον δὲ τοῦτον ὃν νῦν (παιδαριώδης γάρ ἐστι λίαν). ἔτι δὲ καὶ κρίσεών εἰσι μεγάλων κύριοι, ὄντες οἱ τυχόντες, διόπερ οὐκ αὐτογνώμονας βέλτιον κρίνειν ἀλλὰ κατὰ γράμματα καὶ τοὺς νόμους. ἔστι δὲ καὶ ἡ δίαιτα τῶν ἐφόρων οὐχ ὁμολογουμένη τῷ βουλήματι τῆς πόλεως· αὐτὴ μὲν γὰρ ἀνειμένη λίαν ἐστίν, ἐν δὲ τοῖς ἄλλοις μᾶλλον ὑπερβάλλει ἐπὶ τὸ σκληρόν, ὥστε μὴ δύνασθαι καρτερεῖν ἀλλὰ λάθρᾳ τὸν νόμον ἀποδιδράσκοντας ἀπολαύειν τῶν σωματικῶν ἡδονῶν.

ἔχει δὲ καὶ τὰ περὶ τὴν τῶν γερόντων ἀρχὴν οὐ καλῶς αὐτοῖς. ἐπιεικῶν μὲν γὰρ ὄντων καὶ πεπαιδευμένων ἱκανῶς πρὸς ἀνδραγαθίαν τάχ’ ἂν εἴπειέ τις συμφέρειν τῇ πόλει, καίτοι τό γε διὰ βίου κυρίους εἶναι κρίσεων μεγάλων ἀμφισβητήσιμον (ἔστι γάρ, ὥσπερ καὶ σώματος, καὶ διανοίας [1271a] γῆρας)· τὸν τρόπον δὲ τοῦτον πεπαιδευμένων ὥστε καὶ τὸν νομοθέτην αὐτὸν ἀπιστεῖν ὡς οὐκ ἀγαθοῖς ἀνδράσιν, οὐκ ἀσφαλές. φαίνονται δὲ καὶ καταδωροδοκούμενοι καὶ καταχαριζόμενοι πολλὰ τῶν κοινῶν οἱ κεκοινωνηκότες τῆς ἀρχῆς ταύτης. διόπερ βέλτιον αὐτοὺς μὴ ἀνευθύνους εἶναι· νῦν δ’ εἰσίν. δόξειε δ’ ἂν ἡ τῶν ἐφόρων ἀρχὴ πάσας εὐθύνειν τὰς ἀρχάς· τοῦτο δὲ τῇ ἐφορείᾳ μέγα λίαν τὸ δῶρον, καὶ τὸν τρόπον οὐ τοῦτον λέγομεν διδόναι δεῖν τὰς εὐθύνας. ἔτι δὲ καὶ τὴν αἵρεσιν ἣν ποιοῦνται τῶν γερόντων κατά τε τὴν κρίσιν ἐστὶ παιδαριώδης, καὶ τὸ αὐτὸν αἰτεῖσθαι τὸν ἀξιωθησόμενον τῆς ἀρχῆς οὐκ ὀρθῶς ἔχει· δεῖ γὰρ καὶ βουλόμενον καὶ μὴ βουλόμενον ἄρχειν τὸν ἄξιον τῆς ἀρχῆς. νῦν δ’ ὅπερ καὶ περὶ τὴν ἄλλην πολιτείαν ὁ νομοθέτης φαίνεται ποιῶν· φιλοτίμους γὰρ κατασκευάζων τοὺς πολίτας τούτῳ κέχρηται πρὸς τὴν αἵρεσιν τῶν γερόντων· οὐδεὶς γὰρ ἂν ἄρχειν αἰτήσαιτο μὴ φιλότιμος ὤν. καίτοι τῶν γ’ ἀδικημάτων τῶν ἑκουσίων τὰ πλεῖστα συμβαίνει σχεδὸν διὰ φιλοτιμίαν καὶ διὰ φιλοχρηματίαν τοῖς ἀνθρώποις.

περὶ δὲ βασιλείας, εἰ μὲν βέλτιόν ἐστιν ὑπάρχειν ταῖς πόλεσιν ἢ μὴ βέλτιον, ἄλλος ἔστω λόγος· ἀλλὰ μὴν βέλτιόν γε μὴ καθάπερ νῦν, ἀλλὰ κατὰ τὸν αὑτοῦ βίον ἕκαστον κρίνεσθαι τῶν βασιλέων. ὅτι δ’ ὁ νομοθέτης οὐδ’ αὐτὸς οἴεται δύνασθαι ποιεῖν καλοὺς κἀγαθούς, δῆλον· ἀπιστεῖ γοῦν ὡς οὐκ οὖσιν ἱκανῶς ἀγαθοῖς ἀνδράσιν· διόπερ ἐξέπεμπον συμπρεσβευτὰς τοὺς ἐχθρούς, καὶ σωτηρίαν ἐνόμιζον τῇ πόλει εἶναι τὸ στασιάζειν τοὺς βασιλεῖς. οὐ καλῶς δ᾽ οὐδὲ περὶ τὰ συσσίτια τὰ καλούμενα φιδίτια νενομοθέτηται τῷ καταστήσαντι πρῶτον. ἔδει γὰρ ἀπὸ κοινοῦ μᾶλλον εἶναι τὴν σύνοδον, καθάπερ ἐν Κρήτῃ· παρὰ δὲ τοῖς Λάκωσιν ἕκαστον δεῖ φέρειν, καὶ σφόδρα πενήτων ἐνίων ὄντων καὶ τοῦτο τὸ ἀνάλωμα οὐ δυναμένων δαπανᾶν, ὥστε συμβαίνει τοὐναντίον τῷ νομοθέτῃ τῆς προαιρέσεως. βούλεται μὲν γὰρ δημοκρατικὸν εἶναι τὸ κατασκεύασμα τῶν συσσιτίων, γίνεται δ᾽ ἥκιστα δημοκρατικὸν οὕτω νενομοθετημένον. μετέχειν μὲν γὰρ οὐ ῥᾴδιον τοῖς λίαν πένησιν, ὅρος δὲ τῆς πολιτείας οὗτός ἐστιν αὐτοῖς ὁ πάτριος, τὸν μὴ δυνάμενον τοῦτο τὸ τέλος φέρειν μὴ μετέχειν αὐτῆς· τῷ δὲ περὶ τοὺς ναυάρχους νόμῳ καὶ ἕτεροί τινες ἐπιτετιμήκασιν, ὀρθῶς ἐπιτιμῶντες. στάσεως γὰρ γίνεται αἴτιος· ἐπὶ γὰρ τοῖς βασιλεῦσιν, οὖσι στρατηγοῖς ἀιδίοις, ἡ ναυαρχία σχεδὸν ἑτέρα βασιλεία καθέστηκεν. καὶ ὡδὶ δὲ τῇ ὑποθέσει τοῦ νομοθέτου ἐπιτιμήσειεν [1271b] ἄν τις, ὅπερ καὶ Πλάτων ἐν τοῖς Νόμοις ἐπιτετίμηκεν· πρὸς γὰρ μέρος ἀρετῆς ἡ πᾶσα σύνταξις τῶν νόμων ἐστί, τὴν πολεμικήν· αὕτη γὰρ χρησίμη πρὸς τὸ κρατεῖν. τοιγαροῦν ἐσῴζοντο μὲν πολεμοῦντες, ἀπώλλυντο δὲ ἄρξαντες διὰ τὸ μὴ ἐπίστασθαι σχολάζειν μηδὲ ἠσκηκέναι μηδεμίαν ἄσκησιν ἑτέραν κυριωτέραν τῆς πολεμικῆς. τούτου δὲ ἁμάρτημα οὐκ ἔλαττον· νομίζουσι μὲν γὰρ γίνεσθαι τἀγαθὰ τὰ περιμάχητα δι᾽ ἀρετῆς μᾶλλον ἢ κακίας, καὶ τοῦτο μὲν καλῶς, ὅτι μέντοι ταῦτα κρείττω τῆς ἀρετῆς ὑπολαμβάνουσιν, οὐ καλῶς. φαύλως δ᾽ ἔχει καὶ περὶ τὰ κοινὰ χρήματα τοῖς Σπαρτιάταις. οὔτε γὰρ ἐν τῷ κοινῷ τῆς πόλεως ἔστιν οὐδὲν πολέμους μεγάλους ἀναγκαζομένοις πολεμεῖν, εἰσφέρουσί τε κακῶς· διὰ γὰρ τὸ τῶν Σπαρτιατῶν εἶναι τὴν πλείστην γῆν οὐκ ἐξετάζουσιν ἀλλήλων τὰς εἰσφοράς. ἀποβέβηκέ τε τοὐναντίον τῷ νομοθέτῃ τοῦ συμφέροντος· τὴν μὲν γὰρ πόλιν πεποίηκεν ἀχρήματον, τοὺς δ᾽ ἰδιώτας φιλοχρημάτους. περὶ μὲν οὖν τῆς Λακεδαιμονίων πολιτείας ἐπὶ τοσοῦτον εἰρήσθω· ταῦτα γάρ ἐστιν ἃ μάλιστ᾽ ἄν τις ἐπιτιμήσειεν.

Ἡ δὲ Κρητικὴ πολιτεία πάρεγγυς μέν ἐστι ταύτης, ἔχει δὲ μικρὰ μὲν οὐ χεῖρον, τὸ δὲ πλεῖον ἧττον γλαφυρῶς. καὶ γὰρ ἔοικε καὶ λέγεταί γε τὰ πλεῖστα μεμιμῆσθαι τὴν Κρητικὴν πολιτείαν ἡ τῶν Λακώνων· τὰ δὲ πλεῖστα τῶν ἀρχαίων ἧττον διήρθρωται τῶν νεωτέρων. φασὶ γὰρ τὸν Λυκοῦργον, ὅτε τὴν ἐπιτροπείαν τὴν Χαρίλλου τοῦ βασιλέως καταλιπὼν ἀπεδήμησεν, τότε τὸν πλεῖστον διατρῖψαι χρόνον περὶ Κρήτην διὰ τὴν συγγένειαν· ἄποικοι γὰρ οἱ

Λύκτιοι τῶν Λακώνων ἦσαν, κατέλαβον δ’ οἱ πρὸς τὴν ἀποικίαν ἐλθόντες τὴν τάξιν τῶν νόμων ὑπάρχουσαν ἐν τοῖς τότε κατοικοῦσιν. διὸ καὶ νῦν οἱ περίοικοι τὸν αὐτὸν τρόπον χρῶνται αὐτοῖς, ὡς κατασκευάσαντος Μίνω πρώτου τὴν τάξιν τῶν νόμων. δοκεῖ δ’ ἡ νῆσος καὶ πρὸς τὴν ἀρχὴν τὴν Ἑλληνικὴν πεφυκέναι καὶ κεῖσθαι καλῶς· πάσῃ γὰρ ἐπίκειται τῇ θαλάττῃ, σχεδὸν τῶν Ἑλλήνων ἱδρυμένων περὶ τὴν θάλατταν πάντων· ἀπέχει γὰρ τῇ μὲν τῆς Πελοποννήσου μικρόν, τῇ δὲ τῆς Ἀσίας τοῦ περὶ Τριόπιον τόπου καὶ Ῥόδου. διὸ καὶ τὴν τῆς θαλάττης ἀρχὴν κατέσχεν ὁ Μίνως, καὶ τὰς νήσους τὰς μὲν ἐχειρώσατο τὰς δ’ ᾤκισεν, τέλος δὲ ἐπιθέμενος τῇ Σικελίᾳ τὸν βίον ἐτελεύτησεν ἐκεῖ περὶ Καμικόν.

ἔχει δ’ ἀνάλογον ἡ Κρητικὴ τάξις πρὸς τὴν Λακωνικήν. γεωργοῦσί τε γὰρ τοῖς μὲν εἵλωτες [1272a] τοῖς δὲ Κρησὶν οἱ περίοικοι, καὶ συσσίτια παρ’ ἀμφοτέροις ἔστιν, καὶ τό γε ἀρχαῖον ἐκάλουν οἱ Λάκωνες οὐ φιδίτια ἀλλὰ ἀνδρεῖα, καθάπερ οἱ Κρῆτες, ᾗ καὶ δῆλον ὅτι ἐκεῖθεν ἐλήλυθεν. ἔτι δὲ τῆς πολιτείας ἡ τάξις. οἱ μὲν γὰρ ἔφοροι τὴν αὐτὴν ἔχουσι δύναμιν τοῖς ἐν τῇ Κρήτῃ καλουμένοις κόσμοις, πλὴν οἱ μὲν ἔφοροι πέντε τὸν ἀριθμὸν οἱ δὲ κόσμοι δέκα εἰσίν· οἱ δὲ γέροντες τοῖς γέρουσιν, οὓς καλοῦσιν οἱ Κρῆτες βουλήν, ἴσοι· βασιλεία δὲ πρότερον μὲν ἦν, εἶτα κατέλυσαν οἱ Κρῆτες, καὶ τὴν ἡγεμονίαν οἱ κόσμοι τὴν κατὰ πόλεμον ἔχουσιν· ἐκκλησίας δὲ μετέχουσι πάντες, κυρία δ’ οὐδενός ἐστιν ἀλλ’ ἢ συνεπιψηφίσαι τὰ δόξαντα τοῖς γέρουσι καὶ τοῖς κόσμοις.

τὰ μὲν οὖν τῶν συσσιτίων ἔχει βέλτιον τοῖς Κρησὶν ἢ τοῖς Λάκωσιν. ἐν μὲν γὰρ Λακεδαίμονι κατὰ κεφαλὴν ἕκαστος εἰσφέρει τὸ τεταγμένον, εἰ δὲ μή, μετέχειν νόμος κωλύει τῆς πολιτείας, καθάπερ εἴρηται καὶ πρότερον, ἐν δὲ Κρήτῃ κοινοτέρως· ἀπὸ πάντων γὰρ τῶν γινομένων καρπῶν τε καὶ βοσκημάτων δημοσίων, καὶ ἐκ τῶν φόρων οὓς φέρουσιν οἱ περίοικοι, τέτακται μέρος τὸ μὲν πρὸς τοὺς θεοὺς καὶ τὰς κοινὰς λειτουργίας, τὸ δὲ τοῖς συσσιτίοις, ὥστ’ ἐκ κοινοῦ τρέφεσθαι πάντας, καὶ γυναῖκας καὶ παῖδας καὶ ἄνδρας· πρὸς δὲ τὴν ὀλιγοσιτίαν ὡς ὠφέλιμον πολλὰ πεφιλοσόφηκεν ὁ νομοθέτης, καὶ πρὸς τὴν διάζευξιν τῶν γυναικῶν, ἵνα μὴ πολυτεκνῶσι, τὴν πρὸς τοὺς ἄρρενας ποιήσας ὁμιλίαν, περὶ ἧς εἰ φαύλως ἢ μὴ φαύλως, ἕτερος ἔσται τοῦ διασκέψασθαι καιρός. ὅτι δὴ τὰ περὶ τὰ συσσίτια βέλτιον τέτακται τοῖς Κρησὶν ἢ τοῖς Λάκωσι, φανερόν· τὰ δὲ περὶ τοὺς κόσμους ἔτι χεῖρον τῶν ἐφόρων. ὃ μὲν γὰρ ἔχει κακὸν τὸ τῶν ἐφόρων ἀρχεῖον, ὑπάρχει καὶ τούτοις (γίνονται γὰρ οἱ τυχόντες), ὃ δ’ ἐκεῖ συμφέρει πρὸς τὴν πολιτείαν, ἐνταῦθ’ οὐκ ἔστιν. ἐκεῖ μὲν γάρ, διὰ τὸ τὴν αἵρεσιν ἐκ πάντων εἶναι, μετέχων ὁ δῆμος τῆς μεγίστης ἀρχῆς βούλεται μένειν τὴν πολιτείαν· ἐνταῦθα δ’ οὐκ ἐξ ἁπάντων αἱροῦνται τοὺς κόσμους ἀλλ’ ἐκ τινῶν γενῶν, καὶ τοὺς γέροντας ἐκ τῶν κεκοσμηκότων, περὶ ὧν τοὺς αὐτοὺς ἄν τις εἴπειε λόγους καὶ περὶ τῶν ἐν Λακεδαίμονι γινομένων (τὸ γὰρ ἀνυπεύθυνον καὶ τὸ διὰ βίου μεῖζόν ἐστι γέρας τῆς ἀξίας αὐτοῖς, καὶ τὸ μὴ κατὰ γράμματα ἄρχειν ἀλλ’ αὐτογνώμονας ἐπισφαλές). τὸ δ’ ἡσυχάζειν μὴ μετέχοντα τὸν δῆμον οὐδὲν σημεῖον τοῦ τετάχθαι καλῶς. οὐδὲν γὰρ λῆμμα ἔστι τοῖς κόσμοις ὥσπερ τοῖς ἐφόροις, πόρρω γ’ [1272b] ἀποικοῦσιν ἐν νήσῳ τῶν διαφθερούντων.

ἣν δὲ ποιοῦνται τῆς ἁμαρτίας ταύτης ἰατρείαν, ἄτοπος καὶ οὐ πολιτικὴ ἀλλὰ δυναστευτική. πολλάκις γὰρ ἐκβάλλουσι συστάντες τινὲς τοὺς κόσμους ἢ τῶν συναρχόντων αὐτῶν ἢ τῶν ἰδιωτῶν· ἔξεστι δὲ καὶ μεταξὺ τοῖς κόσμοις ἀπειπεῖν τὴν ἀρχήν. ταῦτα δὴ πάντα βέλτιον γίνεσθαι κατὰ νόμον ἢ κατ’ ἀνθρώπων βούλησιν· οὐ γὰρ ἀσφαλὴς ὁ κανών. πάντων δὲ φαυλότατον τὸ τῆς ἀκοσμίας τῶν δυνατῶν, ἣν καθιστᾶσι πολλάκις ὅταν μὴ δίκας βούλωνται δοῦναι· ᾗ καὶ δῆλον ὡς ἔχει τι πολιτείας ἡ τάξις, ἀλλ’ οὐ πολιτεία ἐστὶν ἀλλὰ δυναστεία μᾶλλον. εἰώθασι δὲ διαλαμβάνοντες τὸν δῆμον καὶ τοὺς φίλους ἀναρχίαν ποιεῖν καὶ στασιάζειν καὶ μάχεσθαι πρὸς ἀλλήλους· καίτοι τί διαφέρει τὸ τοιοῦτον ἢ διά τινος χρόνου μηκέτι πόλιν εἶναι τὴν τοιαύτην, ἀλλὰ λύεσθαι τὴν πολιτικὴν κοινωνίαν; ἔστι δ’ ἐπικίνδυνος οὕτως ἔχουσα πόλις, τῶν βουλομένων ἐπιτίθεσθαι καὶ δυναμένων. ἀλλά, καθάπερ εἴρηται, σῴζεται διὰ τὸν τόπον· ξενηλασίας γὰρ τὸ πόρρω πεποίηκεν. διὸ καὶ τὸ τῶν περιοίκων μένει τοῖς Κρησίν, οἱ δ’ εἵλωτες ἀφίστανται πολλάκις. οὔτε γὰρ ἐξωτερικῆς ἀρχῆς κοινωνοῦσιν οἱ Κρῆτες, νεωστί τε πόλεμος ξενικὸς διαβέβηκεν εἰς τὴν νῆσον, ὃς πεποίηκε φανερὰν τὴν ἀσθένειαν τῶν ἐκεῖ νόμων. περὶ μὲν οὖν ταύτης εἰρήσθω τοσαῦθ’ ἡμῖν τῆς πολιτείας.

Πολιτεύεσθαι δὲ δοκοῦσι καὶ Καρχηδόνιοι καλῶς καὶ πολλὰ περιττῶς πρὸς τοὺς ἄλλους, μάλιστα δ’ ἔνια παραπλησίως τοῖς Λάκωσιν. αὗται γὰρ αἱ τρεῖς πολιτεῖαι ἀλλήλαις τε σύνεγγύς πώς εἰσι καὶ τῶν ἄλλων πολὺ διαφέρουσιν, ἥ τε Κρητικὴ καὶ ἡ Λακωνικὴ καὶ τρίτη τούτων ἡ τῶν Καρχηδονίων. καὶ πολλὰ τῶν τεταγμένων ἔχει παρ’ αὐτοῖς καλῶς· σημεῖον δὲ πολιτείας συντεταγμένης τὸ τὸν δῆμον διαμένειν ἐν τῇ τάξει τῆς πολιτείας, καὶ μήτε στάσιν, ὅ τι καὶ ἄξιον εἰπεῖν, γεγενῆσθαι μήτε τύραννον. ἔχει δὲ παραπλήσια τῇ Λακωνικῇ πολιτείᾳ τὰ μὲν συσσίτια τῶν ἑταιριῶν τοῖς φιδιτίοις, τὴν δὲ τῶν ἑκατὸν καὶ τεττάρων ἀρχὴν τοῖς ἐφόροις (πλὴν οὐ χεῖρον· οἱ μὲν γὰρ ἐκ τῶν τυχόντων εἰσί, ταύτην δ’ αἱροῦνται τὴν ἀρχὴν ἀριστίνδην), τοὺς δὲ βασιλεῖς καὶ τὴν γερουσίαν ἀνάλογον τοῖς ἐκεῖ βασιλεῦσι καὶ γέρουσιν· καὶ βέλτιον δὲ τοὺς βασιλεῖς μήτε καθ’ αὑτὸ εἶναι γένος μήτε τοῦτο τὸ τυχόν, εἰ δέ τι διαφέρει, ἐκ τούτων αἱρετοὺς μᾶλλον ἢ καθ’ ἡλικίαν. μεγάλων γὰρ κύριοι καθεστῶτες, ἂν εὐτελεῖς ὦσι [1273a] μεγάλα βλάπτουσι, καὶ ἔβλαψαν ἤδη τὴν πόλιν τὴν τῶν Λακεδαιμονίων.

τὰ μὲν οὖν πλεῖστα τῶν ἐπιτιμηθέντων ἂν διὰ τὰς παρεκβάσεις κοινὰ τυγχάνει πάσαις ὄντα ταῖς εἰρημέναις πολιτείαις· τῶν δὲ παρὰ τὴν ὑπόθεσιν τῆς ἀριστοκρατίας καὶ τῆς πολιτείας τὰ μὲν εἰς δῆμον ἐκκλίνει μᾶλλον, τὰ δ’ εἰς ὀλιγαρχίαν. τοῦ μὲν γὰρ τὰ μὲν προσάγειν τὰ δὲ μὴ προσάγειν πρὸς τὸν δῆμον οἱ βασιλεῖς κύριοι μετὰ τῶν γερόντων, ἂν ὁμογνωμονῶσι πάντες, εἰ δὲ μή, καὶ τούτων ὁ δῆμος. ἃ δ’ ἂν εἰσφέρωσιν οὗτοι, οὐ διακοῦσαι μόνον ἀποδιδόασι τῷ δήμῳ τὰ δόξαντα τοῖς ἄρχουσιν, ἀλλὰ κύριοι κρίνειν εἰσὶ καὶ τῷ βουλομένῳ τοῖς εἰσφερομένοις ἀντειπεῖν ἔξεστιν, ὅπερ ἐν ταῖς ἑτέραις πολιτείαις οὐκ ἔστιν. τὸ δὲ τὰς πενταρχίας κυρίας οὔσας πολλῶν καὶ μεγάλων ὑφ’ αὑτῶν αἱρετὰς εἶναι, καὶ τὴν τῶν ἑκατὸν ταύτας αἱρεῖσθαι, τὴν μεγίστην ἀρχήν, ἔτι δὲ ταύτας πλείονα ἄρχειν χρόνον τῶν ἄλλων (καὶ γὰρ ἐξεληλυθότες ἄρχουσι καὶ μέλλοντες) ὀλιγαρχικόν, τὸ δὲ ἀμίσθους καὶ μὴ κληρωτὰς ἀριστοκρατικὸν θετέον, καὶ εἴ τι τοιοῦτον ἕτερον, καὶ τὸ τὰς δίκας ὑπὸ τῶν ἀρχείων δικάζεσθαι πάσας (καὶ μὴ ἄλλας ὑπ’ ἄλλων, καθάπερ ἐν Λακεδαίμονι). παρεκβαίνει δὲ τῆς ἀριστοκρατίας ἡ τάξις τῶν Καρχηδονίων μάλιστα πρὸς τὴν ὀλιγαρχίαν κατά τινα διάνοιαν ἣ συνδοκεῖ τοῖς πολλοῖς· οὐ γὰρ μόνον ἀριστίνδην ἀλλὰ καὶ πλουτίνδην οἴονται δεῖν αἱρεῖσθαι τοὺς ἄρχοντας· ἀδύνατον γὰρ τὸν ἀποροῦντα καλῶς ἄρχειν καὶ σχολάζειν. εἴπερ οὖν τὸ μὲν αἱρεῖσθαι πλουτίνδην ὀλιγαρχικὸν τὸ δὲ κατ’ ἀρετὴν ἀριστοκρατικόν, αὕτη τις ἂν εἴη τάξις τρίτη, καθ’ ἥνπερ συντέτακται [καὶ] τοῖς Καρχηδονίοις τὰ περὶ τὴν πολιτείαν· αἱροῦνται γὰρ εἰς δύο ταῦτα βλέποντες, καὶ μάλιστα τὰς μεγίστας, τούς τε βασιλεῖς καὶ τοὺς στρατηγούς.

δεῖ δὲ νομίζειν ἁμάρτημα νομοθέτου τὴν παρέκβασιν εἶναι τῆς ἀριστοκρατίας ταύτην. ἐξ ἀρχῆς γὰρ τοῦθ’ ὁρᾶν ἐστι τῶν ἀναγκαιοτάτων, ὅπως οἱ βέλτιστοι δύνωνται σχολάζειν καὶ μηδὲν ἀσχημονεῖν, μὴ μόνον ἄρχοντες ἀλλὰ μηδ’ ἰδιωτεύοντες. εἰ δὲ δεῖ βλέπειν καὶ πρὸς εὐπορίαν χάριν σχολῆς, φαῦλον τὸ τὰς μεγίστας ὠνητὰς εἶναι τῶν ἀρχῶν, τήν τε βασιλείαν καὶ τὴν στρατηγίαν. ἔντιμον γὰρ ὁ νόμος οὗτος ποιεῖ τὸν πλοῦτον μᾶλλον τῆς ἀρετῆς, καὶ τὴν πόλιν ὅλην φιλοχρήματον. ὅ τι δ’ ἂν ὑπολάβῃ τίμιον εἶναι τὸ κύριον, ἀνάγκη καὶ τὴν τῶν ἄλλων πολιτῶν δόξαν ἀκολουθεῖν τούτοις. ὅπου δὲ μὴ μάλιστα ἀρετὴ τιμᾶται, ταύτην [1273b] οὐχ οἷόν τε βεβαίως ἀριστοκρατεῖσθαι τὴν πολιτείαν. ἐθίζεσθαι δ’ εὔλογον κερδαίνειν τοὺς ὠνουμένους, ὅταν δαπανήσαντες ἄρχωσιν· ἄτοπον γὰρ εἰ πένης μὲν ὢν ἐπιεικὴς δὲ βουλήσεται κερδαίνειν, φαυλότερος δ’ ὢν οὐ βουλήσεται δαπανήσας. διὸ δεῖ τοὺς δυναμένους ἄριστ’ ἀργεῖν, τούτους ἄρχειν. βέλτιον δ’, εἰ καὶ προεῖτο τὴν εὐπορίαν τῶν ἐπιεικῶν ὁ νομοθέτης, ἀλλὰ ἀρχόντων γε ἐπιμελεῖσθαι τῆς σχολῆς. φαῦλον δ’ ἂν δόξειεν εἶναι καὶ τὸ πλείους ἀρχὰς τὸν αὐτὸν ἄρχειν· ὅπερ εὐδοκιμεῖ παρὰ τοῖς Καρχηδονίοις· ἓν γὰρ ὑφ’ ἑνὸς ἔργον ἄριστ’ ἀποτελεῖται. δεῖ δ’ ὅπως γίνηται τοῦθ’ ὁρᾶν τὸν νομοθέτην, καὶ μὴ προστάττειν τὸν αὐτὸν αὐλεῖν καὶ σκυτοτομεῖν. ὥσθ’ ὅπου μὴ μικρὰ ‹ἡ› πόλις, πολιτικώτερον πλείονας μετέχειν τῶν ἀρχῶν, καὶ δημοτικώτερον· κοινότερόν τε γὰρ καθάπερ εἴπομεν καὶ κάλλιον ἕκαστον ἀποτελεῖται τῶν αὐτῶν καὶ θᾶττον. δῆλον δὲ τοῦτο ἐπὶ τῶν πολεμικῶν καὶ τῶν ναυτικῶν· ἐν τούτοις γὰρ ἀμφοτέροις διὰ πάντων ὡς εἰπεῖν διελήλυθε τὸ ἄρχειν καὶ τὸ ἄρχεσθαι. ὀλιγαρχικῆς δ’ οὔσης τῆς πολιτείας ἄριστα ‹στάσιν› ἐκφεύγουσι τῷ πλουτεῖν αἰεί τι τοῦ δήμου μέρος, ἐκπέμποντες ἐπὶ τὰς πόλεις. τούτῳ γὰρ ἰῶνται καὶ ποιοῦσι μόνιμον τὴν πολιτείαν. ἀλλὰ τουτί ἐστι τύχης ἔργον, δεῖ δὲ ἀστασιάστους εἶναι διὰ τὸν νομοθέτην. νῦν δέ, ἂν ἀτυχία γένηταί τις καὶ τὸ πλῆθος ἀποστῇ τῶν ἀρχομένων, οὐδὲν ἔστι φάρμακον διὰ τῶν νόμων τῆς ἡσυχίας. περὶ μὲν οὖν τῆς Λακεδαιμονίων πολιτείας καὶ Κρητικῆς καὶ τῆς Καρχηδονίων, αἵπερ δικαίως εὐδοκιμοῦσι, τοῦτον ἔχει τὸν τρόπον.

Τῶν δὲ ἀποφηναμένων τι περὶ πολιτείας ἔνιοι μὲν οὐκ ἐκοινώνησαν πράξεων πολιτικῶν οὐδ’ ὡντινωνοῦν, ἀλλὰ διετέλεσαν ἰδιωτεύοντες τὸν βίον, περὶ ὧν εἴ τι ἀξιόλογον, εἴρηται σχεδὸν περὶ πάντων, ἔνιοι δὲ νομοθέται γεγόνασιν, οἱ μὲν ταῖς οἰκείαις πόλεσιν οἱ δὲ καὶ τῶν ὀθνείων τισί, πολιτευθέντες αὐτοί· καὶ τούτων οἱ μὲν νόμων ἐγένοντο δημιουργοὶ μόνον, οἱ δὲ καὶ πολιτείας, οἷον καὶ Λυκοῦργος καὶ Σόλων· οὗτοι γὰρ καὶ νόμους καὶ πολιτείας κατέστησαν. περὶ μὲν οὖν τῆς Λακεδαιμονίων εἴρηται, Σόλωνα δ’ ἔνιοι μὲν οἴονται νομοθέτην γενέσθαι σπουδαῖον· ὀλιγαρχίαν τε γὰρ καταλῦσαι λίαν ἄκρατον οὖσαν, καὶ δουλεύοντα τὸν δῆμον παῦσαι, καὶ δημοκρατίαν καταστῆσαι τὴν πάτριον, μείξαντα καλῶς τὴν πολιτείαν· εἶναι γὰρ τὴν μὲν ἐν Ἀρείῳ πάγῳ βουλὴν ὀλιγαρχικόν, τὸ δὲ τὰς ἀρχὰς αἱρετὰς ἀριστοκρατικόν, τὰ δὲ δικαστήρια δημοτικόν. ἔοικε δὲ Σόλων [1274a] ἐκεῖνα μὲν ὑπάρχοντα πρότερον οὐ καταλῦσαι, τήν τε βουλὴν καὶ τὴν τῶν ἀρχῶν αἵρεσιν, τὸν δὲ δῆμον καταστῆσαι, τὰ δικαστήρια ποιήσας ἐκ πάντων. διὸ καὶ μέμφονταί τινες αὐτῷ· λῦσαι γὰρ θάτερα, κύριον ποιήσαντα τὸ δικαστήριον πάντων, κληρωτὸν ὄν. ἐπεὶ γὰρ τοῦτ’ ἴσχυσεν, ὥσπερ τυράννῳ τῷ δήμῳ χαριζόμενοι τὴν πολιτείαν εἰς τὴν νῦν δημοκρατίαν μετέστησαν· καὶ τὴν μὲν ἐν Ἀρείῳ πάγῳ βουλὴν Ἐφιάλτης ἐκόλουσε καὶ Περικλῆς, τὰ δὲ δικαστήρια μισθοφόρα κατέστησε Περικλῆς, καὶ τοῦτον δὴ τὸν τρόπον ἕκαστος τῶν δημαγωγῶν προήγαγεν αὔξων εἰς τὴν νῦν δημοκρατίαν. φαίνεται δ’ οὐ κατὰ τὴν Σόλωνος γενέσθαι τοῦτο προαίρεσιν, ἀλλὰ μᾶλλον ἀπὸ συμπτώματος (τῆς ναυαρχίας γὰρ ἐν τοῖς Μηδικοῖς ὁ δῆμος αἴτιος γενόμενος ἐφρονηματίσθη καὶ δημαγωγοὺς ἔλαβε φαύλους ἀντιπολιτευομένων τῶν ἐπιεικῶν), ἐπεὶ Σόλων γε ἔοικε τὴν ἀναγκαιοτάτην ἀποδιδόναι τῷ δήμῳ δύναμιν, τὸ τὰς ἀρχὰς αἱρεῖσθαι καὶ εὐθύνειν (μηδὲ γὰρ τούτου κύριος ὢν ὁ δῆμος δοῦλος ἂν εἴη καὶ πολέμιος), τὰς δ’ ἀρχὰς ἐκ τῶν γνωρίμων καὶ τῶν εὐπόρων κατέστησε πάσας, ἐκ τῶν πεντακοσιομεδίμνων καὶ ζευγιτῶν καὶ τρίτου τέλους τῆς καλουμένης ἱππάδος· τὸ δὲ τέταρτον τὸ θητικόν, οἷς οὐδεμιᾶς ἀρχῆς μετῆν.

νομοθέται δ’ ἐγένοντο Ζάλευκός τε Λοκροῖς τοῖς ἐπιζεφυρίοις, καὶ Χαρώνδας ὁ Καταναῖος τοῖς αὑτοῦ πολίταις καὶ ταῖς ἄλλαις ταῖς Χαλκιδικαῖς πόλεσι ταῖς περὶ Ἰταλίαν καὶ Σικελίαν. πειρῶνται δέ τινες καὶ συνάγειν ὡς Ὀνομακρίτου μὲν γενομένου πρώτου δεινοῦ περὶ νομοθεσίαν, γυμνασθῆναι δ’ αὐτὸν ἐν Κρήτῃ, Λοκρὸν ὄντα καὶ ἐπιδημοῦντα, κατὰ τέχνην μαντικήν· τούτου δὲ γενέσθαι Θάλητα ἑταῖρον, Θάλητος δ’ ἀκροατὴν Λυκοῦργον καὶ Ζάλευκον, Ζαλεύκου δὲ Χαρώνδαν. ἀλλὰ ταῦτα μὲν λέγουσιν ἀσκεπτότερον τῶν χρόνων λέγοντες. ἐγένετο δὲ καὶ Φιλόλαος ὁ Κορίνθιος νομοθέτης Θηβαίοις. ἦν δ’ ὁ Φιλόλαος τὸ μὲν γένος τῶν Βακχιαδῶν, ἐραστὴς δὲ γενόμενος Διοκλέους τοῦ νικήσαντος Ὀλυμπίασιν, ὡς ἐκεῖνος τὴν πόλιν ἔλιπε διαμισήσας τὸν ἔρωτα τὸν τῆς μητρὸς Ἀλκυόνης, ἀπῆλθεν εἰς Θήβας· κἀκεῖ τὸν βίον ἐτελεύτησαν ἀμφότεροι. καὶ νῦν ἔτι δεικνύουσι τοὺς τάφους αὐτῶν ἀλλήλοις μὲν εὐσυνόπτους ὄντας, πρὸς δὲ τὴν τῶν Κορινθίων χώραν τὸν μὲν σύνοπτον τὸν δ’ οὐ σύνοπτον· μυθολογοῦσι γὰρ αὐτοὺς οὕτω τάξασθαι τὴν ταφήν, τὸν μὲν Διοκλέα διὰ τὴν ἀπέχθειαν τοῦ πάθους, ὅπως μὴ ἄποπτος ἔσται ἡ Κορινθία ἀπὸ τοῦ χώματος, τὸν δὲ Φιλόλαον ὅπως [1274b] ἄποπτος. ᾤκησαν μὲν οὖν διὰ τὴν τοιαύτην αἰτίαν παρὰ τοῖς Θηβαίοις, νομοθέτης δ’ αὐτοῖς ἐγένετο Φιλόλαος περί τ’ ἄλλων τινῶν καὶ περὶ τῆς παιδοποιίας, οὓς καλοῦσιν ἐκεῖνοι νόμους θετικούς· καὶ τοῦτ’ ἐστὶν ἰδίως ὑπ’ ἐκείνου νενομοθετημένον, ὅπως ὁ ἀριθμὸς σῴζηται τῶν κλήρων. Χαρώνδου δ’ ἴδιον μὲν οὐδέν ἐστι πλὴν αἱ δίκαι τῶν ψευδομαρτυριῶν (πρῶτος γὰρ ἐποίησε τὴν ἐπίσκηψιν), τῇ δ’ ἀκριβείᾳ τῶν νόμων ἐστὶ γλαφυρώτερος καὶ τῶν νῦν νομοθετῶν.

Φαλέου δ’ ἴδιον ἡ τῶν οὐσιῶν ἀνομάλωσις, Πλάτωνος δ’ ἥ τε τῶν γυναικῶν καὶ παίδων καὶ τῆς οὐσίας κοινότης καὶ τὰ συσσίτια τῶν γυναικῶν, ἔτι δ’ ὁ περὶ τὴν μέθην νόμος, τὸ τοὺς νήφοντας συμποσιαρχεῖν, καὶ τὴν ἐν τοῖς πολεμικοῖς ἄσκησιν ὅπως ἀμφιδέξιοι γίνωνται κατὰ τὴν μελέτην, ὡς δέον μὴ τὴν μὲν χρήσιμον εἶναι τοῖν χεροῖν τὴν δὲ ἄχρηστον. Δράκοντος δὲ νόμοι μὲν εἰσί, πολιτείᾳ δ’ ὑπαρχούσῃ τοὺς νόμους ἔθηκεν· ἴδιον δ’ ἐν τοῖς νόμοις οὐδὲν ἔστιν ὅ τι καὶ μνείας ἄξιον, πλὴν ἡ χαλεπότης διὰ τὸ τῆς ζημίας μέγεθος. ἐγένετο δὲ καὶ Πιττακὸς νόμων δημιουργὸς ἀλλ’ οὐ πολιτείας· νόμος δ’ ἴδιος αὐτοῦ τὸ τοὺς μεθύοντας, ἄν τι πταίσωσι, πλείω ζημίαν ἀποτίνειν τῶν νηφόντων· διὰ γὰρ τὸ πλείους ὑβρίζειν μεθύοντας ἢ νήφοντας οὐ πρὸς τὴν συγγνώμην ἀπέβλεψεν, ὅτι δεῖ μεθύουσιν ἔχειν μᾶλλον, ἀλλὰ πρὸς τὸ συμφέρον. ἐγένετο δὲ καὶ Ἀνδροδάμας Ῥηγῖνος νομοθέτης Χαλκιδεῦσι τοῖς ἐπὶ Θρᾴκης, οὗ τὰ περί τε τὰ φονικὰ καὶ τὰς ἐπικλήρους ἐστίν· οὐ μὴν ἀλλὰ ἴδιόν γε οὐδὲν αὐτοῦ λέγειν ἔχοι τις ἄν. τὰ μὲν οὖν περὶ τὰς πολιτείας, τάς τε κυρίας καὶ τὰς ὑπὸ τινῶν εἰρημένας, ἔστω τεθεωρημένα τὸν τρόπον τοῦτον.

Γ

Τῷ περὶ πολιτείας ἐπισκοποῦντι, καὶ τίς ἑκάστη καὶ ποία τις, σχεδὸν πρώτη σκέψις περὶ πόλεως ἰδεῖν, τί ποτέ ἐστιν ἡ πόλις. νῦν γὰρ ἀμφισβητοῦσιν, οἱ μὲν φάσκοντες τὴν πόλιν πεπραχέναι τὴν πρᾶξιν, οἱ δ’ οὐ τὴν πόλιν ἀλλὰ τὴν ὀλιγαρχίαν ἢ τὸν τύραννον· τοῦ δὲ πολιτικοῦ καὶ τοῦ νομοθέτου πᾶσαν ὁρῶμεν τὴν πραγματείαν οὖσαν περὶ πόλιν, ἡ δὲ πολιτεία τῶν τὴν πόλιν οἰκούντων ἐστὶ τάξις τις. ἐπεὶ δ’ ἡ πόλις τῶν συγκειμένων, καθάπερ ἄλλο τι τῶν ὅλων μὲν συνεστώτων δ’ ἐκ πολλῶν μορίων, δῆλον ὅτι πρότερον ὁ πολίτης ζητητέος· ἡ γὰρ πόλις πολιτῶν τι πλῆθός ἐστιν.

[1275a] ὥστε τίνα χρὴ καλεῖν πολίτην καὶ τίς ὁ πολίτης ἐστὶ σκεπτέον. καὶ γὰρ ὁ πολίτης ἀμφισβητεῖται πολλάκις· οὐ γὰρ τὸν αὐτὸν ὁμολογοῦσι πάντες εἶναι πολίτην· ἔστι γάρ τις ὃς ἐν δημοκρατίᾳ πολίτης ὢν ἐν ὀλιγαρχίᾳ πολλάκις οὐκ ἔστι πολίτης. τοὺς μὲν οὖν ἄλλως πως τυγχάνοντας ταύτης τῆς προσηγορίας, οἷον τοὺς ποιητοὺς πολίτας, ἀφετέον· ὁ δὲ πολίτης οὐ τῷ οἰκεῖν που πολίτης ἐστίν (καὶ γὰρ μέτοικοι καὶ δοῦλοι κοινωνοῦσι τῆς οἰκήσεως), οὐδ’ οἱ τῶν δικαίων μετέχοντες οὕτως ὥστε καὶ δίκην ὑπέχειν καὶ δικάζεσθαι (τοῦτο γὰρ ὑπάρχει καὶ τοῖς ἀπὸ συμβόλων κοινωνοῦσιν [καὶ γὰρ ταῦτα τούτοις ὑπάρχει]· πολλαχοῦ μὲν οὖν οὐδὲ τούτων τελέως οἱ μέτοικοι μετέχουσιν, ἀλλὰ νέμειν ἀνάγκη προστάτην, ὥστε ἀτελῶς πως μετέχουσι τῆς τοιαύτης κοινωνίας), ἀλλὰ καθάπερ καὶ παῖδας τοὺς μήπω δι’ ἡλικίαν ἐγγεγραμμένους καὶ τοὺς γέροντας τοὺς ἀφειμένους φατέον εἶναι μέν πως πολίτας, οὐχ ἁπλῶς δὲ λίαν ἀλλὰ προστιθέντας τοὺς μὲν ἀτελεῖς τοὺς δὲ παρηκμακότας ἤ τι τοιοῦτον ἕτερον (οὐδὲν γὰρ διαφέρει· δῆλον γὰρ τὸ λεγόμενον). ζητοῦμεν γὰρ τὸν ἁπλῶς πολίτην καὶ μηδὲν ἔχοντα τοιοῦτον ἔγκλημα διορθώσεως δεόμενον, ἐπεὶ καὶ περὶ τῶν ἀτίμων καὶ φυγάδων ἔστι τὰ τοιαῦτα καὶ διαπορεῖν καὶ λύειν. πολίτης δ’ ἁπλῶς οὐδενὶ τῶν ἄλλων ὁρίζεται μᾶλλον ἢ τῷ μετέχειν κρίσεως καὶ ἀρχῆς. τῶν δ’ ἀρχῶν αἱ μέν εἰσι διῃρημέναι κατὰ χρόνον, ὥστ’ ἐνίας μὲν ὅλως δὶς τὸν αὐτὸν οὐκ ἔξεστιν ἄρχειν, ἢ διὰ τινῶν ὡρισμένων χρόνων· ὁ δ’ ἀόριστος, οἷον ὁ δικαστὴς καὶ ‹ὁ› ἐκκλησιαστής. τάχα μὲν οὖν ἂν φαίη τις οὐδ’ ἄρχοντας εἶναι τοὺς τοιούτους, οὐδὲ μετέχειν διὰ ταῦτ’ ἀρχῆς· καίτοι γελοῖον τοὺς κυριωτάτους ἀποστερεῖν ἀρχῆς. ἀλλὰ διαφερέτω μηδέν· περὶ ὀνόματος γὰρ ὁ λόγος·

ἀνώνυμον γὰρ τὸ κοινὸν ἐπὶ δικαστοῦ καὶ ἐκκλησιαστοῦ, τί δεῖ ταῦτ᾽ ἄμφω καλεῖν. ἔστω δὴ διορισμοῦ χάριν ἀόριστος ἀρχή. τίθεμεν δὴ πολίτας τοὺς οὕτω μετέχοντας.

ὁ μὲν οὖν μάλιστ᾽ ἂν ἐφαρμόσας ὁρισμὸς ἐπὶ πάντας τοὺς λεγομένους πολίτας σχεδὸν τοιοῦτός ἐστιν· δεῖ δὲ μὴ λανθάνειν ὅτι τῶν πραγμάτων ἐν οἷς τὰ ὑποκείμενα διαφέρει τῷ εἴδει, καὶ τὸ μὲν αὐτῶν ἐστι πρῶτον τὸ δὲ δεύτερον τὸ δ᾽ ἐχόμενον, ἢ τὸ παράπαν οὐδὲν ἔστιν, ᾗ τοιαῦτα, τὸ κοινόν, ἢ γλίσχρως. τὰς δὲ πολιτείας ὁρῶμεν εἴδει διαφερούσας ἀλλήλων, καὶ τὰς μὲν ὑστέρας τὰς δὲ [1275b] προτέρας οὔσας· τὰς γὰρ ἡμαρτημένας καὶ παρεκβεβηκυίας ἀναγκαῖον ὑστέρας εἶναι τῶν ἀναμαρτήτων (τὰς δὲ παρεκβεβηκυίας πῶς λέγομεν, ὕστερον ἔσται φανερόν). ὥστε καὶ τὸν πολίτην ἕτερον ἀναγκαῖον εἶναι τὸν καθ᾽ ἑκάστην πολιτείαν. διόπερ ὁ λεχθεὶς ἐν μὲν δημοκρατίᾳ μάλιστ᾽ ἐστὶ πολίτης, ἐν δὲ ταῖς ἄλλαις ἐνδέχεται μέν, οὐ μὴν ἀναγκαῖον. ‹ἐν› ἐνίαις γὰρ οὐκ ἔστι δῆμος, οὐδ᾽ ἐκκλησίαν νομίζουσιν ἀλλὰ συγκλήτους, καὶ τὰς δίκας δικάζουσι κατὰ μέρος, οἷον ἐν Λακεδαίμονι τὰς τῶν συμβολαίων δικάζει τῶν ἐφόρων ἄλλος ἄλλας, οἱ δὲ γέροντες τὰς φονικάς, ἑτέρα δ᾽ ἴσως ἀρχή τις ἑτέρας. τὸν αὐτὸν δὲ τρόπον καὶ περὶ Καρχηδόνα· πάσας γὰρ ἀρχαί τινες κρίνουσι τὰς δίκας. ἀλλ᾽ ἔχει διόρθωσιν ὁ τοῦ πολίτου διορισμός. ἐν γὰρ ταῖς ἄλλαις πολιτείαις οὐχ ὁ ἀόριστος ἄρχων ἐκκλησιαστής ἐστι καὶ δικαστής, ἀλλὰ ὁ κατὰ τὴν ἀρχὴν ὡρισμένος· τούτων γὰρ ἢ πᾶσιν ἢ τισὶν ἀποδέδοται τὸ βουλεύεσθαι καὶ δικάζειν ἢ περὶ πάντων ἢ περὶ τινῶν. τίς μὲν οὖν ἐστιν ὁ πολίτης, ἐκ τούτων φανερόν· ᾧ γὰρ ἐξουσία κοινωνεῖν ἀρχῆς βουλευτικῆς καὶ κριτικῆς, πολίτην ἤδη λέγομεν εἶναι ταύτης τῆς πόλεως, πόλιν δὲ τὸ τῶν τοιούτων πλῆθος ἱκανὸν πρὸς αὐτάρκειαν ζωῆς, ὡς ἁπλῶς εἰπεῖν.

Ὁρίζονται δὲ πρὸς τὴν χρῆσιν πολίτην τὸν ἐξ ἀμφοτέρων πολιτῶν καὶ μὴ θατέρου μόνον, οἷον πατρὸς ἢ μητρός, οἱ δὲ καὶ τοῦτ᾽ ἐπὶ πλέον ζητοῦσιν, οἷον ἐπὶ πάππους δύο ἢ τρεῖς ἢ πλείους. οὕτω δὲ ὁριζομένων πολιτικῶς καὶ παχέως, ἀποροῦσί τινες τὸν τρίτον ἐκεῖνον ἢ τέταρτον, πῶς ἔσται πολίτης. Γοργίας μὲν οὖν ὁ Λεοντῖνος, τὰ μὲν ἴσως ἀπορῶν τὰ δ᾽ εἰρωνευόμενος, ἔφη, καθάπερ ὅλμους εἶναι τοὺς ὑπὸ τῶν ὁλμοποιῶν πεποιημένους, οὕτω καὶ Λαρισαίους τοὺς ὑπὸ τῶν δημιουργῶν πεποιημένους· εἶναι γάρ τινας λαρισοποιούς. ἔστι δ᾽ ἁπλοῦν. εἰ γὰρ μετεῖχον κατὰ τὸν ῥηθέντα διορισμὸν τῆς πολιτείας, ἦσαν πολῖται· καὶ γὰρ οὐδὲ δυνατὸν ἐφαρμόττειν τὸ ἐκ πολίτου ἢ ἐκ πολίτιδος ἐπὶ τῶν πρώτων οἰκησάντων ἢ κτισάντων.

ἀλλ᾽ ἴσως ἐκεῖνο μᾶλλον ἔχει ἀπορίαν, ὅσοι μετέσχον μεταβολῆς γενομένης πολιτείας, οἷον ‹ἃ› Ἀθήνησιν ἐποίησε Κλεισθένης μετὰ τὴν τῶν τυράννων ἐκβολήν· πολλοὺς γὰρ ἐφυλέτευσε ξένους καὶ δούλους μετοίκους. τὸ δ’ ἀμφισβήτημα πρὸς τούτους ἐστὶν οὐ τίς πολίτης, ἀλλὰ πότερον ἀδίκως ἢ δικαίως. καίτοι κἂν τοῦτό τις ἔτι προσαπορήσειεν, [1276a] ἆρ’ εἰ μὴ δικαίως πολίτης, οὐ πολίτης, ὡς ταὐτὸ δυναμένου τοῦ τ’ ἀδίκου καὶ τοῦ ψευδοῦς. ἐπεὶ δ’ ὁρῶμεν καὶ ἄρχοντάς τινας ἀδίκως, οὓς ἄρχειν μὲν φήσομεν ἀλλ’ οὐ δικαίως, ὁ δὲ πολίτης ἀρχῇ τινὶ διωρισμένος ἐστίν (ὁ γὰρ κοινωνῶν τῆς τοιᾶσδε ἀρχῆς πολίτης ἐστίν, ὡς ἔφαμεν), δῆλον ὅτι πολίτας μὲν εἶναι φατέον καὶ τούτους· περὶ δὲ τοῦ δικαίως ἢ μὴ δικαίως συνάπτει πρὸς τὴν εἰρημένην πρότερον ἀμφισβήτησιν. ἀποροῦσι γάρ τινες πόθ’ ἡ πόλις ἔπραξε καὶ πότε οὐχ ἡ πόλις, οἷον ὅταν ἐξ ὀλιγαρχίας ἢ τυραννίδος γένηται δημοκρατία (τότε γὰρ οὔτε τὰ συμβόλαια ἔνιοι βούλονται διαλύειν, ὡς οὐ τῆς πόλεως ἀλλὰ τοῦ τυράννου λαβόντος, οὔτ’ ἄλλα πολλὰ τῶν τοιούτων, ὡς ἐνίας τῶν πολιτειῶν τῷ κρατεῖν οὔσας, ἀλλὰ οὐ διὰ τὸ κοινῇ συμφέρον)· εἴπερ οὖν καὶ δημοκρατοῦνταί τινες κατὰ τὸν τρόπον τοῦτον, ὁμοίως τῆς πόλεως φατέον εἶναι ταύτης τὰς τῆς πολιτείας ταύτης πράξεις καὶ τὰς ἐκ τῆς ὀλιγαρχίας καὶ τῆς τυραννίδος. ἔοικε δ’ οἰκεῖος ὁ λόγος εἶναι τῆς ἀπορίας ταύτης πως, πότε χρὴ λέγειν τὴν πόλιν εἶναι τὴν αὐτὴν ἢ μὴ τὴν αὐτὴν ἀλλ’ ἑτέραν. ἡ μὲν οὖν ἐπιπολαιοτάτη τῆς ἀπορίας ζήτησις περὶ τὸν τόπον καὶ τοὺς ἀνθρώπους ἐστίν· ἐνδέχεται γὰρ διαζευχθῆναι τὸν τόπον καὶ τοὺς ἀνθρώπους, καὶ τοὺς μὲν ἕτερον τοὺς δ’ ἕτερον οἰκῆσαι τόπον.

ταύτην μὲν οὖν πραοτέραν θετέον τὴν ἀπορίαν (πολλαχῶς γὰρ τῆς πόλεως λεγομένης, ἐστί πως εὐμάρεια τῆς τοιαύτης ζητήσεως)· ὁμοίως δὲ καὶ τῶν τὸν αὐτὸν κατοικούντων ἀνθρώπων πότε δεῖ νομίζειν μίαν εἶναι τὴν πόλιν; οὐ γὰρ δὴ τοῖς τείχεσιν· εἴη γὰρ ἂν Πελοποννήσῳ περιβαλεῖν ἓν τεῖχος. τοιαύτη δ’ ἴσως ἐστὶ καὶ Βαβυλὼν καὶ πᾶσα ἥτις ἔχει περιγραφὴν μᾶλλον ἔθνους ἢ πόλεως· ἧς γέ φασιν ἑαλωκυίας τρίτην ἡμέραν οὐκ αἰσθέσθαι τι μέρος τῆς πόλεως.

ἀλλὰ περὶ μὲν ταύτης τῆς ἀπορίας εἰς ἄλλον καιρὸν χρήσιμος ἡ σκέψις (περὶ γὰρ μεγέθους τῆς πόλεως, τό τε πόσον καὶ πότερον ἔθνος ἓν ἢ πλείω συμφέρει, δεῖ μὴ λανθάνειν τὸν πολιτικόν)· ἀλλὰ τῶν αὐτῶν κατοικούντων τὸν αὐτὸν τόπον, πότερον ἕως ἂν ᾖ τὸ γένος ταὐτὸ τῶν κατοικούντων, τὴν αὐτὴν εἶναι φατέον πόλιν, καίπερ αἰεὶ τῶν μὲν φθειρομένων τῶν δὲ γινομένων, ὥσπερ καὶ ποταμοὺς εἰώθαμεν λέγειν τοὺς αὐτοὺς καὶ κρήνας τὰς αὐτάς, καίπερ αἰεὶ τοῦ μὲν ἐπιγινομένου νάματος τοῦ δ’ ὑπεξιόντος, ἢ τοὺς μὲν ἀνθρώπους φατέον εἶναι τοὺς αὐτοὺς διὰ τὴν τοιαύτην αἰτίαν, τὴν δὲ

[1276b] πόλιν ἑτέραν; εἴπερ γάρ ἐστι κοινωνία τις ἡ πόλις, ἔστι δὲ κοινωνία πολιτῶν πολιτείας, γινομένης ἑτέρας τῷ εἴδει καὶ διαφερούσης τῆς πολιτείας ἀναγκαῖον εἶναι δόξειεν ἂν καὶ τὴν πόλιν εἶναι μὴ τὴν αὐτήν, ὥσπερ γε καὶ χορὸν ὁτὲ μὲν κωμικὸν ὁτὲ δὲ τραγικὸν ἕτερον εἶναί φαμεν, τῶν αὐτῶν πολλάκις ἀνθρώπων ὄντων, ὁμοίως δὲ καὶ πᾶσαν ἄλλην κοινωνίαν καὶ σύνθεσιν ἑτέραν, ἂν εἶδος ἕτερον ᾖ τῆς συνθέσεως, οἷον ἁρμονίαν τῶν αὐτῶν φθόγγων ἑτέραν εἶναι λέγομεν, ἂν ὁτὲ μὲν ᾖ Δώριος ὁτὲ δὲ Φρύγιος. εἰ δὴ τοῦτον ἔχει τὸν τρόπον, φανερὸν ὅτι μάλιστα λεκτέον τὴν αὐτὴν πόλιν εἰς τὴν πολιτείαν βλέποντας· ὄνομα δὲ καλεῖν ἕτερον ἢ ταὐτὸν ἔξεστι καὶ τῶν αὐτῶν κατοικούντων αὐτὴν καὶ πάμπαν ἑτέρων ἀνθρώπων. εἰ δὲ δίκαιον διαλύειν ἢ μὴ διαλύειν, ὅταν εἰς ἑτέραν μεταβάλῃ πολιτείαν ἡ πόλις, λόγος ἕτερος.

Τῶν δὲ νῦν εἰρημένων ἐχόμενόν ἐστιν ἐπισκέψασθαι πότερον τὴν αὐτὴν ἀρετὴν ἀνδρὸς ἀγαθοῦ καὶ πολίτου σπουδαίου θετέον, ἢ μὴ τὴν αὐτήν. ἀλλὰ μὴν εἴ γε τοῦτο τυχεῖν δεῖ ζητήσεως, τὴν τοῦ πολίτου τύπῳ τινὶ πρῶτον ληπτέον. ὥσπερ οὖν ὁ πλωτὴρ εἷς τις τῶν κοινωνῶν ἐστιν, οὕτω καὶ τὸν πολίτην φαμέν. τῶν δὲ πλωτήρων καίπερ ἀνομοίων ὄντων τὴν δύναμιν (ὁ μὲν γάρ ἐστιν ἐρέτης, ὁ δὲ κυβερνήτης, ὁ δὲ πρῳρεύς, ὁ δ’ ἄλλην τιν’ ἔχων τοιαύτην ἐπωνυμίαν) δῆλον ὡς ὁ μὲν ἀκριβέστατος ἑκάστου λόγος ἴδιος ἔσται τῆς ἀρετῆς, ὁμοίως δὲ καὶ κοινός τις ἐφαρμόσει πᾶσιν. ἡ γὰρ σωτηρία τῆς ναυτιλίας ἔργον ἐστὶν αὐτῶν πάντων· τούτου γὰρ ἕκαστος ὀρέγεται τῶν πλωτήρων. ὁμοίως τοίνυν καὶ τῶν πολιτῶν, καίπερ ἀνομοίων ὄντων, ἡ σωτηρία τῆς κοινωνίας ἔργον ἐστί, κοινωνία δ’ ἐστὶν ἡ πολιτεία· διὸ τὴν ἀρετὴν ἀναγκαῖον εἶναι τοῦ πολίτου πρὸς τὴν πολιτείαν. εἴπερ οὖν ἔστι πλείω πολιτείας εἴδη, δῆλον ὡς οὐκ ἐνδέχεται τοῦ σπουδαίου πολίτου μίαν ἀρετὴν εἶναι, τὴν τελείαν· τὸν δ’ ἀγαθὸν ἄνδρα φαμὲν κατὰ μίαν ἀρετὴν εἶναι, τὴν τελείαν.

ὅτι μὲν οὖν ἐνδέχεται πολίτην ὄντα σπουδαῖον μὴ κεκτῆσθαι τὴν ἀρετὴν καθ’ ἣν σπουδαῖος ἀνήρ, φανερόν· οὐ μὴν ἀλλὰ καὶ κατ’ ἄλλον τρόπον ἔστι διαποροῦντας ἐπελθεῖν τὸν αὐτὸν λόγον περὶ τῆς ἀρίστης πολιτείας. εἰ γὰρ ἀδύνατον ἐξ ἁπάντων σπουδαίων ὄντων εἶναι πόλιν, δεῖ γ’ ἕκαστον τὸ καθ’ αὑτὸν ἔργον εὖ ποιεῖν, τοῦτο δὲ ἀπ’ ἀρετῆς· ἐπεὶ δὲ ἀδύνατον ὁμοίους εἶναι πάντας τοὺς πολίτας, οὐκ ἂν [1277a] εἴη μία ἀρετὴ πολίτου καὶ ἀνδρὸς ἀγαθοῦ. τὴν μὲν γὰρ τοῦ σπουδαίου πολίτου δεῖ πᾶσιν ὑπάρχειν (οὕτω γὰρ ἀρίστην ἀναγκαῖον εἶναι τὴν πόλιν), τὴν δὲ τοῦ ἀνδρὸς τοῦ ἀγαθοῦ ἀδύνατον, εἰ μὴ πάντας ἀναγκαῖον ἀγαθοὺς εἶναι τοὺς ἐν τῇ σπουδαίᾳ πόλει πολίτας. ἔτι ἐπεὶ ἐξ ἀνομοίων ἡ πόλις, ὥσπερ ζῷον εὐθὺς ἐκ ψυχῆς καὶ σώματος, καὶ ψυχὴ ἐκ λόγου καὶ ὀρέξεως, καὶ οἰκία ἐξ ἀνδρὸς καὶ γυναικός, καὶ κτῆσις ἐκ δεσπότου καὶ δούλου, τὸν αὐτὸν τρόπον καὶ πόλις ἐξ ἁπάντων τε τούτων καὶ πρὸς τούτοις ἐξ ἄλλων ἀνομοίων συνέστηκεν εἰδῶν, ἀνάγκη μὴ μίαν εἶναι τὴν τῶν πολιτῶν πάντων ἀρετήν, ὥσπερ οὐδὲ τῶν χορευτῶν κορυφαίου καὶ παραστάτου.

διότι μὲν τοίνυν ἁπλῶς οὐχ ἡ αὐτή, φανερὸν ἐκ τούτων· ἀλλ᾽ ἆρα ἔσται τινὸς ἡ αὐτὴ ἀρετὴ πολίτου τε σπουδαίου καὶ ἀνδρὸς σπουδαίου; φαμὲν δὴ τὸν ἄρχοντα τὸν σπουδαῖον ἀγαθὸν εἶναι καὶ φρόνιμον, τὸν δὲ πολίτην οὐκ ἀναγκαῖον εἶναι φρόνιμον. καὶ τὴν παιδείαν δ᾽ εὐθὺς ἑτέραν εἶναι λέγουσί τινες ἄρχοντος, ὥσπερ καὶ φαίνονται οἱ τῶν βασιλέων υἱεῖς ἱππικὴν καὶ πολεμικὴν παιδευόμενοι, καὶ Εὐριπίδης φησὶ “μή μοι τὰ κόμψ᾽ ... ἀλλ᾽ ὧν πόλει δεῖ”, ὡς οὖσάν τινα ἄρχοντος παιδείαν. εἰ δὲ ἡ αὐτὴ ἀρετὴ ἄρχοντός τε ἀγαθοῦ καὶ ἀνδρὸς ἀγαθοῦ, πολίτης δ᾽ ἐστὶ καὶ ὁ ἀρχόμενος, οὐχ ἡ αὐτὴ ἁπλῶς ἂν εἴη πολίτου καὶ ἀνδρός, τινὸς μέντοι πολίτου· οὐ γὰρ ἡ αὐτὴ ἄρχοντος καὶ πολίτου, καὶ διὰ τοῦτ᾽ ἴσως Ἰάσων ἔφη πεινῆν ὅτε μὴ τυραννοῖ, ὡς οὐκ ἐπιστάμενος ἰδιώτης εἶναι.

ἀλλὰ μὴν ἐπαινεῖταί γε τὸ δύνασθαι ἄρχειν καὶ ἄρχεσθαι, καὶ πολίτου ‹δοκεῖ› δοκίμου ἡ ἀρετὴ εἶναι τὸ δύνασθαι καὶ ἄρχειν καὶ ἄρχεσθαι καλῶς. εἰ οὖν τὴν μὲν τοῦ ἀγαθοῦ ἀνδρὸς τίθεμεν ἀρχικήν, τὴν δὲ τοῦ πολίτου ἄμφω, οὐκ ἂν εἴη ἄμφω ἐπαινετὰ ὁμοίως. ἐπεὶ οὖν ποτε δοκεῖ ἕτερα, καὶ οὐ ταὐτὰ δεῖν τὸν ἄρχοντα μανθάνειν καὶ τὸν ἀρχόμενον, τὸν δὲ πολίτην ἀμφότερ᾽ ἐπίστασθαι καὶ μετέχειν ἀμφοῖν, τοὐντεῦθεν ἂν κατίδοι τις. ἔστι γὰρ ἀρχὴ δεσποτική· ταύτην δὲ τὴν περὶ τὰ ἀναγκαῖα λέγομεν, ἃ ποιεῖν ἐπίστασθαι τὸν ἄρχοντα οὐκ ἀναγκαῖον, ἀλλὰ χρῆσθαι μᾶλλον· θάτερον δὲ καὶ ἀνδραποδῶδες. λέγω δὲ θάτερον τὸ δύνασθαι καὶ ὑπηρετεῖν τὰς διακονικὰς πράξεις. δούλου δ᾽ εἴδη πλείω λέγομεν· αἱ γὰρ ἐργασίαι πλείους. ὧν ἓν μέρος κατέχουσιν οἱ χερνῆτες· οὗτοι δ᾽ εἰσίν, ὥσπερ σημαίνει καὶ τοὔνομ᾽ αὐτό, οἱ ζῶντες ἀπὸ [1277b] τῶν χειρῶν, ἐν οἷς ὁ βάναυσος τεχνίτης ἐστίν. διὸ παρ᾽ ἐνίοις οὐ μετεῖχον οἱ δημιουργοὶ τὸ παλαιὸν ἀρχῶν, πρὶν δῆμον γενέσθαι τὸν ἔσχατον. τὰ μὲν οὖν ἔργα τῶν ἀρχομένων οὕτως οὐ δεῖ τὸν ἀγαθὸν [οὐδὲ τὸν] πολιτικὸν οὐδὲ τὸν πολίτην τὸν ἀγαθὸν μανθάνειν, εἰ μή ποτε χρείας χάριν αὐτῷ πρὸς αὑτόν· οὐ γὰρ ἔτι συμβαίνει γίνεσθαι τὸν μὲν δεσπότην τὸν δὲ δοῦλον.

ἀλλ᾽ ἔστι τις ἀρχὴ καθ᾽ ἣν ἄρχει τῶν ὁμοίων τῷ γένει καὶ τῶν ἐλευθέρων. ταύτην γὰρ λέγομεν εἶναι τὴν πολιτικὴν ἀρχήν, ἣν δεῖ τὸν ἄρχοντα ἀρχόμενον μαθεῖν, οἷον ἱππαρχεῖν ἱππαρχηθέντα, στρατηγεῖν στρατηγηθέντα καὶ ταξιαρχήσαντα καὶ λοχαγήσαντα. διὸ λέγεται καὶ τοῦτο καλῶς, ὡς οὐκ ἔστιν εὖ ἄρξαι μὴ ἀρχθέντα. τούτων δὲ ἀρετὴ μὲν ἑτέρα, δεῖ δὲ τὸν πολίτην τὸν ἀγαθὸν ἐπίστασθαι καὶ δύνασθαι καὶ ἄρχεσθαι καὶ ἄρχειν, καὶ αὕτη ἀρετὴ πολίτου, τὸ τὴν τῶν ἐλευθέρων ἀρχὴν ἐπίστασθαι ἐπ' ἀμφότερα. καὶ ἀνδρὸς δὴ ἀγαθοῦ ἄμφω, καὶ εἰ ἕτερον εἶδος σωφροσύνης καὶ δικαιοσύνης ἀρχικῆς. καὶ γὰρ ἀρχομένου μὲν ἐλευθέρου δὲ δῆλον ὅτι οὐ μία ἂν εἴη τοῦ ἀγαθοῦ ἀρετή, οἷον δικαιοσύνη, ἀλλ' εἴδη ἔχουσα καθ' ἃ ἄρξει καὶ ἄρξεται, ὥσπερ ἀνδρὸς καὶ γυναικὸς ἑτέρα σωφροσύνη καὶ ἀνδρεία (δόξαι γὰρ ἂν εἶναι δειλὸς ἀνήρ, εἰ οὕτως ἀνδρεῖος εἴη ὥσπερ γυνὴ ἀνδρεία, καὶ γυνὴ λάλος, εἰ οὕτω κοσμία εἴη ὥσπερ ὁ ἀνὴρ ὁ ἀγαθός· ἐπεὶ καὶ οἰκονομία ἑτέρα ἀνδρὸς καὶ γυναικός· τοῦ μὲν γὰρ κτᾶσθαι τῆς δὲ φυλάττειν ἔργον ἐστίν). ἡ δὲ φρόνησις ἄρχοντος ἴδιος ἀρετὴ μόνη. τὰς γὰρ ἄλλας ἔοικεν ἀναγκαῖον εἶναι κοινὰς καὶ τῶν ἀρχομένων καὶ τῶν ἀρχόντων, ἀρχομένου δέ γε οὐκ ἔστιν ἀρετὴ φρόνησις, ἀλλὰ δόξα ἀληθής· ὥσπερ αὐλοποιὸς γὰρ ὁ ἀρχόμενος, ὁ δ' ἄρχων αὐλητὴς ὁ χρώμενος. πότερον μὲν οὖν ἡ αὐτὴ ἀρετὴ ἀνδρὸς ἀγαθοῦ καὶ πολίτου σπουδαίου ἢ ἑτέρα, καὶ πῶς ἡ αὐτὴ καὶ πῶς ἑτέρα, φανερὸν ἐκ τούτων.

Περὶ δὲ τὸν πολίτην ἔτι λείπεταί τις τῶν ἀποριῶν. ὡς ἀληθῶς γὰρ πότερον πολίτης ἐστὶν ᾧ κοινωνεῖν ἔξεστιν ἀρχῆς, ἢ καὶ τοὺς βαναύσους πολίτας θετέον; εἰ μὲν οὖν καὶ τούτους θετέον οἷς μὴ μέτεστιν ἀρχῶν, οὐχ οἷόν τε παντὸς εἶναι πολίτου τὴν τοιαύτην ἀρετήν (οὗτος γὰρ πολίτης)· εἰ δὲ μηδεὶς τῶν τοιούτων πολίτης, ἐν τίνι μέρει θετέος ἕκαστος; οὐδὲ γὰρ μέτοικος οὐδὲ ξένος. ἢ διά γε τοῦτον τὸν λόγον [1278a] οὐδὲν φήσομεν συμβαίνειν ἄτοπον; οὐδὲ γὰρ οἱ δοῦλοι τῶν εἰρημένων οὐδέν, οὐδ' οἱ ἀπελεύθεροι. τοῦτο γὰρ ἀληθές, ὡς οὐ πάντας θετέον πολίτας ὧν ἄνευ οὐκ ἂν εἴη πόλις, ἐπεὶ οὐδ' οἱ παῖδες ὡσαύτως πολῖται καὶ οἱ ἄνδρες, ἀλλ' οἱ μὲν ἁπλῶς οἱ δ' ἐξ ὑποθέσεως· πολῖται μὲν γάρ εἰσιν, ἀλλ' ἀτελεῖς. ἐν μὲν οὖν τοῖς ἀρχαίοις χρόνοις παρ' ἐνίοις ἦν δοῦλον τὸ βάναυσον ἢ ξενικόν, διόπερ οἱ πολλοὶ τοιοῦτοι καὶ νῦν· ἡ δὲ βελτίστη πόλις οὐ ποιήσει βάναυσον πολίτην. εἰ δὲ καὶ οὗτος πολίτης, ἀλλὰ πολίτου ἀρετὴν ἣν εἴπομεν λεκτέον οὐ παντός, οὐδ' ἐλευθέρου μόνον, ἀλλ' ὅσοι τῶν ἔργων εἰσὶν ἀφειμένοι τῶν ἀναγκαίων. τῶν δ' ἀναγκαίων οἱ μὲν ἑνὶ λειτουργοῦντες τὰ τοιαῦτα δοῦλοι, οἱ δὲ κοινοὶ βάναυσοι καὶ θῆτες. φανερὸν δ' ἐντεῦθεν μικρὸν ἐπισκεψαμένοις πῶς ἔχει περὶ αὐτῶν· αὐτὸ γὰρ [φανὲν] τὸ λεχθὲν ποιεῖ δῆλον. ἐπεὶ γὰρ πλείους εἰσὶν αἱ πολιτεῖαι, καὶ εἴδη πολίτου ἀναγκαῖον εἶναι πλείω, καὶ μάλιστα τοῦ ἀρχομένου πολίτου, ὥστ᾽ ἐν μὲν τινὶ πολιτείᾳ τὸν βάναυσον ἀναγκαῖον εἶναι καὶ τὸν θῆτα πολίτας, ἐν τισὶ δ᾽ ἀδύνατον, οἷον εἴ τίς ἐστιν ἣν καλοῦσιν ἀριστοκρατικὴν καὶ ἐν ᾗ κατ᾽ ἀρετὴν αἱ τιμαὶ δίδονται καὶ κατ᾽ ἀξίαν· οὐ γὰρ οἷόν τ᾽ ἐπιτηδεῦσαι τὰ τῆς ἀρετῆς ζῶντα βίον βάναυσον ἢ θητικόν. ἐν δὲ ταῖς ὀλιγαρχίαις θῆτα μὲν οὐκ ἐνδέχεται εἶναι πολίτην (ἀπὸ τιμημάτων γὰρ μακρῶν αἱ μεθέξεις τῶν ἀρχῶν), βάναυσον δὲ ἐνδέχεται· πλουτοῦσι γὰρ καὶ οἱ πολλοὶ τῶν τεχνιτῶν. ἐν Θήβαις δὲ νόμος ἦν τὸν δέκα ἐτῶν μὴ ἀπεσχημένον τῆς ἀγορᾶς μὴ μετέχειν ἀρχῆς. ἐν πολλαῖς δὲ πολιτείαις προσεφέλκει τινὰς καὶ τῶν ξένων ὁ νόμος· ὁ γὰρ ἐκ πολίτιδος ἔν τισι δημοκρατίαις πολίτης ἐστίν, τὸν αὐτὸν δὲ τρόπον ἔχει καὶ τὰ περὶ τοὺς νόθους παρὰ πολλοῖς. οὐ μὴν ἀλλ᾽ ἐπεὶ δι᾽ ἔνδειαν τῶν γνησίων πολιτῶν ποιοῦνται πολίτας τοὺς τοιούτους (διὰ γὰρ ὀλιγανθρωπίαν οὕτω χρῶνται τοῖς νόμοις), εὐποροῦντες δὴ ὄχλου κατὰ μικρὸν παραιροῦνται τοὺς ἐκ δούλου πρῶτον ἢ δούλης, εἶτα τοὺς ἀπὸ γυναικῶν, τέλος δὲ μόνον τοὺς ἐξ ἀμφοῖν ἀστῶν πολίτας ποιοῦσιν.

ὅτι μὲν οὖν εἴδη πλείω πολίτου, φανερὸν ἐκ τούτων, καὶ ὅτι λέγεται μάλιστα πολίτης ὁ μετέχων τῶν τιμῶν, ὥσπερ καὶ Ὅμηρος ἐποίησεν “ὡς εἴ τιν᾽ ἀτίμητον μετανάστην”· ὥσπερ μέτοικος γάρ ἐστιν ὁ τῶν τιμῶν μὴ μετέχων. ἀλλ᾽ ὅπου τὸ τοιοῦτον ἐπικεκρυμμένον ἐστίν, ἀπάτης χάριν τῶν συνοικούντων ἐστίν. πότερον μὲν οὖν ἑτέραν ἢ τὴν αὐτὴν θετέον, [1278b] καθ᾽ ἣν ἀνὴρ ἀγαθός ἐστι καὶ πολίτης σπουδαῖος, δῆλον ἐκ τῶν εἰρημένων, ὅτι τινὸς μὲν πόλεως ὁ αὐτὸς τινὸς δ᾽ ἕτερος, κἀκεῖνος οὐ πᾶς ἀλλ᾽ ὁ πολιτικὸς καὶ κύριος ἢ δυνάμενος εἶναι κύριος, ἢ καθ᾽ αὑτὸν ἢ μετ᾽ ἄλλων, τῆς τῶν κοινῶν ἐπιμελείας.

Ἐπεὶ δὲ ταῦτα διώρισται, τὸ μετὰ ταῦτα σκεπτέον, πότερον μίαν θετέον πολιτείαν ἢ πλείους, κἂν εἰ πλείους, τίνες καὶ πόσαι, καὶ διαφοραὶ τίνες αὐτῶν εἰσιν. ἔστι δὲ πολιτεία πόλεως τάξις τῶν τε ἄλλων ἀρχῶν καὶ μάλιστα τῆς κυρίας πάντων. κύριον μὲν γὰρ πανταχοῦ τὸ πολίτευμα τῆς πόλεως, πολίτευμα δ᾽ ἐστὶν ἡ πολιτεία. λέγω δ᾽ οἷον ἐν μὲν ταῖς δημοκρατίαις κύριος ὁ δῆμος, οἱ δ᾽ ὀλίγοι τοὐναντίον ἐν ταῖς ὀλιγαρχίαις, φαμὲν δὲ καὶ πολιτείαν ἑτέραν εἶναι τούτων. τὸν αὐτὸν δὲ τοῦτον ἐροῦμεν λόγον καὶ περὶ τῶν ἄλλων. ὑποθετέον δὴ πρῶτον τίνος χάριν συνέστηκε πόλις, καὶ τῆς ἀρχῆς εἴδη πόσα τῆς περὶ ἄνθρωπον καὶ τὴν κοινωνίαν τῆς ζωῆς. εἴρηται δὴ κατὰ τοὺς πρώτους λόγους, ἐν οἷς περὶ οἰκονομίας διωρίσθη καὶ δεσποτείας, καὶ ὅτι φύσει μέν ἐστιν ἄνθρωπος ζῷον πολιτικόν. διὸ καὶ μηδὲν δεόμενοι τῆς παρὰ ἀλλήλων βοηθείας οὐκ ἔλαττον ὀρέγονται τοῦ συζῆν· οὐ μὴν ἀλλὰ καὶ τὸ κοινῇ συμφέρον συνάγει, καθ’ ὅσον ἐπιβάλλει μέρος ἑκάστῳ τοῦ ζῆν καλῶς. μάλιστα μὲν οὖν τοῦτ’ ἐστὶ τέλος, καὶ κοινῇ πᾶσι καὶ χωρίς· συνέρχονται δὲ καὶ τοῦ ζῆν ἕνεκεν αὐτοῦ καὶ συνέχουσι τὴν πολιτικὴν κοινωνίαν. ἴσως γὰρ ἔνεστί τι τοῦ καλοῦ μόριον καὶ κατὰ τὸ ζῆν αὐτὸ μόνον, ἂν μὴ τοῖς χαλεποῖς κατὰ τὸν βίον ὑπερβάλῃ λίαν. δῆλον δ’ ὡς καρτεροῦσι πολλὴν κακοπάθειαν οἱ πολλοὶ τῶν ἀνθρώπων γλιχόμενοι τοῦ ζῆν, ὡς ἐνούσης τινὸς εὐημερίας ἐν αὐτῷ καὶ γλυκύτητος φυσικῆς.

ἀλλὰ μὴν καὶ τῆς ἀρχῆς γε τοὺς λεγομένους τρόπους ῥᾴδιον διελεῖν· καὶ γὰρ ἐν τοῖς ἐξωτερικοῖς λόγοις διοριζόμεθα περὶ αὐτῶν πολλάκις. ἡ μὲν γὰρ δεσποτεία, καίπερ ὄντος κατ’ ἀλήθειαν τῷ τε φύσει δούλῳ καὶ τῷ φύσει δεσπότῃ ταὐτοῦ συμφέροντος, ὅμως ἄρχει πρὸς τὸ τοῦ δεσπότου συμφέρον οὐδὲν ἧττον, πρὸς δὲ τὸ τοῦ δούλου κατὰ συμβεβηκός (οὐ γὰρ ἐνδέχεται φθειρομένου τοῦ δούλου σῴζεσθαι τὴν δεσποτείαν)· ἡ δὲ τέκνων ἀρχὴ καὶ γυναικὸς καὶ τῆς οἰκίας πάσης, ἣν δὴ καλοῦμεν οἰκονομικήν, ἤτοι τῶν ἀρχομένων χάριν ἐστὶν ἢ κοινοῦ τινὸς ἀμφοῖν, καθ’ αὑτὸ μὲν τῶν ἀρχομένων, ὥσπερ ὁρῶμεν καὶ τὰς ἄλλας [1279a] τέχνας, οἷον ἰατρικὴν καὶ γυμναστικήν, κατὰ συμβεβηκὸς δὲ κἂν αὐτῶν εἶεν. οὐδὲν γὰρ κωλύει τὸν παιδοτρίβην ἕνα τῶν γυμναζομένων ἐνίοτ’ εἶναι καὶ αὐτόν, ὥσπερ ὁ κυβερνήτης εἷς ἐστιν ἀεὶ τῶν πλωτήρων· ὁ μὲν οὖν παιδοτρίβης ἢ κυβερνήτης σκοπεῖ τὸ τῶν ἀρχομένων ἀγαθόν, ὅταν δὲ τούτων εἷς γένηται καὶ αὐτός, κατὰ συμβεβηκὸς μετέχει τῆς ὠφελείας. ὁ μὲν γὰρ πλωτήρ, ὁ δὲ τῶν γυμναζομένων εἷς γίνεται, παιδοτρίβης ὤν. διὸ καὶ τὰς πολιτικὰς ἀρχάς, ὅταν ᾖ κατ’ ἰσότητα τῶν πολιτῶν συνεστηκυῖα καὶ καθ’ ὁμοιότητα, κατὰ μέρος ἀξιοῦσιν ἄρχειν, πρότερον μέν, ᾗ πέφυκεν, ἀξιοῦντες ἐν μέρει λειτουργεῖν, καὶ σκοπεῖν τινα πάλιν τὸ αὑτοῦ ἀγαθόν, ὥσπερ πρότερον αὐτὸς ἄρχων ἐσκόπει τὸ ἐκείνου συμφέρον· νῦν δὲ διὰ τὰς ὠφελείας τὰς ἀπὸ τῶν κοινῶν καὶ τὰς ἐκ τῆς ἀρχῆς βούλονται συνεχῶς ἄρχειν, οἷον εἰ συνέβαινεν ὑγιαίνειν ἀεὶ τοῖς ἄρχουσι νοσακεροῖς οὖσιν. καὶ γὰρ ἂν οὕτως ἴσως ἐδίωκον τὰς ἀρχάς. φανερὸν τοίνυν ὡς ὅσαι μὲν πολιτεῖαι τὸ κοινῇ συμφέρον σκοποῦσιν, αὗται μὲν ὀρθαὶ τυγχάνουσιν οὖσαι κατὰ τὸ ἁπλῶς δίκαιον, ὅσαι δὲ τὸ σφέτερον μόνον τῶν ἀρχόντων, ἡμαρτημέναι πᾶσαι καὶ παρεκβάσεις τῶν ὀρθῶν πολιτειῶν· δεσποτικαὶ γάρ, ἡ δὲ πόλις κοινωνία τῶν ἐλευθέρων ἐστίν.

Διωρισμένων δὲ τούτων ἐχόμενόν ἐστι τὰς πολιτείας ἐπισκέψασθαι, πόσαι τὸν ἀριθμὸν καὶ τίνες εἰσί, καὶ πρῶτον τὰς ὀρθὰς αὐτῶν· καὶ γὰρ αἱ παρεκβάσεις ἔσονται φανεραὶ τούτων διορισθεισῶν. ἐπεὶ δὲ πολιτεία μὲν καὶ πολίτευμα σημαίνει ταὐτόν, πολίτευμα δ’ ἐστὶ τὸ κύριον τῶν πόλεων, ἀνάγκη δ’ εἶναι κύριον ἢ ἕνα ἢ ὀλίγους ἢ τοὺς πολλούς, ὅταν μὲν ὁ εἷς ἢ οἱ ὀλίγοι ἢ οἱ πολλοὶ πρὸς τὸ κοινὸν συμφέρον ἄρχωσι, ταύτας μὲν ὀρθὰς ἀναγκαῖον εἶναι τὰς πολιτείας, τὰς δὲ πρὸς τὸ ἴδιον ἢ τοῦ ἑνὸς ἢ τῶν ὀλίγων ἢ τοῦ πλήθους παρεκβάσεις. ἢ γὰρ οὐ πολίτας φατέον εἶναι τοὺς ‹μὴ› μετέχοντας, ἢ δεῖ κοινωνεῖν τοῦ συμφέροντος. καλεῖν δ’ εἰώθαμεν τῶν μὲν μοναρχιῶν τὴν πρὸς τὸ κοινὸν ἀποβλέπουσαν συμφέρον βασιλείαν, τὴν δὲ τῶν ὀλίγων μὲν πλειόνων δ’ ἑνὸς ἀριστοκρατίαν (ἢ διὰ τὸ τοὺς ἀρίστους ἄρχειν, ἢ διὰ τὸ πρὸς τὸ ἄριστον τῇ πόλει καὶ τοῖς κοινωνοῦσιν αὐτῆς), ὅταν δὲ τὸ πλῆθος πρὸς τὸ κοινὸν πολιτεύηται συμφέρον, καλεῖται τὸ κοινὸν ὄνομα πασῶν τῶν πολιτειῶν, πολιτεία. (συμβαίνει δ’ εὐλόγως· ἕνα μὲν γὰρ διαφέρειν κατ’ ἀρετὴν ἢ ὀλίγους ἐνδέχεται, πλείους δ’ ἤδη χαλεπὸν [1279b] ἠκριβῶσθαι πρὸς πᾶσαν ἀρετήν, ἀλλὰ μάλιστα τὴν πολεμικήν· αὕτη γὰρ ἐν πλήθει γίγνεται· διόπερ κατὰ ταύτην τὴν πολιτείαν κυριώτατον τὸ προπολεμοῦν καὶ μετέχουσιν αὐτῆς οἱ κεκτημένοι τὰ ὅπλα.) παρεκβάσεις δὲ τῶν εἰρημένων τυραννὶς μὲν βασιλείας, ὀλιγαρχία δὲ ἀριστοκρατίας, δημοκρατία δὲ πολιτείας. ἡ μὲν γὰρ τυραννίς ἐστι μοναρχία πρὸς τὸ συμφέρον τὸ τοῦ μοναρχοῦντος, ἡ δ’ ὀλιγαρχία πρὸς τὸ τῶν εὐπόρων, ἡ δὲ δημοκρατία πρὸς τὸ συμφέρον τὸ τῶν ἀπόρων· πρὸς δὲ τὸ τῷ κοινῷ λυσιτελοῦν οὐδεμία αὐτῶν.

Δεῖ δὲ μικρῷ διὰ μακροτέρων εἰπεῖν τίς ἑκάστη τούτων τῶν πολιτειῶν ἐστιν· καὶ γὰρ ἔχει τινὰς ἀπορίας, τῷ δὲ περὶ ἑκάστην μέθοδον φιλοσοφοῦντι καὶ μὴ μόνον ἀποβλέποντι πρὸς τὸ πράττειν οἰκεῖόν ἐστι τὸ μὴ παρορᾶν μηδέ τι καταλείπειν, ἀλλὰ δηλοῦν τὴν περὶ ἕκαστον ἀλήθειαν. ἔστι δὲ τυραννὶς μὲν μοναρχία, καθάπερ εἴρηται, δεσποτικὴ τῆς πολιτικῆς κοινωνίας, ὀλιγαρχία δ’ ὅταν ὦσι κύριοι τῆς πολιτείας οἱ τὰς οὐσίας ἔχοντες, δημοκρατία δὲ τοὐναντίον ὅταν οἱ μὴ κεκτημένοι πλῆθος οὐσίας ἀλλ’ ἄποροι. πρώτη δ’ ἀπορία πρὸς τὸν διορισμόν ἐστιν. εἰ γὰρ εἶεν οἱ πλείους, ὄντες εὔποροι, κύριοι τῆς πόλεως, δημοκρατία δ’ ἐστὶν ὅταν ᾖ κύριον τὸ πλῆθος - ὁμοίως δὲ πάλιν κἂν εἴ που συμβαίνει τοὺς ἀπόρους ἐλάττους μὲν εἶναι τῶν εὐπόρων, κρείττους δ’ ὄντας κυρίους εἶναι τῆς πολιτείας, ὅπου δ’ ὀλίγον κύριον πλῆθος, ὀλιγαρχίαν εἶναί φασιν - οὐκ ἂν καλῶς δόξειεν διωρίσθαι περὶ τῶν πολιτειῶν.

ἀλλὰ μὴν κἄν τις συνθεὶς τῇ μὲν εὐπορίᾳ τὴν ὀλιγότητα τῇ δ’ ἀπορίᾳ τὸ πλῆθος οὕτω προσαγορεύῃ τὰς πολιτείας, ὀλιγαρχίαν μὲν ἐν ᾗ τὰς ἀρχὰς ἔχουσιν οἱ εὔποροι, ὀλίγοι τὸ πλῆθος ὄντες, δημοκρατίαν δὲ ἐν ᾗ οἱ ἄποροι, πολλοὶ τὸ πλῆθος ὄντες, ἄλλην ἀπορίαν ἔχει. τίνας γὰρ ἐροῦμεν τὰς ἄρτι λεχθείσας πολιτείας, τὴν ἐν ᾗ πλείους ‹οἱ› εὔποροι καὶ ἐν ᾗ ἐλάττους οἱ ἄποροι, κύριοι δ’ ἑκάτεροι τῶν πολιτειῶν, εἴπερ μηδεμία ἄλλη πολιτεία παρὰ τὰς εἰρημένας ἔστιν; ἔοικε τοίνυν ὁ λόγος ποιεῖν δῆλον ὅτι τὸ μὲν ὀλίγους ἢ πολλοὺς εἶναι κυρίους συμβεβηκός ἐστιν, τὸ μὲν ταῖς ὀλιγαρχίαις τὸ δὲ ταῖς δημοκρατίαις, διὰ τὸ τοὺς μὲν εὐπόρους ὀλίγους, πολλοὺς δ’ εἶναι τοὺς ἀπόρους πανταχοῦ (διὸ καὶ οὐ συμβαίνει τὰς ῥηθείσας αἰτίας ‹αἰτίας› γίνεσθαι διαφορᾶς), ᾧ δὲ διαφέρουσιν ἥ τε δημοκρατία καὶ ἡ ὀλιγαρχία ἀλλήλων πενία καὶ πλοῦτός [1280a] ἐστιν, καὶ ἀναγκαῖον μέν, ὅπου ἂν ἄρχωσι διὰ πλοῦτον, ἄν τ’ ἐλάττους ἄν τε πλείους, εἶναι ταύτην ὀλιγαρχίαν, ὅπου δ’ οἱ ἄποροι, δημοκρατίαν, ἀλλὰ συμβαίνει, καθάπερ εἴπομεν, τοὺς μὲν ὀλίγους εἶναι τοὺς δὲ πολλούς. εὐποροῦσι μὲν γὰρ ὀλίγοι, τῆς δὲ ἐλευθερίας μετέχουσι πάντες· δι’ ἃς αἰτίας ἀμφισβητοῦσιν ἀμφότεροι τῆς πολιτείας.

Ληπτέον δὲ πρῶτον τίνας ὅρους λέγουσι τῆς ὀλιγαρχίας καὶ δημοκρατίας, καὶ τί τὸ δίκαιον τό τε ὀλιγαρχικὸν καὶ δημοκρατικόν. πάντες γὰρ ἅπτονται δικαίου τινός, ἀλλὰ μέχρι τινὸς προέρχονται, καὶ λέγουσιν οὐ πᾶν τὸ κυρίως δίκαιον. οἷον δοκεῖ ἴσον τὸ δίκαιον εἶναι, καὶ ἔστιν, ἀλλ’ οὐ πᾶσιν ἀλλὰ τοῖς ἴσοις· καὶ τὸ ἄνισον δοκεῖ δίκαιον εἶναι, καὶ γὰρ ἔστιν, ἀλλ’ οὐ πᾶσιν ἀλλὰ τοῖς ἀνίσοις· οἱ δὲ τοῦτ’ ἀφαιροῦσι, τὸ οἷς, καὶ κρίνουσι κακῶς. τὸ δ’ αἴτιον ὅτι περὶ αὑτῶν ἡ κρίσις· σχεδὸν δ’ οἱ πλεῖστοι φαῦλοι κριταὶ περὶ τῶν οἰκείων. ὥστ’ ἐπεὶ τὸ δίκαιον τισίν, καὶ διῄρηται τὸν αὐτὸν τρόπον ἐπί τε τῶν πραγμάτων καὶ οἷς, καθάπερ εἴρηται πρότερον ἐν τοῖς Ἠθικοῖς, τὴν μὲν τοῦ πράγματος ἰσότητα ὁμολογοῦσι, τὴν δὲ οἷς ἀμφισβητοῦσι, μάλιστα μὲν διὰ τὸ λεχθὲν ἄρτι, διότι κρίνουσι τὰ περὶ αὑτοὺς κακῶς, ἔπειτα δὲ καὶ διὰ τὸ λέγειν μέχρι τινὸς ἑκατέρους δίκαιόν τι νομίζουσι δίκαιον λέγειν ἁπλῶς. οἱ μὲν γὰρ ἂν κατά τι ἄνισοι ὦσιν, οἷον χρήμασιν, ὅλως οἴονται ἄνισοι εἶναι, οἱ δ’ ἂν κατά τι ἴσοι, οἷον ἐλευθερίᾳ, ὅλως ἴσοι.

τὸ δὲ κυριώτατον οὐ λέγουσιν. εἰ μὲν γὰρ τῶν κτημάτων χάριν ἐκοινώνησαν καὶ συνῆλθον, τοσοῦτον μετέχουσι τῆς πόλεως ὅσον περ καὶ τῆς κτήσεως, ὥσθ’ ὁ τῶν ὀλιγαρχικῶν λόγος δόξειεν ἂν ἰσχύειν (οὐ γὰρ εἶναι δίκαιον ἴσον μετέχειν τῶν ἑκατὸν μνῶν τὸν εἰσενέγκαντα μίαν μνᾶν τῷ δόντι τὸ λοιπὸν πᾶν, οὔτε τῶν ἐξ ἀρχῆς οὔτε τῶν ἐπιγινομένων)· εἰ δὲ μήτε τοῦ ζῆν μόνον ἕνεκεν ἀλλὰ μᾶλλον τοῦ εὖ ζῆν (καὶ γὰρ ἂν δούλων καὶ τῶν ἄλλων ζῴων ἦν πόλις· νῦν δ’ οὐκ ἔστι, διὰ τὸ μὴ μετέχειν εὐδαιμονίας μηδὲ τοῦ ζῆν κατὰ προαίρεσιν), μήτε συμμαχίας ἕνεκεν, ὅπως ὑπὸ μηδενὸς ἀδικῶνται, μήτε διὰ τὰς ἀλλαγὰς καὶ τὴν χρῆσιν τὴν πρὸς ἀλλήλους - καὶ γὰρ ἂν

Τυρρηνοὶ καὶ Καρχηδόνιοι, καὶ πάντες οἷς ἔστι σύμβολα πρὸς ἀλλήλους, ὡς μιᾶς ἂν πολῖται πόλεως ἦσαν· εἰσὶ γοῦν αὐτοῖς συνθῆκαι περὶ τῶν εἰσαγωγίμων καὶ σύμβολα περὶ τοῦ μὴ ἀδικεῖν καὶ γραφαὶ περὶ συμμαχίας. ἀλλ’ οὔτ’ ἀρχαὶ πᾶσιν ἐπὶ [1280b] τούτοις κοιναὶ καθεστᾶσιν, ἀλλ’ ἕτεραι παρ’ ἑκατέροις, οὔτε τοῦ ποίους τινὰς εἶναι δεῖ φροντίζουσιν ἅτεροι τοὺς ἑτέρους, οὐδ’ ὅπως μηδεὶς ἄδικος ἔσται τῶν ὑπὸ τὰς συνθήκας μηδὲ μοχθηρίαν ἕξει μηδεμίαν, ἀλλὰ μόνον ὅπως μηδὲν ἀδικήσουσιν ἀλλήλους. περὶ δ’ ἀρετῆς καὶ κακίας πολιτικῆς διασκοποῦσιν ὅσοι φροντίζουσιν εὐνομίας. ᾗ καὶ φανερὸν ὅτι δεῖ περὶ ἀρετῆς ἐπιμελὲς εἶναι τῇ γ’ ὡς ἀληθῶς ὀνομαζομένῃ πόλει, μὴ λόγου χάριν. γίγνεται γὰρ ἡ κοινωνία συμμαχία τῶν ἄλλων τόπῳ διαφέρουσα μόνον, τῶν ἄπωθεν συμμαχιῶν, καὶ ὁ νόμος συνθήκη καί, καθάπερ ἔφη Λυκόφρων ὁ σοφιστής, ἐγγυητὴς ἀλλήλοις τῶν δικαίων, ἀλλ’ οὐχ οἷος ποιεῖν ἀγαθοὺς καὶ δικαίους τοὺς πολίτας. ὅτι δὲ τοῦτον ἔχει τὸν τρόπον, φανερόν. εἰ γάρ τις καὶ συναγάγοι τοὺς τόπους εἰς ἕν, ὥστε ἅπτεσθαι τὴν Μεγαρέων πόλιν καὶ Κορινθίων τοῖς τείχεσιν, ὅμως οὐ μία πόλις· οὐδ’ εἰ πρὸς ἀλλήλους ἐπιγαμίας ποιήσαιντο· καίτοι τοῦτο τῶν ἰδίων ταῖς πόλεσι κοινωνημάτων ἐστίν. ὁμοίως δ’ οὐδ’ εἴ τινες οἰκοῖεν χωρὶς μέν, μὴ μέντοι τοσοῦτον ἄπωθεν ὥστε μὴ κοινωνεῖν, ἀλλ’ εἴησαν αὐτοῖς νόμοι τοῦ μὴ σφᾶς αὐτοὺς ἀδικεῖν περὶ τὰς μεταδόσεις, οἷον εἰ ὁ μὲν εἴη τέκτων ὁ δὲ γεωργὸς ὁ δὲ σκυτοτόμος ὁ δ’ ἄλλο τι τοιοῦτον, καὶ τὸ πλῆθος εἶεν μύριοι, μὴ μέντοι κοινωνοῖεν ἄλλου μηδενὸς ἢ τῶν τοιούτων, οἷον ἀλλαγῆς καὶ συμμαχίας, οὐδ’ οὕτω πω πόλις.

διὰ τίνα δή ποτ’ αἰτίαν; οὐ γὰρ δὴ διὰ τὸ μὴ σύνεγγυς τῆς κοινωνίας. εἰ γὰρ καὶ συνέλθοιεν οὕτω κοινωνοῦντες (ἕκαστος μέντοι χρῷτο τῇ ἰδίᾳ οἰκίᾳ ὥσπερ πόλει) καὶ σφίσιν αὐτοῖς ὡς ἐπιμαχίας οὔσης βοηθοῦντες ἐπὶ τοὺς ἀδικοῦντας μόνον, οὐδ’ οὕτως ἂν εἶναι δόξειεν πόλις τοῖς ἀκριβῶς θεωροῦσιν, εἴπερ ὁμοίως ὁμιλοῖεν συνελθόντες καὶ χωρίς. φανερὸν τοίνυν ὅτι ἡ πόλις οὐκ ἔστι κοινωνία τόπου, καὶ τοῦ μὴ ἀδικεῖν σφᾶς αὐτοὺς καὶ τῆς μεταδόσεως χάριν· ἀλλὰ ταῦτα μὲν ἀναγκαῖον ὑπάρχειν, εἴπερ ἔσται πόλις, οὐ μὴν οὐδ’ ὑπαρχόντων τούτων ἁπάντων ἤδη πόλις, ἀλλ’ ἡ τοῦ εὖ ζῆν κοινωνία καὶ ταῖς οἰκίαις καὶ τοῖς γένεσι, ζωῆς τελείας χάριν καὶ αὐτάρκους. οὐκ ἔσται μέντοι τοῦτο μὴ τὸν αὐτὸν καὶ ἕνα κατοικούντων τόπον καὶ χρωμένων ἐπιγαμίαις. διὸ κηδεῖαί τ’ ἐγένοντο κατὰ τὰς πόλεις καὶ φατρίαι καὶ θυσίαι καὶ διαγωγαὶ τοῦ συζῆν. τὸ δὲ τοιοῦτον φιλίας ἔργον· ἡ γὰρ τοῦ συζῆν προαίρεσις φιλία. τέλος μὲν οὖν πόλεως τὸ εὖ ζῆν, ταῦτα δὲ τοῦ τέλους χάριν. πόλις δὲ ἡ γενῶν καὶ κωμῶν [1281a] κοινωνία ζωῆς τελείας καὶ αὐτάρκους. τοῦτο δ’ ἐστίν, ὡς φαμέν, τὸ ζῆν εὐδαιμόνως καὶ καλῶς. τῶν καλῶν ἄρα πράξεων χάριν θετέον εἶναι τὴν πολιτικὴν κοινωνίαν ἀλλ’ οὐ τοῦ συζῆν. διόπερ ὅσοι συμβάλλονται πλεῖστον εἰς τὴν τοιαύτην κοινωνίαν, τούτοις τῆς πόλεως μέτεστι πλεῖον ἢ τοῖς κατὰ μὲν ἐλευθερίαν καὶ γένος ἴσοις ἢ μείζοσι κατὰ δὲ τὴν πολιτικὴν ἀρετὴν ἀνίσοις, ἢ τοῖς κατὰ πλοῦτον ὑπερέχουσι κατ’ ἀρετὴν δ’ ὑπερεχομένοις. ὅτι μὲν οὖν πάντες οἱ περὶ τῶν πολιτειῶν ἀμφισβητοῦντες μέρος τι τοῦ δικαίου λέγουσι, φανερὸν ἐκ τῶν εἰρημένων.

Ἔχει δ’ ἀπορίαν τί δεῖ τὸ κύριον εἶναι τῆς πόλεως. ἢ γάρ τοι τὸ πλῆθος, ἢ τοὺς πλουσίους, ἢ τοὺς ἐπιεικεῖς, ἢ τὸν βέλτιστον ἕνα πάντων, ἢ τύραννον. ἀλλὰ ταῦτα πάντα ἔχειν φαίνεται δυσκολίαν. τί γάρ; ἂν οἱ πένητες διὰ τὸ πλείους εἶναι διανέμωνται τὰ τῶν πλουσίων, τοῦτ’ οὐκ ἄδικόν ἐστιν; “ἔδοξε γὰρ νὴ Δία τῷ κυρίῳ δικαίως.” τὴν οὖν ἀδικίαν τί χρὴ λέγειν τὴν ἐσχάτην; πάλιν τε πάντων ληφθέντων, οἱ πλείους τὰ τῶν ἐλαττόνων ἂν διανέμωνται, φανερὸν ὅτι φθείρουσι τὴν πόλιν. ἀλλὰ μὴν οὐχ ἥ γ’ ἀρετὴ φθείρει τὸ ἔχον αὐτήν, οὐδὲ τὸ δίκαιον πόλεως φθαρτικόν· ὥστε δῆλον ὅτι καὶ τὸν νόμον τοῦτον οὐχ οἷόν τ’ εἶναι δίκαιον. ἔτι καὶ τὰς πράξεις ὅσας ὁ τύραννος ἔπραξεν ἀναγκαῖον εἶναι πάσας δικαίας· βιάζεται γὰρ ὢν κρείττων, ὥσπερ καὶ τὸ πλῆθος τοὺς πλουσίους. ἀλλ’ ἆρα τοὺς ἐλάττους δίκαιον ἄρχειν καὶ τοὺς πλουσίους; ἂν οὖν κἀκεῖνοι ταῦτα ποιῶσι καὶ διαρπάζωσι καὶ τὰ κτήματα ἀφαιρῶνται τοῦ πλήθους, τοῦτ’ ἐστὶ δίκαιον· καὶ θάτερον ἄρα. ταῦτα μὲν τοίνυν ὅτι πάντα φαῦλα καὶ οὐ δίκαια, φανερόν· ἀλλὰ τοὺς ἐπιεικεῖς ἄρχειν δεῖ καὶ κυρίους εἶναι πάντων; οὐκοῦν ἀνάγκη τοὺς ἄλλους ἀτίμους εἶναι πάντας, μὴ τιμωμένους ταῖς πολιτικαῖς ἀρχαῖς· τιμὰς γὰρ λέγομεν εἶναι τὰς ἀρχάς, ἀρχόντων δ’ αἰεὶ τῶν αὐτῶν ἀναγκαῖον εἶναι τοὺς ἄλλους ἀτίμους. ἀλλ’ ἕνα τὸν σπουδαιότατον ἄρχειν βέλτιον; ἀλλ’ ἔτι τοῦτο ὀλιγαρχικώτερον· οἱ γὰρ ἄτιμοι πλείους. ἀλλ’ ἴσως φαίη τις ἂν τὸ κύριον ὅλως ἄνθρωπον εἶναι ἀλλὰ μὴ νόμον φαῦλον, ἔχοντά γε τὰ συμβαίνοντα πάθη περὶ τὴν ψυχήν. ἂν οὖν ᾖ νόμος μὲν ὀλιγαρχικὸς δὲ ἢ δημοκρατικός, τί διοίσει περὶ τῶν ἠπορημένων; συμβήσεται γὰρ ὁμοίως τὰ λεχθέντα πρότερον. Περὶ μὲν οὖν τῶν ἄλλων ἔστω τις ἕτερος λόγος· ὅτι δὲ δεῖ κύριον εἶναι μᾶλλον τὸ πλῆθος ἢ τοὺς ἀρίστους μὲν ὀλίγους δέ, δόξειεν ἂν λέγεσθαι καί τιν’ ἔχειν ἀπορίαν τάχα δὲ κἂν ἀλήθειαν. τοὺς γὰρ πολλούς, ὧν ἕκαστός ἐστιν [1281b] οὐ σπουδαῖος ἀνήρ, ὅμως ἐνδέχεται συνελθόντας εἶναι βελτίους ἐκείνων, οὐχ ὡς ἕκαστον ἀλλ’ ὡς σύμπαντας, οἷον τὰ συμφορητὰ δεῖπνα τῶν ἐκ μιᾶς δαπάνης χορηγηθέντων· πολλῶν γὰρ ὄντων ἕκαστον μόριον ἔχειν ἀρετῆς καὶ φρονήσεως, καὶ γίνεσθαι συνελθόντων, ὥσπερ ἕνα ἄνθρωπον τὸ πλῆθος, πολύποδα καὶ πολύχειρα καὶ πολλὰς ἔχοντ᾽ αἰσθήσεις, οὕτω καὶ περὶ τὰ ἤθη καὶ τὴν διάνοιαν. διὸ καὶ κρίνουσιν ἄμεινον οἱ πολλοὶ καὶ τὰ τῆς μουσικῆς ἔργα καὶ τὰ τῶν ποιητῶν· ἄλλοι γὰρ ἄλλο τι μόριον, πάντα δὲ πάντες. ἀλλὰ τούτῳ διαφέρουσιν οἱ σπουδαῖοι τῶν ἀνδρῶν ἑκάστου τῶν πολλῶν, ὥσπερ καὶ τῶν μὴ καλῶν τοὺς καλούς φασι, καὶ τὰ γεγραμμένα διὰ τέχνης τῶν ἀληθινῶν, τῷ συνῆχθαι τὰ διεσπαρμένα χωρὶς εἰς ἕν, ἐπεὶ κεχωρισμένων γε κάλλιον ἔχειν τοῦ γεγραμμένου τουδὶ μὲν τὸν ὀφθαλμὸν ἑτέρου δέ τινος ἕτερον μόριον.

εἰ μὲν οὖν περὶ πάντα δῆμον καὶ περὶ πᾶν πλῆθος ἐνδέχεται ταύτην εἶναι τὴν διαφορὰν τῶν πολλῶν πρὸς τοὺς ὀλίγους σπουδαίους, ἄδηλον, ἴσως δὲ νὴ Δία δῆλον ὅτι περὶ ἐνίων ἀδύνατον (ὁ γὰρ αὐτὸς κἂν ἐπὶ τῶν θηρίων ἁρμόσειε λόγος· καίτοι τί διαφέρουσιν ἔνιοι τῶν θηρίων ὡς ἔπος εἰπεῖν;)· ἀλλὰ περὶ τὶ πλῆθος οὐδὲν εἶναι κωλύει τὸ λεχθὲν ἀληθές. διὸ καὶ τὴν πρότερον εἰρημένην ἀπορίαν λύσειεν ἄν τις διὰ τούτων καὶ τὴν ἐχομένην αὐτῆς, τίνων δεῖ κυρίους εἶναι τοὺς ἐλευθέρους καὶ τὸ πλῆθος τῶν πολιτῶν. τοιοῦτοι δ᾽ εἰσὶν ὅσοι μήτε πλούσιοι μήτε ἀξίωμα ἔχουσιν ἀρετῆς μηδὲ ἕν. τὸ μὲν γὰρ μετέχειν αὐτοὺς τῶν ἀρχῶν τῶν μεγίστων οὐκ ἀσφαλές (διά τε γὰρ ἀδικίαν καὶ δι᾽ ἀφροσύνην τὰ μὲν ἀδικεῖν ἀνάγκη τὰ δ᾽ ἁμαρτάνειν αὐτούς)· τὸ δὲ μὴ μεταδιδόναι μηδὲ μετέχειν φοβερόν (ὅταν γὰρ ἄτιμοι πολλοὶ καὶ πένητες ὑπάρχωσι, πολεμίων ἀναγκαῖον εἶναι πλήρη τὴν πόλιν ταύτην). λείπεται δὴ τοῦ βουλεύεσθαι καὶ κρίνειν μετέχειν αὐτούς. διόπερ καὶ Σόλων καὶ τῶν ἄλλων τινὲς νομοθετῶν τάττουσιν ἐπί τε τὰς ἀρχαιρεσίας καὶ τὰς εὐθύνας τῶν ἀρχόντων, ἄρχειν δὲ κατὰ μόνας οὐκ ἐῶσιν. πάντες μὲν γὰρ ἔχουσι συνελθόντες ἱκανὴν αἴσθησιν, καὶ μιγνύμενοι τοῖς βελτίοσι τὰς πόλεις ὠφελοῦσιν, καθάπερ ἡ μὴ καθαρὰ τροφὴ μετὰ τῆς καθαρᾶς τὴν πᾶσαν ποιεῖ χρησιμωτέραν τῆς ὀλίγης· χωρὶς δ᾽ ἕκαστος ἀτελὴς περὶ τὸ κρίνειν ἐστίν.

ἔχει δ᾽ ἡ τάξις αὕτη τῆς πολιτείας ἀπορίαν πρώτην μὲν ὅτι δόξειεν ἂν τοῦ αὐτοῦ εἶναι τὸ κρῖναι τίς ὀρθῶς ἰάτρευκεν, οὗπερ καὶ τὸ ἰατρεῦσαι καὶ ποιῆσαι ὑγιᾶ τὸν κάμνοντα τῆς νόσου τῆς παρούσης· οὗτος δ᾽ ἐστὶν ὁ ἰατρός. ὁμοίως δὲ τοῦτο καὶ [1282a] περὶ τὰς ἄλλας ἐμπειρίας καὶ τέχνας. ὥσπερ οὖν ἰατρὸν δεῖ διδόναι τὰς εὐθύνας ἐν ἰατροῖς, οὕτω καὶ τοὺς ἄλλους ἐν τοῖς ὁμοίοις. ἰατρὸς δ᾽ ὅ τε δημιουργὰς καὶ ὁ ἀρχιτεκτονικὸς καὶ τρίτος ὁ πεπαιδευμένος περὶ τὴν τέχνην (εἰσὶ γάρ τινες τοιοῦτοι καὶ περὶ πάσας ὡς εἰπεῖν τὰς τέχνας)· ἀποδίδομεν δὲ τὸ κρίνειν οὐδὲν ἧττον τοῖς πεπαιδευμένοις ἢ τοῖς εἰδόσιν. ἔπειτα καὶ περὶ τὴν αἵρεσιν τὸν αὐτὸν ἂν δόξειεν ἔχειν τρόπον.

καὶ γὰρ τὸ ἑλέσθαι ὀρθῶς τῶν εἰδότων ἔργον ἐστίν, οἷον γεωμέτρην τε τῶν γεωμετρικῶν καὶ κυβερνήτην τῶν κυβερνητικῶν. εἰ γὰρ καὶ περὶ ἐνίων ἔργων καὶ τεχνῶν μετέχουσι καὶ τῶν ἰδιωτῶν τινες, ἀλλ’ οὔ τι τῶν εἰδότων γε μᾶλλον. ὥστε κατὰ μὲν τοῦτον τὸν λόγον οὐκ ἂν εἴη τὸ πλῆθος ποιητέον κύριον οὔτε τῶν ἀρχαιρεσιῶν οὔτε τῶν εὐθυνῶν. ἀλλ’ ἴσως οὐ πάντα ταῦτα λέγεται καλῶς διά τε τὸν πάλαι λόγον, ἂν ᾖ τὸ πλῆθος μὴ λίαν ἀνδραποδῶδες (ἔσται γὰρ ἕκαστος μὲν χείρων κριτὴς τῶν εἰδότων, ἅπαντες δὲ συνελθόντες ἢ βελτίους ἢ οὐ χείρους), καὶ ὅτι περὶ ἐνίων οὔτε μόνον ὁ ποιήσας οὔτ’ ἄριστ’ ἂν κρίνειεν, ὅσων τἆργα γινώσκουσι καὶ οἱ μὴ ἔχοντες τὴν τέχνην, οἷον οἰκίαν οὐ μόνον ἐστὶ γνῶναι τοῦ ποιήσαντος, ἀλλὰ καὶ βέλτιον ὁ χρώμενος αὐτῇ κρινεῖ (χρῆται δ’ ὁ οἰκονόμος), καὶ πηδάλιον κυβερνήτης τέκτονος, καὶ θοίνην ὁ δαιτυμὼν ἀλλ’ οὐχ ὁ μάγειρος.

ταύτην μὲν οὖν τὴν ἀπορίαν τάχα δόξειέ τις ἂν οὕτω λύειν ἱκανῶς· ἄλλη δ’ ἐστὶν ἐχομένη ταύτης. δοκεῖ γὰρ ἄτοπον εἶναι τὸ μειζόνων εἶναι κυρίους τοὺς φαύλους τῶν ἐπιεικῶν, αἱ δ’ εὔθυναι καὶ αἱ τῶν ἀρχῶν αἱρέσεις εἰσὶ μέγιστον· ἃς ἐν ἐνίαις πολιτείαις, ὥσπερ εἴρηται, τοῖς δήμοις ἀποδιδόασιν· ἡ γὰρ ἐκκλησία κυρία πάντων τῶν τοιούτων ἐστίν. καίτοι τῆς μὲν ἐκκλησίας μετέχουσι καὶ βουλεύουσι καὶ δικάζουσιν ἀπὸ μικρῶν τιμημάτων καὶ τῆς τυχούσης ἡλικίας, ταμιεύουσι δὲ καὶ στρατηγοῦσι καὶ τὰς μεγίστας ἀρχὰς ἄρχουσιν ἀπὸ μεγάλων. ὁμοίως δή τις ἂν λύσειε καὶ ταύτην τὴν ἀπορίαν. ἴσως γὰρ ἔχει καὶ ταῦτ’ ὀρθῶς. οὐ γὰρ ὁ δικαστὴς οὐδ’ ὁ βουλευτὴς οὐδ’ ὁ ἐκκλησιαστὴς ἄρχων ἐστίν, ἀλλὰ τὸ δικαστήριον καὶ ἡ βουλὴ καὶ ὁ δῆμος· τῶν δὲ ῥηθέντων ἕκαστος μόριόν ἐστι τούτων (λέγω δὲ [μόριον] τὸν βουλευτὴν καὶ τὸν ἐκκλησιαστὴν καὶ τὸν δικαστήν)· ὥστε δικαίως κύριον μειζόνων τὸ πλῆθος· ἐκ γὰρ πολλῶν ὁ δῆμος καὶ ἡ βουλὴ καὶ τὸ δικαστήριον. καὶ τὸ τίμημα δὲ πλεῖον τὸ πάντων τούτων ἢ τὸ τῶν καθ’ ἕνα καὶ κατ’ ὀλίγους μεγάλας ἀρχὰς ἀρχόντων. ταῦτα μὲν οὖν διωρίσθω [1282b] τοῦτον τὸν τρόπον· ἡ δὲ πρώτη λεχθεῖσα ἀπορία ποιεῖ φανερὸν οὐδὲν οὕτως ἕτερον ὡς ὅτι δεῖ τοὺς νόμους εἶναι κυρίους κειμένους ὀρθῶς, τὸν ἄρχοντα δέ, ἄν τε εἷς ἄν τε πλείους ὦσι, περὶ τούτων εἶναι κυρίους περὶ ὅσων ἐξαδυνατοῦσιν οἱ νόμοι λέγειν ἀκριβῶς διὰ τὸ μὴ ῥᾴδιον εἶναι καθόλου διορίσαι περὶ πάντων. ὁποίους μέντοι τινὰς εἶναι δεῖ τοὺς ὀρθῶς κειμένους νόμους, οὐδέν πω δῆλον, ἀλλ’ ἔτι μένει τὸ πάλαι διαπορηθέν. ἅμα γὰρ καὶ ὁμοίως ταῖς πολιτείαις ἀνάγκη καὶ τοὺς νόμους φαύλους ἢ σπουδαίους εἶναι, καὶ δικαίους ἢ ἀδίκους. πλὴν τουτό γε φανερόν, ὅτι δεῖ πρὸς τὴν πολιτείαν κεῖσθαι τοὺς νόμους. ἀλλὰ μὴν εἰ τοῦτο, δῆλον ὅτι τοὺς μὲν κατὰ τὰς ὀρθὰς πολιτείας ἀναγκαῖον εἶναι δικαίους τοὺς δὲ κατὰ τὰς παρεκβεβηκυίας οὐ δικαίους.

Ἐπεὶ δ’ ἐν πάσαις μὲν ταῖς ἐπιστήμαις καὶ τέχναις ἀγαθὸν τὸ τέλος, μέγιστον δὲ καὶ μάλιστα ἐν τῇ κυριωτάτῃ πασῶν, αὕτη δ’ ἐστὶν ἡ πολιτικὴ δύναμις, ἔστι δὲ πολιτικὸν ἀγαθὸν τὸ δίκαιον, τοῦτο δ’ ἐστὶ τὸ κοινῇ συμφέρον, δοκεῖ δὲ πᾶσιν ἴσον τι τὸ δίκαιον εἶναι, καὶ μέχρι γέ τινος ὁμολογοῦσι τοῖς κατὰ φιλοσοφίαν λόγοις, ἐν οἷς διώρισται περὶ τῶν ἠθικῶν (τὶ γὰρ καὶ τισὶ τὸ δίκαιον, καὶ δεῖν τοῖς ἴσοις ἴσον εἶναι φασιν), ποίων δὴ ἰσότης ἐστὶ καὶ ποίων ἀνισότης, δεῖ μὴ λανθάνειν. ἔχει γὰρ τοῦτ’ ἀπορίαν καὶ φιλοσοφίαν πολιτικήν. ἴσως γὰρ ἂν φαίη τις κατὰ παντὸς ὑπεροχὴν ἀγαθοῦ δεῖν ἀνίσως νενεμῆσθαι τὰς ἀρχάς, εἰ πάντα τὰ λοιπὰ μηδὲν διαφέροιεν ἀλλ’ ὅμοιοι τυγχάνοιεν ὄντες· τοῖς γὰρ διαφέρουσιν ἕτερον εἶναι τὸ δίκαιον καὶ τὸ κατ’ ἀξίαν. ἀλλὰ μὴν εἰ τοῦτ’ ἀληθές, ἔσται καὶ κατὰ χρῶμα καὶ κατὰ μέγεθος καὶ καθ’ ὁτιοῦν τῶν ἀγαθῶν πλεονεξία τις τῶν πολιτικῶν δικαίων τοῖς ὑπερέχουσιν. ἢ τοῦτο ἐπιπόλαιον τὸ ψεῦδος; φανερὸν δ’ ἐπὶ τῶν ἄλλων ἐπιστημῶν καὶ δυνάμεων· τῶν γὰρ ὁμοίων αὐλητῶν τὴν τέχνην οὐ δοτέον πλεονεξίαν τῶν αὐλῶν τοῖς εὐγενεστέροις (οὐδὲν γὰρ αὐλήσουσι βέλτιον), δεῖ δὲ τῷ κατὰ τὸ ἔργον ὑπερέχοντι διδόναι καὶ τῶν ὀργάνων τὴν ὑπεροχήν. εἰ δὲ μήπω δῆλον τὸ λεγόμενον, ἔτι μᾶλλον αὐτὸ προαγαγοῦσιν ἔσται φανερόν. εἰ γὰρ εἴη τις ὑπερέχων μὲν κατὰ τὴν αὐλητικήν, πολὺ δ’ ἐλλείπων κατ’ εὐγένειαν ἢ κάλλος, εἰ καὶ μεῖζον ἕκαστον ἐκείνων ἀγαθόν ἐστι τῆς αὐλητικῆς (λέγω δὲ τήν τ’ εὐγένειαν καὶ τὸ κάλλος), καὶ κατὰ τὴν ἀναλογίαν ὑπερέχουσι πλέον τῆς αὐλητικῆς ἢ ἐκεῖνος κατὰ τὴν αὐλητικήν, ὅμως τούτῳ δοτέον τοὺς διαφέροντας [1283a] τῶν αὐλῶν. δεῖ γὰρ εἰς τὸ ἔργον συμβάλλεσθαι τὴν ὑπεροχὴν καὶ τοῦ πλούτου καὶ τῆς εὐγενείας, συμβάλλονται δ’ οὐδέν.

ἔτι κατά γε τοῦτον τὸν λόγον πᾶν ἀγαθὸν πρὸς πᾶν ἂν εἴη συμβλητόν. εἰ γὰρ ἐνάμιλλον τὸ τὶ μέγεθος, καὶ ὅλως ἂν τὸ μέγεθος ἐνάμιλλον εἴη καὶ πρὸς πλοῦτον καὶ πρὸς ἐλευθερίαν· ὥστ’ εἰ πλεῖον ὁδὶ διαφέρει κατὰ μέγεθος ἢ ὁδὶ κατ’ ἀρετήν, ‹εἰ› καὶ [πλεῖον] ὑπερέχει ὅλως ἀρετὴ μεγέθους, εἴη ἂν συμβλητὰ πάντα. τοσόνδε γὰρ [μέγεθος] εἰ κρεῖττον τοσοῦδε, τοσόνδε δῆλον ὡς ἴσον. ἐπεὶ δὲ τοῦτ’ ἀδύνατον, δῆλον ὡς καὶ ἐπὶ τῶν πολιτικῶν εὐλόγως οὐ κατὰ πᾶσαν ἀνισότητ’ ἀμφισβητοῦσι τῶν ἀρχῶν (εἰ γὰρ οἱ μὲν βραδεῖς οἱ δὲ ταχεῖς, οὐδὲν διὰ τοῦτο δεῖ τοὺς μὲν πλεῖον τοὺς δ’ ἔλαττον ἔχειν, ἀλλ’ ἐν τοῖς γυμνικοῖς ἀγῶσιν ἡ τούτων διαφορὰ λαμβάνει τὴν τιμήν)· ἀλλ’ ἐξ ὧν πόλις συνέστηκεν, ἐν τούτοις ἀναγκαῖον ποιεῖσθαι τὴν ἀμφισβήτησιν. διόπερ εὐλόγως ἀντιποιοῦνται τῆς τιμῆς οἱ εὐγενεῖς καὶ ἐλεύθεροι καὶ πλούσιοι. δεῖ γὰρ ἐλευθέρους τ’ εἶναι καὶ τίμημα φέροντας (οὐ γὰρ ἂν εἴη πόλις ἐξ ἀπόρων πάντων, ὥσπερ οὐδ’ ἐκ δούλων)· ἀλλὰ μὴν εἰ δεῖ τούτων, δῆλον ὅτι καὶ δικαιοσύνης καὶ τῆς πολιτικῆς ἀρετῆς. οὐδὲ γὰρ ἄνευ τούτων οἰκεῖσθαι πόλιν δυνατόν· πλὴν ἄνευ μὲν τῶν προτέρων ἀδύνατον εἶναι πόλιν, ἄνευ δὲ τούτων οἰκεῖσθαι καλῶς.

Πρὸς μὲν οὖν τὸ πόλιν εἶναι δόξειεν ἂν ἢ πάντα ἢ ἔνιά γε τούτων ὀρθῶς ἀμφισβητεῖν, πρὸς μέντοι ζωὴν ἀγαθὴν ἡ παιδεία καὶ ἡ ἀρετὴ μάλιστα δικαίως ἂν ἀμφισβητοίησαν, καθάπερ εἴρηται καὶ πρότερον. ἐπεὶ δ’ οὔτε πάντων ἴσον ἔχειν δεῖ τοὺς ἴσους ἕν τι μόνον ὄντας, οὔτε ἄνισον τοὺς ἀνίσους καθ’ ἕν, ἀνάγκη πάσας εἶναι τὰς τοιαύτας πολιτείας περεκβάσεις. εἴρηται μὲν οὖν καὶ πρότερον ὅτι διαμφισβητοῦσι τρόπον τινὰ δικαίως πάντες, ἁπλῶς δ’ οὐ πάντες δικαίως· οἱ πλούσιοι μὲν ὅτι πλεῖον μέτεστι τῆς χώρας αὐτοῖς, ἡ δὲ χώρα κοινόν, ἔτι πρὸς τὰ συμβόλαια πιστοὶ μᾶλλον ὡς ἐπὶ τὸ πλέον· οἱ δὲ ἐλεύθεροι καὶ εὐγενεῖς ὡς ἐγγὺς ἀλλήλων (πολῖται γὰρ μᾶλλον οἱ γενναιότεροι τῶν ἀγεννῶν, ἡ δ’ εὐγένεια παρ’ ἑκάστοις οἴκοι τίμιος)· ἔτι διότι βελτίους εἰκὸς τοὺς ἐκ βελτιόνων, εὐγένεια γάρ ἐστιν ἀρετὴ γένους· ὁμοίως δὴ φήσομεν δικαίως καὶ τὴν ἀρετὴν ἀμφισβητεῖν, κοινωνικὴν γὰρ ἀρετὴν εἶναί φαμεν τὴν δικαιοσύνην, ᾗ πάσας ἀναγκαῖον ἀκολουθεῖν τὰς ἄλλας· ἀλλὰ μὴν καὶ οἱ πλείους πρὸς τοὺς ἐλάττους, καὶ γὰρ κρείττους καὶ πλουσιώτεροι καὶ βελτίους εἰσίν, ὡς λαμβανομένων τῶν πλειόνων πρὸς τοὺς ἐλάττους.

ἆρ’ οὖν [1283b] εἰ πάντες εἶεν ἐν μιᾷ πόλει, λέγω δ’ οἷον οἵ τ’ ἀγαθοὶ καὶ οἱ πλούσιοι καὶ ‹οἱ› εὐγενεῖς, ἔτι δὲ πλῆθος ἄλλο τι πολιτικόν, πότερον ἀμφισβήτησις ἔσται τίνας ἄρχειν δεῖ, ἢ οὐκ ἔσται; καθ’ ἑκάστην μὲν οὖν πολιτείαν τῶν εἰρημένων ἀναμφισβήτητος ἡ κρίσις τίνας ἄρχειν δεῖ (τοῖς γὰρ κυρίοις διαφέρουσιν ἀλλήλων, οἷον ἡ μὲν τῷ διὰ πλουσίων ἡ δὲ τῷ διὰ τῶν σπουδαίων ἀνδρῶν εἶναι, καὶ τῶν ἄλλων ἑκάστη τὸν αὐτὸν τρόπον)· ἀλλ’ ὅμως σκοπῶμεν, ὅταν περὶ τὸν αὐτὸν ταῦθ’ ὑπάρχῃ χρόνον, πῶς διοριστέον. εἰ δὴ τὸν ἀριθμὸν εἶεν ὀλίγοι πάμπαν οἱ τὴν ἀρετὴν ἔχοντες, τίνα δεῖ διελεῖν τρόπον; ἢ τὸ ‘ὀλίγοι’ πρὸς τὸ ἔργον δεῖ σκοπεῖν, εἰ δυνατοὶ διοικεῖν τὴν πόλιν ἢ τοσοῦτοι τὸ πλῆθος ὥστ’ εἶναι πόλιν ἐξ αὐτῶν; ἔστι δὲ ἀπορία τις πρὸς ἅπαντας τοὺς διαμφισβητοῦντας περὶ τῶν πολιτικῶν τιμῶν. δόξαιεν γὰρ ‹ἂν› οὐδὲν λέγειν δίκαιον οἱ διὰ τὸν πλοῦτον ἀξιοῦντες ἄρχειν, ὁμοίως δὲ καὶ οἱ κατὰ γένος· δῆλον γὰρ ὡς εἴ τις πάλιν εἷς πλουσιώτερος ἁπάντων ἐστί, δηλονότι κατὰ τὸ αὐτὸ δίκαιον τοῦτον ἄρχειν τὸν ἕνα ἁπάντων δεήσει, ὁμοίως δὲ καὶ τὸν εὐγενείᾳ διαφέροντα τῶν ἀμφισβητούντων δι’ ἐλευθερίαν. ταὐτὸ δὲ τοῦτο ἴσως συμβήσεται καὶ περὶ τὰς ἀριστοκρατίας ἐπὶ τῆς ἀρετῆς· εἰ γάρ τις εἷς ἀμείνων ἀνὴρ εἴη τῶν ἄλλων τῶν ἐν τῷ πολιτεύματι σπουδαίων ὄντων, τοῦτον εἶναι δεῖ κύριον κατὰ ταὐτὸ δίκαιον. οὐκοῦν εἰ καὶ τὸ πλῆθος εἶναί γε δεῖ κύριον διότι κρείττους εἰσὶ τῶν ὀλίγων, κἂν εἷς ἢ πλείους μὲν τοῦ ἑνὸς ἐλάττους δὲ τῶν πολλῶν κρείττους ὦσι τῶν ἄλλων, τούτους ἂν δέοι κυρίους εἶναι μᾶλλον ἢ τὸ πλῆθος. πάντα δὴ ταῦτ’ ἔοικε φανερὸν ποιεῖν ὅτι τούτων τῶν ὅρων οὐδεὶς ὀρθός ἐστι, καθ’ ὃν ἀξιοῦσιν αὐτοὶ μὲν ἄρχειν τοὺς δ’ ἄλλους ὑπὸ σφῶν ἄρχεσθαι πάντας. καὶ γὰρ δὴ καὶ πρὸς τοὺς κατ’ ἀρετὴν ἀξιοῦντας κυρίους εἶναι τοῦ πολιτεύματος, ὁμοίως δὲ καὶ τοὺς κατὰ πλοῦτον, ἔχοιεν ἂν λέγειν τὰ πλήθη λόγον τινὰ δίκαιον· οὐδὲν γὰρ κωλύει ποτὲ τὸ πλῆθος εἶναι βέλτιον· τῶν ὀλίγων καὶ πλουσιώτερον, οὐχ ὡς καθ’ ἕκαστον ἀλλ’ ὡς ἀθρόους. διὸ καὶ πρὸς τὴν ἀπορίαν ἣν ζητοῦσι καὶ προβάλλουσί τινες ἐνδέχεται τοῦτον τὸν τρόπον ἀπαντᾶν. ἀποροῦσι γάρ τινες πότερον τῷ νομοθέτῃ νομοθετητέον, βουλομένῳ τίθεσθαι τοὺς ὀρθοτάτους νόμους, πρὸς τὸ τῶν βελτιόνων συμφέρον ἢ πρὸς τὸ τῶν πλειόνων, ὅταν συμβαίνῃ τὸ λεχθέν· τὸ δ’ ὀρθὸν ληπτέον ἴσως· τὸ δ’ ἴσως ὀρθὸν πρὸς τὸ τῆς πόλεως ὅλης συμφέρον καὶ πρὸς τὸ κοινὸν τὸ τῶν πολιτῶν· πολίτης δὲ κοινῇ μὲν ὁ μετέχων τοῦ ἄρχειν καὶ ἄρχεσθαί [1284a] ἐστι, καθ’ ἑκάστην δὲ πολιτείαν ἕτερος, πρὸς δὲ τὴν ἀρίστην ὁ δυνάμενος καὶ προαιρούμενος ἄρχεσθαι καὶ ἄρχειν πρὸς τὸν βίον τὸν κατ’ ἀρετήν.

εἰ δέ τις ἔστιν εἷς τοσοῦτον διαφέρων κατ’ ἀρετῆς ὑπερβολήν, ἢ πλείους μὲν ἑνὸς μὴ μέντοι δυνατοὶ πλήρωμα παρασχέσθαι πόλεως, ὥστε μὴ συμβλητὴν εἶναι τὴν τῶν ἄλλων ἀρετὴν πάντων μηδὲ τὴν δύναμιν αὐτῶν τὴν πολιτικὴν πρὸς τὴν ἐκείνων, εἰ πλείους, εἰ δ’ εἷς, τὴν ἐκείνου μόνον, οὐκέτι θετέον τούτους μέρος πόλεως· ἀδικήσονται γὰρ ἀξιούμενοι τῶν ἴσων, ἄνισοι τοσοῦτον κατ’ ἀρετὴν ὄντες καὶ τὴν πολιτικὴν δύναμιν· ὥσπερ γὰρ θεὸν ἐν ἀνθρώποις εἰκὸς εἶναι τὸν τοιοῦτον. ὅθεν δῆλον ὅτι καὶ τὴν νομοθεσίαν ἀναγκαῖον εἶναι περὶ τοὺς ἴσους καὶ τῷ γένει καὶ τῇ δυνάμει, κατὰ δὲ τῶν τοιούτων οὐκ ἔστι νόμος· αὐτοὶ γάρ εἰσι νόμος. καὶ γὰρ γελοῖος ἂν εἴη νομοθετεῖν τις πειρώμενος κατ’ αὐτῶν. λέγοιεν γὰρ ἂν ἴσως ἅπερ Ἀντισθένης ἔφη τοὺς λέοντας δημηγορούντων τῶν δασυπόδων καὶ τὸ ἴσον ἀξιούντων πάντας ἔχειν. διὸ καὶ τίθενται τὸν ὀστρακισμὸν αἱ δημοκρατούμεναι πόλεις, διὰ τὴν τοιαύτην αἰτίαν· αὗται γὰρ δὴ δοκοῦσι διώκειν τὴν ἰσότητα μάλιστα πάντων, ὥστε τοὺς δοκοῦντας ὑπερέχειν δυνάμει διὰ πλοῦτον ἢ πολυφιλίαν ἤ τινα ἄλλην πολιτικὴν ἰσχὺν ὠστράκιζον καὶ μεθίστασαν ἐκ τῆς πόλεως χρόνους ὡρισμένους. μυθολογεῖται δὲ καὶ τοὺς Ἀργοναύτας τὸν Ἡρακλέα καταλιπεῖν διὰ τοιαύτην αἰτίαν· οὐ γὰρ ἐθέλειν αὐτὸν ἄγειν τὴν Ἀργὼ μετὰ τῶν ἄλλων, ὡς ὑπερβάλλοντα πολὺ τῶν πλωτήρων. διὸ καὶ τοὺς ψέγοντας τὴν τυραννίδα καὶ τὴν Περιάνδρου Θρασυβούλῳ συμβουλίαν οὐχ ἁπλῶς οἰητέον ὀρθῶς ἐπιτιμᾶν (φασὶ γὰρ τὸν Περίανδρον εἰπεῖν μὲν οὐδὲν πρὸς τὸν πεμφθέντα κήρυκα περὶ τῆς συμβουλίας, ἀφαιροῦντα δὲ τοὺς ὑπερέχοντας τῶν σταχύων ὁμαλῦναι τὴν ἄρουραν· ὅθεν ἀγνοοῦντος μὲν τοῦ κήρυκος τοῦ γιγνομένου τὴν αἰτίαν, ἀπαγγείλαντος δὲ τὸ συμπεσόν, συννοῆσαι τὸν Θρασύβουλον ὅτι δεῖ τοὺς ὑπερέχοντας ἄνδρας ἀναιρεῖν). τοῦτο γὰρ οὐ μόνον συμφέρει τοῖς τυράννοις, οὐδὲ μόνον οἱ τύραννοι ποιοῦσιν, ἀλλ’ ὁμοίως ἔχει καὶ περὶ τὰς ὀλιγαρχίας καὶ τὰς δημοκρατίας· ὁ γὰρ ὀστρακισμὸς τὴν αὐτὴν ἔχει δύναμιν τρόπον τινὰ τῷ κολούειν τοὺς ὑπερέχοντας καὶ φυγαδεύειν. τὸ δ’ αὐτὸ καὶ περὶ τὰς πόλεις καὶ τὰ ἔθνη ποιοῦσιν οἱ κύριοι τῆς δυνάμεως, οἷον Ἀθηναῖοι μὲν περὶ Σαμίους καὶ Χίους καὶ Λεσβίους (ἐπεὶ γὰρ θᾶττον ἐγκρατῶς ἔσχον τὴν ἀρχήν, ἐταπείνωσαν αὐτοὺς παρὰ τὰς συνθήκας), ὁ δὲ Περσῶν [1284b] βασιλεὺς Μήδους καὶ Βαβυλωνίους καὶ τῶν ἄλλων τοὺς πεφρονηματισμένους διὰ τὸ γενέσθαι ποτ’ ἐπ’ ἀρχῆς ἐπέκοπτε πολλάκις.

τὸ δὲ πρόβλημα καθόλου περὶ πάσας ἐστὶ τὰς πολιτείας, καὶ τὰς ὀρθάς· αἱ μὲν γὰρ παρεκβεβηκυῖαι πρὸς τὸ ἴδιον ἀποσκοποῦσαι τοῦτο δρῶσιν, οὐ μὴν ἀλλὰ περὶ τὰς τὸ κοινὸν ἀγαθὸν ἐπισκοπούσας τὸν αὐτὸν ἔχει τρόπον. δῆλον δὲ τοῦτο καὶ ἐπὶ τῶν ἄλλων τεχνῶν καὶ ἐπιστημῶν· οὔτε γὰρ γραφεὺς ἐάσειεν ἂν τὸν ὑπερβάλλοντα πόδα τῆς συμμετρίας ἔχειν τὸ ζῷον, οὐδ’ εἰ διαφέροι τὸ κάλλος, οὔτε ναυπηγὸς πρύμναν ἢ τῶν ἄλλων τι μορίων τῶν τῆς νεώς, οὐδὲ δὴ χοροδιδάσκαλος τὸν μεῖζον καὶ κάλλιον τοῦ παντὸς χοροῦ φθεγγόμενον ἐάσει συγχορεύειν. ὥστε διὰ τοῦτο μὲν οὐδὲν κωλύει τοὺς μονάρχους συμφωνεῖν ταῖς πόλεσιν, εἰ τῆς οἰκείας ἀρχῆς ὠφελίμου ταῖς πόλεσιν οὔσης τοῦτο δρῶσιν. διὸ κατὰ τὰς ὁμολογουμένας ὑπεροχὰς ἔχει τι δίκαιον πολιτικὸν ὁ λόγος ὁ περὶ τὸν ὀστρακισμόν. βέλτιον μὲν οὖν τὸν νομοθέτην ἐξ ἀρχῆς οὕτω συστῆσαι τὴν πολιτείαν ὥστε μὴ δεῖσθαι τοιαύτης ἰατρείας· δεύτερος δὲ πλοῦς, ἂν συμβῇ, πειρᾶσθαι τοιούτῳ τινὶ διορθώματι διορθοῦν. ὅπερ οὐκ ἐγίγνετο περὶ τὰς πόλεις· οὐ γὰρ ἔβλεπον πρὸς τὸ τῆς πολιτείας τῆς οἰκείας συμφέρον, ἀλλὰ στασιαστικῶς ἐχρῶντο τοῖς ὀστρακισμοῖς. ἐν μὲν οὖν ταῖς παρεκβεβηκυίαις πολιτείαις ὅτι μὲν ἰδίᾳ συμφέρει καὶ δίκαιόν ἐστι, φανερόν, ἴσως δὲ καὶ ὅτι οὐχ ἁπλῶς δίκαιον, καὶ τοῦτο φανερόν· ἀλλ’ ἐπὶ τῆς ἀρίστης πολιτείας ἔχει πολλὴν ἀπορίαν, οὐ κατὰ τῶν ἄλλων ἀγαθῶν τὴν ὑπεροχήν, οἷον ἰσχύος καὶ πλούτου καὶ πολυφιλίας, ἀλλὰ ἄν τις γένηται διαφέρων κατ’ ἀρετήν, τί χρὴ ποιεῖν; οὐ γὰρ δὴ φαῖεν ἂν δεῖν ἐκβάλλειν καὶ μεθιστάναι τὸν τοιοῦτον· ἀλλὰ μὴν οὐδ’ ἄρχειν γε τοῦ τοιούτου· παραπλήσιον γὰρ κἂν εἰ τοῦ Διὸς ἄρχειν ἀξιοῖεν, μερίζοντες τὰς ἀρχάς. λείπεται τοίνυν, ὅπερ ἔοικε πεφυκέναι, πείθεσθαι τῷ τοιούτῳ πάντας ἀσμένως, ὥστε βασιλέας εἶναι τοὺς τοιούτους ἀιδίους ἐν ταῖς πόλεσιν.

Ἴσως δὲ καλῶς ἔχει μετὰ τοὺς εἰρημένους λόγους μεταβῆναι καὶ σκέψασθαι περὶ βασιλείας· φαμὲν γὰρ τῶν ὀρθῶν πολιτειῶν μίαν εἶναι ταύτην. σκεπτέον δὲ πότερον συμφέρει τῇ μελλούσῃ καλῶς οἰκήσεσθαι καὶ πόλει καὶ χώρᾳ βασιλεύεσθαι, ἢ οὔ, ἀλλ’ ἄλλη τις πολιτεία μᾶλλον, ἢ τισὶ μὲν συμφέρει τισὶ δ’ οὐ συμφέρει. δεῖ δὴ πρῶτον διελέσθαι πότερον ἕν τι γένος ἔστιν αὐτῆς ἢ πλείους [1285a] ἔχει διαφοράς. ῥᾴδιον δὴ τοῦτό γε καταμαθεῖν, ὅτι πλείω τε γένη περιέχει καὶ τῆς ἀρχῆς ὁ τρόπος ἐστὶν οὐχ εἷς πασῶν. ἡ γὰρ ἐν τῇ Λακωνικῇ πολιτείᾳ δοκεῖ μὲν εἶναι βασιλεία μάλιστα τῶν κατὰ νόμον, οὐκ ἔστι δὲ κυρία πάντων, ἀλλ’ ὅταν ἐξέλθῃ τὴν χώραν ἡγεμών ἐστι τῶν πρὸς τὸν πόλεμον· ἔτι δὲ τὰ πρὸς τοὺς θεοὺς ἀποδέδοται τοῖς βασιλεῦσιν. αὕτη μὲν οὖν ἡ βασιλεία οἷον στρατηγία τις αὐτοκρατόρων καὶ ἀίδιός ἐστιν· κτεῖναι γὰρ οὐ κύριος, εἰ μὴ ἕνεκα δειλίας, καθάπερ ἐπὶ τῶν ἀρχαίων ἐν ταῖς πολεμικαῖς ἐξόδοις, ἐν χειρὸς νόμῳ. δηλοῖ δ’ Ὅμηρος· ὁ γὰρ Ἀγαμέμνων κακῶς μὲν ἀκούων ἠνείχετο ἐν ταῖς ἐκκλησίαις, ἐξελθόντων δὲ καὶ κτεῖναι κύριος ἦν· λέγει γοῦν “ὃν δέ κ’ ἐγὼν ἀπάνευθε μάχης .., οὔ οἱ ἄρκιον ἐσσεῖται φυγέειν κύνας ἠδ’ οἰωνούς· πὰρ γὰρ ἐμοὶ θάνατος”.

ἓν μὲν οὖν τοῦτ’ εἶδος βασιλείας, στρατηγία διὰ βίου, τούτων δ’ αἱ μὲν κατὰ γένος εἰσὶν αἱ δ’ αἱρεταί· παρὰ ταύτην δ’ ἄλλο μοναρχίας εἶδος, οἷαι παρ’ ἐνίοις εἰσὶ βασιλεῖαι τῶν βαρβάρων. ἔχουσι δ’ αὗται τὴν δύναμιν πᾶσαι παραπλησίαν τυραννίσιν, εἰσὶ δὲ κατὰ νόμον καὶ πάτριαι· διὰ γὰρ τὸ δουλικώτεροι εἶναι τὰ ἤθη φύσει οἱ μὲν βάρβαροι τῶν Ἑλλήνων, οἱ δὲ περὶ τὴν Ἀσίαν τῶν περὶ τὴν Εὐρώπην, ὑπομένουσι τὴν δεσποτικὴν ἀρχὴν οὐδὲν δυσχεραίνοντες. τυραννικαὶ μὲν οὖν διὰ τὸ τοιοῦτόν εἰσιν, ἀσφαλεῖς δὲ διὰ τὸ πάτριαι καὶ κατὰ νόμον εἶναι. καὶ ἡ φυλακὴ δὲ βασιλικὴ καὶ οὐ τυραννικὴ διὰ τὴν αὐτὴν αἰτίαν. οἱ γὰρ πολῖται φυλάττουσιν ὅπλοις τοὺς βασιλεῖς, τοὺς δὲ τυράννους ξενικόν· οἱ μὲν γὰρ κατὰ νόμον καὶ ἑκόντων οἱ δ’ ἀκόντων ἄρχουσιν, ὥσθ’ οἱ μὲν παρὰ τῶν πολιτῶν οἱ δ’ ἐπὶ τοὺς πολίτας ἔχουσι τὴν φυλακήν.

δύο μὲν οὖν εἴδη ταῦτα μοναρχίας, ἕτερον δ’ ὅπερ ἦν ἐν τοῖς ἀρχαίοις Ἕλλησιν, οὓς καλοῦσιν αἰσυμνήτας. ἔστι δὲ τοῦθ’ ὡς ἁπλῶς εἰπεῖν αἱρετὴ τυραννίς, διαφέρουσα δὲ τῆς βαρβαρικῆς οὐ τῷ μὴ κατὰ νόμον ἀλλὰ τῷ μὴ πάτριος εἶναι μόνον. ἦρχον δ’ οἱ μὲν διὰ βίου τὴν ἀρχὴν ταύτην, οἱ δὲ μέχρι τινῶν ὡρισμένων χρόνων ἢ πράξεων, οἷον εἵλοντό ποτε Μυτιληναῖοι Πιττακὸν πρὸς τοὺς φυγάδας ὧν προειστήκεσαν Ἀντιμενίδης καὶ Ἀλκαῖος ὁ ποιητής. δηλοῖ δ’ Ἀλκαῖος ὅτι τύραννον εἵλοντο τὸν Πιττακὸν ἔν τινι τῶν σκολιῶν μελῶν· ἐπιτιμᾷ γὰρ ὅτι “τὸν κακοπάτριδα Πίττακον πόλιος τᾶς ἀχόλω καὶ [1285b] βαρυδαίμονος ἐστάσαντο τύραννον μέγ’ ἐπαινέοντες ἀόλλεες”.

αὗται μὲν οὖν εἰσί τε καὶ ἦσαν διὰ μὲν τὸ δεσποτικαὶ εἶναι τυραννικαί, διὰ δὲ τὸ αἱρεταὶ καὶ ἑκόντων βασιλικαί· τέταρτον δ’ εἶδος μοναρχίας βασιλικῆς αἱ κατὰ τοὺς ἡρωικοὺς χρόνους ἑκούσιαί τε καὶ πάτριαι γιγνόμεναι κατὰ νόμον. διὰ γὰρ τὸ τοὺς πρώτους γενέσθαι τοῦ πλήθους εὐεργέτας κατὰ τέχνας ἢ πόλεμον, ἢ διὰ τὸ συναγαγεῖν ἢ πορίσαι χώραν, ἐγίγνοντο βασιλεῖς ἑκόντων καὶ τοῖς παραλαμβάνουσι πάτριοι. κύριοι δ’ ἦσαν τῆς τε κατὰ πόλεμον ἡγεμονίας καὶ τῶν θυσιῶν, ὅσαι μὴ ἱερατικαί, καὶ πρὸς τούτοις τὰς δίκας ἔκρινον. τοῦτο δ’ ἐποίουν οἱ μὲν οὐκ ὀμνύοντες οἱ δ’ ὀμνύοντες· ὁ δ’ ὅρκος ἦν τοῦ σκήπτρου ἐπανάτασις. οἱ μὲν οὖν ἐπὶ τῶν ἀρχαίων χρόνων καὶ τὰ κατὰ πόλιν καὶ τὰ ἔνδημα καὶ τὰ ὑπερόρια συνεχῶς ἦρχον· ὕστερον δὲ τὰ μὲν αὐτῶν παριέντων τῶν βασιλέων, τὰ δὲ τῶν ὄχλων παραιρουμένων, ἐν μὲν ταῖς ἄλλαις πόλεσιν αἱ θυσίαι κατελείφθησαν τοῖς βασιλεῦσι μόνον, ὅπου δ’ ἄξιον εἰπεῖν εἶναι βασιλείαν, ἐν τοῖς ὑπερορίοις τῶν πολεμικῶν τὴν ἡγεμονίαν μόνον εἶχον.

βασιλείας μὲν οὖν εἴδη ταῦτα, τέτταρα τὸν ἀριθμόν, μία μὲν ἡ περὶ τοὺς ἡρωικοὺς χρόνους (αὕτη δ’ ἦν ἑκόντων μέν, ἐπὶ τισὶ δ’ ὡρισμένοις· στρατηγός τε γὰρ ἦν καὶ δικαστὴς ὁ βασιλεύς, καὶ τῶν πρὸς τοὺς θεοὺς κύριος), δευτέρα δ’ ἡ βαρβαρική (αὕτη δ’ ἐστὶν ἐκ γένους ἀρχὴ δεσποτικὴ κατὰ νόμον), τρίτη δὲ ἣν αἰσυμνητείαν προσαγορεύουσιν (αὕτη δ’ ἐστὶν αἱρετὴ τυραννίς), τετάρτη δ’ ἡ Λακωνικὴ τούτων (αὕτη δ’ ἐστὶν ὡς εἰπεῖν ἁπλῶς στρατηγία κατὰ γένος ἀίδιος). αὗται μὲν οὖν τοῦτον τὸν τρόπον διαφέρουσιν ἀλλήλων· πέμπτον δ’ εἶδος βασιλείας, ὅταν ᾖ πάντων κύριος εἷς ὤν, ὥσπερ ἕκαστον ἔθνος καὶ πόλις ἑκάστη τῶν κοινῶν, τεταγμένη κατὰ τὴν οἰκονομικήν. ὥσπερ γὰρ ἡ οἰκονομικὴ βασιλεία τις οἰκίας ἐστίν, οὕτως ἡ βασιλεία πόλεως καὶ ἔθνους ἑνὸς ἢ πλειόνων οἰκονομία. Σχεδὸν δὴ δύο ἐστὶν ὡς εἰπεῖν εἴδη βασιλείας περὶ ὧν σκεπτέον, αὕτη τε καὶ ἡ Λακωνική· τῶν γὰρ ἄλλων αἱ πολλαὶ μεταξὺ τούτων εἰσίν· ἐλαττόνων μὲν γὰρ κύριοι τῆς παμβασιλείας, πλειόνων δ’ εἰσὶ τῆς Λακωνικῆς. ὥστε τὸ σκέμμα σχεδὸν περὶ δυοῖν ἐστιν, ἓν μὲν πότερον συμφέρει ταῖς πόλεσι στρατηγὸν ἀίδιον εἶναι, καὶ τοῦτον ἢ κατὰ γένος ἢ κατὰ μέρος, [1286a] ἢ οὐ συμφέρει, ἓν δὲ πότερον ἕνα συμφέρει κύριον εἶναι πάντων, ἢ οὐ συμφέρει. τὸ μὲν οὖν περὶ τῆς τοιαύτης στρατηγίας ἐπισκοπεῖν νόμων ἔχει μᾶλλον εἶδος ἢ πολιτείας (ἐν ἁπάσαις γὰρ ἐνδέχεται γίγνεσθαι τοῦτο ταῖς πολιτείαις), ὥστ’ ἀφείσθω τὴν πρώτην· ὁ δὲ λοιπὸς τρόπος τῆς βασιλείας πολιτείας εἶδός ἐστιν, ὥστε περὶ τούτου δεῖ θεωρῆσαι καὶ τὰς ἀπορίας ἐπιδραμεῖν τὰς ἐνούσας. ἀρχὴ δ’ ἐστὶ τῆς ζητήσεως αὕτη, πότερον συμφέρει μᾶλλον ὑπὸ τοῦ ἀρίστου ἀνδρὸς ἄρχεσθαι ἢ ὑπὸ τῶν ἀρίστων νόμων.

δοκοῦσι δὴ τοῖς νομίζουσι συμφέρειν βασιλεύεσθαι τὸ καθόλου μόνον οἱ νόμοι λέγειν, ἀλλ’ οὐ πρὸς τὰ προσπίπτοντα ἐπιτάττειν, ὥστ’ ἐν ὁποιᾳοῦν τέχνῃ τὸ κατὰ γράμματ’ ἄρχειν ἠλίθιον· καὶ ‹εὖ› πως ἐν Αἰγύπτῳ μετὰ τὴν τετρήμερον κινεῖν ἔξεστι τοῖς ἰατροῖς (ἐὰν δὲ πρότερον, ἐπὶ τῷ αὑτοῦ κινδύνῳ). φανερὸν τοίνυν ὡς οὐκ ἔστιν ἡ κατὰ γράμματα καὶ νόμους ἀρίστη πολιτεία, διὰ τὴν αὐτὴν αἰτίαν. ἀλλὰ μὴν κἀκεῖνον δεῖ ὑπάρχειν τὸν λόγον, τὸν καθόλου, τοῖς ἄρχουσιν. κρεῖττον δ’ ᾧ μὴ πρόσεστι τὸ παθητικὸν ὅλως ἢ ᾧ συμφυές· τῷ μὲν οὖν νόμῳ τοῦτο οὐχ ὑπάρχει, ψυχὴν δ’ ἀνθρωπίνην ἀνάγκη τοῦτ’ ἔχειν πᾶσαν. ἀλλ’ ἴσως ἂν φαίη τις ὡς ἀντὶ τούτου βουλεύσεται περὶ τῶν καθ’ ἕκαστα κάλλιον. ὅτι μὲν τοίνυν ἀνάγκη νομοθέτην αὐτὸν εἶναι, δῆλον, καὶ κεῖσθαι νόμους, ἀλλὰ μὴ κυρίους ᾗ παρεκβαίνουσιν, ἐπεὶ περὶ τῶν γ’ ἄλλων εἶναι δεῖ κυρίους· ὅσα δὲ μὴ δυνατὸν τὸν νόμον κρίνειν ἢ ὅλως ἢ εὖ, πότερον ἕνα τὸν ἄριστον δεῖ ἄρχειν ἢ πάντας; καὶ γὰρ νῦν συνιόντες δικάζουσι καὶ βουλεύονται καὶ κρίνουσιν, αὗται δ’ αἱ κρίσεις εἰσὶ πᾶσαι περὶ τῶν καθ’ ἕκαστον. καθ’ ἕνα μὲν οὖν συμβαλλόμενος ὁστισοῦν ἴσως χείρων· ἀλλ’ ἐστὶν ἡ πόλις ἐκ πολλῶν, ὥσπερ ἑστίασις συμφορητὸς καλλίων μιᾶς καὶ ἁπλῆς· διὰ τοῦτο καὶ κρίνει ἄμεινον ὄχλος πολλὰ ἢ εἷς ὁστισοῦν.

ἔτι μᾶλλον ἀδιάφθορον τὸ πολύ - καθάπερ ὕδωρ τὸ πλεῖον, οὕτω καὶ τὸ πλῆθος τῶν ὀλίγων ἀδιαφθορώτερον· τοῦ δ’ ἑνὸς ὑπ’ ὀργῆς κρατηθέντος ἤ τινος ἑτέρου πάθους τοιούτου ἀναγκαῖον διεφθάρθαι τὴν κρίσιν, ἐκεῖ δ’ ἔργον ἅμα πάντας ὀργισθῆναι καὶ ἁμαρτεῖν. ἔστω δὲ τὸ πλῆθος οἱ ἐλεύθεροι, μηδὲν παρὰ τὸν νόμον πράττοντες ἀλλ’ ἢ περὶ ὧν ἐκλείπειν ἀναγκαῖον αὐτόν. εἰ δὲ δὴ τοῦτο μὴ ῥᾴδιον ἐν πολλοῖς, ἀλλ’ εἰ πλείους εἶεν ἀγαθοὶ καὶ ἄνδρες καὶ πολῖται, πότερον ὁ εἷς ἀδιαφθορώτερος ἄρχων, ἢ μᾶλλον οἱ πλείους μὲν τὸν ἀριθμὸν ἀγαθοὶ [1286b] δὲ πάντες; ἢ δῆλον ὡς οἱ πλείους; “ἀλλ’ οἱ μὲν στασιάσουσιν ὁ δὲ εἷς ἀστασίαστος.” ἀλλὰ πρὸς τοῦτ’ ἀντιθετέον ἴσως ὅτι σπουδαῖοι τὴν ψυχήν, ὥσπερ κἀκεῖνος ὁ εἷς. εἰ δὴ τὴν μὲν τῶν πλειόνων ἀρχὴν ἀγαθῶν δ' ἀνδρῶν πάντων ἀριστοκρατίαν θετέον, τὴν δὲ τοῦ ἑνὸς βασιλείαν, αἱρετώτερον ἂν εἴη ταῖς πόλεσιν ἀριστοκρατία βασιλείας, καὶ μετὰ δυνάμεως καὶ χωρὶς δυνάμεως οὔσης τῆς ἀρχῆς, ἂν ᾖ λαβεῖν πλείους ὁμοίους. καὶ διὰ τοῦτ' ἴσως ἐβασιλεύοντο πρότερον, ὅτι σπάνιον ἦν εὑρεῖν ἄνδρας πολὺ διαφέροντας κατ' ἀρετήν, ἄλλως τε καὶ τότε μικρὰς οἰκοῦντας πόλεις. ἔτι δ' ἀπ' εὐεργεσίας καθίστασαν τοὺς βασιλεῖς, ὅπερ ἐστὶν ἔργον τῶν ἀγαθῶν ἀνδρῶν. ἐπεὶ δὲ συνέβαινε γίγνεσθαι πολλοὺς ὁμοίους πρὸς ἀρετήν, οὐκέτι ὑπέμενον ἀλλ' ἐζήτουν κοινόν τι καὶ πολιτείαν καθίστασαν. ἐπεὶ δὲ χείρους γιγνόμενοι ἐχρηματίζοντο ἀπὸ τῶν κοινῶν, ἐντεῦθέν ποθεν εὔλογον γενέσθαι τὰς ὀλιγαρχίας· ἔντιμον γὰρ ἐποίησαν τὸν πλοῦτον. ἐκ δὲ τούτων πρῶτον εἰς τυραννίδας μετέβαλλον, ἐκ δὲ τῶν τυραννίδων εἰς δημοκρατίαν· αἰεὶ γὰρ εἰς ἐλάττους ἄγοντες δι' αἰσχροκέρδειαν ἰσχυρότερον τὸ πλῆθος κατέστησαν, ὥστ' ἐπιθέσθαι καὶ γενέσθαι δημοκρατίας. ἐπεὶ δὲ καὶ μείζους εἶναι συμβέβηκε τὰς πόλεις, ἴσως οὐδὲ ῥᾴδιον ἔτι γίγνεσθαι πολιτείαν ἑτέραν παρὰ δημοκρατίαν.

εἰ δὲ δή τις ἄριστον θείη τὸ βασιλεύεσθαι ταῖς πόλεσιν, πῶς ἕξει τὰ περὶ τῶν τέκνων; πότερον καὶ τὸ γένος δεῖ βασιλεύειν; ἀλλὰ γιγνομένων ὁποῖοί τινες ἔτυχον, βλαβερόν. "ἀλλ' οὐ παραδώσει κύριος ὢν τοῖς τέκνοις." ἀλλ' οὐκ ἔτι τοῦτο ῥᾴδιον πιστεῦσαι· χαλεπὸν γάρ, καὶ μείζονος ἀρετῆς ἢ κατ' ἀνθρωπίνην φύσιν. ἔχει δ' ἀπορίαν καὶ περὶ τῆς δυνάμεως, πότερον ἔχειν δεῖ τὸν μέλλοντα βασιλεύειν ἰσχύν τινα περὶ αὑτόν, ᾗ δυνήσεται βιάζεσθαι τοὺς μὴ βουλομένους πειθαρχεῖν, ἢ πῶς ἐνδέχεται τὴν ἀρχὴν διοικεῖν; εἰ γὰρ καὶ κατὰ νόμον εἴη κύριος, μηδὲν πράττων κατὰ τὴν αὑτοῦ βούλησιν παρὰ τὸν νόμον, ὅμως ἀναγκαῖον ὑπάρχειν αὐτῷ δύναμιν ᾗ φυλάξει τοὺς νόμους. τάχα μὲν οὖν τὰ περὶ τὸν βασιλέα τὸν τοιοῦτον οὐ χαλεπὸν διορίσαι· δεῖ γὰρ αὐτὸν μὲν ἔχειν ἰσχύν, εἶναι δὲ τοσαύτην τὴν ἰσχὺν ὥστε ἑκάστου μὲν καὶ ἑνὸς καὶ συμπλειόνων κρείττω τοῦ δὲ πλήθους ἥττω ‹καθεστάναι›, καθάπερ οἵ τ' ἀρχαῖοι τὰς φυλακὰς ἐδίδοσαν, ὅτε καθισταῖέν τινα τῆς πόλεως ὃν ἐκάλουν αἰσυμνήτην ἢ τύραννον, καὶ Διονυσίῳ τις, ὅτ' ᾔτει τοὺς φύλακας, συνεβούλευε τοῖς Συρακουσίοις διδόναι τοσούτους τοὺς φύλακας.

[1287a] Περὶ δὲ τοῦ βασιλέως τοῦ κατὰ τὴν αὑτοῦ βούλησιν πάντα πράττοντος ὅ τε λόγος ἐφέστηκε νῦν καὶ ποιητέον τὴν σκέψιν. ὁ μὲν γὰρ κατὰ νόμον λεγόμενος βασιλεὺς οὐκ ἔστιν εἶδος, καθάπερ εἴπομεν, πολιτείας (ἐν πάσαις γὰρ ὑπάρχειν ἐνδέχεται στρατηγίαν ἀίδιον, οἷον ἐν δημοκρατίᾳ καὶ ἀριστοκρατίᾳ, καὶ πολλοὶ ποιοῦσιν ἕνα κύριον τῆς διοικήσεως· τοιαύτη γὰρ ἀρχή τις ἔστι καὶ περὶ Ἐπίδαμνον, καὶ περὶ Ὀποῦντα δὲ κατά τι μέρος

ἔλαττον)· περὶ δὲ τῆς παμβασιλείας καλουμένης (αὕτη δ’ ἐστὶ καθ’ ἣν ἄρχει πάντα κατὰ τὴν ἑαυτοῦ βούλησιν ὁ βασιλεύς) δοκεῖ [δέ] τισιν οὐδὲ κατὰ φύσιν εἶναι τὸ κύριον ἕνα πάντων εἶναι τῶν πολιτῶν, ὅπου συνέστηκεν ἐξ ὁμοίων ἡ πόλις· τοῖς γὰρ ὁμοίοις φύσει τὸ αὐτὸ δίκαιον ἀναγκαῖον καὶ τὴν αὐτὴν ἀξίαν κατὰ φύσιν εἶναι, ὥστ’ εἴπερ καὶ τὸ ἴσην ἔχειν τοὺς ἀνίσους τροφὴν ἢ ἐσθῆτα βλαβερὸν τοῖς σώμασιν, οὕτως ἔχει καὶ τὰ περὶ τὰς τιμάς· ὁμοίως τοίνυν καὶ τὸ ἄνισον τοὺς ἴσους· διόπερ οὐδὲν μᾶλλον ἄρχειν ἢ ἄρχεσθαι δίκαιον, καὶ τὸ ἀνὰ μέρος τοίνυν ὡσαύτως. τοῦτο δ’ ἤδη νόμος· ἡ γὰρ τάξις νόμος. τὸν ἄρα νόμον ἄρχειν αἱρετώτερον μᾶλλον ἢ τῶν πολιτῶν ἕνα τινά, κατὰ τὸν αὐτὸν δὲ λόγον τοῦτον, κἂν εἴ τινας ἄρχειν βέλτιον, τούτους καταστατέον νομοφύλακας καὶ ὑπηρέτας τοῖς νόμοις· ἀναγκαῖον γὰρ εἶναί τινας ἀρχάς, ἀλλ’ οὐχ ἕνα τοῦτον εἶναί φασι δίκαιον, ὁμοίων γε ὄντων πάντων. ἀλλὰ μὴν ὅσα γε μὴ δοκεῖ δύνασθαι διορίζειν ὁ νόμος, οὐδ’ ἄνθρωπος ἂν δύναιτο γνωρίζειν. ἀλλ’ ἐπίτηδες παιδεύσας ὁ νόμος ἐφίστησι τὰ λοιπὰ τῇ δικαιοτάτῃ γνώμῃ κρίνειν καὶ διοικεῖν τοὺς ἄρχοντας. ἔτι δ’ ἐπανορθοῦσθαι δίδωσιν ὅ τι ἂν δόξῃ πειρωμένοις ἄμεινον εἶναι τῶν κειμένων. ὁ μὲν οὖν τὸν νόμον κελεύων ἄρχειν δοκεῖ κελεύειν ἄρχειν τὸν θεὸν καὶ τὸν νοῦν μόνους, ὁ δ’ ἄνθρωπον κελεύων προστίθησι καὶ θηρίον· ἥ τε γὰρ ἐπιθυμία τοιοῦτον, καὶ ὁ θυμὸς ἄρχοντας διαστρέφει καὶ τοὺς ἀρίστους ἄνδρας. διόπερ ἄνευ ὀρέξεως νοῦς ὁ νόμος ἐστίν. τὸ δὲ τῶν τεχνῶν εἶναι δοκεῖ παράδειγμα ψεῦδος, ὅτι τὸ κατὰ γράμματα ἰατρεύεσθαι φαῦλον, ἀλλὰ αἱρετώτερον χρῆσθαι τοῖς ἔχουσι τὰς τέχνας. οἱ μὲν γὰρ οὐδὲν διὰ φιλίαν παρὰ τὸν λόγον ποιοῦσιν, ἀλλ’ ἄρνυνται τὸν μισθὸν τοὺς κάμνοντας ὑγιάσαντες· οἱ δ’ ἐν ταῖς πολιτικαῖς ἀρχαῖς πολλὰ πρὸς ἐπήρειαν καὶ χάριν εἰώθασι πράττειν, ἐπεὶ καὶ τοὺς ἰατροὺς ὅταν ὑποπτεύωσι πεισθέντας τοῖς ἐχθροῖς διαφθείρειν διὰ κέρδος, τότε τὴν ἐκ τῶν γραμμάτων θεραπείαν ζητήσαιεν ἂν μᾶλλον. ἀλλὰ μὴν εἰσάγονταί γ’ ἐφ’ ἑαυτοὺς [1287b] οἱ ἰατροὶ κάμνοντες ἄλλους ἰατροὺς καὶ οἱ παιδοτρίβαι γυμναζόμενοι παιδοτρίβας, ὡς οὐ δυνάμενοι κρίνειν τὸ ἀληθὲς διὰ τὸ κρίνειν περί τε οἰκείων καὶ ἐν πάθει ὄντες. ὥστε δῆλον ὅτι τὸ δίκαιον ζητοῦντες τὸ μέσον ζητοῦσιν· ὁ γὰρ νόμος τὸ μέσον. ἔτι κυριώτεροι καὶ περὶ κυριωτέρων τῶν κατὰ γράμματα νόμων οἱ κατὰ τὰ ἔθη εἰσίν, ὥστ’ εἰ τῶν κατὰ γράμματα ἄνθρωπος ἄρχων ἀσφαλέστερος, ἀλλ’ οὐ τῶν κατὰ τὸ ἔθος.

ἀλλὰ μὴν οὐδὲ ῥᾴδιον ἐφορᾶν πολλὰ τὸν ἕνα· δεήσει ἄρα πλείονας εἶναι τοὺς ὑπ’ αὐτοῦ καθισταμένους ἄρχοντας, ὥστε τί διαφέρει τοῦτο ἐξ ἀρχῆς εὐθὺς ὑπάρχειν ἢ τὸν ἕνα καταστῆσαι τοῦτον τὸν τρόπον; ἔτι, ὃ καὶ πρότερον εἰρημένον ἐστίν, εἴπερ ὁ ἀνὴρ ὁ σπουδαῖος, διότι βελτίων, ἄρχειν δίκαιος, τοῦ γε ἑνὸς οἱ δύο ἀγαθοὶ βελτίους· τοῦτο γάρ ἐστι τὸ “σύν τε δύ’ ἐρχομένω” καὶ ἡ εὐχὴ τοῦ Ἀγαμέμνονος “τοιοῦτοι δέκα μοι συμφράδμονες”. εἰσὶ δὲ καὶ νῦν περὶ ἐνίων αἱ ἀρχαὶ κύριαι κρίνειν, ὥσπερ ὁ δικαστής, περὶ ὧν ὁ νόμος ἀδυνατεῖ διορίζειν, ἐπεὶ περὶ ὧν γε δυνατός, οὐδεὶς ἀμφισβητεῖ περὶ τούτων ὡς οὐκ ἂν ἄριστα ὁ νόμος ἄρξειε καὶ κρίνειεν. ἀλλ’ ἐπειδὴ τὰ μὲν ἐνδέχεται περιληφθῆναι τοῖς νόμοις τὰ δὲ ἀδύνατα, ταῦτ’ ἐστὶν ἃ ποιεῖ διαπορεῖν καὶ ζητεῖν πότερον τὸν ἄριστον νόμον ἄρχειν αἱρετώτερον ἢ τὸν ἄνδρα τὸν ἄριστον· περὶ ὧν γὰρ βουλεύονται νομοθετῆσαι τῶν ἀδυνάτων ἐστίν. οὐ τοίνυν τοῦτό γ’ ἀντιλέγουσιν, ὡς οὐκ ἀναγκαῖον ἄνθρωπον εἶναι τὸν κρινοῦντα περὶ τῶν τοιούτων, ἀλλ’ ὅτι οὐχ ἕνα μόνον ἀλλὰ πολλούς.

κρίνει γὰρ ἕκαστος ἄρχων πεπαιδευμένος ὑπὸ τοῦ νόμου καλῶς, ἄτοπον τ’ ἴσως ἂν εἶναι δόξειεν εἰ βέλτιον ἴδοι τις δυοῖν ὄμμασι καὶ δυσὶν ἀκοαῖς κρίνων, καὶ πράττων δυσὶ ποσὶ καὶ χερσίν, ἢ πολλοὶ πολλοῖς· ἐπεὶ καὶ νῦν ὀφθαλμοὺς πολλοὺς οἱ μόναρχοι ποιοῦσιν αὑτῶν καὶ ὦτα καὶ χεῖρας καὶ πόδας· τοὺς γὰρ τῇ ἀρχῇ καὶ αὑτοῖς φίλους ποιοῦνται συνάρχους. μὴ φίλοι μὲν οὖν ὄντες οὐ ποιήσουσι κατὰ τὴν τοῦ μονάρχου προαίρεσιν· εἰ δὲ φίλοι κἀκείνου καὶ τῆς ἀρχῆς, ὅ γε φίλος ἴσος καὶ ὅμοιος, ὥστ’ εἰ τούτους οἴεται δεῖν ἄρχειν, τοὺς ἴσους καὶ ὁμοίους ἄρχειν οἴεται δεῖν ὁμοίως. ἃ μὲν οὖν οἱ διαμφισβητοῦντες πρὸς τὴν βασιλείαν λέγουσι, σχεδὸν ταῦτ’ ἐστίν. Ἀλλ’ ἴσως ταῦτ’ ἐπὶ μὲν τινῶν ἔχει τὸν τρόπον τοῦτον, ἐπὶ δὲ τινῶν οὐχ οὕτως. ἔστι γάρ τι φύσει δεσποτικὸν καὶ ἄλλο βασιλευτικὸν καὶ ἄλλο πολιτικὸν καὶ δίκαιον καὶ συμφέρον· τυραννικὸν δ’ οὐκ ἔστι κατὰ φύσιν, οὐδὲ τῶν ἄλλων πολιτειῶν ὅσαι παρεκβάσεις εἰσί· ταῦτα γὰρ γίνεται παρὰ φύσιν. ἀλλ’ ἐκ τῶν εἰρημένων [1288a] γε φανερὸν ὡς ἐν μὲν τοῖς ὁμοίοις καὶ ἴσοις οὔτε συμφέρον ἐστὶν οὔτε δίκαιον ἕνα κύριον εἶναι πάντων, οὔτε μὴ νόμων ὄντων, ἀλλ’ ὡς αὐτὸν ὄντα νόμον, οὔτε νόμων ὄντων, οὔτε ἀγαθὸν ἀγαθῶν οὔτε μὴ ἀγαθῶν μὴ ἀγαθόν, οὐδ’ ἂν κατ’ ἀρετὴν ἀμείνων ᾖ, εἰ μὴ τρόπον τινά. τίς δ’ ὁ τρόπος, λεκτέον· εἴρηται δέ πως ἤδη καὶ πρότερον.

πρῶτον δὲ διοριστέον τί τὸ βασιλευτὸν καὶ τί τὸ ἀριστοκρατικὸν καὶ τί τὸ πολιτικόν. βασιλευτὸν μὲν οὖν τὸ τοιοῦτόν ἐστι πλῆθος ὃ πέφυκε φέρειν γένος ὑπερέχον κατ’ ἀρετὴν πρὸς ἡγεμονίαν πολιτικήν, ἀριστοκρατικὸν δὲ πλῆθος ὃ πέφυκε φέρειν γένος ἄρχεσθαι δυνάμενον τὴν τῶν ἐλευθέρων ἀρχὴν ὑπὸ τῶν κατ’ ἀρετὴν ἡγεμονικῶν πρὸς πολιτικὴν ἀρχήν, πολιτικὸν δὲ πλῆθος ἐν ᾧ πέφυκε ἐγγίνεσθαι γένος πολιτικὸν δυνάμενον ἄρχεσθαι καὶ ἄρχειν κατὰ νόμον τὸν κατ’ ἀξίαν διανέμοντα τοῖς εὐπόροις τὰς ἀρχάς. ὅταν οὖν ἢ γένος ὅλον ἢ καὶ τῶν ἄλλων ἕνα τινὰ συμβῇ διαφέροντα γενέσθαι κατ’ ἀρετὴν τοσοῦτον ὥσθ’ ὑπερέχειν τὴν ἐκείνου τῆς τῶν ἄλλων πάντων, τότε δίκαιον τὸ γένος εἶναι τοῦτο βασιλικὸν καὶ κύριον πάντων, καὶ βασιλέα τὸν ἕνα τοῦτον. καθάπερ γὰρ εἴρηται πρότερον, οὐ μόνον οὕτως ἔχει κατὰ τὸ δίκαιον ὃ προφέρειν εἰώθασιν οἱ τὰς πολιτείας καθιστάντες, οἵ τε τὰς ἀριστοκρατικὰς καὶ οἱ τὰς ὀλιγαρχικὰς καὶ πάλιν οἱ τὰς δημοκρατικάς (πάντες γὰρ καθ’ ὑπεροχὴν ἀξιοῦσιν, ἀλλὰ ὑπεροχὴν οὐ τὴν αὐτήν), ἀλλὰ καὶ κατὰ τὸ πρότερον λεχθέν. οὔτε γὰρ κτείνειν ἢ φυγαδεύειν οὐδ’ ὀστρακίζειν δή που τὸν τοιοῦτον πρέπον ἐστίν, οὔτ’ ἀξιοῦν ἄρχεσθαι κατὰ μέρος· οὐ γὰρ πέφυκε τὸ μέρος ὑπερέχειν τοῦ παντός, τῷ δὲ τὴν τηλικαύτην ὑπερβολὴν ἔχοντι τοῦτο συμβέβηκεν. ὥστε λείπεται μόνον τὸ πείθεσθαι τῷ τοιούτῳ καὶ κύριον εἶναι μὴ κατὰ μέρος τοῦτον ἀλλ’ ἁπλῶς. περὶ μὲν οὖν βασιλείας, τίνας ἔχει διαφοράς, καὶ πότερον οὐ συμφέρει ταῖς πόλεσιν ἢ συμφέρει, καὶ τίσι, καὶ πῶς, διωρίσθω τὸν τρόπον τοῦτον. Ἐπεὶ δὲ τρεῖς φαμεν εἶναι τὰς ὀρθὰς πολιτείας, τούτων δ’ ἀναγκαῖον ἀρίστην εἶναι τὴν ὑπὸ τῶν ἀρίστων οἰκονομουμένην, τοιαύτη δ’ ἐστὶν ἐν ᾗ συμβέβηκεν ἢ ἕνα τινὰ συμπάντων ἢ γένος ὅλον ἢ πλῆθος ὑπερέχον εἶναι κατ’ ἀρετήν, τῶν μὲν ἄρχεσθαι δυναμένων τῶν δ’ ἄρχειν πρὸς τὴν αἱρετωτάτην ζωήν, ἐν δὲ τοῖς πρώτοις ἐδείχθη λόγοις ὅτι τὴν αὐτὴν ἀναγκαῖον ἀνδρὸς ἀρετὴν εἶναι καὶ πολίτου τῆς πόλεως τῆς ἀρίστης, φανερὸν ὅτι τὸν αὐτὸν τρόπον καὶ διὰ τῶν αὐτῶν ἀνήρ τε γίνεται σπουδαῖος καὶ πόλιν συστήσειεν ἄν τις ἀριστοκρατουμένην ἢ βασιλευομένην, ὥστ’ ἔσται [1288b] καὶ παιδεία καὶ ἔθη ταὐτὰ σχεδὸν τὰ ποιοῦντα ἄνδρα καὶ τὰ ποιοῦντα πολιτικὸν καὶ βασιλικόν. διωρισμένων δὲ τούτων περὶ τῆς πολιτείας ἤδη πειρατέον λέγειν τῆς ἀρίστης, τίνα πέφυκε γίγνεσθαι τρόπον καὶ καθίστασθαι πῶς. [ἀνάγκη δὴ τὸν μέλλοντα περὶ αὐτῆς ποιήσασθαι τὴν προσήκουσαν σκέψιν.]

Δ

Ἐν ἁπάσαις ταῖς τέχναις καὶ ταῖς ἐπιστήμαις ταῖς μὴ κατὰ μόριον γινομέναις, ἀλλὰ περὶ γένος ἕν τι τελείαις οὔσαις, μιᾶς ἐστι θεωρῆσαι τὸ περὶ ἕκαστον γένος ἁρμόττον, οἷον ἄσκησις σώματι ποία τε ποίῳ συμφέρει, καὶ τίς ἀρίστη (τῷ γὰρ κάλλιστα πεφυκότι καὶ κεχορηγημένῳ τὴν ἀρίστην ἀναγκαῖον ἁρμόττειν), καὶ τίς τοῖς πλείστοις μία πᾶσιν (καὶ γὰρ τοῦτο τῆς γυμναστικῆς ἔργον ἐστίν), ἔτι δ’ ἐάν τις μὴ τῆς ἱκνουμένης ἐπιθυμῇ μήθ’ ἕξεως μήτ’ ἐπιστήμης τῶν περὶ τὴν ἀγωνίαν, οὐθὲν ἧττον τοῦ παιδοτρίβου καὶ τοῦ γυμναστικοῦ παρασκευάσαι γε καὶ ταύτην ἐστὶ τὴν δύναμιν. ὁμοίως δὲ τοῦτο καὶ περὶ ἰατρικὴν καὶ περὶ ναυπηγίαν καὶ ἐσθῆτα καὶ περὶ πᾶσαν ἄλλην τέχνην ὁρῶμεν συμβαῖνον. ὥστε δῆλον ὅτι καὶ πολιτείαν τῆς αὐτῆς ἐστιν ἐπιστήμης τὴν ἀρίστην θεωρῆσαι τίς ἐστι καὶ ποία τις ἂν οὖσα μάλιστ’ εἴη κατ’ εὐχὴν μηδενὸς ἐμποδίζοντος τῶν ἐκτός, καὶ τίς τίσιν ἁρμόττουσα (πολλοῖς γὰρ τῆς ἀρίστης τυχεῖν ἴσως ἀδύνατον, ὥστε τὴν κρατίστην τε ἁπλῶς καὶ τὴν ἐκ τῶν ὑποκειμένων ἀρίστην οὐ δεῖ λεληθέναι τὸν ἀγαθὸν νομοθέτην καὶ τὸν ὡς ἀληθῶς πολιτικόν), ἔτι δὲ τρίτην τὴν ἐξ ὑποθέσεως (δεῖ γὰρ καὶ τὴν δοθεῖσαν δύνασθαι θεωρεῖν, ἐξ ἀρχῆς τε πῶς ἂν γένοιτο, καὶ γενομένη τίνα τρόπον ἂν σῴζοιτο πλεῖστον χρόνον· λέγω δὲ οἷον εἴ τινι πόλει συμβέβηκε μήτε τὴν ἀρίστην πολιτεύεσθαι πολιτείαν, ἀχορήγητον δὲ εἶναι καὶ τῶν ἀναγκαίων, μήτε τὴν ἐνδεχομένην ἐκ τῶν ὑπαρχόντων, ἀλλά τινα φαυλοτέραν), παρὰ πάντα δὲ ταῦτα τὴν μάλιστα πάσαις ταῖς πόλεσιν ἁρμόττουσαν δεῖ γνωρίζειν, ὥσθ’ οἱ πλεῖστοι τῶν ἀποφαινομένων περὶ πολιτείας, καὶ εἰ τἆλλα λέγουσι καλῶς, τῶν γε χρησίμων διαμαρτάνουσιν. οὐ γὰρ μόνον τὴν ἀρίστην δεῖ θεωρεῖν, ἀλλὰ καὶ τὴν δυνατήν, ὁμοίως δὲ καὶ τὴν ῥᾴω καὶ κοινοτέραν ἁπάσαις· νῦν δ’ οἱ μὲν τὴν ἀκροτάτην καὶ δεομένην πολλῆς χορηγίας ζητοῦσι μόνον, οἱ δὲ μᾶλλον κοινήν τινα λέγοντες, τὰς ὑπαρχούσας ἀναιροῦντες πολιτείας, τὴν Λακωνικὴν [1289a] ἤ τινα ἄλλην ἐπαινοῦσι· χρὴ δὲ τοιαύτην εἰσηγεῖσθαι τάξιν ἣν ῥᾳδίως ἐκ τῶν ὑπαρχουσῶν καὶ πεισθήσονται καὶ δυνήσονται καινίζειν, ὥστ’ ἔστιν οὐκ ἔλαττον ἔργον τὸ ἐπανορθῶσαι πολιτείαν ἢ κατασκευάζειν ἐξ ἀρχῆς, ὥσπερ καὶ τὸ μεταμανθάνειν ἢ μανθάνειν ἐξ ἀρχῆς· διὸ πρὸς τοῖς εἰρημένοις καὶ ταῖς ὑπαρχούσαις πολιτείαις δεῖ δύνασθαι βοηθεῖν τὸν πολιτικόν, καθάπερ ἐλέχθη καὶ πρότερον. τοῦτο δὲ ἀδύνατον ἀγνοοῦντα πόσα πολιτείας ἔστιν εἴδη. νῦν δὲ μίαν δημοκρατίαν οἴονταί τινες εἶναι καὶ μίαν ὀλιγαρχίαν· οὐκ ἔστι δὲ τοῦτ' ἀληθές. ὥστε δεῖ τὰς διαφορὰς μὴ λανθάνειν τὰς τῶν πολιτειῶν, πόσαι, καὶ συντίθενται ποσαχῶς, ἔστι δὲ τῆς αὐτῆς φρονήσεως ταύτης καὶ νόμους τοὺς ἀρίστους ἰδεῖν καὶ τοὺς ἑκάστῃ τῶν πολιτειῶν ἁρμόττοντας. πρὸς γὰρ τὰς πολιτείας τοὺς νόμους δεῖ τίθεσθαι καὶ τίθενται πάντες, ἀλλ' οὐ τὰς πολιτείας πρὸς τοὺς νόμους. πολιτεία μὲν γάρ ἐστι τάξις ταῖς πόλεσιν ἡ περὶ τὰς ἀρχάς, τίνα τρόπον νενέμηνται, καὶ τί τὸ κύριον τῆς πολιτείας καὶ τί τὸ τέλος ἑκάστης τῆς κοινωνίας ἐστίν· νόμοι δ' οἱ κεχωρισμένοι τῶν δηλούντων τὴν πολιτείαν, καθ' οὓς δεῖ τοὺς ἄρχοντας ἄρχειν καὶ φυλάττειν τοὺς παραβαίνοντας αὐτούς. ὥστε δῆλον ὅτι τὰς διαφορὰς ἀναγκαῖον καὶ τὸν ὁρισμὸν ἔχειν τῆς πολιτείας ἑκάστης καὶ πρὸς τὰς τῶν νόμων θέσεις· οὐ γὰρ οἷόν τε τοὺς αὐτοὺς νόμους συμφέρειν ταῖς ὀλιγαρχίαις οὐδὲ ταῖς δημοκρατίαις πάσαις, εἴπερ δὴ πλείους καὶ μὴ μία δημοκρατία μηδὲ ὀλιγαρχία μόνον ἔστιν.

Ἐπεὶ δ' ἐν τῇ πρώτῃ μεθόδῳ περὶ τῶν πολιτειῶν διειλόμεθα τρεῖς μὲν τὰς ὀρθὰς πολιτείας, βασιλείαν ἀριστοκρατίαν πολιτείαν, τρεῖς δὲ τὰς τούτων παρεκβάσεις, τυραννίδα μὲν βασιλείας ὀλιγαρχίαν δὲ ἀριστοκρατίας δημοκρατίαν δὲ πολιτείας, καὶ περὶ μὲν ἀριστοκρατίας καὶ βασιλείας εἴρηται (τὸ γὰρ περὶ τῆς ἀρίστης πολιτείας θεωρῆσαι ταὐτὸ καὶ περὶ τούτων ἐστὶν εἰπεῖν τῶν ὀνομάτων· βούλεται γὰρ ἑκατέρα κατ' ἀρετὴν συνεστάναι κεχορηγημένην), ἔτι δὲ τί διαφέρουσιν ἀλλήλων ἀριστοκρατία καὶ βασιλεία, καὶ πότε δεῖ βασιλείαν νομίζειν, διώρισται πρότερον, λοιπὸν περὶ πολιτείας διελθεῖν τῆς τῷ κοινῷ προσαγορευομένης ὀνόματι, καὶ περὶ τῶν ἄλλων πολιτειῶν, ὀλιγαρχίας τε καὶ δημοκρατίας καὶ τυραννίδος. φανερὸν μὲν οὖν καὶ τούτων τῶν παρεκβάσεων τίς χειρίστη καὶ δευτέρα τίς. ἀνάγκη γὰρ τὴν μὲν τῆς πρώτης καὶ θειοτάτης παρέκβασιν εἶναι χειρίστην, τὴν δὲ βασιλείαν ἀναγκαῖον ἢ τοὔνομα μόνον ἔχειν οὐκ [1289b] οὖσαν, ἢ διὰ πολλὴν ὑπεροχὴν εἶναι τὴν τοῦ βασιλεύοντος· ὥστε τὴν τυραννίδα χειρίστην οὖσαν πλεῖστον ἀπέχειν πολιτείας, δεύτερον δὲ τὴν ὀλιγαρχίαν (ἡ γὰρ ἀριστοκρατία διέστηκεν ἀπὸ ταύτης πολὺ τῆς πολιτείας), μετριωτάτην δὲ τὴν δημοκρατίαν. ἤδη μὲν οὖν τις ἀπεφήνατο καὶ τῶν πρότερον οὕτως, οὐ μὴν εἰς ταὐτὸ βλέψας ἡμῖν. ἐκεῖνος μὲν γὰρ ἔκρινε πασῶν μὲν οὐσῶν ἐπιεικῶν, οἷον ὀλιγαρχίας τε χρηστῆς καὶ τῶν ἄλλων, χειρίστην δημοκρατίαν, φαύλων δὲ ἀρίστην· ἡμεῖς δὲ ὅλως ταύτας ἐξημαρτημένας εἶναί φαμεν, καὶ βελτίω μὲν ὀλιγαρχίαν ἄλλην ἄλλης οὐ καλῶς ἔχειν λέγειν, ἧττον δὲ φαύλην. ἀλλὰ περὶ μὲν τῆς τοιαύτης κρίσεως ἀφείσθω τὰ νῦν· ἡμῖν δὲ πρῶτον μὲν διαιρετέον πόσαι διαφοραὶ τῶν πολιτειῶν, εἴπερ ἔστιν εἴδη πλείονα τῆς τε δημοκρατίας καὶ τῆς ὀλιγαρχίας, ἔπειτα τίς κοινοτάτη καὶ τίς αἱρετωτάτη μετὰ τὴν ἀρίστην πολιτείαν, κἂν εἴ τις ἄλλη τετύχηκεν ἀριστοκρατικὴ καὶ συνεστῶσα καλῶς, ἅμα δὲ ταῖς πλείσταις ἁρμόττουσα πόλεσι, τίς ἐστιν, ἔπειτα καὶ τῶν ἄλλων τίς τίσιν αἱρετή (τάχα γὰρ τοῖς μὲν ἀναγκαία δημοκρατία μᾶλλον ὀλιγαρχίας, τοῖς δ' αὕτη μᾶλλον ἐκείνης), μετὰ δὲ ταῦτα τίνα τρόπον δεῖ καθιστάναι τὸν βουλόμενον ταύτας τὰς πολιτείας, λέγω δὲ δημοκρατίας τε καθ' ἕκαστον εἶδος καὶ πάλιν ὀλιγαρχίας· τέλος δέ, πάντων τούτων ὅταν ποιησώμεθα συντόμως τὴν ἐνδεχομένην μνείαν, πειρατέον ἐπελθεῖν τίνες φθοραὶ καὶ τίνες σωτηρίαι τῶν πολιτειῶν καὶ κοινῇ καὶ χωρὶς ἑκάστης, καὶ διὰ τίνας αἰτίας ταῦτα μάλιστα γίνεσθαι πέφυκεν.

Τοῦ μὲν οὖν εἶναι πλείους πολιτείας αἴτιον ὅτι πάσης ἔστι μέρη πλείω πόλεως τὸν ἀριθμόν. πρῶτον μὲν γὰρ ἐξ οἰκιῶν συγκειμένας πάσας ὁρῶμεν τὰς πόλεις, ἔπειτα πάλιν τούτου τοῦ πλήθους τοὺς μὲν εὐπόρους ἀναγκαῖον εἶναι τοὺς δ' ἀπόρους τοὺς δὲ μέσους, καὶ τῶν εὐπόρων δὲ καὶ τῶν ἀπόρων τὸ μὲν ὁπλιτικὸν τὸ δὲ ἄνοπλον. καὶ τὸν μὲν γεωργικὸν δῆμον ὁρῶμεν ὄντα, τὸν δ' ἀγοραῖον, τὸν δὲ βάναυσον. καὶ τῶν γνωρίμων εἰσὶ διαφοραὶ καὶ κατὰ τὸν πλοῦτον καὶ τὰ μεγέθη τῆς οὐσίας, οἷον ἱπποτροφίας (τοῦτο γὰρ οὐ ῥᾴδιον μὴ πλουτοῦντας ποιεῖν· διόπερ ἐπὶ τῶν ἀρχαίων χρόνων ὅσαις πόλεσιν ἐν τοῖς ἵπποις ἡ δύναμις ἦν, ὀλιγαρχίαι παρὰ τούτοις ἦσαν· ἐχρῶντο δὲ πρὸς τοὺς πολέμους ἵπποις πρὸς τοὺς ἀστυγείτονας, οἷον Ἐρετριεῖς καὶ Χαλκιδεῖς καὶ Μάγνητες οἱ ἐπὶ Μαιάνδρῳ καὶ τῶν ἄλλων πολλοὶ περὶ τὴν Ἀσίαν)· ἔτι πρὸς ταῖς κατὰ πλοῦτον διαφοραῖς ἐστιν ἡ μὲν κατὰ γένος ἡ δὲ [1290a] κατ' ἀρετήν, κἂν εἴ τι δὴ τοιοῦτον ἕτερον εἴρηται πόλεως εἶναι μέρος ἐν τοῖς περὶ τὴν ἀριστοκρατίαν· ἐκεῖ γὰρ διείλομεν ἐκ πόσων μερῶν ἀναγκαίων ἐστὶ πᾶσα πόλις· τούτων γὰρ τῶν μερῶν ὁτὲ μὲν πάντα μετέχει τῆς πολιτείας ὁτὲ δ' ἐλάττω ὁτὲ δὲ πλείω. φανερὸν τοίνυν ὅτι πλείους ἀναγκαῖον εἶναι πολιτείας, εἴδει διαφερούσας ἀλλήλων· καὶ γὰρ ταῦτ' εἴδει διαφέρει τὰ μέρη σφῶν αὐτῶν. πολιτεία μὲν γὰρ ἡ τῶν ἀρχῶν τάξις ἐστί, ταύτας δὲ διανέμονται πάντες ἢ κατὰ τὴν δύναμιν τῶν μετεχόντων ἢ κατά τιν' αὐτῶν ἰσότητα κοινήν, λέγω δ' οἷον τῶν ἀπόρων ἢ τῶν εὐπόρων ἢ κοινήν τιν' ἀμφοῖν. ἀναγκαῖον ἄρα πολιτείας εἶναι τοσαύτας ὅσαι περ τάξεις κατὰ τὰς ὑπεροχάς εἰσι καὶ κατὰ τὰς διαφορὰς τῶν μορίων.

μάλιστα δὲ δοκοῦσιν εἶναι δύο, καθάπερ ἐπὶ τῶν πνευμάτων λέγεται τὰ μὲν βόρεια τὰ δὲ νότια, τὰ δ' ἄλλα τούτων παρεκβάσεις, οὕτω καὶ τῶν πολιτειῶν δύο, δῆμος καὶ ὀλιγαρχία. τὴν γὰρ ἀριστοκρατίαν τῆς ὀλιγαρχίας εἶδος τιθέασιν ὡς οὖσαν ὀλιγαρχίαν τινά, καὶ τὴν καλουμένην πολιτείαν δημοκρατίας, ὥσπερ ἐν τοῖς πνεύμασι τὸν μὲν ζέφυρον τοῦ βορέου, τοῦ δὲ νότου τὸν εὖρον. ὁμοίως δ' ἔχει καὶ περὶ τὰς ἁρμονίας, ὥς φασί τινες· καὶ γὰρ ἐκεῖ τίθενται εἴδη δύο, τὴν δωριστὶ καὶ τὴν φρυγιστί, τὰ δ' ἄλλα συντάγματα τὰ μὲν Δώρια τὰ δὲ Φρύγια καλοῦσιν. μάλιστα μὲν οὖν εἰώθασιν οὕτως ὑπολαμβάνειν περὶ τῶν πολιτειῶν· ἀληθέστερον δὲ καὶ βέλτιον ὡς ἡμεῖς διείλομεν, δυοῖν ἢ μιᾶς οὔσης τῆς καλῶς συνεστηκυίας τὰς ἄλλας εἶναι παρεκβάσεις, τὰς μὲν τῆς εὖ κεκραμένης ἁρμονίας τὰς δὲ τῆς ἀρίστης πολιτείας, ὀλιγαρχικὰς μὲν τὰς συντονωτέρας καὶ δεσποτικωτέρας, τὰς δ' ἀνειμένας καὶ μαλακὰς δημοτικάς.

Οὐ δεῖ δὲ τιθέναι δημοκρατίαν, καθάπερ εἰώθασί τινες νῦν, ἁπλῶς οὕτως, ὅπου κύριον τὸ πλῆθος (καὶ γὰρ ἐν ταῖς ὀλιγαρχίαις καὶ πανταχοῦ τὸ πλέον μέρος κύριον), οὐδ' ὀλιγαρχίαν, ὅπου κύριοι ὀλίγοι τῆς πολιτείας. εἰ γὰρ εἴησαν οἱ πάντες χίλιοι καὶ τριακόσιοι, καὶ τούτων οἱ χίλιοι πλούσιοι, καὶ μὴ μεταδιδοῖεν ἀρχῆς τοῖς τριακοσίοις καὶ πένησιν ἐλευθέροις οὖσι καὶ τἆλλα ὁμοίοις, οὐθεὶς ἂν φαίη δημοκρατεῖσθαι τούτους· ὁμοίως δὲ καὶ εἰ πένητες ὀλίγοι μὲν εἶεν, κρείττους δὲ τῶν εὐπόρων πλειόνων ὄντων, οὐδεὶς ἂν ὀλιγαρχίαν προσαγορεύσειεν οὐδὲ τὴν τοιαύτην, εἰ τοῖς ἄλλοις οὖσι πλουσίοις μὴ μετείη τῶν τιμῶν. μᾶλλον τοίνυν λεκτέον ὅτι [1290b] δῆμος μέν ἐστιν ὅταν οἱ ἐλεύθεροι κύριοι ὦσιν, ὀλιγαρχία δ' ὅταν οἱ πλούσιοι, ἀλλὰ συμβαίνει τοὺς μὲν πολλοὺς εἶναι τοὺς δ' ὀλίγους· ἐλεύθεροι μὲν γὰρ πολλοί, πλούσιοι δ' ὀλίγοι. καὶ γὰρ ἂν εἰ κατὰ μέγεθος διενέμοντο τὰς ἀρχάς, ὥσπερ ἐν Αἰθιοπίᾳ φασί τινες, ἢ κατὰ κάλλος, ὀλιγαρχία ἦν ἄν· ὀλίγον γὰρ τὸ πλῆθος καὶ τὸ τῶν καλῶν καὶ τὸ τῶν μεγάλων. οὐ μὴν ἀλλ' οὐδὲ τούτοις μόνον ἱκανῶς ἔχει διωρίσθαι τὰς πολιτείας ταύτας· ἀλλ' ἐπεὶ πλείονα μόρια καὶ τοῦ δήμου καὶ τῆς ὀλιγαρχίας εἰσίν, ἔτι διαληπτέον ὡς οὔτ' ἂν οἱ ἐλεύθεροι ὀλίγοι ὄντες πλειόνων καὶ μὴ ἐλευθέρων ἄρχωσι, δῆμος, οἷον ἐν Ἀπολλωνίᾳ τῇ ἐν τῷ Ἰονίῳ καὶ ἐν Θήρᾳ (ἐν τούτων γὰρ ἑκατέρᾳ τῶν πόλεων ἐν ταῖς τιμαῖς ἦσαν οἱ διαφέροντες κατ' εὐγένειαν καὶ πρῶτοι κατασχόντες τὰς ἀποικίας, ὀλίγοι ὄντες, πολλῶν), οὔτε ἂν οἱ πλούσιοι διὰ τὸ κατὰ πλῆθος ὑπερέχειν, ὀλιγαρχία, οἷον ἐν Κολοφῶνι τὸ παλαιόν (ἐκεῖ γὰρ ἐκέκτηντο μακρὰν οὐσίαν οἱ πλείους πρὶν γενέσθαι τὸν πόλεμον τὸν πρὸς Λυδούς), ἀλλ' ἔστι δημοκρατία μὲν ὅταν οἱ ἐλεύθεροι καὶ ἄποροι πλείους ὄντες κύριοι τῆς ἀρχῆς ὦσιν, ὀλιγαρχία δ' ὅταν οἱ πλούσιοι καὶ εὐγενέστεροι ὀλίγοι ὄντες.

ὅτι μὲν οὖν πολιτεῖαι πλείους, καὶ δι' ἣν αἰτίαν, εἴρηται· διότι δὲ πλείους τῶν εἰρημένων, καὶ τίνες καὶ διὰ τί, λέγωμεν ἀρχὴν λαβόντες τὴν εἰρημένην πρότερον. ὁμολογοῦμεν γὰρ οὐχ ἓν μέρος ἀλλὰ πλείω πᾶσαν ἔχειν πόλιν. ὥσπερ οὖν εἰ ζῴου προῃρούμεθα λαβεῖν εἴδη, πρῶτον ἂν ἀποδιωρίζομεν ἅπερ ἀναγκαῖον πᾶν ἔχειν ζῷον (οἷον ἔνιά τε τῶν αἰσθητηρίων καὶ τὸ τῆς τροφῆς ἐργαστικὸν καὶ δεκτικόν, οἷον στόμα καὶ κοιλίαν, πρὸς δὲ τούτοις, οἷς κινεῖται μορίοις ἕκαστον αὐτῶν)· εἰ δὴ τοσαῦτα εἴη μόνον, τούτων δ᾽ εἶεν διαφοραί (λέγω δ᾽ οἷον στόματός τινα πλείω γένη καὶ κοιλίας καὶ τῶν αἰσθητηρίων, ἔτι δὲ καὶ τῶν κινητικῶν μορίων), ὁ τῆς συζεύξεως τῆς τούτων ἀριθμὸς ἐξ ἀνάγκης ποιήσει πλείω γένη ζῴων (οὐ γὰρ οἷόν τε ταὐτὸν ζῷον ἔχειν πλείους στόματος διαφοράς, ὁμοίως δὲ οὐδ᾽ ὤτων), ὥσθ᾽ ὅταν ληφθῶσι τούτων πάντες οἱ ἐνδεχόμενοι συνδυασμοί, ποιήσουσιν εἴδη ζῴου, καὶ τοσαῦτ᾽ εἴδη τοῦ ζῴου ὅσαι περ αἱ συζεύξεις τῶν ἀναγκαίων μορίων εἰσίν - τὸν αὐτὸν δὴ τρόπον καὶ τῶν εἰρημένων πολιτειῶν. καὶ γὰρ αἱ πόλεις οὐκ ἐξ ἑνὸς ἀλλ᾽ ἐκ πολλῶν σύγκεινται μερῶν, ὥσπερ εἴρηται πολλάκις. ἓν μὲν οὖν ἐστι τὸ περὶ τὴν τροφὴν πλῆθος, οἱ καλούμενοι γεωργοί, [1291a] δεύτερον δὲ τὸ καλούμενον βάναυσον (ἔστι δὲ τοῦτο τὸ περὶ τὰς τέχνας ὧν ἄνευ πόλιν ἀδύνατον οἰκεῖσθαι· τούτων δὲ τῶν τεχνῶν τὰς μὲν ἐξ ἀνάγκης ὑπάρχειν δεῖ, τὰς δὲ εἰς τρυφὴν ἢ τὸ καλῶς ζῆν), τρίτον δὲ ‹τὸ› ἀγοραῖον (λέγω δ᾽ ἀγοραῖον τὸ περὶ τὰς πράσεις καὶ τὰς ὠνὰς καὶ τὰς ἐμπορίας καὶ καπηλείας διατρῖβον), τέταρτον δὲ τὸ θητικόν, πέμπτον δὲ γένος τὸ προπολεμῆσον, ὃ τούτων οὐθὲν ἧττόν ἐστιν ἀναγκαῖον ὑπάρχειν, εἰ μέλλουσι μὴ δουλεύσειν τοῖς ἐπιοῦσιν. μὴ γὰρ ἓν τῶν ἀδυνάτων ᾖ πόλιν ἄξιον εἶναι καλεῖν τὴν φύσει δούλην· αὐτάρκης γὰρ ἡ πόλις, τὸ δὲ δοῦλον οὐκ αὔταρκες. διόπερ ἐν τῇ Πολιτείᾳ κομψῶς τοῦτο, οὐχ ἱκανῶς δὲ εἴρηται. φησὶ γὰρ ὁ Σωκράτης ἐκ τεττάρων τῶν ἀναγκαιοτάτων πόλιν συγκεῖσθαι, λέγει δὲ τούτους ὑφάντην καὶ γεωργὸν καὶ σκυτοτόμον καὶ οἰκοδόμον· πάλιν δὲ προστίθησιν, ὡς οὐκ αὐτάρκων τούτων, χαλκέα καὶ τοὺς ἐπὶ τοῖς ἀναγκαίοις βοσκήμασιν, ἔτι δ᾽ ἔμπορόν τε καὶ κάπηλον· καὶ ταῦτα πάντα γίνεται πλήρωμα τῆς πρώτης πόλεως, ὡς τῶν ἀναγκαίων τε χάριν πᾶσαν πόλιν συνεστηκυῖαν, ἀλλ᾽ οὐ τοῦ καλοῦ μᾶλλον, ἴσον τε δεομένην σκυτέων τε καὶ γεωργῶν. τὸ δὲ προπολεμοῦν οὐ πρότερον ἀποδίδωσι μέρος πρὶν ἢ τῆς χώρας αὐξομένης καὶ τῆς τῶν πλησίον ἁπτομένης εἰς πόλεμον καταστῶσιν. ἀλλὰ μὴν καὶ ἐν τοῖς τέτταρσι καὶ τοῖς ὁποσοισοῦν κοινωνοῖς ἀναγκαῖον εἶναί τινα τὸν ἀποδώσοντα καὶ κρινοῦντα τὸ δίκαιον. εἴπερ οὖν καὶ ψυχὴν ἄν τις θείη ζῴου μόριον μᾶλλον ἢ σῶμα, καὶ πόλεων τὰ τοιαῦτα μᾶλλον θετέον τῶν εἰς τὴν ἀναγκαίαν χρῆσιν συντεινόντων, τὸ πολεμικὸν καὶ τὸ μετέχον δικαιοσύνης δικαστικῆς, πρὸς δὲ τούτοις τὸ βουλευόμενον, ὅπερ ἐστὶ συνέσεως πολιτικῆς ἔργον. καὶ ταῦτ᾽ εἴτε κεχωρισμένως ὑπάρχει τισὶν εἴτε τοῖς αὐτοῖς, οὐθὲν διαφέρει πρὸς τὸν λόγον· καὶ γὰρ ὁπλιτεύειν καὶ γεωργεῖν συμβαίνει τοῖς αὐτοῖς πολλάκις. ὥστε εἴπερ καὶ ταῦτα καὶ ἐκεῖνα θετέα μόρια τῆς πόλεως, φανερὸν ὅτι τό γε ὁπλιτικὸν ἀναγκαῖόν ἐστι μόριον τῆς πόλεως.

ἕβδομον δὲ τὸ ταῖς οὐσίαις λειτουργοῦν, ὃ καλοῦμεν εὐπόρους. ὄγδοον δὲ τὸ δημιουργικὸν καὶ τὸ περὶ τὰς ἀρχὰς λειτουργοῦν, εἴπερ ἄνευ ἀρχόντων ἀδύνατον εἶναι πόλιν. ἀναγκαῖον οὖν εἶναί τινας τοὺς δυναμένους ἄρχειν καὶ λειτουργοῦντας ἢ συνεχῶς ἢ κατὰ μέρος τῇ πόλει ταύτην τὴν λειτουργίαν. λοιπὰ δὲ περὶ ὧν τυγχάνομεν διωρικότες ἀρτίως, τὸ βουλευόμενον καὶ κρῖνον περὶ τῶν δικαίων τοῖς ἀμφισβητοῦσιν. εἴπερ οὖν ταῦτα δεῖ γενέσθαι ταῖς πόλεσι, καὶ καλῶς γενέσθαι καὶ δικαίως, [1291b] ἀναγκαῖον καὶ μετέχοντας εἶναί τινας ἀρετῆς τῶν πολιτῶν. τὰς μὲν οὖν ἄλλας δυνάμεις τοῖς αὐτοῖς ὑπάρχειν ἐνδέχεσθαι δοκεῖ πολλοῖς, οἷον τοὺς αὐτοὺς εἶναι τοὺς προπολεμοῦντας καὶ γεωργοῦντας καὶ τεχνίτας, ἔτι δὲ τοὺς βουλευομένους τε καὶ κρίνοντας· ἀντιποιοῦνται δὲ καὶ τῆς ἀρετῆς πάντες, καὶ τὰς πλείστας ἀρχὰς ἄρχειν οἴονται δύνασθαι· ἀλλὰ πένεσθαι καὶ πλουτεῖν τοὺς αὐτοὺς ἀδύνατον. διὸ ταῦτα μέρη μάλιστα εἶναι δοκεῖ πόλεως, οἱ εὔποροι καὶ οἱ ἄποροι. ἔτι δὲ διὰ τὸ ὡς ἐπὶ τὸ πολὺ τοὺς μὲν ὀλίγους εἶναι τοὺς δὲ πολλοὺς ταῦτα ἐναντία μέρη φαίνεται τῶν τῆς πόλεως μορίων. ὥστε καὶ τὰς πολιτείας κατὰ τὰς ὑπεροχὰς τούτων καθιστᾶσι, καὶ δύο πολιτεῖαι δοκοῦσιν εἶναι, δημοκρατία καὶ ὀλιγαρχία.

ὅτι μὲν οὖν εἰσι πολιτεῖαι πλείους, καὶ διὰ τίνας αἰτίας, εἴρηται πρότερον· ὅτι δὲ ἔστι καὶ δημοκρατίας εἴδη πλείω καὶ ὀλιγαρχίας, λέγωμεν. φανερὸν δὲ τοῦτο καὶ ἐκ τῶν εἰρημένων. εἴδη γὰρ πλείω τοῦ τε δήμου καὶ τῶν λεγομένων γνωρίμων ἔστιν, οἷον δήμου μὲν εἴδη ἓν μὲν οἱ γεωργοί, ἕτερον δὲ τὸ περὶ τὰς τέχνας, ἄλλο δὲ τὸ ἀγοραῖον τὸ περὶ ὠνὴν καὶ πρᾶσιν διατρῖβον, ἄλλο δὲ τὸ περὶ τὴν θάλατταν, καὶ τούτου τὸ μὲν πολεμικὸν τὸ δὲ χρηματιστικὸν τὸ δὲ πορθμευτικὸν τὸ δ᾽ ἁλιευτικόν (πολλαχοῦ γὰρ ἕκαστα τούτων πολύοχλα, οἷον ἁλιεῖς μὲν ἐν Τάραντι καὶ Βυζαντίῳ, τριηρικὸν δὲ Ἀθήνησιν, ἐμπορικὸν δὲ ἐν Αἰγίνῃ καὶ Χίῳ, πορθμικὸν ‹δ᾽› ἐν Τενέδῳ), πρὸς δὲ τούτοις τὸ χερνητικὸν καὶ τὸ μικρὰν ἔχον οὐσίαν ὥστε μὴ δύνασθαι σχολάζειν, ἔτι τὸ μὴ ἐξ ἀμφοτέρων [πολιτῶν] ἐλεύθερον, κἂν εἴ τι τοιοῦτον ἕτερον πλήθους εἶδος· τῶν δὲ γνωρίμων πλοῦτος εὐγένεια ἀρετὴ παιδεία καὶ τὰ τούτοις λεγόμενα κατὰ τὴν αὐτὴν διαφοράν.

δημοκρατία μὲν οὖν ἐστι πρώτη μὲν ἡ λεγομένη μάλιστα κατὰ τὸ ἴσον.

ἴσον γάρ φησιν ὁ νόμος ὁ τῆς τοιαύτης δημοκρατίας τὸ μηδὲν μᾶλλον ὑπερέχειν τοὺς ἀπόρους ἢ τοὺς εὐπόρους, μηδὲ κυρίους εἶναι ὁποτερουσοῦν, ἀλλ’ ὁμοίους ἀμφοτέρους. εἴπερ γὰρ ἐλευθερία μάλιστ’ ἔστιν ἐν δημοκρατίᾳ, καθάπερ ὑπολαμβάνουσί τινες, καὶ ἰσότης, οὕτως ἂν εἴη μάλιστα, κοινωνούτων ἁπάντων μάλιστα τῆς πολιτείας ὁμοίως. ἐπεὶ δὲ πλείων ὁ δῆμος, κύριον δὲ τὸ δόξαν τοῖς πλείοσιν, ἀνάγκη δημοκρατίαν εἶναι ταύτην. ἓν μὲν οὖν εἶδος δημοκρατίας τοῦτο· ἄλλο δὲ τὸ τὰς ἀρχὰς ἀπὸ τιμημάτων εἶναι, βραχέων δὲ τούτων ὄντων· δεῖ δὲ τῷ κτωμένῳ ἐξουσίαν εἶναι μετέχειν καὶ τὸν ἀποβάλλοντα μὴ μετέχειν· [1292a] ἕτερον εἶδος δημοκρατίας τὸ μετέχειν ἅπαντας τοὺς πολίτας ὅσοι ἀνυπεύθυνοι, ἄρχειν δὲ τὸν νόμον· ἕτερον δὲ εἶδος δημοκρατίας τὸ παντὶ μετεῖναι τῶν ἀρχῶν, ἐὰν μόνον ᾖ πολίτης, ἄρχειν δὲ τὸν νόμον· ἕτερον δὲ εἶδος δημοκρατίας τἆλλα μὲν εἶναι ταὐτά, κύριον δ’ εἶναι τὸ πλῆθος καὶ μὴ τὸν νόμον. τοῦτο δὲ γίνεται ὅταν τὰ ψηφίσματα κύρια ᾖ ἀλλὰ μὴ ὁ νόμος· συμβαίνει δὲ τοῦτο διὰ τοὺς δημαγωγούς. ἐν μὲν γὰρ ταῖς κατὰ νόμον δημοκρατουμέναις οὐ γίνεται δημαγωγός, ἀλλ’ οἱ βέλτιστοι τῶν πολιτῶν εἰσιν ἐν προεδρίᾳ· ὅπου δ’ οἱ νόμοι μή εἰσι κύριοι, ἐνταῦθα γίνονται δημαγωγοί. μόναρχος γὰρ ὁ δῆμος γίνεται, σύνθετος εἷς ἐκ πολλῶν· οἱ γὰρ πολλοὶ κύριοί εἰσιν οὐχ ὡς ἕκαστος ἀλλὰ πάντες. Ὅμηρος δὲ ποίαν λέγει οὐκ ἀγαθὸν εἶναι πολυκοιρανίην, πότερον ταύτην ἢ ὅταν πλείους ὦσιν οἱ ἄρχοντες ὡς ἕκαστος, ἄδηλον. ὁ δ’ οὖν τοιοῦτος δῆμος, ἅτε μόναρχος ὤν, ζητεῖ μοναρχεῖν διὰ τὸ μὴ ἄρχεσθαι ὑπὸ νόμου, καὶ γίνεται δεσποτικός, ὥστε οἱ κόλακες ἔντιμοι, καὶ ἔστιν ὁ τοιοῦτος δῆμος ἀνάλογον τῶν μοναρχιῶν τῇ τυραννίδι. διὸ καὶ τὸ ἦθος τὸ αὐτό, καὶ ἄμφω δεσποτικὰ τῶν βελτιόνων, καὶ τὰ ψηφίσματα ὥσπερ ἐκεῖ τὰ ἐπιτάγματα, καὶ ὁ δημαγωγὸς καὶ ὁ κόλαξ οἱ αὐτοὶ καὶ ἀνάλογον. καὶ μάλιστα δ’ ἑκάτεροι παρ’ ἑκατέροις ἰσχύουσιν, οἱ μὲν κόλακες παρὰ τοῖς τυράννοις, οἱ δὲ δημαγωγοὶ παρὰ τοῖς δήμοις τοῖς τοιούτοις. αἴτιοι δέ εἰσι τοῦ εἶναι τὰ ψηφίσματα κύρια ἀλλὰ μὴ τοὺς νόμους οὗτοι, πάντα ἀνάγοντες εἰς τὸν δῆμον· συμβαίνει γὰρ αὐτοῖς γίνεσθαι μεγάλοις διὰ τὸ τὸν μὲν δῆμον πάντων εἶναι κύριον, τῆς δὲ τοῦ δήμου δόξης τούτους· πείθεται γὰρ τὸ πλῆθος τούτοις. ἔτι δ’ οἱ ταῖς ἀρχαῖς ἐγκαλοῦντες τὸν δῆμόν φασι δεῖν κρίνειν, ὁ δὲ ἀσμένως δέχεται τὴν πρόκλησιν· ὥστε καταλύονται πᾶσαι αἱ ἀρχαί. εὐλόγως δὲ ἂν δόξειεν ἐπιτιμᾶν ὁ φάσκων τὴν τοιαύτην εἶναι δημοκρατίαν οὐ πολιτείαν. ὅπου γὰρ μὴ νόμοι ἄρχουσιν, οὐκ ἔστι πολιτεία. δεῖ γὰρ τὸν μὲν νόμον ἄρχειν πάντων ‹τῶν καθόλου›, τῶν δὲ καθ’ ἕκαστα τὰς ἀρχάς, καὶ ταύτην πολιτείαν κρίνειν. ὥστ’ εἴπερ ἐστὶ δημοκρατία μία τῶν πολιτειῶν, φανερὸν ὡς ἡ τοιαύτη κατάστασις, ἐν ᾗ ψηφίσμασι πάντα διοικεῖται, οὐδὲ δημοκρατία κυρίως· οὐθὲν γὰρ ἐνδέχεται ψήφισμα εἶναι καθόλου. τὰ μὲν οὖν τῆς δημοκρατίας εἴδη διωρίσθω τὸν τρόπον τοῦτον.

Ὀλιγαρχίας δὲ εἴδη ἓν μὲν τὸ ἀπὸ τιμημάτων εἶναι τὰς ἀρχὰς τηλικούτων ὥστε τοὺς ἀπόρους μὴ μετέχειν, πλείους ὄντας, ἐξεῖναι δὲ τῷ κτωμένῳ μετέχειν τῆς πολιτείας, ἄλλο [1292b] δέ, ὅταν ἀπὸ τιμημάτων μακρῶν ὦσιν αἱ ἀρχαὶ καὶ αἱρῶνται αὐτοὶ τοὺς ἐλλείποντας (ἂν μὲν οὖν ἐκ πάντων τούτων τοῦτο ποιῶσι, δοκεῖ τοῦτ᾽ εἶναι μᾶλλον ἀριστοκρατικόν, ἐὰν δὲ ἐκ τινῶν ἀφωρισμένων, ὀλιγαρχικόν)· ἕτερον εἶδος ὀλιγαρχίας, ὅταν παῖς ἀντὶ πατρὸς εἰσίῃ, τέταρτον δ᾽, ὅταν ὑπάρχῃ τε τὸ νῦν λεχθὲν καὶ ἄρχῃ μὴ ὁ νόμος ἀλλ᾽ οἱ ἄρχοντες. καὶ ἔστιν ἀντίστροφος αὕτη ἐν ταῖς ὀλιγαρχίαις ὥσπερ ἡ τυραννὶς ἐν ταῖς μοναρχίαις, καὶ περὶ ἧς τελευταίας εἴπαμεν δημοκρατίας ἐν ταῖς δημοκρατίαις· καὶ καλοῦσι δὴ τὴν τοιαύτην ὀλιγαρχίαν δυναστείαν.

ὀλιγαρχίας μὲν οὖν εἴδη τοσαῦτα καὶ δημοκρατίας· οὐ δεῖ δὲ λανθάνειν ὅτι πολλαχοῦ συμβέβηκεν ὥστε τὴν μὲν πολιτείαν τὴν κατὰ τοὺς νόμους μὴ δημοτικὴν εἶναι, διὰ δὲ τὸ ἔθος καὶ τὴν ἀγωγὴν πολιτεύεσθαι δημοτικῶς, ὁμοίως δὲ πάλιν παρ᾽ ἄλλοις τὴν μὲν κατὰ τοὺς νόμους εἶναι πολιτείαν δημοτικωτέραν, τῇ δ᾽ ἀγωγῇ καὶ τοῖς ἔθεσιν ὀλιγαρχεῖσθαι μᾶλλον. συμβαίνει δὲ τοῦτο μάλιστα μετὰ τὰς μεταβολὰς τῶν πολιτειῶν· οὐ γὰρ εὐθὺς μεταβαίνουσιν, ἀλλὰ ἀγαπῶσι τὰ πρῶτα μικρὰ πλεονεκτοῦντες παρ᾽ ἀλλήλων, ὥσθ᾽ οἱ μὲν νόμοι διαμένουσιν οἱ προϋπάρχοντες, κρατοῦσι δ᾽ οἱ μεταβαλόντες τὴν πολιτείαν.

Ὅτι δ᾽ ἔστι τοσαῦτα εἴδη δημοκρατίας καὶ ὀλιγαρχίας, ἐξ αὐτῶν τῶν εἰρημένων φανερόν ἐστιν. ἀνάγκη γὰρ ἢ πάντα τὰ εἰρημένα μέρη τοῦ δήμου κοινωνεῖν τῆς πολιτείας, ἢ τὰ μὲν τὰ δὲ μή. ὅταν μὲν οὖν τὸ γεωργικὸν καὶ τὸ κεκτημένον μετρίαν οὐσίαν κύριον ᾖ τῆς πολιτείας, πολιτεύονται κατὰ νόμους (ἔχουσι γὰρ ἐργαζόμενοι ζῆν, οὐ δύνανται δὲ σχολάζειν, ὥστε τὸν νόμον ἐπιστήσαντες ἐκκλησιάζουσι τὰς ἀναγκαίας ἐκκλησίας), τοῖς δὲ ἄλλοις μετέχειν ἔξεστιν ὅταν κτήσωνται τὸ τίμημα τὸ διωρισμένον ὑπὸ τῶν νόμων· διὸ πᾶσι τοῖς κτησαμένοις ἔξεστι μετέχειν· ὅλως μὲν γὰρ τὸ μὲν μὴ ἐξεῖναι πᾶσιν ὀλιγαρχικόν, τὸ δὲ δὴ ἐξεῖναι σχολάζειν ἀδύνατον μὴ προσόδων οὐσῶν.†τοῦτο μὲν οὖν εἶδος ἓν δημοκρατίας διὰ ταύτας τὰς αἰτίας· ἕτερον δὲ εἶδος διὰ τὴν ἐχομένην διαίρεσιν· ἔστι γὰρ καὶ πᾶσιν ἐξεῖναι τοῖς ἀνυπευθύνοις κατὰ τὸ γένος, μετέχειν μέντοι ‹τοὺς› δυναμένους σχολάζειν· διόπερ ἐν τῇ τοιαύτῃ δημοκρατίᾳ οἱ νόμοι ἄρχουσι, διὰ τὸ μὴ εἶναι πρόσοδον. τρίτον δ’ εἶδος τὸ πᾶσιν ἐξεῖναι, ὅσοι ἂν ἐλεύθεροι ὦσι, μετέχειν τῆς πολιτείας, μὴ μέντοι μετέχειν διὰ τὴν προειρημένην αἰτίαν, ὥστ’ ἀναγκαῖον καὶ ἐν ταύτῃ ἄρχειν τὸν νόμον. τέταρτον δὲ εἶδος δημοκρατίας [1293a] ἡ τελευταία τοῖς χρόνοις ἐν ταῖς πόλεσι γεγενημένη. διὰ γὰρ τὸ μείζους γεγονέναι πολὺ τὰς πόλεις τῶν ἐξ ὑπαρχῆς καὶ προσόδων ὑπάρχειν εὐπορίας, μετέχουσι μὲν πάντες τῆς πολιτείας διὰ τὴν ὑπεροχὴν τοῦ πλήθους, κοινωνοῦσι δὲ καὶ πολιτεύονται διὰ τὸ δύνασθαι σχολάζειν καὶ τοὺς ἀπόρους, λαμβάνοντας μισθόν. καὶ μάλιστα δὲ σχολάζει τὸ τοιοῦτον πλῆθος· οὐ γὰρ ἐμποδίζει αὐτοὺς οὐθὲν ἡ τῶν ἰδίων ἐπιμέλεια, τοὺς δὲ πλουσίους ἐμποδίζει, ὥστε πολλάκις οὐ κοινωνοῦσι τῆς ἐκκλησίας οὐδὲ τοῦ δικάζειν. διὸ γίνεται τὸ τῶν ἀπόρων πλῆθος κύριον τῆς πολιτείας, ἀλλ’ οὐχ οἱ νόμοι.

τὰ μὲν οὖν τῆς δημοκρατίας εἴδη τοσαῦτα καὶ τοιαῦτα διὰ ταύτας τὰς ἀνάγκας ἐστίν, τάδε δὲ τῆς ὀλιγαρχίας· ὅταν μὲν πλείους ἔχωσιν οὐσίαν, ἐλάττω δὲ καὶ μὴ πολλὴν λίαν, τὸ τῆς πρώτης ὀλιγαρχίας εἶδός ἐστιν· ποιοῦσι γὰρ ἐξουσίαν μετέχειν τῷ κτωμένῳ, καὶ διὰ τὸ πλῆθος εἶναι τῶν μετεχόντων τοῦ πολιτεύματος ἀνάγκη μὴ τοὺς ἀνθρώπους ἀλλὰ τὸν νόμον εἶναι κύριον (ὅσῳ γὰρ ἂν πλεῖον ἀπέχωσι τῆς μοναρχίας, καὶ μήτε τοσαύτην ἔχωσιν οὐσίαν ὥστε σχολάζειν ἀμελοῦντες, μήθ’ οὕτως ὀλίγην ὥστε τρέφεσθαι ἀπὸ τῆς πόλεως, ἀνάγκη τὸν νόμον ἀξιοῦν αὐτοῖς ἄρχειν, ἀλλὰ μὴ αὐτούς)· ἐὰν δὲ δὴ ἐλάττους ὦσιν οἱ τὰς οὐσίας ἔχοντες ἢ οἱ τὸ πρότερον, πλείω δέ, τὸ τῆς δευτέρας ὀλιγαρχίας γίνεται εἶδος· μᾶλλον γὰρ ἰσχύοντες πλεονεκτεῖν ἀξιοῦσιν, διὸ αὐτοὶ μὲν αἱροῦνται ἐκ τῶν ἄλλων τοὺς εἰς τὸ πολίτευμα βαδίζοντας, διὰ δὲ τὸ μήπω οὕτως ἰσχυροὶ εἶναι ὥστ’ ἄνευ νόμου ἄρχειν τὸν νόμον τίθενται τοιοῦτον. ἐὰν δ’ ἐπιτείνωσι τῷ ἐλάττονες ὄντες μείζονας οὐσίας ἔχειν, ἡ τρίτη ἐπίδοσις γίνεται τῆς ὀλιγαρχίας, τὸ δι’ αὑτῶν μὲν τὰς ἀρχὰς ἔχειν, κατὰ νόμον δὲ τὸν κελεύοντα τῶν τελευτώντων διαδέχεσθαι τοὺς υἱεῖς. ὅταν δὲ ἤδη πολὺ ὑπερτείνωσι ταῖς οὐσίαις καὶ ταῖς πολυφιλίαις, ἐγγὺς ἡ τοιαύτη δυναστεία μοναρχίας ἐστίν, καὶ κύριοι γίνονται οἱ ἄνθρωποι, ἀλλ’ οὐχ ὁ νόμος· καὶ τὸ τέταρτον εἶδος τῆς ὀλιγαρχίας τοῦτ’ ἐστίν, ἀντίστροφον τῷ τελευταίῳ τῆς δημοκρατίας.

Ἔτι δ’ εἰσὶ δύο πολιτεῖαι παρὰ δημοκρατίαν τε καὶ ὀλιγαρχίαν, ὧν τὴν μὲν ἑτέραν λέγουσί τε πάντες καὶ εἴρηται τῶν τεττάρων πολιτειῶν εἶδος ἕν (λέγουσι δὲ τέτταρας μοναρχίαν ὀλιγαρχίαν δημοκρατίαν, τέταρτον δὲ τὴν καλουμένην ἀριστοκρατίαν)· πέμπτη δ’ ἐστὶν ἣ προσαγορεύεται τὸ κοινὸν ὄνομα πασῶν (πολιτείαν γὰρ καλοῦσιν), ἀλλὰ διὰ τὸ μὴ πολλάκις γίνεσθαι λανθάνει τοὺς πειρωμένους ἀριθμεῖν τὰ τῶν πολιτειῶν εἴδη, καὶ χρῶνται ταῖς τέτταρσι μόνον [1293b] (ὥσπερ Πλάτων) ἐν ταῖς πολιτείαις. ἀριστοκρατίαν μὲν οὖν καλῶς ἔχει καλεῖν περὶ ἧς διήλθομεν ἐν τοῖς πρώτοις λόγοις (τὴν γὰρ ἐκ τῶν ἀρίστων ἁπλῶς κατ᾽ ἀρετὴν πολιτείαν καὶ μὴ πρὸς ὑπόθεσίν τινα ἀγαθῶν ἀνδρῶν μόνην δίκαιον προσαγορεύειν ἀριστοκρατίαν· ἐν μόνῃ γὰρ ἁπλῶς ὁ αὐτὸς ἀνὴρ καὶ πολίτης ἀγαθός ἐστιν, οἱ δ᾽ ἐν ταῖς ἄλλαις ἀγαθοὶ πρὸς τὴν πολιτείαν εἰσὶ τὴν αὑτῶν)· οὐ μὴν ἀλλ᾽ εἰσί τινες αἳ πρός τε τὰς ὀλιγαρχουμένας ἔχουσι διαφορὰς καὶ καλοῦνται ἀριστοκρατίαι καὶ πρὸς τὴν καλουμένην πολιτείαν. ὅπου γὰρ μὴ μόνον πλουτίνδην ἀλλὰ καὶ ἀριστίνδην αἱροῦνται τὰς ἀρχάς, αὕτη ἡ πολιτεία διαφέρει τε ἀμφοῖν καὶ ἀριστοκρατικὴ καλεῖται. καὶ γὰρ ἐν ταῖς μὴ ποιουμέναις κοινὴν ἐπιμέλειαν ἀρετῆς εἰσὶν ὅμως τινὲς οἱ εὐδοκιμοῦντες καὶ δοκοῦντες εἶναι ἐπιεικεῖς. ὅπου οὖν ἡ πολιτεία βλέπει εἴς τε πλοῦτον καὶ ἀρετὴν καὶ δῆμον, οἷον ἐν Καρχηδόνι, αὕτη ἀριστοκρατική ἐστιν, καὶ ἐν αἷς εἰς τὰ δύο μόνον, οἷον ἡ Λακεδαιμονίων, εἴς τε ἀρετὴν καὶ δῆμον, καὶ ἔστι μίξις τῶν δύο τούτων, δημοκρατίας τε καὶ ἀρετῆς. ἀριστοκρατίας μὲν οὖν παρὰ τὴν πρώτην τὴν ἀρίστην πολιτείαν ταῦτα δύο εἴδη, καὶ τρίτον ὅσαι τῆς καλουμένης πολιτείας ῥέπουσι πρὸς τὴν ὀλιγαρχίαν μᾶλλον.

Λοιπὸν δ᾽ ἐστὶν ἡμῖν περί τε τῆς ὀνομαζομένης πολιτείας εἰπεῖν καὶ περὶ τυραννίδος. ἐτάξαμεν δ᾽ οὕτως οὐκ οὖσαν οὔτε ταύτην παρέκβασιν οὔτε τὰς ἄρτι ῥηθείσας ἀριστοκρατίας, ὅτι τὸ μὲν ἀληθὲς πᾶσαι διημαρτήκασι τῆς ὀρθοτάτης πολιτείας, ἔπειτα καταριθμοῦνται μετὰ τούτων εἰσί τ᾽ αὐτῶν αὗται παρεκβάσεις ἅσπερ ἐν τοῖς κατ᾽ ἀρχὴν εἴπομεν. τελευταῖον δὲ περὶ τυραννίδος εὔλογόν ἐστι ποιήσασθαι μνείαν διὰ τὸ πασῶν ἥκιστα ταύτην εἶναι πολιτείαν, ἡμῖν δὲ τὴν μέθοδον εἶναι περὶ πολιτείας. δι᾽ ἣν μὲν οὖν αἰτίαν τέτακται τὸν τρόπον τοῦτον, εἴρηται· νῦν δὲ δεικτέον ἡμῖν περὶ πολιτείας. φανερωτέρα γὰρ ἡ δύναμις αὐτῆς διωρισμένων τῶν περὶ ὀλιγαρχίας καὶ δημοκρατίας. ἔστι γὰρ ἡ πολιτεία ὡς ἁπλῶς εἰπεῖν μίξις ὀλιγαρχίας καὶ δημοκρατίας. εἰώθασι δὲ καλεῖν τὰς μὲν ἀποκλινούσας [ὡς] πρὸς τὴν δημοκρατίαν πολιτείας, τὰς δὲ πρὸς τὴν ὀλιγαρχίαν μᾶλλον ἀριστοκρατίας διὰ τὸ μᾶλλον ἀκολουθεῖν παιδείαν καὶ εὐγένειαν τοῖς εὐπορωτέροις. ἔτι δὲ δοκοῦσιν ἔχειν οἱ εὔποροι ὧν ἕνεκεν οἱ ἀδικοῦντες ἀδικοῦσιν· ὅθεν καὶ καλοὺς κἀγαθοὺς καὶ γνωρίμους τούτους προσαγορεύουσιν. ἐπεὶ οὖν ἡ ἀριστοκρατία βούλεται τὴν ὑπεροχὴν ἀπονέμειν τοῖς ἀρίστοις τῶν πολιτῶν, καὶ τὰς ὀλιγαρχίας εἶναί φασιν ἐκ τῶν καλῶν κἀγαθῶν μᾶλλον. δοκεῖ [1294a] δ᾽ εἶναι τῶν ἀδυνάτων τὸ εὐνομεῖσθαι τὴν μὴ ἀριστοκρατουμένην πόλιν ἀλλὰ πονηροκρατουμένην, ὁμοίως δὲ καὶ ἀριστοκρατεῖσθαι τὴν μὴ εὐνομουμένην. οὐκ ἔστι δὲ εὐνομία τὸ εὖ κεῖσθαι τοὺς νόμους, μὴ πείθεσθαι δέ. διὸ μίαν μὲν εὐνομίαν ὑποληπτέον εἶναι τὸ πείθεσθαι τοῖς κειμένοις νόμοις, ἑτέραν δὲ τὸ καλῶς κεῖσθαι τοὺς νόμους οἷς ἐμμένουσιν (ἔστι γὰρ πείθεσθαι καὶ κακῶς κειμένοις). τοῦτο δὲ ἐνδέχεται διχῶς· ἢ γὰρ τοῖς ἀρίστοις τῶν ἐνδεχομένων αὐτοῖς, ἢ τοῖς ἁπλῶς ἀρίστοις.

δοκεῖ δὲ ἀριστοκρατία μὲν εἶναι μάλιστα τὸ τὰς τιμὰς νενεμῆσθαι κατ' ἀρετήν (ἀριστοκρατίας μὲν γὰρ ὅρος ἀρετή, ὀλιγαρχίας δὲ πλοῦτος, δήμου δ' ἐλευθερία)· τὸ δ' ὅ τι ἂν δόξῃ τοῖς πλείοσιν, ἐν πάσαις ὑπάρχει· καὶ γὰρ ἐν ὀλιγαρχίᾳ καὶ ἐν ἀριστοκρατίᾳ καὶ ἐν δήμοις, ὅ τι ἂν δόξῃ τῷ πλείονι μέρει τῶν μετεχόντων τῆς πολιτείας, τοῦτ' ἐστὶ κύριον. ἐν μὲν οὖν ταῖς πλείσταις πόλεσι τὸ τῆς πολιτείας εἶδος ‹κακῶς› καλεῖται· μόνον γὰρ ἡ μίξις στοχάζεται τῶν εὐπόρων καὶ τῶν ἀπόρων, πλούτου καὶ ἐλευθερίας· σχεδὸν γὰρ παρὰ τοῖς πλείστοις οἱ εὔποροι τῶν καλῶν κἀγαθῶν δοκοῦσι κατέχειν χώραν· ἐπεὶ δὲ τρία ἐστὶ τὰ ἀμφισβητοῦντα τῆς ἰσότητος τῆς πολιτείας, ἐλευθερία πλοῦτος ἀρετή (τὸ γὰρ τέταρτον, ὃ καλοῦσιν εὐγένειαν, ἀκολουθεῖ τοῖς δυσίν· ἡ γὰρ εὐγένειά ἐστιν ἀρχαῖος πλοῦτος καὶ ἀρετή), φανερὸν ὅτι τὴν μὲν τοῖν δυοῖν μίξιν, τῶν εὐπόρων καὶ τῶν ἀπόρων, πολιτείαν λεκτέον, τὴν δὲ τῶν τριῶν ἀριστοκρατίαν μάλιστα τῶν ἄλλων παρὰ τὴν ἀληθινὴν καὶ πρώτην. ὅτι μὲν οὖν ἔστι καὶ ἕτερα πολιτείας εἴδη παρὰ μοναρχίαν τε καὶ δημοκρατίαν καὶ ὀλιγαρχίαν, εἴρηται, καὶ ποῖα ταῦτα, καὶ τί διαφέρουσιν ἀλλήλων αἵ τ' ἀριστοκρατίαι καὶ αἱ πολιτεῖαι τῆς ἀριστοκρατίας, καὶ ὅτι οὐ πόρρω αὗται ἀλλήλων, φανερόν.

Τίνα δὲ τρόπον γίνεται παρὰ δημοκρατίαν καὶ ὀλιγαρχίαν ἡ καλουμένη πολιτεία, καὶ πῶς αὐτὴν δεῖ καθιστάναι, λέγωμεν ἐφεξῆς τοῖς εἰρημένοις. ἅμα δὲ δῆλον ἔσται καὶ οἷς ὁρίζονται τὴν δημοκρατίαν καὶ τὴν ὀλιγαρχίαν· ληπτέον γὰρ τὴν τούτων διαίρεσιν, εἶτα ἐκ τούτων ἀφ' ἑκατέρας ὥσπερ σύμβολον λαμβάνοντας συνθετέον. εἰσὶ δὲ ὅροι τρεῖς τῆς συνθέσεως καὶ μίξεως. ἢ γὰρ ἀμφότερα ληπτέον ἃ ἑκάτεροι νομοθετοῦσιν, οἷον περὶ τοῦ δικάζειν (ἐν μὲν γὰρ ταῖς ὀλιγαρχίαις τοῖς εὐπόροις ζημίαν τάττουσιν ἂν μὴ δικάζωσι, τοῖς δ' ἀπόροις οὐδένα μισθόν, ἐν δὲ ταῖς δημοκρατίαις τοῖς μὲν ἀπόροις μισθόν, τοῖς δ' εὐπόροις οὐδεμίαν ζημίαν· κοινὸν δὲ καὶ μέσον τούτων ἀμφότερα ταῦτα, διὸ καὶ [1294b] πολιτικόν, μέμεικται γὰρ ἐξ ἀμφοῖν)· εἷς μὲν οὖν οὗτος τοῦ συνδυασμοῦ τρόπος, ἕτερος δὲ τὸ ‹τὸ› μέσον λαμβάνειν ὧν ἑκάτεροι τάττουσιν, οἷον ἐκκλησιάζειν οἱ μὲν ἀπὸ τιμήματος οὐθενὸς ἢ μικροῦ πάμπαν, οἱ δ' ἀπὸ μακροῦ τιμήματος, κοινὸν δέ γε οὐδέτερον, ἀλλὰ τὸ μέσον ἑκατέρου τίμημα τούτων. τρίτον δ’ ἐκ δυοῖν ταγμάτοιν, τὰ μὲν ἐκ τοῦ ὀλιγαρχικοῦ νόμου τὰ δ’ ἐκ τοῦ δημοκρατικοῦ. λέγω δ’ οἷον δοκεῖ δημοκρατικὸν μὲν εἶναι τὸ κληρωτὰς εἶναι τὰς ἀρχάς, τὸ δ’ αἱρετὰς ὀλιγαρχικόν, καὶ δημοκρατικὸν μὲν τὸ μὴ ἀπὸ τιμήματος, ὀλιγαρχικὸν δὲ τὸ ἀπὸ τιμήματος· ἀριστοκρατικὸν τοίνυν καὶ πολιτικὸν τὸ ἐξ ἑκατέρας ἑκάτερον λαβεῖν, ἐκ μὲν τῆς ὀλιγαρχίας τὸ αἱρετὰς ποιεῖν τὰς ἀρχάς, ἐκ δὲ τῆς δημοκρατίας τὸ μὴ ἀπὸ τιμήματος.

ὁ μὲν οὖν τρόπος τῆς μίξεως οὗτος· τοῦ δ’ εὖ μεμεῖχθαι δημοκρατίαν καὶ ὀλιγαρχίαν ὅρος, ὅταν ἐνδέχηται λέγειν τὴν αὐτὴν πολιτείαν δημοκρατίαν καὶ ὀλιγαρχίαν. δῆλον γὰρ ὅτι τοῦτο πάσχουσιν οἱ λέγοντες διὰ τὸ μεμεῖχθαι καλῶς· πέπονθε δὲ τοῦτο καὶ τὸ μέσον, ἐμφαίνεται γὰρ ἑκάτερον ἐν αὐτῷ τῶν ἄκρων· ὅπερ συμβαίνει περὶ τὴν Λακεδαιμονίων πολιτείαν. πολλοὶ γὰρ ἐγχειροῦσι λέγειν ὡς δημοκρατίας οὔσης διὰ τὸ δημοκρατικὰ πολλὰ τὴν τάξιν ἔχειν, οἷον πρῶτον τὸ περὶ τὴν τροφὴν τῶν παίδων (ὁμοίως γὰρ οἱ τῶν πλουσίων τρέφονται τοῖς τῶν πενήτων, καὶ παιδεύονται τὸν τρόπον τοῦτον ὃν ἂν δύναιντο καὶ τῶν πενήτων οἱ παῖδες), ὁμοίως δὲ καὶ ἐπὶ τῆς ἐχομένης ἡλικίας, καὶ ὅταν ἄνδρες γένωνται, τὸν αὐτὸν τρόπον (οὐθὲν γὰρ διάδηλος ὁ πλούσιος καὶ ὁ πένης οὕτω) τὰ περὶ τὴν τροφὴν ταὐτὰ πᾶσιν ἐν τοῖς συσσιτίοις, καὶ τὴν ἐσθῆτα οἱ πλούσιοι τοιαύτην οἵαν ἄν τις παρασκευάσαι δύναιτο καὶ τῶν πενήτων ὁστισοῦν· ἔτι τὸ δύο τὰς μεγίστας ἀρχὰς τὴν μὲν αἱρεῖσθαι τὸν δῆμον, τῆς δὲ μετέχειν (τοὺς μὲν γὰρ γέροντας αἱροῦνται, τῆς δ’ ἐφορείας μετέχουσιν)· οἱ δ’ ὀλιχαρχίαν διὰ τὸ πολλὰ ἔχειν ὀλιγαρχικά, οἷον τὸ πάσας αἱρετὰς εἶναι καὶ μηδεμίαν κληρωτήν, καὶ ὀλίγους εἶναι κυρίους θανάτου καὶ φυγῆς, καὶ ἄλλα τοιαῦτα πολλά. δεῖ δ’ ἐν τῇ πολιτείᾳ τῇ μεμειγμένῃ καλῶς ἀμφότερα δοκεῖν εἶναι καὶ μηδέτερον, καὶ σῴζεσθαι δι’ αὑτῆς καὶ μὴ ἔξωθεν, καὶ δι’ αὑτῆς μὴ τῷ πλείους [ἔξωθεν] εἶναι τοὺς βουλομένους (εἴη γὰρ ἂν καὶ πονηρᾷ πολιτείᾳ τοὐθ’ ὑπάρχον) ἀλλὰ τῷ μηδ’ ἂν βούλεσθαι πολιτείαν ἑτέραν μηθὲν τῶν τῆς πόλεως μορίων ὅλως. τίνα μὲν οὖν τρόπον δεῖ καθιστάναι πολιτείαν, ὁμοίως δὲ καὶ τὰς ὀνομαζομένας ἀριστοκρατίας, νῦν εἴρηται.

[1295a] Περὶ δὲ τυραννίδος ἦν ἡμῖν λοιπὸν εἰπεῖν, οὐχ ὡς ἐνούσης πολυλογίας περὶ αὐτήν, ἀλλ’ ὅπως λάβῃ τῆς μεθόδου τὸ μέρος, ἐπειδὴ καὶ ταύτην τίθεμεν τῶν πολιτειῶν τι μέρος. περὶ μὲν οὖν βασιλείας διωρίσαμεν ἐν τοῖς πρώτοις λόγοις, ἐν οἷς περὶ τῆς μάλιστα λεγομένης βασιλείας ἐποιούμεθα τὴν σκέψιν, πότερον ἀσύμφορος ἢ συμφέρει ταῖς πόλεσιν, καὶ τίνα καὶ πόθεν δεῖ καθιστάναι, καὶ πῶς· τυραννίδος δ’ εἴδη δύο μὲν διείλομεν

ἐν οἷς περὶ βασιλείας ἐπεσκοποῦμεν, διὰ τὸ τὴν δύναμιν ἐπαλλάττειν πως αὐτῶν καὶ πρὸς τὴν βασιλείαν, διὰ τὸ κατὰ νόμον εἶναι ἀμφοτέρας ταύτας τὰς ἀρχάς (ἔν τε γὰρ τῶν βαρβάρων τισὶν αἱροῦνται αὐτοκράτορας μονάρχους, καὶ τὸ παλαιὸν ἐν τοῖς ἀρχαίοις Ἕλλησιν ἐγίγνοντό τινες μόναρχοι τὸν τρόπον τοῦτον, οὓς ἐκάλουν αἰσυμνήτας), ἔχουσι δέ τινας πρὸς ἀλλήλας αὗται διαφοράς, ἦσαν δὲ διὰ μὲν τὸ κατὰ νόμον βασιλικαὶ καὶ διὰ τὸ μοναρχεῖν ἑκόντων, τυραννικαὶ δὲ διὰ τὸ δεσποτικῶς ἄρχειν κατὰ τὴν αὑτῶν γνώμην· τρίτον δὲ εἶδος τυραννίδος, ἥπερ μάλιστ’ εἶναι δοκεῖ τυραννίς, ἀντίστροφος οὖσα τῇ παμβασιλείᾳ. τοιαύτην δ’ ἀναγκαῖον εἶναι τυραννίδα τὴν μοναρχίαν ἥτις ἀνυπεύθυνος ἄρχει τῶν ὁμοίων καὶ βελτιόνων πάντων πρὸς τὸ σφέτερον αὐτῆς συμφέρον, ἀλλὰ μὴ πρὸς τὸ τῶν ἀρχομένων. διόπερ ἀκούσιος· οὐθεὶς γὰρ ἑκὼν ὑπομένει τῶν ἐλευθέρων τὴν τοιαύτην ἀρχήν. τυραννίδος μὲν οὖν εἴδη ταῦτα καὶ τοσαῦτα διὰ τὰς εἰρημένας αἰτίας.

Τίς δ’ ἀρίστη πολιτεία καὶ τίς ἄριστος βίος ταῖς πλείσταις πόλεσι καὶ τοῖς πλείστοις τῶν ἀνθρώπων, μήτε πρὸς ἀρετὴν συγκρίνουσι τὴν ὑπὲρ τοὺς ἰδιώτας, μήτε πρὸς παιδείαν ἣ φύσεως δεῖται καὶ χορηγίας τυχηρᾶς, μήτε πρὸς πολιτείαν τὴν κατ’ εὐχὴν γινομένην, ἀλλὰ βίον τε τὸν τοῖς πλείστοις κοινωνῆσαι δυνατὸν καὶ πολιτείαν ἧς τὰς πλείστας πόλεις ἐνδέχεται μετασχεῖν; καὶ γὰρ ἃς καλοῦσιν ἀριστοκρατίας, περὶ ὧν νῦν εἴπομεν, τὰ μὲν ἐξωτέρω πίπτουσι ταῖς πλείσταις τῶν πόλεων, τὰ δὲ γειτνιῶσι τῇ καλουμένῃ πολιτείᾳ (διὸ περὶ ἀμφοῖν ὡς μιᾶς λεκτέον). ἡ δὲ δὴ κρίσις περὶ ἁπάντων τούτων ἐκ τῶν αὐτῶν στοιχείων ἐστίν. εἰ γὰρ καλῶς ἐν τοῖς Ἠθικοῖς εἴρηται τὸ τὸν εὐδαίμονα βίον εἶναι τὸν κατ’ ἀρετὴν ἀνεμπόδιστον, μεσότητα δὲ τὴν ἀρετήν, τὸν μέσον ἀναγκαῖον εἶναι βίον βέλτιστον, ‹τὸ› τῆς ἑκάστοις ἐνδεχομένης τυχεῖν μεσότητος· τοὺς δὲ αὐτοὺς τούτους ὅρους ἀναγκαῖον εἶναι καὶ πόλεως ἀρετῆς καὶ κακίας καὶ πολιτείας· ἡ γὰρ πολιτεία [1295b] βίος τίς ἐστι πόλεως. ἐν ἁπάσαις δὴ ταῖς πόλεσιν ἔστι τρία μέρη τῆς πόλεως, οἱ μὲν εὔποροι σφόδρα, οἱ δὲ ἄποροι σφόδρα, οἱ δὲ τρίτοι οἱ μέσοι τούτων. ἐπεὶ τοίνυν ὁμολογεῖται τὸ μέτριον ἄριστον καὶ τὸ μέσον, φανερὸν ὅτι καὶ τῶν εὐτυχημάτων ἡ κτῆσις ἡ μέση βελτίστη πάντων. ῥᾴστη γὰρ τῷ λόγῳ πειθαρχεῖν, ὑπέρκαλον δὲ ἢ ὑπερίσχυρον ἢ ὑπερευγενῆ ἢ ὑπερπλούσιον ‹ὄντα›, ἢ τἀναντία τούτοις, ὑπέρπτωχον ἢ ὑπερασθενῆ ἢ σφόδρα ἄτιμον, χαλεπὸν τῷ λόγῳ ἀκολουθεῖν· γίγνονται γὰρ οἱ μὲν ὑβρισταὶ καὶ μεγαλοπόνηροι μᾶλλον, οἱ δὲ κακοῦργοι καὶ μικροπόνηροι λίαν, τῶν δ’ ἀδικημάτων τὰ μὲν γίγνεται δι’ ὕβριν τὰ δὲ διὰ κακουργίαν. ἔτι δὲ ἥκισθ’ οὗτοι φυγαρχοῦσι καὶ σπουδαρχιῶσι· ταῦτα δ’ ἀμφότερα βλαβερὰ ταῖς πόλεσιν. πρὸς δὲ τούτοις οἱ μὲν ἐν ὑπεροχαῖς εὐτυχημάτων ὄντες, ἰσχύος καὶ πλούτου καὶ φίλων καὶ τῶν ἄλλων τῶν τοιούτων, ἄρχεσθαι οὔτε βούλονται οὔτε ἐπίστανται (καὶ τοῦτ' εὐθὺς οἴκοθεν ὑπάρχει παισὶν οὖσιν· διὰ γὰρ τὴν τρυφὴν οὐδ' ἐν τοῖς διδασκαλείοις ἄρχεσθαι σύνηθες αὐτοῖς), οἱ δὲ καθ' ὑπερβολὴν ἐν ἐνδείᾳ τούτων ταπεινοὶ λίαν. ὥσθ' οἱ μὲν ἄρχειν οὐκ ἐπίστανται, ἀλλ' ἄρχεσθαι δουλικὴν ἀρχήν, οἱ δ' ἄρχεσθαι μὲν οὐδεμίαν ἀρχήν, ἄρχειν δὲ δεσποτικὴν ἀρχήν. γίνεται οὖν δούλων καὶ δεσποτῶν πόλις, ἀλλ' οὐκ ἐλευθέρων, καὶ τῶν μὲν φθονούντων τῶν δὲ καταφρονούντων· ἃ πλεῖστον ἀπέχει φιλίας καὶ κοινωνίας πολιτικῆς· ἡ γὰρ κοινωνία φιλικόν· οὐδὲ γὰρ ὁδοῦ βούλονται κοινωνεῖν τοῖς ἐχθροῖς. βούλεται δέ γε ἡ πόλις ἐξ ἴσων εἶναι καὶ ὁμοίων ὅτι μάλιστα, τοῦτο δ' ὑπάρχει μάλιστα τοῖς μέσοις. ὥστ' ἀναγκαῖον ἄριστα πολιτεύεσθαι ταύτην τὴν πόλιν ‹ἥ› ἐστιν ἐξ ὧν φαμεν φύσει τὴν σύστασιν εἶναι τῆς πόλεως. καὶ σῴζονται δ' ἐν ταῖς πόλεσιν οὗτοι μάλιστα τῶν πολιτῶν. οὔτε γὰρ αὐτοὶ τῶν ἀλλοτρίων, ὥσπερ οἱ πένητες, ἐπιθυμοῦσιν, οὔτε τῆς τούτων ἕτεροι, καθάπερ τῆς τῶν πλουσίων οἱ πένητες ἐπιθυμοῦσιν· καὶ διὰ τὸ μήτ' ἐπιβουλεύεσθαι μήτ' ἐπιβουλεύειν ἀκινδύνως διάγουσιν. διὰ τοῦτο καλῶς ηὔξατο Φωκυλίδης "πολλὰ μέσοισιν ἄριστα· μέσος θέλω ἐν πόλει εἶναι."

δῆλον ἄρα ὅτι καὶ ἡ κοινωνία ἡ πολιτικὴ ἀρίστη ἡ διὰ τῶν μέσων, καὶ τὰς τοιαύτας ἐνδέχεται εὖ πολιτεύεσθαι πόλεις ἐν αἷς δὴ πολὺ τὸ μέσον καὶ κρεῖττον, μάλιστα μὲν ἀμφοῖν, εἰ δὲ μή, θατέρου μέρους· προστιθέμενον γὰρ ποιεῖ ῥοπὴν καὶ κωλύει γίνεσθαι τὰς ἐναντίας ὑπερβολάς. διόπερ εὐτυχία μεγίστη τοὺς πολιτευομένους οὐσίαν ἔχειν μέσην καὶ ἱκανήν, [1296a] ὡς ὅπου οἱ μὲν πολλὰ σφόδρα κέκτηνται οἱ δὲ μηθέν, ἢ δῆμος ἔσχατος γίγνεται ἢ ὀλιγαρχία ἄκρατος, ἢ τυραννὶς δι' ἀμφοτέρας τὰς ὑπερβολάς· καὶ γὰρ ἐκ δημοκρατίας τῆς νεανικωτάτης καὶ ἐξ ὀλιγαρχίας γίγνεται τυραννίς, ἐκ δὲ τῶν μέσων καὶ τῶν σύνεγγυς πολὺ ἧττον. τὴν δ' αἰτίαν ὕστερον ἐν τοῖς περὶ τὰς μεταβολὰς τῶν πολιτειῶν ἐροῦμεν. ὅτι δ' ἡ μέση βελτίστη, φανερόν· μόνη γὰρ ἀστασίαστος· ὅπου γὰρ πολὺ τὸ διὰ μέσου, ἥκιστα στάσεις καὶ διαστάσεις γίγνονται τῶν πολιτῶν. καὶ αἱ μεγάλαι πόλεις ἀστασιαστότεραι διὰ τὴν αὐτὴν αἰτίαν, ὅτι πολὺ τὸ μέσον· ἐν δὲ ταῖς μικραῖς ῥᾴδιόν τε διαλαβεῖν εἰς δύο πάντας, ὥστε μηθὲν καταλιπεῖν μέσον, καὶ πάντες σχεδὸν ἄποροι ἢ εὔποροί εἰσι. καὶ αἱ δημοκρατίαι δὲ ἀσφαλέστεραι τῶν ὀλιγαρχιῶν εἰσι καὶ πολυχρονιώτεραι διὰ τοὺς μέσους (πλείους τε γάρ εἰσι καὶ μᾶλλον μετέχουσι τῶν τιμῶν ἐν ταῖς δημοκρατίαις ἢ ταῖς ὀλιγαρχίαις), ἐπεὶ ὅταν ἄνευ τούτων τῷ πλήθει ὑπερτείνωσιν οἱ ἄποροι, κακοπραγία γίνεται καὶ ἀπόλλυνται ταχέως. σημεῖον δὲ δεῖ νομίζειν καὶ τὸ τοὺς βελτίστους νομοθέτας εἶναι τῶν μέσων πολιτῶν· Σόλων τε γὰρ ἦν τούτων (δηλοῖ δ’ ἐκ τῆς ποιήσεως) καὶ Λυκοῦργος (οὐ γὰρ ἦν βασιλεύς) καὶ Χαρώνδας καὶ σχεδὸν οἱ πλεῖστοι τῶν ἄλλων.

φανερὸν δ’ ἐκ τούτων καὶ διότι αἱ πλεῖσται πολιτεῖαι αἱ μὲν δημοκρατικαί εἰσιν αἱ δ’ ὀλιγαρχικαί. διὰ γὰρ τὸ ἐν ταύταις πολλάκις ὀλίγον εἶναι τὸ μέσον, αἰεὶ ὁπότεροι ἂν ὑπερέχωσιν, εἴθ’ οἱ τὰς οὐσίας ἔχοντες εἴθ’ ὁ δῆμος, οἱ τὸ μέσον ἐκβαίνοντες καθ’ αὑτοὺς ἄγουσι τὴν πολιτείαν, ὥστε ἢ δῆμος γίγνεται ἢ ὀλιγαρχία. πρὸς δὲ τούτοις διὰ τὸ στάσεις γίγνεσθαι καὶ μάχας πρὸς ἀλλήλους τῷ δήμῳ καὶ τοῖς εὐπόροις, ὁποτέροις ἂν μᾶλλον συμβῇ κρατῆσαι τῶν ἐναντίων, οὐ καθιστᾶσι κοινὴν πολιτείαν οὐδ’ ἴσην, ἀλλὰ τῆς νίκης ἆθλον τὴν ὑπεροχὴν τῆς πολιτείας λαμβάνουσιν, καὶ οἱ μὲν δημοκρατίαν οἱ δ’ ὀλιγαρχίαν ποιοῦσιν. ἔτι δὲ καὶ τῶν ἐν ἡγεμονίᾳ γενομένων τῆς Ἑλλάδος πρὸς τὴν παρ’ αὑτοῖς ἑκάτεροι πολιτείαν ἀποβλέποντες οἱ μὲν δημοκρατίας ἐν ταῖς πόλεσι καθίστασαν οἱ δ’ ὀλιγαρχίας, οὐ πρὸς τὸ τῶν πόλεων συμφέρον σκοποῦντες ἀλλὰ πρὸς τὸ σφέτερον αὐτῶν, ὥστε διὰ ταύτας τὰς αἰτίας ἢ μηδέποτε τὴν μέσην γίνεσθαι πολιτείαν ἢ ὀλιγάκις καὶ παρ’ ὀλίγοις· εἷς γὰρ ἀνὴρ συνεπείσθη μόνος τῶν πρότερον ἐφ’ ἡγεμονίᾳ γενομένων ταύτην ἀποδοῦναι τὴν τάξιν, ἤδη δὲ καὶ τοῖς ἐν ταῖς πόλεσιν ἔθος [1296b] καθέστηκε μηδὲ βούλεσθαι τὸ ἴσον, ἀλλ’ ἢ ἄρχειν ζητεῖν ἢ κρατουμένους ὑπομένειν. τίς μὲν οὖν ἀρίστη πολιτεία, καὶ διὰ τίν’ αἰτίαν, ἐκ τούτων φανερόν· τῶν δ’ ἄλλων πολιτειῶν, ἐπειδὴ πλείους δημοκρατίας καὶ πλείους ὀλιγαρχίας φαμὲν εἶναι, ποίαν πρώτην θετέον καὶ δευτέραν καὶ τοῦτον δὴ τὸν τρόπον ἐχομένην τῷ τὴν μὲν εἶναι βελτίω τὴν δὲ χείρω, διωρισμένης τῆς ἀρίστης οὐ χαλεπὸν ἰδεῖν. ἀεὶ γὰρ ἀναγκαῖον εἶναι βελτίω τὴν ἐγγύτατα ταύτης, χείρω δὲ τὴν ἀφεστηκυῖαν τοῦ μέσου πλεῖον, ἂν μὴ πρὸς ὑπόθεσιν κρίνῃ τις. λέγω δὲ τὸ πρὸς ὑπόθεσιν, ὅτι πολλάκις, οὔσης ἄλλης πολιτείας αἱρετωτέρας, ἐνίοις οὐδὲν κωλύει συμφέρειν ἑτέραν μᾶλλον εἶναι πολιτείαν.

Τίς δὲ πολιτεία τίσι καὶ ποία συμφέρει ποίοις, ἐχόμενόν ἐστι τῶν εἰρημένων διελθεῖν. ληπτέον δὴ πρῶτον περὶ πασῶν καθόλου ταὐτόν· δεῖ γὰρ κρεῖττον εἶναι τὸ βουλόμενον μέρος τῆς πόλεως τοῦ μὴ βουλομένου μένειν τὴν πολιτείαν. ἔστι δὲ πᾶσα πόλις ἔκ τε τοῦ ποιοῦ καὶ ποσοῦ. λέγω δὲ ποιὸν μὲν ἐλευθερίαν πλοῦτον παιδείαν εὐγένειαν, ποσὸν δὲ τὴν τοῦ πλήθους ὑπεροχήν. ἐνδέχεται δὲ τὸ μὲν ποιὸν ὑπάρχειν ἑτέρῳ μέρει τῆς πόλεως, ἐξ ὧν συνέστηκε μερῶν ἡ πόλις, ἄλλῳ δὲ μέρει τὸ ποσόν, οἷον πλείους τὸν ἀριθμὸν εἶναι τῶν γενναίων τοὺς ἀγεννεῖς ἢ τῶν πλουσίων τοὺς ἀπόρους, μὴ μέντοι τοσοῦτον ὑπερέχειν τῷ ποσῷ ὅσον λείπεται τῷ ποιῷ. διὸ ταῦτα πρὸς ἄλληλα συγκριτέον. ὅπου μὲν οὖν ὑπερέχει τὸ τῶν ἀπόρων πλῆθος τὴν εἰρημένην ἀναλογίαν, ἐνταῦθα πέφυκεν εἶναι δημοκρατίαν, καὶ ἕκαστον εἶδος δημοκρατίας κατὰ τὴν ὑπεροχὴν τοῦ δήμου ἑκάστου, οἷον ἐὰν μὲν τὸ τῶν γεωργῶν ὑπερτείνῃ πλῆθος, τὴν πρώτην δημοκρατίαν, ἐὰν δὲ τὸ τῶν βαναύσων καὶ μισθαρνούντων, τὴν τελευταίαν, ὁμοίως δὲ καὶ τὰς ἄλλας τὰς μεταξὺ τούτων· ὅπου δὲ τὸ τῶν εὐπόρων καὶ γνωρίμων μᾶλλον ὑπερτείνει τῷ ποιῷ ἢ λείπεται τῷ ποσῷ, ἐνταῦθα ὀλιγαρχίαν, καὶ τῆς ὀλιγαρχίας τὸν αὐτὸν τρόπον ἕκαστον εἶδος κατὰ τὴν ὑπεροχὴν τοῦ ὀλιγαρχικοῦ πλήθους.

δεῖ δ’ ἀεὶ τὸν νομοθέτην ἐν τῇ πολιτείᾳ προσλαμβάνειν τοὺς μέσους· ἄν τε γὰρ ὀλιγαρχικοὺς τοὺς νόμους τιθῇ, στοχάζεσθαι χρὴ τῶν μέσων, ἐάν τε δημοκρατικούς, προσάγεσθαι τοῖς νόμοις τούτους. ὅπου δὲ τὸ τῶν μέσων ὑπερτείνει πλῆθος ἢ συναμφοτέρων τῶν ἄκρων ἢ καὶ θατέρου μόνον, ἐνταῦθ’ ἐνδέχεται πολιτείαν εἶναι μόνιμον. οὐθὲν γὰρ φοβερὸν μή [1297a] ποτε συμφωνήσωσιν οἱ πλούσιοι τοῖς πένησιν ἐπὶ τούτους· οὐδέποτε γὰρ ἅτεροι βουλήσονται δουλεύειν τοῖς ἑτέροις, κοινοτέραν δ’, ἂν ζητῶσιν, οὐδεμίαν εὑρήσουσιν ἄλλην ταύτης. ἐν μέρει γὰρ ἄρχειν οὐκ ἂν ὑπομείνειαν διὰ τὴν ἀπιστίαν τὴν πρὸς ἀλλήλους· πανταχοῦ δὲ πιστότατος ὁ διαιτητής, διαιτητὴς δ’ ὁ μέσος. ὅσῳ δ’ ἂν ἄμεινον ἡ πολιτεία μειχθῇ, τοσούτῳ μονιμωτέρα. διαμαρτάνουσι δὲ πολλοὶ καὶ τῶν τὰς ἀριστοκρατικὰς βουλομένων ποιεῖν πολιτείας, οὐ μόνον ἐν τῷ πλεῖον νέμειν τοῖς εὐπόροις, ἀλλὰ καὶ ἐν τῷ παρακρούεσθαι τὸν δῆμον. ἀνάγκη γὰρ χρόνῳ ποτὲ ἐκ τῶν ψευδῶν ἀγαθῶν ἀληθὲς συμβῆναι κακόν· αἱ γὰρ πλεονεξίαι τῶν πλουσίων ἀπολλύασι μᾶλλον τὴν πολιτείαν ἢ αἱ τοῦ δήμου.

Ἔστι δ’ ὅσα προφάσεως χάριν ἐν ταῖς πολιτείαις σοφίζονται πρὸς τὸν δῆμον πέντε τὸν ἀριθμόν, περὶ ἐκκλησίαν, περὶ τὰς ἀρχάς, περὶ δικαστήρια, περὶ ὅπλισιν, περὶ γυμνασίαν· περὶ ἐκκλησίαν μὲν τὸ ἐξεῖναι ἐκκλησιάζειν πᾶσι, ζημίαν δὲ ἐπικεῖσθαι τοῖς εὐπόροις ἐὰν μὴ ἐκκλησιάζωσιν, ἢ μόνοις ἢ μείζω πολλῷ, περὶ δὲ τὰς ἀρχὰς τὸ τοῖς μὲν ἔχουσι τίμημα μὴ ἐξεῖναι ἐξόμνυσθαι, τοῖς δ’ ἀπόροις ἐξεῖναι, καὶ περὶ τὰ δικαστήρια τοῖς μὲν εὐπόροις εἶναι ζημίαν ἂν μὴ δικάζωσι, τοῖς δ’ ἀπόροις ἄδειαν, ἢ τοῖς μὲν μεγάλην τοῖς δὲ μικράν, ὥσπερ ἐν τοῖς Χαρώνδου νόμοις. ἐνιαχοῦ δ’ ἔξεστι μὲν πᾶσιν ἀπογραψαμένοις ἐκκλησιάζειν καὶ δικάζειν, ἐὰν δὲ ἀπογραψάμενοι μήτ’ ἐκκλησιάζωσι μήτε δικάζωσιν, ἐπίκεινται μεγάλαι ζημίαι τούτοις, ἵνα διὰ μὲν τὴν ζημίαν φεύγωσι τὸ ἀπογράφεσθαι, διὰ δὲ τὸ μὴ ἀπογράφεσθαι μὴ δικάζωσι μηδ’ ἐκκλησιάζωσιν. τὸν αὐτὸν δὲ τρόπον καὶ περὶ τοῦ ὅπλα κεκτῆσθαι καὶ τοῦ γυμνάζεσθαι νομοθετοῦσιν. τοῖς μὲν γὰρ ἀπόροις ἔξεστι μὴ κεκτῆσθαι, τοῖς δ’ εὐπόροις ἐπιζήμιον μὴ κεκτημένοις, κἂν μὴ γυμνάζωνται, τοῖς μὲν οὐδεμία ζημία, τοῖς δ’ εὐπόροις ἐπιζήμιον, ὅπως οἱ μὲν διὰ τὴν ζημίαν μετέχωσιν, οἱ δὲ διὰ τὸ μὴ φοβεῖσθαι μὴ μετέχωσιν. ταῦτα μὲν οὖν ὀλιγαρχικὰ σοφίσματα τῆς νομοθεσίας· ἐν δὲ ταῖς δημοκρατίαις πρὸς ταῦτ’ ἀντισοφίζονται. τοῖς μὲν γὰρ ἀπόροις μισθὸν πορίζουσιν ἐκκλησιάζουσι καὶ δικάζουσιν, τοῖς δ’ εὐπόροις οὐδεμίαν τάττουσι ζημίαν. ὥστε φανερὸν ὅτι εἴ τις βούλεται μιγνύναι δικαίως, δεῖ τὰ παρ’ ἑκατέροις συνάγειν καὶ τοῖς μὲν μισθὸν πορίζειν τοῖς δὲ ζημίαν· οὕτω γὰρ ἂν κοινωνοῖεν ἅπαντες, ἐκείνως δ’ ἡ πολιτεία γίγνεται [1297b] τῶν ἑτέρων μόνον. δεῖ δὲ τὴν πολιτείαν εἶναι μὲν ἐκ τῶν τὰ ὅπλα ἐχόντων μόνον· τοῦ δὲ τιμήματος τὸ πλῆθος ἁπλῶς μὲν ὁρισαμένους οὐκ ἔστιν εἰπεῖν τοσοῦτον ‹δεῖν› ὑπάρχειν, ἀλλὰ σκεψαμένους τὸ πόσον ἐπιβάλλει μακρότατον ὥστε τοὺς μετέχοντας τῆς πολιτείας εἶναι πλείους τῶν μὴ μετεχόντων, τοῦτο τάττειν. ἐθέλουσι γὰρ οἱ πένητες καὶ μὴ μετέχοντες τῶν τιμῶν ἡσυχίαν ἔχειν, ἐὰν μήτε ὑβρίζῃ τις αὐτοὺς μήτε ἀφαιρῆται μηθὲν τῆς οὐσίας. ἀλλὰ τοῦτο οὐ ῥᾴδιον· οὐ γὰρ ἀεὶ συμβαίνει χαρίεντας εἶναι τοὺς μετέχοντας τοῦ πολιτεύματος. καὶ εἰώθασι δέ, ὅταν πόλεμος ᾖ, ὀκνεῖν, ἂν μὴ λαμβάνωσι τροφήν, ἄποροι δὲ ὦσιν· ἐὰν δὲ πορίζῃ τις τροφήν, βούλονται πολεμεῖν.

ἔστι δὲ ἡ πολιτεία παρ’ ἐνίοις οὐ μόνον ἐκ τῶν ὁπλιτευόντων ἀλλὰ καὶ ἐκ τῶν ὡπλιτευκότων· ἐν Μαλιεῦσι δὲ ἡ μὲν πολιτεία ἦν ἐκ τούτων, τὰς δὲ ἀρχὰς ᾑροῦντο ἐκ τῶν στρατευομένων. καὶ ἡ πρώτη δὲ πολιτεία ἐν τοῖς Ἕλλησιν ἐγένετο μετὰ τὰς βασιλείας ἐκ τῶν πολεμούντων, ἡ μὲν ἐξ ἀρχῆς ἐκ τῶν ἱππέων (τὴν γὰρ ἰσχὺν καὶ τὴν ὑπεροχὴν ἐν τοῖς ἱππεῦσιν ὁ πόλεμος εἶχεν· ἄνευ μὲν γὰρ συντάξεως ἄχρηστον τὸ ὁπλιτικόν, αἱ δὲ περὶ τῶν τοιούτων ἐμπειρίαι καὶ τάξεις ἐν τοῖς ἀρχαίοις οὐχ ὑπῆρχον, ὥστ’ ἐν τοῖς ἱππεῦσιν εἶναι τὴν ἰσχύν), αὐξανομένων δὲ τῶν πόλεων καὶ τῶν ἐν τοῖς ὅπλοις ἰσχυσάντων μᾶλλον πλείους μετεῖχον τῆς πολιτείας· διόπερ ἃς νῦν καλοῦμεν πολιτείας, οἱ πρότερον ἐκάλουν δημοκρατίας· ἦσαν δὲ αἱ ἀρχαῖαι πολιτεῖαι εὐλόγως ὀλιγαρχικαὶ καὶ βασιλικαί. δι’ ὀλιγανθρωπίαν γὰρ οὐκ εἶχον πολὺ τὸ μέσον, ὥστ’ ὀλίγοι τε ὄντες τὸ πλῆθος καὶ κατὰ τὴν σύνταξιν φαῦλοι ὑπέμενον τὸ ἄρχεσθαι. διὰ τίνα μὲν οὖν εἰσιν αἰτίαν αἱ πολιτεῖαι πλείους, καὶ διὰ τί παρὰ τὰς λεγομένας ἕτεραι (δημοκρατία τε γὰρ οὐ μία τὸν ἀριθμόν ἐστι, καὶ τῶν ἄλλων ὁμοίως), ἔτι δὲ τίνες αἱ διαφοραὶ καὶ διὰ τίνα αἰτίαν συμβαίνει, πρὸς δὲ τούτοις τίς ἀρίστη τῶν πολιτειῶν ὡς ἐπὶ τὸ πλεῖστον εἰπεῖν, καὶ τῶν ἄλλων ποία ποίοις ἁρμόττει τῶν πολιτειῶν, εἴρηται.

Πάλιν δὲ καὶ κοινῇ καὶ χωρὶς περὶ ἑκάστης λέγωμεν περὶ τῶν ἐφεξῆς, λαβόντες ἀρχὴν τὴν προσήκουσαν αὐτῶν. ἔστι δὴ τρία μόρια τῶν πολιτειῶν πασῶν, περὶ ὧν δεῖ θεωρεῖν τὸν σπουδαῖον νομοθέτην ἑκάστῃ τὸ συμφέρον· ὧν ἐχόντων καλῶς ἀνάγκη τὴν πολιτείαν ἔχειν καλῶς, καὶ τὰς πολιτείας ἀλλήλων διαφέρειν ἐν τῷ διαφέρειν ἕκαστον τούτων. ἔστι δὲ τῶν τριῶν τούτων ἓν μὲν τί τὸ βουλευόμενον [1298a] περὶ τῶν κοινῶν, δεύτερον δὲ τὸ περὶ τὰς ἀρχάς (τοῦτο δ᾽ ἐστὶ τίνας δεῖ καὶ τίνων εἶναι κυρίας, καὶ ποίαν τινὰ δεῖ γίνεσθαι τὴν αἵρεσιν αὐτῶν), τρίτον δέ τί τὸ δικάζον. κύριον δ᾽ ἐστὶ τὸ βουλευόμενον περὶ πολέμου καὶ εἰρήνης, καὶ συμμαχίας καὶ διαλύσεως, καὶ περὶ νόμων, καὶ περὶ θανάτου καὶ φυγῆς καὶ δημεύσεως, καὶ περὶ ἀρχῶν αἱρέσεως καὶ τῶν εὐθυνῶν. ἀναγκαῖον δ᾽ ἤτοι πᾶσι τοῖς πολίταις ἀποδίδοσθαι πάσας ταύτας τὰς κρίσεις ἢ τισὶ πάσας (οἷον ἀρχῇ τινὶ μιᾷ ἢ πλείοσιν, ἢ ἑτέραις ἑτέρας) ἢ τινὰς μὲν αὐτῶν πᾶσι τινὰς δὲ τισίν.

τὸ μὲν οὖν πάντας καὶ περὶ ἁπάντων δημοτικόν· τὴν τοιαύτην γὰρ ἰσότητα ζητεῖ ὁ δῆμος. εἰσὶ δὲ οἱ τρόποι τοῦ πάντας πλείους, εἷς μὲν τὸ κατὰ μέρος ἀλλὰ μὴ πάντας ἀθρόους (ὥσπερ ἐν τῇ πολιτείᾳ τῇ Τηλεκλέους ἐστὶ τοῦ Μιλησίου· καὶ ἐν ἄλλαις δὲ πολιτείαις βουλεύονται αἱ συναρχίαι συνιοῦσαι, εἰς δὲ τὰς ἀρχὰς βαδίζουσι πάντες κατὰ μέρος ἐκ τῶν φυλῶν καὶ τῶν μορίων τῶν ἐλαχίστων παντελῶς, ἕως ἂν διεξέλθῃ διὰ πάντων), συνιέναι δὲ μόνον περί τε νόμων θέσεως καὶ τῶν περὶ τῆς πολιτείας, καὶ τὰ παραγγελλόμενα ἀκουσομένους ὑπὸ τῶν ἀρχόντων· ἄλλος δὲ τρόπος τὸ πάντας ἀθρόους, συνιέναι δὲ μόνον πρός τε τὰς ἀρχαιρεσίας [αἱρησομένους] καὶ πρὸς τὰς νομοθεσίας καὶ περὶ πολέμου καὶ εἰρήνης καὶ πρὸς εὐθύνας, τὰ δ᾽ ἄλλα τὰς ἀρχὰς βουλεύεσθαι τὰς ἐφ᾽ ἑκάστοις τεταγμένας, αἱρετὰς οὔσας ἐξ ἁπάντων ἢ κληρωτάς· ἄλλος δὲ τρόπος τὸ περὶ τὰς ἀρχὰς καὶ τὰς εὐθύνας ἀπαντᾶν τοὺς πολίτας, καὶ περὶ πολέμου βουλευσομένους καὶ συμμαχίας, τὰ δ᾽ ἄλλα τὰς ἀρχὰς διοικεῖν αἱρετὰς οὔσας, ὅσας ἐνδέχεται, τοιαῦται δ᾽ εἰσὶν ὅσας ἄρχειν ἀναγκαῖον τοὺς ἐπισταμένους· τέταρτος δὲ τρόπος τὸ πάντας περὶ πάντων βουλεύεσθαι συνιόντας, τὰς δ᾽ ἀρχὰς περὶ μηθενὸς κρίνειν ἀλλὰ μόνον προανακρίνειν, ὅνπερ ἡ τελευταία δημοκρατία νῦν διοικεῖται τρόπον, ἣν ἀνάλογόν φαμεν εἶναι ὀλιγαρχίᾳ τε δυναστευτικῇ καὶ μοναρχίᾳ τυραννικῇ. οὗτοι μὲν οὖν οἱ τρόποι δημοκρατικοὶ πάντες, τὸ δὲ τινὰς περὶ πάντων ὀλιγαρχικόν. ἔχει δὲ καὶ τοῦτο διαφορὰς πλείους. ὅταν μὲν γὰρ ἀπὸ τιμημάτων μετριωτέρων αἱρετοί τε ὦσι καὶ πλείους διὰ τὴν μετριότητα τοῦ τιμήματος, καὶ περὶ ὧν ὁ νόμος ἀπαγορεύει μὴ κινῶσιν ἀλλ᾽ ἀκολουθῶσι, καὶ ἐξῇ κτωμένῳ τὸ τίμημα μετέχειν, ὀλιγαρχία μὲν πολιτικὴ δέ ἐστιν ἡ τοιαύτη διὰ τὸ μετριάζειν· ὅταν δὲ μὴ πάντες τοῦ βουλεύεσθαι [1298b] μετέχωσιν ἀλλ' αἱρετοί, κατὰ νόμον δ' ἄρχωσιν ὥσπερ καὶ πρότερον, ὀλιγαρχικόν· ὅταν δὲ καὶ αἱρῶνται αὐτοὶ αὑτοὺς οἱ κύριοι τοῦ βουλεύεσθαι, καὶ ὅταν παῖς ἀντὶ πατρὸς εἰσίῃ καὶ κύριοι τῶν νόμων ὦσιν, ὀλιγαρχικωτάτην ἀναγκαῖον εἶναι τὴν τάξιν ταύτην. ὅταν δὲ τινῶν τινές, οἷον πολέμου μὲν καὶ εἰρήνης καὶ εὐθυνῶν πάντες, τῶν δὲ ἄλλων ἄρχοντες, καὶ οὗτοι αἱρετοί, μὴ κληρωτοί, ἀριστοκρατία ἡ πολιτεία. ἐὰν δ' ἐνίων μὲν αἱρετοὶ ἐνίων δὲ κληρωτοί, καὶ κληρωτοὶ ἢ ἁπλῶς ἢ ἐκ προκρίτων, ἢ κοινῇ αἱρετοὶ καὶ κληρωτοί, τὰ μὲν πολιτείας ἀριστοκρατικῆς ἐστι τούτων, τὰ δὲ πολιτείας αὐτῆς.

διῄρηται μὲν οὖν τὸ βουλευόμενον πρὸς τὰς πολιτείας τοῦτον τὸν τρόπον, καὶ διοικεῖ ἑκάστη πολιτεία κατὰ τὸν εἰρημένον διορισμόν· συμφέρει δὲ δημοκρατίᾳ [τε] τῇ μάλιστ' εἶναι δοκούσῃ δημοκρατίᾳ νῦν (λέγω δὲ τοιαύτην ἐν ᾗ κύριος ὁ δῆμος καὶ τῶν νόμων ἐστίν) πρὸς τὸ βουλεύεσθαι βέλτιον τὸ αὐτὸ ποιεῖν ὅπερ ἐπὶ τῶν δικαστηρίων ἐν ταῖς ὀλιγαρχίαις (τάττουσι γὰρ ζημίαν τούτοις οὓς βούλονται δικάζειν, ἵνα δικάζωσιν, οἱ δὲ δημοτικοὶ μισθὸν τοῖς ἀπόροις), τοῦτο δὴ καὶ περὶ τὰς ἐκκλησίας ποιεῖν (βουλεύσονται γὰρ βέλτιον κοινῇ βουλευόμενοι πάντες, ὁ μὲν δῆμος μετὰ τῶν γνωρίμων, οὗτοι δὲ μετὰ τοῦ πλήθους), συμφέρει δὲ καὶ τὸ αἱρετοὺς εἶναι τοὺς βουλευομένους, ἢ κληρωτοὺς ἴσους ἐκ τῶν μορίων, συμφέρει δέ, κἂν ὑπερβάλλωσι πολὺ κατὰ τὸ πλῆθος οἱ δημοτικοὶ τῶν πολιτῶν, ἢ μὴ πᾶσι διδόναι μισθόν, ἀλλ' ὅσοι σύμμετροι πρὸς τὸ τῶν γνωρίμων πλῆθος, ἢ ἀποκληροῦν τοὺς πλείους· ἐν δὲ ταῖς ὀλιγαρχίαις ἢ προσαιρεῖσθαί τινας ἐκ τοῦ πλήθους, ἢ κατασκευάσαντας ἀρχεῖον οἷον ἐν ἐνίαις πολιτείαις ἐστὶν οὓς καλοῦσι προβούλους καὶ νομοφύλακας, [καὶ] περὶ τούτων χρηματίζειν περὶ ὧν ἂν οὗτοι προβουλεύσωσιν (οὕτω γὰρ μεθέξει ὁ δῆμος τοῦ βουλεύεσθαι, καὶ λύειν οὐθὲν δυνήσεται τῶν περὶ τὴν πολιτείαν), ἔτι ἢ ταὐτὰ ψηφίζεσθαι τὸν δῆμον ἢ μηθὲν ἐναντίον τοῖς εἰσφερομένοις, ἢ τῆς συμβουλῆς μὲν μεταδιδόναι πᾶσι, βουλεύεσθαι δὲ τοὺς ἄρχοντας. καὶ τὸ ἀντικείμενον δὲ τοῦ ἐν ταῖς πολιτείαις γιγνομένου δεῖ ποιεῖν. ἀποψηφιζόμενον μὲν γὰρ κύριον δεῖ ποιεῖν τὸ πλῆθος, καταψηφιζόμενον δὲ μὴ κύριον, ἀλλ' ἐπαναγέσθω πάλιν ἐπὶ τοὺς ἄρχοντας. ἐν γὰρ ταῖς πολιτείαις ἀνεστραμμένως ποιοῦσιν· οἱ γὰρ ὀλίγοι ἀποψηφισάμενοι μὲν κύριοι, καταψηφισάμενοι δὲ οὐ κύριοι, ἀλλ' ἐπανάγεται εἰς τοὺς πλείους [1299a] αἰεί. περὶ μὲν οὖν τοῦ βουλευομένου καὶ τοῦ κυρίου [δεῖ] τῆς πολιτείας τοῦτον διωρίσθω τὸν τρόπον.

Ἐχομένη δὲ τούτων ἐστὶν ἡ περὶ τὰς ἀρχὰς διαίρεσις. ἔχει γὰρ καὶ τοῦτο τὸ μόριον τῆς πολιτείας πολλὰς διαφοράς, πόσαι τε ἀρχαί, καὶ κύριαι τίνων, καὶ περὶ χρόνου, πόσος ἑκάστης ἀρχῆς (οἱ μὲν γὰρ ἑξαμήνους, οἱ δὲ δι’ ἐλάττονος, οἱ δ’ ἐνιαυσίας, οἱ δὲ πολυχρονιωτέρας ποιοῦσι τὰς ἀρχάς), καὶ πότερον εἶναι δεῖ τὰς ἀρχὰς ἀιδίους ἢ πολυχρονίους ἢ μηδέτερον ἀλλὰ πλεονάκις τοὺς αὐτούς, ἢ μὴ τὸν αὐτὸν δὶς ἀλλ’ ἅπαξ μόνον, ἔτι δὲ περὶ τὴν κατάστασιν τῶν ἀρχῶν, ἐκ τίνων δεῖ γίνεσθαι καὶ ὑπὸ τίνων καὶ πῶς. περὶ πάντων γὰρ τούτων δεῖ δύνασθαι διελεῖν κατὰ πόσους ἐνδέχεται γενέσθαι τρόπους, κἄπειτα προσαρμόσαι ὁποίαις ‹αἱ› ποιαὶ πολιτείαις συμφέρουσιν. ἔστι δὲ οὐδὲ τοῦτο διορίσαι ῥᾴδιον, ποίας δεῖ καλεῖν ἀρχάς· πολλῶν γὰρ ἐπιστατῶν ἡ πολιτικὴ κοινωνία δεῖται, διόπερ ‹οὐ› πάντας οὔτε τοὺς αἱρετοὺς οὔτε τοὺς κληρωτοὺς ἄρχοντας θετέον, οἷον τοὺς ἱερεῖς πρῶτον (τοῦτο γὰρ ἕτερόν τι παρὰ τὰς πολιτικὰς ἀρχὰς θετέον)· ἔτι δὲ καὶ χορηγοὶ καὶ κήρυκες [δ’] αἱροῦνται καὶ πρεσβευταί. εἰσὶ δὲ αἱ μὲν πολιτικαὶ τῶν ἐπιμελειῶν, ἢ πάντων τῶν πολιτῶν πρός τινα πρᾶξιν, οἷον στρατηγὸς στρατευομένων, ἢ κατὰ μέρος, οἷον ὁ γυναικονόμος ἢ παιδονόμος· αἱ δ’ οἰκονομικαί (πολλάκις γὰρ αἱροῦνται σιτομέτρας)· αἱ δ’ ὑπηρετικαὶ καὶ πρὸς ἅς, ἂν εὐπορῶσι, τάττουσι δούλους. μάλιστα δ’ ὡς ἁπλῶς εἰπεῖν ἀρχὰς λεκτέον ταύτας ὅσαις ἀποδέδοται βουλεύσασθαί τε περὶ τινῶν καὶ κρῖναι καὶ ἐπιτάξαι, καὶ μάλιστα τοῦτο· τὸ γὰρ ἐπιτάττειν ἀρχικώτερόν ἐστιν. ἀλλὰ ταῦτα διαφέρει πρὸς μὲν τὰς χρήσεις οὐδὲν ὡς εἰπεῖν (οὐ γάρ πω κρίσις γέγονεν ἀμφισβητούντων περὶ τοῦ ὀνόματος), ἔχει δέ τιν’ ἄλλην διανοητικὴν πραγματείαν.

ποῖαι δ’ ἀρχαὶ καὶ πόσαι ἀναγκαῖαι εἰ ἔσται πόλις, καὶ ποῖαι ἀναγκαῖαι μὲν οὔ, χρήσιμοι δὲ πρὸς σπουδαίαν πολιτείαν, μᾶλλον ἄν τις ἀπορήσειε πρὸς ἅπασάν τε δὴ πολιτείαν καὶ δὴ καὶ τὰς μικρὰς πόλεις. ἐν μὲν γὰρ δὴ ταῖς μεγάλαις ἐνδέχεταί τε καὶ δεῖ μίαν τετάχθαι πρὸς ἓν ἔργον (πολλούς τε γὰρ εἰς τὰ ἀρχεῖα ἐνδέχεται βαδίζειν διὰ τὸ πολλοὺς εἶναι τοὺς πολίτας, ὥστε τὰς μὲν διαλείπειν πολὺν χρόνον τὰς δ’ ἅπαξ ἄρχειν, καὶ βέλτιον ἕκαστον ἔργον τυγχάνει τῆς ἐπιμελείας μονοπραγματούσης [1299b] ἢ πολυπραγματούσης)· ἐν δὲ ταῖς μικραῖς ἀνάγκη συνάγειν εἰς ὀλίγους πολλὰς ἀρχάς (διὰ γὰρ ὀλιγανθρωπίαν οὐ ῥᾴδιόν ἐστι πολλοὺς ἐν ταῖς ἀρχαῖς εἶναι· τίνες γὰρ οἱ τούτοις ἔσονται διαδεξόμενοι πάλιν;). δέονται δ’ ἐνίοτε τῶν αὐτῶν ἀρχῶν καὶ νόμων αἱ μικραὶ ταῖς μεγάλαις· πλὴν αἱ μὲν δέονται πολλάκις τῶν αὐτῶν, ταῖς δ’ ἐν πολλῷ χρόνῳ τοῦτο συμβαίνει, διόπερ οὐθὲν κωλύει πολλὰς ἐπιμελείας ἅμα προστάττειν (οὐ γὰρ ἐμποδιοῦσιν ἀλλήλαις), καὶ πρὸς τὴν ὀλιγανθρωπίαν ἀναγκαῖον τὰ ἀρχεῖα οἷον ὀβελισκολύχνια ποιεῖν. ἐὰν οὖν ἔχωμεν λέγειν πόσας ἀναγκαῖον ὑπάρχειν πάσῃ πόλει, καὶ πόσας οὐκ ἀναγκαῖον μὲν δεῖ δ’ ὑπάρχειν, ῥᾷον ἄν τις εἰδὼς ταῦτα συνάγοι ποίας ἁρμόττει συνάγειν ἀρχὰς εἰς μίαν ἀρχήν. ἁρμόττει δὲ καὶ τοῦτο μὴ λεληθέναι, ποίων δεῖ κατὰ τόπον ἀρχεῖα πολλὰ ἐπιμελεῖσθαι καὶ ποίων πανταχοῦ μίαν ἀρχὴν εἶναι κυρίαν, οἷον εὐκοσμίας πότερον ἐν ἀγορᾷ μὲν ἀγορανόμον, ἄλλον δὲ κατ’ ἄλλον τόπον, ἢ πανταχοῦ τὸν αὐτόν· καὶ πότερον κατὰ τὸ πρᾶγμα δεῖ διαιρεῖν ἢ κατὰ τοὺς ἀνθρώπους, λέγω δ’ οἷον ἕνα τῆς εὐκοσμίας, ἢ παίδων ἄλλον καὶ γυναικῶν· καὶ κατὰ τὰς πολιτείας δέ, πότερον διαφέρει καθ’ ἑκάστην καὶ τὸ τῶν ἀρχῶν γένος ἢ οὐθέν, οἷον ἐν δημοκρατίᾳ καὶ ὀλιγαρχίᾳ καὶ ἀριστοκρατίᾳ καὶ μοναρχίᾳ πότερον αἱ αὐταὶ μέν εἰσιν ἀρχαὶ κύριαι, οὐκ ἐξ ἴσων δ’ οὐδ’ ἐξ ὁμοίων, ἀλλ’ ἑτέρων ἐν ἑτέραις, οἷον ἐν μὲν ταῖς ἀριστοκρατίαις ἐκ πεπαιδευμένων, ἐν δὲ ταῖς ὀλιγαρχίαις ἐκ τῶν πλουσίων, ἐν δὲ ταῖς δημοκρατίαις ἐκ τῶν ἐλευθέρων, ἢ τυγχάνουσι μέν τινες οὖσαι καὶ κατ’ αὐτὰς τὰς διαφορὰς τῶν ἀρχῶν, ἔστι δ’ ὅπου συμφέρουσιν αἱ αὐταὶ καὶ ὅπου διαφέρουσαι (ἔνθα μὲν γὰρ ἁρμόττει μεγάλας ἔνθα δ’ εἶναι μικρὰς τὰς αὐτάς).

οὐ μὴν ἀλλὰ καὶ ἴδιαί τινες εἰσίν, οἷον ἡ τῶν προβούλων· αὕτη γὰρ οὐ δημοκρατική. βουλὴ δὲ δημοτικόν· δεῖ μὲν γὰρ εἶναί τι τοιοῦτον ᾧ ἐπιμελὲς ἔσται τοῦ δήμου προβουλεύειν, ὅπως ἀσχολῶν ἔσται, τοῦτο δ’, ἐὰν ὀλίγοι τὸν ἀριθμὸν ὦσιν, ὀλιγαρχικόν· τοὺς δὲ προβούλους ὀλίγους ἀναγκαῖον εἶναι τὸ πλῆθος, ὥστ’ ὀλιγαρχικόν. ἀλλ’ ὅπου ἄμφω αὗται αἱ ἀρχαί, οἱ πρόβουλοι καθεστᾶσιν ἐπὶ τοῖς βουλευταῖς· ὁ μὲν γὰρ βουλευτὴς δημοτικόν, ὁ δὲ πρόβουλος ὀλιγαρχικόν. καταλύεται δὲ καὶ τῆς βουλῆς ἡ δύναμις ἐν ταῖς τοιαύταις δημοκρατίαις ἐν [1300a] αἷς αὐτὸς συνιὼν ὁ δῆμος χρηματίζει περὶ πάντων. τοῦτο δὲ συμβαίνειν εἴωθεν ὅταν εὐπορία τις ᾖ [ἡ] μισθοῦ τοῖς ἐκκλησιάζουσιν· σχολάζοντες γὰρ συλλέγονταί τε πολλάκις καὶ ἅπαντα αὐτοὶ κρίνουσιν. παιδονόμος δὲ καὶ γυναικονόμος, καὶ εἴ τις ἄλλος ἄρχων κύριός ἐστι τοιαύτης ἐπιμελείας, ἀριστοκρατικόν, δημοκρατικὸν δ’ οὔ (πῶς γὰρ οἷόν τε κωλύειν ἐξιέναι τὰς τῶν ἀπόρων;), οὐδ’ ὀλιγαρχικόν (τρυφῶσι γὰρ αἱ τῶν ὀλιγαρχούντων).

ἀλλὰ περὶ μὲν τούτων ἐπὶ τοσοῦτον εἰρήσθω νῦν, περὶ δὲ τὰς τῶν ἀρχῶν καταστάσεις πειρατέον ἐξ ἀρχῆς διελθεῖν. εἰσὶ δ’ αἱ διαφοραὶ ἐν τρισὶν ὅροις, ὧν συντιθεμένων ἀναγκαῖον πάντας εἰλῆφθαι τοὺς τρόπους. ἔστι δὲ τῶν τριῶν τούτων ἓν μὲν τίνες οἱ καθιστάντες τὰς ἀρχάς, δεύτερον δὲ ἐκ τίνων, λοιπὸν δὲ τίνα τρόπον. ἑκάστου δὲ τῶν τριῶν τούτων διαφοραὶ τρεῖς εἰσιν. ἢ γὰρ πάντες οἱ πολῖται καθιστᾶσιν ἢ τινές, καὶ ἢ ἐκ πάντων ἢ ἐκ τινῶν ἀφωρισμένων (οἷον ἢ τιμήματι ἢ γένει ἢ ἀρετῇ ἤ τινι τοιούτῳ ἄλλῳ, ὥσπερ ἐν Μεγάροις ἐκ τῶν συγκατελθόντων καὶ συμμαχεσαμένων πρὸς τὸν δῆμον)· καὶ ταῦτα ἢ αἱρέσει ἢ κλήρῳ (πάλιν ταῦτα συνδυαζόμενα, λέγω δὲ τὰς μὲν τινὲς τὰς δὲ πάντες, καὶ τὰς μὲν ἐκ πάντων τὰς δ’ ἐκ τινῶν, καὶ τὰς μὲν αἱρέσει τὰς δὲ κλήρῳ).

τούτων δ’ ἑκάστης ἔσονται τῆς διαφορᾶς τρόποι ἕξ. ἢ γὰρ πάντες ἐκ πάντων αἱρέσει, ἢ πάντες ἐκ πάντων κλήρῳ ‹ἢ πάντες ἐκ τινῶν αἱρέσει ἢ πάντες ἐκ τινῶν κλήρῳ› (καί, εἰ ἐξ ἁπάντων, ἢ ὡς ἀνὰ μέρος, οἷον κατὰ φυλὰς καὶ δήμους καὶ φατρίας, ἕως ἂν διέλθῃ διὰ πάντων τῶν πολιτῶν, ἢ ἀεὶ ἐξ ἁπάντων), ἢ καὶ τὰ μὲν οὕτως τὰ δὲ ἐκείνως· πάλιν εἰ τινὲς οἱ καθιστάντες, ἢ ἐκ πάντων αἱρέσει ἢ ἐκ πάντων κλήρῳ, ἢ ἐκ τινῶν αἱρέσει ἢ ἐκ τινῶν κλήρῳ, ἢ τὰ μὲν οὕτως τὰ δὲ ἐκείνως, λέγω δὲ τὰ μὲν ἐκ πάντων αἱρέσει τὰ δὲ κληρῷ ‹καὶ τὰ μὲν ἐκ τινῶν αἱρέσει τὰ δὲ κληρῷ›· ὥστε δώδεκα οἱ τρόποι γίνονται χωρὶς τῶν δύο συνδυασμῶν. τούτων δ’ αἱ μὲν τρεῖς καταστάσεις δημοτικαί, τὸ πάντας ἐκ πάντων αἱρέσει ἢ κλήρῳ [γίνεσθαι] ἢ ἀμφοῖν, τὰς μὲν κλήρῳ τὰς δ’ αἱρέσει τῶν ἀρχῶν· τὸ δὲ μὴ πάντας ἅμα μὲν καθιστάναι, ἐξ ἁπάντων δ’ ἢ ἐκ τινῶν ἢ κλήρῳ ἢ αἱρέσει ἢ ἀμφοῖν, ἢ τὰς μὲν ἐκ πάντων τὰς δ’ ἐκ τινῶν, ‹ἢ κληρῷ ἢ αἱρέσει ἢ› ἀμφοῖν (τὸ δὲ ἀμφοῖν λέγω τὰς μὲν κλήρῳ τὰς δ’ αἱρέσει) πολιτικόν, καὶ τὸ τινὰς ἐκ πάντων ἢ αἱρέσει καθιστάναι ἢ κλήρῳ ἢ ἀμφοῖν) τὰς μὲν κλήρῳ τὰς δ’ αἱρέσει ὀλιγαρχικόν (ὀλιγαρχικώτερον δὲ [καὶ] τὸ ἐξ ἀμφοῖν). τὸ δὲ τὰς μὲν ἐκ πάντων τὰς δ’ ἐκ τινῶν πολιτικὸν ἀριστοκρατικῶς, [1300b] ἢ τὰς μὲν αἱρέσει τὰς δὲ κληρῷ, τὸ δὲ τινὰς ἐκ τινῶν ‹αἱρέσει› ὀλιγαρχικὸν καὶ τὸ τινὰς ἐκ τινῶν κλήρῳ (μὴ γινομένου δ’, ὁμοίως), καὶ τὸ τινὰς ἐκ τινῶν ἀμφοῖν. τὸ δὲ τινὰς ἐξ ἁπάντων τό τε ἐκ τινῶν αἱρέσει πάντας ἀριστοκρατικόν. οἱ μὲν οὖν τρόποι τῶν περὶ τὰς ἀρχὰς τοσοῦτοι τὸν ἀριθμόν εἰσι, καὶ διῄρηνται κατὰ τὰς πολιτείας οὕτως· τίνα δὲ τίσι συμφέρει καὶ πῶς δεῖ γίνεσθαι τὰς καταστάσεις, ἅμα ταῖς δυνάμεσι τῶν ἀρχῶν καὶ τίνες εἰσὶν ἔσται φανερόν. λέγω δὲ δύναμιν ἀρχῆς οἷον τὴν κυρίαν τῶν προσόδων καὶ τὴν κυρίαν τῆς φυλακῆς· ἄλλο γὰρ εἶδος δυνάμεως οἷον στρατηγίας καὶ τῆς τῶν περὶ τὴν ἀγορὰν συμβολαίων κυρίας.

Λοιπὸν δὲ τῶν τριῶν τὸ δικαστικὸν εἰπεῖν. ληπτέον δὲ καὶ τούτων τοὺς τρόπους κατὰ τὴν αὐτὴν ὑπόθεσιν. ἔστι δὲ διαφορὰ τῶν δικαστηρίων ἐν τρισὶν ὅροις, ἐξ ὧν τε καὶ περὶ ὧν καὶ πῶς. λέγω δὲ ἐξ ὧν μέν, πότερον ἐκ πάντων ἢ ἐκ τινῶν· περὶ ὧν δέ, πόσα εἴδη δικαστηρίων· τὸ δὲ πῶς, πότερον κλήρῳ ἢ αἱρέσει. πρῶτον οὖν διαιρείσθω πόσα εἴδη δικαστηρίων. ἔστι δὲ τὸν ἀριθμὸν ὀκτώ, ἓν μὲν εὐθυντικόν, ἄλλο δὲ εἴ τίς τι τῶν κοινῶν ἀδικεῖ, ἕτερον ὅσα εἰς τὴν πολιτείαν φέρει, τέταρτον καὶ ἄρχουσι καὶ ἰδιώταις ὅσα περὶ ζημιώσεων ἀμφισβητοῦσιν, πέμπτον τὸ περὶ τῶν ἰδίων συναλλαγμάτων καὶ ἐχόντων μέγεθος, καὶ παρὰ ταῦτα τό τε φονικὸν καὶ τὸ ξενικόν (φονικοῦ μὲν οὖν εἴδη, ἄν τ' ἐν τοῖς αὐτοῖς δικασταῖς ἄν τ' ἐν ἄλλοις, περί τε τῶν ἐκ προνοίας καὶ περὶ τῶν ἀκουσίων, καὶ ὅσα ὁμολογεῖται μέν, ἀμφισβητεῖται δὲ περὶ τοῦ δικαίου, τέταρτον δὲ ὅσα τοῖς φεύγουσι φόνου ἐπὶ καθόδῳ ἐπιφέρεται, οἷον Ἀθήνησι λέγεται καὶ τὸ ἐν Φρεαττοῖ δικαστήριον· συμβαίνει δὲ τὰ τοιαῦτα ἐν τῷ παντὶ χρόνῳ ὀλίγα καὶ ἐν ταῖς μεγάλαις πόλεσιν· τοῦ δὲ ξενικοῦ ἓν μὲν ξένοις πρὸς ξένους, ἄλλο ‹δὲ› ξένοις πρὸς ἀστούς), ἔτι δὲ παρὰ πάντα ταῦτα περὶ τῶν μικρῶν συναλλαγμάτων, ὅσα δραχμιαῖα καὶ πεντάδραχμα καὶ μικρῷ πλείονος. δεῖ μὲν γὰρ καὶ περὶ τούτων γίνεσθαι κρίσιν, οὐκ ἐμπίπτει δὲ εἰς δικαστῶν πλῆθος.

ἀλλὰ περὶ μὲν τούτων ἀφείσθω καὶ τῶν φονικῶν καὶ τῶν ξενικῶν, περὶ δὲ τῶν πολιτικῶν λέγωμεν, περὶ ὧν μὴ γινομένων καλῶς διαστάσεις γίνονται καὶ τῶν πολιτειῶν αἱ κινήσεις. ἀνάγκη δ' ἤτοι πάντας περὶ πάντων κρίνειν τῶν διῃρημένων αἱρέσει ἢ κλήρῳ, ἢ πάντας περὶ πάντων τὰ μὲν κλήρῳ τὰ δ' αἱρέσει, ἢ περὶ ἐνίων τῶν αὐτῶν τοὺς μὲν κλήρῳ τοὺς δ' [1301a] αἱρετούς. οὗτοι μὲν οὖν οἱ τρόποι τέτταρες τὸν ἀριθμόν· τοσοῦτοι δ' ἕτεροι καὶ οἱ κατὰ μέρος. πάλιν γὰρ ἐκ τινῶν καὶ οἱ δικάζοντες περὶ πάντων αἱρέσει, ἢ ἐκ τινῶν περὶ πάντων κλήρῳ, ἢ τὰ μὲν κλήρῳ τὰ δὲ αἱρέσει, ἢ ἔνια δικαστήρια περὶ τῶν αὐτῶν ἐκ κληρωτῶν καὶ αἱρετῶν. οὗτοι μὲν οὖν, ὥσπερ ἐλέχθησαν, οἱ τρόποι ‹οἱ ἀντίστροφοι› τοῖς εἰρημένοις· ἔτι δὲ τὰ αὐτὰ συνδυαζόμενα, λέγω δ' οἷον τὰ μὲν ἐκ πάντων τὰ δ' ἐκ τινῶν τὰ δ' ἐξ ἀμφοῖν (οἷον εἰ τοῦ αὐτοῦ δικαστηρίου εἶεν οἱ μὲν ἐκ πάντων οἱ δ' ἐκ τινῶν), καὶ ἢ κλήρῳ ἢ αἱρέσει ἢ ἀμφοῖν. ὅσους μὲν οὖν ἐνδέχεται τρόπους εἶναι τὰ δικαστήρια, εἴρηται· τούτων δὲ τὰ μὲν πρῶτα δημοτικά, ὅσα ἐκ πάντων [ἢ] περὶ πάντων, τὰ δὲ δεύτερα ὀλιγαρχικά, ὅσα ἐκ τινῶν περὶ πάντων, τὰ δὲ τρίτα ἀριστοκρατικὰ καὶ πολιτικά, ὅσα τὰ μὲν ἐκ πάντων τὰ δ' ἐκ τινῶν.

E

Περὶ μὲν οὖν τῶν ἄλλων ὧν προειλόμεθα σχεδὸν εἴρηται περὶ πάντων· ἐκ τίνων δὲ μεταβάλλουσιν αἱ πολιτεῖαι καὶ πόσων καὶ ποίων, καὶ τίνες ἑκάστης πολιτείας φθοραί, καὶ ἐκ ποίων εἰς ποίας μάλιστα μεθίστανται, ἔτι δὲ σωτηρίαι τίνες καὶ κοινῇ καὶ χωρὶς ἑκάστης εἰσίν, ἔτι δὲ διὰ τίνων ἂν μάλιστα σῴζοιτο τῶν πολιτειῶν ἑκάστη, σκεπτέον ἐφεξῆς τοῖς εἰρημένοις.

δεῖ δὲ πρῶτον ὑπολαβεῖν τὴν ἀρχήν, ὅτι πολλαὶ γεγένηνται πολιτεῖαι πάντων μὲν ὁμολογούντων τὸ δίκαιον καὶ τὸ κατ’ ἀναλογίαν ἴσον, τούτου δ’ ἁμαρτανόντων, ὥσπερ εἴρηται καὶ πρότερον. δῆμος μὲν γὰρ ἐγένετο ἐκ τοῦ ἴσους ὁτιοῦν ὄντας οἴεσθαι ἁπλῶς ἴσους εἶναι (ὅτι γὰρ ἐλεύθεροι πάντες ὁμοίως, ἁπλῶς ἴσοι εἶναι νομίζουσιν), ὀλιγαρχία δὲ ἐκ τοῦ ἀνίσους ἕν τι ὄντας ὅλως εἶναι ἀνίσους ὑπολαμβάνειν (κατ’ οὐσίαν γὰρ ἄνισοι ὄντες ἁπλῶς ἄνισοι ὑπολαμβάνουσιν εἶναι). εἶτα οἱ μὲν ὡς ἴσοι ὄντες πάντων τῶν ἴσων ἀξιοῦσι μετέχειν· οἱ δ’ ὡς ἄνισοι ὄντες πλεονεκτεῖν ζητοῦσιν, τὸ γὰρ πλεῖον ἄνισον. ἔχουσι μὲν οὖν τι πᾶσαι δίκαιον, ἡμαρτημέναι δ’ ἁπλῶς εἰσιν. καὶ διὰ ταύτην τὴν αἰτίαν, ὅταν μὴ κατὰ τὴν ὑπόληψιν ἣν ἑκάτεροι τυγχάνουσιν ἔχοντες μετέχωσι τῆς πολιτείας, στασιάζουσιν. πάντων δὲ δικαιότατα μὲν ἂν στασιάζοιεν, ἥκιστα δὲ τοῦτο πράττουσιν, οἱ κατ’ ἀρετὴν διαφέροντες· μάλιστα [1301b] γὰρ εὔλογον ἀνίσους ἁπλῶς εἶναι τούτους μόνον. εἰσὶ δέ τινες οἳ κατὰ γένος ὑπερέχοντες οὐκ ἀξιοῦσι τῶν ἴσων αὑτοὺς διὰ τὴν ἀνισότητα ταύτην· εὐγενεῖς γὰρ εἶναι δοκοῦσιν οἷς ὑπάρχει προγόνων ἀρετὴ καὶ πλοῦτος.

ἀρχαὶ μὲν οὖν ὡς εἰπεῖν αὗται καὶ πηγαὶ τῶν στάσεών εἰσιν, ὅθεν στασιάζουσιν· διὸ καὶ αἱ μεταβολαὶ γίνονται διχῶς· ὁτὲ μὲν γὰρ πρὸς τὴν πολιτείαν, ὅπως ἐκ τῆς καθεστηκυίας ἄλλην μεταστήσωσιν, οἷον ἐκ δημοκρατίας ὀλιγαρχίαν ἢ δημοκρατίαν ἐξ ὀλιγαρχίας, ἢ πολιτείαν καὶ ἀριστοκρατίαν ἐκ τούτων, ἢ ταύτας ἐξ ἐκείνων, ὁτὲ δ’ οὐ πρὸς τὴν καθεστηκυῖαν πολιτείαν, ἀλλὰ τὴν μὲν κατάστασιν προαιροῦνται τὴν αὐτήν, δι’ αὑτῶν δ’ εἶναι βούλονται ταύτην, οἷον τὴν ὀλιγαρχίαν ἢ τὴν μοναρχίαν· ἔτι περὶ τοῦ μᾶλλον καὶ ἧττον, οἷον ἢ ὀλιγαρχίαν οὖσαν εἰς τὸ μᾶλλον ὀλιγαρχεῖσθαι ἢ εἰς τὸ ἧττον, ἢ δημοκρατίαν οὖσαν εἰς τὸ μᾶλλον δημοκρατεῖσθαι ἢ εἰς τὸ ἧττον, ὁμοίως δὲ καὶ ἐπὶ τῶν λοιπῶν πολιτειῶν, ἢ ἵνα ἐπιταθῶσιν ἢ ἀνεθῶσιν· ἔτι πρὸς τὸ μέρος τι κινῆσαι τῆς πολιτείας, οἷον ἀρχήν τινα καταστῆσαι ἢ ἀνελεῖν, ὥσπερ ἐν Λακεδαίμονί φασι Λύσανδρόν τινες ἐπιχειρῆσαι καταλῦσαι τὴν βασιλείαν καὶ Παυσανίαν τὸν βασιλέα τὴν ἐφορείαν, καὶ ἐν Ἐπιδάμνῳ δὲ μετέβαλεν ἡ πολιτεία κατὰ μόριον (ἀντὶ γὰρ τῶν φυλάρχων βουλὴν ἐποίησαν, εἰς δὲ τὴν ἡλιαίαν ἐπάναγκές ἐστιν ἔτι τῶν ἐν τῷ πολιτεύματι βαδίζειν τὰς ἀρχάς, ὅταν ἐπιψηφίζηται ἀρχή τις, ὀλιγαρχικὸν δὲ καὶ ὁ ἄρχων ὁ εἷς ἦν ἐν τῇ πολιτείᾳ ταύτῃ). πανταχοῦ γὰρ διὰ τὸ ἄνισον ἡ στάσις, οὐ μὴν εἰ τοῖς ἀνίσοις ὑπάρχει ἀνάλογον (ἀΐδιος γὰρ βασιλεία ἄνισος, ἐὰν ᾖ ἐν ἴσοις)· ὅλως γὰρ τὸ ἴσον ζητοῦντες στασιάζουσιν. ἔστι δὲ διττὸν τὸ ἴσον· τὸ μὲν γὰρ ἀριθμῷ τὸ δὲ κατ’ ἀξίαν ἐστίν. λέγω δὲ ἀριθμῷ μὲν τὸ πλήθει ἢ μεγέθει ταὐτὸ καὶ ἴσον, κατ’ ἀξίαν δὲ τὸ τῷ λόγῳ, οἷον ὑπερέχει κατ’ ἀριθμὸν μὲν ἴσῳ τὰ τρία τοῖν δυοῖν καὶ ταῦτα τοῦ ἑνός, λόγῳ δὲ τὰ τέτταρα τοῖν δυοῖν καὶ ταῦτα τοῦ ἑνός· ἴσον γὰρ μέρος τὰ δύο τῶν τεττάρων καὶ τὸ ἓν τοῖν δυοῖν· ἄμφω γὰρ ἡμίση. ὁμολογοῦντες δὲ τὸ ἁπλῶς εἶναι δίκαιον τὸ κατ’ ἀξίαν, διαφέρονται, καθάπερ ἐλέχθη πρότερον, οἱ μὲν ὅτι, ἐὰν κατὰ τὶ ἴσοι ὦσιν, ὅλως ἴσοι νομίζουσιν εἶναι, οἱ δ’ ὅτι, ἐὰν κατὰ τὶ ἄνισοι, πάντων ἀνίσων ἀξιοῦσιν ἑαυτούς. διὸ καὶ μάλιστα δύο γίνονται πολιτεῖαι, δῆμος καὶ ὀλιγαρχία· εὐγένεια γὰρ καὶ ἀρετὴ [1302a] ἐν ὀλίγοις, ταῦτα δ’ ἐν πλείοσιν· εὐγενεῖς γὰρ καὶ ἀγαθοὶ οὐδαμοῦ ἑκατόν, εὔποροι δὲ ‹καὶ ἄποροι› πολλοὶ πολλαχοῦ. τὸ δὲ ἁπλῶς πάντῃ καθ’ ἑκατέραν τετάχθαι τὴν ἰσότητα φαῦλον. φανερὸν δ’ ἐκ τοῦ συμβαίνοντος· οὐδεμία γὰρ μόνιμος ἐκ τῶν τοιούτων πολιτειῶν. τούτου δ’ αἴτιον ὅτι ἀδύνατον ἀπὸ τοῦ πρώτου καὶ τοῦ ἐν ἀρχῇ ἡμαρτημένου μὴ ἀπαντᾶν εἰς τὸ τέλος κακόν τι. διὸ δεῖ τὰ μὲν ἀριθμητικῇ ἰσότητι χρῆσθαι, τὰ δὲ τῇ κατ’ ἀξίαν.

ὅμως δὲ ἀσφαλεστέρα καὶ ἀστασίαστος μᾶλλον ἡ δημοκρατία τῆς ὀλιγαρχίας. ἐν μὲν γὰρ ταῖς ὀλιγαρχίαις ἐγγίνονται δύο, ἥ τε πρὸς ἀλλήλους στάσις καὶ ἔτι ἡ πρὸς τὸν δῆμον, ἐν δὲ ταῖς δημοκρατίαις ἡ πρὸς τὴν ὀλιγαρχίαν μόνον, αὐτῷ δὲ πρὸς αὐτόν, ὅ τι καὶ ἄξιον εἰπεῖν, οὐκ ἐγγίνεται τῷ δήμῳ στάσις· ἔτι δὲ ἡ ἐκ τῶν μέσων πολιτεία ἐγγυτέρω τοῦ δήμου ἢ ἡ τῶν ὀλίγων· ἥπερ ἐστὶν ἀσφαλεστάτη τῶν τοιούτων πολιτειῶν.

Ἐπεὶ δὲ σκοποῦμεν ἐκ τίνων αἵ τε στάσεις γίνονται καὶ αἱ μεταβολαὶ περὶ τὰς πολιτείας, ληπτέον καθόλου πρῶτον τὰς ἀρχὰς καὶ τὰς αἰτίας αὐτῶν. εἰσὶ δὴ σχεδὸν ὡς εἰπεῖν τρεῖς τὸν ἀριθμόν, ἃς διοριστέον καθ’ αὑτὰς τύπῳ πρῶτον. δεῖ γὰρ λαβεῖν πῶς τε ἔχοντες στασιάζουσι καὶ τίνων ἕνεκεν, καὶ τρίτον τίνες ἀρχαὶ γίνονται τῶν πολιτικῶν ταραχῶν καὶ τῶν πρὸς ἀλλήλους στάσεων. τοῦ μὲν οὖν αὐτοὺς ἔχειν πως πρὸς τὴν μεταβολὴν αἰτίαν καθόλου

μάλιστα θετέον περὶ ἧς ἤδη τυγχάνομεν εἰρηκότες. οἱ μὲν γὰρ ἰσότητος ἐφιέμενοι στασιάζουσιν ἂν νομίζωσιν ἔλαττον ἔχειν ὄντες ἴσοι τοῖς πλεονεκτοῦσιν, οἱ δὲ τῆς ἀνισότητος καὶ τῆς ὑπεροχῆς ἂν ὑπολαμβάνωσιν ὄντες ἄνισοι μὴ πλέον ἔχειν ἀλλ’ ἴσον ἢ ἔλαττον (τούτων δ’ ἔστι μὲν ὀρέγεσθαι δικαίως, ἔστι δὲ καὶ ἀδίκως)· ἐλάττους τε γὰρ ὄντες ὅπως ἴσοι ὦσι στασιάζουσι, καὶ ἴσοι ὄντες ὅπως μείζους. πῶς μὲν οὖν ἔχοντες στασιάζουσιν, εἴρηται· περὶ ὧν δὲ στασιάζουσιν ἐστὶ κέρδος καὶ τιμὴ καὶ τἀναντία τούτοις. καὶ γὰρ ἀτιμίαν φεύγοντες καὶ ζημίαν, ἢ ὑπὲρ αὑτῶν ἢ τῶν φίλων, στασιάζουσιν ἐν ταῖς πόλεσιν. αἱ δ’ αἰτίαι καὶ ἀρχαὶ τῶν κινήσεων, ὅθεν αὐτοί τε διατίθενται τὸν εἰρημένον τρόπον καὶ περὶ τῶν λεχθέντων, ἔστι μὲν ὡς τὸν ἀριθμὸν ἑπτὰ τυγχάνουσιν οὖσαι, ἔστι δ’ ὡς πλείους. ὧν δύο μέν ἐστι ταὐτὰ τοῖς εἰρημένοις, ἀλλ’ οὐχ ὡσαύτως· διὰ κέρδος γὰρ καὶ διὰ τιμὴν παροξύνονται πρὸς ἀλλήλους οὐχ ἵνα κτήσωνται σφίσιν αὐτοῖς, ὥσπερ εἴρηται πρότερον, ἀλλ’ ἑτέρους [1302b] ὁρῶντες τοὺς μὲν δικαίως τοὺς δ’ ἀδίκως πλεονεκτοῦντας τούτων· ἔτι διὰ ὕβριν, διὰ φόβον, διὰ ὑπεροχήν, διὰ καταφρόνησιν, διὰ αὔξησιν τὴν παρὰ τὸ ἀνάλογον· ἔτι δὲ ἄλλον τρόπον δι’ ἐριθείαν, δι’ ὀλιγωρίαν, διὰ μικρότητα, διὰ ἀνομοιότητα. Τούτων δὲ ὕβρις μὲν καὶ κέρδος τίνα ἔχουσι δύναμιν καὶ πῶς αἴτια, σχεδόν ἐστι φανερόν· ὑβριζόντων τε γὰρ τῶν ἐν ταῖς ἀρχαῖς καὶ πλεονεκτούντων στασιάζουσι καὶ πρὸς ἀλλήλους καὶ πρὸς τὰς πολιτείας τὰς διδούσας τὴν ἐξουσίαν· ἡ δὲ πλεονεξία γίνεται ὁτὲ μὲν ἀπὸ τῶν ἰδίων ὁτὲ δὲ ἀπὸ τῶν κοινῶν. - δῆλον δὲ καὶ ἡ τιμή, καὶ τί δύναται καὶ πῶς αἰτία στάσεως· καὶ γὰρ αὐτοὶ ἀτιμαζόμενοι καὶ ἄλλους ὁρῶντες τιμωμένους στασιάζουσιν· ταῦτα δὲ ἀδίκως μὲν γίνεται ὅταν παρὰ τὴν ἀξίαν ἢ τιμῶνταί τινες ἢ ἀτιμάζωνται, δικαίως δὲ ὅταν κατὰ τὴν ἀξίαν. - δι’ ὑπεροχὴν δέ, ὅταν τις ᾖ τῇ δυνάμει μείζων (ἢ εἷς ἢ πλείους) ἢ κατὰ τὴν πόλιν καὶ τὴν δύναμιν τοῦ πολιτεύματος· γίνεσθαι γὰρ εἴωθεν ἐκ τῶν τοιούτων μοναρχία ἢ δυναστεία· διὸ ἐνιαχοῦ εἰώθασιν ὀστρακίζειν, οἷον ἐν Ἄργει καὶ Ἀθήνησιν· καίτοι βέλτιον ἐξ ἀρχῆς ὁρᾶν ὅπως μὴ ἐνέσονται τοσοῦτον ὑπερέχοντες, ἢ ἐάσαντας γενέσθαι ἰᾶσθαι ὕστερον. - διὰ δὲ φόβον στασιάζουσιν οἵ τε ἠδικηκότες, δεδιότες μὴ δῶσι δίκην, καὶ οἱ μέλλοντες ἀδικεῖσθαι, βουλόμενοι φθάσαι πρὶν ἀδικηθῆναι, ὥσπερ ἐν Ῥόδῳ συνέστησαν οἱ γνώριμοι ἐπὶ τὸν δῆμον διὰ τὰς ἐπιφερομένας δίκας. - διὰ καταφρόνησιν δὲ καὶ στασιάζουσι καὶ ἐπιτίθενται, οἷον ἔν τε ταῖς ὀλιγαρχίαις, ὅταν πλείους ὦσιν οἱ μὴ μετέχοντες τῆς πολιτείας (κρείττους γὰρ οἴονται εἶναι), καὶ ἐν ταῖς δημοκρατίαις οἱ εὔποροι καταφρονήσαντες τῆς ἀταξίας καὶ ἀναρχίας, οἷον καὶ ἐν Θήβαις μετὰ τὴν ἐν Οἰνοφύτοις μάχην

κακῶς πολιτευομένων ἡ δημοκρατία διεφθάρη, καὶ ἡ Μεγαρέων δι' ἀταξίαν καὶ ἀναρχίαν ἡττηθέντων, καὶ ἐν Συρακούσαις πρὸ τῆς Γέλωνος τυραννίδος, καὶ ἐν Ῥόδῳ ὁ δῆμος πρὸ τῆς ἐπαναστάσεως.

γίνονται δὲ καὶ δι' αὔξησιν τὴν παρὰ τὸ ἀνάλογον μεταβολαὶ τῶν πολιτειῶν. ὥσπερ γὰρ σῶμα ἐκ μερῶν σύγκειται καὶ δεῖ αὐξάνεσθαι ἀνάλογον ἵνα μένῃ ἡ συμμετρία, εἰ δὲ μή, φθείρεται, ὅταν ὁ μὲν ποὺς τεττάρων πηχῶν ᾖ τὸ δ' ἄλλο σῶμα δυοῖν σπιθαμαῖν, ἐνίοτε δὲ κἂν εἰς ἄλλου ζῴου μεταβάλοι μορφήν, εἰ μὴ μόνον κατὰ τὸ ποσὸν ἀλλὰ καὶ κατὰ τὸ ποιὸν αὐξάνοιτο παρὰ τὸ ἀνάλογον, οὕτω καὶ πόλις σύγκειται [1303a] ἐκ μερῶν, ὧν πολλάκις λανθάνει τι αὐξανόμενον, οἷον τὸ τῶν ἀπόρων πλῆθος ἐν ταῖς δημοκρατίαις καὶ πολιτείαις. συμβαίνει δ' ἐνίοτε τοῦτο καὶ διὰ τύχας, οἷον ἐν Τάραντι ἡττηθέντων καὶ ἀπολομένων πολλῶν γνωρίμων ὑπὸ τῶν Ἰαπύγων μικρὸν ὕστερον τῶν Μηδικῶν δημοκρατία ἐγένετο ἐκ πολιτείας, καὶ ἐν Ἄργει τῶν ἐν τῇ ἑβδόμῃ ἀπολομένων ὑπὸ Κλεομένους τοῦ Λάκωνος ἠναγκάσθησαν παραδέξασθαι τῶν περιοίκων τινάς, καὶ ἐν Ἀθήναις ἀτυχούντων πεζῇ οἱ γνώριμοι ἐλάττους ἐγένοντο διὰ τὸ ἐκ καταλόγου στρατεύεσθαι ὑπὸ τὸν Λακωνικὸν πόλεμον. συμβαίνει δὲ τοῦτο καὶ ἐν ταῖς δημοκρατίαις, ἧττον δέ· πλειόνων γὰρ τῶν εὐπόρων γινομένων ἢ τῶν οὐσιῶν αὐξανομένων μεταβάλλουσιν εἰς ὀλιγαρχίας καὶ δυναστείας. - μεταβάλλουσι δ' αἱ πολιτεῖαι καὶ ἄνευ στάσεως διά τε τὰς ἐριθείας, ὥσπερ ἐν Ἡραίᾳ (ἐξ αἱρετῶν γὰρ διὰ τοῦτο ἐποίησαν κληρωτάς, ὅτι ᾑροῦντο τοὺς ἐριθευομένους), καὶ δι' ὀλιγωρίαν, ὅταν ἐάσωσιν εἰς τὰς ἀρχὰς τὰς κυρίας παριέναι τοὺς μὴ τῇ πολιτείᾳ φίλους, ὥσπερ ἐν Ὠρεῷ κατελύθη ἡ ὀλιγαρχία τῶν ἀρχόντων γενομένου Ἡρακλεοδώρου, ὃς ἐξ ὀλιγαρχίας πολιτείαν καὶ δημοκρατίαν κατεσκεύασεν. - ἔτι διὰ τὸ παρὰ μικρόν. λέγω δὲ παρὰ μικρόν, ὅτι πολλάκις λανθάνει μεγάλη γινομένη μετάβασις τῶν νομίμων, ὅταν παρορῶσι τὸ μικρόν, ὥσπερ ἐν Ἀμβρακίᾳ μικρὸν ἦν τὸ τίμημα, τέλος δ' ‹ἀπ'› οὐθενὸς ἦρχον, ὡς ἐγγίζον ἢ μηθὲν διαφέρον τοῦ μηθὲν τὸ μικρόν.

στασιωτικὸν δὲ καὶ τὸ μὴ ὁμόφυλον, ἕως ἂν συμπνεύσῃ· ὥσπερ γὰρ οὐδ' ἐκ τοῦ τυχόντος πλήθους πόλις γίγνεται, οὕτως οὐδ' ἐν τῷ τυχόντι χρόνῳ· διὸ ὅσοι ἤδη συνοίκους ἐδέξαντο ἢ ἐποίκους, οἱ πλεῖστοι διεστασίασαν· οἷον Τροιζηνίοις Ἀχαιοὶ συνῴκησαν Σύβαριν, εἶτα πλείους οἱ Ἀχαιοὶ γενόμενοι ἐξέβαλον τοὺς Τροιζηνίους, ὅθεν τὸ ἄγος συνέβη τοῖς Συβαρίταις· καὶ ἐν Θουρίοις Συβαρῖται τοῖς συνοικήσασιν (πλεονεκτεῖν γὰρ ἀξιοῦντες ὡς σφετέρας τῆς χώρας ἐξέπεσον)· καὶ Βυζαντίοις οἱ ἔποικοι ἐπιβουλεύοντες φωραθέντες ἐξέπεσον διὰ μάχης· καὶ Ἀντισσαῖοι τοὺς Χίων φυγάδας εἰσδεξάμενοι διὰ μάχης ἐξέβαλον· Ζαγκλαῖοι δὲ Σαμίους ὑποδεξάμενοι ἐξέπεσον αὐτοί· καὶ Ἀπολλωνιᾶται οἱ ἐν τῷ Εὐξείνῳ πόντῳ ἐποίκους ἐπαγαγόμενοι ἐστασίασαν· καὶ Συρακούσιοι μετὰ τὰ τυραννικὰ τοὺς ξένους [1303b] καὶ τοὺς μισθοφόρους πολίτας ποιησάμενοι ἐστασίασαν καὶ εἰς μάχην ἦλθον· καὶ Ἀμφιπολῖται δεξάμενοι Χαλκιδέων ἐποίκους ἐξέπεσον ὑπὸ τούτων οἱ πλεῖστοι αὐτῶν. στασιάζουσι δ’ ἐν μὲν ταῖς ὀλιγαρχίαις οἱ πολλοὶ ὡς ἀδικούμενοι, ὅτι οὐ μετέχουσι τῶν ἴσων, καθάπερ εἴρηται πρότερον, ἴσοι ὄντες, ἐν δὲ ταῖς δημοκρατίαις οἱ γνώριμοι, ὅτι μετέχουσι τῶν ἴσων οὐκ ἴσοι ὄντες. στασιάζουσι δὲ ἐνίοτε αἱ πόλεις καὶ διὰ τοὺς τόπους, ὅταν μὴ εὐφυῶς ἔχῃ ἡ χώρα πρὸς τὸ μίαν εἶναι πόλιν, οἷον ἐν Κλαζομεναῖς οἱ ἐπὶ Χυτῷ πρὸς τοὺς ἐν νήσῳ, καὶ Κολοφώνιοι καὶ Νοτιεῖς· καὶ Ἀθήνησιν οὐχ ὁμοίως εἰσὶν ἀλλὰ μᾶλλον δημοτικοὶ οἱ τὸν Πειραιᾶ οἰκοῦντες τῶν τὸ ἄστυ. ὥσπερ γὰρ ἐν τοῖς πολέμοις αἱ διαβάσεις τῶν ὀχετῶν, καὶ τῶν πάνυ σμικρῶν, διασπῶσι τὰς φάλαγγας, οὕτως ἔοικε πᾶσα διαφορὰ ποιεῖν διάστασιν. μεγίστη μὲν οὖν ἴσως διάστασις ἀρετὴ καὶ μοχθηρία, εἶτα πλοῦτος καὶ πενία, καὶ οὕτως δὴ ἑτέρα ἑτέρας μᾶλλον, ὧν μία καὶ ἡ εἰρημένη ἐστί. Γίγνονται μὲν οὖν αἱ στάσεις οὐ περὶ μικρῶν ἀλλ’ ἐκ μικρῶν, στασιάζουσι δὲ περὶ μεγάλων. μάλιστα δὲ καὶ αἱ μικραὶ ἰσχύουσιν, ὅταν ἐν τοῖς κυρίοις γένωνται, οἷον συνέβη καὶ ἐν Συρακούσαις ἐν τοῖς ἀρχαίοις χρόνοις. μετέβαλε γὰρ ἡ πολιτεία ἐκ δύο νεανίσκων στασιασάντων ‹τῶν› ἐν ταῖς ἀρχαῖς ὄντων, περὶ ἐρωτικὴν αἰτίαν. θατέρου γὰρ ἀποδημοῦντος ἑταῖρος ὤν τις τὸν ἐρώμενον αὐτοῦ ὑπεποιήσατο, πάλιν δ’ ἐκεῖνος τούτῳ χαλεπήνας τὴν γυναῖκα αὐτοῦ ἀνέπεισεν ὡς αὐτὸν ἐλθεῖν· ὅθεν προσλαμβάνοντες τοὺς ἐν τῷ πολιτεύματι διεστασίασαν πάντας. διόπερ ἀρχομένων εὐλαβεῖσθαι δεῖ τῶν τοιούτων, καὶ διαλύειν τὰς τῶν ἡγεμόνων καὶ δυναμένων στάσεις· ἐν ἀρχῇ γὰρ γίνεται τὸ ἁμάρτημα, ἡ δ’ ἀρχὴ λέγεται ἥμισυ εἶναι παντός, ὥστε καὶ τὸ ἐν αὐτῇ μικρὸν ἁμάρτημα ἀνάλογόν ἐστι πρὸς τὰ ἐν τοῖς ἄλλοις μέρεσιν. ὅλως δὲ αἱ τῶν γνωρίμων στάσεις συναπολαύειν ποιοῦσι καὶ τὴν ὅλην πόλιν, οἷον ἐν Ἑστιαίᾳ συνέβη μετὰ τὰ Μηδικά, δύο ἀδελφῶν περὶ τῆς πατρῴας νομῆς διενεχθέντων· ὁ μὲν γὰρ ἀπορώτερος, ὡς οὐκ ἀποφαίνοντος τὴν οὐσίαν οὐδὲ τὸν θησαυρὸν ὃν εὗρεν ὁ πατήρ, προσήγετο τοὺς δημοτικούς, ὁ δ’ ἕτερος ἔχων οὐσίαν πολλὴν τοὺς εὐπόρους. καὶ ἐν Δελφοῖς ἐκ κηδείας γενομένης διαφορᾶς ἀρχὴ πασῶν ἐγένετο τῶν στάσεων τῶν [1304a] ὕστερον· ὁ μὲν γὰρ οἰωνισάμενός τι σύμπτωμα, ὡς ἦλθεν ἐπὶ τὴν νύμφην, οὐ λαβὼν ἀπῆλθεν, οἱ δ’ ὡς ὑβρισθέντες ἐνέβαλον τῶν ἱερῶν χρημάτων θύοντος, κἄπειτα ὡς ἱερόσυλον ἀπέκτειναν. καὶ περὶ Μυτιλήνην δὲ ἐξ ἐπικλήρων στάσεως γενομένης πολλῶν ἐγένετο ἀρχὴ κακῶν καὶ τοῦ πολέμου τοῦ πρὸς Ἀθηναίους, ἐν ᾧ Πάχης ἔλαβε τὴν πόλιν αὐτῶν· Τιμοφάνους γὰρ τῶν εὐπόρων τινὸς καταλιπόντος δύο θυγατέρας, ὁ περιωσθεὶς καὶ οὐ λαβὼν τοῖς υἱέσιν αὑτοῦ Δέξανδρος ἦρξε τῆς στάσεως καὶ τοὺς Ἀθηναίους παρώξυνε, πρόξενος ὢν τῆς πόλεως. καὶ ἐν Φωκεῦσιν ἐξ ἐπικλήρου στάσεως γενομένης περὶ Μνασέαν τὸν Μνάσωνος πατέρα καὶ Εὐθυκράτη τὸν Ὀνομάρχου, ἡ στάσις αὕτη ἀρχὴ τοῦ ἱεροῦ πολέμου κατέστη τοῖς Φωκεῦσιν. μετέβαλε δὲ καὶ ἐν Ἐπιδάμνῳ ἡ πολιτεία ἐκ γαμικῶν· ὑπομνηστευσάμενος γάρ τις, ὡς ἐζημίωσεν αὐτὸν ὁ τοῦ ὑπομνηστευθέντος πατήρ, γενόμενος τῶν ἀρχόντων, ἅτερος συμπαρέλαβε τοὺς ἐκτὸς τῆς πολιτείας ὡς ἐπηρεασθείς.

μεταβάλλουσι δὲ καὶ εἰς ὀλιγαρχίαν καὶ εἰς δῆμον καὶ εἰς πολιτείαν ἐκ τοῦ εὐδοκιμῆσαί τι ἢ αὐξηθῆναι ἢ ἀρχεῖον ἢ μόριον τῆς πόλεως, οἷον ἡ ἐν Ἀρείῳ πάγῳ βουλὴ εὐδοκιμήσασα ἐν τοῖς Μηδικοῖς ἔδοξε συντονωτέραν ποιῆσαι τὴν πολιτείαν, καὶ πάλιν ὁ ναυτικὸς ὄχλος γενόμενος αἴτιος τῆς περὶ Σαλαμῖνα νίκης καὶ διὰ ταύτης τῆς ἡγεμονίας διὰ τὴν κατὰ θάλατταν δύναμιν τὴν δημοκρατίαν ἰσχυροτέραν ἐποίησεν, καὶ ἐν Ἄργει οἱ γνώριμοι εὐδοκιμήσαντες περὶ τὴν ἐν Μαντινείᾳ μάχην τὴν πρὸς Λακεδαιμονίους ἐπεχείρησαν καταλύειν τὸν δῆμον, καὶ ἐν Συρακούσαις ὁ δῆμος αἴτιος γενόμενος τῆς νίκης τοῦ πολέμου τοῦ πρὸς Ἀθηναίους ἐκ πολιτείας εἰς δημοκρατίαν μετέβαλεν, καὶ ἐν Χαλκίδι Φόξον τὸν τύραννον μετὰ τῶν γνωρίμων ὁ δῆμος ἀνελὼν εὐθὺς εἴχετο τῆς πολιτείας, καὶ ἐν Ἀμβρακίᾳ πάλιν ὡσαύτως Περίανδρον συνεκβαλὼν τοῖς ἐπιθεμένοις ὁ δῆμος τὸν τύραννον εἰς ἑαυτὸν περιέστησε τὴν πολιτείαν. καὶ ὅλως δὴ δεῖ τοῦτο μὴ λανθάνειν, ὡς οἱ δυνάμεως αἴτιοι γενόμενοι, καὶ ἰδιῶται καὶ ἀρχαὶ καὶ φυλαὶ καὶ ὅλως μέρος καὶ πλῆθος ὁποιονοῦν, στάσιν κινοῦσιν· ἢ γὰρ οἱ τούτοις φθονοῦντες τιμωμένοις ἄρχουσι τῆς στάσεως, ἢ οὗτοι διὰ τὴν ὑπεροχὴν οὐ θέλουσι μένειν ἐπὶ τῶν ἴσων. κινοῦνται δ᾽ αἱ πολιτεῖαι καὶ ὅταν τἀναντία εἶναι δοκοῦντα μέρη τῆς πόλεως ἰσάζῃ [1304b] ἀλλήλοις, οἷον οἱ πλούσιοι καὶ ὁ δῆμος, μέσον δ᾽ ᾖ μηθὲν ἢ μικρὸν πάμπαν· ἂν γὰρ πολὺ ὑπερέχῃ ὁποτερονοῦν τῶν μερῶν, πρὸς τὸ φανερῶς κρεῖττον τὸ λοιπὸν οὐ θέλει κινδυνεύειν. διὸ καὶ οἱ κατ᾽ ἀρετὴν διαφέροντες οὐ ποιοῦσι στάσιν ὡς εἰπεῖν· ὀλίγοι γὰρ γίγνονται πρὸς πολλούς. καθόλου μὲν οὖν περὶ πάσας τὰς πολιτείας αἱ ἀρχαὶ καὶ αἰτίαι τῶν στάσεων καὶ τῶν μεταβολῶν τοῦτον ἔχουσι τὸν τρόπον· κινοῦσι δὲ τὰς πολιτείας ὁτὲ μὲν διὰ βίας ὁτὲ δὲ δι᾽ ἀπάτης, διὰ βίας μὲν ἢ εὐθὺς ἐξ ἀρχῆς ἢ ὕστερον ἀναγκάζοντες. καὶ γὰρ ἡ ἀπάτη διττή.

ὁτὲ μὲν γὰρ ἐξαπατήσαντες τὸ πρῶτον ἑκόντων μεταβάλλουσι τὴν πολιτείαν, εἶθ' ὕστερον βίᾳ κατέχουσιν ἀκόντων, οἷον ἐπὶ τῶν Τετρακοσίων τὸν δῆμον ἐξηπάτησαν φάσκοντες τὸν βασιλέα χρήματα παρέξειν πρὸς τὸν πόλεμον τὸν πρὸς Λακεδαιμονίους, ψευσάμενοι δὲ κατέχειν ἐπειρῶντο τὴν πολιτείαν· ὁτὲ δὲ ἐξ ἀρχῆς τε πείσαντες καὶ ὕστερον πάλιν πεισθέντων ἑκόντων ἄρχουσιν αὐτῶν. ἁπλῶς μὲν οὖν περὶ πάσας τὰς πολιτείας ἐκ τῶν εἰρημένων συμβέβηκε γίνεσθαι τὰς μεταβολάς.

Καθ' ἕκαστον δ' εἶδος πολιτείας ἐκ τούτων μερίζοντας τὰ συμβαίνοντα δεῖ θεωρεῖν. αἱ μὲν οὖν δημοκρατίαι μάλιστα μεταβάλλουσι διὰ τὴν τῶν δημαγωγῶν ἀσέλγειαν· τὰ μὲν γὰρ ἰδίᾳ συκοφαντοῦντες τοὺς τὰς οὐσίας ἔχοντας συστρέφουσιν αὐτούς (συνάγει γὰρ καὶ τοὺς ἐχθίστους ὁ κοινὸς φόβος), τὰ δὲ κοινῇ τὸ πλῆθος ἐπάγοντες. καὶ τοῦτο ἐπὶ πολλῶν ἄν τις ἴδοι γιγνόμενον οὕτω. καὶ γὰρ ἐν Κῴ ἡ δημοκρατία μετέβαλε πονηρῶν ἐγγενομένων δημαγωγῶν (οἱ γὰρ γνώριμοι συνέστησαν)· καὶ ἐν Ῥόδῳ· μισθοφοράν τε γὰρ οἱ δημαγωγοὶ ἐπόριζον, καὶ ἐκώλυον ἀποδιδόναι τὰ ὀφειλόμενα τοῖς τριηράρχοις, οἱ δὲ διὰ τὰς ἐπιφερομένας δίκας ἠναγκάσθησαν συστάντες καταλῦσαι τὸν δῆμον. κατελύθη δὲ καὶ ἐν Ἡρακλείᾳ ὁ δῆμος μετὰ τὸν ἀποικισμὸν εὐθὺς διὰ τοὺς δημαγωγούς· ἀδικούμενοι γὰρ ὑπ' αὐτῶν οἱ γνώριμοι ἐξέπιπτον, ἔπειτα ἀθροισθέντες οἱ ἐκπίπτοντες καὶ κατελθόντες κατέλυσαν τὸν δῆμον. παραπλησίως δὲ καὶ ἡ ἐν Μεγάροις κατελύθη δημοκρατία· οἱ γὰρ δημαγωγοί, ἵνα χρήματα ἔχωσι δημεύειν, ἐξέβαλον πολλοὺς τῶν γνωρίμων, ἕως πολλοὺς ἐποίησαν τοὺς φεύγοντας, οἱ δὲ κατιόντες ἐνίκησαν μαχόμενοι τὸν δῆμον καὶ κατέστησαν τὴν ὀλιγαρχίαν. συνέβη δὲ ταὐτὸν καὶ περὶ [1305a] Κύμην ἐπὶ τῆς δημοκρατίας ἣν κατέλυσε Θρασύμαχος. σχεδὸν δὲ καὶ ἐπὶ τῶν ἄλλων ἄν τις ἴδοι θεωρῶν τὰς μεταβολὰς τοῦτον ἐχούσας τὸν τρόπον. ὁτὲ μὲν γάρ, ἵνα χαρίζωνται, ἀδικοῦντες τοὺς γνωρίμους συνιστᾶσιν, ἢ τὰς οὐσίας ἀναδάστους ποιοῦντες ἢ τὰς προσόδους ταῖς λειτουργίαις, ὁτὲ δὲ διαβάλλοντες, ἵν' ἔχωσι δημεύειν τὰ κτήματα τῶν πλουσίων.

ἐπὶ δὲ τῶν ἀρχαίων, ὅτε γένοιτο ὁ αὐτὸς δημαγωγὸς καὶ στρατηγός, εἰς τυραννίδα μετέβαλλον· σχεδὸν γὰρ οἱ πλεῖστοι τῶν ἀρχαίων τυράννων ἐκ δημαγωγῶν γεγόνασιν. αἴτιον δὲ τοῦ τότε μὲν γίγνεσθαι νῦν δὲ μή, ὅτι τότε μὲν οἱ δημαγωγοὶ ἦσαν ἐκ τῶν στρατηγούντων (οὐ γάρ πω δεινοὶ ἦσαν λέγειν), νῦν δὲ τῆς ῥητορικῆς ηὐξημένης οἱ δυνάμενοι λέγειν δημαγωγοῦσι μέν, δι' ἀπειρίαν δὲ τῶν πολεμικῶν οὐκ ἐπιτίθενται, πλὴν εἴ που βραχύ τι γέγονε τοιοῦτον. ἐγίγνοντο δὲ τυραννίδες πρότερον μᾶλλον ἢ νῦν καὶ διὰ τὸ μεγάλας ἀρχὰς ἐγχειρίζεσθαί τισιν, ὥσπερ ἐν Μιλήτῳ ἐκ τῆς πρυτανείας (πολλῶν γὰρ ἦν καὶ μεγάλων κύριος ὁ πρύτανις). ἔτι δὲ διὰ τὸ μὴ μεγάλας εἶναι τότε τὰς πόλεις, ἀλλ᾽ ἐπὶ τῶν ἀγρῶν οἰκεῖν τὸν δῆμον ἄσχολον ὄντα πρὸς τοῖς ἔργοις, οἱ προστάται τοῦ δήμου, ὅτε πολεμικοὶ γένοιντο, τυραννίδι ἐπετίθεντο. πάντες δὲ τοῦτο ἔδρων ὑπὸ τοῦ δήμου πιστευθέντες, ἡ δὲ πίστις ἦν ἡ ἀπέχθεια ἡ πρὸς τοὺς πλουσίους, οἷον Ἀθήνησί τε Πεισίστρατος στασιάσας πρὸς τοὺς πεδιακούς, καὶ Θεαγένης ἐν Μεγάροις τῶν εὐπόρων τὰ κτήνη ἀποσφάξας, λαβὼν παρὰ τὸν ποταμὸν ἐπινέμοντας, καὶ Διονύσιος κατηγορῶν Δαφναίου καὶ τῶν πλουσίων ἠξιώθη τῆς τυραννίδος, διὰ τὴν ἔχθραν πιστευθεὶς ὡς δημοτικὸς ὤν. μεταβάλλουσι δὲ καὶ ἐκ τῆς πατρίας δημοκρατίας εἰς τὴν νεωτάτην· ὅπου γὰρ αἱρετaὶ μὲν αἱ ἀρχαί, μὴ ἀπὸ τιμημάτων δέ, αἱρεῖται δὲ ὁ δῆμος, δημαγωγοῦντες οἱ σπουδαρχιῶντες εἰς τοῦτο καθιστᾶσιν ὥστε κύριον εἶναι τὸν δῆμον καὶ τῶν νόμων. ἄκος δὲ τοῦ μὴ γίγνεσθαι ἢ τοῦ γίγνεσθαι ἧττον τὸ τὰς φυλὰς φέρειν τοὺς ἄρχοντας, ἀλλὰ μὴ πάντα τὸν δῆμον. τῶν μὲν οὖν δημοκρατιῶν αἱ μεταβολαὶ γίγνονται πᾶσαι σχεδὸν διὰ ταύτας τὰς αἰτίας.

Αἱ δ᾽ ὀλιγαρχίαι μεταβάλλουσι [διὰ] δύο μάλιστα τρόπους τοὺς φανερωτάτους. ἕνα μὲν ἐὰν ἀδικῶσι τὸ πλῆθος· πᾶς γὰρ ἱκανὸς γίνεται προστάτης, μάλιστα δ᾽ ὅταν ἐξ αὐτῆς συμβῇ τῆς ὀλιγαρχίας γίνεσθαι τὸν ἡγεμόνα, καθάπερ ἐν Νάξῳ Λύγδαμις, ὃς καὶ ἐτυράννησεν ὕστερον τῶν [1305b] Ναξίων. ἔχει δὲ καὶ ἡ ἐξ ἄλλων ἀρχὴ στάσεως διαφοράς. ὁτὲ μὲν γὰρ ἐξ αὐτῶν τῶν εὐπόρων, οὐ τῶν ὄντων δ᾽ ἐν ταῖς ἀρχαῖς, γίγνεται κατάλυσις, ὅταν ὀλίγοι σφόδρα ὦσιν οἱ ἐν ταῖς τιμαῖς, οἷον ἐν Μασσαλίᾳ καὶ ἐν Ἴστρῳ καὶ ἐν Ἡρακλείᾳ καὶ ἐν ἄλλαις πόλεσι συμβέβηκεν· οἱ γὰρ μὴ μετέχοντες τῶν ἀρχῶν ἐκίνουν, ἕως μετέλαβον οἱ πρεσβύτεροι πρότερον τῶν ἀδελφῶν, ὕστερον δ᾽ οἱ νεώτεροι πάλιν· οὐ γὰρ ἄρχουσιν ἐνιαχοῦ μὲν ἅμα πατήρ τε καὶ υἱός, ἐνιαχοῦ δὲ ὁ πρεσβύτερος καὶ ὁ νεώτερος ἀδελφός· καὶ ἔνθα μὲν πολιτικωτέρα ἐγένετο ἡ ὀλιγαρχία, ἐν Ἴστρῳ δ᾽ εἰς δῆμον ἀπετελεύτησεν, ἐν Ἡρακλείᾳ δ᾽ ἐξ ἐλαττόνων εἰς ἑξακοσίους ἦλθεν· μετέβαλε δὲ καὶ ἐν Κνίδῳ ἡ ὀλιγαρχία στασιασάντων τῶν γνωρίμων αὐτῶν πρὸς αὑτοὺς διὰ τὸ ὀλίγους μετέχειν καί, καθάπερ εἴρηται, εἰ πατήρ, υἱὸν μὴ μετέχειν, μηδ᾽ εἰ πλείους ἀδελφοί, ἀλλ᾽ ἢ τὸν πρεσβύτατον· ἐπιλαβόμενος γὰρ στασιαζόντων ὁ δῆμος, καὶ λαβὼν προστάτην ἐκ τῶν γνωρίμων, ἐπιθέμενος ἐκράτησεν, ἀσθενὲς γὰρ τὸ στασιάζον· καὶ ἐν Ἐρυθραῖς δὲ ἐπὶ τῆς τῶν Βασιλιδῶν ὀλιγαρχίας ἐν τοῖς ἀρχαίοις χρόνοις, καίπερ καλῶς ἐπιμελομένων τῶν ἐν τῇ πολιτείᾳ, ὅμως διὰ τὸ ὑπ᾽ ὀλίγων ἄρχεσθαι ἀγανακτῶν ὁ δῆμος μετέβαλε τὴν πολιτείαν.

κινοῦνται δ’ αἱ ὀλιγαρχίαι ἐξ αὑτῶν καὶ διὰ φιλονεικίαν δημαγωγούντων (ἡ δημαγωγία δὲ διττή, ἡ μὲν ἐν αὐτοῖς τοῖς ὀλίγοις - ἐγγίγνεται γὰρ δημαγωγὸς κἂν πάνυ ὀλίγοι ὦσιν, οἷον ἐν τοῖς Τριάκοντα Ἀθήνησιν οἱ περὶ Χαρικλέα ἴσχυσαν τοὺς Τριάκοντα δημαγωγοῦντες, καὶ ἐν τοῖς Τετρακοσίοις οἱ περὶ Φρύνιχον τὸν αὐτὸν τρόπον - ἢ ὅταν τὸν ὄχλον δημαγωγῶσιν οἱ ἐν τῇ ὀλιγαρχίᾳ ὄντες, οἷον ἐν Λαρίσῃ οἱ πολιτοφύλακες διὰ τὸ αἱρεῖσθαι αὐτοὺς τὸν ὄχλον ἐδημαγώγουν, καὶ ἐν ὅσαις ὀλιγαρχίαις οὐχ οὗτοι αἱροῦνται τὰς ἀρχὰς ἐξ ὧν οἱ ἄρχοντές εἰσιν, ἀλλ’ αἱ μὲν ἀρχαὶ ἐκ τιμημάτων μεγάλων εἰσὶν ἢ ἑταιριῶν, αἱροῦνται δ’ οἱ ὁπλῖται ἢ ὁ δῆμος, ὅπερ ἐν Ἀβύδῳ συνέβαινεν, καὶ ὅπου τὰ δικαστήρια μὴ ἐκ τοῦ πολιτεύματός ἐστι - δημαγωγοῦντες γὰρ πρὸς τὰς κρίσεις μεταβάλλουσι τὴν πολιτείαν, ὅπερ καὶ ἐν Ἡρακλείᾳ ἐγένετο τῇ ἐν τῷ Πόντῳ - ἔτι δ’ ὅταν ἔνιοι εἰς ἐλάττους ἕλκωσι τὴν ὀλιγαρχίαν· οἱ γὰρ τὸ ἴσον ζητοῦντες ἀναγκάζονται βοηθὸν ἐπαγαγέσθαι τὸν δῆμον). γίνονται δὲ μεταβολαὶ τῆς ὀλιγαρχίας καὶ ὅταν ἀναλώσωσι τὰ ἴδια ζῶντες ἀσελγῶς· καὶ γὰρ οἱ τοιοῦτοι καινοτομεῖν ζητοῦσι, καὶ ἢ τυραννίδι ἐπιτίθενται αὐτοὶ ἢ [1306a] κατασκευάζουσιν ἕτερον (ὥσπερ Ἱππαρῖνος Διονύσιον ἐν Συρακούσαις, καὶ ἐν Ἀμφιπόλει ᾧ ὄνομα ἦν Κλεότιμος τοὺς ἐποίκους τοὺς Χαλκιδέων ἤγαγε, καὶ ἐλθόντων διεστασίασεν αὐτοὺς πρὸς τοὺς εὐπόρους, καὶ ἐν Αἰγίνῃ ὁ τὴν πρᾶξιν τὴν πρὸς Χάρητα πράξας ἐνεχείρησε μεταβαλεῖν τὴν πολιτείαν διὰ τοιαύτην αἰτίαν)· ὁτὲ μὲν οὖν εὐθὺς ἐπιχειροῦσί τι κινεῖν, ὁτὲ δὲ κλέπτουσι τὰ κοινά, ὅθεν στασιάζουσιν ἢ οὗτοι πρὸς αὑτοὺς ἢ οἱ πρὸς τούτους μαχόμενοι κλέπτοντας, ὅπερ ἐν Ἀπολλωνίᾳ συνέβη τῇ ἐν τῷ Πόντῳ. ὁμονοοῦσα δὲ ὀλιγαρχία οὐκ εὐδιάφθορος ἐξ αὑτῆς. σημεῖον δὲ ἡ ἐν Φαρσάλῳ πολιτεία· ἐκεῖνοι γὰρ ὀλίγοι ὄντες πολλῶν κύριοί εἰσι διὰ τὸ χρῆσθαι σφίσιν αὐτοῖς καλῶς.

καταλύονται δὲ καὶ ὅταν ἐν τῇ ὀλιγαρχίᾳ ἑτέραν ὀλιγαρχίαν ἐμποιῶσιν. τοῦτο δ’ ἐστὶν ὅταν τοῦ παντὸς πολιτεύματος ὀλίγου ὄντος τῶν μεγίστων ἀρχῶν μὴ μετέχωσιν οἱ ὀλίγοι πάντες, ὅπερ ἐν Ἤλιδι συνέβη ποτέ· τῆς πολιτείας γὰρ δι’ ὀλίγων οὔσης τῶν γερόντων ὀλίγοι πάμπαν ἐγίνοντο διὰ τὸ ἀιδίους εἶναι ἐνενήκοντα ὄντας, τὴν δ’ αἵρεσιν δυναστευτικὴν εἶναι καὶ ὁμοίαν τῇ τῶν ἐν Λακεδαίμονι γερόντων. γίγνεται δὲ μεταβολὴ τῶν ὀλιγαρχιῶν καὶ ἐν πολέμῳ καὶ ἐν εἰρήνῃ, ἐν μὲν πολέμῳ διὰ τὴν πρὸς τὸν δῆμον ἀπιστίαν στρατιώταις ἀναγκαζομένων χρῆσθαι (ᾧ γὰρ ἂν ἐγχειρίσωσιν, οὗτος πολλάκις γίνεται τύραννος, ὥσπερ ἐν Κορίνθῳ Τιμοφάνης· ἂν δὲ πλείους, οὗτοι αὑτοῖς περιποιοῦνται δυναστείαν· ὁτὲ δὲ ταῦτα δεδιότες μεταδιδόασι τῷ πλήθει τῆς πολιτείας διὰ τὸ ἀναγκάζεσθαι τῷ δήμῳ χρῆσθαι)· ἐν δὲ τῇ εἰρήνῃ διὰ τὴν ἀπιστίαν τὴν πρὸς ἀλλήλους ἐγχειρίζουσι τὴν φυλακὴν στρατιώταις καὶ ἄρχοντι μεσιδίῳ, ὃς ἐνίοτε γίνεται κύριος ἀμφοτέρων, ὅπερ συνέβη ἐν Λαρίσῃ ἐπὶ τῆς τῶν Ἀλευαδῶν ἀρχῆς τῶν περὶ Σῖμον, καὶ ἐν Ἀβύδῳ ἐπὶ τῶν ἑταιριῶν ὧν ἦν μία ἡ Ἰφιάδου.

γίνονται δὲ στάσεις καὶ ἐκ τοῦ περιωθεῖσθαι ἑτέρους ὑφ' ἑτέρων τῶν ἐν τῇ ὀλιγαρχίᾳ αὐτῶν καὶ καταστασιάζεσθαι κατὰ γάμους ἢ δίκας, οἷον ἐκ γαμικῆς μὲν αἰτίας αἱ εἰρημέναι πρότερον (καὶ τὴν ἐν Ἐρετρίᾳ δ' ὀλιγαρχίαν τὴν τῶν ἱππέων Διαγόρας κατέλυσεν ἀδικηθεὶς περὶ γάμον), ἐκ δὲ δικαστηρίου κρίσεως ἡ ἐν Ἡρακλείᾳ στάσις ἐγένετο καὶ ‹ἡ› ἐν Θήβαις, ἐπ' αἰτίᾳ μοιχείας δικαίως μὲν στασιαστικῶς δὲ ποιησαμένων τὴν κόλασιν τῶν μὲν ἐν Ἡρακλείᾳ κατ' Εὐρυτίωνος, [1306b] τῶν δ' ἐν Θήβαις κατ' Ἀρχίου (ἐφιλονείκησαν γὰρ αὐτοῖς οἱ ἐχθροὶ ὥστε δεθῆναι ἐν ἀγορᾷ ἐν τῷ κύφωνι). πολλαὶ δὲ καὶ διὰ τὸ ἄγαν δεσποτικὰς εἶναι τὰς ὀλιγαρχίας ὑπὸ τῶν ἐν τῇ πολιτείᾳ τινῶν δυσχερανάντων κατελύθησαν, ὥσπερ ἡ ἐν Κνίδῳ καὶ ἡ ἐν Χίῳ ὀλιγαρχία. γίγνονται δὲ καὶ ἀπὸ συμπτώματος μεταβολαὶ καὶ τῆς καλουμένης πολιτείας καὶ τῶν ὀλιγαρχιῶν ἐν ὅσαις ἀπὸ τιμήματος βουλεύουσι καὶ δικάζουσι καὶ τὰς ἄλλας ἀρχὰς ἄρχουσιν. πολλάκις γὰρ ὅταν ταχθῇ πρῶτον τίμημα πρὸς τοὺς παρόντας καιρούς, ὥστε μετέχειν ἐν μὲν τῇ ὀλιγαρχίᾳ ὀλίγους ἐν δὲ τῇ πολιτείᾳ τοὺς μέσους, εὐετηρίας γιγνομένης δι' εἰρήνην ἢ δι' ἄλλην τιν' εὐτυχίαν συμβαίνει πολλαπλασίου γίγνεσθαι τιμήματος ἀξίας τὰς αὐτὰς κτήσεις, ὥστε πάντας πάντων μετέχειν, ὁτὲ μὲν ἐκ προσαγωγῆς καὶ κατὰ μικρὸν γινομένης τῆς μεταβολῆς καὶ λανθανούσης, ὁτὲ δὲ καὶ θᾶττον. αἱ μὲν οὖν ὀλιγαρχίαι μεταβάλλουσι καὶ στασιάζουσι διὰ τοιαύτας αἰτίας (ὅλως δὲ καὶ αἱ δημοκρατίαι καὶ αἱ ὀλιγαρχίαι ἐξίστανται ἐνίοτε οὐκ εἰς τὰς ἐναντίας πολιτείας ἀλλ' εἰς τὰς ἐν τῷ αὐτῷ γένει, οἷον ἐκ τῶν ἐννόμων δημοκρατιῶν καὶ ὀλιγαρχιῶν εἰς τὰς κυρίους καὶ ἐκ τούτων εἰς ἐκείνας).

Ἐν δὲ ταῖς ἀριστοκρατίαις γίνονται αἱ στάσεις αἱ μὲν διὰ τὸ ὀλίγους τῶν τιμῶν μετέχειν, ὅπερ εἴρηται κινεῖν καὶ τὰς ὀλιγαρχίας, διὰ τὸ καὶ τὴν ἀριστοκρατίαν ὀλιγαρχίαν εἶναί πως (ἐν ἀμφοτέραις γὰρ ὀλίγοι οἱ ἄρχοντες, οὐ μέντοι διὰ ταὐτὸν ὀλίγοι)· ἐπεὶ δοκεῖ γε διὰ ταῦτα καὶ ἡ ἀριστοκρατία ὀλιγαρχία εἶναι. μάλιστα δὲ τοῦτο συμβαίνειν ἀναγκαῖον ὅταν ᾖ τι πλῆθος τῶν πεφρονηματισμένων ὡς ὁμοίων κατ' ἀρετήν, οἷον ἐν Λακεδαίμονι οἱ λεγόμενοι Παρθενίαι (ἐκ τῶν ὁμοίων γὰρ ἦσαν), οὓς φωράσαντες ἐπιβουλεύσαντας ἀπέστειλαν Τάραντος οἰκιστάς, ἢ ὅταν τινὲς ἀτιμάζωνται μεγάλοι ὄντες καὶ μηθενὸς ἥττους κατ' ἀρετὴν ὑπό τινων ἐντιμοτέρων, οἷον Λύσανδρος ὑπὸ τῶν βασιλέων, ἢ ὅταν ἀνδρώδης τις ὢν μὴ μετέχῃ τῶν τιμῶν, οἷον Κινάδων ὁ τὴν ἐπ’ Ἀγησιλάου συστήσας ἐπίθεσιν ἐπὶ τοὺς Σπαρτιάτας· ἔτι ὅταν οἱ μὲν ἀπορῶσι λίαν οἱ δ’ εὐπορῶσιν (καὶ μάλιστα ἐν τοῖς πολέμοις τοῦτο γίνεται· συνέβη δὲ καὶ τοῦτο ἐν Λακεδαίμονι ὑπὸ τὸν Μεσηνιακὸν πόλεμον· δῆλον δὲ [καὶ] τοῦτο ἐκ τῆς Τυρταίου ποιήσεως τῆς καλουμένης [1307a] Εὐνομίας· θλιβόμενοι γάρ τινες διὰ τὸν πόλεμον ἠξίουν ἀνάδαστον ποιεῖν τὴν χώραν)· ἔτι ἐάν τις μέγας ᾖ καὶ δυνάμενος ἔτι μείζων εἶναι, ἵνα μοναρχῇ, ὥσπερ ἐν Λακεδαίμονι δοκεῖ Παυσανίας ὁ στρατηγήσας κατὰ τὸν Μηδικὸν πόλεμον, καὶ ἐν Καρχηδόνι Ἄννων.

λύονται δὲ μάλιστα αἵ τε πολιτεῖαι καὶ αἱ ἀριστοκρατίαι διὰ τὴν ἐν αὐτῇ τῇ πολιτείᾳ τοῦ δικαίου παρέκβασιν. ἀρχὴ γὰρ τὸ μὴ μεμεῖχθαι καλῶς ἐν μὲν τῇ πολιτείᾳ δημοκρατίαν καὶ ὀλιγαρχίαν, ἐν δὲ τῇ ἀριστοκρατίᾳ ταῦτά τε καὶ τὴν ἀρετήν, μάλιστα δὲ τὰ δύο· λέγω δὲ τὰ δύο δῆμον καὶ ὀλιγαρχίαν. ταῦτα γὰρ αἱ πολιτεῖαί τε πειρῶνται μιγνύναι καὶ αἱ πολλαὶ τῶν καλουμένων ἀριστοκρατιῶν. διαφέρουσι γὰρ τῶν ὀνομαζομένων πολιτειῶν αἱ ἀριστοκρατίαι τούτῳ, καὶ διὰ τοῦτ’ εἰσὶν αἱ μὲν ἧττον αἱ δὲ μᾶλλον μόνιμοι αὐτῶν· τὰς γὰρ ἀποκλινούσας μᾶλλον πρὸς τὴν ὀλιγαρχίαν ἀριστοκρατίας καλοῦσιν, τὰς δὲ πρὸς τὸ πλῆθος πολιτείας· διόπερ ἀσφαλέστεραι αἱ τοιαῦται τῶν ἑτέρων εἰσίν· κρεῖττόν τε γὰρ τὸ πλεῖον, καὶ μᾶλλον ἀγαπῶσιν ἴσον ἔχοντες, οἱ δ’ ἐν ταῖς εὐπορίαις, ἂν ἡ πολιτεία διδῷ τὴν ὑπεροχήν, ὑβρίζειν ζητοῦσι καὶ πλεονεκτεῖν. ὅλως δ’ ἐφ’ ὁπότερον ἂν ἐγκλίνῃ ἡ πολιτεία, ἐπὶ ταῦτα μεθίσταται ἑκατέρων τὸ σφέτερον αὐξανόντων, οἷον ἡ μὲν πολιτεία εἰς δῆμον, ἀριστοκρατία δ’ εἰς ὀλιγαρχίαν· ἢ εἰς τἀναντία, οἷον ἡ μὲν ἀριστοκρατία εἰς δῆμον (ὡς ἀδικούμενοι γὰρ περισπῶσιν εἰς τοὐναντίον οἱ ἀπορώτεροι), αἱ δὲ πολιτεῖαι εἰς ὀλιγαρχίαν (μόνον γὰρ μόνιμον τὸ κατ’ ἀξίαν ἴσον καὶ τὸ ἔχειν τὰ αὑτῶν)· συνέβη δὲ τὸ εἰρημένον ἐν Θουρίοις. διὰ μὲν γὰρ τὸ ἀπὸ πλείονος τιμήματος εἶναι τὰς ἀρχὰς εἰς ἔλαττον μετέβη καὶ εἰς ἀρχεῖα πλείω, διὰ δὲ τὸ τὴν χώραν ὅλην τοὺς γνωρίμους συγκτήσασθαι παρὰ τὸν νόμον (ἡ γὰρ πολιτεία ὀλιγαρχικωτέρα ἦν, ὥστε ἐδύναντο πλεονεκτεῖν) ὁ [δὲ] δῆμος γυμνασθεὶς ἐν τῷ πολέμῳ τῶν φρουρῶν ἐγένετο κρείττων, ἕως ἀφεῖσαν τῆς χώρας ὅσοι πλείω ἦσαν ἔχοντες.

ἔτι διὰ τὸ πάσας τὰς ἀριστοκρατικὰς πολιτείας ὀλιγαρχικὰς εἶναι μᾶλλον πλεονεκτοῦσιν οἱ γνώριμοι, οἷον καὶ ἐν Λακεδαίμονι εἰς ὀλίγους αἱ οὐσίαι ἔρχονται· καὶ ἔξεστι ποιεῖν ὅ τι ἂν θέλωσι τοῖς γνωρίμοις μᾶλλον, καὶ κηδεύειν ὅτῳ θέλουσιν, διὸ καὶ ἡ Λοκρῶν πόλις ἀπώλετο ἐκ τῆς πρὸς Διονύσιον κηδείας, ὃ ἐν δημοκρατίᾳ οὐκ ἂν ἐγένετο, οὐδ’ ἂν ἐν ἀριστοκρατίᾳ εὖ μεμειγμένῃ. μάλιστα δὲ λανθάνουσιν αἱ [1307b] ἀριστοκρατίαι μεταβάλλουσαι τῷ λύεσθαι κατὰ μικρόν, ὅπερ εἴρηται ἐν τοῖς πρότερον καθόλου κατὰ πασῶν τῶν πολιτειῶν, ὅτι αἴτιον τῶν μεταβολῶν καὶ τὸ μικρόν ἐστιν· ὅταν γάρ τι προῶνται τῶν πρὸς τὴν πολιτείαν, μετὰ τοῦτο καὶ ἄλλο μικρῷ μεῖζον εὐχερέστερον κινοῦσιν, ἕως ἂν πάντα κινήσωσι τὸν κόσμον. συνέβη δὲ τοῦτο καὶ ἐπὶ τῆς Θουρίων πολιτείας. νόμου γὰρ ὄντος διὰ πέντε ἐτῶν στρατηγεῖν, γενόμενοί τινες πολεμικοὶ τῶν νεωτέρων καὶ παρὰ τῷ πλήθει τῶν φρουρῶν εὐδοκιμοῦντες, καταφρονήσαντες τῶν ἐν τοῖς πράγμασι καὶ νομίζοντες ῥᾳδίως κατασχήσειν, τοῦτον τὸν νόμον λύειν ἐπεχείρησαν πρῶτον, ὥστ᾽ ἐξεῖναι τοὺς αὐτοὺς συνεχῶς στρατηγεῖν, ὁρῶντες τὸν δῆμον αὐτοὺς χειροτονήσοντα προθύμως. οἱ δ᾽ ἐπὶ τούτῳ τεταγμένοι τῶν ἀρχόντων, οἱ καλούμενοι σύμβουλοι, ὁρμήσαντες τὸ πρῶτον ἐναντιοῦσθαι συνεπείσθησαν, ὑπολαμβάνοντες τοῦτον κινήσαντας τὸν νόμον ἐάσειν τὴν ἄλλην πολιτείαν, ὕστερον δὲ βουλόμενοι κωλύειν ἄλλων κινουμένων οὐκέτι πλέον ἐποίουν οὐθέν, ἀλλὰ μετέβαλεν ἡ τάξις πᾶσα τῆς πολιτείας εἰς δυναστείαν τῶν ἐπιχειρησάντων νεωτερίζειν.

πᾶσαι δ᾽ αἱ πολιτεῖαι λύονται ὁτὲ μὲν ἐξ αὑτῶν ὁτὲ δ᾽ ἔξωθεν, ὅταν ἐναντία πολιτεία ᾖ ἢ πλησίον ἢ πόρρω μὲν ἔχουσα δὲ δύναμιν. ὅπερ συνέβαινεν ἐπ᾽ Ἀθηναίων καὶ Λακεδαιμονίων· οἱ μὲν γὰρ Ἀθηναῖοι πανταχοῦ τὰς ὀλιγαρχίας, οἱ δὲ Λάκωνες τοὺς δήμους κατέλυον. ὅθεν μὲν οὖν αἱ μεταβολαὶ γίγνονται τῶν πολιτειῶν καὶ αἱ στάσεις, εἴρηται σχεδόν.

Περὶ δὲ σωτηρίας καὶ κοινῇ καὶ χωρὶς ἑκάστης πολιτείας ἐχόμενόν ἐστιν εἰπεῖν. πρῶτον μὲν οὖν δῆλον ὅτι, εἴπερ ἔχομεν δι᾽ ὧν φθείρονται αἱ πολιτεῖαι, ἔχομεν καὶ δι᾽ ὧν σῴζονται· τῶν γὰρ ἐναντίων τἀναντία ποιητικά, φθορὰ δὲ σωτηρίᾳ ἐναντίον. ἐν μὲν οὖν ταῖς εὖ κεκραμέναις πολιτείαις ὥσπερ ἄλλο τι δεῖ τηρεῖν ὅπως μηθὲν παρανομῶσι, καὶ μάλιστα τὸ μικρὸν φυλάττειν· λανθάνει γὰρ παραδυομένη ἡ παρανομία, ὥσπερ τὰς οὐσίας τὸ μικρὸν δαπάνημα ἀναιρεῖ πολλάκις γινόμενον. λανθάνει δὲ ἡ δαπάνη διὰ τὸ μὴ ἀθρόα γίγνεσθαι· παραλογίζεται γὰρ ἡ διάνοια ὑπ᾽ αὐτῶν, ὥσπερ ὁ σοφιστικὸς λόγος "εἰ ἕκαστον μικρόν, καὶ πάντα"· τοῦτο δ᾽ ἔστι μὲν ὥς, ἔστι δ᾽ ὡς οὔ· τὸ γὰρ ὅλον καὶ τὰ πάντα οὐ μικρόν, ἀλλὰ σύγκειται ἐκ μικρῶν.

μίαν μὲν οὖν φυλακὴν ταύτην πρὸς τὴν ἀρχὴν δεῖ ποιεῖσθαι· ἔπειτα μὴ πιστεύειν τοῖς σοφίσματος χάριν [1308a] πρὸς τὸ πλῆθος συγκειμένοις, ἐξελέγχεται γὰρ ὑπὸ τῶν ἔργων (ποῖα δὲ λέγομεν τῶν πολιτειῶν σοφίσματα, πρότερον εἴρηται). ἔτι δ᾽ ὁρᾶν ὅτι ἔνιαι μένουσιν οὐ μόνον ἀριστοκρατίαι ἀλλὰ καὶ ὀλιγαρχίαι οὐ διὰ τὸ ἀσφαλεῖς εἶναι τὰς πολιτείας, ἀλλὰ διὰ τὸ εὖ χρῆσθαι τοὺς ἐν ταῖς ἀρχαῖς γινομένους καὶ τοῖς ἔξω τῆς πολιτείας καὶ τοῖς ἐν τῷ πολιτεύματι, τοὺς μὲν μὴ μετέχοντας τῷ μὴ ἀδικεῖν καὶ τῷ τοὺς ἡγεμονικοὺς αὐτῶν εἰσάγειν εἰς τὴν πολιτείαν καὶ τοὺς μὲν φιλοτίμους μὴ ἀδικεῖν εἰς ἀτιμίαν τοὺς δὲ πολλοὺς εἰς κέρδος, πρὸς αὑτοὺς δὲ καὶ τοὺς μετέχοντας τῷ χρῆσθαι ἀλλήλοις δημοτικῶς. ὃ γὰρ ἐπὶ τοῦ πλήθους ζητοῦσιν οἱ δημοτικοί, τὸ ἴσον, τοῦτ᾽ ἐπὶ τῶν ὁμοίων οὐ μόνον δίκαιον ἀλλὰ καὶ συμφέρον ἐστίν. διὸ ἐὰν πλείους ὦσιν ἐν τῷ πολιτεύματι, πολλὰ συμφέρει τῶν δημοτικῶν νομοθετημάτων, οἷον τὸ ἑξαμήνους τὰς ἀρχὰς εἶναι, ἵνα πάντες οἱ ὅμοιοι μετέχωσιν· ἔστι γὰρ ὥσπερ δῆμος ἤδη οἱ ὅμοιοι (διὸ καὶ ἐν τούτοις ἐγγίγνονται δημαγωγοὶ πολλάκις, ὥσπερ εἴρηται πρότερον), ἔπειθ᾽ ἧττον εἰς δυναστείας ἐμπίπτουσιν αἱ ὀλιγαρχίαι καὶ ἀριστοκρατίαι (οὐ γὰρ ὁμοίως ῥᾴδιον κακουργῆσαι ὀλίγον χρόνον ἄρχοντας καὶ πολύν, ἐπεὶ διὰ τοῦτο ἐν ταῖς ὀλιγαρχίαις καὶ δημοκρατίαις γίγνονται τυραννίδες· ἢ γὰρ οἱ μέγιστοι ἐν ἑκατέρᾳ ἐπιτίθενται τυραννίδι, ἔνθα μὲν οἱ δημαγωγοὶ ἔνθα δ᾽ οἱ δυνάσται, ἢ οἱ τὰς μεγίστας ἔχοντες ἀρχάς, ὅταν πολὺν χρόνον ἄρχωσιν).

σῴζονται δ᾽ αἱ πολιτεῖαι οὐ μόνον διὰ τὸ πόρρω εἶναι τῶν διαφθειρόντων, ἀλλ᾽ ἐνίοτε καὶ διὰ τὸ ἐγγύς· φοβούμενοι γὰρ διὰ χειρῶν ἔχουσι μᾶλλον τὴν πολιτείαν. ὥστε δεῖ τοὺς τῆς πολιτείας φροντίζοντας φόβους παρασκευάζειν, ἵνα φυλάττωσι καὶ μὴ καταλύωσιν ὥσπερ νυκτερινὴν φυλακὴν τὴν τῆς πολιτείας τήρησιν, καὶ τὸ πόρρω ἐγγὺς ποιεῖν. ἔτι τὰς τῶν γνωρίμων φιλονεικίας καὶ στάσεις καὶ διὰ τῶν νόμων πειρᾶσθαι δεῖ φυλάττειν, καὶ τοὺς ἔξω τῆς φιλονεικίας ὄντας πρὶν παρειληφέναι καὶ αὐτούς, ὡς τὸ ἐν ἀρχῇ γινόμενον κακὸν γνῶναι οὐ τοῦ τυχόντος ἀλλὰ πολιτικοῦ ἀνδρός. πρὸς δὲ τὴν διὰ τὰ τιμήματα γιγνομένην μεταβολὴν ἐξ ὀλιγαρχίας καὶ πολιτείας, ὅταν συμβαίνῃ τοῦτο μενόντων μὲν τῶν αὐτῶν τιμημάτων εὐπορίας δὲ νομίσματος γιγνομένης, συμφέρει τοῦ τιμήματος ἐπισκοπεῖν τοῦ κοινοῦ τὸ πλῆθος πρὸς τὸ παρελθόν, ἐν ὅσαις μὲν πόλεσι τιμῶνται κατ᾽ ἐνιαυτόν, κατὰ τοῦτον τὸν χρόνον, [1308b] ἐν δὲ ταῖς μείζοσι διὰ τριετηρίδος ἢ πενταετηρίδος, κἂν ᾖ πολλαπλάσιον ἢ πολλοστημόριον τοῦ πρότερον, ἐν ᾧ αἱ τιμήσεις κατέστησαν τῆς πολιτείας, νόμον εἶναι καὶ τὰ τιμήματα ἐπιτείνειν ἢ ἀνιέναι, ἐὰν μὲν ὑπερβάλλῃ, ἐπιτείνοντας κατὰ τὴν πολλαπλασίωσιν, ἐὰν δ᾽ ἐλλείπῃ, ἀνιέντας καὶ ἐλάττω ποιοῦντας τὴν τίμησιν. ἐν μὲν γὰρ ταῖς ὀλιγαρχίαις καὶ ταῖς πολιτείαις, μὴ ποιούντων [μὲν] οὕτως ἔνθα μὲν ὀλιγαρχίαν ἔνθα δὲ δυναστείαν γίνεσθαι συμβαίνει, ἐκείνως δὲ ἐκ μὲν πολιτείας δημοκρατίαν, ἐκ δ᾽ ὀλιγαρχίας πολιτείαν ἢ δῆμον.

κοινὸν δὲ καὶ ἐν δήμῳ καὶ ὀλιγαρχίᾳ καὶ ἐν μοναρχίᾳ καὶ πάσῃ πολιτείᾳ μήτ᾽ αὐξάνειν λίαν μηθένα παρὰ τὴν συμμετρίαν, ἀλλὰ μᾶλλον πειρᾶσθαι μικρὰς καὶ πολυχρονίους διδόναι τιμὰς ἢ βραχὺ μεγάλας (διαφθείρονται γάρ, καὶ φέρειν οὐ παντὸς ἀνδρὸς εὐτυχίαν), εἰ δὲ μή, μή τοί γ’ ἀθρόας δόντας ἀφαιρεῖσθαι πάλιν ἀθρόας, ἀλλ’ ἐκ προσαγωγῆς· καὶ μάλιστα μὲν πειρᾶσθαι τοῖς νόμοις οὕτω ῥυθμίζειν ὥστε μηδένα ἐγγίγνεσθαι πολὺ ὑπερέχοντα δυνάμει μήτε φίλων μήτε χρημάτων, εἰ δὲ μή, ἀποδημητικὰς ποιεῖσθαι τὰς παραστάσεις αὐτῶν. ἐπεὶ δὲ καὶ διὰ τοὺς ἰδίους βίους νεωτερίζουσιν, δεῖ ἐμποιεῖν ἀρχήν τινα τὴν ἐποψομένην τοὺς ζῶντας ἀσυμφόρως πρὸς τὴν πολιτείαν, ἐν μὲν δημοκρατίᾳ πρὸς τὴν δημοκρατίαν, ἐν δὲ ὀλιγαρχίᾳ πρὸς τὴν ὀλιγαρχίαν, ὁμοίως δὲ καὶ τῶν ἄλλων πολιτειῶν ἑκάστῃ· καὶ τὸ εὐημεροῦν δὲ τῆς πόλεως ἀνὰ μέρος φυλάττεσθαι διὰ τὰς αὐτὰς αἰτίας· τούτου δ’ ἄκος τὸ αἰεὶ τοῖς ἀντικειμένοις μορίοις ἐγχειρίζειν τὰς πράξεις καὶ τὰς ἀρχάς (λέγω δ’ ἀντικεῖσθαι τοὺς ἐπιεικεῖς τῷ πλήθει, καὶ τοὺς ἀπόρους τοῖς εὐπόροις), καὶ τὸ πειρᾶσθαι ἢ συμμιγνύναι τὸ τῶν ἀπόρων πλῆθος καὶ τὸ τῶν εὐπόρων ἢ τὸ μέσον αὔξειν (τοῦτο γὰρ διαλύει τὰς διὰ τὴν ἀνισότητα στάσεις). μέγιστον δὲ ἐν πάσῃ πολιτείᾳ τὸ καὶ τοῖς νόμοις καὶ τῇ ἄλλῃ οἰκονομίᾳ οὕτω τετάχθαι ὥστε μὴ εἶναι τὰς ἀρχὰς κερδαίνειν.

τοῦτο δὲ μάλιστα ἐν ταῖς ὀλιγαρχικαῖς δεῖ τηρεῖν. οὐ γὰρ οὕτως ἀγανακτοῦσιν εἰργόμενοι τοῦ ἄρχειν οἱ πολλοί, ἀλλὰ καὶ χαίρουσιν ἐάν τις ἐᾷ πρὸς τοῖς ἰδίοις σχολάζειν, ὥστ’ ἐὰν οἴωνται τὰ κοινὰ κλέπτειν τοὺς ἄρχοντας, τότε γ’ ἀμφότερα λυπεῖ, τό τε τῶν τιμῶν μὴ μετέχειν καὶ τὸ τῶν κερδῶν· μοναχῶς δὲ καὶ ἐνδέχεται ἅμα εἶναι δημοκρατίαν καὶ ἀριστοκρατίαν, εἰ τοῦτο κατασκευάσειέ τις. ἐνδέχοιτο γὰρ ἂν καὶ τοὺς [1309a] γνωρίμους καὶ τὸ πλῆθος ἔχειν ἃ βούλονται ἀμφοτέρους. τὸ μὲν γὰρ ἐξεῖναι πᾶσιν ἄρχειν δημοκρατικόν, τὸ δὲ τοὺς γνωρίμους εἶναι ἐν ταῖς ἀρχαῖς ἀριστοκρατικόν, τοῦτο δ’ ἔσται ὅταν μὴ ᾖ κερδαίνειν ἀπὸ τῶν ἀρχῶν· οἱ γὰρ ἄποροι οὐ βουλήσονται ἄρχειν τῷ μηδὲν κερδαίνειν, ἀλλὰ πρὸς τοῖς ἰδίοις εἶναι μᾶλλον, οἱ δὲ εὔποροι δυνήσονται διὰ τὸ μηδενὸς προσδεῖσθαι τῶν κοινῶν· ὥστε συμβήσεται τοῖς μὲν ἀπόροις γίγνεσθαι εὐπόροις διὰ τὸ διατρίβειν πρὸς τοῖς ἔργοις, τοῖς δὲ γνωρίμοις μὴ ἄρχεσθαι ὑπὸ τῶν τυχόντων. τοῦ μὲν οὖν μὴ κλέπτεσθαι τὰ κοινὰ ἡ παράδοσις γιγνέσθω τῶν χρημάτων παρόντων πάντων τῶν πολιτῶν, καὶ ἀντίγραφα κατὰ φατρίας καὶ λόχους καὶ φυλὰς τιθέσθωσαν· τοῦ δὲ ἀκερδῶς ἄρχειν τιμὰς εἶναι δεῖ νενομοθετημένας τοῖς εὐδοκιμοῦσιν. δεῖ δ’ ἐν μὲν ταῖς δημοκρατίαις τῶν εὐπόρων φείδεσθαι, μὴ μόνον τῷ τὰς κτήσεις μὴ ποιεῖν ἀναδάστους, ἀλλὰ μηδὲ τοὺς καρπούς, ὃ ἐν ἐνίαις τῶν πολιτειῶν λανθάνει γιγνόμενον, βέλτιον δὲ καὶ βουλομένους κωλύειν λειτουργεῖν τὰς δαπανηρὰς μὲν μὴ χρησίμους δὲ λειτουργίας, οἷον χορηγίας καὶ λαμπαδαρχίας καὶ ὅσαι ἄλλαι τοιαῦται· ἐν δ' ὀλιγαρχίᾳ τῶν ἀπόρων ἐπιμέλειαν ποιεῖσθαι πολλήν, καὶ τὰς ἀρχὰς ἀφ' ὧν λήμματα ‹ἔστι› τούτοις ἀπονέμειν, κἄν τις ὑβρίσῃ τῶν εὐπόρων εἰς τούτους, μείζω τὰ ἐπιτίμια εἶναι ἢ ἂν σφῶν αὐτῶν, καὶ τὰς κληρονομίας μὴ κατὰ δόσιν εἶναι ἀλλὰ κατὰ γένος, μηδὲ πλειόνων ἢ μιᾶς τὸν αὐτὸν κληρονομεῖν. οὕτω γὰρ ἂν ὁμαλώτεραι αἱ οὐσίαι εἶεν καὶ τῶν ἀπόρων εἰς εὐπορίαν ἂν καθίσταιντο πλείους. συμφέρει δὲ καὶ ἐν δημοκρατίᾳ καὶ ἐν ὀλιγαρχίᾳ τῶν ἄλλων ἢ ἰσότητα ἢ προεδρίαν νέμειν τοῖς ἧττον κοινωνοῦσι τῆς πολιτείας, ἐν μὲν δήμῳ τοῖς εὐπόροις, ἐν δ' ὀλιγαρχίᾳ τοῖς ἀπόροις, πλὴν ὅσαι ἀρχαὶ κύριαι τῆς πολιτείας, ταύτας δὲ τοῖς ἐκ τῆς πολιτείας ἐγχειρίζειν μόνοις ἢ πλείοσιν.

Τρία δέ τινα χρὴ ἔχειν τοὺς μέλλοντας ἄρξειν τὰς κυρίας ἀρχάς, πρῶτον μὲν φιλίαν πρὸς τὴν καθεστῶσαν πολιτείαν, ἔπειτα δύναμιν μεγίστην τῶν ἔργων τῆς ἀρχῆς, τρίτον δ' ἀρετὴν καὶ δικαιοσύνην ἐν ἑκάστῃ πολιτείᾳ τὴν πρὸς τὴν πολιτείαν (εἰ γὰρ μὴ ταὐτὸν τὸ δίκαιον κατὰ πάσας τὰς πολιτείας, ἀνάγκη καὶ τῆς δικαιοσύνης εἶναι διαφοράς). ἔχει δ' ἀπορίαν, ὅταν μὴ συμβαίνῃ ταῦτα πάντα περὶ τὸν αὐτόν, πῶς χρὴ ποιεῖσθαι τὴν αἵρεσιν· [1309b] οἷον εἰ στρατηγικὸς μέν τις εἴη, πονηρὸς δὲ καὶ μὴ τῇ πολιτείᾳ φίλος, ὁ δὲ δίκαιος καὶ φίλος, πῶς δεῖ ποιεῖσθαι τὴν αἵρεσιν; ἔοικε δὲ δεῖν βλέπειν εἰς δύο, τίνος πλεῖον μετέχουσι πάντες καὶ τίνος ἔλαττον· διὸ ἐν στρατηγίᾳ μὲν εἰς τὴν ἐμπειρίαν μᾶλλον τῆς ἀρετῆς (ἔλαττον γὰρ στρατηγίας μετέχουσι, τῆς δ' ἐπιεικείας πλεῖον), ἐν δὲ φυλακῇ καὶ ταμιείᾳ τἀναντία (πλείονος γὰρ ἀρετῆς δεῖται ἢ ὅσην οἱ πολλοὶ ἔχουσιν, ἡ δὲ ἐπιστήμη κοινὴ πᾶσιν).

ἀπορήσειε δ' ἄν τις, ἂν δύναμις ὑπάρχῃ καὶ τῇ πολιτείᾳ φιλία, τί δεῖ τῆς ἀρετῆς; ποιήσει γὰρ τὰ συμφέροντα καὶ τὰ δύο. ἢ ὅτι ἐνδέχεται τοὺς τὰ δύο ταῦτα ἔχοντας ἀκρατεῖς εἶναι, ὥστε καθάπερ καὶ αὑτοῖς οὐχ ὑπηρετοῦσιν εἰδότες καὶ φιλοῦντες αὑτούς, οὕτω καὶ πρὸς τὸ κοινὸν οὐθὲν κωλύει ἔχειν ἐνίους; ἁπλῶς δέ, ὅσα ἐν τοῖς νόμοις ὡς συμφέροντα λέγομεν ταῖς πολιτείαις, ἅπαντα ταῦτα σῴζει τὰς πολιτείας, καὶ τὸ πολλάκις εἰρημένον μέγιστον στοιχεῖον, τὸ τηρεῖν ὅπως κρεῖττον ἔσται τὸ βουλόμενον τὴν πολιτείαν πλῆθος τοῦ μὴ βουλομένου. παρὰ πάντα δὲ ταῦτα δεῖ μὴ λανθάνειν, ὃ νῦν λανθάνει τὰς παρεκβεβηκυίας πολιτείας, τὸ μέσον· πολλὰ γὰρ τῶν δοκούντων δημοτικῶν λύει τὰς δημοκρατίας καὶ τῶν ὀλιγαρχικῶν τὰς ὀλιγαρχίας. οἱ δ' οἰόμενοι ταύτην εἶναι μίαν ἀρετὴν ἕλκουσιν εἰς τὴν ὑπερβολήν, ἀγνοοῦντες ὅτι, καθάπερ ῥὶς ἔστι παρεκβεβηκυῖα μὲν τὴν εὐθύτητα τὴν καλλίστην πρὸς τὸ γρυπὸν ἢ τὸ σιμόν, ἀλλ' ὅμως ἔτι καλὴ καὶ χάριν ἔχουσα πρὸς τὴν ὄψιν, οὐ μὴν ἀλλ' ἐὰν ἐπιτείνῃ τις ἔτι μᾶλλον εἰς τὴν ὑπερβολήν, πρῶτον μὲν ἀποβαλεῖ τὴν μετριότητα τοῦ μορίου, τέλος δ' οὕτως ὥστε μηδὲ ῥῖνα ποιήσει φαίνεσθαι διὰ τὴν ὑπεροχὴν καὶ τὴν ἔλλειψιν τῶν ἐναντίων, τὸν αὐτὸν δὲ τρόπον ἔχει καὶ περὶ τῶν ἄλλων μορίων, συμβαίνει δὴ τοῦτο καὶ περὶ τὰς [ἄλλας] πολιτείας. καὶ γὰρ ὀλιγαρχίαν καὶ δημοκρατίαν ἔστιν ὥστ' ἔχειν ἱκανῶς, καίπερ ἐξεστηκυίας τῆς βελτίστης τάξεως· ἐὰν δέ τις ἐπιτείνῃ μᾶλλον ἑκατέραν αὐτῶν, πρῶτον μὲν χείρω ποιήσει τὴν πολιτείαν, τέλος δ' οὐδὲ πολιτείαν. διὸ δεῖ τοῦτο μὴ ἀγνοεῖν τὸν νομοθέτην καὶ τὸν πολιτικόν, ποῖα σῴζει τῶν δημοτικῶν καὶ ποῖα φθείρει τὴν δημοκρατίαν, καὶ ποῖα τῶν ὀλιγαρχικῶν τὴν ὀλιγαρχίαν. οὐδετέραν μὲν γὰρ ἐνδέχεται αὐτῶν εἶναι καὶ διαμένειν ἄνευ τῶν εὐπόρων καὶ τοῦ πλήθους, ἀλλ' ὅταν ὁμαλότης γένηται τῆς οὐσίας ἄλλην ἀνάγκη εἶναι ταύτην τὴν πολιτείαν, [1310a] ὥστε φθείροντες τοῖς καθ' ὑπεροχὴν νόμοις φθείρουσι τὰς πολιτείας.

ἁμαρτάνουσι δὲ καὶ ἐν ταῖς δημοκρατίαις καὶ ἐν ταῖς ὀλιγαρχίαις, ἐν μὲν ταῖς δημοκρατίαις οἱ δημαγωγοί, ὅπου τὸ πλῆθος κύριον τῶν νόμων (δύο γὰρ ποιοῦσιν ἀεὶ τὴν πόλιν, μαχόμενοι τοῖς εὐπόροις, δεῖ δὲ τοὐναντίον αἰεὶ δοκεῖν λέγειν ὑπὲρ τῶν εὐπόρων), ἐν δὲ ταῖς ὀλιγαρχίαις ὑπὲρ τοῦ δήμου τοὺς ὀλιγαρχικούς, καὶ τοὺς ὅρκους ἐναντίους ἢ νῦν ὀμνύναι τοὺς ὀλιγαρχικούς· νῦν μὲν γὰρ ἐν ἐνίαις ὀμνύουσι "καὶ τῷ δήμῳ κακόνους ἔσομαι καὶ βουλεύσω ὅ τι ἂν ἔχω κακόν", χρὴ δὲ καὶ ὑπολαμβάνειν καὶ ὑποκρίνεσθαι τοὐναντίον, ἐπισημαινομένους ἐν τοῖς ὅρκοις ὅτι "οὐκ ἀδικήσω τὸν δῆμον".

μέγιστον δὲ πάντων τῶν εἰρημένων πρὸς τὸ διαμένειν τὰς πολιτείας, οὗ νῦν ὀλιγωροῦσι πάντες, τὸ παιδεύεσθαι πρὸς τὰς πολιτείας. ὄφελος γὰρ οὐθὲν τῶν ὠφελιμωτάτων νόμων καὶ συνδεδοξασμένων ὑπὸ πάντων τῶν πολιτευομένων, εἰ μὴ ἔσονται εἰθισμένοι καὶ πεπαιδευμένοι ἐν τῇ πολιτείᾳ, εἰ μὲν οἱ νόμοι δημοτικοί, δημοτικῶς, εἰ δ' ὀλιγαρχικοί, ὀλιγαρχικῶς. εἴπερ γὰρ ἔστιν ἐφ' ἑνὸς ἀκρασία, ἔστι καὶ ἐπὶ πόλεως. ἔστι δὲ τὸ πεπαιδεῦσθαι πρὸς τὴν πολιτείαν οὐ τοῦτο, τὸ ποιεῖν οἷς χαίρουσιν οἱ ὀλιγαρχοῦντες ἢ οἱ δημοκρατίαν βουλόμενοι, ἀλλ' οἷς δυνήσονται οἱ μὲν ὀλιγαρχεῖν οἱ δὲ δημοκρατεῖσθαι. νῦν δ' ἐν μὲν ταῖς ὀλιγαρχίαις οἱ τῶν ἀρχόντων υἱοὶ τρυφῶσιν, οἱ δὲ τῶν ἀπόρων γίγνονται γεγυμνασμένοι καὶ πεπονηκότες, ὥστε καὶ βούλονται μᾶλλον καὶ δύνανται νεωτερίζειν· ἐν δὲ ταῖς δημοκρατίαις ταῖς μάλιστα εἶναι δοκούσαις δημοκρατικαῖς τοὐναντίον τοῦ συμφέροντος καθέστηκεν, αἴτιον δὲ τούτου ὅτι κακῶς ὁρίζονται τὸ ἐλεύθερον. δύο γὰρ ἐστιν οἷς ἡ δημοκρατία δοκεῖ ὡρίσθαι, τῷ τὸ πλεῖον εἶναι κύριον καὶ τῇ ἐλευθερίᾳ· τὸ μὲν γὰρ ἴσον δίκαιον δοκεῖ εἶναι, ἴσον δ᾽ ὅ τι ἂν δόξῃ τῷ πλήθει, τοῦτ᾽ εἶναι κύριον, ἐλεύθερον δὲ [καὶ ἴσον] τὸ ὅ τι ἂν βούληταί τις ποιεῖν· ὥστε ζῇ ἐν ταῖς τοιαύταις δημοκρατίαις ἕκαστος ὡς βούλεται, καὶ εἰς ὃ χρῄζων, ὡς φησὶν Εὐριπίδης· τοῦτο δ᾽ ἐστὶ φαῦλον· οὐ γὰρ δεῖ οἴεσθαι δουλείαν εἶναι τὸ ζῆν πρὸς τὴν πολιτείαν, ἀλλὰ σωτηρίαν. ἐξ ὧν μὲν οὖν αἱ πολιτεῖαι μεταβάλλουσι καὶ φθείρονται, καὶ διὰ τίνων σῴζονται καὶ διαμένουσιν, ὡς ἁπλῶς εἰπεῖν τοσαῦτά ἐστιν.

Λείπεται δ᾽ ἐπελθεῖν καὶ περὶ μοναρχίας, ἐξ ὧν τε φθείρεται καὶ δι᾽ ὧν σῴζεσθαι πέφυκεν. σχεδὸν δὲ παραπλήσια [1310b] τοῖς εἰρημένοις περὶ τὰς πολιτείας ἐστὶ καὶ τὰ συμβαίνοντα περὶ τὰς βασιλείας καὶ τὰς τυραννίδας. ἡ μὲν γὰρ βασιλεία κατὰ τὴν ἀριστοκρατίαν ἐστίν, ἡ δὲ τυραννὶς ἐξ ὀλιγαρχίας τῆς ὑστάτης σύγκειται καὶ δημοκρατίας· διὸ δὴ καὶ βλαβερωτάτη τοῖς ἀρχομένοις ἐστίν, ἅτε ἐκ δυοῖν συγκειμένη κακῶν καὶ τὰς παρεκβάσεις καὶ τὰς ἁμαρτίας ἔχουσα τὰς παρ᾽ ἀμφοτέρων τῶν πολιτειῶν. ὑπάρχει δ᾽ ἡ γένεσις εὐθὺς ἐξ ἐναντίων ἑκατέρᾳ τῶν μοναρχιῶν· ἡ μὲν γὰρ βασιλεία πρὸς βοήθειαν τὴν ἐπὶ τὸν δῆμον τοῖς ἐπιεικέσι γέγονεν, καὶ καθίσταται βασιλεὺς ἐκ τῶν ἐπιεικῶν καθ᾽ ὑπεροχὴν ἀρετῆς ἢ πράξεων τῶν ἀπὸ τῆς ἀρετῆς, ἢ καθ᾽ ὑπεροχὴν τοιούτου γένους, ὁ δὲ τύραννος ἐκ τοῦ δήμου καὶ τοῦ πλήθους ἐπὶ τοὺς γνωρίμους, ὅπως ὁ δῆμος ἀδικῆται μηδὲν ὑπ᾽ αὐτῶν. φανερὸν δ᾽ ἐκ τῶν συμβεβηκότων. σχεδὸν γὰρ οἱ πλεῖστοι τῶν τυράννων γεγόνασιν ἐκ δημαγωγῶν ὡς εἰπεῖν, πιστευθέντες ἐκ τοῦ διαβάλλειν τοὺς γνωρίμους. αἱ μὲν γὰρ τοῦτον τὸν τρόπον κατέστησαν τῶν τυραννίδων, ἤδη τῶν πόλεων ηὐξημένων, αἱ δὲ πρὸ τούτων ἐκ τῶν βασιλέων παρεκβαινόντων τὰ πάτρια καὶ δεσποτικωτέρας ἀρχῆς ὀρεγομένων, αἱ δὲ ἐκ τῶν αἱρετῶν ἐπὶ τὰς κυρίας ἀρχάς (τὸ γὰρ ἀρχαῖον οἱ δῆμοι καθίστασαν πολυχρονίους τὰς δημιουργίας καὶ τὰς θεωρίας), αἱ δ᾽ ἐκ τῶν ὀλιγαρχιῶν, αἱρουμένων ἕνα τινὰ κύριον ἐπὶ τὰς μεγίστας ἀρχάς. πᾶσι γὰρ ὑπῆρχε τοῖς τρόποις τούτοις τὸ κατεργάζεσθαι ῥᾳδίως, εἰ μόνον βουληθεῖεν, διὰ τὸ δύναμιν προϋπάρχειν τοῖς μὲν βασιλικῆς ἀρχῆς τοῖς δὲ τὴν τῆς τιμῆς· οἷον Φείδων μὲν περὶ Ἄργος καὶ ἕτεροι τύραννοι κατέστησαν βασιλείας ὑπαρχούσης, οἱ δὲ περὶ τὴν Ἰωνίαν καὶ Φάλαρις ἐκ τῶν τιμῶν, Παναίτιος δ᾽ ἐν Λεοντίνοις καὶ Κύψελος ἐν Κορίνθῳ καὶ Πεισίστρατος Ἀθήνησι καὶ Διονύσιος ἐν Συρακούσαις καὶ ἕτεροι τὸν αὐτὸν τρόπον ἐκ δημαγωγίας. καθάπερ οὖν εἴπομεν, ἡ βασιλεία τέτακται κατὰ τὴν ἀριστοκρατίαν. κατ᾽ ἀξίαν γάρ ἐστιν, ἢ κατ᾽ ἰδίαν ἀρετὴν ἢ κατὰ γένος, ἢ κατ᾽ εὐεργεσίας, ἢ κατὰ ταῦτά τε καὶ δύναμιν. ἅπαντες γὰρ εὐεργετήσαντες ἢ δυνάμενοι τὰς πόλεις ἢ τὰ ἔθνη εὐεργετεῖν ἐτύγχανον τῆς τιμῆς ταύτης, οἱ μὲν κατὰ πόλεμον κωλύσαντες δουλεύειν, ὥσπερ Κόδρος, οἱ δ’ ἐλευθερώσαντες, ὥσπερ Κῦρος, ἢ κτίσαντες ἢ κτησάμενοι χώραν, ὥσπερ οἱ Λακεδαιμονίων βασιλεῖς καὶ Μακεδόνων καὶ Μολοττῶν. βούλεται δ’ ὁ βασιλεὺς εἶναι φύλαξ, ὅπως οἱ [1311a] μὲν κεκτημένοι τὰς οὐσίας μηθὲν ἄδικον πάσχωσιν, ὁ δὲ δῆμος μὴ ὑβρίζηται μηθέν· ἡ δὲ τυραννίς, ὥσπερ εἴρηται πολλάκις, πρὸς οὐδὲν ἀποβλέπει κοινόν, εἰ μὴ τῆς ἰδίας ὠφελείας χάριν. ἔστι δὲ σκοπὸς τυραννικὸς μὲν τὸ ἡδύ, βασιλικὸς δὲ τὸ καλόν. διὸ καὶ τῶν πλεονεκτημάτων τὰ μὲν χρημάτων τυραννικά, τὰ δ’ εἰς τιμὴν βασιλικὰ μᾶλλον· καὶ φυλακὴ βασιλικὴ μὲν πολιτική, τυραννικὴ δὲ διὰ ξένων.

ὅτι δ’ ἡ τυραννὶς ἔχει κακὰ καὶ τὰ τῆς δημοκρατίας καὶ τὰ τῆς ὀλιγαρχίας, φανερόν· ἐκ μὲν ὀλιγαρχίας τὸ τὸ τέλος εἶναι πλοῦτον (οὕτω γὰρ καὶ διαμένειν ἀναγκαῖον μόνως τήν τε φυλακὴν καὶ τὴν τρυφήν), καὶ τὸ τῷ πλήθει μηδὲν πιστεύειν (διὸ καὶ τὴν παραίρεσιν ποιοῦνται τῶν ὅπλων), καὶ τὸ κακοῦν τὸν ὄχλον καὶ τὸ ἐκ τοῦ ἄστεως ἀπελαύνειν καὶ διοικίζειν ἀμφοτέρων κοινόν, καὶ τῆς ὀλιγαρχίας καὶ τῆς τυραννίδος· ἐκ δημοκρατίας δὲ τὸ πολεμεῖν τοῖς γνωρίμοις καὶ διαφθείρειν λάθρᾳ καὶ φανερῶς καὶ φυγαδεύειν ὡς ἀντιτέχνους καὶ πρὸς τὴν ἀρχὴν ἐμποδίους. ἐκ γὰρ τούτων συμβαίνει γίγνεσθαι καὶ τὰς ἐπιβουλάς, τῶν μὲν ἄρχειν αὐτῶν βουλομένων, τῶν δὲ μὴ δουλεύειν. ὅθεν καὶ τὸ Περιάνδρου πρὸς Θρασύβουλον συμβούλευμά ἐστιν, ἡ τῶν ὑπερεχόντων σταχύων κόλουσις, ὡς δέον αἰεὶ τοὺς ὑπερέχοντας τῶν πολιτῶν ἀναιρεῖν. καθάπερ οὖν σχεδὸν ἐλέχθη, τὰς αὐτὰς ἀρχὰς δεῖ νομίζειν περί τε τὰς πολιτείας εἶναι τῶν μεταβολῶν καὶ περὶ τὰς μοναρχίας· διά τε γὰρ ἀδικίαν καὶ διὰ φόβον καὶ διὰ καταφρόνησιν ἐπιτίθενται πολλοὶ τῶν ἀρχομένων ταῖς μοναρχίαις (τῆς δὲ ἀδικίας μάλιστα δι’ ὕβριν), ἐνίοτε δὲ καὶ διὰ τὴν τῶν ἰδίων στέρησιν.

ἔστι δὲ καὶ τὰ τέλη ταὐτά, καθάπερ κἀκεῖ, καὶ περὶ τὰς τυραννίδας καὶ τὰς βασιλείας· μέγεθος γὰρ ὑπάρχει πλούτου καὶ τιμῆς τοῖς μονάρχοις, ὧν ἐφίενται πάντες. τῶν δ’ ἐπιθέσεων αἱ μὲν ἐπὶ τὸ σῶμα γίγνονται τῶν ἀρχόντων, αἱ δ’ ἐπὶ τὴν ἀρχήν. αἱ μὲν οὖν δι’ ὕβριν ἐπὶ τὸ σῶμα. τῆς δ’ ὕβρεως οὔσης πολυμεροῦς, ἕκαστον αὐτῶν αἴτιον γίγνεται τῆς ὀργῆς· τῶν δ’ ὀργιζομένων σχεδὸν οἱ πλεῖστοι τιμωρίας χάριν ἐπιτίθενται, ἀλλ’ οὐχ ὑπεροχῆς. οἷον ἡ μὲν τῶν Πεισιστρατιδῶν διὰ τὸ προπηλακίσαι μὲν τὴν Ἁρμοδίου ἀδελφὴν ἐπηρεάσαι δ’ Ἁρμόδιον (ὁ μὲν γὰρ Ἁρμόδιος διὰ τὴν ἀδελφήν, ὁ δὲ Ἀριστογείτων διὰ τὸν Ἁρμόδιον), ἐπεβούλευσαν δὲ καὶ Περιάνδρῳ τῷ ἐν Ἀμβρακίᾳ τυράννῳ διὰ τὸ συμπίνοντα μετὰ [1311b] τῶν παιδικῶν ἐρωτῆσαι αὐτὸν εἰ ἤδη ἐξ αὐτοῦ κύει· ἡ δὲ Φιλίππου ὑπὸ Παυσανίου διὰ τὸ ἐᾶσαι ὑβρισθῆναι αὐτὸν ὑπὸ τῶν περὶ Ἄτταλον, καὶ ἡ Ἀμύντου τοῦ μικροῦ ὑπὸ Δέρδα διὰ τὸ καυχήσασθαι εἰς τὴν ἡλικίαν αὐτοῦ, καὶ ἡ τοῦ εὐνούχου Εὐαγόρᾳ τῷ Κυπρίῳ· διὰ γὰρ τὸ τὴν γυναῖκα παρελέσθαι τὸν υἱὸν αὐτοῦ ἀπέκτεινεν ὡς ὑβρισμένος. πολλαὶ δ’ ἐπιθέσεις γεγένηνται καὶ διὰ τὸ εἰς τὸ σῶμα αἰσχῦναι τῶν μονάρχων τινάς. οἷον καὶ ἡ Κραταίου εἰς Ἀρχέλαον· αἰεὶ γὰρ βαρέως εἶχε πρὸς τὴν ὁμιλίαν, ὥστε ἱκανὴ καὶ ἐλάττων ‹ἂν› ἐγένετο πρόφασις - ἢ διότι τῶν θυγατέρων οὐδεμίαν ἔδωκεν ὁμολογήσας αὐτῷ, ἀλλὰ τὴν μὲν προτέραν, κατεχόμενος ὑπὸ πολέμου πρὸς Σίρραν καὶ Ἀρράβαιον, ἔδωκε τῷ βασιλεῖ τῷ τῆς Ἐλιμείας, τὴν δὲ νεωτέραν τῷ υἱεῖ Ἀμύντᾳ, οἰόμενος οὕτως ἂν ἐκεῖνον ἥκιστα διαφέρεσθαι καὶ τὸν ἐκ τῆς Κλεοπάτρας· ἀλλὰ τῆς γε ἀλλοτριότητος ὑπῆρχεν ἀρχὴ τὸ βαρέως φέρειν πρὸς τὴν ἀφροδισιαστικὴν χάριν. συνεπέθετο δὲ καὶ Ἑλλανοκράτης ὁ Λαρισαῖος διὰ τὴν αὐτὴν αἰτίαν· ὡς γὰρ χρώμενος αὐτοῦ τῇ ἡλικίᾳ οὐ κατῆγεν ὑποσχόμενος, δι’ ὕβριν καὶ οὐ δι’ ἐρωτικὴν ἐπιθυμίαν ᾤετο εἶναι τὴν γεγενημένην ὁμιλίαν. Πύθων δὲ καὶ Ἡρακλείδης οἱ Αἴνιοι Κότυν διέφθειραν τῷ πατρὶ τιμωροῦντες, Ἀδάμας δ’ ἀπέστη Κότυος διὰ τὸ ἐκτμηθῆναι παῖς ὢν ὑπ’ αὐτοῦ, ὡς ὑβρισμένος.

πολλοὶ δὲ καὶ διὰ τὸ εἰς τὸ σῶμα αἰκισθῆναι πληγαῖς ὀργισθέντες οἱ μὲν διέφθειραν, οἱ δ’ ἐνεχείρησαν ὡς ὑβρισθέντες, καὶ τῶν περὶ τὰς ἀρχὰς καὶ βασιλικὰς δυναστείας. οἷον ἐν Μυτιλήνῃ τοὺς Πενθιλίδας Μεγακλῆς περιιόντας καὶ τύπτοντας ταῖς κορύναις ἐπιθέμενος μετὰ τῶν φίλων ἀνεῖλεν, καὶ ὕστερον Σμέρδης Πενθίλον πληγὰς λαβὼν καὶ παρὰ τῆς γυναικὸς ἐξελκυσθεὶς διέφθειρεν. καὶ τῆς Ἀρχελάου δ’ ἐπιθέσεως Δεκάμνιχος ἡγεμὼν ἐγένετο, παροξύνων τοὺς ἐπιθεμένους πρῶτος· αἴτιον δὲ τῆς ὀργῆς ὅτι αὐτὸν ἐξέδωκε μαστιγῶσαι Εὐριπίδῃ τῷ ποιητῇ· ὁ δ’ Εὐριπίδης ἐχαλέπαινεν εἰπόντος τι αὐτοῦ εἰς δυσωδίαν τοῦ στόματος. καὶ ἄλλοι δὲ πολλοὶ διὰ τοιαύτας αἰτίας οἱ μὲν ἀνῃρέθησαν οἱ δ’ ἐπεβουλεύθησαν. ὁμοίως δὲ καὶ διὰ φόβον· ἓν γάρ τι τοῦτο τῶν αἰτίων ἦν, ὥσπερ καὶ περὶ τὰς πολιτείας καὶ τὰς μοναρχίας· οἷον Ξέρξην Ἀρταπάνης φοβούμενος τὴν διαβολὴν τὴν περὶ Δαρεῖον, ὅτι ἐκρέμασεν οὐ κελεύσαντος Ξέρξου, ἀλλ’ οἰόμενος συγγνώσεσθαι ὡς ἀμνημονοῦντα διὰ τὸ δειπνεῖν. αἱ δὲ διὰ [1312a] καταφρόνησιν, ὥσπερ Σαρδανάπαλλον ἰδών τις ξαίνοντα μετὰ τῶν γυναικῶν (εἰ ἀληθῆ ταῦτα οἱ μυθολογοῦντες λέγουσιν· εἰ δὲ μὴ ἐπ’ ἐκείνου, ἀλλ’ ἐπ’ ἄλλου γε ἂν γένοιτο τοῦτο ἀληθές), καὶ Διονυσίῳ τῷ ὑστέρῳ Δίων ἐπέθετο διὰ τὸ καταφρονεῖν, ὁρῶν τούς τε πολίτας οὕτως ἔχοντας καὶ αὐτὸν ἀεὶ μεθύοντα. καὶ τῶν φίλων δέ τινες ἐπιτίθενται διὰ καταφρόνησιν· διὰ γὰρ τὸ πιστεύεσθαι καταφρονοῦσιν ὡς λήσοντες. καὶ οἱ οἰόμενοι δύνασθαι κατασχεῖν τὴν ἀρχὴν τρόπον τινὰ διὰ τὸ καταφρονεῖν ἐπιτίθενται· ὡς δυνάμενοι γὰρ καὶ καταφρονοῦντες τοῦ κινδύνου διὰ τὴν δύναμιν ἐπιχειροῦσι ῥᾳδίως, ὥσπερ οἱ στρατηγοῦντες τοῖς μονάρχοις, οἷον Κῦρος Ἀστυάγει καὶ τοῦ βίου καταφρονῶν καὶ τῆς δυνάμεως διὰ τὸ τὴν μὲν δύναμιν ἐξηργηκέναι αὐτὸν δὲ τρυφᾶν, καὶ Σεύθης ὁ Θρᾷξ Ἀμαδόκῳ στρατηγὸς ὤν. οἱ δὲ καὶ διὰ πλείω τούτων ἐπιτίθενται, οἷον καὶ καταφρονοῦντες καὶ διὰ κέρδος, ὥσπερ Ἀριοβαρζάνῃ Μιθριδάτης (μάλιστα δὲ διὰ ταύτην τὴν αἰτίαν ἐγχειροῦσιν οἱ τὴν φύσιν μὲν θρασεῖς, τιμὴν δ’ ἔχοντες πολεμικὴν παρὰ τοῖς μονάρχοις· ἀνδρεία γὰρ δύναμιν ἔχουσα θράσος ἐστίν), δι’ ἃς ἀμφοτέρας, ὡς ῥᾳδίως κρατήσοντες, ποιοῦνται τὰς ἐπιθέσεις.

τῶν δὲ διὰ φιλοτιμίαν ἐπιτιθεμένων ἕτερος τρόπος ἔστι τῆς αἰτίας παρὰ τοὺς εἰρημένους πρότερον. οὐ γὰρ ὥσπερ ἔνιοι τοῖς τυράννοις ἐπιχειροῦσιν ὁρῶντες κέρδη τε μεγάλα καὶ τιμὰς μεγάλας οὔσας αὐτοῖς, οὕτω καὶ τῶν διὰ φιλοτιμίαν ἐπιτιθεμένων ἕκαστος προαιρεῖται κινδυνεύειν· ἀλλ’ ἐκεῖνοι μὲν διὰ τὴν εἰρημένην αἰτίαν, οὗτοι δ’ ὥσπερ κἂν ἄλλης τινὸς γενομένης πράξεως περιττῆς καὶ δι’ ἣν ὀνομαστοὶ γίγνονται καὶ γνώριμοι τοῖς ἄλλοις, οὕτω καὶ τοῖς μονάρχοις ἐγχειροῦσιν, οὐ κτήσασθαι βουλόμενοι μοναρχίαν ἀλλὰ δόξαν. οὐ μὴν ἀλλ’ ἐλάχιστοί γε τὸν ἀριθμόν εἰσιν οἱ διὰ ταύτην τὴν αἰτίαν ὁρμῶντες· ὑποκεῖσθαι γὰρ δεῖ τὸ τοῦ σωθῆναι μηδὲν φροντίζειν, ἂν μὴ μέλλῃ κατασχήσειν τὴν πρᾶξιν. οἷς ἀκολουθεῖν μὲν δεῖ τὴν Δίωνος ὑπόληψιν, οὐ ῥᾴδιον δ’ αὐτὴν ἐγγενέσθαι πολλοῖς· ἐκεῖνος γὰρ μετ’ ὀλίγων ἐστράτευσεν ἐπὶ Διονύσιον οὕτως ἔχειν φάσκων ὡς, ὅποι περ ἂν δύνηται προελθεῖν, ἱκανὸν αὑτῷ τοσοῦτον μετασχεῖν τῆς πράξεως, οἷον εἰ μικρὸν ἐπιβάντα τῆς γῆς εὐθὺς συμβαίη τελευτῆσαι, τοῦτον καλῶς ἔχειν αὐτῷ τὸν θάνατον.

φθείρεται δὲ τυραννὶς ἕνα μὲν τρόπον, ὥσπερ καὶ τῶν ἄλλων ἑκάστη πολιτειῶν, ἔξωθεν, [1312b] ἐὰν ἐναντία τις ᾖ πολιτεία κρείττων (τὸ μὲν γὰρ βούλεσθαι δῆλον ὡς ὑπάρξει διὰ τὴν ἐναντιότητα τῆς προαιρέσεως· ἃ δὲ βούλονται, δυνάμενοι πράττουσι πάντες), ἐναντίαι δ’ αἱ πολιτεῖαι, δῆμος μὲν τυραννίδι καθ’ Ἡσίοδον ὡς κεραμεὺς κεραμεῖ (καὶ γὰρ ἡ δημοκρατία ἡ τελευταία τυραννίς ἐστιν), βασιλεία δὲ καὶ ἀριστοκρατία διὰ τὴν ἐναντιότητα τῆς πολιτείας (διὸ Λακεδαιμόνιοι πλείστας κατέλυσαν τυραννίδας καὶ Συρακούσιοι κατὰ τὸν χρόνον ὃν ἐπολιτεύοντο καλῶς)· ἕνα δ’ ἐξ αὑτῆς, ὅταν οἱ μετέχοντες στασιάζωσιν, ὥσπερ ἡ τῶν περὶ Γέλωνα καὶ νῦν ἡ τῶν περὶ

Διονύσιον, ἡ μὲν Γέλωνος Θρασυβούλου τοῦ Ἱέρωνος ἀδελφοῦ τὸν υἱὸν τοῦ Γέλωνος δημαγωγοῦντος καὶ πρὸς ἡδονὰς ὁρμῶντος, ἵν' αὐτὸς ἄρχῃ, τῶν δὲ οἰκείων συστάντων, ἵνα μὴ τυραννὶς ὅλως καταλυθῇ ἀλλὰ Θρασύβουλος - οἱ δὲ συστάντες αὐτῶν, ὡς καιρὸν ἔχοντες, ἐξέβαλον ἅπαντας αὐτούς· Διονύσιον δὲ Δίων στρατεύσας, κηδεστὴς ὢν καὶ προσλαβὼν τὸν δῆμον, ἐκεῖνον ἐκβαλὼν διεφθάρη. δύο δὲ οὐσῶν αἰτιῶν δι' ἃς μάλιστ' ἐπιτίθενται ταῖς τυραννίσι, μίσους καὶ καταφρονήσεως, θάτερον μὲν ἀεὶ τούτων ὑπάρχει τοῖς τυράννοις, τὸ μῖσος, ἐκ δὲ τοῦ καταφρονεῖσθαι πολλαὶ γίνονται τῶν καταλύσεων. σημεῖον δέ· τῶν μὲν γὰρ κτησαμένων οἱ πλεῖστοι καὶ διεφύλαξαν τὰς ἀρχάς, οἱ δὲ παραλαβόντες εὐθὺς ὡς εἰπεῖν ἀπολλύασι πάντες. ἀπολαυστικῶς γὰρ ζῶντες εὐκαταφρόνητοί τε γίνονται καὶ πολλοὺς καιροὺς παραδιδόασι τοῖς ἐπιτιθεμένοις. μόριον δέ τι τοῦ μίσους καὶ τὴν ὀργὴν δεῖ τιθέναι· τρόπον γάρ τινα τῶν αὐτῶν αἰτία γίνεται πράξεων. πολλάκις δὲ καὶ πρακτικώτερον τοῦ μίσους· συντονώτερον γὰρ ἐπιτίθενται διὰ τὸ μὴ χρῆσθαι λογισμῷ τὸ πάθος (μάλιστα δὲ συμβαίνει τοῖς θυμοῖς ἀκολουθεῖν διὰ τὴν ὕβριν, δι' ἣν αἰτίαν ἥ τε τῶν Πεισιστρατιδῶν κατελύθη τυραννὶς καὶ πολλαὶ τῶν ἄλλων), ἀλλὰ μᾶλλον τὸ μῖσος· ἡ μὲν γὰρ ὀργὴ μετὰ λύπης πάρεστιν, ὥστε οὐ ῥᾴδιον λογίζεσθαι, ἡ δ' ἔχθρα ἄνευ λύπης.

ὡς δὲ ἐν κεφαλαίοις εἰπεῖν, ὅσας αἰτίας εἰρήκαμεν τῆς τε ὀλιγαρχίας τῆς ἀκράτου καὶ τελευταίας καὶ τῆς δημοκρατίας τῆς ἐσχάτης, τοσαύτας καὶ τῆς τυραννίδος θετέον· καὶ γὰρ αὗται τυγχάνουσιν οὖσαι διαιρεταὶ τυραννίδες. βασιλεία δ' ὑπὸ μὲν τῶν ἔξωθεν ἥκιστα φθείρεται, διὸ καὶ πολυχρόνιός ἐστιν· ἐξ αὐτῆς δ' αἱ πλεῖσται φθοραὶ συμβαίνουσιν. φθείρεται δὲ κατὰ δύο τρόπους, ἕνα μὲν [1313a] στασιασάντων τῶν μετεχόντων τῆς βασιλείας, ἄλλον δὲ τρόπον τυραννικώτερον πειρωμένων διοικεῖν, ὅταν εἶναι κύριοι πλειόνων ἀξιῶσι καὶ παρὰ τὸν νόμον. οὐ γίγνονται δ' ἔτι βασιλεῖαι νῦν, ἀλλ' ἄν περ γίγνωνται, μοναρχίαι καὶ τυραννίδες μᾶλλον, διὰ τὸ τὴν βασιλείαν ἑκούσιον μὲν ἀρχὴν εἶναι, μειζόνων δὲ κυρίαν, πολλοὺς δ' εἶναι τοὺς ὁμοίους, καὶ μηδένα διαφέροντα τοσοῦτον ὥστε ἀπαρτίζειν πρὸς τὸ μέγεθος καὶ τὸ ἀξίωμα τῆς ἀρχῆς. ὥστε διὰ μὲν τοῦτο ἑκόντες οὐχ ὑπομένουσιν· ἂν δὲ δι' ἀπάτης ἄρξῃ τις ἢ βίας, ἤδη δοκεῖ τοῦτο εἶναι τυραννίς. ἐν δὲ ταῖς κατὰ γένος βασιλείαις τιθέναι δεῖ τῆς φθορᾶς αἰτίαν πρὸς ταῖς εἰρημέναις καὶ τὸ γίνεσθαι πολλοὺς εὐκαταφρονήτους, καὶ τὸ δύναμιν μὴ κεκτημένους τυραννικὴν ἀλλὰ βασιλικὴν τιμὴν ὑβρίζειν· ῥᾳδία γὰρ ἐγίνετο ἡ κατάλυσις· μὴ βουλομένων γὰρ εὐθὺς οὐκ ἔσται βασιλεύς, ἀλλὰ τύραννος καὶ μὴ βουλομένων. φθείρονται μὲν οὖν αἱ μοναρχίαι διὰ ταύτας καὶ τοιαύτας ἑτέρας αἰτίας.

Σῴζονται δὲ δηλονότι ὡς ἁπλῶς μὲν εἰπεῖν ἐκ τῶν ἐναντίων, ὡς δὲ καθ’ ἕκαστον τῷ τὰς μὲν βασιλείας ἄγειν ἐπὶ τὸ μετριώτερον. ὅσῳ γὰρ ἂν ἐλαττόνων ὦσι κύριοι, πλείω χρόνον ἀναγκαῖον μένειν πᾶσαν τὴν ἀρχήν· αὐτοί τε γὰρ ἧττον γίγνονται δεσποτικοὶ καὶ τοῖς ἤθεσιν ἴσοι μᾶλλον, καὶ ὑπὸ τῶν ἀρχομένων φθονοῦνται ἧττον. διὰ γὰρ τοῦτο καὶ ἡ περὶ Μολοττοὺς πολὺν χρόνον βασιλεία διέμεινεν, καὶ ἡ Λακεδαιμονίων διὰ τὸ ἐξ ἀρχῆς τε εἰς δύο μέρη διαιρεθῆναι τὴν ἀρχήν, καὶ πάλιν Θεοπόμπου μετριάσαντος τοῖς τε ἄλλοις καὶ τὴν τῶν ἐφόρων ἀρχὴν ἐπικαταστήσαντος· τῆς γὰρ δυνάμεως ἀφελὼν ηὔξησε τῷ χρόνῳ τὴν βασιλείαν, ὥστε τρόπον τινὰ ἐποίησεν οὐκ ἐλάττον’ ἀλλὰ μείζον’ αὐτήν. ὅπερ καὶ πρὸς τὴν γυναῖκα ἀποκρίνασθαί φασιν αὐτόν, εἰποῦσαν εἰ μηδὲν αἰσχύνεται τὴν βασιλείαν ἐλάττω παραδιδοὺς τοῖς υἱέσιν ἢ παρὰ τοῦ πατρὸς παρέλαβεν· “οὐ δῆτα” φάναι· “παραδίδωμι γὰρ πολυχρονιωτέραν.”

αἱ δὲ τυραννίδες σῴζονται κατὰ δύο τρόπους τοὺς ἐναντιωτάτους, ὧν ἅτερός ἐστιν ὁ παραδεδομένος καὶ καθ’ ὃν διοικοῦσιν οἱ πλεῖστοι τῶν τυράννων τὴν ἀρχήν. τούτων δὲ τὰ πολλά φασι καταστῆσαι Περίανδρον τὸν Κορίνθιον· πολλὰ δὲ καὶ παρὰ τῆς Περσῶν ἀρχῆς ἔστι τοιαῦτα λαβεῖν. ἔστι δὲ τά τε πάλαι λεχθέντα πρὸς σωτηρίαν, ὡς οἷόν τε, τῆς τυραννίδος, τὸ τοὺς ὑπερέχοντας κολούειν καὶ τοὺς φρονηματίας ἀναιρεῖν, καὶ μήτε συσσίτια ἐᾶν μήτε ἑταιρίαν [1313b] μήτε παιδείαν μήτε ἄλλο μηθὲν τοιοῦτον, ἀλλὰ πάντα φυλάττειν ὅθεν εἴωθε γίγνεσθαι δύο, φρόνημά τε καὶ πίστις, καὶ μήτε σχολὰς μήτε ἄλλους συλλόγους ἐπιτρέπειν γίγνεσθαι σχολαστικούς, καὶ πάντα ποιεῖν ἐξ ὧν ὅτι μάλιστα ἀγνῶτες ἀλλήλοις ἔσονται πάντες (ἡ γὰρ γνῶσις πίστιν ποιεῖ μᾶλλον πρὸς ἀλλήλους)· καὶ τὸ τοὺς ἐπιδημοῦντας αἰεὶ φανεροὺς εἶναι καὶ διατρίβειν περὶ θύρας (οὕτω γὰρ ἂν ἥκιστα λανθάνοιεν τί πράττουσι, καὶ φρονεῖν ἂν ἐθίζοιντο μικρὸν αἰεὶ δουλεύοντες)· καὶ τἆλλα ὅσα τοιαῦτα Περσικὰ καὶ βάρβαρα τυραννικά ἐστιν (πάντα γὰρ ταὐτὸν δύναται)· καὶ τὸ μὴ λανθάνειν πειρᾶσθαι ὅσα τυγχάνει τις λέγων ἢ πράττων τῶν ἀρχομένων, ἀλλ’ εἶναι κατασκόπους, οἷον περὶ Συρακούσας αἱ ποταγωγίδες καλούμεναι, καὶ οὓς ὠτακουστὰς ἐξέπεμπεν Ἱέρων, ὅπου τις εἴη συνουσία καὶ σύλλογος (παρρησιάζονταί τε γὰρ ἧττον, φοβούμενοι τοὺς τοιούτους, κἂν παρρησιάζωνται, λανθάνουσιν ἧττον)· καὶ τὸ διαβάλλειν ἀλλήλοις καὶ συγκρούειν καὶ φίλους φίλοις καὶ τὸν δῆμον τοῖς γνωρίμοις καὶ τοὺς πλουσίους ἑαυτοῖς. καὶ τὸ πένητας ποιεῖν τοὺς ἀρχομένους τυραννικόν, ὅπως ἥ τε φυλακὴ τρέφηται καὶ πρὸς τῷ καθ’ ἡμέραν ὄντες ἄσχολοι ὦσιν ἐπιβουλεύειν. παράδειγμα δὲ τούτου αἵ τε πυραμίδες αἱ περὶ Αἴγυπτον καὶ τὰ ἀναθήματα τῶν Κυψελιδῶν καὶ τοῦ Ὀλυμπίου ἡ οἰκοδόμησις ὑπὸ τῶν Πεισιστρατιδῶν, καὶ τῶν περὶ Σάμον ἔργων τὰ Πολυκράτεια (πάντα γὰρ ταῦτα δύναται ταὐτόν, ἀσχολίαν καὶ πενίαν τῶν ἀρχομένων)· καὶ ἡ εἰσφορὰ τῶν τελῶν, οἷον ἐν Συρακούσαις (ἐν πέντε γὰρ ἔτεσιν ἐπὶ Διονυσίου τὴν οὐσίαν ἅπασαν εἰσενηνοχέναι συνέβαινεν). ἔστι δὲ καὶ πολεμοποιὸς ὁ τύραννος, ὅπως δὴ ἄσχολοί τε ὦσι καὶ ἡγεμόνος ἐν χρείᾳ διατελῶσιν ὄντες. καὶ ἡ μὲν βασιλεία σῴζεται διὰ τῶν φίλων, τυραννικὸν δὲ τὸ μάλιστ' ἀπιστεῖν τοῖς φίλοις, ὡς βουλομένων μὲν πάντων, δυναμένων δὲ μάλιστα τούτων.

καὶ τὰ περὶ τὴν δημοκρατίαν δὲ γιγνόμενα τὴν τελευταίαν τυραννικὰ πάντα, γυναικοκρατία τε περὶ τὰς οἰκίας, ἵν' ἐξαγγέλλωσι κατὰ τῶν ἀνδρῶν, καὶ δούλων ἄνεσις διὰ τὴν αὐτὴν αἰτίαν· οὔτε γὰρ ἐπιβουλεύουσιν οἱ δοῦλοι καὶ αἱ γυναῖκες τοῖς τυράννοις, εὐημεροῦντάς τε ἀναγκαῖον εὔνους εἶναι καὶ ταῖς τυραννίσι καὶ ταῖς δημοκρατίαις· καὶ γὰρ ὁ δῆμος εἶναι βούλεται μόναρχος. διὸ καὶ ὁ κόλαξ παρ' ἀμφοτέροις ἔντιμος, παρὰ μὲν τοῖς δήμοις ὁ δημαγωγός (ἔστι γὰρ ὁ δημαγωγὸς τοῦ δήμου κόλαξ), παρὰ δὲ τοῖς τυράννοις οἱ ταπεινῶς ὁμιλοῦντες, [1314a] ὅπερ ἐστὶν ἔργον κολακείας. καὶ γὰρ διὰ τοῦτο πονηρόφιλον ἡ τυραννίς· κολακευόμενοι γὰρ χαίρουσιν, τοῦτο δ' οὐδ' ἂν εἷς ποιήσειε φρόνημα ἔχων ἐλεύθερον, ἀλλὰ φιλοῦσιν οἱ ἐπιεικεῖς, ἢ οὐ κολακεύουσιν. καὶ χρήσιμοι οἱ πονηροὶ εἰς τὰ πονηρά· ἥλῳ γὰρ ὁ ἧλος, ὥσπερ ἡ παροιμία. καὶ τὸ μηδενὶ χαίρειν σεμνῷ μηδ' ἐλευθέρῳ τυραννικόν (αὐτὸν γὰρ εἶναι μόνον ἀξιοῖ τοιοῦτον ὁ τύραννος, ὁ δ' ἀντισεμνυνόμενος καὶ ἐλευθεριάζων ἀφαιρεῖται τὴν ὑπεροχὴν καὶ τὸ δεσποτικὸν τῆς τυραννίδος· μισοῦσιν οὖν ὥσπερ καταλύοντας τὴν ἀρχήν)· καὶ τὸ χρῆσθαι συσσίτοις καὶ συνημερευταῖς ξενικοῖς μᾶλλον ἢ πολιτικοῖς τυραννικόν, ὡς τοὺς μὲν πολεμίους τοὺς δ' οὐκ ἀντιποιουμένους - ταῦτα καὶ τὰ τοιαῦτα τυραννικὰ μὲν καὶ σωτήρια τῆς ἀρχῆς, οὐθὲν δ' ἐλλείπει μοχθηρίας. ἔστι δ' ὡς εἰπεῖν πάντα ταῦτα περιειλημμένα τρισὶν εἴδεσιν. στοχάζεται γὰρ ἡ τυραννὶς τριῶν, ἑνὸς μὲν τοῦ μικρὰ φρονεῖν τοὺς ἀρχομένους (οὐθενὶ γὰρ ἂν μικρόψυχος ἐπιβουλεύσειεν), δευτέρου δὲ τοῦ διαπιστεῖν ἀλλήλοις (οὐ καταλύεται γὰρ πρότερον τυραννὶς πρὶν ἢ πιστεύσωσί τινες ἑαυτοῖς· διὸ καὶ τοῖς ἐπιεικέσι πολεμοῦσιν ὡς βλαβεροῖς πρὸς τὴν ἀρχὴν οὐ μόνον διὰ τὸ μὴ ἀξιοῦν ἄρχεσθαι δεσποτικῶς, ἀλλὰ καὶ διὰ τὸ πιστοὺς καὶ ἑαυτοῖς καὶ τοῖς ἄλλοις εἶναι καὶ μὴ καταγορεύειν μήτε ἑαυτῶν μήτε τῶν ἄλλων)· τρίτον δ' ἀδυναμία τῶν πραγμάτων (οὐθεὶς γὰρ ἐπιχειρεῖ τοῖς ἀδυνάτοις, ὥστε οὐδὲ τυραννίδα καταλύειν μὴ δυνάμεως ὑπαρχούσης). εἰς οὓς μὲν οὖν ὅρους ἀνάγεται τὰ βουλεύματα τῶν τυράννων, οὗτοι τρεῖς τυγχάνουσιν ὄντες· πάντα γὰρ ἀναγάγοι τις ἂν τὰ τυραννικὰ πρὸς ταύτας τὰς ὑποθέσεις, τὰ μὲν ὅπως μὴ πιστεύωσιν ἀλλήλοις, τὰ δ’ ὅπως μὴ δύνωνται, τὰ δ’ ὅπως μικρὸν φρονῶσιν.

ὁ μὲν οὖν εἷς τρόπος δι’ οὗ γίγνεται σωτηρία ταῖς τυραννίσι τοιοῦτός ἐστιν· ὁ δ’ ἕτερος σχεδὸν ἐξ ἐναντίας ἔχει τοῖς εἰρημένοις τὴν ἐπιμέλειαν. ἔστι δὲ λαβεῖν αὐτὸν ἐκ τῆς φθορᾶς τῆς τῶν βασιλειῶν. ὥσπερ γὰρ τῆς βασιλείας εἷς τρόπος τῆς φθορᾶς τὸ ποιεῖν τὴν ἀρχὴν τυραννικωτέραν, οὕτω τῆς τυραννίδος σωτηρία τὸ ποιεῖν αὐτὴν βασιλικωτέραν, ἓν φυλάττοντα μόνον, τὴν δύναμιν, ὅπως ἄρχῃ μὴ μόνον βουλομένων ἀλλὰ καὶ μὴ βουλομένων. προϊέμενος γὰρ καὶ τοῦτο προΐεται καὶ τὸ τυραννεῖν. ἀλλὰ τοῦτο μὲν ὥσπερ ὑπόθεσιν δεῖ μένειν, τὰ δ’ ἄλλα τὰ μὲν ποιεῖν τὰ δὲ δοκεῖν ὑποκρινόμενον τὸν βασιλικὸν καλῶς, πρῶτον μὲν δοκεῖν [1314b] φροντίζειν τῶν κοινῶν, μήτε δαπανῶντα ‹εἰς› δωρεὰς τοιαύτας ἐφ’ αἷς τὰ πλήθη χαλεπαίνουσιν, ὅταν ἀπ’ αὐτῶν μὲν λαμβάνωσιν ἐργαζομένων καὶ πονούντων γλίσχρως, διδῶσι δ’ ἑταίραις καὶ ξένοις καὶ τεχνίταις ἀφθόνως, λόγον τε ἀποδιδόντα τῶν λαμβανομένων καὶ δαπανωμένων, ὅπερ ἤδη πεποιήκασί τινες τῶν τυράννων (οὕτω γὰρ ἄν τις διοικῶν οἰκονόμος ἀλλ’ οὐ τύραννος εἶναι δόξειεν· οὐ δεῖ δὲ φοβεῖσθαι μή ποτε ἀπορήσῃ χρημάτων κύριος ὢν τῆς πόλεως· ἀλλὰ τοῖς γ’ ἐκτοπίζουσι τυράννοις ἀπὸ τῆς οἰκείας καὶ συμφέρει τοῦτο μᾶλλον ἢ καταλιπεῖν ἀθροίσαντας· ἧττον γὰρ ἂν οἱ φυλάττοντες ἐπιτιθεῖντο τοῖς πράγμασιν, εἰσὶ δὲ φοβερώτεροι τῶν τυράννων τοῖς ἀποδημοῦσιν οἱ φυλάττοντες τῶν πολιτῶν· οἱ μὲν γὰρ συναποδημοῦσιν, οἱ δὲ ὑπομένουσιν)· ἔπειτα τὰς εἰσφορὰς καὶ τὰς λειτουργίας δεῖ φαίνεσθαι τῆς τε οἰκονομίας ἕνεκα συνάγοντα, κἄν ποτε δεηθῇ χρῆσθαι πρὸς τοὺς πολεμικοὺς καιρούς, ὅλως τε αὑτὸν παρασκευάζειν φύλακα καὶ ταμίαν ὡς κοινῶν ἀλλὰ μὴ ὡς ἰδίων· καὶ φαίνεσθαι μὴ χαλεπὸν ἀλλὰ σεμνόν, ἔτι δὲ τοιοῦτον ὥστε μὴ φοβεῖσθαι τοὺς ἐντυγχάνοντας ἀλλὰ μᾶλλον αἰδεῖσθαι· τούτου μέντοι τυγχάνειν οὐ ῥᾴδιον ὄντα εὐκαταφρόνητον, διὸ δεῖ κἂν μὴ τῶν ἄλλων ἀρετῶν ἐπιμέλειαν ποιῆται, ἀλλὰ τῆς πολεμικῆς, καὶ δόξαν ἐμποιεῖν περὶ αὑτοῦ τοιαύτην· ἔτι δὲ μὴ μόνον αὐτὸν φαίνεσθαι μηδένα τῶν ἀρχομένων ὑβρίζοντα, μήτε νέον μήτε νέαν, ἀλλὰ μηδ’ ἄλλον μηδένα τῶν περὶ αὐτόν, ὁμοίως δὲ καὶ τὰς οἰκείας ἔχειν γυναῖκας πρὸς τὰς ἄλλας, ὡς καὶ διὰ γυναικῶν ὕβρεις πολλαὶ τυραννίδες ἀπολώλασιν· περί τε τὰς ἀπολαύσεις τὰς σωματικὰς τοὐναντίον ποιεῖν ἢ νῦν τινες τῶν τυράννων ποιοῦσιν (οὐ γὰρ μόνον εὐθὺς ἕωθεν τοῦτο δρῶσιν, καὶ συνεχῶς πολλὰς ἡμέρας, ἀλλὰ καὶ φαίνεσθαι τοῖς ἄλλοις βούλονται τοῦτο πράττοντες, ἵν' ὡς εὐδαίμονας καὶ μακαρίους θαυμάσωσιν), ἀλλὰ μάλιστα μὲν μετριάζειν τοῖς τοιούτοις, εἰ δὲ μή, τό γε φαίνεσθαι τοῖς ἄλλοις διαφεύγειν (οὔτε γὰρ εὐεπίθετος οὔτ' εὐκαταφρόνητος ὁ νήφων, ἀλλ' ὁ μεθύων, οὐδ' ὁ ἄγρυπνος, ἀλλ' ὁ καθεύδων)· τοὐναντίον τε ποιητέον τῶν πάλαι λεχθέντων σχεδὸν πάντων (κατασκευάζειν γὰρ δεῖ καὶ κοσμεῖν τὴν πόλιν ὡς ἐπίτροπον ὄντα καὶ μὴ τύραννον)· ἔτι δὲ τὰ πρὸς τοὺς θεοὺς φαίνεσθαι ἀεὶ σπουδάζοντα διαφερόντως (ἧττόν τε γὰρ φοβοῦνται τὸ παθεῖν τι παράνομον ὑπὸ τῶν τοιούτων, [1315a] ἐὰν δεισιδαίμονα νομίζωσιν εἶναι τὸν ἄρχοντα καὶ φροντίζειν τῶν θεῶν, καὶ ἐπιβουλεύουσιν ἧττον ὡς συμμάχους ἔχοντι καὶ τοὺς θεούς), δεῖ δὲ ἄνευ ἀβελτερίας φαίνεσθαι τοιοῦτον· τούς τε ἀγαθοὺς περί τι γιγνομένους τιμᾶν οὕτως ὥστε μὴ νομίζειν ἄν ποτε τιμηθῆναι μᾶλλον ὑπὸ τῶν πολιτῶν αὐτονόμων ὄντων, καὶ τὰς μὲν τοιαύτας τιμὰς ἀπονέμειν αὐτόν, τὰς δὲ κολάσεις δι' ἑτέρων ἀρχόντων καὶ δικαστηρίων. κοινὴ δὲ φυλακὴ πάσης μοναρχίας τὸ μηθένα ποιεῖν ἕνα μέγαν, ἀλλ' εἴπερ, πλείους (τηρήσουσι γὰρ ἀλλήλους), ἐὰν δ' ἄρα τινὰ δέῃ ποιῆσαι μέγαν, μή τοι τό γε ἦθος θρασύν (ἐπιθετικώτατον γὰρ τὸ τοιοῦτον ἦθος περὶ πάσας τὰς πράξεις), κἂν τῆς δυνάμεώς τινα δοκῇ παραλύειν, ἐκ προσαγωγῆς τοῦτο δρᾶν καὶ μὴ πᾶσαν ἀθρόον ἀφαιρεῖσθαι τὴν ἐξουσίαν. ἔτι δὲ πάσης μὲν ὕβρεως εἴργεσθαι, παρὰ πάσας δὲ δυεῖν, τῆς τε εἰς τὰ σώματα [κολάσεως] καὶ τῆς εἰς τὴν ἡλικίαν. μάλιστα δὲ ταύτην ποιητέον τὴν εὐλάβειαν περὶ τοὺς φιλοτίμους· τὴν μὲν γὰρ εἰς τὰ χρήματα ὀλιγωρίαν οἱ φιλοχρήματοι φέρουσι βαρέως, τὴν δ' [εἰς] ἀτιμίαν οἵ τε φιλότιμοι καὶ οἱ ἐπιεικεῖς τῶν ἀνθρώπων. διόπερ ἢ μὴ χρῆσθαι δεῖ τοῖς τοιούτοις, ἢ τὰς μὲν κολάσεις πατρικῶς φαίνεσθαι ποιούμενον καὶ μὴ δι' ὀλιγωρίαν, τὰς δὲ πρὸς τὴν ἡλικίαν ὁμιλίας δι' ἐρωτικὰς αἰτίας ἀλλὰ μὴ δι' ἐξουσίαν, ὅλως δὲ τὰς δοκούσας ἀτιμίας ἐξωνεῖσθαι μείζοσι τιμαῖς. τῶν δ' ἐπιχειρούντων ἐπὶ τὴν τοῦ σώματος διαφθορὰν οὗτοι φοβερώτατοι καὶ δέονται πλείστης φυλακῆς ὅσοι μὴ προαιροῦνται περιποιεῖσθαι τὸ ζῆν διαφθείραντες. διὸ μάλιστα εὐλαβεῖσθαι δεῖ τοὺς ὑβρίζεσθαι νομίζοντας ἢ αὑτοὺς ἢ ὧν κηδόμενοι τυγχάνουσιν· ἀφειδῶς γὰρ ἑαυτῶν ἔχουσιν οἱ διὰ θυμὸν ἐπιχειροῦντες, καθάπερ καὶ Ἡράκλειτος εἶπε, χαλεπὸν φάσκων εἶναι θυμῷ μάχεσθαι, ψυχῆς γὰρ ὠνεῖσθαι.

ἐπεὶ δ' αἱ πόλεις ἐκ δύο συνεστήκασι μορίων, ἔκ τε τῶν ἀπόρων ἀνθρώπων καὶ τῶν εὐπόρων, μάλιστα μὲν ἀμφοτέρους ὑπολαμβάνειν δεῖ σῴζεσθαι διὰ τὴν ἀρχήν, καὶ τοὺς ἑτέρους ὑπὸ τῶν ἑτέρων ἀδικεῖσθαι μηδέν, ὁπότεροι δ’ ἂν ὦσι κρείττους, τούτους ἰδίους μάλιστα ποιεῖσθαι τῆς ἀρχῆς, ὡς, ἂν ὑπάρξῃ τοῦτο τοῖς πράγμασιν, οὔτε δούλων ἐλευθέρωσιν ἀνάγκη ποιεῖσθαι τὸν τύραννον οὔτε ὅπλων παραίρεσιν· ἱκανὸν γὰρ θάτερον μέρος πρὸς τῇ δυνάμει προστιθέμενον ὥστε κρείττους εἶναι τῶν ἐπιτιθεμένων. περίεργον δὲ τὸ λέγειν καθ’ ἕκαστον τῶν τοιούτων· ὁ γὰρ σκοπὸς φανερός, ὅτι δεῖ μὴ τυραννικὸν [1315b] ἀλλ’ οἰκονόμον καὶ βασιλικὸν εἶναι φαίνεσθαι τοῖς ἀρχομένοις καὶ μὴ σφετεριστὴν ἀλλ’ ἐπίτροπον, καὶ τὰς μετριότητας τοῦ βίου διώκειν, μὴ τὰς ὑπερβολάς, ἔτι δὲ τοὺς μὲν γνωρίμους καθομιλεῖν, τοὺς δὲ πολλοὺς δημαγωγεῖν. ἐκ γὰρ τούτων ἀναγκαῖον οὐ μόνον τὴν ἀρχὴν εἶναι καλλίω καὶ ζηλωτοτέραν τῷ βελτιόνων ἄρχειν καὶ μὴ τεταπεινωμένων μηδὲ μισούμενον καὶ φοβούμενον διατελεῖν, ἀλλὰ καὶ τὴν ἀρχὴν εἶναι πολυχρονιωτέραν, ἔτι δ’ αὐτὸν διακεῖσθαι κατὰ τὸ ἦθος ἤτοι καλῶς πρὸς ἀρετὴν ἢ ἡμίχρηστον ὄντα, καὶ μὴ πονηρὸν ἀλλ’ ἡμιπόνηρον.

Καίτοι πασῶν ὀλιγοχρονιώταται τῶν πολιτειῶν εἰσιν ὀλιγαρχία καὶ τυραννίς. πλεῖστον γὰρ ἐγένετο χρόνον ἡ περὶ Σικυῶνα τυραννίς, ἡ τῶν Ὀρθαγόρου παίδων καὶ αὐτοῦ Ὀρθαγόρου· ἔτη δ’ αὕτη διέμεινεν ἑκατόν. τούτου δ’ αἴτιον ὅτι τοῖς ἀρχομένοις ἐχρῶντο μετρίως καὶ πολλὰ τοῖς νόμοις ἐδούλευον, καὶ διὰ τὸ πολεμικὸς γενέσθαι Κλεισθένης οὐκ ἦν εὐκαταφρόνητος, καὶ τὰ πολλὰ ταῖς ἐπιμελείαις ἐδημαγώγουν. λέγεται γοῦν Κλεισθένης τὸν ἀποκρίναντα τῆς νίκης αὐτὸν ὡς ἐστεφάνωσεν· ἔνιοι δ’ εἰκόνα φασὶν εἶναι τοῦ κρίναντος οὕτως τὸν ἀνδριάντα τὸν ἐν τῇ ἀγορᾷ καθήμενον. φασὶ δὲ καὶ Πεισίστρατον ὑπομεῖναί ποτε προσκληθέντα δίκην εἰς Ἄρειον πάγον. δευτέρα δὲ περὶ Κόρινθον ἡ τῶν Κυψελιδῶν· καὶ γὰρ αὕτη διετέλεσεν ἔτη τρία καὶ ἑβδομήκοντα καὶ ἓξ μῆνας· Κύψελος μὲν γὰρ ἐτυράννησεν ἔτη τριάκοντα, Περίανδρος δὲ τετταράκοντα καὶ ἥμισυ, Ψαμμίτιχος δ’ ὁ Γόργου τρία ἔτη. τὰ δ’ αἴτια ταὐτὰ καὶ ταύτης· ὁ μὲν γὰρ Κύψελος δημαγωγὸς ἦν καὶ κατὰ τὴν ἀρχὴν διετέλεσεν ἀδορυφόρητος, Περίανδρος δ’ ἐγένετο μὲν τυραννικός, ἀλλὰ πολεμικός. τρίτη δ’ ἡ τῶν Πεισιστρατιδῶν Ἀθήνησιν. οὐκ ἐγένετο δὲ συνεχής· δὶς γὰρ ἔφυγε Πεισίστρατος τυραννῶν· ὥστ’ ἐν ἔτεσι τριάκοντα καὶ τρισὶν ἑπτακαίδεκα ἔτη τούτων ἐτυράννησεν, ὀκτωκαίδεκα δὲ οἱ παῖδες, ὥστε τὰ πάντα ἐγένετο ἔτη τριάκοντα καὶ πέντε. τῶν δὲ λοιπῶν ἡ περὶ Ἱέρωνα καὶ Γέλωνα περὶ Συρακούσας. ἔτη δ’ οὐδ’ αὕτη πολλὰ διέμεινεν, ἀλλὰ τὰ σύμπαντα δυεῖν δέοντα εἴκοσι· Γέλων μὲν γὰρ ἑπτὰ τυραννήσας τῷ ὀγδόῳ τὸν βίον ἐτελεύτησεν, δέκα δ’ Ἱέρων, Θρασύβουλος δὲ τῷ ἑνδεκάτῳ μηνὶ ἐξέπεσεν. αἱ δὲ πολλαὶ τῶν τυραννίδων ὀλιγοχρόνιαι πᾶσαι γεγόνασι παντελῶς.

τὰ μὲν οὖν περὶ τὰς πολιτείας καὶ τὰ περὶ τὰς μοναρχίας, ἐξ ὧν τε φθείρονται καὶ πάλιν σῴζονται, σχεδὸν [1316a] εἴρηται περὶ πάντων. ἐν δὲ τῇ Πολιτείᾳ λέγεται μὲν περὶ τῶν μεταβολῶν ὑπὸ τοῦ Σωκράτους, οὐ μέντοι λέγεται καλῶς. τῆς τε γὰρ ἀρίστης πολιτείας καὶ πρώτης οὔσης οὐ λέγει τὴν μεταβολὴν ἰδίως. φησὶ γὰρ αἴτιον εἶναι τὸ μὴ μένειν μηθὲν ἀλλ’ ἔν τινι περιόδῳ μεταβάλλειν, ἀρχὴν δ’ εἶναι τούτων “ὧν ἐπίτριτος πυθμὴν πεμπάδι συζυγεὶς δύο ἁρμονίας παρέχεται”, λέγων ὅταν ὁ τοῦ διαγράμματος ἀριθμὸς τούτου γένηται στερεός, ὡς τῆς φύσεώς ποτε φυούσης φαύλους καὶ κρείττους τῆς παιδείας, τοῦτο μὲν οὖν αὐτὸ λέγων ἴσως οὐ κακῶς (ἐνδέχεται γὰρ εἶναί τινας οὓς παιδευθῆναι καὶ γενέσθαι σπουδαίους ἄνδρας ἀδύνατον), ἀλλ’ αὕτη τί ἂν ἴδιος εἴη μεταβολὴ τῆς ὑπ’ ἐκείνου λεγομένης ἀρίστης πολιτείας μᾶλλον ἢ τῶν ἄλλων πασῶν καὶ τῶν γιγνομένων πάντων; καὶ διά γε τὸν χρόνον, δι’ ὃν λέγει πάντα μεταβάλλειν, καὶ τὰ μὴ ἅμα ἀρξάμενα γίγνεσθαι ἅμα μεταβάλλει, οἷον εἰ τῇ προτέρᾳ ἡμέρᾳ ἐγένετο τῆς τροπῆς, ἅμα ἄρα μεταβάλλει; πρὸς δὲ τούτοις διὰ τίν’ αἰτίαν ἐκ ταύτης εἰς τὴν Λακωνικὴν μεταβάλλει; πλεονάκις γὰρ εἰς τὴν ἐναντίαν μεταβάλλουσι πᾶσαι αἱ πολιτεῖαι ἢ τὴν σύνεγγυς. ὁ δ’ αὐτὸς λόγος καὶ περὶ τῶν ἄλλων μεταβολῶν. ἐκ γὰρ τῆς Λακωνικῆς, φησί, μεταβάλλει εἰς τὴν ὀλιγαρχίαν, ἐκ δὲ ταύτης εἰς δημοκρατίαν, εἰς τυραννίδα δὲ ἐκ δημοκρατίας. καίτοι καὶ ἀνάπαλιν μεταβάλλουσιν, οἷον ἐκ δήμου εἰς ὀλιγαρχίαν, καὶ μᾶλλον ἢ εἰς μοναρχίαν.

ἔτι δὲ τυραννίδος οὐ λέγει οὔτ’ εἰ ἔσται μεταβολὴ οὔτ’, εἰ [μὴ] ἔσται, διὰ τίν’ αἰτίαν καὶ εἰς ποίαν πολιτείαν, τούτου δ’ αἴτιον ὅτι οὐ ῥᾳδίως ἂν εἶχε λέγειν· ἀόριστον γάρ, ἐπεὶ κατ’ ἐκεῖνον δεῖ εἰς τὴν πρώτην καὶ τὴν ἀρίστην· οὕτω γὰρ ἂν ἐγίγνετο συνεχὲς καὶ κύκλος. ἀλλὰ μεταβάλλει καὶ εἰς τυραννίδα τυραννίς, ὥσπερ ἡ Σικυῶνος ἐκ τῆς Μύρωνος εἰς τὴν Κλεισθένους, καὶ εἰς ὀλιγαρχίαν, ὥσπερ ἡ ἐν Χαλκίδι ἡ Ἀντιλέοντος, καὶ εἰς δημοκρατίαν, ὥσπερ ἡ τῶν Γέλωνος ἐν Συρακούσαις, καὶ εἰς ἀριστοκρατίαν, ὥσπερ ἡ Χαρίλλου ἐν Λακεδαίμονι, καὶ ‹ἡ› ἐν Καρχηδόνι. καὶ εἰς τυραννίδα μεταβάλλει ἐξ ὀλιγαρχίας, ὥσπερ ἐν Σικελίᾳ σχεδὸν αἱ πλεῖσται τῶν ἀρχαίων, ἐν Λεοντίνοις εἰς τὴν Παναιτίου τυραννίδα καὶ ἐν Γέλᾳ εἰς τὴν Κλεάνδρου καὶ ἐν Ῥηγίῳ εἰς τὴν Ἀναξιλάου καὶ ἐν ἄλλαις πολλαῖς πόλεσιν ὡσαύτως. ἄτοπον δὲ καὶ τὸ οἴεσθαι εἰς ὀλιγαρχίαν διὰ τοῦτο μεταβάλλειν ὅτι φιλοχρήματοι καὶ χρηματισταὶ οἱ [1316b] ἐν ταῖς ἀρχαῖς, ἀλλ’ οὐχ ὅτι οἱ πολὺ ὑπερέχοντες ταῖς οὐσίαις οὐ δίκαιον οἴονται εἶναι ἴσον μετέχειν τῆς πόλεως τοὺς κεκτημένους μηθὲν τοῖς κεκτημένοις· ἐν πολλαῖς τε ὀλιγαρχίαις οὐκ ἔξεστι χρηματίζεσθαι, ἀλλὰ νόμοι εἰσὶν οἱ κωλύοντες, ἐν Καρχηδόνι δὲ δημοκρατουμένῃ χρηματίζονται καὶ οὔπω μεταβεβλήκασιν.

ἄτοπον δὲ καὶ τὸ φάναι δύο πόλεις εἶναι τὴν ὀλιγαρχικήν, πλουσίων καὶ πενήτων. τί γὰρ αὕτη μᾶλλον τῆς Λακωνικῆς πέπονθεν ἢ ὁποιασοῦν ἄλλης, οὗ μὴ πάντες κέκτηνται ἴσα ἢ μὴ πάντες ὁμοίως εἰσὶν ἀγαθοὶ ἄνδρες; οὐδενὸς δὲ πενεστέρου γενομένου ἢ πρότερον οὐδὲν ἧττον μεταβάλλουσιν εἰς δῆμον ἐξ ὀλιγαρχίας, ἂν γένωνται πλείους οἱ ἄποροι, καὶ ἐκ δήμου εἰς ὀλιγαρχίαν, ἐὰν κρεῖττον ᾖ τοῦ πλήθους τὸ εὔπορον καὶ οἱ μὲν ἀμελῶσιν οἱ δὲ προσέχωσι τὸν νοῦν. πολλῶν τε οὐσῶν αἰτιῶν δι’ ὧν γίγνονται αἱ μεταβολαί, οὐ λέγει ἀλλ’ ‹ἢ› μίαν, ὅτι ἀσωτευόμενοι ‹καὶ› κατατοκιζόμενοι γίγνονται πένητες, ὡς ἐξ ἀρχῆς πλουσίων ὄντων πάντων ἢ τῶν πλείστων. τοῦτο δ’ ἐστὶ ψεῦδος· ἀλλ’ ὅταν μὲν τῶν ἡγεμόνων τινὲς ἀπολέσωσι τὰς οὐσίας, καινοτομοῦσιν, ὅταν δὲ τῶν ἄλλων, οὐθὲν γίγνεται δεινόν, καὶ μεταβάλλουσιν οὐθὲν μᾶλλον οὐδὲ τότε εἰς δῆμον ἢ εἰς ἄλλην πολιτείαν. ἔτι δὲ κἂν τιμῶν μὴ μετέχωσιν, κἂν ἀδικῶνται ἢ ὑβρίζωνται, στασιάζουσι καὶ μεταβάλλουσι τὰς πολιτείας, κἂν μὴ καταδαπανήσωσι τὴν οὐσίαν, διὰ τὸ ἐξεῖναι ὅ τι ἂν βούλωνται ποιεῖν· οὗ αἰτίαν τὴν ἄγαν ἐλευθερίαν εἶναί φησιν. πλειόνων δ’ οὐσῶν ὀλιγαρχιῶν καὶ δημοκρατιῶν, ὡς μιᾶς οὔσης ἑκατέρας λέγει τὰς μεταβολὰς ὁ Σωκράτης.

Z

Πόσαι μὲν οὖν διαφοραὶ καὶ τίνες τοῦ τε βουλευτικοῦ καὶ κυρίου τῆς πολιτείας καὶ τῆς περὶ τὰς ἀρχὰς τάξεως καὶ περὶ δικαστηρίων, καὶ ποία πρὸς ποίαν συντέτακται πολιτείαν, ἔτι δὲ περὶ φθορᾶς τε καὶ σωτηρίας τῶν πολιτειῶν, ἐκ ποίων τε γίνεται καὶ διὰ τίνας αἰτίας, εἴρηται πρότερον· ἐπεὶ δὲ τετύχηκεν εἴδη πλείω δημοκρατίας ὄντα καὶ τῶν ἄλλων ὁμοίως πολιτειῶν, ἅμα τε περὶ ἐκείνων εἴ τι λοιπόν, οὐ χεῖρον ἐπισκέψασθαι, καὶ τὸν οἰκεῖον καὶ τὸν συμφέροντα τρόπον ἀποδοῦναι πρὸς ἑκάστην. ἔτι δὲ καὶ τὰς συναγωγὰς αὐτῶν τῶν εἰρημένων ἐπισκεπτέον πάντων [1317a] τῶν τρόπων· ταῦτα γὰρ συνδυαζόμενα ποιεῖ τὰς πολιτείας ἐπαλλάττειν, ὥστε ἀριστοκρατίας τε ὀλιγαρχικὰς εἶναι καὶ πολιτείας δημοκρατικωτέρας. λέγω δὲ τοὺς συνδυασμοὺς οὓς δεῖ μὲν ἐπισκοπεῖν, οὐκ ἐσκεμμένοι δ’ εἰσὶ νῦν, οἷον ἂν τὸ μὲν βουλευόμενον καὶ τὸ περὶ τὰς ἀρχαιρεσίας ὀλιγαρχικῶς ᾖ συντεταγμένον, τὰ δὲ περὶ τὰ δικαστήρια ἀριστοκρατικῶς, ἢ ταῦτα μὲν καὶ τὸ περὶ τὸ βουλευόμενον ὀλιγαρχικῶς, ἀριστοκρατικῶς δὲ τὸ περὶ τὰς ἀρχαιρεσίας, ἢ κατ’ ἄλλον τινὰ τρόπον μὴ πάντα συντεθῇ τὰ τῆς πολιτείας οἰκεῖα.

ποία μὲν οὖν δημοκρατία πρὸς ποίαν ἁρμόττει πόλιν, ὡσαύτως δὲ καὶ ποία τῶν ὀλιγαρχιῶν ποίῳ πλήθει, καὶ τῶν λοιπῶν δὲ πολιτειῶν τίς συμφέρει τίσιν, εἴρηται πρότερον· ὅμως δ’ ‹ἐπεὶ› δεῖ γενέσθαι δῆλον μὴ μόνον ποία τούτων τῶν πολιτειῶν ἀρίστη ταῖς πόλεσιν, ἀλλὰ καὶ πῶς δεῖ κατασκευάζειν καὶ ταύτας καὶ τὰς ἄλλας, ἐπέλθωμεν συντόμως. καὶ πρῶτον περὶ δημοκρατίας εἴπωμεν· ἅμα γὰρ καὶ περὶ τῆς ἀντικειμένης πολιτείας φανερόν, αὕτη δ’ ἐστὶν ἣν καλοῦσί τινες ὀλιγαρχίαν. ληπτέον δὲ πρὸς ταύτην τὴν μέθοδον πάντα τὰ δημοτικὰ καὶ τὰ δοκοῦντα ταῖς δημοκρατίαις ἀκολουθεῖν· ἐκ γὰρ τούτων συντιθεμένων τὰ τῆς δημοκρατίας εἴδη γίνεσθαι συμβαίνει, καὶ πλείους δημοκρατίας μιᾶς εἶναι καὶ διαφόρους. δύο γάρ εἰσιν αἰτίαι δι’ ἅσπερ αἱ δημοκρατίαι πλείους εἰσί, πρῶτον μὲν ἡ λεχθεῖσα πρότερον, ὅτι διάφοροι οἱ δῆμοι (γίνεται γὰρ τὸ μὲν γεωργικὸν πλῆθος, τὸ δὲ βάναυσον καὶ θητικόν· ὧν τοῦ πρώτου τῷ δευτέρῳ προσλαμβανομένου, καὶ τοῦ τρίτου πάλιν τοῖς ἀμφοτέροις, οὐ μόνον διαφέρει τῷ βελτίω καὶ χείρω γίνεσθαι τὴν δημοκρατίαν, ἀλλὰ καὶ τῷ μὴ τὴν αὐτήν), δευτέρα δὲ περὶ ἧς νῦν λέγομεν. τὰ γὰρ ταῖς δημοκρατίαις ἀκολουθοῦντα καὶ δοκοῦντ' εἶναι τῆς πολιτείας οἰκεῖα ταύτης ποιεῖ συντιθέμενα τὰς δημοκρατίας ἑτέρας· τῇ μὲν γὰρ ἐλάττω, τῇ δ' ἀκολουθήσει πλείονα, τῇ δ' ἅπαντα ταῦτα. χρήσιμον δ' ἕκαστον αὐτῶν γνωρίζειν πρός τε τὸ κατασκευάζειν ἣν ἄν τις αὐτῶν τύχῃ βουλόμενος, καὶ πρὸς τὰς διορθώσεις. ζητοῦσι μὲν γὰρ οἱ τὰς πολιτείας καθιστάντες ἅπαντα τὰ οἰκεῖα συναγαγεῖν πρὸς τὴν ὑπόθεσιν, ἁμαρτάνουσι δὲ τοῦτο ποιοῦντες, καθάπερ ἐν τοῖς περὶ τὰς φθορὰς καὶ τὰς σωτηρίας τῶν πολιτειῶν εἴρηται πρότερον. νυνὶ δὲ τὰ ἀξιώματα καὶ τὰ ἤθη καὶ ὧν ἐφίενται λέγωμεν.

Ὑπόθεσις μὲν οὖν τῆς δημοκρατικῆς πολιτείας ἐλευθερία (τοῦτο γὰρ λέγειν εἰώθασιν, ὡς ἐν μόνῃ τῇ πολιτείᾳ [1317b] ταύτῃ μετέχοντας ἐλευθερίας· τούτου γὰρ στοχάζεσθαί φασι πᾶσαν δημοκρατίαν)· ἐλευθερίας δὲ ἓν μὲν τὸ ἐν μέρει ἄρχεσθαι καὶ ἄρχειν. καὶ γὰρ τὸ δίκαιον τὸ δημοτικὸν τὸ ἴσον ἔχειν ἐστὶ κατὰ ἀριθμὸν ἀλλὰ μὴ κατ' ἀξίαν, τούτου δ' ὄντος τοῦ δικαίου τὸ πλῆθος ἀναγκαῖον εἶναι κύριον, καὶ ὅ τι ἂν δόξῃ τοῖς πλείοσι, τοῦτ' εἶναι τέλος καὶ τοῦτ' εἶναι τὸ δίκαιον· φασὶ γὰρ δεῖν ἴσον ἔχειν ἕκαστον τῶν πολιτῶν· ὥστε ἐν ταῖς δημοκρατίαις συμβαίνει κυριωτέρους εἶναι τοὺς ἀπόρους τῶν εὐπόρων· πλείους γάρ εἰσι, κύριον δὲ τὸ τοῖς πλείοσι δόξαν. ἓν μὲν οὖν τῆς ἐλευθερίας σημεῖον τοῦτο, ὃν τίθενται πάντες οἱ δημοτικοὶ τῆς πολιτείας ὅρον· ἓν δὲ τὸ ζῆν ὡς βούλεταί τις. τοῦτο γὰρ τῆς ἐλευθερίας ἔργον εἶναί φασιν, εἴπερ τοῦ δουλεύοντος τὸ ζῆν μὴ ὡς βούλεται. τῆς μὲν οὖν δημοκρατίας ὅρος οὗτος δεύτερος· ἐντεῦθεν δ' ἐλήλυθε τὸ μὴ ἄρχεσθαι, μάλιστα μὲν ὑπὸ μηθενός, εἰ δὲ μή, κατὰ μέρος, καὶ συμβάλλεται ταύτῃ πρὸς τὴν ἐλευθερίαν τὴν κατὰ τὸ ἴσον.

τούτων δ' ὑποκειμένων καὶ τοιαύτης οὔσης τῆς ἀρχῆς τὰ τοιαῦτα δημοτικά· τὸ αἱρεῖσθαι τὰς ἀρχὰς πάντας ἐκ πάντων, τὸ ἄρχειν πάντας μὲν ἑκάστου ἕκαστον δ' ἐν μέρει πάντων, τὸ κληρωτὰς εἶναι τὰς ἀρχὰς ἢ πάσας ἢ ὅσαι μὴ ἐμπειρίας δέονται καὶ τέχνης, τὸ μὴ ἀπὸ τιμήματος μηθενὸς εἶναι τὰς ἀρχὰς ἢ ὅτι μικροτάτου, τὸ μὴ δὶς τὸν αὐτὸν ἄρχειν μηδεμίαν ἢ ὀλιγάκις ἢ ὀλίγας ἔξω τῶν κατὰ πόλεμον, τὸ ὀλιγοχρονίους εἶναι τὰς ἀρχὰς ἢ πάσας ἢ ὅσας ἐνδέχεται, τὸ δικάζειν πάντας καὶ ἐκ πάντων καὶ περὶ πάντων, ἢ περὶ τῶν πλείστων καὶ τῶν μεγίστων καὶ τῶν κυριωτάτων, οἷον περὶ εὐθυνῶν καὶ πολιτείας καὶ τῶν ἰδίων συναλλαγμάτων, τὸ τὴν ἐκκλησίαν κυρίαν εἶναι πάντων ἢ τῶν μεγίστων, ἀρχὴν δὲ μηδεμίαν μηθενὸς ἢ ὅτι ὀλιγίστων κυρίαν (τῶν δ' ἀρχῶν δημοτικώτατον βουλή, ὅπου μὴ μισθοῦ εὐπορία πᾶσιν· ἐνταῦθα γὰρ ἀφαιροῦνται καὶ ταύτης τῆς ἀρχῆς τὴν δύναμιν· εἰς αὐτὸν γὰρ ἀνάγει τὰς κρίσεις πάσας ὁ δῆμος εὐπορῶν μισθοῦ, καθάπερ εἴρηται πρότερον ἐν τῇ μεθόδῳ τῇ πρὸ ταύτης), ἔπειτα τὸ μισθοφορεῖν μάλιστα μὲν πάντας, ἐκκλησίαν δικαστήρια ἀρχάς, εἰ δὲ μή, τὰς ἀρχὰς καὶ τὰ δικαστήρια καὶ ‹τὴν› βουλὴν καὶ τὰς ἐκκλησίας τὰς κυρίας, ἢ τῶν ἀρχῶν ἃς ἀνάγκη συσσιτεῖν μετ' ἀλλήλων. ἔτι ἐπειδὴ ὀλιγαρχία καὶ γένει καὶ πλούτῳ καὶ παιδείᾳ ὁρίζεται, τὰ δημοτικὰ δοκεῖ τἀναντία τούτων εἶναι, ἀγένεια πενία βαναυσία· ἔτι δὲ τῶν ἀρχῶν τὸ μηδεμίαν ἀίδιον εἶναι, [1318a] ἐὰν δέ τις καταλειφθῇ ἐξ ἀρχαίας μεταβολῆς, τό γε περιαιρεῖσθαι τὴν δύναμιν αὐτῆς καὶ ἐξ αἱρετῶν κληρωτοὺς ποιεῖν. τὰ μὲν οὖν κοινὰ ταῖς δημοκρατίαις ταῦτ' ἐστί· συμβαίνει δ' ἐκ τοῦ δικαίου τοῦ ὁμολογουμένου εἶναι δημοκρατικοῦ (τοῦτο δ' ἐστὶ τὸ ἴσον ἔχειν ἅπαντας κατ' ἀριθμόν) ἡ μάλιστ' εἶναι δοκοῦσα δημοκρατία καὶ δῆμος. ἴσον γὰρ τὸ μηθὲν μᾶλλον ἄρχειν τοὺς ἀπόρους ἢ τοὺς εὐπόρους, μηδὲ κυρίους εἶναι μόνους ἀλλὰ πάντας ἐξ ἴσου κατ' ἀριθμόν· οὕτω γὰρ ἂν ὑπάρχειν νομίζοιεν τήν τ' ἰσότητα τῇ πολιτείᾳ καὶ τὴν ἐλευθερίαν.

Τὸ δὲ μετὰ τοῦτο ἀπορεῖται πῶς ἕξουσι τὸ ἴσον, πότερον δεῖ τὰ τιμήματα διελεῖν, χιλίοις τὰ τῶν πεντακοσίων, καὶ τοὺς χιλίους ἴσον δύνασθαι τοῖς πεντακοσίοις, ἢ οὐχ οὕτω δεῖ τιθέναι τὴν κατὰ τοῦτο ἰσότητα, ἀλλὰ διελεῖν μὲν οὕτως, ἔπειτα ἐκ τῶν πεντακοσίων ἴσους λαβόντα καὶ ἐκ τῶν χιλίων, τούτους κυρίους εἶναι τῶν αἱρέσεων καὶ τῶν δικαστηρίων. πότερον οὖν αὕτη ἡ πολιτεία δικαιοτάτη κατὰ τὸ δημοτικὸν δίκαιον, ἢ μᾶλλον ἡ κατὰ τὸ πλῆθος; φασὶ γὰρ οἱ δημοτικοὶ τοῦτο δίκαιον ὅ τι ἂν δόξῃ τοῖς πλείοσιν, οἱ δ' ὀλιγαρχικοὶ ὅ τι ἂν δόξῃ τῇ πλείονι οὐσίᾳ· κατὰ πλῆθος γὰρ οὐσίας φασὶ κρίνεσθαι δεῖν. ἔχει δ' ἀμφότερα ἀνισότητα καὶ ἀδικίαν· εἰ μὲν γὰρ ὅ τι ἂν οἱ ὀλίγοι, τυραννίς (καὶ γὰρ ἐὰν εἷς ἔχῃ πλείω τῶν ἄλλων εὐπόρων, κατὰ τὸ ὀλιγαρχικὸν δίκαιον ἄρχειν δίκαιος μόνος), εἰ δ' ὅ τι ἂν οἱ πλείους κατ' ἀριθμόν, ἀδικήσουσι δημεύοντες τὰ τῶν πλουσίων καὶ ἐλαττόνων, καθάπερ εἴρηται πρότερον.

τίς ἂν οὖν εἴη ἰσότης ἣν ὁμολογήσουσιν ἀμφότεροι, σκεπτέον ἐξ ὧν ὁρίζονται δικαίων ἀμφότεροι. λέγουσι γὰρ ὡς ὅ τι ἂν δόξῃ τοῖς πλείοσι τῶν πολιτῶν, τοῦτ' εἶναι δεῖ κύριον· ἔστω δὴ τοῦτο, μὴ μέντοι πάντως, ἀλλ' ἐπειδὴ δύο μέρη τετύχηκεν ἐξ ὧν ἡ πόλις, πλούσιοι καὶ πένητες, ὅ τι ἂν ἀμφοτέροις δόξῃ ἢ τοῖς πλείοσι, τοῦτο κύριον ἔστω, ἐὰν δὲ τἀναντία δόξῃ, ὅ τι ἂν οἱ πλείους καὶ ὧν τὸ τίμημα πλεῖον· οἷον, εἰ οἱ μὲν δέκα οἱ δὲ εἴκοσιν, ἔδοξε δὲ τῶν μὲν πλουσίων τοῖς ἓξ τῶν δ' ἀπορωτέρων τοῖς πεντεκαίδεκα, προσγεγένηνται τοῖς μὲν πένησι τέτταρες τῶν πλουσίων, τοῖς δὲ πλουσίοις πέντε τῶν πενήτων· ὁποτέρων οὖν τὸ τίμημα ὑπερτείνει συναριθμουμένων

ἀμφοτέρων ἑκατέροις, τοῦτο κύριον. ἐὰν δὲ ἴσοι συμπέσωσι, κοινὴν εἶναι ταύτην νομιστέον ἀπορίαν ὥσπερ νῦν ἐὰν δίχα ἡ ἐκκλησία γένηται ἢ τὸ δικαστήριον· ἢ [1318b] γὰρ ἀποκληρωτέον ἢ ἄλλο τι τοιοῦτον ποιητέον. ἀλλὰ περὶ μὲν τοῦ ἴσου καὶ τοῦ δικαίου, κἂν ᾖ πάνυ χαλεπὸν εὑρεῖν τὴν ἀλήθειαν περὶ αὐτῶν, ὅμως ῥᾷον τυχεῖν ἢ συμπεῖσαι τοὺς δυναμένους πλεονεκτεῖν· ἀεὶ γὰρ ζητοῦσι τὸ ἴσον καὶ τὸ δίκαιον οἱ ἥττους, οἱ δὲ κρατοῦντες οὐδὲν φροντίζουσιν

Δημοκρατιῶν δ’ οὐσῶν τεττάρων βελτίστη μὲν ἡ πρώτη τάξει, καθάπερ ἐν τοῖς πρὸ τούτων ἐλέχθη λόγοις· ἔστι δὲ καὶ ἀρχαιοτάτη πασῶν αὕτη. λέγω δὲ πρώτην ὥσπερ ἄν τις διέλοι τοὺς δήμους. βέλτιστος γὰρ δῆμος ὁ γεωργικός ἐστιν, ὥστε καὶ ποιεῖν ἐνδέχεται δημοκρατίαν ὅπου ζῇ τὸ πλῆθος ἀπὸ γεωργίας ἢ νομῆς. διὰ μὲν γὰρ τὸ μὴ πολλὴν οὐσίαν ἔχειν ἄσχολος, ὥστε μὴ πολλάκις ἐκκλησιάζειν διὰ δὲ τὸ [μὴ] ἔχειν τἀνακαῖα πρὸς τοῖς ἔργοις διατρίβουσι καὶ τῶν ἀλλοτρίων οὐκ ἐπιθυμοῦσιν, ἀλλ’ ἥδιον αὐτοῖς τὸ ἐργάζεσθαι τοῦ πολιτεύεσθαι καὶ ἄρχειν, ὅπου ἂν μὴ ᾖ λήμματα μεγάλα ἀπὸ τῶν ἀρχῶν. οἱ γὰρ πολλοὶ μᾶλλον ὀρέγονται τοῦ κέρδους ἢ τῆς τιμῆς. σημεῖον δέ· καὶ γὰρ τὰς ἀρχαίας τυραννίδας ὑπέμενον καὶ τὰς ὀλιγαρχίας ὑπομένουσιν, ἐάν τις αὐτοὺς ἐργάζεσθαι μὴ κωλύῃ μηδ’ ἀφαιρῆται μηθέν· ταχέως γὰρ οἱ μὲν πλουτοῦσιν αὐτῶν οἱ δ’ οὐκ ἀποροῦσιν. ἔτι δὲ τὸ κυρίους εἶναι τοῦ ἑλέσθαι καὶ εὐθύνειν ἀναπληροῖ τὴν ἔνδειαν, εἴ τι φιλοτιμίας ἔχουσιν, ἐπεὶ παρ’ ἐνίοις δήμοις, κἂν μὴ μετέχωσι τῆς αἱρέσεως τῶν ἀρχῶν ἀλλά τινες αἱρετοὶ κατὰ μέρος ἐκ πάντων, ὥσπερ ἐν Μαντινείᾳ, τοῦ δὲ βουλεύεσθαι κύριοι ὦσιν, ἱκανῶς ἔχει τοῖς πολλοῖς· καὶ δεῖ νομίζειν καὶ τοῦτ’ εἶναι σχῆμά τι δημοκρατίας, ὥσπερ ἐν Μαντινείᾳ ποτ’ ἦν. διὸ δὴ καὶ συμφέρον ἐστὶ τῇ πρότερον ῥηθείσῃ δημοκρατίᾳ καὶ ὑπάρχειν εἴωθεν, αἱρεῖσθαι μὲν τὰς ἀρχὰς καὶ εὐθύνειν καὶ δικάζειν πάντας, ἄρχειν δὲ τὰς μεγίστας αἱρετοὺς καὶ ἀπὸ τιμημάτων, τὰς μείζους ἀπὸ μειζόνων, ἢ καὶ ἀπὸ τιμημάτων μὲν μηδεμίαν, ἀλλὰ τοὺς δυναμένους. ἀνάγκη δὲ πολιτευομένους οὕτω πολιτεύεσθαί τε καλῶς (αἱ γὰρ ἀρχαὶ αἰεὶ διὰ τῶν βελτίστων ἔσονται, τοῦ δήμου βουλομένου καὶ τοῖς ἐπιεικέσιν οὐ φθονοῦντος), καὶ τοῖς ἐπιεικέσι καὶ γνωρίμοις ἀρκοῦσαν εἶναι ταύτην τὴν τάξιν· ἄρξονται γὰρ οὐχ ὑπ’ ἄλλων χειρόνων, καὶ ἄρξουσι δικαίως διὰ τὸ τῶν εὐθυνῶν εἶναι κυρίους ἑτέρους. τὸ γὰρ ἐπανακρέμασθαι, καὶ μὴ πᾶν ἐξεῖναι ποιεῖν ὅ τι ἂν δόξῃ, συμφέρον ἐστίν· ἡ γὰρ ἐξουσία τοῦ πράττειν ὅ τι ἂν ἐθέλῃ τις οὐ δύναται φυλάττειν τὸ ἐν [1319a] ἑκάστῳ τῶν ἀνθρώπων φαῦλον. ὥστε ἀναγκαῖον συμβαίνειν ὅπερ ἐστὶν ὠφελιμώτατον ἐν ταῖς πολιτείαις, ἄρχειν τοὺς ἐπιεικεῖς ἀναμαρτήτους

ὄντας, μηδὲν ἐλαττουμένου τοῦ πλήθους.

ὅτι μὲν οὖν αὕτη τῶν δημοκρατιῶν ἀρίστη, φανερόν, καὶ διὰ τίν’ αἰτίαν, ὅτι διὰ τὸ ποιόν τινα εἶναι τὸν δῆμον· πρὸς δὲ τὸ κατασκευάζειν γεωργικὸν τὸν δῆμον τῶν τε νόμων τινὲς τῶν παρὰ τοῖς πολλοῖς κειμένων τὸ ἀρχαῖον χρήσιμοι πάντως, ἢ τὸ ὅλως μὴ ἐξεῖναι κεκτῆσθαι πλείω γῆν μέτρου τινὸς ἢ ἀπό τινος τόπου πρὸς τὸ ἄστυ καὶ τὴν πόλιν (ἦν δὲ τό γε ἀρχαῖον ἐν πολλαῖς πόλεσι νενομοθετημένον μηδὲ πωλεῖν ἐξεῖναι τοὺς πρώτους κλήρους· ἔστι δὲ καὶ ὃν λέγουσιν Ὀξύλου νόμον εἶναι τοιοῦτόν τι δυνάμενος, τὸ μὴ δανείζειν εἴς τι μέρος τῆς ὑπαρχούσης ἑκάστῳ γῆς), νῦν δὲ δεῖ διορθοῦν καὶ τῷ Ἀφυταίων νόμῳ, πρὸς γὰρ ὃ λεγομέν ἐστι χρήσιμος· ἐκεῖνοι γάρ, καίπερ ὄντες πολλοὶ κεκτημένοι δὲ γῆν ὀλίγην, ὅμως πάντες γεωργοῦσιν· τιμῶνται γὰρ οὐχ ὅλας τὰς κτήσεις, ἀλλὰ κατὰ τηλικαῦτα μόρια διαιροῦντες ὥστ’ ἔχειν ὑπερβάλλειν ταῖς τιμήσεσι καὶ τοὺς πένητας.

μετὰ δὲ τὸ γεωργικὸν πλῆθος βέλτιστος δῆμός ἐστιν ὅπου νομεῖς εἰσι καὶ ζῶσιν ἀπὸ βοσκημάτων· πολλὰ γὰρ ἔχει τῇ γεωργίᾳ παραπλησίως, καὶ τὰ πρὸς τὰς πολεμικὰς πράξεις μάλισθ’ οὗτοι γεγυμνασμένοι τὰς ἕξεις καὶ χρήσιμοι τὰ σώματα καὶ δυνάμενοι θυραυλεῖν. τὰ δ’ ἄλλα πλήθη πάντα σχεδόν, ἐξ ὧν αἱ λοιπαὶ δημοκρατίαι συνεστᾶσι, πολλῷ φαυλότερα τούτων· ὁ γὰρ βίος φαῦλος, καὶ οὐθὲν ἔργον μετ’ ἀρετῆς ὧν μεταχειρίζεται τὸ πλῆθος τό τε τῶν βαναύσων καὶ τὸ τῶν ἀγοραίων ἀνθρώπων καὶ τὸ θητικόν, ἔτι δὲ διὰ τὸ περὶ τὴν ἀγορὰν καὶ τὸ ἄστυ κυλίεσθαι πᾶν τὸ τοιοῦτον γένος ὡς εἰπεῖν ῥᾳδίως ἐκκλησιάζει· οἱ δὲ γεωργοῦντες διὰ τὸ διεσπάρθαι κατὰ τὴν χώραν οὔτ’ ἀπαντῶσιν οὔθ’ ὁμοίως δέονται τῆς συνόδου ταύτης. ὅπου δὲ καὶ συμβαίνει τὴν χώραν τὴν θέσιν ἔχειν τοιαύτην ὥστε [τὴν χώραν] πολὺ τῆς πόλεως ἀπηρτῆσθαι, ῥᾴδιον καὶ δημοκρατίαν ποιεῖσθαι χρηστὴν καὶ πολιτείαν· ἀναγκάζεται γὰρ τὸ πλῆθος ἐπὶ τῶν ἀγρῶν ποιεῖσθαι τὰς ἀποικίας, ὥστε δεῖ, κἂν ἀγοραῖος ὄχλος ᾖ, μὴ ποιεῖν ἐν ταῖς δημοκρατίαις ἐκκλησίας ἄνευ τοῦ κατὰ τὴν χώραν πλήθους. πῶς μὲν οὖν δεῖ κατασκευάζειν τὴν βελτίστην καὶ πρώτην δημοκρατίαν, εἴρηται· φανερὸν δὲ καὶ πῶς τὰς ἄλλας. ἑπομένως γὰρ δεῖ παρεκβαίνειν [1319b] καὶ τὸ χεῖρον ἀεὶ πλῆθος χωρίζειν. τὴν δὲ τελευταίαν, διὰ τὸ πάντας κοινωνεῖν, οὔτε πάσης ἐστὶ πόλεως φέρειν, οὔτε ῥᾴδιον διαμένειν μὴ τοῖς νόμοις καὶ τοῖς ἔθεσιν εὖ συγκειμένην (ἃ δὲ φθείρειν συμβαίνει καὶ ταύτην καὶ τὰς ἄλλας πολιτείας, εἴρηται πρότερον τὰ πλεῖστα σχεδόν). πρὸς δὲ τὸ καθιστάναι ταύτην τὴν δημοκρατίαν καὶ τὸν δῆμον ποιεῖν ἰσχυρὸν εἰώθασιν οἱ προεστῶτες προσλαμβάνειν ὡς πλείστους καὶ ποιεῖν πολίτας μὴ μόνον τοὺς γνησίους ἀλλὰ καὶ τοὺς νόθους καὶ τοὺς ἐξ ὁποτερουοῦν πολίτου, λέγω δὲ οἷον πατρὸς ἢ μητρός· ἅπαν γὰρ οἰκεῖον τοῦτο τῷ τοιούτῳ δήμῳ μᾶλλον. εἰώθασι μὲν οὖν οἱ δημαγωγοὶ κατασκευάζειν οὕτω, δεῖ μέντοι προσλαμβάνειν μέχρι ἂν ὑπερτείνῃ τὸ πλῆθος τῶν γνωρίμων καὶ τῶν μέσων, καὶ τούτου μὴ πέρα προβαίνειν· ὑπερβάλλοντες γὰρ ἀτακτοτέραν τε ποιοῦσι τὴν πολιτείαν, καὶ τοὺς γνωρίμους πρὸς τὸ χαλεπῶς ὑπομένειν τὴν δημοκρατίαν παροξύνουσι μᾶλλον, ὅπερ συνέβη τῆς στάσεως αἴτιον γενέσθαι περὶ Κυρήνην· ὀλίγον μὲν γὰρ πονηρὸν παροράται, πολὺ δὲ γινόμενον ἐν ὀφθαλμοῖς μᾶλλόν ἐστιν. ἔτι δὲ καὶ τὰ τοιαῦτα κατασκευάσματα χρήσιμα πρὸς τὴν δημοκρατίαν τὴν τοιαύτην, οἷς Κλεισθένης τε Ἀθήνησιν ἐχρήσατο βουλόμενος αὐξῆσαι τὴν δημοκρατίαν, καὶ περὶ Κυρήνην οἱ τὸν δῆμον καθιστάντες. φυλαί τε γὰρ ἕτεραι ποιητέαι πλείους καὶ φατρίαι, καὶ τὰ τῶν ἰδίων ἱερῶν συνακτέον εἰς ὀλίγα καὶ κοινά, καὶ πάντα σοφιστέον ὅπως ἂν ὅτι μάλιστα ἀναμειχθῶσι πάντες ἀλλήλοις, αἱ δὲ συνήθειαι διαζευχθῶσιν αἱ πρότερον. ἔτι δὲ καὶ τὰ τυραννικὰ κατασκευάσματα δημοτικὰ δοκεῖ πάντα, λέγω δ’ οἷον ἀναρχία τε δούλων (αὕτη δ’ ἂν εἴη μέχρι του συμφέρουσα) καὶ γυναικῶν καὶ παίδων, καὶ τὸ ζῆν ὅπως τις βούλεται παρορᾶν· πολὺ γὰρ ἔσται τὸ τῇ τοιαύτῃ πολιτείᾳ βοηθοῦν· ἥδιον γὰρ τοῖς πολλοῖς τὸ ζῆν ἀτάκτως ἢ τὸ σωφρόνως.

Ἔστι δ’ [ἔργον] τοῦ νομοθέτου καὶ τῶν βουλομένων συνιστάναι τινὰ τοιαύτην πολιτείαν οὐ τὸ καταστῆσαι μέγιστον ἔργον οὐδὲ μόνον, ἀλλ’ ὅπως σῴζηται μᾶλλον· μίαν γὰρ ἢ δύο ἢ τρεῖς ἡμέρας οὐ χαλεπὸν μεῖναι πολιτευομένους ὁπωσοῦν. διὸ δεῖ, περὶ ὧν τεθεώρηται πρότερον, τίνες σωτηρίαι καὶ φθοραὶ τῶν πολιτειῶν, ἐκ τούτων πειρᾶσθαι κατασκευάζειν τὴν ἀσφάλειαν, εὐλαβουμένους μὲν τὰ φθείροντα, τιθεμένους δὲ τοιούτους νόμους, καὶ τοὺς ἀγράφους καὶ τοὺς γεγραμμένους, [1320a] οἳ περιλήψονται μάλιστα τὰ σῴζοντα τὰς πολιτείας, καὶ μὴ νομίζειν τοῦτ’ εἶναι δημοτικὸν μηδ’ ὀλιγαρχικὸν ὃ ποιήσει τὴν πόλιν ὅτι μάλιστα δημοκρατεῖσθαι ἢ ὀλιγαρχεῖσθαι, ἀλλ’ ὃ πλεῖστον χρόνον. οἱ δὲ νῦν δημαγωγοὶ χαριζόμενοι τοῖς δήμοις πολλὰ δημεύουσι διὰ τῶν δικαστηρίων. διὸ δεῖ πρὸς ταῦτα ἀντιπράττειν τοὺς κηδομένους τῆς πολιτείας, νομοθετοῦντας μηδὲν εἶναι δημόσιον τῶν καταδικαζομένων καὶ φερόμενον πρὸς τὸ κοινόν, ἀλλ’ ἱερόν· οἱ μὲν γὰρ ἀδικοῦντες οὐθὲν ἧττον εὐλαβεῖς ἔσονται (ζημιώσονται γὰρ ὁμοίως), ὁ δ’ ὄχλος ἧττον καταψηφιεῖται τῶν κρινομένων, λήψεσθαι μηδὲν μέλλων. ἔτι δὲ τὰς γινομένας δημοσίας δίκας ὡς ὀλιγίστας αἰεὶ ποιεῖν, μεγάλοις ἐπιτιμίοις τοὺς εἰκῇ γραφομένους κωλύοντας· οὐ γὰρ τοὺς δημοτικοὺς ἀλλὰ τοὺς γνωρίμους εἰώθασιν εἰσάγειν, δεῖ δὲ τῇ πολιτείᾳ πάντας μάλιστα μὲν εὔνους εἶναι τοὺς πολίτας, εἰ δὲ μή, μή τοί γε ὡς πολεμίους νομίζειν τοὺς κυρίους.

ἐπεὶ δ᾽ αἱ τελευταῖαι δημοκρατίαι πολυάνθρωποί τέ εἰσι καὶ χαλεπὸν ἐκκλησιάζειν ἀμίσθους, τοῦτο δ᾽ ὅπου πρόσοδοι μὴ τυγχάνουσιν οὖσαι πολέμιον τοῖς γνωρίμοις (ἀπό τε γὰρ εἰσφορᾶς καὶ δημεύσεως ἀναγκαῖον γίνεσθαι καὶ δικαστηρίων φαύλων, ἃ πολλὰς ἤδη δημοκρατίας ἀνέτρεψεν), ὅπου μὲν οὖν πρόσοδοι μὴ τυγχάνουσιν οὖσαι, δεῖ ποιεῖν ὀλίγας ἐκκλησίας, καὶ δικαστήρια πολλῶν μὲν ὀλίγας δ᾽ ἡμέρας (τοῦτο γὰρ φέρει μὲν καὶ πρὸς τὸ μὴ φοβεῖσθαι τοὺς πλουσίους τὰς δαπάνας, ἐὰν οἱ μὲν εὔποροι μὴ λαμβάνωσι δικαστικόν, οἱ δ᾽ ἄποροι, φέρει δὲ καὶ πρὸς τὸ κρίνεσθαι τὰς δίκας πολὺ βέλτιον· οἱ γὰρ εὔποροι πολλὰς μὲν ἡμέρας οὐκ ἐθέλουσιν ἀπὸ τῶν ἰδίων ἀπεῖναι, βραχὺν δὲ χρόνον ἐθέλουσιν), ὅπου δ᾽ εἰσὶ πρόσοδοι, μὴ ποιεῖν ὃ νῦν οἱ δημαγωγοὶ ποιοῦσιν (τὰ γὰρ περιόντα νέμουσιν· λαμβάνουσι δὲ ἅμα καὶ πάλιν δέονται τῶν αὐτῶν· ὁ τετρημένος γάρ ἐστι πίθος ἡ τοιαύτη βοήθεια τοῖς ἀπόροις). ἀλλὰ δεῖ τὸν ἀληθινῶς δημοτικὸν ὁρᾶν ὅπως τὸ πλῆθος μὴ λίαν ἄπορον ᾖ· τοῦτο γὰρ αἴτιον τοῦ μοχθηρὰν εἶναι τὴν δημοκρατίαν. τεχναστέον οὖν ὅπως ἂν εὐπορία γένοιτο χρόνιος. ἐπεὶ δὲ συμφέρει τοῦτο καὶ τοῖς εὐπόροις, τὰ μὲν ἀπὸ τῶν προσόδων γινόμενα συναθροίζοντας ἀθρόα χρὴ διανέμειν τοῖς ἀπόροις, μάλιστα μὲν εἴ τις δύναται τοσοῦτον ἀθροίζειν ὅσον εἰς γηδίου κτῆσιν, εἰ δὲ μή, πρὸς ἀφορμὴν ἐμπορίας καὶ [1320b] γεωργίας, καί, εἰ μὴ πᾶσι δυνατόν, ἀλλὰ κατὰ φυλὰς ἤ τι μέρος ἕτερον ἐν μέρει διανέμειν, ἐν δὲ τούτῳ πρὸς τὰς ἀναγκαίας συνόδους τοὺς εὐπόρους εἰσφέρειν τὸν μισθόν, ἀφειμένους τῶν ματαίων λειτουργιῶν. τοιοῦτον δέ τινα τρόπον Καρχηδόνιοι πολιτευόμενοι φίλον κέκτηνται τὸν δῆμον· ἀεὶ γάρ τινας ἐκπέμποντες τοῦ δήμου πρὸς τὰς περιοικίδας ποιοῦσιν εὐπόρους. χαριέντων δ᾽ ἐστὶ καὶ νοῦν ἐχόντων γνωρίμων καὶ διαλαμβάνοντας τοὺς ἀπόρους ἀφορμὰς διδόντας τρέπειν ἐπ᾽ ἐργασίας. καλῶς δ᾽ ἔχει μιμεῖσθαι καὶ τὰ Ταραντίνων. ἐκεῖνοι γὰρ κοινὰ ποιοῦντες τὰ κτήματα τοῖς ἀπόροις ἐπὶ τὴν χρῆσιν εὔνουν παρασκευάζουσι τὸ πλῆθος· ἔτι δὲ τὰς ἀρχὰς πάσας ἐποίησαν διττάς, τὰς μὲν αἱρετὰς τὰς δὲ κληρωτάς, τὰς μὲν κληρωτὰς ὅπως ὁ δῆμος αὐτῶν μετέχῃ, τὰς δ᾽ αἱρετὰς ἵνα πολιτεύωνται βέλτιον. ἔστι δὲ τοῦτο ποιῆσαι. καὶ τῆς αὐτῆς ἀρχῆς μερίζοντας τοὺς μὲν κληρωτοὺς τοὺς δ᾽ αἱρετούς. πῶς μὲν οὖν δεῖ τὰς δημοκρατίας κατασκευάζειν, εἴρηται.

Σχεδὸν δὲ καὶ περὶ τὰς ὀλιγαρχίας πῶς δεῖ φανερὸν ἐκ τούτων. ἐκ τῶν ἐναντίων γὰρ δεῖ συνάγειν ἑκάστην ὀλιγαρχίαν, πρὸς τὴν ἐναντίαν δημοκρατίαν ἀναλογιζόμενον, τὴν μὲν εὔκρατον μάλιστα τῶν ὀλιγαρχιῶν καὶ πρώτην - αὕτη δ᾽ ἐστὶν ἡ σύνεγγυς τῇ καλουμένῃ πολιτείᾳ, ‹ἐν› ᾗ δεῖ τὰ τιμήματα διαιρεῖν, τὰ μὲν ἐλάττω τὰ δὲ μείζω ποιοῦντας, ἐλάττω μὲν ἀφ᾽ ὧν τῶν ἀναγκαίων μεθέξουσιν ἀρχῶν, μείζω δ᾽ ἀφ᾽ ὧν τῶν κυριωτέρων· τῷ τε κτωμένῳ τὸ τίμημα μετέχειν ἐξεῖναι τῆς πολιτείας, τοσούτου εἰσαγομένου τοῦ δήμου πλήθους διὰ τοῦ τιμήματος μεθ᾽ οὗ κρείττονες ἔσονται τῶν μὴ μετεχόντων· ἀεὶ δὲ δεῖ παραλαμβάνειν ἐκ τοῦ βελτίονος δήμου τοὺς κοινωνούς. ὁμοίως δὲ καὶ τὴν ἐχομένην ὀλιγαρχίαν ἐπιτείνοντας δεῖ μικρὸν κατασκευάζειν. τῇ δ᾽ ἀντικειμένῃ τῇ τελευταίᾳ δημοκρατίᾳ, τῇ δυναστικωτάτῃ καὶ τυραννικωτάτῃ τῶν ὀλιγαρχιῶν, ὅσῳ περ χειρίστη, τοσούτῳ δεῖ πλείονος φυλακῆς. ὥσπερ γὰρ τὰ μὲν εὖ σώματα διακείμενα πρὸς ὑγίειαν καὶ πλοῖα τὰ πρὸς ναυτιλίαν καλῶς ἔχοντα τοῖς πλωτῆρσιν ἐπιδέχεται πλείους ἁμαρτίας ὥστε μὴ φθείρεσθαι δι᾽ αὐτάς, τὰ δὲ νοσερῶς ἔχοντα τῶν σωμάτων καὶ τὰ τῶν πλοίων ἐκλελυμένα καὶ πλωτήρων τετυχηκότα φαύλων οὐδὲ τὰς μικρὰς δύναται φέρειν ἁμαρτίας, οὕτω καὶ τῶν πολιτειῶν αἱ χείρισται πλείστης δέονται [1321a] φυλακῆς. τὰς μὲν οὖν δημοκρατίας ὅλως ἡ πολυανθρωπία σῴζει (τοῦτο γὰρ ἀντίκειται πρὸς τὸ δίκαιον τὸ κατὰ τὴν ἀξίαν)· τὴν δ᾽ ὀλιγαρχίαν δῆλον ὅτι τοὐναντίον ἀπὸ τῆς εὐταξίας δεῖ τυγχάνειν τῆς σωτηρίας.

Ἐπεὶ δὲ τέτταρα μὲν ἔστι μέρη μάλιστα τοῦ πλήθους, γεωργικὸν βαναυσικὸν ἀγοραῖον θητικόν, τέτταρα δὲ τὰ χρήσιμα πρὸς πόλεμον, ἱππικὸν ὁπλιτικὸν ψιλὸν ναυτικόν, ὅπου μὲν συμβέβηκε τὴν χώραν εἶναι ἱππάσιμον, ἐνταῦθα μὲν εὐφυῶς ἔχει κατασκευάζειν τὴν ὀλιγαρχίαν ἰσχυράν (ἡ γὰρ σωτηρία τοῖς οἰκοῦσι διὰ ταύτης ἐστὶ τῆς δυνάμεως, αἱ δ᾽ ἱπποτροφίαι τῶν μακρὰς οὐσίας κεκτημένων εἰσίν), ὅπου δ᾽ ὁπλιτικήν, τὴν ἐχομένην ὀλιγαρχίαν (τὸ γὰρ ὁπλιτικὸν τῶν εὐπόρων ἐστὶ μᾶλλον ἢ τῶν ἀπόρων), ἡ δὲ ψιλὴ δύναμις καὶ ναυτικὴ δημοτικὴ πάμπαν. νῦν μὲν οὖν ὅπου τοιοῦτον πολὺ πλῆθος ἔστιν, ὅταν διαστῶσι, πολλάκις ἀγωνίζονται χεῖρον· δεῖ δὲ πρὸς τοῦτο φάρμακον παρὰ τῶν πολεμικῶν λαμβάνειν στρατηγῶν, οἳ συνδυάζουσι πρὸς τὴν ἱππικὴν δύναμιν καὶ τὴν ὁπλιτικὴν τὴν ἁρμόττουσαν τῶν ψιλῶν. ταύτῃ δ᾽ ἐπικρατοῦσιν ἐν ταῖς διαστάσεσιν οἱ δῆμοι τῶν εὐπόρων· ψιλοὶ γὰρ ὄντες πρὸς ἱππικὴν καὶ ὁπλιτικὴν ἀγωνίζονται ῥᾳδίως.

τὸ μὲν οὖν ἐκ τούτων καθιστάναι ταύτην τὴν δύναμιν ἐφ᾽ ἑαυτούς ἐστι καθιστάναι, δεῖ δὲ διῃρημένης τῆς ἡλικίας, καὶ τῶν μὲν ὄντων πρεσβυτέρων τῶν δὲ νέων, ἔτι μὲν ὄντας νέους τοὺς αὑτῶν υἱεῖς διδάσκεσθαι τὰς κούφας καὶ τὰς ψιλὰς ἐργασίας, ἐκκεκριμένους δὲ ἐκ παίδων ἀθλητὰς εἶναι αὐτοὺς τῶν ἔργων· τὴν δὲ μετάδοσιν γίνεσθαι τῷ πλήθει τοῦ πολιτεύματος ἤτοι καθάπερ εἴρηται πρότερον, τοῖς τὸ τίμημα κτωμένοις, ἢ καθάπερ Θηβαίοις, ἀποσχομένοις χρόνον τινὰ τῶν βαναύσων ἔργων, ἢ καθάπερ ἐν Μασσαλίᾳ κρίσιν ποιουμένους τῶν ἀξίων τῶν ἐν τῷ πολιτεύματι καὶ τῶν ἔξωθεν. ἔτι δὲ καὶ ταῖς ἀρχαῖς ταῖς κυριωτάταις, ἃς δεῖ τοὺς ἐν τῇ πολιτείᾳ κατέχειν, δεῖ προσκεῖσθαι λειτουργίας, ἵν' ἑκὼν ὁ δῆμος μὴ μετέχῃ καὶ συγγνώμην ἔχῃ τοῖς ἄρχουσιν ὡς μισθὸν πολὺν διδοῦσι τῆς ἀρχῆς. ἁρμόττει δὲ θυσίας τε εἰσιόντας ποιεῖσθαι μεγαλοπρεπεῖς καὶ κατασκευάζειν τι τῶν κοινῶν, ἵνα τῶν περὶ τὰς ἑστιάσεις μετέχων ὁ δῆμος καὶ τὴν πόλιν ὁρῶν κοσμουμένην τὰ μὲν ἀναθήμασι τὰ δὲ οἰκοδομήμασιν ἄσμενος ὁρᾷ μένουσαν τὴν πολιτείαν· συμβήσεται δὲ καὶ τοῖς γνωρίμοις εἶναι μνημεῖα τῆς δαπάνης. ἀλλὰ τοῦτο νῦν οἱ περὶ τὰς ὀλιγαρχίας οὐ ποιοῦσιν, ἀλλὰ τοὐναντίον· τὰ λήμματα γὰρ ζητοῦσιν οὐχ ἧττον ἢ τὴν τιμήν. διόπερ εὖ ἔχει λέγειν [1321b] ταύτας εἶναι δημοκρατίας μικράς. πῶς μὲν οὖν χρὴ καθιστάναι τὰς δημοκρατίας καὶ τὰς ὀλιγαρχίας, διωρίσθω τὸν τρόπον τοῦτον.

Ἀκόλουθον δὲ τοῖς εἰρημένοις ἐστὶ τὸ διῃρῆσθαι καλῶς τὰ περὶ τὰς ἀρχάς, πόσαι καὶ τίνες καὶ τίνων, καθάπερ εἴρηται καὶ πρότερον. τῶν μὲν γὰρ ἀναγκαίων ἀρχῶν χωρὶς ἀδύνατον εἶναι πόλιν, τῶν δὲ πρὸς εὐταξίαν καὶ κόσμον ἀδύνατον οἰκεῖσθαι καλῶς. ἔτι δ' ἀναγκαῖον ἐν μὲν ταῖς μικραῖς ἐλάττους εἶναι τὰς ἀρχάς, ἐν δὲ ταῖς μεγάλαις πλείους, ὥσπερ τυγχάνει πρότερον εἰρημένον· ποίας οὖν ἁρμόττει συνάγειν καὶ ποίας χωρίζειν, δεῖ μὴ λανθάνειν. πρώτη μὲν οὖν ἐπιμέλεια τῶν ἀναγκαίων ἡ περὶ τὴν ἀγοράν, ἐφ' ᾗ δεῖ τινα ἀρχὴν εἶναι τὴν ἐφορῶσαν περί τε τὰ συμβόλαια καὶ τὴν εὐκοσμίαν· σχεδὸν γὰρ ἀναγκαῖον πάσαις ταῖς πόλεσι τὰ μὲν ὠνεῖσθαι τὰ δὲ πωλεῖν πρὸς τὴν ἀλλήλων ἀναγκαίαν χρείαν, καὶ τοῦτ' ἐστὶν ὑπογυιότατον πρὸς αὐτάρκειαν, δι' ἣν δοκοῦσιν εἰς μίαν πολιτείαν συνελθεῖν. ἑτέρα δὲ ἐπιμέλεια ταύτης ἐχομένη καὶ σύνεγγυς ἡ τῶν περὶ τὸ ἄστυ δημοσίων καὶ ἰδίων, ὅπως εὐκοσμία ᾖ, καὶ τῶν πιπτόντων οἰκοδομημάτων καὶ ὁδῶν σωτηρία καὶ διόρθωσις, καὶ τῶν ὁρίων τῶν πρὸς ἀλλήλους, ὅπως ἀνεγκλήτως ἔχωσιν, καὶ ὅσα τούτοις ἄλλα τῆς ἐπιμελείας ὁμοιότροπα. καλοῦσι δ' ἀστυνομίαν οἱ πλεῖστοι τὴν τοιαύτην ἀρχήν, ἔχει δὲ μόρια πλείω τὸν ἀριθμόν, ὧν ἑτέρους ἐφ' ἕτερα καθιστᾶσιν ἐν ταῖς πολυανθρωποτέραις πόλεσιν, οἷον τειχοποιοὺς καὶ κρηνῶν ἐπιμελητὰς καὶ λιμένων φύλακας. ἄλλη δ' ἀναγκαία τε καὶ παραπλησία ταύτῃ· περὶ τῶν αὐτῶν μὲν γάρ, ἀλλὰ περὶ τὴν χώραν ἐστὶ καὶ [τὰ] περὶ τὰ ἔξω τοῦ ἄστεως· καλοῦσι δὲ τοὺς ἄρχοντας τούτους οἱ μὲν ἀγρονόμους οἱ δ' ὑλωρούς. αὗται μὲν οὖν ἐπιμέλειαί εἰσι τούτων τρεῖς, ἄλλη δ’ ἀρχὴ πρὸς ἣν αἱ πρόσοδοι τῶν κοινῶν ἀναφέρονται, παρ’ ὧν φυλαττόντων μερίζονται πρὸς ἑκάστην διοίκησιν· καλοῦσι δ’ ἀποδέκτας τούτους καὶ ταμίας. ἑτέρα δ’ ἀρχὴ πρὸς ἣν ἀναγράφεσθαι δεῖ τά τε ἴδια συμβόλαια καὶ τὰς κρίσεις [ἐκ] τῶν δικαστηρίων· παρὰ δὲ τοῖς αὐτοῖς τούτοις καὶ τὰς γραφὰς τῶν δικῶν γίνεσθαι δεῖ καὶ τὰς εἰσαγωγάς. ἐνιαχοῦ μὲν οὖν μερίζουσι καὶ ταύτην εἰς πλείους, ἔστι δ’ ‹οὗ› μία κυρία τούτων πάντων· καλοῦνται δὲ ἱερομνήμονες καὶ ἐπιστάται καὶ μνήμονες καὶ τούτοις ἄλλα ὀνόματα σύνεγγυς.

μετὰ δὲ ταύτην ἐχομένη μὲν ἀναγκαιοτάτη δὲ σχεδὸν καὶ χαλεπωτάτη τῶν ἀρχῶν ἐστιν ἡ περὶ τὰς πράξεις τῶν καταδικασθέντων καὶ τῶν προτιθεμένων [1322a] κατὰ τὰς ἐγγραφὰς καὶ περὶ τὰς φυλακὰς τῶν σωμάτων. χαλεπὴ μὲν οὖν ἐστι διὰ τὸ πολλὴν ἔχειν ἀπέχθειαν, ὥστε ὅπου μὴ μεγάλα ἔστι κερδαίνειν, οὔτ’ ἄρχειν ὑπομένουσιν αὐτὴν οὔθ’ ὑπομείναντες ἐθέλουσι πράττειν κατὰ τοὺς νόμους· ἀναγκαία δ’ ἐστίν, ὅτι οὐδὲν ὄφελος γίνεσθαι μὲν δίκας περὶ τῶν δικαίων, ταύτας δὲ μὴ λαμβάνειν τέλος, ὥστ’ εἰ μὴ γιγνομένων κοινωνεῖν ἀδύνατον ἀλλήλοις, καὶ πράξεων μὴ γιγνομένων. διὸ βέλτιον μὴ μίαν εἶναι ταύτην τὴν ἀρχήν, ἀλλ’ ἄλλους ἐξ ἄλλων δικαστηρίων, καὶ περὶ τὰς προθέσεις τῶν ἀναγεγραμμένων ὡσαύτως πειρᾶσθαι διαιρεῖν, ἔτι δ’ ἔνια πράττεσθαι καὶ τὰς ἀρχὰς τάς τε ἄλλας καὶ τὰς τῶν ἔνων μᾶλλον τὰς νέας, καὶ τὰς τῶν ἐνεστώτων ἑτέρας καταδικασάσης ἑτέραν εἶναι τὴν πραττομένην, οἷον ἀστυνόμους τὰς παρὰ τῶν ἀγορανόμων, τὰς δὲ παρὰ τούτων ἑτέρους. ὅσῳ γὰρ ἂν ἐλάττων ἀπέχθεια ἐνῇ τοῖς πραττομένοις, τοσούτῳ μᾶλλον λήψονται τέλος αἱ πράξεις· τὸ μὲν οὖν τοὺς αὐτοὺς εἶναι τοὺς καταδικάσαντας καὶ πραττομένους ἀπέχθειαν ἔχει διπλῆν, τὸ δὲ περὶ πάντων τοὺς αὐτοὺς ‹ποιεῖ αὐτοὺς› πολεμίους πᾶσιν. πολλαχοῦ δὲ δὴ διῄρηται καὶ ἡ φυλάττουσα πρὸς τὴν πραττομένην, οἷον Ἀθήνησιν ‹ἡ› τῶν Ἕνδεκα καλουμένων. διὸ βέλτιον καὶ ταύτην χωρίζειν, καὶ τὸ ‹αὐτὸ› σόφισμα ζητεῖν καὶ περὶ ταύτην. ἀναγκαία μὲν γάρ ἐστιν οὐχ ἧττον τῆς εἰρημένης, συμβαίνει δὲ τοὺς μὲν ἐπιεικεῖς φεύγειν μάλιστα ταύτην τὴν ἀρχήν, τοὺς δὲ μοχθηροὺς οὐκ ἀσφαλὲς ποιεῖν κυρίους· αὐτοὶ γὰρ δέονται φυλακῆς μᾶλλον ἢ φυλάττειν ἄλλους δύνανται. διὸ δεῖ μὴ μίαν ἀποτεταγμένην ἀρχὴν εἶναι πρὸς αὐτούς, μηδὲ συνεχῶς τὴν αὐτήν, ἀλλὰ τῶν τε νέων, ὅπου τις ἐφήβων ἢ φρουρῶν ἔστι τάξις, καὶ τῶν ἀρχῶν δεῖ κατὰ μέρη ποιεῖσθαι τὴν ἐπιμέλειαν ἑτέρους.

ταύτας μὲν οὖν τὰς ἀρχὰς ὡς ἀναγκαιοτάτας θετέον εἶναι πρώτας, μετὰ δὲ ταύτας τὰς ἀναγκαίας μὲν οὐθὲν ἧττον, ἐν σχήματι δὲ μείζονι τεταγμένας·

καὶ γὰρ ἐμπειρίας καὶ πίστεως δέονται πολλῆς. τοιαῦται δ' εἶεν ἂν αἵ τε περὶ τὴν φυλακὴν τῆς πόλεως, καὶ ὅσαι τάττονται πρὸς τὰς πολεμικὰς χρείας. δεῖ δὲ καὶ ἐν εἰρήνῃ καὶ ἐν πολέμῳ πυλῶν τε καὶ τειχῶν φυλακῆς ὁμοίως ἐπιμελητὰς εἶναι καὶ ἐξετάσεως καὶ συντάξεως τῶν πολιτῶν. ἔνθα μὲν οὖν ἐπὶ πᾶσι τούτοις ἀρχαὶ πλείους εἰσίν, ἔνθα δ' ἐλάττους, οἷον ἐν ταῖς μικραῖς πόλεσι μία περὶ πάντων. καλοῦσι δὲ στρατηγοὺς καὶ πολεμάρχους [1322b] τοὺς τοιούτους. ἔτι δὲ κἂν ὦσιν ἱππεῖς ἢ ψιλοὶ ἢ τοξόται ἢ ναυτικόν, καὶ ἐπὶ τούτων ἑκάστων ἐνίοτε καθίσταται ἀρχή, αἳ καλοῦνται ναυαρχίαι καὶ ἱππαρχίαι καὶ ταξιαρχίαι, καὶ κατὰ μέρος δὲ αἱ ὑπὸ ταύτας τριηραρχίαι καὶ λοχαγίαι καὶ φυλαρχίαι καὶ ὅσα τούτων μόρια. τὸ δὲ πᾶν ἕν τι τούτου ἐστὶν εἶδος, ἐπιμελείας πολεμικῶν.

περὶ μὲν οὖν ταύτην τὴν ἀρχὴν ἔχει τὸν τρόπον τοῦτον· ἐπεὶ δὲ ἔνιαι τῶν ἀρχῶν, εἰ καὶ μὴ πᾶσαι, διαχειρίζουσι πολλὰ τῶν κοινῶν, ἀναγκαῖον ἑτέραν εἶναι τὴν ληψομένην λογισμὸν καὶ προσευθυνοῦσαν, αὐτὴν μηθὲν διαχειρίζουσαν ἕτερον· καλοῦσι δὲ τούτους οἱ μὲν εὐθύνους οἱ δὲ λογιστὰς οἱ δ' ἐξεταστὰς οἱ δὲ συνηγόρους. παρὰ πάσας δὲ ταύτας τὰς ἀρχὰς ἡ μάλιστα κυρία πάντων ἐστίν· ἡ γὰρ αὐτὴ πολλάκις ἔχει τὸ τέλος καὶ τὴν εἰσφορὰν ἢ προκάθηται τοῦ πλήθους, ὅπου κύριός ἐστιν ὁ δῆμος· δεῖ γὰρ εἶναι τὸ συνάγον τὸ κύριον τῆς πολιτείας. καλεῖται δὲ ἔνθα μὲν πρόβουλοι διὰ τὸ προβουλεύειν, ὅπου δὲ πλῆθός ἐστι, βουλὴ μᾶλλον. αἱ μὲν οὖν πολιτικαὶ τῶν ἀρχῶν σχεδὸν τοσαῦταί τινές εἰσιν· ἄλλο δ' εἶδος ἐπιμελείας ἡ περὶ τοὺς θεούς, οἷον ἱερεῖς τε καὶ ἐπιμεληταὶ τῶν περὶ τὰ ἱερὰ τοῦ σῴζεσθαί τε τὰ ὑπάρχοντα καὶ ἀνορθοῦσθαι τὰ πίπτοντα τῶν οἰκοδομημάτων καὶ τῶν ἄλλων ὅσα τέτακται πρὸς τοὺς θεούς. συμβαίνει δὲ τὴν ἐπιμέλειαν ταύτην ἐνιαχοῦ μὲν εἶναι μίαν, οἷον ἐν ταῖς μικραῖς πόλεσιν, ἐνιαχοῦ δὲ πολλὰς καὶ κεχωρισμένας τῆς ἱερωσύνης, οἷον ἱεροποιοὺς καὶ ναοφύλακας καὶ ταμίας τῶν ἱερῶν χρημάτων. ἐχομένη δὲ ταύτης ἡ πρὸς τὰς θυσίας ἀφωρισμένη τὰς κοινὰς πάσας, ὅσας μὴ τοῖς ἱερεῦσιν ἀποδίδωσιν ὁ νόμος, ἀλλ' ἀπὸ τῆς κοινῆς ἑστίας ἔχουσι τὴν τιμήν· καλοῦσι δ' οἱ μὲν ἄρχοντας τούτους οἱ δὲ βασιλεῖς οἱ δὲ πρυτάνεις.

αἱ μὲν οὖν ἀναγκαῖαι ἐπιμέλειαί εἰσι περὶ τούτων, ὡς εἰπεῖν συγκεφαλαιωσαμένους, περί τε τὰ δαιμόνια καὶ τὰ πολεμικὰ καὶ περὶ τὰς προσόδους καὶ τὰ ἀναλισκόμενα, καὶ περὶ ἀγορὰν καὶ περὶ τὸ ἄστυ καὶ λιμένας καὶ τὴν χώραν, ἔτι περὶ τὰ δικαστήρια, καὶ συναλλαγμάτων ἀναγραφὰς καὶ πράξεις καὶ φυλακὰς καὶ ἐπιλογισμούς τε καὶ ἐξετάσεις καὶ προσευθύνας τῶν ἀρχόντων, καὶ τέλος αἳ περὶ τὸ βουλευόμενόν εἰσι ‹περὶ› τῶν κοινῶν· ἴδιαι δὲ ταῖς σχολαστικωτέραις καὶ μᾶλλον εὐημερούσαις πόλεσιν, ἔτι δὲ φροντιζούσαις εὐκοσμίας, γυναικονομία νομοφυλακία παιδονομία [1323a] γυμνασιαρχία, πρὸς δὲ τούτοις περὶ ἀγῶνας ἐπιμέλεια γυμνικοὺς καὶ Διονυσιακούς, κἂν εἴ τινας ἑτέρας συμβαίνει τοιαύτας γίνεσθαι θεωρίας. τούτων δ’ ἔνιαι φανερῶς εἰσιν οὐ δημοτικαὶ τῶν ἀρχῶν, οἷον γυναικονομία καὶ παιδονομία· τοῖς γὰρ ἀπόροις ἀνάγκη χρῆσθαι καὶ γυναιξὶ καὶ παισὶν ὥσπερ ἀκολούθοις διὰ τὴν ἀδουλίαν. τριῶν δ’ οὐσῶν ἀρχῶν καθ’ ἃς αἱροῦνταί τινες ἀρχὰς τὰς κυρίους, νομοφυλάκων προβούλων βουλῆς, οἱ μὲν νομοφύλακες ἀριστοκρατικόν, ὀλιγαρχικὸν δ’ οἱ πρόβουλοι, βουλὴ δὲ δημοτικόν. περὶ μὲν οὖν τῶν ἀρχῶν, ὡς ἐν τύπῳ, σχεδὸν εἴρηται περὶ πασῶν.

Η

Περὶ δὲ πολιτείας ἀρίστης τὸν μέλλοντα ποιήσασθαι τὴν προσήκουσαν ζήτησιν ἀνάγκη διορίσασθαι πρῶτον τίς αἱρετώτατος βίος. ἀδήλου γὰρ ὄντος τούτου καὶ τὴν ἀρίστην ἀναγκαῖον ἄδηλον εἶναι πολιτείαν· ἄριστα γὰρ πράττειν προσήκει τοὺς ἄριστα πολιτευομένους ἐκ τῶν ὑπαρχόντων αὐτοῖς, ἐὰν μή τι γίγνηται παράλογον. διὸ δεῖ πρῶτον ὁμολογεῖσθαι τίς ὁ πᾶσιν ὡς εἰπεῖν αἱρετώτατος βίος, μετὰ δὲ τοῦτο πότερον κοινῇ καὶ χωρὶς ὁ αὐτὸς ἢ ἕτερος. νομίσαντας οὖν ἱκανῶς πολλὰ λέγεσθαι καὶ τῶν ἐν τοῖς ἐξωτερικοῖς λόγοις περὶ τῆς ἀρίστης ζωῆς, καὶ νῦν χρηστέον αὐτοῖς. ὡς ἀληθῶς γὰρ πρός γε μίαν διαίρεσιν οὐδεὶς ἀμφισβητήσειεν ἂν ὡς οὐ, τριῶν οὐσῶν μερίδων, τῶν τε ἐκτὸς καὶ τῶν ἐν τῷ σώματι καὶ τῶν ἐν τῇ ψυχῇ, πάντα ταῦτα ὑπάρχειν τοῖς μακαρίοις χρή. οὐδεὶς γὰρ ἂν φαίη μακάριον τὸν μηθὲν μόριον ἔχοντα ἀνδρείας μηδὲ σωφροσύνης μηδὲ δικαιοσύνης μηδὲ φρονήσεως, ἀλλὰ δεδιότα μὲν τὰς παραπετομένας μυίας, ἀπεχόμενον δὲ μηθενός, ἂν ἐπιθυμήσῃ τοῦ φαγεῖν ἢ πιεῖν, τῶν ἐσχάτων, ἕνεκα δὲ τεταρτημορίου διαφθείροντα τοὺς φιλτάτους φίλους, ὁμοίως δὲ καὶ τὰ περὶ τὴν διάνοιαν οὕτως ἄφρονα καὶ διεψευσμένον ὥσπερ τι παιδίον ἢ μαινόμενον. ἀλλὰ ταῦτα μὲν λεγόμενα ὥσπερ πάντες ἂν συγχωρήσειαν, διαφέρονται δ᾽ ἐν τῷ ποσῷ καὶ ταῖς ὑπεροχαῖς. τῆς μὲν γὰρ ἀρετῆς ἔχειν ἱκανὸν εἶναι νομίζουσιν ὁποσονοῦν, πλούτου δὲ καὶ χρημάτων καὶ δυνάμεως καὶ δόξης καὶ πάντων τῶν τοιούτων εἰς ἄπειρον ζητοῦσι τὴν ὑπερβολήν. ἡμεῖς δὲ αὐτοῖς ἐροῦμεν ὅτι ῥᾴδιον μὲν περὶ τούτων καὶ διὰ τῶν ἔργων λαμβάνειν τὴν πίστιν, ὁρῶντας ὅτι κτῶνται καὶ φυλάττουσιν οὐ τὰς ἀρετὰς τοῖς ἐκτὸς ἀλλ᾽ ἐκεῖνα ταύταις, [1323b] καὶ τὸ ζῆν εὐδαιμόνως, εἴτ᾽ ἐν τῷ χαίρειν ἐστὶν εἴτ᾽ ἐν ἀρετῇ τοῖς ἀνθρώποις εἴτ᾽ ἐν ἀμφοῖν, ὅτι μᾶλλον ὑπάρχει τοῖς τὸ ἦθος μὲν καὶ τὴν διάνοιαν κεκοσμημένοις εἰς ὑπερβολήν, περὶ δὲ τὴν ἔξω κτῆσιν τῶν ἀγαθῶν μετριάζουσιν, ἢ τοῖς ἐκεῖνα μὲν κεκτημένοις πλείω τῶν χρησίμων, ἐν δὲ τούτοις ἐλλείπουσιν· οὐ μὴν ἀλλὰ καὶ κατὰ τὸν λόγον σκοπουμένοις εὐσύνοπτόν ἐστιν. τὰ μὲν γὰρ ἐκτὸς ἔχει πέρας, ὥσπερ ὄργανόν τι, πᾶν τε τὸ χρήσιμον εἴς τι· ὧν τὴν ὑπερβολὴν ἢ βλάπτειν ἀναγκαῖον ἢ μηθὲν ὄφελος εἶναι τοῖς ἔχουσιν, τῶν δὲ περὶ ψυχὴν ἕκαστον ἀγαθῶν, ὅσῳ περ ἂν ὑπερβάλλῃ, τοσούτῳ μᾶλλον χρήσιμον εἶναι, εἰ δεῖ καὶ τούτοις ἐπιλέγειν μὴ μόνον τὸ καλὸν ἀλλὰ καὶ τὸ χρήσιμον. ὅλως τε δῆλον ὡς ἀκολουθεῖν φήσομεν τὴν διάθεσιν τὴν ἀρίστην ἑκάστου πράγματος πρὸς ἄλληλα κατὰ τὴν ὑπεροχὴν ἥνπερ εἴληχε ταῦτα ὧν φαμεν αὐτὰς εἶναι διαθέσεις [ταύτας]. ὥστ' εἴπερ ἐστὶν ἡ ψυχὴ καὶ τῆς κτήσεως καὶ τοῦ σώματος τιμιώτερον καὶ ἁπλῶς καὶ ἡμῖν, ἀνάγκη καὶ τὴν διάθεσιν τὴν ἀρίστην ἑκάστου ἀνάλογον τούτων ἔχειν. ἔτι δὲ τῆς ψυχῆς ἕνεκεν ταῦτα πέφυκεν αἱρετὰ καὶ δεῖ πάντας αἱρεῖσθαι τοὺς εὖ φρονοῦντας, ἀλλ' οὐκ ἐκείνων ἕνεκεν τὴν ψυχήν.

ὅτι μὲν οὖν ἑκάστῳ τῆς εὐδαιμονίας ἐπιβάλλει τοσοῦτον ὅσον περ ἀρετῆς καὶ φρονήσεως καὶ τοῦ πράττειν κατὰ ταύτας, ἔστω συνωμολογημένον ἡμῖν, μάρτυρι τῷ θεῷ χρωμένοις, ὃς εὐδαίμων μέν ἐστι καὶ μακάριος, δι' οὐθὲν δὲ τῶν ἐξωτερικῶν ἀγαθῶν ἀλλὰ δι' αὑτὸν αὐτὸς καὶ τῷ ποιός τις εἶναι τὴν φύσιν, ἐπεὶ καὶ τὴν εὐτυχίαν τῆς εὐδαιμονίας διὰ ταῦτ' ἀναγκαῖον ἑτέραν εἶναι (τῶν μὲν γὰρ ἐκτὸς ἀγαθῶν τῆς ψυχῆς αἴτιον ταὐτόματον καὶ ἡ τύχη, δίκαιος δ' οὐδεὶς οὐδὲ σώφρων ἀπὸ τύχης οὐδὲ διὰ τὴν τύχην ἐστίν)· ἐχόμενον δ' ἐστὶ καὶ τῶν αὐτῶν λόγων δεόμενον καὶ πόλιν εὐδαίμονα τὴν ἀρίστην εἶναι καὶ πράττουσαν καλῶς. ἀδύνατον δὲ καλῶς πράττειν τοῖς μὴ τὰ καλὰ πράττουσιν· οὐθὲν δὲ καλὸν ἔργον οὔτ' ἀνδρὸς οὔτε πόλεως χωρὶς ἀρετῆς καὶ φρονήσεως· ἀνδρεία δὲ πόλεως καὶ δικαιοσύνη καὶ φρόνησις ‹καὶ σωφροσύνη› τὴν αὐτὴν ἔχει δύναμιν καὶ μορφὴν ὧν μετασχὼν ἕκαστος τῶν ἀνθρώπων λέγεται ‹ἀνδρεῖος καὶ› δίκαιος καὶ φρόνιμος καὶ σώφρων. ἀλλὰ γὰρ ταῦτα μὲν ἐπὶ τοσοῦτον ἔστω πεφροιμιασμένα τῷ λόγῳ· οὔτε γὰρ μὴ θιγγάνειν αὐτῶν δυνατόν, οὔτε πάντας τοὺς οἰκείους ἐπεξελθεῖν ἐνδέχεται λόγους, ἑτέρας γάρ ἐστιν ἔργον σχολῆς ταῦτα· νῦν δὲ ὑποκείσθω τοσοῦτον, ὅτι βίος μὲν ἄριστος, καὶ χωρὶς ἑκάστῳ καὶ κοινῇ ταῖς πόλεσιν, ὁ μετ' ἀρετῆς κεχορηγημένης [1324a] ἐπὶ τοσοῦτον ὥστε μετέχειν τῶν κατ' ἀρετὴν πράξεων, πρὸς δὲ τοὺς ἀμφισβητοῦντας, ἐάσαντας ἐπὶ τῆς νῦν μεθόδου, διασκεπτέον ὕστερον, εἴ τις τοῖς εἰρημένοις τυγχάνει μὴ πειθόμενος.

Πότερον δὲ τὴν εὐδαιμονίαν τὴν αὐτὴν εἶναι φατέον ἑνός τε ἑκάστου τῶν ἀνθρώπων καὶ πόλεως ἢ μὴ τὴν αὐτήν, λοιπόν ἐστιν εἰπεῖν. φανερὸν δὲ καὶ τοῦτο. πάντες γὰρ ἂν ὁμολογήσειαν εἶναι τὴν αὐτήν. ὅσοι γὰρ ἐν πλούτῳ τὸ ζῆν εὖ τίθενται ἐφ' ἑνός, οὗτοι καὶ τὴν πόλιν ὅλην, ἐὰν ᾖ πλουσία, μακαρίζουσιν· ὅσοι τε τὸν τυραννικὸν βίον μάλιστα τιμῶσιν, οὗτοι καὶ πόλιν τὴν πλείστων ἄρχουσαν εὐδαιμονεστάτην ἂν εἶναι φαῖεν· εἴ τέ τις τὸν ἕνα δι' ἀρετὴν ἀποδέχεται, καὶ πόλιν εὐδαιμονεστέραν φήσει τὴν σπουδαιοτέραν. ἀλλὰ ταῦτ' ἤδη δύο ἐστὶν ἃ δεῖται σκέψεως, ἓν μὲν πότερος αἱρετώτερος βίος, ὁ διὰ τοῦ συμπολιτεύεσθαι καὶ κοινωνεῖν πόλεως ἢ μᾶλλον ὁ ξενικὸς καὶ τῆς πολιτικῆς κοινωνίας ἀπολελυμένος, ἔτι δὲ τίνα πολιτείαν θετέον καὶ ποίαν διάθεσιν πόλεως ἀρίστην, εἴτε πᾶσιν ὄντος αἱρετοῦ ‹τοῦ› κοινωνεῖν πόλεως εἴτε καὶ τισὶ μὲν μὴ τοῖς δὲ πλείστοις. ἐπεὶ δὲ τῆς πολιτικῆς διανοίας καὶ θεωρίας τοῦτ’ ἐστὶν ἔργον, ἀλλ’ οὐ τὸ περὶ ἕκαστον αἱρετόν, ἡμεῖς δὲ ταύτην προῃρήμεθα νῦν τὴν σκέψιν, ἐκεῖνο μὲν πάρεργον ἂν εἴη, τοῦτο δὲ ἔργον τῆς μεθόδου ταύτης. ὅτι μὲν οὖν ἀναγκαῖον εἶναι πολιτείαν ἀρίστην ταύτην ‹τὴν› τάξιν καθ’ ἣν κἂν ὁστισοῦν ἄριστα πράττοι καὶ ζῴη μακαρίως, φανερόν ἐστιν· ἀμφισβητεῖται δὲ παρ’ αὐτῶν τῶν ὁμολογούντων τὸν μετ’ ἀρετῆς εἶναι βίον αἱρετώτατον πότερον ὁ πολιτικὸς καὶ πρακτικὸς βίος αἱρετὸς ἢ μᾶλλον ὁ πάντων τῶν ἐκτὸς ἀπολελυμένος, οἷον θεωρητικός τις, ὃν μόνον τινές φασιν εἶναι φιλοσόφου. σχεδὸν γὰρ τούτους τοὺς δύο βίους τῶν ἀνθρώπων οἱ φιλοτιμότατοι πρὸς ἀρετὴν φαίνονται προαιρούμενοι, καὶ τῶν προτέρων καὶ τῶν νῦν· λέγω δὲ δύο τόν τε πολιτικὸν καὶ τὸν φιλόσοφον. διαφέρει δὲ οὐ μικρὸν ποτέρως ἔχει τὸ ἀληθές· ἀνάγκη γὰρ τόν γε εὖ φρονοῦντα πρὸς τὸν βελτίω σκοπὸν συντάττεσθαι, καὶ τῶν ἀνθρώπων ἕκαστον καὶ κοινῇ τὴν πολιτείαν. νομίζουσι δ’ οἱ μὲν τὸ τῶν πέλας ἄρχειν δεσποτικῶς μὲν γιγνόμενον μετ’ ἀδικίας τινὸς εἶναι τῆς μεγίστης, πολιτικῶς δὲ τὸ μὲν ἄδικον οὐκ ἔχειν, ἐμπόδιον δὲ ἔχειν τῇ περὶ αὐτὸν εὐημερίᾳ· τούτων δ’ ὥσπερ ἐξ ἐναντίας ἕτεροι τυγχάνουσι δοξάζοντες· μόνον γὰρ ἀνδρὸς τὸν πρακτικὸν εἶναι βίον καὶ πολιτικόν· ἀφ’ ἑκάστης γὰρ ἀρετῆς οὐκ εἶναι πράξεις μᾶλλον τοῖς ἰδιώταις [1324b] ἢ τοῖς τὰ κοινὰ πράττουσι καὶ πολιτευομένοις. οἱ μὲν οὖν οὕτως ὑπολαμβάνουσιν, οἱ δὲ τὸν δεσποτικὸν καὶ τυραννικὸν τρόπον τῆς πολιτείας εἶναι μόνον εὐδαίμονά φασιν. παρ’ ἐνίοις δ’ οὗτος καὶ τῶν νόμων καὶ τῆς πολιτείας ὅρος, ὅπως δεσπόζωσι τῶν πέλας. διὸ καὶ τῶν πλείστων νομίμων χύδην ὡς εἰπεῖν κειμένων παρὰ τοῖς πλείστοις, ὅμως εἴ πού τι πρὸς ἓν οἱ νόμοι βλέπουσι, τοῦ κρατεῖν στοχάζονται πάντες, ὥσπερ ἐν Λακεδαίμονι καὶ Κρήτῃ πρὸς τοὺς πολέμους συντέτακται σχεδὸν ἥ τε παιδεία καὶ τὸ τῶν νόμων πλῆθος· ἔτι δ’ ἐν τοῖς ἔθνεσι πᾶσι τοῖς δυναμένοις πλεονεκτεῖν ἡ τοιαύτη τετίμηται δύναμις, οἷον ἐν Σκύθαις καὶ Πέρσαις καὶ Θρᾳξὶ καὶ Κελτοῖς. ἐν ἐνίοις γὰρ καὶ νόμοι τινές εἰσι παροξύνοντες πρὸς τὴν ἀρετὴν ταύτην, καθάπερ ἐν Καρχηδόνι φασὶ τὸν ἐκ τῶν κρίκων κόσμον λαμβάνειν ὅσας ἂν στρατεύσωνται στρατείας· ἦν δέ ποτε καὶ περὶ Μακεδονίαν νόμος τὸν μηθένα ἀπεκταγκότα πολέμιον ἄνδρα περιεζῶσθαι τὴν φορβειάν· ἐν δὲ Σκύθαις οὐκ ἐξῆν πίνειν ἐν ἑορτῇ τινι σκύφον περιφερόμενον τῷ μηθένα ἀπεκταγκότι πολέμιον· ἐν δὲ τοῖς

Ἴβηρσιν, ἔθνει πολεμικῷ, τοσούτους τὸν ἀριθμὸν ὀβελίσκους καταπηγνύουσι περὶ τὸν τάφον ὅσους ἂν διαφθείρῃ τῶν πολεμίων· καὶ ἕτερα δὴ παρ' ἑτέροις ἔστι τοιαῦτα πολλά, τὰ μὲν νόμοις κατειλημμένα τὰ δὲ ἔθεσιν.

καίτοι δόξειεν ἂν ἄγαν ἄτοπον ἴσως εἶναι τοῖς βουλομένοις ἐπισκοπεῖν, εἰ τοῦτ' ἐστὶν ἔργον τοῦ πολιτικοῦ, τὸ δύνασθαι θεωρεῖν ὅπως ἄρχῃ καὶ δεσπόζῃ τῶν πλησίον, καὶ βουλομένων καὶ μὴ βουλομένων. πῶς γὰρ ἂν εἴη τοῦτο πολιτικὸν ἢ νομοθετικόν, ὅ γε μηδὲ νόμιμόν ἐστιν; οὐ νόμιμον δὲ τὸ μὴ μόνον δικαίως ἀλλὰ καὶ ἀδίκως ἄρχειν, κρατεῖν δ' ἔστι καὶ μὴ δικαίως. ἀλλὰ μὴν οὐδ' ἐν ταῖς ἄλλαις ἐπιστήμαις τοῦτο ὁρῶμεν· οὔτε γὰρ τοῦ ἰατροῦ οὔτε τοῦ κυβερνήτου ἔργον ἐστὶ τὸ ἢ πεῖσαι ἢ βιάσασθαι τοῦ μὲν τοὺς θεραπευομένους τοῦ δὲ τοὺς πλωτῆρας. ἀλλ' ἐοίκασιν οἱ πολλοὶ τὴν δεσποτικὴν πολιτικὴν οἴεσθαι εἶναι, καὶ ὅπερ αὑτοῖς ἕκαστοι οὔ φασιν εἶναι δίκαιον οὐδὲ συμφέρον, τοῦτ' οὐκ αἰσχύνονται πρὸς τοὺς ἄλλους ἀσκοῦντες· αὐτοὶ μὲν γὰρ παρ' αὑτοῖς τὸ δικαίως ἄρχειν ζητοῦσι, πρὸς δὲ τοὺς ἄλλους οὐδὲν μέλει τῶν δικαίων. ἄτοπον δὲ εἰ μὴ φύσει τὸ μὲν δεσποστόν ἐστι τὸ δὲ οὐ δεσποστόν, ὥστε εἴπερ ἔχει τὸν τρόπον τοῦτον, οὐ δεῖ πάντων πειρᾶσθαι δεσπόζειν, ἀλλὰ τῶν δεσποστῶν, ὥσπερ οὐδὲ θηρεύειν ἐπὶ θοίνην ἢ θυσίαν ἀνθρώπους, ἀλλὰ τὸ πρὸς τοῦτο θηρευτόν· ἔστι δὲ θηρευτὸν ὃ ἂν ἄγριον ᾖ ἐδεστὸν ζῷον. ἀλλὰ μὴν εἴη γ' ἂν καὶ [1325a] καθ' ἑαυτὴν μία πόλις εὐδαίμων, ἢ πολιτεύεται δηλονότι καλῶς, εἴπερ ἐνδέχεται πόλιν οἰκεῖσθαί που καθ' ἑαυτὴν νόμοις χρωμένην σπουδαίοις, ἧς τῆς πολιτείας ἡ σύνταξις οὐ πρὸς πόλεμον οὐδὲ πρὸς τὸ κρατεῖν ἔσται τῶν πολεμίων· μηθὲν γὰρ ὑπαρχέτω τοιοῦτον. δῆλον ἄρα ὅτι πάσας τὰς πρὸς τὸν πόλεμον ἐπιμελείας καλὰς μὲν θετέον, οὐχ ὡς τέλος δὲ πάντων ἀκρότατον, ἀλλ' ἐκείνου χάριν ταύτας. τοῦ δὲ νομοθέτου τοῦ σπουδαίου ἐστὶ τὸ θεάσασθαι πόλιν καὶ γένος ἀνθρώπων καὶ πᾶσαν ἄλλην κοινωνίαν, ζωῆς ἀγαθῆς πῶς μεθέξουσι καὶ τῆς ἐνδεχομένης αὐτοῖς εὐδαιμονίας. διοίσει μέντοι τῶν ταττομένων ἔνια νομίμων· καὶ τοῦτο τῆς νομοθετικῆς ἐστιν ἰδεῖν, ἐάν τινες ὑπάρχωσι γειτνιῶντες, ποῖα πρὸς ποίους ἀσκητέον καὶ πῶς τοῖς καθήκουσι πρὸς ἑκάστους χρηστέον. ἀλλὰ τοῦτο μὲν κἂν ὕστερον τύχοι τῆς προσηκούσης σκέψεως, πρὸς τί τέλος δεῖ τὴν ἀρίστην πολιτείαν συντείνειν·

πρὸς δὲ τοὺς ὁμολογοῦντας μὲν τὸν μετ' ἀρετῆς εἶναι βίον αἱρετώτατον, διαφερομένους δὲ περὶ τῆς χρήσεως αὐτοῦ, λεκτέον ἡμῖν πρὸς ἀμφοτέρους αὐτούς (οἱ μὲν γὰρ ἀποδοκιμάζουσι τὰς πολιτικὰς ἀρχάς, νομίζοντες τόν τε τοῦ ἐλευθέρου βίον ἕτερόν τινα εἶναι τοῦ πολιτικοῦ καὶ πάντων αἱρετώτατον, οἱ δὲ τοῦτον ἄριστον· ἀδύνατον γὰρ τὸν μηθὲν πράττοντα πράττειν εὖ, τὴν δ’ εὐπραγίαν καὶ τὴν εὐδαιμονίαν εἶναι ταὐτόν) ὅτι τὰ μὲν ἀμφότεροι λέγουσιν ὀρθῶς τὰ δὲ οὐκ ὀρθῶς, οἱ μὲν ὅτι ὁ τοῦ ἐλευθέρου βίος τοῦ δεσποτικοῦ ἀμείνων. τοῦτο γὰρ ἀληθές· οὐθὲν γὰρ τό γε δούλῳ ᾗ δοῦλος χρῆσθαι σεμνόν· ἡ γὰρ ἐπίταξις ἡ περὶ τῶν ἀναγκαίων οὐδενὸς μετέχει τῶν καλῶν. τὸ μέντοι νομίζειν πᾶσαν ἀρχὴν εἶναι δεσποτείαν οὐκ ὀρθόν· οὐ γὰρ ἔλαττον διέστηκεν ἡ τῶν ἐλευθέρων ἀρχὴ τῆς τῶν δούλων ἢ αὐτὸ τὸ φύσει ἐλεύθερον τοῦ φύσει δούλου. διώρισται δὲ περὶ αὐτῶν ἱκανῶς ἐν τοῖς πρώτοις λόγοις. τὸ δὲ μᾶλλον ἐπαινεῖν τὸ ἀπρακτεῖν τοῦ πράττειν οὐκ ἀληθές· ἡ γὰρ εὐδαιμονία πρᾶξίς ἐστιν, ἔτι δὲ πολλῶν καὶ καλῶν τέλος ἔχουσιν αἱ τῶν δικαίων καὶ σωφρόνων πράξεις.

καίτοι τάχ’ ἂν ὑπολάβοι τις τούτων οὕτω διωρισμένων ὅτι τὸ κύριον εἶναι πάντων ἄριστον· οὕτω γὰρ ἂν πλείστων καὶ καλλίστων κύριος εἴη πράξεων. ὥστε οὐ δεῖ τὸν δυνάμενον ἄρχειν παριέναι τῷ πλησίον, ἀλλὰ μᾶλλον ἀφαιρεῖσθαι, καὶ μήτε πατέρα παίδων μήτε παῖδας πατρὸς μήθ’ ὅλως φίλον φίλου μηθένα ὑπόλογον ‹ἔχειν› μηδὲ πρὸς τοῦτο φροντίζειν· τὸ γὰρ ἄριστον αἱρετώτατον, τὸ δ’ εὖ πράττειν ἄριστον. τοῦτο μὲν οὖν ἀληθῶς ἴσως λέγουσιν, εἴπερ [1325b] ὑπάρξει τοῖς ἀποστεροῦσι καὶ βιαζομένοις τὸ τῶν ὄντων αἱρετώτατον· ἀλλ’ ἴσως οὐχ οἷόν τε ὑπάρχειν, ἀλλ’ ὑποτίθενται τοῦτο ψεῦδος. οὐ γὰρ ἔτι καλὰς τὰς πράξεις ἐνδέχεται εἶναι τῷ μὴ διαφέροντι τοσοῦτον ὅσον ἀνὴρ γυναικὸς ἢ πατὴρ τέκνων ἢ δεσπότης δούλων· ὥστε ὁ παραβαίνων οὐθὲν ἂν τηλικοῦτον κατορθώσειεν ὕστερον ὅσον ἤδη παρεκβέβηκε τῆς ἀρετῆς. τοῖς γὰρ ὁμοίοις τὸ καλὸν καὶ τὸ δίκαιον ἐν τῷ ‹ἐν› μέρει, τοῦτο γὰρ ἴσον καὶ ὅμοιον· τὸ δὲ μὴ ἴσον τοῖς ἴσοις καὶ τὸ μὴ ὅμοιον τοῖς ὁμοίοις παρὰ φύσιν, οὐδὲν δὲ τῶν παρὰ φύσιν καλόν. διὸ κἂν ἄλλος τις ᾖ κρείττων κατ’ ἀρετὴν καὶ κατὰ δύναμιν τὴν πρακτικὴν τῶν ἀρίστων, τούτῳ καλὸν ἀκολουθεῖν καὶ τούτῳ πείθεσθαι δίκαιον. δεῖ δ’ οὐ μόνον ἀρετὴν ἀλλὰ καὶ δύναμιν ὑπάρχειν, καθ’ ἣν ἔσται πρακτικός. ἀλλ’ εἰ ταῦτα λέγεται καλῶς καὶ τὴν εὐδαιμονίαν εὐπραγίαν θετέον, καὶ κοινῇ πάσης πόλεως ἂν εἴη καὶ καθ’ ἕκαστον ἄριστος βίος ὁ πρακτικός. ἀλλὰ τὸν πρακτικὸν οὐκ ἀναγκαῖον εἶναι πρὸς ἑτέρους, καθάπερ οἴονταί τινες, οὐδὲ τὰς διανοίας εἶναι μόνας ταύτας πρακτικάς, τὰς τῶν ἀποβαινόντων χάριν γιγνομένας ἐκ τοῦ πράττειν, ἀλλὰ πολὺ μᾶλλον τὰς αὐτοτελεῖς καὶ τὰς αὑτῶν ἕνεκεν θεωρίας καὶ διανοήσεις· ἡ γὰρ εὐπραξία τέλος, ὥστε καὶ πρᾶξίς τις. μάλιστα δὲ καὶ πράττειν λέγομεν κυρίως καὶ τῶν ἐξωτερικῶν πράξεων τοὺς ταῖς διανοίαις ἀρχιτέκτονας. ἀλλὰ μὴν οὐδ’ ἀπρακτεῖν ἀναγκαῖον τὰς καθ’ αὑτὰς πόλεις ἱδρυμένας καὶ ζῆν οὕτω προῃρημένας· ἐνδέχεται γὰρ κατὰ μέρη καὶ τοῦτο συμβαίνειν· πολλαὶ γὰρ κοινωνίαι πρὸς ἄλληλα τοῖς μέρεσι τῆς πόλεώς εἰσιν. ὁμοίως δὲ τοῦτο ὑπάρχει καὶ καθ’ ἑνὸς ὁτουοῦν τῶν ἀνθρώπων· σχολῇ γὰρ ἂν ὁ θεὸς ἔχοι καλῶς καὶ πᾶς ὁ κόσμος, οἷς οὐκ εἰσὶν ἐξωτερικαὶ πράξεις παρὰ τὰς οἰκείας τὰς αὐτῶν. ὅτι μὲν οὖν τὸν αὐτὸν βίον ἀναγκαῖον εἶναι τὸν ἄριστον ἑκάστῳ τε τῶν ἀνθρώπων καὶ κοινῇ ταῖς πόλεσι καὶ τοῖς ἀνθρώποις, φανερόν ἐστιν.

Ἐπεὶ δὲ πεφροιμίασται τὰ νῦν εἰρημένα περὶ αὐτῶν, καὶ περὶ τὰς ἄλλας πολιτείας ἡμῖν τεθεώρηται πρότερον, ἀρχὴ τῶν λοιπῶν εἰπεῖν πρῶτον ποίας τινὰς δεῖ τὰς ὑποθέσεις εἶναι περὶ τῆς μελλούσης κατ’ εὐχὴν συνεστάναι πόλεως. οὐ γὰρ οἷόν τε πολιτείαν γενέσθαι τὴν ἀρίστην ἄνευ συμμέτρου χορηγίας. διὸ δεῖ πολλὰ προϋποτεθεῖσθαι καθάπερ εὐχομένους, εἶναι μέντοι μηθὲν τούτων ἀδύνατον· λέγω δὲ οἷον περί τε πλήθους πολιτῶν καὶ χώρας. ὥσπερ γὰρ καὶ τοῖς ἄλλοις δημιουργοῖς, οἷον ὑφάντῃ καὶ ναυπηγῷ, δεῖ τὴν [1326a] ὕλην ὑπάρχειν ἐπιτηδείαν οὖσαν πρὸς τὴν ἐργασίαν (ὅσῳ γὰρ ἂν αὕτη τυγχάνῃ παρεσκευασμένη βέλτιον, ἀνάγκη καὶ τὸ γιγνόμενον ὑπὸ τῆς τέχνης εἶναι κάλλιον), οὕτω καὶ τῷ πολιτικῷ καὶ τῷ νομοθέτῃ δεῖ τὴν οἰκείαν ὕλην ὑπάρχειν ἐπιτηδείως ἔχουσαν.

ἔστι δὲ πολιτικῆς χορηγίας πρῶτον τό τε πλῆθος τῶν ἀνθρώπων, πόσους τε καὶ ποίους τινὰς ὑπάρχειν δεῖ φύσει, καὶ κατὰ τὴν χώραν ὡσαύτως, πόσην τε εἶναι καὶ ποίαν τινὰ ταύτην. οἴονται μὲν οὖν οἱ πλεῖστοι προσήκειν μεγάλην εἶναι τὴν εὐδαίμονα πόλιν· εἰ δὲ τοῦτ’ ἀληθές, ἀγνοοῦσι ποία μεγάλη καὶ ποία μικρὰ πόλις. κατ’ ἀριθμοῦ γὰρ πλῆθος τῶν ἐνοικούντων κρίνουσι τὴν μεγάλην, δεῖ δὲ μᾶλλον μὴ εἰς τὸ πλῆθος εἰς δὲ δύναμιν ἀποβλέπειν. ἔστι γάρ τι καὶ πόλεως ἔργον, ὥστε τὴν δυναμένην τοῦτο μάλιστ’ ἀποτελεῖν, ταύτην οἰητέον εἶναι μεγίστην, οἷον Ἱπποκράτην οὐκ ἄνθρωπον ἀλλ’ ἰατρὸν εἶναι μείζω φήσειεν ἄν τις τοῦ διαφέροντος κατὰ τὸ μέγεθος τοῦ σώματος. οὐ μὴν ἀλλὰ κἂν εἰ δεῖ κρίνειν πρὸς τὸ πλῆθος ἀποβλέποντας, οὐ κατὰ τὸ τυχὸν πλῆθος τοῦτο ποιητέον (ἀναγκαῖον γὰρ ἐν ταῖς πόλεσιν ἴσως ὑπάρχειν καὶ δούλων ἀριθμὸν πολλῶν καὶ μετοίκων καὶ ξένων), ἀλλ’ ὅσοι πόλεώς εἰσι μέρος καὶ ἐξ ὧν συνίσταται πόλις οἰκείων μορίων· ἡ γὰρ τούτων ὑπεροχὴ τοῦ πλήθους μεγάλης πόλεως σημεῖον, ἐξ ἧς δὲ βάναυσοι μὲν ἐξέρχονται πολλοὶ τὸν ἀριθμὸν ὁπλῖται δὲ ὀλίγοι, ταύτην ἀδύνατον εἶναι μεγάλην· οὐ γὰρ ταὐτὸν μεγάλη τε πόλις καὶ πολυάνθρωπος.

ἀλλὰ μὴν καὶ τοῦτό γε ἐκ τῶν ἔργων φανερόν, ὅτι χαλεπόν, ἴσως δ’ ἀδύνατον, εὐνομεῖσθαι τὴν λίαν πολυάνθρωπον· τῶν γοῦν δοκουσῶν πολιτεύεσθαι καλῶς οὐδεμίαν ὁρῶμεν οὖσαν ἀνειμένην πρὸς τὸ πλῆθος.

τοῦτο δὲ δῆλον καὶ διὰ τῆς τῶν λόγων πίστεως. ὅ τε γὰρ νόμος τάξις τίς ἐστι, καὶ τὴν εὐνομίαν ἀναγκαῖον εὐταξίαν εἶναι, ὁ δὲ λίαν ὑπερβάλλων ἀριθμὸς οὐ δύναται μετέχειν τάξεως· θείας γὰρ δὴ τοῦτο δυνάμεως ἔργον, ἥτις καὶ τόδε συνέχει τὸ πᾶν· ἐπεὶ τό γε καλὸν ἐν πλήθει καὶ μεγέθει εἴωθε γίνεσθαι. διὸ καὶ πόλιν ᾗ μετὰ μεγέθους ὁ λεχθεὶς ὅρος ὑπάρχει, ταύτην εἶναι καλλίστην ἀναγκαῖον. ἀλλ’ ἔστι τι καὶ πόλεως μεγέθους μέτρον, ὥσπερ καὶ τῶν ἄλλων πάντων, ζῴων φυτῶν ὀργάνων· καὶ γὰρ τούτων ἕκαστον οὔτε λίαν μικρὸν οὔτε κατὰ μέγεθος ὑπερβάλλον ἕξει τὴν αὐτοῦ δύναμιν, ἀλλ’ ὁτὲ μὲν ὅλως ἐστερημένον ἔσται τῆς φύσεως ὁτὲ δὲ φαύλως ἔχον, οἷον πλοῖον σπιθαμιαῖον μὲν οὐκ ἔσται πλοῖον ὅλως, οὐδὲ δυοῖν σταδίοιν, εἰς δὲ τὶ μέγεθος ἐλθὸν ὁτὲ μὲν διὰ σμικρότητα φαύλην ποιήσει τὴν ναυτιλίαν, ὁτὲ δὲ διὰ τὴν ὑπερβολήν· ὁμοίως δὲ καὶ πόλις ἡ μὲν ἐξ ὀλίγων λίαν οὐκ αὐτάρκης (ἡ δὲ πόλις αὔταρκες), ἡ δὲ ἐκ πολλῶν ἄγαν ἐν μὲν τοῖς ἀναγκαίοις αὐτάρκης ὥσπερ ἔθνος, ἀλλ’ οὐ πόλις· πολιτείαν γὰρ οὐ ῥᾴδιον ὑπάρχειν· τίς γὰρ στρατηγὸς ἔσται τοῦ λίαν ὑπερβάλλοντος πλήθους, ἢ τίς κῆρυξ μὴ Στεντόρειος; διὸ πρώτην μὲν εἶναι πόλιν ἀναγκαῖον τὴν ἐκ τοσούτου πλήθους ὃ πρῶτον πλῆθος αὔταρκες πρὸς τὸ εὖ ζῆν ἐστι κατὰ τὴν πολιτικὴν κοινωνίαν· ἐνδέχεται δὲ καὶ τὴν ταύτης ὑπερβάλλουσαν κατὰ πλῆθος εἶναι μείζω πόλιν, ἀλλὰ τοῦτ’ οὐκ ἔστιν, ὥσπερ εἴπομεν, ἀόριστον. τίς δ’ ἐστὶν ὁ τῆς ὑπερβολῆς ὅρος, ἐκ τῶν ἔργων ἰδεῖν ῥᾴδιον. εἰσὶ γὰρ αἱ πράξεις τῆς πόλεως τῶν μὲν ἀρχόντων τῶν δ’ ἀρχομένων, ἄρχοντος δ’ ἐπίταξις καὶ κρίσις ἔργον· πρὸς δὲ τὸ κρίνειν περὶ τῶν δικαίων καὶ πρὸς τὸ τὰς ἀρχὰς διανέμειν κατ’ ἀξίαν ἀναγκαῖον γνωρίζειν ἀλλήλους, ποῖοί τινές εἰσι, τοὺς πολίτας, ὡς ὅπου τοῦτο μὴ συμβαίνει γίγνεσθαι, φαύλως ἀνάγκη γίγνεσθαι τὰ περὶ τὰς ἀρχὰς καὶ τὰς κρίσεις. περὶ ἀμφότερα γὰρ οὐ δίκαιον αὐτοσχεδιάζειν, ὅπερ ἐν τῇ πολυανθρωπίᾳ τῇ λίαν ὑπάρχει φανερῶς. ἔτι δὲ ξένοις καὶ μετοίκοις ῥᾴδιον μεταλαμβάνειν τῆς πολιτείας· οὐ γὰρ χαλεπὸν τὸ λανθάνειν διὰ τὴν ὑπερβολὴν τοῦ πλήθους. δῆλον τοίνυν ὡς οὗτός ἐστι πόλεως ὅρος ἄριστος, ἡ μεγίστη τοῦ πλήθους ὑπερβολὴ πρὸς αὐτάρκειαν ζωῆς εὐσύνοπτος. περὶ μὲν οὖν μεγέθους πόλεως διωρίσθω τὸν τρόπον τοῦτον.

Παραπλησίως δὲ καὶ τὰ περὶ τῆς χώρας ἔχει. περὶ μὲν γὰρ τοῦ ποίαν τινά, δῆλον ὅτι τὴν αὐταρκεστάτην πᾶς τις ἂν ἐπαινέσειεν (τοιαύτην δ’ ἀναγκαῖον εἶναι τὴν παντοφόρον· τὸ γὰρ πάντα ὑπάρχειν καὶ δεῖσθαι μηθενὸς αὔταρκες)· πλήθει δὲ καὶ μεγέθει τοσαύτην ὥστε δύνασθαι τοὺς οἰκοῦντας ζῆν σχολάζοντας ἐλευθερίως ἅμα καὶ σωφρόνως. τοῦτον δὲ τὸν ὅρον εἰ καλῶς ἢ μὴ καλῶς λέγομεν, ὕστερον ἐπισκεπτέον ἀκριβέστερον, ὅταν ὅλως περὶ κτήσεως καὶ τῆς περὶ τὴν οὐσίαν εὐπορίας συμβαίνῃ ποιεῖσθαι μνείαν, πῶς δεῖ καὶ τίνα τρόπον ἔχειν πρὸς τὴν χρῆσιν αὐτῆς· πολλαὶ γὰρ περὶ τὴν σκέψιν ταύτην εἰσὶν ἀμφισβητήσεις διὰ τοὺς ἕλκοντας ἐφ’ ἑκατέραν τοῦ βίου τὴν ὑπερβολήν, τοὺς μὲν ἐπὶ τὴν γλισχρότητα τοὺς δὲ ἐπὶ τὴν τρυφήν. τὸ δ’ εἶδος τῆς χώρας οὐ χαλεπὸν εἰπεῖν (δεῖ δ’ ἔνια πείθεσθαι καὶ τοῖς περὶ τὴν στρατηγίαν ἐμπείροις), ὅτι χρὴ τοῖς μὲν πολεμίοις εἶναι δυσέμβολον αὐτοῖς δ’ εὐέξοδον.

[1327a] ἔτι δ’ ὥσπερ τὸ πλῆθος τὸ τῶν ἀνθρώπων εὐσύνοπτον ἔφαμεν εἶναι δεῖν, οὕτω καὶ τὴν χώραν· τὸ δ’ εὐσύνοπτον τὸ εὐβοήθητον εἶναι τὴν χώραν ἐστίν. τῆς δὲ πόλεως τὴν θέσιν εἰ χρὴ ποιεῖν κατ’ εὐχήν, πρός τε τὴν θάλατταν προσήκει κεῖσθαι καλῶς πρός τε τὴν χώραν. εἷς μὲν ‹οὖν› ὁ λεχθεὶς ὅρος (δεῖ γὰρ πρὸς τὰς ἐκβοηθείας κοινὴν εἶναι τῶν τόπων ἁπάντων)· ὁ δὲ λοιπὸς πρὸς τὰς τῶν γινομένων καρπῶν παραπομπάς, ἔτι δὲ τῆς περὶ ξύλα ὕλης, κἂν εἴ τινα ἄλλην ἐργασίαν ἡ χώρα τυγχάνοι κεκτημένη τοιαύτην εὐπαρακόμιστον.

Περὶ δὲ τῆς πρὸς τὴν θάλατταν κοινωνίας, πότερον ὠφέλιμος ταῖς εὐνομουμέναις πόλεσιν ἢ βλαβερά, πολλὰ τυγχάνουσιν ἀμφισβητοῦντες· τό τε γὰρ ἐπιξενοῦσθαί τινας ἐν ἄλλοις τεθραμμένους νόμοις ἀσύμφορον εἶναί φασι πρὸς τὴν εὐνομίαν, καὶ τὴν πολυανθρωπίαν· γίνεσθαι μὲν γὰρ ἐκ τοῦ χρῆσθαι τῇ θαλάττῃ διαπέμποντας καὶ δεχομένους ἐμπόρων πλῆθος, ὑπεναντίαν δ’ εἶναι πρὸς τὸ πολιτεύεσθαι καλῶς. ὅτι μὲν οὖν, εἰ ταῦτα μὴ συμβαίνει, βέλτιον καὶ πρὸς ἀσφάλειαν καὶ πρὸς εὐπορίαν τῶν ἀναγκαίων μετέχειν τὴν πόλιν καὶ τὴν χώραν τῆς θαλάττης, οὐκ ἄδηλον. καὶ γὰρ πρὸς τὸ ῥᾷον φέρειν τοὺς πολέμους εὐβοηθήτους εἶναι δεῖ κατ’ ἀμφότερα τοὺς σωθησομένους, καὶ κατὰ γῆν καὶ κατὰ θάλατταν, καὶ [πρὸς] τὸ βλάψαι τοὺς ἐπιτιθεμένους, εἰ μὴ κατ’ ἄμφω δυνατόν, ἀλλὰ κατὰ θάτερον ὑπάρξει μᾶλλον ἀμφοτέρων μετέχουσιν. ὅσα τ’ ἂν μὴ τυγχάνῃ παρ’ αὐτοῖς ὄντα, δέξασθαι ταῦτα, καὶ τὰ πλεονάζοντα τῶν γιγνομένων ἐκπέμψασθαι τῶν ἀναγκαίων ἐστίν. αὑτῇ γὰρ ἐμπορικήν, ἀλλ’ οὐ τοῖς ἄλλοις, δεῖ εἶναι τὴν πόλιν· οἱ δὲ παρέχοντες σφᾶς αὐτοὺς πᾶσιν ἀγορὰν προσόδου χάριν ταῦτα πράττουσιν· ἣν δὲ μὴ δεῖ πόλιν τοιαύτης μετέχειν πλεονεξίας, οὐδ’ ἐμπόριον δεῖ κεκτῆσθαι τοιοῦτον. ἐπεὶ δὲ καὶ νῦν ὁρῶμεν πολλαῖς ὑπάρχοντα καὶ χώραις καὶ πόλεσιν ἐπίνεια καὶ λιμένας εὐφυῶς κείμενα πρὸς τὴν πόλιν, ὥστε μήτε τὸ αὐτὸ νέμειν ἄστυ μήτε πόρρω λίαν, ἀλλὰ κρατεῖσθαι τείχεσι καὶ τοιούτοις ἄλλοις ἐρύμασι, φανερὸν ὡς εἰ μὲν ἀγαθόν τι συμβαίνει γίνεσθαι διὰ τῆς κοινωνίας αὐτῶν, ὑπάρξει τῇ πόλει τοῦτο τὸ ἀγαθόν, εἰ δέ τι βλαβερόν, φυλάξασθαι ῥᾴδιον τοῖς νόμοις φράζοντας καὶ διορίζοντας τίνας οὐ δεῖ καὶ τίνας ἐπιμίσγεσθαι δεῖ πρὸς ἀλλήλους.

περὶ δὲ τῆς ναυτικῆς δυνάμεως, ὅτι μὲν βέλτιστον ὑπάρχειν μέχρι τινὸς πλήθους, οὐκ ἄδηλον (οὐ γὰρ [1327b] μόνον αὑτοῖς ἀλλὰ καὶ τῶν πλησίον τισὶ δεῖ καὶ φοβεροὺς εἶναι καὶ δύνασθαι βοηθεῖν, ὥσπερ κατὰ γῆν, καὶ κατὰ θάλατταν)· περὶ δὲ πλήθους ἤδη καὶ μεγέθους τῆς δυνάμεως ταύτης πρὸς τὸν βίον ἀποσκεπτέον τῆς πόλεως. εἰ μὲν γὰρ ἡγεμονικὸν καὶ πολιτικὸν ζήσεται βίον, ἀναγκαῖον καὶ ταύτην τὴν δύναμιν ὑπάρχειν πρὸς τὰς πράξεις σύμμετρον. τὴν δὲ πολυανθρωπίαν τὴν γιγνομένην περὶ τὸν ναυτικὸν ὄχλον οὐκ ἀναγκαῖον ὑπάρχειν ταῖς πόλεσιν· οὐθὲν γὰρ αὐτοὺς μέρος εἶναι δεῖ τῆς πόλεως. τὸ μὲν γὰρ ἐπιβατικὸν ἐλεύθερον καὶ τῶν πεζευόντων ἐστίν, ὃ κύριόν ἐστι καὶ κρατεῖ τῆς ναυτιλίας· πλήθους δὲ ὑπάρχοντος περιοίκων καὶ τῶν τὴν χώραν γεωργούντων, ἀφθονίαν ἀναγκαῖον εἶναι καὶ ναυτῶν. ὁρῶμεν δὲ τοῦτο καὶ νῦν ὑπάρχον τισίν, οἷον τῇ πόλει τῶν Ἡρακλεωτῶν· πολλὰς γὰρ ἐκπληροῦσι τριήρεις, κεκτημένοι τῷ μεγέθει πόλιν ἑτέρων ἐμμελεστέραν.

περὶ μὲν οὖν χώρας καὶ λιμένων καὶ πόλεων καὶ θαλάττης καὶ περὶ τῆς ναυτικῆς δυνάμεως ἔστω διωρισμένα τὸν τρόπον τοῦτον· περὶ δὲ τοῦ πολιτικοῦ πλήθους, τίνα μὲν ὅρον ὑπάρχειν χρή, πρότερον εἴπομεν, ποίους δέ τινας τὴν φύσιν εἶναι δεῖ, νῦν λέγωμεν. σχεδὸν δὴ κατανοήσειεν ἄν τις τοῦτό γε, βλέψας ἐπί τε τὰς πόλεις τὰς εὐδοκιμούσας τῶν Ἑλλήνων καὶ πρὸς πᾶσαν τὴν οἰκουμένην, ὡς διείληπται τοῖς ἔθνεσιν. τὰ μὲν γὰρ ἐν τοῖς ψυχροῖς τόποις ἔθνη καὶ τὰ περὶ τὴν Εὐρώπην θυμοῦ μέν ἐστι πλήρη, διανοίας δὲ ἐνδεέστερα καὶ τέχνης, διόπερ ἐλεύθερα μὲν διατελεῖ μᾶλλον, ἀπολίτευτα δὲ καὶ τῶν πλησίον ἄρχειν οὐ δυνάμενα· τὰ δὲ περὶ τὴν Ἀσίαν διανοητικὰ μὲν καὶ τεχνικὰ τὴν ψυχήν, ἄθυμα δέ, διόπερ ἀρχόμενα καὶ δουλεύοντα διατελεῖ· τὸ δὲ τῶν Ἑλλήνων γένος, ὥσπερ μεσεύει κατὰ τοὺς τόπους, οὕτως ἀμφοῖν μετέχει. καὶ γὰρ ἔνθυμον καὶ διανοητικόν ἐστιν· διόπερ ἐλεύθερόν τε διατελεῖ καὶ βέλτιστα πολιτευόμενον καὶ δυνάμενον ἄρχειν πάντων, μιᾶς τυγχάνον πολιτείας. τὴν αὐτὴν δ’ ἔχει διαφορὰν καὶ τὰ τῶν Ἑλλήνων ἔθνη πρὸς ἄλληλα· τὰ μὲν γὰρ ἔχει τὴν φύσιν μονόκωλον, τὰ δὲ εὖ κέκραται πρὸς ἀμφοτέρας τὰς δυνάμεις ταύτας. φανερὸν τοίνυν ὅτι δεῖ διανοητικούς τε εἶναι καὶ θυμοειδεῖς τὴν φύσιν τοὺς μέλλοντας εὐαγώγους ἔσεσθαι τῷ νομοθέτῃ πρὸς τὴν ἀρετήν. ὅπερ γάρ φασί τινες δεῖν ὑπάρχειν τοῖς φύλαξι, τὸ φιλητικοὺς μὲν εἶναι τῶν γνωρίμων πρὸς δὲ τοὺς ἀγνῶτας ἀγρίους, ὁ θυμός ἐστιν ὁ ποιῶν τὸ φιλητικόν· αὕτη γάρ ἐστιν ἡ τῆς ψυχῆς [1328a] δύναμις ᾗ φιλοῦμεν. σημεῖον δέ· πρὸς γὰρ τοὺς συνήθεις καὶ φίλους ὁ θυμὸς αἴρεται μᾶλλον ἢ πρὸς τοὺς ἀγνῶτας, ὀλιγωρεῖσθαι νομίσας. διὸ καὶ Ἀρχίλοχος προσηκόντως τοῖς φίλοις ἐγκαλῶν διαλέγεται πρὸς τὸν θυμόν·

σὺ γὰρ δὴ παρὰ φίλων ἀπάγχεαι.

καὶ τὸ ἄρχον δὲ καὶ τὸ ἐλεύθερον ἀπὸ τῆς δυνάμεως ταύτης ὑπάρχει πᾶσιν· ἀρχικὸν γὰρ καὶ ἀήττητον ὁ θυμός. οὐ καλῶς δ’ ἔχει λέγειν χαλεποὺς εἶναι πρὸς τοὺς ἀγνῶτας· πρὸς οὐθένα γὰρ εἶναι χρὴ τοιοῦτον, οὐδέ εἰσιν οἱ μεγαλόψυχοι τὴν φύσιν ἄγριοι, πλὴν πρὸς τοὺς ἀδικοῦντας. τοῦτο δὲ μᾶλλον ἔτι πρὸς τοὺς συνήθεις πάσχουσιν, ὅπερ εἴρηται πρότερον, ἂν ἀδικεῖσθαι νομίσωσιν. καὶ τοῦτο συμβαίνει κατὰ λόγον· παρ’ οἷς γὰρ ὀφείλεσθαι τὴν εὐεργεσίαν ὑπολαμβάνουσι, πρὸς τῷ βλάβει καὶ ταύτης ἀποστερεῖσθαι νομίζουσιν· ὅθεν εἴρηται “χαλεποὶ πόλεμοι γὰρ ἀδελφῶν” καὶ “οἵ τοι πέρᾳ στέρξαντες, οἵδε καὶ πέρᾳ μισοῦσιν”.

περὶ μὲν οὖν τῶν πολιτευομένων, πόσους τε ὑπάρχειν δεῖ καὶ ποίους τινὰς τὴν φύσιν, ἔτι δὲ τὴν χώραν πόσην τέ τινα καὶ ποίαν τινά, διώρισται σχεδόν (οὐ γὰρ τὴν αὐτὴν ἀκρίβειαν δεῖ ζητεῖν ἐπί τε τῶν λόγων καὶ τῶν γιγνομένων διὰ τῆς αἰσθήσεως). Ἐπεὶ δ’ ὥσπερ τῶν ἄλλων τῶν κατὰ φύσιν συνεστώτων οὐ ταὐτά ἐστι μόρια τῆς ὅλης συστάσεως ὧν ἄνευ τὸ ὅλον οὐκ ἂν εἴη, δῆλον ὡς οὐδὲ πόλεως μέρη θετέον ὅσα ταῖς πόλεσιν ἀναγκαῖον ὑπάρχειν, οὐδ’ ἄλλης κοινωνίας οὐδεμιᾶς ἐξ ἧς ἕν τι τὸ γένος (ἓν γάρ τι καὶ κοινὸν εἶναι δεῖ καὶ ταὐτὸ τοῖς κοινωνοῖς, ἄν τε ἴσον ἄν τε ἄνισον μεταλαμβάνωσιν)· οἷον εἴτε τροφὴ τοῦτό ἐστιν εἴτε χώρας πλῆθος εἴτ’ ἄλλο τι τῶν τοιούτων ἐστίν. ὅταν δ’ ᾖ τὸ μὲν τούτου ἕνεκεν τὸ δ’ οὗ ἕνεκεν, οὐθέν [ἕν] γε τούτοις κοινὸν ἀλλ’ ἢ τῷ μὲν ποιῆσαι τῷ δὲ λαβεῖν· λέγω δ’ οἷον ὀργάνῳ τε παντὶ πρὸς τὸ γιγνόμενον ἔργον καὶ τοῖς δημιουργοῖς· οἰκίᾳ γὰρ πρὸς οἰκοδόμον οὐθέν ἐστιν ὃ γίγνεται κοινόν, ἀλλ’ ἔστι τῆς οἰκίας χάριν ἡ τῶν οἰκοδόμων τέχνη. διὸ κτήσεως μὲν δεῖ ταῖς πόλεσιν, οὐδὲν δ’ ἐστὶν ἡ κτῆσις μέρος τῆς πόλεως· πολλὰ δ’ ἔμψυχα μέρη τῆς κτήσεώς ἐστιν· ἡ δὲ πόλις κοινωνία τίς ἐστι τῶν ὁμοίων, ἕνεκεν δὲ ζωῆς τῆς ἐνδεχομένης ἀρίστης. ἐπεὶ δ’ ἐστὶν εὐδαιμονία τὸ ἄριστον, αὕτη δὲ ἀρετῆς ἐνέργεια καὶ χρῆσίς τις τέλειος, συμβέβηκε δὲ οὕτως ὥστε τοὺς μὲν ἐνδέχεσθαι μετέχειν αὐτῆς τοὺς δὲ μικρὸν ἢ μηδέν, δῆλον ὡς τοῦτ’ αἴτιον τοῦ γίγνεσθαι πόλεως εἴδη καὶ διαφορὰς καὶ πολιτείας πλείους· ἄλλον γὰρ τρόπον καὶ δι’ [1328b] ἄλλων ἕκαστοι τοῦτο θηρεύοντες τούς τε βίους ἑτέρους ποιοῦνται καὶ τὰς πολιτείας. ἐπισκεπτέον δὲ καὶ πόσα ταυτί ἐστιν ὧν ἄνευ πόλις οὐκ ἂν εἴη· καὶ γὰρ ἃ λέγομεν εἶναι μέρη πόλεως ἐν τούτοις ἂν εἴη ἀναγκαῖον ὑπάρχειν. ληπτέον τοίνυν τῶν ἔργων τὸν ἀριθμόν· ἐκ τούτων γὰρ ἔσται δῆλον. πρῶτον μὲν οὖν ὑπάρχειν δεῖ τροφήν, ἔπειτα τέχνας (πολλῶν γὰρ ὀργάνων δεῖται τὸ ζῆν), τρίτον δὲ ὅπλα (τοὺς γὰρ κοινωνοῦντας ἀναγκαῖον καὶ ἐν αὑτοῖς ἔχειν ὅπλα πρός τε τὴν ἀρχήν, τῶν ἀπειθούντων χάριν, καὶ πρὸς τοὺς ἔξωθεν ἀδικεῖν ἐπιχειροῦντας), ἔτι χρημάτων τινὰ εὐπορίαν, ὅπως ἔχωσι καὶ πρὸς τὰς καθ' αὑτοὺς χρείας καὶ πρὸς ‹τὰς› πολεμικάς, πέμπτον δὲ καὶ πρῶτον τὴν περὶ τὸ θεῖον ἐπιμέλειαν, ἣν καλοῦσιν ἱερατείαν, ἕκτον δὲ τὸν ἀριθμὸν καὶ πάντων ἀναγκαιότατον κρίσιν περὶ τῶν συμφερόντων καὶ τῶν δικαίων τῶν πρὸς ἀλλήλους. τὰ μὲν οὖν ἔργα ταῦτ' ἐστὶν ὧν δεῖται πᾶσα πόλις ὡς εἰπεῖν (ἡ γὰρ πόλις πλῆθός ἐστιν οὐ τὸ τυχὸν ἀλλὰ πρὸς ζωὴν αὔταρκες, ὥς φαμεν, ἐὰν δέ τι τυγχάνῃ τούτων ἐκλεῖπον, ἀδύνατον ἁπλῶς αὐτάρκη τὴν κοινωνίαν εἶναι ταύτην)· ἀνάγκη τοίνυν κατὰ τὰς ἐργασίας ταύτας συνεστάναι πόλιν· δεῖ ἄρα γεωργῶν τ' εἶναι πλῆθος, οἳ παρασκευάσουσι τὴν τροφήν, καὶ τεχνίτας, καὶ τὸ μάχιμον, καὶ τὸ εὔπορον, καὶ ἱερεῖς, καὶ κριτὰς τῶν ἀναγκαίων καὶ συμφερόντων.

Διωρισμένων δὲ τούτων λοιπὸν σκέψασθαι πότερον πᾶσι κοινωνητέον πάντων τούτων (ἐνδέχεται γὰρ τοὺς αὐτοὺς ἅπαντας εἶναι καὶ γεωργοὺς καὶ τεχνίτας καὶ τοὺς βουλευομένους καὶ δικάζοντας), ἢ καθ' ἕκαστον ἔργον τῶν εἰρημένων ἄλλους ὑποθετέον, ἢ τὰ μὲν ἴδια τὰ δὲ κοινὰ τούτων ἐξ ἀνάγκης ἐστίν. οὐκ ἐν πάσῃ δὲ ταὐτὸ πολιτείᾳ. καθάπερ γὰρ εἴπομεν, ἐνδέχεται καὶ πάντας κοινωνεῖν πάντων καὶ μὴ πάντας πάντων ἀλλὰ τινὰς τινῶν. ταῦτα γὰρ καὶ ποιεῖ τὰς πολιτείας ἑτέρας· ἐν μὲν γὰρ ταῖς δημοκρατίαις μετέχουσι πάντες πάντων, ἐν δὲ ταῖς ὀλιγαρχίαις τοὐναντίον. ἐπεὶ δὲ τυγχάνομεν σκοποῦντες περὶ τῆς ἀρίστης πολιτείας, αὕτη δ' ἐστὶ καθ' ἣν ἡ πόλις ἂν εἴη μάλιστ' εὐδαίμων, τὴν δ' εὐδαιμονίαν ὅτι χωρὶς ἀρετῆς ἀδύνατον ὑπάρχειν εἴρηται πρότερον, φανερὸν ἐκ τούτων ὡς ἐν τῇ κάλλιστα πολιτευομένῃ πόλει καὶ τῇ κεκτημένῃ δικαίους ἄνδρας ἁπλῶς, ἀλλὰ μὴ πρὸς τὴν ὑπόθεσιν, οὔτε βάναυσον βίον οὔτ' ἀγοραῖον δεῖ ζῆν τοὺς πολίτας (ἀγεννὴς γὰρ ὁ τοιοῦτος βίος καὶ πρὸς ἀρετὴν ὑπεναντίος), οὐδὲ δὴ γεωργοὺς εἶναι τοὺς μέλλοντας [1329a] ἔσεσθαι (δεῖ γὰρ σχολῆς καὶ πρὸς τὴν γένεσιν τῆς ἀρετῆς καὶ πρὸς τὰς πράξεις τὰς πολιτικάς).

ἐπεὶ δὲ καὶ τὸ πολεμικὸν καὶ τὸ βουλευόμενον περὶ τῶν συμφερόντων καὶ κρῖνον περὶ τῶν δικαίων ἐνυπάρχει καὶ μέρη φαίνεται τῆς πόλεως μάλιστα ὄντα, πότερον ‹ἑτέροις› ἕτερα καὶ ταῦτα θετέον ἢ τοῖς αὐτοῖς ἀποδοτέον ἄμφω; φανερὸν δὲ καὶ τοῦτο, διότι τρόπον μέν τινα τοῖς αὐτοῖς τρόπον δέ τινα καὶ ἑτέροις. ᾗ μὲν γὰρ ἑτέρας ἀκμῆς ἑκάτερον τῶν ἔργων, καὶ τὸ μὲν δεῖται φρονήσεως τὸ δὲ δυνάμεως, ἑτέροις· ᾗ δὲ τῶν ἀδυνάτων ἐστὶ τοὺς δυναμένους βιάζεσθαι καὶ κωλύειν, τούτους ὑπομένειν ἀρχομένους ἀεί, ταύτῃ δὲ τοῖς αὐτοῖς. οἱ γὰρ τῶν ὅπλων κύριοι καὶ ‹τοῦ› μένειν ἢ μὴ μένειν κύριοι τὴν πολιτείαν. λείπεται τοίνυν τοῖς αὐτοῖς μὲν ἀμφότερα ἀποδιδόναι τὴν πολιτείαν ταῦτα, μὴ ἅμα δέ, ἀλλ’ ὥσπερ πέφυκεν ἡ μὲν δύναμις ἐν νεωτέροις, ἡ δὲ φρόνησις ἐν πρεσβυτέροις εἶναι· οὐκοῦν οὕτως ἀμφοῖν νενεμῆσθαι συμφέρει καὶ δίκαιόν ἐστιν· ἔχει γὰρ αὕτη ἡ διαίρεσις τὸ κατ’ ἀξίαν. ἀλλὰ μὴν καὶ τὰς κτήσεις δεῖ εἶναι περὶ τούτους. ἀναγκαῖον γὰρ εὐπορίαν ὑπάρχειν τοῖς πολίταις, πολῖται δὲ οὗτοι. τὸ γὰρ βάναυσον οὐ μετέχει τῆς πόλεως, οὐδ’ ἄλλο οὐθὲν γένος ὃ μὴ τῆς ἀρετῆς δημιουργόν ἐστιν. τοῦτο δὲ δῆλον ἐκ τῆς ὑποθέσεως· τὸ μὲν γὰρ εὐδαιμονεῖν ἀναγκαῖον ὑπάρχειν μετὰ τῆς ἀρετῆς, εὐδαίμονα δὲ πόλιν οὐκ εἰς μέρος τι βλέψαντας δεῖ λέγειν αὐτῆς, ἀλλ’ εἰς πάντας τοὺς πολίτας. φανερὸν δὲ καὶ ὅτι δεῖ τὰς κτήσεις εἶναι τούτων, εἴπερ ἀναγκαῖον εἶναι τοὺς γεωργοὺς δούλους ἢ βαρβάρους [ἢ] περιοίκους. λοιπὸν δ’ ἐκ τῶν καταριθμηθέντων τὸ τῶν ἱερέων γένος. φανερὰ δὲ καὶ ἡ τούτων τάξις. οὔτε γὰρ γεωργὸν οὔτε βάναυσον ἱερέα καταστατέον (ὑπὸ γὰρ τῶν πολιτῶν πρέπει τιμᾶσθαι τοὺς θεούς)· ἐπεὶ δὲ διῄρηται τὸ πολιτικὸν εἰς δύο μέρη, τοῦτ’ ἐστὶ τό τε ὁπλιτικὸν καὶ τὸ βουλευτικόν, πρέπει δὲ τήν τε θεραπείαν ἀποδιδόναι τοῖς θεοῖς καὶ [τὴν] ἀνάπαυσιν ἔχειν [περὶ αὐτοὺς] τοὺς διὰ τὸν χρόνον ἀπειρηκότας, τούτοις ἂν εἴη τὰς ‹περὶ αὐτοὺς› ἱερωσύνας ἀποδοτέον.

ὧν μὲν τοίνυν ἄνευ πόλις οὐ συνίσταται καὶ ὅσα μέρη πόλεως, εἴρηται (γεωργοὺς μὲν γὰρ καὶ τεχνίτας καὶ πᾶν τὸ θητικὸν ἀναγκαῖον ὑπάρχειν ταῖς πόλεσιν, μέρη δὲ τῆς πόλεως τό τε ὁπλιτικὸν καὶ βουλευτικόν), καὶ κεχώρισται δὴ τούτων ἕκαστον, τὸ μὲν ἀεὶ τὸ δὲ κατὰ μέρος.

Ἔοικε δὲ οὐ νῦν οὐδὲ νεωστὶ τοῦτ’ εἶναι γνώριμον τοῖς περὶ πολιτείας φιλοσοφοῦσιν, ὅτι δεῖ διῃρῆσθαι χωρὶς κατὰ γένη [1329b] τὴν πόλιν καὶ τό τε μάχιμον ἕτερον εἶναι καὶ τὸ γεωργοῦν. ἐν Αἰγύπτῳ τε γὰρ ἔχει τὸν τρόπον τοῦτον ἔτι καὶ νῦν, τά τε περὶ τὴν Κρήτην, τὰ μὲν οὖν περὶ Αἴγυπτον Σεσώστριος, ὥς φασιν, οὕτω νομοθετήσαντος, Μίνω δὲ τὰ περὶ Κρήτην. ἀρχαία δὲ ἔοικεν εἶναι καὶ τῶν συσσιτίων ἡ τάξις, τὰ μὲν περὶ Κρήτην γενόμενα περὶ τὴν Μίνω βασιλείαν, τὰ δὲ περὶ τὴν Ἰταλίαν πολλῷ παλαιότερα τούτων. φασὶ γὰρ οἱ λόγιοι τῶν ἐκεῖ κατοικούντων Ἰταλόν τινα γενέσθαι βασιλέα τῆς Οἰνωτρίας, ἀφ’ οὗ τό τε ὄνομα μεταβαλόντας Ἰταλοὺς ἀντ’ Οἰνωτρῶν κληθῆναι καὶ τὴν ἀκτὴν ταύτην τῆς Εὐρώπης Ἰταλίαν τοὔνομα λαβεῖν, ὅση τετύχηκεν ἐντὸς οὖσα τοῦ κόλπου τοῦ Σκυλλητικοῦ καὶ τοῦ Λαμητικοῦ· ἀπέχει δὲ ταῦτα ἀπ’ ἀλλήλων ὁδὸν ἡμισείας ἡμέρας. τοῦτον δὴ λέγουσι τὸν Ἰταλὸν νομάδας τοὺς Οἰνωτροὺς ὄντας ποιῆσαι γεωργούς, καὶ νόμους ἄλλους τε αὐτοῖς θέσθαι καὶ τὰ συσσίτια καταστῆσαι πρῶτον· διὸ καὶ νῦν ἔτι τῶν ἀπ᾽ ἐκείνου τινὲς χρῶνται τοῖς συσσιτίοις καὶ τῶν νόμων ἐνίοις. ᾤκουν δὲ τὸ μὲν πρὸς τὴν Τυρρηνίαν Ὀπικοὶ καὶ πρότερον καὶ νῦν καλούμενοι τὴν ἐπωνυμίαν Αὔσονες, τὸ δὲ πρὸς τὴν Ἰαπυγίαν καὶ τὸν Ἰόνιον Χῶνες, τὴν καλουμένην Σιρῖτιν· ἦσαν δὲ καὶ οἱ Χῶνες Οἰνωτροὶ τὸ γένος. ἡ μὲν οὖν τῶν συσσιτίων τάξις ἐντεῦθεν γέγονε πρῶτον, ὁ δὲ χωρισμὸς ὁ κατὰ γένος τοῦ πολιτικοῦ πλήθους ἐξ Αἰγύπτου· πολὺ γὰρ ὑπερτείνει τοῖς χρόνοις τὴν Μίνω βασιλείαν ἡ Σεσώστριος. σχεδὸν μὲν οὖν καὶ τὰ ἄλλα δεῖ νομίζειν εὑρῆσθαι πολλάκις ἐν τῷ πολλῷ χρόνῳ, μᾶλλον δ᾽ ἀπειράκις. τὰ μὲν γὰρ ἀναγκαῖα τὴν χρείαν διδάσκειν εἰκὸς αὐτήν, τὰ δ᾽ εἰς εὐσχημοσύνην καὶ περιουσίαν ὑπαρχόντων ἤδη τούτων εὔλογον λαμβάνειν τὴν αὔξησιν· ὥστε καὶ τὰ περὶ τὰς πολιτείας οἴεσθαι δεῖ τὸν αὐτὸν ἔχειν τρόπον. ὅτι δὲ πάντα ἀρχαῖα, σημεῖον τὰ περὶ Αἴγυπτόν ἐστιν· οὗτοι γὰρ ἀρχαιότατοι μὲν δοκοῦσιν εἶναι, νόμων δὲ τετυχήκασιν ‹ἀεὶ› καὶ τάξεως πολιτικῆς. διὸ δεῖ τοῖς μὲν εὑρημένοις ἱκανῶς χρῆσθαι, τὰ δὲ παραλελειμμένα πειρᾶσθαι ζητεῖν.

ὅτι μὲν οὖν δεῖ τὴν χώραν εἶναι τῶν ὅπλα κεκτημένων καὶ τῶν τῆς πολιτείας μετεχόντων, εἴρηται πρότερον, καὶ διότι τοὺς γεωργοῦντας αὐτῶν ἑτέρους εἶναι δεῖ, καὶ πόσην τινὰ χρὴ καὶ ποίαν εἶναι τὴν χώραν· περὶ δὲ τῆς διανομῆς καὶ τῶν γεωργούντων, τίνας καὶ ποίους εἶναι χρή, λεκτέον πρῶτον, ἐπειδὴ οὔτε κοινήν φαμεν εἶναι δεῖν τὴν [1330a] κτῆσιν ὥσπερ τινὲς εἰρήκασιν, ἀλλὰ τῇ χρήσει φιλικῶς γινομένῃ κοινήν, οὔτ᾽ ἀπορεῖν οὐθένα τῶν πολιτῶν τροφῆς. περὶ συσσιτίων τε συνδοκεῖ πᾶσι χρήσιμον εἶναι ταῖς εὖ κατεσκευασμέναις πόλεσιν ὑπάρχειν· δι᾽ ἣν δ᾽ αἰτίαν συνδοκεῖ καὶ ἡμῖν, ὕστερον ἐροῦμεν. δεῖ δὲ τούτων κοινωνεῖν πάντας τοὺς πολίτας, οὐ ῥᾴδιον δὲ τοὺς ἀπόρους ἀπὸ τῶν ἰδίων τε εἰσφέρειν τὸ συντεταγμένον καὶ διοικεῖν τὴν ἄλλην οἰκίαν. ἔτι δὲ τὰ πρὸς τοὺς θεοὺς δαπανήματα κοινὰ πάσης τῆς πόλεώς ἐστιν. ἀναγκαῖον τοίνυν εἰς δύο μέρη διῃρῆσθαι τὴν χώραν, καὶ τὴν μὲν εἶναι κοινὴν τὴν δὲ τῶν ἰδιωτῶν, καὶ τούτων ἑκατέραν διῃρῆσθαι δίχα πάλιν, τῆς μὲν κοινῆς τὸ μὲν ἕτερον μέρος εἰς τὰς πρὸς τοὺς θεοὺς λειτουργίας τὸ δὲ ἕτερον εἰς τὴν τῶν συσσιτίων δαπάνην, τῆς δὲ τῶν ἰδιωτῶν τὸ ἕτερον μέρος [τὸ] πρὸς τὰς ἐσχατιάς, τὸ δὲ ἕτερον πρὸς πόλιν, ἵνα δύο κλήρων ἑκάστῳ νεμηθέντων ἀμφοτέρων τῶν τόπων πάντες μετέχωσιν. τό τε γὰρ ἴσον οὕτως ἔχει καὶ τὸ δίκαιον καὶ τὸ πρὸς τοὺς ἀστυγείτονας πολέμους ὁμονοητικώτερον. ὅπου γὰρ μὴ τοῦτον ἔχει τὸν τρόπον, οἱ μὲν ὀλιγωροῦσι τῆς πρὸς τοὺς ὁμόρους ἔχθρας, οἱ δὲ λίαν φροντίζουσι καὶ παρὰ τὸ καλόν. διὸ παρ’ ἐνίοις νόμος ἐστὶ τοὺς γειτνιῶντας τοῖς ὁμόροις μὴ συμμετέχειν βουλῆς ‹περὶ› τῶν πρὸς αὐτοὺς πολέμων, ὡς διὰ τὸ ἴδιον οὐκ ἂν δυναμένους βουλεύσασθαι καλῶς. τὴν μὲν οὖν χώραν ἀνάγκη διῃρῆσθαι τὸν τρόπον τοῦτον διὰ τὰς προειρημένας αἰτίας· τοὺς δὲ γεωργήσοντας μάλιστα μέν, εἰ δεῖ κατ’ εὐχήν, δούλους εἶναι, μήτε ὁμοφύλων πάντων ‹ὄντων› μήτε θυμοειδῶν (οὕτω γὰρ ἂν πρός τε τὴν ἐργασίαν εἶεν χρήσιμοι καὶ πρὸς τὸ μηδὲν νεωτερίζειν ἀσφαλεῖς), δεύτερον δὲ βαρβάρους περιοίκους παραπλησίους τοῖς εἰρημένοις τὴν φύσιν, τούτων δὲ τοὺς μὲν ἐν τοῖς ἰδίοις εἶναι ἰδίους τῶν κεκτημένων τὰς οὐσίας, τοὺς δ’ ἐπὶ τῇ κοινῇ γῇ κοινούς. τίνα δὲ δεῖ τρόπον χρῆσθαι δούλοις, καὶ διότι βέλτιον πᾶσι τοῖς δούλοις ἆθλον προκεῖσθαι τὴν ἐλευθερίαν, ὕστερον ἐροῦμεν.

Τὴν δὲ πόλιν ὅτι μὲν δεῖ κοινὴν εἶναι τῆς ἠπείρου τε καὶ τῆς θαλάττης καὶ τῆς χώρας ἁπάσης ὁμοίως ἐκ τῶν ἐνδεχομένων, εἴρηται πρότερον· αὐτῆς δὲ προσάντη εἶναι τὴν θέσιν εὔχεσθαι δεῖ κατ’ εὐχήν, πρὸς τέτταρα βλέποντας· πρῶτον μὲν ὡς ἀναγκαῖον πρὸς ὑγίειαν (αἵ τε γὰρ πρὸς ἕω τὴν ἔγκλισιν ἔχουσαι καὶ πρὸς τὰ πνεύματα τὰ πνέοντα ἀπὸ τῆς ἀνατολῆς ὑγιεινότεραι, δεύτερον δ’ ‹αἱ› κατὰ βορέαν· εὐχείμεροι γὰρ αὗται μᾶλλον)· τῶν δὲ λοιπῶν [1330b] πρὸς τὸ τὰς πολιτικὰς πράξεις καὶ πολεμικὰς καλῶς ἔχειν. πρὸς μὲν οὖν τὰς πολεμικὰς αὐτοῖς μὲν εὐέξοδον εἶναι χρή, τοῖς δ’ ἐναντίοις δυσπρόσοδον καὶ δυσπερίληπτον, ὑδάτων τε καὶ ναμάτων μάλιστα μὲν ὑπάρχειν πλῆθος οἰκεῖον, εἰ δὲ μή, τοῦτό γε εὕρηται διὰ τοῦ κατασκευάζειν ὑποδοχὰς ὀμβρίοις ὕδασιν ἀφθόνους καὶ μεγάλας, ὥστε μηδέποτε ὑπολείπειν εἰργομένους τῆς χώρας διὰ πόλεμον· ἐπεὶ δὲ δεῖ περὶ ὑγιείας φροντίζειν τῶν ἐνοικούντων, τοῦτο δ’ ἐστὶν ἐν τῷ κεῖσθαι τὸν τόπον ἔν τε τοιούτῳ καὶ πρὸς τοιοῦτον καλῶς, δεύτερον δὲ ὕδασιν ὑγιεινοῖς χρῆσθαι, καὶ τούτου τὴν ἐπιμέλειαν ἔχειν μὴ παρέργως. οἷς γὰρ πλείστοις χρώμεθα πρὸς τὸ σῶμα καὶ πλειστάκις, ταῦτα πλεῖστον συμβάλλεται πρὸς τὴν ὑγίειαν· ἡ δὲ τῶν ὑδάτων καὶ τοῦ πνεύματος δύναμις τοιαύτην ἔχει τὴν φύσιν. διόπερ ἐν ταῖς εὖ φρονούσαις δεῖ διωρίσθαι πόλεσιν, ἐὰν μὴ πάνθ’ ὅμοια μηδ’ ἀφθονία τοιούτων ᾖ ναμάτων, χωρὶς τά τε εἰς τροφὴν ὕδατα καὶ τὰ πρὸς τὴν ἄλλην χρείαν.

περὶ δὲ τόπων ἐρυμνῶν οὐ πάσαις ὁμοίως ἔχει τὸ συμφέρον ταῖς πολιτείαις· οἷον ἀκρόπολις ὀλιγαρχικὸν καὶ μοναρχικόν, δημοκρατικὸν δ’ ὁμαλότης, ἀριστοκρατικὸν δὲ οὐδέτερον, ἀλλὰ μᾶλλον ἰσχυροὶ τόποι πλείους. ἡ δὲ τῶν ἰδίων οἰκήσεων διάθεσις ἡδίων μὲν νομίζεται καὶ χρησιμωτέρα πρὸς τὰς ἄλλας πράξεις, ἂν εὔτομος ᾖ καὶ κατὰ τὸν νεώτερον καὶ τὸν Ἱπποδάμειον τρόπον, πρὸς δὲ τὰς πολεμικὰς ἀσφαλείας τοὐναντίον ὡς εἶχον κατὰ τὸν ἀρχαῖον χρόνον· δυσείσοδος γὰρ ἐκείνη τοῖς ξενικοῖς καὶ δυσεξερεύνητος [τοῖς] ἐπιτιθεμένοις. διὸ δεῖ τούτων ἀμφοτέρων μετέχειν (ἐνδέχεται γάρ, ἄν τις οὕτως κατασκευάζῃ καθάπερ ἐν τοῖς γεωργίοις ἃς καλοῦσί τινες τῶν ἀμπέλων συστάδας), καὶ τὴν μὲν ὅλην μὴ ποιεῖν πόλιν εὔτομον, κατὰ μέρη δὲ καὶ τόπους· οὕτω γὰρ καὶ πρὸς ἀσφάλειαν καὶ πρὸς κόσμον ἕξει καλῶς.

περὶ δὲ τειχῶν, οἱ μὴ φάσκοντες δεῖν ἔχειν τὰς τῆς ἀρετῆς ἀντιποιουμένας πόλεις λίαν ἀρχαίως ὑπολαμβάνουσιν, καὶ ταῦθ’ ὁρῶντες ἐλεγχομένας ἔργῳ τὰς ἐκείνως καλλωπισαμένας. ἔστι δὲ πρὸς μὲν τοὺς ὁμοίους καὶ μὴ πολὺ τῷ πλήθει διαφέροντας οὐ καλὸν τὸ πειρᾶσθαι σῴζεσθαι διὰ τῆς τῶν τειχῶν ἐρυμνότητος· ἐπεὶ δὲ καὶ συμβαίνειν ἐνδέχεται πλείω τὴν ὑπεροχὴν γίγνεσθαι τῶν ἐπιόντων καὶ τῆς ἀνθρωπίνης καὶ τῆς ἐν τοῖς ὀλίγοις ἀρετῆς, εἰ δεῖ σῴζεσθαι καὶ μὴ πάσχειν κακῶς μηδὲ ὑβρίζεσθαι, τὴν ἀσφαλεστάτην ἐρυμνότητα τῶν τειχῶν οἰητέον εἶναι πολεμικωτάτην, [1331a] ἄλλως τε καὶ νῦν εὑρημένων τῶν περὶ τὰ βέλη καὶ τὰς μηχανὰς εἰς ἀκρίβειαν πρὸς τὰς πολιορκίας. ὅμοιον γὰρ τὸ τείχη μὴ περιβάλλειν ταῖς πόλεσιν ἀξιοῦν καὶ τὸ τὴν χώραν εὐέμβολον ζητεῖν καὶ περιαιρεῖν τοὺς ὀρεινοὺς τόπους, ὁμοίως δὲ καὶ ταῖς οἰκήσεσι ταῖς ἰδίαις μὴ περιβάλλειν τοίχους ὡς ἀνάνδρων ἐσομένων τῶν κατοικούντων. ἀλλὰ μὴν οὐδὲ τοῦτό γε δεῖ λανθάνειν, ὅτι τοῖς μὲν περιβεβλημένοις τείχη περὶ τὴν πόλιν ἔξεστιν ἀμφοτέρως χρῆσθαι ταῖς πόλεσιν, καὶ ὡς ἐχούσαις τείχη καὶ ὡς μὴ ἐχούσαις, τοῖς δὲ μὴ κεκτημένοις οὐκ ἔξεστιν. εἰ δὴ τοῦτον ἔχει τὸν τρόπον, οὐχ ὅτι τείχη μόνον περιβλητέον, ἀλλὰ καὶ τούτων ἐπιμελητέον, ὅπως καὶ πρὸς κόσμον ἔχῃ τῇ πόλει πρεπόντως καὶ πρὸς τὰς πολεμικὰς χρείας, τάς τε ἄλλας καὶ τὰς νῦν ἐπεξευρημένας. ὥσπερ γὰρ τοῖς ἐπιτιθεμένοις ἐπιμελές ἐστι δι’ ὧν τρόπων πλεονεκτήσουσιν, οὕτω τὰ μὲν εὕρηται τὰ δὲ δεῖ ζητεῖν καὶ φιλοσοφεῖν καὶ τοὺς φυλαττομένους· ἀρχὴν γὰρ οὐδ’ ἐπιχειροῦσιν ἐπιτίθεσθαι τοῖς εὖ παρεσκευασμένοις.

Ἐπεὶ δὲ δεῖ τὸ μὲν πλῆθος τῶν πολιτῶν ἐν συσσιτίοις κατανενεμῆσθαι, τὰ δὲ τείχη διειλῆφθαι φυλακτηρίοις καὶ πύργοις κατὰ τόπους ἐπικαίρους, δῆλον ὡς ταῦτα προκαλεῖται παρασκευάζειν ἔνια τῶν συσσιτίων ἐν τούτοις τοῖς φυλακτηρίοις. καὶ ταῦτα μὲν δὴ τοῦτον ἄν τις διακοσμήσειε τὸν τρόπον· τὰς δὲ τοῖς θείοις ἀποδεδομένας οἰκήσεις καὶ τὰ κυριώτατα τῶν ἀρχείων συσσίτια ἁρμόττει τόπον ἐπιτήδειόν τε ἔχειν καὶ τὸν αὐτόν, ὅσα μὴ τῶν ἱερῶν ὁ νόμος ἀφορίζει χωρὶς ἤ τι μαντεῖον ἄλλο πυθόχρηστον. εἴη δ’ ἂν τοιοῦτος ὁ τόπος ὅστις ἐπιφάνειάν τε ἔχει πρὸς τὴν τῆς θέσεως ἀρετὴν ἱκανῶς καὶ πρὸς τὰ γειτνιῶντα μέρη τῆς πόλεως ἐρυμνοτέρως. πρέπει δ’ ὑπὸ μὲν τοῦτον τὸν τόπον τοιαύτης ἀγορᾶς εἶναι κατασκευὴν οἵαν καὶ περὶ Θετταλίαν νομίζουσιν, ἣν ἐλευθέραν καλοῦσιν, αὕτη δ’ ἐστὶν ἣν δεῖ καθαρὰν εἶναι τῶν ὠνίων πάντων, καὶ μήτε βάναυσον μήτε γεωργὸν μήτ’ ἄλλον μηδένα τοιοῦτον παραβάλλειν μὴ καλούμενον ὑπὸ τῶν ἀρχόντων. εἴη δ’ ἂν εὔχαρις ὁ τόπος, εἰ καὶ τὰ γυμνάσια τῶν πρεσβυτέρων ἔχοι τὴν τάξιν ἐνταῦθα· πρέπει γὰρ διῃρῆσθαι κατὰ τὰς ἡλικίας καὶ τοῦτον τὸν κόσμον, καὶ παρὰ μὲν τοῖς νεωτέροις ἄρχοντάς τινας διατρίβειν, τοὺς δὲ πρεσβυτέρους παρὰ τοῖς ἄρχουσιν· ἡ γὰρ ἐν ὀφθαλμοῖς τῶν ἀρχόντων παρουσία μάλιστα ἐμποιεῖ τὴν ἀληθινὴν αἰδῶ καὶ τὸν τῶν ἐλευθέρων [1331b] φόβον. τὴν δὲ τῶν ὠνίων ἀγορὰν ἑτέραν τε δεῖ ταύτης εἶναι καὶ χωρίς, ἔχουσαν τόπον εὐσυνάγωγον τοῖς τε ἀπὸ τῆς θαλάττης πεμπομένοις καὶ τοῖς ἀπὸ τῆς χώρας πᾶσιν.

ἐπεὶ δὲ τὸ προεστὸς διαιρεῖται τῆς πόλεως εἰς ἱερεῖς καὶ ἄρχοντας, πρέπει καὶ τῶν ἱερέων συσσίτια περὶ τὴν τῶν ἱερῶν οἰκοδομημάτων ἔχειν τὴν τάξιν. τῶν δ’ ἀρχείων ὅσα περὶ τὰ συμβόλαια ποιεῖται τὴν ἐπιμέλειαν, περί τε γραφὰς δικῶν καὶ τὰς κλήσεις καὶ τὴν ἄλλην τὴν τοιαύτην διοίκησιν, ἔτι δὲ περὶ τὴν ἀγορανομίαν καὶ τὴν καλουμένην ἀστυνομίαν, πρὸς ἀγορᾷ μὲν δεῖ καὶ συνόδῳ τινὶ κοινῇ κατεσκευάσθαι, τοιοῦτος δ’ ὁ περὶ τὴν ἀναγκαίαν ἀγοράν ἐστι τόπος· ἐνσχολάζειν μὲν γὰρ τὴν ἄνω τίθεμεν, ταύτην δὲ πρὸς τὰς ἀναγκαίας πράξεις. νενεμῆσθαι δὲ χρὴ τὴν εἰρημένην τάξιν καὶ τὰ περὶ τὴν χώραν· καὶ γὰρ ἐκεῖ τοῖς ἄρχουσιν οὓς καλοῦσιν οἱ μὲν ὑλωροὺς οἱ δὲ ἀγρονόμους καὶ φυλακτήρια καὶ συσσίτια πρὸς φυλακὴν ἀναγκαῖον ὑπάρχειν, ἔτι δὲ ἱερὰ κατὰ τὴν χώραν εἶναι νενεμημένα, τὰ μὲν θεοῖς τὰ δὲ ἥρωσιν. ἀλλὰ τὸ διατρίβειν νῦν ἀκριβολογουμένους καὶ λέγοντας περὶ τῶν τοιούτων ἀργόν ἐστιν· οὐ γὰρ χαλεπόν ἐστι τὰ τοιαῦτα νοῆσαι, ἀλλὰ ποιῆσαι μᾶλλον· τὸ μὲν γὰρ λέγειν εὐχῆς ἔργον ἐστί, τὸ δὲ συμβῆναι τύχης. διὸ περὶ μὲν τῶν τοιούτων τό γε ἐπὶ πλεῖον ἀφείσθω τὰ νῦν.

Περὶ δὲ τῆς πολιτείας αὐτῆς, ἐκ τίνων καὶ ποίων δεῖ συνεστάναι τὴν μέλλουσαν ἔσεσθαι πόλιν μακαρίαν καὶ πολιτεύσεσθαι καλῶς, λεκτέον. ἐπεὶ δὲ δύ’ ἐστὶν ἐν οἷς γίγνεται τὸ εὖ πᾶσι, τούτοιν δ’ ἐστὶν ἓν μὲν ἐν τῷ τὸν σκοπὸν κεῖσθαι καὶ τὸ τέλος τῶν πράξεων ὀρθῶς, ἓν δὲ τὰς πρὸς τὸ τέλος φερούσας πράξεις εὑρίσκειν (ἐνδέχεται γὰρ ταῦτα καὶ διαφωνεῖν ἀλλήλοις καὶ συμφωνεῖν· ἐνίοτε γὰρ ὁ μὲν σκοπὸς ἔκκειται καλῶς, ἐν δὲ τῷ πράττειν τοῦ τυχεῖν αὐτοῦ διαμαρτάνουσιν, ὁτὲ δὲ τῶν μὲν πρὸς τὸ τέλος πάντων ἐπιτυγχάνουσιν, ἀλλὰ τὸ τέλος ἔθεντο φαῦλον, ὁτὲ δὲ ἑκατέρου διαμαρτάνουσιν, οἷον περὶ ἰατρικήν· οὔτε γὰρ ποῖόν τι δεῖ τὸ ὑγιαῖνον εἶναι σῶμα κρίνουσιν ἐνίοτε καλῶς, οὔτε πρὸς τὸν ὑποκείμενον αὐτοῖς ὅρον τυγχάνουσι τῶν ποιητικῶν· δεῖ δ’ ἐν ταῖς τέχναις καὶ ἐπιστήμαις ταῦτα ἀμφότερα κρατεῖσθαι, τὸ τέλος καὶ τὰς εἰς τὸ τέλος πράξεις), ὅτι μὲν οὖν τοῦ τε εὖ ζῆν καὶ τῆς εὐδαιμονίας ἐφίενται πάντες, φανερόν, ἀλλὰ τούτων τοῖς μὲν ἐξουσία τυγχάνει τοῖς δὲ οὔ, διά τινα τύχην ἢ φύσιν (δεῖται γὰρ καὶ χορηγίας [1332a] τινὸς τὸ ζῆν καλῶς, τούτου δὲ ἐλάττονος μὲν τοῖς ἄμεινον διακειμένοις, πλείονος δὲ τοῖς χεῖρον), οἱ δ’ εὐθὺς οὐκ ὀρθῶς ζητοῦσι τὴν εὐδαιμονίαν, ἐξουσίας ὑπαρχούσης. ἐπεὶ δὲ τὸ προκείμενόν ἐστι τὴν ἀρίστην πολιτείαν ἰδεῖν, αὕτη δ’ ἐστὶ καθ’ ἣν ἄριστ’ ἂν πολιτεύοιτο πόλις, ἄριστα δ’ ἂν πολιτεύοιτο καθ’ ἣν εὐδαιμονεῖν μάλιστα ἐνδέχεται τὴν πόλιν, δῆλον ὅτι τὴν εὐδαιμονίαν δεῖ, τί ἐστι, μὴ λανθάνειν.

φαμὲν δὲ (καὶ διωρίσμεθα ἐν τοῖς Ἠθικοῖς, εἴ τι τῶν λόγων ἐκείνων ὄφελος) ἐνέργειαν εἶναι καὶ χρῆσιν ἀρετῆς τελείαν, καὶ ταύτην οὐκ ἐξ ὑποθέσεως ἀλλ’ ἁπλῶς. λέγω δ’ ἐξ ὑποθέσεως τἀναγκαῖα, τὸ δ’ ἁπλῶς τὸ καλῶς· οἷον τὰ περὶ τὰς δικαίας πράξεις· αἱ ‹γὰρ› δίκαιαι τιμωρίαι καὶ κολάσεις ἀπ’ ἀρετῆς μέν εἰσιν, ἀναγκαῖαι δέ, καὶ τὸ καλῶς ἀναγκαίως ἔχουσιν (αἱρετώτερον μὲν γὰρ μηδενὸς δεῖσθαι τῶν τοιούτων μήτε τὸν ἄνδρα μήτε τὴν πόλιν), αἱ δ’ ἐπὶ τὰς τιμὰς καὶ τὰς εὐπορίας ἁπλῶς εἰσι κάλλισται πράξεις. τὸ μὲν γὰρ ἕτερον κακοῦ τινος ἀναίρεσίς ἐστιν, αἱ τοιαῦται δὲ πράξεις τοὐναντίον· κατασκευαὶ γὰρ ἀγαθῶν εἰσι καὶ γεννήσεις. χρήσαιτο δ’ ἂν ὁ σπουδαῖος ἀνὴρ καὶ πενίᾳ καὶ νόσῳ καὶ ταῖς ἄλλαις τύχαις ταῖς φαύλαις καλῶς· ἀλλὰ τὸ μακάριον ἐν τοῖς ἐναντίοις ἐστίν (καὶ γὰρ τοῦτο διώρισται κατὰ τοὺς ἠθικοὺς λόγους, ὅτι τοιοῦτός ἐστιν ὁ σπουδαῖος, ᾧ διὰ τὴν ἀρετὴν [τὰ] ἀγαθά ἐστι τὰ ἁπλῶς ἀγαθά, δῆλον δ’ ὅτι καὶ τὰς χρήσεις ἀναγκαῖον σπουδαίας καὶ καλὰς εἶναι ταύτας ἁπλῶς)· διὸ καὶ νομίζουσιν ἄνθρωποι τῆς εὐδαιμονίας αἴτια τὰ ἐκτὸς εἶναι τῶν ἀγαθῶν, ὥσπερ εἰ τοῦ κιθαρίζειν λαμπρὸν καὶ καλῶς αἰτιῷντο τὴν λύραν μᾶλλον τῆς τέχνης.

ἀναγκαῖον τοίνυν ἐκ τῶν εἰρημένων τὰ μὲν ὑπάρχειν, τὰ δὲ παρασκευάσαι τὸν νομοθέτην. διὸ κατ’ εὐχὴν εὐχόμεθα τῇ τῆς πόλεως συστάσει ὧν ἡ τύχη κυρία (κυρίαν γὰρ ὑπάρχειν τίθεμεν)· τὸ δὲ σπουδαίαν εἶναι τὴν πόλιν οὐκέτι τύχης ἔργον ἀλλ’ ἐπιστήμης καὶ προαιρέσεως. ἀλλὰ μὴν σπουδαία γε πόλις ἐστὶ τῷ τοὺς πολίτας τοὺς μετέχοντας τῆς πολιτείας εἶναι σπουδαίους· ἡμῖν δὲ πάντες οἱ πολῖται μετέχουσι τῆς πολιτείας. τοῦτ’ ἄρα σκεπτέον, πῶς ἀνὴρ γίνεται σπουδαῖος. καὶ γὰρ εἰ πάντας ἐνδέχεται σπουδαίους εἶναι, μὴ καθ’ ἕκαστον δὲ τῶν πολιτῶν, οὕτως αἱρετώτερον· ἀκολουθεῖ γὰρ τῷ καθ’ ἕκαστον καὶ τὸ πάντας. ἀλλὰ μὴν ἀγαθοί γε καὶ σπουδαῖοι γίγνονται διὰ τριῶν. τὰ τρία δὲ ταῦτά ἐστι φύσις ἔθος λόγος. καὶ γὰρ φῦναι δεῖ πρῶτον, οἷον ἄνθρωπον ἀλλὰ μὴ τῶν ἄλλων τι ζῴων· οὕτω καὶ ποιόν τινα τὸ σῶμα καὶ τὴν ψυχήν. ἔνια δὲ οὐθὲν ὄφελος [1332b] φῦναι· τὰ γὰρ ἔθη μεταβαλεῖν ποιεῖ· ἔνια γὰρ εἶσι, διὰ τῆς φύσεως ἐπαμφοτερίζοντα, διὰ τῶν ἐθῶν ἐπὶ τὸ χεῖρον καὶ τὸ βέλτιον. τὰ μὲν οὖν ἄλλα τῶν ζῴων μάλιστα μὲν τῇ φύσει ζῇ, μικρὰ δ’ ἔνια καὶ τοῖς ἔθεσιν, ἄνθρωπος δὲ καὶ λόγῳ· μόνος γὰρ ἔχει λόγον· ὥστε δεῖ ταῦτα συμφωνεῖν ἀλλήλοις. πολλὰ γὰρ παρὰ τοὺς ἐθισμοὺς καὶ τὴν φύσιν πράττουσι διὰ τὸν λόγον, ἐὰν πεισθῶσιν ἄλλως ἔχειν βέλτιον. τὴν μὲν τοίνυν φύσιν οἵους εἶναι δεῖ τοὺς μέλλοντας εὐχειρώτους ἔσεσθαι τῷ νομοθέτῃ, διωρίσμεθα πρότερον· τὸ δὲ λοιπὸν ἔργον ἤδη παιδείας. τὰ μὲν γὰρ ἐθιζόμενοι μανθάνουσι τὰ δ’ ἀκούοντες.

Ἐπεὶ δὲ πᾶσα πολιτικὴ κοινωνία συνέστηκεν ἐξ ἀρχόντων καὶ ἀρχομένων, τοῦτο δὴ σκεπτέον, εἰ ἑτέρους εἶναι δεῖ τοὺς ἄρχοντας καὶ τοὺς ἀρχομένους ἢ τοὺς αὐτοὺς διὰ βίου· δῆλον γὰρ ὡς ἀκολουθεῖν δεήσει καὶ τὴν παιδείαν κατὰ τὴν διαίρεσιν ταύτην. εἰ μὲν τοίνυν εἴησαν τοσοῦτον διαφέροντες ἅτεροι τῶν ἄλλων ὅσον τοὺς θεοὺς καὶ τοὺς ἥρωας ἡγούμεθα τῶν ἀνθρώπων διαφέρειν, εὐθὺς πρῶτον κατὰ τὸ σῶμα πολλὴν ἔχοντας ὑπερβολήν, εἶτα κατὰ τὴν ψυχήν, ὥστε ἀναμφισβήτητον εἶναι καὶ φανερὰν τὴν ὑπεροχὴν τοῖς ἀρχομένοις τὴν τῶν ἀρχόντων, δῆλον ὅτι βέλτιον ἀεὶ τοὺς αὐτοὺς τοὺς μὲν ἄρχειν τοὺς δ’ ἄρχεσθαι καθάπαξ· ἐπεὶ δὲ τοῦτ’ οὐ ῥᾴδιον λαβεῖν οὐδ’ ἔστιν ὥσπερ ἐν Ἰνδοῖς φησι Σκύλαξ εἶναι τοὺς βασιλέας τοσοῦτον διαφέροντας τῶν ἀρχομένων, φανερὸν ὅτι διὰ πολλὰς αἰτίας ἀναγκαῖον πάντας ὁμοίως κοινωνεῖν τοῦ κατὰ μέρος ἄρχειν καὶ ἄρχεσθαι. τό τε γὰρ ἴσον ταὐτὸν τοῖς ὁμοίοις, καὶ χαλεπὸν μένειν τὴν πολιτείαν τὴν συνεστηκυῖαν παρὰ τὸ δίκαιον. μετὰ γὰρ τῶν ἀρχομένων ὑπάρχουσι νεωτερίζειν βουλόμενοι πάντες οἱ κατὰ τὴν χώραν, τοσούτους τε εἶναι τοὺς ἐν τῷ πολιτεύματι τὸ πλῆθος ὥστ’ εἶναι κρείττους πάντων τούτων ἕν τι τῶν ἀδυνάτων ἐστίν. ἀλλὰ μὴν ὅτι γε δεῖ τοὺς ἄρχοντας διαφέρειν τῶν ἀρχομένων, ἀναμφισβήτητον. πῶς οὖν ταῦτ’ ἔσται καὶ πῶς μεθέξουσι, δεῖ σκέψασθαι τὸν νομοθέτην. εἴρηται δὲ πρότερον περὶ αὐτοῦ. ἡ γὰρ φύσις δέδωκε τὴν αἵρεσιν, ποιήσασα αὐτὸ τὸ γένει ταὐτὸ τὸ μὲν νεώτερον τὸ δὲ πρεσβύτερον, ὧν τοῖς μὲν ἄρχεσθαι πρέπει τοῖς δ’ ἄρχειν· ἀγανακτεῖ δὲ οὐδεὶς καθ’ ἡλικίαν ἀρχόμενος, οὐδὲ νομίζει εἶναι κρείττων, ἄλλως τε καὶ μέλλων ἀντιλαμβάνειν τοῦτον τὸν ἔρανον ὅταν τύχῃ τῆς ἱκνουμένης ἡλικίας.

ἔστι μὲν ἄρα ὡς τοὺς αὐτοὺς ἄρχειν καὶ ἄρχεσθαι φατέον, ἔστι δὲ ὡς ἑτέρους. ὥστε καὶ τὴν [1333a] παιδείαν ἔστιν ὡς τὴν αὐτὴν ἀναγκαῖον, ἔστιδ’ ὡς ἑτέραν εἶναι. τὸν [τε] γὰρ μέλλοντα καλῶς ἄρχειν ἀρχθῆναί φασι δεῖν πρῶτον. (ἔστι δὲ ἀρχή, καθάπερ ἐν τοῖς πρώτοις εἴρηται λόγοις, ἡ μὲν τοῦ ἄρχοντος χάριν ἡ δὲ τοῦ ἀρχομένου. τούτων δὲ τὴν μὲν δεσποτικὴν εἶναί φαμεν, τὴν δὲ τῶν ἐλευθέρων. διαφέρει δ’ ἔνια τῶν ἐπιταττομένων οὐ τοῖς ἔργοις ἀλλὰ τῷ τίνος ἕνεκα. διὸ πολλὰ τῶν εἶναι δοκούντων διακονικῶν ἔργων καὶ τῶν νέων τοῖς ἐλευθέροις καλὸν διακονεῖν· πρὸς γὰρ τὸ καλὸν καὶ τὸ μὴ καλὸν οὐχ οὕτω διαφέρουσιν αἱ πράξεις καθ’ αὑτὰς ὡς ἐν τῷ τέλει καὶ τῷ τίνος ἕνεκεν.) ἐπεὶ δὲ πολίτου καὶ ἄρχοντος τὴν αὐτὴν ἀρετὴν εἶναί φαμεν καὶ τοῦ ἀρίστου ἀνδρός, τὸν δ’ αὐτὸν ἀρχόμενόν τε δεῖν γίγνεσθαι πρότερον καὶ ἄρχοντα ὕστερον, τοῦτ’ ἂν εἴη τῷ νομοθέτῃ πραγματευτέον, ὅπως ἄνδρες ἀγαθοὶ γίγνωνται, καὶ διὰ τίνων ἐπιτηδευμάτων, καὶ τί τὸ τέλος τῆς ἀρίστης ζωῆς.

διῄρηται δὲ δύο μέρη τῆς ψυχῆς, ὧν τὸ μὲν ἔχει λόγον καθ’ αὑτό, τὸ δ’ οὐκ ἔχει μὲν καθ’ αὑτό, λόγῳ δ’ ὑπακούειν δυνάμενον· ὧν φαμεν τὰς ἀρετὰς εἶναι καθ’ ἃς ἀνὴρ ἀγαθὸς λέγεταί πως. τούτων δὲ ἐν ποτέρῳ μᾶλλον τὸ τέλος, τοῖς μὲν οὕτω διαιροῦσιν ὡς ἡμεῖς φαμεν οὐκ ἄδηλον πῶς λεκτέον. αἰεὶ γὰρ τὸ χεῖρον τοῦ βελτίονός ἐστιν ἕνεκεν, καὶ τοῦτο φανερὸν ὁμοίως ἔν τε τοῖς κατὰ τέχνην καὶ τοῖς κατὰ φύσιν· βέλτιον δὲ τὸ λόγον ἔχον. διῄρηταί τε διχῇ, καθ’ ὅνπερ εἰώθαμεν τρόπον διαιρεῖν· ὁ μὲν γὰρ πρακτικός ἐστι λόγος ὁ δὲ θεωρητικός. ὡσαύτως οὖν ἀνάγκη διῃρῆσθαι καὶ τοῦτο τὸ μέρος δηλονότι. καὶ τὰς πράξεις δ’ ἀνάλογον ἐροῦμεν ἔχειν, καὶ δεῖ τὰς τοῦ φύσει βελτίονος αἱρετωτέρας εἶναι τοῖς δυναμένοις τυγχάνειν ἢ πασῶν ἢ τοῖν δυοῖν· αἰεὶ γὰρ ἑκάστῳ τοῦθ’ αἱρετώτατον οὗ τυχεῖν ἔστιν ἀκροτάτου. διῄρηται δὲ καὶ πᾶς ὁ βίος εἰς ἀσχολίαν καὶ σχολὴν καὶ εἰς πόλεμον καὶ εἰρήνην, καὶ τῶν πρακτῶν τὰ μὲν [εἰς τὰ] ἀναγκαῖα καὶ χρήσιμα τὰ δὲ [εἰς τὰ] καλά. περὶ ὧν ἀνάγκη τὴν αὐτὴν αἵρεσιν εἶναι καὶ τοῖς τῆς ψυχῆς μέρεσι καὶ ταῖς πράξεσιν αὐτῶν, πόλεμον μὲν εἰρήνης χάριν, ἀσχολίαν δὲ σχολῆς, τὰ δ’ ἀναγκαῖα καὶ χρήσιμα τῶν καλῶν ἕνεκεν. πρὸς πάντα μὲν τοίνυν τῷ πολιτικῷ βλέποντι νομοθετητέον, καὶ κατὰ τὰ μέρη τῆς ψυχῆς καὶ κατὰ τὰς πράξεις αὐτῶν, μᾶλλον δὲ πρὸς τὰ βελτίω καὶ τὰ τέλη. τὸν αὐτὸν δὲ τρόπον καὶ περὶ τοὺς βίους καὶ τὰς τῶν πραγμάτων αἱρέσεις· δεῖ μὲν γὰρ ἀσχολεῖν δύνασθαι καὶ πολεμεῖν, [1333b] μᾶλλον δ’ εἰρήνην ἄγειν καὶ σχολάζειν, καὶ τἀναγκαῖα καὶ τὰ χρήσιμα δὲ πράττειν, τὰ δὲ καλὰ δεῖ μᾶλλον. ὥστε πρὸς τούτους τοὺς σκοποὺς καὶ παῖδας ἔτι ὄντας παιδευτέον καὶ τὰς ἄλλας ἡλικίας, ὅσαι δέονται παιδείας.

οἱ δὲ νῦν ἄριστα δοκοῦντες πολιτεύεσθαι τῶν Ἑλλήνων, καὶ τῶν νομοθετῶν οἱ ταύτας καταστήσαντες τὰς πολιτείας, οὔτε πρὸς τὸ βέλτιστον τέλος φαίνονται συντάξαντες τὰ περὶ τὰς πολιτείας οὔτε πρὸς πάσας τὰς ἀρετὰς τοὺς νόμους καὶ τὴν παιδείαν, ἀλλὰ φορτικῶς ἀπέκλιναν πρὸς τὰς χρησίμους εἶναι δοκούσας καὶ πλεονεκτικωτέρας. παραπλησίως δὲ τούτοις καὶ τῶν ὕστερόν τινες γραψάντων ἀπεφήναντο τὴν αὐτὴν δόξαν· ἐπαινοῦντες γὰρ τὴν Λακεδαιμονίων πολιτείαν ἄγανται τοῦ νομοθέτου τὸν σκοπόν, ὅτι πάντα πρὸς τὸ κρατεῖν καὶ πρὸς πόλεμον ἐνομοθέτησεν. ἃ καὶ κατὰ τὸν λόγον ἐστὶν εὐέλεγκτα καὶ τοῖς ἔργοις ἐξελήλεγκται νῦν. ὥσπερ γὰρ οἱ πλεῖστοι τῶν ἀνθρώπων ζηλοῦσι τὸ πολλῶν δεσπόζειν, ὅτι πολλὴ χορηγία γίγνεται τῶν εὐτυχημάτων, οὕτω καὶ Θίβρων ἀγάμενος φαίνεται τὸν τῶν Λακώνων νομοθέτην, καὶ τῶν ἄλλων ἕκαστος τῶν γραφόντων περὶ ‹τῆς› πολιτείας αὐτῶν, ὅτι διὰ τὸ γεγυμνάσθαι πρὸς τοὺς κινδύνους πολλῶν ἦρχον· καίτοι δῆλον ὡς ἐπειδὴ νῦν γε οὐκέτι ὑπάρχει τοῖς Λάκωσι τὸ ἄρχειν, οὐκ εὐδαίμονες, οὐδ’ ὁ νομοθέτης ἀγαθός. ἔτι δὲ τοῦτο γελοῖον, εἰ μένοντες ἐν τοῖς νόμοις αὐτοῦ, καὶ μηδενὸς ἐμποδίζοντος πρὸς τὸ χρῆσθαι τοῖς νόμοις, ἀποβεβλήκασι τὸ ζῆν καλῶς. οὐκ ὀρθῶς δ’ ὑπολαμβάνουσιν οὐδὲ περὶ τῆς ἀρχῆς ἣν δεῖ τιμῶντα φαίνεσθαι τὸν νομοθέτην· τοῦ γὰρ δεσποτικῶς ἄρχειν ἡ τῶν ἐλευθέρων ἀρχὴ καλλίων καὶ μᾶλλον μετ’ ἀρετῆς. ἔτι δὲ οὐ διὰ τοῦτο δεῖ τὴν πόλιν εὐδαίμονα νομίζειν καὶ τὸν νομοθέτην ἐπαινεῖν, ὅτι κρατεῖν ἤσκησεν ἐπὶ τὸ τῶν πέλας ἄρχειν· ταῦτα γὰρ μεγάλην ἔχει βλάβην. δῆλον γὰρ ὅτι καὶ τῶν πολιτῶν τῷ δυναμένῳ τοῦτο πειρατέον διώκειν, ὅπως δύνηται τῆς οἰκείας πόλεως ἄρχειν· ὅπερ ἐγκαλοῦσιν οἱ Λάκωνες Παυσανίᾳ τῷ βασιλεῖ, καίπερ ἔχοντι τηλικαύτην τιμήν.

οὔτε δὴ πολιτικὸς τῶν τοιούτων λόγων καὶ νόμων οὐθεὶς οὔτε ὠφέλιμος οὔτε ἀληθής ἐστιν. ταὐτὰ γὰρ ἄριστα καὶ ἰδίᾳ καὶ κοινῇ, τόν ‹τε› νομοθέτην ἐμποιεῖν δεῖ ταῦτα ταῖς ψυχαῖς τῶν ἀνθρώπων· τήν τε τῶν πολεμικῶν ἄσκησιν οὐ τούτου χάριν δεῖ μελετᾶν, ἵνα καταδουλώσωνται τοὺς ἀναξίους, ἀλλ’ ἵνα πρῶτον μὲν αὐτοὶ μὴ δουλεύσωσιν ἑτέροις, ἔπειτα ὅπως ζητῶσι τὴν ἡγεμονίαν τῆς [1334a] ὠφελείας ἕνεκα τῶν ἀρχομένων, ἀλλὰ μὴ πάντων δεσποτείας· τρίτον δὲ τὸ δεσπόζειν τῶν ἀξίων δουλεύειν. ὅτι δὲ δεῖ τὸν νομοθέτην μᾶλλον σπουδάζειν ὅπως καὶ τὴν περὶ τὰ πολεμικὰ καὶ τὴν ἄλλην νομοθεσίαν τοῦ σχολάζειν ἕνεκεν τάξῃ καὶ τῆς εἰρήνης, μαρτυρεῖ τὰ γιγνόμενα τοῖς λόγοις. αἱ γὰρ πλεῖσται τῶν τοιούτων πόλεων πολεμοῦσαι μὲν σῴζονται, κατακτησάμεναι δὲ τὴν ἀρχὴν ἀπόλλυνται. τὴν γὰρ βαφὴν ἀνιᾶσιν, ὥσπερ ὁ σίδηρος, εἰρήνην ἄγοντες. αἴτιος δ’ ὁ νομοθέτης οὐ παιδεύσας δύνασθαι σχολάζειν.

Ἐπεὶ δὲ τὸ αὐτὸ τέλος εἶναι φαίνεται καὶ κοινῇ καὶ ἰδίᾳ τοῖς ἀνθρώποις, καὶ τὸν αὐτὸν ὅρον ἀναγκαῖον εἶναι τῷ τε ἀρίστῳ ἀνδρὶ καὶ τῇ ἀρίστῃ πολιτείᾳ, φανερὸν ὅτι δεῖ τὰς εἰς τὴν σχολὴν ἀρετὰς ὑπάρχειν· τέλος γάρ, ὥσπερ εἴρηται πολλάκις, εἰρήνη μὲν πολέμου σχολὴ δ’ ἀσχολίας. χρήσιμοι δὲ τῶν ἀρετῶν εἰσι πρὸς τὴν σχολὴν καὶ διαγωγὴν ὧν τε ἐν τῇ σχολῇ τὸ ἔργον καὶ ὧν ἐν τῇ ἀσχολίᾳ. δεῖ γὰρ πολλὰ τῶν ἀναγκαίων ὑπάρχειν ὅπως ἐξῇ σχολάζειν· διὸ σώφρονα τὴν πόλιν εἶναι προσήκει καὶ ἀνδρείαν καὶ καρτερικήν· κατὰ γὰρ τὴν παροιμίαν, οὐ σχολὴ δούλοις, οἱ δὲ μὴ δυνάμενοι κινδυνεύειν ἀνδρείως δοῦλοι τῶν ἐπιόντων εἰσίν. ἀνδρείας μὲν οὖν καὶ καρτερίας δεῖ πρὸς τὴν ἀσχολίαν, φιλοσοφίας δὲ πρὸς τὴν σχολήν, σωφροσύνης δὲ καὶ δικαιοσύνης ἐν ἀμφοτέροις τοῖς χρόνοις, καὶ μᾶλλον εἰρήνην ἄγουσι καὶ σχολάζουσιν· ὁ μὲν γὰρ πόλεμος ἀναγκάζει δικαίους εἶναι καὶ σωφρονεῖν, ἡ δὲ τῆς εὐτυχίας ἀπόλαυσις καὶ τὸ σχολάζειν μετ’ εἰρήνης ὑβριστὰς ποιεῖ μᾶλλον. πολλῆς οὖν δεῖ δικαιοσύνης καὶ πολλῆς σωφροσύνης ‹μετέχειν› τοὺς ἄριστα δοκοῦντας πράττειν καὶ πάντων τῶν μακαριζομένων ἀπολαύοντας, οἷον εἴ τινές εἰσιν, ὥσπερ οἱ ποιηταί φασιν, ἐν μακάρων νήσοις· μάλιστα γὰρ οὗτοι δεήσονται φιλοσοφίας καὶ σωφροσύνης καὶ δικαιοσύνης, ὅσῳ μᾶλλον σχολάζουσιν ἐν ἀφθονίᾳ τῶν τοιούτων ἀγαθῶν. διότι μὲν οὖν τὴν μέλλουσαν εὐδαιμονήσειν καὶ σπουδαίαν ἔσεσθαι πόλιν τούτων δεῖ τῶν ἀρετῶν μετέχειν, φανερόν. αἰσχροῦ γὰρ ὄντος ‹τοῦ› μὴ δύνασθαι χρῆσθαι τοῖς ἀγαθοῖς, ἔτι μᾶλλον τὸ μὴ δύνασθαι ἐν τῷ σχολάζειν χρῆσθαι, ἀλλ’ ἀσχολοῦντας μὲν καὶ πολεμοῦντας φαίνεσθαι ἀγαθούς, εἰρήνην δ’ ἄγοντας καὶ σχολάζοντας ἀνδραποδώδεις. διὸ δεῖ μὴ καθάπερ ἡ Λακεδαιμονίων πόλις τὴν ἀρετὴν ἀσκεῖν. ἐκεῖνοι μὲν γὰρ οὐ ταύτῃ διαφέρουσι τῶν ἄλλων, [1334b] τῷ μὴ νομίζειν ταὐτὰ τοῖς ἄλλοις μέγιστα τῶν ἀγαθῶν, ἀλλὰ τῷ γίνεσθαι ταῦτα μᾶλλον διὰ τινὸς ἀρετῆς· ἐπεὶ δὲ μείζω τε ἀγαθὰ ταῦτα καὶ τὴν ἀπόλαυσιν τὴν τούτων ἢ τὴν τῶν ἀρετῶν . καὶ ὅτι δι’ αὑτήν, φανερὸν ἐκ τούτων· πῶς δὲ καὶ διὰ τίνων ἔσται, τοῦτο δὴ θεωρητέον.

τυγχάνομεν δὴ διῃρημένοι πρότερον ὅτι φύσεως καὶ ἔθους καὶ λόγου δεῖ. τούτων δὲ ποίους μέν τινας εἶναι χρὴ τὴν φύσιν, διώρισται πρότερον, λοιπὸν δὲ θεωρῆσαι πότερον παιδευτέοι τῷ λόγῳ πρότερον ἢ τοῖς ἔθεσιν. ταῦτα γὰρ δεῖ πρὸς ἄλληλα συμφωνεῖν συμφωνίαν τὴν ἀρίστην· ἐνδέχεται γὰρ διημαρτηκέναι τὸν λόγον τῆς βελτίστης ὑποθέσεως, καὶ διὰ τῶν ἐθῶν ὁμοίως ἦχθαι. φανερὸν δὴ τοῦτό γε πρῶτον μέν, καθάπερ ἐν τοῖς ἄλλοις, ὡς ἡ γένεσις ἀπ’ ἀρχῆς ἐστι, καὶ τὸ τέλος ἀπό τινος ἀρχῆς ‹ἀρχὴ› ἄλλου τέλους, ὁ δὲ λόγος ἡμῖν καὶ ὁ νοῦς τῆς φύσεως τέλος, ὥστε πρὸς τούτους τὴν γένεσιν καὶ τὴν τῶν ἐθῶν δεῖ παρασκευάζειν μελέτην· ἔπειτα ὥσπερ ψυχὴ καὶ σῶμα δύ’ ἐστίν, οὕτω καὶ τῆς ψυχῆς ὁρῶμεν δύο μέρη, τό τε ἄλογον καὶ τὸ λόγον ἔχον, καὶ τὰς ἕξεις τὰς τούτων δύο τὸν ἀριθμόν, ὧν τὸ μέν ἐστιν ὄρεξις τὸ δὲ νοῦς, ὥσπερ δὲ τὸ σῶμα πρότερον τῇ γενέσει τῆς ψυχῆς, οὕτω καὶ τὸ ἄλογον τοῦ λόγον ἔχοντος. φανερὸν δὲ καὶ τοῦτο· θυμὸς γὰρ καὶ βούλησις, ἔτι δὲ ἐπιθυμία, καὶ γενομένοις εὐθὺς ὑπάρχει τοῖς παιδίοις, ὁ δὲ λογισμὸς καὶ ὁ νοῦς προϊοῦσιν ἐγγίγνεσθαι πέφυκεν. διὸ πρῶτον μὲν τοῦ σώματος τὴν ἐπιμέλειαν ἀναγκαῖον εἶναι προτέραν ἢ τὴν τῆς ψυχῆς, ἔπειτα τὴν τῆς ὀρέξεως, ἕνεκα μέντοι τοῦ νοῦ τὴν τῆς ὀρέξεως, τὴν δὲ τοῦ σώματος τῆς ψυχῆς.

Εἴπερ οὖν ἀπ’ ἀρχῆς τὸν νομοθέτην ὁρᾶν δεῖ ὅπως βέλτιστα τὰ σώματα γένηται τῶν τρεφομένων, πρῶτον μὲν ἐπιμελητέον περὶ τὴν σύζευξιν, πότε καὶ ποίους τινὰς ὄντας χρὴ ποιεῖσθαι πρὸς ἀλλήλους τὴν γαμικὴν ὁμιλίαν. δεῖ δ’ ἀποβλέποντα νομοθετεῖν ταύτην τὴν κοινωνίαν πρὸς αὐτούς τε καὶ τὸν τοῦ ζῆν χρόνον, ἵνα συγκαταβαίνωσι ταῖς ἡλικίαις ἐπὶ τὸν αὐτὸν καιρὸν καὶ μὴ διαφωνῶσιν αἱ δυνάμεις τοῦ μὲν ἔτι δυναμένου γεννᾶν τῆς δὲ μὴ δυναμένης, ἢ ταύτης μὲν τοῦ δ’ ἀνδρὸς μή (ταῦτα γὰρ ποιεῖ καὶ στάσεις πρὸς ἀλλήλους καὶ διαφοράς)· ἔπειτα καὶ πρὸς τὴν τῶν τέκνων διαδοχήν, δεῖ γὰρ οὔτε λίαν ὑπολείπεσθαι ταῖς ἡλικίαις τὰ τέκνα τῶν πατέρων (ἀνόνητος γὰρ τοῖς μὲν πρεσβυτέροις ἡ χάρις παρὰ τῶν τέκνων, ἡ δὲ παρὰ τῶν [1335a] πατέρων βοήθεια τοῖς τέκνοις), οὔτε λίαν πάρεγγυς εἶναι (πολλὴν γὰρ ἔχει δυσχέρειαν· ἥ τε γὰρ αἰδὼς ἧττον ὑπάρχει τοῖς τοιούτοις, ὥσπερ ἡλικιώταις, καὶ περὶ τὴν οἰκονομίαν ἐγκληματικὸν τὸ πάρεγγυς)· ἔτι δ’, ὅθεν ἀρχόμενοι δεῦρο μετέβημεν, ὅπως τὰ σώματα τῶν γεννωμένων ὑπάρχῃ πρὸς τὴν τοῦ νομοθέτου βούλησιν.

σχεδὸν δὴ πάντα ταῦτα συμβαίνει κατὰ μίαν ἐπιμέλειαν. ἐπεὶ γὰρ ὥρισται τέλος τῆς γεννήσεως ὡς ἐπὶ τὸ πλεῖστον εἰπεῖν ἀνδράσι μὲν ὁ τῶν ἑβδομήκοντα ἐτῶν ἀριθμὸς ἔσχατος, πεντήκοντα δὲ γυναιξί, δεῖ τὴν ἀρχὴν τῆς συζεύξεως κατὰ τὴν ἡλικίαν εἰς τοὺς χρόνους καταβαίνειν τούτους. ἔστι δ’ ὁ τῶν νέων συνδυασμὸς φαῦλος πρὸς τὴν τεκνοποιίαν· ἐν γὰρ πᾶσι ζῴοις ἀτελῆ τὰ τῶν νέων ἔκγονα, καὶ θηλυτόκα μᾶλλον καὶ μικρὰ τὴν μορφήν, ὥστ’ ἀναγκαῖον ταὐτὸ τοῦτο συμβαίνειν καὶ ἐπὶ τῶν ἀνθρώπων. τεκμήριον δέ· ἐν ὅσαις γὰρ τῶν πόλεων ἐπιχωριάζει τὸ νέους συζευγνύναι καὶ νέας, ἀτελεῖς καὶ μικροὶ τὰ σώματά εἰσιν. ἔτι δὲ ἐν τοῖς τόκοις αἱ νέαι πονοῦσί τε μᾶλλον καὶ διαφθείρονται πλείους· διὸ καὶ τὸν χρησμὸν γενέσθαι τινές φασι διὰ τοιαύτην αἰτίαν τοῖς Τροιζηνίοις, ὡς πολλῶν διαφθειρομένων διὰ τὸ γαμίσκεσθαι τὰς νεωτέρας, ἀλλ' οὐ πρὸς τὴν τῶν καρπῶν κομιδήν. ἔτι δὲ καὶ πρὸς σωφροσύνην συμφέρει τὰς ἐκδόσεις ποιεῖσθαι πρεσβυτέραις· ἀκολαστότεραι γὰρ εἶναι δοκοῦσι νέαι χρησάμεναι ταῖς συνουσίαις. καὶ τὰ τῶν ἀρρένων δὲ σώματα βλάπτεσθαι δοκεῖ πρὸς τὴν αὔξησιν, ἐὰν ἔτι τοῦ σπέρματος αὐξανομένου ποιῶνται τὴν συνουσίαν· καὶ γὰρ τούτου τις ὡρισμένος χρόνος, ὃν οὐχ ὑπερβαίνει πληθύον ἔτι, ‹ἢ μικρόν›· διὸ τὰς μὲν ἁρμόττει περὶ τὴν τῶν ὀκτωκαίδεκα ἐτῶν ἡλικίαν συζευγνύναι, τοὺς δ' ἑπτὰ καὶ τριάκοντα [ἢ μικρόν]. ἐν τοσούτῳ γὰρ ἀκμάζουσί τε τοῖς σώμασιν ‹ἡ› σύζευξις ἔσται, καὶ πρὸς τὴν παῦλαν τῆς τεκνοποιίας συγκαταβήσεται τοῖς χρόνοις εὐκαίρως· ἔτι δὲ ἡ διαδοχὴ τῶν τέκνων τοῖς μὲν ἀρχομένοις ἔσται τῆς ἀκμῆς, ἐὰν γίγνηται κατὰ λόγον εὐθὺς ἡ γένεσις, τοῖς δὲ ἤδη καταλελυμένης τῆς ἡλικίας πρὸς τὸν τῶν ἑβδομήκοντα ἐτῶν ἀριθμόν.

περὶ μὲν οὖν τοῦ πότε δεῖ ποιεῖσθαι τὴν σύζευξιν εἴρηται, τοῖς δὲ περὶ τὴν ὥραν χρόνοις δεῖ χρῆσθαι οἷς οἱ πολλοὶ χρῶνται, καλῶς καὶ νῦν ὁρίσαντες χειμῶνος τὴν συναυλίαν ποιεῖσθαι ταύτην. δεῖ δὲ καὶ αὐτοὺς ἤδη θεωρεῖν πρὸς τὴν τεκνοποιίαν τά τε παρὰ τῶν ἰατρῶν λεγόμενα καὶ τὰ παρὰ τῶν φυσικῶν· οἵ τε γὰρ ἰατροὶ τοὺς καιροὺς τῶν σωμάτων ἱκανῶς λέγουσι, [1335b] καὶ περὶ τῶν πνευμάτων οἱ φυσικοί, τὰ βόρεια τῶν νοτίων ἐπαινοῦντες μᾶλλον. ποίων δέ τινων τῶν σωμάτων ὑπαρχόντων μάλιστ' ἂν ὄφελος εἴη τοῖς γεννωμένοις, ἐπιστήσασι μὲν μᾶλλον λεκτέον ἐν τοῖς περὶ τῆς παιδονομίας, τύπῳ δὲ ἱκανὸν εἰπεῖν καὶ νῦν. οὔτε γὰρ ἡ τῶν ἀθλητῶν χρήσιμος ἕξις πρὸς πολιτικὴν εὐεξίαν οὐδὲ πρὸς ὑγίειαν καὶ τεκνοποιίαν, οὔτε ἡ θεραπευτικὴ καὶ κακοπονητικὴ λίαν, ἀλλ' ἡ μέση τούτων. πεπονημένην μὲν οὖν ἔχειν δεῖ τὴν ἕξιν, πεπονημένην δὲ πόνοις μὴ βιαίοις, μηδὲ πρὸς ἓν μόνον, ὥσπερ ἡ τῶν ἀθλητῶν ἕξις, ἀλλὰ πρὸς τὰς τῶν ἐλευθερίων πράξεις. ὁμοίως δὲ δεῖ ταῦτα ὑπάρχειν ἀνδράσι καὶ γυναιξίν.

χρὴ δὲ καὶ τὰς ἐγκύους ἐπιμελεῖσθαι τῶν σωμάτων, μὴ ῥᾳθυμούσας μηδ' ἀραιᾷ τροφῇ χρωμένας. τοῦτο δὲ ῥᾴδιον τῷ νομοθέτῃ ποιῆσαι προστάξαντι καθ' ἡμέραν τινὰ ποιεῖσθαι πορείαν πρὸς θεῶν ἀποθεραπείαν τῶν εἰληχότων τὴν περὶ τῆς γενέσεως τιμήν. τὴν μέντοι διάνοιαν τοὐναντίον τῶν σωμάτων ῥᾳθυμοτέρως ἁρμόττει διάγειν· ἀπολαύοντα γὰρ φαίνεται τὰ γεννώμενα τῆς ἐχούσης ὥσπερ τὰ φυόμενα τῆς γῆς. περὶ δὲ ἀποθέσεως καὶ τροφῆς τῶν γιγνομένων ἔστω νόμος μηδὲν πεπηρωμένον τρέφειν, διὰ δὲ πλῆθος τέκνων ἡ τάξις τῶν ἐθῶν κελεύει μηθὲν ἀποτίθεσθαι τῶν γιγνομένων·

ὁρισθῆναι δὲ δεῖ τῆς τεκνοποιίας τὸ πλῆθος, ἐὰν δέ τισι γίγνηται παρὰ ταῦτα συνδυασθέντων, πρὶν αἴσθησιν ἐγγενέσθαι καὶ ζωὴν ἐμποιεῖσθαι δεῖ τὴν ἄμβλωσιν· τὸ γὰρ ὅσιον καὶ τὸ μὴ διωρισμένον τῇ αἰσθήσει καὶ τῷ ζῆν ἔσται. ἐπεὶ δ’ ἡ μὲν ἀρχὴ τῆς ἡλικίας ἀνδρὶ καὶ γυναικὶ διώρισται, πότε ἄρχεσθαι χρὴ τῆς συζεύξεως, καὶ πόσον χρόνον λειτουργεῖν ἁρμόττει πρὸς τεκνοποιίαν ὡρίσθω. τὰ γὰρ τῶν πρεσβυτέρων ἔκγονα, καθάπερ τὰ τῶν νεωτέρων, ἀτελῆ γίγνεται καὶ τοῖς σώμασι καὶ ταῖς διανοίαις, τὰ δὲ τῶν γεγηρακότων ἀσθενῆ· διὸ κατὰ τὴν τῆς διανοίας ἀκμήν. αὕτη δ’ ἐστὶν ἐν τοῖς πλείστοις ἥνπερ τῶν ποιητῶν τινες εἰρήκασιν οἱ μετροῦντες ταῖς ἑβδομάσι τὴν ἡλικίαν, περὶ τὸν χρόνον τὸν τῶν πεντήκοντα ἐτῶν. ὥστε τέτταρσιν ἢ πέντε ἔτεσιν ὑπερβάλλοντα τὴν ἡλικίαν ταύτην ἀφεῖσθαι δεῖ τῆς εἰς τὸ φανερὸν γεννήσεως· τὸ δὲ λοιπὸν ὑγιείας χάριν ἤ τινος ἄλλης τοιαύτης αἰτίας φαίνεσθαι δεῖ ποιουμένους τὴν ὁμιλίαν. περὶ δὲ τῆς πρὸς ἄλλην ἢ πρὸς ἄλλον, ἔστω μὲν ἁπλῶς μὴ καλὸν ἁπτόμενον φαίνεσθαι μηδαμῇ μηδαμῶς, ὅταν ‹ἀνὴρ› ᾖ καὶ προσαγορευθῇ πόσις· περὶ δὲ τὸν χρόνον τὸν τῆς τεκνοποιίας [1336a] ἐάν τις φαίνηται τοιοῦτόν τι δρῶν, ἀτιμίᾳ ζημιούσθω πρεπούσῃ πρὸς τὴν ἁμαρτίαν.

Γενομένων δὲ τῶν τέκνων οἴεσθαι ‹δεῖ› μεγάλην εἶναι διαφορὰν πρὸς τὴν τῶν σωμάτων δύναμιν τὴν τροφήν, ὁποία τις ἂν ᾖ. φαίνεται δὲ διά τε τῶν ἄλλων ζῴων ἐπισκοποῦσι, καὶ διὰ τῶν ἐθνῶν οἷς ἐπιμελές ἐστιν εἰσάγειν τὴν πολεμικὴν ἕξιν, ἡ τοῦ γάλακτος πλήθουσα τροφὴ μάλιστ’ οἰκεία τοῖς σώμασιν, ‹ἡ› ἀοινοτέρα δὲ διὰ τὰ νοσήματα. ἔτι δὲ καὶ κινήσεις ὅσας ἐνδέχεται ποιεῖσθαι τηλικούτων συμφέρει. πρὸς δὲ τὸ μὴ διαστρέφεσθαι τὰ μέλη δι’ ἁπαλότητα χρῶνται καὶ νῦν ἔνια τῶν ἐθνῶν ὀργάνοις τισὶ μηχανικοῖς, ἃ τὸ σῶμα ποιεῖ τῶν τοιούτων ἀστραβές. συμφέρει δ’ εὐθὺς καὶ πρὸς τὰ ψύχη συνεθίζειν ἐκ μικρῶν παίδων· τοῦτο γὰρ καὶ πρὸς ὑγίειαν καὶ πρὸς πολεμικὰς πράξεις εὐχρηστότατον. διὸ παρὰ πολλοῖς ἐστι τῶν βαρβάρων ἔθος τοῖς μὲν εἰς ποταμὸν ἀποβάπτειν τὰ γιγνόμενα ψυχρόν, τοῖς δὲ σκέπασμα μικρὸν ἀμπίσχειν, οἷον Κελτοῖς. πάντα γὰρ ὅσα δυνατὸν ἐθίζειν, εὐθὺς ἀρχομένων βέλτιον ἐθίζειν μέν, ἐκ προσαγωγῆς δ’ ἐθίζειν· εὐφυὴς δ’ ἡ τῶν παίδων ἕξις διὰ θερμότητα πρὸς τὴν τῶν ψυχρῶν ἄσκησιν.

περὶ μὲν οὖν τὴν πρώτην συμφέρει ποιεῖσθαι τὴν ἐπιμέλειαν τοιαύτην τε καὶ τὴν ταύτῃ παραπλησίαν· τὴν δ’ ἐχομένην ταύτης ἡλικίαν μέχρι πέντε ἐτῶν, ἣν οὔτε πω πρὸς μάθησιν καλῶς ἔχει προσάγειν οὐδεμίαν οὔτε πρὸς ἀναγκαίους πόνους, ὅπως μὴ τὴν αὔξησιν ἐμποδίζωσιν, δεῖ τοσαύτης τυγχάνειν κινήσεως ὥστε διαφεύγειν τὴν ἀργίαν τῶν σωμάτων· ἣν χρὴ παρασκευάζειν καὶ δι’ ἄλλων πράξεων καὶ διὰ τῆς παιδιᾶς. δεῖ δὲ καὶ τὰς παιδιὰς εἶναι μήτε ἀνελευθέρους μήτε ἐπιπόνους μήτε ἀνειμένας. καὶ περὶ λόγων δὲ καὶ μύθων, ποίους τινὰς ἀκούειν δεῖ τοὺς τηλικούτους, ἐπιμελὲς ἔστω τοῖς ἄρχουσιν οὓς καλοῦσι παιδονόμους. πάντα γὰρ δεῖ τὰ τοιαῦτα προοδοποιεῖν πρὸς τὰς ὕστερον διατριβάς· διὸ τὰς παιδιὰς εἶναι δεῖ τὰς πολλὰς μιμήσεις τῶν ὕστερον σπουδαζομένων. τὰς δὲ διατάσεις τῶν παίδων καὶ τοὺς κλαυθμοὺς οὐκ ὀρθῶς ἀπαγορεύουσιν οἱ κωλύοντες ἐν τοῖς νόμοις· συμφέρουσι γὰρ πρὸς αὔξησιν· γίγνεται γὰρ τρόπον τινὰ γυμνασία τοῖς σώμασιν· ἡ γὰρ τοῦ πνεύματος κάθεξις ποιεῖ τὴν ἰσχὺν τοῖς πονοῦσιν, ὃ συμβαίνει καὶ τοῖς παιδίοις διατεινομένοις.

ἐπισκεπτέον δὲ τοῖς παιδονόμοις τὴν τούτων διαγωγήν, τήν τ’ ἄλλην καὶ ὅπως ὅτι ἥκιστα μετὰ δούλων ἔσται. ταύτην γὰρ τὴν ἡλικίαν, [1336b] καὶ μέχρι τῶν ἑπτὰ ἐτῶν, ἀναγκαῖον οἴκοι τὴν τροφὴν ἔχειν. εὔλογον οὖν ἀπολαύειν ἀπὸ τῶν ἀκουσμάτων καὶ τῶν ὁραμάτων ἀνελευθερίαν καὶ τηλικούτους ὄντας. ὅλως μὲν οὖν αἰσχρολογίαν ἐκ τῆς πόλεως, ὥσπερ ἄλλο τι, δεῖ τὸν νομοθέτην ἐξορίζειν (ἐκ τοῦ γὰρ εὐχερῶς λέγειν ὁτιοῦν τῶν αἰσχρῶν γίνεται καὶ τὸ ποιεῖν σύνεγγυς)· μάλιστα μὲν οὖν ἐκ τῶν νέων, ὅπως μήτε λέγωσι μήτε ἀκούωσι μηδὲν τοιοῦτον· ἐὰν δέ τις φαίνηταί τι λέγων ἢ πράττων τῶν ἀπηγορευμένων, τὸν μὲν ἐλεύθερον μήπω δὲ κατακλίσεως ἠξιωμένον ἐν τοῖς συσσιτίοις ἀτιμίαις κολάζειν καὶ πληγαῖς, τὸν δὲ πρεσβύτερον τῆς ἡλικίας ταύτης ἀτιμίαις ἀνελευθέροις ἀνδραποδωδίας χάριν. ἐπεὶ δὲ τὸ λέγειν τι τῶν τοιούτων ἐξορίζομεν, φανερὸν ὅτι καὶ τὸ θεωρεῖν ἢ γραφὰς ἢ λόγους ἀσχήμονας. ἐπιμελὲς μὲν οὖν ἔστω τοῖς ἄρχουσι μηθέν, μήτε ἄγαλμα μήτε γραφήν, εἶναι τοιούτων πράξεων μίμησιν, εἰ μὴ παρά τισι θεοῖς τοιούτοις οἷς καὶ τὸν τωθασμὸν ἀποδίδωσιν ὁ νόμος. πρὸς δὲ τούτοις ἀφίησιν ὁ νόμος τοὺς τὴν ἡλικίαν ἔχοντας [ἔτι] τὴν ἱκνουμένην καὶ ὑπὲρ αὑτῶν καὶ τέκνων καὶ γυναικῶν τιμαλφεῖν τοὺς θεούς· τοὺς δὲ νεωτέρους οὔτ’ ἰάμβων οὔτε κωμῳδίας θεατὰς θετέον, πρὶν ἢ τὴν ἡλικίαν λάβωσιν ἐν ᾗ καὶ κατακλίσεως ὑπάρξει κοινωνεῖν ἤδη καὶ μέθης, καὶ τῆς ἀπὸ τῶν τοιούτων γιγνομένης βλάβης ἀπαθεῖς ἡ παιδεία ποιήσει πάντως.

νῦν μὲν οὖν ἐν παραδρομῇ τοῦτον πεποιήμεθα τὸν λόγον· ὕστερον δ’ ἐπιστήσαντας δεῖ διορίσαι μᾶλλον, εἴτε μὴ δεῖ πρῶτον εἴτε δεῖ διαπορήσαντας, καὶ πῶς δεῖ· κατὰ δὲ τὸν παρόντα καιρὸν ἐμνήσθημεν ὅσον ἀναγκαῖον. ἴσως γὰρ οὐ κακῶς ἔλεγε τὸ τοιοῦτον Θεόδωρος ὁ τῆς τραγῳδίας ὑποκριτής· οὐθενὶ γὰρ πώποτε παρῆκεν ἑαυτοῦ προεισάγειν, οὐδὲ τῶν εὐτελῶν ὑποκριτῶν, ὡς οἰκειουμένων τῶν θεατῶν ταῖς πρώταις ἀκοαῖς·

συμβαίνει δὲ ταὐτὸ τοῦτο καὶ πρὸς τὰς τῶν ἀνθρώπων ὁμιλίας καὶ πρὸς τὰς τῶν πραγμάτων· πάντα γὰρ στέργομεν τὰ πρῶτα μᾶλλον. διὸ δεῖ τοῖς νέοις πάντα ποιεῖν ξένα τὰ φαῦλα, μάλιστα δ' αὐτῶν ὅσα ἔχει ἢ μοχθηρίαν ἢ δυσμένειαν. διελθόντων δὲ τῶν πέντε ἐτῶν τὰ δύο μέχρι τῶν ἑπτὰ δεῖ θεωροὺς ἤδη γίγνεσθαι τῶν μαθήσεων ἃς δεήσει μανθάνειν αὐτούς. δύο δ' εἰσὶν ἡλικίαι πρὸς ἃς ἀναγκαῖον διῃρῆσθαι τὴν παιδείαν, πρὸς τὴν ἀπὸ τῶν ἑπτὰ μέχρι ἥβης καὶ πάλιν πρὸς τὴν ἀφ' ἥβης μέχρι τῶν ἑνὸς καὶ εἴκοσιν ἐτῶν. οἱ γὰρ ταῖς ἑβδομάσι διαιροῦντες τὰς ἡλικίας ὡς ἐπὶ τὸ πολὺ λέγουσιν οὐ [1337a] κακῶς, δεῖ δὲ τῇ διαιρέσει τῆς φύσεως ἐπακολουθεῖν· πᾶσα γὰρ τέχνη καὶ παιδεία τὸ προσλεῖπον βούλεται τῆς φύσεως ἀναπληροῦν. πρῶτον μὲν οὖν σκεπτέον εἰ ποιητέον τάξιν τινὰ περὶ τοὺς παῖδας, ἔπειτα πότερον συμφέρει κοινῇ ποιεῖσθαι τὴν ἐπιμέλειαν αὐτῶν ἢ κατ' ἴδιον τρόπον (ὃ γίγνεται καὶ νῦν ἐν ταῖς πλείσταις τῶν πόλεων), τρίτον δὲ ποίαν τινὰ δεῖ ταύτην ‹εἶναι›.

Θ

Ὅτι μὲν οὖν τῷ νομοθέτῃ μάλιστα πραγματευτέον περὶ τὴν τῶν νέων παιδείαν, οὐδεὶς ἂν ἀμφισβητήσειε· καὶ γὰρ ἐν ταῖς πόλεσιν οὐ γιγνόμενον τοῦτο βλάπτει τὰς πολιτείας· δεῖ γὰρ πρὸς ἑκάστην παιδεύεσθαι· τὸ γὰρ ἦθος τῆς πολιτείας ἑκάστης τὸ οἰκεῖον καὶ φυλάττειν εἴωθε τὴν πολιτείαν καὶ καθίστησιν ἐξ ἀρχῆς, οἷον τὸ μὲν δημοκρατικὸν δημοκρατίαν τὸ δ' ὀλιγαρχικὸν ὀλιγαρχίαν· ἀεὶ δὲ τὸ βέλτιον ἦθος βελτίονος αἴτιον πολιτείας. ἔτι δὲ πρὸς πάσας δυνάμεις καὶ τέχνας ἔστιν ἃ δεῖ προπαιδεύεσθαι καὶ προεθίζεσθαι πρὸς τὰς ἑκάστων ἐργασίας, ὥστε δῆλον ὅτι καὶ πρὸς τὰς τῆς ἀρετῆς πράξεις· ἐπεὶ δ' ἓν τὸ τέλος τῇ πόλει πάσῃ, φανερὸν ὅτι καὶ τὴν παιδείαν μίαν καὶ τὴν αὐτὴν ἀναγκαῖον εἶναι πάντων, καὶ ταύτης τὴν ἐπιμέλειαν εἶναι κοινὴν καὶ μὴ κατ' ἰδίαν, ὃν τρόπον νῦν ἕκαστος ἐπιμελεῖται τῶν αὑτοῦ τέκνων ἰδίᾳ τε καὶ μάθησιν ἰδίαν, ἣν ἂν δόξῃ, διδάσκων. δεῖ δὲ τῶν κοινῶν κοινὴν ποιεῖσθαι καὶ τὴν ἄσκησιν. ἅμα δὲ οὐδὲ χρὴ νομίζειν αὐτὸν αὑτοῦ τινα εἶναι τῶν πολιτῶν, ἀλλὰ πάντας τῆς πόλεως, μόριον γὰρ ἕκαστος τῆς πόλεως· ἡ δ' ἐπιμέλεια πέφυκεν ἑκάστου μορίου βλέπειν πρὸς τὴν τοῦ ὅλου ἐπιμέλειαν. ἐπαινέσειε δ' ἄν τις κατὰ τοῦτο Λακεδαιμονίους· καὶ γὰρ πλείστην ποιοῦνται σπουδὴν περὶ τοὺς παῖδας καὶ κοινῇ ταύτην.

Ὅτι μὲν οὖν νομοθετητέον περὶ παιδείας καὶ ταύτην κοινὴν ποιητέον, φανερόν· τίς δ' ἔσται ἡ παιδεία καὶ πῶς χρὴ παιδεύεσθαι, δεῖ μὴ λανθάνειν. νῦν γὰρ ἀμφισβητεῖται περὶ τῶν ἔργων. οὐ γὰρ ταὐτὰ πάντες ὑπολαμβάνουσι δεῖν μανθάνειν τοὺς νέους οὔτε πρὸς ἀρετὴν οὔτε πρὸς τὸν βίον τὸν ἄριστον, οὐδὲ φανερὸν πότερον πρὸς τὴν διάνοιαν πρέπει μᾶλλον ἢ πρὸς τὸ τῆς ψυχῆς ἦθος· ἔκ τε τῆς ἐμποδὼν παιδείας ταραχώδης ἡ σκέψις καὶ δῆλον οὐδὲν πότερον ἀσκεῖν δεῖ τὰ χρήσιμα πρὸς τὸν βίον ἢ τὰ τείνοντα πρὸς ἀρετὴν ἢ τὰ περιττά (πάντα γὰρ εἴληφε ταῦτα κριτάς [1337b] τινας)· περί τε τῶν πρὸς ἀρετὴν οὐθέν ἐστιν ὁμολογούμενον (καὶ γὰρ τὴν ἀρετὴν οὐ τὴν αὐτὴν εὐθὺς πάντες τιμῶσιν, ὥστ' εὐλόγως διαφέρονται καὶ πρὸς τὴν ἄσκησιν αὐτῆς). ὅτι μὲν οὖν τὰ ἀναγκαῖα δεῖ διδάσκεσθαι τῶν χρησίμων, οὐκ ἄδηλον· ὅτι δὲ οὐ πάντα, διῃρημένων τῶν τε ἐλευθερίων ἔργων καὶ τῶν ἀνελευθερίων φανερόν, ‹καὶ› ὅτι τῶν τοιούτων δεῖ μετέχειν ὅσα τῶν χρησίμων ποιήσει τὸν μετέχοντα μὴ βάναυσον. βάναυσον δ' ἔργον εἶναι δεῖ τοῦτο νομίζειν καὶ τέχνην ταύτην καὶ μάθησιν, ὅσαι πρὸς τὰς χρήσεις καὶ τὰς πράξεις τὰς τῆς ἀρετῆς ἄχρηστον ἀπεργάζονται τὸ σῶμα τῶν ἐλευθέρων [ἢ τὴν ψυχὴν] ἢ τὴν διάνοιαν. διὸ τάς τε τοιαύτας τέχνας ὅσαι τὸ σῶμα παρασκευάζουσι χεῖρον διακεῖσθαι βαναύσους καλοῦμεν, καὶ τὰς μισθαρνικὰς ἐργασίας· ἄσχολον γὰρ ποιοῦσι τὴν διάνοιαν καὶ ταπεινήν. ἔστι δὲ καὶ τῶν ἐλευθερίων ἐπιστημῶν μέχρι μὲν τινὸς ἐνίων μετέχειν οὐκ ἀνελεύθερον, τὸ δὲ προσεδρεύειν λίαν πρὸς ἀκρίβειαν ἔνοχον ταῖς εἰρημέναις βλάβαις. ἔχει δὲ πολλὴν διαφορὰν καὶ τὸ τίνος ἕνεκεν πράττει τις ἢ μανθάνει· τὸ μὲν γὰρ αὑτοῦ χάριν ἢ φίλων ἢ δι’ ἀρετὴν οὐκ ἀνελεύθερον, ὁ δὲ αὐτὸ τοῦτο πράττων δι’ ἄλλους πολλάκις θητικὸν καὶ δουλικὸν δόξειεν ἂν πράττειν.

αἱ μὲν οὖν καταβεβλημέναι νῦν μαθήσεις, καθάπερ ἐλέχθη πρότερον, ἐπαμφοτερίζουσιν· ἔστι δὲ τέτταρα σχεδὸν ἃ παιδεύειν εἰώθασι, γράμματα καὶ γυμναστικὴν καὶ μουσικὴν καὶ τέταρτον ἔνιοι γραφικήν, τὴν μὲν γραμματικὴν καὶ γραφικὴν ὡς χρησίμους πρὸς τὸν βίον οὔσας καὶ πολυχρήστους, τὴν δὲ γυμναστικὴν ὡς συντείνουσαν πρὸς ἀνδρείαν· τὴν δὲ μουσικὴν ἤδη διαπορήσειεν ἄν τις. νῦν μὲν γὰρ ὡς ἡδονῆς χάριν οἱ πλεῖστοι μετέχουσιν αὐτῆς· οἱ δ’ ἐξ ἀρχῆς ἔταξαν ἐν παιδείᾳ διὰ τὸ τὴν φύσιν αὐτὴν ζητεῖν, ὅπερ πολλάκις εἴρηται, μὴ μόνον ἀσχολεῖν ὀρθῶς ἀλλὰ καὶ σχολάζειν δύνασθαι καλῶς. αὕτη γὰρ ἀρχὴ πάντων μία· καὶ πάλιν εἴπωμεν περὶ αὐτῆς. εἰ δ’ ἄμφω μὲν δεῖ, μᾶλλον δὲ αἱρετὸν τὸ σχολάζειν τῆς ἀσχολίας καὶ τέλος, ζητητέον ὅ τι δεῖ ποιοῦντας σχολάζειν. οὐ γὰρ δὴ παίζοντας· τέλος γὰρ ἀναγκαῖον εἶναι τοῦ βίου τὴν παιδιὰν ἡμῖν. εἰ δὲ τοῦτο ἀδύνατον, καὶ μᾶλλον ἐν ταῖς ἀσχολίαις χρηστέον ταῖς παιδιαῖς (ὁ γὰρ πονῶν δεῖται τῆς ἀναπαύσεως, ἡ δὲ παιδιὰ χάριν ἀναπαύσεώς ἐστιν· τὸ δ’ ἀσχολεῖν συμβαίνει μετὰ πόνου καὶ συντονίας), διὰ τοῦτο δεῖ παιδιὰς εἰσάγεσθαι καιροφυλακοῦντας τὴν χρῆσιν, ὡς προσάγοντας φαρμακείας χάριν. ἄνεσις γὰρ ἡ τοιαύτη κίνησις τῆς ψυχῆς, [1338a] καὶ διὰ τὴν ἡδονὴν ἀνάπαυσις. τὸ δὲ σχολάζειν ἔχειν αὐτὸ δοκεῖ τὴν ἡδονὴν καὶ τὴν εὐδαιμονίαν καὶ τὸ ζῆν μακαρίως. τοῦτο δ’ οὐ τοῖς ἀσχολοῦσιν ὑπάρχει ἀλλὰ τοῖς σχολάζουσιν· ὁ μὲν γὰρ ἀσχολῶν ἕνεκα τινος ἀσχολεῖ τέλους ὡς οὐχ ὑπάρχοντος, ἡ δ’ εὐδαιμονία τέλος ἐστίν, ἣν οὐ μετὰ λύπης ἀλλὰ μεθ’ ἡδονῆς οἴονται πάντες εἶναι. ταύτην μέντοι τὴν ἡδονὴν οὐκέτι τὴν αὐτὴν τιθέασιν, ἀλλὰ καθ’ ἑαυτοὺς ἕκαστος καὶ τὴν ἕξιν τὴν αὑτῶν, ὁ δ’ ἄριστος τὴν ἀρίστην καὶ τὴν ἀπὸ τῶν καλλίστων. ὥστε φανερὸν ὅτι δεῖ καὶ πρὸς τὴν ἐν τῇ διαγωγῇ σχολὴν μανθάνειν ἄττα καὶ παιδεύεσθαι, καὶ ταῦτα μὲν τὰ παιδεύματα καὶ ταύτας τὰς μαθήσεις ἑαυτῶν εἶναι χάριν, τὰς δὲ πρὸς τὴν ἀσχολίαν ὡς ἀναγκαίας καὶ χάριν ἄλλων. διὸ καὶ τὴν μουσικὴν οἱ πρότερον εἰς παιδείαν ἔταξαν οὐχ ὡς ἀναγκαῖον (οὐδὲν γὰρ ἔχει τοιοῦτον), οὐδ’ ὡς χρήσιμον (ὥσπερ τὰ γράμματα πρὸς χρηματισμὸν καὶ πρὸς οἰκονομίαν καὶ πρὸς μάθησιν καὶ πρὸς πολιτικὰς πράξεις πολλάς, δοκεῖ δὲ καὶ γραφικὴ χρήσιμος εἶναι πρὸς τὸ κρίνειν τὰ τῶν τεχνιτῶν ἔργα κάλλιον), οὐδ’ αὖ καθάπερ ἡ γυμναστικὴ πρὸς ὑγίειαν καὶ ἀλκήν (οὐδέτερον γὰρ τούτων ὁρῶμεν γιγνόμενον ἐκ τῆς μουσικῆς)· λείπεται τοίνυν πρὸς τὴν ἐν τῇ σχολῇ διαγωγήν, εἰς ὅπερ καὶ φαίνονται παράγοντες αὐτήν. ἣν γὰρ οἴονται διαγωγὴν εἶναι τῶν ἐλευθέρων, ἐν ταύτῃ τάττουσιν. διόπερ Ὅμηρος οὕτως ἐποίησεν

ἀλλ’ οἷον μέν ἐστι†καλεῖν ἐπὶ δαῖτα θαλείην,

καὶ οὕτω προειπὼν ἑτέρους τινὰς “οἳ καλέουσιν ἀοιδόν” φησίν, “ὅ κεν τέρπησιν ἅπαντας”. καὶ ἐν ἄλλοις δέ φησιν ‹ὁ› Ὀδυσσεὺς ταύτην ἀρίστην εἶναι διαγωγήν, ὅταν εὐφραινομένων τῶν ἀνθρώπων “δαιτυμόνες δ’ ἀνὰ δώματ’ ἀκουάζωνται ἀοιδοῦ ἥμενοι ἑξείης”.

ὅτι μὲν τοίνυν ἔστι παιδεία τις ἣν οὐχ ὡς χρησίμην παιδευτέον τοὺς υἱεῖς οὐδ’ ὡς ἀναγκαίαν ἀλλ’ ὡς ἐλευθέριον καὶ καλήν, φανερόν ἐστιν· πότερον δὲ μία τὸν ἀριθμὸν ἢ πλείους, καὶ τίνες αὗται καὶ πῶς, ὕστερον λεκτέον περὶ αὐτῶν. νῦν δὲ τοσοῦτον ἡμῖν εἶναι πρὸ ὁδοῦ γέγονεν, ὅτι καὶ παρὰ τῶν ἀρχαίων ἔχομέν τινα μαρτυρίαν ἐκ τῶν καταβεβλημένων παιδευμάτων· ἡ γὰρ μουσικὴ τοῦτο ποιεῖ δῆλον. ἔτι δὲ καὶ τῶν χρησίμων ὅτι δεῖ τινα παιδεύεσθαι τοὺς παῖδας οὐ μόνον διὰ τὸ χρήσιμον, οἷον τὴν τῶν γραμμάτων μάθησιν, ἀλλὰ καὶ διὰ τὸ πολλὰς ἐνδέχεσθαι γίγνεσθαι δι’ αὐτῶν μαθήσεις ἑτέρας, ὁμοίως δὲ καὶ τὴν γραφικὴν οὐχ ἵνα ἐν τοῖς ἰδίοις ὠνίοις μὴ διαμαρτάνωσιν ἀλλ’ ὦσιν ἀνεξαπάτητοι πρὸς τὴν τῶν σκευῶν [1338b] ὠνήν τε καὶ πρᾶσιν, μᾶλλον δ’ ὅτι ποιεῖ θεωρητικὸν τοῦ περὶ τὰ σώματα κάλλους. τὸ δὲ ζητεῖν πανταχοῦ τὸ χρήσιμον ἥκιστα ἁρμόττει τοῖς μεγαλοψύχοις καὶ τοῖς ἐλευθερίοις. ἐπεὶ δὲ φανερὸν ‹τὸ› πρότερον τοῖς ἔθεσιν ἢ τῷ λόγῳ παιδευτέον εἶναι, καὶ περὶ τὸ σῶμα πρότερον ἢ τὴν διάνοιαν, δῆλον ἐκ τούτων ὅτι παραδοτέον τοὺς παῖδας γυμναστικῇ καὶ παιδοτριβικῇ· τούτων γὰρ ἡ μὲν ποιάν τινα ποιεῖ τὴν ἕξιν τοῦ σώματος, ἡ δὲ τὰ ἔργα.

Νῦν μὲν οὖν αἱ μάλιστα δοκοῦσαι τῶν πόλεων ἐπιμελεῖσθαι τῶν παίδων αἱ μὲν ἀθλητικὴν ἕξιν ἐμποιοῦσι, λωβώμεναι τά τε εἴδη καὶ τὴν αὔξησιν τῶν σωμάτων, οἱ δὲ Λάκωνες ταύτην μὲν οὐχ ἥμαρτον τὴν ἁμαρτίαν, θηριώδεις δ’ ἀπεργάζονται τοῖς πόνοις, ὡς τοῦτο πρὸς ἀνδρείαν μάλιστα συμφέρον. καίτοι, καθάπερ εἴρηται πολλάκις, οὔτε πρὸς μίαν οὔτε πρὸς μάλιστα ταύτην βλέποντα ποιητέον τὴν ἐπιμέλειαν· εἰ δὲ καὶ πρὸς ταύτην, οὐδὲ τοῦτο ἐξευρίσκουσιν. οὔτε γὰρ ἐν τοῖς ἄλλοις ζῴοις οὔτε ἐπὶ τῶν ἐθνῶν ὁρῶμεν τὴν ἀνδρείαν ἀκολουθοῦσαν τοῖς ἀγριωτάτοις, ἀλλὰ μᾶλλον τοῖς ἡμερωτέροις καὶ λεοντώδεσιν ἤθεσιν. πολλὰ δ’ ἔστι τῶν ἐθνῶν ἃ πρὸς τὸ κτείνειν καὶ πρὸς τὴν ἀνθρωποφαγίαν εὐχερῶς ἔχει, καθάπερ τῶν περὶ τὸν Πόντον Ἀχαιοί τε καὶ Ἡνίοχοι καὶ τῶν ἠπειρωτικῶν ἐθνῶν ἕτερα, τὰ μὲν ὁμοίως τούτοις τὰ δὲ μᾶλλον, ἃ λῃστρικὰ μέν ἐστιν, ἀνδρείας δ’ οὐ μετειλήφασιν. ἔτι δ’ αὐτοὺς τοὺς Λάκωνας ἴσμεν, ἕως μὲν αὐτοὶ προσήδρευον ταῖς φιλοπονίαις, ὑπερέχοντας τῶν ἄλλων, νῦν δὲ κἀν τοῖς γυμνικοῖς ἀγῶσι κἀν τοῖς πολεμικοῖς λειπομένους ἑτέρων· οὐ γὰρ τῷ τοὺς νέους γυμνάζειν τὸν τρόπον τοῦτον διέφερον, ἀλλὰ τῷ μόνους μὴ πρὸς ἀσκοῦντας ἀσκεῖν. ὥστε τὸ καλὸν ἀλλ’ οὐ τὸ θηριῶδες δεῖ πρωταγωνιστεῖν· οὐδὲ γὰρ λύκος οὐδ’ ‹οὐδὲν› τῶν ἄλλων θηρίων ἀγωνίσαιτο ἂν οὐθένα καλὸν κίνδυνον, ἀλλὰ μᾶλλον ἀνὴρ ἀγαθός, οἱ δὲ λίαν εἰς ταῦτα ἀνέντες τοὺς παῖδας, καὶ τῶν ἀναγκαίων ἀπαιδαγωγήτους ποιήσαντες, βαναύσους κατεργάζονται κατά γε τὸ ἀληθές, πρὸς ἕν τε μόνον ἔργον τῆς πολιτικῆς χρησίμους ποιήσαντες, καὶ πρὸς τοῦτο χεῖρον, ὥς φησιν ὁ λόγος, ἑτέρων. δεῖ δὲ οὐκ ἐκ τῶν προτέρων ἔργων κρίνειν, ἀλλ’ ἐκ τῶν νῦν· ἀνταγωνιστὰς γὰρ τῆς παιδείας νῦν ἔχουσι, πρότερον δ’ οὐκ εἶχον.

ὅτι μὲν οὖν χρηστέον τῇ γυμναστικῇ, καὶ πῶς χρηστέον, ὁμολογούμενόν ἐστιν (μέχρι μὲν γὰρ ἥβης κουφότερα γυμνάσια προσοιστέον, τὴν βίαιον τροφὴν καὶ τοὺς πρὸς ἀνάγκην πόνους ἀπείργοντας, ἵνα μηθὲν ἐμπόδιον ᾖ πρὸς τὴν αὔξησιν· σημεῖον γὰρ οὐ [1339a] μικρὸν ὅτι δύνανται τοῦτο παρασκευάζειν, ἐν γὰρ τοῖς ὀλυμπιονίκαις δύο τις ἂν ἢ τρεῖς εὕροι τοὺς αὐτοὺς νενικηκότας ἄνδρας τε καὶ παῖδας, διὰ τὸ νέους ἀσκοῦντας ἀφαιρεῖσθαι τὴν δύναμιν ὑπὸ τῶν ἀναγκαίων γυμνασίων· ὅταν δ’ ἀφ’ ἥβης ἔτη τρία πρὸς τοῖς ἄλλοις μαθήμασι γένωνται, τότε ἁρμόττει καὶ τοῖς πόνοις καὶ ταῖς ἀναγκοφαγίαις καταλαμβάνειν τὴν ἐχομένην ἡλικίαν· ἅμα γὰρ τῇ τε διανοίᾳ καὶ τῷ σώματι διαπονεῖν οὐ δεῖ, τοὐναντίον γὰρ ἑκάτερος ἀπεργάζεσθαι πέφυκε τῶν πόνων, ἐμποδίζων ὁ μὲν τοῦ σώματος πόνος τὴν διάνοιαν ὁ δὲ ταύτης τὸ σῶμα).

Περὶ δὲ μουσικῆς ἔνια μὲν διηπορήκαμεν τῷ λόγῳ καὶ πρότερον, καλῶς δ’ ἔχει καὶ νῦν ἀναλαβόντας αὐτὰ προαγαγεῖν, ἵνα ὥσπερ ἐνδόσιμον γένηται τοῖς λόγοις οὓς ἄν τις εἴπειεν ἀποφαινόμενος περὶ αὐτῆς. οὔτε γὰρ τίνα ἔχει δύναμιν ῥᾴδιον περὶ αὐτῆς διελεῖν, οὔτε τίνος δεῖ χάριν μετέχειν αὐτῆς, πότερον παιδιᾶς ἕνεκα καὶ ἀναπαύσεως, καθάπερ ὕπνου καὶ μέθης (ταῦτα γὰρ καθ’ αὑτὰ μὲν οὐδὲ τῶν σπουδαίων, ἀλλ’ ἡδέα, καὶ ἅμα παύει μέριμναν, ὥς φησιν Εὐριπίδης· διὸ καὶ τάττουσιν αὐτὴν καὶ χρῶνται πᾶσι τούτοις ὁμοίως, ὕπνῳ καὶ μέθῃ καὶ μουσικῇ· τιθέασι δὲ καὶ τὴν ὄρχησιν ἐν τούτοις), ἢ μᾶλλον οἰητέον πρὸς ἀρετήν τι τείνειν τὴν μουσικήν, ὡς δυναμένην, καθάπερ ἡ γυμναστικὴ τὸ σῶμα ποιόν τι παρασκευάζει, καὶ τὴν μουσικὴν τὸ ἦθος ποιόν τι ποιεῖν, ἐθίζουσαν δύνασθαι χαίρειν ὀρθῶς, ἢ πρὸς διαγωγήν τι συμβάλλεται καὶ πρὸς φρόνησιν (καὶ γὰρ τοῦτο τρίτον θετέον τῶν εἰρημένων). ὅτι μὲν οὖν δεῖ τοὺς νέους μὴ παιδιᾶς ἕνεκα παιδεύειν, οὐκ ἄδηλον (οὐ γὰρ παίζουσι μανθάνοντες· μετὰ λύπης γὰρ ἡ μάθησις)· ἀλλὰ μὴν οὐδὲ διαγωγήν γε παισὶν ἁρμόττει καὶ ταῖς ἡλικίαις ἀποδιδόναι ταῖς τοιαύταις (οὐθενὶ γὰρ ἀτελεῖ προσήκει τέλος). ἀλλ’ ἴσως ἂν δόξειεν ἡ τῶν παίδων σπουδὴ παιδιᾶς εἶναι χάριν ἀνδράσι γενομένοις καὶ τελειωθεῖσιν. ἀλλ’ εἰ τοῦτ’ ἐστὶ τοιοῦτον, τίνος ἂν ἕνεκα δέοι μανθάνειν αὐτούς, ἀλλὰ μή, καθάπερ οἱ τῶν Περσῶν καὶ Μήδων βασιλεῖς, δι’ ἄλλων αὐτὸ ποιούντων μεταλαμβάνειν τῆς ἡδονῆς καὶ τῆς μαθήσεως; καὶ γὰρ ἀναγκαῖον βέλτιον ἀπεργάζεσθαι τοὺς αὐτὸ τοῦτο πεποιημένους ἔργον καὶ τέχνην τῶν τοσοῦτον χρόνον ἐπιμελουμένων ὅσον πρὸς μάθησιν μόνον. εἰ δὲ δεῖ τὰ τοιαῦτα διαπονεῖν αὐτούς, καὶ περὶ τὴν τῶν ὄψων πραγματείαν αὐτοὺς ἂν δέοι παρασκευάζειν· ἀλλ’ ἄτοπον. τὴν δ’ αὐτὴν ἀπορίαν ἔχει καὶ εἰ δύναται τὰ ἤθη βελτίω ποιεῖν· ταῦτα γὰρ τί δεῖ μανθάνειν αὐτούς, ἀλλ’ [1339b] οὐχ ἑτέρων ἀκούοντας ὀρθῶς τε χαίρειν καὶ δύνασθαι κρίνειν, ὥσπερ οἱ Λάκωνες; ἐκεῖνοι γὰρ οὐ μανθάνοντες ὅμως δύνανται κρίνειν ὀρθῶς, ὥς φασι, τὰ χρηστὰ καὶ τὰ μὴ χρηστὰ τῶν μελῶν. ὁ δ’ αὐτὸς λόγος κἂν εἰ πρὸς εὐημερίαν καὶ διαγωγὴν ἐλευθέριον χρηστέον αὐτῇ· τί δεῖ μανθάνειν αὐτούς, ἀλλ’ οὐχ ἑτέρων χρωμένων ἀπολαύειν; σκοπεῖν δ’ ἔξεστι τὴν ὑπόληψιν ἣν ἔχομεν περὶ τῶν θεῶν· οὐ γὰρ ὁ Ζεὺς αὐτὸς ἀείδει καὶ κιθαρίζει τοῖς ποιηταῖς, ἀλλὰ καὶ βαναύσους καλοῦμεν τοὺς τοιούτους καὶ τὸ πράττειν οὐκ ἀνδρὸς μὴ μεθύοντος ἢ παίζοντος.

ἀλλ’ ἴσως περὶ μὲν τούτων ὕστερον ἐπισκεπτέον· ἡ δὲ πρώτη ζήτησίς ἐστι πότερον οὐ θετέον εἰς παιδείαν τὴν μουσικὴν ἢ θετέον, καὶ τί δύναται τῶν διαπορηθέντων τριῶν, πότερον παιδείαν ἢ παιδιὰν ἢ διαγωγήν. εὐλόγως δ’ εἰς πάντα τάττεται καὶ φαίνεται μετέχειν. ἥ τε γὰρ παιδιὰ χάριν ἀναπαύσεώς ἐστι, τὴν δ’ ἀνάπαυσιν ἀναγκαῖον ἡδεῖαν εἶναι (τῆς γὰρ διὰ τῶν πόνων λύπης ἰατρεία τίς ἐστιν), καὶ τὴν διαγωγὴν ὁμολογουμένως δεῖ μὴ μόνον ἔχειν τὸ καλὸν ἀλλὰ καὶ τὴν ἡδονήν (τὸ γὰρ εὐδαιμονεῖν ἐξ ἀμφοτέρων τούτων ἐστίν)· τὴν δὲ μουσικὴν πάντες εἶναί φαμεν τῶν ἡδίστων, καὶ ψιλὴν οὖσαν καὶ μετὰ μελῳδίας (φησὶ γοῦν καὶ Μουσαῖος εἶναι ‘βροτοῖς ἥδιστον ἀείδειν’· διὸ καὶ εἰς τὰς συνουσίας καὶ διαγωγὰς εὐλόγως παραλαμβάνουσιν αὐτὴν ὡς δυναμένην εὐφραίνειν), ὥστε καὶ ἐντεῦθεν ἄν τις ὑπολάβοι παιδεύεσθαι δεῖν αὐτὴν τοὺς νεωτέρους. ὅσα γὰρ ἀβλαβῆ τῶν ἡδέων, οὐ μόνον ἁρμόττει πρὸς τὸ τέλος ἀλλὰ καὶ πρὸς τὴν ἀνάπαυσιν· ἐπεὶ δ’ ἐν μὲν τῷ τέλει συμβαίνει τοῖς ἀνθρώποις ὀλιγάκις γίγνεσθαι, πολλάκις δὲ ἀναπαύονται καὶ χρῶνται ταῖς παιδιαῖς οὐχ ὅσον ἐπὶ πλέον ἀλλὰ καὶ διὰ τὴν ἡδονήν, χρήσιμον ἂν εἴη διαναπαύειν ἐν ταῖς ἀπὸ ταύτης ἡδοναῖς.

συμβέβηκε δὲ τοῖς ἀνθρώποις ποιεῖσθαι τὰς παιδιὰς τέλος· ἔχει γὰρ ἴσως ἡδονήν τινα καὶ τὸ τέλος, ἀλλ’ οὐ τὴν τυχοῦσαν, ζητοῦντες δὲ ταύτην λαμβάνουσιν ὡς ταύτην ἐκείνην, διὰ τὸ τῷ τέλει τῶν πράξεων ἔχειν ὁμοίωμά τι. τό τε γὰρ τέλος οὐθενὸς τῶν ἐσομένων χάριν αἱρετόν, καὶ αἱ τοιαῦται τῶν ἡδονῶν οὐθενός εἰσι τῶν ἐσομένων ἕνεκεν, ἀλλὰ τῶν γεγονότων, οἷον πόνων καὶ λύπης. δι’ ἣν μὲν οὖν αἰτίαν ζητοῦσι τὴν εὐδαιμονίαν γίγνεσθαι διὰ τούτων τῶν ἡδονῶν, ταύτην εἰκότως ἄν τις ὑπολάβοι τὴν αἰτίαν· περὶ δὲ τοῦ κοινωνεῖν τῆς μουσικῆς, ‹ὅτι› οὐ διὰ ταύτην μόνην, ἀλλὰ καὶ διὰ τὸ χρήσιμον εἶναι πρὸς τὰς ἀναπαύσεις, ὡς ἔοικεν. οὐ μὴν ἀλλὰ ζητητέον μή ποτε [1340a] τοῦτο μὲν συμβέβηκε, τιμιωτέρα δ’ αὐτῆς ἡ φύσις ἐστὶν ἢ κατὰ τὴν εἰρημένην χρείαν, καὶ δεῖ μὴ μόνον τῆς κοινῆς ἡδονῆς μετέχειν ἀπ’ αὐτῆς, ἧς ἔχουσι πάντες αἴσθησιν (ἔχει γὰρ ἡ μουσικὴ τιν’ ἡδονὴν φυσικήν, διὸ πάσαις ἡλικίαις καὶ πᾶσιν ἤθεσιν ἡ χρῆσις αὐτῆς ἐστι προσφιλής), ἀλλ’ ὁρᾶν εἴ πῃ καὶ πρὸς τὸ ἦθος συντείνει καὶ πρὸς τὴν ψυχήν. τοῦτο δ’ ἂν εἴη δῆλον, εἰ ποιοί τινες τὰ ἤθη γιγνόμεθα δι’ αὐτῆς. ἀλλὰ μὴν ὅτι γιγνόμεθα ποιοί τινες, φανερὸν διὰ πολλῶν μὲν καὶ ἑτέρων, οὐχ ἥκιστα δὲ καὶ διὰ τῶν Ὀλύμπου μελῶν· ταῦτα γὰρ ὁμολογουμένως ποιεῖ τὰς ψυχὰς ἐνθουσιαστικάς, ὁ δ’ ἐνθουσιασμὸς τοῦ περὶ τὴν ψυχὴν ἤθους πάθος ἐστίν. ἔτι δὲ ἀκροώμενοι τῶν μιμήσεων γίγνονται πάντες συμπαθεῖς, καὶ χωρὶς τῶν ῥυθμῶν καὶ τῶν μελῶν αὐτῶν.

ἐπεὶ δὲ συμβέβηκεν εἶναι τὴν μουσικὴν τῶν ἡδέων, τὴν δ’ ἀρετὴν περὶ τὸ χαίρειν ὀρθῶς καὶ φιλεῖν καὶ μισεῖν, δεῖ δηλονότι μανθάνειν καὶ συνεθίζεσθαι μηθὲν οὕτως ὡς τὸ κρίνειν ὀρθῶς καὶ τὸ χαίρειν τοῖς ἐπιεικέσιν ἤθεσι καὶ ταῖς καλαῖς πράξεσιν· ἔστι δὲ ὁμοιώματα μάλιστα παρὰ τὰς ἀληθινὰς φύσεις ἐν τοῖς ῥυθμοῖς καὶ τοῖς μέλεσιν ὀργῆς καὶ πραότητος, ἔτι δ’ ἀνδρείας καὶ σωφροσύνης καὶ πάντων τῶν ἐναντίων τούτοις καὶ τῶν ἄλλων ἠθῶν (δῆλον δὲ ἐκ τῶν ἔργων· μεταβάλλομεν γὰρ τὴν ψυχὴν ἀκροώμενοι τοιούτων)· ὁ δ’ ἐν τοῖς ὁμοίοις ἐθισμὸς τοῦ λυπεῖσθαι καὶ χαίρειν ἐγγύς ἐστι τῷ πρὸς τὴν ἀλήθειαν τὸν αὐτὸν ἔχειν τρόπον (οἷον εἴ τις χαίρει τὴν εἰκόνα τινὸς θεώμενος μὴ δι’ ἄλλην αἰτίαν ἀλλὰ διὰ τὴν μορφὴν αὐτήν, ἀναγκαῖον τούτῳ καὶ αὐτοῦ ἐκείνου τὴν θεωρίαν, οὗ τὴν εἰκόνα θεωρεῖ, ἡδεῖαν εἶναι). συμβέβηκε δὲ τῶν αἰσθητῶν ἐν μὲν τοῖς ἄλλοις μηδὲν ὑπάρχειν ὁμοίωμα τοῖς ἤθεσιν, οἷον ἐν τοῖς ἁπτοῖς καὶ τοῖς γευστοῖς, ἀλλ’ ἐν τοῖς ὁρατοῖς ἠρέμα (σχήματα γὰρ ἔστι τοιαῦτα, ἀλλ’ ἐπὶ μικρόν, καὶ ‹οὐ› πάντες τῆς τοιαύτης αἰσθήσεως κοινωνοῦσιν· ἔτι δὲ οὐκ ἔστι ταῦτα ὁμοιώματα τῶν ἠθῶν, ἀλλὰ σημεῖα μᾶλλον τὰ γιγνόμενα σχήματα καὶ χρώματα τῶν ἠθῶν, καὶ ταῦτ’ ἐστὶν ἐπίσημα ἐν τοῖς πάθεσιν· οὐ μὴν ἀλλ’ ὅσον διαφέρει καὶ περὶ τὴν τούτων θεωρίαν, δεῖ μὴ τὰ Παύσωνος θεωρεῖν τοὺς νέους, ἀλλὰ τὰ Πολυγνώτου κἂν εἴ τις ἄλλος τῶν γραφέων ἢ τῶν ἀγαλματοποιῶν ἐστιν ἠθικός), ἐν δὲ τοῖς μέλεσιν αὐτοῖς ἔστι μιμήματα τῶν ἠθῶν (καὶ τοῦτ’ ἐστὶ φανερόν· εὐθὺς γὰρ ἡ τῶν ἁρμονιῶν διέστηκε φύσις, ὥστε ἀκούοντας ἄλλως διατίθεσθαι καὶ μὴ τὸν αὐτὸν ἔχειν τρόπον πρὸς ἑκάστην αὐτῶν, ἀλλὰ πρὸς μὲν ἐνίας ὀδυρτικωτέρως [1340b] καὶ συνεστηκότως μᾶλλον, οἷον πρὸς τὴν μιξολυδιστὶ καλουμένην, πρὸς δὲ τὰς μαλακωτέρως τὴν διάνοιαν, οἷον πρὸς τὰς ἀνειμένας, μέσως δὲ καὶ καθεστηκότως μάλιστα πρὸς ἑτέραν, οἷον δοκεῖ ποιεῖν ἡ δωριστὶ μόνη τῶν ἁρμονιῶν, ἐνθουσιαστικοὺς δ’ ἡ φρυγιστί. ταῦτα γὰρ καλῶς λέγουσιν οἱ περὶ τὴν παιδείαν ταύτην πεφιλοσοφηκότες· λαμβάνουσι γὰρ τὰ μαρτύρια τῶν λόγων ἐξ αὐτῶν τῶν ἔργων). τὸν αὐτὸν δὲ τρόπον ἔχει καὶ τὰ περὶ τοὺς ῥυθμούς (οἱ μὲν γὰρ ἦθος ἔχουσι στασιμώτερον οἱ δὲ κινητικόν, καὶ τούτων οἱ μὲν φορτικωτέρας ἔχουσι τὰς κινήσεις οἱ δὲ ἐλευθεριωτέρας). ἐκ μὲν οὖν τούτων φανερὸν ὅτι δύναται ποιόν τι τὸ τῆς ψυχῆς ἦθος ἡ μουσικὴ παρασκευάζειν, εἰ δὲ τοῦτο δύναται ποιεῖν, δῆλον ὅτι προσακτέον καὶ παιδευτέον ἐν αὐτῇ τοὺς νέους. ἔστι δὲ ἁρμόττουσα πρὸς τὴν φύσιν τὴν τηλικαύτην ἡ διδασκαλία τῆς μουσικῆς· οἱ μὲν γὰρ νέοι διὰ τὴν ἡλικίαν ἀνήδυντον οὐθὲν ὑπομένουσιν ἑκόντες, ἡ δὲ μουσικὴ φύσει τῶν ἡδυσμάτων ἐστίν. καί τις ἔοικε συγγένεια ταῖς ἁρμονίαις καὶ τοῖς ῥυθμοῖς εἶναι· διὸ πολλοί φασι τῶν σοφῶν οἱ μὲν ἁρμονίαν εἶναι τὴν ψυχήν, οἱ δ’ ἔχειν ἁρμονίαν.

Πότερον δὲ δεῖ μανθάνειν αὐτοὺς ᾄδοντάς τε καὶ χειρουργοῦντας ἢ μή, καθάπερ ἠπορήθη πρότερον, νῦν λεκτέον οὐκ ἄδηλον δὴ ὅτι πολλὴν ἔχει διαφορὰν πρὸς τὸ γίγνεσθαι ποιούς τινας, ἐάν τις αὐτὸς κοινωνῇ τῶν ἔργων· ἓν γάρ τι τῶν ἀδυνάτων ἢ χαλεπῶν ἐστι μὴ κοινωνήσαντας τῶν ἔργων κριτὰς γενέσθαι σπουδαίους. ἅμα δὲ καὶ δεῖ τοὺς παῖδας ἔχειν τινὰ διατριβήν, καὶ τὴν Ἀρχύτου πλαταγὴν οἴεσθαι γενέσθαι καλῶς, ἣν διδόασι τοῖς παιδίοις, ὅπως χρώμενοι ταύτῃ μηδὲν καταγνύωσι τῶν κατὰ τὴν οἰκίαν· οὐ γὰρ δύναται τὸ νέον ἡσυχάζειν. αὕτη μὲν οὖν ἐστι τοῖς νηπίοις ἁρμόττουσα τῶν παιδίων, ἡ δὲ παιδεία πλαταγὴ τοῖς μείζοσι τῶν νέων. ὅτι μὲν οὖν παιδευτέον τὴν μουσικὴν οὕτως ὥστε καὶ κοινωνεῖν τῶν ἔργων, φανερὸν ἐκ τῶν τοιούτων· τὸ δὲ πρέπον καὶ τὸ μὴ πρέπον ταῖς ἡλικίαις οὐ χαλεπὸν διορίσαι, καὶ λῦσαι πρὸς τοὺς φάσκοντας βάναυσον εἶναι τὴν ἐπιμέλειαν. πρῶτον μὲν γάρ, ἐπεὶ τοῦ κρίνειν χάριν μετέχειν δεῖ τῶν ἔργων, διὰ τοῦτο χρὴ νέους μὲν ὄντας χρῆσθαι τοῖς ἔργοις, πρεσβυτέρους δὲ γενομένους τῶν μὲν ἔργων ἀφεῖσθαι, δύνασθαι δὲ τὰ καλὰ κρίνειν καὶ χαίρειν ὀρθῶς διὰ τὴν μάθησιν τὴν γενομένην ἐν τῇ νεότητι· περὶ δὲ τῆς ἐπιτιμήσεως ἥν τινες ἐπιτιμῶσιν ὡς ποιούσης τῆς μουσικῆς βαναύσους, οὐ χαλεπὸν λῦσαι σκεψαμένους μέχρι τε πόσου τῶν ἔργων κοινωνητέον τοῖς πρὸς ἀρετὴν [1341a] παιδευομένοις πολιτικήν, καὶ ποίων μελῶν καὶ ποίων ῥυθμῶν κοινωνητέον, ἔτι δὲ ἐν ποίοις ὀργάνοις τὴν μάθησιν ποιητέον, καὶ γὰρ τοῦτο διαφέρειν εἰκός. ἐν τούτοις γὰρ ἡ λύσις ἐστὶ τῆς ἐπιτιμήσεως· οὐδὲν γὰρ κωλύει τρόπους τινὰς τῆς μουσικῆς ἀπεργάζεσθαι τὸ λεχθέν. φανερὸν τοίνυν ὅτι δεῖ τὴν μάθησιν αὐτῆς μήτε ἐμποδίζειν πρὸς τὰς ὕστερον πράξεις, μήτε τὸ σῶμα ποιεῖν βάναυσον καὶ ἄχρηστον πρὸς τὰς πολεμικὰς καὶ πολιτικὰς ἀσκήσεις, πρὸς μὲν τὰς μαθήσεις ἤδη, πρὸς δὲ τὰς χρήσεις ὕστερον.

συμβαίνοι δ᾽ ἂν περὶ τὴν μάθησιν, εἰ μήτε τὰ πρὸς τοὺς ἀγῶνας τοὺς τεχνικοὺς συντείνοντα διαπονοῖεν, μήτε τὰ θαυμάσια καὶ περιττὰ τῶν ἔργων, ἃ νῦν ἐλήλυθεν εἰς τοὺς ἀγῶνας ἐκ δὲ τῶν ἀγώνων εἰς τὴν παιδείαν, ἀλλὰ τὰ ‹μὴ› τοιαῦτα μέχρι περ ἂν δύνωνται χαίρειν τοῖς καλοῖς μέλεσι καὶ ῥυθμοῖς, καὶ μὴ μόνον τῷ κοινῷ τῆς μουσικῆς, ὥσπερ καὶ τῶν ἄλλων ἔνια ζῴων, ἔτι δὲ καὶ πλῆθος ἀνδραπόδων καὶ παιδίων. δῆλον δὲ ἐκ τούτων καὶ ποίοις ὀργάνοις χρηστέον. οὔτε γὰρ αὐλοὺς εἰς παιδείαν ἀκτέον οὔτ᾽ ἄλλο τι τεχνικὸν ὄργανον, οἷον κιθάραν κἂν εἴ τι τοιοῦτον ἕτερον ἔστιν, ἀλλ᾽ ὅσα ποιήσει τούτων ἀκροατὰς ἀγαθοὺς ἢ τῆς μουσικῆς παιδείας ἢ τῆς ἄλλης· ἔτι δὲ οὐκ ἔστιν ὁ αὐλὸς ἠθικὸν ἀλλὰ μᾶλλον ὀργιαστικόν, ὥστε πρὸς τοὺς τοιούτους αὐτῷ καιροὺς χρηστέον ἐν οἷς ἡ θεωρία κάθαρσιν μᾶλλον δύναται ἢ μάθησιν. προσθῶμεν δὲ ὅτι συμβέβηκεν ἐναντίον αὐτῷ πρὸς παιδείαν καὶ τὸ κωλύειν τῷ λόγῳ χρῆσθαι τὴν αὔλησιν. διὸ καλῶς ἀπεδοκίμασαν οἱ πρότερον αὐτοῦ τὴν χρῆσιν ἐκ τῶν νέων καὶ τῶν ἐλευθέρων, καίπερ χρησάμενοι τὸ πρῶτον αὐτῷ. σχολαστικώτεροι γὰρ γιγνόμενοι διὰ τὰς εὐπορίας καὶ μεγαλοψυχότεροι πρὸς τὴν ἀρετήν, ἔτι τε ‹καὶ› πρότερον καὶ μετὰ τὰ Μηδικὰ φρονηματισθέντες ἐκ τῶν ἔργων, πάσης ἥπτοντο μαθήσεως, οὐδὲν διακρίνοντες ἀλλ’ ἐπιζητοῦντες. διὸ καὶ τὴν αὐλητικὴν ἤγαγον πρὸς τὰς μαθήσεις. καὶ γὰρ ἐν Λακεδαίμονί τις χορηγὸς αὐτὸς ηὔλησε τῷ χορῷ, καὶ περὶ Ἀθήνας οὕτως ἐπεχωρίασεν ὥστε σχεδὸν οἱ πολλοὶ τῶν ἐλευθέρων μετεῖχον αὐτῆς· δῆλον δὲ ἐκ τοῦ πίνακος ὃν ἀνέθηκε Θράσιππος Ἐκφαντίδῃ χορηγήσας. ὕστερον δ’ ἀπεδοκιμάσθη διὰ τῆς πείρας αὐτῆς, βέλτιον δυναμένων κρίνειν τὸ πρὸς ἀρετὴν καὶ τὸ μὴ πρὸς ἀρετὴν συντεῖνον· ὁμοίως δὲ καὶ πολλὰ τῶν ὀργάνων τῶν ἀρχαίων, οἷον πηκτίδες καὶ βάρβιτοι καὶ τὰ πρὸς ἡδονὴν συντείνοντα τοῖς ἀκούουσι τῶν χρωμένων, ἑπτάγωνα καὶ τρίγωνα καὶ [1341b] σαμβῦκαι, καὶ πάντα τὰ δεόμενα χειρουργικῆς ἐπιστήμης. εὐλόγως δ’ ἔχει καὶ τὸ περὶ τῶν αὐλῶν ὑπὸ τῶν ἀρχαίων μεμυθολογημένον. φασὶ γὰρ δὴ τὴν Ἀθηνᾶν εὑροῦσαν ἀποβαλεῖν τοὺς αὐλούς. οὐ κακῶς μὲν οὖν ἔχει φάναι καὶ διὰ τὴν ἀσχημοσύνην τοῦ προσώπου τοῦτο ποιῆσαι δυσχεράνασαν τὴν θεόν· οὐ μὴν ἀλλὰ μᾶλλον εἰκὸς ὅτι πρὸς τὴν διάνοιαν οὐθέν ἐστιν ἡ παιδεία τῆς αὐλήσεως, τῇ δὲ Ἀθηνᾷ τὴν ἐπιστήμην περιτίθεμεν καὶ τὴν τέχνην. ἐπεὶ δὲ τῶν τε ὀργάνων καὶ τῆς ἐργασίας ἀποδοκιμάζομεν τὴν τεχνικὴν παιδείαν (τεχνικὴν δὲ τίθεμεν τὴν πρὸς τοὺς ἀγῶνας· ἐν ταύτῃ γὰρ ὁ πράττων οὐ τῆς αὑτοῦ μεταχειρίζεται χάριν ἀρετῆς, ἀλλὰ τῆς τῶν ἀκουόντων ἡδονῆς, καὶ ταύτης φορτικῆς, διόπερ οὐ τῶν ἐλευθέρων κρίνομεν εἶναι τὴν ἐργασίαν, ἀλλὰ θητικωτέραν· καὶ βαναύσους δὴ συμβαίνει γίγνεσθαι· πονηρὸς γὰρ ὁ σκοπὸς πρὸς ὃν ποιοῦνται τὸ τέλος· ὁ γὰρ θεατὴς φορτικὸς ὢν μεταβάλλειν εἴωθε τὴν μουσικήν, ὥστε καὶ τοὺς τεχνίτας τοὺς πρὸς αὐτὸν μελετῶντας αὐτούς τε ποιούς τινας ποιεῖ καὶ τὰ σώματα διὰ τὰς κινήσεις), σκεπτέον ἔτι περί τε τὰς ἁρμονίας καὶ τοὺς ῥυθμούς, καὶ πρὸς παιδείαν πότερον πάσαις χρηστέον ταῖς ἁρμονίαις καὶ πᾶσι τοῖς ῥυθμοῖς ἢ διαιρετέον, ἔπειτα τοῖς πρὸς παιδείαν διαπονοῦσι πότερον τὸν αὐτὸν διορισμὸν θήσομεν ἢ [τρίτον] δεῖ τινα ἕτερον. ἐπεὶ δὴ τὴν μὲν μουσικὴν ὁρῶμεν διὰ μελοποιίας καὶ ῥυθμῶν οὖσαν, τούτων δ’ ἑκάτερον οὐ δεῖ λεληθέναι τίνα δύναμιν ἔχει πρὸς παιδείαν, καὶ πότερον προαιρετέον μᾶλλον τὴν εὐμελῆ μουσικὴν ἢ τὴν εὔρυθμον, νομίσαντες οὖν πολλὰ καλῶς λέγειν περὶ τούτων τῶν τε νῦν μουσικῶν ἐνίους καὶ τῶν ἐκ φιλοσοφίας ὅσοι τυγχάνουσιν ἐμπείρως ἔχοντες τῆς περὶ τὴν μουσικὴν παιδείας, τὴν μὲν καθ’ ἕκαστον ἀκριβολογίαν ἀποδώσομεν ζητεῖν τοῖς βουλομένοις παρ’ ἐκείνων, νῦν δὲ νομικῶς διέλωμεν, τοὺς τύπους μόνον εἰπόντες περὶ αὐτῶν.

ἐπεὶ δὲ τὴν διαίρεσιν ἀποδεχόμεθα τῶν μελῶν ὡς διαιροῦσί τινες τῶν ἐν φιλοσοφίᾳ, τὰ μὲν ἠθικὰ τὰ δὲ πρακτικὰ τὰ δ’ ἐνθουσιαστικὰ τιθέντες, καὶ τῶν ἁρμονιῶν τὴν φύσιν ‹τὴν› πρὸς ἕκαστα τούτων οἰκείαν, ἄλλην πρὸς ἄλλο μέλος, τιθέασι, φαμὲν δ’ οὐ μιᾶς ἕνεκεν ὠφελείας τῇ μουσικῇ χρῆσθαι δεῖν ἀλλὰ καὶ πλειόνων χάριν (καὶ γὰρ παιδείας ἕνεκεν καὶ καθάρσεως - τί δὲ λέγομεν τὴν κάθαρσιν, νῦν μὲν ἁπλῶς, πάλιν δ’ ἐν τοῖς περὶ ποιητικῆς ἐροῦμεν σαφέστερον - τρίτον δὲ πρὸς διαγωγὴν πρὸς ἄνεσίν τε καὶ πρὸς τὴν τῆς συντονίας ἀνάπαυσιν), [1342a] φανερὸν ὅτι χρηστέον μὲν πάσαις ταῖς ἁρμονίαις, οὐ τὸν αὐτὸν δὲ τρόπον πάσαις χρηστέον, ἀλλὰ πρὸς μὲν τὴν παιδείαν ταῖς ἠθικωτάταις, πρὸς δὲ ἀκρόασιν ἑτέρων χειρουργούντων καὶ ταῖς πρακτικαῖς καὶ ταῖς ἐνθουσιαστικαῖς. ὃ γὰρ περὶ ἐνίας συμβαίνει πάθος ψυχὰς ἰσχυρῶς, τοῦτο ἐν πάσαις ὑπάρχει, τῷ δὲ ἧττον διαφέρει καὶ τῷ μᾶλλον, οἷον ἔλεος καὶ φόβος, ἔτι δ’ ἐνθουσιασμός· καὶ γὰρ ὑπὸ ταύτης τῆς κινήσεως κατοκώχιμοί τινές εἰσιν, ἐκ τῶν δ’ ἱερῶν μελῶν ὁρῶμεν τούτους, ὅταν χρήσωνται τοῖς ἐξοργιάζουσι τὴν ψυχὴν μέλεσι, καθισταμένους ὥσπερ ἰατρείας τυχόντας καὶ καθάρσεως· ταὐτὸ δὴ τοῦτο ἀναγκαῖον πάσχειν καὶ τοὺς ἐλεήμονας καὶ τοὺς φοβητικοὺς καὶ τοὺς ὅλως παθητικούς, τοὺς δ’ ἄλλους καθ’ ὅσον ἐπιβάλλει τῶν τοιούτων ἑκάστῳ, καὶ πᾶσι γίγνεσθαί τινα κάθαρσιν καὶ κουφίζεσθαι μεθ’ ἡδονῆς. ὁμοίως δὲ καὶ τὰ μέλη τὰ πρακτικὰ παρέχει χαρὰν ἀβλαβῆ τοῖς ἀνθρώποις· διὸ ταῖς μὲν τοιαύταις ἁρμονίαις καὶ τοῖς τοιούτοις μέλεσιν ἑατέον ‹χρῆσθαι› τοὺς τὴν θεατρικὴν μουσικὴν μεταχειριζομένους ἀγωνιστάς· ἐπεὶ δ’ ὁ θεατὴς διττός, ὁ μὲν ἐλεύθερος καὶ πεπαιδευμένος, ὁ δὲ φορτικὸς ἐκ βαναύσων καὶ θητῶν καὶ ἄλλων τοιούτων συγκείμενος, ἀποδοτέον ἀγῶνας καὶ θεωρίας καὶ τοῖς τοιούτοις πρὸς ἀνάπαυσιν· εἰσὶ δὲ ὥσπερ αὐτῶν αἱ ψυχαὶ παρεστραμμέναι τῆς κατὰ φύσιν ἕξεως - οὕτω καὶ τῶν ἁρμονιῶν παρεκβάσεις εἰσὶ καὶ τῶν μελῶν τὰ σύντονα καὶ παρακεχρωσμένα, ποιεῖ δὲ τὴν ἡδονὴν ἑκάστοις τὸ κατὰ φύσιν οἰκεῖον, διόπερ ἀποδοτέον ἐξουσίαν τοῖς ἀγωνιζομένοις πρὸς τὸν θεατὴν τὸν τοιοῦτον τοιούτῳ τινὶ χρῆσθαι τῷ γένει τῆς μουσικῆς. πρὸς δὲ παιδείαν, ὥσπερ εἴρηται, τοῖς ἠθικοῖς τῶν μελῶν χρηστέον καὶ ταῖς ἁρμονίαις ταῖς τοιαύταις. τοιαύτη δ’ ἡ δωριστί, καθάπερ εἴπομεν πρότερον· δέχεσθαι δὲ δεῖ κἄν τινα ἄλλην ἡμῖν δοκιμάζωσιν οἱ κοινωνοὶ τῆς ἐν φιλοσοφίᾳ διατριβῆς καὶ τῆς περὶ τὴν μουσικὴν παιδείας. ὁ δ’ ἐν τῇ Πολιτείᾳ Σωκράτης οὐ καλῶς τὴν φρυγιστὶ μόνην καταλείπει μετὰ τῆς δωριστί, καὶ ταῦτα ἀποδοκιμάσας [1342b] τῶν ὀργάνων τὸν αὐλόν. ἔχει γὰρ τὴν αὐτὴν δύναμιν ἡ φρυγιστὶ τῶν ἁρμονιῶν ἥνπερ αὐλὸς ἐν τοῖς ὀργάνοις· ἄμφω γὰρ ὀργιαστικὰ καὶ παθητικά· [δηλοῖ δ’ ἡ ποίησις]. πᾶσα γὰρ βακχεία καὶ πᾶσα ἡ τοιαύτη κίνησις μάλιστα τῶν ὀργάνων ἐστὶν ἐν τοῖς αὐλοῖς, τῶν δ’ ἁρμονιῶν ἐν τοῖς φρυγιστὶ μέλεσι λαμβάνει ταῦτα τὸ πρέπον. ‹δηλοῖ δ’ ἡ ποίησις,› οἷον ὁ διθύραμβος ὁμολογουμένως εἶναι δοκεῖ Φρύγιον. καὶ τούτου πολλὰ παραδείγματα λέγουσιν οἱ περὶ τὴν σύνεσιν ταύτην, ἄλλα τε καὶ ὅτι Φιλόξενος ἐγχειρήσας ἐν τῇ δωριστὶ ποιῆσαι [διθύραμβον] τοὺς Μυσοὺς οὐχ οἷός τ’ ἦν, ἀλλ’ ὑπὸ τῆς φύσεως αὐτῆς ἐξέπεσεν εἰς τὴν φρυγιστὶ τὴν προσήκουσαν ἁρμονίαν πάλιν. περὶ δὲ τῆς δωριστὶ πάντες ὁμολογοῦσιν ὡς στασιμωτάτης οὔσης καὶ μάλιστα ἦθος ἐχούσης ἀνδρεῖον. ἔτι δὲ ἐπεὶ τὸ μέσον μὲν τῶν ὑπερβολῶν ἐπαινοῦμεν καὶ χρῆναι διώκειν φαμέν, ἡ δὲ δωριστὶ ταύτην ἔχει τὴν φύσιν πρὸς τὰς ἄλλας ἁρμονίας, φανερὸν ὅτι τὰ Δώρια μέλη πρέπει παιδεύεσθαι μᾶλλον τοῖς νεωτέροις.

εἰσὶ δὲ δύο σκοποί, τό τε δυνατὸν καὶ τὸ πρέπον· καὶ γὰρ τὰ δυνατὰ δεῖ μεταχειρίζεσθαι μᾶλλον καὶ τὰ πρέποντα ἑκάστους. ἔστι δὲ καὶ ταῦτα ὡρισμένα ταῖς ἡλικίαις, οἷον τοῖς ἀπειρηκόσι διὰ χρόνον οὐ ῥᾴδιον ᾄδειν τὰς συντόνους ἁρμονίας, ἀλλὰ τὰς ἀνειμένας ἡ φύσις ὑποβάλλει τοῖς τηλικούτοις. διὸ καλῶς ἐπιτιμῶσι καὶ τοῦτο Σωκράτει τῶν περὶ τὴν μουσικήν τινες, ὅτι τὰς ἀνειμένας ἁρμονίας ἀποδοκιμάσειεν εἰς τὴν παιδείαν, οὐ κατὰ τὴν τῆς μέθης δύναμιν, ὡς μεθυστικὰς λαμβάνων αὐτάς (βακχευτικὸν γὰρ ἥ γε μέθη ποιεῖ μᾶλλον), ἀλλ’ ἀπειρηκυίας. ὥστε καὶ πρὸς τὴν ἐσομένην ἡλικίαν, τὴν τῶν πρεσβυτέρων, δεῖ καὶ τῶν τοιούτων ἁρμονιῶν ἅπτεσθαι καὶ τῶν μελῶν τῶν τοιούτων, ἔτι δ’ εἴ τίς ἐστι τοιαύτη τῶν ἁρμονιῶν ἣ πρέπει τῇ τῶν παίδων ἡλικίᾳ διὰ τὸ δύνασθαι κόσμον τ’ ἔχειν ἅμα καὶ παιδείαν, οἷον ἡ λυδιστὶ φαίνεται πεπονθέναι μάλιστα τῶν ἁρμονιῶν. δῆλον ‹οὖν› ὅτι τούτους ὅρους τρεῖς ποιητέον εἰς τὴν παιδείαν, τό τε μέσον καὶ τὸ δυνατὸν καὶ τὸ πρέπον.

Οἰκονομικά (1343a) Economics

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[1343a] Ἡ οἰκονομικὴ καὶ ‹ἡ› πολιτικὴ διαφέρει οὐ μόνον τοσοῦτον ὅσον οἰκία καὶ πόλις (ταῦτα μὲν γὰρ αὐταῖς ἐστι τὰ ὑποκείμενα), ἀλλὰ καὶ ὅτι ἡ μὲν πολιτικὴ ἐκ πολλῶν ἀρχόντων ἐστίν, ἡ οἰκονομικὴ δὲ μοναρχία.

Ἔνιαι μὲν οὖν τῶν τεχνῶν διῄρηνται, καὶ οὐ τῆς αὐτῆς ἐστι ποιῆσαι καὶ χρήσασθαι τῷ ποιηθέντι, ὥσπερ λύρᾳ καὶ αὐλοῖς· τῆς δὲ πολιτικῆς ἐστι καὶ πόλιν ἐξ ἀρχῆς συστήσασθαι καὶ ὑπαρχούσῃ χρήσασθαι καλῶς· ὥστε δῆλον ὅτι καὶ τῆς οἰκονομικῆς ἂν εἴη καὶ κτήσασθαι οἶκον καὶ χρήσασθαι αὐτῷ.

Πόλις μὲν οὖν οἰκιῶν πλῆθός ἐστι καὶ χώρας καὶ κτημάτων αὔταρκες πρὸς τὸ εὖ ζῆν. Φανερὸν δέ· ὅταν γὰρ μὴ δυνατοὶ ὦσι τούτου τυγχάνειν, διαλύεται καὶ ἡ κοινωνία. Ἔτι δὲ ἕνεκα τούτου συνέρχονται. Οὗ δὲ ἕνεκα ἕκαστόν ἐστι καὶ γέγονε, καὶ ἡ οὐσία αὐτοῦ τυγχάνει αὕτη οὖσα· ὥστε δῆλον ὅτι πρότερον γενέσει ἡ οἰκονομικὴ ‹τῆς› πολιτικῆς ἐστι. Καὶ γὰρ τὸ ἔργον· μόριον γὰρ οἰκία πόλεώς ἐστι.

Σκεπτέον οὖν περὶ τῆς οἰκονομικῆς καὶ τί τὸ ἔργον αὐτῆς.

Μέρη δὲ οἰκίας ἄνθρωπός τε καὶ κτῆσίς ἐστιν. Ἐπεὶ δὲ πρῶτον ἐν τοῖς ἐλαχίστοις ἡ Φύσις ἑκάστου θεωρεῖται, καὶ περὶ οἰκίας ἂν ὁμοίως ἔχοι. Ὥστε καθ’ Ἡσίοδον δέοι ἂν ὑπάρχειν

οἶκον μὲν πρώτιστα γυναῖκά τε βοῦν τ’ ἀροτῆρα.

Τὸ μὲν γὰρ τῆς τροφῆς πρῶτον, τὸ δὲ τῶν ἐλευθέρων ‹δεύτερον›· ὥστε δέοι ἂν τὰ περὶ τὴν τῆς γυναικὸς ὁμιλίαν οἰκονομήσασθαι καλῶς· τοῦτο δέ ἐστιν ὁποίαν τινὰ δεῖ ταύτην εἶναι παρασκευάσαι.

Κτήσεως δὲ πρώτη ἐπιμέλεια ἡ κατὰ φύσιν. Κατὰ φύσιν δὲ γεωργικὴ προτέρα, καὶ δεύτεραι ὅσαι ἀπὸ τῆς γῆς, οἷον μεταλλευτικὴ καὶ εἴ τις ἄλλη τοιαύτη. Ἡ δὲ γεωργικὴ μάλιστα, ὅτι δικαία· οὐ γὰρ ἀπ’ ἀνθρώπων, οὔθ’ ἑκόντων, ὥσπερ καπηλεία καὶ αἱ μισθαρνικαί, οὔτ’ ἀκόντων, ὥσπερ αἱ πολεμικαί. Ἔτι δὲ καὶ τῶν κατὰ φύσιν· φύσει [1343b] γὰρ ἀπὸ τῆς μητρὸς ἡ τροφὴ πᾶσίν ἐστιν, ὥστε καὶ τοῖς ἀνθρώποις ἀπὸ τῆς γῆς.

Πρὸς δὲ τούτοις καὶ πρὸς ἀνδρείαν συμβάλλεται μεγάλα· οὐ γὰρ ὥσπερ αἱ βάναυσοι τὰ σώματα ἀχρεῖα ποιοῦσιν, ἀλλὰ δυνάμενα θυραυλεῖν καὶ πονεῖν· ἔτι δὲ δυνάμενα κινδυνεύειν πρὸς τοὺς πολεμίους· μόνων γὰρ τούτων τὰ κτήματα ἔξω τῶν ἐρυμάτων ἐστίν.

Τῶν δὲ περὶ τοὺς ἀνθρώπους ἡ κατὰ γυναῖκα πρώτη ἐπιμέλεια. Κοινωνία γὰρ φύσει τῷ θήλει καὶ τῷ ἄρρενι μάλιστά ἐστιν. Ὑπόκειται γὰρ ἡμῖν ἐν ἄλλοις ὅτι πολλὰ τοιαῦτα ἡ φύσις ἐφίεται ἀπεργάζεσθαι, ὥσπερ καὶ τῶν ζῴων ἕκαστον· ἀδύνατον δὲ τὸ θῆλυ ἄνευ τοῦ ἄρρενος ἢ τὸ ἄρρεν ἄνευ τοῦ θήλεος ἀποτελεῖν τοῦτο· ὥστ’ ἐξ ἀνάγκης αὐτῶν ἡ κοινωνία συνέστηκεν.

Ἐν μὲν οὖν τοῖς ἄλλοις ζῴοις ἀλόγως τοῦτο ὑπάρχει, καὶ ἐφ’ ὅσον μετέχουσι τῆς φύσεως, ἐπὶ τοσοῦτον, καὶ τεκνοποιΐας μόνον χάριν· ἐν δὲ τοῖς ἡμέροις καὶ φρονιμωτέροις διήρθρωται μᾶλλον (φαίνονται γὰρ μᾶλλον βοήθειαι γινόμεναι καὶ εὔνοιαι καὶ συνεργίαι ἀλλήλοις)· ἐν ἀνθρώπῳ δὲ μάλιστα, ὅτι οὐ μόνον τοῦ εἶναι, ἀλλὰ καὶ τοῦ εὖ εἶναι συνεργὰ ἀλλήλοις τὸ θῆλυ καὶ τὸ ἄρρεν ἐστί. Καὶ ἡ τῶν τέκνων κτῆσις οὐ λειτουργίας ἕνεκεν τῇ φύσει μόνον οὖσα τυγχάνει, ἀλλὰ καὶ ὠφελείας· ἃ γὰρ ἂν δυνάμενοι εἰς ἀδυνάτους πονήσωσι, πάλιν κομίζονται παρὰ δυναμένων ἀδυνατοῦντες ἐν τῷ γήρᾳ.

Ἅμα δὲ καὶ ἡ φύσις ἀναπληροῖ ταύτῃ τῇ περιόδῳ τὸ ἀεὶ εἶναι, ἐπεὶ κατ’ ἀριθμὸν οὐ δύναται, ἀλλὰ κατὰ τὸ εἶδος. Οὕτω προῳκονόμηται ὑπὸ τοῦ θείου ἑκατέρου ἡ φύσις, τοῦ τε ἀνδρὸς καὶ τῆς γυναικός, πρὸς τὴν κοινωνίαν· διείληπται γὰρ τῷ μὴ ἐπὶ ταὐτὰ πάντα χρήσιμον ἔχειν τὴν δύναμιν, ἀλλ’ ἔνια μὲν ἐπὶ τἀναντία, εἰς ταὐτὸν δὲ συντείνοντα· τὸ μὲν γὰρ ἰσχυρότερον, τὸ δ’ ἀσθενέστερον ἐποίησεν, ἵνα [1344a] τὸ μὲν φυλακτικώτερον ᾖ διὰ τὸν φόβον, τὸ δ’ ἀμυντικώτερον διὰ τὴν ἀνδρείαν, καὶ τὸ μὲν πορίζῃ τὰ ἔξωθεν, τὸ δὲ σῴζῃ τὰ ἔνδον· καὶ πρὸς τὴν ἐργασίαν τὸ μὲν δυνάμενον ἑδραῖον εἶναι, πρὸς δὲ τὰς ἔξωθεν θυραυλίας ἀσθενές, τὸ δὲ πρὸς μὲν τὰς ἡσυχίας χεῖρον, πρὸς δὲ τὰς κινήσεις ὑγιεινόν· καὶ περὶ τέκνων τὴν μὲν γένεσιν κοινήν, τὴν δὲ ὠφέλειαν ἴδιον· τῶν μὲν γὰρ τὸ θρέψαι, τῶν δὲ τὸ παιδεῦσαί ἐστιν.

Πρῶτον μὲν οὖν [νόμοι πρὸς γυναῖκα] [καὶ] τὸ μὴ ἀδικεῖν· οὕτως γὰρ ἂν οὐδ’ αὐτὸς ἀδικοῖτο. Τοῦθ’ ὑφηγεῖται δὲ [ὃ] καὶ ὁ κοινὸς νόμος· καθάπερ οἱ Πυθαγόρειοι λέγουσιν, ὥσπερ ἱκέτιν καὶ ἀφ’ ἑστίας ἠγμένην ὡς ἥκιστα δεῖν [δοκεῖν] ἀδικεῖν· ἀδικία δὲ ἀνδρὸς αἱ θύραζε συνουσίαι γιγνόμεναι.

Περὶ δὲ ὁμιλίας μήθ’ ὥστε ‹παρόντος› δεῖσθαι μήθ’ ὡς ἀπόντος ἀδυνατεῖν [ἡσυχάζειν], ἀλλ’ οὕτως ἐθίζειν ὥστε ἱκανῶς ἔχειν παρόντος καὶ μὴ παρόντος. Εὖ δ’ ἔχει καὶ τὸ τοῦ Ἡσιόδου.

παρθενικὴν δὲ γαμεῖν, ἵνα ἤθεα κεδνὰ διδάξῃς.

Αἱ γὰρ ἀνομοιότητες τῶν ἠθῶν ἥκιστα φιλικόν.

Περὶ δὲ κοσμήσεως, ὥσπερ οὐδὲ τὰ ἤθη δεῖ ἀλαζονευομένους ἀλλήλοις πλησιάζειν, οὕτως οὐδὲ τὰ σώματα. Ἡ δὲ διὰ τῆς κοσμήσεως οὐδὲν διαφέρουσά ἐστι τῆς τῶν τραγῳδῶν ἐν τῇ σκευῇ πρὸς ἀλλήλους ὁμιλία.

Τῶν δὲ κτημάτων πρῶτον μὲν καὶ ἀναγκαιότατον τὸ βέλτιστον καὶ οἰκονομικώτατον· τοῦτο δὲ ἦν ἄνθρωπος. Διὸ δεῖ πρῶτον δούλους παρασκευάζεσθαι σπουδαίους. Δούλων δὲ εἴδη δύο, ἐπίτροπος καὶ ἐργάτης. Ἐπεὶ δὲ ὁρῶμεν ὅτι αἱ παιδεῖαι ποιούς τινας ποιοῦσι τοὺς νέους, ἀναγκαῖον καὶ παρασκευασάμενον τρέφειν οἷς τὰ ἐλευθέρια τῶν ἔργων προστακτέον.

Ὁμιλία δὲ πρὸς δούλους ὡς μήτε ὑβρίζειν ἐᾶν μήτε ἀνιέναι· καὶ τοῖς μὲν ἐλευθεριωτέροις τιμῆς μεταδιδόναι, τοῖς δ’ ἐργάταις τροφῆς πλῆθος. Καὶ ἐπειδὴ ἡ τοῦ οἴνου πόσις καὶ τοὺς ἐλευθέρους ὑβριστὰς ποιεῖ, καὶ πολλὰ ἔθνη ἀπέχεται καὶ τῶν ἐλευθέρων, οἷον Καρχηδόνιοι ἐπὶ στρατιᾶς, φανερὸν ὅτι τούτου ἢ μηδὲν ἢ ὀλιγάκις μεταδοτέον.

Ὄντων δὲ τριῶν, ἔργου καὶ κολάσεως καὶ τροφῆς, τὸ μὲν μήτε κολάζεσθαι, μήτ’ ἐργάζεσθαι, τροφὴν δ’ ἔχειν ὕβριν [1344b] ἐμποιεῖ· τὸ δὲ ἔργα μὲν ἔχειν καὶ κολάσεις, τροφὴν δὲ μή, βίαιον καὶ ἀδυναμίαν ποιεῖ. Λείπεται δὴ ἔργα παρέχειν καὶ τροφὴν ἱκανήν· ἀμίσθων γὰρ οὐχ οἷόν τε ἄρχειν, δούλῳ δὲ μισθὸς τροφή. Ὥσπερ δὲ καὶ τοῖς ἄλλοις ὅταν μὴ γίγνηται τοῖς βελτίοσι βέλτιον μηδὲ ἆθλα ᾖ ἀρετῆς καὶ κακίας, γίγνονται χείρους, οὕτω καὶ περὶ οἰκέτας.

Διόπερ δεῖ ποιεῖσθαι σκέψιν καὶ διανέμειν τε καὶ ἀνιέναι κατ’ ἀξίαν ἕκαστα, καὶ τροφὴν καὶ ἐσθῆτα καὶ ἀργίαν καὶ κολάσεις λόγῳ καὶ ἔργῳ, μιμουμένους τὴν τῶν ἰατρῶν δύναμιν ἐν φαρμάκου λόγῳ, προσθεωροῦντας ὅτι ἡ τροφὴ οὐ φάρμακον διὰ τὸ συνεχές.

Γένη δὲ ἂν εἴη πρὸς τὰ ἔργα βέλτιστα ‹τὰ› μήτε δειλὰ μήτε ἀνδρεῖα ἄγαν. Ἀμφότερα γὰρ ἀδικοῦσι. Καὶ γὰρ οἱ ἄγαν δειλοὶ οὐχ ὑπομένουσι καὶ οἱ θυμοειδεῖς οὐκ εὔαρχοι. Χρὴ δὲ καὶ τέλος ὡρίσθαι πᾶσι· δίκαιον γὰρ καὶ συμφέρον τὴν ἐλευθερίαν κεῖσθαι ἆθλον. Βούλονται γὰρ πονεῖν, ὅταν ᾖ ἆθλον καὶ ὁ χρόνος ὡρισμένος. Δεῖ δὲ καὶ ἐξομηρεύειν ταῖς τεκνοποιΐαις· καὶ μὴ κτᾶσθαι ὁμοεθνεῖς πολλούς, ὥσπερ καὶ ἐν ταῖς πόλεσιν· καὶ τὰς θυσίας καὶ τὰς ἀπολαύσεις μᾶλλον τῶν δούλων ἕνεκα ποιεῖσθαι ἢ τῶν ἐλευθέρων· πλείονα γὰρ ἔχουσιν οὗτοι οὗπερ ἕνεκα τὰ τοιαῦτα ἐνομίσθη.

Εἴδη δὲ τοῦ οἰκονόμου τέτταρα ‹καθ’› ἃ δεῖ ἔχειν περὶ τὰ χρήματα. Καὶ γὰρ τὸ κτᾶσθαι δυνατὸν χρὴ εἶναι, καὶ φυλάττειν (εἰ δὲ μή, οὐδὲν ὄφελος τοῦ κτᾶσθαι· τῷ γὰρ ἠθμῷ ἀντλεῖν τοῦτ’ ἔστι, καὶ ὁ λεγόμενος τετρημένος πίθος)· ἔτι δὲ καὶ εἶναι κοσμητικὸν τῶν ὑπαρχόντων καὶ χρηστικόν· τούτων γὰρ ἕνεκα κἀκείνων δεόμεθα.

Διῃρῆσθαι δὲ δεῖ τούτων ἕκαστον, καὶ πλείω τὰ κάρπιμα εἶναι τῶν ἀκάρπων, καὶ τὰς ἐργασίας οὕτω νενεμῆσθαι ὅπως μὴ ἅμα κινδυνεύσωσιν ἅπασαι. Πρὸς δὲ φυλακὴν τοῖς τε Περσικοῖς συμφέρει χρῆσθαι καὶ τοῖς Λακωνικοῖς. Καὶ ἡ Ἀττικὴ δὲ οἰκονομία χρήσιμος· ἀποδιδόμενοι γὰρ ὠνοῦνται, καὶ ἡ τοῦ ταμιείου θέσις οὐκ ἔστιν ἐν ταῖς μικροτέραις οἰκονομίαις.

Περσικὰ δὲ ἦν τὸ πάντα ἐπιτάττειν καὶ ‹τὸ› πάντ’ ἐφορᾶν αὐτόν, καθ’ ὃ ἔλεγε Δίων περὶ Διονυσίου· οὐδεὶς γὰρ ἐπιμελεῖται ὁμοίως τῶν ἀλλοτρίων καὶ τῶν οἰκείων, ὥστε ὅσα [1345a] ἐνδέχεται, δι’ ἑαυτοῦ ποιεῖσθαι χρὴ τὴν ἐπιμέλειαν. Καὶ τὸ τοῦ Πέρσου καὶ τὸ τοῦ Λίβυος ἀπόφθεγμα εὖ ἂν ἔχοι. Ὁ μὲν γὰρ ἐρωτηθεὶς τί μάλιστα ἵππον πιαίνει, “ὁ τοῦ δεσπότου ὀφθαλμός” ἔφη· ὁ δὲ Λίβυς ἐρωτηθεὶς ποία κόπρος ἀρίστη, “τὰ τοῦ δεσπότου ἴχνη” ἔφη.

Ἐπισκεπτέον οὖν τὰ μὲν αὐτόν, τὰ δὲ τὴν γυναῖκα, ὡς ἑκατέροις διαιρεῖται τὰ ἔργα τῆς οἰκονομίας. Καὶ τοῦτο ποιητέον ἐν μικραῖς οἰκονομίαις ὀλιγάκις, ἐν δ’ ἐπιτροπευομέναις πολλάκις. Οὐ γὰρ οἷόν τε μὴ καλῶς ὑποδεικνύντος καλῶς μιμεῖσθαι, οὔτ’ ἐν τοῖς ἄλλοις, οὔτ’ ἐν ἐπιτροπείᾳ, ὡς ἀδύνατον ‹ἂν› μὴ ἐπιμελῶν δεσποτῶν ἐπιμελεῖς εἶναι τοὺς ἐφεστῶτας.

Ἐπεὶ δὲ ταῦτα καὶ καλὰ πρὸς ἀρετὴν καὶ ὠφέλιμα πρὸς οἰκονομίαν, ἐγείρεσθαι χρὴ πρότερον δεσπότας οἰκετῶν καὶ καθεύδειν ὕστερον· καὶ μηδέποτε ἀφύλακτον ‹τὴν› οἰκίαν εἶναι, ὥσπερ πόλιν· ὅσα τε δεῖ ποιεῖν μήτε νυκτὸς μήτε ἡμέρας παριέναι· τό τε διανίστασθαι νύκτωρ· τοῦτο γὰρ καὶ πρὸς ὑγίειαν καὶ οἰκονομίαν καὶ φιλοσοφίαν χρήσιμον.

Ἐν μὲν οὖν ταῖς μικραῖς κτήσεσιν ὁ Ἀττικὸς τρόπος τῆς διαθέσεως τῶν ἐπικαρπιῶν χρήσιμος· ἐν δὲ ταῖς μεγάλαις, διαμερισθέντων καὶ τῶν πρὸς ἐνιαυτὸν καὶ τῶν κατὰ μῆνα δαπανωμένων, ὁμοίως δὲ καὶ περὶ σκευῶν χρήσεως τῶν καθ’ ἡμέραν καὶ τῶν ὀλιγάκις, ταῦτα παραδοτέον τοῖς ἐφεστῶσιν. Ἐπὶ τούτοις καὶ τὴν ἐπίσκεψιν αὐτῶν διά τινος χρόνου ποιητέον, ἵνα μὴ λανθάνῃ τὸ σῳζόμενον καὶ τὸ ἐλλεῖπον.

Οἰκίαν δὲ πρός τε τὰ κτήματα ἀποβλέποντα κατασκευαστέον καὶ πρὸς ὑγίειαν καὶ πρὸς εὐημερίαν αὐτῶν. Λέγω δὲ κτήματα μέν, οἷον καρποῖς καὶ ἐσθῆτι ποία συμφέρει, καὶ τῶν καρπῶν ποία ξηροῖς καὶ ποία ὑγροῖς, καὶ τῶν ἄλλων κτημάτων ποία ἐμψύχοις καὶ ποία ἀψύχοις, καὶ δούλοις καὶ ἐλευθέροις, καὶ γυναιξὶ καὶ ἀνδράσι, καὶ ξένοις καὶ ἀστοῖς. Καὶ πρὸς εὐημερίαν δὲ καὶ πρὸς ὑγίειαν δεῖ εἶναι εὔπνουν μὲν τοῦ θέρους, εὐήλιον δὲ τοῦ χειμῶνος. Εἴη δ’ ἂν [ἡ] τοιαύτη κατάβορρος οὖσα καὶ μὴ ἰσοπλατής.

Δοκεῖ δὲ καὶ ἐν ταῖς μεγάλαις οἰκονομίαις χρήσιμος εἶναι θυρωρὸς ὃς ἂν ᾖ ἄχρηστος τῶν ἄλλων ἔργων, πρὸς τὴν σωτηρίαν τῶν εἰσφερομένων

[1345b] καὶ ἐκφερομένων. Πρὸς εὐχρηστίαν δὲ σκευῶν τὸ Λακωνικόν· χρὴ γὰρ ἓν ἕκαστον ἐν τῇ αὑτοῦ χώρᾳ κεῖσθαι· οὕτω γὰρ ἂν ἕτοιμον ὂν οὐ ζητοῖτο.

ΟΙΚΟΝΟΜΙΚΟΣ ΔΕΥΤΕΡΟΣ

Τὸν οἰκονομεῖν μέλλοντά τι κατὰ τρόπον τῶν τε τόπων, περὶ οὓς ἂν πραγματεύηται, μὴ ἀπείρως ἔχειν, καὶ τῇ φύσει εὐφυῆ εἶναι καὶ τῇ προαιρέσει φιλόπονόν τε καὶ δίκαιον· ὅ τι γὰρ ἂν ἀπῇ τούτων τῶν μερῶν, πολλὰ διαμαρτήσεται περὶ τὴν πραγματείαν ἣν μεταχειρίζεται. Οἰκονομίαι δέ εἰσι τέτταρες, ὡς ἐν τύπῳ διελέσθαι (τὰς γὰρ ἄλλας εἰς τοῦτο ἐμπιπτούσας εὑρήσομεν)· βασιλική, σατραπική, πολιτική, ἰδιωτική.

Τούτων δὲ μεγίστη μὲν καὶ ἁπλουστάτη ἡ βασιλική, ‹...›, ποικιλωτάτη δὲ καὶ ῥᾴστη ἡ πολιτική, ἐλαχίστη δὲ καὶ ποικιλωτάτη ἡ ἰδιωτική. Ἐπικοινωνεῖν μὲν τὰ πολλὰ ἀλλήλαις ἀναγκαῖόν ἐστιν· ὅσα δὲ μάλιστα δι’ αὐτῶν ἑκάστῃ συμβαίνει, ταῦτα ἐπισκεπτέον ἡμῖν ἐστιν. Πρῶτον μὲν τοίνυν τὴν βασιλικὴν ἴδωμεν. Ἔστι δὲ αὕτη δυναμένη μὲν τὸ καθόλου, εἴδη δὲ ἔχουσα τέτταρα· περὶ ‹τὸ› νόμισμα, περὶ τὰ ἐξαγώγιμα, περὶ τὰ εἰσαγώγιμα, περὶ τὰ ἀναλώματα.

Τούτων δὲ ἕκαστον. Περὶ μὲν τὸ νόμισμα λέγω ποῖον καὶ πότε [τίμιον ἢ εὔωνον] ποιητέον· περὶ δὲ τὰ ἐξαγώγιμα καὶ εἰσαγώγιμα πότε καὶ τίνα παρὰ τῶν σατραπῶν ἐν τῇ ταγῇ ἐκλαβόντι αὐτῷ λυσιτελήσει διατίθεσθαι· περὶ δὲ τὰ ἀναλώματα τίνα περιαιρετέον καὶ πότε, καὶ πότερον δοτέον νόμισμα εἰς τὰς δαπάνας ἢ ἀντὶ νομίσματος ὤνια.

Δεύτερον δὲ τὴν σατραπικήν. Ἔστι δὲ ταύτης εἴδη ἓξ τῶν προσόδων [ἀπὸ γῆς, ἀπὸ τῶν ἐν τῇ χώρᾳ ἰδίων γινομένων, ἀπὸ ἐμπόρων, ἀπὸ τελῶν, ἀπὸ βοσκημάτων, ἀπὸ τῶν ἄλλων]. Αὐτῶν δὲ τούτων πρώτη μὲν καὶ κρατίστη ἡ ἀπὸ τῆς γῆς· αὕτη δέ ἐστιν ἣν οἱ μὲν ἐκφόριον, οἱ δὲ δεκάτην προσαγορεύουσιν. Δευτέρα δὲ ἡ ἀπὸ τῶν ἰδίων γινομένη, οὗ μὲν χρυσίον, οὗ δὲ ἀργύριον, οὗ δὲ χαλκός, οὗ δὲ ὁπόσα δύναται γίνεσθαι. Τρίτη δὲ καὶ ἡ ἀπὸ [1346a] τῶν ἐμπορίων. Τετάρτη δὲ καὶ ἡ ἀπὸ τῶν κατὰ γῆν τε καὶ ἀγοραίων τελῶν γινομένη. Πέμπτη δὲ ἡ ἀπὸ τῶν βοσκημάτων, ἐπικαρπία τε καὶ δεκάτη καλουμένη. Ἕκτη δὲ ἡ ἀπὸ τῶν ἀνθρώπων, ἐπικεφάλαιόν τε καὶ χειρωνάξιον προσαγορευομένη.

Τρίτον δὲ τὴν πολιτικήν. Ταύτης δὲ κρατίστη μὲν πρόσοδος ἡ ἀπὸ τῶν ἰδίων ἐν τῇ χώρᾳ γινομένη. Εἶτα ἡ ἀπὸ τῶν ἐμπορίων καὶ διαγωγῶν. Εἶτα ἡ ἀπὸ τῶν ἐγκυκλίων.

Τέταρτον δὲ καὶ τελευταῖον τὴν ἰδιωτικήν. Αὕτη δέ ἐστιν ἀνώμαλος μὲν διὰ τὸ δεῖν μὴ πρὸς ἕνα σκοπὸν οἰκονομεῖν, ἐλαχίστη δὲ διὰ τὸ καὶ τὰς προσόδους καὶ τὰ ἀναλώματα βραχέα γίνεσθαι. Αὐτῆς δὲ ταύτης κρατίστη μὲν πρόσοδος ἡ ἀπὸ γῆς γινομένη. Δευτέρα δὲ ἡ ἀπὸ τῶν ἄλλων ἐγκυκλημάτων. Τρίτη δὲ ἡ ἀπὸ ἀργυρίου. Χωρὶς δὲ τούτων ὃ πάσαις μὲν ἐπικοινωνεῖται ταῖς οἰκονομίαις (καὶ προσήκει σκοπεῖν αὐτὸ μὴ παρέργως), μάλιστα δὲ ταύτῃ, τὸ τἀναλώματα μὴ μείζω τῶν προσόδων γίνεσθαι.

Ἐπεὶ τοίνυν τὰς διαιρέσεις εἰρήκαμεν, μετὰ τοῦτο πάλιν νοητέον ἡμῖν ἡ σατραπεία, περὶ ἣν ἂν πραγματευώμεθα, ἢ πόλις, πότερον ἃ πάντα ἄρτι διειλόμεθα ἢ τὰ μέγιστα τούτων δυνατὴ φέρειν ἐστί· ‹εἰ δ’ ἐστί,› τούτοις χρηστέον. Μετὰ δὲ τοῦτο ποῖαι τῶν προσόδων ἢ τὸ παράπαν οὐκ εἰσί, δυναταὶ δ’ εἰσὶ γενέσθαι, ἢ μικραὶ νῦν οὖσαι μείζους οἷαί [τινες] ‹τε› κατασκευασθῆναι, ἢ τῶν ἀναλωμάτων τῶν νῦν ἀναλουμένων τίνα τε καὶ πόσα περιαιρεθέντα ‹τὰ› ὅλα μηθὲν βλάψει.

Τὰ μὲν οὖν περὶ τὰς οἰκονομίας τε καὶ τὰ μέρη τὰ τούτων εἰρήκαμεν· ὅσα δέ τινες τῶν πρότερον πεπράγασιν εἰς πόρον χρημάτων, εἴ ‹τε› τεχνικῶς τι διῴκησαν, ἃ ὑπελαμβάνομεν ἀξιόλογα αὐτῶν εἶναι, συναγηόχαμεν. Οὐδὲ γὰρ ταύτην τὴν ἱστορίαν ἀχρεῖον ὑπολαμβάνομεν εἶναι. Ἔστι γὰρ ὅτε τούτων ἐφαρμόσει τι οἷς ἂν αὐτὸς πραγματεύῃ.

Κύψελος [ὁ] Κορίνθιος εὐξάμενος τῷ Διί, ἐὰν κύριος γένηται τῆς πόλεως, τὰ ὄντα Κορινθίοις πάντα ἀναθήσειν, [1346b] ἐκέλευσεν αὐτοὺς ἀπογράψασθαι. Ἀπογραψαμένων δὲ τούτων τὸ δέκατον μέρος παρὰ ἑκάστου ἔλαβε, τοῖς δὲ λοιποῖς ἐκέλευσεν ἐργάζεσθαι. Περιελθόντος δὲ τοῦ ἐνιαυτοῦ τὸ αὐτὸ τοῦτο ἐποίησεν, ὥστε συνέβαινεν ἐν δέκα ἔτεσι κεῖνόν τε ἅπαντα ἔχειν ἅπερ ἀνιέρωσε, τούς τε Κορινθίους ἕτερα κεκτῆσθαι.

Λύγδαμις Νάξιος ἐκβαλὼν φυγάδας, ἐπειδὴ τὰ κτήματα αὐτῶν οὐθεὶς ἠθέλησεν ἀλλ’ ἢ βραχέος ἀγοράζειν, αὐτοῖς τοῖς φυγάσιν ἀπέδοτο· τά τε ἀναθήματα, ὅσα ἦν αὐτῶν ἔν τισιν ἐργαστηρίοις ἡμίεργα ἀνακείμενα, ἐπώλει τοῖς τε φυγάσι καὶ τῶν ἄλλων τῷ βουλομένῳ ὥστ’ ἐπιγραφῆναι τὸ τοῦ πριαμένου ὄνομα.

Βυζάντιοι δὲ δεηθέντες χρημάτων τὰ τεμένη τὰ δημόσια ἀπέδοντο, τὰ μὲν κάρπιμα χρόνον τινά, τὰ δὲ ἄκαρπα ἀεννάως· τά τε θιασωτικὰ καὶ τὰ πατριωτικὰ ὡσαύτως· καὶ ὅσα ἐν χωρίοις ἰδιωτικοῖς ἦν· ὠνοῦντο γὰρ πολλοῦ ὧν ἦν καὶ τὸ ἄλλο κτῆμα· τοῖς δὲ θιασώταις ἕτερα χωρία, τὰ δημόσια ὅσα ἦν περὶ τὸ γυμνάσιον ἢ τὴν ἀγορὰν ἢ τὸν λιμένα· τούς τε τόπους τοὺς ἀγοραίους ἐν οἷς ἐπώλει τίς τι· καὶ τῆς θαλάττης τὴν ἁλιείαν· καὶ τὴν τῶν ἁλῶν ἁλατοπωλίαν· τῶν τ’ ἐργαζομένων θαυματοποιῶν καὶ μάντεων καὶ φαρμακοπωλῶν καὶ τῶν ἄλλων τῶν τοιουτοτρόπων ‹...›, τὸ τρίτον δὲ μέρος τοῦ ἐργαζομένου ἀποτελεῖν ἔταξαν· τῶν τε νομισμάτων τὴν καταλλαγὴν ἀπέδοντο μιᾷ τραπέζῃ, ἑτέρῳ δὲ οὐκ ἦν οὐθενὶ οὔτε ἀποδόσθαι ἑτέρῳ οὔτε πρίασθαι παρ’ ἑτέρου· εἰ δὲ μή, στέρησις ἦν.

Ὄντος δὲ νόμου αὐτοῖς μὴ εἶναι πολίτην ὃς ἂν μὴ ἐξ ἀστῶν ἀμφοτέρων ᾖ, χρημάτων δεηθέντες ἐψηφίσαντο τὸν ἐξ ἑνὸς ὄντα ἀστοῦ καταβαλόντα μνᾶς τριάκοντα εἶναι πολίτην.

Ἐν σιτοδείᾳ δὲ γενόμενοι καὶ ἀποροῦντες χρημάτων κατήγαγον τὰ πλοῖα τὰ ἐκ τοῦ Πόντου. Χρόνου δὲ γενομένου τῶν ἐμπόρων ἀγανακτούντων, ἐτέλουν αὐτοῖς τόκους ἐπιδεκάτους, τοῖς δ’ ὠνουμένοις τι ἔταξαν χωρὶς τῆς τιμῆς διδόναι τὸ ἐπιδέκατον.

[1347a] Μετοίκων δέ τινων ἐπιδεδανεικότων ἐπὶ κτήμασιν, οὐκ οὔσης αὐτοῖς ἐγκτήσεως, ἐψηφίσαντο τὸ τρίτον μέρος εἰσφέροντα τοῦ δανείου τὸν βουλόμενον κυρίως ἔχειν τὸ κτῆμα.

Ἱππίας Ἀθηναῖος τὰ ὑπερέχοντα τῶν ὑπερῴων εἰς τὰς δημοσίας ὁδοὺς καὶ τοὺς ἀναβαθμοὺς καὶ τὰ προφράγματα καὶ τὰς θύρας τὰς ἀνοιγομένας ἔξω ἐπώλησεν· ὠνοῦντο οὖν ὧν ἦν τὰ κτήματα καὶ συνελέγη χρήματα οὕτω συχνά.

Τό τε νόμισμα τὸ ὂν Ἀθηναίοις ἀδόκιμον ἐποίησε, τάξας δὲ τιμὴν ἐκέλευσε πρὸς αὑτὸν ἀνακομίζειν. Συνελθόντων δὲ ἐπὶ τῷ κόψαι ἕτερον χαρακτῆρα, ἐξέδωκε τὸ αὐτὸ ἀργύριον.

Ὅσοι τε τριηραρχεῖν ἢ φυλαρχεῖν ἢ χορηγεῖν ἤ τινα εἰς ἑτέραν λειτουργίαν τοιαύτην ἤμελλον δαπανᾶν, τίμημα τάξας μέτριον ἐκέλευσε τὸν βουλόμενον ἀποτείσαντα τοῦτο ἐγγράφεσθαι εἰς τοὺς λελειτουργηκότας.

Τῇ τε ἱερείᾳ τῇ τῆς Ἀθηνᾶς τῆς ἐν ἀκροπόλει ὑπὲρ τοῦ ἀποθανόντος φέρειν χοίνικα κριθῶν καὶ πυρῶν ἑτέραν καὶ ὀβολόν, καὶ ὅτῳ ἂν παιδάριον γένηται, τὸ αὐτὸ τοῦτο.

Ἀθηναῖοι δὲ οἱ ἐν Ποτιδαίᾳ οἰκοῦντες δεόμενοι χρημάτων εἰς τὸν πόλεμον ἀπογράψασθαι ἅπασι συνέταξαν τὰς οὐσίας, μὴ ἀθρόας εἰς τὸν αὐτοῦ δῆμον ἕκαστον, ἀλλὰ κατὰ κτῆμα ἐν ᾧ τόπῳ ἕκαστον εἴη, ἵνα οἱ πένητες δύνωνται ὑποτιμᾶσθαι· ὅτῳ δὲ μὴ ἦν κτῆμα μηθέν, τὸ σῶμα διμναῖον τιμήσασθαι. Ἀπὸ τούτων οὖν εἰσέφερον τὸ ἐπιγραφὲν ἕκαστος.

Σωσίπολις Ἀντισσαῖος, δεηθείσης τῆς πόλεως χρημάτων, εἰθισμένων δὲ αὐτῶν λαμπρῶς ἄγειν Διονύσια, ἐν οἷς ἄλλα τε πολλὰ ἀνήλισκον ἐξ ἐνιαυτοῦ παρασκευάζοντες καὶ ἱερεῖα πολυτελῆ, ὑπογύου δὲ οὔσης ταύτης τῆς ἑορτῆς, ἔπεισεν αὐτοὺς τῷ μὲν Διονύσῳ εὔξασθαι ἐς νέωτα ἀποδώσειν διπλάσια, ταῦτα δὲ συναγαγόντας ἀποδόσθαι. Συνελέγη οὖν αὐτοῖς χρήματα οὐκ ὀλίγα πρὸς τὴν χρείαν.

Λαμψακηνοὶ δὲ προσδοκίμων οὐσῶν τριηρῶν πολλῶν πρὸς αὐτούς, ὄντος ‹τοῦ› μεδίμνου τῶν ἀλφίτων τετραδράχμου, προσέταξαν τοῖς ἀγοραίοις πωλεῖν ἑξάδραχμον, καὶ τοῦ ἐλαίου τὸν χοᾶ ὄντα δραχμῶν ‹τριῶν› τεττάρων καὶ τριωβόλου, τοῦ τε οἴνου καὶ τῶν ἄλλων ὡσαύτως. Τὴν μὲν οὖν [1347b] ἀρχαίαν τιμὴν ἐλάμβανεν ὁ ἰδιώτης, τὸ δὲ πλέον ἡ πόλις, καὶ εὐπόρησε χρημάτων.

Ἡρακλεῶται πέμποντες ναῦς τετταράκοντα ἐπὶ τοὺς ἐν Βοσπόρῳ τυράννους, οὐκ εὐπορούμενοι χρημάτων, παρὰ τῶν ἐμπόρων συνηγόρασαν τόν τε σῖτον πάντα καὶ τὸ ἔλαιον καὶ τὸν οἶνον καὶ τὴν ἄλλην ἀγοράν, χρόνου διισταμένου ἐν ᾧ ἔμελλον ἀποδώσειν τὴν τιμήν. Τοῖς δὲ δὴ ἐμπόροις καλῶς εἶχε μὴ κοτυλίζειν, ἀλλ’ ἀθρόα τὰ φορτία πεπρᾶσθαι. Ἐκεῖνοί τε διαδόντες διμήνου μισθὸν παρῆγον [ἀλλὰ] τὴν ἀγορὰν ἐν ὁλκάσιν, ἄνδρα ‹τε› ταμίαν ἐπέστησαν ἐφ’ ἑκάστῃ τῶν νεῶν. Ἀφικομένων δ’ εἰς τὴν πολεμίαν αὐτῶν ἠγόραζον οἱ στρατιῶται παρὰ τούτων ἅπαντα. Πρότερον ‹οὖν› συλλεγέντι ἀργυρίῳ ἐδίδοσαν οἱ στρατηγοὶ πάλιν τὸν μισθόν, ὥστε συνέβαινε ταὐτὸ [τὸ] ἀργύριον δίδοσθαι ἕως εἰς οἶκον ἀπῆλθον.

Λακεδαιμόνιοι Σαμίων δεηθέντων χρήματα αὐτοῖς εἰς τὴν κάθοδον δοῦναι, ἐψηφίσαντο μίαν ἡμέραν καὶ αὐτοὺς καὶ τοὺς οἰκέτας καὶ τὰ ὑποζύγια νηστεῦσαι, ὅσον δὲ ἐδαπάνα ἕκαστος, τοσοῦτον δοῦναι τοῖς Σαμίοις.

Χαλκηδόνιοι δέ, ξένων ἐν τῇ πόλει συχνῶν παρ’ αὐτοῖς γινομένων, ὀφείλοντες αὐτοῖς μισθὸν οὐκ ἠδύναντο διαλῦσαι. Ἀνήγγειλαν οὖν, εἴ τις τῶν πολιτῶν ἢ μετοίκων σῦλον ἔχει κατὰ πόλεως ἢ ἰδιώτου καὶ βούλεται λαβεῖν, ἀπογράψασθαι. Ἀπογραψαμένων δὲ συχνῶν, τὰ πλοῖα τὰ πλέοντα εἰς τὸν Πόντον ἐσύλων μετὰ προφάσεως εὐλόγου. Ἔταξαν δὲ χρόνον ἐν ᾧ λόγον ὑπὲρ αὐτῶν ἔφασαν ποιήσασθαι. Συλλεγέντων δὲ χρημάτων συχνῶν, τοὺς μὲν στρατιώτας ἀπήλλαξαν, ὑπὲρ δὲ τῶν σύλων διεδικάσαντο. Τοῖς δὲ μὴ δικαίως συληθεῖσιν ἡ πόλις ἀπὸ τῶν προσόδων ἀπεδίδου.

Κυζικηνοὶ δὲ στασιάσαντες πρὸς ἀλλήλους, ἐπικρατήσαντος τοῦ δήμου, τῶν δὲ πλουσίων συνειλημμένων, ὀφείλοντες χρήματα στρατιώταις ἐψηφίσαντο μὴ θανατῶσαι τοὺς συνειλημμένους, ἀλλὰ χρήματα πραξαμένους φυγαδεῦσαι.

Χῖοι δέ, νόμου ὄντος αὐτοῖς ἀπογράψασθαι τὰ χρέα εἰς τὸ δημόσιον, δεηθέντες χρημάτων ἐψηφίσαντο τοὺς [1348a] ὀφείλοντας μὲν ἀποδοῦναι τῇ πόλει τὰ δάνεια, τὴν δὲ πόλιν ἐκ τῶν προσόδων τοὺς τόκους τοῖς δεδανεικόσι καταφέρειν, ἕως ἂν καὶ τὸ ἀρχαῖον εὐπορήσωσιν.

Μαύσωλος ὁ Καρίας τύραννος, πέμποντος βασιλέως πρὸς αὐτὸν ἐπὶ τῷ τοὺς φόρους δοῦναι, συναγαγὼν τοὺς εὐπορωτάτους ἐν τῇ χώρᾳ ἔλεγεν ὅτι ὁ βασιλεὺς αἰτεῖ τοὺς φόρους, αὐτὸς δὲ οὐκ εὐπορεῖται. Κατασκευαστοὶ δ' ἄνδρες αὐτῷ εὐθέως ἐπηγγέλλοντο ὅσον εἰσοίσει ἕκαστος. Τούτων δὲ τοῦτο πραξάντων, οἱ εὐπορώτεροι τὰ μὲν αἰσχυνόμενοι, τὰ δὲ φοβούμενοι πολλῷ τούτων πλείω ἐπηγγέλλοντο καὶ εἰσέφερον.

Πάλιν ‹δὲ› δεηθεὶς χρημάτων ἐξεκκλησιάσας τοῖς Μυλασσεῦσιν, ἔλεγεν ὅτι μητρόπολις οὖσα ἡ πόλις αὐτοῦ αὕτη ἀτείχιστός ἐστιν, ὁ δὲ βασιλεὺς ἐπ' αὐτὸν στρατεύει. Ἐκέλευσεν οὖν τοὺς Μυλασσεῖς φέρειν ἕκαστον ὅτι πλεῖστα χρήματα, φάσκων αὐτοὺς τοῖς νῦν εἰσενεχθεῖσι καὶ τὰ λοιπὰ σῴζειν. Εἰσενεχθέντων δὲ πολλῶν τὰ μὲν χρήματα εἶχε, τὸ δὲ τεῖχος οὐκ ἔφη τὸν θεὸν ‹ἐᾶν› ἐν τῷ παρόντι οἰκοδομεῖν.

Κόνδαλος Μαυσώλου ὕπαρχος, ὁπότε διαπορευομένῳ αὐτῷ διὰ τῆς χώρας προσενέγκοι τις πρόβατον ἢ ὗν ἢ μόσχον, ἀπογραψάμενος τὸν δόντα καὶ τὸν χρόνον, ἀπαγαγόντα εἰς οἶκον ἐκέλευε τρέφειν ἕως ἂν ἐπανέλθοι· ὁπότε δὲ δοκοίη χρόνος ἱκανὸς εἶναι, αὐτό τε τὸ τραφὲν καὶ τὴν ἐπικαρπίαν λογισάμενος ἀπῄτει.

Τῶν τε δένδρων τὰ ὑπερέχοντα ἢ πίπτοντα εἰς τὰς ὁδοὺς τὰς βασιλικὰς ἐπώλει ‹...› τὰς ἐπικαρπίας.

Τῶν δὲ στρατιωτῶν εἴ τις τελευτήσειε, διαπύλιον ἀπῄτει δραχμὴν τοῦ σώματος· ἅμα τε οὖν ἐντεῦθεν καὶ ἀργύριον ἐλάμβανεν, ἅμα τε οἱ ἡγεμόνες οὐ παρεκρούοντο αὐτόν, πότε τετελεύτηκεν ὁ στρατιώτης.

Τούς τε Λυκίους ὁρῶν ἀγαπῶντας τὸ τρίχωμα φορεῖν, ἔφησε γράμματα ἥκειν παρὰ βασιλέως κόμας ἀποστεῖλαι εἰς προκόμια· προστετάχθαι οὖν αὐτῷ ὑπὸ Μαυσώλου ἀποκεῖραι αὐτούς. Ἔφησεν οὖν, εἰ βούλονται ἐπικεφάλαιον τακτὸν αὐτῷ δοῦναι, μεταπέμψασθαι ἐκ τῆς Ἑλλάδος κόμην· οἱ δὲ ἀσμένως ἔδοσαν ὃ ᾔτει, καὶ συνελέγη χρήματα πολλὰ ἀπὸ ὄχλου πολλοῦ.

Ἀριστοτέλης Ῥόδιος ἄρχων Φωκαίας, ἀπορῶν χρημάτων, ὁρῶν στάσεις οὔσας δύο τῶν Φωκαίων, λόγους ἐποιήσατο [1348b] πρὸς τὴν ἑτέραν στάσιν ἐν ἀπορρήτοις, φάσκων αὐτῷ διδόναι χρήματα τοὺς ἑτέρους ἐφ' ᾧ αὐτοῖς τὰ πράγματα ἐγκλῖναι, αὐτὸς δὲ μᾶλλον βούλεσθαι παρὰ τούτων λαβεῖν καὶ τὰ περὶ τὴν πόλιν τούτοις διοικεῖν παραδοῦναι. Ἀκούσαντες δὲ ταῦτα εὐθέως τὰ

χρήματα οἱ παρόντες πορίσαντες ὅσα ἐκέλευσεν ἔδωκαν· ὁ δὲ τοῖς ἑτέροις πάλιν ἔδειξεν ἃ εἰληφὼς εἴη παρὰ τῶν ἑτέρων· οἱ δὲ καὶ αὐτοὶ ἔφασαν οὐκ ἐλάττω δώσειν. Λαβὼν δὲ παρ’ ἀμφοτέρων κατήλλαξεν αὐτοὺς πρὸς ἀλλήλους.

Τοῖς τε πολίταις κατιδὼν οὔσας δίκας πολλὰς καὶ μεγάλας, ἐκ πολλοῦ χρόνου ἀδικίας οὔσης διὰ πολέμου, δικαστήριον καθίσας προεῖπεν, ὅσοι ἂν μὴ δικάσωνται χρόνον ὃν προέθηκε, μηκέτι ἔσεσθαι ὑπὲρ τῶν προτέρων ἐγκλημάτων κρίσεις. Τότε δὴ παράβολον πολλῶν δικῶν ‹...› καὶ τὰς ἐκκλήτους μετ’ ἐπιτιμίων ἐφ’ αὑτὸν ποιούμενος καὶ παρ’ ἑκατέρων ἀργύριον δι’ ἑτέρων λαμβάνων, συνήγαγεν οὐκ ὀλίγα χρήματα.

Κλαζομένιοι δ’ ἐν σιτοδείᾳ ὄντες χρημάτων τε ἀποροῦντες ἐψηφίσαντο παρ’ οἷς ἔλαιόν ἐστι τῶν ἰδιωτῶν, δανεῖσαι τῇ πόλει ἐπὶ τόκῳ· γίνεται δὲ πολὺς οὗτος ὁ καρπὸς ἐν τῇ χώρᾳ αὐτῶν. Δανεισάντων δὲ μισθωσάμενοι πλοῖα ἀπέστειλαν εἰς τὰ ἐμπόρια, ὅθεν αὐτοῖς ἧκε σῖτος, ὑποθήκης γενομένης τῆς τοῦ ἐλαίου τιμῆς.

Ὀφείλοντές ‹τε› στρατιώταις μισθὸν εἴκοσι τάλαντα καὶ οὐ δυνάμενοι, τόκον ἔφερον τοῖς ἡγεμόσι τέτταρα τάλαντα τοῦ ἐνιαυτοῦ· ἐπεὶ δὲ τοῦ μὲν ἀρχαίου ἀπέκοπτον οὐθέν, ἀεὶ δὲ μάτην ἐδαπάνων, νόμισμα ἔκοψαν σιδηροῦν εἰς ἀργυρίου λόγον εἴκοσι ταλάντων, εἶτα διδόντες τοῖς εὐπορωτάτοις ἐν τῇ πόλει κατὰ λόγον ἑκάστῳ ἀργύριον παρ’ ἐκείνων ἔλαβον ἴσον. Οἵ τε οὖν ἰδιῶται εἶχον εἰς τὰς καθ’ ἡμέραν χρείας ἀναλίσκειν καὶ ἡ πόλις τοῦ χρέους ἀπηλλάγη. Δεύτερον δὲ ἐκ τῶν προσόδων ἐκείνοις τόν τε τόκον ‹ὃν› κατέφερον ἀεὶ διαιροῦντες ἑκάστῳ πρὸς μέρος διεδίδοσαν, τοὺς δὲ σιδηροῦς ἐκομίζοντο.

Σηλυβριανοὶ δὲ δεηθέντες χρημάτων, νόμου ὄντος αὐτοῖς σίτου μὴ ἐξαγωγὴν ‹εἶναι›, [ἐν] λιμοῦ γενομένου, ἐκείνοις δὲ ὑπάρχοντος σίτου παλαιοῦ, ἐψηφίσαντο τῇ πόλει παραδοῦναι τοὺς ἰδιώτας τὸν σῖτον τῆς τεταγμένης τιμῆς, ὑπολειπόμενον ἕκαστον [1349a] ἐνιαυτοῦ τροφήν· εἶτα ἐξαγωγὴν ἔδωκαν τῷ βουλομένῳ, τάξαντες τιμὴν ἣν ἐδόκει καλῶς ἔχειν αὐτοῖς.

Ἀβυδηνοὶ δέ, διὰ στασιασμὸν τῆς χώρας ἀργοῦ γενομένης καὶ τῶν μετοίκων οὐ προϊεμένων αὐτοῖς οὐδὲν διὰ τὸ καὶ ἔτι ὀφείλειν, ἐψηφίσαντο τὸν βουλόμενον τοῖς γεωργοῖς δανείζειν ὡς ἐργάσωνται, ὡς πρώτοις αὐτοῖς ἐσομένης τῆς κομιδῆς ἐκ τοῦ καρποῦ, τοῖς δὲ ἄλλοις ἐκ τῶν λειπομένων.

Ἐφέσιοι δεηθέντες χρημάτων νόμον ἔθεντο μὴ φορεῖν χρυσὸν τὰς γυναῖκας, ὅσον δὲ νῦν ἔχουσι δανεῖσαι τῇ πόλει· τῶν τε κιόνων τῶν ἐν τῷ

νεῷ τάξαντες ἀργύριον ὃ δεῖ καταβαλεῖν εἴων ἐπιγράφεσθαι τὸ ὄνομα τοῦ δόντος τὸ ἀργύριον ὡς ἀνατεθεικότος.

Διονύσιος Συρακούσιος βουλόμενος χρήματα συναγαγεῖν, ἐκκλησίαν ποιήσας ἔφησεν ἑωρακέναι τὴν Δήμητραν, καὶ κελεύειν τὸν τῶν γυναικῶν κόσμον εἰς τὸ ἱερὸν ἀποκομίζειν· αὐτὸς μὲν οὖν τῶν παρ’ αὐτῷ γυναικῶν τὸν κόσμον τοῦτο πεποιηκέναι, ἠξίου δὲ καὶ τοὺς ἄλλους, μή τι μήνιμα παρὰ τῆς θεοῦ γένηται· τὸν δὲ μὴ τοῦτο ποιήσαντα ἔνοχον ἔφησεν ἱεροσυλίας ἔσεσθαι. Ἀνενεγκάντων δὲ πάντων ἃ εἶχον διά τε τὴν θεὸν καὶ δι’ ἐκεῖνον, θύσας τῇ θεῷ τὸν κόσμον ἀπηνέγκατο ὡς παρὰ τῆς θεοῦ δεδανεισμένος. Προελθόντος δὲ χρόνου καὶ τῶν γυναικῶν πάλιν φορουσῶν, ἐκέλευσε τὴν βουλομένην χρυσοφορεῖν τάγμα τι ἀνατιθέναι ἐν τῷ ἱερῷ.

Τριηρεῖς τε ναυπηγεῖσθαι μέλλων ᾔδει ὅτι δεήσοιτο χρημάτων. Ἐκκλησίαν οὖν συναγαγὼν ἔφη πόλιν αὐτῷ τινα προδίδοσθαι, εἰς ἣν δεῖσθαι χρημάτων, ἠξίου τε αὐτῷ τοὺς πολίτας εἰσενέγκαι δύο στατῆρας ἕκαστον· οἳ δ’ εἰσήνεγκαν. Διαλιπὼν δὲ δύο ἢ τρεῖς ἡμέρας, ὡς διημαρτηκὼς τῆς πράξεως, ἐπαινέσας αὐτοὺς ἀπέδωκεν ἑκάστῳ ὃ εἰσήνεγκαν. Ποιήσας δὲ τοῦτο ἀνεκτήσατο τοὺς πολίτας. Εἶτα πάλιν, οἰόμενοι ἀπολήψεσθαι, εἰσήνεγκαν· ὃ δὲ λαβὼν εἶχεν εἰς τὴν ναυπηγίαν.

Οὐκ εὐπορῶν δὲ ἀργυρίου νόμισμα ἔκοψε καττιτέρου, καὶ συναγαγὼν ἐκκλησίαν πολλὰ τοῦ κεκομμένου νομίσματος ὑπερεῖπεν· οἳ δὲ ἐψηφίσαντο καὶ μὴ βουλόμενοι ἕκαστος ὃ ἂν εἵλετο ἔχειν ὡς ἀργυροῦν ἀλλὰ μὴ καττιτέρινον.

Πάλιν τε [1349b] δεηθεὶς χρημάτων ἠξίου τοὺς πολίτας εἰσενεγκεῖν αὐτῷ· οἳ δ’ οὐκ ἔφασαν ἔχειν. Ἐξενέγκας οὖν τὰ σκεύη τὰ παρ’ αὐτοῦ ἐπώλει, ὡς δὴ δι’ ἀπορίαν τοῦτο ποιῶν· ἀγοραζόντων δὲ Συρακουσίων, ἀπεγράφετο τί ἕκαστος ἀγοράσειεν· ἐπεὶ δὲ τὴν τιμὴν κατέβαλον, ἐκέλευσε τὸ σκεῦος ἀναφέρειν ἕκαστον ὃ ἠγόρασεν.

Τῶν τε πολιτῶν διὰ τὰς εἰσφορὰς οὐ τρεφόντων βοσκήματα, εἶπεν ὅτι ἱκανὰ ἦν αὐτῷ πρὸς τοσοῦτον· τοὺς οὖν νῦν τι κτησαμένους ἀτελεῖς ἔσεσθαι. Πολλῶν δὲ ταχὺ κτησαμένων πολλὰ βοσκήματα ὡς ἀτελῆ ἑξόντων, ἐπεὶ καιρὸν ᾤετο εἶναι, τιμήσασθαι κελεύσας ἐπέβαλε τέλος. Οἱ οὖν πολῖται ἀγανακτήσαντες ἐπὶ τῷ ἐξηπατῆσθαι, σφάζοντες ἐπώλουν. Ὡς δὲ πρὸς τοῦτο ἔταξε σφάζεσθαι ὅσα δεῖ τῆς ἡμέρας, οἳ δὲ πάλιν ἱερόθυτα ἐποίουν· ὃ δὲ ἀπεῖπε θῆλυ μὴ θύειν.

Πάλιν τε δεηθεὶς χρημάτων ἐκέλευσεν ἀπογράψασθαι [χρημάτων] πρὸς αὐτὸν ὅσοι οἶκοί εἰσιν ὀρφανικοί. Ἀπογραψαμένων δὲ ἄλλων τὰ τούτων χρήματα ἀπεχρᾶτο ἕως ἕκαστος εἰς ἡλικίαν ἔλθοι.

Ῥήγιόν τε καταλαβών, ἐκκλησίαν συναγαγὼν εἶπε διότι δικαίως μὲν ἂν ἐξανδραποδισθεῖεν ὑπ’ αὐτοῦ, νῦν μέντοι τὰ εἰς τὸν πόλεμον ἀνηλωμένα χρήματα κομισάμενος καὶ ὑπὲρ ἑκάστου σώματος τρεῖς μνᾶς ἀφήσειν αὐτούς. Οἱ δὲ Ῥηγῖνοι ὅσα ποτ’ ἦν αὐτοῖς ἀποκεκρυμμένα ἐμφανῆ ἐποίουν καὶ οἱ ἄποροι παρὰ τῶν εὐπορωτέρων καὶ παρὰ τῶν ξένων δανειζόμενοι ἐπόρισαν ἃ ἐκέλευσε χρήματα. Λαβὼν δὲ ταῦτα παρ’ αὐτῶν τά τε σώματα πάντα οὐδὲν ἧττον ἀπέδοτο τά τε σκεύη, ἃ τότε ἦν ἀποκεκρυμμένα, ἐμφανῆ ἅπαντα ἔλαβε.

Δανεισάμενός τε παρὰ τῶν πολιτῶν χρήματα ἐπ’ ἀποδόσει, ὡς ἀπῄτουν αὐτόν, ἐκέλευσεν ἀναφέρειν ὅσον ἔχει τις ἀργύριον πρὸς αὐτόν· εἰ δὲ μή, θάνατον ἔταξε τὸ ἐπιτίμιον. Ἀνενεχθέντος δὲ τοῦ ἀργυρίου, ἐπικόψας χαρακτῆρα ἐξέδωκε τὴν δραχμὴν δύο δυναμένην δραχμὰς καὶ τό τε ὀφειλόμενον πρότερον ‹...› ἀνήνεγκαν πρὸς αὐτόν.

Εἰς Τυρρηνίαν τε πλεύσας ναυσὶν ἑκατόν,

ἔλαβεν ἐκ τοῦ τῆς Λευκοθέας ἱεροῦ χρυσίον τε καὶ ἀργύριον πολὺ καὶ τὸν ἄλλον κόσμον οὐκ ὀλίγον. Εἰδὼς δὲ ὅτι καὶ οἱ ναῦται πολλὰ ἔχουσιν, κήρυγμα ἐποιήσατο τὰ ἡμίσεα [1350a] ὧν ἔχει ἕκαστος ἀναφέρειν πρὸς αὐτόν, τὰ δ’ ἡμίσεα ἔχειν τὸν λαβόντα· τῷ δὲ μὴ ἀνενέγκαντι θάνατον ἔταξε τὸ ἐπιτίμιον. Ὑπολαβόντες δὲ οἱ ναῦται ἀνενεγκόντες τὰ ἡμίσεα τὰ κατάλοιπα ἔχειν, ἀδεῶς ἀνήνεγκαν· ὁ δ’ ἐπείπερ ἐκεῖνα ἔλαβεν, ἐκέλευσε πάλιν τὰ ἡμίσεα ἀναφέρειν.

Μενδαῖοι δὲ τὰ μὲν ἀπὸ λιμένων καὶ τῶν ἄλλων τελῶν αὐτοῖς προσπορευόμενα [ἐχρῶντο] εἰς διοίκησιν τῆς πόλεως, τὰ δὲ ἀπὸ τῆς γῆς καὶ οἰκιῶν τέλη οὐκ ἔπραττον, ἀλλ’ ἀνέγραφον τοὺς ἔχοντας· ὁπότε δὲ δεηθεῖεν χρημάτων, ἀπεδίδοσαν ‹ὡς› ὀφείλοντες· ἐκέρδαινον οὖν τὸν παρεληλυθότα χρόνον ἀτόκοις τοῖς χρήμασιν ἀποκεχρημένοι.

Πολεμοῦντες ‹δὲ› πρὸς Ὀλυνθίους καὶ δεόμενοι χρημάτων, ὄντων αὐτοῖς ἀνδραπόδων, ἐψηφίσαντο καταλειπομένου ἑνὶ ἑκάστῳ θήλεος καὶ ἄρρενος τὰ ἄλλα ἀποδόσθαι τῇ πόλει ὡς ἐκδανεῖσαι τοὺς ἰδιώτας χρήματα.†

Καλλίστρατος ‹Ἀθηναῖος›, ἐν Μακεδονίᾳ πωλουμένου τοῦ ἐλλιμενίου ὡς ἐπὶ τὸ πολὺ εἴκοσι ταλάντων, ἐποίησεν εὑρεῖν τὸ διπλάσιον· κατιδὼν γὰρ ὠνουμένους τοὺς εὐπορωτέρους ἀεὶ διὰ τὸ δεῖν ταλαντιαίους καθιστάναι τοὺς ἐγγύους τῶν εἴκοσι ταλάντων, προεκήρυξεν ὠνεῖσθαι τὸν βουλόμενον καὶ τοὺς ἐγγύους καθιστάναι τοῦ τρίτου μέρους καὶ καθ’ ὁπόσον ἕκαστος δύνηται πείθειν. Τιμόθεος Ἀθηναῖος πολεμῶν πρὸς Ὀλυνθίους καὶ ἀπορούμενος ἀργυρίου, κόψας χαλκὸν διεδίδου τοῖς στρατιώταις. Ἀγανακτούντων δὲ τῶν στρατιωτῶν ἔφη αὐτοῖς τοὺς ἐμπόρους τε καὶ ἀγοραίους ἅπαντα ὡσαύτως πωλήσειν. Τοῖς δ’ ἐμπόροις προεῖπεν ὃν ἄν τις λάβῃ χαλκόν, τούτου πάλιν ἀγοράζειν τά τ’ ἐκ τῆς χώρας ὤνια καὶ τὰ ἐκ τῶν λειῶν ἀγόμενα· ὃς δ’ ἂν περιλειφθῇ αὐτοῖς χαλκός, πρὸς αὐτὸν ἀναφέροντας ἀργύριον λαμβάνειν.

Περὶ Κέρκυραν δὲ πολεμῶν καὶ ἀπόρως διακείμενος καὶ τῶν στρατιωτῶν αἰτούντων τοὺς μισθοὺς καὶ ἀπειθούντων αὐτῷ καὶ πρὸς τοὺς ὑπεναντίους φασκόντων ἀποπορεύεσθαι, ἐκκλησίαν συναγαγὼν ἔφησεν οὐ δύνασθαι διὰ τοὺς χειμῶνας παραγενέσθαι αὐτῷ ἀργύριον, ἐπεὶ τοσαύτην εἶναι περὶ αὐτὸν εὐπορίαν, ὥστε τὴν προδεδομένην τριμήνου σιταρχίαν δωρεὰν αὐτοῖς διδόναι· οἳ [1350b] δὲ ὑπολαβόντες οὐκ ἄν ποτε προέσθαι τοσαῦτα χρήματα τὸν Τιμόθεον αὐτοῖς εἰ μὴ τῇ ἀληθείᾳ προσδόκιμα ἦν τὰ χρήματα πρὸς αὐτόν, ἡσυχίαν εἶχον ὑπὲρ τῶν μισθῶν ἕως ἐκεῖνος διῳκήσατο ἃ ἐβούλετο.

Σάμον δὲ πολιορκῶν τοὺς καρποὺς καὶ τὰ ἐπὶ τῶν ἀγρῶν ἀπεδίδοτο αὐτοῖς τοῖς Σαμίοις, ὥστε εὐπόρησε χρημάτων εἰς μισθοὺς τοῖς στρατιώταις.

Τῶν τε ἐπιτηδείων ἐπεὶ σπάνις ἦν ἐν τῷ στρατοπέδῳ διὰ τοὺς εἰσαφικνουμένους, ἀπηγόρευσε μὴ πωλεῖν σῖτον ἀληλεσμένον μηδὲ μέτρον ἔλαττον ἢ μέδιμνον, μηδὲ τῶν ὑγρῶν μηθὲν ἔλαττον ἢ μετρητήν. Οἱ μὲν οὖν ταξίαρχοί τε καὶ λοχαγοὶ ἀγοράζοντες ἀθρόα διεδίδοσαν τοῖς στρατιώταις, οἱ δὲ εἰσαφικνούμενοι ἦγον αὐτοῖς τὰ ἐπιτήδεια· ὁπότε δὲ ἀπαλλάττοιντο, εἴ τι περίλοιπον εἴη αὐτοῖς, ἐπώλουν, ὥστε συνέβαινεν εὐπορεῖσθαι τοὺς στρατιώτας τῶν ἐπιτηδείων.

Δατάμης Πέρσης ἔχων στρατιώτας τὰ μὲν καθ’ ἡμέραν πορίζειν ἐδύνατο ἐκ τῆς πολεμίας αὐτοῖς, νόμισμα δὲ οὐκ ἔχων διδόναι, ἀπαιτούμενος δὲ χρόνου γενομένου οὗ ὤφειλε, τεχνάζει τοιόνδε. Ἐκκλησίαν συναγαγὼν ἔφη οὐκ ἀπορεῖσθαι χρημάτων, ἀλλ’ εἶναι αὐτῷ ἐν χωρίῳ τινί, λέγων ἐν ᾧ εἴη, καὶ ἀναζεύξας ἐβάδιζεν ἐπ’ αὐτό. Εἶτα, ὡς ἐγγὺς τοῦ χωρίου ἐγένετο, προελθὼν εἰς αὐτὸ ἔλαβεν ἐκ τῶν ἐνόντων ἱερῶν ὅσος ἐνῆν κοῖλος ἄργυρος· εἶτ’ ἐπισκευάσας τὰς ἡμιόνους ὡς ἀγούσας ἀργύριον παραφαινούσας τε ταῦτα ἐβάδιζεν. Ἰδόντες δὲ οἱ στρατιῶται καὶ νομίσαντες ἅπαντα εἶναι ἄργυρον τὰ ἀγόμενα, ἐθάρρησαν ὡς κομιούμενοι τὸν μισθόν. Ὁ δὲ ἔφη δεῖν εἰς Ἀμισὸν ἐλθόντας ἐπισημήνασθαι· ἦν δ’ εἰς τὴν Ἀμισὸν ὁδὸς πολλῶν τε ἡμερῶν καὶ χειμέριος. Τὸν δὴ χρόνον τοῦτον ἀπεχρᾶτο τῷ στρατοπέδῳ τὰ ἐπιτήδεια μόνον διδούς.

Τούς ‹τε› τεχνίτας τοὺς ἐν τῷ στρατοπέδῳ αὐτὸς εἶχε καὶ τοὺς καπήλους τοὺς μεταβαλλομένους τι· ἄλλῳ δὲ οὐκ ἦν οὐθενὶ οὐθὲν τούτων ποιεῖν.

Χαβρίας Ἀθηναῖος Ταῷ τῷ Αἰγυπτίων βασιλεῖ ἐκστρατεύοντι καὶ δεομένῳ χρημάτων συνεβούλευε τῶν τε ἱερῶν τινα καὶ τῶν ἱερέων τὸ πλῆθος φάναι πρὸς τοὺς ἱερεῖς δεῖν παραλυθῆναι διὰ τὴν δαπάνην. Ἀκούσαντες δὲ [1351a] οἱ ἱερεῖς καὶ τὸ ἱερὸν παρ’ αὑτοῖς ἕκαστοι βουλόμενοι εἶναι καὶ εἶναι αὐτοὶ ἱερεῖς, ἐδίδοσαν χρήματα. Ἐπεὶ δὲ παρὰ πάντων εἰλήφει, προστάξαι αὐτοῖς ἐκέλευσεν εἰς μὲν τὸ ἱερὸν καὶ εἰς αὑτὸν τῆς δαπάνης ἧς πρότερον ἐποιοῦντο τὸ δέκατον μέρος ποιεῖσθαι, τὰ δὲ λοιπὰ αὑτῷ δανεῖσαι ἕως ‹ὁ› πόλεμος ὁ πρὸς βασιλέα διαλυθῇ. Ἀπ’ οἰκίας δὲ ἑκάστης κελεῦσαι ἅπαντας εἰσενέγκαι τάξαντα ὃ δεῖ, καὶ ἀπὸ τοῦ σώματος ὡσαύτως. Τοῦ ‹δὲ› σίτου τοῦ πωλουμένου χωρὶς τῆς τιμῆς διδόναι τὸν πωλοῦντα καὶ ὠνούμενον ἀπὸ τῆς ἀρτάβης τὸν ὀβολόν. Ἀπό ‹τε› τῶν πλοίων καὶ ἐργαστηρίων καὶ τῶν ἄλλην τινὰ ἐργασίαν παρεχόντων τῆς ἐργασίας μέρος τὸ δέκατον κελεῦσαι ἀποτελεῖν.

Ἐκστρατεύειν δ’ αὐτῷ μέλλοντι ἐκ τῆς χώρας, εἴ τίς τι ἔχει ἄσημον ἀργύριον ἢ χρυσίον, κελεῦσαι ἐνέγκαι πρὸς αὐτόν· ἐνεγκάντων δὲ τῶν πλείστων, ἐκέλευσε τούτῳ μὲν ἐκεῖνον χρᾶσθαι, τοὺς δὲ δανείσαντας συστῆσαι τοῖς νομάρχαις ὥστ’ ἐκ τῶν φόρων αὐτοῖς ἀποδοῦναι.

Ἰφικράτης Ἀθηναῖος, Κότυος συναγαγόντος στρατιώτας, ἐπόρισεν αὐτῷ χρήματα τρόπον τοιοῦτον. Ἐκέλευσε τῶν ἀνθρώπων ὧν ἦρχε προστάξαι κατασπεῖραι αὐτῷ γῆν τριῶν μεδίμνων· τούτου δὲ πραχθέντος συνελέγη σίτου πολὺ πλῆθος. Καταγαγὼν οὖν ἐπὶ τὰ ἐμπόρια ἀπέδοτο καὶ εὐπόρησε χρημάτων.

Κότυς Θρᾷξ παρὰ Περινθίων ἐδανείζετο χρήματα εἰς τοὺς στρατιώτας [συναγαγεῖν], οἱ δὲ Περίνθιοι οὐκ ἐδίδοσαν αὐτῷ. Ἠξίωσεν οὖν αὐτοὺς ἄνδρας γε τῶν πολιτῶν φρουροὺς δοῦναι εἰς χωρία τινά, ἵνα τοῖς ἐκεῖ στρατιώταις νῦν φρουροῦσι σχῇ ἀποχρήσασθαι. Οἱ δὲ τοῦτο ταχέως ἐποίησαν, οἰόμενοι τῶν χωρίων κύριοι ἔσεσθαι. Ὁ δὲ Κότυς τοὺς ἀποσταλέντας εἰς φυλακὴν ποιήσας τὰ χρήματα αὐτοὺς ἐκέλευσεν ἀποσταλέντας, ἃ ἐδανείζετο παρ’ αὐτῶν, κομίσασθαι. Μέντωρ Ῥόδιος Ἑρμείαν συλλαβὼν καὶ τὰ χωρία αὐτοῦ κατασχὼν τοὺς ἐπιμελητὰς εἴασε κατὰ χώραν τοὺς ὑπὸ τοῦ Ἑρμείου καθεστηκότας. Ἐπεὶ δὲ ἐθάρρησάν τε ἅπαντες καί, εἴ τί ποτ’ ἦν αὐτοῖς ἀποκεκρυμμένον ἢ ὑπεκκείμενον, μεθ’ αὑτῶν εἶχον, συλλαβὼν αὐτοὺς πάντα παρείλετο ἃ εἶχον.

[1351b] Μέμνων Ῥόδιος κυριεύσας Λαμψάκου δεηθεὶς χρημάτων ἐπέγραψε τοῖς πλουσιωτάτοις αὐτῶν πλῆθός τι ἀργυρίου, τούτοις δὲ τὴν κομιδὴν ἔσεσθαι παρὰ τῶν ἄλλων πολιτῶν ἔφησεν. Ἐπεὶ δὲ οἱ ἄλλοι πολῖται εἰσήνεγκαν, ἐκέλευσε καὶ ταῦτα αὐτῷ δανεῖσαι [ἐν χρόνῳ] διειπάμενος ἐν ᾧ πάλιν αὐτοῖς ἀποδώσει.

Πάλιν τε δεηθεὶς χρημάτων ἠξίωσεν αὐτοὺς εἰσενέγκαι, κομίσασθαι δὲ ἐκ τῶν προσόδων· οἵ δ’ εἰσήνεγκαν ὡς διὰ ταχέων αὐτοῖς ἐσομένης τῆς κομιδῆς. Ἐπεὶ δὲ καὶ αἱ καταβολαὶ τῶν προσόδων παρῆσαν, ἔφησεν ἐπ’ αὐτῷ χρείαν εἶναι καὶ τούτων, ἐκείνοις δὲ ὕστερον ἀποδώσειν σὺν τόκῳ.

Τῶν τε στρατευομένων παρ’ αὐτῷ παρῃρεῖτο τὰς σιταρχίας καὶ τοὺς μισθοὺς ἓξ ἡμερῶν τὸν ἐνιαυτόν, φάσκων ταύταις ταῖς ἡμέραις οὔτε φυλακὴν αὐτοῖς οὐδεμίαν οὔτε πορείαν οὔτε δαπάνην ποιεῖσθαι, τὰς ἐξαιρεσίμους λέγων.

Τόν τε πρὸ τοῦ χρόνον διδοὺς τοῖς στρατιώταις τῇ δευτέρᾳ τῆς νουμηνίας τὴν σιταρχίαν, τῷ μὲν πρώτῳ μηνὶ παρέβη τρεῖς ἡμέρας, τῷ δ’ ἐχομένῳ πέντε. Τοῦτον δὲ τὸν τρόπον προῆγεν, ἕως εἰς τὴν τριακάδα ἦλθεν.

Χαρίδημος Ὠρείτης ἔχων τῆς Αἰολίδος τινὰ χωρία, ἐπιστρατεύοντος ἐπ’ αὐτὸν Ἀρταβάζου, χρημάτων ἐδεῖτο εἰς τοὺς στρατιώτας. Τὸ μὲν οὖν πρῶτον εἰσέφερον αὐτῷ, εἶτα οὐκέτι ἔφασαν ἔχειν. Ὁ δὲ Χαρίδημος, ὃ ᾤετο χωρίον εὐπορώτατον εἶναι, ἐκέλευσεν [καὶ] εἴ τι νόμισμα ἔχουσιν ἤ τι ἄλλο σκεῦος ἀξιόλογον, εἰς ἕτερον χωρίον ἀποστέλλειν, παραπομπὴν δὲ δώσειν· ἅμα δὲ καὶ αὐτὸς τοῦτο ποιῶν φανερὸς ἦν. Πεισθέντων δὲ τῶν ἀνθρώπων, προαγαγὼν αὐτοὺς τῆς πόλεως μικρὸν καὶ ἐρευνήσας ἃ εἶχον, ἔλαβεν ὅσων ἐδεῖτο, ἐκείνους δὲ πάλιν εἰς τὸ χωρίον ἀπῆγεν.

Κήρυγμά τε ποιησάμενος ἐν ταῖς πόλεσιν ὧν ἦρχε, μηδένα μηδὲν ὅπλον κεκτῆσθαι ἐν τῇ οἰκίᾳ, εἰ δὲ μή, ἀποτείσειν ἀργύριον ὃ ἐπεκήρυξεν, ἠμέλει καὶ οὐδεμίαν ἐπιστροφὴν ἐποιεῖτο. Τῶν δὲ ἀνθρώπων οἰομένων τὸ κήρυγμα μάτην αὐτὸν πεποιῆσθαι, εἶχον ἃ ἔτυχον ἕκαστοι κεκτημένοι κατὰ χώραν. Ὁ δ’ ἔρευναν ἐξαίφνης ποιησάμενος τῶν οἰκιῶν, παρ’ οἷς εὗρεν ὅπλον τι, ἐπράττετο τὸ ἐπιτίμιον.

Φιλόξενός τις Μακεδὼν Καρίας σατραπεύων δεηθεὶς χρημάτων Διονύσια ἔφασκε μέλλειν ἄγειν καὶ χοραγοὺς [1352a] προέγραψε τῶν Καρῶν τοὺς εὐπορωτάτους καὶ προσέταττεν αὐτοῖς ἃ δεῖ παρασκευάζειν. Ὁρῶν δ’ αὐτοὺς δυσχεραίνοντας ὑποπέμπων τινὰς ἠρώτα τί βούλονται δόντες ἀπαλλαγῆναι τῆς λειτουργίας. Οἱ δὲ πολλῷ πλέον ἢ ὅσον ᾤοντο ἀναλώσειν ἔφασαν δώσειν τοῦ μὴ ὀχλεῖσθαι καὶ ἀπὸ τῶν ἰδίων ἀπεῖναι. Ὁ δὲ παρὰ

τούτων λαβὼν ὃ ἐδίδοσαν, ἑτέρους κατέγραψεν, ἕως ἔλαβε παρὰ τοῦτο, ὃ ἠβούλετο, καὶ προσόν. παρ’ ἑκάστης†

Εὐαίσης Σύρος Αἰγύπτου σατραπεύων, ἀφίστασθαι μελλόντων τῶν νομαρχῶν ἀπ’ αὐτοῦ αἰσθόμενος, καλέσας αὐτοὺς εἰς τὰ βασίλεια ἐκρέμασεν ἅπαντας, πρὸς δὲ τοὺς οἰκείους ἐκέλευσε λέγειν ὅτι ἐν φυλακῇ εἰσιν. Ἕκαστος οὖν τῶν οἰκείων ἔπραττον ὑπὲρ ἑκάστου καὶ χρημάτων ἐξεωνοῦντο τοὺς συνειλημμένους. Ὁ δὲ διομολογησάμενος ὑπὲρ ἑκάστου καὶ λαβὼν τὰ ὁμολογηθέντα ἀπέδωκεν ἑκάστοις τὸν νεκρόν.

Κλεομένης Ἀλεξανδρεὺς Αἰγύπτου σατραπεύων, λιμοῦ γενομένου ἐν μὲν τοῖς ἄλλοις τόποις σφόδρα, ἐν Αἰγύπτῳ δὲ μετρίως, ἀπέκλεισε τὴν ἐξαγωγὴν τοῦ σίτου. Τῶν δὲ νομαρχῶν φασκόντων οὐ δυνήσεσθαι τοὺς φόρους ἀποδοῦναι τῷ μὴ ἐξάγεσθαι τὸν σῖτον, ἐξαγωγὴν μὲν ἐποίησε, τέλος δὲ πολὺ τῷ σίτῳ ἐπέβαλεν, ὥστε συνέβαινεν αὐτῷ εἰ μὴ ‹...› ἐξαγομένου ὀλίγου πολὺ τέλος λαμβάνειν, αὐτούς τε [νομάρχας] πεπαῦσθαι τῆς προφάσεως.

Διαπλέοντος δ’ αὐτοῦ τὸν νομόν, οὗ ἐστι θεὸς ὁ κροκόδειλος, ἡρπάσθη τις τῶν παίδων αὐτοῦ. Καλέσας οὖν τοὺς ἱερεῖς ἔφη πρότερος ἀδικηθεὶς ἀμύνεσθαι τοὺς κροκοδείλους, καὶ προσέταξε θηρεύειν αὐτούς. Οἱ δὲ ἱερεῖς, ἵνα μὴ ὁ θεὸς αὐτῶν καταφρονηθῇ, συναγαγόντες ὅσον ἠδύναντο χρυσίον ἔδοσαν αὐτῷ καὶ οὕτως ἐπαύσατο.

Ἀλεξάνδρου ‹τε› τοῦ βασιλέως ἐντειλαμένου αὐτῷ οἰκίσαι πόλιν πρὸς τῇ Φάρῳ καὶ τὸ ἐμπόριον τὸ πρότερον ὂν ἐπὶ τοῦ Κανώβου ἐνταῦθα ποιῆσαι, καταπλεύσας εἰς τὸν Κάνωβον πρὸς τοὺς ἱερεῖς καὶ τοὺς κτήματα ἔχοντας ἐκεῖ ἐπὶ τούτῳ ἥκειν ἔφη ὥστε μετοικίσαι αὐτούς. Οἱ ‹δὲ› ἱερεῖς καὶ οἱ κάτοικοι εἰσενέγκαντες χρήματα ἔδωκαν ἵν’ ἐᾷ κατὰ χώραν αὐτοῖς τὸ ἐμπόριον. Ὁ δὲ λαβὼν τότε μὲν ἀπηλλάγη, εἶτα δὲ καταπλεύσας, ἐπεὶ ἦν εὐτρεπῆ αὐτῷ τὰ πρὸς τὴν οἰκοδομίαν, [1352b] ᾔτει αὐτοὺς χρήματα ὑπερβάλλων τῷ πλήθει· τοῦτο γὰρ αὐτῷ τὸ διάφορον εἶναι, τὸ αὐτοῦ εἶναι τὸ ἐμπόριον καὶ μὴ ἐκεῖ. Ἐπεὶ δ’ οὐκ ἂν ἔφασαν δύνασθαι δοῦναι, μετῴκισεν αὐτούς.

Ἀποστείλας τέ τινα ἐπ’ ἀγοράσματα καὶ αἰσθόμενος ὅτι εὐώνων ἐπιτετύχηκεν, αὐτῷ δὲ μέλλει ἐκτετιμημένα λογίζεσθαι, πρὸς τοὺς συνήθεις τοῦ ἀγοραστοῦ ἔλεγεν ὅτι ἀκηκοὼς εἴη τὰ ἀγοράσματα αὐτὸν ὑπερτίμια ἠγορακέναι· αὐτὸς οὖν [οὐ] προσέξειν· καὶ ἅμα τὴν ἀβελτερίαν αὐτοῦ ἐλοιδόρει μετ’ ὀργῆς προσποιητοῦ. Οἳ δὲ ταῦτα ἀκούοντες οὐκ ἔφασαν δεῖν πιστεύειν αὐτὸν τοῖς λέγουσί τι κατ’ ἐκείνου, ἕως αὐτὸς παραγενόμενος τὸν

λόγον αὐτῷ δῷ. Ἀφικομένου δὲ τοῦ ἀγοραστοῦ ἀπήγγειλαν αὐτῷ τὰ παρὰ τοῦ Κλεομένους· ὃ δ' ἐκείνοις τε βουλόμενος ἐνδείξασθαι καὶ τῷ Κλεομένει, ἀνήνεγκε τὰς τιμὰς ὧνπερ ἦν ἠγορακώς.

Τοῦ τε σίτου πωλουμένου ἐν τῇ χώρᾳ δεκαδράχμου, καλέσας τοὺς ἐργαζομένους ἠρώτησε πῶς βούλονται αὐτῷ ἐργάζεσθαι· οἳ δ' ἔφασαν ἐλάττονος ἢ ὅσου ἂν τοῖς ἐμπόροις ἐπώλουν. Ὁ δ' ἐκείνους μὲν ἐκέλευσεν αὐτῷ παραδιδόναι ὅσουπερ ἐπώλουν τοῖς ἄλλοις, αὐτὸς δὲ τάξας τριάκοντα καὶ δύο δραχμὰς τοῦ σίτου τιμὴν οὕτως ἐπώλει.

Τούς τε ἱερεῖς καλέσας ἔφησε πολὺ τὸ ἀνάλωμα ἐν τῇ χώρᾳ γίνεσθαι εἰς τὰ ἱερά· δεῖν οὖν καὶ τῶν ἱερῶν τινα καὶ τῶν ἱερέων τὸ πλῆθος καταλυθῆναι. Οἱ δὲ ἱερεῖς καὶ ἰδίᾳ ἕκαστος καὶ κοινῇ τὰ ἱερὰ χρήματα ἐδίδοσαν, οἰόμενοί τε αὐτὸν τῇ ἀληθείᾳ τοῦτο ποιεῖν, καὶ ἕκαστος βουλόμενος τό τε ἱερὸν τὸ αὑτοῦ εἶναι κατὰ χώραν καὐτὸς ἱερεύς.

Ἀντιμένης Ῥόδιος ἡμιόλιος, γενομένου Ἀλεξάνδρου περὶ Βαβυλῶνα, ἐπόρισε χρήματα ὧδε. Νόμου ὄντος ἐν Βαβυλωνίᾳ παλαιοῦ δεκάτην εἶναι τῶν εἰσαγομένων, χρωμένου δὲ αὐτῷ οὐθενός, τηρήσας τούς τε σατράπας ἅπαντας προσδοκίμους ὄντας καὶ στρατιώτας οὐκ ὀλίγους [τε] καὶ πρέσβεις καὶ τεχνίτας κλητοὺς ἄλλους τοὺς ἄγοντας†καὶ ἰδίᾳ ἀποδημοῦντας, καὶ δῶρα πολλὰ ἀναγόμενα, τὴν δεκάτην ἔπραττε κατὰ τὸν νόμον τὸν κείμενον.

Πάλιν τε πορίζων τἀνδράποδα τὰ ἐπὶ στρατοπέδῳ ὄντα ἐκέλευσε τὸν βουλόμενον ἀπογράφεσθαι ὁπόσου θέλει, τελεῖν δὲ τοῦ ἐνιαυτοῦ ὀκτὼ δραχμάς ἀποτίσαι, ἂν δὲ ἀποδρᾷ τὸ ἀνδράποδον, κομίζεσθαι τὴν τιμὴν [1353a] ἧς ἀνεγράψατο. Ἀπογραφέντων οὖν πολλῶν ἀνδραπόδων οὐκ ὀλίγον συνετέλει ἀργύριον. Εἰ δέ τι ἀποδραίη ἀνδράποδον, ἐκέλευε τὸν σατράπην τῆς ‹...› ἐν ᾗ ἐστι τὸ στρατόπεδον, ἀνασῴζειν ‹ἢ› τὴν τιμὴν τῷ κυρίῳ ἀποδοῦναι.

Ὀφέλας Ὀλύνθιος καταστήσας ἐπιμελητὴν εἰς τὸν νομὸν τὸν Ἀθριβίτην, ἐπεὶ προσελθόντες αὐτῷ οἱ νομάρχαι οἱ ἐκ τοῦ τόπου τούτου ἔφασαν βούλεσθαι πλείω αὐτοὶ πολὺ φέρειν, τὸν δ' ἐπιμελητὴν τὸν νῦν καθεστηκότα ἀπαλλάξαι αὐτὸν ἠξίουν, ἐπερωτήσας αὐτοὺς εἰ δυνήσονται συντελεῖν ἅπερ ἐπαγγέλλονται, φησάντων αὐτῶν, τὸν μὲν ἐπιμελητὴν κατὰ χώραν εἴα, τοὺς δὲ φόρους πράττεσθαι ἐκέλευεν οὓς αὐτοὶ ὑπετιμήσαντο. Οὔτε οὖν ὃν κατέστησεν ἀτιμάσαι ἐδόκει οὔτ' ἐκείνοις πλείους φόρους ἐπιβαλεῖν ἢ αὐτοὶ ἐτάξαντο, χρήματα δὲ πολλαπλάσια αὐτὸς ἐλάμβανεν.

Πυθοκλῆς Ἀθηναῖος Ἀθηναίοις συνεβούλευσε τὸν μόλυβδον τὸν ἐκ τῶν Λαυρείων παραλαμβάνειν παρὰ τῶν ἰδιωτῶν τὴν πόλιν, ὥσπερ ἐπώλουν, δίδραχμον, εἶτα τάξαντας αὐτοὺς τιμὴν ἑξαδράχμου οὕτω πωλεῖν. Χαβρίας· πληρωμάτων τε κατειλεγμένων εἰς ἑκατὸν καὶ εἴκοσι ναῦς, τῷ δὲ Ταῷ ἑξήκοντα μόνον οὐσῶν χρείας, προστάξαι τοῖς ἐκ τῶν ἑξήκοντα νεῶν αὐτοῦ τῶν ὑπομενουσῶν τοὺς πλέοντας εἰς δίμηνον σιτηρεσιάσαι ἢ αὐτοὺς πλέειν. Οἳ δὲ βουλόμενοι ἐπὶ τῶν ἰδίων εἶναι ἔδωκαν ἃ προσέταξεν. Ἀντιμένης· τούς τε θησαυροὺς τοὺς παρὰ τὰς ὁδοὺς τὰς βασιλικὰς ἀναπληροῦν ἐκέλευε τοὺς σατράπας κατὰ τὸν νόμον τὸν τῆς χώρας· ὁπότε δὲ διαπορεύοιτο στρατόπεδον ἢ ἕτερος ὄχλος ἄνευ τοῦ βασιλέως, πέμψας τινὰ παρ’ αὐτοῦ ἐπώλει τὰ ἐκ τῶν θησαυρῶν.

[1353b] Κλεομένης· προσπορευομένης τε τῆς νουμηνίας καὶ δέον τοῖς στρατιώταις σιταρχίαν δοῦναι, κατέπλευσεν ἐξεπίτηδες· προπορευομένου δὲ τοῦ μηνὸς ἀναπλεύσας διέδωκε τὴν σιταρχίαν, εἶτα τοῦ εἰσιόντος μηνὸς διέλιπεν ἕως τῆς νουμηνίας. Οἱ μὲν οὖν στρατιῶται διὰ τὸ νεωστὶ εἰληφέναι τὴν σιταρχίαν ἡσυχίαν εἶχον, ἐκεῖνος δὲ παραλλάξας ἕνα μῆνα παρὰ τὸν ἐνιαυτὸν ἀφῄρει μισθὸν ἀεὶ μηνός. Σταβέλβιος ὁ Μυσῶν στρατιώταις μισθὸν συγκαλέσας†ἔφησεν αὐτῷ τῶν μὲν ἰδιωτῶν οὐδεμίαν χρείαν εἶναι, τῶν δὲ ἡγεμόνων, ὅταν ‹δὲ› δέηται στρατιωτῶν, ἐκείνων ἑκάστῳ δοὺς ἀργύριον ἀποστέλλειν ἐπὶ ξενολογίαν, τούς τε μισθοὺς οὓς δεῖ ἐκείνοις δοῦναι, τοῖς ἡγεμόσιν ἂν ἥδιον διδόναι· ἐκέλευσεν οὖν αὐτοὺς ἀποστέλλειν ἕκαστον τοὺς αὑτῶν καταλόγους ἐκ τῆς χώρας.

Τῶν δὲ ἡγεμόνων ὑπολαβόντων χρηματισμὸν αὑτοῖς ἔσεσθαι, ἀπέστειλαν τοὺς στρατιώτας, καθάπερ ἐκεῖνος προσέταξε. Διαλιπὼν δὲ ὀλίγον χρόνον καὶ συναγαγὼν αὐτοὺς οὔτε αὐλητὴν ἄνευ χοροῦ οὔτε ἡγεμόνας ἄνευ ἰδιωτῶν οὐδὲν ἔφη χρησίμους εἶναι· ἐκέλευεν οὖν αὐτοὺς ἀπαλλάττεσθαι ἐκ τῆς χώρας.

Διονύσιος· τά ‹τε› ἱερὰ περιπορευόμενος, εἰ μὲν τράπεζαν ἴδοι παρακειμένην χρυσῆν ἢ ἀργυρᾶν, ἀγαθοῦ δαίμονος κελεύσας ἐγχέαι ἐκέλευεν ἀφαιρεῖν· ὅσα δὲ τῶν ἀγαλμάτων φιάλην εἶχε προτετακότα, εἴπας ἂν ὅτι δέχομαι, ἐξαιρεῖν ἐκέλευε, [τὰ ἱμάτια] τά τε χρυσᾶ [καὶ τοὺς στεφάνους] περιῄρει τῶν ἀγαλμάτων φάσκων αὐτὸς καὶ κουφότερα καὶ εὐωδέστερα δοῦναι· εἶτα ἱμάτια μὲν λευκά, στεφάνους δὲ λευκίνους περιετίθει.

Ρητορική και Ποιητική – Rhetoric and Poetics

Ρητορικη (1354a) Rhetoric

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A

[1354a] Ἡ ῥητορική ἐστιν ἀντίστροφος τῇ διαλεκτικῇ· ἀμφότεραι γὰρ περὶ τοιούτων τινῶν εἰσιν ἃ κοινὰ τρόπον τινὰ ἁπάντων ἐστὶ γνωρίζειν καὶ οὐδεμιᾶς ἐπιστήμης ἀφωρισμένης· διὸ καὶ πάντες τρόπον τινὰ μετέχουσιν ἀμφοῖν· πάντες γὰρ μέχρι τινὸς καὶ ἐξετάζειν καὶ ὑπέχειν λόγον καὶ ἀπολογεῖσθαι καὶ κατηγορεῖν ἐγχειροῦσιν. τῶν μὲν οὖν πολλῶν οἱ μὲν εἰκῇ ταῦτα δρῶσιν, οἱ δὲ διὰ συνήθειαν ἀπὸ ἕξεως· ἐπεὶ δ’ ἀμφοτέρως ἐνδέχεται, δῆλον ὅτι εἴη ἂν αὐτὰ καὶ ὁδῷ ποιεῖν· δι’ ὃ γὰρ ἐπιτυγχάνουσιν οἵ τε διὰ συνήθειαν καὶ οἱ ἀπὸ τοῦ αὐτομάτου τὴν αἰτίαν θεωρεῖν ἐνδέχεται, τὸ δὲ τοιοῦτον ἤδη πάντες ἂν ὁμολογήσαιεν τέχνης ἔργον εἶναι. νῦν μὲν οὖν οἱ τὰς τέχνας τῶν λόγων συντιθέντες οὐδὲν ὡς εἰπεῖν πεπορίκασιν αὐτῆς μόριον (αἱ γὰρ πίστεις ἔντεχνόν εἰσι μόνον, τὰ δ’ ἄλλα προσθῆκαι), οἱ δὲ περὶ μὲν ἐνθυμημάτων οὐδὲν λέγουσιν, ὅπερ ἐστὶ σῶμα τῆς πίστεως, περὶ δὲ τῶν ἔξω τοῦ πράγματος τὰ πλεῖστα πραγματεύονται· διαβολὴ γὰρ καὶ ἔλεος καὶ ὀργὴ καὶ τὰ τοιαῦτα πάθη τῆς ψυχῆς οὐ περὶ τοῦ πράγματός ἐστιν, ἀλλὰ πρὸς τὸν δικαστήν· ὥστ’ εἰ περὶ πάσας ἦν τὰς κρίσεις καθάπερ ἐν ἐνίαις γε νῦν ἐστι τῶν πόλεων καὶ μάλιστα ταῖς εὐνομουμέναις, οὐδὲν ἂν εἶχον ὅ τι λέγωσιν· ἅπαντες γὰρ οἱ μὲν οἴονται δεῖν οὕτω τοὺς νόμους ἀγορεύειν, οἱ δὲ καὶ χρῶνται καὶ κωλύουσιν ἔξω τοῦ πράγματος λέγειν, καθάπερ καὶ ἐν Ἀρείῳ πάγῳ, ὀρθῶς τοῦτο νομίζοντες· οὐ γὰρ δεῖ τὸν δικαστὴν διαστρέφειν εἰς ὀργὴν προάγοντας ἢ φθόνον ἢ ἔλεον· ὅμοιον γὰρ κἂν εἴ τις ᾧ μέλλει χρῆσθαι κανόνι, τοῦτον ποιήσειε στρεβλόν. ἔτι δὲ φανερὸν ὅτι τοῦ μὲν ἀμφισβητοῦντος οὐδέν ἐστιν ἔξω τοῦ δεῖξαι τὸ πρᾶγμα ὅτι ἔστιν ἢ οὐκ ἔστιν, ἢ γέγονεν ἢ οὐ γέγονεν· εἰ δὲ μέγα ἢ μικρόν, ἢ δίκαιον ἢ ἄδικον, ὅσα μὴ ὁ νομοθέτης διώρικεν, αὐτὸν δή που τὸν δικαστὴν δεῖ γιγνώσκειν καὶ οὐ μανθάνειν παρὰ τῶν ἀμφισβητούντων.

μάλιστα μὲν οὖν προσήκει τοὺς ὀρθῶς κειμένους νόμους, ὅσα ἐνδέχεται, πάντα διορίζειν αὐτούς, καὶ ὅτι ἐλάχιστα καταλείπειν ἐπὶ τοῖς κρίνουσι, πρῶτον μὲν ὅτι ἕνα λαβεῖν καὶ ὀλίγους ῥᾷον ἢ πολλοὺς [1354b] εὖ φρονοῦντας καὶ δυναμένους νομοθετεῖν καὶ δικάζειν· ἔπειθ’ αἱ μὲν νομοθεσίαι ἐκ πολλοῦ χρόνου σκεψαμένων γίνονται, αἱ δὲ κρίσεις ἐξ ὑπογυίου, ὥστε χαλεπὸν ἀποδιδόναι τὸ δίκαιον καὶ τὸ συμφέρον καλῶς τοὺς κρίνοντας. τὸ δὲ πάντων μέγιστον, ὅτι ἡ μὲν τοῦ νομοθέτου κρίσις οὐ κατὰ μέρος, ἀλλὰ περὶ μελλόντων τε καὶ καθόλου ἐστίν, ὁ δ’ ἐκκλησιαστὴς καὶ δικαστὴς ἤδη περὶ παρόντων καὶ ἀφωρισμένων κρίνουσιν· πρὸς οὓς καὶ τὸ φιλεῖν ἤδη καὶ τὸ μισεῖν καὶ τὸ ἴδιον συμφέρον συνήρτηται πολλάκις, ὥστε μηκέτι δύνασθαι θεωρεῖν ἱκανῶς τὸ ἀληθές, ἀλλ’ ἐπισκοτεῖν τῇ κρίσει τὸ ἴδιον ἡδὺ ἢ λυπηρόν. περὶ μὲν οὖν τῶν ἄλλων, ὥσπερ λέγομεν, δεῖ ὡς ἐλαχίστων ποιεῖν κύριον τὸν κριτήν, περὶ δὲ τοῦ γεγονέναι ἢ μὴ γεγονέναι, ἢ ἔσεσθαι ἢ μὴ ἔσεσθαι, ἢ εἶναι ἢ μὴ εἶναι, ἀνάγκη ἐπὶ τοῖς κριταῖς καταλείπειν· οὐ γὰρ δυνατὸν ταῦτα τὸν νομοθέτην προϊδεῖν. εἰ δὲ ταῦθ’ οὕτως ἔχει, φανερὸν ὅτι τὰ ἔξω τοῦ πράγματος τεχνολογοῦσιν ὅσοι τἆλλα διορίζουσιν, οἷον τί δεῖ τὸ προοίμιον ἢ τὴν διήγησιν ἔχειν, καὶ τῶν ἄλλων ἕκαστον μορίων· οὐδὲν γὰρ ἐν αὐτοῖς ἄλλο πραγματεύονται πλὴν ὅπως τὸν κριτὴν ποιόν τινα ποιήσωσιν, περὶ δὲ τῶν ἐντέχνων πίστεων οὐδὲν δεικνύουσιν, τοῦτο δ’ ἐστὶν ὅθεν ἄν τις γένοιτο ἐνθυμηματικός. διὰ γὰρ τοῦτο τῆς αὐτῆς οὔσης μεθόδου περὶ τὰ δημηγορικὰ καὶ δικανικά, καὶ καλλίονος καὶ πολιτικωτέρας τῆς δημηγορικῆς πραγματείας οὔσης ἢ τῆς περὶ τὰ συναλλάγματα, περὶ μὲν ἐκείνης οὐδὲν λέγουσι, περὶ δὲ τοῦ δικάζεσθαι πάντες πειρῶνται τεχνολογεῖν, ὅτι ἧττόν ἐστι πρὸ ἔργου τὰ ἔξω τοῦ πράγματος λέγειν ἐν τοῖς δημηγορικοῖς καὶ ἧττόν ἐστι κακοῦργον ἡ δημηγορία δικολογίας, ὅτι κοινότερον. ἐνταῦθα μὲν γὰρ ὁ κριτὴς περὶ οἰκείων κρίνει, ὥστ’ οὐδὲν ἄλλο δεῖ πλὴν ἀποδεῖξαι ὅτι οὕτως ἔχει ὥς φησιν ὁ συμβουλεύων· ἐν δὲ τοῖς δικανικοῖς οὐχ ἱκανὸν τοῦτο, ἀλλὰ πρὸ ἔργου ἐστὶν ἀναλαβεῖν τὸν ἀκροατήν· περὶ ἀλλοτρίων γὰρ ἡ κρίσις, ὥστε πρὸς τὸ αὑτῶν σκοπούμενοι καὶ πρὸς χάριν ἀκροώμενοι διδόασι τοῖς ἀμφισβητοῦσιν, [1355a] ἀλλ’ οὐ κρίνουσιν. διὸ καὶ πολλαχοῦ, ὥσπερ πρότερον εἶπον, ὁ νόμος κωλύει λέγειν ἔξω τοῦ πράγματος· ἐκεῖ δ’ αὐτοὶ οἱ κριταὶ τοῦτο τηροῦσιν ἱκανῶς. ἐπεὶ δὲ φανερόν ἐστιν ὅτι ἡ μὲν ἔντεχνος μέθοδος περὶ τὰς πίστεις ἐστίν, ἡ δὲ πίστις ἀπόδειξίς τις (τότε γὰρ πιστεύομεν μάλιστα ὅταν ἀποδεδεῖχθαι ὑπολάβωμεν), ἔστι δ’ ἀπόδειξις ῥητορικὴ ἐνθύμημα, καὶ ἔστι τοῦτο ὡς εἰπεῖν ἁπλῶς κυριώτατον τῶν πίστεων, τὸ δ’ ἐνθύμημα συλλογισμός τις, περὶ δὲ συλλογισμοῦ ὁμοίως ἅπαντος τῆς διαλεκτικῆς ἐστιν ἰδεῖν, ἢ αὐτῆς ὅλης ἢ μέρους τινός, δῆλον ὅτι ὁ μάλιστα τοῦτο δυνάμενος θεωρεῖν, ἐκ τίνων καὶ πῶς γίνεται συλλογισμός, οὗτος καὶ ἐνθυμηματικὸς ἂν εἴη μάλιστα, προσλαβὼν περὶ ποῖά τέ ἐστι τὸ ἐνθύμημα καὶ τίνας ἔχει διαφορὰς πρὸς τοὺς λογικοὺς συλλογισμούς. τό τε γὰρ ἀληθὲς καὶ τὸ ὅμοιον τῷ ἀληθεῖ τῆς αὐτῆς ἐστι δυνάμεως ἰδεῖν, ἅμα δὲ καὶ οἱ ἄνθρωποι πρὸς τὸ ἀληθὲς πεφύκασιν ἱκανῶς καὶ τὰ πλείω τυγχάνουσι τῆς ἀληθείας· διὸ πρὸς τὰ ἔνδοξα στοχαστικῶς ἔχειν τοῦ ὁμοίως ἔχοντος καὶ πρὸς τὴν ἀλήθειάν ἐστιν.

ὅτι μὲν οὖν τὰ ἔξω τοῦ πράγματος οἱ ἄλλοι τεχνολογοῦσι, καὶ διότι μᾶλλον ἀπονενεύκασι πρὸς τὸ δικολογεῖν, φανερόν· χρήσιμος δέ ἐστιν ἡ ῥητορικὴ διά τε τὸ φύσει εἶναι κρείττω τἀληθῆ καὶ τὰ δίκαια τῶν ἐναντίων, ὥστε ἐὰν μὴ κατὰ τὸ προσῆκον αἱ κρίσεις γίγνωνται, ἀνάγκη δι’ αὐτῶν ἡττᾶσθαι, τοῦτο δ’ ἐστὶν ἄξιον ἐπιτιμήσεως, ἔτι δὲ πρὸς ἐνίους οὐδ’ εἰ τὴν ἀκριβεστάτην ἔχοιμεν ἐπιστήμην, ῥᾴδιον ἀπ’ ἐκείνης πεῖσαι λέγοντας· διδασκαλίας γάρ ἐστιν ὁ κατὰ τὴν ἐπιστήμην λόγος, τοῦτο δὲ ἀδύνατον, ἀλλ’ ἀνάγκη διὰ τῶν κοινῶν ποιεῖσθαι τὰς πίστεις καὶ τοὺς λόγους, ὥσπερ καὶ ἐν τοῖς Τοπικοῖς ἐλέγομεν περὶ τῆς πρὸς τοὺς πολλοὺς ἐντεύξεως. ἔτι δὲ τἀναντία δεῖ δύνασθαι πείθειν, καθάπερ καὶ ἐν τοῖς συλλογισμοῖς, οὐχ ὅπως ἀμφότερα πράττωμεν (οὐ γὰρ δεῖ τὰ φαῦλα πείθειν), ἀλλ’ ἵνα μὴ λανθάνῃ πῶς ἔχει, καὶ ὅπως ἄλλου χρωμένου τοῖς λόγοις μὴ δικαίως αὐτοὶ λύειν ἔχωμεν. τῶν μὲν οὖν ἄλλων τεχνῶν οὐδεμία τἀναντία συλλογίζεται, ἡ δὲ διαλεκτικὴ καὶ ἡ ῥητορικὴ μόναι τοῦτο ποιοῦσιν· ὁμοίως γάρ εἰσιν ἀμφότεραι τῶν ἐναντίων. τὰ μέντοι ὑποκείμενα πράγματα οὐχ ὁμοίως ἔχει, ἀλλ’ ἀεὶ τἀληθῆ καὶ τὰ βελτίω τῇ φύσει εὐσυλλογιστότερα καὶ πιθανώτερα ὡς ἁπλῶς εἰπεῖν. πρὸς δὲ τούτοις ἄτοπον εἰ τῷ σώματι μὲν αἰσχρὸν μὴ δύνασθαι [1355b] βοηθεῖν ἑαυτῷ, λόγῳ δ’ οὐκ αἰσχρόν· ὃ μᾶλλον ἴδιόν ἐστιν ἀνθρώπου τῆς τοῦ σώματος χρείας. εἰ δ’ ὅτι μεγάλα βλάψειεν ἂν ὁ χρώμενος ἀδίκως τῇ τοιαύτῃ δυνάμει τῶν λόγων, τοῦτό γε κοινόν ἐστι κατὰ πάντων τῶν ἀγαθῶν πλὴν ἀρετῆς, καὶ μάλιστα κατὰ τῶν χρησιμωτάτων, οἷον ἰσχύος ὑγιείας πλούτου στρατηγίας· τούτοις γὰρ ἄν τις ὠφελήσειεν τὰ μέγιστα χρώμενος δικαίως καὶ βλάψειεν ἀδίκως.

ὅτι μὲν οὖν οὐκ ἔστιν οὐθενός τινος γένους ἀφωρισμένου ἡ ῥητορική, ἀλλὰ καθάπερ ἡ διαλεκτική, καὶ ὅτι χρήσιμος, φανερόν, καὶ ὅτι οὐ τὸ πεῖσαι ἔργον αὐτῆς, ἀλλὰ τὸ ἰδεῖν τὰ ὑπάρχοντα πιθανὰ περὶ ἕκαστον, καθάπερ καὶ ἐν ταῖς ἄλλαις τέχναις πάσαις (οὐδὲ γὰρ ἰατρικῆς τὸ ὑγιᾶ ποιῆσαι, ἀλλὰ μέχρι οὗ ἐνδέχεται, μέχρι τούτου προαγαγεῖν· ἔστιν γὰρ καὶ τοὺς ἀδυνάτους μεταλαβεῖν ὑγιείας ὅμως θεραπεῦσαι καλῶς)· πρὸς δὲ τούτοις ὅτι τῆς αὐτῆς τό τε πιθανὸν καὶ τὸ φαινόμενον ἰδεῖν πιθανόν, ὥσπερ καὶ ἐπὶ τῆς διαλεκτικῆς συλλογισμόν τε καὶ φαινόμενον συλλογισμόν· ἡ γὰρ σοφιστικὴ οὐκ ἐν τῇ δυνάμει ἀλλ’ ἐν τῇ προαιρέσει· πλὴν ἐνταῦθα μὲν ἔσται ὁ μὲν κατὰ τὴν ἐπιστήμην ὁ δὲ κατὰ τὴν προαίρεσιν ῥήτωρ, ἐκεῖ δὲ σοφιστὴς μὲν κατὰ τὴν προαίρεσιν, διαλεκτικὸς δὲ οὐ κατὰ τὴν προαίρεσιν ἀλλὰ κατὰ τὴν δύναμιν.

περὶ δὲ αὐτῆς ἤδη τῆς μεθόδου πειρώμεθα λέγειν, πῶς τε καὶ ἐκ τίνων δυνησόμεθα τυγχάνειν τῶν προκειμένων. πάλιν οὖν οἷον ἐξ ὑπαρχῆς ὁρισάμενοι αὐτὴν τίς ἐστι, λέγωμεν τὰ λοιπά.

Ἔστω δὴ ἡ ῥητορικὴ δύναμις περὶ ἕκαστον τοῦ θεωρῆσαι τὸ ἐνδεχόμενον πιθανόν. τοῦτο γὰρ οὐδεμιᾶς ἑτέρας ἐστὶ τέχνης ἔργον· τῶν γὰρ ἄλλων ἑκάστη περὶ τὸ αὑτῇ ὑποκείμενόν ἐστιν διδασκαλικὴ καὶ πειστική, οἷον ἰατρικὴ περὶ ὑγιεινῶν καὶ νοσερῶν, καὶ γεωμετρία περὶ τὰ συμβεβηκότα πάθη τοῖς μεγέθεσι, καὶ ἀριθμητικὴ περὶ ἀριθμῶν, ὁμοίως δὲ καὶ αἱ λοιπαὶ τῶν τεχνῶν καὶ ἐπιστημῶν· ἡ δὲ ῥητορικὴ περὶ τοῦ δοθέντος ὡς εἰπεῖν δοκεῖ δύνασθαι θεωρεῖν τὸ πιθανόν, διὸ καί φαμεν αὐτὴν οὐ περί τι γένος ἴδιον ἀφωρισμένον ἔχειν τὸ τεχνικόν.

τῶν δὲ πίστεων αἱ μὲν ἄτεχνοί εἰσιν αἱ δ’ ἔντεχνοι. ἄτεχνα δὲ λέγω ὅσα μὴ δι’ ἡμῶν πεπόρισται ἀλλὰ προϋπῆρχεν, οἷον μάρτυρες βάσανοι συγγραφαὶ καὶ ὅσα τοιαῦτα, ἔντεχνα δὲ ὅσα διὰ τῆς μεθόδου καὶ δι’ ἡμῶν κατασκευασθῆναι δυνατόν, ὥστε δεῖ τούτων τοῖς μὲν χρήσασθαι, τὰ δὲ εὑρεῖν.

[1356a] τῶν δὲ διὰ τοῦ λόγου ποριζομένων πίστεων τρία εἴδη ἔστιν· αἱ μὲν γάρ εἰσιν ἐν τῷ ἤθει τοῦ λέγοντος, αἱ δὲ ἐν τῷ τὸν ἀκροατὴν διαθεῖναί πως, αἱ δὲ ἐν αὐτῷ τῷ λόγῳ διὰ τοῦ δεικνύναι ἢ φαίνεσθαι δεικνύναι. διὰ μὲν οὖν τοῦ ἤθους, ὅταν οὕτω λεχθῇ ὁ λόγος ὥστε ἀξιόπιστον ποιῆσαι τὸν λέγοντα· τοῖς γὰρ ἐπιεικέσι πιστεύομεν μᾶλλον καὶ θᾶττον, περὶ πάντων μὲν ἁπλῶς, ἐν οἷς δὲ τὸ ἀκριβὲς μὴ ἔστιν ἀλλὰ τὸ ἀμφιδοξεῖν, καὶ παντελῶς. δεῖ δὲ καὶ τοῦτο συμβαίνειν διὰ τοῦ λόγου, ἀλλὰ μὴ διὰ τοῦ προδεδοξάσθαι ποιόν τινα εἶναι τὸν λέγοντα· οὐ γάρ, ὥσπερ ἔνιοι τῶν τεχνολογούντων, ‹οὐ› τίθεμεν ἐν τῇ τέχνῃ καὶ τὴν ἐπιείκειαν τοῦ λέγοντος, ὡς οὐδὲν συμβαλλομένην πρὸς τὸ πιθανόν, ἀλλὰ σχεδὸν ὡς εἰπεῖν κυριωτάτην ἔχει πίστιν τὸ ἦθος.

διὰ δὲ τῶν ἀκροατῶν, ὅταν εἰς πάθος ὑπὸ τοῦ λόγου προαχθῶσιν· οὐ γὰρ ὁμοίως ἀποδίδομεν τὰς κρίσεις λυπούμενοι καὶ χαίροντες, ἢ φιλοῦντες καὶ μισοῦντες· πρὸς ὃ καὶ μόνον πειρᾶσθαί φαμεν πραγματεύεσθαι τοὺς νῦν τεχνολογοῦντας. περὶ μὲν οὖν τούτων δηλωθήσεται καθ’ ἕκαστον, ὅταν περὶ τῶν παθῶν λέγωμεν, διὰ δὲ τοῦ λόγου πιστεύουσιν, ὅταν ἀληθὲς ἢ φαινόμενον δείξωμεν ἐκ τῶν περὶ ἕκαστα πιθανῶν.

ἐπεὶ δ’ αἱ πίστεις διὰ τούτων εἰσί, φανερὸν ὅτι ταύτας ἐστὶ λαβεῖν τοῦ συλλογίσασθαι δυναμένου καὶ τοῦ θεωρῆσαι περὶ τὰ ἤθη καὶ περὶ τὰς ἀρετὰς καὶ τρίτον [τοῦ] περὶ τὰ πάθη, τί τε ἕκαστόν ἐστιν τῶν παθῶν καὶ ποῖόν τι, καὶ ἐκ τίνων ἐγγίνεται καὶ πῶς, ὥστε συμβαίνει τὴν ῥητορικὴν οἷον παραφυές τι τῆς διαλεκτικῆς εἶναι καὶ τῆς περὶ τὰ ἤθη πραγματείας, ἣν δίκαιόν ἐστι προσαγορεύειν πολιτικήν. διὸ καὶ ὑποδύεται ὑπὸ τὸ σχῆμα τὸ τῆς πολιτικῆς ἡ ῥητορικὴ καὶ οἱ ἀντιποιούμενοι ταύτης τὰ μὲν δι’ ἀπαιδευσίαν, τὰ δὲ δι’ ἀλαζονείαν, τὰ δὲ καὶ δι’ ἄλλας αἰτίας ἀνθρωπικάς· ἔστι γὰρ μόριόν τι τῆς διαλεκτικῆς καὶ ὁμοίωμα, καθάπερ καὶ ἀρχόμενοι εἴπομεν· περὶ οὐδενὸς γὰρ ὡρισμένου οὐδετέρα αὐτῶν ἐστιν ἐπιστήμη πῶς ἔχει, ἀλλὰ δυνάμεις τινὲς τοῦ πορίσαι λόγους.

περὶ μὲν οὖν τῆς δυνάμεως αὐτῶν, καὶ πῶς ἔχουσι πρὸς ἀλλήλας, εἴρηται σχεδὸν ἱκανῶς· τῶν δὲ διὰ τοῦ δεικνύναι ἢ φαίνεσθαι δεικνύναι, καθάπερ καὶ ἐν τοῖς διαλεκτικοῖς [1356b] τὸ μὲν ἐπαγωγή ἐστιν, τὸ δὲ συλλογισμός, τὸ δὲ φαινόμενος συλλογισμός, καὶ ἐνταῦθα ὁμοίως· ἔστιν γὰρ τὸ μὲν παράδειγμα ἐπαγωγή, τὸ δ’ ἐνθύμημα συλλογισμός, τὸ δὲ φαινόμενον ἐνθύμημα φαινόμενος συλλογισμός. καλῶ δ’ ἐνθύμημα μὲν ῥητορικὸν συλλογισμόν, παράδειγμα δὲ ἐπαγωγὴν ῥητορικήν. πάντες δὲ τὰς πίστεις ποιοῦνται διὰ τοῦ δεικνύναι ἢ παραδείγματα λέγοντες ἢ ἐνθυμήματα, καὶ παρὰ ταῦτα οὐδέν· ὥστ’ εἴπερ καὶ ὅλως ἀνάγκη ἢ συλλογιζόμενον ἢ ἐπάγοντα δεικνύναι ὁτιοῦν [ἢ ὁντινοῦν] (δῆλον δ’ ἡμῖν τοῦτο ἐκ τῶν Ἀναλυτικῶν), ἀναγκαῖον ἑκάτερον αὐτῶν ἑκατέρῳ τούτων τὸ αὐτὸ εἶναι.

τίς δ’ ἐστὶν διαφορὰ παραδείγματος καὶ ἐνθυμήματος, φανερὸν ἐκ τῶν Τοπικῶν (ἐκεῖ γὰρ περὶ συλλογισμοῦ καὶ ἐπαγωγῆς εἴρηται πρότερον), ὅτι τὸ μὲν ἐπὶ πολλῶν καὶ ὁμοίων δείκνυσθαι ὅτι οὕτως ἔχει ἐκεῖ μὲν ἐπαγωγή ἐστιν ἐνταῦθα δὲ παράδειγμα, τὸ δὲ τινῶν ὄντων ἕτερόν τι διὰ ταῦτα συμβαίνειν παρὰ ταῦτα τῷ ταῦτα εἶναι ἢ καθόλου ἢ ὡς ἐπὶ τὸ πολὺ ἐκεῖ μὲν συλλογισμὸς ἐνταῦθα δὲ ἐνθύμημα καλεῖται. φανερὸν δὲ καὶ ὅτι ἑκάτερον ἔχει ἀγαθὸν τὸ εἶδος τῆς ῥητορείας· καθάπερ γὰρ καὶ ἐν τοῖς μεθοδικοῖς εἴρηται, καὶ ἐν τούτοις ὁμοίως ἔχει· εἰσὶν γὰρ αἱ μὲν παραδειγματώδεις ῥητορεῖαι αἱ δὲ ἐνθυμηματικαί, καὶ ῥήτορες ὁμοίως οἱ μὲν παραδειγματώδεις οἱ δὲ ἐνθυμηματικοί. πιθανοὶ μὲν οὖν οὐχ ἧττον οἱ λόγοι οἱ διὰ τῶν παραδειγμάτων, θορυβοῦνται δὲ μᾶλλον οἱ ἐνθυμηματικοί· τὴν δ’ αἰτίαν [αὐτῶν], καὶ πῶς ἑκατέρῳ χρηστέον, ἐροῦμεν ὕστερον· νῦν δὲ περὶ αὐτῶν τούτων μᾶλλον διορίσωμεν καθαρῶς.

ἐπεὶ γὰρ τὸ πιθανὸν τινὶ πιθανόν ἐστι, καὶ τὸ μὲν εὐθὺς ὑπάρχει δι’ αὑτὸ πιθανὸν καὶ πιστὸν τὸ δὲ τῷ δείκνυσθαι δοκεῖν διὰ τοιούτων, οὐδεμία δὲ τέχνη σκοπεῖ τὸ καθ’ ἕκαστον, οἷον ἡ ἰατρικὴ τί Σωκράτει τὸ ὑγιεινόν ἐστιν ἢ Καλλίᾳ, ἀλλὰ τί τῷ τοιῷδε ἢ τοῖς τοιοῖσδε (τοῦτο γὰρ ἔντεχνον, τὸ δὲ καθ’ ἕκαστον ἄπειρον καὶ οὐκ ἐπιστητόν), οὐδὲ ἡ ῥητορικὴ τὸ καθ’ ἕκαστον ἔνδοξον θεωρήσει, οἷον Σωκράτει ἢ Ἱππίᾳ, ἀλλὰ τὸ τοιοισδί, καθάπερ καὶ ἡ διαλεκτική. καὶ γὰρ ἐκείνη συλλογίζεται οὐκ ἐξ ὧν ἔτυχεν (φαίνεται γὰρ ἄττα καὶ τοῖς παραληροῦσιν), ἀλλ’ ἐκείνη μὲν ἐκ τῶν λόγου δεομένων, ἡ δὲ ῥητορικὴ ἐκ [1357a] τῶν ἤδη βουλεύεσθαι εἰωθότων. ἔστιν δὲ τὸ ἔργον αὐτῆς περί τε τοιούτων περὶ ὧν βουλευόμεθα καὶ τέχνας μὴ ἔχομεν, καὶ ἐν τοῖς τοιούτοις ἀκροαταῖς οἳ οὐ δύνανται διὰ πολλῶν συνορᾶν οὐδὲ λογίζεσθαι πόρρωθεν. βουλευόμεθα δὲ περὶ τῶν φαινομένων ἐνδέχεσθαι ἀμφοτέρως ἔχειν· περὶ γὰρ τῶν ἀδυνάτων ἄλλως ἢ γενέσθαι ἢ ἔσεσθαι ἢ ἔχειν οὐδεὶς βουλεύεται οὕτως ὑπολαμβάνων· οὐδὲν γὰρ πλέον.

ἐνδέχεται δὲ συλλογίζεσθαι καὶ συνάγειν τὰ μὲν ἐκ συλλελογισμένων πρότερον, τὰ δ’ ἐξ ἀσυλλογίστων μέν, δεομένων δὲ συλλογισμοῦ διὰ τὸ μὴ εἶναι ἔνδοξα, ἀνάγκη δὲ τούτων τὸ μὲν μὴ εἶναι εὐεπακολούθητον διὰ τὸ μῆκος (ὁ γὰρ κριτὴς ὑπόκειται εἶναι ἁπλοῦς), τὰ δὲ μὴ πιθανὰ διὰ τὸ μὴ ἐξ ὁμολογουμένων εἶναι μηδ’ ἐνδόξων, ὥστ’ ἀναγκαῖον τό τε ἐνθύμημα εἶναι καὶ τὸ παράδειγμα περί τε τῶν ἐνδεχομένων ὡς τὰ πολλὰ ἔχειν ἄλλως, τὸ μὲν παράδειγμα ἐπαγωγὴν τὸ δ’ ἐνθύμημα συλλογισμόν, καὶ ἐξ ὀλίγων τε καὶ πολλάκις ἐλαττόνων ἢ ἐξ ὧν ὁ πρῶτος συλλογισμός· ἐὰν γὰρ ᾖ τι τούτων γνώριμον, οὐδὲ δεῖ λέγειν· αὐτὸς γὰρ τοῦτο προστίθησιν ὁ ἀκροατής, οἷον ὅτι Δωριεὺς στεφανίτην ἀγῶνα νενίκηκεν· ἱκανὸν γὰρ εἰπεῖν ὅτι Ὀλύμπια νενίκηκεν, τὸ δ’ ὅτι στεφανίτης τὰ Ὀλύμπια οὐδὲ δεῖ προσθεῖναι· γιγνώσκουσι γὰρ πάντες.

ἐπεὶ δ’ ἐστὶν ὀλίγα μὲν τῶν ἀναγκαίων ἐξ ὧν οἱ ῥητορικοὶ συλλογισμοί εἰσι (τὰ γὰρ πολλὰ περὶ ὧν αἱ κρίσεις καὶ αἱ σκέψεις ἐνδέχεται καὶ ἄλλως ἔχειν· περὶ ὧν μὲν γὰρ πράττουσι βουλεύονται καὶ σκοποῦσι, τὰ δὲ πραττόμενα πάντα τοιούτου γένους ἐστί, καὶ οὐδὲν ὡς ἔπος εἰπεῖν ἐξ ἀνάγκης τούτων, τὰ δ’ ὡς ἐπὶ τὸ πολὺ συμβαίνοντα καὶ ἐνδεχόμενα ἐκ τοιούτων ἀνάγκη ἑτέρων συλλογίζεσθαι, τὰ δ’ ἀναγκαῖα ἐξ ἀναγκαίων· δῆλον δ’ ἡμῖν καὶ τοῦτο ἐκ τῶν Ἀναλυτικῶν), φανερὸν ὅτι ἐξ ὧν τὰ ἐνθυμήματα λέγεται, τὰ μὲν ἀναγκαῖα ἔσται, τὰ δὲ πλεῖστα ὡς ἐπὶ τὸ πολύ, τὰ δ’ ἐνθυμήματα ἐξ εἰκότων καὶ ἐκ σημείων, ὥστε ἀνάγκη τούτων ἑκάτερον ἑκατέρῳ ταὐτὸ εἶναι.

τὸ μὲν γὰρ εἰκός ἐστι τὸ ὡς ἐπὶ τὸ πολὺ γινόμενον, οὐχ ἁπλῶς δὲ καθάπερ ὁρίζονταί τινες, ἀλλὰ τὸ περὶ τὰ ἐνδεχόμενα ἄλλως ἔχειν, οὕτως ἔχον πρὸς ἐκεῖνο πρὸς ὃ εἰκὸς [1357b] ὡς τὸ καθόλου πρὸς τὸ κατὰ μέρος· τῶν δὲ σημείων τὸ μὲν οὕτως ἔχει ὡς τῶν καθ’ ἕκαστόν τι πρὸς τὸ καθόλου, τὸ δὲ ὡς τῶν καθόλου τι πρὸς τὸ κατὰ μέρος. τούτων δὲ τὸ μὲν ἀναγκαῖον

τεκμήριον, τὸ δὲ μὴ ἀναγκαῖον ἀνώνυμόν ἐστι κατὰ τὴν διαφοράν. ἀναγκαῖα μὲν οὖν λέγω ἐξ ὧν γίνεται συλλογισμός· διὸ καὶ τεκμήριον τὸ τοιοῦτον τῶν σημείων ἐστίν· ὅταν γὰρ μὴ ἐνδέχεσθαι οἴωνται λῦσαι τὸ λεχθέν, τότε φέρειν οἴονται τεκμήριον ὡς δεδειγμένον καὶ πεπερασμένον· τὸ γὰρ τέκμαρ καὶ πέρας ταὐτόν ἐστι κατὰ τὴν ἀρχαίαν γλῶτταν. ἔστιν δὲ τῶν σημείων τὸ μὲν ὡς τὸ καθ’ ἕκαστον πρὸς τὸ καθόλου ὧδε, οἷον εἴ τις εἴπειεν σημεῖον εἶναι ὅτι οἱ σοφοὶ δίκαιοι, Σωκράτης γὰρ σοφὸς ἦν καὶ δίκαιος. τοῦτο μὲν οὖν σημεῖον, λυτὸν δέ, κἂν ἀληθὲς ᾖ τὸ εἰρημένον (ἀσυλλόγιστον γάρ), τὸ δέ, οἷον εἴ τις εἴπειεν σημεῖον ὅτι νοσεῖ, πυρέττει γάρ, ἢ τέτοκεν, ὅτι γάλα ἔχει, ἀναγκαῖον. ὅπερ τῶν σημείων τεκμήριον μόνον ἐστίν· μόνον γάρ, ἂν ἀληθὲς ᾖ, ἄλυτόν ἐστιν. τὸ δὲ ὡς τὸ καθόλου πρὸς τὸ κατὰ μέρος ἔχον, οἷον εἴ τις εἴπειεν ὅτι πυρέττει σημεῖον εἶναι, πυκνὸν γὰρ ἀναπνεῖ. λυτὸν δὲ καὶ τοῦτο, κἂν ἀληθὲς ᾖ· ἐνδέχεται γὰρ καὶ μὴ πυρέττοντα πνευστιᾶν.

τί μὲν οὖν εἰκός ἐστι καὶ τί σημεῖον καὶ τεκμήριον, καὶ τί διαφέρουσιν, εἴρηται μὲν καὶ νῦν, μᾶλλον δὲ φανερῶς καὶ περὶ τούτων, καὶ διὰ τίν’ αἰτίαν τὰ μὲν ἀσυλλόγιστά ἐστι τὰ δὲ συλλελογισμένα, ἐν τοῖς Ἀναλυτικοῖς διώρισται περὶ αὐτῶν.

παράδειγμα δὲ ὅτι μέν ἐστιν ἐπαγωγὴ καὶ περὶ ποῖα ἐπαγωγή, εἴρηται· ἔστι δὲ οὔτε ὡς μέρος πρὸς ὅλον οὔθ’ ὡς ὅλον πρὸς μέρος οὔθ’ ὡς ὅλον πρὸς ὅλον, ἀλλ’ ὡς μέρος πρὸς μέρος, ὅμοιον πρὸς ὅμοιον - ὅταν ἄμφω μὲν ᾖ ὑπὸ τὸ αὐτὸ γένος, γνωριμώτερον δὲ θάτερον ᾖ θατέρου, παράδειγμά ἐστιν· οἷον ὅτι ἐπεβούλευε τυραννίδι Διονύσιος αἰτῶν τὴν φυλακήν· καὶ γὰρ Πεισίστρατος πρότερον ἐπιβουλεύων ᾔτει φυλακὴν καὶ λαβὼν ἐτυράννησε, καὶ Θεαγένης ἐν Μεγάροις· καὶ ἄλλοι ὅσους ἴσασι, παράδειγμα πάντες γίγνονται τοῦ Διονυσίου, ὃν οὐκ ἴσασίν πω εἰ διὰ τοῦτο αἰτεῖ. πάντα δὲ ταῦτα ὑπὸ τὸ αὐτὸ καθόλου, ὅτι ὁ ἐπιβουλεύων τυραννίδι φυλακὴν αἰτεῖ.

[1358a] ἐξ ὧν μὲν οὖν λέγονται αἱ δοκοῦσαι εἶναι πίστεις ἀποδεικτικαί, εἴρηται. τῶν δὲ ἐνθυμημάτων μεγίστη διαφορὰ καὶ μάλιστα λεληθυῖα σχεδὸν παρὰ πᾶσίν ἐστιν ἥπερ καὶ περὶ τὴν διαλεκτικὴν μέθοδον τῶν συλλογισμῶν· τὰ μὲν γὰρ αὐτῶν ἐστι κατὰ τὴν ῥητορικὴν ὥσπερ καὶ κατὰ τὴν διαλεκτικὴν μέθοδον τῶν συλλογισμῶν, τὰ δὲ κατ’ ἄλλας τέχνας καὶ δυνάμεις, τὰς μὲν οὔσας τὰς δ’ οὔπω κατειλημμένας· διὸ καὶ λανθάνουσίν τε τοὺς ἀκροατὰς καὶ [μᾶλλον] ἁπτόμενοι κατὰ τρόπον μεταβαίνουσιν ἐξ αὐτῶν. μᾶλλον δὲ σαφὲς ἔσται τὸ λεγόμενον διὰ πλειόνων ῥηθέν. λέγω γὰρ διαλεκτικούς τε καὶ ῥητορικοὺς συλλογισμοὺς εἶναι περὶ ὧν τοὺς τόπους λέγομεν· οὗτοι δ’ εἰσὶν οἱ κοινοὶ περὶ δικαίων καὶ φυσικῶν καὶ περὶ πολιτικῶν καὶ περὶ πολλῶν

διαφερόντων εἴδει, οἷον ὁ τοῦ μᾶλλον καὶ ἧττον τόπος· οὐδὲν γὰρ μᾶλλον ἔσται ἐκ τούτου συλλογίσασθαι ἢ ἐνθύμημα εἰπεῖν περὶ δικαίων ἢ περὶ φυσικῶν ἢ περὶ ὁτουοῦν· καίτοι ταῦτα εἴδει διαφέρει. ἴδια δὲ ὅσα ἐκ τῶν περὶ ἕκαστον εἶδος καὶ γένος προτάσεών ἐστιν, οἷον περὶ φυσικῶν εἰσι προτάσεις ἐξ ὧν οὔτε ἐνθύμημα οὔτε συλλογισμὸς ἔστι περὶ τῶν ἠθικῶν, καὶ περὶ τούτων ἄλλαι ἐξ ὧν οὐκ ἔσται περὶ τῶν φυσικῶν· ὁμοίως δὲ τοῦτ’ ἔχει ἐπὶ πάντων. κἀκεῖνα μὲν οὐ ποιήσει περὶ οὐδὲν γένος ἔμφρονα· περὶ οὐδὲν γὰρ ὑποκείμενόν ἐστιν· ταῦτα δὲ ὅσῳ τις ἂν βέλτιον ἐκλέγηται [τὰς προτάσεις], λήσει ποιήσας ἄλλην ἐπιστήμην τῆς διαλεκτικῆς καὶ ῥητορικῆς· ἂν γὰρ ἐντύχῃ ἀρχαῖς, οὐκέτι διαλεκτικὴ οὐδὲ ῥητορικὴ ἀλλ’ ἐκείνη ἔσται ἧς ἔχει τὰς ἀρχάς. ἔστι δὲ τὰ πλεῖστα τῶν ἐνθυμημάτων ἐκ τούτων τῶν εἰδῶν λεγόμενα, τῶν κατὰ μέρος καὶ ἰδίων, ἐκ δὲ τῶν κοινῶν ἐλάττω. καθάπερ οὖν καὶ ἐν τοῖς Τοπικοῖς, καὶ ἐνταῦθα διαιρετέον τῶν ἐνθυμημάτων τά τε εἴδη καὶ τοὺς τόπους ἐξ ὧν ληπτέον. λέγω δ’ εἴδη μὲν τὰς καθ’ ἕκαστον γένος ἰδίας προτάσεις, τόπους δὲ τοὺς κοινοὺς ὁμοίως πάντων. πρότερον οὖν εἴπωμεν περὶ τῶν εἰδῶν· πρῶτον δὲ λάβωμεν τὰ γένη τῆς ῥητορικῆς, ὅπως διελόμενοι πόσα ἐστίν, περὶ τούτων χωρὶς λαμβάνωμεν τὰ στοιχεῖα καὶ τὰς προτάσεις.

Ἔστιν δὲ τῆς ῥητορικῆς εἴδη τρία τὸν ἀριθμόν· τοσοῦτοι γὰρ καὶ οἱ ἀκροαταὶ τῶν λόγων ὑπάρχουσιν ὄντες. σύγκειται μὲν γὰρ ἐκ τριῶν ὁ λόγος, ἔκ τε τοῦ λέγοντος καὶ [1358b] περὶ οὗ λέγει καὶ πρὸς ὅν, καὶ τὸ τέλος πρὸς τοῦτόν ἐστιν, λέγω δὲ τὸν ἀκροατήν. ἀνάγκη δὲ τὸν ἀκροατὴν ἢ θεωρὸν εἶναι ἢ κριτήν, κριτὴν δὲ ἢ τῶν γεγενημένων ἢ τῶν μελλόντων. ἔστιν δ’ ὁ μὲν περὶ τῶν μελλόντων κρίνων ὁ ἐκκλησιαστής, ὁ δὲ περὶ τῶν γεγενημένων [οἷον] ὁ δικαστής, ὁ δὲ περὶ τῆς δυνάμεως ὁ θεωρός, ὥστ’ ἐξ ἀνάγκης ἂν εἴη τρία γένη τῶν λόγων τῶν ῥητορικῶν, συμβουλευτικόν, δικανικόν, ἐπιδεικτικόν.

συμβουλῆς δὲ τὸ μὲν προτροπή, τὸ δὲ ἀποτροπή· ἀεὶ γὰρ καὶ οἱ ἰδίᾳ συμβουλεύοντες καὶ οἱ κοινῇ δημηγοροῦντες τούτων θάτερον ποιοῦσιν. δίκης δὲ τὸ μὲν κατηγορία, τὸ δ’ ἀπολογία· τούτων γὰρ ὁποτερονοῦν ποιεῖν ἀνάγκη τοὺς ἀμφισβητοῦντας. ἐπιδεικτικοῦ δὲ τὸ μὲν ἔπαινος τὸ δὲ ψόγος. χρόνοι δὲ ἑκάστου τούτων εἰσὶ τῷ μὲν συμβουλεύοντι ὁ μέλλων (περὶ γὰρ τῶν ἐσομένων συμβουλεύει ἢ προτρέπων ἢ ἀποτρέπων), τῷ δὲ δικαζομένῳ ὁ γενόμενος (περὶ γὰρ τῶν πεπραγμένων ἀεὶ ὁ μὲν κατηγορεῖ, ὁ δὲ ἀπολογεῖται), τῷ δ’ ἐπιδεικτικῷ κυριώτατος μὲν ὁ παρών (κατὰ γὰρ τὰ ὑπάρχοντα ἐπαινοῦσιν ἢ ψέγουσιν πάντες), προσχρῶνται δὲ πολλάκις καὶ τὰ γενόμενα ἀναμιμνήσκοντες καὶ τὰ μέλλοντα προεικάζοντες. τέλος δὲ ἑκάστοις τούτων ἕτερόν ἐστι, καὶ τρισὶν οὖσι τρία, τῷ μὲν συμβουλεύοντι τὸ συμφέρον καὶ βλαβερόν· ὁ μὲν γὰρ προτρέπων ὡς βέλτιον συμβουλεύει, ὁ δὲ ἀποτρέπων ὡς χείρονος ἀποτρέπει, τὰ δ’ ἄλλα πρὸς τοῦτο συμπαραλαμβάνει, ἢ δίκαιον ἢ ἄδικον, ἢ καλὸν ἢ αἰσχρόν· τοῖς δὲ δικαζομένοις τὸ δίκαιον καὶ τὸ ἄδικον, τὰ δ’ ἄλλα καὶ οὗτοι συμπαραλαμβάνουσι πρὸς ταῦτα· τοῖς δ’ ἐπαινοῦσιν καὶ ψέγουσιν τὸ καλὸν καὶ τὸ αἰσχρόν, τὰ δ’ ἄλλα καὶ οὗτοι πρὸς ταῦτα ἐπαναφέρουσιν.

σημεῖον δ’ ὅτι τὸ εἰρημένον ἑκάστοις τέλος· περὶ μὲν γὰρ τῶν ἄλλων ἐνίοτε οὐκ ἂν ἀμφισβητήσαιεν, οἷον ὁ δικαζόμενος ὡς οὐ γέγονεν ἢ οὐκ ἔβλαψεν· ὅτι δ’ ἀδικεῖ οὐδέποτ’ ἂν ὁμολογήσειεν· οὐδὲν γὰρ ἂν ἔδει δίκης. ὁμοίως δὲ καὶ οἱ συμβουλεύοντες τὰ μὲν ἄλλα πολλάκις προΐενται, ὡς δὲ ἀσύμφορα συμβουλεύουσιν ἢ ἀπ’ ὠφελίμων ἀποτρέπουσιν οὐκ ἂν ὁμολογήσαιεν· ὡς δ’ [οὐκ] ἄδικον τοὺς ἀστυγείτονας καταδουλοῦσθαι καὶ τοὺς μηδὲν ἀδικοῦντας, πολλάκις οὐδὲν φροντίζουσιν. ὁμοίως δὲ καὶ οἱ ἐπαινοῦντες καὶ οἱ ψέγοντες οὐ σκοποῦσιν [1359a] εἰ συμφέροντα ἔπραξεν ἢ βλαβερά, ἀλλὰ καὶ ἐν ἐπαίνῳ πολλάκις τιθέασιν ὅτι ὀλιγωρήσας τοῦ αὑτῷ λυσιτελοῦντος ἔπραξεν ὅ τι καλόν, οἷον Ἀχιλλέα ἐπαινοῦσιν ὅτι ἐβοήθησε τῷ ἑταίρῳ Πατρόκλῳ εἰδὼς ὅτι δεῖ αὐτὸν ἀποθανεῖν ἐξὸν ζῆν. τούτῳ δὲ ὁ μὲν τοιοῦτος θάνατος κάλλιον, τὸ δὲ ζῆν συμφέρον.

φανερὸν δὲ ἐκ τῶν εἰρημένων ὅτι ἀνάγκη περὶ τούτων ἔχειν πρῶτον τὰς προτάσεις· τὰ γὰρ τεκμήρια καὶ τὰ εἰκότα καὶ τὰ σημεῖα προτάσεις εἰσὶν ῥητορικαί· ὅλως μὲν γὰρ συλλογισμὸς ἐκ προτάσεών ἐστιν, τὸ δ’ ἐνθύμημα συλλογισμός ἐστι συνεστηκὼς ἐκ τῶν εἰρημένων προτάσεων.

ἐπεὶ δὲ οὔτε πραχθῆναι οἷόν τε οὔτε πεπρᾶχθαι τὰ ἀδύνατα ἀλλὰ τὰ δυνατά, οὐδὲ τὰ μὴ γενόμενα ἢ μὴ ἐσόμενα [οὐχ] οἷόν τε τὰ μὲν πεπρᾶχθαι, τὰ δὲ πραχθήσεσθαι, ἀναγκαῖον καὶ τῷ συμβουλεύοντι καὶ τῷ δικαζομένῳ καὶ τῷ ἐπιδεικτικῷ ἔχειν προτάσεις περὶ δυνατοῦ καὶ ἀδυνάτου, καὶ εἰ γέγονεν ἢ μή, καὶ εἰ ἔσται ἢ μή. ἔτι δὲ ἐπεὶ ἅπαντες, καὶ ἐπαινοῦντες καὶ ψέγοντες, καὶ προτρέποντες καὶ ἀποτρέποντες, καὶ κατηγοροῦντες καὶ ἀπολογούμενοι, οὐ μόνον τὰ εἰρημένα δεικνύναι πειρῶνται, ἀλλὰ καὶ ὅτι μέγα ἢ μικρὸν τὸ ἀγαθὸν ἢ τὸ κακόν, ἢ τὸ καλὸν ἢ τὸ αἰσχρόν, ἢ τὸ δίκαιον ἢ τὸ ἄδικον, ἢ καθ’ αὑτὰ λέγοντες ἢ πρὸς ἄλληλα ἀντιπαραβάλλοντες, δῆλον ὅτι δέοι ἂν καὶ περὶ μεγέθους καὶ μικρότητος καὶ τοῦ μείζονος καὶ τοῦ ἐλάττονος προτάσεις ἔχειν, καὶ καθόλου καὶ περὶ ἑκάστου, οἷον τί μεῖζον ἀγαθὸν ἢ ἔλαττον ἢ ἀδίκημα ἢ δικαίωμα· ὁμοίως δὲ καὶ περὶ τῶν ἄλλων.

περὶ ὧν μὲν οὖν ἐξ ἀνάγκης δεῖ λαβεῖν τὰς προτάσεις, εἴρηται· μετὰ δὲ ταῦτα διαιρετέον ἰδίᾳ περὶ ἑκάστου τούτων, οἷον περὶ ὧν συμβουλὴ καὶ περὶ ὧν οἱ ἐπιδεικτικοὶ λόγοι, τρίτον δὲ περὶ ὧν αἱ δίκαι.

Πρῶτον μὲν οὖν ληπτέον περὶ ποῖα ἀγαθὰ ἢ κακὰ ὁ συμβουλεύων συμβουλεύει, ἐπειδὴ οὐ περὶ ἅπαντα ἀλλ’ ὅσα ἐνδέχεται καὶ γενέσθαι καὶ μή, ὅσα δὲ ἐξ ἀνάγκης ἢ ἔστιν ἢ ἔσται, ἢ ἀδύνατον ἢ εἶναι ἢ γενέσθαι, περὶ δὲ τούτων οὐκ ἔστι συμβουλή. οὐδὲ δὴ περὶ τῶν ἐνδεχομένων ἁπάντων· ἔστιν γὰρ καὶ φύσει ἔνια καὶ ἀπὸ τύχης γινόμενα ἀγαθὰ τῶν ἐνδεχομένων καὶ γίγνεσθαι καὶ μή, περὶ ὧν οὐδὲν πρὸ ἔργου τὸ συμβουλεύειν· ἀλλὰ δῆλον ὅτι περὶ ὅσων ἐστὶν τὸ βουλεύεσθαι. τοιαῦτα δ’ ἐστὶν ὅσα πέφυκεν ἀνάγεσθαι εἰς ἡμᾶς, καὶ ὧν ἡ ἀρχὴ τῆς γενέσεως ἐφ’ ἡμῖν ἐστιν· μέχρι γὰρ τούτου [1359b] σκοποῦμεν, ἕως ἂν εὕρωμεν εἰ ἡμῖν δυνατὰ ἢ ἀδύνατα πρᾶξαι.

καθ’ ἕκαστον μὲν οὖν ἀκριβῶς διαριθμήσασθαι καὶ διαλαβεῖν εἰς εἴδη περὶ ὧν εἰώθασι χρηματίζειν, ἔτι δ’ ὅσον ἐνδέχεται περὶ αὐτῶν διορίσαι κατὰ τὴν ἀλήθειαν, οὐ δεῖ κατὰ τὸν παρόντα καιρὸν ζητεῖν διὰ τὸ μήτε τῆς ῥητορικῆς εἶναι τέχνης, ἀλλ’ ἐμφρονεστέρας καὶ μᾶλλον ἀληθινῆς, πολλῷ τε πλείω δεδόσθαι καὶ νῦν αὐτῇ τῶν οἰκείων θεωρημάτων· ὅπερ γὰρ καὶ πρότερον εἰρηκότες τυγχάνομεν ἀληθές ἐστιν, ὅτι ἡ ῥητορικὴ σύγκειται μὲν ἔκ τε τῆς ἀναλυτικῆς ἐπιστήμης καὶ τῆς περὶ τὰ ἤθη πολιτικῆς, ὁμοία δ’ ἐστὶν τὰ μὲν τῇ διαλεκτικῇ τὰ δὲ τοῖς σοφιστικοῖς λόγοις. ὅσῳ δ’ ἄν τις ἢ τὴν διαλεκτικὴν ἢ ταύτην μὴ καθάπερ ἂν δυνάμεις ἀλλ’ ἐπιστήμας πειρᾶται κατασκευάζειν, λήσεται τὴν φύσιν αὐτῶν ἀφανίσας τῷ μεταβαίνειν ἐπισκευάζων εἰς ἐπιστήμας ὑποκειμένων τινῶν πραγμάτων, ἀλλὰ μὴ μόνον λόγων. ὅμως δὲ ὅσα πρὸ ἔργου μέν ἐστι διελεῖν, ἔτι δ’ ὑπολείπει σκέψιν τῇ πολιτικῇ ἐπιστήμῃ, εἴπωμεν καὶ νῦν.

σχεδὸν γάρ, περὶ ὧν βουλεύονται πάντες καὶ περὶ ὧν ἀγορεύουσιν οἱ συμβουλεύοντες, τὰ μέγιστα τυγχάνει πέντε τὸν ἀριθμὸν ὄντα· ταῦτα δ’ ἐστὶν περί τε πόρων, καὶ πολέμου καὶ εἰρήνης, ἔτι δὲ περὶ φυλακῆς τῆς χώρας, καὶ τῶν εἰσαγομένων καὶ ἐξαγομένων, καὶ νομοθεσίας· ὥστε περὶ μὲν πόρων τὸν μέλλοντα συμβουλεύειν δέοι ἂν τὰς προσόδους τῆς πόλεως εἰδέναι τίνες καὶ πόσαι, ὅπως εἴτε τις παραλείπεται προστεθῇ καὶ εἴ τις ἐλάττων αὐξηθῇ, ἔτι δὲ τὰς δαπάνας τῆς πόλεως ἁπάσας, ὅπως εἴ τις περίεργος ἀφαιρεθῇ καὶ εἴ τις μείζων ἐλάττων γένηται· οὐ γὰρ μόνον πρὸς τὰ ὑπάρχοντα προστιθέντες πλουσιώτεροι γίγνονται, ἀλλὰ καὶ ἀφαιροῦντες τῶν δαπανημάτων. ταῦτα δ’ οὐ μόνον ἐκ τῆς περὶ τὰ ἴδια ἐμπειρίας ἐνδέχεται συνορᾶν, ἀλλ’ ἀναγκαῖον καὶ τῶν παρὰ τοῖς ἄλλοις εὑρημένων ἱστορικὸν εἶναι πρὸς τὴν περὶ τούτων συμβουλήν.

περὶ δὲ πολέμου καὶ εἰρήνης τὴν δύναμιν εἰδέναι τῆς πόλεως, ὁπόση τε ὑπάρχει ἤδη καὶ πόσην ἐνδέχεται ὑπάρξαι, καὶ ποία τις ἥ τε ὑπάρχουσά ἐστιν καὶ ἥτις ἐνδέχεται προσγενέσθαι, ἔτι δὲ πολέμους πῶς καὶ τίνας πεπολέμηκεν. οὐ μόνον δὲ τῆς οἰκείας πόλεως ἀλλὰ καὶ τῶν ὁμόρων ταῦτα ἀναγκαῖον εἰδέναι, καὶ πρὸς οὓς ἐπίδοξον πολεμεῖν, ὅπως πρὸς μὲν τοὺς κρείττους εἰρηνεύηται, [1360a] πρὸς δὲ τοὺς ἥττους ἐφ' αὐτοῖς ᾖ τὸ πολεμεῖν, καὶ τὰς δυνάμεις, πότερον ὅμοιαι ἢ ἀνόμοιαι· ἔστιν γὰρ καὶ ταύτῃ πλεονεκτεῖν ἢ ἐλαττοῦσθαι. ἀναγκαῖον δὲ καὶ πρὸς ταῦτα μὴ μόνον τοὺς οἰκείους πολέμους τεθεωρηκέναι ἀλλὰ καὶ τοὺς τῶν ἄλλων, πῶς ἀποβαίνουσιν· ἀπὸ γὰρ τῶν ὁμοίων τὰ ὅμοια γίγνεσθαι πέφυκεν.

ἔτι δὲ περὶ φυλακῆς τῆς χώρας μὴ λανθάνειν πῶς φυλάττεται, ἀλλὰ καὶ τὸ πλῆθος εἰδέναι τῆς φυλακῆς καὶ τὸ εἶδος καὶ τοὺς τόπους τῶν φυλακτηρίων (τοῦτο δ' ἀδύνατον μὴ ἔμπειρον ὄντα τῆς χώρας), ἵν' εἴ τ' ἐλάττων ἡ φυλακὴ προστεθῇ καὶ εἴ τις περίεργος ἀφαιρεθῇ καὶ τοὺς ἐπιτηδείους τόπους τηρῶσι μᾶλλον.

ἔτι δὲ περὶ τροφῆς, πόση [δαπάνη] ἱκανὴ τῇ πόλει καὶ ποία, ἡ αὐτοῦ τε γιγνομένη καὶ ‹ἡ› εἰσαγώγιμος, καὶ τίνων τ' ἐξαγωγῆς δέονται καὶ τίνων ‹καὶ παρὰ τίνων› εἰσαγωγῆς, ἵνα πρὸς τούτους καὶ συνθῆκαι καὶ συμβολαὶ γίγνωνται· πρὸς δύο γὰρ διαφυλάττειν ἀναγκαῖον ἀνεγκλήτους τοὺς πολίτας, πρός τε τοὺς κρείττους καὶ πρὸς τοὺς εἰς ταῦτα χρησίμους.

εἰς δ' ἀσφάλειαν ἅπαντα μὲν ταῦτα ἀναγκαῖον δύνασθαι θεωρεῖν, οὐκ ἐλάχιστον δὲ περὶ νομοθεσίας ἐπαΐειν· ἐν γὰρ τοῖς νόμοις ἐστὶν ἡ σωτηρία τῆς πόλεως, ὥστ' ἀναγκαῖον εἰδέναι πόσα τέ ἐστι πολιτειῶν εἴδη, καὶ ποῖα συμφέρει ἑκάστῃ, καὶ ὑπὸ τίνων φθείρεσθαι πέφυκεν καὶ οἰκείων τῆς πολιτείας καὶ ἐναντίων. λέγω δὲ τὸ ὑπὸ οἰκείων φθείρεσθαι, ὅτι ἔξω τῆς βελτίστης πολιτείας αἱ ἄλλαι πᾶσαι καὶ ἀνιέμεναι καὶ ἐπιτεινόμεναι φθείρονται, οἷον δημοκρατία οὐ μόνον ἀνιεμένη ἀσθενεστέρα γίγνεται ὥστε τέλος ἥξει εἰς ὀλιγαρχίαν, ἀλλὰ καὶ ἐπιτεινομένη σφόδρα· ὥσπερ καὶ ἡ γρυπότης καὶ ἡ σιμότης οὐ μόνον ἀνιέμενα ἔρχεται εἰς τὸ μέσον, ἀλλὰ καὶ σφόδρα γρυπὰ γινόμενα ἢ σιμὰ οὕτως διατίθεται ὥστε μηδὲ μυκτῆρα δοκεῖν εἶναι. χρήσιμον δὲ πρὸς τὰς νομοθεσίας τὸ μὴ μόνον ἐπαΐειν τίς πολιτεία συμφέρει, ἐκ τῶν παρεληλυθότων θεωροῦντα, ἀλλὰ καὶ τὰς παρὰ τοῖς ἄλλοις εἰδέναι, αἱ ποῖαι τοῖς ποίοις ἁρμόττουσιν· ὥστε δῆλον ὅτι πρὸς μὲν τὴν νομοθεσίαν αἱ τῆς γῆς περίοδοι χρήσιμοι (ἐντεῦθεν γὰρ λαβεῖν ἔστιν τοὺς τῶν ἐθνῶν νόμους), πρὸς δὲ τὰς πολιτικὰς συμβουλὰς αἱ τῶν περὶ τὰς πράξεις γραφόντων ἱστορίαι· ἅπαντα δὲ ταῦτα πολιτικῆς ἀλλ' οὐ ῥητορικῆς ἔργον ἐστίν.

περὶ ὧν μὲν οὖν ἔχειν δεῖ ‹τὰς προτάσεις› τὸν μέλλοντα [1360b] συμβουλεύειν, τὰ μέγιστα τοσαῦτά ἐστιν· ἐξ ὧν δὲ δεῖ καὶ περὶ τούτων καὶ περὶ τῶν ἄλλων προτρέπειν ἢ ἀποτρέπειν λέγωμεν πάλιν.

Σχεδὸν δὲ καὶ ἰδίᾳ ἑκάστῳ καὶ κοινῇ πᾶσι σκοπός τις ἔστιν οὗ στοχαζόμενοι καὶ αἱροῦνται καὶ φεύγουσιν· καὶ τοῦτ᾽ ἐστὶν ἐν κεφαλαίῳ εἰπεῖν ἥ τ᾽ εὐδαιμονία καὶ τὰ μόρια αὐτῆς· ὥστε παραδείγματος χάριν λάβωμεν τί ἐστιν ὡς ἁπλῶς εἰπεῖν ἡ εὐδαιμονία, καὶ ἐκ τίνων τὰ μόρια ταύτης· περὶ γὰρ ταύτης καὶ τῶν εἰς ταύτην συντεινόντων καὶ τῶν ἐναντίων ταύτῃ αἵ τε προτροπαὶ καὶ αἱ ἀποτροπαὶ πᾶσαί εἰσιν· τὰ μὲν γὰρ παρασκευάζοντα ταύτην ἢ τῶν μορίων τι, ἢ μεῖζον ἀντ᾽ ἐλάττονος ποιοῦντα, δεῖ πράττειν, τὰ δὲ φθείροντα ἢ ἐμποδίζοντα ἢ τὰ ἐναντία ποιοῦντα μὴ πράττειν.

ἔστω δὴ εὐδαιμονία εὐπραξία μετ᾽ ἀρετῆς, ἢ αὐτάρκεια ζωῆς, ἢ ὁ βίος ὁ μετὰ ἀσφαλείας ἥδιστος, ἢ εὐθενία κτημάτων καὶ σωμάτων μετὰ δυνάμεως φυλακτικῆς τε καὶ πρακτικῆς τούτων· σχεδὸν γὰρ τούτων ἓν ἢ πλείω τὴν εὐδαιμονίαν ὁμολογοῦσιν εἶναι ἅπαντες.

εἰ δή ἐστιν ἡ εὐδαιμονία τοιοῦτον, ἀνάγκη αὐτῆς εἶναι μέρη εὐγένειαν, πολυφιλίαν, χρηστοφιλίαν, πλοῦτον, εὐτεκνίαν, πολυτεκνίαν, εὐγηρίαν· ἔτι τὰς τοῦ σώματος ἀρετάς (οἷον ὑγίειαν, κάλλος, ἰσχύν, μέγεθος, δύναμιν ἀγωνιστικήν), δόξαν, τιμήν, εὐτυχίαν, ἀρετήν [ἢ καὶ τὰ μέρη αὐτῆς φρόνησιν, ἀνδρείαν, δικαιοσύνην, σωφροσύνην]· οὕτω γὰρ ἂν αὐταρκέστατός ‹τις› εἴη, εἰ ὑπάρχοι αὐτῷ τά τ᾽ ἐν αὐτῷ καὶ τὰ ἐκτὸς ἀγαθά· οὐ γὰρ ἔστιν ἄλλα παρὰ ταῦτα. ἔστι δ᾽ ἐν αὐτῷ μὲν τὰ περὶ ψυχὴν καὶ τὰ ἐν σώματι, ἔξω δὲ εὐγένεια καὶ φίλοι καὶ χρήματα καὶ τιμή, ἔτι δὲ προσήκειν οἰόμεθα δυνάμεις ὑπάρχειν καὶ τύχην· οὕτω γὰρ ἀσφαλέστατος ὁ βίος. λάβωμεν τοίνυν ὁμοίως καὶ τούτων ἕκαστον τί ἐστιν.

εὐγένεια μὲν οὖν ἐστιν ἔθνει μὲν καὶ πόλει τὸ αὐτόχθονας ἢ ἀρχαίους εἶναι, καὶ ἡγεμόνας τοὺς πρώτους ἐπιφανεῖς, καὶ πολλοὺς ἐπιφανεῖς γεγονέναι ἐξ αὐτῶν ἐπὶ τοῖς ζηλουμένοις· ἰδίᾳ δὲ εὐγένεια ἢ ἀπ᾽ ἀνδρῶν ἢ ἀπὸ γυναικῶν, καὶ γνησιότης ἀπ᾽ ἀμφοῖν, καί, ὥσπερ ἐπὶ πόλεως, ‹τὸ› τούς τε πρώτους γνωρίμους ἢ ἐπ᾽ ἀρετῇ ἢ πλούτῳ ἢ ἄλλῳ τῳ τῶν τιμωμένων εἶναι, καὶ πολλοὺς ἐπιφανεῖς ἐκ τοῦ γένους καὶ ἄνδρας καὶ γυναῖκας καὶ νέους καὶ πρεσβυτέρους.

εὐτεκνία δὲ καὶ πολυτεκνία οὐκ ἄδηλα. ἔστιν δὲ τῷ κοινῷ [1361a] μὲν [εὐτεκνία], νεότης ἂν ᾖ πολλὴ καὶ ἀγαθή, ἀγαθὴ δὲ κατ᾽ ἀρετὴν σώματος, οἷον μέγεθος, κάλλος, ἰσχύν, δύναμιν ἀγωνιστικήν· ψυχῆς δὲ σωφροσύνη καὶ ἀνδρεία νέου ἀρεταί· ἰδίᾳ δὲ εὐτεκνία καὶ πολυτεκνία τὸ τὰ ἴδια τέκνα πολλὰ καὶ τοιαῦτα εἶναι, καὶ θήλεα καὶ ἄρρενα· θηλειῶν δὲ ἀρετὴ σώματος μὲν κάλλος καὶ μέγεθος, ψυχῆς δὲ σωφροσύνη καὶ φιλεργία ἄνευ ἀνελευθερίας. ὁμοίως δὲ καὶ ἰδίᾳ καὶ κοινῇ, καὶ κατ' ἄνδρας καὶ κατὰ γυναῖκας, δεῖ ζητεῖν ἕκαστον ὑπάρχειν τῶν τοιούτων· ὅσοις γὰρ τὰ κατὰ γυναῖκας φαῦλα ὥσπερ Λακεδαιμονίοις, σχεδὸν κατὰ τὸ ἥμισυ οὐκ εὐδαιμονοῦσιν.

πλούτου δὲ μέρη νομίσματος πλῆθος ‹καὶ› γῆς, χωρίων κτῆσις πλήθει καὶ μεγέθει καὶ κάλλει διαφερόντων, ἔτι δὲ ἐπίπλων κτῆσις καὶ ἀνδραπόδων καὶ βοσκημάτων πλήθει καὶ κάλλει διαφερόντων, ταῦτα δὲ πάντα ‹οἰκεῖα› καὶ ἀσφαλῆ καὶ ἐλευθέρια καὶ χρήσιμα. ἔστιν δὲ χρήσιμα μὲν μᾶλλον τὰ κάρπιμα, ἐλευθέρια δὲ τὰ πρὸς ἀπόλαυσιν (κάρπιμα δὲ λέγω ἀφ' ὧν αἱ πρόσοδοι, ἀπολαυστικὰ δὲ ἀφ' ὧν μηδὲν παρὰ τὴν χρῆσιν γίγνεται ὅ τι καὶ ἄξιον). ὅρος δὲ ἀσφαλείας μὲν τὸ ἐνταῦθα καὶ οὕτω κεκτῆσθαι ὥστ' ἐφ' αὑτῷ εἶναι τὴν χρῆσιν αὐτῶν, τοῦ δὲ οἰκεῖα εἶναι ἢ μὴ ὅταν ἐφ' αὑτῷ ᾖ ἀπαλλοτριῶσαι· λέγω δὲ ἀπαλλοτρίωσιν δόσιν καὶ πρᾶσιν. ὅλως δὲ τὸ πλουτεῖν ἐστιν ἐν τῷ χρῆσθαι μᾶλλον ἢ ἐν τῷ κεκτῆσθαι· καὶ γὰρ ἡ ἐνέργειά ἐστι τῶν τοιούτων καὶ ἡ χρῆσις πλοῦτος.

εὐδοξία δ' ἐστὶν τὸ ὑπὸ πάντων σπουδαῖον ὑπολαμβάνεσθαι ἢ τοιοῦτόν τι ἔχειν οὗ πάντες ἐφίενται ἢ οἱ πολλοὶ ἢ οἱ ἀγαθοὶ ἢ οἱ φρόνιμοι.

τιμὴ δ' ἐστὶν μὲν σημεῖον εὐεργετικῆς εὐδοξίας, τιμῶνται δὲ δικαίως μὲν καὶ μάλιστα οἱ εὐεργετηκότες, οὐ μὴν ἀλλὰ τιμᾶται καὶ ὁ δυνάμενος εὐεργετεῖν· εὐεργεσία δὲ ἢ εἰς σωτηρίαν καὶ ὅσα αἴτια τοῦ εἶναι, ἢ εἰς πλοῦτον, ἢ εἴς τι τῶν ἄλλων ἀγαθῶν, ὧν μὴ ῥᾳδία ἡ κτῆσις ἢ ὅλως ἢ ἐνταῦθα ἢ τότε· πολλοὶ γὰρ διὰ μικρὰ δοκοῦντα τιμῆς τυγχάνουσιν, ἀλλ' οἱ τόποι καὶ οἱ καιροὶ αἴτιοι. μέρη δὲ τιμῆς θυσίαι, μνῆμαι ἐν μέτροις καὶ ἄνευ μέτρων, γέρα, τεμένη, προεδρίαι, τάφοι, εἰκόνες, τροφαὶ δημόσιαι, τὰ βαρβαρικά, οἷον προσκυνήσεις καὶ ἐκστάσεις, δῶρα τὰ παρ' ἑκάστοις τίμια. καὶ γὰρ τὸ δῶρόν ἐστι κτήματος δόσις καὶ τιμῆς σημεῖον, διὸ καὶ οἱ φιλοχρήματοι καὶ οἱ φιλότιμοι ἐφίενται αὐτῶν· ἀμφοτέροις [1361b] γὰρ ἔχει ὧν δέονται· καὶ γὰρ κτῆμά ἐστιν οὗ ἐφίενται οἱ φιλοχρήματοι, καὶ τιμὴν ἔχει οὗ οἱ φιλότιμοι.

σώματος δὲ ἀρετὴ ὑγίεια, αὕτη δὲ οὕτως ὥστε ἀνόσους εἶναι χρωμένους τοῖς σώμασιν· πολλοὶ γὰρ ὑγιαίνουσιν, ὥσπερ Ἡρόδικος λέγεται, οὓς οὐδεὶς ἂν εὐδαιμονίσειε τῆς ὑγιείας διὰ τὸ πάντων ἀπέχεσθαι τῶν ἀνθρωπίνων ἢ τῶν πλείστων. κάλλος δὲ ἕτερον καθ' ἑκάστην ἡλικίαν ἐστίν. νέου μὲν οὖν κάλλος τὸ πρὸς τοὺς πόνους χρήσιμον ἔχειν τὸ σῶμα τούς τε πρὸς δρόμον καὶ πρὸς βίαν, ἡδὺν ὄντα ἰδεῖν πρὸς ἀπόλαυσιν· διὸ οἱ πένταθλοι κάλλιστοι, ὅτι πρὸς βίαν καὶ πρὸς τάχος ἅμα πεφύκασιν· ἀκμάζοντος δὲ πρὸς μὲν πόνους τοὺς πολεμικούς, ἡδὺν δ' εἶναι δοκεῖν μετὰ φοβερότητος· γέροντος δὲ πρὸς μὲν πόνους τοὺς ἀναγκαίους ἱκανόν, ἄλυπον δὲ διὰ τὸ μηδὲν ἔχειν ὧν τὸ γῆρας λωβᾶται. ἰσχὺς δ' ἐστὶ μὲν δύναμις τοῦ κινεῖν ἕτερον ὡς βούλεται, ἀνάγκη δὲ κινεῖν ἕτερον ἢ ἕλκοντα ἢ ὠθοῦντα ἢ αἴροντα ἢ πιέζοντα ἢ συνθλίβοντα, ὥστε ὁ ἰσχυρὸς ἢ πᾶσιν ἢ τούτων τισίν ἐστιν ἰσχυρός. μεγέθους δὲ ἀρετὴ τὸ ὑπάρχειν κατὰ μῆκος καὶ βάθος καὶ πλάτος τῶν πολλῶν τοσούτῳ μείζον' ὥστε μὴ βραδυτέρας ποιεῖν τὰς κινήσεις διὰ τὴν ὑπερβολήν. ἀγωνιστικὴ δὲ σώματος ἀρετὴ σύγκειται ἐκ μεγέθους καὶ ἰσχύος καὶ τάχους (καὶ γὰρ ὁ ταχὺς ἰσχυρός ἐστιν)· ὁ γὰρ δυνάμενος τὰ σκέλη ῥιπτεῖν πως καὶ κινεῖν ταχὺ καὶ πόρρω δρομικός, ὁ δὲ θλίβειν καὶ κατέχειν παλαιστικός, ὁ δὲ ὦσαι τῇ πληγῇ πυκτικός, ὁ δ' ἀμφοτέροις τούτοις παγκρατιαστικός, ὁ δὲ πᾶσι πένταθλος. εὐγηρία δ' ἐστὶ βραδυτὴς γήρως μετ' ἀλυπίας· οὔτε γὰρ εἰ ταχὺ γηράσκει, εὔγηρως, οὔτ' εἰ μόγις μὲν λυπηρῶς δέ. ἔστιν δὲ καὶ ἐκ τῶν τοῦ σώματος ἀρετῶν καὶ ‹ἐκ› τύχης· μὴ ἄνοσος γὰρ ὢν μηδὲ ἰσχυρὸς οὐκ ἔσται ἀπαθὴς οὐδ' ἄλυπος, καὶ πολυχρόνιος οὐκ ἄνευ τύχης διαμείνειεν ἄν. ἔστιν δέ τις καὶ χωρὶς ἰσχύος καὶ ὑγιείας ἄλλη δύναμις μακροβιότητος· πολλοὶ γὰρ ἄνευ τῶν τοῦ σώματος ἀρετῶν μακρόβιοί εἰσιν· ἀλλ' οὐδὲν ἡ ἀκριβολογία χρήσιμος ἡ περὶ τούτων εἰς τὰ νῦν.

πολυφιλία δὲ καὶ χρηστοφιλία οὐκ ἄδηλα, τοῦ φίλου ὡρισμένου, ὅτι ἔστιν ὁ τοιοῦτος φίλος ὅστις ἃ οἴεται ἀγαθὰ εἶναι ἐκείνῳ, πρακτικός ἐστιν αὐτῶν δι' ἐκεῖνον. ᾧ δὴ πολλοὶ τοιοῦτοι, πολύφιλος, ᾧ δὲ καὶ ἐπιεικεῖς ἄνδρες, χρηστόφιλος.

εὐτυχία δέ ἐστιν, ὧν ἡ τύχη ἀγαθῶν αἰτία, ταῦτα [1362a] γίγνεσθαι καὶ ὑπάρχειν ἢ πάντα ἢ τὰ πλεῖστα ἢ τὰ μέγιστα. αἰτία δ' ἐστὶν ἡ τύχη ἐνίων μὲν καὶ ὧν αἱ τέχναι, πολλῶν δὲ καὶ ἀτέχνων, οἷον ὅσων ἡ φύσις (ἐνδέχεται δὲ καὶ παρὰ φύσιν εἶναι)· ὑγιείας μὲν γὰρ τέχνη αἰτία, κάλλους δὲ καὶ μεγέθους φύσις. ὅλως δὲ τὰ τοιαῦτα τῶν ἀγαθῶν ἐστιν ἀπὸ τύχης ἐφ' οἷς ἐστιν ὁ φθόνος. ἔστιν δὲ καὶ τῶν παρὰ λόγον ἀγαθῶν αἰτία τύχη, οἷον εἰ οἱ ἄλλοι ἀδελφοὶ αἰσχροί, ὁ δὲ καλός, ἢ οἱ ἄλλοι μὴ εἶδον τὸν θησαυρόν, ὁ δ' εὗρεν, ἢ εἰ τοῦ πλησίον ἔτυχεν τὸ βέλος, τούτου δὲ μή, ἢ εἰ μὴ ἦλθε μόνος, ἀεὶ φοιτῶν, οἱ δὲ ἅπαξ ἐλθόντες διεφθάρησαν· πάντα γὰρ τὰ τοιαῦτα εὐτυχήματα δοκεῖ εἶναι.

περὶ δὲ ἀρετῆς ἐπείπερ οἰκειότατος ὁ περὶ τοὺς ἐπαίνους τόπος, ὅταν περὶ ἐπαίνου ποιώμεθα τὸν λόγον, τότε διοριστέον.

Ὧν μὲν οὖν δεῖ στοχάζεσθαι προτρέποντα ὡς ἐσομένων ἢ ὑπαρχόντων, καὶ ὧν ἀποτρέποντα, φανερόν· τὰ γὰρ ἐναντία τούτων ἐστίν. ἐπεὶ δὲ πρόκειται τῷ συμβουλεύοντι σκοπὸς τὸ συμφέρον (βουλεύονται γὰρ οὐ περὶ τοῦ τέλους, ἀλλὰ περὶ τῶν πρὸς τὸ τέλος, ταῦτα δ’ ἐστὶ τὰ συμφέροντα κατὰ τὰς πράξεις, τὸ δὲ συμφέρον ἀγαθόν), ληπτέον ἂν εἴη τὰ στοιχεῖα περὶ ἀγαθοῦ καὶ συμφέροντος ἁπλῶς.

ἔστω δὴ ἀγαθὸν ὃ ἂν αὐτὸ ἑαυτοῦ ἕνεκα ᾖ αἱρετόν, καὶ οὗ ἕνεκα ἄλλο αἱρούμεθα, καὶ οὗ ἐφίεται πάντα, ἢ πάντα τὰ αἴσθησιν ἔχοντα ἢ νοῦν ἢ εἰ λάβοι νοῦν, καὶ ὅσα ὁ νοῦς ἂν ἑκάστῳ ἀποδοίη, καὶ ὅσα ὁ περὶ ἕκαστον νοῦς ἀποδίδωσιν ἑκάστῳ· τοῦτό ‹γάρ› ἐστιν ἑκάστῳ ἀγαθόν, καὶ οὗ παρόντος εὖ διάκειται καὶ αὐτάρκως ἔχει, καὶ τὸ αὔταρκες, καὶ τὸ ποιητικὸν ἢ φυλακτικὸν τῶν τοιούτων, καὶ ᾧ ἀκολουθεῖ τὰ τοιαῦτα, καὶ τὰ κωλυτικὰ τῶν ἐναντίων καὶ τὰ φθαρτικά. ἀκολουθεῖ δὲ διχῶς (ἢ γὰρ ἅμα ἢ ὕστερον, οἷον τῷ μὲν μανθάνειν τὸ ἐπίστασθαι ὕστερον, τῷ δὲ ὑγιαίνειν τὸ ζῆν ἅμα), καὶ τὰ ποιητικὰ τριχῶς, τὰ μὲν ὡς τὸ ὑγιαίνειν ὑγιείας, τὰ δὲ ὡς σιτία ὑγιείας, τὰ δὲ ὡς τὸ γυμνάζεσθαι, ὅτι ὡς ἐπὶ τὸ πολὺ ποιεῖ ὑγίειαν. τούτων δὲ κειμένων ἀνάγκη τάς τε λήψεις τῶν ἀγαθῶν ἀγαθὰς εἶναι καὶ τὰς τῶν κακῶν ἀποβολάς· ἀκολουθεῖ γὰρ τῷ μὲν τὸ μὴ ἔχειν τὸ κακὸν ἅμα, τῷ δὲ τὸ ἔχειν τὸ ἀγαθὸν ὕστερον. καὶ ἡ ἀντ’ ἐλάττονος ἀγαθοῦ μείζονος λῆψις καὶ ἀντὶ μείζονος κακοῦ ἐλάττονος· [1362b] ᾧ γὰρ ὑπερέχει τὸ μεῖζον τοῦ ἐλάττονος, τούτῳ γίνεται τοῦ μὲν λῆψις τοῦ δ’ ἀποβολή. καὶ τὰς ἀρετὰς δὲ ἀνάγκη ἀγαθὸν εἶναι (κατὰ γὰρ ταύτας εὖ τε διάκεινται οἱ ἔχοντες, καὶ ποιητικαὶ τῶν ἀγαθῶν εἰσι καὶ πρακτικαί· περὶ ἑκάστης δὲ καὶ τίς καὶ ποία χωρὶς ῥητέον), καὶ τὴν ἡδονὴν ἀγαθὸν εἶναι· πάντα γὰρ ἐφίεται τὰ ζῷα αὐτῆς τῇ φύσει· ὥστε καὶ τὰ ἡδέα καὶ τὰ καλὰ ἀνάγκη ἀγαθὰ εἶναι· τὰ μὲν γὰρ ἡδονῆς ποιητικά, τῶν δὲ καλῶν τὰ μὲν ἡδέα τὰ δὲ αὐτὰ καθ’ ἑαυτὰ αἱρετά ἐστιν.

ὡς δὲ καθ’ ἓν εἰπεῖν, ἀνάγκη ἀγαθὰ εἶναι τάδε. εὐδαιμονία· καὶ γὰρ καθ’ αὑτὸ αἱρετὸν καὶ αὔταρκες, καὶ ἕνεκα αὐτῆς τἆλλα αἱρούμεθα. δικαιοσύνη, ἀνδρεία, σωφροσύνη, μεγαλοψυχία, μεγαλοπρέπεια, καὶ αἱ ἄλλαι αἱ τοιαῦται ἕξεις· ἀρεταὶ γὰρ ψυχῆς. καὶ ὑγίεια καὶ κάλλος καὶ τὰ τοιαῦτα· ἀρεταὶ γὰρ σώματος καὶ ποιητικὰ πολλῶν, οἷον ὑγίεια καὶ ἡδονῆς καὶ τοῦ ζῆν, διὸ καὶ ἄριστον δοκεῖ εἶναι, ὅτι δύο τῶν τοῖς πολλοῖς τιμιωτάτων αἴτιόν ἐστιν, ἡδονῆς καὶ τοῦ ζῆν. πλοῦτος· ἀρετὴ γὰρ κτήσεως καὶ ποιητικὸν πολλῶν. φίλος καὶ φιλία· καὶ γὰρ καθ’ αὑτὸν αἱρετὸς ὁ φίλος καὶ ποιητικὸς πολλῶν. τιμή, δόξα· καὶ γὰρ ἡδέα καὶ ποιητικὰ πολλῶν, καὶ ἀκολουθεῖ αὐταῖς ὡς ἐπὶ τὸ πολὺ τὸ ὑπάρχειν ἐφ’ οἷς τιμῶνται. δύναμις τοῦ λέγειν, τοῦ πράττειν· ποιητικὰ γὰρ πάντα τὰ τοιαῦτα ἀγαθῶν. ἔτι εὐφυΐα, μνήμη, εὐμάθεια, ἀγχίνοια, πάντα τὰ τοιαῦτα· ποιητικαὶ γὰρ αὗται ἀγαθῶν αἱ δυνάμεις εἰσίν. ὁμοίως δὲ καὶ αἱ ἐπιστῆμαι πᾶσαι καὶ αἱ τέχναι. καὶ τὸ ζῆν· εἰ γὰρ μηδὲν ἄλλο ἕποιτο ἀγαθόν, καθ' αὑτὸ αἱρετόν ἐστιν. καὶ τὸ δίκαιον· συμφέρον γάρ τι κοινῇ ἐστιν.

ταῦτα μὲν οὖν σχεδὸν τὰ ὁμολογούμενα ἀγαθά ἐστιν· ἐν δὲ τοῖς ἀμφισβητησίμοις ἐκ τῶνδε οἱ συλλογισμοί. ᾧ τὸ ἐναντίον κακόν, τοῦτ' ἀγαθόν. καὶ οὗ τὸ ἐναντίον τοῖς ἐχθροῖς συμφέρει· οἷον εἰ τὸ δειλοὺς εἶναι μάλιστα συμφέρει τοῖς ἐχθροῖς, δῆλον ὅτι ἀνδρεία μάλιστα ὠφέλιμον τοῖς πολίταις. καὶ ὅλως ὃ οἱ ἐχθροὶ βούλονται ἢ ἐφ' ᾧ χαίρουσι, τοὐναντίον τούτου ὠφέλιμον φαίνεται· διὸ εἴρηται

ἦ κεν γηθήσαι Πρίαμος.

ἔστι δ' οὐκ ἀεὶ τοῦτο, ἀλλ' ὡς ἐπὶ τὸ πολύ· οὐδὲν γὰρ κωλύει ἐνίοτε ταὐτὸ συμφέρειν τοῖς ἐναντίοις· ὅθεν λέγεται ὡς τὰ [1363a] κακὰ συνάγει τοὺς ἀνθρώπους, ὅταν ᾖ ταὐτὸ βλαβερὸν ἀμφοῖν. καὶ οὗ μὴ ἔστιν ὑπερβολή, τοῦτο ἀγαθόν, ὃ δ' ἂν ᾖ μεῖζον ἢ δεῖ, κακόν. καὶ οὗ ἕνεκα πολλὰ πεπόνηται ἢ δεδαπάνηται· φαινόμενον γὰρ ἀγαθὸν ἤδη, καὶ ὡς τέλος τὸ τοιοῦτον ὑπολαμβάνεται, καὶ τέλος πολλῶν, τὸ δὲ τέλος ἀγαθόν. ὅθεν ταῦτ' εἴρηται "κὰδ δέ κεν εὐχωλὴν Πριάμῳ" καὶ "αἰσχρόν τοι δηρόν τε μένειν". καὶ ἡ παροιμία δὲ τὸ ἐπὶ θύραις τὴν ὑδρίαν. καὶ οὗ ‹οἱ› πολλοὶ ἐφίενται, καὶ τὸ περιμάχητον φαινόμενον· οὗ γὰρ πάντες ἐφίενται, τοῦτο ἀγαθὸν ἦν, οἱ δὲ πολλοὶ ὥσπερ πάντες φαίνονται. καὶ τὸ ἐπαινετόν· οὐδεὶς γὰρ τὸ μὴ ἀγαθὸν ἐπαινεῖ. καὶ ὃ οἱ ἐχθροὶ καὶ οἱ φαῦλοι ἐπαινοῦσιν· ὥσπερ γὰρ πάντες ἤδη ὁμολογοῦσιν, εἰ καὶ οἱ κακῶς πεπονθότες· διὰ γὰρ τὸ φανερὸν ὁμολογοῖεν ἄν, ὥσπερ καὶ φαῦλοι οὓς οἱ φίλοι ψέγουσι καὶ [ἀγαθοὶ] οὓς οἱ ἐχθροὶ μὴ ψέγουσιν (διὸ λελοιδορῆσθαι ὑπέλαβον Κορίνθιοι ὑπὸ Σιμωνίδου ποιήσαντος

Κορινθίοις δ' οὐ μέμφεται τὸ Ἴλιον).

καὶ ὃ τῶν φρονίμων τις ἢ τῶν ἀγαθῶν ἀνδρῶν ἢ γυναικῶν προέκρινεν, οἷον Ὀδυσσέα Ἀθηνᾶ καὶ Ἑλένην Θησεὺς καὶ Ἀλέξανδρον αἱ θεαὶ καὶ Ἀχιλλέα Ὅμηρος. καὶ ὅλως τὰ προαιρετά· προαιροῦνται δὲ πράττειν τά τε εἰρημένα καὶ τὰ τοῖς ἐχθροῖς κακὰ καὶ τὰ τοῖς φίλοις ἀγαθὰ καὶ τὰ δυνατά· ταῦτα δὲ διχῶς ἐστιν, τά τε γενόμενα ἂν καὶ τὰ ῥᾳδίως γιγνόμενα· ῥᾴδια δὲ ὅσα ἢ ἄνευ λύπης ἢ ἐν ὀλίγῳ χρόνῳ· τὸ γὰρ χαλεπὸν ὁρίζεται ἢ λύπῃ ἢ πλήθει χρόνου. καὶ ἐὰν ὡς βούλονται· βούλονται δὲ ἢ μηδὲν κακὸν ἢ ἔλαττον τοῦ ἀγαθοῦ (τοῦτο δὲ ἔσται, ἐὰν ἢ λανθάνῃ ἢ ἡ τιμωρία μικρὰ ᾖ). καὶ τὰ ἴδια, καὶ ἃ μηδείς, καὶ τὰ περιττά· τιμὴ γὰρ οὕτω μᾶλλον. καὶ τὰ ἁρμόττοντα αὑτοῖς· τοιαῦτα δὲ τά τε προσήκοντα κατὰ γένος καὶ δύναμιν, καὶ ὧν ἐλλείπειν οἴονται καὶ ἂν μικρὰ ᾖ· οὐδὲν γὰρ ἧττον προαιροῦνται ταῦτα πράττειν. καὶ τὰ εὐκατέργαστα. δυνατὰ γὰρ καὶ ῥᾴδια· εὐκατέργαστα δὲ ἃ πάντες ἢ οἱ πολλοὶ ἢ οἱ ὅμοιοι ἢ οἱ ἥττους κατώρθωσαν. καὶ ἃ χαριοῦνται τοῖς φίλοις, ἢ ἃ ἀπεχθήσονται τοῖς ἐχθροῖς. καὶ ὅσα οὓς θαυμάζουσι προαιροῦνται πράττειν. καὶ πρὸς ἃ εὐφυεῖς εἰσιν καὶ ἔμπειροι· ῥᾷον γὰρ κατορθώσειν οἴονται. καὶ ἃ μηδεὶς φαῦλος· ἐπαινετὰ γὰρ μᾶλλον. καὶ ὧν ἐπιθυμοῦντες τυγχάνουσιν, οὐ γὰρ μόνον ἡδὺ ἀλλὰ καὶ βέλτιον φαίνεται. καὶ μάλιστα [1363b] ἕκαστοι πρὸς ἃ φιλοτοίουτοι, οἷον οἱ φιλόνικοι εἰ νίκη ἔσται, οἱ φιλότιμοι εἰ τιμή, οἱ φιλοχρήματοι εἰ χρήματα, καὶ οἱ ἄλλοι ὡσαύτως. περὶ μὲν οὖν ἀγαθοῦ καὶ τοῦ συμφέροντος ἐκ τούτων ληπτέον τὰς πίστεις.

Ἐπεὶ δὲ πολλάκις ὁμολογοῦντες ἄμφω συμφέρειν περὶ τοῦ μᾶλλον ἀμφισβητοῦσιν, ἐφεξῆς ἂν εἴη λεκτέον περὶ τοῦ μείζονος ἀγαθοῦ καὶ τοῦ μᾶλλον συμφέροντος. ἔστω δὴ ὑπερέχον μὲν τὸ τοσοῦτον καὶ ἔτι, ὑπερεχόμενον δὲ τὸ ἐνυπάρχον, καὶ μεῖζον μὲν ἀεὶ καὶ πλεῖον πρὸς ἔλαττον, μέγα δὲ καὶ μικρὸν καὶ πολὺ καὶ ὀλίγον πρὸς τὸ τῶν πολλῶν μέγεθος, καὶ ὑπερέχον μὲν τὸ μέγα, τὸ δὲ μικρὸν ἐλλεῖπον, καὶ πολὺ καὶ ὀλίγον ὡσαύτως.

ἐπεὶ οὖν ἀγαθὸν λέγομεν τό τε αὐτὸ αὑτοῦ ἕνεκα καὶ μὴ ἄλλου αἱρετόν, καὶ οὗ πάντ᾽ ἐφίεται, καὶ ὃ νοῦν ἂν καὶ φρόνησιν λαβόντα ἕλοιτο, καὶ τὸ ποιητικὸν καὶ τὸ φυλακτικόν, ἢ ᾧ ἕπεται τὰ τοιαῦτα, [τὸ δ᾽ οὗ ἕνεκα τὸ τέλος ἐστίν,] τέλος δέ ἐστιν οὗ ἕνεκα τὰ ἄλλα, αὑτῷ δὲ ἀγαθὸν τὸ πρὸς αὑτὸν ταῦτα πεπονθός, ἀνάγκη τά γε πλείω τοῦ ἑνὸς καὶ τῶν ἐλαττόνων, συναριθμουμένου τοῦ ἑνὸς ἢ τῶν ἐλαττόνων, μεῖζον ἀγαθὸν εἶναι· ὑπερέχει γάρ, τὸ δὲ ἐνυπάρχον ὑπερέχεται. καὶ ἐὰν τὸ μέγιστον τοῦ μεγίστου ὑπερέχῃ, καὶ αὐτὰ αὐτῶν· καὶ ὅσα αὐτὰ αὐτῶν, καὶ τὸ μέγιστον τοῦ μεγίστου· οἷον εἰ ὁ μέγιστος ἀνὴρ γυναικὸς τῆς μεγίστης μείζων, καὶ ὅλως οἱ ἄνδρες τῶν γυναικῶν μείζους, καὶ εἰ οἱ ἄνδρες ὅλως τῶν γυναικῶν μείζους, καὶ ἀνὴρ ὁ μέγιστος τῆς μεγίστης γυναικὸς μείζων· ἀνάλογον γὰρ ἔχουσιν αἱ ὑπεροχαὶ τῶν γενῶν καὶ τῶν μεγίστων ἐν αὐτοῖς. καὶ ὅταν τόδε μὲν τῷδε ἕπηται, ἐκεῖνο δὲ τούτῳ μή, ἕπηται δὲ ἢ τῷ ἅμα ἢ τῷ ἐφεξῆς ἢ τῇ δυνάμει· ἐνυπάρχει γὰρ ἡ χρῆσις ἡ τοῦ ἑπομένου ἐν τῇ θατέρου. ἕπεται δὲ ἅμα μὲν τῷ ὑγιαίνειν τὸ ζῆν, τούτῳ δὲ ἐκεῖνο οὔ, ὕστερον δὲ τῷ μανθάνειν τὸ ἐπίστασθαι, δυνάμει δὲ τῷ ἱεροσυλεῖν τὸ ἀποστερεῖν· ὁ γὰρ ἱεροσυλήσας κἂν ἀποστερήσειεν. καὶ τὰ ὑπερέχοντα τοῦ αὐτοῦ μείζονι μείζω· ἀνάγκη γὰρ ὑπερέχειν καὶ τοῦ μείονι.

καὶ τὰ μείζονος ἀγαθοῦ ποιητικὰ μείζω· τοῦτο γὰρ ἦν τὸ μείζονος ποιητικῷ εἶναι. καὶ οὗ τὸ ποιητικὸν μεῖζον, ὡσαύτως· εἰ γὰρ τὸ ὑγιεινὸν αἱρετώτερον τοῦ ἡδέος καὶ μεῖζον ἀγαθόν, καὶ ἡ ὑγίεια τῆς ἡδονῆς μείζων. καὶ [1364a] αἱρετώτερον τὸ καθ’ αὑτὸ τοῦ μὴ καθ’ αὑτό, οἷον ἰσχὺς ὑγιεινοῦ· τὸ μὲν γὰρ οὐχ αὑτοῦ ἕνεκα, τὸ δὲ αὑτοῦ, ὅπερ ἦν τὸ ἀγαθόν. κἂν ᾖ τὸ μὲν τέλος, τὸ δὲ μὴ τέλος· τὸ μὲν γὰρ ἄλλου ἕνεκα, τὸ δὲ αὑτοῦ, οἷον τὸ γυμνάζεσθαι τοῦ εὖ ἔχειν τὸ σῶμα. καὶ τὸ ἧττον προσδεόμενον θατέρου [ἢ] ἑτέρων· αὐταρκέστερον γάρ· ἧττον δὲ προσδεῖται τὸ ἐλαττόνων ἢ ῥᾳόνων προσδεόμενον. καὶ ὅταν τόδε μὲν ἄνευ τοῦδε μὴ ᾖ, ἢ μὴ δυνατὸν ᾖ γενέσθαι, θάτερον δὲ ἄνευ τούτου, αὐταρκέστερον [δὲ] τὸ μὴ δεόμενον, ὥστε φαίνεται μεῖζον ἀγαθόν. κἂν ᾖ ἀρχή, τὸ δὲ μὴ ἀρχή, κἂν ᾖ αἴτιον, τὸ δ’ οὐκ αἴτιον, διὰ τὸ αὐτό· ἄνευ γὰρ αἰτίου καὶ ἀρχῆς ἀδύνατον εἶναι ἢ γενέσθαι. καὶ δυοῖν ἀρχαῖν τὸ ἀπὸ τῆς μείζονος ἀρχῆς μεῖζον, καὶ δυοῖν αἰτίοιν τὸ ἀπὸ τοῦ μείζονος αἰτίου μεῖζον. καὶ ἀνάπαλιν δὲ δυοῖν ἀρχαῖν ἡ τοῦ μείζονος ἀρχὴ μείζων, καὶ δυοῖν αἰτίοιν τὸ τοῦ μείζονος αἴτιον μεῖζον. δῆλον οὖν ἐκ τῶν εἰρημένων ὅτι ἀμφοτέρως μεῖζον ἔστιν φαίνεσθαι· καὶ γὰρ εἰ ἀρχή, τὸ δὲ μὴ ἀρχή, δόξει μεῖζον εἶναι, καὶ εἰ μὴ ἀρχή, τὸ δὲ ἀρχή· τὸ γὰρ τέλος μεῖζον καὶ οὐχ ‹ἡ› ἀρχή, ὥσπερ ὁ Λεωδάμας κατηγορῶν ἔφη Καλλιστράτου τὸν βουλεύσαντα τοῦ πράξαντος μᾶλλον ἀδικεῖν· οὐ γὰρ ἂν πραχθῆναι μὴ βουλεύσαντος· πάλιν δὲ καὶ Χαβρίου, τὸν πράξαντα τοῦ βουλεύσαντος· οὐ γὰρ ἂν γενέσθαι, εἰ μὴ ἦν ὁ πράξων· τούτου γὰρ ἕνεκα ἐπιβουλεύειν, ὅπως πράξωσιν. καὶ τὸ σπανιώτερον τοῦ ἀφθόνου, οἷον χρυσὸς σιδήρου, ἀχρηστότερος ὤν· μεῖζον γὰρ ἡ κτῆσις διὰ τὸ χαλεπωτέρα εἶναι. (ἄλλον δὲ τρόπον τὸ ἄφθονον τοῦ σπανίου, ὅτι ἡ χρῆσις ὑπερέχει· τὸ γὰρ πολλάκις τοῦ ὀλιγάκις ὑπερέχει, ὅθεν λέγεται

ἄριστον μὲν ὕδωρ.)

καὶ ὅλως τὸ χαλεπώτερον τοῦ ῥᾴονος· σπανιώτερον γάρ. ἄλλον δὲ τρόπον τὸ ῥᾷον τοῦ χαλεπωτέρου· ἔχει γὰρ ὡς βουλόμεθα. καὶ ᾧ τὸ ἐναντίον μεῖζον, καὶ οὗ ἡ στέρησις μείζων. καὶ ἀρετὴ μὴ κακίας καὶ κακία μὴ ἀρετῆς μείζων· τὰ μὲν γὰρ τέλη, τὰ δ’ οὐ τέλη. καὶ ὧν τὰ ἔργα καλλίω ἢ αἰσχίω, μείζω αὐτά, καὶ ὧν αἱ κακίαι καὶ αἱ ἀρεταὶ μείζους, καὶ τὰ ἔργα μείζω, ἐπείπερ ὡς τὰ αἴτια καὶ αἱ ἀρχαί, καὶ τὰ ἀποβαίνοντα, καὶ ὡς τὰ ἀποβαίνοντα, καὶ τὰ αἴτια καὶ αἱ ἀρχαί. καὶ ὧν ἡ ὑπεροχὴ αἱρετωτέρα ἢ καλλίων, οἷον τὸ ἀκριβῶς ὁρᾶν αἱρετώτερον τοῦ ὀσφραίνεσθαι (καὶ γὰρ ὄψις [1364b] ὀσφρήσεως), καὶ τὸ φιλεταιρώτερον εἶναι τοῦ φιλοχρηματώτερον [μᾶλλον] κάλλιον, ὥστε καὶ φιλεταιρία φιλοχρηματίας. καὶ ἀντικειμένως δὲ τῶν βελτιόνων αἱ ὑπερβολαὶ βελτίους καὶ ‹αἱ› καλλιόνων καλλίους. καὶ ὧν αἱ ἐπιθυμίαι καλλίους ἢ βελτίους· αἱ γὰρ μείζους ὀρέξεις μειζόνων εἰσίν. καὶ τῶν καλλιόνων δὲ ἢ βελτιόνων αἱ ἐπιθυμίαι βελτίους καὶ καλλίους διὰ τὸ αὐτό. καὶ ὧν αἱ ἐπιστῆμαι καλλίους ἢ σπουδαιότεραι, καὶ τὰ πράγματα καλλίω καὶ σπουδαιότερα· ὡς γὰρ ἔχει ἡ ἐπιστήμη, καὶ τὸ ἀληθές· κελεύει δὲ τὸ αὑτῆς ἑκάστη. καὶ τῶν σπουδαιοτέρων δὲ καὶ καλλιόνων αἱ ἐπιστῆμαι ἀνάλογον διὰ τὸ αὐτό. καὶ ὃ κρίνειαν ἂν ἢ κεκρίκασιν οἱ φρόνιμοι ἢ πάντες ἢ οἱ πολλοὶ ἢ οἱ πλείους ἢ οἱ κράτιστοι ἀγαθὸν μεῖζον, ἀνάγκη οὕτως ἔχειν, ἢ ἁπλῶς ἢ ᾗ κατὰ τὴν φρόνησιν ἔκριναν. ἔστι δὲ τοῦτο κοινὸν καὶ κατὰ τῶν ἄλλων· καὶ γὰρ τὶ καὶ ποσὸν καὶ ποιὸν οὕτως ἔχει ὡς ἂν ἡ ἐπιστήμη καὶ ἡ φρόνησις εἴποι. ἀλλ’ ἐπ’ ἀγαθῶν εἰρήκαμεν· ὥρισται γὰρ ἀγαθὸν εἶναι ὃ λαβὸν [τὰ πράγματα] φρόνησιν ἕλοιτ’ ἂν ἕκαστον· δῆλον οὖν ὅτι καὶ μεῖζον ὃ μᾶλλον ἡ φρόνησις λέγει. καὶ τὸ τοῖς βελτίοσιν ὑπάρχον, ἢ ἁπλῶς ἢ ᾗ βελτίους, οἷον ἡ ἀνδρεία ἰσχύος. καὶ ὃ ἕλοιτ’ ἂν ὁ βελτίων, ἢ ἁπλῶς ἢ ᾗ βελτίων, οἷον τὸ ἀδικεῖσθαι μᾶλλον ἢ ἀδικεῖν· τοῦτο γὰρ ὁ δικαιότερος ἂν ἕλοιτο. καὶ τὸ ἥδιον τοῦ ἧττον ἡδέος· τὴν γὰρ ἡδονὴν πάντα διώκει, καὶ αὐτοῦ ἕνεκα τοῦ ἥδεσθαι ὀρέγονται, ὥρισται δὲ τούτοις τὸ ἀγαθὸν καὶ τὸ τέλος· ἥδιον δὲ τό τε ἀλυπότερον καὶ τὸ πολυχρονιώτερον ἡδύ. καὶ τὸ κάλλιον τοῦ ἧττον καλοῦ· τὸ γὰρ καλόν ἐστιν ἤτοι τὸ ἡδὺ ἢ τὸ καθ’ αὑτὸ αἱρετόν. καὶ ὅσων αὐτοὶ αὑτοῖς ἢ φίλοις βούλονται αἴτιοι εἶναι μᾶλλον, ταῦτα μείζω ἀγαθά, ὅσων δὲ ἧττον, μείζω κακά.

καὶ τὰ πολυχρονιώτερα τῶν ὀλιγοχρονιωτέρων καὶ τὰ βεβαιότερα τῶν ἀβεβαιοτέρων· ὑπερέχει γὰρ ἡ χρῆσις τῶν μὲν τῷ χρόνῳ τῶν δὲ τῇ βουλήσει· ὅταν γὰρ βούλωνται, ὑπάρχει μᾶλλον ἡ τοῦ βεβαίου. καὶ ὡς ἂν ἓν τῶν συστοίχων καὶ τῶν ὁμοίων πτώσεων, καὶ τἆλλ’ ἀκολουθεῖ, οἷον εἰ τὸ ἀνδρείως κάλλιον καὶ αἱρετώτερον τοῦ σωφρόνως, καὶ ἀνδρεία σωφροσύνης αἱρετωτέρα καὶ τὸ ἀνδρεῖον εἶναι τοῦ σωφρονεῖν. καὶ ὃ πάντες αἱροῦνται τοῦ μὴ ὃ πάντες. καὶ ὃ οἱ πλείους ἢ ὃ οἱ ἐλάττους· [1365a] ἀγαθὸν γὰρ ἦν οὗ πάντες ἐφίενται, ὥστε καὶ μεῖζον οὗ μᾶλλον. καὶ ὃ οἱ ἀμφισβητοῦντες ἢ οἱ ἐχθροί, ἢ οἱ κρίνοντες ἢ οὓς οὗτοι κρίνουσιν· τὸ μὲν γὰρ ὡς ἂν εἰ πάντες φαῖέν ἐστι, τὸ δὲ οἱ κύριοι καὶ οἱ εἰδότες. καὶ ὁτὲ μὲν οὗ πάντες μετέχουσι μεῖζον· ἀτιμία γὰρ τὸ μὴ μετέχειν· ὁτὲ δὲ οὗ μηδεὶς ἢ οὗ ὀλίγοι· σπανιώτερον γάρ. καὶ τὰ ἐπαινετώτερα· καλλίω γάρ. καὶ ὧν αἱ τιμαὶ μείζους, ὡσαύτως· ἡ γὰρ τιμὴ ὥσπερ ἀξία τίς ἐστιν. καὶ ὧν αἱ ζημίαι μείζους. καὶ τὰ τῶν ὁμολογουμένων ἢ φαινομένων μεγάλων μείζω. καὶ διαιρούμενα δὲ εἰς τὰ μέρη τὰ αὐτὰ μείζω φαίνεται. πλεῖον γὰρ ὑπερέχειν φαίνεται, ὅθεν καὶ ὁ ποιητής φησι πεῖσαι τὸν Μελέαγρον ἀναστῆναι

ὅσσα κάκ’ ἀνθρώποισι πέλει τῶν ἄστυ ἁλώῃ·
λαοὶ μὲν φθινύθουσι, πόλιν δέ τε πῦρ ἀμαθύνει,
τέκνα δέ τ’ ἄλλοι ἄγουσιν.

καὶ τὸ συντιθέναι δὲ καὶ ἐποικοδομεῖν, ὥσπερ Ἐπίχαρμος, διά τε τὸ αὐτὸ τῇ διαιρέσει (ἡ γὰρ σύνθεσις ὑπεροχὴν δείκνυσι πολλήν) καὶ ὅτι ἀρχὴ φαίνεται μεγάλων καὶ αἴτιον. ἐπεὶ δὲ τὸ χαλεπώτερον καὶ σπανιώτερον μεῖζον, καὶ οἱ καιροὶ καὶ αἱ ἡλικίαι καὶ οἱ τόποι καὶ οἱ χρόνοι καὶ αἱ δυνάμεις ποιοῦσι μεγάλα· εἰ γὰρ παρὰ δύναμιν καὶ παρὰ ἡλικίαν καὶ παρὰ τοὺς ὁμοίους, καὶ εἰ οὕτως ἢ ἐνταῦθα ἢ τότε, ἕξει μέγεθος καὶ καλῶν καὶ ἀγαθῶν καὶ δικαίων καὶ τῶν ἐναντίων, ὅθεν καὶ τὸ ἐπίγραμμα τῷ ὀλυμπιονίκῃ·

πρόσθε μὲν ἀμφ’ ὤμοισιν ἔχων τραχεῖαν ἄσιλλαν
ἰχθῦς ἐξ Ἄργους εἰς Τεγέαν ἔφερον,

καὶ ὁ Ἰφικράτης αὐτὸν ἐνεκωμίαζε λέγων ἐξ ὧν ὑπῆρξεν ταῦτα. καὶ τὸ αὐτοφυὲς τοῦ ἐπικτήτου· χαλεπώτερον γάρ. ὅθεν καὶ ὁ ποιητής φησιν “αὐτοδίδακτος δ’ εἰμί.” καὶ τὸ μεγάλου μέγιστον μέρος, οἷον Περικλῆς τὸν ἐπιτάφιον λέγων, τὴν νεότητα ἐκ τῆς πόλεως ἀνῃρῆσθαι ὥσπερ τὸ ἔαρ ἐκ τοῦ ἐνιαυτοῦ εἰ ἐξαιρεθείη. καὶ τὰ ἐν χρείᾳ μείζονι χρήσιμα, οἷον τὰ ἐν γήρᾳ καὶ νόσοις. καὶ δυοῖν τὸ ἐγγύτερον τοῦ τέλους. καὶ τὸ αὐτῷ τοῦ ἁπλῶς. καὶ τὸ δυνατὸν τοῦ ἀδυνάτου· τὸ μὲν γὰρ αὐτῷ, τὸ δ’ οὔ. καὶ τὰ ἐν τέλει τοῦ βίου· τέλη γὰρ μᾶλλον τὰ πρὸς τῷ τέλει. καὶ [1365b] τὰ πρὸς ἀλήθειαν τῶν πρὸς δόξαν· ὅρος δὲ τοῦ πρὸς δόξαν, ὃ λανθάνειν μέλλων οὐκ ἂν ἕλοιτο· διὸ καὶ τὸ εὖ πάσχειν τοῦ εὖ ποιεῖν δόξειεν ἂν αἱρετώτερον εἶναι· τὸ μὲν γὰρ κἂν λανθάνῃ αἱρήσεται, ποιεῖν δ’ εὖ λανθάνων οὐ δοκεῖ ἂν ἑλέσθαι. καὶ ὅσα εἶναι μᾶλλον ἢ δοκεῖν βούλονται· πρὸς ἀλήθειαν γὰρ μᾶλλον· διὸ καὶ τὴν δικαιοσύνην φασὶ μικρὸν εἶναι, ὅτι δοκεῖν ἢ εἶναι αἱρετώτερον· τὸ δὲ ὑγιαίνειν οὔ. καὶ τὸ πρὸς πολλὰ χρησιμώτερον, οἷον τὸ πρὸς τὸ ζῆν καὶ εὖ ζῆν καὶ τὴν ἡδονὴν καὶ τὸ πράττειν τὰ καλά· διὸ ὁ πλοῦτος καὶ ἡ ὑγίεια μέγιστα δοκεῖ εἶναι· ἅπαντα γὰρ ἔχει ταῦτα. καὶ τὸ ἀλυπότερον καὶ μεθ’ ἡδονῆς· πλείω γὰρ ἑνός, ὅτι ὑπάρχει καὶ ἡ ἡδονὴ [ἀγαθὸν] καὶ ἡ ἀλυπία. καὶ δυοῖν ὃ τῷ αὐτῷ προστιθέμενον μεῖζον τὸ ὅλον ποιεῖ. καὶ ἃ μὴ λανθάνει παρόντα ἢ ἃ λανθάνει· πρὸς ἀλήθειαν γὰρ τείνει ταῦτα· διὸ τὸ πλουτεῖν φανείη ἂν μεῖζον ἀγαθὸν τοῦ δοκεῖν. καὶ τὸ ἀγαπητόν, καὶ τοῖς μὲν μόνον ‹ὂν› τοῖς δὲ μετ’ ἄλλων· διὸ καὶ οὐκ ἴση ζημία, ἄν τις τὸν ἑτερόφθαλμον τυφλώσῃ καὶ τὸν δύ’ ἔχοντα· ἀγαπητὸν γὰρ ἀφῄρηται. ἐκ τίνων μὲν οὖν δεῖ τὰς πίστεις φέρειν ἐν τῷ προτρέπειν καὶ ἀποτρέπειν, σχεδὸν εἴρηται.

Μέγιστον δὲ καὶ κυριώτατον ἁπάντων πρὸς τὸ δύνασθαι πείθειν καὶ καλῶς συμβουλεύειν ‹τὸ› τὰς πολιτείας ἁπάσας λαβεῖν καὶ τὰ ἑκάστης ἤθη καὶ νόμιμα καὶ συμφέροντα διελεῖν. πείθονται γὰρ ἅπαντες τῷ συμφέροντι, συμφέρει δὲ τὸ σῷζον τὴν πολιτείαν. ἔτι δὲ κυρία μέν ἐστιν ἡ τοῦ κυρίου ἀπόφανσις, τὰ δὲ κύρια διῄρηται κατὰ τὰς πολιτείας· ὅσαι γὰρ αἱ πολιτεῖαι, τοσαῦτα καὶ τὰ κύριά ἐστιν. εἰσὶν δὲ πολιτεῖαι τέτταρες, δημοκρατία, ὀλιγαρχία, ἀριστοκρατία, μοναρχία, ὥστε τὸ μὲν κύριον καὶ τὸ κρῖνον τούτων τι ἂν εἴη μόριον ἢ ὅλον τούτων.

ἔστιν δὲ δημοκρατία μὲν πολιτεία ἐν ᾗ κλήρῳ διανέμονται τὰς ἀρχάς, ὀλιγαρχία δὲ ἐν ᾗ οἱ ἀπὸ τιμημάτων, ἀριστοκρατία δὲ ἐν ᾗ κατὰ τὴν παιδείαν· παιδείαν δὲ λέγω τὴν ὑπὸ τοῦ νόμου κειμένην. οἱ γὰρ ἐμμεμενηκότες ἐν τοῖς νομίμοις ἐν τῇ ἀριστοκρατίᾳ ἄρχουσιν. ἀνάγκη δὲ τούτους φαίνεσθαι ἀρίστους, ὅθεν καὶ τοὔνομα εἴληφεν τοῦτο. μοναρχία δ’ ἐστὶν κατὰ [1366a] τοὔνομα ἐν ᾗ εἷς ἁπάντων κύριός ἐστιν· τούτων δὲ ἡ μὲν κατὰ τάξιν τινὰ βασιλεία, ἡ δ’ ἀόριστος τυραννίς. τὸ δὴ τέλος ἑκάστης πολιτείας οὐ δεῖ λανθάνειν· αἱροῦνται γὰρ τὰ πρὸς τὸ τέλος. ἔστι δὲ δημοκρατίας μὲν τέλος ἐλευθερία, ὀλιγαρχίας δὲ πλοῦτος, ἀριστοκρατίας δὲ τὰ περὶ παιδείαν καὶ τὰ νόμιμα, τυραννίδος δὲ φυλακή. δῆλον οὖν ὅτι τὰ πρὸς τὸ τέλος ἑκάστης ἤθη καὶ νόμιμα καὶ συμφέροντα διαιρετέον, εἴπερ αἱροῦνται πρὸς τοῦτο ἐπαναφέροντες. ἐπεὶ δὲ οὐ μόνον αἱ πίστεις γίνονται δι’ ἀποδεικτικοῦ λόγου, ἀλλὰ καὶ δι’ ἠθικοῦ (τῷ γὰρ ποιόν τινα φαίνεσθαι τὸν λέγοντα πιστεύομεν, τοῦτο δ’ ἐστὶν ἂν ἀγαθὸς φαίνηται ἢ εὔνους ἢ ἄμφω), δέοι ἂν τὰ ἤθη τῶν πολιτειῶν ἑκάστης ἔχειν ἡμᾶς· τὸ μὲν γὰρ ἑκάστης ἦθος πιθανώτατον ἀνάγκη πρὸς ἑκάστην εἶναι. ταῦτα δὲ ληφθήσεται διὰ τῶν αὐτῶν· τὰ μὲν γὰρ ἤθη φανερὰ κατὰ τὴν προαίρεσιν, ἡ δὲ προαίρεσις ἀναφέρεται πρὸς τὸ τέλος.

ὧν μὲν οὖν δεῖ ὀρέγεσθαι προτρέποντας ὡς ἐσομένων ἢ ὄντων, καὶ ἐκ τίνων δεῖ τὰς περὶ τοῦ συμφέροντος πίστεις λαμβάνειν, ἔτι δὲ τῶν περὶ τὰς πολιτείας ἠθῶν καὶ νομίμων διὰ τίνων τε καὶ πῶς εὐπορήσομεν, ἐφ’ ὅσον ἦν τῷ παρόντι καιρῷ σύμμετρον, εἴρηται· διηκρίβωται γὰρ ἐν τοῖς Πολιτικοῖς περὶ τούτων.

μετὰ δὲ ταῦτα λέγωμεν περὶ ἀρετῆς καὶ κακίας καὶ καλοῦ καὶ αἰσχροῦ· οὗτοι γὰρ σκοποὶ τῷ ἐπαινοῦντι καὶ ψέγοντι· συμβήσεται γὰρ ἅμα περὶ τούτων λέγοντας κἀκεῖνα δηλοῦν ἐξ ὧν ποιοί τινες ὑποληφθησόμεθα κατὰ τὸ ἦθος, ἥπερ ἦν δευτέρα πίστις· ἐκ τῶν αὐτῶν γὰρ ἡμᾶς τε καὶ ἄλλον ἀξιόπιστον δυνησόμεθα ποιεῖν πρὸς ἀρετήν. ἐπεὶ δὲ συμβαίνει καὶ χωρὶς σπουδῆς καὶ μετὰ σπουδῆς ἐπαινεῖν πολλάκις οὐ μόνον ἄνθρωπον ἢ θεὸν ἀλλὰ καὶ ἄψυχα καὶ τῶν ἄλλων ζῴων τὸ τυχόν, τὸν αὐτὸν τρόπον καὶ περὶ τούτων ληπτέον τὰς προτάσεις, ὥστε ὅσον παραδείγματος χάριν εἴπωμεν καὶ περὶ τούτων.

καλὸν μὲν οὖν ἐστιν ὃ ἂν δι᾽ αὑτὸ αἱρετὸν ὂν ἐπαινετὸν ᾖ, ἢ ὃ ἂν ἀγαθὸν ὂν ἡδὺ ᾖ, ὅτι ἀγαθόν· εἰ δὲ τοῦτό ἐστι τὸ καλόν, ἀνάγκη τὴν ἀρετὴν καλὸν εἶναι· ἀγαθὸν γὰρ ὂν ἐπαινετόν ἐστιν. ἀρετὴ δ᾽ ἐστὶ μὲν δύναμις ὡς δοκεῖ ποριστικὴ ἀγαθῶν καὶ φυλακτική, καὶ δύναμις εὐεργετικὴ πολλῶν καὶ μεγάλων, καὶ πάντων [1366b] περὶ πάντα· μέρη δὲ ἀρετῆς δικαιοσύνη, ἀνδρεία, σωφροσύνη, μεγαλοπρέπεια, μεγαλοψυχία, ἐλευθεριότης, φρόνησις, σοφία. ἀνάγκη δὲ μεγίστας εἶναι ἀρετὰς τὰς τοῖς ἄλλοις χρησιμωτάτας, εἴπερ ἐστὶν ἡ ἀρετὴ δύναμις εὐεργετική, ‹καὶ› διὰ τοῦτο τοὺς δικαίους καὶ ἀνδρείους μάλιστα τιμῶσιν· ἡ μὲν γὰρ ἐν πολέμῳ, ἡ δὲ καὶ ἐν πολέμῳ καὶ ἐν εἰρήνῃ χρήσιμος ἄλλοις. εἶτα ἐλευθεριότης· προΐενται γὰρ καὶ οὐκ ἀνταγωνίζονται περὶ τῶν χρημάτων, ὧν μάλιστα ἐφίενται ἄλλοι. ἔστι δὲ δικαιοσύνη μὲν ἀρετὴ δι᾽ ἣν τὰ αὑτῶν ἕκαστοι ἔχουσι, καὶ ὡς ὁ νόμος· ἀδικία δὲ δι᾽ ἣν τὰ ἀλλότρια, οὐχ ὡς ὁ νόμος. ἀνδρεία δὲ δι᾽ ἣν πρακτικοί εἰσι τῶν καλῶν ἔργων ἐν τοῖς κινδύνοις, καὶ ὡς ὁ νόμος κελεύει, καὶ ὑπηρετικοὶ τῷ νόμῳ· δειλία δὲ τοὐναντίον. σωφροσύνη δὲ ἀρετὴ δι᾽ ἣν πρὸς τὰς ἡδονὰς τὰς τοῦ σώματος οὕτως ἔχουσιν ὡς ὁ νόμος κελεύει· ἀκολασία δὲ τοὐναντίον. ἐλευθεριότης δὲ περὶ χρήματα εὐποιητική, ἀνελευθερία δὲ τοὐναντίον. μεγαλοψυχία δὲ ἀρετὴ μεγάλων ποιητικὴ εὐεργετημάτων [μικροψυχία δὲ τοὐναντίον], μεγαλοπρέπεια δὲ ἀρετὴ ἐν δαπανήμασι μεγέθους ποιητική, μικροψυχία δὲ καὶ μικροπρέπεια τἀναντία. φρόνησις δ᾽ ἐστὶν ἀρετὴ διανοίας καθ᾽ ἣν εὖ βουλεύεσθαι δύνανται περὶ ἀγαθῶν καὶ κακῶν τῶν εἰρημένων εἰς εὐδαιμονίαν.

περὶ μὲν οὖν ἀρετῆς καὶ κακίας καθόλου καὶ περὶ τῶν μορίων εἴρηται κατὰ τὸν ἐνεστῶτα καιρὸν ἱκανῶς, περὶ δὲ τῶν ἄλλων οὐ χαλεπὸν ἰδεῖν· φανερὸν γὰρ ὅτι ἀνάγκη τά τε ποιητικὰ τῆς ἀρετῆς εἶναι καλά (πρὸς ἀρετὴν γάρ) καὶ τὰ ἀπ᾽ ἀρετῆς γινόμενα, τοιαῦτα δὲ τά τε σημεῖα τῆς ἀρετῆς καὶ τὰ ἔργα· ἐπεὶ δὲ τὰ σημεῖα καὶ τὰ τοιαῦτα ἅ ἐστιν ἀγαθοῦ ἔργα ἢ πάθη καλά, ἀνάγκη ὅσα τε ἀνδρείας ἔργα ἢ σημεῖα ἀνδρείας ἢ ἀνδρείως πέπρακται καλὰ εἶναι, καὶ τὰ δίκαια καὶ τὰ δικαίως ἔργα (πάθη δὲ οὔ· ἐν μόνῃ γὰρ ταύτῃ τῶν ἀρετῶν οὐκ ἀεὶ τὸ δικαίως καλόν, ἀλλ᾽ ἐπὶ τοῦ ζημιοῦσθαι αἰσχρὸν τὸ δικαίως μᾶλλον ἢ τὸ ἀδίκως), καὶ κατὰ τὰς ἄλλας δὲ ἀρετὰς ὡσαύτως. καὶ ἐφ᾽ ὅσοις τὰ ἆθλα τιμή, καλά. καὶ ἐφ᾽ ὅσοις τιμὴ μᾶλλον ἢ χρήματα. καὶ ὅσα μὴ αὑτοῦ ἕνεκα πράττει τις τῶν αἱρετῶν, καὶ τὰ ἁπλῶς ἀγαθά, ὅσα τε ὑπὲρ πατρίδος τις ἐποίησεν παριδὼν τὸ αὑτοῦ, καὶ τὰ τῇ φύσει ἀγαθά, καὶ ἃ μὴ αὐτῷ [1367a] ἀγαθά· αὑτοῦ γὰρ ἕνεκα τὰ τοιαῦτα. καὶ ὅσα τεθνεῶτι ἐνδέχεται ὑπάρχειν μᾶλλον ἢ ζῶντι· τὸ γὰρ αὑτοῦ ἕνεκα μᾶλλον ἔχει τὰ ζῶντι. καὶ ὅσα ἔργα τῶν ἄλλων ἕνεκα· ἧττον γὰρ αὑτοῦ. καὶ ὅσαι εὐπραγίαι περὶ ἄλλους ἀλλὰ μὴ περὶ αὑτόν, καὶ ‹αἱ› περὶ τοὺς εὖ ποιήσαντας· δίκαιον γάρ. καὶ τὰ εὐεργετήματα· οὐ γὰρ εἰς αὑτόν. καὶ τὰ ἐναντία ἢ ἐφ’ οἷς αἰσχύνονται· τὰ γὰρ αἰσχρὰ αἰσχύνονται καὶ λέγοντες καὶ ποιοῦντες καὶ μέλλοντες, ὥσπερ καὶ Σαπφὼ πεποίηκεν, εἰπόντος τοῦ Ἀλκαίου

θέλω τι εἰπῆν, ἀλλά με κωλύει
αἰδώς,
αἰ δ’ ἦχες ἐσθλῶν ἵμερον ἢ καλῶν
καὶ μή τι εἰπῆν γλῶσσ’ ἐκύκα κακόν
αἰδώς κέν σε οὐκ εἶχεν ὄμματ’,
ἀλλ’ ἔλεγες περὶ τῶ δικαίω.

καὶ περὶ ὧν ἀγωνιῶσι μὴ φοβούμενοι· περὶ γὰρ τῶν πρὸς δόξαν φερόντων ἀγαθῶν τοῦτο πάσχουσιν. καὶ αἱ τῶν φύσει σπουδαιοτέρων ἀρεταὶ καλλίους καὶ τὰ ἔργα, οἷον ἀνδρὸς ἢ γυναικός. καὶ αἱ ἀπολαυστικαὶ ἄλλοις μᾶλλον ἢ αὐτοῖς· διὸ τὸ δίκαιον καὶ ἡ δικαιοσύνη καλόν. καὶ τὸ τοὺς ἐχθροὺς τιμωρεῖσθαι καὶ μὴ καταλλάττεσθαι· τό τε γὰρ ἀνταποδιδόναι δίκαιον, τὸ δὲ δίκαιον καλόν, καὶ ἀνδρείου τὸ μὴ ἡττᾶσθαι. καὶ νίκη καὶ τιμὴ τῶν καλῶν· αἱρετά τε γὰρ ἄκαρπα ὄντα, καὶ ὑπεροχὴν ἀρετῆς δηλοῖ. καὶ τὰ μνημονευτά, καὶ τὰ μᾶλλον μᾶλλον. καὶ ἃ μὴ ζῶντι ἕπεται, καὶ οἷς τιμὴ ἀκολουθεῖ, καὶ τὰ περιττά, καὶ τὰ μόνῳ ὑπάρχοντα, καλλίω· εὐμνημονευτότερα γάρ. καὶ κτήματα ἄκαρπα· ἐλευθεριώτερα γάρ. καὶ τὰ παρ’ ἑκάστοις δὲ ἴδια καλά, καὶ ὅσα σημεῖά ἐστιν τῶν παρ’ ἑκάστοις ἐπαινουμένων, οἷον ἐν Λακεδαίμονι κομᾶν καλόν· ἐλευθέρου γὰρ σημεῖον· οὐ γάρ ἐστιν κομῶντα ῥᾴδιον οὐδὲν ποιεῖν ἔργον θητικόν. καὶ τὸ μηδεμίαν ἐργάζεσθαι βάναυσον τέχνην· ἐλευθέρου γὰρ τὸ μὴ πρὸς ἄλλον ζῆν. ληπτέον δὲ καὶ τὰ σύνεγγυς τοῖς ὑπάρχουσιν ὡς ταὐτὰ ὄντα καὶ πρὸς ἔπαινον καὶ πρὸς ψόγον, οἷον τὸν εὐλαβῆ ψυχρὸν καὶ ἐπίβουλον καὶ τὸν ἠλίθιον χρηστὸν ἢ τὸν ἀνάλγητον πρᾶον, καὶ ἕκαστον δ’ ἐκ τῶν παρακολουθούντων ἀεὶ κατὰ τὸ βέλτιστον, οἷον τὸν ὀργίλον καὶ τὸν μανικὸν ἁπλοῦν καὶ τὸν αὐθάδη [1367b] μεγαλοπρεπῆ καὶ σεμνόν, καὶ τοὺς ἐν ταῖς ὑπερβολαῖς ὡς ἐν ταῖς ἀρεταῖς ὄντας, οἷον τὸν θρασὺν ἀνδρεῖον καὶ τὸν ἄσωτον ἐλευθέριον· δόξει τε γὰρ τοῖς πολλοῖς, καὶ ἅμα παραλογιστικὸν [ἐκ] τῆς αἰτίας. εἰ γὰρ οὗ μὴ ἀνάγκη κινδυνευτικός, πολλῷ μᾶλλον ἂν δόξειεν ὅπου καλόν, καὶ εἰ προετικὸς τοῖς τυχοῦσι, καὶ τοῖς φίλοις· ὑπερβολὴ γὰρ ἀρετῆς τὸ πάντας εὖ ποιεῖν. σκοπεῖν δὲ καὶ παρ’ οἷς ὁ ἔπαινος· ὥσπερ γὰρ ὁ Σωκράτης ἔλεγεν, οὐ χαλεπὸν Ἀθηναίους ἐν Ἀθηναίοις ἐπαινεῖν. δεῖ δὲ τὸ παρ’ ἑκάστοις τίμιον ὂν λέγειν ὡς ὑπάρχει, οἷον ἐν Σκύθαις ἢ Λάκωσιν ἢ φιλοσόφοις. καὶ ὅλως δὲ τὸ τίμιον ἄγειν εἰς τὸ καλόν, ἐπείπερ γε δοκεῖ γειτνιᾶν. καὶ ὅσα κατὰ τὸ προσῆκον, οἷον εἰ ἄξια τῶν προγόνων καὶ τῶν προϋπηργμένων· εὐδαιμονικὸν γὰρ καὶ καλὸν καὶ τὸ προσεπικτᾶσθαι τιμήν. καὶ εἰ παρὰ τὸ προσῆκον ἐπὶ δὲ τὸ βέλτιον καὶ τὸ κάλλιον, οἷον εἰ εὐτυχῶν μὲν μέτριος, ἀτυχῶν δὲ μεγαλόψυχος, ἢ μείζων γιγνόμενος βελτίων καὶ καταλλακτικώτερος. τοιοῦτον δὲ τὸ τοῦ Ἰφικράτους, “ἐξ οἵων εἰς οἷα”, καὶ τὸ τοῦ ὀλυμπιονίκου

πρόσθε μὲν ἀμφ’ ὤμοισιν ἔχων τραχεῖαν,

καὶ τὸ τοῦ Σιμωνίδου

ἣ πατρός τε καὶ ἀνδρὸς ἀδελφῶν τ’ οὖσα τυράννων.

ἐπεὶ δ’ ἐκ τῶν πράξεων ὁ ἔπαινος, ἴδιον δὲ τοῦ σπουδαίου τὸ κατὰ προαίρεσιν, πειρατέον δεικνύναι πράττοντα κατὰ προαίρεσιν, χρήσιμον δὲ τὸ πολλάκις φαίνεσθαι πεπραχότα· διὸ καὶ τὰ συμπτώματα καὶ τὰ ἀπὸ τύχης ὡς ἐν προαιρέσει ληπτέον· ἂν γὰρ πολλὰ καὶ ὅμοια προφέρηται, σημεῖον ἀρετῆς εἶναι δόξει καὶ προαιρέσεως.

ἔστιν δ’ ἔπαινος λόγος ἐμφανίζων μέγεθος ἀρετῆς. δεῖ οὖν τὰς πράξεις ἐπιδεικνύναι ὡς τοιαῦται. τὸ δ’ ἐγκώμιον τῶν ἔργων ἐστίν (τὰ δὲ κύκλῳ εἰς πίστιν, οἷον εὐγένεια καὶ παιδεία· εἰκὸς γὰρ ἐξ ἀγαθῶν ἀγαθοὺς καὶ τὸν οὕτω τραφέντα τοιοῦτον εἶναι), διὸ καὶ ἐγκωμιάζομεν πράξαντας. τὰ δ’ ἔργα σημεῖα τῆς ἕξεώς ἐστιν, ἐπεὶ ἐπαινοῖμεν ἂν καὶ μὴ πεπραγότα, εἰ πιστεύοιμεν εἶναι τοιοῦτον. μακαρισμὸς δὲ καὶ εὐδαιμονισμὸς αὑτοῖς μὲν ταὐτά, τούτοις δ’ οὐ ταὐτά, ἀλλ’ ὥσπερ ἡ εὐδαιμονία τὴν ἀρετήν, καὶ ὁ εὐδαιμονισμὸς περιέχει ταῦτα.

ἔχει δὲ κοινὸν εἶδος ὁ ἔπαινος καὶ αἱ συμβουλαί. ἃ γὰρ ἐν τῷ συμβουλεύειν ὑπόθοιο ἄν, ταῦτα μετατεθέντα [1368a] τῇ λέξει ἐγκώμια γίγνεται. ἐπεὶ οὖν ἔχομεν ἃ δεῖ πράττειν καὶ ποῖόν τινα εἶναι δεῖ, ταῦτα ὡς ὑποθήκας λέγοντας τῇ λέξει μετατιθέναι δεῖ καὶ στρέφειν, οἷον ὅτι οὐ δεῖ μέγα φρονεῖν ἐπὶ τοῖς διὰ τύχην ἀλλὰ τοῖς δι’ αὑτόν. οὕτω μὲν οὖν λεχθὲν ὑποθήκην δύναται, ὡδὶ δ’ ἔπαινον “μέγα φρονῶν οὐκ ‹ἐπὶ› τοῖς διὰ τύχην ὑπάρχουσιν ἀλλὰ τοῖς δι’ αὑτόν”. ὥστε ὅταν ἐπαινεῖν βούλῃ, ὅρα τί ἂν ὑπόθοιο· καὶ ὅταν ὑποθέσθαι, ὅρα τί ἂν ἐπαινέσειας. ἡ δὲ λέξις ἔσται ἀντικειμένη ἐξ ἀνάγκης ὅταν τὸ μὲν κωλῦον τὸ δὲ μὴ κωλῦον μετατεθῇ.

χρηστέον δὲ καὶ τῶν αὐξητικῶν πολλοῖς, οἷον εἰ μόνος ἢ πρῶτος ἢ μετ’ ὀλίγων ἢ καὶ [ὃ] μάλιστα πεποίηκεν· ἅπαντα γὰρ ταῦτα καλά. καὶ τῷ ἐκ τῶν χρόνων καὶ τῶν καιρῶν· τούτῳ δ’ εἰ παρὰ τὸ προσῆκον. καὶ εἰ πολλάκις τὸ αὐτὸ κατώρθωκεν· μέγα γὰρ καὶ οὐκ ἀπὸ τύχης ἀλλὰ δι’ αὑτοῦ ἂν δόξειεν. καὶ εἰ τὰ προτρέποντα καὶ τιμῶντα διὰ τοῦτον εὕρηται καὶ κατεσκευάσθη, καὶ εἰς τοῦτον πρῶτον ἐγκώμιον ἐποιήθη, οἷον εἰς Ἱππόλοχον, καὶ ‹εἰς› Ἁρμόδιον καὶ Ἀριστογείτονα τὸ ἐν ἀγορᾷ σταθῆναι· ὁμοίως δὲ καὶ ἐπὶ τῶν ἐναντίων. κἂν μὴ καθ’ αὑτὸν εὐπορῇς, πρὸς ἄλλους ἀντιπαραβάλλειν, ὅπερ Ἰσοκράτης ἐποίει διὰ τὴν ἀσυνήθειαν τοῦ δικολογεῖν. δεῖ δὲ πρὸς ἐνδόξους συγκρίνειν· αὐξητικὸν γὰρ καὶ καλόν, εἰ σπουδαίων βελτίων. πίπτει δ’ εὐλόγως ἡ αὔξησις εἰς τοὺς ἐπαίνους· ἐν ὑπεροχῇ γάρ ἐστιν, ἡ δ’ ὑπεροχὴ τῶν καλῶν· διὸ κἂν μὴ πρὸς τοὺς ἐνδόξους, ἀλλὰ πρὸς τοὺς ἄλλους δεῖ παραβάλλειν, ἐπείπερ ἡ ὑπεροχὴ δοκεῖ μηνύειν ἀρετήν. ὅλως δὲ τῶν κοινῶν εἰδῶν ἅπασι τοῖς λόγοις ἡ μὲν αὔξησις ἐπιτηδειοτάτη τοῖς ἐπιδεικτικοῖς (τὰς γὰρ πράξεις ὁμολογουμένας λαμβάνουσιν, ὥστε λοιπὸν μέγεθος περιθεῖναι καὶ κάλλος)· τὰ δὲ παραδείγματα τοῖς συμβουλευτικοῖς (ἐκ γὰρ τῶν προγεγονότων τὰ μέλλοντα καταμαντευόμενοι κρίνομεν)· τὰ δ’ ἐνθυμήματα τοῖς δικανικοῖς (αἰτίαν γὰρ καὶ ἀπόδειξιν μάλιστα δέχεται τὸ γεγονὸς διὰ τὸ ἀσαφές).

ἐκ τίνων μὲν οὖν οἱ ἔπαινοι καὶ οἱ ψόγοι λέγονται σχεδὸν πάντες, καὶ πρὸς ποῖα δεῖ βλέποντας ἐπαινεῖν καὶ ψέγειν, καὶ ἐκ τίνων τὰ ἐγκώμια γίγνεται καὶ τὰ ὀνείδη, ταῦτ’ ἐστίν· ἐχομένων γὰρ τούτων τὰ ἐναντία τούτοις φανερά· ὁ γὰρ ψόγος ἐκ τῶν ἐναντίων ἐστίν.

[1368b] Περὶ δὲ κατηγορίας καὶ ἀπολογίας, ἐκ πόσων καὶ ποίων ποιεῖσθαι δεῖ τοὺς συλλογισμούς, ἐχόμενον ἂν εἴη λέγειν. δεῖ δὴ λαβεῖν τρία, ἓν μὲν τίνων καὶ πόσων ἕνεκα ἀδικοῦσι, δεύτερον δὲ πῶς αὐτοὶ διακείμενοι, τρίτον δὲ τοὺς ποίους καὶ πῶς ἔχοντας. διορισάμενοι οὖν τὸ ἀδικεῖν λέγωμεν ἑξῆς.

ἔστω δὴ τὸ ἀδικεῖν τὸ βλάπτειν ἑκόντα παρὰ τὸν νόμον. νόμος δ’ ἐστὶν ὁ μὲν ἴδιος ὁ δὲ κοινός· λέγω δὲ ἴδιον μὲν καθ’ ὃν γεγραμμένον πολιτεύονται, κοινὸν δὲ ὅσα ἄγραφα παρὰ πᾶσιν ὁμολογεῖσθαι δοκεῖ. ἑκόντες δὲ ποιοῦσιν ὅσα εἰδότες καὶ μὴ ἀναγκαζόμενοι. ὅσα μὲν οὖν εἰδότες, οὐ πάντα προαιρούμενοι, ὅσα δὲ προαιρούμενοι, εἰδότες ἅπαντα· οὐδεὶς γὰρ ὃ προαιρεῖται ἀγνοεῖ. δι’ ἃ δὲ προαιροῦνται βλάπτειν καὶ φαῦλα ποιεῖν παρὰ τὸν νόμον κακία ἐστὶν καὶ ἀκρασία· ἐὰν γάρ τινες ἔχωσιν μοχθηρίαν ἢ μίαν ἢ πλείους, περὶ τοῦτο ὃ μοχθηροὶ τυγχάνουσιν ὄντες καὶ ἄδικοί εἰσιν· οἷον ὁ μὲν ἀνελεύθερος περὶ χρήματα, ὁ δ’ ἀκόλαστος περὶ τὰς τοῦ σώματος ἡδονάς, ὁ δὲ μαλακὸς περὶ τὰ ῥᾴθυμα, ὁ δὲ δειλὸς περὶ τοὺς κινδύνους (τοὺς γὰρ συγκινδυνεύοντας ἐγκαταλιμπάνουσι διὰ τὸν φόβον), ὁ δὲ φιλότιμος διὰ τιμήν, ὁ δ’ ὀξύθυμος δι’ ὀργήν, ὁ δὲ φιλόνικος διὰ νίκην, ὁ δὲ πικρὸς διὰ τιμωρίαν, ὁ δ’ ἄφρων διὰ τὸ ἀπατᾶσθαι περὶ τὸ δίκαιον καὶ ἄδικον, ὁ δ’ ἀναίσχυντος δι’ ὀλιγωρίαν δόξης· ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστος περὶ ἕκαστον τῶν ὑποκειμένων.

ἀλλὰ περὶ μὲν τούτων δῆλον, τὰ μὲν ἐκ τῶν περὶ τὰς ἀρετὰς εἰρημένων, τὰ δ’ ἐκ τῶν περὶ τὰ πάθη ῥηθησομένων· λοιπὸν δ’ εἰπεῖν τίνος ἕνεκα καὶ πῶς ἔχοντες ἀδικοῦσι καὶ τίνας.

πρῶτον μὲν οὖν διελώμεθα τίνων ὀρεγόμενοι καὶ ποῖα φεύγοντες ἐγχειροῦσιν ἀδικεῖν· δῆλον γὰρ ὡς τῷ μὲν κατηγοροῦντι πόσα καὶ ποῖα τούτων ὑπάρχει τῷ ἀντιδίκῳ σκεπτέον, ὧν ἐφιέμενοι πάντες τοὺς πλησίον ἀδικοῦσι, τῷ δὲ ἀπολογουμένῳ ποῖα καὶ πόσα τούτων οὐχ ὑπάρχει. πάντες δὴ πάντα πράττουσι τὰ μὲν οὐ δι’ αὑτοὺς τὰ δὲ δι’ αὑτούς. τῶν μὲν οὖν μὴ δι’ αὑτοὺς τὰ μὲν διὰ τύχην πράττουσι τὰ δ’ ἐξ ἀνάγκης, τῶν δ’ ἐξ ἀνάγκης τὰ μὲν βίᾳ τὰ δὲ φύσει, ὥστε πάντα ὅσα μὴ δι’ αὑτοὺς πράττουσι, τὰ μὲν ἀπὸ τύχης τὰ δὲ φύσει τὰ δὲ βίᾳ. ὅσα δὲ δι’ αὑτούς, καὶ ὧν [1369a] αὐτοὶ αἴτιοι, τὰ μὲν δι’ ἔθος τὰ δὲ δι’ ὄρεξιν, τὰ μὲν διὰ λογιστικὴν ὄρεξιν τὰ δὲ δι’ ἄλογον· ἔστιν δ’ ἡ μὲν βούλησις ἀγαθοῦ ὄρεξις (οὐδεὶς γὰρ βούλεται ἀλλ’ ἢ ὅταν οἰηθῇ εἶναι ἀγαθόν), ἄλογοι δ’ ὀρέξεις ὀργὴ καὶ ἐπιθυμία· ὥστε πάντα ὅσα πράττουσιν ἀνάγκη πράττειν δι’ αἰτίας ἑπτά, διὰ τύχην, διὰ φύσιν, διὰ βίαν, δι’ ἔθος, διὰ λογισμόν, διὰ θυμόν, δι’ ἐπιθυμίαν. τὸ δὲ προσδιαιρεῖσθαι καθ’ ἡλικίαν ἢ ἕξεις ἢ ἀλλ’ ἄττα τὰ πραττόμενα περίεργον· εἰ γὰρ συμβέβηκεν τοῖς νέοις ὀργίλοις εἶναι ἢ ἐπιθυμητικοῖς, οὐ διὰ τὴν νεότητα πράττουσι τὰ τοιαῦτα ἀλλὰ δι’ ὀργὴν καὶ ἐπιθυμίαν. οὐδὲ διὰ πλοῦτον καὶ πενίαν, ἀλλὰ συμβέβηκε τοῖς μὲν πένησι διὰ τὴν ἔνδειαν ἐπιθυμεῖν χρημάτων, τοῖς δὲ πλουσίοις διὰ τὴν ἐξουσίαν ἐπιθυμεῖν τῶν μὴ ἀναγκαίων ἡδονῶν· ἀλλὰ πράξουσι καὶ οὗτοι οὐ διὰ πλοῦτον καὶ πενίαν ἀλλὰ διὰ τὴν ἐπιθυμίαν. ὁμοίως δὲ καὶ οἱ δίκαιοι καὶ οἱ ἄδικοι, καὶ οἱ ἄλλοι οἱ λεγόμενοι κατὰ τὰς ἕξεις πράττειν, διὰ ταῦτα πράξουσιν· ἢ γὰρ διὰ λογισμὸν ἢ διὰ πάθος· ἀλλ’ οἱ μὲν διὰ ἤθη καὶ πάθη χρηστά, οἱ δὲ διὰ τἀναντία. συμβαίνει μέντοι ταῖς μὲν τοιαύταις ἕξεσι τὰ τοιαῦτα ἀκολουθεῖν, ταῖς δὲ τοιαῖσδε τὰ τοιάδε· εὐθὺς γὰρ ἴσως τῷ μὲν σώφρονι διὰ τὸ σώφρονα εἶναι δόξαι τε καὶ ἐπιθυμίαι χρησταὶ ἐπακολουθοῦσι περὶ τῶν ἡδέων, τῷ δ’ ἀκολάστῳ αἱ ἐναντίαι περὶ τῶν αὐτῶν τούτων· διὸ τὰς μὲν τοιαύτας διαιρέσεις ἐατέον, σκεπτέον δὲ ποῖα ποίοις εἴωθεν ἕπεσθαι· εἰ μὲν γὰρ λευκὸς ἢ μέλας, ἢ μέγας ἢ μικρός, οὐδὲν τέτακται τῶν τοιούτων ἀκολουθεῖν, εἰ δὲ νέος ἢ πρεσβύτης, ἢ δίκαιος ἢ ἄδικος, ἤδη διαφέρει· καὶ ὅλως ὅσα τῶν συμβαινόντων ποιεῖ διαφέρειν τὰ ἤθη τῶν ἀνθρώπων, οἷον πλουτεῖν δοκῶν ἑαυτῷ ἢ πένεσθαι διοίσει τι, καὶ εὐτυχεῖν ἢ ἀτυχεῖν. ταῦτα μὲν οὖν ὕστερον ἐροῦμεν, νῦν δὲ περὶ τῶν λοιπῶν εἴπωμεν πρῶτον.

ἔστι δ' ἀπὸ τύχης μὲν τὰ τοιαῦτα γιγνόμενα, ὅσων ἥ τε αἰτία ἀόριστος καὶ μὴ ἕνεκά του γίγνεται καὶ μήτε ἀεὶ μήτε ὡς ἐπὶ τὸ πολὺ μήτε τεταγμένως (δῆλον δ' ἐκ τοῦ ὁρισμοῦ τῆς τύχης περὶ τούτων), φύσει δὲ ὅσων ἥ τ' αἰτία [1369b] ἐν αὐτοῖς καὶ τεταγμένη· ἢ γὰρ ἀεὶ ἢ ὡς ἐπὶ τὸ πολὺ ὡσαύτως ἀποβαίνει. τὰ γὰρ παρὰ φύσιν οὐδὲν δεῖ ἀκριβολογεῖσθαι πότερα κατὰ φύσιν ἤ τινα ἄλλην αἰτίαν γίγνεται· δόξειε δ' ἂν καὶ ἡ τύχη αἰτία εἶναι τῶν τοιούτων. βίᾳ δὲ ὅσα παρ' ἐπιθυμίαν ἢ τοὺς λογισμοὺς γίγνεται [δι'] αὐτῶν τῶν πραττόντων. ἔθει δὲ ὅσα διὰ τὸ πολλάκις πεποιηκέναι ποιοῦσιν. διὰ λογισμὸν δὲ τὰ δοκοῦντα συμφέρειν ἐκ τῶν εἰρημένων ἀγαθῶν ἢ ὡς τέλος ἢ ὡς πρὸς τὸ τέλος, ὅταν διὰ τὸ συμφέρειν πράττηται· ἔνια γὰρ καὶ οἱ ἀκόλαστοι συμφέροντα πράττουσιν, ἀλλ' οὐ διὰ τὸ συμφέρειν ἀλλὰ δι' ἡδονήν. διὰ θυμὸν δὲ καὶ ὀργὴν τὰ τιμωρητικά. διαφέρει δὲ τιμωρία καὶ κόλασις· ἡ μὲν γὰρ κόλασις τοῦ πάσχοντος ἕνεκά ἐστιν, ἡ δὲ τιμωρία τοῦ ποιοῦντος, ἵνα πληρωθῇ. τί μὲν οὖν ἐστιν ἡ ὀργή, δῆλον ἔσται ἐν τοῖς περὶ τῶν παθῶν. δι' ἐπιθυμίαν δὲ πράττεται ὅσα φαίνεται ἡδέα. ἔστιν δὲ καὶ τὸ σύνηθες καὶ τὸ ἐθιστὸν ἐν τοῖς ἡδέσιν· πολλὰ γὰρ καὶ τῶν φύσει μὴ ἡδέων, ὅταν συνεθισθῶσιν, ἡδέως ποιοῦσιν· ὥστε συλλαβόντι εἰπεῖν, ὅσα δι' αὑτοὺς πράττουσιν ἅπαντ' ἐστὶν ἢ ἀγαθὰ ἢ φαινόμενα ἀγαθά, ἢ ἡδέα ἢ φαινόμενα ἡδέα. ἐπεὶ δ' ὅσα δι' αὑτοὺς ἑκόντες πράττουσιν, οὐχ ἑκόντες δὲ ὅσα μὴ δι' αὑτούς, πάντ' ἂν εἴη ὅσα ἑκόντες πράττουσιν ἢ ἀγαθὰ ἢ φαινόμενα ἀγαθά, ἢ ἡδέα ἢ φαινόμενα ἡδέα· τίθημι γὰρ καὶ τὴν τῶν κακῶν ἢ φαινομένων κακῶν ἢ ἀπαλλαγὴν ἢ ἀντὶ μείζονος ἐλάττονος μετάληψιν ἐν τοῖς ἀγαθοῖς (αἱρετὰ γάρ πως), καὶ τὴν τῶν λυπηρῶν ἢ φαινομένων ‹λυπηρῶν› ἢ ἀπαλλαγὴν ἢ μετάληψιν ἀντὶ μειζόνων ἐλαττόνων ἐν τοῖς ἡδέσιν ὡσαύτως. ληπτέον ἄρα τὰ συμφέροντα καὶ τὰ ἡδέα, πόσα καὶ ποῖα. περὶ μὲν οὖν τοῦ συμφέροντος ἐν τοῖς συμβουλευτικοῖς εἴρηται πρότερον, περὶ δὲ τοῦ ἡδέος εἴπωμεν νῦν. δεῖ δὲ νομίζειν ἱκανοὺς εἶναι τοὺς ὅρους ἐὰν ὦσι περὶ ἑκάστου μήτε ἀσαφεῖς μήτε ἀκριβεῖς.

Ὑποκείσθω δὴ ἡμῖν εἶναι τὴν ἡδονὴν κίνησίν τινα τῆς ψυχῆς καὶ κατάστασιν ἀθρόαν καὶ αἰσθητὴν εἰς τὴν ὑπάρχουσαν φύσιν, λύπην δὲ τοὐναντίον. εἰ δ' ἐστὶν ἡδονὴ τὸ [1370a] τοιοῦτον, δῆλον ὅτι καὶ ἡδύ ἐστι τὸ ποιητικὸν τῆς εἰρημένης διαθέσεως, τὸ δὲ φθαρτικὸν ἢ τῆς ἐναντίας καταστάσεως ποιητικὸν λυπηρόν. ἀνάγκη οὖν ἡδὺ εἶναι τό τε εἰς τὸ κατὰ φύσιν ἰέναι ὡς ἐπὶ τὸ πολύ, καὶ μάλιστα ὅταν ἀπειληφότα ᾖ τὴν ἑαυτῶν φύσιν τὰ κατ' αὐτὴν γιγνόμενα, καὶ τὰ ἔθη (καὶ γὰρ τὸ εἰθισμένον ὥσπερ πεφυκὸς ἤδη γίγνεται· ὅμοιον γάρ τι τὸ ἔθος τῇ φύσει· ἐγγὺς γὰρ καὶ τὸ πολλάκις τῷ ἀεί, ἔστιν δ' ἡ μὲν φύσις τοῦ ἀεί, τὸ δὲ ἔθος τοῦ πολλάκις), καὶ τὸ μὴ βίαιον (παρὰ φύσιν γὰρ ἡ βία, διὸ τὸ ἀναγκαῖον λυπηρόν, καὶ ὀρθῶς εἴρηται

πᾶν γὰρ ἀναγκαῖον πρᾶγμ' ἀνιαρὸν ἔφυ),

τὰς δ' ἐπιμελείας καὶ τὰς σπουδὰς καὶ τὰς συντονίας λυπηράς· ἀναγκαῖα γὰρ καὶ βίαια ταῦτα, ἐὰν μὴ ἐθισθῶσιν· οὕτω δὲ τὸ ἔθος ποιεῖ ἡδύ. τὰ δ' ἐναντία ἡδέα· διὸ αἱ ῥαθυμίαι καὶ αἱ ἀπονίαι καὶ αἱ ἀμέλειαι καὶ αἱ παιδιαὶ καὶ αἱ ἀναπαύσεις καὶ ὁ ὕπνος τῶν ἡδέων· οὐδὲν γὰρ πρὸς ἀνάγκην τούτων. καὶ οὗ ἂν ἡ ἐπιθυμία ἐνῇ, ἅπαν ἡδύ· ἡ γὰρ ἐπιθυμία τοῦ ἡδέος ἐστὶν ὄρεξις. τῶν δὲ ἐπιθυμιῶν αἱ μὲν ἄλογοί εἰσιν αἱ δὲ μετὰ λόγου. λέγω δὲ ἀλόγους ὅσας μὴ ἐκ τοῦ ὑπολαμβάνειν ἐπιθυμοῦσιν (εἰσὶν δὲ τοιαῦται ὅσαι εἶναι λέγονται φύσει, ὥσπερ αἱ διὰ τοῦ σώματος ὑπάρχουσαι, οἷον ἡ τροφῆς δίψα καὶ πεῖνα, καὶ καθ' ἕκαστον εἶδος τροφῆς εἶδος ἐπιθυμίας, καὶ αἱ περὶ τὰ γευστὰ καὶ ἀφροδίσια καὶ ὅλως τὰ ἁπτά, καὶ περὶ ὀσμὴν [εὐωδίας] καὶ ἀκοὴν καὶ ὄψιν), μετὰ λόγου δὲ ὅσας ἐκ τοῦ πεισθῆναι ἐπιθυμοῦσιν· πολλὰ γὰρ καὶ θεάσασθαι καὶ κτήσασθαι ἐπιθυμοῦσιν ἀκούσαντες καὶ πεισθέντες. ἐπεὶ δ' ἐστὶν τὸ ἥδεσθαι ἐν τῷ αἰσθάνεσθαί τινος πάθους, ἡ δὲ φαντασία ἐστὶν αἴσθησίς τις ἀσθενής, ἀεὶ ἐν τῷ μεμνημένῳ καὶ τῷ ἐλπίζοντι ἀκολουθοῖ ἂν φαντασία τις οὗ μέμνηται ἢ ἐλπίζει· εἰ δὲ τοῦτο, δῆλον ὅτι καὶ ἡδοναὶ ἅμα μεμνημένοις καὶ ἐλπίζουσιν, ἐπείπερ καὶ αἴσθησις· ὥστ' ἀνάγκη πάντα τὰ ἡδέα ἢ ἐν τῷ αἰσθάνεσθαι εἶναι παρόντα ἢ ἐν τῷ μεμνῆσθαι γεγενημένα ἢ ἐν τῷ ἐλπίζειν μέλλοντα· αἰσθάνονται μὲν γὰρ τὰ παρόντα, μέμνηνται δὲ τὰ γεγενημένα, ἐλπίζουσι δὲ τὰ μέλλοντα. τὰ [1370b] μὲν οὖν μνημονευτὰ ἡδέα ἐστὶν οὐ μόνον ὅσα ἐν τῷ παρόντι, ὅτε παρῆν, ἡδέα ἦν, ἀλλ' ἔνια καὶ οὐχ ἡδέα, ἂν ᾖ ὕστερον καλὸν καὶ ἀγαθὸν τὸ μετὰ τοῦτο· ὅθεν καὶ τοῦτ' εἴρηται,

ἀλλ' ἡδύ τοι σωθέντα μεμνῆσθαι πόνων,

καὶ

μετὰ γάρ τε καὶ ἄλγεσι τέρπεται ἀνὴρ
μνημένος ὅστις πολλὰ πάθῃ καὶ πολλὰ ἐόργῃ·

τούτου δ' αἴτιον ὅτι ἡδὺ καὶ τὸ μὴ ἔχειν κακόν· τὰ δ' ἐν ἐλπίδι ὅσα παρόντα ἢ εὐφραίνειν ἢ ὠφελεῖν φαίνεται μεγάλα, καὶ ἄνευ λύπης ὠφελεῖν. ὅλως δὲ ὅσα παρόντα εὐφραίνει, καὶ ἐλπίζοντας καὶ μεμνημένους ὡς ἐπὶ τὸ πολύ· διὸ καὶ τὸ ὀργίζεσθαι ἡδύ, ὥσπερ καὶ Ὅμηρος ἐποίησε περὶ τοῦ θυμοῦ

ὅς τε πολὺ γλυκίων μέλιτος καταλειβομένοιο

(οὐθεὶς γὰρ ὀργίζεται τῷ ἀδυνάτῳ φαινομένῳ τιμωρίας τυχεῖν, τοῖς δὲ πολὺ ὑπὲρ αὑτοὺς τῇ δυνάμει ἢ οὐκ ὀργίζονται ἢ ἧττον)· καὶ ἐν ταῖς πλείσταις ἐπιθυμίαις ἀκολουθεῖ τις ἡδονή· ἢ γὰρ μεμνημένοι ὡς ἔτυχον ἢ ἐλπίζοντες ὡς τεύξονται χαίρουσίν τινα ἡδονήν, οἷον οἵ τ’ ἐν τοῖς πυρετοῖς ἐχόμενοι ταῖς δίψαις καὶ μεμνημένοι ὡς ἔπιον καὶ ἐλπίζοντες πιεῖσθαι χαίρουσιν, καὶ οἱ ἐρῶντες καὶ διαλεγόμενοι καὶ γράφοντες καὶ ποιοῦντές τι ἀεὶ περὶ τοῦ ἐρωμένου χαίρουσιν· ἐν ἅπασι γὰρ τοῖς τοιούτοις μεμνημένοι οἷον αἰσθάνεσθαι οἴονται τοῦ ἐρωμένου. καὶ ἀρχὴ δὲ τοῦ ἔρωτος αὕτη γίγνεται πᾶσιν, ὅταν μὴ μόνον παρόντος χαίρωσιν ἀλλὰ καὶ ἀπόντος μεμνημένοις [ἐρῶσιν] λύπη προσγένηται τῷ μὴ παρεῖναι, καὶ ἐν πένθεσι καὶ θρήνοις ὡσαύτως ἐπιγίγνεταί τις ἡδονή· ἡ μὲν γὰρ λύπη ἐπὶ τῷ μὴ ὑπάρχειν, ἡδονὴ δ’ ἐν τῷ μεμνῆσθαι καὶ ὁρᾶν πως ἐκεῖνον καὶ ἃ ἔπραττεν καὶ οἷος ἦν· διὸ καὶ τοῦτ’ εἰκότως εἴρηται

ὣς φάτο, τοῖσι δὲ πᾶσιν ὑφ’ ἵμερον ὦρσε γόοιο.

καὶ τὸ τιμωρεῖσθαι ἡδύ. οὗ γὰρ τὸ μὴ τυγχάνειν λυπηρόν, τὸ τυγχάνειν ἡδύ· οἱ δ’ ὀργιζόμενοι λυποῦνται ἀνυπερβλήτως μὴ τιμωρούμενοι, ἐλπίζοντες δὲ χαίρουσιν. καὶ τὸ νικᾶν ἡδύ, οὐ μόνον τοῖς φιλονίκοις ἀλλὰ πᾶσιν· φαντασία γὰρ ὑπεροχῆς γίγνεται, οὗ πάντες ἔχουσιν ἐπιθυμίαν ἢ ἠρέμα ἢ μάλα. ἐπεὶ δὲ τὸ νικᾶν ἡδύ, ἀνάγκη καὶ τὰς παιδιὰς ἡδείας εἶναι τὰς [1371a] μαχητικὰς καὶ τὰς ἐριστικάς (πολλάκις γὰρ ἐν ταύταις γίγνεται τὸ νικᾶν), καὶ ἀστραγαλίσεις καὶ σφαιρίσεις καὶ κυβείας καὶ πεττείας. καὶ περὶ τὰς ἐσπουδασμένας δὲ παιδιὰς ὁμοίως· αἱ μὲν γὰρ ἡδεῖαι γίγνονται ἄν τις ᾖ συνήθης, αἱ δ’ εὐθὺς ἡδεῖαι, οἷον κυνηγία καὶ πᾶσα θηρευτική· ὅπου γὰρ ἅμιλλα, ἐνταῦθα καὶ νίκη ἔστιν· διὸ καὶ ἡ δικανικὴ καὶ ἡ ἐριστικὴ ἡδέα τοῖς εἰθισμένοις καὶ δυναμένοις. καὶ τιμὴ καὶ εὐδοξία τῶν ἡδίστων διὰ τὸ γίγνεσθαι φαντασίαν ἑκάστῳ ὅτι τοιοῦτος οἷος ὁ σπουδαῖος, καὶ μᾶλλον ὅταν φῶσιν οὓς οἴεται ἀληθεύειν. τοιοῦτοι δ’ οἱ ἐγγὺς μᾶλλον τῶν πόρρω, καὶ οἱ συνήθεις καὶ οἱ πολῖται τῶν ἄπωθεν, καὶ οἱ ὄντες τῶν μελλόντων, καὶ οἱ φρόνιμοι ἀφρόνων, καὶ πολλοὶ ὀλίγων· μᾶλλον γὰρ εἰκὸς ἀληθεύειν τοὺς εἰρημένους τῶν ἐναντίων· ἐπεὶ ὧν τις πολὺ καταφρονεῖ, ὥσπερ παιδίων ἢ θηρίων, οὐδὲν μέλει τῆς τούτων τιμῆς ἢ τῆς δόξης αὐτῆς γε τῆς δόξης χάριν, ἀλλ’ εἴπερ, δι’ ἄλλο τι. καὶ ὁ φίλος τῶν ἡδέων· τό τε γὰρ φιλεῖν ἡδύ (οὐδεὶς γὰρ φίλοινος μὴ χαίρων οἴνῳ) καὶ τὸ φιλεῖσθαι ἡδύ· φαντασία γὰρ καὶ ἐνταῦθα τοῦ ὑπάρχειν αὐτῷ τὸ ἀγαθὸν εἶναι, οὗ πάντες ἐπιθυμοῦσιν οἱ αἰσθανόμενοι· τὸ δὲ φιλεῖσθαι ἀγαπᾶσθαί ἐστιν αὐτὸν δι’ αὑτόν. καὶ τὸ θαυμάζεσθαι ἡδὺ διὰ ‹τὸ› αὐτὸ τῷ τιμᾶσθαι. καὶ τὸ κολακεύεσθαι καὶ ὁ κόλαξ ἡδέα· φαινόμενος γὰρ θαυμαστὴς καὶ φαινόμενος φίλος ὁ κόλαξ ἐστίν. καὶ τὸ ταὐτὰ πράττειν πολλάκις ἡδύ· τὸ γὰρ σύνηθες ἡδὺ ἦν. καὶ τὸ μεταβάλλειν ἡδύ· εἰς φύσιν γὰρ γίγνεται ‹τὸ› μεταβάλλειν· τὸ γὰρ αὐτὸ ἀεὶ ὑπερβολὴν ποιεῖ τῆς καθεστώσης ἕξεως, ὅθεν εἴρηται

μεταβολὴ πάντων γλυκύ.

διὰ τοῦτο γὰρ καὶ τὰ διὰ χρόνου ἡδέα ἐστίν, καὶ ἄνθρωποι καὶ πράγματα· μεταβολὴ γὰρ ἐκ τοῦ παρόντος ἐστίν, ἅμα δὲ καὶ σπάνιον τὸ διὰ χρόνου. καὶ τὸ μανθάνειν καὶ τὸ θαυμάζειν ἡδὺ ὡς ἐπὶ τὸ πολύ· ἐν μὲν γὰρ τῷ θαυμάζειν τὸ ἐπιθυμεῖν μαθεῖν ἐστιν, ὥστε τὸ θαυμαστὸν ἐπιθυμητόν, ἐν δὲ τῷ μανθάνειν ‹τὸ› εἰς τὸ κατὰ φύσιν καθίστασθαι. καὶ τὸ εὖ ποιεῖν καὶ τὸ εὖ πάσχειν τῶν ἡδέων· τὸ μὲν γὰρ εὖ πάσχειν τυγχάνειν [1371b] ὧν ἐπιθυμοῦσι, τὸ δὲ εὖ ποιεῖν ἔχειν καὶ ὑπερέχειν, ὧν ἀμφοτέρων ἐφίενται. διὰ δὲ τὸ ἡδὺ εἶναι τὸ εὐποιητικόν, καὶ τὸ ἐπανορθοῦν ἡδὺ τοῖς ἀνθρώποις ἐστὶν τοὺς πλησίον, καὶ τὸ τὰ ἐλλιπῆ ἐπιτελεῖν. ἐπεὶ δὲ τὸ μανθάνειν τε ἡδὺ καὶ τὸ θαυμάζειν, καὶ τὰ τοιάδε ἀνάγκη ἡδέα εἶναι, οἷον τό τε μιμούμενον, ὥσπερ γραφικὴ καὶ ἀνδριαντοποιία καὶ ποιητική, καὶ πᾶν ὃ ἂν εὖ μεμιμημένον ᾖ, κἂν ᾖ μὴ ἡδὺ αὐτὸ τὸ μεμιμημένον· οὐ γὰρ ἐπὶ τούτῳ χαίρει, ἀλλὰ συλλογισμὸς ἔστιν ὅτι τοῦτο ἐκεῖνο, ὥστε μανθάνειν τι συμβαίνει. καὶ αἱ περιπέτειαι καὶ τὸ παρὰ μικρὸν σώζεσθαι ἐκ τῶν κινδύνων· πάντα γὰρ θαυμαστὰ ταῦτα. καὶ ἐπεὶ τὸ κατὰ φύσιν ἡδύ, τὰ συγγενῆ δὲ κατὰ φύσιν ἀλλήλοις ἐστίν, πάντα τὰ συγγενῆ καὶ ὅμοια ἡδέα ὡς ἐπὶ τὸ πολύ, οἷον ἄνθρωπος ἀνθρώπῳ καὶ ἵππος ἵππῳ καὶ νέος νέῳ, ὅθεν καὶ αἱ παροιμίαι εἴρηνται, [ὡς] “ἧλιξ ἥλικα τέρπει”, καὶ “ὡς αἰεὶ τὸν ὁμοῖον”, καὶ “ἔγνω δὲ θὴρ θῆρα”, “καὶ γὰρ κολοιὸς παρὰ κολοιόν”, καὶ ὅσα ἄλλα τοιαῦτα.

ἐπεὶ δὲ τὸ ὅμοιον καὶ τὸ συγγενὲς ἑαυτῷ ἡδὺ ἅπαν, μάλιστα δὲ αὐτὸς πρὸς ἑαυτὸν ἕκαστος τοῦτο πέπονθεν, ἀνάγκη πάντας φιλαύτους εἶναι ἢ μᾶλλον ἢ ἧττον· πάντα γὰρ τὰ τοιαῦτα ὑπάρχει πρὸς αὑτὸν μάλιστα. ἐπεὶ δὲ φίλαυτοι πάντες, καὶ τὰ αὑτῶν ἀνάγκη ἡδέα εἶναι πᾶσιν, οἷον ἔργα καὶ λόγους· διὸ καὶ φιλοκόλακες ὡς ἐπὶ τὸ πολὺ καὶ φιλερασταὶ καὶ φιλόμαιμοι καὶ φιλότεκνοι· αὑτῶν γὰρ ἔργον τὰ τέκνα. καὶ τὸ τὰ ἐλλιπῆ ἐπιτελεῖν ἡδύ· αὑτῶν γὰρ ἔργον ἤδη γίγνεται. καὶ ἐπεὶ τὸ ἄρχειν ἥδιστον, καὶ τὸ σοφὸν δοκεῖν εἶναι ἡδύ· ἀρχικὸν γὰρ τὸ φρονεῖν, ἔστιν δ’ ἡ σοφία πολλῶν καὶ θαυμαστῶν ἐπιστήμη. ἔτι ἐπεὶ φιλότιμοι ὡς ἐπὶ τὸ πολύ, ἀνάγκη καὶ τὸ ἐπιτιμᾶν τοῖς πέλας ἡδὺ εἶναι καὶ τὸ ἄρχειν, καὶ τὸ ἐν ᾧ δοκεῖ βέλτιστος αὐτὸς αὑτοῦ εἶναι, ἐνταῦθα διατρίβειν, ὥσπερ καὶ ὁ ποιητής φησι κἀπὶ τοῦτ' ἐπείγει,

νέμων ἑκάστης ἡμέρας πλεῖστον μέρος,
ἵν' αὐτὸς αὑτοῦ τυγχάνει βέλτιστος ὤν.

ὁμοίως δὲ καὶ ἐπεὶ ἡ παιδιὰ τῶν ἡδέων καὶ πᾶσα ἄνεσις, καὶ ὁ γέλως τῶν ἡδέων, ἀνάγκη καὶ τὰ γελοῖα ἡδέα εἶναι, καὶ [1372a] ἀνθρώπους καὶ λόγους καὶ ἔργα· διώρισται δὲ περὶ γελοίων χωρὶς ἐν τοῖς περὶ ποιητικῆς. περὶ μὲν οὖν ἡδέων εἰρήσθω ταῦτα, τὰ δὲ λυπηρὰ ἐκ τῶν ἐναντίων τούτοις φανερά.

Ὧν μὲν οὖν ἕνεκα ἀδικοῦσιν, ταῦτ' ἐστίν· πῶς δὲ ἔχοντες καὶ τίνας, λέγωμεν νῦν. αὐτοὶ μὲν οὖν ὅταν οἴωνται δυνατὸν εἶναι τὸ πρᾶγμα πραχθῆναι καὶ αὑτοῖς δυνατόν, εἴτ' ἂν λαθεῖν πράξαντες, ἢ μὴ λαθόντες μὴ δοῦναι δίκην, ἢ δοῦναι μὲν ἀλλ' ἐλάττω τὴν ζημίαν εἶναι τοῦ κέρδους αὑτοῖς ἢ ὧν κήδονται. ποῖα μὲν οὖν δυνατὰ φαίνεται καὶ ποῖα ἀδύνατα, ἐν τοῖς ὕστερον ῥηθήσεται (κοινὰ γὰρ ταῦτα πάντων τῶν λόγων)· αὐτοὶ δ' οἴονται δυνατοὶ εἶναι μάλιστα ἀζήμιοι ἀδικεῖν οἱ εἰπεῖν δυνάμενοι καὶ οἱ πρακτικοὶ καὶ οἱ ἔμπειροι πολλῶν ἀγώνων, κἂν πολύφιλοι ὦσιν, κἂν πλούσιοι. καὶ μάλιστα μὲν ἂν αὐτοὶ ὦσιν ἐν τοῖς εἰρημένοις οἴονται δύνασθαι, εἰ δὲ μή, κἂν ὑπάρχωσιν αὐτοῖς τοιοῦτοι φίλοι ἢ ὑπηρέται ἢ κοινωνοί· διὰ γὰρ ταῦτα δύνανται καὶ πράττειν καὶ λανθάνειν καὶ μὴ δοῦναι δίκην. καὶ ἐὰν φίλοι ὦσιν τοῖς ἀδικουμένοις ἢ τοῖς κριταῖς· οἱ μὲν γὰρ φίλοι ἀφύλακτοί τε πρὸς τὸ ἀδικεῖσθαι καὶ προσκαταλλάττονται πρὶν ἐπεξελθεῖν, οἱ δὲ κριταὶ χαρίζονται οἷς ἂν φίλοι ὦσι, καὶ ἢ ὅλως ἀφιᾶσιν ἢ μικροῖς ζημιοῦσιν. λαθητικὰ δ' εἰσὶν οἵ τ' ἐναντίοι τοῖς ἐγκλήμασιν, οἷον ἀσθενεῖς περὶ αἰκίας [καὶ] ὁ πένης καὶ ὁ αἰσχρὸς περὶ μοιχείας, καὶ τὰ λίαν ἐν φανερῷ καὶ ἐν ὀφθαλμοῖς· ἀφύλακτα γὰρ διὰ τὸ ὅλως μηδένα ἂν οἴεσθαι. καὶ τὰ τηλικαῦτα καὶ τὰ τοιαῦτα οἷα μηδ' ἂν εἷς· ἀφύλακτα γὰρ καὶ ταῦτα· πάντες γὰρ τὰ εἰωθότα, ὥσπερ ἀρρωστήματα, φυλάττονται καὶ τἀδικήματα, ὃ δὲ μηδείς πω ἠρρώστηκεν, οὐδεὶς εὐλαβεῖται. καὶ οἷς μηδεὶς ἐχθρὸς ἢ πολλοί· οἱ μὲν γὰρ οἴονται λήσειν διὰ τὸ μὴ φυλάττεσθαι, οἱ δὲ λανθάνουσι διὰ τὸ μὴ δοκεῖν ἂν ἐπιχειρῆσαι φυλαττομένοις, καὶ διὰ τὸ ἀπολογίαν ἔχειν ὅτι οὐκ ἂν ἐνεχείρησαν. καὶ οἷς ὑπάρχει κρύψις ἢ τρόποις ἢ τόποις, ἢ διαθέσεις εὔποροι. καὶ ὅσοις μὴ λανθάνουσιν ἔστιν δίωσις δίκης ἢ ἀναβολὴ χρόνου ἢ διαφθοραὶ κριτῶν. καὶ οἷς, ἐὰν γένηται ζημία, ἔστιν δίωσις τῆς ἐκτίσεως ἢ ἀναβολὴ χρόνιος. ἢ ‹εἰ› δι' ἀπορίαν μηδὲν ἔχει ὅ τι ἀπολέσει. καὶ οἷς τὰ μὲν κέρδη φανερὰ ἢ μεγάλα ἢ ἐγγύς, αἱ δὲ ζημίαι μικραὶ ἢ ἀφανεῖς [1372b] ἢ πόρρω. καὶ ᾧ μὴ ἔστιν τιμωρία ἴση τῇ ὠφελείᾳ, οἷον δοκεῖ ἡ τυρρανίς. καὶ ὅσοις τὰ μὲν ἀδικήματα λήμματα, αἱ δὲ ζημίαι ὀνείδη μόνον. καὶ οἷς τοὐναντίον τὰ μὲν ἀδικήματα εἰς ἔπαινόν τινα, οἷον εἰ συνέβη ἅμα τιμωρήσασθαι ὑπὲρ πατρὸς ἢ μητρός, ὥσπερ Ζήνωνι, αἱ δὲ ζημίαι εἰς χρήματα ἢ φυγὴν ἢ τοιοῦτόν τι· δι’ ἀμφότερα γὰρ ἀδικοῦσι καὶ ἀμφοτέρως ἔχοντες, πλὴν οὐχ οἱ αὐτοὶ ἀλλ’ οἱ ἐναντίοι τοῖς ἤθεσιν. καὶ οἱ πολλάκις ἢ λεληθότες ἢ μὴ ἐζημιωμένοι, καὶ οἱ πολλάκις ἀποτετυχηκότες (εἰσὶ γάρ τινες καὶ ἐν τοῖς τοιούτοις, ὥσπερ ἐν τοῖς πολεμικοῖς, οἷοι ἀναμάχεσθαι). καὶ οἷς ἂν παραχρῆμα ᾖ τὸ ἡδύ, τὸ δὲ λυπηρὸν ὕστερον, ἢ τὸ κέρδος, ἡ δὲ ζημία ὕστερον· οἱ γὰρ ἀκρατεῖς τοιοῦτοι, ἔστιν δὲ ἀκρασία περὶ πάντα ὅσων ὀρέγονται. καὶ οἷς ἂν τοὐναντίον τὸ μὲν λυπηρὸν ἤδη ᾖ ἢ ἡ ζημία, τὸ δὲ ἡδὺ καὶ ‹τὸ› ὠφέλιμον ὕστερα καὶ χρονιώτερα· οἱ γὰρ ἐγκρατεῖς καὶ φρονιμώτεροι τὰ τοιαῦτα διώκουσιν. καὶ οἷς ἂν ἐνδέχηται διὰ τύχην δόξαι πρᾶξαι ἢ δι’ ἀνάγκην ἢ διὰ φύσιν ἢ δι’ ἔθος, καὶ ὅλως ἁμαρτεῖν ἀλλὰ μὴ ἀδικεῖν. καὶ οἷς ἂν ᾖ τοῦ ἐπιεικοῦς τυχεῖν. καὶ ὅσοι ἂν ἐνδεεῖς ὦσιν· διχῶς δέ εἰσιν ἐνδεεῖς· ἢ γὰρ ὡς ἀναγκαίου, ὥσπερ οἱ πένητες, ἢ ὡς ὑπερβολῆς, ὥσπερ οἱ πλούσιοι. καὶ οἱ σφόδρα εὐδοκιμοῦντες καὶ οἱ σφόδρα ἀδοξοῦντες, οἱ μὲν ὡς οὐ δόξοντες, οἱ δ’ ὡς οὐδὲν μᾶλλον ἀδοξοῦντες.

αὐτοὶ μὲν οὖν οὕτως ἔχοντες ἐπιχειροῦσιν ‹ἀδικεῖν›, ἀδικοῦσι δὲ τοὺς τοιούτους καὶ τὰ τοιαῦτα, τοὺς ἔχοντας ὧν αὐτοὶ ἐνδεεῖς ἢ εἰς τἀναγκαῖα ἢ εἰς ὑπεροχὴν ἢ εἰς ἀπόλαυσιν, καὶ τοὺς πόρρω καὶ τοὺς ἐγγύς· τῶν μὲν γὰρ ἡ λῆψις ταχεῖα, τῶν δ’ ἡ τιμωρία βραδεῖα, οἷον οἱ συλῶντες τοὺς Καρχηδονίους. καὶ τοὺς μὴ εὐλαβεῖς μηδὲ φυλακτικοὺς ἀλλὰ πιστευτικούς· ῥᾴδιον γὰρ πάντας λαθεῖν. καὶ τοὺς ῥαθύμους· ἐπιμελοῦς γὰρ τὸ ἐπεξελθεῖν. καὶ τοὺς αἰσχυντηλούς· οὐ γὰρ μαχητικοὶ περὶ κέρδους. καὶ τοὺς ὑπὸ πολλῶν ἀδικηθέντας καὶ μὴ ἐπεξελθόντας, ὡς ὄντας κατὰ τὴν παροιμίαν τούτους Μυσῶν λείαν. καὶ τοὺς μηδεπώποτε καὶ τοὺς πολλάκις· ἀμφότεροι γὰρ ἀφύλακτοι, οἱ μὲν ὡς οὐδέποτε, οἱ δ’ ὡς οὐκ ἂν ἔτι. καὶ τοὺς διαβεβλημένους ἢ εὐδιαβόλους· οἱ τοιοῦτοι γὰρ οὔτε προαιροῦνται, φοβούμενοι τοὺς κριτάς, οὔτε δύνανται πείθειν, ὡς μισούμενοι καὶ φθονούμενοι. καὶ πρὸς οὓς [1373a] ἔχουσι πρόφασιν ἢ προγόνων ἢ αὐτῶν ἢ φίλων ἢ ποιησάντων κακῶς ἢ μελλησάντων, ἢ αὐτοὺς ἢ προγόνους ἢ ὧν κήδονται· ὥσπερ γὰρ ἡ παροιμία, προφάσεως δεῖται μόνον ἡ πονηρία. καὶ τοὺς ἐχθροὺς καὶ τοὺς φίλους· τοὺς μὲν γὰρ ῥᾴδιον, τοὺς δὲ ἡδύ. καὶ τοὺς ἀφίλους, καὶ τοὺς μὴ δεινοὺς εἰπεῖν ἢ πρᾶξαι· ἢ γὰρ οὐκ ἐγχειροῦσιν ἐπεξιέναι, ἢ καταλλάττονται, ἢ οὐδὲν περαίνουσιν. καὶ οἷς μὴ λυσιτελεῖ διατρίβειν ἐπιτηροῦσιν ἢ δίκην ἢ ἔκτισιν, οἷον οἱ ξένοι καὶ αὐτουργοί· ἐπὶ μικρῷ τε γὰρ διαλύονται καὶ ῥᾳδίως καταπαύονται. καὶ τοὺς πολλὰ ἠδικηκότας, ἢ τοιαῦτα οἷα ἀδικοῦνται· ἐγγὺς γάρ τι δοκεῖ τοῦ μὴ ἀδικεῖν εἶναι ὅταν τι τοιοῦτον ἀδικηθῇ τις οἷον εἰώθει καὶ αὐτὸς ἀδικεῖν· λέγω δ’ οἷον εἴ τις τὸν εἰωθότα ὑβρίζειν αἰκίσαιτο. καὶ τοὺς ἢ πεποιηκότας κακῶς ἢ βουληθέντας ἢ βουλομένους ἢ ποιήσοντας· ἔχει γὰρ καὶ τὸ ἡδὺ καὶ τὸ καλόν, καὶ ἐγγὺς τοῦ μὴ ἀδικεῖν φαίνεται. καὶ οἷς χαριοῦνται ἢ φίλοις ἢ θαυμαζομένοις ἢ ἐρωμένοις ἢ κυρίοις ἢ ὅλως πρὸς οὓς ζῶσιν αὐτοί. καὶ πρὸς οὓς ἔστιν ἐπιεικείας τυχεῖν. καὶ οἷς ἂν ἐγκεκληκότες ὦσιν καὶ προδιακεχωρηκότες, οἷον Κάλλιππος ἐποίησεν τὰ περὶ Δίωνα· καὶ γὰρ τὰ τοιαῦτα ἐγγὺς τοῦ μὴ ἀδικεῖν φαίνεται. καὶ τοὺς ὑπ’ ἄλλων μέλλοντας, ἂν μὴ αὐτοί, ὡς οὐκέτι ἐνδεχόμενον βουλεύσασθαι, ὥσπερ λέγεται Αἰνεσίδημος Γέλωνι πέμψαι κοττάβια ἀνδραποδισαμένῳ ‹ ›, ὅτι ἔφθασεν, ὡς καὶ αὐτὸς μέλλων. καὶ οὓς ἀδικήσαντες δυνήσονται πολλὰ δίκαια πράττειν, ὡς ῥᾳδίως ἰασόμενοι, ὥσπερ ἔφη Ἰάσων ὁ Θετταλὸς δεῖν ἀδικεῖν ἔνια, ὅπως δύνηται καὶ δίκαια πολλὰ ποιεῖν. καὶ ἃ πάντες ἢ πολλοὶ ἀδικεῖν εἰώθασιν· συγγνώμης γὰρ οἴονται τεύξεσθαι. καὶ τὰ ῥᾴδια κρύψαι· τοιαῦτα δὲ ὅσα ταχὺ ἀναλίσκεται, οἷον τὰ ἐδώδιμα, ἢ τὰ εὐμετάβλητα σχήμασιν ἢ χρώμασιν ἢ κράσεσιν, ἢ ἃ πολλαχοῦ ἀφανίσαι εὔπορον· τοιαῦτα δὲ τὰ εὐβάστακτα καὶ ἐν μικροῖς τόποις ἀφανιζόμενα. καὶ οἷς ἀδιάφορα καὶ ὅμοια πολλὰ προϋπῆρχεν τῷ ἀδικοῦντι. καὶ ὅσα αἰσχύνονται οἱ ἀδικηθέντες λέγειν, οἷον γυναικῶν οἰκείων ὕβρεις ἢ εἰς αὐτοὺς ἢ εἰς υἱεῖς. καὶ ὅσα φιλοδικεῖν δόξειεν ἂν ὁ ἐπεξιών· τοιαῦτα δὲ τὰ μικρὰ καὶ ἐφ’ οἷς συγγνώμη. ὡς μὲν οὖν ἔχοντες ἀδικοῦσι, καὶ ποῖα καὶ ποίους καὶ διὰ τί, σχεδὸν ταῦτ’ ἐστίν.

[1373b] Τὰ δ’ ἀδικήματα πάντα καὶ τὰ δικαιώματα διέλωμεν ἀρξάμενοι πρῶτον ἐντεῦθεν. ὥρισται δὴ τὰ δίκαια καὶ τὰ ἄδικα πρός τε νόμους δύο καὶ πρὸς οὕς ἐστι διχῶς.

λέγω δὲ νόμον τὸν μὲν ἴδιον, τὸν δὲ κοινόν, ἴδιον μὲν τὸν ἑκάστοις ὡρισμένον πρὸς αὐτούς, καὶ τοῦτον τὸν μὲν ἄγραφον, τὸν δὲ γεγραμμένον, κοινὸν δὲ τὸν κατὰ φύσιν. ἔστι γάρ τι ὃ μαντεύονται πάντες, φύσει κοινὸν δίκαιον καὶ ἄδικον, κἂν μηδεμία κοινωνία πρὸς ἀλλήλους ᾖ μηδὲ συνθήκη, οἷον καὶ ἡ Σοφοκλέους Ἀντιγόνη φαίνεται λέγουσα, ὅτι δίκαιον ἀπειρημένου θάψαι τὸν Πολυνείκη, ὡς φύσει ὂν τοῦτο δίκαιον·

οὐ γάρ τι νῦν γε κἀχθές, ἀλλ’ ἀεί ποτε
ζῇ τοῦτο, κοὐδεὶς οἶδεν ἐξ ὅτου φάνη·

καὶ ὡς Ἐμπεδοκλῆς λέγει περὶ τοῦ μὴ κτείνειν τὸ ἔμψυχον· τοῦτο γὰρ οὐ

τισὶ μὲν δίκαιον τισὶ δ’ οὐ δίκαιον,
ἀλλὰ τὸ μὲν πάντων νόμιμον διά τ’ εὐρυμέδοντος
αἰθέρος ἠνεκέως τέταται διά τ’ ἀπλέτου αὐγῆς·

καὶ ὡς ἐν τῷ Μεσσηνιακῷ λέγει Ἀλκιδάμας, “ἐλευθέρους ἀφῆκε πάντας θεός, οὐδένα δοῦλον ἡ φύσις πεποίηκεν”. πρὸς οὓς δέ, διώρισται δίχα· ὥρισται γὰρ πρὸς τὸ κοινὸν ἢ πρὸς ἕνα τῶν κοινωνούντων ἃ δεῖ πράττειν καὶ μὴ πράττειν· διὸ καὶ τἀδικήματα καὶ τὰ δικαιώματα διχῶς ἔστιν ἀδικεῖν καὶ δικαιοπραγεῖν· ἢ γὰρ πρὸς ἕνα καὶ ὡρισμένον ἢ πρὸς τὸ κοινόν· ὁ γὰρ μοιχεύων καὶ τύπτων ἀδικεῖ τινα τῶν ὡρισμένων, ὁ δὲ μὴ στρατευόμενος τὸ κοινόν.

ἁπάντων δὴ τῶν ἀδικημάτων διῃρημένων, καὶ τῶν μὲν ὄντων πρὸς τὸ κοινὸν τῶν δὲ πρὸς ἄλλον ἢ πρὸς ἄλλους, ἀναλαβόντες τί ἐστιν τὸ ἀδικεῖσθαι λέγωμεν. ἔστι δὴ τὸ ἀδικεῖσθαι τὸ ὑπὸ ἑκόντος τὰ ἄδικα πάσχειν· τὸ γὰρ ἀδικεῖν ὥρισται πρότερον ἑκούσιον εἶναι. ἐπεὶ δ’ ἀνάγκη τὸν ἀδικούμενον βλάπτεσθαι καὶ ἑκουσίως βλάπτεσθαι, αἱ μὲν βλάβαι ἐκ τῶν πρότερον φανεραί εἰσιν· τὰ γὰρ ἀγαθὰ καὶ τὰ κακὰ εἴρηται καθ’ αὑτὰ πρότερον καὶ τὰ ἑκούσια, ὅτι ἔστιν ὅσα εἰδότες, ὥστ’ ἀνάγκη πάντα τὰ ἐγκλήματα ἢ πρὸς τὸ κοινὸν ἢ πρὸς τὸ ἴδιον εἶναι, καὶ ἢ ἀγνοοῦντος καὶ ἄκοντος ἢ ἑκόντος καὶ εἰδότος, καὶ τούτων τὰ μὲν προελομένου τὰ δὲ διὰ πάθος. περὶ μὲν οὖν θυμοῦ ῥηθήσεται ἐν τοῖς περὶ τὰ πάθη, ποῖα δὲ προαιροῦνται καὶ πῶς ἔχοντες εἴρηται πρότερον. ἐπεὶ δ’ ὁμολογοῦντες πολλάκις [1374a] πεπραχέναι ἢ τὸ ἐπίγραμμα οὐχ ὁμολογοῦσιν ἢ περὶ ὃ τὸ ἐπίγραμμα, οἷον λαβεῖν μὲν ἀλλ’ οὐ κλέψαι, καὶ πατάξαι πρότερον ἀλλ’ οὐχ ὑβρίσαι, καὶ συγγενέσθαι ἀλλ’ οὐ μοιχεῦσαι, ἢ κλέψαι μὲν ἀλλ’ οὐχ ἱεροσυλῆσαι (οὐ γὰρ θεοῦ τι), ἢ ἐπεργάσασθαι μὲν ἀλλ’ οὐ δημοσίαν, ἢ διειλέχθαι μὲν τοῖς πολεμίοις ἀλλ’ οὐ προδοῦναι, διὰ ταῦτα δέοι ἂν καὶ περὶ τούτων διωρίσθαι, τί κλοπή, τί ὕβρις, τί μοιχεία, ὅπως ἐάν τε ὑπάρχειν ἐάν τε μὴ ὑπάρχειν βουλώμεθα δεικνύναι ἔχωμεν ἐμφανίζειν τὸ δίκαιον. ἔστι δὲ πάντα τὰ τοιαῦτα περὶ τοῦ ἄδικον εἶναι καὶ φαῦλον ἢ μὴ ἄδικον [ἡ] ἀμφισβήτησις· ἐν γὰρ τῇ προαιρέσει ἡ μοχθηρία καὶ τὸ ἀδικεῖν, τὰ δὲ τοιαῦτα τῶν ὀνομάτων προσσημαίνει τὴν προαίρεσιν, οἷον ὕβρις καὶ κλοπή· οὐ γὰρ εἰ ἐπάταξεν πάντως ὕβρισεν, ἀλλ’ εἰ ἕνεκά του, οἷον τοῦ ἀτιμάσαι ἐκεῖνον ἢ αὐτὸς ἡσθῆναι. οὐδὲ πάντως, εἰ λάθρᾳ ἔλαβεν, ἔκλεψεν, ἀλλ’ εἰ ἐπὶ βλάβῃ ‹τούτου ἀφ’ οὗ ἔλαβε› καὶ σφετερισμῷ ἑαυτοῦ. ὁμοίως δὲ καὶ περὶ τῶν ἄλλων ἔχει ὥσπερ καὶ περὶ τούτων.

ἐπεὶ δὲ τῶν δικαίων καὶ τῶν ἀδίκων ἦν δύο εἴδη (τὰ μὲν γὰρ γεγραμμένα τὰ δ’ ἄγραφα), περὶ ὧν μὲν οἱ νόμοι ἀγορεύουσιν εἴρηται, τῶν δ’ ἀγράφων δύο ἔστιν εἴδη· ταῦτα δ’ ἐστὶν τὰ μὲν καθ’ ὑπερβολὴν ἀρετῆς καὶ κακίας, ἐφ’ οἷς ὀνείδη καὶ ἔπαινοι καὶ ἀτιμίαι, καὶ τιμαὶ καὶ δωρεαί (οἷον τὸ χάριν ἔχειν τῷ ποιήσαντι εὖ καὶ ἀντευποιεῖν τὸν εὖ ποιήσαντα, καὶ βοηθητικὸν εἶναι τοῖς φίλοις, καὶ ὅσα ἄλλα τοιαῦτα), τὰ δὲ τοῦ ἰδίου νόμου καὶ γεγραμμένου ἔλλειμμα. τὸ γὰρ ἐπιεικὲς δοκεῖ δίκαιον εἶναι, ἔστιν δὲ ἐπιεικὲς τὸ παρὰ τὸν γεγραμμένον νόμον δίκαιον. συμβαίνει δὲ τοῦτο τὰ μὲν ἑκόντων τὰ δὲ ἀκόντων τῶν νομοθετῶν, ἀκόντων μὲν ὅταν λάθῃ, ἑκόντων δ’ ὅταν μὴ δύνωνται διορίσαι, ἀλλ’ ἀναγκαῖον μὲν ᾖ καθόλου εἰπεῖν, μὴ ᾖ δέ, ἀλλ’ ὡς ἐπὶ τὸ πολύ, καὶ ὅσα μὴ ῥᾴδιον διορίσαι δι’ ἀπειρίαν, οἷον τὸ τρῶσαι σιδήρῳ πηλίκῳ καὶ ποίῳ τινί· ὑπολείποι γὰρ ἂν ὁ αἰὼν διαριθμοῦντα. ἂν οὖν ᾖ ἀόριστον, δέῃ δὲ νομοθετῆσαι, ἀνάγκη ἁπλῶς εἰπεῖν, ὥστε κἂν δακτύλιον ἔχων ἐπάρηται τὴν χεῖρα ἢ πατάξῃ, κατὰ μὲν τὸν γεγραμμένον νόμον ἔνοχός ἐστι καὶ ἀδικεῖ, [1374b] κατὰ δὲ τὸ ἀληθὲς οὐκ ἀδικεῖ, καὶ τὸ ἐπιεικὲς τοῦτό ἐστιν. εἰ δὲ ἐστὶ τὸ εἰρημένον τὸ ἐπιεικές, φανερὸν ποῖά ἐστι τὰ ἐπιεικῆ καὶ οὐκ ἐπιεικῆ, καὶ ποῖοι οὐκ ἐπιεικεῖς ἄνθρωποι· ἐφ’ οἷς τε γὰρ δεῖ συγγνώμην ἔχειν, ἐπιεικῆ ταῦτα, καὶ τὸ τὰ ἁμαρτήματα καὶ τὰ ἀδικήματα μὴ τοῦ ἴσου ἀξιοῦν, μηδὲ τὰ ἁμαρτήματα καὶ τὰ ἀτυχήματα· [ἔστιν] ἀτυχήματα μὲν ‹γὰρ› ὅσα παράλογα καὶ μὴ ἀπὸ μοχθηρίας, ἁμαρτήματα δὲ ὅσα μὴ παράλογα καὶ μὴ ἀπὸ πονηρίας, ἀδικήματα δὲ ὅσα μήτε παράλογα ἀπὸ πονηρίας τέ ἐστιν· τὰ γὰρ δι’ ἐπιθυμίαν ἀπὸ πονηρίας. καὶ τὸ τοῖς ἀνθρωπίνοις συγγινώσκειν ἐπιεικές. καὶ τὸ μὴ πρὸς τὸν νόμον ἀλλὰ πρὸς τὸν νομοθέτην, καὶ μὴ πρὸς τὸν λόγον ἀλλὰ πρὸς τὴν διάνοιαν τοῦ νομοθέτου σκοπεῖν, καὶ μὴ πρὸς τὴν πρᾶξιν ἀλλὰ πρὸς τὴν προαίρεσιν, καὶ μὴ πρὸς τὸ μέρος ἀλλὰ πρὸς τὸ ὅλον, μηδὲ ποῖός τις νῦν, ἀλλὰ ποῖός τις ἦν ἀεὶ ἢ ὡς ἐπὶ τὸ πολύ. καὶ τὸ μνημονεύειν μᾶλλον ὧν ἔπαθεν ἀγαθῶν ἢ κακῶν, καὶ ἀγαθῶν ὧν ἔπαθε μᾶλλον ἢ ‹ὧν› ἐποίησεν. καὶ τὸ ἀνέχεσθαι ἀδικούμενον. καὶ τὸ μᾶλλον λόγῳ ἐθέλειν κρίνεσθαι ἢ ἔργῳ. καὶ τὸ εἰς δίαιταν μᾶλλον ἢ εἰς δίκην βούλεσθαι ἰέναι· ὁ γὰρ διαιτητὴς τὸ ἐπιεικὲς ὁρᾷ, ὁ δὲ δικαστὴς τὸν νόμον· καὶ τούτου ἕνεκα διαιτητὴς εὑρέθη, ὅπως τὸ ἐπιεικὲς ἰσχύῃ.

περὶ μὲν οὖν τῶν ἐπιεικῶν διωρίσθω τὸν τρόπον τοῦτον.

Ἀδίκημα δὲ μεῖζον, ὅσῳ ἂν ἀπὸ μείζονος ᾖ ἀδικίας· διὸ τὰ ἐλάχιστα μέγιστα, οἷον ὃ Μελανώπου Καλλίστρατος κατηγόρει, ὅτι παρελογίσατο τρία ἡμιωβέλια ἱερὰ τοὺς ναοποιούς· ἐπὶ δικαιοσύνης δὲ τοὐναντίον. ἔστιν δὲ ταῦτα ἐκ τοῦ ἐνυπάρχειν τῇ δυνάμει· ὁ γὰρ τρία ἡμιωβέλια ἱερὰ κλέψας κἂν ὁτιοῦν ἀδικήσειεν. ὁτὲ μὲν δὴ οὕτω τὸ μεῖζον, ὁτὲ δ’ ἐκ τοῦ βλάβους κρίνεται. καὶ οὗ μὴ ἔστιν ἴση τιμωρία, ἀλλὰ πᾶσα ἐλάττων. καὶ οὗ μὴ ἔστιν ἴασις· χαλεπὸν γὰρ καὶ ἀδύνατον. καὶ οὗ μὴ ἔστιν δίκην λαβεῖν τὸν παθόντα· ἀνίατον γάρ· ἡ γὰρ δίκη καὶ κόλασις καὶ ἴασις. καὶ εἰ ὁ παθὼν καὶ ἀδικηθεὶς αὐτὸς αὑτὸν μεγάλως ἐκόλασεν· ἔτι γὰρ μείζονι ὁ ποιήσας δίκαιος κολασθῆναι, οἷον Σοφοκλῆς ὑπὲρ Εὐκτήμονος συνηγορῶν, ἐπεὶ ἀπέσφαξεν [1375a] ἑαυτὸν ὑβρισθείς, οὐ τιμήσειν ἔφη ἐλάττονος ἢ ὁ παθὼν ἑαυτῷ ἐτίμησεν. καὶ ὃ μόνος ἢ πρῶτος ἢ μετ᾽ ὀλίγων πεποίηκεν. καὶ τὸ πολλάκις τὸ αὐτὸ ἁμαρτάνειν [μέγα]. καὶ δι᾽ ὃ ἂν ζητηθῇ καὶ εὑρεθῇ τὰ κωλύοντα καὶ ζημιοῦντα, οἷον ἐν Ἄργει ζημιοῦται δι᾽ ὃν ἂν νόμος τεθῇ καὶ δι᾽ οὓς τὸ δεσμωτήριον ᾠκοδομήθη. καὶ τὸ θηριωδέστερον ἀδίκημα μεῖζον. καὶ ὃ ἐκ προνοίας μᾶλλον. καὶ ὃ οἱ ἀκούοντες φοβοῦνται μᾶλλον ἢ ἐλεοῦσιν. καὶ τὰ μὲν ῥητορικά ἐστι τοιαῦτα, ὅτι πολλὰ ἀνῄρηκεν ἢ ὑπερβέβηκεν, οἷον ὅρκους, δεξιάς, πίστεις, ἐπιγαμίας· πολλῶν γὰρ ἀδικημάτων ὑπεροχή. καὶ τὸ ἐνταῦθα οὗ κολάζονται οἱ ἀδικοῦντες, ὅπερ ποιοῦσιν οἱ ψευδομαρτυροῦντες· ποῦ γὰρ οὐκ ἂν ἀδικήσαιεν, εἴ γε καὶ ἐν τῷ δικαστηρίῳ; καὶ ἐφ᾽ οἷς αἰσχύνη μάλιστα. καὶ εἰ τοῦτον ὑφ᾽ οὗ εὖ πέπονθεν· πλείω γὰρ ἀδικεῖ, ὅτι τε κακῶς ποιεῖ καὶ ὅτι οὐκ εὖ. καὶ ὃ παρὰ τὰ ἄγραφα δίκαια· ἀμείνονος γὰρ μὴ δι᾽ ἀνάγκην δίκαιον εἶναι· τὰ μὲν οὖν γεγραμμένα ἐξ ἀνάγκης, τὰ δ᾽ ἄγραφα οὔ. ἄλλον δὲ τρόπον, εἰ παρὰ τὰ γεγραμμένα· ὁ γὰρ τὰ φοβερὰ ἀδικῶν καὶ τὰ ἐπιζήμια καὶ τὰ ἀζήμια ἀδικήσειεν ἄν. περὶ μὲν οὖν ἀδικήματος μείζονος καὶ ἐλάττονος εἴρηται.

Περὶ δὲ τῶν ἀτέχνων καλουμένων πίστεων ἐχόμενόν ἐστι τῶν εἰρημένων ἐπιδραμεῖν· ἴδιαι γὰρ αὗται τῶν δικανικῶν. εἰσὶν δὲ πέντε τὸν ἀριθμόν, νόμοι, μάρτυρες, συνθῆκαι, βάσανοι, ὅρκοι. πρῶτον μὲν οὖν περὶ νόμων εἴπωμεν, πῶς χρηστέον καὶ προτρέποντα καὶ ἀποτρέποντα καὶ κατηγοροῦντα καὶ ἀπολογούμενον. φανερὸν γὰρ ὅτι, ἐὰν μὲν ἐναντίος ᾖ ὁ γεγραμμένος τῷ πράγματι, τῷ κοινῷ χρηστέον καὶ τοῖς ἐπιεικεστέροις καὶ δικαιοτέροις. καὶ ὅτι τὸ “γνώμῃ τῇ ἀρίστῃ” τοῦτ᾽ ἐστίν, τὸ μὴ παντελῶς χρῆσθαι τοῖς γεγραμμένοις. καὶ ὅτι τὸ μὲν ἐπιεικὲς ἀεὶ μένει καὶ οὐδέποτε μεταβάλλει, οὐδ᾽ ὁ κοινός (κατὰ φύσιν γάρ ἐστιν), οἱ δὲ γεγραμμένοι πολλάκις, ὅθεν εἴρηται τὰ ἐν τῇ Σοφοκλέους Ἀντιγόνῃ· ἀπολογεῖται γὰρ ὅτι ἔθαψε παρὰ τὸν τοῦ Κρέοντος νόμον, ἀλλ᾽ οὐ παρὰ τὸν ἄγραφον,

[1375b] οὐ γάρ τι νῦν γε κἀχθές, ἀλλ᾽ ἀεί ποτε ...
ταῦτ᾽ οὖν ἐγὼ οὐκ ἔμελλον ἀνδρὸς οὐδενός ....

καὶ ὅτι τὸ δίκαιόν ἐστιν ἀληθές τε καὶ συμφέρον, ἀλλ᾽ οὐ τὸ δοκοῦν, ὥστ᾽ οὐ νόμος ὁ γεγραμμένος· οὐ γὰρ ποιεῖ τὸ ἔργον τὸ τοῦ νόμου. καὶ ὅτι ὥσπερ ἀργυρογνώμων ὁ κριτής ἐστιν, ὅπως διακρίνῃ τὸ κίβδηλον δίκαιον καὶ τὸ ἀληθές. καὶ ὅτι βελτίονος ἀνδρὸς τὸ τοῖς ἀγράφοις ἢ τοῖς γεγραμμένοις χρῆσθαι καὶ ἐμμένειν. καὶ εἴ που ἐναντίος νόμῳ εὐδοκιμοῦντι ἢ καὶ αὐτὸς αὑτῷ, οἷον ἐνίοτε ὁ μὲν κελεύει κύρια εἶναι ἅττ’ ἂν συνθῶνται, ὁ δ’ ἀπαγορεύει μὴ συντίθεσθαι παρὰ τὸν νόμον. καὶ εἰ ἀμφίβολος, ὥστε στρέφειν καὶ ὁρᾶν ἐπὶ ποτέραν [τὴν] ἀγωγὴν ἢ τὸ δίκαιον ἐφαρμόσει ἢ τὸ συμφέρον, εἶτα τούτῳ χρῆσθαι. καὶ εἰ τὰ μὲν πράγματα ἐφ’ οἷς ἐτέθη ὁ νόμος μηκέτι μένει, ὁ δὲ νόμος, πειρατέον τοῦτο δηλοῦν καὶ μάχεσθαι ταύτῃ πρὸς τὸν νόμον. ἐὰν δὲ ὁ γεγραμμένος ᾖ πρὸς τὸ πρᾶγμα, τό τε “γνώμῃ τῇ ἀρίστῃ” λεκτέον ὅτι οὐ τοῦ παρὰ τὸν νόμον ἕνεκα δικάζειν ἐστίν, ἀλλ’ ἵνα, ἐὰν ἀγνοήσῃ τί λέγει ὁ νόμος, μὴ ἐπιορκῇ. καὶ ὅτι οὐ τὸ ἁπλῶς ἀγαθὸν αἱρεῖται οὐδείς, ἀλλὰ τὸ αὑτῷ. καὶ ὅτι οὐδὲν διαφέρει ἢ μὴ κεῖσθαι ἢ μὴ χρῆσθαι. καὶ ὅτι ἐν ταῖς ἄλλαις τέχναις οὐ λυσιτελεῖ παρασοφίζεσθαι τὸν ἰατρόν· οὐ γὰρ τοσοῦτο βλάπτει ἡ ἁμαρτία τοῦ ἰατροῦ ὅσον τὸ ἐθίζεσθαι ἀπειθεῖν τῷ ἄρχοντι. καὶ ὅτι τὸ τῶν νόμων σοφώτερον ζητεῖν εἶναι, τοῦτ’ ἐστὶν ὃ ἐν τοῖς ἐπαινουμένοις νόμοις ἀπαγορεύεται. καὶ περὶ μὲν τῶν νόμων οὕτως διωρίσθω· περὶ δὲ μαρτύρων, μάρτυρές εἰσιν διττοί, οἱ μὲν παλαιοὶ οἱ δὲ πρόσφατοι, καὶ τούτων οἱ μὲν μετέχοντες τοῦ κινδύνου οἱ δ’ ἐκτός. λέγω δὲ παλαιοὺς μὲν τούς τε ποιητὰς καὶ ὅσων ἄλλων γνωρίμων εἰσὶν κρίσεις φανεραί, οἷον Ἀθηναῖοι Ὁμήρῳ μάρτυρι ἐχρήσαντο περὶ Σαλαμῖνος, καὶ Τενέδιοι ἔναγχος Περιάνδρῳ τῷ Κορινθίῳ πρὸς Σιγειεῖς, καὶ Κλεοφῶν κατὰ Κριτίου τοῖς Σόλωνος ἐλεγείοις ἐχρήσατο, λέγων ὅτι πάλαι ἀσελγὴς ἡ οἰκία· οὐ γὰρ ἄν ποτε ἐποίησε Σόλων

εἰπεῖν μοι Κριτίᾳ πυρρότριχι πατρὸς ἀκούειν.

περὶ μὲν οὖν τῶν γενομένων οἱ τοιοῦτοι μάρτυρες, περὶ δὲ [1376a] τῶν ἐσομένων καὶ οἱ χρησμολόγοι, οἷον Θεμιστοκλῆς ὅτι ναυμαχητέον, τὸ ξύλινον τεῖχος λέγων. ἔτι καὶ αἱ παροιμίαι, ὥσπερ εἴρηται, μαρτύριά εἰσιν, οἷον εἴ τις συμβουλεύει μὴ ποιεῖσθαι φίλον γέροντα, τούτῳ μαρτυρεῖ ἡ παροιμία,

μήποτ’ εὖ ἔρδειν γέροντα,

καὶ τὸ τοὺς υἱοὺς ἀναιρεῖν ὧν καὶ τοὺς πατέρας,

νήπιος ὃς πατέρα κτείνας υἱοὺς καταλείπει.

πρόσφατοι δὲ ὅσοι γνώριμοί τι κεκρίκασιν· χρήσιμοι γὰρ αἱ τούτων κρίσεις τοῖς περὶ τῶν αὐτῶν ἀμφισβητοῦσιν, οἷον Εὔβουλος ἐν τοῖς δικαστηρίοις ἐχρήσατο κατὰ Χάρητος ὃ Πλάτων εἶπε πρὸς Ἀρχίβιον, ὅτι ἐπιδέδωκεν ἐν τῇ πόλει τὸ ὁμολογεῖν πονηροὺς εἶναι. καὶ οἱ μετέχοντες τοῦ κινδύνου, ἂν δόξωσι ψεύδεσθαι. οἱ μὲν οὖν τοιοῦτοι τούτων μόνον μάρτυρές εἰσιν, εἰ γέγονεν ἢ μή, εἰ ἔστιν ἢ μή, περὶ δὲ τοῦ ποῖον οὐ μάρτυρες, οἷον εἰ δίκαιον ἢ ἄδικον, εἰ συμφέρον ἢ ἀσύμφορον· οἱ δ’ ἄπωθεν περὶ τούτων πιστότεροι, πιστότατοι δ’ οἱ παλαιοί· ἀδιάφθοροι γάρ.

πιστώματα δὲ περὶ μαρτυριῶν μάρτυρας μὲν μὴ ἔχοντι, ὅτι ἐκ τῶν εἰκότων δεῖ κρίνειν καὶ τοῦτ’ ἐστὶ τὸ “γνώμῃ τῇ ἀρίστῃ”, καὶ ὅτι οὐκ ἔστιν ἐξαπατῆσαι τὰ εἰκότα ἐπὶ ἀργυρίῳ, καὶ ὅτι οὐχ ἁλίσκεται τὰ εἰκότα ψευδομαρτυριῶν· ἔχοντι δὲ πρὸς μὴ ἔχοντα, ὅτι οὐχ ὑπόδικα τὰ εἰκότα, καὶ ὅτι οὐδὲν ἂν ἔδει μαρτυριῶν, εἰ ἐκ τῶν λόγων ἱκανὸν ἦν θεωρῆσαι.

εἰσὶ δὲ αἱ μαρτυρίαι αἱ μὲν περὶ αὑτοῦ αἱ δὲ περὶ τοῦ ἀμφισβητοῦντος, καὶ αἱ μὲν περὶ τοῦ πράγματος αἱ δὲ περὶ τοῦ ἤθους, ὥστε φανερὸν ὅτι οὐδέποτ’ ἔστιν ἀπορῆσαι μαρτυρίας χρησίμης· εἰ μὴ γὰρ κατὰ τοῦ πράγματος ἢ αὑτῷ ὁμολογουμένης ἢ τῷ ἀμφισβητοῦντι ἐναντίας, ἀλλὰ περὶ τοῦ ἤθους ἢ αὑτοῦ εἰς ἐπιείκειαν ἢ τοῦ ἀμφισβητοῦντος εἰς φαυλότητα. τὰ δ’ ἄλλα περὶ μάρτυρος, ἢ φίλου ἢ ἐχθροῦ ἢ μεταξύ, ἢ εὐδοκιμοῦντος ἢ ἀδοξοῦντος ἢ μεταξύ, καὶ ὅσαι ἄλλαι τοιαῦται διαφοραί, ἐκ τῶν αὐτῶν τόπων λεκτέον ἐξ οἵων περ καὶ τὰ ἐνθυμήματα λέγομεν.

περὶ δὲ τῶν συνθηκῶν τοσαύτη τῶν λόγων χρῆσίς ἐστιν ὅσον αὔξειν ἢ καθαιρεῖν, ἢ πιστὰς ποιεῖν ἢ ἀπίστους - ἐὰν [1376b] μὲν αὐτῷ ὑπάρχωσι, πιστὰς καὶ κυρίας, ἐπὶ δὲ τοῦ ἀμφισβητοῦντος τοὐναντίον. πρὸς μὲν οὖν τὸ πιστὰς ἢ ἀπίστους κατασκευάζειν οὐδὲν διαφέρει τῆς περὶ τοὺς μάρτυρας πραγματείας· ὁποῖοι γὰρ ἄν τινες ὦσιν οἱ ἐπιγεγραμμένοι ἢ φυλάττοντες, τοιούτως αἱ συνθῆκαι πισταί εἰσιν. ὁμολογουμένης δ’ εἶναι τῆς συνθήκης, οἰκείας μὲν οὔσης αὐξητέον· ἡ γὰρ συνθήκη νόμος ἐστὶν ἴδιος καὶ κατὰ μέρος, καὶ αἱ μὲν συνθῆκαι οὐ ποιοῦσι τὸν νόμον κύριον, οἱ δὲ νόμοι τὰς κατὰ νόμους συνθήκας, καὶ ὅλως αὐτὸς ὁ νόμος συνθήκη τίς ἐστιν, ὥστε ὅστις ἀπιστεῖ ἢ ἀναιρεῖ συνθήκην τοὺς νόμους ἀναιρεῖ. ἔτι δὲ πράττεται τὰ πολλὰ τῶν συναλλαγμάτων καὶ τὰ ἑκούσια κατὰ συνθήκας, ὥστε ἀκύρων γιγνομένων ἀναιρεῖται ἡ πρὸς ἀλλήλους χρεία τῶν ἀνθρώπων. καὶ τἆλλα δὲ ὅσα ἁρμόττει ἐπιπολῆς ἰδεῖν ἔστιν. ἂν δ’ ἐναντία ᾖ, καὶ μετὰ τῶν ἀμφισβητούντων, πρῶτον μέν, ἅπερ ἄν τις πρὸς νόμον ἐναντίον μαχέσαιτο, ταῦτα ἁρμόττει· ἄτοπον γὰρ εἰ τοῖς μὲν νόμοις, ἂν μὴ ὀρθῶς κείμενοι ὦσιν ἀλλ’ ἐξαμάρτωσιν οἱ τιθέμενοι, οὐκ οἰόμεθα δεῖν πείθεσθαι, ταῖς δὲ συνθήκαις ἀναγκαῖον. εἶτα ὅτι τοῦ δικαίου ἐστὶ βραβευτὴς ὁ δικαστής· οὔκουν τοῦτο σκεπτέον, ἀλλ’ ὡς δικαιότερον· καὶ τὸ μὲν δίκαιον οὐκ ἔστιν μεταστρέψαι οὔτ’ ἀπάτῃ οὔτ’ ἀνάγκῃ (πεφυκὸς γάρ ἐστιν), συνθῆκαι δὲ γίγνονται καὶ ἐξαπατηθέντων καὶ ἀναγκασθέντων. πρὸς δὲ τούτοις σκοπεῖν εἰ ἐναντία ἐστί τινι τῶν γεγραμμένων νόμων ἢ τῶν κοινῶν, καὶ τῶν γεγραμμένων ἢ τοῖς οἰκείοις ἢ τοῖς ἀλλοτρίοις, ἔπειτα εἰ ἢ ἄλλαις συνθήκαις ὑστέραις ἢ προτέραις· ἢ γὰρ αἱ ὕστεραι κύριαι, ἄκυροι δ’ αἱ πρότεραι, ἢ αἱ πρότεραι ὀρθαί, αἱ δ’ ὕστεραι ἠπατήκασιν, ὁποτέρως ἂν ᾖ χρήσιμον. ἔτι δὲ τὸ συμφέρον ὁρᾶν, εἴ που ἐναντιοῦται τοῖς κριταῖς, καὶ ὅσα ἄλλα τοιαῦτα· καὶ γὰρ ταῦτα εὐθεώρητα ὁμοίως.

αἱ δὲ βάσανοι μαρτυρίαι τινές εἰσιν, ἔχειν δὲ δοκοῦσι τὸ πιστόν, ὅτι ἀνάγκη τις πρόσεστιν. οὔκουν χαλεπὸν οὐδὲ περὶ τούτων εἰπεῖν τὰ ἐνδεχόμενα, ἐξ ὧν ἐάν τε ὑπάρχωσιν οἰκεῖαι αὔξειν ἔστιν, ὅτι ἀληθεῖς μόναι τῶν μαρτυριῶν εἰσιν [1377a] αὗται, ἐάν τε ὑπεναντίαι ὦσι καὶ μετὰ τοῦ ἀμφισβητοῦντος, διαλύοι ἄν τις τἀληθῆ λέγων καθ’ ὅλου τοῦ γένους τῶν βασάνων· οὐδὲν γὰρ ἧττον ἀναγκαζόμενοι τὰ ψευδῆ λέγουσιν ἢ τἀληθῆ, καὶ διακαρτεροῦντες μὴ λέγειν τἀληθῆ, καὶ ῥᾳδίως καταψευδόμενοι ὡς παυσόμενοι θᾶττον. δεῖ δὲ ἔχειν ἐπαναφέρειν ἐπὶ τοιαῦτα γεγενημένα παραδείγματα ἃ ἴσασιν οἱ κρίνοντες. δεῖ δὲ λέγειν ὡς οὐκ εἰσὶν ἀληθεῖς αἱ βάσανοι· πολλοὶ μὲν γὰρ παχύφρονες [οἱ] καὶ λιθόδερμοι καὶ ταῖς ψυχαῖς ὄντες δυνατοὶ γενναίως ἐγκαρτεροῦσι ταῖς ἀνάγκαις, οἱ δὲ δειλοὶ καὶ εὐλαβεῖς πρὸ τοῦ τὰς ἀνάγκας ἰδεῖν αὐτῶν καταθαρροῦσιν, ὥστε οὐδὲν ἔστι πιστὸν ἐν βασάνοις.

περὶ δ’ ὅρκων τετραχῶς ἔστι διελεῖν· ἢ γὰρ δίδωσι καὶ λαμβάνει, ἢ οὐδέτερον, ἢ τὸ μὲν τὸ δ’ οὔ, καὶ τούτων ἢ δίδωσιν μὲν οὐ λαμβάνει δέ, ἢ λαμβάνει μὲν δίδωσιν δὲ οὔ. ἔτι ἄλλως παρὰ ταῦτα, εἰ ὀμώμοσται οὗτος ὑπ’ αὐτοῦ ἢ ὑπ’ ἐκείνου.

οὐ δίδωσιν μὲν οὖν, ὅτι ῥᾳδίως ἐπιορκοῦσιν, καὶ ὅτι ὁ μὲν ὀμόσας οὐκ ἀποδίδωσιν, τοὺς δὲ μὴ ὀμόσαντος οἴεται καταδικάσειν, καὶ [ὡς] οὗτος ὁ κίνδυνος κρείττων, ὁ ἐν τοῖς δικασταῖς· τοῖς μὲν γὰρ πιστεύει τῷ δ’ οὔ.

οὐ λαμβάνει δ’, ὅτι ἀντὶ χρημάτων ὅρκος, καὶ ὅτι εἰ ἦν φαῦλος, κατωμόσατο ἄν· κρεῖττον γὰρ ἂν ‹ἦν› ἕνεκά του φαῦλον εἶναι ἢ μηδενός· ὀμόσας μὲν οὖν ἕξει, μὴ ὀμόσας δ’ οὔ· οὕτως δὲ δι’ ἀρετὴν ἂν εἴη, ἀλλ’ οὐ δι’ ἐπιορκίαν, τὸ μή. καὶ τὸ τοῦ Ξενοφάνους ἁρμόττει, ὅτι “οὐκ ἴση πρόκλησις αὕτη τἀσεβεῖ πρὸς εὐσεβῆ”, ἀλλ’ ὁμοία καὶ εἰ ἰσχυρὸς ἀσθενῆ πατάξαι ἢ πληγῆναι προκαλέσαιτο.

εἰ δὲ λαμβάνει, ὅτι πιστεύει αὑτῷ, ἐκείνῳ δ’ οὔ. καὶ τὸ τοῦ Ξενοφάνους μεταστρέψαντα φατέον οὕτως ἴσον εἶναι ἂν ὁ μὲν ἀσεβὴς διδῷ, ὁ δ’ εὐσεβὴς ὀμνύῃ· δεινόν τε τὸ μὴ θέλειν αὐτόν, ὑπὲρ ὧν ἐκείνους ἀξιοῖ ὀμόσαντας δικάζειν.

εἰ δὲ δίδωσιν, ὅτι εὐσεβὲς τὸ θέλειν τοῖς θεοῖς ἐπιτρέπειν, καὶ ὅτι οὐδὲν δεῖ αὐτὸν ἄλλων δικαστῶν δεῖσθαι (αὐτοῖς γὰρ δίδωσι κρίσιν), καὶ ὅτι ἄτοπον τὸ μὴ θέλειν ὀμνύναι περὶ ὧν ἄλλους ἀξιοῦσιν ὀμνύναι.

ἐπεὶ δὲ καθ’ ἕκαστον δῆλον ὅπως λεκτέον, καὶ συνδυαζομένων πῶς λεκτέον δῆλον, οἷον εἰ αὐτὸς μὲν θέλει λαμβάνειν διδόναι δὲ μή, καὶ εἰ δίδωσι μὲν λαμβάνειν δὲ μὴ θέλει, καὶ εἰ λαμβάνειν καὶ διδόναι [1377b] θέλει εἴτε μηδέτερον· ἐκ γὰρ τῶν εἰρημένων ἀνάγκη συγκεῖσθαι, ὥστε καὶ τοὺς λόγους συγκεῖσθαι ἐκ τῶν εἰρημένων.

ἐὰν δὲ ᾖ γεγενημένος ὑφ’ αὐτοῦ καὶ ἐναντίος, ὅτι οὐκ ἐπιορκία· ἑκούσιον γὰρ τὸ ἀδικεῖν, τὸ δ’ ἐπιορκεῖν ἀδικεῖν ἐστι, τὰ δὲ βίᾳ καὶ ἀπάτῃ ἀκούσια. ἐνταῦθα οὖν συνακτέον καὶ τὸ ἐπιορκεῖν, ὅτι ἔστι τὸ τῇ διανοίᾳ ἀλλ’ οὐ τῷ στόματι. ἐὰν δὲ τῷ ἀντιδίκῳ ᾖ ὑπεναντίος καὶ ὀμωμοσμένος, ὅτι πάντα ἀναιρεῖ μὴ ἐμμένων οἷς ὤμοσεν· διὰ γὰρ τοῦτο καὶ τοῖς νόμοις χρῶνται ὀμόσαντες. καὶ “ὑμᾶς μὲν ἀξιοῦσιν ἐμμένειν οἷς ὀμόσαντες δικάζετε, αὐτοὶ δὲ οὐκ ἐμμένουσιν”. καὶ ὅσα ἂν ἄλλα αὔξων τις εἴπειεν. περὶ μὲν οὖν τῶν ἀτέχνων πίστεων εἰρήσθω τοσαῦτα.

B

Ἐκ τίνων μὲν οὖν δεῖ καὶ προτρέπειν καὶ ἀποτρέπειν, καὶ ἐπαινεῖν καὶ ψέγειν, καὶ κατηγορεῖν καὶ ἀπολογεῖσθαι, καὶ ποῖαι δόξαι καὶ προτάσεις χρήσιμοι πρὸς τὰς τούτων πίστεις, ταῦτ’ ἐστίν· περὶ γὰρ τούτων καὶ ἐκ τούτων τὰ ἐνθυμήματα, ὡς περὶ ἕκαστον εἰπεῖν ἰδίᾳ τὸ γένος τῶν λόγων.

ἐπεὶ δὲ ἕνεκα κρίσεώς ἐστιν ἡ ῥητορική (καὶ γὰρ τὰς συμβουλὰς κρίνουσι καὶ ἡ δίκη κρίσις ἐστίν), ἀνάγκη μὴ μόνον πρὸς τὸν λόγον ὁρᾶν, ὅπως ἀποδεικτικὸς ἔσται καὶ πιστός, ἀλλὰ καὶ αὑτὸν ποιόν τινα καὶ τὸν κριτὴν κατασκευάζειν· πολὺ γὰρ διαφέρει πρὸς πίστιν, μάλιστα μὲν ἐν ταῖς συμβουλαῖς, εἶτα καὶ ἐν ταῖς δίκαις, τό τε ποιόν τινα φαίνεσθαι τὸν λέγοντα καὶ τὸ πρὸς αὐτοὺς ὑπολαμβάνειν πως διακεῖσθαι αὐτόν, πρὸς δὲ τούτοις ἐὰν καὶ αὐτοὶ διακείμενοί πως τυγχάνωσιν. τὸ μὲν οὖν ποιόν τινα φαίνεσθαι τὸν λέγοντα χρησιμώτερον εἰς τὰς συμβουλάς ἐστιν, τὸ δὲ διακεῖσθαί πως τὸν ἀκροατὴν εἰς τὰς δίκας· οὐ γὰρ ταὐτὰ φαίνεται φιλοῦσι καὶ μισοῦσιν, οὐδ’ ὀργιζομένοις καὶ πράως ἔχουσιν, ἀλλ’ ἢ τὸ παράπαν ἕτερα ἢ [1378a] κατὰ μέγεθος ἕτερα· τῷ μὲν γὰρ φιλοῦντι περὶ οὗ ποιεῖται τὴν κρίσιν ἢ οὐκ ἀδικεῖν ἢ μικρὰ δοκεῖ ἀδικεῖν, τῷ δὲ μισοῦντι τοὐναντίον· καὶ τῷ μὲν ἐπιθυμοῦντι καὶ εὐέλπιδι ὄντι, ἐὰν ᾖ τὸ ἐσόμενον ἡδύ, καὶ ἔσεσθαι καὶ ἀγαθὸν ἔσεσθαι φαίνεται, τῷ δ’ ἀπαθεῖ ‹ἢ› καὶ δυσχεραίνοντι τοὐναντίον.

τοῦ μὲν οὖν αὐτοὺς εἶναι πιστοὺς τοὺς λέγοντας τρία ἐστὶ τὰ αἴτια· τοσαῦτα γάρ ἐστι δι’ ἃ πιστεύομεν ἔξω τῶν ἀποδείξεων. ἔστι δὲ ταῦτα φρόνησις καὶ ἀρετὴ καὶ εὔνοια· διαψεύδονται γὰρ περὶ ὧν λέγουσιν ἢ συμβουλεύουσιν ἢ δι’ ἅπαντα ταῦτα ἢ διὰ τούτων τι· ἢ γὰρ δι’ ἀφροσύνην οὐκ ὀρθῶς δοξάζουσιν, ἢ δοξάζοντες ὀρθῶς διὰ μοχθηρίαν οὐ τὰ δοκοῦντα λέγουσιν, ἢ φρόνιμοι μὲν καὶ ἐπιεικεῖς εἰσιν ἀλλ’ οὐκ εὖνοι, διόπερ ἐνδέχεται μὴ τὰ βέλτιστα συμβουλεύειν γιγνώσκοντας, καὶ παρὰ ταῦτα οὐδέν. ἀνάγκη ἄρα τὸν ἅπαντα δοκοῦντα ταῦτ’ ἔχειν εἶναι τοῖς ἀκροωμένοις πιστόν. ὅθεν μὲν οὖν φρόνιμοι καὶ σπουδαῖοι φανεῖεν ἄν, ἐκ τῶν περὶ τὰς ἀρετὰς διῃρημένων ληπτέον· ἐκ γὰρ τῶν αὐτῶν κἂν ἕτερόν τις κἂν ἑαυτὸν κατασκευάσειε τοιοῦτον· περὶ δ’ εὐνοίας καὶ φιλίας ἐν τοῖς περὶ τὰ πάθη λεκτέον.

ἔστι δὲ τὰ πάθη δι’ ὅσα μεταβάλλοντες διαφέρουσι πρὸς τὰς κρίσεις οἷς ἕπεται λύπη καὶ ἡδονή, οἷον ὀργὴ ἔλεος φόβος καὶ ὅσα ἄλλα τοιαῦτα, καὶ τὰ τούτοις ἐναντία. δεῖ δὲ διαιρεῖν περὶ ἕκαστον εἰς τρία, λέγω δ’ οἷον περὶ ὀργῆς πῶς τε διακείμενοι ὀργίλοι εἰσί, καὶ τίσιν εἰώθασιν ὀργίζεσθαι, καὶ ἐπὶ ποίοις· εἰ γὰρ τὸ μὲν ἓν ἢ τὰ δύο ἔχοιμεν τούτων, ἅπαντα δὲ μή, ἀδύνατον ἂν εἴη τὴν ὀργὴν ἐμποιεῖν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. ὥσπερ οὖν καὶ ἐπὶ τῶν προειρημένων διεγράψαμεν τὰς προτάσεις, οὕτω καὶ περὶ τούτων ποιήσωμεν καὶ διέλωμεν τὸν εἰρημένον τρόπον.

Ἔστω δὴ ὀργὴ ὄρεξις μετὰ λύπης τιμωρίας [φαινομένης] διὰ φαινομένην ὀλιγωρίαν εἰς αὐτὸν ἤ ‹τι› τῶν αὐτοῦ, τοῦ ὀλιγωρεῖν μὴ προσήκοντος. εἰ δὴ τοῦτ’ ἐστὶν ἡ ὀργή, ἀνάγκη τὸν ὀργιζόμενον ὀργίζεσθαι ἀεὶ τῶν καθ’ ἕκαστόν τινι, οἷον Κλέωνι ἀλλ’ οὐκ ἀνθρώπῳ, καὶ ὅτι αὐτὸν ἢ τῶν αὐτοῦ τί [1378b] πεποίηκεν ἢ ἤμελλεν, καὶ πάσῃ ὀργῇ ἕπεσθαί τινα ἡδονήν, τὴν ἀπὸ τῆς ἐλπίδος τοῦ τιμωρήσασθαι· ἡδὺ μὲν γὰρ τὸ οἴεσθαι τεύξεσθαι ὧν ἐφίεται, οὐδεὶς δὲ τῶν φαινομένων ἀδυνάτων ἐφίεται αὑτῷ, ὁ δὲ ὀργιζόμενος ἐφίεται δυνατῶν αὑτῷ. διὸ καλῶς εἴρηται περὶ θυμοῦ·

ὅς τε πολὺ γλυκίων μέλιτος καταλειβομένοιο
ἀνδρῶν ἐν στήθεσσιν ἀέξεται·

ἀκολουθεῖ γὰρ καὶ ἡδονή τις διά τε τοῦτο καὶ διότι διατρίβουσιν ἐν τῷ τιμωρεῖσθαι τῇ διανοίᾳ· ἡ οὖν τότε γινομένη φαντασία ἡδονὴν ἐμποιεῖ, ὥσπερ ἡ τῶν ἐνυπνίων.

ἐπεὶ δὲ ἡ ὀλιγωρία ἐστὶν ἐνέργεια δόξης περὶ τὸ μηδενὸς ἄξιον φαινόμενον (καὶ γὰρ τὰ κακὰ καὶ τἀγαθὰ ἄξια οἰόμεθα σπουδῆς εἶναι, καὶ τὰ συντείνοντα πρὸς αὐτά· ὅσα δὲ μηδέν τι ἢ μικρόν, οὐδενὸς ἄξια ὑπολαμβάνομεν), τρία ἐστὶν εἴδη ὀλιγωρίας, καταφρόνησίς τε καὶ ἐπηρεασμὸς καὶ ὕβρις· ὅ τε γὰρ καταφρονῶν ὀλιγωρεῖ (ὅσα γὰρ οἴονται μηδενὸς ἄξια, τούτων καταφρονοῦσιν, τῶν δὲ μηδενὸς ἀξίων ὀλιγωροῦσιν), καὶ ὁ ἐπηρεάζων φαίνεται ὀλιγωρεῖν. ἔστι γὰρ ὁ ἐπηρεασμὸς ἐμποδισμὸς ταῖς βουλήσεσιν μὴ ἵνα τι αὐτῷ ἀλλ’ ἵνα μὴ ἐκείνῳ· ἐπεὶ οὖν οὐχ ἵνα αὑτῷ τι, ὀλιγωρεῖ· δῆλον γὰρ ὅτι οὔτε βλάψειν ὑπολαμβάνει, ἐφοβεῖτο γὰρ ἂν καὶ οὐκ ὠλιγώρει, οὔτ’ ὠφελῆσαι ἂν οὐδὲν ἄξιον λόγου, ἐφρόντιζε γὰρ ἂν ὥστε φίλος εἶναι· καὶ ὁ ὑβρίζων δὲ ὀλιγωρεῖ· ἔστι γὰρ ὕβρις τὸ πράττειν καὶ λέγειν ἐφ’ οἷς αἰσχύνη ἔστι τῷ πάσχοντι, μὴ ἵνα τι γίγνηται αὐτῷ ἄλλο ἢ ὅ τι ἐγένετο, ἀλλ’ ὅπως ἡσθῇ· οἱ γὰρ ἀντιποιοῦντες οὐχ ὑβρίζουσιν ἀλλὰ τιμωροῦνται. αἴτιον δὲ τῆς ἡδονῆς τοῖς ὑβρίζουσιν, ὅτι οἴονται κακῶς δρῶντες αὐτοὶ ὑπερέχειν μᾶλλον (διὸ οἱ νέοι καὶ οἱ πλούσιοι ὑβρισταί· ὑπερέχειν γὰρ οἴονται ὑβρίζοντες)· ὕβρεως δὲ ἀτιμία, ὁ δ’ ἀτιμάζων ὀλιγωρεῖ· τὸ γὰρ μηδενὸς ἄξιον οὐδεμίαν ἔχει τιμήν, οὔτε ἀγαθοῦ οὔτε κακοῦ· διὸ λέγει ὀργιζόμενος ὁ Ἀχιλλεὺς

ἠτίμησεν· ἑλὼν γὰρ ἔχει γέρας αὐτὸς

καὶ

ὡς εἴ τιν’ ἀτίμητον μετανάστην,

ὡς διὰ ταῦτα ὀργιζόμενος. προσήκειν δὲ οἴονται πολυωρεῖσθαι ὑπὸ τῶν ἡττόνων κατὰ γένος, κατὰ δύναμιν, κατ’ ἀρετήν, [1379a] καὶ ὅλως ἐν ᾧ ἂν αὐτὸς ὑπερέχῃ πολύ, οἷον ἐν χρήμασιν ὁ πλούσιος πένητος καὶ ἐν τῷ λέγειν ῥητορικὸς ἀδυνάτου εἰπεῖν καὶ ἄρχων ἀρχομένου καὶ ἄρχειν ἄξιος [οἰόμενος] τοῦ ἄρχεσθαι ἀξίου· διὸ εἴρηται

θυμὸς δὲ μέγας ἐστὶ διοτρεφέων βασιλήων

καὶ

ἀλλά τε καὶ μετόπισθεν ἔχει κότον·

ἀγανακτοῦσι γὰρ διὰ τὴν ὑπεροχήν. ἔτι ὑφ’ ὧν τις οἴεται εὖ πάσχειν δεῖν· οὗτοι δ’ εἰσὶν οὓς εὖ πεποίηκεν ἢ ποιεῖ, αὐτὸς ἢ δι’ αὐτόν τις ἢ τῶν αὐτοῦ τις, ἢ βούλεται ἢ ἐβουλήθη.

φανερὸν οὖν ἐκ τούτων ἤδη πῶς τε ἔχοντες ὀργίζονται αὐτοὶ καὶ τίσιν καὶ διὰ ποῖα. αὐτοὶ μὲν γάρ, ὅταν λυπῶνται· ἐφίεται γάρ τινος ὁ λυπούμενος· ἐάν τε οὖν κατ’ εὐθυωρίαν ὁτιοῦν ἀντικρούσῃ τις, οἷον τῷ διψῶντι πρὸς τὸ πιεῖν, ἐάν τε μή, ὁμοίως ταὐτὸ φαίνεται ποιεῖν· καὶ ἐάν τε ἀντιπράττῃ τις ἐάν τε μὴ συμπράττῃ ἐάν τε ἄλλο τι ἐνοχλῇ οὕτως ἔχοντα, πᾶσιν ὀργίζεται· διὸ κάμνοντες, πενόμενοι, ‹πολεμοῦντες,› ἐρῶντες, διψῶντες, ὅλως ἐπιθυμοῦντες καὶ μὴ κατορθοῦντες ὀργίλοι εἰσὶ καὶ εὐπαρόρμητοι, μάλιστα μὲν πρὸς τοὺς τοῦ παρόντος ὀλιγωροῦντας, οἷον κάμνων μὲν τοῖς πρὸς τὴν νόσον, πενόμενος δὲ τοῖς πρὸς τὴν πενίαν, πολεμῶν δὲ τοῖς πρὸς τὸν πόλεμον, ἐρῶν δὲ τοῖς πρὸς τὸν ἔρωτα, ὁμοίως δὲ καὶ τοῖς ἄλλοις ‹εἰ δὲ μή, κἂν ὁτιοῦν ἄλλο ὀλιγωρῇ τις›· προοδοποιεῖται γὰρ ἕκαστος πρὸς τὴν ἑκάστου ὀργὴν ὑπὸ τοῦ ὑπάρχοντος πάθους· ἔτι δ’ ἐὰν τἀναντία τύχῃ προσδεχόμενος· λυπεῖ γὰρ μᾶλλον τὸ πολὺ παρὰ δόξαν, ὥσπερ καὶ τέρπει τὸ πολὺ παρὰ δόξαν, ἐὰν γένηται ὃ βούλεται· διὸ καὶ ὧραι καὶ χρόνοι καὶ διαθέσεις καὶ ἡλικίαι ἐκ τούτων φανεραί, ποῖαι εὐκίνητοι πρὸς ὀργὴν καὶ ποῦ καὶ πότε, καὶ ὅτε μᾶλλον ἐν τούτοις εἰσί, μᾶλλον καὶ εὐκίνητοι.

αὐτοὶ μὲν οὖν οὕτως ἔχοντες εὐκίνητοι πρὸς ὀργήν, ὀργίζονται δὲ τοῖς τε καταγελῶσι καὶ χλευάζουσιν καὶ σκώπτουσιν (ὑβρίζουσι γάρ), καὶ τοῖς τὰ τοιαῦτα βλάπτουσιν ὅσα ὕβρεως σημεῖα· ἀνάγκη δὲ τοιαῦτα εἶναι ἃ μήτε ἀντί τινος μήτ’ ὠφέλιμα τοῖς ποιοῦσιν· ἤδη γὰρ δοκεῖ δι’ ὕβριν. καὶ τοῖς κακῶς λέγουσι καὶ καταφρονοῦσι περὶ ὧν αὐτοὶ μάλιστα σπουδάζουσιν, οἷον οἱ ἐπὶ φιλοσοφίᾳ φιλοτιμούμενοι ἐάν τις εἰς τὴν φιλοσοφίαν, οἱ δ' ἐπὶ τῇ ἰδέᾳ ἐάν τις εἰς τὴν ἰδέαν, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· ταῦτα δὲ πολλῷ μᾶλλον, ἐὰν ὑποπτεύσωσι μὴ ὑπάρχειν αὑτοῖς, ἢ ὅλως ἢ μὴ ἰσχυρῶς, ἢ [1379b] μὴ δοκεῖν· ἐπειδὰν γὰρ σφόδρα οἴωνται ὑπερέχειν ἐν τούτοις ἐν οἷς σκώπτονται, οὐ φροντίζουσιν. καὶ τοῖς φίλοις μᾶλλον ἢ τοῖς μὴ φίλοις· οἴονται γὰρ προσήκειν μᾶλλον πάσχειν εὖ ὑπ' αὐτῶν ἢ μή. καὶ τοῖς εἰθισμένοις τιμᾶν ἢ φροντίζειν, ἐὰν πάλιν μὴ οὕτως ὁμιλῶσιν· καὶ γὰρ ὑπὸ τούτων οἴονται καταφρονεῖσθαι· ταὐτὰ γὰρ ἂν ποιεῖν. καὶ τοῖς μὴ ἀντιποιοῦσιν εὖ μηδὲ τὴν ἴσην ἀνταποδιδοῦσιν. καὶ τοῖς τἀναντία ποιοῦσιν αὐτοῖς, ἐὰν ἥττους ὦσιν. καταφρονεῖν γὰρ πάντες οἱ τοιοῦτοι φαίνονται, καὶ οἱ μὲν ὡς ἡττόνων οἱ δ' ὡς παρὰ ἡττόνων. καὶ τοῖς ἐν μηδενὶ λόγῳ οὖσιν, ἄν τι ὀλιγωρῶσι, μᾶλλον· ὑπόκειται γὰρ ἡ ὀργὴ τῆς ὀλιγωρίας πρὸς τοὺς μὴ προσήκοντας, προσήκει δὲ τοῖς ἥττοσι μὴ ὀλιγωρεῖν· τοῖς δὲ φίλοις, ἐάν τε μὴ εὖ λέγωσιν ἢ ποιῶσιν, καὶ ἔτι μᾶλλον ἐὰν τἀναντία, καὶ ἐὰν μὴ αἰσθάνωνται δεομένων, ὥσπερ ὁ Ἀντιφῶντος Πλήξιππος τῷ Μελεάγρῳ· ὀλιγωρίας γὰρ τὸ μὴ αἰσθάνεσθαι σημεῖον· ὧν γὰρ φροντίζομεν οὐ λανθάνει. καὶ τοῖς ἐπιχαίρουσι ταῖς ἀτυχίαις καὶ ὅλως εὐθυμουμένοις ἐν ταῖς αὐτῶν ἀτυχίαις· ἢ γὰρ ἐχθροῦ ἢ ὀλιγωροῦντος σημεῖον. καὶ τοῖς μὴ φροντίζουσιν ἐὰν λυπήσωσιν· διὸ καὶ τοῖς κακὰ ἀγγέλλουσιν ὀργίζονται. καὶ τοῖς ἢ ἀκούουσι περὶ αὐτῶν ἢ θεωμένοις τὰ αὐτῶν φαῦλα· ὅμοιοι γάρ εἰσιν ἢ ὀλιγωροῦσιν ἢ ἐχθροῖς· οἱ γὰρ φίλοι συναλγοῦσιν, θεώμενοι δὲ τὰ οἰκεῖα φαῦλα πάντες ἀλγοῦσιν. ἔτι τοῖς ὀλιγωροῦσι πρὸς πέντε, πρὸς οὓς φιλοτιμοῦνται, [πρὸς] οὓς θαυμάζουσιν, ὑφ' ὧν βούλονται θαυμάζεσθαι, ἢ οὓς αἰσχύνονται, ἢ ἐν τοῖς αἰσχυνομένοις αὐτούς· ἄν τις ἐν τούτοις ὀλιγωρῇ, ὀργίζονται μᾶλλον. καὶ τοῖς εἰς τὰ τοιαῦτα ὀλιγωροῦσιν ὑπὲρ ὧν αὐτοῖς αἰσχρὸν μὴ βοηθεῖν, οἷον γονεῖς, τέκνα, γυναῖκας, ἀρχομένους. καὶ τοῖς χάριν μὴ ἀποδιδοῦσιν· παρὰ τὸ προσῆκον γὰρ ἡ ὀλιγωρία. καὶ τοῖς εἰρωνευομένοις πρὸς σπουδάζοντας· καταφρονητικὸν γὰρ ἡ εἰρωνεία. καὶ τοῖς τῶν ἄλλων εὐποιητικοῖς, ἐὰν μὴ καὶ αὐτῶν· καὶ γὰρ τοῦτο καταφρονητικόν, τὸ μὴ ἀξιοῦν, ὧν πάντας, καὶ αὐτόν. ποιητικὸν δ' ὀργῆς καὶ ἡ λήθη, οἷον καὶ ἡ τῶν ὀνομάτων, οὕτως οὖσα περὶ μικρόν· ὀλιγωρίας γὰρ δοκεῖ καὶ ἡ λήθη σημεῖον εἶναι· δι' ἀμέλειαν μὲν γὰρ ἡ λήθη γίγνεται, ἡ δ' ἀμέλεια ὀλιγωρία τίς ἐστιν.

[1380a] οἷς μὲν οὖν ὀργίζονται καὶ ὡς ἔχοντες καὶ διὰ ποῖα, ἅμα εἴρηται· δῆλον δ' ὅτι δέοι ἂν κατασκευάζειν τῷ λόγῳ τοιούτους οἷοι ὄντες ὀργίλως ἔχουσιν, καὶ τοὺς ἐναντίους τούτοις ἐνόχους ὄντας ἐφ' οἷς ὀργίζονται, καὶ

τοιούτους οἵοις ὀργίζονται.

Ἐπεὶ δὲ τὸ ὀργίζεσθαι ἐναντίον τῷ πραΰνεσθαι καὶ ὀργὴ πραότητι, ληπτέον πῶς ἔχοντες πρᾶοί εἰσι καὶ πρὸς τίνας πράως ἔχουσι καὶ διὰ τίνων πραΰνονται. ἔστω δὴ πράϋνσις κατάστασις καὶ ἠρέμησις ὀργῆς. εἰ οὖν ὀργίζονται τοῖς ὀλιγωροῦσιν, ὀλιγωρία δ’ ἑκούσιον, φανερὸν ὅτι καὶ τοῖς μηδὲν τούτων ποιοῦσιν ἢ ἀκουσίως ποιοῦσιν ἢ φαινομένοις τοιούτοις πρᾶοί εἰσιν. καὶ τοῖς τἀναντία ὧν ἐποίησαν βουλομένοις. καὶ ὅσοι καὶ αὐτοὶ εἰς αὑτοὺς τοιοῦτοι· οὐδεὶς γὰρ αὐτὸς αὑτοῦ δοκεῖ ὀλιγωρεῖν. καὶ τοῖς ὁμολογοῦσι καὶ μεταμελομένοις· ὡς γὰρ ἔχοντες δίκην τὸ λυπεῖσθαι ἐπὶ τοῖς πεποιημένοις παύονται τῆς ὀργῆς· σημεῖον δὲ ἐπὶ τῆς τῶν οἰκετῶν κολάσεως· τοὺς μὲν γὰρ ἀντιλέγοντας καὶ ἀρνουμένους μᾶλλον κολάζομεν, πρὸς δὲ τοὺς ὁμολογοῦντας δικαίως κολάζεσθαι παυόμεθα θυμούμενοι· αἴτιον δ’ ὅτι ἀναισχυντία τὸ τὰ φανερὰ ἀρνεῖσθαι, ἡ δ’ ἀναισχυντία ὀλιγωρία καὶ καταφρόνησις· ὧν γοῦν πολὺ καταφρονοῦμεν, οὐκ αἰσχυνόμεθα. καὶ τοῖς ταπεινουμένοις πρὸς αὐτοὺς καὶ μὴ ἀντιλέγουσιν· φαίνονται γὰρ ὁμολογεῖν ἥττους εἶναι, οἱ δ’ ἥττους φοβοῦνται, φοβούμενος δὲ οὐδεὶς ὀλιγωρεῖ· ὅτι δὲ πρὸς τοὺς ταπεινουμένους παύεται ἡ ὀργή, καὶ οἱ κύνες δηλοῦσιν οὐ δάκνοντες τοὺς καθίζοντας. καὶ τοῖς σπουδάζουσι πρὸς [τοὺς] σπουδάζοντας· δοκεῖ γὰρ σπουδάζεσθαι ἀλλ’ οὐ καταφρονεῖσθαι. καὶ τοῖς μείζω κεχαρισμένοις. καὶ τοῖς δεομένοις καὶ παραιτουμένοις· ταπεινότεροι γάρ. καὶ τοῖς μὴ ὑβρισταῖς μηδὲ χλευασταῖς μηδ’ ὀλιγώροις εἰς μηδένα ἢ μὴ εἰς χρηστοὺς μηδ’ εἰς τοιούτους οἷοί περ αὐτοί· ὅλως δ’ ἐκ τῶν ἐναντίων δεῖ σκοπεῖν τὰ πραΰνοντα. καὶ οὓς φοβοῦνται ἢ αἰσχύνονται, ἕως ἂν οὕτως ἔχωσιν, οὐκ ὀργίζονται· ἀδύνατον γὰρ ἅμα φοβεῖσθαι καὶ ὀργίζεσθαι. καὶ τοῖς δι’ ὀργὴν ποιήσασιν ἢ οὐκ ὀργίζονται ἢ ἧττον ὀργίζονται· οὐ γὰρ δι’ ὀλιγωρίαν φαίνονται πρᾶξαι· οὐδεὶς γὰρ ὀργιζόμενος ὀλιγωρεῖ· ἡ μὲν γὰρ ὀλιγωρία ἄλυπον, [1380b] ἡ δ’ ὀργὴ μετὰ λύπης. καὶ τοῖς αἰσχυνομένοις αὐτούς.

καὶ ἔχοντες δὲ ἐναντίως τῷ ὀργίζεσθαι δῆλον ὅτι πρᾶοί εἰσιν, οἷον ἐν παιδιᾷ, ἐν γέλωτι, ἐν ἑορτῇ, ἐν εὐημερίᾳ, ἐν κατορθώσει, ἐν πληρώσει, ὅλως ἐν ἀλυπίᾳ καὶ ἡδονῇ μὴ ὑβριστικῇ καὶ ἐν ἐλπίδι ἐπιεικεῖ. ἔτι κεχρονικότες καὶ μὴ ὑπόγυιοι τῇ ὀργῇ ὄντες· παύει γὰρ ὀργὴν ὁ χρόνος· παύει δὲ καὶ ἑτέρου ὀργὴν μείζω ἡ παρ’ ἄλλου ληφθεῖσα τιμωρία πρότερον· διὸ εὖ Φιλοκράτης, εἰπόντος τινός, ὀργιζομένου τοῦ δήμου, “Τί οὐκ ἀπολογεῖ;”, “Οὔπω γε”, ἔφη. “Ἀλλὰ πότε;” “Ὅταν ἴδω ἄλλον διαβεβλημένον”· πρᾶοι γὰρ γίγνονται ὅταν εἰς ἄλλον τὴν ὀργὴν ἀναλώσωσιν, ὃ συνέβη ἐπὶ Ἐργοφίλου· μᾶλλον γὰρ χαλεπαίνοντες ἢ Καλλισθένει ἀφεῖσαν διὰ τὸ Καλλισθένους τῇ προτεραίᾳ καταγνῶναι θάνατον. καὶ ἐὰν ἕλωσιν. καὶ ἐὰν μεῖζον κακὸν πεπονθότες ὦσιν ἢ ὃ ὀργιζόμενοι ἂν ἔδρασαν· ὥσπερ εἰληφέναι γὰρ οἴονται τιμωρίαν. καὶ ἐὰν ἀδικεῖν οἴωνται αὐτοὶ καὶ δικαίως πάσχειν, οὐ γίγνεται [ἡ] ὀργὴ πρὸς τὸ δίκαιον· οὐ γὰρ ἔτι παρὰ τὸ προσῆκον νομίζουσι πάσχειν, ἡ δ’ ὀργὴ τοῦτο ἦν· διὸ δεῖ τῷ λόγῳ προκολάζειν· ἀγανακτοῦσιν γὰρ ἧττον κολαζόμενοι καὶ οἱ δοῦλοι. καὶ ἐὰν μὴ αἰσθήσεσθαι οἴωνται ὅτι δι’ αὐτοὺς καὶ ἀνθ’ ὧν ἔπαθον· ἡ γὰρ ὀργὴ πρὸς τὸν καθ’ ἕκαστόν ἐστιν· δῆλον δ’ ἐκ τοῦ ὁρισμοῦ· διὸ ὀρθῶς πεποίηται

φάσθαι Ὀδυσσῆα πτολιπόρθιον,

ὡς οὐ τετιμωρημένος εἰ μὴ ᾔσθετο καὶ ὑφ’ ὅτου καὶ ἀνθ’ ὅτου· ὥστε οὔτε τοῖς ἄλλοις ὅσοι μὴ αἰσθάνονται ὀργίζονται, οὔτε τοῖς τεθνεῶσιν ἔτι, ὡς πεπονθόσι τε τὸ ἔσχατον καὶ οὐκ ἀλγήσουσιν οὐδ’ αἰσθησομένοις, οὗ οἱ ὀργιζόμενοι ἐφίενται· διὸ εὖ περὶ τοῦ Ἕκτορος ὁ ποιητής, παῦσαι βουλόμενος τὸν Ἀχιλλέα τῆς ὀργῆς τεθνεῶτος,

κωφὴν γὰρ δὴ γαῖαν ἀεικίζει μενεαίνων.

δῆλον οὖν ὅτι τοῖς καταπραΰνειν βουλομένοις ἐκ τούτων τῶν τόπων λεκτέον, αὐτοὺς μὲν παρασκευάζουσι τοιούτους, οἷς δ’ ὀργίζονται ἢ φοβεροὺς ἢ αἰσχύνης ἀξίους ἢ κεχαρισμένους ἢ ἄκοντας ἢ ὑπεραλγοῦντας τοῖς πεποιημένοις.

Τίνας δὲ φιλοῦσι καὶ μισοῦσι, καὶ διὰ τί, τὴν φιλίαν καὶ τὸ φιλεῖν ὁρισάμενοι λέγωμεν. ἔστω δὴ τὸ φιλεῖν τὸ βούλεσθαί τινι ἃ οἴεται ἀγαθά, ἐκείνου ἕνεκα ἀλλὰ μὴ αὐτοῦ, καὶ τὸ [1381a] κατὰ δύναμιν πρακτικὸν εἶναι τούτων. φίλος δέ ἐστιν ὁ φιλῶν καὶ ἀντιφιλούμενος· οἴονται δὲ φίλοι εἶναι οἱ οὕτως ἔχειν οἰόμενοι πρὸς ἀλλήλους. τούτων δὲ ὑποκειμένων ἀνάγκη φίλον εἶναι τὸν συνηδόμενον τοῖς ἀγαθοῖς καὶ συναλγοῦντα τοῖς λυπηροῖς μὴ διά τι ἕτερον ἀλλὰ δι’ ἐκεῖνον· γιγνομένων γὰρ ὧν βούλονται χαίρουσιν πάντες, τῶν ἐναντίων δὲ λυποῦνται, ὥστε τῆς βουλήσεως σημεῖον αἱ λῦπαι καὶ αἱ ἡδοναί. καὶ οἷς δὴ ταὐτὰ ἀγαθὰ καὶ κακά, καὶ οἱ τοῖς αὐτοῖς φίλοι καὶ οἱ τοῖς αὐτοῖς ἐχθροί· ταὐτὰ γὰρ τούτοις βούλεσθαι ἀνάγκη, ὥστε ἅπερ αὑτῷ καὶ ἄλλῳ βουλόμενος τούτῳ φαίνεται φίλος εἶναι. καὶ τοὺς πεποιηκότας εὖ φιλοῦσιν, ἢ αὐτοὺς ἢ ὧν κήδονται, ἢ εἰ μεγάλα, ἢ εἰ προθύμως, ἢ εἰ ἐν τοιούτοις καιροῖς, καὶ αὐτῶν ἕνεκα, ἢ οὓς ἂν οἴωνται βούλεσθαι ποιεῖν εὖ. καὶ τοὺς τῶν φίλων φίλους καὶ φιλοῦντας οὓς αὐτοὶ φιλοῦσιν. καὶ τοὺς φιλουμένους ὑπὸ τῶν φιλουμένων αὐτοῖς. καὶ τοὺς τοῖς αὐτοῖς ἐχθροὺς καὶ μισοῦντας οὓς αὐτοὶ μισοῦσιν, καὶ τοὺς μισουμένους ὑπὸ τῶν αὐτοῖς μισουμένων· πᾶσιν γὰρ τούτοις τὰ αὐτὰ ἀγαθὰ φαίνεται εἶναι καὶ αὐτοῖς, ὥστε βούλεσθαι τὰ αὐτοῖς ἀγαθά, ὅπερ ἦν τοῦ φίλου. ἔτι τοὺς εὐποιητικοὺς εἰς χρήματα καὶ εἰς σωτηρίαν· διὸ τοὺς ἐλευθερίους καὶ ἀνδρείους τιμῶσι καὶ τοὺς δικαίους· τοιούτους δ’ ὑπολαμβάνουσι τοὺς μὴ ἀφ’ ἑτέρων ζῶντας· τοιοῦτοι δ’ οἱ ἀπὸ τοῦ ἐργάζεσθαι, καὶ τούτων οἱ ἀπὸ γεωργίας, καὶ τῶν ἄλλων οἱ αὐτουργοὶ μάλιστα. καὶ τοὺς σώφρονας, ὅτι οὐκ ἄδικοι. καὶ τοὺς ἀπράγμονας διὰ τὸ αὐτό. καὶ οἷς βουλόμεθα φίλοι εἶναι, ἂν φαίνωνται βουλόμενοι· εἰσὶ δὲ τοιοῦτοι οἵ τ’ ἀγαθοὶ κατ’ ἀρετὴν καὶ οἱ εὐδόκιμοι ἢ ἐν ἅπασιν ἢ ἐν τοῖς βελτίστοις ἢ ἐν τοῖς θαυμαζομένοις ὑφ’ αὐτῶν ἢ ἐν τοῖς θαυμάζουσιν αὐτούς. ἔτι τοὺς ἡδεῖς συνδιαγαγεῖν καὶ συνδιημερεῦσαι· τοιοῦτοι δ’ οἱ εὔκολοι καὶ μὴ ἐλεγκτικοὶ τῶν ἁμαρτανομένων καὶ μὴ φιλόνικοι μηδὲ δυσέριδες (πάντες γὰρ οἱ τοιοῦτοι μαχητικοί, οἱ δὲ μαχόμενοι τἀναντία φαίνονται βούλεσθαι), καὶ οἱ ἐπιδέξιοι καὶ τῷ τωθάσαι καὶ τῷ ὑπομεῖναι· ἐπὶ ταὐτὸ γὰρ ἀμφοτέρως σπεύδουσι τῷ πλησίον, δυνάμενοί τε σκώπτεσθαι καὶ ἐμμελῶς σκώπτοντες. καὶ τοὺς ἐπαινοῦντας τὰ ὑπάρχοντα ἀγαθά, καὶ τούτων μάλιστα ἃ φοβοῦνται μὴ ὑπάρχειν [1381b] αὐτοῖς. καὶ τοὺς καθαρείους περὶ ὄψιν, περὶ ἀμπεχόνην, περὶ ὅλον τὸν βίον. καὶ τοὺς μὴ ὀνειδιστὰς μήτε τῶν ἁμαρτημάτων μήτε τῶν εὐεργετημάτων· ἀμφότεροι γὰρ ἐλεγκτικοί. καὶ τοὺς μὴ μνησικακοῦντας, μηδὲ φυλακτικοὺς τῶν ἐγκλημάτων, ἀλλ’ εὐκαταλλάκτους· οἵους γὰρ ἂν ὑπολαμβάνωσιν εἶναι πρὸς τοὺς ἄλλους, καὶ πρὸς αὐτοὺς οἴονται. καὶ τοὺς μὴ κακολόγους μηδὲ εἰδότας μήτε τὰ τῶν πλησίον κακὰ μήτε τὰ αὐτῶν, ἀλλὰ τἀγαθά· ὁ γὰρ ἀγαθὸς ταῦτα δρᾷ. καὶ τοὺς μὴ ἀντιτείνοντας τοῖς ὀργιζομένοις ἢ σπουδάζουσιν· μαχητικοὶ γὰρ οἱ τοιοῦτοι. καὶ τοὺς πρὸς αὐτοὺς σπουδαίως πως ἔχοντας, οἷον θαυμάζοντας αὐτοὺς καὶ σπουδαίους ὑπολαμβάνοντας καὶ χαίροντας αὐτοῖς, καὶ ταῦτα μάλιστα πεπονθότας περὶ ἃ μάλιστα βούλονται αὐτοὶ ἢ θαυμάζεσθαι ἢ σπουδαῖοι δοκεῖν εἶναι ἢ ἡδεῖς. καὶ τοὺς ὁμοίους καὶ ταὐτὰ ἐπιτηδεύοντας, ἐὰν μὴ παρενοχλῶσι μηδ’ ἀπὸ ταὐτοῦ ᾖ ὁ βίος· γίγνεται γὰρ οὕτω τὸ “κεραμεὺς κεραμεῖ”. καὶ τοὺς τῶν αὐτῶν ἐπιθυμοῦντας, ὧν ἐνδέχεται ἅμα μετέχειν αὐτούς· εἰ δὲ μή, ταὐτὸ καὶ οὕτω συμβαίνει. καὶ πρὸς οὓς οὕτως ἔχουσιν ὥστε μὴ αἰσχύνεσθαι τὰ πρὸς δόξαν, μὴ καταφρονοῦντες. καὶ πρὸς οὓς αἰσχύνονται τὰ πρὸς ἀλήθειαν. καὶ πρὸς οὓς φιλοτιμοῦνται, ἢ ὑφ’ ὧν ζηλοῦσθαι βούλονται καὶ μὴ φθονεῖσθαι, τούτους ἢ φιλοῦσιν ἢ βούλονται φίλοι εἶναι. καὶ οἷς ἂν τἀγαθὰ συμπράττωσιν, ἐὰν μὴ μέλλῃ αὐτοῖς ἔσεσθαι μείζω κακά. καὶ οἳ ὁμοίως καὶ τοὺς ἀπόντας καὶ τοὺς παρόντας φιλοῦσιν· διὸ καὶ τοὺς περὶ τοὺς τεθνεῶτας τοιούτους πάντες φιλοῦσιν. καὶ ὅλως τοὺς σφόδρα φιλοφίλους καὶ μὴ ἐγκαταλείποντας· μάλιστα γὰρ φιλοῦσι τῶν ἀγαθῶν τοὺς φιλεῖν ἀγαθούς. καὶ τοὺς μὴ πλαττομένους πρὸς αὑτούς· τοιοῦτοι δὲ οἱ καὶ τὰ φαῦλα τὰ ἑαυτῶν λέγοντες· εἴρηται γὰρ ὅτι πρὸς τοὺς φίλους τὰ πρὸς δόξαν οὐκ αἰσχυνόμεθα· εἰ οὖν ὁ αἰσχυνόμενος μὴ φιλεῖ, ὁ μὴ αἰσχυνόμενος φιλοῦντι ἔοικεν. καὶ τοὺς μὴ φοβερούς, καὶ οὓς θαρροῦμεν· οὐδεὶς γὰρ ὃν φοβεῖται φιλεῖ.

εἴδη δὲ φιλίας ἑταιρεία οἰκειότης συγγένεια καὶ ὅσα τοιαῦτα. ποιητικὰ δὲ φιλίας χάρις καὶ τὸ μὴ δεηθέντος ποιῆσαι καὶ τὸ ποιήσαντα μὴ δηλῶσαι· αὐτοῦ γὰρ οὕτως ἕνεκα φαίνεται καὶ οὐ διά τι ἕτερον.

[1382a] περὶ δ’ ἔχθρας καὶ τοῦ μισεῖν φανερὸν ὡς ἐκ τῶν ἐναντίων ἔστι θεωρεῖν. ποιητικὰ δὲ ἔχθρας ὀργή, ἐπηρεασμός, διαβολή. ὀργὴ μὲν οὖν ἐστιν ἐκ τῶν πρὸς αὑτόν, ἔχθρα δὲ καὶ ἄνευ τοῦ πρὸς αὑτόν· ἂν γὰρ ὑπολαμβάνωμεν εἶναι τοιόνδε, μισοῦμεν. καὶ ἡ μὲν ὀργὴ ἀεὶ περὶ τὰ καθ’ ἕκαστα, οἷον Καλλίᾳ ἢ Σωκράτει, τὸ δὲ μῖσος καὶ πρὸς τὰ γένη· τὸν γὰρ κλέπτην μισεῖ καὶ τὸν συκοφάντην ἅπας. καὶ τὸ μὲν ἰατὸν χρόνῳ, τὸ δ’ ἀνίατον. καὶ τὸ μὲν λύπης ἔφεσις, τὸ δὲ κακοῦ· αἴσθεσθαι γὰρ βούλεται ὁ ὀργιζόμενος, τῷ δ’ οὐδὲν διαφέρει. ἔστι δὲ τὰ μὲν λυπηρὰ αἰσθητὰ πάντα, τὰ δὲ μάλιστα κακὰ ἥκιστα αἰσθητά, ἀδικία καὶ ἀφροσύνη· οὐδὲν γὰρ λυπεῖ ἡ παρουσία τῆς κακίας. καὶ τὸ μὲν μετὰ λύπης, τὸ δ’ οὐ μετὰ λύπης· ὁ μὲν γὰρ ὀργιζόμενος λυπεῖται, ὁ δὲ μισῶν οὔ. καὶ ὁ μὲν πολλῶν ἂν γενομένων ἐλεήσειεν, ὁ δ’ οὐδενός· ὁ μὲν γὰρ ἀντιπαθεῖν βούλεται ᾧ ὀργίζεται, ὁ δὲ μὴ εἶναι.

φανερὸν οὖν ἐν τούτων ὅτι ἐνδέχεται ἐχθροὺς καὶ φίλους καὶ ὄντας ἀποδεικνύναι καὶ μὴ ὄντας ποιεῖν καὶ φάσκοντας διαλύειν, καὶ δι’ ὀργὴν ἢ δι’ ἔχθραν ἀμφισβητοῦντας ἐφ’ ὁποτέραν ἂν προαιρῆταί τις ἄγειν.

Ποῖα δὲ φοβοῦνται καὶ τίνας καὶ πῶς ἔχοντες, ὧδ’ ἔσται φανερόν. ἔστω δὴ ὁ φόβος λύπη τις ἢ ταραχὴ ἐκ φαντασίας μέλλοντος κακοῦ φθαρτικοῦ ἢ λυπηροῦ· οὐ γὰρ πάντα τὰ κακὰ φοβοῦνται, οἷον εἰ ἔσται ἄδικος ἢ βραδύς, ἀλλ’ ὅσα λύπας μεγάλας ἢ φθορὰς δύναται, καὶ ταῦτα ἐὰν μὴ πόρρω ἀλλὰ σύνεγγυς φαίνηται ὥστε μέλλειν. τὰ γὰρ πόρρω σφόδρα οὐ φοβοῦνται· ἴσασι γὰρ πάντες ὅτι ἀποθανοῦνται, ἀλλ’ ὅτι οὐκ ἐγγύς, οὐδὲν φροντίζουσιν. εἰ δὴ ὁ φόβος τοῦτ’ ἐστίν, ἀνάγκη τὰ τοιαῦτα φοβερὰ εἶναι ὅσα φαίνεται δύναμιν ἔχειν μεγάλην τοῦ φθείρειν ἢ βλάπτειν βλάβας εἰς λύπην μεγάλην συντεινούσας· διὸ καὶ τὰ σημεῖα τῶν τοιούτων φοβερά· ἐγγὺς γὰρ φαίνεται τὸ φοβερόν· τοῦτο γάρ ἐστι κίνδυνος, φοβεροῦ πλησιασμός.

τοιαῦτα δὲ ἔχθρα τε καὶ ὀργὴ δυναμένων ποιεῖν τι (δῆλον γὰρ ὅτι βούλονται τε καὶ δύνανται, ὥστε ἐγγύς εἰσιν τοῦ ποιεῖν), καὶ ἀδικία δύναμιν ἔχουσα· τῷ προαιρεῖσθαι γὰρ ὁ [1382b] ἄδικος ἄδικος. καὶ ἀρετὴ ὑβριζομένη δύναμιν ἔχουσα (δῆλον γὰρ ὅτι προαιρεῖται μὲν ὅταν ὑβρίζηται, ἀεί, δύναται δὲ νῦν), καὶ φόβος τῶν δυναμένων τι ποιῆσαι· ἐν παρασκευῇ γὰρ ἀνάγκη εἶναι καὶ τὸν τοιοῦτον· ἐπεὶ δ’ οἱ πολλοὶ χείρους καὶ ἥττους τοῦ κερδαίνειν καὶ δειλοὶ ἐν τοῖς κινδύνοις, φοβερὸν ὡς ἐπὶ τὸ πολὺ τὸ ἐπ’ ἄλλῳ αὐτὸν εἶναι, ὥστε οἱ συνειδότες πεποιηκότι τι δεινὸν φοβεροὶ ἢ κατειπεῖν ἢ ἐγκαταλιπεῖν. καὶ οἱ δυνάμενοι ἀδικεῖν τοῖς δυναμένοις ἀδικεῖσθαι· ὡς γὰρ ἐπὶ τὸ πολὺ ἀδικοῦσιν οἱ ἄνθρωποι ὅταν δύνωνται. καὶ οἱ ἠδικημένοι ἢ νομίζοντες ἀδικεῖσθαι· ἀεὶ γὰρ τηροῦσι καιρόν. καὶ οἱ ἠδικηκότες, ἂν δύναμιν ἔχωσι, φοβεροί, δεδιότες τὸ ἀντιπαθεῖν· ὑπέκειτο γὰρ τὸ τοιοῦτο φοβερόν. καὶ οἱ τῶν αὐτῶν ἀνταγωνισταί, ὅσα μὴ ἐνδέχεται ἅμα ὑπάρχειν ἀμφοῖν· ἀεὶ γὰρ πολεμοῦσι πρὸς τοὺς τοιούτους. καὶ οἱ τοῖς κρείττοσιν αὐτῶν φοβεροί· μᾶλλον γὰρ ἂν δύναιντο βλάπτειν αὐτούς, εἰ καὶ τοὺς κρείττους. καὶ οὓς φοβοῦνται οἱ κρείττους αὐτῶν, διὰ ταὐτό. καὶ οἱ τοὺς κρείττους αὐτῶν ἀνῃρηκότες, καὶ οἱ τοῖς ἥττοσιν αὐτῶν ἐπιτιθέμενοι· ἢ γὰρ ἤδη φοβεροὶ ἢ αὐξηθέντες. καὶ τῶν ἠδικημένων καὶ ἐχθρῶν ἢ ἀντιπάλων οὐχ οἱ ὀξύθυμοι καὶ παρρησιαστικοί, ἀλλὰ οἱ πρᾶοι καὶ εἴρωνες καὶ πανοῦργοι· ἄδηλοι γὰρ εἰ ἐγγύς, ὥστε οὐδέποτε φανεροὶ ὅτι πόρρω. πάντα δὲ τὰ φοβερὰ φοβερώτερα ὅσα ἁμαρτάνουσιν ἐπανορθώσασθαι μὴ ἐνδέχεται, ἀλλ’ ἢ ὅλως ἀδύνατα, ἢ μὴ ἐπ’ αὐτοῖς ἀλλ’ ἐπὶ τοῖς ἐναντίοις. καὶ ὧν βοήθειαι μή εἰσιν ἢ μὴ ῥᾴδιαι. ὡς δ’ ἁπλῶς εἰπεῖν, φοβερά ἐστιν ὅσα ἐφ’ ἑτέρων γιγνόμενα ἢ μέλλοντα ἐλεεινά ἐστιν.

τὰ μὲν οὖν φοβερὰ καὶ ἃ φοβοῦνται σχεδὸν ὡς εἰπεῖν τὰ μέγιστα ταῦτ’ ἐστίν, ὡς δὲ διακείμενοι αὐτοὶ φοβοῦνται, νῦν λέγωμεν. εἰ δή ἐστιν ὁ φόβος μετὰ προσδοκίας τινὸς τοῦ πείσεσθαί τι φθαρτικὸν πάθος, φανερὸν ὅτι οὐδεὶς φοβεῖται τῶν οἰομένων μηδὲν ἂν παθεῖν, οὐδὲ ταῦτα ἃ μὴ οἴονται ‹ἂν› παθεῖν οὐδὲ τούτους ὑφ’ ὧν μὴ οἴονται, οὐδὲ τότε ὅτε μὴ οἴονται. ἀνάγκη τοίνυν φοβεῖσθαι τοὺς οἰομένους τι παθεῖν ἄν, καὶ τοὺς ὑπὸ τούτων καὶ ταῦτα καὶ τότε. οὐκ οἴονται δὲ παθεῖν [1383a] ἂν οὔτε οἱ ἐν εὐτυχίαις μεγάλαις ὄντες καὶ δοκοῦντες (διὸ ὑβρισταὶ καὶ ὀλίγωροι καὶ θρασεῖς, ποιεῖ δὲ τοιούτους πλοῦτος ἰσχὺς πολυφιλία δύναμις), οὔτε οἱ ἤδη πεπονθέναι πάντα νομίζοντες τὰ δεινὰ καὶ ἀπεψυγμένοι πρὸς τὸ μέλλον, ὥσπερ οἱ ἀποτυμπανιζόμενοι ἤδη· ἀλλὰ δεῖ τινα ἐλπίδα ὑπεῖναι σωτηρίας, περὶ οὗ ἀγωνιῶσιν. σημεῖον δέ· ὁ γὰρ φόβος βουλευτικοὺς ποιεῖ, καίτοι οὐδεὶς βουλεύεται περὶ τῶν ἀνελπίστων· ὥστε δεῖ τοιούτους παρασκευάζειν, ὅταν ᾖ βέλτιον τὸ φοβεῖσθαι αὐτούς, ὅτι τοιοῦτοί εἰσιν οἷον παθεῖν (καὶ γὰρ ἄλλοι μείζους ἔπαθον), καὶ τοὺς τοιούτους δεικνύναι πάσχοντας ἢ πεπονθότας, καὶ ὑπὸ τοιούτων ὑφ’ ὧν οὐκ ᾤοντο, καὶ ταῦτα ‹ἃ› καὶ τότε ὅτε οὐκ ᾤοντο.

ἐπεὶ δὲ περὶ φόβου φανερὸν τί ἐστιν, καὶ τῶν φοβερῶν, καὶ ὡς ἕκαστοι ἔχοντες δεδίασι, φανερὸν ἐκ τούτων καὶ τὸ θαρρεῖν τί ἐστι, καὶ περὶ ποῖα θαρραλέοι εἰσὶ καὶ πῶς διακείμενοι θαρραλέοι εἰσίν· τό τε γὰρ θάρσος τὸ ἐναντίον τῷ ‹φόβῳ, καὶ τὸ θαρραλέον τῷ› φοβερῷ, ὥστε μετὰ φαντασίας ἡ ἐλπὶς τῶν σωτηρίων ὡς ἐγγὺς ὄντων, τῶν δὲ φοβερῶν ‹ὡς› ἢ μὴ ὄντων ἢ πόρρω ὄντων. ἔστι δὲ θαρραλέα τά τε δεινὰ πόρρω ὄντα καὶ τὰ σωτήρια ἐγγύς, καὶ ἐπανορθώσεις ἂν ὦσι καὶ βοήθειαι πολλαὶ ἢ μεγάλαι ἢ ἄμφω, καὶ μήτε ἠδικημένοι μήτε ἠδικηκότες ὦσιν, ἀνταγωνισταί τε ἢ μὴ ὦσιν ὅλως, ἢ μὴ ἔχωσιν δύναμιν, ἢ δύναμιν ἔχοντες ὦσι φίλοι ἢ πεποιηκότες εὖ ἢ πεπονθότες, ἢ ἂν πλείους ὦσιν οἷς ταὐτὰ συμφέρει, ἢ κρείττους, ἢ ἄμφω.

αὐτοὶ δ’ οὕτως ἔχοντες θαρραλέοι εἰσίν, ἂν πολλὰ κατωρθωκέναι οἴωνται καὶ μὴ πεπονθέναι, ἢ ἐὰν πολλάκις ἐληλυθότες εἰς τὰ δεινὰ καὶ διαπεφευγότες ὦσι· διχῶς γὰρ ἀπαθεῖς γίγνονται οἱ ἄνθρωποι, ἢ τῷ μὴ πεπειρᾶσθαι ἢ τῷ βοηθείας ἔχειν, ὥσπερ ἐν τοῖς κατὰ θάλατταν κινδύνοις οἵ τε ἄπειροι χειμῶνος θαρροῦσι τὰ μέλλοντα καὶ οἱ βοηθείας ἔχοντες διὰ τὴν ἐμπειρίαν. καὶ ὅταν τοῖς ὁμοίοις φοβερὸν μὴ ᾖ, μηδὲ τοῖς ἥττοσι καὶ ὧν κρείττους οἴονται εἶναι· οἴονται δὲ ὧν κεκρατήκασιν ἢ αὐτῶν ἢ τῶν κρειττόνων ἢ τῶν ὁμοίων. καὶ ἂν ὑπάρχειν αὑτοῖς οἴωνται πλείω καὶ μείζω, οἷς ὑπερέχοντες φοβεροί εἰσιν· [1383b] ταῦτα δέ ἐστι πλῆθος χρημάτων καὶ ἰσχὺς σωμάτων καὶ φίλων καὶ χώρας καὶ τῶν πρὸς πόλεμον παρασκευῶν, ἢ πασῶν ἢ τῶν μεγίστων. καὶ ἐὰν μὴ ἠδικηκότες ὦσιν μηδένα ἢ μὴ πολλοὺς ἢ μὴ τούτους παρ’ ὧν φοβοῦνται, καὶ ὅλως ἂν τὰ πρὸς τοὺς θεοὺς αὐτοῖς καλῶς ἔχῃ, τά τε ἄλλα καὶ τὰ ἀπὸ σημείων καὶ λογίων· θαρραλέον γὰρ ἡ ὀργή, τὸ δὲ μὴ ἀδικεῖν ἀλλ’ ἀδικεῖσθαι ὀργῆς ποιητικόν, τὸ δὲ θεῖον ὑπολαμβάνεται βοηθεῖν τοῖς ἀδικουμένοις. καὶ ὅταν ἐπιχειροῦντες ἢ μηδὲν ἂν παθεῖν [μηδὲ πείσεσθαι] ἢ κατορθώσειν οἴωνται. καὶ περὶ μὲν τῶν φοβερῶν καὶ θαρραλέων εἴρηται.

Ποῖα δ’ αἰσχύνονται καὶ ἀναισχυντοῦσιν, καὶ πρὸς τίνας καὶ πῶς ἔχοντες, ἐκ τῶνδε δῆλον. ἔστω δὴ αἰσχύνη λύπη τις ἢ ταραχὴ περὶ τὰ εἰς ἀδοξίαν φαινόμενα φέρειν τῶν κακῶν, ἢ παρόντων ἢ γεγονότων ἢ μελλόντων, ἡ δ’ ἀναισχυντία ὀλιγωρία τις καὶ ἀπάθεια περὶ τὰ αὐτὰ ταῦτα. εἰ δή ἐστιν αἰσχύνη ἡ ὁρισθεῖσα, ἀνάγκη αἰσχύνεσθαι ἐπὶ τοῖς τοιούτοις τῶν κακῶν ὅσα αἰσχρὰ δοκεῖ εἶναι ἢ αὐτῷ ἢ ὧν φροντίζει· τοιαῦτα δ’ ἐστὶν ὅσα ἀπὸ κακίας ἔργα ἐστίν, οἷον τὸ ἀποβαλεῖν ἀσπίδα ἢ φυγεῖν· ἀπὸ δειλίας γάρ. καὶ τὸ ἀποστερῆσαι παρακαταθήκην [ἢ ἀδικῆσαι]· ἀπὸ ἀδικίας γάρ. καὶ τὸ συγγενέσθαι αἷς οὐ δεῖ ἢ οὗ οὐ δεῖ ἢ ὅτε οὐ δεῖ· ἀπὸ ἀκολασίας γάρ. καὶ τὸ κερδαίνειν ἀπὸ μικρῶν ἢ αἰσχρῶν ἢ ἀπὸ ἀδυνάτων, οἷον πενήτων ἢ τεθνεώτων, ὅθεν καὶ ἡ παροιμία τὸ ἀπὸ νεκροῦ φέρειν· ἀπὸ αἰσχροκερδείας γὰρ καὶ ἀνελευθερίας. καὶ τὸ μὴ βοηθεῖν, δυνάμενον, εἰς χρήματα, ἢ ἧττον βοηθεῖν. καὶ τὸ βοηθεῖσθαι παρὰ τῶν ἧττον εὐπόρων, καὶ δανείζεσθαι ὅτε δόξει αἰτεῖν, καὶ αἰτεῖν ὅτε ἀπαιτεῖν, καὶ ἀπαιτεῖν ὅτε αἰτεῖν, καὶ ἐπαινεῖν ἃ δόξει αἰτεῖν, καὶ τὸ ἀποτετυχηκότα μηδὲν ἧττον· πάντα γὰρ ἀνελευθερίας ταῦτα σημεῖα, τὸ δ’ ἐπαινεῖν παρόντας κολακείας, καὶ τὸ τἀγαθὰ μὲν ὑπερεπαινεῖν τὰ δὲ φαῦλα συναλείφειν, καὶ τὸ ὑπεραλγεῖν ἀλγοῦντι παρόντα, καὶ τἆλλα πάντα ὅσα τοιαῦτα· κολακείας γὰρ σημεῖα. καὶ τὸ μὴ ὑπομένειν πόνους οὓς οἱ πρεσβύτεροι [1384a] ἢ τρυφῶντες ἢ ἐν ἐξουσίᾳ μᾶλλον ὄντες ἢ ὅλως οἱ ἀδυνατώτεροι· πάντα γὰρ μαλακίας σημεῖα. καὶ τὸ ὑφ’ ἑτέρου εὖ πάσχειν, καὶ τὸ πολλάκις, καὶ ὃ εὖ ἐποίησεν ὀνειδίζειν· μικροψυχίας γὰρ πάντα καὶ ταπεινότητος σημεῖα. καὶ τὸ περὶ αὐτοῦ πάντα λέγειν καὶ ἐπαγγέλλεσθαι, καὶ τὸ τἀλλότρια αὐτοῦ φάσκειν· ἀλαζονείας γάρ. ὁμοίως δὲ καὶ ἀπὸ τῶν ἄλλων ἑκάστης τῶν τοῦ ἤθους κακιῶν τὰ ἔργα καὶ τὰ σημεῖα καὶ τὰ ὅμοια· αἰσχρὰ γὰρ καὶ ἀναίσχυντα. καὶ ἐπὶ τούτοις τὸ τῶν καλῶν ὧν πάντες μετέχουσιν, ἢ οἱ ὅμοιοι πάντες ἢ οἱ πλεῖστοι, μὴ μετέχειν - ὁμοίους δὲ λέγω ὁμοεθνεῖς, πολίτας, ἡλικιώτας, συγγενεῖς, ὅλως τοὺς ἐξ ἴσου - αἰσχρὸν γὰρ ἤδη τὸ μὴ μετέχειν οἷον παιδεύσεως ἐπὶ τοσοῦτον, καὶ τῶν ἄλλων ὁμοίως. πάντα δὲ ταῦτα μᾶλλον, ἂν δι’ ἑαυτὸν φαίνηται· οὕτω γὰρ ἤδη ἀπὸ κακίας μᾶλλον, ἂν αὐτὸς ᾖ αἴτιος τῶν ὑπαρξάντων ἢ ὑπαρχόντων ἢ μελλόντων. πάσχοντες δὲ ἢ πεπονθότες ἢ πεισόμενοι τὰ τοιαῦτα αἰσχύνονται ὅσα εἰς ἀτιμίαν φέρει καὶ ὀνείδη· ταῦτα δ’ ἐστὶ τὰ εἰς ὑπηρετήσεις ἢ σώματος ἢ ἔργων αἰσχρῶν, ὧν ἐστιν τὸ ὑβρίζεσθαι. καὶ τὰ μὲν εἰς ἀκολασίαν καὶ ἑκόντα καὶ ἄκοντα, τὰ δ’ εἰς βίαν ἄκοντα· ἀπὸ ἀνανδρίας γὰρ ἢ δειλίας ἡ ὑπομονὴ καὶ τὸ μὴ ἀμύνεσθαι.

ἃ μὲν οὖν αἰσχύνονται, ταῦτ’ ἐστὶ καὶ τὰ τοιαῦτα· ἐπεὶ δὲ περὶ ἀδοξίας φαντασία ἐστὶν ἡ αἰσχύνη, καὶ ταύτης αὐτῆς χάριν ἀλλὰ μὴ τῶν ἀποβαινόντων, οὐδεὶς δὲ τῆς δόξης φροντίζει ἀλλ’ ἢ διὰ τοὺς δοξάζοντας, ἀνάγκη τούτους αἰσχύνεσθαι ὧν λόγον ἔχει· λόγον δὲ ἔχει τῶν θαυμαζόντων, καὶ οὓς θαυμάζει, καὶ ὑφ’ ὧν βούλεται θαυμάζεσθαι, καὶ πρὸς οὓς φιλοτιμεῖται, καὶ ὧν μὴ καταφρονεῖ τῆς δόξης· θαυμάζεσθαι μὲν οὖν βούλονται ὑπὸ τούτων καὶ θαυμάζουσι τούτους ὅσοι τι ἔχουσιν ἀγαθὸν τῶν τιμίων, ἢ παρ’ ὧν τυγχάνουσιν δεόμενοι σφόδρα τινὸς ὧν ἐκεῖνοι κύριοι, οἷον οἱ ἐρῶντες· φιλοτιμοῦνται δὲ πρὸς τοὺς ὁμοίους· φροντίζουσι δ’ ὡς ἀληθευόντων τῶν φρονίμων, τοιοῦτοι δ’ οἵ τε πρεσβύτεροι καὶ οἱ πεπαιδευμένοι. καὶ τὰ ἐν ὀφθαλμοῖς καὶ τὰ ἐν φανερῷ μᾶλλον (ὅθεν καὶ ἡ παροιμία τὸ ἐν ὀφθαλμοῖς εἶναι αἰδῶ)· διὰ τοῦτο τοὺς ἀεὶ παρεσομένους μᾶλλον αἰσχύνονται καὶ τοὺς [1384b] προσέχοντας αὐτοῖς, διὰ τὸ ἐν ὀφθαλμοῖς ἀμφότερα. καὶ τοὺς μὴ περὶ ταὐτὰ ἐνόχους· δῆλον γὰρ ὅτι τἀναντία δοκεῖ τούτοις. καὶ τοὺς μὴ συγγνωμονικοὺς τοῖς φαινομένοις ἁμαρτάνειν· ἃ γάρ τις αὐτὸς ποιεῖ, ταῦτα λέγεται τοῖς πέλας οὐ νεμεσᾶν, ὥστε ἃ μὴ ποιεῖ, δῆλον ὅτι νεμεσᾷ. καὶ τοὺς ἐξαγγελτικοὺς πολλοῖς· οὐδὲν γὰρ διαφέρει μὴ δοκεῖν ἢ μὴ ἐξαγγέλλειν· ἐξαγγελτικοὶ δὲ οἵ τε ἠδικημένοι, διὰ τὸ παρατηρεῖν, καὶ οἱ κακολόγοι· εἴπερ γὰρ καὶ τοὺς μὴ ἁμαρτάνοντας, ἔτι μᾶλλον τοὺς ἁμαρτάνοντας. καὶ οἷς ἡ διατριβὴ ἐπὶ ταῖς τῶν πέλας ἁμαρτίαις, οἷον χλευασταῖς καὶ κωμῳδοποιοῖς· κακολόγοι γάρ πως οὗτοι καὶ ἐξαγγελτικοί. καὶ ἐν οἷς μηδὲν ἀποτετυχήκασιν· ὥσπερ γὰρ θαυμαζόμενοι διάκεινται· διὸ καὶ τοὺς πρῶτον δεηθέντας τι αἰσχύνονται ὡς οὐδέν πω ἠδοξηκότες ἐν αὐτοῖς· τοιοῦτοι δὲ οἱ ἄρτι βουλόμενοι φίλοι εἶναι (τὰ γὰρ βέλτιστα τεθέανται· διὸ εὖ ἔχει ἡ τοῦ Εὐριπίδου ἀπόκρισις πρὸς τοὺς Συρακοσίους), καὶ τῶν πάλαι γνωρίμων οἱ μηδὲν συνειδότες. αἰσχύνονται δὲ οὐ μόνον αὐτὰ τὰ ῥηθέντα αἰσχυντηλὰ ἀλλὰ καὶ τὰ σημεῖα, οἷον οὐ μόνον ἀφροδισιάζοντες ἀλλὰ καὶ τὰ σημεῖα αὐτοῦ, καὶ οὐ μόνον ποιοῦντες τὰ αἰσχρά, ἀλλὰ καὶ λέγοντες. ὁμοίως δὲ οὐ τοὺς εἰρημένους μόνον αἰσχύνονται, ἀλλὰ καὶ τοὺς δηλώσοντας αὐτοῖς, οἷον θεράποντας καὶ φίλους τούτων. ὅλως δὲ οὐκ αἰσχύνονται οὔθ’ ὧν πολὺ καταφρονοῦσι τῆς δόξης τοῦ ἀληθεύειν (οὐδεὶς γὰρ παιδία καὶ θηρία αἰσχύνεται), οὔτε ταὐτὰ τοὺς γνωρίμους καὶ τοὺς ἀγνῶτας, ἀλλὰ τοὺς μὲν γνωρίμους τὰ πρὸς ἀλήθειαν δοκοῦντα τοὺς δ’ ἄπωθεν τὰ πρὸς τὸν νόμον.

αὐτοὶ δὲ ὧδε διακείμενοι αἰσχυνθεῖεν ἄν, πρῶτον μὲν εἰ ὑπάρχοιεν πρὸς αὐτοὺς ἔχοντες οὕτως τινὲς οἵους ἔφαμεν εἶναι οὓς αἰσχύνονται. ἦσαν δ’ οὗτοι ἢ ‹οἱ› θαυμαζόμενοι ἢ θαυμάζοντες ἢ ὑφ’ ὧν βούλονται θαυμάζεσθαι, ἢ ὧν δέονταί τινα χρείαν ἧς μὴ τεύξονται ἄδοξοι ὄντες, καὶ οὗτοι ἢ ὁρῶντες (ὥσπερ Κυδίας περὶ τῆς Σάμου κληρουχίας ἐδημηγόρησεν· ἠξίου γὰρ ὑπολαβεῖν τοὺς Ἀθηναίους περιεστάναι κύκλῳ τοὺς Ἕλληνας, ὡς ὁρῶντας καὶ μὴ μόνον ἀκουσομένους ἃ ἂν ψηφίσωνται), ἢ ἂν πλησίον ὦσιν οἱ τοιοῦτοι, ἢ μέλλωσιν αἰσθήσεσθαι· διὸ καὶ ὁρᾶσθαι ἀτυχοῦντες ὑπὸ τῶν ζηλούντων [1385a] ποτὲ οὐ βούλονται· θαυμασταὶ γὰρ οἱ ζηλωταί. καὶ ὅταν ἔχωσιν ἃ καταισχύνουσιν ἔργα καὶ πράγματα ἢ αὑτῶν ἢ προγόνων ἢ ἄλλων τινῶν πρὸς οὓς ὑπάρχει αὐτοῖς ἀγχιστεία τις. καὶ ὅλως ὑπὲρ ὧν αἰσχύνονται αὐτοί· εἰσὶ δ᾽ οὗτοι οἱ εἰρημένοι καὶ οἱ εἰς αὐτοὺς ἀναφερόμενοι, ἢ ὧν διδάσκαλοι ἢ σύμβουλοι γεγόνασιν, ἢ ἐὰν ὦσιν ἕτεροι ὅμοιοι πρὸς οὓς φιλοτιμοῦνται· πολλὰ γὰρ αἰσχυνόμενοι διὰ τοὺς τοιούτους καὶ ποιοῦσι καὶ οὐ ποιοῦσιν. καὶ μέλλοντες ὁρᾶσθαι καὶ ἐν φανερῷ ἀναστρέφεσθαι τοῖς συνειδόσιν αἰσχυντηλοὶ μᾶλλον εἰσίν· ὅθεν καὶ Ἀντιφῶν ὁ ποιητής, μέλλων ἀποτυμπανίζεσθαι ὑπὸ Διονυσίου, εἶπεν, ἰδὼν τοὺς συναποθνῄσκειν μέλλοντας ἐγκαλυπτομένους ὡς ᾖεσαν διὰ τῶν πυλῶν, “τί ἐγκαλύπτεσθε;” ἔφη· “ἦ μὴ αὔριόν τις ὑμᾶς ἴδῃ τούτων;”

περὶ μὲν οὖν αἰσχύνης ταῦτα· περὶ δὲ ἀναισχυντίας δῆλον ὡς ἐκ τῶν ἐναντίων εὐπορήσομεν.

Τίσιν δὲ χάριν ἔχουσι καὶ ἐπὶ τίσιν καὶ πῶς αὐτοὶ ἔχοντες, ὁρισαμένοις τὴν χάριν δῆλον ἔσται. ἔστω δὴ χάρις, καθ᾽ ἣν ὁ ἔχων λέγεται χάριν ἔχειν, ὑπουργία τῷ δεομένῳ μὴ ἀντί τινος, μηδ᾽ ἵνα τι αὐτῷ τῷ ὑπουργοῦντι ἀλλ᾽ ἵνα τι ἐκείνῳ· μεγάλη δὲ ἂν ᾖ σφόδρα δεόμενος, ἢ μεγάλων καὶ χαλεπῶν, ἢ ἐν καιροῖς τοιούτοις, ἢ μόνος ἢ πρῶτος ἢ μάλιστα. δεήσεις δέ εἰσιν αἱ ὀρέξεις, καὶ τούτων μάλιστα αἱ μετὰ λύπης τοῦ μὴ γιγνομένου. τοιαῦται δὲ αἱ ἐπιθυμίαι, οἷον ἔρως, καὶ αἱ ἐν ταῖς τοῦ σώματος κακώσεσιν καὶ ἐν κινδύνοις· καὶ γὰρ ὁ κινδυνεύων ἐπιθυμεῖ καὶ ὁ λυπούμενος· διὸ οἱ ἐν πενίᾳ παριστάμενοι καὶ φυγαῖς, κἂν μικρὰ ὑπηρετήσωσιν, διὰ τὸ μέγεθος τῆς δεήσεως καὶ τὸν καιρὸν κεχαρισμένοι, οἷον ὁ ἐν Λυκείῳ τὸν φορμὸν δούς. ἀνάγκη οὖν μάλιστα μὲν εἰς ταὐτὰ ἔχειν τὴν ὑπουργίαν, εἰ δὲ μή, εἰς ἴσα ἢ μείζω· ὥστε ἐπεὶ φανερὸν καὶ οἷς καὶ ἐφ᾽ οἷς γίγνεται χάρις καὶ πῶς ἔχουσι, δῆλον ὅτι ἐκ τούτων παρασκευαστέον, τοὺς μὲν δεικνύντας ἢ ὄντας ἢ γεγενημένους ἐν τοιαύτῃ λύπῃ καὶ δεήσει, τοὺς δὲ ὑπηρετηκότας ἐν τοιαύτῃ χρείᾳ τοιοῦτόν τι ἢ ὑπηρετοῦντας. φανερὸν δὲ καὶ ὅθεν ἀφαιρεῖσθαι ἐνδέχεται τὴν χάριν καὶ ποιεῖν [1385b] ἀχαρίστους· ἢ γὰρ ὅτι αὑτῶν ἕνεκα ὑπηρετοῦσιν ἢ ὑπηρέτησαν (τοῦτο δ᾽ οὐκ ἦν χάρις), ἢ ὅτι ἀπὸ τύχης συνέπεσεν ἢ συνηναγκάσθησαν, ἢ ὅτι ἀπέδωκαν ἀλλ᾽ οὐκ ἔδωκαν, εἴτε εἰδότες εἴτε μή· ἀμφοτέρως γὰρ τὸ ἀντί τινος, ὥστε οὐδ᾽ οὕτως ἂν εἴη χάρις. καὶ περὶ ἁπάσας τὰς κατηγορίας σκεπτέον· ἡ γὰρ χάρις ἐστὶν ἢ ὅτι τοδὶ ἢ τοσόνδε ἢ τοιόνδε ἢ πότε ἢ ποῦ. σημεῖον δὲ εἰ ἔλαττον μὴ ὑπηρέτησαν, καὶ εἰ τοῖς ἐχθροῖς ἢ ταὐτὰ ἢ ἴσα ἢ μείζω· δῆλον γὰρ ὅτι οὐδὲ ταῦτα ἡμῶν ἕνεκα. ἢ εἰ φαῦλα εἰδώς· οὐδεὶς γὰρ ὁμολογεῖ δεῖσθαι φαύλων.

Καὶ περὶ μὲν τοῦ χαρίζεσθαι καὶ ἀχαριστεῖν εἴρηται· ποῖα δ᾽ ἐλεεινὰ καὶ τίνας ἐλεοῦσι, καὶ πῶς αὐτοὶ ἔχοντες, λέγωμεν. ἔστω δὴ ἔλεος λύπη τις ἐπὶ φαινομένῳ κακῷ φθαρτικῷ ἢ λυπηρῷ τοῦ ἀναξίου τυγχάνειν, ὃ κἂν αὐτὸς προσδοκήσειεν ἂν παθεῖν ἢ τῶν αὑτοῦ τινα, καὶ τοῦτο ὅταν πλησίον φαίνηται· δῆλον γὰρ ὅτι ἀνάγκη τὸν μέλλοντα ἐλεήσειν ὑπάρχειν τοιοῦτον οἷον οἴεσθαι παθεῖν ἄν τι κακὸν ἢ αὐτὸν ἢ τῶν αὑτοῦ τινα, καὶ τοιοῦτο κακὸν οἷον εἴρηται ἐν τῷ ὅρῳ ἢ ὅμοιον ἢ παραπλήσιον· διὸ οὔτε οἱ παντελῶς ἀπολωλότες ἐλεοῦσιν (οὐδὲν γὰρ ἂν ἔτι παθεῖν οἴονται· πεπόνθασι γάρ), οὔτε οἱ ὑπερευδαιμονεῖν οἰόμενοι, ἀλλ’ ὑβρίζουσιν· εἰ γὰρ ἅπαντα οἴονται ὑπάρχειν τἀγαθά, δῆλον ὅτι καὶ τὸ μὴ ἐνδέχεσθαι παθεῖν μηδὲν κακόν· καὶ γὰρ τοῦτο τῶν ἀγαθῶν. εἰσὶ δὲ τοιοῦτοι οἷοι νομίζειν παθεῖν ἄν, οἵ τε πεπονθότες ἤδη καὶ διαπεφευγότες, καὶ οἱ πρεσβύτεροι καὶ διὰ τὸ φρονεῖν καὶ δι’ ἐμπειρίαν, καὶ οἱ ἀσθενεῖς, καὶ οἱ δειλότεροι μᾶλλον, καὶ οἱ πεπαιδευμένοι· εὐλόγιστοι γάρ. καὶ οἷς ὑπάρχουσι γονεῖς ἢ τέκνα ἢ γυναῖκες· αὑτοῦ τε γὰρ ταῦτα, καὶ οἷα παθεῖν τὰ εἰρημένα. καὶ οἱ μήτε ἐν ἀνδρείας πάθει ὄντες, οἷον ἐν ὀργῇ ἢ θάρρει (ἀλόγιστα γὰρ τοῦ ἐσομένου ταῦτα), μήτε ἐν ὑβριστικῇ διαθέσει (καὶ γὰρ οὗτοι ἀλόγιστοι τοῦ πείσεσθαί τι), ἀλλ’ οἱ μεταξὺ τούτων, μήτ’ αὖ φοβούμενοι σφόδρα· οὐ γὰρ ἐλεοῦσιν οἱ ἐκπεπληγμένοι, διὰ τὸ εἶναι πρὸς τῷ οἰκείῳ πάθει. κἂν οἴωνταί τινας εἶναι τῶν ἐπιεικῶν· ὁ γὰρ μηδένα οἰόμενος [1386a] πάντας οἰήσεται ἀξίους εἶναι κακοῦ. καὶ ὅλως δὴ ὅταν ἔχῃ οὕτως ὥστ’ ἀναμνησθῆναι τοιαῦτα συμβεβηκότα ἢ αὑτῷ ἤ ‹τῳ› τῶν αὑτοῦ, ἢ ἐλπίσαι γενέσθαι αὑτῷ ἤ τῳ τῶν αὑτοῦ.

ὡς μὲν οὖν ἔχοντες ἐλεοῦσιν εἴρηται, ἃ δ’ ἐλεοῦσιν ἐκ τοῦ ὁρισμοῦ δῆλον· ὅσα τε γὰρ τῶν λυπηρῶν καὶ ὀδυνηρῶν φθαρτικά, πάντα ἐλεεινά, καὶ ὅσα ἀναιρετικά, καὶ ὅσων ἡ τύχη αἰτία κακῶν μέγεθος ἐχόντων. ἔστι δὲ ὀδυνηρὰ μὲν καὶ φθαρτικὰ θάνατοι καὶ αἰκίαι σωμάτων καὶ κακώσεις καὶ γῆρας καὶ νόσοι καὶ τροφῆς ἔνδεια, ὧν δ’ ἡ τύχη αἰτία κακῶν ἀφιλία, ὀλιγοφιλία (διὸ καὶ τὸ διασπᾶσθαι ἀπὸ φίλων καὶ συνήθων ἐλεεινόν), αἶσχος, ἀσθένεια, ἀναπηρία, καὶ τὸ ὅθεν προσῆκεν ἀγαθόν τι ὑπάρξαι κακόν τι συμβῆναι, καὶ τὸ πολλάκις τοιοῦτον, καὶ τὸ πεπονθότος γενέσθαι τι ἀγαθόν, οἷον Διοπείθει τὰ παρὰ βασιλέως τεθνεῶτι κατεπέμφθη, καὶ τὸ ἢ μηδὲν γεγενῆσθαι ἀγαθὸν ἢ γενομένων μὴ εἶναι ἀπόλαυσιν.

ἐφ’ οἷς μὲν οὖν ἐλεοῦσι, ταῦτα καὶ τὰ τοιαῦτά ἐστιν· ἐλεοῦσι δὲ τούς τε γνωρίμους, ἂν μὴ σφόδρα ἐγγὺς ὦσιν οἰκειότητι (περὶ δὲ τούτους ὥσπερ περὶ αὐτοὺς μέλλοντας ἔχουσιν· διὸ καὶ ὁ Ἀμάσιος ἐπὶ μὲν τῷ υἱεῖ ἀγομένῳ ἐπὶ τὸ ἀποθανεῖν οὐκ ἐδάκρυσεν, ὡς φασίν, ἐπὶ δὲ τῷ φίλῳ προσαιτοῦντι· τοῦτο μὲν γὰρ ἐλεεινόν, ἐκεῖνο δὲ δεινόν· τὸ γὰρ δεινὸν ἕτερον τοῦ ἐλεεινοῦ καὶ ἐκκρουστικὸν τοῦ ἐλέου καὶ πολλάκις τῷ ἐναντίῳ χρήσιμον· ‹οὐ γὰρ› ἔτι ἐλεοῦσιν ἐγγὺς αὐτοῖς τοῦ δεινοῦ ὄντος), καὶ τοὺς ὁμοίους ἐλεοῦσιν κατὰ ἡλικίαν, κατὰ ἤθη, κατὰ ἕξεις, κατὰ ἀξιώματα, κατὰ γένη· ἐν πᾶσι γὰρ τούτοις μᾶλλον φαίνεται καὶ αὐτῷ ἂν ὑπάρξαι· ὅλως γὰρ καὶ ἐνταῦθα δεῖ λαβεῖν ὅτι ὅσα ἐφ’ αὑτῶν φοβοῦνται, ταῦτα ἐπ’ ἄλλων γιγνόμενα ἐλεοῦσιν. ἐπεὶ δ’ ἐγγὺς φαινόμενα τὰ πάθη ἐλεεινά ἐστιν, τὰ δὲ μυριοστὸν ἔτος γενόμενα ἢ ἐσόμενα οὔτε ἐλπίζοντες οὔτε μεμνημένοι ἢ ὅλως οὐκ ἐλεοῦσιν ἢ οὐχ ὁμοίως, ἀνάγκη τοὺς συναπεργαζομένους σχήμασι καὶ φωναῖς καὶ ἐσθῆσι καὶ ὅλως ὑποκρίσει ἐλεεινοτέρους εἶναι (ἐγγὺς γὰρ ποιοῦσι φαίνεσθαι τὸ κακόν, πρὸ ὀμμάτων ποιοῦντες ἢ ὡς μέλλοντα ἢ ὡς γεγονότα· καὶ τὰ γεγονότα ἄρτι ἢ μέλλοντα [1386b] διὰ ταχέων ἐλεεινότερα), ‹καὶ› διὰ τοῦτο καὶ τὰ σημεῖα, οἷον ἐσθῆτάς τε τῶν πεπονθότων καὶ ὅσα τοιαῦτα, καὶ τὰς πράξεις καὶ λόγους καὶ ὅσα ἄλλα τῶν ἐν τῷ πάθει ὄντων, οἷον ἤδη τελευτώντων. καὶ μάλιστα τὸ σπουδαίους εἶναι ἐν τοῖς τοιούτοις καιροῖς ὄντας ἐλεεινόν· ἅπαντα γὰρ ταῦτα διὰ τὸ ἐγγὺς φαίνεσθαι μᾶλλον ποιεῖ τὸν ἔλεον, καὶ ὡς ἀναξίου ὄντος καὶ ἐν ὀφθαλμοῖς φαινομένου τοῦ πάθους.

Ἀντίκειται δὲ τῷ ἐλεεῖν μάλιστα μὲν ὃ καλοῦσι νεμεσᾶν· τῷ γὰρ λυπεῖσθαι ἐπὶ ταῖς ἀναξίαις κακοπραγίαις ἀντικείμενόν ἐστι τρόπον τινὰ καὶ ἀπὸ τοῦ αὐτοῦ ἤθους τὸ λυπεῖσθαι ἐπὶ ταῖς ἀναξίαις εὐπραγίαις. καὶ ἄμφω τὰ πάθη ἤθους χρηστοῦ· δεῖ γὰρ ἐπὶ μὲν τοῖς ἀναξίως πράττουσι κακῶς συνάχθεσθαι καὶ ἐλεεῖν, τοῖς δὲ εὖ νεμεσᾶν· ἄδικον γὰρ τὸ παρὰ τὴν ἀξίαν γιγνόμενον· διὸ καὶ τοῖς θεοῖς ἀποδίδομεν τὸ νεμεσᾶν.

δόξειε δ’ ἂν καὶ ὁ φθόνος τῷ ἐλεεῖν τὸν αὐτὸν ἀντικεῖσθαι τρόπον, ὡς σύνεγγυς ὢν καὶ ταὐτὸν τῷ νεμεσᾶν, ἔστι δ’ ἕτερον· λύπη μὲν γὰρ ταραχώδης καὶ ὁ φθόνος ἐστὶν καὶ ἐπὶ εὐπραγίᾳ, ἀλλ’ οὐ τοῦ ἀναξίου ἀλλὰ τοῦ ἴσου καὶ ὁμοίου. τὸ δὲ μὴ ὅτι αὐτῷ τι συμβήσεται ἕτερον, ἀλλὰ δι’ αὐτὸν τὸν πλησίον, ἅπασιν ὁμοίως δεῖ ὑπάρχειν· οὐ γὰρ ἔτι ἔσται τὸ μὲν φθόνος, τὸ δὲ νέμεσις, ἀλλὰ φόβος, ἐὰν διὰ τοῦτο ἡ λύπη ὑπάρχῃ καὶ ἡ ταραχή, ὅτι αὐτῷ τι ἔσται φαῦλον ἀπὸ τῆς ἐκείνου εὐπραξίας.

φανερὸν δ’ ὅτι ἀκολουθήσει καὶ τὰ ἐναντία πάθη τούτοις· ὁ μὲν γὰρ λυπούμενος ἐπὶ τοῖς ἀναξίως κακοπραγοῦσιν ἡσθήσεται ἢ ἄλυπος ἔσται ἐπὶ τοῖς ἐναντίως κακοπραγοῦσιν, οἷον τοὺς πατραλοίας καὶ μιαιφόνους, ὅταν τύχωσι τιμωρίας, οὐδεὶς ἂν λυπηθείη χρηστός· δεῖ γὰρ χαίρειν ἐπὶ τοῖς τοιούτοις, ὡς δ’ αὔτως καὶ ἐπὶ τοῖς εὖ πράττουσι κατ’ ἀξίαν· ἄμφω γὰρ δίκαια, καὶ ποιεῖ χαίρειν τὸν ἐπιεικῆ· ἀνάγκη γὰρ ἐλπίζειν ὑπάρξαι ἂν ἅπερ τῷ ὁμοίῳ, καὶ αὐτῷ. καὶ ἔστιν τοῦ αὐτοῦ ἤθους ἅπαντα ταῦτα, τὰ δ᾽ ἐναντία τοῦ ἐναντίου· ὁ γὰρ αὐτός ἐστιν ἐπιχαιρέκακος καὶ [1387a] φθονερός· ἐφ᾽ ᾧ γάρ τις λυπεῖται γιγνομένῳ καὶ ὑπάρχοντι, ἀναγκαῖον τοῦτον ἐπὶ τῇ στερήσει καὶ τῇ φθορᾷ τῇ τούτου χαίρειν· διὸ κωλυτικὰ μὲν ἐλέου πάντα ταῦτ᾽ ἐστί, διαφέρει δὲ διὰ τὰς εἰρημένας αἰτίας, ὥστε πρὸς τὸ μὴ ἐλεεινὰ ποιεῖν ἅπαντα ὁμοίως χρήσιμα.

πρῶτον μὲν οὖν περὶ τοῦ νεμεσᾶν λέγωμεν, τίσιν τε νεμεσῶσι καὶ ἐπὶ τίσι καὶ πῶς ἔχοντες αὐτοί, εἶτα μετὰ ταῦτα περὶ τῶν ἄλλων. φανερὸν δ᾽ ἐκ τῶν εἰρημένων· εἰ γάρ ἐστι τὸ νεμεσᾶν λυπεῖσθαι ἐπὶ τῷ φαινομένῳ ἀναξίως εὐπραγεῖν, πρῶτον μὲν δῆλον ὅτι οὐχ οἷόν τ᾽ ἐπὶ πᾶσι τοῖς ἀγαθοῖς νεμεσᾶν· οὐ γὰρ εἰ δίκαιος ἢ ἀνδρεῖος, ἢ εἰ ἀρετὴν λήψεται, νεμεσήσει τούτῳ (οὐδὲ γὰρ ἔλεοι ἐπὶ τοῖς ἐναντίοις τούτων εἰσίν), ἀλλὰ ἐπὶ πλούτῳ καὶ δυνάμει καὶ τοῖς τοιούτοις, ὅσων ὡς ἁπλῶς εἰπεῖν ἄξιοί εἰσιν οἱ ἀγαθοὶ καὶ οἱ τὰ φύσει ἔχοντες ἀγαθά, οἷον εὐγένειαν καὶ κάλλος καὶ ὅσα τοιαῦτα. ἐπεὶ δὲ τὸ ἀρχαῖον ἐγγύς τι φαίνεται τοῦ φύσει, ἀνάγκη τοῖς ταὐτὸ ἔχουσιν ἀγαθόν, ἐὰν νεωστὶ ἔχοντες τυγχάνωσι καὶ διὰ τοῦτο εὐπραγῶσι, μᾶλλον νεμεσᾶν· μᾶλλον γὰρ λυποῦσιν οἱ νεωστὶ πλουτοῦντες τῶν πάλαι καὶ διὰ γένος· ὁμοίως δὲ καὶ ἄρχοντες καὶ δυνάμενοι καὶ πολύφιλοι καὶ εὔτεκνοι καὶ ὁτιοῦν τῶν τοιούτων. καὶ ἂν διὰ ταῦτα ἄλλο τι ἀγαθὸν γίγνηται αὐτοῖς, ὡσαύτως· καὶ γὰρ ἐνταῦθα μᾶλλον λυποῦσιν οἱ νεόπλουτοι ἄρχοντες διὰ τὸν πλοῦτον ἢ οἱ ἀρχαιόπλουτοι. ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. αἴτιον δ᾽ ὅτι οἱ μὲν δοκοῦσι τὰ αὑτῶν ἔχειν οἱ δ᾽ οὔ· τὸ γὰρ ἀεὶ οὕτω φαινόμενον ἔχειν ἀληθὲς δοκεῖ, ὥστε οἱ ἕτεροι οὐ τὰ αὑτῶν ἔχειν. καὶ ἐπεὶ ἕκαστον τῶν ἀγαθῶν οὐ τοῦ τυχόντος ἄξιον, ἀλλά τις ἔστιν ἀναλογία καί τι ἁρμόττον, οἷον ὅπλων κάλλος οὐ τῷ δικαίῳ ἁρμόττει ἀλλὰ τῷ ἀνδρείῳ, καὶ γάμοι διαφέροντες οὐ τοῖς νεωστὶ πλουσίοις ἀλλὰ τοῖς εὐγενέσιν· ἂν οὖν ἀγαθὸς ὢν μὴ τοῦ ἁρμόττοντος τυγχάνῃ, νεμεσητόν. καὶ ‹τὸ› τὸν ἥττω τῷ κρείττονι ἀμφισβητεῖν, μάλιστα μὲν οὖν τοὺς ἐν τῷ αὐτῷ, ὅθεν καὶ τοῦτ᾽ εἴρηται,

Αἴαντος δ᾽ ἀλέεινε μάχην Τελαμωνιάδαο·
Ζεὺς γάρ οἱ νεμέσασχ᾽, ὅτ᾽ ἀμείνονι φωτὶ μάχοιτο·

[1387b] εἰ δὲ μή, κἂν ὁπωσοῦν ὁ ἥττων τῷ κρείττονι, οἷον εἰ ὁ μουσικὸς τῷ δικαίῳ· βέλτιον γὰρ ἡ δικαιοσύνη τῆς μουσικῆς.

οἷς μὲν οὖν νεμεσῶσι καὶ διὰ τί, ἐκ τούτων δῆλον· ταῦτα γὰρ καὶ τὰ τοιαῦτά ἐστιν. αὐτοὶ δὲ νεμεσητικοί εἰσιν, ἐὰν ἄξιοι τυγχάνωσιν ὄντες τῶν μεγίστων ἀγαθῶν καὶ ταῦτα κεκτημένοι· τὸ γὰρ τῶν ὁμοίων ἠξιῶσθαι τοὺς μὴ ὁμοίους οὐ δίκαιον. δεύτερον δέ, ἂν ὄντες ἀγαθοὶ καὶ σπουδαῖοι τυγχάνωσιν· κρίνουσί τε γὰρ εὖ, καὶ τὰ ἄδικα μισοῦσι. καὶ ἐὰν φιλότιμοι καὶ ὀρεγόμενοί τινων πραγμάτων, καὶ μάλιστ᾽ ‹ἂν› περὶ ταῦτα φιλότιμοι ὦσιν ὧν ἕτεροι ἀνάξιοι ὄντες τυγχάνουσιν. καὶ ὅλως οἱ ἀξιοῦντες αὐτοὶ αὑτοὺς ὧν ἑτέρους μὴ ἀξιοῦσι, νεμεσητικοὶ τούτοις καὶ τούτων· διὸ καὶ οἱ ἀνδραποδώδεις καὶ φαῦλοι καὶ ἀφιλότιμοι οὐ νεμεσητικοί· οὐδὲν γὰρ ἔστιν οὗ ἑαυτοὺς οἴονται ἀξίους εἶναι.

φανερὸν δ᾽ ἐκ τούτων ἐπὶ ποίοις ἀτυχοῦσι καὶ κακοπραγοῦσιν ἢ μὴ τυγχάνουσι χαίρειν ἢ ἀλύπως ἔχειν δεῖ· ἐκ γὰρ τῶν εἰρημένων τὰ ἀντικείμενά ἐστι δῆλα, ὥστ᾽ ἐὰν τούς τε κριτὰς τοιούτους παρασκευάσῃ ὁ λόγος, καὶ τοὺς ἀξιοῦντας ἐλεεῖσθαι, καὶ ἐφ᾽ οἷς ἐλεεῖσθαι, δείξῃ ἀναξίους ὄντας τυγχάνειν ἀξίους δὲ μὴ τυγχάνειν, ἀδύνατον ἐλεεῖν.

Δῆλον δὲ καὶ ἐπὶ τίσι φθονοῦσι καὶ τίσι καὶ πῶς ἔχοντες, εἴπερ ἐστὶν ὁ φθόνος λύπη τις ἐπὶ εὐπραγίᾳ φαινομένῃ τῶν εἰρημένων ἀγαθῶν περὶ τοὺς ὁμοίους, μὴ ἵνα τι αὑτῷ, ἀλλὰ δι᾽ ἐκείνους· φθονήσουσι μὲν γὰρ οἱ τοιοῦτοι οἷς εἰσί τινες ὅμοιοι ἢ φαίνονται· ὁμοίους δὲ λέγω κατὰ γένος, κατὰ συγγένειαν, καθ᾽ ἡλικίας, κατὰ ἕξεις, κατὰ δόξαν, κατὰ τὰ ὑπάρχοντα. καὶ οἷς μικρὸν ἐλλείπει τοῦ μὴ πάντα ὑπάρχειν (διὸ οἱ μεγάλα πράττοντες καὶ οἱ εὐτυχοῦντες φθονεροί εἰσιν)· πάντας γὰρ οἴονται τὰ αὑτῶν φέρειν. καὶ οἱ τιμώμενοι ἐπί τινι διαφερόντως, καὶ μάλιστα ἐπὶ σοφίᾳ ἢ εὐδαιμονίᾳ. καὶ οἱ φιλότιμοι φθονερώτεροι τῶν ἀφιλοτίμων. καὶ οἱ δοξόσοφοι· φιλότιμοι γὰρ ἐπὶ σοφίᾳ. καὶ ὅλως οἱ φιλόδοξοι περί τι φθονεροὶ περὶ τοῦτο. καὶ οἱ μικρόψυχοι· πάντα γὰρ μεγάλα δοκεῖ αὐτοῖς εἶναι. ἐφ᾽ οἷς δὲ φθονοῦσι, τὰ μὲν ἀγαθὰ εἴρηται· [1388a] ἐφ᾽ οἷς γὰρ φιλοδοξοῦσι καὶ φιλοτιμοῦνται ἔργοις ἢ κτήμασι καὶ ὀρέγονται δόξης, καὶ ὅσα εὐτυχήματά ἐστιν, σχεδὸν περὶ πάντα φθόνος ἔστι, καὶ μάλιστα ὧν αὐτοὶ ἢ ὀρέγονται ἢ οἴονται δεῖν αὑτοὺς ἔχειν, ἢ ὧν τῇ κτήσει μικρῷ ὑπερέχουσιν ἢ μικρῷ ἐλλείπουσιν. φανερὸν δὲ καὶ οἷς φθονοῦσιν· ἅμα γὰρ εἴρηται· τοῖς γὰρ ἐγγὺς καὶ χρόνῳ καὶ τόπῳ καὶ ἡλικίᾳ καὶ δόξῃ φθονοῦσιν· ὅθεν εἴρηται

τὸ συγγενὲς γὰρ καὶ φθονεῖν ἐπίσταται.

καὶ πρὸς οὓς φιλοτιμοῦνται· φιλοτιμοῦνται γὰρ πρὸς τοὺς εἰρημένους, πρὸς δὲ τοὺς μυριοστὸν ἔτος ὄντας ἢ πρὸς τοὺς ἐσομένους ἢ τεθνεῶτας οὐδείς, οὐδὲ πρὸς τοὺς ἐφ᾽ Ἡρακλείαις στήλαις. οὐδ᾽ ὧν πολὺ οἴονται παρ᾽ αὑτοῖς ἢ παρὰ τοῖς ἄλλοις λείπεσθαι, οὐδ᾽ ὧν πολὺ ὑπερέχειν, ὡσαύτως καὶ πρὸς τούτους καὶ περὶ τὰ τοιαῦτα. ἐπεὶ δὲ πρὸς τοὺς ἀνταγωνιστὰς καὶ ἀντεραστὰς καὶ ὅλως τοὺς τῶν αὐτῶν ἐφιεμένους φιλοτιμοῦνται, ἀνάγκη μάλιστα τούτοις φθονεῖν, διόπερ εἴρηται καὶ κεραμεὺς κεραμεῖ.

καὶ ὧν ἢ κεκτημένων ἢ κατορθούντων ὄνειδος αὐτοῖς (εἰσὶν δὲ καὶ οὗτοι ‹οἱ› ἐγγὺς καὶ ὅμοιοι)· δῆλον γὰρ ὅτι παρ’ αὐτοὺς οὐ τυγχάνουσι τοῦ ἀγαθοῦ, ὥστε τοῦτο λυποῦν ποιεῖ τὸν φθόνον. καὶ τοῖς ἢ ἔχουσι ταῦτα ἢ κεκτημένοις ὅσα αὐτοῖς προσῆκεν ἢ ἐκέκτηντό ποτε· διὸ πρεσβύτεροί τε νεωτέροις καὶ οἱ πολλὰ δαπανήσαντες εἰς ταὐτὸ τοῖς ὀλίγα φθονοῦσιν. καὶ τοῖς ταχὺ οἱ ἢ μόλις τυχόντες ἢ μὴ τυχόντες φθονοῦσιν. δῆλον δὲ καὶ ἐφ’ οἷς χαίρουσιν οἱ τοιοῦτοι καὶ ἐπὶ τίσι καὶ πῶς ἔχοντες· ὡς γὰρ ἔχοντες λυποῦνται, οὕτως ἔχοντες ἐπὶ τοῖς ἐναντίοις ἡσθήσονται. ὥστε ἂν αὐτοὶ μὲν παρασκευασθῶσιν οὕτως ἔχειν, οἱ δ’ ἐλεεῖσθαι ἢ τυγχάνειν τινὸς ἀγαθοῦ ἀξιοῦντες ὦσιν οἷοι οἱ εἰρημένοι, δῆλον ὡς οὐ τεύξονται ἐλέου παρὰ τῶν κυρίων.

Πῶς δὲ ἔχοντες ζηλοῦσι καὶ τὰ ποῖα καὶ ἐπὶ τίσιν, ἐνθένδ’ ἐστὶ δῆλον· εἰ γάρ ἐστιν ζῆλος λύπη τις ἐπὶ φαινομένῃ παρουσίᾳ ἀγαθῶν ἐντίμων καὶ ἐνδεχομένων αὐτῷ λαβεῖν περὶ τοὺς ὁμοίους τῇ φύσει, οὐχ ὅτι ἄλλῳ ἀλλ’ ὅτι οὐχὶ καὶ αὐτῷ ἔστιν (διὸ καὶ ἐπιεικές ἐστιν ὁ ζῆλος καὶ ἐπιεικῶν, τὸ δὲ φθονεῖν φαῦλον καὶ φαύλων· ὁ μὲν γὰρ αὑτὸν παρασκευάζει διὰ τὸν ζῆλον τυγχάνειν τῶν ἀγαθῶν, ὁ δὲ τὸν πλησίον μὴ ἔχειν διὰ τὸν φθόνον), ἀνάγκη δὴ ζηλωτικοὺς μὲν εἶναι τοὺς [1388b] ἀξιοῦντας αὑτοὺς ἀγαθῶν ὧν μὴ ἔχουσιν, ‹ἐνδεχομένων αὐτοῖς λαβεῖν›· οὐδεὶς γὰρ ἀξιοῖ τὰ φαινόμενα ἀδύνατα (διὸ οἱ νέοι καὶ οἱ μεγαλόψυχοι τοιοῦτοι). καὶ οἷς ὑπάρχει τοιαῦτα ἀγαθὰ ἃ τῶν ἐντίμων ἄξιά ἐστιν ἀνδρῶν· ἔστι δὲ ταῦτα πλοῦτος καὶ πολυφιλία καὶ ἀρχαὶ καὶ ὅσα τοιαῦτα· ὡς γὰρ προσῆκον αὐτοῖς ἀγαθοῖς εἶναι, οἷα προσήκει τοῖς ἀγαθῶς ἔχουσι, ζηλοῦσι τὰ τοιαῦτα τῶν ἀγαθῶν. καὶ οὓς οἱ ἄλλοι ἀξιοῦσιν. καὶ ὧν πρόγονοι ἢ συγγενεῖς ἢ οἰκεῖοι ἢ τὸ ἔθνος ἢ ἡ πόλις ἔντιμοι, ζηλωτικοὶ περὶ ταῦτα· οἰκεῖα γὰρ οἴονται αὐτοῖς εἶναι, καὶ ἄξιοι ‹εἶναι› τούτων. εἰ δ’ ἐστὶν ζηλωτὰ τὰ ἔντιμα ἀγαθά, ἀνάγκη τάς τε ἀρετὰς εἶναι τοιαύτας, καὶ ὅσα τοῖς ἄλλοις ὠφέλιμα καὶ εὐεργετικά (τιμῶσι γὰρ τοὺς εὐεργετοῦντας καὶ τοὺς ἀγαθούς), καὶ ὅσων ἀγαθῶν ἀπόλαυσις τοῖς πλησίον ἔστιν, οἷον πλοῦτος καὶ κάλλος μᾶλλον ὑγιείας. φανερὸν δὲ καὶ οἱ ζηλωτοὶ τίνες· οἱ γὰρ ταῦτα καὶ τὰ τοιαῦτα κεκτημένοι ζηλωτοί· ἔστι δὲ ταῦτα τὰ εἰρημένα, οἷον ἀνδρεία σοφία ἀρχή (οἱ γὰρ ἄρχοντες πολλοὺς δύνανται εὖ ποιεῖν), στρατηγοί, ῥήτορες, πάντες οἱ τὰ τοιαῦτα δυνάμενοι. καὶ οἷς πολλοὶ ὅμοιοι βούλονται εἶναι, ἢ πολλοὶ γνώριμοι, ἢ φίλοι πολλοί, ἢ οὓς πολλοὶ θαυμάζουσιν, ἢ οὓς αὐτοὶ θαυμάζουσιν. καὶ ὧν ἔπαινοι καὶ ἐγκώμια λέγονται ἢ ὑπὸ ποιητῶν ἢ ὑπὸ λογογράφων. καταφρονοῦσιν δὲ τῶν ἐναντίων· ἐναντίον γὰρ ζήλῳ καταφρόνησίς ἐστι, καὶ τῷ ζηλοῦν τὸ καταφρονεῖν.

ἀνάγκη δὲ τοὺς οὕτως ἔχοντας ὥστε ζηλῶσαί τινας ἢ ζηλοῦσθαι καταφρονητικοὺς εἶναι τούτων τε καὶ ἐπὶ τούτοις ὅσοι τὰ ἐναντία κακὰ ἔχουσι τῶν ἀγαθῶν τῶν ζηλωτῶν· διὸ πολλάκις καταφρονοῦσιν τῶν εὐτυχούντων, ὅταν ἄνευ τῶν ἐντίμων ἀγαθῶν ὑπάρχῃ αὐτοῖς ἡ τύχη.

δι’ ὧν μὲν οὖν τὰ πάθη ἐγγίγνεται καὶ διαλύεται, ἐξ ὧν αἱ πίστεις γίγνονται περὶ αὐτῶν, εἴρηται.

τὰ δὲ ἤθη ποῖοί τινες κατὰ τὰ πάθη καὶ τὰς ἕξεις καὶ τὰς ἡλικίας καὶ τὰς τύχας, διέλθωμεν μετὰ ταῦτα. λέγω δὲ πάθη μὲν ὀργὴν ἐπιθυμίαν καὶ τὰ τοιαῦτα περὶ ὧν εἰρήκαμεν [πρότερον], ἕξεις δὲ ἀρετὰς καὶ κακίας, εἴρηται δὲ περὶ τούτων πρότερον, καὶ ποῖα προαιροῦνται ἕκαστοι, καὶ ποίων πρακτικοί. ἡλικίαι δέ εἰσι νεότης καὶ ἀκμὴ καὶ γῆρας. τύχην δὲ [1389a] λέγω εὐγένειαν καὶ πλοῦτον καὶ δυνάμεις καὶ τἀναντία τούτοις καὶ ὅλως εὐτυχίαν καὶ δυστυχίαν.

οἱ μὲν οὖν νέοι τὰ ἤθη εἰσὶν ἐπιθυμητικοί, καὶ οἷοι ποιεῖν ὧν ἂν ἐπιθυμήσωσι. καὶ τῶν περὶ τὸ σῶμα ἐπιθυμιῶν μάλιστα ἀκολουθητικοί εἰσι τῇ περὶ τὰ ἀφροδίσια καὶ ἀκρατεῖς ταύτης, εὐμετάβολοι δὲ καὶ ἁψίκοροι πρὸς τὰς ἐπιθυμίας, καὶ σφόδρα μὲν ἐπιθυμοῦσι ταχέως δὲ παύονται (ὀξεῖαι γὰρ αἱ βουλήσεις καὶ οὐ μεγάλαι, ὥσπερ αἱ τῶν καμνόντων δίψαι καὶ πεῖναι), καὶ θυμικοὶ καὶ ὀξύθυμοι καὶ οἷοι ἀκολουθεῖν τῇ ὀργῇ. καὶ ἥττους εἰσὶ τοῦ θυμοῦ· διὰ γὰρ φιλοτιμίαν οὐκ ἀνέχονται ὀλιγωρούμενοι, ἀλλ’ ἀγανακτοῦσιν ἂν οἴωνται ἀδικεῖσθαι. καὶ φιλότιμοι μέν εἰσιν, μᾶλλον δὲ φιλόνικοι (ὑπεροχῆς γὰρ ἐπιθυμεῖ ἡ νεότης, ἡ δὲ νίκη ὑπεροχή τις), καὶ ἄμφω ταῦτα μᾶλλον ἢ φιλοχρήματοι (φιλοχρήματοι δὲ ἥκιστα διὰ τὸ μήπω ἐνδείας πεπειρᾶσθαι, ὥσπερ τὸ Πιττακοῦ ἔχει ἀπόφθεγμα εἰς Ἀμφιάραον), καὶ οὐ κακοήθεις ἀλλ’ εὐήθεις διὰ τὸ μήπω τεθεωρηκέναι πολλὰς πονηρίας, καὶ εὔπιστοι διὰ τὸ μήπω πολλὰ ἐξηπατῆσθαι, καὶ εὐέλπιδες· ὥσπερ γὰρ οἱ οἰνωμένοι, οὕτω διάθερμοί εἰσιν οἱ νέοι ὑπὸ τῆς φύσεως· ἅμα δὲ καὶ διὰ τὸ μὴ πολλὰ ἀποτετυχηκέναι. καὶ ζῶσι τὰ πλεῖστα ἐλπίδι· ἡ μὲν γὰρ ἐλπὶς τοῦ μέλλοντός ἐστιν ἡ δὲ μνήμη τοῦ παροιχομένου, τοῖς δὲ νέοις τὸ μὲν μέλλον πολὺ τὸ δὲ παρεληλυθὸς βραχύ· τῇ γὰρ πρώτῃ ἡμέρᾳ μεμνῆσθαι μὲν οὐδὲν οἷόν τε, ἐλπίζειν δὲ πάντα. καὶ εὐεξαπάτητοί εἰσι διὰ τὸ εἰρημένον (ἐλπίζουσι γὰρ ῥᾳδίως), καὶ ἀνδρειότεροι (θυμώδεις γὰρ καὶ εὐέλπιδες, ὧν τὸ μὲν μὴ φοβεῖσθαι τὸ δὲ θαρρεῖν ποιεῖ· οὔτε γὰρ ὀργιζόμενος οὐδεὶς φοβεῖται, τό τε ἐλπίζειν ἀγαθόν τι θαρραλέον ἐστίν), καὶ αἰσχυντηλοί (οὐ γάρ πω καλὰ ἕτερα ὑπολαμβάνουσιν, ἀλλὰ πεπαίδευνται ὑπὸ τοῦ νόμου μόνον), καὶ μεγαλόψυχοι (οὐ γὰρ ὑπὸ τοῦ βίου πω τεταπείνωνται, ἀλλὰ τῶν ἀναγκαίων ἄπειροί εἰσιν, καὶ τὸ ἀξιοῦν αὑτὸν μεγάλων μεγαλοψυχία· τοῦτο δ' εὐέλπιδος). καὶ μᾶλλον αἱροῦνται πράττειν τὰ καλὰ τῶν συμφερόντων· τῷ γὰρ ἤθει ζῶσι μᾶλλον ἢ τῷ λογισμῷ, ἔστι δὲ ὁ μὲν λογισμὸς τοῦ συμφέροντος ἡ δὲ ἀρετὴ τοῦ καλοῦ. καὶ φιλόφιλοι καὶ φιλέταιροι μᾶλλον τῶν [1389b] ἄλλων ἡλικιῶν διὰ τὸ χαίρειν τῷ συζῆν καὶ μήπω πρὸς τὸ συμφέρον κρίνειν μηδέν, ὥστε μηδὲ τοὺς φίλους. καὶ ἅπαντα ἐπὶ τὸ μᾶλλον καὶ σφοδρότερον ἁμαρτάνουσι, παρὰ τὸ Χιλώνειον (πάντα γὰρ ἄγαν πράττουσιν· φιλοῦσι γὰρ ἄγαν καὶ μισοῦσιν ἄγαν καὶ τἆλλα πάντα ὁμοίως), καὶ εἰδέναι ἅπαντα οἴονται καὶ διισχυρίζονται (τοῦτο γὰρ αἴτιόν ἐστιν καὶ τοῦ πάντα ἄγαν), καὶ τὰ ἀδικήματα ἀδικοῦσιν εἰς ὕβριν, οὐ κακουργίαν. καὶ ἐλεητικοὶ διὰ τὸ πάντας χρηστοὺς καὶ βελτίους ὑπολαμβάνειν (τῇ γὰρ αὑτῶν ἀκακίᾳ τοὺς πέλας μετροῦσιν, ὥστε ἀνάξια πάσχειν ὑπολαμβάνουσιν αὐτούς), καὶ φιλογέλωτες, διὸ καὶ φιλευτράπελοι· ἡ γὰρ εὐτραπελία πεπαιδευμένη ὕβρις ἐστίν.

Τὸ μὲν οὖν τῶν νέων τοιοῦτόν ἐστιν ἦθος, οἱ δὲ πρεσβύτεροι καὶ παρηκμακότες σχεδὸν ἐκ τῶν ἐναντίων τούτοις τὰ πλεῖστα ἔχουσιν ἤθη· διὰ γὰρ τὸ πολλὰ ἔτη βεβιωκέναι καὶ πλείω ἐξηπατῆσθαι καὶ ἐξημαρτηκέναι, καὶ τὰ πλείω φαῦλα εἶναι τῶν πραγμάτων, οὔτε διαβεβαιοῦνται οὐδέν, ἧττόν τε ἄγανται πάντα ἢ δεῖ. καὶ οἴονται, ἴσασι δ' οὐδέν, καὶ ἀμφιδοξοῦντες προστιθέασιν ἀεὶ τὸ ἴσως καὶ τάχα, καὶ πάντα λέγουσιν οὕτως, παγίως δ' οὐδέν. καὶ κακοήθεις εἰσίν· ἔστι γὰρ κακοήθεια τὸ ἐπὶ τὸ χεῖρον ὑπολαμβάνειν πάντα. ἔτι δὲ καχύποπτοί εἰσι διὰ τὴν ἀπιστίαν, ἄπιστοι δὲ δι' ἐμπειρίαν. καὶ οὔτε φιλοῦσιν σφόδρα οὔτε μισοῦσι διὰ ταῦτα, ἀλλὰ κατὰ τὴν Βίαντος ὑποθήκην καὶ φιλοῦσιν ὡς μισήσοντες καὶ μισοῦσιν ὡς φιλήσοντες. καὶ μικρόψυχοι διὰ τὸ τεταπεινῶσθαι ὑπὸ τοῦ βίου· οὐδενὸς γὰρ μεγάλου οὐδὲ περιττοῦ ἀλλὰ τῶν πρὸς τὸν βίον ἐπιθυμοῦσι. καὶ ἀνελεύθεροι· ἓν γάρ τι τῶν ἀναγκαίων ἡ οὐσία, ἅμα δὲ καὶ διὰ τὴν ἐμπειρίαν ἴσασιν ὡς χαλεπὸν τὸ κτήσασθαι καὶ ῥᾴδιον τὸ ἀποβαλεῖν. καὶ δειλοὶ καὶ πάντα προφοβητικοί· ἐναντίως γὰρ διάκεινται τοῖς νέοις· κατεψυγμένοι γάρ εἰσιν, οἱ δὲ θερμοί, ὥστε προωδοπεποίηκε τὸ γῆρας τῇ δειλίᾳ· καὶ γὰρ ὁ φόβος κατάψυξίς τίς ἐστιν. καὶ φιλόζωοι, καὶ μᾶλλον ἐπὶ τῇ τελευταίᾳ ἡμέρᾳ διὰ τὸ τοῦ ἀπόντος εἶναι τὴν ἐπιθυμίαν, καὶ οὗ ἐνδεεῖς, τούτου μάλιστα ἐπιθυμεῖν. καὶ φίλαυτοι μᾶλλον ἢ δεῖ· μικροψυχία γάρ τις καὶ αὕτη. καὶ πρὸς τὸ συμφέρον ζῶσιν, ἀλλ' οὐ πρὸς τὸ καλόν, μᾶλλον ἢ δεῖ, διὰ τὸ φίλαυτοι εἶναι· τὸ μὲν γὰρ [1390a] συμφέρον αὐτῷ ἀγαθόν ἐστι, τὸ δὲ καλὸν ἁπλῶς. καὶ ἀναίσχυντοι μᾶλλον ἢ αἰσχυντηλοί· διὰ γὰρ τὸ μὴ φροντίζειν ὁμοίως τοῦ καλοῦ καὶ τοῦ συμφέροντος ὀλιγωροῦσι τοῦ δοκεῖν. καὶ δυσέλπιδες διὰ τὴν ἐμπειρίαν (τὰ γὰρ πλείω τῶν γιγνομένων φαῦλά ἐστιν· ἀποβαίνει γὰρ τὰ πολλὰ ἐπὶ τὸ χεῖρον), καὶ ἔτι διὰ τὴν δειλίαν. καὶ ζῶσι τῇ μνήμῃ μᾶλλον ἢ τῇ ἐλπίδι· τοῦ γὰρ βίου τὸ μὲν λοιπὸν ὀλίγον τὸ δὲ παρεληλυθὸς πολύ, ἔστι δὲ ἡ μὲν ἐλπὶς τοῦ μέλλοντος ἡ δὲ μνήμη τῶν παροιχομένων· ὅπερ αἴτιον καὶ τῆς ἀδολεσχίας αὐτοῖς· διατελοῦσι γὰρ τὰ γενόμενα λέγοντες· ἀναμιμνησκόμενοι γὰρ ἥδονται. καὶ οἱ θυμοὶ ὀξεῖς μὲν ἀσθενεῖς δέ εἰσιν, καὶ αἱ ἐπιθυμίαι αἱ μὲν ἐκλελοίπασιν αἱ δὲ ἀσθενεῖς εἰσιν, ὥστε οὔτ’ ἐπιθυμητικοὶ οὔτε πρακτικοὶ κατὰ τὰς ἐπιθυμίας, ἀλλὰ κατὰ τὸ κέρδος· διὸ σωφρονικοὶ φαίνονται οἱ τηλικοῦτοι· αἵ τε γὰρ ἐπιθυμίαι ἀνείκασι καὶ δουλεύουσι τῷ κέρδει. καὶ μᾶλλον ζῶσι κατὰ λογισμὸν ἢ κατὰ τὸ ἦθος· ὁ μὲν γὰρ λογισμὸς τοῦ συμφέροντος τὸ δ’ ἦθος τῆς ἀρετῆς ἐστιν. καὶ τἀδικήματα ἀδικοῦσιν εἰς κακουργίαν, οὐκ εἰς ὕβριν. ἐλεητικοὶ δὲ καὶ οἱ γέροντές εἰσιν, ἀλλ’ οὐ διὰ ταὐτὰ τοῖς νέοις· οἱ μὲν γὰρ διὰ φιλανθρωπίαν, οἱ δὲ δι’ ἀσθένειαν· πάντα γὰρ οἴονται ἐγγὺς εἶναι αὑτοῖς παθεῖν, τοῦτο δ’ ἦν ἐλεητικόν· ὅθεν ὀδυρτικοί εἰσι, καὶ οὐκ εὐτράπελοι οὐδὲ φιλογέλοιοι· ἐναντίον γὰρ τὸ ὀδυρτικὸν τῷ φιλογέλωτι.

τῶν μὲν οὖν νέων καὶ τῶν πρεσβυτέρων τὰ ἤθη τοιαῦτα, ὥστ’ ἐπεὶ ἀποδέχονται πάντες τοὺς τῷ σφετέρῳ ἤθει λεγομένους λόγους καὶ τοὺς ὁμοίους, οὐκ ἄδηλον πῶς χρώμενοι τοῖς λόγοις τοιοῦτοι φανοῦνται καὶ αὐτοὶ καὶ οἱ λόγοι.

Οἱ δ’ ἀκμάζοντες φανερὸν ὅτι μεταξὺ τούτων τὸ ἦθος ἔσονται ἑκατέρων, ἀφαιροῦντες τὴν ὑπερβολήν, καὶ οὔτε σφόδρα θαρροῦντες (θρασύτης γὰρ τὸ τοιοῦτον) οὔτε λίαν φοβούμενοι, καλῶς δὲ πρὸς ἄμφω ἔχοντες, οὔτε πᾶσι πιστεύοντες οὔτε πᾶσιν ἀπιστοῦντες, ἀλλὰ κατὰ τὸ ἀληθὲς κρίνοντες μᾶλλον, καὶ οὔτε πρὸς τὸ καλὸν ζῶντες μόνον οὔτε πρὸς τὸ συμφέρον [1390b] ἀλλὰ πρὸς ἄμφω, καὶ οὔτε πρὸς φειδὼ οὔτε πρὸς ἀσωτίαν ἀλλὰ πρὸς τὸ ἁρμόττον, ὁμοίως δὲ καὶ πρὸς θυμὸν καὶ πρὸς ἐπιθυμίαν, καὶ σώφρονες μετ’ ἀνδρείας καὶ ἀνδρεῖοι μετὰ σωφροσύνης. ἐν γὰρ τοῖς νέοις καὶ τοῖς γέρουσι διῄρηται ταῦτα· εἰσὶν γὰρ οἱ μὲν νέοι ἀνδρεῖοι καὶ ἀκόλαστοι, οἱ δὲ πρεσβύτεροι σώφρονες καὶ δειλοί. ὡς δὲ καθόλου εἰπεῖν, ὅσα μὲν διῄρηνται ἡ νεότης καὶ τὸ γῆρας τῶν ὠφελίμων, ταῦτα ἄμφω ἔχουσιν, ὅσα δὲ ὑπερβάλλουσιν ἢ ἐλλείπουσιν, τούτων τὸ μέτριον καὶ τὸ ἁρμόττον. ἀκμάζει δὲ τὸ μὲν σῶμα ἀπὸ τῶν τριάκοντα ἐτῶν μέχρι τῶν πέντε καὶ τριάκοντα, ἡ δὲ ψυχὴ περὶ τὰ ἑνὸς δεῖν πεντήκοντα.

περὶ μὲν οὖν νεότητος καὶ γήρως καὶ ἀκμῆς, ποίων ἠθῶν ἕκαστόν ἐστιν, εἰρήσθω τοσαῦτα.

Περὶ δὲ τῶν ἀπὸ τύχης γιγνομένων ἀγαθῶν, δι’ ὅσα αὐτῶν καὶ τὰ ἤθη ποιὰ ἄττα συμβαίνει τοῖς ἀνθρώποις, λέγωμεν ἐφεξῆς. εὐγενείας μὲν οὖν ἦθός ἐστι τὸ φιλοτιμότερον εἶναι τὸν κεκτημένον αὐτήν· ἅπαντες γάρ, ὅταν ὑπάρχῃ τι, πρὸς τοῦτο σωρεύειν εἰώθασιν, ἡ δ’ εὐγένεια ἐντιμότης προγόνων ἐστίν. καὶ καταφρονητικὸν καὶ τῶν ὁμοίων ἐστὶν τοῖς προγόνοις αὐτῶν, διότι πόρρω ταὐτὰ μᾶλλον ἢ ἐγγὺς γιγνόμενα ἐντιμότερα καὶ εὐαλαζόνευτα. ἔστι δὲ εὐγενὲς μὲν κατὰ τὴν τοῦ γένους ἀρετήν, γενναῖον δὲ κατὰ τὸ μὴ ἐξίστασθαι τῆς φύσεως· ὅπερ ὡς ἐπὶ τὸ πολὺ οὐ συμβαίνει τοῖς εὐγενέσιν, ἀλλ’ εἰσὶν οἱ πολλοὶ εὐτελεῖς· φορὰ γάρ τίς ἐστιν ἐν τοῖς γένεσιν ἀνδρῶν ὥσπερ ἐν τοῖς κατὰ τὰς χώρας γιγνομένοις, καὶ ἐνίοτε ἂν ᾖ ἀγαθὸν τὸ γένος, ἐγγίνονται διά τινος χρόνου ἄνδρες περιττοί, κἄπειτα πάλιν ἀναδίδωσιν. ἐξίσταται δὲ τὰ μὲν εὐφυᾶ γένη εἰς μανικώτερα ἤθη, οἷον οἱ ἀπ’ Ἀλκιβιάδου καὶ οἱ ἀπὸ Διονυσίου τοῦ προτέρου, τὰ δὲ στάσιμα εἰς ἀβελτερίαν καὶ νωθρότητα, οἷον οἱ ἀπὸ Κίμωνος καὶ Περικλέους καὶ Σωκράτους.

Τῷ δὲ πλούτῳ ἃ ἕπεται ἤθη, ἐπιπολῆς ἔστιν ἰδεῖν ἅπασιν· ὑβρισταὶ γὰρ καὶ ὑπερήφανοι, πάσχοντές τι ὑπὸ τῆς κτήσεως τοῦ πλούτου (ὥσπερ γὰρ ἔχοντες ἅπαντα τἀγαθὰ οὕτω διάκεινται· [1391a] ὁ δὲ πλοῦτος οἷον τιμή τις τῆς ἀξίας τῶν ἄλλων, διὸ φαίνεται ὤνια ἅπαντα εἶναι αὐτοῦ), καὶ τρυφεροὶ καὶ σαλάκωνες, τρυφεροὶ μὲν διὰ τὴν τροφὴν καὶ τὴν ἔνδειξιν τῆς εὐδαιμονίας, σαλάκωνες δὲ καὶ σόλοικοι διὰ τὸ πάντας εἰωθέναι διατρίβειν περὶ τὸ ἐρώμενον καὶ θαυμαζόμενον ὑπ’ αὐτῶν. καὶ τὸ οἴεσθαι ζηλοῦν τοὺς ἄλλους ἃ καὶ αὐτοί. ἅμα δὲ καὶ εἰκότως τοῦτο πάσχουσιν (πολλοὶ γάρ εἰσιν οἱ δεόμενοι τῶν ἐχόντων· ὅθεν καὶ τὸ Σιμωνίδου εἴρηται περὶ τῶν σοφῶν καὶ πλουσίων πρὸς τὴν γυναῖκα τὴν Ἱέρωνος ἐρομένην πότερον γενέσθαι κρεῖττον πλούσιον ἢ σοφόν· “πλούσιον” εἰπεῖν· τοὺς σοφοὺς γὰρ ἔφη ὁρᾶν ἐπὶ ταῖς τῶν πλουσίων θύραις διατρίβοντας), καὶ τὸ οἴεσθαι ἀξίους εἶναι ἄρχειν· ἔχειν γὰρ οἴονται ὧν ἕνεκεν ἄρχειν ἄξιον. καὶ ὡς ἐν κεφαλαίῳ, ἀνοήτου εὐδαίμονος ἦθος ‹ἦθος› πλούτου ἐστίν. διαφέρει δὲ τοῖς νεωστὶ κεκτημένοις καὶ τοῖς πάλαι τὰ ἤθη τῷ ἅπαντα μᾶλλον καὶ φαυλότερα τὰ κακὰ ἔχειν τοὺς νεοπλούτους (ὥσπερ γὰρ ἀπαιδευσία πλούτου ἐστὶ τὸ νεόπλουτον εἶναι), καὶ ἀδικήματα ἀδικοῦσιν οὐ κακουργικά, ἀλλὰ τὰ μὲν ὑβριστικὰ τὰ δὲ ἀκρατευτικά, οἷον εἰς αἰκίαν καὶ μοιχείαν.

Ὁμοίως δὲ καὶ περὶ δυνάμεως σχεδὸν τὰ πλεῖστα φανερά ἐστιν ἤθη. τὰ μὲν γὰρ τὰ αὐτὰ ἔχει δύναμις τῷ πλούτῳ τὰ δὲ βελτίω· φιλοτιμότεροι γὰρ καὶ ἀνδρωδέστεροί εἰσιν τὰ ἤθη οἱ δυνάμενοι τῶν πλουσίων διὰ τὸ ἐφίεσθαι ἔργων ὅσα ἐξουσία αὐτοῖς πράττειν διὰ τὴν δύναμιν, καὶ σπουδαστικώτεροι διὰ τὸ ἐν ἐπιμελείᾳ εἶναι, ἀναγκαζόμενοι σκοπεῖν τὰ περὶ τὴν δύναμιν, καὶ σεμνότεροι ἢ βαρύτεροι· ποιεῖ γὰρ σεμνοτέρους τὸ ἀξίωμα, διὸ μετριάζουσιν, ἔστι δὲ ἡ σεμνότης μαλακὴ καὶ εὐσχήμων βαρύτης· κἂν ἀδικῶσιν, οὐ μικραδικηταί εἰσιν ἀλλὰ μεγαλάδικοι.

ἡ δ’ εὐτυχία κατὰ μόριά τε τῶν εἰρημένων ἔχει τὰ ἤθη (εἰς γὰρ ταῦτα συντείνουσιν αἱ μέγισται δοκοῦσαι εἶναι εὐτυχίαι), καὶ ἔτι εἰς εὐτεκνίαν καὶ τὰ κατὰ τὸ σῶμα ἀγαθὰ παρασκευάζει ἡ εὐτυχία πλεονεκτεῖν. ὑπερηφανώτεροι μὲν οὖν καὶ [1391b] ἀλογιστότεροι διὰ τὴν εὐτυχίαν εἰσίν, ἓν δὲ ἀκολουθεῖ βέλτιστον ἦθος τῇ εὐτυχίᾳ, ὅτι φιλόθεοί εἰσι καὶ ἔχουσιν πρὸς τὸ θεῖόν πως, πιστεύοντες διὰ τὰ γιγνόμενα ἀπὸ τῆς τύχης.

περὶ μὲν οὖν τῶν καθ’ ἡλικίαν καὶ τύχην ἠθῶν εἴρηται· τὰ γὰρ ἐναντία τῶν εἰρημένων ἐκ τῶν ἐναντίων φανερά ἐστιν, οἷον πένητος καὶ ἀτυχοῦς ἦθος καὶ ἀδυνάτου.

Ἐπεὶ δὲ ἡ τῶν πιθανῶν λόγων χρῆσις πρὸς κρίσιν ἐστί (περὶ ὧν γὰρ ἴσμεν καὶ κεκρίκαμεν οὐδὲν ἔτι δεῖ λόγου), ἔστι δ’ ἐάν τε πρὸς ἕνα τις τῷ λόγῳ χρώμενος προτρέπῃ ἢ ἀποτρέπῃ, οἷον οἱ νουθετοῦντες ποιοῦσιν ἢ πείθοντες (οὐδὲν γὰρ ἧττον κριτὴς ὁ εἷς· ὃν γὰρ δεῖ πεῖσαι, οὗτός ἐστιν ὡς εἰπεῖν ἁπλῶς κριτής), ἐάν τε πρὸς ἀμφισβητοῦντας, ἐάν τε πρὸς ὑπόθεσιν λέγῃ τις, ὁμοίως (τῷ γὰρ λόγῳ ἀνάγκη χρῆσθαι καὶ ἀναιρεῖν τὰ ἐναντία, πρὸς ἃ ὥσπερ ἀμφισβητοῦντα τὸν λόγον ποιεῖται), ὡσαύτως δὲ καὶ ἐν τοῖς ἐπιδεικτικοῖς (ὥσπερ γὰρ πρὸς κριτὴν τὸν θεωρὸν ὁ λόγος συνέστηκεν, ὅλως δὲ μόνος ἐστὶν ἁπλῶς κριτὴς ἐν τοῖς πολιτικοῖς ἀγῶσιν ὁ τὰ ζητούμενα κρίνων· τά τε γὰρ ἀμφισβητούμενα ζητεῖται πῶς ἔχει, καὶ περὶ ὧν βουλεύονται), περὶ δὲ τῶν κατὰ τὰς πολιτείας ἠθῶν ἐν τοῖς συμβουλευτικοῖς εἴρηται πρότερον - ὥστε διωρισμένον ἂν εἴη πῶς τε καὶ διὰ τίνων τοὺς λόγους ἠθικοὺς ποιητέον.

ἐπεὶ δὲ περὶ ἕκαστον μὲν γένος τῶν λόγων ἕτερον ἦν τὸ τέλος, περὶ ἁπάντων δ’ αὐτῶν εἰλημμέναι δόξαι καὶ προτάσεις εἰσὶν ἐξ ὧν τὰς πίστεις φέρουσιν καὶ συμβουλεύοντες καὶ ἐπιδεικνύμενοι καὶ ἀμφισβητοῦντες, ἔτι δὲ ἐξ ὧν ἠθικοὺς τοὺς λόγους ἐνδέχεται ποιεῖν, καὶ περὶ τούτων διώρισται, λοιπὸν ἡμῖν διελθεῖν περὶ τῶν κοινῶν. πᾶσι γὰρ ἀναγκαῖον τῷ περὶ τοῦ δυνατοῦ καὶ ἀδυνάτου προσχρῆσθαι ἐν τοῖς λόγοις, καὶ τοὺς μὲν ὡς ἔσται τοὺς δὲ ὡς γέγονε πειρᾶσθαι δεικνύναι. ἔτι δὲ ‹τὸ› περὶ μεγέθους κοινὸν ἁπάντων ἐστὶ τῶν λόγων· χρῶνται γὰρ πάντες τῷ μειοῦν καὶ αὔξειν καὶ συμβουλεύοντες καὶ ἐπαινοῦντες ἢ ψέγοντες καὶ κατηγοροῦντες ἢ ἀπολογούμενοι. [1392a] τούτων δὲ διορισθέντων περὶ τῶν ἐνθυμημάτων κοινῇ πειραθῶμεν εἰπεῖν, εἴ τι ἔχομεν, καὶ περὶ παραδειγμάτων, ὅπως τὰ λοιπὰ προσθέντες ἀποδῶμεν τὴν ἐξ ἀρχῆς πρόθεσιν. ἔστιν δὲ τῶν κοινῶν τὸ μὲν αὔξειν οἰκειότατον τοῖς ἐπιδεικτικοῖς, ὥσπερ εἴρηται, τὸ δὲ γεγονὸς τοῖς δικανικοῖς (περὶ τούτων γὰρ ἡ κρίσις), τὸ δὲ δυνατὸν καὶ ἐσόμενον τοῖς συμβουλευτικοῖς.

Πρῶτον μὲν οὖν περὶ δυνατοῦ καὶ ἀδυνάτου λέγωμεν. ἂν δὴ τὸ ἐναντίον ᾖ δυνατὸν ἢ εἶναι ἢ γενέσθαι, καὶ τὸ ἐναντίον δόξειεν ἂν εἶναι δυνατόν, οἷον εἰ δυνατὸν ἄνθρωπον ὑγιασθῆναι, καὶ νοσῆσαι· ἡ γὰρ αὐτὴ δύναμις τῶν ἐναντίων ᾗ ἐναντία. καὶ εἰ τὸ ὅμοιον δυνατόν, καὶ τὸ ὅμοιον· καὶ εἰ τὸ χαλεπώτερον δυνατόν, καὶ τὸ ῥᾷον· καὶ εἰ τὸ σπουδαῖον καὶ καλὸν γενέσθαι δυνατόν, καὶ ὅλως δυνατὸν γενέσθαι· χαλεπώτερον γὰρ καλὴν οἰκίαν ἢ οἰκίαν εἶναι. καὶ οὗ ἡ ἀρχὴ δύναται γενέσθαι, καὶ τὸ τέλος· οὐδὲν γὰρ γίγνεται οὐδ’ ἄρχεται γίγνεσθαι τῶν ἀδυνάτων, οἷον τὸ σύμμετρον τὴν διάμετρον εἶναι οὔτ’ ἂν ἄρξαιτο γίγνεσθαι οὔτε γίγνεται. καὶ οὗ τὸ τέλος, καὶ ἡ ἀρχὴ δυνατή· ἅπαντα γὰρ ἐξ ἀρχῆς γίγνεται. καὶ εἰ τὸ ὕστερον τῇ οὐσίᾳ ἢ τῇ γενέσει δυνατὸν γενέσθαι, καὶ τὸ πρότερον, οἷον εἰ ἄνδρα γενέσθαι δυνατόν, καὶ παῖδα (πρότερον γὰρ ἐκεῖνο γίγνεται), καὶ εἰ παῖδα, καὶ ἄνδρα (καὶ ἀρχὴ γὰρ ἐκείνη). καὶ ὧν ἢ ἔρως ἢ ἐπιθυμία φύσει ἐστίν· οὐδεὶς γὰρ ἀδυνάτων ἐρᾷ οὐδὲ ἐπιθυμεῖ ὡς ἐπὶ τὸ πολύ. καὶ ὧν ἐπιστῆμαί εἰσι καὶ τέχναι, δυνατὸν ταῦτα καὶ εἶναι καὶ γίγνεσθαι. καὶ ὅσων ἡ ἀρχὴ τῆς γενέσεως ἐν τούτοις ἐστὶν ἃ ἡμεῖς ἀναγκάσαιμεν ἂν ἢ πείσαιμεν· ταῦτα δ’ ἐστὶν ὧν κρείττους ἢ κύριοι ἢ φίλοι. καὶ ὧν τὰ μέρη δυνατά, καὶ τὸ ὅλον, καὶ ὧν τὸ ὅλον δυνατόν, καὶ τὰ μέρη ὡς ἐπὶ τὸ πολύ· εἰ γὰρ πρόσχισμα καὶ κεφαλὶς καὶ χιτὼν δύναται γενέσθαι, καὶ ὑποδήματα δυνατὸν γενέσθαι, καὶ εἰ ὑποδήματα, καὶ πρόσχισμα καὶ κεφαλίς καὶ χιτών. καὶ εἰ τὸ [1392b] γένος ὅλον τῶν δυνατῶν γενέσθαι, καὶ τὸ εἶδος, καὶ εἰ τὸ εἶδος, καὶ τὸ γένος, οἷον εἰ πλοῖον γενέσθαι δυνατόν, καὶ τριήρη, καὶ εἰ τριήρη, καὶ πλοῖον. καὶ εἰ θάτερον τῶν πρὸς ἄλληλα πεφυκότων, καὶ θάτερον, οἷον εἰ διπλάσιον, καὶ ἥμισυ, καὶ εἰ ἥμισυ, διπλάσιον. καὶ εἰ ἄνευ τέχνης καὶ παρασκευῆς δυνατὸν γίγνεσθαι, μᾶλλον διὰ τέχνης καὶ ἐπιμελείας δυνατόν, ὅθεν καὶ Ἀγάθωνι εἴρηται

καὶ μὴν τὰ μέν γε τῆς τέχνης πράσσειν, τὰ δὲ
ἡμῖν ἀνάγκῃ καὶ τύχῃ προσγίγνεται.

καὶ εἰ τοῖς χείροσι καὶ ἥττοσι καὶ ἀφρονεστέροις δυνατόν, καὶ τοῖς ἐναντίοις μᾶλλον, ὥσπερ καὶ Ἰσοκράτης ἔφη δεινὸν εἶναι εἰ ὁ μὲν Εὔθυνος ἔμαθεν, αὐτὸς δὲ μὴ δυνήσεται εὑρεῖν. περὶ δὲ ἀδυνάτου δῆλον ὅτι ἐκ τῶν ἐναντίων τοῖς εἰρημένοις ὑπάρχει.

εἰ δὲ γέγονεν, ἐκ τῶνδε σκεπτέον. πρῶτον μὲν γάρ, εἰ τὸ ἧττον γίγνεσθαι πεφυκὸς γέγονεν, γεγονὸς ἂν εἴη καὶ τὸ μᾶλλον. καὶ εἰ τὸ ὕστερον εἰωθὸς γίγνεσθαι γέγονεν, καὶ τὸ πρότερον γέγονεν, οἷον εἰ ἐπιλέλησται, καὶ ἔμαθέ ποτε τοῦτο. καὶ εἰ ἐδύνατο καὶ ἐβούλετο, πέπραχε· πάντες γάρ, ὅταν δυνάμενοι βουληθῶσι, πράττουσιν· ἐμποδὼν γὰρ οὐδέν. ἔτι εἰ ἐβούλετο καὶ μηδὲν τῶν ἔξω ἐκώλυεν, καὶ εἰ ἐδύνατο καὶ ὠργίζετο, καὶ εἰ ἐδύνατο καὶ ἐπεθύμει· ὡς γὰρ ἐπὶ τὸ πολὺ ὧν ὀρέγονται, ἂν δύνωνται, ποιοῦσιν, οἱ μὲν φαῦλοι δι’ ἀκρασίαν, οἱ δ’ ἐπιεικεῖς ὅτι τῶν ἐπιεικῶν ἐπιθυμοῦσιν. καὶ εἰ ἔμελλε [γίγνεσθαι], καὶ ποιεῖν· εἰκὸς γὰρ τὸν μέλλοντα καὶ ποιῆσαι. καὶ εἰ γέγονεν ὅσα ἢ πέφυκε πρὸ ἐκείνου ἢ ἕνεκα ἐκείνου, οἷον εἰ ἤστραψε, καὶ ἐβρόντησεν, καὶ εἰ ἐπείρασε, καὶ ἔπραξεν. καὶ εἰ ὅσα ὕστερον πέφυκε γίγνεσθαι ἢ οὗ ἕνεκα γίγνεται γέγονε, καὶ τὸ πρότερον καὶ τὸ τούτου ἕνεκα γέγονεν, οἷον εἰ ἐβρόντησε, καὶ ἤστραψεν, καὶ εἰ ἔπραξεν, ἐπείρασεν. ἔστι δὲ τούτων ἁπάντων τὰ μὲν ἐξ ἀνάγκης τὰ δ’ ὡς ἐπὶ τὸ πολὺ οὕτως ἔχοντα. περὶ δὲ τοῦ μὴ γεγονέναι φανερὸν ὅτι ἐκ τῶν ἐναντίων τοῖς εἰρημένοις.

[1393a] καὶ περὶ τοῦ ἐσομένου ἐκ τῶν αὐτῶν δῆλον· τό τε γὰρ ἐν δυνάμει καὶ ἐν βουλήσει ὂν ἔσται, καὶ τὰ ἐν ἐπιθυμίᾳ καὶ ὀργῇ καὶ λογισμῷ μετὰ δυνάμεως ὄντα, ταῦτα καὶ ἐν ὁρμῇ τοῦ ποιεῖν ἢ μελλήσει ἔσται· ὡς γὰρ ἐπὶ τὸ πολὺ γίγνεται μᾶλλον τὰ μέλλοντα ἢ τὰ μὴ μέλλοντα. καὶ εἰ προγέγονε ὅσα πρότερον πέφυκε γίγνεσθαι, οἷον εἰ συννεφεῖ, εἰκὸς ὗσαι. καὶ εἰ τὸ ἕνεκα τούτου γέγονε, καὶ τοῦτο εἰκὸς γενέσθαι, οἷον εἰ θεμέλιος, καὶ οἰκία.

περὶ δὲ μεγέθους καὶ μικρότητος τῶν πραγμάτων καὶ μείζονός τε καὶ ἐλάττονος καὶ ὅλως μεγάλων καὶ μικρῶν ἐκ τῶν προειρημένων ἡμῖν ἐστιν φανερόν. εἴρηται γὰρ ἐν τοῖς συμβουλευτικοῖς περί τε μεγέθους ἀγαθῶν καὶ περὶ τοῦ μείζονος ἁπλῶς καὶ ἐλάττονος, ὥστε ἐπεὶ καθ’ ἕκαστον τῶν λόγων τὸ προκείμενον τέλος ἀγαθόν ἐστιν, οἷον τὸ συμφέρον καὶ τὸ καλὸν καὶ τὸ δίκαιον, φανερὸν ὅτι δι’ ἐκείνων ληπτέον τὰς αὐξήσεις πᾶσιν. τὸ δὲ παρὰ ταῦτα ἔτι ζητεῖν περὶ μεγέθους ἁπλῶς καὶ ὑπεροχῆς κενολογεῖν ἐστιν· κυριώτερα γάρ ἐστιν πρὸς τὴν χρείαν τῶν καθόλου τὰ καθ’ ἕκαστα τῶν πραγμάτων.

περὶ μὲν οὖν δυνατοῦ καὶ ἀδυνάτου, καὶ πότερον γέγονεν ἢ οὐ γέγονεν καὶ ἔσται ἢ οὐκ ἔσται, ἔτι δὲ περὶ μεγέθους καὶ μικρότητος τῶν πραγμάτων, εἰρήσθω ταῦτα.

Λοιπὸν δὲ περὶ τῶν κοινῶν πίστεων ἅπασιν εἰπεῖν, ἐπείπερ εἴρηται περὶ τῶν ἰδίων. εἰσὶ δ’ αἱ κοιναὶ πίστεις δύο τῷ γένει, παράδειγμα καὶ ἐνθύμημα· ἡ γὰρ γνώμη μέρος ἐνθυμήματός ἐστιν. πρῶτον μὲν οὖν περὶ παραδείγματος λέγωμεν· ὅμοιον γὰρ ἐπαγωγῇ τὸ παράδειγμα, ἡ δ’ ἐπαγωγὴ ἀρχή.

παραδειγμάτων δὲ εἴδη δύο· ἓν μὲν γάρ ἐστιν παραδείγματος εἶδος τὸ λέγειν πράγματα προγενομένα, ἓν δὲ τὸ αὐτὸν ποιεῖν. τούτου δὲ ἓν μὲν παραβολὴ ἓν δὲ λόγοι, οἷον οἱ Αἰσώπειοι καὶ Λιβυκοί.

ἔστιν δὲ τὸ μὲν πράγματα λέγειν τοιόνδε τι, ὥσπερ εἴ τις λέγοι ὅτι δεῖ πρὸς βασιλέα παρασκευάζεσθαι καὶ μὴ ἐᾶν Αἴγυπτον χειρώσασθαι· καὶ γὰρ πρότερον Δαρεῖος [1393b] οὐ πρότερον διέβη πρὶν Αἴγυπτον ἔλαβεν, λαβὼν δὲ διέβη, καὶ πάλιν Ξέρξης οὐ πρότερον ἐπεχείρησεν πρὶν ἔλαβεν, λαβὼν δὲ διέβη, ὥστε καὶ οὗτος ἐὰν λάβῃ, διαβήσεται, διὸ οὐκ ἐπιτρεπτέον.

παραβολὴ δὲ τὰ Σωκρατικά, οἷον εἴ τις λέγοι ὅτι οὐ δεῖ κληρωτοὺς ἄρχειν· ὅμοιον γὰρ ὥσπερ ἂν εἴ τις τοὺς ἀθλητὰς κληροίη μὴ οἳ δύνανται ἀγωνίζεσθαι ἀλλ’ οἳ ἂν λάχωσιν, ἢ τῶν πλωτήρων ὅντινα δεῖ κυβερνᾶν κληρώσειεν, ὡς δέον τὸν λαχόντα ἀλλὰ μὴ τὸν ἐπιστάμενον.

λόγος δέ, οἷος ὁ Στησιχόρου περὶ Φαλάριδος καὶ ‹ὁ› Αἰσώπου ὑπὲρ τοῦ δημαγωγοῦ. Στησίχορος μὲν γὰρ ἑλομένων στρατηγὸν αὐτοκράτορα τῶν Ἱμεραίων Φάλαριν καὶ μελλόντων φυλακὴν διδόναι τοῦ σώματος, τἆλλα διαλεχθεὶς εἶπεν αὐτοῖς λόγον ὡς ἵππος κατεῖχε λειμῶνα μόνος, ἐλθόντος δ’ ἐλάφου καὶ διαφθείροντος τὴν νομὴν βουλόμενος τιμωρήσασθαι τὸν ἔλαφον ἠρώτα τινὰ ἄνθρωπον εἰ δύναιτ’ ἂν μετ’ αὐτοῦ τιμωρήσασθαι τὸν ἔλαφον, ὁ δ’ ἔφησεν, ἐὰν λάβῃ χαλινὸν καὶ αὐτὸς ἀναβῇ ἐπ’ αὐτὸν ἔχων ἀκόντια· συνομολογήσας δὲ καὶ ἀναβάντος ἀντὶ τοῦ τιμωρήσασθαι αὐτὸς ἐδούλευσε τῷ ἀνθρώπῳ. “οὕτω δὲ καὶ ὑμεῖς”, ἔφη, “ὁρᾶτε μὴ βουλόμενοι τοὺς πολεμίους τιμωρήσασθαι τὸ αὐτὸ πάθητε τῷ ἵππῳ· τὸν μὲν γὰρ χαλινὸν ἔχετε ἤδη, ἑλόμενοι στρατηγὸν αὐτοκράτορα· ἐὰν δὲ φυλακὴν δῶτε καὶ ἀναβῆναι ἐάσητε, δουλεύσετε ἤδη Φαλάριδι”. Αἴσωπος δὲ ἐν Σάμῳ δημηγορῶν κρινομένου δημαγωγοῦ περὶ θανάτου ἔφη ἀλώπεκα διαβαίνουσαν ποταμὸν ἀπωσθῆναι εἰς φάραγγα, οὐ δυναμένην δὲ ἐκβῆναι πολὺν χρόνον κακοπαθεῖν καὶ κυνοραιστὰς πολλοὺς ἔχεσθαι αὐτῆς, ἐχῖνον δὲ πλανώμενον, ὡς εἶδεν αὐτήν, κατοικτείραντα ἐρωτᾶν εἰ ἀφέλοι αὐτῆς τοὺς κυνοραιστάς, τὴν δὲ οὐκ ἐᾶν· ἐρομένου δὲ διὰ τί, “ὅτι οὗτοι μὲν” φάναι “ἤδη μου πλήρεις εἰσὶ καὶ ὀλίγον ἕλκουσιν αἷμα, ἐὰν δὲ τούτους ἀφέλητε, ἕτεροι ἐλθόντες πεινῶντες ἐκπιοῦνταί μου τὸ λοιπὸν αἷμα”. “ἀτὰρ καὶ ὑμᾶς, ἄνδρες Σάμιοι, οὗτος μὲν οὐδὲν ἔτι βλάψει (πλούσιος γάρ ἐστιν), ἐὰν δὲ τοῦτον ἀποκτείνητε, ἕτεροι [1394a] ἥξουσι πένητες, οἳ ὑμᾶς ἀναλώσουσι τὰ λοιπὰ κλέπτοντες.”

εἰσὶ δ’ οἱ λόγοι δημηγορικοί, καὶ ἔχουσιν ἀγαθὸν τουτο, ὅτι πράγματα μὲν εὑρεῖν ὅμοια γεγενημένα χαλεπόν, λόγους δὲ ῥᾷον· ποιῆσαι γὰρ δεῖ ὥσπερ καὶ παραβολάς, ἄν τις δύνηται τὸ ὅμοιον ὁρᾶν, ὅπερ ῥᾷόν ἐστιν ἐκ φιλοσοφίας. ῥᾴω μὲν οὖν πορίσασθαι τὰ διὰ τῶν λόγων, χρησιμώτερα δὲ πρὸς τὸ βουλεύσασθαι τὰ διὰ τῶν πραγμάτων· ὅμοια γὰρ ὡς ἐπὶ τὸ πολὺ τὰ μέλλοντα τοῖς γεγονόσιν.

δεῖ δὲ χρῆσθαι τοῖς παραδείγμασι οὐκ ἔχοντα μὲν ἐνθυμήματα ὡς ἀποδείξεσιν (ἡ γὰρ πίστις διὰ τούτων), ἔχοντα δὲ ὡς μαρτυρίοις, ἐπιλόγῳ χρώμενον τοῖς ἐνθυμήμασιν· προτιθέμενα μὲν γὰρ ἔοικεν ἐπαγωγῇ, τοῖς δὲ ῥητορικοῖς οὐκ οἰκεῖον ἐπαγωγὴ πλὴν ἐν ὀλίγοις, ἐπιλεγόμενα δὲ μαρτυρίοις, ὁ δὲ μάρτυς πανταχοῦ πιθανός· διὸ καὶ προτιθέντι μὲν ἀνάγκη πολλὰ λέγειν, ἐπιλέγοντι δὲ καὶ ἓν ἱκανόν· μάρτυς γὰρ χρηστὸς καὶ εἷς χρήσιμος.

πόσα μὲν οὖν εἴδη παραδειγμάτων, καὶ πῶς αὐτοῖς καὶ πότε χρηστέον, εἴρηται.

Περὶ δὲ γνωμολογίας, ῥηθέντος τί ἐστιν γνώμη μάλιστ᾽ ἂν γένοιτο φανερὸν περὶ ποίων τε καὶ πότε καὶ τίσιν ἁρμόττει χρῆσθαι τῷ γνωμολογεῖν ἐν τοῖς λόγοις. ἔστι δὴ γνώμη ἀπόφανσις, οὐ μέντοι οὔτε περὶ τῶν καθ᾽ ἕκαστον, οἷον ποῖός τις Ἰφικράτης, ἀλλὰ καθόλου, οὔτε περὶ πάντων, οἷον ὅτι τὸ εὐθὺ τῷ καμπύλῳ ἐναντίον, ἀλλὰ περὶ ὅσων αἱ πράξεις εἰσί, καὶ ‹ἃ› αἱρετὰ ἢ φευκτά ἐστι πρὸς τὸ πράττειν, ὥστ᾽ ἐπεὶ τὸ ἐνθύμημα ὁ περὶ τοιούτων συλλογισμός ἐστιν, σχεδὸν τὰ συμπεράσματα τῶν ἐνθυμημάτων καὶ αἱ ἀρχαὶ ἀφαιρεθέντος τοῦ συλλογισμοῦ γνῶμαί εἰσιν, οἷον

χρὴ δ᾽ οὔ ποθ᾽ ὅστις ἀρτίφρων πέφυκ᾽ ἀνὴρ
παῖδας περισσῶς ἐκδιδάσκεσθαι σοφούς.

τοῦτο μὲν οὖν γνώμη· προστεθείσης δὲ τῆς αἰτίας καὶ τοῦ διὰ τί ἐνθύμημά ἐστιν τὸ ἅπαν, οἷον

χωρὶς γὰρ ἄλλης ἧς ἔχουσιν ἀργίας,
φθόνον παρ᾽ ἀστῶν ἀλφάνουσι δυσμενῆ,
[1394b] καὶ τὸ
οὐκ ἔστιν ὅστις πάντ᾽ ἀνὴρ εὐδαιμονεῖ,
καὶ τὸ
οὐκ ἔστιν ἀνδρῶν ὅστις ἔστ᾽ ἐλεύθερος
γνώμη, πρὸς δὲ τῷ ἐχομένῳ ἐνθύμημα,
ἢ χρημάτων γὰρ δοῦλός ἐστιν ἢ τύχης.

εἰ δή ἐστιν γνώμη τὸ εἰρημένον, ἀνάγκη τέτταρα εἴδη εἶναι γνώμης· ἢ γὰρ μετ᾽ ἐπιλόγου ἔσται ἢ ἄνευ ἐπιλόγου. ἀποδείξεως μὲν οὖν δεόμεναί εἰσιν ὅσαι παράδοξόν τι λέγουσιν ἢ ἀμφισβητούμενον· ὅσαι δὲ μηδὲν παράδοξον, ἄνευ ἐπιλόγου. τούτων δ’ ἀνάγκη τὰς μὲν διὰ τὸ προεγνῶσθαι μηδὲν δεῖσθαι ἐπιλόγου, οἷον

ἀνδρὶ δ’ ὑγιαίνειν ἄριστόν ἐστιν, ὥς γ’ ἐμὶν δοκεῖ

(φαίνεται μὲν γὰρ τοῖς πολλοῖς οὕτω), τὰς δ’ ἅμα λεγομένας δήλας εἶναι ἐπιβλέψασιν, οἷον

οὐδεὶς ἐραστὴς ὅστις οὐκ ἀεὶ φιλεῖ.

τῶν δὲ μετ’ ἐπιλόγου αἱ μὲν ἐνθυμήματος μέρος εἰσίν, ὥσπερ

χρὴ δ’ οὔ ποθ’ ὅστις ἀρτίφρων,

αἱ δ’ ἐνθυμηματικαὶ μέν, οὐκ ἐνθυμήματος δὲ μέρος· αἵπερ καὶ μάλιστ’ εὐδοκιμοῦσιν. εἰσὶν δ’ αὗται ἐν ὅσαις ἐμφαίνεται τοῦ λεγομένου τὸ αἴτιον, οἷον ἐν τῷ

ἀθάνατον ὀργὴν μὴ φύλασσε θνητὸς ὤν·

τὸ μὲν γὰρ φάναι “μὴ δεῖν φυλάττειν” γνώμη, τὸ δὲ προσκείμενον “θνητὸν ὄντα” τὸ διὰ τί. ὁμοίως δὲ καὶ

θνατὰ χρὴ τὸν θνατόν, οὐκ ἀθάνατα τὸν θνατὸν φρονεῖν.

φανερὸν οὖν ἐκ τῶν εἰρημένων πόσα τε εἴδη γνώμης, καὶ περὶ ποῖον ἕκαστον ἁρμόττει· περὶ μὲν γὰρ τῶν ἀμφισβητουμένων ἢ παραδόξων μὴ ἄνευ ἐπιλόγου, ἀλλ’ ἢ προθέντα τὸν ἐπίλογον γνώμῃ χρῆσθαι τῷ συμπεράσματι (οἷον εἴ τις εἴποι “ἐγὼ μὲν οὖν, ἐπειδὴ οὔτε φθονεῖσθαι δεῖ οὔτ’ ἀργὸν εἶναι, οὔ φημι χρῆναι παιδεύεσθαι”), ἢ τοῦτο προειπόντα ἐπειπεῖν τὰ ἔμπροσθεν· περὶ δὲ τῶν μὴ παραδόξων ἀδήλων δὲ προστιθέντα τὸ διότι στρογγυλώτατα. ἁρμόττει δ’ ἐν τοῖς τοιούτοις καὶ τὰ Λακωνικὰ ἀποφθέγματα καὶ τὰ αἰνιγματώδη, οἷον εἴ [1395a] τις λέγει ὅπερ Στησίχορος ἐν Λοκροῖς εἶπεν, ὅτι οὐ δεῖ ὑβριστὰς εἶναι, ὅπως μὴ οἱ τέττιγες χαμόθεν ᾄδωσιν.

ἁρμόττει δὲ γνωμολογεῖν ἡλικίᾳ μὲν πρεσβυτέρων, περὶ δὲ τούτων ὧν ἔμπειρός τίς ἐστιν, ὥστε τὸ μὲν μὴ τηλικοῦτον ὄντα γνωμολογεῖν ἀπρεπὲς ὥσπερ καὶ τὸ μυθολογεῖν, περὶ δὲ ὧν ἄπειρος, ἠλίθιον καὶ ἀπαίδευτον. σημεῖον δὲ ἱκανόν· οἱ γὰρ ἀγροῖκοι μάλιστα γνωμοτύποι εἰσὶ καὶ ῥᾳδίως ἀποφαίνονται.

καθόλου δὲ μὴ ὄντος καθόλου εἰπεῖν μάλιστα ἁρμόττει ἐν σχετλιασμῷ καὶ δεινώσει, καὶ ἐν τούτοις ἢ ἀρχόμενον ἢ ἀποδείξαντα. χρῆσθαι δὲ δεῖ καὶ ταῖς τεθρυλημέναις καὶ κοιναῖς γνώμαις, ἐὰν ὦσι χρήσιμοι· διὰ γὰρ τὸ εἶναι κοιναί, ὡς ὁμολογούντων πάντων, ὀρθῶς ἔχειν δοκοῦσιν, οἷον παρακαλοῦντι ἐπὶ τὸ κινδυνεύειν μὴ θυσαμένους

εἷς οἰωνὸς ἄριστος ἀμύνεσθαι περὶ πάτρης,

καὶ ἐπὶ τὸ ἥττους ὄντας

ξυνὸς Ἐνυάλιος,
καὶ ἐπὶ τὸ ἀναιρεῖν τῶν ἐχθρῶν τὰ τέκνα καὶ μηδὲν ἀδικοῦντα
νήπιος ὃς πατέρα κτείνας παῖδας καταλείπει.

ἔτι ἔνιαι τῶν παροιμιῶν καὶ γνῶμαί εἰσιν, οἷον παροιμία “Ἀττικὸς πάροικος”. δεῖ δὲ τὰς γνώμας λέγειν καὶ παρὰ τὰ δεδημοσιευμένα (λέγω δὲ δεδημοσιευμένα οἷον τὸ “γνῶθι σαυτὸν” καὶ τὸ “μηδὲν ἄγαν”), ὅταν ἢ τὸ ἦθος φαίνεσθαι μέλλῃ βέλτιον ἢ παθητικῶς εἰρημένη. ἔστι δὲ παθητικὴ μὲν οἷον εἴ τις ὀργιζόμενος φαίη ψεῦδος εἶναι ὡς δεῖ γιγνώσκειν αὑτόν· οὗτος γοῦν εἰ ἐγίγνωσκεν ἑαυτόν, οὐκ ἄν ποτε στρατηγεῖν ἠξίωσε· τὸ δὲ ἦθος βέλτιον, ὅτι οὐ δεῖ, ὥσπερ φασίν, φιλεῖν ὡς μισήσοντας, ἀλλὰ μᾶλλον μισεῖν ὡς φιλήσοντας. δεῖ δὲ τῇ λέξει τὴν προαίρεσιν συνδηλοῦν, εἰ δὲ μή, τὴν αἰτίαν ἐπιλέγειν, οἷον οὕτως εἰπόντα, ὅτι “δεῖ δὲ φιλεῖν οὐχ ὥσπερ φασίν, ἀλλ’ ὡς ἀεὶ φιλήσοντα· ἐπιβούλου γὰρ θάτερον”, ἢ ὧδε, “οὐκ ἀρέσκει δέ μοι τὸ λεγόμενον· δεῖ γὰρ τὸν ἀληθινὸν φίλον ὡς φιλήσοντα ἀεὶ φιλεῖν”, καὶ “οὐδὲ τὸ μηδὲν ἄγαν· δεῖ γὰρ τούς γε κακοὺς ἄγαν μισεῖν”.

[1395b] ἔχουσι δ’ εἰς τοὺς λόγους βοήθειαν μεγάλην μίαν μὲν διὰ τὴν φορτικότητα τῶν ἀκροατῶν· χαίρουσι γὰρ ἐάν τις καθόλου λέγων ἐπιτύχῃ τῶν δοξῶν ἃς ἐκεῖνοι κατὰ μέρος ἔχουσιν. ὃ δὲ λέγω δῆλον ἔσται ὧδε, ἅμα δὲ καὶ πῶς δεῖ αὐτὰς θηρεύειν. ἡ μὲν γὰρ γνώμη, ὥσπερ εἴρηται, ἀπόφανσις καθόλου ἐστίν, χαίρουσι δὲ καθόλου λεγομένου ὃ κατὰ μέρος προϋπολαμβάνοντες τυγχάνουσι· οἷον εἴ τις γείτοσι τύχοι κεχρημένος ἢ τέκνοις φαύλοις, ἀποδέξαιτ’ ἂν τοῦ εἰπόντος ὅτι οὐδὲν γειτονίας χαλεπώτερον ἢ ὅτι οὐδὲν ἠλιθιώτερον τεκνοποιίας, ὥστε δεῖ στοχάζεσθαι ποῖα τυγχάνουσι προϋπολαμβάνοντες, εἶθ’ οὕτως περὶ τούτων καθόλου λέγειν. ταύτην τε δὴ ἔχει μίαν χρῆσιν τὸ γνωμολογεῖν, καὶ ἑτέραν κρείττω· ἠθικοὺς γὰρ ποιεῖ τοὺς λόγους. ἦθος δὲ ἔχουσιν οἱ λόγοι ἐν ὅσοις δήλη ἡ προαίρεσις· αἱ δὲ γνῶμαι πᾶσαι τοῦτο ποιοῦσιν διὰ τὸ ἀποφαίνεσθαι τὸν τὴν γνώμην λέγοντα καθόλου περὶ τῶν προαιρέσεων, ὥστε, ἂν χρησταὶ ὦσιν αἱ γνῶμαι, καὶ χρηστοήθη φαίνεσθαι ποιοῦσι τὸν λέγοντα.

περὶ μὲν οὖν γνώμης, καὶ τί ἐστι καὶ πόσα εἴδη ταύτης καὶ πῶς χρηστέον αὐτῇ καὶ τίνα ὠφέλειαν ἔχει, εἰρήσθω ταῦτα.

Περὶ δ’ ἐνθυμημάτων καθόλου τε εἴπωμεν τίνα τρόπον δεῖ ζητεῖν, καὶ μετὰ ταῦτα τοὺς τόπους· ἄλλο γὰρ εἶδος ἑκάτερον τούτων ἐστίν. ὅτι μὲν οὖν τὸ ἐνθύμημα συλλογισμός ἐστιν, εἴρηται πρότερον, καὶ πῶς συλλογισμός, καὶ τί διαφέρει τῶν διαλεκτικῶν· οὔτε γὰρ πόρρωθεν οὔτε πάντα δεῖ λαμβάνοντας συνάγειν· τὸ μὲν γὰρ ἀσαφὲς διὰ τὸ μῆκος, τὸ δὲ ἀδολεσχία διὰ τὸ φανερὰ λέγειν. τοῦτο γὰρ αἴτιον καὶ τοῦ πιθανωτέρους εἶναι τοὺς ἀπαιδεύτους τῶν πεπαιδευμένων ἐν τοῖς ὄχλοις, ὥσπερ φασὶν οἱ ποιηταὶ τοὺς ἀπαιδεύτους παρ' ὄχλῳ μουσικωτέρως λέγειν· οἱ μὲν γὰρ τὰ κοινὰ καὶ καθόλου λέγουσιν, οἱ δ' ἐξ ὧν ἴσασι, καὶ τὰ ἐγγύς· ὥστ' οὐκ ἐξ ἁπάντων τῶν δοκούντων ἀλλ' ἐκ τῶν ὡρισμένων λεκτέον, οἷον ἢ τοῖς κρίνουσιν [1396a] ἢ οὓς ἀποδέχονται, καὶ τοῦτο διότι οὕτως φαίνεται δῆλον εἶναι ἅπασιν ἢ τοῖς πλείστοις· καὶ μὴ μόνον συνάγειν ἐκ τῶν ἀναγκαίων, ἀλλὰ καὶ ἐκ τῶν ὡς ἐπὶ τὸ πολύ.

πρῶτον μὲν οὖν δεῖ λαβεῖν ὅτι περὶ οὗ δεῖ λέγειν καὶ συλλογίζεσθαι εἴτε πολιτικῷ συλλογισμῷ εἴθ' ὁποιῳοῦν, ἀναγκαῖον κατὰ τούτου ἔχειν τὰ ὑπάρχοντα, ἢ πάντα ἢ ἔνια· μηδὲν γὰρ ἔχων ἐξ οὐδενὸς ἂν ἔχοις συνάγειν. λέγω δ' οἷον πῶς ἂν δυναίμεθα συμβουλεύειν Ἀθηναίοις εἰ πολεμητέον ἢ μὴ πολεμητέον, μὴ ἔχοντες τίς ἡ δύναμις αὐτῶν, πότερον ναυτικὴ ἢ πεζικὴ ἢ ἄμφω, καὶ αὕτη πόση, καὶ πρόσοδοι τίνες ἢ φίλοι καὶ ἐχθροί, εἶτα τίνας πολέμους πεπολεμήκασι καὶ πῶς, καὶ τἆλλα τὰ τοιαῦτα· ἢ ἐπαινεῖν, εἰ μὴ ἔχοιμεν τὴν ἐν Σαλαμῖνι ναυμαχίαν ἢ τὴν ἐν Μαραθῶνι μάχην ἢ τὰ ὑπὸ τῶν Ἡρακλειδῶν πραχθέντα ἢ ἄλλο τι τῶν τοιούτων. ἐκ γὰρ τῶν ὑπαρχόντων ἢ δοκούντων ὑπάρχειν καλῶν ἐπαινοῦσι πάντες. ὁμοίως δὲ καὶ ψέγουσιν ἐκ τῶν ἐναντίων, σκοποῦντες τί ὑπάρχει τοιοῦτον αὐτοῖς ἢ δοκεῖ ὑπάρχειν, οἷον ὅτι τοὺς Ἕλληνας κατεδουλώσαντο, καὶ τοὺς πρὸς τὸν βάρβαρον συμμαχεσαμένους καὶ ἀριστεύσαντας ἠνδραποδίσαντο, Αἰγινήτας καὶ Ποτιδαιάτας, καὶ ὅσα ἄλλα τοιαῦτα, [καὶ] εἴ τι ἄλλο τοιοῦτον ἁμάρτημα ὑπάρχει αὐτοῖς. ὡς δ' αὔτως καὶ οἱ κατηγοροῦντες καὶ οἱ ἀπολογούμενοι ἐκ τῶν ὑπαρχόντων σκοπούμενοι κατηγοροῦσι καὶ ἀπολογοῦνται.

οὐδὲν δὲ διαφέρει περὶ Ἀθηναίων ἢ Λακεδαιμονίων, ἢ ἀνθρώπου ἢ θεοῦ, τὸ αὐτὸ τοῦτο δρᾶν· καὶ γὰρ συμβουλεύοντα τῷ Ἀχιλλεῖ, καὶ ἐπαινοῦντα καὶ ψέγοντα, καὶ κατηγοροῦντα καὶ ἀπολογούμενον ὑπὲρ αὐτοῦ, τὰ ὑπάρχοντα ἢ δοκοῦντα ὑπάρχειν ληπτέον, ἵν' ἐκ τούτων λέγωμεν, ἐπαινοῦντες ἢ ψέγοντες εἴ τι καλὸν ἢ αἰσχρὸν ὑπάρχει, κατηγοροῦντες δ' ἢ ἀπολογούμενοι εἴ τι δίκαιον ἢ ἄδικον, συμβουλεύοντες δ' εἴ τι συμφέρον ἢ βλαβερόν. ὁμοίως δὲ τούτοις καὶ περὶ πράγματος ὁτουοῦν, οἷον περὶ δικαιοσύνης, εἰ ἀγαθὸν ἢ μὴ ἀγαθόν, ἐκ τῶν ὑπαρχόντων τῇ δικαιοσύνῃ καὶ τῷ ἀγαθῷ· ὥστ' ἐπειδὴ καὶ πάντες οὕτω φαίνονται ἀποδεικνύντες, ἐάν τε ἀκριβέστερον ἐάν τε μαλακώτερον συλλογίζωνται [1396b] (οὐ γὰρ ἐξ ἁπάντων λαμβάνουσιν ἀλλ' ἐκ τῶν περὶ ἕκαστον ὑπαρχόντων), καὶ διὰ τοῦ λόγου δῆλον ὅτι ἀδύνατον ἄλλως δεικνύναι, φανερὸν ὅτι ἀναγκαῖον, ὥσπερ ἐν τοῖς Τοπικοῖς, πρῶτον περὶ ἕκαστον ἔχειν ἐξειλεγμένα περὶ τῶν ἐνδεχομένων καὶ τῶν ἐπικαιροτάτων, περὶ δὲ τῶν ἐξ ὑπογυίου γιγνομένων ζητεῖν τὸν αὐτὸν τρόπον, ἀποβλέποντα μὴ εἰς ἀόριστα ἀλλ' εἰς τὰ ὑπάρχοντα περὶ ὧν ὁ λόγος, καὶ περιγράφοντα ὅ τι πλεῖστα καὶ ἐγγύτατα τοῦ πράγματος· ὅσῳ μὲν γὰρ ἂν πλείω ἔχῃ τῶν ὑπαρχόντων, τοσούτῳ ῥᾷον δεικνύναι, ὅσῳ δ' ἐγγύτερον, τοσούτῳ οἰκειότερα καὶ ἧττον κοινά. λέγω δὲ κοινὰ μὲν τὸ ἐπαινεῖν τὸν Ἀχιλλέα ὅτι ἄνθρωπος καὶ ὅτι τῶν ἡμιθέων καὶ ὅτι ἐπὶ τὸ Ἴλιον ἐστρατεύσατο· ταῦτα γὰρ καὶ ἄλλοις ὑπάρχει πολλοῖς, ὥστε οὐδὲν μᾶλλον ὁ τοιοῦτος τὸν Ἀχιλλέα ἐπαινεῖ ἢ Διομήδην· ἴδια δὲ ἃ μηδενὶ ἄλλῳ συμβέβηκεν ἢ τῷ Ἀχιλλεῖ, οἷον τὸ ἀποκτεῖναι τὸν Ἕκτορα τὸν ἄριστον τῶν Τρώων καὶ τὸν Κύκνον, ὃς ἐκώλυσεν ἅπαντας ἀποβαίνειν ἄτρωτος ὤν, καὶ ὅτι νεώτατος καὶ οὐκ ἔνορκος ὢν ἐστράτευσεν, καὶ ὅσα ἄλλα τοιαῦτα.

εἷς μὲν οὖν τρόπος τῆς ἐκλογῆς πρῶτος οὗτος ὁ τοπικός,

τὰ δὲ στοιχεῖα τῶν ἐνθυμημάτων λέγωμεν· στοιχεῖον δὲ λέγω καὶ τόπον ἐνθυμήματος τὸ αὐτό. πρῶτον δὲ εἴπωμεν περὶ ὧν ἀναγκαῖον εἰπεῖν πρῶτον. ἔστιν γὰρ τῶν ἐνθυμημάτων εἴδη δύο· τὰ μὲν γὰρ δεικτικά ἐστιν ὅτι ἔστιν ἢ οὐκ ἔστιν, τὰ δ' ἐλεγκτικά, καὶ διαφέρει ὥσπερ ἐν τοῖς διαλεκτικοῖς ἔλεγχος καὶ συλλογισμός. ἔστι δὲ τὸ μὲν δεικτικὸν ἐνθύμημα τὸ ἐξ ὁμολογουμένων συνάγειν, τὸ δὲ ἐλεγκτικὸν τὸ τὰ ἀνομολογούμενα συνάγειν.

σχεδὸν μὲν οὖν ἡμῖν περὶ ἕκαστον τῶν εἰδῶν τῶν χρησίμων καὶ ἀναγκαίων ἔχονται οἱ τόποι· ἐξειλεγμέναι γὰρ αἱ προτάσεις περὶ ἕκαστόν εἰσιν, ὥστε ἐξ ὧν δεῖ φέρειν τὰ ἐνθυμήματα τόπων περὶ ἀγαθοῦ ἢ κακοῦ, ἢ καλοῦ ἢ αἰσχροῦ, ἢ δικαίου ἢ ἀδίκου, καὶ περὶ τῶν ἠθῶν καὶ παθημάτων καὶ ἕξεων ὡσαύτως, εἰλημμένοι ἡμῖν ὑπάρχουσι πρότερον οἱ τόποι.

[1397a] ἔτι δὲ ἄλλον τρόπον καθόλου περὶ ἁπάντων λάβωμεν, καὶ λέγωμεν παρασημαινόμενοι τοὺς ἐλεγκτικοὺς καὶ τοὺς ἀποδεικτικούς, καὶ τοὺς τῶν φαινομένων ἐνθυμημάτων, οὐκ ὄντων δὲ ἐνθυμημάτων, ἐπεί περ οὐδὲ συλλογισμῶν. δηλωθέντων δὲ τούτων περὶ τῶν λύσεων καὶ ἐνστάσεων διορίσωμεν, πόθεν δεῖ πρὸς τὰ ἐνθυμήματα φέρειν.

Ἔστι δὲ εἷς μὲν τόπος τῶν δεικτικῶν ἐκ τῶν ἐναντίων· δεῖ γὰρ σκοπεῖν εἰ τῷ ἐναντίῳ τὸ ἐναντίον ὑπάρχει, ἀναιροῦντα μὲν εἰ μὴ ὑπάρχει, κατασκευάζοντα δὲ εἰ ὑπάρχει, οἷον ὅτι τὸ σωφρονεῖν ἀγαθόν· τὸ γὰρ ἀκολασταίνειν βλαβερόν. ἢ ὡς ἐν τῷ Μεσσηνιακῷ· "εἰ γὰρ ὁ πόλεμος αἴτιος τῶν παρόντων κακῶν, μετὰ τῆς εἰρήνης δεῖ ἐπανορθώσασθαι".

εἴ περ γὰρ οὐδὲ τοῖς κακῶς δεδρακόσιν
ἀκουσίως δίκαιον εἰς ὀργὴν πεσεῖν,

οὐδ’ ἂν ἀναγκασθείς τις εὖ δράσῃ τινά,
προσῆκον εἶναι τῷδ’ ὀφείλεσθαι χάριν.
ἀλλ’ εἴ περ ἔστιν ἐν βροτοῖς ψευδηγορεῖν
πιθανά, νομίζειν χρή σε καὶ τοὐναντίον,
ἄπιστ’ ἀληθῆ πολλὰ συμβαίνειν βροτοῖς.

ἄλλος ἐκ τῶν ὁμοίων πτώσεων· ὁμοίως γὰρ δεῖ ὑπάρχειν ἢ μὴ ὑπάρχειν, οἷον ὅτι τὸ δίκαιον οὐ πᾶν ἀγαθόν· καὶ γὰρ ἂν τὸ δικαίως, νῦν δ’ οὐχ αἱρετὸν τὸ δικαίως ἀποθανεῖν.

ἄλλος ἐκ τῶν πρὸς ἄλληλα· εἰ γὰρ θατέρῳ ὑπάρχει τὸ καλῶς ἢ δικαίως ποιῆσαι, θατέρῳ τὸ πεπονθέναι, καὶ εἰ ‹τὸ› κελεῦσαι, καὶ τὸ πεποιηκέναι, οἷον ὡς ὁ τελώνης Διομέδων περὶ τῶν τελῶν, “εἰ γὰρ μηδ’ ὑμῖν αἰσχρὸν τὸ πωλεῖν, οὐδ’ ἡμῖν τὸ ὠνεῖσθαι”. καὶ εἰ τῷ πεπονθότι τὸ καλῶς ἢ δικαίως ὑπάρχει, καὶ τῷ ποιήσαντι. ἔστι δ’ ἐν τούτῳ παραλογίσασθαι· εἰ γὰρ δικαίως ἔπαθέν τι, [δικαίως πέπονθεν,] ἀλλ’ ἴσως οὐχ ὑπὸ σοῦ· διὸ δεῖ σκοπεῖν χωρὶς εἰ ἄξιος ὁ παθὼν παθεῖν καὶ ὁ [1397b] ποιήσας ποιῆσαι, εἶτα χρῆσθαι ὁποτέρως ἁρμόττει· ἐνίοτε γὰρ διαφωνεῖ τὸ τοιοῦτον καὶ οὐδὲν κωλύει, ὥσπερ ἐν τῷ Ἀλκμαίωνι τῷ Θεοδέκτου “μητέρα δὲ τὴν σὴν οὔ τις ἐστύγει βροτῶν;” φησὶ δὲ ἀποκρινόμενος “ἀλλὰ διαλαβόντα χρὴ σκοπεῖν”· ἐρομένης δὲ τῆς Ἀλφεσιβοίας πῶς, ὑπολαβών φησιν

τὴν μὲν θανεῖν ἔκριναν, ἐμὲ δὲ μὴ κτανεῖν.

καὶ ἡ περὶ Δημοσθένους δίκη καὶ τῶν ἀποκτεινάντων Νικάνορα· ἐπεὶ γὰρ δικαίως ἐκρίθησαν ἀποκτεῖναι, δικαίως ἔδοξεν ἀποθανεῖν. καὶ περὶ τοῦ Θήβησιν ἀποθανόντος, περὶ οὗ κελεύει κρίνεσθαι εἰ δίκαιος ἦν ἀποθανεῖν, ὡς οὐκ ἄδικον ὂν τὸ ἀποκτεῖναι τὸν δικαίως ἀποθανόντα.

ἄλλος ἐκ τοῦ μᾶλλον καὶ ἧττον, οἷον “εἰ μηδ’ οἱ θεοὶ πάντα ἴσασιν, σχολῇ οἵ γε ἄνθρωποι”· τοῦτο γάρ ἐστιν “εἰ ᾧ μᾶλλον ἂν ὑπάρχοι μὴ ὑπάρχει, δῆλον ὅτι οὐδ’ ᾧ ἧττον”. τὸ δ’ ὅτι τοὺς πλησίον τύπτει ὅς γε καὶ τὸν πατέρα ἐκ τοῦ “εἰ τὸ ἧττον ‹ὑπάρχον› ὑπάρχει, καὶ τὸ μᾶλλον ὑπάρχει”· τοὺς γὰρ πατέρας ἧττον τύπτουσιν ἢ τοὺς πλησίον· ἢ δὴ οὕτως γε ἢ εἰ ᾧ μᾶλλον ὑπάρχει μὴ ὑπάρχει, ἢ εἰ ᾧ ἧττον ὑπάρχει ‹ὑπάρχει›, ὁπότερον δεῖ δεῖξαι, εἴθ’ ὅτι ὑπάρχει εἴθ’ ὅτι οὔ. ἔτι εἰ μήτε μᾶλλον μήτε ἧττον, ὅθεν εἴρηται

καὶ σὸς μὲν οἰκτρὸς παῖδας ἀπολέσας πατήρ·
Οἰνεὺς δ’ ἄρ’ οὐχὶ [τὸν Ἑλλάδος] κλεινὸν ἀπολέσας γόνον;

καὶ ὅτι, εἰ μηδὲ Θησεὺς ἠδίκησεν, οὐδ’ Ἀλέξανδρος, καὶ εἰ μηδ’ οἱ Τυνδαρίδαι, οὐδ’ Ἀλέξανδρος, καὶ εἰ Πάτροκλον Ἕκτωρ, καὶ Ἀχιλλέα Ἀλέξανδρος. καὶ εἰ μηδ’ ἄλλοι τεχνῖται φαῦλοι, οὐδ’ οἱ φιλόσοφοι. καὶ εἰ μηδ’ οἱ στρατηγοὶ φαῦλοι ὅτι θανατοῦνται πολλάκις, οὐδ’ οἱ σοφισταί. καὶ ὅτι “εἰ δεῖ τὸν ἰδιώτην τῆς ὑμετέρας δόξης ἐπιμελεῖσθαι, καὶ ὑμᾶς τῆς τῶν Ἑλλήνων”.

ἄλλος ἐκ τοῦ τὸν χρόνον σκοπεῖν, οἷον ὡς Ἰφικράτης ἐν τῇ πρὸς Ἁρμόδιον, ὅτι “εἰ πρὶν ποιῆσαι ἠξίουν τῆς εἰκόνος τυχεῖν ἐὰν ποιήσω, ἔδοτε ἄν· ποιήσαντι δ’ ἆρ’ οὐ δώσετε; μὴ τοίνυν μέλλοντες μὲν ὑπισχνεῖσθε, παθόντες δ’ ἀφαιρεῖσθε”. καὶ πάλιν πρὸς τὸ Θηβαίους διιέναι Φίλιππον εἰς [1398a] τὴν Ἀττικήν, ὅτι εἰ πρὶν βοηθῆσαι εἰς Φωκεῖς ἠξίου, ὑπέσχοντο ἄν· ἄτοπον οὖν εἰ διότι προεῖτο καὶ ἐπίστευσεν μὴ διήσουσιν.

ἄλλος ἐκ τῶν εἰρημένων καθ’ αὑτοῦ πρὸς τὸν εἰπόντα, οἷον ἐν τῷ Τεύκρῳ. διαφέρει δὲ ὁ τρόπος ᾧ ἐχρήσατο Ἰφικράτης πρὸς Ἀριστοφῶντα, ἐπερόμενος εἰ προδοίη ἂν τὰς ναῦς ἐπὶ χρήμασιν· οὐ φάσκοντος δέ, εἶτα εἶπεν “σὺ μὲν ὢν Ἀριστοφῶν οὐκ ἂν προδοίης, ἐγὼ δ’ ὢν Ἰφικράτης;” δεῖ δὲ ὑπάρχειν μᾶλλον ἂν δοκοῦντα ἀδικῆσαι ἐκεῖνον· εἰ δὲ μή, γελοῖον ἂν φανείη, ‹οἷον› εἰ πρὸς Ἀριστείδην κατηγοροῦντα τοῦτό τις [ἂν] εἴπειεν ἄλλος πρὸς ἀπιστίαν τοῦ κατηγόρου· ὅλως γὰρ βούλεται ὁ κατηγορῶν βελτίων εἶναι τοῦ φεύγοντος· τοῦτ’ οὖν ἐξελέγχειν δεῖ. καθόλου δὲ ἄτοπός ἐστιν, ὅταν τις ἐπιτιμᾷ ἄλλοις ἃ αὐτὸς ποιεῖ ἢ ποιήσειεν ἄν, ἢ προτρέπῃ ποιεῖν ἃ αὐτὸς μὴ ποιεῖ μηδὲ ποιήσειεν ἄν.

ἄλλος ἐξ ὁρισμοῦ, οἷον τί τὸ δαιμόνιόν ἐστιν· “ἆρα θεὸς ἢ θεοῦ ἔργον; καίτοι ὅστις οἴεται θεοῦ ἔργον εἶναι, τοῦτον ἀνάγκη οἴεσθαι καὶ θεοὺς εἶναι.” καὶ ὡς Ἰφικράτης, ὅτι γενναιότατος ὁ βέλτιστος· καὶ γὰρ Ἁρμοδίῳ καὶ Ἀριστογείτονι οὐδὲν πρότερον ὑπῆρχεν γενναῖον πρὶν γενναῖόν τι πρᾶξαι. καὶ ὅτι συγγενέστερος αὐτός· “τὰ γοῦν ἔργα συγγενέστερά ἐστι τὰ ἐμὰ τοῖς Ἁρμοδίου καὶ Ἀριστογείτονος ἢ τὰ σά”. καὶ ὡς ἐν τῷ Ἀλεξάνδρῳ ὅτι πάντες ἂν ὁμολογήσειαν τοὺς μὴ κοσμίους οὐχ ἑνὸς σώματος ἀγαπᾶν ἀπόλαυσιν. καὶ δι’ ὃ Σωκράτης οὐκ ἔφη βαδίζειν ὡς Ἀρχέλαον· ὕβριν γὰρ ἔφη εἶναι τὸ μὴ δύνασθαι ἀμύνασθαι ὁμοίως καὶ εὖ παθόντας ὥσπερ καὶ κακῶς. πάντες γὰρ οὗτοι ὁρισάμενοι καὶ λαβόντες τὸ τί ἐστι συλλογίζονται περὶ ὧν λέγουσιν.

ἄλλος ἐκ τοῦ ποσαχῶς, οἷον ἐν τοῖς Τοπικοῖς περὶ τοῦ ὀρθῶς.

ἄλλος ἐκ διαιρέσεως, οἷον εἰ πάντες τριῶν ἕνεκεν ἀδικοῦσιν (ἢ τοῦδε γὰρ ἕνεκα ἢ τοῦδε ἢ τοῦδε), καὶ διὰ μὲν τὰ δύο ἀδύνατον, διὰ δὲ τὸ τρίτον οὐδ’ αὐτοί φασιν.

ἄλλος ἐξ ἐπαγωγῆς, οἷον ἐκ τῆς Πεπαρηθίας, ὅτι περὶ [1398b] τῶν τέκνων αἱ γυναῖκες πανταχοῦ διορίζουσι τἀληθές· τοῦτο μὲν γὰρ Ἀθήνησι

Μαντίᾳ τῷ ῥήτορι ἀμφισβητοῦντι πρὸς τὸν υἱὸν ἀπέφηνεν ἡ μήτηρ, τοῦτο δὲ Θήβησιν Ἰσμηνίου καὶ Στίλβωνος ἀμφισβητούντων ἡ Δωδωνὶς ἀπέδειξεν Ἰσμηνίου τὸν υἱόν, καὶ διὰ τοῦτο Θετταλίσκον Ἰσμηνίου ἐνόμιζον. καὶ πάλιν ἐκ τοῦ Νόμου τοῦ Θεοδέκτου, "εἰ τοῖς κακῶς ἐπιμεληθεῖσι τῶν ἀλλοτρίων ἵππων οὐ παραδιδόασι τοὺς οἰκείους, οὐδὲ τοῖς ἀνατρέψασι τὰς ἀλλοτρίας ναῦς ‹τὰς οἰκείας›, οὐκοῦν εἰ ὁμοίως ἐφ' ἁπάντων, καὶ τοῖς κακῶς φυλάξασι τὴν ἀλλοτρίαν οὐ χρηστέον ἐστὶν εἰς τὴν οἰκείαν σωτηρίαν". καὶ ὡς Ἀλκιδάμας, ὅτι πάντες τοὺς σοφοὺς τιμῶσιν· "Πάριοι γοῦν Ἀρχίλοχον καίπερ βλάσφημον ὄντα τετιμήκασι, καὶ Χῖοι Ὅμηρον οὐκ ὄντα πολίτην, καὶ Μυτιληναῖοι Σαπφῶ καίπερ γυναῖκα οὖσαν, καὶ Λακεδαιμόνιοι Χίλωνα καὶ τῶν γερόντων ἐποίησαν ἥκιστα φιλόλογοι ὄντες, καὶ Ἰταλιῶται Πυθαγόραν, καὶ Λαμψακηνοὶ Ἀναξαγόραν ξένον ὄντα ἔθαψαν καὶ τιμῶσι ἔτι καὶ νῦν, καὶ Ἀθηναῖοι τοῖς Σόλωνος νόμοις χρησάμενοι εὐδαιμόνησαν καὶ Λακεδαιμόνιοι τοῖς Λυκούργου, καὶ Θήβησιν ἅμα οἱ προστάται φιλόσοφοι ἐγένοντο καὶ εὐδαιμόνησεν ἡ πόλις".

ἄλλος ἐκ κρίσεως περὶ τοῦ αὐτοῦ ἢ ὁμοίου ἢ ἐναντίου, μάλιστα μὲν εἰ πάντες καὶ ἀεί, εἰ δὲ μή, ἀλλ' οἵ γε πλεῖστοι, ἢ σοφοὶ ἢ πάντες ἢ οἱ πλεῖστοι, ἢ ἀγαθοί, ἢ εἰ αὐτοὶ οἱ κρίνοντες, ἢ οὓς ἀποδέχονται οἱ κρίνοντες, ἢ οἷς μὴ οἷόν τε ἐναντίον κρίνειν, οἷον τοῖς κυρίοις, ἢ οἷς μὴ καλὸν ἐναντίον κρίνειν, οἷον θεοῖς ἢ πατρὶ ἢ διδασκάλοις, ὥσπερ ὃ εἰς Μιξιδημίδην εἶπεν Αὐτοκλῆς, [εἰ] ταῖς μὲν σεμναῖς θεαῖς καλῶς εἶχεν ἐν Ἀρείῳ πάγῳ δοῦναι τὰ δίκαια, Μιξιδημίδῃ δ' οὔ. ἢ ὥσπερ Σαπφώ, ὅτι τὸ ἀποθνῄσκειν κακόν· οἱ θεοὶ γὰρ οὕτω κεκρίκασιν· ἀπέθνησκον γὰρ ἄν. ἢ ὥσπερ Ἀρίστιππος πρὸς Πλάτωνα ἐπαγγελτικώτερόν τι εἰπόντα, ὡς ᾤετο· "ἀλλὰ μὴν ὅ γ' ἑταῖρος ἡμῶν", ἔφη, "οὐθὲν τοιοῦτον", λέγων τὸν Σωκράτη, καὶ Ἡγησίπολις ἐν Δελφοῖς ἠρώτα τὸν θεόν, πρότερον κεχρημένος Ὀλυμπίασιν, εἰ αὐτῷ τὰ αὐτὰ δοκεῖ [1399a] ἅπερ τῷ πατρί, ὡς αἰσχρὸν ὂν τἀναντία εἰπεῖν, καὶ περὶ τῆς Ἑλένης ὡς Ἰσοκράτης ἔγραψεν ὅτι σπουδαία, εἴπερ Θησεὺς ἔκρινεν, καὶ περὶ Ἀλεξάνδρου, ὅτι αἱ θεαὶ προέκριναν, καὶ περὶ Εὐαγόρου, ὅτι σπουδαῖος, ὥσπερ Ἰσοκράτης φησίν· "Κόνων γοῦν δυστυχήσας, πάντας τοὺς ἄλλους παραλιπών, ὡς Εὐαγόραν ἦλθεν".

ἄλλος ἐκ τῶν μερῶν, ὥσπερ ἐν τοῖς Τοπικοῖς ποία κίνησις ἡ ψυχή· ἥδε γὰρ ἢ ἥδε. παράδειγμα ἐκ τοῦ Σωκράτους τοῦ Θεοδέκτου· "εἰς ποῖον ἱερὸν ἠσέβηκεν; τίνας θεῶν οὐ τετίμηκεν ὧν ἡ πόλις νομίζει;"

ἄλλος, ἐπειδὴ ἐπὶ τῶν πλείστων συμβαίνει ὥστε ἕπεσθαί τι τῷ αὐτῷ ἀγαθὸν καὶ κακόν, ἐκ τοῦ ἀκολουθοῦντος προτρέπειν ἢ ἀποτρέπειν, καὶ κατηγορεῖν ἢ ἀπολογεῖσθαι, καὶ ἐπαινεῖν ἢ ψέγειν, οἷον "τῇ παιδεύσει τὸ φθονεῖσθαι ἀκολουθεῖ κακὸν ‹ὄν›, τὸ δὲ σοφὸν εἶναι ἀγαθόν· οὐ τοίνυν δεῖ παιδεύεσθαι, φθονεῖσθαι γὰρ οὐ δεῖ· δεῖ μὲν οὖν παιδεύεσθαι, σοφὸν γὰρ εἶναι δεῖ". ὁ τόπος οὗτός ἐστιν ἡ Καλλίππου τέχνη, προσλαβοῦσα τὸ δυνατὸν καὶ τἆλλα ὡς εἴρηται.

ἄλλος, ὅταν περὶ δυοῖν καὶ ἀντικειμένοιν ἢ προτρέπειν ἢ ἀποτρέπειν δέῃ, [καὶ] τῷ πρότερον εἰρημένῳ τρόπῳ ἐπ' ἀμφοῖν χρῆσθαι. διαφέρει δέ, ὅτι ἐκεῖ μὲν τὰ τυχόντα ἀντιτίθεται, ἐνταῦθα δὲ τἀναντία· οἷον ἱέρεια οὐκ εἴα τὸν υἱὸν δημηγορεῖν· "ἐὰν μὲν γάρ", ἔφη, "τὰ δίκαια λέγῃς, οἱ ἄνθρωποί σε μισήσουσιν, ἐὰν δὲ τὰ ἄδικα, οἱ θεοί· δεῖ μὲν οὖν δημηγορεῖν· ἐὰν μὲν γὰρ τὰ δίκαια λέγῃς, οἱ θεοί σε φιλήσουσιν, ἐὰν δὲ τὰ ἄδικα, οἱ ἄνθρωποι". τοῦτο δ' ἐστὶ ταὐτὸ τῷ λεγομένῳ, τὸ ἕλος πρίασθαι καὶ τοὺς ἅλας· καὶ ἡ βλαίσωσις τοῦτο ἐστίν, ὅταν δυοῖν ἐναντίοιν ἑκατέρῳ ἀγαθὸν καὶ κακὸν ἕπηται, ἐναντία ἑκάτερα ἑκατέροις.

ἄλλος, ἐπειδὴ οὐ ταὐτὰ φανερῶς ἐπαινοῦσι καὶ ἀφανῶς, ἀλλὰ φανερῶς μὲν τὰ δίκαια καὶ τὰ καλὰ ἐπαινοῦσι μάλιστα, ἰδίᾳ δὲ τὰ συμφέροντα μᾶλλον βούλονται, ἐκ τούτων πειρᾶσθαι συνάγειν θάτερον· τῶν γὰρ παραδόξων οὗτος ὁ τόπος κυριώτατός ἐστιν.

ἄλλος ἐκ τοῦ ἀνάλογον ταῦτα συμβαίνειν, οἷον ὁ Ἰφικράτης, τὸν υἱὸν αὐτοῦ, νεώτερον ὄντα τῆς ἡλικίας, ὅτι μέγας ἦν λειτουργεῖν ἀναγκαζόντων, εἶπεν ὅτι εἰ τοὺς μεγάλους τῶν παίδων ἄνδρας νομίζουσι, τοὺς μικροὺς τῶν ἀνδρῶν [1399b] παῖδας εἶναι ψηφιοῦνται, καὶ Θεοδέκτης ἐν τῷ Νόμῳ, ὅτι "πολίτας μὲν ποιεῖσθε τοὺς μισθοφόρους, οἷον Στράβακα καὶ Χαρίδημον, διὰ τὴν ἐπιείκειαν· φυγάδας δ' οὐ ποιήσεσθε τοὺς ἐν τοῖς μισθοφόροις ἀνήκεστα διαπεπραγμένους;"

ἄλλος ἐκ τοῦ τὸ συμβαῖνον ἐὰν ᾖ ταὐτόν, ὅτι καὶ ἐξ ὧν συμβαίνει ταὐτά· οἷον Ξενοφάνης ἔλεγεν ὅτι ὁμοίως ἀσεβοῦσιν οἱ γενέσθαι φάσκοντες τοὺς θεοὺς τοῖς ἀποθανεῖν λέγουσιν· ἀμφοτέρως γὰρ συμβαίνει μὴ εἶναι τοὺς θεούς ποτε. καὶ ὅλως δὲ τὸ συμβαῖνον ἐξ ἑκάστου λαμβάνειν ὡς τὸ αὐτὸ ἀεί· "μέλλετε δὲ κρίνειν οὐ περὶ Ἰσοκράτους ἀλλὰ περὶ ἐπιτηδεύματος, εἰ χρὴ φιλοσοφεῖν". καὶ ὅτι τὸ διδόναι γῆν καὶ ὕδωρ δουλεύειν ἐστίν, καὶ τὸ μετέχειν τῆς κοινῆς εἰρήνης ποιεῖν τὸ προσταττόμενον. ληπτέον δ' ὁπότερον ἂν ᾖ χρήσιμον.

ἄλλος ἐκ τοῦ μὴ ταὐτὸ ἀεὶ αἱρεῖσθαι ὕστερον καὶ πρότερον, ἀλλ' ἀνάπαλιν, οἷον τόδε τὸ ἐνθύμημα, "ἢ φεύγοντες μὲν ἐμαχόμεθα ὅπως κατέλθωμεν, κατελθόντες δὲ φευξόμεθα ὅπως μὴ μαχώμεθα;" ὁτὲ μὲν γὰρ τὸ μένειν ἀντὶ τοῦ μάχεσθαι ᾑροῦντο, ὁτὲ δὲ τὸ μὴ μάχεσθαι ἀντὶ τοῦ μὴ μένειν.

ἄλλος τὸ οὗ ἕνεκ' ἂν εἴη ἢ γένοιτο, τούτου ἕνεκα φάναι εἶναι ἢ γεγενῆσθαι, οἷον εἰ δοίη [ἄν] τίς τινι ἵν' ἀφελόμενος λυπήσῃ, ὅθεν καὶ τοῦτ' εἴρηται,

πολλοῖς ὁ δαίμων οὐ κατ' εὔνοιαν φέρων
μεγάλα δίδωσιν εὐτυχήματ', ἀλλ' ἵνα
τὰς συμφορὰς λάβωσιν ἐπιφανεστέρας.

καὶ τὸ ἐκ τοῦ Μελεάγρου τοῦ Ἀντιφῶντος,

οὐχ ὡς κτάνωσι θῆρ', ὅπως δὲ μάρτυρες
ἀρετῆς γένωνται Μελεάγρῳ πρὸς Ἑλλάδα.

καὶ τὸ ἐκ τοῦ Αἴαντος τοῦ Θεοδέκτου, ὅτι ὁ Διομήδης προείλετο Ὀδυσσέα οὐ τιμῶν, ἀλλ' ἵνα ἥττων ᾖ ὁ ἀκολουθῶν· ἐνδέχεται γὰρ τούτου ἕνεκα ποιῆσαι.

ἄλλος, κοινὸς καὶ τοῖς ἀμφισβητοῦσιν καὶ τοῖς συμβουλεύουσι, σκοπεῖν τὰ προτρέποντα καὶ ἀποτρέποντα, καὶ ὧν ἕνεκα καὶ πράττουσι καὶ φεύγουσιν· ταῦτα γάρ ἐστιν ἃ ἐὰν μὲν ὑπάρχῃ δεῖ πράττειν, ἐὰν δὲ μὴ ὑπάρχῃ, μὴ πράττειν, οἷον, εἰ δυνατὸν καὶ ῥᾴδιον καὶ ὠφέλιμον ἢ αὐτῷ ἢ φίλοις ἢ βλαβερὸν ἐχθροῖς, κἂν ᾖ ἐπιζήμιον, εἰ ἐλάττων ἡ ζημία τοῦ πράγματος, καὶ προτρέπονται [δ'] ἐκ τούτων καὶ [1400a] ἀποτρέπονται ἐκ τῶν ἐναντίων. ἐκ δὲ τῶν αὐτῶν τούτων καὶ κατηγοροῦσι καὶ ἀπολογοῦνται· ἐκ μὲν τῶν ἀποτρεπόντων ἀπολογοῦνται, ἐκ δὲ τῶν προτρεπόντων κατηγοροῦσιν. ἔστι δ' ὁ τόπος οὗτος ὅλη τέχνη ἥ τε Παμφίλου καὶ ἡ Καλλίππου.

ἄλλος ἐκ τῶν δοκούντων μὲν γίγνεσθαι ἀπίστων δέ, ὅτι οὐκ ἂν ἔδοξαν, εἰ μὴ ἦν ἢ ἐγγὺς ἦν. καὶ ὅτι μᾶλλον· ἢ γὰρ τὰ ὄντα ἢ τὰ εἰκότα ὑπολαμβάνουσιν· εἰ οὖν ἄπιστον καὶ μὴ εἰκός, ἀληθὲς ἂν εἴη· οὐ γὰρ διά γε τὸ εἰκὸς καὶ πιθανὸν δοκεῖ οὕτως· οἷον Ἀνδροκλῆς ἔλεγεν ὁ Πιτθεὺς κατηγορῶν τοῦ νόμου, ἐπεὶ ἐθορύβησαν αὐτῷ εἰπόντι, "δέονται οἱ νόμοι νόμου τοῦ διορθώσοντος, καὶ γὰρ οἱ ἰχθύες ἁλός, καίτοι οὐκ εἰκὸς οὐδὲ πιθανὸν ἐν ἅλμῃ τρεφομένους δεῖσθαι ἁλός, καὶ τὰ στέμφυλα ἐλαίου, καίτοι ἄπιστον, ἐξ ὧν ἔλαιον γίγνεται, ταῦτα δεῖσθαι ἐλαίου". ἄλλος ἐλεγκτικός, τὸ τὰ ἀνομολογούμενα σκοπεῖν, εἴ τι ἀνομολογούμενον ἐκ τόπων καὶ χρόνων καὶ πράξεων καὶ λόγων, χωρὶς μὲν ἐπὶ τοῦ ἀμφισβητοῦντος, οἷον "καὶ φησὶ μὲν φιλεῖν ὑμᾶς, συνώμοσεν δὲ τοῖς τριάκοντα", χωρὶς δ' ἐπ' αὐτοῦ, "καὶ φησὶ μὲν εἶναί με φιλόδικον, οὐκ ἔχει δὲ ἀποδεῖξαι δεδικασμένον οὐδεμίαν δίκην", χωρὶς δ' ἐπ' αὐτοῦ καὶ τοῦ ἀμφισβητοῦντος, "καὶ οὗτος μὲν οὐ δεδάνεικε πώποτε οὐδέν, ἐγὼ δὲ καὶ πολλοὺς λέλυμαι ὑμῶν”.

ἄλλος τοῖς προδιαβεβλημένοις καὶ ἀνθρώποις καὶ πράγμασιν, ἢ δοκοῦσι, τὸ λέγειν τὴν αἰτίαν τοῦ παραδόξου· ἔστιν γάρ τι δι’ ὃ φαίνεται· οἷον, ὑποβεβλημένης τινὸς τὸν αὑτῆς υἱόν, διὰ τὸ ἀσπάζεσθαι ἐδόκει συνεῖναι τῷ μειρακίῳ, λεχθέντος δὲ τοῦ αἰτίου ἐλύθη ἡ διαβολή· καὶ οἷον ἐν τῷ Αἴαντι τῷ Θεοδέκτου Ὀδυσσεὺς λέγει πρὸς τὸν Αἴαντα διότι ἀνδρειότερος ὢν τοῦ Αἴαντος οὐ δοκεῖ.

ἄλλος ἀπὸ τοῦ αἰτίου, ἄν τε ὑπάρχῃ, ὅτι ἔστι, κἂν μὴ ὑπάρχῃ, ὅτι οὐκ ἔστιν· ἅμα γὰρ τὸ αἴτιον καὶ οὗ αἴτιον, καὶ ἄνευ αἰτίου οὐθὲν ἔστιν, οἷον Λεωδάμας ἀπολογούμενος ἔλεγε, κατηγορήσαντος Θρασυβούλου ὅτι ἦν στηλίτης γεγονὼς ἐν τῇ ἀκροπόλει, ἀλλ’ ἐκκέκοπται ἐπὶ τῶν τριάκοντα· οὐκ ἐνδέχεσθαι ἔφη· μᾶλλον γὰρ ἂν πιστεύειν αὐτῷ τοὺς τριάκοντα ἐγγεγραμμένης τῆς ἔχθρας πρὸς τὸν δῆμον.

ἄλλος, εἰ ἐνεδέχετο βέλτιον ἄλλως, ἢ ἐνδέχεται, ὧν ἢ συμβουλεύει ἢ πράττει ἢ πέπραχε σκοπεῖν· φανερὸν γὰρ ὅτι, [1400b] εἰ [μὴ] οὕτως ἔχει, οὐ πέπραχεν· οὐδεὶς γὰρ ἑκὼν τὰ φαῦλα καὶ γιγνώσκων προαιρεῖται. ἔστιν δὲ τοῦτο ψεῦδος· πολλάκις γὰρ ὕστερον γίγνεται δῆλον πῶς ἦν πρᾶξαι βέλτιον, πρότερον δὲ ἄδηλον.

ἄλλος, ὅταν τι ἐναντίον μέλλῃ πράττεσθαι τοῖς πεπραγμένοις, ἅμα σκοπεῖν, οἷον Ξενοφάνης Ἐλεάταις ἐρωτῶσιν εἰ θύωσι τῇ Λευκοθέᾳ καὶ θρηνῶσιν ἢ μή, συνεβούλευεν, εἰ μὲν θεὸν ὑπολαμβάνουσιν, μὴ θρηνεῖν, εἰ δ’ ἄνθρωπον, μὴ θύειν.

ἄλλος τόπος τὸ ἐκ τῶν ἁμαρτηθέντων κατηγορεῖν ἢ ἀπολογεῖσθαι, οἷον ἐν τῇ Καρκίνου Μηδείᾳ οἱ μὲν κατηγοροῦσιν ὅτι τοὺς παῖδας ἀπέκτεινεν, οὐ φαίνεσθαι γοῦν αὐτούς (ἥμαρτε γὰρ ἡ Μήδεια περὶ τὴν ἀποστολὴν τῶν παίδων), ἡ δ’ ἀπολογεῖται ὅτι οὐ [ἂν] τοὺς παῖδας ἀλλὰ τὸν Ἰάσονα ἂν ἀπέκτεινεν· τοῦτο γὰρ ἥμαρτεν ἂν μὴ ποιήσασα, εἴπερ καὶ θάτερον ἐποίησεν. ἔστι δ’ ὁ τόπος οὗτος τοῦ ἐνθυμήματος καὶ τὸ εἶδος ὅλη ἡ πρότερον Θεοδώρου τέχνη.

ἄλλος ἀπὸ τοῦ ὀνόματος, οἷον ὡς ὁ Σοφοκλῆς

σαφῶς σιδήρῳ καὶ φοροῦσα τοὔνομα,

καὶ ὡς ἐν τοῖς τῶν θεῶν ἐπαίνοις εἰώθασι λέγειν, καὶ ὡς Κόνων Θρασύβουλον θρασύβουλον ἐκάλει, καὶ Ἡρόδικος Θρασύμαχον “ἀεὶ θρασύμαχος εἶ”, καὶ Πῶλον “ἀεὶ σὺ πῶλος εἶ”, καὶ Δράκοντα τὸν νομοθέτην, ὅτι οὐκ [ἂν] ἀνθρώπου οἱ νόμοι ἀλλὰ δράκοντος (χαλεποὶ γάρ)· καὶ ὡς ἡ Εὐριπίδου Ἑκάβη εἰς τὴν Ἀφροδίτην “καὶ τοὔνομ’ ὀρθῶς ἀφροσύνης ἄρχει θεᾶς”, καὶ ὡς Χαιρήμων Πενθεὺς ἐσομένης συμφορᾶς ἐπώνυμος.

εὐδοκιμεῖ δὲ μᾶλλον τῶν ἐνθυμημάτων τὰ ἐλεγκτικὰ τῶν ἀποδεικτικῶν διὰ τὸ συναγωγὴν μὲν ἐναντίων εἶναι ἐν μικρῷ τὸ ἐλεγκτικὸν ἐνθύμημα, παρ' ἄλληλα δὲ φανερὰ εἶναι τῷ ἀκροατῇ μᾶλλον. πάντων δὲ καὶ τῶν ἐλεγκτικῶν καὶ τῶν δεικτικῶν συλλογισμῶν θορυβεῖται μάλιστα τὰ τοιαῦτα ὅσα ἀρχόμενα προορῶσι μὴ ἐπιπολῆς εἶναι (ἅμα γὰρ καὶ αὐτοὶ ἐφ' αὑτοῖς χαίρουσι προαισθανόμενοι), καὶ ὅσων τοσοῦτον ὑστερίζουσιν ὥσθ' ἅμα εἰρημένων γνωρίζειν.

Ἐπεὶ δ' ἐνδέχεται τὸν μὲν εἶναι συλλογισμόν, τὸν δὲ μὴ εἶναι μὲν φαίνεσθαι δέ, ἀνάγκη καὶ ἐνθύμημα τὸ μὲν εἶναι, τὸ δὲ μὴ εἶναι ἐνθύμημα φαίνεσθαι δέ, ἐπείπερ τὸ ἐνθύμημα συλλογισμός [1401a] τις. τόποι δ' εἰσὶ τῶν φαινομένων ἐνθυμημάτων εἷς μὲν ὁ παρὰ τὴν λέξιν, καὶ τούτου ἓν μὲν μέρος, ὥσπερ ἐν τοῖς διαλεκτικοῖς, τὸ μὴ συλλογισάμενον συμπερασματικῶς τὸ τελευταῖον εἰπεῖν, “οὐκ ἄρα τὸ καὶ τό, ἀνάγκη ἄρα τὸ καὶ τό”, ἐν τοῖς ἐνθυμήμασι τὸ συνεστραμμένως καὶ ἀντικειμένως εἰπεῖν φαίνεται ἐνθύμημα (ἡ γὰρ τοιαύτη λέξις χώρα ἐστὶν ἐνθυμήματος)· καὶ ἔοικε τὸ τοιοῦτον εἶναι παρὰ τὸ σχῆμα τῆς λέξεως. ἔστι δὲ εἰς τὸ τῇ λέξει συλλογιστικῶς λέγειν χρήσιμον τὸ συλλογισμῶν πολλῶν κεφάλαια λέγειν, ὅτι τοὺς μὲν ἔσωσε, τοῖς δ' ἑτέροις ἐτιμώρησε, τοὺς δ' Ἕλληνας ἠλευθέρωσε· ἕκαστον μὲν γὰρ τούτων ἐξ ἄλλων ἀπεδείχθη, συντεθέντων δὲ φαίνεται καὶ ἐκ τούτων τι γίγνεσθαι.

ἓν δὲ τὸ παρὰ τὴν ὁμωνυμίαν, τὸ φάναι σπουδαῖον εἶναι μῦν, ἀφ' οὗ γ' ἐστὶν ἡ τιμιωτάτη πασῶν τελετή· τὰ γὰρ μυστήρια πασῶν τιμιωτάτη τελετή. ἢ εἴ τις κύνα ἐγκωμιάζων τὸν ἐν τῷ οὐρανῷ συμπαραλαμβάνοι, ἢ τὸν Πᾶνα, ὅτι Πίνδαρος ἔφησεν

ὦ μάκαρ, ὅν τε μεγάλας θεοῦ κύνα παντοδαπὸν
καλέουσιν Ὀλύμπιοι,

ἢ ὅτι τὸ μηδένα εἶναι κύν' ἀτιμότατόν ἐστιν, ὥστε τὸ κύνα δῆλον ὅτι τίμιον. καὶ τὸ κοινωνικὸν φάναι τὸν Ἑρμῆν εἶναι μάλιστα τῶν θεῶν· μόνος γὰρ καλεῖται κοινὸς Ἑρμῆς. καὶ τὸ τὸν λόγον εἶναι σπουδαιότατον, ὅτι οἱ ἀγαθοὶ ἄνδρες οὐ χρημάτων ἀλλὰ λόγου εἰσὶν ἄξιοι· τὸ γὰρ λόγου ἄξιον οὐχ ἁπλῶς λέγεται. ἄλλος τὸ ‹τὸ› διῃρημένον συντιθέντα λέγειν ἢ τὸ συγκείμενον διαιροῦντα· ἐπεὶ γὰρ ταὐτὸν δοκεῖ εἶναι οὐκ ὂν ταὐτὸ πολλάκις, ὁπότερον χρησιμώτερον, τοῦτο δεῖ ποιεῖν. ἔστι δὲ τοῦτο Εὐθυδήμου λόγος, οἷον τὸ εἰδέναι ὅτι τριήρης ἐμ Πειραεῖ ἐστίν· ἕκαστον γὰρ οἶδεν. καὶ τὸν τὰ στοιχεῖα ἐπιστάμενον ὅτι τὸ ἔπος οἶδεν· τὸ γὰρ ἔπος τὸ αὐτό ἐστιν. καὶ ἐπεὶ τὸ δὶς τοσοῦτον νοσῶδες, μηδὲ τὸ ἓν φάναι ὑγιεινὸν εἶναι· ἄτοπον γὰρ εἰ τὰ δύο ἀγαθὰ ἓν κακόν ἐστιν. οὕτω μὲν οὖν ἐλεγκτικόν, ὧδε δὲ δεικτικόν· οὐ γάρ ἐστιν ἓν ἀγαθὸν δύο κακά· ὅλος δὲ ὁ τόπος παραλογιστικός. πάλιν τὸ Πολυκράτους εἰς Θρασύβουλον, ὅτι τριάκοντα τυράννους κατέλυσε· συντίθησι γάρ. ἢ τὸ ἐν τῷ Ὀρέστῃ τῷ Θεοδέκτου· ἐκ διαιρέσεως γάρ ἐστιν·

δίκαιόν ἐστιν, ἥτις ἂν κτείνῃ πόσιν,

ἀποθνῄσκειν ταύτην, καὶ τῷ πατρί γε τιμωρεῖν τὸν υἱόν, [1401b] οὐκοῦν καὶ ταῦτα ἃ πέπρακται· συντεθέντα γὰρ ἴσως οὐκέτι δίκαιον. εἴη δ᾽ ἂν καὶ παρὰ τὴν ἔλλειψιν· ἀφαιρεῖ γὰρ τὸ ὑπὸ τίνος.

ἄλλος δὲ τόπος τὸ δεινώσει κατασκευάζειν ἢ ἀνασκευάζειν· τοῦτο δ᾽ ἐστὶν ὅταν, μὴ δείξας ὅτι ἐποίησεν ‹μηδ᾽ ὅτι οὐκ ἐποίησεν›, αὐξήσῃ τὸ πρᾶγμα· ποιεῖ γὰρ φαίνεσθαι ἢ ὡς οὐ πεποίηκεν, ὅταν ὁ τὴν αἰτίαν ἔχων αὔξῃ, ἢ ὡς πεποίηκεν, ὅταν ὁ κατηγορῶν αὐξῇ. οὔκουν ἐστὶν ἐνθύμημα· παραλογίζεται γὰρ ὁ ἀκροατὴς ὅτι ἐποίησεν ἢ οὐκ ἐποίησεν, οὐ δεδειγμένου.

ἄλλος τὸ ἐκ σημείου· ἀσυλλόγιστον γὰρ καὶ τοῦτο· οἷον εἴ τις λέγοι “ταῖς πόλεσι συμφέρουσιν οἱ ἐρῶντες· ὁ γὰρ Ἁρμοδίου καὶ Ἀριστογείτονος ἔρως κατέλυσε τὸν τύραννον Ἵππαρχον”, ἢ εἴ τις λέγοι ὅτι κλέπτης Διονύσιος· πονηρὸς γάρ· ἀσυλλόγιστον γὰρ δὴ τοῦτο· οὐ γὰρ πᾶς πονηρὸς κλέπτης, ἀλλὰ κλέπτης πᾶς πονηρός.

ἄλλος διὰ τὸ συμβεβηκός, οἷον ὃ λέγει Πολυκράτης εἰς τοὺς μῦς, ὅτι ἐβοήθησαν διατραγόντες τὰς νευράς· ἢ εἴ τις φαίη τὸ ἐπὶ δεῖπνον κληθῆναι τιμιώτατον· διὰ γὰρ τὸ μὴ κληθῆναι ὁ Ἀχιλλεὺς ἐμήνισε τοῖς Ἀχαιοῖς ἐν Τενέδῳ· ὁ δ᾽ ὡς ἀτιμαζόμενος ἐμήνισεν, συνέβη δὲ τοῦτο διὰ τὸ μὴ κληθῆναι.

ἄλλος τὸ παρὰ τὸ ἑπόμενον, οἷον ἐν τῷ Ἀλεξάνδρῳ, ὅτι μεγαλόψυχος· ὑπεριδὼν γὰρ τὴν πολλῶν ὁμιλίαν ἐν τῇ Ἴδῃ διέτριβεν καθ᾽ αὑτόν· ὅτι γὰρ οἱ μεγαλόψυχοι τοιοῦτοι, καὶ οὗτος μεγαλόψυχος δόξειεν ἄν. καὶ ἐπεὶ καλλωπιστὴς καὶ νύκτωρ πλανᾶται, μοιχός· τοιοῦτοι γάρ. ὅμοιον δὲ καὶ ὅτι ἐν τοῖς ἱεροῖς οἱ πτωχοὶ καὶ ᾄδουσι καὶ ὀρχοῦνται, καὶ ὅτι τοῖς φυγάσιν ἔξεστιν οἰκεῖν ὅπου ἂν θέλωσιν· ὅτι γὰρ τοῖς δοκοῦσιν εὐδαιμονεῖν ὑπάρχει ταῦτα, καὶ οἷς ταῦτα ὑπάρχει δόξαιεν ἂν εὐδαιμονεῖν, διαφέρει δὲ τῷ πῶς· διὸ καὶ εἰς τὴν ἔλλειψιν ἐμπίπτει.

ἄλλος παρὰ τὸ ἀναίτιον ὡς αἴτιον, οἷον τῷ ἅμα ἢ μετὰ τοῦτο γεγονέναι· τὸ γὰρ μετὰ τοῦτο ὡς διὰ τοῦτο λαμβάνουσιν, καὶ μάλιστα οἱ ἐν ταῖς πολιτείαις, οἷον ὡς ὁ Δημάδης τὴν Δημοσθένους πολιτείαν πάντων τῶν κακῶν αἰτίαν· μετ᾽ ἐκείνην γὰρ συνέβη ὁ πόλεμος.

ἄλλος παρὰ τὴν ἔλλειψιν τοῦ πότε καὶ πῶς, οἷον ὅτι δικαίως Ἀλέξανδρος ἔλαβε τὴν Ἑλένην· αἵρεσις γὰρ αὐτῇ ἐδόθη παρὰ τοῦ πατρός. οὐ γὰρ ἀεὶ ἴσως, ἀλλὰ τὸ [1402a] πρῶτον· καὶ γὰρ ὁ πατὴρ μέχρι τούτου κύριος. ἢ εἴ τις φαίη τὸ τύπτειν τοὺς ἐλευθέρους ὕβριν εἶναι· οὐ γὰρ πάντως, ἀλλ' ὅταν ἄρχῃ χειρῶν ἀδίκων.

ἔτι ὥσπερ ἐν τοῖς ἐριστικοῖς παρὰ τὸ ἁπλῶς καὶ μὴ ἁπλῶς, ἀλλὰ τί, γίγνεται φαινόμενος συλλογισμός, οἷον ἐν μὲν τοῖς διαλεκτικοῖς ὅτι ἔστι τὸ μὴ ὄν [ὄν], ἔστι γὰρ τὸ μὴ ὂν μὴ ὄν, καὶ ὅτι ἐπιστητὸν τὸ ἄγνωστον, ἔστιν γὰρ ἐπιστητὸν τὸ ἄγνωστον ὅτι ἄγνωστον, οὕτως καὶ ἐν τοῖς ῥητορικοῖς ἐστιν φαινόμενον ἐνθύμημα παρὰ τὸ μὴ ἁπλῶς εἰκὸς ἀλλὰ τὶ εἰκός. ἔστιν δὲ τοῦτο οὐ καθόλου, ὥσπερ καὶ Ἀγάθων λέγει

τάχ' ἄν τις εἰκὸς αὐτὸ τοῦτ' εἶναι λέγοι,
βροτοῖσι πολλὰ τυγχάνειν οὐκ εἰκότα.

γίγνεται γὰρ τὸ παρὰ τὸ εἰκός, ὥστε εἰκὸς καὶ τὸ παρὰ τὸ εἰκός, εἰ δὲ τοῦτο, ἔσται τὸ μὴ εἰκὸς εἰκός. ἀλλ' οὐχ ἁπλῶς, ἀλλ' ὥσπερ καὶ ἐπὶ τῶν ἐριστικῶν τὸ κατὰ τί καὶ πρὸς τί καὶ πῇ οὐ προστιθέμενα ποιεῖ τὴν συκοφαντίαν, καὶ ἐνταῦθα παρὰ τὸ εἰκὸς εἶναι μὴ ἁπλῶς ἀλλὰ τὶ εἰκός. ἔστι δ' ἐκ τούτου τοῦ τόπου ἡ Κόρακος τέχνη συγκειμένη· "ἄν τε γὰρ μὴ ἔνοχος ᾖ τῇ αἰτίᾳ, οἷον ἀσθενὴς ὢν αἰκίας φεύγει (οὐ γὰρ εἰκός), κἂν ἔνοχος ᾖ, οἷον ἰσχυρὸς ὤν (οὐ γὰρ εἰκός, ὅτι εἰκὸς ἔμελλε δόξειν)". ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· ἢ γὰρ ἔνοχον ἀνάγκη ἢ μὴ ἔνοχον εἶναι τῇ αἰτίᾳ· φαίνεται μὲν οὖν ἀμφότερα εἰκότα, ἔστι δὲ τὸ μὲν εἰκός, τὸ δὲ οὐχ ἁπλῶς ἀλλ' ὥσπερ εἴρηται· καὶ τὸ τὸν ἥττω δὲ λόγον κρείττω ποιεῖν τοῦτ' ἔστιν. καὶ ἐντεῦθεν δικαίως ἐδυσχέραινον οἱ ἄνθρωποι τὸ Πρωταγόρου ἐπάγγελμα· ψεῦδός τε γάρ ἐστιν, καὶ οὐκ ἀληθὲς ἀλλὰ φαινόμενον εἰκός, καὶ ἐν οὐδεμιᾷ τέχνῃ ἀλλ' ‹ἢ› ἐν ῥητορικῇ καὶ ἐριστικῇ.

Καὶ περὶ μὲν ἐνθυμημάτων, καὶ τῶν ὄντων καὶ τῶν φαινομένων, εἴρηται, περὶ δὲ λύσεως ἐχόμενόν ἐστιν τῶν εἰρημένων εἰπεῖν. ἔστιν δὲ λύειν ἢ ἀντισυλλογισάμενον ἢ ἔνστασιν ἐνεγκόντα. τὸ μὲν οὖν ἀντισυλλογίζεσθαι δῆλον ὅτι ἐκ τῶν αὐτῶν τόπων ἐνδέχεται ποιεῖν· οἱ μὲν γὰρ συλλογισμοὶ ἐκ τῶν ἐνδόξων, δοκοῦντα δὲ πολλὰ ἐναντία ἀλλήλοις ἐστίν· αἱ δ' ἐνστάσεις φέρονται καθάπερ καὶ ἐν τοῖς Τοπικοῖς, τετραχῶς· ἢ γὰρ ἐξ ἑαυτοῦ ἢ ἐκ τοῦ ὁμοίου ἢ ἐκ τοῦ ἐναντίου ἢ ἐκ τῶν κεκριμένων.

λέγω δὲ ἀφ' ἑαυτοῦ μέν, οἷον εἰ περὶ ἔρωτος εἴη [1402b] τὸ ἐνθύμημα ὡς σπουδαῖος, ἡ ἔνστασις διχῶς· ἢ γὰρ καθόλου εἰπόντα ὅτι πᾶσα ἔνδεια πονηρόν, ἢ κατὰ μέρος ὅτι οὐκ ἂν ἐλέγετο Καύνιος ἔρως, εἰ μὴ ἦσαν καὶ πονηροὶ ἔρωτες.

ἀπὸ δὲ τοῦ ἐναντίου ἔνστασις φέρεται, οἷον, εἰ τὸ ἐνθύμημα ἦν ὅτι ὁ ἀγαθὸς ἀνὴρ πάντας τοὺς φίλους εὖ ποιεῖ, ‹ὅτι› ἀλλ’ οὐδ’ ὁ μοχθηρὸς κακῶς.

ἀπὸ δὲ τοῦ ὁμοίου, οἷον, εἰ ἦν τὸ ἐνθύμημα ὅτι οἱ κακῶς πεπονθότες ἀεὶ μισοῦσιν, ὅτι ἀλλ’ οὐδ’ οἱ εὖ πεπονθότες ἀεὶ φιλοῦσιν.

αἱ δὲ κρίσεις αἱ ἀπὸ τῶν γνωρίμων ἀνδρῶν, οἷον εἴ τις ἐνθύμημα εἶπεν ὅτι τοῖς μεθύουσι δεῖ συγγνώμην ἔχειν, ἀγνοοῦντες γὰρ ἁμαρτάνουσιν, ἔνστασις ὅτι οὔκουν ὁ Πιττακὸς αἰνετός· οὐ γὰρ ἂν μείζους ζημίας ἐνομοθέτησεν ἐάν τις μεθύων ἁμαρτάνῃ.

ἐπεὶ δὲ τὰ ἐνθυμήματα λέγεται ἐκ τεττάρων, τὰ δὲ τέτταρα ταῦτ’ ἐστίν, εἰκὸς παράδειγμα τεκμήριον σημεῖον, ἔστι δὲ τὰ μὲν ἐκ τῶν ὡς ἐπὶ τὸ πολὺ ἢ ὄντων ἢ δοκούντων συνηγμένα ἐνθυμήματα ἐκ τῶν εἰκότων, τὰ δὲ δι’ ἐπαγωγῆς ἐκ τοῦ ὁμοίου, ἢ ἑνὸς ἢ πλειόνων, ὅταν λαβὼν τὸ καθόλου εἶτα συλλογίσηται τὰ κατὰ μέρος, διὰ παραδείγματος, τὰ δὲ διὰ ἀναγκαίου καὶ ‹ἀεὶ› ὄντος διὰ τεκμηρίου, τὰ δὲ διὰ τοῦ καθόλου [ἢ] τοῦ ἐν μέρει ὄντος, ἐάν τε ὂν ἐάν τε μή, διὰ σημείων, τὸ δὲ εἰκὸς οὐ τὸ ἀεὶ ἀλλὰ τὸ ὡς ἐπὶ τὸ πολύ, φανερὸν ὅτι τὰ τοιαῦτα μὲν τῶν ἐνθυμημάτων ἀεὶ ἔστι λύειν φέροντα ἔνστασιν, ἡ δὲ λύσις φαινομένη ἀλλ’ οὐκ ἀληθὴς ἀεί· οὐ γὰρ ὅτι οὐκ εἰκός λύει ὁ ἐνιστάμενος, ἀλλ’ ὅτι οὐκ ἀναγκαῖον· διὸ καὶ ἀεὶ ἔστι πλεονεκτεῖν ἀπολογούμενον μᾶλλον ἢ κατηγοροῦντα διὰ τοῦτον τὸν παραλογισμόν· ἐπεὶ γὰρ ὁ μὲν κατηγορῶν διὰ εἰκότων ἀποδείκνυσιν, ἔστι δὲ οὐ ταὐτὸ λῦσαι ἢ ὅτι οὐκ εἰκὸς ἢ ὅτι οὐκ ἀναγκαῖον, ἀεὶ δ’ ἔχει ἔνστασιν τὸ ὡς ἐπὶ τὸ πολύ (οὐ γὰρ ἂν ᾖ ἅμ’ ἀεὶ εἰκός, ἀεὶ καὶ ἀναγκαῖον), ὁ δὲ κριτὴς οἴεται, ἂν οὕτω λυθῇ, ἢ οὐκ εἰκὸς εἶναι ἢ οὐχ αὑτῷ κριτέον, παραλογιζόμενος, ὥσπερ ἐλέγομεν (οὐ γὰρ ἐκ τῶν ἀναγκαίων δεῖ αὐτὸν μόνον κρίνειν, ἀλλὰ καὶ ἐκ τῶν εἰκότων· τοῦτο γάρ ἐστι τὸ γνώμῃ τῇ ἀρίστῃ κρίνειν), οὔκουν ἱκανὸν ἂν λύσῃ ὅτι οὐκ ἀναγκαῖον, ἀλλὰ δεῖ λύειν ὅτι οὐκ εἰκός. τοῦτο δὲ συμβήσεται ἐὰν ᾖ ἡ ἔνστασις μᾶλλον ὡς ἐπὶ τὸ πολύ. ἐνδέχεται δὲ εἶναι τοιαύτην διχῶς, ἢ τῷ χρόνῳ ἢ τοῖς πράγμασιν, κυριώτατα δὲ εἰ ἀμφοῖν· εἰ γὰρ τὰ ‹πλείω καὶ› [1403a] πλεονάκις οὕτως, τοῦτ’ ἐστὶν εἰκὸς μᾶλλον.

λύεται δὲ καὶ τὰ σημεῖα καὶ τὰ διὰ σημείου ἐνθυμήματα εἰρημένα, κἂν ᾖ ὑπάρχοντα, ὥσπερ ἐλέχθη ἐν τοῖς πρώτοις· ὅτι γὰρ ἀσυλλόγιστόν ἐστιν πᾶν σημεῖον, δῆλον ἡμῖν ἐκ τῶν Ἀναλυτικῶν.

πρὸς δὲ τὰ παραδειγματώδη ἡ αὐτὴ λύσις καὶ τὰ εἰκότα· ἐάν τε γὰρ ἔχωμεν ‹ἕν› τι οὐχ οὕτω, λέλυται, ὅτι οὐκ ἀναγκαῖον, εἰ καὶ τὰ πλείω ἢ πλεονάκις ἄλλως, ἐάν τε καὶ τὰ πλείω καὶ τὰ πλεονάκις οὕτω, μαχετέον ἢ ὅτι τὸ παρὸν οὐχ ὅμοιον ἢ οὐχ ὁμοίως, ἢ διαφοράν γέ τινα ἔχει.

τὰ δὲ τεκμήρια καὶ τεκμηριώδη ἐνθυμήματα κατὰ μὲν τὸ ἀσυλλόγιστον οὐκ ἔσται λῦσαι (δῆλον δὲ καὶ τοῦθ’ ἡμῖν ἐκ τῶν Ἀναλυτικῶν), λείπεται δ’ ὡς οὐχ ὑπάρχει τὸ λεγόμενον δεικνύναι. εἰ δὲ φανερὸν καὶ ὅτι ὑπάρχει καὶ ὅτι τεκμήριον, ἄλυτον ἤδη γίγνεται τοῦτο· πάντα γὰρ γίγνεται ἀπόδειξις ἤδη φανερά.

Τὸ δ’ αὔξειν καὶ μειοῦν οὐκ ἔστιν ἐνθυμήματος στοιχεῖον· τὸ γὰρ αὐτὸ λέγω στοιχεῖον καὶ τόπον· ἔστιν γὰρ στοιχεῖον καὶ τόπος εἰς ὃ πολλὰ ἐνθυμήματα ἐμπίπτει. τὸ δ’ αὔξειν καὶ μειοῦν ἐστὶν ἐνθυμήματα πρὸς τὸ δεῖξαι ὅτι μέγα ἢ μικρόν, ὥσπερ καὶ ὅτι ἀγαθὸν ἢ κακόν, ἢ δίκαιον ἢ ἄδικον, καὶ τῶν ἄλλων ὁτιοῦν. ταῦτα δ’ ἐστὶν πάντα περὶ ἃ οἱ συλλογισμοὶ καὶ τὰ ἐνθυμήματα, ὥστ’ εἰ μηδὲ τούτων ἕκαστον ἐνθυμήματος τόπος, οὐδὲ τὸ αὔξειν καὶ μειοῦν. οὐδὲ τὰ λυτικὰ ἐνθυμήματος εἶδός τί ἐστιν [ἄλλο τῶν κατασκευαστικῶν]· δῆλον γὰρ ὅτι λύει μὲν ἢ δείξας ἢ ἔνστασιν ἐνεγκών, ἀνταποδείκνυσι δὲ τὸ ἀντικείμενον, οἷον εἰ ἔδειξε ὅτι γέγονεν, οὗτος ὅτι οὐ γέγονεν, εἰ δὲ ὅτι οὐ γέγονεν, οὗτος ὅτι γέγονεν· ὥστε αὕτη μὲν οὐκ ἂν εἴη [ἡ] διαφορά (τοῖς αὐτοῖς γὰρ χρῶνται ἀμφότεροι· ὅτι γὰρ οὐκ ἔστιν ἢ ἔστιν, ἐνθυμήματα φέρουσιν)· ἡ δ’ ἔνστασις οὐκ ἔστιν ἐνθύμημα, ἀλλά, καθάπερ ἐν τοῖς Τοπικοῖς, τὸ εἰπεῖν δόξαν τινὰ ἐξ ἧς ἔσται δῆλον ὅτι οὐ συλλελόγισται ἢ ὅτι ψεῦδός τι εἴληφεν.

ἐπεὶ δὲ τρία ἔστιν ἃ δεῖ πραγματευθῆναι περὶ τὸν λόγον, ὑπὲρ μὲν παραδειγμάτων καὶ γνωμῶν καὶ ἐνθυμημάτων καὶ [1403b] ὅλως τῶν περὶ τὴν διάνοιαν, ὅθεν τε εὐπορήσομεν καὶ ὡς αὐτὰ λύσομεν, εἰρήσθω ἡμῖν τοσαῦτα, λοιπὸν δὲ διελθεῖν περὶ λέξεως καὶ τάξεως.

Γ

Ἐπειδὴ τρία ἐστὶν ἃ δεῖ πραγματευθῆναι περὶ τὸν λόγον, ἓν μὲν ἐκ τίνων αἱ πίστεις ἔσονται, δεύτερον δὲ περὶ τὴν λέξιν, τρίτον δὲ πῶς χρὴ τάξαι τὰ μέρη τοῦ λόγου, περὶ μὲν τῶν πίστεων εἴρηται, καὶ ἐκ πόσων, ὅτι ἐκ τριῶν εἰσί, καὶ ταῦτα ποῖα, καὶ διὰ τί τοσαῦτα μόνα (ἢ γὰρ τῷ αὐτοί τι πεπονθέναι οἱ κρίνοντες, ἢ τῷ ποιούς τινας ὑπολαμβάνειν τοὺς λέγοντας, ἢ τῷ ἀποδεδεῖχθαι, πείθονται πάντες), εἴρηται δὲ καὶ τὰ ἐνθυμήματα, πόθεν δεῖ πορίζεσθαι (ἔστι γὰρ τὰ μὲν εἴδη τῶν ἐνθυμημάτων, τὰ δὲ τόποι)· περὶ δὲ τῆς λέξεως ἐχόμενόν ἐστιν εἰπεῖν· οὐ γὰρ ἀπόχρη τὸ ἔχειν ἃ δεῖ λέγειν, ἀλλ’ ἀνάγκη καὶ ταῦτα ὡς δεῖ εἰπεῖν, καὶ συμβάλλεται πολλὰ πρὸς τὸ φανῆναι ποιόν τινα τὸν λόγον. τὸ μὲν οὖν πρῶτον ἐζητήθη κατὰ φύσιν ὅπερ πέφυκε πρῶτον, αὐτὰ τὰ πράγματα ἐκ τίνων ἔχει τὸ πιθανόν, δεύτερον δὲ τὸ ταῦτα τῇ λέξει διαθέσθαι, τρίτον δὲ τούτων ὃ δύναμιν μὲν ἔχει μεγίστην, οὔπω δ’ ἐπικεχείρηται, τὰ περὶ τὴν ὑπόκρισιν. καὶ γὰρ εἰς τὴν τραγικὴν καὶ ῥαψῳδίαν ὀψὲ παρῆλθεν· ὑπεκρίνοντο γὰρ αὐτοὶ τὰς τραγῳδίας οἱ ποιηταὶ τὸ πρῶτον. δῆλον οὖν ὅτι καὶ περὶ τὴν ῥητορικήν ἐστι τὸ τοιοῦτον ὥσπερ καὶ περὶ τὴν ποιητικήν, ὅπερ ἕτεροί ‹τέ› τινες ἐπραγματεύθησαν καὶ Γλαύκων ὁ Τήιος. ἔστιν δὲ αὕτη μὲν ἐν τῇ φωνῇ, πῶς αὐτῇ δεῖ χρῆσθαι πρὸς ἕκαστον πάθος, οἷον πότε μεγάλῃ καὶ πότε μικρᾷ καὶ μέσῃ, καὶ πῶς τοῖς τόνοις, οἷον ὀξείᾳ καὶ βαρείᾳ καὶ μέσῃ, καὶ ῥυθμοῖς τίσι πρὸς ἕκαστα. τρία γάρ ἐστιν περὶ ἃ σκοποῦσιν· ταῦτα δ’ ἐστὶ μέγεθος ἁρμονία ῥυθμός. τὰ μὲν οὖν ἆθλα σχεδὸν ἐκ τῶν ἀγώνων οὗτοι λαμβάνουσιν, καὶ καθάπερ ἐκεῖ μεῖζον δύνανται νῦν τῶν ποιητῶν οἱ ὑποκριταί, καὶ κατὰ τοὺς πολιτικοὺς ἀγῶνας, διὰ τὴν μοχθηρίαν τῶν πολιτῶν. οὔπω δὲ σύγκειται τέχνη περὶ αὐτῶν, ἐπεὶ καὶ τὸ περὶ τὴν λέξιν ὀψὲ προῆλθεν· καὶ δοκεῖ φορτικὸν εἶναι, [1404a] καλῶς ὑπολαμβανόμενον. ἀλλ’ ὅλης οὔσης πρὸς δόξαν τῆς πραγματείας τῆς περὶ τὴν ῥητορικήν, οὐχ ὡς ὀρθῶς ἔχοντος ἀλλ’ ὡς ἀναγκαίου τὴν ἐπιμέλειαν ποιητέον, ἐπεὶ τό γε δίκαιόν ‹ἐστι› μηδὲν πλέον ζητεῖν περὶ τὸν λόγον ἢ ὥστε μήτε λυπεῖν μήτ’ εὐφραίνειν· δίκαιον γὰρ αὐτοῖς ἀγωνίζεσθαι τοῖς πράγμασιν, ὥστε τἆλλα ἔξω τοῦ ἀποδεῖξαι περίεργα ἐστίν· ἀλλ’ ὅμως μέγα δύναται, καθάπερ εἴρηται, διὰ τὴν τοῦ ἀκροατοῦ μοχθηρίαν. τὸ μὲν οὖν τῆς λέξεως ὅμως ἔχει τι μικρὸν ἀναγκαῖον ἐν πάσῃ διδασκαλίᾳ· διαφέρει γάρ τι πρὸς τὸ δηλῶσαι ὡδὶ ἢ ὡδὶ εἰπεῖν, οὐ μέντοι τοσοῦτον, ἀλλ’ ἅπαντα φαντασία ταῦτ’ ἐστί, καὶ πρὸς τὸν ἀκροατήν· διὸ οὐδεὶς οὕτω γεωμετρεῖν διδάσκει. ἐκείνη μὲν οὖν ὅταν ἔλθῃ ταὐτὸ ποιήσει τῇ ὑποκριτικῇ, ἐγκεχειρήκασιν δὲ ἐπ’ ὀλίγον περὶ αὐτῆς εἰπεῖν τινές, οἷον Θρασύμαχος ἐν τοῖς Ἐλέοις· καὶ ἔστιν φύσεως τὸ ὑποκριτικὸν εἶναι, καὶ ἀτεχνότερον, περὶ δὲ τὴν λέξιν ἔντεχνον. διὸ καὶ τοῖς τοῦτο δυναμένοις γίνεται πάλιν ἆθλα, καθάπερ καὶ τοῖς κατὰ τὴν ὑπόκρισιν ῥήτορσιν· οἱ γὰρ γραφόμενοι λόγοι μεῖζον ἰσχύουσι διὰ τὴν λέξιν ἢ διὰ τὴν διάνοιαν.

ἤρξαντο μὲν οὖν κινῆσαι τὸ πρῶτον, ὥσπερ πέφυκεν, οἱ ποιηταί· τὰ γὰρ ὀνόματα μιμήματα ἐστίν, ὑπῆρξεν δὲ καὶ ἡ φωνὴ πάντων μιμητικώτατον τῶν μορίων ἡμῖν· διὸ καὶ αἱ τέχναι συνέστησαν ἥ τε ῥαψῳδία καὶ ἡ ὑποκριτικὴ καὶ ἄλλαι γε. ἐπεὶ δ’ οἱ ποιηταί, λέγοντες εὐήθη, διὰ τὴν λέξιν ἐδόκουν πορίσασθαι τὴν δόξαν, διὰ τοῦτο ποιητικὴ πρώτη ἐγένετο λέξις, οἷον ἡ Γοργίου, καὶ νῦν ἔτι οἱ πολλοὶ τῶν ἀπαιδεύτων τοὺς τοιούτους οἴονται διαλέγεσθαι κάλλιστα. τοῦτο δ’ οὐκ ἔστιν, ἀλλ’ ἑτέρα λόγου καὶ ποιήσεως λέξις ἐστίν. δηλοῖ δὲ τὸ συμβαῖνον· οὐδὲ γὰρ οἱ τὰς τραγῳδίας ποιοῦντες ἔτι χρῶνται τὸν αὐτὸν πρόπον, ἀλλ’ ὥσπερ καὶ ἐκ τῶν τετραμέτρων εἰς τὸ ἰαμβεῖον μετέβησαν διὰ τὸ τῷ λόγῳ τοῦτο τῶν μέτρων ὁμοιότατον εἶναι τῶν ἄλλων, οὕτω καὶ τῶν ὀνομάτων ἀφείκασιν ὅσα παρὰ τὴν διάλεκτόν ἐστιν, οἷς [δ’] οἱ πρῶτοι ἐκόσμουν, καὶ ἔτι νῦν οἱ τὰ ἑξάμετρα ποιοῦντες [ἀφείκασιν]. διὸ γελοῖον μιμεῖσθαι τούτους οἳ αὐτοὶ οὐκέτι χρῶνται ἐκείνῳ τῷ τρόπῳ, ὥστε φανερὸν ὅτι οὐχ ἅπαντα ὅσα περὶ λέξεως ἔστιν εἰπεῖν ἀκριβολογητέον ἡμῖν, ἀλλ’ ὅσα περὶ τοιαύτης οἵας λέγομεν. περὶ δ’ ἐκείνης εἴρηται ἐν τοῖς περὶ ποιητικῆς.

[1404b] Ἔστω οὖν ἐκεῖνα τεθεωρημένα καὶ ὡρίσθω λέξεως ἀρετὴ σαφῆ εἶναι (σημεῖον γάρ τι ὁ λόγος ὤν, ἐὰν μὴ δηλοῖ οὐ ποιήσει τὸ ἑαυτοῦ ἔργον), καὶ μήτε ταπεινὴν μήτε ὑπὲρ τὸ ἀξίωμα, ἀλλὰ πρέπουσαν· ἡ γὰρ ποιητικὴ ἴσως οὐ ταπεινή, ἀλλ’ οὐ πρέπουσα λόγῳ. τῶν δ’ ὀνομάτων καὶ ῥημάτων σαφῆ μὲν ποιεῖ τὰ κύρια, μὴ ταπεινὴν δὲ ἀλλὰ κεκοσμημένην τἆλλα ὀνόματα ὅσα εἴρηται ἐν τοῖς περὶ ποιητικῆς· τὸ γὰρ ἐξαλλάξαι ποιεῖ φαίνεσθαι σεμνοτέραν· ὥσπερ γὰρ πρὸς τοὺς ξένους οἱ ἄνθρωποι καὶ πρὸς τοὺς πολίτας, τὸ αὐτὸ πάσχουσιν καὶ πρὸς τὴν λέξιν· διὸ δεῖ ποιεῖν ξένην τὴν διάλεκτον· θαυμασταὶ γὰρ τῶν ἀπόντων εἰσίν, ἡδὺ δὲ τὸ θαυμαστόν ἐστιν. ἐπὶ μὲν οὖν τῶν μέτρων πολλά τε ποιεῖται οὕτω καὶ ἁρμόττει ἐκεῖ (πλέον γὰρ ἐξέστηκεν περὶ ἃ καὶ περὶ οὓς ὁ λόγος), ἐν δὲ τοῖς ψιλοῖς λόγοις πολλῷ ἐλάττω· ἡ γὰρ ὑπόθεσις ἐλάττων, ἐπεὶ καὶ ἐνταῦθα, εἰ δοῦλος καλλιεποῖτο ἢ

λίαν νέος, ἀπρεπέστερον, ἢ περὶ λίαν μικρῶν· ἀλλ’ ἔστι καὶ ἐν τούτοις ἐπισυστελλόμενον καὶ αὐξανόμενον τὸ πρέπον· διὸ δεῖ λανθάνειν ποιοῦντας, καὶ μὴ δοκεῖν λέγειν πεπλασμένως ἀλλὰ πεφυκότως (τοῦτο γὰρ πιθανόν, ἐκεῖνο δὲ τοὐναντίον· ὡς γὰρ πρὸς ἐπιβουλεύοντα διαβάλλονται, καθάπερ πρὸς τοὺς οἴνους τοὺς μεμιγμένους), καὶ οἷον ἡ Θεοδώρου φωνὴ πέπονθε πρὸς τὴν τῶν ἄλλων ὑποκριτῶν· ἡ μὲν γὰρ τοῦ λέγοντος ἔοικεν εἶναι, αἱ δ’ ἀλλότριαι. κλέπτεται δ’ εὖ, ἐάν τις ἐκ τῆς εἰωθυίας διαλέκτου ἐκλέγων συντιθῇ· ὅπερ Εὐριπίδης ποιεῖ καὶ ὑπέδειξε πρῶτος.

ὄντων δ’ ὀνομάτων καὶ ῥημάτων ἐξ ὧν ὁ λόγος συνέστηκεν, τῶν δὲ ὀνομάτων τοσαῦτ’ ἐχόντων εἴδη ὅσα τεθεώρηται ἐν τοῖς περὶ ποιήσεως, τούτων γλώτταις μὲν καὶ διπλοῖς ὀνόμασι καὶ πεποιημένοις ὀλιγάκις καὶ ὀλιγαχοῦ χρηστέον (ὅπου δέ, ὕστερον ἐροῦμεν, τό τε διὰ τί εἴρηται· ἐπὶ τὸ μεῖζον γὰρ ἐξαλλάττει τοῦ πρέποντος), τὸ δὲ κύριον καὶ τὸ οἰκεῖον καὶ μεταφορὰ μόνα χρήσιμα πρὸς τὴν τῶν ψιλῶν λόγων λέξιν. σημεῖον δ’ ὅτι τούτοις μόνοις πάντες χρῶνται· πάντες γὰρ μεταφοραῖς διαλέγονται καὶ τοῖς οἰκείοις καὶ τοῖς κυρίοις, ὥστε δῆλον ὡς ἂν εὖ ποιῇ τις, ἔσται τε ξενικὸν καὶ λανθάνειν ἐνδέξεται καὶ σαφηνιεῖ· αὕτη δ’ ἦν ἡ τοῦ ῥητορικοῦ λόγου ἀρετή. τῶν δ’ ὀνομάτων τῷ μὲν σοφιστῇ ὁμωνυμίαι χρήσιμοι (παρὰ ταύτας γὰρ κακουργεῖ), τῷ ποιητῇ δὲ συνωνυμίαι, λέγω δὲ κύριά τε καὶ συνώνυμα [1405a] οἷον τὸ πορεύεσθαι καὶ τὸ βαδίζειν· ταῦτα γὰρ ἀμφότερα καὶ κύρια καὶ συνώνυμα ἀλλήλοις.

τί μὲν οὖν τούτων ἕκαστόν ἐστι, καὶ πόσα εἴδη μεταφορᾶς, καὶ ὅτι τοῦτο πλεῖστον δύναται καὶ ἐν ποιήσει καὶ ἐν λόγοις, [αἱ μεταφοραί,] εἴρηται, καθάπερ ἐλέγομεν, ἐν τοῖς περὶ ποιητικῆς· τοσούτῳ δ’ ἐν λόγῳ δεῖ μᾶλλον φιλοπονεῖσθαι περὶ αὐτῶν, ὅσῳ ἐξ ἐλαττόνων βοηθημάτων ὁ λόγος ἐστὶ τῶν μέτρων· καὶ τὸ σαφὲς καὶ τὸ ἡδὺ καὶ τὸ ξενικὸν ἔχει μάλιστα ἡ μεταφορά, καὶ λαβεῖν οὐκ ἔστιν αὐτὴν παρ’ ἄλλου. δεῖ δὲ καὶ τὰ ἐπίθετα καὶ τὰς μεταφορὰς ἁρμοττούσας λέγειν. τοῦτο δ’ ἔσται ἐκ τοῦ ἀνάλογον· εἰ δὲ μή, ἀπρεπὲς φανεῖται διὰ τὸ παρ’ ἄλληλα τὰ ἐναντία μάλιστα φαίνεσθαι. ἀλλὰ δεῖ σκοπεῖν, ὡς νέῳ φοινικίς, οὕτω γέροντι τί (οὐ γὰρ ἡ αὐτὴ πρέπει ἐσθής), καὶ ἐάν τε κοσμεῖν βούλῃ, ἀπὸ τῶν βελτίστων τῶν ἐν ταὐτῷ γένει φέρειν τὴν μεταφοράν, ἐάν τε ψέγειν, ἀπὸ τῶν χειρόνων· λέγω δ’ οἷον, ἐπεὶ τὰ ἐναντία ἐν τῷ αὐτῷ γένει, τὸ φάναι τὸν μὲν πτωχεύοντα εὔχεσθαι τὸν δὲ εὐχόμενον πτωχεύειν, ὅτι ἄμφω αἰτήσεις, τὸ εἰρημένον ἐστὶ ποιεῖν, ὡς καὶ Ἰφικράτης Καλλίαν μητραγύρτην ἀλλ’ οὐ δᾳδοῦχον, ὁ δὲ ἔφη ἀμύητον αὐτὸν εἶναι· οὐ γὰρ ἂν μητραγύρτην αὐτὸν καλεῖν, ἀλλὰ δᾳδοῦχον· ἄμφω γὰρ περὶ θεόν, ἀλλὰ τὸ μὲν τίμιον τὸ δὲ ἄτιμον. καὶ ὁ μὲν διονυσοκόλακας, αὐτοὶ δ’ αὑτοὺς τεχνίτας καλοῦσιν (ταῦτα δ’ ἄμφω μεταφορά, ἡ μὲν ῥυπαινόντων ἡ δὲ τοὐναντίον), καὶ οἱ μὲν λῃσταὶ αὑτοὺς ποριστὰς καλοῦσι νῦν (διὸ ἔξεστι λέγειν τὸν ἀδικήσαντα μὲν ἁμαρτάνειν, τὸν δ’ ἁμαρτάνοντα ἀδικῆσαι, καὶ τὸν κλέψαντα καὶ λαβεῖν καὶ πορίσασθαι). τὸ δὲ ὡς ὁ Τήλεφος Εὐριπίδου φησίν,

κώπης ἀνάσσων κἀποβὰς εἰς Μυσίαν,

ἀπρεπές, ὅτι μεῖζον τὸ ἀνάσσειν ἢ κατ’ ἀξίαν· οὐ κέκλεπται οὖν. ἔστιν δὲ καὶ ἐν ταῖς συλλαβαῖς ἁμαρτία, ἐὰν μὴ ἡδείας ᾖ σημεῖα φωνῆς, οἷον Διονύσιος προσαγορεύει ὁ χαλκοῦς ἐν τοῖς ἐλεγείοις κραυγὴν Καλλιόπης τὴν ποίησιν, ὅτι ἄμφω φωναί· φαύλη δὲ ἡ μεταφορὰ ταῖς ἀσήμοις φωναῖς. ἔτι δὲ οὐ πόρρωθεν δεῖ ἀλλ’ ἐκ τῶν συγγενῶν καὶ τῶν ὁμοειδῶν μεταφέρειν ‹ἐπὶ› τὰ ἀνώνυμα ὠνομασμένως ὃ λεχθὲν δῆλόν ἐστιν ὅτι συγγενές (οἷον ἐν τῷ αἰνίγματι τῷ εὐδοκιμοῦντι

[1405b] ἄνδρ’ εἶδον πυρὶ χαλκὸν ἐπ’ ἀνέρι κολλήσαντα·

ἀνώνυμον γὰρ τὸ πάθος, ἔστι δ’ ἄμφω πρόσθεσίς τις· κόλλησιν τοίνυν εἶπε τὴν τῆς σικύας προσβολήν), καὶ ὅλως ἐκ τῶν εὖ ᾐνιγμένων ἔστι μεταφορὰς λαβεῖν ἐπιεικεῖς· μεταφοραὶ γὰρ αἰνίττονται, ὥστε δῆλον ὅτι εὖ μετενήνεκται. καὶ ἀπὸ καλῶν· κάλλος δὲ ὀνόματος τὸ μὲν ὥσπερ Λικύμνιος λέγει, ἐν τοῖς ψόφοις ἢ τῷ σημαινομένῳ, καὶ αἶσχος δὲ ὡσαύτως. ἔτι δὲ τρίτον ὃ λύει τὸν σοφιστικὸν λόγον· οὐ γὰρ ὡς ἔφη Βρύσων οὐθένα αἰσχρολογεῖν, εἴπερ τὸ αὐτὸ σημαίνει τόδε ἀντὶ τοῦδε εἰπεῖν· τοῦτο γάρ ἐστιν ψεῦδος· ἔστιν γὰρ ἄλλο ἄλλου κυριώτερον καὶ ὡμοιωμένον μᾶλλον καὶ οἰκειότερον, τῷ ποιεῖν τὸ πρᾶγμα πρὸ ὀμμάτων. ἔτι οὐχ ὁμοίως ἔχον σημαίνει τόδε καὶ τόδε, ὥστε καὶ οὕτως ἄλλου ἄλλο κάλλιον καὶ αἴσχιον θετέον· ἄμφω μὲν γὰρ τὸ καλὸν ἢ τὸ αἰσχρὸν σημαίνουσιν, ἀλλ’ οὐχ ᾗ καλὸν ἢ οὐχ ᾗ αἰσχρόν· ἢ ταῦτα μέν, ἀλλὰ μᾶλλον καὶ ἧττον. τὰς δὲ μεταφορὰς ἐντεῦθεν οἰστέον, ἀπὸ καλῶν ἢ τῇ φωνῇ ἢ τῇ δυνάμει ἢ τῇ ὄψει ἢ ἄλλῃ τινὶ αἰσθήσει. διαφέρει δ’ εἰπεῖν, οἷον ῥοδοδάκτυλος ἠὼς μᾶλλον ἢ φοινικοδάκτυλος, ἢ ἔτι φαυλότερον ἐρυθροδάκτυλος. καὶ ἐν τοῖς ἐπιθέτοις ἔστιν μὲν τὰς ἐπιθέσεις ποιεῖσθαι ἀπὸ φαύλου ἢ αἰσχροῦ, οἷον ὁ μητροφόντης, ἔστι δ’ ἀπὸ τοῦ βελτίονος, οἷον ὁ πατρὸς ἀμύντωρ· καὶ ὁ Σιμωνίδης, ὅτε μὲν ἐδίδου μισθὸν ὀλίγον αὐτῷ ὁ νικήσας τοῖς ὀρεῦσιν, οὐκ ἤθελε ποιεῖν, ὡς δυσχεραίνων εἰς ἡμιόνους ποιεῖν, ἐπεὶ δ’ ἱκανὸν ἔδωκεν, ἐποίησε

χαίρετ’ ἀελλοπόδων θύγατρες ἵππων·

καίτοι καὶ τῶν ὄνων θυγατέρες ἦσαν. ἔστιν αὖ τὸ ὑποκορίζεσθαι· ἔστιν δὲ ὁ ὑποκορισμὸς ὃ ἔλαττον ποιεῖ καὶ τὸ κακὸν καὶ τὸ ἀγαθόν, ὥσπερ καὶ Ἀριστοφάνης σκώπτει ἐν τοῖς Βαβυλωνίοις, ἀντὶ μὲν χρυσίου χρυσιδάριον, ἀντὶ δ’ ἱματίου ἱματιδάριον, ἀντὶ δὲ λοιδορίας λοιδορημάτιον καὶ ἀντὶ νοσήματος νοσημάτιον. εὐλαβεῖσθαι δὲ δεῖ καὶ παρατηρεῖν ἐν ἀμφοῖν τὸ μέτριον.

Τὰ δὲ ψυχρὰ ἐν τέτταρσι γίγνεται κατὰ τὴν λέξιν, ἔν τε τοῖς διπλοῖς ὀνόμασιν, οἷον Λυκόφρων “τὸν πολυπρόσωπον οὐρανὸν τῆς μεγαλοκορύφου γῆς”, καὶ “ἀκτὴν δὲ στενοπόρον”, καὶ ὡς Γοργίας ὠνόμαζεν “πτωχομουσοκόλοκας ἐπιορκήσαντας [1406a] κατ’ εὐορκήσαντος”, καὶ ὡς Ἀλκιδάμας “μένους μὲν τὴν ψυχὴν πληρουμένην, πυρίχρων δὲ τὴν ὄψιν γιγνομένην”, καὶ “τελεσφόρον” ᾠήθη τὴν προθυμίαν αὐτῶν γενήσεσθαι, καὶ “τελεσφόρον” τὴν πειθὼ τῶν λόγων κατέστησεν, καὶ “κυανόχρων” τὸ τῆς θαλάττης ἔδαφος· πάντα ταῦτα γὰρ ποιητικὰ διὰ τὴν δίπλωσιν φαίνεται. μία μὲν οὖν αὕτη αἰτία, μία δὲ τὸ χρῆσθαι γλώτταις, οἷον Λυκόφρων Ξέρξην “πέλωρον ἄνδρα”, καὶ Σκίρων “σίνις ἀνήρ”, καὶ Ἀλκιδάμας “ἄθυρμα τῇ ποιήσει”, καὶ “τὴν τῆς φύσεως ἀτασθαλίαν”, καὶ “ἀκράτῳ τῆς διανοίας ὀργῇ τεθηγμένον”. τρίτον δ’ ἐν τοῖς ἐπιθέτοις τὸ ἢ μακροῖς ἢ ἀκαίροις ἢ πυκνοῖς χρῆσθαι· ἐν μὲν γὰρ ποιήσει πρέπει “γάλα λευκὸν” εἰπεῖν, ἐν δὲ λόγῳ τὰ μὲν ἀπρεπέστερα· τὰ δέ, ἂν ᾖ κατακορῆ, ἐξελέγχει καὶ ποιεῖ φανερὸν ὅτι ποίησις ἐστίν, ἐπεὶ δεῖ γε χρῆσθαι αὐτοῖς (ἐξαλλάττει γὰρ τὸ εἰωθὸς καὶ ξενικὴν ποιεῖ τὴν λέξιν), ἀλλὰ δεῖ στοχάζεσθαι τοῦ μετρίου, ἐπεὶ μεῖζον ποιεῖ κακὸν τοῦ εἰκῇ λέγειν· ἡ μὲν γὰρ οὐκ ἔχει τὸ εὖ, ἡ δὲ τὸ κακῶς. διὸ τὰ Ἀλκιδάμαντος ψυχρὰ φαίνεται· οὐ γὰρ ὡς ἡδύσματι χρῆται ἀλλ’ ὡς ἐδέσματι τοῖς ἐπιθέτοις ‹τοῖς› οὕτω πυκνοῖς καὶ μείζοσι καὶ ἐπιδήλοις, οἷον οὐχ ἱδρῶτα ἀλλὰ τὸν ὑγρὸν ἱδρῶτα, καὶ οὐκ εἰς Ἴσθμια ἀλλ’ εἰς τὴν τῶν Ἰσθμίων πανήγυριν, καὶ οὐχὶ νόμους ἀλλὰ τοὺς τῶν πόλεων βασιλεῖς νόμους, καὶ οὐ δρόμῳ ἀλλὰ δρομαίᾳ τῇ τῆς ψυχῆς ὁρμῇ, καὶ οὐχὶ μουσεῖον ἀλλὰ τὸ τῆς φύσεως παραλαβὼν μουσεῖον, καὶ σκυθρωπὸν τὴν φροντίδα τῆς ψυχῆς, καὶ οὐ χάριτος ἀλλὰ πανδήμου χάριτος δημιουργός, καὶ οἰκονόμος τῆς τῶν ἀκουόντων ἡδονῆς, καὶ οὐ κλάδοις ἀλλὰ τοῖς τῆς ὕλης κλάδοις ἀπέκρυψεν, καὶ οὐ τὸ σῶμα παρήμπισχεν ἀλλὰ τὴν τοῦ σώματος αἰσχύνην, καὶ ἀντίμιμον τὴν τῆς ψυχῆς ἐπιθυμίαν (τοῦτο δ’ ἅμα καὶ διπλοῦν καὶ ἐπίθετον, ὥστε ποίημα γίνεται), καὶ οὕτως ἔξεδρον τὴν τῆς μοχθηρίας ὑπερβολήν. διὸ ποιητικῶς λέγοντες τῇ ἀπρεπείᾳ τὸ γελοῖον καὶ τὸ ψυχρὸν ἐμποιοῦσι, καὶ τὸ ἀσαφὲς διὰ τὴν ἀδολεσχίαν· ὅταν γὰρ γιγνώσκοντι ἐπεμβάλλῃ, διαλύει τὸ σαφὲς τῷ ἐπισκοτεῖν. οἱ δ’ ἄνθρωποι τοῖς διπλοῖς χρῶνται ὅταν ἀνώνυμον ᾖ καὶ ὁ λόγος εὐσύνθετος, οἷον τὸ χρονοτριβεῖν· [1406b] ἀλλ’ ἂν πολύ, πάντως ποιητικόν· διὸ χρησιμωτάτη ἡ διπλῆ λέξις τοῖς διθυραμβοποιοῖς (οὗτοι γὰρ ψοφώδεις), αἱ δὲ γλῶτται τοῖς ἐποποιοῖς (σεμνὸν γὰρ καὶ αὔθαδες), ἡ δὲ μεταφορὰ τοῖς ἰαμβείοις (τούτοις γὰρ νῦν χρῶνται, ὥσπερ εἴρηται). καὶ ἔτι τέταρτον τὸ ψυχρὸν ἐν ταῖς μεταφοραῖς γίνεται· εἰσὶν γὰρ καὶ μεταφοραὶ ἀπρεπεῖς, αἱ μὲν διὰ τὸ γελοῖον (χρῶνται γὰρ καὶ οἱ κωμῳδοποιοὶ μεταφοραῖς), αἱ δὲ διὰ τὸ σεμνὸν ἄγαν καὶ τραγικόν· ἀσαφεῖς δέ, ἂν πόρρωθεν, οἷον Γοργίας “χλωρὰ καὶ ἄναιμα τὰ πράγματα”, “σὺ δὲ ταῦτα αἰσχρῶς μὲν ἔσπειρας κακῶς δὲ ἐθέρισας”· ποιητικῶς γὰρ ἄγαν. καὶ ὡς Ἀλκιδάμας τὴν φιλοσοφίαν “ἐπιτείχισμα τῷ νόμῳ”, καὶ τὴν Ὀδύσσειαν “καλὸν ἀνθρωπίνου βίου κάτοπτρον”, καὶ “οὐδὲν τοιοῦτον ἄθυρμα τῇ ποιήσει προσφέρων”· ἅπαντα γὰρ ταῦτα ἀπίθανα διὰ τὰ εἰρημένα. τὸ δὲ Γοργίου εἰς τὴν χελιδόνα, ἐπεὶ κατ’ αὐτοῦ πετομένη ἀφῆκε τὸ περίττωμα, ἄριστα ‹ἔχει› τῶν τραγικῶν· εἶπε γὰρ “αἰσχρόν γε, ὦ Φιλομήλα”. ὄρνιθι μὲν γάρ, εἰ ἐποίησεν, οὐκ αἰσχρόν, παρθένῳ δὲ αἰσχρόν. εὖ οὖν ἐλοιδόρησεν εἰπὼν ὃ ἦν, ἀλλ’ οὐχ ὃ ἔστιν.

Ἔστιν δὲ καὶ ἡ εἰκὼν μεταφορά· διαφέρει γὰρ μικρόν· ὅταν μὲν γὰρ εἴπῃ [τὸν Ἀχιλλέα] “ὡς δὲ λέων ἐπόρουσεν”, εἰκών ἐστιν, ὅταν δὲ “λέων ἐπόρουσε”, μεταφορά· διὰ γὰρ τὸ ἄμφω ἀνδρείους εἶναι, προσηγόρευσεν μετενέγκας λέοντα τὸν Ἀχιλλέα. χρήσιμον δὲ ἡ εἰκὼν καὶ ἐν λόγῳ, ὀλιγάκις δέ· ποιητικὸν γάρ. οἰστέαι δὲ ὥσπερ αἱ μεταφοραί· μεταφοραὶ γάρ εἰσι, διαφέρουσαι τῷ εἰρημένῳ.

εἰσὶν δ’ εἰκόνες οἷον ἣν Ἀνδροτίων εἰς Ἰδριέα, ὅτι ὅμοιος τοῖς ἐκ τῶν δεσμῶν κυνιδίοις· ἐκεῖνά τε γὰρ προσπίπτοντα δάκνειν, καὶ Ἰδριέα λυθέντα ἐκ τῶν δεσμῶν εἶναι χαλεπόν. καὶ ὡς Θεοδάμας εἴκαζεν Ἀρχίδαμον Εὐξένῳ γεωμετρεῖν οὐκ ἐπισταμένῳ ἐν τῷ ἀνάλογόν ‹ἐστιν›· ἔσται γὰρ καὶ ὁ Εὔξενος Ἀρχίδαμος γεωμετρικός. καὶ τὸ ἐν τῇ Πολιτείᾳ τῇ Πλάτωνος, ὅτι οἱ τοὺς τεθνεῶτας σκυλεύοντες ἐοίκασι τοῖς κυνιδίοις ἃ τοὺς λίθους δάκνει, τοῦ βάλλοντος οὐχ ἁπτόμενα, καὶ ἡ εἰς τὸν δῆμον, ὅτι ὅμοιος ναυκλήρῳ ἰσχυρῷ μὲν ὑποκώφῳ δέ, καὶ ἡ εἰς τὰ μέτρα τῶν ποιητῶν, ὅτι ἔοικε τοῖς [1407a] ἄνευ κάλλους ὡραίοις· οἱ μὲν γὰρ ἀπανθήσαντες, τὰ δὲ διαλυθέντα οὐχ ὅμοια φαίνεται. καὶ ἡ Περικλέους εἰς Σαμίους, ἐοικέναι αὐτοὺς τοῖς παιδίοις ἃ τὸν ψωμὸν δέχεται μέν, κλαίοντα δέ, καὶ εἰς Βοιωτούς, ὅτι ὅμοιοι τοῖς πρίνοις· τούς τε γὰρ πρίνους ὑφ’ αὑτῶν κατακόπτεσθαι, καὶ τοὺς Βοιωτοὺς πρὸς ἀλλήλους μαχομένους. καὶ ὃ Δημοσθένης ‹εἰς› τὸν δῆμον, ὅτι ὅμοιός ἐστιν τοῖς ἐν τοῖς πλοίοις ναυτιῶσιν. καὶ ὡς Δημοκράτης εἴκασεν τοὺς ῥήτορας ταῖς τίτθαις αἳ τὸ ψώμισμα καταπίνουσαι τῷ σιάλῳ τὰ παιδία παραλείφουσιν. καὶ ὡς Ἀντισθένης Κηφισόδοτον τὸν λεπτὸν λιβανωτῷ εἴκασεν, ὅτι ἀπολλύμενος εὐφραίνει. πάσας δὲ ταύτας καὶ ὡς εἰκόνας καὶ ὡς μεταφορὰς ἔξεστι λέγειν, ὥστε ὅσαι ἂν εὐδοκιμῶσιν ὡς μεταφοραὶ λεχθεῖσαι, δῆλον ὅτι αὗται καὶ εἰκόνες ἔσονται, καὶ αἱ εἰκόνες μεταφοραὶ λόγου δεόμεναι. ἀεὶ δὲ δεῖ τὴν μεταφορὰν τὴν ἐκ τοῦ ἀνάλογον ἀνταποδιδόναι καὶ ἐπὶ θάτερα [καὶ ἐπὶ] τῶν ὁμογενῶν, οἷον εἰ ἡ φιάλη ἀσπὶς Διονύσου, καὶ τὴν ἀσπίδα ἁρμόττει λέγεσθαι φιάλην Ἄρεως.

Ὁ μὲν οὖν λόγος συντίθεται ἐκ τούτων, ἔστι δ’ ἀρχὴ τῆς λέξεως τὸ ἑλληνίζειν· τοῦτο δ’ ἐστὶν ἐν πέντε, πρῶτον μὲν ἐν τοῖς συνδέσμοις, ἂν ἀποδιδῷ τις ὡς πεφύκασι πρότεροι καὶ ὕστεροι γίγνεσθαι ἀλλήλων, οἷον ἔνιοι ἀπαιτοῦσιν, ὥσπερ ὁ μέν καὶ ὁ ἐγὼ μέν ἀπαιτεῖ τὸν δέ καὶ τὸν ὁ δέ. δεῖ δὲ ἕως μέμνηται ἀνταποδιδόναι ἀλήλλοις, καὶ μήτε μακρὰν ἀπαρτᾶν μήτε σύνδεσμον πρὸ συνδέσμου ἀποδιδόναι τοῦ ἀναγκαίου· ὀλιγαχοῦ γὰρ ἁρμόττει. “ἐγὼ μέν, ἐπεί μοι εἶπεν (ἦλθε γὰρ Κλέων δεόμενός τε καὶ ἀξιῶν), ἐπορευόμην παραλαβὼν αὐτούς”. ἐν τούτοις γὰρ πολλοὶ πρὸ τοῦ ἀποδοθησομένου συνδέσμου προεμβέβληνται σύνδεσμοι· ἐὰν δὲ πολὺ τὸ μεταξὺ γένηται τοῦ ἐπορευόμην, ἀσαφές. ἓν μὲν δὴ τὸ εὖ ἐν τοῖς συνδέσμοις, δεύτερον δὲ τὸ τοῖς ἰδίοις ὀνόμασι λέγειν καὶ μὴ τοῖς περιέχουσιν. τρίτον μὴ ἀμφιβόλοις. τοῦτο δ’ ἂν μὴ τἀναντία προαιρῆται, ὅπερ ποιοῦσιν ὅταν μηδὲν μὲν ἔχωσι λέγειν, προσποιῶνται δέ τι λέγειν· οἱ γὰρ τοιοῦτοι ἐν ποιήσει λέγουσιν ταῦτα, οἷον Ἐμπεδοκλῆς· φενακίζει γὰρ τὸ κύκλῳ πολὺ ὄν, καὶ πάσχουσιν οἱ ἀκροαταὶ ὅπερ οἱ πολλοὶ παρὰ τοῖς μάντεσιν· ὅταν γὰρ λέγωσιν ἀμφίβολα, συμπαρανεύουσιν -

Κροῖσος Ἅλυν διαβὰς μεγάλην ἀρχὴν καταλύσει

[1407b] - καὶ διὰ τὸ ὅλως ἔλαττον εἶναι ἁμάρτημα διὰ τῶν γενῶν τοῦ πράγματος λέγουσιν οἱ μάντεις· τύχοι γὰρ ἄν τις μᾶλλον ἐν τοῖς ἀρτιασμοῖς ἄρτια ἢ περισσὰ εἰπὼν μᾶλλον ἢ πόσα ἔχει, καὶ τὸ ὅτι ἔσται ἢ τὸ πότε, διὸ οἱ χρησμολόγοι οὐ προσορίζονται τὸ πότε. ἅπαντα δὴ ταῦτα ὅμοια, ὥστ’ ἂν μὴ τοιούτου τινὸς ἕνεκα, φευκτέον. τέταρτον, ὡς Πρωταγόρας τὰ γένη τῶν ὀνομάτων διῄρει, ἄρρενα καὶ θήλεα καὶ σκεύη· δεῖ γὰρ ἀποδιδόναι καὶ ταῦτα ὀρθῶς· “ἡ δ’ ἐλθοῦσα καὶ διαλεχθεῖσα ᾤχετο”. πέμπτον ἐν τῷ τὰ πολλὰ καὶ ὀλίγα καὶ ἓν ὀρθῶς ὀνομάζειν· “οἱ δ’ ἐλθόντες ἔτυπτόν με”.

ὅλως δὲ δεῖ εὐανάγνωστον εἶναι τὸ γεγραμμένον καὶ εὔφραστον· ἔστιν δὲ τὸ αὐτό· ὅπερ οἱ πολλοὶ σύνδεσμοι οὐκ ἔχουσιν, οὐδ’ ἃ μὴ ῥᾴδιον διαστίξαι, ὥσπερ τὰ Ἡρακλείτου. τὰ γὰρ Ἡρακλείτου διαστίξαι ἔργον διὰ τὸ ἄδηλον εἶναι ποτέρῳ πρόσκειται, τῷ ὕστερον ἢ τῷ πρότερον, οἷον ἐν τῇ ἀρχῇ αὐτῇ τοῦ συγγράμματος· φησὶ γὰρ "τοῦ λόγου τοῦδ' ἐόντος ἀεὶ ἀξύνετοι ἄνθρωποι γίγνονται"· ἄδηλον γὰρ τὸ ἀεί, πρὸς ποτέρῳ ‹δεῖ› διαστίξαι. ἔτι τόδε ποιεῖ σολοικίζειν, τὸ μὴ ἀποδιδόναι, ἐὰν μὴ ἐπιζευγνύῃς ὃ ἀμφοῖν ἁρμόττει, οἷον [ἢ] ψόφῳ καὶ χρώματι τὸ μὲν ἰδὼν οὐ κοινόν, τὸ δ' αἰσθόμενος κοινόν· ἀσαφῆ δὲ ἂν μὴ προθεὶς εἴπῃς, μέλλων πολλὰ μεταξὺ ἐμβάλλειν, οἷον "ἔμελλον γὰρ διαλεχθεὶς ἐκείνῳ τάδε καὶ τάδε καὶ ὧδε πορεύεσθαι", ἀλλὰ μὴ "ἔμελλον γὰρ διαλεχθεὶς πορεύεσθαι, εἶτα τάδε καὶ τάδε καὶ ὧδε ἐγένετο".

Εἰς ὄγκον δὲ τῆς λέξεως συμβάλλεται τάδε, τὸ λόγῳ χρῆσθαι ἀντ' ὀνόματος, οἷον μὴ κύκλον, ἀλλ' ἐπίπεδον τὸ ἐκ τοῦ μέσου ἴσον· εἰς δὲ συντομίαν τὸ ἐναντίον, ἀντὶ τοῦ λόγου ὄνομα. καὶ ἐὰν αἰσχρὸν ἢ ἀπρεπές, ἐὰν μὲν ἐν τῷ λόγῳ ᾖ ‹τὸ› αἰσχρόν, τοὔνομα λέγειν, ἐὰν δ' ἐν τῷ ὀνόματι, τὸν λόγον. καὶ μεταφορᾷ δηλοῦν καὶ τοῖς ἐπιθέτοις, εὐλαβούμενον τὸ ποιητικόν. καὶ τὸ ἓν πολλὰ ποιεῖν, ὅπερ οἱ ποιηταὶ ποιοῦσιν· ἑνὸς ὄντος λιμένος ὅμως λέγουσι

λιμένας εἰς Ἀχαϊκούς

καὶ

δέλτου μὲν αἵδε πολύθυροι διαπτυχαί.

καὶ μὴ ἐπιζευγνύναι, ἀλλ' ἑκατέρῳ ἑκάτερον, "τῆς γυναικὸς τῆς ἡμετέρας"· ἐὰν δὲ συντόμως, τοὐναντίον, "τῆς ἡμετέρας γυναικός". καὶ μετὰ συνδέσμου λέγειν· ἐὰν δὲ συντόμως, ἄνευ μὲν συνδέσμου, μὴ ἀσύνδετα δέ, οἷον "πορευθεὶς καὶ δια[1408a]λεχθείς", "πορευθεὶς διελέχθην". καὶ τὸ Ἀντιμάχου χρήσιμον, ἐξ ὧν μὴ ἔχει λέγειν, ὃ ἐκεῖνος ποιεῖ ἐπὶ τοῦ Τευμησσοῦ,

ἔστι τις ἠνεμόεις ὀλίγος λόφος·

αὔξεται γὰρ οὕτως εἰς ἄπειρον. ἔστι δὲ τοῦτο καὶ ἐπὶ ἀγαθῶν καὶ κακῶν, ὅπως οὐκ ἔχει, ὁποτέρως ἂν ᾖ χρήσιμον, ὅθεν καὶ τὰ ὀνόματα οἱ ποιηταὶ φέρουσιν, τὸ ἄχορδον καὶ τὸ ἄλυρον μέλος· ἐκ τῶν στερήσεων γὰρ ἐπιφέρουσιν· εὐδοκιμεῖ γὰρ τοῦτο ἐν ταῖς μεταφοραῖς λεγόμενον ταῖς ἀνάλογον, οἷον τὸ φάναι τὴν σάλπιγγα ἱέναι μέλος ἄλυρον.

Τὸ δὲ πρέπον ἕξει ἡ λέξις, ἐὰν ᾖ παθητική τε καὶ ἠθικὴ καὶ τοῖς ὑποκειμένοις πράγμασιν ἀνάλογον. τὸ δ' ἀνάλογόν ἐστιν ἐὰν μήτε περὶ εὐόγκων αὐτοκαβδάλως λέγηται μήτε περὶ εὐτελῶν σεμνῶς, μηδ' ἐπὶ τῷ εὐτελεῖ ὀνόματι ἐπῇ κόσμος· εἰ δὲ μή, κωμῳδία φαίνεται, οἷον ποιεῖ

Κλεοφῶν· ὁμοίως γὰρ ἔνια ἔλεγε καὶ εἰ εἴπειεν [ἂν] “πότνια συκῆ”. παθητικὴ δέ, ἐὰν μὲν ᾖ ὕβρις, ὀργιζομένου λέξις, ἐὰν δὲ ἀσεβῆ καὶ αἰσχρά, δυσχεραίνοντος καὶ εὐλαβουμένου καὶ λέγειν, ἐὰν δὲ ἐπαινετά, ἀγαμένως, ἐὰν δὲ ἐλεεινά, ταπεινῶς, καὶ ἐπὶ τῶν ἄλλων δὲ ὁμοίως. πιθανοῖ δὲ τὸ πρᾶγμα καὶ ἡ οἰκεία λέξις· παραλογίζεταί τε γὰρ ἡ ψυχὴ ὡς ἀληθῶς λέγοντος, ὅτι ἐπὶ τοῖς τοιούτοις οὕτως ἔχουσιν, ὥστ’ οἴονται, εἰ καὶ μὴ οὕτως ἔχει ὡς ‹λέγει› ὁ λέγων, τὰ πράγματα οὕτως ἔχειν, καὶ συνομοπαθεῖ ὁ ἀκούων ἀεὶ τῷ παθητικῶς λέγοντι, κἂν μηθὲν λέγῃ. διὸ πολλοὶ καταπλήττουσι τοὺς ἀκροατὰς θορυβοῦντες. καὶ ἠθικὴ δὲ αὕτη ἡ ἐκ τῶν σημείων δεῖξις, ὅτε ἀκολουθεῖ ἡ ἁρμόττουσα ἑκάστῳ γένει καὶ ἕξει. λέγω δὲ γένος μὲν καθ’ ἡλικίαν, οἷον παῖς ἢ ἀνὴρ ἢ γέρων, καὶ γυνὴ ἢ ἀνήρ, καὶ Λάκων ἢ Θετταλός, ἕξεις δέ, καθ’ ἃς ποιός τις τῷ βίῳ· οὐ γὰρ καθ’ ἅπασαν ἕξιν οἱ βίοι ποιοί τινες. ἐὰν οὖν καὶ τὰ ὀνόματα οἰκεῖα λέγῃ τῇ ἕξει, ποιήσει τὸ ἦθος· οὐ γὰρ ταὐτὰ οὐδ’ ὡσαύτως ἀγροῖκος ἂν καὶ πεπαιδευμένος εἴπειεν. πάσχουσι δέ τι οἱ ἀκροαταὶ καὶ ᾧ κατακόρως χρῶνται οἱ λογογράφοι, “τίς δ’ οὐκ οἶδεν;”, “ἅπαντες ἴσασιν”· ὁμολογεῖ γὰρ ὁ ἀκούων αἰσχυνόμενος, ὅπως μετέχῃ οὗπερ καὶ οἱ ἄλλοι πάντες.

[1408b] τὸ δ’ εὐκαίρως ἢ μὴ εὐκαίρως χρῆσθαι κοινὸν ἁπάντων τῶν εἰδῶν ἐστιν. ἄκος δ’ ἐπὶ πάσῃ ὑπερβολῇ τὸ θρυλούμενον· δεῖ γὰρ αὐτὸν αὑτῷ προσεπιπλήττειν· δοκεῖ γὰρ ἀληθὲς εἶναι, ἐπεὶ οὐ λανθάνει γε ὃ ποιεῖ τὸν λέγοντα. ἔτι τοῖς ἀνάλογον μὴ πᾶσιν ἅμα χρήσασθαι (οὕτω γὰρ κλέπτεται ὁ ἀκροατής)· λέγω δὲ οἷον ἐὰν τὰ ὀνόματα σκληρὰ ᾖ, μὴ καὶ τῇ φωνῇ καὶ τῷ προσώπῳ [καὶ] τοῖς ἁρμόττουσιν· εἰ δὲ μή, φανερὸν γίνεται ἕκαστον ὅ ἐστιν. ἐὰν δὲ τὸ μὲν τὸ δὲ μή, λανθάνει ποιῶν τὸ αὐτό. ἐὰν οὖν τὰ μαλακὰ σκληρῶς καὶ τὰ σκληρὰ μαλακῶς λέγηται, πιθανὸν γίγνεται. τὰ δὲ ὀνόματα τὰ διπλᾶ καὶ [τὰ] ἐπίθετα πλείω καὶ τὰ ξένα μάλιστα ἁρμόττει λέγοντι παθητικῶς· συγγνώμη γὰρ ὀργιζομένῳ κακὸν φάναι οὐρανόμηκες, ἢ πελώριον εἰπεῖν, καὶ ὅταν ἔχῃ ἤδη τοὺς ἀκροατὰς καὶ ποιήσῃ ἐνθουσιάσαι ἢ ἐπαίνοις ἢ ψόγοις ἢ ὀργῇ ἢ φιλίᾳ, οἷον καὶ Ἰσοκράτης ποιεῖ ἐν τῷ Πανηγυρικῷ ἐπὶ τέλει “φήμην δὲ καὶ μνήμην” καὶ “οἵτινες ἔτλησαν”· φθέγγονται γὰρ τὰ τοιαῦτα ἐνθουσιάζοντες, ὥστε καὶ ἀποδέχονται δηλονότι ὁμοίως ἔχοντες. διὸ καὶ τῇ ποιήσει ἥρμοσεν· ἔνθεον γὰρ ἡ ποίησις. ἢ δὴ οὕτως δεῖ, ἢ μετ’ εἰρωνείας, ὥσπερ Γοργίας ἐποίει καὶ τὰ ἐν τῷ Φαίδρῳ.

Τὸ δὲ σχῆμα τῆς λέξεως δεῖ μήτε ἔμμετρον εἶναι μήτε ἄρρυθμον· τὸ μὲν γὰρ ἀπίθανον (πεπλάσθαι γὰρ δοκεῖ), καὶ ἅμα καὶ ἐξίστησι· προσέχειν γὰρ ποιεῖ τῷ ὁμοίῳ, πότε πάλιν ἥξει· ὥσπερ οὖν τῶν κηρύκων προλαμβάνουσι τὰ παιδία τὸ “τίνα αἱρεῖται ἐπίτροπον ὁ ἀπελευθερούμενος;” “Κλέωνα”· τὸ δὲ ἄρρυθμον ἀπέραντον, δεῖ δὲ πεπεράνθαι μέν, μὴ μέτρῳ δέ· ἀηδὲς γὰρ καὶ ἄγνωστον τὸ ἄπειρον. περαίνεται δὲ ἀριθμῷ πάντα· ὁ δὲ τοῦ σχήματος τῆς λέξεως ἀριθμὸς ῥυθμός ἐστιν, οὗ καὶ τὰ μέτρα τμήματα· διὸ ῥυθμὸν δεῖ ἔχειν τὸν λόγον, μέτρον δὲ μή· ποίημα γὰρ ἔσται. ῥυθμὸν δὲ μὴ ἀκριβῶς· τοῦτο δὲ ἔσται ἐὰν μέχρι του ᾖ. τῶν δὲ ῥυθμῶν ὁ μὲν ἡρῷος σεμνῆς ἀλλ’ οὐ λεκτικῆς ἁρμονίας δεόμενος, ὁ δ’ ἴαμβος αὐτή ἐστιν ἡ λέξις ἡ τῶν πολλῶν (διὸ μάλιστα πάντων τῶν μέτρων ἰαμβεῖα φθέγγονται λέγοντες), δεῖ δὲ σεμνότητα γενέσθαι καὶ ἐκστῆσαι. ὁ δὲ τροχαῖος κορδακικώτερος· δηλοῖ δὲ [1409a] τὰ τετράμετρα· ἔστι γὰρ τροχερὸς ῥυθμὸς τὰ τετράμετρα. λείπεται δὲ παιάν, ᾧ ἐχρῶντο μὲν ἀπὸ Θρασυμάχου ἀρξάμενοι, οὐκ εἶχον δὲ λέγειν τίς ἦν. ἔστι δὲ τρίτος ὁ παιάν, καὶ ἐχόμενος τῶν εἰρημένων· τρία γὰρ πρὸς δύ’ ἐστίν, ἐκείνων δὲ ὁ μὲν ἓν πρὸς ἕν, ὁ δὲ δύο πρὸς ἕν, ἔχεται δὲ τῶν λόγων τούτων ὁ ἡμιόλιος· οὗτος δ’ ἐστὶν ὁ παιάν. οἱ μὲν οὖν ἄλλοι διά τε τὰ εἰρημένα ἀφετέοι, καὶ διότι μετρικοί· ὁ δὲ παιὰν ληπτέος· ἀπὸ μόνου γὰρ οὐκ ἔστι μέτρον τῶν ῥηθέντων ῥυθμῶν, ὥστε μάλιστα λανθάνειν. νῦν μὲν οὖν χρῶνται τῷ ἑνὶ παιᾶνι καὶ ἀρχόμενοι ‹καὶ τελευτῶντες›, δεῖ δὲ διαφέρειν τὴν τελευτὴν τῆς ἀρχῆς. ἔστιν δὲ παιᾶνος δύο εἴδη ἀντικείμενα ἀλλήλοις, ὧν τὸ μὲν ἓν ἀρχῇ ἁρμόττει, ὥσπερ καὶ χρῶνται· οὗτος δ’ ἐστὶν οὗ ἄρχει μὲν ἡ μακρά, τελευτῶσιν δὲ τρεῖς βραχεῖαι, “Δαλογενὲς εἴτε Λυκίαν”, καὶ “Χρυσεοκόμα Ἕκατε παῖ Διός”· ἕτερος δ’ ἐξ ἐναντίας, οὗ βραχεῖαι ἄρχουσιν τρεῖς, ἡ δὲ μακρὰ τελευταία·

μετὰ δὲ γᾶν ὕδατά τ’ ὠκεανὸν ἠφάνισε νύξ.

οὗτος δὲ τελευτὴν ποιεῖ· ἡ γὰρ βραχεῖα διὰ τὸ ἀτελὴς εἶναι ποιεῖ κολοβόν. ἀλλὰ δεῖ τῇ μακρᾷ ἀποκόπτεσθαι, καὶ δήλην εἶναι τὴν τελευτὴν μὴ διὰ τὸν γραφέα, μηδὲ διὰ τὴν παραγραφήν, ἀλλὰ διὰ τὸν ῥυθμόν.

ὅτι μὲν οὖν εὔρυθμον δεῖ εἶναι τὴν λέξιν καὶ μὴ ἄρρυθμον, καὶ τίνες εὔρυθμον ποιοῦσι ῥυθμοὶ καὶ πῶς ἔχοντες, εἴρηται· τὴν δὲ λέξιν ἀνάγκη εἶναι ἢ εἰρομένην καὶ τῷ συνδέσμῳ μίαν, ὥσπερ αἱ ἐν τοῖς διθυράμβοις ἀναβολαί, ἢ κατεστραμμένην καὶ ὁμοίαν ταῖς τῶν ἀρχαίων ποιητῶν ἀντιστρόφοις. ἡ μὲν οὖν εἰρομένη λέξις ἡ ἀρχαία ἐστίν [“Ἡροδότου Θουρίου ἥδ’ ἱστορίης ἀπόδειξις”] (ταύτῃ γὰρ πρότερον μὲν ἅπαντες, νῦν δὲ οὐ πολλοὶ χρῶνται)· λέγω δὲ εἰρομένην ἣ οὐδὲν ἔχει τέλος καθ’ αὑτήν, ἂν μὴ τὸ πρᾶγμα ‹τὸ› λεγόμενον τελειωθῇ. ἔστι δὲ ἀηδὴς διὰ τὸ ἄπειρον· τὸ γὰρ τέλος πάντες βούλονται καθορᾶν· διόπερ ἐπὶ τοῖς καμπτῆρσιν ἐκπνέουσι καὶ ἐκλύονται· προορῶντες γὰρ τὸ πέρας οὐ κάμνουσι πρότερον. ἡ μὲν οὖν εἰρομένη [τῆς λέξεώς] ἐστιν ἥδε, κατεστραμμένη δὲ ἡ ἐν περιόδοις· λέγω δὲ περίοδον λέξιν ἔχουσαν ἀρχὴν καὶ τελευτὴν αὐτὴν καθ’ αὑτὴν καὶ [1409b] μέγεθος εὐσύνοπτον. ἡδεῖα δ’ ἡ τοιαύτη καὶ εὐμαθής, ἡδεῖα μὲν διὰ τὸ ἐναντίως ἔχειν τῷ ἀπεράντῳ, καὶ ὅτι ἀεί τὶ οἴεται ἔχειν ὁ ἀκροατὴς καὶ πεπεράνθαι τι αὑτῷ, τὸ δὲ μηδὲν προνοεῖν μηδὲ ἀνύειν ἀηδές· εὐμαθὴς δὲ ὅτι εὐμνημόνευτος, τοῦτο δὲ ὅτι ἀριθμὸν ἔχει ἡ ἐν περιόδοις λέξις, ὃ πάντων εὐμνημονευτότατον. διὸ καὶ τὰ μέτρα πάντες μνημονεύουσιν μᾶλλον τῶν χύδην· ἀριθμὸν γὰρ ἔχει ᾧ μετρεῖται. δεῖ δὲ τὴν περίοδον καὶ τῇ διανοίᾳ†τετελειῶσθαι, καὶ μὴ διακόπτεσθαι ὥσπερ τὰ Σοφοκλέους ἰαμβεῖα,

Καλυδὼν μὲν ἥδε γαῖα· Πελοπίας χθονός·

τοὐναντίον γὰρ ἔστιν ὑπολαβεῖν τῷ διαιρεῖσθαι, ὥσπερ καὶ ἐπὶ τοῦ εἰρημένου τὴν Καλυδῶνα εἶναι τῆς Πελοποννήσου.

περίοδος δὲ ἡ μὲν ἐν κώλοις ἡ δ’ ἀφελής. ἔστιν δ’ ἐν κώλοις μὲν λέξις ἡ τετελειωμένη τε καὶ διῃρημένη καὶ εὐανάπνευστος, μὴ ἐν τῇ διαιρέσει ὥσπερ καὶ ἡ περίοδος,†ἀλλ’ ὅλη (κῶλον δ’ ἐστὶν τὸ ἕτερον μόριον ταύτης)· ἀφελῆ δὲ λέγω τὴν μονόκωλον. δεῖ δὲ καὶ τὰ κῶλα καὶ τὰς περιόδους μήτε μυούρους εἶναι μήτε μακράς. τὸ μὲν γὰρ μικρὸν προσπταίειν πολλάκις ποιεῖ τὸν ἀκροατήν (ἀνάγκη γὰρ ὅταν, ἔτι ὁρμῶν ἐπὶ τὸ πόρρω καὶ τὸ μέτρον οὗ ἔχει ἐν ἑαυτῷ ὅρον, ἀντισπασθῇ παυσαμένου, οἷον πρόσπταισιν γίγνεσθαι διὰ τὴν ἀντίκρουσιν)· τὰ δὲ μακρὰ ἀπολείπεσθαι ποιεῖ, ὥσπερ οἱ ἐξωτέρω ἀποκάμπτοντες τοῦ τέρματος· ἀπολείπουσι γὰρ καὶ οὗτοι τοὺς συμπεριπατοῦντας, ὁμοίως δὲ καὶ αἱ περίοδοι αἱ μακραὶ οὖσαι λόγος γίνεται καὶ ἀναβολῇ ὅμοιον, ὥστε γίνεται ὃ ἔσκωψεν Δημόκριτος ὁ Χῖος εἰς Μελανιππίδην ποιήσαντα ἀντὶ τῶν ἀντιστρόφων ἀναβολάς

οἷ τ’ αὐτῷ κακὰ τεύχει ἀνὴρ ἄλλῳ κακὰ τεύχων,
ἡ δὲ μακρὰ ἀναβολὴ τῷ ποιήσαντι κακίστη·

ἁρμόττει γὰρ τὸ τοιοῦτον καὶ εἰς τὰς μακροκώλους λέγειν. αἵ τε λίαν βραχύκωλοι οὐ περίοδος γίνεται· προπετῆ οὖν ἄγει τὸν ἀκροατήν.

τῆς δὲ ἐν κώλοις λέξεως ἡ μὲν διῃρημένη ἐστὶν ἡ δὲ ἀντικειμένη, διῃρημένη μὲν, οἷον “πολλάκις ἐθαύμασα τῶν τὰς πανηγύρεις συναγαγόντων καὶ τοὺς γυμνικοὺς ἀγῶνας καταστησάντων”, ἀντικειμένη δὲ ἐν ᾗ ἑκατέρῳ τῷ κώλῳ ἢ [1410a] πρὸς ἐναντίῳ ἐναντίον σύγκειται ἢ ταὐτὸ ἐπέζευκται τοῖς ἐναντίοις, οἷον “ἀμφοτέρους δ’ ὤνησαν, καὶ τοὺς ὑπομείναντας καὶ τοὺς ἀκολουθήσαντας· τοῖς μὲν γὰρ πλείω τῆς οἴκοι προσεκτήσαντο, τοῖς δ’ ἱκανὴν τὴν οἴκοι κατέλιπον”· ἐναντία ὑπομονὴ ἀκολούθησις, ἱκανὸν πλεῖον. “ὥστε καὶ τοῖς χρημάτων δεομένοις καὶ τοῖς ἀπολαῦσαι βουλομένοις”·

ἀπόλαυσις κτήσει ἀντίκειται. καὶ ἔτι “συμβαίνει πολλάκις ἐν ταύταις καὶ τοὺς φρονίμους ἀτυχεῖν καὶ τοὺς ἄφρονας κατορθοῦν”. “εὐθὺς μὲν τῶν ἀριστείων ἠξιώθησαν, οὐ πολὺ δὲ ὕστερον τὴν ἀρχὴν τῆς θαλάττης ἔλαβον”. “πλεῦσαι μὲν διὰ τῆς ἠπείρου, πεζεῦσαι δὲ διὰ τῆς θαλάττης, τὸν μὲν Ἑλλήσποντον ζεύξας, τὸν δ᾽ Ἄθω διορύξας.” “καὶ φύσει πολίτας ὄντας νόμῳ τῆς πόλεως στέρεσθαι.” “οἱ μὲν γὰρ αὐτῶν κακῶς ἀπώλοντο, οἱ δ᾽ αἰσχρῶς ἐσώθησαν.” “καὶ ἰδίᾳ μὲν τοῖς βαρβάροις οἰκέταις χρῆσθαι, κοινῇ δὲ πολλοὺς τῶν συμμάχων περιορᾶν δουλεύοντας.” “ἢ ζῶντας ἕξειν ἢ τελευτήσαντας καταλείψειν.” καὶ ὃ εἰς Πειθόλαόν τις εἶπεν καὶ Λυκόφρονα ἐν τῷ δικαστηρίῳ, “οὗτοι δ᾽ ὑμᾶς οἴκοι μὲν ὄντες ἐπώλουν, ἐλθόντες δ᾽ ὡς ὑμᾶς ἐώνηνται”. ἅπαντα γὰρ ταῦτα ποιεῖ τὸ εἰρημένον. ἡδεῖα δὲ ἐστὶν ἡ τοιαύτη λέξις, ὅτι τἀναντία γνωριμώτατα καὶ παρ᾽ ἄλληλα μᾶλλον γνώριμα, καὶ ὅτι ἔοικεν συλλογισμῷ· ὁ γὰρ ἔλεγχος συναγωγὴ τῶν ἀντικειμένων ἐστίν.

ἀντίθεσις μὲν οὖν τὸ τοιοῦτον ἐστίν, παρίσωσις δ᾽ ἐὰν ἴσα τὰ κῶλα, παρομοίωσις δὲ ἐὰν ὅμοια τὰ ἔσχατα ἔχῃ ἑκάτερον τὸ κῶλον· ἀνάγκη δὲ ἢ ἐν ἀρχῇ ἢ ἐπὶ τελευτῆς ἔχειν, καὶ ἐν ἀρχῇ μὲν ἀεὶ τὰ ὀνόματα, ἐπὶ δὲ τελευτῆς τὰς ἐσχάτας συλλαβὰς ἢ τοῦ αὐτοῦ ὀνόματος πτώσεις ἢ τὸ αὐτὸ ὄνομα· ἐν ἀρχῇ μὲν τὰ τοιαῦτα, “ἀγρὸν γὰρ ἔλαβεν ἀργὸν παρ᾽ αὐτοῦ”,

δωρητοί τ᾽ ἐπέλοντο παράρρητοί τ᾽ ἐπέεσσιν·

ἐπὶ τελευτῆς δέ “ᾠήθης ἂν αὐτὸν ‹οὐ› παιδίον τετοκέναι, ἀλλ᾽ αὐτὸν παιδίον γεγονέναι”, “ἐν πλείσταις δὲ φροντίσι καὶ ἐν ἐλαχίσταις ἐλπίσιν”. πτώσεις δὲ ταὐτοῦ “ἀξιοῖ δὲ σταθῆναι χαλκοῦς, οὐκ ἄξιος ὢν χαλκοῦ;” ταὐτὸ δ᾽ ὄνομα “σὺ δ᾽ αὐτὸν καὶ ζῶντα ἔλεγες κακῶς καὶ νῦν γράφεις κακῶς”. ἀπὸ συλλαβῆς δέ “τί ἂν ἔπαθες δεινόν, εἰ ἄνδρ᾽ εἶδες ἀργόν;”

[1410b] ἔστιν δὲ ἅμα πάντα ἔχειν ταὐτό, καὶ ἀντίθεσιν εἶναι τὸ αὐτὸ καὶ πάρισον καὶ ὁμοιοτέλευτον. αἱ δ᾽ ἀρχαὶ τῶν περιόδων σχεδὸν ἐν τοῖς Θεοδεκτείοις ἐξηρίθμηνται. εἰσὶν δὲ καὶ ψευδεῖς ἀντιθέσεις, οἷον καὶ Ἐπίχαρμος ἐποίει,

τόκα μὲν ἐν τήνων ἐγὼν ἦν, τόκα δὲ παρὰ τήνοις ἐγών.

Ἐπεὶ δὲ διώρισται περὶ τούτων, πόθεν λέγεται τὰ ἀστεῖα καὶ τὰ εὐδοκιμοῦντα λεκτέον. ποιεῖν μὲν οὖν ἐστὶν τοῦ εὐφυοῦς ἢ τοῦ γεγυμνασμένου, δεῖξαι δὲ τῆς μεθόδου ταύτης. εἴπωμεν οὖν καὶ διαριθμησώμεθα· ἀρχὴ δ᾽ ἔστω ἡμῖν αὕτη. τὸ γὰρ μανθάνειν ῥᾳδίως ἡδὺ φύσει πᾶσιν ἐστί, τὰ δὲ ὀνόματα σημαίνει τι, ὥστε ὅσα τῶν ὀνομάτων ποιεῖ ἡμῖν μάθησιν, ἥδιστα. αἱ μὲν οὖν γλῶτται ἀγνῶτες, τὰ δὲ κύρια ἴσμεν· ἡ δὲ μεταφορὰ ποιεῖ τοῦτο μάλιστα· ὅταν γὰρ εἴπῃ τὸ γῆρας καλάμην, ἐποίησεν μάθησιν καὶ γνῶσιν διὰ τοῦ γένους· ἄμφω γὰρ ἀπηνθηκότα. ποιοῦσιν μὲν οὖν καὶ αἱ τῶν ποιητῶν εἰκόνες τὸ αὐτό· διόπερ ἂν εὖ, ἀστεῖον φαίνεται. ἔστιν γὰρ ἡ εἰκών, καθάπερ εἴρηται πρότερον, μεταφορὰ διαφέρουσα προθέσει· διὸ ἧττον ἡδύ, ὅτι μακροτέρως· καὶ οὐ λέγει ὡς τοῦτο ἐκεῖνο· οὐκοῦν οὐδὲ ζητεῖ τοῦτο ἡ ψυχή. ἀνάγκη δὴ καὶ λέξιν καὶ ἐνθυμήματα ταῦτ’ εἶναι ἀστεῖα ὅσα ποιεῖ ἡμῖν μάθησιν ταχεῖαν· διὸ οὔτε τὰ ἐπιπόλαια τῶν ἐνθυμημάτων εὐδοκιμεῖ (ἐπιπόλαια γὰρ λέγομεν τὰ παντὶ δῆλα, καὶ ἃ μηδὲν δεῖ ζητῆσαι), οὔτε ὅσα εἰρημένα ἀγνοοῦμεν, ἀλλ’ ὅσων ἢ ἅμα λεγομένων ἡ γνῶσις γίνεται, καὶ εἰ μὴ πρότερον ὑπῆρχεν, ἢ μικρὸν ὑστερίζει ἡ διάνοια· γίγνεται γὰρ οἷον μάθησις, ἐκείνων δὲ οὐδετέρου. κατὰ μὲν οὖν τὴν διάνοιαν τοῦ λεγομένου τὰ τοιαῦτα εὐδοκιμεῖ τῶν ἐνθυμημάτων, κατὰ δὲ τὴν λέξιν τῷ μὲν σχήματι, ἐὰν ἀντικειμένως λέγηται, οἷον “καὶ τὴν τοῖς ἄλλοις κοινὴν εἰρήνην νομιζόντων τοῖς αὑτῶν ἰδίοις πόλεμον”· ἀντίκειται πόλεμος εἰρήνῃ· τοῖς δ’ ὀνόμασιν, ἐὰν ἔχῃ μεταφοράν, καὶ ταύτην μήτ’ ἀλλοτρίαν, χαλεπὸν γὰρ συνιδεῖν, μήτ’ ἐπιπόλαιον, οὐδὲν γὰρ ποιεῖ πάσχειν. ἔτι εἰ πρὸ ὀμμάτων ποιεῖ· ὁρᾶν γὰρ δεῖ [τὰ] πραττόμενα μᾶλλον ἢ μέλλοντα. δεῖ ἄρα τούτων στοχάζεσθαι τριῶν, μεταφορᾶς ἀντιθέσεως ἐνεργείας.

[1411a] τῶν δὲ μεταφορῶν τεττάρων οὐσῶν εὐδοκιμοῦσι μάλιστα αἱ κατ’ ἀναλογίαν, ὥσπερ Περικλῆς ἔφη τὴν νεότητα τὴν ἀπολομένην ἐν τῷ πολέμῳ οὕτως ἠφανίσθαι ἐκ τῆς πόλεως ὥσπερ εἴ τις τὸ ἔαρ ἐκ τοῦ ἐνιαυτοῦ ἐξέλοι. καὶ Λεπτίνης περὶ Λακεδαιμονίων, οὐκ ἂν περιιδεῖν τὴν Ἑλλάδα ἑτερόφθαλμον γενομένην. καὶ Κηφισόδοτος, σπουδάζοντος Χάρητος εὐθύνας δοῦναι περὶ τὸν Ὀλυνθιακὸν πόλεμον, ἠγανάκτει, φάσκων εἰς πνῖγμα τὸν δῆμον ἄγχοντα τὰς εὐθύνας πειρᾶσθαι δοῦναι. καὶ παρακαλῶν ποτὲ τοὺς Ἀθηναίους εἰς Εὔβοιαν ἐπισιτισαμένους ἔφη δεῖν ἐξιέναι τὸ Μιλτιάδου ψήφισμα. καὶ Ἰφικράτης σπεισαμένων Ἀθηναίων πρὸς Ἐπίδαυρον καὶ τὴν παραλίαν ἠγανάκτει, φάσκων αὐτοὺς τὰ ἐφόδια τοῦ πολέμου παρῃρῆσθαι. καὶ Πειθόλαος τὴν πάραλον ῥόπαλον τοῦ δήμου, Σηστὸν δὲ τηλίαν τοῦ Πειραιέως. καὶ Περικλῆς τὴν Αἴγιναν ἀφελεῖν ἐκέλευσε, τὴν λήμην τοῦ Πειραιέως. καὶ Μοιροκλῆς οὐθὲν ἔφη πονηρότερος εἶναι, ὀνομάσας τινὰ τῶν ἐπιεικῶν· ἐκεῖνον μὲν γὰρ ἐπιτρίτων τόκων πονηρεύεσθαι, αὐτὸς δὲ ἐπιδεκάτων. καὶ τὸ Ἀναξανδρίδου ἰαμβεῖον ὑπὲρ τῶν θυγατέρων πρὸς τὸν γάμον ἐγχρονιζουσῶν “ὑπερήμεροί μοι τῶν γάμων αἱ παρθένοι”. καὶ τὸ Πολυεύκτου εἰς ἀποπληκτικόν τινα Σπεύσιππον, τὸ μὴ δύνασθαι ἡσυχίαν ἄγειν ὑπὸ τῆς τύχης ἐν πεντεσυρίγγῳ νόσῳ δεδεμένον. καὶ Κηφισόδοτος τὰς τριήρεις ἐκάλει μύλωνας ποικίλους, ὁ Κύων δὲ τὰ καπηλεῖα τὰ Ἀττικὰ

φιδίτια· Αἰσίων δέ, ὅτι εἰς Σικελίαν τὴν πόλιν ἐξέχεαν· τοῦτο γὰρ μεταφορὰ καὶ πρὸ ὀμμάτων. καὶ "ὥστε βοῆσαι τὴν Ἑλλάδα", καὶ τοῦτο τρόπον τινὰ μεταφορὰ καὶ πρὸ ὀμμάτων. καὶ ὥσπερ Κηφισόδοτος εὐλαβεῖσθαι ἐκέλευεν μὴ πολλὰς ποιήσωσιν τὰς συνδρομάς [ἐκκλησίας]. καὶ Ἰσοκράτης πρὸς τοὺς συντρέχοντας ἐν ταῖς πανηγύρεσιν. καὶ οἷον ἐν τῷ ἐπιταφίῳ, διότι ἄξιον ἦν ἐπὶ τῷ τάφῳ τῷ τῶν ἐν Σαλαμῖνι τελευτησάντων κείρασθαι τὴν Ἑλλάδα ὡς συγκαταθαπτομένης τῇ ἀρετῇ αὐτῶν τῆς ἐλευθερίας· εἰ μὲν γὰρ εἶπεν ὅτι ἄξιον δακρῦσαι συγκαταθαπτομένης τῆς ἀρετῆς, μεταφορὰ καὶ πρὸ ὀμμάτων, τὸ δὲ "τῇ ἀρετῇ [1411b] τῆς ἐλευθερίας" ἀντίθεσίν τινα ἔχει. καὶ ὡς Ἰφικράτης εἶπεν "ἡ γὰρ ὁδός μοι τῶν λόγων διὰ μέσων τῶν Χάρητι πεπραγμένων ἐστίν" μεταφορὰ κατ' ἀναλογίαν, καὶ τὸ διὰ μέσου πρὸ ὀμμάτων ποιεῖ. καὶ τὸ φάναι παρακαλεῖν τοὺς κινδύνους τοῖς κινδύνοις βοηθήσοντας, πρὸ ὀμμάτων ‹καὶ› μεταφορά. καὶ Λυκολέων ὑπὲρ Χαβρίου "οὐδὲ τὴν ἱκετηρίαν αἰσχυνθέντες αὐτοῦ, τὴν εἰκόνα τὴν χαλκῆν"· μεταφορὰ γὰρ ἐν τῷ παρόντι, ἀλλ' οὐκ ἀεί, ἀλλὰ πρὸ ὀμμάτων· κινδυνεύοντος γὰρ αὐτοῦ ἱκετεύει ἡ εἰκών, τὸ "ἔμψυχον δὴ ἄψυχον", τὸ ὑπόμνημα τῶν τῆς πόλεως ἔργων. καὶ "πάντα τρόπον μικρὸν φρονεῖν μελετῶντες"· τὸ γὰρ μελετᾶν αὔξειν τι ἐστίν. καὶ ὅτι "τὸν νοῦν ὁ θεὸς φῶς ἀνῆψεν ἐν τῇ ψυχῇ"· ἄμφω γὰρ δηλοῖ τι. "οὐ γὰρ διαλυόμεθα τοὺς πολέμους ἀλλ' ἀναβαλλόμεθα"· ἄμφω γάρ ἐστιν μέλλοντα, καὶ ἡ ἀναβολὴ καὶ ἡ τοιαύτη εἰρήνη. καὶ τὸ τὰς συνθήκας φάναι τρόπαιον εἶναι πολὺ κάλλιον τῶν ἐν τοῖς πολέμοις γινομένων· τὰ μὲν γὰρ ὑπὲρ μικρῶν καὶ μιᾶς τύχης, αὗται δ' ὑπὲρ παντὸς τοῦ πολέμου· ἄμφω γὰρ νίκης σημεῖα. καὶ ὅτι αἱ πόλεις τῷ ψόγῳ τῶν ἀνθρώπων μεγάλας εὐθύνας διδόασιν· ἡ γὰρ εὔθυνα βλάβη τις δικαία ἐστίν.

Ὅτι μὲν οὖν τὰ ἀστεῖα ἐκ μεταφορᾶς τε τῆς ἀνάλογον λέγεται καὶ τῷ πρὸ ὀμμάτων ποιεῖν, εἴρηται· λεκτέον δὲ τί λέγομεν πρὸ ὀμμάτων, καὶ τί ποιοῦσι γίγνεται τοῦτο. λέγω δὴ πρὸ ὀμμάτων ταῦτα ποιεῖν ὅσα ἐνεργοῦντα σημαίνει, οἷον τὸν ἀγαθὸν ἄνδρα φάναι εἶναι τετράγωνον μεταφορά, (ἄμφω γὰρ τέλεια), ἀλλ' οὐ σημαίνει ἐνέργειαν· ἀλλὰ τὸ "ἀνθοῦσαν ἔχοντος τὴν ἀκμήν" ἐνέργεια, καὶ τὸ "σὲ δ' ὥσπερ ἄφετον" [ἐλεύθερον] ἐνέργεια, καὶ

‹τοὐντεῦθεν οὖν› Ἕλληνες ᾄξαντες ποσίν·

τὸ ᾄξαντες ἐνέργεια καὶ μεταφορά· ταχὺ γὰρ λέγει. καὶ ὡς κέχρηται πολλαχοῦ Ὅμηρος, τὸ τὰ ἄψυχα ἔμψυχα ποιεῖν διὰ τῆς μεταφορᾶς. ἐν πᾶσι δὲ τῷ ἐνέργειαν ποιεῖν εὐδοκιμεῖ, οἷον ἐν τοῖσδε, "αὖτις ἐπὶ δάπεδόνδε κυλίνδετο λᾶας ἀναιδής", καὶ [1412a] "ἔπτατ' ὀιστός", καὶ "ἐπιπτέσθαι μενεαίνων", καὶ "ἐν γαίῃ ἵσταντο λιλαιόμενα χροὸς ἆσαι", καὶ "αἰχμὴ δὲ στέρνοιο διέσσυτο μαιμώωσα”. ἐν πᾶσι γὰρ τούτοις διὰ τὸ ἔμψυχα εἶναι ἐνεργοῦντα φαίνεται· τὸ ἀναισχυντεῖν γὰρ καὶ μαιμᾶν καὶ τὰ ἄλλα ἐνέργεια. ταῦτα δὲ προσῆψε διὰ τῆς κατ’ ἀναλογίαν μεταφορᾶς· ὡς γὰρ ὁ λίθος πρὸς τὸν Σίσυφον, ὁ ἀναισχυντῶν πρὸς τὸν ἀναισχυντούμενον. ποιεῖ δὲ καὶ ἐν ταῖς εὐδοκιμούσαις εἰκόσιν ἐπὶ τῶν ἀψύχων ταὐτά·

“κυρτά, φαληριόωντα· πρὸ μέν τ’ ἄλλ’, αὐτὰρ ἐπ’ ἄλλα”· κινούμενα γὰρ καὶ ζῶντα ποιεῖ πάντα, ἡ δ’ ἐνέργεια κίνησις.

δεῖ δὲ μεταφέρειν, καθάπερ εἴρηται πρότερον, ἀπὸ οἰκείων καὶ μὴ φανερῶν, οἷον καὶ ἐν φιλοσοφίᾳ τὸ ὅμοιον καὶ ἐν πολὺ διέχουσι θεωρεῖν εὐστόχου, ὥσπερ Ἀρχύτας ἔφη ταὐτὸν εἶναι διαιτητὴν καὶ βωμόν· ἐπ’ ἄμφω γὰρ τὸν ἀδικούμενον καταφεύγειν. ἢ εἴ τις φαίη ἄγκυραν καὶ κρεμάθραν τὸ αὐτὸ εἶναι· ἄμφω γὰρ ταὐτό τι, ἀλλὰ διαφέρει τῷ ἄνωθεν καὶ κάτωθεν. καὶ τὸ ἀνωμαλίσθαι τὰς πόλεις ἐν πολὺ διέχουσιν ταὐτό, ἐν ἐπιφανείᾳ καὶ δυνάμεσι τὸ ἴσον.

ἔστιν δὲ καὶ τὰ ἀστεῖα τὰ πλεῖστα διὰ μεταφορᾶς καὶ ἐκ τοῦ προσεξαπατᾶν· μᾶλλον γὰρ γίγνεται δῆλον ὅ τι ἔμαθε παρὰ τὸ ἐναντίως ἔχειν, καὶ ἔοικεν λέγειν ἡ ψυχὴ “ὡς ἀληθῶς, ἐγὼ δὲ ἥμαρτον”. καὶ τῶν ἀποφθεγμάτων δὲ τὰ ἀστεῖά ἐστιν ἐκ τοῦ μὴ ὅ φησι λέγειν, οἷον τὸ Στησιχόρου, ὅτι οἱ τέττιγες ἑαυτοῖς χαμόθεν ᾄσονται. καὶ τὰ εὖ ᾐνιγμένα διὰ τὸ αὐτὸ ἡδέα (μάθησις γάρ ἐστι καὶ μεταφορά), καὶ (ὃ λέγει Θεόδωρος) τὸ καινὰ λέγειν. γίγνεται δὲ ὅταν παράδοξον ᾖ, καὶ μή, ὡς ἐκεῖνος λέγει, πρὸς τὴν ἔμπροσθεν δόξαν, ἀλλ’ ὥσπερ ἐν τοῖς γελοίοις τὰ παραπεποιημένα (ὅπερ δύναται καὶ τὰ παρὰ γράμμα σκώμματα· ἐξαπατᾷ γάρ), καὶ ἐν τοῖς μέτροις· οὐ γὰρ ὥσπερ ὁ ἀκούων ὑπέλαβεν· “ἔστειχε δ’ ἔχων ὑπὸ ποσσὶ χίμεθλα”· ὁ δ’ ᾤετο πέδιλα ἐρεῖν. τούτου δ’ ἅμα λεγομένου δεῖ δῆλον εἶναι. τὰ δὲ παρὰ γράμμα ποιεῖ οὐχ ὃ λέγει λέγειν, ἀλλ’ ὃ μεταστρέφει ὄνομα, οἷον τὸ Θεοδώρου εἰς Νίκωνα τὸν κιθαρῳδὸν “θράξει σε”, προσποιεῖται γὰρ λέγειν τὸ [1412b] “Θρᾷξ εἶ σύ” καὶ ἐξαπατᾷ· ἄλλο γὰρ λέγει. διὸ μαθόντι ἡδύ, ἐπεὶ εἰ μὴ ὑπολαμβάνει Θρᾷκα εἶναι, οὐ δόξει ἀστεῖον εἶναι. καὶ τὸ “βούλει αὐτὸν πέρσαι”. δεῖ δὲ ἀμφότερα προσηκόντως λεχθῆναι. οὕτω δὲ καὶ τὰ ἀστεῖα, οἷον τὸ φάναι Ἀθηναίοις τὴν τῆς θαλάττης ἀρχὴν μὴ ἀρχὴν εἶναι τῶν κακῶν· ὄνασθαι γάρ. ἢ ὥσπερ Ἰσοκράτης τὴν ἀρχὴν τῇ πόλει ἀρχὴν εἶναι τῶν κακῶν. ἀμφοτέρως γὰρ ὃ οὐκ ἂν ᾠήθη τις ἐρεῖν, τοῦτ’ εἴρηται, καὶ ἐγνώσθη ὅτι ἀληθές· τό τε γὰρ τὴν ἀρχὴν φάναι ἀρχὴν εἶναι οὐθὲν σοφόν, ἀλλ’ οὐχ οὕτω λέγει ἀλλ’ ἄλλως, καὶ ἀρχὴν οὐχ ὃ εἶπεν ἀπόφησιν, ἀλλ’ ἄλλως. ἐν ἅπασι δὲ τούτοις, ἐὰν προσηκόντως τὸ ὄνομα ἐνέγκῃ ὁμωνυμίᾳ ἢ μεταφορᾷ, τότε τὸ εὖ. οἷον “Ἀνάσχετος οὐκ ἀνασχετός” ὁμωνυμίᾳ ἀπέφησε, ἀλλὰ προσηκόντως, εἰ ἀηδής. καὶ “οὐκ ἂν γένοιο μᾶλλον ἤ σε δεῖ ξένος”· “ξένος” ‹γὰρ› “οὐ μᾶλλον ἤ σε δεῖ” τὸ αὐτὸ καὶ “οὐ δεῖ τὸν ξένον ξένον ἀεὶ εἶναι”· ἀλλότριον γὰρ καὶ τοῦτο. τὸ αὐτὸ καὶ τὸ Ἀναξανδρίδου τὸ ἐπαινούμενον,

καλόν γ’ ἀποθανεῖν πρὶν θανάτου δρᾶν ἄξιον·

ταὐτὸ γάρ ἐστι τῷ εἰπεῖν “ἄξιόν γ’ ἀποθανεῖν μὴ ὄντα ἄξιον ἀποθανεῖν”, ἢ “ἄξιόν γ’ ἀποθανεῖν μὴ θανάτου ἄξιον ὄντα”, ἢ “μὴ ποιοῦντα θανάτου ἄξια”. τὸ μὲν οὖν εἶδος τὸ αὐτὸ τῆς λέξεως τούτων· ἀλλ’ ὅσῳ ἂν ‹ἐν› ἐλάττονι καὶ ἀντικειμένως λεχθῇ, τοσούτῳ εὐδοκιμεῖ μᾶλλον. τὸ δ’ αἴτιον ὅτι ἡ μάθησις διὰ μὲν τὸ ἀντικεῖσθαι μᾶλλον, διὰ δὲ τὸ ἐν ὀλίγῳ θᾶττον γίνεται. δεῖ δ’ ἀεὶ προσεῖναι [ἢ] τὸ πρὸς ὃν λέγεται [ἢ] ὀρθῶς λέγεσθαι, εἰ τὸ λεγόμενον ἀληθὲς καὶ μὴ ἐπιπόλαιον ‹ἔσται›· ἔστιν γὰρ ταῦτα χωρὶς ἔχειν, οἷον “ἀποθνῄσκειν δεῖ μηθὲν ἁμαρτάνοντα” [ἀλλ’ οὐκ ἀστεῖον], “τὴν ἀξίαν δεῖ γαμεῖν τὸν ἄξιον”, ἀλλ’ οὐκ ἀστεῖον, ἀλλ’ ‹ἢ› ἐὰν ἅμα ἄμφω ἔχῃ· “ἄξιόν γ’ ἀποθανεῖν μὴ ἄξιον ὄντα τοῦ ἀποθανεῖν”. ὅσῳ δ’ ἂν πλείω ἔχῃ, τοσούτῳ ἀστειότερον φαίνεται, οἷον εἰ καὶ τὰ ὀνόματα μεταφορὰ εἴη καὶ μεταφορὰ τοιαδὶ καὶ ἀντίθεσις καὶ παρίσωσις, καὶ ἔχοι ἐνέργειαν.

εἰσὶν δὲ καὶ αἱ εἰκόνες, ὥσπερ εἴρηται καὶ ἐν τοῖς ἄνω, αἱ εὐδοκιμοῦσαι τρόπον τινὰ μεταφοραί· ἀεὶ γὰρ ἐκ δυοῖν λέγονται, ὥσπερ ἡ ἀνάλογον μεταφορά, οἷον “ἡ ἀσπίς”, φαμέν, [1413a] “ἐστι φιάλη Ἄρεως”, καὶ “‹τὸ› τόξον φόρμιγξ ἄχορδος”. οὕτω μὲν οὖν λέγουσιν οὐχ ἁπλοῦν, τὸ δ’ εἰπεῖν τὸ τόξον φόρμιγγα ἢ τὴν ἀσπίδα φιάλην ἁπλοῦν. καὶ εἰκάζουσιν δὲ οὕτως, οἷον πιθήκῳ αὐλητήν, λύχνῳ ψακαζομένῳ [εἰς] μύωπα· ἄμφω γὰρ συνάγεται. τὸ δὲ εὖ ἐστὶν ὅταν μεταφορὰ ᾖ· ἔστιν γὰρ εἰκάσαι τὴν ἀσπίδα φιάλῃ Ἄρεως καὶ τὸ ἐρείπιον ῥάκει οἰκίας, καὶ τὸ τὸν Νικήρατον φάναι Φιλοκτήτην εἶναι δεδηγμένον ὑπὸ Πράτυος, ὥσπερ εἴκασεν Θρασύμαχος ἰδὼν τὸν Νικήρατον ἡττημένον ὑπὸ Πράτυος ῥαψῳδοῦντα, κομῶντα δὲ καὶ αὐχμηρὸν ἔτι. ἐν οἷς μάλιστά τ’ ἐκπίπτουσιν οἱ ποιηταὶ ἐὰν μὴ εὖ, καὶ ἐὰν εὖ, εὐδοκιμοῦσιν· λέγω δ’ ὅταν ἀποδιδῶσιν·

“ὥσπερ σέλινον οὖλα τὰ σκέλη φορεῖ.”
“ὥσπερ Φιλάμμων ζυγομαχῶν τῷ κωρύκῳ.”

καὶ τὰ τοιαῦτα πάντ’ εἰκόνες εἰσίν. αἱ δ’ εἰκόνες ὅτι μεταφοραί, εἴρηται πολλάκις.

καὶ αἱ παροιμίαι δὲ μεταφοραὶ ἀπ’ εἴδους ἐπ’ εἶδος εἰσίν·

οἷον ἄν τις ὡς ἀγαθὸν πεισόμενος αὐτὸς ἐπαγάγηται, εἶτα βλαβῇ, “ὡς ὁ Καρπάθιός”, φασιν, “τὸν λαγώ”· ἄμφω γὰρ τὸ εἰρημένον πεπόνθασιν. ὅθεν

μὲν οὖν τὰ ἀστεῖα λέγεται καὶ διότι, σχεδὸν εἴρηται τὸ αἴτιον· εἰσὶν δὲ καὶ ‹αἱ› εὐδοκιμοῦσαι ὑπερβολαὶ μεταφοραί, οἷον εἰς ὑπωπιασμένον “ᾠήθητε δ’ ἂν αὐτὸν εἶναι συκαμίνων κάλαθον”· ἐρυθρὸν γάρ τι τὸ ὑπώπιον, ἀλλὰ τοῦτο πολὺ σφόδρα. τὸ δὲ “ὥσπερ τὸ καὶ τὸ” ὑπερβολὴ τῇ λέξει διαφέρουσα. “ὥσπερ Φιλάμμων ζυγομαχῶν τῷ κωρύκῳ”, “ᾠήθης δ’ ἂν αὐτὸν Φιλάμμωνα εἶναι μαχόμενον τῷ κωρύκῳ”.

“ὥσπερ σέλινον οὖλα τὰ σκέλη φορεῖν”,

“ᾠήθης δ’ ἂν οὐ σκέλη ἀλλὰ σέλινα ἔχειν, οὕτως οὖλα”. εἰσὶ δ’ αἱ ὑπερβολαὶ μειρακιώδεις· σφοδρότητα γὰρ δηλοῦσιν. διὸ ὀργιζόμενοι λέγουσιν μάλιστα·

οὐδ’ εἴ μοι τόσα δοίη ὅσα ψάμαθός τε κόνις τε.
κούρην δ’ οὐ γαμέω Ἀγαμέμνονος Ἀτρεΐδαο,
οὐδ’ εἰ χρυσείῃ Ἀφροδίτῃ κάλλος ἐρίζοι,
ἔργα δ’ Ἀθηναίῃ·

[1413b]διὸ πρεσβυτέρῳ λέγειν ἀπρεπές· χρῶνται δὲ μάλιστα τούτῳ Ἀττικοὶ ῥήτορες.

Δεῖ δὲ μὴ λεληθέναι ὅτι ἄλλη ἑκάστῳ γένει ἁρμόττει λέξις. οὐ γὰρ ἡ αὐτὴ γραφικὴ καὶ ἀγωνιστική, οὐδὲ δημηγορικὴ καὶ δικανική. ἄμφω δὲ ἀνάγκη εἰδέναι· τὸ μὲν γάρ ἐστιν ἑλληνίζειν ἐπίστασθαι, τὸ δὲ μὴ ἀναγκάζεσθαι κατασιωπᾶν ἄν τι βούληται μεταδοῦναι τοῖς ἄλλοις, ὅπερ πάσχουσιν οἱ μὴ ἐπιστάμενοι γράφειν. ἔστι δὲ λέξις γραφικὴ μὲν ἡ ἀκριβεστάτη, ἀγωνιστικὴ δὲ ἡ ὑποκριτικωτάτη (ταύτης δὲ δύο εἴδη· ἡ μὲν γὰρ ἠθικὴ ἡ δὲ παθητική)· διὸ καὶ οἱ ὑποκριταὶ τὰ τοιαῦτα τῶν δραμάτων διώκουσι, καὶ οἱ ποιηταὶ τοὺς τοιούτους. βαστάζονται δὲ οἱ ἀναγνωστικοί, οἷον Χαιρήμων (ἀκριβὴς γὰρ ὥσπερ λογογράφος), καὶ Λικύμνιος τῶν διθυραμβοποιῶν. καὶ παραβαλλόμενοι οἱ μὲν τῶν γραφέων ‹λόγοι› ἐν τοῖς ἀγῶσι στενοὶ φαίνονται, οἱ δὲ τῶν ῥητόρων, εὖ λεχθέντες, ἰδιωτικοὶ ἐν ταῖς χερσίν. αἴτιον δ’ ὅτι ἐν τῷ ἀγῶνι ἁρμόττει τὰ ὑποκριτικά· διὸ καὶ ἀφῃρημένης τῆς ὑποκρίσεως οὐ ποιοῦντα τὸ αὑτῶν ἔργον φαίνεται εὐήθη, οἷον τά τε ἀσύνδετα καὶ τὸ πολλάκις τὸ αὐτὸ εἰπεῖν ἐν τῇ γραφικῇ ὀρθῶς ἀποδοκιμάζεται, ἐν δὲ ἀγωνιστικῇ οὔ, καὶ οἱ ῥήτορες χρῶνται· ἔστι γὰρ ὑποκριτική. ἀνάγκη δὲ μεταβάλλειν τὸ αὐτὸ λέγοντας, ὅπερ ὥσπερ ὁδοποιεῖ τῷ ὑποκρίνεσθαι· “οὗτός ἐστιν ὁ κλέψας ὑμῶν, οὗτός ἐστιν ὁ ἐξαπατήσας, οὗτος ὁ τὸ ἔσχατον προδοῦναι ἐπιχειρήσας”, οἷον καὶ Φιλήμων ὁ ὑποκριτὴς ἐποίει ἔν τε τῇ Ἀναξανδρίδου Γεροντομαχίᾳ, ὅτε λέγοι “Ῥαδάμανθυς καὶ Παλαμήδης”, καὶ ἐν τῷ προλόγῳ τῶν Εὐσεβῶν τὸ “ἐγώ”· ἐὰν γάρ τις τὰ

τοιαῦτα μὴ ὑποκρίνηται, γίγνεται “ὁ τὴν δοκὸν φέρων”. καὶ τὰ ἀσύνδετα ὡσαύτως· “ἦλθον, ἀπήντησα, ἐδεόμην·” ἀνάγκη γὰρ ὑποκρίνεσθαι καὶ μὴ ὡς ἓν λέγοντα τῷ αὐτῷ ἤθει καὶ τόνῳ εἰπεῖν. ἔτι ἔχει ἴδιόν τι τὰ ἀσύνδετα· ἐν ἴσῳ γὰρ χρόνῳ πολλὰ δοκεῖ εἰρῆσθαι· ὁ γὰρ σύνδεσμος ἓν ποιεῖ τὰ πολλά, ὥστε ἐὰν ἐξαιρεθῇ, δῆλον ὅτι τοὐναντίον ἔσται τὸ ἓν πολλά. ἔχει οὖν αὔξησιν· “ἦλθον, [1414a] διελέχθην, ἱκέτευσα” (πολλὰ δοκεῖ), “ὑπερεῖδεν ὅσα εἶπον”. τοῦτο δὲ βούλεται ποιεῖν καὶ Ὅμηρος ἐν τῷ

“Νιρεὺς αὖ Σύμηθεν”, “Νιρεὺς Ἀγλαΐης”, “Νιρεὺς ὃς κάλλιστος”.

περὶ οὗ γὰρ πολλὰ λέγεται, ἀνάγκη καὶ πολλάκις εἰρῆσθαι· εἰ οὖν [καὶ] πολλάκις, καὶ πολλὰ δοκεῖ, ὥστε ηὔξηκεν, ἅπαξ μνησθείς, διὰ τὸν παραλογισμόν, καὶ μνήμην πεποίηκεν, οὐδαμοῦ ὕστερον αὐτοῦ λόγον ποιησάμενος.

ἡ μὲν οὖν δημηγορικὴ λέξις καὶ παντελῶς ἔοικεν τῇ σκιαγραφίᾳ· ὅσῳ γὰρ ἂν πλείων ᾖ ὁ ὄχλος, πορρώτερον ἡ θέα, διὸ τὰ ἀκριβῆ περίεργα καὶ χείρω φαίνεται ἐν ἀμφοτέροις· ἡ δὲ δικανικὴ ἀκριβεστέρα. ἔτι δὲ μᾶλλον ἡ ‹ἐν› ἑνὶ κριτῇ· ἐλάχιστον γὰρ ἔνεστι ῥητορικῆς· εὐσύνοπτον γὰρ μᾶλλον τὸ οἰκεῖον τοῦ πράγματος καὶ τὸ ἀλλότριον, καὶ ὁ ἀγὼν ἄπεστιν, ὥστε καθαρὰ ἡ κρίσις. διὸ οὐχ οἱ αὐτοὶ ἐν πᾶσιν τούτοις εὐδοκιμοῦσιν ῥήτορες· ἀλλ’ ὅπου μάλιστα ὑπόκρισις, ἐνταῦθα ἥκιστα ἀκρίβεια ἔνι. τοῦτο δὲ ὅπου φωνῆς, καὶ μάλιστα ὅπου μεγάλης.

ἡ μὲν οὖν ἐπιδεικτικὴ λέξις γραφικωτάτη· τὸ γὰρ ἔργον αὐτῆς ἀνάγνωσις· δευτέρα δὲ ἡ δικανική. τὸ δὲ προσδιαιρεῖσθαι τὴν λέξιν, ὅτι ἡδεῖαν δεῖ εἶναι καὶ μεγαλοπρεπῆ, περίεργον· τί γὰρ μᾶλλον ἢ σώφρονα καὶ ἐλευθέριον καὶ εἴ τις ἄλλη ἤθους ἀρετή; τὸ δὲ ἡδεῖαν εἶναι ποιήσει δηλονότι τὰ εἰρημένα, εἴπερ ὀρθῶς ὥρισται ἡ ἀρετὴ τῆς λέξεως· τίνος γὰρ ἕνεκα δεῖ σαφῆ καὶ μὴ ταπεινὴν εἶναι ἀλλὰ πρέπουσαν; ἄν τε γὰρ ἀδολεσχῇ, οὐ σαφής, οὐδὲ ἂν σύντομος, ἀλλὰ δῆλον ὅτι τὸ μέσον ἁρμόττει. καὶ τὸ ἡδεῖαν τὰ εἰρημένα ποιήσει, ἂν εὖ μιχθῇ, τὸ εἰωθὸς καὶ ‹τὸ› ξενικόν, καὶ ὁ ῥυθμός, καὶ τὸ πιθανὸν ἐκ τοῦ πρέποντος.

περὶ μὲν οὖν τῆς λέξεως εἴρηται, καὶ κοινῇ περὶ ἁπάντων καὶ ἰδίᾳ περὶ ἑκάστου γένους· λοιπὸν δὲ περὶ τάξεως εἰπεῖν. ἔστι δὲ τοῦ λόγου δύο μέρη· ἀναγκαῖον γὰρ τό τε πρᾶγμα εἰπεῖν περὶ οὗ, καὶ τοῦτ’ ἀποδεῖξαι. διὸ εἰπόντα μὴ ἀποδεῖξαι ἢ ἀποδεῖξαι μὴ προειπόντα ἀδύνατον· ὅ τε γὰρ ἀποδεικνύων τι ἀποδείκνυσι, καὶ ὁ προλέγων ἕνεκα τοῦ ἀποδεῖξαι προλέγει. τούτων δὲ τὸ μὲν πρόθεσίς ἐστι τὸ δὲ πίστις, ὥσπερ ἂν εἴ τις διέλοι ὅτι τὸ μὲν πρόβλημα τὸ δὲ ἀπόδειξις. νῦν δὲ διαιροῦσι γελοίως· διήγησις γάρ που τοῦ δικανικοῦ μόνου λόγου ἐστίν, ἐπιδεικτικοῦ δὲ καὶ δημηγορικοῦ πῶς ἐνδέχεται εἶναι διήγησιν οἵαν λέγουσιν, [1414b] ἢ τὰ πρὸς τὸν ἀντίδικον, ἢ ἐπίλογον τῶν ἀποδεικτικῶν; προοίμιον δὲ καὶ ἀντιπαραβολὴ καὶ ἐπάνοδος ἐν ταῖς δημηγορίαις τότε γίνεται ὅταν ἀντιλογία ᾖ. καὶ γὰρ ἡ κατηγορία καὶ ἡ ἀπολογία πολλάκις, ἀλλ’ οὐχ ἡ συμβουλή· ἀλλ’ ὁ ἐπίλογος ἔτι οὐδὲ δικανικοῦ παντός, οἷον ἐὰν μικρὸς ὁ λόγος ἢ τὸ πρᾶγμα εὐμνημόνευτον· συμβαίνει γὰρ τοῦ μήκους ἀφαιρεῖσθαι. ἀναγκαῖα ἄρα μόρια πρόθεσις καὶ πίστις. ἴδια μὲν οὖν ταῦτα, τὰ δὲ πλεῖστα προοίμιον πρόθεσις πίστις ἐπίλογος· τὰ γὰρ πρὸς τὸν ἀντίδικον τῶν πίστεών ἐστι, καὶ ἡ ἀντιπαραβολὴ αὔξησις τῶν αὐτοῦ, ὥστε μέρος τι τῶν πίστεων (ἀποδείκνυσι γάρ τι ὁ ποιῶν τοῦτο), ἀλλ’ οὐ τὸ προοίμιον, οὐδ’ ὁ ἐπίλογος, ἀλλ’ ἀναμιμνήσκει. ἔσται οὖν, ἄν τις τὰ τοιαῦτα διαιρῇ, ὅπερ ἐποίουν οἱ περὶ Θεόδωρον, διήγησις ἕτερον καὶ [ἡ] ἐπιδιήγησις καὶ προδιήγησις, καὶ ἔλεγχος καὶ ἐπεξέλεγχος. δεῖ δὲ εἶδός τι λέγοντα καὶ διαφορᾷ ὄνομα τίθεσθαι· εἰ δὲ μή, γίνεται κενὸν καὶ ληρῶδες, οἷον Λικύμνιος ποιεῖ ἐν τῇ τέχνῃ, ἐπούρωσιν ὀνομάζων καὶ ἀποπλάνησιν καὶ ὄζους.

Τὸ μὲν οὖν προοίμιόν ἐστιν ἀρχὴ λόγου, ὅπερ ἐν ποιήσει πρόλογος καὶ ἐν αὐλήσει προαύλιον· πάντα γὰρ ἀρχαὶ ταῦτ’ εἰσί, καὶ οἷον ὁδοποίησις τῷ ἐπιόντι. τὸ μὲν οὖν προαύλιον ὅμοιον τῷ τῶν ἐπιδεικτικῶν προοιμίῳ· καὶ γὰρ οἱ αὐληταί, ὅ τι ἂν εὖ ἔχωσιν αὐλῆσαι, τοῦτο προαυλήσαντες συνῆψαν τῷ ἐνδοσίμῳ, καὶ ἐν τοῖς ἐπιδεικτικοῖς λόγοις δεῖ οὕτως γράφειν, ὅ τι [γὰρ] ἂν βούληται εὐθὺ εἰπόντα ἐνδοῦναι καὶ συνάψαι, ὅπερ πάντες ποιοῦσιν. παράδειγμα τὸ τῆς Ἰσοκράτους Ἑλένης προοίμιον· οὐθὲν γὰρ κοινὸν ὑπάρχει τοῖς ἐριστικοῖς καὶ Ἑλένῃ. ἅμα δὲ καὶ ἐὰν ἐκτοπίσῃ, ἁρμόττει, καὶ μὴ ὅλον τὸν λόγον ὁμοειδῆ εἶναι. λέγεται δὲ τὰ τῶν ἐπιδεικτικῶν προοίμια ἐξ ἐπαίνου ἢ ψόγου (οἷον Γοργίας μὲν ἐν τῷ Ὀλυμπικῷ λόγῳ “ὑπὸ πολλῶν ἄξιοι θαυμάζεσθαι, ὦ ἄνδρες Ἕλληνες”· ἐπαινεῖ γὰρ τοὺς τὰς πανηγύρεις συνάγοντας· Ἰσοκράτης δὲ ψέγει ὅτι τὰς μὲν τῶν σωμάτων ἀρετὰς δωρεαῖς ἐτίμησαν, τοῖς δ’ εὖ φρονοῦσιν οὐθὲν ἆθλον ἐποίησαν), καὶ ἀπὸ συμβουλῆς (οἷον ὅτι δεῖ τοὺς ἀγαθοὺς τιμᾶν, διὸ καὶ αὐτὸς Ἀριστείδην ἐπαινεῖ, ἢ τοὺς τοιούτους οἳ μήτε εὐδοκιμοῦσιν μήτε φαῦλοι, ἀλλ’ ὅσοι ἀγαθοὶ ὄντες ἄδηλοι, ὥσπερ Ἀλέξανδρος ὁ Πριάμου· οὗτος γὰρ συμβουλεύει)· ἔτι δ’ ἐκ τῶν [1415a] δικανικῶν προοιμίων· τοῦτο δ’ ἐστὶν ἐκ τῶν πρὸς τὸν ἀκροατήν, εἰ περὶ παραδόξου λόγος ἢ περὶ χαλεποῦ ἢ περὶ τεθρυλημένου πολλοῖς, ὥστε συγγνώμην ἔχειν, οἷον Χοιρίλος

νῦν δ’ ὅτε πάντα δέδασται.

τὰ μὲν οὖν τῶν ἐπιδεικτικῶν λόγων προοίμια ἐκ τούτων, ἐξ ἐπαίνου, ἐκ ψόγου, ἐκ προτροπῆς, ἐξ ἀποτροπῆς, ἐκ τῶν πρὸς τὸν ἀκροατήν· δεῖ δὲ ἢ ξένα ἢ οἰκεῖα εἶναι τὰ ἐνδόσιμα τῷ λόγῳ. τὰ δὲ τοῦ δικανικοῦ προοίμια δεῖ λαβεῖν ὅτι ταὐτὸ δύναται ὅπερ τῶν δραμάτων οἱ πρόλογοι καὶ τῶν ἐπῶν τὰ προοίμια· τὰ μὲν γὰρ τῶν διθυράμβων ὅμοια τοῖς ἐπιδεικτικοῖς· “διὰ σὲ καὶ τεὰ δῶρα εἴτε σκῦλα”. ἐν δὲ προλόγοις καὶ ἔπεσι δεῖγμά ἐστιν τοῦ λόγου, ἵνα προειδῶσι περὶ οὗ [ᾖ] ὁ λόγος καὶ μὴ κρέμηται ἡ διάνοια· τὸ γὰρ ἀόριστον πλανᾷ· ὁ δοὺς οὖν ὥσπερ εἰς τὴν χεῖρα τὴν ἀρχὴν ποιεῖ ἐχόμενον ἀκολουθεῖν τῷ λόγῳ. διὰ τοῦτο

“μῆνιν ἄειδε, θεά”. “ἄνδρα μοι ἔννεπε, μοῦσα.”
“ἤγεό μοι λόγον ἄλλον, ὅπως Ἀσίας ἀπὸ γαίης
ἦλθεν ἐς Εὐρώπην πόλεμος μέγας.”

καὶ οἱ τραγικοὶ δηλοῦσι περὶ ‹οὗ› τὸ δρᾶμα, κἂν μὴ εὐθὺς ὥσπερ Εὐριπίδης ἐν τῷ προλόγῳ, ἀλλά πού γε, ὥσπερ [καὶ] Σοφοκλῆς

“ἐμοὶ πατὴρ ἦν Πόλυβος”. καὶ ἡ κωμῳδία ὡσαύτως. τὸ μὲν οὖν ἀναγκαιότατον ἔργον τοῦ προοιμίου καὶ ἴδιον τοῦτο, δηλῶσαι τί ἐστιν τὸ τέλος οὗ ἕνεκα ὁ λόγος (διόπερ ἂν δῆλον ᾖ καὶ μικρὸν τὸ πρᾶγμα, οὐ χρηστέον προοιμίῳ)· τὰ δὲ ἄλλα εἴδη οἷς χρῶνται, ἰατρεύματα καὶ κοινά. λέγεται δὲ ταῦτα ἔκ τε τοῦ λέγοντος καὶ τοῦ ἀκροατοῦ καὶ τοῦ πράγματος καὶ τοῦ ἐναντίου περὶ αὐτοῦ μὲν καὶ τοῦ ἀντιδίκου οἷά περ διαβολὴν λῦσαι καὶ ποιῆσαι (ἔστιν δὲ οὐχ ὁμοίως· ἀπολογουμένῳ μὲν γὰρ πρῶτον τὰ πρὸς διαβολήν, κατηγοροῦντι δ’ ἐν τῷ ἐπιλόγῳ· δι’ ὃ δέ, οὐκ ἄδηλον· τὸν μὲν γὰρ ἀπολογούμενον, ὅταν μέλλῃ εἰσάξειν αὑτόν, ἀναγκαῖον ἀνελεῖν τὰ κωλύοντα, ὥστε λυτέον πρῶτον τὴν διαβολήν· τῷ δὲ διαβάλλοντι ἐν τῷ ἐπιλόγῳ διαβλητέον, ἵνα μνημονεύσωσι μᾶλλον). τὰ δὲ πρὸς τὸν ἀκροατὴν ἔκ τε τοῦ εὔνουν ποιῆσαι καὶ ἐκ τοῦ ὀργίσαι, καὶ ἐνίοτε τὸ προσεκτικὸν ἢ τοὐναντίον· οὐ γὰρ ἀεὶ συμφέρει ποιεῖν προσεκτικόν, διὸ πολλοὶ εἰς γέλωτα πειρῶνται προάγειν. εἰς δὲ εὐμάθειαν ἅπαντα ἀνάξει, ἐάν τις βούληται, καὶ τὸ ἐπιεικῆ φαίνεσθαι· προσέχουσι γὰρ [1415b] μᾶλλον τούτοις. προσεκτικοὶ δὲ τοῖς μεγάλοις, τοῖς ἰδίοις, τοῖς θαυμαστοῖς, τοῖς ἡδέσιν· διὸ δεῖ ἐμποιεῖν ὡς περὶ τοιούτων ὁ λόγος· ἐὰν δὲ μὴ προσεκτικούς, ὅτι μικρόν, ὅτι οὐδὲν πρὸς ἐκείνους, ὅτι λυπηρόν. δεῖ δὲ μὴ λανθάνειν ὅτι πάντα ἔξω τοῦ λόγου τὰ τοιαῦτα· πρὸς φαῦλον γὰρ ἀκροατὴν καὶ τὰ ἔξω τοῦ πράγματος ἀκούοντα· ἐπεὶ ἂν μὴ τοιοῦτος ᾖ, οὐθὲν δεῖ προοιμίου, ἀλλ’ ἢ ὅσον τὸ πρᾶγμα εἰπεῖν κεφαλαιωδῶς, ἵνα ἔχῃ ὥσπερ σῶμα κεφαλήν. ἔτι τὸ προσεκτικοὺς ποιεῖν πάντων τῶν μερῶν κοινόν, ἐὰν δέῃ· πανταχοῦ γὰρ ἀνιᾶσι μᾶλλον ἢ ἀρχόμενοι· διὸ γελοῖον ἐν ἀρχῇ τάττειν, ὅτε μάλιστα πάντες προσέχοντες ἀκροῶνται· ὥστε ὅπου ἂν ᾖ καιρός, λεκτέον “καί μοι προσέχετε τὸν νοῦν· οὐθὲν γὰρ μᾶλλον ἐμὸν ἢ ὑμέτερον”, καὶ “ἐρῶ γὰρ ὑμῖν οἷον οὐδεπώποτε ἀκηκόατε δεινὸν ἢ οὕτω θαυμαστόν”. τοῦτο δ’ ἐστίν, ὥσπερ ἔφη Πρόδικος, ὅτε νυστάζοιεν οἱ ἀκροαταί, παρεμβάλλειν ‹τι› τῆς πεντηκονταδράχμου αὐτοῖς. ὅτι δὲ πρὸς τὸν ἀκροατὴν οὐχ ᾗπερ [ὁ] ἀκροατής, δῆλον· πάντες γὰρ ἢ διαβάλλουσιν ἢ φόβους ἀπολύονται ἐν τοῖς προοιμίοις·

ἄναξ, ἐρῶ μὲν οὐχ ὅπως σπουδῆς ὕπο,
τί φροιμιάζῃ;,

καὶ οἱ πονηρὸν τὸ πρᾶγμα ἔχοντες ἢ δοκοῦντες· πανταχοῦ γὰρ βέλτιον διατρίβειν ἢ ἐν τῷ πράγματι, διὸ οἱ δοῦλοι οὐ τὰ ἐρωτώμενα λέγουσιν ἀλλὰ τὰ κύκλῳ, καὶ προοιμιάζονται. πόθεν δ’ εὔνους δεῖ ποιεῖν, εἴρηται, καὶ τῶν ἄλλων ἕκαστον τῶν τοιούτων. ἐπεὶ δ’ εὖ λέγεται

δός μ’ ἐς Φαίηκας φίλον ἐλθεῖν ἠδ’ ἐλεεινόν,

τούτων δεῖ δύο στοχάζεσθαι. ἐν δὲ τοῖς ἐπιδεικτικοῖς οἴεσθαι δεῖ ποιεῖν συνεπαινεῖσθαι τὸν ἀκροατήν, ἢ αὐτὸν ἢ γένος ἢ ἐπιτηδεύματ’ αὐτοῦ ἢ ἄλλως γέ πως· ὃ γὰρ λέγει Σωκράτης ἐν τῷ ἐπιταφίῳ, ἀληθές, ὅτι οὐ χαλεπὸν Ἀθηναίους ἐν Ἀθηναίοις ἐπαινεῖν, ἀλλ’ ἐν Λακεδαιμονίοις.

τὰ δὲ τοῦ δημηγορικοῦ ἐκ τῶν τοῦ δικανικοῦ λόγου ἐστίν, φύσει δὲ ἥκιστα ἔχει· καὶ γὰρ καὶ περὶ οὗ ἴσασιν, καὶ οὐδὲν δεῖται τὸ πρᾶγμα προοιμίου, ἀλλ’ ἢ δι’ αὑτὸν ἢ τοὺς ἀντιλέγοντας, ἢ ἐὰν μὴ ἡλίκον βούλει ὑπολαμβάνωσιν, ἀλλ’ ἢ μεῖζον ἢ ἔλαττον, διὸ ἢ διαβάλλειν ἢ ἀπολύεσθαι ἀνάγκη, καὶ ἢ αὐξῆσαι ἢ μειῶσαι. τούτων δὲ ἕνεκα προοιμίου δεῖται, ἢ κόσμου χάριν, ὡς αὐτοκάβδαλα [1416a] φαίνεται ἐὰν μὴ ἔχῃ. τοιοῦτον γὰρ τὸ Γοργίου ἐγκώμιον εἰς Ἠλείους· οὐδὲν γὰρ προεξαγκωνίσας οὐδὲ προανακινήσας εὐθὺς ἄρχεται “Ἦλις, πόλις εὐδαίμων”.

Περὶ δὲ διαβολῆς ἓν μὲν τὸ ἐξ ὧν ἄν τις ὑπόληψιν δυσχερῆ ἀπολύσαιτο (οὐθὲν γὰρ διαφέρει εἴτε εἰπόντος τινὸς εἴτε μή, ὥστε τοῦτο καθόλου)· ἄλλος τόπος ὥστε πρὸς τὰ ἀμφισβητούμενα ἀπαντᾶν, ἢ ὡς οὐκ ἔστιν, ἢ ὡς οὐ βλαβερὸν ἢ οὐ τούτῳ, ἢ ὡς οὐ τηλικοῦτον, ἢ οὐκ ἄδικον ἢ οὐ μέγα, ἢ οὐκ αἰσχρὸν ἢ οὐκ ἔχον μέγεθος· περὶ γὰρ τοιούτων ἡ ἀμφισβήτησις, ὥσπερ Ἰφικράτης πρὸς Ναυσικράτην· ἔφη γὰρ ποιῆσαι ὃ ἔλεγεν καὶ βλάψαι, ἀλλ’ οὐκ ἀδικεῖν. ἢ ἀντικαταλλάττεσθαι ἀδικοῦντα, εἰ βλαβερόν, ἀλλ’ οὖν καλόν, εἰ λυπηρόν, ἀλλ’ ὠφέλιμον, ἤ τι ἄλλο τοιοῦτον. ἄλλος τόπος ὡς ἐστὶν ἁμάρτημα ἢ ἀτύχημα ἢ ἀναγκαῖον, οἷον Σοφοκλῆς ἔφη τρέμειν οὐχ ὡς ὁ διαβάλλων ἔφη, ἵνα δοκῇ γέρων, ἀλλ’ ἐξ ἀνάγκης· οὐ γὰρ ἑκόντι εἶναι αὐτῷ

ἔτη ὀγδοήκοντα. καὶ ἀντικαταλλάττεσθαι τὸ οὗ ἕνεκα, ὅτι οὐ βλάψαι ἐβούλετο ἀλλὰ τόδε, καὶ οὐ τοῦτο ὃ διεβάλλετο ποιῆσαι, συνέβη δὲ βλαβῆναι· “δίκαιον δὲ μισεῖν, εἰ ὅπως τοῦτο γένηται ἐποίουν.” ἄλλος, εἰ ἐμπεριείληπται ὁ διαβάλλων, ἢ νῦν ἢ πρότερον, ἢ αὐτὸς ἢ τῶν ἐγγύς τις. ἄλλος, εἰ ἄλλοι ἐμπεριλαμβάνονται οὓς ὁμολογοῦσιν μὴ ἐνόχους εἶναι τῇ διαβολῇ, οἷον εἰ, ὅτι καθάριος, ὁ ‹δεῖνα› μοιχός, καὶ ὁ δεῖνα ἄρα. ἄλλος, εἰ ἄλλους διέβαλεν ἢ ἄλλος ‹ἢ› αὐτός, ἢ ἄνευ διαβολῆς ὑπελαμβάνοντο ὥσπερ αὐτὸς νῦν, οἳ πεφήνασιν οὐκ ἔνοχοι. ἄλλος ἐκ τοῦ ἀντιδιαβάλλειν τὸν διαβάλλοντα· ἄτοπον γὰρ εἰ ὃς αὐτὸς ἄπιστος, οἱ τούτου λόγοι ἔσονται πιστοί. ἄλλος, εἰ γέγονεν κρίσις, ὥσπερ Εὐριπίδης πρὸς Ὑγιαίνοντα ἐν τῇ ἀντιδόσει κατηγοροῦντα ὡς ἀσεβής, ὅς γ’ ἐποίησε κελεύων ἐπιορκεῖν,

ἡ γλῶσσ’ ὀμώμοχ’, ἡ δὲ φρὴν ἀνώμοτος.

ἔφη γὰρ αὐτὸν ἀδικεῖν τὰς ἐκ τοῦ Διονυσιακοῦ ἀγῶνος κρίσεις εἰς τὰ δικαστήρια ἄγοντα· ἐκεῖ γὰρ αὐτῶν δεδωκέναι λόγον, ἢ δώσειν εἰ βούλεται κατηγορεῖν. ἄλλος ἐκ τοῦ διαβολῆς κατηγορεῖν, ἡλίκον, καὶ τοῦτο, ὅτι ἄλλας κρίσεις ποιεῖ, καὶ ὅτι οὐ πιστεύει τῷ πράγματι.

κοινὸς [1416b] δ’ ἀμφοῖν [ὁ] τόπος τὸ σύμβολα λέγειν, οἷον ἐν τῷ Τεύκρῳ ὁ Ὀδυσσεὺς ὅτι οἰκεῖος τῷ Πριάμῳ· ἡ γὰρ Ἡσιόνη ἀδελφή· ὁ δὲ ὅτι ὁ πατὴρ ἐχθρὸς τῷ Πριάμῳ, ὁ Τελαμών, καὶ ὅτι οὐ κατεῖπε τῶν κατασκόπων.

ἄλλος τῷ διαβάλλοντι, τὸ ἐπαινοῦντα μικρὸν μακρῶς ψέξαι μέγα συντόμως, ἢ πολλὰ ἀγαθὰ προθέντα, ὃ εἰς τὸ πρᾶγμα προφέρει ἓν ψέξαι. τοιοῦτοι δὲ οἱ τεχνικώτατοι καὶ ἀδικώτατοι· τοῖς ἀγαθοῖς γὰρ βλάπτειν πειρῶνται, μιγνύντες αὐτὰ τῷ κακῷ.

κοινὸν δὲ τῷ διαβάλλοντι καὶ τῷ ἀπολυομένῳ, ἐπειδὴ τὸ αὐτὸ ἐνδέχεται πλειόνων ἕνεκα πραχθῆναι, τῷ μὲν διαβάλλοντι κακοηθιστέον ἐπὶ τὸ χεῖρον ἐκλαμβάνοντι, τῷ δὲ ἀπολυομένῳ ἐπὶ τὸ βέλτιον, οἷον ὅτι ὁ Διομήδης τὸν Ὀδυσσέα προείλετο, τῷ μὲν ὅτι διὰ τὸ ἄριστον ὑπολαμβάνειν τὸν Ὀδυσσέα, τῷ δ’ ὅτι οὔ, ἀλλὰ διὰ τὸ μόνον μὴ ἀνταγωνιστεῖν ὡς φαῦλον.

Καὶ περὶ μὲν διαβολῆς εἰρήσθω τοσαῦτα, διήγησις δ’ ἐν μὲν τοῖς ἐπιδεικτικοῖς ἐστιν οὐκ ἐφεξῆς ἀλλὰ κατὰ μέρος· δεῖ μὲν γὰρ τὰς πράξεις διελθεῖν ἐξ ὧν ὁ λόγος· σύγκειται γὰρ ἔχων ὁ λόγος τὸ μὲν ἄτεχνον (οὐθὲν γὰρ αἴτιος ὁ λέγων τῶν πράξεων), τὸ δ’ ἐκ τῆς τέχνης· τοῦτο δ’ ἐστὶν ἢ ὅτι ἔστι δεῖξαι, ἐὰν ᾖ ἄπιστον, ἢ ὅτι ποιόν, ἢ ὅτι ποσόν, ἢ καὶ ἅπαντα. διὰ δὲ τοῦτ’ ἐνίοτε οὐκ ἐφεξῆς δεῖ διηγεῖσθαι πάντα, ὅτι δυσμνημόνευτον τὸ δεικνύναι οὕτως· ἐκ μὲν οὖν τούτων ἀνδρεῖος, ἐκ δὲ τῶνδε σοφὸς ἢ δίκαιος. καὶ ἁπλούστερος ὁ λόγος οὗτος, ἐκεῖνος δὲ ποικίλος καὶ οὐ λιτός. δεῖ δὲ τὰς

μὲν γνωρίμους ἀναμιμνήσκειν· διὸ οἱ πολλοὶ οὐδὲν δέονται διηγήσεως, οἷον εἰ θέλεις Ἀχιλλέα ἐπαινεῖν (ἴσασι γὰρ πάντες τὰς πράξεις), ἀλλὰ χρῆσθαι αὐταῖς δεῖ. ἐὰν δὲ Κριτίαν, δεῖ· οὐ γὰρ πολλοὶ ἴσασιν .... νῦν δὲ γελοίως τὴν διήγησίν φασι δεῖν εἶναι ταχεῖαν. καίτοι ὥσπερ [ὁ] τῷ μάττοντι ἐρομένῳ πότερον σκληρὰν ἢ μαλακὴν μάξῃ “τί δ’”, ἔφη ‹τις›, “εὖ ἀδύνατον;”, καὶ ἐνταῦθα ὁμοίως· δεῖ γὰρ μὴ μακρῶς διηγεῖσθαι ὥσπερ οὐδὲ προοιμιάζεσθαι μακρῶς, οὐδὲ τὰς πίστεις λέγειν. οὐδὲ γὰρ ἐνταῦθά ἐστι τὸ εὖ [ἢ] τὸ ταχὺ ἢ τὸ συντόμως, ἀλλὰ τὸ μετρίως· τοῦτο δ’ ἐστὶ τὸ λέγειν ὅσα δηλώσει τὸ πρᾶγμα, [1417a] ἢ ὅσα ποιήσει ὑπολαβεῖν γεγονέναι ἢ βεβλαφέναι ἢ ἠδικηκέναι, ἢ τηλικαῦτα ἡλίκα βούλει, τῷ δὲ ἐναντίῳ τὰ ἐναντία· παραδιηγεῖσθαι δὲ ὅσα εἰς τὴν σὴν ἀρετὴν φέρει (οἷον “ἐγὼ δ’ ἐνουθέτουν, ἀεὶ τὰ δίκαια λέγων, μὴ τὰ τέκνα ἐγκαταλείπειν”), ἢ θατέρου κακίαν· “ὁ δὲ ἀπεκρίνατό μοι ὅτι, οὗ ἂν ᾖ αὐτός, ἔσται ἄλλα παιδία”, ὃ τοὺς ἀφισταμένους Αἰγυπτίους ἀποκρίνασθαί φησιν ὁ Ἡρόδοτος· ἢ ὅσα ἡδέα τοῖς δικασταῖς. ἀπολογουμένῳ δὲ ἐλάττων ἡ διήγησις· αἱ γὰρ ἀμφισβητήσεις ἢ μὴ γεγονέναι ἢ μὴ βλαβερὸν εἶναι ἢ μὴ ἄδικον ἢ μὴ τηλικοῦτον, ὥστε περὶ τὸ ὁμολογούμενον οὐ διατριπτέον, ἐὰν μή τι εἰς ἐκεῖνο συντείνῃ, οἷον εἰ πέπρακται, ἀλλ’ οὐκ ἄδικον. ἔτι πεπραγμένα δεῖ λέγειν ὅσα μὴ πραττόμενα ἢ οἶκτον ἢ δείνωσιν φέρει· παράδειγμα ὁ Ἀλκίνου ἀπόλογος, ὃς πρὸς τὴν Πηνελόπην ἐν ἑξήκοντα ἔπεσιν πεποίηται, καὶ ὡς Φάϋλλος τὸν κύκλον, καὶ ὁ ἐν τῷ Οἰνεῖ πρόλογος. ἠθικὴν δὲ χρὴ τὴν διήγησιν εἶναι· ἔσται δὲ τοῦτο, ἂν εἰδῶμεν τί ἦθος ποιεῖ. ἓν μὲν δὴ τὸ προαίρεσιν δηλοῦν, ποιὸν δὲ τὸ ἦθος τῷ ποιὰν ταύτην, ἡ δὲ προαίρεσις ποιὰ τῷ τέλει· διὰ τοῦτο ‹δ’› οὐκ ἔχουσιν οἱ μαθηματικοὶ λόγοι ἤθη, ὅτι οὐδὲ προαίρεσιν (τὸ γὰρ οὗ ἕνεκα οὐκ ἔχουσιν), ἀλλ’ οἱ Σωκρατικοί· περὶ τοιούτων γὰρ λέγουσιν. ἄλλα δ’ ἠθικὰ τὰ ἑπόμενα ἑκάστῳ ἤθει, οἷον ὅτι ἅμα λέγων ἐβάδιζεν· δηλοῖ γὰρ θρασύτητα καὶ ἀγροικίαν ἤθους. καὶ μὴ ὡς ἀπὸ διανοίας λέγειν, ὥσπερ οἱ νῦν, ἀλλ’ ὡς ἀπὸ προαιρέσεως· “ἐγὼ δὲ ἐβουλόμην· καὶ προειλόμην γὰρ τοῦτο· ἀλλ’ εἰ μὴ ὠνήμην, βέλτιον”· τὸ μὲν γὰρ φρονίμου τὸ δὲ ἀγαθοῦ· φρονίμου μὲν γὰρ ἐν τῷ τὸ ὠφέλιμον διώκειν, ἀγαθοῦ δ’ ἐν τῷ τὸ καλόν. ἂν δ’ ἄπιστον ᾖ, τότε τὴν αἰτίαν ἐπιλέγειν, ὥσπερ Σοφοκλῆς ποιεῖ· παράδειγμα τὸ ἐκ τῆς Ἀντιγόνης, ὅτι μᾶλλον τοῦ ἀδελφοῦ ἐκήδετο ἢ ἀνδρὸς ἢ τέκνων· τὰ μὲν γὰρ ἂν γενέσθαι ἀπολομένων,

μητρὸς δ’ ἐν Ἅιδου καὶ πατρὸς βεβηκότων
οὐκ ἔστ’ ἀδελφὸς ὅς τις ἂν βλάστοι ποτέ.

ἐὰν δὲ μὴ ἔχῃς αἰτίαν, ἀλλ’ ὅτι οὐκ ἀγνοεῖς ἄπιστα λέγων, ἀλλὰ φύσει τοιοῦτος εἶ· ἀπιστοῦσι γὰρ ἄλλο τι πράττειν ἑκόντα πλὴν τὸ συμφέρον. ἔτι ἐκ τῶν παθητικῶν λέγε διηγούμενος καὶ τὰ ἑπόμενα [καὶ] ἃ ἴσασι, καὶ τὰ ἴδια ἢ σεαυτῷ ἢ ἐκείνῳ προσόντα· "ὁ δ' ᾤχετό με ὑποβλέψας".

[1417b] καὶ ὡς περὶ Κρατύλου Αἰσχίνης, ὅτι διασίζων, τοῖν χειροῖν διασείων· πιθανὰ γάρ, διότι σύμβολα γίγνεται ταῦτα ἃ ἴσασιν ἐκείνων ὧν οὐκ ἴσασιν. πλεῖστα δὲ τοιαῦτα λαβεῖν ἐξ Ὁμήρου ἔστιν·

ὣς ἄρ' ἔφη, γρῆυς δὲ κατέσχετο χερσὶ πρόσωπα·

οἱ γὰρ δακρύειν ἀρχόμενοι ἐπιλαμβάνονται τῶν ὀφθαλμῶν. καὶ εὐθὺς εἴσαγε καὶ σεαυτὸν ποιόν τινα, ἵνα ὡς τοιοῦτον θεωρῶσιν, καὶ τὸν ἀντίδικον· λανθάνων δὲ ποίει. ὅτι δὲ ῥᾴδιον, ὅρα ἐκ τῶν ἀπαγγελλόντων· περὶ ὧν γὰρ μηθὲν ἴσμεν, ὅμως λαμβάνομεν ὑπόληψιν τινά. πολλαχοῦ δὲ δεῖ διηγεῖσθαι, καὶ ἐνίοτε οὐκ ἐν ἀρχῇ.

ἐν δὲ δημηγορίᾳ ἥκιστα διήγησις ἔστιν, ὅτι περὶ τῶν μελλόντων οὐθεὶς διηγεῖται· ἀλλ' ἐάν περ διήγησις ᾖ, τῶν γενομένων ἔστω, ἵνα ἀναμνησθέντες ἐκείνων βέλτιον βουλεύσωνται περὶ τῶν ὕστερον, ἢ διαβάλλοντος ἢ ἐπαινοῦντος· ἀλλὰ τότε οὐ†τὸ τοῦ συμβούλου ποιεῖ ἔργον. ἂν δ' ᾖ ἄπιστον, ὑπισχνεῖσθαι δεῖ καὶ αἰτίαν λέγειν εὐθὺς καὶ διατάττειν ὡς βούλονται, οἷον ἡ Ἰοκάστη ἡ Καρκίνου ἐν τῷ Οἰδίποδι ἀεὶ ὑπισχνεῖται πυνθανομένου τοῦ ζητοῦντος τὸν υἱόν, καὶ ὁ Αἵμων ὁ Σοφοκλέους.

Τὰς δὲ πίστεις δεῖ ἀποδεικτικὰς εἶναι· ἀποδεικνύναι δὲ χρή, ἐπεί περ τεττάρων ἡ ἀμφισβήτησις, περὶ τοῦ ἀμφισβητουμένου φέροντα τὴν ἀπόδειξιν, οἷον, εἰ ὅτι οὐ γέγονεν ἀμφισβητεῖται, ἐν τῇ κρίσει δεῖ τούτου μάλιστα τὴν ἀπόδειξιν φέρειν, εἰ δ' ὅτι οὐκ ἔβλαψεν, τούτου, καὶ ὅτι οὐ τοσόνδε ἢ ὅτι δικαίως, ὡσαύτως καὶ εἰ περὶ τοῦ γενέσθαι τοῦτο ἡ ἀμφισβήτησις. μὴ λανθανέτω δ' ὅτι ἀναγκαῖον ἐν ταύτῃ τῇ ἀμφισβητήσει μόνῃ τὸν ἕτερον εἶναι πονηρόν· οὐ γάρ ἐστιν ἄγνοια αἰτία, ὥσπερ ἂν εἴ τινες περὶ τοῦ δικαίου ἀμφισβητοῖεν, ὥστ' ἐν τούτῳ χρονιστέον, ἐν δὲ τοῖς ἄλλοις οὔ. ἐν δὲ τοῖς ἐπιδεικτικοῖς τὸ πολὺ ὅτι καλὰ καὶ ὠφέλιμα ἡ αὔξησις ἔστω· τὰ γὰρ πράγματα δεῖ πιστεύεσθαι· ὀλιγάκις γὰρ καὶ τούτων ἀποδείξεις φέρουσιν, ἐὰν ἄπιστα ᾖ ἢ ἐὰν ἄλλος αἰτίαν ἔχῃ. ἐν δὲ τοῖς δημηγορικοῖς ἢ ὡς οὐκ ἔσται ἀμφισβητήσειεν ἄν τις, ἢ ὡς ἔσται μὲν ‹ποιοῦσιν› ἃ κελεύει, ἀλλ' οὐ δίκαια ἢ οὐκ ὠφέλιμα ἢ οὐ τηλικαῦτα. δεῖ δὲ καὶ ὁρᾶν εἴ τι ψεύδεται ἐκτὸς τοῦ πράγματος· τεκμήρια γὰρ ταῦτα φαίνεται [1418a] καὶ τῶν ἄλλων ὅτι ψεύδεται. ἔστιν δὲ τὰ μὲν παραδείγματα δημηγορικώτερα, τὰ δ' ἐνθυμήματα δικανικώτερα· ἡ μὲν γὰρ περὶ τὸ μέλλον, ὥστ' ἐκ τῶν γενομένων ἀνάγκη παραδείγματα λέγειν, ἡ δὲ περὶ ὄντων ἢ μὴ ὄντων, οὗ μᾶλλον ἀπόδειξίς ἐστι καὶ ἀνάγκη· ἔχει γὰρ τὸ γεγονὸς ἀνάγκην. οὐ δεῖ δὲ ἐφεξῆς λέγειν τὰ ἐνθυμήματα, ἀλλ’ ἀναμιγνύναι· εἰ δὲ μή, καταβλάπτει ἄλληλα. ἔστιν γὰρ καὶ τοῦ ποσοῦ ὅρος.

ὦ φίλ’, ἐπεὶ τόσα εἶπες ὅσ’ ἂν πεπνυμένος ἀνήρ,

ἀλλ’ οὐ τοιαῦτα. καὶ μὴ περὶ πάντων ἐνθυμήματα ζητεῖ· εἰ δὲ μή, ποιήσεις ὅπερ ἔνιοι ποιοῦσι τῶν φιλοσοφούντων, οἳ συλλογίζονται τὰ γνωριμώτερα καὶ πιστότερα ἢ ἐξ ὧν λέγουσιν. καὶ ὅταν πάθος ποιῇς, μὴ λέγε ἐνθύμημα (ἢ γὰρ ἐκκρούσει τὸ πάθος ἢ μάτην εἰρημένον ἔσται τὸ ἐνθύμημα· ἐκκρούουσι γὰρ αἱ κινήσεις ἀλλήλας αἱ ἅμα, καὶ ἢ ἀφανίζουσιν ἢ ἀσθενεῖς ποιοῦοιν), οὐδ’ ὅταν ἠθικὸν τὸν λόγον, οὐ δεῖ ἐνθύμημά τι ζητεῖν ἅμα· οὐ γὰρ ἔχει οὔτε ἦθος οὔτε προαίρεσιν ἡ ἀπόδειξις. γνώμαις δὲ χρηστέον καὶ ἐν διηγήσει καὶ ἐν πίστει· ἠθικὸν γὰρ “καὶ ἐγὼ δέδωκα, καὶ ταῦτ’ εἰδὼς ὡς οὐ δεῖ πιστεύειν”· ἐὰν δὲ παθητικῶς, “καὶ οὐ μεταμέλει μοι καίπερ ἠδικημένῳ· τούτῳ μὲν γὰρ περίεστιν τὸ κέρδος, ἐμοὶ δὲ τὸ δίκαιον.”

τὸ δὲ δημηγορεῖν χαλεπώτερον τοῦ δικάζεσθαι, εἰκότως, διότι περὶ τὸ μέλλον, ἐκεῖ δὲ περὶ τὸ γεγονός, ὃ ἐπιστητὸν ἤδη καὶ τοῖς μάντεσιν, ὡς ἔφη Ἐπιμενίδης ὁ Κρής (ἐκεῖνος γὰρ περὶ τῶν ἐσομένων οὐκ ἐμαντεύετο, ἀλλὰ περὶ τῶν γεγονότων μὲν ἀδήλων δέ), καὶ ὁ νόμος ὑπόθεσις ἐν τοῖς δικανικοῖς· ἔχοντα δὲ ἀρχὴν ῥᾷον εὑρεῖν ἀπόδειξιν. καὶ οὐκ ἔχει πολλὰς διατριβάς, οἷον πρὸς ἀντίδικον ἢ περὶ αὑτοῦ, ἢ παθητικὸν ποιεῖν, ἀλλ’ ἥκιστα πάντων, ἐὰν μὴ ἐξιστῇ. δεῖ οὖν ἀποροῦντα τοῦτο ποιεῖν ὅπερ οἱ Ἀθήνησι ῥήτορες ποιοῦσι καὶ Ἰσοκράτης· καὶ γὰρ συμβουλεύων κατηγορεῖ, οἷον Λακεδαιμονίων μὲν ἐν τῷ πανηγυρικῷ, Χάρητος δ’ ἐν τῷ συμμαχικῷ. ἐν δὲ τοῖς ἐπιδεικτικοῖς δεῖ τὸν λόγον ἐπεισοδιοῦν ἐπαίνοις, οἷον Ἰσοκράτης ποιεῖ· ἀεὶ γάρ τινα εἰσάγει. καὶ ὃ ἔλεγεν Γοργίας, ὅτι οὐχ ὑπολείπει αὐτὸν ὁ λόγος, ταὐτό ἐστιν· εἰ γὰρ Ἀχιλλέα λέγει Πηλέα ἐπαινεῖ, εἶτα Αἰακόν, εἶτα τὸν θεόν, ὁμοίως δὲ καὶ ἀνδρείαν, ἢ τὰ καὶ τὰ ποιεῖ ἢ τοιόνδε ἐστίν.

ἔχοντα μὲν οὖν ἀποδείξεις καὶ ἠθικῶς λεκτέον καὶ ἀποδεικτικῶς, ἐὰν δὲ μὴ ἔχῃς ἐνθυμήματα, ἠθικῶς· καὶ μᾶλλον τῷ ἐπιεικεῖ ἁρμόττει χρηστὸν φαίνεσθαι [1418b] ἢ τὸν λόγον ἀκριβῆ. τῶν δὲ ἐνθυμημάτων τὰ ἐλεγκτικὰ μᾶλλον εὐδοκιμεῖ τῶν δεικτικῶν, ὅτι ὅσα ἔλεγχον ποιεῖ, μᾶλλον δῆλον ὅτι συλλελόγισται· παρ’ ἄλληλα γὰρ μᾶλλον τἀναντία γνωρίζεται.

τὰ δὲ πρὸς τὸν ἀντίδικον οὐχ ἕτερόν τι εἶδος, ἀλλὰ τῶν πίστεών ἐστι ‹τὸ› τὰ μὲν λῦσαι ἐνστάσει τὰ δὲ συλλογισμῷ. δεῖ δὲ καὶ ἐν συμβουλῇ καὶ ἐν δίκῃ ἀρχόμενον μὲν λέγειν τὰς ἑαυτοῦ πίστεις πρότερον, ὕστερον δὲ πρὸς τἀναντία ἀπαντᾶν λύοντα καὶ προδιασύροντα. ἂν δὲ πολύχους ᾖ ἡ ἐναντίωσις, πρότερον τὰ ἐναντία, οἷον ἐποίησε Καλλίστρατος ἐν τῇ Μεσσηνιακῇ ἐκκλησίᾳ· ἃ γὰρ ἐροῦσι προανελὼν οὕτως τότε αὐτὸς εἶπεν. ὕστερον δὲ λέγοντα πρῶτον πρὸς τὸν ἐναντίον λόγον λεκτέον, λύοντα καὶ ἀντισυλλογιζόμενον, καὶ μάλιστα ἂν εὐδοκιμηκότα ᾖ· ὥσπερ γὰρ ἄνθρωπον προδιαβεβλημένον οὐ δέχεται ἡ ψυχή, τὸν αὐτὸν τρόπον οὐδὲ λόγον, ἐὰν ὁ ἐναντίος εὖ δοκῇ εἰρηκέναι. δεῖ οὖν χώραν ποιεῖν ἐν τῷ ἀκροατῇ τῷ μέλλοντι λόγῳ· ἔσται δὲ ἂν ἀνέλῃς· διὸ ἢ πρὸς πάντα ἢ τὰ μέγιστα ἢ τὰ εὐδοκιμοῦντα ἢ τὰ εὐέλεγκτα μαχεσάμενον οὕτω τὰ αὑτοῦ πιστὰ ποιητέον.

ταῖς θεαῖσι πρῶτα σύμμαχος γενήσομαι·
ἐγὼ γὰρ Ἥραν·

ἐν τούτοις ἥψατο πρῶτον τοῦ εὐηθεστάτου.

περὶ μὲν οὖν πίστεων ταῦτα. εἰς δὲ τὸ ἦθος, ἐπειδὴ ἔνια περὶ αὑτοῦ λέγειν ἢ ἐπίφθονον ἢ μακρολογίαν ἢ ἀντιλογίαν ἔχει, καὶ περὶ ἄλλου ἢ λοιδορίαν ἢ ἀγροικίαν, ἕτερον χρὴ λέγοντα ποιεῖν, ὅπερ Ἰσοκράτης ποιεῖ ἐν τῷ Φιλίππῳ καὶ ἐν τῇ Ἀντιδόσει, καὶ ὡς Ἀρχίλοχος ψέγει· ποιεῖ γὰρ τὸν πατέρα λέγοντα περὶ τῆς θυγατρὸς ἐν τῷ ἰάμβῳ

χρημάτων δ’ ἄελπτον οὐθέν ἐστιν οὐδ’ ἀπώμοτον,

καὶ τὸν Χάρωνα τὸν τέκτονα ἐν τῷ ἰάμβῳ οὗ ἀρχὴ

οὔ μοι τὰ Γύγεω,

καὶ ὡς Σοφοκλῆς τὸν Αἵμονα ὑπὲρ τῆς Ἀντιγόνης πρὸς τὸν πατέρα ὡς λεγόντων ἑτέρων.

δεῖ δὲ καὶ μεταβάλλειν τὰ ἐνθυμήματα καὶ γνώμας ποιεῖν ἐνίοτε, οἷον “χρὴ δὲ τὰς διαλλαγὰς ποιεῖν τοὺς νοῦν ἔχοντας εὐτυχοῦντας· οὕτω γὰρ ἂν μέγιστα πλεονεκτοῖεν,” ἐνθυμηματικῶς δὲ “εἰ γὰρ δεῖ, ὅταν ὠφελιμώταται ὦσιν καὶ πλεονεκτικώταται αἱ καταλλαγαί, τότε καταλλάττεσθαι, εὐτυχοῦντας δεῖ καταλλάττεσθαι.”

Περὶ δὲ ἐρωτήσεως, εὔκαιρόν ἐστι ποιεῖσθαι μάλιστα [1419a] μὲν ὅταν τὸ ἕτερον εἰρηκὼς ᾖ, ὥστε ἑνὸς προσερωτηθέντος συμβαίνει τὸ ἄτοπον, οἷον Περικλῆς Λάμπωνα ἐπήρετο περὶ τῆς τελετῆς τῶν τῆς σωτείρας ἱερῶν, εἰπόντος δὲ ὅτι οὐχ οἷόν τε ἀτέλεστον ἀκούειν, ἤρετο εἰ οἶδεν αὐτός, φάσκοντος δὲ “καὶ πῶς, ἀτέλεστος ὤν;” δεύτερον δὲ ὅταν τὸ μὲν φανερὸν ᾖ, τὸ δὲ ἐρωτήσαντι δῆλον ᾖ ὅτι δώσει· πυθόμενον μὲν γὰρ δεῖ τὴν μίαν πρότασιν μὴ προσερωτᾶν τὸ φανερὸν ἀλλὰ τὸ συμπέρασμα εἰπεῖν, οἷον Σωκράτης, Μελήτου οὐ φάσκοντος αὐτὸν θεοὺς νομίζειν, εἰρηκότος δὲ ὡς δαιμόνιόν τι λέγοι, ἤρετο εἰ οὐχ οἱ δαίμονες ἤτοι θεῶν παῖδες εἶεν ἢ θεῖόν τι, φήσαντος δὲ “ἔστιν οὖν”, ἔφη, “ὅστις θεῶν μὲν παῖδας οἴεται εἶναι, θεοὺς δὲ οὔ;” ἔτι ὅταν μέλλῃ ἢ ἐναντία λέγοντα δείξειν ἢ παράδοξον. τέταρτον δὲ ὅταν μὴ ἐνῇ ἀλλ’ ἢ σοφιστικῶς ἀποκρινάμενον λῦσαι· ἐὰν γὰρ οὕτως ἀποκρίνηται, ὅτι ἔστι μὲν ἔστι δ’ οὔ, ἢ τὰ μὲν τὰ δ’ οὔ, ἢ πῇ μὲν πῇ δ’ οὔ, θορυβοῦσιν ὡς ἀποροῦντος. ἄλλως δὲ μὴ ἐγχείρει. ἐὰν γὰρ ἐνστῇ, κεκρατῆσθαι δόξεις· οὐ γὰρ οἷόν τε πολλὰ ἐρωτᾶν, διὰ τὴν ἀσθένειαν τοῦ ἀκροατοῦ· διὸ καὶ τὰ ἐνθυμήματα ὅτι μάλιστα συστρέφειν δεῖ.

ἀποκρίνασθαι δὲ δεῖ πρὸς μὲν τὰ ἀμφίβολα διαιροῦντα λόγῳ καὶ μὴ συντόμως, πρὸς δὲ τὰ δοκοῦντα ἐναντία τὴν λύσιν φέροντα εὐθὺς τῇ ἀποκρίσει, πρὶν ἐπερωτῆσαι τὸ ἐπιὸν ἢ συλλογίσασθαι· οὐ γὰρ χαλεπὸν προορᾶν ἐν τίνι ὁ λόγος. φανερὸν δ’ ἡμῖν ἐστιν ἐκ τῶν Τοπικῶν καὶ τοῦτο καὶ αἱ λύσεις. καὶ συμπεραινομένου, ἐὰν ἐρώτημα ποιῇ τὸ συμπέρασμα, τὴν αἰτίαν εἰπεῖν, οἷον Σοφοκλῆς, ἐρωτώμενος ὑπὸ Πεισάνδρου εἰ ἔδοξεν αὐτῷ, ὥσπερ καὶ τοῖς ἄλλοις προβούλοις, καταστῆσαι τοὺς τετρακοσίους, ἔφη “τί δέ; οὐ πονηρά σοι ταῦτα ἐδόκει εἶναι;” ἔφη. “οὐκοῦν σὺ ταῦτα ἔπραξας τὰ πονηρά;” “ναί”, ἔφη, “οὐ γὰρ ἦν ἄλλα βελτίω”. καὶ ὡς ὁ Λάκων εὐθυνόμενος τῆς ἐφορίας, ἐρωτώμενος εἰ δοκοῦσιν αὐτῷ δικαίως ἀπολωλέναι ἅτεροι, ἔφη. ὁ δὲ “οὐκοῦν σὺ τούτοις ταὐτὰ ἔθου;” καὶ ὃς ἔφη. “οὐκοῦν δικαίως ἄν”, ἔφη, “καὶ σὺ ἀπόλοιο;” “οὐ δῆτα”, ἔφη, “οἱ μὲν γὰρ χρήματα λαβόντες ταῦτα ἔπραξαν, ἐγὼ δὲ οὔ, ἀλλὰ γνώμῃ.” διὸ [1419b] οὔτε ἐπερωτᾶν δεῖ μετὰ τὸ συμπέρασμα, οὔτε τὸ συμπέρασμα ἐπερωτᾶν, ἐὰν μὴ τὸ πολὺ περιῇ τοῦ ἀληθοῦς.

περὶ δὲ τῶν γελοίων, ἐπειδή τινα δοκεῖ χρῆσιν ἔχειν ἐν τοῖς ἀγῶσι, καὶ δεῖν ἔφη Γοργίας τὴν μὲν σπουδὴν διαφθείρειν τῶν ἐναντίων γέλωτι τὸν δὲ γέλωτα σπουδῇ, ὀρθῶς λέγων, εἴρηται πόσα εἴδη γελοίων ἔστιν ἐν τοῖς περὶ ποιητικῆς, ὧν τὸ μὲν ἁρμόττει ἐλευθέρῳ τὸ δ’ οὔ, ὅπως τὸ ἁρμόττον αὑτῷ λήψεται. ἔστι δ’ ἡ εἰρωνεία τῆς βωμολοχίας ἐλευθεριώτερον· ὁ μὲν γὰρ αὑτοῦ ἕνεκα ποιεῖ τὸ γελοῖον, ὁ δὲ βωμολόχος ἑτέρου.

Ὁ δ’ ἐπίλογος σύγκειται ἐκ τεττάρων, ἔκ τε τοῦ πρὸς ἑαυτὸν κατασκευάσαι εὖ τὸν ἀκροατὴν καὶ τὸν ἐναντίον φαύλως, καὶ ἐκ τοῦ αὐξῆσαι καὶ ταπεινῶσαι, καὶ ἐκ τοῦ εἰς τὰ πάθη τὸν ἀκροατὴν καταστῆσαι, καὶ ἐξ ἀναμνήσεως. πέφυκε γάρ, μετὰ τὸ ἀποδεῖξαι αὑτὸν μὲν ἀληθῆ τὸν δὲ ἐναντίον ψευδῆ, οὕτω τὸ ἐπαινεῖν καὶ ψέγειν καὶ ἐπιχαλκεύειν. δυοῖν δὲ θατέρου δεῖ στοχάζεσθαι, ἢ ὅτι τούτοις ἀγαθὸς ἢ ὅτι ἁπλῶς, ὁ δ’ ὅτι κακὸς τούτοις ἢ ὅτι ἁπλῶς. ἐξ ὧν δὲ δεῖ τοῦτο κατασκευάζειν [δεῖ], εἴρηνται οἱ τόποι πόθεν σπουδαίους δεῖ κατασκευάζειν καὶ φαύλους. τὸ δὲ μετὰ τοῦτο, δεδειγμένων ἤδη, αὔξειν ἐστὶν κατὰ φύσιν ἢ ταπεινοῦν· δεῖ γὰρ τὰ πεπραγμένα ὁμολογεῖσθαι, εἰ μέλλει τὸ ποσὸν ἐρεῖν· καὶ γὰρ ἡ τῶν σωμάτων αὔξησις ἐκ προϋπαρχόντων ἐστίν. ὅθεν δὲ δεῖ αὔξειν καὶ ταπεινοῦν ἔκκεινται οἱ τόποι πρότερον. μετὰ δὲ ταῦτα, δήλων ὄντων καὶ οἷα καὶ ἡλίκα, εἰς τὰ πάθη ἄγειν τὸν ἀκροατήν. ταῦτα δ’ ἐστὶν ἔλεος καὶ δείνωσις καὶ ὀργὴ καὶ μίσος καὶ φθόνος καὶ ζῆλος καὶ ἔρις. εἴρηνται δὲ καὶ τούτων οἱ τόποι πρότερον, ὥστε λοιπὸν ἀναμνῆσαι τὰ προειρημένα. τοῦτο δὲ ἁρμόττει ποιεῖν οὐχ ὥσπερ φασὶν ἐν τοῖς προοιμίοις, οὐκ ὀρθῶς λέγοντες. ἵνα γὰρ εὐμαθὴς ᾖ, κελεύουσι πολλάκις εἰπεῖν. ἐκεῖ μὲν οὖν δεῖ τὸ πρᾶγμα εἰπεῖν, ἵνα μὴ λανθάνῃ περὶ οὗ ἡ κρίσις, ἐνταῦθα δὲ δι’ ὧν δέδεικται, κεφαλαιωδῶς. ἀρχὴ δὲ διότι ἃ ὑπέσχετο ἀποδέδωκεν, ὥστε ἅ τε καὶ δι’ ὃ λεκτέον. λέγεται δὲ ἐξ ἀντιπαραβολῆς τοῦ ἐναντίου. παραβάλλειν δὲ [ἢ] ὅσα περὶ τὸ αὐτὸ ἄμφω εἶπον, ἢ [μὴ] καταντικρύ (“ἀλλ’ οὗτος [1420a] μὲν τάδε περὶ τούτου, ἐγὼ δὲ ταδί, καὶ διὰ ταῦτα”), ἢ ἐξ εἰρωνείας (οἷον “οὗτος γὰρ τάδ’ εἶπεν, ἐγὼ δὲ ταδί”, καὶ “τὶ ἂν ἐποίει, εἰ τάδε ἔδειξεν, ἀλλὰ μὴ ταδί”), ἢ ἐξ ἐρωτήσεως (“τί οὖν δέδεικται;” ἢ “οὗτος τί ἔδειξεν;”). ἢ δὴ οὕτως [ἢ] ἐκ παραβολῆς ἢ κατὰ φύσιν ὡς ἐλέχθη, οὕτως τὰ αὐτοῦ, καὶ πάλιν, ἐὰν βούλῃ, χωρὶς τὰ τοῦ ἐναντίου λόγου. τελευτὴ δὲ τῆς λέξεως ἁρμόττει ἡ ἀσύνδετος, ὅπως ἐπίλογος ἀλλὰ μὴ λόγος ᾖ· “εἴρηκα, ἀκηκόατε, ἔχετε, κρίνατε”.

Περι Ποιητικησ (1447a) Poetics

[1447a] Περὶ ποιητικῆς αὐτῆς τε καὶ τῶν εἰδῶν αὐτῆς, ἥν τινα δύναμιν ἕκαστον ἔχει, καὶ πῶς δεῖ συνίστασθαι τοὺς μύθους εἰ μέλλει καλῶς ἕξειν ἡ ποίησις, ἔτι δὲ ἐκ πόσων καὶ ποίων ἐστὶ μορίων, ὁμοίως δὲ καὶ περὶ τῶν ἄλλων ὅσα τῆς αὐτῆς ἐστι μεθόδου, λέγωμεν ἀρξάμενοι κατὰ φύσιν πρῶτον ἀπὸ τῶν πρώτων. ἐποποιία δὴ καὶ ἡ τῆς τραγῳδίας ποίησις ἔτι δὲ κωμῳδία καὶ ἡ διθυραμβοποιητικὴ καὶ τῆς αὐλητικῆς ἡ πλείστη καὶ κιθαριστικῆς πᾶσαι τυγχάνουσιν οὖσαι μιμήσεις τὸ σύνολον· διαφέρουσι δὲ ἀλλήλων τρισίν, ἢ γὰρ τῷ ἐν ἑτέροις μιμεῖσθαι ἢ τῷ ἕτερα ἢ τῷ ἑτέρως καὶ μὴ τὸν αὐτὸν τρόπον. ὥσπερ γὰρ καὶ χρώμασι καὶ σχήμασι πολλὰ μιμοῦνταί τινες ἀπεικάζοντες (οἱ μὲν διὰ τέχνης οἱ δὲ διὰ συνηθείας), ἕτεροι δὲ διὰ τῆς φωνῆς, οὕτω κἀν ταῖς εἰρημέναις τέχναις ἅπασαι μὲν ποιοῦνται τὴν μίμησιν ἐν ῥυθμῷ καὶ λόγῳ καὶ ἁρμονίᾳ, τούτοις δ’ ἢ χωρὶς ἢ μεμιγμένοις· οἷον ἁρμονίᾳ μὲν καὶ ῥυθμῷ χρώμεναι μόνον ἥ τε αὐλητικὴ καὶ ἡ κιθαριστικὴ κἂν εἴ τινες ἕτεραι τυγχάνωσιν οὖσαι τοιαῦται τὴν δύναμιν, οἷον ἡ τῶν συρίγγων, αὐτῷ δὲ τῷ ῥυθμῷ [μιμοῦνται] χωρὶς ἁρμονίας ἡ τῶν ὀρχηστῶν (καὶ γὰρ οὗτοι διὰ τῶν σχηματιζομένων ῥυθμῶν μιμοῦνται καὶ ἤθη καὶ πάθη καὶ πράξεις)· ἡ δὲ [ἐποποιία] μόνον τοῖς λόγοις ψιλοῖς ‹καὶ› ἡ τοῖς μέτροις καὶ τούτοις εἴτε [1447b] μιγνῦσα μετ’ ἀλλήλων εἴθ’ ἑνί τινι γένει χρωμένη τῶν μέτρων ἀνώνυμοι τυγχάνουσι μέχρι τοῦ νῦν· οὐδὲν γὰρ ἂν ἔχοιμεν ὀνομάσαι κοινὸν τοὺς Σώφρονος καὶ Ξενάρχου μίμους καὶ τοὺς Σωκρατικοὺς λόγους οὐδὲ εἴ τις διὰ τριμέτρων ἢ ἐλεγείων ἢ τῶν ἄλλων τινῶν τῶν τοιούτων ποιοῖτο τὴν μίμησιν. πλὴν οἱ ἄνθρωποί γε συνάπτοντες τῷ μέτρῳ τὸ ποιεῖν ἐλεγειοποιοὺς τοὺς δὲ ἐποποιοὺς ὀνομάζουσιν, οὐχ ὡς κατὰ τὴν μίμησιν ποιητὰς ἀλλὰ κοινῇ κατὰ τὸ μέτρον προσαγορεύοντες· καὶ γὰρ ἂν ἰατρικὸν ἢ φυσικόν τι διὰ τῶν μέτρων ἐκφέρωσιν, οὕτω καλεῖν εἰώθασιν· οὐδὲν δὲ κοινόν ἐστιν Ὁμήρῳ καὶ Ἐμπεδοκλεῖ πλὴν τὸ μέτρον, διὸ τὸν μὲν ποιητὴν δίκαιον καλεῖν, τὸν δὲ φυσιολόγον μᾶλλον ἢ ποιητήν· ὁμοίως δὲ κἂν εἴ τις ἅπαντα τὰ μέτρα μιγνύων ποιοῖτο τὴν μίμησιν καθάπερ Χαιρήμων ἐποίησε

Κένταυρον μικτὴν ῥαψῳδίαν ἐξ ἁπάντων τῶν μέτρων, καὶ ποιητὴν προσαγορευτέον. περὶ μὲν οὖν τούτων διωρίσθω τοῦτον τὸν τρόπον. εἰσὶ δέ τινες αἳ πᾶσι χρῶνται τοῖς εἰρημένοις, λέγω δὲ οἷον ῥυθμῷ καὶ μέλει καὶ μέτρῳ, ὥσπερ ἥ τε τῶν διθυραμβικῶν ποίησις καὶ ἡ τῶν νόμων καὶ ἥ τε τραγῳδία καὶ ἡ κωμῳδία· διαφέρουσι δὲ ὅτι αἱ μὲν ἅμα πᾶσιν αἱ δὲ κατὰ μέρος. ταύτας μὲν οὖν λέγω τὰς διαφορὰς τῶν τεχνῶν ἐν οἷς ποιοῦνται τὴν μίμησιν.

[1448a] Ἐπεὶ δὲ μιμοῦνται οἱ μιμούμενοι πράττοντας, ἀνάγκη δὲ τούτους ἢ σπουδαίους ἢ φαύλους εἶναι (τὰ γὰρ ἤθη σχεδὸν ἀεὶ τούτοις ἀκολουθεῖ μόνοις, κακίᾳ γὰρ καὶ ἀρετῇ τὰ ἤθη διαφέρουσι πάντες), ἤτοι βελτίονας ἢ καθ’ ἡμᾶς ἢ χείρονας ἢ καὶ τοιούτους, ὥσπερ οἱ γραφεῖς· Πολύγνωτος μὲν γὰρ κρείττους, Παύσων δὲ χείρους, Διονύσιος δὲ ὁμοίους εἴκαζεν. δῆλον δὲ ὅτι καὶ τῶν λεχθεισῶν ἑκάστη μιμήσεων ἕξει ταύτας τὰς διαφορὰς καὶ ἔσται ἑτέρα τῷ ἕτερα μιμεῖσθαι τοῦτον τὸν τρόπον. καὶ γὰρ ἐν ὀρχήσει καὶ αὐλήσει καὶ κιθαρίσει ἔστι γενέσθαι ταύτας τὰς ἀνομοιότητας, καὶ [τὸ] περὶ τοὺς λόγους δὲ καὶ τὴν ψιλομετρίαν, οἷον Ὅμηρος μὲν βελτίους, Κλεοφῶν δὲ ὁμοίους, Ἡγήμων δὲ ὁ Θάσιος ‹ὁ› τὰς παρῳδίας ποιήσας πρῶτος καὶ Νικοχάρης ὁ τὴν Δειλιάδα χείρους· ὁμοίως δὲ καὶ περὶ τοὺς διθυράμβους καὶ περὶ τοὺς νόμους, ὥσπερ γᾶς†Κύκλωπας Τιμόθεος καὶ Φιλόξενος μιμήσαιτο ἄν τις. ἐν αὐτῇ δὲ τῇ διαφορᾷ καὶ ἡ τραγῳδία πρὸς τὴν κωμῳδίαν διέστηκεν· ἡ μὲν γὰρ χείρους ἡ δὲ βελτίους μιμεῖσθαι βούλεται τῶν νῦν.

Ἔτι δὲ τούτων τρίτη διαφορὰ τὸ ὡς ἕκαστα τούτων μιμήσαιτο ἄν τις. καὶ γὰρ ἐν τοῖς αὐτοῖς καὶ τὰ αὐτὰ μιμεῖσθαι ἔστιν ὁτὲ μὲν ἀπαγγέλλοντα, ἢ ἕτερόν τι γιγνόμενον ὥσπερ Ὅμηρος ποιεῖ ἢ ὡς τὸν αὐτὸν καὶ μὴ μεταβάλλοντα, ἢ πάντας ὡς πράττοντας καὶ ἐνεργοῦντας τοὺς μιμουμένους. ἐν τρισὶ δὴ ταύταις διαφοραῖς ἡ μίμησίς ἐστιν, ὡς εἴπομεν κατ’ ἀρχάς, ἐν οἷς τε ‹καὶ ἃ› καὶ ὥς. ὥστε τῇ μὲν ὁ αὐτὸς ἂν εἴη μιμητὴς Ὁμήρῳ Σοφοκλῆς, μιμοῦνται γὰρ ἄμφω σπουδαίους, τῇ δὲ Ἀριστοφάνει, πράττοντας γὰρ μιμοῦνται καὶ δρῶντας ἄμφω. ὅθεν καὶ δράματα καλεῖσθαί τινες αὐτά φασιν, ὅτι μιμοῦνται δρῶντας. διὸ καὶ ἀντιποιοῦνται τῆς τε τραγῳδίας καὶ τῆς κωμῳδίας οἱ Δωριεῖς (τῆς μὲν γὰρ κωμῳδίας οἱ Μεγαρεῖς οἵ τε ἐνταῦθα ὡς ἐπὶ τῆς παρ’ αὐτοῖς δημοκρατίας γενομένης καὶ οἱ ἐκ Σικελίας, ἐκεῖθεν γὰρ ἦν Ἐπίχαρμος ὁ ποιητὴς πολλῷ πρότερος ὢν Χιωνίδου καὶ Μάγνητος· καὶ τῆς τραγῳδίας ἔνιοι τῶν ἐν Πελοποννήσῳ) ποιούμενοι τὰ ὀνόματα σημεῖον· αὐτοὶ μὲν γὰρ κώμας τὰς περιοικίδας καλεῖν φασιν, Ἀθηναίους δὲ δήμους, ὡς κωμῳδοὺς οὐκ ἀπὸ τοῦ κωμάζειν λεχθέντας ἀλλὰ τῇ κατὰ κώμας πλάνῃ ἀτιμαζομένους ἐκ τοῦ ἄστεως· [1448b] καὶ τὸ ποιεῖν αὐτοὶ μὲν δρᾶν, Ἀθηναίους δὲ πράττειν προσαγορεύειν. περὶ μὲν οὖν τῶν διαφορῶν καὶ πόσαι καὶ τίνες τῆς μιμήσεως εἰρήσθω ταῦτα.

Ἐοίκασι δὲ γεννῆσαι μὲν ὅλως τὴν ποιητικὴν αἰτίαι δύο τινὲς καὶ αὗται φυσικαί. τό τε γὰρ μιμεῖσθαι σύμφυτον τοῖς ἀνθρώποις ἐκ παίδων ἐστὶ καὶ τούτῳ διαφέρουσι τῶν ἄλλων ζῴων ὅτι μιμητικώτατόν ἐστι καὶ τὰς μαθήσεις ποιεῖται διὰ μιμήσεως τὰς πρώτας, καὶ τὸ χαίρειν τοῖς μιμήμασι πάντας. σημεῖον δὲ τούτου τὸ συμβαῖνον ἐπὶ τῶν ἔργων· ἃ γὰρ αὐτὰ λυπηρῶς ὁρῶμεν, τούτων τὰς εἰκόνας τὰς μάλιστα ἠκριβωμένας χαίρομεν θεωροῦντες, οἷον θηρίων τε μορφὰς τῶν ἀτιμοτάτων καὶ νεκρῶν. αἴτιον δὲ καὶ τούτου, ὅτι μανθάνειν οὐ μόνον τοῖς φιλοσόφοις ἥδιστον ἀλλὰ καὶ τοῖς ἄλλοις ὁμοίως, ἀλλ' ἐπὶ βραχὺ κοινωνοῦσιν αὐτοῦ. διὰ γὰρ τοῦτο χαίρουσι τὰς εἰκόνας ὁρῶντες, ὅτι συμβαίνει θεωροῦντας μανθάνειν καὶ συλλογίζεσθαι τί ἕκαστον, οἷον ὅτι οὗτος ἐκεῖνος· ἐπεὶ ἐὰν μὴ τύχῃ προεωρακώς, οὐχ ᾗ μίμημα ποιήσει τὴν ἡδονὴν ἀλλὰ διὰ τὴν ἀπεργασίαν ἢ τὴν χροιὰν ἢ διὰ τοιαύτην τινὰ ἄλλην αἰτίαν. κατὰ φύσιν δὲ ὄντος ἡμῖν τοῦ μιμεῖσθαι καὶ τῆς ἁρμονίας καὶ τοῦ ῥυθμοῦ (τὰ γὰρ μέτρα ὅτι μόρια τῶν ῥυθμῶν ἐστι φανερὸν) ἐξ ἀρχῆς οἱ πεφυκότες πρὸς αὐτὰ μάλιστα κατὰ μικρὸν προάγοντες ἐγέννησαν τὴν ποίησιν ἐκ τῶν αὐτοσχεδιασμάτων. διεσπάσθη δὲ κατὰ τὰ οἰκεῖα ἤθη ἡ ποίησις· οἱ μὲν γὰρ σεμνότεροι τὰς καλὰς ἐμιμοῦντο πράξεις καὶ τὰς τῶν τοιούτων, οἱ δὲ εὐτελέστεροι τὰς τῶν φαύλων, πρῶτον ψόγους ποιοῦντες, ὥσπερ ἕτεροι ὕμνους καὶ ἐγκώμια. τῶν μὲν οὖν πρὸ Ὁμήρου οὐδενὸς ἔχομεν εἰπεῖν τοιοῦτον ποίημα, εἰκὸς δὲ εἶναι πολλούς, ἀπὸ δὲ Ὁμήρου ἀρξαμένοις ἔστιν, οἷον ἐκείνου ὁ Μαργίτης καὶ τὰ τοιαῦτα. ἐν οἷς κατὰ τὸ ἁρμόττον καὶ τὸ ἰαμβεῖον ἦλθε μέτρον - διὸ καὶ ἰαμβεῖον καλεῖται νῦν, ὅτι ἐν τῷ μέτρῳ τούτῳ ἰάμβιζον ἀλλήλους. καὶ ἐγένοντο τῶν παλαιῶν οἱ μὲν ἡρωικῶν οἱ δὲ ἰάμβων ποιηταί. ὥσπερ δὲ καὶ τὰ σπουδαῖα μάλιστα ποιητὴς Ὅμηρος ἦν (μόνος γὰρ οὐχ ὅτι εὖ ἀλλὰ καὶ μιμήσεις δραματικὰς ἐποίησεν), οὕτως καὶ τὸ τῆς κωμῳδίας σχῆμα πρῶτος ὑπέδειξεν, οὐ ψόγον ἀλλὰ τὸ γελοῖον δραματοποιήσας· ὁ γὰρ Μαργίτης ἀνάλογον ἔχει, ὥσπερ Ἰλιὰς [1449a] καὶ ἡ Ὀδύσσεια πρὸς τὰς τραγῳδίας, οὕτω καὶ οὗτος πρὸς τὰς κωμῳδίας. παραφανείσης δὲ τῆς τραγῳδίας καὶ κωμῳδίας οἱ ἐφ' ἑκατέραν τὴν ποίησιν ὁρμῶντες κατὰ τὴν οἰκείαν φύσιν οἱ μὲν ἀντὶ τῶν ἰάμβων κωμῳδοποιοὶ ἐγένοντο, οἱ δὲ ἀντὶ τῶν ἐπῶν τραγῳδοδιδάσκαλοι, διὰ τὸ μείζω καὶ ἐντιμότερα τὰ σχήματα εἶναι ταῦτα ἐκείνων. τὸ μὲν οὖν ἐπισκοπεῖν εἰ ἄρα ἔχει ἤδη ἡ τραγῳδία τοῖς εἴδεσιν ἱκανῶς ἢ οὔ, αὐτό τε καθ' αὑτὸ κρῖναι καὶ πρὸς τὰ θέατρα, ἄλλος λόγος. γενομένη δ’ οὖν ἀπ’ ἀρχῆς αὐτοσχεδιαστικῆς - καὶ αὐτὴ καὶ ἡ κωμῳδία, καὶ ἡ μὲν ἀπὸ τῶν ἐξαρχόντων τὸν διθύραμβον, ἡ δὲ ἀπὸ τῶν τὰ φαλλικὰ ἃ ἔτι καὶ νῦν ἐν πολλαῖς τῶν πόλεων διαμένει νομιζόμενα - κατὰ μικρὸν ηὐξήθη προαγόντων ὅσον ἐγίγνετο φανερὸν αὐτῆς· καὶ πολλὰς μεταβολὰς μεταβαλοῦσα ἡ τραγῳδία ἐπαύσατο, ἐπεὶ ἔσχε τὴν αὑτῆς φύσιν. καὶ τό τε τῶν ὑποκριτῶν πλῆθος ἐξ ἑνὸς εἰς δύο πρῶτος Αἰσχύλος ἤγαγε καὶ τὰ τοῦ χοροῦ ἠλάττωσε καὶ τὸν λόγον πρωταγωνιστεῖν παρεσκεύασεν· τρεῖς δὲ καὶ σκηνογραφίαν Σοφοκλῆς. ἔτι δὲ τὸ μέγεθος· ἐκ μικρῶν μύθων καὶ λέξεως γελοίας διὰ τὸ ἐκ σατυρικοῦ μεταβαλεῖν ὀψὲ ἀπεσεμνύνθη, τό τε μέτρον ἐκ τετραμέτρου ἰαμβεῖον ἐγένετο. τὸ μὲν γὰρ πρῶτον τετραμέτρῳ ἐχρῶντο διὰ τὸ σατυρικὴν καὶ ὀρχηστικωτέραν εἶναι τὴν ποίησιν, λέξεως δὲ γενομένης αὐτὴ ἡ φύσις τὸ οἰκεῖον μέτρον εὗρε· μάλιστα γὰρ λεκτικὸν τῶν μέτρων τὸ ἰαμβεῖόν ἐστιν· σημεῖον δὲ τούτου, πλεῖστα γὰρ ἰαμβεῖα λέγομεν ἐν τῇ διαλέκτῳ τῇ πρὸς ἀλλήλους, ἑξάμετρα δὲ ὀλιγάκις καὶ ἐκβαίνοντες τῆς λεκτικῆς ἁρμονίας. ἔτι δὲ ἐπεισοδίων πλήθη. καὶ τὰ ἄλλ’ ὡς ἕκαστα κοσμηθῆναι λέγεται ἔστω ἡμῖν εἰρημένα· πολὺ γὰρ ἂν ἴσως ἔργον εἴη διεξιέναι καθ’ ἕκαστον.

Ἡ δὲ κωμῳδία ἐστὶν ὥσπερ εἴπομεν μίμησις φαυλοτέρων μέν, οὐ μέντοι κατὰ πᾶσαν κακίαν, ἀλλὰ τοῦ αἰσχροῦ ἐστι τὸ γελοῖον μόριον. τὸ γὰρ γελοῖόν ἐστιν ἁμάρτημά τι καὶ αἶσχος ἀνώδυνον καὶ οὐ φθαρτικόν, οἷον εὐθὺς τὸ γελοῖον πρόσωπον αἰσχρόν τι καὶ διεστραμμένον ἄνευ ὀδύνης. αἱ μὲν οὖν τῆς τραγῳδίας μεταβάσεις καὶ δι’ ὧν ἐγένοντο οὐ λελήθασιν, ἡ δὲ κωμῳδία διὰ τὸ μὴ [1449b] σπουδάζεσθαι ἐξ ἀρχῆς ἔλαθεν· καὶ γὰρ χορὸν κωμῳδῶν ὀψέ ποτε ὁ ἄρχων ἔδωκεν, ἀλλ’ ἐθελονταὶ ἦσαν. ἤδη δὲ σχήματά τινα αὐτῆς ἐχούσης οἱ λεγόμενοι αὐτῆς ποιηταὶ μνημονεύονται. τίς δὲ πρόσωπα ἀπέδωκεν ἢ προλόγους ἢ πλήθη ὑποκριτῶν καὶ ὅσα τοιαῦτα, ἠγνόηται. τὸ δὲ μύθους ποιεῖν [Ἐπίχαρμος καὶ Φόρμις] τὸ μὲν ἐξ ἀρχῆς ἐκ Σικελίας ἦλθε, τῶν δὲ Ἀθήνησιν Κράτης πρῶτος ἦρξεν ἀφέμενος τῆς ἰαμβικῆς ἰδέας καθόλου ποιεῖν λόγους καὶ μύθους. ἡ μὲν οὖν ἐποποιία τῇ τραγῳδίᾳ μέχρι μὲν τοῦ μετὰ μέτρου λόγῳ μίμησις εἶναι σπουδαίων ἠκολούθησεν· τῷ δὲ τὸ μέτρον ἁπλοῦν ἔχειν καὶ ἀπαγγελίαν εἶναι, ταύτῃ διαφέρουσιν· ἔτι δὲ τῷ μήκει· ἡ μὲν ὅτι μάλιστα πειρᾶται ὑπὸ μίαν περίοδον ἡλίου εἶναι ἢ μικρὸν ἐξαλλάττειν, ἡ δὲ ἐποποιία ἀόριστος τῷ χρόνῳ καὶ τούτῳ διαφέρει, καίτοι τὸ πρῶτον ὁμοίως ἐν ταῖς τραγῳδίαις τοῦτο ἐποίουν καὶ ἐν τοῖς ἔπεσιν. μέρη δ’ ἐστὶ τὰ μὲν ταὐτά, τὰ δὲ ἴδια τῆς τραγῳδίας· διόπερ ὅστις περὶ τραγῳδίας οἶδε σπουδαίας καὶ φαύλης, οἶδε καὶ περὶ ἐπῶν·

ἃ μὲν γὰρ ἐποποιία ἔχει, ὑπάρχει τῇ τραγῳδίᾳ, ἃ δὲ αὐτῇ, οὐ πάντα ἐν τῇ ἐποποιίᾳ.

Περὶ μὲν οὖν τῆς ἐν ἑξαμέτροις μιμητικῆς καὶ περὶ κωμῳδίας ὕστερον ἐροῦμεν· περὶ δὲ τραγῳδίας λέγωμεν ἀναλαβόντες αὐτῆς ἐκ τῶν εἰρημένων τὸν γινόμενον ὅρον τῆς οὐσίας. ἔστιν οὖν τραγῳδία μίμησις πράξεως σπουδαίας καὶ τελείας μέγεθος ἐχούσης, ἡδυσμένῳ λόγῳ χωρὶς ἑκάστῳ τῶν εἰδῶν ἐν τοῖς μορίοις, δρώντων καὶ οὐ δι’ ἀπαγγελίας, δι’ ἐλέου καὶ φόβου περαίνουσα τὴν τῶν τοιούτων παθημάτων κάθαρσιν. λέγω δὲ ἡδυσμένον μὲν λόγον τὸν ἔχοντα ῥυθμὸν καὶ ἁρμονίαν [καὶ μέλος], τὸ δὲ χωρὶς τοῖς εἴδεσι τὸ διὰ μέτρων ἔνια μόνον περαίνεσθαι καὶ πάλιν ἕτερα διὰ μέλους. ἐπεὶ δὲ πράττοντες ποιοῦνται τὴν μίμησιν, πρῶτον μὲν ἐξ ἀνάγκης ἂν εἴη τι μόριον τραγῳδίας ὁ τῆς ὄψεως κόσμος· εἶτα μελοποιία καὶ λέξις, ἐν τούτοις γὰρ ποιοῦνται τὴν μίμησιν. λέγω δὲ λέξιν μὲν αὐτὴν τὴν τῶν μέτρων σύνθεσιν, μελοποιίαν δὲ ὃ τὴν δύναμιν φανερὰν ἔχει πᾶσαν. ἐπεὶ δὲ πράξεώς ἐστι μίμησις, πράττεται δὲ ὑπὸ τινῶν πραττόντων, οὓς ἀνάγκη ποιούς τινας εἶναι κατά τε τὸ ἦθος καὶ τὴν διάνοιαν (διὰ γὰρ τούτων καὶ τὰς [1450a] πράξεις εἶναί φαμεν ποιάς τινας [πέφυκεν αἴτια δύο τῶν πράξεων εἶναι, διάνοια καὶ ἦθος] καὶ κατὰ ταύτας καὶ τυγχάνουσι καὶ ἀποτυγχάνουσι πάντες), ἔστιν δὲ τῆς μὲν πράξεως ὁ μῦθος ἡ μίμησις, λέγω γὰρ μῦθον τοῦτον τὴν σύνθεσιν τῶν πραγμάτων, τὰ δὲ ἤθη, καθ’ ὃ ποιούς τινας εἶναί φαμεν τοὺς πράττοντας, διάνοιαν δέ, ἐν ὅσοις λέγοντες ἀποδεικνύασίν τι ἢ καὶ ἀποφαίνονται γνώμην - ἀνάγκη οὖν πάσης τῆς τραγῳδίας μέρη εἶναι ἕξ, καθ’ ὃ ποιά τις ἐστὶν ἡ τραγῳδία· ταῦτα δ’ ἐστὶ μῦθος καὶ ἤθη καὶ λέξις καὶ διάνοια καὶ ὄψις καὶ μελοποιία. οἷς μὲν γὰρ μιμοῦνται, δύο μέρη ἐστίν, ὡς δὲ μιμοῦνται, ἕν, ἃ δὲ μιμοῦνται, τρία, καὶ παρὰ ταῦτα οὐδέν. τούτοις μὲν οὖν οὐκ ὀλίγοι αὐτῶν†ὡς εἰπεῖν κέχρηνται τοῖς εἴδεσιν· καὶ γὰρ ὄψις ἔχει πᾶν†καὶ ἦθος καὶ μῦθον καὶ λέξιν καὶ μέλος καὶ διάνοιαν ὡσαύτως. μέγιστον δὲ τούτων ἐστὶν ἡ τῶν πραγμάτων σύστασις. ἡ γὰρ τραγῳδία μίμησίς ἐστιν οὐκ ἀνθρώπων ἀλλὰ πράξεων καὶ βίου [καὶ εὐδαιμονία καὶ κακοδαιμονία ἐν πράξει ἐστίν, καὶ τὸ τέλος πρᾶξίς τις ἐστίν, οὐ ποιότης· εἰσὶν δὲ κατὰ μὲν τὰ ἤθη ποιοί τινες, κατὰ δὲ τὰς πράξεις εὐδαίμονες ἢ τοὐναντίον]· οὔκουν ὅπως τὰ ἤθη μιμήσωνται πράττουσιν, ἀλλὰ τὰ ἤθη συμπεριλαμβάνουσιν διὰ τὰς πράξεις· ὥστε τὰ πράγματα καὶ ὁ μῦθος τέλος τῆς τραγῳδίας, τὸ δὲ τέλος μέγιστον ἁπάντων. ἔτι ἄνευ μὲν πράξεως οὐκ ἂν γένοιτο τραγῳδία, ἄνευ δὲ ἠθῶν γένοιτ’ ἄν· αἱ γὰρ τῶν νέων τῶν πλείστων ἀήθεις τραγῳδίαι εἰσίν, καὶ ὅλως ποιηταὶ πολλοὶ τοιοῦτοι, οἷον καὶ τῶν γραφέων Ζεῦξις πρὸς Πολύγνωτον πέπονθεν· ὁ μὲν γὰρ Πολύγνωτος ἀγαθὸς ἠθογράφος, ἡ δὲ Ζεύξιδος γραφὴ οὐδὲν ἔχει ἦθος. ἔτι ἐάν τις ἐφεξῆς θῇ ῥήσεις ἠθικὰς καὶ λέξει καὶ διανοίᾳ εὖ πεποιημένας, οὐ ποιήσει ὃ ἦν τῆς τραγῳδίας ἔργον, ἀλλὰ πολὺ μᾶλλον ἡ καταδεεστέροις τούτοις κεχρημένη τραγῳδία, ἔχουσα δὲ μῦθον καὶ σύστασιν πραγμάτων. πρὸς δὲ τούτοις τὰ μέγιστα οἷς ψυχαγωγεῖ ἡ τραγῳδία τοῦ μύθου μέρη ἐστίν, αἵ τε περιπέτειαι καὶ ἀναγνωρίσεις. ἔτι σημεῖον ὅτι καὶ οἱ ἐγχειροῦντες ποιεῖν πρότερον δύνανται τῇ λέξει καὶ τοῖς ἤθεσιν ἀκριβοῦν ἢ τὰ πράγματα συνίστασθαι, οἷον καὶ οἱ πρῶτοι ποιηταὶ σχεδὸν ἅπαντες. ἀρχὴ μὲν οὖν καὶ οἷον ψυχὴ ὁ μῦθος τῆς τραγῳδίας, δεύτερον δὲ τὰ ἤθη (παραπλήσιον γάρ ἐστιν καὶ [1450b] ἐπὶ τῆς γραφικῆς· εἰ γάρ τις ἐναλείψειε τοῖς καλλίστοις φαρμάκοις χύδην, οὐκ ἂν ὁμοίως εὐφράνειεν καὶ λευκογραφήσας εἰκόνα)· ἔστιν τε μίμησις πράξεως καὶ διὰ ταύτην μάλιστα τῶν πραττόντων. τρίτον δὲ ἡ διάνοια· τοῦτο δέ ἐστιν τὸ λέγειν δύνασθαι τὰ ἐνόντα καὶ τὰ ἁρμόττοντα, ὅπερ ἐπὶ τῶν λόγων τῆς πολιτικῆς καὶ ῥητορικῆς ἔργον ἐστίν· οἱ μὲν γὰρ ἀρχαῖοι πολιτικῶς ἐποίουν λέγοντας, οἱ δὲ νῦν ῥητορικῶς. ἔστιν δὲ ἦθος μὲν τὸ τοιοῦτον ὃ δηλοῖ τὴν προαίρεσιν, ὁποία τις [ἐν οἷς οὐκ ἔστι δῆλον ἢ προαιρεῖται ἢ φεύγει] - διόπερ οὐκ ἔχουσιν ἦθος τῶν λόγων ἐν οἷς μηδ’ ὅλως ἔστιν ὅ τι προαιρεῖται ἢ φεύγει ὁ λέγων - διάνοια δὲ ἐν οἷς ἀποδεικνύουσί τι ὡς ἔστιν ἢ ὡς οὐκ ἔστιν ἢ καθόλου τι ἀποφαίνονται. τέταρτον δὲ τῶν μὲν λόγων†ἡ λέξις· λέγω δέ, ὥσπερ πρότερον εἴρηται, λέξιν εἶναι τὴν διὰ τῆς ὀνομασίας ἑρμηνείαν, ὃ καὶ ἐπὶ τῶν ἐμμέτρων καὶ ἐπὶ τῶν λόγων ἔχει τὴν αὐτὴν δύναμιν. τῶν δὲ λοιπῶν ἡ μελοποιία μέγιστον τῶν ἡδυσμάτων, ἡ δὲ ὄψις ψυχαγωγικὸν μέν, ἀτεχνότατον δὲ καὶ ἥκιστα οἰκεῖον τῆς ποιητικῆς· ἡ γὰρ τῆς τραγῳδίας δύναμις καὶ ἄνευ ἀγῶνος καὶ ὑποκριτῶν ἔστιν, ἔτι δὲ κυριωτέρα περὶ τὴν ἀπεργασίαν τῶν ὄψεων ἡ τοῦ σκευοποιοῦ τέχνη τῆς τῶν ποιητῶν ἐστιν.

Διωρισμένων δὲ τούτων, λέγωμεν μετὰ ταῦτα ποίαν τινὰ δεῖ τὴν σύστασιν εἶναι τῶν πραγμάτων, ἐπειδὴ τοῦτο καὶ πρῶτον καὶ μέγιστον τῆς τραγῳδίας ἐστίν. κεῖται δὴ ἡμῖν τὴν τραγῳδίαν τελείας καὶ ὅλης πράξεως εἶναι μίμησιν ἐχούσης τι μέγεθος· ἔστιν γὰρ ὅλον καὶ μηδὲν ἔχον μέγεθος. ὅλον δέ ἐστιν τὸ ἔχον ἀρχὴν καὶ μέσον καὶ τελευτήν. ἀρχὴ δέ ἐστιν ὃ αὐτὸ μὲν μὴ ἐξ ἀνάγκης μετ’ ἄλλο ἐστίν, μετ’ ἐκεῖνο δ’ ἕτερον πέφυκεν εἶναι ἢ γίνεσθαι· τελευτὴ δὲ τοὐναντίον ὃ αὐτὸ μὲν μετ’ ἄλλο πέφυκεν εἶναι ἢ ἐξ ἀνάγκης ἢ ὡς ἐπὶ τὸ πολύ, μετὰ δὲ τοῦτο ἄλλο οὐδέν· μέσον δὲ ὃ καὶ αὐτὸ μετ’ ἄλλο καὶ μετ’ ἐκεῖνο ἕτερον. δεῖ ἄρα τοὺς συνεστῶτας εὖ μύθους μήθ’ ὁπόθεν ἔτυχεν ἄρχεσθαι μήθ’ ὅπου ἔτυχε τελευτᾶν, ἀλλὰ κεχρῆσθαι ταῖς εἰρημέναις ἰδέαις. ἔτι δ’ ἐπεὶ τὸ καλὸν καὶ ζῷον καὶ ἅπαν πρᾶγμα ὃ συνέστηκεν ἐκ τινῶν οὐ μόνον ταῦτα τεταγμένα δεῖ ἔχειν ἀλλὰ καὶ μέγεθος ὑπάρχειν μὴ τὸ τυχόν· τὸ γὰρ καλὸν ἐν μεγέθει καὶ τάξει ἐστίν, διὸ οὔτε πάμμικρον ἄν τι γένοιτο καλὸν ζῷον (συγχεῖται γὰρ ἡ θεωρία ἐγγὺς τοῦ ἀναισθήτου χρόνου γινομένη) οὔτε παμμέγεθες (οὐ γὰρ [1451a] ἅμα ἡ θεωρία γίνεται ἀλλ’ οἴχεται τοῖς θεωροῦσι τὸ ἓν καὶ τὸ ὅλον ἐκ τῆς θεωρίας) οἷον εἰ μυρίων σταδίων εἴη ζῷον· ὥστε δεῖ καθάπερ ἐπὶ τῶν σωμάτων καὶ ἐπὶ τῶν ζῴων ἔχειν μὲν μέγεθος, τοῦτο δὲ εὐσύνοπτον εἶναι, οὕτω καὶ ἐπὶ τῶν μύθων ἔχειν μὲν μῆκος, τοῦτο δὲ εὐμνημόνευτον εἶναι. τοῦ δὲ μήκους ὅρος ‹ὁ› μὲν πρὸς τοὺς ἀγῶνας καὶ τὴν αἴσθησιν οὐ τῆς τέχνης ἐστίν· εἰ γὰρ ἔδει ἑκατὸν τραγῳδίας ἀγωνίζεσθαι, πρὸς κλεψύδρας ἂν ἠγωνίζοντο, ὥσπερ ποτὲ καὶ ἄλλοτέ φασιν. ὁ δὲ κατ’ αὐτὴν τὴν φύσιν τοῦ πράγματος ὅρος, ἀεὶ μὲν ὁ μείζων μέχρι τοῦ σύνδηλος εἶναι καλλίων ἐστὶ κατὰ τὸ μέγεθος· ὡς δὲ ἁπλῶς διορίσαντας εἰπεῖν, ἐν ὅσῳ μεγέθει κατὰ τὸ εἰκὸς ἢ τὸ ἀναγκαῖον ἐφεξῆς γιγνομένων συμβαίνει εἰς εὐτυχίαν ἐκ δυστυχίας ἢ ἐξ εὐτυχίας εἰς δυστυχίαν μεταβάλλειν, ἱκανὸς ὅρος ἐστὶν τοῦ μεγέθους.

Μῦθος δ’ ἐστὶν εἷς οὐχ ὥσπερ τινὲς οἴονται ἐὰν περὶ ἕνα ᾖ· πολλὰ γὰρ καὶ ἄπειρα τῷ ἑνὶ συμβαίνει, ἐξ ὧν ἐνίων οὐδέν ἐστιν ἕν· οὕτως δὲ καὶ πράξεις ἑνὸς πολλαί εἰσιν, ἐξ ὧν μία οὐδεμία γίνεται πρᾶξις. διὸ πάντες ἐοίκασιν ἁμαρτάνειν ὅσοι τῶν ποιητῶν Ἡρακληίδα Θησηίδα καὶ τὰ τοιαῦτα ποιήματα πεποιήκασιν· οἴονται γάρ, ἐπεὶ εἷς ἦν ὁ Ἡρακλῆς, ἕνα καὶ τὸν μῦθον εἶναι προσήκειν. ὁ δ’ Ὅμηρος ὥσπερ καὶ τὰ ἄλλα διαφέρει καὶ τοῦτ’ ἔοικεν καλῶς ἰδεῖν, ἤτοι διὰ τέχνην ἢ διὰ φύσιν· Ὀδύσσειαν γὰρ ποιῶν οὐκ ἐποίησεν ἅπαντα ὅσα αὐτῷ συνέβη, οἷον πληγῆναι μὲν ἐν τῷ Παρνασσῷ, μανῆναι δὲ προσποιήσασθαι ἐν τῷ ἀγερμῷ, ὧν οὐδὲν θατέρου γενομένου ἀναγκαῖον ἦν ἢ εἰκὸς θάτερον γενέσθαι, ἀλλὰ περὶ μίαν πρᾶξιν οἵαν λέγομεν τὴν Ὀδύσσειαν συνέστησεν, ὁμοίως δὲ καὶ τὴν Ἰλιάδα. χρὴ οὖν, καθάπερ καὶ ἐν ταῖς ἄλλαις μιμητικαῖς ἡ μία μίμησις ἑνός ἐστιν, οὕτω καὶ τὸν μῦθον, ἐπεὶ πράξεως μίμησίς ἐστι, μιᾶς τε εἶναι καὶ ταύτης ὅλης, καὶ τὰ μέρη συνεστάναι τῶν πραγμάτων οὕτως ὥστε μετατιθεμένου τινὸς μέρους ἢ ἀφαιρουμένου διαφέρεσθαι καὶ κινεῖσθαι τὸ ὅλον· ὃ γὰρ προσὸν ἢ μὴ προσὸν μηδὲν ποιεῖ ἐπίδηλον, οὐδὲν μόριον τοῦ ὅλου ἐστίν.

Φανερὸν δὲ ἐκ τῶν εἰρημένων καὶ ὅτι οὐ τὸ τὰ γενόμενα λέγειν, τοῦτο ποιητοῦ ἔργον ἐστίν, ἀλλ’ οἷα ἂν γένοιτο καὶ τὰ δυνατὰ κατὰ τὸ εἰκὸς ἢ τὸ ἀναγκαῖον. ὁ γὰρ [1451b] ἱστορικὸς καὶ ὁ ποιητὴς οὐ τῷ ἢ ἔμμετρα λέγειν ἢ ἄμετρα διαφέρουσιν (εἴη γὰρ ἂν τὰ Ἡροδότου εἰς μέτρα τεθῆναι καὶ οὐδὲν ἧττον ἂν εἴη ἱστορία τις μετὰ μέτρου ἢ ἄνευ μέτρων)· ἀλλὰ τούτῳ διαφέρει, τῷ τὸν μὲν τὰ γενόμενα λέγειν, τὸν δὲ οἷα ἂν γένοιτο. διὸ καὶ φιλοσοφώτερον καὶ σπουδαιότερον ποίησις ἱστορίας ἐστίν· ἡ μὲν γὰρ ποίησις μᾶλλον τὰ καθόλου, ἡ δ’ ἱστορία τὰ καθ’ ἕκαστον λέγει. ἔστιν δὲ καθόλου μέν, τῷ ποίῳ τὰ ποῖα ἄττα συμβαίνει λέγειν ἢ πράττειν κατὰ τὸ εἰκὸς ἢ τὸ ἀναγκαῖον, οὗ στοχάζεται ἡ ποίησις ὀνόματα ἐπιτιθεμένη· τὸ δὲ καθ’ ἕκαστον, τί Ἀλκιβιάδης ἔπραξεν ἢ τί ἔπαθεν. ἐπὶ μὲν οὖν τῆς κωμῳδίας ἤδη τοῦτο δῆλον γέγονεν· συστήσαντες γὰρ τὸν μῦθον διὰ τῶν εἰκότων οὕτω τὰ τυχόντα ὀνόματα ὑποτιθέασιν, καὶ οὐχ ὥσπερ οἱ ἰαμβοποιοὶ περὶ τὸν καθ’ ἕκαστον ποιοῦσιν. ἐπὶ δὲ τῆς τραγῳδίας τῶν γενομένων ὀνομάτων ἀντέχονται. αἴτιον δ’ ὅτι πιθανόν ἐστι τὸ δυνατόν· τὰ μὲν οὖν μὴ γενόμενα οὔπω πιστεύομεν εἶναι δυνατά, τὰ δὲ γενόμενα φανερὸν ὅτι δυνατά· οὐ γὰρ ἂν ἐγένετο, εἰ ἦν ἀδύνατα. οὐ μὴν ἀλλὰ καὶ ἐν ταῖς τραγῳδίαις ἐν ἐνίαις μὲν ἓν ἢ δύο τῶν γνωρίμων ἐστὶν ὀνομάτων, τὰ δὲ ἄλλα πεποιημένα, ἐν ἐνίαις δὲ οὐθέν, οἷον ἐν τῷ Ἀγάθωνος Ἀνθεῖ· ὁμοίως γὰρ ἐν τούτῳ τά τε πράγματα καὶ τὰ ὀνόματα πεποίηται, καὶ οὐδὲν ἧττον εὐφραίνει. ὥστ’ οὐ πάντως εἶναι ζητητέον τῶν παραδεδομένων μύθων, περὶ οὓς αἱ τραγῳδίαι εἰσίν, ἀντέχεσθαι. καὶ γὰρ γελοῖον τοῦτο ζητεῖν, ἐπεὶ καὶ τὰ γνώριμα ὀλίγοις γνώριμά ἐστιν, ἀλλ’ ὅμως εὐφραίνει πάντας. δῆλον οὖν ἐκ τούτων ὅτι τὸν ποιητὴν μᾶλλον τῶν μύθων εἶναι δεῖ ποιητὴν ἢ τῶν μέτρων, ὅσῳ ποιητὴς κατὰ τὴν μίμησίν ἐστιν, μιμεῖται δὲ τὰς πράξεις. κἂν ἄρα συμβῇ γενόμενα ποιεῖν, οὐθὲν ἧττον ποιητής ἐστι· τῶν γὰρ γενομένων ἔνια οὐδὲν κωλύει τοιαῦτα εἶναι οἷα ἂν εἰκὸς γενέσθαι [καὶ δυνατὰ γενέσθαι], καθ’ ὃ ἐκεῖνος αὐτῶν ποιητής ἐστιν.

τῶν δὲ ἁπλῶν μύθων καὶ πράξεων αἱ ἐπεισοδιώδεις εἰσὶν χείρισται· λέγω δ’ ἐπεισοδιώδη μῦθον ἐν ᾧ τὰ ἐπεισόδια μετ’ ἄλληλα οὔτ’ εἰκὸς οὔτ’ ἀνάγκη εἶναι. τοιαῦται δὲ ποιοῦνται ὑπὸ μὲν τῶν φαύλων ποιητῶν δι’ αὐτούς, ὑπὸ δὲ τῶν ἀγαθῶν διὰ τοὺς ὑποκριτάς· ἀγωνίσματα γὰρ ποιοῦντες καὶ παρὰ τὴν δύναμιν παρατείνοντες τὸν μῦθον πολλάκις διαστρέφειν ἀναγκάζονται τὸ ἐφεξῆς. ἐπεὶ δὲ οὐ μόνον τελείας ἐστὶ πράξεως ἡ μίμησις ἀλλὰ καὶ φοβερῶν καὶ ἐλεεινῶν, ταῦτα δὲ γίνεται καὶ μάλιστα [καὶ μᾶλλον] ὅταν γένηται παρὰ τὴν δόξαν δι’ ἄλληλα· τὸ γὰρ θαυμαστὸν οὕτως ἕξει μᾶλλον ἢ εἰ ἀπὸ τοῦ αὐτομάτου καὶ τῆς τύχης, ἐπεὶ καὶ τῶν ἀπὸ τύχης ταῦτα θαυμασιώτατα δοκεῖ ὅσα ὥσπερ ἐπίτηδες φαίνεται γεγονέναι, οἷον ὡς ὁ ἀνδριὰς ὁ τοῦ Μίτυος ἐν Ἄργει ἀπέκτεινεν τὸν αἴτιον τοῦ θανάτου τῷ Μίτυι, θεωροῦντι ἐμπεσών· ἔοικε γὰρ τὰ τοιαῦτα οὐκ εἰκῇ γίνεσθαι· ὥστε ἀνάγκη τοὺς τοιούτους εἶναι καλλίους μύθους.

Εἰσὶ δὲ τῶν μύθων οἱ μὲν ἁπλοῖ οἱ δὲ πεπλεγμένοι· καὶ γὰρ αἱ πράξεις ὧν μιμήσεις οἱ μῦθοί εἰσιν ὑπάρχουσιν εὐθὺς οὖσαι τοιαῦται. λέγω δὲ ἁπλῆν μὲν πρᾶξιν ἧς γινομένης ὥσπερ ὥρισται συνεχοῦς καὶ μιᾶς ἄνευ περιπετείας ἢ ἀναγνωρισμοῦ ἡ μετάβασις γίνεται, πεπλεγμένην δὲ ἐξ ἧς μετὰ ἀναγνωρισμοῦ ἢ περιπετείας ἢ ἀμφοῖν ἡ μετάβασίς ἐστιν. ταῦτα δὲ δεῖ γίνεσθαι ἐξ αὐτῆς τῆς συστάσεως τοῦ μύθου, ὥστε ἐκ τῶν προγεγενημένων συμβαίνειν ἢ ἐξ ἀνάγκης ἢ κατὰ τὸ εἰκὸς γίγνεσθαι ταῦτα· διαφέρει γὰρ πολὺ τὸ γίγνεσθαι τάδε διὰ τάδε ἢ μετὰ τάδε.

Ἔστι δὲ περιπέτεια μὲν ἡ εἰς τὸ ἐναντίον τῶν πραττομένων μεταβολὴ καθάπερ εἴρηται, καὶ τοῦτο δὲ ὥσπερ λέγομεν κατὰ τὸ εἰκὸς ἢ ἀναγκαῖον, οἷον ἐν τῷ Οἰδίποδι ἐλθὼν ὡς εὐφρανῶν τὸν Οἰδίπουν καὶ ἀπαλλάξων τοῦ πρὸς τὴν μητέρα φόβου, δηλώσας ὃς ἦν, τοὐναντίον ἐποίησεν· καὶ ἐν τῷ Λυγκεῖ ὁ μὲν ἀγόμενος ὡς ἀποθανούμενος, ὁ δὲ Δαναὸς ἀκολουθῶν ὡς ἀποκτενῶν, τὸν μὲν συνέβη ἐκ τῶν πεπραγμένων ἀποθανεῖν, τὸν δὲ σωθῆναι. ἀναγνώρισις δέ, ὥσπερ καὶ τοὔνομα σημαίνει, ἐξ ἀγνοίας εἰς γνῶσιν μεταβολή, ἢ εἰς φιλίαν ἢ εἰς ἔχθραν, τῶν πρὸς εὐτυχίαν ἢ δυστυχίαν ὡρισμένων· καλλίστη δὲ ἀναγνώρισις, ὅταν ἅμα περιπετείᾳ γένηται, οἷον ἔχει ἡ ἐν τῷ Οἰδίποδι. εἰσὶν μὲν οὖν καὶ ἄλλαι ἀναγνωρίσεις· καὶ γὰρ πρὸς ἄψυχα καὶ τὰ τυχόντα ἐστὶν ὥσπερ εἴρηται συμβαίνει†καὶ εἰ πέπραγέ τις ἢ μὴ πέπραγεν ἔστιν ἀναγνωρίσαι. ἀλλ’ ἡ μάλιστα τοῦ μύθου καὶ ἡ μάλιστα τῆς πράξεως ἡ εἰρημένη ἐστίν· ἡ γὰρ τοιαύτη ἀναγνώρισις καὶ περιπέτεια ἢ ἔλεον [1452b] ἕξει ἢ φόβον (οἵων πράξεων ἡ τραγῳδία μίμησις ὑπόκειται), ἐπειδὴ καὶ τὸ ἀτυχεῖν καὶ τὸ εὐτυχεῖν ἐπὶ τῶν τοιούτων συμβήσεται. ἐπεὶ δὴ ἡ ἀναγνώρισις τινῶν ἐστιν ἀναγνώρισις, αἱ μέν εἰσι θατέρου πρὸς τὸν ἕτερον μόνον, ὅταν ᾖ δῆλος ἅτερος τίς ἐστιν, ὁτὲ δὲ ἀμφοτέρους δεῖ ἀναγνωρίσαι, οἷον ἡ μὲν Ἰφιγένεια τῷ Ὀρέστῃ ἀνεγνωρίσθη ἐκ τῆς πέμψεως τῆς ἐπιστολῆς, ἐκείνου δὲ πρὸς τὴν Ἰφιγένειαν ἄλλης ἔδει ἀναγνωρίσεως.

δύο μὲν οὖν τοῦ μύθου μέρη ταῦτ’ ἐστί, περιπέτεια καὶ ἀναγνώρισις· τρίτον δὲ πάθος. τούτων δὲ περιπέτεια μὲν καὶ ἀναγνώρισις εἴρηται, πάθος δέ ἐστι πρᾶξις φθαρτικὴ ἢ ὀδυνηρά, οἷον οἵ τε ἐν τῷ φανερῷ θάνατοι καὶ αἱ περιωδυνίαι καὶ τρώσεις καὶ ὅσα τοιαῦτα.

Μέρη δὲ τραγῳδίας οἷς μὲν ὡς εἴδεσι δεῖ χρῆσθαι πρότερον εἴπομεν, κατὰ δὲ τὸ ποσὸν καὶ εἰς ἃ διαιρεῖται κεχωρισμένα τάδε ἐστίν, πρόλογος ἐπεισόδιον ἔξοδος χορικόν, καὶ τούτου τὸ μὲν πάροδος τὸ δὲ στάσιμον, κοινὰ μὲν ἁπάντων ταῦτα, ἴδια δὲ τὰ ἀπὸ τῆς σκηνῆς καὶ κομμοί. ἔστιν δὲ πρόλογος μὲν μέρος ὅλον τραγῳδίας τὸ πρὸ χοροῦ παρόδου, ἐπεισόδιον δὲ μέρος ὅλον τραγῳδίας τὸ μεταξὺ ὅλων χορικῶν μελῶν, ἔξοδος δὲ μέρος ὅλον τραγῳδίας μεθ’ ὃ οὐκ ἔστι χοροῦ μέλος· χορικοῦ δὲ πάροδος μὲν ἡ πρώτη λέξις ὅλη χοροῦ, στάσιμον δὲ μέλος χοροῦ τὸ ἄνευ ἀναπαίστου καὶ τροχαίου, κομμὸς δὲ θρῆνος κοινὸς χοροῦ καὶ ἀπὸ σκηνῆς. μέρη δὲ τραγῳδίας οἷς μὲν ‹ὡς εἴδεσι› δεῖ χρῆσθαι πρότερον εἴπαμεν, κατὰ δὲ τὸ ποσὸν καὶ εἰς ἃ διαιρεῖται κεχωρισμένα ταῦτ’ ἐστίν.

Ὧν δὲ δεῖ στοχάζεσθαι καὶ ἃ δεῖ εὐλαβεῖσθαι συνιστάντας τοὺς μύθους καὶ πόθεν ἔσται τὸ τῆς τραγῳδίας ἔργον, ἐφεξῆς ἂν εἴη λεκτέον τοῖς νῦν εἰρημένοις. ἐπειδὴ οὖν δεῖ τὴν σύνθεσιν εἶναι τῆς καλλίστης τραγῳδίας μὴ ἁπλῆν ἀλλὰ πεπλεγμένην καὶ ταύτην φοβερῶν καὶ ἐλεεινῶν εἶναι μιμητικήν (τοῦτο γὰρ ἴδιον τῆς τοιαύτης μιμήσεώς ἐστιν), πρῶτον μὲν δῆλον ὅτι οὔτε τοὺς ἐπιεικεῖς ἄνδρας δεῖ μεταβάλλοντας φαίνεσθαι ἐξ εὐτυχίας εἰς δυστυχίαν, οὐ γὰρ φοβερὸν οὐδὲ ἐλεεινὸν τοῦτο ἀλλὰ μιαρόν ἐστιν· οὔτε τοὺς μοχθηροὺς ἐξ ἀτυχίας εἰς εὐτυχίαν, ἀτραγῳδότατον γὰρ τοῦτ’ ἐστὶ πάντων, οὐδὲν γὰρ ἔχει ὧν δεῖ, οὔτε γὰρ φιλάνθρωπον [1453a] οὔτε ἐλεεινὸν οὔτε φοβερόν ἐστιν· οὐδ’ αὖ τὸν σφόδρα πονηρὸν ἐξ εὐτυχίας εἰς δυστυχίαν μεταπίπτειν· τὸ μὲν γὰρ φιλάνθρωπον ἔχοι ἂν ἡ τοιαύτη σύστασις ἀλλ’ οὔτε ἔλεον οὔτε φόβον, ὁ μὲν γὰρ περὶ τὸν ἀνάξιόν ἐστιν δυστυχοῦντα, ὁ δὲ περὶ τὸν ὅμοιον, ἔλεος μὲν περὶ τὸν ἀνάξιον, φόβος δὲ περὶ τὸν ὅμοιον, ὥστε οὔτε ἐλεεινὸν οὔτε φοβερὸν ἔσται τὸ συμβαῖνον. ὁ μεταξὺ ἄρα τούτων λοιπός. ἔστι δὲ τοιοῦτος ὁ μήτε ἀρετῇ διαφέρων καὶ δικαιοσύνῃ μήτε διὰ κακίαν καὶ μοχθηρίαν μεταβάλλων εἰς τὴν δυστυχίαν ἀλλὰ δι’ ἁμαρτίαν τινά, τῶν ἐν μεγάλῃ δόξῃ ὄντων καὶ εὐτυχίᾳ, οἷον Οἰδίπους καὶ Θυέστης καὶ οἱ ἐκ τῶν τοιούτων γενῶν ἐπιφανεῖς ἄνδρες. ἀνάγκη ἄρα τὸν καλῶς ἔχοντα μῦθον ἁπλοῦν εἶναι μᾶλλον ἢ διπλοῦν, ὥσπερ τινές φασι, καὶ μεταβάλλειν οὐκ εἰς εὐτυχίαν ἐκ δυστυχίας ἀλλὰ τοὐναντίον ἐξ εὐτυχίας εἰς δυστυχίαν μὴ διὰ μοχθηρίαν ἀλλὰ δι’ ἁμαρτίαν μεγάλην ἢ οἵου εἴρηται ἢ βελτίονος μᾶλλον ἢ χείρονος. σημεῖον δὲ καὶ τὸ γιγνόμενον· πρῶτον μὲν γὰρ οἱ ποιηταὶ τοὺς τυχόντας μύθους ἀπηρίθμουν, νῦν δὲ περὶ ὀλίγας οἰκίας αἱ κάλλισται τραγῳδίαι συντίθενται, οἷον περὶ Ἀλκμέωνα καὶ Οἰδίπουν καὶ Ὀρέστην καὶ Μελέαγρον καὶ Θυέστην καὶ Τήλεφον καὶ ὅσοις ἄλλοις συμβέβηκεν ἢ παθεῖν δεινὰ ἢ ποιῆσαι. ἡ μὲν οὖν κατὰ τὴν τέχνην καλλίστη τραγῳδία ἐκ ταύτης τῆς συστάσεώς ἐστι. διὸ καὶ οἱ Εὐριπίδῃ ἐγκαλοῦντες τὸ αὐτὸ ἁμαρτάνουσιν ὅτι τοῦτο δρᾷ ἐν ταῖς τραγῳδίαις καὶ αἱ πολλαὶ αὐτοῦ εἰς δυστυχίαν τελευτῶσιν. τοῦτο γάρ ἐστιν ὥσπερ εἴρηται ὀρθόν· σημεῖον δὲ μέγιστον· ἐπὶ γὰρ τῶν σκηνῶν καὶ τῶν ἀγώνων τραγικώταται αἱ τοιαῦται φαίνονται, ἂν κατορθωθῶσιν, καὶ ὁ Εὐριπίδης, εἰ καὶ τὰ ἄλλα μὴ εὖ οἰκονομεῖ, ἀλλὰ τραγικώτατός γε τῶν ποιητῶν φαίνεται. δευτέρα δ’ ἡ πρώτη λεγομένη ὑπὸ τινῶν ἐστιν σύστασις, ἡ διπλῆν τε τὴν σύστασιν ἔχουσα καθάπερ ἡ Ὀδύσσεια καὶ τελευτῶσα ἐξ ἐναντίας τοῖς βελτίοσι καὶ χείροσιν. δοκεῖ δὲ εἶναι πρώτη διὰ τὴν τῶν θεάτρων ἀσθένειαν· ἀκολουθοῦσι γὰρ οἱ ποιηταὶ κατ’ εὐχὴν ποιοῦντες τοῖς θεαταῖς. ἔστιν δὲ οὐχ αὕτη ἀπὸ τραγῳδίας ἡδονὴ ἀλλὰ μᾶλλον τῆς κωμῳδίας οἰκεία· ἐκεῖ γὰρ οἳ ἂν ἔχθιστοι ὦσιν ἐν τῷ μύθῳ, οἷον Ὀρέστης καὶ Αἴγισθος, φίλοι γενόμενοι ἐπὶ τελευτῆς ἐξέρχονται, καὶ ἀποθνῄσκει οὐδεὶς ὑπ’ οὐδενός.

[1453b] Ἔστιν μὲν οὖν τὸ φοβερὸν καὶ ἐλεεινὸν ἐκ τῆς ὄψεως γίγνεσθαι, ἔστιν δὲ καὶ ἐξ αὐτῆς τῆς συστάσεως τῶν πραγμάτων, ὅπερ ἐστὶ πρότερον καὶ ποιητοῦ ἀμείνονος. δεῖ γὰρ καὶ ἄνευ τοῦ ὁρᾶν οὕτω συνεστάναι τὸν μῦθον ὥστε τὸν ἀκούοντα τὰ πράγματα γινόμενα καὶ φρίττειν καὶ ἐλεεῖν ἐκ τῶν συμβαινόντων· ἅπερ ἂν πάθοι τις ἀκούων τὸν τοῦ Οἰδίπου μῦθον. τὸ δὲ διὰ τῆς ὄψεως τοῦτο παρασκευάζειν ἀτεχνότερον καὶ χορηγίας δεόμενόν ἐστιν. οἱ δὲ μὴ τὸ φοβερὸν διὰ τῆς ὄψεως ἀλλὰ τὸ τερατῶδες μόνον παρασκευάζοντες οὐδὲν τραγῳδίᾳ κοινωνοῦσιν· οὐ γὰρ πᾶσαν δεῖ ζητεῖν ἡδονὴν ἀπὸ τραγῳδίας ἀλλὰ τὴν οἰκείαν. ἐπεὶ δὲ τὴν ἀπὸ ἐλέου καὶ φόβου διὰ μιμήσεως δεῖ ἡδονὴν παρασκευάζειν τὸν ποιητήν, φανερὸν ὡς τοῦτο ἐν τοῖς πράγμασιν ἐμποιητέον. ποῖα οὖν δεινὰ ἢ ποῖα οἰκτρὰ φαίνεται τῶν συμπιπτόντων, λάβωμεν. ἀνάγκη δὴ ἢ φίλων εἶναι πρὸς ἀλλήλους τὰς τοιαύτας πράξεις ἢ ἐχθρῶν ἢ μηδετέρων. ἂν μὲν οὖν ἐχθρὸς ἐχθρόν, οὐδὲν ἐλεεινὸν οὔτε ποιῶν οὔτε μέλλων, πλὴν κατ’ αὐτὸ τὸ πάθος· οὐδ’ ἂν μηδετέρως ἔχοντες· ὅταν δ’ ἐν ταῖς φιλίαις ἐγγένηται τὰ πάθη, οἷον ἢ ἀδελφὸς ἀδελφὸν ἢ υἱὸς πατέρα ἢ μήτηρ υἱὸν ἢ υἱὸς μητέρα ἀποκτείνῃ ἢ μέλλῃ ἤ τι ἄλλο τοιοῦτον δρᾷ, ταῦτα ζητητέον. τοὺς μὲν οὖν παρειλημμένους μύθους λύειν οὐκ ἔστιν, λέγω δὲ οἷον τὴν Κλυταιμήστραν ἀποθανοῦσαν ὑπὸ τοῦ Ὀρέστου καὶ τὴν Ἐριφύλην ὑπὸ τοῦ Ἀλκμέωνος, αὐτὸν δὲ εὑρίσκειν δεῖ καὶ τοῖς παραδεδομένοις χρῆσθαι καλῶς. τὸ δὲ καλῶς τί λέγομεν, εἴπωμεν σαφέστερον. ἔστι μὲν γὰρ οὕτω γίνεσθαι τὴν πρᾶξιν, ὥσπερ οἱ παλαιοὶ ἐποίουν εἰδότας καὶ γιγνώσκοντας, καθάπερ καὶ Εὐριπίδης ἐποίησεν ἀποκτείνουσαν τοὺς παῖδας τὴν Μήδειαν· ἔστιν δὲ πρᾶξαι μέν, ἀγνοοῦντας δὲ πρᾶξαι τὸ δεινόν, εἶθ’ ὕστερον ἀναγνωρίσαι τὴν φιλίαν, ὥσπερ ὁ Σοφοκλέους Οἰδίπους· τοῦτο μὲν οὖν ἔξω τοῦ δράματος, ἐν δ’ αὐτῇ τῇ τραγῳδίᾳ οἷον ὁ Ἀλκμέων ὁ Ἀστυδάμαντος ἢ ὁ Τηλέγονος ὁ ἐν τῷ τραυματίᾳ Ὀδυσσεῖ. ἔτι δὲ τρίτον παρὰ ταῦτα τὸ μέλλοντα ποιεῖν τι τῶν ἀνηκέστων δι’

ἄγνοιαν ἀναγνωρίσαι πρὶν ποιῆσαι. καὶ παρὰ ταῦτα οὐκ ἔστιν ἄλλως. ἢ γὰρ πρᾶξαι ἀνάγκη ἢ μὴ καὶ εἰδότας ἢ μὴ εἰδότας. τούτων δὲ τὸ μὲν γινώσκοντα μελλῆσαι καὶ μὴ πρᾶξαι χείριστον· τό τε γὰρ μιαρὸν ἔχει, καὶ οὐ τραγικόν· ἀπαθὲς γάρ. διόπερ οὐδεὶς [1454a] ποιεῖ ὁμοίως, εἰ μὴ ὀλιγάκις, οἷον ἐν Ἀντιγόνῃ τὸν Κρέοντα ὁ Αἵμων. τὸ δὲ πρᾶξαι δεύτερον. βέλτιον δὲ τὸ ἀγνοοῦντα μὲν πρᾶξαι, πράξαντα δὲ ἀναγνωρίσαι· τό τε γὰρ μιαρὸν οὐ πρόσεστιν καὶ ἡ ἀναγνώρισις ἐκπληκτικόν. κράτιστον δὲ τὸ τελευταῖον, λέγω δὲ οἷον ἐν τῷ Κρεσφόντῃ ἡ Μερόπη μέλλει τὸν υἱὸν ἀποκτείνειν, ἀποκτείνει δὲ οὔ, ἀλλ’ ἀνεγνώρισε, καὶ ἐν τῇ Ἰφιγενείᾳ ἡ ἀδελφὴ τὸν ἀδελφόν, καὶ ἐν τῇ Ἕλλῃ ὁ υἱὸς τὴν μητέρα ἐκδιδόναι μέλλων ἀνεγνώρισεν. διὰ γὰρ τοῦτο, ὅπερ πάλαι εἴρηται, οὐ περὶ πολλὰ γένη αἱ τραγῳδίαι εἰσίν. ζητοῦντες γὰρ οὐκ ἀπὸ τέχνης ἀλλ’ ἀπὸ τύχης εὗρον τὸ τοιοῦτον παρασκευάζειν ἐν τοῖς μύθοις· ἀναγκάζονται οὖν ἐπὶ ταύτας τὰς οἰκίας ἀπαντᾶν ὅσαις τὰ τοιαῦτα συμβέβηκε πάθη. περὶ μὲν οὖν τῆς τῶν πραγμάτων συστάσεως καὶ ποίους τινὰς εἶναι δεῖ τοὺς μύθους εἴρηται ἱκανῶς.

Περὶ δὲ τὰ ἤθη τέτταρά ἐστιν ὧν δεῖ στοχάζεσθαι, ἓν μὲν καὶ πρῶτον, ὅπως χρηστὰ ᾖ. ἕξει δὲ ἦθος μὲν ἐὰν ὥσπερ ἐλέχθη ποιῇ φανερὸν ὁ λόγος ἢ ἡ πρᾶξις προαίρεσίν τινα ‹ἥ τις ἂν› ᾖ, χρηστὸν δὲ ἐὰν χρηστήν. ἔστιν δὲ ἐν ἑκάστῳ γένει· καὶ γὰρ γυνή ἐστιν χρηστὴ καὶ δοῦλος, καίτοι γε ἴσως τούτων τὸ μὲν χεῖρον, τὸ δὲ ὅλως φαῦλόν ἐστιν. δεύτερον δὲ τὸ ἁρμόττοντα· ἔστιν γὰρ ἀνδρείαν μὲν τὸ ἦθος, ἀλλ’ οὐχ ἁρμόττον γυναικὶ οὕτως ἀνδρείαν ἢ δεινὴν εἶναι. τρίτον δὲ τὸ ὅμοιον. τοῦτο γὰρ ἕτερον τοῦ χρηστὸν τὸ ἦθος καὶ ἁρμόττον ποιῆσαι ὡς προείρηται. τέταρτον δὲ τὸ ὁμαλόν. κἂν γὰρ ἀνώμαλός τις ᾖ ὁ τὴν μίμησιν παρέχων καὶ τοιοῦτον ἦθος ὑποτεθῇ, ὅμως ὁμαλῶς ἀνώμαλον δεῖ εἶναι. ἔστιν δὲ παράδειγμα πονηρίας μὲν ἤθους μὴ ἀναγκαίας οἷον ὁ Μενέλαος ὁ ἐν τῷ Ὀρέστῃ, τοῦ δὲ ἀπρεποῦς καὶ μὴ ἁρμόττοντος ὅ τε θρῆνος Ὀδυσσέως ἐν τῇ Σκύλλῃ καὶ ἡ τῆς Μελανίππης ῥῆσις, τοῦ δὲ ἀνωμάλου ἡ ἐν Αὐλίδι Ἰφιγένεια· οὐδὲν γὰρ ἔοικεν ἡ ἱκετεύουσα τῇ ὑστέρᾳ. χρὴ δὲ καὶ ἐν τοῖς ἤθεσιν ὁμοίως ὥσπερ καὶ ἐν τῇ τῶν πραγμάτων συστάσει ἀεὶ ζητεῖν ἢ τὸ ἀναγκαῖον ἢ τὸ εἰκός, ὥστε τὸν τοιοῦτον τὰ τοιαῦτα λέγειν ἢ πράττειν ἢ ἀναγκαῖον ἢ εἰκὸς καὶ τοῦτο μετὰ τοῦτο γίνεσθαι ἢ ἀναγκαῖον ἢ εἰκός. φανερὸν οὖν ὅτι καὶ τὰς λύσεις τῶν μύθων ἐξ αὐτοῦ δεῖ τοῦ [1454b] μύθου συμβαίνειν, καὶ μὴ ὥσπερ ἐν τῇ Μηδείᾳ ἀπὸ μηχανῆς καὶ ἐν τῇ Ἰλιάδι τὰ περὶ τὸν ἀπόπλουν. ἀλλὰ μηχανῇ χρηστέον ἐπὶ τὰ ἔξω τοῦ δράματος, ἢ ὅσα πρὸ τοῦ γέγονεν ἃ οὐχ οἷόν τε ἄνθρωπον εἰδέναι, ἢ ὅσα ὕστερον, ἃ δεῖται προαγορεύσεως καὶ ἀγγελίας· ἅπαντα γὰρ ἀποδίδομεν τοῖς θεοῖς ὁρᾶν.

ἄλογον δὲ μηδὲν εἶναι ἐν τοῖς πράγμασιν, εἰ δὲ μή, ἔξω τῆς τραγῳδίας, οἷον τὸ ἐν τῷ Οἰδίποδι τῷ Σοφοκλέους. ἐπεὶ δὲ μίμησίς ἐστιν ἡ τραγῳδία βελτιόνων ἢ ἡμεῖς, δεῖ μιμεῖσθαι τοὺς ἀγαθοὺς εἰκονογράφους· καὶ γὰρ ἐκεῖνοι ἀποδιδόντες τὴν ἰδίαν μορφὴν ὁμοίους ποιοῦντες καλλίους γράφουσιν· οὕτω καὶ τὸν ποιητὴν μιμούμενον καὶ ὀργίλους καὶ ῥᾳθύμους καὶ τἆλλα τὰ τοιαῦτα ἔχοντας ἐπὶ τῶν ἠθῶν τοιούτους ὄντας ἐπιεικεῖς ποιεῖν παράδειγμα σκληρότητος οἷον τὸν Ἀχιλλέα ἀγαθὸν καὶ Ὅμηρος. ταῦτα δὴ διατηρεῖν, καὶ πρὸς τούτοις τὰ παρὰ τὰς ἐξ ἀνάγκης ἀκολουθούσας αἰσθήσεις τῇ ποιητικῇ· καὶ γὰρ κατ’ αὐτὰς ἔστιν ἁμαρτάνειν πολλάκις· εἴρηται δὲ περὶ αὐτῶν ἐν τοῖς ἐκδεδομένοις λόγοις ἱκανῶς.

Ἀναγνώρισις δὲ τί μέν ἐστιν, εἴρηται πρότερον· εἴδη δὲ ἀναγνωρίσεως, πρώτη μὲν ἡ ἀτεχνοτάτη καὶ ᾗ πλείστῃ χρῶνται δι’ ἀπορίαν, ἡ διὰ τῶν σημείων. τούτων δὲ τὰ μὲν σύμφυτα, οἷον “λόγχην ἣν φοροῦσι Γηγενεῖς” ἢ ἀστέρας οἵους ἐν τῷ Θυέστῃ Καρκίνος, τὰ δὲ ἐπίκτητα, καὶ τούτων τὰ μὲν ἐν τῷ σώματι, οἷον οὐλαί, τὰ δὲ ἐκτός, οἷον τὰ περιδέραια καὶ οἷον ἐν τῇ Τυροῖ διὰ τῆς σκάφης. ἔστιν δὲ καὶ τούτοις χρῆσθαι ἢ βέλτιον ἢ χεῖρον, οἷον Ὀδυσσεὺς διὰ τῆς οὐλῆς ἄλλως ἀνεγνωρίσθη ὑπὸ τῆς τροφοῦ καὶ ἄλλως ὑπὸ τῶν συβοτῶν· εἰσὶ γὰρ αἱ μὲν πίστεως ἕνεκα ἀτεχνότεραι, καὶ αἱ τοιαῦται πᾶσαι, αἱ δὲ ἐκ περιπετείας, ὥσπερ ἡ ἐν τοῖς Νίπτροις, βελτίους. δεύτεραι δὲ αἱ πεποιημέναι ὑπὸ τοῦ ποιητοῦ, διὸ ἄτεχνοι. οἷον Ὀρέστης ἐν τῇ Ἰφιγενείᾳ ἀνεγνώρισεν ὅτι Ὀρέστης· ἐκείνη μὲν γὰρ διὰ τῆς ἐπιστολῆς, ἐκεῖνος δὲ αὐτὸς λέγει ἃ βούλεται ὁ ποιητὴς ἀλλ’ οὐχ ὁ μῦθος· διὸ ἐγγύς τι τῆς εἰρημένης ἁμαρτίας ἐστίν, ἐξῆν γὰρ ἂν ἔνια καὶ ἐνεγκεῖν. καὶ ἐν τῷ Σοφοκλέους Τηρεῖ ἡ τῆς κερκίδος φωνή. ἡ τρίτη διὰ μνήμης, τῷ αἰσθέσθαι [1455a] τι ἰδόντα, ὥσπερ ἡ ἐν Κυπρίοις τοῖς Δικαιογένους, ἰδὼν γὰρ τὴν γραφὴν ἔκλαυσεν, καὶ ἡ ἐν Ἀλκίνου ἀπολόγῳ, ἀκούων γὰρ τοῦ κιθαριστοῦ καὶ μνησθεὶς ἐδάκρυσεν, ὅθεν ἀνεγνωρίσθησαν. τετάρτη δὲ ἡ ἐκ συλλογισμοῦ, οἷον ἐν Χοηφόροις, ὅτι ὅμοιός τις ἐλήλυθεν, ὅμοιος δὲ οὐθεὶς ἀλλ’ ἢ Ὀρέστης, οὗτος ἄρα ἐλήλυθεν. καὶ ἡ Πολυίδου τοῦ σοφιστοῦ περὶ τῆς Ἰφιγενείας· εἰκὸς γὰρ ἔφη τὸν Ὀρέστην συλλογίσασθαι ὅτι ἥ τ’ ἀδελφὴ ἐτύθη καὶ αὐτῷ συμβαίνει θύεσθαι. καὶ ἐν τῷ Θεοδέκτου Τυδεῖ, ὅτι ἐλθὼν ὡς εὑρήσων τὸν υἱὸν αὐτὸς ἀπόλλυται. καὶ ἡ ἐν τοῖς Φινείδαις· ἰδοῦσαι γὰρ τὸν τόπον συνελογίσαντο τὴν εἱμαρμένην ὅτι ἐν τούτῳ εἵμαρτο ἀποθανεῖν αὐταῖς, καὶ γὰρ ἐξετέθησαν ἐνταῦθα. ἔστιν δέ τις καὶ συνθετὴ ἐκ παραλογισμοῦ τοῦ θεάτρου, οἷον ἐν τῷ Ὀδυσσεῖ τῷ ψευδαγγέλῳ· τὸ μὲν γὰρ τὸ τόξον ἐντείνειν, ἄλλον δὲ μηδένα, πεποιημένον ὑπὸ τοῦ ποιητοῦ καὶ ὑπόθεσις, καὶ εἴ γε τὸ τόξον ἔφη γνώσεσθαι ὃ οὐχ ἑωράκει· τὸ δὲ ὡς δι’ ἐκείνου ἀναγνωριοῦντος διὰ τούτου ποιῆσαι παραλογισμός. πασῶν δὲ βελτίστη ἀναγνώρισις ἡ ἐξ αὐτῶν τῶν πραγμάτων, τῆς ἐκπλήξεως γιγνομένης δι’ εἰκότων, οἷον ἐν τῷ Σοφοκλέους Οἰδίποδι καὶ τῇ Ἰφιγενείᾳ· εἰκὸς γὰρ βούλεσθαι ἐπιθεῖναι γράμματα. αἱ γὰρ τοιαῦται μόναι ἄνευ τῶν πεποιημένων σημείων καὶ περιδεραίων. δεύτεραι δὲ αἱ ἐκ συλλογισμοῦ.

Δεῖ δὲ τοὺς μύθους συνιστάναι καὶ τῇ λέξει συναπεργάζεσθαι ὅτι μάλιστα πρὸ ὀμμάτων τιθέμενον· οὕτω γὰρ ἂν ἐναργέστατα [ὁ] ὁρῶν ὥσπερ παρ’ αὐτοῖς γιγνόμενος τοῖς πραττομένοις εὑρίσκοι τὸ πρέπον καὶ ἥκιστα ἂν λανθάνοι [τὸ] τὰ ὑπεναντία. σημεῖον δὲ τούτου ὃ ἐπετιμᾶτο Καρκίνῳ. ὁ γὰρ Ἀμφιάραος ἐξ ἱεροῦ ἀνῄει, ὃ μὴ ὁρῶντα [τὸν θεατὴν] ἐλάνθανεν, ἐπὶ δὲ τῆς σκηνῆς ἐξέπεσεν δυσχερανάντων τοῦτο τῶν θεατῶν. ὅσα δὲ δυνατὸν καὶ τοῖς σχήμασιν συναπεργαζόμενον· πιθανώτατοι γὰρ ἀπὸ τῆς αὐτῆς φύσεως οἱ ἐν τοῖς πάθεσίν εἰσιν, καὶ χειμαίνει ὁ χειμαζόμενος καὶ χαλεπαίνει ὁ ὀργιζόμενος ἀληθινώτατα. διὸ εὐφυοῦς ἡ ποιητική ἐστιν ἢ μανικοῦ· τούτων γὰρ οἱ μὲν εὔπλαστοι οἱ δὲ ἐκστατικοί εἰσιν. τούς τε λόγους καὶ τοὺς πεποιημένους [1455b] δεῖ καὶ αὐτὸν ποιοῦντα ἐκτίθεσθαι καθόλου, εἶθ’ οὕτως ἐπεισοδιοῦν καὶ παρατείνειν. λέγω δὲ οὕτως ἂν θεωρεῖσθαι τὸ καθόλου, οἷον τῆς Ἰφιγενείας· τυθείσης τινὸς κόρης καὶ ἀφανισθείσης ἀδήλως τοῖς θύσασιν, ἱδρυνθείσης δὲ εἰς ἄλλην χώραν, ἐν ᾗ νόμος ἦν τοὺς ξένους θύειν τῇ θεῷ, ταύτην ἔσχε τὴν ἱερωσύνην· χρόνῳ δὲ ὕστερον τῷ ἀδελφῷ συνέβη ἐλθεῖν τῆς ἱερείας, τὸ δὲ ὅτι ἀνεῖλεν ὁ θεὸς [διά τινα αἰτίαν ἔξω τοῦ καθόλου] ἐλθεῖν ἐκεῖ καὶ ἐφ’ ὅ τι δὲ ἔξω τοῦ μύθου· ἐλθὼν δὲ καὶ ληφθεὶς θύεσθαι μέλλων ἀνεγνώρισεν, εἴθ’ ὡς Εὐριπίδης εἴθ’ ὡς Πολύιδος ἐποίησεν, κατὰ τὸ εἰκὸς εἰπὼν ὅτι οὐκ ἄρα μόνον τὴν ἀδελφὴν ἀλλὰ καὶ αὐτὸν ἔδει τυθῆναι, καὶ ἐντεῦθεν ἡ σωτηρία. μετὰ ταῦτα δὲ ἤδη ὑποθέντα τὰ ὀνόματα ἐπεισοδιοῦν· ὅπως δὲ ἔσται οἰκεῖα τὰ ἐπεισόδια, οἷον ἐν τῷ Ὀρέστῃ ἡ μανία δι’ ἧς ἐλήφθη καὶ ἡ σωτηρία διὰ τῆς καθάρσεως. ἐν μὲν οὖν τοῖς δράμασιν τὰ ἐπεισόδια σύντομα, ἡ δ’ ἐποποιία τούτοις μηκύνεται. τῆς γὰρ Ὀδυσσείας οὐ μακρὸς ὁ λόγος ἐστίν· ἀποδημοῦντός τινος ἔτη πολλὰ καὶ παραφυλαττομένου ὑπὸ τοῦ Ποσειδῶνος καὶ μόνου ὄντος, ἔτι δὲ τῶν οἴκοι οὕτως ἐχόντων ὥστε τὰ χρήματα ὑπὸ μνηστήρων ἀναλίσκεσθαι καὶ τὸν υἱὸν ἐπιβουλεύεσθαι, αὐτὸς δὲ ἀφικνεῖται χειμασθείς, καὶ ἀναγνωρίσας τινὰς ἐπιθέμενος αὐτὸς μὲν ἐσώθη τοὺς δ’ ἐχθροὺς διέφθειρε. τὸ μὲν οὖν ἴδιον τοῦτο, τὰ δ’ ἄλλα ἐπεισόδια.

Ἔστι δὲ πάσης τραγῳδίας τὸ μὲν δέσις τὸ δὲ λύσις, τὰ μὲν ἔξωθεν καὶ ἔνια τῶν ἔσωθεν πολλάκις ἡ δέσις, τὸ δὲ λοιπὸν ἡ λύσις· λέγω δὲ δέσιν μὲν εἶναι τὴν ἀπ’ ἀρχῆς μέχρι τούτου τοῦ μέρους ὃ ἔσχατόν ἐστιν ἐξ οὗ μεταβαίνει εἰς εὐτυχίαν ἢ εἰς ἀτυχίαν, λύσιν δὲ τὴν ἀπὸ τῆς ἀρχῆς τῆς μεταβάσεως μέχρι τέλους· ὥσπερ ἐν τῷ Λυγκεῖ τῷ Θεοδέκτου δέσις μὲν τά τε προπεπραγμένα καὶ ἡ τοῦ παιδίου λῆψις καὶ πάλιν ἡ αὐτῶν λύσις δ’ ἡ ἀπὸ τῆς αἰτιάσεως τοῦ θανάτου μέχρι τοῦ τέλους. τραγῳδίας δὲ εἴδη εἰσὶ τέσσαρα (τοσαῦτα γὰρ καὶ τὰ μέρη ἐλέχθη), ἡ μὲν πεπλεγμένη, ἧς τὸ ὅλον ἐστὶν περιπέτεια καὶ ἀναγνώρισις, ἡ δὲ παθητική, οἷον οἵ τε [1456a] Αἴαντες καὶ οἱ Ἰξίονες, ἡ δὲ ἠθική, οἷον αἱ Φθιώτιδες καὶ ὁ Πηλεύς· τὸ δὲ τέταρτον οης, οἷον αἵ τε Φορκίδες καὶ ὁ Προμηθεὺς καὶ ὅσα ἐν ᾅδου. μάλιστα μὲν οὖν ἅπαντα δεῖ πειρᾶσθαι ἔχειν, εἰ δὲ μή, τὰ μέγιστα καὶ πλεῖστα, ἄλλως τε καὶ ὡς νῦν συκοφαντοῦσιν τοὺς ποιητάς· γεγονότων γὰρ καθ’ ἕκαστον μέρος ἀγαθῶν ποιητῶν, ἑκάστου τοῦ ἰδίου ἀγαθοῦ ἀξιοῦσι τὸν ἕνα ὑπερβάλλειν. δίκαιον δὲ καὶ τραγῳδίαν ἄλλην καὶ τὴν αὐτὴν λέγειν οὐδενὶ ὡς τῷ μύθῳ· τοῦτο δέ, ὧν ἡ αὐτὴ πλοκὴ καὶ λύσις. πολλοὶ δὲ πλέξαντες εὖ λύουσι κακῶς· δεῖ δὲ ἀμφότερα ἀρτικροτεῖσθαι. χρὴ δὲ ὅπερ εἴρηται πολλάκις μεμνῆσθαι καὶ μὴ ποιεῖν ἐποποιικὸν σύστημα τραγῳδίαν - ἐποποιικὸν δὲ λέγω τὸ πολύμυθον - οἷον εἴ τις τὸν τῆς Ἰλιάδος ὅλον ποιοῖ μῦθον. ἐκεῖ μὲν γὰρ διὰ τὸ μῆκος λαμβάνει τὰ μέρη τὸ πρέπον μέγεθος, ἐν δὲ τοῖς δράμασι πολὺ παρὰ τὴν ὑπόληψιν ἀποβαίνει. σημεῖον δέ, ὅσοι πέρσιν Ἰλίου ὅλην ἐποίησαν καὶ μὴ κατὰ μέρος ὥσπερ Εὐριπίδης, ‹ἢ› Νιόβην καὶ μὴ ὥσπερ Αἰσχύλος, ἢ ἐκπίπτουσιν ἢ κακῶς ἀγωνίζονται, ἐπεὶ καὶ Ἀγάθων ἐξέπεσεν ἐν τούτῳ μόνῳ. ἐν δὲ ταῖς περιπετείαις καὶ ἐν τοῖς ἁπλοῖς πράγμασι στοχάζονται ὧν βούλονται θαυμαστῶς· τραγικὸν γὰρ τοῦτο καὶ φιλάνθρωπον. ἔστιν δὲ τοῦτο, ὅταν ὁ σοφὸς μὲν μετὰ πονηρίας ‹δ’› ἐξαπατηθῇ, ὥσπερ Σίσυφος, καὶ ὁ ἀνδρεῖος μὲν ἄδικος δὲ ἡττηθῇ. ἔστιν δὲ τοῦτο καὶ εἰκὸς ὥσπερ Ἀγάθων λέγει, εἰκὸς γὰρ γίνεσθαι πολλὰ καὶ παρὰ τὸ εἰκός. καὶ τὸν χορὸν δὲ ἕνα δεῖ ὑπολαμβάνειν τῶν ὑποκριτῶν, καὶ μόριον εἶναι τοῦ ὅλου καὶ συναγωνίζεσθαι μὴ ὥσπερ Εὐριπίδῃ ἀλλ’ ὥσπερ Σοφοκλεῖ. τοῖς δὲ λοιποῖς τὰ ᾀδόμενα οὐδὲν μᾶλλον τοῦ μύθου ἢ ἄλλης τραγῳδίας ἐστίν· διὸ ἐμβόλιμα ᾄδουσιν πρώτου ἄρξαντος Ἀγάθωνος τοῦ τοιούτου. καίτοι τί διαφέρει ἢ ἐμβόλιμα ᾄδειν ἢ εἰ ῥῆσιν ἐξ ἄλλου εἰς ἄλλο ἁρμόττοι ἢ ἐπεισόδιον ὅλον;

Περὶ μὲν οὖν τῶν ἄλλων εἰδῶν εἴρηται, λοιπὸν δὲ περὶ λέξεως καὶ διανοίας εἰπεῖν. τὰ μὲν οὖν περὶ τὴν διάνοιαν ἐν τοῖς περὶ ῥητορικῆς κείσθω· τοῦτο γὰρ ἴδιον μᾶλλον ἐκείνης τῆς μεθόδου. ἔστι δὲ κατὰ τὴν διάνοιαν ταῦτα, ὅσα ὑπὸ τοῦ λόγου δεῖ παρασκευασθῆναι. μέρη δὲ τούτων τό τε ἀποδεικνύναι καὶ τὸ λύειν καὶ τὸ πάθη παρασκευάζειν (οἷον [1456b] ἔλεον ἢ φόβον ἢ ὀργὴν καὶ ὅσα τοιαῦτα) καὶ ἔτι μέγεθος καὶ μικρότητας. δῆλον δὲ ὅτι καὶ ἐν τοῖς πράγμασιν ἀπὸ τῶν αὐτῶν ἰδεῶν δεῖ χρῆσθαι ὅταν ἢ ἐλεεινὰ ἢ δεινὰ ἢ μεγάλα ἢ εἰκότα δέῃ παρασκευάζειν· πλὴν τοσοῦτον διαφέρει, ὅτι τὰ μὲν δεῖ φαίνεσθαι ἄνευ διδασκαλίας, τὰ δὲ ἐν τῷ λόγῳ ὑπὸ τοῦ λέγοντος παρασκευάζεσθαι καὶ παρὰ τὸν λόγον γίγνεσθαι. τί γὰρ ἂν εἴη τοῦ λέγοντος ἔργον, εἰ φαίνοιτο ᾗ δέοι καὶ μὴ διὰ τὸν λόγον; τῶν δὲ περὶ τὴν λέξιν ἓν μέν ἐστιν εἶδος θεωρίας τὰ σχήματα τῆς λέξεως, ἅ ἐστιν εἰδέναι τῆς ὑποκριτικῆς καὶ τοῦ τὴν τοιαύτην ἔχοντος ἀρχιτεκτονικήν, οἷον τί ἐντολὴ καὶ τί εὐχὴ καὶ διήγησις καὶ ἀπειλὴ καὶ ἐρώτησις καὶ ἀπόκρισις καὶ εἴ τι ἄλλο τοιοῦτον. παρὰ γὰρ τὴν τούτων γνῶσιν ἢ ἄγνοιαν οὐδὲν εἰς τὴν ποιητικὴν ἐπιτίμημα φέρεται ὅ τι καὶ ἄξιον σπουδῆς. τί γὰρ ἄν τις ὑπολάβοι ἡμαρτῆσθαι ἃ Πρωταγόρας ἐπιτιμᾷ, ὅτι εὔχεσθαι οἰόμενος ἐπιτάττει εἰπὼν “μῆνιν ἄειδε θεά”; τὸ γὰρ κελεῦσαι, φησίν, ποιεῖν τι ἢ μὴ ἐπίταξίς ἐστιν. διὸ παρείσθω ὡς ἄλλης καὶ οὐ τῆς ποιητικῆς ὂν θεώρημα.

Τῆς δὲ λέξεως ἁπάσης τάδ’ ἐστὶ τὰ μέρη, στοιχεῖον συλλαβὴ σύνδεσμος ὄνομα ῥῆμα ἄρθρον πτῶσις λόγος. στοιχεῖον μὲν οὖν ἐστιν φωνὴ ἀδιαίρετος, οὐ πᾶσα δὲ ἀλλ’ ἐξ ἧς πέφυκε συνθετὴ γίγνεσθαι φωνή· καὶ γὰρ τῶν θηρίων εἰσὶν ἀδιαίρετοι φωναί, ὧν οὐδεμίαν λέγω στοιχεῖον. ταύτης δὲ μέρη τό τε φωνῆεν καὶ τὸ ἡμίφωνον καὶ ἄφωνον. ἔστιν δὲ ταῦτα φωνῆεν μὲν ‹τὸ› ἄνευ προσβολῆς ἔχον φωνὴν ἀκουστήν, ἡμίφωνον δὲ τὸ μετὰ προσβολῆς ἔχον φωνὴν ἀκουστήν, οἷον τὸ Σ καὶ τὸ Ρ, ἄφωνον δὲ τὸ μετὰ προσβολῆς καθ’ αὑτὸ μὲν οὐδεμίαν ἔχον φωνήν, μετὰ δὲ τῶν ἐχόντων τινὰ φωνὴν γινόμενον ἀκουστόν, οἷον τὸ Γ καὶ τὸ Δ. ταῦτα δὲ διαφέρει σχήμασίν τε τοῦ στόματος καὶ τόποις καὶ δασύτητι καὶ ψιλότητι καὶ μήκει καὶ βραχύτητι ἔτι δὲ ὀξύτητι καὶ βαρύτητι καὶ τῷ μέσῳ· περὶ ὧν καθ’ ἕκαστον ἐν τοῖς μετρικοῖς προσήκει θεωρεῖν. συλλαβὴ δέ ἐστιν φωνὴ ἄσημος συνθετὴ ἐξ ἀφώνου καὶ φωνὴν ἔχοντος· καὶ γὰρ τὸ ΓΡ ἄνευ τοῦ Α συλλαβὴ καὶ†μετὰ τοῦ Α, οἷον τὸ ΓΡΑ. ἀλλὰ καὶ τούτων θεωρῆσαι τὰς διαφορὰς τῆς μετρικῆς ἐστιν. σύνδεσμος δέ ἐστιν φωνὴ ἄσημος ἣ οὔτε [1457a] κωλύει οὔτε ποιεῖ φωνὴν μίαν σημαντικὴν ἐκ πλειόνων φωνῶν πεφυκυῖα συντίθεσθαι καὶ ἐπὶ τῶν ἄκρων καὶ ἐπὶ τοῦ μέσου ἣν μὴ ἁρμόττει ἐν ἀρχῇ λόγου τιθέναι καθ’ αὑτήν, οἷον μέν ἤτοι δέ. ἢ φωνὴ ἄσημος ἣ ἐκ πλειόνων μὲν φωνῶν μιᾶς σημαντικῶν δὲ ποιεῖν πέφυκεν μίαν σημαντικὴν φωνήν. ἄρθρον δ’ ἐστὶ φωνὴ ἄσημος ἣ λόγου ἀρχὴν ἢ τέλος ἢ διορισμὸν δηλοῖ. οἷον τὸ ἀμφί καὶ τὸ περί καὶ τὰ ἄλλα. ἢ φωνὴ ἄσημος ἣ οὔτε κωλύει οὔτε ποιεῖ φωνὴν μίαν σημαντικὴν ἐκ πλειόνων φωνῶν πεφυκυῖα τίθεσθαι καὶ ἐπὶ τῶν ἄκρων καὶ ἐπὶ τοῦ μέσου. ὄνομα δέ ἐστι φωνὴ συνθετὴ σημαντικὴ ἄνευ χρόνου ἧς μέρος οὐδέν ἐστι καθ’ αὑτὸ σημαντικόν· ἐν γὰρ τοῖς διπλοῖς οὐ χρώμεθα ὡς καὶ αὑτὸ καθ’ αὑτὸ σημαῖνον, οἷον ἐν τῷ Θεόδωρος τὸ δωρος οὐ σημαίνει. ῥῆμα δὲ φωνὴ συνθετὴ σημαντικὴ μετὰ χρόνου ἧς οὐδὲν μέρος σημαίνει καθ’ αὑτό, ὥσπερ καὶ ἐπὶ τῶν ὀνομάτων· τὸ μὲν γὰρ ἄνθρωπος ἢ λευκόν οὐ σημαίνει τὸ πότε, τὸ δὲ βαδίζει ἢ βεβάδικεν προσσημαίνει τὸ μὲν τὸν παρόντα χρόνον τὸ δὲ τὸν παρεληλυθότα. πτῶσις δ’ ἐστὶν ὀνόματος ἢ ῥήματος ἡ μὲν κατὰ τὸ τούτου ἢ τούτῳ σημαῖνον καὶ ὅσα τοιαῦτα, ἡ δὲ κατὰ τὸ ἑνὶ ἢ πολλοῖς, οἷον ἄνθρωποι ἢ ἄνθρωπος, ἡ δὲ κατὰ τὰ ὑποκριτικά, οἷον κατ’ ἐρώτησιν ἐπίταξιν· τὸ γὰρ ἐβάδισεν; ἢ βάδιζε πτῶσις ῥήματος κατὰ ταῦτα τὰ εἴδη ἐστίν. λόγος δὲ φωνὴ συνθετὴ σημαντικὴ ἧς ἔνια μέρη καθ’ αὑτὰ σημαίνει τι (οὐ γὰρ ἅπας λόγος ἐκ ῥημάτων καὶ ὀνομάτων σύγκειται, οἷον ὁ τοῦ ἀνθρώπου ὁρισμός, ἀλλ’ ἐνδέχεται ἄνευ ῥημάτων εἶναι λόγον, μέρος μέντοι ἀεί τι σημαῖνον ἕξει) οἷον ἐν τῷ βαδίζει Κλέων ὁ Κλέων. εἷς δέ ἐστι λόγος διχῶς, ἢ γὰρ ὁ ἓν σημαίνων, ἢ ὁ ἐκ πλειόνων συνδέσμῳ, οἷον ἡ Ἰλιὰς μὲν συνδέσμῳ εἷς, ὁ δὲ τοῦ ἀνθρώπου τῷ ἓν σημαίνειν.

Ὀνόματος δὲ εἴδη τὸ μὲν ἁπλοῦν, ἁπλοῦν δὲ λέγω ὃ μὴ ἐκ σημαινόντων σύγκειται, οἷον γῆ, τὸ δὲ διπλοῦν· τούτου δὲ τὸ μὲν ἐκ σημαίνοντος καὶ ἀσήμου, πλὴν οὐκ ἐν τῷ ὀνόματι σημαίνοντος καὶ ἀσήμου, τὸ δὲ ἐκ σημαινόντων σύγκειται. εἴη δ’ ἂν καὶ τριπλοῦν καὶ τετραπλοῦν ὄνομα καὶ πολλαπλοῦν, οἷον τὰ πολλὰ τῶν Μασσαλιωτῶν, Ἑρμοκαϊκόξανθος [1457b] . ἅπαν δὲ ὄνομά ἐστιν ἢ κύριον ἢ γλῶττα ἢ μεταφορὰ ἢ κόσμος ἢ πεποιημένον ἢ ἐπεκτεταμένον ἢ ὑφῃρημένον ἢ ἐξηλλαγμένον. λέγω δὲ κύριον μὲν ᾧ χρῶνται ἕκαστοι, γλῶτταν δὲ ᾧ ἕτεροι· ὥστε φανερὸν ὅτι καὶ γλῶτταν καὶ κύριον εἶναι δυνατὸν τὸ αὐτό, μὴ τοῖς αὐτοῖς δέ· τὸ γὰρ σίγυνον Κυπρίοις μὲν κύριον, ἡμῖν δὲ γλῶττα. μεταφορὰ δέ ἐστιν ὀνόματος ἀλλοτρίου ἐπιφορὰ ἢ ἀπὸ τοῦ γένους ἐπὶ εἶδος ἢ ἀπὸ τοῦ εἴδους ἐπὶ τὸ γένος ἢ ἀπὸ τοῦ εἴδους ἐπὶ εἶδος ἢ κατὰ τὸ ἀνάλογον. λέγω δὲ ἀπὸ γένους μὲν ἐπὶ εἶδος οἷον “νηῦς δέ μοι ἥδ’ ἕστηκεν”· τὸ γὰρ ὁρμεῖν ἐστιν ἑστάναι τι. ἀπ’ εἴδους δὲ ἐπὶ γένος “ἦ δὴ μυρί’ Ὀδυσσεὺς ἐσθλὰ ἔοργεν”· τὸ γὰρ μυρίον πολύ ἐστιν, ᾧ νῦν ἀντὶ τοῦ πολλοῦ κέχρηται. ἀπ’ εἴδους δὲ ἐπὶ εἶδος οἷον “χαλκῷ ἀπὸ ψυχὴν ἀρύσας” καὶ “τεμὼν ταναήκεϊ χαλκῷ”· ἐνταῦθα γὰρ τὸ μὲν ἀρύσαι ταμεῖν, τὸ δὲ ταμεῖν ἀρύσαι εἴρηκεν· ἄμφω γὰρ ἀφελεῖν τί ἐστιν. τὸ δὲ ἀνάλογον λέγω, ὅταν ὁμοίως ἔχῃ τὸ δεύτερον πρὸς τὸ πρῶτον καὶ τὸ τέταρτον πρὸς τὸ τρίτον· ἐρεῖ γὰρ ἀντὶ τοῦ δευτέρου τὸ τέταρτον ἢ ἀντὶ τοῦ τετάρτου τὸ δεύτερον. καὶ ἐνίοτε προστιθέασιν ἀνθ’ οὗ λέγει πρὸς ὅ ἐστι. λέγω δὲ οἷον ὁμοίως ἔχει φιάλη πρὸς Διόνυσον καὶ ἀσπὶς πρὸς Ἄρη· ἐρεῖ τοίνυν τὴν φιάλην ἀσπίδα Διονύσου καὶ τὴν ἀσπίδα φιάλην Ἄρεως. ἢ ὃ γῆρας πρὸς βίον, καὶ ἑσπέρα πρὸς ἡμέραν· ἐρεῖ τοίνυν τὴν ἑσπέραν γῆρας ἡμέρας ἢ ὥσπερ Ἐμπεδοκλῆς, καὶ τὸ γῆρας ἑσπέραν βίου ἢ δυσμὰς βίου. ἐνίοις δ’ οὐκ ἔστιν ὄνομα κείμενον τῶν ἀνάλογον, ἀλλ’ οὐδὲν ἧττον ὁμοίως λεχθήσεται· οἷον τὸ τὸν καρπὸν μὲν ἀφιέναι σπείρειν, τὸ δὲ τὴν φλόγα ἀπὸ τοῦ ἡλίου ἀνώνυμον· ἀλλ’ ὁμοίως ἔχει τοῦτο πρὸς τὸν ἥλιον καὶ τὸ σπείρειν πρὸς τὸν καρπόν, διὸ εἴρηται “σπείρων θεοκτίσταν φλόγα”. ἔστι δὲ τῷ τρόπῳ τούτῳ τῆς μεταφορᾶς χρῆσθαι καὶ ἄλλως, προσαγορεύσαντα τὸ ἀλλότριον ἀποφῆσαι τῶν οἰκείων τι, οἷον εἰ τὴν ἀσπίδα εἴποι φιάλην μὴ Ἄρεως ἀλλ’ ἄοινον. πεποιημένον δ’ ἐστὶν ὃ ὅλως μὴ καλούμενον ὑπὸ τινῶν αὐτὸς τίθεται ὁ ποιητής, δοκεῖ γὰρ ἔνια εἶναι τοιαῦτα, οἷον τὰ κέρατα ἔρνυγας καὶ τὸν ἱερέα ἀρητῆρα. ἐπεκτεταμένον [1458a] δέ ἐστιν ἢ ἀφῃρημένον τὸ μὲν ἐὰν φωνήεντι μακροτέρῳ κεχρημένον ᾖ τοῦ οἰκείου ἢ συλλαβῇ ἐμβεβλημένῃ, τὸ δὲ ἂν ἀφῃρημένον τι ᾖ αὐτοῦ, ἐπεκτεταμένον μὲν οἷον τὸ πόλεως πόληος καὶ τὸ Πηλείδου Πηληιάδεω, ἀφῃρημένον δὲ οἷον τὸ κρῖ καὶ τὸ δῶ καὶ “μία γίνεται ἀμφοτέρων ὄψ”. ἐξηλλαγμένον δ’ ἐστὶν ὅταν τοῦ ὀνομαζομένου τὸ μὲν καταλείπῃ τὸ δὲ ποιῇ, οἷον τὸ “δεξιτερὸν κατὰ μαζόν” ἀντὶ τοῦ δεξιόν.

αὐτῶν δὲ τῶν ὀνομάτων τὰ μὲν ἄρρενα τὰ δὲ θήλεα τὰ δὲ μεταξύ, ἄρρενα μὲν ὅσα τελευτᾷ εἰς τὸ Ν καὶ Ρ καὶ Σ καὶ ὅσα ἐκ τούτου σύγκειται (ταῦτα δ’ ἐστὶν δύο, Ψ καὶ Ξ), θήλεα δὲ ὅσα ἐκ τῶν φωνηέντων εἴς τε τὰ ἀεὶ μακρά, οἷον εἰς Η καὶ Ω, καὶ τῶν ἐπεκτεινομένων εἰς Α· ὥστε ἴσα συμβαίνει πλήθει εἰς ὅσα τὰ ἄρρενα καὶ τὰ θήλεα· τὸ γὰρ Ψ καὶ τὸ Ξ σύνθετά ἐστιν. εἰς δὲ ἄφωνον οὐδὲν ὄνομα τελευτᾷ, οὐδὲ εἰς φωνῆεν βραχύ. εἰς δὲ τὸ Ι τρία μόνον, μέλι κόμμι πέπερι. εἰς δὲ τὸ Υ πέντε . τὰ δὲ μεταξὺ εἰς ταῦτα καὶ Ν καὶ Σ.

Λέξεως δὲ ἀρετὴ σαφῆ καὶ μὴ ταπεινὴν εἶναι. σαφεστάτη μὲν οὖν ἐστιν ἡ ἐκ τῶν κυρίων ὀνομάτων, ἀλλὰ ταπεινή· παράδειγμα δὲ ἡ Κλεοφῶντος ποίησις καὶ ἡ Σθενέλου. σεμνὴ δὲ καὶ ἐξαλλάττουσα τὸ ἰδιωτικὸν ἡ τοῖς ξενικοῖς κεχρημένη· ξενικὸν δὲ λέγω γλῶτταν καὶ μεταφορὰν καὶ ἐπέκτασιν καὶ πᾶν τὸ παρὰ τὸ κύριον. ἀλλ’ ἄν τις ἅπαντα τοιαῦτα ποιήσῃ, ἢ αἴνιγμα ἔσται ἢ βαρβαρισμός· ἂν μὲν οὖν ἐκ μεταφορῶν, αἴνιγμα, ἐὰν δὲ ἐκ γλωττῶν, βαρβαρισμός. αἰνίγματός τε γὰρ ἰδέα αὕτη ἐστί, τὸ λέγοντα ὑπάρχοντα ἀδύνατα συνάψαι· κατὰ μὲν οὖν τὴν τῶν ‹ἄλλων› ὀνομάτων σύνθεσιν οὐχ οἷόν τε τοῦτο ποιῆσαι, κατὰ δὲ τὴν μεταφορῶν ἐνδέχεται, οἷον “ἄνδρ’ εἶδον πυρὶ χαλκὸν ἐπ’ ἀνέρι κολλήσαντα”, καὶ τὰ τοιαῦτα. τὰ δὲ ἐκ τῶν γλωττῶν βαρβαρισμός. δεῖ ἄρα κεκρᾶσθαί πως τούτοις· τὸ μὲν γὰρ τὸ μὴ ἰδιωτικὸν ποιήσει μηδὲ ταπεινόν, οἷον ἡ γλῶττα καὶ ἡ μεταφορὰ καὶ ὁ κόσμος καὶ τἆλλα τὰ εἰρημένα εἴδη, τὸ δὲ κύριον τὴν σαφήνειαν. οὐκ ἐλάχιστον δὲ μέρος [1458b] συμβάλλεται εἰς τὸ σαφὲς τῆς λέξεως καὶ μὴ ἰδιωτικὸν αἱ ἐπεκτάσεις καὶ ἀποκοπαὶ καὶ ἐξαλλαγαὶ τῶν ὀνομάτων· διὰ μὲν γὰρ τὸ ἄλλως ἔχειν ἢ ὡς τὸ κύριον παρὰ τὸ εἰωθὸς γιγνόμενον τὸ μὴ ἰδιωτικὸν ποιήσει, διὰ δὲ τὸ κοινωνεῖν τοῦ εἰωθότος τὸ σαφὲς ἔσται. ὥστε οὐκ ὀρθῶς ψέγουσιν οἱ ἐπιτιμῶντες τῷ τοιούτῳ τρόπῳ τῆς διαλέκτου καὶ διακωμῳδοῦντες τὸν ποιητήν, οἷον Εὐκλείδης ὁ ἀρχαῖος, ὡς ῥᾴδιον ὂν ποιεῖν εἴ τις δώσει ἐκτείνειν ἐφ’ ὁπόσον βούλεται, ἰαμβοποιήσας ἐν αὐτῇ τῇ λέξει “Ἐπιχάρην εἶδον Μαραθῶνάδε βαδίζοντα”, καὶ “οὐκ ἂν γεράμενος†τὸν ἐκείνου ἐλλέβορον”. τὸ μὲν οὖν φαίνεσθαί πως χρώμενον τούτῳ τῷ τρόπῳ γελοῖον· τὸ δὲ μέτρον κοινὸν ἁπάντων ἐστὶ τῶν μερῶν· καὶ γὰρ μεταφοραῖς καὶ γλώτταις καὶ τοῖς ἄλλοις εἴδεσι χρώμενος ἀπρεπῶς καὶ ἐπίτηδες ἐπὶ τὰ γελοῖα τὸ αὐτὸ ἂν ἀπεργάσαιτο. τὸ δὲ ἁρμόττον ὅσον διαφέρει ἐπὶ τῶν ἐπῶν θεωρείσθω ἐντιθεμένων τῶν ὀνομάτων εἰς τὸ μέτρον. καὶ ἐπὶ τῆς γλώττης δὲ καὶ ἐπὶ τῶν μεταφορῶν καὶ ἐπὶ τῶν ἄλλων ἰδεῶν μετατιθεὶς ἄν τις τὰ κύρια ὀνόματα κατίδοι ὅτι ἀληθῆ λέγομεν· οἷον τὸ αὐτὸ ποιήσαντος ἰαμβεῖον Αἰσχύλου καὶ Εὐριπίδου, ἓν δὲ μόνον ὄνομα μεταθέντος, ἀντὶ κυρίου εἰωθότος γλῶτταν, τὸ μὲν φαίνεται καλὸν τὸ δ’ εὐτελές. Αἰσχύλος μὲν γὰρ ἐν τῷ Φιλοκτήτῃ ἐποίησε

φαγέδαιναν ἥ μου σάρκας ἐσθίει ποδός,

ὁ δὲ ἀντὶ τοῦ ἐσθίει τὸ θοινᾶται μετέθηκεν. καὶ

νῦν δέ μ’ ἐὼν ὀλίγος τε καὶ οὐτιδανὸς καὶ ἀεικής,

εἴ τις λέγοι τὰ κύρια μετατιθεὶς

νῦν δέ μ’ ἐὼν μικρός τε καὶ ἀσθενικὸς καὶ ἀειδής·

καὶ

δίφρον ἀεικέλιον καταθεὶς ὀλίγην τε τράπεζαν,
δίφρον μοχθηρὸν καταθεὶς μικράν τε τράπεζαν·

καὶ τὸ “ἠιόνες βοόωσιν”, ἠιόνες κράζουσιν. ἔτι δὲ Ἀριφράδης τοὺς τραγῳδοὺς ἐκωμῴδει ὅτι ἃ οὐδεὶς ἂν εἴπειεν ἐν τῇ διαλέκτῳ τούτοις χρῶνται, οἷον τὸ δωμάτων ἄπο ἀλλὰ μὴ ἀπὸ δωμάτων, καὶ τὸ σέθεν καὶ τὸ ἐγὼ δέ νιν καὶ τὸ [1459a] Ἀχιλλέως πέρι ἀλλὰ μὴ περὶ Ἀχιλλέως, καὶ ὅσα ἄλλα τοιαῦτα. διὰ γὰρ τὸ μὴ εἶναι ἐν τοῖς κυρίοις ποιεῖ τὸ μὴ ἰδιωτικὸν ἐν τῇ λέξει ἅπαντα τὰ τοιαῦτα· ἐκεῖνος δὲ τοῦτο ἠγνόει. ἔστιν δὲ μέγα μὲν τὸ ἑκάστῳ τῶν εἰρημένων πρεπόντως χρῆσθαι, καὶ διπλοῖς ὀνόμασι καὶ γλώτταις, πολὺ δὲ μέγιστον τὸ μεταφορικὸν εἶναι. μόνον γὰρ τοῦτο οὔτε παρ’ ἄλλου ἔστι λαβεῖν εὐφυΐας τε σημεῖόν ἐστι· τὸ γὰρ εὖ μεταφέρειν τὸ τὸ ὅμοιον θεωρεῖν ἐστιν. τῶν δ’ ὀνομάτων τὰ μὲν διπλᾶ μάλιστα ἁρμόττει τοῖς διθυράμβοις, αἱ δὲ γλῶτται τοῖς ἡρωικοῖς, αἱ δὲ μεταφοραὶ τοῖς ἰαμβείοις. καὶ ἐν μὲν τοῖς ἡρωικοῖς ἅπαντα χρήσιμα τὰ εἰρημένα, ἐν δὲ τοῖς ἰαμβείοις διὰ τὸ ὅτι μάλιστα λέξιν μιμεῖσθαι ταῦτα ἁρμόττει τῶν ὀνομάτων ὅσοις κἂν ἐν λόγοις τις χρήσαιτο· ἔστι δὲ τὰ τοιαῦτα τὸ κύριον καὶ μεταφορὰ καὶ κόσμος. περὶ μὲν οὖν τραγῳδίας καὶ τῆς ἐν τῷ πράττειν μιμήσεως ἔστω ἡμῖν ἱκανὰ τὰ εἰρημένα.

Περὶ δὲ τῆς διηγηματικῆς καὶ ἐν μέτρῳ μιμητικῆς, ὅτι δεῖ τοὺς μύθους καθάπερ ἐν ταῖς τραγῳδίαις συνιστάναι δραματικοὺς καὶ περὶ μίαν πρᾶξιν ὅλην καὶ τελείαν ἔχουσαν ἀρχὴν καὶ μέσα καὶ τέλος, ἵν’ ὥσπερ ζῷον ἓν ὅλον ποιῇ τὴν οἰκείαν ἡδονήν, δῆλον, καὶ μὴ ὁμοίας ἱστορίαις τὰς συνθέσεις εἶναι, ἐν αἷς ἀνάγκη οὐχὶ μιᾶς πράξεως ποιεῖσθαι δήλωσιν ἀλλ’ ἑνὸς χρόνου, ὅσα ἐν τούτῳ συνέβη περὶ ἕνα ἢ πλείους, ὧν ἕκαστον ὡς ἔτυχεν ἔχει πρὸς ἄλληλα. ὥσπερ γὰρ κατὰ τοὺς αὐτοὺς χρόνους ἥ τ’ ἐν Σαλαμῖνι ἐγένετο ναυμαχία καὶ ἡ ἐν Σικελίᾳ Καρχηδονίων μάχη οὐδὲν πρὸς τὸ αὐτὸ συντείνουσαι τέλος, οὕτω καὶ ἐν τοῖς ἐφεξῆς χρόνοις ἐνίοτε γίνεται θάτερον μετὰ θάτερον, ἐξ ὧν ἓν οὐδὲν γίνεται τέλος. σχεδὸν δὲ οἱ πολλοὶ τῶν ποιητῶν τοῦτο δρῶσι. διὸ ὥσπερ εἴπομεν ἤδη καὶ ταύτῃ θεσπέσιος ἂν φανείη Ὅμηρος παρὰ τοὺς ἄλλους, τῷ μηδὲ τὸν πόλεμον καίπερ ἔχοντα ἀρχὴν καὶ τέλος ἐπιχειρῆσαι ποιεῖν ὅλον· λίαν γὰρ ἂν μέγας καὶ οὐκ εὐσύνοπτος ἔμελλεν ἔσεσθαι ὁ μῦθος, ἢ τῷ μεγέθει μετριάζοντα καταπεπλεγμένον τῇ ποικιλίᾳ. νῦν δ’ ἓν μέρος ἀπολαβὼν ἐπεισοδίοις κέχρηται αὐτῶν πολλοῖς, οἷον νεῶν καταλόγῳ καὶ ἄλλοις ἐπεισοδίοις [δὶς] διαλαμβάνει τὴν ποίησιν. οἱ δ’ ἄλλοι περὶ ἕνα ποιοῦσι [1459b] καὶ περὶ ἕνα χρόνον καὶ μίαν πρᾶξιν πολυμερῆ, οἷον ὁ τὰ Κύπρια ποιήσας καὶ τὴν μικρὰν Ἰλιάδα. τοιγαροῦν ἐκ μὲν Ἰλιάδος καὶ Ὀδυσσείας μία τραγῳδία ποιεῖται ἑκατέρας ἢ δύο μόναι, ἐκ δὲ Κυπρίων πολλαὶ καὶ τῆς μικρᾶς Ἰλιάδος [[πλέον] ὀκτώ, οἷον ὅπλων κρίσις, Φιλοκτήτης, Νεοπτόλεμος, Εὐρύπυλος, πτωχεία, Λάκαιναι, Ἰλίου πέρσις καὶ ἀπόπλους [καὶ Σίνων καὶ Τρῳάδες]]. ἔτι δὲ τὰ εἴδη ταὐτὰ δεῖ ἔχειν τὴν ἐποποιίαν τῇ τραγῳδίᾳ, ἢ γὰρ ἁπλῆν ἢ πεπλεγμένην ἢ ἠθικὴν ἢ παθητικήν· καὶ τὰ μέρη ἔξω μελοποιίας καὶ ὄψεως ταὐτά· καὶ γὰρ περιπετειῶν δεῖ καὶ ἀναγνωρίσεων καὶ παθημάτων· ἔτι τὰς διανοίας καὶ τὴν λέξιν ἔχειν καλῶς. οἷς ἅπασιν Ὅμηρος κέχρηται καὶ πρῶτος καὶ ἱκανῶς. καὶ γὰρ τῶν ποιημάτων ἑκάτερον συνέστηκεν ἡ μὲν Ἰλιὰς ἁπλοῦν καὶ παθητικόν, ἡ δὲ Ὀδύσσεια πεπλεγμένον (ἀναγνώρισις γὰρ διόλου) καὶ ἠθική· πρὸς δὲ τούτοις λέξει καὶ διανοίᾳ πάντα ὑπερβέβληκεν.

Διαφέρει δὲ κατά τε τῆς συστάσεως τὸ μῆκος ἡ ἐποποιία καὶ τὸ μέτρον. τοῦ μὲν οὖν μήκους ὅρος ἱκανὸς ὁ εἰρημένος· δύνασθαι γὰρ δεῖ συνορᾶσθαι τὴν ἀρχὴν καὶ τὸ τέλος. εἴη δ’ ἂν τοῦτο, εἰ τῶν μὲν ἀρχαίων ἐλάττους αἱ συστάσεις εἶεν, πρὸς δὲ τὸ πλῆθος τραγῳδιῶν τῶν εἰς μίαν ἀκρόασιν τιθεμένων παρήκοιεν. ἔχει δὲ πρὸς τὸ ἐπεκτείνεσθαι τὸ μέγεθος πολύ τι ἡ ἐποποιία ἴδιον διὰ τὸ ἐν μὲν τῇ τραγῳδίᾳ μὴ ἐνδέχεσθαι ἅμα πραττόμενα πολλὰ μέρη μιμεῖσθαι ἀλλὰ τὸ ἐπὶ τῆς σκηνῆς καὶ τῶν ὑποκριτῶν μέρος μόνον· ἐν δὲ τῇ ἐποποιίᾳ διὰ τὸ διήγησιν εἶναι ἔστι πολλὰ μέρη ἅμα ποιεῖν περαινόμενα, ὑφ’ ὧν οἰκείων ὄντων αὔξεται ὁ τοῦ ποιήματος ὄγκος. ὥστε τοῦτ’ ἔχει τὸ ἀγαθὸν εἰς μεγαλοπρέπειαν καὶ τὸ μεταβάλλειν τὸν ἀκούοντα καὶ ἐπεισοδιοῦν ἀνομοίοις ἐπεισοδίοις· τὸ γὰρ ὅμοιον ταχὺ πληροῦν ἐκπίπτειν ποιεῖ τὰς τραγῳδίας. τὸ δὲ μέτρον τὸ ἡρωικὸν ἀπὸ τῆς πείρας ἥρμοκεν. εἰ γάρ τις ἐν ἄλλῳ τινὶ μέτρῳ διηγηματικὴν μίμησιν ποιοῖτο ἢ ἐν πολλοῖς, ἀπρεπὲς ἂν φαίνοιτο· τὸ γὰρ ἡρωικὸν στασιμώτατον καὶ ὀγκωδέστατον τῶν μέτρων ἐστίν (διὸ καὶ γλώττας καὶ μεταφορὰς δέχεται μάλιστα· περιττὴ γὰρ καὶ ἡ διηγηματικὴ μίμησις τῶν ἄλλων), τὸ δὲ ἰαμβεῖον καὶ τετράμετρον [1460a] κινητικὰ καὶ τὸ μὲν ὀρχηστικὸν τὸ δὲ πρακτικόν. ἔτι δὲ ἀτοπώτερον εἰ μιγνύοι τις αὐτά, ὥσπερ Χαιρήμων. διὸ οὐδεὶς μακρὰν σύστασιν ἐν ἄλλῳ πεποίηκεν ἢ τῷ ἡρῴῳ, ἀλλ’ ὥσπερ εἴπομεν αὐτὴ ἡ φύσις διδάσκει τὸ ἁρμόττον αὐτῇ αἱρεῖσθαι. Ὅμηρος δὲ ἄλλα τε πολλὰ ἄξιος ἐπαινεῖσθαι καὶ δὴ καὶ ὅτι μόνος τῶν ποιητῶν οὐκ ἀγνοεῖ ὃ δεῖ ποιεῖν αὐτόν. αὐτὸν γὰρ δεῖ τὸν ποιητὴν ἐλάχιστα λέγειν· οὐ γάρ ἐστι κατὰ ταῦτα μιμητής. οἱ μὲν οὖν ἄλλοι αὐτοὶ μὲν δι’ ὅλου ἀγωνίζονται, μιμοῦνται δὲ ὀλίγα καὶ ὀλιγάκις· ὁ δὲ ὀλίγα φροιμιασάμενος εὐθὺς εἰσάγει ἄνδρα ἢ γυναῖκα ἢ ἄλλο τι ἦθος, καὶ οὐδέν’ ἀήθη ἀλλ’ ἔχοντα ἦθος. δεῖ μὲν οὖν ἐν ταῖς τραγῳδίαις ποιεῖν τὸ θαυμαστόν, μᾶλλον δ’ ἐνδέχεται ἐν τῇ ἐποποιίᾳ τὸ ἄλογον, δι’ ὃ συμβαίνει μάλιστα τὸ θαυμαστόν, διὰ τὸ μὴ ὁρᾶν εἰς τὸν πράττοντα· ἐπεὶ τὰ περὶ τὴν Ἕκτορος δίωξιν ἐπὶ σκηνῆς ὄντα γελοῖα ἂν φανείη, οἱ μὲν ἑστῶτες καὶ οὐ διώκοντες, ὁ δὲ ἀνανεύων, ἐν δὲ τοῖς ἔπεσιν λανθάνει. τὸ δὲ θαυμαστὸν ἡδύ· σημεῖον δέ, πάντες γὰρ προστιθέντες ἀπαγγέλλουσιν ὡς χαριζόμενοι. δεδίδαχεν δὲ μάλιστα Ὅμηρος καὶ τοὺς ἄλλους ψευδῆ λέγειν ὡς δεῖ. ἔστι δὲ τοῦτο παραλογισμός. οἴονται γὰρ οἱ ἄνθρωποι, ὅταν τουδὶ ὄντος τοδὶ ᾖ ἢ γινομένου γίνηται, εἰ τὸ ὕστερον ἔστιν, καὶ τὸ πρότερον εἶναι ἢ γίνεσθαι· τοῦτο δέ ἐστι ψεῦδος. διὸ δεῖ, ἂν τὸ πρῶτον ψεῦδος, ἄλλο δὲ τούτου ὄντος ἀνάγκη εἶναι ἢ γενέσθαι ᾖ, προσθεῖναι· διὰ γὰρ τὸ τοῦτο εἰδέναι ἀληθὲς ὂν παραλογίζεται ἡμῶν ἡ ψυχὴ καὶ τὸ πρῶτον ὡς ὄν. παράδειγμα δὲ τούτου τὸ ἐκ τῶν Νίπτρων. προαιρεῖσθαί τε δεῖ ἀδύνατα εἰκότα μᾶλλον ἢ δυνατὰ ἀπίθανα· τούς τε λόγους μὴ συνίστασθαι ἐκ μερῶν ἀλόγων, ἀλλὰ μάλιστα μὲν μηδὲν ἔχειν ἄλογον, εἰ δὲ μή, ἔξω τοῦ μυθεύματος, ὥσπερ Οἰδίπους τὸ μὴ εἰδέναι πῶς ὁ Λάιος ἀπέθανεν, ἀλλὰ μὴ ἐν τῷ δράματι, ὥσπερ ἐν Ἠλέκτρᾳ οἱ τὰ Πύθια ἀπαγγέλλοντες ἢ ἐν Μυσοῖς ὁ ἄφωνος ἐκ Τεγέας εἰς τὴν Μυσίαν ἥκων. ὥστε τὸ λέγειν ὅτι ἀνῄρητο ἂν ὁ μῦθος γελοῖον· ἐξ ἀρχῆς γὰρ οὐ δεῖ συνίστασθαι τοιούτους. ἂν δὲ θῇ καὶ φαίνηται εὐλογωτέρως ἐνδέχεσθαι καὶ ἄτοπον†ἐπεὶ καὶ τὰ ἐν Ὀδυσσείᾳ ἄλογα τὰ περὶ τὴν ἔκθεσιν ὡς οὐκ ἂν ἦν ἀνεκτὰ δῆλον [1460b] ἂν γένοιτο, εἰ αὐτὰ φαῦλος ποιητὴς ποιήσειε· νῦν δὲ τοῖς ἄλλοις ἀγαθοῖς ὁ ποιητὴς ἀφανίζει ἡδύνων τὸ ἄτοπον. τῇ δὲ λέξει δεῖ διαπονεῖν ἐν τοῖς ἀργοῖς μέρεσιν καὶ μήτε ἠθικοῖς μήτε διανοητικοῖς· ἀποκρύπτει γὰρ πάλιν ἡ λίαν λαμπρὰ λέξις τά τε ἤθη καὶ τὰς διανοίας.

Περὶ δὲ προβλημάτων καὶ λύσεων, ἐκ πόσων τε καὶ ποίων εἰδῶν ἐστιν, ὧδ’ ἂν θεωροῦσιν γένοιτ’ ἂν φανερόν. ἐπεὶ γάρ ἐστι μιμητὴς ὁ ποιητὴς ὡσπερανεὶ ζωγράφος ἤ τις ἄλλος εἰκονοποιός, ἀνάγκη μιμεῖσθαι τριῶν ὄντων τὸν ἀριθμὸν ἕν τι ἀεί, ἢ γὰρ οἷα ἦν ἢ ἔστιν, ἢ οἷά φασιν καὶ δοκεῖ, ἢ οἷα εἶναι δεῖ. ταῦτα δ’ ἐξαγγέλλεται λέξει ἐν ᾗ καὶ γλῶτται καὶ μεταφοραὶ καὶ πολλὰ πάθη τῆς λέξεώς ἐστι· δίδομεν γὰρ ταῦτα τοῖς ποιηταῖς. πρὸς δὲ τούτοις οὐχ ἡ αὐτὴ ὀρθότης ἐστὶν τῆς πολιτικῆς καὶ τῆς ποιητικῆς οὐδὲ ἄλλης τέχνης καὶ ποιητικῆς. αὐτῆς δὲ τῆς ποιητικῆς διττὴ ἁμαρτία, ἡ μὲν γὰρ καθ’ αὐτήν, ἡ δὲ κατὰ συμβεβηκός. εἰ μὲν γὰρ προείλετο μιμήσασθαι ἀδυναμίαν, αὐτῆς ἡ ἁμαρτία· εἰ δὲ τὸ προελέσθαι μὴ ὀρθῶς, ἀλλὰ τὸν ἵππον ‹ἅμ’› ἄμφω τὰ δεξιὰ προβεβληκότα, ἢ τὸ καθ’ ἑκάστην τέχνην ἁμάρτημα, οἷον τὸ κατ’ ἰατρικὴν ἢ ἄλλην τέχνην [ἢ ἀδύνατα πεποίηται] ὁποιανοῦν, οὐ καθ’ ἑαυτήν. ὥστε δεῖ τὰ ἐπιτιμήματα ἐν τοῖς προβλήμασιν ἐκ τούτων ἐπισκοποῦντα λύειν. πρῶτον μὲν τὰ πρὸς αὐτὴν τὴν τέχνην· ἀδύνατα πεποίηται, ἡμάρτηται· ἀλλ’ ὀρθῶς ἔχει, εἰ τυγχάνει τοῦ τέλους τοῦ αὐτῆς (τὸ γὰρ τέλος εἴρηται), εἰ οὕτως ἐκπληκτικώτερον ἢ αὐτὸ ἢ ἄλλο ποιεῖ μέρος. παράδειγμα ἡ τοῦ Ἕκτορος δίωξις. εἰ μέντοι τὸ τέλος ἢ μᾶλλον ἢ ‹μὴ› ἧττον ἐνεδέχετο ὑπάρχειν καὶ κατὰ τὴν περὶ τούτων τέχνην, [ἡμαρτῆσθαι] οὐκ ὀρθῶς· δεῖ γὰρ εἰ ἐνδέχεται ὅλως μηδαμῇ ἡμαρτῆσθαι. ἔτι ποτέρων ἐστὶ τὸ ἁμάρτημα, τῶν κατὰ τὴν τέχνην ἢ κατ’ ἄλλο συμβεβηκός; ἔλαττον γὰρ εἰ μὴ ᾔδει ὅτι ἔλαφος θήλεια κέρατα οὐκ ἔχει ἢ εἰ ἀμιμήτως ἔγραψεν. πρὸς δὲ τούτοις ἐὰν ἐπιτιμᾶται ὅτι οὐκ ἀληθῆ, ἀλλ' ἴσως ‹ὡς› δεῖ, οἷον καὶ Σοφοκλῆς ἔφη αὐτὸς μὲν οἵους δεῖ ποιεῖν, Εὐριπίδην δὲ οἷοι εἰσίν, ταύτῃ λυτέον. εἰ δὲ μηδετέρως, ὅτι οὕτω φασίν, οἷον τὰ περὶ θεῶν· ἴσως γὰρ οὔτε βέλτιον οὕτω λέγειν οὔτ' ἀληθῆ, ἀλλ' εἰ ἔτυχεν [1461a] ὥσπερ Ξενοφάνει· ἀλλ' οὖν φασι. τὰ δὲ ἴσως οὐ βέλτιον μέν, ἀλλ' οὕτως εἶχεν, οἷον τὰ περὶ τῶν ὅπλων, "ἔγχεα δέ σφιν ὄρθ' ἐπὶ σαυρωτῆρος"· οὕτω γὰρ τότ' ἐνόμιζον, ὥσπερ καὶ νῦν Ἰλλυριοί. περὶ δὲ τοῦ καλῶς ἢ μὴ καλῶς εἰ εἴρηταί τινι ἢ πέπρακται, οὐ μόνον σκεπτέον εἰς αὐτὸ τὸ πεπραγμένον ἢ εἰρημένον βλέποντα εἰ σπουδαῖον ἢ φαῦλον, ἀλλὰ καὶ εἰς τὸν πράττοντα ἢ λέγοντα πρὸς ὃν ἢ ὅτε ἢ ὅτῳ ἢ οὗ ἕνεκεν, οἷον εἰ μείζονος ἀγαθοῦ, ἵνα γένηται, ἢ μείζονος κακοῦ, ἵνα ἀπογένηται. τὰ δὲ πρὸς τὴν λέξιν ὁρῶντα δεῖ διαλύειν, οἷον γλώττῃ τὸ "οὐρῆας μὲν πρῶτον"· ἴσως γὰρ οὐ τοὺς ἡμιόνους λέγει ἀλλὰ τοὺς φύλακας· καὶ τὸν Δόλωνα, "ὅς ῥ' ἦ τοι εἶδος μὲν ἔην κακός", οὐ τὸ σῶμα ἀσύμμετρον ἀλλὰ τὸ πρόσωπον αἰσχρόν, τὸ γὰρ εὐειδὲς οἱ Κρῆτες τὸ εὐπρόσωπον καλοῦσι· καὶ τὸ "ζωρότερον δὲ κέραιε" οὐ τὸ ἄκρατον ὡς οἰνόφλυξιν ἀλλὰ τὸ θᾶττον. τὸ δὲ κατὰ μεταφορὰν εἴρηται, οἷον "πάντες μέν ῥα θεοί τε καὶ ἀνέρες εὗδον παννύχιοι"· ἅμα δέ φησιν "ἦ τοι ὅτ' ἐς πεδίον τὸ Τρωικὸν ἀθρήσειεν, αὐλῶν συρίγγων τε ὅμαδον"· τὸ γὰρ πάντες ἀντὶ τοῦ πολλοί κατὰ μεταφορὰν εἴρηται, τὸ γὰρ πᾶν πολύ τι. καὶ τὸ "οἴη δ' ἄμμορος" κατὰ μεταφοράν, τὸ γὰρ γνωριμώτατον μόνον. κατὰ δὲ προσῳδίαν, ὥσπερ Ἱππίας ἔλυεν ὁ Θάσιος, τὸ "δίδομεν δέ οἱ εὖχος ἀρέσθαι" καὶ "τὸ μὲν οὗ καταπύθεται ὄμβρῳ". τὰ δὲ διαιρέσει, οἷον Ἐμπεδοκλῆς "αἶψα δὲ θνήτ' ἐφύοντο τὰ πρὶν μάθον ἀθάνατ' εἶναι ζωρά τε πρὶν κέκρητο". τὰ δὲ ἀμφιβολίᾳ, "παρῴχηκεν δὲ πλέω νύξ·" τὸ γὰρ πλείω ἀμφίβολόν ἐστιν. τὰ δὲ κατὰ τὸ ἔθος τῆς λέξεως. τὸν κεκραμένον οἶνόν φασιν εἶναι, ὅθεν πεποίηται "κνημὶς νεοτεύκτου κασσιτέροιο"· καὶ χαλκέας τοὺς τὸν σίδηρον ἐργαζομένους, ὅθεν εἴρηται ὁ Γανυμήδης Διὶ οἰνοχοεύειν, οὐ πινόντων οἶνον. εἴη δ' ἂν τουτό γε ‹καὶ› κατὰ μεταφοράν. δεῖ δὲ καὶ ὅταν ὄνομά τι ὑπεναντίωμά τι δοκῇ σημαίνειν, ἐπισκοπεῖν ποσαχῶς ἂν σημήνειε τοῦτο ἐν τῷ εἰρημένῳ, οἷον τῷ "τῇ ῥ' ἔσχετο χάλκεον ἔγχος" τὸ ταύτῃ κωλυθῆναι ποσαχῶς ἐνδέχεται, ὡδὶ ἢ ὡδί, ὡς μάλιστ' ἄν τις ὑπολάβοι· κατὰ τὴν καταντικρὺ ἢ [1461b] ὡς Γλαύκων λέγει, ὅτι ἔνιοι ἀλόγως προϋπολαμβάνουσί τι καὶ αὐτοὶ καταψηφισάμενοι συλλογίζονται, καὶ ὡς εἰρηκότος ὅ τι δοκεῖ ἐπιτιμῶσιν, ἂν ὑπεναντίον ᾖ τῇ αὐτῶν οἰήσει. τοῦτο δὲ πέπονθε τὰ περὶ Ἰκάριον. οἴονται γὰρ αὐτὸν Λάκωνα εἶναι· ἄτοπον οὖν τὸ μὴ ἐντυχεῖν τὸν Τηλέμαχον αὐτῷ εἰς Λακεδαίμονα ἐλθόντα. τὸ δ' ἴσως ἔχει ὥσπερ οἱ Κεφαλλῆνές φασι· παρ’ αὐτῶν γὰρ γῆμαι λέγουσι τὸν Ὀδυσσέα καὶ εἶναι Ἰκάδιον ἀλλ’ οὐκ Ἰκάριον· δι’ ἁμάρτημα δὲ τὸ πρόβλημα εἰκός ἐστιν. ὅλως δὲ τὸ ἀδύνατον μὲν πρὸς τὴν ποίησιν ἢ πρὸς τὸ βέλτιον ἢ πρὸς τὴν δόξαν δεῖ ἀνάγειν. πρός τε γὰρ τὴν ποίησιν αἱρετώτερον πιθανὸν ἀδύνατον ἢ ἀπίθανον καὶ δυνατόν· τοιούτους εἶναι οἷον Ζεῦξις ἔγραφεν, ἀλλὰ βέλτιον· τὸ γὰρ παράδειγμα δεῖ ὑπερέχειν. πρὸς ἅ φασιν τἄλογα· οὕτω τε καὶ ὅτι ποτὲ οὐκ ἄλογόν ἐστιν· εἰκὸς γὰρ καὶ παρὰ τὸ εἰκὸς γίνεσθαι. τὰ δ’ ὑπεναντίως εἰρημένα οὕτω σκοπεῖν ὥσπερ οἱ ἐν τοῖς λόγοις ἔλεγχοι εἰ τὸ αὐτὸ καὶ πρὸς τὸ αὐτὸ καὶ ὡσαύτως, ὥστε καὶ αὐτὸν†ἢ πρὸς ἃ αὐτὸς λέγει ἢ ὃ ἂν φρόνιμος ὑποθῆται. ὀρθὴ δ’ ἐπιτίμησις καὶ ἀλογίᾳ καὶ μοχθηρίᾳ, ὅταν μὴ ἀνάγκης οὔσης μηθὲν χρήσηται τῷ ἀλόγῳ, ὥσπερ Εὐριπίδης τῷ Αἰγεῖ, ἢ τῇ πονηρίᾳ, ὥσπερ ἐν Ὀρέστῃ ‹τῇ› τοῦ Μενελάου. τὰ μὲν οὖν ἐπιτιμήματα ἐκ πέντε εἰδῶν φέρουσιν· ἢ γὰρ ὡς ἀδύνατα ἢ ὡς ἄλογα ἢ ὡς βλαβερὰ ἢ ὡς ὑπεναντία ἢ ὡς παρὰ τὴν ὀρθότητα τὴν κατὰ τέχνην. αἱ δὲ λύσεις ἐκ τῶν εἰρημένων ἀριθμῶν σκεπτέαι. εἰσὶν δὲ δώδεκα.

Πότερον δὲ βελτίων ἡ ἐποποιικὴ μίμησις ἢ ἡ τραγική, διαπορήσειεν ἄν τις. εἰ γὰρ ἡ ἧττον φορτικὴ βελτίων, τοιαύτη δ’ ἡ πρὸς βελτίους θεατάς ἐστιν ἀεί, λίαν δῆλον ὅτι ἡ ἅπαντα μιμουμένη φορτική· ὡς γὰρ οὐκ αἰσθανομένων ἂν μὴ αὐτὸς προσθῇ, πολλὴν κίνησιν κινοῦνται, οἷον οἱ φαῦλοι αὐληταὶ κυλιόμενοι ἂν δίσκον δέῃ μιμεῖσθαι, καὶ ἕλκοντες τὸν κορυφαῖον ἂν Σκύλλαν αὐλῶσιν. ἡ μὲν οὖν τραγῳδία τοιαύτη ἐστίν, ὡς καὶ οἱ πρότερον τοὺς ὑστέρους αὐτῶν ᾤοντο ὑποκριτάς· ὡς λίαν γὰρ ὑπερβάλλοντα πίθηκον ὁ Μυννίσκος τὸν Καλλιππίδην ἐκάλει, τοιαύτη δὲ δόξα καὶ περὶ Πινδάρου [1462a] ἦν· ὡς δ’ οὗτοι ἔχουσι πρὸς αὐτούς, ἡ ὅλη τέχνη πρὸς τὴν ἐποποιίαν ἔχει. τὴν μὲν οὖν πρὸς θεατὰς ἐπιεικεῖς φασιν εἶναι ‹οἳ› οὐδὲν δέονται τῶν σχημάτων, τὴν δὲ τραγικὴν πρὸς φαύλους· εἰ οὖν φορτική, χείρων δῆλον ὅτι ἂν εἴη. πρῶτον μὲν οὐ τῆς ποιητικῆς ἡ κατηγορία ἀλλὰ τῆς ὑποκριτικῆς, ἐπεὶ ἔστι περιεργάζεσθαι τοῖς σημείοις καὶ ῥαψῳδοῦντα, ὅπερ [ἐστὶ] Σωσίστρατος, καὶ διᾴδοντα, ὅπερ ἐποίει Μνασίθεος ὁ Ὀπούντιος. εἶτα οὐδὲ κίνησις ἅπασα ἀποδοκιμαστέα, εἴπερ μηδ’ ὄρχησις, ἀλλ’ ἡ φαύλων, ὅπερ καὶ Καλλιππίδῃ ἐπετιμᾶτο καὶ νῦν ἄλλοις ὡς οὐκ ἐλευθέρας γυναῖκας μιμουμένων. ἔτι ἡ τραγῳδία καὶ ἄνευ κινήσεως ποιεῖ τὸ αὑτῆς, ὥσπερ ἡ ἐποποιία· διὰ γὰρ τοῦ ἀναγινώσκειν φανερὰ ὁποία τίς ἐστιν· εἰ οὖν ἐστι τά γ’ ἄλλα κρείττων, τοῦτό γε οὐκ ἀναγκαῖον αὐτῇ ὑπάρχειν. ἔπειτα διότι πάντ’ ἔχει ὅσαπερ ἡ ἐποποιία (καὶ γὰρ τῷ μέτρῳ ἔξεστι χρῆσθαι), καὶ ἔτι οὐ μικρὸν μέρος τὴν μουσικήν [καὶ τὰς ὄψεις], δι’ ἧς αἱ ἡδοναὶ συνίστανται ἐναργέστατα· εἶτα καὶ τὸ ἐναργὲς ἔχει καὶ ἐν τῇ ἀναγνώσει καὶ ἐπὶ τῶν ἔργων· ἔτι τῷ ἐν ἐλάττονι μήκει τὸ τέλος [1462b] τῆς μιμήσεως εἶναι (τὸ γὰρ ἀθροώτερον ἥδιον ἢ πολλῷ κεκραμένον τῷ χρόνῳ, λέγω δ’ οἷον εἴ τις τὸν Οἰδίπουν θείη τὸν Σοφοκλέους ἐν ἔπεσιν ὅσοις ἡ Ἰλιάς)· ἔτι ἧττον μία ἡ μίμησις ἡ τῶν ἐποποιῶν (σημεῖον δέ, ἐκ γὰρ ὁποιασοῦν μιμήσεως πλείους τραγῳδίαι γίνονται), ὥστε ἐὰν μὲν ἕνα μῦθον ποιῶσιν, ἢ βραχέως δεικνύμενον μύουρον φαίνεσθαι, ἢ ἀκολουθοῦντα τῷ τοῦ μέτρου μήκει ὑδαρῆ· λέγω δὲ οἷον ἐὰν ἐκ πλειόνων πράξεων ᾖ συγκειμένη, ὥσπερ ἡ Ἰλιὰς ἔχει πολλὰ τοιαῦτα μέρη καὶ ἡ Ὀδύσσεια ‹ἃ› καὶ καθ’ ἑαυτὰ ἔχει μέγεθος· καίτοι ταῦτα τὰ ποιήματα συνέστηκεν ὡς ἐνδέχεται ἄριστα καὶ ὅτι μάλιστα μιᾶς πράξεως μίμησις. εἰ οὖν τούτοις τε διαφέρει πᾶσιν καὶ ἔτι τῷ τῆς τέχνης ἔργῳ (δεῖ γὰρ οὐ τὴν τυχοῦσαν ἡδονὴν ποιεῖν αὐτὰς ἀλλὰ τὴν εἰρημένην), φανερὸν ὅτι κρείττων ἂν εἴη μᾶλλον τοῦ τέλους τυγχάνουσα τῆς ἐποποιίας.

περὶ μὲν οὖν τραγῳδίας καὶ ἐποποιίας, καὶ αὐτῶν καὶ τῶν εἰδῶν καὶ τῶν μερῶν, καὶ πόσα καὶ τί διαφέρει, καὶ τοῦ εὖ ἢ μὴ τίνες αἰτίαι, καὶ περὶ ἐπιτιμήσεων καὶ λύσεων, εἰρήσθω τοσαῦτα.

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* - * - Μύρωνος καθ’ ἱερῶν ὀμόσαντες ἀριστίνδην. καταγνωσθέντος δὲ τοῦ ἄγους, α[ὐ]τοὶ μὲν ἐκ τῶν τάφων ἐξεβλήθησαν, τὸ δὲ γένος αὐτῶν ἔφυγεν ἀειφυγίαν. Ἐ[πι]μενίδης δ’ ὁ Κρὴς ἐπὶ τούτοις ἐκάθηρε τὴν πόλιν.

2

Μετὰ δὲ ταῦτα συνέβη στασιάσαι τούς τε γνωρίμους [2] καὶ τὸ πλῆθος πολὺν χρόνον τὸν δῆμον. ἦν γὰρ αὐτῶν ἡ πολιτεία τοῖς τε ἄλλοις ὀλιγαρχικὴ πᾶσι, καὶ δὴ καὶ ἐδούλευον οἱ πένητες τοῖς πλουσίοις καὶ αὐτοὶ καὶ τὰ τέκνα καὶ αἱ γυναῖκες· καὶ ἐκαλοῦντο πελάται καὶ ἑκτήμοροι· κατὰ ταύτην γὰρ τὴν μίσθωσιν [ἠ]ργάζοντο τῶν πλουσίων τοὺς ἀγρούς (ἡ δὲ πᾶσα γῆ δι᾽ ὀλίγων ἦν), καὶ εἰ μὴ τὰς μισθώσεις ἀποδιδοῖεν, ἀγώγιμοι καὶ αὐτοὶ καὶ οἱ παῖδες ἐγίγνοντο· καὶ οἱ δανεισμοὶ πᾶσιν ἐπὶ τοῖς σώμασιν ἦσαν μέχρι Σόλωνος· [3] οὗτος δὲ πρῶτος ἐγένετο τοῦ δήμου προστάτης. χαλεπώτατον μὲν οὖν καὶ πικρότατον ἦν τοῖς πολλοῖς τῶν κατὰ τὴν πολιτείαν τὸ δουλεύειν· οὐ μὴν ἀλλὰ καὶ ἐπὶ τοῖς ἄλλοις ἐδυσχέραινον· οὐδενὸς γὰρ ὡς εἰπεῖν ἐτύγχανον μετέχοντες.

3

[1] Ἦν δ’ ἡ τάξις τῆς ἀρχαίας πολιτείας τῆς πρὸ Δράκοντος τοιάδε. τὰς μὲν ἀρχὰς [καθ]ίστασαν ἀριστίνδην καὶ πλουτίνδην. ἦρχον δὲ τὸ μὲν πρῶτον διὰ [βίου], μετὰ δὲ [2] ταῦτα [δε]καέτειαν. μέγισται δὲ καὶ πρῶται τῶν ἀρχῶν ἦσαν βασιλεὺς καὶ πολέμαρχος καὶ [ἄ]ρ[χω]ν· τούτων δὲ πρώτη μὲν ἡ τοῦ βασιλέως (αὕτη γὰρ ἦν πάτριος), δευτέρα δ’ ἐπικατέστη [πολ]εμαρχία, διὰ τὸ γενέσθαι τινὰς τῶν βασιλέων τὰ πολέμια μαλακούς, ὅθε[ν κ]αὶ τὸν Ἴωνα [3] μετε[πέ]μψαντο χρείας καταλαβούσης. τελευταία δ’ ἡ τ[οῦ ἄ]ρ[χ]οντ[ος· ο]ἱ μὲν γὰρ πλείους ἐπὶ Μέδοντος, ἔνιοι δ’ ἐπὶ Ἀκάστου φασὶ γενέσθαι [ταύ]την· τεκμήριον δ’ ἐπιφέρουσιν, ὅτι οἱ ἐννέα ἄρχοντες ὀμνύουσι[ν] ἦ ‹μὴν› τὰ ἐπὶ Ἀκάστου ὅρκια ποιήσειν, ὡς ἐπὶ τούτου τῆς βασιλείας παραχωρησάντων τῶν Κοδ[ρι]δ[ῶν] ἀντὶ τῶν δοθεισῶν τῷ ἄρχοντι δωρεῶν. τοῦτο μὲν οὖν ὁποτέρως ποτ’ ἔχει, μικρὸν ἂν παραλλάττοι τοῖς χρόνοις. ὅτι δὲ τελευταία τούτων ἐγένετο τῶν ἀρχῶν, σημεῖον καὶ [τὸ] μηδὲν τῶν πατρίων τὸν ἄρχ[ο]ντα διοικεῖν, ὥσπερ ὁ βασιλεὺς καὶ ὁ πολέμαρχος, ἀλλ’ ἁπλῶ[ς] τὰ ἐπίθετα· διὸ καὶ νεωστὶ γέγονεν ἡ ἀρχὴ μεγάλη, τοῖς ἐπ[ι]θέτοις αὐξηθε[ῖ]σα.

[4] θ[ες]μοθέται δὲ πολλοῖς ὕστερον ἔτεσιν ᾑρέθησαν, ἤδη κατ’ ἐνιαυτὸν αἱρουμέ[νων] τὰς ἀρχάς, ὅπως ἀναγράψαντες τὰ θέσμια φυλάττωσι πρὸς τὴν τῶν ἀμφι[ς]βητ[ού]ντων κρίσιν· διὸ καὶ μόνη τῶν ἀρχῶν οὐκ ἐγένετο πλείων [5] ἐνιαυσίας. τοῖς μὲν οὖν χρόνοις τοσοῦτον προέχουσιν ἀλλήλων. ἦσαν δ’ οὐχ ἅμα πάντες οἱ ἐννέα ἄρχοντες, ἀλλ’ ὁ μὲν βασιλεὺς εἶχε τὸ νῦν καλούμενον Βουκόλιον, πλησίον τοῦ πρυτανείου (σημεῖον δέ· ἔτι καὶ νῦν γὰρ τῆς τοῦ βασιλέως γυναικὸς ἡ σύμμειξις ἐνταῦθα γίγνεται τῷ Διονύσῳ καὶ ὁ γάμος), ὁ δὲ ἄρχων τὸ πρυτανεῖον, ὁ δὲ πολέμαρχος τὸ Ἐπιλύκειον (ὃ πρότερον μὲν ἐκαλεῖτο πολεμαρχεῖον, ἐπεὶ δὲ Ἐπίλυκος ἀνῳκοδόμησε καὶ κατεσκεύασεν αὐτὸ πολεμαρ[χ]ήσας, Ἐπιλύκειον ἐκλήθη), θεσμοθέται δ’ εἶχον τὸ θεσμοθετεῖον. ἐπὶ δὲ Σόλωνος [ἅπ]αντες εἰς τὸ θεσμοθετεῖον συνῆλθον. κύριοι δ’ ἦσαν καὶ τὰς δίκας αὐτοτελεῖς [κρίν]ειν, καὶ οὐχ ὥσπερ νῦν προανακρίνειν. τὰ μὲν οὖν περὶ τὰς ἀρχὰς τοῦτον εἶχε τὸν τρόπον.

[6] ἡ δὲ τῶν Ἀρεοπαγιτῶν βουλὴ τὴν μὲν τάξιν εἶχε τοῦ διατηρεῖν τοὺς νόμους, διῴκει δὲ τὰ πλεῖστα καὶ τὰ μέγιστα τῶν ἐν τῇ πόλει, καὶ κολάζουσα καὶ ζημιοῦσα πάντας τοὺς ἀκοσμοῦντας κυρίως. ἡ γὰρ αἵρεσις τῶν ἀρχόντων

ἀριστίνδην καὶ πλουτίνδην ἦν, ἐξ ὧν οἱ Ἀρεοπαγῖται καθίσταντο. διὸ καὶ μόνη τῶν ἀρχῶν αὕτη μεμένηκε διὰ βίου καὶ νῦν.

4

[1] Ἡ μὲν οὖν πρώτη πολιτεία ταύτην εἶχε τὴν ὑπογραφήν. μετὰ δὲ ταῦτα χρόνου τινὸς οὐ πολλοῦ διελθόντος, ἐπ’ Ἀρισταίχμου ἄρχοντος, Δρά[κ]ων τοὺς θεσμοὺς ἔθηκεν· [2] ἡ δὲ τάξις αὐτοῦ τόνδε τὸν τρόπον εἶχε. ἀπεδέδοτο μὲν ἡ πολιτεία τοῖς ὅπλα παρεχομένοις· ᾑροῦντο δὲ τοὺς μὲν ἐννέα ἄρχοντας καὶ τοὺς ταμίας οὐσίαν κεκτημένους οὐκ ἐλάττω δέκα μνῶν ἐλευθέραν, τὰς δ’ ἄλλας ἀρχὰς ‹τὰς› ἐλάττους ἐκ τῶν ὅπλα παρεχομένων, στρατηγοὺς δὲ καὶ ἱππάρχους οὐσίαν ἀποφαίνοντας οὐκ ἔλαττον ἢ ἑκατὸν μνῶν ἐλευθέραν, καὶ παῖδας ἐκ γαμετῆς γυναικὸς γνησίους ὑπὲρ δέκα ἔτη γεγονότας. τούτους δ’ ἔδει διε[γγ]υᾶν τοὺς πρυτάνεις καὶ τοὺς στρατηγοὺς καὶ τοὺς ἱππάρχους τοὺς ἕνους μέχρι εὐθυνῶν, ἐγγυητὰς δ΄ ἐκ τοῦ αὐτοῦ τέλους δεχομένους, οὗπερ οἱ στρατηγοὶ καὶ οἱ ἵππαρχοι.

[3] βουλεύειν δὲ τετρακοσίους καὶ ἕνα τοὺς λαχόντας ἐκ τῆς πολιτείας. κληροῦσθαι δὲ καὶ ταύτην καὶ τὰς ἄλλας ἀρχὰς τοὺς ὑπὲρ τριάκοντ’ ἔτη γεγονότας, καὶ δὶς τὸν αὐτὸν μὴ ἄρχειν πρὸ τοῦ πάντας ἐξελθεῖν· τότε δὲ πάλιν ἐξ ὑπαρχῆς κληροῦν. εἰ δέ τις τῶν βουλευτῶν, ὅταν ἕδρα βουλῆς ἢ ἐκκλησίας ᾖ, ἐκλείποι τὴν σύνοδον, ἀπέτινον ὁ μὲν πεντακοσιομέδιμνος τρεῖς δραχμάς, ὁ δὲ ἱππεὺς δύο, [4] ζευγίτης δὲ μίαν. ἡ δὲ βουλὴ ἡ ἐξ Ἀρείου πάγου φύλαξ ἦν τῶν νόμων καὶ διετήρει τὰς ἀρχάς, ὅπως κατὰ τοὺς νόμους ἄρχωσιν. ἐξῆν δὲ τῷ ἀδικουμένῳ πρὸ[ς τὴν τῶν] Ἀρεοπαγιτῶν βουλὴν εἰσαγγέλλειν, ἀποφαίνοντι παρ’ ὃν [5] ἀδικεῖται νόμον. ἐπὶ δὲ τοῖς σώ[μ]ασιν ἦσαν οἱ δανεισμοί, καθάπερ εἴρηται, καὶ ἡ χώρα δι’ ὀλίγων ἦν.

5

[1] Τοιαύτης δὲ τῆς τάξεως οὔσης ἐν τῇ πολιτείᾳ, καὶ τῶν πολλῶν δουλευόντων τοῖς ὀλίγοις, ἀντέστη τοῖς γνωρίμοις [2] ὁ δῆμος. ἰσχυρᾶς δὲ τῆς στάσεως οὔσης καὶ πολὺν χρόνον ἀντικαθημένων ἀλλήλοις, εἵλοντο κοινῇ διαλλακτὴν καὶ ἄρχοντα Σόλωνα, καὶ τὴν πολιτείαν ἐπέτρεψαν αὐτῷ, ποιήσαντι τὴν ἐλεγείαν ἧς ἐστὶν ἀρχή·

γιγνώσκω, καί μοι φρενὸς ἔνδοθεν ἄλγεα κεῖται,
πρεσβυτάτην ἐσορῶν γαῖαν Ἰαονίας
κλινομένην·

ἐν ᾗ πρὸς ἑκατέρους ὑπὲρ ἑκατέρων μάχεται καὶ διαμφισβητεῖ, καὶ μετὰ ταῦτα κοινῇ παραινεῖ καταπαύειν τὴν [3] ἐνεστῶσαν φιλονικίαν. ἦν δ’ ὁ Σόλων τῇ μὲν [φύ]σει καὶ τῇ δόξῃ τῶν πρώτων, τῇ δ’ οὐσίᾳ καὶ τοῖς πράγμασι τῶν μέσων, ὡς ἔκ τε τῶν ἄλλων ὁμολογεῖται, καὶ αὐτὸς ἐν τοῖσδε τοῖς ποιήμασιν μαρτυρεῖ, παραινῶν τοῖς πλουσίοις μὴ πλεονεκτεῖν·

ὑμεῖς δ’ ἡσυχάσαντες ἐνὶ φρεσὶ καρτερὸν ἦτορ,
οἳ πολλῶν ἀγαθῶν ἐς κόρον [ἠ]λάσατε,
ἐν μετρίοισι τίθεσ[θ]ε μέγαν νόον. οὔτε γὰρ ἡμεῖς
πεισόμεθ’, οὔθ’ ὑμῖν ἄρτια τα[ῦτ’] ἔσεται.

καὶ ὅλως αἰεὶ τὴν αἰτίαν τῆς στάσεως ἀνάπτει τοῖς πλουσίοις· διὸ καὶ ἐν ἀρχῇ τῆς ἐλεγείας δεδοικέναι φησὶ ‘τήν τε φι[λαργυρ]ίαν τήν θ’ ὑπερηφανίαν’, ὡς διὰ ταῦτα τῆς ἔχθρας ἐνεστώσης.

6

[1] Κύριος δὲ γενόμενος τῶν πραγμάτων Σόλων τόν τε δῆμον ἠλευθέρωσε καὶ ἐν τῷ π[α]ρόντι καὶ εἰς τὸ μέλλον, κωλύσας δ[ανε]ίζειν ἐπὶ τοῖς σώμασιν, καὶ νόμους ἔθηκε καὶ χρεῶν ἀπ[ο]κοπὰς ἐποίησε, καὶ τῶν ἰδίων καὶ τῶν δ[η]μοσίων, ἃς σεισάχθειαν καλοῦσιν, ὡς ἀποσεισάμενοι [2] τὸ βάρος. ἐν οἷς πειρῶνταί τιν[ες] διαβάλλ[ει]ν αὐτόν· συνέβη γὰρ τῷ Σόλωνι μέλλοντι ποιεῖν τὴν σεισάχθειαν προειπεῖν τισι τῶν [γν]ωρίμω[ν], ἔπειθ’ ὡς μὲν οἱ δημοτικοὶ λέγουσι, παραστρατηγη[θ]ῆναι διὰ τῶν φίλων, ὡς δ’ οἱ β[ουλ]όμενοι βλασ[φ]ημεῖν, καὶ αὐτὸν κοινωνεῖν. δανεισάμενοι γὰρ οὗτοι συνεπρίαντο πολλὴν χώραν, καὶ μετ’ οὐ πολὺ τῆς τῶν χρεῶν ἀποκοπῆς γενομένης ἐπλούτουν. ὅθεν φασὶ γενέσθαι τοὺς ὕστερον δοκοῦντας εἶναι [3] παλαιοπλούτους. οὐ μὴν ἀλλὰ πιθ[ανώ]τερος ὁ τῶν δημοτικῶν λόγος· οὐ γὰρ ε[ἰκ]ὸς ἐν μὲν τοῖς ἄλλοις οὕτω μέτριον γενέσθαι καὶ κοινόν, [ὥ]στ’ ἐξὸν αὐτῷ τοὺς ἑ[τ]έρους ὑποποιησάμενον τυραννεῖν τῆς πόλεως, ἀμφοτέροις ἀπεχ[θέ]σθαι καὶ περὶ πλείονος ποιήσασθαι τὸ καλὸν καὶ τὴν τῆς πόλεως σωτηρίαν ἢ τὴν αὑτοῦ πλεονεξίαν, ἐν [4] οὕτω δὲ μικροῖς καὶ ἀνα[ξίο]ις καταρρυπαίνειν ἑαυτόν. ὅτι δὲ ταύτην ἔσχε τὴν ἐξουσίαν, τά τε πράγματα νοσοῦντα μαρτυρεῖ, καὶ ἐν τοῖς ποιήμασιν αὐτὸς πολλαχοῦ μέμνηται, καὶ οἱ ἄλλοι συνομολογοῦσι πάντες. ταύτην μὲν οὖν χρὴ νομίζειν ψευδῆ τὴν αἰτίαν εἶναι.

7

[1] Πολιτείαν δὲ κατέστησε καὶ νόμους ἔθηκεν ἄλλους, τοῖς δὲ Δράκοντος θεσμοῖς ἐπαύσαντο χρώμενοι πλὴν τῶν φονικῶν. ἀναγράψαντες δὲ τοὺς νόμους εἰς τοὺς κύρβεις ἔστησαν ἐν τῇ στοᾷ τῇ βασιλείῳ καὶ ὤμοσαν χρήσεσθαι πάντες. οἱ δ’ ἐννέα ἄρχοντες ὀμνύντες πρὸς τῷ λίθῳ κατεφάτιζον ἀναθήσειν ἀνδριάντα χρυσοῦν, ἐάν τινα παραβῶσι τῶν νόμων· [2] ὅθεν ἔτι καὶ νῦν οὕτως ὀμνύουσι. κατέκλεισεν δὲ τοὺς νόμους εἰς ἑκατὸν ἔτη καὶ διέταξε τὴν πολιτείαν [3] τόνδε ‹τὸν› τρόπον. τιμήματι διεῖλεν εἰς τέτταρα τέλη, καθάπερ διῄρητο καὶ πρότερον, εἰς πεντακοσιομέδιμνον καὶ ἱπ[πέα] καὶ ζευγίτην καὶ θῆτα. καὶ τὰς μὲ[ν ἄλλ]ας ἀρχὰς ἀπένειμεν ἄρχειν ἐκ πεντακοσιομεδίμνων καὶ ἱππέων καὶ ζευγιτῶν, τοὺς ἐννέα ἄρχοντας καὶ τοὺς ταμίας καὶ τοὺς πωλητὰς καὶ τοὺς ἕνδεκα καὶ τοὺς κωλακρέτας, ἑκάστοις ἀνάλογον τῷ μεγέθει τοῦ τιμήματος ἀποδιδοὺς τὴν ἀρχήν· τοῖς δὲ τὸ θητικὸν τελοῦσιν ἐκκλησίας καὶ [4] δικαστηρίων μετέδωκε μόνον. ἔδει δὲ τελεῖν πεντακοσιομέδιμνον μέν, ὃς ἂν ἐκ τῆς οἰκείας ποιῇ πεντακόσια μέτρα τὰ συνάμφω ξηρὰ καὶ ὑγρά, ἱππάδα δὲ τοὺς τριακόσια ποιοῦντας - ὡς δ’ ἔνιοί φασι τοὺς ἱπποτροφεῖν δυναμένους· σημεῖον δὲ φέρουσι τό τε ὄνομα τοῦ τέλους, ὡς ἂν ἀπὸ τοῦ πράγματος κείμενον, καὶ τὰ ἀναθήματα τῶν ἀρχαίων· ἀνάκειται γὰρ ἐν ἀκροπόλει εἰκὼν Διφίλου, ἐφ’ ᾗ ἐπιγέγραπται τάδε·

Διφίλου Ἀνθεμίων τήνδ’ ἀνέθηκε θεοῖς,
θητικοῦ ἀντὶ τέλους ἱππάδ’ ἀμειψάμενος. καὶ παρέστηκεν ἵππος ἐκμαρτυρῶν, ὡς τὴν ἱππάδα τοῦτο σημαίνουσαν. οὐ μὴν ἀλλ’ εὐλογώτερον τοῖς μέτροις διῃρῆσθαι, καθάπερ τοὺς πεντακοσιομεδίμνους - ζευγίσιον δὲ τελεῖν τοὺς διακόσια τὰ συνάμφω ποιοῦντας. τοὺς δ’ ἄλλους θητικόν, οὐδεμιᾶς μετέχοντας ἀρχῆς. διὸ καὶ νῦν ἐπειδὰν ἔρηται τὸν μέλλοντα κληροῦσθαί τιν’ ἀρχήν, ποῖον τέλος τελεῖ, οὐδ’ ἂν εἷς εἴποι θητικόν.

8

[1] Τὰς δ’ ἀρχὰς ἐποίησε κληρωτὰς ἐκ προκρίτων, οὓς ἑκάστη προκρίνειε τῶν φυλῶν. προύκρινεν δ’ εἰς τοὺς ἐννέα ἄρχοντας ἑκάστη δέκα, καὶ τού[των ἐκ]λήρουν· ὅθεν ἔτι διαμένει ταῖς φυλαῖς τὸ δέκα κληροῦν ἑκάστην, εἶτ’ ἐκ τούτων κυαμεύειν. σημεῖον δ’ ὅτι κληρωτὰς ἐποίησεν ἐκ τῶν τιμημάτων ὁ περὶ τῶν ταμιῶν νόμος, ᾧ χρώμενοι δια[τελ]οῦσιν ἔτι καὶ νῦν· κελεύει γὰρ κληροῦν τοὺς ταμίας [2] ἐκ πεντακοσιομεδίμνων. [Σόλ]ων μὲν οὖν οὕτως ἐνομοθέτησεν περὶ τῶν ἐννέα ἀρχόντων· τὸ γὰρ ἀρχαῖον ἡ ἐν Ἀ[ρεί]ῳ [πάγῳ βου]λή, ἀνακαλεσαμένη καὶ κρίνασα καθ’ αὐτήν, τὸν ἐπιτήδειον ἐφ’ ἑκάστῃ τῶν ἀρχῶν ἐπ’ [3] [ἐν]ια[υτ]ὸν [διατάξα]σα ἀπέστελλεν. φυλαὶ δ’ ἦσαν δ΄ καθάπερ πρότερον, καὶ φυλοβασιλεῖς τέτταρες. [ἐκ] δὲ [τῆς] φυ[λῆ]ς ἑκάστης ἦσαν νενεμημέναι τριττύες μὲν τρεῖς, ναυκραρίαι δὲ δώδεκα καθ’ ἑκάστην· ἦν δ’ ἐπὶ τῶν ναυκραριῶν ἀρχὴ καθεστηκυῖα ναύκραροι, τεταγμένη πρός τε τὰς εἰσφορὰς καὶ τὰς δαπ[άνας] τὰς γιγνομένας· διὸ καὶ ἐν τοῖς νόμοις τοῖς Σόλωνος οἷς οὐκέτι χρῶνται πολλαχο[ῦ γέ]γραπται, ‘τοὺς ναυκράρους εἰσπράττειν’, καὶ ‘ἀναλίσκειν [4] ἐκ τοῦ ναυκραρικοῦ ἀργυρ[ίο]υ’. β[ου]λὴν δ’ ἐποίησε τετρακοσίους, ἑκατὸν ἐξ ἑκάστης φυλῆς, τὴν δὲ τῶν Ἀρεοπαγιτῶν ἔταξεν ἐπὶ [τὸ] νομοφυλακεῖν, ὥσπερ ὑπῆρχεν καὶ πρότερον ἐπίσκοπος οὖσα τῆς πολιτείας, καὶ τά τε ἄλλα τὰ πλεῖστα καὶ τὰ μέγιστα τῶν πολιτ‹ικ›ῶν διετήρει, καὶ τοὺς ἁμαρτάνοντας ηὔθυνεν κυρία οὖσα καὶ [ζη]μιοῦν καὶ κολάζειν, καὶ τὰς ἐκτίσεις ἀνέφερεν εἰς πόλιν, οὐκ ἐπιγράφουσα τὴν πρόφασιν δι’ ὃ [τὸ ἐ]κτ[ίν]εσθαι, καὶ τοὺς ἐπὶ καταλύσει τοῦ δήμου συνισταμένους ἔκρινεν, [5] Σόλωνος θέντ[ος] νόμον εἰσα[γγ]ελ[ία]ς περὶ αὐτῶν. ὁρῶν δὲ τὴν μὲν πόλιν πολλάκις στασιάζουσαν, τῶν δὲ πολιτῶν ἐνίους διὰ τὴν ῥᾳθυμίαν [ἀγα]πῶντας τὸ αὐτόματον, νόμον ἔθηκεν πρὸς αὐτοὺς ἴδιον, ὃς ἂν στασιαζούσης τῆς πόλεως μ[ὴ] θῆται τὰ ὅπλα μηδὲ μεθ’ ἑτέρων, ἄτιμον εἶναι καὶ τῆς πόλεως μὴ μετέχειν.

9

[1] Τὰ μὲν οὖν [περὶ τὰ]ς ἀρχὰς τ[οῦ]τον εἶχε τὸν τρόπον. δοκεῖ δὲ τῆς Σόλωνος πολιτείας τρία ταῦτ᾽ εἶναι τὰ δημοτικώτατα· πρῶτον μὲν καὶ μέγιστον τὸ μὴ δανείζειν ἐπὶ τοῖς σώμασιν, ἔπειτα τὸ ἐξεῖναι τῷ βουλομένῳ τιμωρ[εῖ]ν ὑπὲρ τῶν ἀδικουμένων, τρίτον δὲ ‹ᾧ καὶ› μάλιστά φασιν ἰσχυκέναι τὸ πλῆθος, ἡ εἰς τὸ δικαστή[ριον] ἔφε[σι]ς· κύριος γὰρ ὢν ὁ δῆμος τῆς ψήφου, κύριος γίγνεται τῆς πολιτείας.

[2] ἔτι δὲ καὶ διὰ τὸ μὴ γεγράφθ[αι το]ὺς νόμους ἁπλῶς μηδὲ σαφῶς, ἀλλ᾽ ὥσπερ ὁ τῶν κλήρων καὶ ἐπικλήρων, ἀνάγκη [πο]λλὰς ἀμφισβητήσεις γίγνεσθαι, καὶ πάντα βραβεύειν καὶ τὰ κοινὰ καὶ τὰ ἴδια τὸ δικαστήρ[ιον]. οἴονται μὲν οὖν τινες ἐπίτηδες ἀσαφεῖς αὐτὸν ποιῆσαι τοὺς νόμους, ὅπως ᾖ τῆς κρίσεως [ὁ] δῆ[μος κ]ύριος. οὐ μὴν εἰκός, ἀλλὰ διὰ τὸ μὴ δύνασθαι καθόλου περιλαβεῖν τὸ βέλτιστον· οὐ γὰρ [δ]ίκ[αιον] ἐκ τῶν νῦν γιγνομέων, ἀλλ᾽ ἐκ τῆς ἄλλης πολιτείας θεωρεῖν τὴν ἐκείνου βούλησιν.

10

[1] Ἐν μὲν οὖν τοῖς νόμοις ταῦτα δοκεῖ θεῖναι δημοτικά, πρὸ δὲ τῆς νομοθεσίας ποιήσας τὴν τῶν χ[ρ]εῶν [ἀπο]κοπήν, καὶ μετὰ ταῦτα τήν τε τῶν μέτρων καὶ σταθμῶν καὶ [2] τὴν τοῦ νομίσματος αὔξησιν. ἔπ’ ἐκείνου γὰρ ἐγένετο καὶ τὰ μέτρα μείζω τῶν Φειδωνείων, καὶ ἡ μνᾶ, πρότερον ἔχ[ο]υσα [ς]ταθμὸν ἑβδομήκοντα δραχμάς, ἀνεπληρώθη ταῖς ἑκατόν. ἦν δ’ ὁ ἀρχαῖος χαρακτὴρ δίδραχμον. ἐποίησε δὲ καὶ σταθμὰ πρὸς τ[ὸ] νόμισμα, τ[ρ]εῖς καὶ ἑξήκοντα μνᾶς τὸ τάλαντον ἀγούσας, καὶ ἐπιδιενεμήθησαν [αἱ τ]ρεῖς μναῖ τῷ στατῆρι καὶ τοῖς ἄλλοις σταθμοῖς.

11

[1] Διατάξας δὲ τὴν πολιτείαν ὅνπερ εἴρηται τρόπον, ἐπειδὴ προσιόντες αὐτῷ περὶ τῶν νόμων ἠνώχλουν, τὰ μὲν ἐπιτιμῶντες τὰ δὲ ἀνακρίνοντες, βουλόμενος μήτε ταῦτα κινεῖν, μήτ’ ἀπεχθάνεσθαι παρών, ἀποδημίαν ἐποιήσατο κατ’ ἐμπορίαν ἅμα καὶ θεωρίαν εἰς Αἴγυπτον, ε[ἰπ]ὼν ὡς οὐχ [ἥ]ξει δέκα ἐτῶν. οὐ γὰρ οἴεσθαι δίκαιον εἶναι τοὺς νόμους ἐξηγεῖσθαι παρών, ἀλλ’ ἕκαστον τὰ γεγραμμένα [2] ποιεῖν. ἅμα δὲ καὶ συνέβαινεν αὐτῷ τῶν τε γνωρίμων διαφόρους γεγενῆσθαι πολλοὺς διὰ τὰς τῶν χρεῶν ἀποκοπάς, καὶ τὰς στάσεις ἀμφοτέρας μεταθέσθαι διὰ τὸ παράδοξον αὐτοῖς γενέσθαι τὴν κατάστασιν. ὁ μὲν γὰρ δῆμος ᾤετο πάντ’ ἀνάδαστα ποιήσειν αὐτόν, οἱ δὲ γνώριμοι πάλιν εἰς τὴν αὐτὴν τάξιν ἀποδώσειν, ἢ μ[ικ]ρ[ὸ]ν παραλλάξ[ειν]. ‹ὁ δὲ› Σόλων ἀμφοτέροις ἠναντιώθη, καὶ ἐξὸν αὐτῷ μεθ’ ὁποτέρων ἐβούλετο συστά[ντ]α τυραννεῖν, εἵλετο πρὸς ἀμφοτέρους ἀπεχθέσθαι, σώσας τὴν πατρίδα καὶ τὰ βέ[λτι]στα νομοθετήσας.

12

[1] Ταῦτα δ’ ὅτι τοῦτον ‹τὸν› τρόπον ἔσχεν οἵ τ’ ἄλλοι συμφωνοῦσι πάντες, καὶ αὐτὸς ἐν τῇ ποιήσει μέμνηται περὶ αὐτῶν ἐν τοῖσδε·

δήμῳ μὲν γὰρ ἔδωκα τόσον γέρας, ὅσσον ἀπαρκεῖ,
τιμῆς οὔτ’ ἀφελὼν οὔτ’ ἐπορεξάμενος·
οἳ δ’ εἶχον δύναμιν καὶ χρήμασιν ἦσαν ἀγητοί,
καὶ τοῖς ἐφρασάμην μηδὲν ἀεικὲς ἔχειν.
ἔστην δ’ ἀμφιβαλὼν κρατερὸν σάκος ἀμφοτέροισι,
νικᾶν δ’ οὐκ εἴασ’ οὐδετέρους ἀδίκως.

[2] πάλιν δ’ ἀποφαινόμενος περὶ τοῦ πλήθους, ὡς αὐτῷ δεῖ χρῆσθαι·

δῆμος δ’ ὧδ’ ἂν ἄριστα σὺν ἡγεμόνεσσιν ἕποιτο,
μήτε λίαν ἀνεθεὶς μήτε βιαζόμενος.
τίκτει γὰρ κόρος ὕβριν, ὅταν πολὺς ὄλβος ἕπηται
ἀνθρώποισιν, ὅσοις μὴ νόος ἄρτιος ᾖ.

[3] καὶ πάλιν δ’ ἑτέρωθί που λέγει περὶ τῶν διανείμασθαι τὴν γῆν βουλομένων·

οἳ δ’ ἐφ’ ἁρπαγαῖσιν ἦλθον, ἐλπίδ’ εἶχον ἀφνεάν,
κἀδόκουν ἕκαστος αὐτῶν ὄλβον εὑρήσειν πολύν,
καί με κωτίλλοντα λείως τραχὺν ἐκφανεῖν νόον.
χαῦνα μὲν τότ’ ἐφράσαντο, νῦν δέ μοι χολούμενοι
λοξ[ὸν ὀ]φθαλμοῖσ’ ὁρῶσι πάντες ὥστε δήιον.
οὐ χρεών· ἃ μὲν γὰρ εἶπα, σὺν θεοῖσιν ἤνυσα,
ἄ[λλ]α δ’ ο[ὐ] μάτην ἔερδον, οὐδέ μοι τυραννίδος
ἁνδάνει βίᾳ τι [ῥέζ]ειν, οὐδὲ πιεί[ρ]ας χθονὸς
πατρίδος κακοῖσιν ἐσθλοὺς ἰσομοιρίαν ἔχειν.

[4] [πάλιν] δὲ καὶ περὶ τῆς ἀπ[οκ]οπῆς τῶν χ[ρε]ῶν καὶ τῶν δουλευόντων μὲν πρότερον, ἐλευθερωθέντων δὲ διὰ τὴν σεισάχθειαν·

ἐγὼ δὲ τῶν μὲν οὕνεκα ξ[υ]νήγαγον
δῆμον, τί τούτων πρὶν τυχεῖν ἐπαυσάμην;
συμμαρτυροίη ταῦτ’ ἂν ἐν δίκῃ Χρόνου
μήτηρ μεγίστη δαιμόνων Ὀλυμπίων
ἄριστα, Γῆ μέλαινα, τῆς ἐγώ ποτε

ὅρους ἀνεῖλον πολλαχῇ πεπηγότας,
πρόσθεν δὲ δουλεύουσα, νῦν ἐλευθέρα.
πολλοὺς δ’ Ἀθήνας, πατρίδ’ εἰς θεόκτιτον,
ἀνήγαγον πραθέντας, ἄλλον ἐκδίκως,
ἄλλον δικαίως, τοὺς δ’ ἀναγκαίης ὑπὸ
χρειοῦς φυγόντας, γλῶσσαν οὐκέτ’ Ἀττικὴν
ἱέντας, ὡς ἂν πολλαχῇ πλανωμένους·
τοὺς δ’ ἐνθάδ’ αὐτοῦ δουλίην ἀεικέα
ἔχοντας, ἤθη δεσποτῶν τρομευμέν[ους],
ἐλευθέρους ἔθηκα. ταῦτα μὲν κράτει
νομοῦ βίην τε καὶ δίκην συναρμόσας
ἔρεξα καὶ διῆλθον ὡς ὑπεσχ[ό]μην.
θεσμοὺς δ’ ὁμοίως τῷ κακῷ τε κἀγαθῷ,
εὐθεῖαν εἰς ἕκαστον ἁρμόσας δίκην,
ἔγραψα. κέντρον δ’ ἄλλος ὡς ἐγὼ λαβών,
κακοφραδής τε καὶ φιλοκτήμων ἀνήρ,
οὐκ ἂν κατέσχε δῆμον. εἰ γὰρ ἤθελον
ἃ τοῖς ἐναντίο[ισι]ν ἥνδανεν τότε,
αὖθις δ’ ἃ τοῖσιν οὕτεροι φρασαίατο,
πολλῶν ἂν ἀνδρῶν ἥδ’ ἐχηρώθη πόλις.
τῶν οὕνεκ’ ἀλκὴν πάντοθεν ποιούμενος
ὡς ἐν κυσὶν πολλῇσιν ἐστράφην λύκος.

[5] καὶ πάλιν ὀνειδίζων πρὸς τὰς ὕστερον αὐτῶν μεμψιμοιρίας ἀμφοτέρων·

δήμῳ μὲν εἰ χρὴ διαφάδην ὀνειδίσαι,
ἃ νῦν ἔχουσιν οὔποτ’ ὀφθαλμοῖσιν ἂν
εὕδοντες εἶδον.
ὅσοι δὲ μείζους καὶ βίαν ἀμείνονες,
αἰνοῖεν ἄν με καὶ φίλον ποιοίατο.
εἰ γάρ τις ἄλλος, φησί, ταύτης τῆς τιμῆς ἔτυχεν,
οὐκ ἂν κατέσχε δῆμον οὐδ’ ἐπαύσατο,
πρὶν ἀνταράξας πῖαρ ἐξεῖλεν γάλα.
ἐγὼ δὲ τούτων ὥσπερ ἐν μεταιχμίῳ
ὅρος κατέστην.

13

[1] Τὴν μὲν οὖν ἀποδημίαν ἐποιήσατο διὰ ταύτας τὰς αἰτίας. Σόλωνος δ’ ἀποδημήσαντος, ἔτι τῆς πόλεως τεταραγμένης ἐπὶ μὲν ἔτη τέτταρα διῆγον ἐν ἡσυχίᾳ· τῷ δὲ πέμπτῳ μετὰ τὴν Σόλωνος ἀρχὴν οὐ κατέστησαν ἄρχοντα διὰ τὴν στ[άς]ιν, καὶ πάλιν ἔτει πέμπτῳ διὰ τὴν αὐτὴν αἰτίαν [2] ἀναρχίαν ἐποίησαν. μετὰ δὲ ταῦτα διὰ τῶν αὐτῶν χρόνων Δαμασίας αἱρεθεὶς ἄρχων ἔτη δύο καὶ δύο μῆνας ἦρξεν, ἕως ἐξηλάθη βίᾳ τῆς ἀρχῆς. εἶτ’ ἔδοξεν αὐτοῖς διὰ τὸ στασιάζειν ἄρχοντας ἑλέσθαι δέκα, πέντε μὲν εὐπατριδῶν, τρεῖς δὲ ἀ[γ]ροίκων, δύο δὲ δημιουργῶν, καὶ οὗτοι τὸν μετὰ Δαμασίαν ἦρξαν ἐνιαυτόν. ᾧ καὶ δῆλον ὅτι μεγίστην εἶχεν δύναμιν ὁ ἄρχων· φαίνονται γὰρ αἰεὶ στασιάζοντες [3] περὶ ταύτης τῆς ἀρχῆς. ὅλως δὲ διετέλουν νοσοῦντες τὰ πρὸς ἑαυτούς, οἱ μὲν ἀρχὴν καὶ πρόφασιν ἔχοντες τὴν τῶν χρεῶν ἀποκοπήν (συνεβεβήκει γὰρ αὐτοῖς γεγονέναι πένησιν), οἱ δὲ τῇ πολιτείᾳ δυσχεραίνοντες διὰ τὸ μεγάλην γεγονέναι μεταβολήν, ἔνιοι δὲ διὰ [τὴν] πρὸς ἀλλήλους [4] φιλονικίαν. ἦσαν δ’ αἱ στάσεις τρεῖς· μία μὲν τῶν παραλίων, ὧν προειστήκει Μεγακλῆς ὁ Ἀλκμέωνος, οἵπερ ἐδόκουν μάλιστα διώκειν τὴν μέσην πολιτείαν. ἄλλη δὲ τῶν πεδιακῶν, οἳ τὴν ὀλιγαρχίαν ἐζήτουν· ἡγεῖτο δ’ αὐτῶν Λυκοῦργος. τρίτη δ’ ἡ τῶν διακρίων, ἐφ’ ᾗ τεταγμένος ἦν [5] Πεισίστρατος, δημοτι[κ]ώτατος εἶναι δοκῶν. προσεκεκόσμηντο δὲ τούτοις οἵ τε ἀφ[η]ρημένοι τὰ χρέα διὰ τὴν ἀπορ[ί]αν, καὶ οἱ τῷ γένει μὴ καθαροὶ διὰ τὸν φόβον· σημεῖον δ’, ὅτι μετὰ τὴν [τῶν] τυράννων κατάλυσιν ἐποίησαν διαψηφισμόν, ὡς πολλῶν κοινωνούντων τῆς πολιτείας οὐ προσῆκον. εἶχον δ’ ἕκαστοι τὰς ἐπωνυμίας ἀπὸ τῶν τόπων ἐν οἷς ἐγεώργουν.

14

[1] Δημοτικώτατος δ’ εἶναι δοκῶν ὁ Πεισίστρατος καὶ σφόδρ’ εὐδοκιμηκὼς ἐν τῷ πρὸς Μεγαρέας πολέμῳ, κατατραυματίσας ἑαυτὸν συνέπεισε τὸν δῆμον, ὡς ὑπὸ τῶν ἀντιστασιωτῶν ταῦτα πεπονθώς, φυλακὴν ἑαυτῷ δοῦναι τοῦ σώματος, Ἀριστίωνος γράψαντος τὴν γνώμην. λαβὼν δὲ τοὺς κορυνηφόρους καλουμένους, ἐπαναστὰς μετὰ τούτων τῷ δήμῳ, κατέσχε τὴν ἀκρόπολιν ἔτει δευτέρῳ καὶ τριακοστῷ μετὰ τὴν τῶν νόμων θέσιν, ἐπὶ Κωμέου ἄρχοντος.

[2] λέγεται δὲ Σόλωνα Πεισιστράτου τὴν φυλακὴν αἰτοῦντος ἀντιλέξαι καὶ εἰπεῖν ὅτι τῶν μὲν εἴη σοφώτερος, τῶν δ’ ἀνδρειό[τε]ρος· ὅσοι μὲν γὰρ ἀγνοοῦσι Πεισίστρατον ἐπιτιθέμενον τυραν[νίδι], σοφώτερος εἶναι τούτων, ὅσοι δ’ εἰδότες κατασιωπῶσιν, ἀνδρειότερος. ἐπεὶ δὲ λέγων [οὐκ ἔ]πειθεν, ἐξαράμενος τὰ ὅπλα πρὸ τῶν θυρῶν, αὐτὸς μὲν ἔφη βεβοηθηκέναι τῇ πατρίδι, καθ’ ὅσον ἦν δυνατός (ἤδη γὰρ σφόδρα πρεσβύτης ἦν), ἀξιοῦν δὲ καὶ τοὺς ἄλλους [3] ταὐτὸ τοῦτο ποιεῖν. Σόλων μὲν [οὖν ο]ὐδὲν ἤνυσεν τότε παρακαλῶν. Πεισίστρατος δὲ λαβὼν τὴν ἀρχὴν διῴκει τὰ κοινά, πολιτικῶς μᾶλλον ἢ τυραννικῶς. οὔπω δὲ τῆς ἀρχῆς ἐρριζωμένης, ὁμοφρονήσαντες οἱ περὶ τὸν Μεγακλέα καὶ τὸν Λυκοῦργον, ἐξέβαλον αὐτὸν ἕκτῳ ἔτει μετὰ τὴν [4] πρώτην κατάστασιν, ἐφ’ Ἡγησίου ἄρχοντος. ἔτει δὲ δωδεκάτῳ μετὰ ταῦτα περιελαυνόμενος ὁ Μεγακλῆς τῇ στάσει, πάλιν ἐπικηρυκευσάμενος πρὸς τὸν Πεισίστρατον, ἐφ’ ᾧ τε τὴν θυγατέρα αὐτοῦ λήψεται, κατήγαγεν αὐτὸν ἀρχαίως καὶ λίαν ἁπλῶς. προδιασπείρας γὰρ λόγον, ὡς τῆς Ἀθηνᾶς καταγούσης Πεισίστρατον, καὶ γυναῖκα μεγάλην καὶ καλὴν ἐξευρών, ὡς μὲν Ἡρόδοτός φησιν ἐκ τοῦ δήμου τῶν Παιανιέων, ὡς δ’ ἔνιοι λέγουσιν ἐκ τοῦ Κολλυτοῦ στεφανόπωλιν Θρᾷτταν, ᾗ ὄνομα Φύη, τὴν θεὸν ἀπομιμησάμενος τῷ κόσμῳ, συνεισήγαγεν μετ’ αὐτοῦ· καὶ ὁ μὲν Πεισίστρατος ἐφ’ ἅρματος εἰσήλαυνε, παραιβατούσης τῆς γυναικός, οἱ δ’ ἐν τῷ ἄστει προσκυνοῦντες ἐδέχοντο θαυμάζοντες.

15

[1] Ἡ μὲν οὖν πρώτη κάθοδος ἐγένετο τοιαύτη. μετὰ δὲ ταῦτα ὡς ἐξέπεσε τὸ δεύτερον, ἔτει μάλιστα ἑβδόμῳ μετὰ τὴν κάθοδον, (οὐ γὰρ πολὺν χρόνον κατέσχεν, ἀλλὰ διὰ τὸ μὴ βούλεσθαι τῇ τοῦ Μεγακλέους θυγατρὶ συγγίγνεσθαι, [2] φοβηθεὶς ἀμφοτέρας τὰς στάσεις ὑπεξῆλθεν). καὶ πρῶτον μὲν συνῴκισε περὶ τὸν Θερμαῖον κόλπον χωρίον ὃ καλεῖται Ῥαίκηλος, ἐκεῖθεν δὲ παρῆλθεν εἰς τοὺς περὶ Πάγγαιον τόπους, ὅθεν χρηματισάμενος καὶ στρατιώτας μισθωσάμενος, ἐλθὼν εἰς Ἐρέτριαν ἑνδεκάτῳ πάλιν ἔτει τό‹τε› πρῶτον ἀνασώσασθαι βίᾳ τὴν ἀρχὴν ἐπεχείρει, συμπροθυμουμένων αὐτῷ πολλῶν μὲν καὶ ἄλλων, μάλιστα δὲ Θηβαίων καὶ Λυγδάμιος τοῦ Ναξίου, ἔτι δὲ τῶν ἱππέων [3] τῶν ἐχόντων ἐν Ἐρετρίᾳ τὴν πολιτείαν. νικήσας δὲ τὴν ἐπὶ Παλληνίδι μάχην καὶ λαβὼν τὴν [π]όλιν καὶ παρελόμενος τοῦ δήμου τὰ ὅπλα, κατεῖχεν ἤδη τὴν τυρρανίδα βεβαίως· καὶ Νάξον ἑλὼν ἄρχοντα κατέστησε Λύγδαμιν.

[4] παρεῖλε δὲ τοῦ δήμου τὰ ὅπλα τόνδε τὸν τρόπον. ἐξοπλασίαν ἐν τῷ Θησείῳ ποιησάμενος ἐκκλησιάζειν ἐπεχείρει, καὶ [χρόνον προσηγό]ρευεν μικρόν, οὐ φασκόντων δὲ κατακούειν, ἐκέλευσεν αὐτοὺς προσαναβῆναι πρὸς τὸ πρόπυλον τῆς ἀκροπόλεως, ἵνα γεγωνῇ μᾶλλον. ἐν ᾧ δ’ ἐκεῖνος διέτριβε δημηγορῶν, ἀνελόντες οἱ ἐπὶ τούτῳ τεταγμένοι τ[ὰ ὅπλ]α, καὶ [κατα]κλείσαντες εἰς τὰ πλησίον οἰκήματα τοῦ Θησείου, διεσήμηναν ἐλθόντες πρὸς τὸν Πεισίστρατον. ὁ δὲ ἐπεὶ τὸν ἄλλον λόγον ἐπετέλεσεν, εἶπε καὶ περὶ τῶν ὅπλων τὸ γεγονός, ὡς οὐ χρὴ θαυμάζειν οὐδ’ ἀθυμεῖν, ἀλλ’ ἀπελθόντας ἐπὶ τῶν ἰδίων εἶναι, τῶν δὲ κοινῶν αὐ[τὸς] ἐπ[ι]μελήσεσθαι πάντων.

16

[1] Ἡ μὲν οὖν Πεισιστράτου τυραννὶς ἐξ ἀρχῆς τε κατέστη [2] τοῦτον τὸν τρόπον, καὶ μεταβολὰς ἔσχεν τοσαύτας. διῴκει δ’ ὁ Πεισίστρατος, ὥσπερ εἴρηται, τὰ περὶ τὴν πόλιν μετρίως καὶ μᾶλλον πολιτικῶς ἢ τυραννικῶς. ἔν τε γὰρ τοῖς ἄλλοις φιλάνθρωπος ἦν καὶ πρᾷος καὶ τοῖς ἁμαρτάνουσι συγγνωμονικός, καὶ δὴ καὶ τοῖς ἀ[πό]ροις προεδάνειζε χρήματα πρὸς τὰς ἐργασίας, ὥστε διατρέφεσθαι [3] γεωργοῦντας. τοῦτο δ’ ἐποίει δυοῖν χάριν, ἵνα μήτε ἐν τῷ ἄστει διατρίβωσιν, ἀλλὰ διεσπαρμένοι κατὰ τὴν χώραν, καὶ ὅπως εὐποροῦντες τῶν μετρίων καὶ πρὸς τοῖς ἰδίοις ὄντες, μήτ’ ἐπιθυμῶσι μήτε σχολάζω[σι]ν ἐπιμελεῖσθαι [4] τῶν κοινῶν. ἅμα δὲ συνέβαινεν αὐτῷ καὶ τὰς προσόδους γίγνεσθαι μείζους, ἐξεργαζομένης τῆς χώρας. ἐπράττετο [5] γὰρ ἀπὸ τῶν γιγνομένων δεκάτην. διὸ καὶ τοὺς κατὰ δήμους κατεσκεύασε δικαστάς, καὶ αὐτὸς ἐξῄει πολλάκις εἰς τὴν χώραν, ἐπισκοπῶν καὶ διαλύων τοὺς διαφερομένους, ὅπως μὴ καταβαίνοντες εἰς τὸ ἄστυ παραμελῶσι τῶν ἔργων.

[6] τοιαύτης γάρ τινος ἐξόδου τῷ Πεισιστράτῳ γιγνομένης, συμβῆναί φασι τὰ περὶ τὸν ἐν τῷ [Ὑμ]ηττῷ γεωργοῦντα τὸ κληθὲν ὕστερον χωρίον ἀτελές. ἰδὼν γάρ τινα παντελῶ[ς π]έτρας σκάπτοντα καὶ ἐργαζόμενον, διὰ τὸ θαυμάσαι τὸν παῖδα ἐκέλευσεν ἐρέσθαι, τί γίγνεται ἐκ τοῦ χωρίου. ὁ δ’ ‘ὅσα κακὰ καὶ ὀδύναι’ ἔφη, ‘καὶ τούτων τῶν κακῶν καὶ τῶν ὀδυνῶν Πεισίστρατον δεῖ λαβεῖν τὴν δεκάτην.’ ὁ μὲν οὖν ἄνθρωπος ἀπεκρίνατο ἀγνοῶν, ὁ δὲ Πεισίστρατος ἡσθεὶς διὰ τὴν παρρησίαν καὶ τὴν φιλερ[γ]ίαν [7] ἀτελῆ πάντων ἐποίησεν αὐτόν. οὐδὲν δὲ τὸ πλῆθος οὐδ’ ἐν τοῖς ἄλλοις παρώχλε[ι] κατὰ τὴν ἀρχήν, ἀλλ’ αἰεὶ παρεσκε[ύ]αζεν εἰρήνην καὶ ἐτήρει τὴν ἡσυχίαν· διὸ καὶ πολλάκ[ις ἐ]θρ[ύλλο]υν ὡς ἡ Πεισιστράτου τυραννὶς ὁ ἐπὶ Κρόν[ου] βίος εἴη· συνέβη γὰρ ὕστερον δια[δε]ξ[α]μένων [8] τῶν υἱέων πολλῷ γενέσθαι τραχυτέραν τὴν ἀρχήν. μέγιστον δὲ πάντων ἦ[ν] τῶν εἰ[ρη]μένων τὸ δημοτικὸν εἶναι τῷ ἤθει καὶ φιλάνθρωπον. ἔν τε γὰρ τοῖς ἄλλο[ις] ἐβ[ούλ]ετο πάντα διοικεῖν κατὰ τοὺς νόμους, οὐδεμίαν ἑαυτῷ πλεονεξίαν διδούς, [κ]αί [ποτ]ε προσκληθεὶς φόνου δίκην εἰς Ἄρειον πάγον, αὐτὸς μὲν ἀπήντησεν ὡς ἀπο[λο]γησόμενος, [9] ὁ δὲ προσκαλεσάμενος φοβηθεὶς ἔλιπεν. διὸ καὶ πολὺν χρόνον ἔμεινεν ‹ἐν› [τῇ ἀρ]χ[ῇ], καὶ [ὅ]τ’ ἐκπέσοι πάλιν ἀνελάμβανε

ῥᾳδίως. ἐβούλοντο γὰρ καὶ τῶν γνωρίμων καὶ τῶν δημοτικῶν οἱ πολλοί. τοὺς μὲν γὰρ ταῖς ὁμιλίαις, τοὺς δὲ ταῖς εἰς τὰ ἴδια βοηθείαις προσ[ή]γετο, [10] καὶ πρὸς ἀμφοτέρους ἐπεφύκει καλῶς. ἦσαν δὲ καὶ τοῖς Ἀθηναίοις οἱ περὶ τῶν τυράννων νόμοι πρᾳοι κατ’ ἐκείνους τοὺς καιρούς, οἵ τ’ ἄλλοι καὶ δὴ καὶ ὁ μάλιστα καθήκων πρὸς τὴν τῆς τυραννίδος ‹κατάστασιν›. νόμος γὰρ αὐτοῖς ἦν ὅδε. ‘θέσμια τάδε Ἀθηναίων καὶ πάτρια· ἐάν τινες τυραννεῖν ἐπανιστῶνται ἐπὶ τυραννίδι, ἢ συγκαθιστῇ τὴν τυραννίδα, ἄτιμον εἶναι καὶ αὐτὸν καὶ γένος.’

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[1] Πεισίστρατος μὲν οὖν ἐγκατεγήρασε τῇ ἀρχῇ, καὶ ἀπέθανε νοσήσας ἐπὶ Φιλόνεω ἄρχοντος, ἀφ’ οὗ μὲν κατέστη τὸ πρῶτον τύραννος, ἔτη τριάκοντα καὶ τρία βιώσας, ἃ δ’ [2] ἐν τῇ ἀρχῇ διέμεινεν, ἑνὸς δέοντα εἴκοσι. ἔφευγε γὰρ τὰ λοιπά. διὸ καὶ φανερῶς ληροῦσιν ‹οἱ› φάσκοντες ἐρώμενον εἶναι Πεισίστρα[τον] Σόλωνος, καὶ στρατηγεῖν ἐν τῷ πρὸς Μεγαρέας πολέμῳ περὶ Σαλαμῖνος· οὐ γὰρ ἐνδέχεται ταῖς ἡλικίαις, ἐάν τις ἀναλογίζηται τὸν ἑκατέρου [3] βίον καὶ ἐφ’ οὗ ἀπέθανεν ἄρχοντος. τελευτήσαντος δὲ Πεισιστράτου, κατεῖχον οἱ υἱεῖς τὴν ἀρχὴν, προάγοντες τὰ πράγματα τὸν αὐτὸν τρόπον. ἦσαν δὲ δύο μὲν ἐκ τῆς γαμετῆς Ἱππίας καὶ Ἵππαρχος, δύο δ’ ἐκ τῆς Ἀργείας Ἰοφῶν καὶ Ἡγησίστρατος, ᾧ παρωνύμιον ἦν Θέτταλος.

[4] ‹ἐπ›έγημεν γὰρ Πεισίστρατος ἐξ Ἄργους ἀνδρὸς Ἀργείου θυγατέρα, ᾧ ὄνομα ἦν Γοργίλος, Τιμώνασσαν, ἣν πρότερον ἔσχεν γυναῖκα Ἀρχῖνος ὁ Ἀμπρακιώτης τῶν Κυψελιδῶν. ὅθεν καὶ ἡ πρὸς τοὺς Ἀργείους ἐνέστη φιλία, καὶ συνεμαχέσαντο χίλιοι τὴν ἐπὶ Παλληνίδι μάχην, Ἡγησιστράτου κομίσαντος. γῆμαι δέ φασι τὴν Ἀργείαν οἱ μὲν ἐκπεσόντα τὸ πρῶτον, οἱ δὲ κατέχοντα τὴν ἀρχήν.

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[1] Ἦσαν δὲ κύριοι μὲν τῶν πραγμάτων διὰ τὰ ἀξιώματα καὶ διὰ τὰς ἡλικίας Ἵππαρχος καὶ Ἱππίας, πρεσβύτερος δὲ ὢν ὁ Ἱππίας καὶ τῇ φύσει πολιτικὸς καὶ ἔμφρων ἐπεστάται τῆς ἀρχῆς. ὁ δὲ Ἵππαρχος παιδιώδης καὶ ἐρωτικὸς καὶ φιλόμουσος ἦν, (καὶ τοὺς περὶ Ἀνακρέοντα καὶ Σιμωνίδην καὶ τοὺς ἄλλους ποιητὰς οὗτος ἦν ὁ μεταπεμπόμενος), [2] Θέτταλος δὲ νεώτερος πολὺ καὶ τῷ βίῳ θρασὺς καὶ ὑβριστής, ἀφ’ οὗ καὶ συνέβη τὴν ἀρχὴν αὐτοῖς γενέσθαι πάντων τῶν κακῶν. ἐρασθεὶς γὰρ τοῦ Ἁρμοδίου καὶ διαμαρτάνων τῆς πρὸς αὐτὸν φιλίας, οὐ κατεῖχε τὴν ὀργήν, ἀλλ’ ἔν τε τοῖς ἄλλοις ἐνεσημαίνετο πικρῶς, καὶ τὸ τελευταῖον μέλλουσαν αὐτοῦ τὴν ἀδελφὴν κανηφορεῖν Παναθηναίοις ἐκώλυσεν, λοιδορήσας τι τὸν Ἁρμόδιον ὡς μαλακὸν ὄντα, ὅθεν συνέβη παροξυνθέντα τὸν Ἁρμόδιον καὶ τὸν Ἀριστογείτονα πράττειν τὴν πρᾶξιν μετεχόντων πολλῶν.

[3] ἤδη δὲ παρατηροῦντες ἐν ἀκροπόλει τοῖς Παναθηναίοις Ἱππίαν (ἐτύγχανεν γὰρ οὗτος μὲν [δ]εχόμενος, ὁ δ’ Ἵππαρχος ἀποστέλλων τὴν πομπήν), ἰδόντες τινὰ τῶν κοινωνούντων τῆς πρά[ξ]εως φιλανθρώπως ἐντυγχάνοντα τῷ Ἱππίᾳ, καὶ νομίσαντες μηνύειν, βουλόμενοί τι δρᾶσαι πρὸ τῆς συλλήψεως, καταβάντες καὶ προεξαναστάντες τῶν [ἄλλω]ν, τὸν μὲν Ἵππαρχον διακοσμοῦντα τὴν πομπὴν παρὰ τὸ Λεωκόρειον ἀπέκτειναν, τὴν δ’ ὅλην ἐλυμήναντο [4] πρᾶξιν. αὐτῶν δ’ ὁ μὲν Ἁρμόδιος εὐθέως ἐτελεύτησεν ὑπὸ τῶν δορ[υ]φόρων, ὁ δ’ Ἀριστογείτων ὕστερον, συλληφθεὶς καὶ πολὺν χρόνον αἰκισθείς. κατηγόρησεν δ’ ἐν ταῖς ἀνάγκαις πολλῶν, οἳ καὶ τῇ φύσει τῶν ἐπιφανῶν καὶ φίλοι τοῖς τυράννοις ἦσαν. οὐ γὰρ ἐδύναντο παραχρῆμα λαβεῖν οὐδὲν ἴχνος τῆς πράξεως, ἀλλ’ ὁ λεγόμενος λόγος, ὡς ὁ Ἱππίας ἀποστήσας ἀπὸ τῶν ὅπλων τοὺς πομπεύοντας, ἐφώρασε τοὺς τὰ ἐγχειρίδια ἔχοντας, οὐκ ἀληθής ἐστιν· οὐ γὰρ ἔπεμπον τό‹τε› μεθ’ ὅπλων, ἀλλ’ ὕστερον [5] τοῦτο κατεσκεύασεν ὁ δῆμος. κατηγόρει δὲ τῶν τοῦ τυράννου φίλων, ὡς μὲν οἱ δημοτικοί φασιν ἐπίτηδες, ἵνα ἀσεβήσαιεν ἅμα καὶ γένοιντο ἀσθενεῖς, ἀνελόντες τοὺς ἀναιτίους καὶ φίλους ἑαυτῶν, ὡς δ’ ἔνιοι λέγουσιν οὐχὶ [6] πλαττόμενος, ἀλλὰ τοὺς συνειδότας ἐμήνυεν. καὶ τέλος ὡς οὐκ ἐδύνατο πάντα ποιῶν ἀποθανεῖν, ἐπαγγειλάμενος ὡς ἄλλους μηνύσων πολλούς, καὶ πείσας αὐτῷ τὸν Ἱππίαν δοῦναι τὴν δεξιὰν πίστεως

χάριν, ὡς ἔλαβεν ὀνειδίσας ὅτι τῷ φονεῖ τἀδελφοῦ τὴν δεξιὰν δέδωκε, οὕτω παρώξυνε τὸν Ἱππίαν, ὥσθ’ ὑπὸ τῆς ὀργῆς οὐ κατέσχεν ἑαυτόν, ἀλλὰ σπασάμενος τὴν μάχαιραν διέφθειρεν αὐτόν.

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[1] Μετὰ δὲ ταῦτα συνέβαινεν πολλῷ τραχυτέραν εἶναι τὴν τυραννίδα· καὶ γὰρ διὰ τὸ τιμωρεῖν τἀδελφῷ καὶ διὰ τὸ πολλοὺς ἀνῃρηκέναι καὶ ἐκβεβληκέναι, πᾶσιν ἦν ἄπιστος [2] καὶ πικρός. ἔτει δὲ τετάρτῳ μάλιστα μετὰ τὸν Ἱππάρχου θάνατον, ἐπεὶ κακῶς εἶχεν τὰ ἐν τῷ ἄστει, τὴν Μουνιχίαν ἐπεχείρησε τειχίζειν, ὡς ἐκεῖ μεθιδρυσόμενος. ἐν τούτοις δ’ ὢν ἐξέπεσεν ὑπὸ Κλεομένους τοῦ Λακεδαιμονίων βασιλέως, χρησμῶν γιγνομένων ἀεὶ τοῖς Λάκωσι καταλύειν τὴν [3] τυραννίδα διὰ τοιάνδ’ αἰτίαν. οἱ φυγάδες ὧν οἱ Ἀλκμεωνίδαι προειστήκεσαν, αὐτοὶ μὲν δι’ αὑτῶν οὐκ ἐδύναντο ποιήσασθαι τὴν κάθοδον, ἀλλ’ αἰεὶ προσέπταιον. ἔν τε γὰρ τοῖς ἄλλοις οἷς ἔπραττον διεσφάλλοντο, καὶ τειχίσαντες ἐν τῇ χώρᾳ Λειψύδριον τὸ ὑπὲρ Πάρνηθος, εἰς ὃ συνεξῆλθόν τινες τῶν ἐκ τοῦ ἄστεως, ἐξεπολιορκήθησαν ὑπὸ τῶν τυράννων, ὅθεν ὕστερον μετὰ ταύτην τὴν συμφορὰν ᾖδον ἐν τοῖς σκολιοῖς αἰεί·

αἰαῖ Λειψύδριον προδωσέταιρον,
οἵους ἄνδρας ἀπώλεσας, μάχεσθαι
ἀγαθούς τε καὶ εὐπατρίδας,
οἳ τότ’ ἔδειξαν οἵων πατέρων ἔσαν.

[4] ἀποτυγχάνοντες οὖν ἐν ἅπασι τοῖς ἄλλοις, ἐμισθώσαντο τὸν ἐν Δελφοῖς νεὼν οἰκοδομεῖν, ὅθεν εὐπόρησαν χρημάτων πρὸς τὴν τῶν Λακώνων βοήθειαν. ἡ δὲ Πυθία προέφερεν αἰεὶ τοῖς Λακεδαιμονίοις χρηστηριαζομένοις ἐλευθεροῦν τὰς Ἀθήνας, εἰς τοῦθ’ ἕως προύτρεψε τοὺς Σπαρτιάτας, καίπερ ὄντων ξένων αὐτοῖς τῶν Πεισιστρατιδῶν· συνεβάλλετο δὲ οὐκ ἐλάττω μοῖραν τῆς ὁρμῆς τοῖς Λάκωσιν ἡ πρὸς τοὺς Ἀργείους τοῖς Πεισιστρατίδαις ὑπάρχουσα [5] φιλία. τὸ μὲν οὖν πρῶτον Ἀγχίμολον ἀπέστειλαν κατὰ θάλατταν ἔχοντα στρατιάν· ἡττηθέντος δ’ αὐτοῦ καὶ τελευτήσαντος, διὰ τὸ Κινέαν βοηθῆσαι τὸν Θετταλὸν ἔχοντα χιλίους ἱππεῖς, προσοργισθέντες τῷ γενομένῳ, Κλεομένην ἐξέπεμψαν τὸν βασιλέα στόλον ἔχοντα μείζω κατὰ γῆν, ὃς ἐπεὶ τοὺς τῶν Θετταλῶν ἱππεῖς ἐνίκησεν, κωλύοντας αὐτὸν εἰς τὴν Ἀττικὴν παριέναι, κατακλείσας τὸν Ἱππίαν εἰς τὸ καλούμενον Πελαργικὸν τεῖχος, ἐπολιόρκει [6] μετὰ τῶν Ἀθηναίων. προσκαθημένου δ’ αὐτοῦ, συνέπεσεν ὑπεξιόντας ἁλῶναι τοὺς τῶν

Πεισιστρατιδῶν υἱεῖς. ὧν ληφθέντων ὁμολογίαν ἐπὶ τῇ τῶν παίδων σωτηρίᾳ ποιησάμενοι, καὶ τὰ ἑαυτῶν ἐν πένθ’ ἡμέραις ἐκκομισάμενοι, παρέδωκαν τὴν ἀκρόπολιν τοῖς Ἀθηναίοις ἐπὶ Ἁρπακτίδου ἄρχοντος, κατασχόντες τὴν τυραννίδα μετὰ τὴν τοῦ πατρὸς τελευτὴν ἔτη μάλιστα ἑπτακαίδεκα, τὰ δὲ σύμπαντα σὺν οἷς ὁ πατὴρ ἦρξεν ἑνὸς δεῖ πεντήκοντα.

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[1] Καταλυθείσης δὲ τῆς τυραννίδος, ἐστασίαζον πρὸς ἀλλήλους Ἰσαγόρας ὁ Τεισάνδρου φίλος ὢν τῶν τυράννων, καὶ Κλεισθένης τοῦ γένους ὢν τῶν Ἀλκμεωνιδῶν. ἡττώμενος δὲ ταῖς ἑταιρείαις ὁ Κλεισθένης, προσηγάγετο τὸν [2] δῆμον, ἀποδιδοὺς τῷ πλήθει τὴν πολιτείαν. ὁ δὲ Ἰσαγόρας ἐπιλειπόμενος τῇ δυνάμει, πάλιν ἐπικαλεσάμενος τὸν Κλεομένην ὄντα ἑαυτῷ ξένον, συνέπεισεν ἐλαύνειν τὸ ἄγος, διὰ τὸ τοὺς Ἀλκμεωνίδας δοκεῖν εἶναι τῶν ἐναγῶν.

[3] ὑπεξελθόντος δὲ τοῦ Κλεισθένους, ‹ἀφικόμενος ὁ Κλεομένης› μετ' ὀλίγων, ἡγηλάτει τῶν Ἀθηναίων ἑπτακοσίας οἰκίας. ταῦτα δὲ διαπραξάμενος, τὴν μὲν βουλὴν ἐπειρᾶτο καταλύειν, Ἰσαγόραν δὲ καὶ τριακοσίους τῶν φίλων μετ' αὐτοῦ κυρίους καθιστάναι τῆς πόλεως. τῆς δὲ βουλῆς ἀντιστάσης καὶ συναθροισθέντος τοῦ πλήθους, οἱ μὲν περὶ τὸν Κλεομένην καὶ Ἰσαγόραν κατέφυγον εἰς τὴν ἀκρόπολιν, ὁ δὲ δῆμος δύο μὲν ἡμέρας προσκαθεζόμενος ἐπολιόρκει, τῇ δὲ τρίτῃ Κλεομένην μὲν καὶ τοὺς μετ' αὐτοῦ πάντας ἀφεῖσαν ὑποσπόνδους, Κλεισθένην δὲ καὶ τοὺς ἄλλους φυγάδας μετεπέμψαντο. κατασχόντος δὲ τοῦ δήμου [4] τὰ πράγματα, Κλεισθένης ἡγεμὼν ἦν καὶ τοῦ δήμου προστάτης. αἰτιώτατοι γὰρ σχεδὸν ἐγένοντο τῆς ἐκβολῆς τῶν τυράννων οἱ Ἀλκμεωνίδαι, καὶ στασιάζοντες τὰ πολλὰ [5] διετέλεσαν. ἔτι δὲ πρότερον τῶν Ἀλκμεωνιδῶν Κήδων ἐπέθετο τοῖς τυράννοις, διὸ καὶ ᾖδον καὶ εἰς τοῦτον ἐν τοῖς σκολιοῖς·

ἔγχει καὶ Κήδωνι, διάκονε, μηδ' ἐπιλήθου,
εἰ χρὴ τοῖς ἀγαθοῖς ἀνδράσιν οἰνοχοεῖν.

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[1] Διὰ μὲν οὖν ταύτας τὰς αἰτίας ἐπίστευεν ὁ δῆμος τῷ Κλεισθένει. τότε δὲ τοῦ πλήθους προεστηκώς, ἔτει τετάρτῳ [2] μετὰ τὴν τῶν τυράννων κατάλυσιν, ἐπὶ Ἰσαγόρου ἄρχοντος, πρῶτον μὲν συνένειμε πάντας εἰς δέκα φυλὰς ἀντὶ τῶν τεττάρων, ἀναμεῖξαι βουλόμενος, ὅπως μετάσχωσι πλείους τῆς πολιτείας· ὅθεν ἐλέχθη καὶ τὸ μὴ φυλοκρινεῖν, [3] πρὸς τοὺς ἐξετάζειν τὰ γένη βουλομένους. ἔπειτα τὴν βουλὴν πεντακοσίο[υ]ς ἀντὶ τετρακοσίων κατέστησεν, πεντήκοντα ἐξ ἑκάστης φυλῆς. τότε δ’ ἦσαν ἑκατόν. διὰ τοῦτο δὲ οὐκ εἰς δώδεκα φυλὰς συνέταξεν, ὅπω[ς] αὐτῷ μὴ συμβαίνῃ μερίζειν πρὸς τὰς προϋπαρχούσας τριττῦς. ἦσαν γὰρ ἐκ δ´ φυλῶν δώδεκα τριττύες, ὥστ’ οὐ [συν]έπιπτεν [4] ‹ἂν› ἀναμίσγεσθαι τὸ πλῆθος. διένειμε δὲ καὶ τὴν χώραν κατὰ δήμους τριάκοντα μέρη, δέκα μὲν τῶν περὶ τὸ ἄστυ, δέκα δὲ τῆς παραλίας, δέκα δὲ τῆς μεσογείου, καὶ ταύτας ἐπονομάσας τριττῦς, ἐκλήρωσεν τρεῖς εἰς τὴν φυλὴν ἑκάστην, ὅπως ἑκάστη μετέχῃ πάντων τῶν τόπων. καὶ δημότας ἐποίησεν ἀλλήλων τοὺς οἰκοῦντας ἐν ἑκάστῳ τῶν δήμων, ἵνα μὴ πατρόθεν προσαγορεύοντες ἐξελέγχωσιν τοὺς νεοπολίτας, ἀλλὰ τῶν δήμων ἀναγορεύωσιν. ὅθεν [5] καὶ καλοῦσιν Ἀθηναῖοι σφᾶς αὐτοὺς τῶν δήμων. κατέστησε δὲ καὶ δημάρχους, τὴν αὐτὴν ἔχοντας ἐπιμέλειαν τοῖς πρότερον ναυκράροις. καὶ γὰρ τοὺς δήμους ἀντὶ τῶν ναυκραριῶν ἐποίησεν. προσηγόρευσε δὲ τῶν δήμων τοὺς μὲν ἀπὸ τῶν τόπων, τοὺς δὲ ἀπὸ τῶν κτισάντων· οὐ γὰρ [6] ἅπαντες ὑπῆρχον ἐν τοῖς τόποις. τὰ δὲ γένη καὶ τὰς φρατρίας καὶ τὰς ἱερωσύνας εἴασεν ἔχειν ἑκάστους κατὰ τὰ πάτρια. ταῖς δὲ φυλαῖς ἐποίησεν ἐπωνύμους ἐκ τῶν προκριθέντων ἑκατὸν ἀρχηγετῶν, οὓς ἀνεῖλεν ἡ Πυθία δέκα.

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[1] Τούτων δὲ γενομένων δημοτικωτέρα πολὺ τῆς Σόλωνος ἐγένετο ἡ πολιτεία. καὶ γὰρ συνέβη τοὺς μὲν Σόλωνος νόμους ἀφανίσαι τὴν τυραννίδα διὰ τὸ μὴ χρῆσθαι, και[ν]οὺς δ’ ἄλλους θεῖναι τὸν Κλεισθένη στοχαζόμενον τοῦ πλήθους, ἐν οἷς ἐτέθη καὶ ὁ περὶ τοῦ ὀστρακισμοῦ νόμος.

[2] πρῶτον μὲν οὖν ἔτει πέμπτῳ μετὰ ταύτην τὴν κατάστασιν, ἐφ’ Ἑρμοκρέοντος ἄρχοντος, τῇ βουλῇ τοῖς πεντακοσίοις τὸν ὅρκον ἐποίησαν, ὃν ἔτι καὶ νῦν ὀμνύουσιν. ἔπειτα τοὺς στρατηγοὺς ᾑροῦντο κατὰ φυλάς, ἐξ ἑκάστης φυλῆς ἕνα, τῆς δὲ ἁπάσης στρατιᾶς ἡγεμὼν ἦν ὁ πολέμαρχος.

[3] ἔτει δὲ μετὰ ταῦτα δωδεκάτῳ νικήσαντες τὴν ἐν Μαραθῶνι μάχην, ἐπὶ Φαινίππου ἄρχοντος, διαλιπόντες ἔτη δύο μετὰ τὴν νίκην, θαρροῦντος ἤδη τοῦ δήμου, τότε πρῶτον ἐχρήσαντο τῷ νόμῳ τῷ περὶ τὸν ὀστρακισμόν, ὃς ἐτέθη διὰ τὴν ὑποψίαν τῶν ἐν ταῖς δυνάμεσιν, ὅτι Πεισίστρατος [4] δημαγωγὸς καὶ στρατηγὸς ὢν τύραννος κατέστη. καὶ πρῶτος ὠστρακίσθη τῶν ἐκείνου συγγενῶν Ἵππαρχος Χάρμου Κολλυτεύς, δι’ ὃν καὶ μάλιστα τὸν νόμον ἔθηκεν ὁ Κλεισθένης, ἐξελάσαι βουλόμενος αὐτόν. οἱ γὰρ Ἀθηναῖοι τοὺς τῶν τυράννων φίλους, ὅσοι μὴ συνεξαμαρτάνοιεν ἐν ταῖς ταραχαῖς, εἴων οἰκεῖν τὴν πόλιν, χρώμενοι τῇ εἰωθυίᾳ τοῦ δήμου πρᾳότητι· ὧν ἡγεμὼν καὶ προστάτης [5] ἦν Ἵππαρχος. εὐθὺς δὲ τῷ ὑστέρῳ ἔτει, ἐπὶ Τελεσίνου ἄρχοντος, ἐκυάμευσαν τοὺς ἐννέα ἄρχοντας κατὰ φυλὰς ἐκ τῶν προκριθέντων ὑπὸ τῶν δήμων πεντακοσίων, τότε μετὰ τὴν τυραννίδα πρῶτον. οἱ δὲ πρότεροι πάντες ἦσαν αἱρετοί. καὶ ὠστρακίσθη Μεγακλῆς Ἱπποκράτους Ἀλωπεκῆθεν.

[6] ἐπὶ μὲν οὖν ἔτη γ´ τοὺς τῶν τυράννων φίλους ὠστράκιζον, ὧν χάριν ὁ νόμος ἐτέθη, μετὰ δὲ ταῦτα τῷ τετάρτῳ ἔτει καὶ τῶν ἄλλων εἴ τις δοκοίη μείζων εἶναι μεθίσταντο· καὶ πρῶτος ὠστρακίσθη τῶν ἄπωθεν τῆς [7] τυραννίδος Ξάνθιππος ὁ Ἀρίφρονος. ἔτει δὲ τρίτῳ μετὰ ταῦτα Νικοδήμου ἄρχοντος, ὡς ἐφάνη τὰ μέταλλα τὰ ἐν Μαρωνείᾳ, καὶ περιεγένετο τῇ πόλει τάλαντα ἑκατὸν ἐκ τῶν ἔργων, συμβουλευόντων τινῶν τῷ δήμῳ διανείμασθαι τὸ ἀργύριον, Θεμιστοκλῆς ἐκώλυσεν, οὐ λέγων ὅ τι χρήσεται τοῖς χρήμασιν, ἀλλὰ δανεῖσαι κελεύων τοῖς πλουσιωτάτοις Ἀθηναίων ἑκατὸν ἑκάστῳ τάλαντον, εἶτ’ ἐὰν μὲν ἀρέσκῃ τὸ ἀνάλωμα, τῆς πόλεως εἶναι τὴν δαπάνην, εἰ

δὲ μή, κομίσασθαι τὰ χρήματα παρὰ τῶν δανεισαμένων. λαβὼν δ’ ἐπὶ τούτοις ἐναυπηγήσατο τριήρεις ἑκατόν, ἑκάστου ναυπηγουμένου τῶν ἑκατὸν μίαν, αἷς ἐναυμάχησαν ἐν Σαλαμῖνι πρὸς τοὺς βαρβάρους. ὠστρακίσθη δ’ ἐν τούτοις [8] τοῖς καιροῖς Ἀριστείδης ὁ Λυσιμάχου. τετάρτῳ δ’ ἔτει κατεδέξαντο πάντας τοὺς ὠστρακισμένους ἄρχοντος Ὑψηχίδου, διὰ τὴν Ξέρξου στρατείαν· καὶ τὸ λοιπὸν ὥρισαν τοῖς ὀστρακιζομένοις, ἐντὸς Γεραιστοῦ καὶ Σκυλλαίου κατοικεῖν, ἢ ἀτίμους εἶναι καθάπαξ.

23

[1] Τότε μὲν οὖν μέχρι τούτου προῆλθεν ἡ πόλις, ἅμα τῇ δημοκρατίᾳ κατὰ μικρὸν αὐξανομένη· μετὰ δὲ τὰ Μηδικὰ πάλιν ἴσχυσεν ἡ ἐν Ἀρείῳ πάγῳ βουλὴ καὶ διῴκει τὴν πόλιν, οὐδενὶ δόγματι λαβοῦσα τὴν ἡγεμονίαν, ἀλλὰ διὰ τὸ γενέσθαι τῆς περὶ Σαλαμῖνα ναυμαχίας αἰτία. τῶν γὰρ στρατηγῶν ἐξαπορησάντων τοῖς πράγμασι, καὶ κηρυξάντων σῴ[ζ]ειν ἕκαστον ἑαυτόν, πορίσασα δραχμὰς ἑκάστῳ [2] ὀκτὼ διέδωκε καὶ ἐνεβίβασεν εἰς τὰς ναῦς. διὰ ταύτην δὴ τὴν αἰτίαν παρεχώρουν αὐτῆς τῷ ἀξιώματι, καὶ ἐπολιτεύθησαν Ἀθηναῖοι καλῶς καὶ κατὰ τούτους τοὺς καιρούς. συνέβη γὰρ αὐτοῖς κατὰ τὸν χρόνον τοῦτον τά τε περὶ τὸν πόλεμον ἀσκῆσαι, καὶ παρὰ τοῖς Ἕλλησιν εὐδοκιμῆσαι, καὶ τὴν τῆς θαλάττης ἡγεμονίαν λαβεῖν, ἀκόντων [3] Λακεδαιμονίων. ἦσαν δὲ προστάται τοῦ δήμου κατὰ τούτους τοὺς καιροὺς Ἀριστείδης ὁ Λυσιμάχου καὶ Θεμιστοκλῆς ὁ Νεοκλέους, ὁ μὲν τὰ πολέμια δοκῶν, ὁ δὲ τὰ πολιτικὰ δεινὸς εἶναι καὶ δικαιοσύνῃ τῶν καθ’ ἑαυτὸν διαφέρειν· διὸ καὶ ἐχρῶντο τῷ μὲν στρατηγῷ, τῷ δὲ συμβούλῳ.

[4] τὴν μὲν οὖν τῶν τειχῶν ἀνοικοδόμησιν κοινῇ διῴκησαν, καίπερ διαφερόμενοι πρὸς ἀλλήλους, ἐπὶ δὲ τὴν ἀπόστασιν τὴν τῶν Ἰώνων ἀπὸ τῆς τῶν Λακεδαιμονίων συμμαχίας Ἀριστείδης ἦν ὁ προτρέψας, τηρήσας τοὺς Λάκωνας διαβεβλημένους [5] διὰ Παυσανίαν. διὸ καὶ τοὺς φόρους οὗτος ἦν ὁ τάξας ταῖς πόλεσιν τοὺς πρώτους, ἔτει τρίτῳ μετὰ τὴν ἐν Σαλαμῖνι ναυμαχίαν, ἐπὶ Τιμοσθένους ἄρχοντος, καὶ τοὺς ὅρκους ὤμοσεν τοῖς Ἴωσ[ιν], ὥστε τὸν αὐτὸν ἐχθρὸν εἶναι καὶ φίλον, ἐφ’ οἷς καὶ τοὺς μύδρους ἐν τῷ πελάγει καθεῖσαν.

24

[1] Μετὰ δὲ ταῦτα θαρρούσης ἤδη τῆς πόλεως, καὶ χρημάτων ἠθροισμένων πολλῶν, συνεβούλευεν ἀντιλαμβάνεσθαι τῆς ἡγεμονίας, καὶ καταβάντας ἐκ τῶν ἀγρῶν οἰκεῖν ἐν τῷ ἄστει· τροφὴν γὰρ ἔσεσθαι πᾶσι, τοῖς μὲν στρατευομένοις, τοῖς δὲ φρουροῦσι, τοῖς δὲ τὰ κοινὰ πράττουσι· [2] εἶθ’ οὕτω κατασχήσειν τὴν ἡγεμονίαν. πεισθέντες δὲ ταῦτα καὶ λαβόντες τὴν ἀρχὴν τοῖς τε συμμάχοις δεσποτικωτέρως ἐχρῶντο, πλὴν Χίων καὶ Λεσβίων καὶ Σαμίων· (τούτους δὲ φύλακας εἶχον τῆς ἀρχῆς, ἐῶντες τάς τε πολιτείας [3] παρ’ αὐτοῖς καὶ ἄρχειν ὧν ἔτυχον ἄρχοντες.) κατέστησαν δὲ καὶ τοῖς πολλοῖς εὐπορίαν τροφῆς, ὥσπερ Ἀριστείδης εἰσηγήσατο. συνέβαινεν γὰρ ἀπὸ τῶν φόρων καὶ τῶν τελῶν καὶ τῶν συμμάχων πλείους ἢ δισμυρίους ἄνδρας τρέφεσθαι. δικασταὶ μὲν γὰρ ἦσαν ἑξακισχίλιοι, τοξόται δ’ ἑξακόσιοι καὶ χίλιοι, καὶ πρὸς τούτοις ἱππεῖς χίλιοι καὶ διακόσιοι, βουλὴ δὲ πεντακόσιοι, καὶ φρουροὶ νεωρίων πεντακόσιοι, καὶ πρὸς τούτοις ἐν τῇ πόλει φρουροὶ ν΄, ἀρχαὶ δ’ ἔνδημοι μὲν εἰς ἑπτακοσίους ἄνδρας, ὑπερόριοι δ’ εἰς ἑπτακοσίους· πρὸς δὲ τούτοις ἐπεὶ συνεστήσαντο τὸν πόλεμον ὕστερον, ὁπλῖται μὲν δισχίλιοι καὶ πεντακόσιοι, νῆες δὲ φρουρίδες εἴκοσι, ἄλλαι δὲ νῆες αἱ τοὺς φόρους ἄγουσαι τοὺς ἀπὸ τοῦ κυάμου δισχιλίους ἄνδρας. ἔτι δὲ πρυτανεῖον καὶ ὀρφανοὶ καὶ δεσμωτῶν φύλακες· ἅπασι γὰρ τούτοις ἀπὸ τῶν κοινῶν ἡ διοίκησις ἦν.

25

[1] Ἡ μὲν οὖν τροφὴ τῷ δήμῳ διὰ τούτων ἐγίγνετο. ἔτη δὲ ἑπτακαίδεκα μάλιστα μετὰ τὰ Μηδικὰ διέμεινεν ἡ πολιτεία προεστώτων τῶν Ἀρεοπαγιτῶν, καίπερ ὑποφερομένη κατὰ μικρόν. αὐξανομένου δὲ τοῦ πλήθους, γενόμενος τοῦ δήμου προστάτης Ἐφιάλτης ὁ Σοφωνίδου, δοκῶν καὶ ἀδωροδόκητος εἶναι καὶ δίκαιος πρὸς τὴν πολιτείαν, [2] ἐπέθετο τῇ βουλῇ. καὶ πρῶτον μὲν ἀνεῖλεν πολλοὺς τῶν Ἀρεοπαγιτῶν, ἀγῶνας ἐπιφέρων περὶ τῶν διῳκημένων. ἔπειτα τῆς βουλῆς ἐπὶ Κόνωνος ἄρχοντος ἅπαντα περιεῖλε τὰ ἐπίθετα δι᾽ ὧν ἦν ἡ τῆς πολιτείας φυλακή, καὶ τὰ μὲν τοῖς πεντακοσίοις, τὰ δὲ τῷ δήμῳ καὶ τοῖς [3] δικαστηρίοις ἀπέδωκεν. ἔπρα[ξ]ε δὲ ταῦτα συναιτίου γενομένου Θεμιστοκλέους, ὃς ἦν μὲν τῶν Ἀρεοπαγιτῶν, ἔμελλε δὲ κρίνεσθαι μηδισμοῦ. βουλόμενος δὲ καταλυθῆναι τὴν βουλὴν ὁ Θεμιστοκλῆς πρὸς μὲν τὸν Ἐφιάλτην ἔλεγεν ὅτι συναρπάζειν αὐτὸν ἡ βουλὴ μέλλει, πρὸς δὲ τοὺς Ἀρεοπαγίτας, ὅτι δείξει τινὰς συνισταμένους ἐπὶ καταλύσει τῆς πολιτείας. ἀγαγὼν δὲ τοὺς αἱρεθέντας τῆς βουλῆς οὗ διέτριβεν ὁ Ἐφιάλτης, ἵνα δείξῃ τοὺς ἀθροιζομένους, διελέγετο [4] μετὰ σπουδῆς αὐτοῖς. ὁ δ᾽ Ἐφιάλτης ὡς εἶδεν καταπλαγείς, καθίζει μονοχίτων ἐπὶ τὸν βωμόν. θαυμασάντων δὲ πάντων τὸ γεγον[ός], καὶ μετὰ ταῦτα συναθροισθείσης τῆς βουλῆς τῶν πεντακοσίων, κατηγόρουν τῶν Ἀρεοπαγιτῶν ὅ τ᾽ Ἐφιάλτης καὶ ‹ὁ› Θεμιστοκλῆς, καὶ πάλιν ἐν τῷ δήμῳ τὸν αὐτὸν τρόπον, ἕως περιείλοντο αὐτῶν τὴν δύναμιν. καὶ ἀνῃρέθη δὲ καὶ ὁ Ἐφιάλτης δολοφονηθεὶς μετ᾽ οὐ πολὺν χρόνον δι᾽ Ἀριστοδίκου τοῦ Ταναγραίου.

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[1] Ἡ μὲν οὖν τῶν Ἀρεοπαγιτῶν βουλὴ τοῦτον τὸν τρόπον ἀπεστερήθη τῆς ἐπιμελείας. μετὰ δὲ ταῦτα συνέβαινεν ἀνίεσθαι μᾶλλον τὴν πολιτείαν διὰ τοὺς προθύμως δημαγωγοῦντας. κατὰ γὰρ τοὺς καιροὺς τούτους συνέπεσε μηδ’ ἡγεμόνα ἔχειν τοὺς ἐπιεικεστέρους, ἀλλ’ αὐτῶν προεστάναι Κίμωνα τὸν Μιλτιάδου, νεώτερον ὄντα καὶ πρὸς τὴν πόλιν ὀψὲ προσελθόντα, πρὸς δὲ τούτοις ἐφθάρθαι τοὺς πολλοὺς κατὰ πόλεμον. τῆς γὰρ στρατείας γιγνομένης ἐν τοῖς τότε χρόνοις ἐκ καταλόγου, καὶ στρατηγῶν ἐφισταμένων ἀπείρων μὲν τοῦ πολεμεῖν, τιμωμένων δὲ διὰ τὰς πατρικὰς δόξας, αἰεὶ συνέβαινεν τῶν ἐξιόντων ἀνὰ δισχιλίους ἢ τρισχιλίους ἀπόλλυσθαι, ὥστε ἀναλίσκεσθαι τοὺς ἐπιεικεῖς καὶ [2] τοῦ δήμου καὶ τῶν εὐπόρων. τὰ μὲν οὖν ἄλλα πάντα διῴκουν οὐχ ὁμοίως καὶ πρότερον τοῖς νόμοις προσέχοντες, τὴν δὲ τῶν ἐννέα ἀρχόντων αἵρεσιν οὐκ ἐκίνουν, ἀλλ’ ἕκτῳ ἔτει μετὰ τὸν Ἐφιάλτου θάνατον ἔγνωσαν καὶ ἐκ ζευγιτῶν προκρίνεσθαι τοὺς κληρωσομένους τῶν ἐννέα ἀρχόντων, καὶ πρῶτος ἦρξεν ἐξ αὐτῶν Μνησιθείδης. οἱ δὲ πρὸ τούτου πάντες ἐξ ἱππέων καὶ πεντακοσιομεδίμνων ἦσαν (οἱ ‹δὲ› ζευγῖται τὰς ἐγκυκλίους ἦρχον), εἰ μή τι παρεωρᾶτο [3] τῶν ἐν τοῖς νόμοις. ἔτει δὲ πέμπτῳ μετὰ ταῦτα ἐπὶ Λυσικράτους ἄρχοντος οἱ τριάκοντα δικασταὶ κατέστησαν πάλιν οἱ καλούμενοι κατὰ δήμους. καὶ τρίτῳ μετὰ τοῦτον ἐπὶ Ἀντιδότου διὰ τὸ πλῆθος τῶν πολιτῶν Περικλέους εἰπόντος ἔγνωσαν μὴ μετέχειν τῆς πόλεως, ὃς ἂν μὴ ἐξ ἀμφοῖν ἀστοῖν ᾖ γεγονώς.

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[1] Μετὰ δὲ ταῦτα πρὸς τὸ δημαγωγεῖν ἐλθόντος Περικλέους, καὶ πρῶτον εὐδοκιμήσαντος, ὅτε κατηγόρησε τὰς εὐθύνας Κίμωνος στρατηγοῦντος νέος ὤν, δημοτικωτέραν ἔτι συνέβη γενέσθαι τὴν πολιτείαν. καὶ γὰρ τῶν Ἀρεοπαγιτῶν ἔνια παρείλετο, καὶ μάλιστα προύτρεψεν τὴν πόλιν ἐπὶ τὴν ναυτικὴν δύναμιν, ἐξ ἧς συνέβη θαρρήσαντας τοὺς πολλοὺς ἅπασαν τὴν πολιτείαν μᾶλλον ἄγειν εἰς αὑτούς.

[2] μετὰ δὲ τὴν ἐν Σαλαμῖνι ναυμαχίαν ἑνὸς δεῖ πεντηκοστῷ ἔτει, ἐπὶ Πυθοδώρου ἄρχοντος, ὁ πρὸς Πελοποννησίους ἐνέστη πόλεμος, ἐν ᾧ κατακλεισθεὶς ὁ δῆμος ἐν τῷ ἄστει, καὶ συνεθισθεὶς ἐν ταῖς στρατείαις μισθοφορεῖν, τὰ μὲν ἑκὼν τὰ δὲ ἄκων προῃρεῖτο τὴν πολιτείαν διοικεῖν αὐτός.

[3] ἐποίησε δὲ καὶ μισθοφόρα τὰ δικαστήρια Περικλῆς πρῶτος, ἀντιδημαγωγῶν πρὸς τὴν Κίμωνος εὐπορίαν. ὁ γὰρ Κίμων ἅτε τυραννικὴν ἔχων οὐσίαν, πρῶτον μὲν τὰς κοινὰς λῃτουργίας ἐλῃτούργει λαμπρῶς, ἔπειτα τῶν δημοτῶν ἔτρεφε πολλούς. ἐξῆν γὰρ τῷ βουλομένῳ Λακιαδῶν, καθ’ ἑκάστην τὴν ἡμέραν ἐλθόντι παρ’ αὐτὸν ἔχειν τὰ μέτρια. ἔτι δὲ τὰ χωρία πάντα ἄφρακτα ἦν, ὅπως ἐξῇ τῷ βουλομένῳ [4] τῆς ὀπώρας ἀπολαύειν. πρὸς δὴ ταύτην τὴν χορηγίαν ἐπιλειπόμενος ὁ Περικλῆς τῇ οὐσίᾳ, συμβουλεύσαντος αὐτῷ Δαμωνίδου τοῦ Οἴηθεν (ὃς ἐδόκει τῶν πολλῶν εἰσηγητὴς εἶναι τῷ Περικλεῖ· διὸ καὶ ὠστράκισαν αὐτὸν ὕστερον), ἐπεὶ τοῖς ἰδίοις ἡττᾶτο, διδόναι τοῖς πολλοῖς τὰ αὑτῶν, κατεσκεύασε μισθοφορὰν τοῖς δικαστηρίοις· ἀφ’ ὧν αἰτιῶνταί τινες χείρω γενέσθαι, κληρουμένων ἐπιμελῶς ἀεὶ μᾶλλον τῶν τυχόντων ἢ τῶν ἐπιεικῶν ἀνθρώπων. ἤρξατο [5] δὲ μετὰ ταῦτα καὶ τὸ δεκάζειν, πρώτου καταδείξαντος Ἀνύτου μετὰ τὴν ἐν Πύλῳ στρατηγίαν. κρινόμενος γὰρ ὑπό τινων διὰ τὸ ἀποβαλεῖν Πύλον, δεκάσας τὸ δικαστήριον ἀπέφυγεν.

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[1] Ἕως μὲν οὖν Περικλῆς προειστήκει τοῦ δήμου, βελτίω τὰ κατὰ τὴν πολιτείαν ἦν, τελευτήσαντος δὲ Περικλέους πολὺ χείρω. πρῶτον γὰρ τότε προστάτην ἔλαβεν ὁ δῆμος οὐκ εὐδοκιμοῦντα παρὰ τοῖς ἐπιεικέσιν· ἐν δὲ τοῖς πρότερον [2] χρόνοις ἀεὶ διετέλουν οἱ ἐπιεικεῖς δημαγωγοῦντες. ἐξ ἀρχῆς μὲν γὰρ καὶ πρῶτος ἐγένετο προστάτης τοῦ δήμου Σόλων, δεύτερος δὲ Πεισίστρατος, τῶν εὐγενῶν καὶ γνωρίμων· καταλυθείσης δὲ τῆς τυραννίδος Κλεισθένης, τοῦ γένους ὢν τῶν Ἀλκμεωνιδῶν, καὶ τούτῳ μὲν οὐδεὶς ἦν ἀντιστασιώτης, ὡς ἐξέπεσον οἱ περὶ τὸν Ἰσαγόραν. μετὰ δὲ ταῦτα τοῦ μὲν δήμου προειστήκει Ξάνθιππος, τῶν δὲ γνωρίμων Μιλτιάδης, ἔπειτα Θεμιστοκλῆς καὶ Ἀριστείδης· μετὰ δὲ τούτους Ἐφιάλτης μὲν τοῦ δήμου, Κίμων δ’ ὁ Μιλτιάδου τῶν εὐπόρων· εἶτα Περικλῆς μὲν τοῦ δήμου, [3] Θουκυδίδης δὲ τῶν ἑτέρων, κηδεστὴς ὢν Κίμωνος. Περικλέους δὲ τελευτήσαντος, τῶν μὲν ἐπιφανῶν προειστήκει Νικίας ὁ ἐν Σικελίᾳ τελευτήσας, τοῦ δὲ δήμου Κλέων ὁ Κλεαινέτου, ὃς δοκεῖ μάλιστα διαφθεῖραι τὸν δῆμον ταῖς ὁρμαῖς, καὶ πρῶτος ἐπὶ τοῦ βήματος ἀνέκραγε καὶ ἐλοιδορήσατο, καὶ περιζωσάμενος ἐδημηγόρησε, τῶν ἄλλων ἐν κόσμῳ λεγόντων. εἶτα μετὰ τούτους τῶν μὲν ἑτέρων Θηραμένης ὁ Ἅγνωνος, τοῦ δὲ δήμου Κλεοφῶν ὁ λυροποιός, ὃς καὶ τὴν διωβελίαν ἐπόρισε πρῶτος· καὶ χρόνον μέν τινα διεδίδου, μετὰ δὲ ταῦτα κατέλυσε Καλλικράτης Παιανιεύς, πρῶτος ὑποσχόμενος ἐπιθήσειν πρὸς τοῖν δυοῖν ὀβολοῖν ἄλλον ὀβολόν. τούτων μὲν οὖν ἀμφοτέρων θάνατον κατέγνωσαν ὕστερον· εἴωθεν γὰρ κἂν ἐξαπατηθῇ τὸ πλῆθος ὕστερον μισεῖν τούς τι προαγαγόντας [4] ποιεῖν αὐτοὺς τῶν μὴ καλῶς ἐχόντων. ἀπὸ δὲ Κλεοφῶντος ἤδη διεδέχοντο συνεχῶς τὴν δημαγωγίαν οἱ μάλιστα βουλόμενοι θρασύνεσθαι καὶ χαρίζεσθαι τοῖς πολλοῖς [5] πρὸς τὸ παραυτίκα βλέποντες. δοκοῦσι δὲ βέλτιστοι γεγονέναι τῶν Ἀθήνησι πολιτευσαμένων μετὰ τοὺς ἀρχαίους Νικίας καὶ Θουκυδίδης καὶ Θηραμένης. καὶ περὶ μὲν Νικίου καὶ Θουκυδίδου πάντες σχεδὸν ὁμολογοῦσιν ἄνδρας γεγονέναι οὐ μόνον καλοὺς κἀγαθούς, ἀλλὰ καὶ πολιτικοὺς καὶ τῇ πόλει πάσῃ πατρικῶς χρωμένους, περὶ δὲ Θηραμένους, διὰ τὸ συμβῆναι κατ’ αὐτὸν ταραχώδεις τὰς πολιτείας, ἀμφισβήτησις τῆς κρίσεώς ἐστι. δοκεῖ μέντοι μὴ παρέργως ἀποφαινομένοις οὐχ ὥσπερ αὐτὸν διαβάλλουσι πάσας

τὰς πολιτείας καταλύειν, ἀλλὰ πάσας προάγειν ἕως μηδὲν παρανομοῖεν, ὡς δυνάμενος πολιτεύεσθαι κατὰ πάσας, ὅπερ ἐστὶν ἀγαθοῦ πολίτου ἔργον, παρανομούσαις δὲ οὐ συγχω[ρ]ῶν, ἀλλ’ ἀπεχθανόμενος.

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[1] Ἕως μὲν οὖν ἰσόρροπα τὰ πράγματα κατὰ τὸν πόλεμον ἦν, διεφύλαττον τὴν δημοκρατίαν. ἐπεὶ δὲ μετὰ τὴν ἐν Σικελίᾳ γενομένην συμφορὰν ἰσχυρότερα τὰ τῶν Λακεδαιμονίων ἐγένετο διὰ τὴν πρὸς βασιλέα συμμαχίαν, ἠναγκάσθησαν κι[νήσα]ντες τὴν δημοκρατίαν καταστῆσαι τὴν ἐπὶ τῶν τετρακοσίων πολιτείαν, εἰπόντος τὸν μὲν πρὸ τοῦ ψηφίσματος λόγον Μηλοβίου, τὴν δὲ γνώμην γράψαντος Πυθοδώρου το[ῦ Ἀναφλ]υ[ς]τίου, μάλιστα δὲ συμπεισθέντων τῶν πολλῶν διὰ τὸ νομίζειν βασιλέα μᾶ[λ]λον ἑαυτοῖς συμπολεμήσειν, ἐὰν δι’ ὀλίγων ποιήσωνται τὴν πολιτείαν.

[2] ἦν δὲ τὸ ψήφισμα τὸ Πυθοδώρου τοιόνδε· τὸν δῆμον ἑλέσθαι μετὰ τῶν προϋπαρχόντων δέκα προβούλων ἄλλους εἴκοσι ἐκ τῶν ὑπὲρ τετταράκοντα ἔτη γεγονότων, οἵτινες ὀμόσαντες ἦ μὴν συγγράψειν ἃ ἂν ἡγῶνται βέλτιστα [3] εἶναι τῇ πόλει, συγγράψουσι περὶ τῆς σωτηρίας· ἐξεῖναι δὲ καὶ τῶν ἄλλων τῷ βουλομένῳ γράφειν, ἵν’ ἐξ ἁπάντων αἱρῶνται τὸ ἄριστον. Κλειτοφῶν δὲ τὰ μὲν ἄλλα καθάπερ Πυθόδωρος εἶπεν, προσαναζητῆσαι δὲ τοὺς αἱρεθέντας ἔγραψεν καὶ τοὺς πατρίους νόμους, οὓς Κλεισθένης ἔθηκεν ὅτε καθίστη τὴν δημοκρατίαν, ὅπως ‹ἂν› ἀκούσαντες καὶ τούτων βουλεύσωνται τὸ ἄριστον, ὡς οὐ δημοτικὴν ἀλλὰ παραπλησίαν οὖσαν τὴν Κλεισθένους πολιτείαν [4] τῇ Σόλωνος. οἱ δ’ αἱρεθέντες πρῶτον μὲν ἔγραψαν ἐπάναγκες εἶναι τοὺς πρυτάνεις ἅπαντα τὰ λεγόμενα περὶ τῆς σωτηρίας ἐπιψηφίζειν, ἔπειτα τὰς τῶν παρανόμων γραφὰς καὶ τὰς εἰσαγγελίας καὶ τὰς προσκλήσεις ἀνεῖλον, ὅπως ἂν οἱ ἐθέλοντες Ἀθηναίων συμβουλεύωσι περὶ τῶν προκειμένων. ἐὰν δέ τις τούτων χάριν ἢ ζημιοῖ ἢ προσκαλῆται ἢ εἰσάγῃ εἰς δικαστήριον, ἔνδειξιν αὐτοῦ εἶναι καὶ ἀπαγωγὴν πρὸς τοὺς στρατηγούς, τοὺς δὲ στρατηγοὺς [5] παραδοῦναι τοῖς ἕνδεκα θανάτῳ ζημιῶσαι. μετὰ δὲ ταῦτα τὴν πολιτείαν διέταξαν τόνδε ‹τὸν› τρόπον. τὰ μὲν χρήματα ‹τὰ› προσιόντα μὴ ἐξεῖναι ἄλλοσε δαπανῆσαι ἢ εἰς τὸν πόλεμον, τὰς δ’ ἀρχὰς ἀμίσθους ἄρχειν ἁπάσας ἕως ἂν ὁ πόλεμος ᾖ, πλὴν τῶν ἐννέα ἀρχόντων καὶ τῶν πρυτάνεων οἳ ἂν ὦσιν· τούτους δὲ φέρειν τρεῖς ὀβολοὺς ἕκαστον τῆς ἡμέρας. τὴν δ’ ἄλλην πολιτείαν ἐπιτρέψαι πᾶσαν Ἀθηναίων τοῖς δυνατωτάτοις καὶ τοῖς σώμασιν καὶ τοῖς χρήμασιν λῃτουργεῖν, μὴ ἔλαττον ἢ πεντακισχιλίοις, ἕως ἂν ὁ πόλεμος ᾖ. κυρίους δ’ εἶναι τούτους καὶ συνθήκας συντίθεσθαι πρὸς οὓς ἂν

ἐθέλωσιν. ἑλέσθαι δὲ καὶ τῆς φυλῆς ἑκάστης δέκα ἄνδρας ὑπὲρ τετταράκοντα ἔτη γεγονότας, οἵτινες καταλέξουσι τοὺς πεντακισχιλίους ὀμόσαντες καθ’ ἱερῶν τελείων.

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[1] Οἱ μὲν οὖν αἱρεθέντες ταῦτα συνέγραψαν. κυρωθέντων δὲ τούτων, εἵλοντο σφῶν αὐτῶν οἱ πεντακισχίλιοι τοὺς ἀναγράψοντας τὴν πολιτείαν ἑκατὸν ἄνδρας. οἱ δ’ αἱρεθέντες [2] ἀνέγραψαν καὶ ἐξήνεγκαν τάδε· βουλεύειν μὲν κατ’ ἐνιαυτὸν τοὺς ὑπὲρ τριάκοντα ἔτη γεγονότας ἄνευ μισθοφορᾶς· τούτων δ’ εἶναι τοὺς στρατηγοὺς καὶ τοὺς ἐννέα ἄρχοντας καὶ τὸν ἱερομνήμονα καὶ τοὺς ταξιάρχους καὶ ἱππάρχους καὶ φυλάρχους καὶ ἄρχοντας εἰς τὰ φρούρια καὶ ταμίας τῶν ἱερῶν χρημάτων τῇ θε[ῷ] καὶ τοῖς ἄλλοις θεοῖς δέκα καὶ ἑλληνοταμίας καὶ τῶν ἄλλων ὁσίων χρημάτων ἁπάντων εἴκοσιν οἳ διαχειριοῦσιν, καὶ ἱεροποιοὺς καὶ ἐπιμελητὰς δέκα ἑκατέρους· αἱρεῖσθαι δὲ πάντας τούτους ἐκ προκρίτων, ἐκ τῶν ἀεὶ βουλευόντων πλείους προκρίνοντας· τὰς δ’ ἄλλας ἀρχὰς ἁπάσας κληρωτὰς εἶναι καὶ μὴ ἐκ τῆς βουλῆς. τοὺς δὲ ἑλληνοταμίας οἳ ἂν διαχειρίζωσι [3] τὰ χρήματα μὴ συμβουλεύειν. βουλὰς δὲ ποιῆσαι τέτταρας ἐκ τῆς ἡλικίας τῆς εἰρημένης εἰς τὸν λοιπὸν χρόνον, καὶ τούτων τὸ λαχὸν μέρος βουλεύειν, νεῖμαι δὲ καὶ τοὺς ἄλλους πρὸς τὴν λῆξιν ἑκάστην. τοὺς δ’ ἑκατὸν ἄνδρας διανεῖμαι σφᾶς τε αὐτοὺς καὶ τοὺς ἄλλους τέτταρα [4] μέρη ὡς ἰσαίτατα καὶ διακληρῶσαι καὶ εἰς ἐνιαυτὸν βουλεύειν. ‹βουλεύεσθαι› δὲ ᾗ ἂν δοκῇ αὐτοῖς ἄριστα ἕξειν περί τε τῶν χρημάτων, ὅπως ἂν σῷα ᾖ καὶ εἰς τὸ δέον ἀναλίσκηται, καὶ περὶ τῶν ἄλλων ὡς ἂν δύνωνται ἄριστα· κἄν τι θέλωσιν βουλεύσασθαι μετὰ πλειόνων, ἐπεισκαλεῖν ἕκαστον ἐπείσκλητον ὃν ἂν ἐθέλῃ τῶν ἐκ τῆς αὐτῆς ἡλικίας. τὰς δ’ ἕδρας ποιεῖν τῆς βουλῆς κατὰ πενθήμερον, ἐὰν μὴ δέωνται πλειόνων. πληροῦν δὲ τὴν βουλὴν τοὺς ἐννέα ἄρχοντας. τὰς δὲ χειροτονίας κρίνειν πέντε τοὺς λαχόντας ἐκ τῆς βουλῆς, καὶ ἐκ τούτων ἕνα κληροῦσθαι [5] καθ’ ἑκάστην ἡμέραν τὸν ἐπιψηφιοῦντα. κληροῦν δὲ τοὺς λαχόντας πέντε τοὺς ἐθέλοντας προσελθεῖν ἐναντίον τῆς βουλῆς, πρῶτον μὲν ἱερῶν, δεύτερον δὲ κήρυξιν, τρίτον πρεσβείαις, τέταρτον τῶν ἄλλων· τὰ δὲ τοῦ πολέμου ὅταν δέῃ ἀκληρωτὶ προσαγαγόντας τοὺς στρατηγοὺς χρηματίζεσθαι.

[6] τὸν δὲ μὴ ἰόντα εἰς τὸ βουλευτήριον τῶν βουλευόντων τὴν ὥραν τὴν προρρηθεῖσαν ὀφείλειν δραχμὴν τῆς ἡμέρας ἑκάστης, ἐὰν μὴ εὑρισκόμενος ἄφεσιν τῆς βουλῆς ἀπῇ.

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[1] Ταύτην μὲν οὖν εἰς τὸν μέλλοντα χρόνον ἀνέγραψαν τὴν πολιτείαν, ἐν δὲ τῷ παρόντι καιρῷ τήνδε· βουλεύειν μὲν τετρακοσίους κατὰ τὰ πάτρια, τετταράκοντα ἐξ ἑκάστης φυλῆς, ἐκ προκρίτων [ο]ὓς ἂν ἕλωνται οἱ φυλέται τῶν ὑπὲρ τριάκοντα ἔτη γεγονότων. τούτους δὲ τάς τε ἀρχὰς καταστῆσαι, καὶ περὶ τοῦ ὅρκου ὅντινα χρὴ ὀμόσαι γράψαι, ‹καὶ› περὶ τῶν νόμων καὶ τῶν εὐθυ[νῶ]ν καὶ τῶν ἄλλων [2] πράττειν ᾗ ἂν ἡγῶνται συμφέρειν. τοῖς δὲ νόμοις οἳ ἂν τεθῶσιν περὶ τῶν πολιτικῶν χρῆσθαι, καὶ μὴ ἐξεῖναι μετακινεῖν μηδ’ ἑτέρους θέσθαι. τῶν δὲ στρατηγῶν τὸ νῦν εἶναι τὴν αἵρεσιν ἐξ ἁπάντων ποιεῖσθαι τῶν πεντακισχιλίων, τὴν δὲ βουλὴν ἐπειδὰν καταστῇ, ποιήσασαν ἐξέτασιν ‹ἐν› ὅπλοις ἑλέσθαι δέκα ἄνδρας καὶ γραμματέα τούτοις, τοὺς δὲ αἱρεθέντας ἄρχειν τὸν εἰσιόντα ἐνιαυτὸν αὐτοκράτορας, καὶ ἄν τι δέωνται συμβουλεύεσθαι μετὰ τῆς βουλῆς.

[3] ἑλέσθαι δὲ καὶ ἵππαρχον ἕνα καὶ φυλάρχους δέκα. τὸ δὲ λοιπὸν τὴν αἵρεσιν ποιεῖσθαι τούτων τὴν βουλὴν κατὰ τὰ γεγραμμένα. τῶν δ’ ἄλλων ἀρχῶν πλὴν τῆς βουλῆς καὶ τῶν στρατηγῶν μὴ ἐξεῖναι μήτε τούτοις μήτε ἄλλῳ μηδενὶ πλέον ἢ ἅπαξ ἄρξαι τὴν αὐτὴν ἀρχήν. εἰς δὲ τὸν ἄλλον χρόνον ἵνα νεμηθῶσιν οἱ τετρακόσιοι εἰς τὰς τέτταρας λήξεις, ὅταν τοῖς αὐτοῖς γίγνηται μετὰ τῶν ἄλλων βουλεύειν, διανειμάντων αὐτοὺς οἱ ἑκατὸν ἄνδρες.

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[1] Οἱ μὲν οὖν ἑκατὸν οἱ ὑπὸ τῶν πεντακισχιλίων αἱρεθέντες ταύτην ἀνέγραψαν τὴν πολιτείαν. ἐπικυρωθέντων δὲ τούτων ὑπὸ τοῦ πλήθους, ἐπιψηφίσαντος Ἀριστομάχου, ἡ μὲν βουλὴ ‹ἡ› ἐπὶ Καλλίου πρὶν διαβουλεῦσαι κατελύθη μηνὸς Θαργηλιῶνος τετράδι ἐπὶ δέκα, οἱ δὲ τετρακόσιοι εἰσῄεσαν ἐνάτῃ φθίνοντος Θαργηλιῶνος· ἔδει δὲ τὴν εἰληχυῖαν τῷ κυάμῳ βουλὴν εἰσιέναι δ´ ἐπὶ δέκα Σκιροφοριῶνος.

[2] ἡ μὲν οὖν ὀλιγαρχία τοῦτον κατέστη τὸν τρόπον, ἐπὶ Καλλίου μὲν ἄρχοντος, ἔτεσιν δ’ ὕστερον τῆς τῶν τυράννων ἐκβολῆς μάλιστα ἑκατὸν, αἰτίων μάλιστα γενομένων Πεισάνδρου καὶ Ἀντιφῶντος καὶ Θηραμένους, ἀνδρῶν καὶ γεγενημένων εὖ καὶ συνέσει καὶ γνώμῃ δοκούντων διαφέρειν.

[3] γενομένης δὲ ταύτης τῆς πολιτείας, οἱ μὲν πεντακισχίλιοι λόγῳ μόνον ᾑρέθησαν, οἱ δὲ τετρακόσιοι μετὰ τῶν δέκα τῶν αὐτοκρατόρων εἰσελθόντες εἰς τὸ βουλευτήριον ἦρχον τῆς πόλεως, καὶ πρὸς Λακεδαιμονίους πρεσβευσάμενοι κατελύοντο τὸν πόλεμον, ἐφ’ οἷς ἑκάτεροι τυγχάνουσιν ἔχοντες· οὐχ ὑπακουόντων δ’ ἐκείνων, εἰ μὴ καὶ τὴν ἀρχὴν τῆς θαλάττης ἀφήσουσιν, οὕτως ἀπέστησαν.

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[1] Μῆνας μὲν οὖν ἴσως τέτταρας διέμεινεν ἡ τῶν τετρακοσίων πολιτεία, καὶ ἦρξεν ἐξ αὐτῶν Μνησίλοχος δίμηνον ἐπὶ Θεοπόμπου ἄρχοντος, ‹ὃς› ἦρξε τοὺς ἐπιλοίπους δέκα μῆνας. ἡττηθέντες δὲ τῇ περὶ Ἐρέτριαν ναυμαχίᾳ, καὶ τῆς Εὐβοίας ἀποστάσης ὅλης πλὴν Ὠρεοῦ, χαλεπῶς ἐνεγκόντες ἐπὶ τῇ συμφορᾷ μάλιστα τῶν προγεγενημένων (πλείω γὰρ ἐκ τῆς Εὐβοίας ἢ τῆς Ἀττικῆς ἐτύγχανον ὠφελούμενοι), κατέλυσαν τοὺς τετρακοσίους, καὶ τὰ πράγματα παρέδωκαν τοῖς πεντακισχιλίοις τοῖς ἐκ τῶν ὅπλων, [2] ψηφισάμενοι μηδεμίαν ἀρχὴν εἶναι μισθοφόρον. αἰτιώτατοι δ’ ἐγένοντο τῆς καταλύσεως Ἀριστοκράτης καὶ Θηραμένης, οὐ συναρεσκόμενοι τοῖς ὑπὸ τῶν τετρακοσίων γιγνομένοις. ἅπαντα γὰρ δι’ αὑτῶν ἔπραττον, οὐδὲν ἐπαναφέροντες τοῖς πεντακισχιλίοις. δοκοῦσι δὲ καλῶς πολιτευθῆναι κατὰ τούτους τοὺς καιρούς, πολέμου τε καθεστῶτος καὶ ἐκ τῶν ὅπλων τῆς πολιτείας οὔσης.

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[1] Τούτους μὲν οὖν ἀφείλετο τὴν πολιτείαν ὁ δῆμος διὰ τάχους. ἔτει δ’ ἕκτῳ μετὰ τὴν τῶν τετρακοσίων κατάλυσιν, ἐπὶ Καλλίου τοῦ Ἀγγελῆθεν ἄρχοντος, γενομένης τῆς ἐν Ἀργινούσσαις ναυμαχίας, πρῶτον μὲν τοὺς δέκα στρατηγοὺς τοὺς τῇ ναυμαχίᾳ νικῶντας συνέβη κριθῆναι μιᾷ χειροτονίᾳ πάντας, τοὺς μὲν οὐδὲ συνναυμαχήσαντας, τοὺς δ’ ἐπ’ ἀλλοτρίας νεὼς σωθέντας, ἐξαπατηθέντος τοῦ δήμου διὰ τοὺς παροργίσαντας· ἔπειτα βουλομένων Λακεδαιμονίων ἐκ Δεκελείας ἀπιέναι καὶ ἐφ’ οἷς ἔχουσιν ἑκάτεροι εἰρήνην ἄγειν, ἔνιοι μὲν ἐσπούδαζον, τὸ δὲ πλῆθος οὐχ ὑπήκουσεν ἐξαπατηθέντες ὑπὸ Κλεοφῶντος, ὃς ἐκώλυσε γενέσθαι τὴν εἰρήνην, ἐλθὼν εἰς τὴν ἐκκλησίαν μεθύων καὶ θώρακα ἐνδεδυκώς, οὐ φάσκων ἐπιτρέψειν ἐὰν [2] μὴ πάσας ἀφῶσι Λακεδαιμόνιοι τὰς πόλεις. οὐ χρησάμενοι δὲ καλῶς τότε τοῖς πράγμασι, μετ’ οὐ πολὺν χρόνον ἔγνωσαν τὴν ἁμαρτίαν. τῷ γὰρ ὕστερον ἔτει, ἐπ’ Ἀλεξίου ἄρχοντος, ἠτύχησαν τὴν ἐν Αἰγὸς ποταμοῖς ναυμαχίαν, ἐξ ἧς συνέβη κύριον γενόμενον τῆς πόλεως Λύσανδρον [3] καταστῆσαι τοὺς τριάκοντα τρόπῳ τοιῷδε. τῆς εἰρήνης γενομένης αὐτοῖς ἐφ’ ᾧ τε πολιτεύσονται τὴν πάτριον πολιτείαν, οἱ μὲν δημοτικοὶ διασῴζειν ἐπειρῶντο τὸν δῆμον, τῶν δὲ γνωρίμων οἱ μὲν ἐν ταῖς ἑταιρείαις ὄντες, καὶ τῶν φυγάδων οἱ μετὰ τὴν εἰρήνην κατελθόντες ὀλιγαρχίας ἐπεθύμουν, οἱ δ’ ἐν ἑταιρείᾳ μὲν οὐδεμιᾷ συγκαθεστῶτες, [ἄ]λλως δὲ δοκοῦντες οὐδενὸς ἐπιλείπεσθαι τῶν πολιτῶν, τὴν πάτριον πολιτείαν ἐζήτουν· ὧν ἦν μὲν καὶ Ἀρχῖνος καὶ Ἄνυτος καὶ Κλειτοφῶν καὶ Φορμίσιος καὶ ἕτεροι πολλοί, προειστήκει δὲ μάλιστα Θηραμένης. Λυσάνδρου δὲ προσθεμένου τοῖς ὀλιγαρχικοῖς, καταπλαγεὶς ὁ δῆμος ἠναγκάσθη χειροτονεῖν τὴν ὀλιγαρχίαν. ἔγραψε δὲ τὸ ψήφισμα Δρακοντίδης Ἀφιδναῖος.

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[1] Οἱ μὲν οὖν τριάκοντα τοῦτον τὸν τρόπον κατέστησαν ἐπὶ Πυθοδώρου ἄρχοντος. γενόμενοι δὲ κύριοι τῆς πόλεως, τὰ μὲν ἄλλα τὰ δόξαντα περὶ τῆς πολιτείας παρεώρων, πεντακοσίους δὲ βουλευτὰς καὶ τὰς ἄλλας ἀρχὰς καταστήσαντες ἐκ προκρίτων ἐκ τῶν χιλίων, καὶ προσελόμενοι σφίσιν αὐτοῖς τοῦ Πειραιέως ἄρχοντας δέκα, καὶ τοῦ δεσμωτηρίου φύλακας ἕνδεκα, καὶ μαστιγοφόρους τριακοσίους [2] ὑπηρέτας κατεῖχον τὴν πόλιν δι’ ἑαυτῶν. τὸ μὲν οὖν πρῶτον μέτριοι τοῖς πολίταις ἦσαν καὶ προσεποιοῦντο διώκειν τὴν πάτριον πολιτείαν, καὶ τούς τ’ Ἐφιάλτου καὶ Ἀρχεστράτου νόμους τοὺς περὶ τῶν Ἀρεοπαγιτῶν καθεῖλον ἐξ Ἀρείου πάγο[υ], καὶ τῶν Σόλωνος θεσμῶν ὅσοι διαμφισβητήσεις ἔσχον, καὶ τὸ κῦρος ὃ ἦν ἐν τοῖς δικασταῖς κατέλυσαν, ὡς ἐπανορθοῦντες καὶ ποιοῦντες ἀναμφισβήτητον τὴν πολιτείαν, οἷον ‹τὸν› περὶ τοῦ δοῦναι τὰ ἑαυτοῦ ᾧ ἂν ἐθέλῃ κύριον ποιήσαντες καθάπαξ· τὰς δὲ προσούσας δυσκολίας, ‘ἐὰν μὴ μανιῶν ἢ γηρῶν ἢ γυναικὶ πιθόμενος’, ἀφεῖλον ὅπως μὴ ᾖ τοῖς συκοφάνταις ἔφοδος· [3] ὁμοίως δὲ τοῦτ’ ἔδρων καὶ ἐπὶ τῶν ἄλλων. κατ’ ἀρχὰς μὲν οὖν ταῦτ’ ἐποίουν, καὶ τοὺς συκοφάντας καὶ τοὺς τῷ δήμῳ πρὸς χάριν ὁμιλοῦντας παρὰ τὸ βέλτιστον καὶ κακοπράγμονας ὄντας καὶ πονηροὺς ἀνῄρουν, ἐφ’ οἷς ἔχαιρεν ἡ πόλις γιγνομένοις, ἡγούμενοι τοῦ βελτίστου χάριν ποιεῖν [4] αὐτούς. ἐπεὶ δὲ τὴν πόλιν ἐγκρατέστερον ἔσχον, οὐδενὸς ἀπείχοντο τῶν πολιτῶν, ἀλλ’ ἀπέκτειναν τοὺς καὶ ταῖς οὐσίαις καὶ τῷ γένει καὶ τοῖς ἀξιώμασιν προέχοντας, ὑπεξαιρούμενοί τε τὸν φόβον καὶ βουλόμενοι τὰς οὐσίας διαρπάζειν. καὶ χρόνου διαπεσόντος βραχέος, οὐκ ἐλάττους ἀνῃρήκεσαν ἢ χιλίους πεντακοσίους.

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[1] Οὕτως δὲ τῆς πόλεως ὑποφερομένης, Θηραμένης ἀγανακτῶν ἐπὶ τοῖς γιγνομένοις, τῆς μὲν ἀσελγείας αὐτοῖς παρῄνει παύσασθαι, μεταδοῦναι δὲ τῶν πραγμάτων τοῖς βελτίστοις. οἱ δὲ πρῶτον ἐναντιωθέντες, ἐπεὶ διεσπάρησαν οἱ λόγοι πρὸς τὸ πλῆθος καὶ πρὸς τὸν Θηραμένην οἰκείως εἶχον οἱ πολλοί, φοβηθέντες μὴ προστάτης γενόμενος τοῦ δήμου καταλύσῃ τὴν δυναστείαν, καταλέγουσιν τῶν πολιτῶν [2] τρισχιλίους, ὡς μεταδώσοντες τῆς πολιτείας. Θηραμένης δὲ πάλιν ἐπιτιμᾷ καὶ τούτοις, πρῶτον μὲν ὅτι βουλόμενοι μεταδοῦναι τοῖς ἐπιεικέσι τρισχιλίοις μόνοις μεταδιδόασι, ὡς ἐν τούτῳ τῷ πλήθει τῆς ἀρετῆς ὡρισμένης, ἔπειθ’ ὅτι δύο τὰ ἐναντιώτατα ποιοῦσιν, βίαιόν τε τὴν ἀρχὴν καὶ τῶν ἀρχομένων ἥττω κατασκευάζοντες. οἱ δὲ τούτων μὲν ὠλιγώρησαν, τὸν δὲ κατάλογον τῶν τρισχιλίων πολὺν μὲν χρόνον ὑπερεβάλλοντο καὶ παρ’ αὑτοῖς ἐφύλαττον τοὺς ἐγνωσμένους, ὅτε δὲ καὶ δόξειεν αὐτοῖς ἐκφέρειν, τοὺς μὲν ἐξήλειφον τῶν ‹ἐγ›γεγραμμένων, τοὺς δ’ ἀντενέγραφον τῶν ἔξωθεν.

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[1] Ἤδη δὲ τοῦ χειμῶνος ἐνεστῶτος, καταλαβόντος Θρασυβούλου μετὰ τῶν φυγάδων Φυλήν, καὶ κατὰ τὴν στρατιὰν ἣν ἐξήγαγον οἱ τριάκοντα κακῶς ἀποχωρήσαντες, ἔγνωσαν τῶν μὲν ἄλλων τὰ ὅπλα παρελέσθαι, Θηραμένην δὲ διαφθεῖραι τόνδε ‹τὸν› τρόπον· νόμους εἰσήνεγκαν εἰς τὴν βουλὴν δύο κελεύοντες ἐπιχειροτονεῖν, ὧν ὁ μὲν εἷς αὐτοκράτορας ἐποίει τοὺς τριάκοντα, τῶν πολιτῶν ἀποκτεῖναι τοὺς μὴ τοῦ καταλόγου μετέχοντας τῶν τρισχιλίων, ὁ δ’ ἕτερος ἐκώλυε κοινωνεῖν τῆς παρούσης πολιτείας, ὅσοι τυγχάνουσιν τὸ ἐν Ἠετιωνείᾳ τεῖχος κατασκάψαντες, ἢ τοῖς τετρακοσίοις ἐναντίον τι πράξαντες ἢ τοῖς κατασκευάσασι τὴν προτέραν ὀλιγαρχίαν· ὧν ἐτύγχανεν ἀμφοτέρων κεκοινωνηκὼς ὁ Θηραμένης, ὥστε συνέβαινεν ἐπικυρωθέντων τῶν νόμων, ἔξω τε γίγνεσθαι τῆς πολιτείας αὐτόν, καὶ τοὺς τριάκοντα κυρίους εἶναι θανατοῦντας.

[2] ἀναιρεθέντος δὲ Θηραμένους, τά τε ὅπλα παρείλοντο πάντων πλὴν τῶν τρισχιλίων, καὶ ἐν τοῖς ἄλλοις πολὺ πρὸς ὠμότητα καὶ πονηρίαν ἐπέδοσαν. πρέσβεις ‹δὲ› πέμψαντες εἰς Λακεδαίμονα τοῦ τε Θηραμένους κατηγόρουν, καὶ βοηθεῖν αὑτοῖς ἠξίουν. ὧν ἀκούσαντες οἱ Λακεδαιμόνιοι Καλλίβιον ἀπέστειλαν ἁρμοστὴν καὶ στρατιώτας ὡς ἑπτακοσίους, οἳ τὴν ἀκρόπολιν ἐλθόντες ἐφρούρουν.

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[1] Μετὰ δὲ ταῦτα καταλαβόντων τῶν ἀπὸ Φυλῆς τὴν Μουνιχίαν, καὶ νικησάντων μάχῃ τοὺς μετὰ τῶν τριάκοντα βοηθήσαντας, ἐπαναχωρήσαντες μετὰ τὸν κίνδυνον οἱ ἐκ τοῦ ἄστεως, καὶ συναθροισθέντες εἰς τὴν ἀγορὰν τῇ ὑστεραίᾳ τοὺς μὲν τριάκοντα κατέλυσαν, αἱροῦνται δὲ δέκα τῶν πολιτῶν αὐτοκράτορας ἐπὶ τὴν τοῦ πολέμου κατάλυσιν. οἱ δὲ παραλαβόντες τὴν ἀρχήν, ἐφ’ οἷς μὲν ᾑρέθησαν οὐκ ἔπραττον, ἔπεμπον δ’ εἰς Λακεδαίμονα βοήθειαν μεταπεμπόμενοι [2] καὶ χρήματα δανειζόμενοι. χαλεπῶς δὲ φερόντων ἐπὶ τούτοις τῶν ἐν τῇ πολιτείᾳ, φοβούμενοι μὴ καταλυθῶσιν τῆς ἀρχῆς, καὶ βουλόμενοι καταπλῆξαι τοὺς ἄλλους (ὅπερ ἐγένετο), συλλαβόντες [Δ]ημάρετον οὐδενὸς ὄντα δεύτερον τῶν πολιτῶν ἀπέκτειναν, καὶ τὰ πράγματα βεβαίως εἶχον, συναγωνιζομένου Καλλιβίου τε καὶ τῶν Πελοποννησίων τῶν παρόντων, καὶ πρὸς τούτοις ἐνίων τῶν ἐν τοῖς ἱππεῦσι· τούτων γάρ τινες μάλιστα τῶν πολιτῶν [3] ἐσπούδαζον μὴ κατελθεῖν τοὺς ἀπὸ Φυλῆς. ὡς δ’ οἱ τὸν Πειραιέα καὶ τὴν Μουνιχίαν ἔχοντες, ἀποστάντος ἅπαντος τοῦ δήμου πρὸς αὐτούς, ἐπεκράτουν τῷ πολέμῳ, τότε καταλύσαντες τοὺς δέκα τοὺς πρώτους αἱρεθέντας ἄλλους εἵλοντο δέκα τοὺς βελτίστους εἶναι δοκοῦντας, ἐφ’ ὧν συνέβη καὶ τὰς διαλύσεις γενέσθαι καὶ κατελθεῖν τὸν δῆμον, συναγωνιζομένων καὶ προθυμουμένων τούτων. προειστήκεσαν δ’ αὐτῶν μάλιστα Ῥίνων τε ὁ Παιανιεὺς καὶ Φάυλλος ὁ Ἀχερδούσιος· οὗτοι γὰρ πρίν τε Παυσανίαν τ’ ἀφικέσθαι διεπέμποντο πρὸς τοὺς ἐν Πειραιεῖ, καὶ [4] ἀφικομένου συνεσπούδασαν τὴν κάθοδον. ἐπὶ πέρας γὰρ ἤγαγε τὴν εἰρήνην καὶ τὰς διαλύσεις Παυσανίας ὁ τῶν Λακεδαιμονίων βασιλεύς, μετὰ τῶν δέκα διαλλακτῶν τῶν ὕστερον ἀφικομένων ἐκ Λακεδαίμονος, οὓς αὐτὸς ἐσπούδασεν ἐλθεῖν· οἱ δὲ περὶ τὸν Ῥίνωνα διά τε τὴν εὔνοιαν τὴν εἰς τὸν δῆμον ἐπῃνέθησαν, καὶ λαβόντες τὴν ἐπιμέλειαν ἐν ὀλιγαρχίᾳ, τὰς εὐθύνας ἔδοσαν ἐν δημοκρατίᾳ, καὶ οὐδεὶς οὐδὲν ἐνεκάλεσεν αὐτοῖς, οὔτε τῶν ἐν ἄστει μεινάντων, οὔτε τῶν ἐκ Πειραιέως κατελθόντων, ἀλλὰ διὰ ταῦτα καὶ στρατηγὸς εὐθὺς ᾑρέθη Ῥίνων.

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[1] Ἐγένοντο δ’ αἱ διαλύσεις ἐπ’ Εὐκλείδου ἄρχοντος κατὰ τὰς συνθήκας τάσδε. τοὺς βουλομένους Ἀθηναίων τῶν ἐν ἄστει μεινάντων ἐξοικεῖν ἔχειν Ἐλευσῖνα ἐπιτίμους ὄντας καὶ κυρίους καὶ αὐτοκράτορας ἑαυτῶν καὶ τὰ αὑτῶν [2] καρπουμένους. τὸ δ’ ἱερὸν εἶναι κοινὸν ἀμφοτέρων, ἐπιμελεῖσθαι δὲ Κήρυκας καὶ Εὐμολπίδας κατὰ τὰ πάτρια. μὴ ἐξεῖναι δὲ μήτε τοῖς Ἐλευσινόθεν εἰς τὸ ἄστυ μήτε τοῖς ἐκ τοῦ ἄστεως Ἐλευσῖνάδε ἰέναι, πλὴν μυστηρίοις ἑκατέρους. συντελεῖν δὲ ἀπὸ τῶν προσιόντων εἰς τὸ συμμαχικὸν [3] καθάπερ τοὺς ἄλλους Ἀθηναίους. ἐὰν δέ τινες τῶν ἀπιόντων οἰκίαν λαμβάνωσιν Ἐλευσῖνι, συμπείθειν τὸν κεκτημένον. ἐὰν δὲ μὴ συμβαίνωσιν ἀλλήλοις, τιμητὰς ἑλέσθαι τρεῖς ἑκάτερον, καὶ ἥντιν’ ἂν οὗτοι τάξωσιν τιμὴν λαμβάνειν. Ἐλευσινίων δὲ συνοικεῖν οὓς ἂν οὗτοι βούλωνται.

[4] τὴν δ’ ἀπογραφὴν εἶναι τοῖς βουλομένοις ἐξοικεῖν, τοῖς μὲν ἐπιδημοῦσιν ἀφ’ ἧς ἂν ὀμόσωσιν τοὺς ὅρκους δ[έκ]α ἡμερῶν, τὴν δ’ ἐξοίκησιν εἴκοσι, τοῖς δ’ ἀποδημοῦσιν [5] ἐπειδὰν ἐπιδημήσωσιν κατὰ ταὐτά. μὴ ἐξεῖναι δὲ ἄρχειν μηδεμίαν ἀρχὴν τῶν ἐν τῷ ἄστει τὸν Ἐλευσῖνι κατοικοῦντα, πρὶν ἂν ἀπογράψηται πάλιν ἐν τῷ ἄστει κατοικεῖν. τὰς δὲ δίκας τοῦ φόνου εἶναι κατὰ τὰ πάτρια, εἴ τίς τινα αὐτοχειρίᾳ ἔκτεινεν ἢ ἔτρωσεν.

[6] τῶν δὲ παρεληλυθότων μηδενὶ πρὸς μηδένα μνησικακεῖν ἐξεῖναι, πλὴν πρὸς τοὺς τριάκοντα καὶ τοὺς δέκα καὶ τοὺς ἕνδεκα καὶ τοὺς τοῦ Πειραιέως ἄρξαντας, μηδὲ πρὸς τούτους, ἐὰν διδῶσιν εὐθύνας. εὐθύνας δὲ δοῦναι τοὺς μὲν ἐν Πειραιεῖ ἄρξαντας ἐν τοῖς ἐν Πειραιεῖ, τοὺς δ’ ἐν τῷ ἄστει ἐν τοῖς τὰ τιμήματα παρεχομένοις. εἶθ’ οὕτως ἐξοικεῖν τοὺς ἐθέλοντας. τὰ δὲ χρήματα ἃ ἐδανείσαντο εἰς τὸν πόλεμον ἑκατέρους ἀποδοῦναι χωρίς.

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[1] Γενομένων δὲ τοιούτων τῶν διαλύσεων, καὶ φοβουμένων, ὅσοι μετὰ τῶν τριάκοντα συνεπολέμησαν, καὶ πολλῶν μὲν ἐπινοούντων ἐξοικεῖν, ἀναβαλλομένων δὲ τὴν ἀπογραφὴν εἰς τὰς ἐσχάτας ἡμέρας, ὅπερ εἰώθασιν ποιεῖν ἅπαντες, Ἀρχῖνος συνιδὼν τὸ πλῆθος καὶ βουλόμενος κατασχεῖν αὐτούς, ὑφεῖλε τὰς ὑπολοίπους ἡμέρας τῆς ἀπογραφῆς, ὥστε συναναγκασθῆναι μένειν πολλοὺς ἄκοντας, [2] ἕως ἐθάρρησαν. καὶ δοκεῖ τοῦτό τε πολιτεύσασθαι καλῶς Ἀρχῖνος, καὶ μετὰ ταῦτα γραψάμενος τὸ ψήφισμα τὸ Θρασυβούλου παρανόμων, ἐν ᾧ μετεδίδου τῆς πολιτείας πᾶσι τοῖς ἐκ Πειραιέως συγκατελθοῦσι, ὧν ἔνιοι φανερῶς ἦσαν δοῦλοι, καὶ τρίτον, ἐπεί τις ἤρξατο τῶν κατεληλυθότων μνησικακεῖν, ἀπαγαγὼν τοῦτον ἐπὶ τὴν βουλὴν καὶ πείσας ἄκριτον ἀποκτεῖναι, λέγων ὅτι νῦν δείξουσιν, εἰ βούλονται τὴν δημοκρατίαν σῴζειν καὶ τοῖς ὅρκοις ἐμμένειν· ἀφέντας μὲν γὰρ τοῦτον προτρέψειν καὶ τοὺς ἄλλους, ἐὰν δ’ ἀνέλωσιν, παράδειγμα ποιήσειν ἅπασιν. ὅπερ καὶ συνέπεσεν· ἀποθανόντος γὰρ οὐδεὶς πώποτε ὕστερον ἐμνησικάκησεν, ἀλλὰ δοκοῦσιν κάλλιστα δὴ καὶ πολιτικώτατα ἁπάντων καὶ ἰδίᾳ καὶ κοινῇ χρήσασθαι ταῖς προγεγενημέναις [3] συμφοραῖς· οὐ γὰρ μόνον τὰς περὶ τῶν προτέρων αἰτίας ἐξήλειψαν, ἀλλὰ καὶ τὰ χρήματα Λακεδαιμονίοις, ἃ οἱ τριάκοντα πρὸς τὸν πόλεμον ἔλαβον, ἀπέδοσαν κοινῇ, κελευουσῶν τῶν συνθηκῶν ἑκατέρους ἀποδιδόναι χωρίς, τούς τ’ ἐκ τοῦ ἄστεως καὶ τοὺς ἐκ τοῦ Πειραιέως, ἡγούμενοι τοῦτο πρῶτον ἄρχειν δεῖν τῆς ὁμονοίας· ἐν δὲ ταῖς ἄλλαις πόλεσιν οὐχ οἷον ἔτι προστιθέασιν τῶν οἰκείων οἱ δῆμοι κρατήσαντες, ἀλλὰ καὶ τὴν χώραν ἀνάδαστον [4] ποιοῦσιν. διελύθησαν δὲ καὶ πρὸς τοὺς ἐν Ἐλευσῖνι [κατο]ικήσαντας, ἔτει τρίτῳ μετὰ τὴν ἐξοίκησιν, ἐπὶ Ξε[ναι]νέτου ἄρχοντος.

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[1] Ταῦτα μὲν οὖν ἐν τοῖς ὕστε[ρο]ν συνέβη γενέσθαι καιροῖς, τότε δὲ κύριος ὁ δῆμος γενόμενος τῶν πραγμάτων, ἐνεστήσατο τὴν νῦν οὖσαν πολιτείαν, ἐπὶ Πυθοδώρου μὲν ἄρχοντος δοκοῦντος δὲ δικαίως τοῦ δήμου λαβεῖν τὴν π[ο]λιτείαν, διὰ τὸ ποιήσασθαι τὴν κάθοδον δι’ αὑτοῦ τὸν [2] δῆμον. ἦν δὲ τῶν μεταβολῶν ἑνδεκάτη τὸν ἀριθμὸν αὕτη. πρώτη μὲν γὰρ ἐγένετο μετάστασις τῶν ἐξ ἀρχῆς Ἴωνος καὶ τῶν μετ’ αὐτοῦ συνοικησάντων· τότε γὰρ πρῶτον εἰς τὰς τέτταρας συνενεμήθησαν φυλάς, καὶ τοὺς φυλοβασιλέας κατέστησαν. δευτέρα δὲ καὶ πρώτη μετὰ ταύτη[ν] ἔχουσά τι πολιτείας τάξις ἡ ἐπὶ Θησέως γενομένη, μικρὸν παρεγκλίνουσα τῆς βασιλικῆς. μετὰ δὲ ταύτην ἡ ἐπὶ Δράκοντος, ἐν ᾗ καὶ νόμους ἀνέγραψαν πρῶτον. τρίτη δ’ ἡ μετὰ τὴν στάσιν ἡ ἐπὶ Σόλωνος, ἀφ’ ἧς ἀρχὴ δημοκρατίας ἐγένετο. τετάρτη δ’ ἡ ἐπὶ Πεισιστράτου τυραννίς. πέμπτη δ’ ἡ μετὰ ‹τὴν› τῶν τυράννων κατάλυσιν ἡ Κλεισθένους, δημοτικωτέρα τῆς Σόλωνος. ἕκτη δ’ ἡ μετὰ τὰ Μηδικά, τῆς ἐξ Ἀρείου πάγου βουλῆς ἐπιστατούσης. ἑβδόμη δὲ ἡ μετὰ ταύτην, ἣν Ἀριστείδης μὲν ὑπέδειξεν, Ἐφιάλτης δ’ ἐπετέλεσεν, καταλύσας τὴν Ἀρεοπαγῖτιν βουλήν· ἐν ᾗ πλεῖστα συνέβη τὴν πόλιν διὰ τοὺς δημαγωγοὺς ἁμαρτάνειν διὰ τὴν τῆς θαλάττης ἀρχήν. ὀγδόη δ’ ἡ τῶν τετρακοσίων κατάστασις, καὶ ‹ἡ› μετὰ ταύτην, ἐνάτη δέ, ἡ δημοκρατία πάλιν. δεκάτη δ’ ἡ τῶν τριάκοντα καὶ ἡ τῶν δέκα τυραννίς. ἑνδεκάτη δ’ ἡ μετὰ τὴν ἀπὸ Φυλῆς καὶ ἐκ Πειραιέως κάθοδον, ἀφ’ ἧς διαγεγένηται μέχρι τῆς νῦν, ἀεὶ προσεπιλαμβάνουσα τῷ πλήθει τὴν ἐξουσίαν. ἁπάντων γὰρ αὐτὸς αὑτὸν πεποίηκεν ὁ δῆμος κύριον, καὶ πάντα διοικεῖται ψηφίσμασιν καὶ δικαστηρίοις, ἐν οἷς ὁ δῆμός ἐστιν ὁ κρατῶν. καὶ γὰρ αἱ τῆς βουλῆς κρίσεις εἰς τὸν δῆμον ἐληλύθασιν. καὶ τοῦτο δοκοῦσι ποιεῖν ὀρθῶς· εὐδιαφθορώτεροι γὰρ ὀλίγοι τῶν πολλῶν εἰσιν καὶ κέρδει [3] καὶ χάρισιν. μισθοφόρον δ’ ἐκκλησίαν τὸ μὲν πρῶτον ἀπέγνωσαν ποιεῖν· οὐ συλλεγομένων δ’ εἰς τὴν ἐκκλησίαν, ἀλλὰ πολλὰ σοφιζομένων τῶν πρυτάνεων, ὅπως προσιστῆται τὸ πλῆθος πρὸς τὴν ἐπικύρωσιν τῆς χειροτονίας, πρῶτον μὲν Ἀγύρριος ὀβολὸν ἐπόρισεν, μετὰ δὲ τοῦτον Ἡρακλείδης ὁ Κλαζομένιος ὁ βασιλεὺς ἐπικαλούμενος διώβολον, πάλιν δ’ Ἀγύρριος τριώβολον.

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[1] Ἔχει δ’ ἡ νῦν κατάστασις τῆς πολιτείας τόνδε τὸν τρόπον. μετέχουσιν μὲν τῆς πολιτείας οἱ ἐξ ἀμφοτέρων γεγονότες ἀστῶν, ἐγγράφονται δ’ εἰς τοὺς δημότας ὀκτωκαίδεκα ἔτη γεγονότες. ὅταν δ’ ἐγγράφωνται, διαψηφίζονται περὶ αὐτῶν ὀμόσαντες οἱ δημόται, πρῶτον μὲν εἰ δοκοῦσι γεγονέναι τὴν ἡλικίαν τὴν ἐκ τοῦ νόμου, κἂν μὴ δόξωσι, ἀπέρχονται πάλιν εἰς παῖδας, δεύτερον δ’ εἰ ἐλεύθερός ἐστι καὶ γέγονε κατὰ τοὺς νόμους. ἔπειτ’ ἂν μὲν ἀποψηφίσωνται μὴ εἶναι ἐλεύθερον, ὁ μὲν ἐφίησιν εἰς τὸ δικαστήριον, οἱ δὲ δημόται κατηγόρους αἱροῦνται πέντε [ἄν]δρας ἐξ αὑτῶν, κἂν μὲν μὴ δόξῃ δικαίως ἐγγράφεσθαι, πωλεῖ τοῦτον ἡ πόλις· ἐὰν δὲ νικήσῃ, τοῖς [δ]ημόταις ἐπάναγκες [2] ἐγγράφειν. μετὰ δὲ ταῦτα δ[οκ]ιμάζει τοὺς ἐγγραφέντας ἡ βουλή, κἄν τις δόξ[ῃ] νεώτερος ὀκτωκαίδεκ’ ἐτῶν εἶναι, ζημιοῖ τ[ο]ὺς δημότας τοὺς ἐγγράψαντας. ἐπὰν δὲ δοκιμασθῶσιν οἱ ἔφηβοι, συλλεγέντες οἱ πατέρες αὐτῶν [κ]ατὰ φυλάς, ὀμόσαντες αἱροῦνται τρεῖς ἐκ τῶν φυλετῶν τῶν ὑπὲρ τετταράκοντα ἔτη γεγονότων, οὓς ἂν ἡγῶνται βελτίστους εἶναι καὶ ἐπιτηδειοτάτους ἐπιμελεῖσθαι τῶν ἐφήβων, ἐκ δὲ τούτων ὁ δῆμος ἕνα τῆς φυλῆς ἑκάστης χειροτονεῖ σωφρονιστήν, καὶ κοσμητὴν ἐκ τῶν ἄλλων Ἀθηναίων ἐπὶ πάντας. συλλαβόντες δ’ οὗτοι τοὺς [3] ἐφήβους, πρῶτον μὲν τὰ ἱερὰ περιῆλθον, εἶτ’ εἰς Πειραιέα πορεύονται, καὶ φρουροῦσιν οἱ μὲν τὴν Μουνιχίαν, οἱ δὲ τὴν Ἀκτήν. χειροτ[ο]νεῖ δὲ καὶ παιδοτρίβας αὐτοῖς δύο καὶ διδασκάλους, οἵτινες ὁπλομαχεῖν καὶ τοξεύειν καὶ ἀκοντίζειν καὶ καταπάλτην ἀφιέναι διδάσκουσιν. δίδωσι δὲ καὶ εἰς τροφ[ὴν] τοῖς μὲν σωφρονισταῖς δραχμὴν α΄ ἑκάστῳ, τοῖς δ’ ἐφήβοις τέτταρας ὀβολοὺς ἑκάστῳ· τὰ δὲ τῶν φυλετῶν τῶν αὑτοῦ λαμβάνων ὁ σωφρονιστὴς ἕκαστος ἀγοράζει τὰ ἐπιτήδεια πᾶσιν εἰς τὸ κοινόν (συσσιτοῦσι γὰρ [4] κατὰ φυλάς), καὶ τῶν ἄλλων ἐπιμελεῖται πάντων. καὶ τὸν μὲν πρῶτον ἐνιαυτὸν οὕτως διάγουσι· τὸν δ’ ὕστερον ἐκκλησίας ἐν τῷ θεάτρῳ γενομένης, ἀποδειξάμενοι τῷ δήμῳ τὰ περὶ τὰς τάξεις, καὶ λαβόντες ἀσπίδα καὶ δόρυ παρὰ τῆς πόλεως, περιπολοῦσι τὴν χώραν καὶ διατρίβουσιν ἐν [5] τοῖς φυλακτηρίοις. φρουροῦσι δὲ τὰ δύο ἔτη χλαμύδας ἔχοντες, καὶ ἀτελεῖς εἰσι πάντων· καὶ δίκην οὔτε διδόασιν οὔτε λαμβάνουσιν, ἵνα μὴ πρό[φ]ασις ᾖ τ[ο]ῦ ἀπιέναι, πλὴν περὶ κλήρου καὶ ἐπικλή[ρου], κἄν τ[ι]νι κατὰ τὸ γένος ἱερωσύνη γένηται. διε[ξ]ελθόντων δὲ

τῶν δυεῖν ἐτῶν, ἤδη μετὰ τῶν ἄλλων εἰσίν.

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[1] Τὰ μὲν οὖν περὶ τὴν τῶν πολιτῶν ἐγγραφὴν καὶ τοὺς ἐφήβους τοῦτον ἔχει τὸν τρόπον. τὰς δ’ ἀρχὰς τὰς περὶ τὴν ἐγκύκλιον διοίκησιν ἁπάσας ποιοῦσι κληρωτάς, πλὴν ταμίου στρατιωτικῶν καὶ τῶν ἐπὶ τὸ θεωρικὸν καὶ τοῦ τῶν κρηνῶν ἐπιμελητοῦ. ταύτας δὲ χειροτονοῦσιν, καὶ οἱ χειροτονηθέντες ἄρχουσιν ἐκ Παναθηναίων εἰς Παναθήναια. [χ]ειροτονοῦσι δὲ καὶ τὰς πρὸς τὸν πόλεμον ἁπάσας.

[2] βουλὴ δὲ κληροῦται φ΄, ν΄ ἀπὸ φυλῆς ἑκάστης. πρυτανεύει δ’ ἐν μέρει τῶν φυλῶν ἑκάστη καθ’ ὅ τι ἂν λάχωσιν, αἱ μὲν πρῶται τέτταρες Ϛ΄ καὶ λ΄ ἡμέρας ἑκάστη, αἱ δὲ Ϛ΄ αἱ ὕστεραι πέντε καὶ λ΄ ἡμέρας ἑκάστη· κατὰ σελήνην [3] γὰρ ἄγουσιν τὸ[ν] ἐνιαυτόν. οἱ δὲ πρυτανεύοντες αὐτῶν πρῶτον μὲν συσσιτοῦσιν ἐν τῇ θόλῳ, λαμβάνοντες ἀργύριον παρὰ τῆς πόλεως, ἔπειτα συνάγουσιν καὶ τὴν βουλὴν καὶ τὸν δῆμον· τὴν μὲν οὖν βουλὴν ὅσαι ἡμέραι, πλὴν ἐάν τις ἀφέσιμος ᾖ, τὸν δὲ δῆμον τετράκις τῆς πρυτανείας ἑκάστης. καὶ ὅσα δεῖ χρηματίζειν τὴν βουλήν, καὶ ὅ τι ἐν ἑκάστῃ τῇ ἡμέρᾳ καὶ ὅπου καθίζειν, οὗτοι προγράφουσι.

[4] προγράφουσι δὲ καὶ τὰς ἐκκλησίας οὗτοι· μίαν μὲν κυρίαν, ἐν ᾗ δεῖ τὰς ἀρχὰς ἐπιχειροτονεῖν εἰ δοκοῦσι καλῶς ἄρχειν, καὶ περὶ σίτου καὶ περὶ φυλακῆς τῆς χώρας χρηματίζειν, καὶ τὰς εἰσαγγελίας ἐν ταύτῃ τῇ ἡμέρᾳ τοὺς βουλομένους ποιεῖσθαι, καὶ τὰς ἀπογραφὰς τῶν δημευομένων ἀναγιγνώσκειν, καὶ τὰς λήξεις τῶν κλήρων καὶ τῶν ἐπικλήρων ἀναγινώσκειν, ὅπως μηδένα λάθῃ μηδὲν ἔρημον γενόμενον.

[5] ἐπὶ δὲ τῆς ἕκτης πρυτανείας πρὸς τοῖς εἰρημένοις καὶ περὶ τῆς ὀστρακοφορίας ἐπιχειροτονίαν διδόασιν, εἰ δοκεῖ ποιεῖν ἢ μή, καὶ συκοφαντῶν προβολὰς τῶν Ἀθηναίων καὶ τῶν μετοίκων μέχρι τριῶν ἑκατέρων, κἄν τ[ι]ς [6] ὑποσχόμενός τι μὴ ποιήσῃ τῷ δήμῳ. ἑτέραν δὲ ταῖς ἱκετηρίαις, ἐν ᾗ θεὶς ὁ βουλόμενος ἱκετηρίαν, ὑπὲρ ὧν ἂν βούληται καὶ ἰδίων καὶ δημοσίων, διαλέξεται πρὸς τὸν δῆμον. αἱ δὲ δύο περὶ τῶν ἄλλων εἰσίν, ἐν αἷς κελεύουσιν οἱ νόμοι τρία μὲν ἱερῶν χρηματίζειν, τρία δὲ κήρυξιν καὶ πρεσβείαις, τρία δὲ ὁσίων. χρηματίζουσιν δ’ ἐνίοτε καὶ ἄνευ προχειροτονίας. προσέρχονται δὲ καὶ οἱ κήρυκες καὶ οἱ πρέσβεις τοῖς πρυτάνεσιν πρῶτον, καὶ οἱ τὰς ἐπιστολὰς φέροντες τούτοις ἀποδιδόασι.

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[1] Ἔστι δ’ ἐπιστάτης τῶν πρυτάνεων εἷς ὁ λαχών. οὗτος δ’ ἐπιστατεῖ νύκτα καὶ ἡμέραν, καὶ οὐκ ἔστιν οὔτε πλείω χρόνον οὔτε δὶς τὸν αὐτὸν γενέσθαι. τηρεῖ δ’ οὗτος τάς τε κλεῖς τὰς τῶν ἱερῶν, ἐν οἷς τὰ χρήματ’ ἐστὶν καὶ ‹τὰ› γράμματα τῇ πόλει, καὶ τὴν δημοσίαν σφραγῖδα, καὶ μένειν ἀναγκαῖον ἐν τῇ θόλῳ τοῦτόν ἐστιν καὶ τριττὺν [2] τῶν πρυτάνεων ἣν ἂν οὗτος κελεύῃ. καὶ ἐπειδὰν συναγάγωσιν οἱ πρυτάνεις τὴν βουλὴν ἢ τὸν δῆμον, οὗτος κληροῖ προέδρους ἐννέα, ἕνα ἐκ τῆς φυλῆς ἑκάστης πλὴν τῆς πρυτανευούσης, καὶ πάλιν ἐκ τούτων ἐπιστάτην ἕνα, καὶ [3] παραδίδωσι τὸ πρόγραμμα αὐτοῖς· οἱ δὲ παραλαβόντες τῆς τ’ εὐκοσμίας ἐπιμελοῦνται, καὶ ὑπὲρ ὧν δεῖ χρηματίζειν προτιθέασιν, καὶ τὰς χειροτονίας κρίνουσιν, καὶ τὰ ἄλλα πάντα διοικοῦσιν, καὶ τοῦ τ’ ἀφεῖναι κύριοί εἰσιν. καὶ ἐπιστατῆσαι μὲν οὐκ ἔξεστιν πλέον ἢ ἅπαξ ἐν τῷ ἐνιαυτῷ, προεδρεύειν δ’ ἔξεστιν ἅπαξ ἐπὶ τῆς πρυτανείας ἑκάστης.

[4] ποιοῦσι δὲ καὶ ἀρχαιρεσίας στρατηγῶν καὶ ἱππάρχων καὶ τῶν ἄλλων τῶν πρὸς τὸν πόλεμον ἀρχῶν ἐν τῇ ἐκκλησίᾳ, καθ’ ὅ τι ἂν τῷ δήμῳ δοκῇ· ποιοῦσι δ’ οἱ μετὰ τὴν Ϛ´ πρυτανεύοντες, ἐφ’ ὧν ἂν εὐσημία γένηται. δεῖ δὲ προβούλευμα γενέσθαι καὶ περὶ τούτων.

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[1] Ἡ δὲ βουλὴ πρότερον μὲν ἦν κυρία καὶ χρήμασιν ζημιῶσαι καὶ δῆσαι καὶ ἀποκτεῖναι. καὶ Λυσίμαχον αὐτῆς ἀγαγούσης ὡς τὸν δήμιον, καθήμενον ἤδη μέλλοντα ἀποθνῄσκειν, Εὐμηλίδης ὁ Ἀλωπεκῆθεν ἀφείλετο, οὐ φάσκων δεῖν ἄνευ δικαστηρίου γνώσεως οὐδένα τῶν πολιτῶν ἀποθνῄσκειν· καὶ κρίσεως ἐν δικαστηρίῳ γενομένης, ὁ μὲν Λυσίμαχος ἀπέφυγεν, καὶ ἐπωνυμίαν ἔσχεν ὁ ἀπὸ τοῦ τυπάνου, ὁ δὲ δῆμος ἀφείλετο τῆς βουλῆς τὸ θανατοῦν καὶ δεῖν καὶ χρήμασι ζημιοῦν, καὶ νόμον ἔθετο, ἄν τινος ἀδικεῖν ἡ βουλὴ καταγνῷ ἢ ζημιώσῃ, τὰς καταγνώσεις καὶ τὰς ἐπιζημιώσεις εἰσάγειν τοὺς θεσμοθέτας εἰς τὸ δικαστήριον, καὶ ὅ τι ἂν οἱ δικασταὶ ψηφίσωνται, τοῦτο κύριον εἶναι.

[2] κρίνει δὲ τὰς ἀρχὰς ἡ βουλὴ τὰς πλείστας, καὶ μάλισθ’ ὅσαι χρήματα διαχειρίζουσιν· οὐ κυρία δ’ ἡ κρίσις, ἀλλ’ ἐφέσιμος εἰς τὸ δικαστήριον. ἔξεστι δὲ καὶ τοῖς ἰδιώταις εἰσαγγέλλειν ἣν ἂν βούλωνται τῶν ἀρχῶν μὴ χρῆσθαι τοῖς νόμοις· ἔφεσις δὲ καὶ τούτοις ἐστὶν εἰς τὸ δικαστήριον, ἐὰν αὐτῶν ἡ βουλὴ καταγνῷ.

[3] δοκιμάζει δὲ καὶ τοὺς βουλευτὰς τοὺς τὸν ὕστερον ἐνιαυτὸν βουλεύσοντας καὶ τοὺς ἐννέα ἄρχοντας. καὶ πρότερον μὲν ἦν ἀποδοκιμάσαι κυρία, νῦν δὲ τούτοις ἔφεσίς ἐστιν εἰς τὸ δικαστήριον.

[4] τούτων μὲν οὖν ἄκυρός ἐστιν ἡ βουλή· προβουλεύει δ’ εἰς τὸν δῆμον, καὶ οὐκ ἔξεστιν οὐδὲν ἀπροβούλευτον οὐδ’ ὅ τι ἂν μὴ προγράψωσιν οἱ πρυτάνεις ψηφίσασθαι τῷ δήμῳ. κατ’ αὐτὰ γὰρ ταῦτα ἔνοχός ἐστιν ὁ νικήσας γραφῇ παρανόμων.

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[1] Ἐπιμελεῖται δὲ καὶ τῶν πεποιημένων τριήρων καὶ τῶν σκευῶν καὶ τῶν νεωσοίκων, καὶ ποιεῖται καινὰς δὲ τριήρεις ἢ τετρήρεις, ὁποτέρας ἂν ὁ δῆμος χειροτονήσῃ, καὶ σκεύη ταύταις καὶ νεωσοίκους· χειροτονεῖ δ’ ἀρχιτέκτονας ὁ δῆμος ἐπὶ τὰς ναῦς. ἂν δὲ μὴ παραδῶσιν ἐξειργασμένα ταῦτα τῇ νέᾳ βουλῇ, τὴν δωρεὰν οὐκ ἔστιν αὐτοῖς λαβεῖν· ἐπὶ γὰρ τῆς ὕστερον βουλῆς λαμβάνουσιν. ποιεῖται δὲ τὰς τριήρεις, δέκα ἄνδρας ἐξ αὕ[τῆς] ἑλομένη [2] τριηροποιούς. ἐξετάζει δὲ καὶ τὰ οἰκοδομήματα τὰ δημόσια πάντα, κἄν τις ἀδικεῖν αὐτῇ δόξῃ, τῷ τε δήμῳ τοῦτον [ἀπ]οφαίνει, καὶ καταγνοῦσα παραδίδωσι δικαστηρίῳ.

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[1] Συνδιοικεῖ δὲ καὶ ταῖς ἄλλαις ἀρχαῖς τὰ πλεῖστα. πρῶτον μὲν γὰρ οἱ ταμίαι τῆς Ἀθηνᾶς εἰσὶ μὲν δέκα, κλη[ροῦτα]ι δ’ εἷς ἐκ τῆς φυλῆς, ἐκ πεντακοσιομεδίμνων κατὰ τὸν Σόλωνος νόμ[ον (ἔτι γὰρ ὁ] νόμος κύριός ἐστιν), ἄρχει δ’ ὁ λαχὼν κἂν πάνυ πένης ᾖ. παραλαμβάνου[σι] δὲ τό τε ἄγαλμα τῆς Ἀθηνᾶς καὶ τὰς Νίκας καὶ τὸν ἄλλον κόσμον καὶ τὰ χρ[ήμ]ατα ἐναντίον τῆς βουλῆς.

[2] ἔπειθ’ οἱ πωληταὶ ι´ μέν εἰσι, κληροῦται δ’ εἷς ἐκ τῆς φ[υ]λῆς. [μ]ισθοῦσι δὲ τὰ μισθώματα πάντα, καὶ τὰ μέταλλα πωλοῦσι καὶ τὰ τέλη μετὰ τοῦ ταμίου τῶν στρατιωτικῶν καὶ τῶν ἐπὶ τὸ θεωρικὸν ᾑρημένων ἐναντίον τῆς [βουλῆς], καὶ κυροῦσιν ὅτῳ ἂν ἡ βουλὴ χειροτονήσῃ, καὶ τὰ πραθέντα μέταλλα, τά τ’ ἐργάσιμα τὰ εἰς τρία ἔτη πεπραμένα, καὶ τὰ συγκεχωρημένα τὰ εἰς [.] ἔ[τη] πεπραμένα. καὶ τὰς οὐσίας τῶν ἐξ Ἀρείου πάγου φευγόντων καὶ τῶν ἄλλ[ων] ἐναντ[ίον τῆς β]ουλῆς πωλοῦσιν, κατακυροῦσι δ’ οἱ θ´ ἄρχοντες. καὶ τὰ τέλη τὰ εἰς ἐνιαυτ[ὸ]ν πεπραμένα, ἀναγράψαντες εἰς λελευκωμένα γραμματεῖα τόν τε πριάμενον καὶ [ὅσου] ἂν πρίηται, τῇ βουλῇ παραδιδόασιν.

[3] ἀναγράφουσιν δὲ χωρὶς μὲν οὓς δεῖ κατὰ π[ρυ]τανείαν ἑκάστην καταβάλλειν, εἰς δέκα γραμματεῖα, χωρὶς δὲ οὓς τρὶς τοῦ [ἐ]νιαυτοῦ, γραμματεῖον κατὰ τὴν καταβολὴν ἑκάστην ποιήσαντες, χωρὶς δ’ οὓς [ἐπ]ὶ τῆς ἐνάτης πρυτανείας. ἀναγράφουσι δὲ καὶ τὰ χωρία καὶ τὰς οἰκίας τὰ[πο]γρα[φ]έντα καὶ πραθέντα ἐν τῷ δικαστηρίῳ· καὶ γὰρ ταῦθ’ οὗτοι πωλ[οῦσιν. ἔστι] δὲ τῶν μὲν οἰκιῶν ἐν ε´ ἔτεσιν ἀνάγκη τὴν τιμὴν ἀποδοῦναι, τῶν δὲ χωρίων ἐν δέκα· καταβάλλουσιν δὲ ταῦτα ἐπὶ τῆς ἐνάτης πρυτανείας.

[4] εἰσφέρει δὲ καὶ ὁ βασιλεὺς τὰς μισθώσεις τῶν ‹τε›μενῶν, ἀναγράψας ἐν γραμματεί[οις λελ]ε[υ]κωμένοις. ἔστι δὲ καὶ τούτων ἡ μὲν μίσθωσις εἰς ἔτη δέκα, καταβάλλεται δ’ ἐπὶ τῆς [θ´] πρυτανείας. διὸ καὶ πλεῖστα χρήματα ἐπὶ [5] ταύτης συλλέγεται τῆς πρυτανείας. εἰσφέρεται μὲν οὖν εἰς τὴν βουλὴν τὰ γραμματεῖα κατὰ τὰς καταβολὰς ἀναγεγραμμένα, τηρεῖ δ’ ὁ δημόσιος· ὅταν δ’ ᾖ χρημάτων [κατα]βολή, παραδίδωσι τοῖς ἀποδέκταις αὐτὰ ταῦτα καθελ[ὼν] ἀπ[ὸ τῶν] ἐπιστυλίων, ὧν ἐν ταύτῃ τῇ ἡμέρᾳ δεῖ τὰ χρήματα καταβληθ[ῆν]αι καὶ ἀπαλειφθῆναι· τὰ δ’ ἄλλα ἀπόκειται χωρίς, ἵνα μὴ

προεξαλει[φθῇ].

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[1] [Εἰσὶ] δ’ ἀποδέκται δέκα κεκληρωμένοι κατὰ φυλάς· οὗτοι δὲ παραλαβόντες τὰ [γρα]μματεῖα, ἀπαλείφουσι τὰ καταβαλλόμενα χρήματα ἐναντίον τ[ῆς βουλῆς] ἐν τῷ βουλευτηρίῳ, καὶ πάλιν ἀποδιδόασιν τὰ γραμματεῖα τ[ῷ δημοσίῳ. κἄν τις ἐλλίπῃ καταβολήν, ἐνταῦθ’ ἐγγέγραπται, καὶ διπλά[σιον ἀ]νάγκη τὸ [ἐλλ]ειφθὲν καταβάλλειν ἢ δεδέσθαι, καὶ ταῦτα εἰσπράτ[τειν ἡ βο]υλὴ καὶ δῆσαι [κυ]ρία [2] κατὰ τοὺς νόμους ἐστίν. τῇ μὲν οὖν προτεραίᾳ δέχονται τὰς [πάσα]ς καὶ μερίζουσι ταῖς ἀρχαῖς, τῇ δ’ ὑστεραίᾳ τόν τε μερισμὸν εἰσ[φέρου]σι γράψαντες ἐν σανίδι καὶ καταλέγουσιν ἐν τῷ βουλευτηρίῳ, καὶ προ[τιθ]έασιν ἐν τῇ βουλῇ, εἴ τίς τινα οἶδεν ἀδικοῦντα περὶ τὸν μερισμ[ὸν ἢ ἄρ]χοντα ἢ ἰδιώτην, καὶ γνώμας ἐπιψηφίζουσιν, ἐάν τίς τι δοκῇ ἀδικ[εῖν.]

[3] [κ]ληροῦσι δὲ καὶ λογιστὰς ἐξ αὑτῶν οἱ βουλευταὶ δέκα, τοὺς λογιουμένους τ[αῖς ἀ]ρχαῖς κατὰ τὴν πρυτανείαν [4] ἑκάστην. κληροῦσι δὲ καὶ εὐθύνους ἕνα τῆς φυλῆς ἑκάστης, καὶ παρέδρους β´ ἑκάστῳ τῶν εὐθύνων οἷς ἀναγκαῖόν ἐστι ταῖς ἀ[γορ]αῖς κατὰ τὸν ἐπώνυμον τὸν τῆς φυλῆς ἑκάστης καθῆσθαι, κἄν τις βούλ[ηταί] τινι τῶν τὰς εὐθύνας ἐν τῷ δικαστηρίῳ δεδωκότων ἐντὸς γ´ ἡ[μερῶν ἀφ’] ἧς ἔδωκε τὰς εὐθύνας εὔθυναν ἄν τ’ ἰδίαν ἄν τε δ[η]μο[σί]α[ν] ἐμβαλέσθαι, γράψας εἰς πινάκιον λελευκωμένον τοὔνομα τό [θ’ αὑ]τ[ο]ῦ καὶ τὸ τοῦ φεύγοντος, καὶ τὸ ἀδίκημ’ ὅ τι ἂν ἐγκαλῇ, καὶ τίμημα ἐ[πιγραψ]άμενος ὅ [5] τι ἂν αὐτῷ δοκῇ, δίδωσιν τῷ εὐθύνῳ· ὁ δὲ λαβὼν τοῦτο καὶ ἀν[ακρίνα]ς, ἐὰν μὲν καταγνῷ, παραδίδωσιν τὰ μὲν ἴδια τοῖς δικασταῖς τοῖς κατὰ δήμ[ους τοῖς] τὴν φυλὴν ταύτην δικάζουσιν, τὰ δὲ δημόσια τοῖς θεσμοθέτα[ις συνα]ναγράφει. οἱ δὲ θεσμοθέται, ἐὰν παραλάβωσιν, πάλιν εἰσάγουσιν [ταύτην τὴν] εὔθυναν εἰς τὸ δικαστήριον, καὶ ὅ τι ἂν γνῶσιν οἱ δικαστα[ί, τοῦτο κύ]ριόν ἐστιν.

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[1] Δοκιμάζει δὲ καὶ τοὺς ἵππους ἡ βουλή, κἂν μέν τις καλ[ὸν ἵππον ἔχ]ων κακῶς δοκῇ τρέφειν, ζημιοῖ τῷ σίτῳ· τοῖς δὲ μὴ δυναμ[ένοις ἀκολ]ουθεῖν, ἢ μὴ θέλουσι μένειν ἀλλ' ἀνάγουσι, τροχὸν ἐπὶ τὴν γνάθ[ο]ν [ἐπιβ]άλλει, καὶ ὁ τοῦτο παθὼν ἀδόκιμός ἐστι. δοκιμάζει δὲ καὶ τοὺς προ[δ]ρ[όμους, οἵ]τινες ἂν αὐτῇ δοκῶσιν ἐπιτήδειοι προδρομεύειν εἶναι, κἄν τιν' ἀποχειροτονήσῃ, καταβέβηκεν οὗτος. δοκιμάζει δὲ καὶ τοὺς ἁμίππους, κἄν τιν' ἀποχειροτονήσῃ, [2] πέπαυται μισθοφορῶν οὗτος. τοὺς δ' ἱππέας καταλέγουσι μὲν οἱ καταλογεῖς, οὓς ἂν ὁ δῆμος χειροτονήσῃ δέκα ἄνδρας· οὓς δ' ἂν καταλέξωσι, παραδιδόασι τοῖς ἱππάρχοις καὶ φυλάρχοις, οὗτοι δὲ παραλαβόντες εἰσφέρουσι τὸν κατάλογον εἰς τὴν βουλήν, καὶ τὸν πίνακ' ἀνοίξαντες, ἐν ᾧ κατασεσημασμένα τὰ ὀνόματα τῶν ἱππέων ἐστί, τοὺς μὲν ἐξομνυμένους τῶν πρότερον ἐγγεγραμμένων μὴ δυνατοὺς εἶναι τοῖς σώμασιν ἱππεύειν ἐξαλείφουσι, τοὺς δὲ κατειλεγμένους καλοῦσι, κἂν μέν τις ἐξομόσηται μὴ δύνασθαι τῷ σώματι ἱππεύειν ἢ τῇ οὐσίᾳ, τοῦτον ἀφιᾶσιν, τὸν δὲ μὴ ἐξομνύμενον διαχειροτονοῦσιν οἱ βουλευταί, πότερον ἐπιτήδειός ἐστιν ἱππεύειν ἢ οὔ. κἂν μὲν χειροτονήσωσιν, ἐγγράφουσιν εἰς τὸν πίνακα, εἰ δὲ μή, καὶ τοῦτον ἀφιᾶσιν.

[3] ἔκρινεν δέ ποτε καὶ τὰ παραδείγματα καὶ τὸν πέπλον ἡ βουλή, νῦν δὲ τὸ δικαστήριον τὸ λαχόν· ἐδόκουν γὰρ οὗτοι καταχαρίζεσθαι τὴν κρίσιν. καὶ τῆς ποιήσεως τῶν Νικῶν καὶ τῶν ἄθλων τῶν εἰς τὰ Παναθήναια συνεπιμελεῖται μετὰ τοῦ ταμίου τῶν στρατιωτικῶν.

[4] δοκιμάζει δὲ καὶ τοὺς ἀδυνάτους ἡ βουλή· νόμος γάρ ἐστιν, ὃς κελεύει τοὺς ἐντὸς τριῶν μνῶν κεκτημένους καὶ τὸ σῶμα πεπηρωμένους, ὥστε μὴ δύνασθαι μηδὲν ἔργον ἐργάζεσθαι, δοκιμάζειν μὲν τὴν βουλήν, διδόναι δὲ δημοσίᾳ τροφὴν δύο ὀβολοὺς ἑκάστῳ τῆς ἡμέρας. καὶ ταμίας ἐστὶν αὐτοῖς κληρωτός.

συνδιοικεῖ δὲ καὶ ταῖς ἄλλαις ἀρχαῖς τὰ πλεῖσθ' ὡς ἔπος εἰπεῖν.

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[1] Τὰ μὲν οὖν ὑπὸ τῆς βουλῆς διοικούμενα ταῦτ᾽ ἐστίν. κληροῦνται δὲ καὶ ἱερῶν ἐπισκευασταὶ δέκα ἄνδρες, οἳ λαμβάνοντες τριάκοντα μνᾶς παρὰ τῶν ἀποδεκτῶν ἐπισκευάζουσιν [2] τὰ μάλιστα δεόμενα τῶν ἱερῶν· καὶ ἀστυνόμοι δέκα. τούτων δὲ ε´ μὲν ἄρχουσιν ἐν Πειραιεῖ, πέντε δ᾽ ἐν ἄστει, καὶ τάς τε αὐλητρίδας καὶ τὰς ψαλτρίας καὶ τὰς κιθαριστρίας οὗτοι σκοποῦσιν, ὅπως μὴ πλείονος ἢ δυεῖν δραχμαῖν μισθωθήσονται, κἂν πλείους τὴν αὐτὴν σπουδάζωσι λαβεῖν, οὗτοι διακληροῦσι καὶ τῷ λαχόντι μισθοῦσιν. καὶ ὅπως τῶν κοπρολόγων μηδεὶς ἐντὸς ι´ σταδίων τοῦ τείχους καταβαλεῖ κόπρον ἐπιμελοῦνται. καὶ τὰς ὁδοὺς κωλύουσι κατοικοδομεῖν, καὶ δρυφάκτους ὑπὲρ τῶν ὁδῶν ὑπερτείνειν, καὶ ὀχετοὺς μετεώρους εἰς τὴν ὁδὸν ἔκρουν ἔχοντας ποιεῖν, καὶ τὰς θυρίδας εἰς τὴν ὁδὸν ἀνοίγειν. καὶ τοὺς ἐν ταῖς ὁδοῖς ἀπογιγνομένους ἀναιροῦσιν, ἔχοντες δημοσίους ὑπηρέτας.

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[1] Κληροῦνται δὲ καὶ ἀγορανόμοι ‹ι´›, πέντε μὲν εἰς Πειραιέα, ε´ δ’ εἰς ἄστυ. τούτοις δὲ ὑπὸ τῶν νόμων προστέτακται τῶν ὠνίων ἐπιμελεῖσθαι πάντων, ὅπως καθαρὰ καὶ ἀκίβδηλα πωλήσεται.

[2] κληροῦνται δὲ καὶ μετρονόμοι ‹ι´›, πέντε μὲν εἰς ἄστυ, ε´ δὲ εἰς Πειραιέα. καὶ οὗτοι τῶν μέτρων καὶ τῶν σταθμῶν ἐπιμελοῦνται πάντων, ὅπως οἱ πωλοῦντες χρήσονται δικαίοις.

[3] ἦσαν δὲ καὶ σιτοφύλακες κληρωτοὶ ‹ι´›, πέντε μὲν εἰς Πειραιέα, πέντε δ’ εἰς ἄστυ, νῦν δ’ εἴκοσι μὲν εἰς ἄστυ, πεντεκαίδεκα δ’ εἰς Πειραιέα. οὗτοι δ’ ἐπιμελοῦνται, πρῶτον μὲν ὅπως ὁ ἐν ἀγορᾷ σῖτος ἀργὸς ὤνιος ἔσται δικαίως, ἔπειθ’ ὅπως οἵ τε μυλωθροὶ πρὸς τὰς τιμὰς τῶν κριθῶν τὰ ἄλφιτα πωλήσουσιν, καὶ οἱ ἀρτοπῶλαι πρὸς τὰς τιμὰς τῶν πυρῶν τοὺς ἄρτους, καὶ τὸν σταθμὸν ἄγοντας ὅσον ἂν οὗτοι τάξωσιν. ὁ γὰρ νόμος τούτους κελεύει τάττειν.

[4] ἐμπορίου δ’ ἐπιμελητὰς δέκα κληροῦσιν· τούτοις δὲ προστέτακται τῶν τ’ ἐμπορίων ἐπιμελεῖσθαι, καὶ τοῦ σίτου τοῦ καταπλέοντος εἰς τὸ σιτικὸν ἐμπόριον τὰ δύο μέρη τοὺς ἐμπόρους ἀναγκάζειν εἰς τὸ ἄστυ κομίζειν.

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[1] Καθ[ις]τᾶσι δὲ καὶ τοὺς ἕνδεκα κλήρῳ, τοὺς ἐπιμελησομένους τῶν ἐν τῷ δεσμωτηρ[ί]ῳ, καὶ τοὺς ἀπαγομένους κλέπτας καὶ τοὺς ἀνδραποδιστὰς καὶ τοὺς λωποδύτας, ἂν μὲν [ὁμολογῶ]σι, θανάτῳ ζημιώσοντας, ἂν δ’ ἀμφισβητῶσιν, εἰσάξοντας εἰς τὸ δικαστήριον, κἂν μὲν ἀποφύγωσιν, ἀφήσοντας, εἰ δὲ μή, τότε θανατώσοντας, καὶ τὰ ἀπογραφόμενα χωρία καὶ οἰκίας εἰσάξοντας εἰς τὸ δικαστήριον, καὶ τὰ δόξαντα δ[ημ]όσια εἶναι παραδώσοντας τοῖς πωληταῖς, καὶ τὰς ἐνδείξεις εἰσάξοντας· καὶ γὰρ ταύτας εἰσάγουσιν οἱ ἕνδεκα. εἰσάγουσι δὲ τῶν ἐνδείξεών τινας καὶ οἱ θεσμοθέται.

[2] κληροῦσι δὲ καὶ εἰσαγωγέας ε´ ἄνδρας, οἳ τὰς ἐμμήνους εἰσάγουσι δίκας, δυοῖν φυλαῖν ἕκαστος. εἰσὶ δ’ ἔμμηνοι προικός, ἐάν τις ὀφείλων μὴ ἀποδῷ, κἄν τις ἐπὶ δραχμῇ δανεισάμενος ἀποστερῇ, κἄν τις ἐν ἀγορᾷ βουλόμενος ἐγράζεσθαι δανείσηται παρά τινος ἀφορμήν· ἔτι δ’ αἰκείας καὶ ἐρανικὰς καὶ κοινωνικὰς καὶ ἀνδραπόδων καὶ [3] ὑποζυγίων καὶ τριηραρχικὰς καὶ τραπεζιτικάς. οὗτοι μὲν οὖν ταύτας δικάζουσιν ἐμμήνους εἰσάγ[ον]τες, οἱ δ’ ἀποδέκται τοῖς τελώναις καὶ κατὰ τῶν τελωνῶν, τὰ μὲν μέχρι δέκα δραχμῶν ὄντες κύρι[οι], τὰ δ’ ἄλλ’ εἰς τὸ δικαστήριον εἰσάγοντες ἔμμηνα.

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[1] Κληροῦσι δὲ καὶ ‹τοὺς› τετταράκοντα, τέτταρας ἐκ τῆς φυλῆς ἑκάστης, πρὸς οὓς τὰς ἄλλας δίκας λαγχάνουσιν. οἳ πρότερον μὲν ἦσαν τριάκοντα καὶ κατὰ δήμους περιιόντες ἐδίκαζον, μετὰ δὲ τὴν ἐπὶ τῶν τριάκοντα ὀλιγαρχίαν τετταράκοντα γεγόνασιν. καὶ τὰ μὲν μέχρι δέκα δραχμῶν αὐτοτελεῖς εἰσι δ[ικά]ζε[ι]ν, τὰ δ’ ὑπὲρ τοῦτο τὸ τίμημα τοῖς διαιτηταῖς παραδιδόασιν· οἱ δὲ παραλαβόντες, [2] [ἐ]ὰν μὴ δύνωνται διαλῦσαι, γιγνώσκουσι, κἂν μὲν ἀμφοτέροις ἀρέσκῃ τὰ γνωσθέντα καὶ ἐμμένωσιν, ἔχει τέλος ἡ δίκη. ἂν δ’ ὁ ἕτερος ἐφῇ τῶν ἀντιδίκων εἰς τὸ δικαστήριον, ἐμβαλόντες τὰς μαρτυρίας καὶ τὰς προκλήσεις καὶ τοὺς νόμους εἰς ἐχίνους, χωρὶς μὲν τὰς τοῦ διώκοντος, χωρὶς δὲ τὰς τοῦ φεύγοντος, καὶ τούτους κατασημηνάμενοι, καὶ τὴν γνῶσιν τοῦ διαιτητοῦ γεγραμμένην ἐν γραμματείῳ προσαρτήσαντες, παραδιδόασι το[ῖ]ς δ΄ τοῖς τὴν φυλὴν [3] τοῦ φεύγοντος δικάζουσιν. οἱ δὲ παραλαβόντες εἰσάγουσιν εἰς τὸ δικαστήριον, τὰ μὲν ἐντὸς χιλίων εἰς ἕνα καὶ διακοσίους, τὰ δ’ ὑπὲρ χιλίας εἰς ἕνα καὶ τετρακοσίους. οὐκ ἔξεστι δ’ οὔτε νόμοις οὔτε προκλήσεσι οὔτε μαρτυρίαις ἀλλ’ ἢ ταῖς παρὰ τοῦ διαιτητοῦ χρῆσθαι ταῖς εἰς τοὺς ἐχίνους [4] ἐμβεβλημέναις. διαιτηταὶ δ’ εἰσὶν οἷς ἂν ἑξηκοστὸν ἔτος ᾖ. τοῦτο δὲ δῆλον ἐκ τῶν ἀρχόντων καὶ τῶν ἐπωνύμων. εἰσὶ γὰρ ἐπώνυμοι δέκα μὲν οἱ τῶν φυλῶν, δύο δὲ καὶ τετταράκοντα οἱ τῶν ἡλικιῶν· οἱ δὲ ἔφηβοι ἐγγραφόμενοι πρότερον μὲν εἰς λελευκωμένα γραμματεῖα ἐνεγράφοντο, καὶ ἐπεγράφοντο αὐτοῖς ὅ τ’ ἄρχων ἐφ’ οὗ ἐνεγράφησαν, καὶ ὁ ἐπώνυμος ὁ τῷ προτέρῳ ἔ[τ]ει δεδιαιτηκώς, νῦν δ’ εἰς στήλην χαλκῆν ἀναγράφονται, καὶ ἵσταται ἡ στήλη πρὸ τοῦ βουλευτηρίου παρὰ τοὺς ἐπωνύμους.

[5] τὸν δὲ τελευταῖον τῶν ἐπωνύμων λαβόντες οἱ τετταράκοντα διανέμουσιν αὐτοῖς τὰς διαίτας καὶ ἐπικληροῦσιν ἃς ἕκαστος διαιτήσει· καὶ ἀναγκαῖον ἃς ἂν ἕκαστος λάχῃ διαίτας ἐκδιαιτᾶν. ὁ γὰρ νόμος, ἄν τις μὴ γένηται διαιτητὴς τῆς ἡλικίας αὐτῷ καθηκούσης, ἄτιμον εἶναι κελεύει, πλὴν ἐὰν τύχῃ ἀρχὴν ἄρχων τι[ν]ὰ ἐν ἐκείνῳ τῷ ἐνιαυτῷ ἢ ἀποδημῶν· [6] οὗτοι δ’ ἀτελεῖς εἰσὶ μόνοι. ἔστιν δὲ καὶ εἰσαγγέλλειν εἰς τοὺς διαιτητάς, ἐάν τις ἀδικηθῇ ὑπὸ τοῦ διαιτητοῦ, κἄν τινος καταγνῶσιν, ἀτιμοῦσθαι κελεύουσιν οἱ νόμοι.

[7] ἔφεσις δ’ ἔστι καὶ τούτοις. χρῶνται δὲ τοῖς ἐπωνύμοις καὶ πρὸς τὰς

στρατείας, καὶ ὅταν ἡλικίαν ἐκπέμπωσι, προγράφουσιν, ἀπὸ τίνος ἄρχοντος καὶ ἐπωνύμ[ου] μέχρι τίνων δεῖ στρατεύεσθαι.

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[1] Κληροῦσι δὲ καὶ τάσδε τὰς ἀρχάς· ὁδοποιοὺς πέντε, οἷς προστέτακται δημοσίους ἐργάτας ἔχουσι τὰς ὁδοὺς [2] ἐπισκευάζειν· καὶ λογιστὰς δέκα καὶ συνηγόρους τούτοις δέκα, πρὸς οὓς ἅπαντας ἀνάγκη τοὺς τὰς ἀρχὰς ἄρξ[αντ]ας λόγον ἀπενεγκεῖν. οὗτοι γάρ εἰσι μόνοι ‹οἱ› τοῖς ὑπευθύνοις λογιζόμενοι καὶ τὰς εὐθύνας εἰς τὸ δικαστήριον εἰσάγοντες. κἂν μέν τινα κλέπτοντ’ ἐξελέγξωσι, κλοπὴν οἱ δικασταὶ καταγιγνώσκουσι, καὶ τὸ γνωσθὲν ἀποτίνεται δεκαπλοῦν. ἐὰν δέ τινα δῶρα λαβόντα ἐπιδείξωσιν καὶ καταγνῶσιν οἱ δικασταί, δώρων τιμῶσιν, ἀποτίνεται δὲ καὶ τοῦτο δεκαπλοῦν. ἂν δ’ ἀδικεῖν καταγνῶσιν, ἀδικίου τιμῶσιν, ἀποτίνεται δὲ τοῦθ’ ἁπλοῦν, ἐὰν πρὸ τῆς θ´ πρυτανείας ἐκτείσῃ τις, εἰ δὲ μή, διπλοῦται. τὸ ‹δὲ› δεκαπλοῦν οὐ διπλοῦται.

[3] κληροῦσι δὲ καὶ γραμματέα τὸν κατὰ πρυτανείαν καλούμενον, ὃς τῶν γραμμάτων ἐστὶ κύριος, καὶ τὰ ψηφίσματα τὰ γιγνόμενα φυλάττει, καὶ τἆλλα πάντα ἀντιγράφεται καὶ παρακάθηται τῇ βουλῇ. πρότερον μὲν οὖν οὗτος ἦν χειροτονητός, καὶ τοὺς ἐνδοξοτάτους καὶ πιστοτάτους ἐχειροτόνουν. καὶ γὰρ ἐν ταῖς στήλαις πρὸς ταῖς συμμαχίαις καὶ προξενίαις καὶ πολιτείαις οὗτος ἀναγράφεται. νῦν [4] δὲ γέγονε κληρωτός. κληροῦσι δὲ καὶ ἐπὶ τοὺς νόμους ἕτερον, ὃς παρακάθηται τῇ βουλῇ, καὶ ἀντιγράφεται καὶ [5] οὗτος πάντας. χειροτονεῖ δὲ καὶ ὁ δῆμος γραμματέα, τὸν ἀναγνωσόμενον αὐτῷ καὶ τῇ βουλῇ, καὶ οὗτος οὐδενός ἐστι κύριος ἀλλ’ ἢ τοῦ ἀναγνῶναι.

[6] κληροῖ δὲ καὶ ἱεροποιοὺς δέκα, τοὺς ἐπὶ τὰ ἐκθύματα καλουμένους, [οἳ] τά τε μ[αν]τευτὰ ἱερὰ θύουσιν, κἄν τι [7] καλλιερῆσαι δέῃ, καλλιεροῦσι μετὰ τῶν μάντε[ων]. κληροῖ δὲ καὶ ἑτέρους δέκα, τοὺς κατ’ ἐνιαυτὸν καλουμένους, οἳ θυσίας τέ τινας θύουσι, [καὶ τ]ὰς πεντετηρίδας ἁπάσας διοικοῦσιν πλὴν Παναθηναίων. ε[ἰσὶ] δὲ πεντετηρίδες μία μ[ὲν ἡ εἰ]ς Δῆλον (ἔστι δὲ καὶ ἑπ[τ]ετηρὶς ἐνταῦθα), δευτέρα δὲ Βραυρώνια, τρίτη [δ’ Ἡράκλε]ια, τετάρτη [δ’] Ἐλευσ[ίν]ια· ε´ δὲ Πα[ν]αθήναια, καὶ τούτων οὐδεμία ἐν τῷ αὐτῷ ἐγγίγνε[ται. νῦν] δὲ πρόσκειται [καὶ Ἡ]φαίσ[τια], ἐπὶ Κηφισοφῶντος ἄρχοντος.

[8] κληροῦσι δὲ καὶ εἰς Σαλαμῖνα ἄρχοντα, καὶ εἰς Πει[ραι]έα δήμαρ[χ]ον, οἳ τά τε Διονύσια ποιοῦσιν ἑκατέρωθι καὶ χορηγοὺς καθιστᾶσιν. ἐν

Σαλαμ[ῖνι] δὲ καὶ τοὔ[ν]ομα τοῦ ἄρχοντος ἀναγράφεται.

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[1] Αὗται μὲν οὖν αἱ ἀρχαὶ κληρωταί τε καὶ κύριαι τῶν εἰ[ρη]μένων [πράξε]ων εἰσίν. οἱ δὲ καλούμενοι ἐννέα ἄρχοντες τὸ μὲν ἐξ ἀρχῆς ὃν τρόπον καθίσταντο, [εἴρ]ηται· [νῦν] δὲ κληροῦσιν θεσμοθέτας μὲν ἓξ καὶ γραμματέα τούτοις, ἔτι δ’ ἄρχοντα καὶ βασιλ[έ]α καὶ πολέμαρχον, [2] κατὰ μέρος ἐξ ἑκάστης φυλῆς. δοκιμάζονται δ’ οὗτοι πρῶτον μὲν ἐν τῇ β[ουλ]ῇ τοῖς φ´, πλὴν τοῦ γραμματέως, οὗτος δ’ ἐν δικαστηρίῳ μόνον ὥσπερ οἱ ἄλλοι ἄρχοντ[ες] (πάντες γὰρ καὶ οἱ κληρωτοὶ καὶ οἱ χειροτονητοὶ δοκιμασθέντες ἄρχουσιν), οἱ δ’ ἐννέα ἄ[ρ]χοντες ἔν τε τῇ βουλῇ καὶ πάλιν ἐν δικαστηρίῳ. καὶ πρότερον μὲν οὐκ ἦρχεν ὅντ[ιν’] ἀποδοκιμάσειεν ἡ βουλή, νῦν δ’ ἔφεσίς ἐστιν εἰς τὸ δικαστήριον, [3] καὶ τοῦτο κύριόν ἐστι τῆς δοκιμ[α]σίας. ἐπερωτῶσιν δ’, ὅταν δοκιμάζωσιν, πρῶτον μὲν ‘τίς σοι πατὴρ καὶ πόθεν τῶν δήμων, καὶ τίς πατρὸς πατήρ, καὶ τίς μήτηρ, καὶ τίς μητρὸς πατὴρ καὶ πόθεν τῶν δήμων’; μετὰ δὲ ταῦτα εἰ ἔστιν αὐτῷ Ἀπόλλων Πατρῷος καὶ Ζεὺς Ἑρκεῖος, καὶ ποῦ ταῦτα τὰ ἱερά ἐστιν, εἶτα ἠρία εἰ ἔστιν καὶ ποῦ ταῦτα, ἔπειτα γονέας εἰ εὖ ποιεῖ, [καὶ] τὰ τέλη ‹εἰ› τελεῖ, καὶ τὰς στρατείας εἰ ἐστράτευται. ταῦτα δ’ ἀνερωτήσας, [4] ‘κάλει’ φησὶν ‘τούτων τοὺς μάρτυρας’. ἐπειδὰν δὲ παράσχηται τοὺς μάρτυρας, ἐπερωτᾷ ‘τούτου βούλεταί τις κατηγορεῖν’; κἂν μὲν ᾖ τις κατήγορος, δοὺς κατηγορίαν καὶ ἀπολογίαν, οὕτω δίδωσιν ἐν μὲν τῇ βουλῇ τὴν ἐπιχειροτονίαν, ἐν δὲ τῷ δικαστηρίῳ τὴν ψῆφον· ἐὰν δὲ μηδεὶς βούληται κατηγορεῖν, εὐθὺς δίδωσι τὴν ψῆφον· καὶ πρότερον μὲν εἷς ἐνέβαλλε τὴν ψῆφον, νῦν δ’ ἀνάγκη πάντας ἐστὶ διαψηφίζεσθαι περὶ αὐτῶν, ἵνα ἄν τις πονηρὸς ὢν ἀπαλλάξῃ τοὺς κατηγόρους, ἐπὶ τοῖς δικασταῖς γένηται τοῦτον ἀποδοκιμάσαι.

[5] δοκιμασθέν‹τες› δὲ τοῦτον τὸν τρόπον, βαδίζουσι πρὸς τὸν λίθον ἐφ’ ο[ὗ] τὰ τόμι’ ἐστίν, ἐφ’ οὗ καὶ οἱ διαιτηταὶ ὀμόσαντες ἀποφαίνονται τὰς διαίτας, καὶ οἱ μάρτυρες ἐξόμνυνται τὰς μαρτυρίας· ἀναβάντες δ’ ἐπὶ τοῦτον ὀμνύουσιν δικαίως ἄρξειν καὶ κατὰ τοὺς νόμους, καὶ δῶρα μὴ λήψεσθαι τῆς ἀρχῆς ἕνεκα, κἄν τι λάβωσι ἀνδριάντα ἀναθήσειν χρυσοῦν. ἐντεῦθεν δ’ ὀμόσαντες εἰς ἀκρόπολιν βαδίζουσιν καὶ πάλιν ἐκεῖ ταὐτὰ ὀμνύουσι, καὶ μετὰ ταῦτ’ εἰς τὴν ἀρχὴν εἰσέρχονται.

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[1] Λαμβάνουσι δὲ καὶ παρέδρους ὅ τ’ ἄρχων καὶ ὁ βασιλεὺς καὶ ὁ πολέμαρχος δύο ἕκαστος, οὓς ἂν βούληται, καὶ οὗτοι δοκιμάζονται ἐν τῷ δικαστηρίῳ πρὶν παρεδρεύειν, καὶ εὐθύνας διδόασιν ἐπὰν παρεδρεύσωσιν.

[2] καὶ ὁ μὲν ἄρχων εὐθὺς εἰσελθὼν πρῶτον μὲν κηρύττει, ὅσα τις εἶχεν πρὶν αὐτὸν εἰσελθεῖν εἰς τὴν ἀρχήν, ταῦτ’ ἔχειν καὶ κρατεῖν μέχρι ἀρχῆς τέλους. ἔπειτα χορηγοὺς [3] τραγῳδοῖς καθίστησι τρεῖς, ἐξ ἁπάντων Ἀθηναίων τοὺς πλουσιωτάτους· πρότερον δὲ καὶ κωμῳδοῖς καθίστη πέντε, νῦν δὲ τούτους αἱ φυλαὶ φέρουσιν. ἔπειτα παραλαβὼν τοὺς χορηγούς, τοὺς ἐνηνεγμένους ὑπὸ τῶν φυλῶν εἰς Διονύσια ἀνδράσιν καὶ παισὶν καὶ κωμῳδοῖς, καὶ εἰς Θαργήλια ἀνδράσιν καὶ παισίν (εἰσὶ δ’ οἱ μὲν εἰς Διονύσια κατὰ φυλάς, εἰς Θαργήλια ‹δὲ› δυεῖν φυλαῖν εἷς· παρέχει δ’ ἐν μ[έρ]ει ἑκατέρα τῶν φυλῶν), τούτοις τὰς ἀντιδόσεις ποιεῖ καὶ τὰς σκήψεις εἰσ[άγει, ἐά]ν τις ἢ λελῃτουργη[κέ]ν[αι] φῇ πρότερον ταύτην τὴν λῃτουργ[ίαν, ἢ ἀ]τελὴς εἶναι λελῃτ[ου]ρ[γηκὼς ἑ]τέραν λῃτουργίαν καὶ τῶν χρόνων αὐτῷ [τῆς ἀτε]λείας μὴ ἐξεληλυθό[των, ἢ τὰ] ἔτη μὴ γεγονέναι· δεῖ γὰρ τὸν τοῖς παι[σὶν χορη]γοῦντα ὑπὲρ τετταρά[κον]τα ἔτη γεγονέναι. καθίστησι δὲ καὶ εἰς Δῆλον χορηγοὺς καὶ ἀρχ[ι]θέω[ρον τ]ῷ τριακοντορίῳ τῷ τοὺς [4] ᾐθέους ἄγοντι. πομπῶν δ’ ἐπιμελεῖτ[αι τῆς τ]ε τῷ Ἀσκληπιῷ γιγνομένης, ὅταν οἰκουρῶσι μύσται, καὶ τῆς Διονυσίων τῶν μ[εγά]λων μετὰ τῶν ἐπιμελητῶν, οὓς πρότερον μὲν ὁ δῆμος ἐχειροτόνει δέκα ὄντας, κ[αὶ τὰ] εἰς τὴν πομπὴν ἀναλώματα παρ’ αὐτῶ[ν] ἀνήλι[σ]κον, νῦν δ’ ἕνα τῆς φυλῆ[ς ἑκ]άστης κληροῖ, καὶ δίδωσιν εἰς τὴν κατασκευὴν [5] ἑκατὸν μνᾶς. ἐπιμελ[εῖτα]ι δὲ καὶ τῆς εἰς Θαργήλια καὶ τῆς τῷ Διὶ τῷ Σωτῆρι. διοικεῖ δὲ καὶ τὸν ἀγῶνα τῶ[ν Διο]νυσίων οὗτος καὶ τῶν Θαργηλίων. ἑορτῶν μὲν οὖν [6] ἐπιμελεῖται τούτων. γραφαὶ δ[ὲ καὶ δ]ίκαι λαγχάνονται πρὸς αὐτόν, ἃς ἀνακρίνας εἰς τὸ δικαστήριον εἰσάγει, [γο]νέων κακώσεως (αὗται δ’ εἰσὶν ἀζήμιοι τῷ βουλομένῳ δ[ι]ώκειν), ὀρφανῶν κ[ακώ]σεως (αὗται δ’ εἰσὶ κατὰ τῶν ἐπιτρόπων), ἐπικλήρου κακώσε[ως (αὗτ]αι δ’ εἰσὶ κατὰ [τῶν] ἐπιτρόπων καὶ τῶν συνοικούντων), οἴκου ὀρφανικοῦ κακώσεως (εἰσὶ δὲ καὶ [αὗται κατὰ τῶν] ἐπιτρόπων), παρανοίας, ἐάν τις αἰτιᾶταί τινα παρανοοῦντα τὰ [ὑπάρχοντα ἀ]πολλύν[αι], εἰς δατητῶν αἵρεσιν, ἐάν τις μὴ θέλῃ κοινὰ [τὰ

ὄντα νέμεσθ]αι, εἰς ἐπι[τρ]οπῆς κατάστασιν, εἰς ἐπιτροπῆς διαδικασίαν, εἰς [ἐμφανῶν κατάστας]ιν, ἐπίτρ[οπ]ον αὑτὸν ἐγγράψαι, κλήρων καὶ ἐπικλήρων ἐπι[δικασίαι.

[7] ἐπιμελεῖτ]αι δὲ καὶ τῶν [ὀρφ]ανῶν καὶ τῶν ἐπικλήρων, καὶ τῶν γυναικῶν ὅσαι ἂν τελευτή[σαντος τοῦ ἀνδρ]ὸς σκή[πτω]νται κύειν. καὶ κύριός ἐστι τοῖς ἀδικοῦσιν ἐπιβάλ[λειν ἢ εἰσάγειν εἰς] τὸ δικα[στή]ριον. μισθοῖ δὲ καὶ τοὺς οἴκους τῶν ὀρφανῶν καὶ τῶν ἐπικλ[ήρων, ἕως ἄν τις τετταρ]ακαιδε[κέ]τις γένηται, καὶ τὰ ἀποτιμήματα λαμβάν[ει, καὶ τοὺς ἐπιτρόπους], ἐὰν μὴ [δι]δῶσι τοῖς παισὶ τὸν σῖτον, οὗτος εἰσπράττει.

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[1] Καὶ ὁ [μὲν ἄρχων ἐπιμελεῖτ]αι τούτ[ων. ὁ] δὲ βασιλεὺς πρῶτον μὲν μυστηρίων ἐπιμελεῖ[ται μετὰ τῶν ἐπιμελητῶν ὧ]ν ὁ δῆμ[ος χ]ειροτονεῖ, δύο μὲν ἐξ Ἀθηναίων ἁπάντων, ἕνα δ' [ἐξ Εὐμολπιδῶν, ἕνα] δ' ἐκ Κηρ[ύκω]ν. ἔπειτα Διονυσίων τῶν ἐπὶ Ληναίῳ· ταῦτα δέ ἐστι [πομπή τε καὶ ἀγών. τ]ὴν μὲν οὖν πομπὴν κοινῇ πέμπουσιν ὅ τε βασιλεὺς καὶ οἱ ἐπιμεληταί, τὸν δὲ ἀγῶνα διατίθησιν ὁ βασιλεύς. τίθησι δὲ καὶ τοὺς τῶν λαμπάδων ἀγῶνας ἅπαντας· ὡς δ' ἔπος εἰπεῖν καὶ τὰς πατρίους θυσίας διοικεῖ [2] οὗτος πάσας. γραφαὶ δὲ λαγχάνονται πρὸς αὐτὸν ἀσεβείας, κἄν τις ἱερωσύνης ἀμφισβητῇ πρός τινα. διαδικάζει δὲ καὶ τοῖς γένεσι καὶ τοῖς ἱερεῦσι τὰς ἀμφισβητήσεις τὰς ὑπὲρ τῶν ἱερῶν ἁπάσας οὗτος. λαγχάνονται δὲ καὶ αἱ τοῦ φόνου δίκαι πᾶσαι πρὸς τοῦτον, καὶ ὁ προαγορεύων [3] εἴργεσθαι τῶν νομίμων οὗτός ἐστιν. εἰσὶ δὲ φόν[ου] δίκαι καὶ τραύματος, ἂν μὲν ἐκ προνοίας ἀποκτείνῃ ἢ τρώσῃ, ἐν Ἀρείῳ πάγῳ, καὶ φαρμάκων, ἐὰν ἀποκτείνῃ δούς, καὶ πυρκαϊᾶς· ταῦτα γὰρ ἡ βουλὴ μόνα δικάζει. τῶν δ' ἀκουσίων καὶ βουλεύσεως, κἂν οἰκέτην ἀποκτείνῃ τις ἢ μέτοικον ἢ ξένον, οἱ ἐπὶ Παλλαδίῳ. ἐὰν δ' ἀποκτεῖναι μέν τις ὁμολογῇ, φῇ δὲ κατὰ τοὺς νόμους, οἷον μοιχὸν λαβών, ἢ ἐν πολέμῳ ἀγνοήσας, ἢ ἐν ἄθλῳ ἀγωνιζόμενος, τούτ[ῳ] ἐπὶ Δελφινίῳ δικάζουσιν· ἐὰν δὲ φεύγων φυγὴν ὧν αἴδεσίς ἐστιν, αἰτίαν ἔχῃ ἀποκτεῖναι ἢ τρῶσαί τινα, τούτῳ δ' ἐν [4] Φρεάτου δικάζουσιν, ὁ δ' ἀπολογεῖται προσορμισάμενος ἐν πλοίῳ. δικάζουσι δ' οἱ λαχόντες τα......., πλὴν τῶν ἐν Ἀρείῳ πάγῳ γιγνομένων, εἰσάγει δ' ὁ βασιλεύς, καὶ δικάζο[υ]σιν ἐν ἱερ[ῷ] καὶ ὑπαίθριοι, καὶ ὁ βασιλεὺς ὅταν δικάζῃ περιαιρεῖται τὸν στέφανον. ὁ δὲ τὴν αἰτίαν ἔχων τὸν μὲν ἄλλον χρόνον εἴργεται τῶν ἱερῶν, καὶ οὐδ' εἰς τὴν ἀγορὰν ν[όμος] ἐμβαλεῖν αὐτῷ. τότε δ' εἰς τὸ ἱερὸν εἰσελθὼν ἀπολογεῖται. ὅταν δὲ μὴ εἰδῇ τὸν ποιήσαντα, τῷ δράσαντι λαγχάνει, δικάζει δ' ὁ βασιλεὺς καὶ οἱ φυλοβασιλεῖς, καὶ τὰς τῶν ἀψύχων καὶ τῶν ἄλλων ζῴων.

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[1] Ὁ δὲ πολέμαρχος θύει μὲν θυσίας τῇ τε Ἀρτέμιδι τῇ ἀγροτέρᾳ καὶ τῷ Ἐνυαλίῳ, διατίθησι δ’ ἀγῶνα τὸν ἐπιτάφιον, καὶ τοῖς τετελευτηκόσιν ἐν τῷ πολέμῳ καὶ [2] Ἁρμοδίῳ καὶ Ἀριστογείτονι ἐναγίσματα ποιεῖ. δίκαι δὲ λαγχάνονται πρὸς αὐτὸν ἴδιαι μὲν αἵ τε τοῖς μετοίκοις καὶ τοῖς ἰσοτελέσι καὶ τοῖς προξένοις γιγνόμεναι· καὶ δεῖ τοῦτον λαβόντα καὶ διανείμαντα δέκα μέρη, τὸ λαχὸν ἑκάστῃ τῇ φυλῇ μέρος προσθεῖναι, τοὺς δὲ τὴν φυλὴν δικάζοντας [3] τοῖς διαιτηταῖς ἀποδοῦναι. αὐτὸς δ’ εἰσάγει δίκας τάς τε τοῦ ἀπο[ς]τασίου καὶ ἀπροστασ[ί]ου καὶ κλήρων καὶ ἐπικλήρων τοῖς μετοίκοις, καὶ τἆλλ’ ὅσα τοῖς πολίταις ὁ ἄρχων, ταῦτα τοῖς μετοίκοις ὁ πολέμαρχος.

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[1] Οἱ δὲ θεσμοθέται πρῶτον μὲν τοῦ προγράψαι τὰ δικαστήριά εἰσι κύριοι, τίσιν ἡμέραις δεῖ δικάζειν, ἔπειτα τοῦ δοῦναι ταῖς ἀρχαῖς· καθότι γὰρ ἂν οὗτοι δῶσιν, κατὰ [2] τοῦτο χρῶνται. ἔτι δὲ τὰς εἰσαγγελίας εἰσαγγέλλουσιν εἰς τὸν δῆμον, καὶ τὰς καταχειροτονίας καὶ τὰς προβολὰς ἁπάσας εἰσάγουσιν οὗ[τ]οι, καὶ γραφὰς παρανόμων, καὶ νόμον μὴ ἐπιτήδειον θεῖναι, καὶ προεδρικὴν καὶ ἐπιστατικὴν [3] καὶ στρατηγοῖς εὐθύνας. εἰσὶ δὲ καὶ γραφαὶ πρὸς αὐτοὺς ὧν παράστασις τίθεται, ξενίας καὶ δωροξενίας, ἄν τις δῶρα δοὺς ἀποφύγῃ τὴν ξενίαν, καὶ συκοφαντίας καὶ δώρων καὶ ψευδεγγραφῆς καὶ ψευδοκλητείας καὶ βουλεύσεως [4] καὶ ἀγραφίου καὶ μοιχείας. εἰσάγουσιν δὲ καὶ τὰς δοκιμασίας ταῖς ἀρχαῖς ἁπάσαις, καὶ τοὺς ἀπεψηφισμένους ὑπὸ τῶν δημοτῶν, καὶ τὰς καταγνώσεις τὰς ἐκ τῆς [5] βουλῆς. εἰσάγουσι δὲ καὶ δίκας ἰδίας, ἐμπορικὰς καὶ μεταλλικάς, καὶ δούλων, ἄν τις τὸν ἐλεύθερον κακῶς λέγῃ. καὶ ἐπικληροῦσι ταῖς ἀρχαῖς οὗτοι τὰ δικαστήρια τά ‹τ'› ἴδια [6] καὶ τὰ δημόσια. καὶ τὰ σύμβολα τὰ πρὸς τὰς πόλεις οὗτοι κυροῦσι, καὶ τὰς δίκας τὰς ἀπὸ τῶν συμβόλων εἰσάγουσι, καὶ τὰ ψευδομαρτύρια ἐξ Ἀρείου πάγου.

[7] τοὺς δὲ δικαστὰς κληροῦσι πάντες οἱ ἐννέα ἄρχοντες, δέκατος δ' ὁ γραμματεὺς ὁ τῶν θεσμοθετῶν, τοὺς τῆς αὑτοῦ φυλῆς ἕκαστος.

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[1] Τὰ μὲν οὖν περὶ τοὺς θ΄ ἄρχοντας τοῦτον ἔχει τὸν τρόπον. κληροῦσι δὲ καὶ ἀθλοθέτας δέκα ἄνδρας, ἕνα τῆς φυλῆς ἑκάστης. οὗτοι δὲ δοκιμασθέντες ἄρχουσι τέτταρα ἔτη, καὶ διοικοῦσι τήν τε πομπὴν τῶν Παναθηναίων καὶ τὸν ἀγῶνα τῆς μουσικῆς καὶ τὸν γυμνικὸν ἀγῶνα καὶ τὴν ἱπποδρομίαν, καὶ τὸν πέπλον ποιοῦνται, καὶ τοὺς ἀμφορεῖς ποιοῦνται μετὰ τῆς βουλῆς, καὶ τὸ ἔλαιον τοῖς ἀθληταῖς [2] ἀποδιδόασι. συλλέγεται δὲ τὸ ἔλαιον ἀπὸ τῶν μοριῶν· εἰσπράττει δὲ τοὺς τὰ χωρία κεκτημένους ἐν οἷς αἱ μορίαι εἰσὶν ὁ ἄρχων, τρί’ ἡμικοτύλια ἀπὸ τοῦ στελέχους ἑκάστου. πρότερον δ’ ἐπώλει τὸν καρπὸν ἡ πόλις· καὶ εἴ τις ἐξορύξειεν ἐλαίαν μορίαν ἢ κατάξειεν, ἔκρινεν ἡ ἐξ Ἀρείου πάγου βουλή, καὶ εἴ [τ]ου καταγνοίη, θανάτῳ τοῦτον ἐζημίουν. ἐξ οὗ δὲ τὸ ἔλαιον ὁ τὸ χωρίον κεκτημένος ἀποτίνει, ὁ μὲν νόμος ἔστιν, ἡ δὲ κρίσις καταλέλυται. τὸ δὲ ἔλα[ιον] ἐκ τοῦ κτήματος, οὐκ ἀπὸ τῶν στελεχῶν ἐστι τῇ [3] πόλει. συλλέξας οὖν ὁ ἄρχων τὸ ἐφ’ ἑαυ[τοῦ] γιγνόμενον, τοῖς ταμίαις παρ[αδί]δωσιν εἰς ἀκρόπολιν, καὶ οὐκ ἔστιν ἀναβῆναι πρότερον εἰς [Ἄρε]ιον πάγον, πρὶν ἂν ἅπαν παραδῷ τοῖς ταμίαις. οἱ δὲ ταμίαι τὸν μὲν ἄλλον χρόνον τηροῦσιν ἐν ἀκροπόλει, τοῖς δὲ Παναθηναίοις ἀπομετροῦσι τοῖς ἀθλοθέταις, οἱ δ’ ἀθλοθέται τοῖς νικῶσι τῶν ἀγωνιστῶν. ἔστι γὰρ ἆθλα τοῖς μὲν τὴν μουσικὴν νικῶσιν ἀργύριον καὶ χρυσᾶ, τοῖς δὲ τὴν εὐανδρίαν ἀσπίδες, τοῖς δὲ τὸν γυμνικὸν ἀγῶνα καὶ τὴν ἱπποδρομίαν ἔλαιον.

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[1] Χειροτονοῦσι δὲ καὶ τὰς πρὸς τὸν πόλεμον ἀρχὰς ἁπάσας, στρατηγοὺς δέκα, πρότερον μὲν ἀφ᾽ ‹ἑκάστης› φυλῆς ἕνα, νῦν δ᾽ ἐξ ἁπάντων· καὶ τούτους διατάττουσι τῇ χειροτονίᾳ, ἕνα μὲν ἐπὶ τοὺς ὁπλίτας, ὃς ἡγεῖται τῶν ὁπλιτῶν, ἂν ἐξίωσι, ἕνα δ᾽ ἐπὶ τὴν χώραν, ὃς φυλάττει, κἂν πόλεμος ἐν τῇ χώρᾳ γίγνηται, πολεμεῖ οὗτος. δύο δ᾽ ἐπὶ τὸν Πειραιέα, τὸν μὲν εἰς τὴν Μουνιχίαν, τὸν δ᾽ εἰς τὴν Ἀκτήν, οἳ τῆς φυλ‹ακ›ῆς ἐπιμελοῦνται καὶ τῶν ἐν Πειραιεῖ· ἕνα δ᾽ ἐπὶ τὰς συμμορίας, ὃς τούς τε τριηράρχους καταλέγει, καὶ τὰς ἀντιδόσεις αὐτοῖς ποιεῖ, καὶ τὰς διαδικασίας αὐτοῖς εἰσάγει· τοὺς δ᾽ ἄλλους πρὸς τὰ παρόντα [2] πράγματα ἐκπέμπουσιν. ἐπιχειροτονία δ᾽ αὐτῶν ἐστι κατὰ τὴν πρυτανείαν ἑκάστην, εἰ δοκοῦσιν καλῶς ἄρχειν· κἄν τινα ἀποχειροτονήσωσιν, κρίνουσιν ἐν τῷ δικαστηρίῳ, κἂν μὲν ἁλῷ, τιμῶσιν ὅ τι χρὴ παθεῖν ἢ ἀποτεῖσαι, ἂν δ᾽ ἀποφύγῃ, πάλι[ν] ἄρχει. κύριοι δέ εἰσιν ὅταν ἡγῶνται καὶ δῆσαι τὸν ἀτακτοῦντα καὶ ‹ἐκ›κ[η]ρῦξαι καὶ ἐπιβολὴν ἐπιβάλλειν· οὐκ εἰώθασι δὲ ἐπιβάλλειν.

[3] χειροτονοῦσι δὲ καὶ ταξ[ι]άρχους δέκα, ἕνα τῆς φυλῆς ἑκάστης· οὗτος δ᾽ ἡγεῖται τῶν φυλετῶν καὶ λοχαγοὺς καθίστησιν.

[4] χειροτονοῦσι δὲ καὶ ἱππάρχους δύο ἐξ ἁπάντων· οὗτοι δ᾽ ἡγοῦνται τῶν ἱππέων, διελόμ[ενοι] τὰς φυλὰς ε´ ἑκάτερος· κύριοι δὲ τῶν αὐτῶν εἰσιν ὧνπερ οἱ στρατηγοὶ κατὰ τῶν ὁπλιτῶν. ἐπιχειροτονία δὲ γίγνεται ‹καὶ› τούτων.

[5] χειροτονοῦσι δὲ καὶ φυλάρχους ‹ι´›, ἕνα τῆς φυλῆς, τὸν ἡγησόμενον ‹τῶν ἱππέων› ὥσπερ οἱ ταξίαρχοι τῶν ὁπλιτῶν.

[6] χειροτονοῦσι δὲ καὶ εἰς Λῆμνον ἵππαρχον, ὃς ἐπιμελεῖται τῶν ἱππέων τῶν ἐν Λήμνῳ.

[7] χειροτονοῦσι δὲ καὶ ταμίαν τῆς Παράλου καὶ ν[ῦν] τῆς το[ῦ] Ἄμμωνος.

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[1] Αἱ δὲ κληρωταὶ ἀρχαὶ πρότερον μὲν ἦσαν αἱ μὲν μετ’ ἐννέα ἀρχόντων ἐ[κ] τῆς φυλῆς ὅλης κληρούμεναι, αἱ δ’ ἐν Θησείῳ κληρούμεναι διῃροῦντο εἰς τοὺς δήμ[ο]υς· ἐπειδὴ δ’ ἐπώλουν οἱ δῆμοι, καὶ ταύτας ἐκ τῆς φυλῆς ὅλης κληροῦσι, πλὴν βουλευτῶν καὶ φρουρῶν· τούτους δ’ εἰς τοὺς δήμους ἀποδιδόασι.

[2] μισθοφοροῦσι δὲ πρῶτον ὁ δῆμος ταῖς μὲν ἄλλαις ἐκκλησίαις δραχμήν, τῇ δὲ κυρίᾳ ἐννέα ‹ὀβολούς›· ἔπειτα τὰ δικαστήρια τρεῖς ὀβολούς· εἶθ’ ἡ βουλὴ πέντε ὀβολούς· τοῖς δὲ πρυτανεύουσιν εἰς σίτησιν ὀβολὸς προστίθεται δέκα προστίθενται. ἔπειτ’ εἰς σίτησιν λαμβάνουσιν ἐννέ’ ἄρχοντες τέτταρας ὀβολοὺς ἕκαστος, καὶ παρατρέφουσι κήρυκα καὶ αὐλητήν· ἔπειτ’ ἄρχων εἰς Σαλαμῖνα δραχμὴν τῆς ἡμέρας. ἀθλοθέται δ’ ἐν πρυτανείῳ δειπνοῦσι τὸν Ἑκ[ατ]ομβαιῶνα μῆνα, ὅ[τ]αν ᾖ τὰ Παναθήναια, ἀρξάμενοι ἀπὸ τῆς τετράδος ἱσταμένου. ἀμφικτύονες εἰς Δῆλον δραχμὴν τῆς ἡμέρας ἑκάστης ἐκ Δήλου ‹λαμβάνουσι›. λαμβάνουσι δὲ καὶ ὅσαι ἀποστέλλονται ἀρχαὶ εἰς Σάμον ἢ Σκῦρον ἢ Λῆμνον ἢ Ἴμβρον εἰς σίτησιν ἀργύριον.

[3] ἄρχειν δὲ τὰς μὲν κατὰ πόλεμον ἀρχὰς ἔξεστι πλεονάκις, τῶν δ’ ἄλλων οὐδεμίαν, πλὴν βουλεῦσαι δίς.

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[1] Τὰ δὲ τὰ δικαστήρια [κ]ληρ[οῦ]σ[ιν] οἱ θ´ ἄρχοντες κατὰ φυλάς, ὁ δὲ γραμματεὺς τῶν θεσμο[θετῶν τῆς] δεκάτης [2] φυλῆς. εἴσοδοι δέ εἰσιν εἰς [τὰ] δικαστ[ή]ρια δέκα, μία τῇ φυλῇ ἑκάστῃ, καὶ κλη[ρωτήρι]α εἴκοσι, δ[ύο τ]ῇ φυλῇ ἑκάστῃ, καὶ κιβώτια ἑκατόν, δέκα τῇ φυλῇ ἑκάστῃ, καὶ ἕτερα κιβώτι[α, εἰς ἃ] ἐμβάλλεται τῶν λαχόντων δικαστῶν τὰ πινάκια, καὶ ὑδρίαι δύο. καὶ βακτηρίαι παρατίθενται κατὰ τὴν ἔ[ξοδον] ἑκάστην, ὅσοιπερ οἱ δικασταί, καὶ βάλανοι εἰς τὴν ὑδρίαν ἐμβάλλονται ἴσαι ταῖς βακτηρίαις, ἐγ[γ]έγραπται δ’ ἐν ταῖς βαλάνοις τῶν στοιχείων ἀπὸ τοῦ ἑνδεκάτου τοῦ λ τριακοστοῦ, ὅσαπερ ἂν μέλλῃ [τ]ὰ δικαστήρια [3] πληρωθήσεσθαι. δικάζειν δ’ ἔξεστιν τοῖς ὑπὲρ λ´ ἔτη γεγονόσιν, ὅσοι αὐτῶν [μ]ὴ ὀφείλουσιν τῷ δημοσίῳ ἢ ἄτιμοί εἰσιν. ἐὰν δέ τι[ς] δικάζῃ οἷς μὴ ἔξεστιν, ἐνδείκνυται καὶ εἰς τὸ δικαστήριον εἰσάγετ[αι]· ἐὰν δ’ ἁλῷ, προστιμῶσιν αὐτῷ οἱ δικασταί, ὅ τι ἂν δοκῇ ἄξιος εἶναι παθεῖν ἢ ἀποτεῖσαι. ἐὰν δὲ ἀργυρίου τιμηθῇ, δεῖ αὐτὸν δεδέσ[θαι], ἕως ἂν ἐκτείσῃ τό τε πρότερον ὄφλημα ἐφ’ ᾧ ἐνεδείχθη, [4] καὶ ὅ τι ἂν αὐτῷ προστιμήσῃ τ[ὸ δικ]αστήριον. ἔχει δ’ ἕκαστος δικαστὴς τὸ πινάκιον πύξινον, ἐπιγεγραμμένον τὸ ὄνομα τὸ ἑαυτοῦ πατρόθεν καὶ τοῦ δήμου, καὶ γράμμα ἓν τῶν στοιχείων μέχρι τοῦ κ· νενέμηνται γὰρ κατὰ φυλὰς δέκα μέρη οἱ δικασταί, παραπλησίως ἴσοι ἐν ἑκάστῳ τῷ γράμ[μα]τι.

[5] ἐπειδὰν δὲ ὁ θεσμοθέτης ἐπικληρώσῃ τὰ γράμματα, ἃ δεῖ προσπαρατίθεσθαι τοῖς δικαστηρίοις, ἐπέθηκε φέρων ὁ ὑπηρέτης ἐφ’ ἕκαστ[ον] τὸ δικ[α]στήριον τὸ γράμμα τὸ λαχόν.

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[1] τὰ δὲ [κιβώ]τια τὰ δέ[κ]α κ[εῖται ἐ]ν ̣τ[ῷ ἔμ]προσθεν [̣τ]ῆς εἰσόδου [κ]αθ’ ἑκάστην τὴν φυλήν. ἐπιγέ[γρ]απται δ’ ἐπ’ αὐτῶν τὰ σ̣τ̣ο̣[ι]χεῖα μέχρι [τοῦ] κ. ἐ[π]ειδὰν δ’ ἐμβάλωσιν οἱ δικασταὶ τ[ὰ] πινάκια εἰς τὸ κιβώτι[ον], ἐφ’ οὗ ἂν ᾖ ἐπι[γεγρα]μμένον τὸ γράμ[μα] τὸ αὐτὸ ὅπ[ε]ρ ἐπ[ὶ τῷ π]ινακίῳ ἐστὶν α[ὐτ]ῷ τῶν στοιχείω[ν, δια]σείσαντος τοῦ ὑ[πη]ρέτου ἕλκει ὁ [θεσμο]θέτης ἐξ ἑκάσ[τ]ου [2] τοῦ κιβωτίο[υ πιν]άκιον ἕν. οὗτος δὲ καλεῖ[τ]αι ἐμ[πήκτ]ης, καὶ ἐμπήγνυσι τὰ πι[ν]άκια [τὰ ἐκ το]ῦ κιβωτίου εἰς τὴν κανονίδα, [ἐφ’ ἧς τὸ α]ὐτὸ γράμμα ἔπεστιν ὅπερ ἐπὶ τοῦ [κιβωτίο]υ. ḳ[ληροῦται δ’] οὗτος, ἵνα μὴ ἀεὶ ὁ αὐτὸς ἐμπ[ηγνύων] κακουργῇ. εἰσὶ δὲ κανονίδες [πέντε ἐ]ν ἑκάστῳ τῶν κληρωτηρίων.

[3] ὅ[ταν δὲ] ἐμβάλῃ τοὺς κύβους, ὁ ἄρχων τὴν φυλὴν κληρ[οῖ κατὰ κ]ληρωτήριον. εἰσὶ δὲ κύβοι χ̣α̣[λκοῖ, μέ]λανες καὶ λευκοί. ὅσους δ’ ἂν δέ[ῃ λαχεῖν] δικαστάς, τοσοῦτοι ἐμβάλλον[ται λε]υκοί, κατὰ πέντε πινάκια εἷς, οἱ δὲ [μέλ]ανες τὸν αὐτὸν τρόπον. ἐπειδὰν δ’ ἐ[ξαιρῇ] τοὺς κύβους, καλεῖ τοὺς εἰληχότας ὁ κ[ήρυξ]. ὑπάρχει δὲ καὶ ὁ ἐμπήκτης [4] εἰς τὸν ἀ[ριθμό]ν. ὁ δὲ κληθεὶς καὶ ὑπακ[ού]σας ἕλ[κ]ει [βάλανο]ν ἐκ τῆς ὑδρίας, καὶ ὀρέξας αὐτή[ν, ἀνέχ]ων τὸ γράμμα, δ[εί]κνυσιν πρῶ[τον μὲν] τῷ ἄρχοντι τῷ ἐφεστηκότι. ὁ δὲ ἄρχω[ν ἐπειδ]ὰν ἴδῃ, ἐμβάλλει τὸ πινάκιον α[ὐ]το[ῦ εἰς τὸ κ]ιβώτιον, ὅπου ἂν ᾖ ἐπιγεγραμ[μέν]ον τὸ αὐτὸ στοιχεῖον ὅπερ ἐν τῇ βαλ[άνῳ, ἵ]ν’ εἰς οἷον ἂν λάχῃ εἰσίῃ καὶ μὴ εἰς [οἷο]ν ἂν βούληται, μηδὲ ᾖ συναγαγεῖν [εἰς] δικαστήριον οὓς ἂν [5] βούληταί τις. πα[ράκει]ται δὲ τῷ ἄρχοντι κιβώτια, ὅσαπερ [ἂν μ]έλλῃ τὰ δικαστήρι[α πληρωθήσεσθαι, [ἔχο]ντα στοιχεῖον ἕκαστον, ὅπερ ἂν [ᾖ τὸ] τοῦ δικαστηρίου ἑκάστου]

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[1] εἰληχός. αὐτ[ὸς δὲ δείξα]σ̣ π̣ά̣λ̣ι̣ν̣ τ̣[ῷ ὑ]πηρέτῃ εἶτ’ ἐ[ντὸς εἰσέρχετ]αι τῆς κ̣[ι]γκλ̣[ίδ]ος. ὁ δὲ ὑπηρέτης [δίδωσιν αὐτ]ῷ βακτηρίαν ὁ]μόχρων τῷ δικαστ[ηρίῳ, οὗ τὸ] αὐτὸ [γρ]άμμα ἐ[στὶν ὅ]περ ἐν τῇ βαλάνῳ, ἵν[α ἀναγ]καῖον ᾖ αὐτῷ ε]ἰσελθεῖν εἰς ὃ εἴληχε [δικας]τήριον· ἐὰν γὰρ ε]ἰς ἕτερον εἰσ[ίῃ], ἐξε[λέγχετα]ι ὑπὸ τοῦ χρώματ]ος [2] [τ]ῆς βακτηρίας. τοῖ[ς γὰρ δι]καστηρίοις χρῶμ]ατα ἐπιγέγραπται [ἑκάς]τῳ ἐπὶ τῷ σφηκ]ίσκῳ τῆς εἰσ[όδο]υ. ὁ δ[ὲ λαβὼ]ν τὴν βακτηρία]ν βαδίζει εἰ[ς τ]ὸ δικασ[τήριον] τὸ ὁμόχρων μὲν τῇ βακτ[ηρί]ᾳ, ἔχ[ον δὲ τ]ὸ αὐτὸ γράμμα ὅπερ ἐν [τ]ῇ βαλάν[ῳ]. ἐπε[ιδὰν δ’ εἰς]έλθῃ, παραλαμβάνει σύμβολον δη[μοσίᾳ] παρὰ τοῦ εἰληχό]τος [3] ταύτη[ν] τὴν ἀ[ρχήν. ε]ἶτα τήν τε [β]άλαν[ον καὶ τὴν βακτηρίαν ‹ἀποτιθέασιν› [ἐν τῷ δ]ικαστηρίῳ τοῦτο[ν] ‹τὸν› τρόπον ε[ἰ]σελ[ηλυθό]τες. τοῖς δ’ ἀπολαγχάνουσ[ιν] ἀποδιδ[όασιν] οἱ ἐμπῆκται [4] τὰ πινάκια. οἱ δὲ ὑπη[ρέται] οἱ δημόσιοι ἀπ[ὸ τῆς φυλῆς ἑκάστης π[αραδι]δόασιν τὰ κ[ιβώτια, ἓν ἐπὶ τὸ δικα[στήρ]ιον ἕκαστον, ἐ[ν] ᾧ ἔνεστιν τὰ ὀνόματ[α τῆς] φυλῆς τὰ ὄντα ἐν ἑκάστῳ τῶν δικασ[τηρί]ων. παραδιδόασι δὲ τοῖς εἰληχό[σι] ταῦ[τ]α [ἀπο]διδόναι τοῖς δικασταῖς ἐν ἑκάστῳ τῷ δικα[στηρί]ῳ ἀριθμῷ τὰ πινάκια, [ὅπ]ως ἐκ τούτων [κ]αλοῦντες ἀπο[διδῶσι

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[1] τὸν μισθόν. ἐπειδὰν δὲ πάντα πλή[ρ]η ἦ̣ τὰ δικαστήρια, τίθεται ἐν τῷ πρώτῳ [τ]ῶν δικαστηρ[ί]ω[ν] β´ κληρωτήρια καὶ κύβοι χαλκοῖ, ἐν οἷς ἐπιγέγραπται τὰ χ[ρ]ώματα τῶν [δι]κ[ας]τηρίων, καὶ ἕτεροι κύ[βο]ι, ἐν οἷς ἐσ[τι]ν τῶν ἀρ[χῶ]ν τὰ [ὀ]νό [μ]ατα ἐπιγε[γ]ραμμένα. λαχόντες [δὲ] τῶν θεσ[μ]οθετῶν δύο χωρὶς ἑκατέρων τοὺς κύ[β]ο[υς ἐμβάλλουσιν, ὁ μὲν τὰ χρώματα ε[ἰ]ς τ[ὸ] ἓν κλ[ηρ]ωτήριον, ὁ δὲ τῶν ἀρχῶν τὰ ὀν[ό]ματα [εἰς τὸ] ἕτ[ερ]ον. ἣ δ’ ἂν π[ρ]ώτη λάχῃ τῶν ἀρχῶν, αὕ̣τ̣[η ἀ]ναγορεύεται ὑπὸ τοῦ κήρυκος [ὅ]τι χρήσε[τα]ι [τ]ῷ π[ρ]ώτῳ λ]α̣χόντι [δ]ικα[στηρίῳ, ἡ δὲ δευτέ]ρ[α τῷ δευτέρῳ, καὶ ὡ[σαύτως τοῖς ἄλλοις, ἵ]να [μηδεμία προειδ[ῇ τίνι αὐτῶν χρήσεται], ἀλλ’ οἷον [2] ἂν λά[χ]ῃ ἑκάσ[τη, τούτῳ χρήσηται. ἐπε]ιδὰ[ν δ’ ἔλθωσιν καὶ ν[ενεμημένοι ἐφ’ ἕκαστον ὦ]σιν [οἱ δικασταί, ἡ ἀρχὴ ἡ [ἐφεστηκυῖα ἐν τ]ῷ δ[ικαστηρίῳ ἑκάστῳ [ἕλκει ἐξ ἑκάστου τοῦ] κιβ[ωτίου πινάκιον [ἕν, ἵνα γένωνται δέκα], εἷς [ἐξ ἑκάστης τῆς φυ[λῆς, καὶ ταῦτα τὰ πινάκ]ια εἰς ἕτερον κενὸν κ[ιβώτιον ἐμβάλλει· καὶ] τού[των ε´ τοὺς πρώτους δ[ιακληροῖ, ἕνα μὲν] ἐπ[ὶ τὸ ὕδωρ, τέτταρας δὲ [ἄλλους ἐπὶ τὰς ψή]φους, [ἵνα μηδεὶς παρασκε[υάζῃ]ι [μήτε] τὸν ἐπ[ὶ τὸ ὕδωρ μήτε τοὺ[ς ἐπὶ τ]ὰς ψή[φου]ς, μηδ[ὲ γίγνηται περὶ ταῦτ[α κα]κούρ[γημ]α μηδ[έ]ν.

[3] οἱ δὲ ἀπολαχόντ[ες π]έντε π[αρ]ὰ τούτ[ω]ν ἀπολαμβάνουσ[ι τὸ π]ρόγ[ραμμ]α, καθ’ ὅτι τὸν μισθὸν λ[ήψο]ντ[αι] καὶ ὅπου ἔκ[α]σται αἱ φυλαὶ ἐν α[ὐτῷ] τῷ δικ[α]στηρίῳ, ἐ[π]ειδὰν δικάσωσι[ν, ὅπως], δ̣ιαστά̣ντες ἕκα[στο]ι, κατ’ ὀλίγους [λάβ]ωσι κα[ὶ] μὴ πολλο[ὶ] εἰς ταὐτὸ συνκλε[ισθέντες ἀλ]λήλοις ἐνοχλῶσιν.

[1] ταῦτα δὲ ποιήσ[αντες εἰ]σκαλοῦσι τοὺς ἀγῶνας, ὅταν μὲν τὰ ἴδια [δι]κάζωσι τοὺς ἰδίους, τῷ ἀριθμῷ δʹ, [ἕνα ἐ]ξ̣ [ἑκά]στων [τ̣]ῶν δικῶν τ[ῶ]ν ἐκ τοῦ νόμο[υ], κ[α]ὶ δ[ιο]μνύ[ουσι]ν οἱ ἀντίδικοι εἰς αὐτὸ τὸ πρᾶγμ[α] ἐρεῖν· [ὅταν] δὲ τὰ δ[η]μόσια, τοὺς δημοσίο[υ]ς, καὶ ἕν[α μόνον ἐ]κδικάζουσι.

[2] εἰσὶ δὲ κλεψύδ[ραι] αὐλ[ίσκους] ἔχουσα̣ι̣ ἔ̣κρους, εἰς ἃς τὸ ὕδ̣[ω]ρ ἐ̣γχέ[ουσι, πρὸ]ς ὃ δεῖ [λ]έγειν [περ]ὶ τὰς δίκας. δίδ̣[οτ]α̣ι ‹δὲ› δ̣ε̣κ̣άχους [τ]αῖς ὑπὲρ πεντακισχιλίας καὶ τρίχ[ο]υς τῷ δ[ευτέρῳ] λό[γῳ], ἑ πτάχους δὲ ταῖς μέχρι πεν[τα]κ̣[ι]σχιλί]ων καὶ δίχους, πεν]τ̣άχους δὲ τα[ῖς] ἐ̣ν[τὸ]ς [β] καὶ δίχους, ἑξάχους δ̣ὲ̣ ταῖς διαδικ̣[ας]ί[α]ις, ‹αἷς› [ὕστ]ερον λόγος οὐκ ἔ̣σ[τιν [3] οὐ]δεί[ς. ὁ] δ’ ἐ[φ’ ὕδ]ωρ [εἰ]λη[χ]ὼς ἐπιλαμβάνει τ̣ὸν α[ὐλίσκον, ἐπειδὰν μέλλῃ τινὰ ἢ] νόμον ἢ μαρ[τυρίαν ἢ τοιοῦτόν τι ὁ γραμμ]ατεὺς ἀναγι[γνώσκειν. ἐπειδὰν δὲ] ἦ̣ [πρὸς] διαμεμετρη[μένην τὴν ἡμέρα]ν̣ ὁ [ἀγὼν, τότ]ε δὲ οὐκ ἐπιλαμβ[άνει αὐτόν, ἀλλὰ δίδοτα]ι τὸ [ἴσο]ν ὕδωρ τῷ τε κα[τηγοροῦντι καὶ τῷ ἀπο]λογ[ουμ]ένῳ, [4] διαμετ[ρεῖται δὲ πρὸς τὰς ἡμέ]ρας [το]ῦ Ποσιδεῶνος [.................. α̣ρο̣...ντ̣α̣ι χρῶντ[αι ....]ια [...]τενταις τα κλι[.................]π̣ο̣τ̣ι..α̣σιν οἱ δι[κ]ασ̣[ταὶ ....]ολ[.....]ισον ἕκαστοι λ̣................τε[...] γὰρ ἔσπευδο[ν ....πετ[..]ρος ἐξωθεῖν τοὺς [.................]λει..ν ὕδωρ λαμβα[ν.............] εἰ[σιν ὁ] μὲν ἕτ̣ερος τοῖς δ[ιώκουσιν, ὁ δ’ ἕτερος] το[ῖς] φεύγου[ς]ιν.

[5] ἐν δὲ τοῖς [.................]α̣τ̣ο̣[...] ἐξεῖλε τῷ διαψη[φισμῷ ....]ῳ, δ̣ι̣[αιρ]εῖται δ’ [ἡ ἡμ]έ[ρ]α ἐπὶ τοῖς [.............. ἀγώ]νω[ν ὅ]σοις πρόσεστι δεσμ[ὸς ἢ θάνατος ἢ φυγὴ ἢ ἀτ]ι̣μία ἢ δήμευσις χρημάτ[ων, ἢ τιμῆσαι δ]ε[ῖ ὅ] τι χρὴ παθεῖν

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[1] ἢ ἀποτεῖ[σαι. τὰ δὲ δημόσι]α τῶν [δικ]αστηρίων ἐστὶ φ[α´ ....]σο.. [..]ασιν· ὅταν δὲ δέ[ῃ τὰς .... γραφ]ὰς ε[ὶς ᾶ εἰ]σαγαγεῖν, συν[έρχεται β´ δικαστή]ρια εἰ[ς] τὴν ἡλιαίαν τα.[.............]κ̣ν̣α̣.. εἰς φ´ καὶ ᾶ [2] τρία [δ̣ικαστήρια. ψῆφοι δέ] εἰσιν [χ]αλκαῖ, αὐλίσκον [ἔχουσαι ἐν τῷ μέσῳ, αἱ μ]ὲ[ν] ἡμίσειαι τετρυ[πημέναι, αἱ δὲ ἡμίσειαι πλ]ήρει[ς· οἱ] δὲ λαχόντες [ἐπὶ τὰς ψήφους, ἐπειδὰν εἰ]ρ[η]μένοι ὦσιν [οἱ λόγοι, παραδιδόασιν ἑ]κάστῳ τῶν δικαστ[ῶν δύο ψήφους, τετρυπ]ημέν[η]ν καὶ πλήρη, [φανερὰς ὁρᾶν τοῖς ἀντιδί]κο[ις, ἵ]να μήτε πλή[ρεις μήτε τετρυπημένας] ἀμφ[ο]τέρας λαμβάν[ωσιν. ὁ δὲ ταύτην τὴν ἀρχὴν] ε̣ἰληχὼς ἀπολα[μβάνει τὰ σύμβολα, ἀνθ’ [ὧ]ν εἷς ἕκαστος ψηφιζ[όμενος λαμβάνει σύμβολο]ν [χ]αλκοῦν μετὰ] τοῦ γ (ἀποδιδοὺς [γ]ὰρ γ´ λαμβάνει), ἵ[να] ψηφίζωντ]αι πάντες· οὐ [γὰ]ρ ἔστι λαβεῖν σ[ύ]μβολον [3] οὐδεν]ί, ἐὰν μὴ ψηφίζηται. εἰσὶ δὲ ἀμφ[ο]ρεῖς δύο κεί]μενοι ἐν τῷ δικαστηρίῳ, ὁ μὲν χ[α]λκοῦς, ὁ δὲ ξύ]λινος, διαιρετοὶ [ὅ]πως μὴ λ̣[άθ]ῃ ὑπο[β]άλλων τις ψή]φους, εἰς οὓς ψηφίζονται οἱ δικαστα[ί], ὁ μὲν χαλκοῦ]ς κύριος, ὁ δὲ ξύλινος ἄκυρ[ος], ἔχω[ν] ὁ χαλκοῦς ἐ]πίθημα διερρινημένο[ν], ὥστ’ αὐ[τ]ὴν μόνη]ν χωρεῖν τὴν ψῆφον, ἵνα μὴ δύο [ὁ] αὐτὸς [4] ἐμβάλλ]ῃ. ἐπειδὰν δὲ διαψηφίζεσ[θ]αι μέλ[λ]ωσιν οἱ δικα]σταί, ὁ κῆρυξ ἀγορεύει πρῶτον, ἂν ἐ[π]ισκήπτων]ται οἱ ἀντίδικοι ταῖς μαρτυρίαις· [ο]ὐ γὰρ ἔστιν] ἐπισκήψασθαι, ὅταν ἄρξωνται διαψηφίζες]θαι. ἔπειτα πάλιν ἀνακηρύττει ‘ἡ τετρυπη]μένη τοῦ πρότερον λ[έγο]ν[τ]ος, ἡ δ[ὲ] πλήρης το]ῦ ὕστερον λέγοντος.’ ὁ δὲ δικαστὴς λαβόμενος] ἐκ τοῦ λυχνείου τὰς ψήφους, πιέ[ζ]ων τὸν αὐλίσκον] τῆς ψήφου καὶ οὐ δεικνύων [τ]οῖς ἀγωνιζο]μένοις οὔτε τὸ τετρυπημέ[ν]ον οὔτε τ]ὸ πλῆρες, ἐμβάλλει τὴν μὲν κυ[ρία]ν εἰς τὸν χαλ]κοῦν ἀμφορέα, τὴν δὲ ἄκυρο[ν] εἰς

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[1] τὸν ξύλ]ινον. πάντες δ’ ἐπειδὰν ὦσι διεψηφις]μένοι, λαβόντες οἱ ὑπηρέται τὸν ἀ]μφορέα τὸν κύριον, ἐ[ξ]ερῶσι ἐπὶ ἄβακα τρ]υπήματα ἔχοντα ὅ[ς]αιπερ εἰσὶν αἱ ψῆφοι, ἵν’] αὗται [φανερ]αὶ προκείμεναι καὶ εὐαρίθμητοι ὦσι]ν, καὶ τὰ [τρ]υπητὰ καὶ τὰ πλήρη δῆλα τοῖς ἀν]τιδ[ί]κοις. οἱ δ[ὲ] ἐπὶ τὰς ψήφους [ε]ἰληχότες] δια[ριθμοῦσιν] αὐτὰς [ἐ]πὶ τοῦ ἄβακος, χωρὶ]ς μὲ[ν τὰς] πλήρεις, χω[ρ]ὶς δὲ τὰς τετρυπ]ημένας. καὶ ἀναγορεύει ὁ κήρυξ τὸν ἀριθ]μὸν τῶν ψήφων, τοῦ μὲν διώκον]τος τὰς τετρυπημένας, τοῦ δὲ φ[εύ]γοντος τ]ὰς πλήρεις· ὁποτέρῳ δ’ ἂν πλείω[ν γ]ένηται, [2] οὗ]τος νικᾷ, ἂν δὲ ἴσαι, ὁ φ[εύ]γων. ἔ[π]ειτα πάλιν τιμῶσι, ἂν δέῃ τιμῆσαι, τὸν αὐτὸν τρόπον ψηφιζόμενοι, τὸ μὲν σύμβολον ἀποδιδόντες, βακτηρίαν δὲ πάλιν παραλαμβάνοντες. ἡ δὲ τίμησίς ἐστιν πρὸς ἡμίχουν ὕδατος ἑκατέρῳ. ἐπειδὰν δὲ αὐτοῖς ᾖ δεδικασμένα τὰ ἐκ τῶν νόμων, ἀπολαμβάνουσιν τὸν μισθὸν ἐν τῷ μέρει οὗ ἔλαχον ἕκαστοι.

The Biographies

Archaeological site of Plato's Academy, north of Athens, which Aristotle attended

ARISTOTLE: LIVES OF THE EMINENT PHILOSOPHERS
by Diogenes Laërtius

Translated by Robert Drew Hicks

Diogenes Laërtius was a biographer of Greek philosophers, who flourished in the third century AD. Very little is known about his life, although his collection of biographies, *Lives of the Eminent Philosophers,* is the principal surviving source for Ancient Greek philosophy.

Laërtius divides the biographies into two divisions, which he names the Ionian and Italian schools. The Ionian biographies begin with Anaximander and conclude with Clitomachus, Theophrastus and Chrysippus; the latter begins with Pythagoras, and ends with Epicurus. The Socratic school, with its various branches, is classed with the Ionic; while the Eleatics and sceptics are treated under the Italic. He also includes his own poetic verse about the philosophers he discusses. Book IV is devoted to the work of the Peripatetic school, beginning with their leader Aristotle.

A 13th century manuscript containing the biography

ARISTOTLE

1. Aristotle, son of Nicomachus and Phaestis, was a native of Stagira. His father, Nicomachus, as Hermippus relates in his book *On Aristotle*, traced his descent from Nicomachus who was the son of Machaon and grandson of Asclepius; and he resided with Amyntas, the king of Macedon, in the capacity of physician and friend. Aristotle was Plato's most genuine disciple; he spoke with a lisp, as we learn from Timotheus the Athenian in his book *On Lives*; further, his calves were slender (so they say), his eyes small, and he was conspicuous by his attire, his rings, and the cut of his hair. According to Timaeus, he had a son by Herpyllis, his concubine, who was also called Nicomachus.

2. He seceded from the Academy while Plato was still alive. Hence the remark attributed to the latter: "Aristotle spurns me, as colts kick out at the mother who bore them." Hermippus in his *Lives* mentions that he was absent as Athenian envoy at the court of Philip when Xenocrates became head of the Academy, and that on his return, when he saw the school under a new head, he made choice of a public walk in the Lyceum where he would walk up and down discussing philosophy with his pupils until it was time to rub themselves with oil. Hence the name "Peripatetic." But others say that it was given to him because, when Alexander was recovering from an illness and taking daily walks, Aristotle joined him and talked with him on certain matters.

3. In time the circle about him grew larger; he then sat down to lecture, remarking:

It were base to keep silence and let Xenocrates speak.

He also taught his pupils to discourse upon a set theme, besides practising them in oratory. Afterwards, however, he departed to Hermias the eunuch, who was tyrant of Atarneus, and there is one story that he was on very affectionate terms with Hermias; according to another, Hermias bound him by ties of kinship, giving him his daughter or his niece in marriage, and so Demetrius of Magnesia narrates in his work on *Poets and Writers of the Same Name*. The same author tells us that Hermias had been the slave of Eubulus, and that he was of Bithynian origin and had murdered his master. Aristippus in his first book *On the Luxury of the Ancients* says that Aristotle fell in love with a concubine of Hermias, 4. and married her with his consent, and in an excess of delight sacrificed to a weak woman as the Athenians did to Demeter of Eleusis; and that he composed a paean in honour of Hermias, which is given below; next that he stayed in Macedonia at Philip's court and received from him his son Alexander as his pupil; that he petitioned Alexander to restore his native city which had been destroyed by Philip and obtained his request; and that he also drew up a code of laws for the inhabitants. We learn further that, following the example of Xenocrates, he made it a rule in his school that every ten days a new president should be appointed. When he thought that he had stayed long enough with Alexander, he departed to Athens, having first presented to Alexander his kinsman Callisthenes of Olynthus. 5. But when Callisthenes talked with too much freedom to the king and disregarded his own advice, Aristotle is said to have rebuked him by citing the line:

Short-lived, I ween, wilt thou be, my child, by what thou sayest.

And so indeed it fell out. For he, being suspected of complicity in the plot of Hermolaus against the life of Alexander, was confined in an iron cage and carried about until he became infested with vermin through lack of proper attention; and finally he was thrown to a lion and so met his end.

To return to Aristotle: he came to Athens, was head of his school for thirteen years, and then withdrew to Chalcis because he was indicted for impiety by Eurymedon the hierophant, or, according to Favorinus in his *Miscellaneous History*, by Demophilus, the ground of the charge being the hymn he composed to the aforesaid Hermias, 6. as well as the following inscription for his statue at Delphi:

This man in violation of the hallowed law of the immortals was unrighteously slain by the king of the bow-bearing Persians, who overcame him, not openly with a spear in murderous combat, but by treachery with the aid of one in whom he trusted.

At Chalcis he died, according to Eumelus in the fifth book of his *Histories*, by drinking aconite, at the age of seventy. The same authority makes him thirty years old when he came to Plato; but here he is mistaken. For Aristotle lived to be sixty-three, and he was seventeen when he became Plato's pupil.

The hymn in question runs as follows:

7. O virtue, toilsome for the generation of mortals to achieve, the fairest prize that life can win, for thy beauty, O virgin, it were a doom glorious in Hellas even to die and to endure fierce, untiring labours. Such courage dost thou implant in the mind, imperishable, better than gold, dearer than parents or soft-eyed sleep. For thy sake Heracles, son of Zeus, and the sons of Leda endured much in the tasks whereby they pursued thy might. 8. And yearning after thee came Achilles and Ajax to the house of Hades, and for the sake of thy dear form the nursling of Atarneus too was bereft of the light of the sun. Therefore shall his deeds be sung, and the Muses, the daughters of Memory, shall make him immortal, exalting the majesty of Zeus, guardian of strangers, and the grace of lasting friendship.

There is, too, something of my own upon the philosopher which I will quote:

Eurymedon, the priest of Deo’s mysteries, was once about to indict Aristotle for impiety, but he, by a draught of poison, escaped prosecution. This then was an easy way of vanquishing unjust calumnies.

9. Favorinus in his *Miscellaneous History* affirms that Aristotle was the first to compose a forensic speech in his own defence written for this very suit; and he cites him as saying that at Athens

Pear upon pear grows old and fig upon fig.

According to Apollodorus in his *Chronology* he was born in the first year of the 99th Olympiad. He attached himself to Plato and resided with him twenty years, having become his pupil at the age of seventeen. He went to Mitylene in the archonship of Eubulus in the fourth year of the 108th Olympiad. When Plato died in the first year of that Olympiad, during the archonship of Theophilus, he went to Hermias and stayed with him three years. 10. In the archonship of Pythodotus, in the second year of the 109th Olympiad, he went to the court of Philip, Alexander being then in his fifteenth year. His arrival at Athens was in the second year of the 111th Olympiad, and he lectured in the Lyceum for thirteen years; then he retired to Chalcis in the third year of the 114th Olympiad and died a natural death, at the age of about sixty-three, in the archonship of Philocles, in the same year in which Demosthenes died at Calauria. It is said that he incurred the king’s displeasure because he had introduced Callisthenes to him, and that Alexander, in order to cause him annoyance, honoured Anaximenes and sent presents to Xenocrates.

11. Theocritus of Chios, according to Ambryon in his book *On Theocritus*, ridiculed him in an epigram which runs as follows:

To Hermias the eunuch, the slave withal of Eubulus, an empty monument was raised by empty-witted Aristotle, who by constraint of a lawless appetite chose to dwell at the mouth of the Borborus [muddy stream] rather than in the Academy.

Timon again attacked him in the line:

No, nor yet Aristotle's painful futility.

Such then was the life of the philosopher. I have also come across his will, which is worded thus:

"All will be well; but, in case anything should happen, Aristotle has made these dispositions. Antipater is to be executor in all matters and in general; 12. but, until Nicanor shall arrive, Aristomenes, Timarchus, Hipparchus, Dioteles and (if he consent and if circumstances permit him) Theophrastus shall take charge as well of Herpyllis and the children as of the property. And when the girl shall be grown up she shall be given in marriage to Nicanor; but if anything happen to the girl (which heaven forbid and no such thing will happen) before her marriage, or when she is married but before there are children, Nicanor shall have full powers, both with regard to the child and with regard to everything else, to administer in a manner worthy both of himself and of us. Nicanor shall take charge of the girl and of the boy Nicomachus as he shall think fit in all that concerns them as if he were father and brother. And if anything should happen to Nicanor (which heaven forbid!) either before he marries the girl, or when he has married her but before there are children, any arrangements that he may make shall be valid. 13. And if Theophrastus is willing to live with her, he shall have the same rights as Nicanor. Otherwise the executors in consultation with Antipater shall administer as regards the daughter and the boy as seems to them to be best. The executors and Nicanor, in memory of me and of the steady affection which Herpyllis has borne towards me, shall take care of her in every other respect and, if she desires to be married, shall see that she be given to one not unworthy; and besides what she has already received they shall give her a talent of silver out of the estate and three handmaids whomsoever she shall choose besides the maid she has at present and the man-servant Pyrrhaeus; 14. and if she chooses to remain at Chalcis, the lodge by the garden, if in Stagira, my father's house. Whichever of these two houses she chooses, the executors shall furnish with such furniture as they think proper and as Herpyllis herself may approve. Nicanor shall take charge of the boy Myrmex, that he be taken to his own friends in a manner worthy of me with the property of his which we received. Ambracis shall be given her freedom, and on my daughter's marriage shall receive 500 drachmas and the maid whom she now has. And to Thale shall be given, in addition to the maid whom she has and who was bought, a thousand drachmas and a maid. 15. And Simon, in addition to the money before paid to him towards another servant, shall either have a servant purchased for him or receive a further sum of money. And Tycho, Philo, Olympius and his child shall have their freedom when my daughter is married. None of the servants who waited upon me shall be sold but they shall continue to be employed; and when they arrive at the proper age they shall have their freedom if they deserve it. My executors shall see to it, when the images which Gryllion has been commissioned to execute are finished, that they be set up, namely that of Nicanor, that of Proxenus, which it was my intention to have executed, and that of Nicanor's mother; also they shall set up the bust which has been executed of Arimnestus, to be a memorial of him seeing that he died childless, 16. and shall dedicate my mother's statue to Demeter at Nemea or wherever they think best. And wherever they bury me, there the bones of Pythias shall be laid, in accordance with her own instructions. And to commemorate Nicanor's safe return, as I vowed on his behalf, they shall set up in Stagira stone statues of life size to Zeus and Athena the Saviours."

Such is the tenor of Aristotle's will. It is said that a very large number of dishes belonging to him were found, and that Lyco mentioned his bathing in a bath of warm oil and then selling the oil. Some relate that he placed a skin of warm oil on his stomach, and that, when he went to sleep, a bronze ball was placed in his hand with a vessel under it, in order that, when the ball dropped from his hand into the vessel, he might be waked up by the sound.

17. Some exceedingly happy sayings are attributed to him, which I proceed to quote. To the question, "What do people gain by telling lies?" his answer was, "Just this, that when they speak the truth they are not believed." Being once reproached for giving alms to a bad man, he rejoined, "It was the man and not his character that I pitied." He used constantly to say to his friends and pupils, whenever or wherever he happened to be lecturing, "As sight takes in light from the surrounding air, so does the soul from mathematics."

Frequently and at some length he would say that the Athenians were the discoverers of wheat and of laws; but, though they used wheat, they had no use for laws.

18. "The roots of education," he said, "are bitter, but the fruit is sweet." Being asked, "What is it that soon grows old?" he answered, "Gratitude." He was asked to define hope, and he replied, "It is a waking dream." When Diogenes offered him dried figs, he saw that he had prepared something caustic to say if he did not take them; so he took them and said Diogenes had lost his figs and his jest into the bargain. And on another occasion he took them when they were offered, lifted them up aloft, as you do babies, and returned them with the exclamation, "Great is Diogenes." Three things he declared to be indispensable for education: natural endowment, study, and constant practice. On hearing that some one abused him, he rejoined, "He may even scourge me so it be in my absence." Beauty he declared to be a greater recommendation than any letter of introduction. 19. Others attribute this definition to Diogenes; Aristotle, they say, defined good looks as the gift of god, Socrates as a short-lived reign, Plato as natural superiority, Theophrastus as a mute deception, Theocritus as an evil in an ivory setting, Carneades as a monarchy that needs no bodyguard. Being asked how the educated differ from the uneducated, "As much," he said, "as the living from the dead." He used to declare education to be an ornament in prosperity and a refuge in adversity. Teachers who educated children deserved, he said, more honour than parents who merely gave them birth; for bare life is furnished by the one, the other ensures a good life. To one who boasted that he belonged to a great city his reply was, "That is not the point to consider, but who it is that is worthy of a great country." 20. To the query, "What is a friend?" his reply was, "A single soul dwelling in two bodies." Mankind, he used to say, were divided into those who were as thrifty as if they would live for ever, and those who were as extravagant as if they were going to die the next day. When some one inquired why we spend much time with the beautiful, "That," he said, "is a blind man's question." When asked what advantage he had ever gained from philosophy, he replied, "This, that I do without being ordered what some are constrained to do by their fear of the law." The question being put, how can students make progress, he replied, "By pressing hard on those in front and not waiting for those behind." To the chatterbox who poured out a flood of talk upon him and then inquired, "Have I bored

you to death with my chatter?" he replied, "No, indeed; for I was not attending to you." 21. When some one accused him of having given a subscription to a dishonest man – for the story is also told in this form – "It was not the man," said he, "that I assisted, but humanity." To the question how we should behave to friends, he answered, "As we should wish them to behave to us." Justice he defined as a virtue of soul which distributes according to merit. Education he declared to be the best provision for old age. Favorinus in the second book of his *Memorabilia* mentions as one of his habitual sayings that "He who has friends can have no true friend." Further, this is found in the seventh book of the *Ethics*. These then are the sayings attributed to him.

His writings are very numerous and, considering the man's all-round excellence, I deemed it incumbent on me to catalogue them:

22. Of Justice, four books.
On Poets, three books.
On Philosophy, three books.
Of the Statesman, two books.
On Rhetoric, or Grylus, one book.
Nerinthus, one book.
The Sophist, one book.
Menexenus, one book.
Concerning Love, one book.
Symposium, one book.
Of Wealth, one book.
Exhortation to Philosophy, one book.
Of the Soul, one book.
Of Prayer, one book.
On Noble Birth, one book.
On Pleasure, one book.
Alexander, or a Plea for Colonies, one book.
On Kingship, one book.
On Education, one book.
Of the Good, three books.
Extracts from Plato's Laws, three books.
Extracts from the Republic, two books.
Of Household Management, one book.
Of Friendship, one book.
On being or having been affected, one book.
Of Sciences, one book.
On Controversial Questions, two books.
Solutions of Controversial Questions, four books.
Sophistical Divisions, four books.

On Contraries, one book.
On Genera and Species, one book.
On Essential Attributes, one book.
23. Three note-books on Arguments for Purposes of Refutation.
Propositions concerning Virtue, two books.
Objections, one book.
On the Various Meanings of Terms or Expressions where a Determinant is added, one book.
Of Passions or of Anger, one book.
Five books of Ethics.
On Elements, three books.
Of Science, one book.
Of Logical Principle, one book.
Logical Divisions, seventeen books.
Concerning Division, one book.
On Dialectical Questioning and Answering, two books.
Of Motion, one book.
Propositions, one book.
Controversial Propositions, one book.
Syllogisms, one book.
Eight books of Prior Analytics.
Two books of Greater Posterior Analytics.
Of Problems, one book.
Eight books of Methodics.
Of the Greater Good, one book.
On the Idea, one book.
Definitions prefixed to the Topics, seven books.
Two books of Syllogisms.
24. Concerning Syllogism with Definitions, one book.
Of the Desirable and the Contingent, one book.
Preface to Commonplaces, one book.
Two books of Topics criticizing the Definitions.
Affections or Qualities, one book.
Concerning Logical Division, one book.
Concerning Mathematics, one book.
Definitions, thirteen books.
Two books of Refutations.
Of Pleasure, one book.
Propositions, one book.
On the Voluntary, one book.
On the Beautiful, one book.
Theses for Refutation, twenty-five books.
Theses concerning Love, four books.
Theses concerning Friendship, two books.
Theses concerning the Soul, one book.
Politics, two books.
Eight books of a course of lectures on Politics like that of Theophrastus.
Of Just Actions, two books.
A Collection of Arts [that is, Handbooks], two books.

Two books of the Art of Rhetoric.
Art, a Handbook, one book.
Another Collection of Handbooks, two books.
Concerning Method, one book.
Compendium of the “Art” of Theodectes, one book.
A Treatise on the Art of Poetry, two books.
Rhetorical Enthymemes, one book.
Of Degree, one book.
Divisions of Enthymemes, one book.
On Diction, two books.
Of Taking Counsel, one book.
25. A Collection or Compendium, two books.
On Nature, three books.
Concerning Nature, one book.
On the Philosophy of Archytas, three books.
On the Philosophy of Speusippus and Xenocrates, one book.
Extracts from the *Timaeus* and from the Works of Archytas, one book.
A Reply to the Writings of Melissus, one book.
A Reply to the Writings of Alcmaeon, one book.
A Reply to the Pythagoreans, one book.
A Reply to the Writings of Gorgias, one book.
A Reply to the Writings of Xenophanes, one book.
A Reply to the Writings of Zeno, one book.
On the Pythagoreans, one book.
On Animals, nine books.
Eight books of Dissections.
A selection of Dissections, one book.
On Composite Animals, one book.
On the Animals of Fable, one book.
On Sterility, one book.
On Plants, two books.
Concerning Physiognomy, one book.
Two books concerning Medicine.
On the Unit, one book.
26. Prognostics of Storms, one book.
Concerning Astronomy, one book.
Concerning Optics, one book.
On Motion, one book.
On Music, one book.
Concerning Memory, one book.
Six books of Homeric Problems.
Poetics, one book.
Thirty-eight books of Physics according to the lettering.
Two books of Problems which have been examined.
Two books of Routine Instruction.
Mechanics, one book.
Problems taken from the works of Democritus, two books.
On the Magnet, one book.

Analogies, one book.
Miscellaneous Notes, twelve books.
Descriptions of Genera, fourteen books.
Claims advanced, one book.
Victors at Olympia, one book.
Victors at the Pythian Games, one book.
On Music, one book.
Concerning Delphi, one book.
Criticism of the List of Pythian Victors, one book.
Dramatic Victories at the Dionysia, one book.
Of Tragedies, one book.
Dramatic Records, one book.
Proverbs, one book.
Laws of the Mess-table, one book.
Four books of Laws.
Categories, one book.
De Interpretatione, one book.
27. Constitutions of 158 Cities, in general and in particular, democratic, oligarchic, aristocratic, tyrannical.
Letters to Philip.
Letters of Selymbrians.
Letters to Alexander, four books.
Letters to Antipater, nine books.
To Mentor, one book.
To Ariston, one book.
To Olympias, one book.
To Hephaestion, one book.
To Themistagoras, one book.
To Philoxenus, one book.
In reply to Democritus, one book.
Verses beginning Ἁγνὲ θεῶν πρέσβισθ᾽ ἑκατηβόλε (“Holy One and Chiefest of Gods, far-darting”).
Elegiac verses beginning Καλλιτέκνου μητρὸς θύγατερ (“Daughter of a Mother blessed with fair offspring”).

In all 445,270 lines.

28. Such is the number of the works written by him. And in them he puts forward the following views. There are two divisions of philosophy, the practical and the theoretical. The practical part includes ethics and politics, and in the latter not only the doctrine of the state but also that of the household is sketched. The theoretical part includes physics and logic, although logic is not an independent science, but is elaborated as an instrument to the rest of science. And he clearly laid down that it has a twofold aim, probability and truth. For each of these he employed two faculties, dialectic and rhetoric where probability is aimed at, analytic and

philosophy where the end is truth; he neglects nothing which makes either for discovery or for judgement or for utility. 29. As making for discovery he left in the *Topics* and *Methodics* a number of propositions, whereby the student can be well supplied with probable arguments for the solution of problems. As an aid to judgement he left the *Prior* and *Posterior Analytics*. By the Prior Analytics the premisses are judged, by the Posterior the process of inference is tested. For practical use there are the precepts on controversy and the works dealing with question and answer, with sophistical fallacies, syllogisms and the like. The test of truth which he put forward was sensation in the sphere of objects actually presented, but in the sphere of morals dealing with the state, the household and the laws, it was reason.

30. The one ethical end he held to be the exercise of virtue in a completed life. And happiness he maintained to be made up of goods of three sorts: goods of the soul, which indeed he designates as of the highest value; in the second place bodily goods, health and strength, beauty and the like; and thirdly external goods, such as wealth, good birth, reputation and the like. And he regarded virtue as not of itself sufficient to ensure happiness; bodily goods and external goods were also necessary, for the wise man would be miserable if he lived in the midst of pains, poverty, and similar circumstances. Vice, however, is sufficient in itself to secure misery, even if it be ever so abundantly furnished with corporeal and external goods. 31. He held that the virtues are not mutually interdependent. For a man might be prudent, or again just, and at the same time profligate and unable to control his passions. He said too that the wise man was not exempt from all passions, but indulged them in moderation.

He defined friendship as an equality of reciprocal good-will, including under the term as one species the friendship of kinsmen, as another that of lovers, and as a third that of host and guest. The end of love was not merely intercourse but also philosophy. According to him the wise man would fall in love and take part in politics; furthermore he would marry and reside at a king’s court. Of three kinds of life, the contemplative, the practical, and the pleasure-loving life, he gave the preference to the contemplative. He held that the studies which make up the ordinary education are of service for the attainment of virtue.

32. In the sphere of natural science he surpassed all other philosophers in the investigation of causes, so that even the most insignificant phenomena

were explained by him. Hence the unusual number of scientific notebooks which he compiled. Like Plato he held that God was incorporeal; that his providence extended to the heavenly bodies, that he is unmoved, and that earthly events are regulated by their affinity with them (the heavenly bodies). Besides the four elements he held that there is a fifth, of which the celestial bodies are composed. Its motion is of a different kind from that of the other elements, being circular. Further, he maintained the soul to be incorporeal, defining it as the first entelechy [i.e. realization] of a natural organic body potentially possessed of life. 33. By the term realization he means that which has an incorporeal form. This realization, according to him, is twofold.

Either it is potential, as that of Hermes in the wax, provided the wax be adapted to receive the proper mouldings, or as that of the statue implicit in the bronze; or again it is determinate, which is the case with the completed figure of Hermes or the finished statue. The soul is the realization "of a natural body," since bodies may be divided into (a) artificial bodies made by the hands of craftsmen, as a tower or a ship, and (b) natural bodies which are the work of nature, such as plants and the bodies of animals. And when he said "organic" he meant constructed as means to an end, as sight is adapted for seeing and the ear for hearing. Of a body "potentially possessed of life," that is, in itself.

34. There are two senses of "potential," one answering to a formed state and the other to its exercise in act. In the latter sense of the term he who is awake is said to have soul, in the former he who is asleep. It was then in order to include the sleeper that Aristotle added the word "potential."

He held many other opinions on a variety of subjects which it would be tedious to enumerate. For altogether his industry and invention were remarkable, as is shown by the catalogue of his writings given above, which come to nearly 400 in number, i.e. counting those only the genuineness of which is not disputed. For many other written works and pointed oral sayings are attributed to him.

35. There were in all eight Aristotles: (1) our philosopher himself; (2) an Athenian statesman, the author of graceful forensic speeches; (3) a scholar who commented on the *Iliad*; (4) a Sicilian rhetorician, who wrote a reply to the Panegyric of Isocrates; (5) a disciple of Aeschines the Socratic philosopher, surnamed Myth; (6) a native of Cyrene, who wrote upon the art of poetry; (7) a trainer of boys, mentioned by Aristoxenus in his Life of Plato;

(8) an obscure grammarian, whose handbook *On Redundancy* is still extant.

Aristotle of Stagira had many disciples; the most distinguished was Theophrastus, of whom we have next to speak.

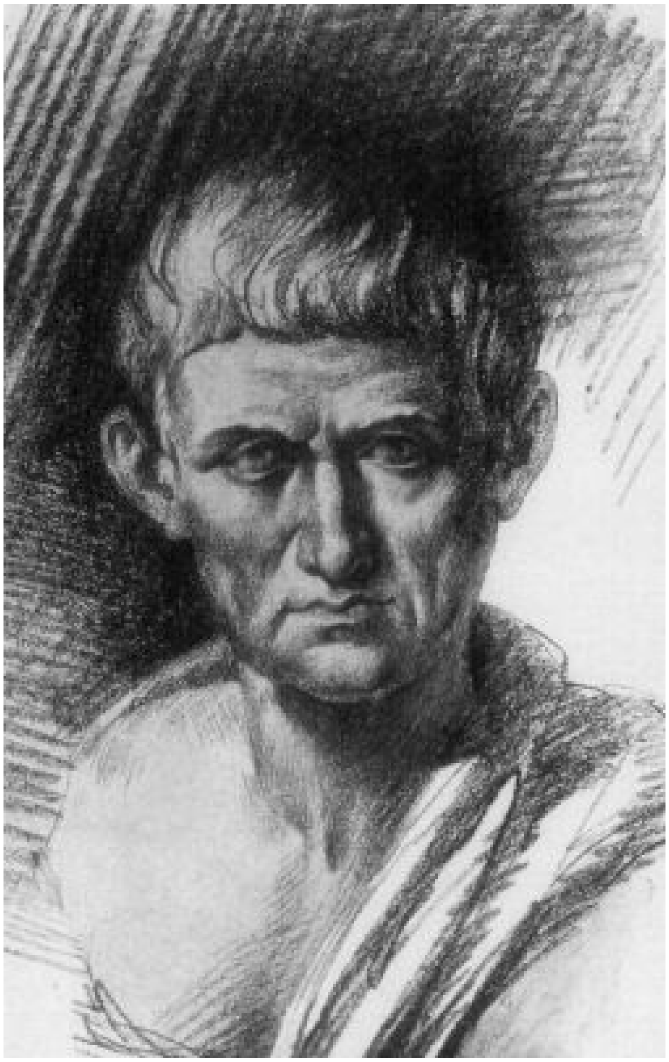
ARISTOTLE by Elbert Hubbard

An Extract from 'Little Journeys to the Homes of Great Philosophers'

ARISTOTLE

Happiness itself is sufficient excuse. Beautiful things are right and true; so beautiful actions are those pleasing to the gods. Wise men have an inward sense of what is beautiful, and the highest wisdom is to trust this intuition and be guided by it. The answer to the last appeal of what is right lies within a man's own breast. Trust thyself.

— *Ethics of Aristotle*



ARISTOTLE

The Sublime Porte recently issued a request to the American Bible Society, asking that references to Macedonia be omitted from all Bibles circulated in Turkey or Turkish provinces. The argument of His Sublimity is that the Macedonian cry, "Come over and help us!" puts him and his people in a bad light. He ends his most courteous petition by saying, "The land that produced a Philip, an Alexander the Great and an Aristotle, and that today has citizens who are the equal of these, needs nothing from our dear brothers, the Americans, but to be let alone."

As to the statement that Macedonia today has citizens who are the equals of Philip, Alexander and Aristotle, the proposition, probably, is based on the confession of the citizens themselves, and therefore may be truth. Great men are only great comparatively. It is the stupidity of the many that allows one man to bestride the narrow world like a Colossus. In the time of Alexander and Aristotle there wasn't so much competition as now, so perhaps what we take to be lack of humor on the part of the Sublime Porte may have a basis in fact.

Aristotle was born Three Hundred Eighty-four B.C., at the village of Stagira in the mountains of Macedonia. King Amyntas used to live at Stagira several months in the year and hunt the wild hogs that fed on the acorns which grew in the gorges and valleys. Mountain climbing and hunting was dangerous sport, and it was well to have a surgeon attached to the royal party, so the father of Aristotle served in that capacity. No doubt, though, but the whole outfit was decidedly barbaric, even including the doctor's little son "Aristo," who refused to be left behind. The child's mother had died years before, and boys without mothers are apt to manage their fathers. And so Aristo was allowed to trot along by his father's side, carrying a formidable bow, which he himself had made, with a quiver of arrows at his back.

Those were great times when the King came to Stagira!

When the King went back to the capital everybody received presents, and the good doctor, by some chance, was treated best of all, and little Aristo came in for the finest bow that ever was, all tipped with silver and eagle-feathers. But the bow did not bring good luck, for soon after, the boy's father was caught in an avalanche of sliding stone and crushed to death.

Aristo was taken in charge by Proxenus, a near kinsman. The lad was so active at climbing, so full of life and energy and good spirits, that when the King came the next year to Stagira, he asked for Aristo. With the King was his son Philip, a lad about the age of Aristo, but not so tall nor so active. The boys became fast friends, and once when a stranger saw them together he complimented the King on his fine, intelligent boys, and the King had to explain, “The other boy is mine — but I wish they both were.”

Aristo knew where the wild boars fed in gulches, and where the stunted oaks grew close and thick. Higher up in the mountains there were bears, which occasionally came down and made the wild pigs scamper. You could always tell when the bears were around, for then the little pigs would run out into the open. The bears had a liking for little pigs, and the bears had a liking for the honey in the bee-trees, too. Aristo could find the bee-trees better than the bears — all you had to do was to watch the flight of the bees as they left the clover.

Then there were deer — you could see their tracks any time around the mountain marshes where the springs gushed forth and the watercress grew lush. Still higher up the mountains, beyond where bears ever traveled, there were mountain-sheep, and still higher up were goats. The goats were so wild that hardly any one but Aristo had ever seen them, but he knew they were there.

The King was delighted to have such a lad as companion for his son, and insisted that he should go back to the capital with them and become a member of the Court.

Not he — there were other ambitions. He wanted to go to Athens and study at the school of Plato — Plato, the pupil of the great Socrates.

The King laughed — he had never heard of Plato. That a youth should refuse to become part of the Macedonian Court, preferring the company of an unknown school-master, was amusing — he laughed.

The next year when the King came back to Stagira, Aristo was still there. “And you haven’t gone to Athens yet?” said the King.

“No, but I am going,” was the firm reply.

“We will send him,” said the King to Proxenus, Aristo’s guardian.

And so we find Aristo, aged seventeen, tall and straight and bronzed, starting off for Athens, his worldly goods rolled up in a bearskin, tied about with thongs. There is a legend to the effect that Philip went with Aristo, and that for a time they were together at Plato’s school. But, anyway, Philip did not remain long. Aristo — or Aristotle, we had better call him — remained with Plato just twenty years.

At Plato’s school Aristotle was called by the boys, “the Stagirite,” a name that was to last him through life — and longer. In Winter he wore his bearskin, caught over one shoulder, for a robe, and his mountain grace and native beauty of mind and body must have been a joy to Plato from the first. Such a youth could not be overlooked.

To him that hath shall be given. The pupil that wants to learn is the teacher’s favorite — which is just as it should not be. Plato proved his humanity by giving his all to the young mountaineer. Plato was then a little over sixty years of age — about the same age that Socrates was when Plato became his pupil. But the years had touched Plato lightly — unlike Socrates, he had endured no Thracian winters in bare feet, neither had he lived on cold snacks picked up here and there, as Providence provided. Plato was a bachelor. He still wore the purple robe, proud, dignified, yet gentle, and his back was straight as that of a youth. Lowell once said, “When I hear Plato’s name mentioned, I always think of George William Curtis — a combination of pride and intellect, a man’s strength fused with a woman’s gentleness.”

Plato was an aristocrat. He accepted only such pupils as he invited, or those that were sent by royalty. Like Franz Liszt, he charged no tuition, which plan, by the way, is a good scheme for getting more money than could otherwise be obtained, although no such selfish charge should be brought against either Plato or Liszt. Yet every benefit must be paid for, and whether you use the word fee or honorarium, matters little. I hear there be lecturers who accept invitations to banquets and accept an honorarium mysteriously placed on the mantel, when they would scorn a fee.

Plato’s Garden School, where the pupils reclined under the trees on marble benches, and read and talked, or listened to lectures by the Master, was almost an ideal place. Not the ideal for us, because we believe that the mental and the manual must go hand in hand. The world of intellect should not be separated from the world of work. It was too much to expect that in a time when slavery was everywhere, Plato would see the fallacy of having one set of men to do the thinking, and another do the work. We haven’t got far from that yet; only free men can see the whole truth, and a free man is one who lives in a country where there are no slaves. To own slaves is to be one, and to live in a land of slavery is to share in the bondage — a partaker in the infamy and the profits.

Plato and Aristotle became fast friends — comrades. With thinking men years do not count — only those grow old who think by proxy. Plato had no sons after the flesh, and the love of his heart went out to the Stagirite: in him he saw his own life projected.

When Aristotle had turned twenty he was acquainted with all the leading thinkers of his time; he read constantly, wrote, studied and conversed. The little property his father left had come to him; the King of Macedon sent him presents; and he taught various pupils from wealthy families — finances were easy. But success did not spoil him. The brightest scholars do not make the greatest success in life, because alma mater usually catches them for teachers. Sometimes this is well, but more often it is not. Plato would not hear of Aristotle's leaving him, and so he remained, the chief ornament and practical leader of the school.

He became rich, owned the largest private library at Athens, and was universally regarded as the most learned man of his time.

In many ways he had surpassed Plato. He delved into natural history, collected plants, rocks, animals, and made studies of the practical workings of economic schemes. He sought to divest the Platonic teaching of its poetry, discarded rhetoric, and tried to get at the simple truth of all subjects.

Toward the last of Plato's career this repudiation by Aristotle of poetry, rhetoric, elocution and the polite accomplishments caused a schism to break out in the Garden School. Plato's head was in the clouds at times; Aristotle's was, too, but his feet were always on the earth.

When Plato died, Aristotle was his natural successor as leader of the school, but there was opposition to him, both on account of his sturdy, independent ways and because he was a foreigner.

He left Athens to become a member of the Court of Hermias, a former pupil, now King of Atarneus.

He remained here long enough to marry the niece of his patron, and doubtless saw himself settled for life — a kingly crown within his reach should his student-sovereign pass away.

And the royal friend did pass away, by the dagger's route. As life-insurance risks I am told that Kings have to pay double premium. Revolution broke out, and as Aristotle was debating in his mind what course to pursue, a messenger with soldiers arrived from King Philip of Macedon, offering safe convoy, enclosing transportation, and asking that Aristotle come and take charge of the education of his son, Alexander, aged thirteen.

Aristotle did not wait to parley: he accepted the invitation. Horses were saddled, camels packed and that night, before the moon arose, the cavalcade silently moved out into the desert.

The offer that had been made twenty-four years before, by Philip's father, was now accepted. Aristotle was forty-two years old, in the prime of his power. Time had tempered his passions, but not subdued his zest in life. He had the curious, receptive, alert and eager mind of a child. His intellect was at its ripest and best. He was a lover of animals, and all outdoor life appealed to him as it does to a growing boy. He was a daring horseman, and we hear of his riding off into the desert and sleeping on the sands, his horse untethered watching over him. Aristotle was the first man to make a scientific study of the horse, and with the help of Alexander he set up a skeleton, fastening the bones in place, to the mighty astonishment of the natives, who mistook the feat for an attempt to make a living animal; and when the beast was not at last saddled and bridled there were subdued chuckles of satisfaction among the "hoi polloi" at the failure of the scheme, and murmurs of "I told you so!"

Eighteen hundred years were to pass before another man was to take up the horse as a serious scientific study; and this was Leonardo da Vinci, a man in many ways very much like Aristotle. The distinguishing feature in these men — the thing that differentiates them from other men — was the great outpouring sympathy with every living creature. Everything they saw was related to themselves — it came very close to them — they wanted to know more about it. This is essentially the child-mind, and the calamity of life is to lose it.

Leonardo became interested in Aristotle's essay on the horse, and continued the subject further, dissecting the animal in minutest detail and illustrating his discoveries with painstaking drawings. His work is so complete and exhaustive that nobody nowadays has time to more than read the title-page. Leonardo's bent was natural science, and his first attempts at drawing were done to illustrate his books. Art was beautiful, of course — it brought in an income, made friends and brought him close to people who saw nothing unless you made a picture of it. He made pictures for recreation and to amuse folks, and his threat to put the peeping Prior into the "Last Supper," posed as Judas, revealed his contempt for the person to whom a picture was just a picture. The marvel to Leonardo was the mind that could imagine, the hand that could execute, and the soul that could see.

And the curious part is that Leonardo lives for us through his play and not through his serious work. His science has been superseded, but his art is immortal.

This expectant mental attitude, this attitude of worship, belongs to all great scientists. The man divines the thing first and then looks for it, just as the Herschels knew where the star ought to be and then patiently waited for it. The Bishop of London said that if Darwin had spent one-half as much time in reading his Bible as in studying earthworms, he would have really benefited the world, and saved his soul alive. To Walt Whitman, a hair on the back of his hand was just as curious and wonderful as the stars in the sky, or God's revelation to man through a printed book.

Aristotle loved animals as a boy loves them — his house was a regular menagerie of pets, and into this world of life Alexander was very early introduced. We hear of young Alexander breaking the wild horse, Bucephalus, and beyond a doubt Aristotle was seated on the top rail of the paddock when he threw the lariat.

Aristotle and his pupil had the first circus of which we know, and they also inaugurated the first Zoological Garden mentioned in history, barring Noah, of course.

So much was Alexander bound up in this menagerie, and in his old teacher as well, that in after-life, in all of his travels, he was continually sending back to Aristotle specimens of every sort of bird, beast and fish to be found in the countries through which he traveled.

When Philip was laid low by the assassin's thrust, it was Aristotle who backed up Alexander, aged twenty — but a man — in his prompt suppression of the revolution. The will that had been used to subdue man-eating stallions and to train wild animals, now came in to repress riot, and the systematic classification of things was a preparation for the forming of an army out of a mob. Aristotle said, "An army is a huge animal with a million claws — it must have only one brain, and that the commander's."

Alexander gave credit again and again to Aristotle for those elements in his character that went to make up success: steadiness of purpose, self-reliance, systematic effort, mathematical calculation, attention to details, and a broad and generous policy that sees the end.

When Aristotle argued with Philip, years before, that horse-breaking should be included in the educational curriculum of all young men, he evidently divined football and was endeavoring to supplant it.

I think history has been a trifle severe on Alexander. He was elected Captain-General of Greece, and ordered to repel the Persian invasion. And he did the business once for all. War is not all fighting — Providence is on the side of the strongest commissariat. Alexander had to train, arm, clothe and feed a million men, and march them long miles across a desert country. The real foe of a man is in his own heart, and the foe of an army is in its own camp — disease takes more prisoners than the enemy. Fever sniped more of our boys in blue than did the hostile Filipinos.

Alexander's losses were principally from men slain in battle; from this, I take it that Alexander knew a deal of sanitary science, and had a knowledge of practical mathematics, in order to systematize that mob of restless, turbulent helots. We hear of Aristotle cautioning him that safety lies in keeping his men busy — they must not have too much time to think, otherwise mutiny is to be feared. Still, they must not be over-worked, or they will be in no condition to fight when the eventful time occurs. And we are amazed to see this: "Do not let your men drink out of stagnant pools — Athenians, city-born, know no better. And when you carry water on the desert marches, it should be first boiled to prevent its getting sour."

Concerning the Jews, Alexander writes to his teacher and says, "They are apt to be in sullen rebellion against their governors, receiving orders only from their high priests, and this leads to severe measures, which are construed as persecution"; all of which might have been written yesterday by the Czar in a message to The Hague Convention.

Alexander captured the East, and was taken captive by the East. Like the male bee that never lives to tell the tale of its wooing, he succeeded and died. Yet he vitalized all Asia with the seeds of Greek philosophy, turned back the hungry barbaric tide, and made a new map of the Eastern world. He built far more cities than he destroyed. He set Andrew Carnegie an example at Alexandria, such as the world had never up to that time seen. At the entrance to the harbor of the same city he erected a lighthouse, surpassing far the one at Minot's Ledge, or Race Rock. This structure endured for two centuries, and when at last wind and weather had their way, there was no Hopkinson Smith who could erect another.

At Thebes, Alexander paid a compliment to letters, by destroying every building in the city except the house of the poet, Pindar. At Corinth, when the great, the wise, the noble, came to pay homage, one great man did not appear. In vain did Alexander look for his card among all those handed in at the door — Diogenes, the Philosopher, oft quoted by Aristotle, was not to be seen.

Alexander went out to hunt him up, and found him sunning himself, propped up against the wall in the Public Square, busy doing nothing.

The philosopher did not arise to greet the conqueror; he did not even offer a nod of recognition.

"I am Alexander — is there not something I can do for you?" modestly asked the descendant of Hercules.

"Just stand out from between me and the sun," replied the philosopher, and went on with his meditations.

Alexander enjoyed the reply so much that he said to his companions, and afterward wrote to Aristotle, "If I were not Alexander, I would be Diogenes," and thus did strenuosity pay its tribute to self-sufficiency.

Aristotle might have assumed important affairs of State, but practical politics were not to his liking. "What Aristotle is in the world of thought I will be in the world of action," said Alexander.

On all of his journeys Alexander found time to keep in touch with his old teacher at home; and we find the ruler of Asia voicing that old request, "Send me something to read," and again, "I live alone with my thoughts, amidst a throng of men, but without companions."

Plutarch gives a copy of a letter sent by Alexander wherein Aristotle is chided for publishing his lecture on oratory. "Now all the world will know what formerly belonged to you and me alone," plaintively cries the young man who sighed for more worlds to conquer, and therein shows he was the victim of a fallacy that will never die — the idea that truth can be embodied in a book. When will we ever learn that inspired books demand inspired readers!

There are no secrets. A book may stimulate thought, but it can never impart it.

Aristotle wrote out the Laws of Oratory. "Alas!" groans Alexander, "everybody will turn orator now." But he was wrong, because Oratory and the Laws of Oratory are totally different things.

A Boston man of excellent parts has just recently given out the Sixteen Perfective Laws of Oratory, and the Nineteen Steps in Evolution.

The real truth is, there are Fifty-seven Varieties of Artistic Vagaries, and all are valuable to the man who evolves them — they serve him as a scaffolding whereby he builds thought. But woe betide Alexander and all rareripe Bostonians who mistake the scaffolding for the edifice.

There are no Laws of Art. A man evolves first, and builds his laws afterward. The style is the man, and a great man, full of the spirit, will express himself in his own way.

Bach ignored all the Laws of Harmony made before his day and set down new ones — and these marked his limitations, that was all. Beethoven upset all these, and Wagner succeeded by breaking most of Beethoven's rules. And now comes Grieg, and writes harmonious discords that Wagner said were impossible, and still it is music, for by it we are transported on the wings of song and uplifted to the stars.

The individual soul striving for expression ignores all man-made laws. Truth is that which serves us best in expressing our lives. A rotting log is truth to a bed of violets, while sand is truth to a cactus. But when the violet writes a book on "Expression as I Have Found It," making laws for the evolution of beautiful blossoms, it leaves the Century Plant out of its equation, or else swears, i' faith, that a cactus is not a flower, and that a Night-Blooming Cereus is a disordered thought from a madman's brain. And when the proud and lofty cactus writes a book it never mentions violets, because it has never stooped to seek them.

Art is the blossoming of the Soul.

We can not make the plant blossom — all we can do is to comply with the conditions of growth. We can supply the sunshine, moisture and aliment, and God does the rest. In teaching, he only is successful who supplies the conditions of growth — that is all there is of the Science of Pedagogics, which is not a science, and if it ever becomes one, it will be the Science of Letting Alone, and not a scheme of interference. Just so long as some of the greatest men are those who have broken through pedagogic fancy and escaped, succeeding by breaking every rule of pedagogy, as Wagner discarded every Law of Harmony, there will be no such thing as a Science of Education.

Recently I read Aristotle's Essays on Rhetoric and Oratory, and I was pained to see how I had been plagiarized by this man who wrote three hundred years before Christ. Aristotle used charts in teaching and indicated the mean by a straight horizontal line, and the extreme by an upright dash. He says: "From one extreme the mean looks extreme, and from another extreme the mean looks small — it all depends upon your point of view. Beware of jumping to conclusions, for beside the appearance you must look within and see from what vantage-ground you gain the conclusions. All truth is relative, and none can be final to a man six feet high, who stands on the ground, who can walk but forty miles at a stretch, who needs four meals a day and one-third of his time for sleep. A loss of sleep, or loss of a meal, or a meal too much, will disarrange his point of view, and change his opinions," And thus do we see that a belief in "eternal punishment" is a mere matter of indigestion.

A certain bishop, we have seen, experienced a regret that Darwin expended so much time on earthworms; and we might also express regret that Aristotle did not spend more. As long as he confined himself to earth, he was eminently sure and right: he was really the first man who ever used his eyes. But when he quit the earth, and began to speculate about the condition of souls before they are clothed with bodies, or what becomes of them after they discard the body, or the nature of God, he shows that he knew no more than we. That is to say, he knew no more than the barbarians who preceded him.

He attempted to grasp ideas which Herbert Spencer pigeonholes forever as the Unknowable; and in some of his endeavors to make plain the unknowable, Aristotle strains language to the breaking-point — the net bursts and all of his fish go free. Here is an Aristotelian proposition, expressed by Hegel to make lucid a thing nobody comprehends: "Essential being as being that meditates with itself, with itself by the negativity of itself, is relative to itself only as it is relative to another; that is, immediate only as something posited and meditated." It gives one a slight shock to hear him speak of headache being caused by wind on the brain, or powdered grasshopper-wings being a cure for gout, but when he calls the heart a pump that forces the blood to the extremities, we see that he anticipates Harvey, although more than two thousand years of night lie between them.

Some of Aristotle reads about like this Geometrical Domestic Equation:

Definitions:

All boarding-houses are the same boarding-houses.

Boarders in the same boarding-house, and on the same flat, are equal to one another.

A single room is that which hath no parts and no magnitude.

The landlady of the boarding-house is a parallelogram — that is, an oblong figure that can not be described, and is equal to anything.

A wrangle is the disinclination to each other of two boarders that meet together, but are not on the same floor.

All the other rooms being taken, a single room is a double room.

Postulates and Propositions:

A pie may be produced any number of times.

The landlady may be reduced to her lowest terms by a series of propositions.

A bee-line is the shortest distance between the Phalanstery and By Allen's.

The clothes of a boarding-house bed stretched both ways will not meet.

Any two meals at a boarding-house are together less than one meal at the Phalanstery.

On the same bill and on the same side of it there should not be two charges for the same thing.

If there be two boarders on the same floor, and the amount of the side of the one be equal to the amount of the side of the other, and the wrangle between the one boarder and the landlady be equal to the wrangle between the landlady and the other boarder, then shall the weekly bills of the two boarders be equal. For, if not, let one bill be the greater, then the other bill is less than it might have been, which is absurd. Therefore the bills are equal.

Quod erat demonstrandum.

The business of the old philosophers was to philosophize. To philosophize as a business is to miss the highest philosophy. To do a certain amount of useful work every day, and not trouble about either the past or the future, is the highest wisdom. The man who drags the past behind him, and dives into the future, spreads the present out thin. Therein lies the bane of most religions. A man goes out into the woods to study the birds: he walks and walks and walks and sees no birds. But just let him sit down on a log and wait, and lo! the branches are full of song.

Those who pursue Culture never catch up with her. Culture takes alarm at pursuit and avoids the stealthy pounce. Culture is a woman, and a certain amount of indifference wins her. Ardent wooing will not secure either wisdom or a woman — except in the case where a woman marries a man to get rid of him, and then he really does not get the woman — he only secures her husk. And the husks of culture are pedantry and sciolism. The highest philosophy of the future will consist in doing each day that which is most useful. Talking about it will be quite incidental and secondary.

After Alexander had completed his little task of conquering the world, it was his intention to sit down and improve his mind. He was going back to Greece to complete the work Pericles had so well begun. To this end Aristotle had left Macedonia and established his Peripatetic School at Athens. Plato was exclusive, and taught in the Garden with its high walls. Aristotle taught in the "peripatos," or porch of the Lyceum, and his classes were for all who wished to attend. Socrates was really the first peripatetic philosopher, but he was a roustabout. Nothing sanctifies like death — and now Socrates had become respectable, and his methods were to be made legal and legitimate.

Socrates discovered the principle of human liberty; he taught the rights of the individual, and as these threatened to interfere with the State, the politicians got alarmed and put him to death. Plato, much more cautious, wrote his "Republic," wherein everything is subordinated for the good of the State, and the individual is but a cog in a most perfectly lubricated machine. Aristotle saw that Socrates was nearer right than Plato — sin is the expression of individuality and is not wholly bad — the State is made up of individuals, and if you suppress the thinking-power of the individual, you will get a weak and effeminate body politic; there will be none to govern. The whole fabric will break down of its own weight. A man must have the privilege of making a fool of himself — within proper bounds, of course. To that end learning must be for all, and liberty both to listen and to teach should be the privilege of every man.

This is a problem that Boston has before it today: Shall free speech be allowed on the Common? William Morris tried it in Trafalgar Square, to his sorrow; but in Hyde Park, if you think you have a message, London will let you give it. But this is not considered good form, and the "Best Society" listen to no speeches in the park. However, there are signs that Aristotle's outdoor school may come back. Phillips Brooks tried outdoor preaching, and if his health had not failed, he might have popularized it. It only wants a man who is big enough to inaugurate it.

Aristotle had various helpers, and arranged to give his lectures and conferences daily in certain porches or promenades. These lectures covered the whole range of human thought — logic, rhetoric, oratory, physics, ethics, politics, esthetics, and physical culture. These outdoor talks were called exoteric, and there gradually grew up esoteric lessons, which were for the rich or luxurious and the dainty. And there being money in the esoteric lessons, these gradually took the place of the exoteric, and so we get the genesis of our modern private school or college, where we send our children to be taught great things by great men, for a consideration.

Will the exoteric, peripatetic school come back?

I think so.

I believe that university education will soon be free to every boy and girl in America, and this without going far from home. Esoteric education is always more or less of a sham. Our public-school system is purely exoteric, only we stop too soon. We also give our teachers too much work and too little pay. Stop building warships, and use the money to double the teachers' salaries, making the profession respectable, raise the standard of efficiency, and the free university with the old Greek Lyceum will be here.

America must do this — the Old World can't. We have the money, and we have the men and the women; all that is needed is the desire, and this is fast awakening.

When Alexander died, of acute success, aged thirty-two, Aristotle's sustaining prop was gone. The Athenians never thought much of the Macedonians — not much more than Saint Paul did, he having tried to convert both and failed.

Athens was jealous of the power of Alexander: that a provincial should thus rule the Mother-Country was unforgivable. It was as if a Canadian should make himself King of England!

Everybody knew that Aristotle had been the tutor of Alexander, and that they were close friends. And that a Macedonian should be the chief school-teacher in Athens was an affront. The very greatness of the man was his offense: Athens had none to match him, and the world has never since matched him, either. How to get rid of the Macedonian philosopher was the question.

And so our old friend, heresy, comes in again. A poem was found, written by Aristotle many years before, on the death of his friend, King Hermias, wherein Apollo was disrespectfully mentioned. It was the old charge against Socrates come back — the hemlock was brewing. But life was sweet to Aristotle; he chose discretion to valor, and fled to his country home at Chalcis in Eubœa.

The humiliation of being driven from his work, and the sudden change from active life to exile, undermined his strength, and he died in a year, aged sixty-two.

In morals the world has added nothing new to the philosophy of Aristotle: gentleness, consideration, moderation, mutual helpfulness, and the principle that one man's privileges end where another man's rights begin — these make up the sum. And on them, all authorities agree, and have for twenty-five hundred years.

The family relations of Aristotle were most exemplary. The unseemly wrangles of Philip and his wife were never repeated in the home of Aristotle. Yet we will have to offer this fact in the interests of stirpiculture: the inconstant Philip and the termagant Olympias brought into the world Alexander; whereas the sons of Aristotle lived their day and died, without making a ripple on the surface of history.

As in the scientific study of the horse, no progress was made from the time of Aristotle to that of Leonardo, so Hegel says there was no advancement in philosophy from the time of Aristotle to that of Spinoza.

Eusebius called Aristotle "Nature's Private Secretary."

Dante spoke of him as the "Master of those who know."

Sir William Hamilton said, "In the range of his powers and perceptions, only Leonardo can be compared with him."

ARISTOTLE by Charles McRae

An Extract from ‘Fathers of Biology by Charles McRae’

About the time that Hippocrates died, Aristotle, who may be regarded as the founder of the science of “Natural History,” was born (B.C. 384) in Stagira, an unimportant Hellenic colony in Thrace, near the Macedonian frontier. His father was a distinguished physician, and, like Hippocrates, boasted descent from the Asclepiadæ. The importance attached by the Asclepiads to the habit of physical observation, which has been already referred to in the life of Hippocrates, secured for Aristotle, from his earliest years, that familiarity with biological studies which is so clearly evident in many of his works.

Both parents of Aristotle died when their son was still a youth, and in consequence of this he went to reside with Proxenus, a native of Atarneus, who had settled at Stagira. Subsequently he went to Athens and joined the school of Plato. Here he remained for about twenty years, and applied himself to study with such energy that he became pre-eminent even in that distinguished band of philosophers. He is said to have been spoken of by Plato as “the intellect” of the school, and to have been compared by him to a spirited colt that required the application of the rein to restrain its ardour.

Aristotle probably wrote at this time some philosophical works, the fame of which reached the ears of Philip, King of Macedonia, and added to the reputation which the young philosopher had already made with that monarch; for Philip is said to have written to him on the occasion of Alexander’s birth, B.C. 356: “King Philip of Macedonia to Aristotle, greeting. Know that a son has been born to me. I thank the gods not so much that they have given him to me, as that they have permitted him to be born in the time of Aristotle. I hope that thou wilt form him to be a king worthy to succeed me and to rule the Macedonians.”

After the death of Plato, which occurred in 347 B.C., Aristotle quitted Athens and went to Atarneus, where he stayed with Hermias, who was then despot of that town. Hermias was a remarkable man, who, from being a slave, had contrived to raise himself to the supreme power. He had been at Athens and had heard Plato’s lectures, and had there formed a friendship for Aristotle. With this man the philosopher remained for three years, and was then compelled suddenly to seek refuge in Mitylene, owing to the perfidious murder of Hermias. The latter was decoyed out of the town by the Persian general, seized and sent prisoner to Artaxerxes, by whom he was hanged as a rebel. On leaving Atarneus, Aristotle took with him a niece of Hermias, named Pythias, whom he afterwards married. She died young, leaving an infant daughter.

Two or three years after this, Aristotle became tutor to Alexander, who was then about thirteen years old. The philosopher seems to have been a favourite with both the king and the prince, and, in gratitude for his services, Philip rebuilt Stagira and restored it to its former inhabitants, who had either been dispersed or carried into slavery. The king is said also to have established there a school for Aristotle. The high respect in which Alexander held his teacher is expressed in his saying that he honoured him no less than his own father, for while to one he owed life, to the other he owed all that made life valuable.

In 336 B.C. Alexander, who was then only about twenty years of age, became king, and Aristotle soon afterwards quitted Macedonia and took up his residence in Athens once more, after an absence of about twelve years. Here he opened a school in the Lycæum, a gymnasium on the eastern side of the city, and continued his work there for about twelve years, during which time Alexander was making his brilliant conquests. The lectures were given for the most part while walking in the garden, and in consequence, perhaps, of this, the sect received the name of the Peripatetics. The discourses were of two kinds — the *esoteric*, or abstruse, and the *exoteric*, or familiar; the former being delivered to the more advanced pupils only. During the greater part of this time Aristotle kept up correspondence with Alexander, who is said to have placed at his disposal thousands of men, who were busily employed in collecting objects and in making observations for the completion of the philosopher’s zoological researches. Alexander is, moreover, said to have given the philosopher eight hundred talents for the same purpose.

In spite of these marks of friendship and respect, Alexander, who was fast becoming intoxicated with success, and corrupted by Asiatic influences, gradually cooled in his attachment towards Aristotle. This may have been hastened by several causes, and among others by the freedom of speech and republican opinions of Callisthenes, a kinsman and disciple of Aristotle, who had been, by the latter's influence, appointed to attend on Alexander. Callisthenes proved so unpopular, that the king seems to have availed himself readily of the first plausible pretext for putting him to death, and to have threatened his former friend and teacher with a similar punishment. The latter, for his part, probably had a deep feeling of resentment towards the destroyer of his kinsman.

Meanwhile the Athenians knew nothing of these altered relations between Aristotle and Alexander, but continued to regard the philosopher as thoroughly imbued with kingly notions (in spite of his writings being quite to the contrary); so that he was an object of suspicion and dislike to the Athenian patriots. Nevertheless, as long as Alexander was alive, Aristotle was safe from molestation. As soon, however, as Alexander's death became known, the anti-Macedonian feeling of the Athenians burst forth, and found a victim in the philosopher. A charge of impiety was brought against him. It was alleged that he had paid divine honours to his wife Pythias and to his friend Hermias. Now, for the latter, a eunuch, who from the rank of a slave had raised himself to the position of despot over a free Grecian community, so far from coupling his name (as Aristotle had done in his hymn) with the greatest personages of Hellenic mythology, the Athenian public felt that no contempt was too bitter. To escape the storm the philosopher retired to Chalcis, in Eubœa, then under garrison by Antipater, the Governor of Macedonia, remarking in a letter, written afterwards, that he did so in order that the Athenians might not have the opportunity of sinning a second time against philosophy (the allusion being, of course, to the fate of Socrates).

He probably intended to return to Athens again so soon as the political troubles had abated, but in September, 322 B.C., he died at Chalcis. An overwrought mind, coupled with indigestion and weakness of the stomach, from which he had long suffered, was most probably the cause of death. Some of his detractors, however, have asserted that he took poison, and others that he drowned himself in the Eubœan Euripus.

It is not easy to arrive at a just estimate of the character of Aristotle. By some of his successors he has been reproached with ingratitude to his teacher, Plato; with servility to Macedonian power, and with love of costly display. How far these two last charges are due to personal slander it is impossible to say. The only ground for the first charge is, that he criticised adversely some of Plato’s doctrines.

The manuscripts of Aristotle’s works passed through many vicissitudes. At the death of the philosopher they were bequeathed to Theophrastus, who continued chief of the Peripatetic school for thirty-five years. Theophrastus left them, with his own works, to a philosophical friend and pupil, Neleus, who conveyed them from Athens to his residence at Scepsis, in Asia Minor. About thirty or forty years after the death of Theophrastus, the kings of Pergamus, to whom the city of Scepsis belonged, began collecting books to form a library on the Alexandrian plan. This led the heirs of Neleus to conceal their literary treasures in a cellar, and there the manuscripts remained for nearly a century and a half, exposed to injury from damp and worms. At length they were sold to Apellicon, a resident at Athens, who was attached to the Peripatetic sect. Many of the manuscripts were imperfect, having become worm-eaten or illegible. These defects Apellicon attempted to remedy; but, being a lover of books rather than a philosopher, he performed the work somewhat unskilfully. When Athens was taken by Sylla, 86 B.C., the library of Apellicon was transported to Rome. There various literary Greeks obtained access to it; and, among others, Tyrannion, a grammarian and friend of Cicero, did good service in the work of correction. Andronicus of Rhodes afterwards arranged the whole into sections, and published the manuscripts with a tabulated list.

The three principal works on biology which are extant are: “The History of Animals;” “On the Parts of Animals;” “On the Generation of Animals.” The other biological works are: “On the Motion of Animals;” “On Respiration;” “Parva Naturalia;” — a series of essays which are planned to form an entire work on sense and the sensible.

“The History of Animals” is the largest and most important of Aristotle’s works on biology. It contains a vast amount of information, not very methodically arranged, and spoiled by the occurrence here and there of very gross errors. It consists of nine books.

The first book opens with a division of the body into similar and dissimilar parts. Besides thus differing in their parts, animals also differ in their mode of life, their actions and dispositions. Thus some are aquatic, others terrestrial; of the former, some breathe water, others air, and some neither. Of aquatic animals, some inhabit the sea, and others rivers, lakes, or marshes. Again, some animals are locomotive, and others are stationary. Some follow a leader, others act independently. Various differences are in this way pointed out, and there is no lack of illustration and detail, but a suspicion is excited that the generalizations are sometimes based upon insufficient facts. The book closes with a description of the different parts of the human body, both internal and external. In speaking of the ear, Aristotle seems to have been aware of what we now call the Eustachian tube, for he says, “There is no passage from the ear into the brain, but there is to the roof of the mouth.”

In the second book he passes on to describe the organs of animals. The animals are dealt with in groups — viviparous and oviparous quadrupeds, fish, serpents, birds, etc. The ape, elephant, chameleon, and some others are especially noticed.

The third book continues the description of the internal organs. References which are made to a diagram by letters, *a*, *b*, *c*, *d*, show that the work was originally illustrated. At the close of this book Aristotle has some remarks on milk, and mentions the occasional appearance of milk in male animals. He speaks of a male goat at Lemnos which yielded so much that cakes of cheese were made from it. Similar instances of this phenomenon have been recorded by Humboldt, Burdach, Geoffroy St. Hilaire, and others.

In the first four chapters of the fourth book the anatomy of the invertebrata is dealt with, and the accounts given of certain mollusca and crustacea are very careful and minute. The rest of the book is devoted to a description of the organs of sense and voice; of sleep, and the distinctions of sex. The accurate knowledge which Aristotle exhibits of the anatomy and habits of marine animals, such as the Cephalopoda and the larger Crustacea, leaves no doubt that he derived it from actual observation. Professor Owen says, “Respecting the living habits of the Cephalopoda, Aristotle is more rich in detail than any other zoological author.” What is now spoken of as the *hectocotylization* of one or more of the arms of the male cephalopod did not escape Aristotle’s eye. And while he speaks of the teeth and that which serves these animals for a tongue, it is plain from the context that he means in the one case the two halves of the parrot-like beak, and in the other the anterior end of the odontophore.

Books five to seven deal with the subject of generation.

The eighth book contains a variety of details respecting animals, their food, migrations, hibernation, and diseases; with the influence of climate and locality upon them.

The ninth book describes the habits and instincts of animals. The details are interesting; but there is, as usual, very little attempt at classification. Disjointed statements and sudden digressions occur, the subjects being treated in the order in which they presented themselves to the author. Such curious statements as the following are met with: “The raven is an enemy to the bull and the ass, for it flies round them and strikes their eyes.” “If a person takes a goat by the beard, all the rest of the herd stand by, as if infatuated, and look at it.” “Female stags are captured by the sound of the pipe and by singing. When two persons go out to capture them, one shows himself, and either plays upon a pipe or sings, and the other strikes behind, when the first gives him the signal.” “Swans have the power of song, especially when near the end of their life; for they then fly out to sea, and some persons sailing near the coast of Libya have met many of them in the sea singing a mournful song, and have afterwards seen some of them die.” “Of all wild animals, the elephant is the most tame and gentle; for many of them are capable of instruction and intelligence, and they have been taught *to worship the king*.”

In the work “On the Parts of Animals,” the author considers not only the phenomena of life exhibited by each species, but also the cause or causes to which these phenomena are attributable. After a general introduction, he proceeds to enumerate the three degrees of composition, viz.: —

(1) “Composition out of what some call the elements, such as air, earth, water, and fire,” or “out of the elementary forces, hot and cold, solid and fluid, which form the material of all compound substances.”

(2) Composition out of these primary substances of the homogeneous parts of animals, e.g. blood, fat, marrow, brain, flesh, and bone.

(3) Composition into the heterogeneous parts or organs. These parts he describes in detail, considering those belonging to sanguineous animals first and most fully.

These divisions correspond roughly to the threefold study of structure which we nowadays recognize as chemical, histological, and anatomical.

As examples of Aristotle’s method of treatment, his descriptions of blood, the brain, the heart, and the lung may be considered.

Of the *blood* he says, “What are called fibres are found in the blood of some animals, but not of all. There are none, for instance, in the blood of deer and of roes, and for this reason the blood of such animals as these never coagulates.... Too great an excess of water makes animals timorous.... Such animals, on the other hand, as have thick and abundant fibres in their blood are of a more choleric temperament, and liable to bursts of passion.... Bulls and boars are choleric, for their blood is exceedingly rich in fibres, and the bull's, at any rate, coagulates more rapidly than that of any other animal.... If these fibres are taken out of the blood, the fluid that remains will no longer coagulate."

From these quotations it will be noted that Aristotle attributed the coagulum to the presence of fibres, and in this he anticipated Malpighi's discovery made in the seventeenth century. His remarks on the proportion of coagulum and serum in different animals, which is enlarged upon in the "History of Animals," harmonize with modern observations. In another of his works he remarks that the blood in certain diseased conditions will not coagulate. This is known to be the case in cholera, certain fevers, asphyxia, etc.; and the fact was probably obtained from Hippocrates. Although Aristotle speaks here of entire absence of coagulation in the blood of the deer and the roe, in the "History of Animals" he admits an imperfect coagulation, for he says, "so that their blood does not coagulate like that of other animals." The animals named are commonly hunted, and it was probably after they had been hunted to death that he examined them. Now, it is generally admitted that coagulation under such circumstances is imperfect and even uncommon. The statement as to the richness in fibres of the blood of bulls and boars has been confirmed by some modern investigations, which have shown that the clot bears a proportion to the strength and ferocity of the animal. The remarks, however, as to the relative rapidity of coagulation would appear to be contradicted by later observations, for Thackrah came to the conclusion that coagulation commenced sooner in small and weak animals than in strong.

Of the *brain* Aristotle makes the following among other assertions: "Of all parts of the body there is none so cold as the brain.... Of all the fluids of the body it is the one that has the least blood, for, in fact, it has no blood at all in its proper substance.... That it has no continuity with the organs of sense is plain from simple inspection, and still more closely shown by the fact that when it is touched no sensation is produced.... The brain tempers the heat and seething of the heart.... In order that it may not itself be absolutely without heat, blood-vessels from the aorta end in the membrane which surrounds the brain.... Of all animals man has the largest brain in proportion to his size: and it is larger in men than in women. This is because the region of the heart and of the lung is hotter and richer in blood in man than in any other animal; and in men than in women. This again explains why man alone of animals stands erect. For the heat, overcoming any opposite inclination, makes growth take its own line of direction, which is from the centre of the body upwards.... Man again has more sutures in his skull than any other animal, and the male more than the female. The explanation is to be found in the greater size of the brain, which demands free ventilation proportionate to its bulk.... There is no brain in the hinder part of the head.... The brain in all animals that have one is placed in the front part of the head ... because the heart, from which sensation proceeds, is in the front part of the body."

Although it would perhaps be difficult to find anywhere as many errors in as few words, yet it should be observed that Aristotle here shows himself to have been aware of the existence of the membranes of the brain — the *pia mater* and the *dura mater*; and elsewhere he says more explicitly, "Two membranes enclose the brain; that about the skull is the stronger; the inner membrane is slighter than the outer one." And further, it should be noted that he describes the latter membrane as a vascular one. The fact of the brain substance being insensible to mechanical irritation was known to Aristotle, and may have been learnt from the practice of Hippocrates. Lastly, it should be remembered that — though this may have been but a lucky guess on Aristotle's part — the relative weight of brain to the entire body has been shown, with few exceptions, to be greater in man than in any other animal.

In describing the *heart* Aristotle says: "The heart lies about the centre of the body, but rather in its upper than in its lower half, and also more in front than behind.... In man it inclines a little towards the left, so that it may counterbalance the chilliness of that side. It is hollow, to serve for the reception of the blood; while its wall is thick, that it may serve to protect the source of heat. For here, and here alone, in all the viscera, and in fact in all the body, there is blood without blood-vessels, the blood elsewhere being always contained within vessels. The heart is the first of all the parts of the body to be formed, and no sooner is it formed than it contains blood.... For no sooner is the embryo formed than its heart is seen in motion like a living creature, and this before any of the other parts. The heart is abundantly supplied with sinews.... In no animal does the heart contain a bone, certainly in none of those that we ourselves have inspected, with the exception of the horse and a certain kind of ox. In animals of great size the heart has three cavities; in smaller animals it has two; and in all it has at least one."

It will be observed that here Aristotle so correctly describes the position of the human heart as to render it probable that he is speaking from actual inspection; although man is not the only animal in which the heart is turned towards the left. In contrasting the heart with the other viscera he appears to have overlooked the existence of the coronary vessels, and to have imagined that the nutrition of the heart was effected directly by the blood in its cavities. Although the heart is not really the first part to appear, the observation of its very early appearance in the embryo, which he treats more fully elsewhere, is alone enough to establish his reputation as an original observer. It is remarkable that Aristotle should have overlooked the presence of the valves of the heart, the structure and functions of which were fully investigated within thirty years of his death by the anatomists of the Alexandrian school. This is the more remarkable, as he calls attention here, and in the "History of Animals," to the sinews or tendons (νεῦρα) with which, he says, the heart is supplied, and by which he probably meant chiefly the *chordæ tendineæ*. The "bone in the heart" of which he speaks was probably the cruciform ossification which is normally found in the ox and the stag below the origin of the aorta. It is found in the horse only in advanced age, or under abnormal conditions. The statement that the heart contains no more than three chambers has always been considered as a very gross blunder on the part of Aristotle. Even Cuvier, who generally lavishes upon the philosopher the most extravagant praise, sneers at this. Professor Huxley, however, has shown, by a comparison of several passages from the "History of Animals," that what we now call the right auricle was regarded by the author as a venous sinus, as being a part not of the heart, but of the great vein (*i.e.* the superior and the inferior *venæ cavæ*).

Aristotle speaks of the *lung* as a single organ, sub-divided, but having a common outlet — the trachea. Elsewhere he says, "Canals from the heart pass to the lung and divide in the same fashion as the windpipe does, closely accompanying those from the windpipe through the whole lung." His theory of respiration, as explained in his treatise on the subject, is that it tempers the excessive heat produced in the heart. The lung is compared to a pair of bellows. When the lung is expanded, air rushes in; when it is contracted, the air is expelled. The heat from the heart causes the lung to expand — cold air rushes in, the heat is reduced, the lung collapses, and the air is expelled. The cold air drawn into the lung reaches the bronchial tubes, and as the vessels containing hot blood run alongside these tubes, the air cools it and carries off its superfluous heat. Some of the air which enters the lung gets from the bronchial tubes into the blood-vessels by transudation, for there is no direct communication between them; and this air, penetrating the body, rapidly cools the blood throughout the vessels. But Aristotle did not consider the "pneuma," which thus reached the interior of the blood-vessels, to be exactly the same thing as air — it was "a subtilized and condensed air." And this we now know to be oxygen.

The treatise "On the Generation of Animals" is an extraordinary production. "No ancient and few modern works equal it in comprehensiveness of detail and profound speculative insight. We here find some of the obscurest problems of biology treated with a mastery which, when we consider the condition of science at that day, is truly astounding. That there are many errors, many deficiencies, and not a little carelessness in the admission of facts, may be readily imagined; nevertheless at times the work is frequently on a level with, and occasionally even rises above, the speculations of many advanced embryologists."

It commences with the statement that the present work is a sequel to that "On the Parts of Animals;" and first the masculine and feminine *principles* are defined. The masculine principle is the origin of all motion and generation; the feminine principle is the origin of the material generated. Aristotle's philosophy of nature was teleological, and the imperfect character of his anatomical knowledge often gives him occasion to explain particular phenomena by final causes. Thus animals producing soft-shelled eggs (*e.g.* cartilaginous fish and vipers) are said to do so because they have so little warmth that the external surface of the egg cannot be dried.

Among insects, some (*e.g.* grasshopper, cricket, ant, etc.) produce young in the ordinary way, by the union of the sexes; in other cases (*e.g.* flies and fleas) this union of the sexes results in the production of a *skolex*; while others have no parents, nor do they have congress — such are the ephemera, tipula, and the like. Aristotle discusses and rejects the theory that the male reproductive element is derived from every part of the body. He concludes that "instead of saying that it comes *from* all parts of the body, we should say that it goes *to* them. It is not the nutrient fluid, but that which is *left over*, which is secreted. Hence the larger animals have fewer young than the smaller, for by them the consumption of nutrient material will be larger and the secretion less. Another point to be noticed is, that the nutrient fluid is universally distributed through the body, but each secretion has its separate organ.... It is thus intelligible why children resemble their parents, since that which makes all the parts of the body, resembles that which is left over as secretion: thus the hand, or the face, or the whole animal pre-exists in the sperm, though in an undifferentiated state (ἀδιορίστως); and what each of these is in actuality (ἐνεργείᾳ), such is the sperm in potentiality (δυνάμει).”

In later times the two great rival theories put forward to account for the development of the embryo have been —

(*a*) The theory of Evolution, which makes the embryo pre-existent in the germ, and only rendered visible by the unfolding and expansion of its organs.

(*b*) The theory of Epigenesis, which makes the embryo arise, by a series of successive differentiations, from a simple homogeneous mass into a complex heterogeneous organism.

The above quotation will show how closely Aristotle held to the theory of Epigenesis; and in another place he says, “Not at once is the animal a man or a horse, for the end is last attained; and the specific form is the end of each development.”

Spontaneous generation is nowadays rejected by science; but Aristotle went so far as to believe that insects, molluscs, and even eels, were spontaneously generated. It is, however, noteworthy, in view of modern investigations, that he looked upon *putrefying* matter as the source of such development.

A chapter of this work is devoted to the consideration of the hereditary transmission of peculiarities from parent to offspring.

The fifth and last book contains inquiries into the cause of variation in the colour of the eyes and hair, the abundance of hair, the sleep of the embryo, sight and hearing, voice and the teeth.

Widely different opinions have been held from time to time of the value of Aristotle’s biological labours. This philosopher’s reputation has, perhaps, suffered most from those who have praised him most. The praise has often been of such an exaggerated character as to have become unmeaning, and to have carried with it the impression of insincerity on the part of the writer.

Such are the laudations of Cuvier. To say as he does, “Alone, in fact, without predecessors, without having borrowed anything from the centuries which had gone before, since they had produced nothing enduring, the disciple of Plato discovered and demonstrated more truths and executed more scientific labours in a life of sixty-two years than twenty centuries after him were able to do,” is of course to talk nonsense, for the method which Aristotle applied was that which Hippocrates had used so well before him; and it is evident to any one that both his predecessors and contemporaries are frequently laid under contribution by Aristotle, although the authority is rarely, if ever, stated by him unless he is about to refute the view put forward. Exaggerated praise of any author has a tendency to excite depreciation correspondingly unjust and untrue. It has been so in the case of this great man. In the endeavour to depose him from the impossible position to which his panegyrists had exalted him, his detractors have gone to any length. The principal charges brought against his biological work have been inaccuracy and hasty generalization. In support of the charge of inaccuracy, some of the extraordinary statements which are met with in his works are adduced. “These,” Professor Huxley says, “are not so much to be called errors as stupidities.” Some, however, of the inaccuracies alleged against Aristotle are fancied rather than real. Thus he is charged with having represented that the arteries contained nothing but air; that the aorta arose from the right ventricle; that the heart did not beat in any other animal but man; that reptiles had no blood, etc.; although in reality he made no one of these assertions. There remain, nevertheless, the gross misstatements referred to above, and which really do occur. Such, for instance, as that there is but a single bone in the neck of the lion; that there are more teeth in male than in female animals; that the mouth of the dolphin is placed on the under surface of the body; that the back of the skull is empty, etc. Although these absurdities undoubtedly occur in Aristotle’s works, it by no means follows that he is responsible for them. Bearing in mind the curious history of the manuscripts of his treatises, we shall find it far more reasonable to conclude that such errors crept in during the process of correction and restoration, by men apparently ignorant of biology, than that (to take only one case) an observer who had distinguished the cetacea from fishes and had detected their hidden mammæ, discovered their lungs, and recognized the distinct character of their bones, should have been so blind as to fancy that the mouth of these animals was on the under surface of the body.

That Aristotle made hasty generalizations is true; but it was unavoidable. Biology was in so early a stage that a theory had often of necessity to be founded on a very slight basis of facts. Yet, notwithstanding this drawback, so great was the sagacity of this philosopher, that many of his generalizations, which he himself probably looked upon as temporary, have held their ground for twenty centuries, or, having been lost sight of, have been discovered and put forward as original by modern biologists. Thus "the advantage of physiological division of labour was first set forth," says Milne-Edwards, "by myself in 1827;" and yet Aristotle had said that "whenever Nature is able to provide two separate instruments for two separate uses, without the one hampering the other, she does so, instead of acting like a coppersmith, who for cheapness makes a spit-and-a-candlestick in one. It is only when this is impossible that she uses one organ for several functions."

In conclusion, we may say that the great Stagirite expounded the true principles of science, and that when he failed his failure was caused by lack of materials. His desire for completeness, perhaps, tempted him at times to fill in gaps with such makeshifts as came to his hand; but no one knew better than he did that "theories must be abandoned unless their teachings tally with the indisputable results of observation."

ARISTOTLE AND ANCIENT EDUCATIONAL IDEALS by Thomas Davidson

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PREFACE

In undertaking to treat of Aristotle as the expounder of ancient educational ideas, I might, with Kapp's *Aristoteles' Staatspaedagogik* before me, have made my task an easy one. I might simply have presented in an orderly way and with a little commentary, what is to be found on the subject of education in his various works — Politics, Ethics, Rhetoric, Poetics, etc. I had two reasons, however, for not adopting this course: (1) that this work had been done, better than I could do it, in the treatise referred to, and (2) that a mere restatement of what Aristotle says on education would hardly have shown his relation to ancient pedagogy as a whole. I therefore judged it better, by tracing briefly the whole history of Greek education up to Aristotle and down from Aristotle, to show the past which conditioned his theories and the future which was conditioned by them. Only thus, it seemed to me, could his teachings be seen in their proper light. And I have found that this method has many advantages, of which I may mention one. It has enabled me to show the close connection that existed at all times between Greek education and Greek social and political life, and to present the[vi] one as the reflection of the other. And this is no small advantage, since it is just from its relation to the whole of life that Greek education derives its chief interest for us. We can never, indeed, return to the purely political education of the Greeks; they themselves had to abandon that, and, since then,

A boundless hope has passed across the earth —

a hope which gives our education a meaning and a scope far wider than any that the State aims at; but in these days, when the State and the institution which embodies that hope are contending for the right to educate, it cannot but aid us in settling their respective claims, to follow the process by which they came to have distinct claims at all, and to see just what these mean. This process, the method which I have followed has, I hope, enabled me, in some degree, to bring into clearness. This, at all events, has been one of my chief aims.

In treating of the details of Greek educational practice, I have been guided by a desire to present only, or mainly, those which contribute to make up the complete picture. For this reason I have omitted all reference to the training for the Olympic and other games, this (so it seems to me) being no essential part of the system.

It would have been easy for me to give my book a learned appearance, by checkering its pages with references to ancient authors, or quotations, in the original, from them; but this has seemed to me both unnecessary and unprofitable in a work intended for the general public. I have, therefore, preferred to place at the[vii] heads of the different chapters, in English mostly, such quotations as seemed to express, in the most striking way, the spirit of the different periods and theories of Greek education. Taken together, I believe these quotations will be found to present a fairly definite outline of the whole subject.

In conclusion, I would say that, though I have used a few modern works, such as those of Kapp and Grasberger, I have done so almost solely for the sake of finding references. In regard to every point I believe I have turned to the original sources. If, therefore, my conclusions on certain points differ from those of writers of note who have preceded me, I can only say that I have tried to do my best with the original materials before me. I am far from flattering myself that I have reached the truth in every case, and shall be very grateful for corrections, in whatever spirit they may be offered; but I trust that I have been able to present in their essential features, the “ancient ideals of education.”

THOMAS DAVIDSON.

“Glenmore,”
Keene, Essex Co., N.Y.
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Book I. INTRODUCTORY

CHAPTER I

CHARACTER AND IDEAL OF GREEK EDUCATION

Nothing in excess! — Solon.

No citizen has a right to consider himself as belonging to himself; but all ought to regard themselves as belonging to the State, inasmuch as each is a part of the State; and care for the part naturally looks to care for the whole. — Aristotle.

Greek life, in all its manifestations, was dominated by a single idea, and that an æsthetic one. This idea, which worked sometimes consciously, sometimes unconsciously, was Proportion. The Greek term for this (*Logos*) not only came to designate the incarnate Word of Religion, but has also supplied many modern languages with a name for the Science of Manifested Reason — Logic. To the Greek, indeed, Reason always meant ratio, proportion; and a rational life meant to him a life of which all the parts, internal and external, stood to each other in just proportion. Such proportion was threefold; *first*, between the different parts of the individual human being; *second*, between the individual and his fellows in a social whole; *third*, between the human, as such, and the overruling divine. The realization of this threefold harmony in the individual was called by the Greeks Worth (Ἀρετή, usually, but incorrectly, rendered Virtue). There has come down to us, from the pen of Aristotle, in whom all that was implicit in Hellenism became explicit, a portion of a pæan addressed to this ideal. It may be fitly inserted here, in a literal translation.

To Worth.

O Worth! stern taskmistress of human kind,
Life's noblest prize:
O Virgin! for thy beauty's sake
It is an envied lot in Hellas even to die,
And suffer toils devouring, unassuaged —
So well dost thou direct the spirit
To fruit immortal, better than gold
And parents and soft-eyed sleep.
For thy cause Jove-born Hercules and Leda's sons

Much underwent, by deeds
Thy power proclaiming.
For love of thee Achilles and Ajax to Hades' halls went down.
For thy dear beauty's sake Atarneus' nursling too widowed the glances of the sun.
Therefore, as one renowned for deeds and deathless, him the Muses shall exalt,
The daughters of Memory, exalting so the glory of Stranger-guarding Jove, and the honor of friendship firm.

With regard to this ideal, four things are especially noteworthy; *first*, that it took an exhaustive survey of man's nature and relations; *second*, that it called for strong, persistent, heroic effort; *third*, that it tended to sink the individual in the social whole and the universal order; *fourth*, that its aim was, on the whole, a static perfection. The first two were merits; the second two, demerits. The first merit prevented the Greeks from pursuing one-sided systems of education; the second, from trying to turn education into a means of amusement. Aristotle says distinctly, "Education ought certainly not to be turned into a means of amusement; for young people are not playing when they are learning, since all learning is accompanied with pain." The first demerit was prejudicial to individual liberty, and therefore obstructive of the highest human development; the second encouraged Utopian dreams, which, being always of static conditions, undisturbed by the toils and throes essential to progress, tend to produce impatience of that slow advance whereby alone man arrives at enduring results. To this tendency we owe such works as Plato's *Republic* and Xenophon's *Education of Cyrus*.

CHAPTER II

BRANCHES OF GREEK EDUCATION

With thee the aged car-borne Peleus sent me on the day whereon from Phthia to Agamemnon he sent thee, a mere boy, not yet acquainted with mutual war or councils, in which men rise to distinction — for this end he sent me forth to teach thee all these things, to be a speaker of words and a doer of deeds. — (*Phœnix in*) Homer.

Above all and by every means we provide that our citizens shall have good souls and strong bodies. — Lucian.

Life is the original school — life, domestic and social. All other schools merely exercise functions delegated by the family and by society, and it is not until the latter has reached such a state of complication as to necessitate a division of labor that special schools exist. Among the Homeric Greeks we find no mention of schools, and the only person recorded as having had a tutor is Achilles, who was sent away from home so early in life as to be deprived of that education which he would naturally have received from his father. In what that education consisted, we learn from the first quotation at the head of this chapter. It consisted in such training as would make the pupil "a speaker of words and a doer of deeds" — a man eloquent and persuasive in council, and brave and resolute on the field of battle. For these ends he required, as Lucian says, a good soul and a strong body.

These expressions mark the two great divisions into which Greek education at all periods fell — Mental Education and Physical Education — as well as their original aims, viz. goodness (that is, bravery) of soul and strength of body. As time went on, these aims underwent considerable changes, and consequently the means for attaining them considerable modifications and extensions. Physical education aimed more and more at beauty and grace, instead of strength, while mental education, in its effort to extend itself to all the powers of the mind, divided itself into literary and musical education.

As we have seen, the Greeks aimed at developing all the powers of the human being in due proportion and harmony. But, in course of time, they discovered that the human creature comes into the world with his powers, not only undeveloped, but already disordered and inharmonious; that not only do the germs of manhood require to be carefully watched and tended, but also that the ground in which they are to grow must be cleared from an overgrowth of choking weeds, before education can be undertaken with any hope of success. This clearing process was called by the later Greeks *Katharsis*, or Purgation, and played an ever-increasing part in their pedagogical systems. It was supposed to do for man's emotional nature what Medicine undertook to do for his body. The means employed were mainly music and the kindred arts, which the ancients believed to exert what we should now call a dæmonic effect upon the soul, drawing off the exciting causes of disturbing passion, and leaving it in complete possession of itself. It would hardly be too much to say that the power to exert this purgative influence on the soul was regarded by the ancients as the chief function and end of the Fine Arts. Such was certainly Aristotle's opinion.

When purgation and the twofold education of body and mind had produced their perfect work, the result was what the Greeks called *Kalokagathia* (καλοκἀγαθία) that is, Fair-and-Goodness. Either half of this ideal was named ἀρετή (*aretê*), Worth or Excellence. We are expressly told by Aristotle (*Categories*, chap. viii.) that the adjective to ἀρετή is σπουδαῖος (*spoudaios*), a word which we usually render into English by "earnest." And we do so with reason; for to the Greek, Excellence or Worth meant, above all, earnestness, genuineness, truthfulness, thoroughness, absence of frivolity.

CHAPTER III

CONDITIONS OF EDUCATION

Some hold that men become good by nature, others by training, others by instruction. The part that is due to nature obviously does not depend upon us, but is imparted through certain divine causes to the truly fortunate. — Aristotle.

It is not merely begetting that makes the father, but also the imparting of a noble education. — John Chrysostom.

There are two sorts of education, the one divine, the other human. The divine is great and strong and easy; the human small and weak and beset with many dangers and delusions. Nevertheless, the latter must be added to the former, if a right result is to be reached. — Dion Chrysostom.

The same thing that we are wont to assert regarding the arts and sciences, may be asserted regarding moral worth, viz. that the production of a completely just character demands three conditions — nature, reason, and habit. By "reason" I mean instruction, by "habit," training.... Nature without instruction is blind; instruction without nature, helpless; exercise (training) without both, aimless. — Plutarch.

To the realization of their ideal in any individual the Greeks conceived three conditions to be necessary, (1) a noble nature, (2) persistent exercise or training in right action, (3) careful instruction. If any one of these was lacking, the highest result could not be attained.

(1) To be well or nobly born was regarded by the Greeks as one of the best gifts of the gods. Aristotle defines noble birth as "ancient wealth and worth," and this fairly enough expresses the Greek view generally. Naturally enough, therefore, the Greek in marrying looked above all things to the chances of a worthy offspring. Indeed, it may be fairly said that the purpose of the Greek in marriage was, not so much to secure a helpmeet for himself as to find a worthy mother for his children. In Greece, as everywhere else in the ancient world, marriage was looked upon solely as an arrangement for the procreation and rearing of offspring. The romantic, pathological love-element, which plays so important a part in modern match-making, was almost entirely absent among the Greeks. What love there was, assumed

either the noble form of enthusiastic friendship or the base one of free lust. In spite of this, and of the fact that woman was regarded as a means and not as an end, the relations between Greek husbands and wives were very often such as to render the family a school of virtue for the children. They were noble, sweet, and strong, — all the more so, it should seem, that they were based, not upon a delusive sentimentality, but upon reason and a sense of reciprocal duty.

(2) The value of exercise, practice, habituation, seems to have been far better understood by the ancients than by the moderns. Whatever a man has to do, be it speaking, swimming, playing, or fighting, he can learn only by doing it; this was a universally accepted maxim. The modern habit of trying to teach languages and virtues by rules, not preceded by extensive practice, would have seemed to the ancients as absurd as the notion that a man could learn to swim before going into the water. Practice first; theory afterwards: do the deed, and ye shall know of the doctrine — so said ancient Wisdom, to which the notion that children should not be called upon to perform any act, or submit to any restriction, without having the grounds thereof explained to them, would have seemed the complete inversion of all scientific method. It was by insisting upon a certain practice in children, on the ground of simple authority, that the ancients sought to inculcate the virtues of reverence for experience and worth, and respect for law.

(3) The work begun by nature, and continued by habit or exercise, was completed and crowned by instruction. This had, according to the Greek, two functions, (*a*) to make action free, by making it rational, (*b*) to make possible an advance to original action. Nature and habit left men thralls, governed by instincts and prescriptions; instruction, revelation of the grounds of action, set them free. Such freedom, based on insight, was to the thinkers of Greece the realization of manhood, or rather, of the divine in man. “The truth shall make you free” — no one understood this better than they. Hence, with all their steady insistence upon practice in education, they never regarded it as the ultimate end, or as any end at all, except when guided by insight, the fruit of instruction. A practicality leading to no widening of the spiritual horizon, to no freeing insight, was to them illiberal, slavish, paltry—”banausic,” they said, — degrading both to body and soul.

CHAPTER IV

SUBJECTS FOR EDUCATION

It is right that Greeks should rule over barbarians, but not barbarians over Greeks; for those are slaves, but these are free men. — Euripides.

Barbarian and slave are by nature the same. — Aristotle.

Nature endeavors to make the bodies of freemen and slaves different; the latter strong for necessary use, the former erect and useless for such operations, but useful for political life.... It is evident, then, that by nature some men are free, others slaves, and that, in the case of the latter, slavery is both beneficial and just. — *Id.*

Instruction, though it plainly has power to direct and stimulate the generous among the young ... is as plainly powerless to turn the mass of men to nobility and goodness (*Kalokagathia*). For it is not in their nature to be guided by reverence, but by fear, nor to abstain from low things because they are disgraceful, but (only) because they entail punishment. — *Id.*

In thinking of Greek education as furnishing a possible model for us moderns, there is one point which it is important to bear in mind: Greek education was intended only for the few, for the wealthy and well-born. Upon all others, upon slaves, barbarians, the working and trading classes, and generally upon all persons spending their lives in pursuit of wealth or any private ends whatsoever, it would have seemed to be thrown away. Even well-born women were generally excluded from most of its benefits. The subjects of education were the sons of full citizens, themselves preparing to be full citizens, and to exercise all the functions of such. The duties of such persons were completely summed up under two heads, duties to the family and duties to the State, or, as the Greeks said, œconomic and political duties. The free citizen not only acknowledged no other duties besides these, but he looked down upon persons who sought occupation in any other sphere. Œconomy and Politics, however, were very comprehensive terms. The former included the three relations of husband to wife, father to children, and master to slaves and property; the latter, three public functions, legislative, administrative, and judiciary. All occupations not included under these six heads the free citizen left to slaves or resident foreigners. Money-making, in the modern sense, he despised, and, if he devoted himself to art or philosophy, he did so only for the benefit of the State. If he improved the patrimony which was the condition of his free citizenship, he did so, not by chaffering or money-lending, but by judicious management, and by kindly, but firm, treatment of his slaves. If he performed any great artistic service to the State — for example, if he wrote a tragedy for a State religious festival (and plays were never written for any other purpose) — the only reward he looked forward to was a crown of olive or laurel and the respect of his fellow-citizens.

The Greeks divided mankind, in all the relations of life, into two distinct classes, a governing and a governed, and considered the former alone as the subject of education; the latter being a mere instrument in its hands. The governing class required education in order that it might govern itself and the other class, in accordance with reason and justice; that other, receiving its guidance from the governing class, required no education, or only such as would enable it to obey. It followed that the duty of the governing class was to govern; of the governed, to obey. Only in this correlation of duties did each class find its usefulness and satisfaction. Any attempt to disturb or invert this correlation was a wilful running in the teeth of the laws of nature, a rebellion against the divine order of things.

As husband, father, master in the family, and as legislator, officer, judge in the State, each member of the governing class found his proper range of activities; and he did wrong, degrading himself to the level of the serving class, if he sought any other. This view, in a more or less conscious form, pervades the whole ancient world, conditioning all its notions and theories of education; and Paul the Apostle only echoed it when he said to wives: “Wives, be in subjection to your own husbands as to the Lord”; to children: “Children, obey your parents in the Lord: for this is right”; and to slaves: “Slaves, be obedient unto them that according to the flesh are your masters with fear and trembling, in singleness of heart, as unto Christ.”

CHAPTER V

EDUCATION AS INFLUENCED BY TIME, PLACE, AND CIRCUMSTANCES

The peculiar character of each form of government is what establishes it at the beginning and what usually preserves it.... Since the whole State has but one end, it is plainly necessary that there should be one education for all the citizens. — Aristotle.

Education among the Greeks, as among every other progressive people, varied with times and circumstances. The education of the Homeric Greeks was not that of the Athenians in the days of Aristotle, nor the latter the same as the education of the contemporary Spartans or Thebans. Moreover, the education actually imparted was not the same as that demanded or recommended by philosophers and writers on pedagogics. It is true that the aim was always the same; Worth, Excellence, Fair-and-Goodness (ἀρετή, καλοκἀγαθία); but this was differently conceived and differently striven after at different times and in different places.

Among the Homeric Greeks, as we have seen, education, being purely practical, aiming only at making its subject “a speaker of words and a doer of deeds,” was acquired in the actual intercourse and struggles of life. The simple conditions of their existence demanded no other education and, consequently, no special educational institutions. These conditions, as described by Homer, though by no means barbarous, are primitive. Nomadism has long been left behind and the later village-communities have been mostly merged in walled towns, generally situated at some distance from the shore, on or near a hill, whose summit forms a citadel for refuge in cases of danger. Even in the most advanced of these towns, however, the type of civilization is still largely patriarchal. The government is in the hands of chiefs or kings (βασιλῆες) claiming to be born and bred of Jove, as, indeed, in a sense, they were, since they ruled quite as much by right of personal worth, which more than anything is due to the grace of God, as by hereditary title. Worth in those days consisted in physical strength, courage, beauty, judgment, and power to address an assembly, and any king proving deficient in these qualities would soon have found his position insecure, or been compelled to fortify it by lawless tyranny. The functions devolving upon the king were mainly three, those of judge, military commander, and priest. The first required judgment and ready speech; the second, strength and intelligent courage; the third, personal beauty and dignity. Though the kings were allowed to exercise great power, this was not irresponsible or arbitrary. On the contrary, it was compatible with great public freedom in speech and action. Slavery existed only to a limited extent and in a mild form. All free heads of families, however poor, had a right to attend the popular assembly, which the king consulted on all important matters, and at which the freëst discussion was allowed. When the kings exercised judicial power, they did so in accordance with certain *themistes* or laws, held to have originated with Zeus, and not according to their own caprice. As there was little commerce in those days, the inhabitants of the ancient cities, when not engaged in warfare, devoted themselves chiefly to agriculture, cattle-raising, and the useful arts. In these even the kings thought it no shame to engage. We find Paris helping to build his own palace, Odysseus constructing his own bed, Lycaon cutting wood to make chariot-rails, and so on. Similarly, we find Helen and other princesses spinning and weaving, while Nausicaa, the daughter of the Phæacian king, washes the clothes of the family.

In such a primitive society, unacquainted with letters, the higher education found but few aspirants. The only persons of scientific pretensions mentioned by Homer are the physicians (who are likewise surgeons) and the soothsayers. The former are highly appreciated, and are always chiefs. The soothsayers are the exponents of divine omens to the community, and occupy a kind of official position, like the Hebrew prophets. No artists, strictly speaking, are mentioned by Homer, except the bard, and he is much honored, as historian, teacher, and inspirer. We find, indeed, that Achilles and Paris are proficients in music; but such cases seem exceptional. Of artisans, several are mentioned — the worker in wood, the worker in horn and ivory, the potter (who uses the wheel), and so on. The existence of others is implied — the weaver, the mason, the metal-worker, etc.

If there were no special schools in the heroic age, life was so lived as to be an excellent school. Then, as at all other times, it was extremely social, far more so than our modern life. This was due chiefly to three causes, (1) the smallness of the states, which made it possible for every citizen to know, and to feel his solidarity with, every other, (2) the absence of titles and formalities, which had not yet been introduced from the East, (3) the fact that the people, especially the men, spent the greater part of the day in the open air, — in the streets and agora, — and so were continually rubbing against each other. This sociality had much to do with the shaping of the Greek character, the salient elements of which are thus enumerated by Zeller, the historian of Greek philosophy: "A strong sense of freedom, combined with a rare susceptibility to proportion, form, and order, a keen relish for companionship in life and action, a social tendency which compelled the individual to combine with others, to submit to the general will, to follow the traditions of his family and his community."

Between the simple social condition described by Homer and that for which Aristotle wrote, there intervened a period of at least six hundred years. During that time many great changes took place in the social and political life of the Greeks, demanding corresponding changes in education. These changes were due to several causes, (1) the natural human tendency toward freedom, (2) the influence of foreign nations, (3) the development of commerce, (4) the introduction of letters, (5) the rise of philosophy, (6) the Persian Wars. Though all these are closely interwoven with each other, there can be no harm in treating them separately.

(1) The tendency toward freedom, so essentially characteristic of human nature, was especially so of the nature of the Greeks. Among them it rapidly manifested itself in an ordered series of political forms, beginning with patriarchalism, and ending variously in the various states and races. There is, indeed, hardly a single form of political life that was not realized among the Greeks at some time or place. It was this that made it possible for Aristotle to write a work on Politics which, in the words of a recent political writer, "has remained for two thousand years one of the purest sources of political wisdom."

The varied and changeful political life of the Greeks was in itself a great education. It made them aware of the principles, political and ethical, upon which society rests, and rendered necessary a faculty of clear and ready expression, which reacted most favorably upon their intellectual and æsthetic faculties. It was in the school of practical politics that the Greeks acquired their rhetoric; and Aristotle, in his treatise on Poetry, tells us that, while "the older poets made their characters talk like statesmen, the later ones made theirs talk like rhetoricians." Not only, indeed, did political life react upon the drama, but, in developing rhetoric, it drew attention to language and led to the sciences of grammar and logic, both of which were thus called into existence by real social needs (see p. 102).

(2) Greece, lying, as it did, between three continents, and in the thoroughfare of the ancient nations, could hardly fail to be visited by many different races, or, considering its beauty and commercial advantages, to be coveted by them. From this followed two consequences, (*a*) that the Greeks were a very mixed race, (*b*) that they were, from the first and at all times, in manifold contact with foreign peoples. That they were a mixed race, is attested alike by their language, their mythology, and their legends. That they were in close and continual communication with foreign peoples, is rendered evident by their alphabet, their art, and the direct statements of their historians. Although it is true that the Greeks, especially after the Persian Wars, regarded themselves as a superior and chosen people, calling all others "barbarians," and considering them as fit only to be slaves, it is not the less true that hardly one of all the arts and sciences which they ultimately carried to a high degree of perfection had its origin in Greece proper. All appear first in the colonies settled among "barbarians," — in Egypt, Asia Minor, Thrace, Crete, Sicily, or Italy. Architecture, sculpture, painting, poetry — epic, lyric, dramatic — music, history, politics, philosophy, were all borrowed, transformed, and, with the exception perhaps of tragedy and painting, carried to a high degree of excellence in the colonies, before they were transplanted to the mother-country. It is beyond any doubt that even the Homeric legends are of "barbarian" origin, though from what people they were borrowed is uncertain. It was the plasticity and versatility of their character, due in part to their mixed blood, that, by enabling them to appropriate and assimilate the arts and sciences of their neighbors, raised the Greeks to a new plane of civilization and made them the initiators of a new epoch in history, the epoch of life according to reason. Sir Henry Sumner Maine says, "Except the blind forces of Nature, nothing moves in this world which is not Greek in its origin."

(3) It was chiefly through commerce that the arts and sciences borrowed by the colonial Greeks found their way into Greece proper. That foreign art-objects were introduced into it at an early period, is rendered certain by the recent discoveries at Mycenæ, Sparta, and other places, as well as by

statements in the Homeric poems. That these were followed later by artists, bringing with them foreign art-processes and appliances, is equally certain. The earliest sculptors whose names are known to us, Dipœnis and Scyllis, were natives of Crete, settled in Sicyon; and the earliest poetic guild of which we have any mention is that of the Homeridæ in the island of Chios. But, besides introducing art and artists into Greece, commerce tended to educate the Greeks in other ways. It made them acquainted with foreign manners and luxuries, and forced them to learn the arts of navigation, ship-building and exchange, which again rendered necessary an acquaintance with arithmetic and the art of writing. And this leads us to

(4) The Introduction of Letters. This event, the date of which is uncertain, not only exercised a most furthering influence on the arts and sciences, but gave rise to a new branch of education. Letters were probably first used for diplomatic and trade purposes, then for inscriptions, and last of all for the perpetuation of literary productions. So much of a change did they effect in Greek education that even in the best times the whole of the literary and scientific education was called simply "letters" (γράμματα). As late as the time of Plato letters seem to have been considered a part of Music, and to have been taught by the same teacher as the latter; but Aristotle already distinguishes the two. It is extremely probable that the introduction of letters was the immediate cause of the establishment of schools for youth; for we find no mention of them prior to that event.

(5) The introduction of letters was closely followed by the rise of Philosophy, or the reflective spirit. Up to about the year 600 b.c., the Greeks, like the rest of the world, lived by habit, tradition, and prescription, handed on, with little or no criticism, from generation to generation. Their ideal world was shaped by the works of Homer and Hesiod. "Hesiod is the teacher of most," says Heraclitus. About the date named, however, society having advanced to a condition of organization which made possible a leisure class, there begins to appear a new spirit, destined to revolutionize, not only Greece, but the whole world. Armed with a *what?* a *which?* a *why?* and a *wherefore*? it no longer blindly accepts the world of nature and man, but calls upon it to give an account of itself. Science, philosophy, and art are the result.

At first the new spirit turns to nature with a *what?*; but, gradually discovering that the answer to this brings no complete explanation of the world, it propounds its other questions. It thus arrives at a consciousness of four distinguishable elements in the constitution of things, — four causes (αἴτια, αἰτίαι), as they were termed, — (1) matter, (2) form, (3) efficiency, (4) end or aim. At the same time, and by the same process, it is forced to a recognition of the presence of reason (λόγος) and intelligence (νοῦς) in the world, since form, efficiency, and aim all presuppose both. It is thus compelled to turn from nature to man, and man's mind, as the highest known expression of reason and intelligence, and to devote itself to the consideration of spirit, as alone promising any true explanation of the world. The process is a slow and difficult one, and the history of it is the history of Greek science, philosophy, and art.

Before the rise of philosophy, the teacher of the people had been the rhapsode, or public reciter; after that event he gradually gives place to the sophist (σοφιστής, one who makes wise), or, as he later with more modesty calls himself, the philosopher (φιλόσοφος, lover of wisdom). The history of Greece for centuries is, on its inner side, a history of the struggle between what the rhapsode represents and what the philosopher represents, between popular tradition and common sense on the one hand, and individual opinion and philosophy on the other. The transition from the first to the second of these mental conditions was accomplished for the world, once for all, by the Greeks, and the turning-point in the process is marked by

(6) The Persian Wars (b.c. 490-479). The victories gained in these at Marathon, Salamis, and Platææ, victories the most brilliant that history records, exerted a most powerful influence upon the thought and life of the Greeks. The consciousness of having, with their small numbers, over and over again, both by land and by sea, discomfited and crushed the countless hosts of an empire which for generations had threatened their peace and liberty, made them at once feel the superiority of their own characters and civil institutions to those of the Persians, and draw a clear line of demarcation between Greek and barbarian. From this point on, they felt themselves to be a chosen people, a nation destined by the gods to rule all others. "The soul of Greece had conquered the bulk of Persia." Persia was bulk and body; Greece was soul and spirit. This conviction appears at once in all the departments of Greek life. In the sphere of art we may instance the *Prometheia* of Æschylus and the Parthenon. In the former, what does the conflict between Zeus and Prometheus mean but the conflict between Greek spirituality, intellect, and freedom, on the one hand, and barbarian materiality, instinct, and thraldom or

necessity, on the other? And what is the latter but a matchless pæan in stone to Divine Wisdom, as the conqueror of brute force? In the sphere of thought, we find Parmenides, Anaxagoras and, above all, Socrates (born ten years after the second Persian War), turning consciously to the study of spirit. “To be and to think are the same thing,” says the first of these: “All things were confused; then Mind came and reduced them to order,” says the second; “Know thyself” is the chosen motto of the third. In the political sphere we find the Athenians trying to make the State an instrument of intelligence and virtue, and insisting upon education as a means thereto. Other and less desirable results followed from the Persian Wars; but these can be better stated and estimated in another connection.

Such were the chief causes that contributed to transform the simple patriarchal State of the Homeric Greeks, with its purely practical education at home and in the field, into the free polity of the Greeks of the days of Miltiades, Themistocles, and Æschylus, with its complicated institutions and manifold education. It has seemed better to enumerate these causes than to try to trace the steps of the transformation itself. Indeed this would have been a hopeless task, owing to the lack of historical data.

CHAPTER VI

EPOCHS IN GREEK EDUCATION

When they (our ancestors) began to enjoy leisure for thought, as the result of easy circumstances, and to cherish more exalted ideas with respect to worth, and especially when, in the period before and after the Persian Wars, they came to entertain a high opinion of themselves, on account of their achievements, they pursued all kinds of education, making no distinction, but beating about generally. — Aristotle.

In treating of Greek education subsequent to the introduction of letters and the establishment of schools, we shall be obliged, in the interest of clearness, to make three distinctions: —

(1) Between the educational systems of different periods.

(2) Between the educational systems of different peoples and states.

(3) Between the education actually imparted in the various states, and that recommended by theorists or philosophers.

In pursuance of the first, it will be convenient first to distinguish two main periods, the Hellenic, and the Hellenistic, and then to subdivide these into minor periods.

I. ***The Hellenic Period*** **(776-338 b.c.).** This includes, roughly speaking, the whole historic life of free Greece, from the date of the first Olympiad to that of the absorption of Greece into the Macedonian Empire. It naturally subdivides itself into two periods, (*a*) 776-450; (*b*) 450-338.

(*a*) That of the "Old Education," authoritative and puritanical, whose aim was the training of good citizens, god-fearing, law-abiding, patriotic, and brave.

(*b*) That of the "New Education," rationalistic and "liberal," whose aim was the training of formidable individuals, self-centred, law-despising, time-serving, and cunning.

It is in the struggle between the two systems, and in the practical triumph of the latter, that Greece loses her moral fibre; so that her citizens, weakened through sundering selfishness, fall an easy prey to the foreign invader.

II. ***The Hellenistic Period*** **(338 b.c.-313 a.d.).** This extends from the Battle of Chæronea, in which Greece lost her independence, to the definitive triumph of Christianity, which brought a new ideal and a new spirit into life and education. It naturally subdivides itself into two periods, (*a*) b.c. 338-146; (*b*) b.c. 146-a.d. 313.

(*a*) The Macedonian Period, during which Macedonian influence prevailed, and Greek thought and education, absorbing foreign, chiefly Oriental, elements, tended toward an encyclopædic cosmopolitanism. During this period, Alexandria is the centre of Greek influence.

(*b*) The Roman Period, during which, as Horace says, “Captive Greece took captive her rude conqueror,” and Rome became, alongside Alexandria, a diffusive centre of Greek thought, art, and education.

Between the two great periods, the Hellenic and the Hellenistic, stands the man who draws up the testament of the former and outlines the programme of the latter, the Macedonian Greek, Aristotle.

Our second distinction will lead us to treat separately, in the Hellenic period, the educational system of the three Greek races, (1) the Æolic, (2) the Doric, (3) the Ionic, the first having its chief centre at Thebes, the second at Sparta, the third at Athens. For an account of the education of the first our data are but meagre; with the main features of Spartan and Athenian education we are well acquainted. In education, as in everything, Sparta was conservative, socialistic, and aristocratic, while Athens tended to liberalism, individualism, and democracy. Hence Sparta clung desperately to the “Old Education,” and almost closed her doors against art, letters, and philosophy, while Athens, dragged into the “New Education,” became the home of all these. It must always be borne in mind that, in favoring individualism and the “New Education,” Athens was abandoning the Hellenic ideal, and paving the way for the cosmopolitanism of the Hellenistic period. In this latter, we shall have to distinguish between the educational systems of Athens, Alexandria, and Rome.

Our third distinction is that between individual theory and popular practice. In all epochs of their history the Greek states produced men who strove to realize in thought and imagination the ideal of their people, and to exhibit it as an aim, an encouragement, and an inspiration, in contrast with the imperfect actual. In more than one case this ideal modified the education of the following periods. Of course, such theories did not arise until practice was compelled to defend itself by producing sanctions, either in religion or in reason, and it may perhaps be affirmed that the aim of them all was to discover such sanctions for the Greek ideal. Among the many educational theorists of Greece, there are six who especially deserve to be considered: (1) Pythagoras, who in Southern Italy sought to graft on the Doric ideal a half-mystical, half-ethical theology, and a mathematical theory of the physical world; (2) Xenophon, who sought to secure the same ideal by connecting it with a monarchical form of government; (3) Plato, who sought to elevate it, and find a sanction for it in his theory of super-sensuous ideas; (4) Aristotle, who presented in all its fulness the Hellenic ideal, and sought to find sanctions for it in history, social well-being, and the promise of a higher life; (5) Quintilian, who, in Rome, embodies the rhetorical or worldly education of the Hellenistic period; and (6) Plotinus, who presents an ideal of philosophical or other-worldly education, and paves the way for the triumph of Christian dogma.

BOOK II. THE HELLENIC PERIOD (b.c. 776-338)

Part I. THE “OLD EDUCATION” (b.c. 776-480)

CHAPTER I

EDUCATION FOR WORK AND FOR LEISURE

When we consider the different arts that have been discovered, and distinguish between those which relate to the necessary conditions of life and those which contribute to the free enjoyment of it (διαγωγή), we always consider the man who is acquainted with the latter wiser than him who is acquainted with the former, for the reason that the sciences of the latter have no reference to use. Hence it was only when all the necessary conditions of life had been attained that those arts were discovered which have no reference either to pleasure or to the common needs of life; and this took place first in those countries where men enjoyed leisure. — Aristotle.

The free life of God is such as are our brief best moments. — *Id.*

It is not fitting that the free enjoyment of life should be permitted to boys or to young persons; for the crown of perfection belongs not to the imperfect. — *Id.*

Obviously, the free enjoyment of life demands not only the noble but also the pleasant; for happiness consists of these too. — *Id.*

Among the Homeric Greeks, whose life was almost entirely devoted to practical pursuits, education was mainly practical, aiming to produce "a speaker of words and a doer of deeds." As civilization advanced, and higher political forms were evolved, certain classesof men found themselves blessed with leisure which they were not inclined to devote to mere play. In order to make a worthy use of this leisure, they required a certain training in those arts which were regarded as befitting a free man. Education, accordingly, in some states, widened its scope, to include those accomplishments, which enable men to fill their hours of freedom with refined and gracious enjoyment — music and letters. Music, indeed, had been cultivated long before, not only by professional bards, but even by princes, like Achilles and Paris; this, however, was for the sake of amusement and recreation rather than of the free enjoyment of life. It had been regarded as a means, not as an end. We must be careful, in our study of Greek life and education, not to confound play and recreation, which are for the sake of work, with the free enjoyment of life, which is an end in itself, and to which all work is but a means. "Enjoyment is the end." We shall see, as we proceed, to what momentous results this distinction leads, how it governs not only all education but all the institutions of life, and how it finally contributes to break up the whole civilization which it determines. It may fairly be said that Greece perished because she placed the end of life in individual æsthetic enjoyment, possible only for a few and regarding only the few.

In historic Greece, music came to be an essential part of the education of every free man. Even free women learnt it. Along with music went poetry, and when this came to be written down, it was termed "letters." As every free man came to be his own minstrel and his own rhapsode, the professional minstrel and rhapsode disappeared, and the Homeric poems even, in order to be preserved from oblivion, were committed to writing by an enlightened tyrant — Pisistratus.

The first portion of the Greek people that attained a degree of civilization demanding an education for hours of leisure, was the Æolian race, and particularly the Asiatic portion of it. Accordingly we find that all the earliest musicians and poets, didactic and lyric, are Æolians — Hesiod, Terpander, Arion, Alcæus, Sappho, Pittacus, etc. Lesbos seems to have taken the lead in this "higher education." The last five names all belong to that island, which produced also the earliest Greek historian and prose-writer — Hellanicus. But the Æolians, though earliest in the field, were soon outstripped by the other two races, the Doric and the Ionic. Æolian education and culture never advanced beyond music and lyric poetry. It knew no drama, science, or philosophy.

The Æolians were followed, almost simultaneously, by the Dorians and Ionians, who pursued two widely divergent directions. The former borrowed the lyric education and culture of the Æolians, and produced several lyric poets of distinguished merit — Tyrtæus, Alcman, Ibycus, Stesichorus: nay, they even advanced far enough to take the first steps in science, philosophy, and dramatic poetry. Pythagoras, Epicharmus, Sophron, Xenarchus, and Susarion were all Dorians. But the progress of the race was retarded and finally checked by rigid political institutions of a socialistic character, which, by suppressing individual initiative, reduced the whole to immobility.

The Ionians, on the contrary, borrowing freely from both Æolians and Dorians, and evolving ever freer and freer institutions, carried education and culture to a point which has never been passed, and rarely, if ever, reached, in the history of our race. And when they ceased to grow, and decay set in, this was due to exactly the opposite cause to that which stunted them among the Dorians; namely, to excessive individualism, misnamed liberty. Individualism ruined Athens.

Although education assumed different forms among different portions of the Greek race, there are certain features that seem to have been common to all these forms during the epoch of the "Old Education." Two of these deserve attention.

First. Education was everywhere a branch of statecraft, and the State itself was only the highest educational institution. This was equally true whether the schools were public, as at Sparta, or private, as at Athens. Everywhere citizenship was a degree, conferred only upon sons of free citizens, after a satisfactory examination (δοκιμασία).

Second. The stages or grades of education were everywhere the same, although their limits were not everywhere marked by the same number of years. The first, extending usually from birth to the end of the seventh year, was that of home education; the second, extending from the beginning of the eighth year to the end of the sixteenth or, perhaps oftener, the eighteenth year, was that of school education; the third, extending from the beginning of the seventeenth or nineteenth year to the end of the twentieth (in Sparta of the thirtieth), was that of college education, or education for the duties of citizenship; the fourth, including the remainder of life, was that of university education, or education through the State, which then was the only university. At the beginning of the third period, the young men took their first State examination, and if they passed it successfully, they received the degree of Cadet or Citizen-novice (ἔφηβος); but it was only at the beginning of the fourth period, and after they had passed a second examination (δοκιμασία εἰς ἄνδρας), that they received the degree of Man and Citizen and were permitted to exercise all the functions of freemen. The State then became, in a very real sense, their *Alma Mater*.

In most states, this graded education fell only to the lot of males, the education of females stopping short with the first grade, the family, which was regarded as their only sphere. It was otherwise at Sparta, Teos, and apparently among the Æolians generally. As a consequence it is only among the Æolians and Dorians that any poetesses of note appear — Sappho, Corinna, Telesilla, etc. Although, however, woman's sphere was the family, and she was considered to have done her duty when she worthily filled the place of wife, mother, and mistress, there was nothing to prevent her from acquiring the higher education, if she chose to do so. That she did not often so choose, seems true; still there are examples of learned women even among the Athenians. The daughter of Thucydides is said to have continued his history after his death, and, whether the statement be true or not, the fact that it was made shows that the ability to write history was not regarded as impossible or surprising in a woman.

CHAPTER II

ÆOLIAN OR THEBAN EDUCATION

Hesiod is the teacher of most. — Heraclitus.

When thou art dead, thou shalt lie in the earth.
Not even the memory of thee shall be
Thenceforward nor forever; for thou hast
No share in the Pierian roses; but
Ev’n in the halls of Hades thou shalt flit,
A frightened shadow, with the shadowy dead.
— Sappho (*to an uneducated woman*).

What rustic hoyden ever charms the soul,
That round her ankles cannot kilt her coats? — *Id.*

The Æolians appear to have been the earliest of the Greek races to make any considerable advance in culture. Their claim to Homer can hardly be sustained; but they certainly produced Hesiod, most of the greater lyric poets and poetesses, and the first historian. For a time they bade fair to lead the culture of Greece. But the promise was not fulfilled. During the palmy period of Greek history, they were not only the most uncultured and uncouth of the Greeks, but they even prided themselves upon their boorishness of speech and manner, and derided culture. In the glorious struggle in which Greece maintained the cause of culture and freedom against Persia, Thebes, then the chief centre of Æolianism, sided with the barbarian, as, indeed, was natural.

Theban education was, of course, a reflex of the character of the Theban and, indeed, of the Bœotian, people. Its main divisions were those of Greek education generally, — Gymnastics and Music; but the former was learnt solely for athletic purposes, and the latter mainly for use at banquets and drinking-bouts, in which the Bœotians found their chief delight. Letters were studied as little as at Sparta (see p. 47), and the language of the people remained harsh and unmusical. Of higher education there was hardly a trace. The sophists passed Bœotia by. Even Pindar, who was by birth a Theban, and a sincerely patriotic one, sought and found recognition anywhere rather than among his own people. He did not even write in their dialect.

The reason for this backwardness on the part of the Bœotian Æolians lay in the fact that they lived, as a conquering race, in the midst of a people superior to them in every respect save strength, and could maintain their ascendency only by brute force. When this failed, and the conquered race, which had never forgotten Cadmus and its ancient traditions, came to the front, education and culture found their way even to Thebes. It was due to this change in political conditions that a Pindar could arise, and it was doubtless the demand for culture consequent thereupon that induced certain members of the scattered Pythagorean school (see p. 54) to seek refuge in Thebes and there devote themselves to teaching. Among these were Philolaus and Lysis, the latter of whom was probably the author of the famous “Golden Words” (see p. 57). But he has a better claim to fame than this; for he was the teacher of the bravest and most lovable man that Greece ever produced — Epaminondas.

If any enthusiastic believer in the power of education desire to fortify his cause by means of a brilliant example, he will find none superior to Epaminondas; for there can hardly be any question that it was the earnest, systematic, religious, and moral Pythagorean training which he received from the aged Lysis, whom he treated as a father, that made him what he was, and enabled him to do what he did, — which was nothing less than to place Thebes at the head of Greece. Thebes rose and fell with Epaminondas. But that was not all. It was the example of Epaminondas that kindled the ambition of Philip of Macedon, who was educated under his eye, and of his far more famous son, Alexander, who made all Greece a province of his empire. Pythagoras, Lysis, Epaminondas, Philip, Alexander — in five brief generations an earnest teacher conquers a world!

From the time of Epaminondas on, Thebes followed the ordinary course of Greek education.

CHAPTER III

DORIAN OR SPARTAN EDUCATION

Go, tell at Sparta, thou that passest by,
That here, obedient to her laws, we lie.
— Simonides (*Epitaph on the Three Hundred who fell at Thermopylæ*).

This is a matter for which the Lacedæmonians deserve approbation: they are extremely solicitous about the education of their youth and make it a public function. — Aristotle.

The Lacedæmonians impart to their children the look of wild beasts, through the severity of the exercises to which they subject them, their notion being that such training is especially calculated to heighten courage. — *Id.*

These are so far behind in education and philosophy that they do not learn even letters. — Isocrates.

Old Men. We *were* once strong men (youths).
Men. And we *are*; if you will, behold.
Boys. And we *shall be* far superior. — *Spartan Choric Anthem.*

They asked no clarion's voice to fire
Their souls with an impulse high:
But the Dorian reed and the Spartan lyre
For the sons of liberty!
So moved they calmly to their field,
Thence never to return,
Save bearing back the Spartan shield,
Or on it proudly borne! — Hemans.

There was a law that the cadets should present themselves naked in public before the ephors every ten days; and, if they were well knit and strong, and looked as if they had been carved and hammered into shape by gymnastics, they were praised; but if their limbs showed any flabbiness or softness, any little swelling or suspicion of adipose matter due to laziness, they were flogged and justiced there and then. The ephors, moreover, subjected their clothing every day to a strict examination, to see that everything was up to the mark. No cooks were permitted in Lacedæmon but flesh-cooks. A cook who knew anything else was driven out of Sparta, as physic for invalids. — Ælian.

Every rational system of education is determined by some aim or ideal more or less consciously set up. That of the Dorians, and particularly of the Spartans, may be expressed in one word — Strength, which, in the individual, took the form of physical endurance, in the State, that of self-sufficiency (αὐτάρκεια). A self-sufficient State, furnishing a field for all the activities and aspirations of all its citizens, and demanding their strongest and most devoted exertions — such is the Dorian ideal. It is easy to see what virtues Dorian education would seek to develop — physical strength, bravery, and obedience to the laws of the State. Among the Dorians the human being is entirely absorbed in the citizen. The State is all in all.

The Dorian ideal realized itself chiefly in two places, Crete and Sparta. Both these were repeatedly held up in ancient times as models of well-governed states, and even Plato puts the substance of his *Laws* into the mouth of a Cretan.

About the details of Cretan education we are but poorly informed. Two things, however, we know: (1) that Lycurgus, the reputed founder of Spartan education, was held to have drawn many of his ideas from Crete, and (2) that the final result of Cretan education — and the same is true of all education that merges the man in the citizen — was, in spite of its strictness, demoralizing. The character of the people was summed up by their poet Epimenides, a contemporary of Solon’s, in a famous line quoted by St. Paul, “The Cretans are always liars, evil beasts, lazy bellies.”

With regard to Spartan education our information is much greater, and we may therefore select it as the type of Dorian education generally.

The Peloponnesian Dorians having, through contact with the more civilized peoples whom they conquered, lost much of that rigorous discipline and unquestioning loyalty which made them formidable, were, in the ninth century b.c., becoming disorganized, so that in two of the Dorian states they were assimilated by the native population, the Argives and the Messenians. The same process was rapidly going on in the third state, Lacedæmon, when Lycurgus, fired with patriotic zeal, resolved to put an end to it, by restoring among his people the old Dorian military discipline. To prepare himself for this task, he visited Crete and studied its institutions. On his return he persuaded his countrymen to submit to a “Constitution,” which ever afterwards went by his name. This constitution included a scheme of education, whose aim was a thorough training of the whole of the free citizens, both male and female, (1) in physical endurance, and (2) in complete subordination to the State. The former was sought to be imparted by means of a rigorous and often cruel, system of gymnastics; the latter, through choric music and dancing, including military drill. Spartan education, therefore, was confined to two branches, Gymnastics and Music. Instruction in letters was confined to the merest elements. Sparta accordingly never produced a poet, an historian, an artist, or a philosopher of any note. Even the arrangers of her choruses were foreigners — Tyrtæus, Terpander, Arion, Alcman, Thaletas, Stesichorus.

As Spartan education was nothing more or less than a training for Spartan citizenship, we must preface our account of it by a few words on the Spartan State.

The government of Sparta was in the hands of a closed aristocracy, whose sole aim was the maintenance of its own supremacy, as against (1) foreign enemies, (2) *Perioikoi*, or disfranchised native citizens, (3) Helots, or native serfs. To secure this, it formed itself into a standing army, with a strict military organization. Sparta, its one abode, was a camp; all free inhabitants were soldiers. Though they were compelled to marry, the city contained no homes. The men and, from the close of their seventh year, the boys, lived in barracks and ate at public tables (*Phiditia*). The women had but one recognized function, that of furnishing the State with citizens, and were educated solely with a view to this. No other virtue was expected of them. Aristotle tells us that “they lived in every kind of profligacy and in luxury.” Polyandry was common, and, when a woman lost all her husbands, she was often compelled to enter into relations with slaves, in order that she might not fail in her political duty.

Among a people organized on the basis of brute force, it were vain to look for any of the finer traits of human nature — gentleness, tenderness, sympathy, pity, mercy. The mercilessness and cruelty of the Spartans were proverbial. Perioikoi and Helots incurring the displeasure or suspicion of the authorities were secretly put to death, without even the form of a trial. A striking instance of such cruelty is recorded by Thucydides. The facts are thus stated by Grote (*History of Greece*, vol. ii, pp. 376-7): "It was in the eighth year of the Peloponnesian War, after the Helots had been called upon for signal military efforts in various ways, ... that the ephors felt especially apprehensive of an outbreak. Anxious to single out the most forward and daring Helots, as men from whom they had most to dread, they issued proclamation that every member of that class who had rendered distinguished services should make his claim known at Sparta, promising liberty to the most deserving. A large number of Helots came forward to claim the boon: not less than two thousand of them were approved, formally manumitted, and led in solemn procession round the temples, with garlands on their heads, as an inauguration to their coming life of freedom. But the treacherous garland only marked them out as victims for sacrifice: every man of them forthwith disappeared; the manner of their death was an untold mystery."

Spartan education was entirely conducted by the State, at the expense of the State, and for the ends of the State. It differed in this respect from nearly every other system of Greek education. It was divided into four periods, corresponding respectively to childhood, boyhood, youth, and manhood.

(*a*) Childhood. — As soon as the Spartan child came into the world, the State, through officers appointed for that purpose, sent to examine it. If it seemed vigorous, and showed no bodily defect, it was permitted to live, and forthwith adopted by the State; otherwise it was carried to the mountains and thrown over a precipice. The children accepted by the State were for the next seven years left in charge of their mothers, but, doubtless, still under State surveillance. Just how they were trained during these years, we do not know. We can only guess that they underwent very much the same process as other Greek children, any difference being in the direction of rigor. As the details of Greek education generally will be dealt with under the head of Athens, they may be omitted here.

(*b*) Boyhood. — On completing his seventh year, the Spartan boy was transferred from his mother's house and care to a public barracks and the direct tuition of the State. Although the boys were in charge of a special officer (παιδονόμος), who divided them into squads and companies, and arranged their exercises for them, they were nevertheless taught to regard every grown man as a teacher, and every such man was expected to correct them promptly and rigorously, whenever he saw them doing wrong. At the same time, every boy was expected to form an intimate connection with some one man, who then, to a large extent, became responsible for his conduct; and, though the choice in this matter rested with the parties concerned, it was considered a disgrace in a man, no less than in a boy, to be without such connection. Though this arrangement, it is said, often led to lamentable abuses, there can be no doubt that it admirably served the purposes of Sparta. It furnished every boy with a tutor, who, under the circumstances, could hardly fail to treat him kindly, and who was interested in making him surpass all other boys in courage and endurance. This friendly influence of teacher on pupil was something in which the Greeks at all times strongly believed, and which formed an important force in all their education. In Sparta, as in Crete and Thebes, it was legally recognized. One of the duties of Spartan "inspirer" (εἰσπνήλας or εἴσπνηλος), as he was called, was to teach his young friend (ἀΐτας) to demean himself properly on all occasions, and to hold his tongue except when he had something very important to say. In this way it was that the young Spartans received their moral education, and acquired that effective brevity of speech which to this day we call "laconic."

The formal education of Spartan boys consisted mainly of gymnastics, music, choric dancing, and larceny. Their literary education was confined to a little reading, writing, and finger-arithmetic; everything beyond this was proscribed. And the reasons for this proscription are not difficult to discover. Sparta staked everything upon her political strength, and this involved two things, (1) equality among her free citizens, and (2) absolute devotion on their part to her interest, both of which the higher education would have rendered impossible. Education establishes among men distinctions of worth quite other than military, and gives them individual interests distinct from those of the State. It was the same reason that induced Rome, during the best period of her history, to exclude her citizens from all higher education, which is essentially individual and cosmopolitan.

The education of the Spartan boys was conducted mostly in the open air and in public, so that they were continually exposed to the cheers or scoffs of critical spectators, to whom their performances were a continual amusement of the nature of a cock-fight. Whether the different "inspirers" betted on their own boys may be doubtful; but they certainly used every effort to make them win in any and every contest, and the "inspirer" of a "winning" boy was an envied man. The result was that many boys lost their lives amid cheers, rather than incur the disgrace of being beaten. Inasmuch as the sole purpose of gymnastics was strength and endurance; of dancing, order; and of music, martial inspiration, it is easy to see what forms these studies necessarily assumed; and we need only stop to remark that Dorian music received the unqualified approbation of all the great educational writers of antiquity, — even of Aristotle, who had only words of condemnation for Spartan gymnastics.

There was only one branch of Spartan school-education that was not conducted in public, and that was larceny. The purpose of this curious discipline was to enable its subjects to act, on occasion, as detectives and assassins among the ever discontented and rebellious Helots. How successful it was, may be judged from the incident recorded on page 45. Larceny, when successfully carried out under difficult circumstances, was applauded; when discovered, it was severely punished. A story is told of a boy who, rather than betray himself, allowed a stolen fox, concealed under his clothes, to eat out his entrails.

In one respect Spartan education may claim superiority over that of most other Greek states: it was not confined to one sex. Spartan girls, though apparently permitted to live at home, were subjected to a course of training differing from that of their brothers only in being less severe. They had their own exercise-grounds, on which they learnt to leap, run, cast the javelin, throw the discus, play ball, wrestle, dance, and sing; and there is good evidence to show that their exercises had an admirable effect upon their physical constitution. That the breezy daughters of Sparta were handsomer and more attractive than the hot-house maidens of Athens, is a well-attested fact. Many Spartan women continued their athletic and musical exercises into ripe womanhood, learning even to ride spirited horses and drive chariots. If we may believe Aristotle, however, the effect of all this training upon their moral nature was anything but desirable. They were neither virtuous nor brave.

(*c*) Youth. — About the age of eighteen, Spartan boys passed into the class of *epheboi*, or cadets, and began their professional training for war. This was their business for the next twelve years, and no light business it was. For the first two years they were called *melleirenes*, and devoted themselves to learning the use of arms, and to light skirmishing. They were under the charge of special officers called *bideoi*, but had to undergo a rigid examination before the ephors every ten days (see p. 41). Their endurance was put to severe tests. Speaking of the altar of Artemis Orthia, Pausanias says: “An oracle commanded the people to imbrue the altar with human blood, and hence arose the custom of sacrificing on it a man chosen by lot. Lycurgus did away with this practice, and ordained that, instead, the cadets should be scourged before the altar, and thus the altar is covered with blood. While this is going on, a priestess stands by, holding, in her arms the wooden image (of Artemis). This image, being small, is, under ordinary circumstances, light; but, if at any time the scourgers deal too lightly with any youth, on account of his beauty or his rank, then the image becomes so heavy that the priestess cannot support it; whereupon she reproves the scourgers, and declares that she is burdened on their account. Thus the image that came from the sacrifices in the Crimea has always continued to enjoy human blood.” This Artemis appears, with a bundle of twigs in her arm, next to Ares, among the Spartan divinities, on the frieze of the Parthenon. At twenty years of age, the young men became *eirenes*, and entered upon a course of study closely resembling actual warfare. They lived on the coarsest food, slept on reeds, and rarely bathed or walked. They exercised themselves in heavy arms, in shooting, riding, swimming, ball-playing, and in conflicts of the most brutal kind. They took part in complicated and exhausting dances, the most famous of which was the Pyrrhic, danced under arms. They manned fortresses, assassinated Helots, and, in cases of need, even took the field against an enemy.

(*d*) Manhood. — At the age of thirty, being supposed to have reached their majority, they fell into the ranks of full citizens, and took their share in all political functions. They were compelled to marry, but were allowed to visit their wives only rarely and by stealth. They sometimes had two or three children before they had ever seen their wives by daylight. When not engaged in actual war, they spent much of their time in watching the exercises of their juniors, and the rest in hunting wild boars and similar game in the mountains. Like Xenophon, they thought hunting the nearest approach to war.

Such was the education that Sparta gave her sons. That it produced strong warriors and patriotic citizens, there can be no doubt. But that is all: it produced no men. It was greatly admired by men like Xenophon and Plato, who were sick of Athenian democracy; but Aristotle estimated it at its true worth. He says: “As long as the Laconians were the only people who devoted themselves to violent exercises, they were superior to all others; but now they are inferior even in gymnastic contests and in war. Their former superiority, indeed, was not due to their training their young men in this way, but to the fact that they alone did so." And even Xenophon, at the end of a long panegyric on the Spartan constitution, is obliged to admit that already in his time it has fallen from its old worth into feebleness and corruption, and this in spite of the fact that he had his own sons educated at Sparta. When Sparta fell before the heroic and cultured Epaminondas, she fell unpitied, leaving to the world little or nothing but a warning example.

CHAPTER IV

PYTHAGORAS

Virtue and health and all good and God are a harmony. — Pythagoras.

One is the principle of all. — Philolaus the Pythagorean.

All things that are known have number. — *Id.*

The principles of all virtue are three, knowledge, power, and choice. Knowledge is like sight, whereby we contemplate and judge things; power is like bodily strength, whereby we endure and adhere to things; choice is like hands to the soul, whereby we stretch out and lay hold of things. — Theages the Pythagorean.

The Doric discipline, even in Sparta, where it could exhibit its character most freely, produced merely soldiers and not free citizens or cultivated men. It was, nevertheless, in its essential features, the Hellenic ideal, and numerous attempts were made to remedy its defects and to give it permanence, by connecting it with higher than mere local and aristocratic interests. One of the earliest and most noteworthy of these was made by Pythagoras.

This extraordinary personage appears to have been born in the island of Samos in the first quarter of the sixth century b.c. Though he was born among Ionians, his family appears to have been Achaian and, to some extent, Pelasgian (Tyrrhenian), having emigrated from Phlius in the Argolid. After distinguishing himself in Ionia, he emigrated in middle life to Magna Græcia, and took up his abode in the Achaian colony of Croton, then a rich and flourishing city. The cause of his emigration seems to have been the tyranny of Polycrates, which apparently imparted to him a prejudice against Ionic tendencies in general. Whether he derived any part of his famous learning from visits to Egypt, Phœnicia, Babylonia, etc., as was asserted in later times, is not clear. It is not improbable that he visited Egypt, and there is good reason for believing that he became acquainted with Phœnician theology through Pherecydes of Syros. That he was an omnivorous student is attested by his contemporary, Heraclitus. He was undoubtedly affected by the physical theories current in his time in Ionia, while he plainly drew his political and ethical ideas from Sparta or Crete.

Of his activity in Ionia we know little; but we may perhaps conclude that it was of the same nature as that which he afterwards displayed in Italy. Here he appeared in the triple capacity of theologian, ethical teacher, and scientist. His chief interest for us lies in the fact that he was apparently the first man in Greece, and, indeed, in the western world, who sought to establish an ethical institution apart from the State. In this respect he bears a strong resemblance to the prophet Isaiah, who may be said to have originated the idea of a Church (see p. 133). Pythagoras' aim seems to have been to gather round him a body of disciples who should endeavor to lead a perfect life, based upon certain theological or metaphysical notions, and guided by a rule of almost monastic strictness. Like other men who have found themselves in the midst of irreverence, selfishness, and democratic vulgarity and anarchy, he believed that his time demanded moral discipline, based upon respect for authority and character, with a firm belief in future retribution, and inculcated by a careful study of the order and harmony of nature; and such discipline he strove, with all his might, to impart. Having no faith in the capacity of the State to be an instrument for his purpose, he set to work independently of it, and seems to have met with very marked success, drawing to him many of the best men and women of Southern Italy. So numerous and powerful, indeed, did his followers become that they held the balance of power in several cities, and were able to use it for the enforcement of their own principles. As these were exceedingly undemocratic, and opposed to the tendencies of the time, they finally roused bitter opposition, so that the Pythagoreans were persecuted and attempts made to exterminate them with fire and sword. In this way their political influence was broken, and their assemblies suppressed; but the effect of Pythagoras' teaching was not lost. His followers, scattered abroad throughout the Hellenic world, carried his precepts and his life-ideal with them. In the following centuries they found many noble sympathizers — Pindar, Socrates, Plato, Epicharmus, etc. — and underwent many modifications, until they finally witnessed a resurrection, in the forms of Neo-Pythagoreanism and Neo-Platonism, after the Christian era. In these later guises, Pythagoreanism lost itself in mysticism and contemplation, turning its followers into inactive ascetics; but in its original form it seems to have been especially adapted to produce men of vigorous action and far-sighted practicality. Milo of Croton, the inimitable wrestler; Archytas of Tarentum, philosopher, mathematician, musician, inventor, engineer, general, statesman; and Epaminondas, the greatest and noblest of Theban generals, were professed Pythagoreans.

We might perhaps express the aim of Pythagoras' pedagogical efforts by the one word Harmony. Just as he found harmony everywhere in the physical world, so he strove to introduce the same into the constitution of the human individual, and into the relations of individuals with each other. He may perhaps be regarded as the originator of that view of the world, of men, and of society which makes all good consist in order and proportion, a view which recommends itself strongly to idealists, and has given birth to all those social Utopias, whose static perfection seems to relieve the individual from the burden of responsibility, and which have been dangled before the eyes of struggling humanity from his days to ours. According to this view, which had its roots in Greek thought generally, the aim of education is to find for each individual his true place and to make him efficient therein. Man is made for order, and not order for man. He is born into a world of order, as is shown by the fact that number and proportion are found in everything that is known. Pythagoras, in his enthusiasm for his principle, carried his doctrine of numbers to absurd lengths, identifying them with real things; but this enthusiasm was not without its valuable results, since it is to Pythagoras and his school that we owe the sciences of geometry and music. Moreover, experience must have taught him that it is one thing to propound a theory, another to make it effective in regulating human relations. In order to accomplish the latter object, he invoked the aid of divine authority and of the doctrines of metempsychosis and future retribution. Hence his educational system had a strong religious cast, which showed itself even outwardly in the dignified demeanor and quiet self-possession of his followers.

Harmony, then, to be attained by discipline, under religious sanctions, was the aim of Pythagoras' teaching. Believing, however, that only a limited number of persons were capable of such harmony, he selected his pupils with great care, and subjected them to a long novitiate, in which silence, self-examination, and absolute obedience played a prominent part. The aim of this was to enable them to overcome impulse, concentrate attention, and develop reverence, reflection, and thoughtfulness, the first conditions of all moral and intellectual excellence. While the first care was directed to their spiritual part, their bodies were by no means forgotten. Food, clothing, and exercise were all carefully regulated on hygienic and moral principles.

Regarding the details of Pythagoras' educational system we are not well informed; but the spirit and tendency of it have been embalmed for us in the so-called *Golden Words*, which, if not due to the pen of Pythagoras himself, certainly reach back to very near his time, and contain nothing at variance with what we otherwise know of his teaching. We insert a literal version.

The Golden Words.

The Gods immortal, as by law disposed,
First venerate, and reverence the oath:
Then to the noble heroes, and the powers
Beneath the earth, do homage with just rites.

Thy parents honor and thy nearest kin,
And from the rest choose friends on virtue's scale.
To gentle words and kindly deeds give way,
Nor hate thy friend for any slight offence.
Bear all thou canst; for Can dwells nigh to Must.
These things thus know.

What follow learn to rule:
The belly first, then sleep and lust and wrath.
Do nothing base with others or alone:
But most of all thyself in reverence hold.

Then practise justice both in deed and word,
Nor let thyself wax thoughtless about aught:
But know that death's the common lot of all.

Be not untimely wasteful of thy wealth,
Like vulgar men, nor yet illiberal.
In all things moderation answers best.

Do things that profit thee: think ere thou act.

Let never sleep thy drowsy eyelids greet,
Till thou hast pondered each act of the day:
“Wherein have I transgressed? What have I done?
What duty shunned?” — beginning from the first,
Unto the last. Then grieve and fear for what
Was basely done; but in the good rejoice.

These things perform; these meditate; these love.
These in the path of godlike excellence
Will place thee, yea, by Him who gave our souls
The number Four, perennial nature’s spring!
But, ere thou act, crave from the gods success.

These precepts having mastered, thou shalt know
The system of the never-dying gods
And dying men, and how from all the rest
Each thing is sunder’d, and how held in one:
And thou shalt know, as it is right thou shouldst,
That nature everywhere is uniform,
And so shalt neither hope for things that lie
Beyond all hope, nor fail of any truth.

But from such food abstain as we have named,
And, while thou seek’st to purge and free thy soul,
Use judgment, and reflect on everything,
Setting o’er all best Thought as charioteer.

Be glad to gather goods, nor less to lose.

Of human ills that spring from spirit-powers
Endure thy part nor peevishly complain.
Cure what thou canst: ‘tis well, and then reflect:
“Fate never lays too much upon the good.”

Words many, brave and base, assail men’s ears.
Let these not disconcert or trammel thee;
But when untruth is spoken, meekly yield.

What next I say in every act observe:
Let none by word or deed prevail on thee
To do or say what were not best for thee.
Think ere thou act, lest foolish things be done; —
For thoughtless deeds and words the caitiff mark; —
But strongly do what will not bring regret.
Do naught thou dost not know; but duly learn.
So shall thy life with happiness o’erflow.

Be not neglectful of thy body’s health;
But measure use in drink, food, exercise —
I mean by ‘measure’ what brings no distress.

Follow a cleanly, simple mode of life,
And guard against such acts as envy breed.
Then, if, when thou the body leav’st, thou mount
To the free ether, deathless shalt thou be,
A god immortal, — mortal never more!

In this system six things are noteworthy: (1) Its comprehensiveness, in that it takes account of man’s whole nature, — body, soul, and spirit; affections, intellect, and will, and of all his relations — to gods and men, to self and nature: (2) Its aimfulness, in that it promises happiness here and blessedness hereafter, as the reward of right living: (3) Its piety, in that it everywhere recognizes the need of divine assistance: (4) Its appreciation of science, as insight into the nature and grounds of multiplicity and unity: (5) Its stress laid on right doing, as the condition of right knowing: (6) Its belief in man’s divinity and perfectibility. It is curious that the poem contains no reference to the doctrine of metempsychosis, which might apparently have been appealed to as a powerful moral sanction.

That a system like that of Pythagoras, combining the religious, the mystical, the scientific, the ethical, and the social tendencies of the Hellenic mind, should have exerted a deep and abiding influence, need not surprise us. We find profound traces of it, not only in all subsequent Greek thought, but even in foreign systems, such as Essenism, whose elements were Hebrew Nazarenism and Greek Pythagoreanism. The relations between Essenism and Christianity have not yet been determined. Of the effect of Pythagoras' teaching on Epaminondas I have already spoken.

CHAPTER V

IONIAN OR ATHENIAN EDUCATION

Let me now give an account of the Old Education, when I, uttering words of justice, was in my prime, and self-control was held in respect. In the first place, a child was not allowed to be heard uttering a grumble. Then all the boys of the quarter were obliged to march in a body, in an orderly way and with the scantest of clothing, along the streets to the music master's, and this they did even if it snowed like barley-groats. Then they were set to rehearse a song, without compressing their thighs, — either "Pallas, mighty city-stormer," or "A shout sounding far," putting energy into the melody which their fathers handed down. And, if any one attempted any fooling, or any of those trills like the difficult inflexions *à la* Phrynis now in vogue, he received a good threshing for his pains, as having insulted the Muses. Again, at the physical trainer's, the boys, while sitting, were obliged to keep their legs in front of them.... And at dinner they were not allowed to pick out the best radish-head, or to snatch away anise or celery from their elders, or to gourmandize on fish and field-fares, or to sit with their legs crossed.... Take courage, young man, and choose me, the Better Reason, and you shall know how to hate the public square, to avoid the bath-houses, to be ashamed of what is shameful, to show temper when any one addresses you in ribald language, to rise from your seat when your elders approach, and not to be a lubber to your own parents, or to do any other unseemly thing to mar the image of Modesty, or to rush to the house of the dancing-girl, and, while you are gaping at her performances, get struck with an apple by a wench and fall from your fair fame, or to talk back to your father, or, addressing him as Japhet, to revile the old age which made the nest for you.... Then, fresh and blooming, you will spend your time in the gymnasia, and not go about the public square, mouthing monstrous jokes, like the young men of to-day, or getting dragged into slippery, gumshon-bamboozling disputes, but, going down to the Academy, with some worthy companion of your own age, you will start a running-match, crowned with white reed, smelling of smilax, leisure and deciduous white poplar, rejoicing in the spring, when the plane-tree whispers to the maple. If you do the things which I enjoin, and give your mind to them, you will always have a well-developed chest, a clear complexion, broad shoulders, and a short tongue. — Aristophanes, *Clouds* (*Speech of Right Reason*).

In their systems of education, some states strive to impart a courageous habit to their people from their very childhood by a painful and laborious training, whereas we, though living in a free and natural way, are ready to meet them in a fair field with no favor. — Pericles' *Funeral Oration* (*Thucydides*).

I will never disgrace these sacred arms, nor desert my companion in the ranks. I will fight for temples and public property, both alone and with many. I will transmit my fatherland, not only not less, but greater and better, than it was transmitted to me. I will obey the magistrates who may at any time be in power. I will observe both the existing laws and those which the people may unanimously hereafter make, and, if any person seek to annul the laws or to set them at nought, I will do my best to prevent him, and will defend them both alone and with many (all?). I will honor the religion of my fathers. And I call to witness Aglauros, Enyalios, Ares, Zeus, Thallo, Auxo, and Hegemone. — *Oath of the Athenian Epheboi.*

Consider, Men of Athens, what careful provision was made by Solon, the ancient lawgiver, by Draco, and other lawgivers of that period, for the cultivation of good morals. In the first place, they made laws to secure a moral education for our children, and laid down, in plain terms, just what the free-born boy should study and how he should be nurtured; secondly, they made regulations regarding young men; and, thirdly, with regard to the other periods of life in their order, including both private persons and public speakers; and, having recorded these laws, they left them in your keeping, appointing you their guardians. — Æschines (*against Timarchus*).

If systems of education are to be classified according to their results — and these are perhaps the fairest test — then the "Old Education" of Athens must be assigned a very high place. The character which she displayed, and the exploits which she performed, in the early decades of the fifth century b.c., bear unequivocal testimony to the value of the training to which her citizens had previously been subjected. This training could perhaps hardly be better characterized than by the word "puritanical." The men who fought at Marathon, Salamis, and Platææ were puritans, trained, in a hard school, to fear the gods, to respect the laws, their neighbors, and themselves, to reverence the wisdom of experience, to despise comfort and vice, and to do honest work. They were not enfeebled by æsthetic culture, paralyzed by abstract thinking, or hardened by professional training. They were educated to be men, friends, and citizens, not to be mere thinkers, critics, soldiers, or money-makers. It was against a small band of such men that the hosts of Persia fought in vain.

It is natural that this "Old Education" of Athens should have a special interest for us, inasmuch as it seems, in great measure, to have solved the problem that must be uppermost with every true educator and friend of education, viz. How can strong, wise, and good men be produced? For this reason, as also because we are the better informed regarding the educational system of Athens than that of any other Greek state, it seems proper to devote special attention to it, treating it as preëminently Greek education. Indeed, whatever is permanently valuable in Greek education is to be found in that of Athens, other systems having mainly but an historical interest for us.

In comparing the education of Athens with that of Sparta, we are at once struck with two great distinctions: (1) While Spartan education is public, Athenian education is mainly private; (2) While Sparta educates for war, Athens educates for peace. As to the former of these, it is not a little remarkable that, while many of the first thinkers of Greece, including Plato and Aristotle, advocated an entirely public education, Athens never adopted it, or even took any steps in that direction. It seems as if the Athenians felt instinctively that socialistic education, by relieving parents of the responsibility of providing for the education of their own children, was removing a strong moral influence, undermining the family, and jeopardizing liberty. Perhaps the example of Sparta was not without its influence. No liberty-loving people, such as the Athenians were, would consent to merge the family in the State, or to sacrifice private life to public order. As to the second distinction, which was all-pervasive, it divides the two peoples by an impassable gulf and assigns them to two different grades of civilization. And it was one of which both peoples were entirely conscious. While Sparta represented her ideal by a chained Ares, Athens found hers in a Wingless Victory, a form of Athena, the divinity of political and industrial wisdom. As the aim of Sparta was strength, so that of Athens was Wisdom — the wise man in the wise state. By the "wise man," was meant he whose entire faculties of body, soul, and mind were proportionately and coördinately developed; by the “wise state,” that in which each class of the population performed its proper function, and occupied its proper relation toward the rest, and this without any excessive exercise of authority. If the Spartan, like the artificially tamed barbarian, submitted to living by rule and command, the Athenian, like the naturally civilized man, delighted to live in a free and natural way (ἀνειμένως διαιτᾶσθαι) governed from within, and not from without. To make possible such life was the aim of Athenian education, which, instead of seeking to merge the man in the State, or to rend the two asunder, treated them as necessary correlates and strove to balance their claims.

The endeavor on the part of Athens to steer a middle course between socialism and individualism, is manifest in the fact that, though she had no public system of education, she took great care to see that her citizens were thoroughly educated in the spirit of her institutions, and, indeed, made such education a condition of citizenship, which was thus an academic degree, conferred only after careful examination. By a law of Solon’s, parents who had failed to give their sons a proper education lost all claim upon them for support in their old age. Furthermore, Athens subjected all her male citizens to a systematic preparation for civil and military functions, before she allowed them to exercise these.

Athenian education comprised four grades corresponding to four institutions, (1) the family, (2) the school, (3) the gymnasium or college, (4) the State. We may consider these in their order.

(1) Family Education.

The birth of a child was regarded by the Athenians as a joyful event, as something calling for gratitude to the gods. This expressed itself in a family festival, called the Amphidromia, celebrated usually on the seventh day after the birth. On this occasion, the child was carried rapidly round the family altar and received its name. A sacrifice was then offered to the gods, the mother was purified, and christening presents were displayed. The child was now a member of the family and under the protection of its gods. For the next seven years, it was wholly in the hands of parents and nurses, the latter being usually slaves. During this time its body was the chief object of care, and everything seems to have been done to render it healthy and hardy. Cradles do not seem to have been in use, and the child was sung to sleep on the nurse’s knee. While it was being weaned, it was fed on milk and soft food sweetened with honey. As soon as it was able to move about and direct attention to external objects, it received playthings, such as rattles, dolls of clay or wax, hobby-horses, etc., and was allowed to roll and dig in the sand. Such were the simple gymnastics of this early period. As to the other branch of education, it consisted mostly in being sung to and in listening to stories about gods and heroes, monsters and robbers, of which Greek mythology was full. By means of these the child's imagination was roused and developed, and certain æsthetic, ethical, and national prepossessions awakened. Though children were often frightened from certain acts and habits by threats of bogles coming to carry them off, yet the chief ethical agency employed was evidently strict discipline. To secure good behavior in his children was the first care of the Athenian parent. Though disinclined to harshness, he never doubted that "he who spareth the rod hateth the child." Children were never placed upon exhibition or applauded for their precocious or irreverent sayings. They were kept as much as possible out of the way of older people, and, when necessity brought them into the presence of these, they were taught to behave themselves quietly and modestly. No Greek author has preserved for us a collection of the smart sayings or roguish doings of Athenian children.

Though the Kindergarten did not exist in those old days, yet its place was, in great measure, filled by the numerous games in which the children engaged, in part at least under their nurses' superintendence. Games played so important a part in the whole life of the Greek people, and especially of the Athenians, that their importance in the education of children was fully recognized and much attention devoted to them. During play, character both displays itself more fully, and is more easily and deeply affected, than at any other time; and, since the whole of the waking life of the child in its earliest years is devoted to play, this is the time when character is formed, and therefore the time which calls for most sedulous care. In playing games, children not only exercise their bodies and their wits; they also learn to act with fairness, and come to feel something of the joy that arises from companionship and friendly rivalry in a common occupation. Moreover, as games have no end beyond themselves, they are admirable exercises in free, disinterested activity and a protection against selfish and sordid habits. Of all this the Athenians were fully aware.

There are probably few games played by children in our day that were not known in ancient Athens. It seems, however, that games were there conducted with more system, and a deeper sense of their pedagogical value, than they are with us. We hear of running, leaping, hopping, catching, hitting, and throwing games, gymnastic games, and games of chance. The ball, the top, the hoop, the swing, the see-saw, the skipping rope, the knuckle-bones were as much in use in ancient, as in modern, times. Cards, of course, there were not; and, indeed, games of chance, though well known, seem rarely to have been indulged in by children. It hardly seems necessary to remark that there were some games peculiar to boys and others to girls, and that the latter were less rude than the former. Doubtless, too, the games played in the city, where the children would have few chances of going beyond their homes, were different from those played in the country, where almost complete freedom to roam in the open air was enjoyed. We must always bear in mind that well-to-do Athenian families spent the greater part of the year at their country-houses, which, with few exceptions, were so near the city that they could be reached even on foot in a single day. This country life had a marked effect upon the education of Athenian children.

(2) School Education.

About the age of seven, the Athenian boy, after being entered on the roll of prospective citizens in the temple of Apollo Patroös, and made a member of a phratria, went to school, or, rather, he went to two schools, that of the music-master, and that of the physical trainer. He was always accompanied thither and back by a *pedagogue*, who was usually a slave, who carried his writing-materials, his lyre, etc. (there being no school-books to carry), and whom he was expected implicitly to obey. The boys of each quarter of the city collected every morning at some appointed place and walked to school, like little soldiers, in rank and file. They wore next to no clothing, even in the coldest weather, and were obliged to conduct themselves very demurely in the streets. The school hours were very long, beginning early in the morning and continuing till late in the evening. Solon found it necessary to introduce a law forbidding schoolmasters to have their schools open before sunrise or after sunset. It thus appears that boys, after the age of seven, spent their whole day at school, and were thus early withdrawn from the influence of their mothers and sisters, a fact which was not without its bearing upon morals.

There are several interesting points in connection with Athenian school life about which our information is so scanty that we are left in some doubt respecting them. For example, though it is quite plain that Athens had no system of public instruction, it is not so clear that she did not own the school buildings. Again, it is not certain whether music (including letters) and gymnastics were, or were not, taught in the same locality. Thirdly, there is some doubt about the number and order of the hours devoted to each of the two branches of study. In regard to these points I can state only what seems to me most probable.

As to school buildings, we are expressly told by the author of the fragmentary tract on *The Athenian State*, currently attributed to Xenophon, but probably written as early as b.c. 424, that “the people (δῆμος) builds itself many palæstras, dressing-rooms, baths, and the masses have more enjoyment of these than the few that are well-to-do.” If we assume that some of these palæstras were for boys, as we apparently have a right to do, we must conclude that some, at least, if not all, of the schools for bodily training were public edifices, let out by the State to teachers. Like all the great gymnasia, some, and possibly all, of them were situated outside the city walls and had gardens attached to them. Whether the music-schools were so likewise, is doubtful, and this brings us to our second question — whether the two branches of education were taught in the same place. That they were not taught in the same room, or by the same person, is clear enough; but it does not follow from this that they were not taught in the same building, or at any rate in the same enclosed space. Though there seems to be no explicit statement in any ancient author on this point, I think there are sufficient reasons for concluding that, generally at least, they were so taught. If we find that Antisthenes, Plato, and Aristotle, who may be said to have introduced a systematic “higher education” into Athens, opened their schools in the great public gymnasia, frequented by youths and men, we may surely conclude that the lower mental education was not separated from the physical. In the *Lysis* of Plato, we find some young men coming out of a palæstra outside the city walls, and inviting Socrates to enter, telling him that their occupation (διατριβή) consists *mostly* in discussions (τὰ πολλὰ ἐν λόγοις), and that their teacher is a certain Miccus, an admirer of his. Socrates recognizes the man as a capable “sophist,” a term never used of physical trainers. On entering, Socrates finds a number of boys and youths (νεανίσκοι) playing together, the former having just finished a sacrifice. It seems to follow directly from this that intellectual education was imparted in the palæstras. If this be true, we may, I think, conclude that in Athens the schools generally were outside the city walls, though the case was certainly different in some other cities.

In regard to our third question, it is clear that, if boys spent their whole day in one place, it would be more easy to divide it profitably between musical instruction and gymnastics than if they spent one part of it in one place, and another in another. Just how it was divided, we do not know, and I have little doubt that much depended upon the notions of parents and the tendencies of different periods. It is quite clear, from certain complaints of Aristotle's, that in Athens parents enjoyed great liberty in this matter. In any case, since, as we know, the institutions of education were open all day, it seems more than probable that one class of boys took their gymnastic lesson at one hour, another at another, and so with other branches of study. It cannot be that the physical training-schools were deserted when the music-schools were in session. I think there is sufficient reason for believing that, generally, the younger boys took their physical exercises in the morning, and their intellectual instruction in the afternoon, the order being reversed in the case of the older boys. How much of the time spent at school was given up to lessons and how much to play, is not at all clear; but I am inclined to think that the playtime was at least as long as the worktime. The schools were for boys what the agora and the gymnasium were for grown men — the place where their lives were spent.

Before we consider separately the two divisions of Athenian education, a few facts common to them may be mentioned. In the first place, they had a common end, which was, to produce men independent but respectful, freedom-loving but law-abiding, healthy in mind and body, clear in thought, ready in action, and devoted to their families, their fatherland, and their gods. Contrary to the practice of the Romans, the Athenians sought to prepare their sons for independent citizenship at as early an age as possible. In the second place, the motives employed in both divisions were the same, viz. fear of punishment and hope of reward. As we have seen, the Athenian boy, if he behaved badly, was not spared the rod. As an offset against this, when he did well, he received unstinted praise, not to speak of more substantial things. Education, like everything else in Greece, took the form of competition. The Homeric line (*Il.*, vi, 208; xi, 784),

"See that thou ever be best, and above all others distinguished," was the motto of the Athenian in everything. In the third place, in both divisions the chief aim was the realization of capacity, not the furthering of acquisition. Mere learning and execution were almost universally despised in the old time, while intelligence and capacity were universally admired. In the fourth place, in both divisions the utmost care was directed to the conduct of the pupils, so that it might be gentle, dignified, and rational. In the fifth place, education in both its branches was intended to enable men to occupy worthily and sociably their leisure time, quite as much as to prepare them for what might be called their practical duties in family, society, and State. The fine arts, according to the Greeks, furnished the proper amusements for educated men (πεπαιδευμένοι).

(α) *Musical (and Literary) Instruction*.

Though the Greek word *music* (μουσική) came in later times to have an extended meaning, in the epoch of which we are treating, it included only music in our sense, and poetry, two things which were not then separated. Aristophanes, as late as b.c. 422, can still count upon an audience ready to laugh at the idea of giving instruction in astronomy and geometry, as things too remote from human interests (*Clouds*, vv 220 sqq.). The poetry consisted chiefly of the epics of Homer and Hesiod, the elegiacs of Tyrtæus, Solon, Theognis, etc., the iambics of Archilochus, Simonides, etc., and the songs of the numerous lyrists, Terpander, Arion, Alcæus, Alcman, Sappho, Simonides, etc. The music was simple, meant to “sweeten” (ἡδύνειν) the words and bring out their meaning. In fact, the music and the poetry were always composed together, so that the poet was necessarily also a musician. What we call “harmony” was unknown in Greek music at all times, and instrumental music was almost entirely confined to solo-playing.

In treating of Athenian, and, indeed, of all Greek, education, it is of the utmost importance to realize that the intellectual and moral part of it has music and poetry for its starting-point. This is the core round which everything else gathers; this is what determines its character, influence, and ideal. Culture, as distinguished from nature, is the material of Athenian intellectual and moral education; and by this is meant, not the history or theory of culture, as it might be set forth in prose, but culture itself, as embodied in the ideals and forms of music-wedded poetry, appealing to the emotions that stir the will, as well as to the intelligence that guides it.

By making the works of the great poets of the Greek people the material of their education, the Athenians attained a variety of objects difficult of attainment by any other one means. The fact is, the ancient poetry of Greece, with its finished form, its heroic tales and characters, its accounts of peoples far removed in time and space, its manliness and pathos, its directness and simplicity, its piety and wisdom, its respect for law and order, combined with its admiration for personal initiative and worth, furnished, in the hands of a careful and genial teacher, a material for a complete education such as could not well be matched even in our own day. What instruction in ethics, politics, social life, and manly bearing could not find a fitting vehicle in the Homeric poems, not to speak of the geography, the grammar, the literary criticism, and the history which the comprehension of them involved? Into what a wholesome, unsentimental, free world did these poems introduce the imaginative Greek boy! What splendid ideals of manhood and womanhood did they hold up for his admiration and imitation! From Hesiod he would learn all that he needed to know about his gods and their relation to him and his people. From the elegiac poets he would derive a fund of political and social wisdom, and an impetus to patriotism, which would go far to make him a good man and a good citizen. From the iambic poets he would learn to express with energy his indignation at meanness, feebleness, wrong, and tyranny, while from the lyric poets he would learn the language suitable to every genial feeling and impulse of the human heart. And in reciting or singing all these, how would his power of terse, idiomatic expression, his sense of poetic beauty and his ear for rhythm and music be developed! With what a treasure of examples of every virtue and vice, and with what a fund of epigrammatic expression would his memory be furnished! How familiar he would be with the character and ideals of his nation, how deeply in sympathy with them! And all this was possible even before the introduction of letters. With this event a new era in education begins. The boy now not only learns and declaims his Homer, and sings his Simonides or Sappho, he learns also to write down their verses from dictation, and so at once to read and to write. This, indeed, was the way in which these two (to us) fundamental arts were acquired. As soon as the boy could trace with his finger in sand, or scratch with a stylus on wax, the forms of the letters, and combine them into syllables and words, he began to write poetry from his master's dictation. The writing-lesson of to-day was the reading, recitation, or singing-lesson of to-morrow. Every boy made his own reading-book, and, if he found it illegible, and stumbled in reading, he had only himself to blame. The Greeks, and especially the Athenians, laid the greatest stress upon reading well, reciting well, and singing well, and the youth who could not do all the three was looked upon as uncultured. Nor could he hide his want of culture, since young men were continually called upon, both at home and at more or less public gatherings, to perform their part in the social entertainment.

The strictly musical instruction of this period was almost entirely confined to simple, strong Doric airs, sung to an accompaniment which was played on an instrument closely resembling the modern guitar (λύρα, κίθαρις). Complicated and wind instruments were unpopular, and the softer or more thrilling kinds of music, Lydian, Phrygian, etc., had not yet been introduced, at least into schools. Anything like the skill and execution demanded of professional players, who were usually slaves or foreigners, was considered altogether unworthy of a free man and a citizen, and was therefore not aimed at. Fond as the Athenians were of the fine arts, they always held professional skill in any of them, except poetry and musical composition, to be incompatible with that dignity and virtue which they demanded of the free citizen. A respectable Athenian would no more have allowed his son to be a professional musician than he would have allowed him to be a professional acrobat.

It is difficult for us to understand the way in which the Greeks regarded music. Inferior as their music was to ours in all technical ways, it exerted an influence upon their lives of which we can form but a faint conception. To them it was a dæmonic power, capable of rousing or assuaging the passions, and hence of being used for infinite good or evil. No wonder, then, that in their education they sought to employ those kinds which tended to "purgation" (κάθαρσις), and to avoid those that were exciting, sentimental, or effeminate! No wonder that they disapproved of divorcing music from the intellectual element contained in the words, and allowing it to degenerate into a mere emotional or sensual luxury! Music the Greeks regarded, not indeed as a moral force (a phrase that to them, who regarded morality as a matter of the will, would have conveyed no meaning), but as a force whose office it was, by purging and harmonizing the human being, to make him a fit subject for moral instruction. Music, they held, brought harmony, first into the human being himself, by putting an end to the conflict between his passions and his intelligent will, and then, as a consequence, into his relations with his fellows. Harmony within was held to be the condition of harmony without.

In the period of which I am speaking, no distinction was yet made between music and literature (γράμματα), both being taught by the *citharist* (κιθαριστής). Indeed, the term for teacher of literature (γραμματιστής) was not then invented. But the citharist not only taught literature: he also taught the elements of arithmetic, a matter of no small difficulty, considering the clumsy notation then in use. This was done by means of pebbles, a box of sand, or an abacus similar in principle to that now used by billiard players to keep count of their strokes.

As to the schoolrooms in ancient Athens, they were apparently simple in the extreme; indeed, rather porches open to sun and wind than rooms in the modern sense. They contained little or no furniture. The boys sat upon the ground or upon low benches, like steps (βάθρα), while the teacher occupied a high chair (θρόνος). The benches were washed, apparently every day, with sponges. The only decorations permitted in the schoolrooms, it seems, were statues or statuettes of the Muses and Apollo, and the school festivals or exhibitions were regarded as festivals in honor of these. Indeed, in Greece every sort of festival was regarded as an act of worship to some divinity. The chief school festival seems to have been the *Musēa* (μουσεῖα), at which the boys recited and sang.

(β) *Gymnastics or Bodily Training.*

Under the term *Gymnastics* (γυμναστική), the Greeks generally included everything relating to the culture of the body. The ends which the Athenians sought to reach through this branch of education were health, strength, adroitness, ease, self-possession, and firm, dignified bearing. A certain number of boys, intending to take part in the Olympic and other great games, were allowed to train as athletes under a gymnast (γυμναστής, ἀλείπτης) in the public gymnasia, and under the direction of the State; but these were exceptions. The athlete was not an ideal person at Athens, as he was at Thebes and Sparta.

Gymnastic exercises were conducted partly in the palæstras, or wrestling schools, partly on the race-courses, both of which were under the direction of professional trainers (παιδοτρίβαι). In early times, the palæstra and race-course were simply an open space covered with sand and probably connected with the school (διδασκαλεῖον), thus corresponding to our playground. Later, this space was partly covered over and furnished with dressing-rooms, a bath, seats for spectators, an altar for sacrifices, statues, etc. Of the five gymnastic exercises in which boys were trained, all except wrestling seem to have been conducted on the race-course, so that the palæstra was reserved for what its name implied. It is by no means certain that every palæstra had a race-course connected with it, at least in the time of which we are speaking, and possibly in many cases the boys took part of their exercises in the public race-course running from the agora to beyond the walls. Just as the schoolroom was decorated with images of Apollo and the Muses, so the palæstra was decorated with images of Hermes, Heracles, and Eros, symbolizing, respectively, adroitness, human strength, and youthful friendship. The special patron of the palæstra was Hermes, and the gymnastic exhibition took the form of a festival to him, the Hermæa, at which a sacrifice was offered and the boys were allowed the use of the building to play games in, the victors wearing crowns.

It would be impossible, in a work of this compass, to enter into a minute description of all the exercises of the Athenian palæstra. We must be content with a general statement, which may be prefaced with the remark that these exercises were at first light, increasing gradually in rigor and difficulty as the strength and skill of the growing child permitted.

The chief gymnastic exercises were five, named in this order in a famous line of Simonides: (1) leaping, (2) running, (3) discus-throwing, (4) javelin-casting, (5) wrestling (πάλη), which last gave the name to the palæstra. We shall not strictly follow this order, but begin with

(1) *Running.* — This was the simplest, lightest, most natural, and, therefore, the most easily taught of exercises. It was probably also the oldest. We find even Homer making his ideal Phæacians begin their games with it, and this practice seems to have been general throughout antiquity. In taking this exercise, the boys divested themselves of all clothing and had their bodies rubbed with oil. The running appears to have been of the simplest kind. Hurdle-races, sack-races, etc., were apparently excluded from education. At the same time, the running was rendered difficult by the soft sand with which the course was covered to the depth of several inches. The races were distinguished according to their length in furlongs or stadia: (1) the furlong-race, (2) the double-furlong race, (3) the horse (four-furlong) race, (4) the long race, whose length seems to have been twenty-four

furlongs, or about three miles. The stadion was = 202¼ yards English. The shorter races called for brief concentration of energy, the longer for persistence and endurance; all were exercises in agility; all tended to develop lung-power.

(2) *Leaping or Jumping.* — This exercise seems, in the main, to have confined itself to the long leap. Though the high leap and the pole-jump can hardly have been unknown, we have no evidence that they were ever employed in the gymnastic training of boys. There may have been hygienic reasons which forbade their use. On the other hand, boys were taught to lengthen their leap by means of weights, somewhat similar to our dumb-bells, carried in their hands, and swung forward in the act of leaping. Such leaping would be an exercise for the arms, as well as for the legs and the rest of the body. But, just as there were two exercises intended chiefly for the legs, so there were two intended chiefly for the arms — discus-throwing and javelin-casting.

(3) *Discus-throwing.* — The modern world has been rendered very familiar with the method of this exercise by the copies of the *discobolus* of Myron, preserved in Rome and extensively engraved and photographed, and that of the *discobolus* of Alcamenes which now stands in the Vatican (see Overbeck, *Griech. Plastik* vol. i, p. 276). The discus was generally a flat, round piece of stone or metal, a sort of large quoit with no hole in the middle, which the user sought to throw as far as he could. The discobolus of Alcamenes shows us a youth balancing the discus in his left hand, and taking the measure of his throw with his eye; that of Myron shows us another in the act of throwing. He swings the discus backward in his right hand, and bends his body forward to balance it. His right foot, the toes contracted with effort, rests firmly on the ground; the left is slightly lifted; the whole body is like a bent bow. In the next instant the left foot will advance, the left hand, now resting on the right knee, will swing backwards, the body will resume its erect position, and the discus will be shot forward from the right hand like an arrow. Nothing could show more clearly than does this statue the perfect organization, symmetry, and balance which were the aim of Greek gymnastics. Not one limb could be moved without affecting all the rest, — which shows that the exercise extended to the whole body.

(4) *Javelin-casting.* — The aim of this exercise was to develop skill and precision of eye and hand, rather than strength of muscle. The instrument

employed was a short dagger or lance, which was aimed at a mark. He who could hit the mark from the greatest distance was the most proficient scholar. The spear, before being thrown, was balanced in the right hand at the height of the ear.

(5) *Wrestling.* — This very complicated exercise was evidently the principal one in the gymnastic course, the one to which the others were merely preparatory. It was the only one which a boy could not practice by himself. It exercised not only the whole body, but the patience and temper as well. The aim of the wrestler was to throw (καταβλλειν) his antagonist. Those who took part in this exercise had their bodies rubbed with oil and strewn with fine sand. It seems that the wrestler was allowed to do anything he chose to his antagonist except to bite, strike, or kick him. Before he could claim the victory he had to throw him three times. After the contest the wrestlers scraped from their bodies, with a strigil, the oil and dust, bathed, were again rubbed with oil, exposed their bodies to the sun, in order to dry and tan them, and dressed. The bathing was done in cold water, and both the bathing and the sunning were in part intended to inure the body to sudden cold and heat, which inurement was considered a very essential part of physical training.

Such were the chief exercises employed in the gymnastic training of the Athenians. Thus far, we have considered the two branches of education as conducted separately, and as not coming at any point in contact with each other. But it would have been very unlike the Greek, and especially the Athenian, to leave the two divisions of education unrelated and unharmonized. And, indeed, he did not so leave them, but brought them together in the most admirable way in what he called *orchesis*, a word for which we have no better equivalent than

(γ) *Dancing* (ὄρχησις, χορός).

“Dancers,” says Aristotle, “by means of plastic rhythms (rhythms reproduced in plastic forms) imitate characters, feelings, and actions.” Xenophon, in his *Anabasis*, describing a banquet that took place in the wilds of Paphlagonia, says: “After the treaty was ratified and the pæan sung, there first rose up two Thracians and danced in armor to the flute, leaping high and lightly, and using their swords. Finally one of them struck the other, so that everybody thought he had wounded him; but he fell in an artificial way. Then the Paphlagonians raised a shout; but the assailant, having despoiled the fallen man of his armor, went out singing the Sitalcas. Then others of the

Thracians carried out the other as if he had been dead; but he was none the worse. Next, some Ænianes and Magnesians stood up and danced the so-called Carpæa in armor. The manner of the dance was this: one man, putting his arms within reach, sows and drives a team, frequently turning round as if afraid. Then a robber makes his appearance. As soon as the other espies him, he seizes his arms, advances to him, and fights in front of the team. And the two did this keeping time to the flute. Finally the robber, having bound the other, carries off both him and the team; sometimes, on the contrary, the ploughman binds the robber, in which case he yokes him, with his hands bound behind his back, to his oxen and drives off." Several other dances, performed by persons of different nationalities, follow; but enough has been quoted to show that the Greek ὄρχησις was something very different from our dancing. It was, indeed, a pantomimic ballet, interspersed with *tableaux vivans*.

In the dances here mentioned, the flute is the instrument employed, and this the player could not accompany with his voice. But in the Athenian schools, in the old time, the flute, and all music without words, were tabooed. There can be no doubt, therefore, that in these the orchestic performances were accompanied by the lyre, the player on which sang in words what the dancers danced. It is obvious that in such performances the musical (literary) and gymnastic branches of education came in for about equal shares. Dancing exercised the whole human being, body and soul, and exercised them in a completely harmonious way. It is this harmony, this rhythmic movement of the body in consonance with the emotions of the soul and the purposes of the intelligence, that is *grace* (χάρις). Hence, while the Greeks relied upon gymnastics to impart strength and firmness to the body, they looked to dancing for courtliness and grace. Plato places the two on the same footing, as parts of a single discipline.

The fact that the two divisions of education met in dancing seems to prove what I surmised above, viz. that they were conducted within the same precincts; in which case we may suppose that, while the dancing exercises took place in the palæstra, the music was supplied by the music master. We know that the chorus-leader was a public officer, appointed by the demos, and had to be over forty years old. In any case, it is curious enough to think that Athenian, and, generally, Greek, education culminated in dancing. But this was a perfectly logical result; for the chorus is the type of Greek social life, as we see most clearly in the *Republic* of Plato. It hardly needs to be pointed out that the supreme form of Greek art, the drama, was but a development of the Bacchic or Dionysiac chorus. This development consisted in the separation of the music from the pantomime, and the assignment of the former to the chorus, which no longer danced, but walked, and of the latter to the actors, who added the dialogue to it. Greek life was divided into three parts — civil, military, religious. Music and letters were a preparation for the first, gymnastics for the second, and dancing for the third. Dancing formed a prominent part in Greek worship, and it may be doubted whether free Athenians ever danced except “before the gods “ — ἐν ταῖς πρὸς τοὺς θεοὺς προσόδοις, as Xenophon says.

Two things still remain to be considered with regard to Athenian schools, (1) grading, (2) holidays. With respect to the former, the practice probably differed at different times; but we seem to be justified in assuming that, at the time of which I am speaking, there were but two grades, boys (παῖδες) and youths (νεανίσκοι). These are mentioned by Plato, in the *Lysis*, as celebrating the Hermæa together in a palæstra. The first grade would include the boys from seven to eleven years of age; the second, those from eleven to fifteen. As to holidays, they seem to have been simply the feast-days of the greater gods, when business of every sort was suspended. Such days amounted to about ninety annually.

(3) College Education.

About the time when he was blossoming into manhood, that is, some time between his fourteenth and his sixteenth year, the Athenian boy of the olden time was transferred from the private school and palæstra, which belonged to the family side of life, to the gymnasium, which belonged to the State, and in which he received the education calculated to fit him for the duties of a citizen. Having, in the family and the school, been trained to be a gentleman (καλοκἀγαθός), he must now be trained to be a citizen, capable of exercising legislative, judicial, and military functions. The State saw to it that he received this training, if his parents chose and could afford it.

In the time of Solon, about b.c. 590, two great gymnasia, the Academy and Cynosarges, were erected in the midst of extensive groves outside the city walls. These groves were afterwards surrounded with high walls, furnished with seats and other conveniences, and turned into city parks. The Academy, which lay to the northwest of the city, in the valley of the Cephisus, and was under the patronage of Athena, was the resort of the full-blooded citizens, while Cynosarges, situated to the east of the city, near the foot of Lycabettus, was assigned to those who had foreign blood in their veins, that is, who had only one parent of pure Athenian stock. This gymnasium was under the patronage of Heracles, whose worship always implies the presence of a foreign and vanquished element. These were the only two gymnasia belonging to Athens before the time of Pericles. They were, probably, destroyed by the Persians in 480, and had afterwards to be rebuilt, and the groves replanted.

While the children of nearly all the free citizens of Athens attended the school and the palæstra, it is clear that only the youth of the wealthier classes attended the gymnasium. One result of this was that the government and offices of the State fell exclusively into the hands of those classes; and it was perhaps just in order to make this division, without introducing any class-law, that the shrewd Solon established the gymnasia, which thus became a bulwark against democracy.

As soon as the Athenian youth was transferred to the gymnasium, he passed from under the charge of the pedagogue, who represented the family, and came under the direct surveillance of the State. He was now free to go where he would, to frequent the agora and the street, to attend the theatre, in which he had his appointed place, and to make himself directly acquainted with all the details of public life. In the gymnasium he passed into the hands of a gymnast or scientific trainer, and for the next two or three years was subjected to the severer exercises, wrestling, boxing, etc. No special provision, beyond the fact that he had to learn the laws, was made for his intellectual and moral instruction. He was expected to acquire this from contact with the older citizens whom he met in the agora, the street, or the public park. Thus, at what is justly regarded as the most critical age, he was almost compelled to live a free, breezy, outdoor life, full of activity and stirring incident, his thoughts and feelings directed outwards into acts of will, and not turned back upon himself or his own states. At the same time he was acquiring just that practical knowledge of ethical laws and of real life which could best fit him for active citizenship. He now learnt to ride, to drive, to row, to swim, to attend banquets, to sustain a conversation, to discuss the weightiest questions of statesmanship, to sing and dance in public choruses, and to ride or walk in public processions. If he abused his liberty and behaved in a lawless or unseemly way, he was called to account by the severe Court of the Areopagus, which attended to public morals. He saw little of girls of his own age, except his sisters, unless it was at public festivals, when there was little opportunity of becoming acquainted with them. His affectionate nature therefore expressed itself mostly in the form of devoted friendships to other youths of his own, or nearly his own, age, a fact which enables us to understand why friendship fills so large a space, not only in the life, but also in the ethical treatises of the Greeks, — Plato, Aristotle, etc., — and why love, in the modern sense, plays so insignificant a part. The truth is that, even in Athens, the State encroached upon the family. Plato's *Republic* was only the logical carrying out of principles that were latent long before in the social life of the Athenian people.

It would be impossible to treat in detail the exercises to which the Athenian youth was subjected during the years in which he attended the public gymnasium as a pupil. The old exercises of the palæstra were continued, running and wrestling especially; but the former was now done in armor, and the latter became more violent, and was supplemented by boxing. In fact, the physical exercises were now systematized into the *pentathlon* — running, leaping, discus-throwing, wrestling, boxing — which formed the programme of nearly all gymnastic exhibitions. During these years, the youth was still regarded as a minor, and his father or guardian was responsible for his good behavior. But when he reached the age of eighteen, a change took place, and he passed under the direct control of the State. His father now brought him before the reeve of his *demos* (ward or village), as a candidate for independent citizenship. If he proved to be the lawful child of free citizens, and came up to the moral and physical requirements of the law, his name was entered upon the register of the demos, and he became a member of it. He was now prepared to be presented to the whole people, and to pass the State examination. He shore his long hair for the first time, and donned the black garment of the citizen. In this guise he presented himself to the king-archon of the State, who, at a public assembly, introduced him, along with others, to the whole people. He was then and there armed with spear and shield (supplied by the State if his father had fallen in war), and thence proceeded to the shrine of Aglauros, where, looking down on the agora, the city, and the Attic plain, he took the Solonian oath of citizenship (see p. 61). He was now technically an *ephēbos*, cadet, or citizen-novice, ready to undergo those two years of severe discipline which at once formed his introduction to practical affairs, and constituted the State examination. During the first year he remained in the neighborhood of Athens, drilling in arms, and acquiring a knowledge of military tactics. His life was now the hard life of a soldier. He slept in the open air, or in the guard-houses (φρούρια) that surrounded the city, and was liable to be called upon at any time by the government to give aid in an emergency. He also took part in the public festivals. At the end of the year, all the *ephēboi* of one year's standing passed an examination in military drill before the assembled people (ἀπεδείξαντο τῷ δήμῳ περὶ τὰς τάξεις), after which they were employed as militia to man the frontier guard-houses, and as rural *gendarmerie* (περίπολοι), scouring the country in all directions. They now lived like soldiers in war-time, and learnt two important things, (1) the topography of Attica, its roads, passes, brooks, springs, etc., (2) the art of enforcing law and order. Their life, indeed, closely resembled that of the Alpine corps (*Alpini*) of the Italian army at the present day. These spend the summer in making themselves acquainted with every height, valley, pass, stream, and covert in the Italian Alps, often bivouacking for days together at great heights. That during this time the *ephēboi* should have taken any part in the legislative or judicial duties of citizens, seems in the highest degree improbable. At the end of their second year, however, they passed a second examination, called the citizenship or manhood examination (δοκιμασία εἰς ἄνδρας), after which they were full members of the State.

(4) University Education.

The Greek university was the State, and the Greek State was a university — a *Cultur-Staat*, as the Germans say. That the State is a school of virtue, was a view generally entertained in the ancient world, which, until it began to decay, completely identified the man with the citizen. The influence of this view upon the attitude of the individual to the State, and of the State to the individual, can hardly be overestimated. The State claimed, and the individual accorded to it, a disciplinary right which extended to every sphere and action of life. Thus the sphere of morality coincided exactly with the sphere of legality, or, to put it the other way, the sphere of legality extended to the whole sphere of morality, and this was considered true, whatever form the State or government might assume — monarchy, aristocracy, democracy, etc.

To give a full account of the university education of old Athens would be to write her social and political history up to the time of the Persian Wars. This is, of course, out of the question. All I can do is to point out those elements in the State which enabled it to produce that splendid array of noble men, and accomplish those great deeds and works, which make her brief career seem the brightest spot in the world's history.

The chief of these elements, and the one which included all the rest, was the Greek ideal of harmony. Athens was great as a State and as a school so long as she embodied that ideal, so long as she distributed power and honor in accordance with worth (ἀρετή) intellectual, moral, practical; in a word, so long as the State was governed by the best citizens (ἄριστοι), and the rest acknowledged their right to do so. Notwithstanding the contention of Grote and others, it is strictly true that Athens was great because, and so long as, she was aristocratic (in the ancient sense), and perished when she abandoned her fundamental ideal by becoming democratic. This assertion must not be construed as any slur upon democracy as such, or as denying that Athens in perishing paved the way for a higher ideal than her own. It simply states a fact, which may be easily generalized without losing its truth: An institution perishes when it abandons the principle on which it was founded and built up. Unless we bear this in mind, we shall utterly fail to understand the lesson of Athenian history. If it be maintained that some of Athens' noblest work was done under the democracy, the sufficient answer is, that it was nearly all done by men who retained the spirit of the old aristocracy, and bitterly opposed the democracy. We need name only Æschylus, Sophocles, Aristophanes, Plato, Aristotle, Demosthenes.

Part II. THE “NEW EDUCATION” (b.c. 480-338)

CHAPTER I

INDIVIDUALISM AND PHILOSOPHY

Homer ought to be driven from the lists and whipt, and Archilochus likewise.
— Heraclitus.

Thou needs must have knowledge of all things,
First of the steadfast core of the Truth that forceth conviction,
Then of the notions of mortals, where true conviction abides not.
— Parmenides.

All things were undistinguished: then Intellect came and brought them into order. — Anaxagoras.

Man is the measure of all things.

In regard to the Gods, I am unable to know whether they are or are not. — Protagoras.

Strepsiades. Don’t you see what a good thing it is to have learning? There isn’t any Zeus, Phidippides!

Phidippides. Who is there then?

Streps. Vortex rules, having dethroned Zeus.

Phid. Pshaw! what nonsense!

Streps. You may count it true, all the same.

Phid. Who says so?

Streps. Socrates the Melian, and Chærephon, who knows the footprints of fleas. — Aristophanes, *Clouds*.

There is an old-fashioned saw, current of yore among mortals, that a man’s happiness, when full-grown, gives birth and dies not childless, and that from Fortune there springs insatiate woe for all his race. But I, dissenting from all others, am alone of different mind. It is the Irreverent Deed that begets after it more of its kind. For to righteous homes belongs a fair-childrened lot forever; but old Irreverence is sure to beget Irreverence, springing up fresh among evil men, when the numbered hour arrives. And the new Irreverence begets Surfeit of Wealth, and a power beyond all battle, beyond all war, unholy Daring, twin curses, black to homes, like to their parents. But Justice shines in smoky homes, and honors the righteous life, and, leaving, with averted eyes, foundations gilded with impurity of hands, she draws nigh to holy things, honoring not the power of wealth, with its counterfeit stamp of praise. And her will is done. — Æschylus.

From the time they are children to the day of their death, we teach them and admonish them. As soon as the child understands what is said to him, his nurse and his mother and his pedagogue and even his father vie with each other in trying to make the best of him that can be made, at every word and deed instructing him and warning him, “This is right,” “This is wrong,” “This is beautiful,” “This is ugly,” “This is righteous,” “This is sinful,” “Do this,” “Don’t do that.” And if the child readily obeys, well and good; if he does not, then they treat him like a bent and twisted stick, straightening him out with threats and blows. Later on, they send him to school, and then they lay their injunctions upon the masters to pay much more attention to the good behavior of their sons than to their letters and music (κιθάρισις); and the teachers act upon these injunctions. Later yet, when they have learnt to read, and are proceeding to understand the meaning of what is written, just as formerly they understood what was said to them, they put before them on the benches to read the works of good poets, and insist upon their learning them by heart — works which contain many admonitions, and many narratives, noble deeds, and eulogies of the worthy men of old — their purpose being to awaken the boy’s ambition, so that he may imitate these men and strive to be worthy likewise. The music-teachers also, pursuing the same line, try to inculcate self-control (σωφροσύνη) and to prevent the boys from falling into mischief. In addition to this, when they have learnt to play on the lyre, their masters teach them other poems, written by great lyric poets, making them sing them and play the accompaniments to them, and compelling them to work into their souls the rhythms and melodies of them, so that they may grow in gentleness, and, having their natures timed and tuned, may be fitted to speak and act. The truth is, the whole life of man needs timing and tuning. Furthermore, in addition to all this, parents send their sons to the physical trainer, in order that their bodies may be improved and rendered capable of seconding a noble intent, and they themselves not be forced, from physical deterioration, to play the coward in war or other (serious) matters. And those who can best afford to give this education, give most of it, and these are the richest people. Their sons go earliest to school and leave it latest. And when the boys leave school, the State insists that they shall learn the laws and live according to them, and not according to their own caprice ... And if any one transgresses these laws, the State punishes him ... Seeing that so much attention is devoted to virtue, both in the family and in the State, do you wonder, Socrates, and question whether virtue be something that can be taught? Surely you ought not to wonder at this, but rather to wonder if it could *not* be taught. — Plato, *Protagoras* (*words of Protagoras*).

“Isn’t it true, Lysis,” said I, “that your parents love you very much?”—”To be sure,” said he.—”Then they would wish you to be as happy as possible?”—”Of course,” said he.—”And do you think a person is happy who is a slave, and is not allowed to do anything he desires?”—”I don’t, indeed,” said he.—”Then, if your father and mother love you and wish you to be happy, they endeavor by every means in their power to make you happy.”—”To be sure they do,” said he.—”Then they allow you to do anything you please, and never chide you, or prevent you from doing what you desire.”—”By Jove! they do, Socrates: they prevent me from doing a great many things.”—”What do you mean,” said I; “they wish you to be happy, and yet prevent you from doing what you wish? Let us take an example: If you want to ride in one of your father’s chariots, and to hold the reins, when it is competing in a race, won’t they allow you, or will they prevent you?”—”By Jove! no: they would not allow me,” said he. “But why should they? There is a charioteer, who is hired by my father.”—”What do you mean? They allow a hired man, rather than you, to do what he likes with the horses, and pay him a salary besides?”—”And why not?” said he.—”Well then, I suppose they allow you to manage the mule-team, and if you wanted to take the whip and whip it, they would permit you.”—”How could they?” said he.—”What?” said I: “is nobody allowed to whip it?”—”Of course,” he said; “the muleteer.”—”A slave or a free man?”—”A slave,” said he.—”And so it seems they think more of a slave than of their son, and entrust their property to him rather than to you, and allow him to do what he pleases, whereas they prevent you. But, farther, tell me this. Do they allow you to manage yourself, or do they not even trust you to that extent?”—”How trust me?” said he.—”Then does some one manage you?”—”Yes, my pedagogue here,” said he.—”But he is surely not a slave?”—”Of course he is, our slave,” said he.—”Is it not strange,” said I, “that a freeman should be governed by a slave? But, to continue, what is this pedagogue doing when he governs you?”—”Taking me to a teacher, or something of the kind,” he said.—”And these teachers, it cannot be that they too govern you?"—"To any extent."—"So then your father likes to set over you a host of masters and managers; but, of course, when you go home to your mother, she lets you do what you like, in order to make you happy, either with the threads or the loom, when she is weaving — does she not? She surely doesn't in the least prevent you from handling the batten, or the comb, or any of the instruments used in spinning." — And he, laughing, said: "By Jove, Socrates; she not only prevents me, but I should be beaten if I touched them."—"By Hercules," said I, "isn't it true that you have done some wrong to your father and mother?"—"By Jove, not I," he said.—"But for what reason, then, do they so anxiously prevent you from being happy, and doing what you please, and maintain you the whole day in servitude to some one or another, and without power to do almost anything you like. It seems, indeed, that you derive no advantage from all this wealth, but anybody manages it rather than you, nor from your body, nobly born as it is, but some one else shepherds it and takes care of it. But you govern nothing, Lysis, and do nothing that you desire."—"The reason, Socrates," he said, "is, that I am not of age." — Plato, *Lysis*.

The present state of the constitution is as follows: Citizenship is a right of children whose parents are both of them citizens. Registration as member of a deme or township takes place when eighteen years of age are completed. Before it takes place the townsmen of the deme find a verdict on oath, firstly, whether they believe the youth to be as old as the law requires, and if the verdict is in the negative he returns to the ranks of the boys. Secondly, the jury find whether he is freeborn and legitimate. If the verdict is against him he appeals to the Heliæa, and the municipality delegate five of their body to accuse him of illegitimacy. If he is found by the jurors to have been illegally proposed for the register, the State sells him for a slave; if the judgment is given in his favor, he must be registered as one of the municipality. Those on the register are afterwards examined by the senate, and if anyone is found not to be eighteen years old, a fine is imposed on the municipality by which he was registered. After approbation, they are called *epheboi*, or cadets, and the parents of all who belong to a single tribe hold a meeting and, after being sworn, choose three men of the tribe above forty years of age, whom they believe to be of stainless character and fittest for the superintendence of youth, and out of these the commons in ecclesia select one superintendent for all of each tribe, and a governor of the whole body of youths from the general body of the Athenians. These take them in charge, and after visiting with them all the temples, march down to Piræus, where they garrison the north and south harbors, Munychia and Acte. The commons also elect two gymnastic trainers for them, and persons who teach them to fight in heavy armor, to draw the bow, to throw the javelin, and to handle artillery. Each of the ten commanders receives as pay a drachma [about 20 cts.] per diem, and each of the cadets four obols [about 13 cts.]. Each commander draws the pay of the cadets of his own tribe, buys with it the necessaries of life for the whole band (for they mess together by tribes), and purveys for all their wants. The first year is spent in military exercises. The second year the commons meet in the theatre and the cadets, after displaying before them their mastery in warlike evolutions, are each presented with a shield and spear, and become mounted patrols of the frontier and garrison the fortresses. They perform this service for two years, wearing the equestrian cloak and enjoying immunity from civic functions. During this period, to guard their military duties from interruption, they can be parties to no action either as defendant or plaintiff, except in suits respecting inheritance, or heiresses, or successions to hereditary priesthoods. When the three years are completed they fall into the ordinary body of citizens. — Aristotle, *Constitution of Athens* (*Poste's Version, with slight alterations*).

That perfect harmony between power and worth at which the Athenian State aimed, was something not easily attained or preserved. As far back as its recorded history reaches, we find a struggle for power going on between a party which possessed more power than its worth justified, and a party which possessed less; that is, between a party which, having once been worthy, strove to hold power in virtue of its past history, and one that claimed power in virtue of the worth into which it was growing: in a word, a struggle between declining aristocracy and growing democracy. To the party in power, of course, this seemed a rebellion against lawful authority and privilege, and it did its best to suppress it. Hence came the rigorous legislation of Draco; later the more conciliatory, less out-spoken, but equally aristocratic legislation of Solon; then the tyranny of Pisistratus, lasting as long as he could hold the balance of power between the contending parties; then the constitution of Clisthenes, with the breaking up of the old Athenian aristocratic system, the remodelling of the tribes, the degradation of the

Areopagus, and the definite triumph of democracy. To complete the movement and, as it were, to consecrate it, came the Persian Wars, which mark the turning-point, the *peripeteia*, in Athenian history and education. Whatever efforts aristocracy makes to maintain itself after this, are made in the name of, and under cover of a zeal for, democracy.

The aristocratic Athenian State was based upon land-ownership, slavery, and the entire freedom of the land-owning class from all but family and State duties, from all need of engaging in productive industry. So long as the chief wealth of the State consisted in land and its produce, so long the population was divided into two classes, the rich and the poor, and so long the former had little difficulty in keeping all power in its own hands. But no sooner did the growth of commerce throw wealth into the hands of a class that owned no land, and was not above engaging in industry, than this class began to claim a share in political power. There were now two wealthy classes, standing opposed to each other, a proud, conservative one, with "old wealth and worth," and a vain, radical one, with new wealth and wants, both bidding for the favor of the class that had little wealth, little worth, and many wants, and thus making it feel its importance. Such is the origin of Athenian democracy. It is the child of trade and productive industry. It owed its final consecration to the Persian Wars, and especially to the battle of Salamis, in which Athens was saved by her fleet, manned chiefly by marines (ἐπιβάται) from the lower classes, the upper classes, as we have seen, being trained only for land-service. Thus the battle of Salamis was not only a victory of Greece over Persia, but of foreign trade over home agriculture, of democracy over aristocracy.

The fact that the Athenian democracy owed its origin to trade determined, in great measure, its history and tendencies. One of its many results was that it opened Athens to the influx of foreign men, foreign ideas, and foreign habits, not to speak of foreign gods, all of which tended to break up the old self-contained, carefully organized life of the people. In no department were their effects sooner or more clearly felt than in that of education. From about the date of the battle of Salamis, when the youthful Ionian, Anaxagoras, came to Athens, a succession of men of "advanced" ideas in art and science sought a field of action within her borders. Such a field, indeed, seemed purposely to have been left open for them by the State, which had provided no means of intellectual or moral education for its young citizens, after they passed under its care (see p. 87). Nothing was easier or more profitable than for these wise foreigners to constitute themselves public teachers, and fill the place which the State had left vacant. The State might occasionally object, and seek to punish one or another of them for corrupting of the youth by the promulgation of impious or otherwise dangerous ideas, as it did in the case of Anaxagoras; but their activity was too much in harmony with a tendency of the time, — a radical and individualistic tendency inseparable from democracy, — to be dispensed with altogether. Hence it was that, within a few years after the battle of Salamis, there flourished in Athens a class of men unknown before within her boundaries, a class of private professors, or "sophists," as they called themselves, who undertook to teach theoretically what the State had assumed could be taught only practically and by herself, viz., virtue and wisdom. Their ideas were novel, striking, and radical, hence congenial to a newly emancipated populace, vain of its recent achievements, and contemptuous of all that savored of the narrow, pious puritanism of the old time; their premises were magnificent, and their fees high enough to impose upon a class that always measures the value of a thing by what it is asked to pay for it; their method of teaching was such as to flatter the vanity, and secure the favor, of both pupils and parents. No wonder that their success was immediate and their influence enormous.

From the days of Socrates to our own, 'sophist' has been a term of reproach, and not altogether unjustly so. Hegel, Grote, and Zeller have, indeed, shown that the sophists did not deserve all the obloquy which has attached itself to their name, inasmuch as they were neither much better nor much worse than any class of men who set up to teach new doctrines for money, and, as wise economists, suit supply to demand; nevertheless, it may be fairly enough said that they largely contributed to demoralize Athens, by encouraging irreverence for the very conceptions upon which her polity was built, and by pandering to some of the most selfish and individualistic tendencies of democracy. If it be said that they have their place in the history of human evolution, as the heralds of that higher view of life which allows the individual a sphere of activities and interests outside of that occupied by the State, this may at once and without difficulty be admitted, without our being thereby forced to regard them as noble men. The truth is, they represented, in practice and in theory, the spirit of individualism, which was then everywhere asserting itself against the spirit of nationalism or polity, and which perhaps had to assert itself in an exaggerated and destructive way, before the rightful claims of the two could be manifested and harmonized. It is the incorporation of this spirit of individualism into education that constitutes the "New Education."

This spirit, as manifested in the sophists and their teaching, directed itself against the old political spirit in all the departments of life — in religion, in politics, in education. It discredited the old popular gods, upon loyalty to whom the existence of the State had been supposed to depend, substituting for them some crude fancy like Vortex, or some bald abstraction like Intellect. It encouraged the individual to seek his end in his own pleasure, and to regard the State as but a means to that end. It championed an education in which these ideas occupied a prominent place. What the sophists actually taught the ambitious young men who sought their instruction, was self-assertion, unscrupulousness, and a showy rhetoric, in whose triumphal procession facts, fancies, and falsehoods marched together in brilliant array. It is but fair to them to say that, in their endeavor to instruct young men in the art of specious oratory, they laid the foundations of the art of rhetoric and the science of grammar. So much, at least, the world owes to them.

Since it was to the young men, who, freed from the discipline of home, pedagogue, school, and palæstra, could be met with anywhere, in the street, the agora, the gymnasium, that the sophists directed their chief attention, it was of course these who first showed the effects of their teaching. But their influence, falling in, as it did, with the pronounced radical tendencies of the time, soon made itself felt in all grades of education, from the family to the university, in the form of an irreverent, flippant, conceited rationalism, before whose self-erected and self-corrupted tribunal every institution in heaven and earth was to be tried. In the schools this influence showed itself in various ways: (1) in an increased attention to literature, and especially to the formal side of it, (2) in the tendency to substitute for the works of the old epic and lyric poets the works of more recent writers tinged with the new spirit, (3) in the introduction of new and complicated instruments and kinds of music, (4) in an increasing departure from the severe physical and moral discipline of the old days. We now, for the first time, hear of a teacher of literature, distinct from the music master, of teachers who possessed no copy of Homer (Alcibiades is said to have chastised such a one), of flutes, citharas, and the like in use in schools, of wildness and lewdness among boys of tender age. In the palæstra the new spirit showed itself in a tendency to substitute showy and unsystematic exercises for the vigorous and graded exercises of the older time, to sacrifice education to execution.

But, as already remarked, the new spirit showed itself most clearly and hurtfully in the higher education. The young men, instead of spending their time in vigorous physical exercise in the gymnasia and open country, began now to hang about the streets and public places, listening to sophistic discussions, and to attend the schools of the sophists, exercising their tongues more than any other part of their bodies. The effect of this soon showed itself in a decline of physical power, of endurance, courage, and manliness, and in a strong tendency to luxury and other physical sins. They now began to imagine for themselves a private life, very far from coincident with that demanded of a citizen, and to look upon the old citizen-life, and its ideals, sanctions, and duties, with contempt or pity, as something which they had learnt to rise above. The glory and well-being of their country were no longer their chief object of ambition. The dry rot of individualism, which always seems to those affected by it an evidence of health and manly vigor, was corrupting their moral nature, and preparing the way for the destruction of the State. For it was but too natural that these young men, when they came to be members of the State, should neglect its lessons and claims, and, following the new teachings, live to themselves. Thus, just as the character of the "Old Education" of Athens showed itself in the behavior of her sons in the Persian Wars, so that of her "New Education" showed itself fifty years later in the Peloponnesian War, that long and disastrous struggle which wrecked Athens and Greece.

Yet Athens and her education were not allowed to go to ruin without a struggle. The aristocratic party long stuck to the old principles and tried to give them effect; but, failing to understand the new circumstances and to take account of them, it erred in the application of them, by seeking simply to restore the old conditions. Individuals also exerted their best efforts for the same end. Æschylus, who had fought at Marathon, and who, more than any other Greek, was endowed with the spirit of religion, interpreted the old mythology in an ethical sense, and in this form worked it into a series of dramas, whereby the history and institutions of the Greek people were shown to be due to a guiding Providence of inexorable justice, rewarding each man according to his works, abhorring proud homes "gilded with impurity of hands," and dwelling with the pure and righteous, though housed in the meanest cot. Æschylus thus became, not only the father of Greek tragedy, but also the sublimest moral teacher Greece ever possessed. For moral grandeur there is but one work in all literature that can stand by the side of Æschylus' *Oresteia*, and that is the *Divine Comedy*. Yet Æschylus was driven from Athens on a charge of impiety, and died in exile.

But it was not the tragic drama alone that was inspired and made a preacher of righteousness: in the hands of Aristophanes, the comic drama exerted all its power for the same end. For over thirty years this inimitable humorist used the public theatre to lash the follies, and hold up to contempt the wretched leaders, of the Athenian populace, pointing out to his countrymen the abyss of destruction that was yawning before them. The world has never seen such earnest comedy, not even in the works of Molière or Beaumarchais. Yet it was all in vain. Long before his death, Aristophanes was forbidden to hold up to public scorn the degradation of his people.

Among the individual citizens who labored with all their might to bring back Athens to her old worth were two of very different character, endowments, and position, the one laboring in the world of action, the other in the world of thought. The first was Pericles, who, seeing that democracy was the order of the day, accepted it, and, by his personal character and position, strove to guide it to worthy ends. In order to encourage gymnastic exercises, particularly among the sons of the newer families, he built the Lyceum, in a grove sacred to Apollo, between Cynosarges and the city walls, as a gymnasium for them. With a view to encouraging among them the study of music, he built an odeon, or music-hall, under the southeast end of the Acropolis. Both were magnificent structures. What he did towards the completion of the great theatre for the encouragement of dancing, we do not know; that this entered into his plan, there can hardly be any doubt. But Pericles was too wise a man to suppose that he could induce his pleasure-seeking countrymen to subject themselves to the old discipline, without offering them an object calculated to rouse their ambition and call forth their energy. This object was nothing less than a united Greece, with Athens as its capital. How hard he tried to make this object familiar to them, and to render Athens worthy of the place he desired her to occupy, is pathetically attested to this day by the Propylæa and the Parthenon. On the frieze of the latter is represented the solemn sacrifice that was to cement the union of the Hellenic people, and place it at the head of civilization. When degenerate Greece resisted all his efforts to make her become one peaceably, he tried to make her do so by force, and the Peloponnesian War, started on a mere frivolous pretext, was the result. He did not live long enough to learn the outcome of this desperate attempt to wake his countrymen to new moral and political life, and it was well. If he had, he might have been forced to recognize that he had been attempting an impossible task, — trying to erect a strong structure with rotten timber, to make a noble State out of ignoble, selfish men. Unfortunately, the example of his own private life, in which he openly defied one of the laws of the State, and tried to make concubinage (ἑταίρησις) respectable, more than undid all the good he sought to accomplish. The truth is, Pericles was himself too deeply imbued with the three vices of his time — rationalism, self-indulgence, and love of show — to be able to see any true remedy for the evils that sprang from them. What was needed was not letters, music, gymnastics, dancing, or dream of empire, but something entirely different — a new moral inspiration and ideal.

This, the second of the men to whom reference has been made, Socrates, sought to supply. In the midst of self-indulgence, he lived a life of poverty and privation; in the midst of splendor and the worship of outward beauty, he pursued simplicity and took pleasure in his ugliness; in the midst of self-assertive rationalism and all-knowing sophistry, he professed ignorance and submission to the gods. The problem of how to restore the moral life of Athens and Greece presented itself to Socrates in this form: *The old ethical social sanctions, divine and human, having, under the influence of rationalism and individualism, lost their power, where and how shall we find other sanctions to take their place?* To answer this one question was the aim of Socrates' whole life. He was not long in seeing that any true answer must rest upon a comprehension of man's entire nature and relations, and that the sophists were able to impose upon his countrymen only because no such comprehension was theirs. He saw that the old moral life, based upon naïve tradition and prescription, sanctioned by gods of the imagination, would have to give place to a moral life resting upon self-understanding and reflection. He accordingly adopted as his motto the command of the Delphic oracle, *Know Thyself* (γνῶθι σεαυτόν), and set to work with all his might to obey it.

He now, therefore, went to meet the sophists on their own ground and with their own methods, and he did this so well as to be considered by many, Aristophanes among them, as the best possible representative of the class. What is true is, that he was the first Athenian who undertook to do what the sophists had for some time considered their special function, — to impart a "higher education" to the youth and men of Athens. He went about the streets, shops, walks, schools, and gymnasia of the city, drawing all sorts of persons into conversation, and trying to elicit truth for himself and them (for he pretended to know nothing). He was never so pleased as when he met a real sophist, who professed to have knowledge, and never so much in his element as when, in the presence of a knot of young men, he could, by his ironical, subtle questions, force said sophist to admit that he too knew nothing. The fact was, Socrates, studying Heraclitus, had become convinced that the reason why men fell into error was because they did not know themselves, or their own thoughts, because what they called thoughts were mere opinions, mere fragments of thoughts. He concluded that, if men were ever to be redeemed from error, intellectual and moral, they must be made to think whole thoughts. Accordingly, he took the ordinary opinions of men and, by a series of well-directed questions, tried to bring out their implications, that is, the wholes of which they were parts. Such is the Socratic or dialectic (= conversational) method. It does not pretend to impart any new knowledge, but merely, as Socrates said, to deliver the mind of the thoughts with which it is pregnant. And Socrates not only held that saving truth consisted of whole thoughts; he held also that all such thoughts were universally and necessarily true; that, while there might be many opinions about a thing, there could be but one truth, the same for all men, and therefore independent of any man. This was the exact opposite of what Protagoras the sophist had taught, the opposite of the gospel of individualism (see p. 93). Man is so far from being the measure of all things, that there is in all things a measure to which he must conform, if he is not to sink into error. This measure, this system of whole truths, implying an eternal mind to which it is present, and by which it is manifested in the world, is just what man arrives at, if he will but think out his thoughts in their completeness. In doing so, he at once learns the laws by which the universe is governed and finds a guide and sanction for his own conduct — a sanction no longer external and imposed by the State, but internal and imposed by the mind. A system like this involved a complete reversal of the old view of the relation between man and the State, and at the same time took the feet from under individualism. "It is true," said Socrates in effect, "that the individual, and not the State, is the source of all authority, the measure of all things; but he is so, not as individual, but as endowed with the universal reason by which the world, including the State, is governed." This is the sum and substance of Socrates' teaching, this is what he believed to be true self-knowledge. This is the truth whose application to life begins a new epoch in human history, and separates the modern from the ancient world; this is the truth that, reiterated and vivified by Christianity, forms the very life of our life to-day.

In adopting this view, Socrates necessarily formed "a party by himself," a party which could hope for no sympathy from either of the other two into which his countrymen were divided. The party of tradition charged him with denying the gods of his country and corrupting her youth; the radical party hated him because he convicted its champions of vanity, superficiality, and ignorance. Between them, they compassed his death, and Athens learnt, only when it was too late, that she had slain her prophet. But Socrates, though slain, was not dead. His spirit lived on, and the work which he had begun grew and prospered. Yet it could not save Athens, except upon a condition which she neither would nor could accept, that of remodelling her polity and the life of her citizens in accordance with divine truth and justice. Indeed, though he discovered a great truth, Socrates did not present it in a form in which it could be accepted under the given conditions. He himself even did not by any means see all the stupendous implications of his own principle, which, in fact, was nothing less than the ground of all true ethics, all liberty, and all science. It is doubtful whether any one sees them now, and certain that they have been nowhere realized. Still his truth and his life were not without their immediate effect upon Athens and Athenian education. Men, working in his spirit, and inspired with his truth, more or less clearly understood, almost immediately replaced the sophists in Athens, and drew the attention of her citizens, old and young, to the serious search for truth. In fact, from this time on, the intellectual tendency began to prevail over the gymnastic and musical, and this continued until, finally, it absorbed the whole life of the people, and Athens, from being a university-State, became a State-university. Such it was in the days of Cicero, Paul, Plutarch, Lucian, and Proclus. That this one-sided tendency was fatal to the political life of Athens, and therefore, in some degree, to its moral life, is clear enough; and, though we cannot hold Socrates personally responsible for this result, we must still admit that it was one which flowed from his system of thought. Personally, indeed, Socrates was a moral hero, and “five righteous” men like him, had they appeared, would have gone far to save Athens; but this very heroism, this inborn enthusiasm for righteousness, blinded him so far as to make him believe that men had only to know the right in order to be ready to follow it. Hence that exaggerated importance attached to right knowing, and that comparative neglect of right feeling and right doing, which in the sequel proved so paralyzing. Hence the failure of Socrates’ teaching to stem the tide of corruption in Athens, and restore her people to heroism and worth.

Socrates left behind him many disciples, some of whom distinguished themselves in practical ways, others as founders of philosophic schools, emphasizing different sides of his teaching. He was but a few years in his grave when two of these were teaching regularly in the two old gymnasia of Athens. Plato, a full-blooded Athenian, was teaching in the Academy the intellectual and moral theories of his master, while Antisthenes, a half-breed (his mother being a Thracian), was inculcating the lesson of his heroic life in Cynosarges. Their followers were called, respectively, Academics and Cynics. Thus, by these two men, was the higher education for the first time introduced into the public institutions of Athens.

Socrates’ aim, as we have seen, had been purely a moral one, and this fact was not lost sight of by his immediate followers. The chief question with them all was still: How can the people be brought back to moral life? But, thanks partly to the vagueness in which he had left the details of his doctrine, they were divided with respect to the means whereby this was to be accomplished. One party, best represented by Plato, and following most closely in the footsteps of the master, held that, man being essentially a social being, and morality a relation in society, it was only in and through a social order, a State, that virtue could be realized. Another party, represented by Antisthenes, maintained that virtue was a purely personal matter, and that the wise man stood high above any and all social institutions. These two views maintained themselves, side by side, in nearly all subsequent Greek thought, and at last found expression in the State and Church of the Christian world.

Two of Socrates’ followers, believers in institutional morality, left behind them treatises which have come down to us, giving their views as to the manner in which virtue might be cultivated. These are the practical Xenophon and the theoretic Plato, both men of pure Athenian stock. Nothing will better enable us to comprehend the evils of the “New Education” than a consideration of the means by which these worthy men proposed to remedy them. Both are idealists and Utopians; but the former is conservative and reactionary, while the latter is speculative and progressive. Both are aiming at one thing — a virtuous and happy State, to replace the vicious and wretched one in which they found their lot cast; but they differed in their views regarding the nature of such a State, and the means of realizing it.

CHAPTER II

XENOPHON

Never a good is the rule of the many; let one be the ruler. — Homer.

Wealth without Worth is no harmless housemate. — Sappho.

One to me is ten thousand, if he be best.

All the Ephesians, from youth up, ought to be hanged and the State left to the boys, because they cast out Hermodorus, the worthiest man amongst them, saying: ‘No one of us shall be worthiest, else let him be so elsewhere and among others.’ — Heraclitus.

Reflecting once that, of the very small states, Sparta appeared to be the most powerful and the most renowned in Greece, I began to wonder in what way this had come about. But when I reflected upon the manners of the Spartans, I ceased to wonder. As to Lycurgus, who drew up for them the laws, by obedience to which they have prospered, I admire him and hold him to be, in the highest degree, a wise man. For he, instead of imitating other states, reached conclusions opposite to those of most, and thereby rendered his country conspicuous for prosperity. — Xenophon.

Xenophon was in no sense a philosopher or a practical teacher, but he was a man of sterling worth, of knightly courage, of wide and varied experience, of strong sagacity, and of genial disposition, a keen observer, and a charming writer. He was a true old Athenian puritan, broadened and softened by study and contact with the world. He hated democracy so cordially that he would not live in Athens to witness its vulgarity and disorder; but he loved his country, and desired to see its people restored to their ancient worth. He believed that this could be done only by some great, royal personality, like Lycurgus or Cyrus, enforcing a rigid discipline, and once more reducing the man to the citizen. Unwilling, probably, to hold up hated Sparta as a model to his beaten and smarting countrymen, he laid the scene of his pedagogical romance in far-off Persia.

In the *Education of Cyrus* (Κύρου παιδεία) we have Xenophon’s scheme for a perfect education. Despite the scene in which it is laid, it is purely Hellenic, made up of Athenian and Spartan elements in about equal proportions. For this reason also it has a special interest for us. As the portion of the treatise dealing directly with public education is brief, we can hardly do better than transcribe it in a translation.

"Cyrus is still celebrated in legend and song by the barbarians as a man of extraordinary personal beauty, and as of a most gentle, studious, and honor-loving disposition, which made him ready to undergo any labor, and brave any danger, for the sake of praise. Such is the account that has been handed down of his appearance and disposition. He was, of course, educated in accordance with the laws of the Persians. These laws seem to begin their efforts for the public weal at a different point from those of most other states; for most states, after allowing parents to educate their children as they please, and the older people even to spend their time according to their own preference, lay down such laws as: Thou shalt not steal, Thou shalt not rob, Thou shalt not commit burglary, Thou shalt not commit assault, Thou shalt not commit adultery, Thou shalt not disobey a magistrate, etc.; and if any one transgresses any of these laws, they inflict punishment on him. The Persian laws, on the contrary, provide beforehand that the citizens shall never, from the very first, have any disposition to commit a wicked or base act. And they do so in this way. They have what they call a Freemen's Square, where the royal palace and the other public buildings stand. From this square are removed all wares and chafferers, with their cries and vulgarities, to another place, so that their din and disorder may not interfere with the decorum of the cultivated class. This square in the neighborhood of the public buildings is divided into four parts, one for boys, one for youths (ἔφηβοι), one for mature men, and one for men beyond the military age. The hour when these shall appear in their places is settled by law. The boys and mature men come at daybreak, the older men when they think fit, except on the special days when they are bound to appear. The youths pass the night by the public buildings in light armor, only those who are married being excused. These are not hunted up, unless they have been ordered beforehand to appear; but it is not thought decent to be often absent. Each of these divisions is under the charge of twelve governors, one from each of the twelve tribes into which the Persians are divided. The governors of the boys are chosen from among the elderly men, with special view to their fitness for making the most of boys, while those of the youths are chosen from among the mature men upon a similar principle. Those of the mature men are selected with a view to their ability to hold these to their regular duties, and to the special commands of the supreme authority. Even the old men have presidents appointed over them, who see that they perform their duty. What the duties of each are we shall now state, in order to show just how provision is made for securing the highest worth on the part of the citizens.

"First, then, the boys, when they go to school, spend their time in learning justice. They say they go for that purpose, just as our boys go to learn letters. Their governors spend the greater part of the day in acting as judges among them. It is needless to say that boys, as well as men, bring charges against each other of theft and robbery and violence and deceit and slander, and similar things, and those whom the judges find guilty of any of these they punish. But they also punish those whom they find bringing false charges. They pronounce judgment likewise on a charge which, more than anything else, makes men hate each other, and for which they are judged less than for any other, namely, ingratitude. If the judges find a boy in a position to return a favor and not doing it, they punish him severely, believing that persons who are ungrateful will, more than any others, be undutiful to the gods, to parents, country, and friends. It is generally held that ingratitude, more than aught else, leads to irreverence, and we need not add that *it* is the prime mover in every form of baseness. They teach the boys also self-denial, and these are greatly aided in learning this virtue from seeing it daily practised by their elders. Another thing they teach them is obedience to those placed in authority over them; and they are greatly aided in learning this, by seeing their elders strictly obeying their governors. Another thing yet which they teach them is self-discipline in matters of eating and drinking; and they are greatly aided in this by seeing that their elders never absent themselves for the purpose of eating, until they are permitted to do so by their governors, as well as by the fact that they (the boys) do not eat with their mothers, but with their teachers, and at a signal from their governors. As food, they bring with them from home bread, as a relish, nasturtium, and in order to drink, if they are thirsty, they bring an earthen cup to draw water from the river with. In addition to all these things, the boys learn to shoot with the bow and to throw the javelin. Up to the age of sixteen or seventeen years, these are the studies in which the boys engage; after that they are transferred to the class of cadets (ἔφηβοι).

"These cadets spend their time in this way: For ten years from the time when they graduate from the boys' class, they sleep, as we have already said, in the precincts of the public buildings, acting at once as a guard to the city and practising self-denial. It is generally agreed, indeed, that this is the age which especially requires attention. During the day they are at the disposal of their governors, and ready to perform any public service required. If no such service is demanded, they remain in the neighborhood of the public buildings. When the king goes out to hunt, which he does many times a month, he takes with him one-half of the tribes, and leaves the other behind. Those youths who accompany him must carry with them bows and, in a sheath alongside their quivers, a bill or scimitar; also a light shield, and two javelins apiece, one to throw, the other to use, if necessary, at close quarters. For this reason they make hunting a matter of public concern, and the king, as in war, acts as their leader, hunts himself, and sees that the others hunt, the Persians being of opinion that this is the best of all preparations for war. And, indeed, it accustoms them to rise early, and to bear heat and cold; it affords them exercise in marching and running, and compels them to use their bows or their javelins upon wild animals, wherever they happen to come upon them. They are often forced, moreover, to sharpen their courage, when they find themselves face to face with some powerful animal. They must, of course, wound the one that comes to close quarters, and hold at bay the one that attacks them. Hence it is difficult to find in war anything that is absent from the chase. When they go out to hunt, the young men, of course, take with them a larger luncheon than the boys are allowed to have; but this is the only difference between the two. And while they are hunting, they sometimes do not lunch at all; but, if they have to remain beyond their time on account of some game, or otherwise, if they wish to prolong the chase, they make a dinner of this lunch, and on the following day continue the hunt till dinner-time, counting the two days one, because they consume only one day’s food. And they do this for the sake of practice, so that, if ever they should run short of provisions in war, they may be able to do the same thing. These youths have as a relish what game they capture in the chase, otherwise they have nasturtium. And if any one thinks that they eat without pleasure, when they have only nasturtium with their food, or drink without pleasure, when they drink water, let him remember how sweet barley-cake and wheaten bread are when he is hungry, and how sweet water is when he is thirsty. The tribes that remain behind, when the king goes hunting, spend their time in the same studies which they pursued as boys, including shooting and javelin-casting, and in these continual contests are going on. There are likewise public exhibitions in them, at which prizes are offered; and whichever tribe contains most young men exceptionally proficient, manly, and steady, is commended by the citizens, who likewise honor, not only their present governor, but also the governor who had charge of them as boys. The young men who are left behind are also employed by the authorities, if any such service is required as manning a guard-house, tracking out malefactors, running down robbers, or anything demanding strength and swiftness. Such are the studies of the young men. And when they have passed ten years in these, they graduate into the class of mature men.

"From the date of this graduation, they spend five and twenty years more in the following manner: In the first place, like the young men, they place themselves at the disposal of the authorities for any public service requiring at once sagacity and unimpaired strength. If they are required to take the field in war, men proficient as they are go armed, no longer with bows and javelins, but with what are called hand-to-hand weapons, breast-plates, shields in their left hands, such as we see in pictures of the Persians, and a sword or bill in their right. And all the officials are drawn from this class, except the boys' teachers. And when they have passed twenty-five years in this class, they are something more than fifty years of age. At that age they graduate into the class of elders, as, indeed, they are called.

"These elders no longer serve in war outside their own country, but, remaining at home, act as judges in public and private cases. They do so even in capital cases. They likewise choose all the officials, and if any person belonging to either of the classes of young and mature men neglects any of his lawful duties, the governor of his tribe, or any one else who pleases, may report him to the elders, and these, if they find the fact to be as reported, expel him from his tribe, and he who is expelled remains dishonored all his life.

"To give a clearer notion of the polity of the Persians as a whole, I will retrace my steps a little. After what has been said, this may be done in a very few words: The Persians, then, are said to number about one hundred and twenty thousand. Of these, none is excluded by law from honors or offices; but all Persians are allowed to send their sons to the public schools of justice. However, it is only those who are able to maintain their sons without employment that send them there: the rest do not. On the other hand, those that are educated by the public teachers are permitted to spend their youth among the *ephēboi*, while those who have not completed this education are not. Again those that pass their youth among the *ephēboi*, and come up to the legal requirements, are allowed to graduate into the class of mature men, and to participate in honors and offices; whereas those who do not pass through the grade of the *ephēboi* do not rise to the class of mature men. Finally, those who complete the curriculum of the mature men without reproach, pass into the class of elders. Thus it is that this class of elders is composed of men who have passed through all the grades of culture. Such is the polity of the Persians, and such is the system of training whereby they endeavor to secure the highest worth."

This Utopian scheme of education has a peculiar interest, because it is nothing more or less than the old ideal of Greek education become fully conscious of itself, under the influence of the new ideal. Let us call attention to the main points of it. (1) The education here set forth is purely political: men are regarded simply and solely as citizens; all honors are civic honors. (2) No provision is made for the education of women, their range of activity being entirely confined to the family. (3) Distinction is made to rest upon education and conduct. (4) The poorer classes of the population, though not legally excluded from education, position, and power, are virtually excluded by their poverty, so that the government is altogether in the hands of the rich, and is, in fact, an aristocracy, while pretending to be a democracy: hence, (5) Social distinctions are distinctions of worth, which is just the Greek ideal.

There is, however, one point in the scheme which shows that it is reactionary, directed against prevailing tendencies. Not one word is said of the intellectual side of education, of music or letters. It is evident that Xenophon, himself a man of no mean literary attainments, clearly saw the dangers to Greek life and liberty involved in that exaggerated devotion to literary and intellectual pursuits which followed the teaching of the sophists and Socrates, and that, in order to check this perilous tendency, he drew up a scheme of education from which intellectual and literary pursuits are altogether excluded, in which justice takes the place of letters, and music is not mentioned.

This suggests a curious inquiry in respect to his *Memoirs of Socrates*. This work has generally been regarded as giving us a more correct notion of the real, living Socrates than the manifestly idealizing works of Plato. But was not Xenophon, who could not fail to see the future power of Socrates' influence, as anxious as Plato to claim the prophet as the champion of his own views, and does not this fact determine the whole character of his work? Is it not a romance, in the same sense that the *Cyropædia* is, with only this difference, that the facts of Socrates' life, being fairly well known to those for whom Xenophon was writing, could not be treated with the same freedom and disregard as those of Cyrus' life?

Before we part with Xenophon, we must call attention to another treatise of his, in which he deals with a subject that was then pressing for consideration — the education of women. While, as we have seen, the Æolian states and even Dorian Sparta provided, in some degree, for women's education, Athens apparently, conceiving that woman had no duties outside of the family, left her education entirely to the care of that institution. The conservative Xenophon does not depart from this view; but, seeing the moral evils that were springing from the neglect of women and their inability to be, in any sense, companions to their cultured, or over-cultured, husbands, he lays down in his *Œconomics* a scheme for the education of the young wife *by her husband*. As this affords us an admirable insight into the lives of Athenian girls and women, better, indeed, than can be found elsewhere, we cannot do better than transcribe the first part of it. It takes the form of a conversation between Socrates and a young husband, named Ischomachus (Strong Fighter), and is reported by the former. Socrates tells how, seeing Ischomachus sitting at leisure in a certain portico, he entered into conversation with him, paid him an acceptable compliment, and inquired how he came to be nearly always busy out of doors, seeing that he evidently spent little time in the house. Ischomachus replies: —

"'As to your inquiry, Socrates, it is true that I never remain indoors. Nor need I; for my wife is fully able by herself to manage everything in the house.' 'This again, Ischomachus,' said I, 'is something that I should like to ask you about, whether it was you who taught your wife to be a good wife, or whether she knew all her household duties when you received her from her father and mother.' 'Well, Socrates,' said he, 'what do you suppose she knew when I took her, since she was hardly fifteen when she came to me, and, during the whole of her life before that, special care had been taken that she should see, hear, and ask as little as possible. Indeed, don't you think I ought to have been satisfied if, when she came to me, she knew nothing but how to take wool and turn it into a garment, and had seen nothing but how tasks in spinning are assigned to maids? As regards matters connected with eating and drinking, of course she was extremely well educated when she came, and this seems to me the chief education, whether for a man or a woman.’ ‘In all other matters, Ischomachus,’ said I, ‘you yourself instructed your wife, so as to make her an excellent housewife.’ ‘To be sure,’ said he, ‘but not until I had first sacrificed, and prayed that I might succeed in teaching her, and she might succeed in learning, what was best for both of us.’ ‘Then,’ said I, ‘your wife took part in your sacrifice and in these prayers, did she not?’ ‘Certainly she did,’ said Ischomachus, ‘and solemnly promised to the gods that she would be what she ought to be, and showed every evidence of a disposition not to neglect what was taught her.’ ‘But do, I beseech you, Ischomachus, explain to me,’ said I, ‘what was the first thing you set about teaching her? I shall be more interested in hearing you tell that, than if you told me all about the finest gymnastic or equestrian exhibition.’ And Ischomachus replied: ‘What *should* I teach her? As soon as she could be handled, and was tame enough to converse, I spoke to her in some such way as this: Tell me, my dear, have you ever considered why I took *you* as my wife, and why your parents gave you to me? That it was not because I could not find any one else to share my bed, you know as well as I. No, but because I was anxious to find for myself, and your parents were anxious to find for you, the most suitable partner in home and offspring, I selected you, and your parents, it seems, selected me, out of all possible matches. If, then, God shall ever bless us with children, then we will take the greatest care of them, and try to give them the best possible education; for it will prove a blessing to both of us to have the very best of helpers and supports in our old age. But at present we have this as our common home. And all that I have, I pass over to the common stock, and all that you have brought with you, you have added to the same. Nor must we begin to count which of us has contributed the larger number of things, but must realize that whichever of us is the better partner contributes the more valuable things. Then, Socrates, my wife replied, and said: In what way can I coöperate with you? What power have I? Everything rests with you. My mother told me that my only duty was to be dutiful. Assuredly, my dear, said I, and my father told me the same thing. But it is surely the duty of a dutiful husband and a dutiful wife to act so that what they have may be improved to the utmost, and by every fair and lawful means increased to the utmost. And what do you find, said my wife, that I can do towards helping you to build up our house? Dear me! said I, whatever things the gods have endowed you with the power to do, and the law permits, try to do these to the best of your ability. And what *are* these? said she. It strikes me, said I, that they are by no means the least important things, unless it be true that in the hive the queen-bee is entrusted with the least important functions. Indeed, it seems to me, my dear, I continued, that the very gods have yoked together this couple called male and female with a very definite purpose, viz. to be the source of the greatest mutual good to the yoke-fellows. In the first place, this union exists in order that living species may not die out, but be preserved by propagation; in the second, the partners in this union, at least in the case of human beings, obtain through it the supports of their old age. Moreover, human beings do not live, like animals, in the open air, but obviously require roofs. And I am sure, people who are going to have anything to bring under a roof must have some one to do outdoor duties; for, you see, ploughing, sowing, planting, herding, are all outdoor employments, and it is from them that we obtain all our supplies. On the other hand, when the supplies have all been brought under cover, there is needed some one to take care of them, and to perform those duties which must be done indoors. Among these are the rearing of children and the preparation of food from the produce of the earth; likewise the making of cloth out of wool. And, since both these classes of duties, the outdoor and the indoor, require labor and care, it seems to me, I said, that God has constructed the nature of woman with a special view to indoor employments and cares, and that of man with a view to outdoor employments and cares. For he has made both the body and the soul of the man better able than those of the woman to bear cold, heat, travelling, military service, and so has assigned to him the outdoor employments. And, since he has made the body of woman less able to endure these things, he seems to me to have assigned to her the indoor employments. Considering, moreover, that he had made it woman's nature and duty to nourish young children, he imparted to her a greater love for babies than he did to man. And, inasmuch as he had made it part of woman's duty to take care of the income of the family, God, knowing that for care-taking the soul is none the worse for being ready to fear, bestowed upon woman a greater share of fear than upon a man. On the other hand, knowing that he who attends to the outdoor employments will have to protect the family from wrong-doers, he endowed him with a greater share of courage. And, since both have to give and receive, he divided memory and carefulness between them, so that it would be difficult to determine which of the sexes, the male or the female, is the better equipped with these. And the necessary self-denial he divided between them, and made a decree that, whichever of the two, the husband or the wife, was the superior, should be rewarded with the larger share of this blessing. And just because the nature of man and the nature of woman are not both equally fitted for all tasks, the two are the more dependent upon each other, and their union is the more beneficial to them, because the one is able to supply what the other lacks. And now, said I, my dear, that we know the duties which God has assigned to us respectively, it becomes each of us to do our best, in order to perform these duties. And the law, I continued, coincides with the divine intention, and unites man and woman. And, just as God has made them partners in offspring, so the law makes them partners in the household. And the law sets its approval upon that difference of function which God has signified by the difference of ability which marks the sexes. For it is more respectable for a woman to remain indoors than to spend her time out of doors, and less respectable for a man to remain indoors than to attend to outdoor concerns. And, if any one acts in a manner at variance with this divine ordination, it may be that his transgression does not escape the notice of the gods, and that he is punished for neglecting his own duties or performing those of his wife. It appears to me, said I, that the queen-bee also performs duties that are assigned to her by God. And what duties, said my wife, does the queen-bee perform, that have any resemblance to those incumbent upon me? This, said I, that she remains in the hive and does not allow the other bees to be idle, but sends out those that have to work to their business, and knows and receives what each brings in, and takes care of it till it is needed for use. And when the time for using comes, she distributes to each her just share. Besides this, she attends to the construction of the honey-combs that goes on indoors, and sees that it is done properly and rapidly, and carefully sees that the young swarm is properly reared. And when it is old enough, and the young bees are fit for work, she sends them out, as a colony, under the leadership of one of the old ones. And will it be my duty, said my wife, to do these things? Exactly so, said I, it will be your duty to remain indoors, to send out together to their work those whose duties lie out of doors, and to superintend those who have to work indoors, to receive whatever is brought in, to dispense whatever has to be paid out, while the necessary surplus you must provide for, and take care that the year's allowance be not spent in a month. When wool is brought in to you, you must see that it is turned into cloth; and when dried grain comes, that it is properly prepared for food. There is, however, one of your duties, said I, that will perhaps seem somewhat disagreeable to you. Whenever any one of the slaves is sick, you will have to see that he is properly nursed, no matter who he is. Indeed, said my wife, that will be a most pleasant duty, if those who have been carefully nursed are going to be grateful and kindlier than they were before. And I,' said Ischomachus, 'admiring her answer, continued: Don't you suppose, my dear, that by such examples of care on the part of the queen of the hive the bees are so disposed to her that, when she leaves, none of them are willing to remain behind, but all follow her? And my wife replied: I should be surprised if the duties of headship did not fall to you rather than to me. For my guardianship and disposal of things in the house would be ridiculous, unless you saw to it that something was brought in from without. And my bringing-in would be ridiculous, said I, if there were no one to take care of what I brought? Don't you see, I said, how those who pour water into a leaky barrel, as the expression is, are pitied, as wasting their labour? And indeed, said my wife, they are to be pitied, if they do that. There are other special duties, said I, that are sure to become pleasant to you; for example, when you take a raw hand at weaving and turn her into an adept, and so double her value to you, or when you take a raw hand at managing and waiting and make her capable, reliable, and serviceable, so that she acquires untold value, or when you have it in your power to reward those male slaves that are dutiful and useful to your family, or to punish one who proves the opposite of this. But the pleasantest thing of all will be, if you prove superior to me, and make me your knight, and if you need not fear that, as you advance in years, you will forfeit respect in the house, but are sure that, as you grow older, the better a partner you are to me, and the better a mother to the children, the more highly you will be respected in the house. For all that is fair and good, said I, increases for men, as life advances, not through beauties, but through virtues. Such, Socrates, to the best of my recollection, was the first conversation I had with my wife.'"

Ischomachus goes on and tells how, in subsequent conversations, he taught his wife the value of order, "how to have a place for everything, and everything in its place," how to train a servant, and how to make herself attractive without the use of cosmetics or fine clothes. But enough has been quoted to show what the ideal family relation among the Athenians was, and what education was thought fitting for girls and women. Just as the man was merged in the citizen, so the woman was merged in the housewife, and they each received the education and training demanded by their respective duties. If Athenian husbands had all been like Ischomachus, it is clear that the lives of wives might have been very happy and useful, and that harmony might have reigned in the family. But, unfortunately, that was not very often the case. Wives, being neglected, became lazy, wasteful, self-indulgent, shrewish, and useless, while their husbands, finding them so, sought in immoral relations with brilliant and cultivated *hetæræ*, or in worse relations still, a coarse substitute for that satisfaction which they ought to have sought and found in their own homes. Thus there grew up a condition of things which could not fail to sap the moral foundations of society, and which made thoughtful men turn their attention to the question of woman's education and sphere of duty.

CHAPTER III

PLATO

All human laws are nourished by the one divine law; for it prevaileth as far as it listeth, and sufficeth for all and surviveth all. — Heraclitus.

Though reason is universal, the mass of men live as if they had each a private wisdom of his own. — *Id.*

Antigone. ... But him will I inter;
And sweet ‘twill be to die in such a deed,
And sweet will be my rest with him, the sweet,
When I have righteously offended here.
For longer time, methinks, have I to please
The dwellers in yon world than those in this;
For I shall rest forever there. But thou,
Dishonor still what’s honored of the gods.
— Sophocles, *Antigone*.

The circle that gathered round Isaiah and his household in these evil days, holding themselves apart from their countrymen, treasuring the word of revelation, and waiting for Jehovah, were indeed, as Isaiah describes them, “signs and tokens in Israel from Jehovah of hosts that dwelleth in Mount Zion.” The formation of this little community was a new thing in the history of religion. Till then no one had dreamed of a fellowship of faith dissociated from all national forms, maintained without the exercise of ritual services, bound together by faith in the divine word alone. It was the birth of a new era in the Old Testament religion, for it was the birth of the conception of the *Church*, the first step in the emancipation of spiritual religion from the forms of political life, — a step not less significant that all its consequences were not seen till centuries had passed away. — W. Robertson Smith, *Prophets of Israel*.

Still at the prophets’ feet the nations sit. — Lowell.

That which is to be known I shall declare, knowing which a man attains immortality — the beginningless Supreme Brahma that is said to be neither Aught nor Naught. — *Bhagavad Gîtâ.*

The only Metaphysics which really and immediately sustains Ethics is one which is itself primarily ethical, and made of the staff of Ethics. — Schopenhauer.

In answer to the burning question, How can Athens be brought back to moral life and strength? Socrates had answered, “By finding a new moral sanction.” He had even gone further, and said: “This sanction is to be found in correct thinking, in thinking whole thoughts, which, because they are whole, are absolutely true, being the very principles according to which God governs the world.” This is, obviously, a mere formal answer. If it was to be of any real service, three further questions had to be answered: (1) How can whole thoughts be reached? (2) What do they prove to be when they are reached? (3) How can they be applied to the moral reorganization of human life? Plato’s philosophy is but an attempt to answer these questions. It therefore naturally falls into three divisions, (1) *Dialectics*, including Logic and Theory of Knowledge, (2) *Theoretics*, including Metaphysics and Physics, (3) *Practics*, including Ethics and Politics.

It is obvious that any attempt to reform society on Socratic principles must proceed, not from society itself, but from some person or persons in whom these principles are realized, and who act upon it from without. These persons will be the philosophers or, rather, the sages. Two distinct questions, therefore, present themselves at the outset: (1) How does a man become a sage? (2) How can the sage organize human life, and secure a succession of sages to continue his work after him? To the first of these questions, dialectics gives the answer; to the second, practics; while theoretics exhibits to us at once the origin and the end, that is, the meaning, of all existence, the human included. In the teaching of Plato we find, for the first time recognized and exhibited, the extra-civic or super-civic man, the man who is not a mere fragment of a social whole, completely subordinated to it, but who, standing above society, moulds it in accordance with ideas derived from a higher source. Forecasts of this man, indeed, we find in all Greek literature from Homer down, — in Heraclitus, Sophocles, etc., and especially, as we have seen, in Pythagoras; — but it is now for the first time that he finds full expression, and tries to play a conscious part. In him we have the promise of the future Church.

But to return to the first of our two questions, How does a man become a sage? We found the answer to be, By the dialectic method. Of this, however, not all men have the inclination to avail themselves, but only a chosen few, to whom the gods have granted the inspiration of Love (ἔρως) — a longing akin to madness (μανία), kindled by physical beauty, but tending to the Supreme Good. This good, as we shall see, consists in the vision (θεωρία) of eternal truth, of being, as it is. The few men who are blessed with this love are the divinely appointed reformers and guides of mankind, the well-being of which depends upon submission to them. The dialectic method is the process by which the inspired mind rises from the beauty of physical things, which are always particulars, to the beauty of spiritual things, which are always universals, and finally to the beauty of the Supreme Good, which is *The Universal*. The man who has reached this last, and who sees its relation to all other universals, so that they form together a correlated whole, sees all truth, and is the sage. What we call universals Plato called "ideas" (ἰδέαι = forms or species). These ideas he regards as genera, as numbers, as active powers, and as substances, the highest of which is God.

Two things are especially notable in connection with this theory: (1) that it involves that Oriental ascetic view of life which makes men turn away from the sensible world, and seek their end and happiness in the colorless world of thought; (2) that it suggests a view of the nature of God which comes perilously near to Oriental pantheism. Plato, indeed, nowhere denies personality of God; but neither does he affirm it, and he certainly leaves the impression that the Supreme Being is a force acting according to a numerical ratio or law. It would be difficult to overestimate the influence of these two views upon the subsequent course of Greek education and life. The former suggested to the super-civic man a sphere of activity which he could flatter himself was superior to the civic, viz. a sphere of contemplation; while the second, by blurring, or rather ignoring, the essential elements of personality in God, viz. consciousness, choice, and will, left no place for a truly religious or moral life. This explains why Platonism, while it has inspired no great civic movement, has played such a determining part in ecclesiasticism, and why, nevertheless, the Church for ages was compelled to fight the tendencies of it, which it did in great measure under the ægis of Plato's stern critic, Aristotle.

We are now ready to take up our second question: How can the sage organize human life, and secure a succession of sages to continue his work after him? Plato has given two widely different answers to this question, in his two most extensive works, (1) the *Republic*, written in his earlier life, when he was under the influence of Heraclitus, Parmenides, and Socrates, and stood in a negative attitude toward the real world of history, (2) the *Laws*, written toward the end of his life, when he became reconciled, in part at least, to the real world and its traditional beliefs, and found satisfaction and inspiration in the teachings of Pythagoras. His change of allegiance is shown by the fact that in the *Laws*, and in them alone, Socrates does not appear as a character. We shall speak first of the *Republic*, and then point out wherein the *Laws* differs from it.

When Plato wrote his *Republic*, he was deeply impressed with the evils and dangers of the social order in which he lived. This impression, which was that of every serious man of the time, had in his case probably been deepened by the teaching and the tragic death of Socrates. The dangers were, obviously, the demoralization of Athenian men and women, and the consequent weakening and dissolution of the social bonds. The evils, as he saw them, were (1) the defective education of children, (2) the neglect of women, (3) the general disorganization of the State through individualism, which placed power in the hands of ignorance and rapacity, instead of in those of wisdom and worth. The *Republic* is a scheme for removing these evils and averting the consequent dangers. It is the Platonic sage's recipe for the healing of society, and it is but fair to say that, of all the Utopian and æsthetic schemes ever proposed for this end, it is incomparably the best. It proposes nothing less than the complete transformation of society, without offering any hint as to how a selfish and degraded people is to be induced to submit thereto. In the transformed society, the State is all in all; the family is abolished; women are emancipated and share in the education and duties of men; the State attends to the procreation and education of children; private property is forbidden. The State is but the individual writ large, and the individual has three faculties, in the proper development and coördination of which consists his well-being: the same, therefore, must be true of the State. These faculties are (1) intellect or reason, (λογιστικόν, λόγος, νοῦς, etc.), (2) spirit or courage (θυμός, θυμοειδές), (3) desire or appetite (ἐπιθυμία, ἐπιθυμετικόν, φιλοχρήματον). The first resides in the head, the second in the heart, the third in the abdomen. The first is peculiar to man, the second he shares with the animals, and the third with both animals and plants. The proper relation of these faculties exists when reason, with clear insight, rules the whole man (Prudence); when spirit takes its directions from reason in its attitude toward pleasure and pain (Fortitude); when spirit and appetite together come to an understanding with reason as to when the one, and when the other, shall act (Temperance); and, finally, when each of the three strictly confines itself to its proper function (Justice). Thus we obtain the four "cardinal virtues." As existing in the individual, they are relations between his own faculties. It is only in the State that they are relations between the individual and his fellows. Rather we ought to say, they are relations between different classes of society; for society is divided into three classes, marked by the predominance of one or other of the three faculties of the soul. *First*, there is the intelligent class, — the philosophers or sages; *second*, the spirited class, — the military men or soldiers; *third*, the covetous class, — men devoted to industry, trade, and money-making. The well-being of the State, as of the individual, is secure only when the relations between these classes are the four cardinal virtues; when the sages rule, and the soldiers and money-makers accept this rule, and when each class strictly confines itself to its own function, so, for example, that the sages do not attempt to fight, the soldiers to make money, or the money-makers to fight or rule. In the Platonic ideal State, accordingly, the three classes dwell apart and have distinct functions. All the power is in the hands of the philosophers, who dwell in lofty isolation, devoted to the contemplation of divine ideas, and descending only through grace to mingle with human affairs, as teachers and absolute rulers, ruling without laws. Their will is enforced by the military class, composed of both sexes, which lives outside the city, devoting itself to physical exercises and the defence of the State. These two classes together constitute the guardians (φύλακες) of the State, and stand to each other in the relation of head and hand. They produce nothing, own nothing, live sparingly, and, indeed, cherish a sovereign contempt for all producing and owning, as well as for those who produce and own. They find their satisfaction in the performance of their functions, and the maintenance of virtue in the State. What small amount of material good they require is supplied to them by the industrial class, which they protect in the enjoyment of the only good it strives after or can appreciate, the good of the appetites. This class, of course, has no power, either directive or executive, being incapable of any. It is, nevertheless, entirely happy in its condition of tutelage, and, as far as virtue can be predicated of sensuality, virtuous, the excesses of sensuality being repressed by the other two classes. Indeed, the great merit which Plato claims for his scheme is, that it secures harmony, and therefore happiness, for all, by placing every individual citizen in the class to which by nature he belongs, that is, in which his nature can find the fullest and freëst expression compatible with the well-being of the whole. Such is Plato's political scheme, marked by the two notorious Greek characteristics, love of harmony and contempt for labor. It is curious to think that it foreshadowed three modern institutions — the ecclesiastical hierarchy, the standing army, and the industrial community, in which, however, the relations of power demanded by Plato are almost reversed, with (it is only fair to say) the result which he foresaw.

In trying to answer the question, By what means shall these classes be sundered? Plato calmly assumes that his scheme is already in full operation among grown people, so that the only difficulty remaining is with regard to the children. And this is completely met by his scheme of education. The State or, let us say at once, the philosophic class, having abolished the family, and assumed its functions, determines what number and kind of children it requires at any given time, and provides for them as it would for sheep or kine. It brings together at festivals the vigorous males and females, and allows them to choose their mates for the occasion. As soon as the children are born, they are removed from their mothers and taken charge of in State institutions, where the feeble and deformed are at once destroyed. Any children begotten without the authority of the State share the same fate, either before or after birth. Those whose birth is authorized, and who prove vigorous, are reared by the State, none of them knowing, or being known by, their parents. But they by no means suffer any diminution of parentage on that account; for every mature man regards himself as the father, and every mature woman regards herself as the mother, of all the children born within a certain time, so that every child has thousands of fathers and mothers, all interested in his welfare; and the mothers, being relieved from nearly all the duties of maternity, share equally with the men in all the functions of the State.

The system of education to which the children of the State are subjected is, to a large extent, modelled after that of Sparta, especially in respect to its rigor and its absolutely political character. It contains, however, a strong Ionic or Athenian element, notably on the intellectual and æsthetic side. It may fairly claim to be intensely Hellenic. It accepts the time-honored division of education into Music and Gymnastics, making no distinct place for Letters, but including them under Music. It demands that these two branches shall be pursued as parts of a whole, calculated to develop, as far as may be, the harmonious human being, and fit him to become part of the harmonious State. I have said "as far as may be," because Plato believes that only a small number of persons at any given time can be reduced to complete harmony. These are the born philosophers, who, when their nature is fully realized, no longer require the State, but stand, as gods, above it. In truth, the State is needed just because the mass of mankind cannot attain inner harmony, but would perish, were it not for the outer harmony imposed by the philosophers. This is a sad fact, and would be altogether disheartening, were it not for the belief, which Plato seems to have derived from Pythagoras and the Egyptians, that those human beings who fail to attain harmony in one life, will have opportunities to do so in other lives, so long as they do not, by some awful and malignant crime or crimes, show that they are utterly incapable of harmony. Plato's scheme of political education, therefore, requires, as its complement, the doctrines of individual immortality, of probation continued through as many lives as may be necessary, and of the possibility of final and eternal blessedness or misery. In fact, Plato has a fully-developed eschatology, with an "other world," consisting of three well-defined parts, — Elysium, Acheron, and Tartarus, — corresponding to the Paradise, Purgatory, and Hell of Catholic Christianity; with one important difference, however, due to the doctrine of metempsychosis. While the Christian purgatory is a place or state of purgation for souls whose probation is over forever, Acheron is merely a place where imperfect souls remain till the end of a world-period, or æon, of ten thousand years, when they are again allowed to return to life and renew their struggle for that complete harmony which is the condition of admission to the society of the gods.

It is from this eschatology that Plato derives the moral sanctions which he employs in his State. It is true that no one has insisted with greater force than he upon the truth that virtue is, in and for itself, the highest human good; he believed, however, that this could be appreciated only by the philosopher, who had experience of it, and that for the lower orders of men a more powerful, though less noble, sanction was necessary. Accordingly, he depicts the joys of Elysium in images that could not but appeal to the Hellenic imagination, and paints Tartarus in gruesome colors that would do honor to a St. Ignatius.

In order fully to understand the method of Plato's political education, we must revert to Chapter III of Book I. There we saw that, according to the Greeks, a complete education demanded three things, (1) a noble nature, (2) training through habit, (3) instruction. For the first Plato would do what can be done by artificial selection of parents; for the second, he would depend upon music and gymnastics; for the third, upon philosophy. In these last two divisions we have the root of the mediæval *trivium* and *quadrivium*. The Platonic pedagogical system seeks to separate the ignoble from the noble natures, and to place the former in the lowest class. It then trains the noble natures in music and gymnastics, and, while this is going on, it tries to distinguish those natures which are capable of rising above mere training to reflective or philosophic thought, from those which are not. The latter it assigns to the military class, which always remains at the stage of training, while the former are instructed in philosophy, and, if they prove themselves adepts, are finally admitted to the ruling class, as sages. Any member of either of the higher classes who proves himself unworthy of that class, may at any time be degraded into the next below.

As soon as the children are accepted by the State, their education under State nurses begins. The chief efforts of these for some time are directed to the bodies of the children, to seeing that they are healthy and strong. As soon as the young creatures can stand and walk, they are taught to exert themselves in an orderly way and to play little games; and as soon as they understand what is said to them, they are told stories and sung to. Such is their first introduction to gymnastics and music. What games are to be taught, what stories told, and what airs sung to the children, the State determines, and indeed, since the character of human beings depends, in great measure, upon the first impression made upon them, this is one of its most sacred duties. Plato altogether disapproves of leaving children without guidance to seek exercise and amusement in their own way, and demands that their games shall be such as call forth, in a gentle and harmonious way, all the latent powers of body and mind, and develop the sense of order, beauty, and fitness. He is still more earnest in insisting that the stories told to children shall be exemplifications of the loftiest morality, and the airs sung to them such as settle, strengthen, and solemnize the soul. He follows Heraclitus in demanding that the Homeric poems, so long the storehouse for children's stories, shall be entirely proscribed, on account of the false ideals which they hold up both of gods and heroes, and the intimidating descriptions which they give of the other world. Virtue, he holds, cannot be furthered by fear, which is characteristic only of slaves. He thinks that all early intellectual training should be a sort of play. The truth is, the infant-school of Plato's *Republic* comes as near as can well be imagined to the ideal of the modern kindergarten.

While this elementary education is going on, the officers of the State have abundant opportunity for observing the different characters of the children, and distinguishing the noble from the ignoble. As soon as a child shows plainly that it belongs by nature to the lowest class, they consign it to that class, and its education by the State practically ceases. Of course these officers know from what class each child came, and they make use of this knowledge in determining its future destiny. At the same time, they are not to be entirely guided by it, but to act impartially. The education of the lowest class after childhood the State leaves to take care of itself, persuaded that appetite will always find means for its own satisfaction. The nobler natures it continues to educate, without any break, until they reach the age of twenty. And this education is distinctly a military training. As time goes on, the gymnastic exercises become more violent, more complex, and more sustained, but always have for their subject the soul, rather than the body, and never degenerate into mere athletic brutality. Special attention is directed to the musical and literary exercises, as the means whereby the soul is directly trained and harmonized. Plato holds that no change can be made in the "music" of a State, without a corresponding change in the whole organization; in other words, that the social and political condition of a people is determined by the literature and music which it produces and enjoys. He virtually says, Let me make the songs of a people, and he who will may make their laws. Of the character of the music which he recommends we have already spoken. From literature he would exclude all that we are in the habit of calling by that name, all that is mimetic, poetic, or creative, and confine the term to what is scientific, didactic, and edifying. He sends the poets out of the State with mock-reverent politeness, as creatures too divine for human use. He is particularly severe upon the dramatists, not sparing even the sublime Æschylus. In fact, he would banish from his State all art not directly edifying. The literature which he recommends is plainly of the nature of Æsop's *Fables*, the Pythagorean *Golden Words*, and the Parmenidean or Heraclitean work *On Nature*. If we wished to express his intent in strictly modern language, we should have to say that he desired to replace literary training by ethical and scientific, and the poetical mode of presenting ideals by the prosaic. The true music, he held, is in the human being. "If we find," he says, "a man who perfectly combines gymnastics with music, and in exact proportion applies them to the soul, we shall be entirely justified in calling him the perfect musician and the perfect trainer, far superior to the man who arranges strings alongside each other."

There are many matters of detail in Plato's scheme of military training that well deserve consideration, but cannot be even touched upon here. Before we leave it, however, we may give the dates at which the different branches of education are to begin. Care of the body begins at birth, story-telling with the third year, gymnastics with the seventh, writing and reading with the tenth, letters and music with the fourteenth, mathematics with the sixteenth, military drill, which for the time supplants all other training, with the eighteenth. When the young people reach the age of twenty, those who show no great capacity for science, but are manly and courageous, are assigned to the soldier class, and start on a course of higher education in military training, while those who evince great intellectual ability become novices in the ruling class, and begin a curriculum in science, which lasts till the close of their thirtieth year. This course includes arithmetic, geometry, and astronomy, the only sciences at that time cultivated, and aims at impressing upon the youthful mind the unity and harmony of the physical or phenomenal universe. At the age of thirty, those students who do not show any particular aptitude for higher studies are drafted off into the lower public offices, while those who do, pass five years in the study of dialectics, whereby they rise to pure ideas. They are then, from their thirty-fifth to their fiftieth year, made to fill the higher public offices, in which they take their orders directly from the sages. During this period they put their acquirements to a practical test, and so come really and fully into possession of them. At the end of their fiftieth year, after half a century of continuous education of body, mind, and will, they are reckoned to have reached the vision of the supreme good, and therefore to be fit to enter the contemplative ruling class. They are now free men; they have reached the goal of existence; their life is hidden with God;

they are free from the prison of the body, and only remain in it voluntarily, and out of gratitude to the State which has educated them, in order to direct it, in accordance with absolute truth and right, toward the Supreme Good.

Such, in its outlines, is Plato's theory of education, as set forth in the *Republic*. It is easy to point out its defects and its errors, which are neither small nor few, but fundamental and all-pervasive. But it is equally easy to see how it came to have these defects and errors, since they are simply those of every æsthetic social scheme which ignores the nature of the material with which it presumes to deal, and takes no account of the actual history of social institutions or of the forces by which they are evolved. It is emphatically the product of a youthful intellect, carried away by an artistic ideal. It was, however, the intellect of a Plato, who, when he became more mature, saw, without "irreverence for the dreams of youth," the feebleness of ideas for the conflict with human frailties, and strove to correct his exaggerated estimate of their power.

This he did in the *Laws*, whose very title suggests, in a way almost obtrusive, the change of attitude and allegiance. While in the *Republic* the State is governed by sages, almost entirely without laws, in the later work, the sages almost disappear and the laws assume an all-important place. In writing the *Laws*, moreover, he exchanges allegiance to Socrates and ideas for allegiance to Pythagoras and the gods. In saying this, I have marked the fundamental difference between the *Republic* and the *Laws*. While in the former Plato finds the moral sanctions, in the last resort, in the ideas of the pure intellect, trained in mathematics, astronomy, and dialectics, in the latter he derives them from the content of the popular consciousness, with its gods, its ethical notions, its traditions. In these, as embodied in institutions, he finds the most serviceable, if not the most exalted, revelation of divine truth. Trusting to this, he no longer seeks to abolish the family and private property, but merely to have them regulated; he no longer banishes strangers and poets from his State, but merely subjects them to State supervision; he no longer demands a philosophical training for the rulers, but only practical insight; he no longer divides his citizens into sages, soldiers, and wealth-producers, but into freemen (corresponding to his previous military class) and slaves. His government is no longer an aristocracy of intellect, but a compound of aristocracy, oligarchy, and democracy, representing, respectively, worth, wealth, and will. His plan of education is modified to suit these altered conditions. The children, as in Sparta, do not begin the State course of education until about their seventh year, after which their training is very much the same as that demanded in the *Republic*, with the omission, of course, of dialectics. Though women are no longer to be relieved of their home duties, they are still to share in the education and occupations of men, an arrangement which is facilitated by the law ordaining that both men and women shall eat at public tables. In making these changes, Plato believed that he was falling from a lofty, but unrealizable, ideal, and making concessions to human weakness; in reality, he was approaching truth and right.

BOOK III. ARISTOTLE (b.c. 384-322)

CHAPTER I

ARISTOTLE — LIFE AND WORKS

Aristotle, in my opinion, stands almost alone in philosophy. — Cicero.

Aristotle, Nature's private secretary, dipping his pen in intellect. — Eusebius.

Wherever the divine wisdom of Aristotle has opened its mouth, the wisdom of others, it seems to me, is to be disregarded. — Dante.

I could soon get over Aristotle's *prestige*, if I could only get over his reasons. — Lessing.

If, now in my quiet days, I had youthful faculties at my command, I should devote myself to Greek, in spite of all the difficulties I know. Nature and Aristotle should be my sole study. It is beyond all conception what that man espied, saw, beheld, remarked, observed. To be sure he was sometimes hasty in his explanations; but are we not so, even to the present day? — Goethe (at 78).

If the proper earnestness prevailed in philosophy, nothing would be more worthy of establishing than a foundation for a special lectureship on Aristotle; for he is, of all the ancients, the most worthy of study. — Hegel.

Aristotle was one of the richest and most comprehensive geniuses that ever appeared — a man beside whom no age has an equal to place. — *Id.*

Physical philosophy occupies itself with the general qualities of matter. It is an abstraction from the dynamic manifestations of the different kinds of matter; and even where its foundations were first laid, in the eight books of Aristotle's *Physical Lectures*, all the phenomena of nature are represented as the motive vital activity of a universal world-force. — Alexander von Humboldt.

It was characteristic of this extraordinary genius to work at both ends of the scientific process. He was alike a devotee to facts and a master of the highest abstractions. — Alexander Bain.

Aristotle is the *Father of the Inductive Method*, and he is so for two reasons: First, he theoretically recognized its essential principles with a clearness, and exhibited them with a conviction, which strike the modern man with amazement; and then he made the first comprehensive attempt to apply them to all the science of the Greeks. — Wilhelm Oncken.

Aristotle, for whose political philosophy our admiration rises, the more we consider the work of his successors, is less guided by imagination than Plato, examines reality more carefully, and recognizes more acutely, the needs of man. — Bluntschli.

It appears to me that there can be no question, that Aristotle stands forth, not only as the greatest figure in antiquity, but as the greatest intellect that has ever appeared upon the face of this earth. — George J. Romanes.

Aristotle, with all the wisdom of Plato before him, which he was well able to appropriate, could find no better definition of the true good of man than the full exercise or realization of the soul's faculties in accordance with its proper excellence, which was excellence of thought, speculative and practical. — Thomas Hill Green.

It is pretty definitely settled, among men competent to form a judgment, that Aristotle was the best educated man that ever walked on the surface of this earth. He is still, as he was in Dante's time, the "master of those that know." It is, therefore, not without reason that we look to him, not only as the best exponent of ancient education, but as one of the worthiest guides and ensamples in education generally. That we may not lose the advantage of his example, it will be well, before we consider his educational theories, to cast a glance at his life, the process of his development, and his work.

Aristotle was born about b.c. 384, in the Greek colony of Stagira in Thrace, near the borders of Macedonia. His father, Nicomachus, was a physician of good standing, the author of several medical works, and the trusted friend of Amyntas, the Macedonian King. His mother, Phæstis, was descended from the early settlers of the place. It was doubtless under his father's guidance that the boy Aristotle first became interested in those physical studies in which he was destined to do such wonderful work. Losing, however, both his parents at an early age, he came under the charge of Proxenus, of Atarneus, who appears to have done his duty by him. At the age of eighteen he came to Athens for his higher education, and entered the school of Plato in the Academy. Here he remained for nearly twenty years, listening to Plato, and acquiring those vast stores of information which in later life he worked up into lectures and scientific treatises. Nothing escaped him, neither art, science, religion, philosophy, nor politics. He seems, being well off, to have begun early to collect a library, and to aim at encyclopædic knowledge. About his methods of study we know very little; but we hear that at times he assisted Plato in his work and was very careful of his own attire. It is clear that, in course of time, he rose in thought above the teachings of his master, and even rejected the most fundamental of them, the doctrine of self-existent ideas. But he never lost respect for that master, and when the latter died, he retired with Xenocrates, son of the new head of the Academy, to Atarneus, the home of his old guardian Proxenus, and of his fellow-Academic, Hermias, now king or tyrant of the place. Here he remained for three years, in the closest intimacy with his friend, until the latter was treacherously murdered by the Persians. He then crossed over to Mytilene, taking with him Pythias, Hermias' sister or niece, whom he had married, and to whom he was deeply devoted. He erected in Delphi a statue to his dead friend, and dedicated to him a poem, of which we shall hear more in the sequel. About b.c. 343, when he was over forty years old, he was called to Macedonia, as tutor to Alexander, the thirteen-year-old son of King Philip, and grandson of his own father's old patron, Amyntas. This office he filled for about three years with distinguished success, and it may be safely said that never had so great a tutor so great a pupil. During the latter part of the time, at least, Aristotle and Alexander seem to have lived at Stagira. This town had been captured and destroyed by Philip, and its inhabitants scattered. With the permission of the conqueror, Aristotle reassembled the inhabitants, rebuilt the town, drew up its laws, and laid out near it, at Mieza, in imitation of the Academy, a gymnasium and park, which he called the *Nymphæum*. Hither he appears to have retired with his royal pupil and several other youths who were receiving education along with him, among them Theophrastus and the ill-fated Callisthenes. It was probably here that Aristotle adopted the habit of walking while imparting instruction, a habit which afterwards gave the name to his school. When Alexander, at sixteen, entered his father's army, Aristotle still continued to teach in the Nymphæum, which existed even in Plutarch's time, more than four hundred years afterwards. But this lasted only for about five years; for in 335, when Alexander, who in the previous year had succeeded his murdered father, was preparing to invade Persia, Aristotle moved to Athens. Finding that his old friend, Xenocrates, was director of the school in the Academy, he established himself, as a public teacher or professor, in the Lyceum, the Periclean gymnasium, used chiefly, it should seem, by the lower classes and by foreign residents, of whom he himself was one. As an alien, as the friend of the victorious Macedonians, who three years before had broken the power of Greece at Chæronea, and taken away her autonomy forever, as a rival of the Platonists, and as a wealthy, well-dressed gentleman, he had many enemies and detractors; but his conduct seems to have been so unobjectionable that no formal charge could be brought against him. His very numerous pupils were mostly foreigners, a fact not without its influence on the subsequent course of thought. He divided his days between writing and teaching, taking his physical exercise while engaged in the latter occupation. In the mornings he gave lectures to a narrow circle, in a strictly formal and scientific way, upon the higher branches of science; while in the afternoons he conducted conversations upon more popular themes with a less select audience. The former were called his esoteric, the latter his exoteric, discourses.

It was during his second residence in Athens, in the twelve years from b.c. 335 to 323, that Aristotle composed most of those great works in which he sought to sum up, in an encyclopædic way, the results of a life of all-embracing study and thought. He had been in no haste to put himself on record, and it was not until he had reached a consistent view of the world that he ventured to treat, in a definitive way, any aspect of it. Thus it was that each of his treatises formed part of one great whole of thought. Had he succeeded in completing his plan, he would have left to the world a body of science such as, even in our own day, would look in vain for a peer among the works of any one man. Unfortunately, his plan was not completed, and even of the works which he did write only a portion has come down to us. But that portion is sufficient to place their author at the head of all scientific men. Some of his works, for example, his *Logic*, *Metaphysics*, *Ethics*, and *Politics*, still occupy the first place in the literature of these subjects. How a single man could have done all that he did, and in so many different departments, is almost inconceivable. No doubt he had helpers, in the shape of secretaries, learned slaves, and disciples; and it is certain that he received from his royal pupil munificent aid, which enabled him to do much, especially in the directions of physical and political research, that would have been impossible for a poor man; but, after all allowances have been made, his achievement still seems almost miraculous.

During all the years in which Aristotle was thus engaged, his position at

Athens was becoming more and more insecure. The anti-Macedonian party were waiting for the first opportunity to rid the city of him, and were prevented from open attempts at this only by dread of Alexander's displeasure. Even when it was known that Aristotle had incurred disfavor with his old pupil, they did not venture to attack him; but in 323, when the news of Alexander's sudden death made all Greece feel that now the time had come to get rid forever of the hated Macedonians, and recover its liberty, they at once gave vent to their long-cherished hatred. How hard it was to find matter for an accusation against him, is shown by the fact that they had to go back to his old poem on *Worth*, written in memory of Hermias (see p. 4), and to base thereon a charge of impiety — a charge always easily made, and always sure to arouse strong popular prejudice. According to Athenian law, the defendant in any such case might, if he chose, escape punishment by leaving the city any time before the trial; and Aristotle, not being, like Socrates, a citizen, could have no ground for refusing to take advantage of this liberty. Accordingly, with the remark that he would not voluntarily allow the Athenians to sin a second time against philosophy, he withdrew to his country residence at Chalcis in Eubœa, the old home of his mother's family, to wait till affairs should take another turn, as, indeed, they soon afterwards did, when Athens had to open her gates to Antipater. But, ere that happened, Aristotle was in his grave, having died in 322, shortly before Demosthenes, of disease of the stomach, from which he had long suffered. His remains are said to have been carried to Stagira, where the grateful inhabitants erected an altar over them and paid divine honors to his memory. His library and the manuscripts of his works he left in the hands of Theophrastus, who succeeded him in the Lyceum. His will, the text of which has come down to us, bears testimony, along with all else that we know of him, to the nobility, kindliness, and justice of his nature.

CHAPTER II

ARISTOTLE'S PHILOSOPHY

Platon rêvait; Aristote pensait. — Alfred de Musset.

Are God and Nature then at strife
That Nature lends such evil dreams?
— Tennyson.

There are three Essences. Two of these are sensible; one being eternal, and the other perishable. The latter is admitted by all, in the form, for example, of plants and animals; in regard to the former, or eternal one, we shall have to consider its elements, and see whether they be one or many. The third is immutable [and, therefore, inaccessible to sense], and this some thinkers hold to be transcendent. — Aristotle.

The vision of the divine is what is sweetest and best; and if God always enjoys that vision as we sometimes do, it is wonderful, and if he does so in a yet higher degree, it is more wonderful still. And so even it is. And life belongs to him; for the self-determination of thought is life, and he is self-determination. And his absolute self-determination is the supreme and eternal life. And we call God a living being, eternal, best; so that life and duration, uniform and eternal, belong to God; for this is God. — *Id.*

We must consider in what way the system of the universe contains the good and the best, whether as something transcendent and self-determined, or as order. Surely in both ways at once, as in any army, for which the good is in order, and is the general, and the latter more than the former. For the general is not due to the order, but the order to the general. — *Id.*

The thought of Aristotle differs from that of Plato both in its method and in its results. Plato, reared in the school of Pythagoras, Parmenides, Heraclitus, and Socrates, had, naturally enough, come to look for truth in the supersensual region of mind, and thought he found it in ideas attainable by a process of dialectic within the individual consciousness. He thus came to put forward a doctrine which, despite its ostensible purpose to cement the bonds of society, in reality tended to withdraw men from society altogether and increase the very individualism it was intended to cure. Aristotle, while still in Plato’s school, had turned away from this doctrine, and in after-life he never lost an opportunity of combating it. He could point to Plato’s *Republic* as a warning example of its logical consequences. But, in doing this, he was prepared to put another doctrine in its place, and he did so on the basis of a profound study of the whole course of Greek thought, mythological and philosophical.

Instead of appealing, like Plato, to the individual consciousness, and trying to discover ultimate truth by bringing its data into harmony among themselves, Aristotle appeals to the historic consciousness, and endeavors to find truth by harmonizing and complementing its data through a further appeal to the outer world, in which these data are realized. He maintains that the truths reached by the dialectic process are merely formal, and therefore empty, — useless in practice, until they have been filled by experience from the storehouse of nature. In consequence of this changed attitude, he sets aside the dialectic process, and substitutes for it the *Method of Induction*, which he was the first man in the world to comprehend, expound, and apply, becoming thus the father of all true science. And he makes a more extensive use of induction than any other man since his time, applying it in a field in which even now it is hardly supposed to yield any results, the field of the common consciousness. Indeed, he everywhere begins his search for concrete truth by examining the historic consciousness, and, having, by a process of induction, discovered and generalized its contents, he turns with these to nature and, by a second induction, corrects, completes, and harmonizes them. We might express this in modern language, by saying that his whole endeavor is to correct and supplement the imperfect human consciousness by a continual appeal to the divine consciousness, *as manifested in the world*. It is the error of modern investigators that they employ only one-half of the inductive method, the objective, and either omit altogether the subjective, or else, like Plato, apply it only to the individual consciousness. Hence come the widely divergent results which still meet us in so many of the sciences, in Politics, Psychology, etc., hence the fact that a great deal of science, instead of correcting, widening, and harmonizing the common consciousness, stands altogether apart from it, or even in direct opposition to it. The man who writes a treatise on Psychology, or on the Soul, without troubling himself to discover what “Soul” means in the general consciousness of mankind, and perhaps setting out with an altogether individual notion of it, can hardly look for any other result. Aristotle, true to his method of induction, devotes one entire book of his *Psychology* to finding out what "Soul" means in the historic consciousness, unreflective as well as reflective. Then, with this meaning, he goes to nature, seeks by induction to discover what she has to say about it, and abides by her reply. Hence it is that his thought has laid hold upon the world, and influenced it in practical ways, as no other man's thought has ever done. Hence it is that, of all ancient men, he is the one before whom the modern scientist bows with respect.

If we now ask ourselves what was the underlying thought that shaped Aristotle's theory of induction, what was his *Weltanschauung*, we shall find it to be this: The divine intelligence reveals itself subjectively in an historic process in the human consciousness, and objectively in a natural process in the outer world. Truth for man is the harmony of the two revelations. It follows directly from this that the scientist must take impartial account of both. So, for example, if he finds gods in the historical consciousness, and laws or forces in nature, he has no right, like the theologian, to merge the latter in the former, or, like the physicist, to replace the former by the latter. He must retain both till he can bring them into harmony. Only then does he know either.

Such a philosophy as this, instead of drawing men away from the world of nature and history, and confining them to the narrow circle of their own consciousness, of necessity sent them back to that world, as the only means by which any human well-being could be reached. It is for this reason that it has so powerfully affected both social life and science. Nevertheless, we should err greatly, if we supposed that, in Aristotle's view, the divine is nothing more than an immanent idea, working as a force-form in nature, and as a thought-form in mind. He does, indeed, believe that the divine is all this, but not that this is all the divine there is. Over and above the divine which is determined in nature and in man, there is the transcendent Mind, or God, determining himself through himself, and bearing the same relation to the divine that the sun bears to light, the human mind to human thought, the general to the order of his army. Here we are far away from Pantheism, and, though we have not yet risen to a clear conception of personality, we have at the "helm of the universe" a conscious being, the source of law and order. And man, rising above the thought whereby he knows himself through nature, and nature through himself, may enter into the consciousness of God and become a partaker in that life which is “sweetest and best.” These are the features of Aristotle’s thought which in the thirteenth century made it acceptable to the Christian Church in her struggle against Pantheism, and which paved the way for that higher mysticism of which Thomas Aquinas is the most distinguished exponent — a mysticism which does not, like that of the Neoplatonists and Buddhists, dispense with thought to lose itself in vacancy, but which, rising upon a broad basis of knowledge, pierces the clouds of sense, to find itself in the presence of the most concrete Reality, the inexhaustible source of all thought and all things.

CHAPTER III

ARISTOTLE’S THEORY OF THE STATE

First, then, let us try to enumerate whatever worthy utterances have proceeded from men of the past upon any aspect of the subject, and then, referring to our collections of *Constitutional Histories*, let us seek to arrive at a theory as to what sorts of things preserve and destroy each particular form of government, and see for what reasons some are well, some ill, managed. Succeeding in this, we may, perhaps, the better learn both what is the best form of government, and what arrangements, laws, and customs are best suited to each form. — Aristotle.

Man is a political animal. — *Id.*

The State is prior to the individual. — *Id.*

Without friends no one would choose to live, although he possessed all other blessings. — *Id.*

If happiness be self-determination in accordance with worth, we must conclude that it will be in accordance with the supreme worth, which will be the worth of the noblest part of us. This part, whatever it may be, whether intellect (νοῦς) or something else, that which by nature evidently rules and guides us and has insight into things beautiful and divine, whether it be itself divine, or the divinest part of us, is that whose self-determination, in accordance with its proper worth, will be the perfect happiness. That this consists in the vision of divine things has already been said.... This, indeed, is the supreme self-determination, for the reason that intellect is the highest part of us, and that with which it deals is the highest of the knowable.... But a life of this sort would be something higher than the human; for he who lived it would not be living as man, but as the subject of something divine.... If, then, intellect is something divine in relation to man, the life lived according to it must be divine in relation to human life. Instead, then, of following those who advise us, as being human, to set our thoughts upon human things, and, as being mortals, to set them on mortal things, it is our duty, as far as may be, to act as immortal beings, and do all we can to live in accordance with the supreme part of us. — Aristotle.

Man alone, among all beings, occupies a middle place between things corruptible and things incorruptible.... Two ends, therefore, Ineffable Providence has ordained for man: Blessedness in this life, which consists in the exercise of native faculty, and is figured by the Earthly Paradise, and blessedness in the eternal life, which consists in the enjoyment of the vision of God, a thing not to be achieved by any native faculty, unless aided by divine light, and which is to be understood by the Heavenly Paradise.... These ends and means would be disregarded by human passion, if men were not restrained in their course by bit and bridle.... For this reason man required a double directive, corresponding to this double end. He required the Supreme Pontiff to guide the human race to life eternal, and the Emperor to guide the human race to temporal felicity, in accordance with the teachings of philosophy.... The truth with regard to the question whether the authority of the Emperor is derived directly from God or from another, must not be taken so strictly as to mean that the Roman Prince is not, in some respects, subject to the Roman Pontiff, the fact being that this mortal felicity of ours is, in some sense, ordained with a view to immortal felicity. Let Cæsar, therefore, display that reverence for Peter which the first-born son ought to display for his father, so that, being illuminated by his father's grace, he may with greater virtue enlighten the world, which he has been called to govern by Him who is governor of all things, spiritual and temporal. — Dante.

O Grace abounding, whence I did presume
To fix my gaze upon the eternal light
So far that I consumed my sight therein!
Within its deeps I saw internalized
Into one volume, bound with love,
That which is outered in the universe; —
Substance and accident, and all their modes,
As 'twere, together merged in such a sort
That what I mean is but a simple light.
The universal form of this same knot
I think I saw, because, when thus I speak,
I feel that I rejoice with larger joy. — *Id.*

Man's chief end is to glorify God, and to enjoy him forever. — *Westminster Shorter Catechism*.

Plato’s chief purpose, in writing upon education, had been to suggest a remedy for the social and moral conditions of his native Athens. Aristotle has no such purpose. He is, in a very deep sense, a cosmopolitan, and writes in the interest of science and universal utility. His range of vision is not confined to Athens, or even to Greece (though he is very proud of being a Greek), but ranges over the whole known world in time and space. Unlike Plato, too, who had been familiar mainly with institutions of the past in Egypt and Greece, Aristotle is deeply affected by the tendencies of the future, and, though no one lays greater stress than he upon the necessity of a knowledge of the past for him who would construct a sound social theory, he nevertheless declares that the whole of the past is shaped by something which is in the future, by the ultimate realization. This view comes out in a paradoxical way in his famous saying that “the State is prior to the individual,” by which he means that it is man’s political nature working in him that makes him an individual, and at the same time realizes itself in a State. And this brings us to Aristotle’s conception of the State, which we must consider before taking up his theory of education, for the reason that to him, as to all the ancient world, education is a function of the State, and is conducted, primarily at least, for the ends of the State.

Before venturing upon a theory of the State, Aristotle, true to his inductive principles, wrote the Constitutional Histories of over two hundred and fifty different states. One of these, the *Constitutional History of Athens*, has recently been discovered and published (see p. 96). He held that it was only by means of a broad induction, thus rendered possible, that he could discover the idea of the State, that is, its self-realizing form. Employing this method, then, he came to the conclusion that the State is that highest social institution which secures the highest good or happiness of man. Having, in a previous treatise, satisfied himself that this good is Worth (ἀρετή), and worth being in every case the full exercise of characteristic or differentiating faculty, he concludes that, since man’s distinguishing faculty is reason, the State is the institution which secures to man the fullest and freëst exercise of this. It follows directly that the State is, simply and solely, the supreme educational institution, the university to which all other institutions are but preparatory. And two more conclusions follow: (1) that states will differ in constitution with the different educational needs of the peoples among whom they exist, and (2) that, since all education is but a preparation for some worthy activity, political education, the life of man as a citizen, is but a preparation for the highest activity, which, because it is highest, must necessarily be an end in itself. This activity, Aristotle argues, can be none other than contemplation, the Vision of the Divine (θεωρία).

Results which have moved the world followed logically from this doctrine. Whereas Plato had made provision for a small and select body of super-civic men, and so paved the way for religious monasticism and asceticism, Aristotle maintains that in every civilized man, as such, there is a super-civic part, in fact, a superhuman and divine part, for the complete realization of which all the other parts, and the State wherein they find expression, are but means. Here we have, in embryo, the whole of Dante's theory of the relation of Church and State, a theory which lies at the basis of all modern political effort, however little the fact may be recognized. Here, indeed, we have the whole framework of the *Divine Comedy*; here too we have the doctrine of the Beatific Vision, which for ages shaped and, to a large extent, still shapes, the life of Christendom. Well might Dante claim Aristotle as his master (see p. 153)! Well might the great doctors of the Church speak of him as "*The* Philosopher," and as the "Forerunner of Christ in Things Natural." In vain did Peter Ramus and Luther and Bruno and Bacon depreciate or anathematize him! He is more powerful to-day in thought and life than at any time for the last twenty-two centuries.

It may be asked how far, and in what form, Aristotle conceives the divine life to be possible for man on earth. He answers that, though it cannot be perfectly or continuously realized here, it is in some degree and for certain times attainable (see p. 161). In so far as it is a social life, it is the life of friendship or spiritual love (φιλία), to which he has devoted almost two books of his *Ethics*, books which give us a loftier idea of his personal purity and worth than any other of his extant writings. He insists that friendship is the supreme blessing (see p. 166), and that "whatever a man's being is, or whatever he chooses to live for, in that he wishes to spend his life in the company of his friends." It is even said that Aristotle, while teaching in the Lyceum, gathered about him a knot of noble youths and earnest students, and formed them into a kind of community, with a view to leading a truly spiritual social life.

CHAPTER IV

ARISTOTLE’S PEDAGOGICAL STATE

Nature is the beginning of everything. — Aristotle.

Life is more than meat, and the body than raiment. — Jesus.

The forces of the human passions in us, when completely repressed, become more vehement; but when they are called into action for short time and in the right degree, they enjoy a measured delight, are soothed, and, thence being purged away, cease in a kindly, instead of a violent, way. For this reason, in tragedy and comedy, through being spectators of the passions of others, we still our own passions, render them more moderate, and purge them away; and so, likewise, in the temples, by seeing and hearing base things, we are freed from the injury that would come from the actual practice of them. — Jamblichus.

Care for the body must precede care for the soul; next to care for the body must come care for the appetites; and, last of all, care for the intelligence. We train the appetites for the sake of the intelligence, and the body for the sake of the soul. — Aristotle.

The practice of abortion was one to which few persons in antiquity attached any deep feeling of condemnation.... The physiological theory that the fœtus did not become a living creature till the hour of birth had some influence on the judgments passed upon this practice. The death of an unborn child does not appeal very powerfully to the feeling of compassion, and men who had not yet attained any strong sense of the sanctity of human life, who believed that they might regulate their conduct on these matters by utilitarian views, according to the general interest of the community, might very readily conclude that prevention of birth was in many cases an act of mercy. In Greece, Aristotle not only countenanced the practice, but even desired that it should be enforced by law, when population had exceeded certain assigned limits. No law in Greece, or in the Roman Republic, or during the greater part of the Empire, condemned it.... The language of the Christians from the very beginning was very different. With unwavering consistency and with the strongest emphasis, they denounced the practice, not simply as inhuman, but as definitely murder. — Lecky, *European Morals*.

Aristotle clearly saw that the strong tendency of the human race to increase, unless corrected by strict and positive laws, was absolutely fatal to every system founded on equality of property; and there cannot surely be a stronger argument against any system of this kind than the necessity of such laws as Aristotle himself proposes.... He seems to be fully aware that to encourage the birth of children, without providing properly for their support, is to obtain a very small accession to the population of a country, at the expense of a very great accession of misery. — Malthus, *Essay on Population*.

Considering Aristotle's views with regard to man, his end, and the function of the State, we can have little difficulty in divining the character and method of his educational system. Man is a being endowed with reason; his end is the full realization of this, his sovereign and distinguishing faculty; the State is the means whereby this is accomplished.

Readers of Goethe's *Wilhelm Meister* will remember the description, in the second part, of the Pedagogical Province. Now, Aristotle's State might with entire propriety be called a Pedagogical Province. In trying to describe this State, and the manner in which it discharges its function, it is difficult to know where to begin, for the reason that, taken as a whole, the State is both teacher and pupil. It arranges the whole scheme of education, and is therefore related to it as cause; it is built up by this scheme, and is therefore related to it as effect. It comes, accordingly, both at the beginning and at the end. It is a university which arranges the entire scheme of education, and is itself its highest grade. I shall try to surmount this difficulty by distinguishing what the State is from what it does, beginning with the former, and ending with the latter.

With regard to what the State is, we have to consider (1) its natural, (2) its social, conditions. The former are climate, and extent, nature, and situation of territory; the latter, number and character of inhabitants, property regulations, distinction of classes, city architecture, mode of life, government, and relations to other states.

Aristotle demands for his State a temperate climate, on the ground that a cold one renders men strong and bold, but dull and stupid, while a hot one renders them intellectual but effeminate. The best climate is one that makes them at once brave and intelligent. The territory must be extensive enough, and fertile enough, to supply its inhabitants with all the material conditions of life in answer to labor which shall rouse, without exhausting, their energies. It must face east or south, and be healthy, well-watered, accessible from land and sea, and easily defensible.

As to the social conditions, Aristotle finds the most important to be the number of citizens. And here two things must be carefully borne in mind. (1) He means by “State” a city with a small territory. This is not, as has been erroneously supposed, his highest social unity. He recognizes clearly the nation (ἔθνος) and the confederacy (συμμαχία); but he holds that they exist merely for material ends, whereas the end of the State is spiritual. (2) He means by “citizen” a politician. A man is a citizen, not because he is born or domiciled in a State, but because he is a sharer in its functions. A State made up of mechanics, no matter how great their number, would be a small State, and one composed of slaves would be no State at all. Thus, in estimating the size of a State, we are to consider the character of its inhabitants, their fitness for political functions, rather than their number. Little Athens was a much larger State than gigantic Persia on the field of Marathon. Aristotle lays down that the number of citizens must be large enough to insure independence, this being essential to a Culture-State, and not too large to be manageable. Besides the citizens, there will necessarily be in the State a very large number of other human beings, slaves, agriculturists, mechanics, sailors — for all these he excludes from citizenship on the ground that they do not make virtue, that is, the realization of reason, the end of their lives. Women, in a sense, are citizens, if they belong to the families of citizens; but their sphere is the family.

With regard to property, Aristotle begins by considering what things it is necessary for. These he finds to be six, three private and three public. The former are food (including clothing and shelter), instruments of production, and arms; the latter are public enterprises (civil and military), religion, and law. These are the “necessaries” (ἀναγκαία) of a State, for which it must duly provide. The most important of all is religion, on which he everywhere lays great stress. As to the distribution of property, he propounds a scheme which is half socialistic. All the land is to belong to the State, that is, to the body of the free citizens. It is to be divided into two equal portions, and one set apart for public, the other for private, uses. The revenue from the public part is to go for the support of religion (and law?) and of the public tables, from which no citizen is excluded by poverty. The private part is to be so divided that each citizen shall have one lot near the city, and one near the frontier. This will give him an interest in defending the whole territory. Both parts are to be cultivated by serfs or slaves, part of whom will necessarily belong to the State, and part to private individuals. Land-owning is to be a condition of citizenship, and all citizens are to be forbidden to exercise any form of productive industry. This last rule, it is hoped, will prevent grievous inequalities of wealth, and the evils that flow from them. A modest competency, derived from his estate, is all that any citizen should aim at. Only degraded people, incapable of virtue, will crave for more.

Upon the distinction of classes some light has been already thrown. They are two; the ruling and the ruled. Aristotle holds that this distinction runs through the whole of nature and spirit, that it is fundamental in being itself. It holds between God and the universe, form and matter, soul and body, object and subject, husband and wife, parent and child, master and slave, etc., etc. The ruling class again is sub-divided into two parts, one that thinks and determines (legislators and judges), and one that executes (officials, officers, soldiers); while the ruled is sub-divided into husbandmen, mechanics, and seamen (sailors, fishermen, etc.). All the members of the ruled class are serfs or public slaves, working, not for themselves, but for their masters. Aristotle holds that they ought to be barbarians of different races, and not Greeks.

The architecture of the city will in some degree correspond to this social division. It will naturally fall into three divisions, military, religious, and civil. First of all, a city must have walls. These should have towers and bastions at proper distances, and be made as attractive as possible. The temples of the gods and the offices of the chief magistrates should, if possible, stand together on a fortified citadel, conspicuously dominating the entire city. Adjoining this ought to be the Freemen’s Square, reserved entirely for the ruling class, and unencumbered by business or wares of any sort. Here ought to stand the gymnasium for the older citizens, who will thus be brought into contact with the magistrates and inspired with “true reverence and freemen’s fear.” The market-square must be placed so as to be convenient for the reception of goods both from sea and land. This comprehends all the civil architecture except the mess-halls, of which we shall better speak in the next paragraph.

The mode of life of the ruling class will necessarily differ widely from that of the ruled. About the latter Aristotle has nothing to say. He hopes for little from that class beyond the possibility of being held in contented subordination. As it has no political life, all that is left to it is the life of the family. The ruling class, on the contrary, live to a large extent in public, and on public funds. They exercise in public gymnasia and eat at public tables. The chief magistrates have their mess-hall in the citadel; the priests have theirs close to the temples; the magistrates, who preside over business matters, streets, and markets, have theirs near the market-square, while those who attend to the defences of the city have tables in the towers. When not engaged in public business, the citizens may meet in the Freemen's Square and enjoy an open-air *conversazione*, with music, poetry, and philosophy, in a word, διαγωγή, for which our language has no even approximate equivalent (see p. 33). In proportion as they advance in years, the citizens enjoy more and more διαγωγή, which, indeed, is regarded as the end of life, here and hereafter.

The government is entirely in the hands of the free citizens, the legislative and deliberative power being in those of the elders; the executive power, civil and military, in those of the younger portion. It is curious that, though Aristotle regards this as the best possible arrangement under ordinary circumstances, he nevertheless believes that the happiest condition for a State would be to be governed by some divine or heroic man, far superior to all the others in wisdom and goodness. He plainly considers Pisistratus to have been one such man, and he perhaps hoped that Alexander might be another.

The relations of the pedagogical State to other States are, as far as possible, to be peaceful. Just as all labor is for the sake of rest and διαγωγή, so all war is for the sake of peace; and that State is to be envied which can maintain an honorable independence without war. A cultured State will eschew all attempts at conquest, and be as unwilling to tyrannize over another State as to be tyrannized over by one. At the same time, it will always be prepared for war, possessing an army of well-trained, well-armed soldiers, and a well-manned, well-equipped fleet.

Such are the chief features of Aristotle's ideal State, based, as he believes, on man's political nature and the history of the past. Like all social ideals, like heaven itself, as ordinarily conceived, it is a static condition. Its institutions are fixed once for all, and every effort is made to preserve them. It is curious to note in how many points it coincides with Xenophon's ideal.

The purpose of the State is to educate its citizens, to make them virtuous.

Virtue is the very life-principle of the State, and it does not depend, as other conditions do, upon nature or chance, but upon free will. The ideal State, like every other, must educate with a view to its own institutions, since only in this way can these be preserved. “And, since the State, as a whole, has but one aim, it is evident that the political education of all the citizens ought to be the same, and that this is a matter for the State to attend to, and not one to be left to individual caprice, as is now almost universally done, when every parent attends to the education of his own children, and gives them whatever schooling suits his own fancy.” For the education of those members of the State who are not citizens the State makes no provision. They learn their practical duties by performing them, and are completely under the control of the citizens. Aristotle makes the most vigorous efforts to prove that slavery has its justification in nature, which has established between Greek and barbarian the relation of master and slave (see p. 12). As woman belongs to the family, and is only indirectly a citizen of the State, her education is entrusted to the former institution. The daughter is to be educated by the parents, and the wife by the husband, exactly as recommended by Xenophon.

Having concluded that education ought to be a matter of State legislation, and the same for all the citizens, he continues: “It remains to inquire what shall be the nature of the education, and the method of imparting it.... The present state of education leaves this question in a perfect muddle, no one seeming to know whether we ought to teach those subjects which enable people to make a living, or those which foster worth, or, finally, accomplishments. All have had their advocates. In regard to those studies which have worth for their aim, there is no general agreement, owing to the fact that different people have different views as to what kinds of worth are admirable, and consequently differ in regard to the means to be employed for the cultivation of them. One point, however, is perfectly clear, viz. that those useful things which are necessary ought to be taught. But it is equally clear that a distinction ought to be made between liberal and illiberal studies, and that only those useful subjects ought to be taught which do not turn those learning them into craftsmen. We ought to look upon every employment, art, or study which contributes to render the bodies, souls, or intellects of free men unfit for the uses and practices of virtue, as a craft. For this reason it is that we call all those arts which lower the condition of the body crafts, and extend the term to the money-making trades, because they preoccupy and degrade the intelligence. As to the liberal arts, to cultivate an acquaintance with them up to a certain point is not illiberal; but any over-devotion to them, with a view to attaining professional skill, is liable to the objections mentioned. It also makes a great difference for what purpose we do or learn a thing. If a man does a thing for his own, for his friends', or for worth's sake, it is not illiberal, whereas if he does it often for the sake of anybody else, he will be held to be doing something mercenary or slavish."

The next and all-important question is, For what end shall the State educate, — for business or for leisure? In answering this, Aristotle breaks entirely away from the old Greek traditions, as well as from Plato, and maintains that, while it must educate for both, yet education for leisure is far more important than education for business, and cites Nature as his authority. "Nature itself demands," he says, "not only that we should pursue business properly, but that we should be able to employ our leisure elegantly. If we must have both, we must; but leisure is preferable to business, and our final inquiry must be, in what sort of employment we shall spend our leisure. It is useless to say that we are to spend it in play, and that play is the end and aim of our life. If this is impossible, and the truth is that the proper place for play is in the midst of business (it is the man who is toiling that requires recreation, which is the aim of play, business being accompanied with exertion and tension), then, in having recourse to play, we must select the proper seasons for administering it, just as if it were a medicine. Indeed, all such movement of the soul is relaxation, and becomes recreation on account of the pleasure which it affords. Leisure, on the contrary, is considered, in and by itself, to involve pleasure, happiness, and a blessed life. These fall to the lot of those who have leisure, not of those who are engaged in business. Those who engage in business do so for some ulterior end not realized in it, whereas happiness is itself an end and, according to universal belief, brings, not pain but pleasure. Of course, as to the nature of this pleasure, there is at present a variety of opinions, every one having his own preferences due to his character and habits, and the highest type of man preferring the highest type of pleasure and that which arises from the noblest things. We need no further argument to show that we should receive instruction and education in certain things with a view to *otium cum dignitate* (or cultured leisure), and that these should be ends in themselves, in contradistinction to the instruction given for business, which is necessary and has an ulterior aim."

Three principles Aristotle lays down as valid for all education: (1) that the training of the body ought to take precedence in time over that of the mind; (2) that pupils should be taught to do things before they are taught the reasons and principles of them; (3) that learning is never playing, or for the sake of playing.

The periods of education distinguished by Aristotle are: (1) Childhood, extending from birth to the end of the seventh year, and spent in healthy growing and, latterly, in preparation for discipline; (2) Boyhood, from the beginning of the eighth year to the advent of puberty, devoted to the lighter forms of discipline, bodily and mental; (3) Youth, from the age of puberty to the end of the twenty-first year, occupied with the severer forms of discipline; (4) Manhood, devoted to State duties. All these are but preparations for the divine life of the soul. We shall treat these in order, including the second and third under one head.

CHAPTER V

EDUCATION DURING THE FIRST SEVEN YEARS

Suffer no lewdness or indecent speech
The apartment of tender youth to reach. — Juvenal.

Le cœur d'un homme vierge est un vase profond —
Lorsque la première eau qu'on y verse est impure,
La mer y passerait sans laver la souillure;
Car l'abîme est immense, et la tache est au fond.
— Alfred de Musset.

The State must begin the education of children before their birth; indeed, before the marriage of their parents. It must see that only persons of robust constitutions marry. Athletes are not suited for marriage, neither are weaklings. The best age for marriage is thirty-seven for a man, and eighteen for a woman. During their pregnancy women must take special care of their health, living on light food, and taking short walks. The State should make a law that they visit the temples of certain gods every day, and offer up a prayer of thanksgiving for the honor conferred upon them. They must carefully avoid all forms of emotional excitement. When defective children are born, they must be exposed or destroyed. The State must determine what number of children each married couple may have, and, if more than this number are begotten, they must be destroyed either before or after birth. "As soon as children are born, it ought to be remembered that their future strength will depend greatly upon the nourishment supplied to them." A milk diet is best, and wine must be avoided. "It is likewise of great importance that children should make those motions that are appropriate to their stage of development.... Whatever it is possible to inure children to, they ought to be subjected to from the very outset, and gradual progress to be made. Children, on account of their high natural warmth, are the proper subjects for inurement to cold. These and other points of the same nature are what ought to be attended to in the first years of the child's life. In the following years, up to the age of five, while children ought not to be subjected to any instruction or severe discipline, for fear of impeding their growth, they ought to take such exercises as shall guard their bodies from sluggishness. This may be secured by other forms of activity as well as by play. Care must be taken that their games shall be neither unrefined, laborious, nor languid. As to the conversation and stories which children are to hear, that is a matter for the attention of those officers called Guardians of Public Instruction. It ought to be seen to that all such things tend to pave the way for future avocations. Hence all games ought to be types of future studies. As to the screaming and crying of children, they are things that ought not to be prohibited, as they are in some places. They contribute to the growth of the body, by acting as a sort of gymnastics. Just as persons engaged in hard work increase their strength by holding their breath, so children increase theirs by screaming. It is the business of the Guardians of Public Instruction to provide for their amusement generally, as well as to see that these bring them as little as possible in contact with slaves. It is, of course, natural that at this age they should learn improprieties of speech and manner from what they hear and see. As to foul language, it ought, of course, like everything else that is foul, to be prohibited in all society (for frivolous impurity of talk easily leads to impurity of action), but above all, in the society of the young, so that they may neither hear nor utter any such thing. If any child be caught uttering or doing anything that is forbidden, if he be freeborn and under the age when children are allowed to come to the public table, he ought to be disgraced and subjected to corporal punishment; if he be older, it will be sufficient to punish him with disgrace, like a slave, for having behaved like one. And if we thus prohibit all mention of improper things, with stronger reason shall we prohibit all looking at improper pictures and listening to improper narratives. It ought to be made the business of the Guardians of Public Instruction to see that there does not exist a statue or a picture representing any such thing anywhere in the State, except in the temples of those gods to whom ordinary belief ascribes a certain wantonness.... There ought to be a regulation forbidding young persons to be present at lampoons or comedies before they reach the age when they are allowed to come to the public table and partake of wine, and when education has fortified them against all possible danger from them.... We all have a preference for what we first know; for this reason everything that savors of meanness or ignobility ought to be made alien to children. From the completion of their fifth year to that of their seventh, children ought to be present at the giving of the various kinds of instruction which they will afterwards have to acquire.”

In this brief sketch of primary education we see that Aristotle does not depart far from the notions of Plato. It contains even the revolting features of his scheme. It assumes that the citizens — men, women, and, after a certain age, children — eat at public tables, and that education is entirely managed by the State, — the family, in this respect, being merely its agent. Some of its features, including the Guardians of Public Instruction (παιδονόμοι, child-herds) are plainly borrowed from Sparta.

CHAPTER VI

THE YEARS FROM SEVEN TO TWENTY-ONE

The natures that give evidence of being the noblest are just those that most require education. — Socrates.

We found ourselves beneath a noble castle
Encompassed seven times with lofty walls,
Defended round by a fair rivulet.
O'er this we passed as upon solid earth:
Through seven gates I entered with these sages.
We came upon a meadow of fresh green. — Dante.

For this period, which Aristotle divides into two (see p. 183) by the advent of puberty, he, in the main, accepts the course of study customary in his time. It consists, he says, of four branches,—"Letters, Gymnastics, Music, and Drawing, the last not being universal. Letters and Drawing are taught because they are useful in the ordinary business of life and for a variety of purposes, and Gymnastics because they foster manliness, whereas the purpose of Music is doubtful."

Of Letters Aristotle has not much to say, beyond the fact that they are necessary in the common affairs of life. He champions Homer against Plato, and goes into a long discussion to show the value of the drama. Instead of believing, with Plato, that children should see and hear nothing that would excite their emotions, he maintains that it is only by being properly excited and "purged" that these can be trained and made subordinate to the reason. Among the passions that obstruct the exercise of reason are fear and pity. Tragedy rouses these and then drains them off in a pleasant and harmless way. Comedy does the same thing for pleasure and laughter. In fact, he maintains that the special function of the fine arts is to act as cathartics for the different passions. Art is ideal experience. Aristotle has left us a work on tragedy that holds the place of honor in the literature of that subject even at the present day.

Drawing Aristotle recommends as a branch of study which develops taste and judgment in regard to the products of industrial art; but he says it should not be studied merely for its use in enabling us to choose these, or even works of fine art, correctly, but rather because it enables us to appreciate beauty of form. He adds: “The perpetual demand for what is merely useful is anything but a mark of breadth or liberality.”

After thus briefly dismissing Letters and Drawing, Aristotle passes on to Gymnastics and Music, and devotes considerable space to each.

Alongside Gymnastics, but distinguished from them, he names Physical Culture (παιδοτριβική), saying that, while the former gives character to the acts of the body, the latter gives character to the body itself. The aim of gymnastic training should be neither athleticism nor ferocity, such as the Lacedæmonians cultivate in their children in the hope of making them courageous. The former is detrimental to the beauty and growth of the body; the latter misses its aim (see p. 41). “Hence nobility, and not ferocity, ought to play the principal part among our aims in physical education. For neither a wolf nor any other wild beast ever braved a noble danger. To do that takes a noble man; and those who allow their children to go too deep into such wild exercises, and so leave them uninstructed in the necessary branches, make them, in point of fact, mere professionals, useful for the ends of the State only in a single requisite, and, as we have shown, inferior to others even in that.

“There is a general agreement, then, as to the utility of Gymnastics and to the manner in which they ought to be conducted. Up to the age of puberty, children ought to be subjected only to the lighter exercises, and all forced dieting and violent exertions eschewed, so that no obstacle may be put to the growth of the body. It is no slight evidence of the fact that violent exercise impedes growth, that there are not more than two or three examples on record of persons’ having been victorious at the Olympic games both as boys and men. The explanation of this is, that the others were robbed of their strength in their boyhood by the training they had to undergo.” After the advent of puberty, for a period of three years, the young men are apparently to have very little gymnastics, and to devote themselves assiduously to letters, music, and drawing. The period following this is to be devoted to severe exercise and strict dieting, mental exertion being reduced to a minimum; “for the two kinds of exertion naturally work against each other, bodily exertion impeding the intellect, and intellectual exertion the body.”

On Music, as a branch of study, we have almost a disquisition from the pen of Aristotle. The question that first occupies him is, What is the use of music?

Is it a recreation, an occupation for cultured leisure, or a gymnastic for the soul? It is all three, he replies, and would deserve study for the sake of any one of them. At the same time, its chief value in education lies in its third use. Music imparts a mental habit; about that there can be no doubt. For example, the songs of Olympus "render the soul enthusiastic, and enthusiasm is an affection of the soul's habit." Aristotle reasons in this way: Music is capable of affecting us with all kinds of pleasures and pains. But moral worth at bottom consists in finding pleasure in what is noble, and pain in what is ignoble, that is, in a correct distribution of affection. But in good music the strains that give pleasure are attached to the ideas that are noble, and the strains that give pain to the ideas that are ignoble; hence, by a natural association, the pleasures and pains which we find in the music attach themselves to the ideas which it accompanies. "There is nothing that we ought to learn and practice so assiduously as the art of judging correctly and of taking delight in gentlemanly bearing and noble deeds. And apart from the natural manifestations of the passions themselves, there is nothing in which we can find anger, gentleness, courage, self-control, and their opposites, as well as the other moods, so well represented as in rhythms and songs. This we all know by experience; for the moods of our souls change when we listen to such strains. But the practice which we thus receive from rhythms and songs, in rejoicing and suffering properly, brings us very near being affected in the same way by the realities themselves." Here Aristotle draws a distinction between music, which appeals to the ear, and the arts that appeal to the other senses, or rather to sight; for no art appeals to touch, taste, or smell. In the objects of art that appeal to the eye, we have expressions of passions only in so far as they affect the body, whereas in music we have their direct expression passing from soul to soul. Yet persons are deeply moved by statuary and painting, so much so that young people ought not to be allowed to see such works as those of Pauson. How much more then must they be moved by music! "That they are so is quite plain; for there is such an obvious difference of nature between harmonies that the listeners are affected in entirely different ways by them. By some they are thrown into a kind of mournful or grave mood, *e.g.*, by what is known as the mixed Lydian; by others a sentimental turn is given to their thoughts, for example, by languid harmonies; while there is another kind that especially produces balance of feeling and collectedness. This effect is confined to the Doric harmonies. The

Phrygian harmonies rouse enthusiasm. These are correct results arrived at by those thinkers who have devoted their attention to this branch of education, — results based upon actual experience. What is true of harmonies is true also of rhythms. Some of these have a steady, others a mobile, character; of the latter, again, some have coarse, others refined, movements. From all these considerations, it is obvious that music is calculated to impart a certain character to the habit of the soul, whence it follows that it ought to be brought to bear upon children, and instruction given them in it. Musical instruction, indeed, is admirably adapted to their stage of development; for young people, just because they are young, are not fond of persisting in anything that does not give them pleasure, and music is one of the pleasant things. There seems even to be a certain kinship between harmonies and rhythms [and the soul]; whence many philosophers hold that the soul is a harmony, or that it has harmony."

Aristotle, having thus shown that music is a proper subject of instruction, goes on to inquire "whether children ought, or ought not, to be taught music, by being taught to sing and play themselves?" His answer is well worth quoting at full length. "It is quite evident," he says, "that music will have a very much greater effect in moulding people, if they take part in the performance themselves. Indeed, it is difficult, or even impossible, for those who do not learn to do things themselves to be good judges of them when they are done. At the same time, children must have some amusement, and we may look upon Archytas' rattle, which they give to children to spend their energies upon, and to prevent them from breaking things about the house, as a good invention. It is useless to try to keep a young creature quiet, and, just as the rattle is the proper thing for babies, so musical instruction is the proper rattle for older children. It follows that children ought to be taught music by being made to produce it themselves, and it is not difficult to determine either what is suitable and unsuitable for different ages, or to answer those people who pretend that the study of music is something ungentlemanly. In the first place, since people must, to some extent, learn things themselves, in order to form a correct judgment about them, they ought to learn the practice of them while they are young, so that, when they grow up, they may be able to dispense with it, and yet, through their early studies, be able to judge of them correctly and take the proper delight in them. To the objections which some people raise, that music turns people into craftsmen, it is not hard to find an answer, if we consider to what extent the practice of music ought to be required of children who are being reared in the civic virtues, what songs and rhythms they ought to learn, and what instruments they ought to use — for this makes a difference. Herein lies the solution of the difficulty. The fact is, there is nothing to prevent certain kinds of music from accomplishing the end proposed.

"It is, of course, obvious that the acquisition of music ought not to be allowed to interfere with future usefulness, to impart an ignoble habit to the body, or render it unfit for civic duties, — either for the immediate learning, or the subsequent exercise, of them. All the beneficial results of musical education would be attained, if, instead of going into a laborious practice, such as is required to prepare people for public exhibitions, if instead of trying to perform those marvellous feats and *tours de force* which have lately become popular at public exhibitions, and passed from them into education, the children were to learn just enough to enable them to take delight in noble songs and rhythms, instead of finding a mere undiscriminating pleasure in anything that calls itself music, as some of the lower animals and the bulk of slaves and children do. If so much be admitted, we need be in no doubt respecting our choice of instruments." Aristotle specially condemns the flute, and tells how it came into use, and how it was afterwards discarded, as exerting an immoral influence. "In the same way were condemned many of the older instruments, as the pectis, the barbitus, and those which tended to produce sensual pleasure in the hearers — also the septangle, the triangle, the sambuca, and all those requiring scientific manipulation." ... "We would, then, condemn all professional instruction in the nature and use of these instruments. 'Professional' we call all instruction that looks toward public exhibitions. The person who receives this pursues his art, not with a view to his own culture, but to afford a pleasure, and that a vulgar one, to other people. For this reason we hold that such practice is not proper for free men, but savors of meniality and handicraft. The aim, indeed, for which they undertake this task is an ignoble one. For audiences, being vulgar, are wont to change their music, and so react upon the character of the professionals who cater to their tastes, and this again has its influence upon their bodies, on account of the motions which they are obliged to go through."

Since different kinds of music have different effects upon the habit of the soul, Aristotle next inquires what kinds are suitable for education. "We accept," he says, "the classification made by certain philosophers, who divide songs into ethical, practical, and enthusiastic, assigning to them the different harmonies respectively, and we affirm that music is to be employed, not for one useful purpose alone, but for several; *first*, for instruction; *second*, for purgation; and *third*, for cultured leisure, for relaxation, and for recreation. It is obvious that all harmonies ought to be employed, though not all in the same way. The most ethical (*i.e.* those that most affect the *ethos* or habit of the soul) must be employed for instruction; the practical and enthusiastic for entertainments by professional performers. For those emotions which manifest themselves powerfully in some souls are potentially present in all, with a difference in degree merely, *e.g.*, pity, fear, and also enthusiasm, a form of excitement by which certain persons are very liable to be possessed. If we watch the effects of the sacred songs, we shall see that those persons are restored to a normal condition under the influence of those that solemnize the soul, just as if they had undergone medical treatment and purgation. The same thing must happen to all persons predisposed to pity, fear, or emotion generally, as well as to others in so far as they allow themselves to come within the reach of any of these; for them all there must exist some form or another of purgation and relief accompanied with pleasure. In this way those 'purgative' songs afford a harmless pleasure, and it is for this reason that there ought to be a legal enactment to the effect that performers giving public concerts should employ such harmonies and such songs. The fact is, since there are two kinds of public, the one free and cultivated, the other rude and vulgar, composed of mechanics, laborers, and the like, there must be entertainments and exhibitions to afford pastime to the latter as well as the former. As the souls of these people are, so to speak, perverted from the normal habit, so also among the harmonies there are abnormities, and among songs there are the strained and discolored; and each individual derives pleasure from that which is germane to his nature. For this reason performers must be allowed to produce this kind of music, for the benefit of this portion of the public.

"For the purposes of instruction, as has been said, we must employ ethical songs and the corresponding harmonies. Such a harmony is the Doric, as has already been remarked. We must likewise admit any other species of music that may have approved itself to such persons as have devoted attention to philosophic discussion and musical education.... In respect to the Doric harmony, it is universally admitted to be, of all harmonies, the most sedate, expressive of the most manly character. Moreover, since our principle is, that the mean between extremes is desirable and ought to be pursued, and the Doric harmony holds this relation to other harmonies, it follows that Doric songs should be taught to young people in preference to any other. Two things, however, must be kept in view, the practicable and the befitting. I mean that we must discuss what is specially practicable for different people, as well as what is befitting. This, indeed, will depend upon the different periods of life. For example, it would not be easy for persons in the decline of life to sing the intense harmonies; for them nature suggests the languid kinds. For this reason those musicians are right who blame Socrates for having condemned the languid harmonies, as subjects of instruction, on the ground that they were intoxicating. (By this term he did not mean inebriating, in the sense that wine is inebriating, — for wine renders boisterous rather than anything else, — but languid.) The truth is, with an eye to the future, to old age, instruction ought to be given in harmonies and songs of this sort. Moreover, if there is any harmony suitable for youth, as tending to refine as well as to instruct, as is the case notably with the Lydian, it, of course, ought to be adopted. It is clear, then, that there are three distinct things to be considered in reference to education, avoidance of extremes, practicability, and appropriateness.”

So much for the four branches of study which, according to Aristotle, ought to compose the curriculum of youth. We have noticed that, in his extant works, he says little about Letters and Drawing. Just what branches the former was supposed to include, he has nowhere told us directly; but I think there can be little doubt that he gave a place to Grammar, Rhetoric (including Poetics), Dialectic, Arithmetic, Geometry, and Astronomy, which, along with Music, make up the Seven Liberal Arts, the *Trivium* and *Quadrivium* of the Middle Ages. This curriculum underwent considerable changes at different times, as we can see from Philo, Teles, Sextus Empiricus, St. Augustine, and others; but in Martianus Capella it returned to its original form, and in this dominated education for a thousand years. We might perhaps draw out Aristotle’s programme of secondary education thus: —

Studies:

-

Practical
-

Physical Training
-

Dancing (see p. 82)

-
Before puberty.

Deportment

Gymnastics
-

Running

-
Before puberty.

Leaping

Javelin-casting

Discus-throwing

Wrestling

-
After puberty.

Shooting

Marching

Creative
-

Music

Drilling

Drawing

Riding

Theoretic
-

Grammar

-
Before puberty.

Rhetoric

Dialectic

Arithmetic

-
After puberty.

Geometry

Astronomy

CHAPTER VII

EDUCATION AFTER TWENTY-ONE

Be assured that happiness has its source, not in extensive possessions, but in a right disposition of the soul. Even in the case of the body, no one would call it fortunate for being arrayed in splendid garments; but one would do so, if it had health, and were nobly developed, even without such appendages. In the same manner, we ought to ascribe happiness to the soul only when it is cultivated, and to call a man happy only if he possesses such a soul, not if he is splendidly attired outwardly, but has no worth of his own.... For those whose souls are ill-conditioned, neither wealth, nor power, nor beauty is a blessing; on the contrary, the more excessive these conditions are, the more widely and deeply do they injure their possessors, being unaccompanied with right-mindedness. — Aristotle.

Zeno used to tell a story about Crates, to this effect: One day Crates was sitting in a shoemaker's shop, reading aloud Aristotle's *Exhortation* (to Philosophy), addressed to Themison, king of the Cyprians, in which the king is reminded that he possesses, in an exceptional degree, all the conditions of philosophy, superabundant wealth, and high position. As he was reading, the shoemaker, without interrupting his sewing, listened to him, until at last Crates said: "Philiscus, I think I will write an *Exhortation* for you; for I see you have more of the conditions of philosophy than Aristotle has enumerated." — Teles.

At the age of twenty-one, those young men who have successfully completed the State system of training become citizens or politicians, and begin to exercise the functions of such. These are of two kinds, (1) active, practical, or executive, and (2) deliberative, theoretical, or legislative. As action must, on the one hand, be vigorous, and, on the other, guided by deliberation, which requires large experience, the functions of the State must be so arranged that the active duties fall to the young and robust, the deliberative to the elderly and mature. The distinguishing virtue of the former is fortitude, with endurance or patience; that of the latter philosophy. Both equally have self-control and justice. In this way does Aristotle distribute Plato's four cardinal virtues.

When young men first become citizens, they are assigned to posts of active service, civil and military, and thus study practical philosophy — Ethics and Politics — in a practical way. As they grow older, they gradually rise to posts demanding less practice and more thought, until at last they are admitted to the deliberative body, or council, when their active duties cease, and they are able to devote themselves to Speculative Philosophy or Theoretics. These men have now reached the end of life, as far as this world is concerned. They spend their days in cultured leisure, and the contemplation of divine things (θεωρία). The very oldest of them, those who are most conversant with divine things, are chosen as priests, so that they may, as it were, live with the gods, and these be worthily served. Thus gradually, almost insensibly, they pass from the world of time to that of eternity; from the imperfect activity of practice, whose end is beyond itself, to the perfect energy of contemplation, which is self-sufficient and the life of God. In this way Aristotle settles the vexed question with regard to the compatibility and relative value of the practical and the contemplative life. They are necessary complements of each other. Practice is the realization of what contemplation discovers in the pure energy of God, revealing itself in the world. Thus the practical life of man glides gradually into the contemplative life of God.

Such is the highest view of man’s destiny, and the way thither, that the Greeks ever reached, and it is in many ways a most attractive and inspiring one. Its defects are the defects of all that is Greek. They are two: (1) its ideal is intellectual and æsthetic, — a coördinated, harmonious whole, whereof the individual is but a part: not moral or religious — a self-surrender of the individual to the supreme will; consequently, (2) it does not provide for every human being, as such, but only for a small, select number, the fruit of the whole. Its ethics are institutional not personal, and, indeed, the Greek never arrived at a distant conception of personality, that being possible only through the moral consciousness, which is its core. It seeks to find happiness in a correlation and balancing of individual selves, not in the independent conformity of each self to a supreme self. Hence it was that, with all its marvellous grasp and manly prudence, the ideal of Aristotle proved powerless to restore the moral unity of man, until it was absorbed in a higher.

BOOK IV. THE HELLENISTIC PERIOD (b.c. 338-a.d. 313)

CHAPTER I

FROM ETHNIC TO COSMOPOLITAN LIFE

‘Tis Greece, but living Greece no more. — Byron.

Most glorious of all the Undying, many-named, girt round with awe!
Jove, author of Nature, applying to all things the rudder of law —
Hail! Hail! for it justly rejoices the races whose life is a span
To lift unto Thee their voices — the Author and Framer of Man.
For we are Thy sons; Thou didst give us the symbols of speech at our birth,
Alone of the things that live, and mortal move upon earth.
Wherefore Thou shalt find me extolling and ever singing Thy praise;
Since Thee the great Universe, rolling on its path round the world, obeys: —
Obeys Thee, wherever Thou guidest, and gladly is bound in Thy bands,
So great is the power Thou confidest, with strong, invincible hands,
To Thy mighty, ministering servant, the bolt of the thunder, that flies,
Two-edged, like a sword and fervent, that is living and never dies.
All nature, in fear and dismay, doth quake in the path of its stroke,
What time Thou preparest the way for the one Word Thy lips have spoke,
Which blends with lights smaller and greater, which pervadeth and thrilleth all things,
So great is Thy power and Thy nature — in the Universe Highest of Kings!
On earth, of all deeds that are done, O God! there is none without Thee.
In the holy æther not one, nor one on the face of the sea;

Save the deeds that evil men, driven by their own blind folly, have planned;
But things that have grown uneven are made even again by Thy hand;
And things unseemly grow seemly, the unfriendly are friendly to Thee;
For so good and evil supremely Thou hast blended in one by decree.
For all Thy decree is one ever — a Word that endureth for aye,
Which mortals, rebellious, endeavor to flee from and shun to obey —
Ill-fated, that, worn with proneness for the lordship of goodly things,
Neither hear nor behold, in its Oneness, the law that divinity brings;
Which men with reason obeying, might attain unto glorious life,

No longer aimlessly straying in the paths of ignoble strife.
There are men with a zeal unblest, that are wearied with following of fame,
And men, with a baser quest, that are turned to lucre and shame.
There are men, too, that pamper and pleasure the flesh with delicate stings:
All these desire beyond measure to be other than all these things.
Great Jove, all-giver, dark-clouded, great Lord of the thunderbolt's breath!
Deliver the men that are shrouded in ignorance, dismal as death.
O Father! dispel from their souls the darkness, and grant them the light
Of Reason, Thy stay, when the whole wide world Thou rulest with might,
That we, being honored, may honor Thy name with the music of hymns,
Extolling the deeds of the Donor, unceasing, as rightly beseems
Mankind; for no worthier trust is awarded to God or to man
Than forever to glory with justice in the law that endures and is One. —Cleanthes.

The distinguishing characteristics of Hellenic education were unity, comprehensiveness, proportion, and aimfulness. It extended to the whole human being, striving to bring the various elements of his nature into complete harmony in view of an end. This end was the State, in which the individual citizen was expected to find a field for all his activities. We have seen how, while conservative Sparta clung to this ideal to the last, and rigorously excluded those influences which tended to undermine it, Athens, by freely admitting these, gradually broke down the fair proportion between bodily and mental education, in an excessive devotion to the latter, and so came to make a distinction between the man and the citizen. The result was an epidemic of individualism which threatened the existence of all that was Hellenic. Against this destructive power the noblest men in the nation, an Æschylus, an Aristophanes, a Pericles, a Socrates, a Xenophon, a Plato, an Aristotle, fought with all the might of worth and intellect. Some of them sought once more to remerge the man in the citizen by means of a despotism and the suppression of all intellectual pursuits; others, seeing clearly the impossibility of this, tried so to define the sphere of the individual that it should not encroach upon that of the citizen, but stand in harmonious relation to it. They did this by placing the sphere of the individual above that of the State, and, inasmuch as the former was a purely intellectual sphere, they found themselves driven to conclude, and to lay down, that the contemplative life is the end and consummation of the practical, that the citizen and the State exist only for the sake of the individual. They were very far indeed from seeing all the implications of this conclusion: these showed themselves only in the sequel; but the fact is, that the principle of the separation between the man and the citizen, and the assignment of the place of honor to the former, proved at once the destroying angel of Hellenism and the animating spirit of the civilization which took its place. If we look closely at the schemes of Plato and Aristotle, we shall see that they try to render innocuous the spirit of individualism by exhausting its activities in intellectual relations to the divine, offering it heaven, if it will only consent to relinquish to the political spirit its earthly claims. They practically said: Man, in all his relations to his fellow-men here below, is a citizen; only in relation to God is he an individual. The history of the last two thousand years is but a commentary on this text. From the day when the master-mind of the Greek world credited man's nature with a divine element having a supreme activity of its own, European thought and life have been agitated by three questions, and largely shaped by the answers given to them: (1) What is the nature of the divine element in man? (2) In what form or institution shall that element find expression and realization? (3) How shall that institution relate itself to the State? And they have not yet been definitely answered.

Principles that are to move the world are never the result of mere abstract thought, but always of a crisis or epoch in human affairs. And so it was in the present case. The separation between the man and the citizen was accomplished in fact, before it was formulated in theory. On the other hand, the theory received emphasis from the events which accompanied and followed its promulgation. The battle of Chæronea, which took place sixteen years before Aristotle's death, by putting an end forever to the free civic life of Greece, removed the very conditions under which the old ideal could realize itself, and forced men to seek a sphere of activity, and to form associations, outside of the State. The State, indeed, still maintained a semblance of life, and the old education, with its literature, gymnastics, and music still continued; but the spirit of both was gone. The State was gradually replaced by the philosophic schools, while intellectual training tended more and more to concentrate itself upon rhetoric, that art which enables the individual to shine before his fellows, and to gain wealth or public preferment. From this time on, the spiritual life of Greece found expression in the pretentious, empty individualism of the rhetorician, the lineal descendant of the sophists, and in the philosophical sects, which embodied the spirit of Socrates, their opponent.

The founder of the rhetorical schools may be said to have been Isocrates, who, after being a pupil of Socrates', turned against the philosophic tendency, and championed elegant philistinism. The aim of these schools was to turn out clever men of the world, thoroughly acquainted with popular opinions and motives, and capable of expressing themselves glibly, sententiously, and persuasively on any and every subject. They usually made no profession of imparting profound learning or eliciting philosophic thought: indeed, they despised both; but they did seek to impart such an amount of ordinary knowledge as to place their pupils in the chief current of the popular thought of their time. They thus became the bearers of practical education among a people who, having lost their political life without finding any higher, sought to obtain satisfaction in social intercourse. For hundreds of years they exerted an enormous influence, and, indeed, at certain times and places were formidable rivals of the philosophic schools.

The first man of Greek race who attempted to found a sect or school outside the State was Pythagoras, and there can be no doubt that all subsequent schools were in some degree modelled upon his. It is true that the Pythagorean school had been broken up and dispersed long before the days of Plato and Aristotle (see p. 54); nevertheless, his followers, scattered over Greece, had carried with them the ideas and principles of their master, and now that Athens had fallen into the condition against which the Pythagorean discipline had been a protest, these ideas found a ready response in the hearts of those men whom the social life of the time could not satisfy. Hence the schools of Plato and Aristotle, which had originally been mere educational institutions, turned, even during the lifetime of the latter, into sects (αἱρέσεις, heresies, as they were called later on), with definite sets of non-political principles, in accordance with which their members tried to shape their lives. It cannot be said that these two schools were in any high degree successful, and the reasons were that they were too purely intellectual, that they made no striking revolt against political life, and that they called for a type of man not easy to find. But, shortly after the death of Aristotle, there arose, almost contemporaneously, two other schools, which exerted an influence, deep and wide, for over six hundred years. These were the Epicurean and the Stoic.

Widely as these differed in respect to means, they sought the same end, namely, personal independence, and they sought it by conformity to laws imposed by no human legislator, but by nature. The former took the law of the senses, the latter the law of the spirit, for its guide; and, by a strange contradiction, while the former championed free will, the latter professed fatalism. These four schools were the only ones that ever met with extensive patronage in Athens, and with the exception of the Academic, they never diverged far from the principles of their founders. In the time of Marcus Aurelius, after Athens had been for ages a mere Roman university, they were placed under State patronage, and supported by public funds, and there is no record to show that this was discontinued until they were finally closed by the Emperor Justinian in a.d. 529.

Not long after the death of Aristotle, Athens was supplanted by Alexandria, as the centre of Greek influence. Here the rhetorical and philosophic schools established themselves, and could soon boast a numerous discipleship. This, however, was no longer exclusively, or even mainly, Greek, but was recruited from all the nations of the known world, more especially those of the East. Phœnicians, Syrians, Jews, Persians, etc., not to speak of Egyptians, now became students of Greek philosophy, and members of philosophic sects, whose members not only studied together, but often, to a large extent, lived together in communities. About the year b.c. 300 were founded the famous Museum and Library of Alexandria — the first university and the first public library in the world. Round these the various sects gathered, to study, to discuss, and to exchange opinions. Nor was it Greek thought alone that engaged their attention. The opinions and beliefs of Egypt and the East came in for a share, and, in the end, for the largest share. Nor is this wonderful, when we consider the direction that thought and life were then taking.

We have already seen that, as Greek civic life lost the conditions of its existence, the thoughtful portion of the people came more and more to seek for life-principles in the supersensible world of intellect. The nature of this world Plato and Aristotle had done their best to reveal. But the event proved that neither an ordered host of ideas commanded by the Good, nor a Supreme Intelligence served by a host of lower intelligences, could yield the principles which the life of the time demanded; and thus we find the philosophers of Alexandria striving to people their intelligible world with forms drawn from all the religions of the East, including Judaism. Thus there grew up the various forms of Alexandrine philosophy, compounds of Greek thought and Oriental religion. On the basis of these again were organized, at the same time, various forms of social life, all tending more or less to religious communism. Hence came the Essenes (see p. 59), the Therapeuts, the Neopythagoreans, and the Neoplatonists, all of whom, notwithstanding certain shortcomings, did much to purify life, and to pave the way for a higher civilization.

In b.c. 146, Greece, and, in b.c. 30, Egypt, fell into the hands of the Romans and thenceforth formed provinces of their empire. Athens and Alexandria were now Roman university-towns, while Rome became more and more the diffusing centre of Greek and Oriental influence. It would be impossible, in a work like the present, to give even a sketch of the forms which education assumed in these three great centres, or in the world that revolved round them, in the six hundred and more years that passed between the loss of Greek autonomy and the triumph of Christianity. We shall merely endeavor to give a general notion of its two chief tendencies, which, as we saw, were towards rhetoric and philosophy; and we shall do this in connection with the names of two men, who may be regarded as respectively typical of the two tendencies, Quintilian the rhetorician, and Plotinus the philosopher. By doing so we shall pave the way for the consideration of the Rise of the Christian Schools.

CHAPTER II

QUINTILIAN AND RHETORICAL EDUCATION

Rhetoric is the counterpart of Dialectic. Both have for their subjects those things which, in a certain way, are matters of common knowledge, and belong to no definite science. Hence everybody, in some degree, is gifted with them; for everybody, to some extent, tries to examine and sustain an argument, to defend himself, and to accuse others. — Aristotle.

There is a certain political theory which is made up of many great things. A large and important part of it is artificial eloquence, which they call rhetoric. — Cicero.

Every duty which tends to preserve human relations and human society must be assigned a higher place than any that stops short with knowledge and science. — *Id.*

Zeno, having pressed his fingers together and closed his fist, said that was like Dialectic; having spread them out and opened his hand, he said Eloquence was like his palm there. — *Id.*

To act considerately is of more moment than to think wisely. — *Id.*

I pass to the pleasure of oratorical eloquence, the delight of which one enjoys not at any one moment, but almost every day and every hour. — Tacitus.

Grammar is an experimental knowledge of the usages of language as generally current among poets and prose writers. It is divided into six parts, (1) trained reading with due regard to prosody [*i.e.* aspiration, accentuation, quantity, emphasis, metre, etc.], (2) exposition according to poetic figures [literary criticism], (3) ready statement of dialectical peculiarities and allusions [philology, geography, history, mythology], (4) discovery of etymologies, (5) accurate account of analogies [accidence and syntax], (6) criticism of poetical productions, which is the noblest part of the grammatic art [ethics, politics, strategy, etc.]. — Dionysius Thrax.

Reading is the rendering of poetic or prose productions without stumbling or hesitancy. It must be done with due regard to expression, prosody, and pauses. From the expression we learn the merit of the piece, from the prosody the art of the reader, and from the pauses the meaning intended to be conveyed. In this way we read tragedy heroically, comedy conversationally, elegiacs thrillingly, epics sustainedly, lyrics musically, and dirges softly and plaintively. Any reading done without due observance of these rules degrades the merits of the poets and makes the habits of readers ridiculous. — *Id.*

Some arts are common, others liberal.... The liberal arts, which some call the logical arts, are astronomy, geometry, music, philosophy, medicine, grammar, rhetoric. — *Scholia to Dionysius Thrax.*

It is obvious that man excels the other animals in worth and speech: Why may we not hold that his worth consists as much in eloquence as in reason? — Quintilian.

The civil man, and he who is truly wise, who does not devote himself to idle disputes, but to the administration of the commonwealth (from which those folks who are called philosophers have farthest withdrawn themselves), will be glad to employ every available oratorical means to reach his ends, having previously settled in his own mind what ends are honorable. — *Id.*

If we count over all the epochs of life, we shall find its pains far more numerous than its pleasures.... The first, that of babyhood, is trying. The baby is hungry; the nurse sends it to sleep: it is thirsty; she washes it: it wants to go to sleep; she takes a rattle and makes a noise. When the child has escaped from the nurse, it is taken hold of by the pedagogue, the physical trainer, the grammar-master, the music-master, the drawing-master. In process of time, there are added the arithmetic-master, the geometer, the horse-breaker; he rises early; he has no chance for leisure. He becomes a cadet; again he has to fear the drill-master, the physical trainer, the fencing-master, the gymnasiarch. By all these he is whipt, watched, throttled. He graduates from the cadets at twenty; again he dreads and watches captain and general, etc. — Teles the Stoic (b.c. 260).

The palmy period in the history of Rome is the period when she had no literature. It was only when the Roman nationality began to break up, and cosmopolitan Greek tendencies to lay hold upon the people, that a literature began to appear. For this reason, Roman literature from its very inception is, from absolute necessity, filled with the Greek spirit, and stands in the most direct opposition to the national spirit of the people. — Mommsen.

Quintiliane, vagæ moderator summe juventæ, Gloria Romanæ, Quintiliane, togæ. — Martial.

Up to the time when Rome began to decline, the school education of her youth was meagre in the extreme, consisting of reading, writing, and a little law. All later education that was more than this was borrowed from the Greeks. It was about the year 200 b.c., at the close of the Second Punic War, that their influence began clearly to show itself. The severe Cato, who so cordially despised rhetoricians and philosophers, learnt Greek in his old age and wrote, for the use of his son, a series of manuals on ethics, rhetoric, medicine, military science, farming, and law. At the same time Scipio Africanus spent his leisure hours in practising gymnastics. From this time on, and just in proportion as Rome lost her national character and became cosmopolitan, she more and more adopted Greek manners, Greek religion (or irreligion), and Greek education. When, finally, in b.c. 146, Greece became a Roman dependency, it was strictly true that "Captive Greece took captive her rude conqueror." Thousands of Greek schoolmasters, rhetoricians, philosophers, etc., flocked to Rome, and, though attempts were made to expel or suppress them, they held their place, for the simple reason that the education they offered was a necessity of the time. Rome, the mistress of the world, had either to become cosmopolitan or perish, and she preferred the former alternative. She now, for the first time, began to have a literature and to cultivate her own language. The studies which she specially affected were (1) grammar, that is, literature, (2) rhetoric, (3) philosophy, which corresponded to school, college, and university education. The last, like music and geometry, was, for the most part, an elegant accomplishment, rather than a serious study. The physical sciences found little favor.

So long as Roman education was in the hands of Greeks, it was conducted in the Greek language, and the authors read and discussed were Greek. But the Romans, though willing enough to borrow Greek culture, were unwilling to remain permanently in intellectual dependence upon a conquered people, which in many respects they despised. Strong efforts, therefore, were made to develop a national literature and a national education. About the year b.c. 100, Lucius Ælius Præconinus Stilo, a worthy and conservative Roman knight, opened a private class in Latin grammar and rhetoric for young men of the upper classes, and from this time on the direct influence of the Greeks, except in philosophy, declined. Greek, indeed, continued to be spoken by all persons making any pretensions to culture; but Latin became the language of Roman literature. Among the pupils of Stilo were Varro and Cicero, who, along with Julius Cæsar, may be called the parents of the classical Latin language, literature, and eloquence. Both Varro and Cæsar wrote works on grammar. A certain Cornificius (generally known as *Auctor ad Herennium*) about this time wrote the first Latin treatise on Rhetoric; but the great authority on the subject, in practice as well as theory, was Cicero, who wrote no fewer than seven works on it. With Cicero's death, and the transformation of the republic into an empire, eloquence lost its noblest use, the defence of liberty. Rhetoric, nevertheless, continued to be cultivated as a fine art and for forensic use, and, indeed, was made to cover the whole of the higher education of youth. Of this art the most celebrated teacher was Quintilian, "the supreme director of giddy youth, the glory of the Roman toga" (*i.e.* civil manhood).

Quintilian was born about a.d. 35 in the Spanish city of Calagurris (Calahorra), where, later, St. Dominic first saw the light. He was educated in Rome, but afterwards returned to his native place and established himself as a teacher of rhetoric. About a.d. 68, he was invited by the Emperor Galba to settle in Rome, which he did, giving instruction in rhetoric with unparalleled success for twenty years, and drawing a salary from the government. At the end of that time, he retired, rich and honored, into private life. It was after this that he wrote the work which carried his fame down to posterity, his *Institutio Oratorica*, or Education of the Orator. In the first book of this he draws out a scheme of preparatory education for the family and the school; the succeeding ten are devoted to rhetoric, and the last to the character of the orator, whom he regards as identical with the cultivated gentleman. It is only the first book that concerns the modern student of education, and of this I shall now give a brief summary.

The first care of the parent, after the birth of a child, should be to procure for it a nurse of good moral character and of cultivated speech. A child that early learns bad habits in acting and speaking, rarely, if ever, gets cured of them afterwards. Great care ought to be taken with regard to the child's youthful companions, and to his pedagogue, who ought to be of good character and well-informed. Its first language ought to be Greek; but Latin ought to be begun early, and both to be carefully cultivated. There is no need to follow the ordinary custom of not allowing the child to learn to read or write before the close of its seventh year. Much can very profitably be done by play long before that. It is a mistake to teach children to repeat the alphabet before they know the forms of the letters. These they may learn from tablets or blocks. As soon as the letters are recognized, they ought to be written. Following with a pen the forms of letters engraved on ivory tablets is a good thing. After letters, syllables must be learnt — all the possible syllables in both languages. After syllables come words, and after words, sentences. In all this process, it is of the utmost importance to secure thoroughness by avoiding haste. The child must not attempt words till he can read and write all the syllables, nor sentences till he is perfectly familiar with words. In reading sentences, he must learn to run ahead, so that, while he is pronouncing one word with his lips, he is recognizing others with his eye. The writing lesson should be utilized in order to make the child acquainted with rare words and good poetry. At this stage, his memory ought to be well exercised, and made to lay up large stores of good literature for future use. At the same time, his organs of speech should be well trained, by being made to pronounce rapidly verses containing difficult combinations of sound.

As soon as he is able, the child should go to school. Home education is objectionable on many accounts, especially for boys intended for orators. These, above all others, must learn sociability, tact, and *esprit de corps*, and form school-friendships. Many moral lessons can be learnt, and many motives employed, in the school, that are not possible in the family. Among the latter is ambition, which "though itself a vice, is the parent of many virtues," and therefore ought to be freely used. Hardly any motive is so powerful.

When a boy is sent to school, his teacher's first business is to investigate his character and capacity. The chief marks of ability are memory and power of imitation. Imitation is not mimicry, which is always a sign of low nature. Slowness, though objectionable, is better than precocity, which should be discouraged in every way. Different treatment is required for different boys: some need the bit, some the spur. The best boy is the one "whom praise excites, whom glory pleases, who cries when he is beaten. Such a one may be nourished with emulation; reproach will sting him; honor will rouse him." Boys ought to have seasons of rest and play, neither too short to afford recreation, nor too long to encourage idleness. Games of question and answer are good for sharpening the wits. In play an excellent opportunity is offered to the teacher for learning the character of his pupils. Corporal punishment is altogether to be deprecated, and, indeed, is unneeded when the teacher does his duty.

What boys learn in school is grammar; but this must be supplemented by music and astronomy. Without the former it will be impossible to scan verse; without the latter, to understand certain allusions and modes of fixing dates in the poets. A little philosophy is necessary for the sake of understanding such poets as Empedocles and Lucretius; geometry, in order to give practice in apodictic reasoning, as well as for practical uses. Thus the curriculum of school education will consist of Grammar, Music, Astronomy, Philosophy, and Geometry.

Grammar consists of two parts, (1) *Methodics*, or the art of correct speaking, (2) *Historics* (German *Realien*), the interpretation of poets, historians, philosophers, etc. *Methodics* — grammar in the modern sense — should aim at enabling a boy to speak and write with correctness, clearness, and elegance. All barbarisms (*i.e.* foreign words and idioms), solecisms, affectations, and careless pronunciations are to be avoided. In the use of language, four things are to be taken into account, (1) reason, (2) antiquity, (3) authority, (4) custom. In reading, the boy must be taught “where to draw his breath, where to divide a verse, where the sense is complete, where it begins, where the voice is to be raised, where lowered, what inflections to use, what is to be uttered slowly, what rapidly, what forcibly, what gently.” “That he may be able to do all this, he must *understand*. Reading must above all be manly and grave, with a certain sweetness.” Poetry must not be read either as prose, nor yet in a sing-song way. All theatrical personification, and all gesticulation smacking of the comedian, are to be avoided.

For *Histories* the teacher must be very careful in his selection of texts. Homer and Virgil are best to begin with. Though their full import cannot be understood by youth, they awake enthusiasm for what is noble and spirited, and will often be read in later life. “Tragedies are useful. There is nourishment in the lyric poets”; but they must be used with caution and in selections, from which everything relating to love must be excluded. Even Horace must be expurgated. Satire and comedy, though of the utmost value for the orator, must be deferred till the moral character is sufficiently established not to be injured by them. Passages from the poets ought to be committed to memory. In all reading, the utmost care ought to be taken to promote purity and manliness (*sanctitas et virilitas*).

After reading a piece of poetry, boys must be made to analyze and scan it, to point out peculiarities of language and rhythm, to enumerate the different meanings of words, to name and explain the various figures of speech. But far more important than all this it is, that the teacher should impress on their minds the importance of systematic arrangement and propriety of description, “showing what is suitable for each rôle, what is commendable in thought, what in expression, where diffuseness is proper, and where brevity.” In giving collateral information, whether in history, mythology, or geography, he should keep within bounds, giving only what is necessary and rests on respectable authority. “It is one of the virtues of a schoolmaster to be ignorant of some things.”

As regards lessons in composition, the teacher should begin by making his pupils write out from memory the *Fables* of Æsop, in pure, simple, direct, and unadorned language. He should then call upon them to turn poetry into prose, and to paraphrase it, either briefly or diffusely. He should then make them write out proverbs, apophthegms, aphorisms, short, brilliant anecdotes, etc. Famous stories related by the poets may be used as subjects for composition, but chiefly for the sake of information. Beyond this the schoolmaster should not go in the matter of composition. The rest should be left to the rhetorician.

It is of great importance in youthful education that several subjects should be studied at the same time. Boys like and need variety, and, when they get it, it is truly astonishing how much they can accomplish. “There is not the slightest reason for fearing that boys will shrink from the labor of study. No age is less easily fatigued.” ... “Boys are naturally more inclined to hard work than young men.”

Such, in brief, is Quintilian’s school-programme. It has no place for physical science (except Astronomy), for manual training, or for physical exercise. Play is, indeed, permitted as a necessary recreation, and gymnastics and physical training (παιδοτρίβεια) are recommended in so far as they are necessary to enable the budding orator to move and to gesticulate gracefully; but that is all. “Nothing can please that is not becoming.”

As soon as he is ready, the young aspirant for oratorical fame passes into the hands of the rhetorician, under whom he learns all the arts, and acquires all that knowledge, necessary to fit him for his profession. No kind of knowledge, and no moral excellence ought to be foreign to the orator. Quintilian is very severe upon the philosophers for claiming, in their title, to be, in an exceptional way, lovers of wisdom, and maintains that the true orator is the truly wise and good man. He is surely superior to the philosopher, who turns his back upon the world and manifests no interest in human affairs. Moreover, "philosophy may be simulated; eloquence cannot."

The closing chapter of the last book of Quintilian's work treats of the orator after his retirement from public life. He is to devote himself to writing and to the study of art, science, and philosophy. The picture is charming; but it ends with death, and there is nothing beyond. God may be defined for oratorical purposes; but his existence is a matter of conjecture.

In Quintilian we have the highest type of the civic man living under a cosmopolitan despotism. His defects — his pedantry, his servility, his externality, his worldliness — are only such as are natural to a good man placed in this position, without any outlook upon a higher existence.

CHAPTER III

PLOTINUS AND PHILOSOPHIC EDUCATION

The material body, which is subject to motion, change, dissolution, and division, requires an immaterial principle to hold and bind it together in unity. This principle of unity is the soul. If it were material, it would require another principle of unity, and so on *ad infinitum*, till an immaterial first were reached, which would then be the true soul. — Ammonius Saccas.

Intelligible things, when they are united with other things, are not changed, as corporeal things are when they are united with each other, but remain as they are, and what they are. Soul and body are intimately united, but not mixed. The soul can separate and withdraw itself from the body, not only in sleep, but also in thought. As the sun illuminates and yet remains itself a separate light, so is the soul in its relation to the body. It is not in the body as in place; rather the body is in it and of it. — *Id.*

One's duty is to become first man, then God. — Hierocles.

Neither Schelling nor Baader nor Hegel has refuted Plotinus: in many ways he soars above them. — Arthur Richter.

What is loved by us here is mortal and hurtful. Our love is love for an image, that often turns into its opposite, because what we loved was not truly worthy of love, nor the good which we sought. God alone is the true object of our love. — Plotinus.

The practical and the contemplative lives, which Plato and Aristotle had labored so hard to combine and correlate, in order to save human worth and Greek civilization, fell asunder, despite all their efforts — greatly, of course, to the detriment of both. In the terrible picture which Quintilian draws of Roman life in the first century of our era, we see one side of the result of this divorce: in the cruel satires of Lucian, written less than a century later, we may find depicted the other. But, just as, in the midst of the moral corruption and brutality, there arose from time to time worthy men like Quintilian and Tacitus, so amid the philosophical charlatanry and pretence, there still survived a few earnest thinkers, who aspired with all the power that was in them to divine truth, and strove to find in the eternal world that reality which was so miserably wanting in this. By far the greater number of these men were neither Greeks nor Romans, but Orientals, men whose thinking combined Greek philosophy with some earnest form of Eastern mysticism. To such men this life was merely an opportunity of preparing for a higher, in which lay all beauty, all good, and all blessedness. It is not difficult to see what sort of education would follow from this view of life. It may best be characterized by the one word "ascetic." It no longer seeks to train harmoniously all the faculties of body and mind with a view to a worthy social life, but to enable the soul to die to the body and to social life, and so rise to union and consubstantiality with God. In no sect was this tendency more marked than in the Neoplatonic, or, as it might equally well be called, the Neoaristotelian or Neopythagorean, the greatest name in which is Plotinus.

Plotinus was born in Egypt about a.d. 205. His nationality is unknown. He received his education in Alexandria — grammar, rhetoric, and philosophy, — and adopted the teaching of the last as a profession. He sought in vain, however, for a system that could satisfy him, till he met with Ammonius "the Sack-bearer," whom he at once recognized as his master. This Ammonius had been reared as a Christian, but had apostatized on becoming acquainted with philosophy. His Christian education, however, had not been altogether lost on him; for he had carried over into philosophy a religious spirit, and not a few of the esoteric ideas then current in certain Christian sects. It was this, apparently, that enabled him to give a new direction to philosophy, and to found a new school, whose influence upon subsequent, even Christian, thought, it would be difficult to overestimate. His school was the Neoplatonic, which, more than any other, united profound thought with mystic theosophy (θεωρία).

Plotinus listened to Ammonius for eleven years, and, on the death of the latter, paid a visit to Persia, with the view of studying the religion of that country. He shortly returned, however, and, after a brief sojourn at Antioch, betook himself, in his fortieth year (a.d. 244), to Rome, where he spent the remainder of his life as a teacher of philosophy. His saintly character and his deep, religious thought drew round him a considerable number of earnest men and women, including even members of the imperial family. He made some attempt to found in Campania a Platonopolis, so that his principles might be realized in a social life, in a theosophic community; but this was never carried out. He died in a.d. 270. Plotinus was the only truly great, original ancient thinker after Aristotle.

While Plato and Aristotle had sought to rise to the intelligible world from, and by means of, the sensible, Plotinus, believing that he has attained a direct, intuitional knowledge of the former, sets out from it and thence tries to reach the other. At the summit of being he finds the supreme Platonic principle, the One or the Good, absolutely transcendent and self-sufficient; next below this, the supreme Aristotelian principle, Intelligence or Absolute Knowing, the *locus* of all ideas; and third, the supreme principle of the Stoics, Soul, Life, or Zeus, the animating principle of the world. Good, Intelligence, Life — these are Plotinus' divine trinity, evolved by a process of abstraction from the *Nous* of Aristotle (see p. 161). The members of this trinity are neither personal, conscious, nor equal. Each lower is caused by, but does not emanate from, the next above it; and this causation is due, not to any act of free will, but to an inner necessity. Thus the trinity of Plotinus is a mere energy, acting according to necessary laws. The third member of it turns toward matter, which is mere poverty and hunger for being, and, in so doing, produces a world of gods, dæmons, and mundane beings, the highest of which last is man. All that has matter has multiplicity.

It is easy enough to see what kind of ethics and education will spring from such a system as this. Inasmuch as the good means self-sufficiency, freedom from multiplicity and matter, evil means dependence, multiplicity, materiality. Whatever evil there is in man is due to his connection with matter, for which he is in no sense responsible. His sole business, if he desires blessedness, is to free himself from matter and multiplicity, and return to the unity of the Supreme Good. The steps by which this may be accomplished are, (1) Music or Art, (2) Love, (3) Philosophy or Dialectic: through all these he rises above multiplicity into unity. In all this there is, obviously, neither moral evil nor moral good, and, indeed, the world of Plotinus contains no moral element, for the simple reason that it contains nothing personal, either in God or man. Evil is the product of necessity, and consciousness, implying as it does, multiplicity, is part of it. The unethical character of Plotinus' teaching comes out very clearly in his reversal of the positions of instruction and purgation in the scheme of education. According to the old view, purgation was a mere medical process, preparatory to ethical training (see p. 7). According to the Neoplatonic view, ethical training and the "political virtues" are a mere preparation for purgation and the intellectual virtues. And this is perfectly logical; for evil, being physical, must be cured by physical means. And the means which Plotinus recommends are magical, rather than moral; rites and prayers, rather than heroic deeds; the suppression of the will, rather than its exercise.

Plotinus is too much of a Greek to accept, or even see, all the consequences of his own theory, which makes moral life consist in an attempt to escape from the world and to quench consciousness and personality. Accordingly, though he has a poor opinion of civic life (a thing excusable enough in those days), he believes that the civic virtues ought to be cultivated, as a means toward the higher, and has apparently nothing to say against the ordinary grammatical, rhetorical, and musical education of his time. He has a good deal to say in favor of Mathematics, as a preparation for what to him is the supreme branch of education, Dialectics. But the tendency of his teaching is only too obvious, and the conclusions which he did not draw, time and succeeding generations drew for him. The effect of Neoplatonism was, in the long run, to make the super-civic part of man the whole man, to discredit political life and political effort, and to pave the way for the mystic, the ascetic, and the hermit. Nor were the tendencies of the other philosophical schools in any marked degree different. Thus philosophy, instead of contributing to harmonize man and society, and to restore moral life, came to be one of the strongest agencies in bringing about confusion and dissolution, by ignoring moral life altogether, embracing superstition, and turning man into a mere plaything of blind necessity and magical forces. And thus ancient civilization fell to pieces, because man himself had fallen to pieces, and each piece tried to set itself up for the whole. The civic fragment finds its highest expression in Quintilian, the super-civic in Plotinus. Ere the fragments can be united into a truly moral being, a member of a truly moral society, a new combining force, unknown to either rhetorician or philosopher, must arise.

CHAPTER IV

CONCLUSION

Truly it was an old world, and even Cæsar’s patriotic genius was not enough to make it young again. The dawn does not return till the night has fully set in. — Mommsen.

My thoughts are not your thoughts, neither are your ways my ways, saith the Lord. — Isaiah.

Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind. This is the great and first commandment. And a second like unto it is this, Thou shalt love thy neighbor as thyself. — Jesus.

Render unto Cæsar the things that are Cæsar’s, and to God the things that are God’s. — *Id.*

Are not five sparrows sold for two farthings? and not one of them is forgotten in the sight of God. But the very hairs of your head are all numbered. — *Id.*

We love because he first loved us. If a man say, I love God, and hateth his brother, he is a liar. — John.

By one intelligible form, which is the divine Essence, and one conscious intention, which is the divine Word, things may be known in their multiplicity by God. — Thomas Aquinas.

If God acts in all things, and such action in no way derogates from his dignity, but even belongs to his universal and supreme power, he cannot consider it below him, nor does it stain his dignity, if he extend his providence to the individual things of this world. — *Id.*

Une immense espérance a passé sur la terre. — Alfred de Musset.

We have seen that the Greek ideal of life rested upon the complete identification of the man with the citizen. We have seen also how this ideal was paralyzed by the growth of individualism; how the wisest men thought to render this innocuous and even beneficent, by providing for it a sphere of contemplation, superior to that of practice, but organically related to it, and, finally how, with the failure of this attempt, the two sides of human nature, divorced from each other, degenerated, the one into selfish worldliness, the other into equally selfish other-worldliness, both conditions equally destitute of moral significance.

This sad result was mainly due to three causes, (1) that the remedies proposed for individualism were not sufficient, (2) that the best remedy was set aside, (3) that the conditions for which the remedies were offered soon ceased to exist. Both Plato and Aristotle wrote for the small Greek polities, which lost their autonomy through the Macedonian conquest. If it may be doubted whether even the proposals of the latter would have redeemed these polities, had they continued free, it is certain that they would have been ineffective under the changed circumstances. At all events, they were never adopted, and even for the super-civic man the teaching of Plato was preferred to his.

As the new cosmopolitanism deepened the gulf between the citizen and the individual, and immeasurably widened the sphere of the latter, in the same proportion did the teaching of Plato fail to bridge over that gulf, and provide activity for that sphere. To tell the super-civic man now that his function was to contemplate divine things and oracularly deliver laws for the guidance of the world, would have argued an absence of humor not common in those days. Besides, those persons who claimed to have contemplated divine things showed no such fitness for legislation as to induce practical men to accept their guidance. The sober fact was, that the contemplation of divine things, which more and more absorbed the energy of Greek thought, was, except for Aristotle, a mere vague asperation without moral value, and became ever more a sort of mystic ecstasy, in which the individual, instead of acquiring insight and power to live worthily and beneficently in the world, was thrown back upon himself, with his will paralyzed. Nor could this be otherwise, seeing the nature of the divine things, the contemplation of which was reckoned so important. Instead of being personal attributes, or a person imposing a moral law seen to be binding, they were mere abstractions, increasing in emptiness the higher they were in the series, the highest being absolute vacancy. In vain had Aristotle protested that all reality is individual: the Platonic theory, that all knowledge is of ideas or universals, prevailed, with the result that the highest knowledge was held to be knowledge of that which is absolutely universal, viz. indeterminate being or, as Plotinus held, something lacking even the determination of being — the Supreme Good. That the super-civic man should find satisfaction in gazing into vacancy, or be any more valuable in the world after he had done so, no matter how spotless his life and ecstatic his look, is inconceivable.

But while, in the Greek world, the sphere of activity of the super-civic man was vanishing into nothingness, among a small and obscure band of restored exiles of Semitic race, that sphere had come to claim the entire man and all his relations, practical and spiritual. Isaiah's little band of faithful followers (see p. 133) had grown into a nation, living by no law save that of Jehovah, a very real, very awful, and very holy personality, whom the heaven of heavens could not contain, but who yet watched the rising up and the sitting down of every son of man. Long before Quintilian wrote his elegant treatise on rhetoric, or Plotinus his pantheistic Enneads, there had sprung from the bosom of this people a man who, bursting, at the expense of his life, the narrow bounds of his nationally, elevated the theocracy of his people into a Kingdom of Heaven, which he had bade proclaim to all the world. It was proclaimed, and then (though to some it seemed a stumbling-block, and to others foolishness) the super-civic man, who for hundreds of years had been wandering in darkness, in search of his fatherland, suddenly became aware that he had found it in the Church of Christ. He now no longer tries to escape from the visible world into the emptiness of an abstract first principle; but, in the service of a First Principle who is the most concrete of realities, and who numbers the very hairs of his head, he goes down into the most loathsome depths of the material world to elevate and redeem the meanest of the sons of men. There is no question of bond or free, ruler or ruled, now. In the Kingdom of Heaven there are no such relations. The only greatness recognized there is greatness in service; the only law, the Law of Love. Love! yes, the whole secret is in that one word. By adding love to the conception of the God of his people, by exemplifying it in his own life, and demanding it of his followers, Jesus accomplished what had baffled all the wisdom of the Greek sages. He restored the moral unity of man, abolished the old world, and made a new heaven and a new earth. In vain have the advocates of an indeterminate, self-evolving first principle, whether calling themselves Neoplatonists, mystics, materialists, evolutionists, Hegelians, or Theosophists, striven to bring back the old world with its class distinctions and institutional ethics; in vain have they sought to sink the individual God and man of reality in the universal ideas of thought. The Law of Love, which is the ground of individuality, as well as of true society, has bidden, and will bid them, defiance.

APPENDIX

THE SEVEN LIBERAL ARTS

The Greeks originally recognized two branches of liberal education (1) Gymnastics, for the body, and (2) Music, for the soul. Out of music grew, in process of time, not only the so-called Liberal Arts, that is, the arts that go to constitute the education of every freeman, but also what was regarded as a superfluous luxury (περιττή), Philosophy. It is the purpose of this appendix to trace, as far as possible, this gradual development.

In doing so, one must bear in mind that originally the term “Music” covered, not only what we call music, but also poetry, and that poetry was the vehicle of all the science that then was. The Homeric *aoidos* knows the “works of gods and men.” Strictly speaking, therefore, it was out of music and poetry that all the arts and sciences grew. The first step in this direction was taken when Letters were introduced, that is, about the first Olympiad. But it was long before Letters were regarded as a separate branch of education; they were simply a means of recording poetry. Even as late as the time of Plato, Letters are still usually included under Music. In Aristotle, they are recognized as a separate branch. It follows from this that, when we find Greek writers confining soul-education to Music, or Music and Letters, we must not conclude that these signify only playing and singing, reading and writing. Socrates was saying nothing new or paradoxical, when he affirmed that Philosophy was the “highest music.” The Pythagoreans had said the same thing before him, and there can be no doubt that Pythagoras himself included under Music (1) Letters, (2) Arithmetic, (3) Geometry, (4) Astronomy, (5) Music, in our sense, and (6) Philosophy (a term invented by him). Plato did the same thing. He speaks of “the true Muse that is accompanied with truth (λόγων) and philosophy.” But in his time “Music” was used in two senses, a broad one, in which it included the whole of intellectual education, and a narrow one, in which it is confined to music in the modern sense. It is in this latter sense that it is used by Aristotle, when he makes the intellectual branches of school education (1) Letters, (2) Music, and (3) Drawing. Philosophy he places in a higher grade. Having distinguished Letters from Music, it is natural enough that he should assign to the former the branches which Pythagoras had included under the latter. His literary scheme appears to be (1) Grammar, (2) Rhetoric, (3) Dialectic, (4) Arithmetic, (5) Geometry, (6) Astronomy. Add Music, and we have exactly the Seven Liberal Arts; but, as Drawing must also be added, it is clear that there was, as yet, no thought of fixing definitely the number seven. That Drawing was for a long time part of the school curriculum, is rendered clear by a passage in a work of Teles (b.c. 260) quoted by Stobæus (xcviii, 72), in which it is said that boys study (1) Letters, (2) Music, (3) Drawing; young men, (4) Arithmetic, and (5) Geometry. The last two branches are here already distinguished from Letters; but we cannot be sure that the list is intended to be exhaustive. What is especially noticeable in the list of Teles is, that it draws a clear distinction between the lower and higher studies, a distinction which foreshadows the *Trivium* and *Quadrivium* of later times.

Philosophy, or the highest education, Aristotle divided into (1) Theory and (2) Practice. Theory he subdivided into (a) Theology, First Philosophy, or Wisdom, called later Metaphysics, the science of the Unchangeable, and (b) Physics, the science of the Changeable; Practice into (a) Ethics, including Politics and Œconomics, and (b) Poetics or Æsthetics.

After Teles we hear little of the Greek school-curriculum until about the Christian era. Meanwhile, the Romans, having acquired a smattering of Greek learning, began to draw up a scheme of studies suitable for themselves. It is noticeable that in this scheme there is no such distinction as the Greeks drew between liberal (ἐλευθέριαι, ἐγκύκλιοι, λογικαί) and illiberal (βάναυσοι) arts. As early as the first half of the second century b.c., Cato the Censor wrote a series of manuals for his son on (1) Ethics, (2) Rhetoric, (3) Medicine, (4) Military Science, (5) Farming, (6) Law. It is very significant that the only Greek school-study which appears here is Rhetoric; this the Romans, and notably Cato himself, always studied with great care for practical purposes. It seems that Cato, in order to resist the inroads of Greek education and manners, which he felt to be demoralizing, tried to draw up a characteristically Roman curriculum. Greece, however, in great measure, prevailed, and half a century later we find Varro writing upon most of the subjects in the Greek curriculum: Grammar, Rhetoric, Dialectic, Arithmetic, Geometry, Astronomy, Music, Philosophy, besides many others. He wrote a treatise in nine books, called *Disciplinarum Libri*. Ritschl, in his *Quæstiones Varronianæ*, tried to show that these “Disciplinæ” were the Seven Liberal Arts, *plus* Architecture and Medicine, and Mommsen, in his *Roman History*, has followed him; but Ritschl himself later changed his opinion. There seems no doubt that (1) Grammar, (2) Rhetoric, (3) Dialectic, (4) Music, (5) Geometry, and (6) Architecture were treated in the work: what the rest were we can only guess. There is no ground for the assertion that the Seven Liberal Arts were obtained by dropping Architecture and Medicine from Varro’s list. It must have been about the time of Varro, if not earlier, that Roman education came to be divided into three grades, called respectively (1) Grammar, (2) Rhetoric, and (3) Philosophy, the last falling to the lot of but few persons. Of course “Grammar” now came to have a very extensive meaning, as we can see from the definition of it given by Dionysius Thrax, in his grammar, prepared apparently for Roman use (b.c. 90). In the Scholia to that work (I am unable to fix their date), we find the Liberal Arts enumerated as (1) Astronomy, (2) Geometry, (3) Music, (4) Philosophy, (5) Medicine, (6) Grammar, (7) Rhetoric.

But to return to the Greeks. In the works of Philo Judæus, a contemporary of Jesus, we find the Encyclic Arts frequently referred to, and distinguished from Philosophy. The former, he says, are represented by the Egyptian slave Hagar, the latter by Sarah, the lawful wife. One must associate with the Arts before he can find Philosophy fruitful. In no one passage does Philo give a list of the Encyclic Arts. In one place we find enumerated (1) Grammar, (2) Geometry, (3) Music, (4) Rhetoric (*De Cherub.*, § 30); in another (1) Grammar, (2) Geometry, (3) “the entire music of encyclic instruction” (*De Agricult.*, § 4); in another (1) Grammar, (2) Music, (3) Geometry, (4) Rhetoric, (5) Dialectic (*De Congressu Quær. Erud. Grat.*, § 5); in another, (1) Grammar, (2) Arithmetic, (3) Geometry, (4) Music, (5) Rhetoric (*De Somniis*, § 35), etc.

It would seem that the Encyclic Arts, according to Philo, were (1) Grammar, (2) Rhetoric, (3) Dialectic, (4) Arithmetic, (5) Geometry, (6) Music. Astronomy appears in none of the lists. Philosophy is divided into (1) Physics, (2) Logic, (3) Ethics (*De Mutat. Nom.*, § 10), a division that was long current.

From what has been adduced, I think we may fairly conclude that at the Christian era no definite number had been fixed for the liberal arts either at

Athens, Alexandria, or Rome. The list apparently differed in different places. Clearly the Roman programme was quite different from the Greek. Shortly after this era, we find Seneca (who died a.d. 65) giving the liberal arts, *liberalia studia*, as (1) Grammar, (2) Music, (3) Geometry, (4) Arithmetic, (5) Astronomy (*Epist.*, 88). He divides Philosophy into (1) Moral, (2) Natural, (3) Rational, and the last he subdivides into (a) Dialectic and (b) Rhetoric. Above all he places Wisdom, "*Sapientia perfectum bonum est mentis humanæ*" (*Epist.*, 89). Here we see that two of the Seven Liberal Arts are classed under Philosophy. A little later, Quintilian divides all education into (1) Grammar, and (2) Rhetoric, but condescends to allow his young orator to study a little Music, Geometry, and Astronomy.

Turning to the Greeks, we find Sextus Empiricus, who seems to have flourished in Athens and Alexandria toward the end of the second century, writing a great work against the dogmatists or "mathematicians," of whom he finds nine classes, corresponding to six arts, and three sciences of philosophy. The arts are (1) Grammar, (2) Rhetoric, (3) Geometry, (4) Arithmetic, (5) Astronomy, (6) Music: the sciences, (1) Logic, (2) Physics, (3) Ethics. We are now not far from the Seven Liberal Arts; still we have not reached them.

There is not, I think, any noteworthy list of the liberal arts to be found in any ancient author after Sextus, till we come to St. Augustine. In his *Retractiones*, written about 425, he tells us (I, 6) that in his youth he undertook to write *Disciplinarum Libri* (the exact title of Varro's work!), that he finished the book on (1) Grammar, wrote six volumes on (2) Music, and made a beginning with *other five* disciplines, (3) Dialectic, (4) Rhetoric, (5) Geometry, (6) Arithmetic, (7) Philosophy. It has frequently been assumed that we have here, for the first time, the Seven Liberal Arts definitely fixed; but there is nothing whatever in the passage to justify this assumption. The author does not say "*the* other five disciplines," but merely "other five." Among these five, moreover, is named Philosophy, which, though certainly a "discipline," was never, so far as I can discover, called an art, liberal or otherwise. There is not the smallest reason for tracing back the Seven Liberal Arts to St. Augustine, who surely was incapable of any such playing with numbers. He does not, indeed, recognize the "Seven."

It is in the fantastic and superficial work of Martianus Capella, a heathen contemporary of Augustine's, that they first make their appearance, and even there no stress is laid upon their number. They are (1) Grammar, (2) Dialectic, (3) Rhetoric, (4) Geometry, (5) Arithmetic, (6) Astronomy, (7) Music. These, no doubt, were the branches taught in the better schools of the Roman Empire in the fourth and fifth centuries, when, on the whole, the Greek liberal curriculum had supplanted the Roman rhetorical one. There is not the slightest ground for supposing that Capella had anything to do with fixing the curriculum which he celebrates. His work is a wretched production, sufficiently characterized by its title, *The Wedding of Mercury and Philology*. He wrote about seven arts because he found seven to write about. Attention was first called to the *number* of the arts, and a mystical meaning attached to it, by the Christian senator, Cassiodorus (480-575) in his *De Artibus et Disciplinis Liberalium Litterarum*. He finds it written in Prov. ix, 1, that "Wisdom hath builded her house. She hath hewn out her seven pillars." He concludes that the Seven Liberal Arts are the seven pillars of the house of Wisdom. They correspond also to the days of the week, which are also seven. It is to be observed that he distinguishes the "Arts" from the "Disciplines," or, as they said later, the *Trivium* from the *Quadrivium*. The pious notion of Cassiodorus was worked out by Isidore of Seville (died 636) in his *Etymologiæ*, and by Alcuin (died 804) in his *Grammatica*. Of course, as soon as the number of the arts came to be regarded as fixed by Scripture authority, it became as familiar a fact as the number of the planets or of the days of the week, or indeed, as the number of the elements. About a.d. 820 Hrabanus Maurus (776-856), a pupil of Alcuin's, wrote a work, *De Clericorum Institutione*, in which the phrase *Septem Liberales Artes* is said to occur for the first time. About the same date Theodulfus wrote his allegorical poem *De Septem Liberalibus in quadam Pictura Descriptis*.

The Liberal Studies after St. Augustine did not include Philosophy, which rested upon the Seven Arts, as upon "seven pillars," and was usually divided into (1) Physical, (2) Logical, (3) Ethical. After a time Philosophy came to be an all-embracing term. In a commentary on the *Timæus* of Plato, assigned by Cousin to the twelfth century, we find the following scheme: —

Philosophy

-

Practical

-

Ethics.

Economics.

Politics.

Theoretical
-

Theology.

Mathematics.
-

Arithmetic

-
= Quadrivium.

Music

Geometry

Astronomy

Physics.

The author expressly says that “Mathematica quadrivium continet”; but he plainly does not include the *Trivium* under Philosophy. This, however, was done the following century. In the *Itinerarium Mentis in Deum* of St. Bonaventura (1221-74) we find the following arrangements: —

Philosophy

-

Natural
-

Metaphysics — essence: leads to First Principle = Father.

Mathematics — numbers, figures: leads to Image = Son.

Physics — natures, powers, diffusions: leads to Gift of Holy Spirit.

Rational
-

Grammar — power of expression = Father.

Logic — perspicuity in argument = Son.

Rhetoric — skill in persuading = Holy Spirit.

Moral
-

Monastics — innascibility of Father.

Œconomics — familiarity of Son.

Politics — liberality of Holy Spirit.

Here we have the *Trivium*, under the division "Rational," while the *Quadrivium* must still be included under "Mathematics." In both cases we get nine sciences or disciplines, and the number was apparently chosen, because it is the square of three, the number of the Holy Trinity. In the latter case this was certainly true. Speaking of the primary divisions of Philosophy, the Saint says: "The first treats of the cause of being, and therefore leads to the Power of the Father; the second of the ground of understanding, and therefore leads to the Wisdom of the Word; the third of the order of living, and therefore leads to the goodness of the Holy Spirit."

Dante, in his *Convivio* (II, 14, 15), gives the following scheme, based upon the "ten heavens," nine of which are moved by angels or intelligences, while the last rests in God.

Liberal Arts
-

Trivium
-

Grammar
Moon
Angels.

Dialectic
Mercury
Archangels.

Rhetoric
Venus
Thrones.

Quadrivium
-

Arithmetic
Sun
Dominions.

Music
Mars
Virtues.

Geometry
Jupiter
Principalities.

Astrology
Saturn
Powers.

Philosophy
-

Physics and Metaphysics
Starry Heaven
Cherubim.

Moral Science
Crystalline Heaven
Seraphim.

Theology
Empyrean
God.

In Dante are summed up the ancient and mediæval systems of education.

ARISTOTLE by William MacGillivray

An Extract from 'Lives of Eminent Zoologists: Aristotle to Linnæus'

SECTION I.

Remarkable Events in the Life of Aristotle.

Introductory Remarks — Birth and Parentage of Aristotle — He studies Philosophy under Plato — Is highly distinguished in the Academy — Retires to Atarneus on the Death of his Master — Marries — Is invited by Philip to superintend the Education of Alexander — Prosecutes his Studies at the Court — On the Succession of Alexander, returns to Athens, where he sets up a School in the Lyceum — Corresponds with Alexander, who supplies Means for carrying on his Investigations — Alexander finds Fault with him for publishing some of his Works, and after putting Callisthenes to Death, exalts his Rival Xenocrates — On the Death of Alexander, he is accused by his Enemies of Impiety, when he escapes to Chalcis, where he dies soon after — His personal Appearance and Character — His Testament — History of his Writings — Great Extent of the Subjects treated of by him — His Notions on elementary Bodies — The Material Universe — The Changes to which the Earth has been subjected, and the Eternity of its Existence — Conclusion.

Natural History, considered as a science or body of doctrine, commenced with Aristotle, the founder of the Peripatetic School, and one of the most illustrious philosophers of antiquity. His writings were held in the highest estimation by his own countrymen the Greeks, as well as by the Romans: they were considered as the most authentic sources of knowledge, after the revival of learning in Europe; and even at the present day their influence may be traced in the works of many who have not so much as bestowed upon them a cursory glance. It is therefore fit that we should begin our biographical sketches with that celebrated author, the more especially as he did not confine himself to a single branch of natural history, but, like all great minds, possessed an extensive acquaintance with objects of various classes. It is he only, whose comprehensive glance seizes upon what is common to numerous tribes, that can duly estimate what ought to be considered as distinctive of a particular group, or can form rules for the arrangement and description of the beings which compose it. The three greatest naturalists whom the world has produced, Aristotle, Linnæus, and Cuvier, were men whose conceptions were enlarged by the most expanded views. Others have excelled them in particular departments, but none have equalled them in general knowledge.

Aristotle was born at Stagira, a city of the Thracian Chersonesus, in the first year of the 99th Olympiad, or the 384th before the Christian era. His father, Nicomachus, was physician to Amyntas, king of Macedonia, the father of Philip, and grandfather of Alexander the Great. Of his mother, we only know that her name was Phestis, and that, like her husband, she was originally from Chalcis. His family claimed descent from Machaon, the son of Esculapius. Having lost his parents at an early age, he went to reside with Proxenus, a citizen of Atarneus in Mysia, the friend to whose guardianship he had been left. According to some authorities, not being observed very strictly by those who had the immediate charge of his education, he spent a great part of his youth in licentious indulgences, by which he dissipated nearly the whole of a large patrimony. It is also said that he entered into the military profession, but finding it disagreeable soon renounced it, and, as a means of subsistence, sold medicines at Athens. But most of these reflections on his juvenile character may perhaps be attributed to slander.

However this may be, it became necessary for him to choose an employment; and, on going to Delphi to consult the oracle, he was directed to proceed to Athens, and apply himself to the study of philosophy. This he accordingly did, and at the age of seventeen commenced his career as a pupil of Plato.

Being of an ardent temperament, he addicted himself to his new pursuit with so much energy, that he determined to reduce his hours of repose to the smallest possible limits. For this purpose he placed a metallic basin beside his couch, and on lying down held out one of his hands with an iron ball in it, that the noise produced by the collision might awake him should he happen to slumber. Such intensity of application, in a penetrating and subtile mind, could not fail to render him highly successful in his studies. We accordingly find that he had not been long in the academy when he was distinguished above all the other scholars; and it is said that Plato used to call him the mind of his school, and to compare him to a spirited colt that required the application of the rein to restrain its ardour.

He has been accused of disrespect and ingratitude to his aged master, and with having set up a school in opposition to him. The author of this charge was Aristoxenus, his own pupil; but it is well known that he was personally an enemy to Aristotle, because that philosopher, in choosing a successor, had preferred Theophrastus. It is doubted, besides, whether he taught publicly until after Plato's death, which happened in 348 B. C.

Speusippus, the nephew of the sage just named, having been appointed to succeed him in his school, Aristotle, retiring from Athens, went to reside with Hermeias, governor of Assus and Atarneus in Mysia. Here he remained three years; but his friend having been executed, by command of Artaxerxes, as a rebel against Persia, he was obliged to seek refuge in Mytelene, taking with him Pythias, the kinswoman and adopted daughter of Hermeias, to whose memory he afterwards erected a statue in the temple of Delphos. This lady, endeared to him by the gratitude which he felt towards her father, and by the distress to which she had been reduced by his death, he married in the thirty-seventh year of his age. She died, however, soon after their union, leaving an infant daughter, who received the same name.

A short time having elapsed, he was invited by Philip to superintend the education of his son. This distinction he no doubt owed in part to his previous intimacy with the King of Macedonia; but it must also have arisen from the great celebrity which he enjoyed, as excelling in all kinds of science, and especially in the doctrine of politics. Alexander had attained the age of fifteen when the management of his studies was confided to Aristotle, then in his forty-second year. There is ground, however, for presuming that previous to this period the philosopher had been consulted respecting the instruction of the young prince.

The master, it has been said, was worthy of his pupil, and the pupil of his master. In our opinion the master was worthy of a better pupil, and the pupil might have had a better master. At all events, Alexander, who was ambitious of excelling in every pursuit, must have profited greatly in the acquisition of knowledge by the lessons of the most eminently-endowed philosopher of his age. According to Plutarch and Aulus Gellius, he was instructed by him in rhetoric, physics, ethics, and politics; and so high was the estimation in which he held his preceptor, that he is said to have declared, that "he was not less indebted to Aristotle than to his father; since if it was through the one that he lived, it was through the other that he lived well." It is also supposed that he had been initiated in the abstruse speculations respecting the human soul, the nature of the Divinity, and other subjects, on which his master had not yet promulgated his notions to the world.

During his residence at the court of Macedonia, Aristotle did not exclusively devote himself to his duties as instructor of the young prince, but also took some share in public business, and continued his philosophical researches. For the latter purpose Philip is said to have granted him liberal supplies of money. In consideration of his various merits the king also rebuilt his native city, Stagira, which had been destroyed in the wars, and restored it to its former inhabitants, who had either been dispersed or carried into slavery.

Alexander had scarcely completed his twentieth year when the assassination of his father, by Pausanias, one of the officers of the guard, called him to the throne. Aristotle, however, continued to reside at the court two years longer; when some misunderstanding having arisen, he left the young monarch at the commencement of his celebrated expedition into Asia, and returned to Athens. It has been alleged that he accompanied his former pupil as far as Egypt; but the fact is not certain, although circumstances would seem to render it probable.

He was well received at Athens, on account of the benefits which Philip had conferred, for his sake, on the inhabitants of that city; and, obtaining permission from the magistrates to occupy the Lyceum, a large enclosure in the suburbs, he proceeded to form a school. It was his custom to instruct his disciples while walking with them; and for this reason the new sect received the name of Peripatetics, or walking philosophers. In the morning he delivered his acroatic lectures to his select pupils, imparting to them the more abstruse parts of metaphysical science; and in the evening gave to his visiters or the public at large exoteric discourses, in which the subjects discussed were treated in a popular style. As the Lyceum soon acquired great celebrity, scholars flocked to it from all parts of Greece. Xenocrates, who shared with him the lessons of Plato, had by this time succeeded Speusippus in the Academy, and it has been alleged that Aristotle established his seminary in contemptuous opposition; observing, that it would be shameful for him to be silent while the other taught publicly. But although the rival sages of those days cannot be supposed to have been influenced by a gentler spirit than animates those of our own times, there is no reason for attributing to the

Stagirite in this matter any other motive than a laudable desire of seeking his own interest by communicating knowledge to those who were desirous of receiving it.

In this manner he gave public lectures at Athens thirteen years, during the greater part of which time he did not cease to correspond with Alexander. That celebrated prince had placed at his disposal several thousand persons, who were occupied in hunting, fishing, and making the observations which were necessary for completing his History of Animals. He is moreover said to have given the enormous sum of 800 talents for the same purpose; while he also took care to send to him a great variety of zoological specimens, collected in the countries which he had subdued.

The misunderstanding which had begun before Aristotle parted from his royal pupil, but which had not prevented the good offices of the latter, increased towards the end of his career. One of the first occasions seems to have been offered by the philosopher, who, having published his works on physics and metaphysics, received from Alexander, who was piqued at his having divulged to the world the valuable knowledge which he had obtained from him in his youth, the following letter: —

“Alexander to Aristotle, wishing all happiness. You have done amiss in publishing your books on the speculative sciences. In what shall I excel others if what you taught me privately be communicated to all? You know well that I would rather surpass mankind in the more sublime branches of learning than in power. Farewell.”

This epistle exhibits the king as a very exclusive personage; and, joined to what history has recorded of his actions, tends to show that selfishness, however refined or disguised, was the main source of his insatiable ambition. One of the sincerest pleasures of a great mind is to communicate to others all the blessings that it possesses. On other occasions he appeared to entertain a wish to mortify the philosopher by exalting his rival Xenocrates, who had nothing to recommend him besides a respectable moral character. It has even been asserted by some, that the conqueror, after he had put Callisthenes to death, intended the same fate for Aristotle.

This Callisthenes was a kinsman and disciple of the other, through whose influence, it is said, he was appointed to attend the king on his Asiatic expedition. His republican sentiments and independent spirit, however, rendered him an indifferent courtier; while his rude and ill-timed reflections finally converted him into an object of suspicion or dislike. The conspiracy of Hermolaus affording Alexander a plausible pretext for getting rid of his uncourtly monitor, he caused him to be apprehended and put to death. Some say that he was exposed to lions, others that he was tortured and crucified; but, in whatever way he met his end, it is generally agreed that his life was sacrificed to gratify the enmity of his sovereign. Aristotle naturally espoused the cause of his relative, and from that period harboured a deep resentment against his destroyer. It has even been alleged that he was privy to the supposed design of murdering the victorious prince; but of this there is no satisfactory evidence.

Notwithstanding the coolness which thus existed between “Macedonia’s madman” and “the Stagirite,” the latter continued to enjoy at least an appearance of protection, which prevented his enemies from seriously molesting him. But as the splendour of his talents, his success in teaching, and the celebrity which he had acquired in all parts of Greece, had excited the animosity of those who found themselves eclipsed by the brightness of his genius, no sooner was Alexander dead, than they stirred up a priest, named Eurymedon, with whom was associated Demophilus, a powerful citizen, to prefer a charge of impiety against him before the court of Areopagus, on the ground that he had commemorated the virtues of his wife and of his friend Hermeias with such honours as were exclusively bestowed on the gods. Warned by the fate of Socrates under similar circumstances, he judged it prudent to retire; remarking, that he wished to spare the Athenians the disgrace of committing another act of injustice against philosophy.

He effected his escape, with a few friends, to Chalcis in Eubœa, where he died soon after, in the year 322 b.c., and the 63d of his age; having, on his deathbed, appointed Theophrastus of Lesbos, one of his favourite pupils, his successor at the Lyceum. Various accounts are given of his demise; but it is probable that an overexcited mind, and a body worn out by disease, were the real causes of his dissolution.

According to Procopius and others, Aristotle drowned himself in the Eubœan Euripus, because he could not discover the cause of its ebbing and flowing, which are said to take place seven times a-day. Sir Thomas Browne, in his Enquiries into Vulgar and Common Errors, refutes this assertion on the following grounds: — In the first place, his death is related to have taken place in two ways by Diogenes Laertius; the one, from Eumolus and Phavorinus, that being accused of impiety for composing a hymn to his friend Hermeias, he withdrew to Chalcis, where he drank poison; the other, by Apollodorus, that he died of a disease in his stomach, in his sixty-third year. Again, the thing is in itself unreasonable, and therefore improbable; for Aristotle was not so apt to be vexed by the difficulty of accounting for natural phenomena, nor is there any evidence that he endeavoured to discover the ebb and flow of the Euripus, for he has made no mention of it in his works. Lastly, the phenomenon itself is disputable; and it appears from a comparison of testimonies on the subject, that the stream in question flows and ebbs only four times a-day, as is the case with other parts of the sea, though it is subject to irregularities dependent upon the winds and other causes. "However, therefore, Aristotle died," concludes our author, "what was his end, or upon what occasion, although it be not altogether assured, yet that his memory and worthy name shall live, no man will deny, nor gratefull schollar doubt: and if, according to the Elogie of Solon, a man may be onely said to be happy after he is dead, and ceaseth to be in the visible capacity of beatitude: or if, according unto his own Ethicks, sence is not essentiall unto felicity, but a man may be happy without the apprehension thereof; surely in that sence he is pyramidally happy, nor can he ever perish but in the Euripe of ignorance, or till the torrent of barbarisme overwhelme all."

With respect to personal appearance, Aristotle was not highly favoured. He was of short stature, with slender legs, and remarkably small eyes. His voice was shrill, and his utterance hesitating. Although his constitution was feeble, he seems to have enjoyed good health. His moral character has been impeached by some; but we may presume that it was not liable to any serious imputation, otherwise his faults would not have escaped the observation of his numerous enemies, who yet could only prefer against him some vague charges of impiety.

Aristotle was not merely a philosopher; he was also what would at the present day be called a gentleman and a man of the world. In accordance with this character he dressed magnificently, wore rings of great value, shaved his head and face, contrary to the practice of the other scholars of Plato, and freely indulged in social intercourse. He was twice married. By his first wife, Pythias, he had a daughter of the same name, who was married to Nicanor, the son of Proxenus. His second wife was Herpylis, a native of Stagira, by whom he had a son, called Nicomachus.

It is difficult to determine his real character. Those who seem to find pleasure in reviling him, assert that he was a parasite, a habitual glutton and drunkard, a despiser of the gods, a vain person, whose chief care was to ornament his person, and thereby counteract the unfavourable impression which his disproportioned figure might make. It has been said, with perhaps more truth, that he taught his pupil Alexander principles of morals and policy which were not the best adapted for a prince of his ambitious temper; and that his desire of standing forth as the founder of a philosophical sect, induced him to prefer abstract disquisitions to solid knowledge, and to indulge in a spirit of contradiction and innovation. On the other hand, he has been extolled as a prodigy of knowledge and intellect, and represented as "the secretary of nature." Jews have laid claim to his philosophy as derived from Solomon, and Christians have held him up as a person ordained to prepare the way for a Divine revelation. It is certain, however, that he was a very remarkable individual, possessed of great powers of observation and discrimination, and one who, had he devoted himself to the study of natural objects with a sincere desire of ascertaining their properties and a resolution to adhere to truth, might have succeeded in laying on a solid basis the foundations of physical science.

Diogenes of Laertes in Cilicia, who lived about the end of the second century, and who wrote an account of the lives of the philosophers, has preserved his testament, the substance of which is as follows: — Antipater, the regent of Macedonia, is appointed his executor. To his wife Herpylis he leaves the choice of two houses, the one in Chalcis, the other at Stagira. He commends her domestic virtues, and requests his friends to distinguish her by the kindest attention. To Nicomachus, his son by Herpylis, and to Pythias, his daughter by his first wife, he bequeaths the remainder of his fortune, excepting his library and writings, which he leaves to Theophrastus. He desires that his daughter shall be given in marriage to Nicanor, the son of his benefactor Proxenus, or, should he not be inclined to receive her, to Theophrastus, his esteemed pupil. The bones of Pythias he orders to be disinterred and buried with his own body, as she herself had desired. None of his slaves are to be sold; they are all either emancipated by his will, or ordered to be set free by his heirs whenever they shall become worthy of liberty. Finally, he orders that the dedications which he had vowed for the safety of Nicanor be presented at Stagira to Jupiter and Minerva.

The same writer gives the titles of 260 works of Aristotle. Many of these, however, have perished. From his situation in society, and the munificent patronage of Alexander, he possessed more ample resources than any other man of science that could be named; and, considering the age in which he lived, his success in the investigation of nature may be considered as almost unrivalled. It is to be regretted that so many of his treatises have been lost, and that even those which have been transmitted to us have not been preserved in a perfect state.

Strabo has given a melancholy history of these works, in the ninth book of his geography. Aristotle, as we have stated above, had bequeathed them to Theophrastus, the most distinguished of his pupils, and his successor in the school. That philosopher left them, together with his own works, to his scholar Neleus, who carried them to his native city, Scepsis in Asia Minor. The heirs of Neleus, who were unlettered men, kept them locked up; and when they understood that the King of Pergamos, to whom the town belonged, was collecting books, to form a library on the plan of the Alexandrian, they concealed them in a vault or cellar, where they lay forgotten 130 years. When accidentally discovered, at the end of that period, they were found to be greatly injured by damp and vermin. At length they were sold to an inhabitant of Athens, named Apellicon, who, however, was not so much a lover of philosophy as a collector of manuscripts, and who adulterated the original text by his injudicious emendations and interpolations. Several copies thus altered were published by him. When Athens was taken by Sylla, the library of this citizen was carried to Rome, where the works of Aristotle were corrected by Tyrannion, a grammarian. Andronicus of Rhodes afterwards arranged the whole into sections, and gave them to the world.

According to Dr Gillies, Aristotle must have "composed above 400 different treatises, of which only forty-eight have been transmitted to the present age. But many of these last consist of several books; and the whole of his remains together still form a golden stream of Greek erudition, exceeding four times the collective bulk of the Iliad and Odyssey."

He was scarcely less ambitious than his pupil Alexander, and his works embrace nearly the whole range of human knowledge as it existed in his day. He was the inventor of the syllogistic mode of reasoning, the principles of which he lays down in his work on logic. In his books on rhetoric, he has investigated the principles of eloquence with great accuracy and precision, insomuch that they form the basis of all that has since been written on the subject. His work on poetics, or rather the fragment which has come down to us under that name, although almost entirely confined to the consideration of the drama, contains principles applicable to poetical composition in general, and is equally distinguished for precision and depth of thought. Those on ethics and politics are also remarkable productions; and although the former has been effectually superseded by a more perfect system, the latter contains much that is interesting even at the present day. In his metaphysics, he expounds the doctrine of Being abstracted from Matter, and speaks of a First Mover, — the life and intellect of the universe, eternal and immutable, but neither omnipresent nor omnipotent. When treating of physics, he does not in general lay down rules *a priori*, but deduces them from the observation and comparison of facts. This being the case, we might expect that such of his writings as relate to natural history should contain much truth.

He holds that all terrestrial bodies are composed of four elements, — earth, water, air, and fire. Earth and water are heavy, because they tend towards the earth's centre; while air and fire, which tend upwards, are light.

Besides these four elements, he has admitted a fifth, of which the celestial objects were composed, and whose motion is always circular. He supposed that there is above the air, under the concave part of the moon, a sphere of fire to which all the flames ascend, as the brooks and rivers flow into the ocean.

He maintains that matter is infinitely divisible; that the universe is full, and that there is no vacuum in nature; that the world is eternal; that the sun, which has always revolved as it does at present, will for ever continue to do so; and finally, that the generations of men succeed each other without having had a beginning or foreseeing an end.

He alleges that the heavens are incapable of decay; and that although sublunar things are subject to corruption, their parts nevertheless do not perish; that they only change place; that from the remains of one thing another is made; and that thus the mass of the world always remains entire. He holds that the earth is in the centre of the world; and that the First Being makes the skies revolve round the earth, by intelligences which are continually occupied with these motions.

He asserts that all of the globe which is now covered by the waters of the sea was formerly dry land; and that what is now dry land will be again converted into water. The reason is this: the rivers and torrents are continually carrying along sand and earth, which causes the shores gradually to advance, and the sea gradually to retire; so that in the course of innumerable ages the alleged vicissitudes necessarily take place. He adds, that in several parts which are considerably inland, and even of great elevation, the sea, when retiring, left shells, and that, on digging in the ground, anchors and fragments of ships are sometimes found. Ovid attributes the same opinion to Pythagoras.

Aristotle farther remarks, that these conversions of sea into land, and of land into sea, which gradually take place in the long lapse of ages, are in a great measure the cause of our ignorance of past occurrences. He adds, that besides this other accidents happen, which give rise even to the loss of the arts; and among these he enumerates pestilences, wars, famines, earthquakes, burnings, and desolations, which exterminate all the inhabitants of a country, excepting a few who escape and save themselves in the deserts, where they lead a savage life, and where they give origin to others, who in the progress of time cultivate the ground, and invent or rediscover the arts; and that the same opinions recur, and have been renewed times without number. In this manner, he maintains that, notwithstanding these vicissitudes and revolutions, the machine of the world always remains indestructible.

If an apology were necessary for the brevity of the above sketch, it might be urged, that it probably contains all that is authentic respecting the life of this eminent philosopher; and that our object is to condense, not to expand; to direct the attention to characteristic features, not to lead the mind to expatiate vaguely upon the general surface.

SECTION II.

Account of Aristotle's History of Animals.

Aristotle's Ideas respecting the Soul — His Views of Anatomy and Physiology — Introduction to his History of Animals, consisting of Aphorisms or general Principles — His Division of Animals; their external Parts; their Arrangement into Families; their internal Organs; Generation, &c.

Of all the sciences, it has been remarked, that which owes most to Aristotle is the natural history of animals. Not only was he acquainted with numerous species, he also described them according to a comprehensive and luminous method, which perhaps none of his successors have approached; arranging the facts observed, not according to the species, but according to the organs and functions, which affords the only means of establishing comparative results. It may in fact be said, that besides being the oldest author on comparative anatomy whose writings we possess, he was likewise one of those who have treated that part of natural history with most genius, and best deserves to be taken as a model. The principal divisions which are still adopted by naturalists in the animal kingdom are those of Aristotle, and he proposed some which have been resumed after having been unjustly rejected. If we examine the foundation of these great labours, we shall find that they all rest on the same method, which is itself derived from the theory respecting the origin of general ideas. He always observes facts with attention, compares them with great precision, and endeavours to discover the circumstances in which they agree. His style, moreover, is suited to his method: simple, precise, unstudied, and calm, it seems in every respect the reverse of Plato's; but it has also the merit of being generally clear, except in some places where his ideas themselves were not so.[C]

In one of his treatises, Aristotle divides natural bodies into those possessing life, and those destitute of that principle, — into animate and inanimate. He considers soul as the vital energy or vivifying principle common to all organized bodies; but distinguishes in it three species. Thus, in plants there is a vegetative, in animals a vegetative and a sentient, in man a vegetative, a sentient, and a rational soul. The functions of nutrition and generation in plants and animals he attributes to the vegetative soul; sense, voluntary motion, appetite, and passion, to the sentient soul; the exercise of the intellectual faculties, to the rational soul.

His ideas of anatomy and physiology were extremely imperfect. Thus, he supposed the brain to be a cold spongy mass, adapted for collecting and exhaling the superfluous moisture, and intended for aiding the lungs and trachea in regulating the heat of the body. The heart is the seat of the vital fire, the fountain of the blood, the organ of motion, sensation, and nutrition, as well as of the passions, and the origin of the veins and nerves. The blood is confined to the veins; while the arteries contain an aërial spirit; and by nerves he means tendons, nerves, and arteries, — in short, strings of all kinds, as the name implies. The heart has three cavities; in the larger animals it communicates with the windpipe, or the ramifications of the pulmonary artery receive the breath in the lungs and carry it to the heart. Respiration is performed by the expansion of the air in the lungs, by means of the internal fire, and the subsequent irruption of the external air to prevent a vacuum. Digestion is a kind of concoction or boiling, performed in the stomach, assisted by the heat of the neighbouring viscera.

It is perhaps impossible at the present day, when the investigation of nature is so much facilitated by the accumulated knowledge of ages in every department of physical science, by the commercial relations existing between countries in all parts of the globe, by a tried method of observation, experiment, and induction, and finally, by the possession of the most ingenious instruments, to form any adequate idea of the numerous difficulties under which the ancient naturalist laboured. On the other hand, he had this great advantage, that almost every thing was new; that the most simple observation correctly recorded, the most trivial phenomenon truly interpreted, became as it were his inalienable property, and was handed down to succeeding ages as a proof of his talents, — a circumstance which must have supplied a great motive to exertion.

The History of Animals is undoubtedly one of the most remarkable performances of which physical science can boast. It must not, however, be imagined that it is a work which, replete with truth and exhibiting the well-arranged results of accurate observation and laborious investigation, is calculated to afford material aid to the modern student. To him more recent productions are the only safe guides; nor is it until he has studied them, and interrogated nature for himself, that he can derive benefit from the perusal of the treatise which we now proceed to examine.

The first book contains a brief description of the parts of which the bodies of animals are composed. The introduction consists of general propositions; of which we shall present a few of the more remarkable as a specimen.

Some parts, he observes, are simple, and divided into similar particles; while others are compound, and consist of dissimilar elements. The same parts in different animals vary in form, proportion, and other qualities; and there are many creatures which, although they have the same parts, have them in different situations. Animals differ in their mode of living, actions, and manners: thus, some reside on land, others in water; and of the latter some breathe water, others air, and some neither. Of aquatic animals, some inhabit the sea, others the rivers, lakes, or marshes. Of those which live in the sea, some are pelagic, others littoral, and others inhabit rocks. Of land-animals, some respire air, as man; others, although they live on the land and obtain their food there, do not breathe air, as wasps, bees, and other insects.

We know no animal, says he, that flies only, as the fish swims; for those which have membranous wings walk also; and bats have feet, as have seals, although imperfect. But some birds have the feet weak; in which case the defect is compensated by the superior action of the wings, as in swallows. There are many species which both walk and swim. Animals also differ in their habits; thus, some are gregarious, others solitary, — a distinction applicable to them whether they walk, fly, or swim. Some obey a leader, others act independently; cranes and bees are of the former, ants of the latter kind. Some feed on flesh, others on fruits, while others feed indiscriminately; some have homes, others use no covering of this kind, but reside in the open air. Some burrow, as lizards and snakes; others, as the horse and the dog, live above ground. Some animals seek their food at night, others by day; some are tame, others wild; some utter sounds, others are mute, and some sing; all of them, however, sing or cry in some way at the season of pairing.

In this way he proceeds, stating briefly the various circumstances in which animals differ from each other, and in conclusion asserting that man is the only one capable of design; for, says he, although many of them have memory and docility, none but man have the faculty of reflection.

These general propositions or aphorisms are not so simple or so easily attained as one might imagine on reading them inattentively. Let any person who has a tolerably comprehensive idea of the series of animated beings reflect a little, and he will perceive, that such as the following must be derived from the observation of a great number of facts: — Those parts which seize the food, and into which it is received, are found in all animals. The sense of touch is the only one common to all. Every living creature has a humour, blood or sanies, the loss of which produces death. Every species that has wings has also feet.

In this chapter Aristotle divides animals into such as have blood, and such as have it not. Of the former (the red-blooded) some want feet, others have two of these organs, and others four. Of the latter (the white-blooded) many have more than four feet. Of the swimming-animals, which are destitute of feet, some have fins, which are two or four; others none. Of the cartilaginous class, those which are flat have no fins, as the skate. Some of them have feet, as the mollusca. Those which have a hard leathery covering swim with their tail. Again, some animals are viviparous, others produce eggs, some worms. Man, the horse, the seal, and other land-animals, bring forth their young alive; as do the cetacea and sharks. Those which have blow-holes have no gills, as the dolphin and whale. In this department, the observations of the great philosopher are often minute, and generally accurate, although usually too aphoristic and unconnected to be of much use to the student.

Of flying-animals, some, as the eagle and hawk, have wings; others, in place of wings, have membranes, as the bee and the beetle; others a leathery expansion, as the bat. Those which have feathered or leathery wings are blooded (red-blooded); but those which have membranous wings, as insects, are bloodless (white-blooded). Those which fly with wings or with leathery expansions, either have two feet or none; for, says he, it is reported that there are serpents of this kind in Ethiopia. Of the flying bloodless animals, some have their wings covered by a sheath, as beetles; others have no covering, and of these some have two, others four wings. Those which are of large size, or bear a sting behind, have four; but the smaller and stingless, two only. Those which have sheaths to their wings, have no sting; but those which have two wings are furnished with a sting in their fore part, as the gnat.

Animals are distinguished from each other, so as to form kinds or families. These, according to our author, are quadrupeds, birds, fishes, cetacea, all which he says have (red) blood. There is another kind, covered with a shell, such as the oyster; and another, protected by a softer shell, such as the crab. Another kind is that of the mollusca, such as the cuttlefish; and lastly, the family of insects. All these are destitute of (red) blood.

Here, then, we have a general classification of animals, which it is important to notice, as we may have occasion afterwards to compare it with arrangements proposed by other naturalists. It may be reduced to the following form: —

Red-blooded Animals.

Quadrupeds, Serpents, Birds, Fishes, Cetacea.

White-blooded Animals.

Testacea, Crustacea, Mollusca, Insects.

It must, however, be understood, that Aristotle proposes no formal distribution of animals, and that his ideas respecting families, groups, or genera, such as those of our present naturalists, are extremely vague.

His quadrupeds include the mammalia and the quadrupedal reptiles. He divides them into those which are viviparous, and those which are oviparous; the former covered with hair, the latter with scales. Serpents are also scaly, and, excepting the viper, oviparous. Yet all viviparous animals are not hairy; for some fishes, he remarks, likewise bring forth their young alive. In the great family of viviparous quadrupeds also, he says, there are many species (or genera), as man, the lion, the stag, and the dog. He then mentions, as an example of a natural genus, those which have a mane, as the horse, the ass, the mule, and the wild-ass of Syria, which are severally distinct species, but together constitute a genus or family.

This introduction to the History of Animals the philosopher seems to have intended, less as a summary of his general views respecting their organization and habits, than as a popular exordium, calculated to engage the attention of the reader, and excite him to the study of nature. Whatever errors it may contain, and however much it may be deficient in strictly methodical arrangement, it is yet obviously the result of extensive, and frequently accurate observation. He then proceeds to the description of the different parts of the human body, first treating of what anatomists call the great regions, and the exterior generally, and then passing to the internal organization. His descriptions in general are vague, and often incorrect. As an example, we may translate the passage that refers to the ear.

This organ, he says, is that part of the head by which we hear; but we do not respire by it, for Alcmeon's opinion, that goats respire by the ears, is incorrect. One part of it has no name, the other is called lobos; it consists entirely of cartilage and flesh. The internal region is like a spiral shell, resembling an auricle at the extremity of the bone, into which as into a vessel the sound passes. Nor is there any passage from it to the brain, but to the palate; and a vein stretches from the brain to it. But the eyes belong to the brain, and each is placed upon a small vein. Every animal that has ears moves them, excepting man; for of those which are furnished with the sense of hearing, some have ears, others none, but an open passage; of which kind are feathered animals, and all that are covered with a scaly skin. But those which are viviparous, the seal, the dolphin, and other cetacea excepted, have external ears, as well as the viviparous cartilaginous animals. The seal has a manifest passage for hearing; but the dolphin, although it hears, yet has no ears. The ears are situated at the same level as the eyes, but not higher, as in certain quadrupeds. The ears of some persons are smooth, of others rough, or partly so; but this furnishes no indication of disposition. They are also large, small, or of moderate size, projecting, or flat, or intermediate. The latter circumstance indicates the best disposition. Large and projecting ears are indicative of a fool and babbler.

From this passage we perceive that Aristotle was acquainted with the Eustachian tube; although his anatomical knowledge of the ear is certainly of the most superficial kind, and his physiognomical notions respecting it sufficiently ludicrous. He divides the body into head, neck, trunk, arms, and legs, much as we do at the present day. The head consists of the calvaria, or part covered with hair, which is divided into three regions, the bregma or fore part, the crown, and the occiput. Under the bregma is the brain; but the back part of the head is empty. When speaking of the face, he remarks, that persons having a large forehead are of slow intellect, that smallness of that part indicates fickleness, great breadth stupidity, and roundness irascibility. The physiognomists of our day have a different opinion. The neck contains the spine, the gullet, and the arteria (or windpipe). The trunk consists of the breast, the belly, &c.; — and in this manner he passes over the different external regions.

In describing the brain, he states that all red-blooded animals have that organ, as have also the mollusca, and that in man it is largest and most humid. He had observed its two membranes, as well as the hemispheres and cerebellum; but he asserts that it is bloodless, that no veins exist in it, and that it is naturally cold to the touch. He was ignorant of the distribution of the nerves, was not aware that the arteries contain blood, imagined that the heart being connected with the windpipe is inflated through it, and, in a word, manifests extreme ignorance of every thing that relates to the internal organization.

Judging from this specimen, the reader may suspect that his time would not be profitably employed in separating the few particles of wheat from the great mass of chaff which the writings of Aristotle present to us. Nor must it be concealed that the modern naturalist does not consult his volumes for information, but merely to gratify curiosity. There is to be found, indeed, in the most imperfect of our elementary works on anatomy, whether human or comparative, more knowledge than was probably contained in the Alexandrian library.

In his second book, he treats more particularly of animals. At its commencement we unfortunately meet with a stumbling-block, in the shape of an assertion, that the neck of the lion has no vertebræ, but consists of a single bone. In speaking of limbs, he takes occasion to describe the proboscis of the elephant, and to enter generally into the history of that gigantic quadruped. He then speaks with reference to the distribution of hair, remarking, that the hair of the human head is longer than that of any other animal; that some are covered all over with long hair, as the bear; others on the neck only, as the lion; and others only along the back of the neck, as the horse and the bonasus. He describes the buffalo and the camel; of the latter of which he mentions the two species, the Arabian and the Bactrian. The subject of claws, hoofs, and horns, is next discussed. He states that some quadrupeds have many toes, as the lion; while others have the foot divided into two, as the sheep; and others again have a single toe or hoof, as the horse. His aphorisms on the subject of horns are in general correct. Thus, he states that most creatures furnished with them have cloven hoofs, and that no single-hoofed animal has two horns.

He then proceeds to speak of teeth, which he says are possessed by all viviparous quadrupeds. Some have them in both jaws, others not; for horned animals have teeth in the lower jaw only, the front ones being wanting in the upper. Yet all animals which have no teeth above are not horned; the camel, for example. Some have projecting teeth, as the boar; others not. In some they are jagged, as in the lion, panther, and dog; in others even, as in the horse and cow. No animal has horns and protruded teeth; nor is there any having jagged teeth that has either horns or projecting teeth. The greater part have the front teeth sharp, and those behind broad; but the seal has them all jagged for it partakes of the nature of fishes, which have that peculiarity. His remarks on the shedding of the teeth are in general erroneous. The elephant, he says, has four grinders, together with two others, the latter of which are of great size and bent upwards in the male, but small and directed the contrary way in the female. This circumstance Cuvier states to be correct with respect to the African variety, although the case is different in the Asiatic. His account of the hippopotamus, however, is inaccurate in almost every particular. Thus, he says it has a mane like a horse, cloven feet like an ox, and is of the size of an ass, — a description which answers better to the gnu. In speaking of monkeys, of which he mentions several kinds, he remarks their resemblance to the human species, and the peculiar formation of their hind feet, which may be used as hands.

He then gives a general account of the oviparous quadrupeds, particularly of the Egyptian crocodile and the chameleon, concerning which he relates many interesting circumstances.

In treating of birds, he remarks that they are bipedal, like man, destitute of anterior limbs, but furnished with wings, and having a peculiar formation in the legs. Those birds which have hooked claws, he says, have the breast more robust than others. He then describes the differences in the structure of their feet; remarking, that most of them have three toes before and one behind, although a few, as the wryneck, have two only before. Birds, he adds, have the place of lips and teeth supplied by a bill; and instead of external ears and nostrils properly so called, they have passages for hearing and smelling in different parts of the head. The eyes have no lashes, but are furnished with a membrane like lizards. The other remarkable peculiarities, such as the feathers and the form of the tongue, are then mentioned. No birds, he observes, that have hooked claws are furnished with spurs. In his remarks on this family he is generally correct; though here, as elsewhere, he is not merely brief, but vague and superficial. His division of birds would seem to be the following: — Those with hooked claws; those with separated toes; and such as are web-footed.

Fishes are next discussed with nearly equal brevity. He remarks, that they have a peculiar elongated form, are destitute of mammæ, emit by their gills the water received at the mouth, swim by means of fins, are generally covered with scales, and are destitute of the organs of hearing and smelling.

His description of the internal parts of these tribes of animals contains a mixture of truth and error. This book terminates with remarks on the structure of serpents.

The third commences with observations on those parts of animals which are homogeneous, such as the blood, the fibres, the veins, the nerves, and the hair. Under the general title of nerve, he confounds the columnæ carneæ of the heart, the tendons and fasciæ; and it does not appear that he had any idea of what modern anatomists call nerves. In speaking of hair, he remarks that it grows in sick persons, especially those labouring under consumption, in old people, and even in dead bodies. The same remark applies to the nails. The blood is contained in the veins and heart, is, like the brain, insensible, flows from a wound in any part of the flesh, has a sweet taste and a red colour, coagulates in the air, palpitates in the veins, and when vitiated is productive of disease. On the subject of milk, his observations deserve attention. Thus, he says that all viviparous animals which have hair are furnished with mammæ, as are also the whale and the dolphin; but those which are oviparous are not so provided. All milk has a watery fluid, called serum, and a thick part, called cheese; while that produced by animals which are destitute of fore teeth in the upper jaw coagulates. On this subject he mentions some curious circumstances. Some kinds of food occasion the appearance of a little milk in women who are not pregnant. There have even been instances of it flowing from the breasts of elderly females. The shepherds about Mount Œta rub the udders of unimpregnated goats with nettles, and thus obtain abundance of milk from them. It sometimes happens that male animals secrete the same fluid; thus, there was a he-goat in the island of Lemnos, which yielded so much that small cheeses were made of it. A little may be pressed from the breasts of some men after the age of puberty; and there have been individuals who on being sucked have yielded a large quantity. Instances of this have been recorded by other observers; and Humboldt met with a similar case in South America.[D]

In the fourth book, Aristotle treats of the animals which are destitute of red blood. Of these, he says there are several genera: the mollusca, such as the cuttlefish, which is externally soft with an internal firm part; the crustacea, internally soft and covered with a firm integument, such as the crab; the testacea, internally soft and externally hard and solid, as the limpet and oyster. The insects form the fourth genus; and are distinguished by their being externally and internally formed of a hardish or cartilaginous substance, and divided into segments; some of them having wings, as the wasp; while others have none, as the centipede. He then gives a pretty full account of the cuttlefish and nautilus, treats of the crustaceous animals generally, and enters into details respecting the other two classes. After this he enumerates the organs of sensation, stating that man, and all the red-blooded and viviparous animals, possess five senses, although in the mole vision is deficient. He describes correctly the eye of that creature, showing that it is covered by a thickish skin, but presents a conformation similar to that of other animals, and is furnished with a nerve from the brain. He shows that although fishes have no visible organs of smelling or hearing, they yet possess both senses, and, in treating of this subject, states many interesting facts relative to the mode employed in catching dolphins. He also shows that insects have the faculty of hearing and smelling. The testacea, he says, besides feeling, which is common to all animals, have smell and taste; but he also asserts that some of them, the solen and pecten, are capable of seeing, and others of hearing.

All viviparous quadrupeds not only sleep, but also dream; but whether the oviparous dream is uncertain; although it is plain that they sleep, as do the aquatic animals, fishes, mollusca, testacea, and crustacea. A transition is then made to the subject of sex, for the purpose of showing that in the mollusca, crustacea, testacea, and eels, there is no difference in that respect between individuals of the same species.

The subjects of generation and parturition occupy the fifth, sixth, and seventh books. From the comparatively large space which he has devoted to the result of his inquiries in these departments, the minuteness with which he describes the phenomena presented by them in man and the domestic animals, and the accurate knowledge which he frequently exhibits, it may be inferred that they were favourite subjects with Aristotle. It is sufficient for our purpose to mention some of the cases in which he attained the truth, and others in which he failed.

He describes the membranes with which some of the mollusca envelope their eggs, mentions the changes through which insects pass before they acquire the perfect state, and speaks with tolerable accuracy of the economy of bees and wasps. He states, however, that the former make wax from flowers, but gather their honey from a substance which falls from the air upon trees. The eggs of tortoises, he says, are hard, like those of birds, and are deposited in the ground. His remarks on those of lizards and the crocodile are also correct. He states accurately that some serpents bring forth their young enclosed in a soft membrane, which they afterwards burst; but that sometimes the little animals escape from the egg internally, and are produced free. Other serpents, he observes, bring forth eggs cohering in the form of a necklace. On the eggs of birds his observations are nearly as correct as those which we find in books at the present day. He was acquainted with their general structure, and the development of the chick, which he minutely describes. He remarks of the cuckoo, that it is not a changed hawk, as some have asserted; that, although certain persons have alleged that its young have never been seen, it yet certainly has young; that, however, it does not construct a nest, but deposites its eggs in the nest of other birds, after eating those which it finds there.

He remarks that the cartilaginous fishes are viviparous, but that the other species bring forth eggs, and states correctly that they have no alantoid membrane. He then passes to the cetacea, with which he seems to be nearly as well acquainted as modern naturalists, and reverts to the oviparous fishes, respecting which he presents numerous details. He maintains, however, that the eel is produced spontaneously, and that no person had ever detected eggs or milt in it.

Having discussed the subject of generation, he proceeds, in the eighth book, to treat of the food and actions of animals, their migrations, and other circumstances. The ninth consists of a multitude of topics without any direct relation to each other, but apparently treated as they had successively presented themselves to the author. Thus, at the commencement we find remarks on the peculiarities of disposition observed in the males and females of different animals, the combats of hostile species, the actions of animals, nidification, generation, and other matters. Several species of different classes are then described, such as the kingfisher, the black-bird, the cuckoo, the marten, eagles, owls, fishes, insects, and quadrupeds.

The fragments which remain of Aristotle’s History of Animals may, perhaps, be considered as presenting the general views which he had intended to precede his more particular descriptions; but, regarded even in this light, it cannot be denied that they are extremely deficient in method. There is in them no approach to a regular classification, we do not say of animals, but of subjects to be discussed. He is continually making abrupt transitions, seems to lose sight of the object more immediately in view, to indulge in digressions foreign to it, and frequently repeats a circumstance which he had related before. His work resembles the rude notes which an author makes previous to the final arrangement of his book; and such it may possibly have been. Of descriptions, properly so called, there are few, — those of the elephant, the camel, the bonasus, the crocodile, the chameleon, the cuckoo, the cuttlefish, and a few others, being all that we find.

It may appear strange, that the statements of naturalists should so frequently prove incorrect. In how many works, even of the present day, are errors to be discovered, which might have been avoided by a proper use of the organs of vision, and a resolution to take nothing on trust! But it is much easier to employ the imperfect remarks of others, to collect from books, compare and arrange, than to seek or make opportunities of observation for one's self; and of so little consequence do some men hold the actual inspection of natural objects, that, without practising it to any extent, they nevertheless arrogate to themselves the title of philosophical inquirers.

In fine, the observations of Aristotle, considering the period at which he lived, and the proneness of the human intellect to wander from the true path, are remarkable for the great proportion of truth which they present to us. Whatever may be their actual merits, they are certainly superior to those of any other naturalist whose works have come down to us from the remote ages of classical antiquity; and we may take leave of this distinguished man by observing, in the words of Dr Barclay, that, "notwithstanding his many imperfections, he did much both for anatomy and natural history, and more, perhaps, than any other of the human species, excepting such as a Haller or Linnæus, could have accomplished in similar circumstances."

The best edition of his History of Animals ([Greek: Peri Zôôn Historia]), is that of Schneider, in 4 vols 8vo, which issued from the press at Leipsic in 1811. Many editions of his works have been published; but the most complete is said to be Sylburge's, printed at Frankfort, containing, — Organon, 1585; Rhetorica et Poetica, 1584; Ethica ad Nicomachum, 1584; Ethica Magna, &c. 1584; Politica et Œconomica, 1587; Animalium Historia, 1587; De Animalium Partibus, &c. 1585; Physicæ Auscultationis, lib. viii. et Alia Opera, 1596; De Cœlo, lib. iv.; De Generatione et Conceptione; De

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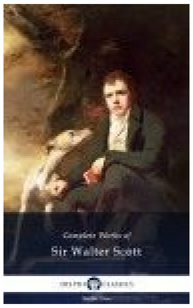

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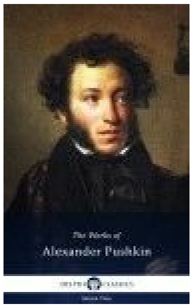

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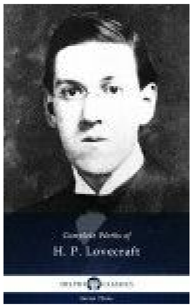

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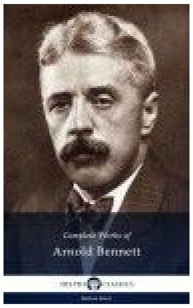

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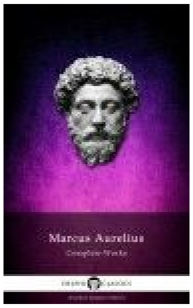

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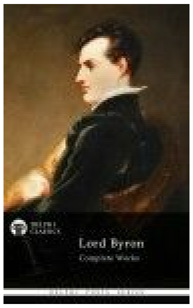

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Euboea, believed to be where Aristotle died.